WKE

MAR 2017

PROJECT ID: 2025-13-71

WITH:

COUNTY: WAUKESHA

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 = 680

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
2025-13-71	WISC 2017103	1

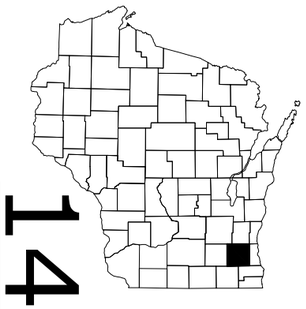
CAPITOL DRIVE, VILLAGE AND CITY OF PEWAUKEE

FIVE FIELDS ROAD TO WETHERSFIELD ROAD

STH 190

WAUKESHA

STATE PROJECT NUMBER
2025-13-71

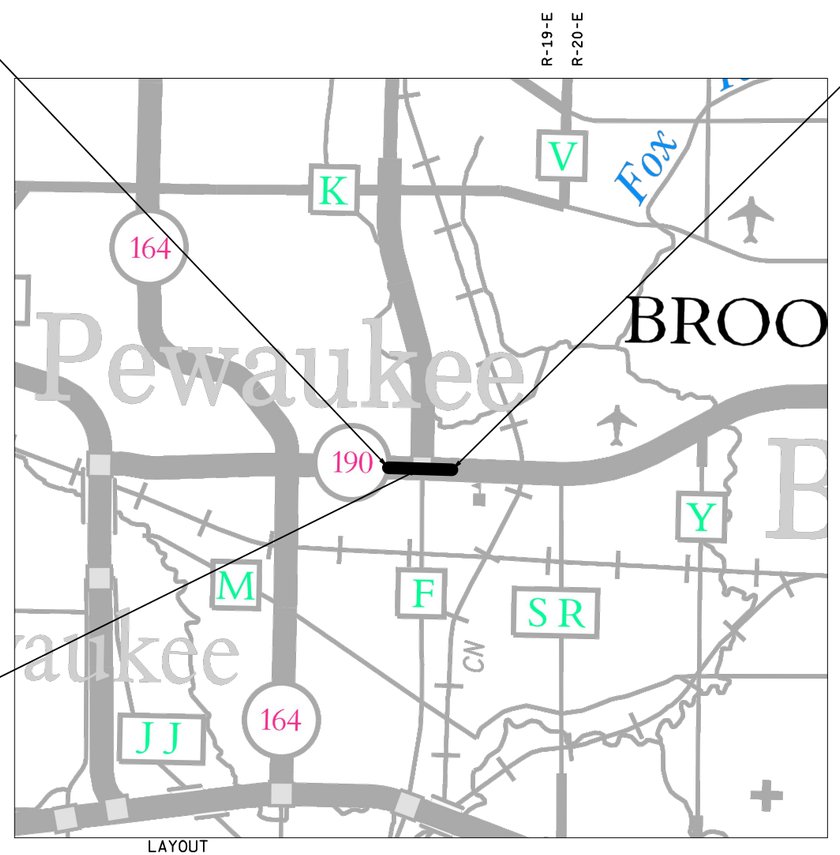


BEGIN PROJECT

STA. 111+00 WB
X - 687827.123
Y - 187340.287
STA. 111+00 EB
X - 687831.320
Y - 187280.129

DESIGN DESIGNATION		(CTH F) GREEN RD TO STH 190	(CTH F) LINDSAY RD TO STH 190
A.A.D.T	=	(2014) 25,600	(2014) 18,900
A.A.D.T (2039)	=	28,800	23,200
D.H.V.	=	7.9	7.9
D.D.	=	59/41	59/41
T.	=	9.2%	9.2%
DESIGN SPEED	=	60 MPH	60 MPH

DESIGN DESIGNATION		(STH 190) STH 164 TO CTH F	(STH 190) CTH F TO CTH SR	RAMP A	RAMP B	RAMP C	RAMP D
A.A.D.T.	=	(2014) 25,700	(2013) 33,100	(2014) 1,300	(2014) 4,200	(2014) 1,200	(2014) 4,400
A.A.D.T. (2039)	=	32,100	40,200	1,600	4,800	1,600	5,000
D.H.V.	=	7.7	7.7	7.7	7.7	7.7	7.7
D.D.	=	59/41	59/41	59/41	59/41	59/41	59/41
T.	=	8.9 %	8.9%	8.9%	8.9%	8.9%	8.9%
DESIGN SPEED	=	60 MPH	60 MPH	30 MPH	30 MPH	30 MPH	30 MPH
ESALS	=	4,200,000	5,400,000	1,600,000	1,600,000	1,600,000	1,600,000



END PROJECT

STA. 163+12 WB
STA. 160+00 EB

STRUCTURES B-67-91/92
TO BE REPLACED WITH
B-67-331/332

LAYOUT

SCALE 0 1 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.987 MILES

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, WAUKESHA COUNTY, NAD83 (97), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO NAVD 88 (91)

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 (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	EMCS
Designer	LANCE FISCHER
Project Manager	CHRISTINE HANNA
Regional Examiner	
Regional Supervisor	REEM SHAHIN

APPROVED FOR THE DEPARTMENT

DATE: November 1, 2016 Christine Hanna (Signature)

E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\010101-TI.DWG
LAYOUT NAME - ****

PLOT DATE : 10/12/2016 4:05 PM

PLOT BY : VAN STRATEN, LUKE A PLOT NAME :

WISDOT/CADDS SHEET 10

2

CONTACTS

UTILITY CONTACTS

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PHONE: (262) 953-4295
CELL: (414) 218-2866

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

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	GENERAL NOTES AND UTILITY CONTACTS	SHEET: 2	E

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

STANDARD ABBREVIATIONS

AP	ACCESS POINT	NOM	NOMINAL
AC	ACRE	NC	NORMAL CROWN
ADJ	ADJUST	N	NORTH
AECPRC	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE	Y	NORTH GRID COORDINATE
		NB	NORTHBOUND
AH	AHEAD	NO	NUMBER
AC	ASPHALT CEMENT	OPT	OPTIONAL
ASPH	ASPHALTIC	OD	OUTSIDE DIAMETER
ACP	ASPHALTIC CONCRETE PAVEMENT	PAVT	PAVEMENT
AVG	AVERAGE	PLE	PERMANENT LIMITED EASEMENT
ADT	AVERAGE DAILY TRAFFIC	PACS	PIPE ARCH CORRUGATED STEEL
BK	BACK	PT	POINT
BAD	BASE AGGREGATE DENSE	PC	POINT OF CURVATURE
BM	BENCHMARK	PI	POINT OF INTERSECTION
CB	CATCH BASIN	PT	POINT OF TANGENCY
C/L	CENTER LINE	PVC	POINT OF VERTICAL CURVE
C/L CONST	CENTER LINE CONSTRUCTION	PVI	POINT OF VERTICAL INTERSECTION
Δ	CENTRAL ANGLE OR DELTA	PVT	POINT OF VERTICAL TANGENCY
CL	CLASS	PVC	POLYVINYL CHLORIDE
CONC	CONCRETE	PCC	PORTLAND CEMENT CONCRETE
CONST	CONSTRUCTION	LB	POUND
CMCP	CORRUGATED METAL CULVERT PIPE	PSF	POUNDS PER SQUARE FOOT
CTH	COUNTY TRUNK HIGHWAY	PSI	POUNDS PER SQUARE INCH
CABC	CRUSHED AGGREGATE BASE COURSE	PE	PRIVATE ENTRANCE
CFS	CUBIC FEET PER SECOND	PGL	PROFILE GRADE LINE
CY	CUBIC YARD	PL	PROPERTY LINE
CP	CULVERT PIPE	Q100	100-YEAR FLOW RATE
CPCS	CULVERT PIPE CORRUGATED STEEL	R	RADIUS
CPRC	CULVERT PIPE REINFORCED CONCRETE	RR	RAILROAD
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL	R	RANGE
		R/L	R/L
C & G	CURB AND GUTTER	REINF	REINFORCING OR REINFORCEMENT
D	DEGREE OF CURVE	REQD	REQUIRED
DHV	DESIGN HOUR VOLUME	RT	RIGHT
DIA	DIAMETER	R/W	RIGHT-OF-WAY
DD	DIRECTIONAL DISTRIBUTION	RD	ROAD
DWY	DRIVEWAY	RDWY	ROADWAY
E	EAST	SEC	SECTION
X	EAST GRID COORDINATE	SHLDR	SHOULDER
EB	EASTBOUND	S	SOUTH
EL	ELEVATION	SB	SOUTHBOUND
ESALS	EQUIVALENT SINGLE AXLE LOADS	SQ	SQUARE
EXC	EXCAVATION	SF	SQUARE FEET
EBS	EXCAVATION BELOW SUBGRADE	SW	SIDEWALK
EXIST	EXISTING	SY	SQUARE YARD
FPS	FEET PER SECOND	SDD	STANDARD DETAIL DRAWINGS
FERT	FERTILIZE	STH	STATE TRUNK HIGHWAYS
FE	FIELD ENTRANCE	STA	STATION
FL	FLOW LINE	SS	STORM SEWER
FT	FOOT	SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
GN	GRID NORTH	ST	STREET
HES	HIGH EARLY STRENGTH	STR	STRUCTURE OR STRUCTURAL
HP HW	HIGH POINT	SEC	SUPERELEVATION
HW	HIGH WATER	T	TANGENT
HMA	HOT MIX ASPHALT	TEMP	TEMPORARY
CWT	HUNDREDWEIGHT	TI	TEMPORARY INTEREST
HWD	HYDRANT	TLE	TEMPORARY LIMITED EASEMENT
INL	INLET	t	TON
ID	INSIDE DIAMETER	T	TOWN
I	INTERSECTION ANGLE	T/L	TRANSIT LINE
INV	INVERT	T	TRUCKS (PERCENT OF)
IP	IRON PIPE OR PIN	TYP	TYPICAL
JT	JOINT	USH	UNITED STATES HIGHWAY
LT	LEFT	VAR	VARIABLE
LT	LENGTH OF CURVE	V	VELOCITY OF DESIGN SPEED
LF	LINEAR FOOT	VERT	VERTICAL
LP	LOW POINT	VC	VERTICAL CURVE
LS	LUMP SUM	VOL	VOLUME
MH	MANHOLE	WM	WATERMAIN
MAX	MAXIMUM	WV	WATER VALVE
Mgal	MEGAGALLON	W	WEST
MPH	MILES PER HOUR	WB	WESTBOUND
MIN	MINIMUM	YD	YARD
MON	MONUMENT		

GENERAL NOTES

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

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

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

CONTRACTOR MUST CONTACT THE PROJECT ENGINEER AND SEWRPC (JOHN WASHBURN) AND LEAST TWO WEEKS PRIOR TO WORK NEAR ANY PUBLIC SURVEY MONUMENT.

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

ALL HOLES OR TRENCHES BELOW SUBGRADE RESULTING FROM ABANDONMENT OR REMOVAL OF EXISTING STRUCTURES SHALL BE FILLED WITH BACKFILL, UP TO THE LOWER OF EXISTING GROUND OR PROPOSED SUBGRADE, AND BETWEEN 1:1 SLOPES EXTENDED FROM SUBGRADE SHOULDER POINTS. BACKFILL WILL BE INCIDENTAL TO THE REMOVAL OR ABANDONMENT ITEM.

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

PRIOR TO ORDERING DRAINAGE PIPES AND STRUCTURES, THE CONTRACTOR SHALL VERIFY RELATED DRAINAGE INFORMATION IN THE PLAN WITH THE ENGINEER.

INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES SHOWN ON THE PLAN MAY BE ADJUSTED BY THE ENGINEER TO FIT FIELD LOCATIONS.

CURB HEIGHTS AT THE END OF CURB AND GUTTER SHALL BE TAPERED FROM 0" TO 6" IN 5 FEET.

CURB AND GUTTER GRADES ARE GIVEN TO THE FLANGE LINE. CURB AND GUTTER RADII ARE MEASURED TO THE FLANGE.

STORM LOCATIONS ARE PROVIDED TO THE CENTER OF THE MANHOLE OR INLET STRUCTURE. RIM ELEVATIONS OF CURB INLETS ARE TO THE FLANGE. RIM ELEVATIONS OF MANHOLES ARE TO THE CENTER OF THE STRUCTURE. RIM ELEVATIONS OF MEDIAN INLETS ARE TO THE FLOW LINE OF THE DITCH.

EXISTING DRIVEWAYS AND FIELD ENTRANCES SHALL BE RESTORED IN KIND AS DIRECTED BY THE ENGINEER IN THE FIELD AND AT THE LOCATION DETERMINED BY THE ENGINEER.

CROSS SECTIONS SHOWN INCLUDE THE THICKNESS OF SALVAGED TOPSOIL WHERE REQUIRED. SALVAGED TOPSOIL SHALL BE PLACED WITH 4"MINIMUM DEPTH.

THE QUANTITY OF SALVAGED TOPSOIL IS COMPUTED FROM MEASUREMENTS BETWEEN THE FINISHED SUBGRADE POINTS AND THE SLOPE INTERCEPTS AS SHOWN ON THE CROSS SECTIONS PLUS 5 FEET PER STATION FOR ROUNDING.

STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS, FLOODPLAINS AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION. IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN (14) CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED.

SIGNS TO BE MOVED WILL BE STORED AND PROTECTED BY THE CONTRACTOR, FREE FROM DAMAGE, UNTIL SUCH TIME AS THEY ARE TO BE RE-INSTALLED.

RE-TOPSOIL OF GRADED AREAS, AS DESIGNATED BY THE ENGINEER, IMMEDIATELY AFTER GRADING IS COMPLETED WITHIN THOSE AREAS. SEED, FERTILIZE AND MULCH/EROSION MAT TOPSOILED AREAS, AS DESIGNATED BY THE ENGINEER, WITHIN FIVE (5) CALENDAR DAYS AFTER PLACEMENT OF TOPSOIL. IF GRADED AREAS ARE LEFT EXPOSED FOR MORE THAN (14) CALENDAR DAYS, SEED THOSE AREAS WITH TEMPORARY SEED.

EROSION CONTROL BMP'S ARE AT SUGGESTED LOCATIONS. THE ACTUAL LOCATIONS WILL BE DETERMINED BY THE CONTRACTORS ECIP AND BY THE ENGINEER. EROSION CONTROL BMP'S SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE BMP IS NO LONGER REQUIRED.

TEMPORARY INLETS ARE TO RECEIVE INLET PROTECTION AND TO BE MAINTAINED AS NEEDED.

CONTRACTOR SHALL MAINTAIN ACCESS TO ALL COMMERCIAL AND AGRICULTURAL DRIVEWAYS AT ALL TIMES.

DISTURBED AREAS WITHIN THE RIGHT OF WAY, OUTSIDE THE SHOULDERS ARE TO BE TOPSOILED (SALVAGED), FERTILIZED, SEEDED AND MULCHED/EROSION MAT OR SODDED AS DIRECTED BY THE ENGINEER.

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

EXISTING DRAINAGE DITCHES AND CULVERT PIPES WILL REMAIN FUNCTIONAL DURING EXCAVATION OPERATIONS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECONSTRUCTION OF THE MEDIAN AND RESHAPING PREVIOUSLY PLACED SHOULDERS DAMAGED BY CONSTRUCTION UNDER THIS CONTRACT.

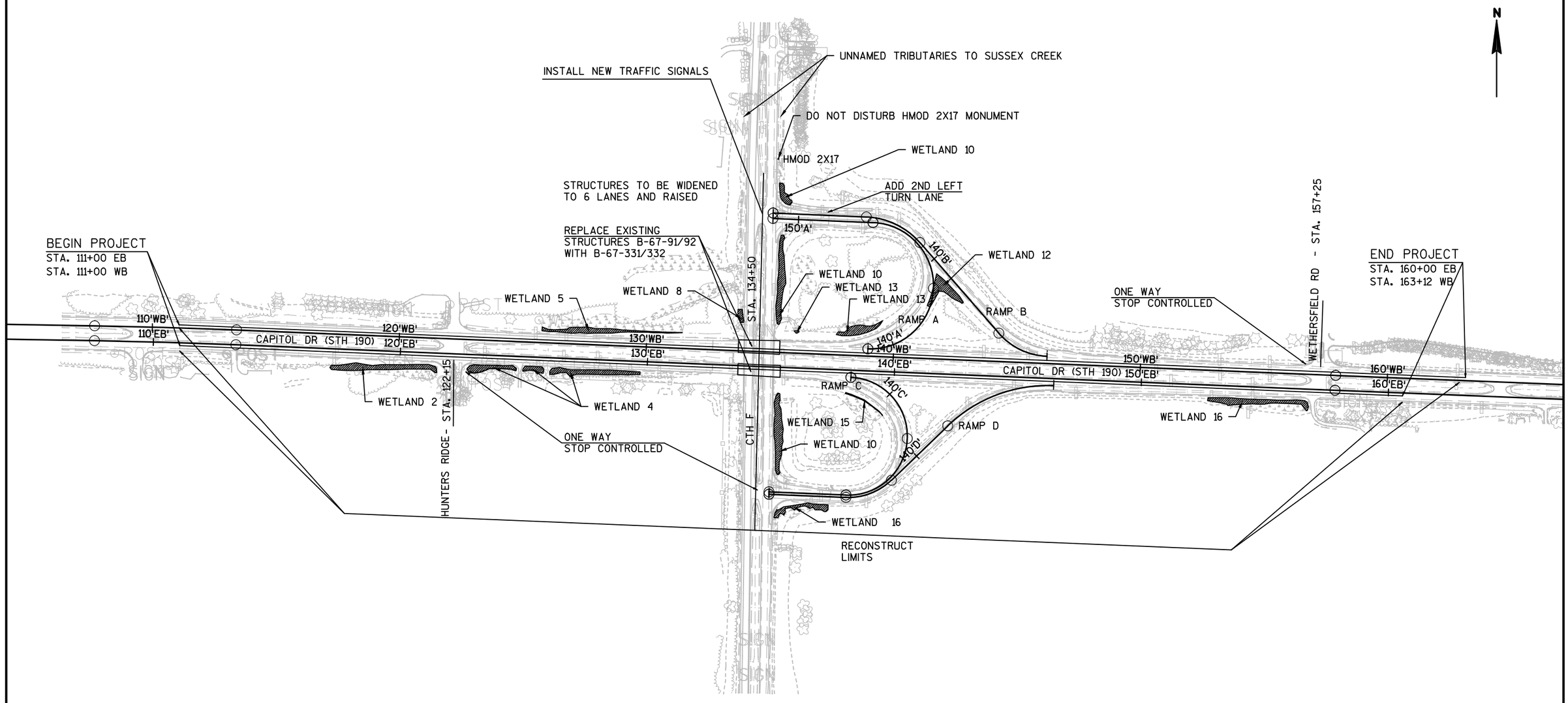
ORDER OF SECTION 2 SHEETS

PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PLAN DETAILS
PAVING DETAILS
EROSION CONTROL
STORM SEWER
EXISTING/PERMANENT SIGNING
TRAFFIC SIGNALS
PAVEMENT MARKINGS
FIXED MESSAGE SIGNS
DETOURS
TRAFFIC CONTROL
ALIGNMENT

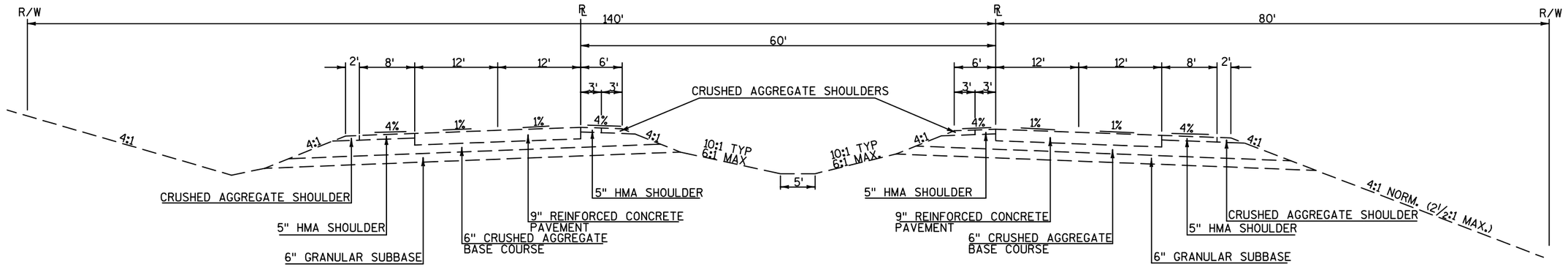
HMA Pavement Location	Asphalt Mix	Lower Layer	Upper Layer
STH 190 SHOULDERS	4 LT 58-28 S	x	4-inch
CTH F	4 LT 58-28 S	3 1/2-inch	2-inch

2

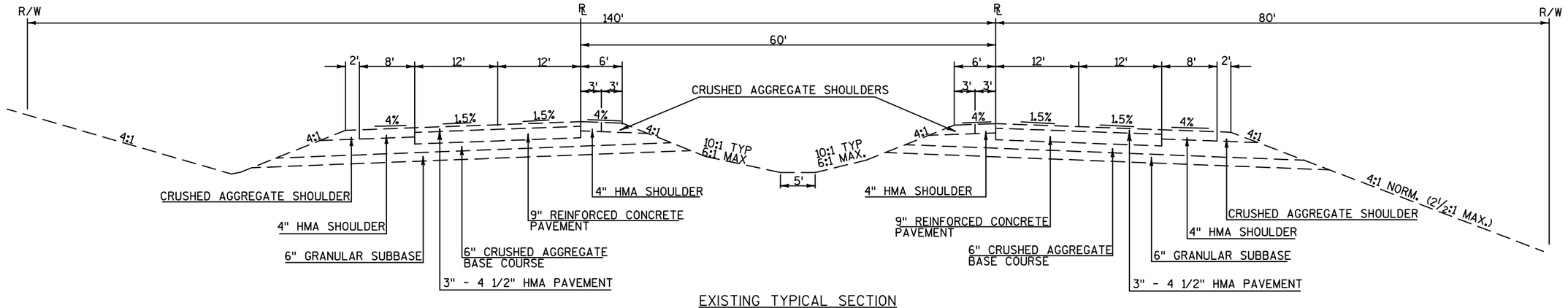
CITY OF PEWAUKEE
WAUKESHA COUNTY



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PROJECT OVERVIEW	SHEET 4	E

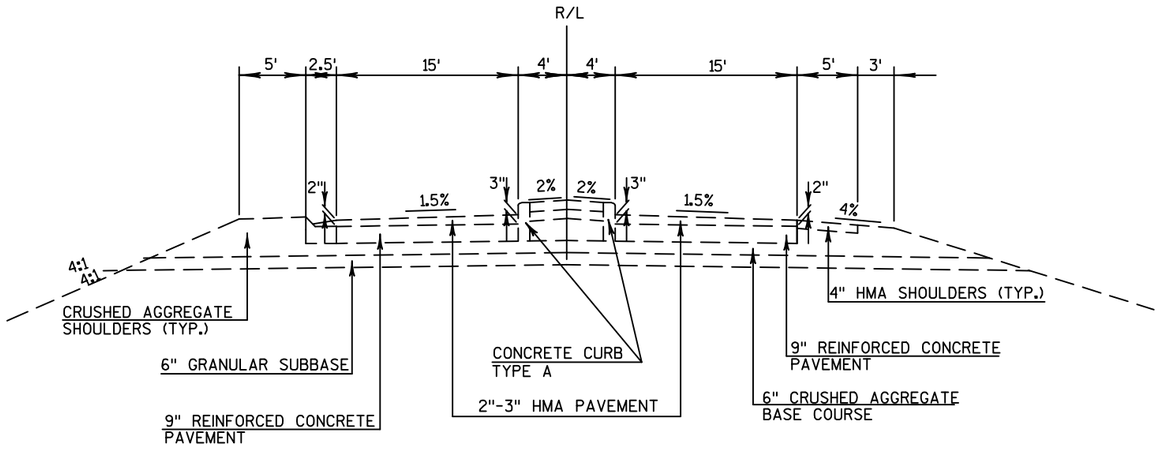


EXISTING TYPICAL SECTION
STH 190
STA. 111+00 TO STA. 133+43



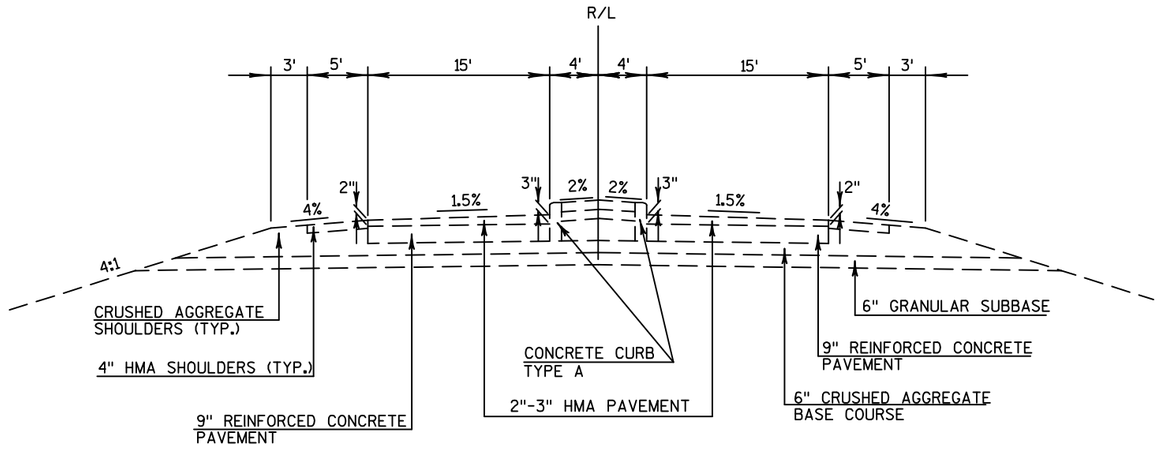
EXISTING TYPICAL SECTION
STH 190
STA. 135+58 TO STA. 163+12

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TYPICAL SECTIONS	SHEET 5	E



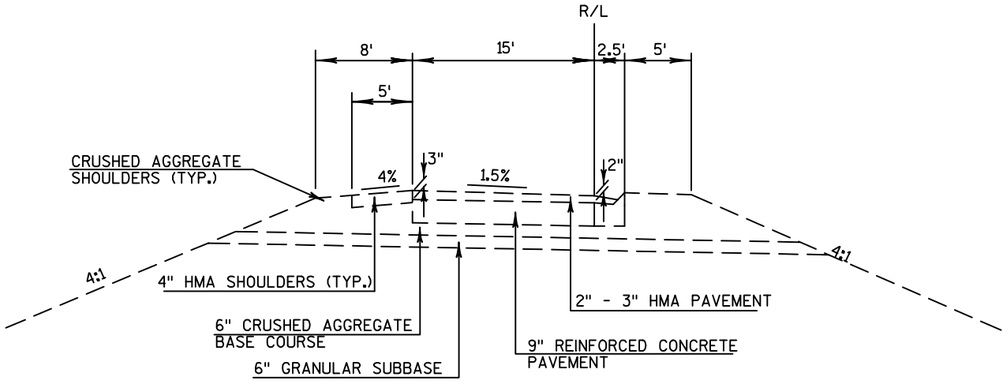
EXISTING TYPICAL SECTION 2-WAY RAMP WITH DIVIDER MEDIAN AND MOUNTABLE CURB

RAMPS AT CTH F & STH 190



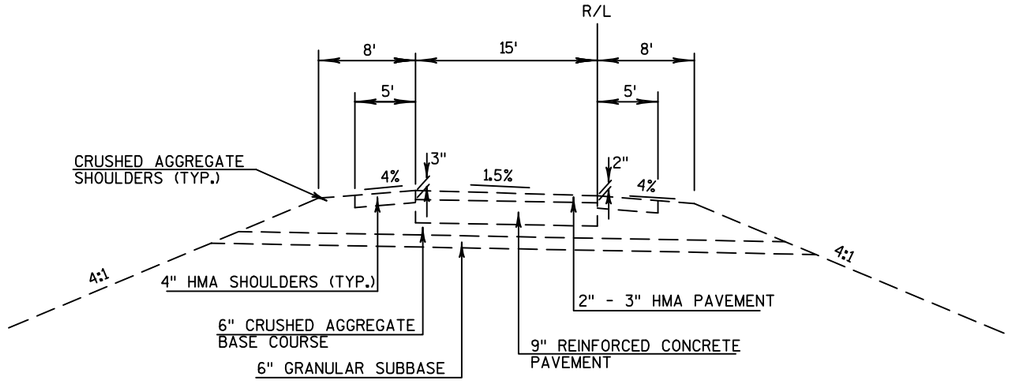
EXISTING TYPICAL SECTION 2-WAY RAMP WITH DIVIDER MEDIAN

RAMPS AT CTH F & STH 190



EXISTING TYPICAL RAMP SECTION WITH MOUNTABLE CURB

RAMPS AT CTH F & STH 190

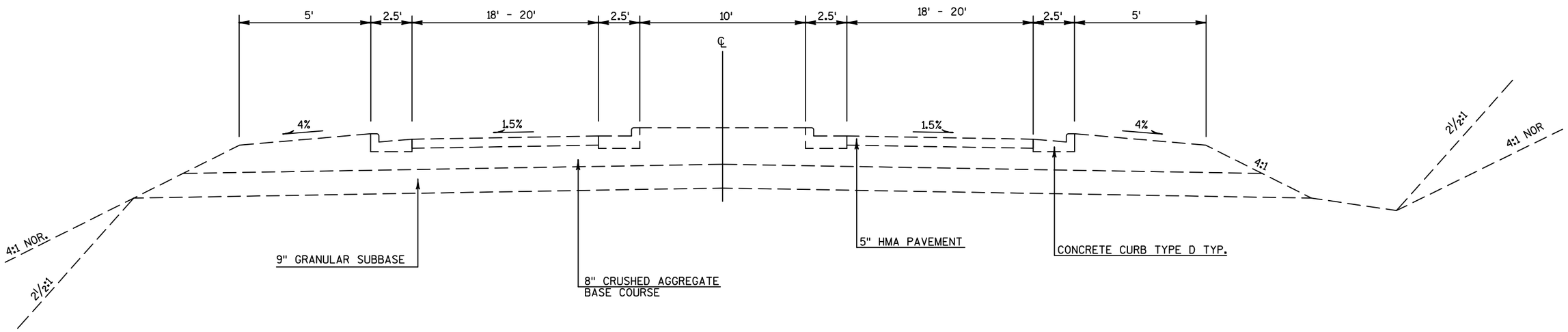


EXISTING TYPICAL RAMP SECTION

RAMPS AT CTH F & STH 190

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TYPICAL SECTIONS	SHEET 6	E

2

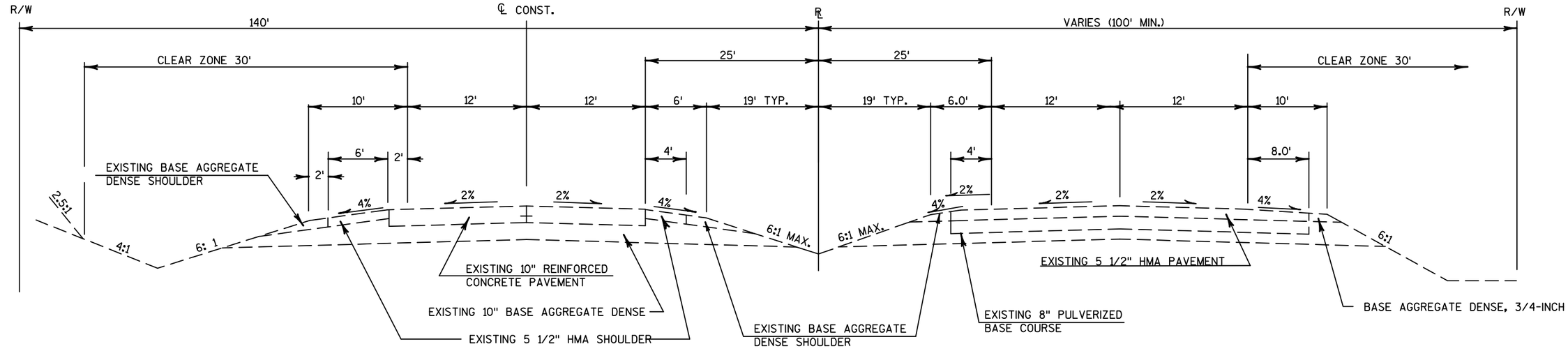


EXISTING TYPICAL SECTION

HUNTERS RIDGE ROAD - STA. 122+15
WETHERSFIELD ROAD - STA. 157+25

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TYPICAL SECTIONS	SHEET 7	E

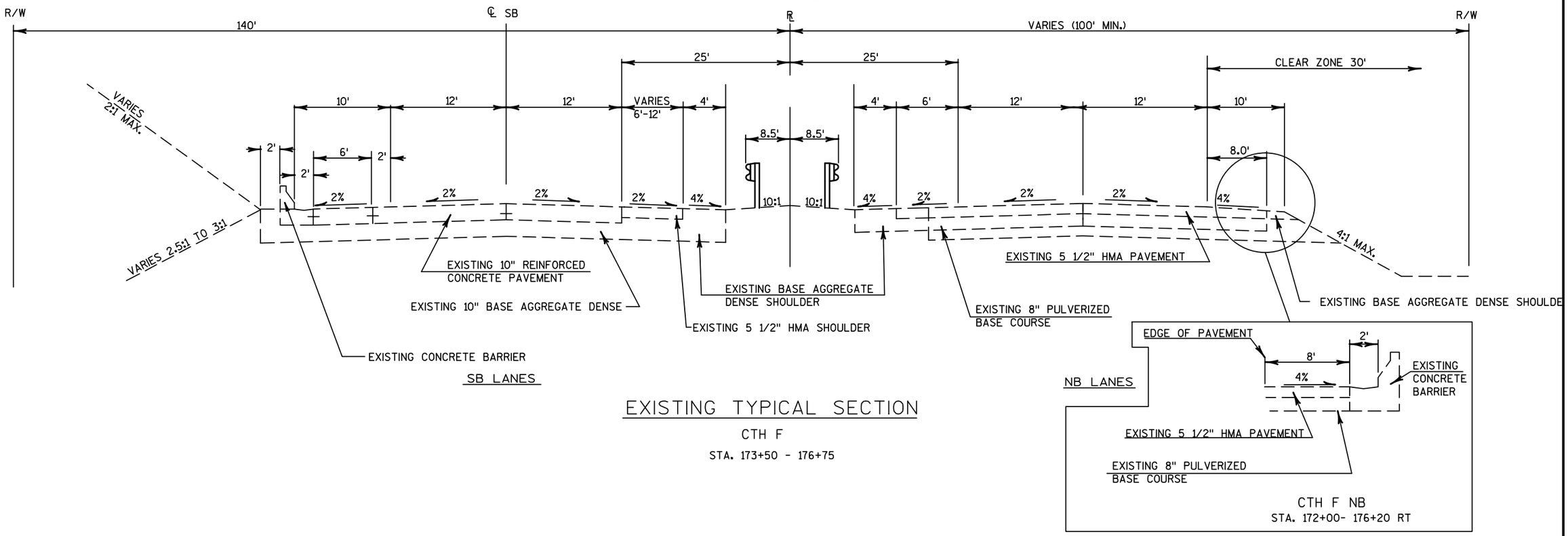
FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\020301-TS.DWG
LAYOUT NAME - 020303-TS
PLOT DATE : 10/5/2016 4:46 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME : PLOT SCALE :
WISDOT/CADDS SHEET 42



EXISTING TYPICAL SECTION

CTH F

STA. 170+00 - 173+50
STA. 176+75 - 181+50



EXISTING TYPICAL SECTION

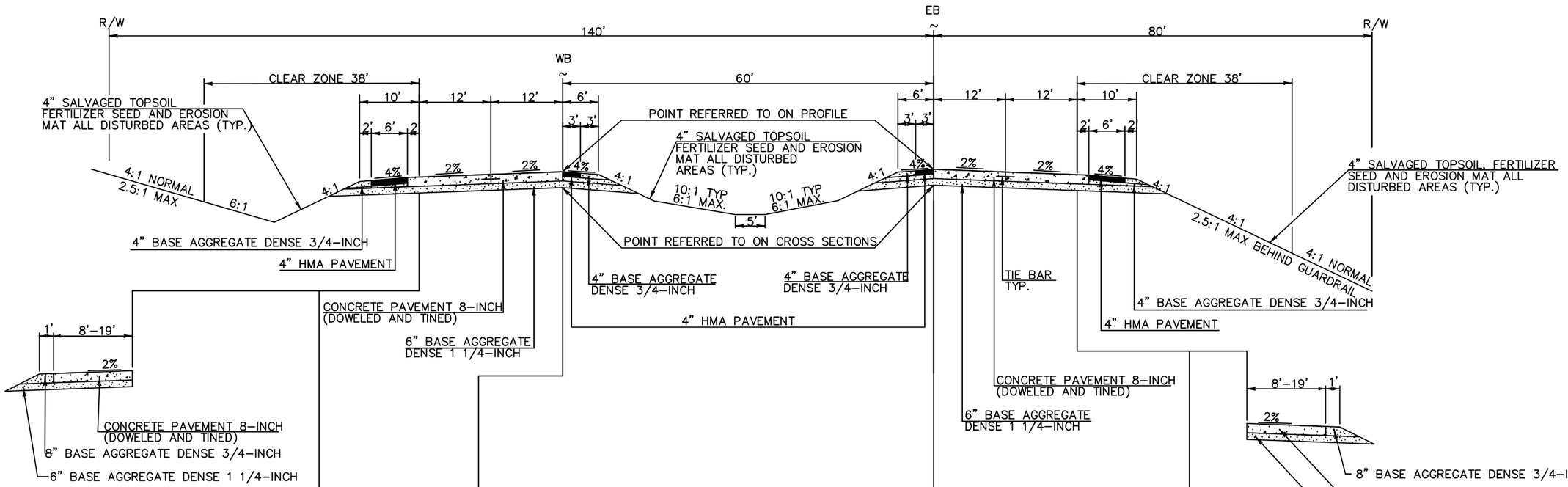
CTH F

STA. 173+50 - 176+75

CTH F NB
STA. 172+00- 176+20 RT

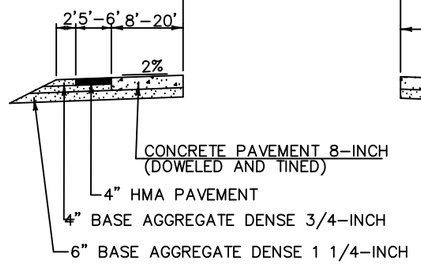
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TYPICAL SECTIONS	SHEET 8	E

2

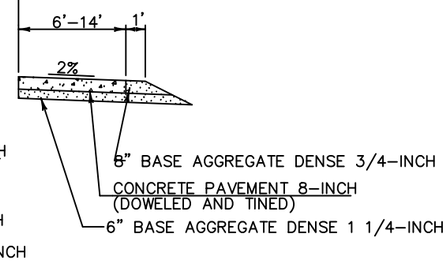


WESTBOUND RIGHT TURN LANE
STA. 158+05 – STA. 163+12

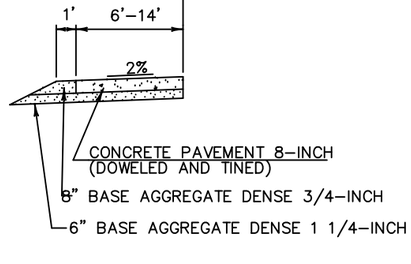
EASTBOUND RIGHT TURN LANE
STA. 115+79 – STA. 121+42



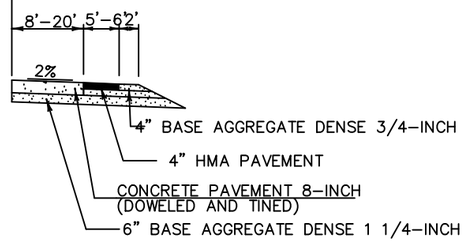
WESTBOUND ACCEL/DECEL LANE
STA. 124+15 – STA. 133+23
STA. 135+85 – STA. 138+95
STA. 146+20 – STA. 154+11



WESTBOUND LEFT TURN LANE
STA. 111+00 – STA. 114+97
STA. 123+05 – STA. 128+05
STA. 158+12 – STA. 163+12



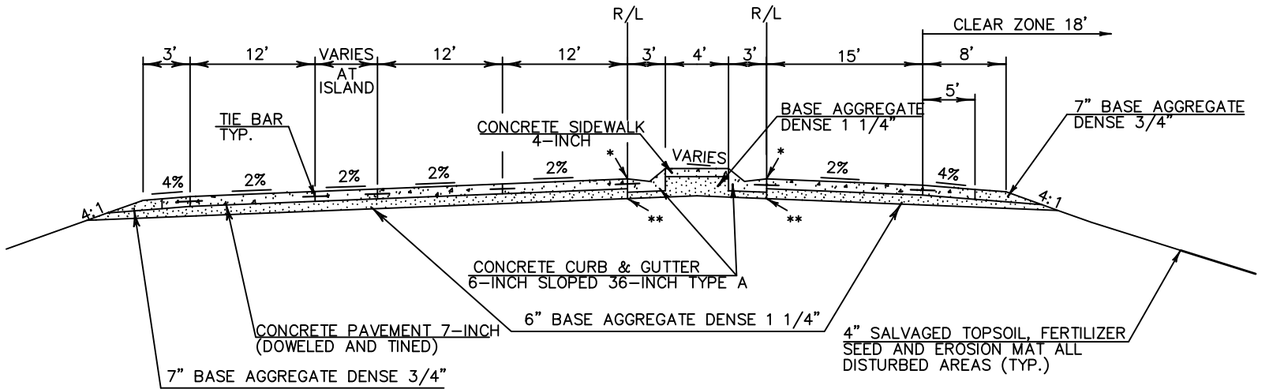
EASTBOUND LEFT TURN LANE
STA. 116+34 – STA. 121+34
STA. 151+43 – STA. 156+43



EASTBOUND ACCEL/DECEL LANE
STA. 130+44 – STA. 133+21
STA. 135+83 – STA. 138+25
STA. 146+45 – STA. 158+07

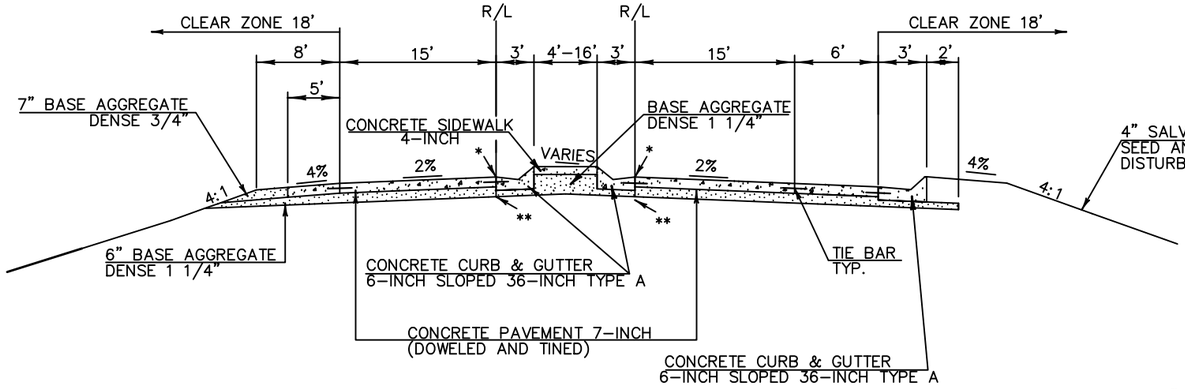
FINISHED TYPICAL RECONSTRUCTION SECTION
STH 190
STA. 111+00 – STA. 163+12 (WB)
STA. 111+00 – STA. 160+00 (EB)

2



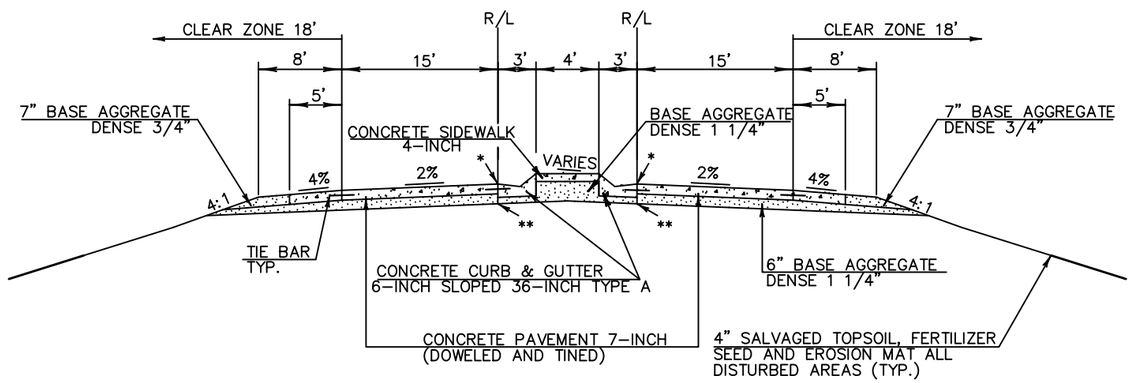
FINISHED TYPICAL SECTION 2-WAY RAMP WITH DIVIDER MEDIAN

RAMPS AT CTH F & STH 190
RAMP A: STA. 147+26 - STA. 150+95
RAMP B: STA. 132+98 - STA. 136+66



FINISHED TYPICAL RAMP SECTION

RAMPS AT CTH F & STH 190
RAMP A: STA. 144+41 - STA. 146+98
RAMP B: STA. 136+98 - STA. 139+63
RAMP C: STA. 143+30 - STA. 145+73
RAMP D: STA. 136+57 - STA. 139+09

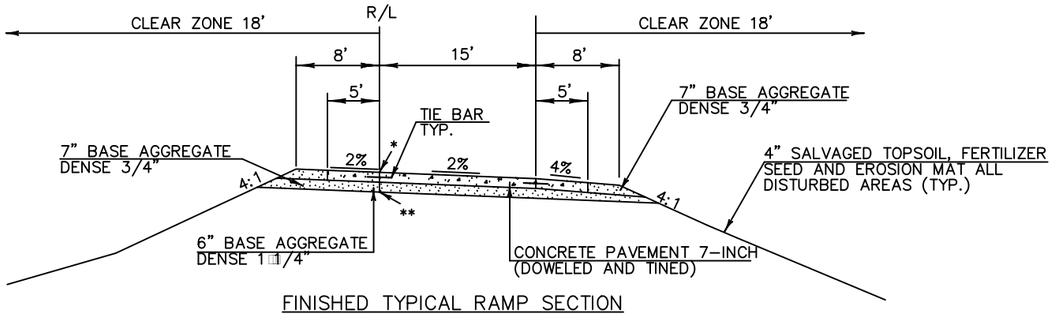


FINISHED TYPICAL SECTION 2-WAY RAMP WITH DIVIDER MEDIAN

RAMPS AT CTH F & STH 190
RAMP A: STA. 146+98 - STA. 147+26
RAMP B: STA. 136+66 - STA. 136+98
RAMP C: STA. 145+73 - STA. 148+77
RAMP D: STA. 133+53 - STA. 136+57

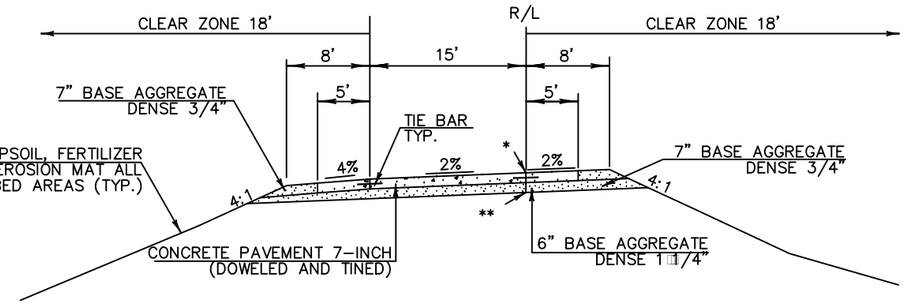
* POINT REFERRED TO ON PROFILE
** POINT REFERRED TO ON CROSS SECTION

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TYPICAL SECTIONS	SHEET 10	E



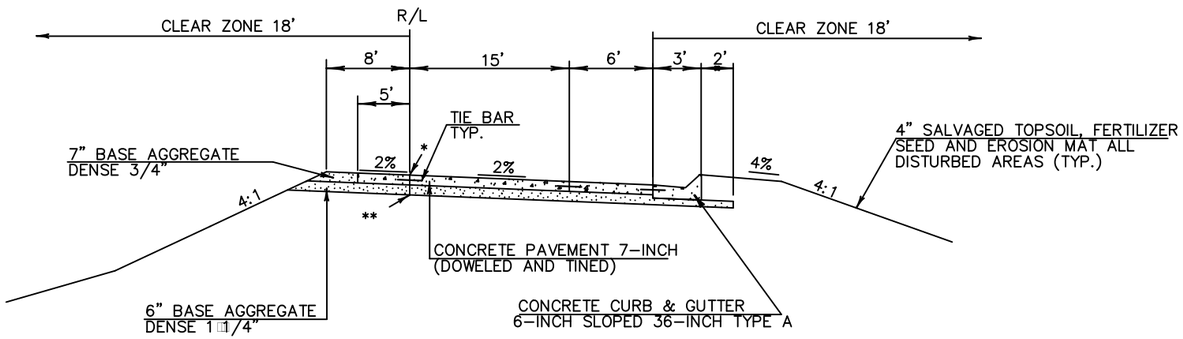
FINISHED TYPICAL RAMP SECTION

RAMPS AT CTH F & STH 190
RAMP D: STA. 139+09 – STA. 146+46



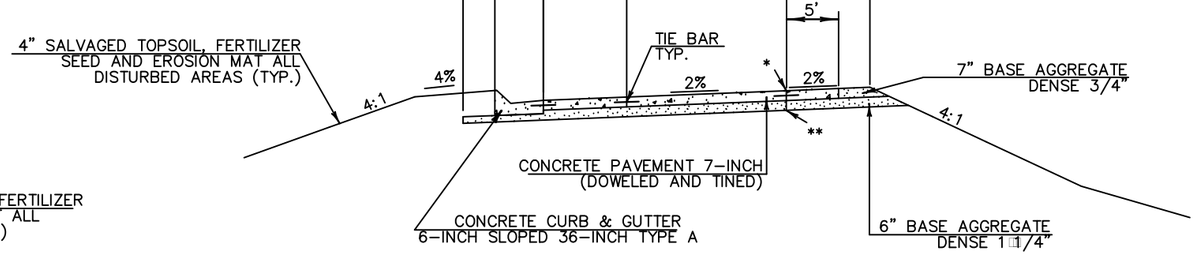
FINISHED TYPICAL RAMP SECTION

RAMPS AT CTH F & STH 190
RAMP B: STA. 139+63 – STA. 143+99



FINISHED TYPICAL RAMP SECTION

RAMPS AT CTH F & STH 190
RAMP C: STA. 138+25 – STA. 143+30



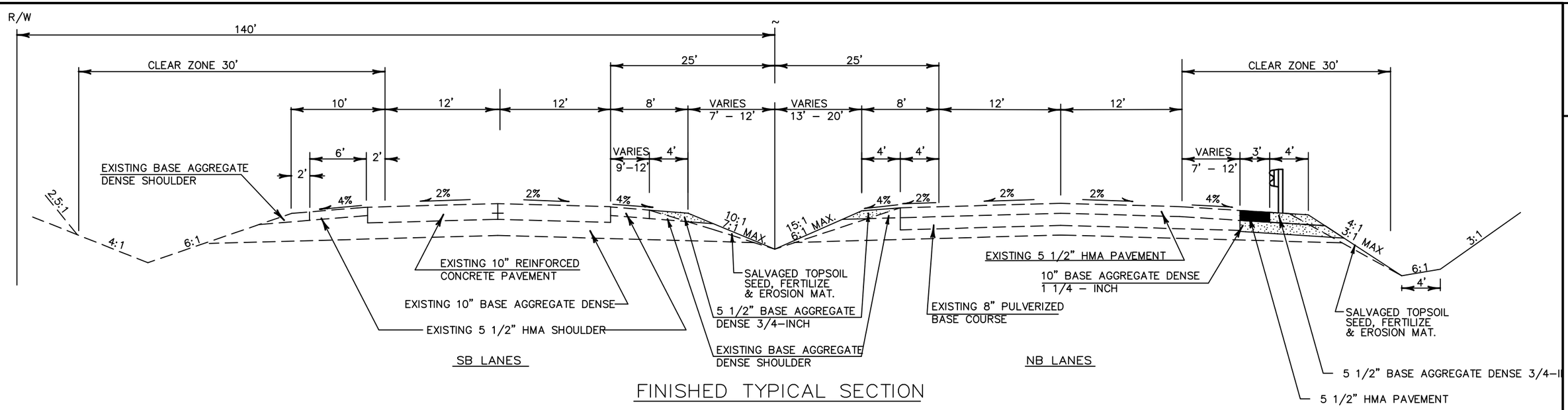
FINISHED TYPICAL RAMP SECTION

RAMPS AT CTH F & STH 190
RAMP A: STA. 138+95 – STA. 144+41
RAMP B: STA. 143+99 – 146+21

* POINT REFERRED TO ON PROFILE
** POINT REFERRED TO ON CROSS SECTION

SEE ALIGNMENT PLAN FOR SUPERELEVATION INFORMATION

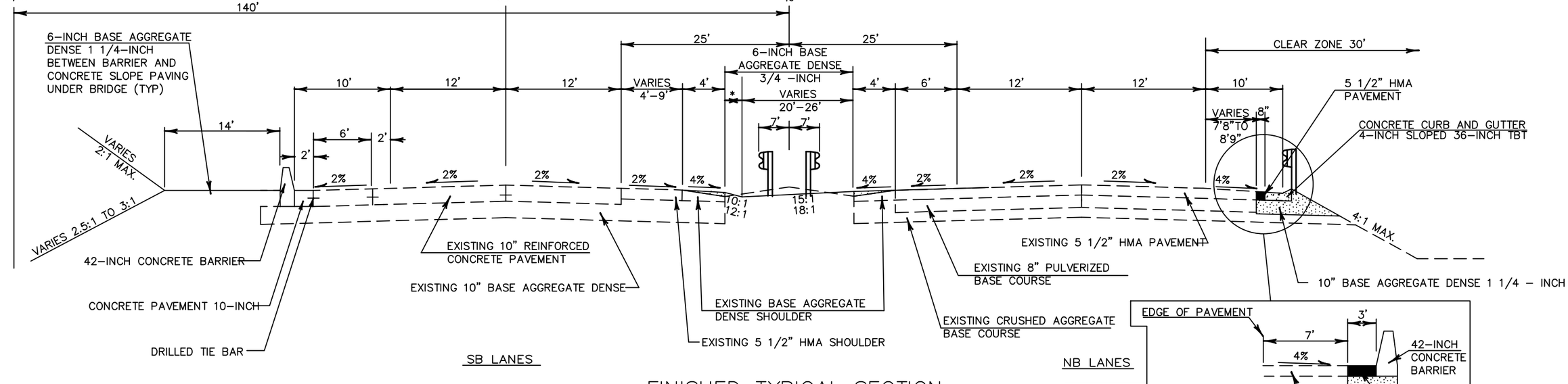
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PLAN: TYPICAL SECTIONS	SHEET 11	E



FINISHED TYPICAL SECTION

CTH F

MEDIAN STA. 171+00 – 173+22
NB DITCH STA. 171+00 – 173+80



* VARIES 6'–10"

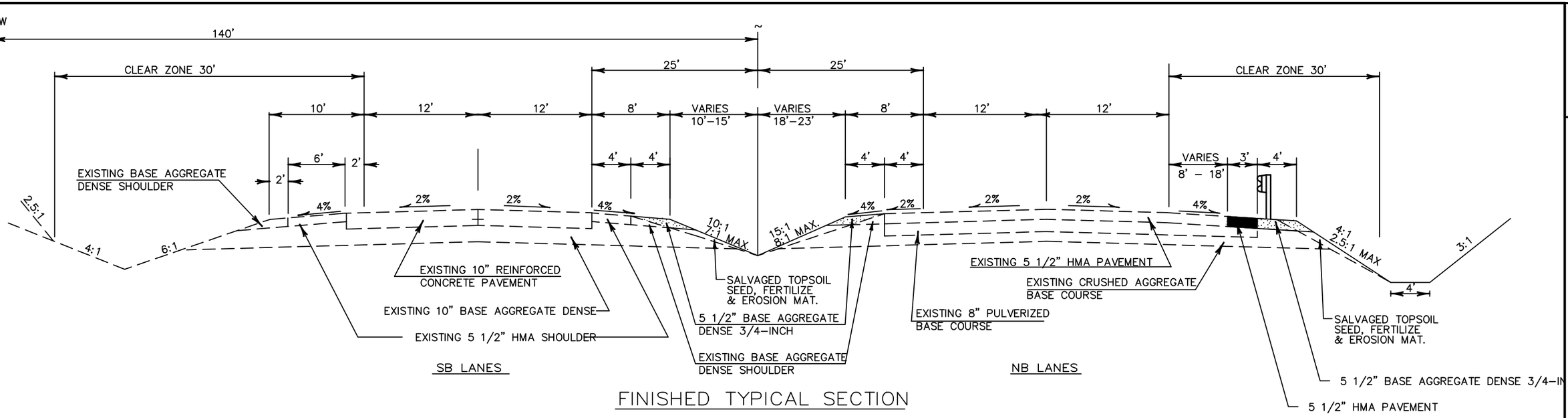
FINISHED TYPICAL SECTION

CTH F

MEDIAN STA. 173+22 – 177+27
NB DITCH STA. 176+19 – 176+75
SB DITCH STA. 173+50 – 176+75

CTH F NB
STA. 172+00– 176+19 RT

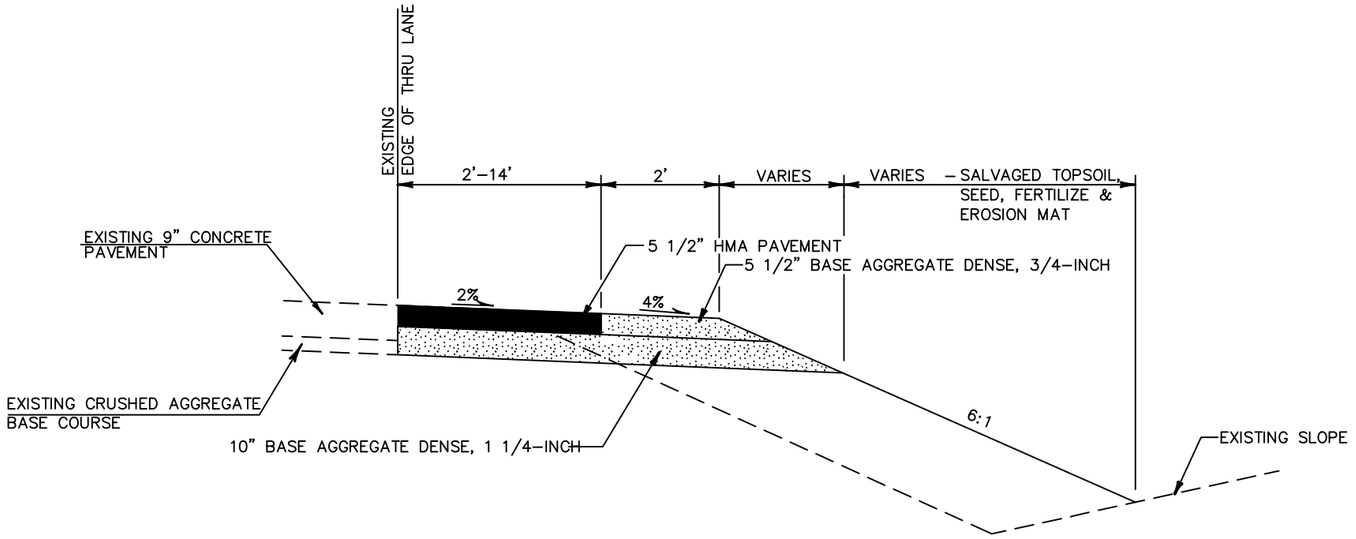
PROJECT NO: 2025–13–71	HWY: STH 190	COUNTY: WAUKESHA	PLAN: TYPICAL SECTIONS	SHEET 12	E



FINISHED TYPICAL SECTION

CTH F

MEDIAN STA. 177+27 – 178+76
NB DITCH STA. 176+75 – 179+53



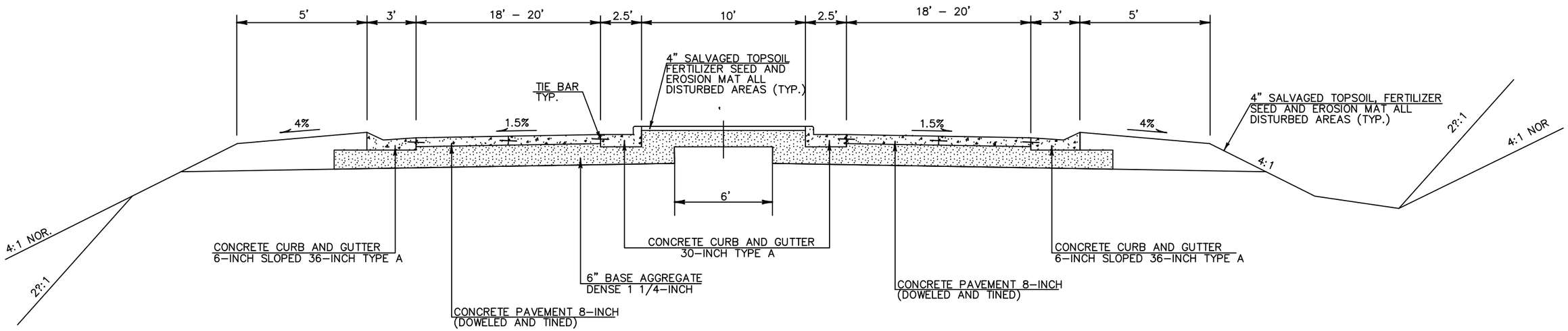
FINISHED TYPICAL HALF SECTION FOR S.B. LEFT TURN LANE EXTENSION

TURN LANES

CTH F STA. 182+95 TO STA. 185+89 (LT TURN LN)

PROJECT NO: 2025–13–71	HWY: STH 190	COUNTY: WAUKESHA	PLAN: TYPICAL SECTIONS	SHEET 13	E

2

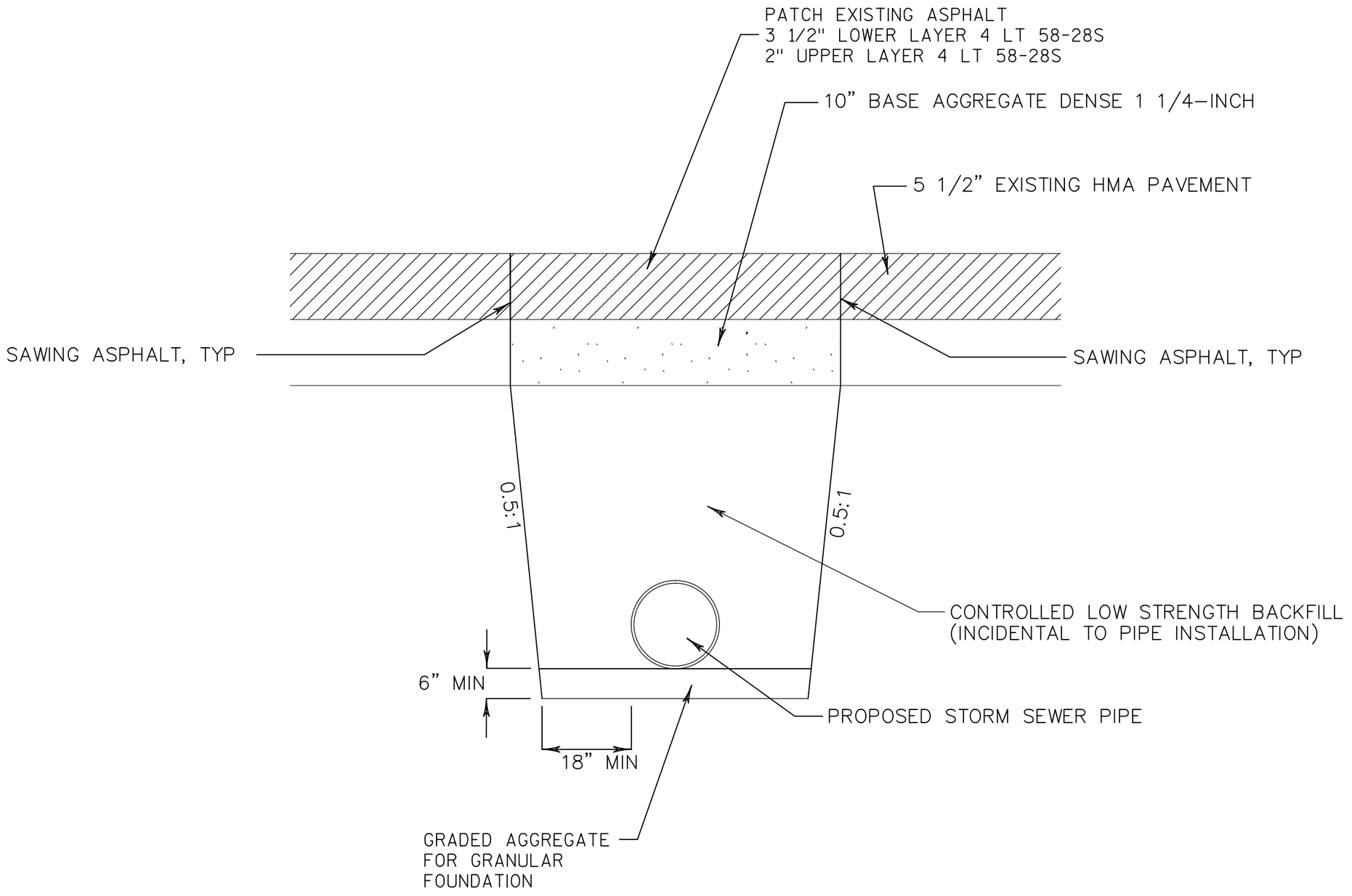


FINISHED TYPICAL SECTION

HUNTERS RIDGE ROAD – STA. 122+15
WETHERSFIELD ROAD – STA. 157+25

PROJECT NO: 2025–13–71	HWY: STH 190	COUNTY: WAUKESHA	PLAN: TYPICAL SECTIONS	SHEET 14	E

2

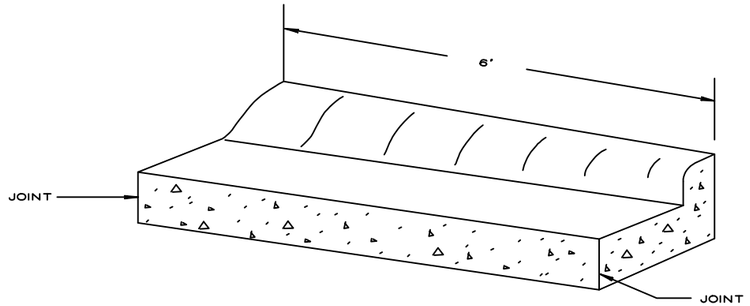


DETAIL FOR STORM SEWER PIPE

CTH F (STA. 180+36 RT)

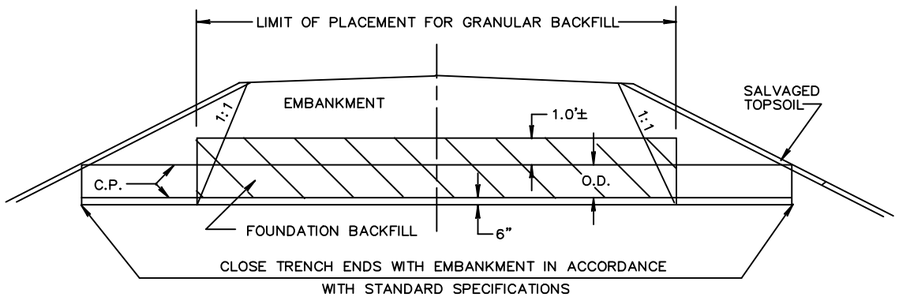
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CONSTRUCTION DETAIL	SHEET 15	E

2

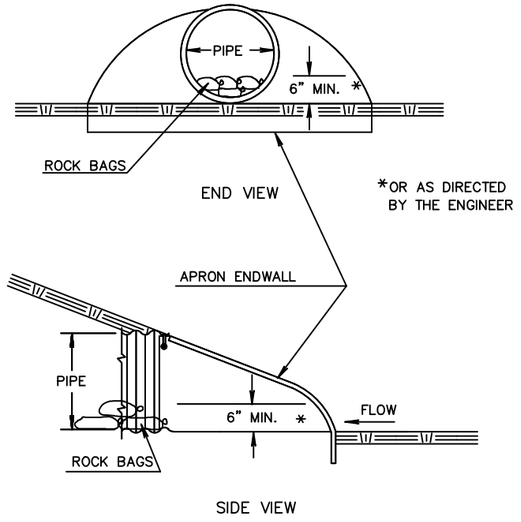


TRANSITION DETAIL

36" TYPE "A" CURB & GUTTER TO 30" TYPE "A" CURB & GUTTER
(TO BE MEASURED & PAID FOR AS 36" CONC. C&G)

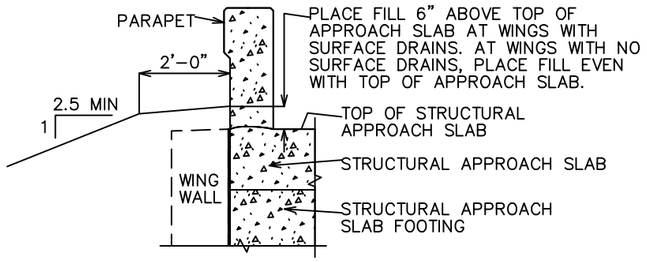


CULVERT BACKFILL DETAIL

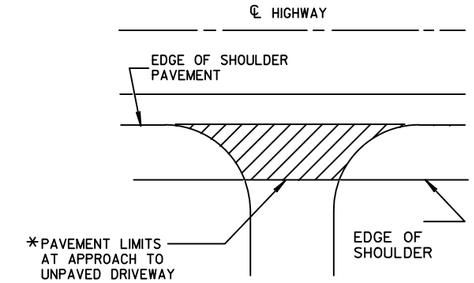


CULVERT PIPE CHECK

□□□M□□□□ □□□ □□□□ □□"□□1□"□□6"	
□□□□□□□	□□□M□□□□ □□M□□□□□□□□□□ □□□□
1□"	1
1□"	□
1□"	□
□1"	□
□□"	□
1□"□□□□"	□
16"□□□□"	□
□□"□□□□"	□
□□"	□
1□"□□□□"	□
□6"	□
□□"□□□□"	□
□□"	□

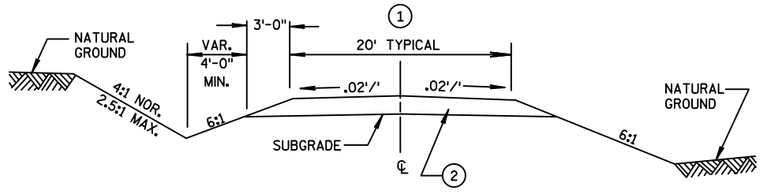


TYPICAL FILL SECTION AT END OF STRUCTURAL APPROACH SLABS



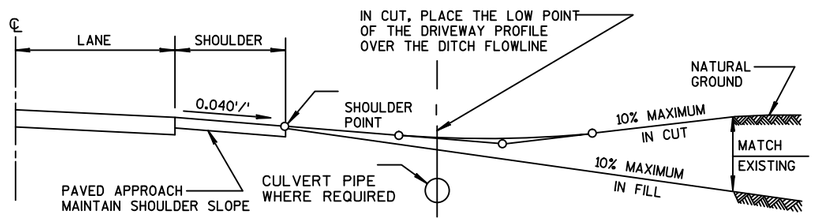
*WHERE DRIVEWAY IS PAVED, APPROACH PAVEMENT SHOULD BE EXTENDED TO MATCH DRIVEWAY PAVEMENT.

PLAN VIEW



IN CUT IN FILL

TYPICAL CROSS SECTION

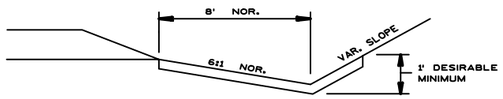


TYPICAL PROFILE

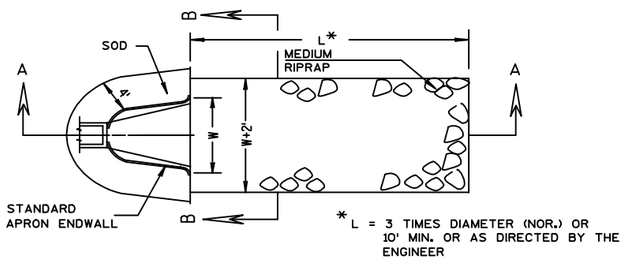
RURAL DRIVEWAY DETAIL

(1) DRIVEWAY WIDTHS:
COMMERCIAL, 35' MAX, 12' MIN
NON-COMMERCIAL, 24' MAX, 12' MIN
SEE PAVING DETAIL SHEETS FOR WIDTH REQUIRED

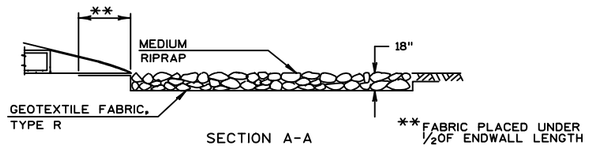
(2) DRIVEWAY SURFACE SHALL BE REPLACED IN-KIND WITH MINIMUM SECTION OF:
ASPHALT - 3½" ASPHALTIC SURFACE DRIVEWAYS OVER 6"
BASE AGGREGATE DENSE 1 1/4-INCH
CONCRETE - 7" CONCRETE ON 6" BASE AGGREGATE DENSE 1 1/4-INCH



EROSION MAT DETAIL FOR DITCHES

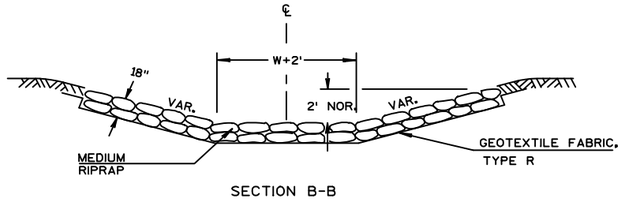


*L = 3 TIMES DIAMETER (NOR.) OR 10' MIN. OR AS DIRECTED BY THE ENGINEER



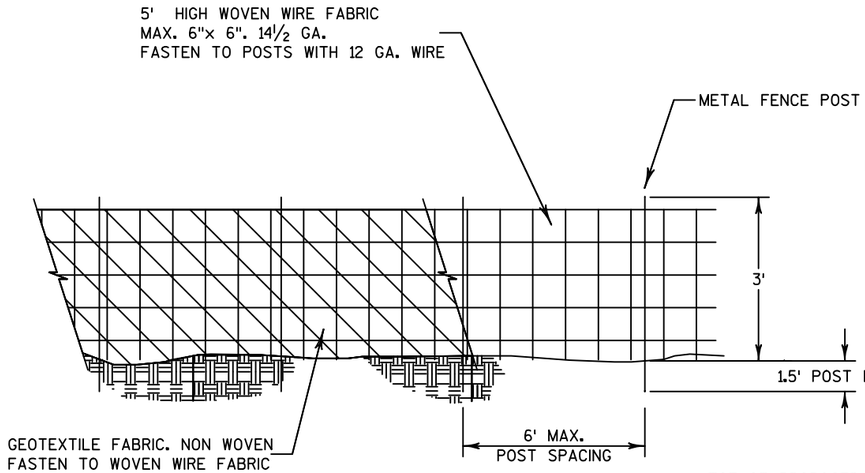
SECTION A-A

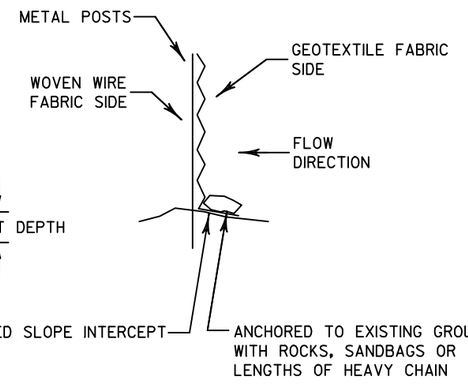
**FABRIC PLACED UNDER 1/2 OF ENDWALL LENGTH



SECTION B-B

MEDIUM RIPRAP AND GEOTEXTILE FABRIC
DETAIL AT APRON ENDWALLS

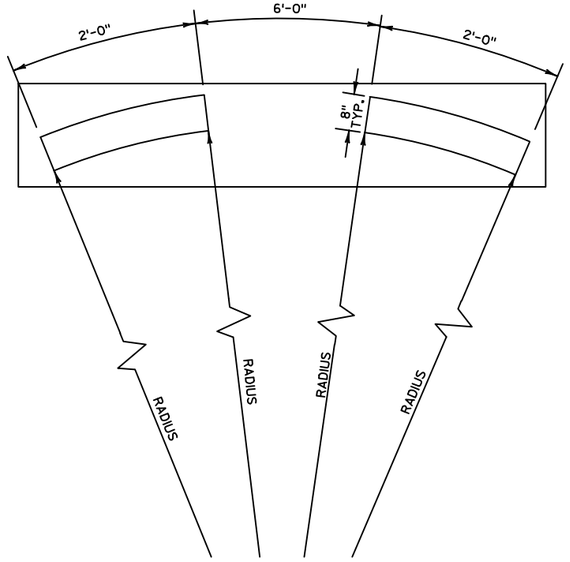




HEAVY DUTY SILT FENCE DETAIL

INSTALL AS NECESSARY AS SHOWN IN THE PLANS AND DIRECTED BY THE ENGINEER

2

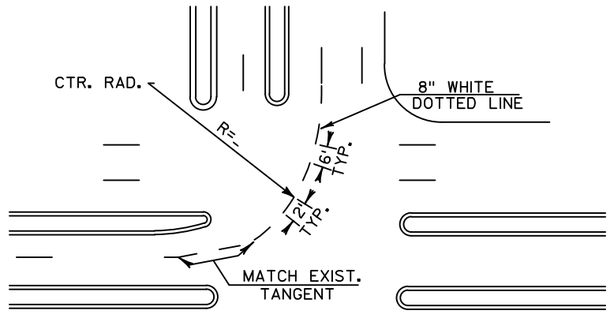


DOTTED TEMPLATE

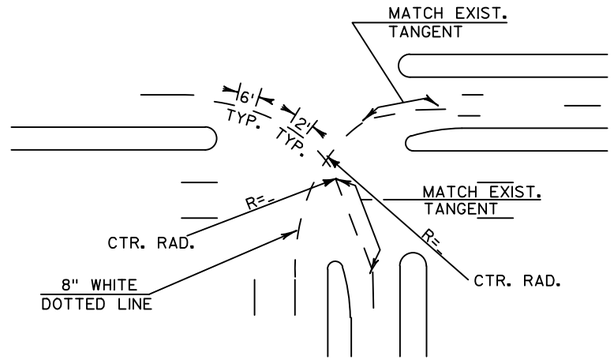
NOTE: CONTRACTOR TO BUILD TEMPLATE BASED ON RADIUS SHOWN. TEMPLATES ARE TO BE CONSTRUCTED OF PLYWOOD, PLASTIC, OR SUITABLE MATERIAL APPROVED BY THE ENGINEER IN THE FIELD.

DESIGNER NOTE: ESTABLISH RADIUS FOR DUAL LEFT MARKING
PROVIDE R=VALUE IN SPECIFIC CASE

INTERSECTING HIGHWAYS
(DOTTED PATTERN)
DOUBLE LEFT-TURNING MOVEMENTS



INTERSECTING HIGHWAYS
(DOTTED PATTERN) ----
DOUBLE LEFT-TURNING MOVEMENTS



2

GENERAL NOTES

1. DOTTED PAVEMENT MARKING PATTERNS SHALL BE INSTALLED WITH A 2-FOOT SEGMENT AND A 6-FOOT GAP.

2. EXISTING MARKINGS THRU INTERSECTIONS DO NOT ALWAYS HAVE THE 2-FOOT X 6-FOOT CYCLE. IF THE EXISTING MARKINGS ARE OF THE 5-FOOT CYCLE, THEY WILL BE BRUSH PLASTED AND PAVEMENT MARKED WITH A 380 WR TAPE GROOVED IN.

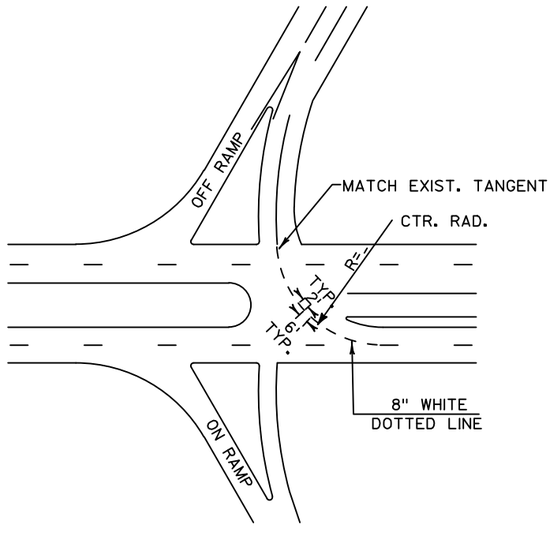
   IF THE EXISTING MARKINGS ARE NOT OF THE 2-FOOT CYCLE, THE CONTRACTOR WILL LAY OUT THE NEW MARKINGS, PREPARE THE EXISTING PAVMENT BY BRUSH PLASTING, AND A 380 WR TAPE PAVEMENT MARK THE NEW CYCLE.

3. IF THE DOTTED PAVEMENT MARKINGS ARE NON-EXISTING, THE CONTRACTOR SHALL LAY OUT THE RADIUS, AS BEING USED BY THE PRESENT TRAFFIC, WITH THE MINIMUM LANE WIDTHS AS SHOWN ON THE PLANS.

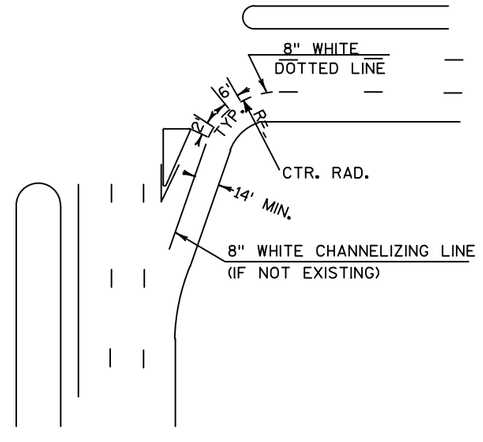
4. THE CONTRACTOR SHALL CONSTRUCT AND USE ONE OF THE TWO DOTTED TEMPLATES WHICH MOST CLOSELY MATCH THE FIELD CONDITIONS.

5. THE CONTRACTOR SHALL PROTECT THE TAPE LINES UNTIL DRY, BY THE USE OF TRAFFIC CONTROLS AND TRAFFIC CONES AS SHOWN ON THE TRAFFIC CONTROL PLANS.

FREEWAY EXIT RAMPS
(DOTTED PATTERN)
DOUBLE LEFT-TURNING MOVEMENTS



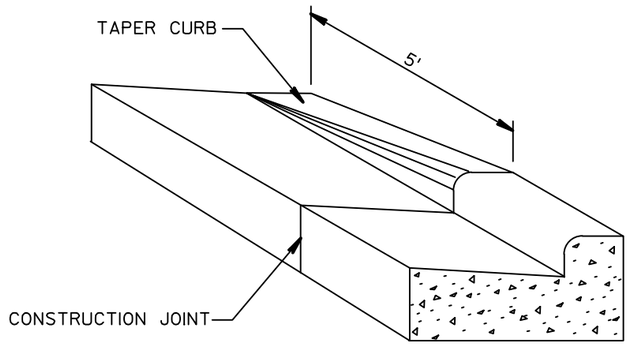
INTERSECTIIONS & EXIT RAMPS
(DOTTED PATTERN)
DOUBLE RIGHT-TURNING MOVEMENTS



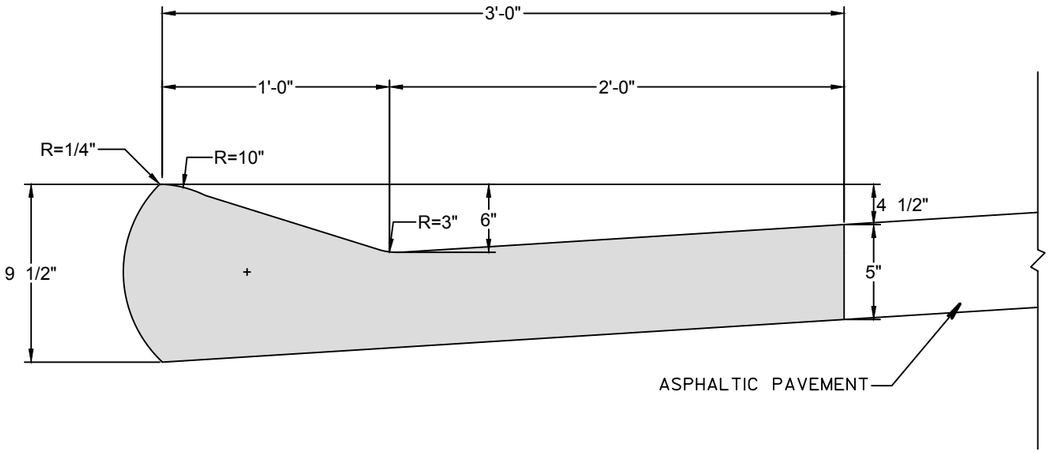
STANDARD DETAIL DRAWINGS

15 C 12-2 TRAFFIC CONTROL FOR LANE CLOSURES
(SUITABLE FOR MOVING OPERATIONS)

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CONSTRUCTION DETAIL	SHEET 20	E



DETAIL OF CURB & GUTTER TERMINI

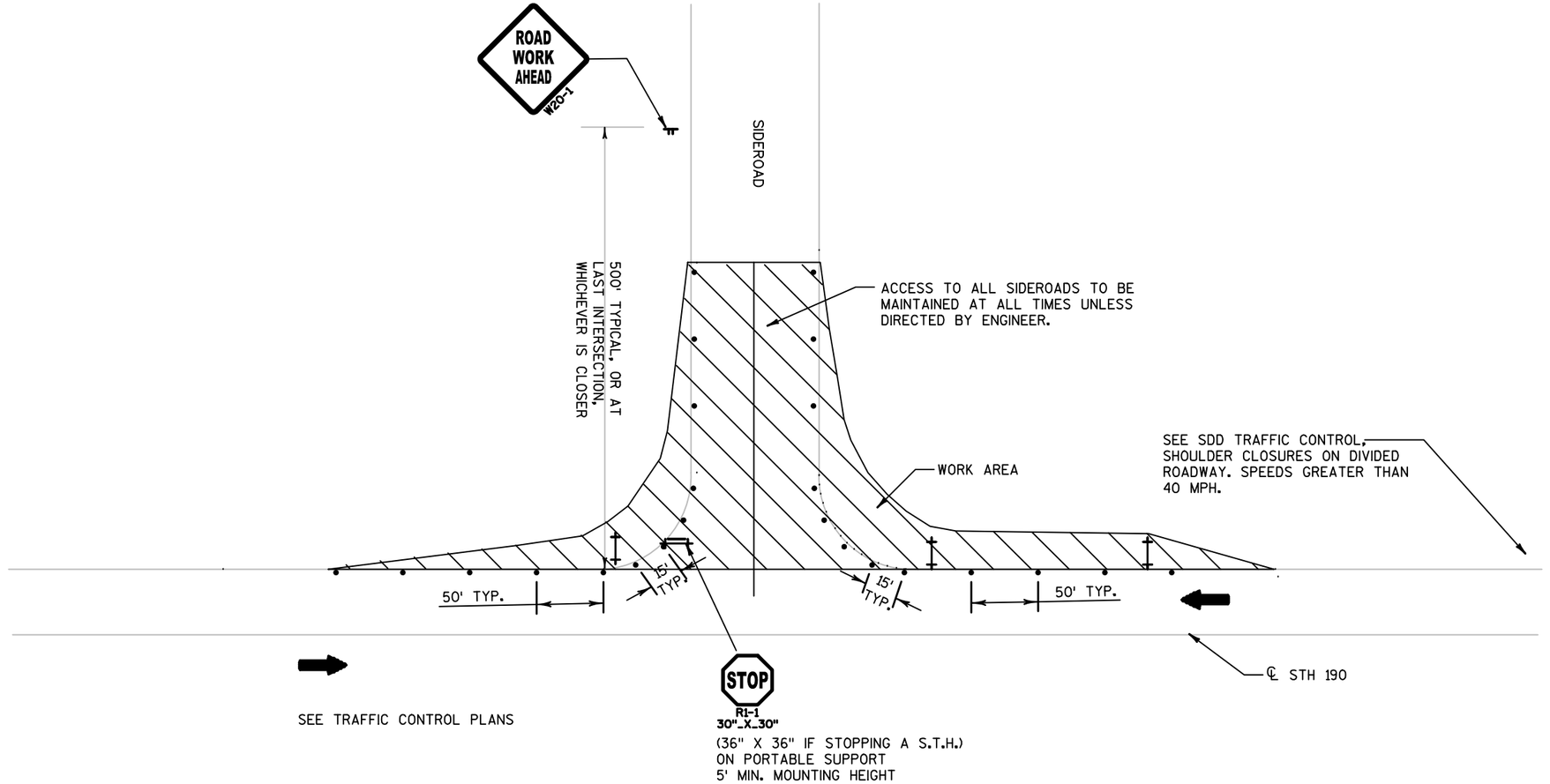


ASPHALTIC CURB

2

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CONSTRUCTION DETAIL	SHEET 21	E

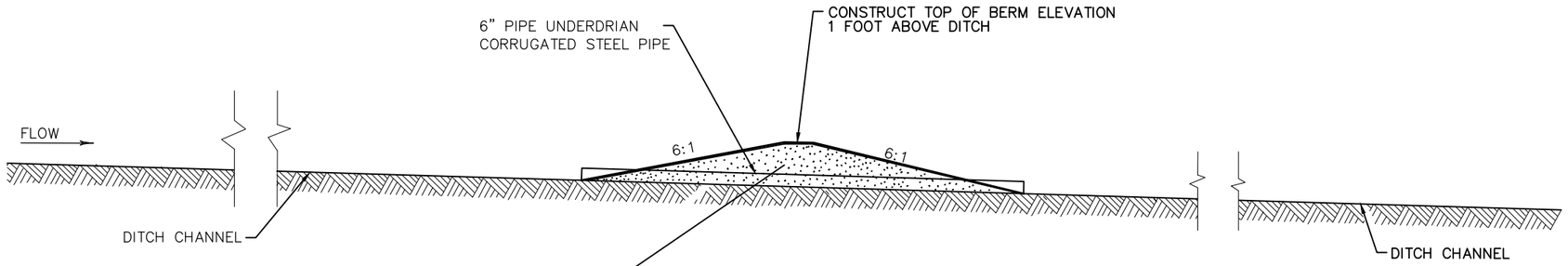
2



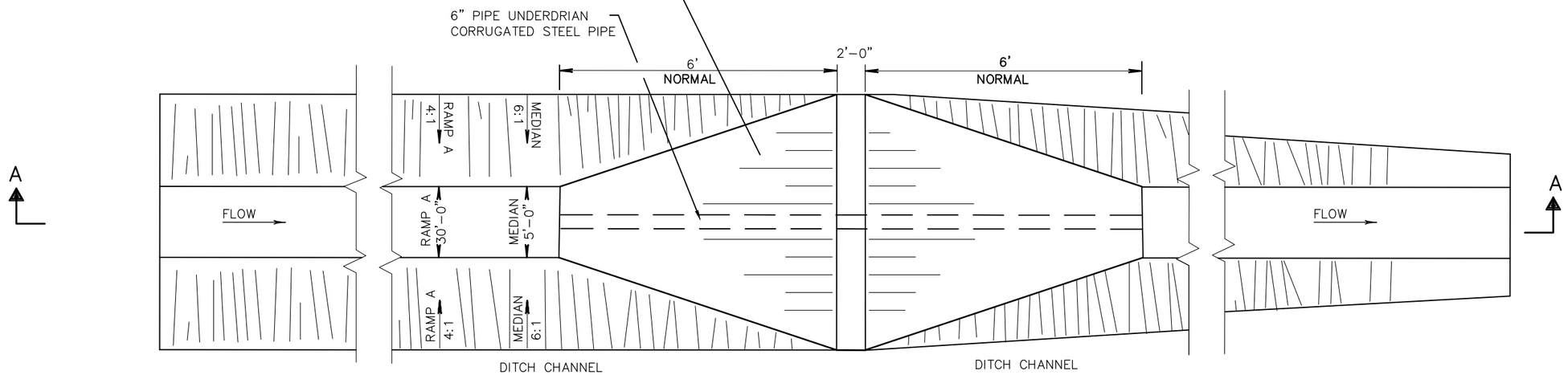
TYPICAL SIDEROAD TRAFFIC CONTROL DETAIL

HUNTER RIDGE ROAD
WETHERSFIELD ROAD

2



SECTION A–A



PLAN VIEW

PERMANENT DITCH CHECK DETAIL

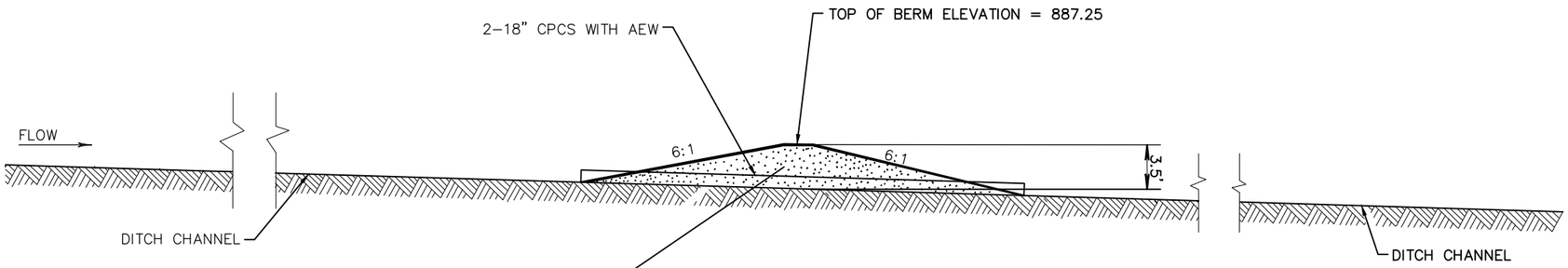
STH 190 MEDIAN STA 155+00'EB'
RAMP A STA 144+00'A'

GENERAL NOTES

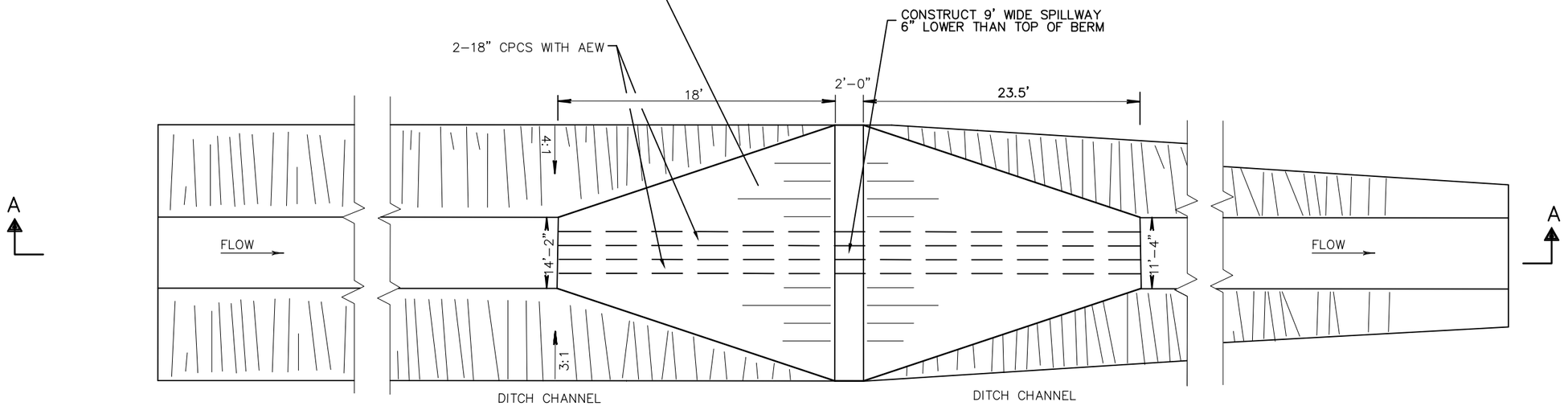
CONSTRUCT PERMANENT DITCH CHECK WHERE INDICATED ON PLAN.

PROTECT DOWNSTREAM AND CULVERT ENTRANCES FROM SEDIMENTATION DURING AND AFTER CONSTRUCTION OF PERMANENT DITCH CHECKS

2



SECTION A–A



PLAN VIEW

PERMANENT DITCH CHECK DETAIL

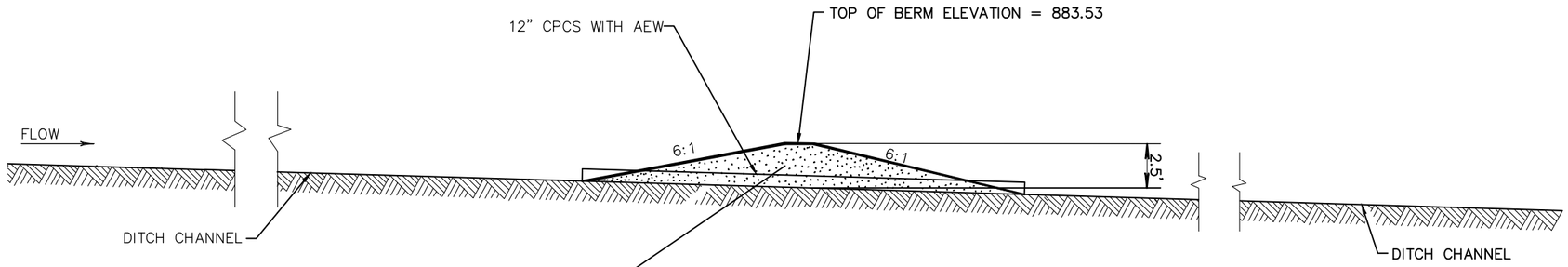
STH 190 EB DITCH STA 160'EB'+30

GENERAL NOTES

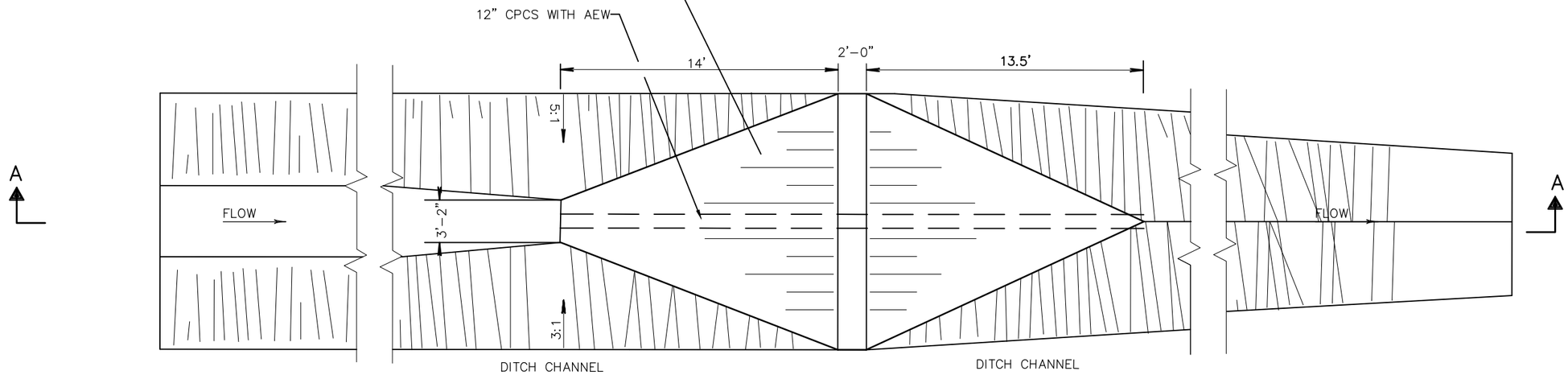
CONSTRUCT PERMANENT DITCH CHECK WHERE INDICATED ON PLAN.

PROTECT DOWNSTREAM AND CULVERT ENTRANCES FROM SEDIMENTATION DURING AND AFTER CONSTRUCTION OF PERMANENT DITCH CHECKS

2



SECTION A–A



PLAN VIEW

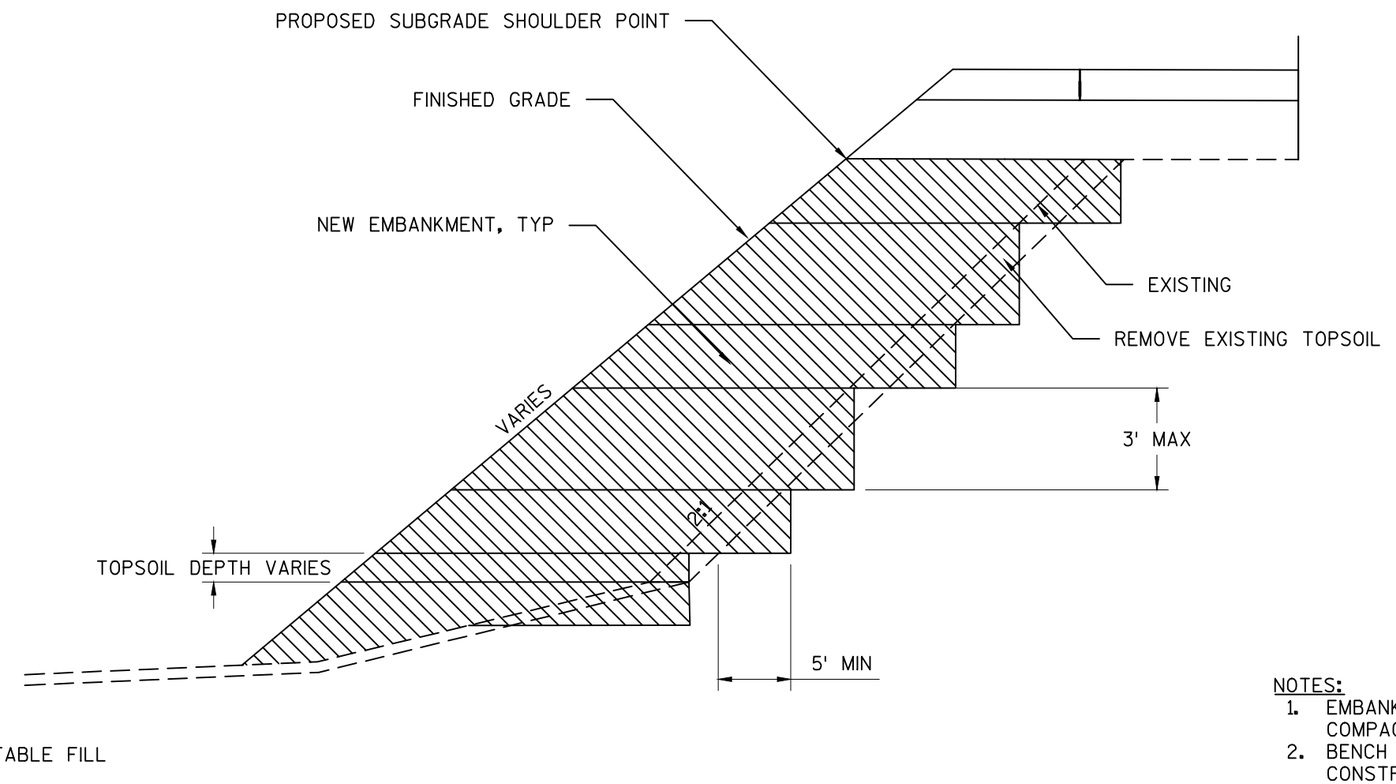
PERMANENT DITCH CHECK DETAIL

STH 190 EB DITCH STA 163'EB'+00

GENERAL NOTES

CONSTRUCT PERMANENT DITCH CHECK WHERE INDICATED ON PLAN.

PROTECT DOWNSTREAM AND CULVERT ENTRANCES FROM SEDIMENTATION DURING AND AFTER CONSTRUCTION OF PERMANENT DITCH CHECKS



STEPPED EMBANKMENT DETAIL

NOTES:
1. EMBANKMENT PLACED IN LAYERS AND COMPACTED PER SPECIFICATIONS.
2. BENCH AS REQUIRED TO FACILITATE CONSTRUCTION FILLING OPERATIONS (3' MAXIMUM BENCH DEPTH, INCIDENTAL)
3. EBS AS REQUIRED IN THE PLANS OR DIRECTED BY THE ENGINEER SHALL BE PAID UNDER THE ITEM "EXCAVATION COMMON".

2

N

STEEL THRIE BEAM
BULLNOSE TERMINAL
STA. 176+65.43 0.00' RT

STA. 176+12.09 7.08' RT

STA. 176+12.09 7.08' LT

MATCH EXISTING STEEL PLATE BEAM GUARD
STA. 177+05.47 60.09' LT

STA. 176+92.97 59.06' LT

STEEL THRIE BEAM
STRUCTURE APPROACH

MATCH 42" CONCRETE BARRIER
STA. 176+74.82 59.00' LT

MATCH STR B-67-0331 PARAPET
STA. 133'WB'+26.15 46.00' LT

CONCRETE CURB & GUTTER
36-INCH TYPE TBTT
STA. 133'WB'+19 TO 133'WB'+26

MATCH STR B-67-0331 PARAPET
STA. 133'WB'+26.15 22.00' RT

CONCRETE CURB & GUTTER
36-INCH TYPE TBTT
STA. 133'WB'+18 TO 133'WB'+26

MGS GUARDRAIL TERMINAL TYPE 2
STA. 125'WB'+83.11 39.59 LT

STA. 132'WB'+72.76 22.00' RT

MGS GUARDRAIL TERMINAL TYPE 2
STA. 179+49.41 69.71 RT

CONCRETE CURB & GUTTER
36-INCH TYPE TBTT
STA. 176+19 TO 176+26

MATCH 42" CONCRETE BARRIER
STA. 176+18.96 59.00' RT

MATCH STR B-67-0331 PARAPET
STA. 135'WB'+84.65 46.00' LT

CONCRETE CURB & GUTTER
36-INCH TYPE TBTT
STA. 135'WB'+84 TO 136'WB'+22

MGS THRIE BEAM TRANSITION
STA. 136'WB'+21.55 46.00' LT

MATCH STR B-67-0331 PARAPET
STA. 135'WB'+84.65 22.00' RT

CONCRETE CURB & GUTTER
36-INCH TYPE TBTT
STA. 135'WB'+84 TO 136'WB'+03

STEEL THRIE BEAM
STRUCTURE APPROACH

STA. 136'WB'+02.88 22.00' RT

STA. 136'WB'+40.30 22.70' RT

STA. 138'WB'+24.63 50.45' LT

MGS GUARDRAIL TERMINAL EAT

STA. 138'WB'+74.53 53.55' LT

140'A'

WB STH 190 (CAPITOL DRIVE)

126'WB' 128'WB' 130'WB' 132'WB' 134'WB' 136'WB' 138'WB' 140'WB'

B-67-0331

STEEL THRIE BEAM
BULLNOSE TERMINAL
STA. 132'WB'+57.18 28.55' RT

STEEL THRIE BEAM
BULLNOSE TERMINAL
STA. 136'WB'+55.88 31.45' RT

126'EB' 128'EB' 130'EB' 132'EB' 134'EB' 136'EB' 138'EB' 140'EB'

EB STH 190 (CAPITOL DRIVE)

B-67-0332

STA. 131'EB'+06.86 39.43' RT

MGS GUARDRAIL TERMINAL EAT

STA. 131'EB'+56.85 39.82' RT

STA. 132'EB'+66.08 22.70' LT

STA. 133'EB'+03.57 22.00' LT

CONCRETE CURB & GUTTER
36-INCH TYPE TBTT
STA. 133'EB'+03 TO 133'WB'+22

STEEL THRIE BEAM
STRUCTURE APPROACH

MATCH STR B-67-0332 PARAPET
STA. 133'EB'+21.73 22.00' LT

STA. 132'EB'+84.83 46.00' RT

MGS THRIE BEAM TRANSITION

CONCRETE CURB & GUTTER
36-INCH TYPE TBTT
STA. 132'EB'+84 TO 133'WB'+22

MATCH STR B-67-0332 PARAPET
STA. 133'EB'+21.73 46.00' RT

STA. 174+37.07 7.08' LT

STA. 174+37.07 7.08' RT

STEEL THRIE BEAM
BULLNOSE TERMINAL
STA. 173+83.73 0.00' RT

SB CTH F

NB CTH F

STA. 136'EB'+33.62 22.00' LT

CONCRETE CURB & GUTTER
36-INCH TYPE TBTT
STA. 135'EB'+80 TO 135'WB'+88

MATCH STR B-67-0332 PARAPET
STA. 135'EB'+80.23 22.00' LT

CONCRETE CURB & GUTTER
36-INCH TYPE TBTT
STA. 135'EB'+80 TO 133'WB'+87

MATCH STR B-67-0332 PARAPET
STA. 135'EB'+80.23 46.00' RT

MATCH 42" CONCRETE BARRIER
STA. 173+80.48 59.00' RT

MGS THRIE BEAM TRANSITION

STA. 173+43.58 59.00' RT

STA. 171+77.99 61.63' RT

MGS GUARDRAIL TERMINAL EAT

STA. 171+28.11 65.06' RT

MGS GUARDRAIL
TERMINAL TYPE 2
STA. 138'EB'+23.30 51.95 RT

140'C'

144'C'

BEAM GUARD DETAILS

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CONSTRUCTION DETAIL	SHEET 27	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\021002-CD.DWG
LAYOUT NAME - 021001

PLOT DATE : 10/25/2016 3:46 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

QUEEN OF APOSTLES CONGREGATION
N35W23360 CAPITOL DR
PEWAUKEE, WI 53072-2616

QUEEN OF APOSTLES CONGREGATION
N35W23360 CAPITOL DR
PEWAUKEE, WI 53072-2616

N

STH 190 (CAPITOL DR) WB

STH 190 (CAPITOL DR) EB

110'WB' 112'WB' 114'WB' 116'WB' 118'WB' 120'WB' 122'WB' 124'WB'

110'EB' 112'EB' 114'EB' 116'EB' 118'EB' 120'EB' 122'EB' 124'EB'

CAUTION

STA. 121+57.30, 77.40' LT

STA. 122+98.20, 92.38' LT

STA. 121+42.24, 91.00' RT

STA. 122+96.57, 91.00' RT

R=50'

R=50'

HUNTERS RIDGE RD

FOX RIVER COMMUNITY CHURCH INC.
N34W23575 CAPITOL DR
PEWAUKEE, WI 53072

DAVID A. BAYLISS
JOANN M. GOETZKE
N34W23411 CAPITOL DR
PEWAUKEE, WI 53072

JULIE A. VARGA
JOHN VARGA
N34W23403 CAPITOL DR
PEWAUKEE, WI 53072

KJ PROPERTY INVESTMENTS LLC
401 S. MILWAUKEE ST
THERESA, WI 53091

HUNTERS RIDGE OF PEWAUKEE A LLC
HUNTERS RIDGE OF PEWAUKEE F LLC
117 N JEFFERSON ST, STE 202
MILWAUKEE, WI 53202

LAWRENCE HAGA
TAMMY M. HAGA
1611 E. BEVERLY RD
MILWAUKEE, WI 53211-2206

ROLAND G.
IRREVOCABL
N34W23189
PEWAUKEE,

LEGEND

1. CONCRETE SURFACE DRAIN
2. CONCRETE CURB & GUTTER 30-INCH TYPE A
3. CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G
4. CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A
5. CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT
6. CONCRETE SIDEWALK (4-INCH)
7. SEE STORM SEWER PLAN
8. CONCRETE BARRIER TYPE S42
9. REMOVE GUARDRAIL
10. REMOVE CONCRETE DITCH
- * SEE CONSTRUCTION DETAILS FOR BEAM GUARD DETAILS
11. REMOVING SMALL PIPE CULVERTS
12. REMOVE STORM SEWER
13. REMOVE INLET
14. REMOVE MANHOLE
15. REMOVE SURFACE DRAINS
16. REMOVE ASPHALTIC SURFACE
17. REMOVE CONCRETE BARRIER
18. REMOVE CURB AND GUTTER
19. SAWING ASPHALT
20. SAWING CONCRETE
- CLEARING & GRUBBING

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 28	E

2

2

QUEEN OF APOSTLES CONGREGATION
N35W23360 CAPITOL DR
PEWAUKEE, WI 53072-2616

RICHARD L. BORENITSCH
320 LEANORE LN
BROOKFIELD, WI 53005

CONCRETE PAVEMENT
APPROACH SLABS

CAUTION

PERMANENT GRAVEL DITCH CHECK AND PIPE STA 144'A'+50
(SEE CONSTRUCTION DETAILS FOR SIZE)

N

CTH F SB

CTH F NB

178'F'

174'F'

172'F'

140'A'

STH 190 (CAPITOL DR) WB

126'WB' 128'WB' 130'WB' 132'WB' 134'WB' 136'WB' 138'WB' 140'WB'

STH 190 (CAPITOL DR) EB

126'EB' 128'EB' 130'EB' 132'EB' 134'EB' 136'EB' 138'EB' 140'EB'

RAMP C

140'C'

144'C'

EXISTING DRIVEWAY TO BE REMOVED

CONCRETE PAVEMENT
APPROACH SLABS

ROLAND G. KALMON
IRREVOCABLE TRUST AGREEMENT
N34W23189 CAPITOL DR
PEWAUKEE, WI 53072

HUNTERS RIDGE I-A LLC
HUNTERS RIDGE I-B LLC
117 N JEFFERSON ST, STE 202
MILWAUKEE, WI 53202

LEGEND

1	CONCRETE SURFACE DRAIN	11	REMOVING SMALL PIPE CULVERTS
2	CONCRETE CURB & GUTTER 30-INCH TYPE A	12	REMOVE STORM SEWER
3	CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G	13	REMOVE INLET
4	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A	14	REMOVE MANHOLE
5	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT	15	REMOVE SURFACE DRAINS
6	CONCRETE SIDEWALK (4-INCH)	16	REMOVE ASPHALTIC SURFACE
7	SEE STORM SEWER PLAN	17	REMOVE CONCRETE BARRIER
8	CONCRETE BARRIER TYPE 42S	18	REMOVE CURB AND GUTTER
9	REMOVE GUARDRAIL	19	SAWING ASPHALT
10	REMOVE CONCRETE DITCH	20	SAWING CONCRETE
10	SEE CONSTRUCTION DETAILS FOR BEAM GUARD DETAILS		CLEARING & GRUBBING

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 29	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 021203-PD

PLOT DATE : 10/25/2016 4:46 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

NEAL J. SEIDL
KRISTINE K. SEIDL
W228N3513 S. WYNDEMERE CT
PEWAUKEE, WI 53072

THOMAS J. BENKO
THERESA L. BENKO
W228N3507 WYNDEMERE CT
PEWAUKEE, WI 53072

KEVIN J. SCHWARTZMILLER
KELLY M. SCHWARTZMILLER
W227N3500 WYNDEMERE CT
PEWAUKEE, WI 53072-7203

RICHARD L. BORENITSCH
BARBARA A. BORENITSCH ET AL
N34W22535 CAPITOL DR
PEWAUKEE, WI 53072

STA. 143+98.97, 272.95' LT

STA. 41+75.55, 582.05' RT

R=258'

R=587'

PERMANENT GRAVEL DITCH CHECK AND PIPE STA 155'EB'+00
(SEE CONSTRUCTION DETAILS FOR SIZE)

LOTS OWNERS OF WETHERSFIELD

LOT OWNERS OF WYNDEMERE

CAUTION

RAMP A

RAMP B

RAMP D

140'A'
142'A'
144'A'
146'B'
144'B'
142'B'
140'B'
140'C'
142'C'
144'C'
140'D'
142'D'
144'D'
146'D'

140'WB' 142'WB' 144'WB' 146'WB' 148'WB' 150'WB' 152'WB' 154'WB'

STH 190 (CAPITOL DR) WB

140'EB' 142'EB' 144'EB' 146'EB' 148'EB' 150'EB' 152'EB' 154'EB'

STH 190 (CAPITOL DR) EB

N

LEGEND

1	CONCRETE SURFACE DRAIN	11	REMOVING SMALL PIPE CULVERTS
2	CONCRETE CURB & GUTTER 30-INCH TYPE A	12	REMOVE STORM SEWER
3	CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G	13	REMOVE INLET
4	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A	14	REMOVE MANHOLE
5	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT	15	REMOVE SURFACE DRAINS
6	CONCRETE SIDEWALK (4-INCH)	16	REMOVE ASPHALTIC SURFACE
7	SEE STORM SEWER PLAN	17	REMOVE CONCRETE BARRIER
8	CONCRETE BARRIER TYPE 42S	18	REMOVE CURB AND GUTTER
9	REMOVE GUARDRAIL	19	SAWING ASPHALT
10	REMOVE CONCRETE DITCH	20	SAWING CONCRETE
*	SEE CONSTRUCTION DETAILS FOR BEAM GUARD DETAILS		CLEARING & GRUBBING

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 30	E

2

HARVEY & JANICE BUTH TRUST
N35W22498 CAPITOL DR
PEWAUKEE, WI 53072

TIMOTHY D. KOLARIK
VILMA BERNUS-KOLARIK
PO BOX 31
PEWAUKEE, WI 53072-3100

HOWARD TURNER
JEAN M. TURNER
N35W22420 WETHERSFIELD CT
PEWAUKEE, WI 53072

LOT OWNERS OF WETHERSFIELD

WETHERSFIELD RD

STA. 156+55.00, 91.00' LT

R=50'

STA. 158+05.20, 91.00' LT

CAUTION

END PROJECT
STA. 163'WB'+12

STH 190 (CAPITOL DR) WB

156'WB' 158'WB' 160'WB' 162'WB' 164'WB' 166'WB' 168'WB' 170'WB'

156'EB' 158'EB' 160'EB' 162'EB' 164'EB' 166'EB' 168'EB' 170'EB'

STH 190 (CAPITOL DR) EB

END PROJECT
STA. 160'EB'+00

PERMANENT GRAVEL DITCH CHECK AND PIPES STA 163'EB'+00
(SEE CONSTRUCTION DETAILS FOR SIZE)

PERMANENT GRAVEL DITCH CHECK AND PIPES STA 160'EB'+30
(SEE CONSTRUCTION DETAILS FOR SIZE)

RICHARD L. BORENITSCH
BARBARA A. BORENITSCH ET AL
N34W22535 CAPITOL DR
PEWAUKEE, WI 53072

DUPLAINVILLE LLC
2620 WILLOW SPRING DR
BROOKFIELD, WI 53045

OSCAR E. PICADO DIAZ
LILLIAN R. BATISTA
N34W22407 CAPITOL DR
PEWAUKEE, WI 53072

THOMAS P. ALBERT
W223N3481 DUPLAINVILLE RD
PEWAUKEE, WI 53072

LEGEND

1. CONCRETE SURFACE DRAIN
2. CONCRETE CURB & GUTTER 30-INCH TYPE A
3. CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G
4. CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A
5. CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT
6. CONCRETE SIDEWALK (4-INCH)
7. SEE STORM SEWER PLAN
8. CONCRETE BARRIER TYPE 42S
9. REMOVE GUARDRAIL
10. REMOVE CONCRETE DITCH
- * SEE CONSTRUCTION DETAILS FOR BEAM GUARD DETAILS

11. REMOVING SMALL PIPE CULVERTS
12. REMOVE STORM SEWER
13. REMOVE INLET
14. REMOVE MANHOLE
15. REMOVE SURFACE DRAINS
16. REMOVE ASPHALTIC SURFACE
17. REMOVE CONCRETE BARRIER
18. REMOVE CURB AND GUTTER
19. SAWING ASPHALT
20. SAWING CONCRETE

CLEARING & GRUBBING

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 31	E

2

WYNDEMERE OF PEWAUKEE INC.
11501 W. NORTH AVE
WAUWATOSA, WI 53226

RAVI V. BHAVSAR
POOJA R. BHAVSAR
W229N3612 GLEN ABBY CT
PEWAUKEE, WI 53072

ADAM J. NENNING
JODY L. SPUSTA
W229N3607 W. STERLING CT
PEWAUKEE, WI 53072

BENJAMIN N. MOEN
MICHELLE J. MOEN
W229N3601 STERLING CT
PEWAUKEE, WI 53072

NIKOLA MOMCILOVIC
ZORICA MOMCILOVIC
W228N3600 STERLING CT
PEWAUKEE, WI 53072

NEAL J. SEIDL
KRISTINE K. SEIDL
W228N3513 S. WYNDEMERE CT
PEWAUKEE, WI 53072

THOMAS J. BENKO
THERESA L. BENKO
W228N3507 WYNDEMERE CT
PEWAUKEE, WI 53072

KEVIN J. SCHWARTZMILLER
KELLY M. SCHWARTZMILLER
W227N3500 WYNDEMERE CT
PEWAUKEE, WI 53072-7203

LOT OWNERS OF WYNDEMERE

HMOD 2X17

DO NOT DISTURB HMOD 2X17 MONUMENT

STA. 70.90, 99.00' LT

R=75'

R=70'

STA. 150+15.93, 97.00' LT

PERMANENT GRAVEL DITCH CHECK AND PIPES STA 144'A'+50
(SEE CONSTRUCTION DETAILS FOR SIZE)

STA. 143+07.37, 255.33' LT

R=234'

R=255'

STA. 143+98.97, 273.05' LT

CAUTION

RAMP A

RAMP B

RAMP C

RAMP D

STH 190 (CAPITOL DR) WB

STH 190 (CAPITOL DR) EB

CTH F SB

CTH F NB

UNNAMED TRIBUTARY TO SUSSEX CREEK

182'F'

180'F'

178'F'

176'F'

134'B' 136'B' 138'B' 140'B' 142'B' 144'B' 146'B'

150'A' 148'A' 146'A' 144'A' 142'A' 140'A'

134'WB' 136'WB' 138'WB' 140'WB' 142'WB' 144'WB' 146'WB' 148'WB'

134'EB' 136'EB' 138'EB' 140'EB' 142'EB' 144'EB' 146'EB' 148'EB'

146'D'

LEGEND

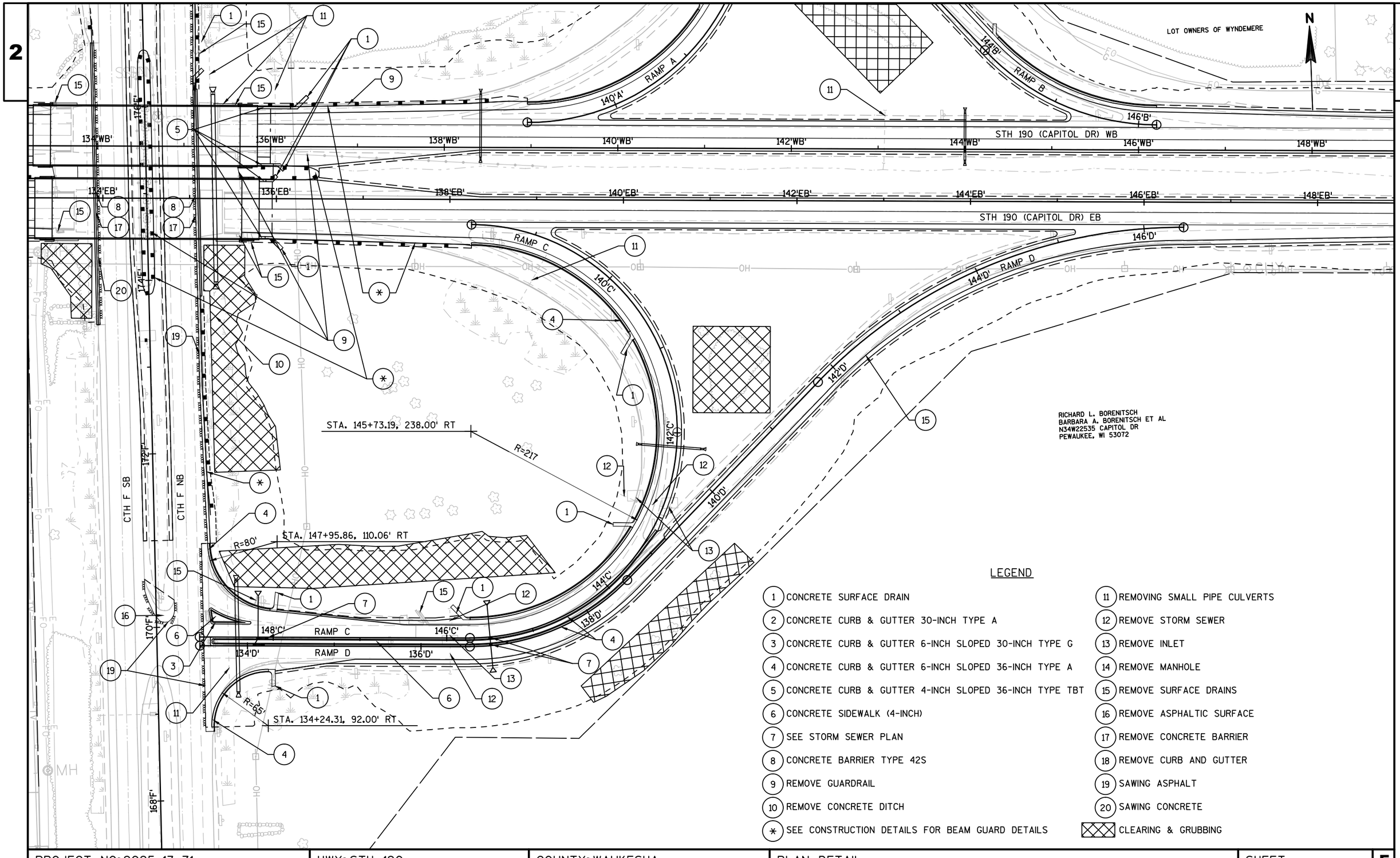
1. CONCRETE SURFACE DRAIN
2. CONCRETE CURB & GUTTER 30-INCH TYPE A
3. CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G
4. CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A
5. CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT
6. CONCRETE SIDEWALK (4-INCH)
7. SEE STORM SEWER PLAN
8. CONCRETE BARRIER TYPE 42S
9. REMOVE GUARDRAIL
10. REMOVE CONCRETE DITCH
11. REMOVING SMALL PIPE CULVERTS
12. REMOVE STORM SEWER
13. REMOVE INLET
14. REMOVE MANHOLE
15. REMOVE SURFACE DRAINS
16. REMOVE ASPHALTIC SURFACE
17. REMOVE CONCRETE BARRIER
18. REMOVE CURB AND GUTTER
19. SAWING ASPHALT
20. SAWING CONCRETE

* SEE CONSTRUCTION DETAILS FOR BEAM GUARD DETAILS

CLEARING & GRUBBING

N

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 32 E



LEGEND

1	CONCRETE SURFACE DRAIN	11	REMOVING SMALL PIPE CULVERTS
2	CONCRETE CURB & GUTTER 30-INCH TYPE A	12	REMOVE STORM SEWER
3	CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G	13	REMOVE INLET
4	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A	14	REMOVE MANHOLE
5	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT	15	REMOVE SURFACE DRAINS
6	CONCRETE SIDEWALK (4-INCH)	16	REMOVE ASPHALTIC SURFACE
7	SEE STORM SEWER PLAN	17	REMOVE CONCRETE BARRIER
8	CONCRETE BARRIER TYPE 42S	18	REMOVE CURB AND GUTTER
9	REMOVE GUARDRAIL	19	SAWING ASPHALT
10	REMOVE CONCRETE DITCH	20	SAWING CONCRETE
*	SEE CONSTRUCTION DETAILS FOR BEAM GUARD DETAILS		CLEARING & GRUBBING

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 33	E

2

N

WYNDEMERE DRIVE

CTH F SB

CTH F NB

UNNAMED TRIBUTARY TO SUSSEX CREEK

HMOD 2X17

DO NOT DISTURB HMOD 2X17 MONUMENT

RAMP B

150'A' RAMP A

134'B'

136'B'

138'B'

140'B'

146'A'

148'A'

182'F'

186'F'

188'F'

180'F'

LOT OWNERS OF WYNDEMERE

BRADLEY J. STANEK
ERIN N. STANEK
W229N3619 GLEN ABBY CT
PEWAUKEE, WI 53072-4199

RAVI V. BHAVSAR
POOJA R. BHAVSAR
W229N3612 GLEN ABBY CT
PEWAUKEE, WI 53072

WYNDEMERE OF PEWAUKEE INC.
11501 W. NORTH AVE
WAUWATOSA, WI 53226

ADAM J. NENNING
JODY L. SPUSTA
W229N3607 W. STERLING CT
PEWAUKEE, WI 53072

BENJAMIN N. MOEN
MICHELLE J. MOEN
W229N3601 STERLING CT
PEWAUKEE, WI 53072

NIKOLA MC
ZORICA MC
W228N360
PEWAUKEE

LEGEND

1. CONCRETE SURFACE DRAIN
2. CONCRETE CURB & GUTTER 30-INCH TYPE A
3. CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G
4. CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A
5. CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT
6. CONCRETE SIDEWALK (4-INCH)
7. SEE STORM SEWER PLAN
8. CONCRETE BARRIER TYPE 42S
9. REMOVE GUARDRAIL
10. REMOVE CONCRETE DITCH
- * SEE CONSTRUCTION DETAILS FOR BEAM GUARD DETAILS
11. REMOVING SMALL PIPE CULVERTS
12. REMOVE STORM SEWER
13. REMOVE INLET
14. REMOVE MANHOLE
15. REMOVE SURFACE DRAINS
16. REMOVE ASPHALTIC SURFACE
17. REMOVE CONCRETE BARRIER
18. REMOVE CURB AND GUTTER
19. SAWING ASPHALT
20. SAWING CONCRETE
- CLEARING & GRUBBING

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PLAN DETAIL	SHEET 34	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 021208-PD
PLOT DATE : 10/25/2016 4:47 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

N

STH 190 WB

107+00'WB' 108+00'WB' 109+00'WB' 110+00'WB' 111+00'WB' 112+00'WB'

STH 190 WB R/L

STA 112+50'EB'

913.94 913.64 913.39 913.09

6' 2' 14' 12' 14' 1'

2.1% 2.1% 2.1% 2.1%

918.64 917.85 917.07 916.29 915.51 914.72

918.34 917.56 916.77 915.99 915.21 914.43

918.08 917.30 916.52 915.73 914.95 914.17

917.68 917.00 916.22 915.44 914.65 913.87

STH 190 EB R/L

107+00'EB' 108+00'EB' 109+00'EB' 110+00'EB' 111+00'EB' 112+00'EB'

STH 190 EB

912.66 912.42 912.14

3' 3' 12' 14' 6' 2'

2.0% 2.0% 2.0% 2.0%

917.88 917.01 916.14 915.27 914.40 913.53

917.64 916.77 915.90 915.03 914.16 913.29

917.36 916.49 915.62 914.75 913.88 913.01

MATCHLINE

SEE SHEET 2 OF 14

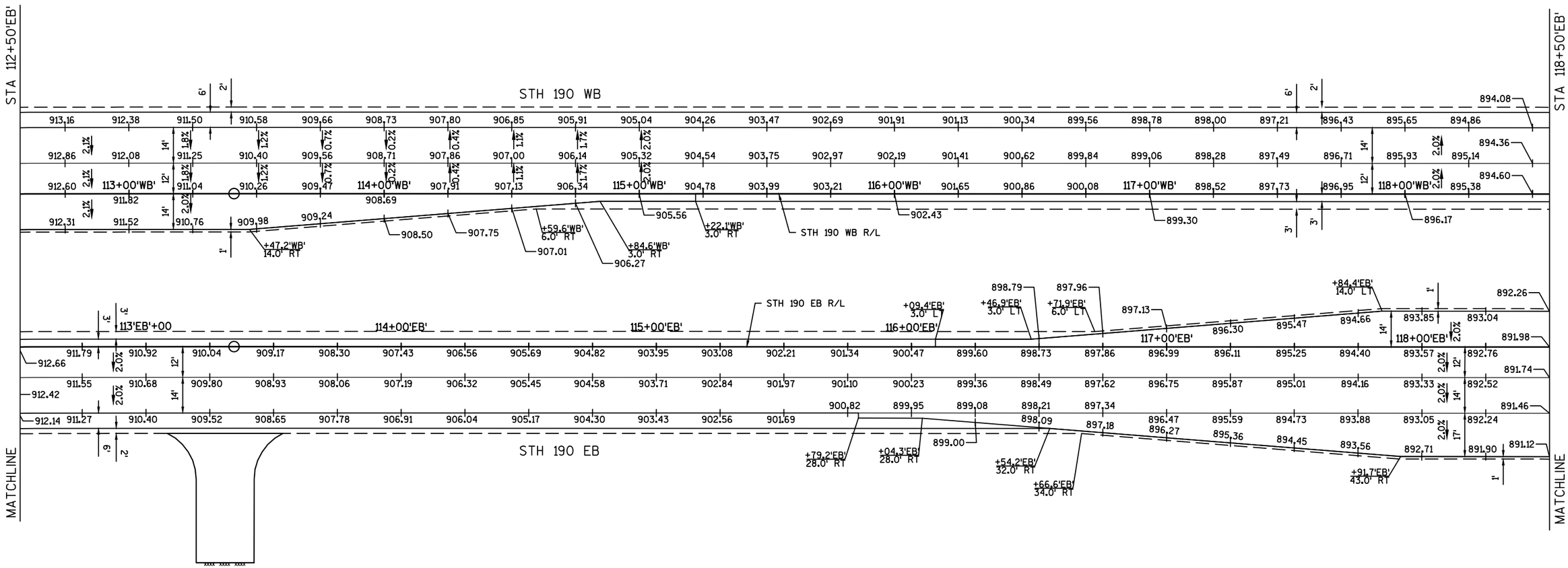
SHEET 1 OF 14

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	GRADES	SHEET 35	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\021202-GR.DWG
LAYOUT NAME - 021202-GR-(1)
PLOT DATE : 10/27/2016 3:46 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :
PLOT SCALE : 1 IN:40 FT

STH 190 WB SUPERELEVATION DATA

SUPERELEVATION DESCRIPTION	STATION	LANE SLOPE
MATCH EXISTING	111+00	+2.13%
END FULL SUPERELEVATION	113+08	+2.13%
LEVEL CROWN	114+08	0.00%
BEGIN NORMAL CROWN	114+88	-2.00%



SHEET 2 OF 14

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	GRADES	SHEET 36	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\021202-GR.DWG
LAYOUT NAME - 021202-GR-(2)

PLOT DATE : 10/27/2016 3:46 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

PLOT SCALE : 1 IN:40 FT

2

N

STA 118+50'EB'

STA 124+50'EB'

SEE SHEET 2 OF 14

SEE SHEET 4 OF 14

STH 190 WB

STH 190 WB R/L

STH 190 EB R/L

STH 190 EB

119+00'WB' 120+00'WB' 121+00'WB' 122+00'WB' 123+00'WB' 124+00'WB'

119+00'EB' 120+00'EB' 121+00'EB' 122+00'EB' 123+00'EB' 124+00'EB'

+15.5'WB' 32.0' LT

+58.2'WB' 3.0' RT

+33.1'WB' 3.0' RT

+58.0'WB' 6.0' RT

+57.2'WB' 14.8' RT

+80.3'WB' 28.1' RT

+67.1'WB' 23.8' RT

+87.3'WB' 14.0' RT

+52.6'EB' 14.0' LT

+73.0'EB' 23.8' LT

+59.8'EB' 28.1' LT

+83.2'EB' 14.8' LT

+82.4'EB' 6.0' LT

+07.2'EB' 3.0' LT

+82.2'EB' 3.0' LT

+42.2'EB' 41.0' RT

+10.7'EB' 41.0' RT

+25.6'EB' 41.0' RT

+96.5'EB' 41.0' RT

+86.5'EB' 28.0' RT

+76.5'EB' 28.0' RT

+61.8'EB' 34.0' RT

+56.5'EB' 32.0' RT

+92.3'EB' 91.4' RT

+92.1'EB' 101.4' RT

+46.6'EB' 91.4' RT

+47.3'EB' 101.4' RT

+27.6'EB' 101.4' RT

+12.7'EB' 101.3' RT

HUNTERS RIDGE ROAD

MATCHLINE

MATCHLINE

SHEET 3 OF 14

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	GRADES	SHEET	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\021202-GR.DWG
LAYOUT NAME - 021202-GR-(3)

PLOT DATE : 10/27/2016 3:46 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

N

STA 124+50'EB'

STA 130+50'EB'

SEE SHEET 3 OF 14

SEE SHEET 5 OF 14

MATCHLINE

MATCHLINE

STH 190 WB

STH 190 EB

LOW POINT STA 127+72.16'WB'

LOW POINT STA 127+02.33'EB'

STH 190 WB R/L

STH 190 EB R/L

+75.6'WB' 28.0' LT

+35.6'WB' 28.0' LT

+45.4'WB' 38.9' LT

+59.3'WB' 36.8' LT

+79.3'WB' 43.5' LT

+79.3'WB' 39.5' LT

+75.6'WB' 46.0' LT

+55.3'WB' 14.0' RT

+67.8'WB' 6.0' RT

+92.8'WB' 3.0' RT

+50.3'WB' 3.0' RT

+35.7'EB' 34.0' RT

+93.6'EB' 32.0' RT

125+00'WB' 126+00'WB' 127+00'WB' 128+00'WB' 129+00'WB' 130+00'WB'

125+00'EB' 126+00'EB' 127+00'EB' 128+00'EB' 129+00'EB' 130+00'EB'

878.83 LP 878.60 LP 878.32 LP 878.40 LP 878.16 LP 877.88 LP 877.67

878.78 878.56 878.37 878.19 878.05 877.93 877.83 877.75 877.70 877.68 877.69 877.73 877.79 877.88 877.99 878.13 878.29 878.47 878.68 878.91 879.17

879.31 879.06 878.83 878.63 878.45 878.29 878.16 878.06 877.98 877.92 877.88 877.89 877.93 877.99 878.08 878.19 878.33 878.49 878.67 878.88 879.11 879.38

879.86 879.59 879.34 879.11 878.91 878.73 878.57 878.44 878.34 878.26 878.20 878.16 878.16 878.17 878.21 878.27 878.36 878.47 878.61 878.77 878.95 879.16 879.39 879.65

880.11 879.83 879.58 879.35 879.15 878.97 878.82 878.69 878.58 878.50 878.44 878.41 878.40 878.45 878.51 878.60 878.71 878.85 879.01 879.19 879.63 879.89

879.83 879.55 879.30 879.07 878.87 878.69 878.54 878.41 878.33 878.29 878.27 878.28 878.31 878.41 879.40

879.99 879.77 879.58 879.41 879.26 879.13 879.03 878.94 878.89 878.85 878.84 878.85 878.88 878.93 879.01 879.11 879.23 879.38 879.54 879.73 879.95 880.18 880.44 880.72 881.02

879.75 879.47 879.53 879.34 879.17 879.02 878.89 878.79 878.70 878.65 878.61 878.61 878.64 878.69 878.77 878.87 878.99 879.14 879.30 879.49 879.71 879.94 880.20 880.48 880.78 880.50

879.25 879.06 878.89 878.74 878.61 878.51 878.42 878.37 878.33 878.33 878.36 878.41 878.49 878.59 878.71 878.86 879.02 879.21 879.43 879.66 879.92 880.20

9.58

2.0% 4.0%

8' 14' 12' 14' 1' 2' 3' 3' 12' 14' 2' 6' 4' 10' 10' 14' 12' 3' 3' 7'

SHEET 4 OF 14

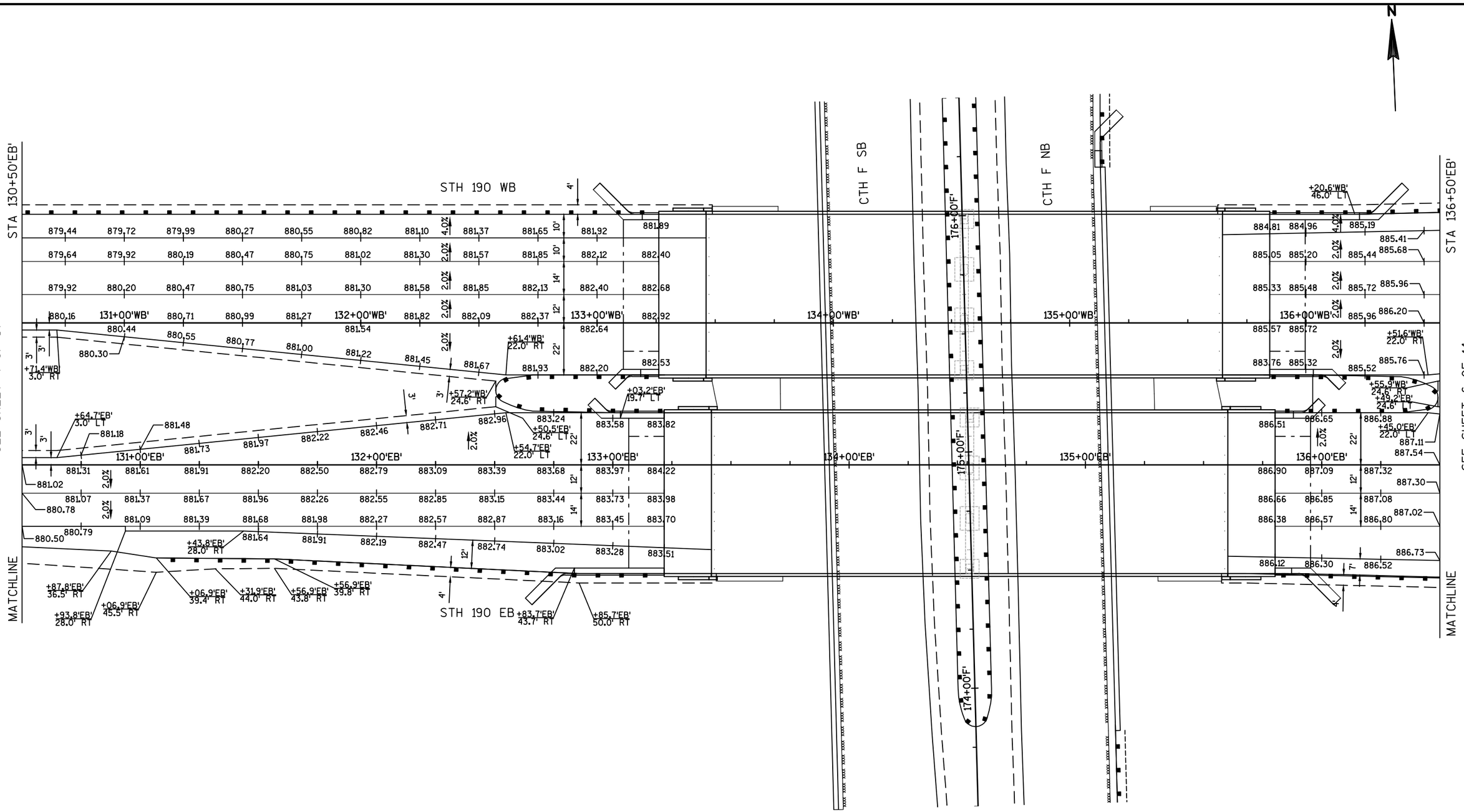
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	GRADES	SHEET 38	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\021202-GR.DWG
LAYOUT NAME - 021202-GR-(4)

PLOT DATE : 10/27/2016 3:46 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

PLOT SCALE : 1 IN:40 FT

2



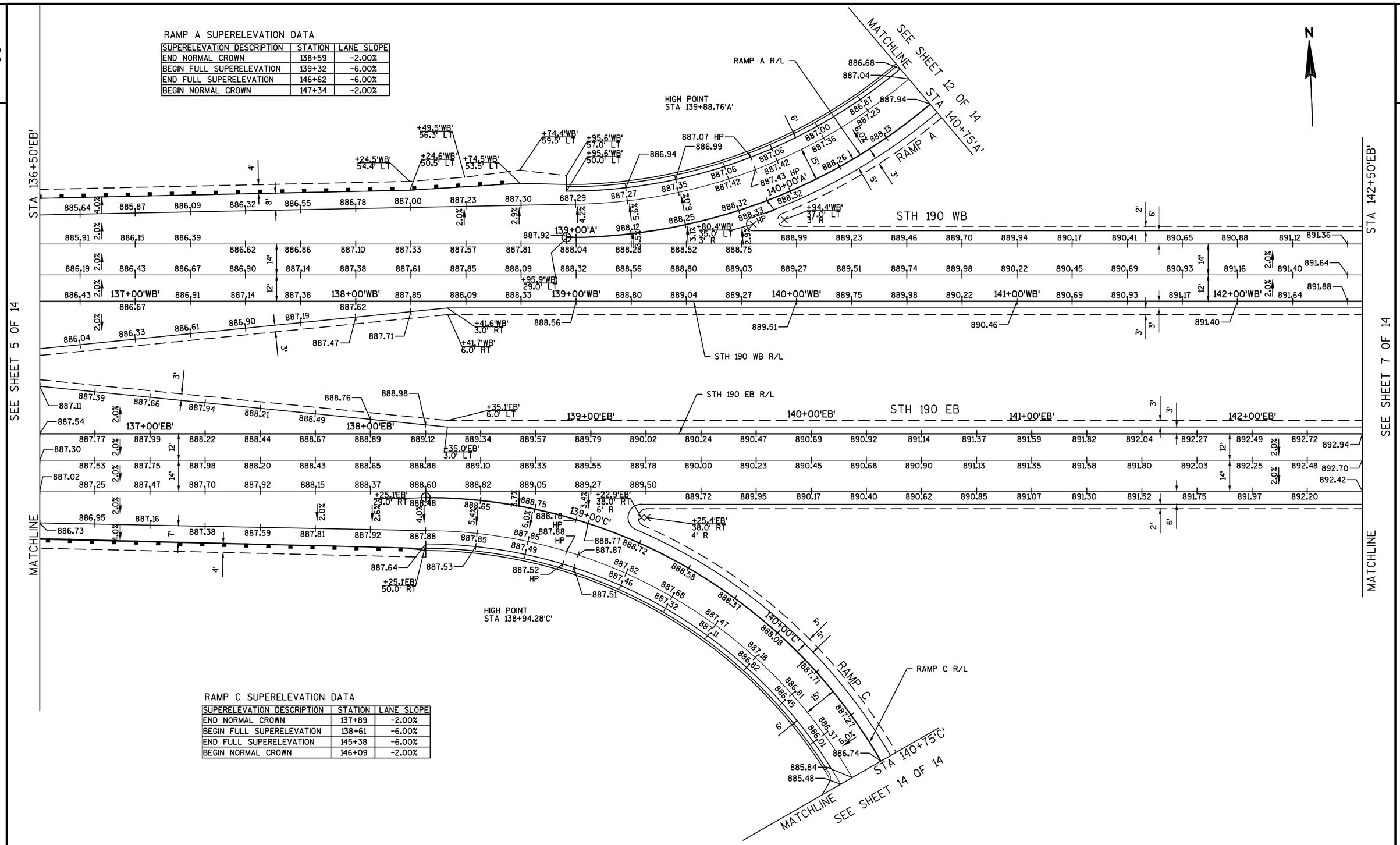
SHEET 5 OF 14

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	GRADES	SHEET 39	E

2

RAMP A SUPERELEVATION DATA

SUPERELEVATION DESCRIPTION	STATION	LANE SLOPE
END NORMAL CROWN	138+59	-2.00%
BEGIN FULL SUPERELEVATION	139+32	-6.00%
END FULL SUPERELEVATION	146+62	-6.00%
BEGIN NORMAL CROWN	147+34	-2.00%



RAMP C SUPERELEVATION DATA

SUPERELEVATION DESCRIPTION	STATION	LANE SLOPE
END NORMAL CROWN	137+89	-2.00%
BEGIN FULL SUPERELEVATION	138+61	-6.00%
END FULL SUPERELEVATION	145+38	-6.00%
BEGIN NORMAL CROWN	146+09	-2.00%

SHEET 6 OF 14

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	GRADES	SHEET 40	E

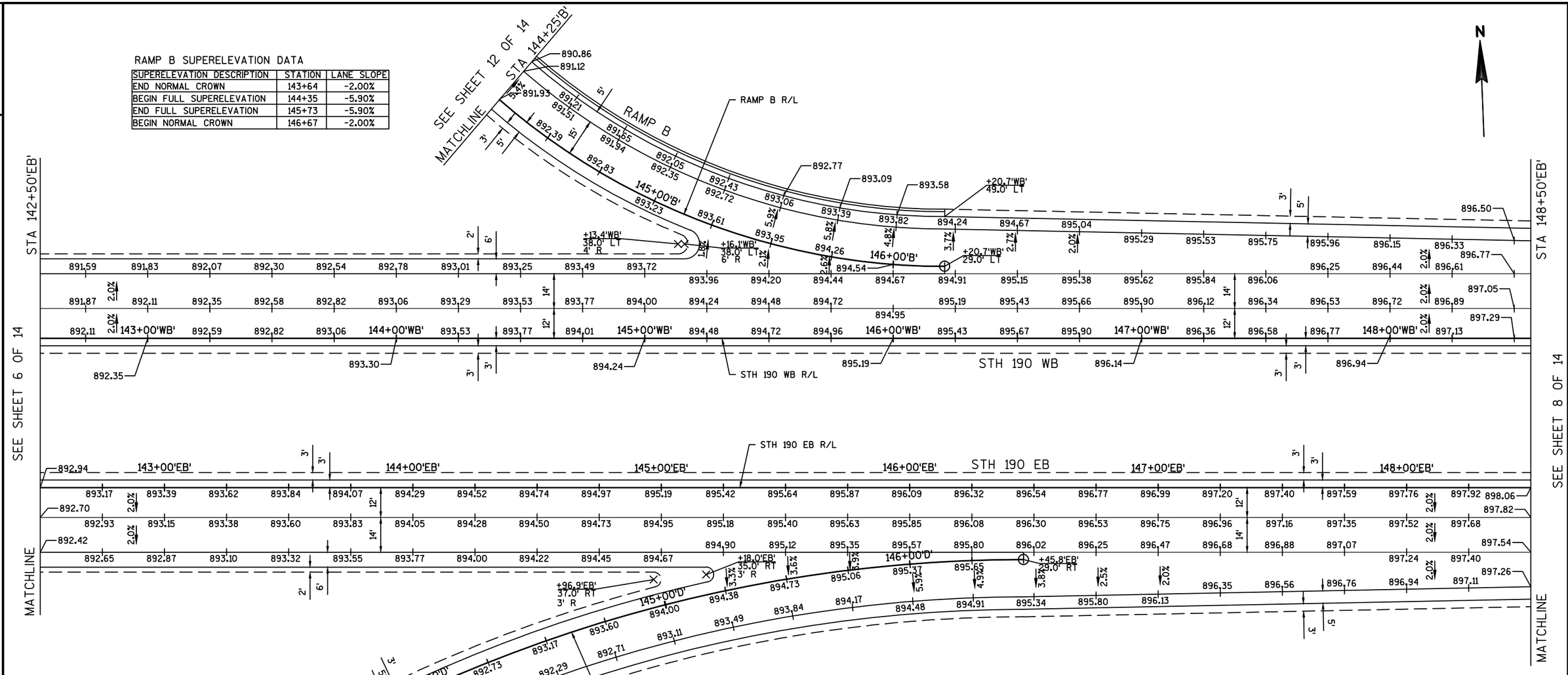
FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\021202-GR.DWG
LAYOUT NAME - 021202-GR-(6)

PLOT DATE : 10/27/2016 3:46 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

PLOT SCALE : 1 IN:40 FT

RAMP B SUPERELEVATION DATA

SUPERELEVATION DESCRIPTION	STATION	LANE SLOPE
END NORMAL CROWN	143+64	-2.00%
BEGIN FULL SUPERELEVATION	144+35	-5.90%
END FULL SUPERELEVATION	145+73	-5.90%
BEGIN NORMAL CROWN	146+67	-2.00%



RAMP D SUPERELEVATION DATA

SUPERELEVATION DESCRIPTION	STATION	LANE SLOPE
END NORMAL CROWN	141+36	-2.00%
BEGIN FULL SUPERELEVATION	142+16	-5.90%
END FULL SUPERELEVATION	146+05	-5.90%
BEGIN NORMAL CROWN	146+86	-2.00%

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	GRADES	SHEET 41	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\021202-GR.DWG
LAYOUT NAME - 021202-GR-(7)
PLOT DATE : 10/27/2016 3:46 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

SEE SHEET 7 OF 14

STA 148+50'EB'

HIGH POINT STA 151+24.00'WB'

+70.8'WB' 44.0' LT | +20.8'WB' 46.0' LT | +50.7'WB' 46.0' LT | +50.7'WB' 44.0' LT | +90.7'WB' 28.0' LT | +50.7'WB' 28.0' LT | +10.9'WB' 32.0' LT

+20.7'WB' 36.0' LT | +50.7'WB' 36.0' LT

149+00'WB' | 150+00'WB' | 151+00'WB' | 152+00'WB' | 153+00'WB' | 154+00'WB'

STH 190 WB

STH 190 WB R/L

STH 190 EB R/L

STH 190 EB

149+00'EB' | 150+00'EB' | 151+00'EB' | 152+00'EB' | 153+00'EB' | 154+00'EB'

+17.9'EB' 3.0' LT | +55.4'EB' 3.0' LT | +80.4'EB' 6.0' LT | +92.9'EB' 14.0' LT

+45.8'EB' 36.0' RT

+95.9'EB' 44.0' RT | +45.9'EB' 46.0' RT

HIGH POINT STA 151+00.83'EB'

MATCHLINE

STA 154+50'EB'

SEE SHEET 9 OF 14

MATCHLINE

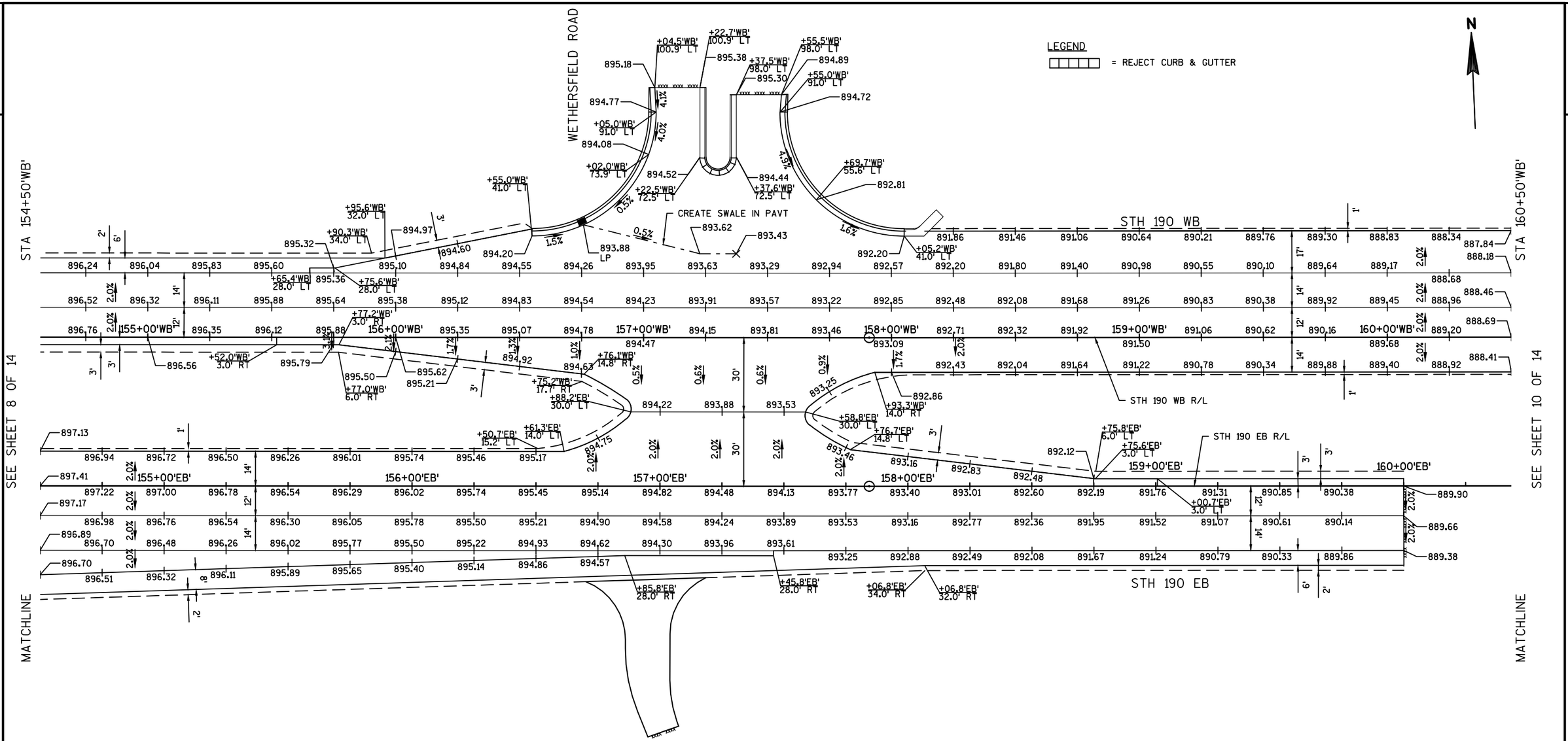
N

SHEET 8 OF 14

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	GRADES	SHEET 42	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\021202-GR.DWG
LAYOUT NAME - 021202-GR-(8)
PLOT DATE : 10/27/2016 3:47 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

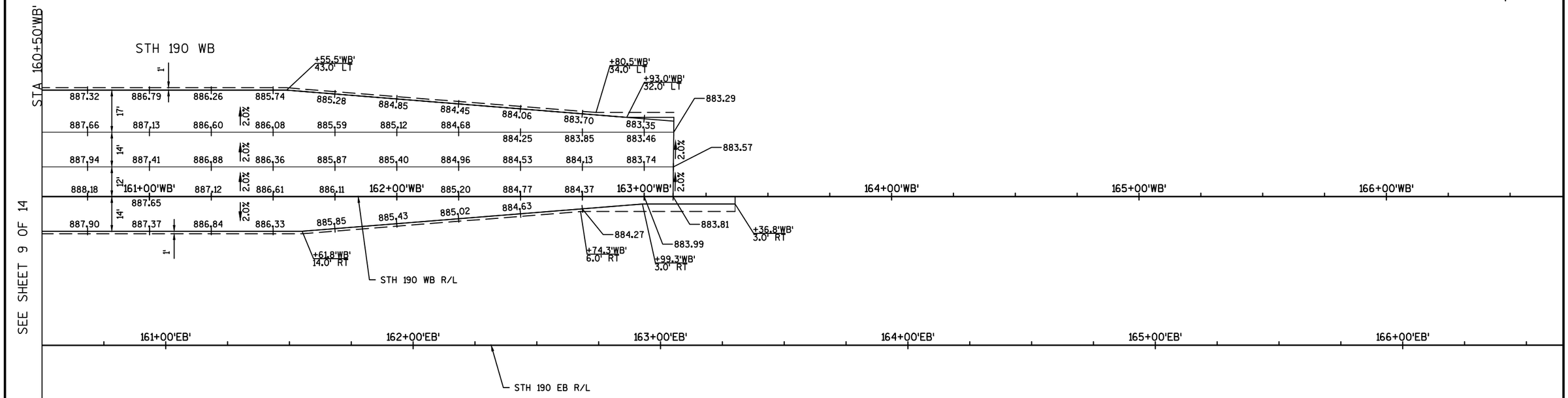
2



SHEET 9 OF 14

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	GRADES	SHEET 43	E

2



SHEET 10 OF 14

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	GRADES	SHEET 44	E

2

N

LEGEND

= REJECT CURB & GUTTER

RAMP B SUPERELEVATION DATA

SUPERELEVATION DESCRIPTION	STATION	LT LANE SLOPE	RT LANE SLOPE
END NORMAL CROWN	135+60	-2.00%	+2.00%
LEVEL CROWN	135+96	0.00%	0.00%
REVERSE CROWN	136+32	+2.00%	-2.00%
BEGIN FULL SUPERELEVATION	137+01	+5.80%	-5.80%
END FULL SUPERELEVATION	138+78	+5.80%	-5.80%
REVERSE CROWN	139+48	+2.00%	-2.00%
LEVEL CROWN	139+83	0.00%	0.00%
BEGIN NORMAL CROWN	140+19	-2.00%	+2.00%

RAMP A SUPERELEVATION DATA

SUPERELEVATION DESCRIPTION	STATION	LANE SLOPE
END NORMAL CROWN	138+59	-2.00%
BEGIN FULL SUPERELEVATION	139+32	-6.00%
END FULL SUPERELEVATION	146+62	-6.00%
BEGIN NORMAL CROWN	147+34	-2.00%

SEE SHEET 12 OF 14

MATCHLINE

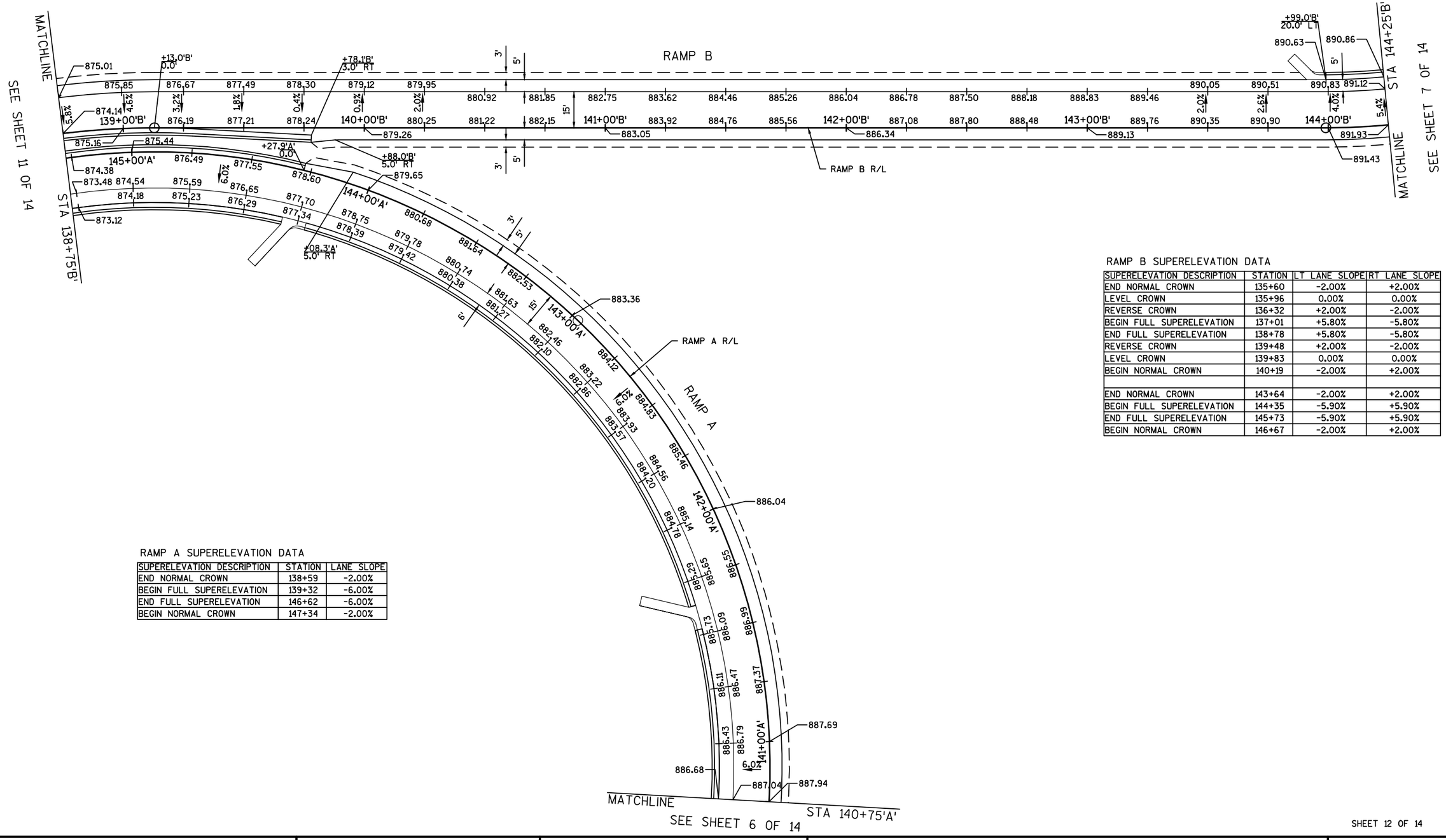
STA 138+75'B'

SHEET 11 OF 14

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	GRADES	SHEET 45	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\021202-GR.DWG
LAYOUT NAME - 021202-GR-11
PLOT DATE : 10/27/2016 3:47 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2



RAMP B SUPERELEVATION DATA

SUPERELEVATION DESCRIPTION	STATION	LT LANE SLOPE	RT LANE SLOPE
END NORMAL CROWN	135+60	-2.00%	+2.00%
LEVEL CROWN	135+96	0.00%	0.00%
REVERSE CROWN	136+32	+2.00%	-2.00%
BEGIN FULL SUPERELEVATION	137+01	+5.80%	-5.80%
END FULL SUPERELEVATION	138+78	+5.80%	-5.80%
REVERSE CROWN	139+48	+2.00%	-2.00%
LEVEL CROWN	139+83	0.00%	0.00%
BEGIN NORMAL CROWN	140+19	-2.00%	+2.00%
END NORMAL CROWN	143+64	-2.00%	+2.00%
BEGIN FULL SUPERELEVATION	144+35	-5.90%	+5.90%
END FULL SUPERELEVATION	145+73	-5.90%	+5.90%
BEGIN NORMAL CROWN	146+67	-2.00%	+2.00%

RAMP A SUPERELEVATION DATA

SUPERELEVATION DESCRIPTION	STATION	LANE SLOPE
END NORMAL CROWN	138+59	-2.00%
BEGIN FULL SUPERELEVATION	139+32	-6.00%
END FULL SUPERELEVATION	146+62	-6.00%
BEGIN NORMAL CROWN	147+34	-2.00%

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	GRADES	SHEET 46	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\021202-GR.DWG
LAYOUT NAME - 021202-GR-11
PLOT DATE : 10/27/2016 3:47 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

N

LEGEND

= REJECT CURB & GUTTER

RAMP C SUPERELEVATION DATA

SUPERELEVATION DESCRIPTION	STATION	LANE SLOPE
END NORMAL CROWN	137+89	-2.00%
BEGIN FULL SUPERELEVATION	138+61	-6.00%
END FULL SUPERELEVATION	145+38	-6.00%
BEGIN NORMAL CROWN	146+09	-2.00%

RAMP D SUPERELEVATION DATA

SUPERELEVATION DESCRIPTION	STATION	LANE SLOPE
END NORMAL CROWN	135+47	-2.00%
LEVEL CROWN	135+84	0.00%
REVERSE CROWN	136+20	+2.00%
BEGIN FULL SUPERELEVATION	136+93	+6.00%
END FULL SUPERELEVATION	138+25	+6.00%
REVERSE CROWN	138+95	+2.00%
LEVEL CROWN	139+32	0.00%
BEGIN NORMAL CROWN	139+68	-2.00%

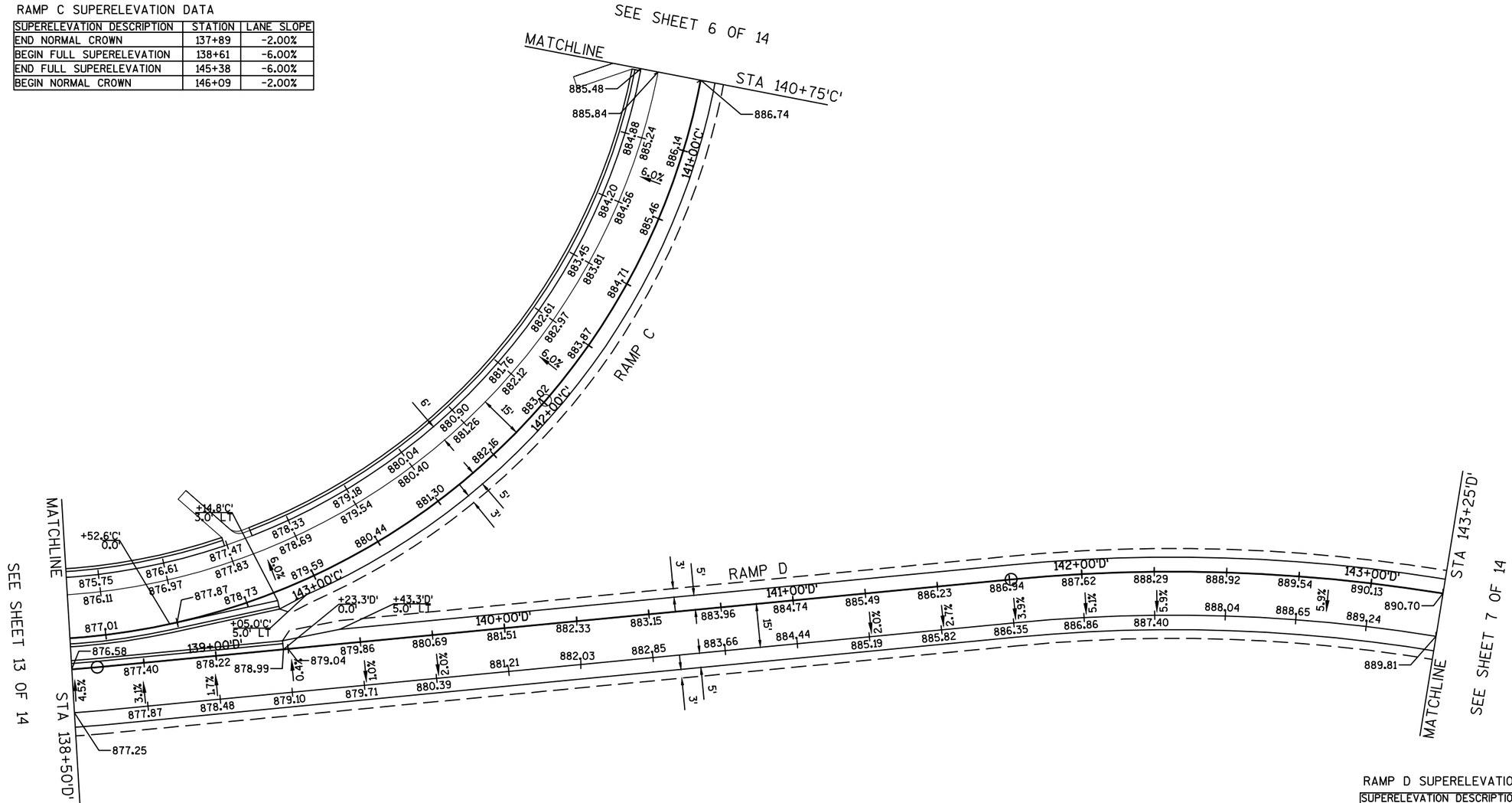
MATCHLINE SEE SHEET 14 OF 14

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	GRADES	SHEET 47	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\021202-GR.DWG
LAYOUT NAME - 021202-GR-13
PLOT DATE : 10/27/2016 3:47 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

RAMP C SUPERELEVATION DATA

SUPERELEVATION DESCRIPTION	STATION	LANE SLOPE
END NORMAL CROWN	137+89	-2.00%
BEGIN FULL SUPERELEVATION	138+61	-6.00%
END FULL SUPERELEVATION	145+38	-6.00%
BEGIN NORMAL CROWN	146+09	-2.00%



RAMP D SUPERELEVATION DATA

SUPERELEVATION DESCRIPTION	STATION	LANE SLOPE
END NORMAL CROWN	135+47	-2.00%
LEVEL CROWN	135+84	0.00%
REVERSE CROWN	136+20	+2.00%
BEGIN FULL SUPERELEVATION	136+93	+6.00%
END FULL SUPERELEVATION	138+25	+6.00%
REVERSE CROWN	138+95	+2.00%
LEVEL CROWN	139+32	0.00%
BEGIN NORMAL CROWN	139+68	-2.00%
END NORMAL CROWN	141+36	-2.00%
BEGIN FULL SUPERELEVATION	142+16	-5.90%
END FULL SUPERELEVATION	146+05	-5.90%
BEGIN NORMAL CROWN	146+86	-2.00%

SHEET 14 OF 14

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	GRADES	SHEET 48	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\021202-GR.DWG
LAYOUT NAME - 021202-GR-14

PLOT DATE : 10/27/2016 3:47 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

N

TYPE A

STH 190 (CAPITOL DR) WB

108'WB' 110'WB' 112'WB' 114'WB' 116'WB' 118'WB' 120'WB'

108'EB' 110'EB' 112'EB' 114'EB' 116'EB' 118'EB' 120'EB'

STH 190 (CAPITOL DR) EB

STH 190 (CAPITOL DR) WB

STH 190 (CAPITOL DR) EB

LEGEND

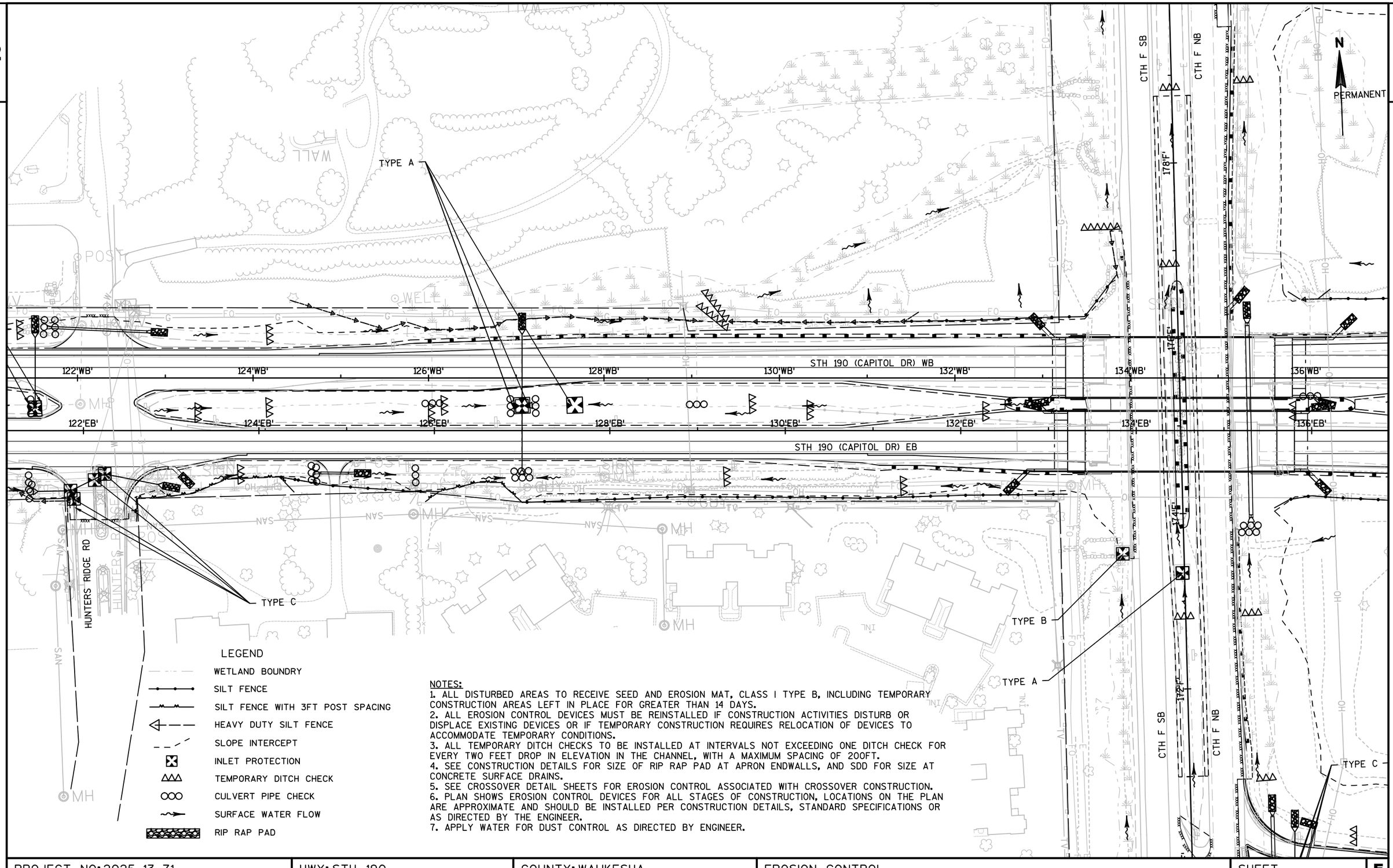
- WETLAND BOUNDRY
- SILT FENCE
- SILT FENCE WITH 3FT POST SPACING
- HEAVY DUTY SILT FENCE
- SLOPE INTERCEPT
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- SURFACE WATER FLOW
- RIP RAP PAD

NOTES:

1. ALL DISTURBED AREAS TO RECEIVE SEED AND EROSION MAT, CLASS I TYPE B, INCLUDING TEMPORARY CONSTRUCTION AREAS LEFT IN PLACE FOR GREATER THAN 14 DAYS.
2. ALL EROSION CONTROL DEVICES MUST BE REINSTALLED IF CONSTRUCTION ACTIVITIES DISTURB OR DISPLACE EXISTING DEVICES OR IF TEMPORARY CONSTRUCTION REQUIRES RELOCATION OF DEVICES TO ACCOMMODATE TEMPORARY CONDITIONS.
3. ALL TEMPORARY DITCH CHECKS TO BE INSTALLED AT INTERVALS NOT EXCEEDING ONE DITCH CHECK FOR EVERY TWO FEET DROP IN ELEVATION IN THE CHANNEL, WITH A MAXIMUM SPACING OF 200FT.
4. SEE CONSTRUCTION DETAILS FOR SIZE OF RIP RAP PAD AT APRON ENDWALLS, AND SDD FOR SIZE AT CONCRETE SURFACE DRAINS.
5. SEE CROSSOVER DETAIL SHEETS FOR EROSION CONTROL ASSOCIATED WITH CROSSOVER CONSTRUCTION.
6. PLAN SHOWS EROSION CONTROL DEVICES FOR ALL STAGES OF CONSTRUCTION, LOCATIONS ON THE PLAN ARE APPROXIMATE AND SHOULD BE INSTALLED PER CONSTRUCTION DETAILS, STANDARD SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.
7. APPLY WATER FOR DUST CONTROL AS DIRECTED BY ENGINEER.

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	EROSION CONTROL	SHEET 49	E

2



LEGEND

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- HEAVY DUTY SILT FENCE
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- INLET PROTECTION
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- SURFACE WATER FLOW
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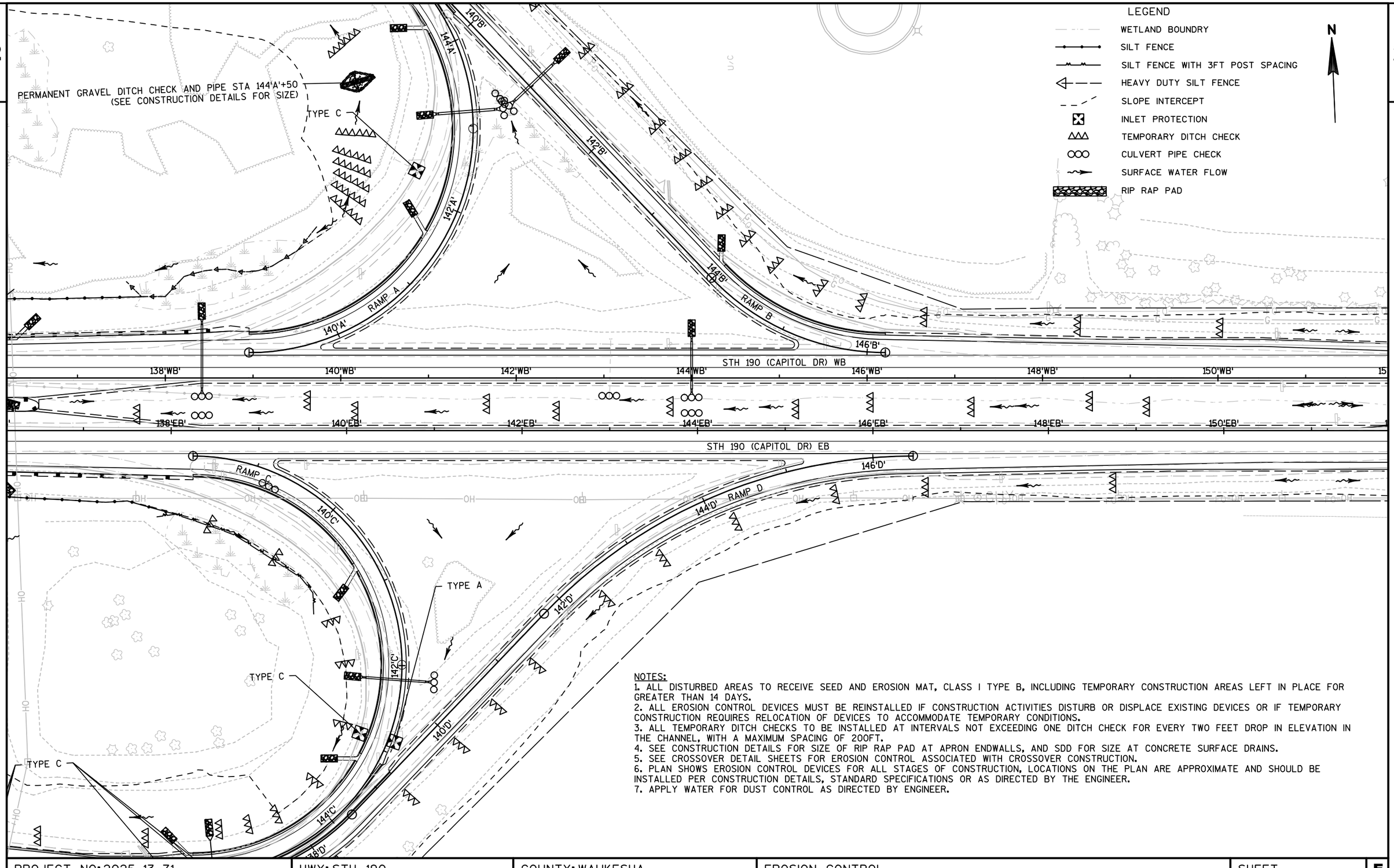
7. APPLY WATER FOR DUST CONTROL AS DIRECTED BY ENGINEER.

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	EROSION CONTROL	SHEET 50	E

2



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PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	EROSION CONTROL	SHEET 51	E

NOTES:
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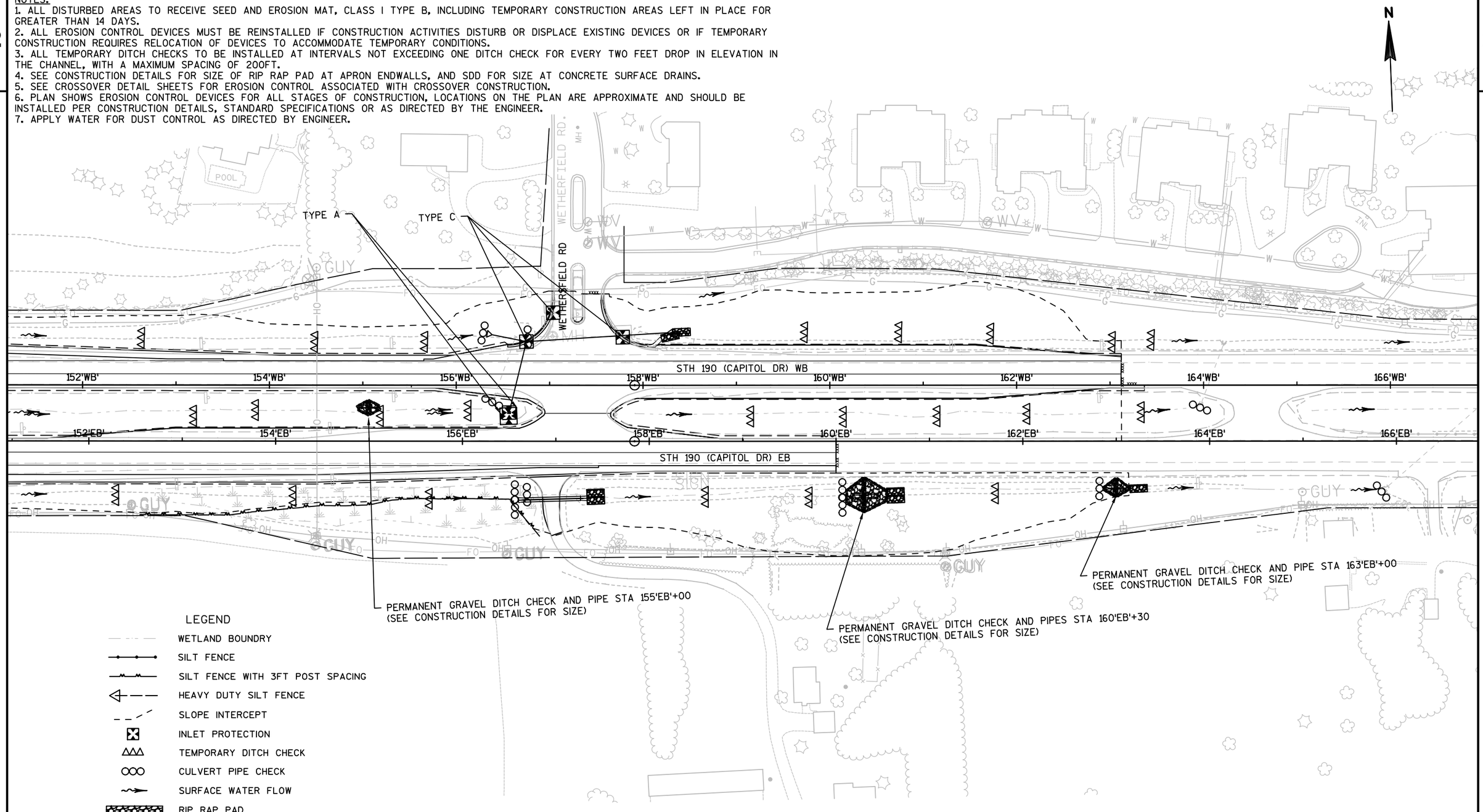

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	EROSION CONTROL	SHEET 52	E

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LEGEND
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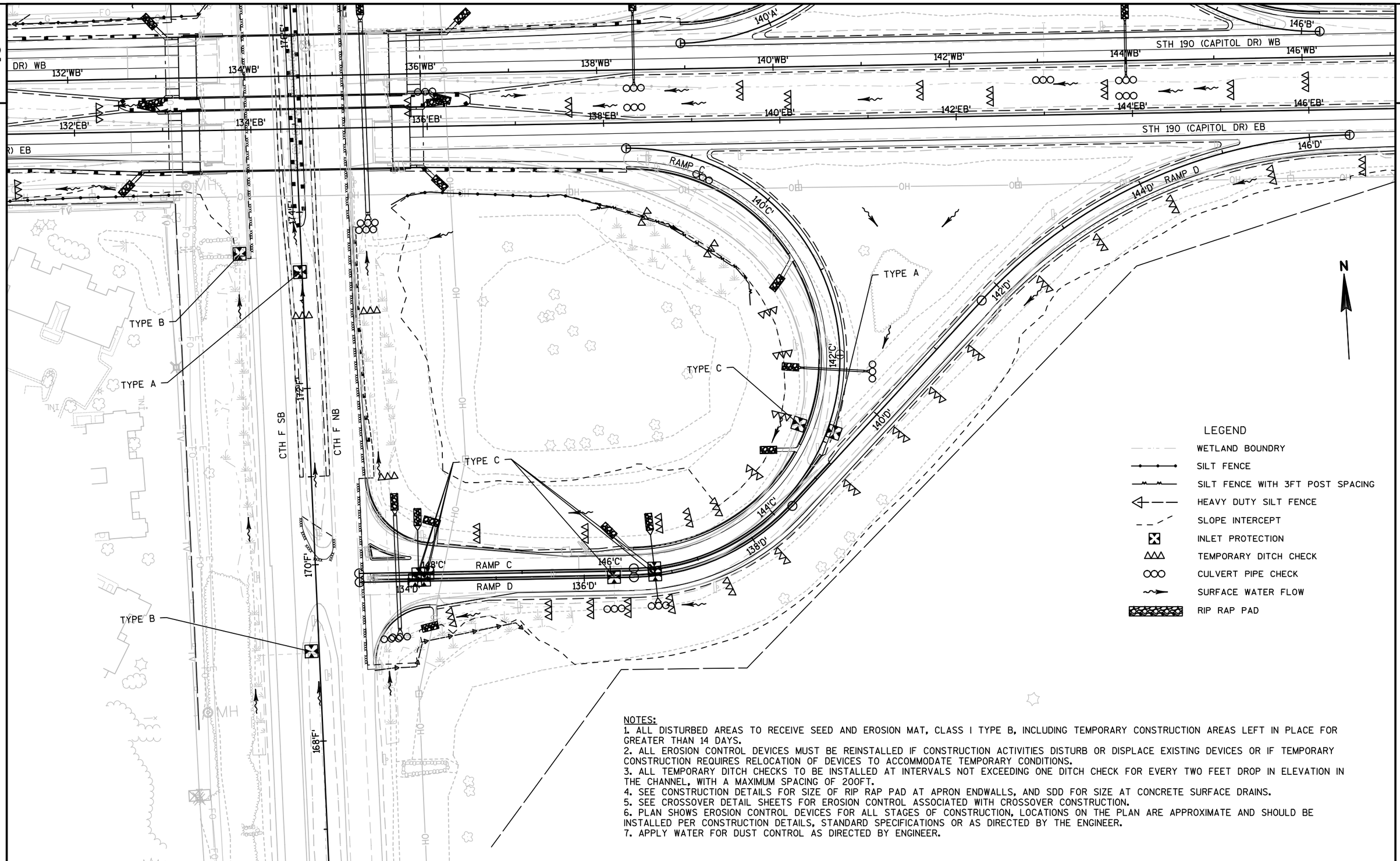
- SILT FENCE
- SILT FENCE WITH 3FT POST SPACING
- HEAVY DUTY SILT FENCE
- SLOPE INTERCEPT
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- SURFACE WATER FLOW
- RIP RAP PAD

HMOD 2X17
DO NOT DISTURB HMOD 2X17 MONUMENT
TYPE A
TYPE C
TYPE C
PERMANENT GRAVEL DITCH CHECK AND PIPE STA 144'A'+50 (SEE CONSTRUCTION DETAILS FOR SIZE)
UNNAMED TRIBUTARY TO SUSSEX CREEK
CTH F SB
CTH F NB
RAMP A
RAMP B
RAMP C
RAMP D
STH 190 (CAPITOL DR) WB
STH 190 (CAPITOL DR) EB

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	EROSION CONTROL	SHEET 53	E

2



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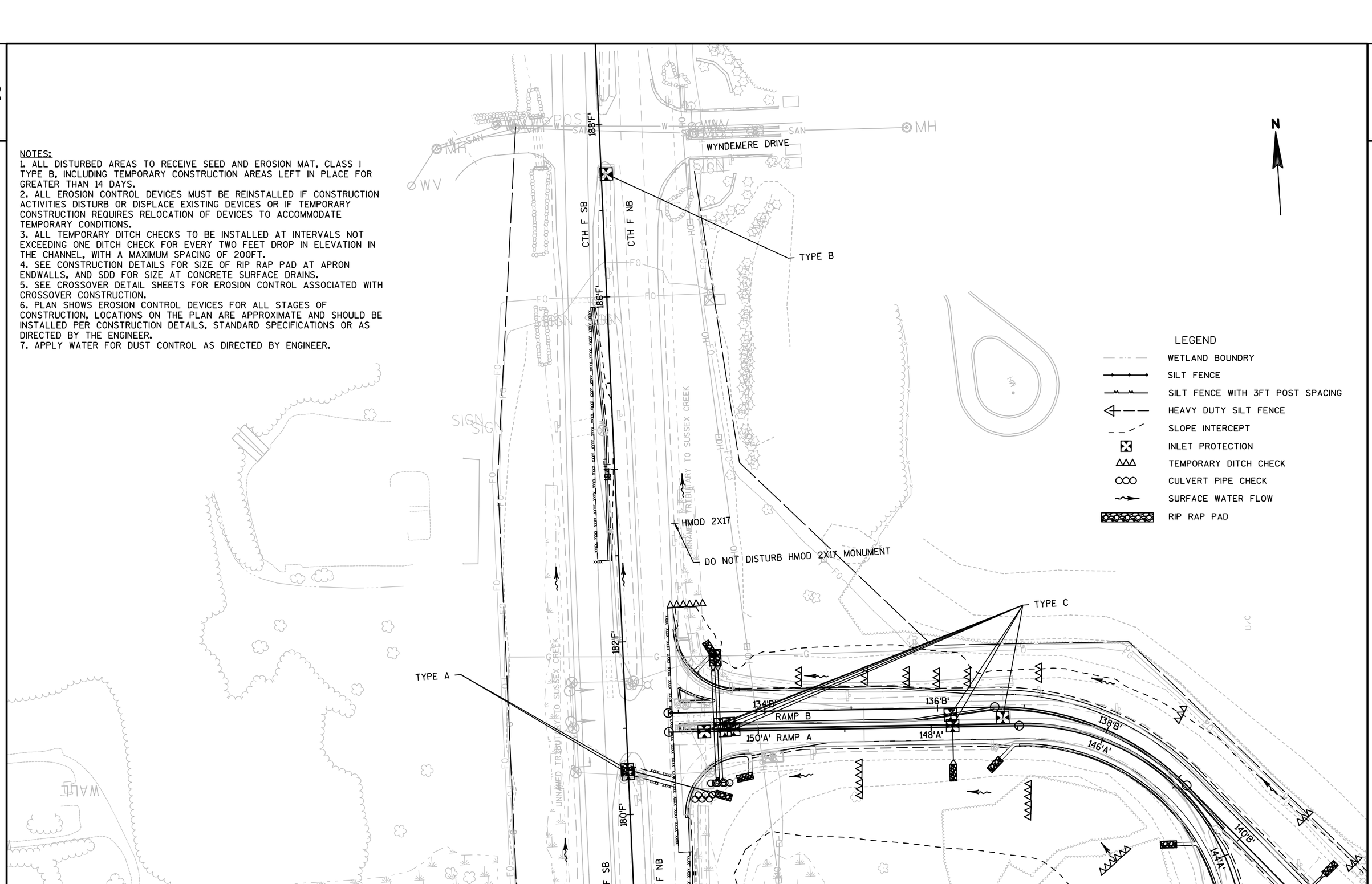
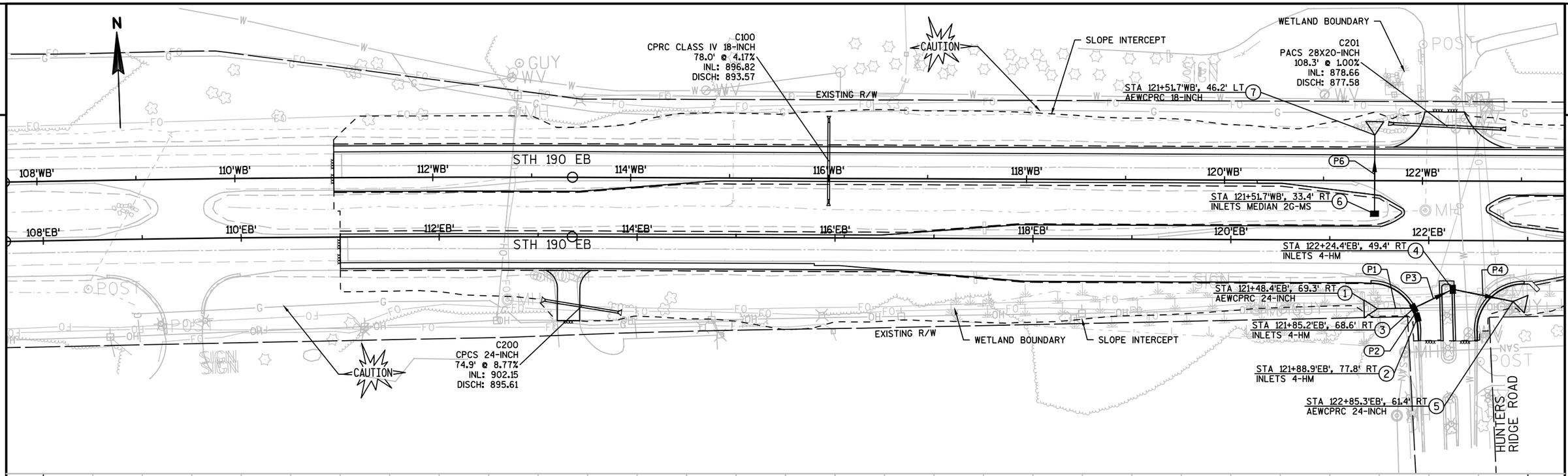
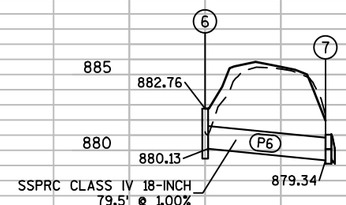
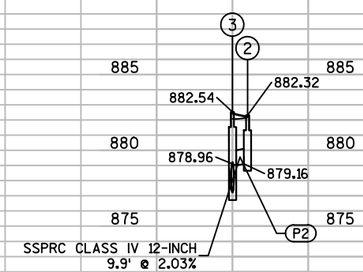
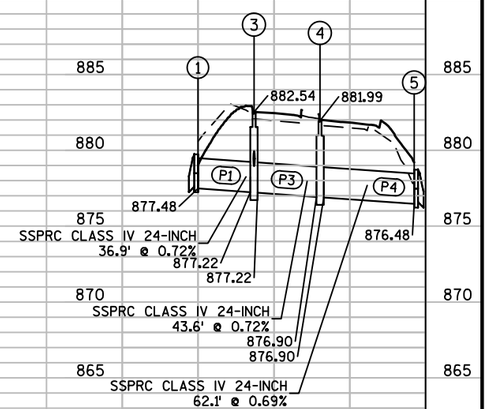


PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	EROSION CONTROL	SHEET 55	E

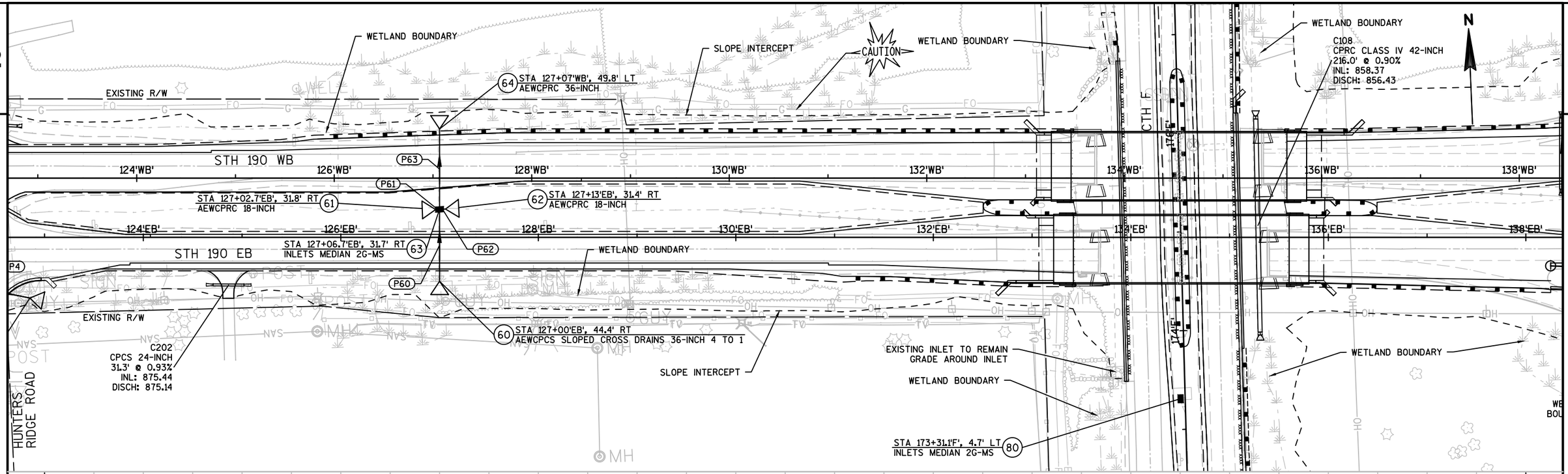


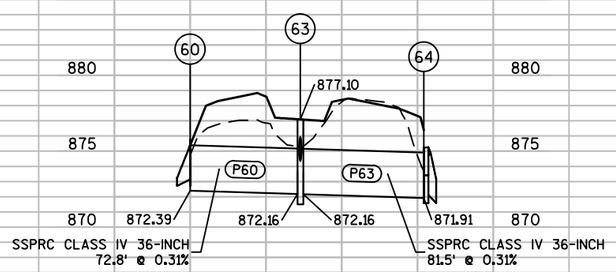


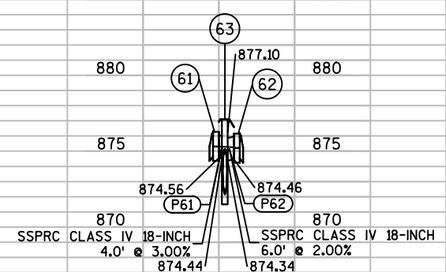




PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	STORM SEWER	SHEET 56	E

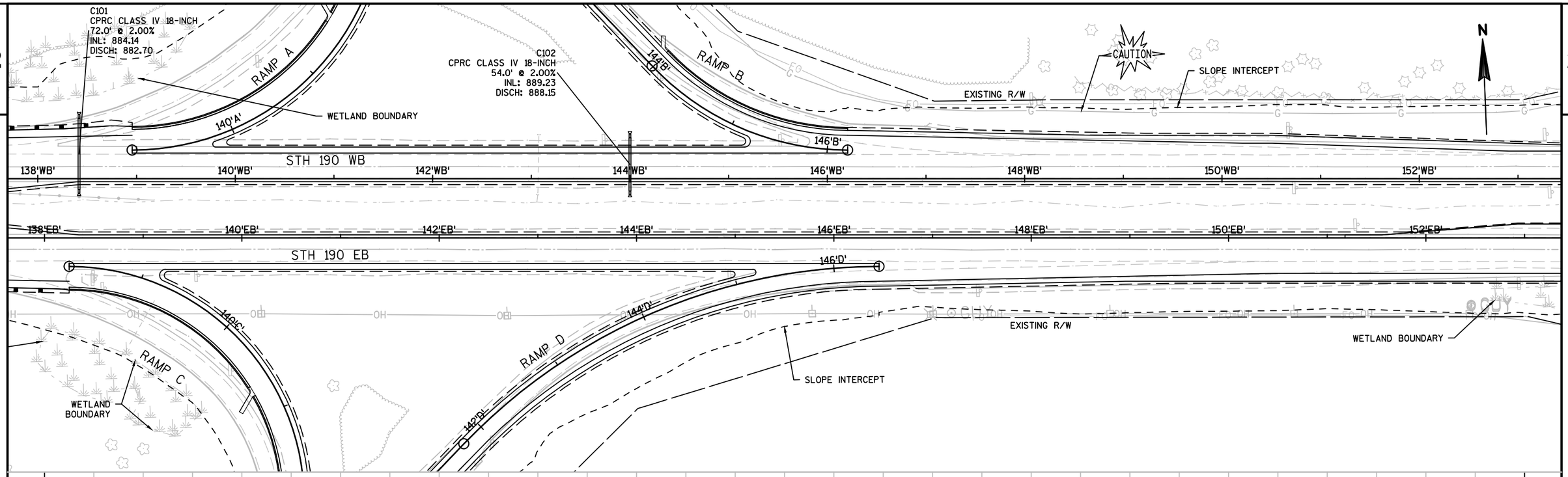




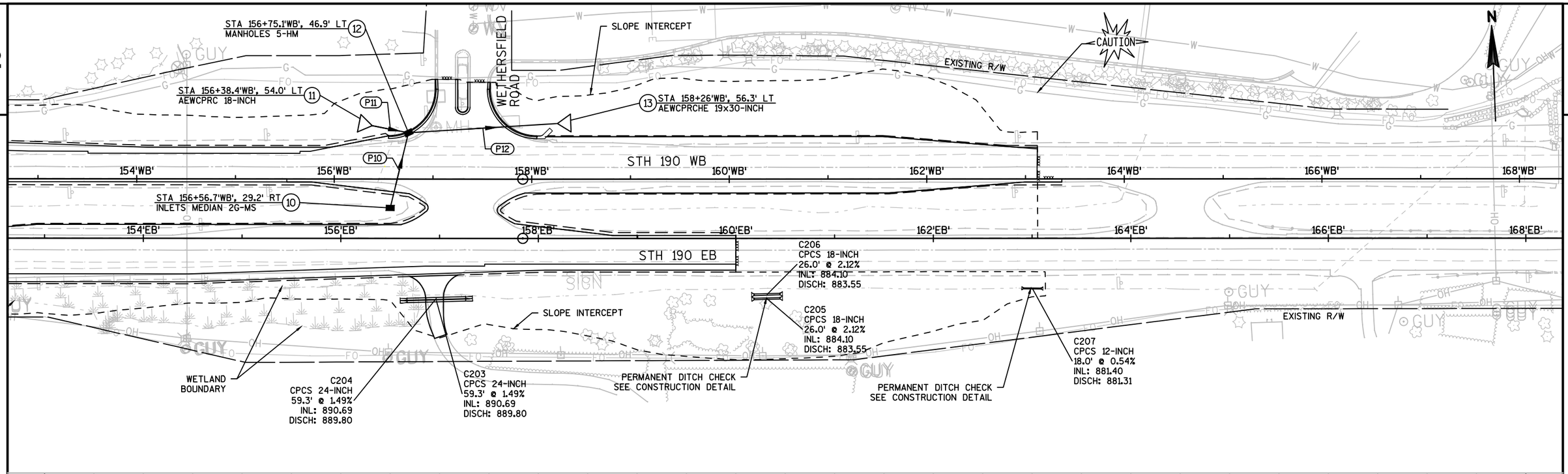


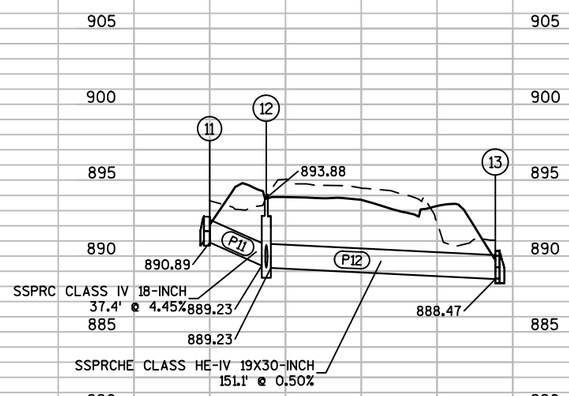
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	STORM SEWER	SHEET 57	E

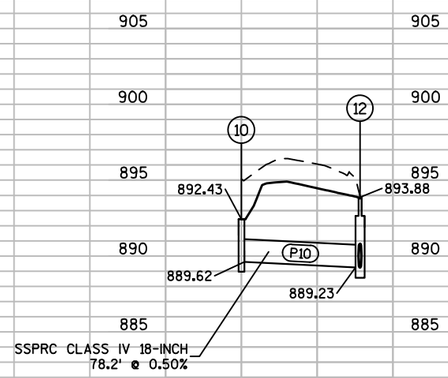
2



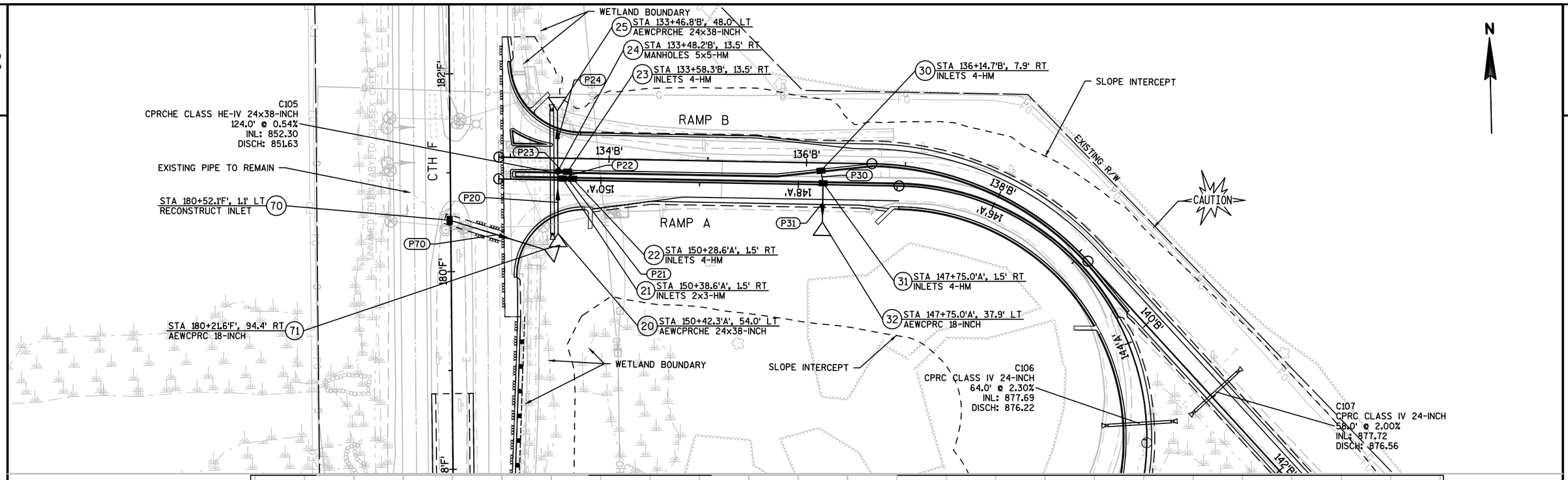
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	STORM SEWER	SHEET 58	E

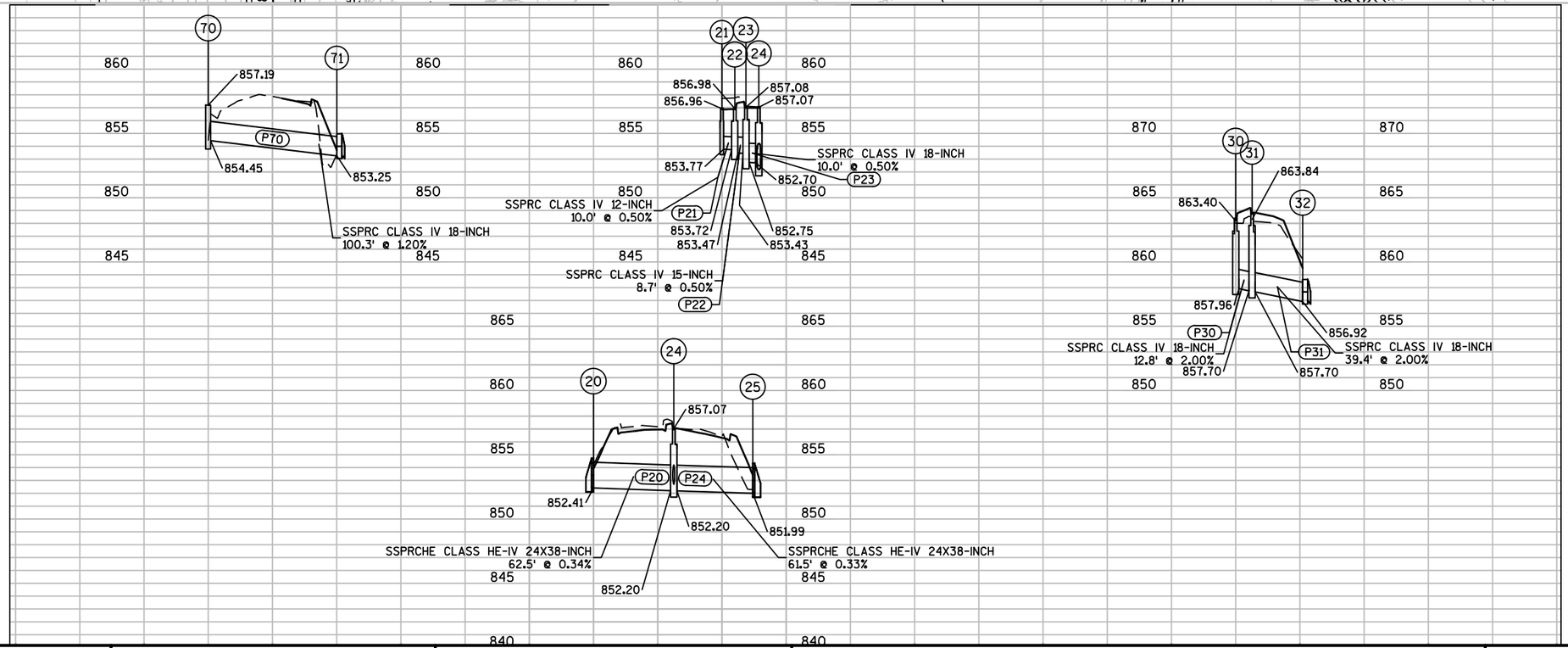




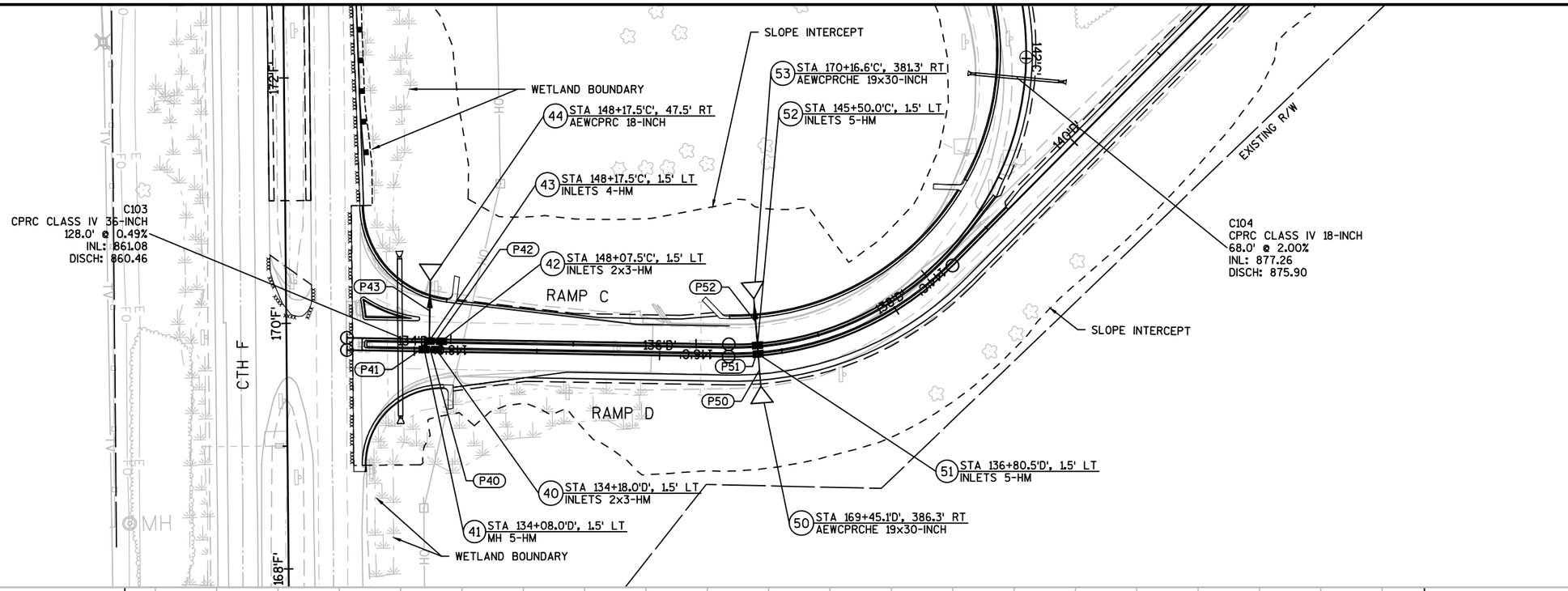


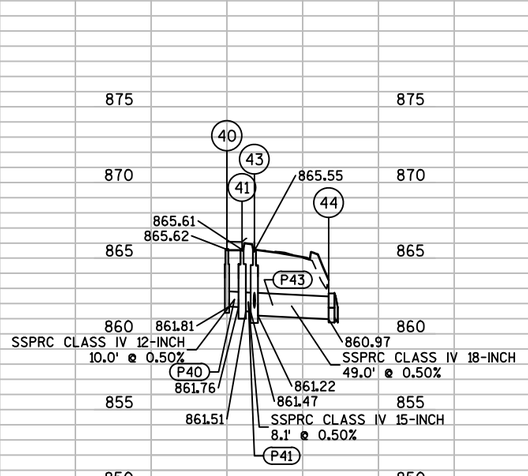
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	STORM SEWER	SHEET 59	E

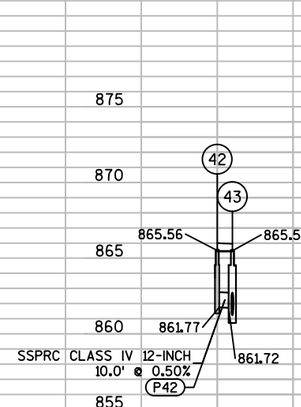


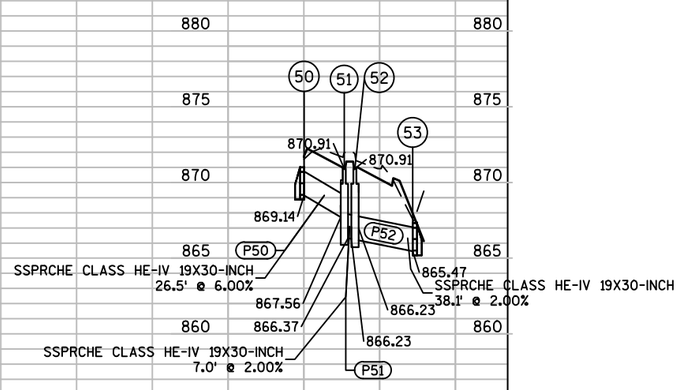


PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	STORM SEWER	SHEET 60	E





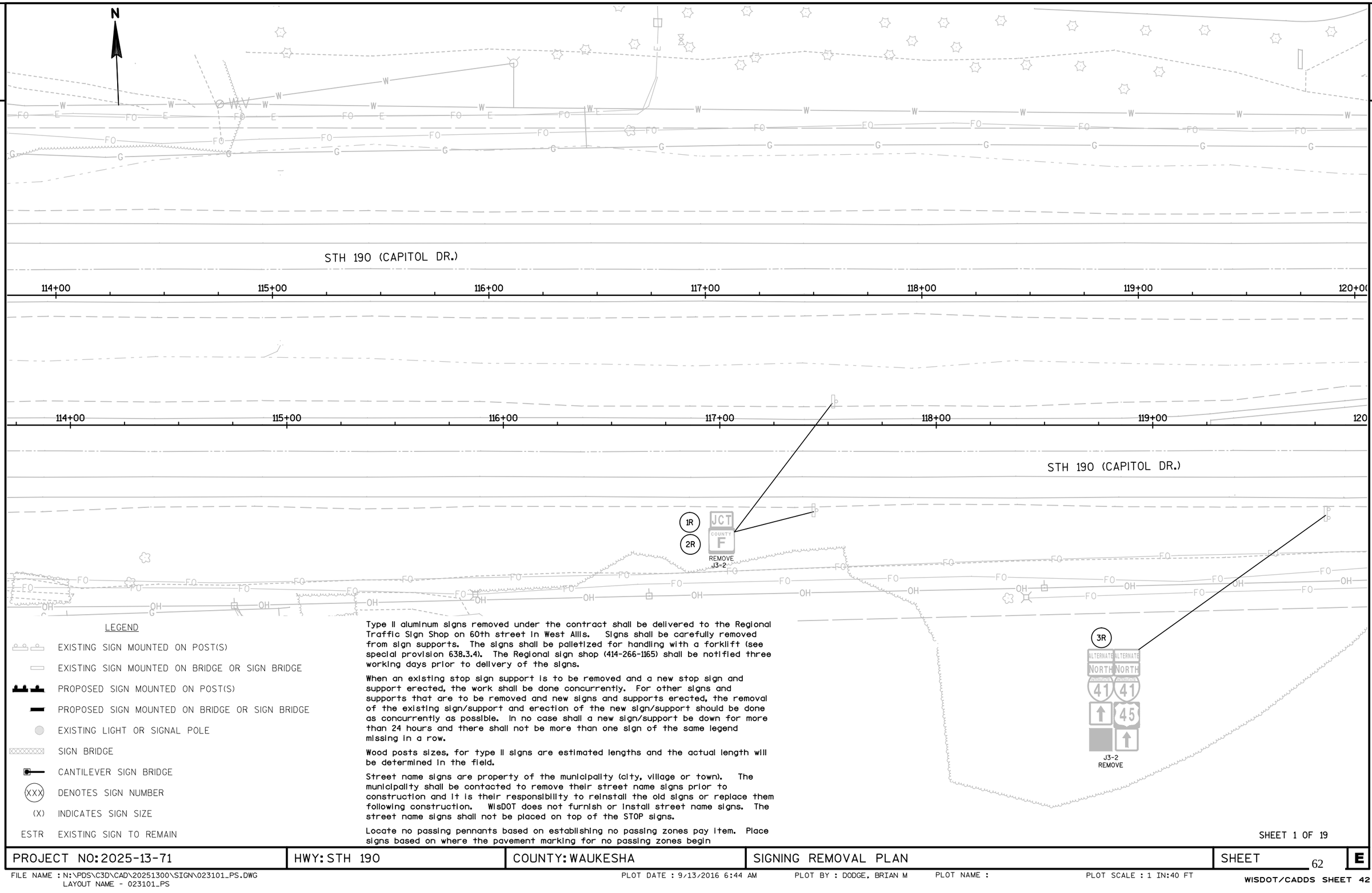




PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	STORM SEWER	SHEET 61	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\022501-SS.DWG
LAYOUT NAME - 022501-SS-6
PLOT DATE : 10/25/2016 4:19 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 41

2



LEGEND

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

Type II aluminum signs removed under the contract shall be delivered to the Regional Traffic Sign Shop on 60th street in West Allis. Signs shall be carefully removed from sign supports. The signs shall be palletized for handling with a forklift (see special provision 638.3.4). The Regional sign shop (414-266-1165) shall be notified three working days prior to delivery of the signs.

When an existing stop sign support is to be removed and a new stop sign and support erected, the work shall be done concurrently. For other signs and supports that are to be removed and new signs and supports erected, the removal of the existing sign/support and erection of the new sign/support should be done as concurrently as possible. In no case shall a new sign/support be down for more than 24 hours and there shall not be more than one sign of the same legend missing in a row.

Wood posts sizes, for type II signs are estimated lengths and the actual length will be determined in the field.

Street name signs are property of the municipality (city, village or town). The municipality shall be contacted to remove their street name signs prior to construction and it is their responsibility to reinstall the old signs or replace them following construction. WisDOT does not furnish or install street name signs. The street name signs shall not be placed on top of the STOP signs.

Locate no passing pennants based on establishing no passing zones pay item. Place signs based on where the pavement marking for no passing zones begin

SHEET 1 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	SIGNING REMOVAL PLAN	SHEET 62	E

2

N

STOP
R1-1
ESTR
PROPERTY
OWNER
SIGN

STH 190 (CAPITOL DR.)

120+00 121+00 122+00 123+00 124+00 125+00

PART OF 5R 6R 7R

REMOVE R4-7

STH 190 (CAPITOL DR.)

120+00 121+00 122+00 123+00 124+00 125+00

1+00

HUNTERS RIDGE ROAD

STH 190

HUNTERS RIDGE RD

MOVE BY OTHERS - CITY

STOP 7R 8R

REMOVE R1-1

EAST 190 COUNTY F

COVERED W/BLACK PLAQUES 9R 10R

REMOVE J2-2

TO INTERSTATE 94 11R

REMOVE J2-1

LEGEND

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

SHEET 2 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	SIGNING REMOVAL PLAN	SHEET 63	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIGN\023101_PS.DWG
LAYOUT NAME - 023102_PS

PLOT DATE : 9/13/2016 6:44 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

2

N

WELL

ALTERNATE WEST INTERSTATE 94 — REMOVE J4-1 — 13R

WEST 190 — REMOVE J4-1 — 14R

STH 190 (CAPITOL DR.)

126+00 127+00 128+00 129+00 130+00 131+00

126+00 127+00 128+00 129+00 130+00 131+00

STH 190 (CAPITOL DR.)

Milwaukee
Sussex
Waukesha — REMOVE D1-3 — 15R 16R

ALTERNATE EAST INTERSTATE 94 — REMOVE J2-1 — 17R

RAMP 30 M.P.H. — REMOVE W13-3 — 18R

LEGEND

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

SHEET 3 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	SIGNING REMOVAL PLAN	SHEET 64	E

2

N

STH 190 (CAPITOL DR.)

CTH F (REDFORD BLVD)

132+00 133+00 134+00 135+00 136+00 137+00

176+00

175+00

174+00

21R
REMOVE
4' MOUNTING
HEIGHT
W5-52R

19R
REMOVE
4' MOUNTING
HEIGHT
W5-52L

22R
REMOVE
4' MOUNTING
HEIGHT
W5-52L

20R
REMOVE
4' MOUNTING
HEIGHT
W5-52R

TO
INTERSTATE
94

23R
REMOVE
J3-1

LEGEND

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

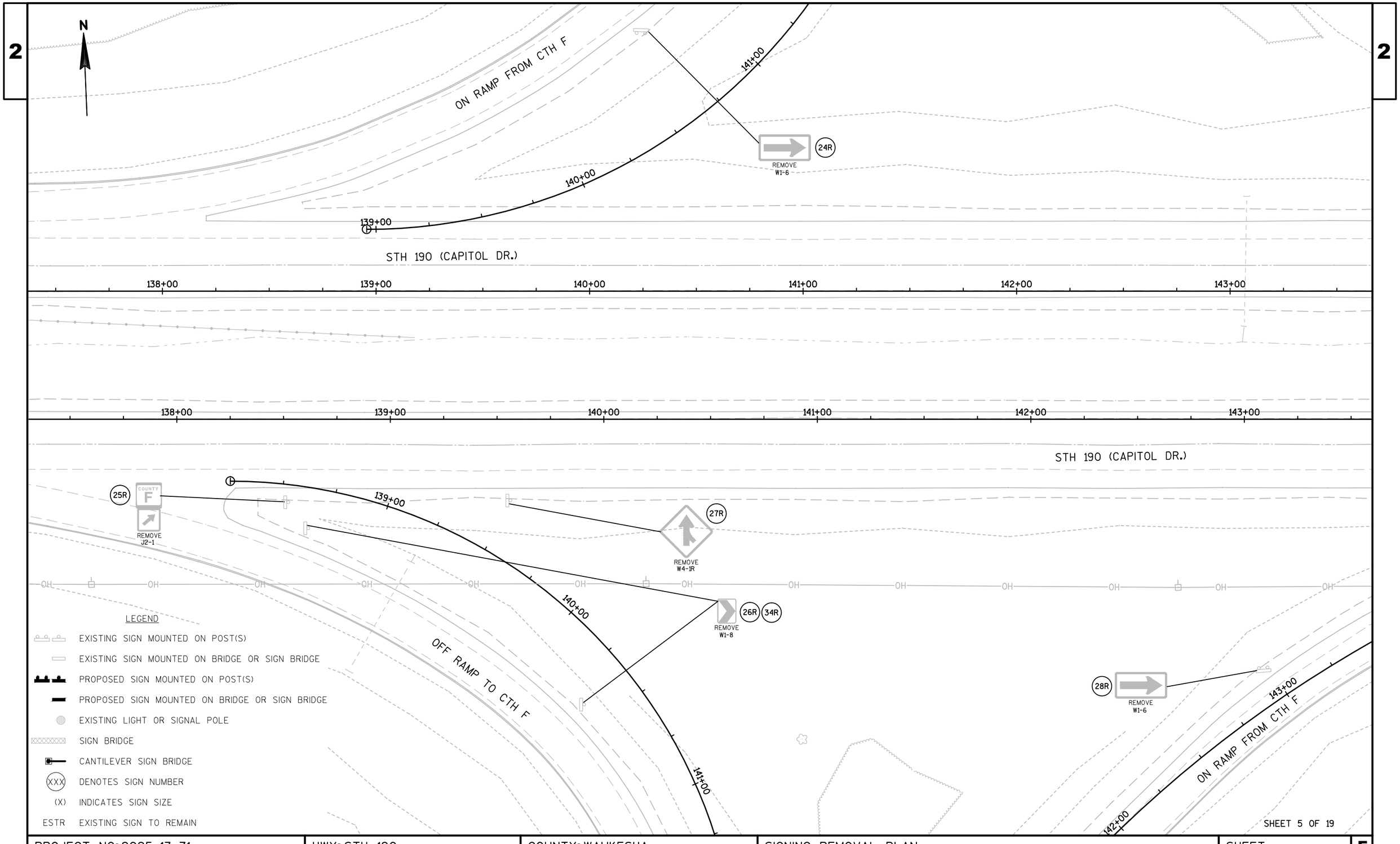
SHEET 4 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	SIGNING REMOVAL PLAN	SHEET 65	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIGN\023101_PS.DWG
LAYOUT NAME - 023104_PS

PLOT DATE : 9/13/2016 6:45 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	SIGNING REMOVAL PLAN	SHEET 66	E

2

30R
REMOVE
W1-6

29R
REMOVE
W4-1R

144+00

OFF RAMP TO CTH F

145+00

146+00

STH 190 (CAPITOL DR.)

COUNTY
F
31R
REMOVE
J2-1

144+00 145+00 146+00 147+00 148+00 149+00

144+00 145+00 146+00 147+00 148+00 149+00

STH 190 (CAPITOL DR.)

146+00

145+00

144+00

ON RAMP FROM CTH F

32R
33R
REMOVE
R1-2
BUT DO NOT
REPLACE

N

LEGEND

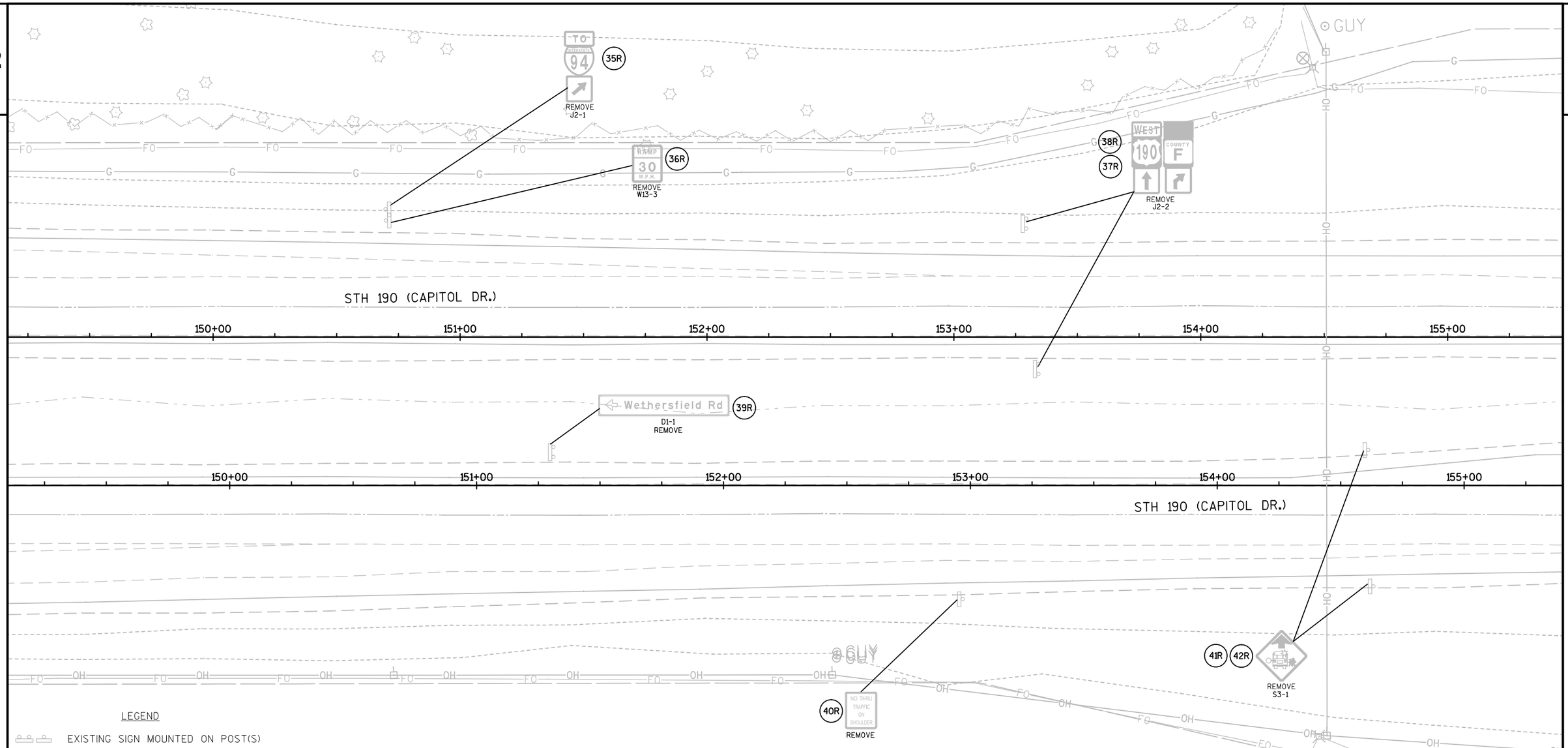
- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING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

SHEET 6 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	SIGNING REMOVAL PLAN	SHEET 67	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIGN\023101_PS.DWG
LAYOUT NAME - 023106_PS

PLOT DATE : 9/13/2016 6:45 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:40 FT



LEGEND

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

SHEET 7 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	SIGNING REMOVAL PLAN	SHEET 68	E

2

45R STOP
REMOVE
R1-1

Capitol Dr
Wethersfield Rd
MOVE BY OTHERS
CITY SIGN

46R
REMOVE
R4-7

N

2+00

STH 190 (CAPITOL DR.)

156+00 157+00 158+00 159+00 160+00 161+00

Pewaukee
Sussex
Waukesha
D1-2
REMOVE

43R
44R

47R
REMOVE
R4-7

156+00 157+00 158+00 159+00 160+00 161+00

STH 190 (CAPITOL DR.)

EAST
190
Brookfield 5
Milwaukee 11

48R
D2-2
REMOVE
J1-1

LEGEND

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

SHEET 8 OF 19

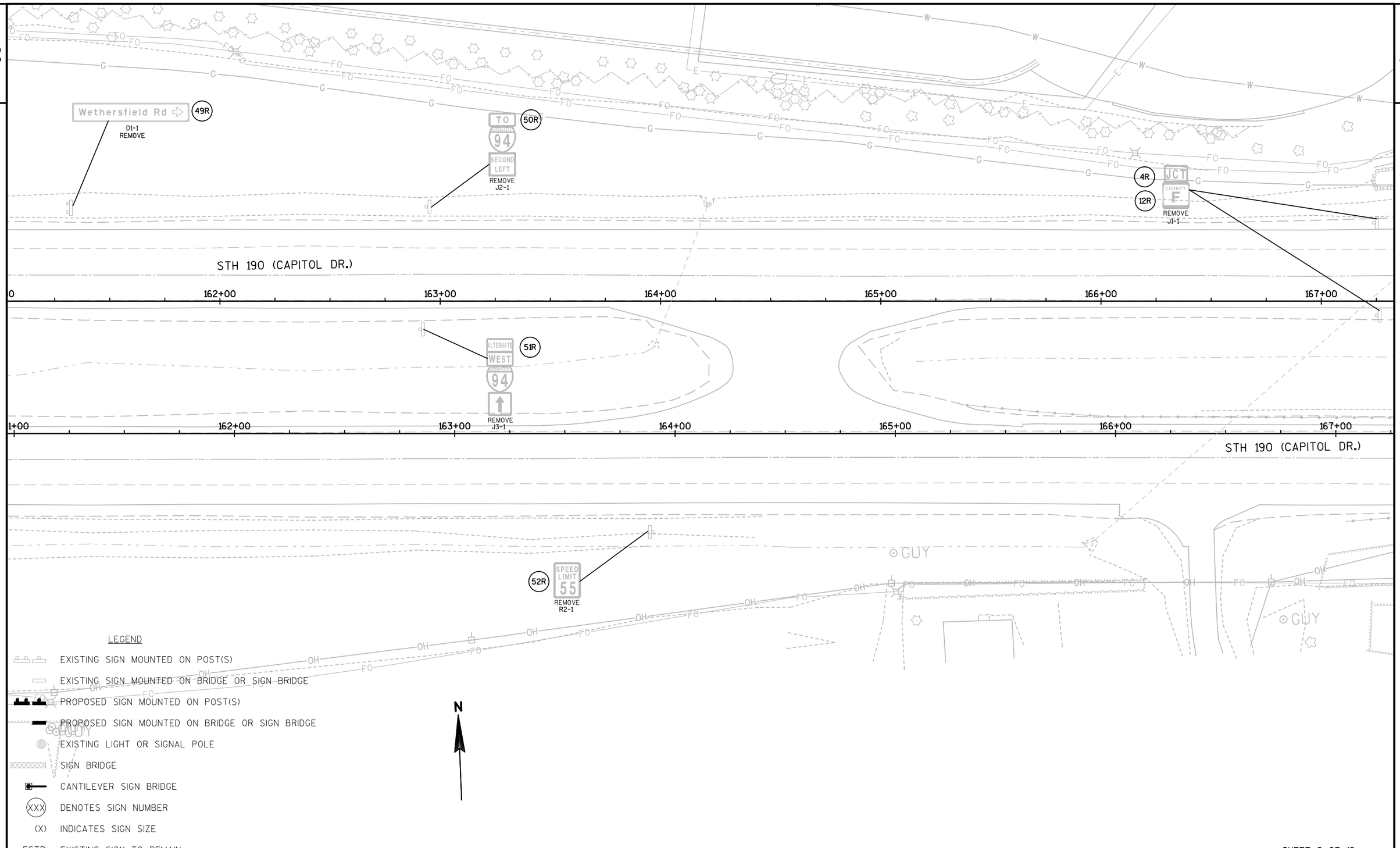
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	SIGNING REMOVAL PLAN	SHEET 69	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIGN\023101_PS.DWG
LAYOUT NAME - 023108_PS

PLOT DATE : 9/13/2016 6:46 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2



SHEET 9 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	SIGNING REMOVAL PLAN	SHEET 70	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIGN\023101_PS.DWG
LAYOUT NAME - 023109_PS

PLOT DATE : 9/13/2016 6:46 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

N

UNNAMED TRIBUTARY TO SUSSEX CREEK

CTH F (REDFORD BLVD)

183+00
182+00
181+00
180+00

133+00
134+00
135+00
136+00
OFF RAMP FROM STH 190 (WB)

151+00
150+00
149+00
148+00
ON RAMP FROM STH 190 (WB)

I55-56 ESTR

59R TO WEST 164 190 — REMOVE J3-2

61R YIELD — REMOVE R1-2

55R STOP — REMOVE R1-1F

55R DIVIDED HIGHWAY — REMOVE ON SIGNAL POLE R6-3A

65R NORTH COUNTY F — REMOVE J3-1

64R TO 94 SOUTH COUNTY F — REMOVE ON LIGHT POLE JV-1

PART OF 69R WRONG WAY — REMOVE R5-1A

69R Waukesha / Sussex — D1-2 REMOVE

54R STOP — REMOVE ON SIGNAL POLE R1-1F

55R DO NOT ENTER — REMOVE ON SIGNAL POLE R5-1

66R — REMOVE

57R / 58R — REMOVE ON SIGNAL POLE R4-7

62R — REMOVE R4-7

53R ONE WAY — REMOVE R6-2L

62R STOP — REMOVE R1-1F

ENTRANCE RAMP 68R — REMOVE

RAMP 25 M.P.H. 67R — REMOVE W13-3

PART OF 56R DO NOT ENTER — REMOVE R5-1

56R — REMOVE R3-4

PART OF 63R DO NOT ENTER — REMOVE ON SIGNAL POLE R5-1

63R STOP — REMOVE ON SIGNAL POLE R1-1F

70R TO WEST 190 — REMOVE J3-1

LEGEND

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

SHEET 10 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	SIGNING REMOVAL PLAN	SHEET 71	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIGN\023101_PS.DWG
LAYOUT NAME - 023110_PS
PLOT DATE : 9/13/2016 6:46 AM
PLOT BY : DODGE, BRIAN M
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

LEGEND

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

71R
SOUTH TO NORTH
COUNTY F 94 COUNTY F
REMOVE J2-3

73R
REMOVE W1-6

72R
REMOVE W5-52R

74R
REMOVE W1-6

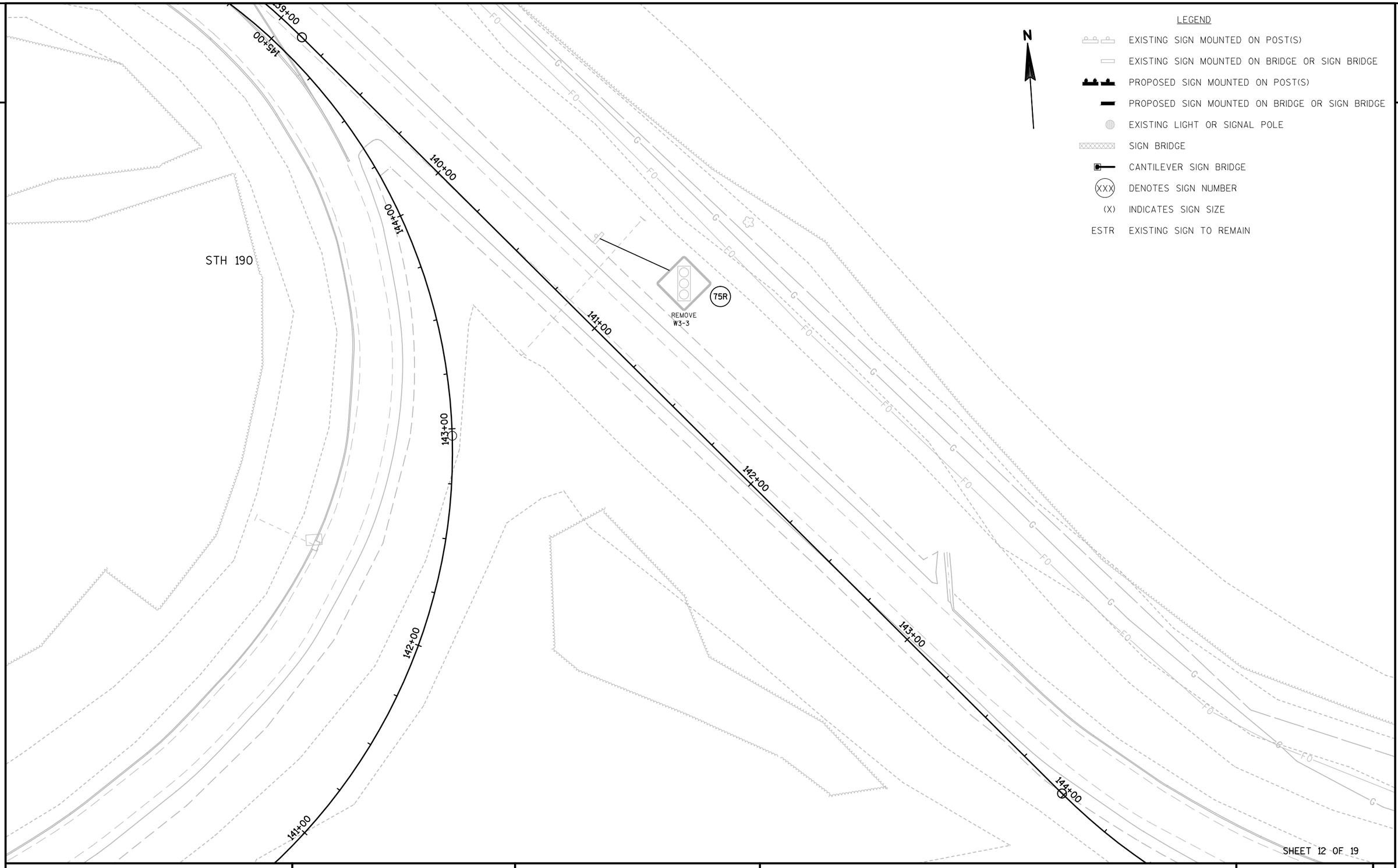
OFF RAMP FROM STH 190 (WB)
ON RAMP FROM STH 190 (WB)
ON RAMP FROM STH 190 (WB)
OFF RAMP FROM STH 190 (WB)

136+00 137+00 138+00 139+00 140+00 141+00 142+00
147+00 146+00 145+00 144+00 143+00
148+00

SHEET 11 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	SIGNING REMOVAL PLAN	SHEET 72	E

2



SHEET 12 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	SIGNING REMOVAL PLAN	SHEET 73	E

2

CTH F (REDFORD BLVD)

171+00

170+00

169+00

168+00

84R — REMOVE R1-2

83R — SOUTH / COUNTY F — REMOVE J3-1

83R — DO NOT ENTER — REMOVE R5-1

79R — STOP — REMOVE R1-1

81R — NORTH / COUNTY F — REMOVE J3-1

80R — REMOVE W12-10

PART OF 82R — WRONG WAY — REMOVE R5-1A

82R — Waukesha / Sussex — D1-2 REMOVE

76R, 77R, 78R — REMOVE R4-7

85R — STOP — REMOVE R1-1F

85R — DIVIDED HIGHWAY — REMOVE R6-3A

86R — RAMP 25 M.P.H. — REMOVE W13-3

87R — TO I-94 — REMOVE J3-1

88R — REMOVE W1-6

134+00 148+00 135+00 147+00 136+00 146+00 137+00 145+00 138+00 144+00 139+00

HO

N

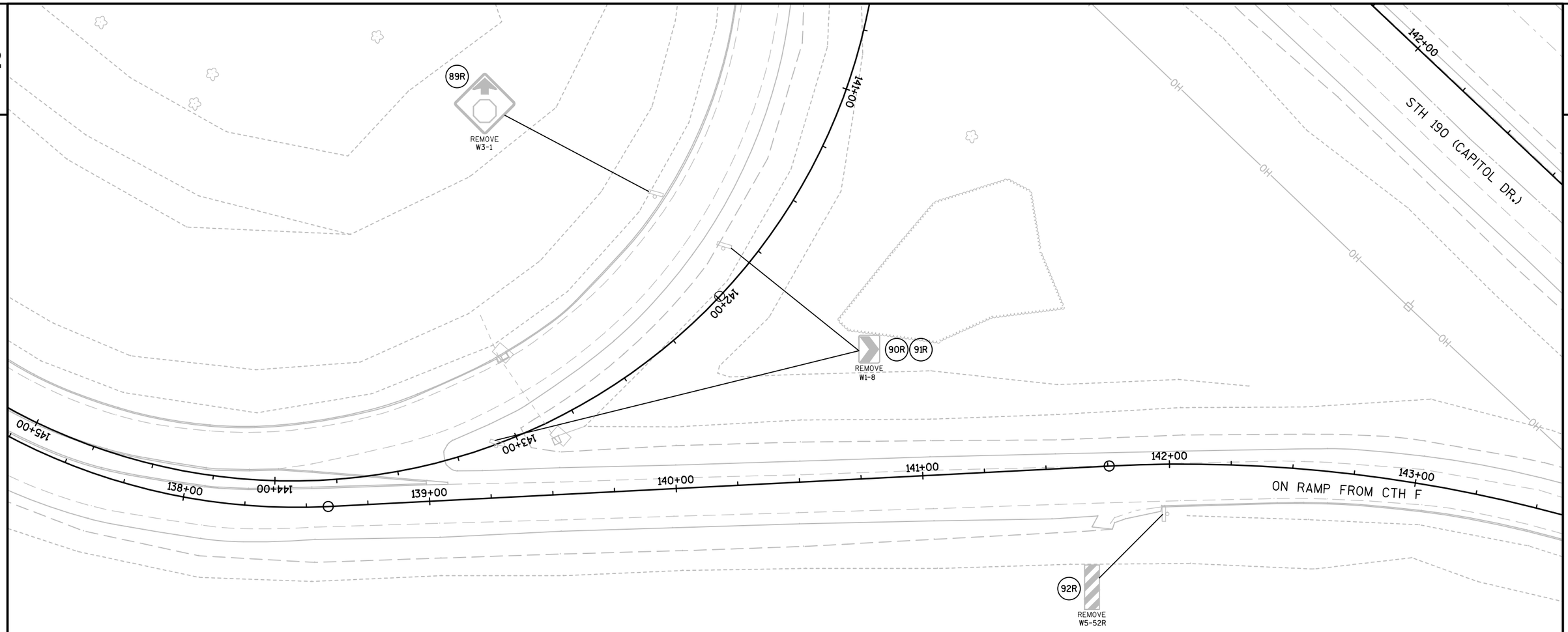
LEGEND

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

SHEET 13 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	SIGNING REMOVAL PLAN	SHEET 74	E

2



LEGEND

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

SHEET 14 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	SIGNING REMOVAL PLAN	SHEET 75	E

2

LEGEND

EXISTING SIGN MOUNTED ON POST(S)

EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

PROPOSED SIGN MOUNTED ON POST(S)

PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

EXISTING LIGHT OR SIGNAL POLE

SIGN BRIDGE

CANTILEVER SIGN BRIDGE

(XXX) DENOTES SIGN NUMBER

(X) INDICATES SIGN SIZE

ESTR EXISTING SIGN TO REMAIN

N

2

CTH F (REDFORD BLVD)

163+00 164+00 165+00 166+00 167+00 168+00 169+00

650' 250' 100' 136'

WALKESHA CO.
ADOPT-A-HIGHWAY
LITTER CONTROL
NEXT 2 MILES
FALLEN RIDERS
MEMORIAL FUND
ESTR

SOUTH
COUNTY
F
101R
REMOVE
J4-1

ALTERNATE WEST 94 135R
REMOVE
J2-2

99R 100R
DO NOT ENTER
REMOVE
R5-1

WRONG WAY 96R
REMOVE
R5-1A

98R
REMOVE
W5-52R

Sussex
Pewaukee
Milwaukee
93R
94R
REMOVE
D1-3

JCT 190 132R 133R
REMOVE
J1-1

EAST 190 134R 129R
REMOVE
J2-1

15'-4" 130R 131R
REMOVE
W12-2

EAST 190 95R
REMOVE
J3-1

ALTERNATE EAST 94 97R
REMOVE
J3-1

HO

SHEET 15 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	SIGNING REMOVAL PLAN	SHEET 76	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIGN\023101_PS.DWG
LAYOUT NAME - 023115_PS

PLOT DATE : 9/13/2016 6:48 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

LEGEND

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

N

102R TØ 94 REMOVE

103R ONE WAY REMOVE

108R EAST 190 REMOVE

CTH F (REDFORD BLVD)

169+00 170+00 171+00 172+00 173+00 174+00 175

104R 105R REMOVE

106R REMOVE

107R WEST 190 REMOVE

134+00 148+00 135+00 136+00

STH 190 (CAPITOL DR.)

SHEET 16 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	SIGNING REMOVAL PLAN	SHEET 77	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIGN\023101_PS.DWG
LAYOUT NAME - 023116_PS

PLOT DATE : 9/13/2016 6:48 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

N

LEGEND

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

STH 190 (CAPITOL DR.)

CTH F (REDFORD BLVD)

UNNAMED TRIBU

109R
REMOVE
W5-52R

112R
EAST
190
REMOVE
J2-1

110R
Milwaukee
REMOVE
D1-1

113R
WRONG WAY
REMOVE
R5-1A

111R
ALTERNATE
WEST
94
REMOVE
J3-1

133+00
134+00
135+00
136+00
175+00
176+00
177+00
178+00
179+00
180+00
150+00

SHEET 17 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	SIGNING REMOVAL PLAN	SHEET 78	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIGN\023101_PS.DWG
LAYOUT NAME - 023117_PS

PLOT DATE : 9/13/2016 6:48 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

LEGEND

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

N

2

UNNAMED TRIBUTARY TO SUSSEX CREEK

CTH F (REDFORD BLVD)

CTH F (REDFOR

181+00 182+00 183+00 184+00 185+00 186+00

117R TO WEST EAST 164 190 190

REMOVE J2-3

118R

115R NORTH COUNTY F

REMOVE J4-1

116R WRONG WAY

REMOVE R5-1A

151+00 150+00 133+00 134+00

853.792 X 4388 G

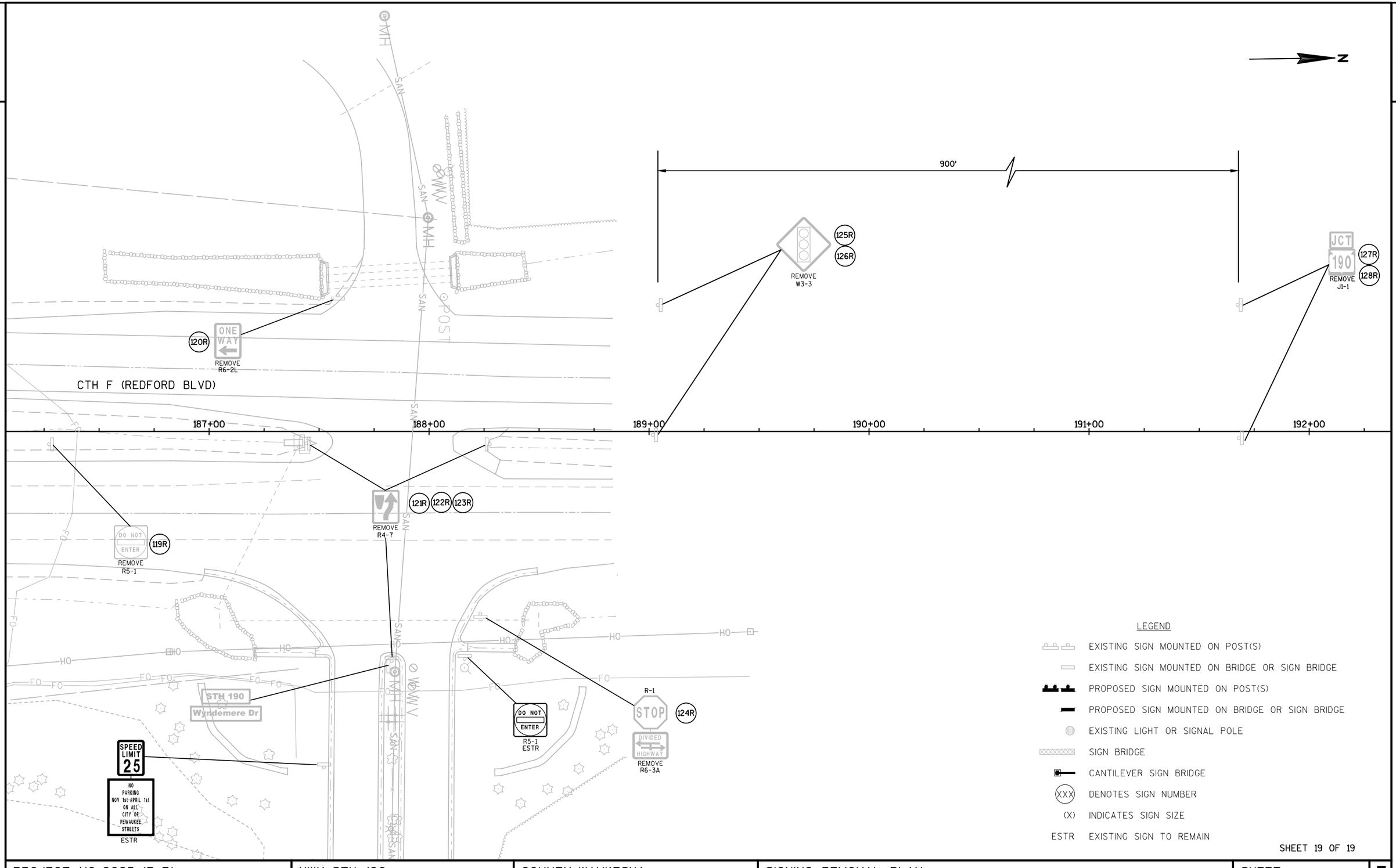
SHEET 18 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	SIGNING REMOVAL PLAN	SHEET 79	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIGN\023101_PS.DWG
LAYOUT NAME - 023118_PS

PLOT DATE : 9/13/2016 6:48 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:40 FT

2



LEGEND

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

SHEET 19 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	SIGNING REMOVAL PLAN	SHEET 80	E

2

N

STH 190 (CAPITOL DR.)

114+00 115+00 116+00 117+00 118+00 119+00 120+00

1
2
JCT
COUNTY
F
J1-1 (3)

WRONG WAY
R5-1A (3)
4

114+00 115+00 116+00 117+00 118+00 119+00 120

STH 190 (CAPITOL DR.)

3
ALTERNATE NORTH
ALTERNATE NORTH
41
41
45
J3-2 (3)

LEGEND

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

Type II aluminum signs removed under the contract shall be delivered to the Regional Traffic Sign Shop on 60th street in West Allis. Signs shall be carefully removed from sign supports. The signs shall be palletized for handling with a forklift (see special provision 638.3.4). The Regional sign shop (414-266-1165) shall be notified three working days prior to delivery of the signs.

When an existing stop sign support is to be removed and a new stop sign and support erected, the work shall be done concurrently. For other signs and supports that are to be removed and new signs and supports erected, the removal of the existing sign/support and erection of the new sign/support should be done as concurrently as possible. In no case shall a new sign/support be down for more than 24 hours and there shall not be more than one sign of the same legend missing in a row.

Wood posts sizes, for type II signs are estimated lengths and the actual length will be determined in the field.

Street name signs are property of the municipality (city, village or town). The municipality shall be contacted to remove their street name signs prior to construction and it is their responsibility to reinstall the old signs or replace them following construction. WisDOT does not furnish or install street name signs. The street name signs shall not be placed on top of the STOP signs.

Locate no passing pennants based on establishing no passing zones pay item. Place signs based on where the pavement marking for no passing zones begin

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET 81	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIGN\023201_PS.DWG
LAYOUT NAME - 023201_PS
PLOT DATE : 9/13/2016 7:11 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

2

N

WELL

19 ONE WAY R6-2-L (3)

STOP R1-1 ESTR

18 WRONG WAY R5-1A (3)

STH 190 (CAPITOL DR.)

120+00 121+00 122+00 123+00 124+00 125+00

7 8 R4-7 (3)

5 DO NOT ENTER R5-1 (3)

17 DO NOT ENTER R5-1 (3)

120+00 121+00 122+00 123+00 124+00 125+00

STH 190 (CAPITOL DR.)

9 ONE WAY R6-1-L (3)

10 ONE WAY R6-1-R (3) BACK TO BACK ABOVE STOP SIGN

6 R4-7 (2S)

I-94

DIVIDED HIGHWAY 13 R6-3-A (2M)

EAST 190 COUNTY F 14 15 J2-2 (3)

TO INTERSTATE 94 16 J2-1 (3)

STH 190

HUNTERS RIDGE RD

MOVE BY OTHERS - CITY

STOP 11 12 R1-1(3)

HUNTERS RIDGE ROAD

MH

POST

LEGEND

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

SHEET 2 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIGN\023201_PS.DWG
LAYOUT NAME - 023202_PS

PLOT DATE : 8/23/2016 9:53 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

N

20

ALTERNATE
WEST
Interstate
94

J4-1 (3)

21

WEST
190

J4-1 (3)

WELL

STH 190 (CAPITOL DR.)

126+00 127+00 128+00 129+00 130+00 131+00

Milwaukee
Sussex
Waukesha

22 23

D1-3

126+00 127+00 128+00 129+00 130+00 131+00

STH 190 (CAPITOL DR.)

24

ALTERNATE
EAST
Interstate
94

J2-1 (3)

25

EXIT
25
MPH

W13-2A (4)

LEGEND

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

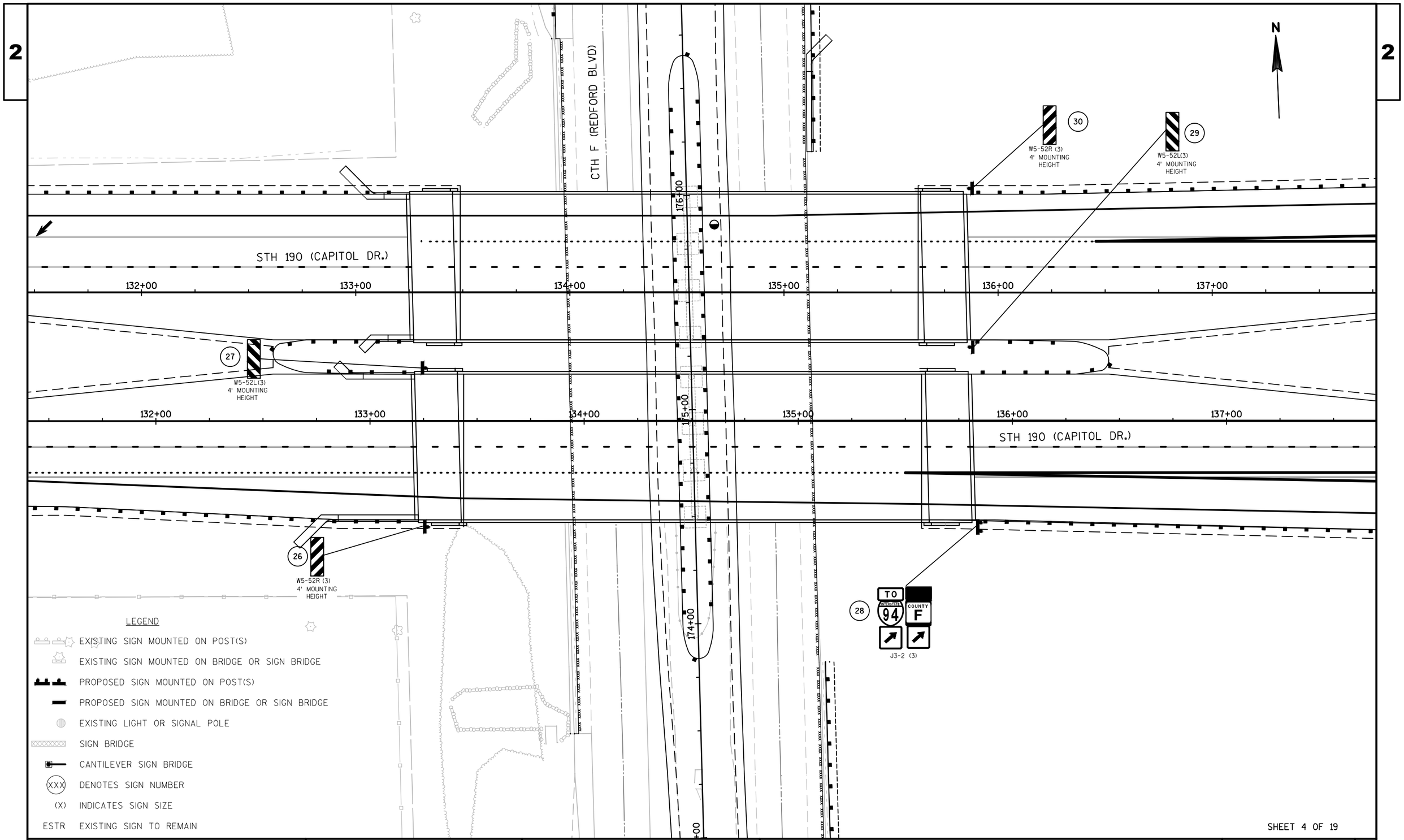
SHEET 3 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET 83	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIGN\023201_PS.DWG
LAYOUT NAME - 023203_PS

PLOT DATE : 8/23/2016 9:54 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42



SHEET 4 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET 84	E

SEE SHEET 12

N

ON RAMP FROM CTH F

139+00 140+00 141+00

38 W1-6 (3)

STH 190 (CAPITOL DR.)

138+00 139+00 140+00 141+00 142+00 143+00

EXIT 31 E5-1 (4)

35 36 W4-1R (3)

138+00 139+00 140+00 141+00 142+00 143+00

STH 190 (CAPITOL DR.)

139+00

OFF RAMP TO CTH F

140+00

141+00

32 33 34 W1-8 (3)

37 W1-6 (3)

143+00

ON RAMP FROM CTH F

SEE SHEET 14

SEE SHEET 14

LEGEND

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

SHEET 5 OF 19

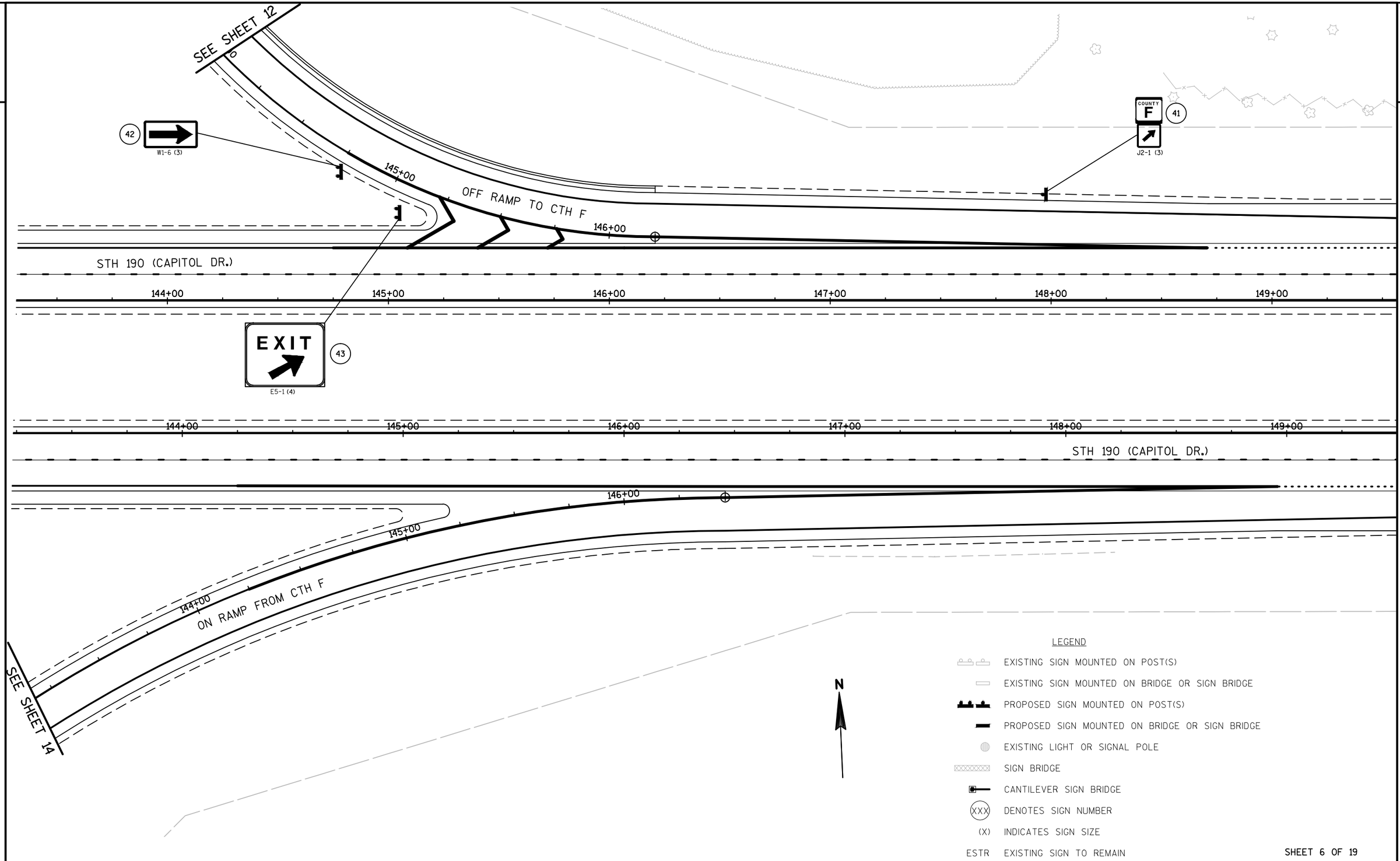
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET 85	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIGN\023201_PS.DWG
LAYOUT NAME - 023205_PS

PLOT DATE : 8/23/2016 9:54 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

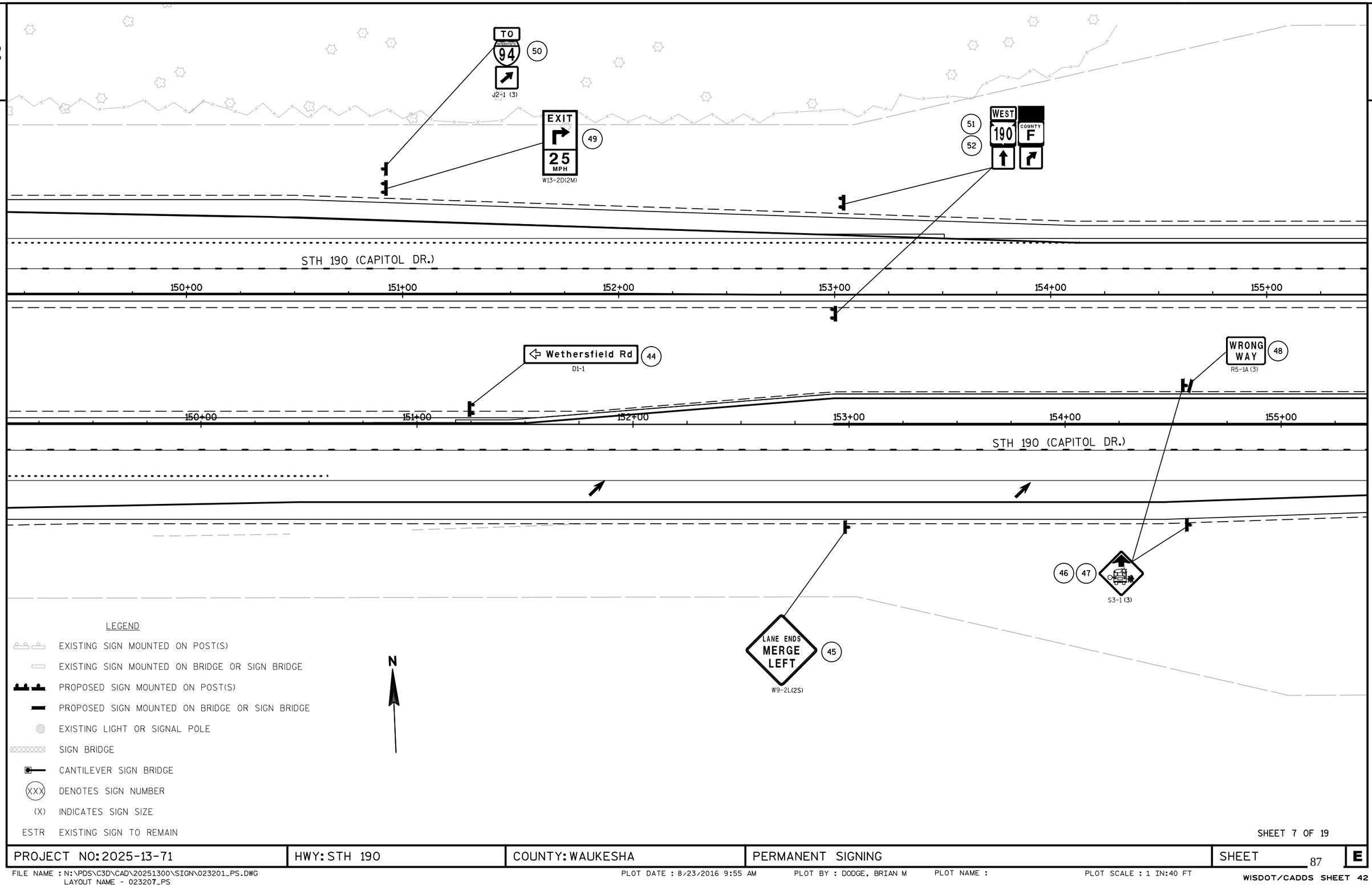
2



SHEET 6 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET 86	E

2



LEGEND

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

SHEET 7 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET 87	E

2

WETHERSFIELD RD

60 ONE WAY R6-1-R (3)

61 ONE WAY R6-1-L (3) PLACE ABOVE STOP SIGN

55 STOP R1-1

56 DIVIDED HIGHWAY R6-3-A (2M)

Capitol Dr

Wethersfield Rd

MOVE BY OTHERS CITY SIGN

N

2+00

57 R4-7 (2S)

STH 190 (CAPITOL DR.)

156+00 157+00 158+00 159+00 160+00 161+00

Pewaukee 53

Sussex 54

Waukesha

D1-3

58 59 R4-7 (3)

DO NOT ENTER 66 R5-1 (3)

WRONG WAY 65 R5-1A (3)

+00 156+00 157+00 158+00 159+00 160+00 161+00

STH 190 (CAPITOL DR.)

DO NOT ENTER 67 R5-1 (3)

ONE WAY 62 R6-2-L(3)

64 Brookfield 5 Milwaukee 11 D2-2

EAST 190 63 J4-1 (3)

LEGEND

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

SHEET 8 OF 19

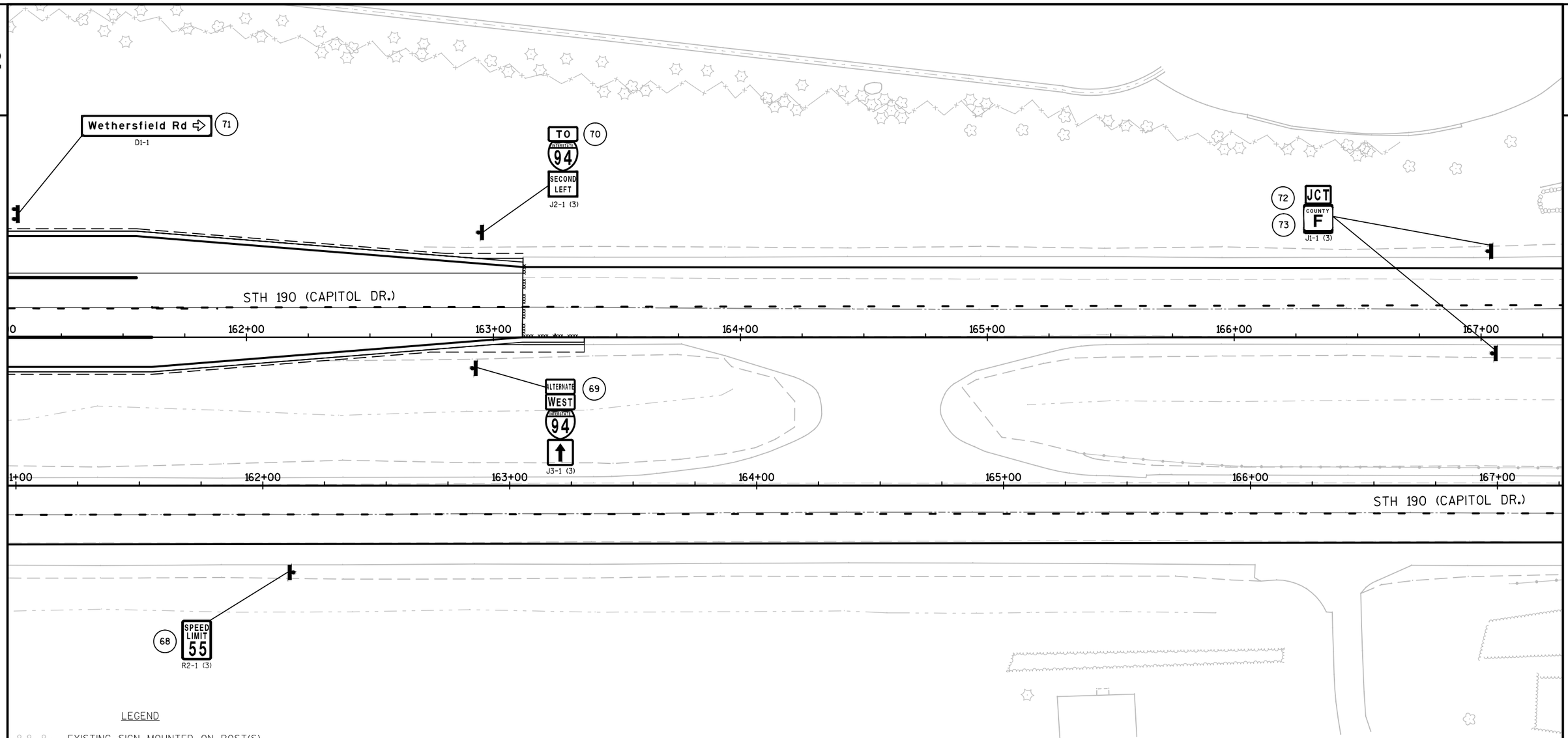
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET 88	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIGN\023201_PS.DWG
LAYOUT NAME - 023208_PS

PLOT DATE : 8/23/2016 9:55 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2



LEGEND

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

N

SHEET 9 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET 89	E

SEE SHEET 18

SEE SHEET 11

CTH F (REDFORD

CTH F

CTH F

UNNAMED TRIBUTARY TO SUSSEX CREEK

183+00

182+00

181+00

180+00

45'

55'

92 TO 164 WEST 190 J3-2 (3)

93 94 STOP R1-1F (3) ON SIGNAL POLE

90 YIELD R1-2 (2S)

89 STOP R1-1F (3) ON SIGNAL POLE

88 DIVIDED HIGHWAY R6-3-A (2M)

99 W12-1D (2M) 2' MOUNTING HEIGHT

87 NORTH COUNTY F J3-1 (2S)

85 WRONG WAY R5-1A (3)

84 Waukesha Sussex D1-2

91 DO NOT ENTER R5-1 (3) ON SIGNAL POLE

183 ONE WAY R6-2-L (2S)

95 96 97 R4-7 (3)

133+00

134+00

150+00

149+00

148+00

OFF RAMP FROM STH 190 (WB)

136+00

ON RAMP TO STH 190 (WB)

98 STOP R1-1F (3)

75 DO NOT ENTER R5-1 (3)

74 ONE WAY R6-2-L (3)

76 R3-4 (3)

79 ONE WAY R6-2-L (2M)

86 TO 94 SOUTH COUNTY F JV-1 (2S)

81 RAMP 25 M.P.H. W13-3 (2M)

82 WRONG WAY R5-1A (3)

83 ONLY ONLY R3-8-Y (2S)

77 78 STOP R1-1F (3) ON SIGNAL POLE

80 WEST 190 J3-1 (3)

FOX IC

LEGEND

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

SHEET 10 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET 90	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIGN\023201_PS.DWG
LAYOUT NAME - 023210_PS

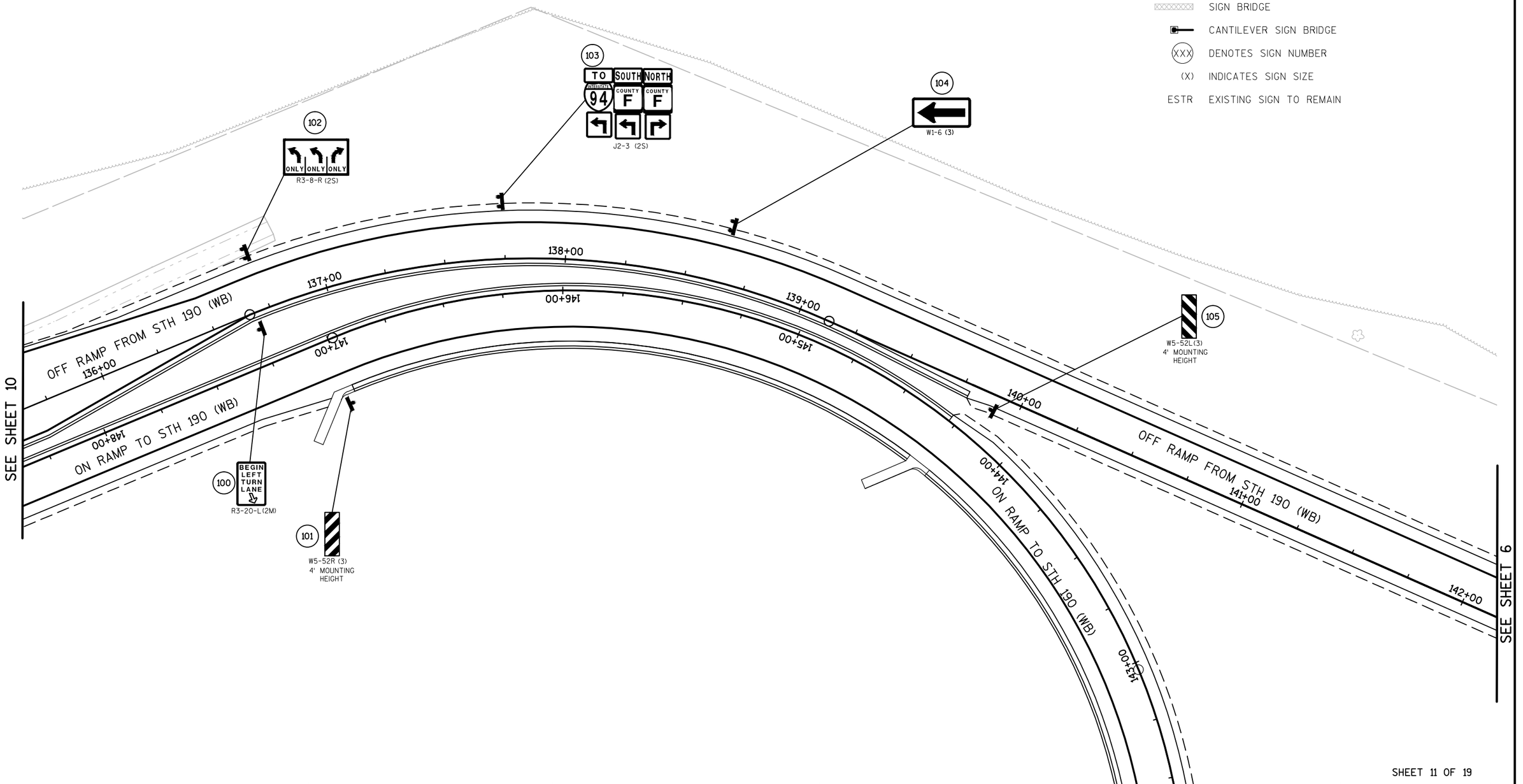
PLOT DATE : 8/23/2016 9:56 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

LEGEND

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

N



SHEET 11 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET 91	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIGN\023201_PS.DWG
LAYOUT NAME - 023211_PS

PLOT DATE : 8/23/2016 9:56 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

SEE SHEET 11

145+00

140+00

144+00

143+00

142+00

141+00

ON RAMP TO STH 190 (WB)

OFF RAMP FROM STH 190 (WB)

FROM CTH F

110
W1-6 (3)

109
W3-3(3)

106 108
107 111
W1-8(3)
4' MOUNTING HEIGHT

N

LEGEND

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

SHEET 12 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIGN\023201_PS.DWG
LAYOUT NAME - 023212_PS

PLOT DATE : 8/23/2016 9:56 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:40 FT

SEE SHEET 16

SEE SHEET 14

SEE SHEET 15

CTH F (REDFORD BLVD)

171+00

170+00

169+00

168+00

134+00

135+00

136+00

137+00

138+00

144+00

146+00

148+00

120 TO ALTERNATE 94 J3-1 (3)

119 ONE WAY R6-2-L (3)

118 DO NOT ENTER R5-1 (3)

121 122 123

124 DO NOT ENTER R5-1 (3)

125 YIELD R1-2 (2S)

126 STOP R1-1 (3)

R4-7 (3)

127 SOUTH COUNTY F J3-1 (2S)

128 NORTH COUNTY F J3-1 (2S)

129 W12-1D (2M) 2' MOUNTING HEIGHT

130 W5-52L (2S) 4' MOUNTING HEIGHT

131 WRONG WAY R5-1A (3)

132 Waukesha Sussex D1-2

184 ONE WAY R6-2-L (2S)

134 STOP R1-1 (3)

135 WRONG WAY R5-1A (3)

116 ONE WAY R6-2-L (2M)

115 DIVIDED HIGHWAY R6-3-A (2S)

114 RAMP 25 M.P.H. W13-3(4)

112 TO ALTERNATE 94 J3-1 (2S)

113 SOUTH COUNTY F NORTH COUNTY F J3-2 (2S)

133 WRONG WAY R5-1A (3)

136 W1-6 (3)

117 W5-52R (3) 4' MOUNTING HEIGHT

N

LEGEND

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

SHEET 13 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET 93	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIGN\023201_PS.DWG
LAYOUT NAME - 023213_PS

PLOT DATE : 8/23/2016 9:56 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

SEE SHEET 5

SEE SHEET 13

STH 190 (CAPITOL DR.)

ON RAMP FROM CTH F

138+00 139+00 140+00 141+00 142+00 143+00 144+00 145+

141+00 142+00 142+00

141
W3-1(3)

139 140
W1-8(3)

137
W5-52L(3)
4' MOUNTING
HEIGHT

138
W5-52R (3)
4' MOUNTING
HEIGHT

N

LEGEND

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

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET 94	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIGN\023201_PS.DWG
LAYOUT NAME - 023214_PS

PLOT DATE : 8/23/2016 9:57 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

N

WAUKESHA CO.
ADOPT-A-HIGHWAY
LITTER CONTROL
NEXT 2 MILES
FALLEN RIDERS
MEMORIAL FUND
ESTR

SOUTH
COUNTY
F
149
J4-1 (3)

152

ALTERNATE
WEST
ALTERNATE
EAST
94
94

CTH F (REDFORD BLVD)

J2-2 (3)

163+00 164+00 165+00 166+00 167+00 168+00 169+00

650' 250' 100' 136'

Sussex
Pewaukee
Milwaukee
150
151
D1-3

153
154
JCT
190
J1-1 (3)

EAST
190
144
145
J2-1 (3)

EAST
190
146
J3-1 (3)

ALTERNATE
EAST
94
147
J3-1 (3)

WRONG
WAY
148
R5-1A (3)

LEGEND

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

SHEET 15 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET 95	E

2

LEGEND

EXISTING SIGN MOUNTED ON POST(S)

EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

PROPOSED SIGN MOUNTED ON POST(S)

PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

EXISTING LIGHT OR SIGNAL POLE

SIGN BRIDGE

CANTILEVER SIGN BRIDGE

(XXX) DENOTES SIGN NUMBER

(X) INDICATES SIGN SIZE

ESTR EXISTING SIGN TO REMAIN

N

160 EAST 190 J3-1 (3)

159 BEGIN LEFT TURN LANE R3-20-L(3)

CTH F (REDFORD BLVD)

169+00 170+00 171+00 172+00 173+00 174+00 175

155 156 W3-3(3)

157 W5-52R (3) 4' MOUNTING HEIGHT

158 WEST 190 J2-1 (3)

124+00 148+00 135+00 136+00

STH 190 (CAPITOL

2

SHEET 16 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET 96	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIGN\023201_PS.DWG
LAYOUT NAME - 023216_PS

PLOT DATE : 8/23/2016 9:57 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

N

LEGEND

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

STH 190 (CAPITOL DR.)

133+00

134+00

135+00

136+00

CTH F (REDFORD BLVD)

UNNAMED TRIBU

164 W5-52R (3) 4' MOUNTING HEIGHT

55'

175+00 176+00 177+00 178+00 179+00 180+00

Milwaukee 163 D1-1

161 ALTERNATE WEST INTERSTATE 94 J3-1 (3)

EAST 190 162 J2-1 (3)

FOX RIC

150+00

SHEET 17 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIGN\023201_PS.DWG
LAYOUT NAME - 023217_PS

PLOT DATE : 8/23/2016 9:57 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

LEGEND

EXISTING SIGN MOUNTED ON POST(S)

EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

PROPOSED SIGN MOUNTED ON POST(S)

PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

EXISTING LIGHT OR SIGNAL POLE

SIGN BRIDGE

CANTILEVER SIGN BRIDGE

XXX DENOTES SIGN NUMBER

(X) INDICATES SIGN SIZE

ESTR EXISTING SIGN TO REMAIN

N

UNNAMED TRIBUTARY TO SUSSEX CREEK

CTH F (REDFORD BLVD)

CTH F

181+00 182+00 183+00 184+00 185+00 186+00

169 170 TO WEST EAST 164 190 190 J2-3 (3)

BEGIN LEFT TURN LANE 168 R3-20-L(3)

WRONG WAY 166 167 R5-1A (3)

NORTH 165 COUNTY F J4-1 (3)

ADOPT A HIGHWAY SPONSOR .... 155-56 ESTR

CTH F

45'

155+00 133+00 150+00 134+00

ONLY ONLY

UNNAMED TRIBUTARY TO SUSSEX CREEK

SHEET 18 OF 19

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET 98	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIGN\023201_PS.DWG
LAYOUT NAME - 023218_PS

PLOT DATE : 8/23/2016 9:58 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

N

900'

182 ONE WAY R6-2-L (2M)

CTH F (REDFORD BLVD)

POST

178 179 W3-3 (3)

JCT 190 J1-1 (3) 180 181

187+00 188+00 189+00 190+00 191+00 192+00

172 173 R4-7 (3)

171 DO NOT ENTER R5-1 (3)

174 ONE WAY R6-1-L (3)

175 ONE WAY R6-1-R (3) ON TOP OF STOP SIGN BACK TO BACK

176 STOP R1-1 (3)

177 DIVIDED HIGHWAY R6-3-A (2M)

LEGEND

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

SHEET 19 OF 19

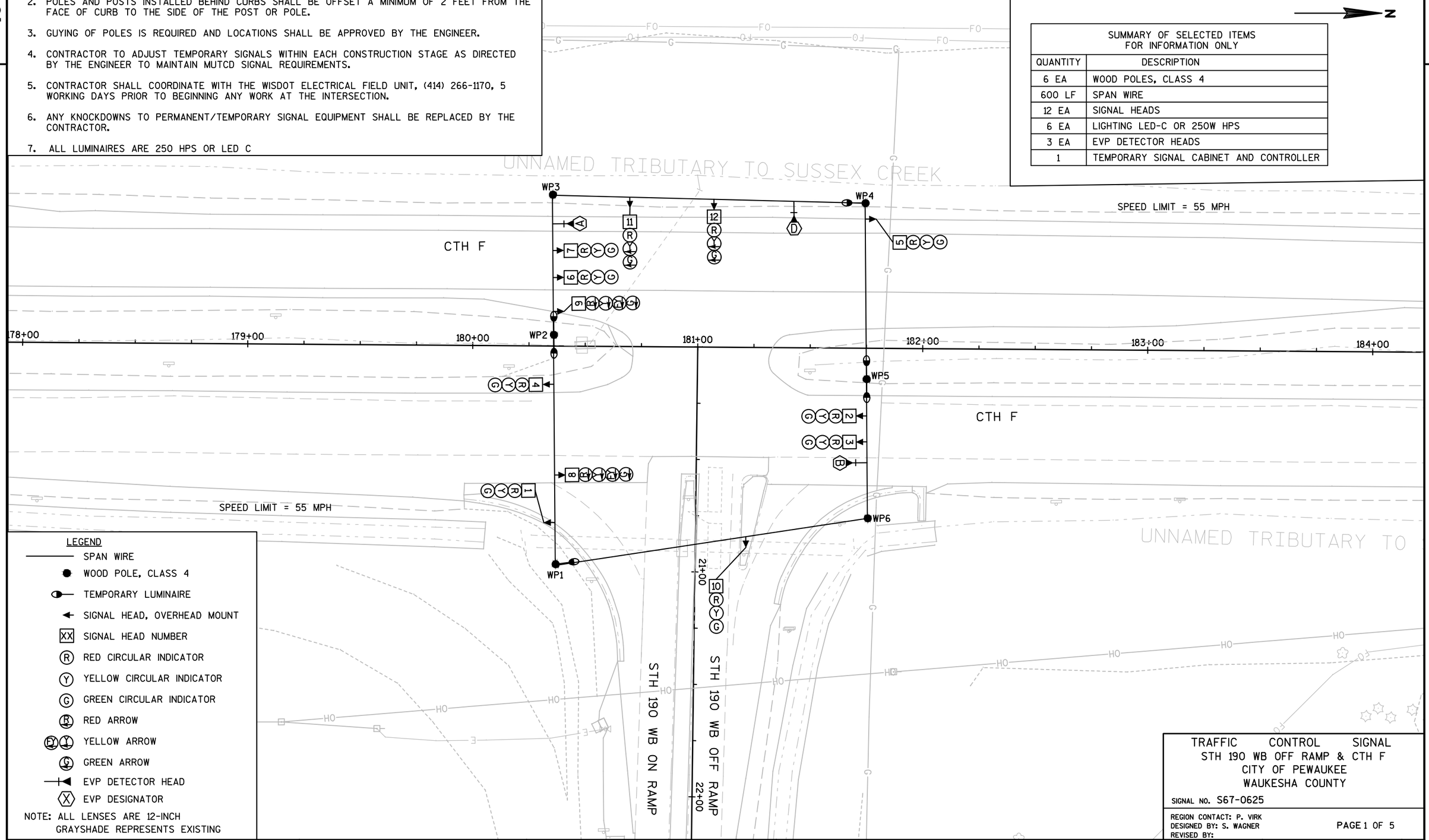
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PERMANENT SIGNING	SHEET 99	E

CONSTRUCTION NOTES:

1. FINAL LOCATION OF SIGNAL POLES AND SIGNAL HEADS SHALL BE DIRECTED BY THE ENGINEER.
2. POLES AND POSTS INSTALLED BEHIND CURBS SHALL BE OFFSET A MINIMUM OF 2 FEET FROM THE FACE OF CURB TO THE SIDE OF THE POST OR POLE.
3. GUYING OF POLES IS REQUIRED AND LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
4. CONTRACTOR TO ADJUST TEMPORARY SIGNALS WITHIN EACH CONSTRUCTION STAGE AS DIRECTED BY THE ENGINEER TO MAINTAIN MUTCD SIGNAL REQUIREMENTS.
5. CONTRACTOR SHALL COORDINATE WITH THE WISDOT ELECTRICAL FIELD UNIT, (414) 266-1170, 5 WORKING DAYS PRIOR TO BEGINNING ANY WORK AT THE INTERSECTION.
6. ANY KNOCKDOWNS TO PERMANENT/TEMPORARY SIGNAL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR.
7. ALL LUMINAIRES ARE 250 HPS OR LED C

N

SUMMARY OF SELECTED ITEMS FOR INFORMATION ONLY	
QUANTITY	DESCRIPTION
6 EA	WOOD POLES, CLASS 4
600 LF	SPAN WIRE
12 EA	SIGNAL HEADS
6 EA	LIGHTING LED-C OR 250W HPS
3 EA	EVP DETECTOR HEADS
1	TEMPORARY SIGNAL CABINET AND CONTROLLER



LEGEND

- SPAN WIRE
- WOOD POLE, CLASS 4
- TEMPORARY LUMINAIRE
- SIGNAL HEAD, OVERHEAD MOUNT
- XX SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- RED ARROW
- YELLOW ARROW
- GREEN ARROW
- EVP DETECTOR HEAD
- (X) EVP DESIGNATOR

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

TRAFFIC CONTROL SIGNAL
STH 190 WB OFF RAMP & CTH F
CITY OF PEWAUKEE
WAUKESHA COUNTY

SIGNAL NO. S67-0625

REGION CONTACT: P. VIRK
DESIGNED BY: S. WAGNER
REVISED BY:

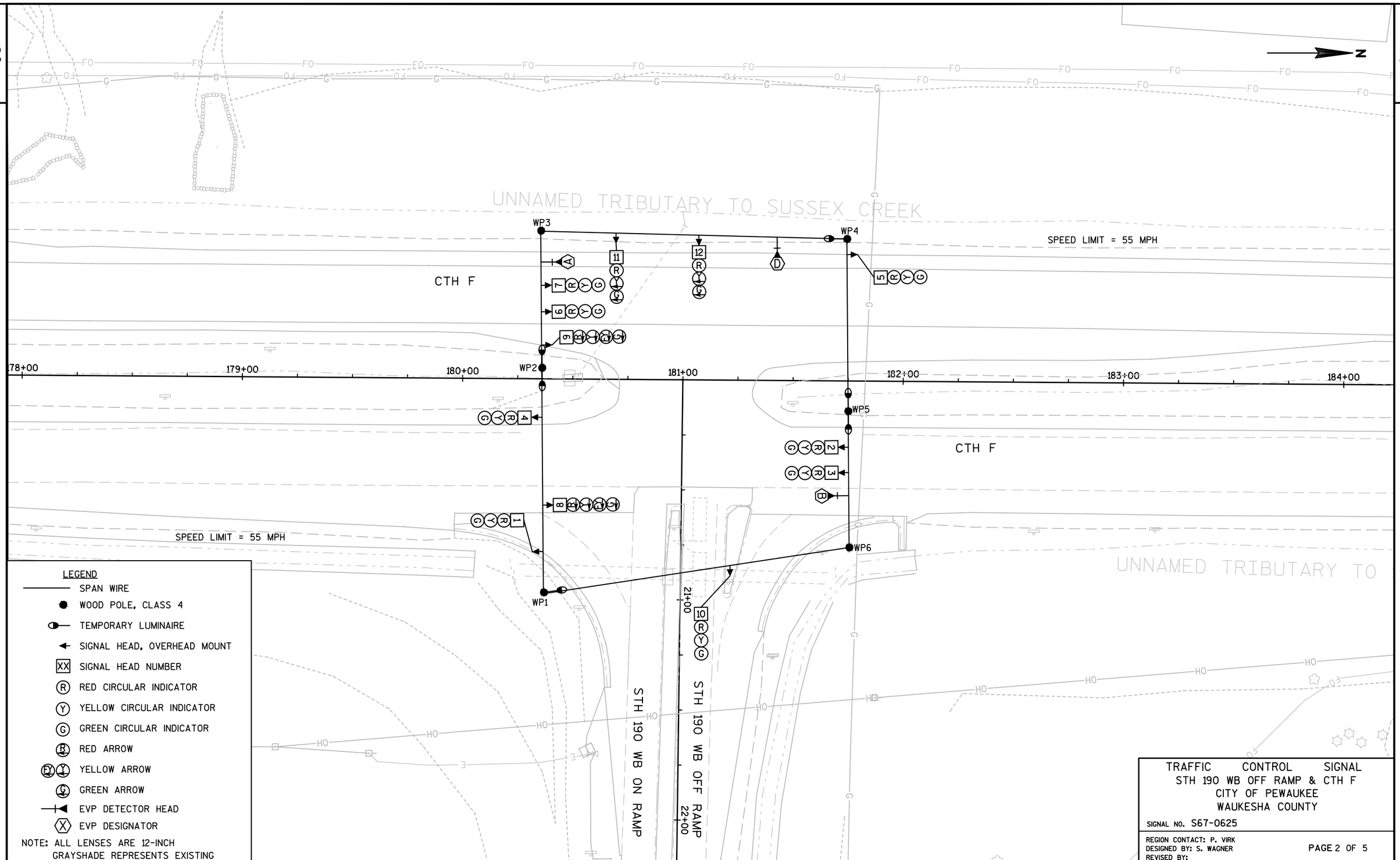
PAGE 1 OF 5

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TEMPORARY TRAFFIC SIGNAL PLAN - PRECONSTRUCTION STAGE	SHEET 100	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIG\S67-0625\S67-0625_TPRE.DWG
LAYOUT NAME - S67-0625_TPRE_PG1

PLOT DATE : 10/11/2016 3:10 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1IN:40 FT

WISDOT/CADDS SHEET 42



TRAFFIC CONTROL SIGNAL
STH 190 WB OFF RAMP & CTH F
CITY OF PEWAUKEE
WAUKESHA COUNTY

SIGNAL NO. S67-0625

REGION CONTACT: P. VIRK
DESIGNED BY: S. WAGNER
REVISED BY:

PAGE 2 OF 5

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TEMPORARY TRAFFIC SIGNAL PLAN - STAGE 1A & 1B	SHEET 101	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIG\S67-0625\S67-0625_TST1.DWG
LAYOUT NAME - S67-0625_TST1_PG1

PLOT DATE : 10/11/2016 3:28 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1IN:40 FT

WISDOT/CADDS SHEET 42

2

N

UNNAMED TRIBUTARY TO SUSSEX CREEK

WP3

WP4

SPEED LIMIT = 55 MPH

CTH F

178+00

179+00

180+00

WP2

181+00

182+00

183+00

184+00

WP5

CTH F

SPEED LIMIT = 55 MPH

WP1

WP6

21+00

22+00

STH 190 WB ON RAMP

STH 190 WB OFF RAMP

UNNAMED TRIBUTARY TO

NOTE: SIGNAL SHALL FLASH YELLOW-RED DURING STAGE 2

LEGEND

- SPAN WIRE
- WOOD POLE, CLASS 4
- TEMPORARY LUMINAIRE
- SIGNAL HEAD, OVERHEAD MOUNT
- XX SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- RED ARROW
- YELLOW ARROW
- GREEN ARROW
- EVP DETECTOR HEAD
- (X) EVP DESIGNATOR

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

- WORK ZONE
- TRAFFIC SIGNAL HEAD TO BE COVERED AND DE-ENERGIZED
- EVP DETECTOR HEAD
- (X) EVP DESIGNATOR

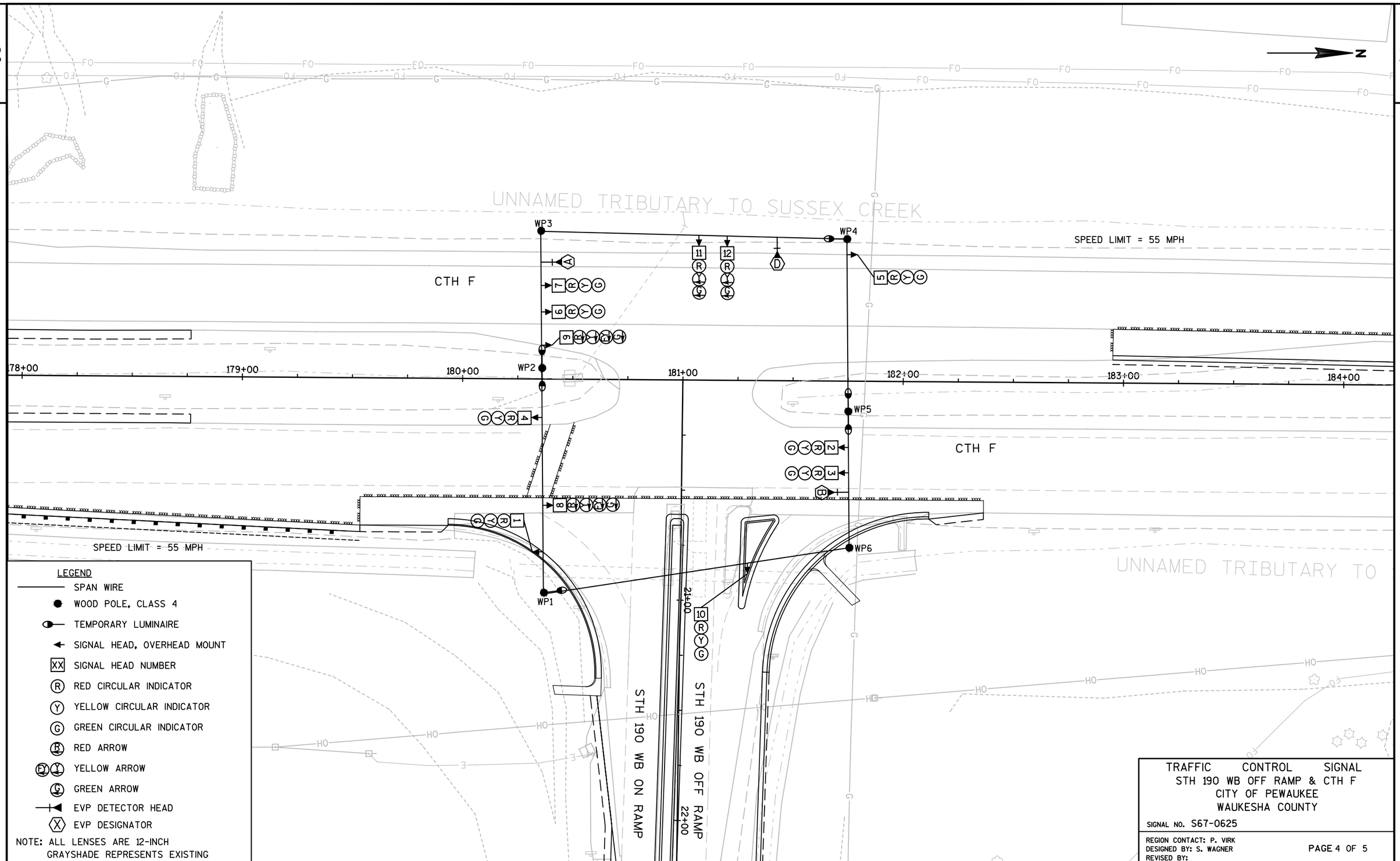
TRAFFIC CONTROL SIGNAL
STH 190 WB OFF RAMP & CTH F
CITY OF PEWAUKEE
WAUKESHA COUNTY

SIGNAL NO. S67-0625

REGION CONTACT: P. VIRK
DESIGNED BY: S. WAGNER
REVISED BY:

PAGE 3 OF 5

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TEMPORARY TRAFFIC SIGNAL PLAN - STAGE 2	SHEET 102	E



TRAFFIC CONTROL SIGNAL
STH 190 WB OFF RAMP & CTH F
CITY OF PEWAUKEE
WAUKESHA COUNTY

SIGNAL NO. S67-0625

REGION CONTACT: P. VIRK
DESIGNED BY: S. WAGNER
REVISED BY:

PAGE 4 OF 5

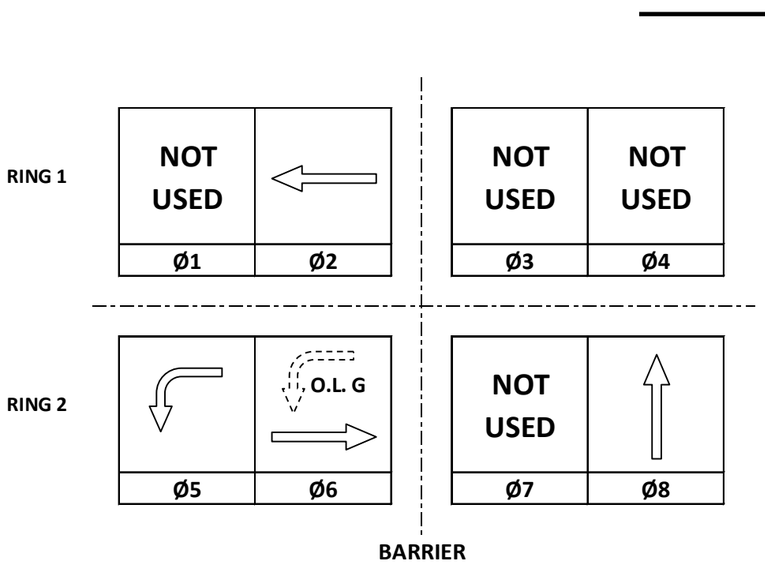
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TEMPORARY TRAFFIC SIGNAL PLAN - STAGE 3, 4, 5	SHEET 103	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIG\S67-0625\S67-0625_TST3.DWG
LAYOUT NAME - S67-0625_TST3.DWG

PLOT DATE : 10/11/2016 3:35 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1IN:40 FT

WISDOT/CADDS SHEET 42

	HEAD NUMBERS	FLASH
Ø1		
Ø2	5,6,7	R
Ø3		
Ø4		
Ø5	8,9	R ←
Ø6	1,2,3,4	R
Ø7		
Ø8	10,11,12	R
Ø2P		
Ø4P		
Ø6P		
Ø8P		
OLE		
OLF		
OLG	8,9	-
OLH		



CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1				
2		6	MAX	X
3				
4				
5		2	MAX	X
6		2	MAX	X
7				
8			MAX	X

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	A	B	C	D
MOVEMENT	←	⇢		↑
PHASE	2+5	6+2		8

AFTER PREEMPTION SEQUENCE 2+5 OR 6+2, CONTROLLER SHALL RETURN TO PHASES 2+6
AFTER PREEMPTION SEQUENCE 8, CONTROLLER SHALL RETURN TO PHASE 8

TYPE OF INTERCONNECT/COMMUNICATION	
NONE	X
CLOSED LOOP	
TWISTED PAIR	
FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	
RADIO	
CELL MODEM	

TYPE OF COORDINATION	
NONE	X
TBC	
TRAFFIC RESPONSIVE	
ADAPTIVE	
*LOCATION OF MASTER CONTROLLER NO: S-	
SIGNAL SYSTEM NO: SS-	

TYPE OF LIGHTING	
BY OTHER AGENCY	
IN TRAFFIC CABINET	X
IN SEPARATE DOT LIGHTING CABINET	

TYPE OF PRE-EMPT	
NONE	
RAILROAD	
EMERGENCY VEHICLE	X
GTT	
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTION	

GENERAL NOTES:

1. SIGNAL SHALL FLASH YELLOW-RED DURING STAGE 2

STH 190 WB OFF RAMP & CTH F
CITY OF PEWAUKEE
WAUKESHA COUNTY

SIGNAL NO: S67-0625 CABINET TYPE: TEMP
CONTROLLER TYPE: TEMP
DATE: 10-2016 PAGE NO. 5 OF 5

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

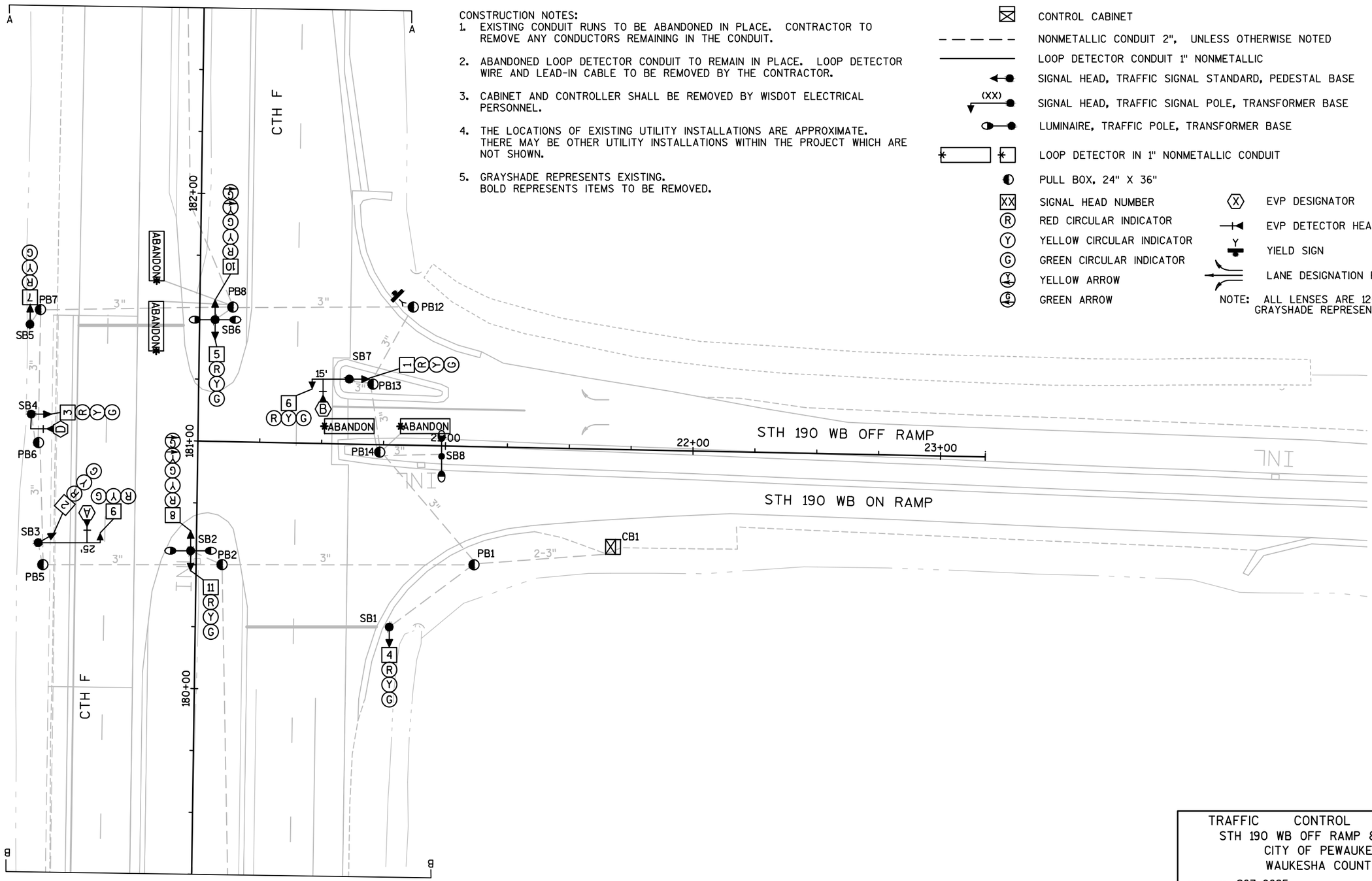
CONSTRUCTION NOTES:
1. EXISTING CONDUIT RUNS TO BE ABANDONED IN PLACE. CONTRACTOR TO REMOVE ANY CONDUCTORS REMAINING IN THE CONDUIT.
2. ABANDONED LOOP DETECTOR CONDUIT TO REMAIN IN PLACE. LOOP DETECTOR WIRE AND LEAD-IN CABLE TO BE REMOVED BY THE CONTRACTOR.
3. CABINET AND CONTROLLER SHALL BE REMOVED BY WISDOT ELECTRICAL PERSONNEL.
4. THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
5. GRAYSHADE REPRESENTS EXISTING. BOLD REPRESENTS ITEMS TO BE REMOVED.

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- PULL BOX, 24" X 36"
- XX SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (Y) YELLOW ARROW
- (G) GREEN ARROW
- (X) EVP DESIGNATOR
- EVP DETECTOR HEAD
- Y YIELD SIGN
- LANE DESIGNATION FOR INFO ONLY

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

N



TRAFFIC CONTROL SIGNAL
STH 190 WB OFF RAMP & CTH F
CITY OF PEWAUKEE
WAUKESHA COUNTY

SIGNAL NO. S67-0625

REGION CONTACT: P. VIRK
DESIGNED BY:
REVISED BY: S. WAGNER

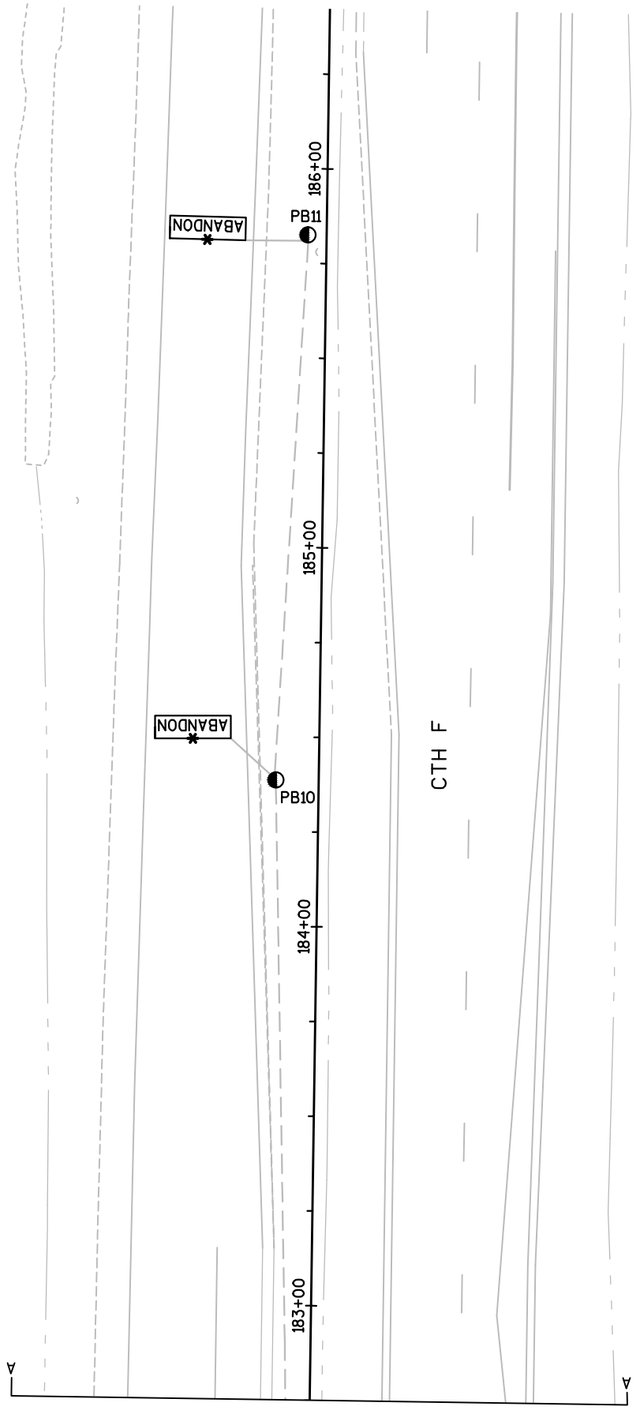
PAGE 1 OF 2

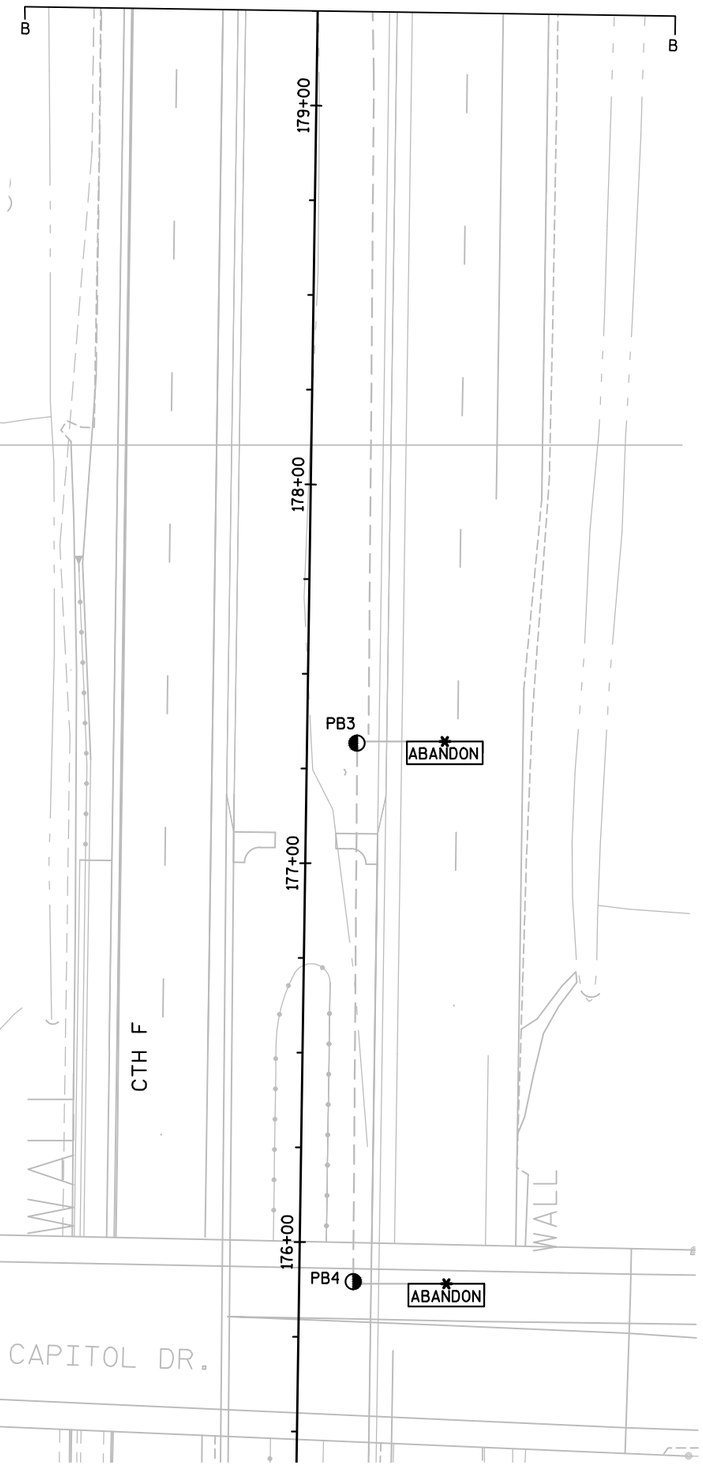
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 105	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIG\S67-0625\S67-0625_RM.DWG
LAYOUT NAME - S67-0625_REM_PG1

PLOT DATE : 8/10/2016 8:36 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

2





2

TRAFFIC CONTROL SIGNAL
STH 190 WB OFF RAMP & CTH F
CITY OF PEWAUKEE
WAUKESHA COUNTY

SIGNAL NO. S67-0625

REGION CONTACT: P. VIRK
DESIGNED BY:
REVISED BY: S. WAGNER

PAGE 2 OF 2

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIG\S67-0625\S67-0625_RM.DWG
LAYOUT NAME - S67-0625_REM_PG2

PLOT DATE : 8/10/2016 8:36 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

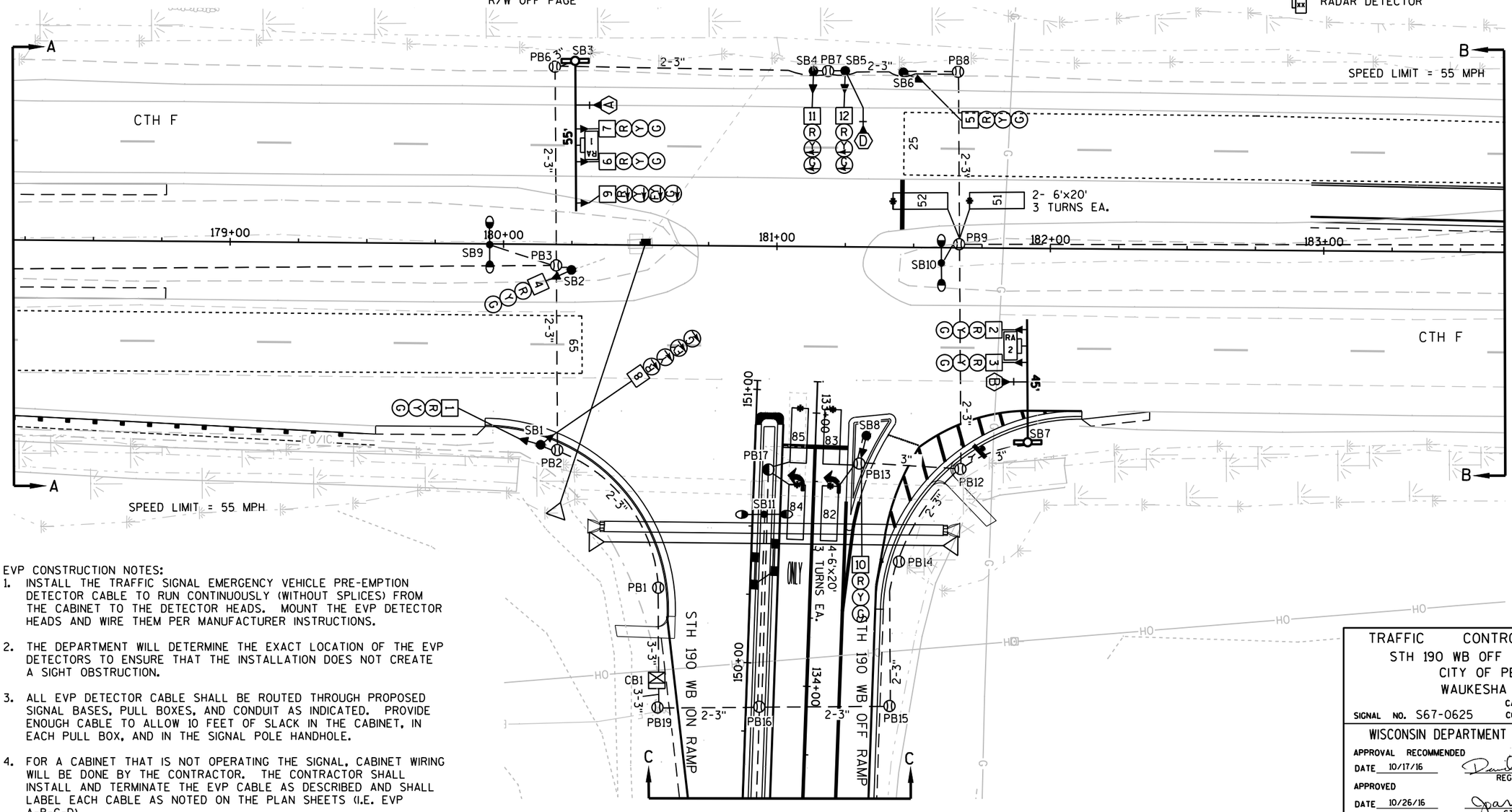
CONSTRUCTION NOTES:

1. * LOCATION IS TO FRONT CENTER OF DETECTOR LOOP.
2. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE WISDOT ELECTRICAL FIELD UNIT TO MAKE ARRANGEMENTS. (414) 266-1170.
3. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
4. INSTALL CABINET BASE 6" ABOVE ROADWAY ELEVATION.
5. ALL LUMINAIRES ARE LED-C UNLESS OTHERWISE NOTED.

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT, 1" NONMETALLIC
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 35'-55' ARM
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"
- XX SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- RA RED ARROW
- YA YELLOW ARROW
- GA GREEN ARROW
- Y YIELD SIGN
- LANE DESIGNATION FOR INFO ONLY
- EVP DETECTOR HEAD
- X EVP DESIGNATOR
- RA XX RADAR DETECTOR

N



EVP CONSTRUCTION NOTES:

1. INSTALL THE TRAFFIC SIGNAL EMERGENCY VEHICLE PRE-EMPTION DETECTOR CABLE TO RUN CONTINUOUSLY (WITHOUT SPLICES) FROM THE CABINET TO THE DETECTOR HEADS. MOUNT THE EVP DETECTOR HEADS AND WIRE THEM PER MANUFACTURER INSTRUCTIONS.
2. THE DEPARTMENT WILL DETERMINE THE EXACT LOCATION OF THE EVP DETECTORS TO ENSURE THAT THE INSTALLATION DOES NOT CREATE A SIGHT OBSTRUCTION.
3. ALL EVP DETECTOR CABLE SHALL BE ROUTED THROUGH PROPOSED SIGNAL BASES, PULL BOXES, AND CONDUIT AS INDICATED. PROVIDE ENOUGH CABLE TO ALLOW 10 FEET OF SLACK IN THE CABINET, IN EACH PULL BOX, AND IN THE SIGNAL POLE HANDHOLE.
4. FOR A CABINET THAT IS NOT OPERATING THE SIGNAL, CABINET WIRING WILL BE DONE BY THE CONTRACTOR. THE CONTRACTOR SHALL INSTALL AND TERMINATE THE EVP CABLE AS DESCRIBED AND SHALL LABEL EACH CABLE AS NOTED ON THE PLAN SHEETS (I.E. EVP A-B-C-D).

MONOTUBE STRUCTURE NUMBERS
SB3 = S-67-1390
SB7 = S-67-1391

TRAFFIC CONTROL SIGNAL
STH 190 WB OFF RAMP & CTH F
CITY OF PEWAUKEE
WAUKESHA COUNTY

SIGNAL NO. S67-0625 CABINET TYPE: TS2 CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
DATE 10/17/16 David A. Brandon, P.E.
REGION TRAFFIC ENGINEER

APPROVED
DATE 10/26/16 Joanna L. Bush
STATE TRAFFIC ENGINEER

REGION CONTACT: P. VIRK
DESIGNED BY: S. WAGNER
REVISED BY:

PAGE 1 OF 4

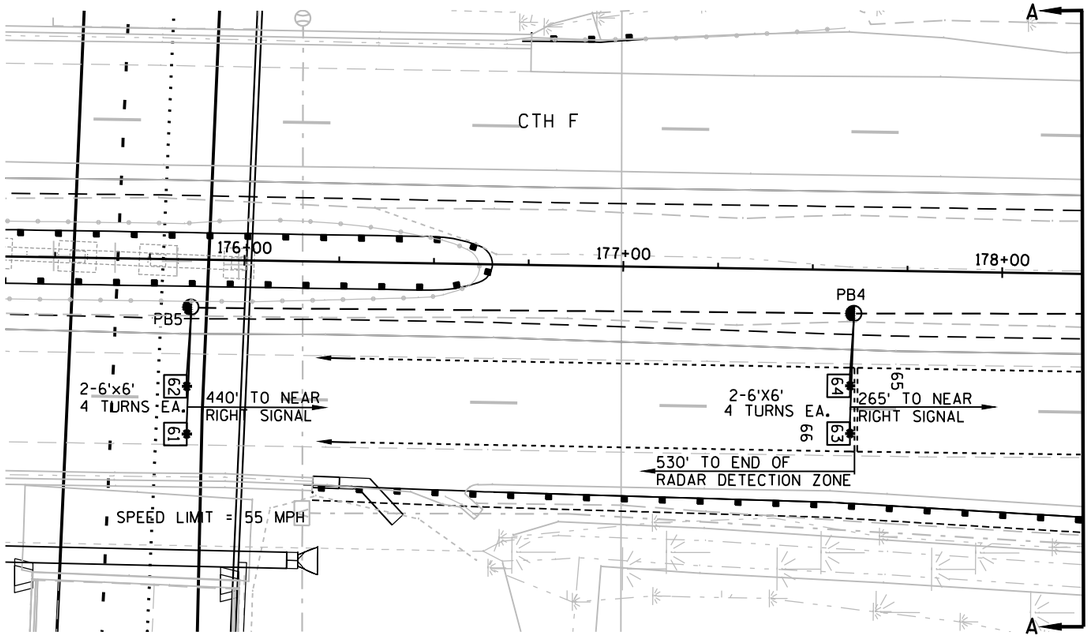
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET 107	E

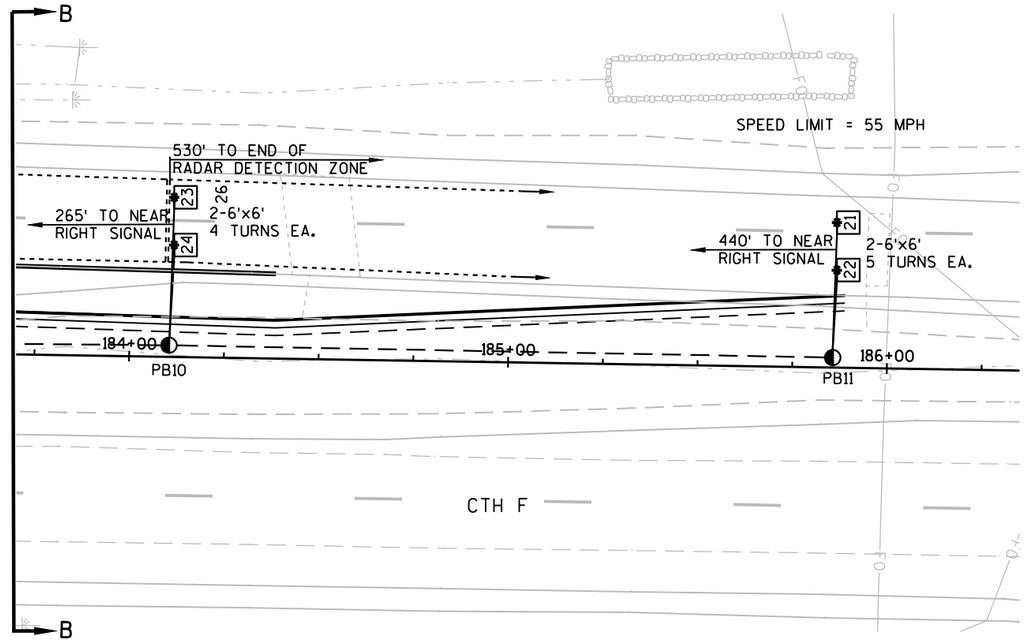
FILE NAME : N:\PDS\C3D\CAD\20251300\SIG\S67-0625\S67-0625.DWG
LAYOUT NAME - S67-0625_PG1
PLOT DATE : 10/28/2016 9:45 AM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

N





TRAFFIC CONTROL SIGNAL
STH 190 WB OFF RAMP & CTH F
CITY OF PEWAUKEE
WAUKESHA COUNTY

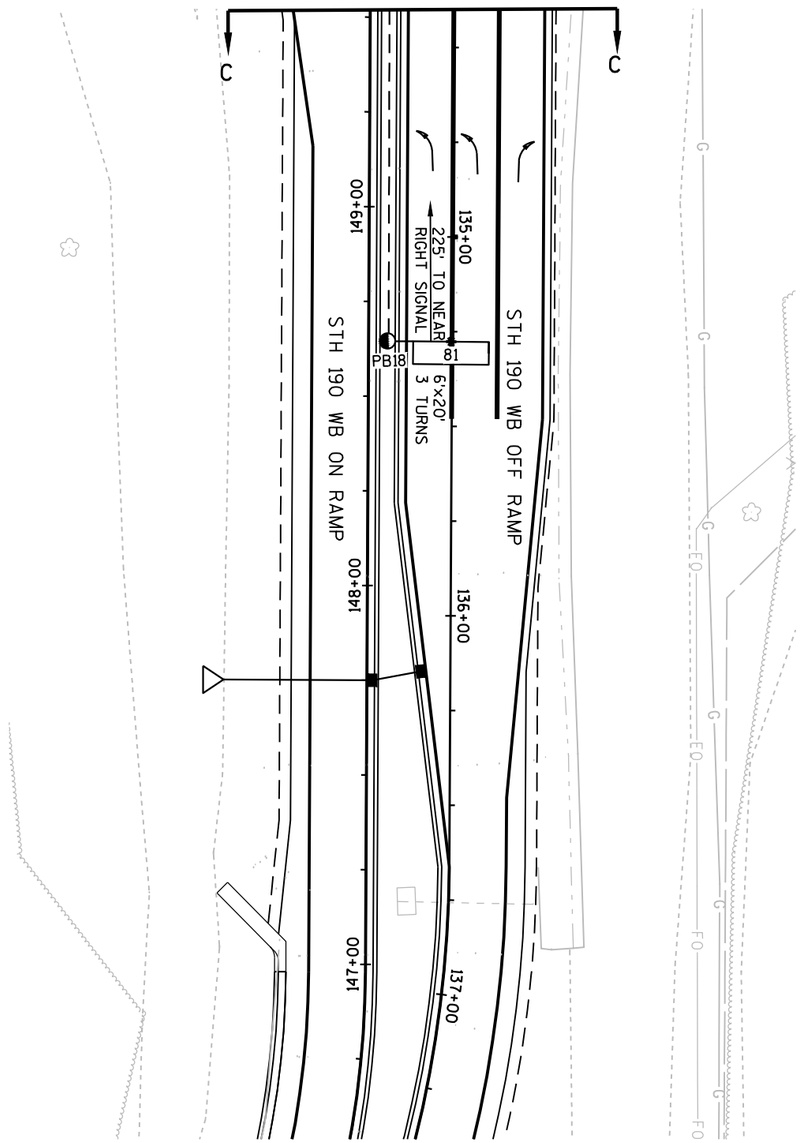
SIGNAL NO. S67-0625

REGION CONTACT: P. VIRK
DESIGNED BY: S. WAGNER
REVISED BY:

PAGE 2 OF 4

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET 108	E

2



TRAFFIC CONTROL SIGNAL
STH 190 WB OFF RAMP & CTH F
CITY OF PEWAUKEE
WAUKESHA COUNTY

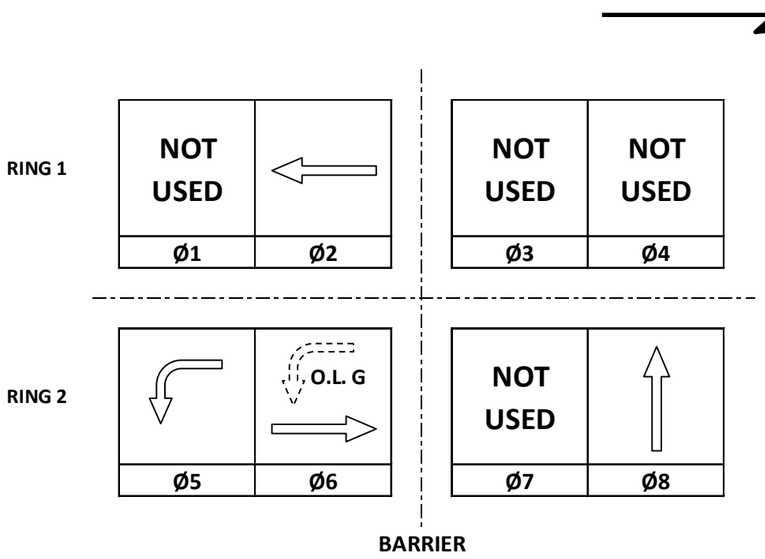
SIGNAL NO. S67-0625

REGION CONTACT: P. VIRK
DESIGNED BY: S. WAGNER
REVISED BY:

PAGE 3 OF 4

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET 109	E

	HEAD NUMBERS	FLASH
Ø1		
Ø2	5,6,7	R
Ø3		
Ø4		
Ø5	8,9	R ←
Ø6	1,2,3,4	R
Ø7		
Ø8	10,11,12	R
Ø2P		
Ø4P		
Ø6P		
Ø8P		
OLE		
OLF		
OLG	8,9	-
OLH		



CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1				
2	X	6	MIN	X
3				
4				
5		2		X
6	X	2	MIN	X
7				
8				X

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	A	B	C	D
MOVEMENT	←	← O.L. G →		↑
PHASE	2+5	6+2		8

AFTER PREEMPTION SEQUENCE 2+5 OR 6+2, CONTROLLER SHALL RETURN TO PHASES 2+6.
AFTER PREEMPTION SEQUENCE 8, CONTROLLER SHALL RETURN TO PHASE 8

TYPE OF INTERCONNECT/COMMUNICATION	
NONE	
CLOSED LOOP	
TWISTED PAIR	
FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	X
RADIO	
CELL MODEM	

TYPE OF COORDINATION	
NONE	X
TBC	
TRAFFIC RESPONSIVE	
ADAPTIVE	
*LOCATION OF MASTER CONTROLLER NO: S-	
SIGNAL SYSTEM NO: SS-	

TYPE OF LIGHTING	
BY OTHER AGENCY	
IN TRAFFIC CABINET	X
IN SEPARATE DOT LIGHTING CABINET	

TYPE OF PRE-EMPT	
NONE	
RAILROAD	
EMERGENCY VEHICLE	X
GTT	X
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTION	

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13	19	17	23	21	27	25	31	29	DETECTOR INPUT
PLAN LOOP DETECTOR*(S)	21	23	51	61	63	81	83	85	65	25							PLAN LOOP DETECTOR*(S)
CALLED PHASE	2	2	5	6	6	8	8	8	6	2							CALLED PHASE
CALL OPTION	X	X	X	X	X		X	X	X	X							CALL OPTION
DELAY TIME																	DELAY TIME
EXTENTION OPTION	X	X	X	X	X	X	X	X	X	X							EXTENTION OPTION
EXTEND TIME						X											EXTEND TIME
USE ADDED INITIAL	X	X		X	X												USE ADDED INITIAL
CROSS SWITCH PHASE			6														CROSS SWITCH PHASE

DETECTOR INPUT	4	2	8	6	12	10	16	14	20	18	24	22	28	26	32	30	DETECTOR INPUT
PLAN LOOP DETECTOR*(S)	22	24	52	62	64	82	84		66	26							PLAN LOOP DETECTOR*(S)
CALLED PHASE	2	2	5	6	6	8	8		6	2							CALLED PHASE
CALL OPTION	X	X	X	X	X	X	X		X	X							CALL OPTION
DELAY TIME																	DELAY TIME
EXTENTION OPTION	X	X	X	X	X	X	X		X	X							EXTENTION OPTION
EXTEND TIME																	EXTEND TIME
USE ADDED INITIAL	X	X		X	X												USE ADDED INITIAL
CROSS SWITCH PHASE			6														CROSS SWITCH PHASE

STH 190 WB OFF RAMP & CTH F
CITY OF PEWAUKEE
WAUKESHA COUNTY

SIGNAL NO: S67-0625 CABINET TYPE: TS2
CONTROLLER TYPE: ECONOLITE
DATE: 10-2016 PAGE NO. 4 OF 4

PROJECT ID:	2025-13-71
INTERSECTION:	STH 190 WB OFF RAMP & CTH F

Signal Wire Color Coding	BLK - black	RED - red	GRN - green
	WHT - white	BLU - blue	ORG - orange

CB1 TO	AWG14 # OF CONDUCTORS	HEAD NO.	SIGNAL INDICATION WIRE COLOR						
			RED	YELLOW	GREEN	<RED>	<YELLOW>	<GREEN>	<FLASHING YELLOW>
SB1	12	1	RED	ORG	GRN				
		8				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT
SB2	7	4	RED	ORG	GRN				
SB3	12	6	RED	ORG	GRN				
		7	RED	ORG	GRN				
		9				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT
SB4	7	11	RED				ORG	GRN	
SB5	7	12	RED				ORG	GRN	
SB6	7	5	RED	ORG	GRN				
SB7	7	2	RED	ORG	GRN				
		3	RED	ORG	GRN				
SB8	7	10	RED	ORG	GRN				

Equipment grounding conductor 10 AWG Green XLP

From	To
CB1	SB1
SB1	SB2
SB2	SB3
SB3	SB4
SB4	SB5
SB5	SB6
SB6	SB7
SB7	SB8
SB8	CB1

Pull Box Bonding Jumper 10 AWG Green XLP

From	To
PB1	CB1
PB2	SB1
PB3	SB2
PB6	SB3
PB7	SB4
PB8	SB6
PB9	SB10
PB12	SB7
PB13	SB8
PB14	SB7
PB15	CB1
PB16	CB1
PB19	CB1

Lighting UF #10 w/ground

From	To
CB1	SB9
CB1	SB11
SB11	SB10

EVP Cable

From	To
CB1	SB3 (HEAD A)
CB1	SB7 (HEAD B)
CB1	SB5 (HEAD D)

Radar Detection Cable

From	To
CB1	(RA1) SB3
CB1	(RA2) SB7

*Use the white conductor in the cable assembly as the grounded conductor for all traffic signal indications
*Ensure the grounded conductor in the feeder cable and the pole cables are both 18" longer than the ungrounded conductors.
*At the signal bases, connect one terminal from the pedestrian push buttons to the color indicated in the chart. Connect the other terminal to the grounded conductor.
*Reconnect the grounding conductors wherever the circuit has been interrupted to ensure the grounding circuit is complete.

LEGEND

NONMETALLIC INTERCONNECT CONDUIT 2", UNLESS OTHERWISE NOTED

COMMUNICATIONS VAULT

CONTROL CABINET

PULL BOX, 24" X 42"

N

STH 190

PT: 113+41.23

I/C PB101

3-2" HDPE FO I/C

INSTALL FIBER OPTIC TRACER CABLE

PT: 113+34.55

112

114

116

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE WISDOT ELECTRICAL FIELD UNIT TO MAKE ARRANGEMENTS. (414) 266-1170.

2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.

3. FIBER OPTIC WARNING TAPE IS REQUIRED WITH CONDUIT INSTALLATION.

4. PROPOSED PAVEMENT MARKING, PROPOSED TRAFFIC SIGNALS AND STORM SEWER SHOWN GREY SHADED FOR PLAN CLARITY.

TRAFFIC CONTROL INTERCONNECT
STH 190 WB OFF RAMP & CTH F
CITY OF PEWAUKEE
WAUKESHA COUNTY

SIGNAL NO. S67-0625

REGION CONTACT: P. VIRK
DESIGNED BY: S. WAGNER
REVISED BY:

PAGE 1 OF 10

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC SIGNAL INTERCONNECT PLAN	SHEET 112	E

2

LEGEND

NONMETALLIC INTERCONNECT CONDUIT 2", UNLESS OTHERWISE NOTED

COMMUNICATIONS VAULT

CONTROL CABINET

PULL BOX, 24" X 42"

N

SIGN

SIGN

POST

STH 190

116

118

120

122

3-2" HDPE FO I/C

INSTALL FIBER OPTIC TRACER CABLE

3-2" HDPE FO I/C

I/C PB102

HUNTERS RIDGE RD.

MH

TRAFFIC CONTROL INTERCONNECT
STH 190 WB OFF RAMP & CTH F
CITY OF PEWAUKEE
WAUKESHA COUNTY

SIGNAL NO. S67-0625

REGION CONTACT: P. VIRK
DESIGNED BY: S. WAGNER
REVISED BY:

PAGE 2 OF 10

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC SIGNAL INTERCONNECT PLAN	SHEET 113 E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIG\INTERCONNECT\024201_SP.DWG
LAYOUT NAME - ****

PLOT DATE : 10/13/2016 8:52 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

LEGEND

NONMETALLIC INTERCONNECT CONDUIT 2", UNLESS OTHERWISE NOTED

COMMUNICATIONS VAULT

CONTROL CABINET

PULL BOX, 24" X 42"

N

POST

WELL

STH 190

122 124 126 128

INSTALL FIBER OPTIC TRACER CABLE

I/C PB103

3-2" HDPE FO I/C

122 124 126 128

SIGN

MH

POST

HUNTERS RIDGE RD.

TRAFFIC CONTROL INTERCONNECT
STH 190 WB OFF RAMP & CTH F
CITY OF PEWAUKEE
WAUKESHA COUNTY

SIGNAL NO. S67-0625

REGION CONTACT: P. VIRK
DESIGNED BY: S. WAGNER
REVISED BY:

PAGE 3 OF 10

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC SIGNAL INTERCONNECT PLAN	SHEET 114	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIG\INTERCONNECT\024201_SP.DWG
LAYOUT NAME - ****

PLOT DATE : 10/13/2016 8:52 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

LEGEND

NONMETALLIC INTERCONNECT CONDUIT 2", UNLESS OTHERWISE NOTED

COMMUNICATIONS VAULT

CONTROL CABINET

PULL BOX, 24" X 42"

N

INSTALL FIBER OPTIC TRACER CABLE

I/C PB105

3-2" HDPE FO I/C

I/C PB106

3-2" HDPE FO I/C

STH 190

128

130

132

134

INSTALL FIBER OPTIC TRACER CABLE

3-2" HDPE FO I/C

I/C PB104

128

130

132

SIGN

TRAFFIC CONTROL INTERCONNECT
STH 190 WB OFF RAMP & CTH F
CITY OF PEWAUKEE
WAUKESHA COUNTY

SIGNAL NO. S67-0625

REGION CONTACT: P. VIRK
DESIGNED BY: S. WAGNER
REVISED BY:

PAGE 4 OF 10

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC SIGNAL INTERCONNECT PLAN	SHEET 115 E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIG\INTERCONNECT\024201_SP.DWG
LAYOUT NAME - ****

PLOT DATE : 10/13/2016 8:52 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

LEGEND

NONMETALLIC INTERCONNECT CONDUIT 2", UNLESS OTHERWISE NOTED

COMMUNICATIONS VAULT

CONTROL CABINET

PULL BOX, 24" X 42"

N

INSTALL FIBER OPTIC TRACER CABLE

INSTALL FIBER OPTIC TRACER CABLE

INSTALL FIBER OPTIC TRACER CABLE

I/C PB105

3-2" HDPE FO I/C

I/C PB106

3-2" HDPE FO I/C

I/C CV100

3-2" HDPE FO I/C

I/C PB107

3-2" HDPE FO I/C

3-2" HDPE FO I/C

I/C PB104

I/C PB108

3-2" HDPE FO I/C

STH 190

CTH F

132

134

136

174

TRAFFIC CONTROL INTERCONNECT
STH 190 WB OFF RAMP & CTH F
CITY OF PEWAUKEE
WAUKESHA COUNTY

SIGNAL NO. S67-0625

REGION CONTACT: P. VIRK
DESIGNED BY: S. WAGNER
REVISED BY:

PAGE 5 OF 10

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC SIGNAL INTERCONNECT PLAN	SHEET 116	E

2

2

LEGEND

NONMETALLIC INTERCONNECT CONDUIT 2", UNLESS OTHERWISE NOTED

COMMUNICATIONS VAULT

CONTROL CABINET

PULL BOX, 24" X 42"

N

UNNAMED TRIBUTARY TO SUSSEX CREEK

CTH F

178

180

182

EP: 151+03.25

BP: 132+88.52

INSTALL FIBER OPTIC TRACER CABLE

CB1
S67-0625

STH 190 WB ON RAMP

150

STH 190 WB OFF RAMP

134

TRAFFIC CONTROL INTERCONNECT
STH 190 WB OFF RAMP & CTH F
CITY OF PEWAUKEE
WAUKESHA COUNTY

SIGNAL NO. S67-0625

REGION CONTACT: P. VIRK
DESIGNED BY: S. WAGNER
REVISED BY:

PAGE 6 OF 10

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC SIGNAL INTERCONNECT PLAN	SHEET 117	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIG\INTERCONNECT\024201_SP.DWG
LAYOUT NAME - ****

PLOT DATE : 10/13/2016 8:52 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

LEGEND

NONMETALLIC INTERCONNECT CONDUIT 2", UNLESS OTHERWISE NOTED

COMMUNICATIONS VAULT

CONTROL CABINET

PULL BOX, 24" X 42"

N

BP: 138+95.63

140

138

140

STH 190

142

3-2" HDPE FO I/C

INSTALL FIBER OPTIC TRACER CABLE

138

140

142

BP: 138+25.12

140

TRAFFIC CONTROL INTERCONNECT
STH 190 WB OFF RAMP & CTH F
CITY OF PEWAUKEE
WAUKESHA COUNTY

SIGNAL NO. S67-0625

REGION CONTACT: P. VIRK
DESIGNED BY: S. WAGNER
REVISED BY:

PAGE 7 OF 10

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC SIGNAL INTERCONNECT PLAN	SHEET 118	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIG\INTERCONNECT\024201_SP.DWG
LAYOUT NAME - ****

PLOT DATE : 10/13/2016 8:53 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

LEGEND

NONMETALLIC INTERCONNECT CONDUIT 2", UNLESS OTHERWISE NOTED

COMMUNICATIONS VAULT

CONTROL CABINET

PULL BOX, 24" X 42"

N

BC: 143+99.02

144

EP: 146+20.75

146

STH 190

144

146

148

I/C PB109

INSTALL FIBER OPTIC TRACER CABLE

144

146

148

146

144

EP: 146+45.80

TRAFFIC CONTROL INTERCONNECT
STH 190 WB OFF RAMP & CTH F
CITY OF PEWAUKEE
WAUKESHA COUNTY

SIGNAL NO. S67-0625

REGION CONTACT: P. VIRK
DESIGNED BY: S. WAGNER
REVISED BY:

PAGE 8 OF 10

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC SIGNAL INTERCONNECT PLAN	SHEET 119	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIG\INTERCONNECT\024201_SP.DWG
LAYOUT NAME - ****

PLOT DATE : 10/13/2016 8:53 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

LEGEND

NONMETALLIC INTERCONNECT CONDUIT 2", UNLESS OTHERWISE NOTED

COMMUNICATIONS VAULT

CONTROL CABINET

PULL BOX, 24" X 42"

N

2

STH 190

150

152

154

3-2" HDPE FO I/C

INSTALL FIBER OPTIC TRACER CABLE

150

152

154

TRAFFIC CONTROL INTERCONNECT
STH 190 WB OFF RAMP & CTH F
CITY OF PEWAUKEE
WAUKESHA COUNTY

SIGNAL NO. S67-0625

REGION CONTACT: P. VIRK
DESIGNED BY: S. WAGNER
REVISED BY:

PAGE 9 OF 10

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC SIGNAL INTERCONNECT PLAN	SHEET 120	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIG\INTERCONNECT\024201_SP.DWG
LAYOUT NAME - ****

PLOT DATE : 10/13/2016 8:53 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

LEGEND

NONMETALLIC INTERCONNECT CONDUIT 2", UNLESS OTHERWISE NOTED

COMMUNICATIONS VAULT

CONTROL CABINET

PULL BOX, 24" X 42"

N

WETHERSFIELD RD.

PI: 157+94.06

STH 190

156

158

160

3-2" HDPE FO I/C

I/C PB110

I/C PB111

I/C CV101

INSTALL FIBER OPTIC TRACER CABLE

156

158

160

PI: 157+84.42

SIGN

TRAFFIC CONTROL INTERCONNECT
STH 190 WB OFF RAMP & CTH F
CITY OF PEWAUKEE
WAUKESHA COUNTY

SIGNAL NO. S67-0625

REGION CONTACT: P. VIRK
DESIGNED BY: S. WAGNER
REVISED BY:

PAGE 10 OF 10

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC SIGNAL INTERCONNECT PLAN	SHEET 121	E

FILE NAME : N:\PDS\C3D\CAD\20251300\SIG\INTERCONNECT\024201_SP.DWG
LAYOUT NAME - ****

PLOT DATE : 10/13/2016 8:53 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

N

80'WB' 82'WB' 84'WB' 86'WB' 88'WB' 90'WB' 92'WB' 94'WB'

STH 190 WB

80'EB' 82'EB' 84'EB' 86'EB' 88'EB' 90'EB' 92'EB' 94'EB'

STH 190 EB

STH 190

STH 164

STH 164

FOUND

T

U/C

SIGN

INL

MH

W

+40

+40

12'

12'

12'

5

3

9

5

1

12

LEGEND

1. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (WHITE)
2. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (YELLOW)
3. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (12.5' LINE, 37.5' GAP)
4. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (3' LINE, 9' GAP)
5. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 8-INCH
6. PAVEMENT MARKING CURB EPOXY
7. PAVEMENT MARKING ISLAND NOSE EPOXY (SEE S.D.D)
8. PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)
9. PAVEMENT MARKING ARROWS EPOXY TYPE 2
10. PAVEMENT MARKING ARROWS EPOXY TYPE 4
11. PAVEMENT MARKING ARROWS EPOXY TYPE 5
12. PAVEMENT MARKING WORDS EPOXY
13. PAVEMENT MARKING STOPLINE EPOXY 18-INCH
14. PAVEMENT MARKING YIELD LINE SYMBOLS EPOXY 18-INCH

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET 122	E

2

N

HIGHFIELD DR.

FIVE FIELD RDS. RD.

SIGN

SIGN

SIGN

STH 190

STH 190 WB

STH 190 EB

96'WB' 98'WB' 100'WB' 102'WB' 104'WB' 106'WB' 108'WB'

96'EB' 98'EB' 100'EB' 102'EB' 104'EB' 106'EB' 108'EB'

+12 +64 +52 +03 +50

12'

POST

POST

SIGN

SIGN

LEGEND

1. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (WHITE)
2. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (YELLOW)
3. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (12.5' LINE, 37.5' GAP)
4. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (3' LINE, 9' GAP)
5. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 8-INCH
6. PAVEMENT MARKING CURB EPOXY
7. PAVEMENT MARKING ISLAND NOSE EPOXY (SEE S.D.D)
8. PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)
9. PAVEMENT MARKING ARROWS EPOXY TYPE 2
10. PAVEMENT MARKING ARROWS EPOXY TYPE 4
11. PAVEMENT MARKING ARROWS EPOXY TYPE 5
12. PAVEMENT MARKING WORDS EPOXY
13. PAVEMENT MARKING STOPLINE EPOXY 18-INCH
14. PAVEMENT MARKING YIELD LINE SYMBOLS EPOXY 18-INCH

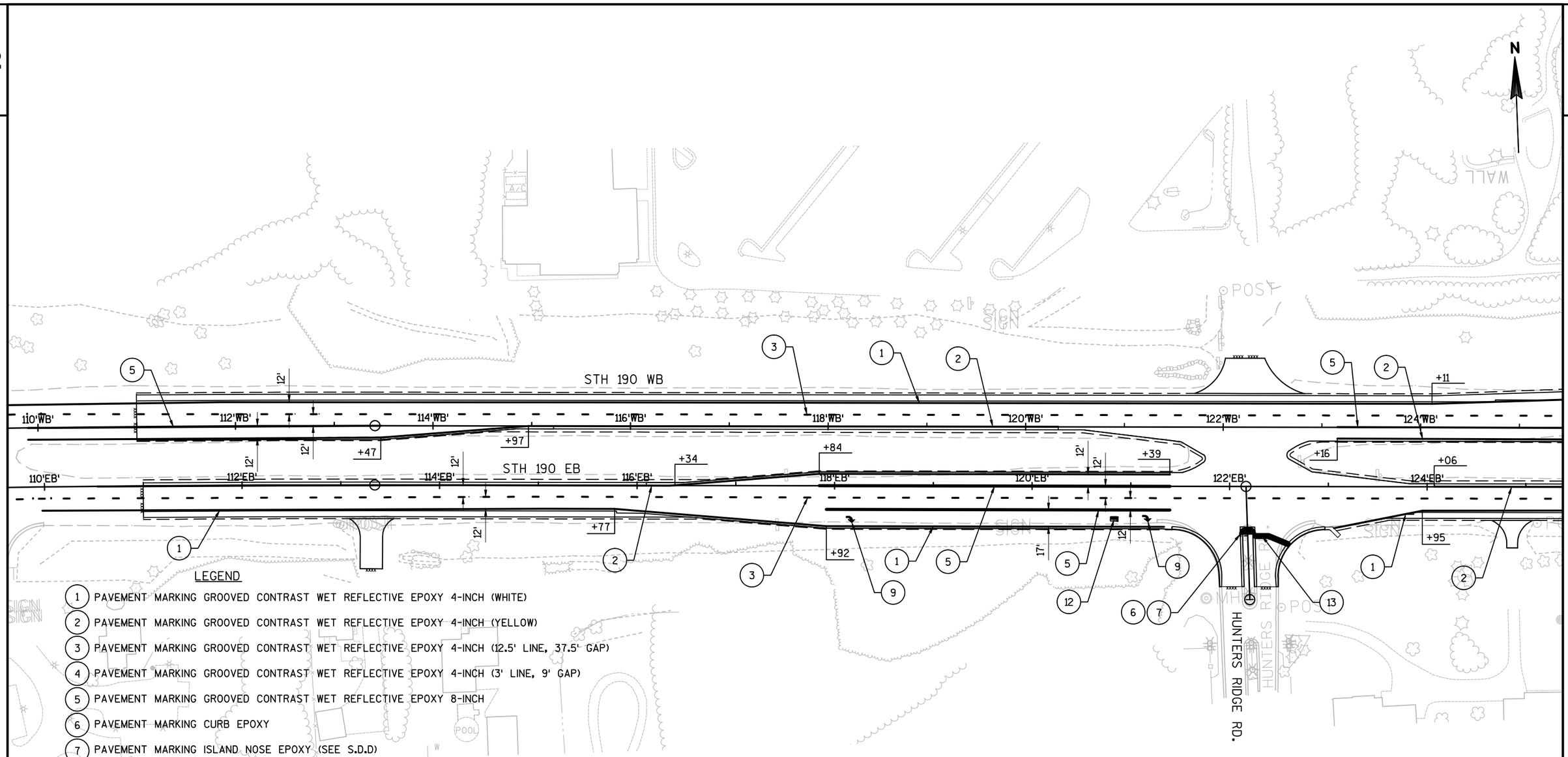
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET 123	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\024501_PM.DWG
LAYOUT NAME - 024500_PM

PLOT DATE : 10/31/2016 12:27 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2



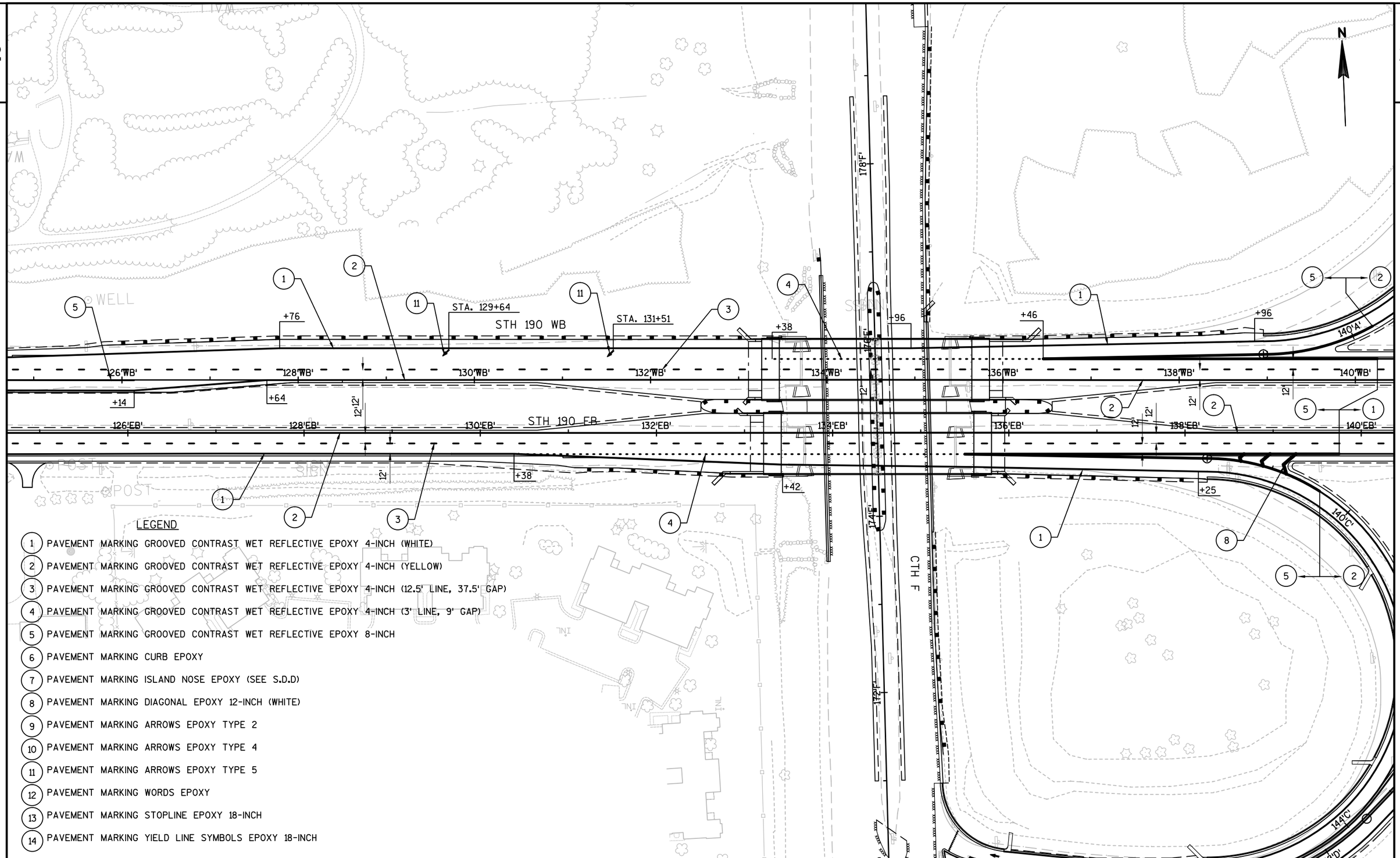
LEGEND

1. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (WHITE)
2. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (YELLOW)
3. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (12.5' LINE, 37.5' GAP)
4. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (3' LINE, 9' GAP)
5. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 8-INCH
6. PAVEMENT MARKING CURB EPOXY
7. PAVEMENT MARKING ISLAND NOSE EPOXY (SEE S.D.D)
8. PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)
9. PAVEMENT MARKING ARROWS EPOXY TYPE 2
10. PAVEMENT MARKING ARROWS EPOXY TYPE 4
11. PAVEMENT MARKING ARROWS EPOXY TYPE 5
12. PAVEMENT MARKING WORDS EPOXY
13. PAVEMENT MARKING STOPLINE EPOXY 18-INCH
14. PAVEMENT MARKING YIELD LINE SYMBOLS EPOXY 18-INCH

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET 124	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\024501_PM.DWG
LAYOUT NAME - 024501_PM
PLOT DATE : 10/31/2016 12:27 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2



LEGEND

1. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (WHITE)
2. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (YELLOW)
3. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (12.5' LINE, 37.5' GAP)
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6. PAVEMENT MARKING CURB EPOXY
7. PAVEMENT MARKING ISLAND NOSE EPOXY (SEE S.D.D)
8. PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)
9. PAVEMENT MARKING ARROWS EPOXY TYPE 2
10. PAVEMENT MARKING ARROWS EPOXY TYPE 4
11. PAVEMENT MARKING ARROWS EPOXY TYPE 5
12. PAVEMENT MARKING WORDS EPOXY
13. PAVEMENT MARKING STOPLINE EPOXY 18-INCH
14. PAVEMENT MARKING YIELD LINE SYMBOLS EPOXY 18-INCH

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET 125 E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\024501_PM.DWG
LAYOUT NAME - 024502_PM
PLOT DATE : 10/31/2016 12:27 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

LEGEND

1. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (WHITE)
2. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (YELLOW)
3. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (12.5' LINE, 37.5' GAP)
4. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (3' LINE, 9' GAP)
5. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 8-INCH
6. PAVEMENT MARKING CURB EPOXY
7. PAVEMENT MARKING ISLAND NOSE EPOXY (SEE S.D.D)
8. PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)
9. PAVEMENT MARKING ARROWS EPOXY TYPE 2
10. PAVEMENT MARKING ARROWS EPOXY TYPE 4
11. PAVEMENT MARKING ARROWS EPOXY TYPE 5
12. PAVEMENT MARKING WORDS EPOXY
13. PAVEMENT MARKING STOPLINE EPOXY 18-INCH
14. PAVEMENT MARKING YIELD LINE SYMBOLS EPOXY 18-INCH

N

UNNAMED TRIBUTARY TO SUSSEX CREEK

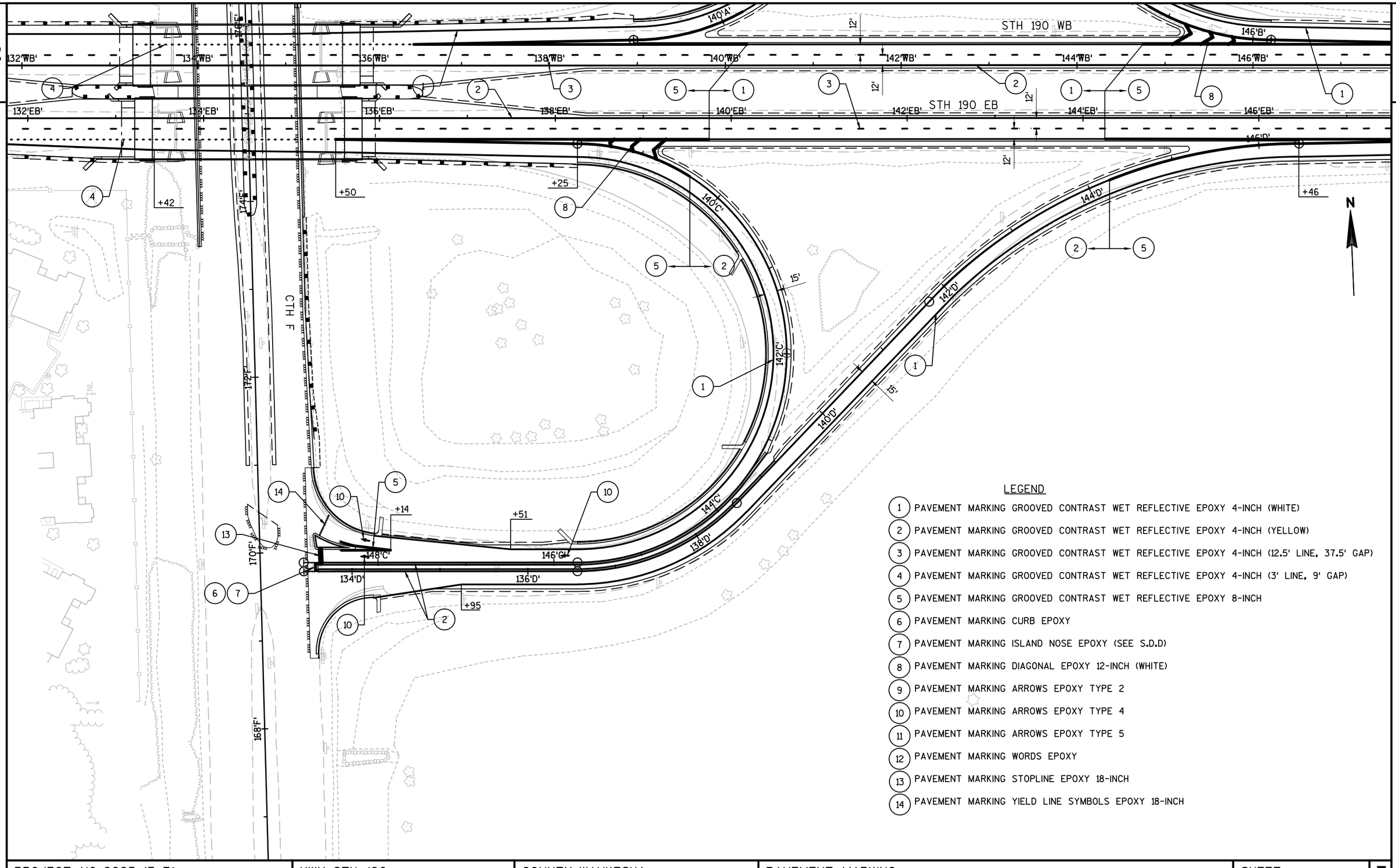
CTH F

STH 190 WB

STH 190 EB

3' LINE
9' GAP

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET 126 E



LEGEND

1. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (WHITE)
2. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (YELLOW)
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9. PAVEMENT MARKING ARROWS EPOXY TYPE 2
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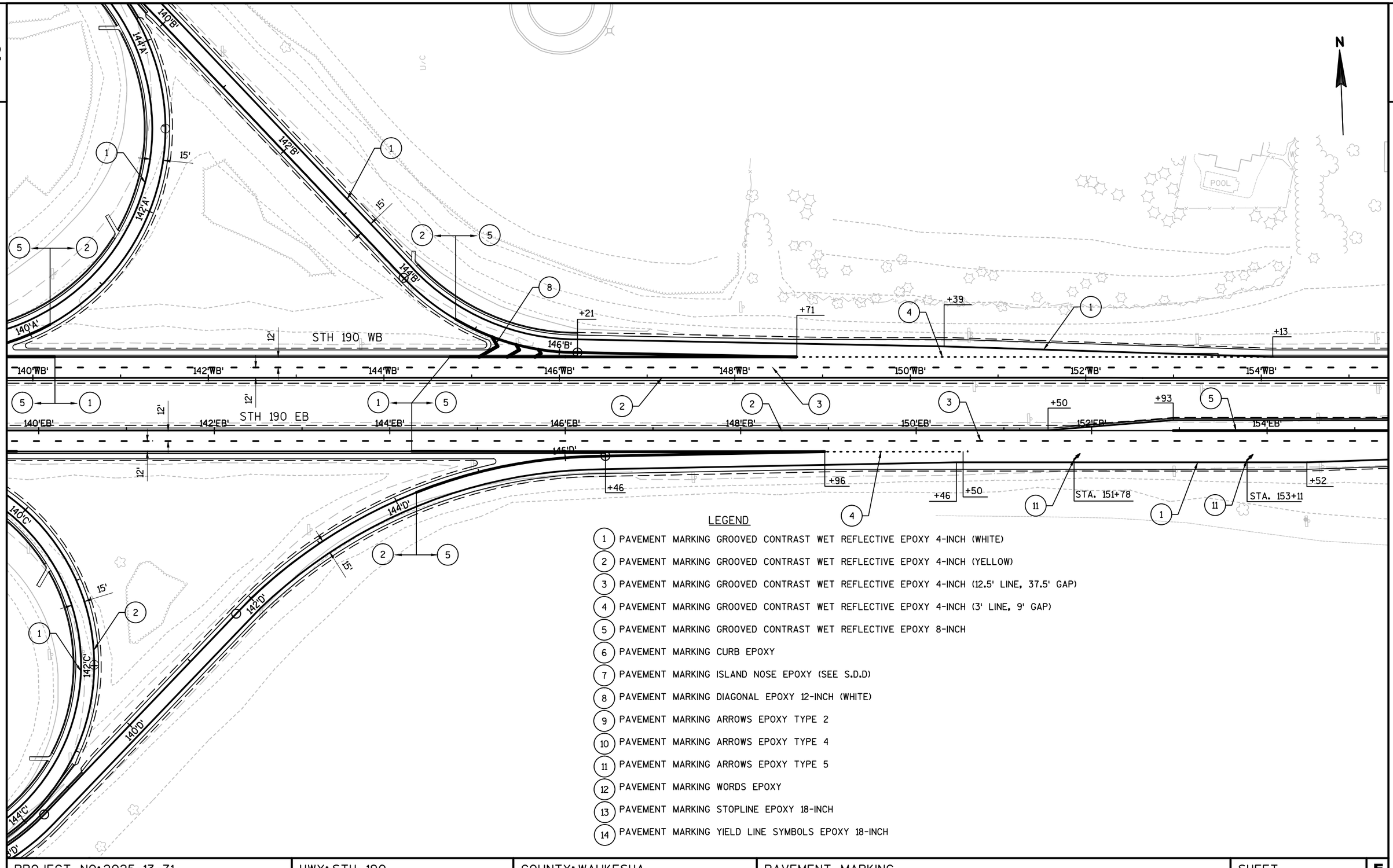
11. PAVEMENT MARKING ARROWS EPOXY TYPE 5
12. PAVEMENT MARKING WORDS EPOXY
13. PAVEMENT MARKING STOPLINE EPOXY 18-INCH
14. PAVEMENT MARKING YIELD LINE SYMBOLS EPOXY 18-INCH

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET 127	E

2



LEGEND

1. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (WHITE)
2. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (YELLOW)
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8. PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)
9. PAVEMENT MARKING ARROWS EPOXY TYPE 2
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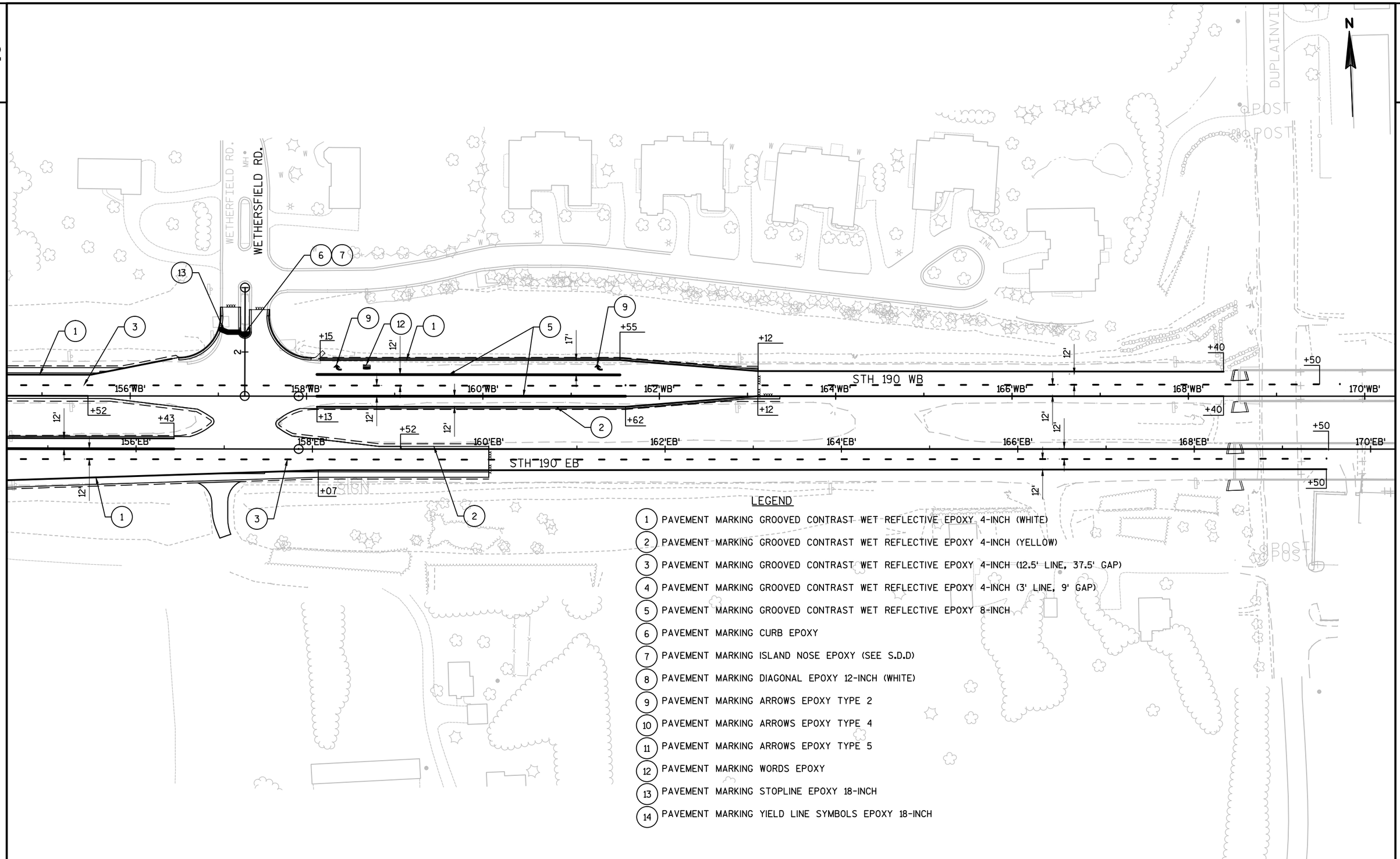
11. PAVEMENT MARKING ARROWS EPOXY TYPE 5
12. PAVEMENT MARKING WORDS EPOXY
13. PAVEMENT MARKING STOPLINE EPOXY 18-INCH
14. PAVEMENT MARKING YIELD LINE SYMBOLS EPOXY 18-INCH

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET 128	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\024501_PM.DWG
LAYOUT NAME - 024505_PM
PLOT DATE : 10/31/2016 12:28 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2



LEGEND

1. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (WHITE)
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9. PAVEMENT MARKING ARROWS EPOXY TYPE 2
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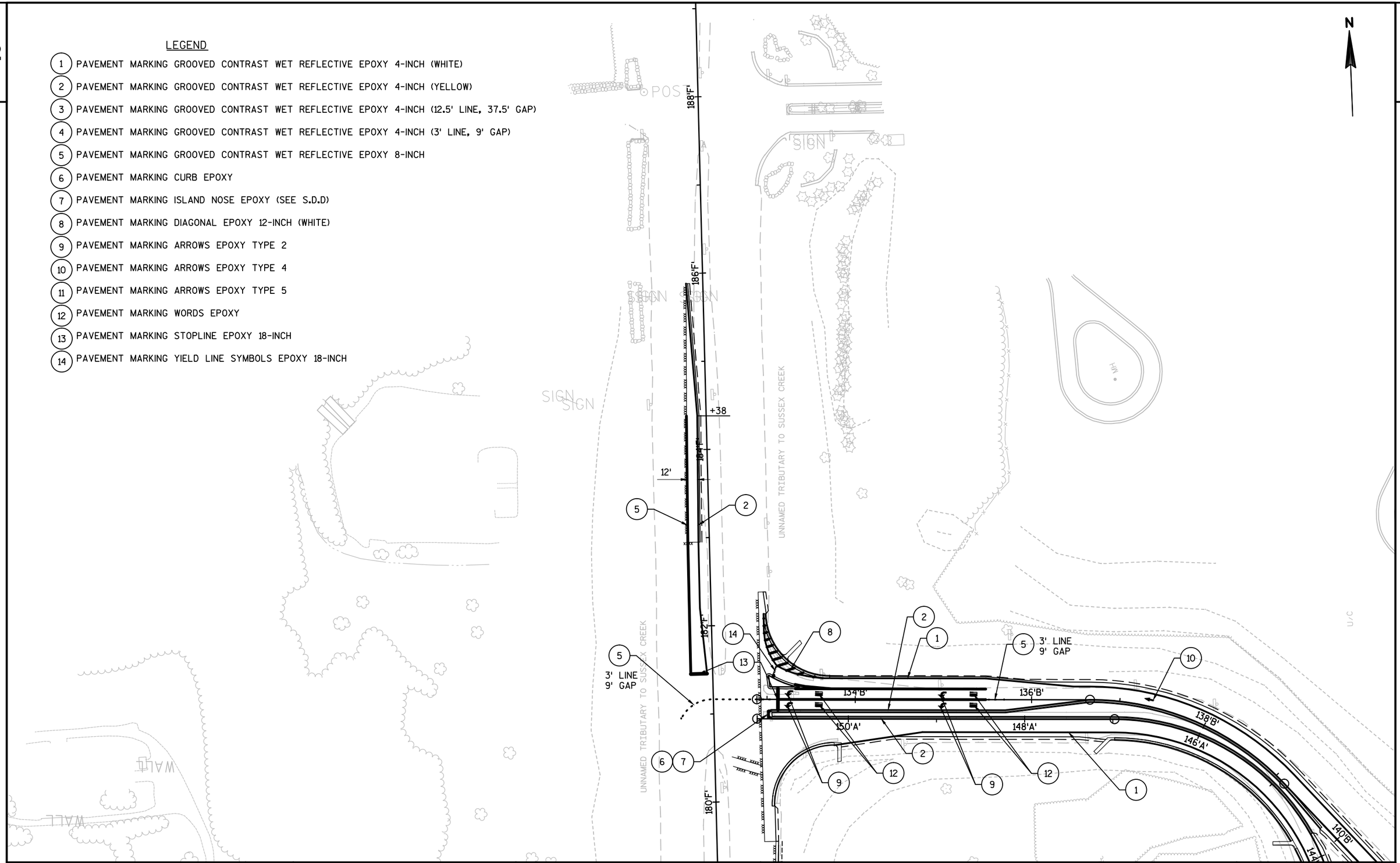
11. PAVEMENT MARKING ARROWS EPOXY TYPE 5
12. PAVEMENT MARKING WORDS EPOXY
13. PAVEMENT MARKING STOPLINE EPOXY 18-INCH
14. PAVEMENT MARKING YIELD LINE SYMBOLS EPOXY 18-INCH

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET 129	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\024501_PM.DWG
LAYOUT NAME - 024506_PM
PLOT DATE : 10/31/2016 12:28 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

LEGEND

1. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (WHITE)
2. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (YELLOW)
3. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (12.5' LINE, 37.5' GAP)
4. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH (3' LINE, 9' GAP)
5. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 8-INCH
6. PAVEMENT MARKING CURB EPOXY
7. PAVEMENT MARKING ISLAND NOSE EPOXY (SEE S.D.D)
8. PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)
9. PAVEMENT MARKING ARROWS EPOXY TYPE 2
10. PAVEMENT MARKING ARROWS EPOXY TYPE 4
11. PAVEMENT MARKING ARROWS EPOXY TYPE 5
12. PAVEMENT MARKING WORDS EPOXY
13. PAVEMENT MARKING STOPLINE EPOXY 18-INCH
14. PAVEMENT MARKING YIELD LINE SYMBOLS EPOXY 18-INCH



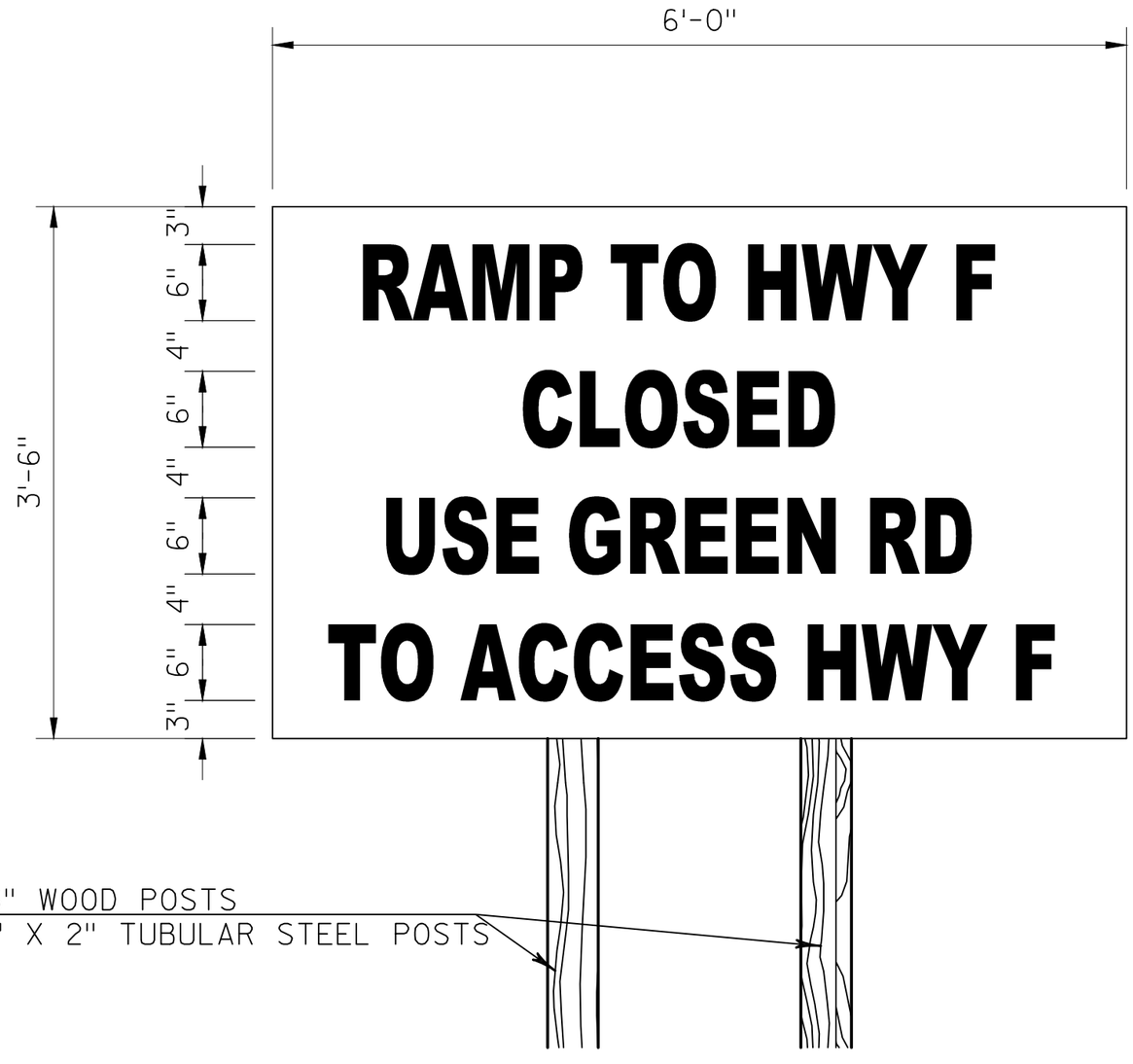
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET 130	E

2

3" RADIUS
1" BORDERS

6"
SERIES C LETTERS

FIXED MESSAGE SIGNS
ORANGE/BLACK LETTERS



PLACE IN MEDIAN & ON RIGHT IN DIVIDED HWYS

2

FIXED MESSAGE SIGNS (DETAILS SHEETS)

GENERAL NOTES:

1. ALL SIGNS TO HAVE FLUORESCENT REFLECTIVE SHEETING – REFERENCE: "WISDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION," LATEST EDITION.

2. AFTER SIGNS HAVE BEEN LOCATED IN THE FIELD, BUT BEFORE INSTALLATION, THE PROJECT ENGINEER SHALL VERIFY EACH SIGN LOCATION.

3. ALL SIGNS TO BE MOUNTED ON WOODEN POST SUPPORTS (4"x6") (FREEWAY) OR TUBULAR. STEEL POSTS OR 4X6 WOOD POSTS (NON FREEWAY). THE NUMBER OF POSTS REQUIRED FOR EACH LAYOUT IS SHOWN.

4. SIGNS ON THIS SHEET TO BE PAID UNDER THE ITEM "FIXED MESSAGE SIGNS."

5. SIGNS SHALL BE BLACK NON–REFLECTIVE MESSAGE ON ORANGE FLUORESCENT REFLECTIVE BACKGROUND PER SPEC 643 & 637.

6. ALL SIGNS SHALL HAVE CAPITAL LETTERS AND NUMERALS:
   12" CAPS SHALL BE SERIES "D"
   6" CAPS SHALL BE SERIES "C" – UNLESS OTHERWISE SHOWN

7. ALL SIGNS SHALL HAVE BORDER & RADIUS OF BORDERS AS FOLLOWS:

SIGN AREA	WIDTH OF BORDER
GREATER THAN 150 SQ FT	3"
60–150 SQ FT	2"
LESS THAN 60 SQ FT	1"

RADIUS SMALLEST OUTSIDE DIMENSION	CORNER RADIUS
> 8 FT	12"
≥ 6 FT	9"
≥ 4 FT	6"
LESS THAN 4 FT	3"

8. BEGIN XXX XX SIGNS SHALL BE SEPARATE PANELS, BUT SHALL BE CONSIDERED AS PART OF THE SIGN AND SHOULD BE REMOVED OR COVERED AFTER THEIR EFFECTIVE DATE. THE MONTH AND DAY SHALL BE AS DIRECTED BY THE ENGINEER IN THE FIELD.

9. SIGN BASE MATERIAL SHALL BE ACCORDING TO SECTION 643 & 637.

10. SIGNS TO BE IN PLACE 10 DAYS PRIOR TO CONSTRUCTION.

(X)= SIGN NUMBER

FOR PLAN SHEETS

LEGEND: FIXED MESSAGE SIGNS

- EXISTING GUIDE SIGN TO BE COVERED
- FIXED MESSAGE SIGN(S) ON WOOD POST SUPPORTS OR TUBULAR STEEL POSTS
- (XX) FIXED MESSAGE SIGN NUMBER
- (A1) CONTRACTOR SHALL COVER AS DIRECTED BY THE ENGINEER ALL ROUTE MARKINGS PERTAINING TO THE PROJECT. INCIDENTAL TO WORK ZONE TRAFFIC CONTROL SIGNING.
- [CMS] CHANGEABLE MESSAGE SIGN

NOTES: FIXED MESSAGE SIGNS

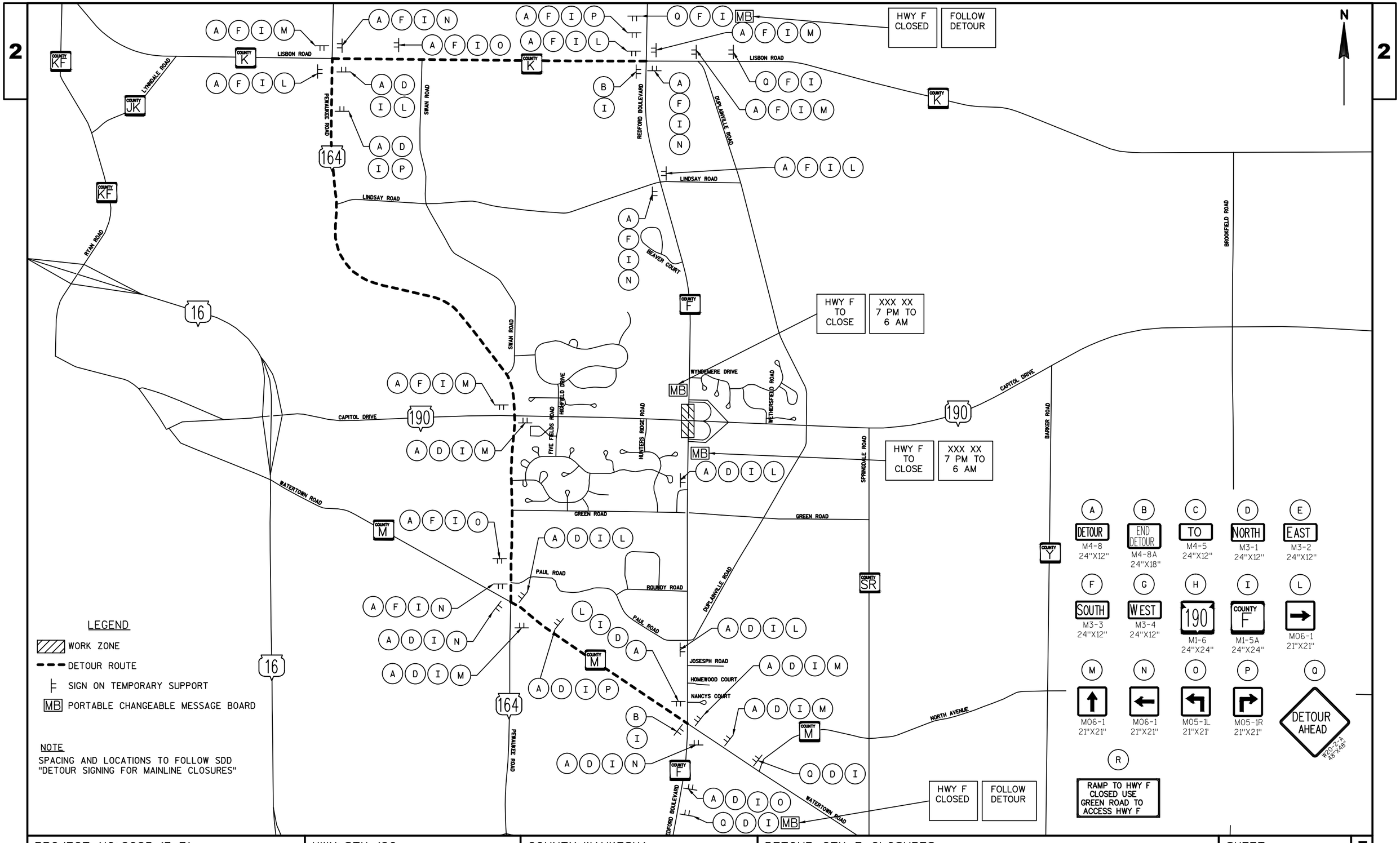
1. CONTRACTOR SHOULD LOCATE FIXED MESSAGE SIGNS A MINIMUM OF 400' FROM ANY EXISTING TYPE "I" SIGN.

2. ALL FIXED MESSAGE SIGNS SHALL BE BLACK NON–REFLECTIVE MESSAGE ON ORANGE FLORESCENT REFLECTIVE BACKGROUND PER SPEC 643 & 637.

3. SEE FIXED MESSAGE SIGNS AND SPECIAL MESSAGE SIGNS LAYOUT SHEETS FOR MORE INFORMATION.

4. COVER DETOUR SIGNING WHEN NOT IN USE. INCIDENTAL TO WORK ZONE TRAFFIC CONTROL SIGNING.

5. SIGNS TO BE PLACED 10 DAYS PRIOR TO CONSTRUCTION.



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	DETOUR CTH F CLOSURES	SHEET 133	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\027001-DT (REVISED BB).DWG
LAYOUT NAME - 027001-DT (CTH F Closures)

PLOT DATE : 10/24/2016 10:36 AM PLOT BY : VAN STRATEN, LUKE A PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 42

RAMP TO 190 EAST CLOSED

FOLLOW DETOUR

RAMP TO HWY F TO CLOSE

XXX XX

RAMP TO 190 EAST TO CLOSE

XXX XX

RAMP TO 190 EAST TO CLOSE

XXX XX

RAMP TO 190 EAST CLOSED

FOLLOW DETOUR

LISBON ROAD

LYNDALE ROAD

SWAN ROAD

REDFORD BOULEVARD

DUPLAINVILLE ROAD

LINDSAY ROAD

PEWAUKEE ROAD

RYAN ROAD

BEAVER COURT

BROOKFIELD ROAD

CAPITOL DRIVE

WYNDEMERE DRIVE

WETHERSFIELD ROAD

HUNTERS RIDGE ROAD

FIVE FIELDS ROAD

HAREFIELD DRIVE

SPRINGDALE ROAD

BARKER ROAD

GREEN ROAD

WATERTOWN ROAD

PAUL ROAD

ROUNDY ROAD

JOSESPH ROAD

HOMEWOOD COURT

NANCYS COURT

NORTH AVENUE

REDFORD BOULEVARD

LEGEND

- WORK ZONE
- DETOUR ROUTE
- SIGN ON PERMANENT SUPPORT
- MB PORTABLE CHANGEABLE MESSAGE BOARD

NOTE

SPACING AND LOCATIONS TO FOLLOW SDD "DETOUR SIGNING FOR MAINLINE CLOSURES"

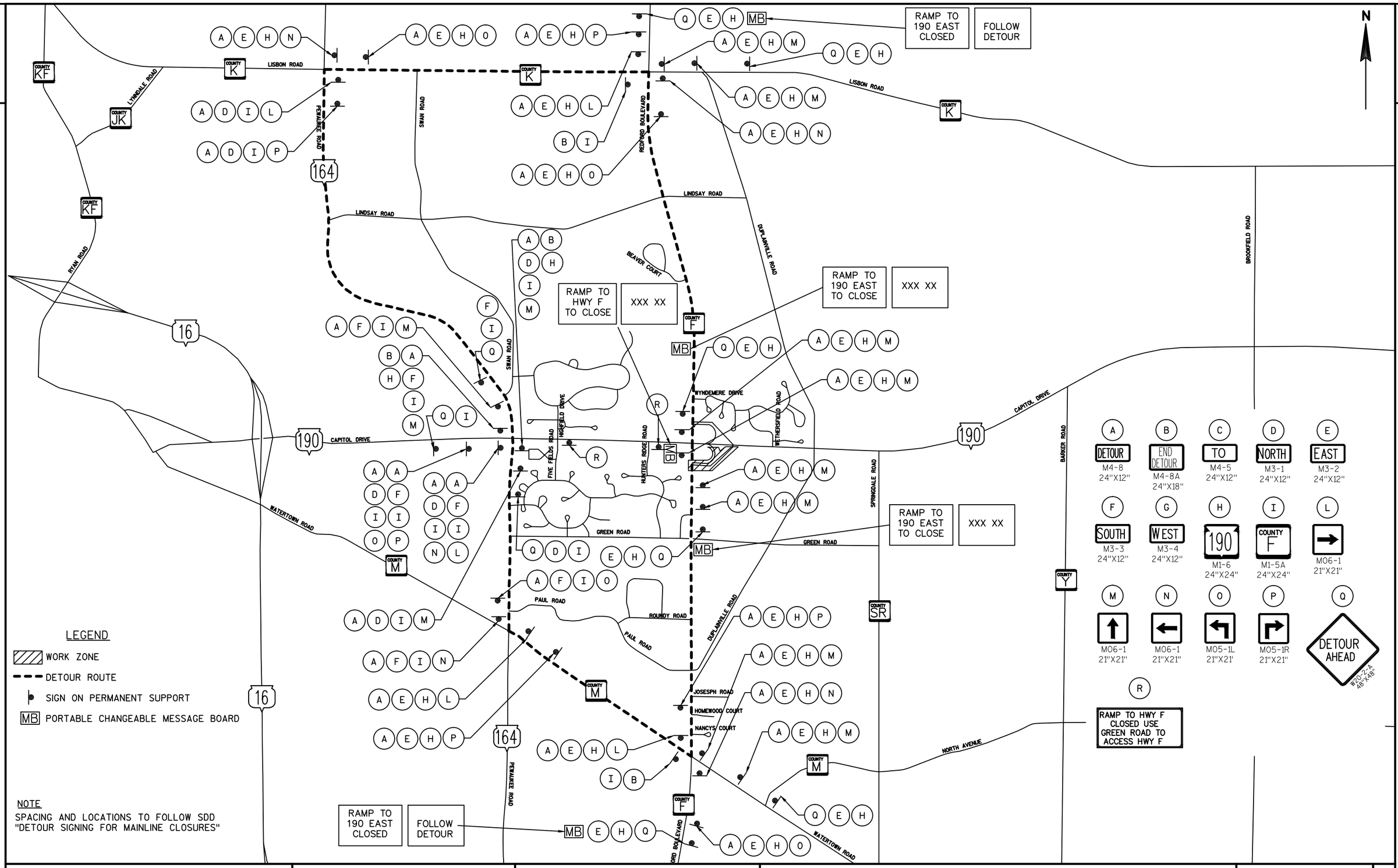
A	B	C	D	E
DETOUR M4-8 24"X12"	END DETOUR M4-8A 24"X18"	TO M4-5 24"X12"	NORTH M3-1 24"X12"	EAST M3-2 24"X12"
F	G	H	I	L
SOUTH M3-3 24"X12"	WEST M3-4 24"X12"	190 M1-6 24"X24"	COUNTY F M1-5A 24"X24"	M06-1 21"X21"
M	N	O	P	Q
M06-1 21"X21"	M06-1 21"X21"	M05-1L 21"X21"	M05-1R 21"X21"	DETOUR AHEAD W20-2-A 48"X48"

R

RAMP TO HWY F CLOSED USE GREEN ROAD TO ACCESS HWY F

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	DETOUR STAGE 1A	SHEET 134	E

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	DETOUR STAGE 2	SHEET 135	E



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	DETOUR STAGE 4	SHEET 136 E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\027001-DT (REVISED BB).DWG
LAYOUT NAME - 027004-DT (Stage 4)

PLOT DATE : 10/24/2016 10:36 AM PLOT BY : VAN STRATEN, LUKE A PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 42

2

STAGE 1A

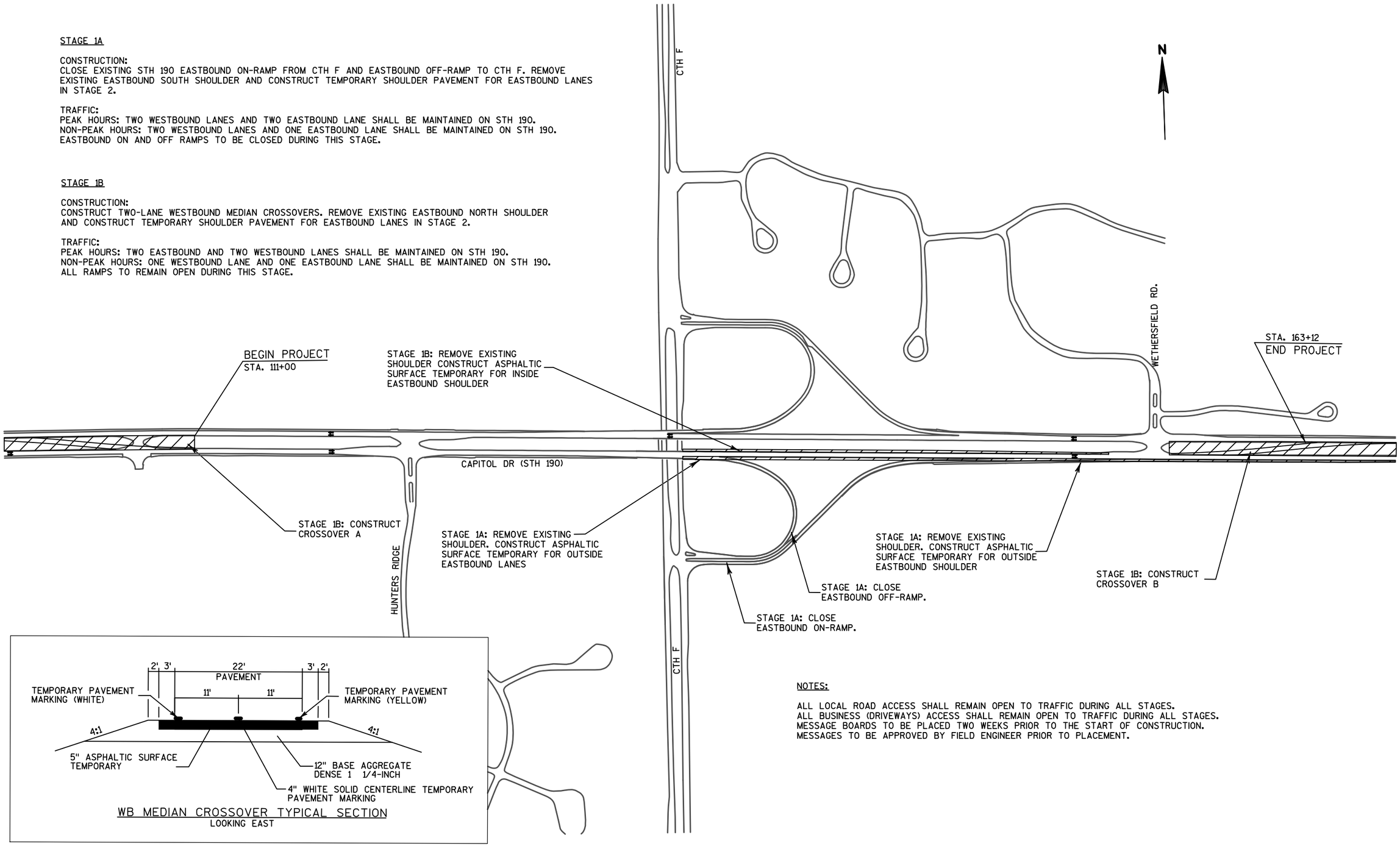
CONSTRUCTION:
CLOSE EXISTING STH 190 EASTBOUND ON-RAMP FROM CTH F AND EASTBOUND OFF-RAMP TO CTH F. REMOVE EXISTING EASTBOUND SOUTH SHOULDER AND CONSTRUCT TEMPORARY SHOULDER PAVEMENT FOR EASTBOUND LANES IN STAGE 2.

TRAFFIC:
PEAK HOURS: TWO WESTBOUND LANES AND TWO EASTBOUND LANE SHALL BE MAINTAINED ON STH 190.
NON-PEAK HOURS: TWO WESTBOUND LANES AND ONE EASTBOUND LANE SHALL BE MAINTAINED ON STH 190.
EASTBOUND ON AND OFF RAMPS TO BE CLOSED DURING THIS STAGE.

STAGE 1B

CONSTRUCTION:
CONSTRUCT TWO-LANE WESTBOUND MEDIAN CROSSOVERS. REMOVE EXISTING EASTBOUND NORTH SHOULDER AND CONSTRUCT TEMPORARY SHOULDER PAVEMENT FOR EASTBOUND LANES IN STAGE 2.

TRAFFIC:
PEAK HOURS: TWO EASTBOUND AND TWO WESTBOUND LANES SHALL BE MAINTAINED ON STH 190.
NON-PEAK HOURS: ONE WESTBOUND LANE AND ONE EASTBOUND LANE SHALL BE MAINTAINED ON STH 190.
ALL RAMPS TO REMAIN OPEN DURING THIS STAGE.



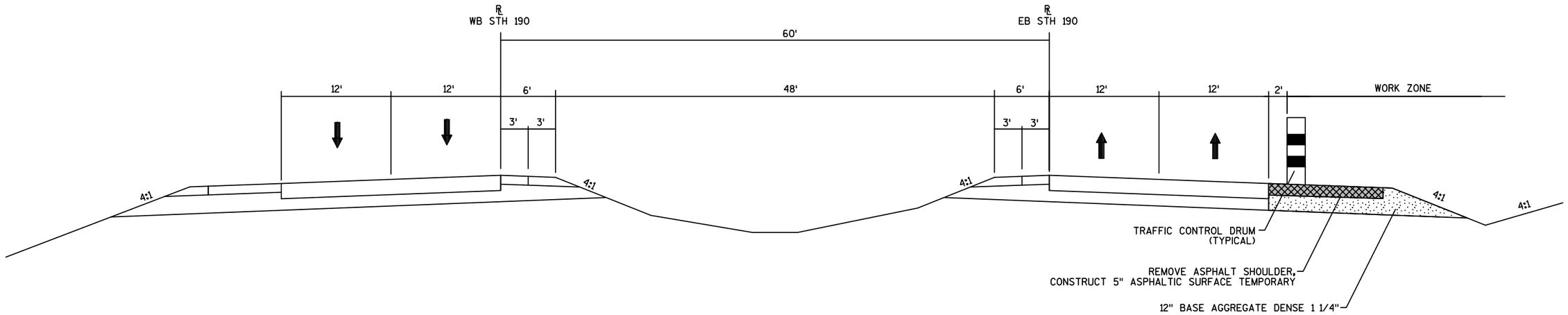
WB MEDIAN CROSSOVER TYPICAL SECTION
LOOKING EAST

NOTES:

ALL LOCAL ROAD ACCESS SHALL REMAIN OPEN TO TRAFFIC DURING ALL STAGES.
ALL BUSINESS (DRIVEWAYS) ACCESS SHALL REMAIN OPEN TO TRAFFIC DURING ALL STAGES.
MESSAGE BOARDS TO BE PLACED TWO WEEKS PRIOR TO THE START OF CONSTRUCTION.
MESSAGES TO BE APPROVED BY FIELD ENGINEER PRIOR TO PLACEMENT.

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL OVERVIEW - (STAGE 1A & 1B)	SHEET 137	E

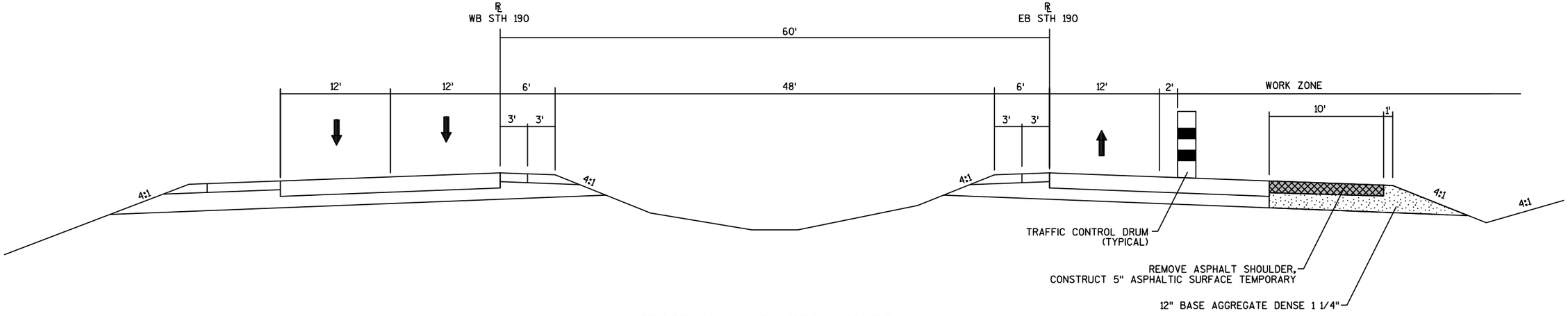
FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\026001-S2 (WB FIRST OVERVIEW).DWG
LAYOUT NAME - 026001-S2
PLOT DATE : 10/11/2016 5:29 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME : PLOT SCALE : 1 IN:435 FT
WISDOT/CADDS SHEET 42



STAGE 1A - PEAK HOURS

STH 190 MAINLINE
HUNTERS RIDGE TO WETHERSFIELD ROAD

NOTE:
EXISTING PAVEMENT MARKINGS TO BE USED DURING STAGE 1A CONSTRUCTION



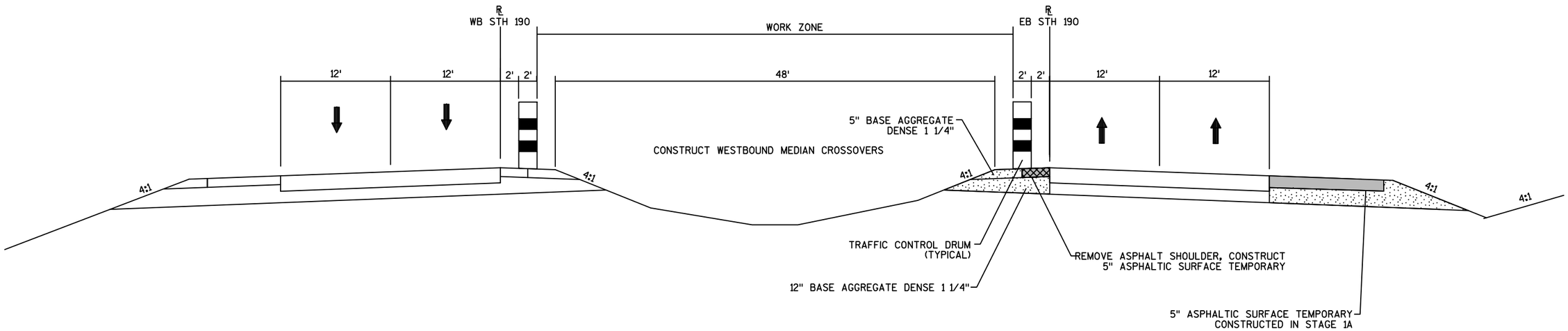
STAGE 1A - NON-PEAK HOURS

STH 190 MAINLINE
HUNTERS RIDGE TO WETHERSFIELD ROAD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	STAGE CONSTRUCTION - (STAGE 1A) TYPICAL	SHEET 138	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\026001-S1 (WB FIRST).DWG
LAYOUT NAME - 026001-S1
PLOT DATE : 10/31/2016 1:36 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME : PLOT SCALE : 1 IN:11.5 IN
WISDOT/CADDS SHEET 42

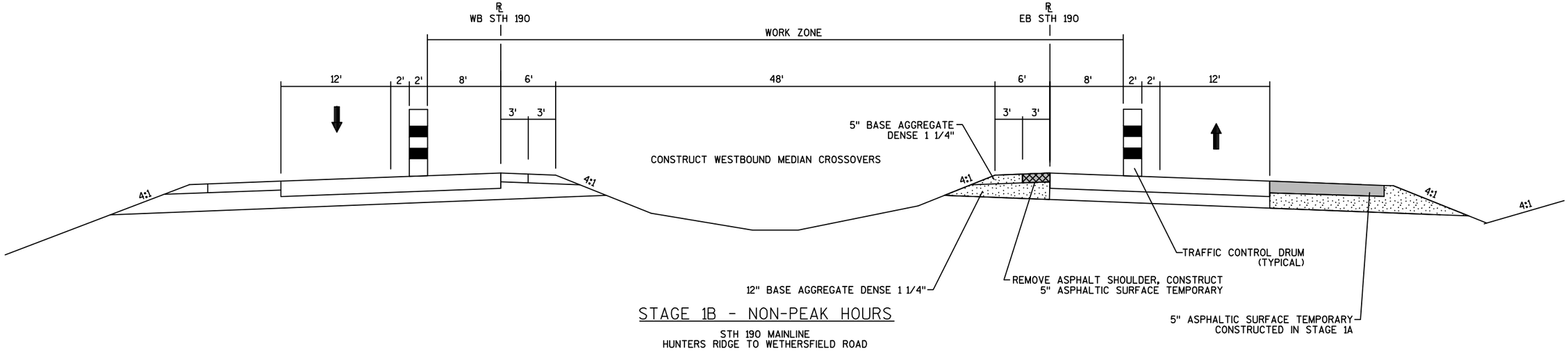
2



STAGE 1B - PEAK HOURS

STH 190 MAINLINE
HUNTERS RIDGE TO WETHERSFIELD ROAD

NOTE:
EXISTING PAVEMENT MARKINGS TO BE
USED DURING STAGE 1B CONSTRUCTION



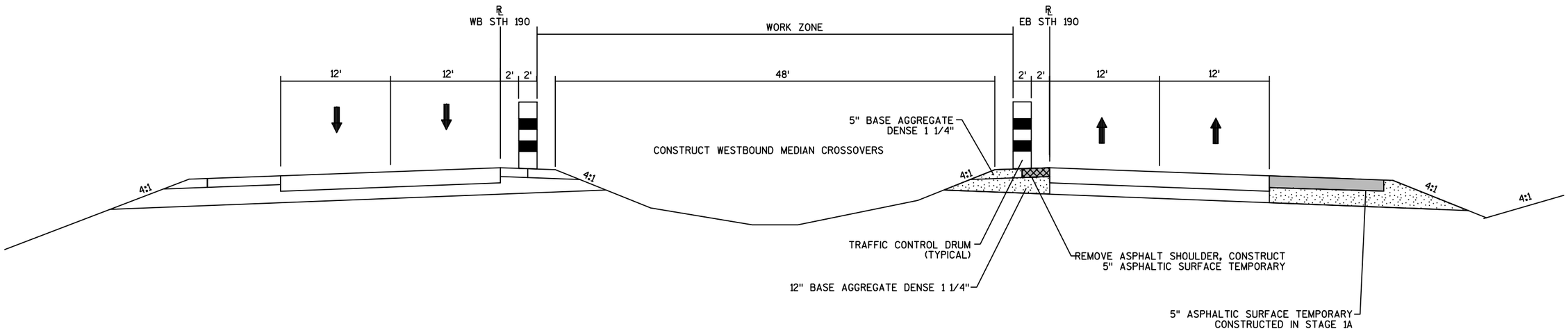
STAGE 1B - NON-PEAK HOURS

STH 190 MAINLINE
HUNTERS RIDGE TO WETHERSFIELD ROAD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	STAGE CONSTRUCTION - (STAGE 1B) TYPICAL	SHEET 139	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\026001-S1 (WB FIRST).DWG
LAYOUT NAME - 026002-S1
PLOT DATE : 10/31/2016 1:36 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME :
PLOT SCALE : 1 IN:11.5 IN
WISDOT/CADDS SHEET 42

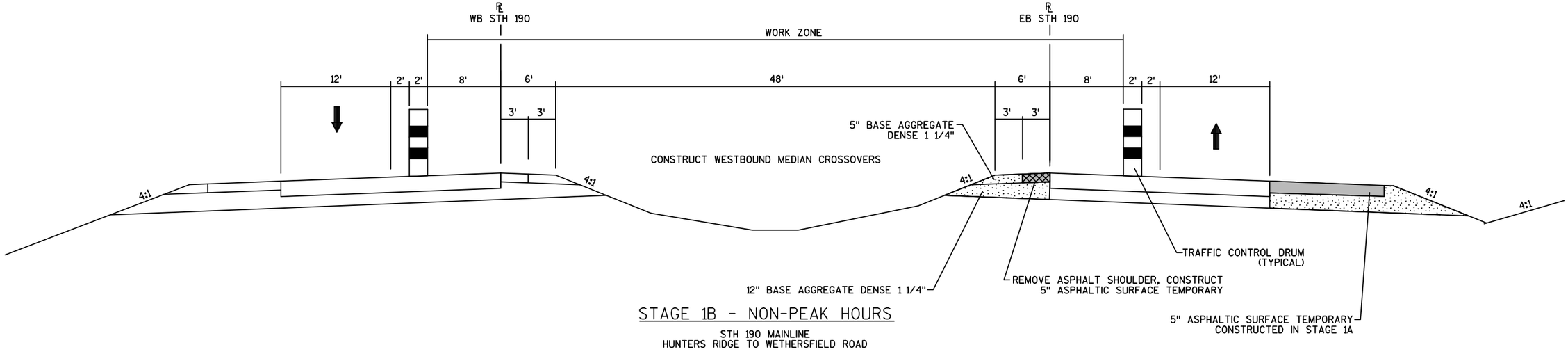
2



STAGE 1B - PEAK HOURS

STH 190 MAINLINE
HUNTERS RIDGE TO WETHERSFIELD ROAD

NOTE:
EXISTING PAVEMENT MARKINGS TO BE
USED DURING STAGE 1B CONSTRUCTION



STAGE 1B - NON-PEAK HOURS

STH 190 MAINLINE
HUNTERS RIDGE TO WETHERSFIELD ROAD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	STAGE CONSTRUCTION - (STAGE 1B) TYPICAL	SHEET 140	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\026001-S1 (WB FIRST).DWG
LAYOUT NAME - 026002-S1
PLOT DATE : 10/11/2016 4:43 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME :
PLOT SCALE : 1 IN:11.5 IN
WISDOT/CADDS SHEET 42

2

N

CTH F SB

CTH F NB

178

176

SSHA

RAMP A

STH 190 (CAPITOL DR) WB

130 132 134 136 138 140 142

50' TYP

STH 190 (CAPITOL DR) EB

100' TYP

130 132 134 136 138 140 142

END TAPER
STA. 130+60

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

25' TYP

174

172

CTH F SB

CTH F NB

RAMP C

R11-2R
48"X30"
RAMP CLOSED
TYPE III BARRICADE

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

REMOVE EXISTING SHOULDER AND BASE COURSE AND CONSTRUCT NEW SHOULDER. SEE STAGED CONSTRUCTION (STAGE 1A) TYPICALS FOR THICKNESS AND WIDTHS.

RAMP D

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 1A)	SHEET 141	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\025001-TC (STAGE 1A).DWG
LAYOUT NAME - 025002-TC (STAGE 1A)
PLOT DATE : 10/20/2016 4:40 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

N

ROAD WORK AHEAD
W20-1-A

END ROAD WORK
G20-2A
48"X24"

R11-2L
48" X 30"
ROAD CLOSED
TYPE III BARRICADE

WETHERSFIELD RD

WETHERSFIELD RD.

RAMP B

STH 190 (CAPITOL DR) WB

144 146 148 150 152 154 156 158

STH 190 (CAPITOL DR) EB

144 146 148 150 152 154 156 158

100'
TYP

SIGN

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

REMOVE EXISTING SHOULDER AND BASE COURSE
AND CONSTRUCT NEW SHOULDER. SEE STAGED CONSTRUCTION
(STAGE 1A) TYPICALS FOR THICKNESS AND WIDTHS.

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 1A)	SHEET 142	E

2

2

N

R11-2L
48" X 30"
ROAD CLOSED
TYPE III BARRICADE

STH 190 (CAPITOL DR) WB

STH 190 (CAPITOL DR) EB

160 162 164 166 168 170 172

100'
TYP

DUPLAINVILLE RD

POST

SIGN

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

END ROAD WORK
G20-2A
48"X24"

REMOVE EXISTING SHOULDER AND BASE COURSE
AND CONSTRUCT NEW SHOULDER. SEE STAGED CONSTRUCTION
(STAGE 1A) TYPICALS FOR THICKNESS AND WIDTHS.

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 1A)	SHEET 143	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\025001-TC (STAGE 1A).DWG
LAYOUT NAME - 025004-TC (STAGE 1A)
PLOT DATE : 10/20/2016 4:40 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

2

N

REMOVE EXISTING SHOULDER AND BASE COURSE
AND CONSTRUCT NEW SHOULDER. SEE STAGED CONSTRUCTION
(STAGE 1A) TYPICALS FOR THICKNESS AND WIDTHS.

STH 190 (CAPITOL DR) WB

STH 190 (CAPITOL DR) EB

RAMP A

RAMP C

RAMP D

R11-2R
48"X30"
RAMP CLOSED
TYPE III BARRICADE

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

R11-2R
48"X30"
RAMP CLOSED
TYPE III BARRICADE

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

25'
TYP

CTH F NB

CTH F SB

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 1A)	SHEET 144	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\025001-TC (STAGE 1A).DWG
LAYOUT NAME - 025005-TC (STAGE 1A)

PLOT DATE : 10/20/2016 4:40 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

ROAD WORK AHEAD
W20-1-A

500'

CLOSE LEFT MOST LEFT TURN LANE

450'

25' TYP

R11-2L
48"X30"
LANE CLOSED

TYPE III BARRICADE

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

N

END ROAD WORK
G20-2A
48"X24"

STH 190 (CAPITOL DR) WB

STH 190 (CAPITOL DR) EB

80 82 84 86 88 90 92 94

50' TYP

50' TYP

+00

BEGIN TAPER
STA. 90+00

2600' 1025' 575' 1000'

500'

ROAD WORK 1 MILE
W20-1-F

LEFT LANE CLOSED 1/2 MILE
W20-55-G

LEFT LANE CLOSED 1500 FT
W20-55-B

W04-2L

STH 164 SB

STH 164 NB

ROAD WORK AHEAD
W20-1-A

1_256
1_256_12
932.75
1_256_2
925.59
1_257_20
930.80

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 1B)	SHEET 145	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\025001-TC (STAGE 1B).DWG
LAYOUT NAME - 025001-TC (STAGE 1B)

PLOT DATE : 10/20/2016 4:46 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

N

ROAD WORK AHEAD
W20-1-A

END ROAD WORK
G20-2A
48"X24"

350'

HIGHFIELD DR

SIGN

R11-2
48" X 30"
ROAD CLOSED
TYPE III BARRICADE

R3-2
24"X24"

CONSTRUCT WESTBOUND CROSSOVER
SEE CROSSOVER DETAIL SHEETS

R11-2L
48"X30"
LANE CLOSED
TYPE III BARRICADE

100'
TYP

STH 190 (CAPITOL DR) WB

96 98 100 102 104 106 108 110

50'
TYP

TAPER END
STA. 96+60

STH 190 (CAPITOL DR) EB

FIVE FIELDS RD.

ROAD WORK AHEAD
W20-1-A

END ROAD WORK
G20-2A
48"X24"

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 1B)	SHEET 146 E

2

2

N

R11-2L
48"X30"
LANE CLOSED
TYPE III BARRICADE

R3-2
24"X24"

100'
TYP

R11-2
48" X 30"
ROAD CLOSED
TYPE III BARRICADE

R3-2
24"X24"

STH 190 (CAPITOL DR) WB

112 114 116 118 120 122 124 126

STH 190 (CAPITOL DR) EB

112 114 116 118 120 122 124

100'
TYP

R11-2L
48"X30"
LANE CLOSED
TYPE III BARRICADE

R3-2
24"X24"

350'

HUNTERS RIDGE RD

R3-2
24"X24"

R11-2L
48"X30"
LANE CLOSED
TYPE III BARRICADE

END
ROAD WORK
G20-2A
48"X24"

ROAD
WORK
AHEAD
W20-1-A

POST

SIGN

POOL

WALL

LEGEND

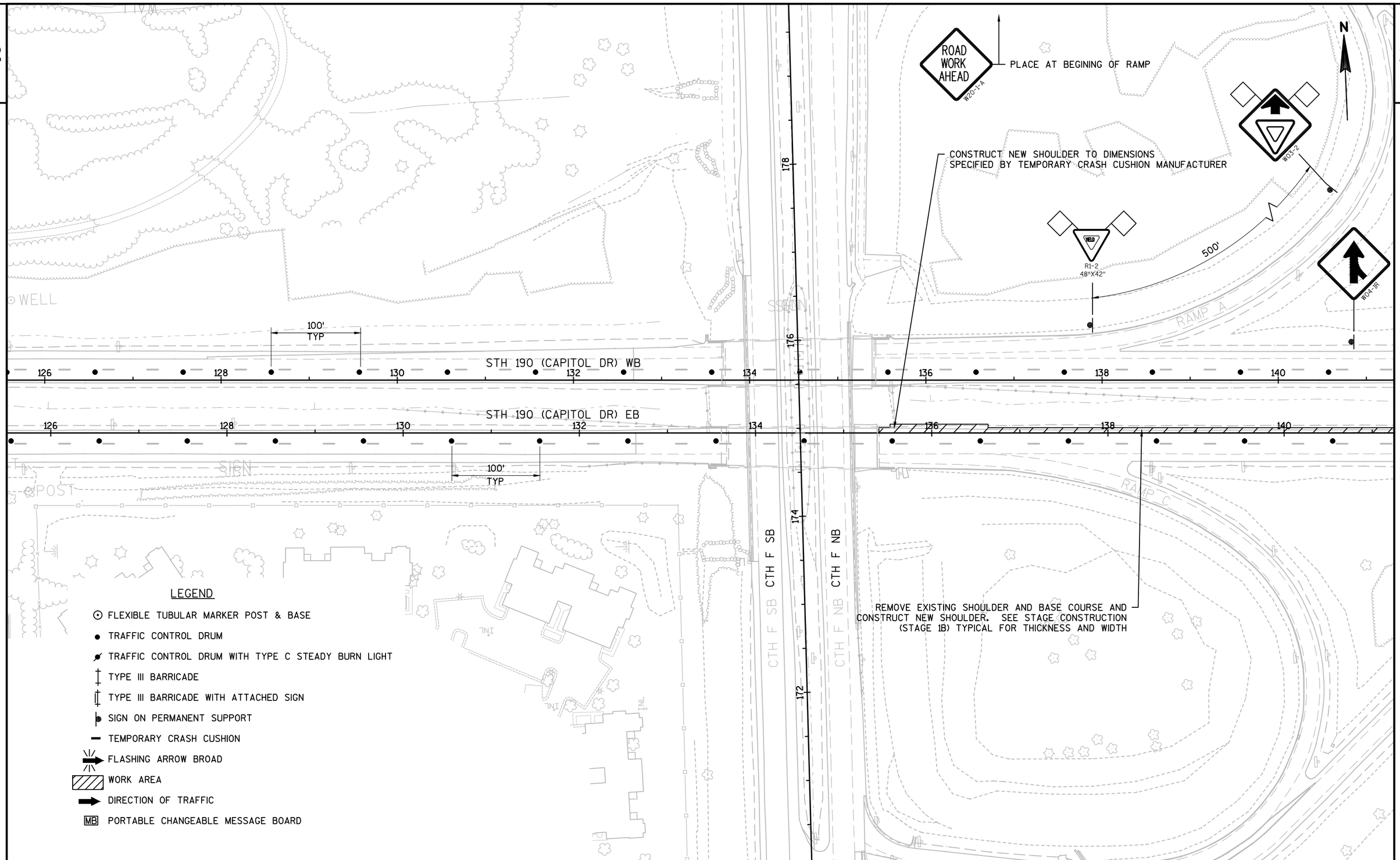
- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 1B)	SHEET 147	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\025001-TC (STAGE 1B).DWG
LAYOUT NAME - 025003-TC (STAGE 1B)

PLOT DATE : 10/20/2016 4:46 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME : PLOT SCALE : 1 IN:100 FT

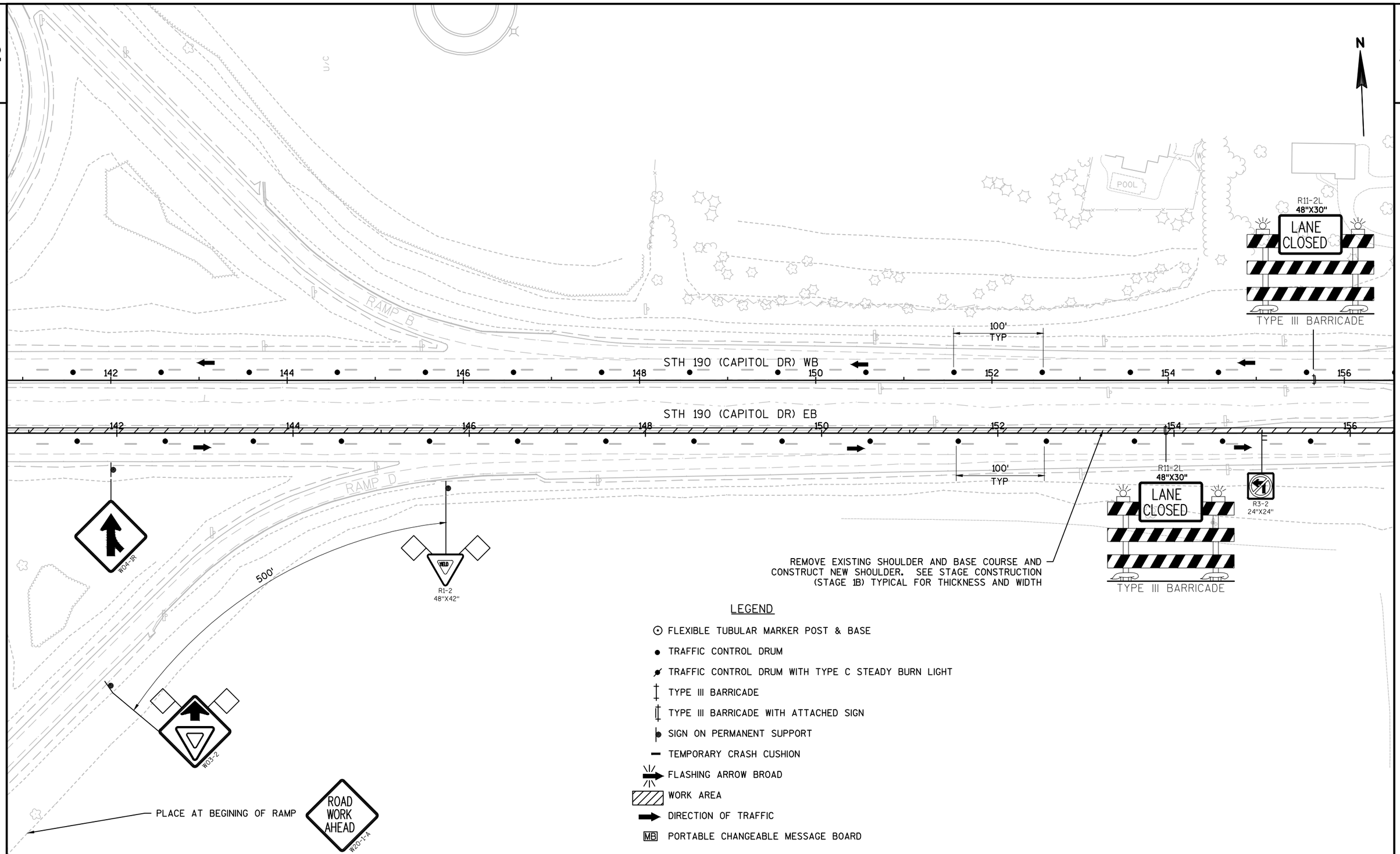
2



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 1B)	SHEET 148	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\025001-TC (STAGE 1B).DWG
LAYOUT NAME - 025004-TC (STAGE 1B)
PLOT DATE : 10/20/2016 4:46 PM
PLOT BY : VAN STRATEN, LUKE A PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2



LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 1B)	SHEET 149	E

2

CONSTRUCT WESTBOUND CROSSOVER
SEE CROSSOVER DETAIL SHEETS

N

ROAD WORK AHEAD
W20-1-A

END ROAD WORK
G20-2A
48"X24"

R3-2
24"X24"

R3-2
24"X24"

WETHERSFIELD RD

WETHERSFIELD RD.

DUPLAINVILLE RD

100'
TYP

STH 190 (CAPITOL DR) WB

158 160 162 164 166 168 170

STH 190 (CAPITOL DR) EB

158 160 162 164 166 168 170

100'
TYP

R11-2
48" X 30"
ROAD CLOSED
TYPE III BARRICADE

R11-2L
48"X30"
LANE CLOSED
TYPE III BARRICADE

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 1B)	SHEET 150	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\025001-TC (STAGE 1B).DWG
LAYOUT NAME - 025006-TC (STAGE 1A)
PLOT DATE : 10/20/2016 4:47 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME :
PLOT SCALE : 1 IN:100 FT

2

BLEACHERS

ATHLETIC FIELD

CANOPY

A/C

SIGN

PLAYGROUND

CANOPY

N

R11-2L
48"X30"
LANE CLOSED

TYPE III BARRICADE

100'
TYP

TAPER END
STA. 173+40

50'
TYP

BEGIN TAPER
STA. 180+00

50'
TYP

STH 190 (CAPITOL DR) WB

172 174 176 178 180 182 184 +00 186

STH 190 (CAPITOL DR) EB

172 174 176 178 180 182 184 186

END
ROAD WORK
G20-2A
48"X24"

POST

SIGN POST

SIGN

WELL

FOUND

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 1B)	SHEET 151	E

2

2

N

ROAD WORK AHEAD W20-1-A

W4-2L 36"X36"

550'

LEFT LANE CLOSED 1500 FT W20-5S-B

1025'

LEFT LANE CLOSED 1/2 MILE W20-5S-G

2600'

ROAD WORK 1 MILE W20-1-F

STA. 190+00

50' TYP

184 186 188 190 192 194 196

+00

STH 190 (CAPITOL DR) WB

STH 190 (CAPITOL DR) EB

MB

500'

SPRINGDALE RD.

SPRINGDALE RD

ROAD WORK AHEAD W20-1-A

A/C

SIGN

PLAYGROUND

CANOPY

SIGN POST

SEPV

FLAG POST

INL

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 1B)	SHEET 152	E

2

STAGE 2

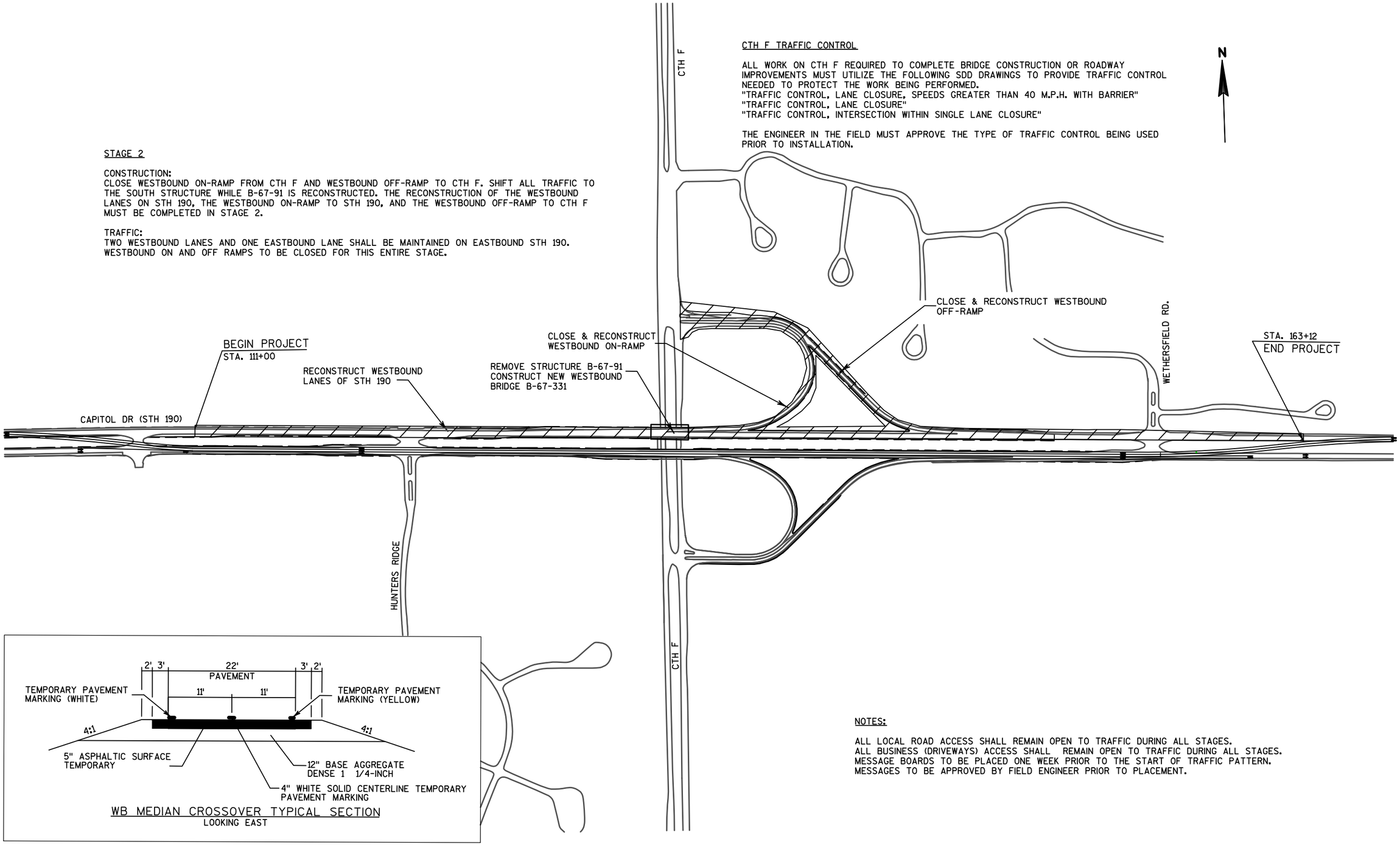
CONSTRUCTION:
CLOSE WESTBOUND ON-RAMP FROM CTH F AND WESTBOUND OFF-RAMP TO CTH F. SHIFT ALL TRAFFIC TO THE SOUTH STRUCTURE WHILE B-67-91 IS RECONSTRUCTED. THE RECONSTRUCTION OF THE WESTBOUND LANES ON STH 190, THE WESTBOUND ON-RAMP TO STH 190, AND THE WESTBOUND OFF-RAMP TO CTH F MUST BE COMPLETED IN STAGE 2.

TRAFFIC:
TWO WESTBOUND LANES AND ONE EASTBOUND LANE SHALL BE MAINTAINED ON EASTBOUND STH 190.
WESTBOUND ON AND OFF RAMPS TO BE CLOSED FOR THIS ENTIRE STAGE.

CTH F TRAFFIC CONTROL

ALL WORK ON CTH F REQUIRED TO COMPLETE BRIDGE CONSTRUCTION OR ROADWAY IMPROVEMENTS MUST UTILIZE THE FOLLOWING SDD DRAWINGS TO PROVIDE TRAFFIC CONTROL NEEDED TO PROTECT THE WORK BEING PERFORMED.
"TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER"
"TRAFFIC CONTROL, LANE CLOSURE"
"TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE"

THE ENGINEER IN THE FIELD MUST APPROVE THE TYPE OF TRAFFIC CONTROL BEING USED PRIOR TO INSTALLATION.



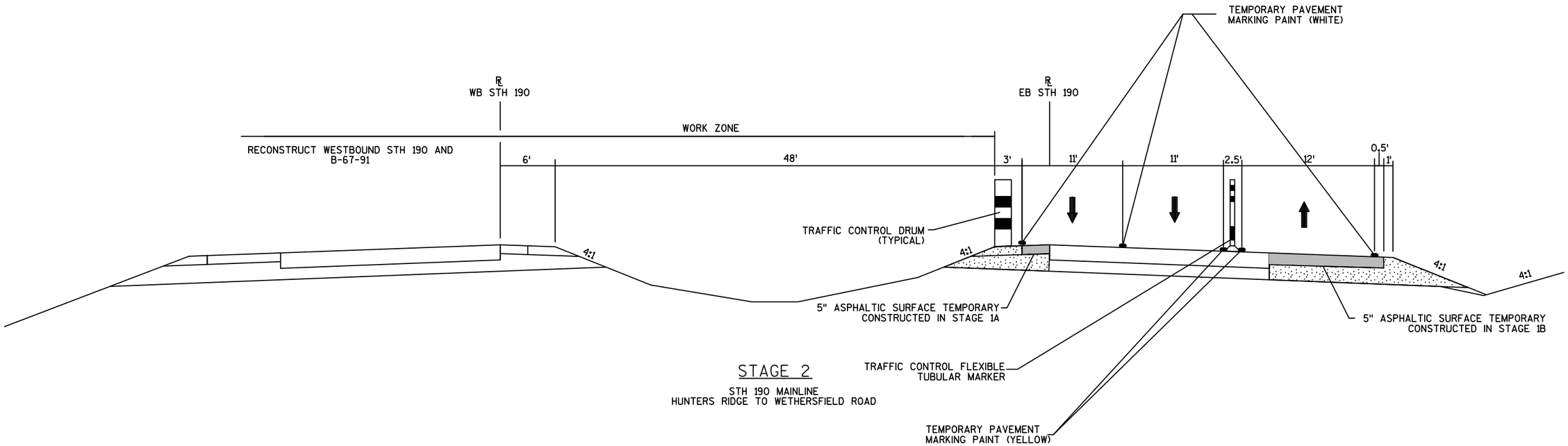
WB MEDIAN CROSSOVER TYPICAL SECTION
LOOKING EAST

NOTES:

ALL LOCAL ROAD ACCESS SHALL REMAIN OPEN TO TRAFFIC DURING ALL STAGES.
ALL BUSINESS (DRIVEWAYS) ACCESS SHALL REMAIN OPEN TO TRAFFIC DURING ALL STAGES.
MESSAGE BOARDS TO BE PLACED ONE WEEK PRIOR TO THE START OF TRAFFIC PATTERN.
MESSAGES TO BE APPROVED BY FIELD ENGINEER PRIOR TO PLACEMENT.

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL OVERVIEW - STAGE 2	SHEET 153	E

2



STAGE 2

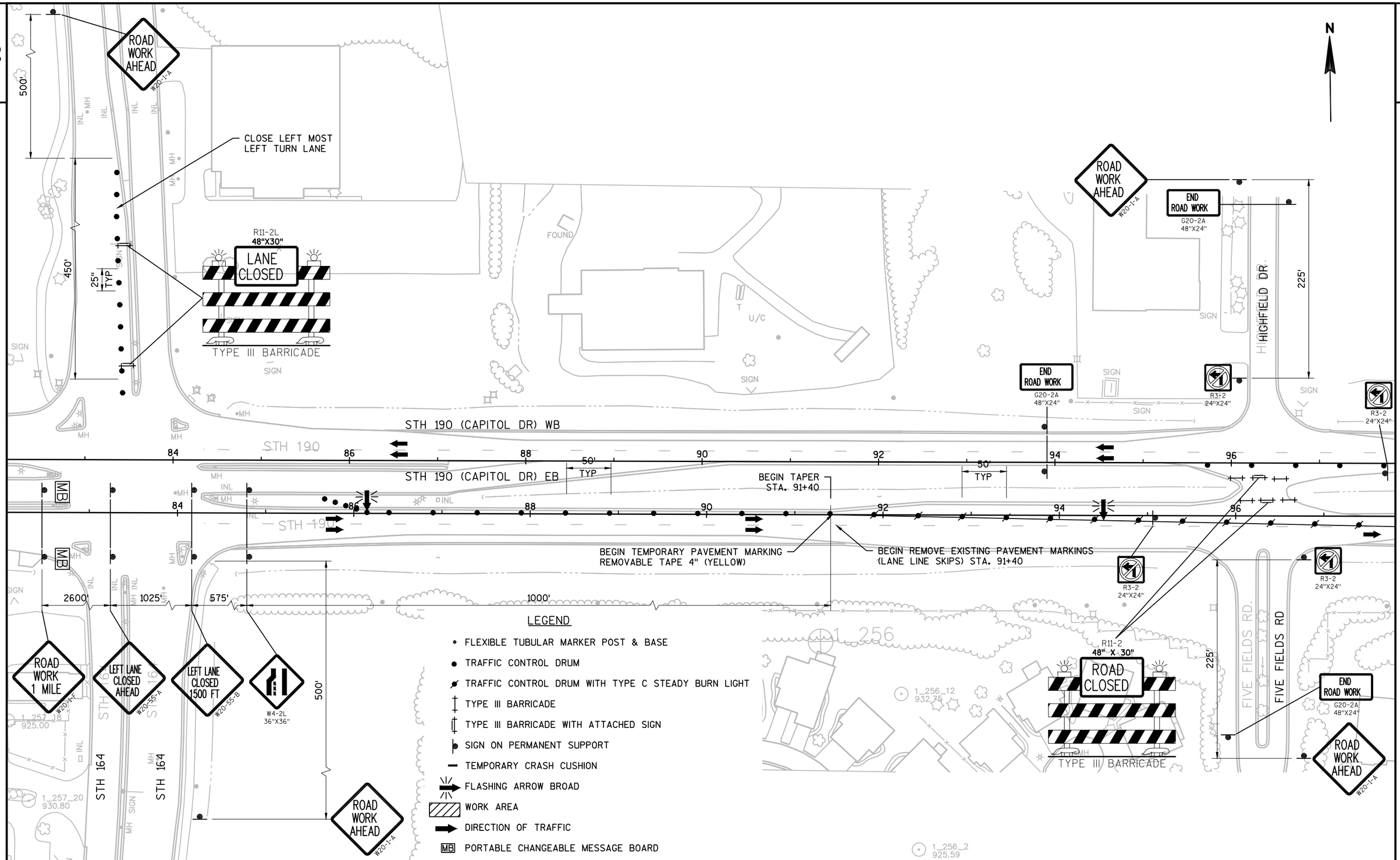
STH 190 MAINLINE
HUNTERS RIDGE TO WETHERSFIELD ROAD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	STAGE CONSTRUCTION - (STAGE 2) TYPICAL	SHEET 154	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\026001-S1 (WB FIRST).DWG
LAYOUT NAME - 026003-S1

PLOT DATE : 10/31/2016 1:36 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME : PLOT SCALE : 1 IN:11.5 IN

WISDOT/CADDS SHEET 42



LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 2)	SHEET 155	E

2

N

BEGIN TEMPORARY PAVEMENT MARKING REMOVABLE TAPE STA. 99+50

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" WHITE

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" YELLOW

REMOVE EXISTING PAVEMENT MARKING STA. 99+50 TO STA. 111+00

REMOVE EXISTING PAVEMENT MARKINGS STA. 100+50 TO STA. 104+00

BEGIN REMOVE EXISTING PAVEMENT MARKINGS (LANE LINE) STA. 106+50

R11-2
48" X 30"
ROAD CLOSED

TYPE III BARRICADE

BEGIN 12.5' LINE 35.7' GAP STA. 111+00.

STH 190 (CAPITOL DR) WB

STH 190 (CAPITOL DR) EB

98 100 102 104 106 108 110 112

+50 +60 +00

50' TYP

25' TYP

END TAPER STA. 98+00

BEGIN TAPER STA. 103+00

END TAPER STA. 106+00

W01-6
48"X24"

R3-2
24"X24"

W1-4R
30"X30"

45
M.P.H.

W013-1
36"X36"

W06-3

BEGIN TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" WHITE STA. 103+00

BEGIN REMOVE EXISTING PAVEMENT MARKING (LANE LINE) STA. 103+00

TYPE III BARRICADE

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE

TEMPORARY PAVEMENT MARKING PAINT

STA. 111+00

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 2)	SHEET 156	E

2

2

N

R11-2
48" X 30"
ROAD CLOSED

TYPE III BARRICADE

W06-3

ONLY
R3-5-R
42"X48"

SEE CONSTRUCTION DETAILS FOR TRAFFIC CONTROL AT SIDEROADS

STH 190 (CAPITOL DR) WB

STH 190 (CAPITOL DR) EB

114 116 118 120 122 124 126

25' TYP

100' TYP

REMOVE EXISTING PAVEMENT MARKING (LANE LINE SKIP)

REMOVE EXISTING PAVEMENT MARKING (LANE LINE)

REMOVE EXISTING PAVEMENT MARKING (LANE LINE)

R3-2
24"X24"

R3-2
24"X24"

R3-2
24"X24"

TEMPORARY PAVEMENT MARKING PAINT 4" YELLOW

TEMPORARY PAVEMENT MARKING PAINT 4" WHITE

HUNTERS RIDGE RD

350'

W1-4B
48"X48"

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

ROAD WORK AHEAD
W20-1-A

W06-3

END ROAD WORK
G20-2A
48"X24"

SIGN

POST

WELL

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 2)	SHEET 157	E

2

2

N

R11-2L
48"X30"
LANE CLOSED

TYPE III BARRICADE

25' TYP

178

176

174

172

STH 190 (CAPITOL DR) WB

STH 190 (CAPITOL DR) EB

128 130 132 134 136 138 140 142

100' TYP

25' TYP

SIGN

RAMP A

RAMP C

EXIT

E5-1
72"X60"

CTH F SB

CTH F NB

REMOVE EXISTING PAVEMENT MARKING (LANE LINE SKIP)

REMOVE EXISTING PAVEMENT MARKING (LANE LINE)

REMOVE EXISTING PAVEMENT MARKING (LANE LINE)

TEMPORARY CRASH CUSHION

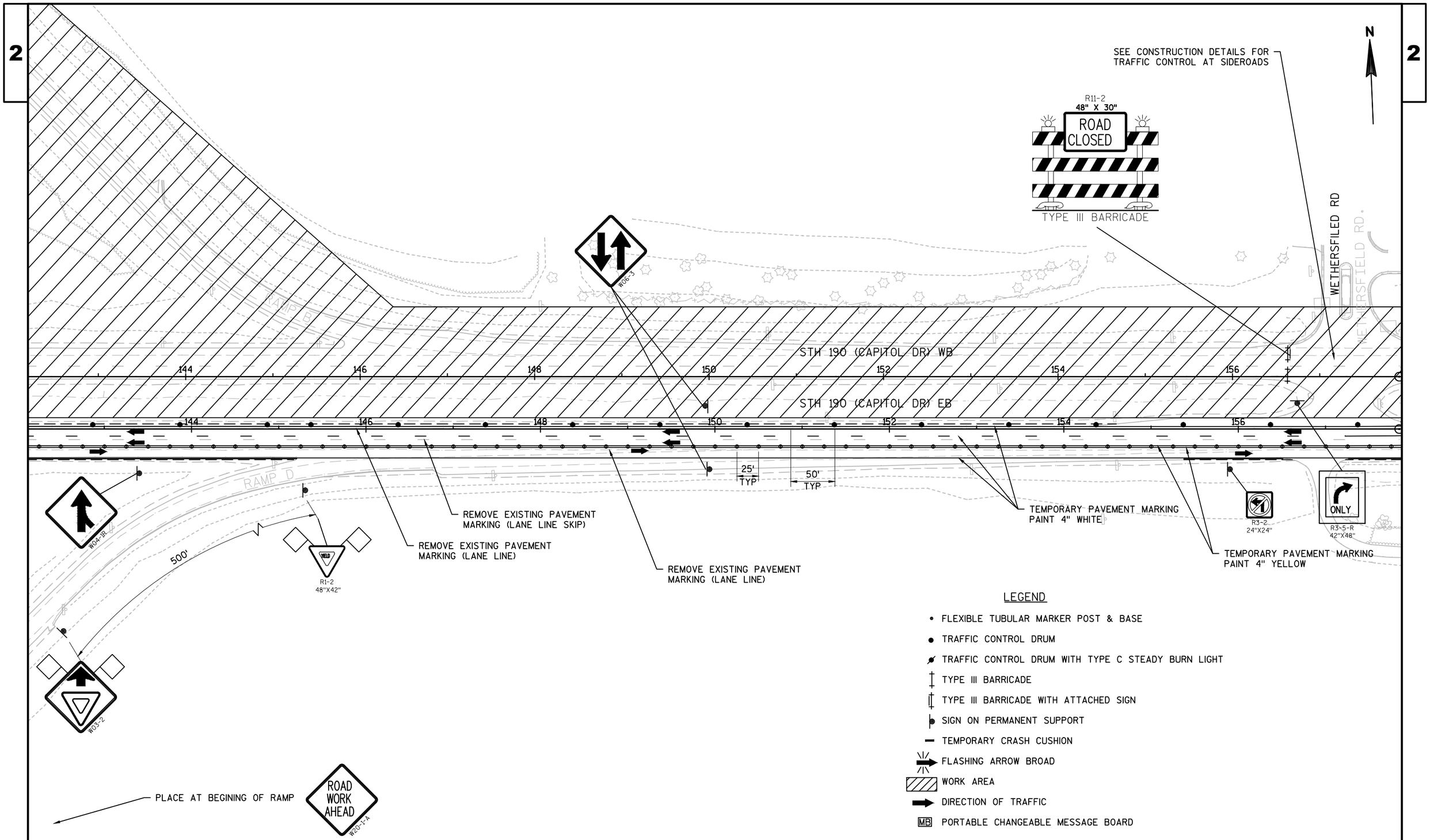
TEMPORARY PAVEMENT MARKING PAINT 4" WHITE

TEMPORARY PAVEMENT MARKING PAINT 4" YELLOW

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 2)	SHEET 158	E



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 2)	SHEET 159	E

2

N

R11-2
48" X 30"
ROAD CLOSED
TYPE III BARRICADE

ROAD WORK AHEAD
W20-1-A

END ROAD WORK
G20-2A
48"X24"

WETHERSFIELD RD.

SEE CONSTRUCTION DETAILS FOR TRAFFIC CONTROL AT SIDEROADS

W06-3

R11-2
48" X 30"
ROAD CLOSED
TYPE III BARRICADE

BRIDGE OUT
R11-2-B
48"X30"

W1-6
48"X24"

REMOVE ALL EXISTING PAVEMENT MARKING FROM STA. 163+12 TO STA. 169+50

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" YELLOW

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" WHITE

150' TRANSITION FROM 12' LANES TO 11' LANES

DUPLAINVILLE RD.

158 160 162 164 166 168 170

+50 +00 +40

STH 190 (CAPITOL DR) WB

STH 190 (CAPITOL DR) EB

50' TYP

25' TYP

BEGIN TAPER STA. 162+14

END TAPER STA. 168+14

END 12.5' LINE 37.5' GAP STA. 157+25

END REMOVE EXISTING PAVEMENT MARKINGS (LANE LINE SKIPS) STA. 160+50

END TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" YELLOW STA. 162+14

END REMOVE EXISTING PAVEMENT MARKINGS (LANE LINE) STA. 168+14

END TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" WHITE STA. 168+14

TEMPORARY PAVEMENT MARKING PAINT

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE

REMOVE EXISTING PAVEMENT MARKINGS (LANE LINE SKIPS)

ONLY
R3-5-R
42"X48"

REMOVE EXISTING PAVEMENT MARKINGS (LANE LINE)

W1-4L
30"X30"

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 2)	SHEET 160	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\025001-TC (STAGE 2).DWG
LAYOUT NAME - 025006-TC (STAGE 2)
PLOT DATE : 10/20/2016 4:53 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

N

W1-4BL
48"X48"

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

+00

ROAD WORK 1500 FT
W20-1-B

ROAD WORK AHEAD
W20-1-A

ROAD WORK 1 MILE
W20-1-F

1600'

2200'

+50

MB

STH 190 (CAPITOL DR) WB

STH 190 (CAPITOL DR) EB

172 174 176 178 180 182 184 186

POST

SIGNPOST

WELL

SIGN

END
ROAD WORK
G20-2A
48"X24"

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 2)	SHEET 161	E

2

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

R11-2L
48"X30"
LANE CLOSED
TYPE III BARRICADE

R11-2R
48"X30"
RAMP CLOSED
TYPE III BARRICADE

R11-2L
48"X30"
LANE CLOSED
TYPE III BARRICADE

N

CTH F NB

CTH F SB

25' TYP

25' TYP

RAMP C

UNNAMED TRIBUTARY TO SUSSEX CREEK

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 2)	SHEET 162 E

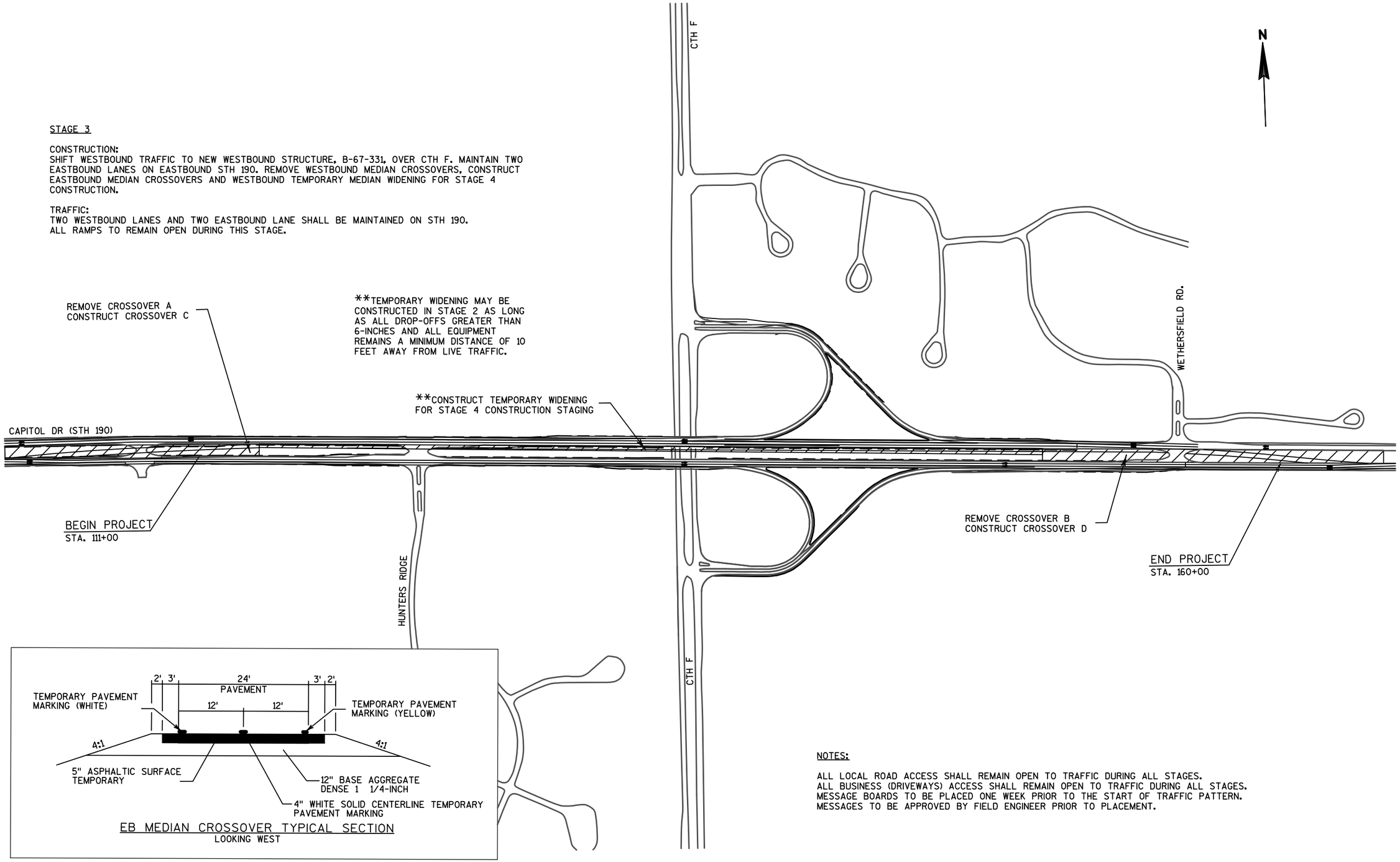
FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\025001-TC (STAGE 2).DWG
LAYOUT NAME - 025008-TC (STAGE 2)
PLOT DATE : 10/20/2016 4:53 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

STAGE 3

CONSTRUCTION:
SHIFT WESTBOUND TRAFFIC TO NEW WESTBOUND STRUCTURE, B-67-331, OVER CTH F. MAINTAIN TWO EASTBOUND LANES ON EASTBOUND STH 190. REMOVE WESTBOUND MEDIAN CROSSOVERS, CONSTRUCT EASTBOUND MEDIAN CROSSOVERS AND WESTBOUND TEMPORARY MEDIAN WIDENING FOR STAGE 4 CONSTRUCTION.

TRAFFIC:
TWO WESTBOUND LANES AND TWO EASTBOUND LANE SHALL BE MAINTAINED ON STH 190.
ALL RAMPS TO REMAIN OPEN DURING THIS STAGE.



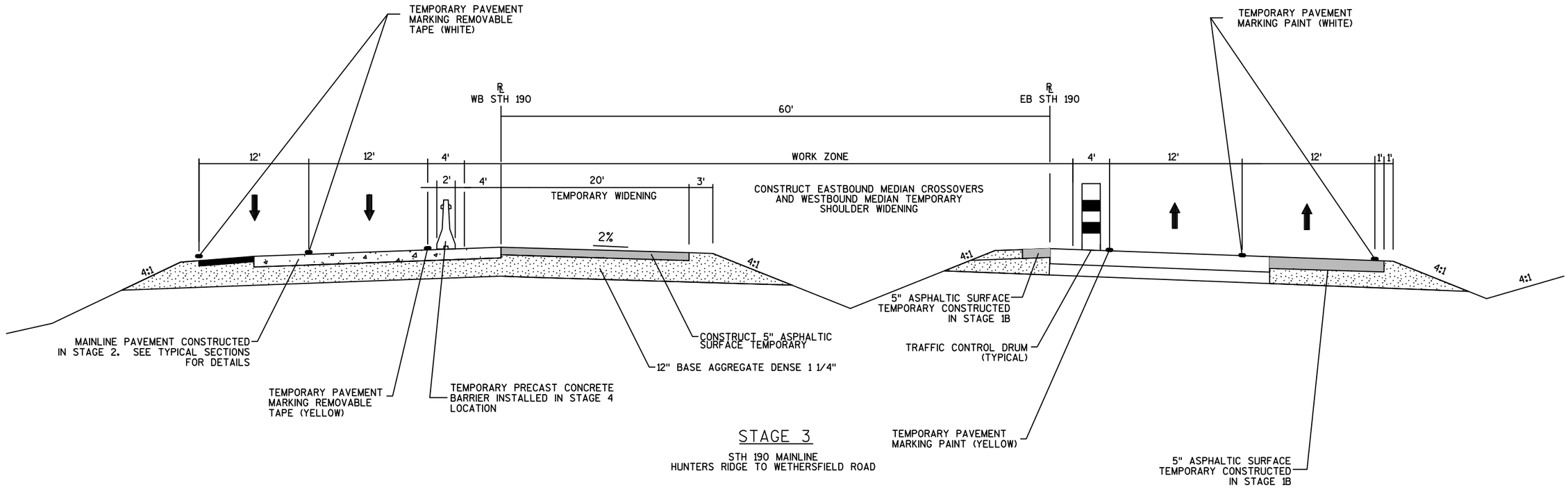
EB MEDIAN CROSSOVER TYPICAL SECTION
LOOKING WEST

NOTES:

ALL LOCAL ROAD ACCESS SHALL REMAIN OPEN TO TRAFFIC DURING ALL STAGES.
ALL BUSINESS (DRIVEWAYS) ACCESS SHALL REMAIN OPEN TO TRAFFIC DURING ALL STAGES.
MESSAGE BOARDS TO BE PLACED ONE WEEK PRIOR TO THE START OF TRAFFIC PATTERN.
MESSAGES TO BE APPROVED BY FIELD ENGINEER PRIOR TO PLACEMENT.

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL OVERVIEW - STAGE 3	SHEET 163	E

2



STAGE 3

STH 190 MAINLINE
HUNTERS RIDGE TO WETHERSFIELD ROAD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	STAGE CONSTRUCTION - (STAGE 3) TYPICAL	SHEET 164	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\026001-S1 (WB FIRST).DWG
LAYOUT NAME - 026004-S1
PLOT DATE : 10/31/2016 1:36 PM
PLOT BY : VAN STRATEN, LUKE A PLOT NAME :
PLOT SCALE : 1 IN:11.5 IN
WISDOT/CADDS SHEET 42

2

N

ROAD WORK 1 MILE
W20-5aP

ROAD WORK AHEAD
W20-1-A

W1-4B
48"X48"

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

ROAD WORK AHEAD
W20-1-A

END ROAD WORK
G20-2A
48"X24"

350'

HIGHFIELD DR.

R3-2
24"X24"

END ROAD WORK
G20-2A
48"X24"

R3-2
24"X24"

BEGIN TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4" YELLOW

STH 190 (CAPITOL DR) WB

STH 190 (CAPITOL DR) EB

82 84 86 88 90 92 94 96

50'
TYP

BEGIN TAPER
STA. 91+40

STH 190

BEGIN TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4" WHITE
STA. 91+40

5200'

END REMOVE EXISTING PAVEMENT
MARKINGS (CHANNELIZING LANE LINE)
STA. 95+50

R11-2
48" X 30"
ROAD CLOSED

TYPE III BARRICADE

BEGIN REMOVE EXISTING PAVEMENT
MARKINGS (CHANNELIZING LANE LINE)
STA. 92+40

TEMPORARY PAVEMENT MARKING
REMOVABLE TYPE 4" YELLOW
FROM STAGE 2 TO BE REMOVED

FIVE FIELDS RD

R3-2
24"X24"

350'

ROAD WORK AHEAD
W20-1-A

END ROAD WORK
G20-2A
48"X24"

STH 164

1_257_18
925.00

1_257_20
930.80

1_256
1_256_12
932.75

1_256_2
925.59

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 3)	SHEET 165	E

2

N

BEGIN TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4" WHITE
STA. 100+60

BEGIN TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4" YELLOW
STA. 100+60

BEGIN TAPER
STA. 100+60

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4" (FROM STAGE 2)
TO BE REMOVED

BEGIN 12.5' LINE 37.5' GAP
STA. 105+00

END TAPER
STA. 105+00

BEGIN CONCRETE BARRIER
TEMPORARY PRECAST
STA. 106+00

W1-4BL
48"X48"

45
M.P.H.

W013-1
36"X36"

R11-2
48" X 30"

ROAD
CLOSED

TYPE III BARRICADE

R3-2
24"X24"

STH 190 (CAPITOL DR) WB

STH 190 (CAPITOL DR) EB

END TAPER
STA. 98+00

98 100 102 104 106 108 110 112

STH 190

100'
TYP

BEGIN 12.5' LINE 37.5' GAP
STA. 98+00

TEMPORARY PAVEMENT MARKING
TAPE 4" YELLOW (FROM STAGE 2)
TO BE REMOVED

BEGIN REMOVE EXISTING PAVEMENT
MARKINGS (LANE LINE)
STA. 97+00

END REMOVE EXISTING PAVEMENT
MARKING (LANE LINE)
STA. 103+00

R3-2
24"X24"

R3-2
24"X24"

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4" (FROM STAGE 2)
TO BE REMOVED

TEMPORARY PAVEMENT
MARKING TAPE

TEMPORARY PAVEMENT
MARKING PAINT

BEGIN REMOVE EXISTING
TEMPORARY PAVEMENT MARKING
(FROM STAGE 2)

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 3)	SHEET 166	E

2

N

TP6
CULVERT PIPE TEMPORARY 18-INCH
14.0' @ 4.36%
INL = 897.43
DISCH = 896.82
CONNECT TO CULVERT C100

INSTALL TEMPORARY INLET T7
RIM = 882.33
INV = 880.33
CULVERT PIPE TEMPORARY 18-INCH (TP7)
2.8' @ 1.00%
INL = 880.33
DISCH = 880.30
CONNECT TO PROPOSED STORM SEWER

R11-2
48" X 30"
ROAD CLOSED
TYPE III BARRICADE

TP8
CULVERT PIPE TEMPORARY 18-INCH
59.7' @ .031%
INL = 872.36
DISCH = 872.17
CONNECT TO PROPOSED STORM SEWER

TP9
CULVERT PIPE TEMPORARY 36-INCH
3.9' @ .031%
INL = 872.17
DISCH = 872.16
CONNECT TO PROPOSED STORM SEWER

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4" WHITE

CONCRETE BARRIER
TEMPORARY PRECAST

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4" YELLOW

STH ~~190~~ (CAPITOL DR~~)~~ WB

STH 190 (CAPITOL DR) EB

114 116 118 120 122 124 126

100'
TYP

R3-2
24"X24"

TEMPORARY PAVEMENT MARKING
PAINT 4" WHITE

REMOVE EXISTING TEMPORARY
PAVEMENT MARKING 4"
(FROM STAGE 2)

350'

HUNTERS RIDGE RD

R3-2
24"X24"

TEMPORARY PAVEMENT MARKING
PAINT 4" WHITE

END
ROAD WORK
G20-2A
48"X24"

ROAD
WORK
AHEAD
W20-1-A

INSTALL TEMPORARY INLET T9
RIM = 875.32
INV = 871.90
CROWN INLET GRATES

INSTALL TEMPORARY INLET T8
RIM = 874.64
INV = 872.36

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 3)	SHEET 167	E

2

N

ROAD WORK AHEAD
WZ0-1-A

PLACE AT BEGINING OF RAMP

WD3-2

TP10
CULVERT PIPE TEMPORARY 18-INCH
18.0' @ 2.50%
INL = 884.59
DISCH = 884.14
CONNECT TO CULVERT C101

YIELD
R1-2
48"X42"

500'

WD4-1R

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4" YELLOW

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4" WHITE

CONCRETE BARRIER
TEMPORARY PRECAST

RAMP A

STH 190 (CAPITOL DR) WB

STH 190 (CAPITOL DR) EB

128 130 132 134 136 138 140 142 144

178 176 174 172

100'
TYP

SIGN

TEMPORARY PAVEMENT MARKING
PAINT 4" WHITE

CONSTRUCT NEW SHOULDER
TO DIMENSIONS SPECIFIED BY
TEMPORARY CRASH CUSHION
MANUFACTURER

CTH F SB

CTH F NB

RAMP C

EXIT
E5-1
72"X60"

TEMPORARY PAVEMENT MARKING
PAINT 4" YELLOW

REMOVE EXISTING TEMPORARY PAVEMENT MARKING 4"
(FROM STAGE 2)

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 3)	SHEET 168	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\025001-TC (STAGE 3).DWG
LAYOUT NAME - 025004-TC (STAGE 3)
PLOT DATE : 10/21/2016 6:39 AM
PLOT BY : VAN STRATEN, LUKE A PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

TP11
CULVERT PIPE TEMPORARY 18-INCH
18.0' @ 2.16%
INL = 889.62
DISCH = 889.23
CONNECT TO CULVERT C102

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4" YELLOW

EXIT
E5-1
72"X60"

CONCRETE BARRIER
TEMPORARY PRECAST

TP12
CULVERT PIPE TEMPORARY 18-INCH
4.1' @ 0.50%
INL = 889.64
DISCH = 889.62
CONNECT TO PROPOSED STORM SEWER

INSTALL TEMPORARY INLET T12
RIM 892.01
INL = 889.64

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4" WHITE

ROAD WORK AHEAD
W20-1-4

END ROAD WORK
G20-2A
48"X24"

WETHERSFIELD RD

R3-2
24"X24"

STH 190 (CAPITOL DR) WB

STH 190 (CAPITOL DR) EB

142 144 146 148 150 152 154 156 158

RAMP D

100'
TYP

W04-3R

500'

R1-2
48"X42"

W03-2

TEMPORARY PAVEMENT MARKING
PAINT 4" WHITE

REMOVE EXISTING TEMPORARY PAVEMENT
MARKING 4" (FROM STAGE 2)

TEMPORARY PAVEMENT MARKING
PAINT 4" YELLOW

R3-2
24"X24"

R11-2
48" X 30"
ROAD CLOSED
TYPE III BARRICADE

N

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 3)	SHEET 169	E

2

N

DUPLAINVILLE RD.

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" (FROM STAGE 2) TO BE REMOVED

END CONCRETE BARRIER TEMPORARY PRECAST STA. 161+00

END 12.5' LINE 37.5' GAP STA. 163+12

TEMPORARY CRASH CUSHION

BEGIN REMOVE EXISTING PAVEMENT MARKINGS (LANE LINE SKIPS) STA. 160+50

END TAPER STA. 168+40

END TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" WHITE STA. 169+50

END TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" YELLOW STA. 169+50

W1-4B 48"X48"

45 M.P.H.

W013-1 36"X36"

50' TYP

STH 190 (CAPITOL DR) WB

STH 190 (CAPITOL DR) EB

160 162 164 166 168 170 172

100' TYP

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" (FROM STAGE 2) TO BE REMOVED

END 12.5' LINE 37.5' GAP STA. 167+00

BEGIN TAPER STA. 167+00

BEGIN REMOVE EXISTING PAVEMENT MARKINGS (LANE LINE) STA. 168+14

END TAPER STA. 169+50

END TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" YELLOW

END TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" WHITE

END ROAD WORK

G20-2A 48"X24"

TEMPORARY PAVEMENT MARKING PAINT

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE

END REMOVE EXISTING TEMPORARY PAVEMENT MARKING (FROM STAGE 2)

W1-4BL 48"X48"

45 M.P.H.

W013-1 36"X36"

END REMOVE EXISTING PAVEMENT MARKINGS (LANE LINE SKIPS) STA. 169+50

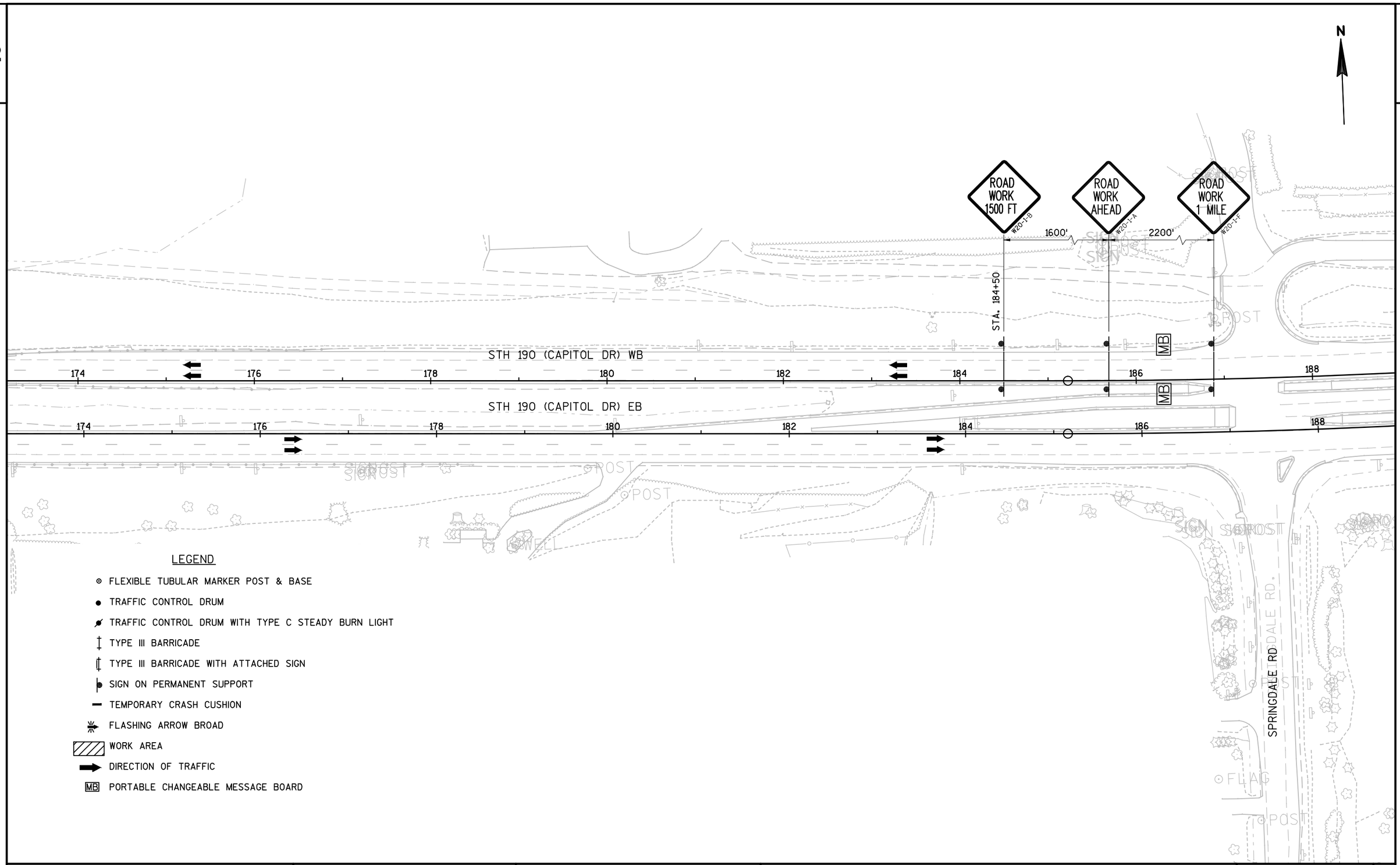
END REMOVE EXISTING PAVEMENT MARKINGS (LANE LINE) STA. 169+50

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 3)	SHEET 170	E

2



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 3)	SHEET 171	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\025001-TC (STAGE 3).DWG
LAYOUT NAME - 025007-TC (STAGE 3)
PLOT DATE : 10/21/2016 6:39 AM PLOT BY : VAN STRATEN, LUKE A PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

STAGE 4

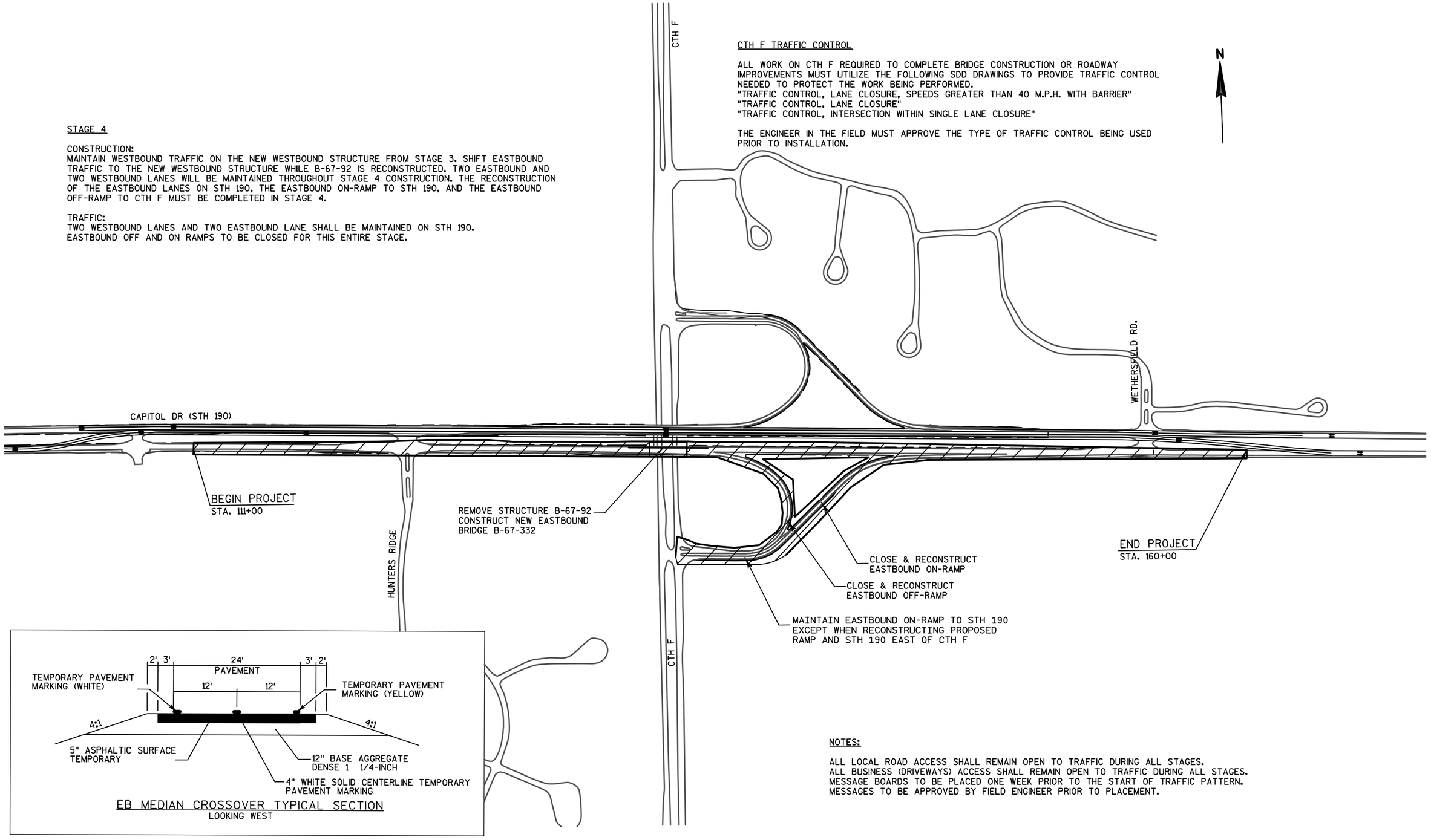
CONSTRUCTION:
MAINTAIN WESTBOUND TRAFFIC ON THE NEW WESTBOUND STRUCTURE FROM STAGE 3. SHIFT EASTBOUND TRAFFIC TO THE NEW WESTBOUND STRUCTURE WHILE B-67-92 IS RECONSTRUCTED. TWO EASTBOUND AND TWO WESTBOUND LANES WILL BE MAINTAINED THROUGHOUT STAGE 4 CONSTRUCTION. THE RECONSTRUCTION OF THE EASTBOUND LANES ON STH 190, THE EASTBOUND ON-RAMP TO STH 190, AND THE EASTBOUND OFF-RAMP TO CTH F MUST BE COMPLETED IN STAGE 4.

TRAFFIC:
TWO WESTBOUND LANES AND TWO EASTBOUND LANE SHALL BE MAINTAINED ON STH 190.
EASTBOUND OFF AND ON RAMPS TO BE CLOSED FOR THIS ENTIRE STAGE.

CTH F TRAFFIC CONTROL

ALL WORK ON CTH F REQUIRED TO COMPLETE BRIDGE CONSTRUCTION OR ROADWAY IMPROVEMENTS MUST UTILIZE THE FOLLOWING SDD DRAWINGS TO PROVIDE TRAFFIC CONTROL NEEDED TO PROTECT THE WORK BEING PERFORMED.
"TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER"
"TRAFFIC CONTROL, LANE CLOSURE"
"TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE"

THE ENGINEER IN THE FIELD MUST APPROVE THE TYPE OF TRAFFIC CONTROL BEING USED PRIOR TO INSTALLATION.



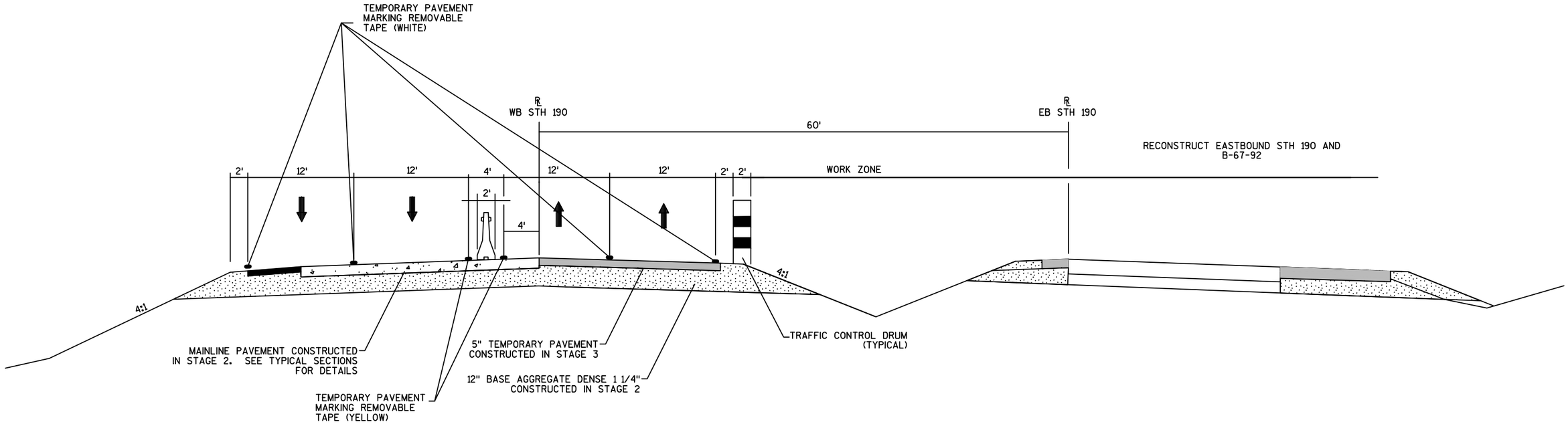
EB MEDIAN CROSSOVER TYPICAL SECTION
LOOKING WEST

NOTES:

ALL LOCAL ROAD ACCESS SHALL REMAIN OPEN TO TRAFFIC DURING ALL STAGES.
ALL BUSINESS (DRIVEWAYS) ACCESS SHALL REMAIN OPEN TO TRAFFIC DURING ALL STAGES.
MESSAGE BOARDS TO BE PLACED ONE WEEK PRIOR TO THE START OF TRAFFIC PATTERN.
MESSAGES TO BE APPROVED BY FIELD ENGINEER PRIOR TO PLACEMENT.

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL OVERVIEW - STAGE 4	SHEET 172	E

2



STAGE 4

STH 190 MAINLINE
HUNTERS RIDGE TO WETHERSFIELD ROAD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	STAGE CONSTRUCTION - (STAGE 4) TYPICAL	SHEET 173	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\026001-S1 (WB FIRST).DWG
LAYOUT NAME - 026005-S1
PLOT DATE : 10/31/2016 1:36 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME : PLOT SCALE : 1 IN:11.5 IN
WISDOT/CADDS SHEET 42

2

N

STH 190 (CAPITOL DR) WB

STH 190 (CAPITOL DR) EB

STH 190

82 84 86 88 90 92 94 96

HIGHFIELD DR.

ROAD WORK AHEAD W20-1-A

350'

END ROAD WORK G20-2A 48"X24"

SIGN

FOUND

T

U/C

MH

INL

SIGN

4500'

STA. 84+50

ROAD WORK 1 MILE W20-1-F

ROAD WORK AHEAD W20-1-A

STH 164

1_257_18 925.00

1_257_20 930.80

BEGIN TEMPORARY PAVEMENT MARKINGS REMOVABLE TAPE 4" WHITE (LANE LINE SKIPS) STA. 91+40

BEGIN TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8" WHITE (LANE LINE) STA. 92+45

W1-4BL 48"X48"

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

1_256_12 932.75

1_256_2 925.59

END TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8" WHITE (LANE LINE) STA. 95+50

FIVE FIELDS RD.

END ROAD WORK G20-2A 48"X24"

ROAD WORK AHEAD W20-1-A

BEGIN TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" WHITE (LANE LINE) STA. 97+00

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 4)	SHEET 174	E

2

N

BEGIN 12.5' LINE 37.5' GAP
STA. 105+00

USE TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4" WHITE (LANE LINE)
FROM STAGE 3

USE TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4" YELLOW (LANE LINE)
FROM STAGE 3

BEGIN CONCRETE BARRIER
TEMPORARY PRECAST
STA. 106+00

W1-4BL
48"X48"

BEGIN 12.5' LINE 37.5' GAP
STA. 111+00

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

ONLY
R3-5-R
42"X48"

BEGIN TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4" YELLOW (LANE
LINE) STA. 99+60

END TAPER
STA. 105+00

50'
TYP

100'
TYP

STH 190 (CAPITOL DR) WB

STH 190

BEGIN TAPER
STA. 100+60

50'
TYP

STH 190 (CAPITOL DR) EB

98 100 102 104 106 108 110 112

STH 190

25'
TYP

50'
TYP

POST

POST

SIGN

SIGN

END TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4" WHITE (LANE
LINE SKIPS) STA. 99+60

BEGIN TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4" WHITE (LANE LINE)
STA. 99+60

W01-6
48" X 30"

TYPE III BARRICADE

R11-2L
48" X 30"

ROAD
CLOSED

TYPE III BARRICADE

R11-2-B
48" X 30"

BRIDGE
OUT

TYPE III BARRICADE

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 4)	SHEET 175	E

2

N

USE TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" WHITE (LANE LINE) FROM STAGE 3

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" WHITE (LANE LINE)

CONCRETE BARRIER TEMPORARY PRECAST

100' TYP

R3-2 24"X24"

ONLY

R3-5-R 42"X48"

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" YELLOW (LANE LINE)

USE TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" YELLOW (LANE LINE) FROM STAGE 3

114 116 118 120 122 124 126

SEE CONSTRUCTION DETAILS FOR TRAFFIC CONTROL AT SIDEROADS

HUNTERS RIDGE RD

R11-2L 48" X 30"

ROAD CLOSED

TYPE III BARRICADE

END ROAD WORK

G20-2A 48"X24"

ROAD WORK AHEAD

W20-1-A

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 4)	SHEET 176 E

2

N

ROAD WORK AHEAD
W20-1-A

PLACE AT BEGINING OF RAMP

W03-2

USE TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" WHITE (LANE LINE) FROM STAGE 3

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" WHITE (LANE LINE)

USE TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" YELLOW (LANE LINE) FROM STAGE 3

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" YELLOW (LANE LINE)

CONCRETE BARRIER TEMPORARY PRECAST

R1-2
48"X42"

W04-1R

500'

RAMP A

100'
TYP

STH 190 (CAPITOL DR) WB

STH 190 (CAPITOL DR) EB

128 130 132 134 136 138 140 142 144

178 176 174 172

CTH F SB

CTH F NB

TEMPORARY CRASH CUSHION

25'
TYP

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 4)	SHEET 177	E

2

2

N

142

144

146

148

150

152

154

156

EXIT

E5-1
72"X60"

RAMP B

RAMP D

STH 190 (CAPITOL DR) WB

STH 190 (CAPITOL DR) EB

100'
TYP

USE TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" YELLOW (LANE LINE) FROM STAGE 3

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" YELLOW (LANE LINE)

USE TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" WHITE (LANE LINE) FROM STAGE 3

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" WHITE (LANE LINE)

W1-4B
48"X48"

45
M.P.H.

W013-1
36"X36"

ROAD WORK AHEAD

W20-1-A

R3-2
24"X24"

CONCRETE BARRIER TEMPORARY PRECAST

WETHERSFIELD RD

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 4)	SHEET 178	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\025001-TC (STAGE 4).DWG
LAYOUT NAME - 025005-TC (STAGE 4)

PLOT DATE : 10/20/2016 5:52 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

N

ROAD WORK AHEAD
W20-1-A

END ROAD WORK
G20-2A
48"X24"

R3-2
24"X24"

W06-3

WETHERSFIELD RD

DUPLAINVILLE RD.

POST

END CONCRETE BARRIER TEMPORARY PRECAST
STA. 161+00

TEMPORARY CRASH CUSHION

BEGIN TAPER
STA. 163+12

END 12.5' LINE 37.5; GAP
STA. 163+12

25'
TYP

50'
TYP

STH 190 (CAPITOL DR) WB

158 160 162 164 166 168 170 172

USE TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" WHITE (LANE LINE) FROM STAGE 3

USE TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" YELLOW (LANE LINE) FROM STAGE 3

END TAPER
STA. 168+40

STH 190 (CAPITOL DR) EB

END TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" YELLOW (LANE LINE) STA. 169+50

END TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" WHITE (LANE LINE) STA. 169+50

END 12.5' LINE 37.5; GAP
STA. 157+00

R11-2R
48" X 30"
ROAD CLOSED

TYPE III BARRICADE

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 4)	SHEET 179	E

2

N

W1-4B
48"X48"

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

END
ROAD WORK
G20-2A
48"X24"

ROAD WORK 1500 FT
W20-1-B

ROAD WORK AHEAD
W20-1-A

ROAD WORK 1 MILE
W20-1-F

1600'

2200'

STA. 148+00

MB

MB

STH 190 (CAPITOL DR) WB

174 176 178 180 182 184 186

STH 190 (CAPITOL DR) EB

174 176 178 180 182 184 186

SIGN POST

POST

SIGN POST

SIGN POST

SIGN

2

N

LEGEND

- ⊙ FLEXIBLE TUBULAR MARKER POST & BASE
- ● TRAFFIC CONTROL DRUM
- ● TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ‡ TYPE III BARRICADE
- ‡ TYPE III BARRICADE WITH ATTACHED SIGN
- ⊢ SIGN ON PERMANENT SUPPORT
- — TEMPORARY CRASH CUSHION
- ✳ FLASHING ARROW BROAD
- ▨ WORK AREA
- ➡ DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

R11-2R
SIZE
RAMP CLOSED
TYPE III BARRICADE

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

100' TYP

25' TYP

25' TYP

STH 190 (CAPITOL DR) WB

STH 190 (CAPITOL DR) EB

CTH F NB

CTH F SB

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 4)	SHEET 181 E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\025001-TC (STAGE 4).DWG
LAYOUT NAME - 025008-TC (STAGE 4)

PLOT DATE : 10/20/2016 5:53 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME :

PLOT SCALE : 1 IN:100 FT

STAGE 5

CONSTRUCTION:
SHIFT EASTBOUND TRAFFIC TO FINAL STH 190 LANE CONFIGURATION. LEAVE WESTBOUND TRAFFIC IN SAME CONFIGURATION AS STAGE 3 & 4. REMOVE MEDIAN CROSSOVERS AND TEMPORARY MEDIAN WIDENING, INSTALL TEMPORARY ASPHALT IN ALL FINAL MEDIAN TURN LANE LOCATIONS, GRADE MEDIAN DITCH TO FINAL ELEVATIONS AND INSTALL PERMANENT WESTBOUND INSIDE ASPHALT SHOULDERS.

TRAFFIC:
PEAK HOURS: TWO WESTBOUND LANES AND TWO EASTBOUND LANE SHALL BE MAINTAINED ON STH 190.
NON-PEAK HOURS: TWO WESTBOUND LANE AND ONE EASTBOUND LANE SHALL BE MAINTAINED ON STH 190.
ALL RAMPS TO REMAIN OPEN DURING THIS STAGE.

STAGE 6

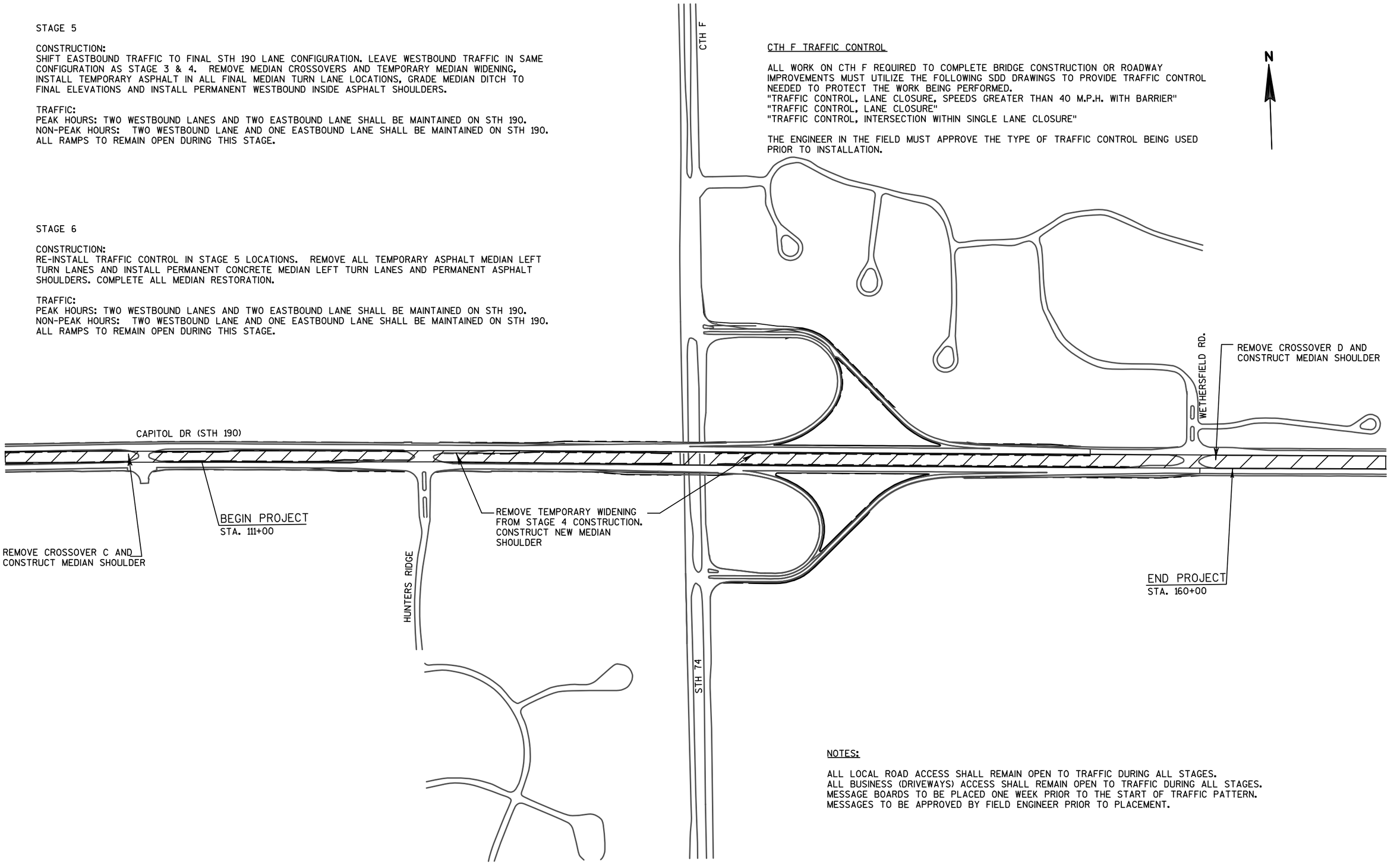
CONSTRUCTION:
RE-INSTALL TRAFFIC CONTROL IN STAGE 5 LOCATIONS. REMOVE ALL TEMPORARY ASPHALT MEDIAN LEFT TURN LANES AND INSTALL PERMANENT CONCRETE MEDIAN LEFT TURN LANES AND PERMANENT ASPHALT SHOULDERS. COMPLETE ALL MEDIAN RESTORATION.

TRAFFIC:
PEAK HOURS: TWO WESTBOUND LANES AND TWO EASTBOUND LANE SHALL BE MAINTAINED ON STH 190.
NON-PEAK HOURS: TWO WESTBOUND LANE AND ONE EASTBOUND LANE SHALL BE MAINTAINED ON STH 190.
ALL RAMPS TO REMAIN OPEN DURING THIS STAGE.

CTH F TRAFFIC CONTROL

ALL WORK ON CTH F REQUIRED TO COMPLETE BRIDGE CONSTRUCTION OR ROADWAY IMPROVEMENTS MUST UTILIZE THE FOLLOWING SDD DRAWINGS TO PROVIDE TRAFFIC CONTROL NEEDED TO PROTECT THE WORK BEING PERFORMED.
"TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER"
"TRAFFIC CONTROL, LANE CLOSURE"
"TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE"

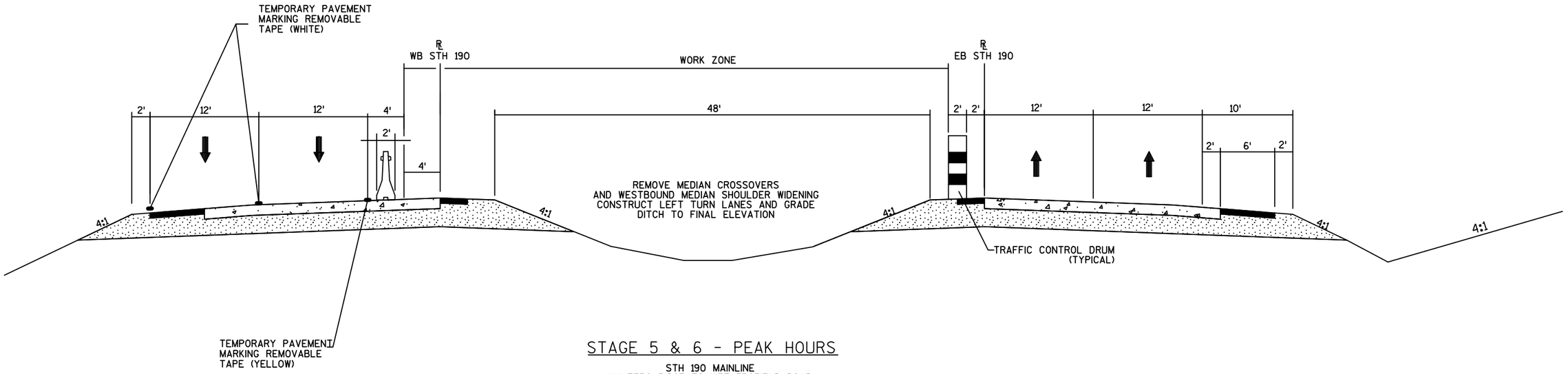
THE ENGINEER IN THE FIELD MUST APPROVE THE TYPE OF TRAFFIC CONTROL BEING USED PRIOR TO INSTALLATION.



NOTES:

ALL LOCAL ROAD ACCESS SHALL REMAIN OPEN TO TRAFFIC DURING ALL STAGES.
ALL BUSINESS (DRIVEWAYS) ACCESS SHALL REMAIN OPEN TO TRAFFIC DURING ALL STAGES.
MESSAGE BOARDS TO BE PLACED ONE WEEK PRIOR TO THE START OF TRAFFIC PATTERN.
MESSAGES TO BE APPROVED BY FIELD ENGINEER PRIOR TO PLACEMENT.

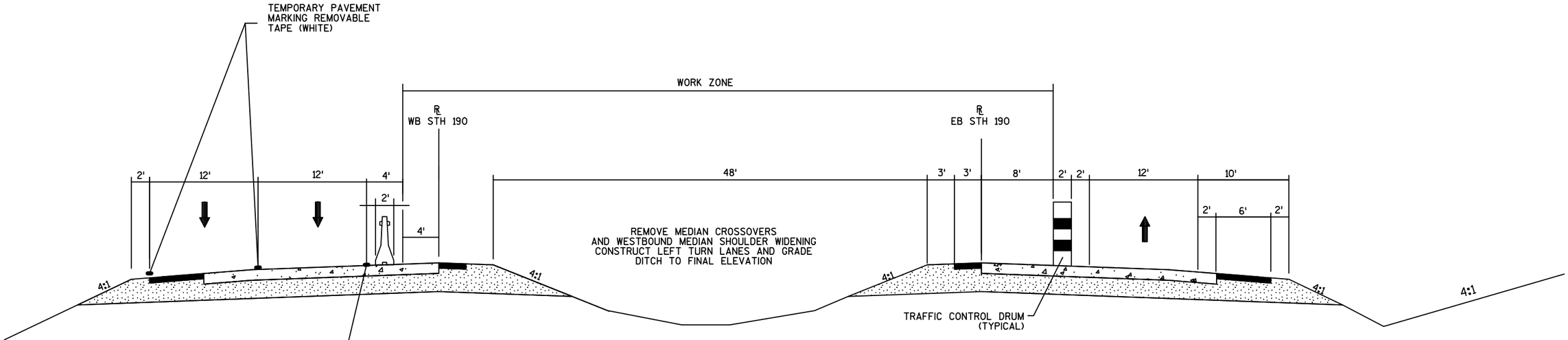
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL OVERVIEW - STAGE 5 & 6	SHEET 182	E



STAGE 5 & 6 - PEAK HOURS

STH 190 MAINLINE
HUNTERS RIDGE TO WETHERSFIELD ROAD

NOTE:
PROPOSED FINISHED PAVEMENT MARKINGS TO BE USED DURING STAGE 5 & 6 CONSTRUCTION FOR EASTBOUND CONSTRUCTION.



STAGE 5 & 6 - NON-PEAK HOURS

STH 190 MAINLINE
HUNTERS RIDGE TO WETHERSFIELD ROAD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	STAGE CONSTRUCTION - (STAGE 5 & 6) TYPICAL	SHEET 183	E

2

ROAD WORK AHEAD
W20-1-A

500'

CLOSE LEFT MOST LEFT TURN LANE

450'

25' TYP

R11-2L
48" X 30"
LANE CLOSED

TYPE III BARRICADE

END ROAD WORK
G20-2A
48"X24"

STH 190 (CAPITOL DR) WB

STH 190 (CAPITOL DR) EB

80 82 84 86 88 90 92 94

+00

BEGIN TAPER
STA. 90+00

50' TYP

50' TYP

MB

2600' 1025' 575' 1000'

ROAD WORK 1 MILE
W20-1-F

LEFT LANE CLOSED AHEAD
W20-55-A

LEFT LANE CLOSED 1500 FT
W20-55-B

W4-2L
36"X36"

ROAD WORK AHEAD
W20-1-A

STH 164 SB

STH 164 NB

STH 164

1_257_20
930.80

1_256

1_256_12
932.75

1_256_2
925.59

SIGN

MH

INL

U/C

FOUND

N

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 5 & 6)	SHEET 184	E

2

ROAD WORK AHEAD
W20-1-A

END ROAD WORK
G20-2A
48"X24"

350'

SIGN

HIGHFIELD DR.

R3-2
24"X24"

R11-2
48"X30"
ROAD CLOSED
TYPE III BARRICADE

R3-2
24"X24"

EXISTING TRAFFIC CONTROL
FROM STAGE 3&4 TO BE USED
FOR STAGE 5 & 6

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

STH 190 (CAPITOL DR) WB

STH 190

96 98 100 102 104 106 108 110

50'
TYP

TAPER END
STA. 96+60

R3-2
24"X24"

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

STH 190 (CAPITOL DR) EB

100'
TYP

R3-2
24"X24"

R3-2
24"X24"

R11-2R
48" X 30"
ROAD CLOSED
TYPE III BARRICADE

350'

FIVE FIELDS RD.

FIVE FIELDS RD

END ROAD WORK
G20-2A
48"X24"

ROAD WORK AHEAD
W20-1-A

N

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 5 & 6)	SHEET 185	E

2

2

N

STH 190 (CAPITOL DR) WB

STH 190 (CAPITOL DR) EB

112 114 116 118 120 122 124

100'
TYP

R11-2L
48" X 30"
ROAD
CLOSED

TYPE III BARRICADE

R3-2
24"X24"

R11-2L
48" X 30"
LANE
CLOSED

TYPE III BARRICADE

HUNTERS RIDGE RD

350'

R3-2
24"X24"

END
ROAD WORK
G20-2A
48"X24"

ROAD
WORK
AHEAD
W20-1-A

R11-2L
48" X 30"
LANE
CLOSED

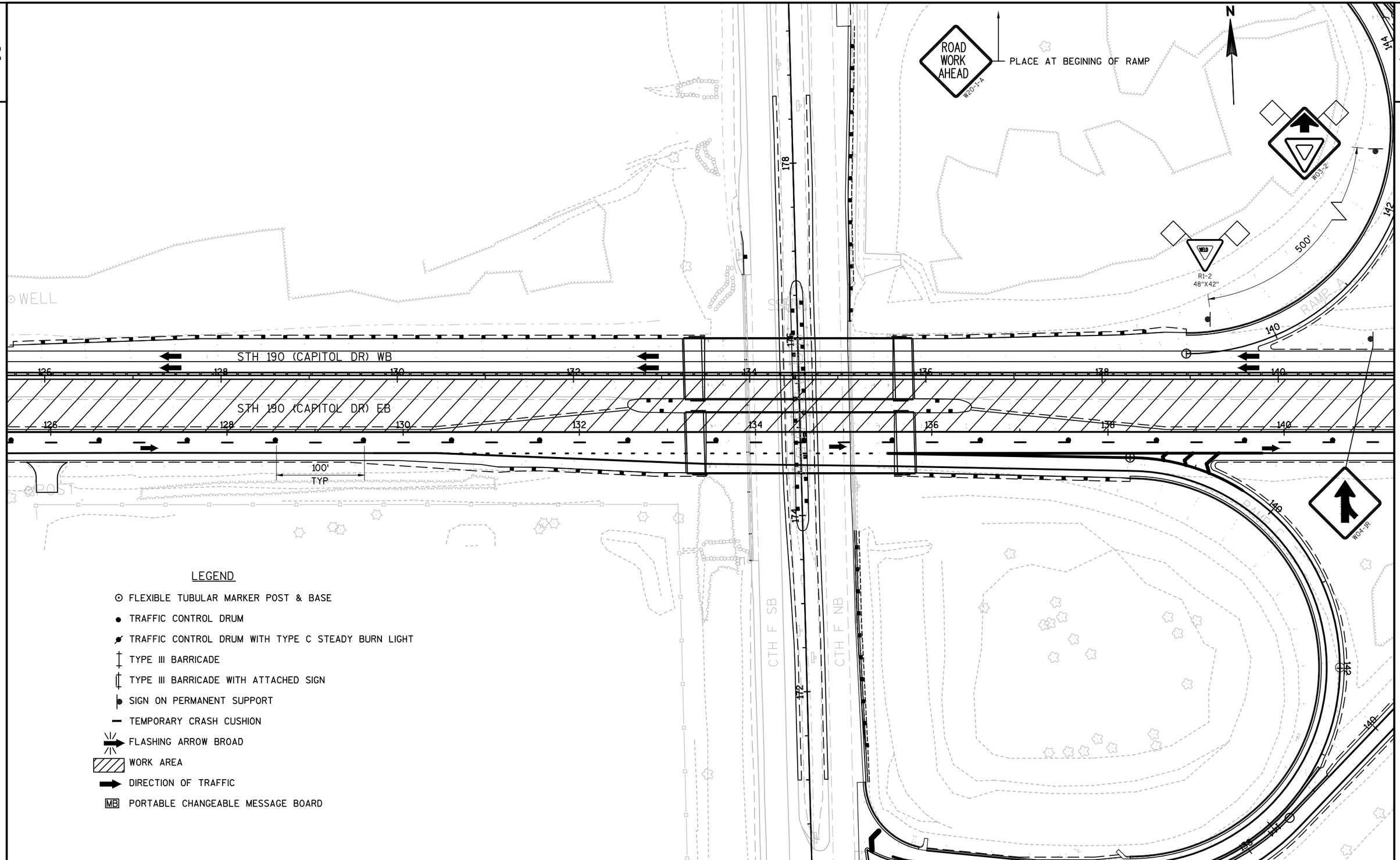
TYPE III BARRICADE

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 5 & 6)	SHEET 186	E

2



LEGEND

- ⊙ FLEXIBLE TUBULAR MARKER POST & BASE
- ● TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 5 & 6)	SHEET 187 E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\025001-TC (STAGE 5).DWG
LAYOUT NAME - 025004-TC (STAGE 5)
PLOT DATE : 10/21/2016 6:54 AM
PLOT BY : VAN STRATEN, LUKE A PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

2

N

EXIT

E5-1
72"X60"

RAMP B

STH 190 (CAPITOL DR) WB

STH 190 (CAPITOL DR) EB

RAMP D

100'
TYP

W04-1R

R3-2
24"X24"

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 5 & 6)	SHEET 188	E

2

N

ROAD WORK AHEAD
W20-1-A

END ROAD WORK
G20-2A
48"X24"

R3-2
24"X24"

WETHERSFIELD RD

DUPLAINVILLE RD

EXISTING TRAFFIC CONTROL FROM STAGE 3&4 TO BE USED FOR STAGE 5 & 6

50' TYP

STH 190 (CAPITOL DR) WB

STH 190 (CAPITOL DR) EB

158 160 162 164 166 168 170

100' TYP

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

R11-2L
48" X 30"
ROAD CLOSED
TYPE III BARRICADE

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 5 & 6)	SHEET 189	E

2

N

W1-4B
48"X48"

45
M.P.H.

W013-1
36"X36"

ROAD WORK 1500 FT
W20-1-B

ROAD WORK AHEAD
W20-1-A

ROAD WORK 1 MILE
W20-1-T

1600'

2200'

STA. 184+00

MB

MB

STH 190 (CAPITOL DR) WB

STH 190 (CAPITOL DR) EB

172 174 176 178 180 182 184 186

END ROAD WORK
G20-2A
48"X24"

POST

SIGN POST

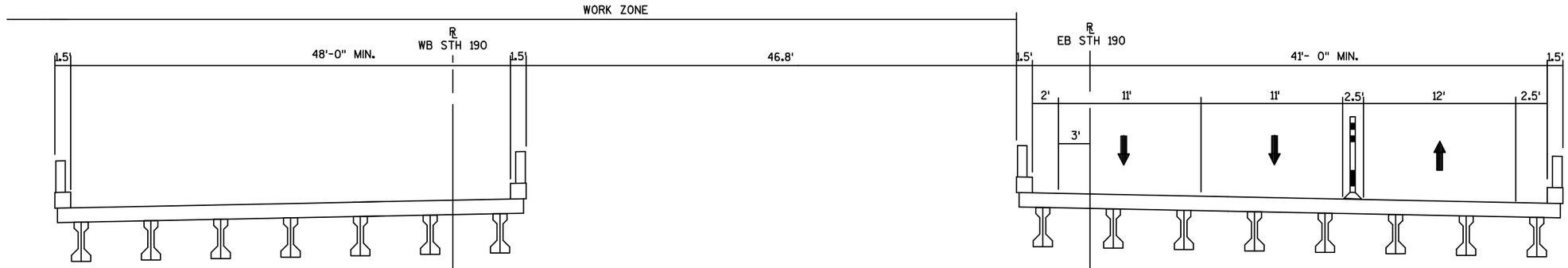
SIGN

LEGEND

- FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BROAD
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	TRAFFIC CONTROL (STAGE 5 & 6)	SHEET 190	E

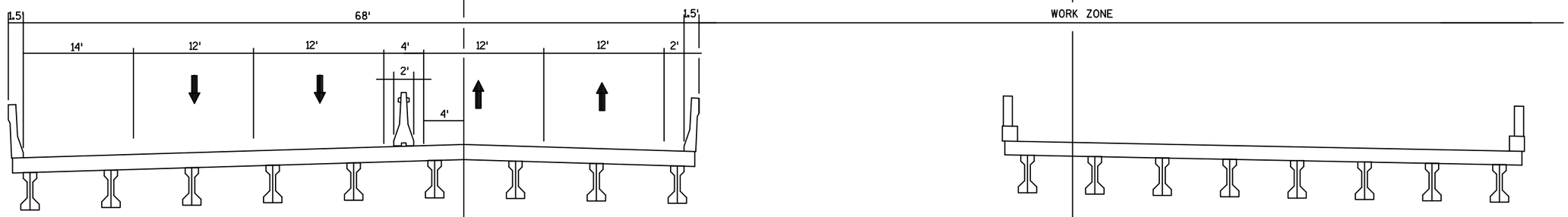
FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\025001-TC (STAGE 5).DWG
LAYOUT NAME - 025007-TC (STAGE 5)
PLOT DATE : 10/21/2016 6:55 AM PLOT BY : VAN STRATEN, LUKE A PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42



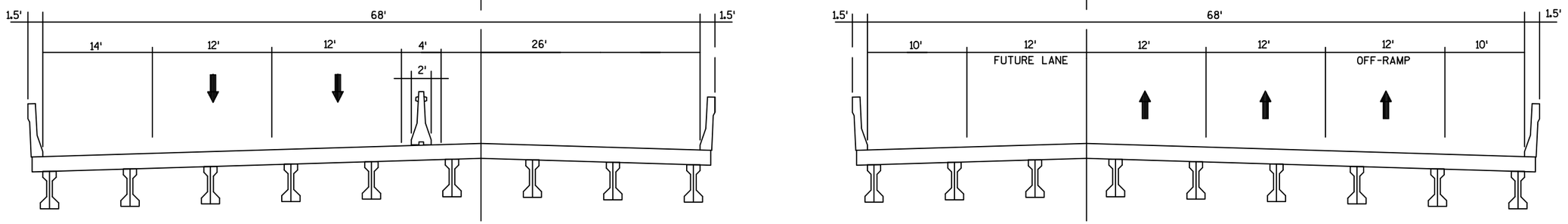
B-67-91 (WB)

B-67-92 (EB)

STAGE 2
STH 190 MAINLINE
AT CTH F



STAGE 4
STH 190 MAINLINE
AT CTH F



PROPOSED WB BRIDGE

PROPOSED EB BRIDGE

STAGE 5 & 6
STH 190 MAINLINE
AT CTH F

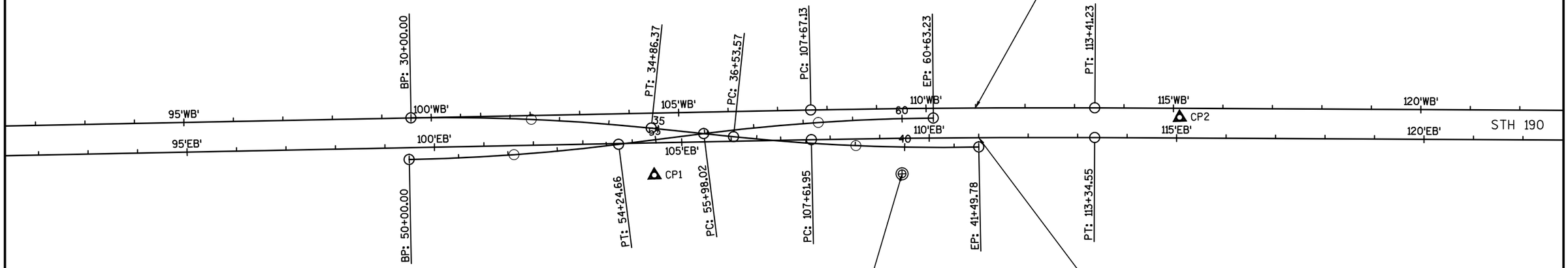
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	STAGE CONSTRUCTION - (STAGING AT CTH F)	SHEET 191	E

2

CONTROL POINTS					
POINT MARKER	N	E	STATION	OFFSET	ELEVATION
CP1	187228.019	687173.732	104'EB'+43.34	65.34 RT	940.51
CP2	187306.156	688238.745	115'WB'+12.69	18.36 RT	902.93
CP3	187143.094	689318.790	125'EB'+98.55	76.66 RT	878.02
CP4	187304.584	690842.948	141'WB'+14.73	87.67 LT	881.99
CP5	187250.676	691821.182	150'WB'+94.36	74.23 LT	898.71
CP6	187003.494	692889.002	161'EB'+64.71	69.12 RT	887.25
CP7	187124.380	694075.903	173'WB'+52.42	39.16 LT	876.00
CP21	187887.242	690049.916	181'F'+95.65	140.27 LT	873.90
CP22	186709.227	690074.784	170'F'+18.12	98.33 LT	872.98
CP24	187453.765	693581.612	168'WB'+45.35	348.50 LT	851.60
CP25	186666.165	693652.836	169'EB'+41.43	375.62 RT	866.68
HMOD 2X17	188022.947	690258.956	183'F'+34.43	66.84 RT	853.62

PI STA = 110+54.20
Y = 187343.446
X = 687781.379
DELTA = 1°25'53"
D = 0°14'58"
T = 287.06'
L = 574.10'
R = 22978.31'
PC STA = 107+67.13
Y = 187348.139
X = 687494.353
PT STA = 113+41.23
Y = 187331.585
X = 688068.199
BK = S89°03'48.3"E
AH = S87°37'54.9"E

BEGIN PROJECT
STA. 111+00 WB
X = 687827.123
Y = 187340.287



NOTE: SEE CROSSOVER DETAIL SHEET FOR CURVE DATA

PI STA = 110+48.27
Y = 187283.467
X = 687779.649
DELTA = 1°25'53"
D = 0°15'00"
T = 286.32'
L = 572.60'
R = 22918.31'
PC STA = 107+61.95
Y = 187288.147
X = 687493.372
PT STA = 113+34.55
Y = 187271.636
X = 688065.719
BK = S89°03'48.3"E
AH = S87°37'54.9"E

BEGIN PROJECT
STA. 111+00 EB
X = 687831.320
Y = 187280.129

SECTION CORNER
X=687674.0390
Y=187212.5810

T 7 N
11
R 19 E

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	ALIGNMENT DETAIL	SHEET 192	E

2

CONTROL POINTS

POINT MARKER	N	E	STATION	OFFSET	ELEVATION
CP1	187228.019	687173.732	104'EB'+43.34	65.34 RT	940.51
CP2	187306.156	688238.745	115'WB'+12.69	18.36 RT	902.93
CP3	187143.094	689318.790	125'EB'+98.55	76.66 RT	878.02
CP4	187304.584	690842.948	141'WB'+14.73	87.67 LT	881.99
CP5	187250.676	691821.182	150'WB'+94.36	74.23 LT	898.71
CP6	187003.494	692889.002	161'EB'+64.71	69.12 RT	887.25
CP7	187124.380	694075.903	173'WB'+52.42	39.16 LT	876.00
CP21	187887.242	690049.916	181'F'+95.65	140.27 LT	873.90
CP22	186709.227	690074.784	170'F'+18.12	98.33 LT	872.98
CP24	187453.765	693581.612	168'WB'+45.35	348.50 LT	851.60
CP25	186666.165	693652.836	169'EB'+41.43	375.62 RT	866.68
HMOD 2X17	188022.947	690258.956	183'F'+34.43	66.84 RT	853.62

DO NOT DISTURB HMOD 2X17 MONUMENT

HMOD 2X17

CP21

CP4

CP5

CP3

CP22

BP: 132+88.52
X = 690238.399
Y = 187804.138

S87° 37' 48"E
377.66'

PC: 136+66.19

CURVE B1

135'B'

150'A'

405.26'
N87° 37' 48"W

PT: 139+12.97

145'A'

140'B'

EP: 151+03.25
X = 690237.812
Y = 187782.144

PT: 146+97.99

CURVE A

BP: 138+95.63
X = 690621.609
Y = 187255.015

140'A'

S41° 05' 48"E
486.05'

PC: 143+99.02

CURVE B2

145'B'

EP: 146+20.75
X = 691346.110
Y = 187225.054

S87° 37' 55"E
4449.83'

4449.87'

STH 190

CTH F

SECTION CORNER
X=690265.8440
Y=187170.7530

BP: 138+25.12
X = 690552.959
Y = 187139.754

140'C'

CURVE C

CURVE D2

145'D'

EP: 146+45.80
X = 691372.944
Y = 187105.844

PC: 141+75.60

140'D'

N46° 04' 43"E
316.71'

EP: 148+84.56
X = 690222.103
Y = 186676.838

311.45'
N87° 37' 55"W

PT: 145+73.12

145'C'

CURVE D1

PT: 138+58.88

135'D'

S87° 37' 55"E
311.18'

BP: 133+45.25
X = 690221.958
Y = 186666.835

PC: 136+56.43

CURVE A

CURVE CENTER POINT
Y = 187510.200
X = 690632.162
DELTA = 179°59'53"
D = 22°26'01"
T = 14669334.07'
L = 802.36'
R = 255.40'
PC STA = 138+95.63
Y = 187255.015
X = 690621.609
PT STA = 146+97.99
Y = 187765.385
X = 690642.724
BK = S87°37'54.9"E
AH = N87°37'47.7"W

CURVE B1

PI STA = 137+96.84
Y = 187783.117
X = 690746.280
DELTA = 46°32'00"
D = 18°51'22"
T = 130.65'
L = 246.78'
R = 303.86'
PC STA = 136+66.19
Y = 187788.520
X = 690615.741
PT STA = 139+12.97
Y = 187684.658
X = 690832.162
BK = S87°37'47.7"E
AH = S41°05'47.8"E

CURVE B2

PI STA = 145+16.41
Y = 187229.905
X = 691228.821
DELTA = 46°32'07"
D = 20°59'15"
T = 117.39'
L = 221.73'
R = 273.00'
PC STA = 143+99.02
Y = 187318.370
X = 691151.657
PT STA = 146+20.75
Y = 187225.054
X = 691346.110
BK = S41°05'47.8"E
AH = S87°37'54.9"E

CURVE C

CURVE CENTER POINT
Y = 186901.861
X = 690543.121
DELTA = 180°00'00"
D = 24°03'51"
T = INFINITY
L = 748.00'
R = 238.10'
PC STA = 138+25.12
Y = 187139.754
X = 690552.959
PT STA = 145+73.12
Y = 186663.969
X = 690533.283
BK = S87°37'54.9"E
AH = N87°37'54.9"W

CURVE D1

PI STA = 137+63.55
Y = 186649.552
X = 690639.898
DELTA = 46°17'22"
D = 22°51'50"
T = 107.12'
L = 202.46'
R = 250.60'
PC STA = 136+56.43
Y = 186653.978
X = 690532.870
PT STA = 138+58.88
Y = 186723.857
X = 690717.055
BK = S87°37'54.9"E
AH = N46°04'42.9"E

CURVE D2

PI STA = 144+24.38
Y = 187116.123
X = 691124.375
DELTA = 46°17'22"
D = 9°50'41"
T = 248.78'
L = 470.20'
R = 582.00'
PC STA = 141+75.60
Y = 186943.551
X = 690945.179
PT STA = 146+45.80
Y = 187105.844
X = 691372.944
BK = N46°04'42.9"E
AH = S87°37'54.9"E

125'WB' 130'WB' 135'WB' 140'WB' 145'WB' 150'WB'

125'EB' 130'EB' 135'EB' 140'EB' 145'EB' 150'EB'

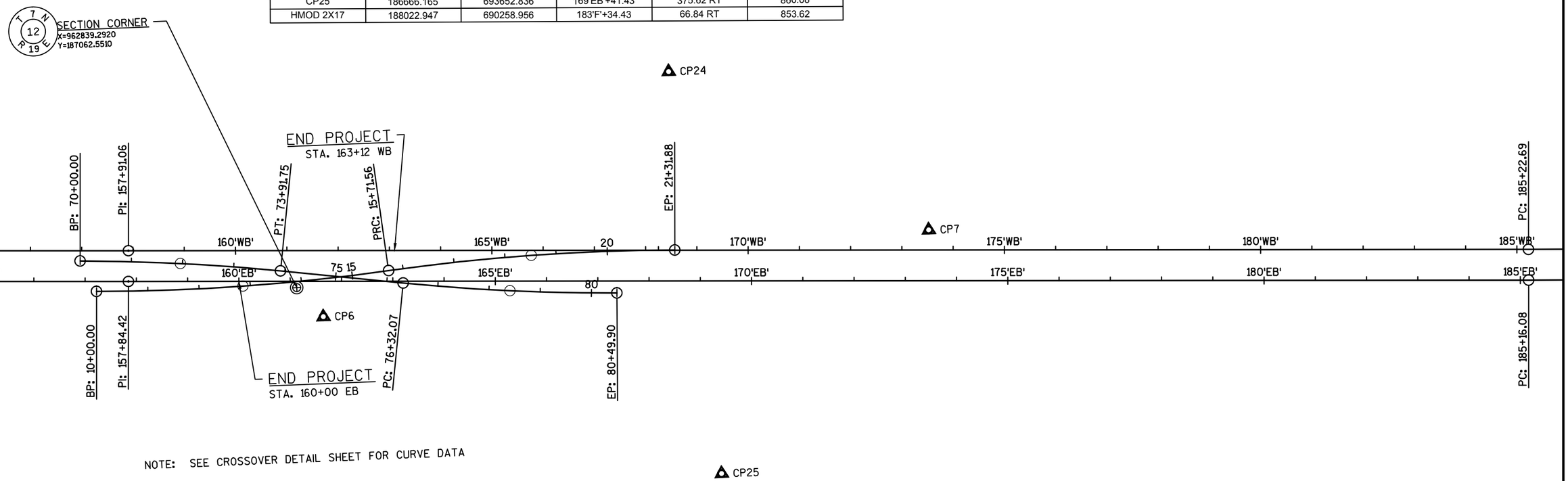
180'F' 175'F' 170'F'

N

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	ALIGNMENT DETAIL	SHEET 193	E

2

CONTROL POINTS					
POINT MARKER	N	E	STATION	OFFSET	ELEVATION
CP1	187228.019	687173.732	104'EB'+43.34	65.34 RT	940.51
CP2	187306.156	688238.745	115'WB'+12.69	18.36 RT	902.93
CP3	187143.094	689318.790	125'EB'+98.55	76.66 RT	878.02
CP4	187304.584	690842.948	141'WB'+14.73	87.67 LT	881.99
CP5	187250.676	691821.182	150'WB'+94.36	74.23 LT	898.71
CP6	187003.494	692889.002	161'EB'+64.71	69.12 RT	887.25
CP7	187124.380	694075.903	173'WB'+52.42	39.16 LT	876.00
CP21	187887.242	690049.916	181'F'+95.65	140.27 LT	873.90
CP22	186709.227	690074.784	170'F'+18.12	98.33 LT	872.98
CP24	187453.765	693581.612	168'WB'+45.35	348.50 LT	851.60
CP25	186666.165	693652.836	169'EB'+41.43	375.62 RT	866.68
HMOD 2X17	188022.947	690258.956	183'F'+34.43	66.84 RT	853.62

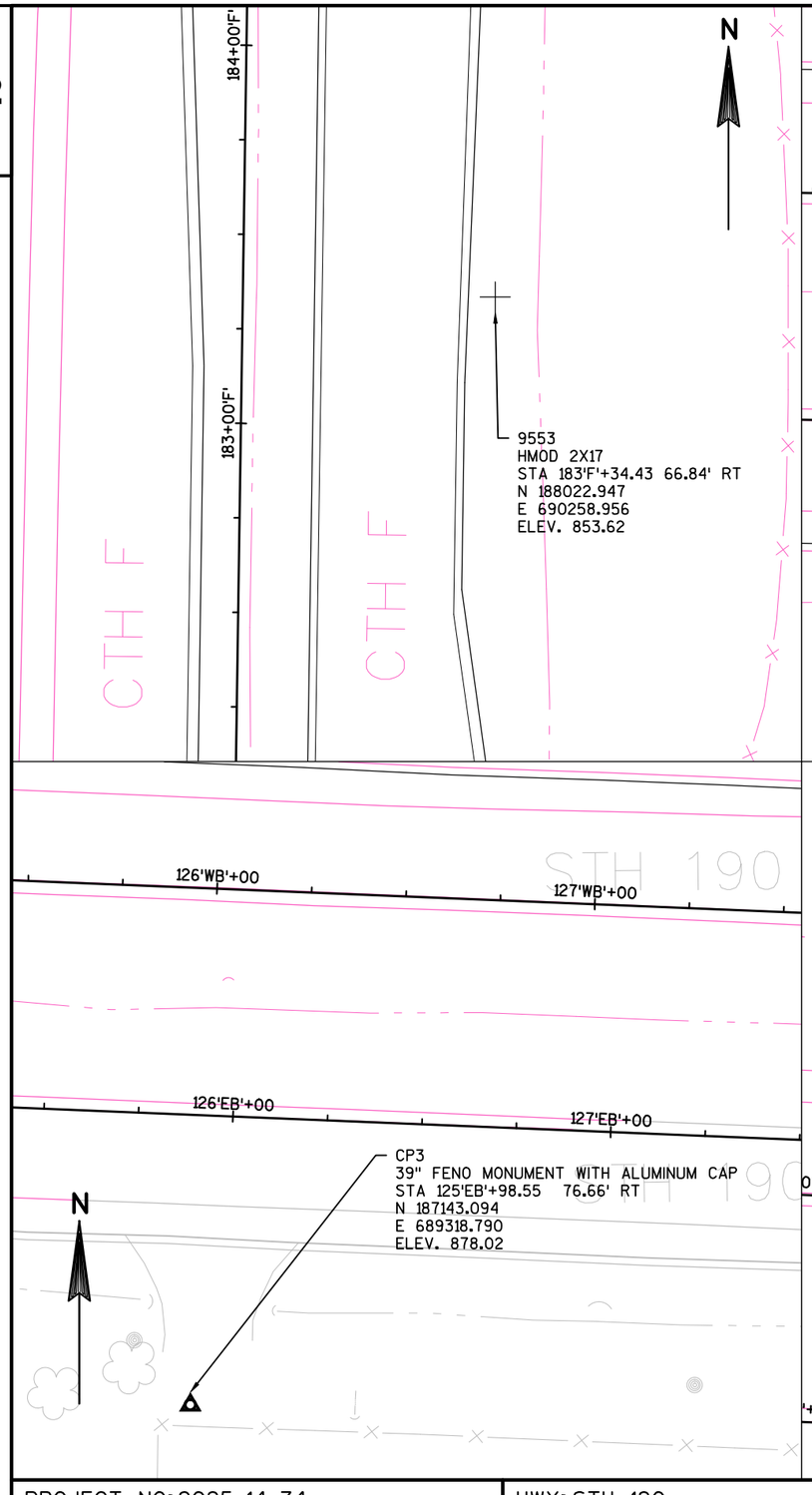


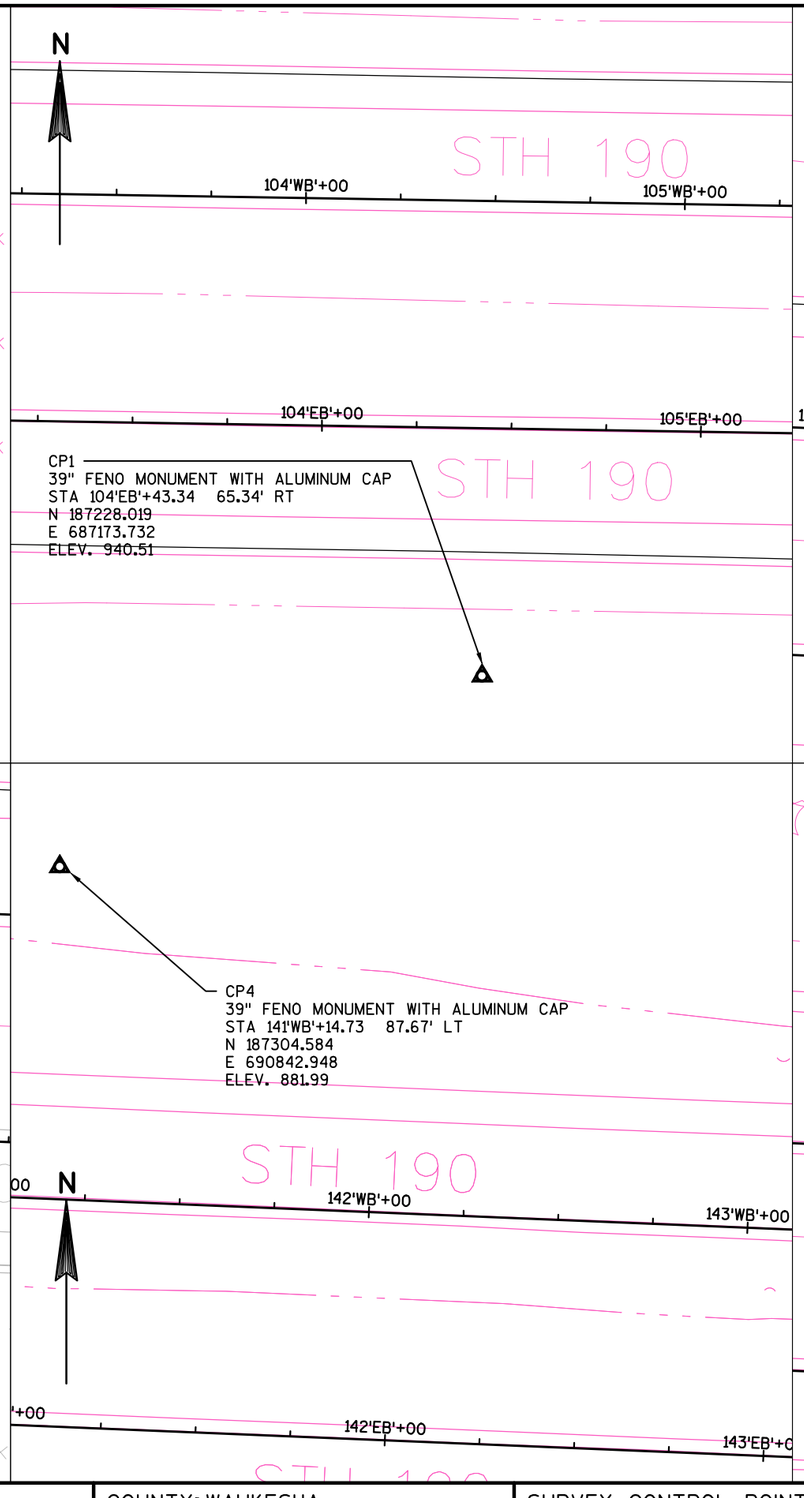
NOTE: SEE CROSSOVER DETAIL SHEET FOR CURVE DATA

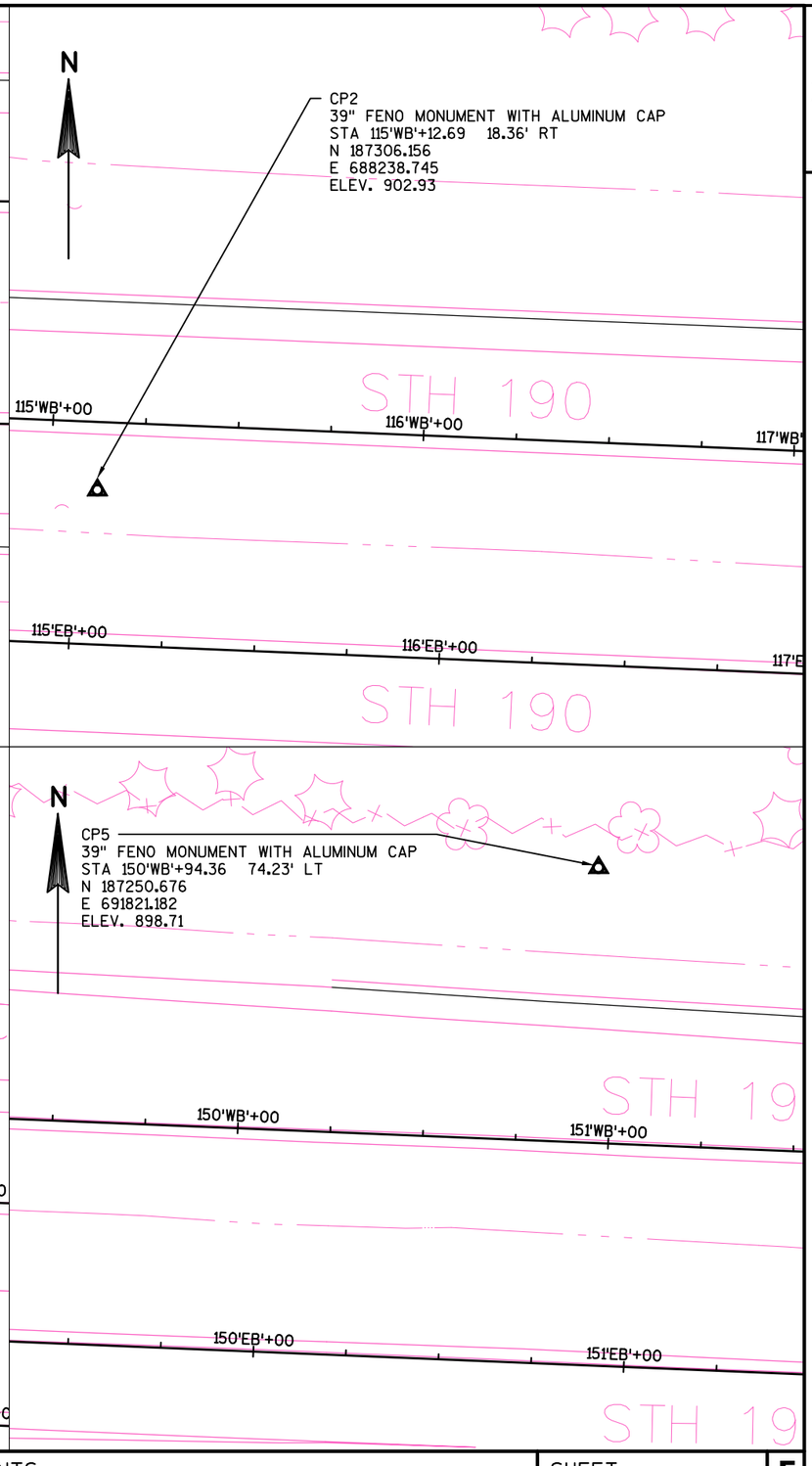
CP25

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	ALIGNMENT DETAIL	SHEET 194	E

2







PROJECT NO: 2025-14-74	HWY: STH 190	COUNTY: WAUKESHA	SURVEY CONTROL POINTS	SHEET 195	E

2

N

STH 190

162'WB'+00

163'WB'+00

162'EB'+00

163'EB'+00

STH 190

CP6
39" FENO MONUMENT WITH ALUMINUM CAP
STA 161'EB'+64.71 69.12' RT
N 187003.494
E 692889.002
ELEV. 887.25

N

174'WB'+00

175'WB'+00

STH 190

CP7
39" FENO MONUMENT WITH ALUMINUM CAP
STA 173'WB'+52.42 39.16' LT
N 187124.380
E 694075.903
ELEV. 876.00

N

174'EB'+00

175'EB'+00

STH 190

N

SIGN

CP21
39" FENO MONUMENT WITH ALUMINUM CAP
STA 181'F'+95.65 140.27'LT
N 187887.242
E 690049.916
ELEV. 873.90

CTH F

183

182+00'F'

BP: 132+88.52'B'

133'B'+0

SIGN

2

N

CP22
39" FENO MONUMENT WITH ALUMINUM CAP
STA 170'F'+18.12 98.33' LT
N 186709.227
E 690074.784
ELEV. 782.98

CTH F

171+00'F'

170+00'F'

CTH F

BP: 133+45.25'D'

N

CP24
39" FENO MONUMENT WITH ALUMINUM CAP
STA 168'WB'+45.35 348.50' LT
N 187453.765
E 693581.612
ELEV. 851.60

DUPLAINVILLE RD.

DUPLAINVILLE RD.

N

CP25
39" FENO MONUMENT WITH ALUMINUM CAP
STA 169'EB'+41.43 375.62' RT
N 186666.165
E 693652.836
ELEV. 866.68

PROJECT NO: 2025-14-74	HWY: STH 190	COUNTY: WAUKESHA	SURVEY CONTROL POINTS	SHEET 196 E

2025-13-71

Line	Item	Item Description	Unit	Total	Qty
0010	201.0105	Clearing	STA	50.000	50.000
0020	201.0205	Grubbing	STA	50.000	50.000
0030	203.0100	Removing Small Pipe Culverts	EACH	19.000	19.000
0040	203.0200	Removing Old Structure (station) 01. 134+56	LS	1.000	1.000
0050	203.0200	Removing Old Structure (station) 02. 134+56	LS	1.000	1.000
0060	203.0225.S	Debris Containment (structure) 01. B-67-331	LS	1.000	1.000
0070	203.0225.S	Debris Containment (structure) 02. B-67-332	LS	1.000	1.000
0080	204.0100	Removing Pavement	SY	43,396.000	43,396.000
0090	204.0110	Removing Asphaltic Surface	SY	2,301.000	2,301.000
0100	204.0150	Removing Curb & Gutter	LF	573.000	573.000
0110	204.0157	Removing Concrete Barrier	LF	668.000	668.000
0120	204.0165	Removing Guardrail	LF	1,703.000	1,703.000
0130	204.0190	Removing Surface Drains	EACH	13.000	13.000
0140	204.0195	Removing Concrete Bases	EACH	9.000	9.000
0150	204.0210	Removing Manholes	EACH	3.000	3.000
0160	204.0220	Removing Inlets	EACH	18.000	18.000
0170	204.0245	Removing Storm Sewer (size) 01. 12-inch	LF	30.000	30.000
0180	204.0245	Removing Storm Sewer (size) 02. 18-inch	LF	271.000	271.000
0190	204.0245	Removing Storm Sewer (size) 03. 24-inch	LF	222.000	222.000
0200	204.0245	Removing Storm Sewer (size) 04. 30-inch	LF	136.000	136.000
0210	204.0245	Removing Storm Sewer (size) 05. 16x28-inch RCEP	LF	111.000	111.000
0220	204.0245	Removing Storm Sewer (size) 06. 19x27-inch CMP	LF	92.000	92.000
0230	204.9165.S	Removing (item description) 01. Concrete Ditch	SF	9,881.000	9,881.000
0240	205.0100	Excavation Common	CY	109,071.000	109,071.000
0250	206.1000	Excavation for Structures Bridges (structure) 01. B-67-331	LS	1.000	1.000
0260	206.1000	Excavation for Structures Bridges (structure) 02. B-67-332	LS	1.000	1.000
0270	208.0100	Borrow	CY	4,238.000	4,238.000
0280	210.1100	Backfill Structure Type A	CY	920.000	920.000
0290	213.0100	Finishing Roadway (project) 01. 2025-13-71	EACH	1.000	1.000
0300	305.0110	Base Aggregate Dense 3/4-Inch	TON	5,038.000	5,038.000
0310	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	57,148.000	57,148.000
0320	311.0110	Breaker Run	TON	17,660.000	17,660.000
0330	371.1000.S	QMP Base Aggregate Dense 1 1/4-Inch Compaction	TON	32,116.000	32,116.000
0340	390.0403	Base Patching Concrete Shes	SY	100.000	100.000
0350	415.0070	Concrete Pavement 7-Inch	SY	13,689.000	13,689.000
0360	415.0080	Concrete Pavement 8-Inch	SY	39,931.000	39,931.000
0370	415.0100	Concrete Pavement 10-Inch	SY	73.000	73.000
0380	415.0210	Concrete Pavement Gaps	EACH	1.000	1.000

2025-13-71

Line	Item	Item Description	Unit	Total	Qty
0390	415.0410	Concrete Pavement Approach Slab	SY	329.000	329.000
0400	416.0610	Drilled Tie Bars	EACH	1,574.000	1,574.000
0410	416.0620	Drilled Dowel Bars	EACH	88.000	88.000
0420	416.1010	Concrete Surface Drains	CY	44.000	44.000
0430	440.4410	Incentive IRI Ride	DOL	9,399.000	9,399.000
0440	450.1100.S	Asphaltic Mixture For Extreme Conditions	TON	3,173.000	3,173.000
0450	450.4000	HMA Cold Weather Paving	TON	797.000	797.000
0460	460.2000	Incentive Density HMA Pavement	DOL	1,760.000	1,760.000
0470	460.5224	HMA Pavement 4 LT 58-28 S	TON	2,747.000	2,747.000
0480	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	103.000	103.000
0490	465.0125	Asphaltic Surface Temporary	TON	8,070.000	8,070.000
0500	465.0310	Asphaltic Curb	LF	64.000	64.000
0510	501.1000.S	Ice Hot Weather Concreting	LB	7,250.000	7,250.000
0520	502.0100	Concrete Masonry Bridges	CY	1,934.000	1,934.000
0530	502.3200	Protective Surface Treatment	SY	3,980.000	3,980.000
0540	502.3210	Pigmented Surface Sealer	SY	430.000	430.000
0550	503.0146	Prestressed Girder Type I 45W-Inch	LF	3,902.000	3,902.000
0560	505.0400	Bar Steel Reinforcement HS Structures	LB	23,240.000	23,240.000
0570	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	362,420.000	362,420.000
0580	505.0800.S	Bar Steel Reinforcement HS Stainless Structures	LB	4,820.000	4,820.000
0590	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	72.000	72.000
0600	506.4000	Steel Diaphragms (structure) 01. B-67-331	EACH	32.000	32.000
0610	506.4000	Steel Diaphragms (structure) 02. B-67-332	EACH	32.000	32.000
0620	511.1200	Temporary Shoring (structure) 02. B-67-332	SF	550.000	550.000
0630	516.0500	Rubberized Membrane Waterproofing	SY	52.000	52.000
0640	520.1018	Apron Endwalls for Culvert Pipe 18-Inch	EACH	3.000	3.000
0650	520.2018	Culvert Pipe Temporary 18-Inch	LF	748.700	748.700
0660	520.2024	Culvert Pipe Temporary 24-Inch	LF	664.000	664.000
0670	520.2036	Culvert Pipe Temporary 36-Inch	LF	3.900	3.900
0680	520.8000	Concrete Collars for Pipe	EACH	1.000	1.000
0690	521.0112	Culvert Pipe Corrugated Steel 12-Inch	LF	18.000	18.000
0700	521.0118	Culvert Pipe Corrugated Steel 18-Inch	LF	52.000	52.000
0710	521.0124	Culvert Pipe Corrugated Steel 24-Inch	LF	224.800	224.800
0720	521.0336	Apron Endwalls for Culvert Pipe Sloped Cross Drains Steel 36-Inch 4 to 1	EACH	1.000	1.000
0730	521.0728	Pipe Arch Corrugated Steel 28x20-Inch	LF	108.300	108.300
0740	521.1012	Apron Endwalls for Culvert Pipe Steel 12-Inch	EACH	2.000	2.000
0750	521.1018	Apron Endwalls for Culvert Pipe Steel 18-Inch	EACH	4.000	4.000
0760	521.1024	Apron Endwalls for Culvert Pipe Steel 24-Inch	EACH	2.000	2.000
0770	521.1524	Apron Endwalls for Culvert Pipe Sloped Side Drains	EACH	6.000	6.000

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Line	Item	Item Description	Unit	Total	Qty
		Steel 24-Inch 6 to 1			
0780	521.1728	Apron Endwalls for Pipe Arch Sloped Side Drains Steel 28x20-Inch 6 to 1	EACH	2.000	2.000
0790	522.0318	Culvert Pipe Reinforced Concrete Class IV 18-Inch	LF	272.000	272.000
0800	522.0324	Culvert Pipe Reinforced Concrete Class IV 24-Inch	LF	122.000	122.000
0810	522.0336	Culvert Pipe Reinforced Concrete Class IV 36-Inch	LF	128.000	128.000
0820	522.0342	Culvert Pipe Reinforced Concrete Class IV 42-Inch	LF	216.000	216.000
0830	522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	EACH	15.000	15.000
0840	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	6.000	6.000
0850	522.1036	Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch	EACH	3.000	3.000
0860	522.1042	Apron Endwalls for Culvert Pipe Reinforced Concrete 42-Inch	EACH	2.000	2.000
0870	523.0424	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 24x38-Inch	LF	124.000	124.000
0880	523.0519	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 19x30-Inch	EACH	3.000	3.000
0890	523.0524	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 24x38-Inch	EACH	4.000	4.000
0900	524.0624	Apron Endwalls for Culvert Pipe Salvaged 24-Inch	EACH	2.000	2.000
0910	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	3,120.000	3,120.000
0920	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	206.000	206.000
0930	601.0413	Concrete Curb & Gutter 6-Inch Sloped 30-Inch Type G	LF	221.000	221.000
0940	601.0555	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type A	LF	4,876.000	4,876.000
0950	601.0590	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBTT	LF	151.000	151.000
0960	602.0405	Concrete Sidewalk 4-Inch	SF	7,223.000	7,223.000
0970	603.1142	Concrete Barrier Type S42	LF	564.000	564.000
0980	603.8000	Concrete Barrier Temporary Precast Delivered	LF	12,775.000	12,775.000
0990	603.8125	Concrete Barrier Temporary Precast Installed	LF	14,550.000	14,550.000
1000	604.0400	Slope Paving Concrete	SY	1,100.000	1,100.000
1010	606.0200	Riprap Medium	CY	350.100	350.100
1020	608.0412	Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	LF	39.900	39.900
1030	608.0415	Storm Sewer Pipe Reinforced Concrete Class IV 15-Inch	LF	16.800	16.800
1040	608.0418	Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch	LF	416.600	416.600
1050	608.0424	Storm Sewer Pipe Reinforced Concrete Class IV 24-Inch	LF	142.600	142.600

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Line	Item	Item Description	Unit	Total	Qty
1060	608.0436	Storm Sewer Pipe Reinforced Concrete Class IV 36-Inch	LF	154.300	154.300
1070	610.0419	Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 19x30-Inch	LF	222.700	222.700
1080	610.0424	Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 24x38-Inch	LF	124.000	124.000
1090	611.0430	Reconstructing Inlets	EACH	1.000	1.000
1100	611.0627	Inlet Covers Type HM	EACH	16.000	16.000
1110	611.0642	Inlet Covers Type MS	EACH	19.000	19.000
1120	611.2005	Manholes 5-FT Diameter	EACH	4.000	4.000
1130	611.2055	Manholes 5x5-FT	EACH	1.000	1.000
1140	611.3004	Inlets 4-FT Diameter	EACH	8.000	8.000
1150	611.3230	Inlets 2x3-FT	EACH	3.000	3.000
1160	611.3901	Inlets Median 1 Grate	EACH	7.000	7.000
1170	611.3902	Inlets Median 2 Grate	EACH	6.000	6.000
1180	612.0206	Pipe Underdrain Unperforated 6-Inch	LF	28.000	28.000
1190	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	1,240.000	1,240.000
1200	612.0806	Apron Endwalls for Underdrain Reinforced Concrete 6-Inch	EACH	4.000	4.000
1210	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	8.000	8.000
1220	614.0200	Steel Thrie Beam Structure Approach	LF	86.700	86.700
1230	614.0220	Steel Thrie Beam Bullnose Terminal	EACH	4.000	4.000
1240	614.0230	Steel Thrie Beam	LF	387.000	387.000
1250	614.0305	Steel Plate Beam Guard Class A	LF	12.500	12.500
1260	614.0905	Crash Cushions Temporary	EACH	12.000	12.000
1270	614.2300	MGS Guardrail 3	LF	1,787.500	1,787.500
1280	614.2500	MGS Thrie Beam Transition	LF	118.200	118.200
1290	614.2610	MGS Guardrail Terminal EAT	EACH	3.000	3.000
1300	614.2620	MGS Guardrail Terminal Type 2	EACH	3.000	3.000
1310	619.1000	Mobilization	EACH	1.000	1.000
1320	620.0300	Concrete Median Sloped Nose	SF	356.000	356.000
1330	624.0100	Water	MGAL	1,500.000	1,500.000
1340	625.0500	Salvaged Topsoil	SY	120,892.000	120,892.000
1350	628.1504	Silt Fence	LF	2,892.000	2,892.000
1360	628.1520	Silt Fence Maintenance	LF	4,687.000	4,687.000
1370	628.1905	Mobilizations Erosion Control	EACH	15.000	15.000
1380	628.1910	Mobilizations Emergency Erosion Control	EACH	10.000	10.000
1390	628.2004	Erosion Mat Class I Type B	SY	144,633.000	144,633.000
1400	628.6510	Soil Stabilizer Type B	ACRE	3.320	3.320
1410	628.7005	Inlet Protection Type A	EACH	17.000	17.000
1420	628.7010	Inlet Protection Type B	EACH	3.000	3.000

2025-13-71

Line	Item	Item Description	Unit	Total	Qty
1430	628.7015	Inlet Protection Type C	EACH	24.000	24.000
1440	628.7504	Temporary Ditch Checks	LF	2,810.000	2,810.000
1450	628.7555	Culvert Pipe Checks	EACH	178.000	178.000
1460	628.7560	Tracking Pads	EACH	6.000	6.000
1470	629.0210	Fertilizer Type B	CWT	8.500	8.500
1480	630.0140	Seeding Mixture No. 40	LB	362.700	362.700
1490	630.0200	Seeding Temporary	LB	252.500	252.500
1500	633.5200	Markers Culvert End	EACH	34.000	34.000
1510	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	185.000	185.000
1520	634.0624	Posts Wood 4x6-Inch X 24-FT	EACH	10.000	10.000
1530	637.2210	Signs Type II Reflective H	SF	2,109.645	2,109.645
1540	637.2215	Signs Type II Reflective H Folding	SF	44.760	44.760
1550	637.2230	Signs Type II Reflective F	SF	386.250	386.250
1560	638.2602	Removing Signs Type II	EACH	127.000	127.000
1570	638.3000	Removing Small Sign Supports	EACH	149.000	149.000
1580	643.0100	Traffic Control (project) 01. 2025-13-71	EACH	1.000	1.000
1590	643.0300	Traffic Control Drums	DAY	80,924.000	80,924.000
1600	643.0420	Traffic Control Barricades Type III	DAY	9,869.000	9,869.000
1610	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	242.000	242.000
1620	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	242.000	242.000
1630	643.0705	Traffic Control Warning Lights Type A	DAY	19,738.000	19,738.000
1640	643.0715	Traffic Control Warning Lights Type C	DAY	20,771.000	20,771.000
1650	643.0800	Traffic Control Arrow Boards	DAY	1,508.000	1,508.000
1660	643.0900	Traffic Control Signs	DAY	27,263.000	27,263.000
1670	643.1000	Traffic Control Signs Fixed Message	SF	84.000	84.000
1680	643.1050	Traffic Control Signs PCMS	DAY	843.000	843.000
1690	643.2000	Traffic Control Detour (project) 01. 2025-13-71	EACH	1.000	1.000
1700	643.3000	Traffic Control Detour Signs	DAY	30,831.000	30,831.000
1710	645.0120	Geotextile Type HR	SY	1,153.000	1,153.000
1720	646.0600	Removing Pavement Markings	LF	31,429.500	31,429.500
1730	646.0842.S	Pavement Marking Grooved Contrast Wet Reflective Epoxy 4-Inch	LF	40,515.500	40,515.500
1740	646.0844.S	Pavement Marking Grooved Contrast Wet Reflective Epoxy 8-Inch	LF	7,881.000	7,881.000
1750	646.0900.S	Pavement Marking Late Season	LF	49,181.000	49,181.000
1760	647.0166	Pavement Marking Arrows Epoxy Type 2	EACH	12.000	12.000
1770	647.0186	Pavement Marking Arrows Epoxy Type 4	EACH	4.000	4.000
1780	647.0196	Pavement Marking Arrows Epoxy Type 5	EACH	4.000	4.000
1790	647.0356	Pavement Marking Words Epoxy	EACH	8.000	8.000
1800	647.0456	Pavement Marking Curb Epoxy	LF	40.000	40.000

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Line	Item	Item Description	Unit	Total	Qty
1810	647.0526	Pavement Marking Yield Line Symbols Epoxy 18-Inch	EACH	19.000	19.000
1820	647.0566	Pavement Marking Stop Line Epoxy 18-Inch	LF	116.000	116.000
1830	647.0606	Pavement Marking Island Nose Epoxy	EACH	4.000	4.000
1840	647.0726	Pavement Marking Diagonal Epoxy 12-Inch	LF	199.000	199.000
1850	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	86,004.000	86,004.000
1860	649.0402	Temporary Pavement Marking Paint 4-Inch	LF	33,059.000	33,059.000
1870	649.0801	Temporary Pavement Marking Removable Tape 8-Inch	LF	305.000	305.000
1880	650.4000	Construction Staking Storm Sewer	EACH	36.000	36.000
1890	650.4500	Construction Staking Subgrade	LF	25,919.000	25,919.000
1900	650.5000	Construction Staking Base	LF	11,034.000	11,034.000
1910	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	141.000	141.000
1920	650.6000	Construction Staking Pipe Culverts	EACH	17.000	17.000
1930	650.6500	Construction Staking Structure Layout (structure) 01. B-67-331	LS	1.000	1.000
1940	650.6500	Construction Staking Structure Layout (structure) 02. B-67-332	LS	1.000	1.000
1950	650.7000	Construction Staking Concrete Pavement	LF	14,885.000	14,885.000
1960	650.7500	Construction Staking Concrete Barrier	LF	564.000	564.000
1970	650.8500	Construction Staking Electrical Installations (project) 01. 2025-13-71	LS	1.000	1.000
1980	650.9910	Construction Staking Supplemental Control (project) 01. 2025-13-71	LS	1.000	1.000
1990	650.9920	Construction Staking Slope Stakes	LF	29,931.000	29,931.000
2000	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	1,217.000	1,217.000
2010	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	990.000	990.000
2020	652.0615	Conduit Special 3-Inch	LF	572.000	572.000
2030	652.0800	Conduit Loop Detector	LF	1,108.000	1,108.000
2040	653.0135	Pull Boxes Steel 24x36-Inch	EACH	6.000	6.000
2050	653.0140	Pull Boxes Steel 24x42-Inch	EACH	13.000	13.000
2060	653.0905	Removing Pull Boxes	EACH	13.000	13.000
2070	654.0101	Concrete Bases Type 1	EACH	5.000	5.000
2080	654.0102	Concrete Bases Type 2	EACH	1.000	1.000
2090	654.0105	Concrete Bases Type 5	EACH	3.000	3.000
2100	654.0113	Concrete Bases Type 13	EACH	2.000	2.000
2110	654.0217	Concrete Control Cabinet Bases Type 9 Special	EACH	1.000	1.000
2120	655.0230	Cable Traffic Signal 5-14 AWG	LF	347.000	347.000
2130	655.0240	Cable Traffic Signal 7-14 AWG	LF	2,372.000	2,372.000
2140	655.0260	Cable Traffic Signal 12-14 AWG	LF	471.000	471.000
2150	655.0305	Cable Type UF 2-12 AWG Grounded	LF	804.000	804.000
2160	655.0515	Electrical Wire Traffic Signals 10 AWG	LF	2,091.000	2,091.000
2170	655.0610	Electrical Wire Lighting 12 AWG	LF	702.000	702.000

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Line	Item	Item Description	Unit	Total	Qty
2180	655.0700	Loop Detector Lead In Cable	LF	6,109.000	6,109.000
2190	655.0800	Loop Detector Wire	LF	4,084.000	4,084.000
2200	655.0900	Traffic Signal EVP Detector Cable	LF	1,234.000	1,234.000
2210	656.0200	Electrical Service Meter Breaker Pedestal (location) 01. STH 190 WB OFF RAMP & CTH F	LS	1.000	1.000
2220	657.0100	Pedestal Bases	EACH	6.000	6.000
2230	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	3.000	3.000
2240	657.0305	Poles Type 2 01. Aluminum	EACH	1.000	1.000
2250	657.0322	Poles Type 5-Aluminum	EACH	3.000	3.000
2260	657.0420	Traffic Signal Standards Aluminum 13-FT	EACH	4.000	4.000
2270	657.0425	Traffic Signal Standards Aluminum 15-FT	EACH	1.000	1.000
2280	657.0610	Luminaire Arms Single Member 4 1/2-Inch Clamp 6-FT	EACH	6.000	6.000
2290	657.1355	Install Poles Type 12	EACH	2.000	2.000
2300	657.1545	Install Monotube Arms 45-FT	EACH	1.000	1.000
2310	657.1555	Install Monotube Arms 55-FT	EACH	1.000	1.000
2320	658.0110	Traffic Signal Face 3-12 Inch Vertical	EACH	10.000	10.000
2330	658.0115	Traffic Signal Face 4-12 Inch Vertical	EACH	2.000	2.000
2340	658.0215	Backplates Signal Face 3 Section 12-Inch	EACH	10.000	10.000
2350	658.0220	Backplates Signal Face 4 Section 12-Inch	EACH	2.000	2.000
2360	658.0600	Led Modules 12-Inch Red Ball	EACH	10.000	10.000
2370	658.0605	Led Modules 12-Inch Yellow Ball	EACH	8.000	8.000
2380	658.0610	Led Modules 12-Inch Green Ball	EACH	8.000	8.000
2390	658.0615	Led Modules 12-Inch Red Arrow	EACH	2.000	2.000
2400	658.0620	Led Modules 12-Inch Yellow Arrow	EACH	6.000	6.000
2410	658.0625	Led Modules 12-Inch Green Arrow	EACH	4.000	4.000
2420	658.5069	Signal Mounting Hardware (location) 01. STH 190 WB OFF RAMP & CTH F	LS	1.000	1.000
2430	659.1125	Luminaires Utility LED C	EACH	6.000	6.000
2440	661.0200	Temporary Traffic Signals for Intersections (location) 01. STH 190 WB OFF RAMP & CTH F	LS	1.000	1.000
2450	671.0132	Conduit HDPE 3-Duct 2-Inch	LF	4,735.000	4,735.000
2460	671.0232	Conduit HDPE Directional Bore 3-Duct 2-Inch	LF	492.000	492.000
2470	673.0105	Communication Vault Type 1	EACH	2.000	2.000
2480	690.0150	Sawing Asphalt	LF	11,735.000	11,735.000
2490	690.0250	Sawing Concrete	LF	1,904.000	1,904.000
2500	715.0415	Incentive Strength Concrete Pavement	DOL	16,086.000	16,086.000
2510	715.0502	Incentive Strength Concrete Structures	DOL	11,604.000	11,604.000
2520	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	3,500.000	3,500.000
2530	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	4,000.000	4,000.000
2540	SPV.0060	Special 01. SECTION CORNER MONUMENTS SPECIAL	EACH	1.000	1.000

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Line	Item	Item Description	Unit	Total	Qty
2550	SPV.0060	Special 02. TRAFFIC CONTROL CLOSE-OPEN TRAFFIC LANE	EACH	70.000	70.000
2560	SPV.0060	Special 03. FIELD FACILITIES OFFICE SPACE	EACH	1.000	1.000
2570	SPV.0090	Special 01. HEAVY DUTY SILT FENCE 3-FT	LF	1,795.000	1,795.000
2580	SPV.0090	Special 02. FIBER OPTIC TRACER WIRE STH 190 WB OFF RAMP & CTH F	LF	5,634.000	5,634.000
2590	SPV.0090	Special 03. FIBER OPTIC WARNING TAPE STH 190 OFF RAMP & CTH F	LF	5,634.000	5,634.000
2600	SPV.0105	Special 01. TRANSPORT AND INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET STH 190 WB OFF RAMP & CTH F	LS	1.000	1.000
2610	SPV.0105	Special 02. TRANSPORT TRAFFIC SIGNAL AND INTERSECTION LIGHTING MATERIALS STH 190 WB OFF RAMP & CTH F	LS	1.000	1.000
2620	SPV.0105	Special 03. REMOVE TRAFFIC SIGNALS STH 190 WB OFF RAMP & CTH F	LS	1.000	1.000
2630	SPV.0105	Special 04. REMOVE LOOP DETECTOR WIRE & LEAD-IN CABLE STH 190 WB OFF RAMP & CTH F	LS	1.000	1.000
2640	SPV.0105	Special 05. EVP DETECTOR HEAD INSTALLATION STH 190 WB OFF RAMP & CTH F	LS	1.000	1.000
2650	SPV.0105	Special 06. TRANSPORT AND INSTALL STATE FURNISHED RADAR DETCECTION SYSTEM	LS	1.000	1.000

CLEARING AND GRUBBING

STATION	TO	STATION	LOCATION	CLEARING 201.0105 STA	GRUBBING 201.0205 STA
111'WB'+00	-	115'WB'+00	STH 190 WB LT	4	4
112'EB'+00	-	118'EB'+00	STH 190 EB RT	6	6
116'WB'+00	-	117'WB'+00	STH 190 WB LT	1	1
119'EB'+00	-	120'EB'+00	STH 190 EB RT	1	1
121'EB'+00	-	122'EB'+00	STH 190 EB RT	1	1
126'EB'+00	-	132'EB'+00	STH 190 EB RT	5	5
128'WB'+00	-	129'WB'+00	STH 190 WB LT	1	1
133'EB'+00	-	134'EB'+00	STH 190 EB RT	1	1
158'EB'+00	-	161'EB'+00	STH 190 EB RT	3	3
140'A'+00	-	150'A'+00	RAMP A LT	10	10
141'B'+00	-	144'B'+00	RAMP B RT	3	3
144'C'+00	-	149'C'+00	RAMP C RT	5	5
137'D'+00	-	140'D'+00	RAMP D RT	3	3
140'D'+00	-	142'D'+00	RAMP D LT	2	2
171'F'+00	-	175'F'+00	CTH F NB RT	4	4
			TOTAL 0010	50	50

CONCRETE REMOVALS

STATION	TO	STATION	LOCATION	REMOVING CURB & GUTTER 204.0150 LF	REMOVING CONCRETE BARRIER 204.0157 LF	REMOVING SURFACE DRAINS 204.0190 EACH	REMOVING CONCRETE DITCH 204.9165.S.01 SF	REMARKS
121'EB'+00	-	123'EB'+00	STH 190 EB RT	319	-	-	-	HUNTERS RIDGE RD
133'WB'+50			STH 190 WB LT	-	-	1	-	NORTHWEST CORNER OF B-67-91
133'EB'+48			STH 190 EB RT	-	-	1	-	SOUTHWEST CORNER OF B-67-92
135'WB'+60			STH 190 WB LT	-	-	1	-	NORTHEAST CORNER OF B-67-91
134'EB'+58			STH 190 EB RT	-	-	1	-	SOUTHEAST CORNER OF B-67-92
135'EB'+70			STH 190 EB RT	-	-	1	-	SOUTHEAST CORNER OF B-67-92
147'A'+22			RAMP A LT	-	-	1	-	RAMP A
133'B'+00			RAMP B LT	-	-	1	-	RAMP B
133'B'+00	-	137'B'+00	RAMP B LT	-	-	-	4510	RAMP B
143'B'+00			RAMP B LT	-	-	1	-	RAMP B
146'C'+20			RAMP C RT	-	-	1	-	RAMP C
146'C'+50			RAMP C RT	-	-	1	-	RAMP C
148'C'+20			RAMP C RT	-	-	1	-	RAMP C
141'D'+75			RAMP D RT	-	-	1	-	RAMP D
156'WB'+65	-	158'WB'+20	STH 190 WB LT	254	-	-	-	WETHERSFIELD RD
172'F'+75	-	176'F'+20	CTH F NB RT	-	343	-	-	CTH F NB
173'F'+50	-	176'F'+75	CTH F SB LT	-	325	-	-	CTH F SB
173'F'+40	-	173'F'+80	CTH F NB RT	-	-	-	725	CTH F NB
176'F'+55			CTH F NB RT	-	-	1	-	CTH F NB
176'F'+65	-	180'F'+10	CTH F NB RT	-	-	-	4646	CTH F NB
			TOTAL 0010	573	668	13	9881	

PAVEMENT REMOVAL

STATION	TO	STATION	LOCATION	REMOVING PAVEMENT 204.0100 SY	REMOVING ASPHALTIC SURFACE 204.0110 SY	REMARKS
111'WB'+00	-	133'WB'+70	STH 190 WB	6646	-	WB MAINLINE & RAMP TAPER WEST OF BRIDGE
135'WB'+41	-	163'WB'+12	STH 190 WB	7576	-	WB MAINLINE EAST OF BRIDGE
111'EB'+00	-	133'EB'+67	STH 190 EB	6024	-	EB MAIN LINE WEST OF BRIDGE
135'EB'+40	-	160'EB'+00	STH 190 EB	6521	-	EB MAIN LINE EAST OF BRIDGE
119'EB'+26	-	126'EB'+10	STH 190 HUNTERS RIDGE	1323	-	MEDIAN AT HUNTERS RIDGE
156'EB'+85	-	157'EB'+20	STH 190 WETHERSFIELD	234	-	MEDIAN AT WETHERSFIELD (PARTIAL CONC)
163'EB'+40	-	165'EB'+60	STH 190 MAINT. X-OVER	629	-	MAINT. X-OVER WEST OF DUPLAINVILLE RD
135'WB'+41	-	150'A'+99	RAMP A	3454	-	RAMP A AND STH 190 TAPER
132'B'+93	-	153'WB'+20	RAMP B	3738	-	RAMP B AND STH 190 TAPER
135'EB'+40	-	148'C'+80	RAMP C	3113	-	RAMP C AND STH 190 TAPER
133'D'+50	-	156'EB'+15	RAMP D	4138	-	RAMP D AND STH 190 TAPER
113'EB'+25			STH 190 EB RT	-	142	DRIVEWAY
122'WB'+20			STH 190 WB LT	-	277	DRIVEWAY TO CHURCH
124'EB'+86			STH 190 EB RT	-	72	DRIVEWAY
156'EB'+95			STH 190 EB RT	-	163	DRIVEWAY
170'F'+05	-	170'F'+55	CTH F	-	57	CTH F MEDIAN
111'WB'+00	-	133'WB'+70	STH 190 WB RT	-	630	TEMPORARY ASPHALT SHOULDER
135'WB'+41	-	163'WB'+12	STH 190 WB RT	-	960	TEMPORARY ASPHALT SHOULDER
			TOTAL 0010	43396	2301	

REMOVING GUARDRAIL

STATION	TO	STATION	LOCATION	204.0165 LF
129'EB'+87	-	133'EB'+50	STH 190 EB LT	365
132'EB'+05	-	133'EB'+50	STH 190 EB RT	148
133'EB'+50			STH 190 MEDIAN	43
135'WB'+60			STH 190 MEDIAN	43
135'WB'+56	-	139'WB'+18	STH 190 WB RT	364
135'WB'+56	-	136'WB'+32	STH 190 WB LT	78
173'F'+93	-	176'F'+63	CTH F MEDIAN	552
171'F'+93	-	172'F'+77	CTH F NB RT	85
176'F'+75	-	177'F'+05	CTH F SB LT	25
			TOTAL 0010	1703

CULVERT AND STORM SEWER REMOVAL

STATION	TO	STATION	LOCATION	REMOVING SMALL PIPE CULVERTS 203.0100 EACH	REMOVING MANHOLES 204.0210 EACH	REMOVING INLETS 204.0220 EACH	REMOVING STORM SEWER 12-INCH 204.0245.01 LF	18-INCH 204.0245.02 LF	24-INCH 204.0245.03 LF	30-INCH 204.0245.04 LF	16X28-RCEP 204.0245.06 LF	19x27 CMP 204.0245.07 LF	REMARKS
113'EB'+35			STH 190 EB RT	1	-	-	-	-	-	-	-	-	DRIVEWAY CULVERT
115'WB'+04			STH 190 WB	1	-	-	-	-	-	-	-	-	CROSS CULVERT
121'WB'+50	-	122'WB'+70	STH 190 WB	-	2	-	-	143	-	-	-	92	MEDIAN DRAIN AND PIPE TO DRIVEWAY
121'EB'+40	-	122'EB'+90	STH 190 EB RT	-	-	1	-	-	146	-	-	-	HUNTERS RIDGE
124'EB'+85			STH 190 EB RT	1	-	-	-	-	-	-	-	-	DRIVEWAY CULVERT
126'EB'+00			STH 190 EB RT	1	-	-	-	-	-	-	-	-	DRIVEWAY CULVERT
126'WB'+04			STH 190 WB	1	-	-	-	-	-	-	-	-	CROSS CULVERT
127'WB'+05			STH 190 EB & WB	1	-	-	-	-	-	-	-	-	CROSS CULVERT ACCROSS BOTH LANES
129'WB'+05			STH 190 WB	1	-	-	-	-	-	-	-	-	CROSS CULVERT
133'WB'+50			STH 190 WB LT	1	-	-	-	-	-	-	-	-	NW CORNER OF WB BRIDGE B-67-91
133'EB'+60			STH 190 EB RT	1	-	-	-	-	-	-	-	-	SW CORNER OF EB BRIDGE B-67-92
135'WB'+32			STH 190 EB & WB	1	-	-	-	-	-	-	-	-	PIPE UNDER STH 190 EAST OF CTH F
135'WB'+50			STH 190 WB LT	1	-	-	-	-	-	-	-	-	NE CORNER OF WB BRIDGE B-67-91
136'WB'+05			STH 190 WB	1	-	-	-	-	-	-	-	-	CROSS CULVERT
143'WB'+08			STH 190 WB	1	-	-	-	-	-	-	-	-	CROSS CULVERT
156'WB'+50			STH 190 WB	1	-	-	-	-	-	-	-	-	CROSS CULVERT
156'WB'+80	-	157'WB'+92	STH 190 WB LT	-	1	2	30	-	-	-	111	-	WETHERSFIELD
157'EB'+00			STH 190 EB RT	1	-	-	-	-	-	-	-	-	DRIVEWAY CULVERT
142'A'+35			RAMP A LT	-	-	1	-	31	-	-	-	-	RAMP A DROP INLET
150'A'+60			RAMP A	-	-	1	-	-	-	136	-	-	RAMP A DROP INLET, PIPE UNDER RAMP A & B
150'A'+65			RAMP A & B	1	-	-	-	-	-	-	-	-	CROSS CULVERT UNDER RAMP A & B
136'B'+75			RAMP B	-	-	1	-	36	-	-	-	-	RAMP B DROP INLET
140'B'+83			RAMP B	1	-	-	-	-	-	-	-	-	RAMP B CROSS CULVERT
139'C'+17			RAMP C	1	-	-	-	-	-	-	-	-	RAMP C CROSS CULVERT
142'C'+90			RAMP C	-	-	2	-	61	-	-	-	-	RAMP C MEDIAN AND DROP INLET
148'C'+50			RAMP C	1	-	-	-	-	-	-	-	-	CROSS CULVERT UNDER RAMP C & D
136'D'+34			RAMP D	-	-	1	-	-	76	-	-	-	RAMP D DROP INLET
104'EB'+85			STH 190 EB LT	-	-	1	-	-	-	-	-	-	EB WEST X-OVER 'C'
105'WB'+25			STH 190 WB RT	-	-	1	-	-	-	-	-	-	WB WEST X-OVER 'A'
108'EB'+83			STH 190 EB LT	-	-	1	-	-	-	-	-	-	EB WEST X-OVER 'C'
121'WB'+52			STH 190 WB RT	-	-	1	-	-	-	-	-	-	WB TEMP WIDENING
127'WB'+68			STH 190 WB RT	-	-	1	-	-	-	-	-	-	WB TEMP WIDENING
127'WB'+07			STH 190 WB RT	-	-	1	-	-	-	-	-	-	WB TEMP WIDENING
156'WB'+56			STH 190 WB RT	-	-	1	-	-	-	-	-	-	WB TEMP WIDENING
159'EB'+73			STH 190 EB LT	-	-	1	-	-	-	-	-	-	EB EAST X-OVER 'D'
162'WB'+44			STH 190 WB RT	-	-	1	-	-	-	-	-	-	WB EAST X-OVER 'B'
			TOTAL 0010	19	3	18	30	271	222	136	111	92	

Earthwork Summary

Division	From/To Station	Location	A Item #205.0100 Common Excavation (1) (CY) Cut (2) (CY)	B Item #205.0100 Common Excavation (1) (CY) EBS Excavation (3)(4)(5) (CY)	C * Salvaged/Unusable Pavement Material (6) (CY)	D * Available Material (7) (CY)	E * Expanded EBS Backfill (8) (CY) Factor 1.00	F * Unexpanded Fill (CY)	G * Expanded Fill (9) (CY) Factor 1.10	H * Mass Ordinate +/- (5)(10) (CY)	I * Waste (CY)	J Item #208.0100 Borrow (CY)
1A	135+40 - 168+44	STH 190 EB	1910	0	387	1,523	0	0	0	1,523	(12)	
Division 1A Subtotal			1910	0	387	1523	0	0	0	1523	1523	
1B	30+00 - 39+18	Crossover A	507	0	42	465	0	548	603	-138		(12)
	10+85.34 - 21+00	Crossover B	754	0	85	669	0	592	651	18		
Division 1B Subtotal			1,261	0	127	1,134	0	1,140	1,254	-120		
2	111+00 - 163+12	STH 190 WB	12,383		5,657	6,725	0	7,597	8,357	-1,631		
	139+00 - 150+98	Ramp A	25,123	5,000	931	24,192	5,000	11,058	12,164	12,028		
	132+93 - 146+21	Ramp B	2,593	0	934	1,659	0	11,006	12,106	-10,447		
	171+00 - 173+80	CTH F	2,809	0	15	2,794	0	115	127	2,667		
Division 2 Subtotal			42,908	5,000	7,538	35,370	5,000	29,776	32,753	2,616	2,616	
3	109+74 - 156+97	STH 190 Temporary Widening	2,892	0	456	2,436	0	8,159	8,975	-6,539		
	50+00 - 59+66	Crossover C	1,128	0	270	859	0	231	254	605		
	70+00 - 80+49	Crossover D	2,349	0	355	1,994	0	270	297	1,697		
Division 3 Subtotal			6,369	0	1,080	5,289	0	8,661	9,527	-4,238		4,238
4	111+00 - 163+00	STH 190 EB	15,164	0	5,309	9,855	0	5,940	6,534	3,321		
	138+25 - 148+80	Ramp C	6,192	5,000	787	5,405	5,000	2,068	2,275	3,131		
	133+50 - 146+46	Ramp D	8,459	0	896	7,563	0	54	60	7,503		
	176+56 - 179+75	CTH F	1,440	0	2	1,438	0	179	197	1,241		
Division 4 Subtotal			31,256	5,000	6,994	24,262	5,000	8,241	9,065	15,196	15,196	
5	111+00 - 163+00	STH 190 Median	12,492	0	1,783	10,709	0	2,998	3,298	7,411		
		Crossover C Removal	1,604	0	282	1,322	0	56	62	1,260		
		Crossover D Removal	219	0	48	171	0	120	132	39		
Division 5 Subtotal			14,315	0	2,113	12,202	0	3,174	3,492	8,710	8,710	
6	116+09'EB'-128+44'EB'	STH 190 Median	538	0	336	202	0	0	0	202		
	151+18'EB'-163+30'EB'	STH 190 Median	515	0	322	193	0	0	0	193		
Division 6 Subtotal			1,053	0	658	395	0	0	0	395	395	
Grand Total			99,071	10,000	18,898	80,173	10,000	50,992	56,091	24,083	28,441	4,238
		Total Common Exc		109,071								

1) Common Excavation is the sum of the Cut (A) and EBS Excavation (B) columns. Item number 205.0100
2) Salvaged/Unsuable Pavement Material is included in Cut.
3) EBS Excavation (B) to be backfilled with Breaker Run. See Breaker Run table for quantity
4) EBS Areas were taken from Geotechnical Report and are not shown on cross sections. Actual EBS locations to be determined by engineer.
5) EBS Excavation Material (B) shall be removed from the site and shall not be used as fill material. EBS Excavation material (B) is not included in the Mass Ordinate
6) Salvaged/Unusable Pavement Material (C) is included in the Cut (A). This assumes the existing pavement structure is salvaged or wasted by the contractor. The existing pavement structure is not shown on the cross sections.
7) Available Material = Cut - Salvaged/Unusable Pavement Material
8) Expanded EBS Backfill - This is to be filled with Breaker Run material. EBS Backfill Factor = 1.0. Item number 311.0110
9) Expanded Fill (G) = (Unexpanded Fill (F)) * Expanded Fill Factor (1.20)
10) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates a waste volume of material within the Division. Minus indicates a borrow volume of material within the Division.
11) Undistributed EBS Excavation is to be used at discretion of engineer for unstable soils
12) Waste material from Stage 1A to be used as Borrow material in Stage 1B. No additional payment for Borrow will be made for Stage 1B unless the engineer determines that the Stage 1A waste material is unsuitable
13) The ramp infield areas outside of wetlands are potential sources of borrow material. Do not impact additional wetlands beyond what is shown in the plans and 404 Permit

ALL ITEMS CATEGORY 0010 UNLESS NOTED

BASE AGGREGATE DENSE 3/4-INCH

STATION	TO	STATION	LOCATION	305.0110 TON	REMARKS
111'EB'+00	-	116'EB'+65	EB, RT	38	STH 190 EB OUTSIDE
116'EB'+65	-	121'EB'+42	EB, RT	56	STH 190 EB OUTSIDE
123'EB'+00	-	123'EB'+65	EB, RT	14	STH 190 EB OUTSIDE
123'EB'+65	-	129'EB'+35	EB, RT	38	STH 190 EB OUTSIDE
129'EB'+35	-	133'EB'+25	EB, RT	45	STH 190 EB OUTSIDE
135'EB'+80	-	138'EB'+25	EB, RT	29	STH 190 EB OUTSIDE
139'EB'+15	-	145'EB'+20	EB, RT	40	STH 190 EB OUTSIDE
146'EB'+45	-	160'EB'+00	EB, RT	90	STH 190 EB OUTSIDE
111'EB'+00	-	116'EB'+70	EB, LT	52	STH 190 EB INSIDE
116'EB'+70	-	121'EB'+50	EB, LT	56	STH 190 EB INSIDE
121'EB'+50	-	121'EB'+80	EB, LT	7	STH 190 EB INSIDE
122'EB'+50	-	123'EB'+82	EB, LT	29	STH 190 EB INSIDE
123'EB'+82	-	133'EB'+20	EB, LT	85	STH 190 EB INSIDE
135'EB'+80	-	151'EB'+80	EB, LT	145	STH 190 EB INSIDE
151'EB'+80	-	156'EB'+55	EB, LT	55	STH 190 EB INSIDE
156'EB'+55	-	156'EB'+85	EB, LT	7	STH 190 EB INSIDE
157'EB'+50	-	158'EB'+75	EB, LT	27	STH 190 EB INSIDE
158'EB'+75	-	160'EB'+00	EB, LT	12	STH 190 EB INSIDE
111'WB'+00	-	114'WB'+60	WB, RT	42	STH 190 WB INSIDE
114'WB'+60	-	120'WB'+60	WB, RT	55	STH 190 WB INSIDE
120'WB'+60	-	121'WB'+90	WB, RT	28	STH 190 WB INSIDE
122'WB'+60	-	123'WB'+00	WB, RT	9	STH 190 WB INSIDE
123'WB'+00	-	127'WB'+70	WB, RT	55	STH 190 WB INSIDE
127'WB'+70	-	133'WB'+28	WB, RT	51	STH 190 WB INSIDE
135'WB'+85	-	155'WB'+75	WB, RT	181	STH 190 WB INSIDE
155'WB'+75	-	157'WB'+00	WB, RT	27	STH 190 WB INSIDE
157'WB'+60	-	158'WB'+00	WB, RT	9	STH 190 WB INSIDE
158'WB'+12	-	163'WB'+12	WB, RT	58	STH 190 WB INSIDE
111'WB'+00	-	121'WB'+70	WB, LT	71	STH 190 WB OUTSIDE
122'WB'+80	-	125'WB'+60	WB, LT	19	STH 190 WB OUTSIDE
125'WB'+60	-	133'WB'+25	WB, LT	89	STH 190 WB OUTSIDE
135'WB'+83	-	138'WB'+96	WB, LT	37	STH 190 WB OUTSIDE
139'WB'+77	-	145'WB'+22	WB, LT	36	STH 190 WB OUTSIDE
146'WB'+20	-	155'WB'+90	WB, LT	64	STH 190 WB OUTSIDE
155'WB'+90	-	156'WB'+55	WB, LT	14	STH 190 WB OUTSIDE
158'WB'+10	-	163'WB'+12	WB, LT	59	STH 190 WB OUTSIDE
139'A'+75	-	144'A'+28	RAMP A RT	82	RAMP A OUTISDE
147'A'+05	-	150'A'+08	RAMP A LT	55	RAMP A INSIDE
133'B'+70	-	136'B'+00	RAMP B LT	22	RAMP B OUTSIDE
136'B'+00	-	143'B'+90	RAMP B LT	143	RAMP B OUTSIDE
139'B'+78	-	145'B'+23	RAMP B RT	99	RAMP B INSIDE
139'C'+15	-	143'C'+15	RAMP C LT	73	RAMP C OUTSIDE
145'C'+82	-	147'C'+00	RAMP C RT	22	RAMP C INSIDE
147'C'+00	-	147'C'+95	RAMP C RT	9	RAMP C INSIDE
134'D'+32	-	146'D'+46	RAMP D RT	219	RAMP D OUTSIDE

BASE AGGREGATE DENSE 3/4-INCH

STATION	TO	STATION	LOCATION	305.0110 TON	REMARKS
139'D'+23	-	145'D'+23	RAMP D LT	109	RAMP D INSIDE
170'F'+95	-	173'F'+80	CTH F NB RT	48	CTH F NB OUTSIDE
176'F'+25	-	179'F'+95	CTH F NB RT	62	CTH F NB OUTSIDE
171'F'+00	-	178'F'+75	CTH F NB RT (MEDIAN)	90	CTH F NB INSIDE
171'F'+00	-	178'F'+75	CTH F SB LT (MEDIAN)	90	CTH F SB INSIDE
182'F'+95	-	185'F'+90	CTH F SB LT (MEDIAN)	30	CTH F SB OUTSIDE
99'WB'+50	-	108'WB'+70	X-OVER 'C' REPAIR EB WEST	84	STH 190 WB INSIDE
99'EB'+50	-	109'EB'+20	X-OVER 'A' REPAIR WB WEST	88	STH 190 EB INSIDE
160'WB'+00	-	167'WB'+40	X-OVER 'D' REPAIR EB EAST	68	STH 190 WB INSIDE
163'EB'+35	-	168'EB'+60	X-OVER 'B' REPAIR WB EAST	48	STH 190 EB INSIDE
116'EB'+70	-	121'EB'+50	EB, LT	28	TEMP ASPHALT TURN LANES
121'EB'+50	-	121'EB'+80	EB, LT	4	TEMP ASPHALT TURN LANES
122'EB'+50	-	123'EB'+82	EB, LT	16	TEMP ASPHALT TURN LANES
151'EB'+80	-	156'EB'+55	EB, LT	27	TEMP ASPHALT TURN LANES
156'EB'+55	-	156'EB'+85	EB, LT	4	TEMP ASPHALT TURN LANES
157'EB'+50	-	158'EB'+75	EB, LT	15	TEMP ASPHALT TURN LANES
111'WB'+00	-	114'WB'+60	WB, RT	21	TEMP ASPHALT TURN LANES
114'WB'+60	-	120'WB'+60	WB, RT	72	TEMP ASPHALT SHOULDER
120'WB'+60	-	121'WB'+90	WB, RT	16	TEMP ASPHALT TURN LANES
122'WB'+60	-	123'WB'+00	WB, RT	5	TEMP ASPHALT TURN LANES
123'WB'+00	-	127'WB'+70	WB, RT	27	TEMP ASPHALT TURN LANES
127'WB'+70	-	133'WB'+28	WB, RT	67	TEMP ASPHALT SHOULDER
135'WB'+85	-	155'WB'+75	WB, RT	236	TEMP ASPHALT SHOULDER
155'WB'+75	-	157'WB'+00	WB, RT	15	TEMP ASPHALT TURN LANES
157'WB'+60	-	158'WB'+00	WB, RT	5	TEMP ASPHALT TURN LANES
158'WB'+12	-	163'WB'+12	WB, RT	29	TEMPS ASPHALT TURN LANES
135'EB'+57	-	154'EB'+60	EB, LT	226	TEMP SHOULDER STAGE 1A
138'EB'+22	-	145'EB'+22	EB, RT	40	TEMP SHOULDER STAGE 1B
156'EB'+30	-	168'EB'+15	EB, RT	68	TEMP SHOULDER STAGE 1B
98'WB'+58	-	105'WB'+90	WB, RT	65	WB WEST X-OVER 'A'
104'WB'+72	-	108'WB'+92	WB, RT	37	WB WEST X-OVER 'A'
157'WB'+85	-	163'WB'+40	WB, RT	49	WB EAST X-OVER 'B'
162'WB'+34	-	168'WB'+58	WB, RT	55	WB EAST X-OVER 'B'
109'WB'+68	-	133'WB'+27	WB, RT	280	STAGE 3 TEMP WIDENING
135'WB'+84	-	156'WB'+97	WB, RT	251	STAGE 3 TEMP WIDENING
99'EB'+48	-	106'EB'+22	EB, LT	60	EB WEST X-OVER 'C'
105'EB'+00	-	109'EB'+22	EB, LT	37	EB WEST X-OVER 'C'
156'EB'+89	-	161'EB'+68	EB, LT	42	EB EAST X-OVER 'D'
159'EB'+30	-	167'EB'+38	EB, LT	71	EB EAST X-OVER 'D'
			TOTAL 0010	5038	

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BASE AGGREGATE DENSE & BREAKER RUN

STATION	TO	STATION	LOCATION	BASE AGGREGATE DENSE 1 1/4-INCH 305.0120 TON	BREAKER RUN 311.0110 TON	REMARKS
111'EB'+00	-	133'EB'+44	EB STH 190	5526	-	ALL PERMANENT STH 190 EB CONSTRUCTION WEST OF BRIDGE
135'EB'+57	-	160'EB'+00	EB STH 190	6191	-	ALL PERMANENT STH 190 EB CONSTRUCTION EAST OF BRIDGE
111'WB'+00	-	133'WB'+49	WB STH 190	5695	-	ALL PERMANENT STH 190 WB CONSTRUCTION WEST OF BRIDGE
135'WB'+63	-	163'WB'+12	WB STH 190	6990	-	ALL PERMANENT STH 190 WB CONSTRUCTION EAST OF BRIDGE
138'A'+95	-	151'A'+00	RAMP A	1663	-	ALL PERMANENT RAMP A CONSTRUCTION
132'B'+85	-	146'B'+20	RAMP B	2279	-	ALL PERMANENT RAMP B CONSTRUCTION
138'C'+25	-	148'C'+80	RAMP C	1599	-	ALL PERMANENT RAMP C CONSTRUCTION
133'D'+40	-	146'D'+45	RAMP D	1748	-	ALL PERMANENT RAMP D CONSTRUCTION
				-	17500	UNDISTRIBUTED
135'EB'+40	-	168'EB'+45	STAGE 1A	3045	-	STH 190 EB EAST OF BRIDGE OUTSIDE TEMPORARY SHOULDER
135'EB'+40	-	157'EB'+90	STAGE 1B	1387	-	STH 190 EB EAST OF BRIDGE INSIDE TEMPORARY SHOULDER
99'WB'+56	-	106'WB'+93	WB WEST X-OVER 'A'	1702	-	WB WEST X-OVER 'A'
157'WB'+98	-	168'WB'+57	WB EAST X-OVER 'B'	1830	-	WB EAST X-OVER 'B'
109'WB'+68	-	156'WB'+96	STAGE 3	8761	-	STH 190 WB INSIDE TEMPORARY WIDENING
99'EB'+60	-	109'EB'+12	EB WEST X-OVER 'C'	1971	-	EB WEST X-OVER 'C'
156'EB'+87	-	167'EB'+38	EB EAST X-OVER 'D'	2178	-	EB EAST X-OVER 'D'
170'F'+95	-	185'F'+88	CTH F	793	-	ALL WORK ON CTH F
			DRIVEWAYS	196	-	4 TOTAL DRIVEWAY
			PERM. DITCH CHECKS	-	160	4 TOTAL DITCH CHECKS
111'EB'+00	-	160'EB'+00	EB STH 190 LT	2462	-	TEMPORARY ASPHALT TURN LANES
111'WB'+00	-	163'WB'+12	WB STH 190 LT	272	-	ADDITIONAL 1" AGG IN TEMPORARY SHOULDER LOCATIONS
			TOTAL 0010	56288	17660	

CONCRETE PAVEMENT

STATION	TO	STATION	LOCATION	CONCRETE PAVEMENT 7-INCH 415.0070 SY	CONCRETE PAVEMENT 8-INCH 415.0080 SY	CONCRETE PAVEMENT 10-INCH 415.0100 SY	CONCRETE PAVEMENT APPROACH SLAB 415.0410 SY	DRILLED TIE BARS 416.0610 EACH	DRILLED DOWEL BARS 416.0620 EACH
111'EB'+00	-	133'EB'+44	EB STH 190	-	9312	-	79	320	22
135'EB'+57	-	160'EB'+00	EB STH 190	-	9771	-	86	314	22
111'WB'+00	-	133'WB'+49	WB STH 190	-	8918	-	80	496	22
135'WB'+63	-	163'WB'+12	WB STH 190	-	11930	-	84	314	22
138'A'+95	-	151'A'+03	RAMP A	3303	-	-	-	-	-
138'B'+88	-	146'B'+20	RAMP B	4025	-	-	-	-	-
138'C'+25	-	148'C'+84	RAMP C	2916	-	-	-	-	-
133'D'+45	-	146'D'+45	RAMP D	3445	-	-	-	-	-
173'F'+50	-	176'F'+75	CTH F	-	-	73	-	130	-
			TOTAL 0010	13689	39931	73	329	1574	88

BASE PATCHING CONCRETE SHES

LOCATION	390.0403 SY
CTH F & WB 190 RAMP TERMINAL	100
TOTAL 0010	100

CONCRETE PAVEMENT GAPS

LOCATION	415.0210 EACH
122'WB'+25	1
TOTAL 0010	1

CONCRETE SURFACE DRAINS, CURB & GUTTER AND SIDEWALK

STATION	TO	STATION	LOCATION	CONCRETE SURFACE DRAINS 416.1010 CY	CONCRETE CURB & GUTTER 30-INCH TYPE A 601.0409 LF	CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G 601.0413 LF	CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE A 601.0555 LF	CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT 601.0590 LF	CONCRETE SIDEWALK 4-INCH 602.0405 SF	CONCRETE MEDIAN SLOPED NOSE 620.0300 SF
121'WB'+40		123'WB'+15	HUNTER'S RIDGE RD	2	129	-	179	-	-	103
156'EB'+55		158'EB'+05	WETHERSFIELD RD	2	77	-	175	-	-	113
138'A'+95		150'A'+90	RAMP A	8	-	-	1517	-	4420	50
132'B'+95		146'B'+20	RAMP B	4	-	105	1005	-	141	20
138'C'+25		148'C'+75	RAMP C	8	-	116	1324	-	163	50
133'D'+10		139'D'+25	RAMP D	2	-	-	676		2499	20
133'WB'+19		136'WB'+30	WB STH 190 LT	4	-	-	-	45	-	-
133'WB'+10		136'WB'+11	WB STH 190 RT	4	-	-	-	27	-	-
132'EB'+95		135'EB'+96	EB STH 190 LT	4	-	-	-	27	-	-
132'EB'+75		135'EB'+95	EB STH 190 RT	4	-	-	-	45	-	-
176'F'+18		176'F'+34	CTH F - NB	2	-	-	-	7	-	-
			TOTAL 0010	44	206	221	4876	151	7223	356

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ASPHALTIC MATERIAL FOR EXTREME CONDITIONS

STATION	TO	STATION	LOCATION	450.1100.S TON	REMARKS
111'EB'+00	-	133'EB'+44	EB STH 190	455	PERMANENT SHOULDERS
135'EB'+57	-	160'EB'+00	EB STH 190	643	PERMANENT SHOULDERS
111'WB'+00	-	133'WB'+49	WB STH 190	152	PERMANENT INSIDE SHOULDERS
135'WB'+63	-	163'WB'+12	WB STH 190	231	PERMANENT INSIDE SHOULDERS
99'EB'+50	-	108'EB'+28	WB WEST X-OVER 'C' REPAIR	70	X-OVER 'C'
163'WB'+35	-	168'WB'+57	WB EAST X-OVER 'D' REPAIR	42	X-OVER 'D'
113'EB'+10	-	113'EB'+55	EB, RT	25	DRIVEWAY
124'EB'+65	-	125'EB'+07	EB, RT	10	DRIVEWAY
156'EB'+70	-	157'EB'+18	EB, RT	24	DRIVEWAY
111'EB'+00	-	160'EB'+00	STH 190 MEDIAN	682	EB LEFT TURN LANES
111'WB'+00	-	163'WB'+12	STH 190 MEDIAN	839	WB LEFT TURN LANES
			TOTAL 0010	3173	

HMA COLD WEATHER PAVING

STATION	TO	STATION	LOCATION	450.4000 TON	REMARKS
111'EB'+00	-	133'EB'+44	EB STH 190	114	PERMANENT SHOULDERS
135'EB'+57	-	160'EB'+00	EB STH 190	161	PERMANENT SHOULDERS
111'WB'+00	-	133'WB'+49	WB STH 190	38	PERMANENT INSIDE SHOULDERS
135'WB'+63	-	163'WB'+12	WB STH 190	58	PERMANENT INSIDE SHOULDERS
99'EB'+50	-	108'EB'+28	WB 190 X-OVER REPAIR	18	X-OVER 'C'
163'WB'+35	-	168'WB'+57	WB 190 X-OVER REPAIR	11	X-OVER 'D'
113'EB'+10	-	113'EB'+55	EB, RT	7	DRIVEWAY
124'EB'+65	-	125'EB'+07	EB, RT	3	DRIVEWAY
156'EB'+70	-	157'EB'+18	EB, RT	6	DRIVEWAY
111'EB'+00	-	160'EB'+00	STH 190 MEDIAN	171	EB LEFT TURN LANES
111'WB'+00	-	163'WB'+12	STH 190 MEDIAN	210	WB LEFT TURN LANES
			TOTAL 0010	797	

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HMA PAVEMENT 4 LT 58-28 S

STATION	TO	STATION	LOCATION	460.5224 TON
111'EB'+00	-	133'EB'+44	EB STH 190	455
135'EB'+57	-	160'EB'+00	EB STH 190	643
111'WB'+00	-	133'WB'+49	WB STH 190	589
135'WB'+63	-	163'WB'+12	WB STH 190	589
170'F'+95	-	185'F'+88	CTH F	225
99'EB'+50	-	108'EB'+70	EB WEST X-OVER 'C' REPAIR	74
99'WB'+50	-	108'WB'+28	WB WEST X-OVER 'A' REPAIR	70
160'EB'+00	-	167'EB'+35	EB EAST X-OVER 'D' REPAIR	60
163'WB'+35	-	168'WB'+57	WB EAST X-OVER 'B' REPAIR	42
			TOTAL 0010	2747

ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES

STATION	TO	STATION	LOCATION	465.0120 TON
113'EB'+10	-	113'EB'+55	STH 190 EB, RT	25
121'WB'+70	-	122'WB'+83	STH 190 WB, LT	44
124'EB'+65	-	125'EB'+07	STH 190 EB, RT	10
156'EB'+70	-	157'EB'+18	STH 190 EB, RT	24
			TOTAL 0010	103

ASPHALTIC CURB

STATION	TO	STATION	LOCATION	465.0310 LF
105'EB'+00	-	105'EB'+63	WB WEST X-OVER 'A'	64
			TOTAL 0010	64

ASPHALTIC SURFACE TEMPORARY

STATION	TO	STATION	LOCATION	465.0125 TON	REMARKS
135'EB'+40	-	168'EB'+45	STH 190 EB RT	1046	STAGE 1A
135'EB'+40	-	157'EB'+90	STH 190 EB LT	193	STAGE 1B
99'WB'+56	-	106'WB'+93	STH 190 MEDIAN	543	WB WEST X-OVER 'A'
157'WB'+98	-	168'WB'+57	STH 190 MEDIAN	576	WB EAST X-OVER 'B'
109'WB+68	-	156'WB'+96	STH 190 WB RT	2826	STAGE 3
99'EB'+60	-	109'EB'+12	STH 190 MEDIAN	652	EB WEST X-OVER 'C'
156'EB'+87	-	167'EB'+38	STH 190 MEDIAN	713	EB EAST X-OVER 'D'
111'EB'+00	-	160'EB'+00	STH 190 MEDIAN	682	EB LEFT TURN LANES
111'WB'+00	-	163'WB'+12	STH 190 MEDIAN	839	WB LEFT TURN LANES
			TOTAL 0010	8070	

TEMPORARY DRAINAGE

STRUCTURE NUMBER	ROADWAY	STATION	OFFSET	611.3901 INLETS MEDIAN 1 GRATE EACH	*** 611.3902 INLETS MEDIAN 2 GRATE EACH	*** 611.0642 INLET COVER TYPE MS EACH	RIM ELEV	INV ELEV	STRUCTURE DEPTH	PIPE NUMBER	INLET STATION	INLET OFFSET	INLET ELEV	DISCH STATION	DISCH OFFSET	DISCH ELEV	SLOPE %	520.8000 CONCRETE COLLAR FOR CULVERT PIPE EACH	520.2018 CULVERT PIPE TEMPORARY 18-INCH LF	520.2024 CULVERT PIPE TEMPORARY 24-INCH LF	520.2036 CULVERT PIPE TEMPORARY 36-INCH LF	520.1018 AEW FOR CULVERT PIPE 18-INCH EACH	524.0624 AEW FOR CULVERT PIPE SALVAGED 24-INCH EACH
STAGE 1																							
T1	CROSSOVER A	35+00	9.0' RT	1	---	1	936.79	932.39	4.40	TP1	35+00	9.0' RT	932.39	37+50	42.3' LT	927.94	1.75%	---	---	255.0	---	---	---
T2	CROSSOVER B	15+25	33.1' LT	1	---	1	883.33	880.40	2.93	TP2	15+25	33.1' LT	880.40	18+25	13.5' RT	878.88	0.50%	---	303.0	---	---	---	---
T3	CROSSOVER C	55+50	37.5' LT	1	---	1	935.80	931.80	4.00	TP3	50+50	37.5' LT	931.80	59+37.5	15.9' RT	920.25	3.51%	---	---	391.6	---	---	---
T4	CROSSOVER C	59+37.5	15.9' RT	1	---	1	923.25	920.25	3.00	TP4	59+37.5	15.9' RT	920.25	59+46.9	1.2' RT	920.20	0.30%	1	---	17.4	---	---	---
T5	CROSSOVER D	73+00	9.3' RT	1	---	1	887.81	884.33	3.48	TP5	73+00	9.3' RT	884.33	76+25	42.9' LT	881.04	1.00%	---	329.1	---	---	---	---
---	STH 190 WB	---	---	---	---	---	---	---	---	TP6	116+00'WB'	35.3' RT	897.43	116+00'WB'	21.3' RT	896.82	4.36%	---	14.0	---	---	1	---
T7	STH 190 WB	121+51.7'WB'	36.2' RT	1	---	1	882.33	880.33	2.00	TP7	121+51.7'WB'	36.2' RT	880.33	121+51.7'WB'	33.4' RT	880.30	1.00%	---	2.8	---	---	---	---
T8	STH 190 WB	127+66.7'WB'	35.9' RT	1	---	1	874.64	872.36	2.28	TP8	127+66.7'WB'	35.9' RT	872.36	127+07.0'WB	35.6' RT	872.17	0.31%	---	59.7	---	---	---	---
T9	STH 190 WB	127+07.0'WB'	35.6' RT	---	1	2	875.32	871.90	3.42	TP9	127+07.0'WB	35.6' RT	872.17	127+07'WB'	31.7' RT	872.16	0.31%	---	---	---	3.9	---	---
---	STH 190 WB	---	---	---	---	---	---	---	---	TP10	138+41.8'WB'	29.0' RT	884.59	138+41.8'WB'	11.0' RT	884.14	2.50%	---	18.0	---	---	1	---
---	STH 190 WB	---	---	---	---	---	---	---	---	TP11	144+00.0'WB'	30.5' RT	889.62	144+00.0'WB'	12.5' RT	889.23	2.16%	---	18.0	---	---	1	---
T12	STH 190 WB	156+55.7'WB'	32.9' RT	---	1	2	892.01	889.64	2.37	TP12	156+55.7'WB'	32.9' RT	889.64	156+56.7'WB'	29.2' RT	889.62	0.50%	---	4.1	---	---	---	---
---	STH 190 WB	108+90.0'WB'	36.3' RT	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1
---	STH 190 WB	108+98.2'WB'	22.6' RT	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1
PROJECT 0010 TOTALS				7	2	11												1	748.7	664.0	3.9	3	2

NOTE:
STATIONS AND OFFSETS ARE TO THE END OF PIPE
TEMPORARY CULVERT PIPE ELEVATIONS ARE APPROXIMATE. ACTUAL ELEVATIONS TO MATCH EXISTING PIPE
CONNECT TEMPORARY PIPE TO EXISTING PIPE WITH CONCRETE COLLAR WHEN INDICATED IN TABLE
*NON-BID ITEM (FOR INFORMATION ONLY)
** ADDITIONAL STAKING QUANTITIES SHOWN ELSEWHERE
*** ADDITIONAL QUANTITY SHOWN ELSEWHERE

SIDE CULVERTS

PIPE NUMBER	INLET STATION	INLET OFFSET	INLET ELEV	DISCH STATION	DISCH OFFSET	DISCH ELEV	SLOPE %	521.0112 CULVERT PIPE CORRUGATED STEEL 12-INCH LF	521.0118 CULVERT PIPE CORRUGATED STEEL 18-INCH LF	521.0124 CULVERT PIPE CORRUGATED STEEL 24-INCH LF	521.0728 PIPE ARCH CORRUGATED STEEL 28x20-INCH LF	521.1012 AEW FOR CULVERT PIPE CORRUGATED STEEL 12-INCH EACH	521.1018 AEW FOR CULVERT PIPE CORRUGATED STEEL 18-INCH EACH	521.1024 AEW FOR CULVERT PIPE CORRUGATED STEEL 24-INCH EACH	521.1524 AEW FOR CULVERT PIPE CORRUGATED STEEL 24-INCH 6 TO 1 EACH	521.1728 AEW FOR CULVERT PIPE ARCH STEEL 28x20-INCH 6 TO 1 EACH	** 650.6000 CONST STAKING PIPE CULVERTS EACH	* MINIMUM THICKNESS FOR STEEL PIPE INCHES
STH 190																		
C200	113+07.3 'EB'	64.3' RT	902.15	113+81.0 'EB'	76.0' RT	895.61	8.77%	---	---	74.9	---	---	---	2	---	---	1	0.064
C201	121+70.6 'WB'	57.6' LT	878.66	122+79.9 'WB'	52.8' LT	877.58	1.00%	---	---	---	108.3	---	---	---	---	2	1	0.064
C202	124+70.7 'EB'	48.2' RT	875.44	125+02.0 'EB'	48.4' RT	875.15	0.93%	---	---	31.3	---	---	---	---	2	---	1	0.064
C203	156+67.2 'EB'	64.1' RT	890.69	157+26.4 'EB'	62.4' RT	889.80	1.49%	---	---	59.3	---	---	---	---	2	---	1	0.064
C204	156+67.2 'EB'	61.6' RT	890.69	157+26.4 'EB'	59.9' RT	889.80	1.49%	---	---	59.3	---	---	---	---	2	---	1	0.064
C205	160+18.7'EB'	61.4' RT	884.10	160+44.6'EB'	60.7' RT	883.55	2.12%	---	26.0	---	---	---	2	---	---	---	1	0.064
C206	160+18.6'EB'	57.0' RT	884.10	160+44.6'EB'	56.4' RT	883.55	2.12%	---	26.0	---	---	--	2	---	---	---	1	0.064
C207	162+91.3'EB'	50.7' RT	881.40	163+09.3'EB'	50.9' RT	881.31	0.54%	18.0	---	---	---	2	---	---	---	---	1	0.064
PROJECT 0010 TOTALS								18.0	52.0	224.8	108.3	2	4	2	6	2	8	---

NOTE:
STATIONS AND OFFSETS ARE TO THE END OF PIPE
*NON-BID ITEM (FOR INFORMATION ONLY)
** ADDITIONAL STAKING QUANTITIES SHOWN ELSEWHERE
*** ADDITIONAL QUANTITY SHOWN ELSEWHERE

CROSS CULVERTS

PIPE NUMBER	INLET STATION	INLET OFFSET	INLET ELEV	DISCH STATION	DISCH OFFSET	DISCH ELEV	SLOPE %	522.0318 CULVERT PIPE REINFORCED CONCRETE CLASS IV 18-INCH LF	522.0324 CULVERT PIPE REINFORCED CONCRETE CLASS IV 24-INCH LF	522.0336 CULVERT PIPE REINFORCED CONCRETE CLASS IV 36-INCH LF	522.0342 CULVERT PIPE REINFORCED CONCRETE CLASS IV 42-INCH LF	523.0424 CULVERT PIPE REINFORCED CONC. HORIZ. ELLIPTICAL CLASS HE-IV 24X38-INCH LF	522.1018 AEW FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH EACH	522.1024 AEW FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH	522.1036 AEW FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH EACH	522.1042 AEW FOR CULVERT PIPE REINFORCED CONCRETE 42-INCH EACH	523.0524 AEW FOR CULVERT PIPE REIN. CONC. HORIZ. ELLIPTICAL 24X38-INCH EACH	** 633.5200 MARKERS CULVERT END EACH	** 650.6000 CONST STAKING PIPE CULVERTS EACH	* JOINT TIES REQ'D EACH
STH 190																				
C100	116+00.0 'WB'	21.3' RT	896.82	116+00.0 'WB'	56.6' LT	893.57	4.17%	78.0	---	---	---	---	2	---	---	---	---	2	1	6
C101	138+41.8 'WB'	11.0' RT	884.14	138+41.8 'WB'	61.0' LT	882.70	2.00%	72.0	---	---	---	---	2	---	---	---	---	2	1	6
C102	144+00.0 'WB'	12.5' RT	889.23	144+00.0 'WB'	41.5' LT	888.15	2.00%	54.0	---	---	---	---	2	---	---	---	---	2	1	6
C103	133+89.9 'D'	53.0' LT	861.08	148+42.9 'C'	64.9' RT	860.46	0.49%	---	---	128.0	---	---	---	---	2	---	---	2	1	6
C104	142+16.4 'C'	27.5' LT	877.26	142+16.4 'C'	40.5' RT	875.90	2.00%	68.0	---	---	---	---	2	---	---	---	---	2	1	6
C105	150+48.0 'A'	54.1' LT	852.30	133+41.2 'B'	47.9' LT	851.63	0.54%	---	---	---	---	124.0	---	---	---	---	2	2	1	6
C106	143+16.8 'A'	25.0' RT	877.69	143+16.8 'A'	38.9' LT	876.22	2.30%	---	64.0	---	---	---	---	2	---	---	---	2	1	6
C107	140+97.9 'B'	22.7' RT	877.72	140+97.9 'B'	35.3' LT	876.56	2.00%	---	58.0	---	---	---	---	2	---	---	---	2	1	6
C108	173+96.4'F'	77.6' RT	858.37	176+12.4'F'	79.0' RT	856.43	0.90%	---	---	---	216.0	---	---	---	---	2	---	2	1	6
	PROJECT 0010 TOTALS							272.0	122.0	128.0	216.0	124.0	8	4	2	2	2	18	9	54

NOTE: JOINT TIES FOR CONCRETE PIPE SHALL BE PROVIDED AT ALL CONCETE APRON ENDWALL. APRON ENDWALLS SHALL BE TIED FOR THE LAST THREE JOINTS AT BOTH CULVERT ENDS.
THE COST OF THESE TIES SHALL BE INCIDENTAL TO THE COST OF THE PIPE.
STATIONS AND OFFSETS ARE TO THE END OF PIPE

*NON-BID ITEM (FOR INFORMATION ONLY)
** ADDITIONAL STAKING QUANTITIES SHOWN ELSESHWERE

STORM SEWER STRUCTURES

STRUCTURE NUMBER	STATION	OFFSET	611.2005 MANHOLE 5-FT DIA EACH	611.2055 MANHOLE 5X5-FT EACH	611.3004 INLETS 4-FT DIA EACH	611.3230 INLETS 2X3-FT EACH	611.3902 INLETS MEDIAN 2 GRATE EACH	611.0430 RECONSTRUCTING INLETS EACH	611.0627 INLET COVERS TYPE HM EACH	611.0642 INLET COVERS TYPE MS EACH	RIM OR FLANGE ELEV	STR DEPTH FEET	650.4000 CONSTRUCTION STAKING STORM SEWER EACH	COMMENTS
1	121+48.4 'EB'	69.3' RT	---	---	---	---	---	---	---	---	---	---	1	
2	121+88.9 'EB'	77.8' RT	---	---	1	---	---	---	1	---	882.32	2.2	1	
3	121+85.2 'EB'	68.6' RT	---	---	1	---	---	---	1	---	882.54	4.3	1	
4	122+24.4 'EB'	49.4' RT	---	---	1	---	---	---	1	---	881.99	4.1	1	
5	122+85.3 'EB'	61.4' RT	---	---	---	---	---	---	---	---	---	---	1	
6	121+51.7 'WB'	33.4' RT	---	---	---	---	1	---	---	2	882.76	2.6	1	SEE NOTE 7
7	121+51.7 'WB'	46.2' LT	---	---	---	---	---	---	---	---	---	---	1	
10	156+56.7 'WB'	29.2' RT	---	---	---	---	1	---	---	2	892.43	2.8	1	SEE NOTE 7
11	156+38.4 'WB'	54.0' LT	---	---	---	---	---	---	---	---	---	---	1	
12	156+75.1 'WB'	46.9' LT	1	---	---	---	---	---	1	---	893.88	3.6	1	SEE NOTE 6
13	158+26.0 'WB'	56.3' LT	---	---	---	---	---	---	---	---	---	---	1	
20	150+42.3 'A'	54.0' LT	---	---	---	---	---	---	---	---	---	---	1	
21	150+38.6 'A'	1.5' RT	---	---	---	1	---	---	1	---	856.96	2.2	1	
22	150+28.6 'A'	1.5' RT	---	---	1	---	---	---	1	---	856.98	2.5	1	
23	133+58.3 'B'	13.5' RT	---	---	1	---	---	---	1	---	857.08	3.3	1	
24	133+48.2 'B'	13.5' RT	---	1	---	---	---	---	1	---	857.07	3.9	1	SEE NOTE 6
25	133+46.8 'B'	48.0' LT	---	---	---	---	---	---	---	---	---	---	1	
30	136+14.7 'B'	7.9' RT	---	---	1	---	---	---	1	---	863.40	4.4	1	
31	147+75.0 'A'	1.5' RT	---	---	1	---	---	---	1	---	863.84	5.1	1	
32	147+75.0 'A'	37.9' LT	---	---	---	---	---	---	---	---	---	---	1	
40	134+18.0 'D'	1.5' LT	---	---	---	1	---	---	1	---	865.62	2.8	1	
41	134+08.0 'D'	1.5' LT	1	---	---	---	---	---	1	---	865.61	3.1	1	SEE NOTE 6
42	148+07.5 'C'	1.5' LT	---	---	---	1	---	---	1	---	865.56	2.8	1	
43	148+17.5 'C'	1.5' LT	---	---	1	---	---	---	1	---	865.55	3.3	1	
44	148+17.5 'C'	47.5' RT	---	---	---	---	---	---	---	---	---	---	1	
50	136+80.5 'D'	25.0' RT	---	---	---	---	---	---	---	---	---	---	1	
51	136+80.5 'D'	1.5' LT	1	---	---	---	---	---	1	---	870.91	3.5	1	SEE NOTE 6
52	145+50.0 'C'	1.5' LT	1	---	---	---	---	---	1	---	870.91	3.7	1	SEE NOTE 6
53	145+50.0 'C'	36.6' RT	---	---	---	---	---	---	---	---	---	---	1	
60	127+00'EB'	44.4' RT	---	---	---	---	---	---	---	---	---	---	1	
61	126+96.0'EB'	28.2' LT	---	---	---	---	---	---	---	---	---	---	1	
62	127+06.0'EB'	28.6' LT	---	---	---	---	---	---	---	---	---	---	1	
63	127+00.0'EB'	28.3' LT	---	---	---	---	1	---	---	2	877.10	4.9	1	SEE NOTE 7
64	127+07.0'WB'	49.8' LT	---	---	---	---	---	---	---	---	---	---	1	
70	180+52.1 'F'	1.1' LT	---	---	---	---	---	1	---	---	857.19	---	---	
71	180+21.6 'F'	94.4' RT	---	---	---	---	---	---	---	---	---	---	1	
80	173+31.1'F'	4.7' LT	---	---	---	---	1	---	---	2	---	---	1	SEE NOTE 7
0010 TOTALS			4	1	8	3	4	1	16	8			36	

1. RIM ELEVATIONS ARE GIVEN AT THE FLANGE LINE FOR INLET GRATES OR THE CENTER OF THE MANHOLE STRUCTURE FOR MANHOLES.
2. STATIONS AND OFFSETS ARE TO THE CENTER OF STRUCTURES OR TO THE END OF PIPE WHERE THERE IS AN ENDWALL.
3. PIPE LENGTHS ARE MEASURED TO THE CENTER OF STRUCTURES.
4. STR DEPTH = RIM ELEV - INV - CASTING HEIGHT - ADJUSTMENT + 18" SUMP FOR CATCH BASINS
   CASTING HEIGHT = 10" FOR TYPE B COVERS; 9" FOR TYPE C AND J COVERS; AND 6" FOR TYPE H, HM, H-S, AND S COVERS
   ADJUSTMENT = 6" TYPICAL (NO ADJUSTMENT FOR MEDIAN INLETS)
5. JOINT TIES FOR CONCRETE PIPE SHALL BE PROVIDED AT ALL REINFORCED CONCRETE APRON ENDWALL LOCATIONS. APRON ENDWALLS SHALL BE TIED FOR THE LAST THREE JOINTS AT PIPE ENDS. THE COST OF THESE TIES SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR THE REINFORCED CONCRETE STORM SEWER PIPE.
6. PROVIDE A FLAT TOP SLAB WITH A 2'X3' RECTANGULAR OPENING
7. INLET GRATES TO BE LEVEL

STORM SEWER PIPES

						608.0412	608.0415	608.0418	608.0424	608.0436	610.0419	610.0424
						STORM SEWER PIPE REINFORCED CONCRETE						
						CLASS IV					CLASS HE-IV	
PIPE NUMBER	FROM STR	TO STR	INLET ELEV	DISCH ELEV	SLOPE (FT/FT)	12" (LF)	15" (LF)	18" (LF)	24" (LF)	36" (LF)	19X30-INCH (LF)	24X38-INCH (LF)
P1	1	3	877.48	877.22	0.0072	---	---	---	36.9	---	---	---
P2	2	3	879.16	878.96	0.0203	9.9	---	---	---	---	---	---
P3	3	4	877.22	876.90	0.0072	---	---	---	43.6	---	---	---
P4	4	5	876.90	876.48	0.0069	---	---	---	62.1	---	---	---
---	5	ENDWALL	---	---	---	---	---	---	---	---	---	---
P6	6	7	880.13	879.34	0.0100	---	---	79.5	---	---	---	---
---	7	ENDWALL	---	---	---	---	---	---	---	---	---	---
P10	10	12	889.62	889.23	0.0050	---	---	78.2	---	---	---	---
P11	11	12	890.89	889.23	0.0445	---	---	37.4	---	---	---	---
P12	12	13	889.23	888.47	0.0050	---	---	---	---	---	151.1	---
---	13	ENDWALL	---	---	---	---	---	---	---	---	---	---
P20	20	24	852.41	852.20	0.0034	---	---	---	---	---	---	62.5
P21	21	22	853.77	853.72	0.0050	10.0	---	---	---	---	---	---
P22	22	23	853.47	853.43	0.0050	---	8.7	---	---	---	---	---
P23	23	24	852.75	852.70	0.0050	---	---	10.0	---	---	---	---
P24	24	25	852.20	851.99	0.0033	---	---	---	---	---	---	61.5
---	25	ENDWALL	---	---	---	---	---	---	---	---	---	---
P30	30	31	857.96	857.70	0.0200	---	---	12.8	---	---	---	---
P31	31	32	857.70	856.92	0.0200	---	---	39.4	---	---	---	---
---	32	ENDWALL	---	---	---	---	---	---	---	---	---	---
P40	40	41	861.81	861.76	0.0050	10.0	---	---	---	---	---	---
P41	41	43	861.51	861.47	0.0050	---	8.1	---	---	---	---	---
P42	42	43	861.77	861.72	0.0050	10.0	---	---	---	---	---	---
P43	43	44	861.22	860.97	0.0050	---	---	49.0	---	---	---	---
---	44	ENDWALL	---	---	---	---	---	---	---	---	---	---
P50	50	51	869.14	867.56	0.0600	---	---	---	---	---	26.5	---
P51	51	52	866.37	866.23	0.0200	---	---	---	---	---	7.0	---
P52	52	53	866.23	865.47	0.0200	---	---	---	---	---	38.1	---
---	53	ENDWALL	---	---	---	---	---	---	---	---	---	---
P60	60	63	872.39	872.16	0.0031	---	---	---	---	72.8	---	---
P61	61	63	874.56	874.44	0.0300	---	---	4.0	---	---	---	---
P62	62	63	874.46	874.34	0.0200	---	---	6.0	---	---	---	---
P63	63	64	872.16	871.91	0.0031	---	---	---	---	81.5	---	---
---	64	ENDWALL	---	---	---	---	---	---	---	---	---	---
P70	70	71	854.45	853.25	0.0120	---	---	100.3	---	---	---	---
---	71	ENDWALL	---	---	---	---	---	---	---	---	---	---
---	80	INLET	---	---	---	---	---	---	---	---	---	---
0010 TOTALS						39.9	16.8	416.6	142.6	154.3	222.7	124.0

STORM SEWER ENDWALLS

STRUCTURE NUMBER	STATION	OFFSET	521.0336 AEW FOR CULV PIPE SLOPED CROSS DRAINS 36-INCH 4 TO 1 EACH	522.1018 AEW FOR CULVERT PIPE REIN CONC 18" EACH	522.1024 AEW FOR CULVERT PIPE REIN CONC 24" EACH	522.1036 AEW FOR CULVERT PIPE REIN CONC 36" EACH	523.0519 AEW FOR CULVERT PIPE REIN CONC HE 19X30-INCH EACH	523.0524 AEW FOR CULVERT PIPE REIN CONC HE 24X38-INCH EACH	633.5200 MARKERS CULVERT END EACH	* JOINT TIES EACH
1	121+48.4 'EB'	69.3' RT	---	---	1	---	---	---	1	3
2	121+88.9 'EB'	77.8' RT	---	---	---	---	---	---	---	---
3	121+85.2 'EB'	68.6' RT	---	---	---	---	---	---	---	---
4	122+24.4 'EB'	49.4' RT	---	---	---	---	---	---	---	---
5	122+85.3 'EB'	61.4' RT	---	---	1	---	---	---	1	3
6	121+51.7 'WB'	33.4' RT	---	---	---	---	---	---	---	---
7	121+51.7 'WB'	46.2' LT	---	1	---	---	---	---	1	3
10	156+56.7 'WB'	29.2' RT	---	---	---	---	---	---	---	---
11	156+38.4 'WB'	54.0' LT	---	1	---	---	---	---	1	3
12	156+75.1 'WB'	46.9' LT	---	---	---	---	---	---	---	---
13	158+26.0 'WB'	56.3' LT	---	---	---	---	1	---	1	3
20	150+42.3 'A'	54.0' LT	---	---	---	---	---	1	1	3
21	150+38.6 'A'	1.5' RT	---	---	---	---	---	---	---	---
22	150+28.6 'A'	1.5' RT	---	---	---	---	---	---	---	---
23	133+58.3 'B'	13.5' RT	---	---	---	---	---	---	---	---
24	133+48.2 'B'	13.5' RT	---	---	---	---	---	---	---	---
25	133+46.8 'B'	48.0' LT	---	---	---	---	---	1	1	3
30	136+14.7 'B'	7.9' RT	---	---	---	---	---	---	---	---
31	147+75.0 'A'	1.5' RT	---	---	---	---	---	---	---	---
32	147+75.0 'A'	37.9' LT	---	1	---	---	---	---	1	3
40	134+18.0 'D'	1.5' LT	---	---	---	---	---	---	---	---
41	134+08.0 'D'	1.5' LT	---	---	---	---	---	---	---	---
42	148+07.5 'C'	1.5' LT	---	---	---	---	---	---	---	---
43	148+17.5 'C'	1.5' LT	---	---	---	---	---	---	---	---
44	148+17.5 'C'	47.5' RT	---	1	---	---	---	---	1	3
50	136+80.5 'D'	25.0' RT	---	---	---	---	1	---	1	3
51	136+80.5 'D'	1.5' LT	---	---	---	---	---	---	---	---
52	145+50.0 'C'	1.5' LT	---	---	---	---	---	---	---	---
53	145+50.0 'C'	36.6' RT	---	---	---	---	1	---	1	3
60	127+00'EB'	44.4' RT	1	---	---	---	---	---	1	3
61	126+96.0'EB'	28.2' LT	---	1	---	---	---	---	1	3
62	127+06.0'EB'	28.6' LT	---	1	---	---	---	---	1	3
63	127+00.0'EB'	28.3' LT	---	---	---	---	---	---	---	---
64	127+07.0'WB'	49.8' LT	---	---	---	1	---	---	1	3
70	180+52.1 'F'	1.1' LT	---	---	---	---	---	---	---	---
71	180+21.6 'F'	94.4' RT	---	1	---	---	---	---	1	3
80	173+31.1'F'	4.7' LT	---	---	---	---	---	---	---	---
0010 TOTALS			1	7	2	1	3	2	16	48

* NOT A BID ITEM. FOR INFORMATION PURPOSES ONLY.

3

CONCRETE BARRIER TYPE S42

STATION	TO	STATION	LOCATION	603.1142 LF
173'F'+80	-	176'F'+19	CTH F NB RT	239
173'F'+50	-	176'F'+75	CTH F SB LT	325
			TOTAL 0010	564

TEMPORARY CONCRETE BARRIER AND TEMPORARY CRASH CUSHIONS

STATION	TO	STATION	LOCATION	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED 603.8000 LF	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED 603.8125 LF	CRASH CUSHIONS TEMPORARY 614.0905 EACH	BACK WIDTH FT	OBJECT MARKING PATTERN	CRASH TEST LEVEL	TRAFFIC DIRECTION	TRAFFIC LOCATION	CRASH CUSHION SHIELDS	REMARKS
106'WB'+00	-	161'WB'+00	WB STH 190	5500	5500	1	2	OM-3R (WO5-58R)	TL-3	UNIDIRECTIONAL	R	TEMP CONCRETE BARRIER	STAGE 4 & 5
106'WB'+00	-	161'WB'+00	WB STH 190	5500	5500	1	2	OM-3R (WO5-58R)	TL-3	UNIDIRECTIONAL	R	TEMP CONCRETE BARRIER	STAGE 6
		135'EB'+58	WB STH 190			1	2	OM-3L (WO5-58L)	TL-3	UNIDIRECTIONAL	L	EXISTING BRIDGE PARAPET	STAGE 2, WB TRAFFIC AT EB STRUCTURE
		133'WB'27	EB STH 190			1	2	OM-3L (WO5-58L)	TL-3	UNIDIRECTIONAL	L	NEW BRIDGE PARAPET	STAGE 4, EB TRAFFIC AT WB STRUCTURE
170'F'+00	-	180'F'+00	CTH F	887.5	887.5	2	2	OM-3L (WO5-58L)	TL-3	UNIDIRECTIONAL	L	TEMP CONCRETE BARRIER	OUTSIDE LANE CLOSURES WB BRIDGE
170'F'+00	-	180'F'+00	CTH F		887.5	2	2	OM-3R (WO5-58R)	TL-3	UNIDIRECTIONAL	R	TEMP CONCRETE BARRIER	INSIDE LANE CLOSURES WB BRIDGE
170'F'+00	-	180'F'+00	CTH F	887.5	887.5	2	2	OM-3L (WO5-58L)	TL-3	UNIDIRECTIONAL	L	TEMP CONCRETE BARRIER	OUTSIDE LANE CLOSURES EB BRIDGE
170'F'+00	-	180'F'+00	CTH F		887.5	2	2	OM-3R (WO5-58R)	TL-3	UNIDIRECTIONAL	R	TEMP CONCRETE BARRIER	INSIDE LANE CLOSURES EB BRIDGE
			TOTAL 0010	12775	14550	12							

3

RIPRAP AND GEOTEXTILE FABRIC

STATION	LOCATION	RIPRAP MEDIUM 606.0200 CY	GEOTEXTILE FABRIC TYPE HR 645.0120 SY	REMARKS
114'EB'+00	STH 190	3.3	13.0	EASTBOUND, RT
116'WB'+00	STH 190	2.1	9.3	WESTBOUND, LT
121'WB'+50	STH 190	2.1	9.3	WESTBOUND, LT
123'WB'+00	STH 190	3.3	13.0	WESTBOUND, LT
123'EB'+00	STH 190	3.3	13.0	EASTBOUND, RT
123'EB'+25	STH 190	6.9	22.6	EASTBOUND, RT
125'EB'+25	STH 190	3.3	13.0	EASTBOUND, RT
127'WB'+10	STH 190	2.2	9.8	WESTBOUND, LT
132'EB'+60	STH 190	5.3	18.3	EASTBOUND, RT
132'EB'+90	STH 190	4.4	15.9	EASTBOUND, LT
133'WB'+00	STH 190	4.4	15.9	WESTBOUND, LT
133'WB'+00	STH 190	4.4	15.9	WESTBOUND, RT
136'EB'+10	STH 190	11.6	35.4	EASTBOUND, RT
136'EB'+05	STH 190	4.4	15.9	EASTBOUND, LT
136'WB'+20	STH 190	4.4	15.9	WESTBOUND, RT
136'WB'+50	STH 190	20.9	61.1	WESTBOUND, LT
138'WB'+40	STH 190	15.3	51.6	WESTBOUND, LT
144'WB'+00	STH 190	19.4	64.9	WESTBOUND, LT
157'EB'+50	STH 190	5.6	18.8	EASTBOUND, RT
158'WB'+25	STH 190	9.8	30.6	WESTBOUND, LT
158'WB'+40	STH 190	3.3	13.0	WESTBOUND, LT
160'EB'+55	STH 190	4.4	15.9	EASTBOUND, RT
163'EB'+20	STH 190	2.2	10.1	EASTBOUND, RT
141'A'+75	RAMP A	40.0	113.7	RAMP A, LT
143'A'+00	RAMP A	24.0	75.0	RAMP A, LT
144'A'+25	RAMP A	26.7	77.0	RAMP A, LT
147'A'+25	RAMP A	11.1	34.2	RAMP A, LT
147'A'+75	RAMP A	3.3	13.3	RAMP A, LT
150'A'+25	RAMP A	4.4	15.9	RAMP A, LT
133'B'+45	RAMP B	4.4	15.9	RAMP B, LT
133'B'+50	RAMP B	6.7	21.7	RAMP B, LT
141'B'+00	RAMP B	11.7	38.0	RAMP B, LT
144'B'+00	RAMP B	14.2	42.8	RAMP B, LT
140'C'+75	RAMP C	15.6	46.4	RAMP C, RT
142'C'+25	RAMP C	5.0	18.7	RAMP C, RT
143'C'+10	RAMP C	4.4	15.9	RAMP C, RT
145'C'+50	RAMP C	3.0	12.0	RAMP C, RT
145'C'+90	RAMP C	4.4	15.9	RAMP C, RT
148'C'+00	RAMP C	4.4	15.9	RAMP C, RT
148'C'+20	RAMP C	2.8	11.6	RAMP C, RT
148'C'+40	RAMP C	4.4	15.9	RAMP C, RT
134'D'+25	RAMP D	4.4	15.9	RAMP D, RT
176'F'+75	CTH F	2.2	9.8	NORTHBOUND, RT
176'F'+85	CTH F	5.0	17.3	NORTHBOUND, RT
180'F'+25	CTH F	1.7	8.0	NORTHBOUND, RT
	TOTAL 0010	350.1	1153.0	

UNDERDRAIN AND ENDWALLS

STATION	LOCATION	612.0206 PIPE UNDERDRAIN UNPERFORATED 6-INCH LF	612.0806 APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 6-INCH EACH	REMARKS
155'EB'+00	STH 190 EB, LT	14	2	PERMANENT DITCH CHECK
144'A'+00	RAMP A, LT	14	2	PERMANENT DITCH CHECK
	TOTAL 0010	28	4	

3

BEAM GUARD

STATION	TO	STATION	LOCATION	614.0200 STEEL THRIE BEAM STRUCTURE APPROACH LF	614.0220 STEEL THRIE BEAM BULLNOSE TERMINAL EACH	614.0230 STEEL THRIE BEAM LF	614.0305 STEEL PLATE BEAM GUARD CLASS A LF	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EACH	REMARKS
125'EB+83	-	133'WB'+29	STH 190	8.2	-	-	-	737.5	-	-	1	WB, LT
131'EB'+07	-	133'EB'+24	STH 190	-	-	-	-	125	39.4	1	-	EB, RT
132'EB'+50	-	133'EB'+24	STH 190	20.7	1	18.5	-	-	-	-	-	MEDIAN
135'EB'+77	-	138'EB'+23	STH 190	8.2	-	-	-	237.5	-	-	1	EB, RT
135'WB'+83	-	138'WB'+75	STH 190	-	-	-	-	200	39.4	1	-	WB, LT
135'EB'+75	-	136'EB'+50	STH 190	20.7	1	18.5	-	-	-	-	-	MEDIAN
176'F'+72	-	177'F'+05	CTH F	20.7	-	-	12.5	-	-	-	-	SOUTHBOUND
176'F'+16	-	179'F'+50	CTH F	8.2	-	-	-	325	-	-	1	NORTHBOUND
173'F'+83	-	176'F'+65	CTH F	-	2	350	-	-	-	-	-	MEDIAN
171'F'+28	-	173'F'+83	CTH F	-	-	-	-	162.5	39.4	1	-	NORTHBOUND
			TOTAL 0010	86.7	4	387	12.5	1787.5	118.2	3	3	

WATER

LOCATION	624.0100 MGAL
	1500
TOTAL 0010	1500

RESTORATION

STATION	TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	628.2004 EROSION MAT CLASS I TYPE B SY	628.6510 SOIL STABILIZER TYPE B ACRE	629.0210 FERTILIZER TYPE B CWT	630.0140 SEEDING MIXTURE NO. 40 LB	630.0200 SEEDING TEMPORARY LB	REMARKS
99'WB'+56	-	106'WB'+93	STH 190 MEDIAN	-	964	0.02	-	-	2.9	WB WEST X-OVER 'A'
157'WB'+98	-	168'WB'+57	STH 190 MEDIAN	-	1586	0.04	-	-	4.8	WB EAST X-OVER 'B'
111'WB'+00	-	163'WB'+12	STH 190 WB LT	45422	45422	1.04	3.2	136.3	68.1	WB LT AND RAMPS A & B
99'EB'+60	-	109'EB'+12	STH 190 MEDIAN	-	1579	0.04	-	-	4.7	EB WEST X-OVER 'C'
156'EB'+87	-	167'EB'+38	STH 190 MEDIAN	-	3766	0.09	-	-	11.3	EB EAST X-OVER 'D'
109'EB'+12	-	156'EB'+87	STH 190 MEDIAN	-	15847	0.36	-	-	47.5	MEDIAN TEMP WIDENING
111'EB'+00	-	160'EB'+00	STH 190 EB RT	42475	42475	0.98	3.0	127.4	63.7	EB RT AND RAMPS C & D
109'EB'+12	-	163'EB'+12	STH 190 MEDIAN	21759	21759	0.50	1.5	65.3	32.6	STH 190 MEDIAN
99'EB'+60	-	167'EB'+38	STH 190 MEDIAN	8308	8308	0.19	0.6	24.9	12.5	X-OVER RESTORATION
171'F'+00	-	185'F'+00	CTH F	2927	2927	0.07	0.2	8.8	4.4	CTH F
			TOTAL 0010	120892	144633	3.32	8.5	362.7	252.5	

EROSION CONTROL

STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.7005 INLET PROTECTION TYPE A EACH	628.7010 INLET PROTECTION TYPE B EACH	628.7015 INLET PROTECTION TYPE C EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	628.7560 TRACKING PADS EACH	SPV.0090.01 HEAVY DUTY SILT FENCE 3-FT LF	REMARKS
108'EB'+00	-	166'EB'+00	STH 190	2892	4687	3	3	8	85	88	3	1795	INITIAL INSTALLATION PRIOR TO CONSTRUCTION
108'EB'+00	-	166'EB'+00	STH 190	-	-	9	-	-	300	11	3	-	TEMPORARY INSTALLATION DURING CONSTRUCTION
108'EB'+00	-	166'EB'+00	STH 190	-	-	5	-	16	2425	79	-	-	INSTALLATION AFTER CONSTURCITON IS COMPLETE
			TOTAL 0010	2892	4687	17	3	24	2810	178	6	1795	

EROSION CONTROL MOBILIZATIONS

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
STH 190	15	10
TOTAL 0010	15	10

TYPE II, SIGN REMOVAL **2025-13-71 STH 190**

SIGN NO.	SIGN CODE	SIGN MESSAGE	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	REMARKS / SIGN LOCATION
1R	J1-1	--	1	1	--
2R	J1-1	--	1	1	--
3R	J3-2	--	1	2	--
4R	J1-1	--	1	1	Sheet 9
5R	R4-7	--	1	1	--
6R	R4-7	--	1	1	--
7R	R4-7	--	1	1	Includes . R1-1 SIGN
8R	R1-1	--	1	1	--
9R	J2-2	--	1	2	--
10R	J2-2	--	1	2	--
11R	J2-1	--	1	1	--
12R	J1-1	--	1	1	Sheet 9
13R	J4-1	--	1	1	--
14R	J4-1	--	1	1	--
15R	D1-3	(A) MILW / SUSSEX,WAUK (A)	1	2	--
16R	D1-3	(A) MILW / SUSSEX,WAUK (A)	1	2	--
17R	J2-1	--	1	1	--
18R	W13-3	--	1	1	--
19R	W5-52R	--	1	1	--
20R	W5-52L	--	1	1	--
21R	W5-52R	--	1	1	--
22R	W5-52L	--	1	1	--
23R	J3-1	--	1	1	--
24R	W1-6	--	1	2	--
25R	J2-1	--	1	1	--
26R	W1-8	--	1	1	--
27R	W4-1R	--	1	1	--
28R	W1-6	--	1	2	--
29R	W4-1R	--	1	1	--
30R	W1-6	--	1	2	--
31R	J2-1	--	1	1	--
32R	R1-2	--	1	1	--
33R	R1-2	--	1	1	--
34R	W1-8	--	1	1	Sheet 5
35R	J2-1	--	1	1	--

3

SIGN NO.	SIGN CODE	SIGN MESSAGE	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	REMARKS / SIGN LOCATION
36R	W13-3	--	1	1	--
37R	J2-2	--	1	2	--
38R	J2-2	--	1	2	--
39R	D1-1	(A) WETHERSFIELD RD	1	2	--
40R	--	NO THRU TRAF. ON SHOULDER	1	1	--
41R	S3-1	--	1	1	--
42R	S3-1	--	1	1	--
43R	D1-2	(A) PEWAUKE/SUSSEX,WAUK (A)	1	2	--
44R	D1-2	(A) PEWAUKE/SUSSEX,WAUK (A)	1	2	--
45R	R1-1	--	1	1	--
46R	R4-7	--	1	1	--
47R	R4-7	--	1	1	--
48R	D2-2	BROOKFIELD 5/ MILWAUKEE 11	1	2	Includes J1-1 SIGN
49R	D1-1	WEATHERSFIELD RD	1	2	--
50R	J2-1	--	1	1	--
51R	J3-1	--	1	1	--
52R	R2-1	55 MPH	1	1	--
53R	R6-2L	--	1	--	REMOVE FROM SIGNAL OR LIGHT POLE
54R	R1-1F	--	1	--	REMOVE FROM SIGNAL OR LIGHT POLE
55R	R5-1	--	1	--	INCL. R1-1F & R6-3A- REMOVE FROM SIGNAL POLE
56R	R3-4	--	1	1	INCL. R5-1
57R	R4-7	--	1	--	REMOVE FROM SIGNAL OR LIGHT POLE
58R	R4-7	--	1	--	REMOVE FROM SIGNAL OR LIGHT POLE
59R	J3-2	--	1	2	--
60R	--	--	--	--	SIGN # , NOT USED
61R	R1-2	--	1	1	--
62R	R1-1F	--	1	1	INC. R4-7 REMOVAL
63R	R1-1F	--	1	--	INC. R5-1 REMOVAL FROM SIGNAL POLE
64R	JV-1	--	1	--	REMOVE FROM SIGNAL OR LIGHT POLE
65R	J3-1	--	1	1	--
66R	W12-1D	--	1	1	--
67R	W13-3	--	1	1	--
68R	--	ENTRANCE RAMP	1	1	--
69R	D1-2	(A) WAUK. / SUSSEX (A)	1	2	INCL. R5-1 REMOVAL
70R	J3-1	--	1	1	--

3

SIGN NO.	SIGN CODE	SIGN MESSAGE	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	REMARKS / SIGN LOCATION
71R	J2-3	--	1	2	--
72R	W5-52R	--	1	1	--
73R	W1-6	--	1	2	--
74R	W1-6	--	1	2	--
75R	W3-3	--	1	1	--
76R	R4-7	--	1	1	--
77R	R4-7	--	1	1	--
78R	R4-7	--	1	1	--
79R	NOT USED	--	--	--	--
80R	W12-1D	--	1	1	--
81R	J3-1	--	1	1	--
82R	D1-2	(A) WAUK. / SUSSEX (A)	1	2	INCL. R5-1A ,REMOVAL
83R	J3-1	--	1	1	INCL. R5-1, REMOVAL
84R	R1-2	--	1	1	--
85R	R1-1F	--	1	1	INCL. R6-3A, REMOVAL
86R	W13-3	25 MPH	1	1	--
87R	J3-1	--	1	1	--
88R	W1-6	--	1	2	2.0
89R	W3-1	--	1	1	--
90R	W1-8	--	1	1	--
91R	W1-8	--	1	1	--
92R	W5-52R	--	1	1	--
93R	D1-3	(A) SUSSEX,PEWAUK / MILW. (A)	1	2	--
94R	D1-3	(A) SUSSEX,PEWAUK / MILW. (A)	1	2	--
95R	J3-1	--	1	1	--
96R	R5-1A	--	1	1	--
97R	J3-1	--	1	1	--
98R	W5-52R	--	1	1	--
99R	R5-1	--	1	1	--
100R	R5-1	--	1	1	--
101R	J4-1	--	1	1	--
102R	J3-1	--	1	1	--
103R	R6-2L	--	1	1	--
104R	W3-3	--	1	1	--
105R	W3-3	--	1	1	--

SIGN NO.	SIGN CODE	SIGN MESSAGE	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	REMARKS / SIGN LOCATION
106R	W5-52R	--	1	1	--
107R	J2-1	--	1	1	--
108R	J3-1	--	1	1	--
109R	W5-52R	--	1	1	--
110R	D1-1	(A) MILWAUKEE	1	2	--
111R	J3-1	--	1	1	--
112R	J2-1	--	1	1	--
113R	R5-1A	--	1	1	--
114R	NOT USED	--	--	--	--
115R	J4-1	--	1	1	--
116R	R5-1A	--	1	1	--
117R	J2-3	--	1	3	--
118R	J2-3	--	1	3	--
119R	R5-1	--	1	1	--
120R	R6-2L	--	1	1	--
121R	R4-7	--	1	1	--
122R	R4-7	--	1	1	--
123R	R4-7	--	1	1	--
124R	R1-1	--	1	1	INCL. R6-3A, REMOVAL
125R	W3-3	--	1	1	--
126R	W3-3	--	1	1	--
127R	J4-1	--	1	1	--
128R	J4-1	--	1	1	--
129R	J2-1		1	1	SEE SHEET 15
130R	W12-2	15'-4"	1	1	SEE SHEET 15
131R	W12-2	15'-4"	1	1	SEE SHEET 15
132R	J4-1	--	1	1	SEE SHEET 15
133R	J4-1	--	1	1	SEE SHEET 15
134R	J2-1		1	1	SEE SHEET 15
135R	J2-2		1	2	SEE SHEET 15
	TOTALS		127	149	

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	**637.2210** SIGNS TYPE II REFLC H [SF]	**637.2230** SIGNS TYPE II REFLC F [SF]	**637.2215** SIGNS TYPE II REFLC H FOLDING [SF]	**634.0618** WOOD POSTS 4"X 6"x18' [EA]	**634.0624** WOOD POSTS 4"X6"X24" (EA)	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
1	J1-1(3)		36	x	57	14.250			1			
	M2-1		30	x	21							
	M1-5A	CTH F	36	x	36							
2	J1-1(3)		36	x	57	14.250			1			
	M2-1		30	x	21							
	M1-5A	CTH F	36	x	36							
3	J3-2(3)	--	72	x	138	69.000					2	
	MB4-1		36	x	18							
	MB3-1		36	x	18							
	M1-1		36	x	36							
	MB6-1	IH 41	30	x	30							
	M4-1		36	x	18							
	M3-1		36	x	18							
	M1-4	USH 41	36	x	36							
	M1-4	USH 45	36	x	36							
	M6-1		30	x	30							
4	R5-1A(3)		42	x	30	8.750		--	1		--	--
5	R5-1(3)	--	36	x	36	9.000		--	1		--	--
6	R4-7(2S)	--	24	x	30	5.000		--	1		--	--
7	R4-7(3)	--	36	x	48	12.000		--	1		--	--
8	R4-7(3)	--	36	x	48	12.000		--	1		--	--
9	R6-1L(3)	--	54	x	18	6.750		--	--		11	ABOVE #11, AND BACKSIDE OF#10
10	R6-1R(3)	--	54	x	18	6.750		--	--		11	ABOVE #11, AND BACKSIDE OF#9
11	R1-1 (3)	--	36	x	36	7.460		--	1		--	--
12	R1-1 (3)	--	36	x	36	7.460		--	1		--	--
13	R6-3A(2M)	--	30	x	24	5.000		--	--		11	--
14	J2-2(3)	--	72	x	84	42.000		--	2		--	--
--	-- M3-2	--	36	x	18			--	--		--	--
--	-- M1-6	STH 190	36	x	36			--	--		--	--
--	M6-1	--	30	x	30			--	--		--	--
--	-- M1-5A	CTH F	36	x	36			--	--		--	--
--	-- M5-2	--	30	x	30			--	--		--	--
15	J2-2(3)	--	72	x	84	42.000		--	2		--	--
--	-- M3-2	--	36	x	18			--	--		--	--
--	-- M1-6	STH 190	36	x	36			--	--		--	--
--	M6-1	--	30	x	30			--	--		--	--
--	-- M1-5A	CTH F	36	x	36			--	--		--	--
--	-- M5-2	--	30	x	30			--	--		--	--

3

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0624 WOOD POSTS 4"X6"X24" (EA)	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
16	J2-1(3)	--	36	x	84	21.000		--	1		--	--
--	-- MB4-5	--	36	x	18			--	--		--	--
--	-- M1-1	IH 94	36	x	36			--	--		--	--
--	MB5-2	--	30	x	30			--	--		--	--
17	-- R5-1(3)	--	36	x	36	9.000		--	1		--	--
18	-- R5-1A(3)	--	42	x	30	8.750		--	1		--	--
19	-- R6-2L(3)	--	36	x	48	12.000		--	1		--	--
20	J4-1(3)	--	36	x	102	25.500		--	--	2	--	--
	MB4-1		36		18							
--	-- MB3-4	--	36	x	18			--	--		--	--
--	-- M1-1	IH 94	36	x	36			--	--		--	--
--	MB6-1	--	30	x	30			--	--		--	--
21	J4-1(3)	--	36	x	54	13.500		--	1		--	--
--	-- M3-4	--	36	x	18			--	--		--	--
--	-- M1-6	STH 190	36	x	36			--	--		--	--
22	D1-3	--	102	x	48	34.000		--	2		--	--
--	--	ARROW MILWAUKEE	--	x	--	--		--	--		--	--
--	--	SUSSEX	--	x	--	--		--	--		--	--
--	--	WAUKESHA ARROW	--	x	--	--		--	--		--	--
23	D1-3	--	102	x	48	34.000		--	2		--	--
--	--	ARROW MILWAUKEE	--	x	--	--		--	--		--	--
--	--	SUSSEX	--	x	--	--		--	--		--	--
--	--	WAUKESHA ARROW	--	x	--	--		--	--		--	--
24	J2-1(3)	--	36	x	102	25.500		--	1		--	--
	MB4-1		36		18							
--	-- MB3-2	--	36	x	18			--	--		--	--
--	-- M1-1	IH 94	36	x	36			--	--		--	--
--	MB6-1	--	30	x	30			--	--		--	--
25	-- W13-2A(4)	25 MPH	48	x	90		30.000	--	2		--	--
26	-- W5-52R(3)	--	18	x	54		6.750	--	1		--	4' MOUNTING HT.
27	-- W5-52L(3)	--	18	x	54		6.750	--			--	4' MOUNTING HT.
28	J2-2(3)	--	72	x	84	42.000		--	2		--	--
--	-- MB4-5	--	36	x	18			--	--		--	--
--	-- M1-1	IH 94	36	x	36			--	--		--	--
--	MB6-2	--	30	x	30			--	--		--	--
--	-- M1-5A	CTH F	36	x	36			--	--		--	--
--	-- M6-2	--	30	x	30			--	--		--	--
29	-- W5-52L(3)	--	18	x	54		6.750	--	1		--	4' MOUNTING HT.
30	-- W5-52R(3)	--	18	x	54		6.750	--			--	4' MOUNTING HT.

PROJECT NO: 2025– 13-71	HWY: STH 190	COUNTY: WAUKESHA	PERMANENT MISC. QUANTITIES	SHEET:	E

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0624 WOOD POSTS 4"X6"X24" (EA)	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
31	-- E5-1(4)	--	60	x	48	20.000		--	2		--	--
32	-- W1-8(3)	--	24	x	30		5.000	--	1		--	4' MOUNTING HT.
33	-- W1-8(3)	--	24	x	30		5.000	--	1		--	4' MOUNTING HT.
34	-- W1-8(3)	--	24	x	30		5.000	--	1		--	4' MOUNTING HT.
35	-- W4-1(3)	--	36	x	36		9.000	--	1		--	--
36	-- W4-1(3)	--	36	x	36		9.000	--	1		--	--
37	-- W1-6(3)	--	60	x	30		12.500	--	2		--	--
38	-- W1-6(3)	--	60	x	30		12.500	--	2		--	--
39	-- NOT USED	--	--	x	--	--		--	--		--	--
40	-- NOT USED	--	--	x	--	--		--	--		--	--
41	J2-1(3)	--	36	x	66	16.500		--	1		--	--
--	-- M1-5A	CTH F	36	x	36			--	--		--	--
--	-- M6-2	--	30	x	30			--	--		--	--
42	-- W1-6(3)	--	60	x	30		12.500	--	2		--	--
43	-- E5-1(4)	--	60	x	48	20.000		--	2		--	--
44	-- D1-1	ARROW WETHERSFIELD RD	132	x	21	19.250		--	2		--	--
45	-- W9-2L(2S)	--	36	x	36	9.000		--	1		--	--
46	-- S3-1(3)	--	48	x	48		16.000	--	1		--	--
47	-- S3-1(3)	--	48	x	48		16.000	--	1		--	--
48	R5-1A(3)		42	x	30	8.750		--			46	--
49	-- W13-2D(2M)	25 MPH	48	x	90		30.000	--	2		--	--
50	J2-1(3)	--	36	x	84	21.000		--	2		--	--
--	-- MB4-5	--	36	x	18			--	--		--	--
--	-- M1-1	IH 94	36	x	36			--	--		--	--
--	MB6-2	--	30	x	30			--	--		--	--
51	J2-2(3)	--	72	x	84	42.000		--	2		--	--
--	-- M3-4	--	36	x	18			--	--		--	--
--	-- M1-6	STH 190	36	x	36			--	--		--	--
--	M6-1	--	30	x	30			--	--		--	--
--	-- M1-5A	CTH F	36	x	36			--	--		--	--
--	-- M5-2	--	30	x	30			--	--		--	--
52	J2-2(3)	--	72	x	84	42.000		--	2		--	--
--	-- M3-4	--	36	x	18			--	--		--	--
--	-- M1-6	STH 190	36	x	36			--	--		--	--
--	M6-1	--	30	x	30			--	--		--	--
--	-- M1-5A	CTH F	36	x	36			--	--		--	--
--	-- M5-2	--	30	x	30			--	--		--	--
53	D1-3	(ARROW) PEWAUKEE	102	x	48	34.000		--	2		--	--
--	--	SUSSEX	--	x	--	--		--	--		--	--
--	--	WAUKESHA (ARROW)	--	x	--	--		--	--		--	--

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SHEET 3 OF 11

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0624 WOOD POSTS 4"X6"X24" (EA)	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
54	D1-3	(ARROW) PEWAUKEE	102	x	48	34.000		--	2		--	--
--	--	SUSSEX	--	x	--	--		--	--		--	--
--	--	WAUKESHA (ARROW)	--	x	--	--		--	--		--	--
55	R1-1 (3)	--	36	x	36	7.460		--	1		--	--
56	R6-3A(2M)	--	30	x	24	5.000		--	--		55	--
57	R4-7(2S)	--	24	x	30	5.000		--	1		--	--
58	R4-7(3)	--	36	x	48	12.000		--	1		--	--
59	R4-7(3)	--	36	x	48	12.000		--	1		--	--
60	R6-1R(3)	--	54	x	18	6.750		--	--		55	ABOVE #55, AND BACKSIDE OF#61
61	R6-1L(3)	--	54	x	18	6.750		--	--		55	ABOVE #55, AND BACKSIDE OF#60
62	-- R6-2L(3)	--	36	x	48	12.000		--	1		--	--
63	J4-1(3)	--	36	x	54	13.500		--	1		--	--
--	-- M3-2	--	36	x	18			--	--		--	--
--	-- M1-6	STH 190	36	x	36			--	--		--	--
64	-- D2-2	BROOKFIELD 5	102	x	36	25.500		--	2		--	--
--	--	MILWAUKEE 11	--	x	--	--		--	--		--	--
65	R5-1A(3)		42	x	30	8.750		--	1			--
66	-- R5-1(3)	--	36	x	36	9.000		--	1		--	--
67	-- R5-1(3)	--	36	x	36	9.000		--	1		--	--
68	-- R2-1(3)	Speed Limit 55	36	x	48	12.000		--	1		--	--
69	J3-1(3)	--	36	x	102	25.500		--	--	2	--	--
	MB4-1		36		18				--			
--	-- MB3-4	--	36	x	18			--	--		--	--
--	-- M1-1	IH 94	36	x	36			--	--		--	--
--	MB6-1	--	30	x	30			--	--		--	--
70	J2-1(3)	--	36	x	84	21.000		--	2		--	--
--	-- MB4-5	--	36	x	18			--	--		--	--
--	-- M1-1	IH 94	36	x	36			--	--		--	--
--	MB4-22R	--	36	x	30			--	--		--	--
71	-- D1-1	WETHERSFIELD RD ---->	132	x	21	19.250		--	2		--	--
72	J1-1(3)		36	x	57	14.250			1			
	M2-1		36	x	21							
	M1-5A	CTH F	36	x	36							
73	J1-1(3)		36	x	57	14.250			1			
	M2-1		36	x	21							
	M1-5A	CTH F	36	x	36							
74	-- R6-2L(3)	--	36	x	48	12.000		--	1		--	--
75	-- R5-1(3)	--	36	x	36	9.000		--	--		--	MOUNT ON SIGNAL POLE
76	-- R3-4B(3)	--	36	x	36	9.000		--	--		75	--
77	R1-1F (3)	--	36	x	36			7.460	--		75	--

PROJECT NO: 2025– 13-71	HWY: STH 190	COUNTY: WAUKESHA	PERMANENT MISC. QUANTITIES	SHEET:	E

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0624 WOOD POSTS 4"X6"X24" (EA)	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
78	R1-1F (3)	--	36	x	36			7.460	--		--	MOUNT ON SIGNAL POLE
79	-- R6-2L(2M)	--	30	x	36	7.500		--	1		--	--
80	J2-2(3)	--	36	x	84	21.000		--	--	2	--	--
	--		--		--							
--	-- M3-4	--	36	x	18			--	--		--	--
--	-- M1-6	STH 190	36	x	36			--	--		--	--
--	M6-1	--	30	x	30			--	--		--	--
81	-- W13-3(2M)	--	24	x	30		5.000	--	1		--	--
82	-- R5-1A(3)	--	42	x	30	8.750		--	1		--	--
83	-- R3-8Y(2S)	--	30	x	36	7.500		--	--		--	--
84	-- D1-2	<-- WAUKESHA	72	x	30	15.000		--	2		--	--
--	--	SUSSEX ---->	--	x	--	--	--	--	--		--	--
85	-- R5-1A(3)	--	42	x	30	8.750		--	--		84	--
86	JV3-1(2S)	--	24	x	93	15.500		--			--	MOUNT ON LIGHT POLE
--	-- MB4-5	--	24	x	12			--	--		--	--
--	-- M1-1	IH 94	24	x	24			--	--		--	--
--	M3-3	--	24	x	12			--	--		--	--
--	-- M1-5A	CTH F	24	x	24			--	--		--	--
--	-- M6-1	--	21	x	21			--	--		--	--
87	J3-1(2S)	--	24	x	57	9.500		--	1		--	--
--	M3-4	--	24	x	12			--	--		--	--
--	-- M1-5A	CTH F	24	x	24			--	--		--	--
--	-- M6-1	--	21	x	21			--	--		--	--
88	R6-3A(2M)	--	30	x	24	5.000		--	--		89	--
89	R1-1 (3)F	--	36	x	36			7.460	1		--	MOUNT ON SIGNAL POLE
90	-- R1-2(2S)	--	36	x	31	3.880		--	1		--	--
91	-- R5-1(3)	--	36	x	36	9.000		--	--		--	MOUNT ON SIGNAL POLE

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0624 WOOD POSTS 4"X6"X24" (EA)	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
92	J3-2(3)	--	72	x	84	42.000		--	2		--	--
--	-- M4-5	--	36	x	18			--	--		--	--
--	-- M1-6	STH 164	36	x	36			--	--		--	--
--	-- M6-1	--	30	x	30			--	--		--	--
--	-- M3-4	--	36	x	18			--	--		--	--
--	-- M1-6	STH 190	36	x	36			--	--		--	--
--	-- M6-1	--	30	x	30			--	--		--	--
93	R1-1F (3)	--	36	x	36			7.460			--	MOUNT ON SIGNAL POLE
94	R1-1F (3)	--	36	x	36			7.460			--	MONT ON LIGHT POLE
95	R4-7(3)	--	36	x	48	12.000		--			--	MONT ON LIGHT POLE
96	R4-7(3)	--	36	x	48	12.000		--			--	MOUNT ON SIGNAL POLE
97	R4-7(3)	--	36	x	48	12.000		--			--	MOUNT ON SIGNAL POLE
98	R1-1F (3)	--	36	x	36			7.460	1		--	
99	W12-1D(2M)		24	x	24		4.000	--	1		--	2' MOUNTING HIGHT
100	R3-20L (2M)	--	24	x	36	6.000		--	1		--	--
101	-- W5-52R(3)	--	18	x	54		6.750	--	1		--	4' MOUNTING HT.
102	R3-8R(2S)	--	54	x	30	11.250		--	2		--	--
103	J2-3(2S)	--	72	x	57	28.500		--	2		--	
--	-- MB4-5	--	24	x	12			--	--		--	--
--	-- M1-1	IH 94	24	x	24			--	--		--	--
--	-- MB5-1L	--	21	x	21			--	--		--	--
--	M3-3	--	24	x	12			--	--		--	--
--	-- M1-5A	CTH F	24	x	24			--	--		--	--
--	-- M5-1L	--	21	x	21			--	--		--	--
--	M3-1	--	24	x	12			--	--		--	--
--	-- M1-5A	CTH F	24	x	24			--	--		--	--
--	-- M5-1R	--	21	x	21			--	--		--	--
104	W1-6(3)	--	60	x	30		12.500	--	2		--	--
105	-- W5-52L(3)	--	18	x	54		6.750	--	1		--	4' MOUNTING HT.
106	-- W1-8(3)	--	24	x	30		5.000	--	1		--	4' MOUNTING HT.
107	-- W1-8(3)	--	24	x	30		5.000	--	1		--	4' MOUNTING HT.
108	-- W1-8(3)	--	24	x	30		5.000	--	1		--	4' MOUNTING HT.
109	-- W3-3(3)	--	36	x	36		9.000	--	1		--	--
110	W1-6(3)	--	60	x	30		12.500	--	2		--	--

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SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0624 WOOD POSTS 4"X6"X24" (EA)	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
111	-- W1-8(3)	--	24	x	30		5.000	--	1		--	4' MOUNTING HT.
112	J3-1(2S)	--	24	x	57	9.500		--	1		--	--
--	-- MB4-5	--	24	x	12			--	--		--	--
--	-- M1-1	IH 94	24	x	24			--	--		--	--
--	-- MB5-1L	--	21	x	21			--	--		--	--
113	J3-2(2S)	--	48	x	57	19.000		--	1		--	--
--	M3-3	--	24	x	12			--	--		--	--
--	-- M1-5A	CTH F	24	x	24			--	--		--	--
--	-- M5-1L	--	21	x	21			--	--		--	--
--	M3-1	--	24	x	12			--	--		--	--
--	-- M1-5A	CTH F	24	x	24			--	--		--	--
--	-- M5-1R	--	21	x	21			--	--		--	--
114	W13-3(4)	--	36	x	48		12.000	--	1		--	--
115	R6-3A(2S)	--	30	x	24	5.000		--	--		134	--
116	-- R6-2L(2M)	--	30	x	36	7.500		--	1		--	--
117	-- W5-52R(3)	--	18	x	54		6.750	--	1		--	4' MOUNTING HT.
118	-- R5-1(3)	--	36	x	36	9.000		--	1		--	
119	-- R6-2L(3)	--	36	x	48	12.000		--	1		--	--
120	J2-1(3)	--	36	x	84	21.000		--	2		--	--
--	-- MB4-5	--	36	x	18			--	--		--	--
--	-- M1-1	IH 94	36	x	36			--	--		--	--
--	MB6-1	--	30	x	30			--	--		--	--
121	R4-7(3)	--	36	x	48	12.000		--	1		--	--
122	R4-7(3)	--	36	x	48	12.000		--	1		--	--
123	R4-7(3)	--	36	x	48	12.000		--	1		--	--
124	-- R5-1(3)	--	36	x	36	9.000		--	1		--	
125	-- R1-2(2S)	--	36	x	31	3.880		--	1		--	--
126	R1-1 (3)	--	36	x	36	7.460		--	1		--	
127	J3-1(2S)	--	24	x	57	9.500		--			124	--
--	M3-3	--	24	x	12			--	--		--	--
--	-- M1-5A	CTH F	24	x	24			--	--		--	--
--	-- M6-1	--	21	x	21			--	--		--	--
128	J3-1(2S)	--	24	x	57	9.500		--	1			--
--	M3-1	--	24	x	12			--	--		--	--
--	-- M1-5A	CTH F	24	x	24			--	--		--	--
--	-- M6-1	--	21	x	21			--	--		--	--

3

SHEET 7 OF 11

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0624 WOOD POSTS 4"X6"X24" (EA)	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
129	W12-1D(2M)		24	x	24		4.000	--	1		--	2' MOUNTING HIGHT
130	-- W5-52R(2S)	--	12	x	36		3.000	--	1		--	4' MOUNTING HT.
131	-- R5-1A(3)	--	42	x	30	8.750		--	--		132	--
132	-- D1-2	<-- WAUKESHA	72	x	30	15.000		--	2		--	--
--	--	SUSSEX ---->	--	x	--	--	--	--	--		--	--
133	-- R5-1A(3)	--	42	x	30	8.750		--	1		--	--
134	R1-1F(3)	--	36	x	36	7.460					122	
135	-- R5-1A(3)	--	42	x	30	8.750		--	1		--	--
136	W1-6(3)	--	60	x	30		12.500	--	2		--	--
137	-- W5-52L(3)	--	18	x	54		6.750	--	1		--	4' MOUNTING HT.
138	-- W5-52R(3)	--	18	x	54		6.750	--	1		--	4' MOUNTING HT.
139	-- W1-8(3)	--	24	x	30		5.000	--	1		--	4' MOUNTING HT.
140	-- W1-8(3)	--	24	x	30		5.000	--	1		--	4' MOUNTING HT.
141	-- W3-1(3)	--	36	x	36		9.000	--	1		--	--
142	-- NOT USED	--	--	x	--		--	--	--		--	--
143	-- NOT USED	--	--	x	--		--	--	--		--	--
144	J2-1(3)	--	36	x	84	21.000		--	2		--	--
--	-- M3-2	--	36	x	18			--	--		--	--
--	-- M1-6	STH 190	36	x	36			--	--		--	--
--	-- M5-1R	--	30	x	30			--	--		--	--
145	J2-1(3)	--	36	x	84	21.000		--	2		--	--
--	-- M3-2	--	36	x	18			--	--		--	--
--	-- M1-6	STH 190	36	x	36			--	--		--	--
--	-- M5-1R	--	30	x	30			--	--		--	--
146	J3-1(3)	--	36	x	84	21.000		--	2		--	--
--	-- M3-2	--	36	x	18			--	--		--	--
--	-- M1-6	STH 190	36	x	36			--	--		--	--
--	-- M6-1	--	30	x	30			--	--		--	--
147	J3-1(3)	--	36	x	102	25.500		--	2		--	--
--	-- MB4-1	--	30	x	18			--	--		--	--
--	-- MB3-2	--	30	x	18			--	--		--	--
--	-- M1-1	IH 94	36	x	36			--	--		--	--
--	-- MB6-1	--	30	x	30			--	--		--	--

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0624 WOOD POSTS 4"X6"X24" (EA)	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
148	R5-1A(3)		42	x	30	8.750		--			147	--
149	J4-1(3)		36	x	57	14.250			1			
	M3-3		30	x	21							
	M1-5A	CTH F	36	x	36							
150	D1-3	(ARRW) SUSSEX	102	x	48	34.000		--	2		--	--
--	--	PEWAUKEE	--	x	--	--		--	--		--	--
--	--	MILWAUKEE ----->	--	x	--	--		--	--		--	--
151	D1-3	(ARRW) SUSSEX	102	x	48	34.000		--	2		--	--
--	--	PEWAUKEE	--	x	--	--		--	--		--	--
--	--	MILWAUKEE ----->	--	x	--	--	--	--	--		--	--
152	J2-2(3)	--	72	x	102	51.000		--	--	2	--	--
--	-- MB4-1	--	30	x	18			--	--		--	--
--	-- MB3-4	--	30	x	18			--	--		--	--
--	-- M1-1	IH 94	36	x	36			--	--		--	--
	MB6-1		30		30							
--	-- MB4-1	--	30	x	18			--	--		--	--
--	-- MB3-2	--	30	x	18			--	--		--	--
--	-- M1-1	IH 94	36	x	36			--	--		--	--
--	-- MB6-1	--	30	x	30			--	--		--	--
153	J1-1(3)		36		57	14.250		--	1			
--	-- M2-1	--	36	x	21			--	--		--	--
--	-- M1-6	STH 190	36	x	36			--	--		--	--
154	J1-1(3)		36		57	14.250		--	1			
--	-- M2-1	--	36	x	21			--	--		--	--
--	-- M1-6	STH 190	36	x	36			--	--		--	--
155	-- W3-3(3)	--	36	x	36		9.000	--	1		--	--
156	-- W3-3(3)	--	36	x	36		9.000	--	1		--	--
157	-- W5-52R(3)	--	18	x	54		6.750	--	1		--	4' MOUNTING HT.
158	J3-1(3)	--	36	x	84	21.000		--	2		--	--
--	-- M3-4	--	36	x	18			--	--		--	--
--	-- M1-6	STH 190	36	x	36			--	--		--	--
--	-- M5-1R	--	30	x	30			--	--		--	--
159	-- R3-20L(3)	--	36	x	54	13.500		--	1		--	--
160	J3-1(3)	--	36	x	84	21.000		--	2		--	--
--	-- M3-2	--	36	x	18			--	--		--	--
--	-- M1-6	STH 190	36	x	36			--	--		--	--
--	-- M6-1	--	30	x	30			--	--		--	--

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0624 WOOD POSTS 4"X6"X24" (EA)	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
161	J3-1(3)	--	36	x	102	25.500		--	--	2	--	--
--	-- MB4-1	--	30	x	18			--	--		--	--
--	-- MB3-4	--	30	x	18			--	--		--	--
--	-- M1-1	IH 94	36	x	36			--	--		--	--
--	-- MB6-1	--	30	x	30			--	--		--	--
162	J3-1(3)	--	36	x	84	21.000		--	2		--	--
--	-- M3-2	--	36	x	18			--	--		--	--
--	-- M1-6	STH 190	36	x	36			--	--		--	--
--	-- M5-1L	--	30	x	30			--	--		--	--
163	-- D1-1	<--- MILWAUKEE	102	x	21	14.875		--	2		--	--
164	-- W5-52R(3)	--	18	x	54		6.750	--	1		--	4' MOUNTING HT.
165	J4-1(3)		36	x	57	14.250			1			
	M3-1		30	x	21							
	M1-5A	CTH F	36	x	36							
166	-- R5-1A(3)	--	42	x	30	8.750		--	1		--	--
167	-- R5-1A(3)	--	42	x	30	8.750		--	1		--	--
168	-- R3-20L(3)	--	36	x	54	13.500		--	1		--	--
169	J2-3(3)	--	102	x	84	59.500		--	3		--	--
--	-- M4-5	--	36	x	18			--	--		--	--
--	-- M1-6	STH 164	36	x	36			--	--		--	--
--	-- M5-1L	--	30	x	30			--	--		--	--
--	-- M3-4	--	36	x	18			--	--		--	--
--	-- M1-6	STH 190	36	x	36			--	--		--	--
--	-- M5-1L	--	30	x	30			--	--		--	--
--	-- M3-2	--	36	x	18			--	--		--	--
--	-- M1-6	STH 190	36	x	36			--	--		--	--
--	-- M6-1	--	30	x	30			--	--		--	--
170	J2-3(3)	--	102	x	84	59.500		--	3		--	--
--	-- M4-5	--	36	x	18			--	--		--	--
--	-- M1-6	STH 164	36	x	36			--	--		--	--
--	-- M5-1L	--	30	x	30			--	--		--	--
--	-- M3-4	--	36	x	18			--	--		--	--
--	-- M1-6	STH 190	36	x	36			--	--		--	--
--	-- M5-1L	--	30	x	30			--	--		--	--
--	-- M3-2	--	36	x	18			--	--		--	--
--	-- M1-6	STH 190	36	x	36			--	--		--	--
--	-- M6-1	--	30	x	30			--	--		--	--

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0624 WOOD POSTS 4"X6"X24" (EA)	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
171	-- R5-1(3)	--	36	x	36	9.000		--	1		--	
172	R4-7(3)	--	36	x	48	12.000		--	1		--	--
173	R4-7(3)	--	36	x	48	12.000		--	1		--	--
174	R6-1R(3)	--	54	x	18	6.750		--	--		176	BACK TO BACK WITH SIGN #175
175	R6-1L(3)	--	54	x	18	6.750		--	--		176	BACK TO BACK WITH SIGN #174
176	R1-1 (3)	--	36	x	36	7.460		--	1		--	--
177	R6-3A(2M)	--	30	x	24	5.000		--	--		176	--
178	-- W3-3(3)	--	36	x	36		9.000	--	1		--	--
179	-- W3-3(3)	--	36	x	36		9.000	--	1		--	--
180	J1-1(3)		36		57	14.250		--	1			
--	-- M2-1	--	36	x	21			--	--		--	--
--	-- M1-6	STH 190	36	x	36			--	--		--	--
181	J1-1(3)		36		57	14.250		--	1			
--	-- M2-1	--	36	x	21			--	--		--	--
--	-- M1-6	STH 190	36	x	36			--	--		--	--
182	-- R6-2L(2M)	--	30	x	36	7.500		--	1		--	--
183	R6-2L(2S)	--	24	x	30	5.000		--	--		--	MONT ON SIGNAL POLE, SEE SHEET 10
184	R6-2L(2S)	--	24	x	30	5.000		--	--		126	SEE SHEET 13
TOTAL						2109.645	386.250	44.760	185.000	10.000		--

TRAFFIC CONTROL

LOCATION	TRAFFIC CONTROL DRUMS 643.0300 DAY	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 DAY	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS 643.0500 EACH	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES 643.0600 EACH	TRAFFIC CONTROL WARNING LIGHTS TYPE A 643.0705 DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE C 643.0715 DAY	TRAFFIC CONTROL ARROW BOARDS 643.0800 DAY	TRAFFIC CONTROL SIGNS 643.0900 DAY	TRAFFIC CONTROL SIGNS FIXED MESSAGE 643.1000 SF	TRAFFIC CONTROL SIGNS PCMS 643.1050 DAY	TRAFFIC CONTROL DETOUR SIGNS 643.3000 DAY	TRAFFIC CONTROL CLOSE-OPEN TRAFFIC LANE SPV.0060.02 EACH	REMARKS
STAGE 1A	1330	350	-	-	700	240	20	330	42	75	1650	8	
STAGE 1B	2260	350	-	-	700	280	40	740	-	54	-	16	
STAGE 2	22950	3780	242	242	7560	4590	180	7740	-	250	14148	-	
STAGE 3	2100	399	-	-	798	525	-	1260	-	42	-	-	
STAGE 4	19465	3060	-	-	6120	5440	-	5780	42	240	15033	-	
STAGE 5	2816	506	-	-	1012	550	44	1254	-	14	-	16	
STAGE 6	5120	920	-	-	1840	1000	80	2280	-	56	-	30	
CTH F NB	11463	263	-	-	525	2625	350	2538	-	28	-	-	MEDIAN WORK WITH BARRIER
CTH F SB	7613	88	-	-	175	2275	350	2275	-	28	-	-	OUTSIDE WORK WITH BARRIER
CTH F NB	3212	110	-	-	220	2700	360	2520	-	28	-	-	MEDIAN WORK WITHOUT BARRIER
CTH F SB	2596	44	-	-	88	546	84	546	-	28	-	-	OUTSIDE WORK WITHOUT BARRIER
TOTAL 0010	80924	9869	242	242	19738	20771	1508	27263	84	843	30831	70	

REMOVING PAVEMENT MARKINGS

STATION	TO	STATION	LOCATION	646.0600 LF	REMARKS
91'EB'+40	-	160'EB'+50	EB STH 190	1737.5	12.5' LINE, 37.5' GAP
99'WB'+50	-	111'WB'+00	WB STH 190	1150	WHITE EDGELINE
99'WB'+50	-	111'WB'+00	WB STH 190	287.5	12.5' LINE, 37.5' GAP
100'WB'+50	-	104'WB'+00	WB STH 190	350	YELLOW EDGELINE
103'EB'+00	-	130'EB'+75	EB STH 190	2775	WHITE EDGELINE
130'EB'+75	-	136'EB'+60	EB STH 190	195	3' LINE, 9' GAP
136'EB'+60	-	138'EB'+60	EB STH 190	400	8" CHANNELIZING
138'EB'+60	-	144'EB'+60	EB STH 190	600	WHITE EDGELINE
144'EB'+60	-	150'EB'+50	EB STH 190	2100	8" CHANNELIZING
151'EB'+00	-	168'EB'+14	EB STH 190	1714	WHITE EDGELINE
106'EB'+50	-	162'EB'+00	EB STH 190	5550	YELLOW EDGELINE
163'WB'+12	-	169'WB'+50	WB STH 190	638	YELLOW EDGELINE
163'WB'+12	-	169'WB'+50	WB STH 190	162.5	12.5' LINE, 37.5' GAP
163'WB'+12	-	169'WB'+50	WB STH 190	638	WHITE EDGELINE
92'EB'+40	-	95'EB'+50	EB STH 190	620	8" CHANNELIZING
97'EB'+00	-	103'EB'+00	EB STH 190	600	WHITE EDGELINE
111'EB'+00	-	160'EB'+00	EB STH 190	9800	YELLOW CENTERLINE
111'EB'+00	-	160'EB'+00	EB STH 190	1225	12.5' LINE, 37.5' GAP
160'EB'+50	-	169'EB'+50	EB STH 190	225	12.5' LINE, 37.5' GAP
168'EB'+14	-	169'EB'+50	EB STH 190	136	WHITE EDGELINE
161'F'+06	-	168'F'+44	CTH F NB	188	12.5' LINE, 37.5' GAP
182'F'+86	-	196'F'+20	CTH F SB	338	12.5' LINE, 37.5' GAP
			TOTAL 0010	31429.5	

PAVEMENT MARKING LATE SEASON

STATION	TO	STATION	LOCATION	646.0900.S LF	REMARKS
91'EB'+00	-	169'EB'+50	STH 190 EB	15571	4" MARKINGS
91'EB'+00	-	169'EB'+50	STH 190 EB	6896	8" MARKING (X 2)
91'EB'+00	-	169'EB'+50	STH 190 EB	10	CURB EPOXY
91'EB'+00	-	169'EB'+50	STH 190 EB	158	18" STOP LINE (X 4.5)
91'EB'+00	-	169'EB'+50	STH 190 EB	360	24" DIAGONAL (X 6)
99'WB'+00	-	169'WB'+50	STH 190 WB	14625	4" MARKINGS
99'WB'+00	-	169'WB'+50	STH 190 WB	6036	8" MARKING (X 2)
99'WB'+00	-	169'WB'+50	STH 190 WB	10	CURB EPOXY
99'WB'+00	-	169'WB'+50	STH 190 WB	99	18" STOP LINE (X 4.5)
99'WB'+00	-	169'WB'+50	STH 190 WB	450	24" DIAGONAL (X 6)
138'C'+25	-	148'C'+84	RAMP C	1842	4" MARKINGS
138'C'+25	-	148'C'+84	RAMP C	230	8" MARKING (X 2)
138'C'+25	-	148'C'+84	RAMP C	10	CURB EPOXY
138'C'+25	-	148'C'+84	RAMP C	72	18" STOP LINE (X 4.5)
133'D'+45	-	146'D'+45	RAMP D	2287	4" MARKINGS
161'F'+06	-	168'F'+44	CTH F NB	188	4" MARKINGS
182'F'+86	-	196'F'+20	CTH F SB	338	4" MARKINGS
			TOTAL 0010	49181	

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PAVEMENT MARKINGS

				646.0842.S				646.0844.S	647.0166	647.0186	647.0196	647.0356	647.0456	647.0526	647.0566	647.0606	647.0726
				PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH				PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 8-INCH	PAVEMENT MARKING ARROWS EPOXY TYPE 2	PAVEMENT MARKING ARROWS EPOXY TYPE 4	PAVEMENT MARKING ARROWS EPOXY TYPE 5	PAVEMENT MARKING WORDS EPOXY	PAVEMENT MARKING CURB EPOXY	PAVEMENT MARKING YIELD LINE SYMBOLS EPOXY 18-INCH	PAVEMENT MARKING STOP LINE EPOXY 18-INCH	PAVEMENT MARKING ISLAND NOSE EPOXY	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH
				WHITE	YELLOW	WHITE 12.5' LINE	WHITE 3' LINE	WHITE									
STATION	TO	STATION	LOCATION	LF	LF	LF	LF	LF	EACH	EACH	EACH	EACH	LF	EACH	LF	EACH	LF
91'EB'+OO	-	95'EB'+00	STH 190 EB	401	-	100	-	506	2	-	-	1	-	-	-	-	-
95'EB'+00	-	110'EB'+00	STH 190 EB	1213	1057	375	-	108	-	-	-	-	-	-	-	-	-
110'EB'+00	-	125'EB'+00	STH 190 EB	1334	1180	375	-	704	2	-	-	1	10	-	35	1	-
125'EB'+00	-	140'EB'+00	STH 190 EB	1352	1472	375	129	837	-	-	-	-	-	-	-	-	60
140'EB'+00	-	155'EB'+00	STH 190 EB	1280	1501	375	43	1150	-	-	2	-	-	-	-	-	-
155'EB'+00	-	169'EB'+50	STH 190 EB	1451	1195	362.5	-	143	-	-	-	-	-	-	-	-	-
99'WB'+00	-	110'WB'+00	STH 190 WB	1289	1114	325	-	590	2	-	-	1	-	-	-	-	-
110'WB'+00	-	125'WB'+00	STH 190 WB	1501	1229	375	-	543	-	-	-	-	-	-	-	-	-
125'WB'+00	-	140'WB'+00	STH 190 WB	1396	1501	375	81	873	-	-	2	-	-	-	-	-	-
140'WB'+00	-	155'WB'+00	STH 190 WB	1330	1500	375	138	792	-	-	-	-	-	-	-	-	75
155'WB'+00	-	169'WB'+50	STH 190 WB	1176	1082	375	-	694	2	-	-	1	10	-	22	1	-
138'A'+96	-	151'A'+03	RAMP A	1075	1063	-	-	-	-	-	-	-	-	-	-	-	-
132'B'+88	-	146'B'+20	RAMP B	1375	1616	-	-	826	4	1	-	4	10	6	43	1	64
138'C'+25	-	148'C'+84	RAMP C	933	909	-	-	115	-	3	-	-	10	13	16	1	-
133'D'+45	-	146'D'+45	RAMP D	1223	1064	-	-	-	-	-	-	-	-	-	-	-	-
161'F'+06	-	168'F'+44	CTH F NB SKIPS	188	-	-	-	-	-	-	-	-	-	-	-	-	-
182'F'+86	-	196'F'+20	CTH F SB SKIPS	338	-	-	-	-	-	-	-	-	-	-	-	-	-
			TOTAL 0010	40515.5				7881	12	4	4	8	40	19	116	4	199

TEMPORARY PAVEMENT MARKINGS

STATION	TO	STATION	LOCATION	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH 649.0400 LF	TEMPORARY PAVEMENT MARKING PAINT 4-INCH 649.0402 LF	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH 649.0801 LF	REMARKS
91'EB'+40	-	111'EB'+00	EB STH 190	1960	-	-	YELLOW EDGELINE
103'EB'+00	-	111'EB'+00	EB STH 190	800	-	-	WHITE EDGELINE
99'WB'+50	-	111'WB'+00	WB STH 190	1150	-	-	WHITE EDGELINE
99'WB'+50	-	111'WB'+00	WB STH 190	1150	-	-	WHITE CENTERLINE
99'WB'+50	-	111'WB'+00	WB STH 190	1150	-	-	YELLOW EDGELINE
111'WB'+00	-	160'WB'+00	WB STH 190	-	4900	-	WHITE EDGELINE
111'WB'+00	-	160'WB'+00	WB STH 190	-	1434	-	WHITE CENTERLINE (12.5'/37.5')
111'EB'+00	-	160'EB'+00	EB STH 190	-	9800	-	DOUBLE YELLOW CENTERLINE
111'EB'+00	-	160'EB'+00	EB STH 190	-	5400	-	WHITE EDGELINE
160'EB'+00	-	162'EB'+14	EB STH 190	214	-	-	YELLOW EDGELINE
160'WB'+00	-	171'WB'+00	WB STH 190	1097	-	-	WHITE EDGELINE
160'WB'+00	-	171'WB'++00	WB STH 190	1097	-	-	WHITE CENTERLINE
160'WB'+00	-	171'WB'+00	WB STH 190	1097	-	-	YELLOW EDGELINE
91'EB'+40	-	111'EB'+00	EB STH 190	1960	-	-	YELLOW EDGELINE
91'EB'+40	-	111'EB'+00	EB STH 190	985	-	-	WHITE CENTERLINE (12.5'/37.5')
91'EB'+40	-	111'EB'+00	EB STH 190	1960	-	-	YELLOW EDGELINE
100'WB'+60	-	169'WB'+50	WB STH 190	7775	-	-	WHITE EDGELINE
100'WB'+60	-	169'WB'+50	WB STH 190	2381	-	-	WHITE CENTERLINE (12.5'/37.5')
100'WB'+60	-	169'WB'+50	WB STH 190	6774	-	-	YELLOW EDGELINE
111'EB'+00	-	160'EB'+00	EB STH 190	-	5400	-	WHITE EDGELINE
100'WB'+60	-	169'WB'+50	WB STH 190	6774	-	-	YELLOW EDGELINE
111'EB'+00	-	160'EB'+00	EB STH 190	-	5400	-	WHITE EDGELINE
111'EB'+00	-	160'EB'+00	EB STH 190	-	1225	-	WHITE CENTERLINE (12.5'/37.5')
111'EB'+00	-	160'EB'+00	EB STH 190	-	4900	-	YELLOW EDGELINE
160'EB'+00	-	169'EB'+50	EB STH 190	950	-	-	WHITE EDGELINE
160'EB'+00	-	169'EB'+50	EB STH 190	425	-	-	WHITE CENTERLINE (12.5'/37.5')
160'EB'+00	-	169'EB'+50	EB STH 190	950	-	-	YELLOW EDGELINE
91'EB'+40	-	99'EB'+60	EB STH 190	204.5	-	-	WHITE CENTERLINE (12.5'/37.5')
92'EB'+45	-	95'EB'+50	EB STH 190	-	-	305	8" WHITE CHANNELIZING
97'EB'+00	-	169'EB'+50	EB STH 190	7260	-	-	WHITE EDGELINE
99'EB'+60	-	169'EB'+50	EB STH 190	6750	-	-	YELLOW EDGELINE
99'EB'+60	-	111'EB'+00	EB STH 190	1140	-	-	WHITE CENTERLINE
111'EB'+00	-	156'EB'+00	EB STH 190	1150	-	-	WHITE CENTERLINE (12.5'/37.5')
156'EB'+00	-	169'EB'+50	EB STH 190	1260	-	-	WHITE CENTERLINE
161'F'+89	-	178'F'+08	CTH F NB	3244	-	-	YELLOW EDGELINE
172'F'+47	-	196'F'+20	CTH F SB	4746	-	-	YELLOW EDGELINE
161'F'+06	-	178'F'+08	CTH F NB	3404	-	-	WHITE EDGELINE
172'F'+47	-	189'F'+45	CTH F SB	3400	-	-	WHITE EDGELINE
161'F'+80	-	168'F'+44	CTH F NB	660	-	-	YELLOW EDGELINE
189'F'+60	-	196'F'+20	CTH F SB	660	-	-	YELLOW EDGELINE
161'F'+06	-	167'F'+33	CTH F NB	660	-	-	WHITE EDGELINE
182'F'+86	-	189'F'+47	CTH F SB	660	-	-	WHITE EDGELINE
100'F'+60	-	169'F'+50	WB STH 190	7775	-	-	WHITE EDGELINE
100'F'+60	-	169'F'+50	WB STH 190	2381	-	-	WHITE CENTERLINE (12.5'/37.5')
100'F'+60	-	169'F'+50	WB STH 190	6774	-	-	YELLOW EDGELINE
			TOTAL 0010	86004	33059	305	

3

CONSTRUCTION STAKING

STATION	TO	STATION	LOCATION	CONSTRUCTION STAKING SUBGRADE 650.4500 LF	CONSTRUCTION STAKING BASE 650.5000 LF	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER 650.5500 LF	CONSTRUCTION STAKING CONCRETE PAVEMENT 650.7000 LF	CONSTRUCTION STAKING CONCRETE BARRIER 650.7500 LF	CONSTRUCTION STAKING SLOPE STAKES 650.9920 LF
111'EB'+00	-	133'EB'+44	EB STH 190	2244	-	62	2244	-	2244
135'EB'+57	-	163'EB'+00	EB STH 190	2743	-	-	2743	-	2743
111'WB'+00	-	133'WB'+49	WB STH 190	2249	-	72	2249	-	2249
135'WB'+63	-	163'WB'+12	WB STH 190	2749	-	-	2749	-	2749
138'A'+96	-	151'A'+03	RAMP A	1207	-	-	1207	-	1207
132'B'+89	-	146'B'+21	RAMP B	1332	-	-	1332	-	1332
138'C'+25	-	148'C'+85	RAMP C	1060	-	-	1060	-	1060
133'D'+45	-	146'D'+46	RAMP D	1301	-	-	1301	-	1301
170'F'+95	-	179'F'+94	NB CTH F	899	899	7	-	239	899
171'F'+00	-	178'F'+77	MEDIAN CTH F	777	777	-	-		777
173'F'+50	-	176'F'+75	SB CTH F	325	325	-	-	325	325
182'F'+95	-	185'F'+88	SB CTH F	293	293	-			293
99'WB'+60	-	108'WB'+90	WB WEST X-OVER	930	930	-	-	-	1860
157'WB'+92	-	168'WB'+57	WB EAST X-OVER	1065	1065	-	-	-	2130
109'WB+68	-	156'WB'+96	STAGE 3	4728	4728	-	-	-	4728
99'EB'+48	-	109'EB'+15	EB WEST X-OVER	967	967	-	-	-	1934
156'EB'+85	-	167'EB'+35	EB EAST X-OVER	1050	1050	-	-	-	2100
			TOTAL 0010	25919	11034	141	14885	564	29931

3

STH 190 WB OFF RAMP & CTH F
WAUKESHA COUNTY
CATEGORY 0040
S67-0625

STATE FURNISHED MATERIALS SUMMARY

EACH	DESCRIPTION
1	TRAFFIC SIGNAL CONTROLLER, FULLY ACTUATED, 8 PHASE
1	TRAFFIC SIGNAL CABINET
2	POLES, TYPE 12
1	45-FT MONOTUBE ARM
1	55-FT MONOTUBE ARM
3	EVP DETECTOR HEADS
2	RADAR DETECTOR

STATE FURNISHED FOR INFORMATION ONLY

SIGNAL BASE NO.	POLE TYPE 12 EACH	MONO 45' ARM EACH	MONO 55' ARM EACH	EVP DETECTOR HEADS EACH	RADAR DETECTOR EACH
SB3	1		1	1	1
SB7	1	1		1	1
SB5				1	
TOTAL	2	1	1	3	2

REMOVING CONCRETE BASES

SIGNAL BASE NO.	204.0195 REMOVING CONCRETE BASES EACH
CB1	1
SB1	1
SB2	1
SB3	1
SB4	1
SB5	1
SB6	1
SB7	1
SB8	1
TOTAL	9

REMOVE PULL BOXES

PULL BOX NO.	653.0905 REMOVING PULL BOXES EACH
PB1	1
PB2	1
PB3	1
PB4	1
PB5	1
PB6	1
PB7	1
PB8	1
PB10	1
PB11	1
PB12	1
PB13	1
PB14	1
TOTAL	13

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STH 190 WB OFF RAMP & CTH F
WAUKESHA COUNTY
CATEGORY 0040
S67-0625

CONDUIT

FROM	TO	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH L.F.	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH L.F.	652.0615 CONDUIT SPECIAL 3-INCH L.F.
CB1	PB1		99	
PB1	PB2		132	
PB2	SB1	6		
PB2	PB3			136
PB3	SB2	6		
PB3	SB9	26		
PB3	PB4	258		
PB4	PB5	175		
PB3	PB6			146
PB6	SB3		8	
PB6	PB7		200	
PB7	SB4	5		
PB7	SB5	6		
PB7	PB8		96	
PB8	SB6	20		
PB8	PB9			126
PB9	SB10	9		
PB9	PB10	244		
PB10	PB11	175		
PB9	PB12			164
PB12	SB7		27	
PB12	PB13		37	
PB13	SB8	11		
PB12	PB14		82	
PB14	PB15		106	
PB15	PB16		96	
PB16	SB11	70		
PB16	PB17	87		
PB16	PB18	119		
PB16	PB19		74	
PB19	CB1		33	
	TOTAL	1217***	990	572

***QUANTITY SHOWN ELSEWHERE ON PLAN.

TRAFFIC DETECTOR LOOPS

LOOP NO.	HOME RUN PB	LOCATION*	SIZE (FT)x(FT)	NO. OF TURNS	SDD INSTALLATION REFERENCE	652.0800 CONDUIT LOOP DETECTOR L.F.	655.0700 LOOP DETECTOR LEAD IN CABLE L.F.	655.0800 LOOP DETECTOR WIRE L.F.
21	PB11	185+86.1, 38.3' LT	6'X6'	5	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	90	705	450
22	PB11	185+86.2, 25.6' LT	6'X6'	5	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	64	705	320
23	PB10	184+11.0, 42.1' LT	6'X6'	4	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	96	530	384
24	PB10	184+11.3, 29.5' LT	6'X6'	4	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	72	530	288
51	PB9	181+70.4, 17.3' LT	6'X20'	3	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	78	286	234
52	PB9	181+42.4, 16.9' LT	6'X20'	3	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	80	286	240
61	PB5	175+85.3, 46.1' RT	6'X6'	4	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	86	614	344
62	PB5	175+85.1, 33.5' RT	6'X6'	4	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	60	614	240
63	PB4	177+60.3, 43.1' RT	6'X6'	4	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	82	439	328
64	PB4	177+60.2, 30.4' RT	6'X6'	4	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	56	439	224
81	PB18	181+08.6, 288.4' RT	6'X20'	3	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	66	181	198
82	PB13	181+20.2, 87.5' RT	6'X20'	3	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	74	241	222
83	PB13	181+21.0, 59.5' RT	6'X20'	3	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	66	241	198
84	PB17	181+08.2, 87.1' RT	6'X20'	3	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	70	149	210
85	PB17	181+09.1, 59.1' RT	6'X20'	3	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	68	149	204
					TOTAL	1108	6109	4084

* LOCATION IS TO FRONT CENTER OF DETECTOR LOOP

* * FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

STH 190 WB OFF RAMP & CTH F
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PULL BOXES

PULL BOX NO.	LOCATION*	653.0135 PULL BOXES STEEL 24x36-INCH EACH	653.0140 PULL BOXES STEEL 24x42-INCH EACH
PB 1	180+57.6, 152.2' RT		1
PB 2	180+20.3, 75.2' RT		1
PB 3	180+19.4, 7.7' RT		1
PB 4	177+60.0, 11.4' RT	1	
PB 5	175+85.1, 12.6' RT	1	
PB 6	180+18.3, 65.0' LT		1
PB 7	181+18.2, 64.2' LT		1
PB 8	181+65.8, 64.3' LT		1
PB 9	181+66.7, 1.3' LT		1
PB 10	184+11.6, 3.1' LT	1	
PB 11	185+86.7, 2.7' LT	1	
PB 12	181+67.8, 80.9' RT		1
PB 13	181+30.8, 79.2' RT		1
PB 14	181+45.6, 114.9' RT		1
PB 15	181+42.6, 167.8' RT		1
PB 16	180+95.0, 168.5' RT		1
PB 17	180+97.6, 81.7' RT	1	
PB 18	180+91.9, 287.9' RT	1	
PB 19	180+57.8, 169.0' RT		1
	***TOTAL	6	13

*FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.
***QUANTITY SHOWN ELSEWHERE ON PLAN.

TRAFFIC SIGNAL CABLE AND WIRE

FROM	TO	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG L.F.	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG L.F.	655.0305 CABLE TYPE UF 2-10 AWG GROUNDED L.F.
CB 1	SB 1		148	
CB 1	SB 2	232		
CB 1	SB 3		323	
CB 1	SB 4	436		
CB 1	SB 5	437		
CB 1	SB 6	515		
CB 1	SB 7	308		
CB 1	SB 8	345		
CB 1	SB 9			252
CB 1	SB 11			161
SB 11	SB 10			391
	***TOTAL	2273	471	804

*** QUANTITY SHOWN ELSEWHERE ON PLAN.

TRAFFIC SIGNAL CABLE AND WIRE

FROM	TO	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG L.F.
CB 1	SB 1	148
SB 1	SB 2	120
SB 2	SB 3	127
SB 3	SB 4	108
SB 4	SB 5	35
SB 5	SB 6	92
SB 6	SB 7	248
SB 7	SB 8	115
SB 8	CB 1	342
PB 1	CB 1	56
PB 2	SB 1	98
PB 3	SB 2	26
PB 6	SB 3	28
PB 7	SB 4	25
PB 8	SB 6	40
PB 9	SB 10	29
PB 12	SB 7	47
PB 13	SB 8	31
PB 14	SB 7	104
PB 15	CB 1	151
PB 16	CB 1	87
PB 19	CB 1	34
	TOTAL	2091

CONCRETE BASES

SIGNAL BASE NO.	LOCATION*	654.0101 CONCRETE BASES TYPE 1 EACH	654.0102 CONCRETE BASES TYPE 2 EACH	654.0105 CONCRETE BASES TYPE 5 EACH	654.0113 CONCRETE BASES TYPE 13 EACH	654.0217 CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH
CB 1	180+57.4, 158.1' RT					1
SB 1	180+14.2, 73.3' RT	1				
SB 2	180+25.0, 9.3' RT	1				
SB 3	180+25.7, 67.2' LT				1	
SB 4	181+12.9, 64.2' LT	1				
SB 5	181+24.5, 64.3' LT		1			
SB 6	181+45.8, 64.0' LT	1				
SB 7	181+92.4, 70.9' RT				1	
SB 8	181+33.3, 69.0' RT	1				
SB 9	179+94.9, 0.3' RT			1		
SB 10	181+60.2, 5.6' RT			1		
SB 11	180+96.1, 98.0' RT			1		
	TOTAL	5	1	3	2	1

*FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	MISCELLANEOUS QUANTITIES	SHEET: 243	E

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TRAFFIC SIGNAL CABLE AND WIRE

FROM	TO		655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG L.F.	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG L.F.
SB 1	HEAD 1		19	
SB 1	HEAD 8			22
SB 2	HEAD 4		19	
SB 3	HEAD 6		62	
SB 3	HEAD 7		50	
SB 3	HEAD 9			77
SB 4	HEAD 11		19	
SB 5	HEAD 12		19	
SB 6	HEAD 5		19	
SB 7	HEAD 2		67	
SB 7	HEAD 3		54	
SB 8	HEAD 10		19	
		***TOTAL	347	99

*** QUANTITY SHOWN ELSEWHERE ON PLAN

TRAFFIC SIGNAL CABLE AND WIRE

FROM	TO		655.0610 ELECTRICAL WIRE LIGHTING 12 AWG L.F.
SB 9	LUMIN (2)		234
SB 10	LUMIN (2)		234
SB 11	LUMIN (2)		234
		TOTAL	702

ELECTRICAL SERVICE METER BREAKER PEDESTAL

LOCATION*		656.0200.01 ELECTRICAL SERVICE METER BREAKER PEDESTAL L.S.
STH 190 WB OFF RAMP & CTH F		1
	TOTAL	1

* FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

TRAFFIC SIGNAL EVP DETECTOR CABLE

FROM	TO		655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE L.F.
CB 1	SB 3 (HEAD A)		408
CB 1	SB 7 (HEAD B)		383
CB 1	SB 5 (HEAD D)		443
		TOTAL	1234

POLES

SIGNAL BASE NO.		657.0100 PEDESTAL BASES EACH	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	657.0305 POLES TYPE 2 ALUMINUM EACH	657.0322 POLES TYPE 5 ALUMINUM EACH	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT EACH	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT EACH	657.0610 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FT EACH	657.1355 INSTALL POLES TYPE 12 EACH	657.1545 INSTALL MONOTUBE ARMS 45-FT EACH	657.1555 INSTALL MONOTUBE ARMS 55-FT EACH	659.1125 LUMINAIRES UTILITY LED C EACH
SB 1		1					1					
SB 2		1				1						
SB 3									1		1	
SB 4		1				1						
SB 5		1		1								
SB 6		1				1						
SB 7									1	1		
SB 8		1				1						
SB 9			1		1			2				2
SB 10			1		1			2				2
SB 11			1		1			2				2
	TOTAL	6	3	1	3	4	1	6	2	1	1	6

STH 190 WB OFF RAMP & CTH F
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CATEGORY 0040
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FACES

SIGNAL HEAD NO.	SIGNAL BASE NO.		658.0110 TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL EACH	658.0115 TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL EACH	658.0215 BACKPLATES SIGNAL FACE 3 SECTION 12-INCH EACH	658.0220 BACKPLATES SIGNAL FACE 4 SECTION 12-INCH EACH	658.0600 LED MODULES 12-INCH RED BALL EACH	658.0605 LED MODULES 12-INCH YELLOW BALL EACH	658.0610 LED MODULES 12-INCH GREEN BALL EACH	658.0615 LED MODULES 12-INCH RED ARROW EACH	658.0620 LED MODULES 12-INCH YELLOW ARROW EACH	658.0625 LED MODULES 12-INCH GREEN ARROW EACH
1	SB1		1		1		1	1	1			
2	SB7		1		1		1	1	1			
3	SB7		1		1		1	1	1			
4	SB2		1		1		1	1	1			
5	SB6		1		1		1	1	1			
6	SB3		1		1		1	1	1			
7	SB3		1		1		1	1	1			
8	SB1			1		1				1	2	1
9	SB3			1		1				1	2	1
10	SB8		1		1		1	1	1			
11	SB4		1		1		1				1	1
12	SB5		1		1		1				1	1
		TOTAL	10	2	10	2	10	8	8	2	6	4

SIGNAL MOUNTING HARDWARE

LOCATION		658.5069.01 SIGNAL MOUNTING HARDWARE L.S.
STH 190 WB OFF RAMP & CTH F		1
	TOTAL	1

TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS

LOCATION		6610200.01 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS L.S.
STH 190 WB OFF RAMP & CTH F		1
	TOTAL	1

STH 190 WB OFF RAMP & CTH F
WAUKESHA COUNTY
CATEGORY 0040
S67-0625

3

TRANSPORT AND INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET

LOCATION	SPV.0105.01 TRANSPORT AND INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET L.S.
STH 190 WB OFF RAMP & CTH F	1
TOTAL	1

TRANSPORT TRAFFIC SIGNAL AND INTERSECTION LIGHTING MATERIALS

LOCATION	SPV.0105.02 TRANSPORT TRAFFIC SIGNAL AND INTERSECTION LIGHTING MATERIALS L.S.
STH 190 WB OFF RAMP & CTH F	1
TOTAL	1

REMOVE TRAFFIC SIGNALS

LOCATION	SPV.0105.03 REMOVE TRAFFIC SIGNALS L.S.
STH 190 WB OFF RAMP & CTH F	1
TOTAL	1

REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE

LOCATION	SPV.0105.04 REMOVE LOOP DETECTOR WIRE & LEAD-IN CABLE L.S.
STH 190 WB OFF RAMP & CTH F	1
TOTAL	1

EVP DETECTOR HEAD INSTALLATION

LOCATION	SPV.0105.05 EVP DETECTOR HEAD INSTALLATION L.S.
STH 190 WB OFF RAMP & CTH F	1
TOTAL	1

TRANSPORT AND INSTALL STATE FURNISHED RADAR DETECTION SYSTEM

LOCATION	SPV.0105.06 TRANSPORT AND INSTALL STATE FURNISHED RADAR DETECTION SYSTEM L.S.
STH 190 WB OFF RAMP & CTH F	1
TOTAL	1

STH 190 & CTH F
WAUKESHA COUNTY
CATEGORY 0040
COMMUNICATIONS

CONDUIT

FROM	TO	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH L.F.	671.0132 CONDUIT HDPE 3-DUCT 2-INCH L.F.	671.0232 CONDUIT HDPE DIRECTIONAL BORE 3-DUCT 2-INCH L.F.
CB1 (S67-0625)	I/C CV100	487		
I/C CV100	I/C PB107		79	
I/C PB107	I/C PB108			86
I/C PB108	I/C PB109		1132	
I/C PB109	I/C PB110		902	
I/C PB110	I/C PB111			201
I/C PB111	I/C CV101		192	
I/C CV100	I/C PB106			131
I/C PB106	I/C PB105		86	
I/C PB105	I/C PB104			74
I/C PB104	I/C PB103		994	
I/C PB103	I/C PB102		164	
I/C PB102	I/C PB101		1186	
	TOTAL	487***	4735	492

*** QUANTITIY SHOWN ELSEWHERE ON PLAN.

PULL BOXES

PULL BOX NO.	LOCATION*	653.0140 PULL BOXES STEEL 24x42-INCH EACH
I/C PB101	110+37.1EB, 14.4' LT	1
I/C PB102	121+43.2EB, 18.2' LT	1
I/C PB103	123+06.9EB, 19.1' LT	1
I/C PB104	133+00.2EB, 40.1' LT	1
I/C PB105	176+13.2EB, 150.4' LT	1
I/C PB106	176+14.4EB, 64.1' LT	1
I/C PB107	176+17.4, 145.3' RT	1
I/C PB108	135+96.1EB, 40.9' LT	1
I/C PB109	147+28.4EB, 41.7' LT	1
I/C PB110	156+30.3EB, 42.5' LT	1
I/C PB111	158+31.9EB, 42.7' LT	1
	***TOTAL	11

* FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIE
*** QUANTITY SHOWN ELSEWHERE ON PLAN.

COMMUNICATION VAULTS

VAULT NO.	LOCATION*	673.0105 COMMUNICATION VAULT TYPE 1 EACH
I/C CV100	176+16.2, 66.5' RT	1
I/C CV101	160+23.5EB, 42.4' LT	1
	TOTAL	2

* FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

FIBER OPTIC TRACER WIRE

FROM	TO	SPV.0090.02 FIBER OPTIC TRACER WIRE L.F.
CB1 (S67-0625)	I/C CV100	487
I/C CV100	I/C PB107	79
I/C PB107	I/C PB108	86
I/C PB108	I/C PB109	1132
I/C PB109	IC PB110	902
I/C PB110	I/C PB111	201
I/C PB111	I/C CV101	192
I/C CV100	I/C PB106	131
I/C PB106	I/C PB105	86
I/C PB105	I/C PB104	74
I/C PB104	I/C PB103	994
I/C PB103	I/C PB102	164
I/C PB102	I/C PB101	1106
	TOTAL	5634

FIBER OPTIC WARNING TAPE

FROM	TO	SPV.0090.03 FIBER OPTIC WARNING TAPE L.F.
CB1 (S67-0625)	I/C CV100	487
I/C CV100	I/C PB107	79
I/C PB107	I/C PB108	86
I/C PB108	I/C PB109	1132
I/C PB109	IC PB110	902
I/C PB110	I/C PB111	201
I/C PB111	I/C CV101	192
I/C CV100	I/C PB106	131
I/C PB106	I/C PB105	86
I/C PB105	I/C PB104	74
I/C PB104	I/C PB103	994
I/C PB103	I/C PB102	164
I/C PB102	I/C PB101	1106
	TOTAL	5634

SAWCUTTING

LOCATION	SAWING ASPHALT 690.0150 LF	SAWING CONCRETE 690.0250 LF
STAGE 1A	4892	0
STAGE 1B	1900	0
WB WEST X-OVER 'A'	829	0
WB EAST X-OVER 'B'	1227	167
STAGE 2	512	62
STAGE 3	0	664
EB WEST X-OVER 'C'	792	77
EB EAST X-OVER 'D'	323	197
STAGE 4	293	114
CTH F	967	623
TOTAL 0010	11735	1904

SECTION CORNER MONUMENTS SPECIAL

STATION	LOCATION	SPV.0060.01 EACH
135'EB'+35	STH 190 EB	1
	TOTAL 0010	1

3

BULKHEAD EXISTING CULVERT ENDWALL AND COVER WITH STEEL PLATE WHILE CROSSOVER IS IN USE. RETURN TO ORIGINAL CONDITION AFTER CROSSOVER IS REMOVED. (INCIDENTAL TO TRAFFIC CONTROL)

TEMP SEED AND EROSION MAT ALL DISTURBED AREAS AFTER CROSSOVER-CONSTRUCTION IS COMPLETE

INSTALL TEMPORARY INLET T1
RIM = 936.79
INV = 932.39

BP: 30+00.00
PT: 34+86.37
PC: 36+53.57
PC: 107+67.13
EP: 41+49.78
PC: 107+61.95

98'WB' 100'WB' 102'WB' 104'WB' 106'WB' 108'WB' 110'WB' 112'WB'
98'EB' 100'EB' 102'EB' 104'EB' 106'EB' 108'EB' 110'EB' 112'EB'
32 34 36 38 40

STH 190

PI STA = 32+43.48
Y = 187356.920
X = 686929.825
DELTA = 6°58'00"
D = 1°25'57"
T = 243.48'
L = 486.37'
R = 4000.00'
PC STA = 30+00.00
PT STA = 34+86.37

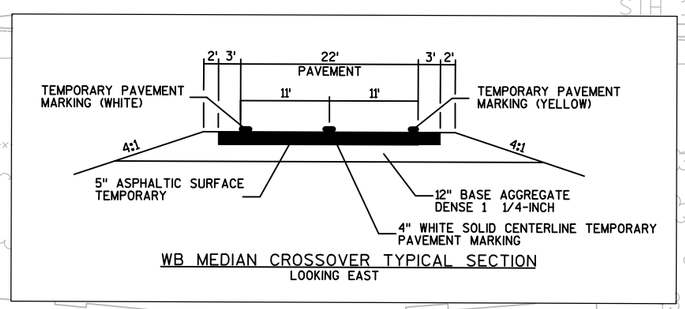
INLET PROTECTION TYPE A

TEMPORARY ASPHALTIC CURB

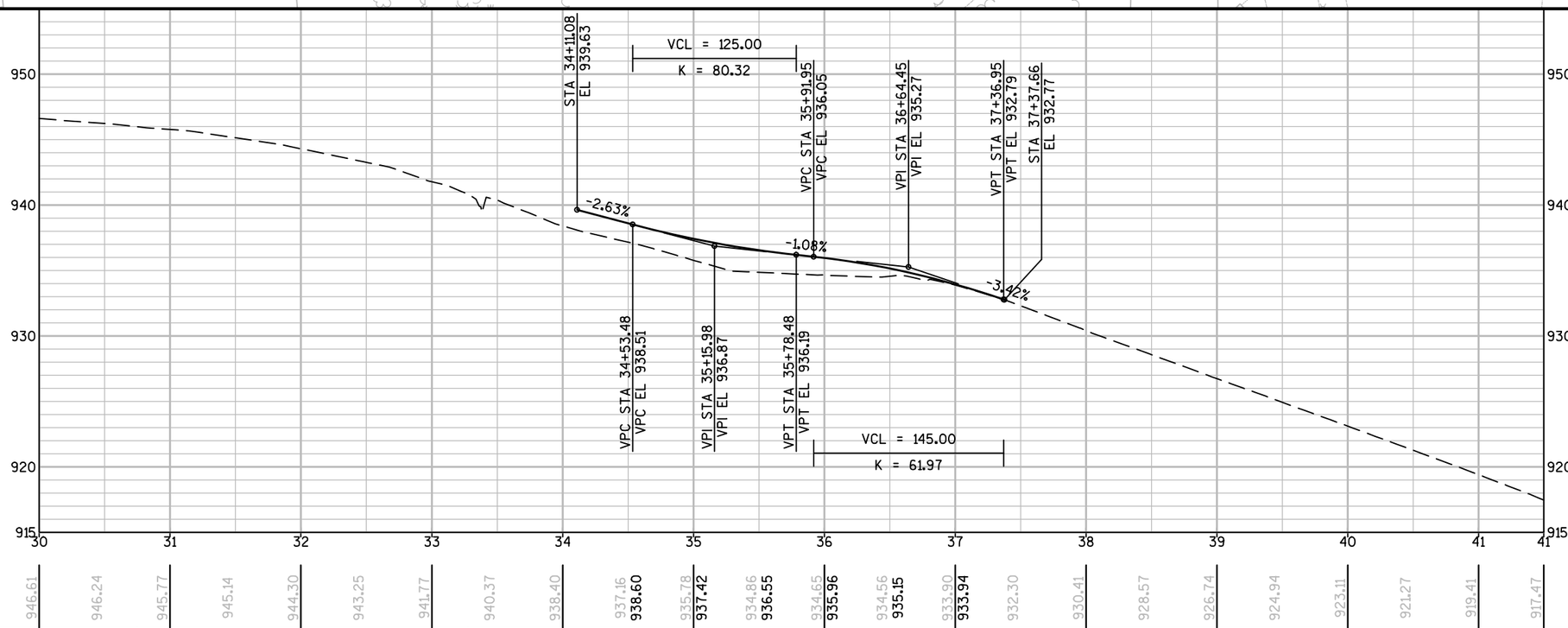
PI STA = 39+01.99
Y = 187265.103
X = 687582.504
DELTA = 7°04'07"
D = 1°25'28"
T = 248.42'
L = 496.20'
R = 4022.00'
PC STA = 36+53.57
PT STA = 41+49.78

TP1
CULVERT PIPE TEMPORARY 24-INCH
255' @ 1.75%
INL = 932.39
DISCH = 927.94

CROSS SLOPE	
STATION	SLOPE
30+00	2.00%
34+86.37	2.00%
36+53.57	-2.00%
41+49.78	-2.00%

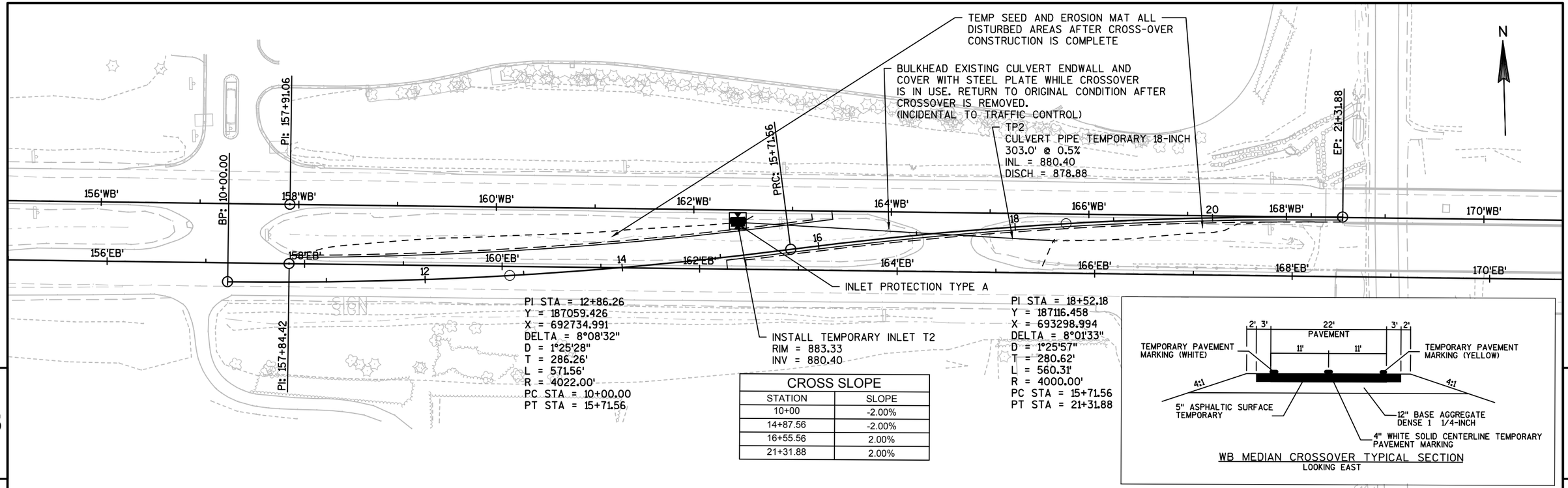


WB MEDIAN CROSSOVER TYPICAL SECTION
LOOKING EAST



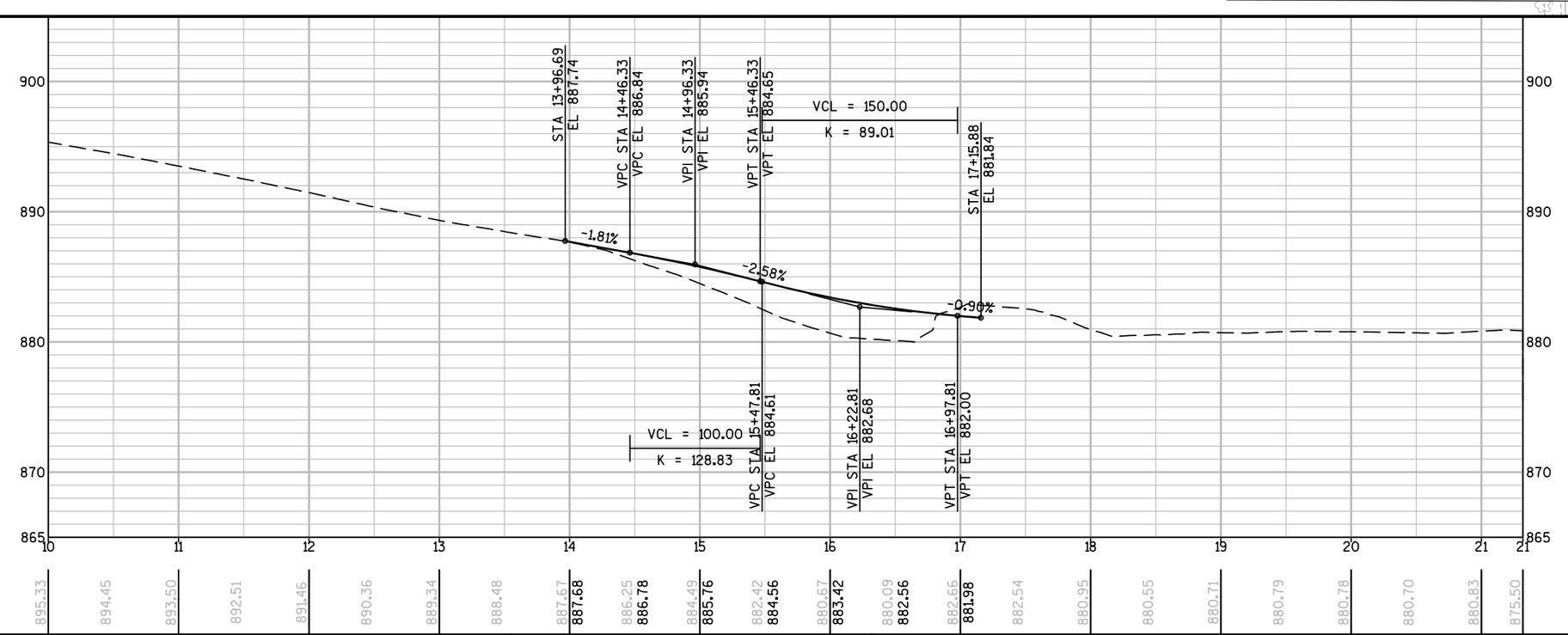
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PLAN AND PROFILE: CROSSOVER 'A' DETAIL SHEET	SHEET 249 E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\026401-S4 (STAGE 2 WEST CROSSOVER 'A').DWG
LAYOUT NAME - 026401-S4
PLOT DATE : 10/26/2016 12:45 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



CROSS SLOPE	
STATION	SLOPE
10+00	-2.00%
14+87.56	-2.00%
16+55.56	2.00%
21+31.88	2.00%

WB MEDIAN CROSSOVER TYPICAL SECTION
LOOKING EAST



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PLAN AND PROFILE: CROSSOVER 'B' DETAIL SHEET	SHEET 250 E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\026301-S3 (STAGE 2 EAST CROSSOVER'B').DWG
LAYOUT NAME - 026301
PLOT DATE : 10/26/2016 12:44 PM
PLOT BY : VAN STRATEN, LUKE A PLOT NAME :
PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

INSTALL TEMPORARY INLET T3
RIM = 935.80
INV = 931.80

INLET PROTECTION
TYPE A

INSTALL TEMPORARY INLET T4
RIM = 923.25
INV = 920.25

CONNECT TO EXISTING PIPE USING
CONCRETE COLLAR

N

BP: 50+00.00
PT: 54+24.66
PC: 55+98.02
PC: 107+67.13
EP: 60+63.23
PC: 107+61.95

98'WB' 100'WB' 102'WB' 104'WB' 106'WB' 108'WB' 110'WB' 112'WB'
98'EB' 100'EB' 102'EB' 104'EB' 106'EB' 108'EB' 110'EB' 112'EB'
52 54 56 58 60

STH 190

PI STA = 52+12.53
Y = 187273.972
X = 686892.177
DELTA = 6°02'47"
D = 1°25'26"
T = 212.53'
L = 424.66'
R = 4024.00'
PC STA = 50+00.00
PT STA = 54+24.66

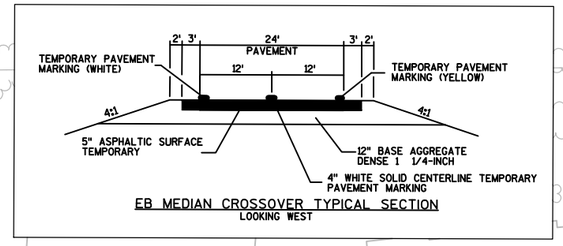
TEMP SEED AND EROSION
MAT ALL DISTURBED AREA
AFTER CROSS-OVER CONSTRUCTION
IS COMPLETE

PI STA = 58+30.88
Y = 187329.082
X = 687508.472
DELTA = 6°39'49"
D = 1°25'57"
T = 232.87'
L = 465.21'
R = 4000.00'
PC STA = 55+98.02
PT STA = 60+63.23

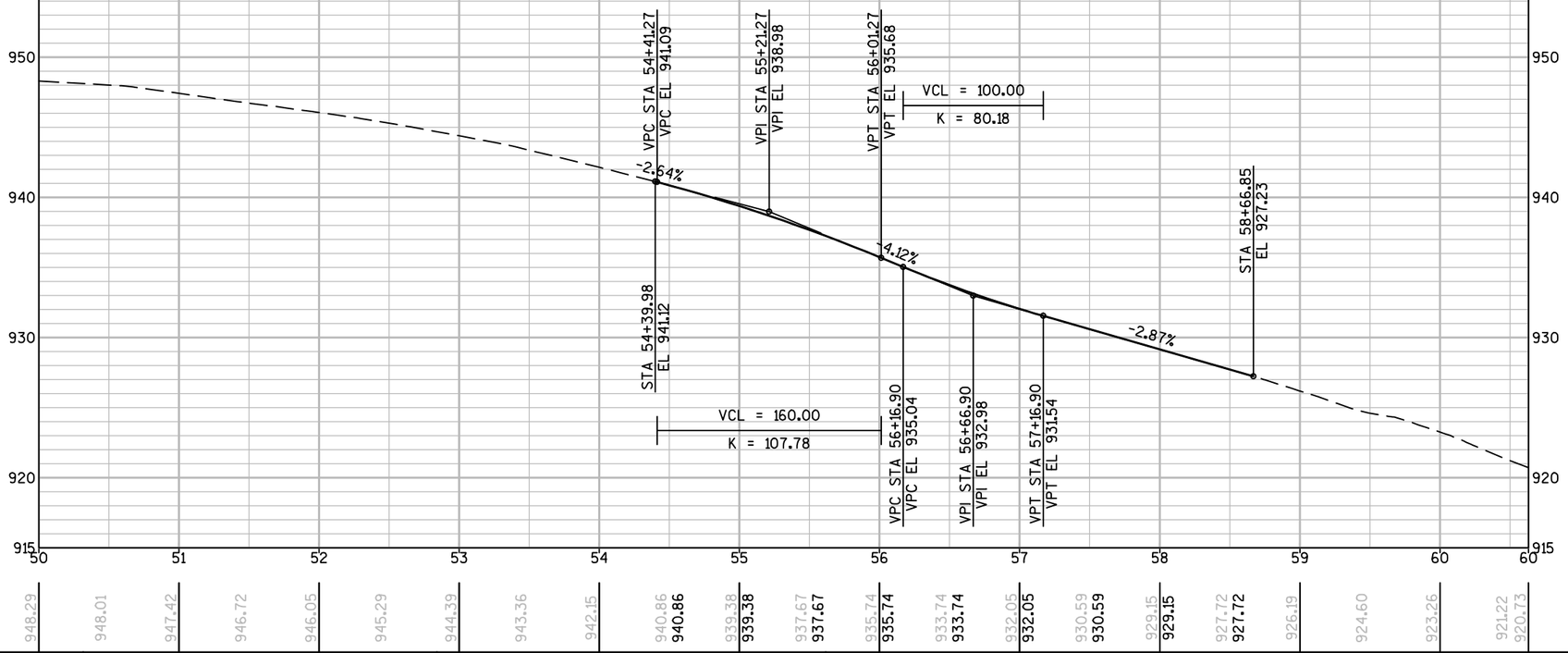
APRON ENDWALLS FOR CULVERT PIPE
SALVAGED 24-INCH
TO BE REINSTALLED IN EXISTING
LOCATION AFTER CROSSOVERS ARE
REMOVED

TP3
CULVERT PIPE TEMPORARY 24-INCH
391.3' @ 2.95%
INL = 931.80
DISCH = 920.25

CROSS SLOPE	
STATION	SLOPE
50+00	-2.00%
54+24.66	-2.00%
55+98.02	2.00%
60+63.23	2.00%



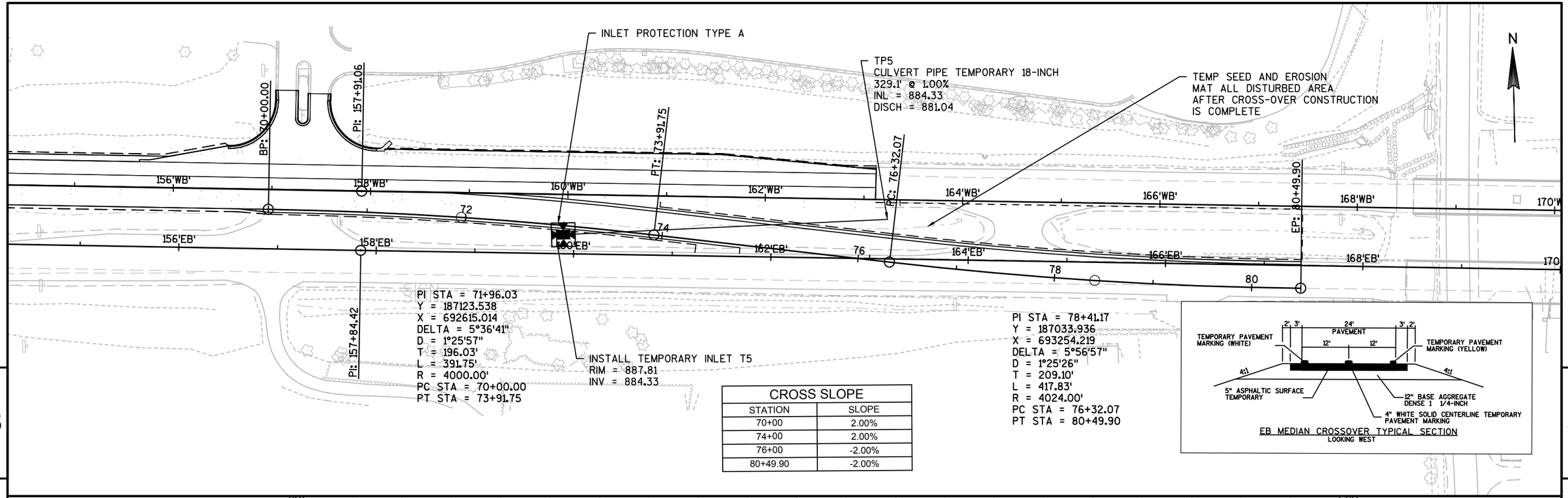
EB MEDIAN CROSSOVER TYPICAL SECTION
LOOKING WEST



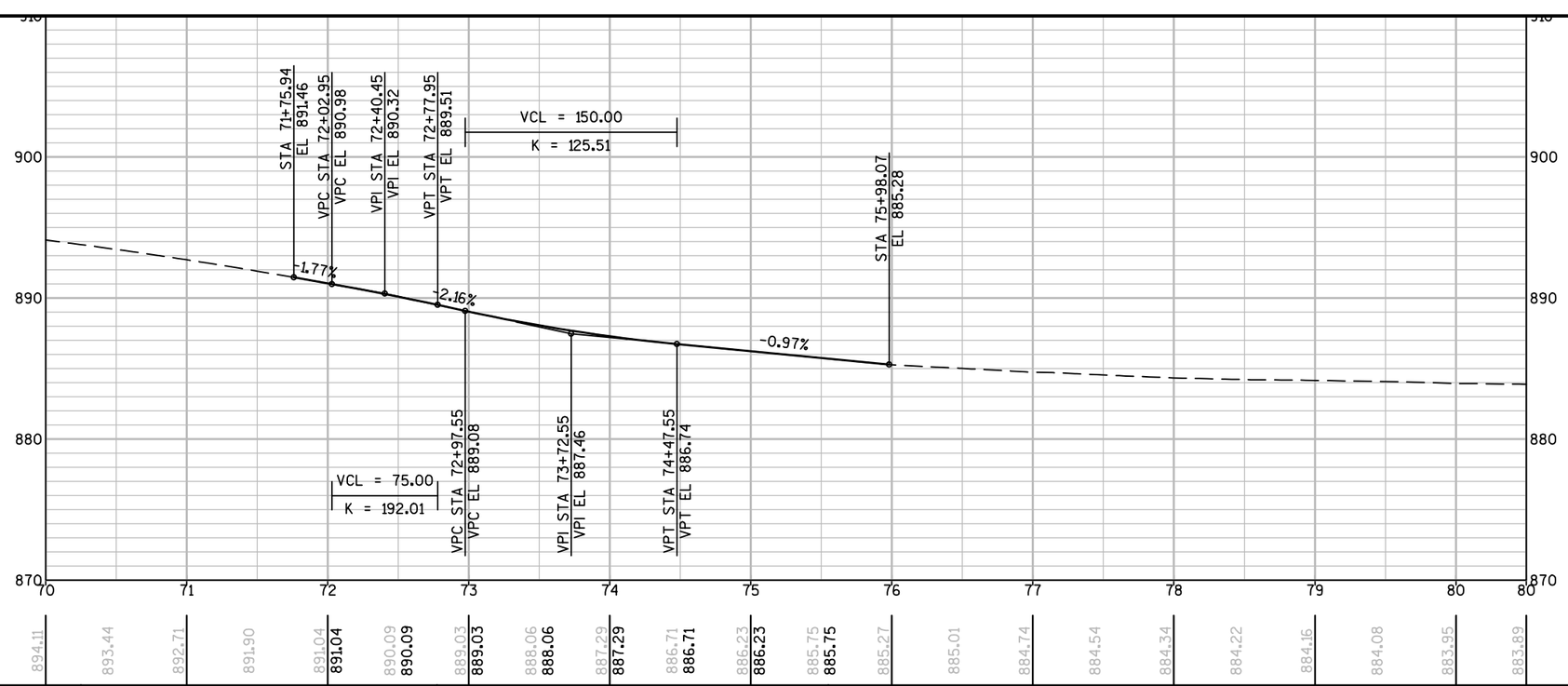
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PLAN AND PROFILE: CROSSOVER 'C' DETAIL SHEET	SHEET 251 E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\026601-S6 (STAGE 4 WEST CROSSOVER'C').DWG
LAYOUT NAME - 026601
PLOT DATE : 10/26/2016 12:54 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME :
PLOT SCALE : 1 IN:100 FT

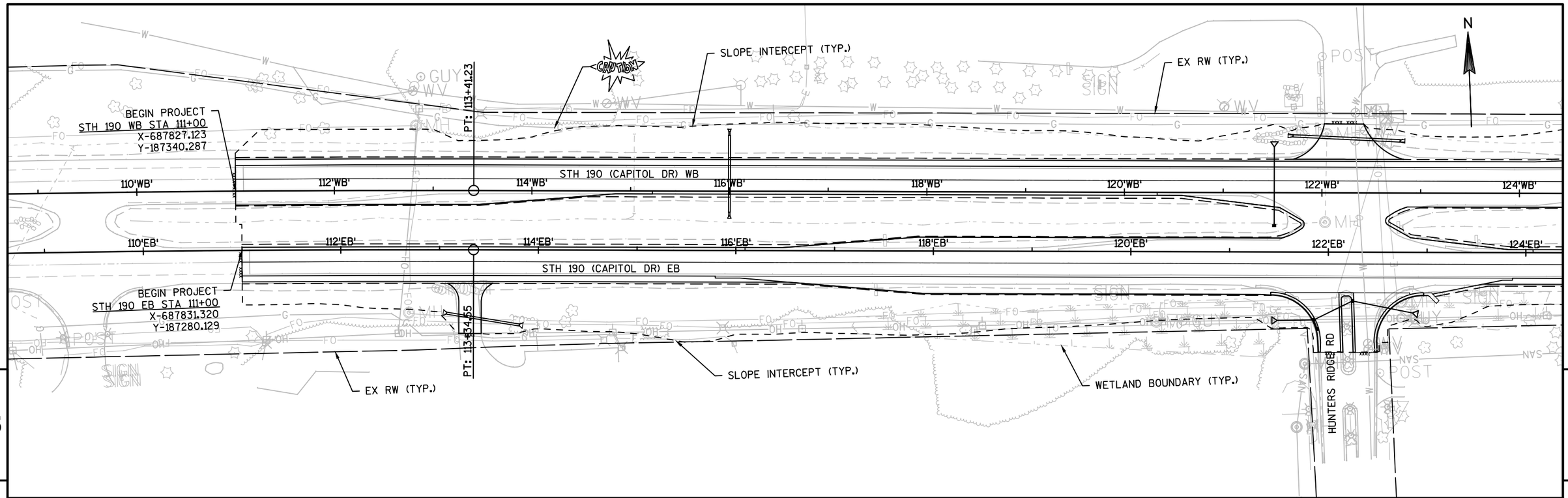
WISDOT/CADDS SHEET 44

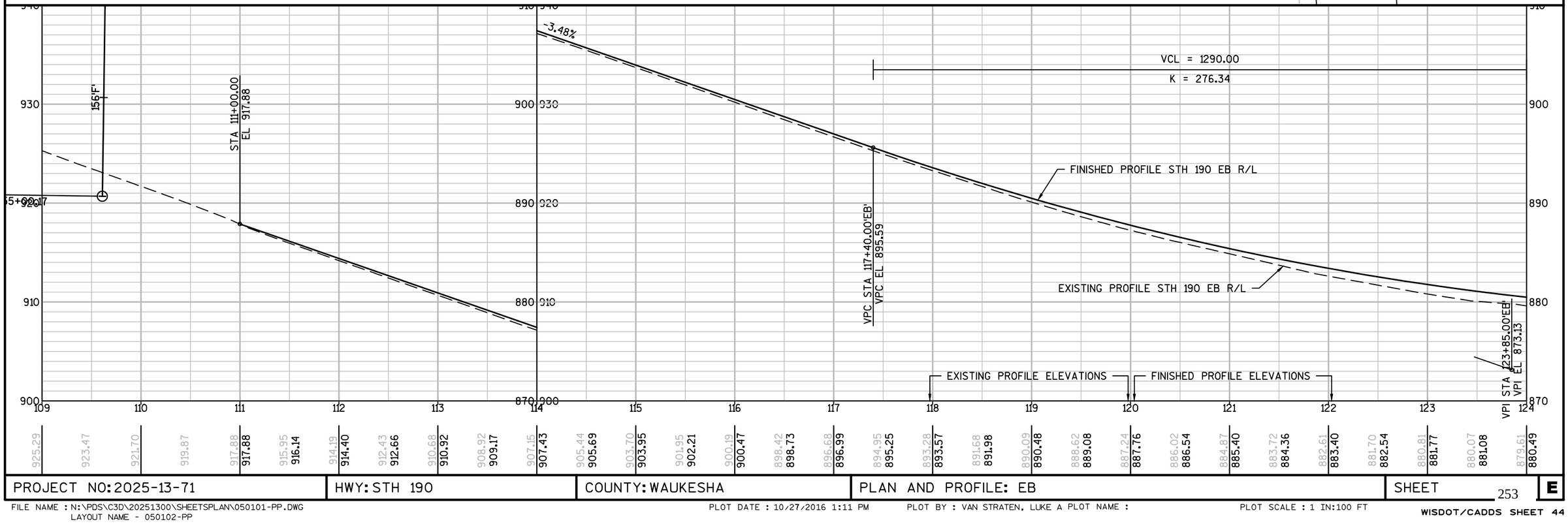


CROSS SLOPE	
STATION	SLOPE
70+00	2.00%
74+00	2.00%
76+00	-2.00%
80+49.90	-2.00%



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PLAN AND PROFILE: CROSSOVER 'D' DETAIL SHEET	SHEET 252	E





PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PLAN AND PROFILE: EB	SHEET 253	E

WETLAND BOUNDARY (TYP.)

EX RW (TYP.)

SLOPE INTERCEPT (TYP.)

CAUTION

STA. 133'WB'+68 TO STA. 135'WB'+43
REMOVE STRUCTURE B-67-91
2-SPAN CONCRETE GIRDER
175' OVERALL LENGTH
55' OVERALL WIDTH

BM626

BP: 138+95.63

STH 190 (CAPITOL DR) WB

124'WB' 126'WB' 128'WB' 130'WB' 132'WB' 134'WB' 136'WB' 138'WB'

124'EB' 126'EB' 128'EB' 130'EB' 132'EB' 134'EB' 136'EB' 138'EB'

STH 190 (CAPITOL DR) EB

BM621

RAMP C

STA. 133'EB'+61 TO STA. 135'EB'+38
REMOVE STRUCTURE B-67-92
2-SPAN CONCRETE GIRDER
177' OVERALL LENGTH
48' OVERALL WIDTH

BP: 138+25.12

SLOPE INTERCEPT (TYP.)

EX RW (TYP.)

WETLAND BOUNDARY (TYP.)

BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
620	135'WB'+42 46'LT	DISK, NORTH EAST CORNER WESTBOUND BRIDGE OVER CTH F	881.84
621	133'EB'+51 35'RT	DISK, SOUTHWEST CORNER EASTBOUND BRIDGE OVER CTH F	881.75

VCL = 1290.00
K = 276.34

VPC STA 132+45.00'EB'
VPC EL 883.33

VPI STA 134+45.00'EB'
VPI EL 885.70

VPT STA 136+45.00'EB'
VPT EL 887.50

B-67-0332

STA. 133'EB'+40.73 TO STA. 135'EB'+61.90
STRUCTURE B-67-0332 REQUIRED
2-SPAN 45W CONCRETE GIRDER

FINISHED PROFILE STH 190 EB R/L

1.19%

EXISTING PROFILE STH 190 EB R/L

VPT STA 130+30.00'EB'
VPT EL 880.78

VCL = 400.00
K = 1397.98

MINIMUM VERTICAL CLEARANCE 18' - 1 1/2"

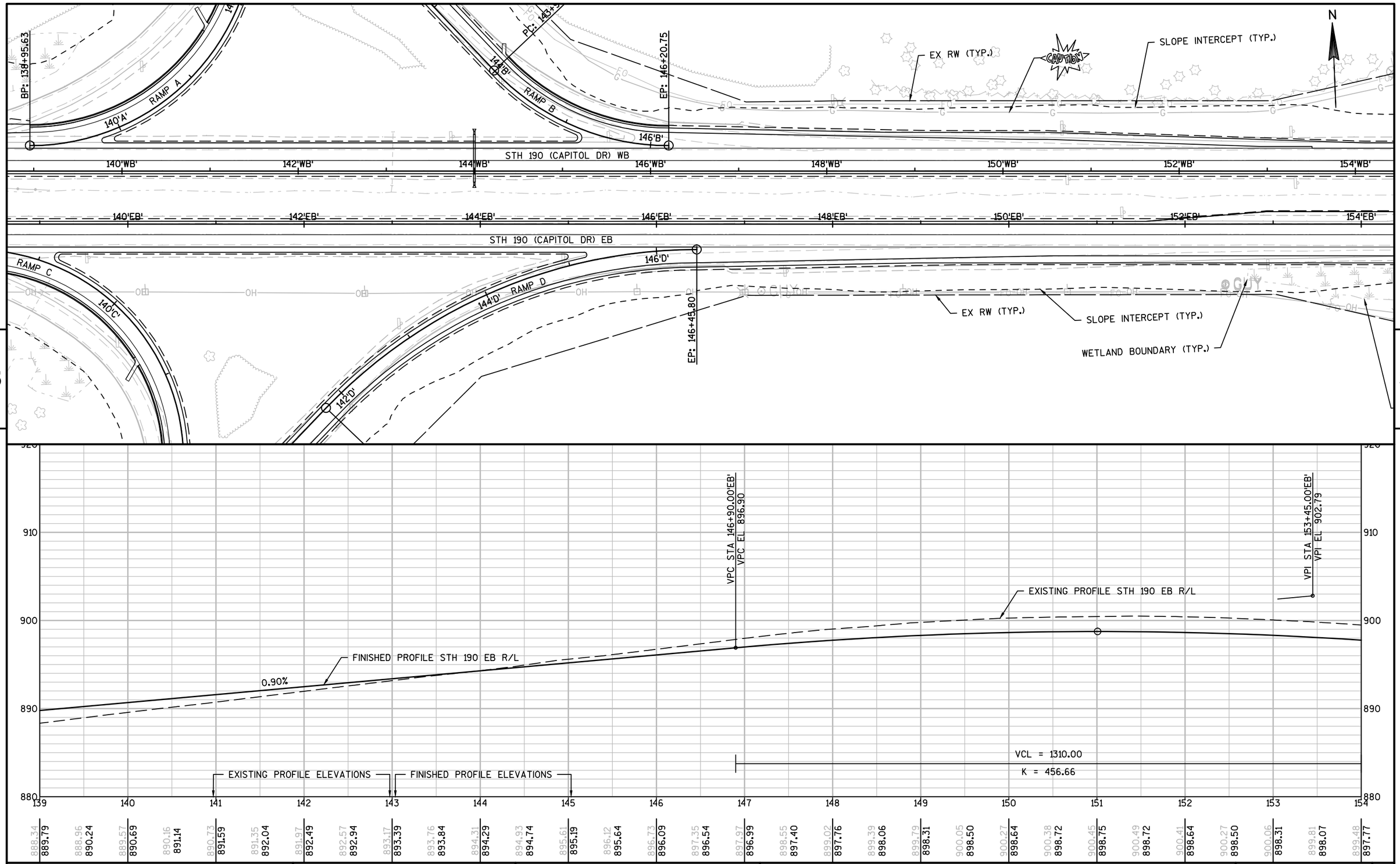
MINIMUM VERTICAL CLEARANCE 17' - 11 7/8"

EXISTING PROFILE ELEVATIONS

FINISHED PROFILE ELEVATIONS

879.61	880.49	878.89	879.99	878.41	879.58	877.96	879.26	877.54	879.03	877.25	878.89	877.07	878.84	876.96	878.88	876.90	879.01	876.88	879.23	877.03	879.54	877.25	879.95	877.55	880.44	877.92	881.02	878.38	881.61	878.92	882.20	879.49	882.79	880.15	883.39	880.92	883.97	881.68	884.53	860.81	885.08	861.73	885.61	861.86	886.12	884.10	886.61	884.62	887.09	885.30	887.54	885.97	887.99	886.57	888.44	887.14	888.89	887.75	889.34	888.34	889.79

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PLAN AND PROFILE: EB	SHEET 254 E



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PLAN AND PROFILE: EB	SHEET 255 E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\050101-PP.DWG
LAYOUT NAME - 050104-PP

PLOT DATE : 10/27/2016 1:12 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME : PLOT SCALE : 1 IN:100 FT

EX RW (TYP.)

WETHERSFIELD RD

PI: 157+91.06

SLOPE INTERCEPT (TYP.)

CAUTION

N

STH 190 (CAPITOL DR) WB

154'WB' 156'WB' 158'WB' 160'WB' 162'WB' 164'WB' 166'WB' 168'WB'

END PROJECT
STH 190 WB STA 163+12

154'EB' 156'EB' 158'EB' 160'EB' 162'EB' 164'EB' 166'EB' 168'EB'

STH 190 (CAPITOL DR) EB

BM622

PI: 157+84.42

END PROJECT
STH 190 EB STA 160+00

SLOPE INTERCEPT (TYP.)

EX RW (TYP.)

BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
622	168'EB'+28.35'RT	DISK, SOUTHWEST CORNER EASTBOUND BRIDGE OVER DUPLAINVILLE ROAD	886.04

WETLAND BOUNDARY (TYP.)

PERMANENT GRAVEL DITCH CHECK AND PIPE STA 155'EB'+00
(SEE CONSTRUCTION DETAILS FOR SIZE)

PERMANENT GRAVEL DITCH CHECK AND PIPE STA 160'EB'+30
(SEE CONSTRUCTION DETAILS FOR SIZE)

PERMANENT GRAVEL DITCH CHECK AND PIPE STA 163'EB'+00
(SEE CONSTRUCTION DETAILS FOR SIZE)

EXISTING PROFILE STH 190 EB R/L

FINISHED PROFILE STH 190 EB R/L

VPT STA 160+00.00'EB'
VPT EL 889.90

VCL = 1310.00
K = 456.66

STA 160+00.00
EL 889.90

EXISTING PROFILE ELEVATIONS

FINISHED PROFILE ELEVATIONS

900 890 880 870

154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169

899.48 897.77 | 899.06 897.41 | 898.60 897.00 | 898.08 896.54 | 897.47 896.02 | 896.73 895.45 | 895.96 894.82 | 895.11 894.13 | 894.17 893.40 | 893.17 892.60 | 892.12 891.76 | 891.01 890.85 | 889.90 889.90 | 888.90 | 888.03 | 887.23 | 886.43 | 885.73 | 885.18 | 884.83 | 884.55 | 884.36 | 884.19 | 884.10 | 884.03 | 883.99 | 883.91 | 883.80 | 883.62 | 870.51 | 861.61

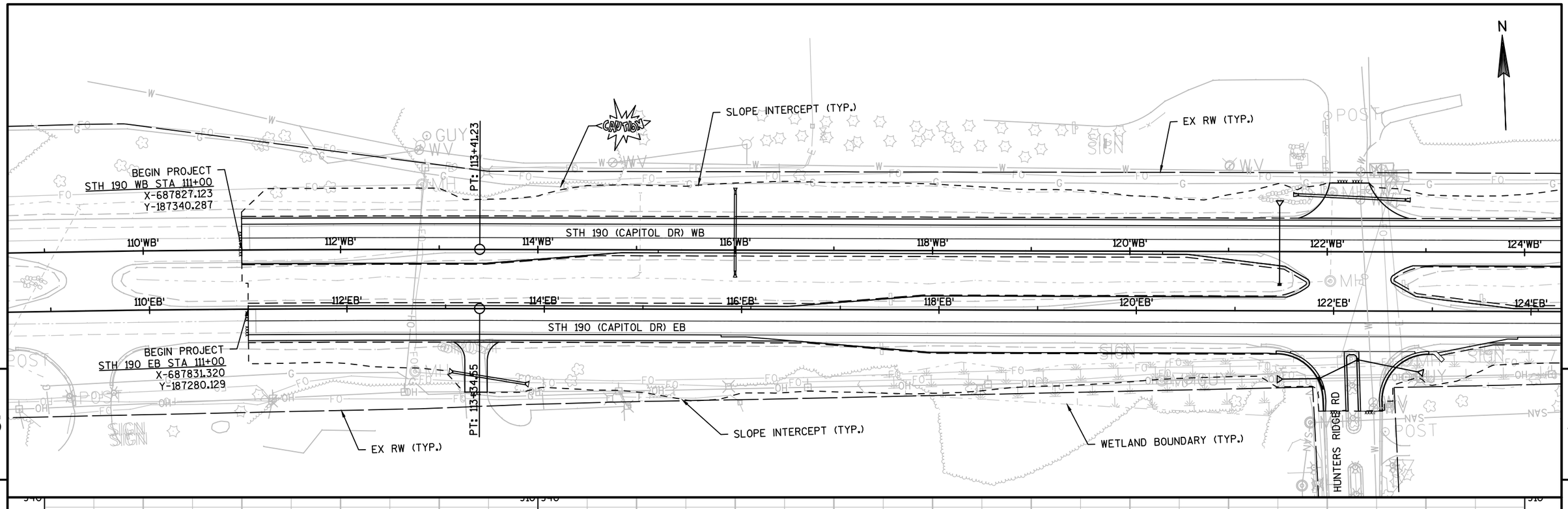
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PLAN AND PROFILE: EB	SHEET 256	E

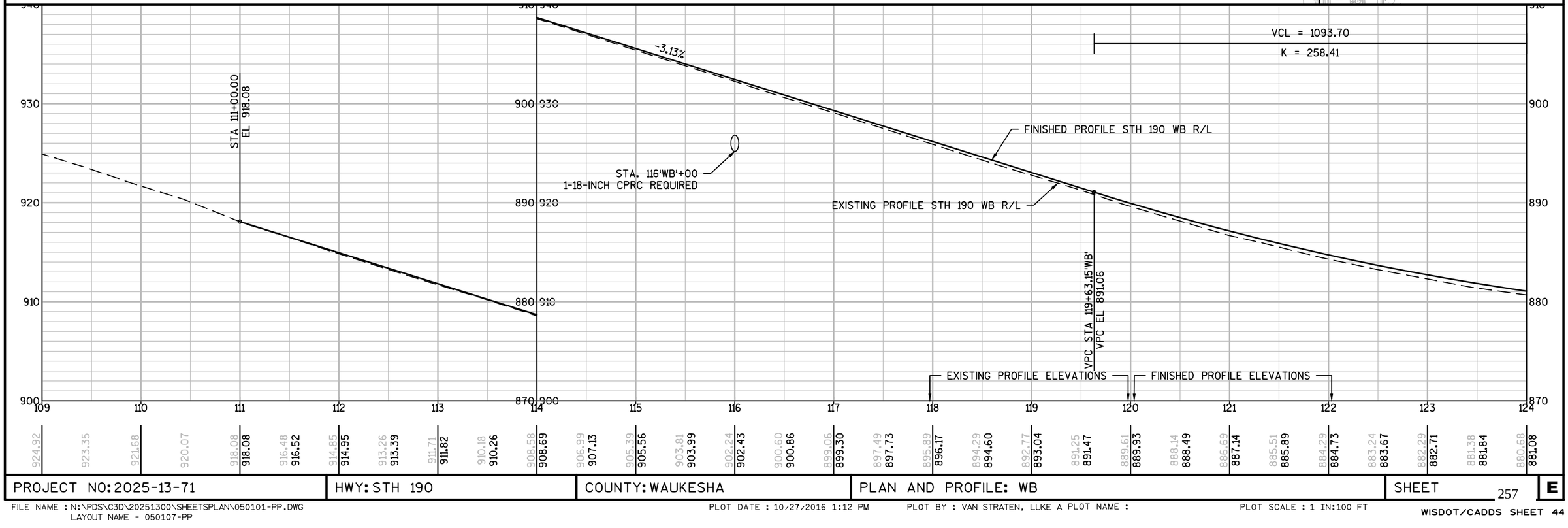
FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\050101-PP.DWG
LAYOUT NAME - 050105-PP

PLOT DATE : 10/27/2016 1:12 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME :

PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44





PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PLAN AND PROFILE: WB	SHEET 257	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\050101-PP.DWG
LAYOUT NAME - 050107-PP
PLOT DATE : 10/27/2016 1:12 PM
PLOT BY : VAN STRATEN, LUKE A PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

WETLAND BOUNDARY (TYP.)

EX RW (TYP.)

SLOPE INTERCEPT (TYP.)

CAUTION

STH 190 (CAPITOL DR) WB

124'WB' 126'WB' 128'WB' 130'WB' 132'WB' 134'WB' 136'WB' 138'WB'

124'EB' 126'EB' 128'EB' 130'EB' 132'EB' 134'EB' 136'EB' 138'EB'

STH 190 (CAPITOL DR) EB

BM620

BM621

STA 133'WB'+68 TO STA. 135'WB'+43
REMOVE STRUCTURE B-67-91
2-SPAN CONCRETE GIRDER
175' OVERALL LENGTH
55' OVERALL WIDTH

BP: 138+95.63

STA. 133'EB'+61 TO STA. 135'EB'+38
REMOVE STRUCTURE B-67-92
2-SPAN CONCRETE GIRDER
177' OVERALL LENGTH
48' OVERALL WIDTH

BP: 138+25.12

RAMP C

N

5

5

BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
620	135'WB'+42 46'LT	DISK, NORTH EAST CORNER WESTBOUND BRIDGE OVER CTH F	881.84
621	133'EB'+51 35'RT	DISK, SOUTHWEST CORNER EASTBOUND BRIDGE OVER CTH F	881.75

VCL = 1093.70

K = 258.41

STA. 133'WB'+45.15 TO STA. 135'WB'+65.65
STRUCTURE B-67-0331 REQUIRED
2-SPAN 45W CONCRETE GIRDER

VPC STA 132+55.00'WB'
VPC EL 882.15

VPI STA 134+55.00'WB'
VPI EL 884.35

VPT STA 136+55.00'WB'
VPT EL 886.24

FINISHED PROFILE STH 190 WB R/L

EXISTING PROFILE STH 190 WB R/L

B-67-0331

1.10%

STA. 138'WB'+42
1-18-INCH CPRC REQUIRED

VCL = 400.00

K = 2583.93

MINIMUM VERTICAL CLEARANCE 17' - 10 7/8"

MINIMUM VERTICAL CLEARANCE 17' - 9 1/8"

VPI STA 125+10.00'WB'
VPI EL 873.94

VPT STA 130+56.85'WB'
VPT EL 879.96

EXISTING PROFILE ELEVATIONS

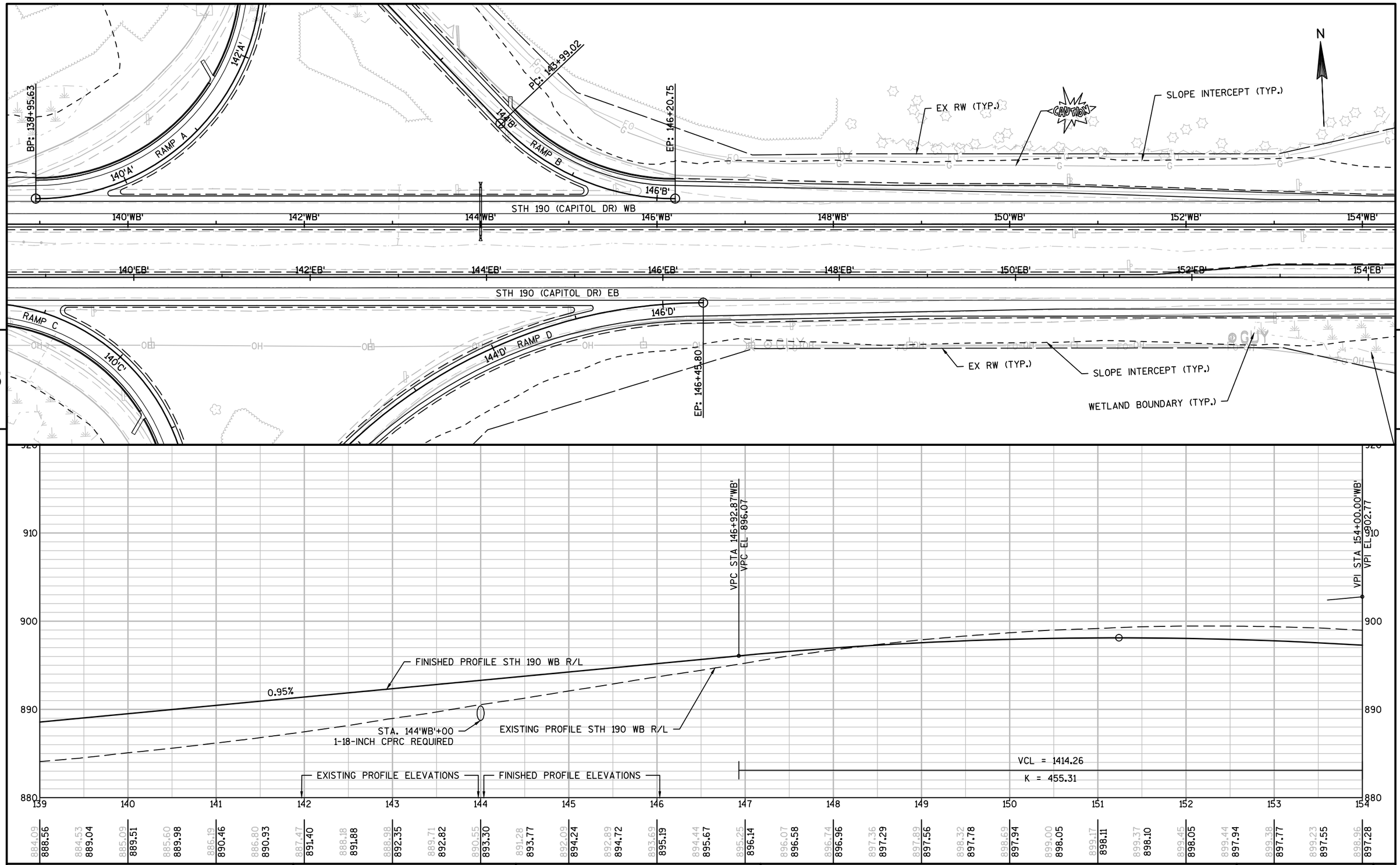
FINISHED PROFILE ELEVATIONS

900 890 880 870 860

124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139

880.68	881.08	880.08	880.40	879.54	879.83	879.09	879.35	878.78	878.97	878.56	878.68	878.49	878.50	878.44	878.40	878.56	878.41	878.70	878.51	878.91	878.71	879.09	879.01	879.31	879.40	879.49	879.89	879.70	880.44
879.90	880.99	880.04	881.54	880.23	882.09	880.51	882.64	880.93	883.18	880.19	883.70	880.72	884.22	881.45	884.73	881.88	885.23	882.14	885.72	882.40	886.20	882.58	886.67	882.87	887.14	883.22	887.62	883.67	888.09	884.09	888.56

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PLAN AND PROFILE: WB	SHEET 258	E



5

5

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PLAN AND PROFILE: WB	SHEET 259	E

EX RW (TYP.)

WETHERSFIELD RD

PI: 157+91.06

SLOPE INTERCEPT (TYP.)

CAUTION

END PROJECT
STH 190 WB STA 163+12

STH 190 (CAPITOL DR) WB

154'WB' 156'WB' 158'WB' 160'WB' 162'WB' 164'WB' 166'WB' 168'WB'

154'EB' 156'EB' 158'EB' 160'EB' 162'EB' 164'EB' 166'EB' 168'EB'

STH 190 (CAPITOL DR) EB

BM622

PI: 157+84.42

END PROJECT
STH 190 EB STA 160+00

PERMANENT GRAVEL DITCH CHECK AND PIPE STA 163'EB'+00
(SEE CONSTRUCTION DETAILS FOR SIZE)

SLOPE INTERCEPT (TYP.)

EX RW (TYP.)

PERMANENT GRAVEL DITCH CHECK AND PIPE STA 155'EB'+00
(SEE CONSTRUCTION DETAILS FOR SIZE)

PERMANENT GRAVEL DITCH CHECK AND PIPE STA 160'EB'+30
(SEE CONSTRUCTION DETAILS FOR SIZE)

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
622	168'EB'+28 35'RT	DISK, SOUTHWEST CORNER EASTBOUND BRIDGE OVER DUPLAINVILLE ROAD	886.04

VPI STA 154+00.00
VPI EL 900.00

EXISTING PROFILE STH 190 WB R/L

FINISHED PROFILE STH 190 WB R/L

VCL = 1414.26
K = 455.31

VPT STA 161+07.13'WB'
VPT EL 887.50

VCL = 203.78
K = 286.44

STA 163+12.00
EL 883.81

-1.45%

VPC STA 161+07.13'WB'
VPC EL 887.50

VPI STA 162+09.02'WB'
VPI EL 885.30

VPT STA 163+10.91'WB'
VPT EL 883.82

EXISTING PROFILE ELEVATIONS

FINISHED PROFILE ELEVATIONS

900
890
880
870

154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169

| | | |

PC: 141+75.60

142'D'

140'EB'

140'WB'

142'EB'

142'WB'

144'EB'

144'WB'

146'EB'

146'WB'

STH 190 (CAPITOL DR) EB

STH 190 (CAPITOL DR) WB

RAMP D 144'D'

RAMP B

144'B'

142'B'

140'B'

RAMP A

140'A'

142'A'

144'A'

146'A'

BP: 139+95.63

WETLAND BOUNDARY (TYP.)

PERMANENT GRAVEL DITCH CHECK AND PIPE STA 144'A'+50
(SEE CONSTRUCTION DETAILS FOR SIZE)

SLOPE INTERCEPT (TYP.)

PT: 146+97.99

148'A'

136'B'

PC: 136+66.19

RAMP A 150'A'

RAMP B 134'B'

EP: 151+03.25

182'F'

180'F'

BP: 132+88.52

EX. RW (TYP.)

HMOD 2X17

DO NOT DISTURB HMOD 2X17 MONUMENT

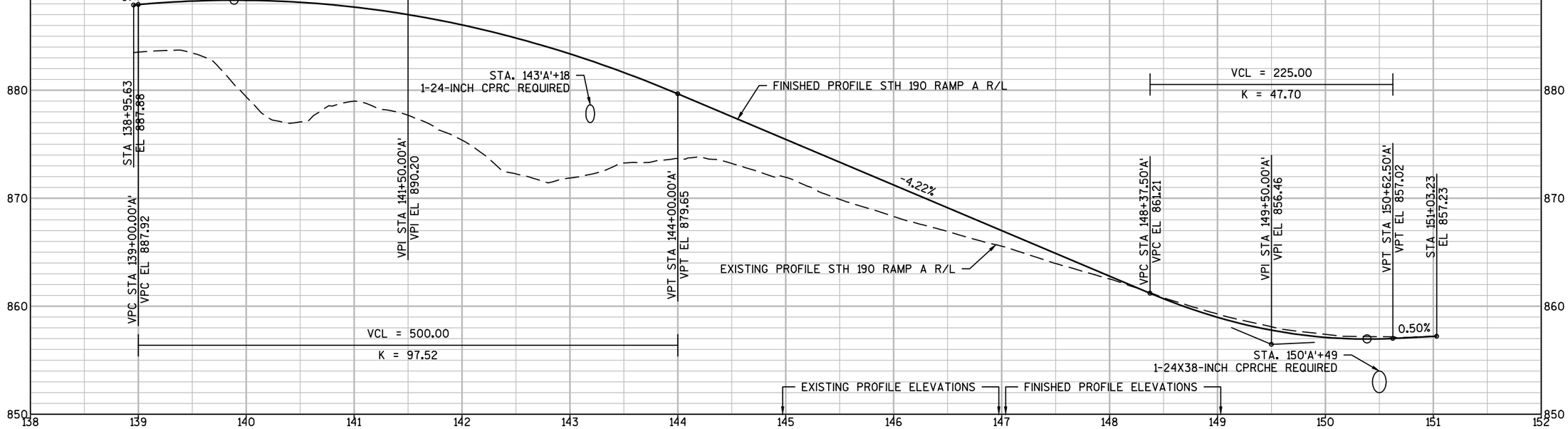
TRIBUTARY TO SUSSEX CREEK

UNNAMED TRIBUTARY TO SUSSEX CREEK

N

5

5



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PLAN AND PROFILE: RAMP A	SHEET 261	E

DO NOT DISTURB HMOD 2X17 MONUMENT

HMOD 2X17

CAUTION

PC: 136+66.19

PT: 139+12.97

SLOPE INTERCEPT (TYP.)

EX. RW (TYP.)

138'B'

146'A'

136'B'

140'B'

148'A'

141'A'

142'B'

BP: 132+88.52

134'B' RAMP B

150'A' RAMP A

PT: 146+97.99

PC: 143+99.02

EP: 146+20.75

144'B'

146'B' RAMP B

182'F'

EP: 151+03.25

PERMANENT GRAVEL DITCH CHECK AND PIPE STA 144'A'+50
(SEE CONSTRUCTION DETAILS FOR SIZE)

142'A'

WETLAND BOUNDARY (TYP.)

STH 190 (CAPITOL DR) WB

146'WB'

144'WB'

146'EB'

(CAPITOL DR) EB

146'D'

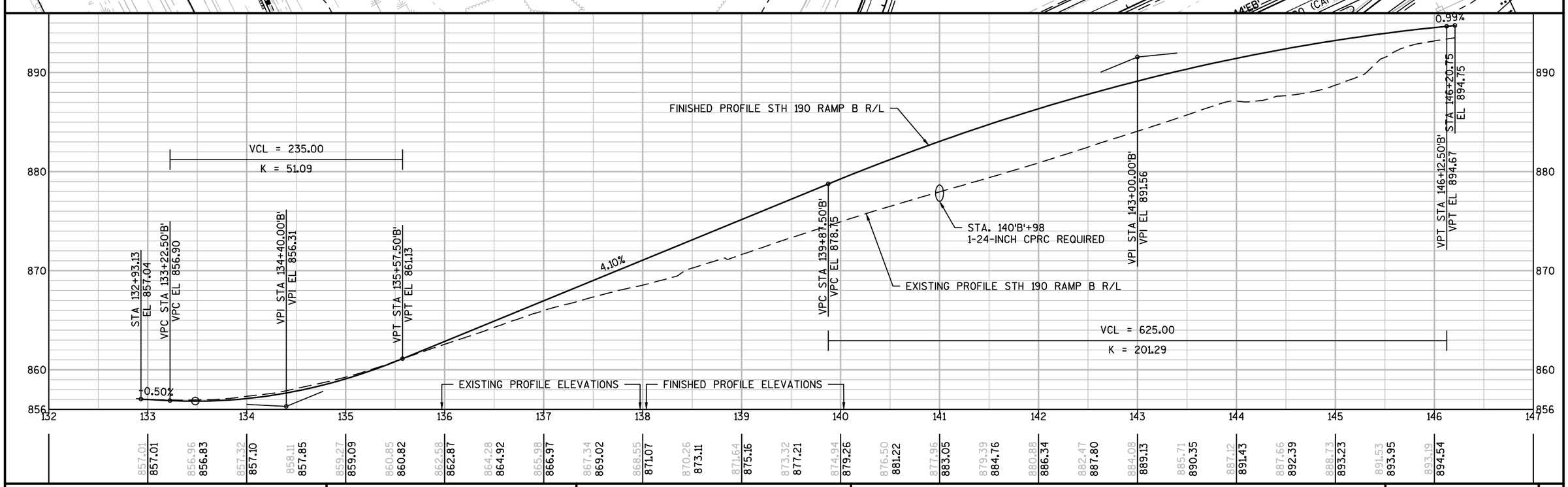
EP:

180'F'

N

5

5



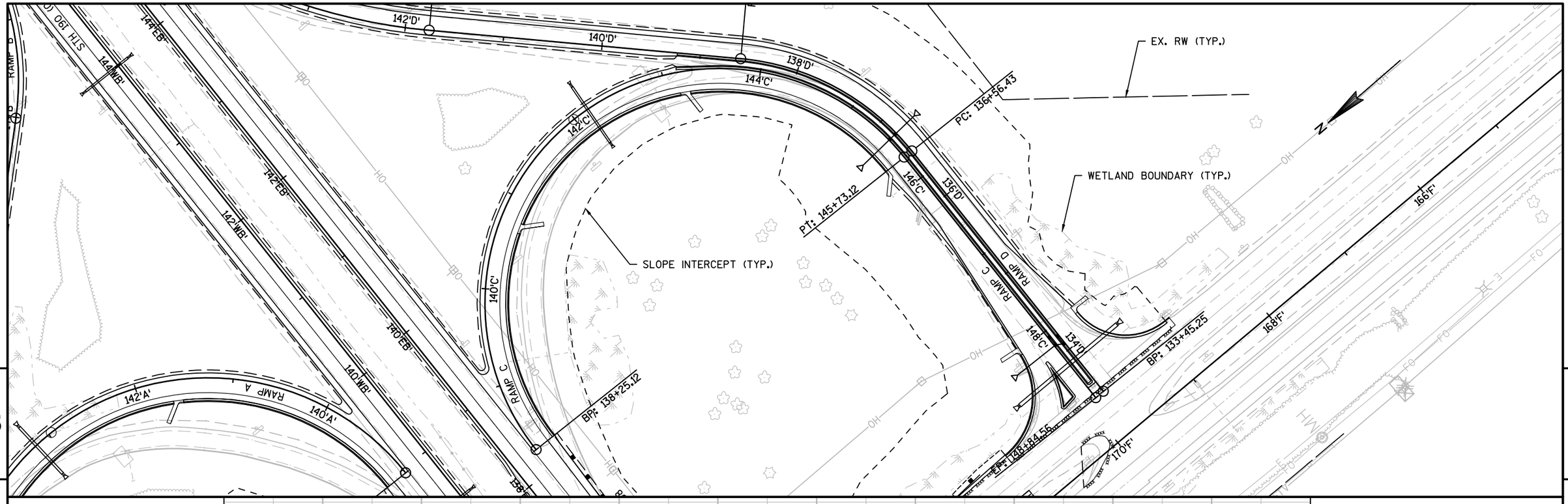
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PLAN AND PROFILE: RAMP B	SHEET 262	E

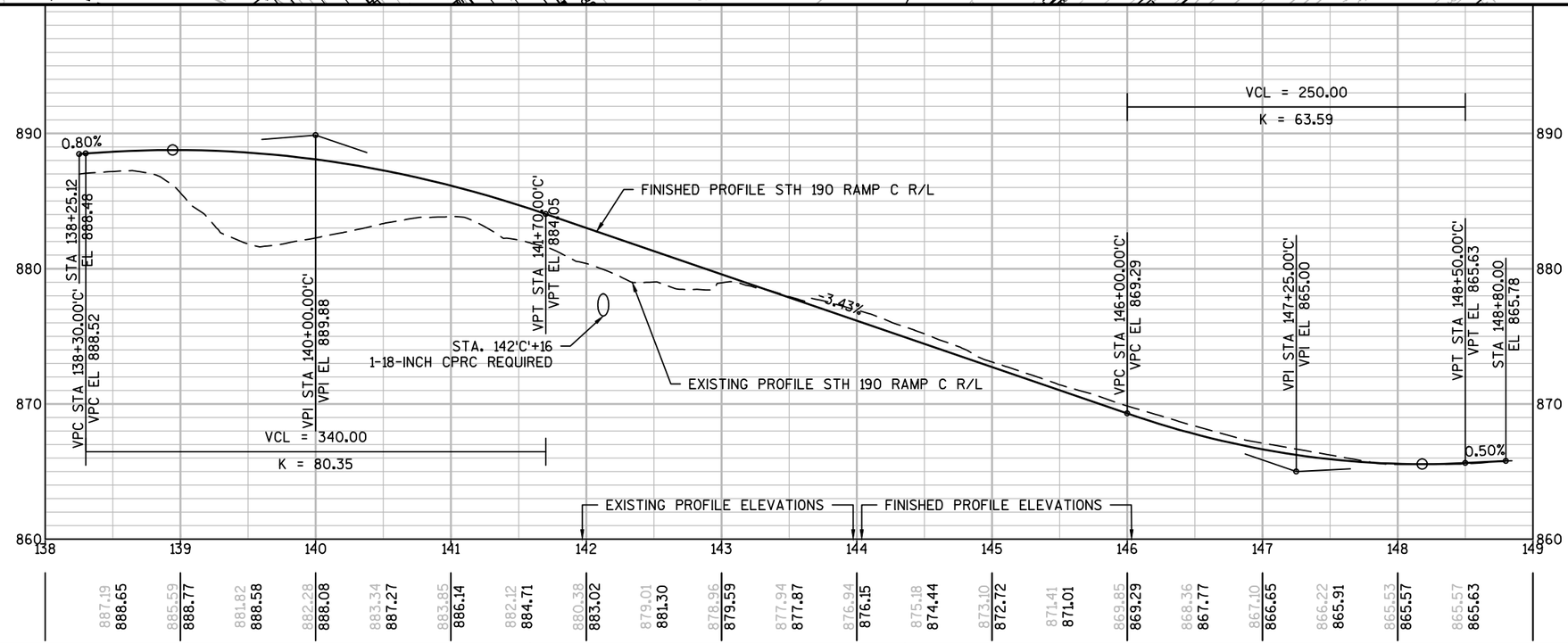
FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\050101-PP.DWG
LAYOUT NAME - 050112-PP

PLOT DATE : 10/27/2016 1:14 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME :

PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44



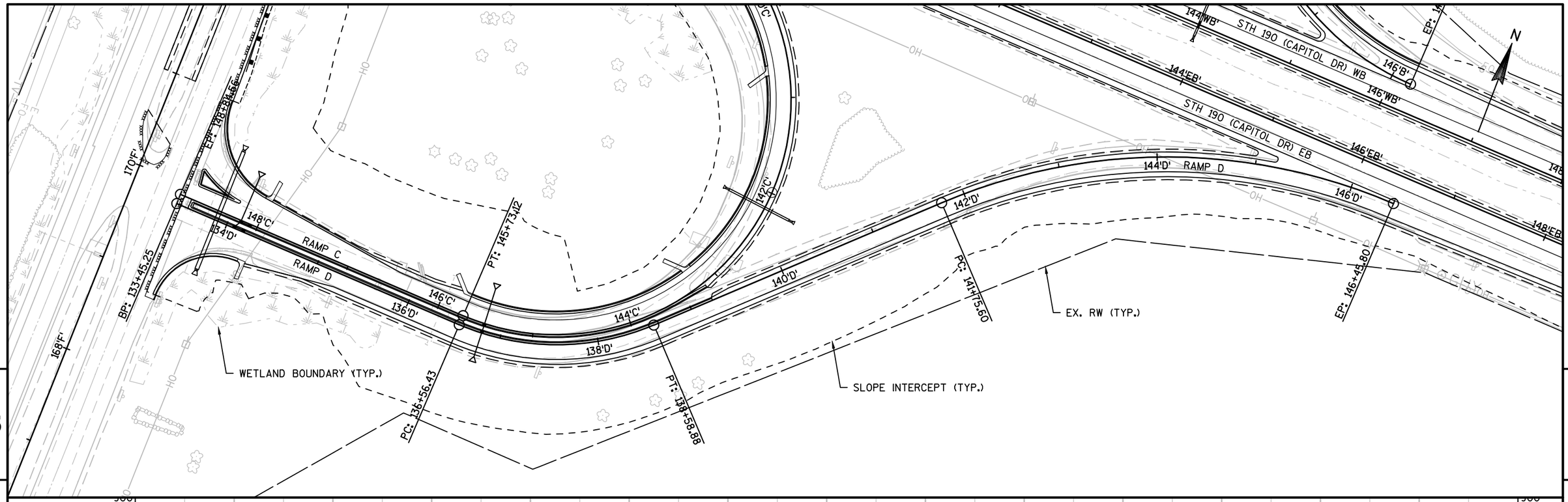


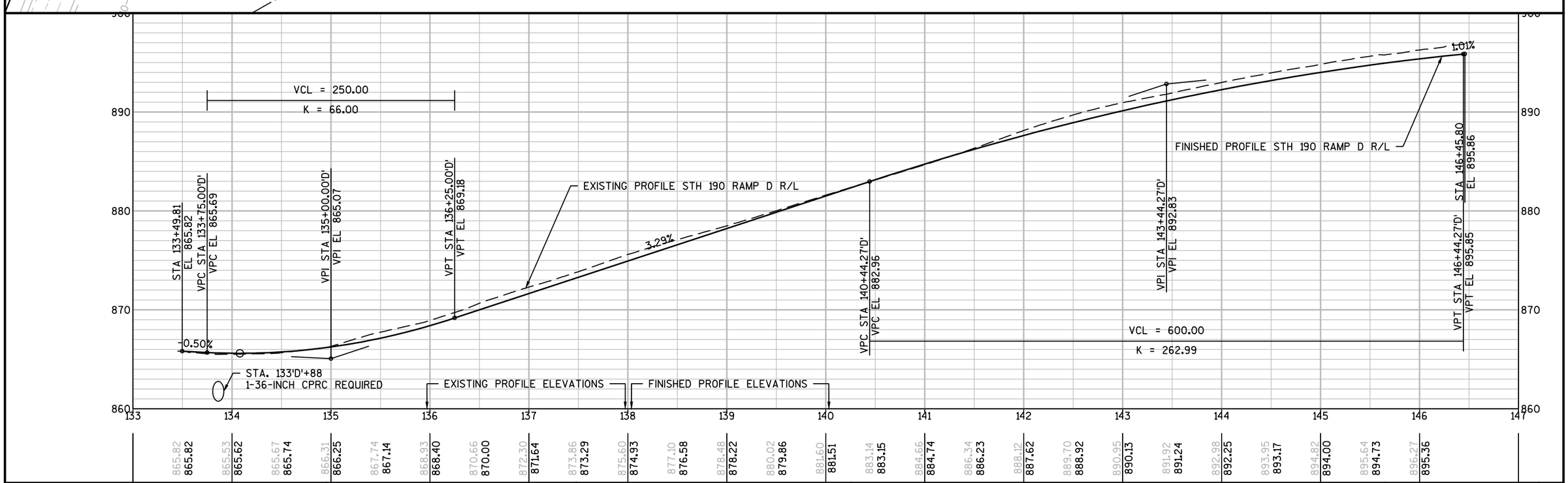
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PLAN AND PROFILE: RAMP C	SHEET 263 E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\050101-PP.DWG
LAYOUT NAME - 050113-PP

PLOT DATE : 10/27/2016 1:14 PM PLOT BY : VAN STRATEN, LUKE A PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44





PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	PLAN AND PROFILE: RAMP D	SHEET 264 E

Standard Detail Drawing List

08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08B09-02	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08B10-02	MANHOLES 3X3-FT, 4X4-FT, 5X5-FT AND 6X6-FT
08C06-02	INLETS 3-FT AND 4-FT DIAMETER
08C07-02	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08C08-02	INLETS MEDIAN 1 AND 2 GRATE
08D01-19	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
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F06-04	REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN
08F07-05	STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE FRAINS
08F08-02	STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED CROSS DRAINS
09B02-09	CONDUIT
09B04-11	PULL BOX
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09C06-07	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09C12-08A	CONCRETE BASE TYPE 13
09C12-08B	CONCRETE BASE TYPE 13
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09E01-14A	POLE MOUNTINGS FOR TRAFFIC SIGNALS TYPE 2
09E01-14D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E01-14G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-05	NON-FREEWAY LIGHTING UNIT POLE WIRING
09E06-05	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09E08-08C	TYPE 12 POLE 35'-55' MONOTUBE ARM
09E08-08E	GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
09F15-04A	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)
09F15-04B	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)
09G01-04G	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
11B02-02	CONCRETE MEDIAN NOSE
12A03-10	NAME PLATE (STRUCTURES)
13A03-06	CONCRETE PAVEMENT SHOULDERS
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
13B02-08B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
13C01-18	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C11-11A	RURAL DOWELED CONCRETE PAVEMENT
13C11-11B	RURAL DOWELED CONCRETE PAVEMENT
13C14-06A	BASE PATCHING CONCRETE
13C14-06B	BASE PATCHING CONCRETE
13C14-06C	BASE PATCHING CONCRETE
13C16-02A	DETAIL FOR RIGHT TURN LANE/TEE INTERSECTION BYPASS LANE ON A CONRETE ROADWAY
13C17-01A	CONCRETE JOINT DETAIL FOR EXIT RAMP TERMINI
13C17-01B	CONCRETE JOINT DETAIL FOR ENTRANCE RAMP TERMINI
13C18-04A	CONCRETE PAVEMENT JOINTING
13C18-04B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-04C	CONCRETE PAVEMENT JOINT TIES
13C18-04D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

6

Standard Detail Drawing List

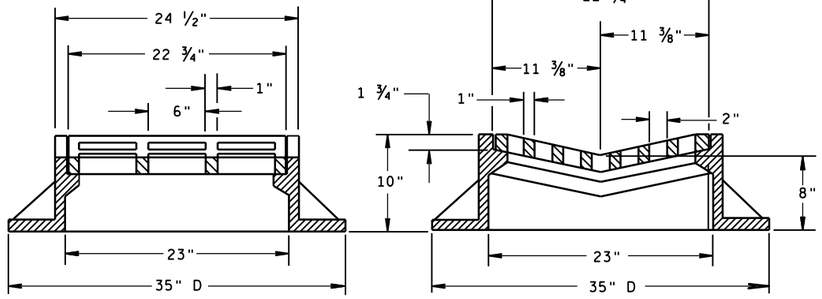
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B15-09A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-09B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-09C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11B	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS
14B20-11G	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL
14B20-11H	STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT
14B26-03A	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03B	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03C	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03D	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03E	STEEL THRIE BEAM BULLNOSE TERMINAL
14B29-01	SAFETY EDGE
14B32-04A	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-04B	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-04C	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-04D	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-04E	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B33-01G	CONCRETE BARRIER SINGLE SLOPE 42" THRIE BEAM ANCHOR
14B33-01H	CONCRETE BARRIER SINGLE SLOPE 42" THRIE BEAM ANCHOR
14B42-04A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B47-02A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-03	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C07-13B	PAVEMENT MARKING WORDS
15C07-13C	PAVEMENT MARKING ARROWS
15C08-17A	LONGITUDINAL MARKING (MAINLINE)
15C08-17B	PAVEMENT MARKING (TURN LANES)
15C08-17C	PAVEMENT MARKING (ISLANDS)
15C11-06	FLEXIBLE TUBULAR MARKER POST
15C20-02	YIELD MARKING
15C27-01	DOUBLE ARROW WARNING SIGN PLACEMENT
15C31-02A	PAVEMENT MARKING (RAMPS AND GORES)
15C31-02C	PAVEMENT MARKING FOR PARALLEL ON-RAMP AND PARALLEL OFF-RAMP
15C33-02	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D03-04	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D05-04	TRAFFIC CONTROL, SINGLE LANE CROSSOVER ENTRANCE WITH BARRIER
15D06-03	TRAFFIC CONTROL, TWO LANE TWO WAY OPERATION
15D09-03	TRAFFIC CONTROL, SINGLE LANE CROSSOVER EXIT
15D10-04	TRAFFIC CONTROL, SINGLE LANE CROSSOVER EXIT WITH BARRIER
15D11-06	TRAFFIC CONTROL, SINGLE LANE CROSSOVER
15D12-06A	TRAFFIC CONTROL, LANE CLOSURE
15D15-02	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D16-03	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D20-04	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D21-04	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D29-04	TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD
15D38-01A	TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

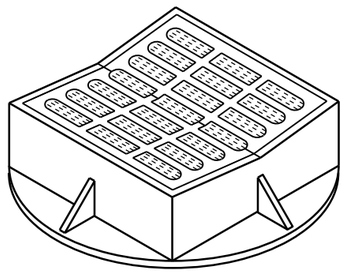
6

Standard Detail Drawing List

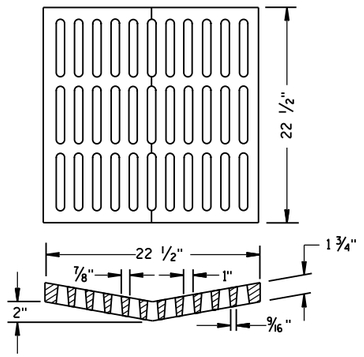
15D38-01B	ATTACHMENT OF SIGNS TO POSTS
16A01-06	LANDMARK REFERENCE MONUMENTS AND COVERS

6



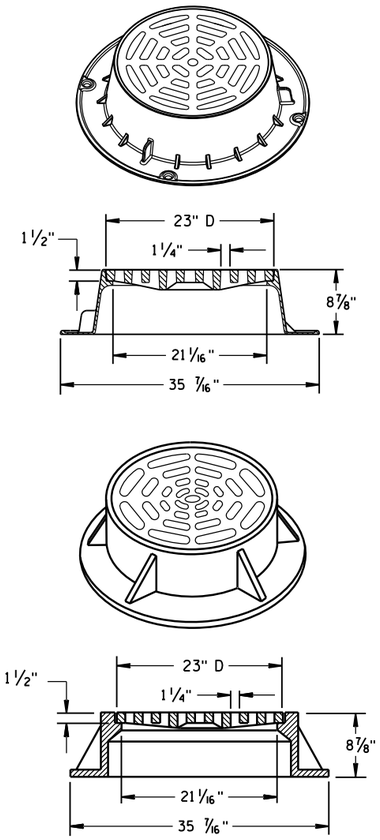


TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

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



TYPE "C"

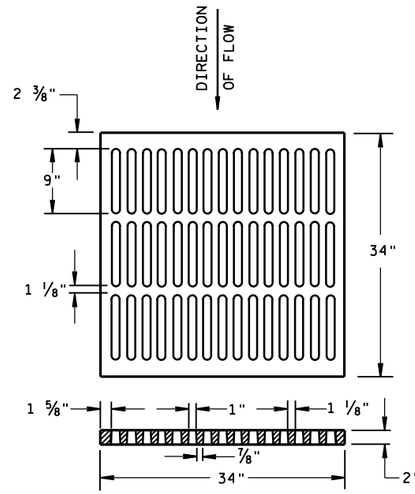
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

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

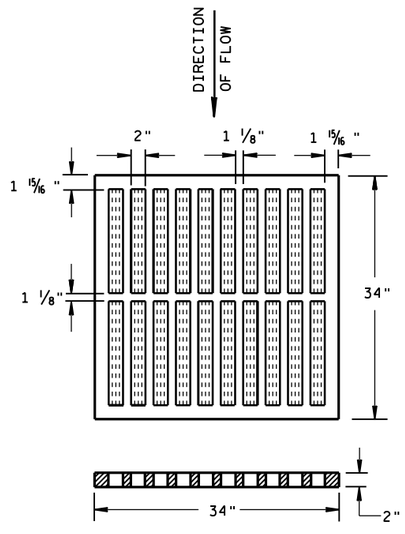
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



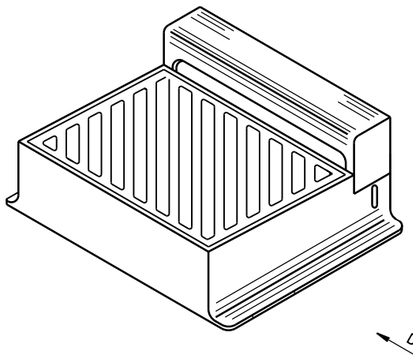
ALTERNATIVE TYPE "MS"

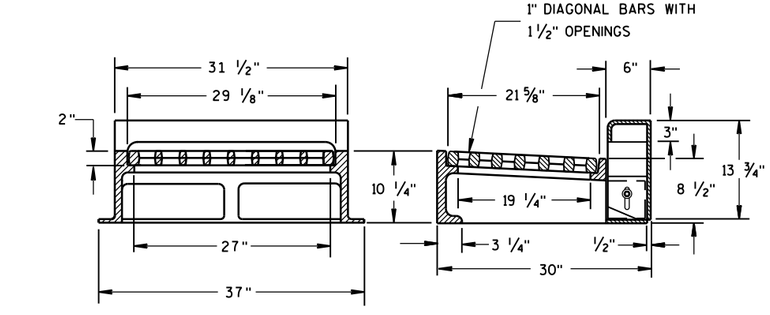
USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE



TYPE "MS"

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





NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

DIRECTION OF FLOW

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

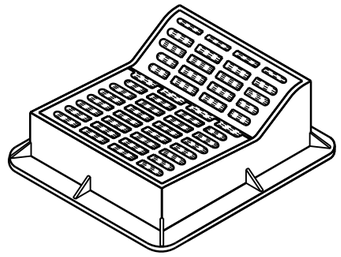
INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM

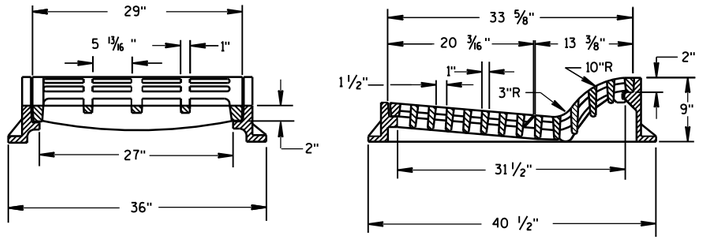
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

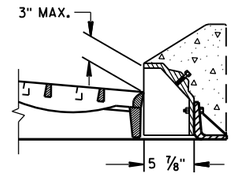
S.D.D. 8 A 5-19b





TYPE "F"

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



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

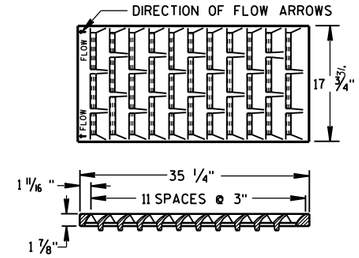
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

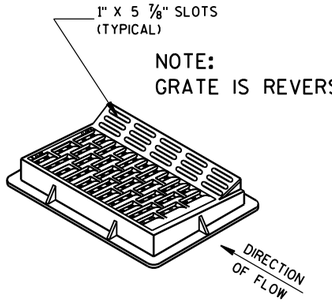
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

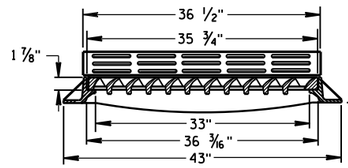
GENERAL NOTES

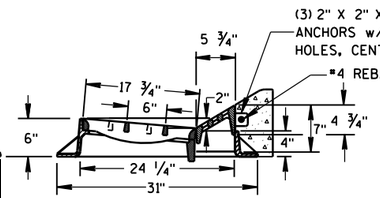
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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





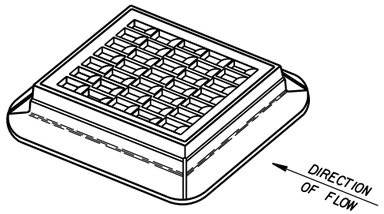


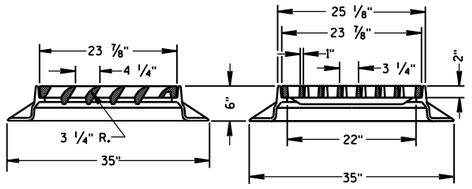


TYPE "HM"

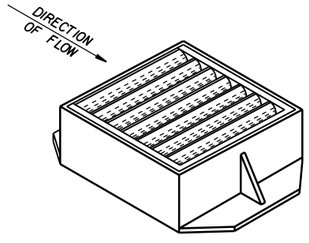
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

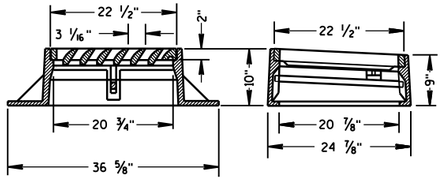
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



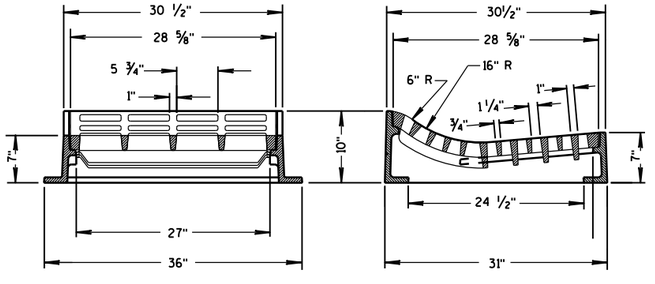


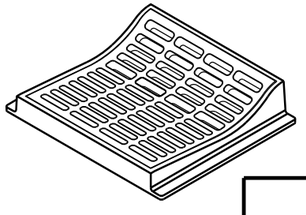
TYPE "S"





TYPE "V"





TYPE "T"

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

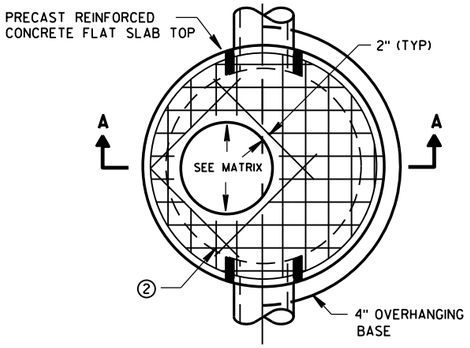
FHWA

6

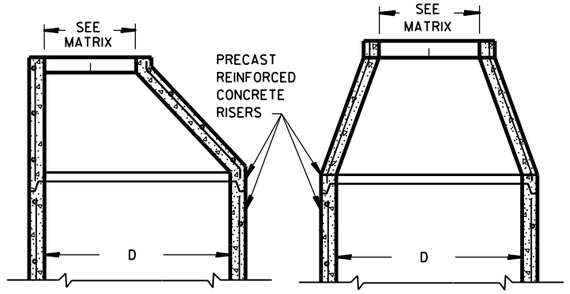
S.D.D. 8 A 5-19c

6

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

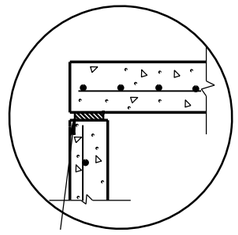


PLAN VIEW CIRCULAR OPENING

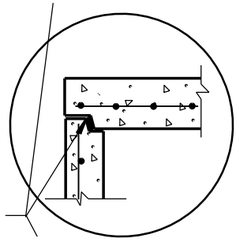


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

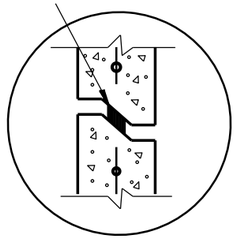


TOP WITH PLAIN END JOINT



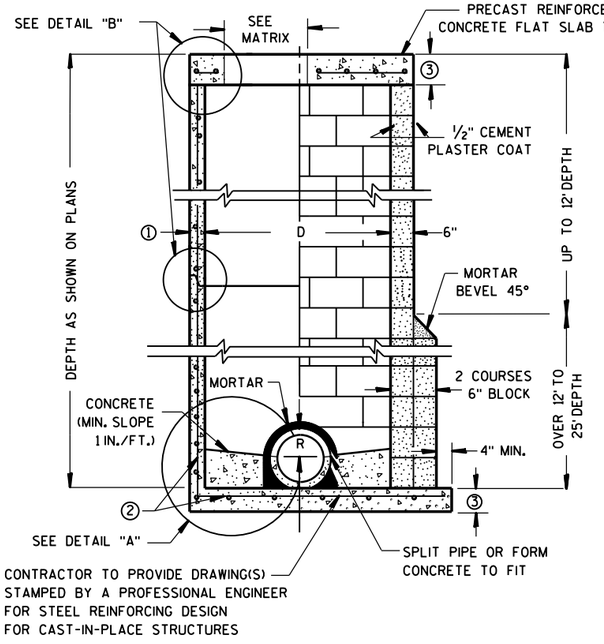
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT



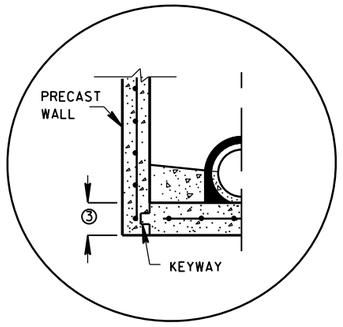
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

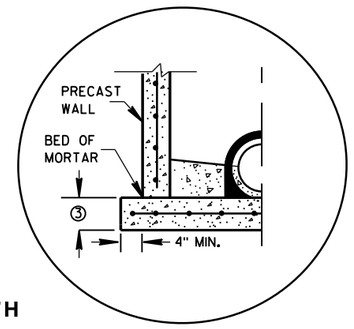


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

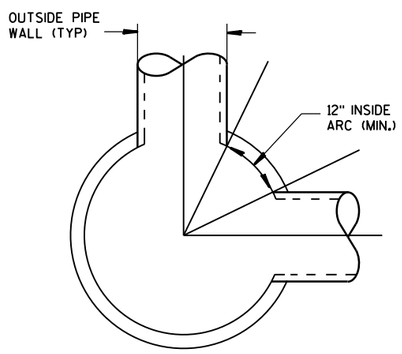


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"

GENERAL NOTES

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

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

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

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

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION 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.

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

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

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

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

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

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

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

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

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

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

① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.

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

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

MANHOLE COVER OPENING MATRIX

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

PIPE MATRIX

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

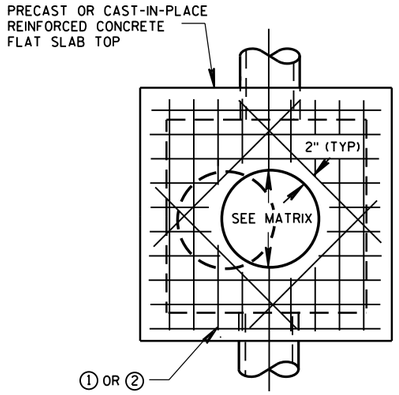
APPROVED

Sept., 2016
DATE

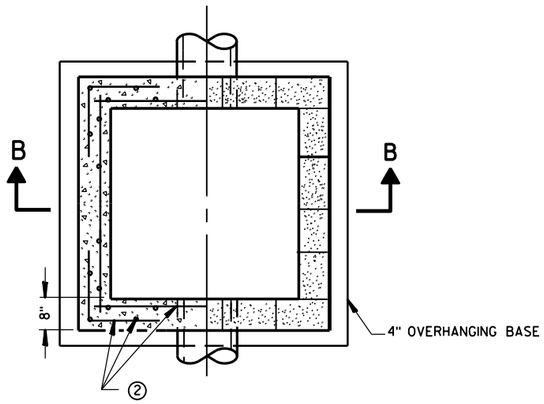
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERV

FHWA

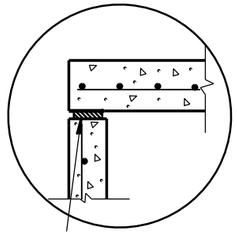
6
S.D.D. 8 B 9-2



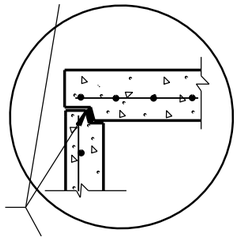
PLAN VIEW
CIRCULAR OPENING



SECTION A-A
PLAN VIEW

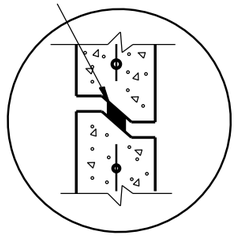


TOP WITH PLAIN END JOINT



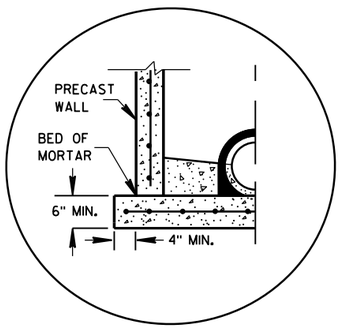
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT



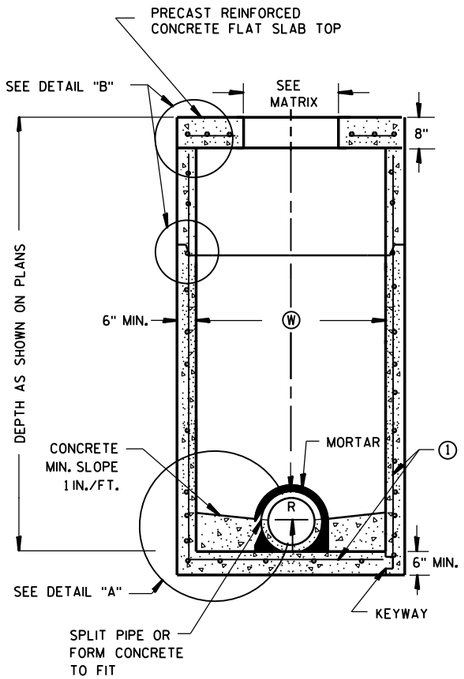
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

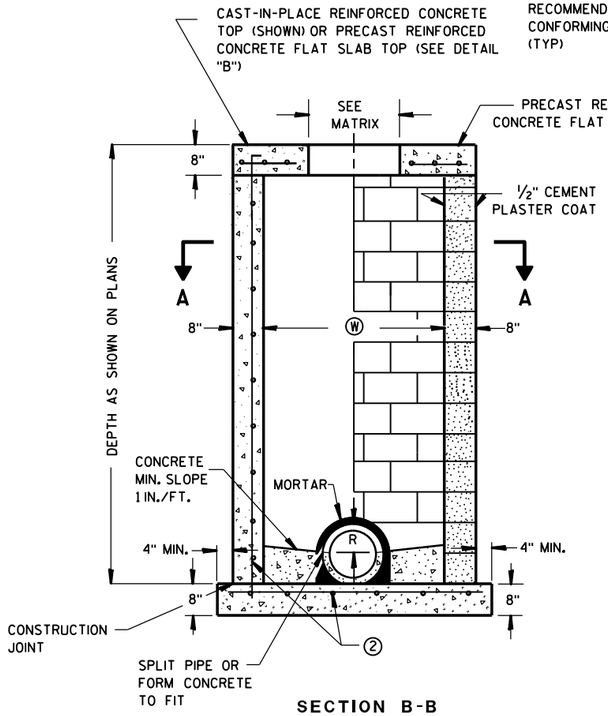


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE



SECTION B-B

PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE

CAST-IN-PLACE REINFORCED CONCRETE

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

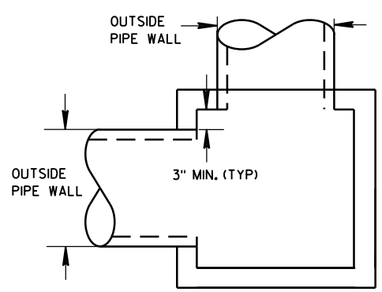
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

MANHOLE COVER OPENING MATRIX

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

PIPE MATRIX

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



DETAIL "C"

SQUARE MANHOLES W/ FLAT TOP

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

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

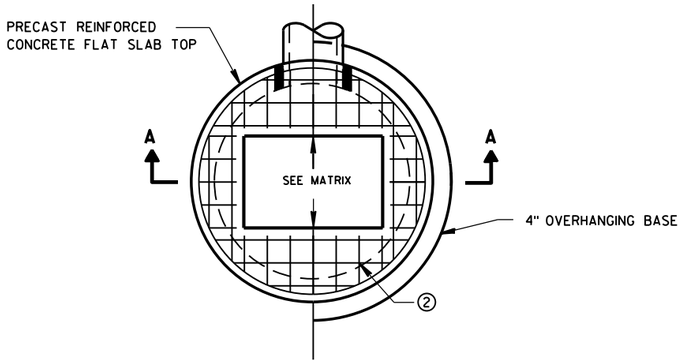
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016
DATE
FHWA

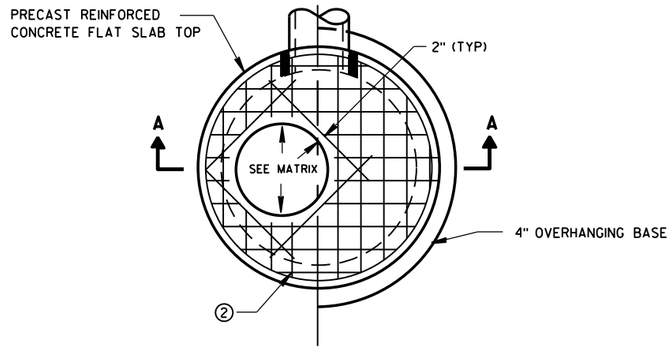
/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERVISOR

6

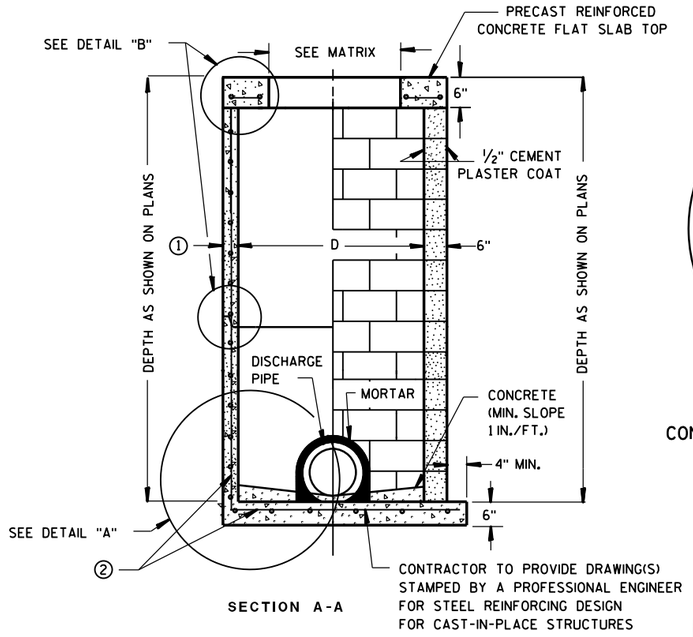
S.D.D. 8 B 10-2



PLAN VIEW RECTANGULAR OPENING



PLAN VIEW CIRCULAR OPENING

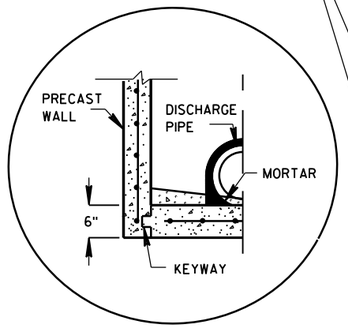


SECTION A-A

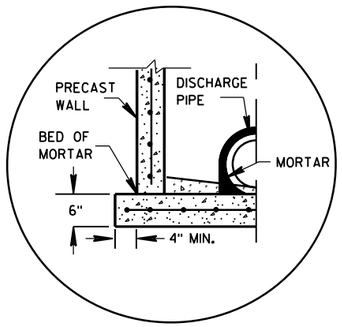
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

CIRCULAR INLETS W/ FLAT TOP

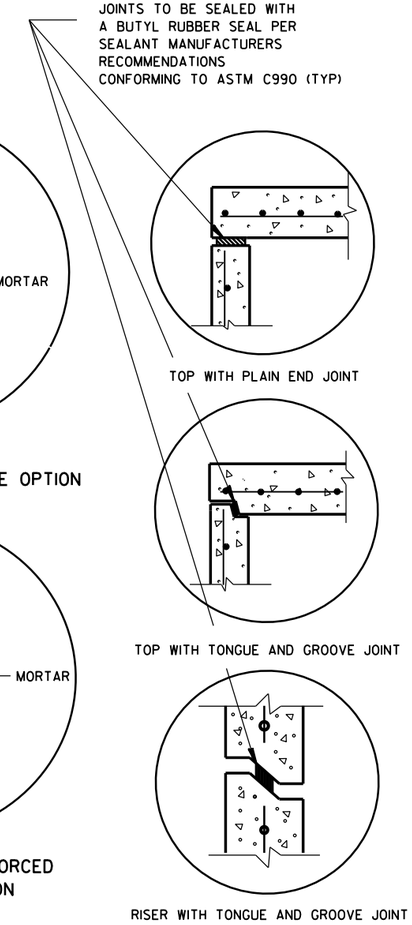


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



TOP WITH PLAIN END JOINT

TOP WITH TONGUE AND GROOVE JOINT

RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

GENERAL NOTES

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

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

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

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

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

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

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

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

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

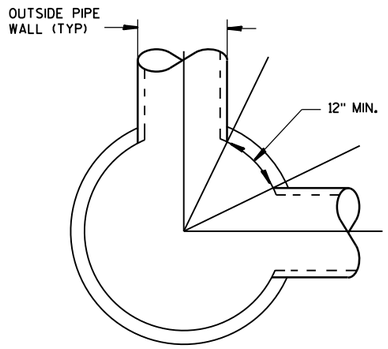
FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

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

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

INLET COVER OPENING MATRIX

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



DETAIL "C"

PIPE MATRIX

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

INLETS 3-FT AND 4-FT DIAMETER

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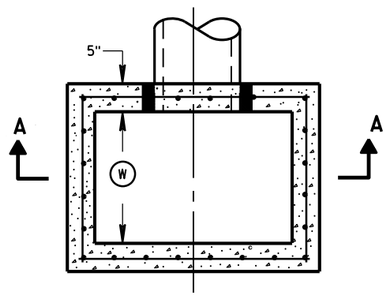
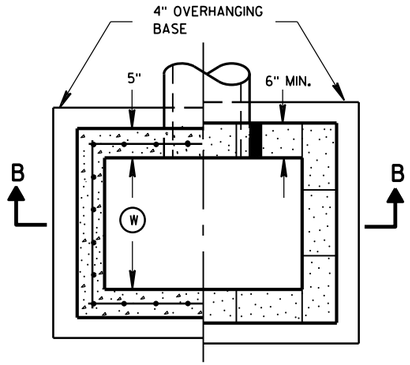
INLETS 3-FT AND 4-FT DIAMETER

6

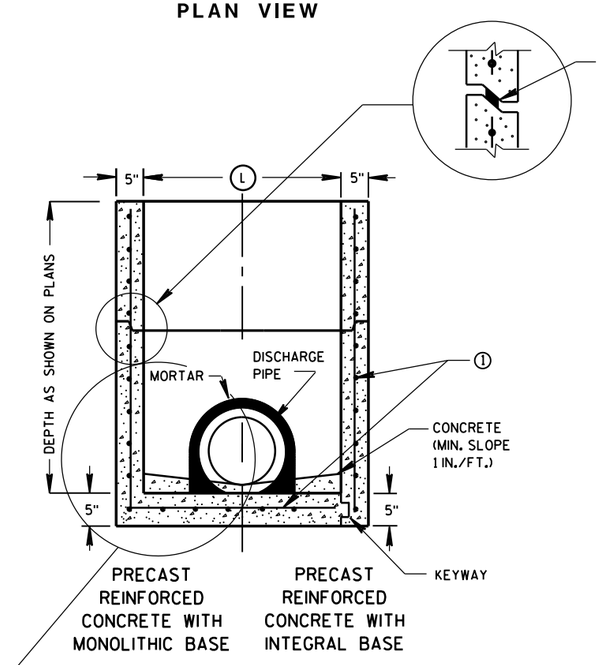
S.D.D. 8 C 6-2



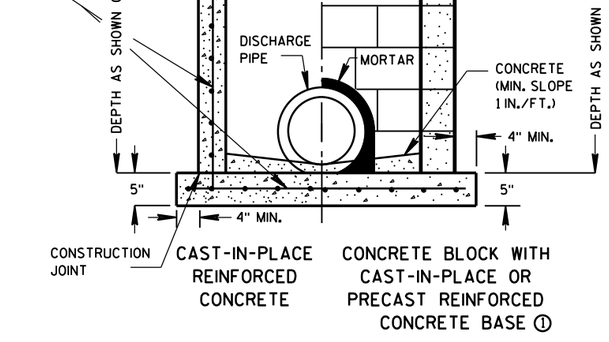
PLAN VIEW



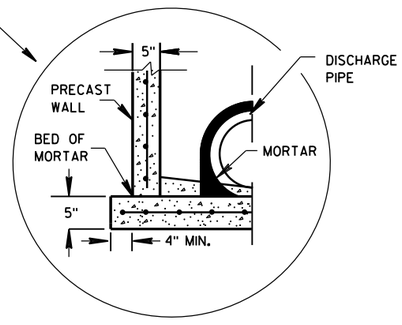
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

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

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

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

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

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

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

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

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

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED.
OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

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

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

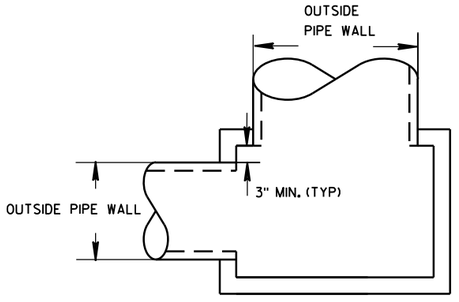
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

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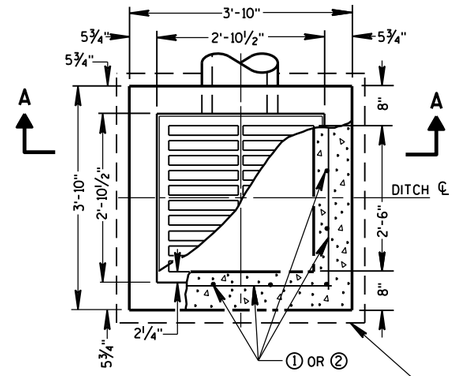
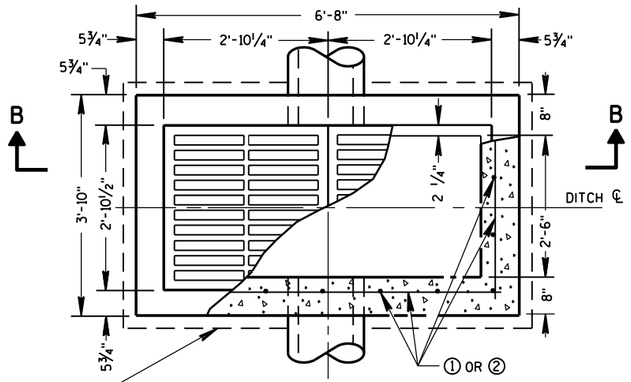
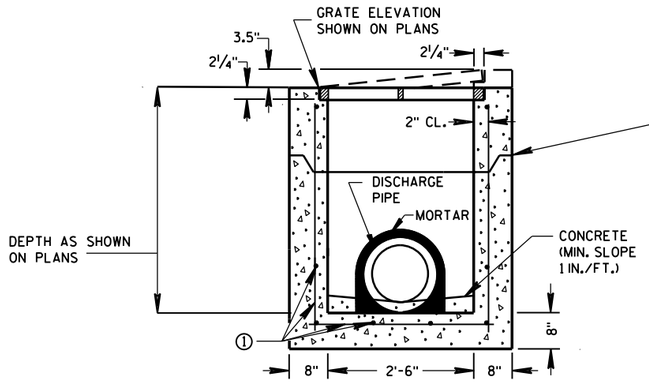


PLAN VIEW

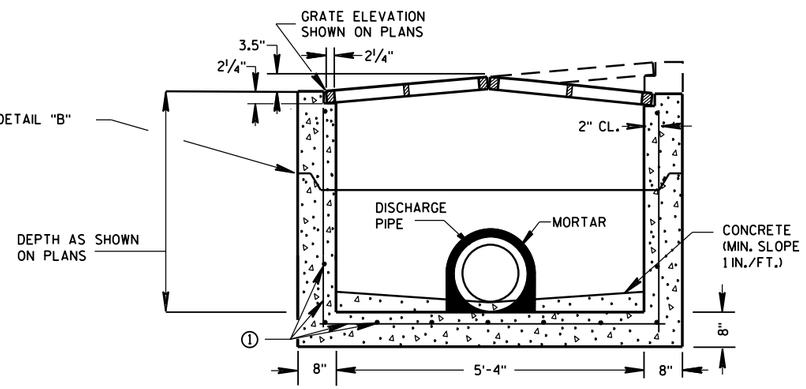


PLAN VIEW

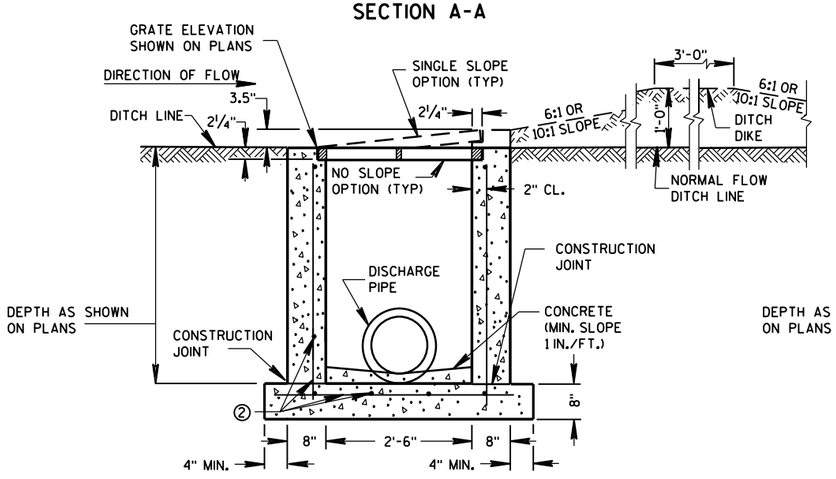
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



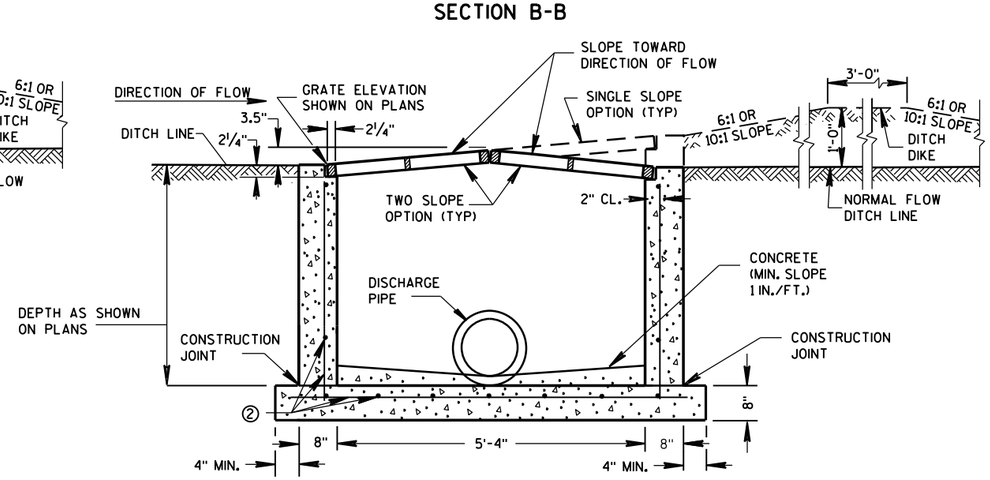
PRECAST REINFORCED CONCRETE SECTION A-A



PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

INLETS MEDIAN 1 GRATE

INLETS MEDIAN 2 GRATE

GENERAL NOTES

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

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

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

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

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

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

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

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

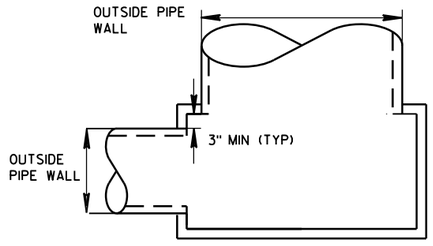
MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

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

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

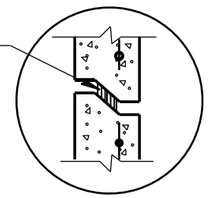
PIPE MATRIX

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



DETAIL "A"

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



DETAIL "B"

INLETS MEDIAN 1 AND 2 GRATE

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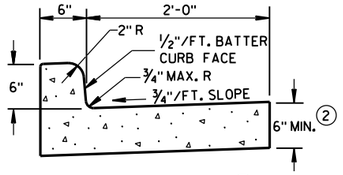
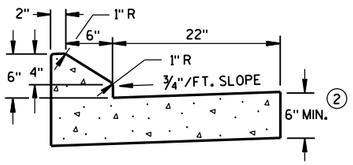
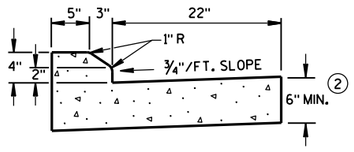


TYPES A & D ①

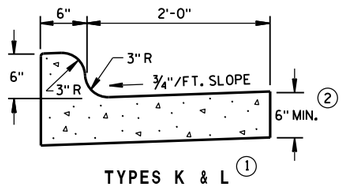


6" SLOPED CURB TYPES G & J ①

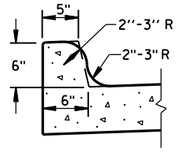


4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"

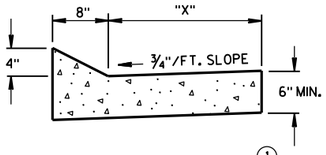


TYPES K & L ①



OPTIONAL CURB SHAPE FOR TYPES K & L ①

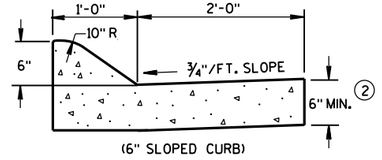
CONCRETE CURB & GUTTER 30"



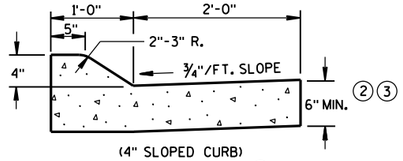
TYPES TBT & TBTT ①

CONCRETE CURB & GUTTER

TBT & TBTT	"X"
30"	22"
36"	28"

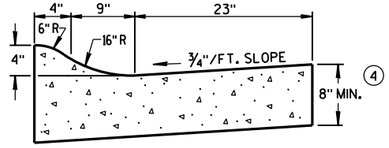


(6" SLOPED CURB)



(4" SLOPED CURB)

TYPES A & D ①



4" SLOPED CURB TYPES R & T ①⑤

CONCRETE CURB & GUTTER 36"

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, R AND TBTT.

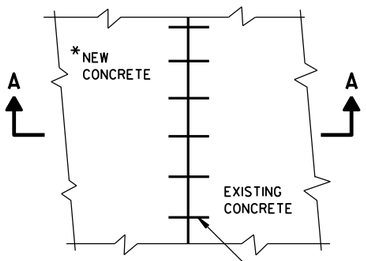
② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

④ 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.

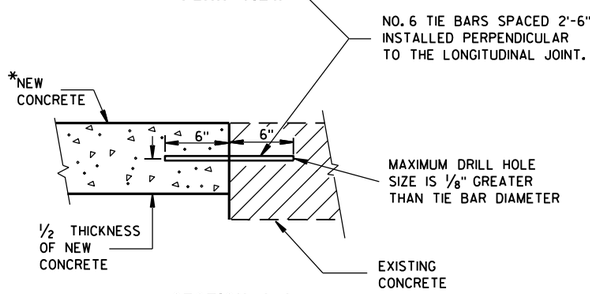
⑤ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.



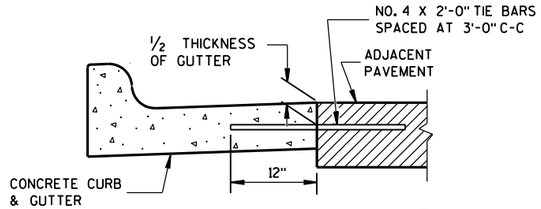
PLAN VIEW

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

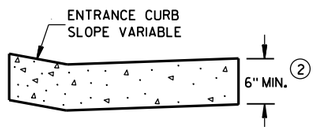


SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT

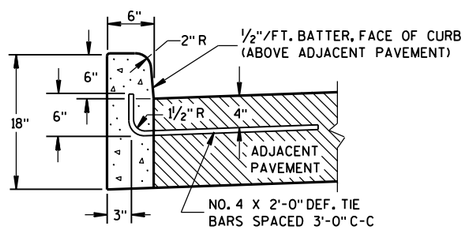


TYPICAL TIE BAR LOCATION ①

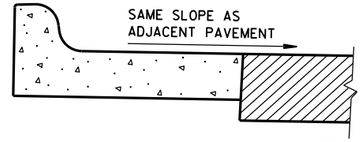


DRIVEWAY ENTRANCE CURB

(WHEN DIRECTED BY THE ENGINEER)

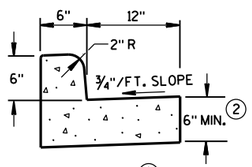


① TYPES A & D



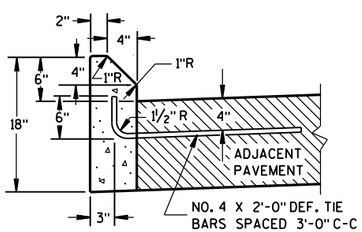
⑥ REVERSE SLOPE GUTTER

(TYPICAL FOR ALL CURB & GUTTER TYPES)



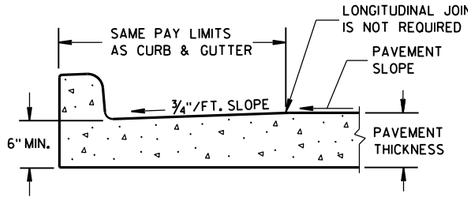
① TYPES A & D

CONCRETE CURB & GUTTER 18"

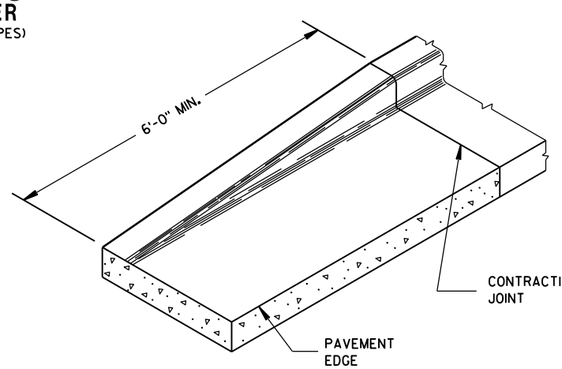


① TYPES G & J

CONCRETE CURB



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2016 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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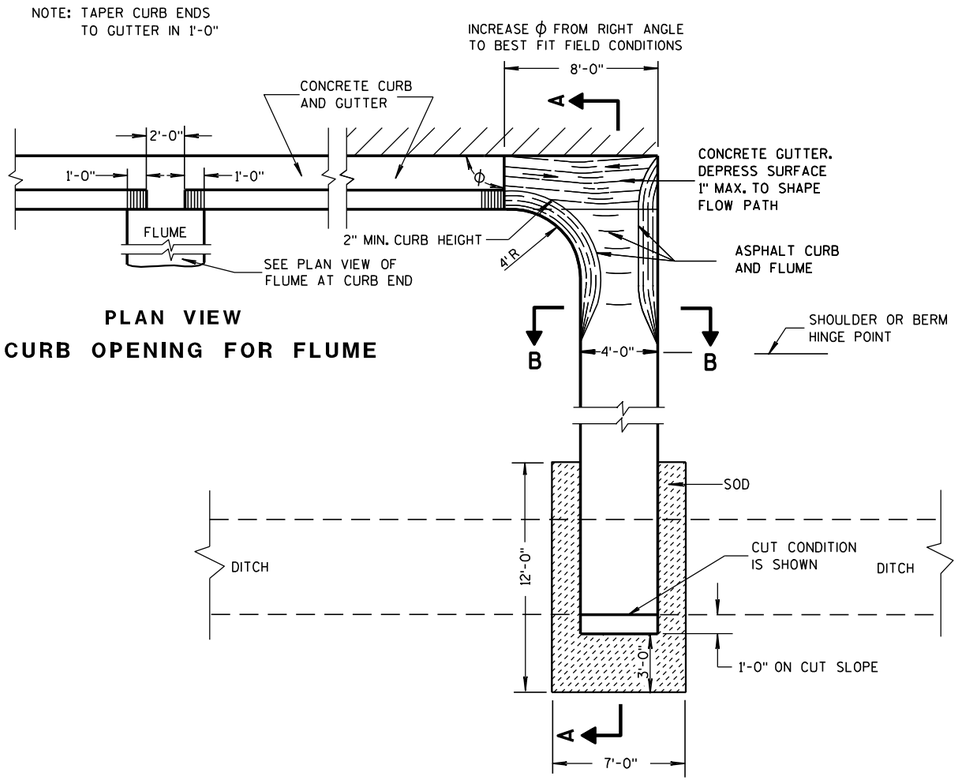
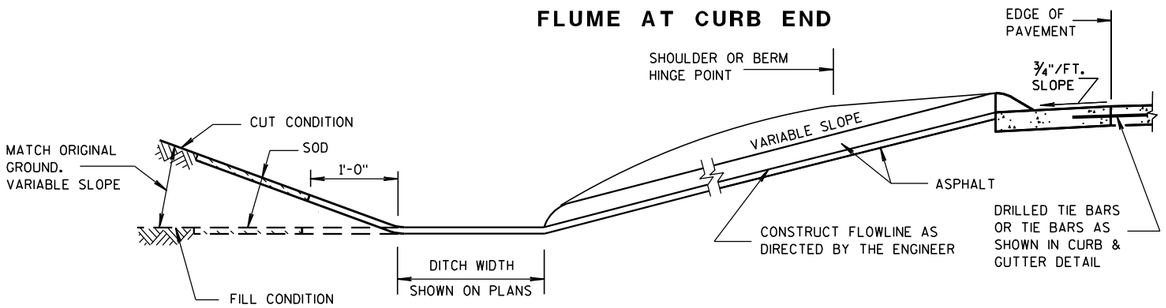
ASPHALTIC FLUME

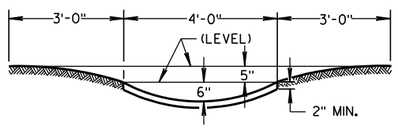


PLAN VIEW
CURB OPENING FOR FLUME

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.

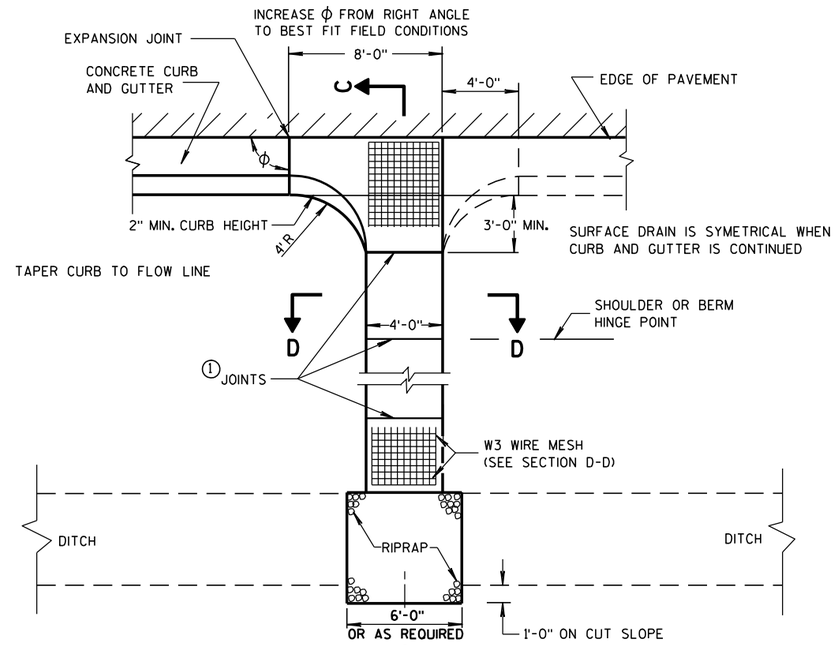
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

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.

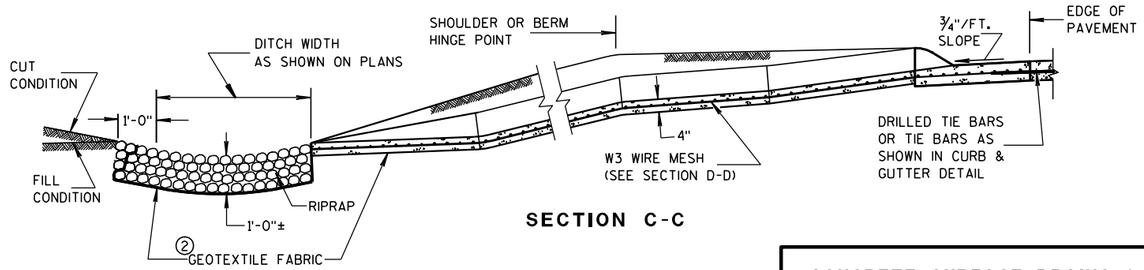
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

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

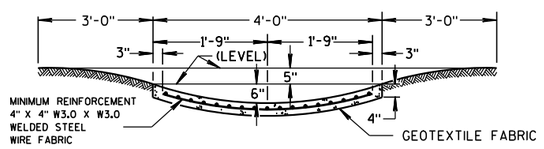
③ CONCRETE SURFACE DRAIN



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
MENT
FHWA

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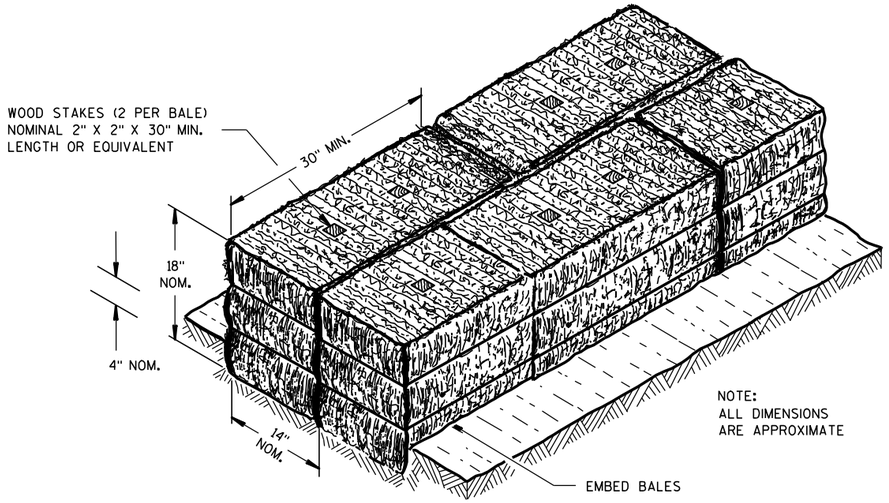
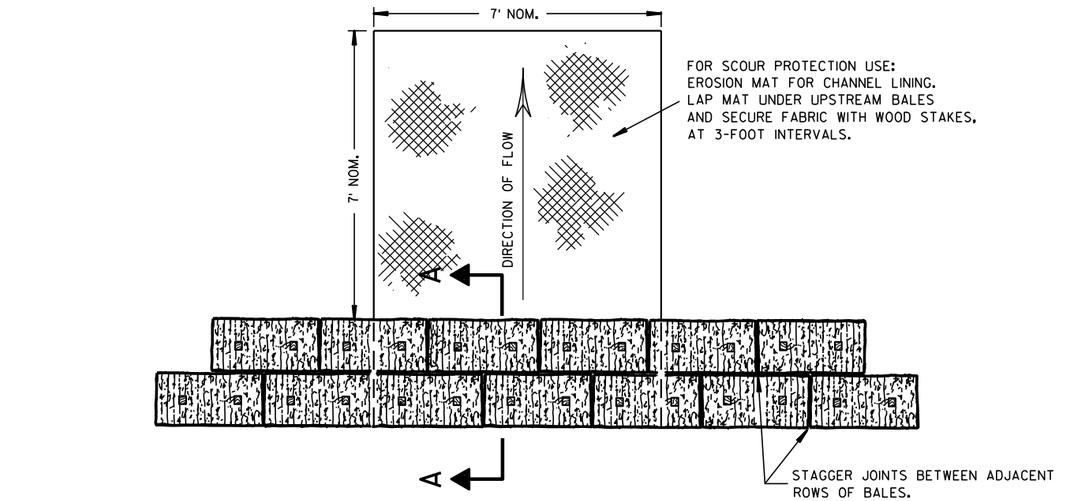
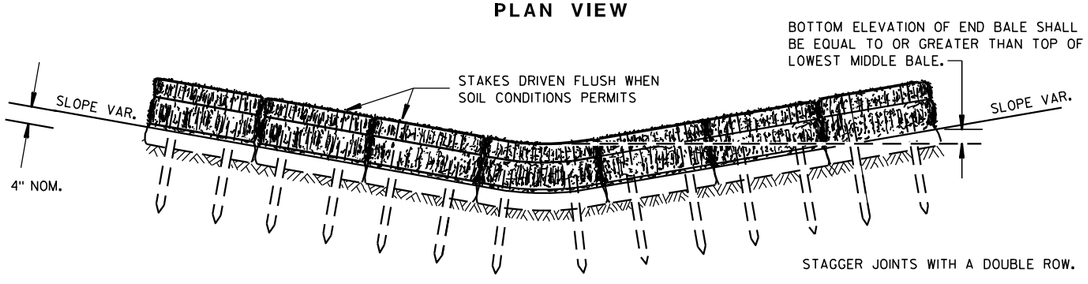
S.D.D. 8 D 4-5



SECTION A-A



PLAN VIEW



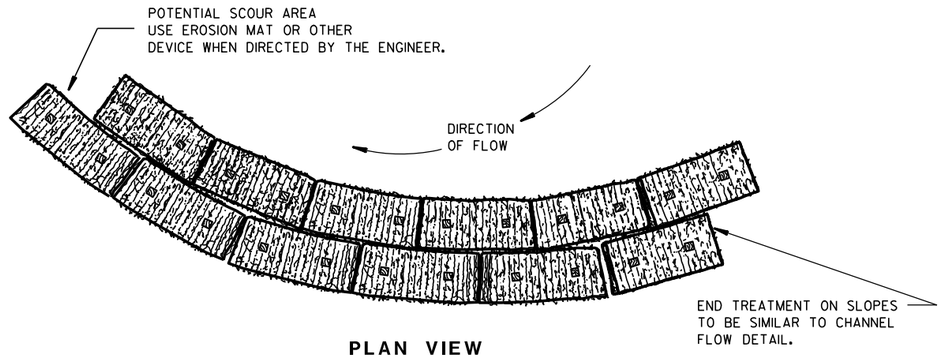
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

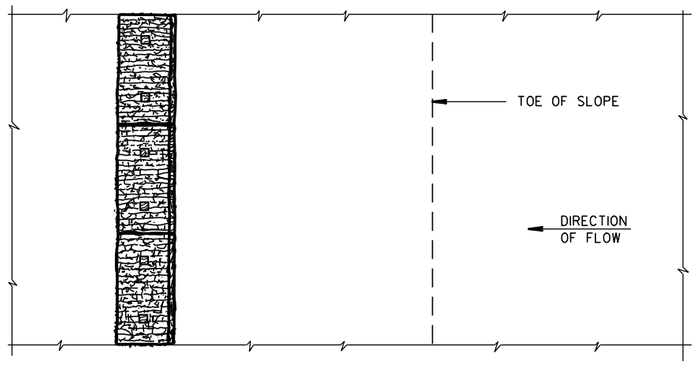
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

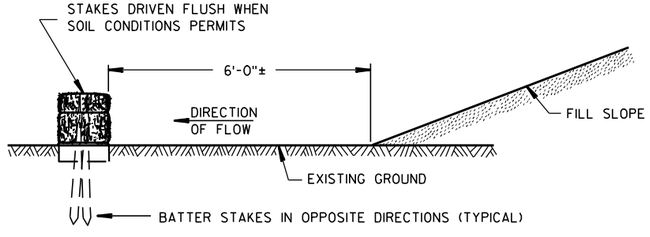


PLAN VIEW

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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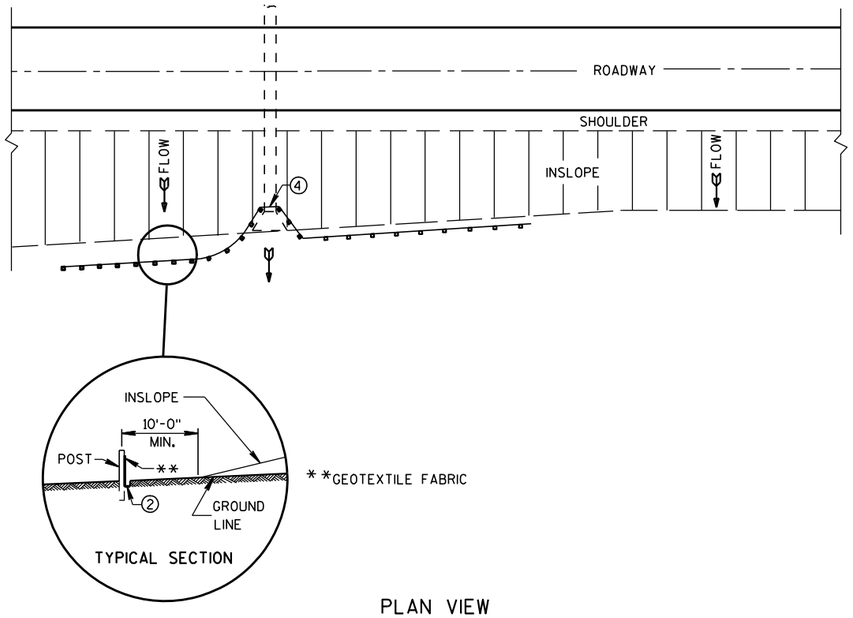
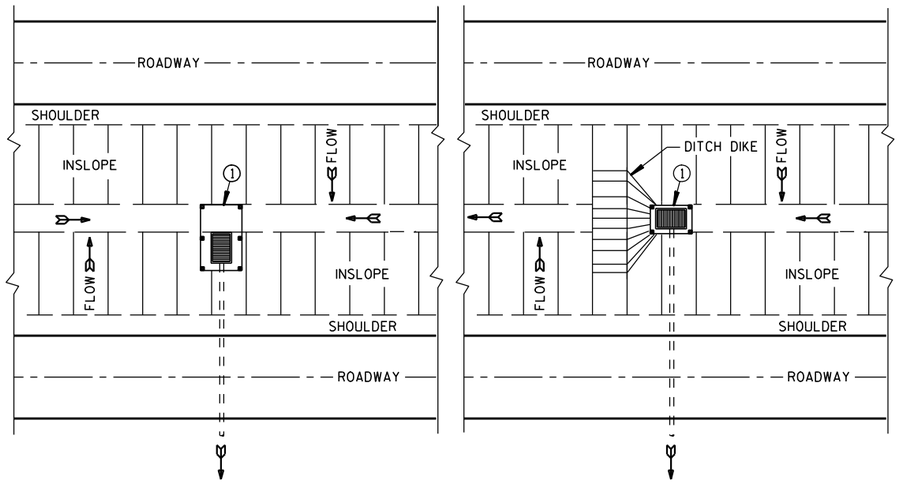
S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



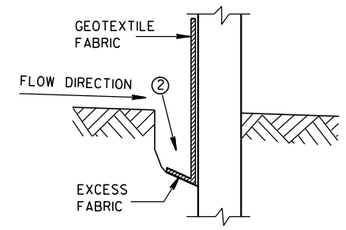
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

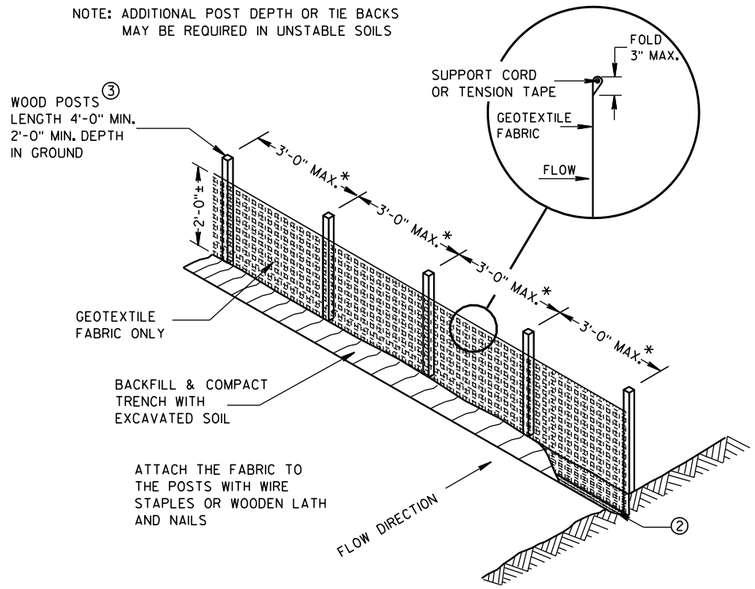
GENERAL NOTES

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

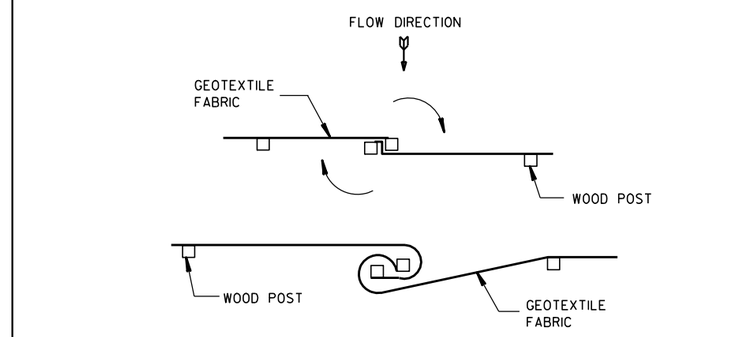
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



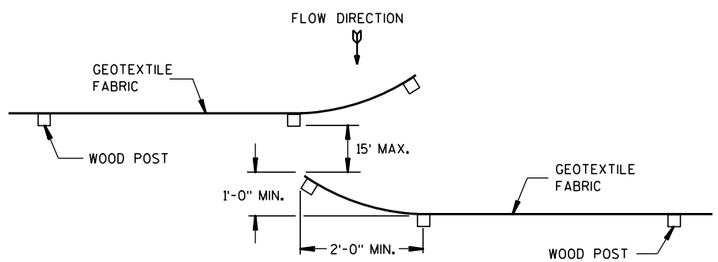
TRENCH DETAIL



SILT FENCE

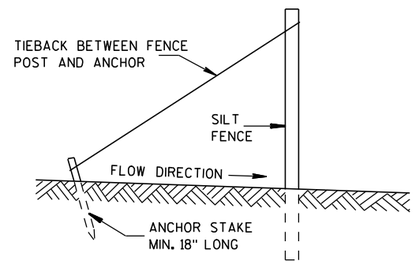


TWIST METHOD



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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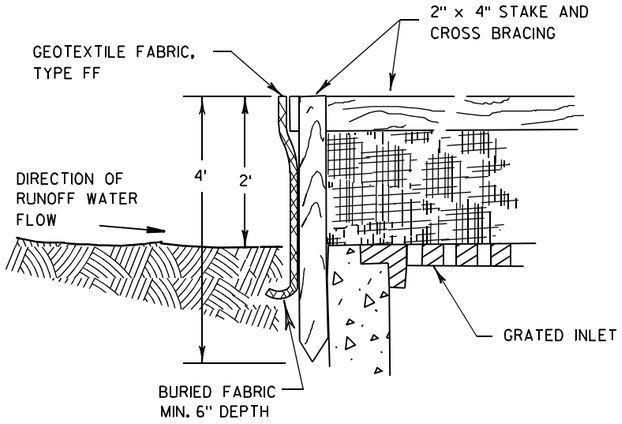
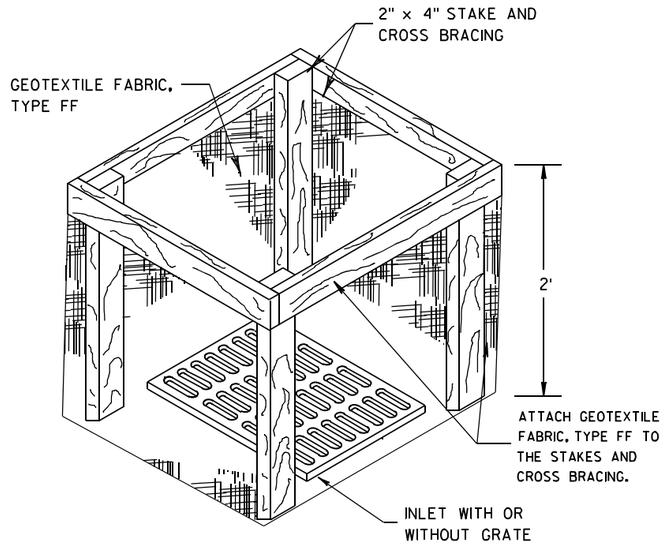
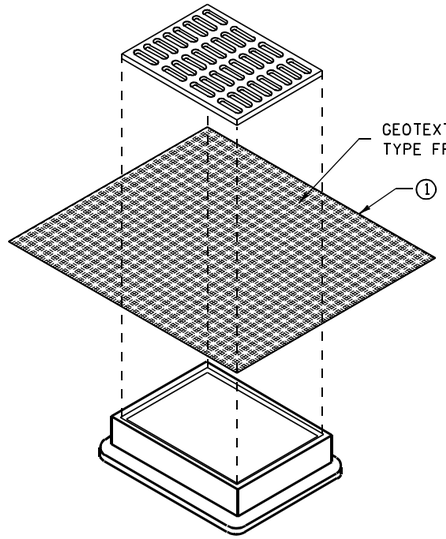
S.D.D. 8 E 9-6



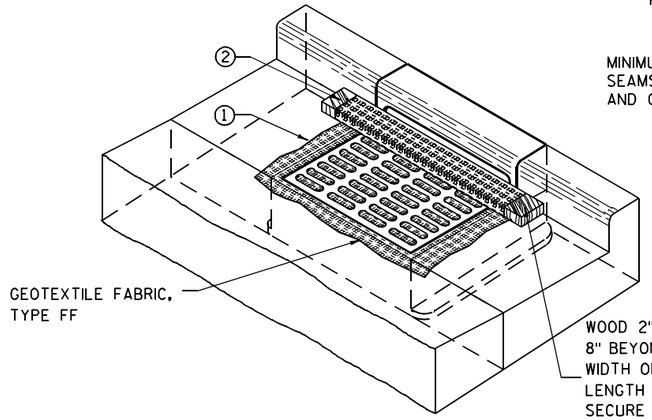


INLET PROTECTION, TYPE A

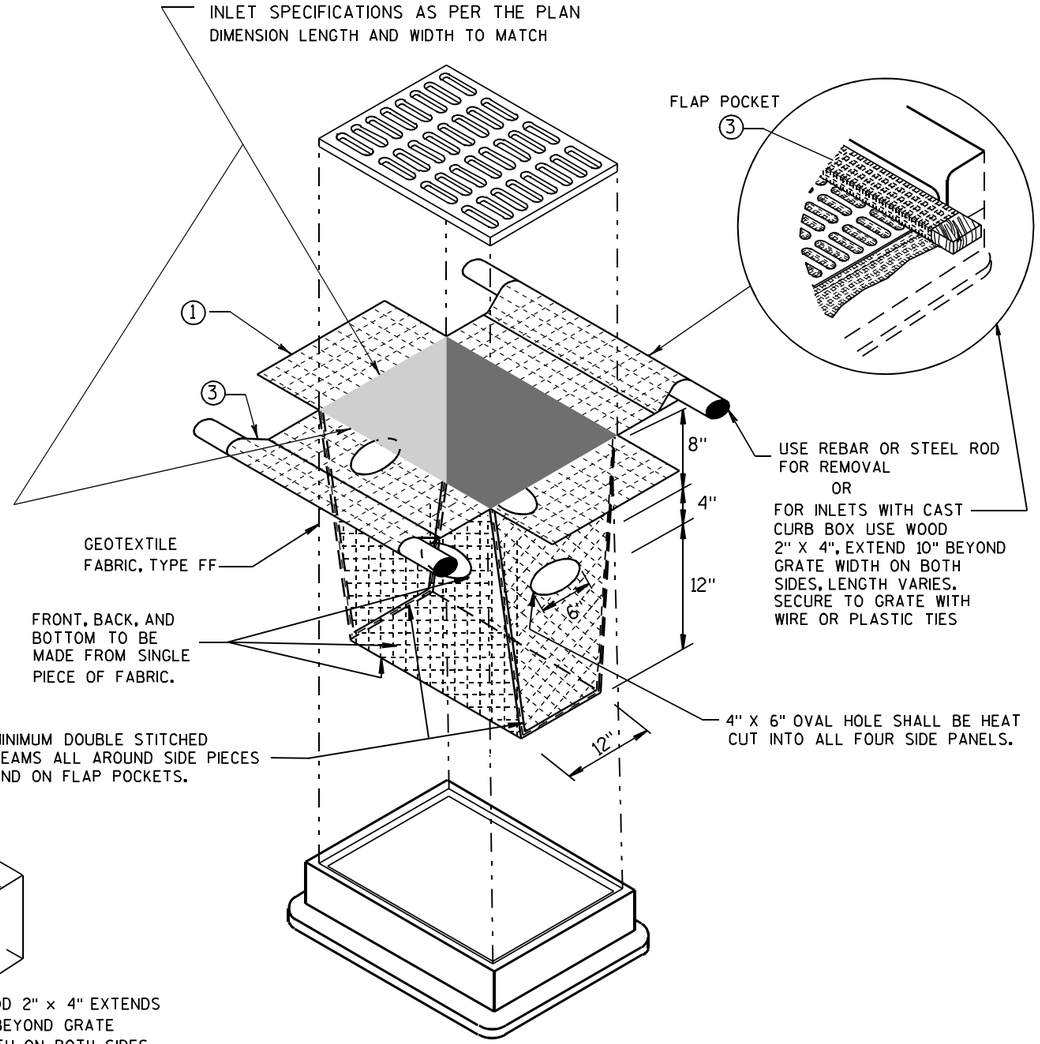


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(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

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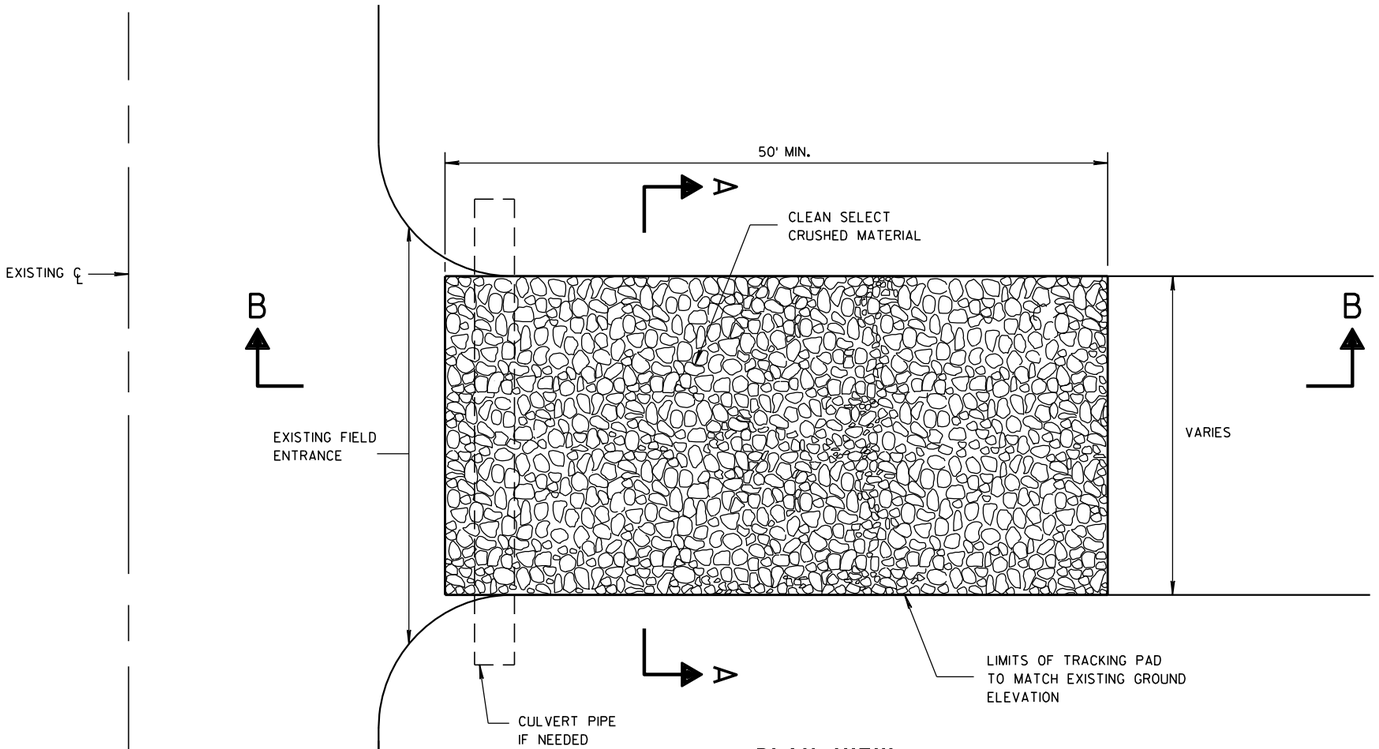
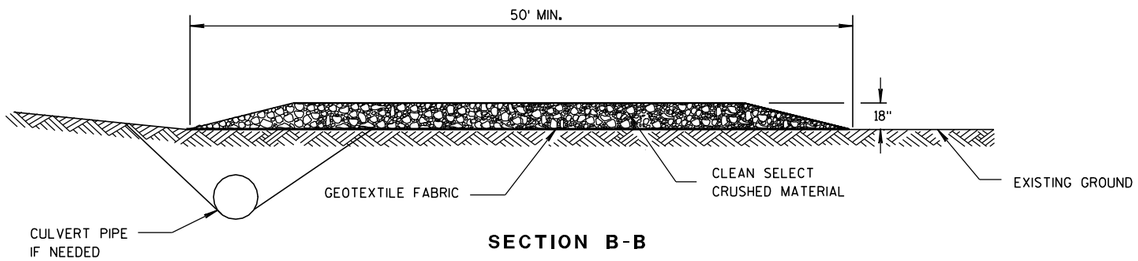
S.D.D. 8 E 10-2



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.

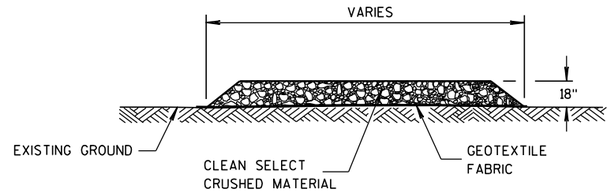
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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

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S.D.D. 8 E 14-1

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/24/2011
DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS ENGINEER

FHWA

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6

S.D.D. 8 E 14-1

METAL APRON ENDWALLS

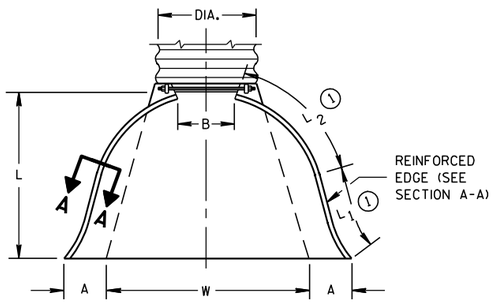
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

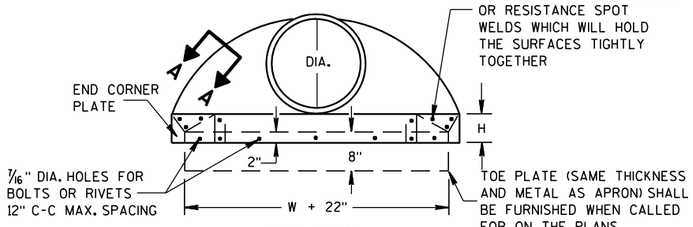
REINFORCED CONCRETE APRON ENDWALLS

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

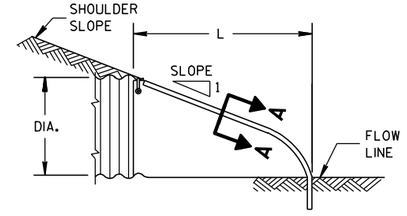
*MINIMUM
**MAXIMUM



PLAN VIEW

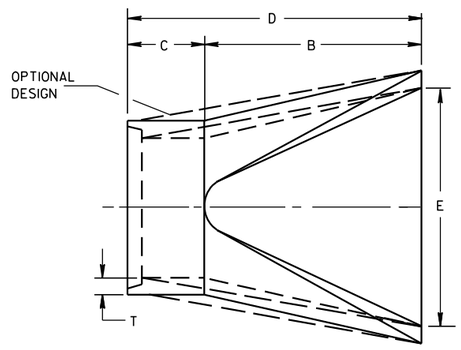


END VIEW

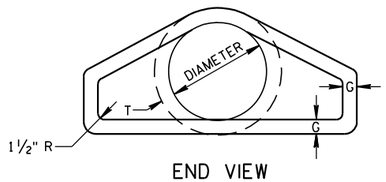


SIDE ELEVATION

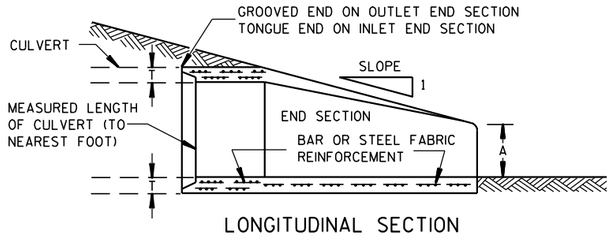
METAL ENDWALLS



PLAN

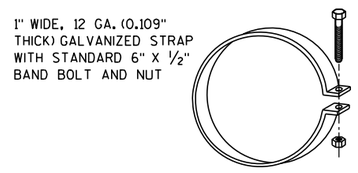


END VIEW



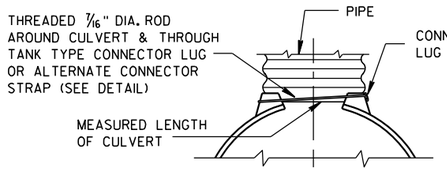
LONGITUDINAL SECTION

CONCRETE ENDWALLS

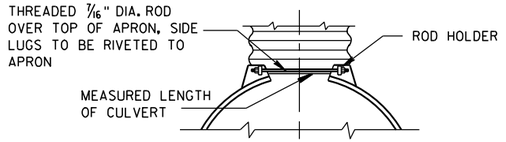


ALTERNATE FOR TYPE 1 CONNECTION

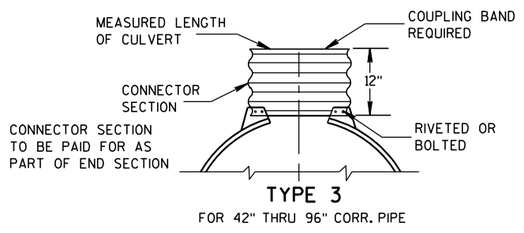
END SECTION CONNECTOR STRAP



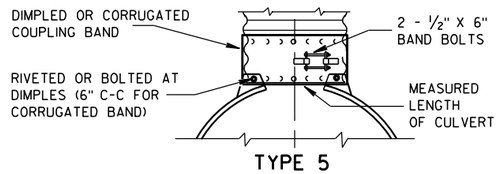
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

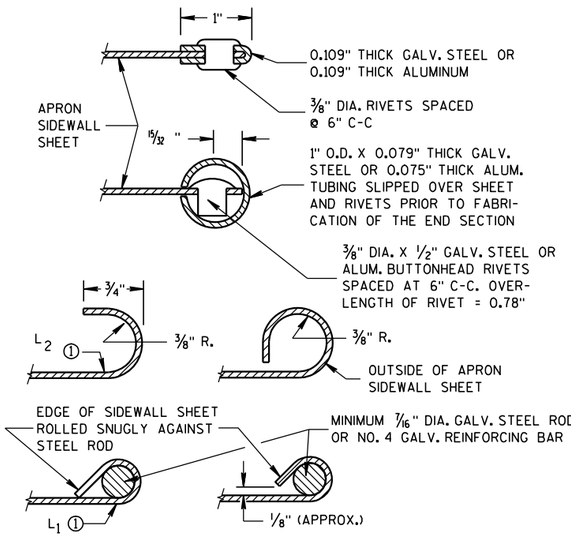
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

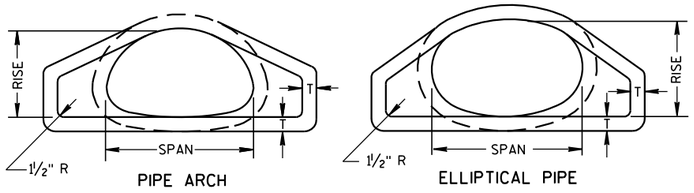
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

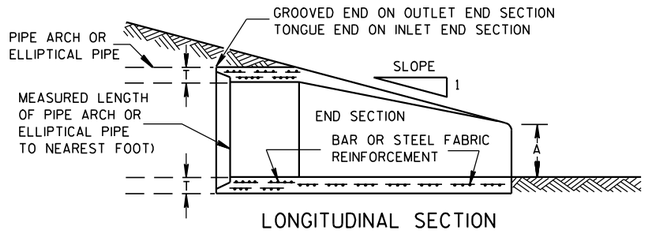
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

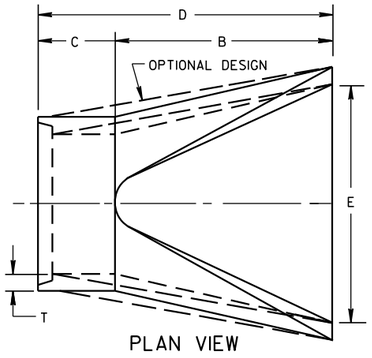
6
S.D.D. 8 F 1-11



END VIEW

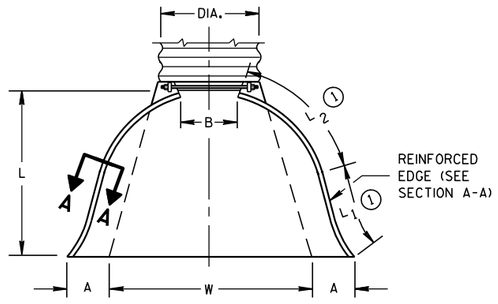


LONGITUDINAL SECTION

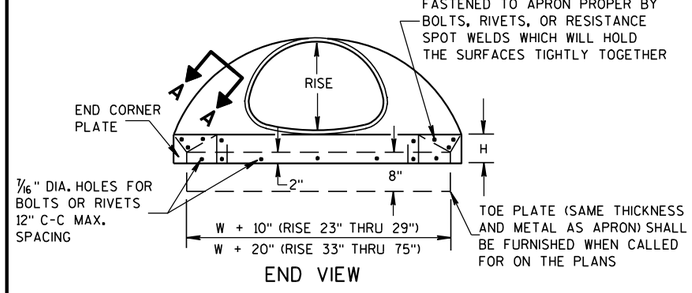


PLAN VIEW

CONCRETE ENDWALLS

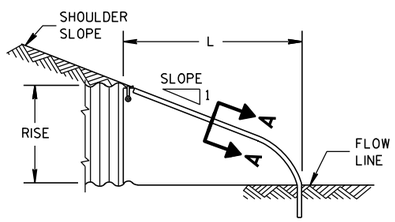


PLAN VIEW



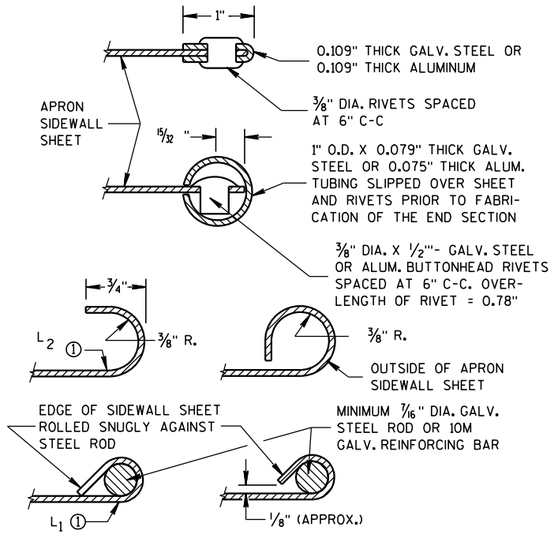
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER

END VIEW



SIDE ELEVATION

METAL ENDWALLS



SECTION A-A

2- 2/3" X 1/2" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
15	17	13	.064	.060	7	9	6	19	14	16	30	2½ to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19⅜	36	2½ to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21¾	42	2½ to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27½	48	2½ to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37⅝	60	2½ to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45⅜	75	2½ to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54¾	85	2½ to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2½ to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72¾	102	2¼ to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82¼	114	2¼ to 1	3 Pc.
66	77	52	.109*	.105*	18	36	12	77	—	—	126	2 to 1	3 Pc.
72	83	57	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.

3" X 1" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
48	53	41	.109	.105	18	26	12	63	24	72¾	90	2½ to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82¼	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1½ to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1½ to 1	3 Pc.
72	81	59	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.
78	87	63	.109*	.105*	22	38	12	77	—	—	148	1½ to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1½ to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1½ to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1½ to 1	3 Pc.

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL SEE GENERAL NOTES

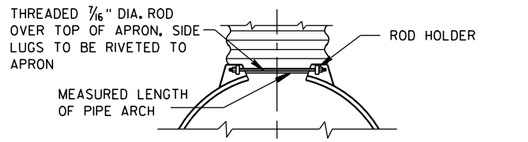
REINFORCED CONCRETE PIPE ARCH

EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	29	18	3	8½	39	33	72	48	3 to 1
30	36	22	3½	9½	50	46	96	60	3 to 1
36	44	27	4	11⅛	60	36	96	72	3 to 1
42	51	31	4½	15 13/16	60	36	96	78	3 to 1
48	58	36	5	21	60	36	96	84	3 to 1
54	65	40	5½	25½	60	36	96	90	3 to 1
60	73	45	6	31	60	36	96	96	3 to 1
72	88	54	7	31	60	39	99	120	2 to 1
84	102	62	8	28½	83	19	102	144	2 to 1

REINFORCED CONCRETE ELLIPTICAL PIPE

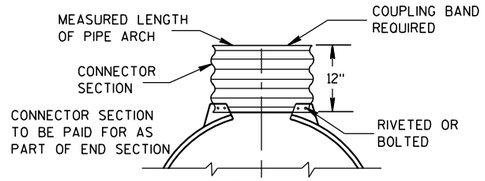
EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	30	19	3¼	8½	39	33	72	48	3 to 1
30	38	24	3¾	9½	54	18	72	60	3 to 1
36	45	29	4½	11⅛	60	24	84	72	2½ to 1
42	53	34	5	15¾	60	36	96	78	2½ to 1
48	60	38	5½	21	60	36	96	84	2½ to 1
54	68	43	6	25½	60	36	96	90	2½ to 1
60	76	48	6½	30	60	36	96	96	2½ to 1

**NOMINAL SIZE



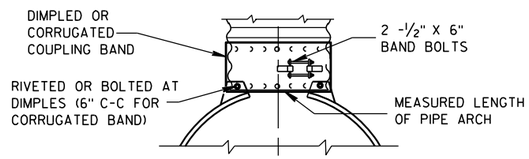
TYPE 2

FOR 17" X 13" THRU 112" X 75" PIPE ARCH



TYPE 3

FOR 64" X 43" THRU 112" X 75" PIPE ARCH



TYPE 5

ALTERNATE FOR:

ALL SIZES CORRUGATED PIPE ARCHES

NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL.

CONNECTION DETAILS

GENERAL NOTES

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

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

ALL THREE PIECE STEEL APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE ARCH PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 77" X 52" THROUGH 112" X 75" APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

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

① FOR PIPE ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/94 — DATE

/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOPMENT ENGINEER

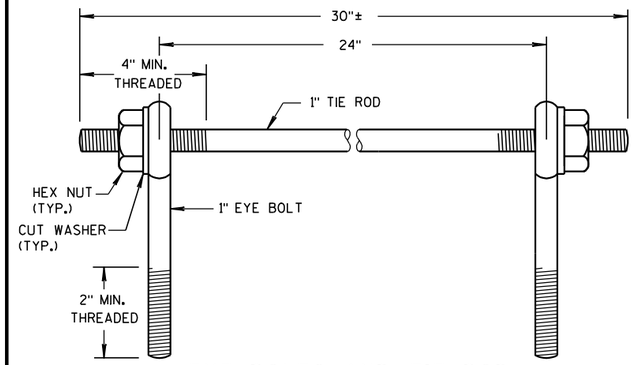
FHWA

6

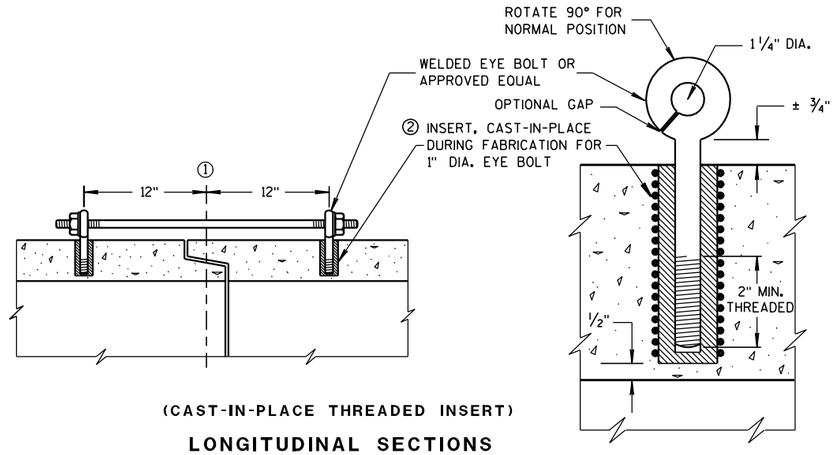
S.D.D. 8 F 2-1

6

S.D.D. 8 F 2-1



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

GENERAL NOTES

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

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

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

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

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

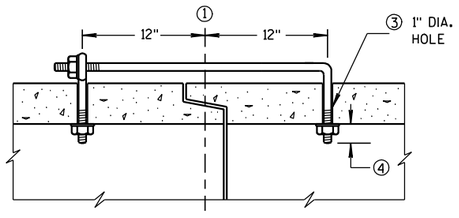
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

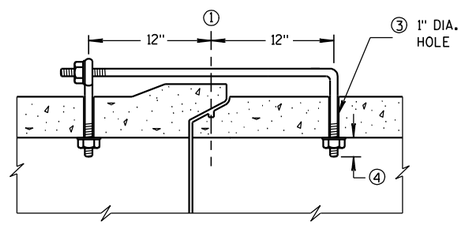
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

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



(TONGUE & GROOVE PIPE)

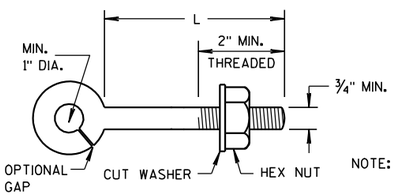


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

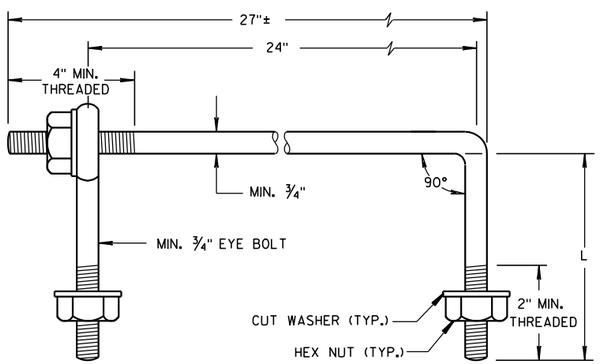
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

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



EYE BOLT AND TIE ROD

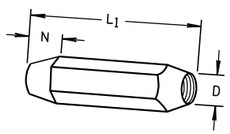
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

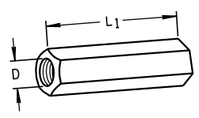
ADJUSTABLE TIE ROD TABLE

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

DIMENSIONS SHOWN ARE IN INCHES



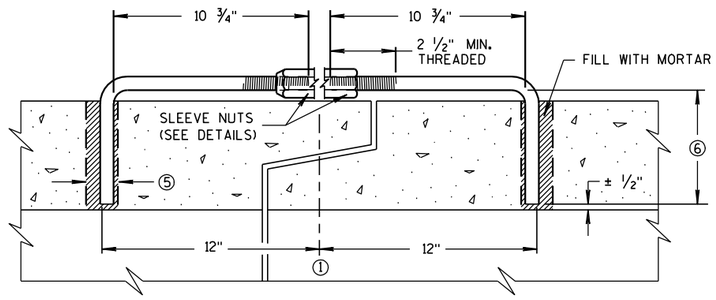
TAPERED



PLAIN

RIGHT AND LEFT THREADS

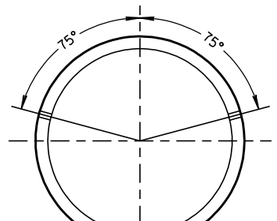
SLEEVE NUTS



LONGITUDINAL SECTION

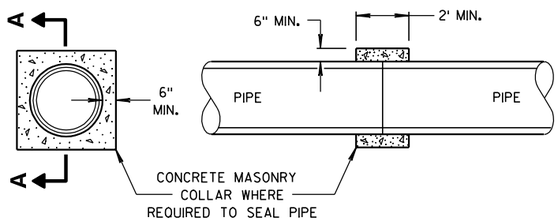
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

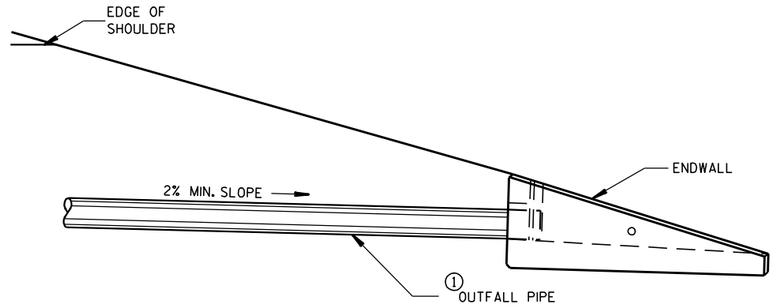
S.D.D. 8 F 4-7

6

S.D.D. 8 F 4-7

DIMENSIONS IN INCHES											
PIPE DIA.	A	B	C	D	E	F	G	H	J	L	Z
**4	6	12	5 1/4	9	8	32	36	11	2 3/8	6 1/2	4
6	8	14	7 1/4	11	10	42	44	13	3 5/8	8 1/2	6

**APRON ENDWALL FOR 6 INCH DIAMETER PIPE MAY BE SUBSTITUTED FOR THIS SIZE PROVIDED THE HOLE IN THE HEADWALL IS SIZED AND LOCATED TO CONFORM TO THE 4 INCH DIAMETER PIPE DIMENSIONS (C & J)



INSTALLATION DETAIL

GENERAL NOTES

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

ALTERNATIVE DESIGNS WHICH PROVIDE EQUIVALENT CAPACITY AND STRENGTH MAY BE USED WHEN APPROVED BY THE ENGINEER. ENDWALL MAY BE EITHER PRECAST OR CAST-IN-PLACE CONCRETE.

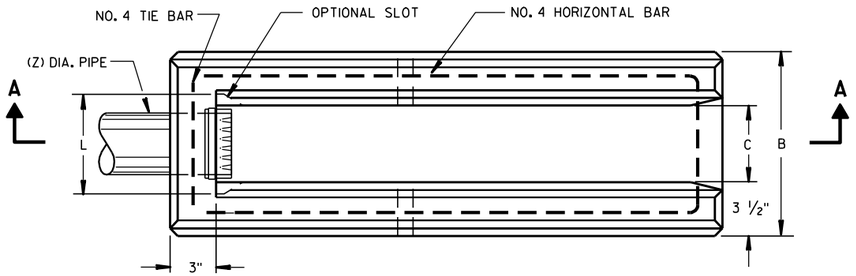
THE UNDERDRAIN PIPE SHALL BE FULLY INSERTED AND SEALED INTO THE ENDWALL WITH CEMENT MORTAR PRIOR TO BACKFILLING AROUND THE STRUCTURE.

THE UPPERMOST POINT OF THE ENDWALL SHALL BE PLACED FLUSH WITH THE ROADWAY SLOPE. ADJACENT EMBANKMENT SLOPES SHALL BE SHAPED TO FIT THE SIDES AND TOE OF THE ENDWALL. EXACT PLACEMENT OF THE OUTFALL PIPE AND ENDWALL SHALL BE DETERMINED BY THE ENGINEER TO MATCH THE ELEVATIONS AND FLOW DIRECTION OF THE ROADSIDE DITCH.

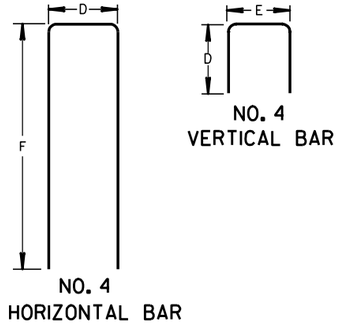
① THE OUTFALL PIPE UNDERDRAIN AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION FOR POLY (VINYL CHORIDE) (PVC) PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM DESIGNATION: D 2665, SCHEDULE 40 PVC OR THE STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHORIDE) (PVC) SEWER PIPE AND FITTINGS, ASTM DESIGNATION: D 3034, TYPE PSM SDR 23.5 PVC SEWER PIPE, ALL JOINTS SHALL BE SOLVENT WELDED.

THE OUTFALL PIPE INCLUDING ALL FITTINGS AND THE RODENT SHIELD SHALL BE MEASURED AND PAID FOR AS PIPE UNDERDRAIN UNPERFORATED.

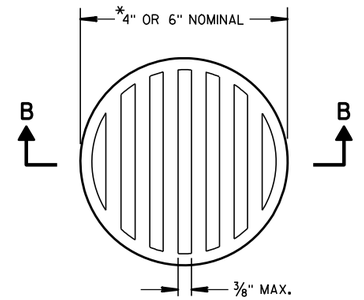
② THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



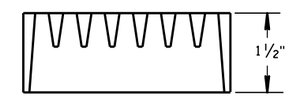
PLAN VIEW



BAR STEEL REINFORCEMENT DETAILS



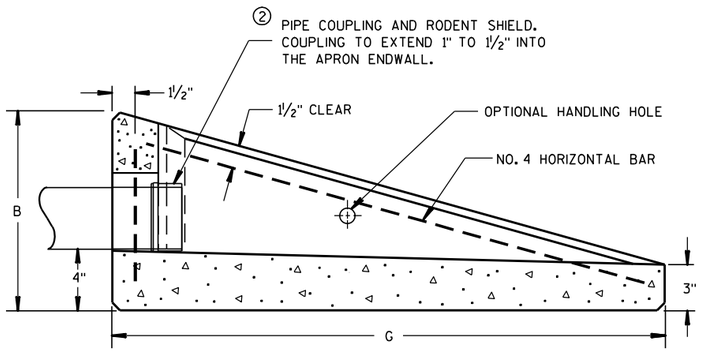
NOTE: ORIENT SHIELD SO SLOTS ARE VERTICAL.



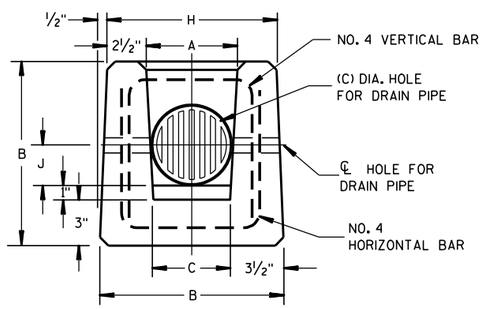
SECTION B-B

② RODENT SHIELD

*NOTE: DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.



SECTION A-A



END VIEW

CONCRETE APRON ENDWALL FOR UNDERDRAIN

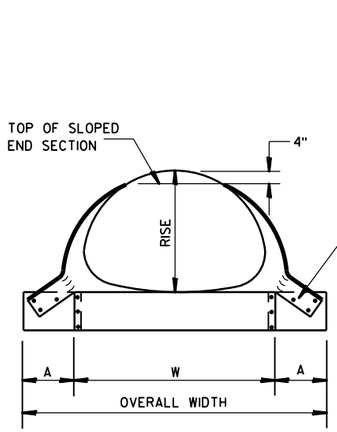
REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

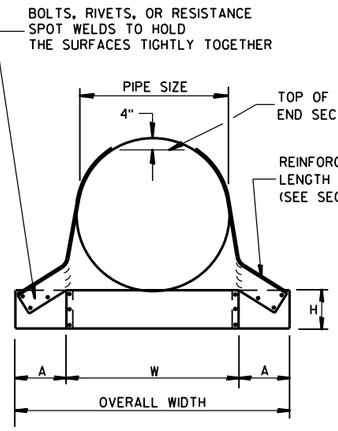
APPROVED
3/10/98 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

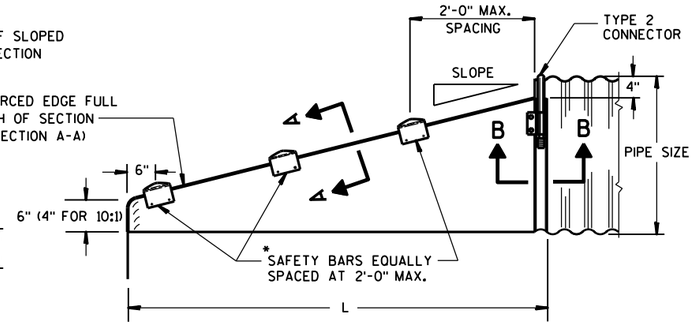
S.D.D. 8 F 6-4



FRONT VIEW



FRONT VIEW



SIDE VIEW

GENERAL NOTES

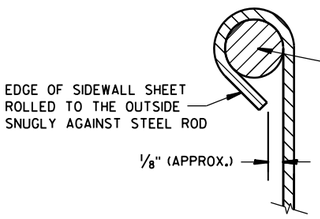
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

SLOPED END SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, SECTION 521 FOR STEEL APRON ENDWALLS.

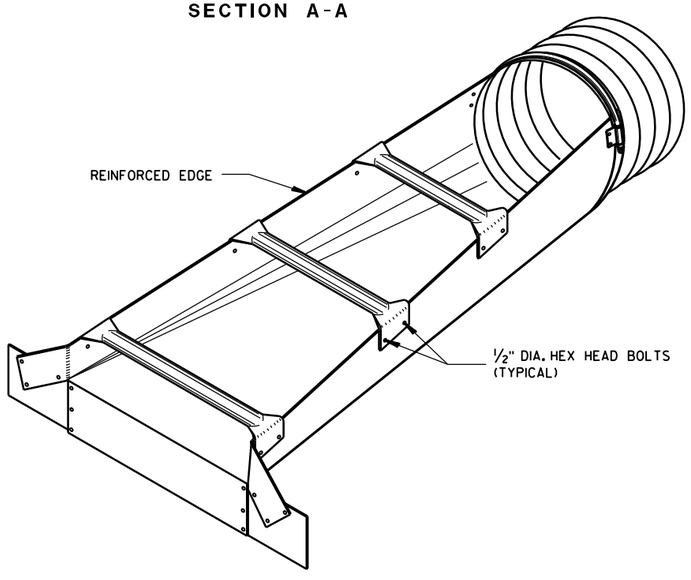
SAFETY BARS SHALL BE FABRICATED FROM GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A-53, GRADE B, SCHEDULE 40 OR APPROVED EQUAL.

STEEL APRON ENDWALLS FOR CULVERT PIPE
SLOPED SIDE DRAINS

PIPE DIA. (IN.)	MIN. THICK. (Inches)	DIMENSIONS (Inches)				L DIMENSIONS					
		A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
15	.064	8	6	21	37	4:1	20	6:1	30	10:1	70
18	.064	8	6	24	40	4:1	32	6:1	48	10:1	100
21	.064	8	6	27	43	4:1	44	6:1	66	10:1	130
24	.064	8	6	30	46	4:1	56	6:1	84	10:1	160
30	.109	12	9	36	60	4:1	80	6:1	120	10:1	220
36	.109	12	9	42	66	4:1	104	6:1	156	10:1	280
42	.109	16	12	48	80	4:1	128	6:1	192	——	——
48	.109	16	12	54	86	4:1	152	6:1	228	——	——
54	.109	16	12	60	92	4:1	176	6:1	264	——	——
60	.109	16	12	66	98	4:1	200	6:1	300	——	——



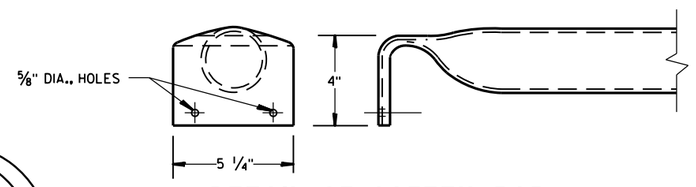
SECTION A-A



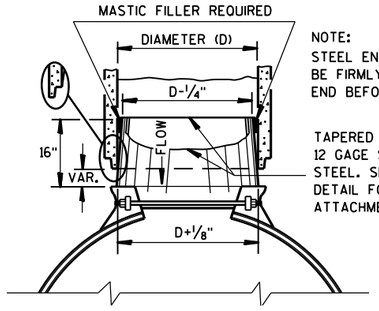
ISOMETRIC VIEW

*NOTE:
THREE SAFETY BARS ARE SHOWN. ACTUAL NUMBER OF BARS REQUIRED AT A 2'-0" C-C MAX. SPACING WILL VARY DEPENDING ON THE LENGTH OF THE END SECTION.

3" GALVANIZED PIPE. FLATTEN ENDS, THEN BEND OUTSIDE 4" TO MATCH END SECTION SIDES.



DETAIL OF SAFETY BAR



NOTE:
STEEL END SECTION SHALL BE FIRMLY WEDGED INTO PIPE END BEFORE BACKFILLING

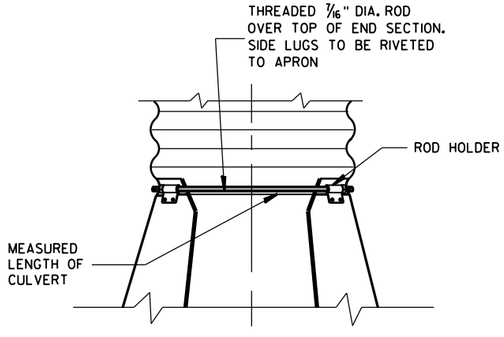
TAPERED SLEEVE TO BE 12 GAGE SMOOTH GALVANIZED STEEL. SEE SECTION B-B DETAIL FOR END SECTION ATTACHMENT.

STEEL ADAPTER SLEEVE FOR CONCRETE PIPE

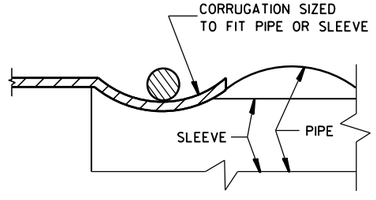
STEEL APRON ENDWALLS FOR PIPE ARCH
SLOPED SIDE DRAINS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	MIN. THICK. (Inches) ①	DIMENSIONS (Inches) A	H	W	OVERALL WIDTH	L DIMENSIONS SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
15	17	13	.064 *	7	6	30	44	4:1	19	6:1	30	10:1 ②	70
18	21	15	.064 *	8	6	27	43	4:1	20	6:1	30	10:1	70
21	24	18	.064 *	8	6	30	46	4:1	32	6:1	48	10:1	100
24	28	20	.064 *	8	6	34	50	4:1	40	6:1	60	10:1	120
30	35	24	.079 *	12	9	41	65	4:1	56	6:1	84	10:1	160
36	42	29	.109 *	12	9	48	72	4:1	76	6:1	114	10:1	210
42	49	33	.109	16	12	55	87	4:1	92	6:1	138	——	——
48	57	38	.109	16	12	63	95	4:1	112	6:1	168	——	——
54	64	43	.109	16	12	70	102	4:1	132	6:1	198	——	——

① * MINIMUM THICKNESS OF ALL 10:1 SLOPED SIDE DRAINS IS 0.109".
② ACTUAL SLOPE GREATER THAN 10:1.



TYPE 2
CONNECTION DETAIL



SECTION B-B

STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE DRAINS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

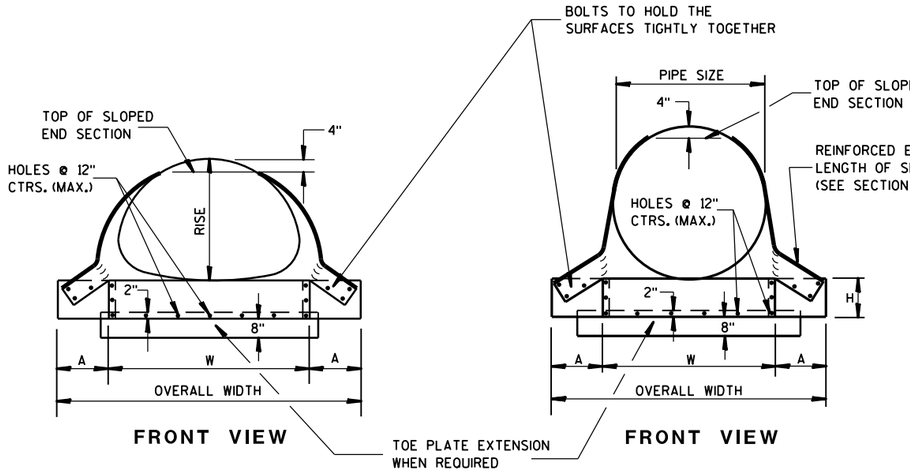
APPROVED
9/14/2012 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 F 7-5

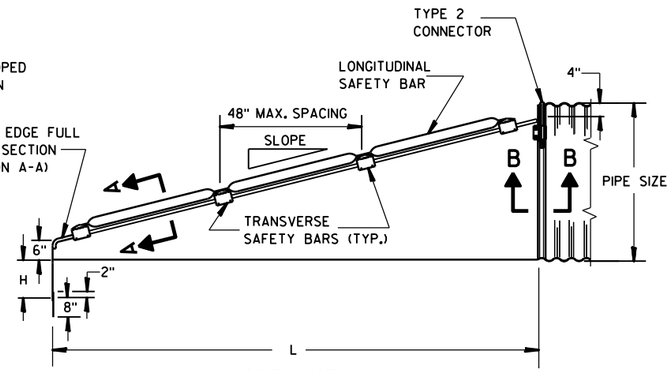
6

S.D.D. 8 F 7-5



FRONT VIEW

FRONT VIEW



SIDE VIEW
(48" SIZE ILLUSTRATED)

GENERAL NOTES

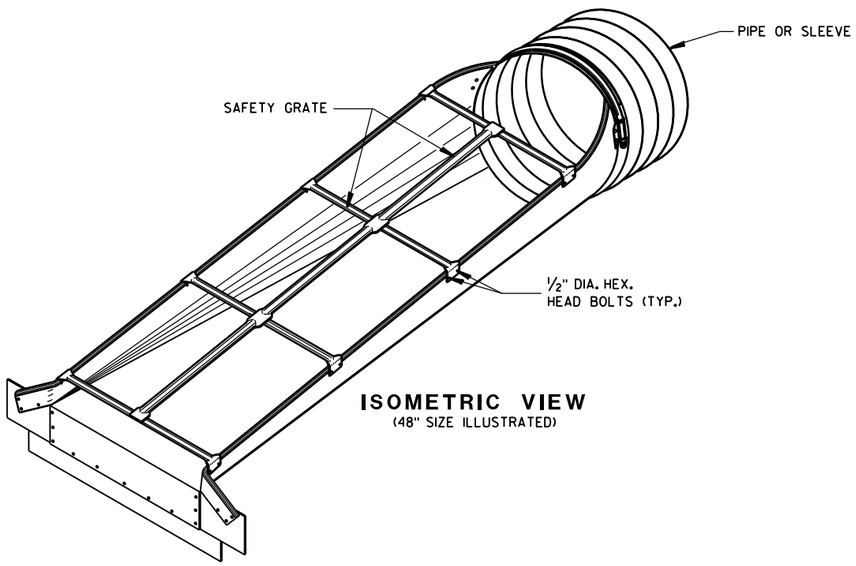
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

SAFETY GRATES SHALL BE FABRICATED FROM 3-INCH DIAMETER GALVANIZED PIPE MEETING THE REQUIREMENTS OF ASTM A-53, GRADE B, SCHEDULE 40 OR APPROVED EQUAL. THE LONGITUDINAL BAR SHALL BE WELDED TO THE TRANSVERSE BARS WHERE THE BARS CROSS. THE NUMBER OF TRANSVERSE BARS REQUIRED WILL VARY DEPENDING ON THE LENGTH OF THE END SECTION.

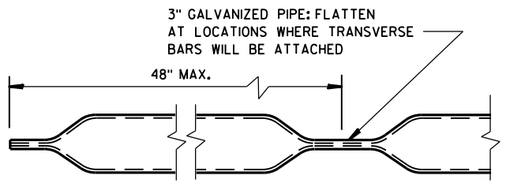
SLOPED STEEL ENDWALLS LOCATED AT THE ENDS OF CONCRETE CULVERT PIPE SHALL BE FURNISHED WITH STEEL ADAPTER SLEEVES.

STEEL APRON ENDWALLS FOR CULVERT PIPE CROSS DRAINS

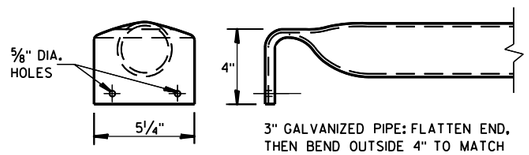
PIPE DIA. (IN.)	MIN. THICK.		DIMENSIONS (Inches)				L DIMENSIONS			
	IN.	GAGE	A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
36	.109	12	12	9	42	66	4:1	104	6:1	156
42	.109	12	16	12	48	80	4:1	128	6:1	192
48	.109	12	16	12	54	86	4:1	152	6:1	228
54	.109	12	16	12	60	92	4:1	176	6:1	264
60	.109	12	16	12	66	98	4:1	200	6:1	300



ISOMETRIC VIEW
(48" SIZE ILLUSTRATED)



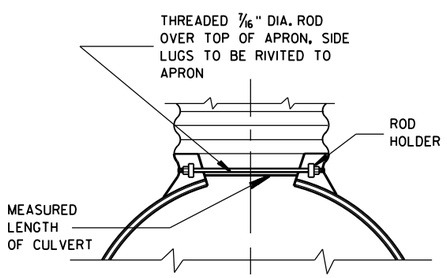
LONGITUDINAL SAFETY BAR



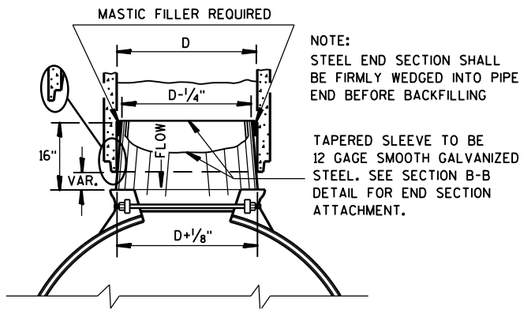
TRANSVERSE SAFETY BAR

STEEL APRON ENDWALLS FOR PIPE ARCH SLOPED CROSS DRAINS

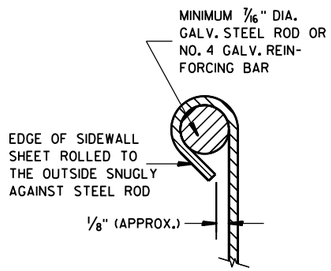
EQUIV. DIA. (IN.)	INCHES		MIN. THICK.		DIMENSIONS (Inches)				L DIMENSIONS			
	SPAN	RISE	IN.	GAGE	A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
30	35	24	.079	14	12	9	41	65	4:1	56	6:1	84
36	42	29	.109	12	12	9	48	72	4:1	76	6:1	114
42	49	33	.109	12	16	12	55	87	4:1	92	6:1	138
48	57	38	.109	12	16	12	63	95	4:1	112	6:1	168
54	64	43	.109	12	16	12	70	102	4:1	132	6:1	198
60	71	47	.109	12	16	12	77	109	4:1	148	6:1	222



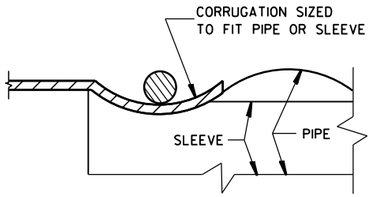
TYPE 2 CONNECTOR DETAIL



STEEL ADAPTER SLEEVE FOR CONCRETE PIPE



SECTION A-A



SECTION B-B

STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED CROSS DRAINS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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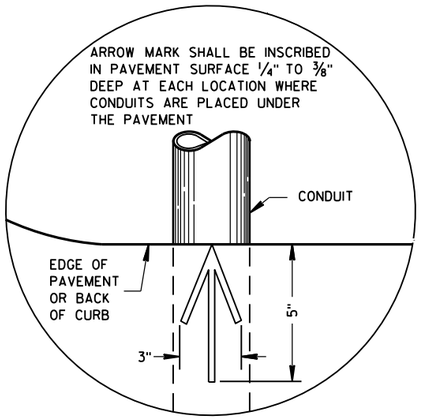
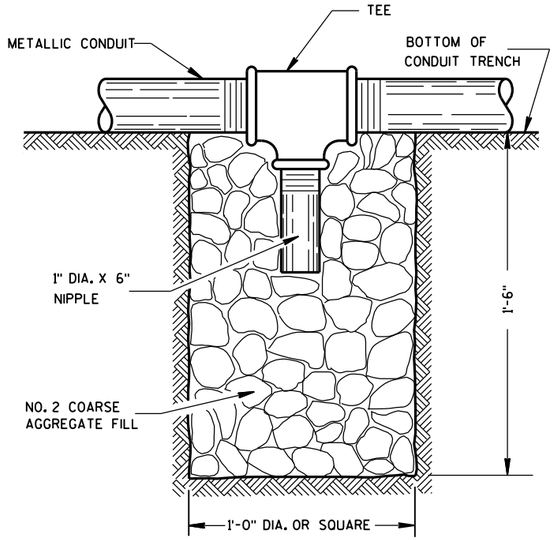


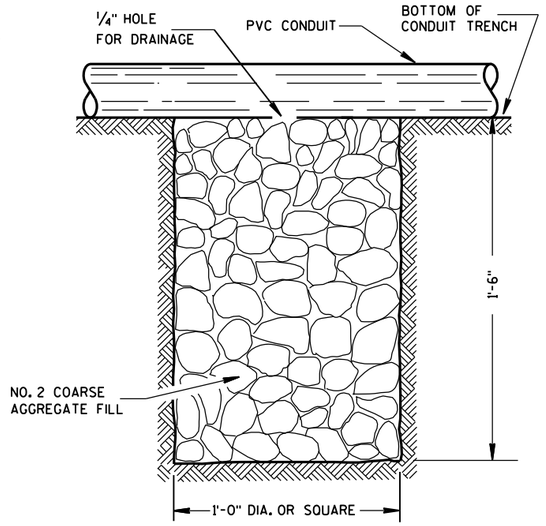
PLAN VIEW

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.

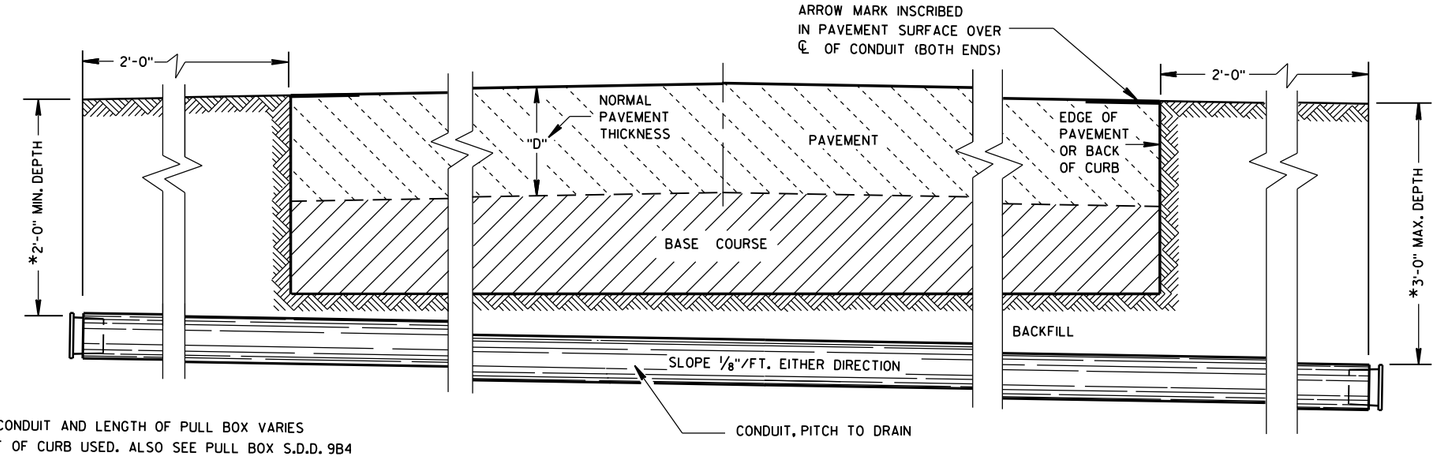
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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.).

TRACER 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
June, 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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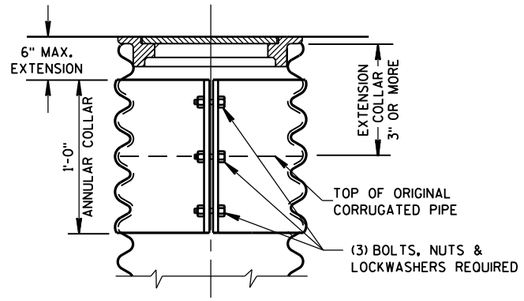
S.D.D. 9 B 2-9

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

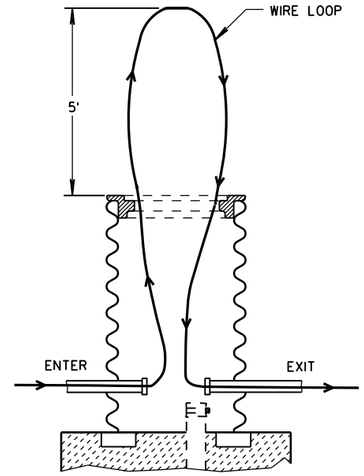
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	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.

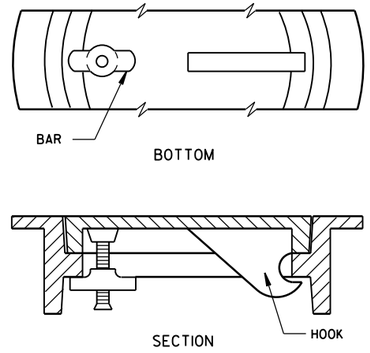
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

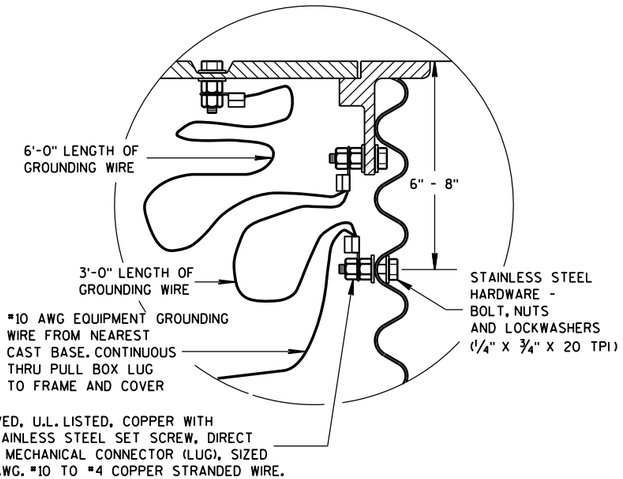


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

GENERAL NOTES

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

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

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

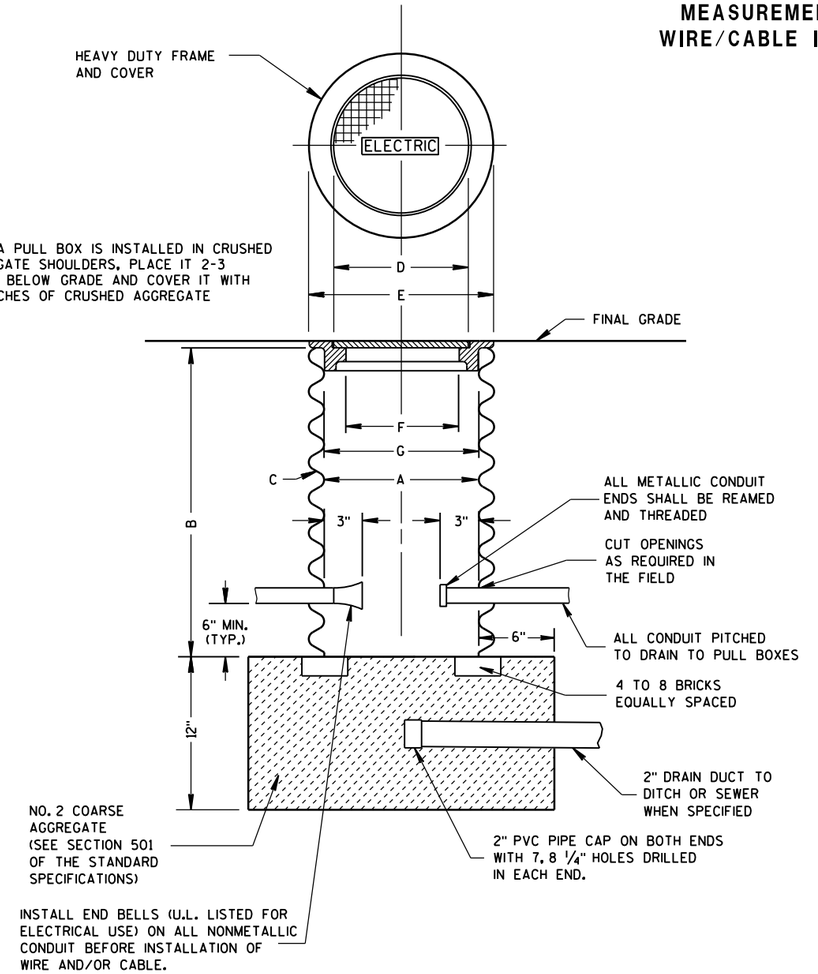
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

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

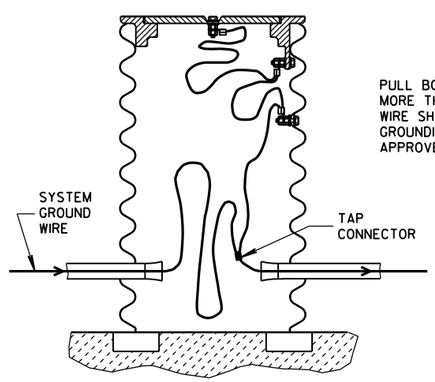
GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

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

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



PULL BOX



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

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL 288
FHWA

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S.D.D. 9 B 4-11

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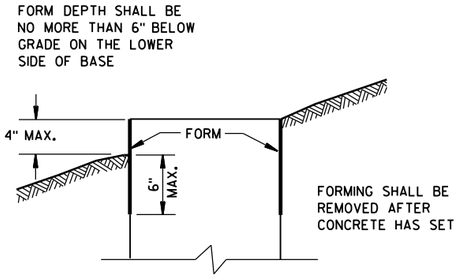
S.D.D. 9 B 4-11



FORMING DETAIL

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

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

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

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

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

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

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

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

GENERAL NOTES (CONTINUED)

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

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

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

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

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

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

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

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

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

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

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

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

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

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

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

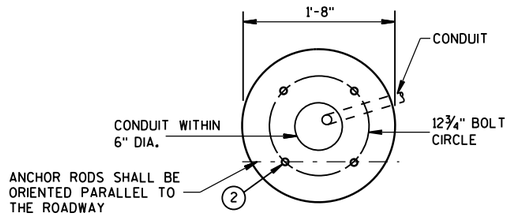
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

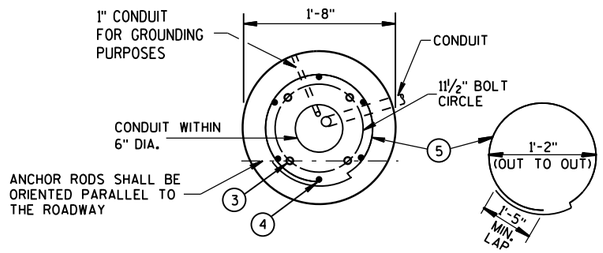
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

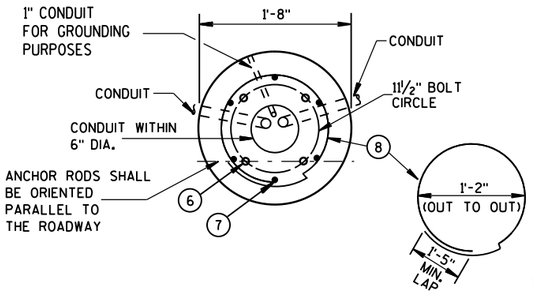
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

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

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

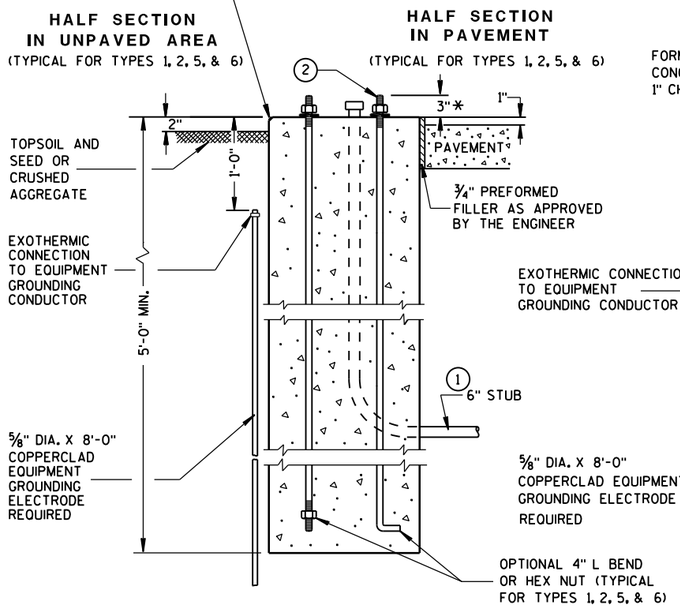






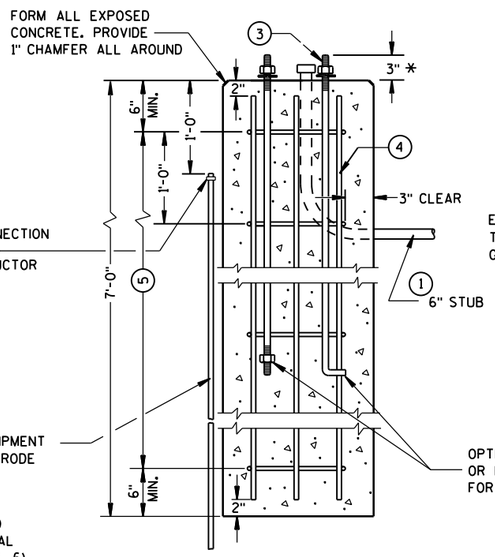
HALF SECTION IN UNPAVED AREA

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

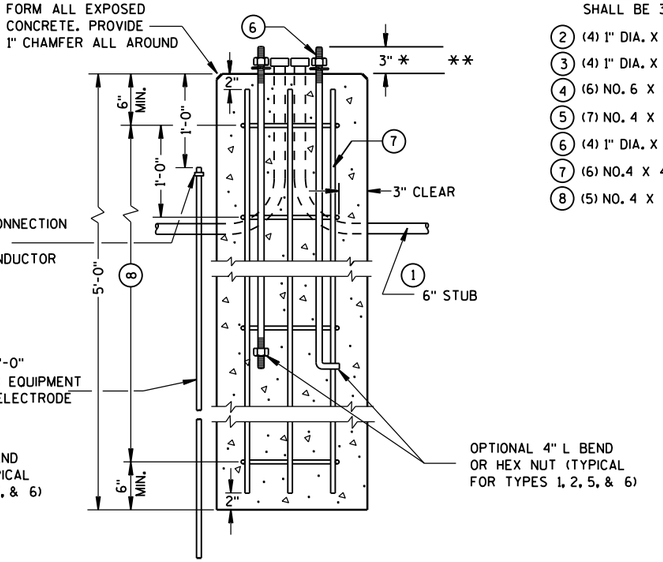


HALF SECTION IN PAVEMENT

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



TYPE 2



TYPE 5 & 6

CONCRETE BASES

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

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 9 C 2-7

GENERAL NOTES

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

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

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

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

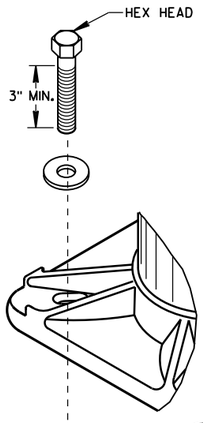
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

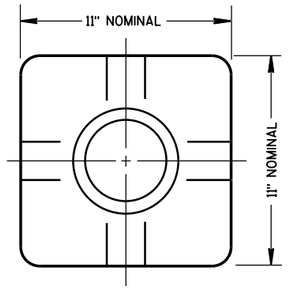
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

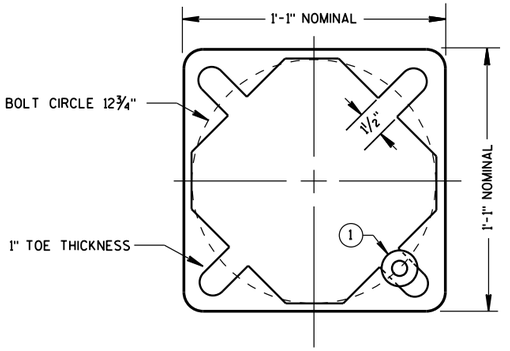
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.

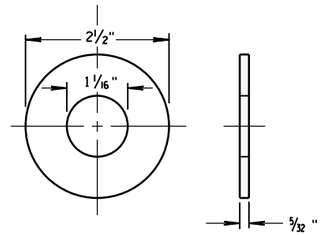




TOP VIEW
(PEDESTAL BASE)

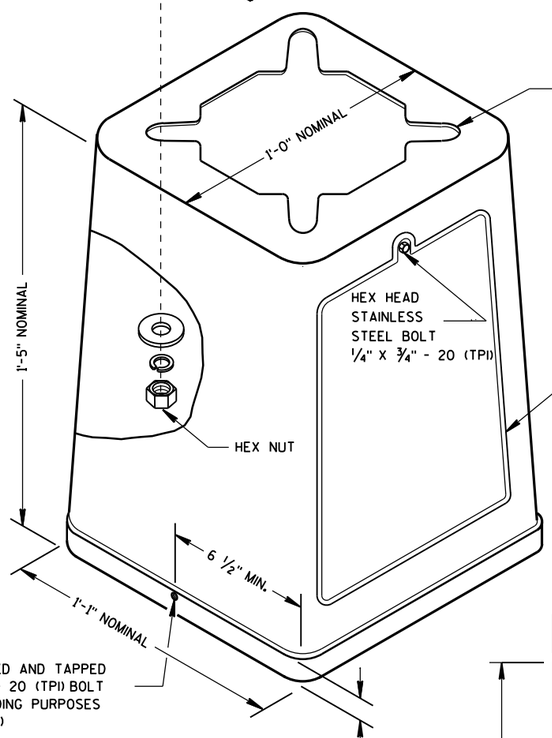


BOTTOM VIEW
(PEDESTAL BASE)

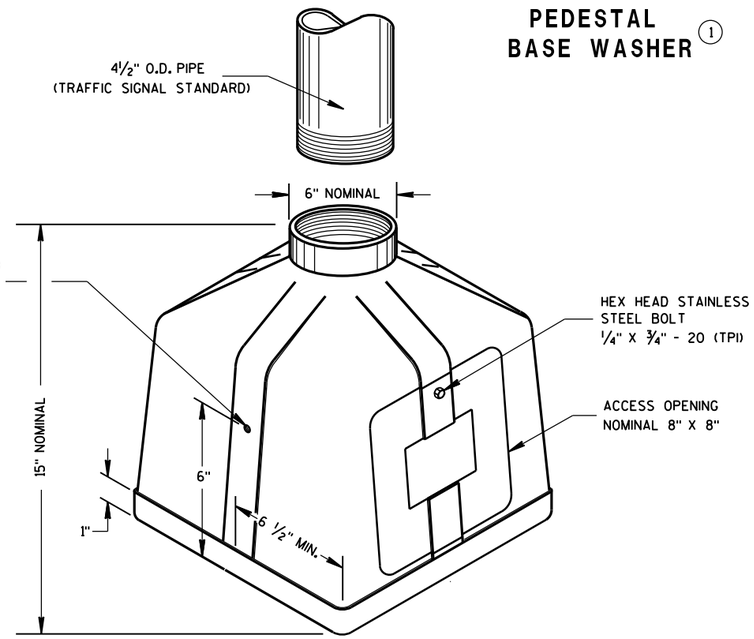


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)

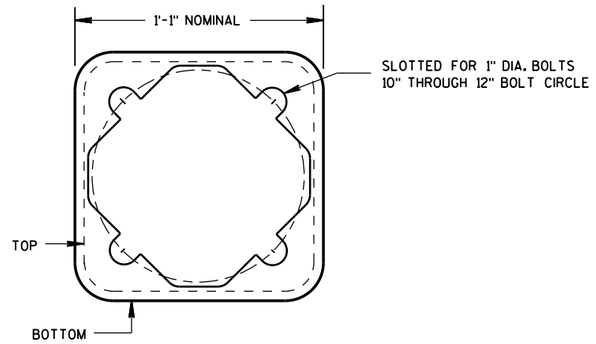


ISOMETRIC VIEW

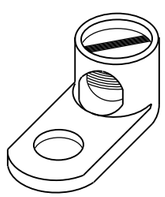


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

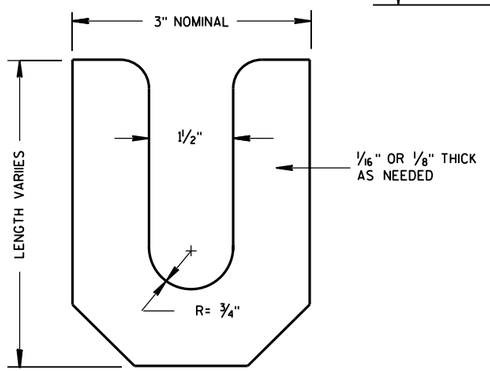


TYPICAL MECHANICAL CONNECTOR LUG

TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE

INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES



LEVELING SHIM

TRANSFORMER/PEDESTAL BASES

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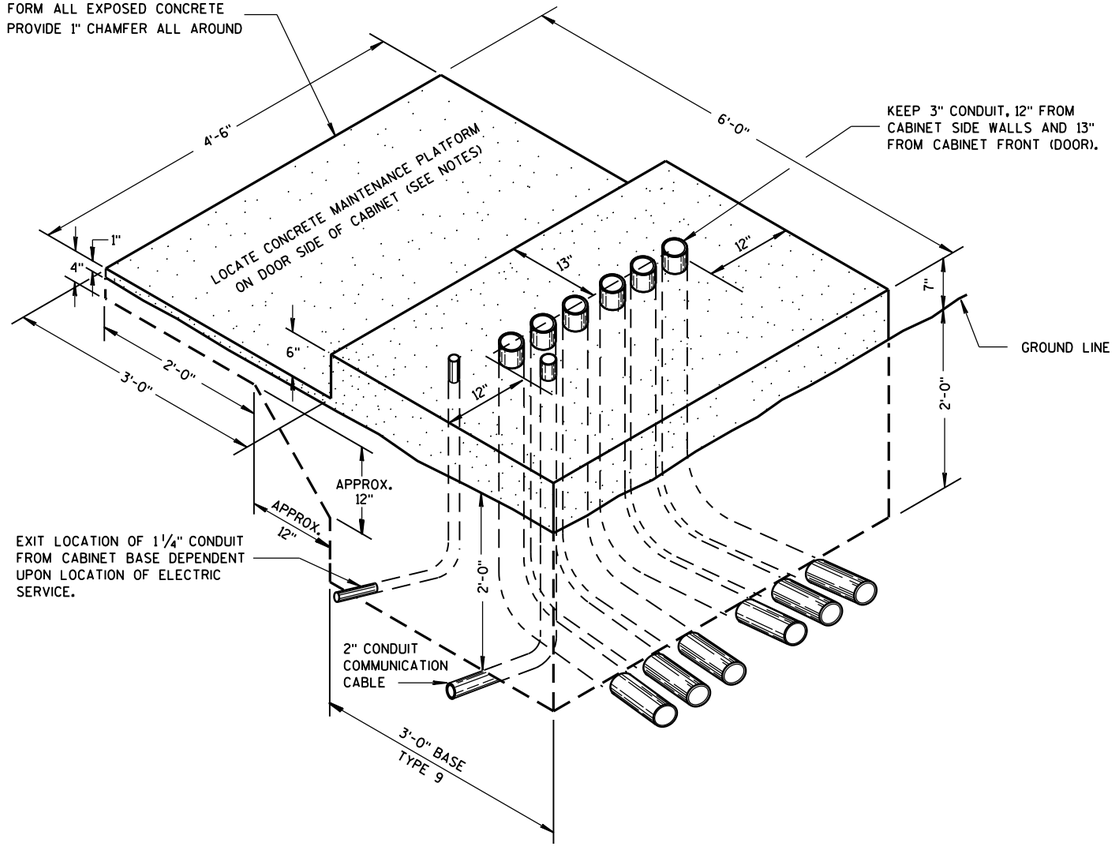
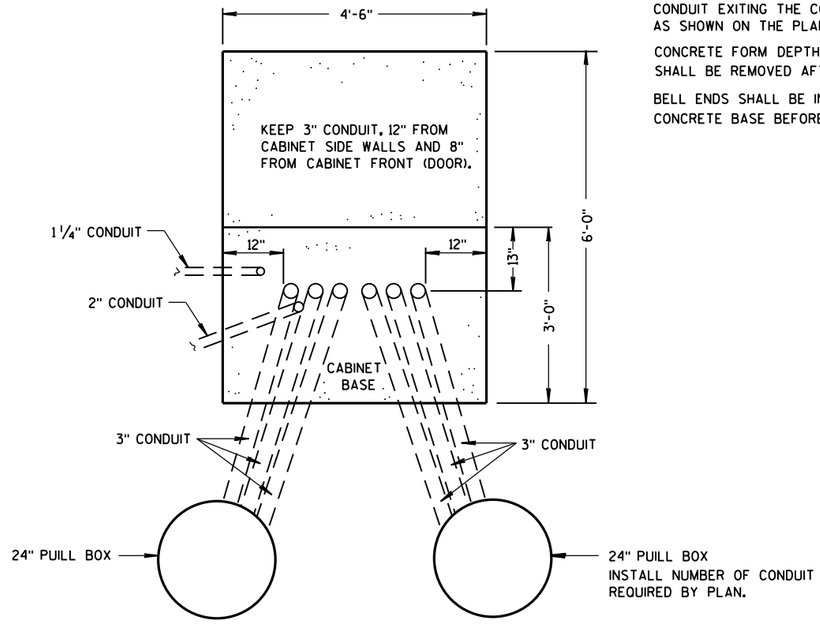


ISOMETRIC VIEW

TYPE 9, SPECIAL

(C.Y. CONCRETE = APPROX. 1.56)



PLAN VIEW

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

GENERAL NOTES

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

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

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

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

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

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

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

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

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

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

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

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

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

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

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

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

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

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

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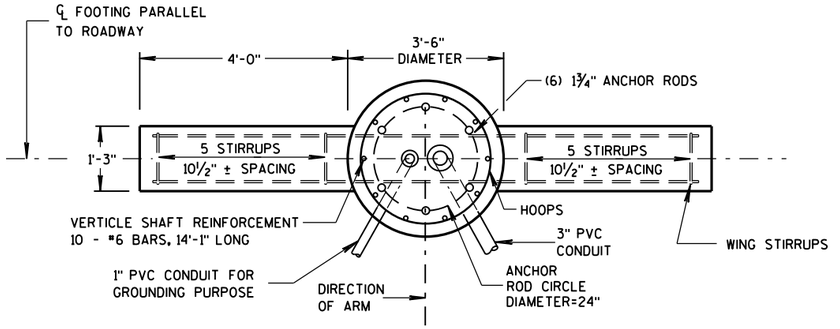
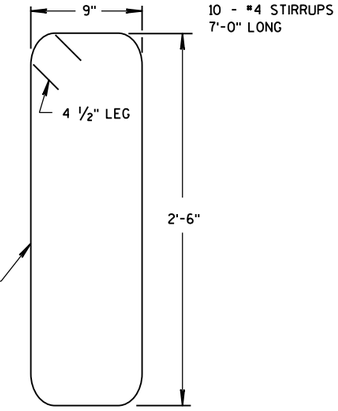
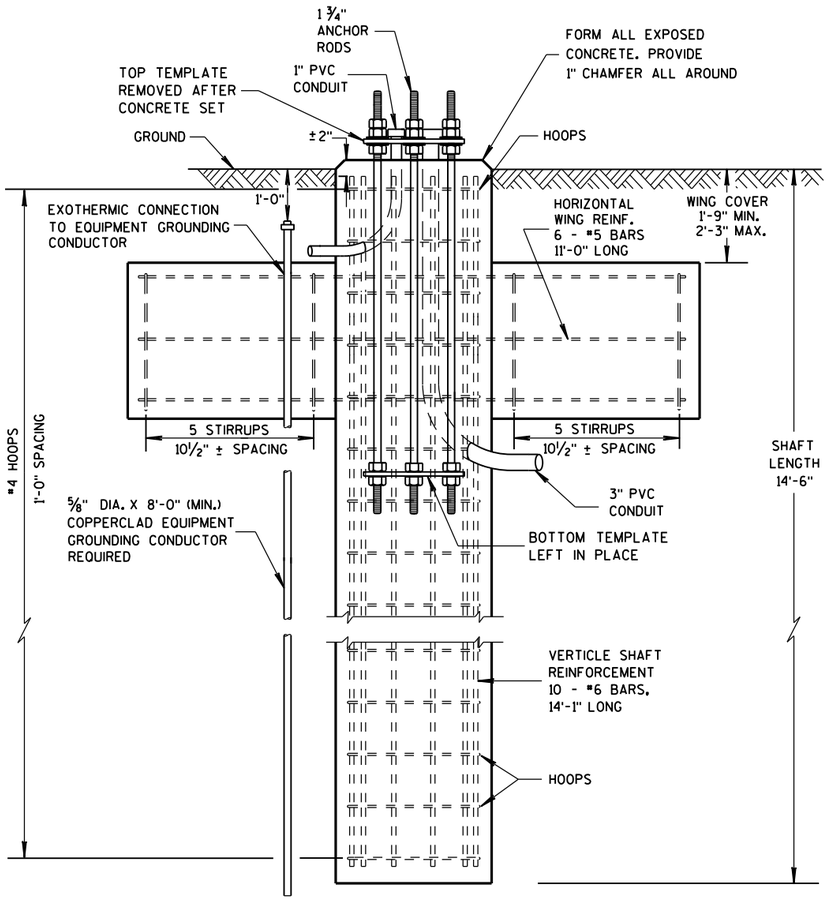


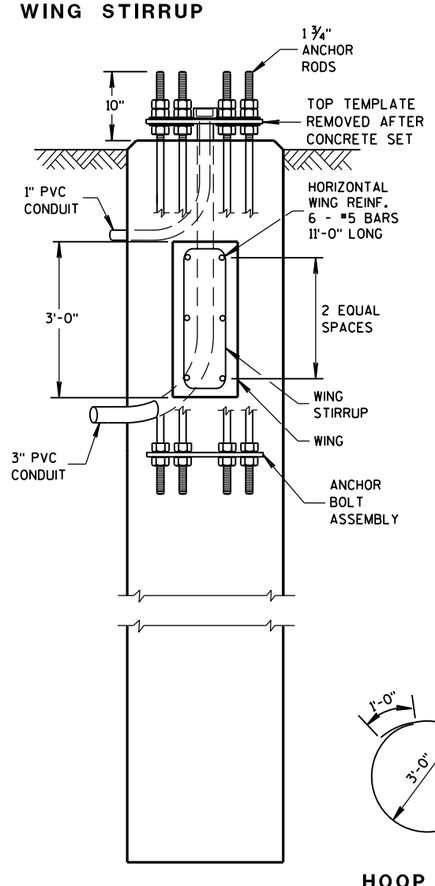
PLAN VIEW



WING STIRRUP

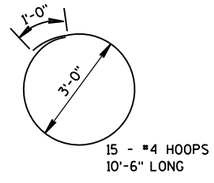


ELEVATION VIEW



SIDE VIEW

DOES NOT SHOW HOOPS OR VERTICAL SHAFT REINFORCEMENT



15 - #4 HOOPS 10'-6" LONG

HOOP DETAIL

GENERAL NOTES

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

ORIENT ANCHOR RODS IN FOOTING AND PROVIDE ANCHOR ROD PROJECTION ABOVE TOP OF CONCRETE FOOTING BASE PER THIS SHEET.

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF THE UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

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

BASES (SHAFT), BELOW THE WING, SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUNG THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

TOP SURFACE OF THE CONCRETE BASE SHALL BE TROWEL FINISHED AND LEVEL.

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

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

CONDUIT HEIGHT ABOVE CONCRETE BASE SHALL BE 4½" INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL ENDS INSTALLED. ALL CONDUIT SHALL SLOPE TO PULL BOX.

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

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

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTOR FITTINGS, UL LISTED FOR ELECTRICAL USE, SHALL BE USED.

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

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

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

THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVEL WAY SHALL BE 24-INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18-INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36-INCHES, (GREATER THAN 36-INCHES IF INSTALLED IN BREAKER-RUN), EXCEPT WITH THE WRITTEN APPROVAL OF THE ENGINEER.

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

CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, ASTM F1554 GRADE 55 (IN ACCORDANCE WITH SECTION 641.2.2.3 OF THE STANDARD SPECIFICATIONS	fy=55,000 p.s.i.
TEMPLATES, ASTM A709 GRADE 36	fy=36,000 p.s.i.

(FOR TYPE 12 & 13 POLES)

CONCRETE = 6.3 C.Y.
H.S. REINFORCEMENT = 433 LBS.

TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION.
SEE S.D.D. 9C13-2 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.

CONCRETE BASE TYPE 13

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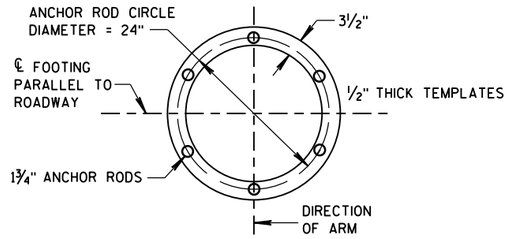
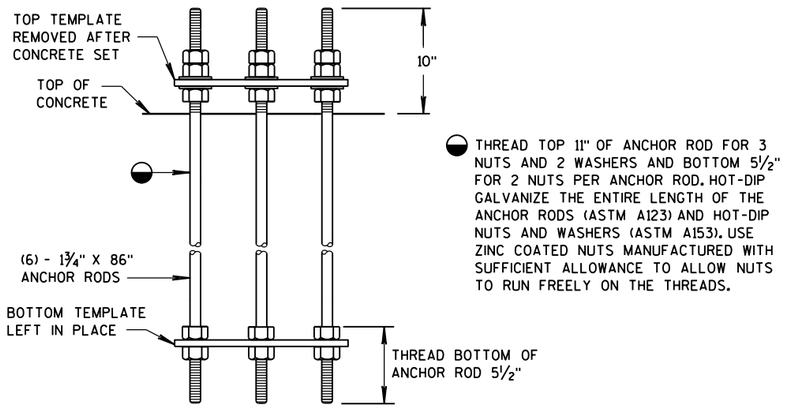
S.D.D. 9 C 12-8a

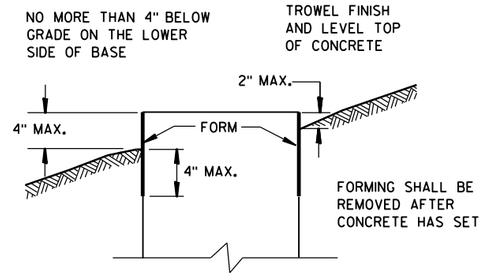


TOP AND BOTTOM TEMPLATES



ANCHOR BOLT ASSEMBLY DETAIL

CONCRETE BASE TYPE 13 ANCHOR ASSEMBLY



FORMING DETAIL

CONCRETE BASE TYPE 13	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2016 DATE FHWA	/S/ Ahmet Demirbilek STATE ELECTRICAL

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S.D.D. 9 C 12-8b

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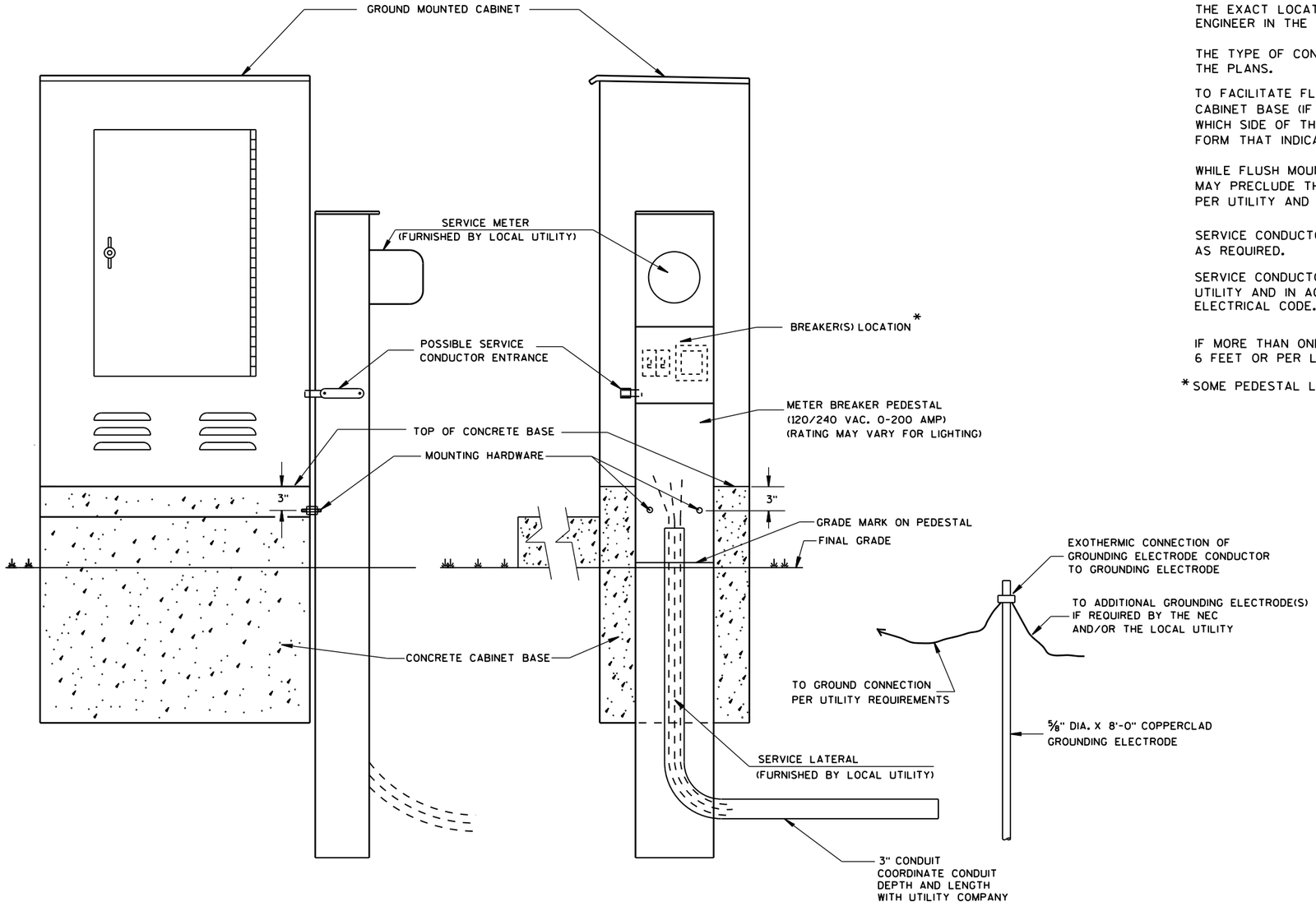
S.D.D. 9 C 12-8b



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

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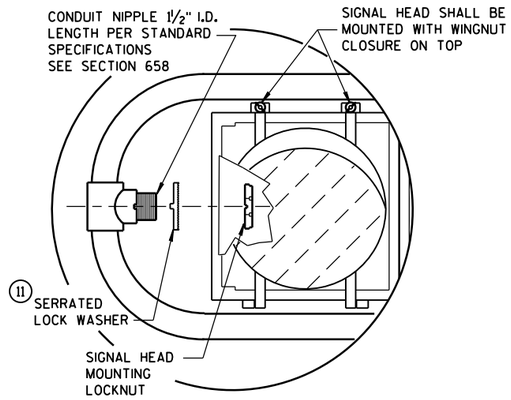
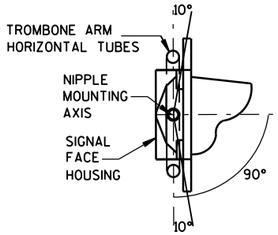


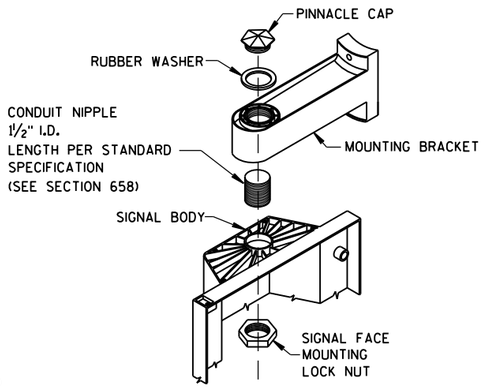
HORIZONTAL SIGNAL HEAD MOUNTING DETAIL *

* SIGNAL HEAD ATTACHMENT ALSO APPLYS TO MOUNTING AT CROSS BAR



SECTION A-A

(10 DEGREES TILT REQUIREMENT OF FACE(S) IN THE TROMBONE MOUNTING)



SIGNAL FACE MOUNTING DETAIL

(BANDED)

GENERAL NOTES

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

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

SECTION 657, POLES, OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

A PULL WIRE/ROPE IN ACCORDANCE WITH STANDARD SPECIFICATION 652 SHALL BE INSTALLED IN EACH TROMBONE ARM RACEWAY DURING THE MANUFACTURING PROCESS.

TYPE 2 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

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

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

(2) SIGNAL FACE MOUNTING BRACKETS. MOUNT WITH CAP SCREWS AND BANDING. (SEE STANDARD SPECIFICATIONS - SEC. 658)

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

(4) SECURELY MOUNT DULL BLACK POLYCARBONATE BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURER'S RECOMMENDATIONS.

(5) POLE MOUNTED SIGNAL FACES SHALL REQUIRE 1 OR MORE MOUNTING SPACERS UNDER THE TOP MOUNTING BRACKET(S) AS REQUIRED, TO PLUMB THE SIGNAL FACES.

(6) CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.

(7) MOUNTING BRACKET NIPPLES FOR THE SIGNAL FACE(S) SHALL BE 2 INCHES IN LENGTH AND 1½ INCHES IN DIAMETER. (SEE STANDARD SPECIFICATION - SECTION 658).

(8) VERTICAL STRUT (ADJUSTABLE). ONE (1) SET SCREW (¼" X ¾" LONG - 20 TPI, STAINLESS STEEL, HEX HEAD) INTO EACH ARM MEMBER IF STRUT IS THE SLIDING TYPE.

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

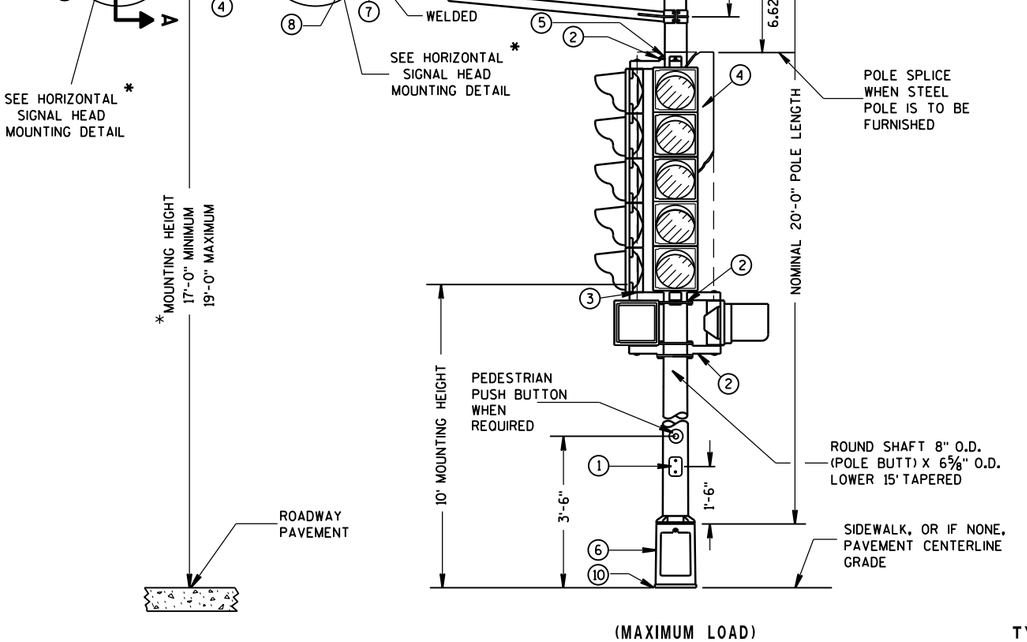
(10) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.

(11) USE SERRATED LOCK WASHERS WITH NOTCHES BETWEEN END TEE AND SIGNAL HEAD.

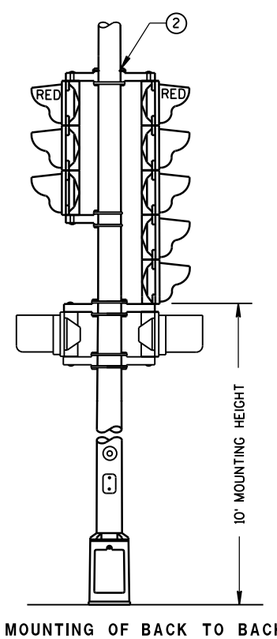
*MOUNTING HEIGHT LIMITATION DIMENSIONS OF THE TROMBONE MAST ARM WILL BE DEPENDENT UPON THE USE/NON-USE OF A TRANSFORMER BASE.

FOR MANUFACTURERS USE ONLY

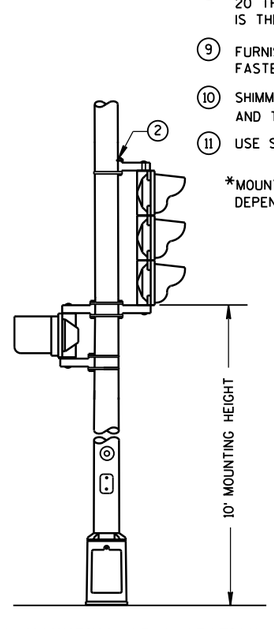
WELD TO BE 100% R.T. OR U.T. TESTED AS PER THE REQUIREMENTS OF AWS D 1.5-88. RECORDS OF COMPLIANCE OF SUCH TESTING SHALL BE FURNISHED TO THE OFFICE OF DESIGN/BRIDGE FOR VERIFICATION AND APPROVAL.



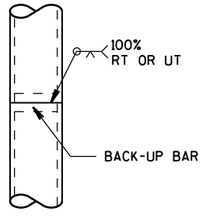
(MAXIMUM LOAD)



TYPICAL MOUNTING OF BACK TO BACK 3 AND 5 SECTION SIGNAL FACES



TYPICAL MOUNTING OF 3 SECTION SIGNAL FACE



POLE SPLICE DETAIL

TYPE 2 POLE MOUNTING CONFIGURATION

POLE MOUNTINGS FOR TRAFFIC SIGNALS TYPE 2

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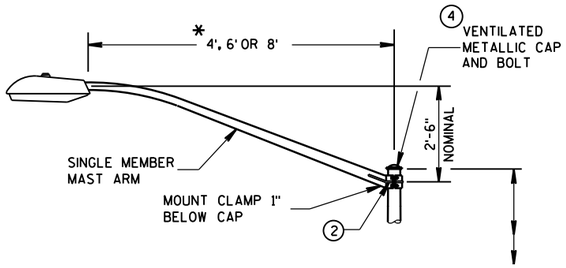
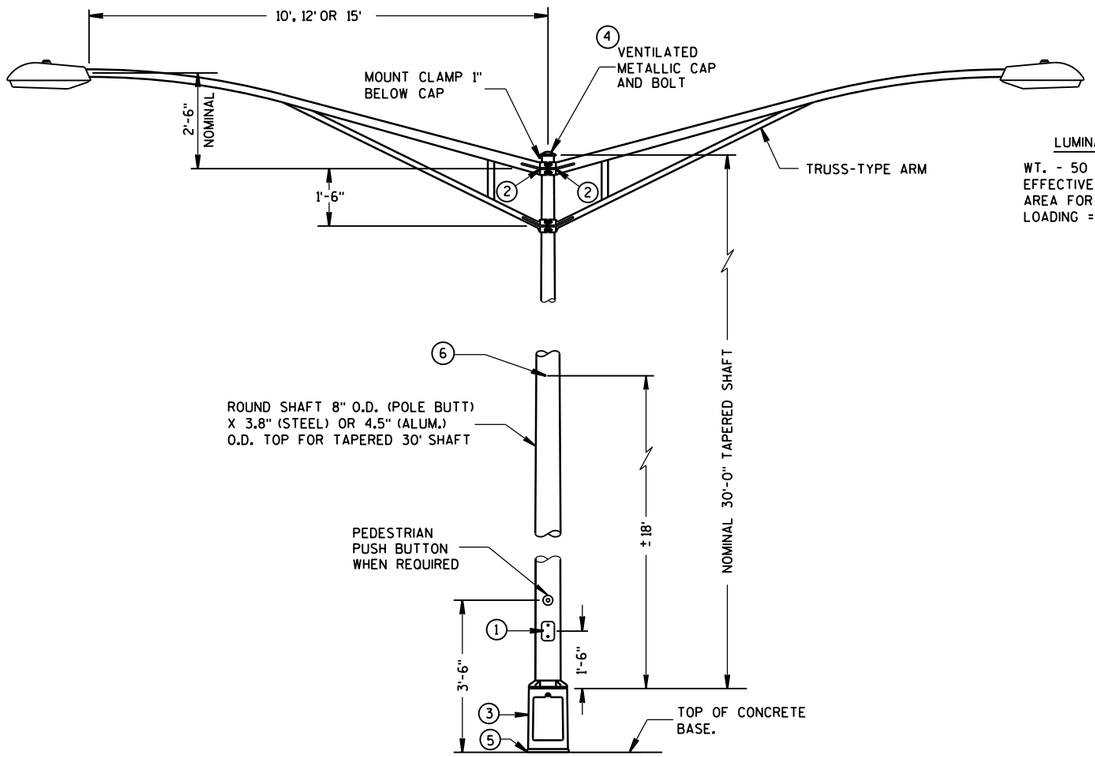
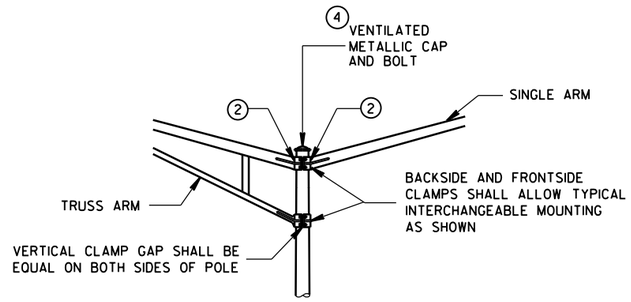
*RISE FOR 4' ARM SHALL BE 2'-0".





TYPE 5 POLE MOUNTING CONFIGURATION
(MAXIMUM LOAD)
LIGHTING ONLY



INTERCHANGEABLE MOUNTING DETAIL

LUMINAIRE

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

(3) CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.

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

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

(6) INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

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S.D.D. 9 E 1-14d

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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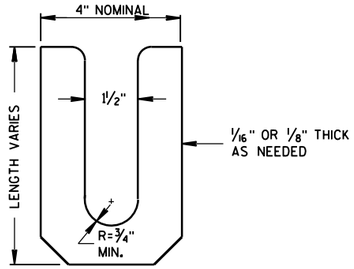
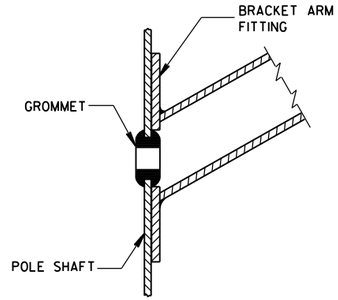
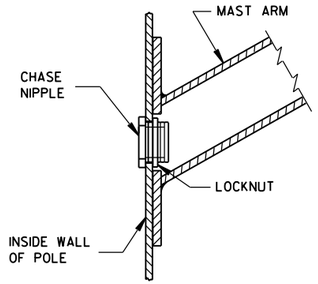


LEVELING SHIM (13)

SHALL BE ALUMINUM



TYPICAL APPLICATION OF GROMMET IN POLE SHAFT



TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT

GENERAL NOTES

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

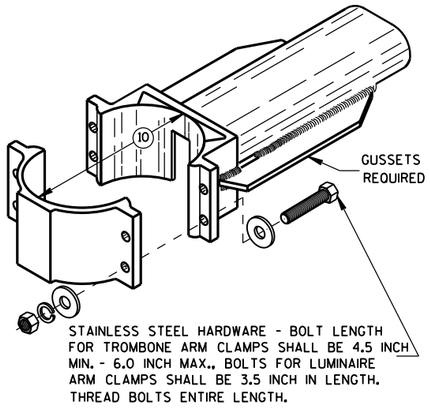
(10) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.

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

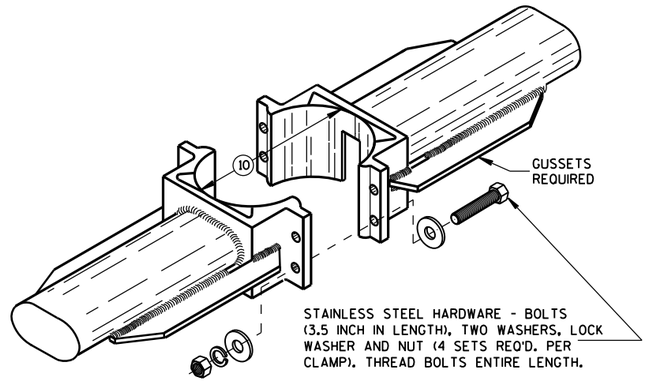
(12) BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.

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

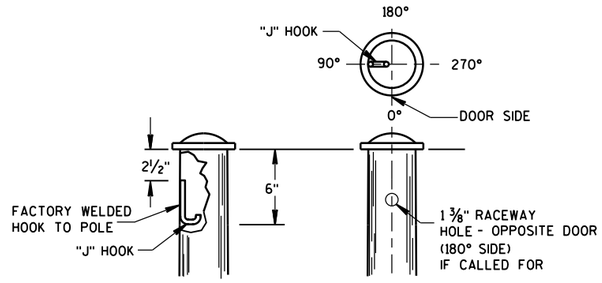
SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



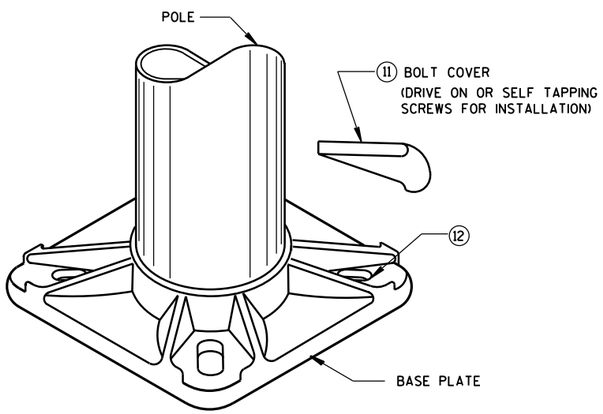
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



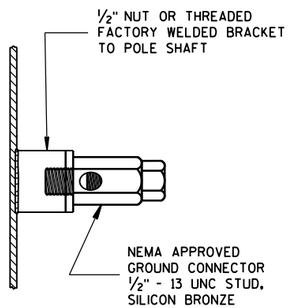
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS

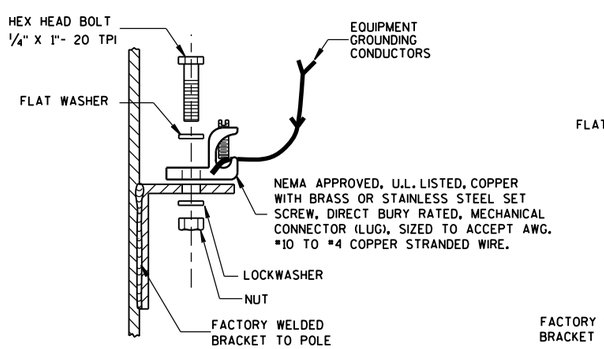


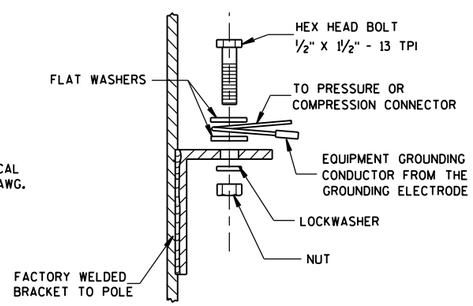
TYPICAL "J" HOOK LOCATION



BASE PLATE







TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

HARDWARE DETAILS FOR POLE MOUNTINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Feb. 2015
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL

FHWA

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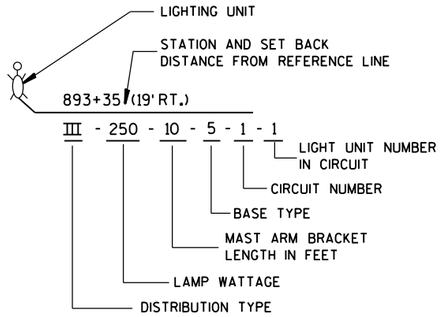
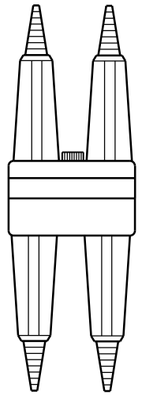
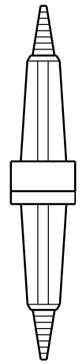
S.D.D. 9 E 1-14g



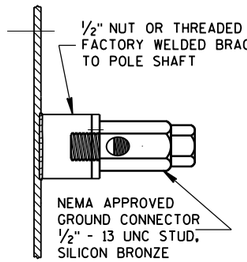
LIGHTING UNIT CODE
(TYPICAL)

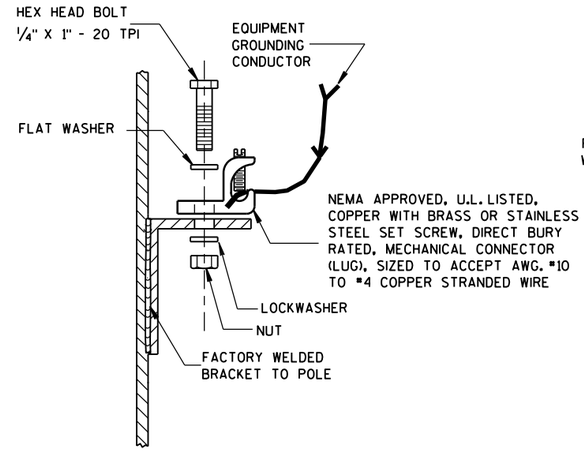


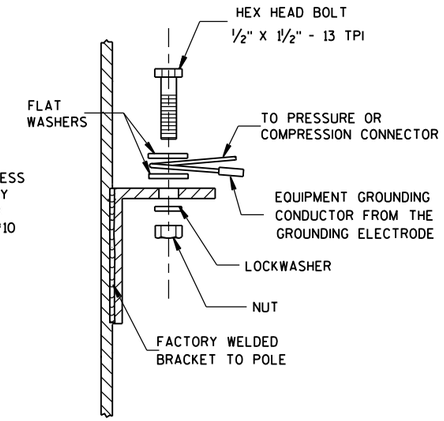
DETAIL "A"
BREAKAWY DOUBLE POLE WITH WATERPROOF INSULATING BOOT



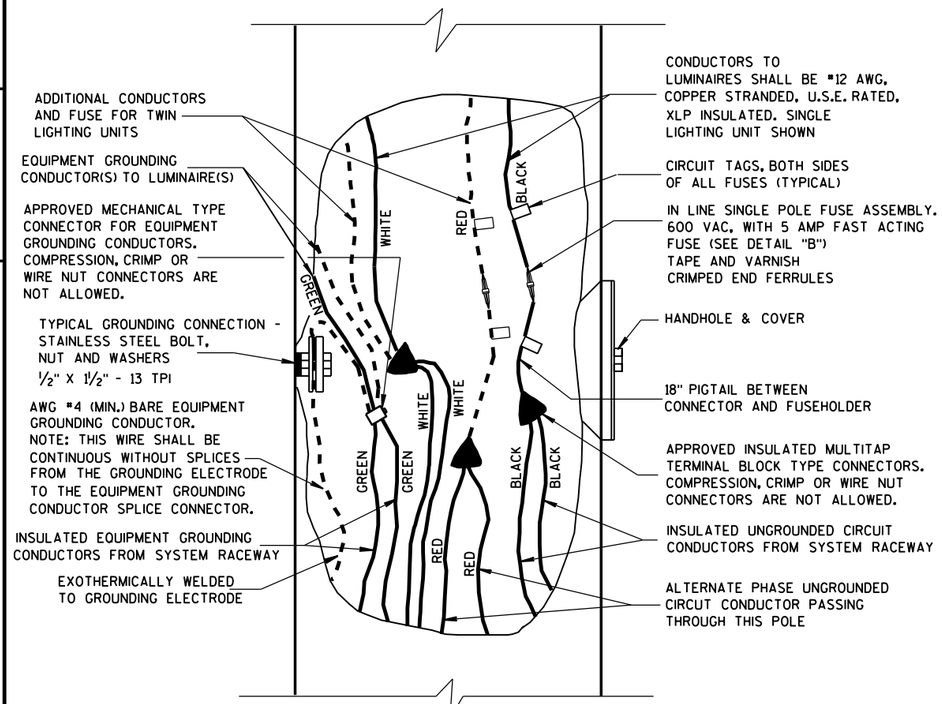
DETAIL "B"
BREAKAWY SINGLE POLE WITH WATERPROOF INSULATING BOOT



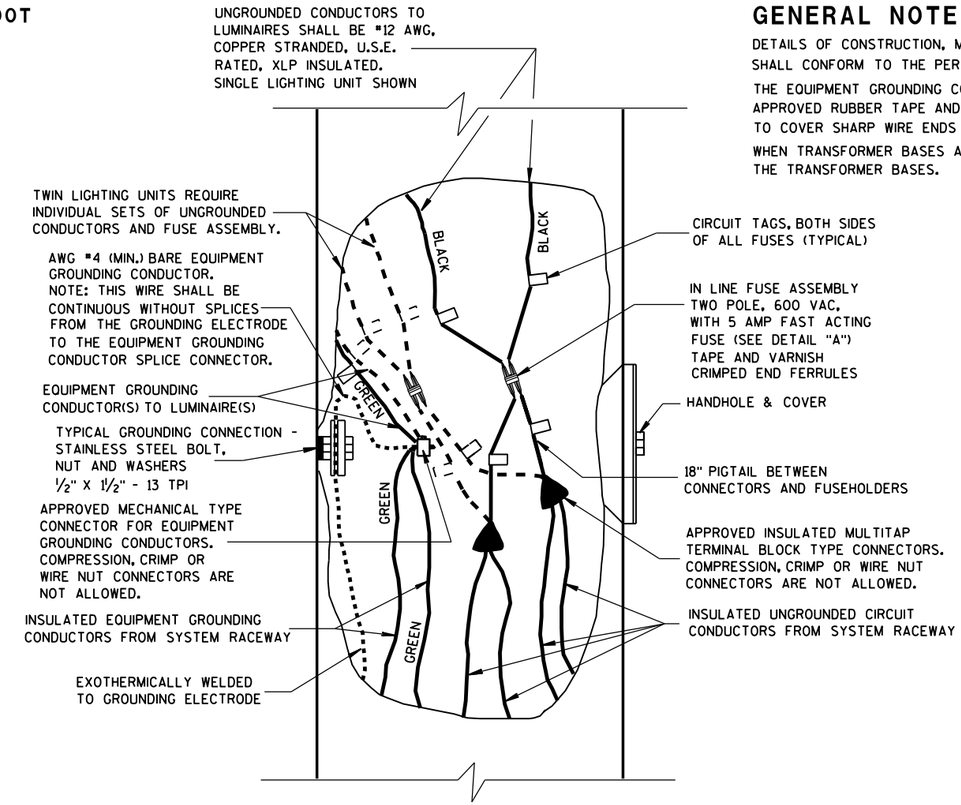




TYPICAL GROUNDING CONNECTIONS
NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL



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



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

GENERAL NOTES

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

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

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

NON-FREEWAY LIGHTING UNIT POLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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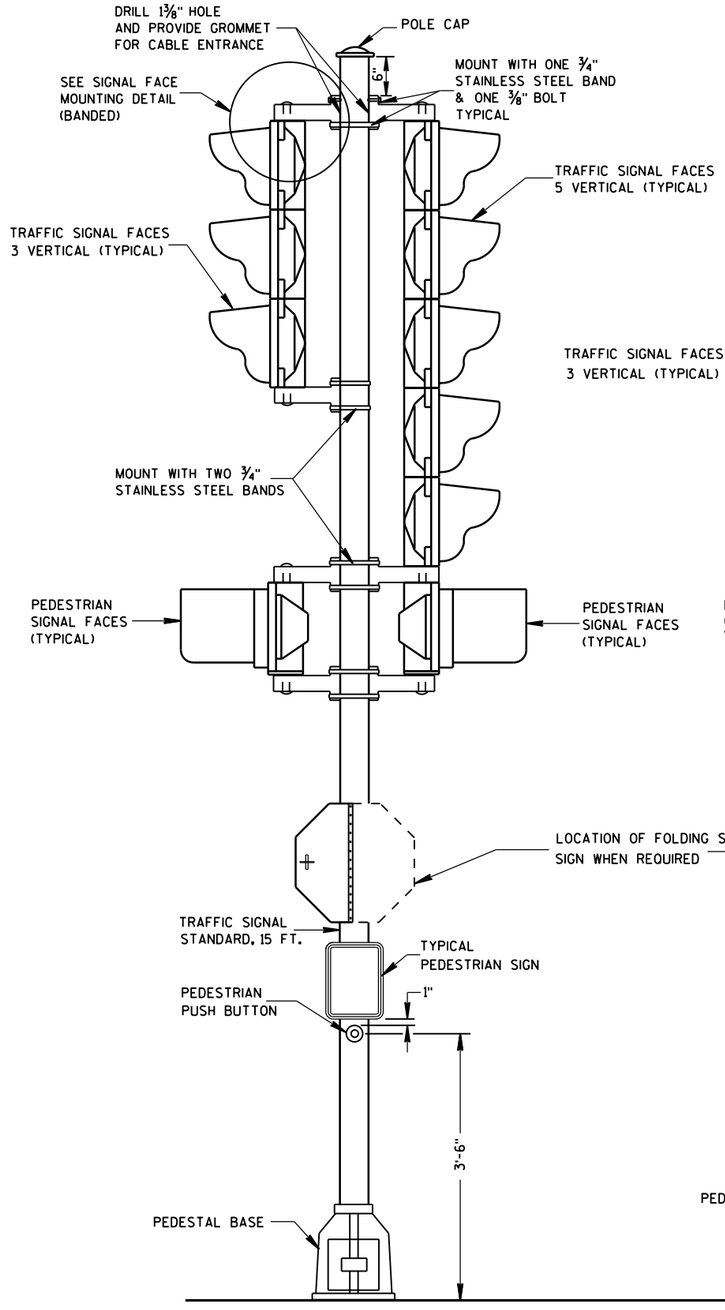
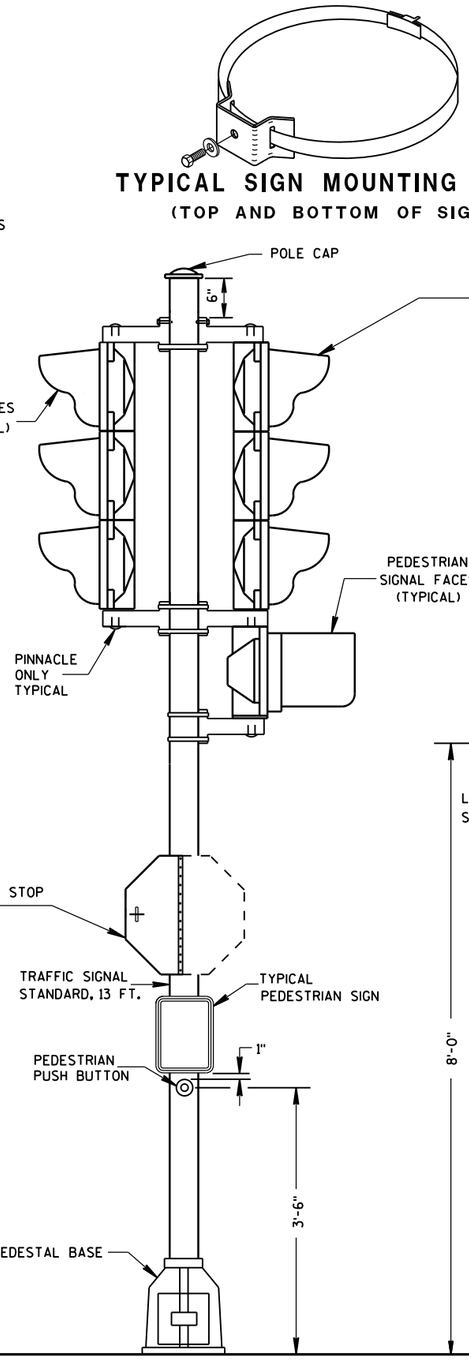
S.D.D. 9 E 3-5

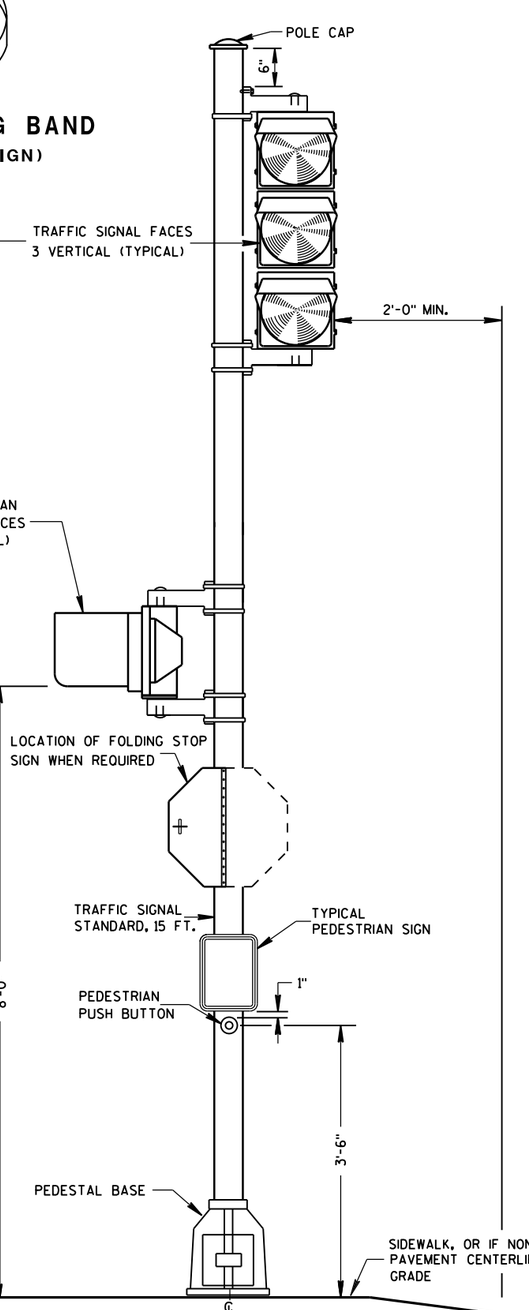


TRAFFIC SIGNAL STANDARD-15 FT.



TRAFFIC SIGNAL STANDARD-13 FT.

TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



TRAFFIC SIGNAL STANDARD-15 FT.
3M MOUNTING (TYPICAL)

GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIAL PROVISIONS.

POLYCARBONATE MOUNTING BRACKETS SHALL BE USED.

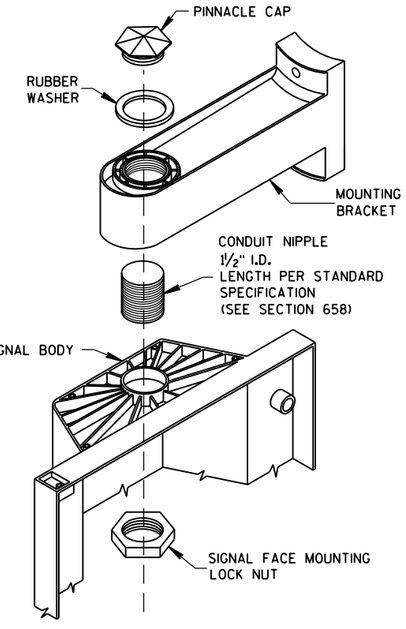
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

OPTICALLY PROGRAMMED SIGNAL FACES SHALL BE MASKED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS, AND UNDER THE DIRECTIONS OF THE REGION TRAFFIC ENGINEER.

FOLDING STOP SIGNS SHALL BE IN ACCORDANCE WITH THE MUTCD AND/OR THE LATEST WISCONSIN SUPPLEMENT. THE SIGNS SHALL BE SIZED AND LOCATED AS CALLED FOR IN IN THE PLANS.

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

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



SIGNAL FACE MOUNTING DETAIL
(BANDED)

TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/28/2013 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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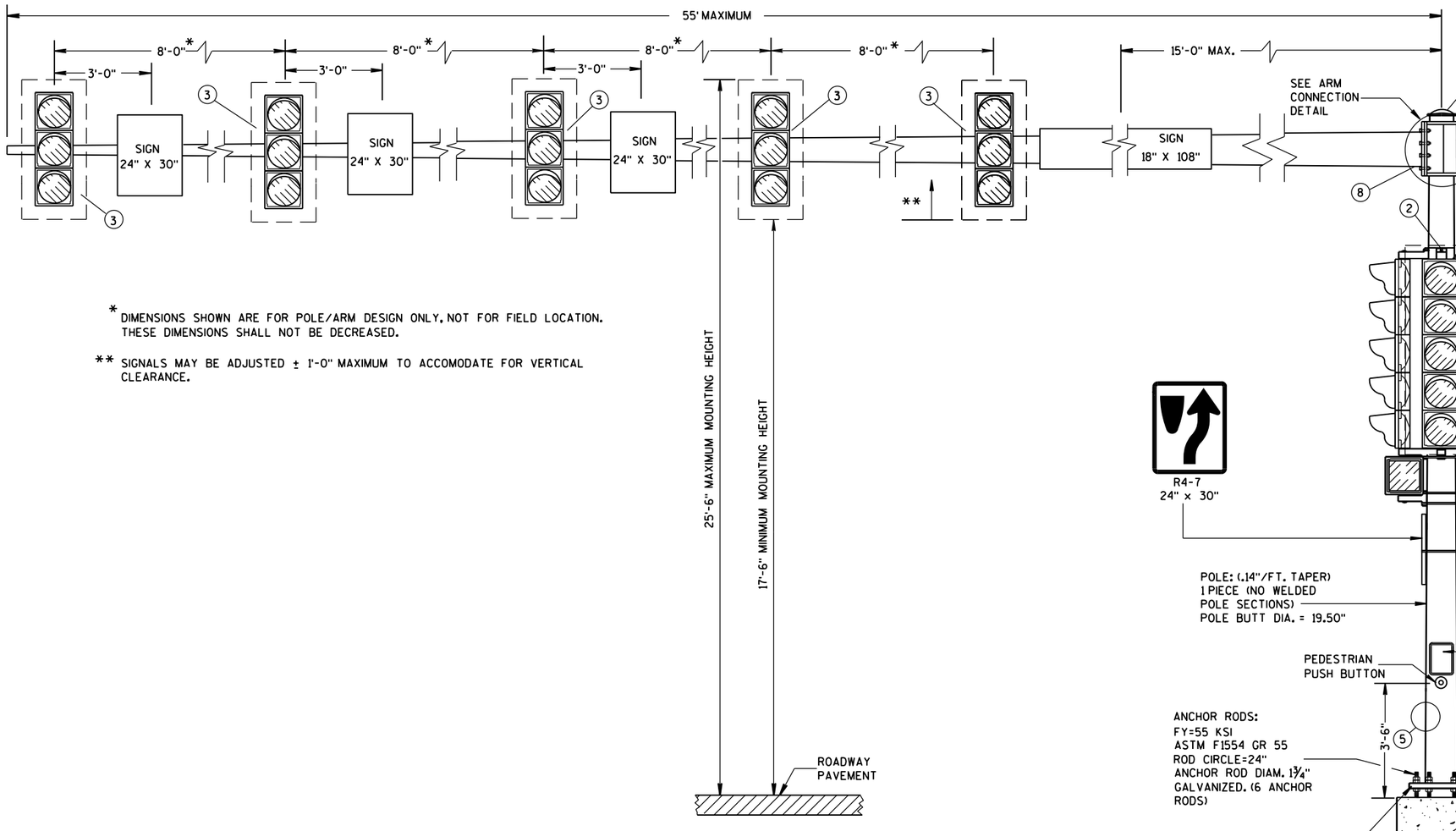
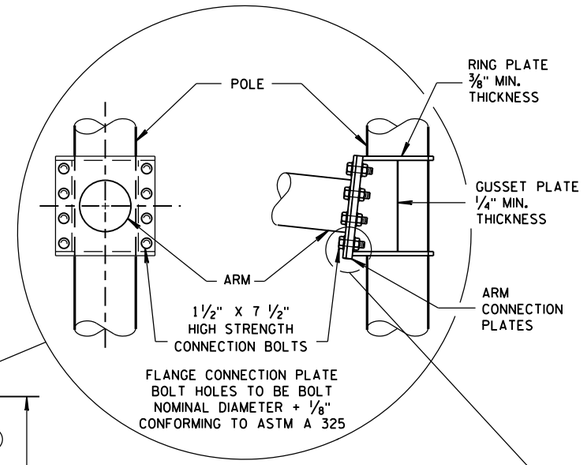
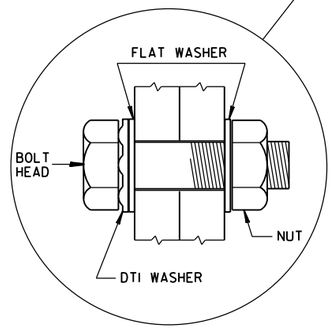


* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

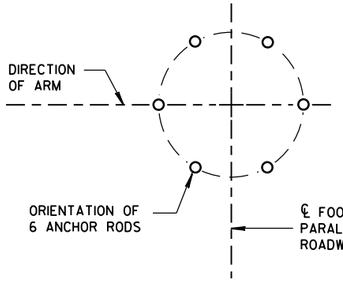
** SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.



8 BOLT ARM CONNECTION DETAIL



RECOMMENDED BOLT ASSEMBLY DETAIL



ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 12 POLE 35'- 55' MONOTUBE ARM

TYPE 12 POLE 35' - 55' MONOTUBE ARM
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED May, 2015 — DATE /S/ Ahmet Demirbilek — STATE ELECTRICAL 300 FHWA

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S.D.D. 9 E 8-8c

GENERAL NOTES

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

POLE TYPES 9 AND 10 ARE FOR ARM LENGTHS 15-FOOT TO 30-FOOT.

POLE TYPES 12 AND 13 ARE FOR ARM LENGTHS 35-FOOT TO 55-FOOT.

MONOTUBE POLE AND ARM SHALL BE GALVANIZED STEEL.

RING-STIFFENED BUILT-UP BOX TYPE OF ATTACHMENT FOR TRAFFIC SIGNAL ARM.

ONE (1) PIECE POLE CONSTRUCTION (NO WELDED POLE SECTIONS).

STANDARD STRAIGHT ARM DESIGN (3 % ± RISE).

SECTION 657, POLES OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

PROVIDE WIREWAY THRU POLE WALL AND ARM CONNECTION PLATES. PROVIDE ROUND, SMOOTH INSIDE SURFACE.

MANUFACTURER'S SUBMITTED POLE DESIGNS AND DRAWINGS SHALL BE SIGNED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER AND CERTIFIED AS BEING IN COMPLIANCE WITH THE AASHTO 2013 6TH EDITION AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR TRAFFIC AND LIGHTING STRUCTURES AND AS FOLLOWS:

- CATEGORY III FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 AND TYPE 10 STRUCTURES.
- CATEGORY II FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 12 AND TYPE 13 STRUCTURES.
- 90 MPH (3-SECOND GUST) WIND SPEED AND A 50 YEAR DESIGN LIFE.

SECURE THE OPENING BELOW THE BASE PLATE WITH STAINLESS STEEL OR GALVANIZED STEEL MESH AND SECURE THE MESH WITH ¾" S.S. BANDING AROUND THE LEVELING NUTS.

INDENT PRINT (NOMINAL ½" HIGH) THE POLE LENGTH AND FIRST TWO LETTERS OF THE MANUFACTURERS NAME ON TWO SIDES OF THE BASE PLATE 180 DEGREES APART, BEFORE GALVANIZING. THE ARM SHALL BE IDENTIFIED WITH THE SAME INFORMATION BY INDENT PRINT.

SIGNAL FACE SHALL BE MOUNTED 6 INCHES (NOMINAL) FROM THE END OF THE MONOTUBE ARM OR AS SHOWN ON THE PLAN CONSTRUCTION DETAIL OR AS DIRECTED BY THE PROJECT ENGINEER/ELECTRICAL OPERATIONS PERSONNEL. MOUNT ALL LIKE HEADS AT SAME ELEVATION.

SIGN MOUNTING BRACKETS SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 637 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.

(1) DESIGN FOR MAXIMUM ALLOWABLE HANDHOLE WITH COVER ASSEMBLY WITH TWO ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

(2) SIGNAL MOUNTING BRACKETS FOR POLE MOUNTING, MOUNT WITH CAP SCREW AND BANDING, (SEE SPECIFICATIONS SEC. 658).

(3) SECURELY MOUNT BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURERS RECOMMENDATIONS.

(4) THE TOP OF THE POLE SHAFT AND THE END OF THE MONOTUBE ARM SHALL BE EQUIPPED WITH A REMOVABLE, VENTILATED CAP HELD SECURELY IN PLACE WITH SET SCREWS.

(5) FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.

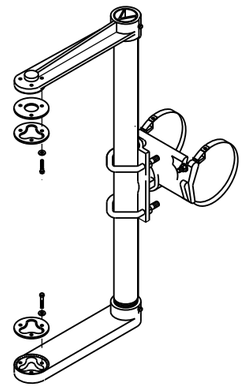
(6) FACTORY-WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.

(7) INSTALL STRUCTURAL IDENTIFICATION PLAQUES.

STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

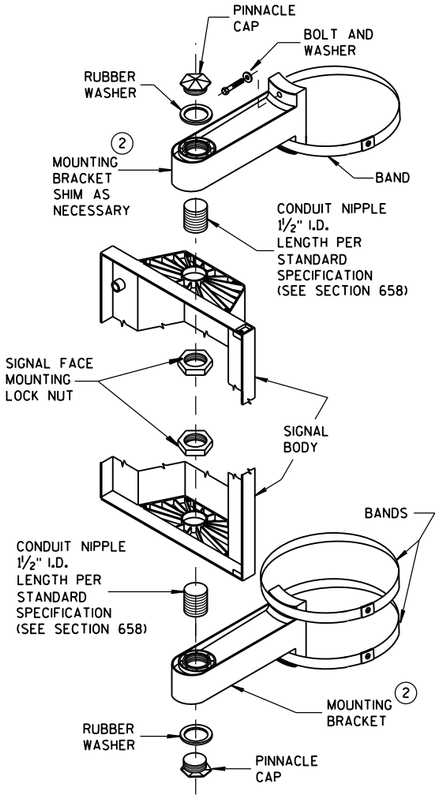
MOUNTING HEIGHT SHALL BE 6'-0" ABOVE THE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

(8) FACTORY DRILLED ½" DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE.

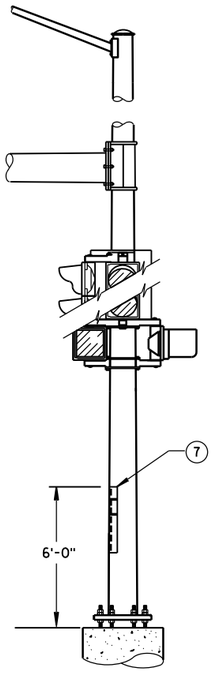


SIGNAL FACE MOUNTING BRACKET
DETAIL FOR MONOTUBE ARM

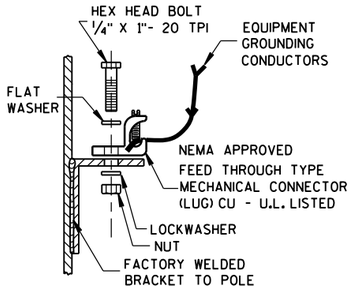
(MOUNT PER MANUFACTURER'S RECOMMENDATION)



SIGNAL FACE
VERTICAL MOUNTING DETAIL

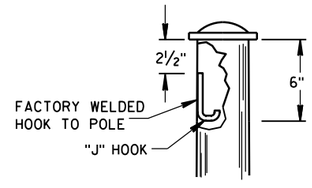


STRUCTURAL IDENTIFICATION
PLAQUE PLACEMENT



TYPICAL GROUNDING CONNECTIONS (5)

NUT, BOLT AND WASHERS SHALL
BE STAINLESS STEEL



"J" HOOK WIRE SUPPORT (6)

GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2016 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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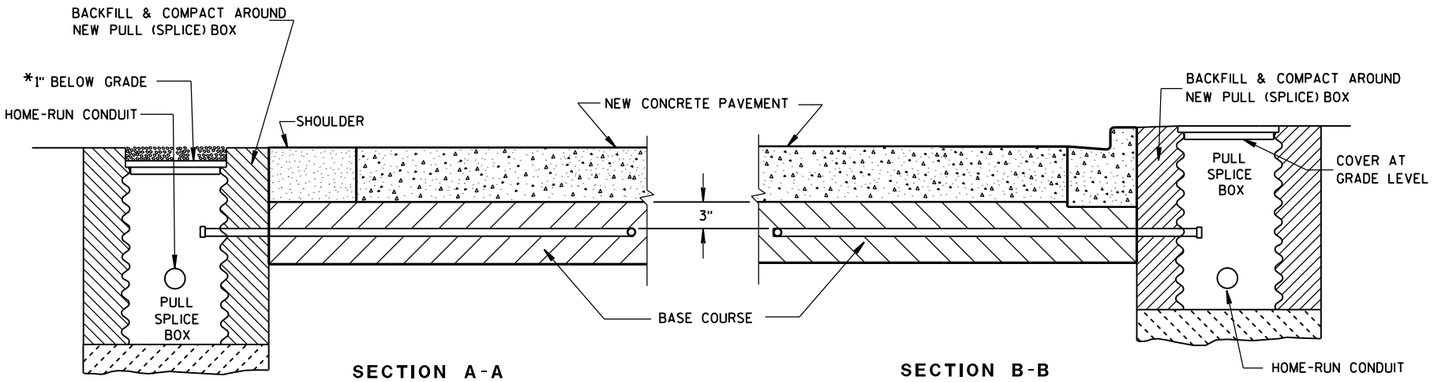
S.D.D. 9 E 8-8e



SECTION A-A
NO CURB & GUTTER

SECTION B-B
CURB & GUTTER

*RECESS PULL (SPLICE) BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

LOOP DETECTOR INSTALLATION DETAIL

GENERAL NOTES

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

LOOP SIZE, CONFIGURATION LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPLICE) BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST OR AN ENGINEER APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

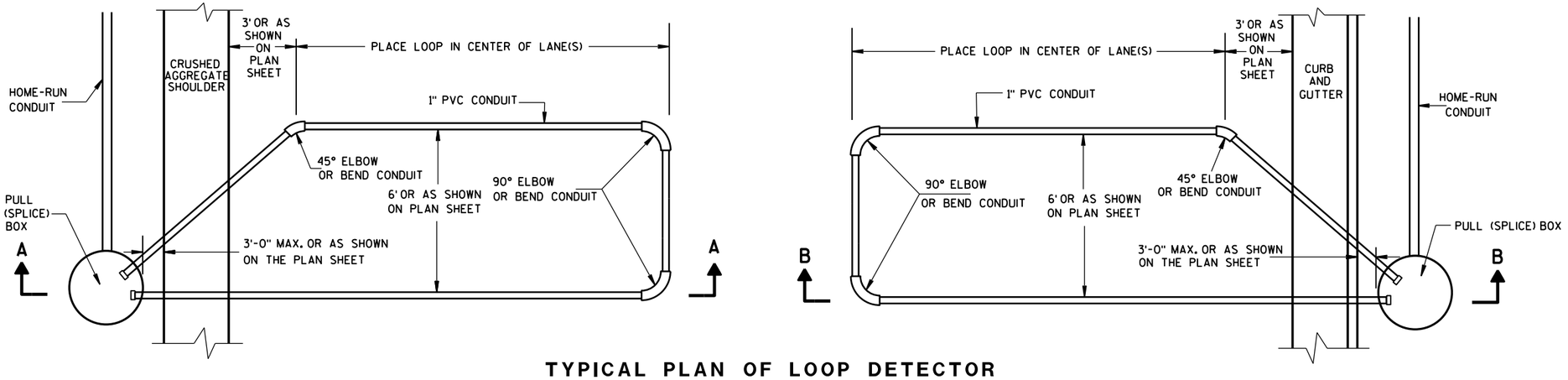
THE #12 AWG. LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL (SPLICE) BOXES AT THE SIDE OF THE ROAD.

THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPLICE) BOX THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPLICE) BOX, AND BE INSTALLED IN ONE, NON-SPLICE CONTINUOUS LENGTH.

PROTECTION OF THE CONDUIT IN THE BASE COURSE, SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER.



TYPICAL PLAN OF LOOP DETECTOR WITH 18" OR 24" PULL (SPLICE) BOX

LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 9 F 15-4a

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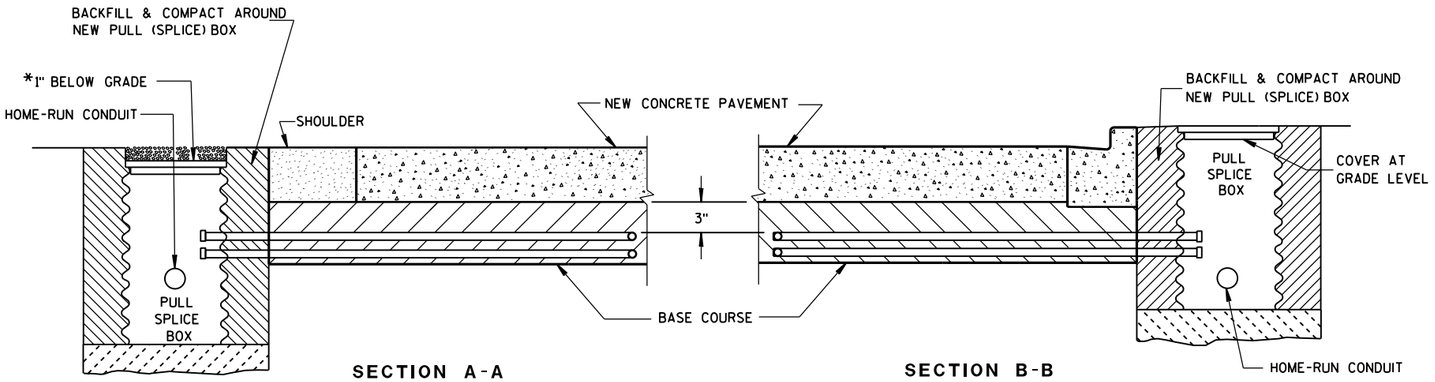
S.D.D. 9 F 15-4a



SECTION A-A
NO CURB & GUTTER

SECTION B-B
CURB & GUTTER

*RECESS PULL (SPLICE) BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

LOOP DETECTOR INSTALLATION DETAIL

GENERAL NOTES

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

LOOP SIZE, CONFIGURATION LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPLICE) BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST OR AN ENGINEER APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

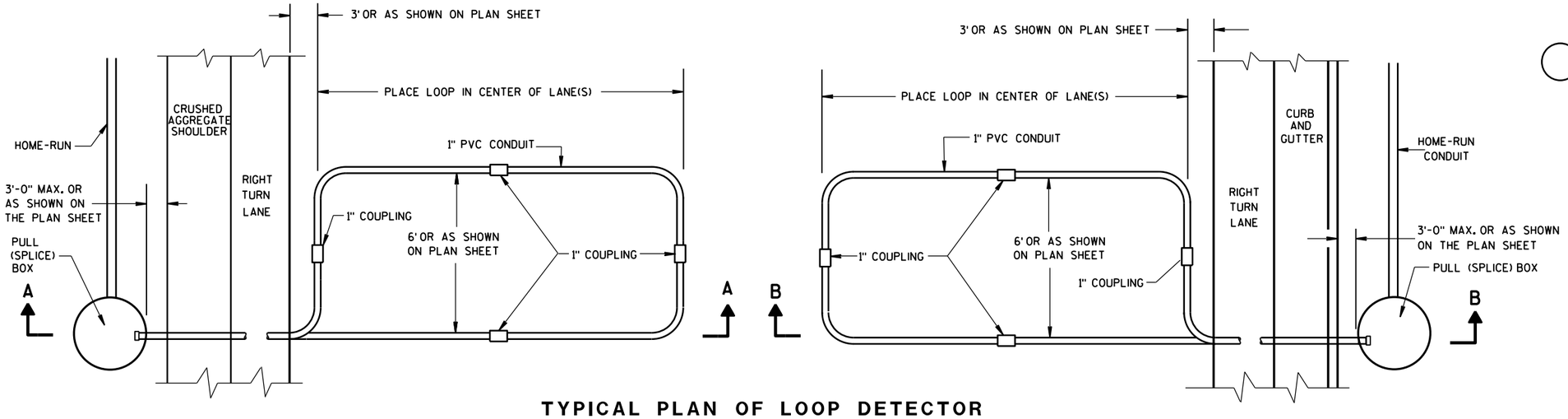
THE #12 AWG. LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL (SPLICE) BOXES AT THE SIDE OF THE ROAD.

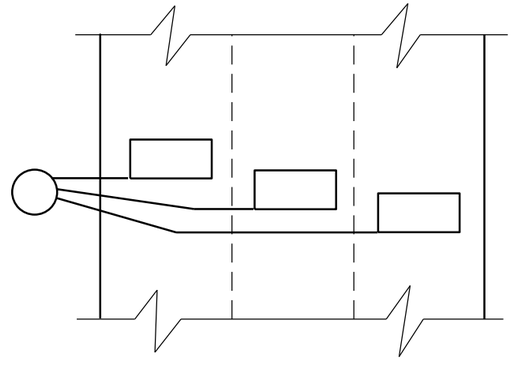
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPLICE) BOX, THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPLICE) BOX, AND BE INSTALLED IN ONE, NON-SPLICED CONTINUOUS LENGTH.

PROTECTION OF THE CONDUITS IN THE BASE COURSE SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER.

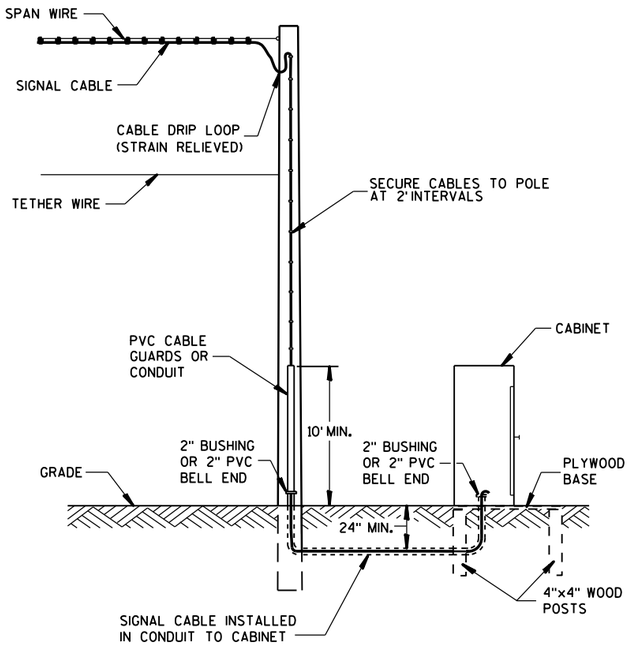


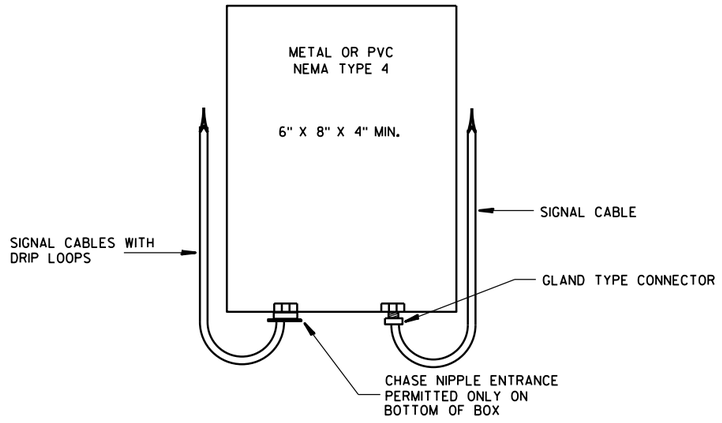
TYPICAL PLAN OF LOOP DETECTOR WITH 24" PULL (SPLICE) BOX



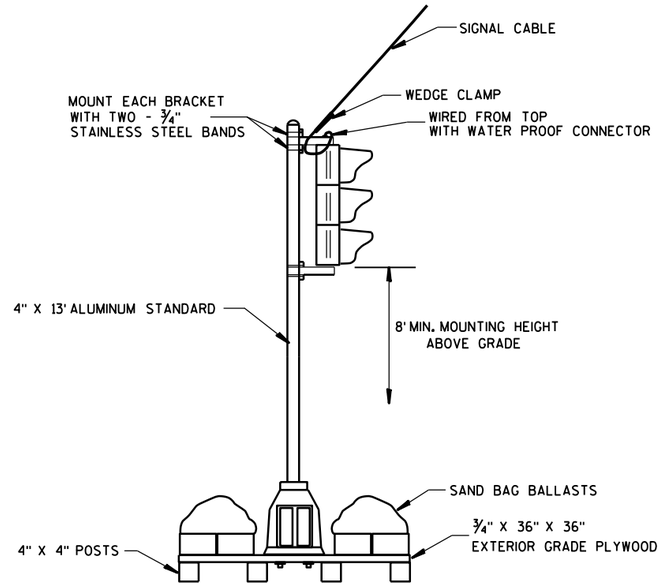
MULTI-LANE INSTALLATION

LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED Sept. 2014 — DATE /S/ Ahmet Demirbilek — STATE ELECTRICAL FHWA

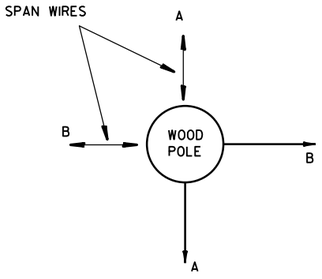




SPLICE BOX

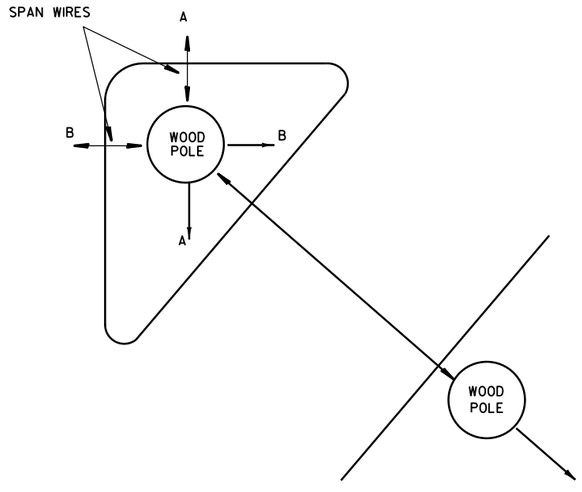


TYPICAL SKID TYPE TEMPORARY

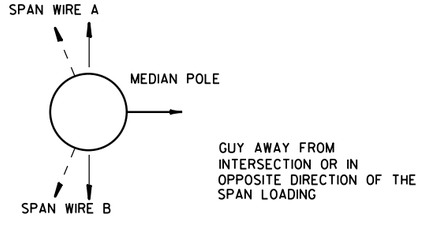


ALL DOWN OR SIDEWALK GUYS
SHALL BE INSTALLED IN THE
OPPOSITE DIRECTION OF THE
STRAIN OF THE SPAN WIRE

CORNER POLES



ISLAND POLES



GUY AWAY FROM
INTERSECTION OR IN
OPPOSITE DIRECTION OF THE
SPAN LOADING

MEDIAN POLES

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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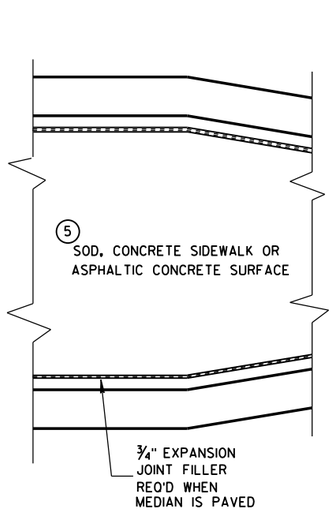
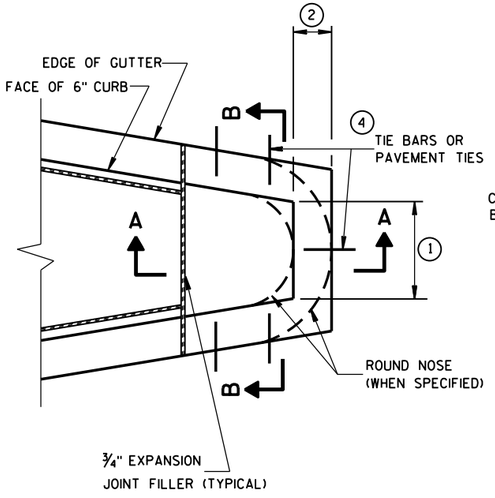
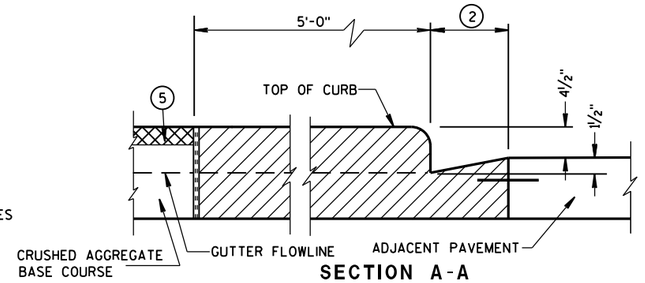
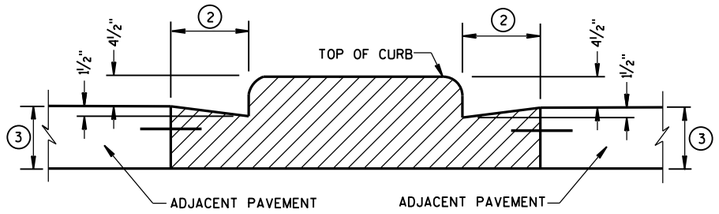
S.D.D. 9 G 1-4g







SECTION A-A



SECTION B-B

CONCRETE MEDIAN BLUNT NOSE DETAIL

GENERAL NOTES

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

(1) SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).

(2) WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.

(3) DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:

(1) NEW OR EXISTING CONCRETE PAVEMENT.

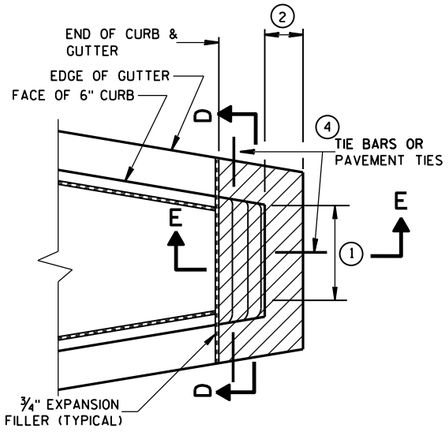
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

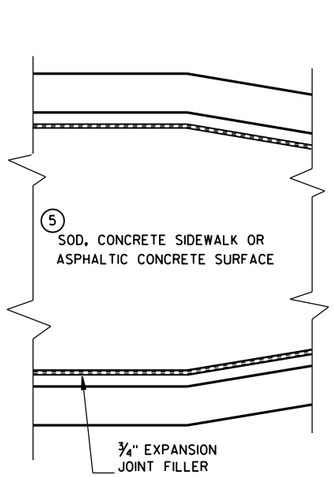
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

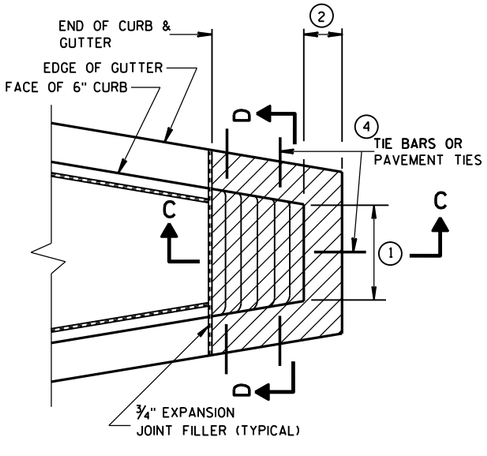
(4) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

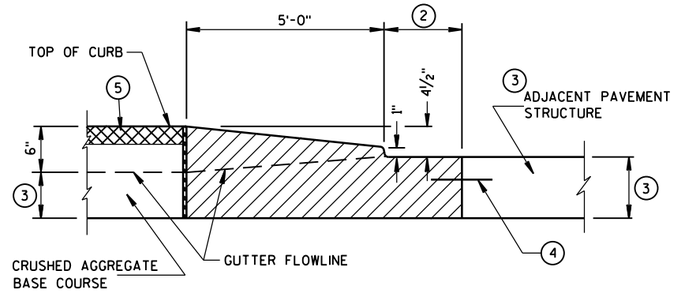
(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.



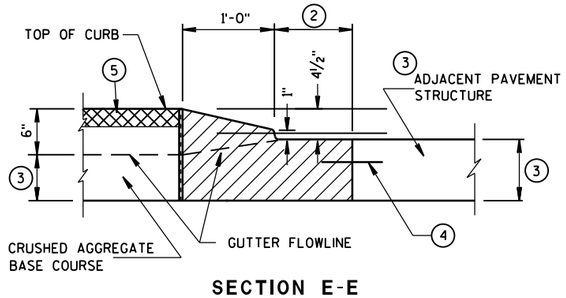




CONCRETE MEDIAN SLOPED NOSE TYPE 1

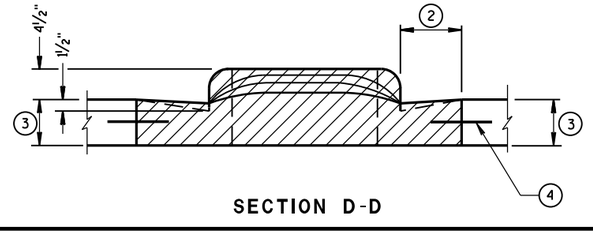


SECTION C-C



SECTION E-E

CONCRETE MEDIAN SLOPED NOSE TYPE 2



SECTION D-D

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/8/2006
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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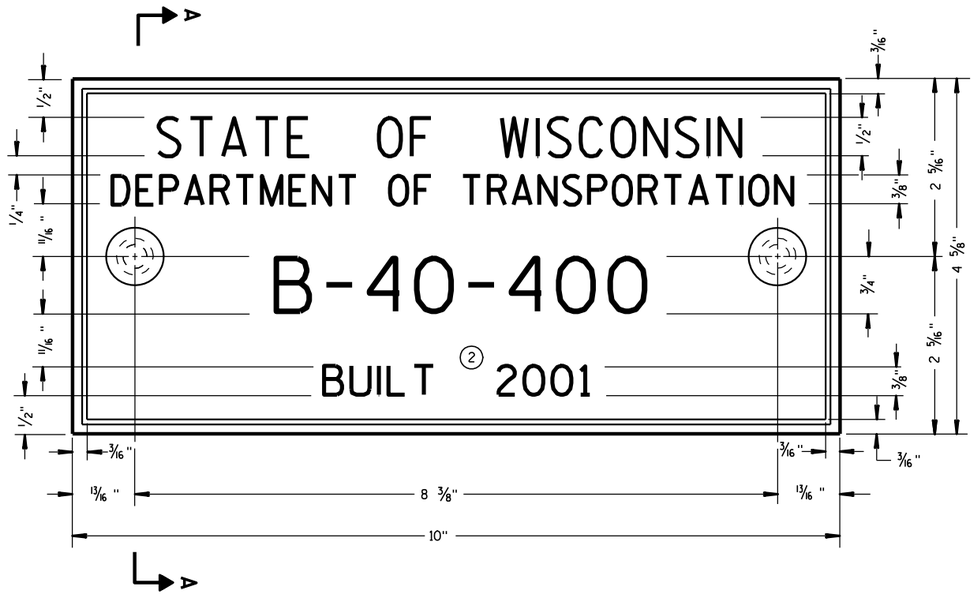
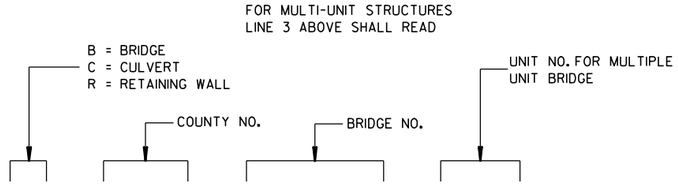
S.D.D. 11 B 2-2



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION MULTI-UNIT STRUCTURES

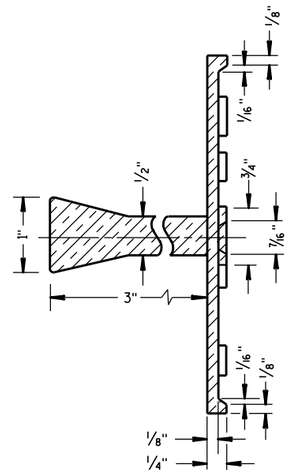
GENERAL NOTES

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.

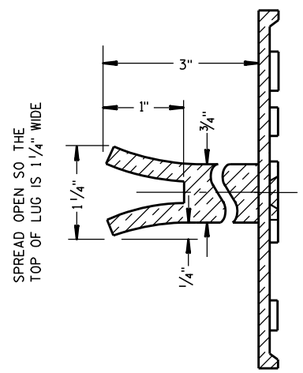
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

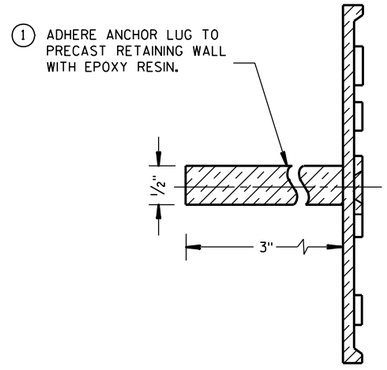
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



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 DEVELOPMENT ENGINEER

FHWA

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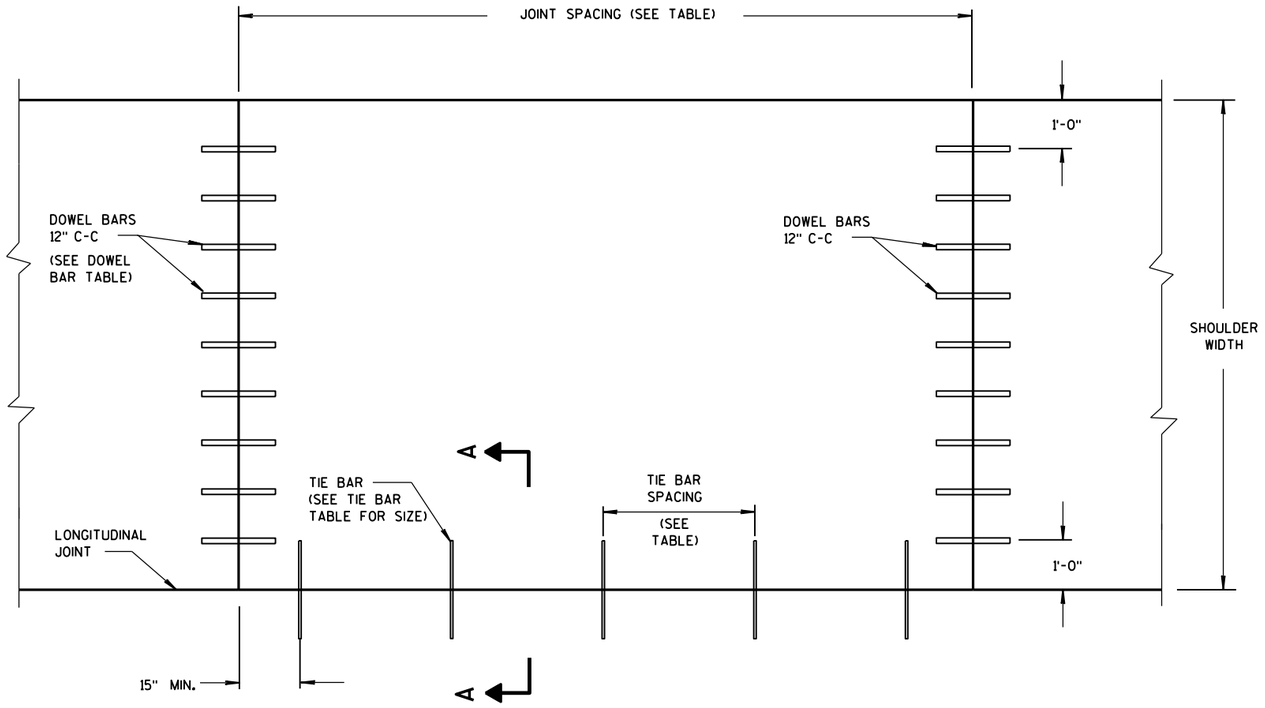
S.D.D. 12 A 3-10



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

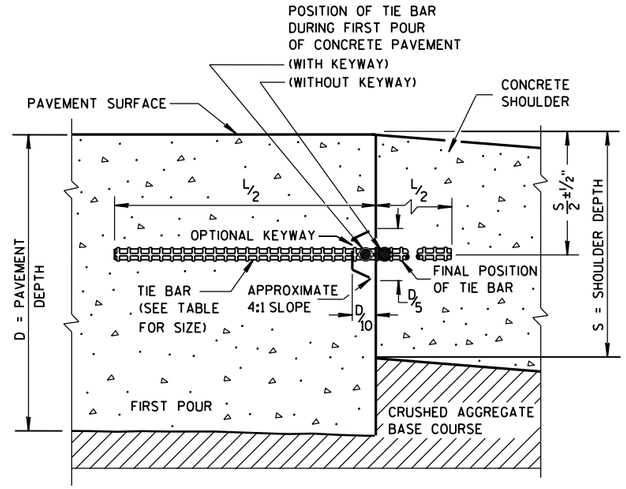
GENERAL NOTES

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

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.



SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4*	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER***	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'

*** FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FOR THE AVERAGE THICKNESS OF THE CROSS SECTION.

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

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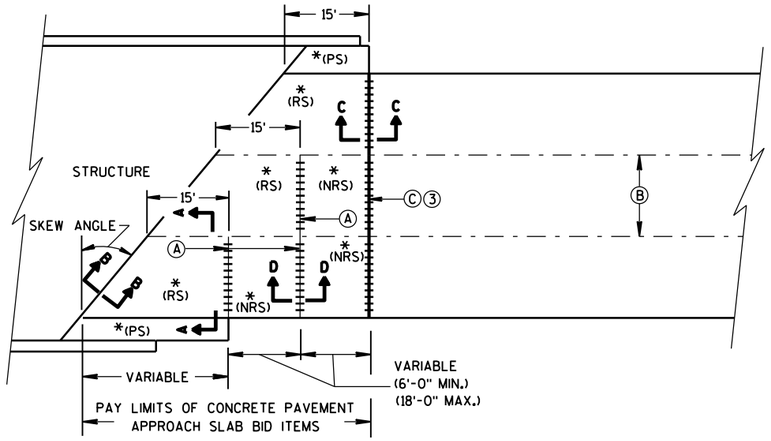
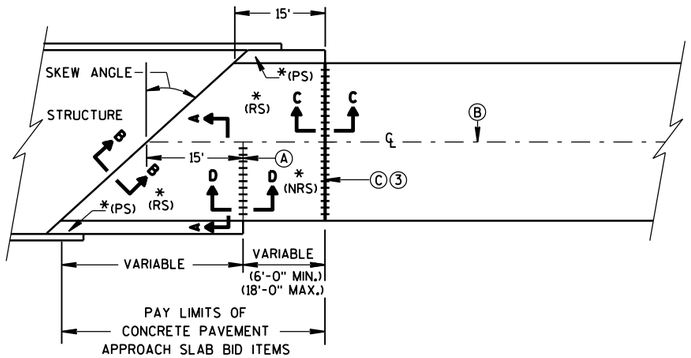
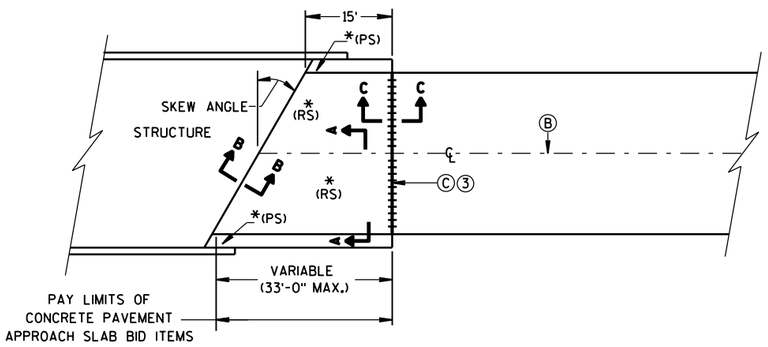
S.D.D. 13 A 3-6



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

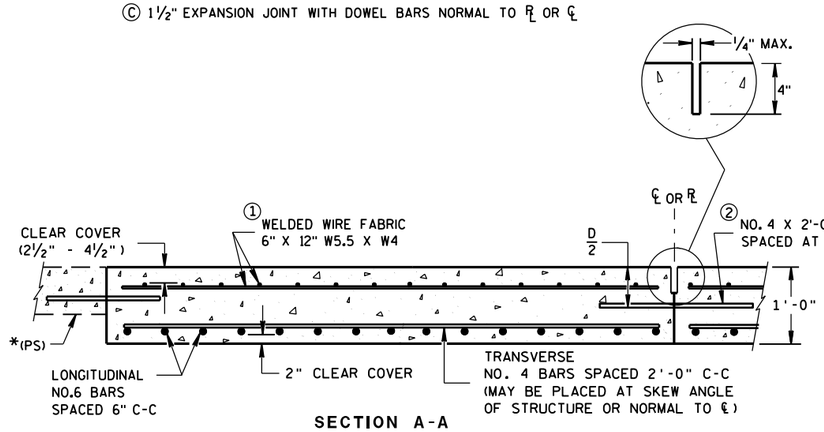
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

***STANDARD DOWEL BAR DIAMETER
(SEE SDD 13C11, & SDD 13C13)

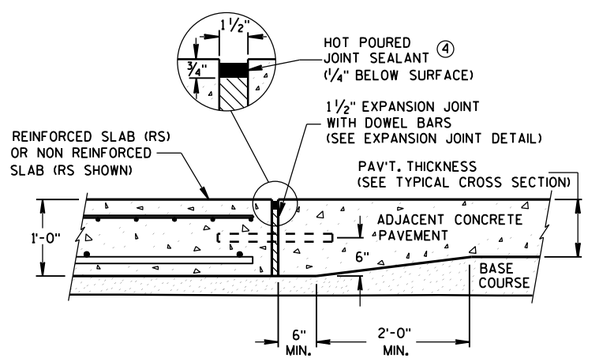
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄

Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.

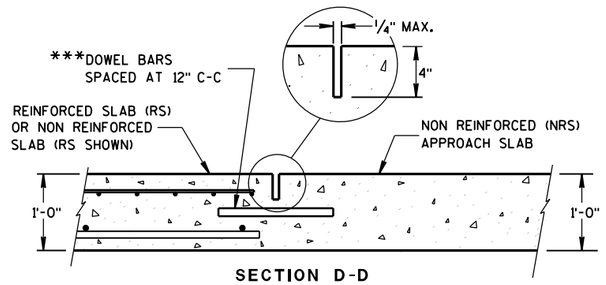
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

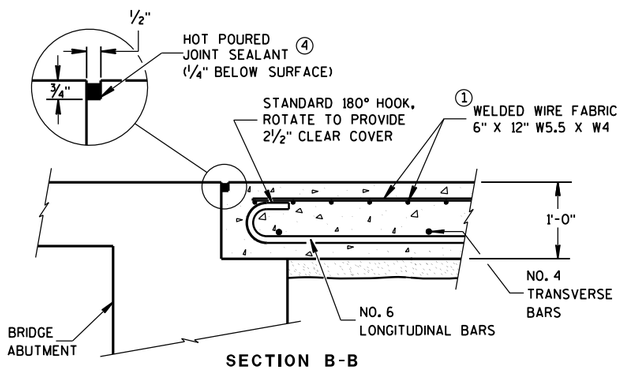
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

② THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

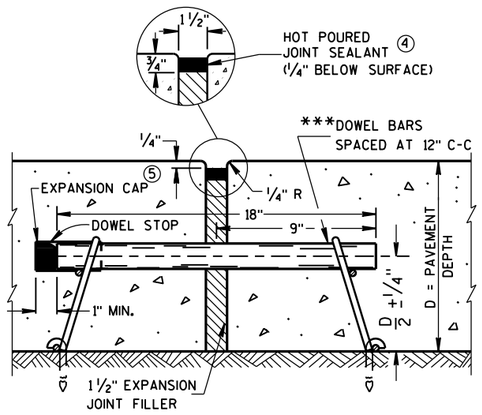
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

④ USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.

⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
/S/ Peter Kemp, P.E.
PAVEMENT SUPER
FHWA

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S.D.D. 13 B 2-8a

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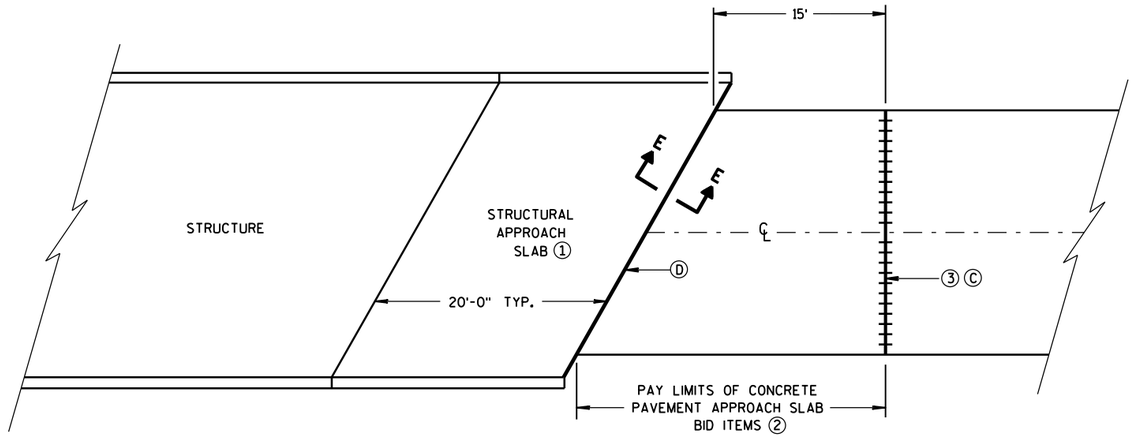
S.D.D. 13 B 2-8a



GENERAL NOTES

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE PAVEMENT APPROACH SLAB.

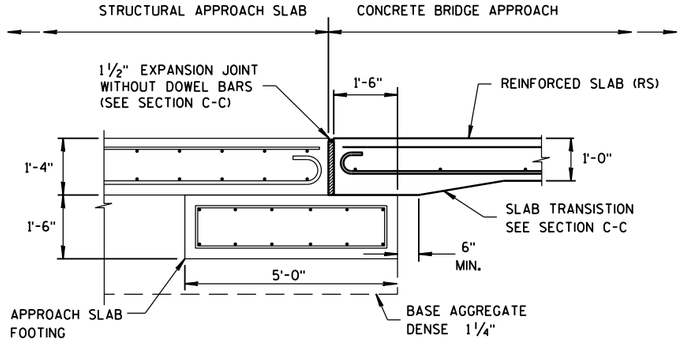
① SEE BRIDGE PLAN.

② CONFORM TO SHEET 13 B 2(A) FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS.

③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄

Ⓓ 1½" EXPANSION JOINT (NO DOWELS)



SECTION E-E

FOOTING DETAIL

STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPERV
FHWA

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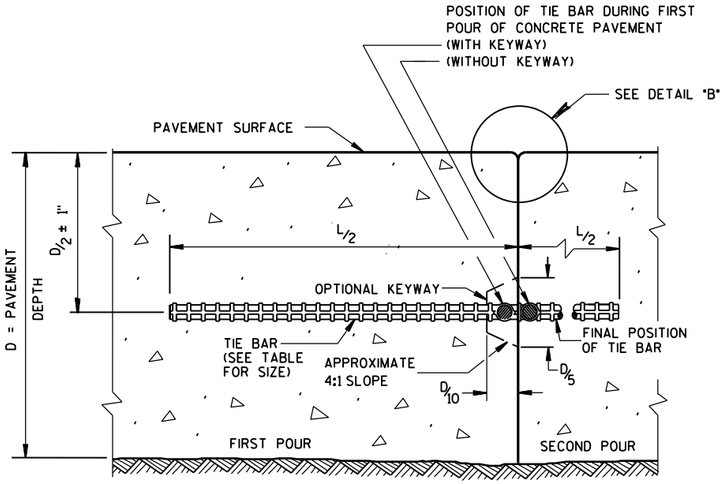
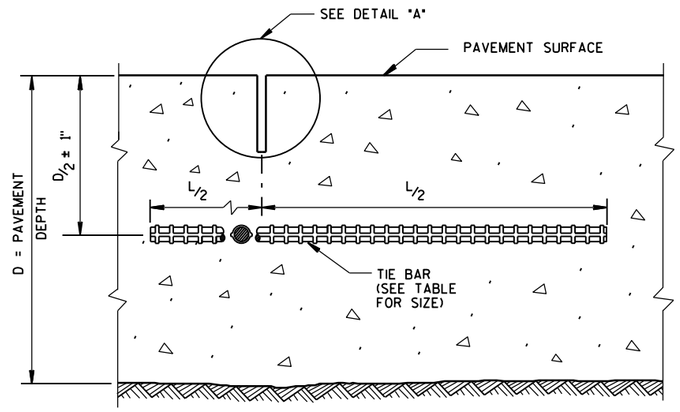
S.D.D. 13 B 2-8b



CONSTRUCTION JOINT



SAWED JOINT

GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

PLAN VIEW

SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

DETAIL "A"

DETAIL "B"

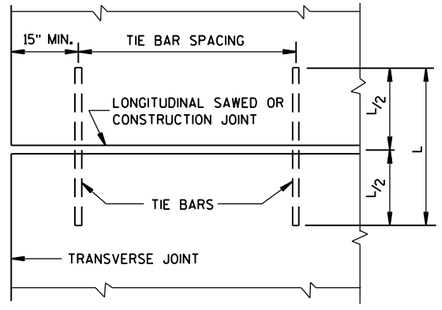
DETAIL "C"

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

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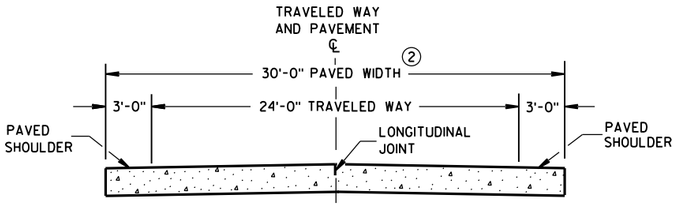
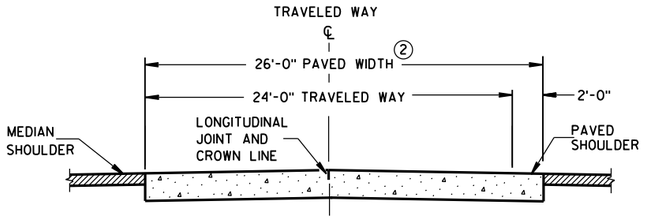
S.D.D. 13 C 1-18

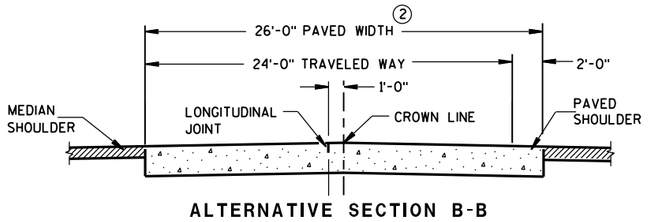


SECTION A-A ①

TWO-LANE TWO-WAY HIGHWAY



SECTION B-B



ALTERNATIVE SECTION B-B ①

DIVIDED HIGHWAY

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

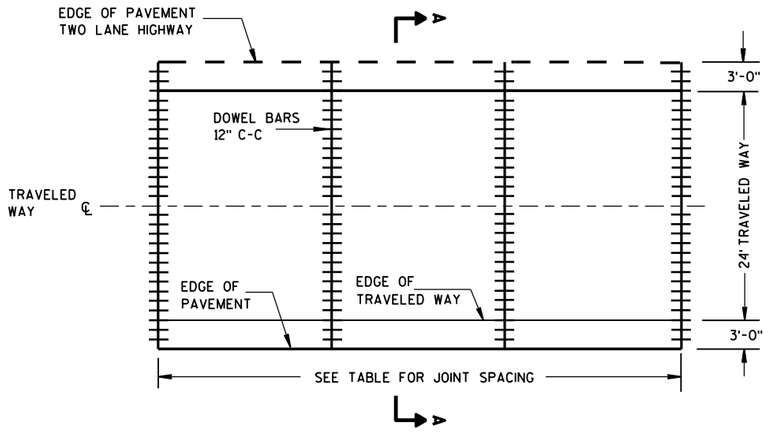
LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.

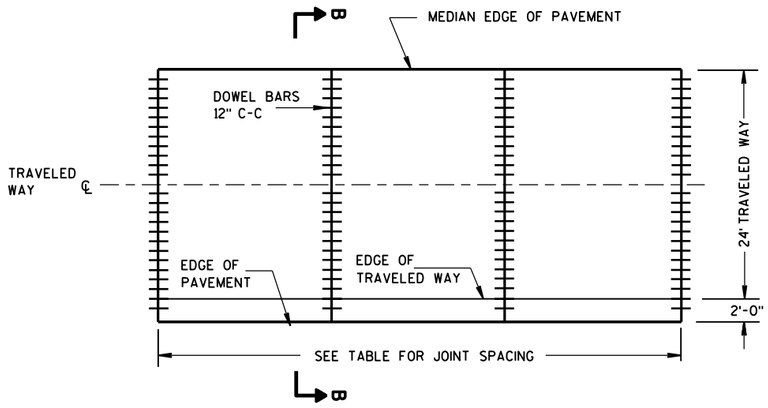
② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



CONTRACTION JOINT LAYOUT
FOR TWO-LANE TWO-WAY HIGHWAY



CONTRACTION JOINT LAYOUT
FOR DIVIDED HIGHWAY

RURAL DOWELED
CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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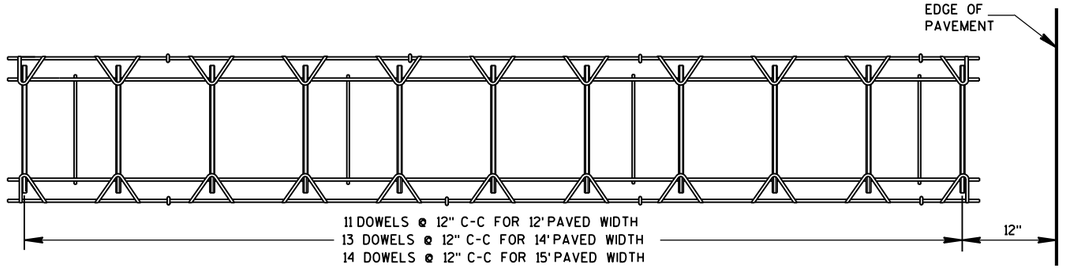
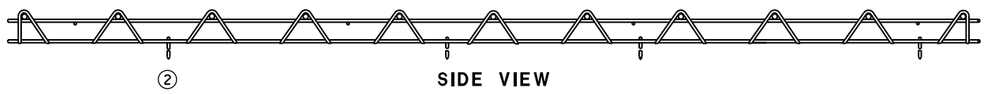
S.D.D. 13 C 11-11a



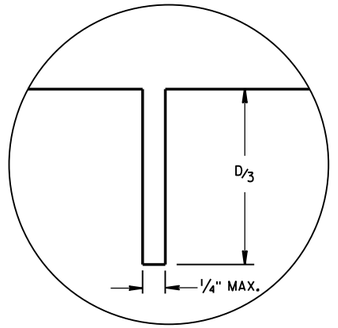
PLAN VIEW



SIDE VIEW

(NORMAL TO CENTERLINE)

CONTRACTION JOINT DOWEL ASSEMBLY ①



JOINT DETAIL

GENERAL NOTES

① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.

② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

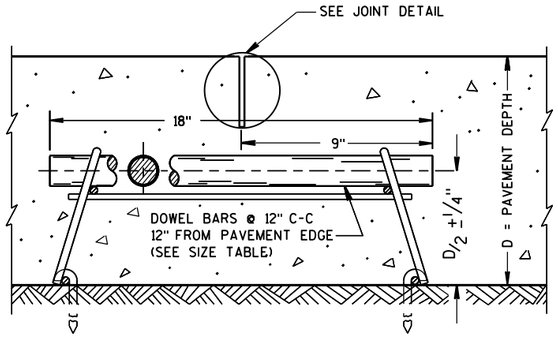
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

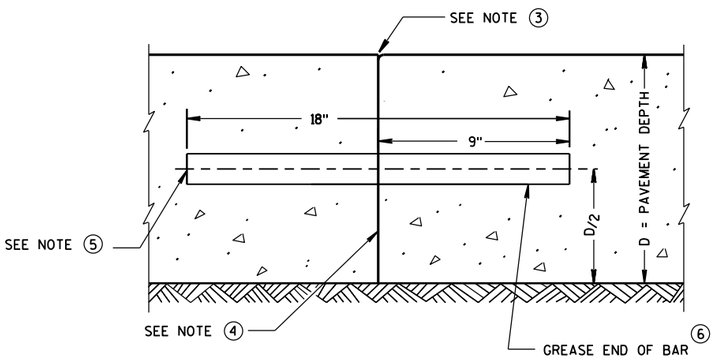
⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

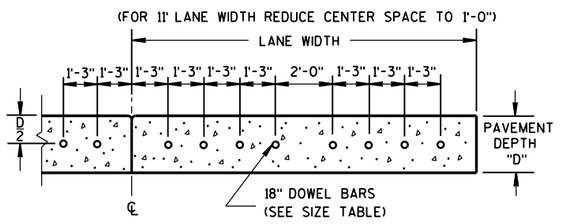
⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



DOWELED CONTRACTION JOINT



TRANSVERSE CONSTRUCTION JOINT



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦

RURAL DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/3/2013 DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DE ENGINEER

FHWA

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S.D.D. 13 C 11-11b

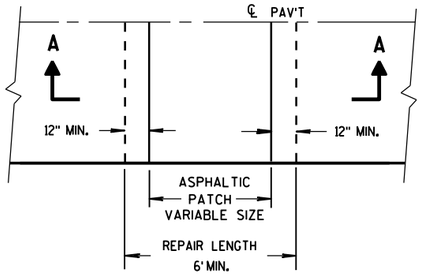
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

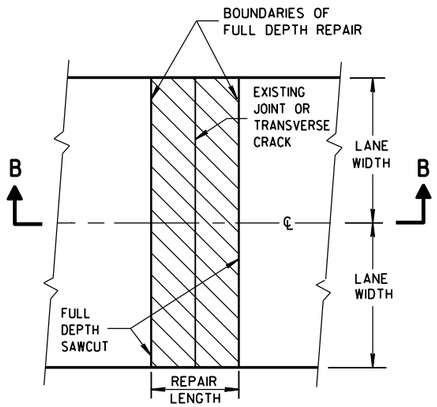
PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

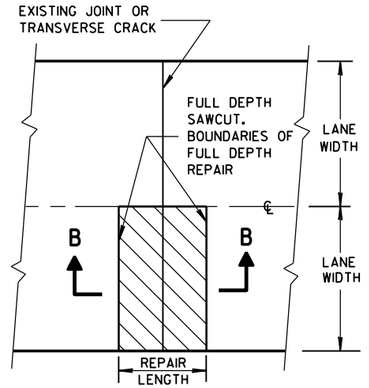
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW

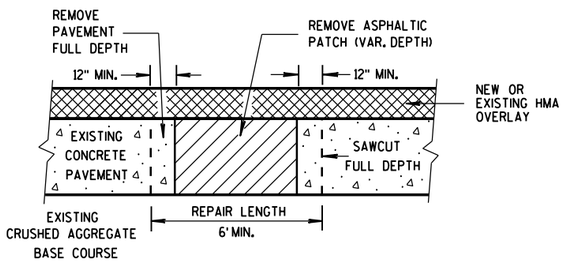


PLAN VIEW
(DOUBLE LANE REPAIR)



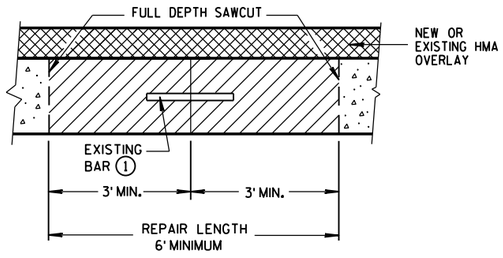
PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

CONCRETE REMOVAL

BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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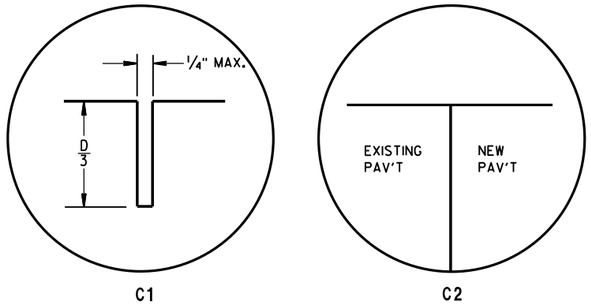
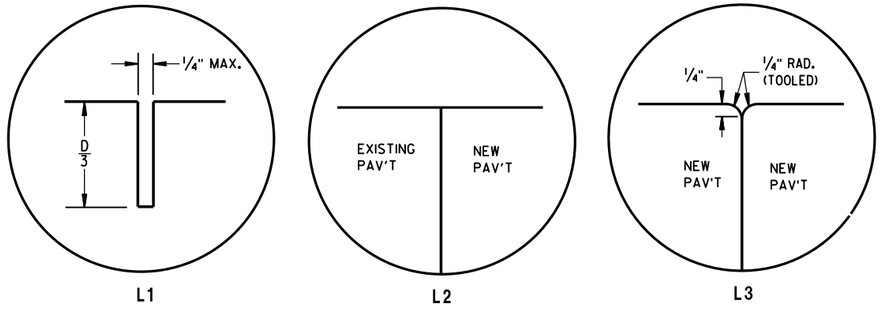
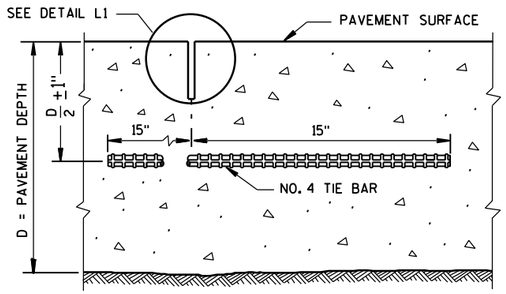


TRANSVERSE JOINTS

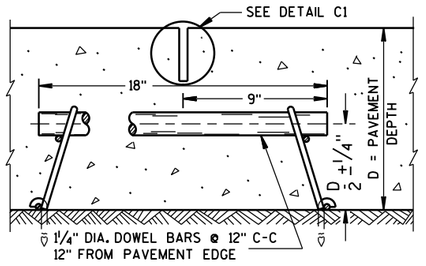


LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT



SECTION F-F

CONTRACTION JOINT

GENERAL NOTES

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

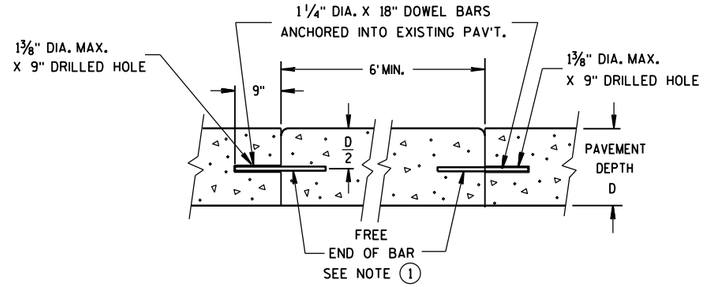
CONCRETE BASE PATCHES OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

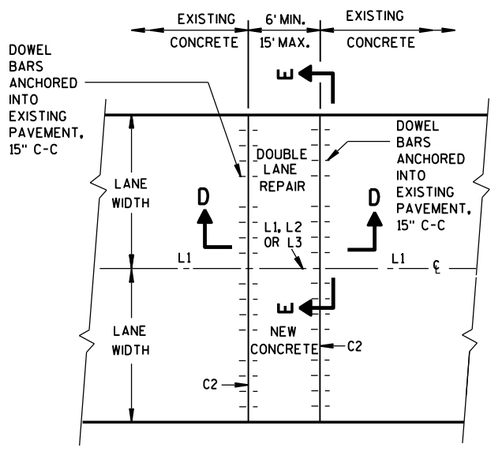
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

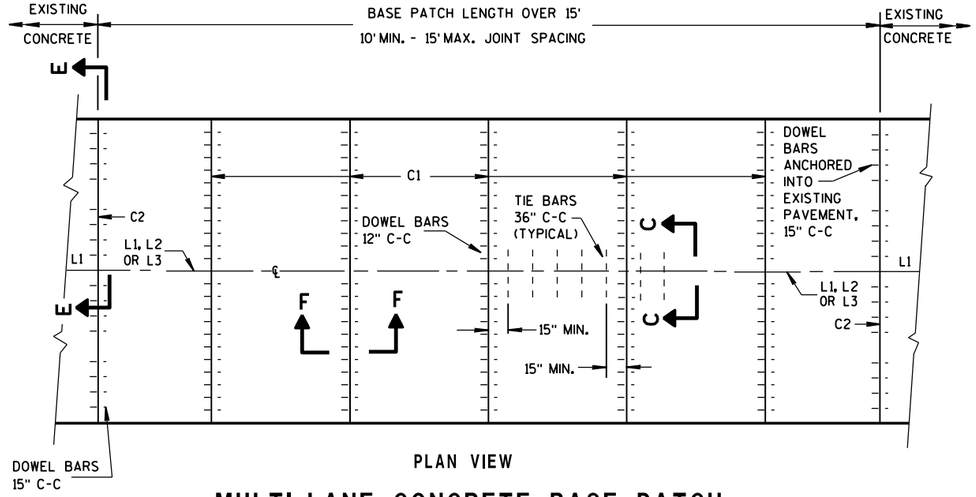


SECTION D-D



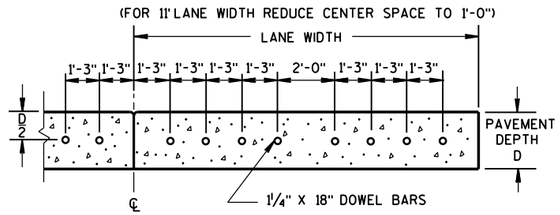
PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH



SECTION E-E

SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT

BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

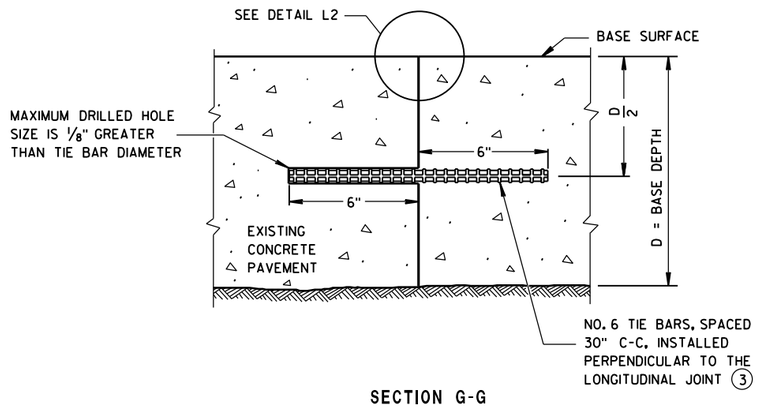
S.D.D. 13 C 14-6b

GENERAL NOTES

(1) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE BASE PATCHES UP TO 15 FEET IN LENGTH.

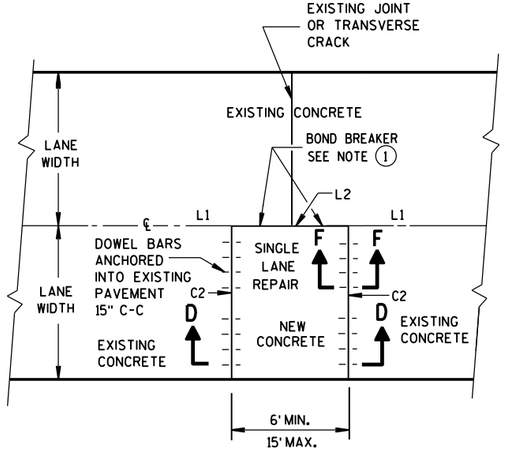
(2) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, DRILLED TIE BARS MAY BE INSTALLED ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

(3) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



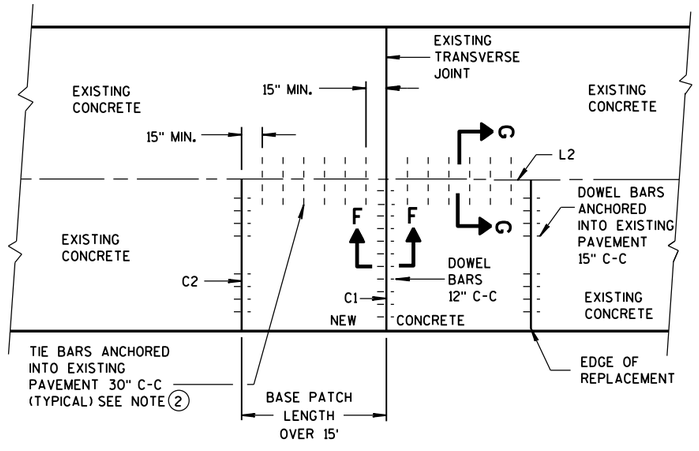
SECTION G-G

TIE BARS ANCHORED INTO EXISTING PAVEMENT



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH

BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

6

S.D.D. 13 C 14-6c

GENERAL NOTES

PCCP = PORTLAND CEMENT CONCRETE PAVEMENT.

SHLDR = SHOULDER.

CONTINUE SAW CUT CONTRACTION JOINT ACROSS TURN LANE, EXIT TAPER AND PASSING LANE.

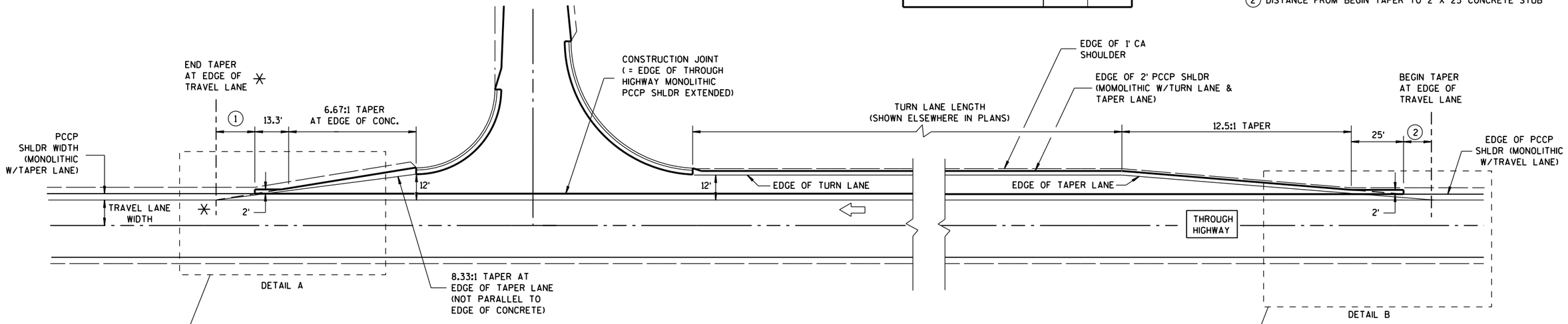
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

THROUGH HIGHWAY LANE WIDTH AND PCCP SHOULDER WIDTH ARE SHOWN ELSEWHERE IN PLANS

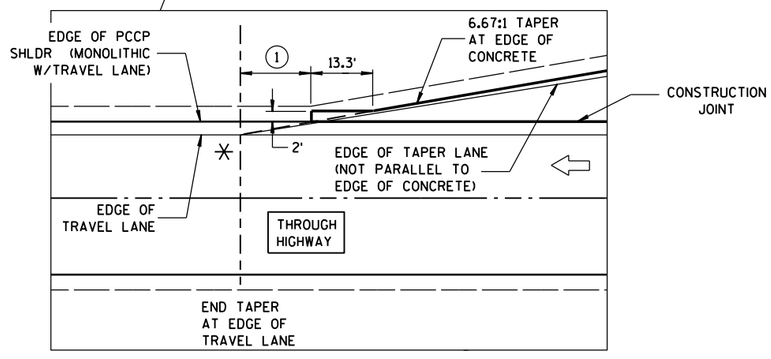
(1) DISTANCE FROM END TAPER TO 2' X 13.3' CONCRETE STUB

(2) DISTANCE FROM BEGIN TAPER TO 2' X 25' CONCRETE STUB

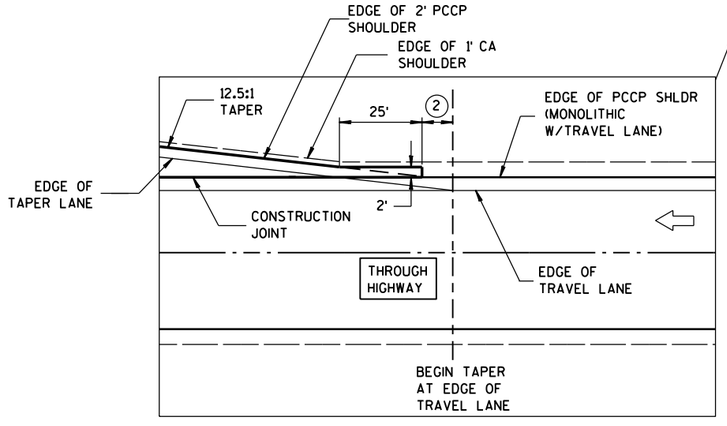
THROUGH HIGHWAY MONOLITHIC PCCP SHOULDER WIDTH (FEET)	DISTANCE (FEET) (1)	DISTANCE (FEET) (2)
2	13.3	0.0
3	20.0	12.5
TAPER RATE : 1	6.67	12.5



NOTE: EDGE OF CONCRETE TAPER (EXTENDED) & EDGE OF TAPER LANE CONVERGE



DETAIL A



DETAIL B

RIGHT TURN LANE AND EXIT TAPER

DETAIL FOR RIGHT TURN LANE/ TEE INTERSECTION BYPASS LANE ON A CONCRETE ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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S.D.D. 13 C 16-2a

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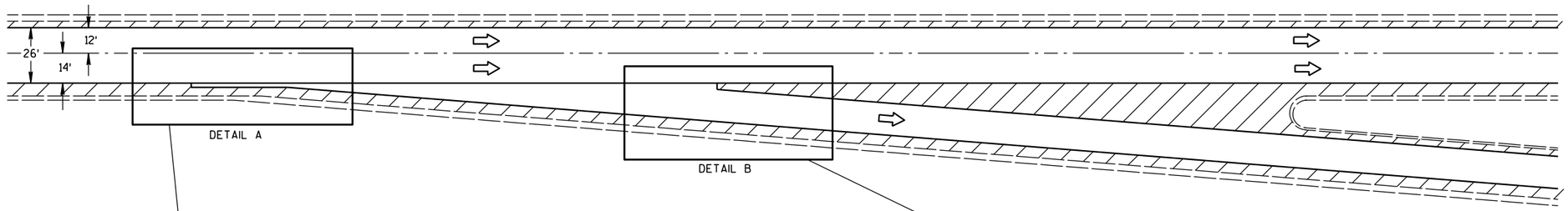
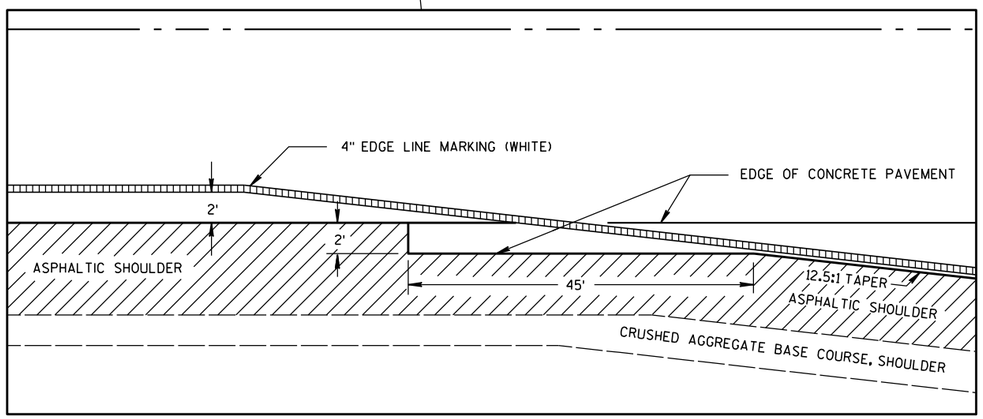
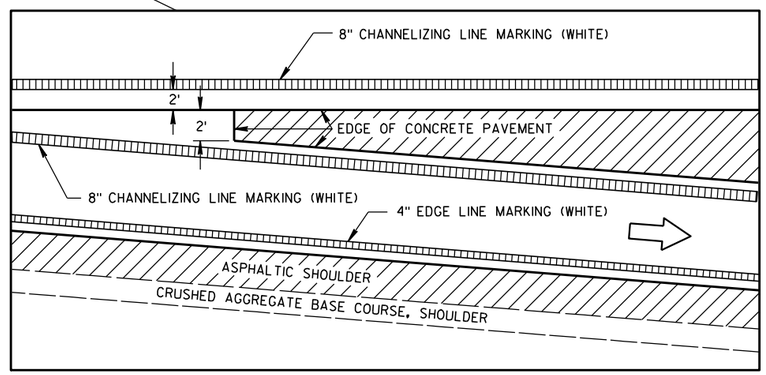
S.D.D. 13 C 16-2a



EXIT RAMP DETAIL



DETAIL A



DETAIL B

CONCRETE JOINT PAVING DETAILS

GENERAL NOTES

PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

SEE SDD 13 A 4-4c OR SDD 13 A 5-1b FOR RAMP AND GORE RUMBLE STRIP LOCATION.

CONCRETE JOINT DETAIL FOR EXIT RAMP TERMINI

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 13 C 17-1a

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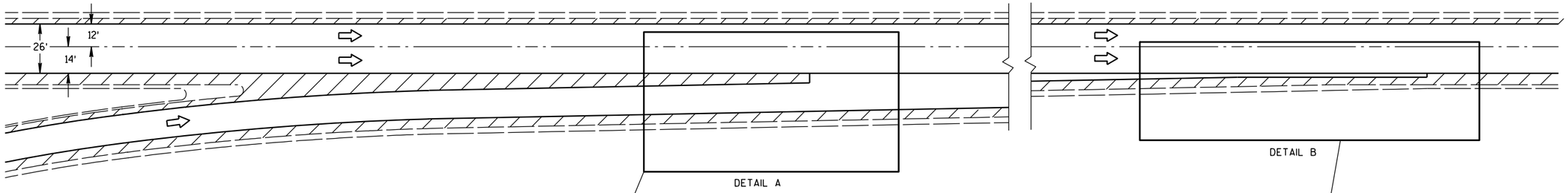
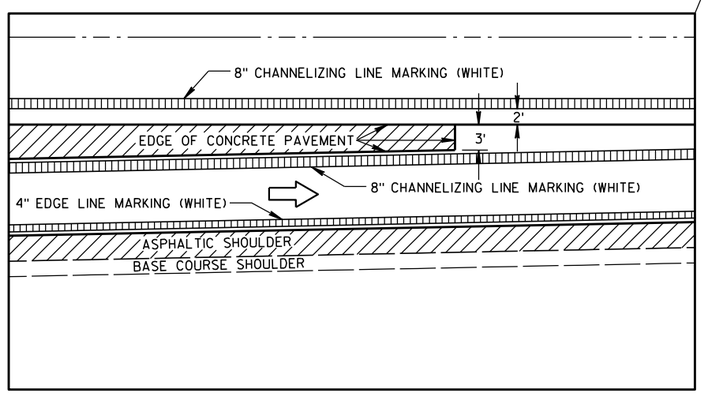
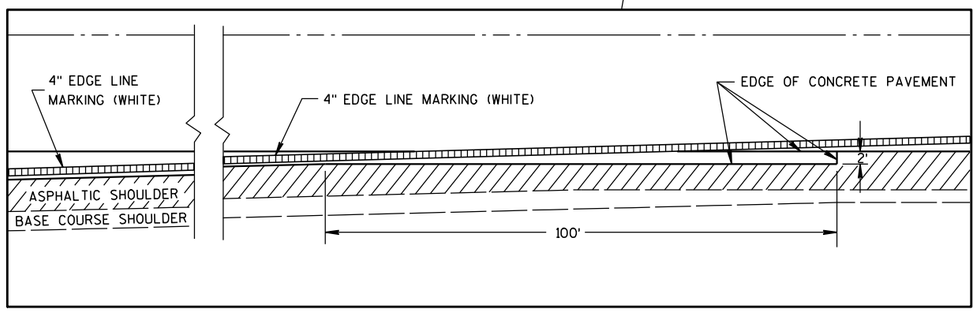
S.D.D. 13 C 17-1a



ENTRANCE RAMP DETAIL



DETAIL A



DETAIL B

CONCRETE JOINT PAVING DETAILS

GENERAL NOTES

PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

SEE SDD 13 A 4-4c OR SDD 13 A 5-1b FOR RAMP AND GORE RUMBLE STRIP LOCATION.

CONCRETE JOINT DETAIL FOR ENTRANCE RAMP TERMINI

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

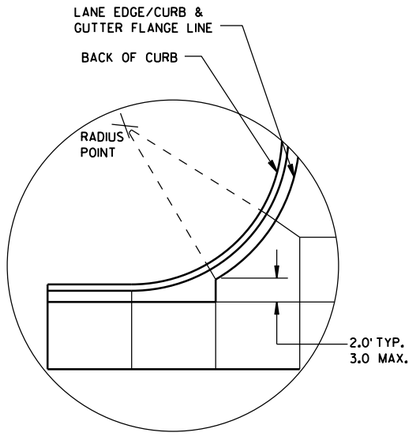
APPROVED

5/27/98
DATE

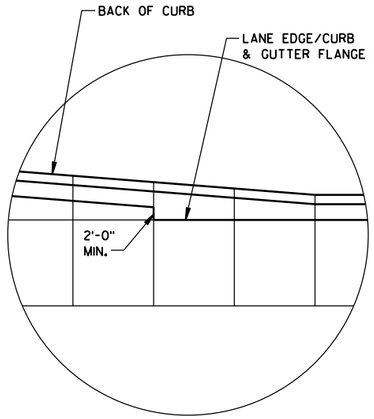
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

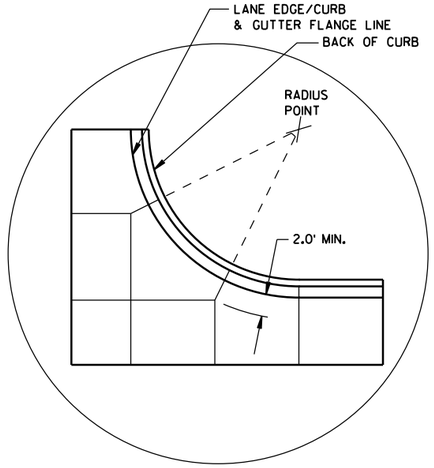
6
S.D.D. 13 C 17-1b



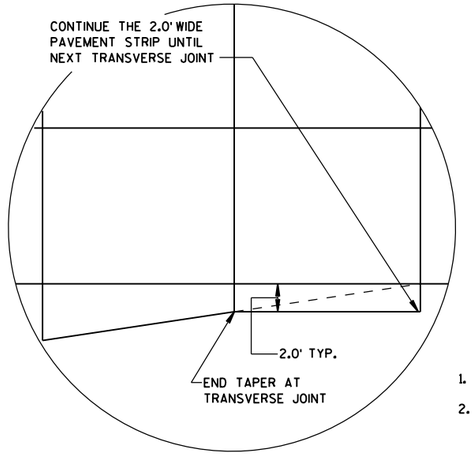
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

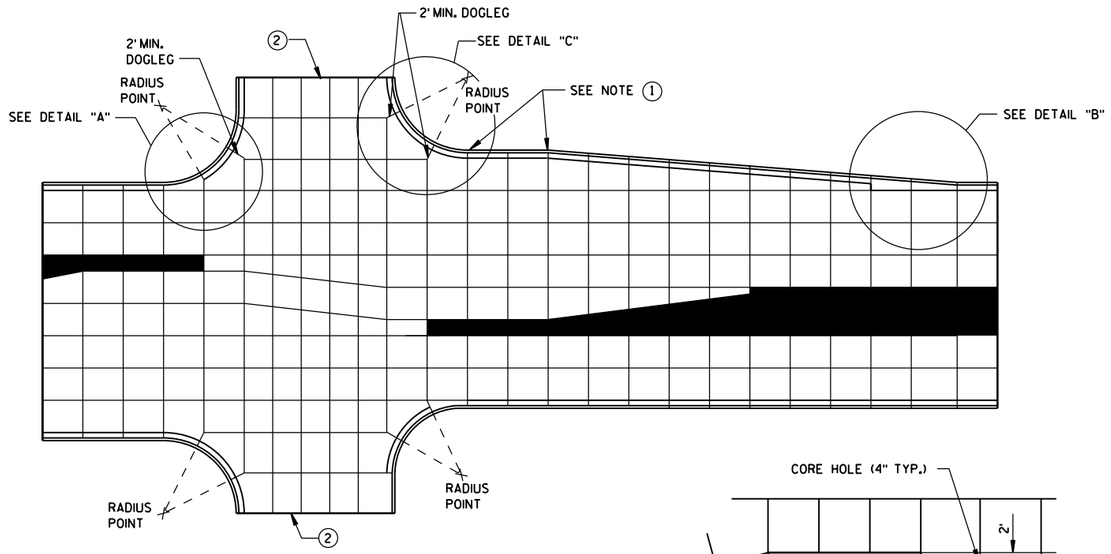
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

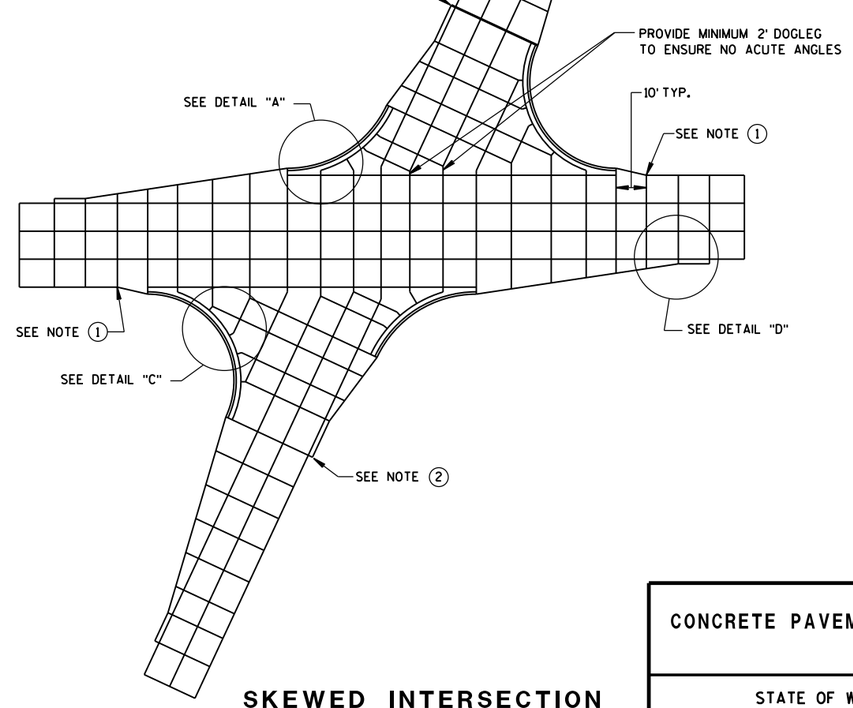
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



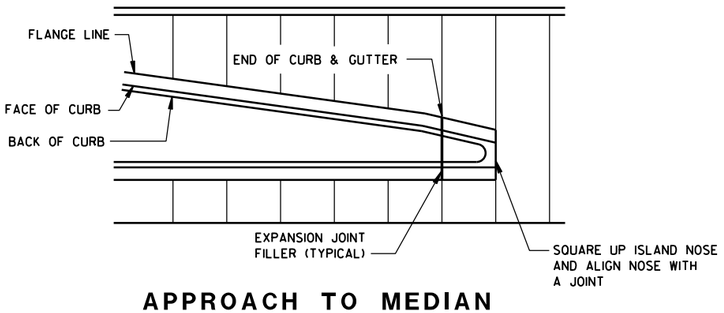
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

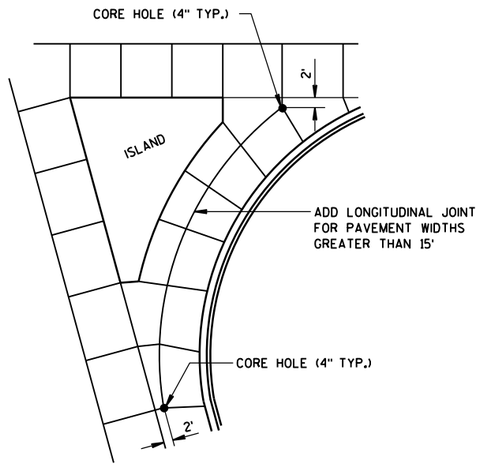
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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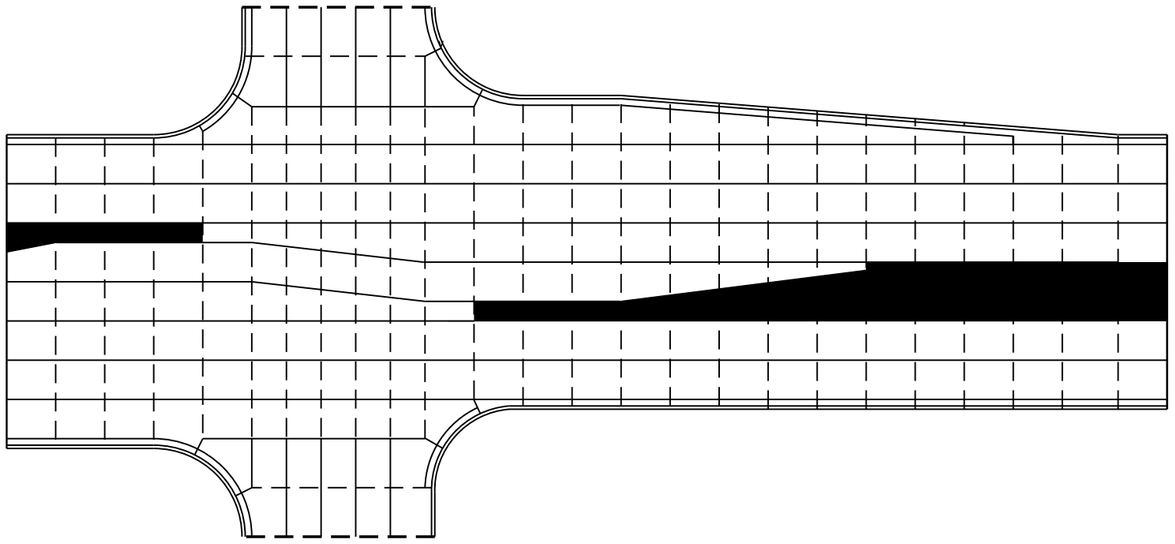
S.D.D. 13 C 18-4a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

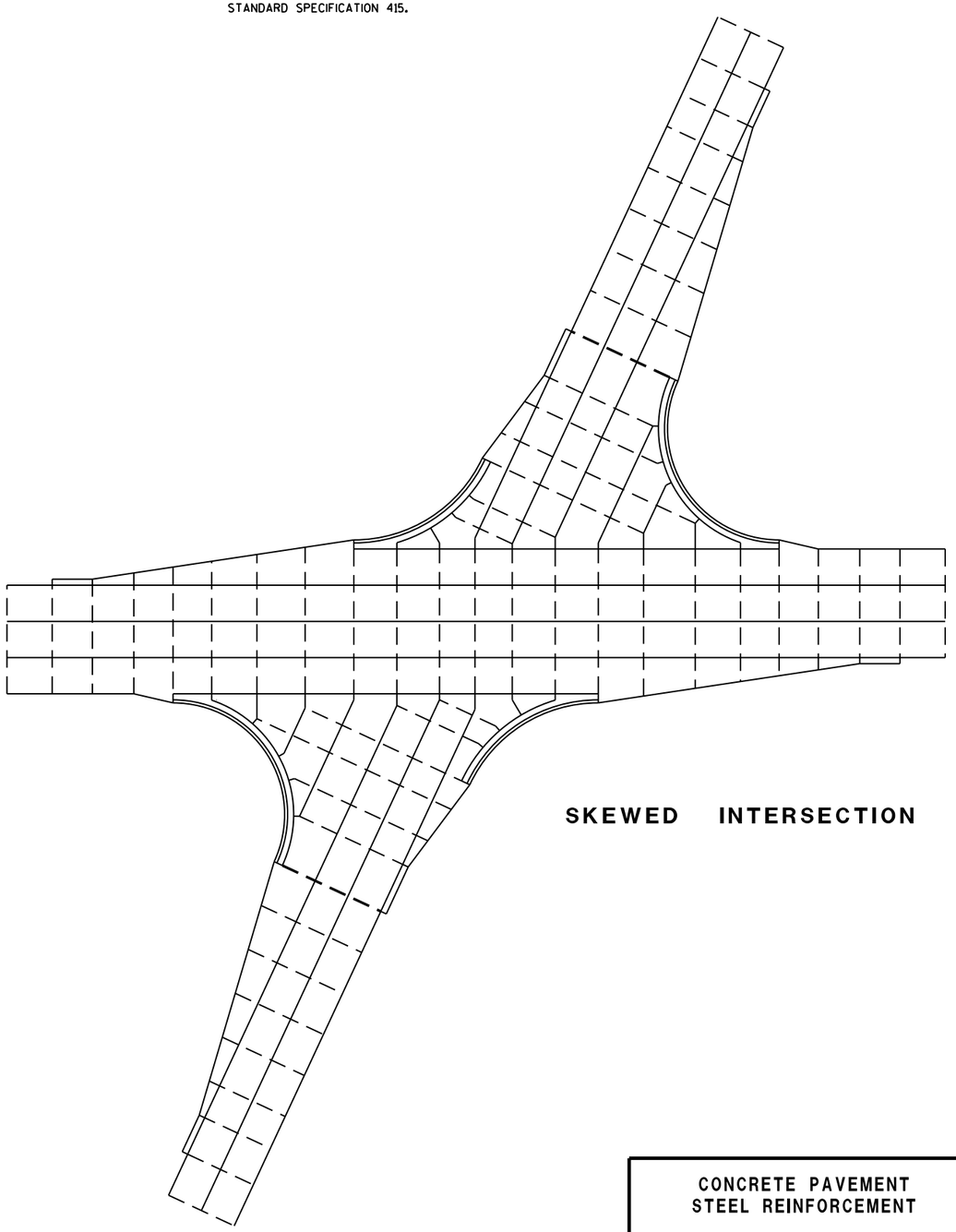
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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S.D.D. 13 C 18-4b

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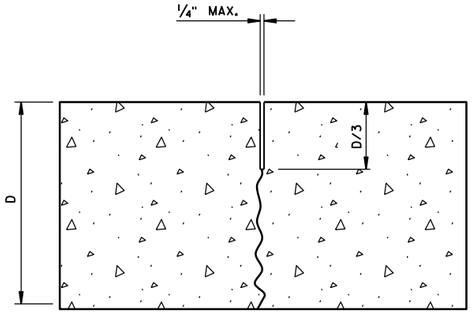
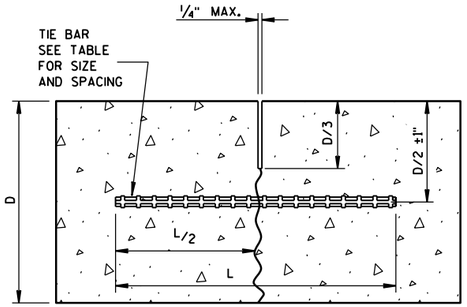
S.D.D. 13 C 18-4b



UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

TIE BAR TABLE

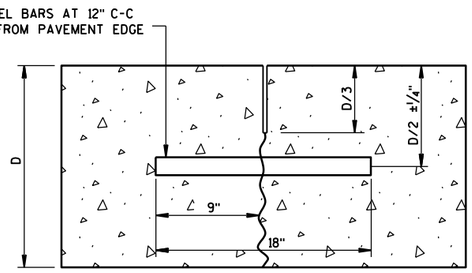
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4*	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

GENERAL NOTES

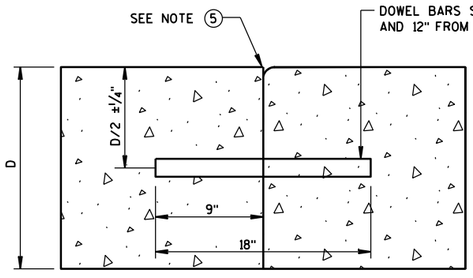
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
5. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.
6. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



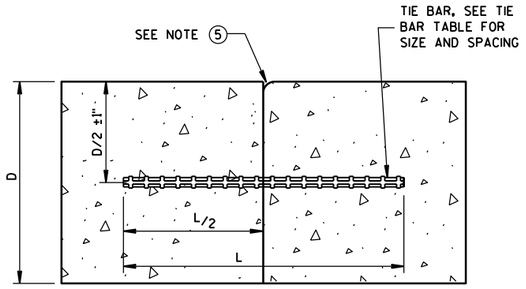
DOWELED-TRANSVERSE

CONTRACTION JOINTS

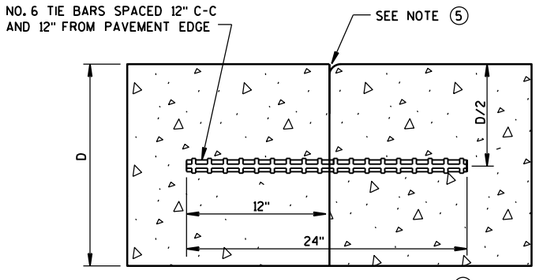
SEE NOTE (2)



DOWELED TRANSVERSE (3)

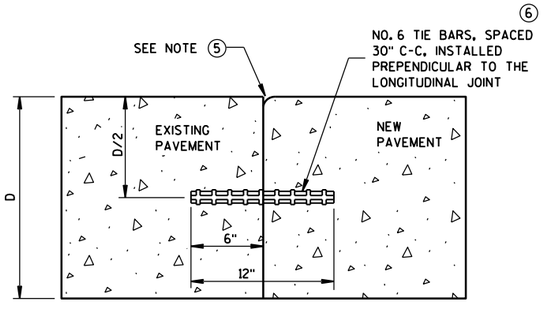


TIED LONGITUDINAL



TIED TRANSVERSE (3)

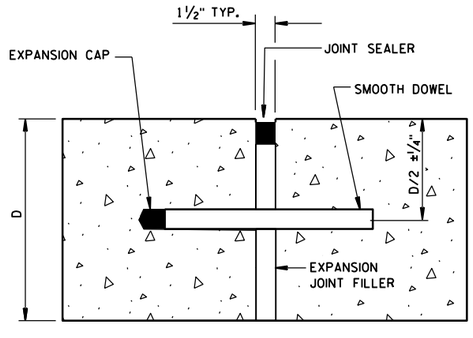
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

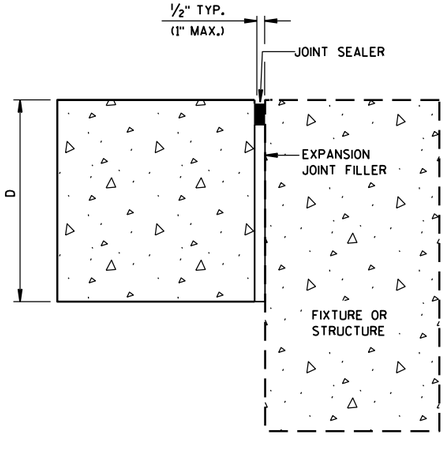
CONSTRUCTION JOINTS

SEE NOTE (4)



DOWELED-TRANSVERSE

SEE NOTE (1)



UNTIED-LONGITUDINAL

EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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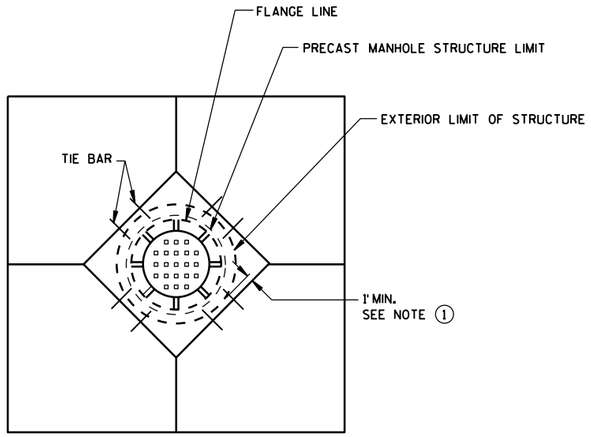
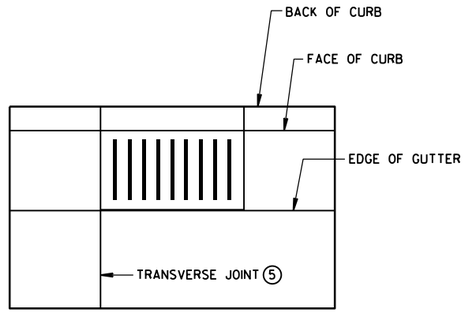
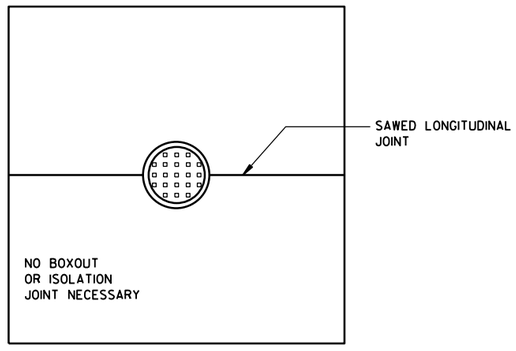
S.D.D. 13 C 18-4c



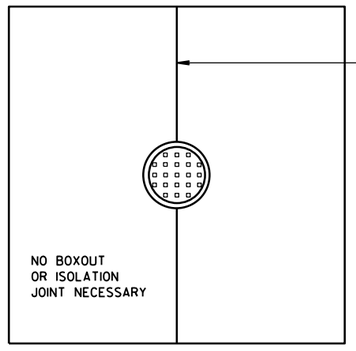
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



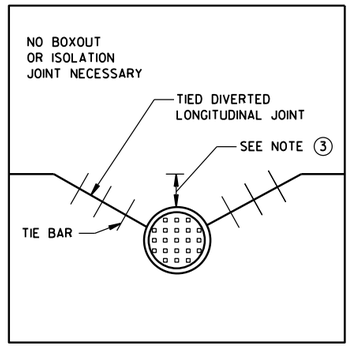
INLET WITH TRANSVERSE JOINT



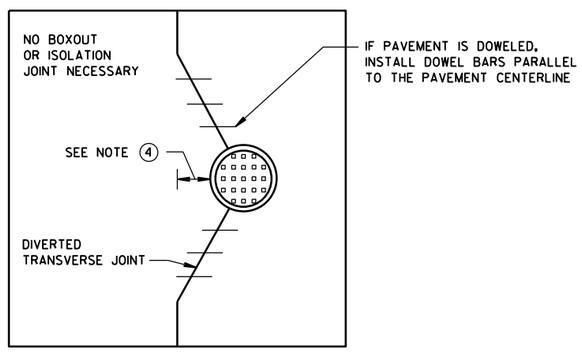
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

GENERAL NOTES

(1) USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1-FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.

(2) ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.

(3) IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDIAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(4) IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(5) ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

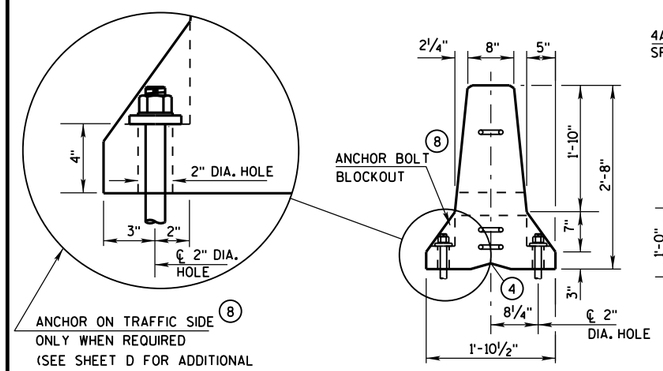
CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

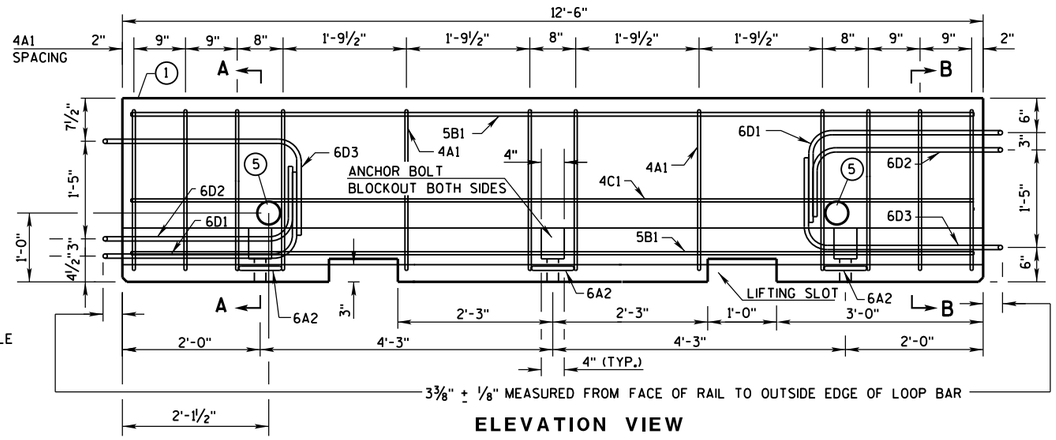
APPROVED
Sept., 2016 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

6

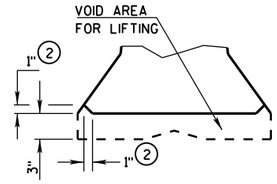
S.D.D. 13 C 18-4d



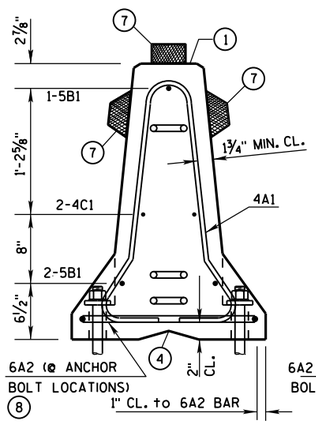
END VIEW



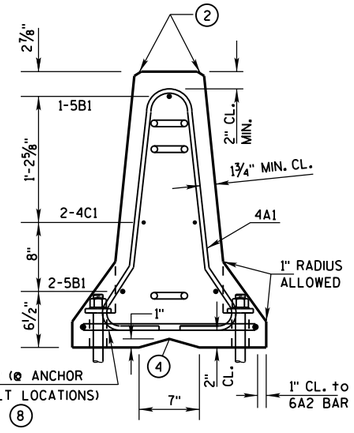
ELEVATION VIEW



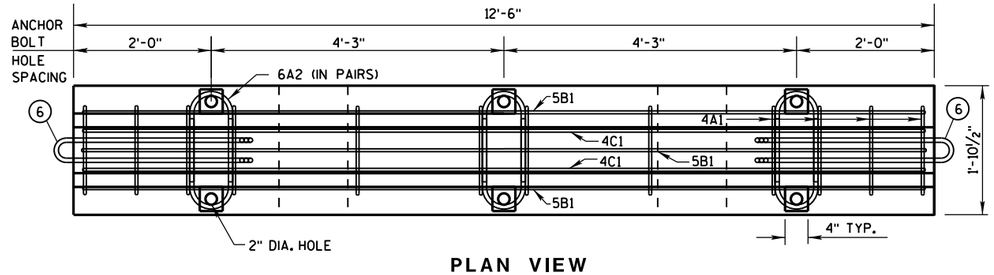
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

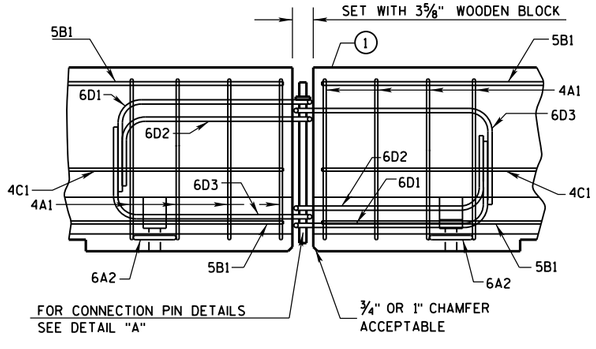


SECTION B-B
(STIRRUP PLACEMENT)

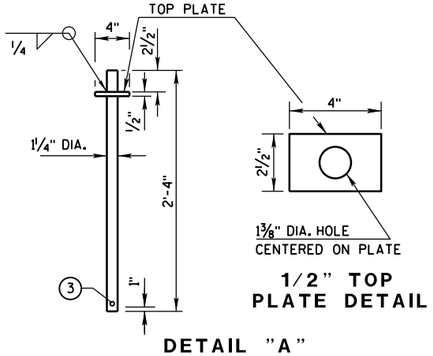


PLAN VIEW

DETAILS OF BARRIER SECTION

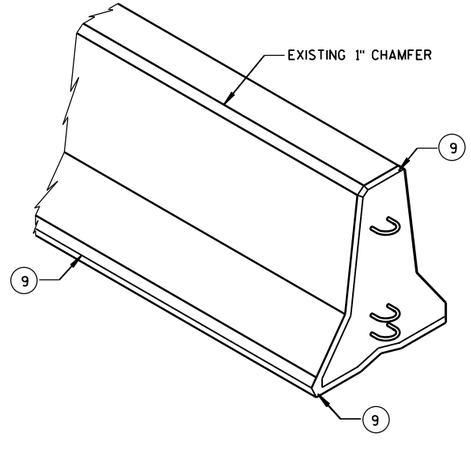


DETAILS OF BARRIER CONNECTION



1/2" TOP
PLATE DETAIL

DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-14(a) THRU 14B7-14(h).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRCAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE ¾" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-½" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR ADHESIVE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

(1) MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
- a. TYPE: WI CBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

(3) A ⅜" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..

(4) "V" NOTCH IS OPTIONAL.

(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

(6) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

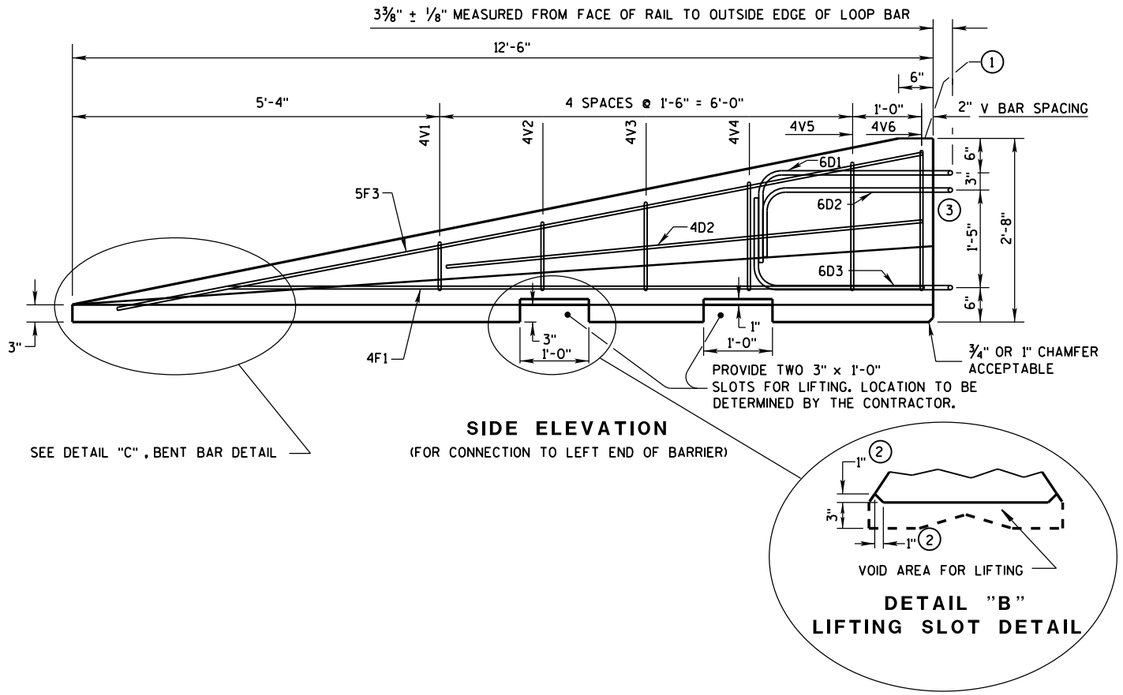
(8) SEE SHEET D FOR ANCHORING CRITERIA.

(9) 1" CHAMFER OPTIONAL.

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

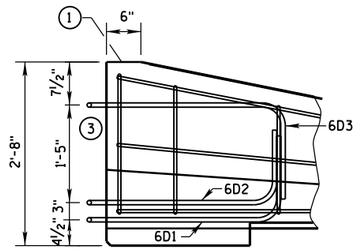
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 14 B 7-14a



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)

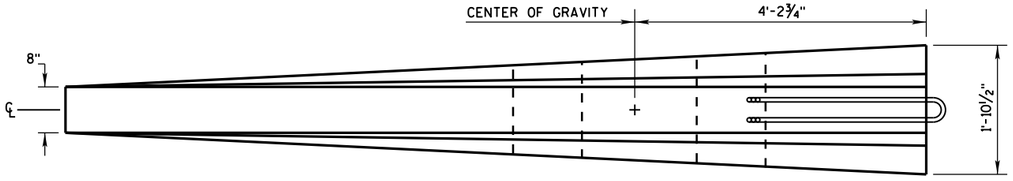
DETAIL "B"
LIFTING SLOT DETAIL



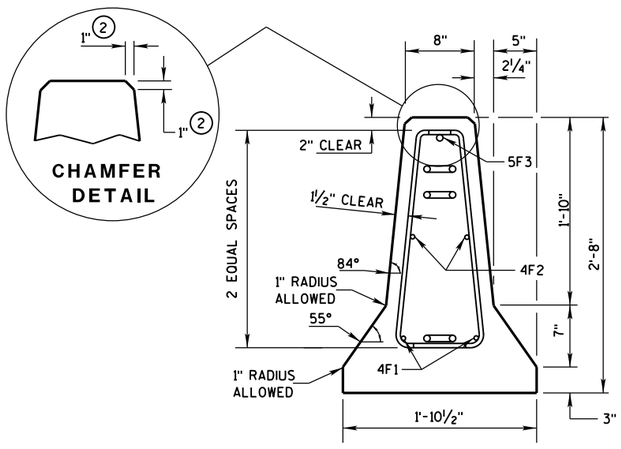
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

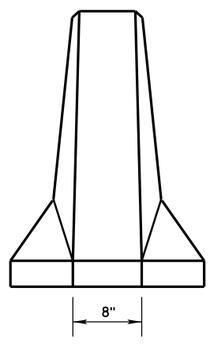
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



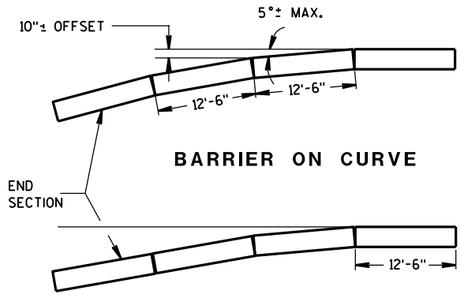
PLAN VIEW



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"

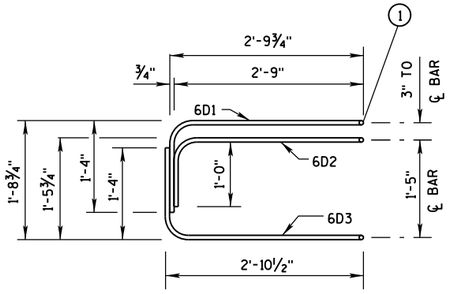
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 14 B 7-14b

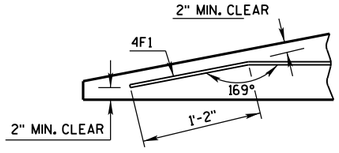
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

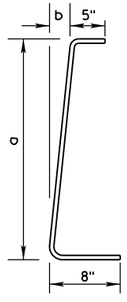
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



BAR	a	b
V1	10"	1"
V2	1'-1"	1¼"
V3	1'-5"	1⅝"
V4	1'-8"	1⅞"
V5	2'-0½"	2⅜"
V6	2'-3"	2¾"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

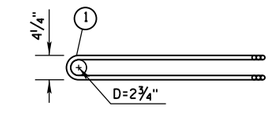
GENERAL NOTES

(1) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

BARRIER SECTION BILL OF MATERIALS

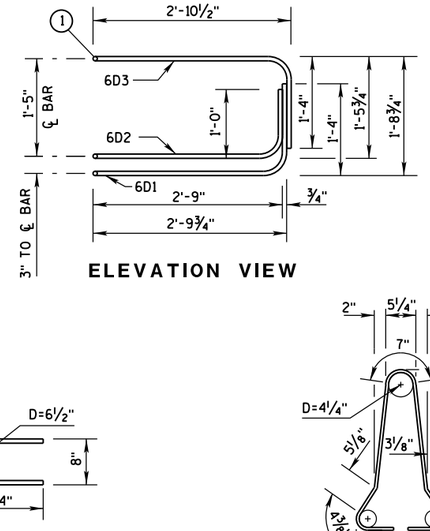
(PER 12'-6" BARRIER SECTION)

BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"

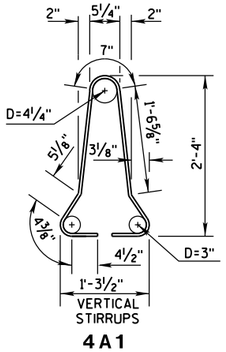


PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)

6A2



ELEVATION VIEW



4A1

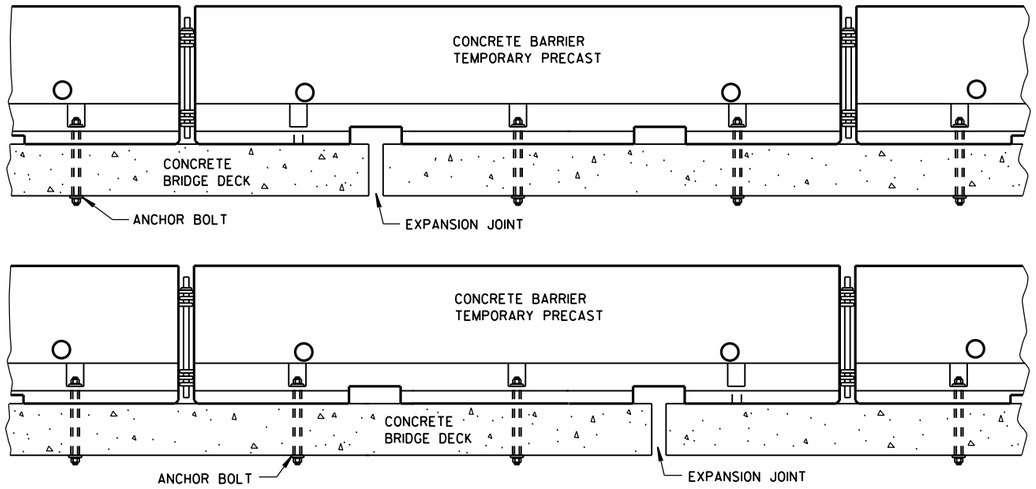
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

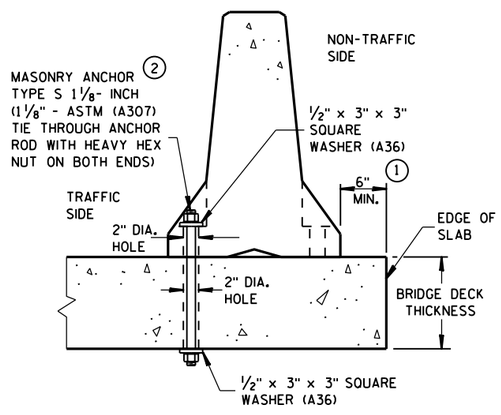
6

S.D.D. 14 B 7-14c



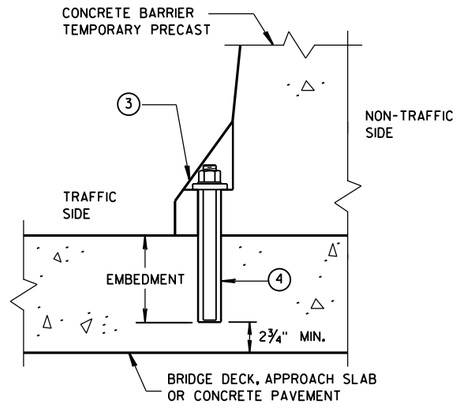
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



REMOVABLE ADHESIVE BONDED ANCHOR 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.

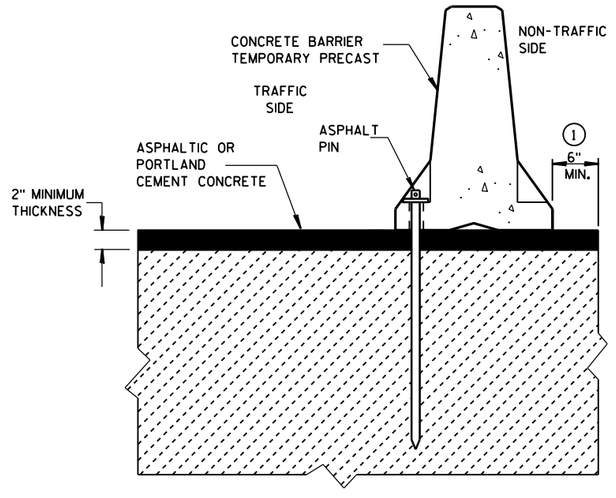
② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED 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 ALL ANCHOR 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 MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.

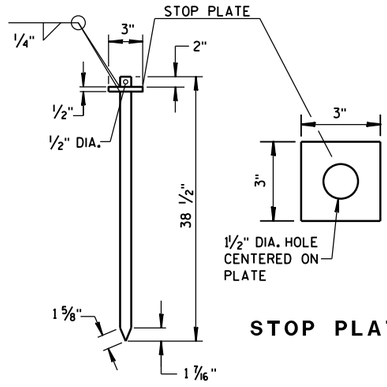
③ 1⅛" DIAMENTER A307 THREADED ROD, ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.

④ ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.



STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

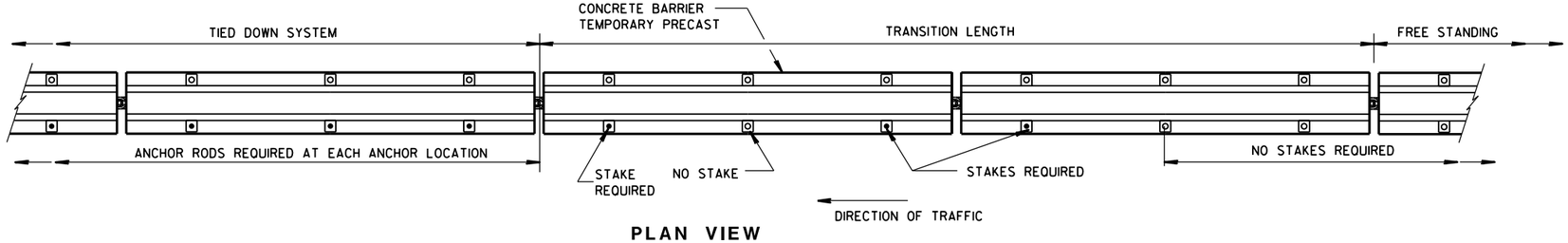
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



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 TRANSPOI

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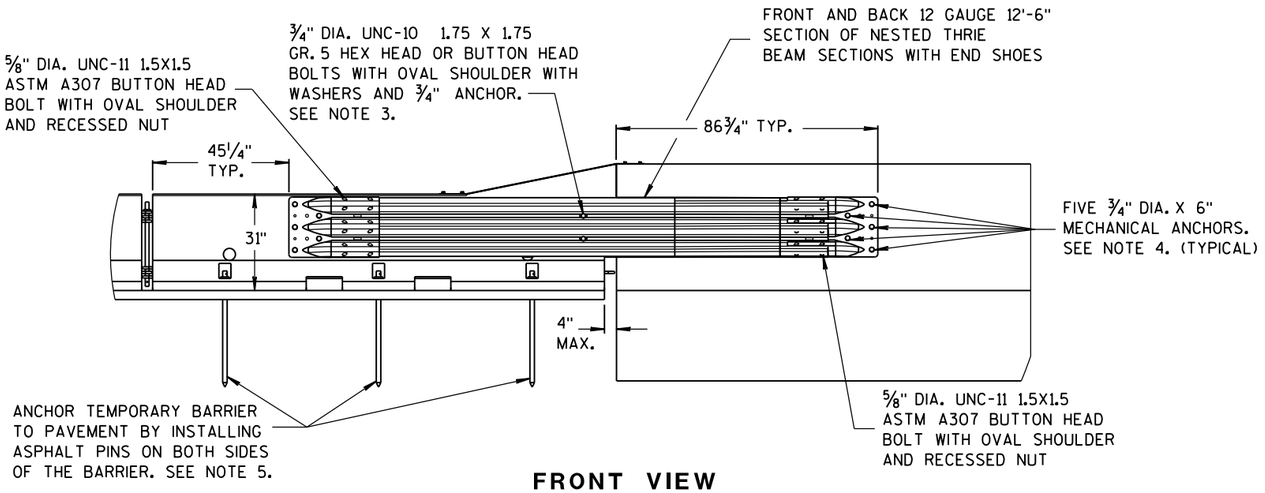
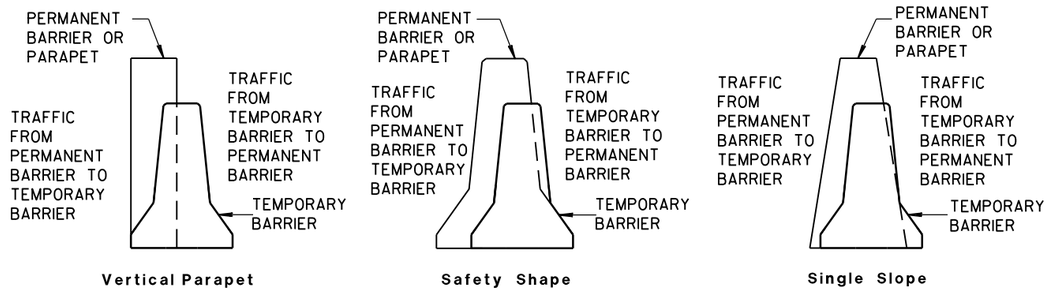
S.D.D. 14 B 7-14d



FRONT VIEW

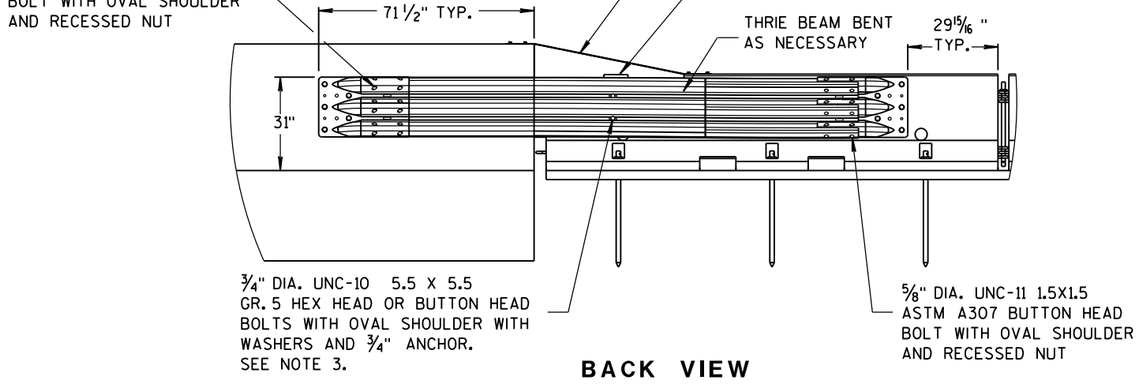


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

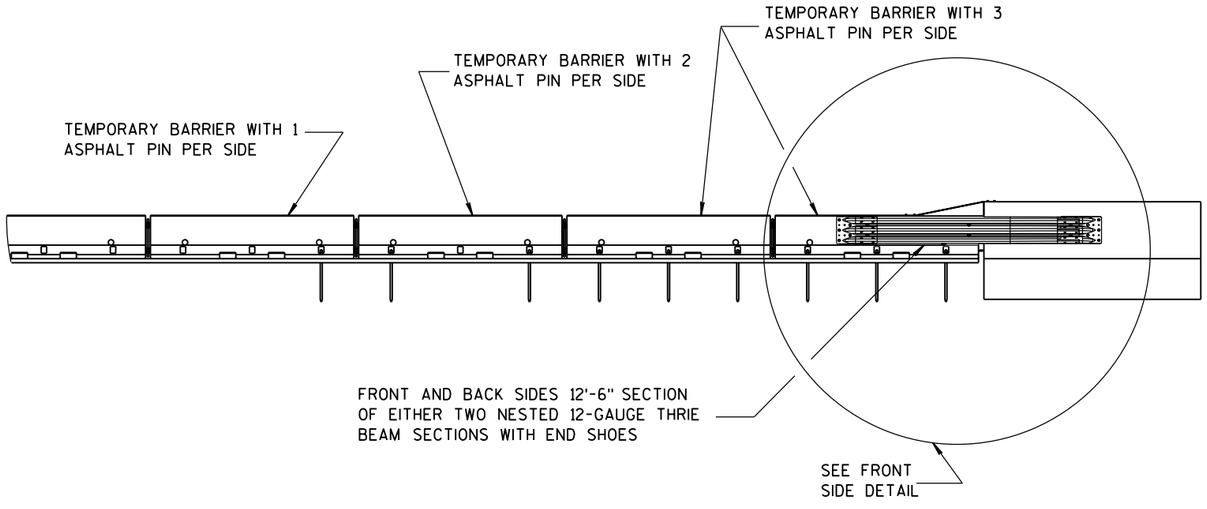
NOTES

NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.

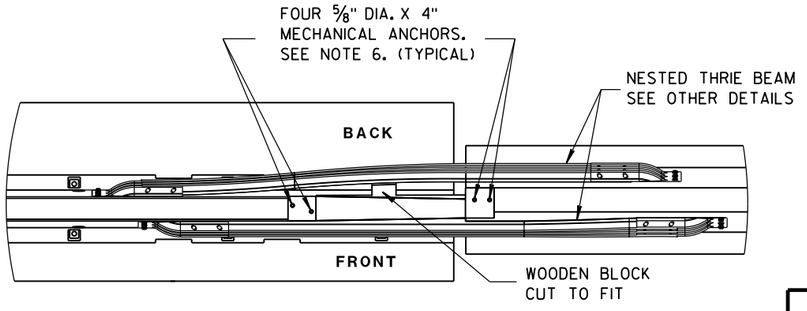
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR ADHESIVE 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 ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.



BACK VIEW



FRONT VIEW



PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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S.D.D. 14 B 7-14e

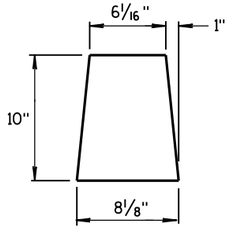
GUSSET 1

GUSSET 2

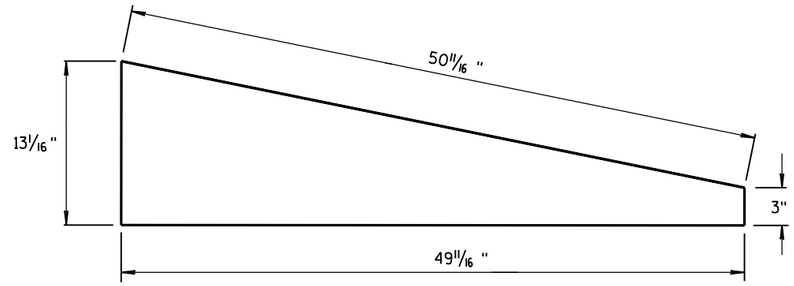
GUSSET 3

GUSSET 4

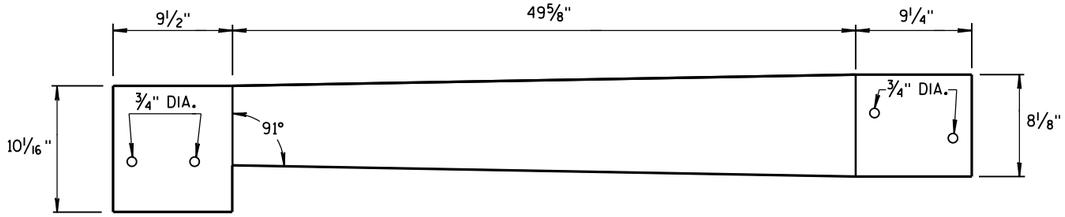
GUSSETS

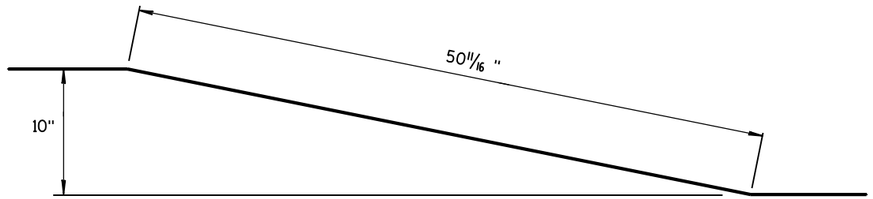


END PLATE

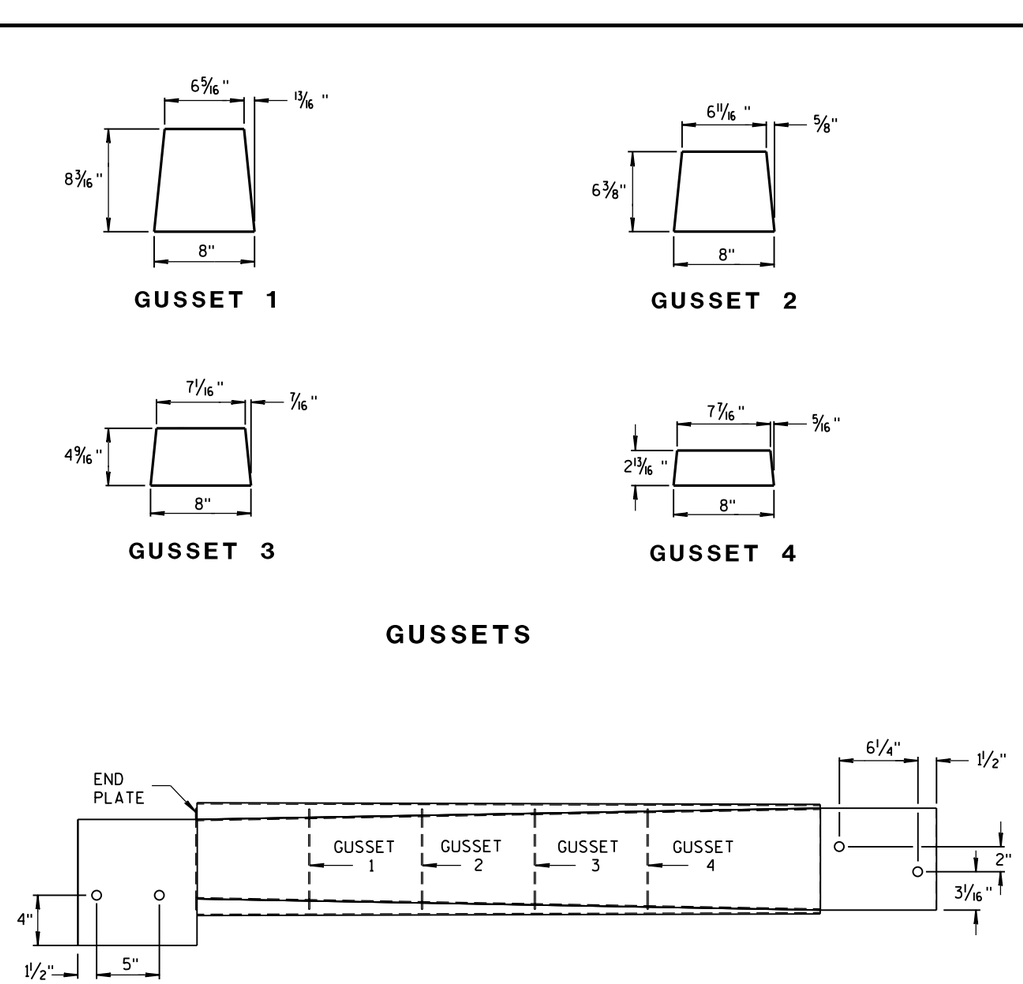


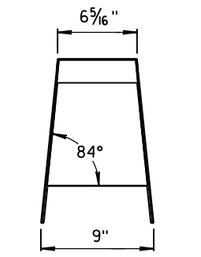
SIDE PLATE





TOP PLATE





SECTION C-C

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.

NOTES

1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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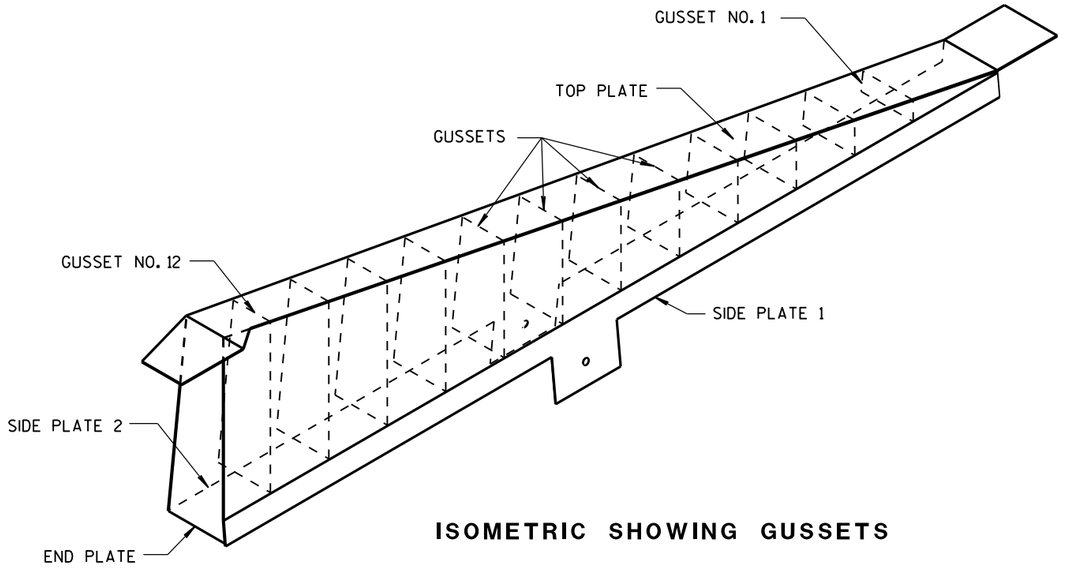
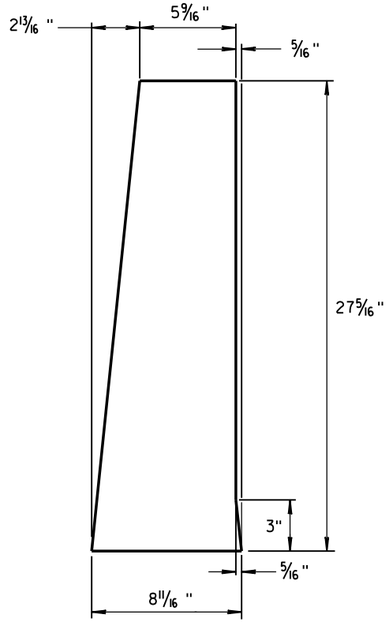
S.D.D. 14 B 7-14f

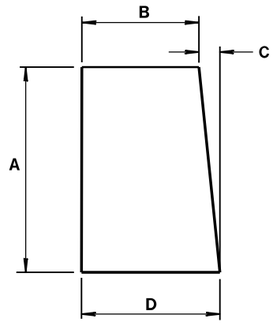


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



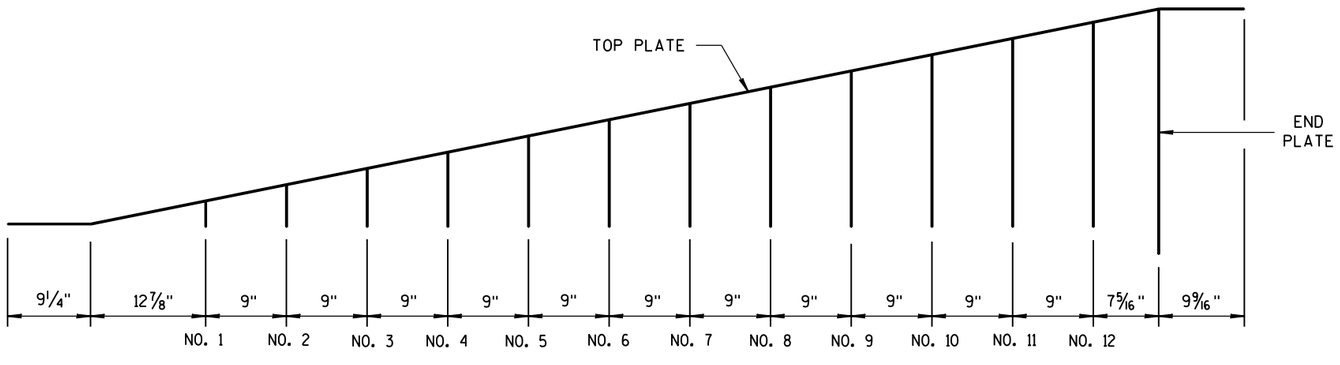
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 11/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8"	11/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8"	7"	1 1/16 "	8 1/16 "
6	11 15/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8"	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8"	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



GUSSET LOCATION

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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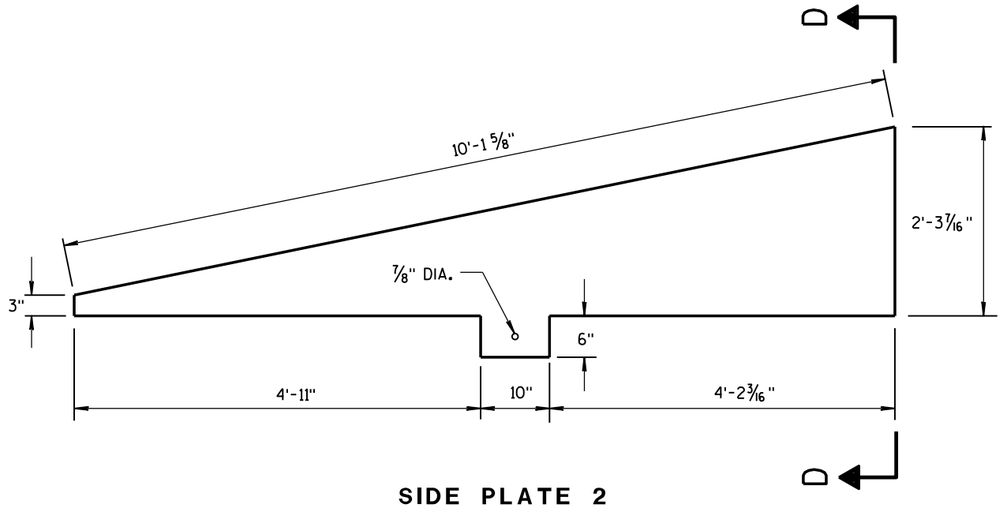
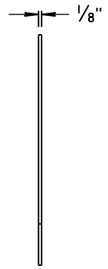
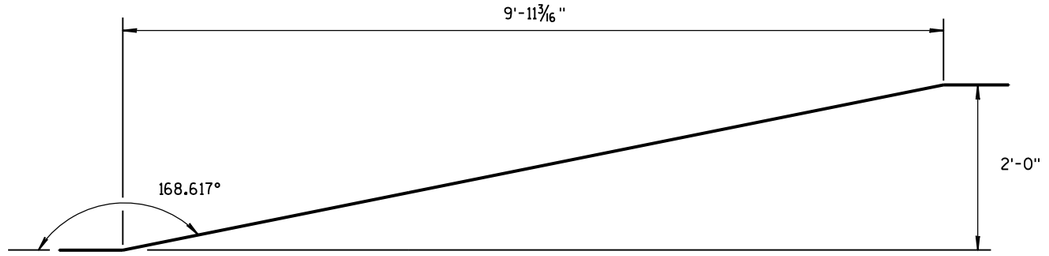
S.D.D. 14 B 7-14g



SIDE PLATE 2

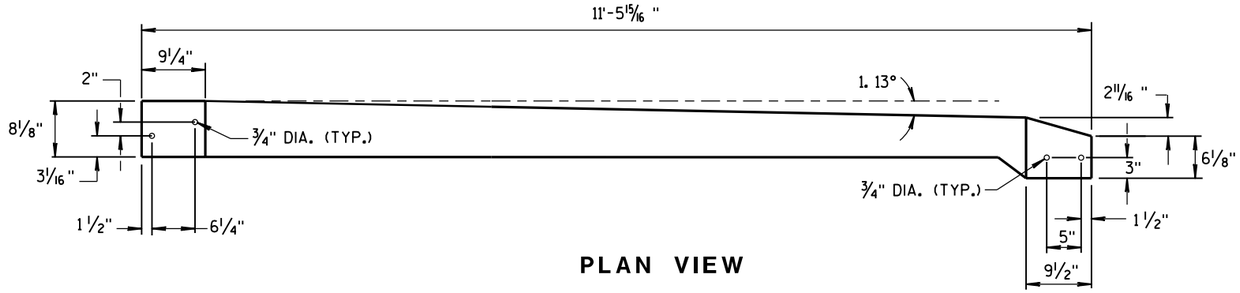


END VIEW



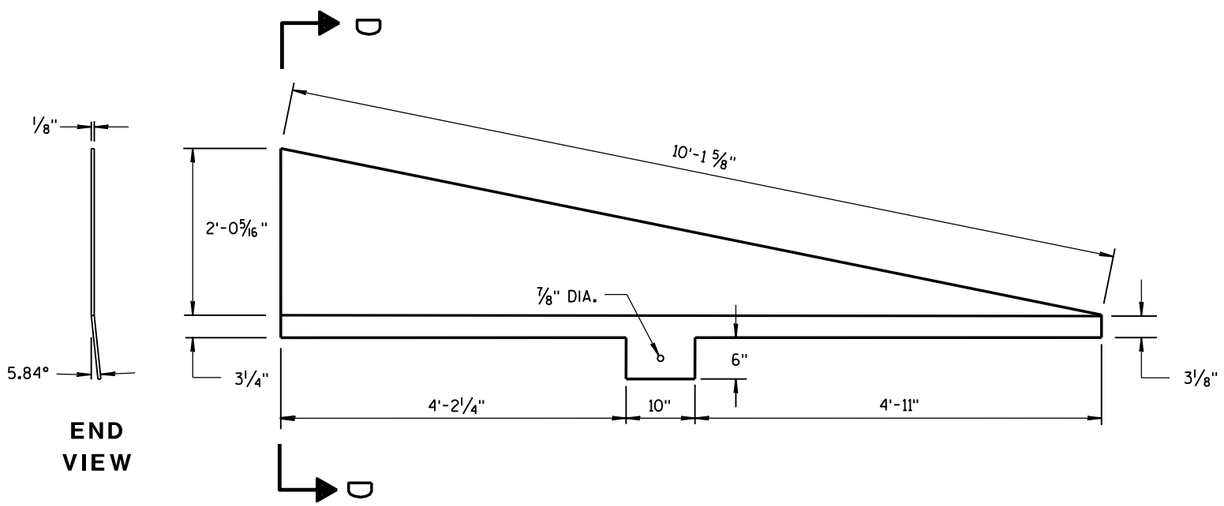
SIDE VIEW

TOP PLATE



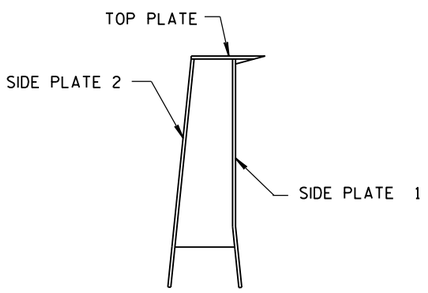
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARD DEVELOPMENT ENGINEER
FHWA

330

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S.D.D. 14 B 7-14h

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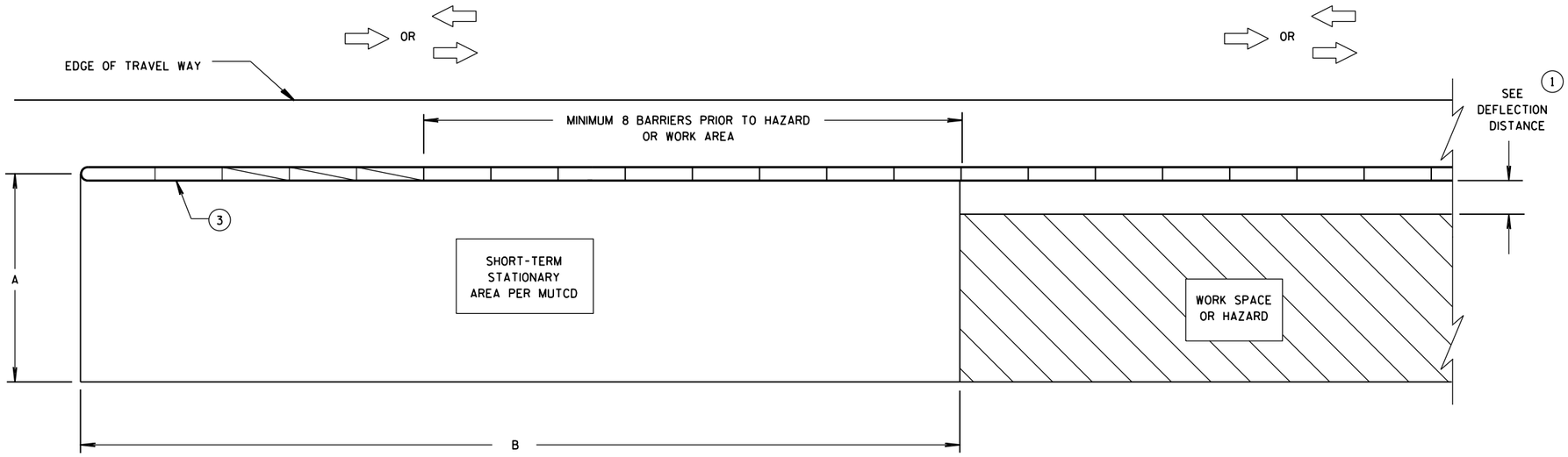
S.D.D. 14 B 7-14h



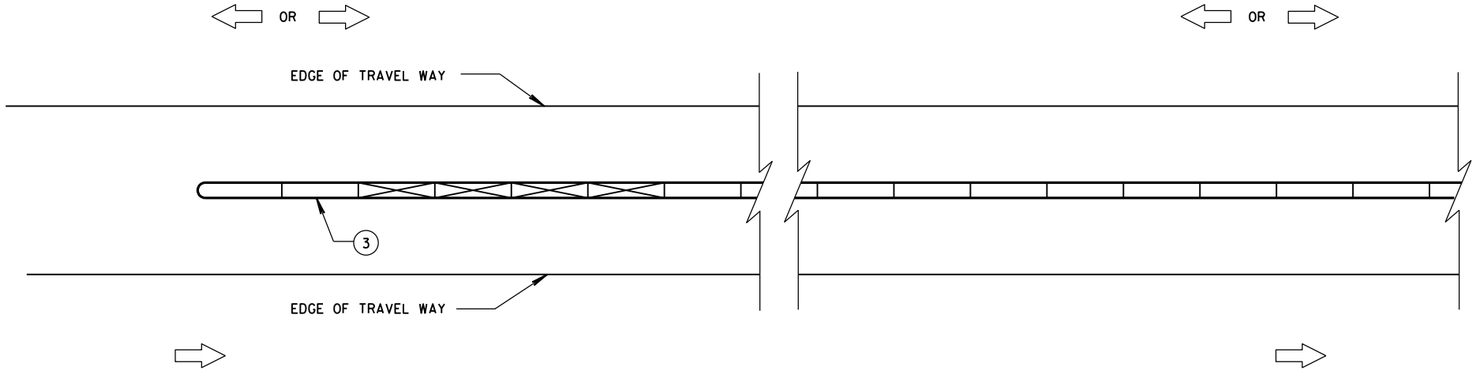
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

DIMENSION A TABLE (2)

FACILITY	POSTED SPEED MPH	DIMENSION A	
		MIN. FT	MAX. FT
FREEWAY/EXPRESSWAY	ALL	15	20
NON-FREEWAY/EXPRESSWAY	GREATER THAN OR EQUAL TO 45	10	15
NON-FREEWAY/EXPRESSWAY	LESS THAN 45	8	10
AADT LESS THAN 1,500	ALL	8	10

DIMENSION B TABLE (2)

POSTED SPEEDS MPH	DIMENSION B FT
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

(1) FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.

(2) VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

(3) ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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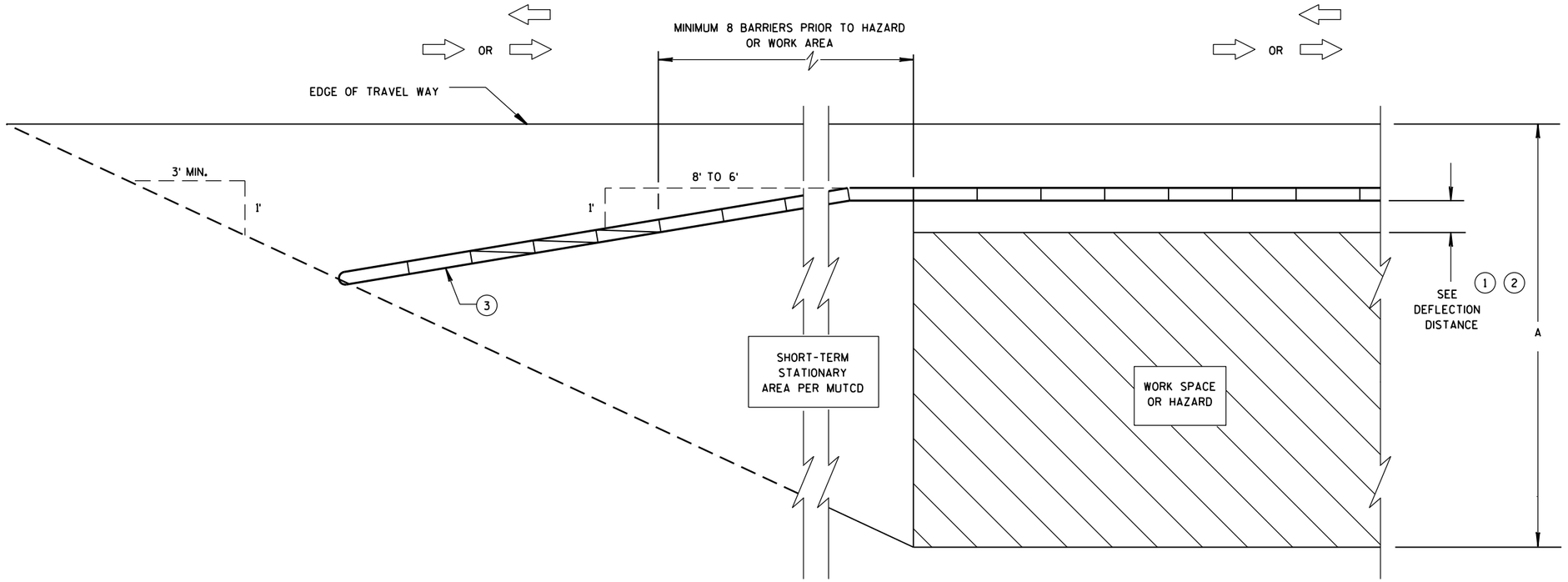
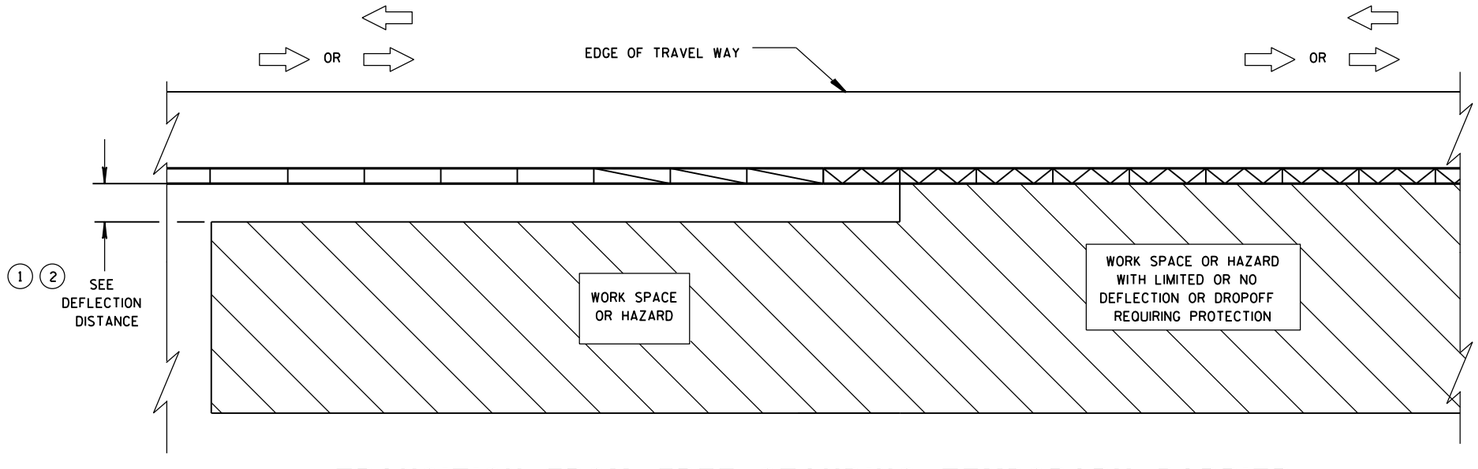
S.D.D. 14 B 8-2a



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION



TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 14 B 8-2b

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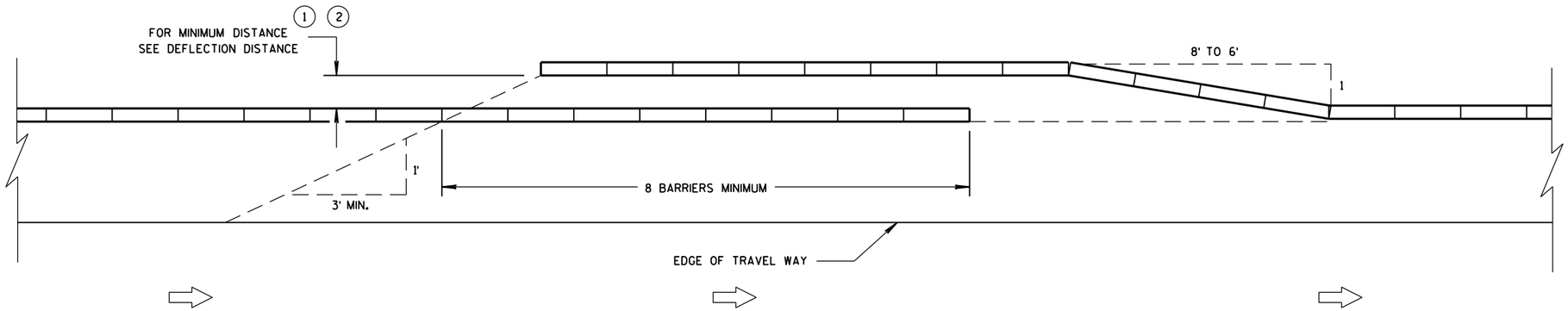
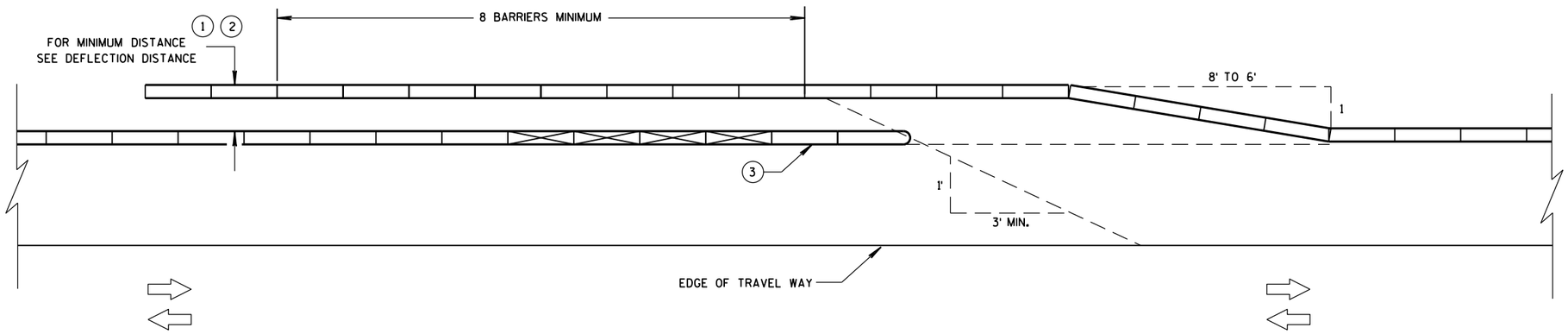
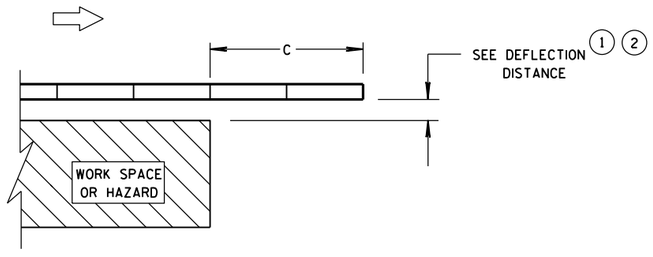
S.D.D. 14 B 8-2b



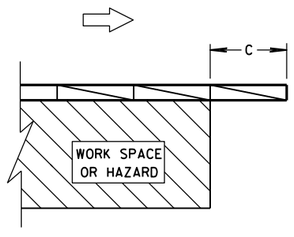
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

LEGEND

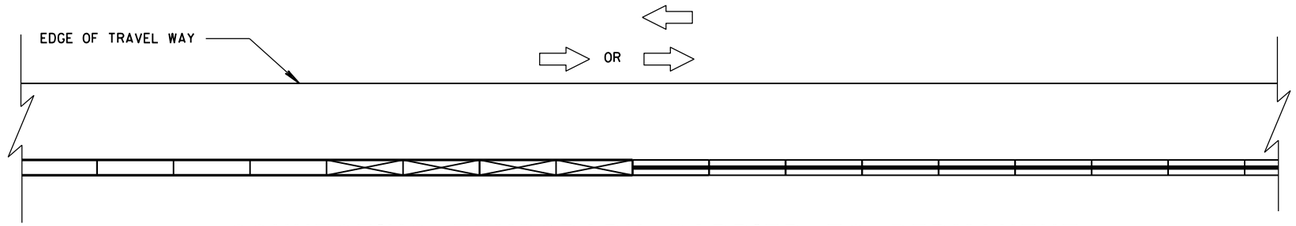
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

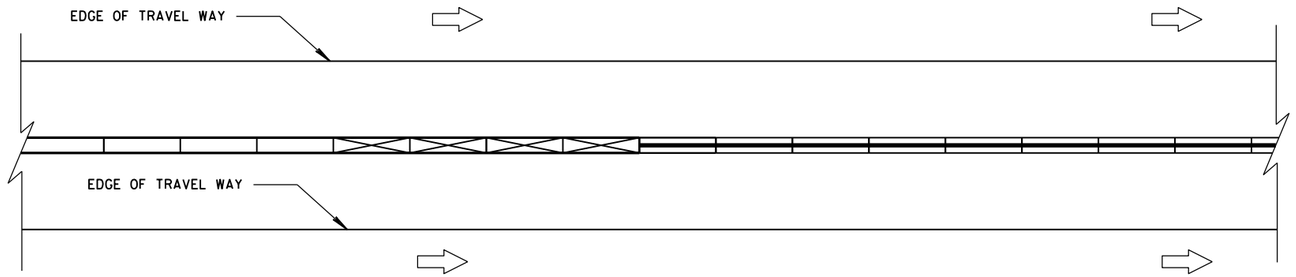
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 8-2c



CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE



CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR
SAND BARREL ARRAY

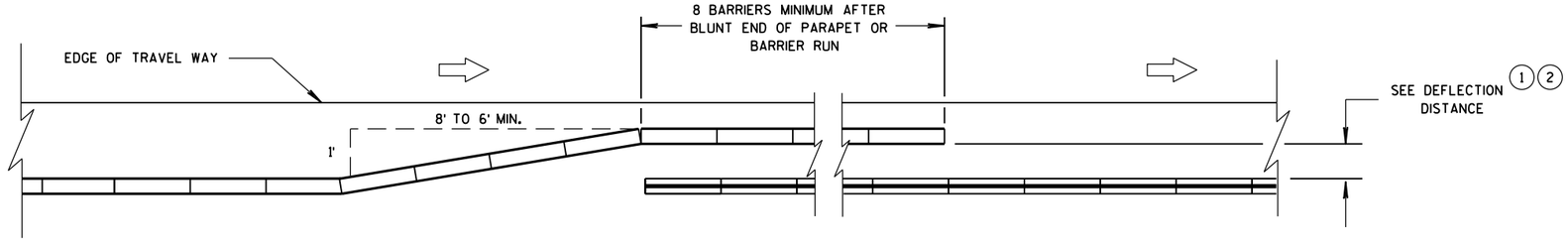
SEE FREE STANDING TRANSITION
TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION
TO TIED-DOWN SYSTEM DETAILS

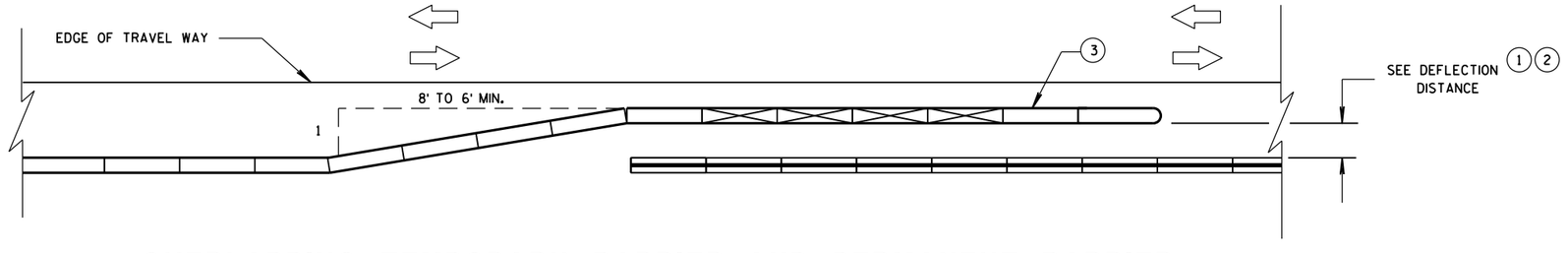
3 PINS PLACED ON
TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER
OR CONCRETE PARAPET

FREE STANDING TEMPORARY
BARRIER



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 8-2d

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

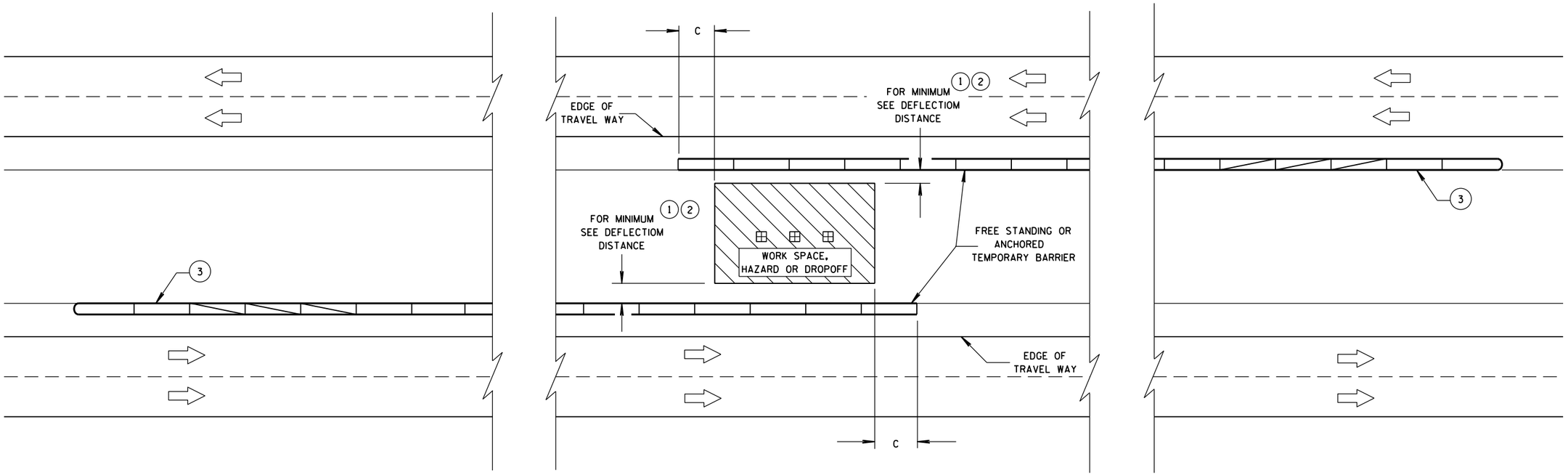
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE (2)

AVAILABLE DEFLECTION DISTANCE	MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT
GREATER THAN 8'	12.5
LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4'	50
LESS THAN OR EQUAL TO 4'	100



CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINNER
FHWA

335

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S.D.D. 14 B 8-2e

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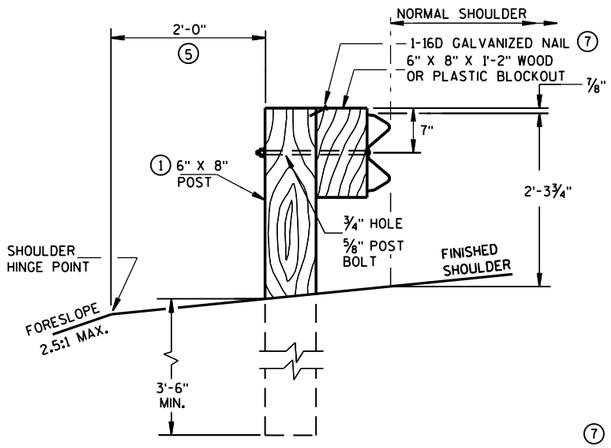
S.D.D. 14 B 8-2e

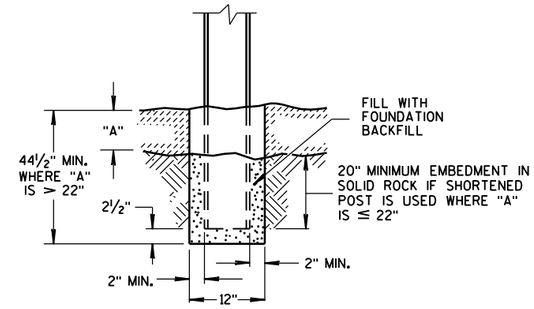
GENERAL NOTES

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.
7. WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

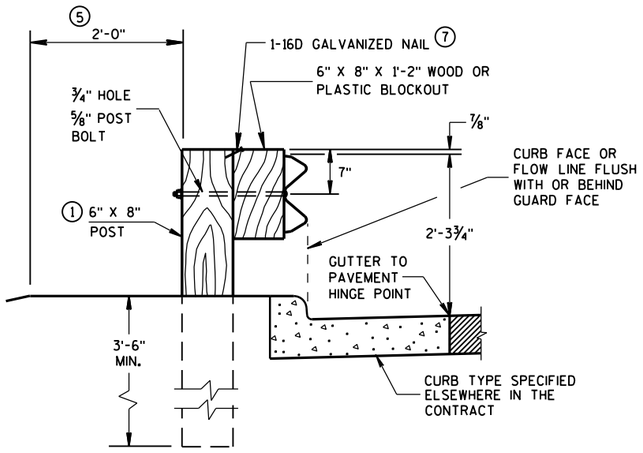
INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



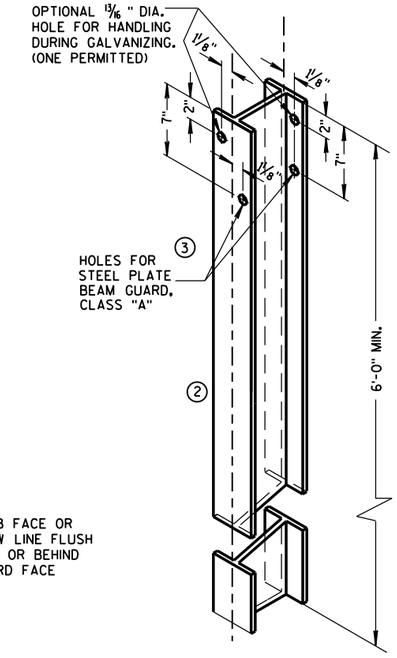
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



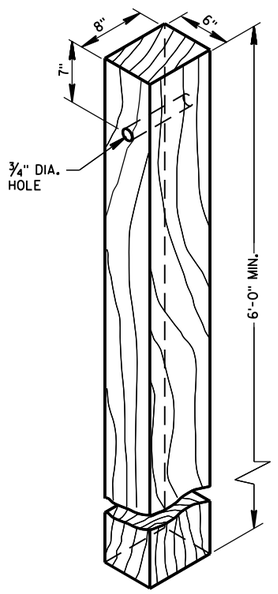
END VIEW
SETTING STEEL OR WOOD POST IN ROCK ⑥



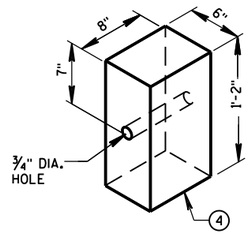
END VIEW
LOCATED ALONG A CURBED ROADWAY



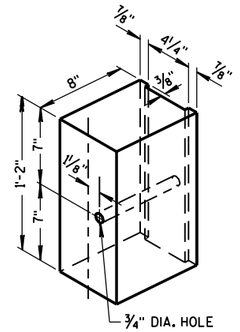
STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) ①
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



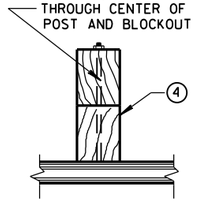
WOOD POST
(6"X8") NOMINAL



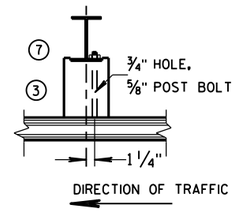
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



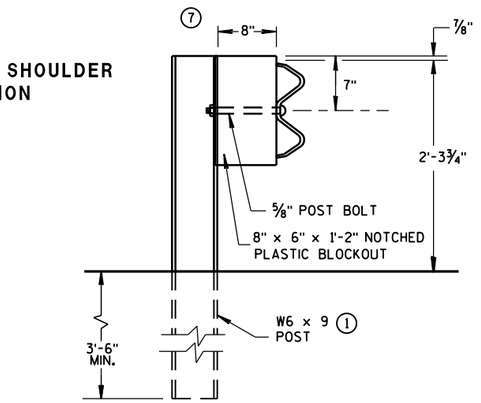
TYPICAL NOTCHED ①
PLASTIC BLOCKOUT
FOR STEEL POSTS



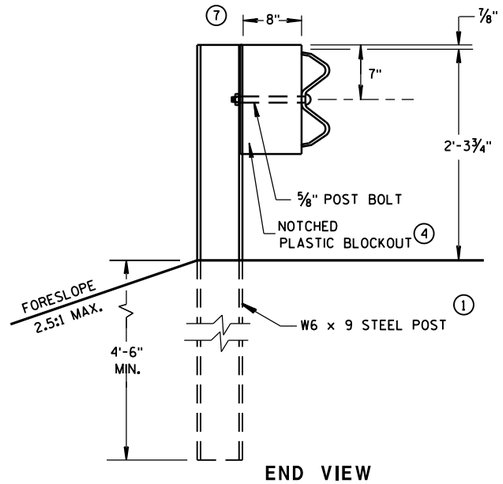
PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



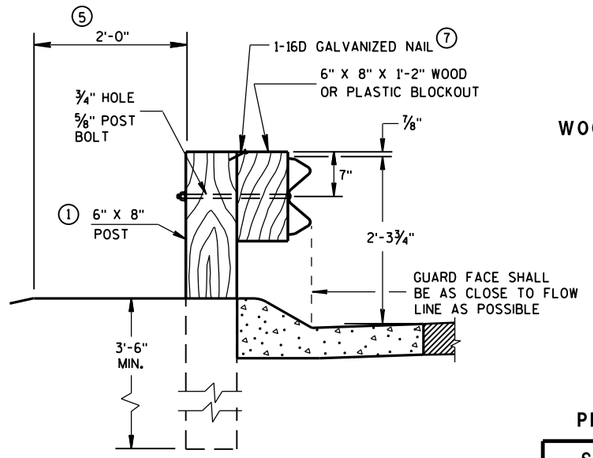
PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM



END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)



END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY

TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

STEEL PLATE BEAM GUARD,
CLASS "A"
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
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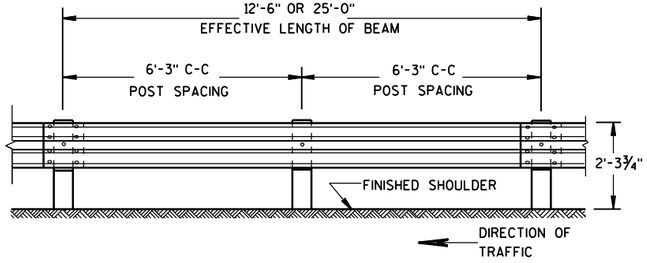
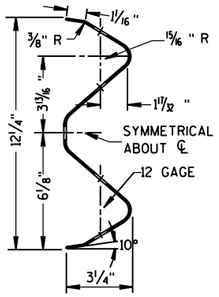
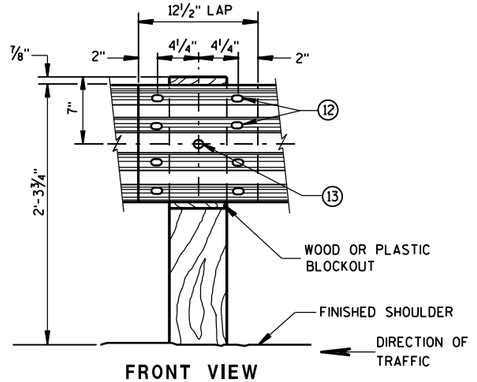


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW
BEAM SPLICE AT WOOD POST
AND POST MOUNTING DETAIL

GENERAL NOTES

(8) PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

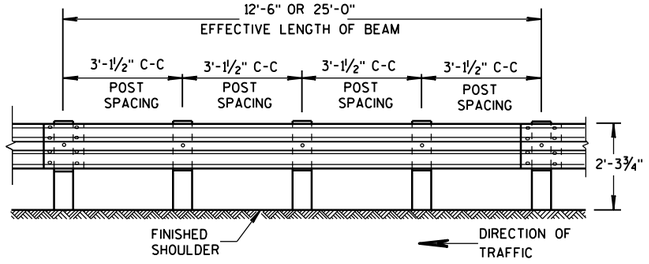
(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

(10) REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

(11) PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

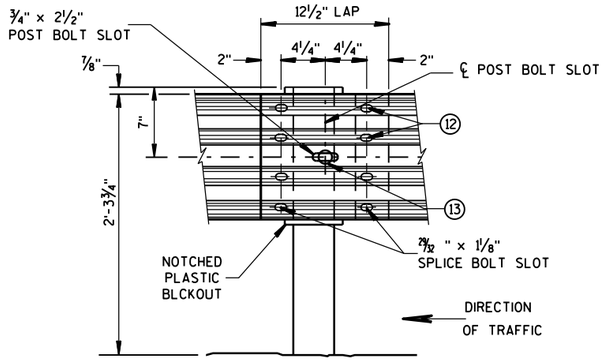
(12) 8 -⅝" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.

(13) ⅝" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH ⅝" DIA. F844 FLAT WASHER UNDER NUT.



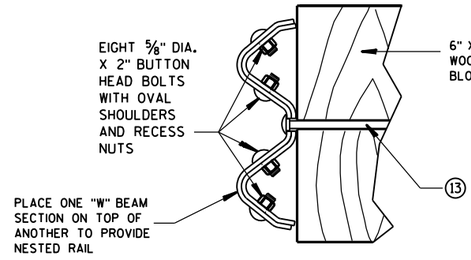
FRONT VIEW

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

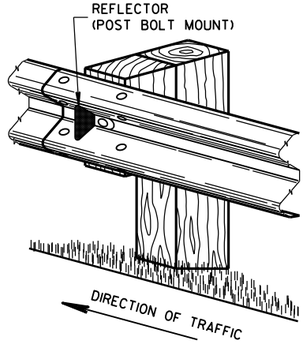


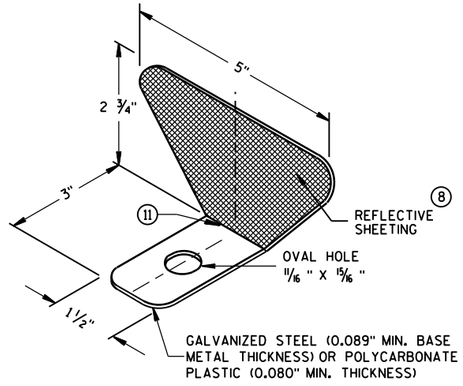
NESTED W BEAM (NW)

USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

REFLECTOR SPACING (9)

	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 (10) 1	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 2 (11)	3





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (8)

STEEL PLATE BEAM GUARD,
CLASS "A",
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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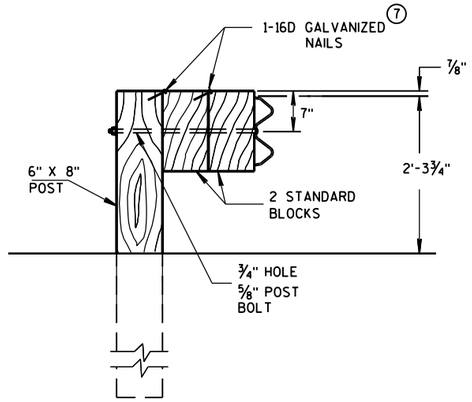
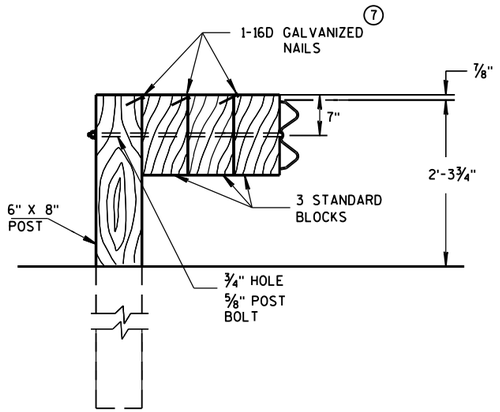


DETAIL FOR DOUBLE BLOCKS

THE NUMBER OF DOUBLE BLOCK POSTS WITHIN A BARRIER RUN IS UNLIMITED

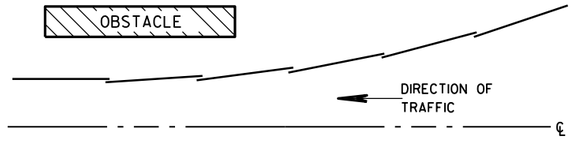


DETAIL FOR TRIPLE BLOCKS

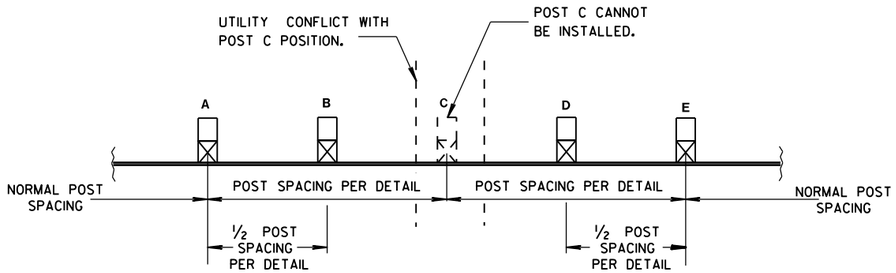
TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.

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.



PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2016
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

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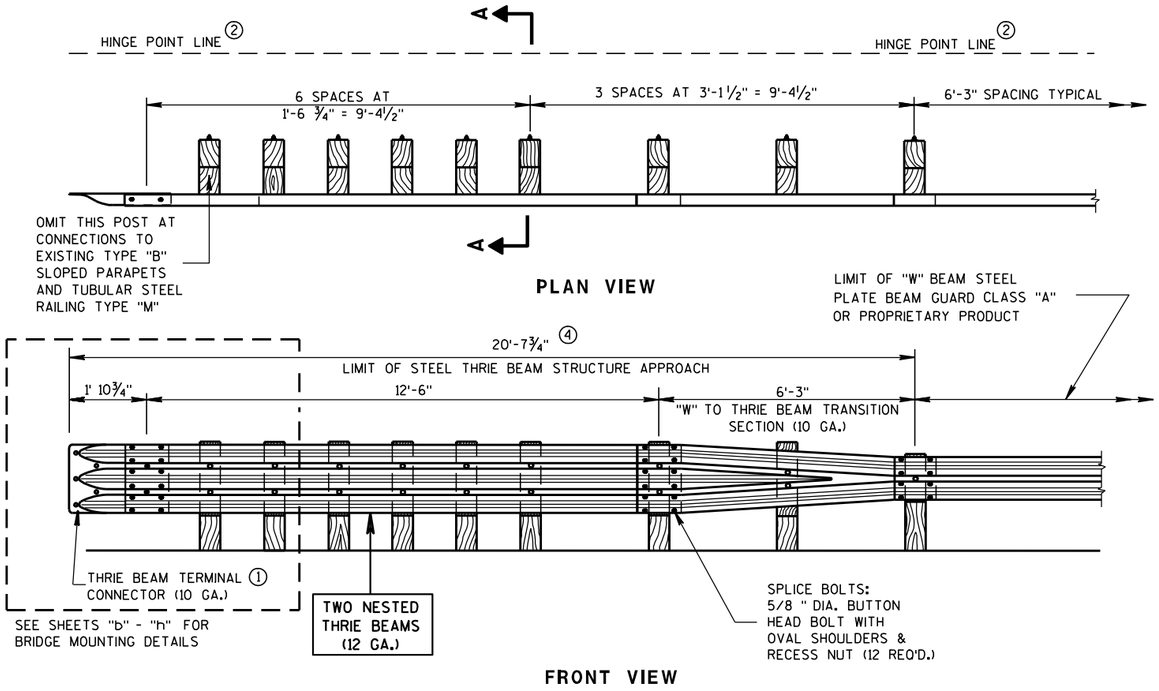
S.D.D. 14 B 15-9c



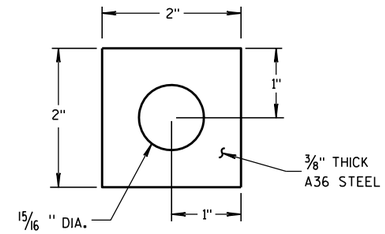


PLATE WASHER DETAIL

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.

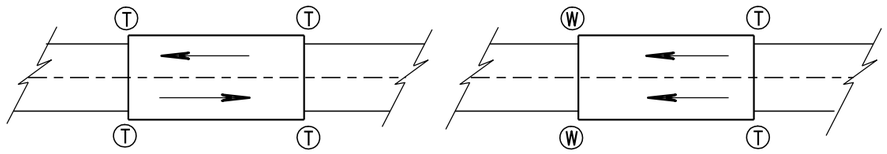
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

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.



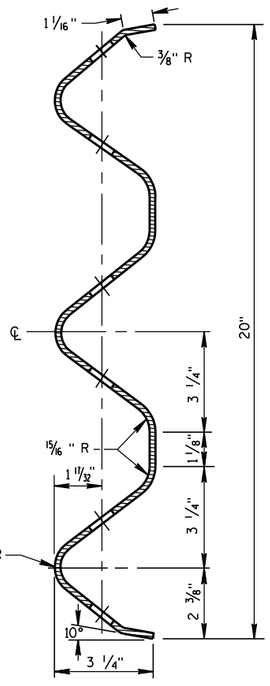
TWO WAY TRAFFIC

ONE WAY TRAFFIC

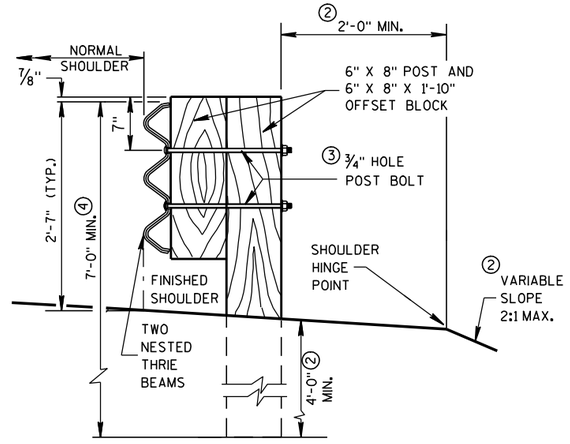
T THRIE BEAM CONNECTION

W W-BEAM CONNECTION WHEN REQUIRED

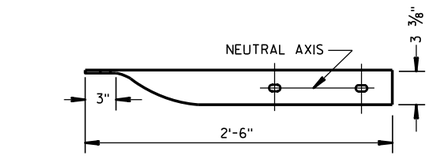
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

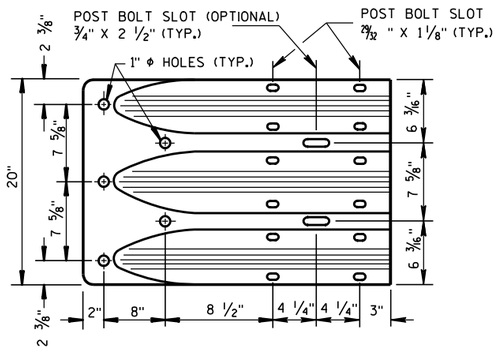


SECTION THRU THRIE BEAM RAIL ELEMENT

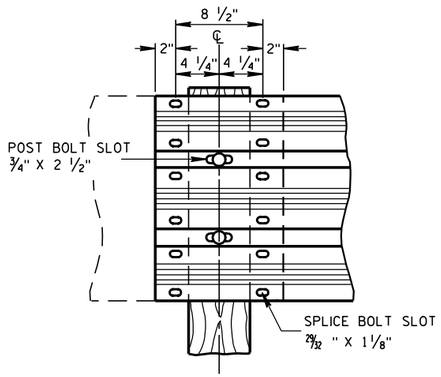


SECTION A-A





THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE

STEEL THRIE BEAM STRUCTURE APPROACH

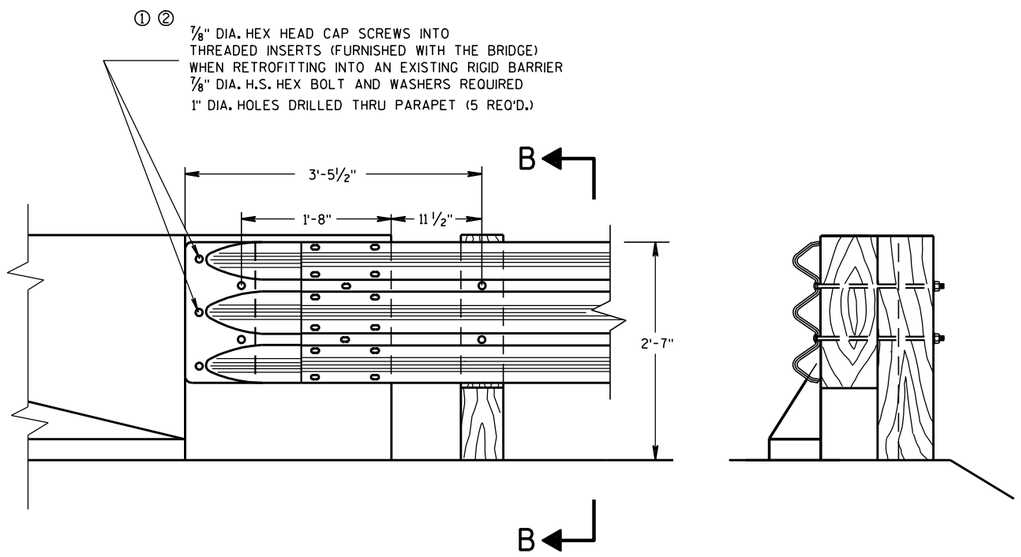
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

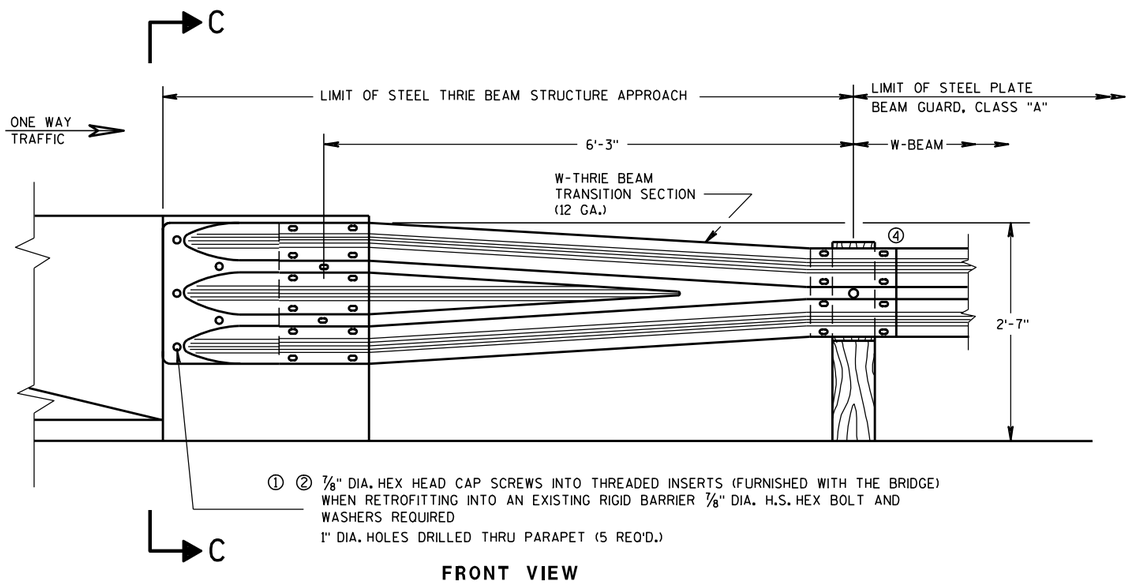
FHWA



FRONT VIEW

SECTION B-B

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS



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)

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.

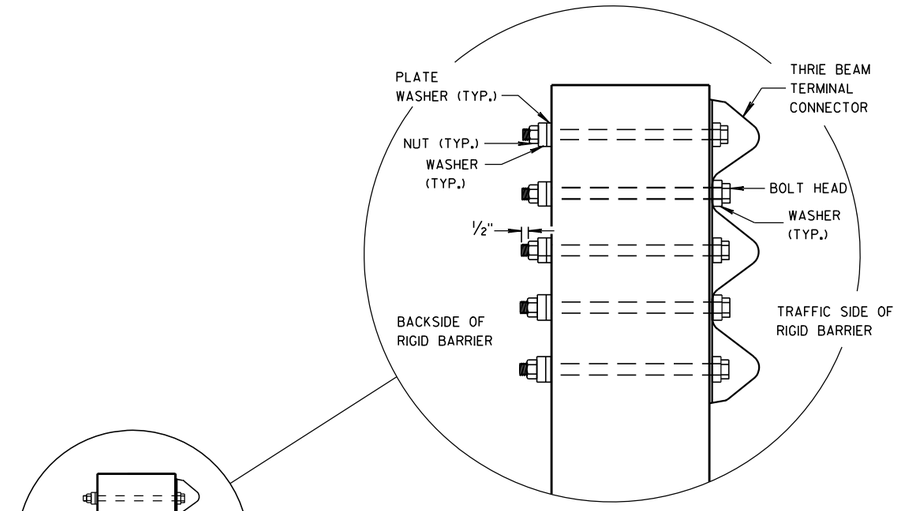
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

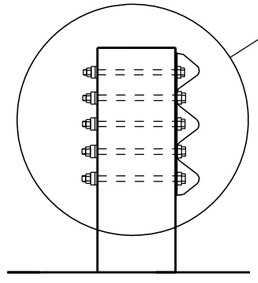
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. 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.





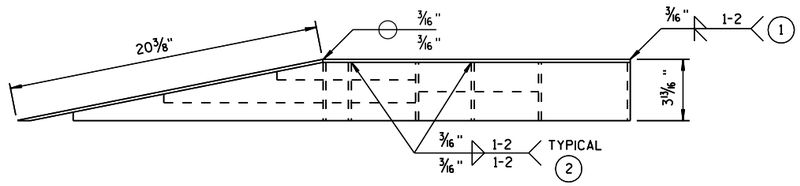
SECTION C-C

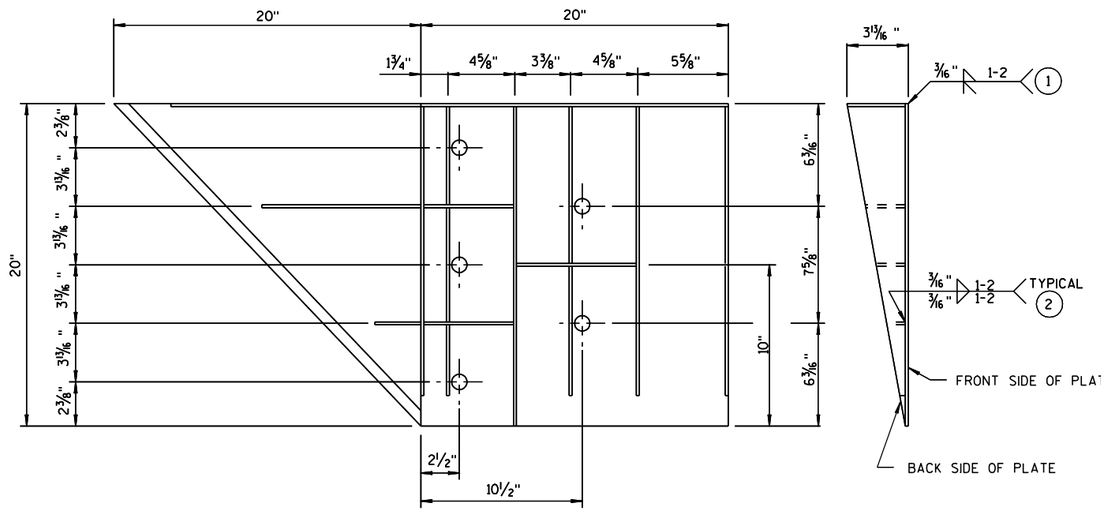
STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 14 B 20-11b





WELDING INSTRUCTION

(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".

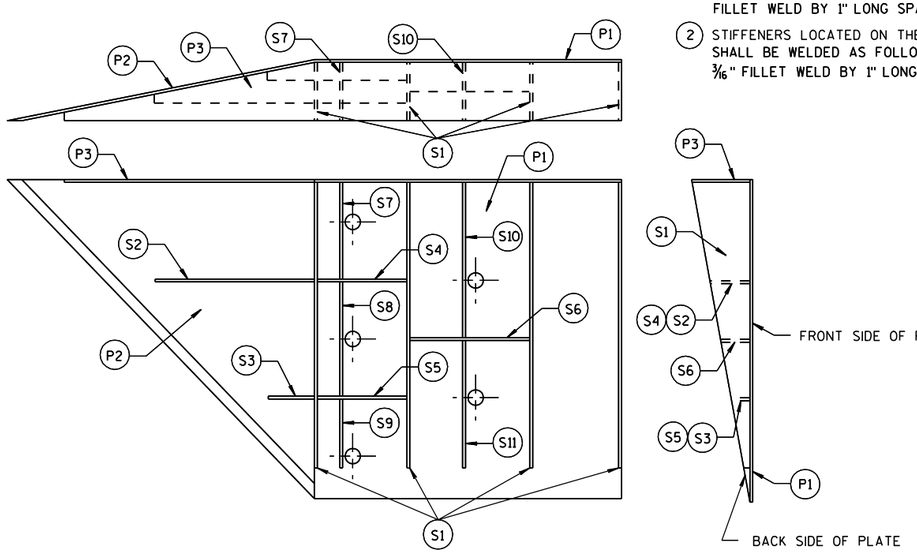


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

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. [illegible] — ROADWAY STANDARDS ENGINEER
FHWA

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S.D.D. 14 B 20-11g

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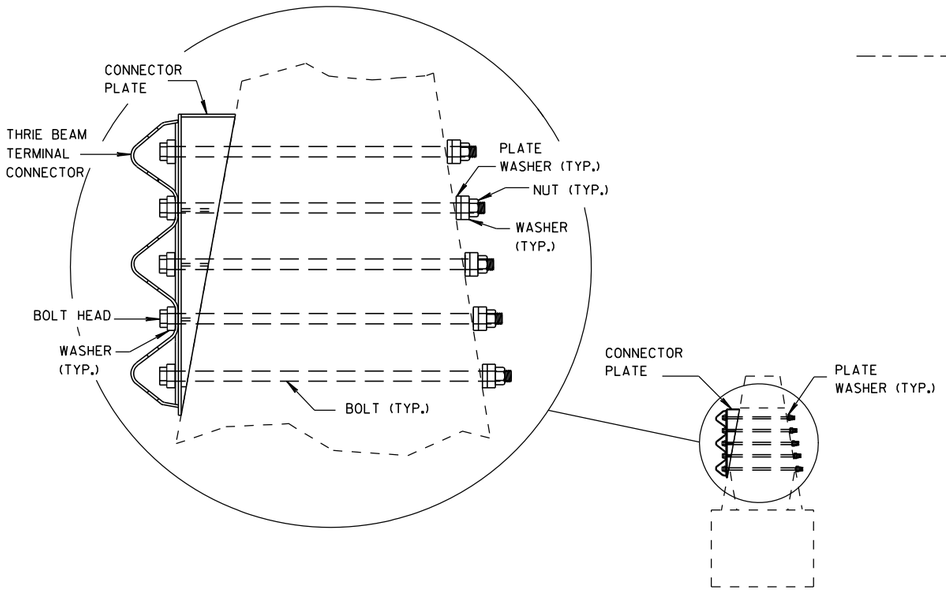
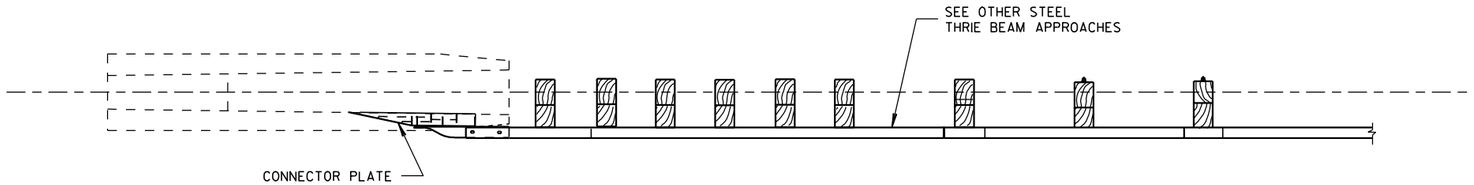
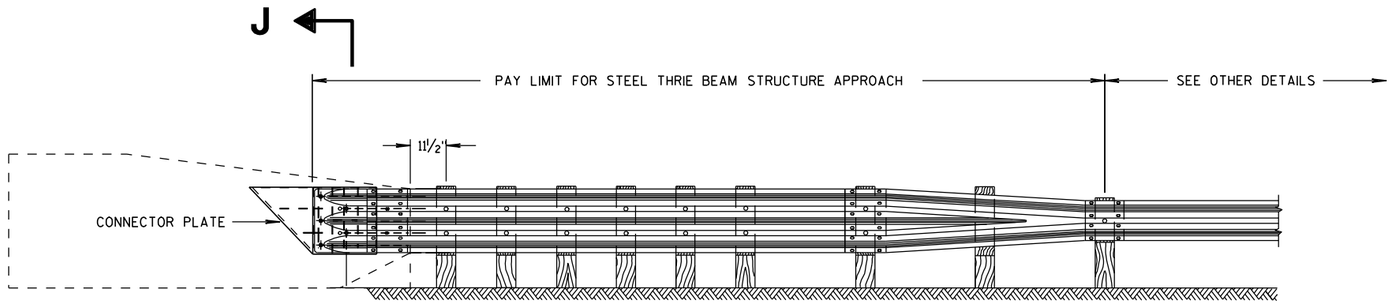


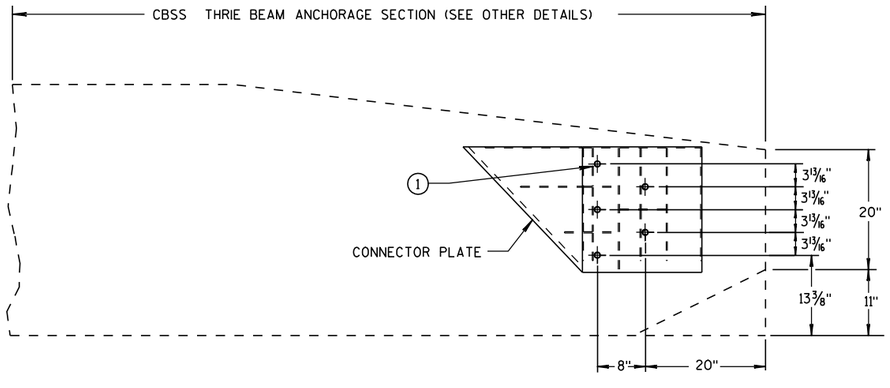
SECTION J-J



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

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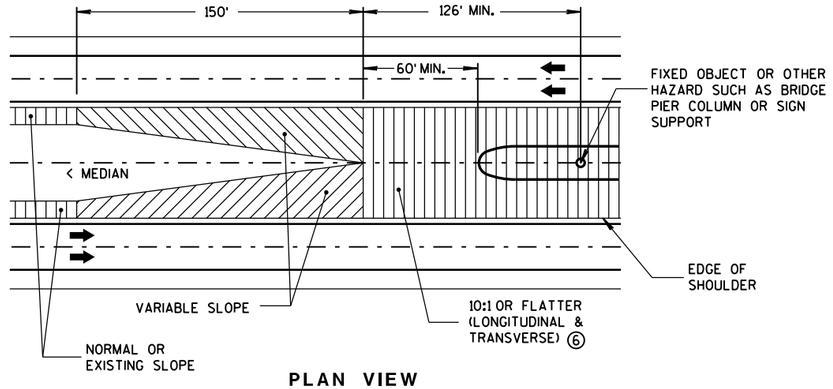
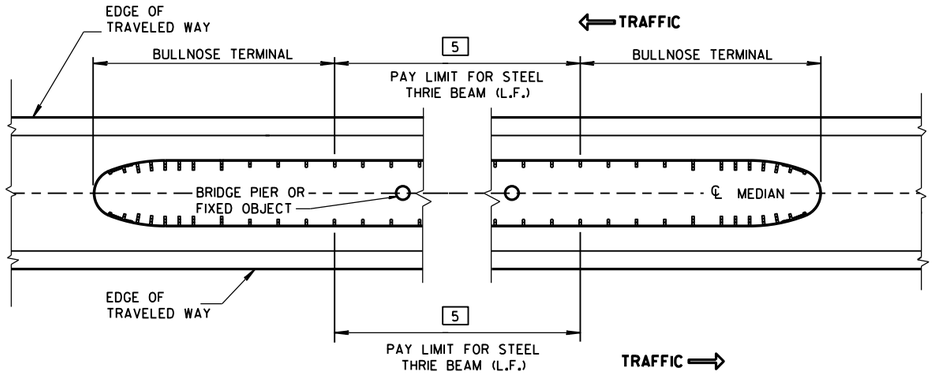
S.D.D. 14 B 20-11h

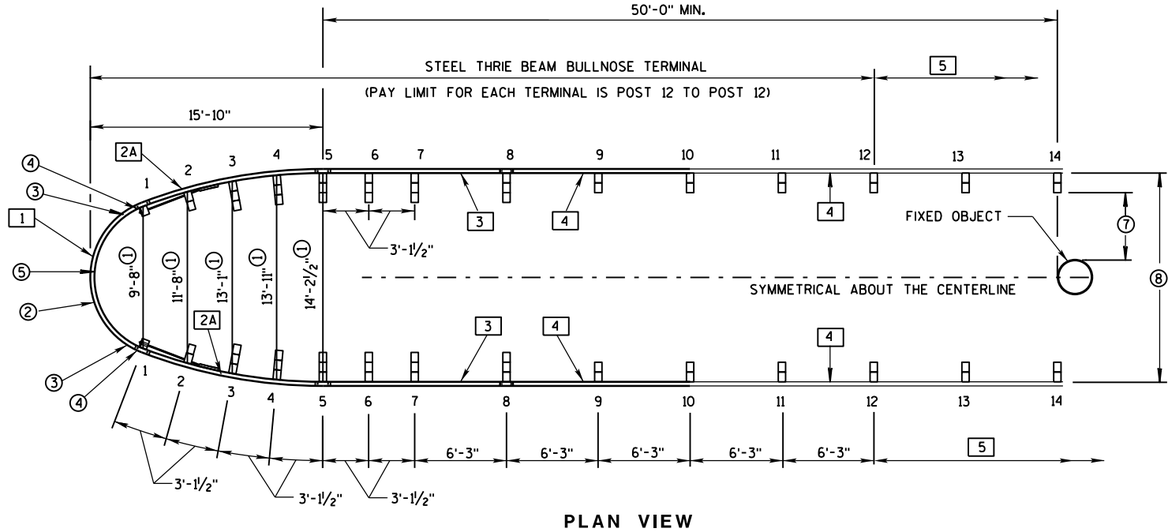


PLAN VIEW

GRADING AT BULLNOSE
(ALL INSTALLATIONS)

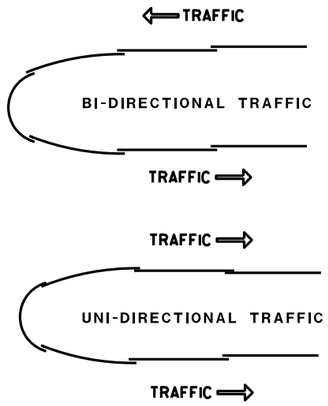


MEDIAN HAZARD PROTECTION PAY LIMITS



PLAN VIEW

TYPICAL BULLNOSE LAYOUT



LAPPING DETAIL
(ALL INSTALLATIONS)

GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.

PUNCHING, DRILLING, CUTTING OR WELDING IS NOT PERMITTED ON ANY GALVANIZED THRIE BEAM ACCESSORY OR TERMINAL ACCESSORY.

OTHER ANCHOR CABLE ASSEMBLIES HAVING 40,000 LBS. MIN. BREAKING STRENGTH MAY BE USED.

FOR POSTS 2 THROUGH 14, IF POST CANNOT BE INSTALLED AT SPECIFIED LOCATION 1 EXTRA STANDARD WOOD BLOCK MAY BE ADDED.

THE USE OF STEEL POSTS ON THE BULLNOSE IS NOT ALLOWED.

BOLTS AND ALL NECESSARY HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

ALL THRIE BEAM SHALL BE 12-GAUGE.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½" AND 12" DIAMETER AROUND POST. SEE SDD 14B15 OR SDD 14B42 FOR MORE INFORMATION.

[1] SLOTTED THRIE BEAM RAIL NO. 1. (POST 1 TO POST 1)

[2A] SLOTTED THRIE BEAM RAIL NO. 2A. (POST 1 TO POST 5)

[3] SLOTTED THRIE BEAM RAIL NO. 3. (POST 5 TO POST 8)

[4] UNBENT STANDARD THRIE-BEAM RAIL NO.4. (POST 8 TO POST 10 & POST 10 TO POST 12)

[5] BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.

① DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST OR BLOCK.

② U-BOLT CABLE CLIPS (3 PER CABLE) SPACED OUT ON NOSE, TO HOLD CABLE TO BACKSIDE OF THE RAIL.

③ NOSE CABLE W/SWAGGED END BUTTONS.

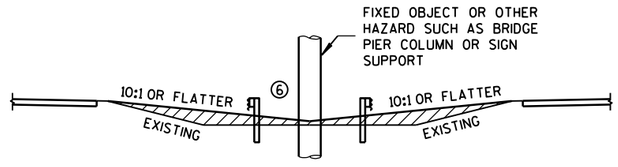
④ NOSE CABLE ANCHOR PLATE (BACKSIDE OF SPLICE).

⑤ THE SLACK IN THE NOSE CABLES SHALL BE EVENLY DISTRIBUTED BETWEEN THE CABLE CLIP FASTENERS AND POST NO. 1 ON EITHER SIDE OF THE NOSE.

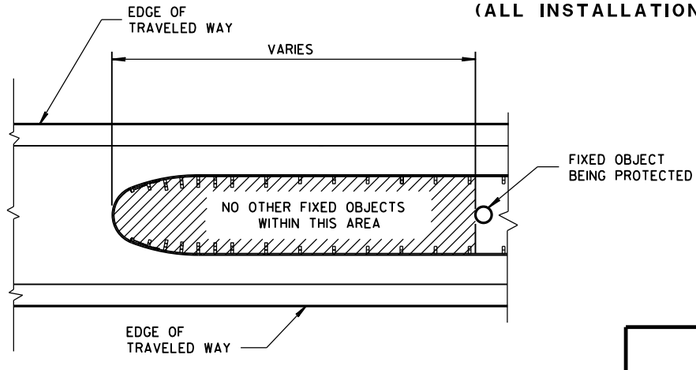
⑥ PROVIDE SUITABLE DRAINAGE WHEN MEDIAN GRADING IMPEDES NORMAL FLOW.

⑦ 2'-6" MINIMUM LATERAL DISTANCE BETWEEN BACK OF POST AND FACE OF FIXED OBJECT.

⑧ MAXIMUM WIDTH OF SYSTEM IS 14'-2½" MEASURED FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.



MEDIAN GRADING SECTION
(ALL INSTALLATIONS)

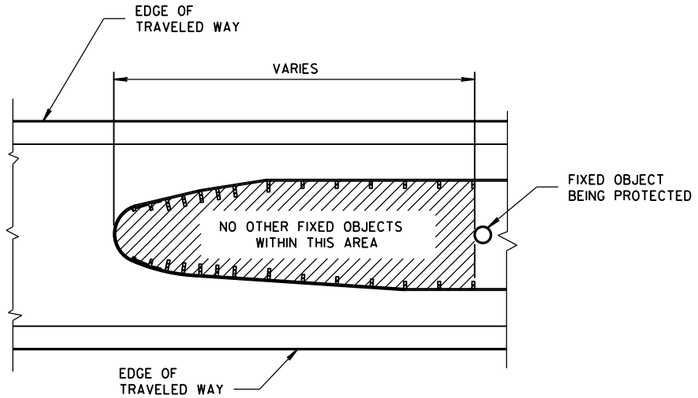


HAZARD FREE AREA INSIDE BULLNOSE

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6
S.D.D. 14 B 26-3a



HAZARD FREE
AREA INSIDE BULLNOSE

GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.

FOR POSTS 2 THROUGH 14, IF POST CANNOT BE INSTALLED AT SPECIFIED LOCATION 1 EXTRA STANDARD WOOD BLOCK MAY BE ADDED.

[1] SLOTTED THRIE BEAM RAIL NO. 1. (POST 1 TO POST 1)

[2A] SLOTTED THRIE BEAM RAIL NO. 2A, (POST 1 TO POST 5)

[2B] SLOTTED THRIE BEAM RAIL NO. 2B, (POST 1 TO POST 5)

[3] SLOTTED THRIE BEAM RAIL NO. 3. (POST 5 TO POST 8)

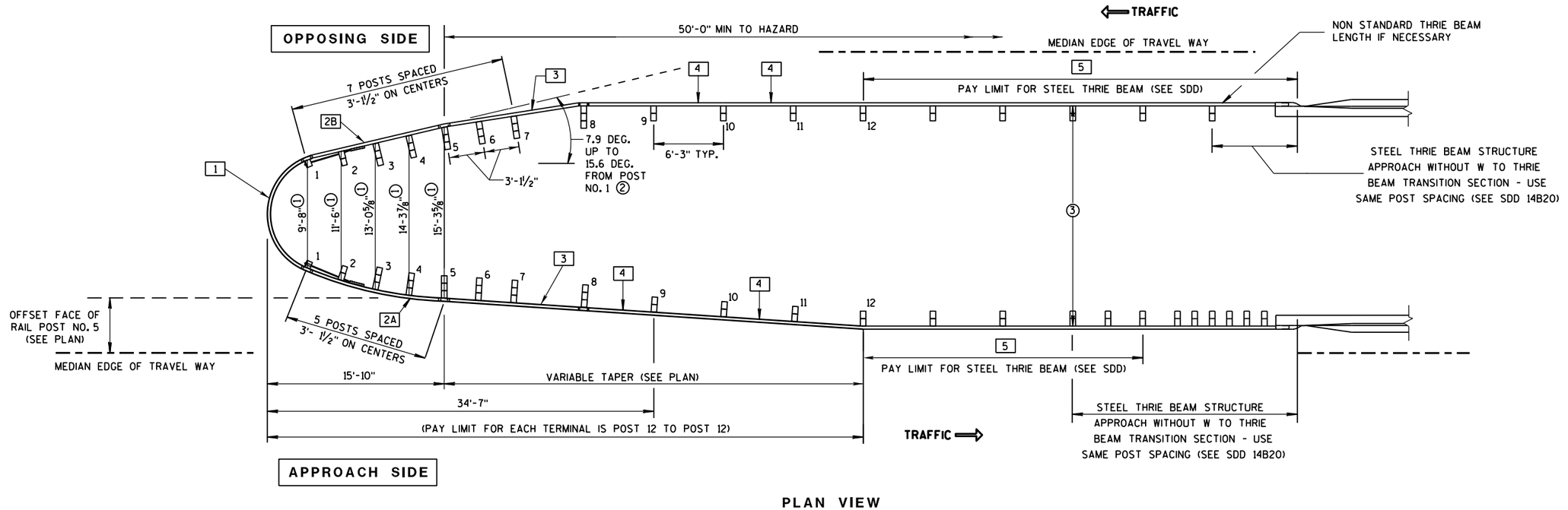
[4] UNBENT STANDARD THRIE-BEAM RAIL NO. 4, (POST 8 TO POST 10 & POST 10 TO POST 12)

[5] BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.

① DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST.

② TAPER BEGINNING AT POST NO. 1 MUST CONTINUE TO POST NO. 5. PAST POST NO. 5 TAPER MAY END OR BE EXTENDED UP TO 15.6 DEGREES TO FIT VARIABLE MEDIAN WIDTHS. (SEE PLAN)

③ FOR MEDIANS WIDER THAN 14'-2½" MEASURED FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.



PLAN VIEW

WIDENED BULLNOSE DESIGN

(INSTALLATION AT TWIN BRIDGES WITH BI-DIRECTIONAL TRAFFIC SHOWN)

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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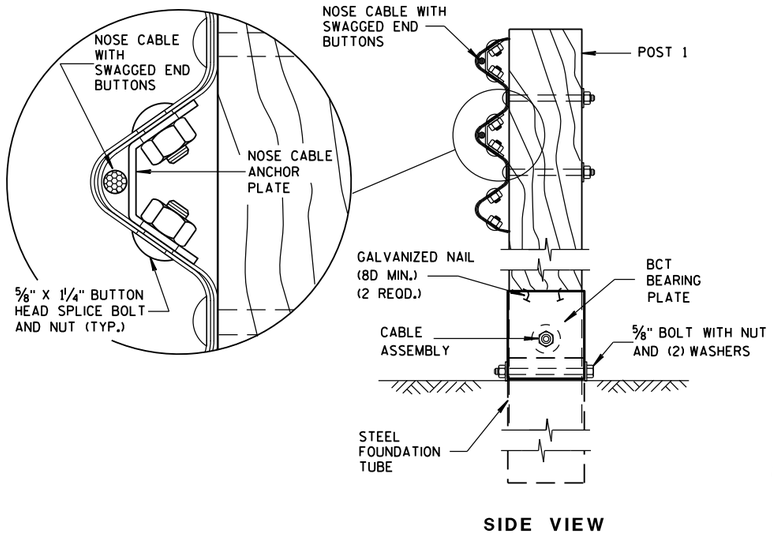
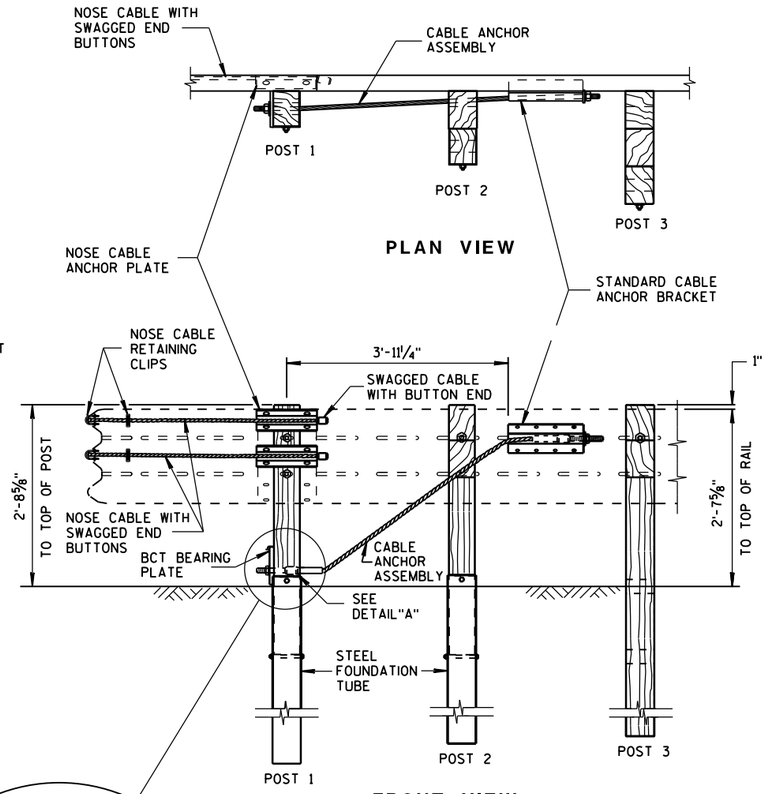
S.D.D. 14 B 26-3b



SIDE VIEW

NOSE CABLE ASSEMBLY AT POST NO. 1



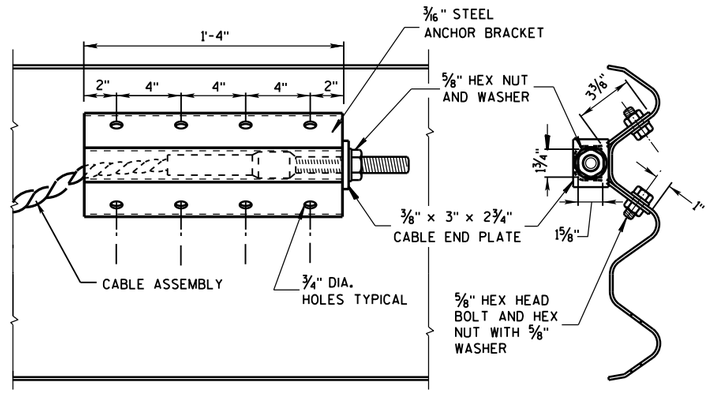
PLAN VIEW

FRONT VIEW

NOSE CABLE ANCHOR AND STANDARD BRACKET ASSEMBLY

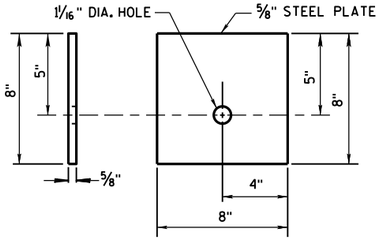
GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.

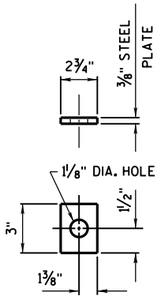


FRONT VIEW END VIEW

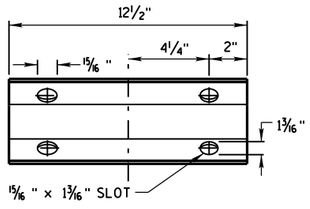
DETAILS OF CABLE ANCHOR BRACKET



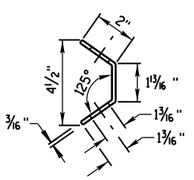
BCT BEARING PLATE



CABLE END PLATE



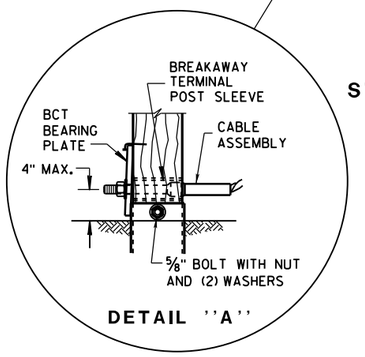
ELEVATION VIEW



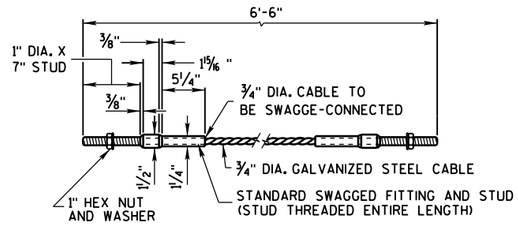
END VIEW

NOSE CABLE ANCHOR PLATE

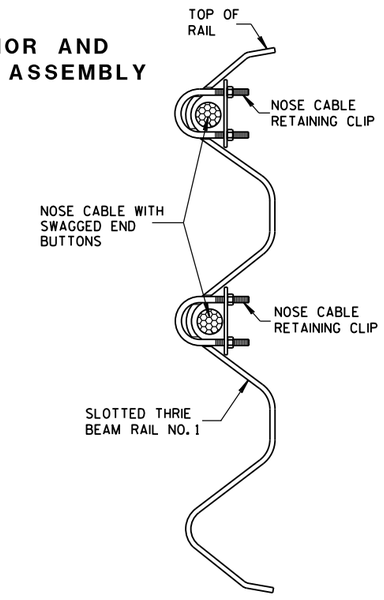
NOTE: 12 1/2" x 5 13/16" x 3/16" STEEL PLATE (A306)



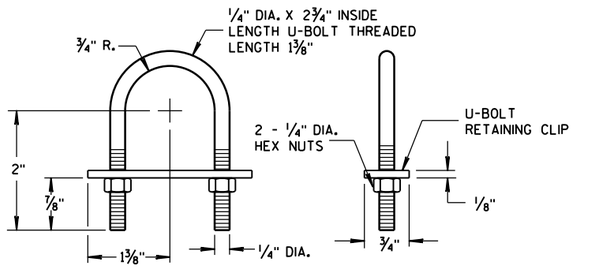
DETAIL ''A''



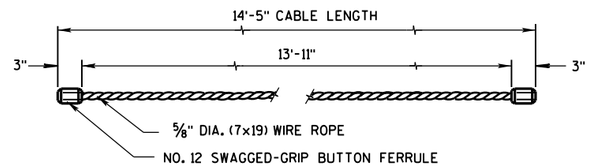
DETAILS OF CABLE ANCHOR ASSEMBLY



PLACEMENT OF NOSE CABLE RETAINING CLIP



NOSE CABLE RETAINING CLIP



NOSE CABLE WITH SWAGGED END BUTTONS

TO PULL OFF SWAGGED GRIP BUTTON FERRULE FROM WIRE ROPE REQUIRES A FORCE EQUAL TO 98% OF THE WIRE ROPE'S BREAKING STRENGHT.

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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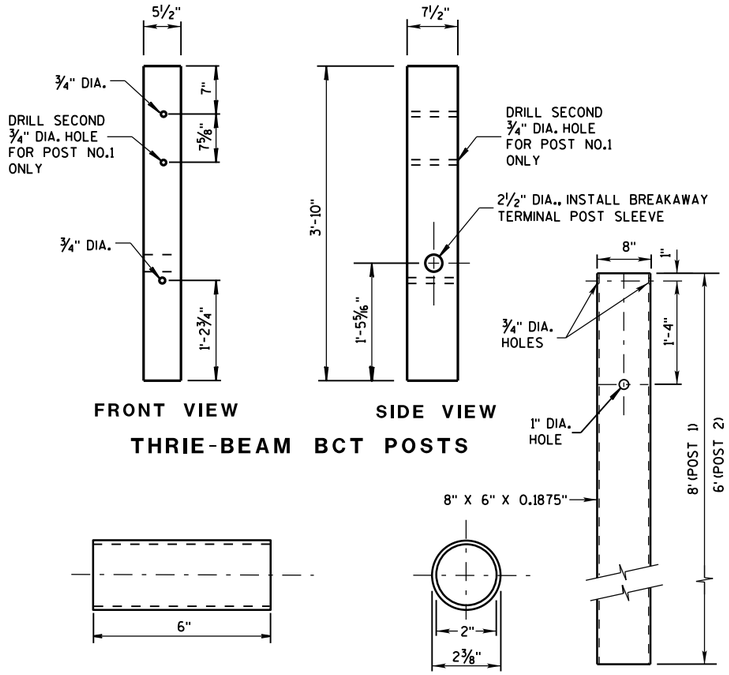
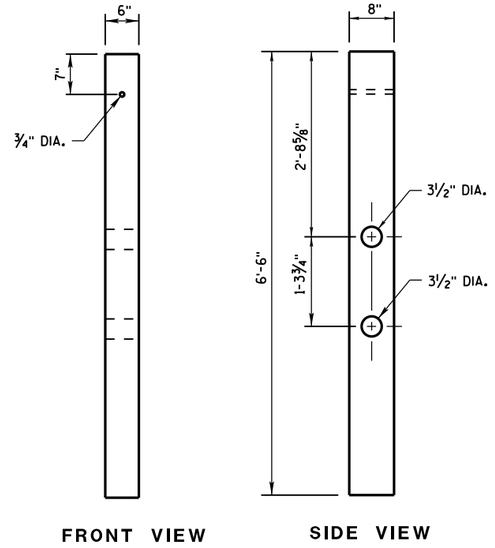
S.D.D. 14 B 26-3c



THRIE-BEAM BCT POSTS

BREAKAWAY TERMINAL POST SLEEVE

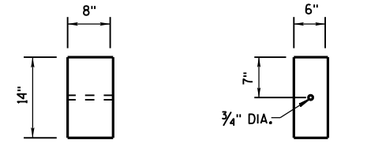
STEEL FOUNDATION TUBE



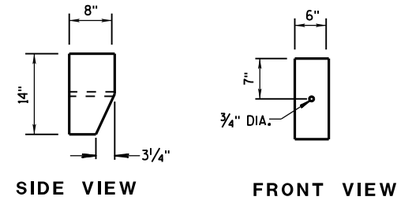
THRIE-BEAM CRT WOOD POSTS

GENERAL NOTES

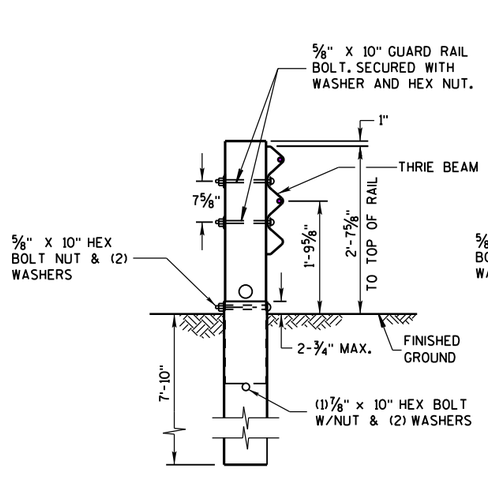
SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.



STANDARD WOOD BLOCK

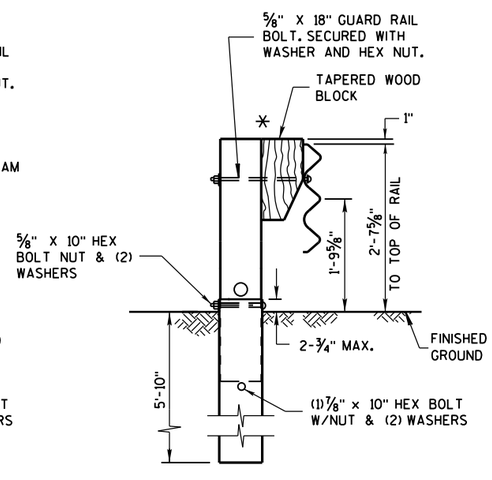


TAPERED WOOD BLOCK



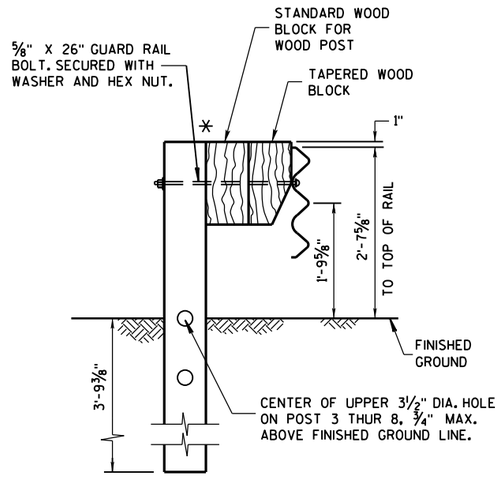
THRIE-BEAM BCT POST
(WITH 8'-0" FOUNDATION TUBE)

POST NO. 1



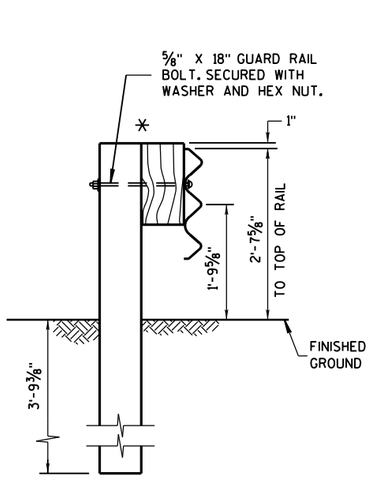
THRIE-BEAM BCT POST
(WITH 6'-0" FOUNDATION TUBE AND 1'-2" TAPERED BLOCK)

POST NO. 2



THRIE-BEAM CRT POST
(6'-6" LONG POST WITH 1'-2" BLOCK AND 1'-2" TAPERED BLOCK)

POST NO. 3,4,5,6,7, & 8



THRIE-BEAM POST
(6'-6" LONG POST WITH 1'-2" BLOCK)

POST NO. 9,10,11,& 12
(ALSO USE FOR STEEL THRIE BEAM BEYOND POST 12)

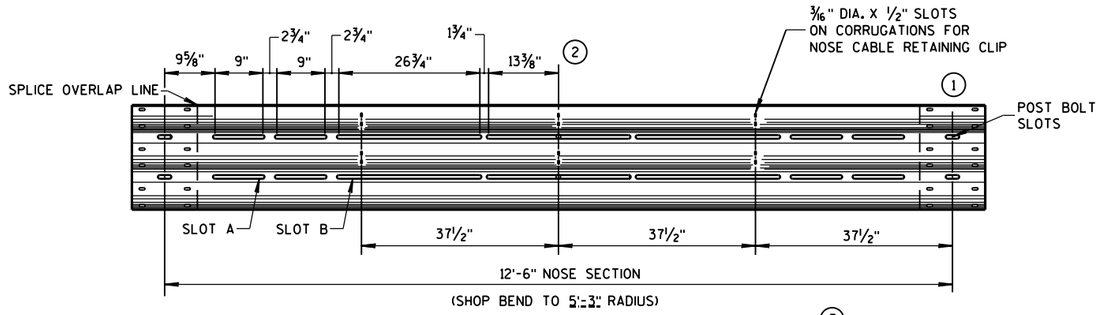
* IF NEEDED DUE TO AN UNDERGROUND OBSTACLE ADD 1 ADDITIONAL STANDARD BLOCKOUT TO POST.

STEEL THRIE BEAM BULLNOSE TERMINAL

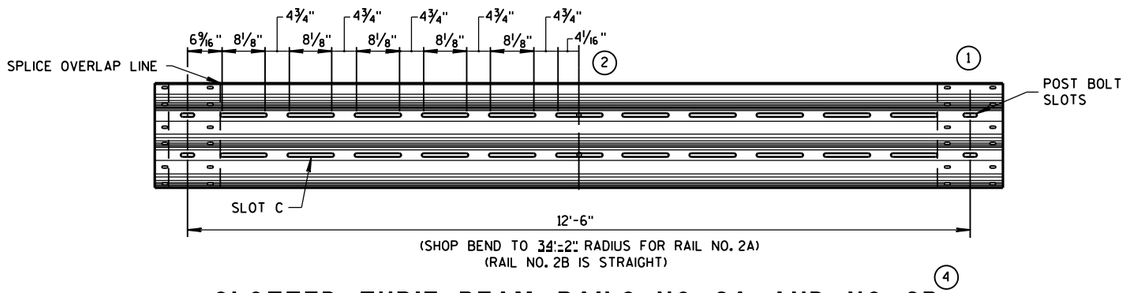
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

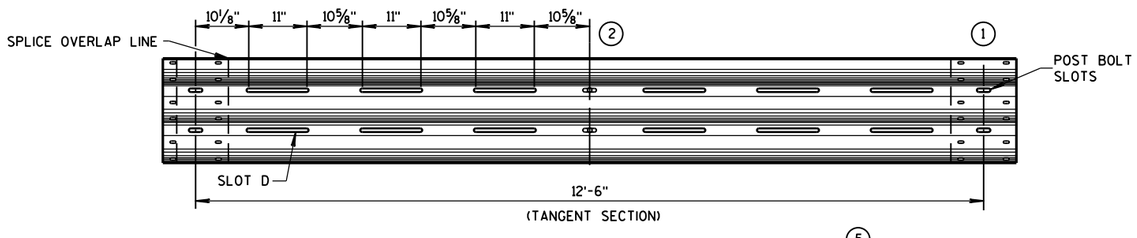
S.D.D. 14 B 26-3d



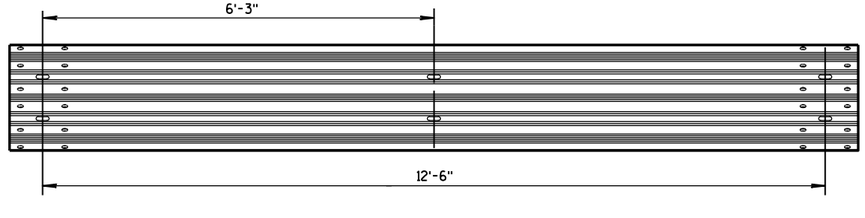
SLOTTED THRIE BEAM RAIL NO. 1 (3)



SLOTTED THRIE BEAM RAILS NO. 2A AND NO. 2B (4)



SLOTTED THRIE BEAM RAIL NO. 3 (5)



UNBENT STANDARD THRIE BEAM RAIL NO. 4 AND NO. 5

GENERAL NOTES

SEE STANADRD DETAIL DRAWINGS 14 B 26a-e.

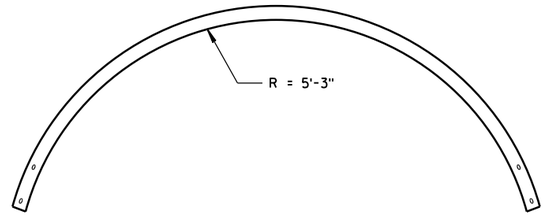
(1) SLOTTED THRIE BEAM RAIL DIMENSIONS SHOWN ARE BEFORE BENDING TO THE RADIUS SHOWN.

(2) SLOT SIZE AND SPACING SYMMETRIC.

(3) SLOTTED THRIE BEAM RAIL NO. 1, 12'-6", SHOP BEND TO R=5'-3".

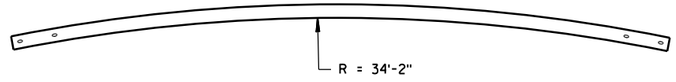
(4) SLOTTED THRIE BEAM RAIL NO. 2A, 12'-6", SHOP BEND TO R=34'-2".
SLOTTED THRIE BEAM RAIL NO. 2B, 12'-6", RAIL IS STRAIGHT.

(5) SLOTTED THRIE BEAM RAIL NO. 3, 12'-6", TANGENT.



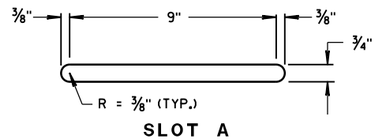
PLAN VIEW

SLOTTED THRIE BEAM RAIL NO. 1

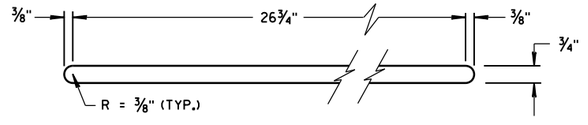


PLAN VIEW

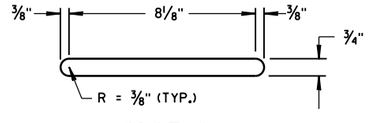
SLOTTED THRIE BEAM RAIL NO. 2A



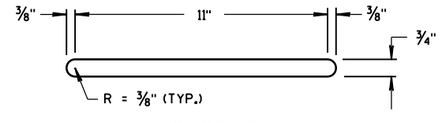
SLOT A



SLOT B



SLOT C



SLOT D

SLOT DETAILS

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2014 — DATE

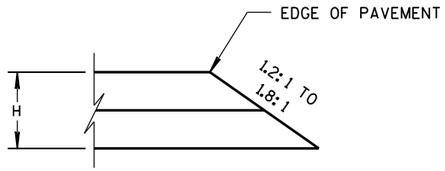
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER

NT

FHWA

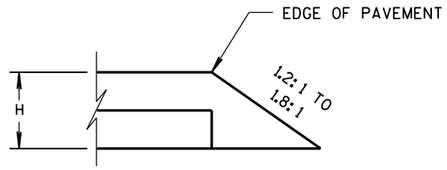
6

S.D.D. 14 B 26-3e



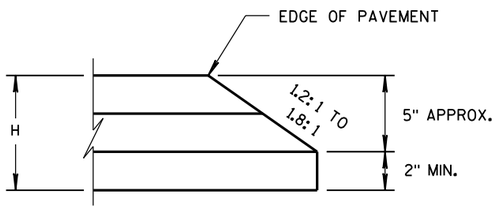
CONSTRUCTED WITH FINAL TWO LAYERS

FOR H 5" OR LESS



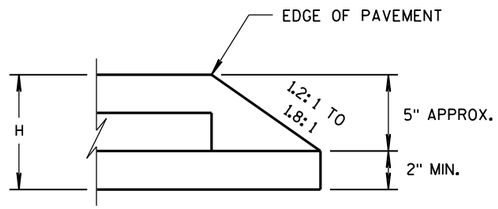
CONSTRUCTED WITH FINAL LAYER

FOR H 5" OR LESS



CONSTRUCTED WITH FINAL TWO LAYERS

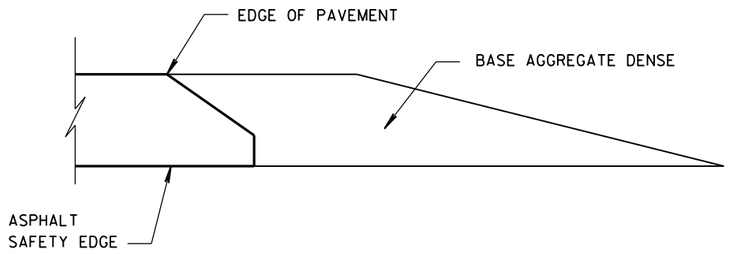
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER

FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

6

6

S.D.D. 14 B 29-1

S.D.D. 14 B 29-1

SAFETY EDGE SM

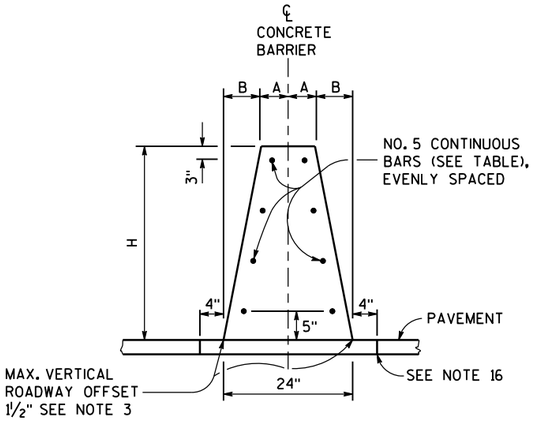
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

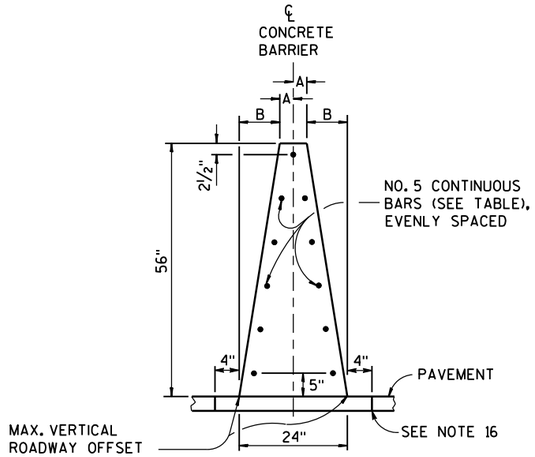
11/30/2012
DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

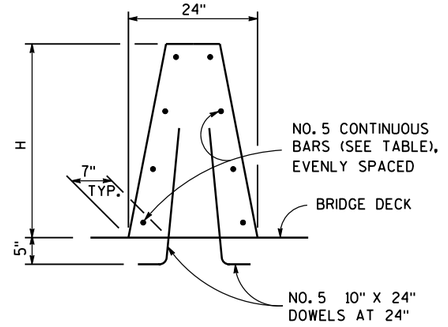
FHWA



32-INCH, 36-INCH OR 42-INCH SINGLE SLOPE CONCRETE BARRIER (TYPE S32, TYPE S36, AND TYPE S42)



56-INCH SINGLE SLOPE CONCRETE BARRIER (TYPE S56)



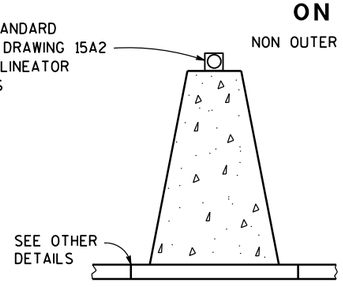
SINGLE SLOPE CONCRETE BARRIER ON BRIDGE

NON OUTER PARAPET APPLICATION

GENERAL NOTES

1. WHERE THE CONCRETE BARRIER IS ADDED TO THE FACE OF EXISTING CONCRETE STRUCTURE, MATCH EXISTING WEEP HOLES.
2. EXPANSION JOINTS IN CONCRETE BARRIER SHALL BE LOCATED AT ALL DECK, AND PRINCIPAL WALL JOINTS. EXPANSION JOINT FILLER MATERIAL SHALL BE THE SAME SIZE AS JOINT OR ½" MINIMUM.
3. WHERE VERTICAL ROADWAY OFFSET IS GREATER THAN 1½", USE TYPE A
4. PLACE BARRIER PERPENDICULAR TO SHOULDER GRADE, UNLESS INDICATED IN PLAN.
5. EXCEPT IN ANCHORS, VERTICAL REINFORCING STIRRUP NOT REQUIRED FOR ROADWAY OFFSETS LESS THAN 1'-0".
6. FOR TYPE S32, TYPE S36, TYPE S42, AND S56 MONOLITHIC FOOTING OR DOWELED FOOTING WITH 2-#8 x 8" @ 2'-0".
7. STAGGER LAPPING OF LONGITUDINAL STEEL. MINIMUM OVERLAP OF STEEL 2 FEET. BARS AT LAPS TO BE FIRMLY TIED OR CONNECTED.
8. 4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATION 501.
9. WHEN SWITCHING BETWEEN SLIP FORM AND CAST-IN-PLACE OPERATIONS, EXTEND LONGITUDINAL STEEL 3 FEET BEYOND SLIP-FORMING CUT OFF POINT. EXPOSED STEEL INTO NEXT POURS REINFORCEMENT. LAPS TO BE FIRMLY TIED.
10. USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS OTHERWISE NOTED.
11. 2" CLEAR COVER TYPICAL.
12. COLD-JOINTS MAY BE USED BETWEEN ANCHOR INSTALLATIONS. WHEN A COLD JOINT IS NEEDED, 3 FEET OF LAP OF LONGITUDINAL STEEL IS REQUIRED. LAPS TO BE FIRMLY TIED.
13. IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 NO ADDITIONAL VERTICAL STEEL NEEDED. IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A REQUIRES VERTICAL STEEL. SEE OTHER DETAIL.
14. IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 DEPTH OF FOOTING 10". IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A MATCH TOTAL HEIGHT OF SINGLE SLOPE BARRIER RETAINING WALL.
15. FOR ALL BARRIER TYPES SHOWN, ANCHOR IS REQUIRED AT CONCRETE BARRIER ENDS AND AT INTERRUPTIONS IN CONCRETE BARRIER. ANCHOR MAY BE AS SHOWN ON DRAWING OR DETAILS SHOWN ON S.D.D. 14B33. ANCHORS INCIDENTAL TO CBSS.
16. CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED FULL DEPTH. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.

BARRIER HEIGHT H INCHES	A INCHES	B INCHES	NUMBER OF NO. 5 BARS EACH
32	7	5	8
36	6¼	5¾	8
42	5¼	6¾	10
56	3	9	11



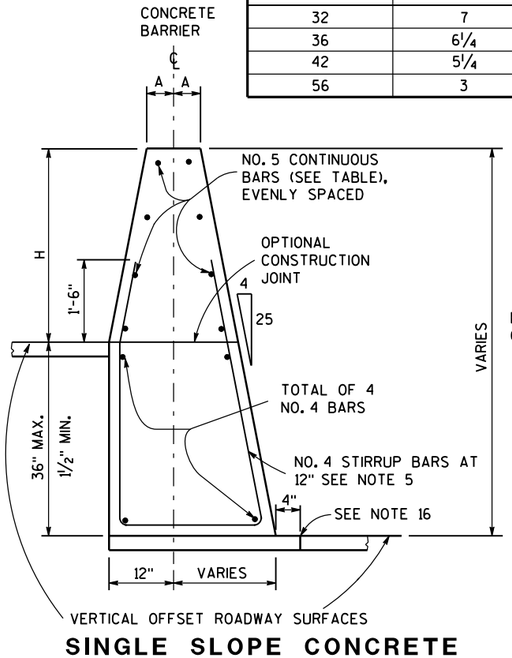
DELINEATION

DELINEATOR SPACING ON HORIZONTAL CURVES

RADIUS OF CURVE	APPROXIMATE SPACING ON CURVE
50 FEET	20 FEET
115 FEET	25 FEET
180 FEET	35 FEET
250 FEET	40 FEET
300 FEET	50 FEET
400 FEET	55 FEET
500 FEET	65 FEET
600 FEET	70 FEET
700 FEET	75 FEET
800 FEET	80 FEET
900 FEET	85 FEET
1000 FEET	90 FEET

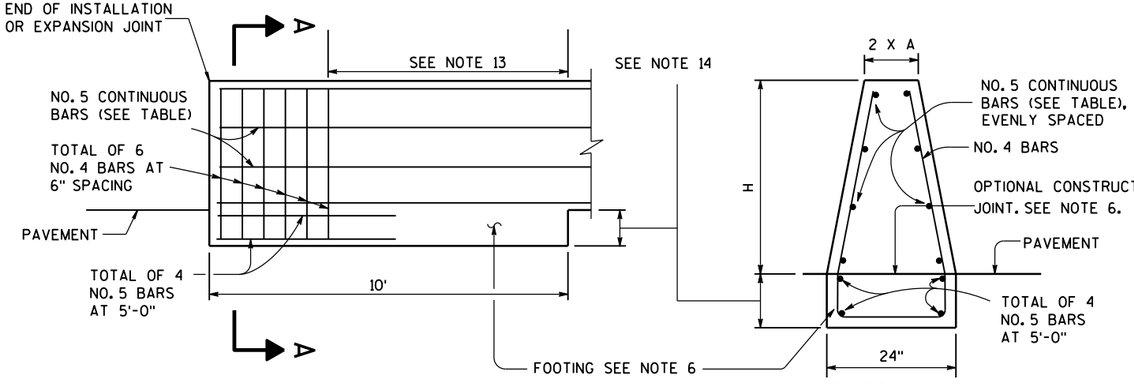
DELINEATOR SPACING ON RADIUS GREATER THAN 1000 FEET OR TANGENT SECTIONS

	LENGTH OF BARRIER	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2	



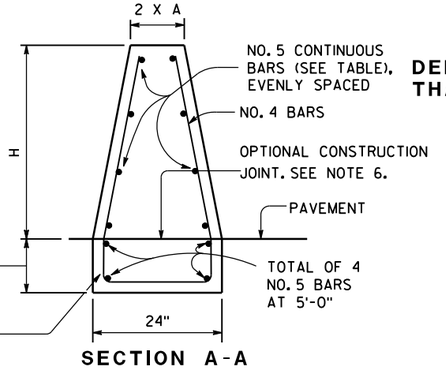
SINGLE SLOPE CONCRETE BARRIER AND RETAINING WALL (TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)

(BETWEEN ADJACENT ROADWAYS)



END ANCHOR SINGLE SLOPE CONCRETE BARRIER

AT CONSTRUCTION JOINT



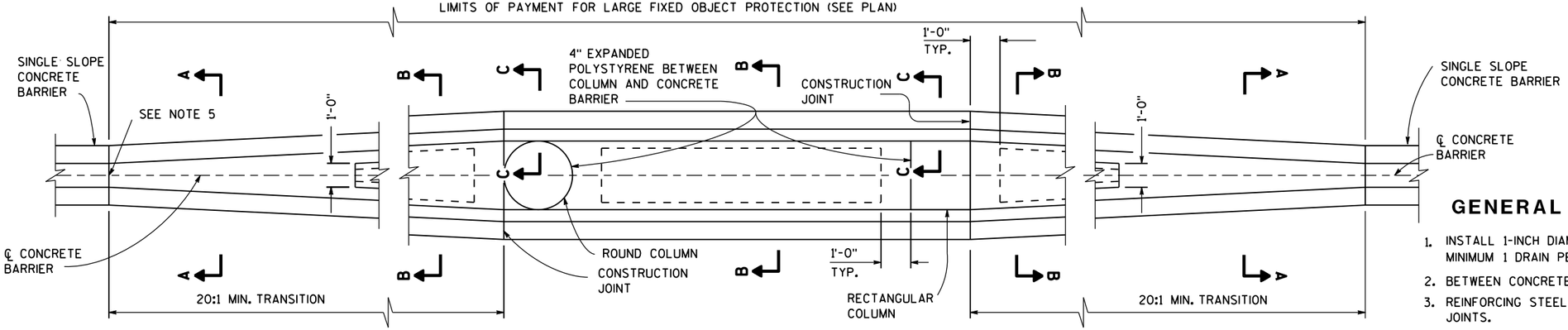
SECTION A-A

CONCRETE BARRIER SINGLE SLOPE (CBSS)

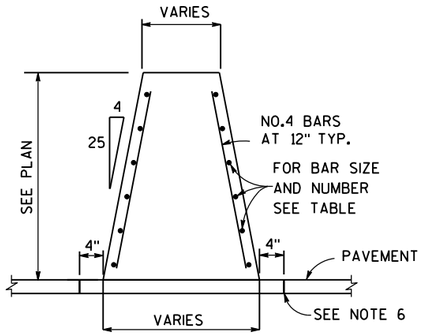
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

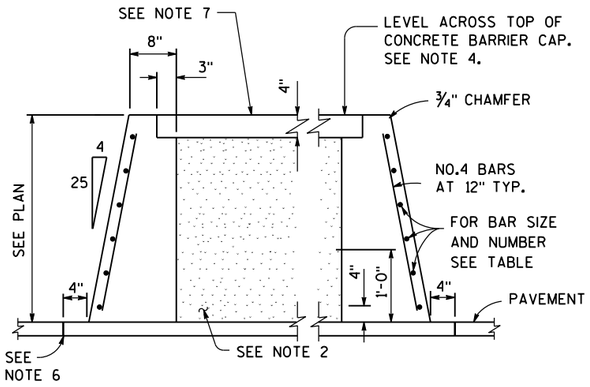
S.D.D. 14 B 32-4a



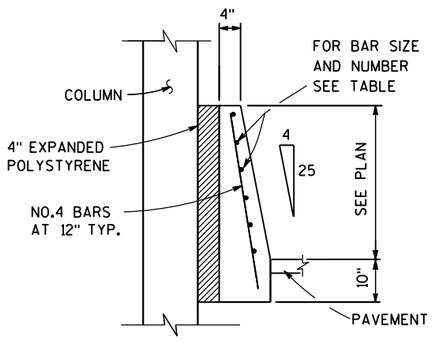
LARGE FIXED OBJECTS PROTECTION
TYPE S32, TYPE S36, TYPE S42, TYPE S56



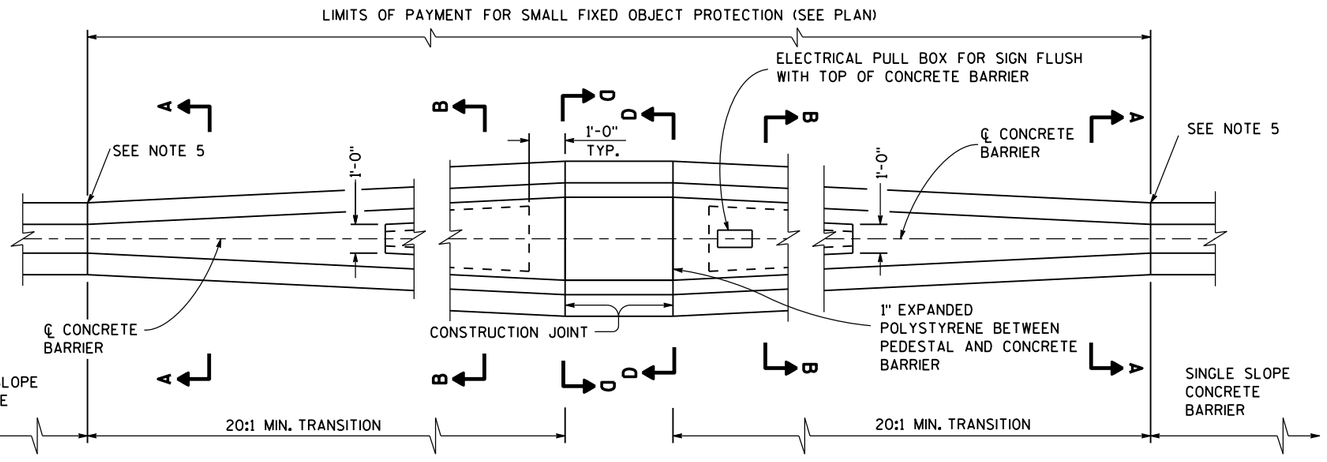
SECTION A-A



SECTION B-B



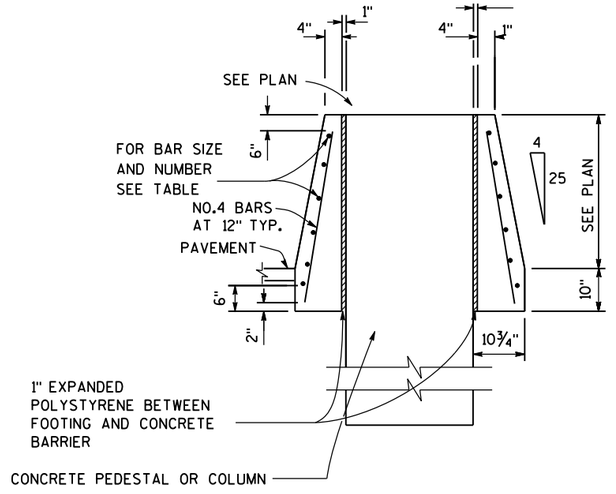
SECTION C-C



SMALL FIXED OBJECTS PROTECTION
TYPE S32, TYPE S36, TYPE S42, TYPE S56

GENERAL NOTES

1. INSTALL 1-INCH DIAMETER DRAIN PIPE EVERY 20 FEET OF CROSS SECTION B-B. MINIMUM 1 DRAIN PER CAVITY.
2. BETWEEN CONCRETE BARRIER WALLS FILL WITH FOUNDATION BACKFILL.
3. REINFORCING STEEL SHALL EXTEND CONTINUOUS THROUGH CONSTRUCTION JOINTS.
4. ADJUST HEIGHT OF CONCRETE BARRIER WALL ON LOW SIDE OF OFFSET OR SUPERELEVATED ROADWAYS TO PROVIDE LEVEL GRADE ACROSS TOP OF CONCRETE CAP.
5. IF FIXED OBJECT PROTECTION IS INSTALLED FIRST, USE COLD JOINTS. IF CBSS PLACED FIRST, USE EXPANSION JOINT.
6. CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED FULL DEPTH. SAWING OF CONCRETE SHOULDER IS INCIDENTAL TO CONCRETE BARRIER BID ITEM. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.
7. USE NO. 3 BAR SPACED 12 INCHES CENTER TO CENTER (PLACED IN EACH DIRECTION) OR EQUIVALENT WIRE MESH.



SECTION D-D

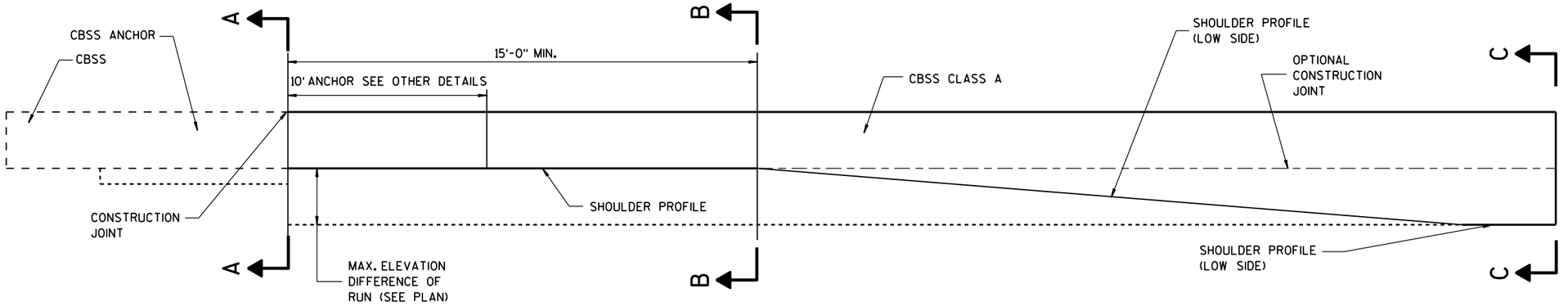
BARRIER HEIGHT H INCHES	BAR SIZE	NUMBER OF BARS EACH
32	4	6
36	4	6
42	5	6
56	5	9

CONCRETE BARRIER SINGLE SLOPE (CBSS)

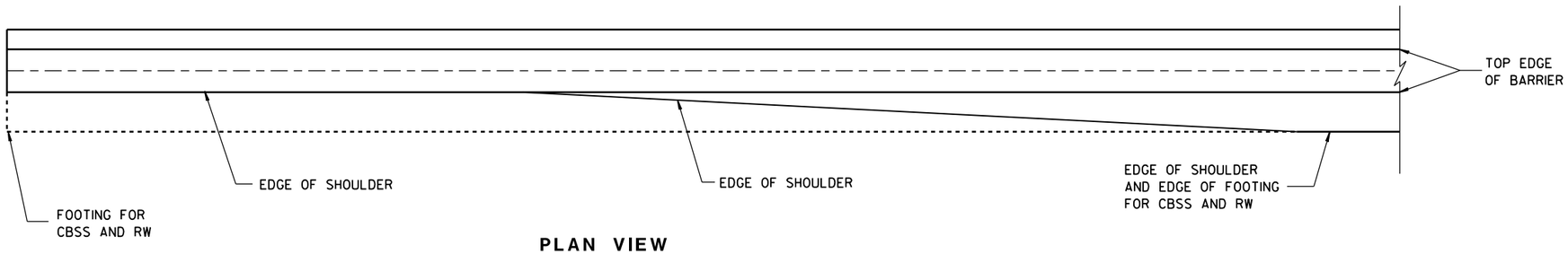
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

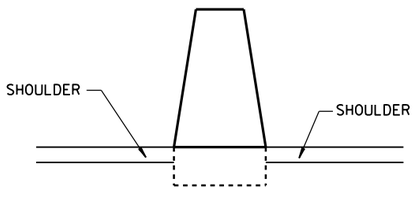
S.D.D. 14 B 32-4b



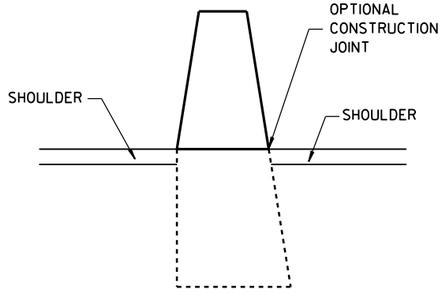
ELEVATION VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



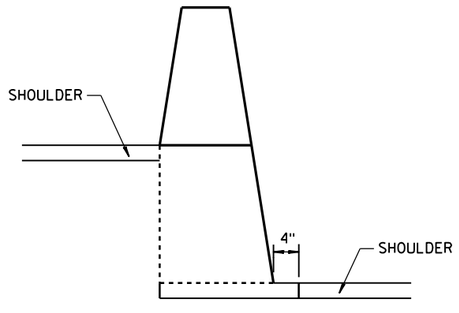
PLAN VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



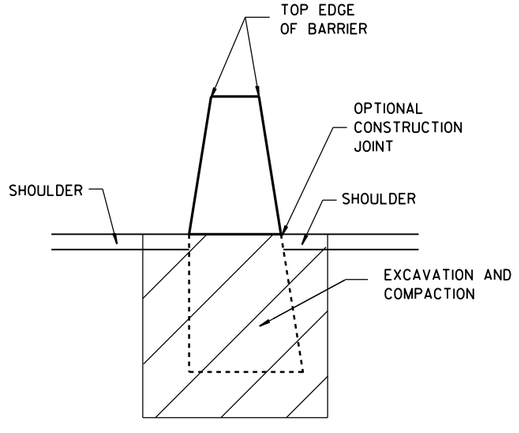
SECTION A-A



SECTION B-B



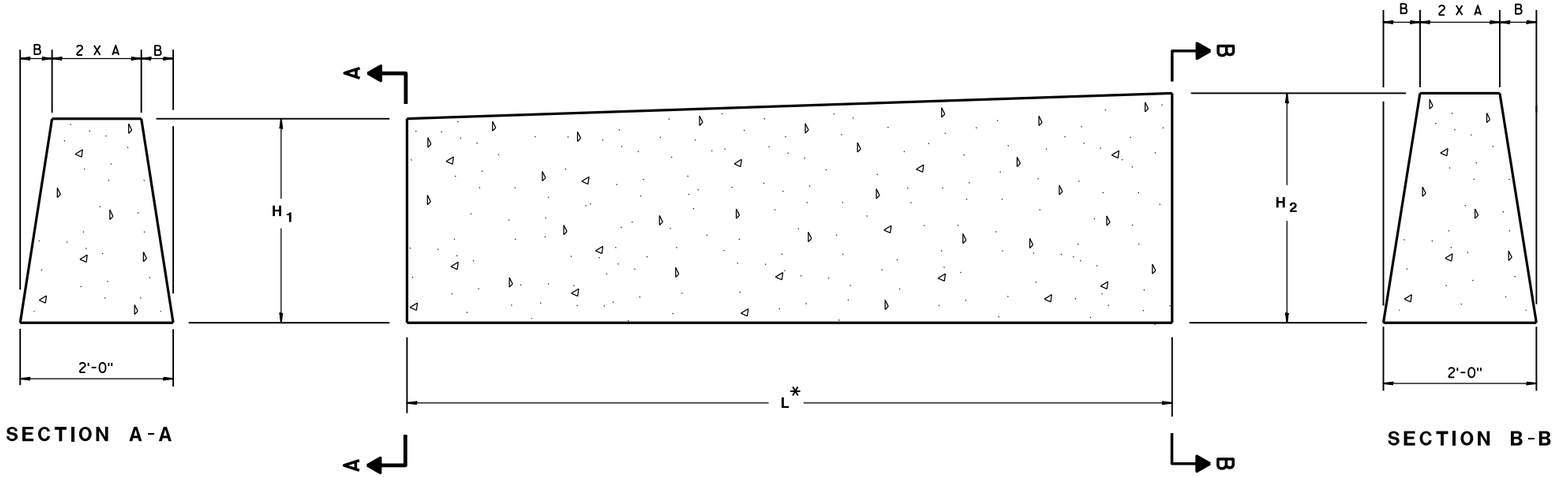
SECTION C-C



CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 32-4c



SECTION A-A

SECTION B-B

DOUBLE COLD JOINT HEIGHT TRANSITION

BARRIER DIMENSIONS

BARRIER HEIGHT INCHES	A INCHES	B INCHES
32	7	5
36	6 1/4	5 3/4
42	5 1/4	6 3/4
56	3	9

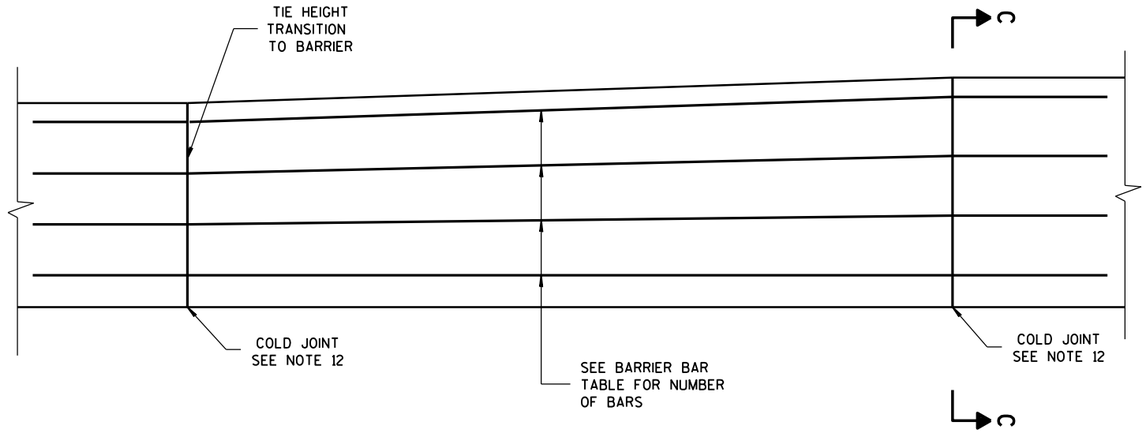
MULTIPLE HEIGHT TRANSITIONS MAY BE USED IN SEQUENCE TO GET TO APPROPRIATE HEIGHT.

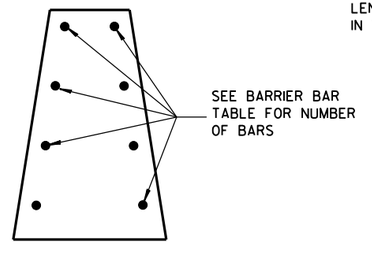
USE COLD JOINT TO CONNECT MULTIPLE HEIGHT TRANSITIONS.

BARRIER BARS

H_1	H_2	L*	NUMBER OF NO. 5 BARS
32"	36"	10'-0"	8
36"	42"	10'-6"	10
42"	56"	24'-6"	11

* LENGTH OF DOUBLE COLD JOINT INCLUDED IN THE TOTAL LENGTH OF CBSS.





SECTION C-C

STEEL REINFORCEMENT DETAIL

CONCRETE BARRIER SINGLE SLOPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2016 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

6

S.D.D. 14 B 32-4d

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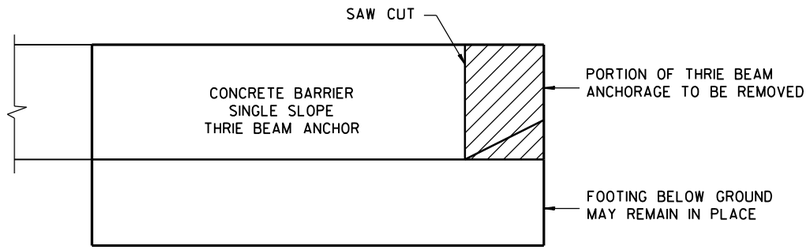
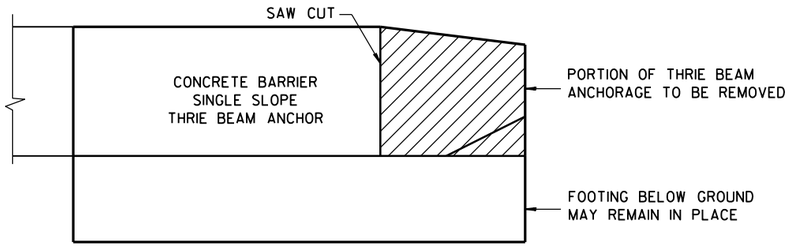
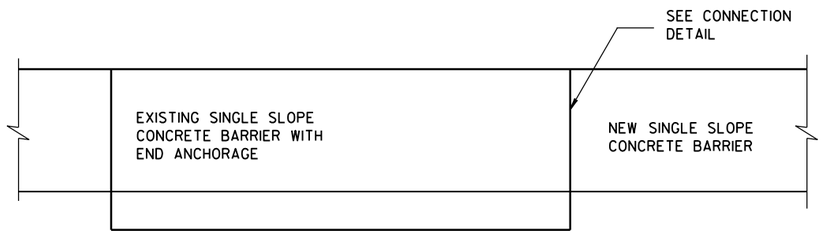
S.D.D. 14 B 32-4d



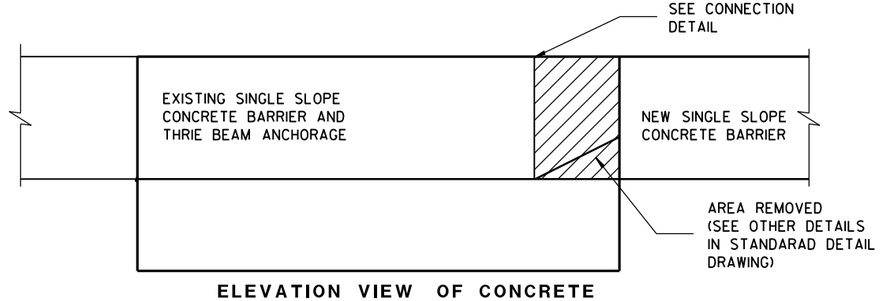
REMOVAL AREA OF
32" CONCRETE THRIE BEAM ANCHORAGE



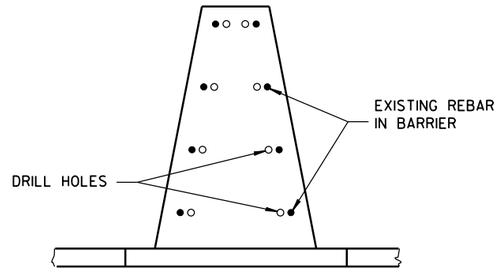
REMOVAL AREA OF CONCRETE THRIE BEAM
ANCHORAGE WITH HEIGHT GREATER THAN 32"



ELEVATION VIEW OF CONCRETE
BARRIER EXTENSION NEAR END ANCHORAGE



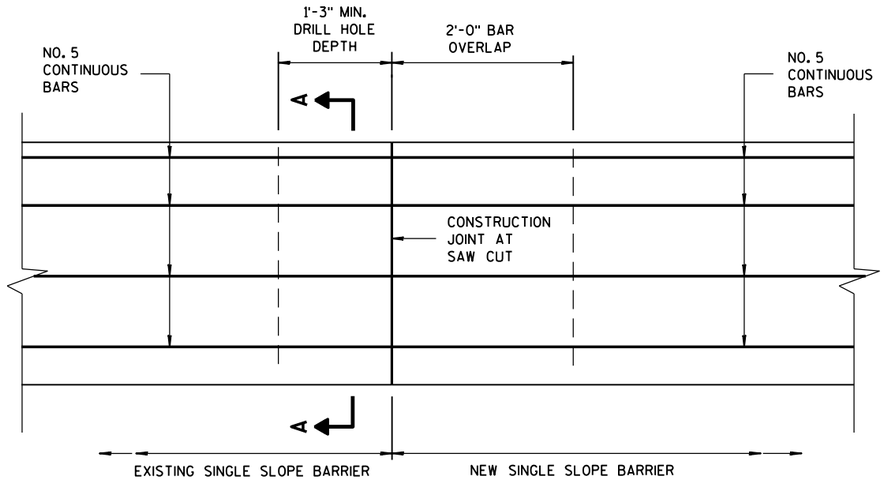
ELEVATION VIEW OF CONCRETE
BARRIER EXTENSION NEAR THRIE BEAM TERMINAL



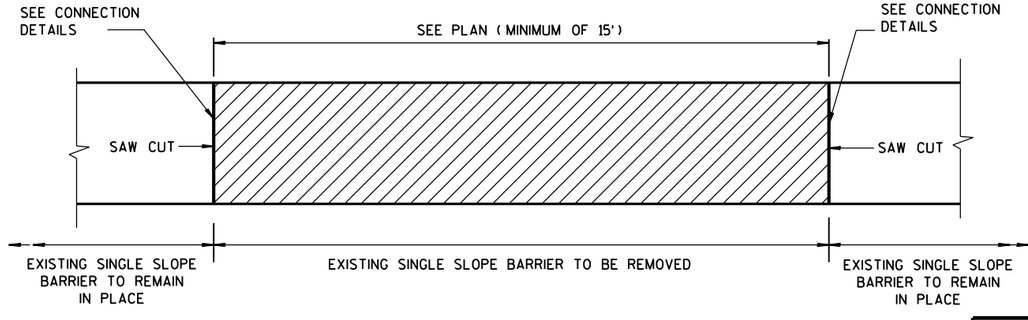
SECTION A-A

GENERAL NOTES

1. THE NUMBER OF DRILL HOLES IS EQUAL TO THE NUMBER OF REBAR IN BARRIER (SEE OTHER DETAILS).
2. MINIMUM DEPTH OF DRILL HOLES IS 1'-3".
3. DRILL HOLES TO BE A MINIMUM OF 4 INCHES FROM THE EDGE OF CONCRETE.
4. INSTALL EPOXY COATED NO. 5 BARS IN DRILL HOLES.
5. END ANCHORAGE MAY OR MAY NOT BE PRESENT ON EXISTING BARRIER.
6. REMOVE THRIE BEAM ANCHORAGE AS SHOWN.



CONNECTION OF EXISTING SINGLE SLOPE CONCRETE BARRIER TO
NEW SINGLE SLOPE CONCRETE BARRIER



ELEVATION FILE
BARRIER REMOVAL AND REPLACEMENT

CONCRETE BARRIER
SINGLE SLOPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

RETROFIT OR REPAIR SINGLE SLOPE CONCRETE BARRIER

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S.D.D. 14 B 32-4e

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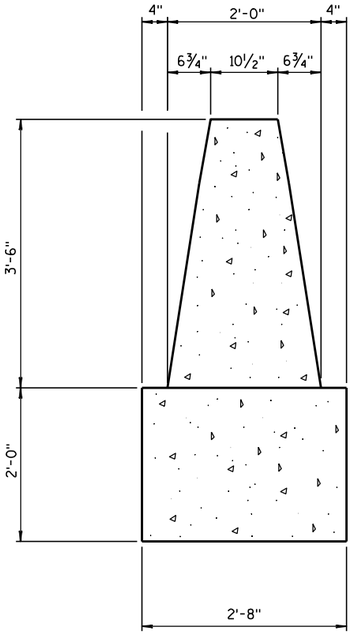
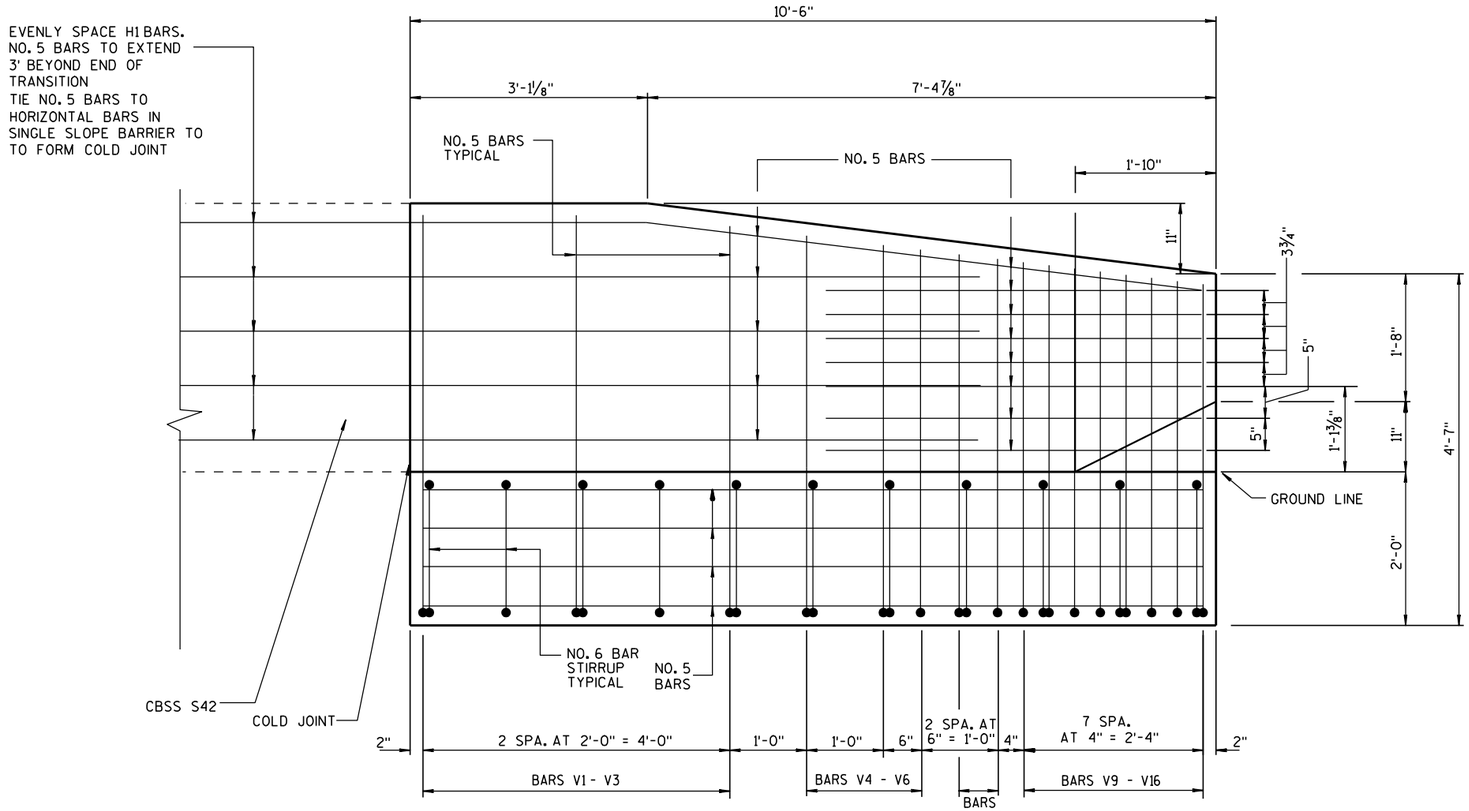
S.D.D. 14 B 32-4e

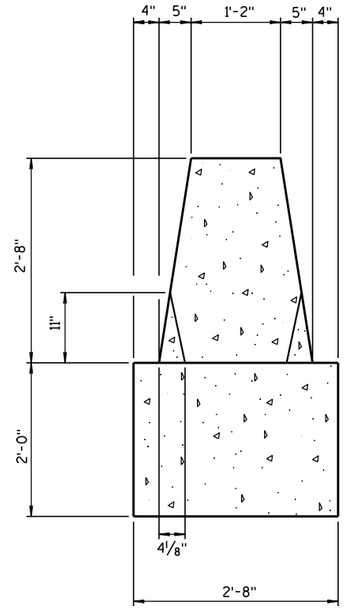


SECTION A-A

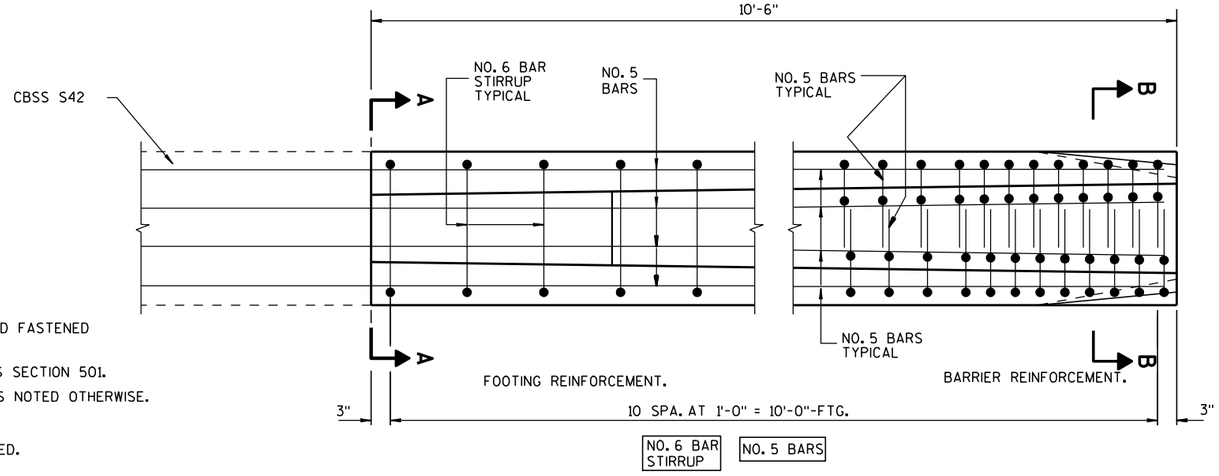


SEE SECTIONS ① THRU ⑯

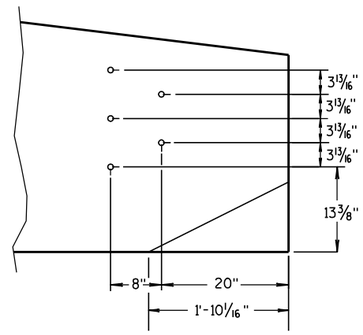
ELEVATION VIEW



SECTION B-B



PLAN VIEW



PVC PIPE LOCATIONS

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS SECTION 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

THRIE BEAM ANCHOR INCIDENTAL TO CONCRETE BARRIER ITEM.

INSTALL SCHEDULE 40 PVC PIPE 1" DIAMETER AT LOCATIONS INDICATED.

EXTEND PVC PIPE COMPLETELY THROUGH BARRIER.

CUT ENDS OF PVC PIPE FLUSH WITH FINISHED FACE of BARRIER.

THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

CONCRETE BARRIER SINGLE SLOPE 42" THRIE BEAM ANCHOR

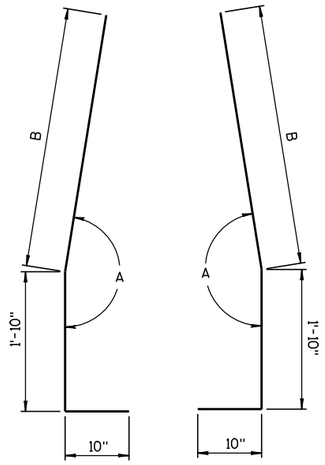
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 33-1g

BAR CHART
SECTIONS V1 - V11

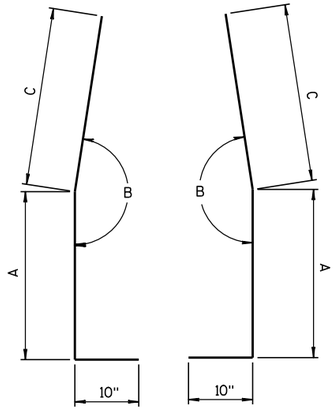
BAR	A	B
V1	170°-50'	3'-4½"
V2	171°-20'	3'-4½"
V3	171°-30'	3'-2½"
V4	171°-25'	3'-1½"
V5	171°-15'	3'-0"
V6	171°-15'	2'-11"
V7	171°-20'	2'-10½"
V8	171°-10'	2'-9½"
V9	171°-10'	2'-9"
V10	171°-05'	2'-8½"
V11	171°-10'	2'-8"



BAR BENDING DETAIL
FOR BARS V1 - V11

BAR CHART
SECTIONS V12 - V13

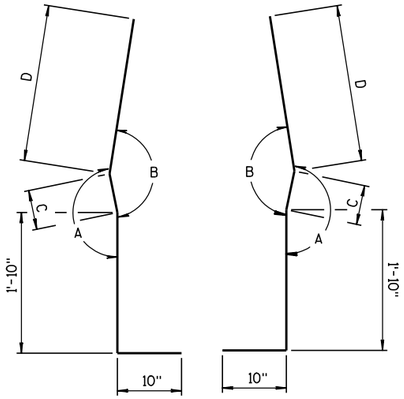
BAR	A	B	C
V12	2'-2"	171°-15'	2'-3½"
V13	2'-7"	171°-05'	1'-10"



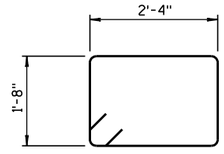
BAR BENDING DETAIL
FOR BARS V12 - V13

BAR CHART
SECTIONS V14 - V16

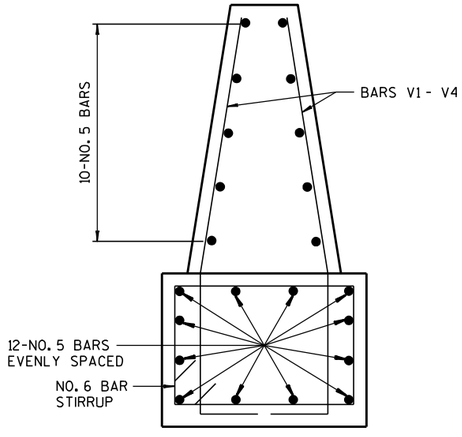
BAR	A	B	C	D
V14	168°-15'	159°-15'	6"	2'-0"
V15	169°-20'	161°-00'	8"	1'-10"
V16	168°-40'	160°-10'	10"	1'-8"



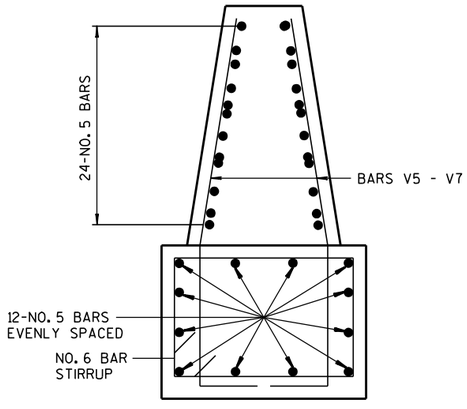
BAR BENDING DETAIL
FOR BARS V14 - V16



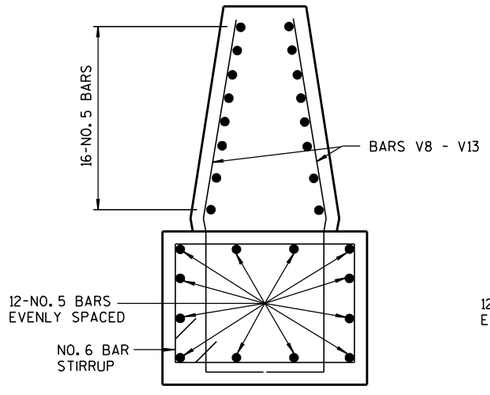
STIRRUP BAR
BENDING DETAIL



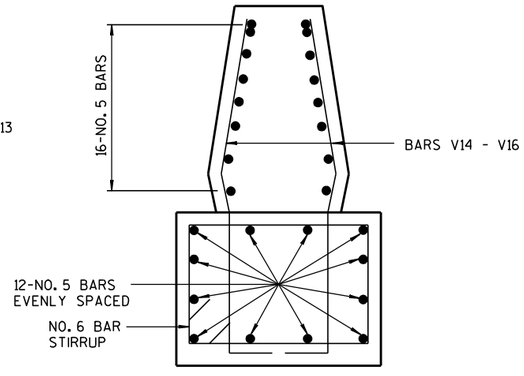
BAR DETAIL
SECTIONS V1 - V4



BAR DETAIL
SECTIONS V5 - V7



BAR DETAIL
SECTIONS V8 - V13



BAR DETAIL
SECTIONS V14 - V16

CONCRETE BARRIER
SINGLE SLOPE 42"
THRIE BEAM ANCHOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6-3-2010 DATE
/S/ Jerry H. Z--- ROADWAY STANDARDS ENGINEER
FHWA

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S.D.D. 14 B 33-1h

(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.

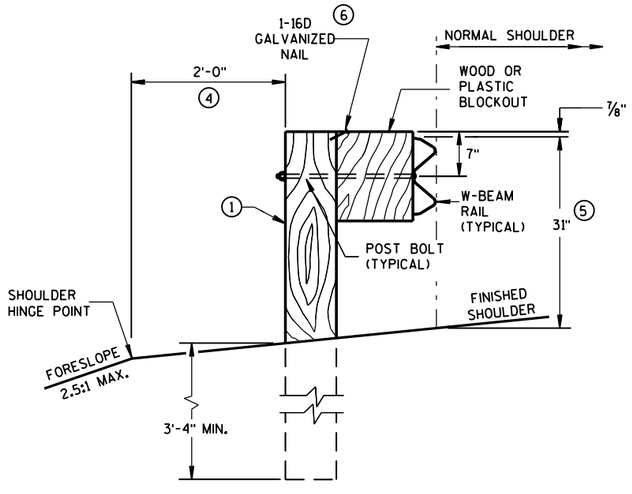
(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

(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).

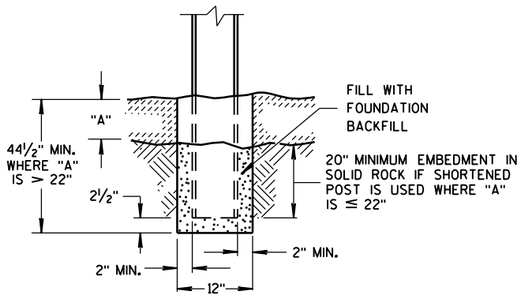
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

(6) WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



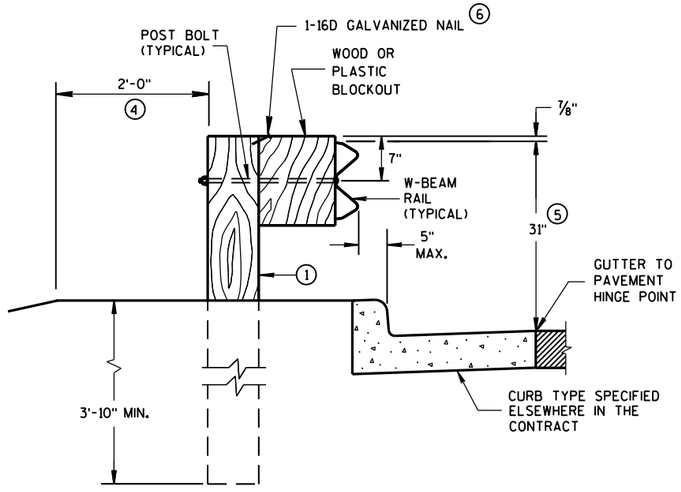
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



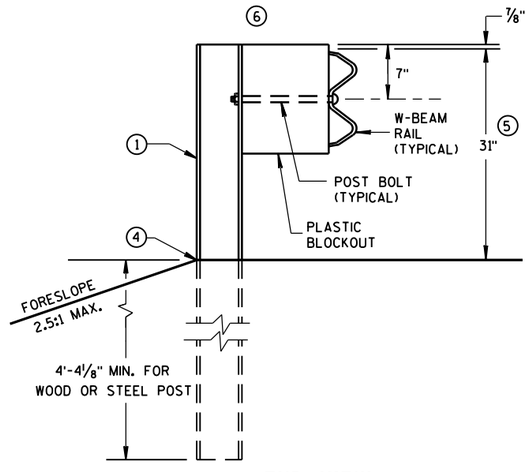
END VIEW

SETTING STEEL OR WOOD POST IN ROCK (3)



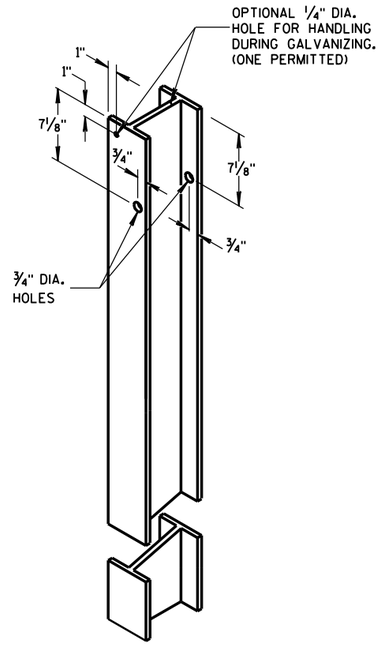
END VIEW

LOCATED ALONG A CURBED ROADWAY

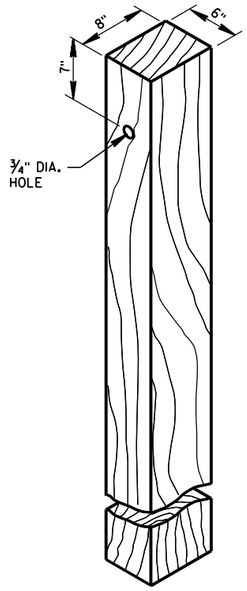


END VIEW

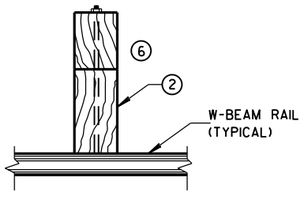
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



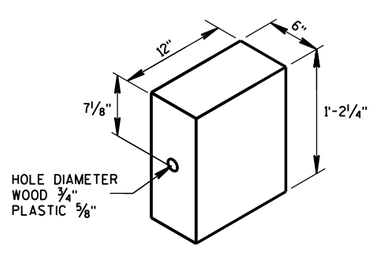
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) (1)



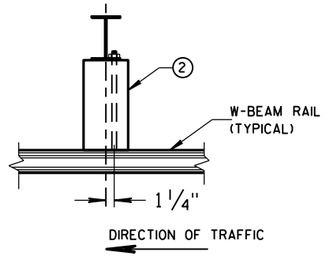
WOOD POST
(6" X 8") NOMINAL (1)



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT (2)

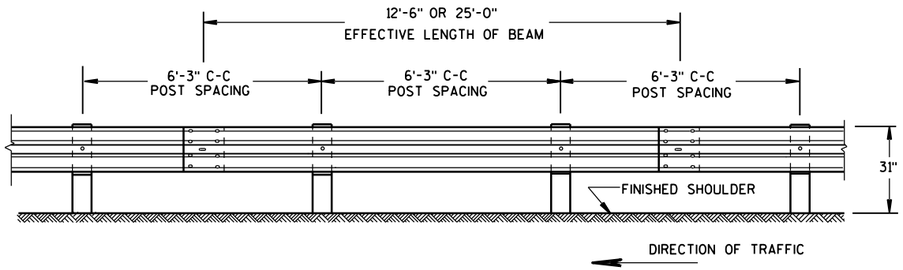


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

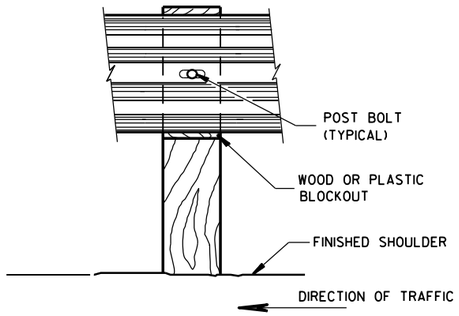
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 42-4a



FRONT VIEW

POST SPACING STANDARD INSTALLATION



FRONT VIEW AT WOOD POST

7. PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

8. 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.

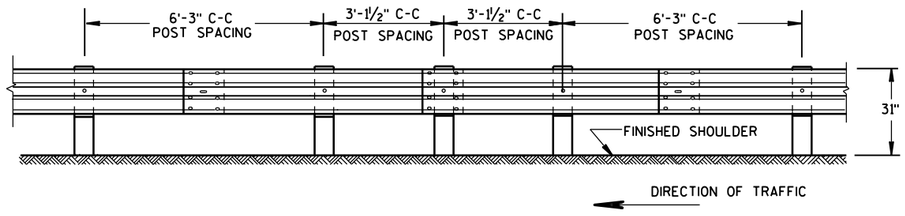
9. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

10. PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

11. 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

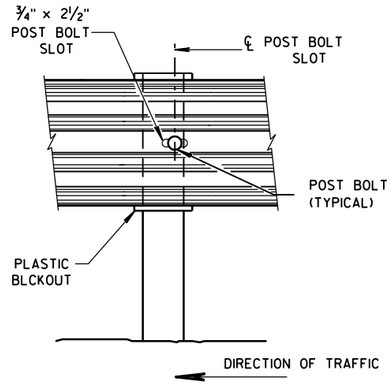
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

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.

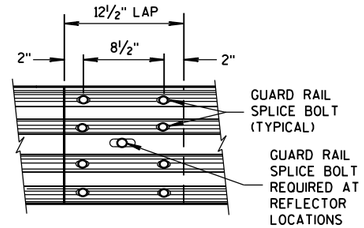


FRONT VIEW

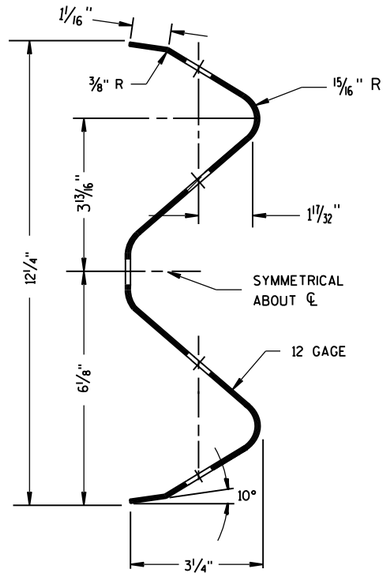
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



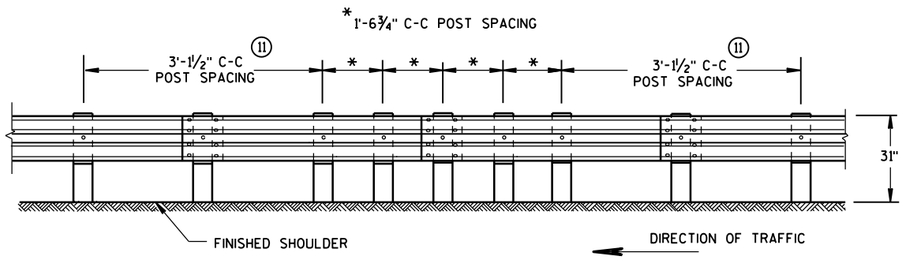
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE

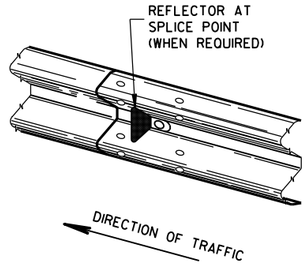


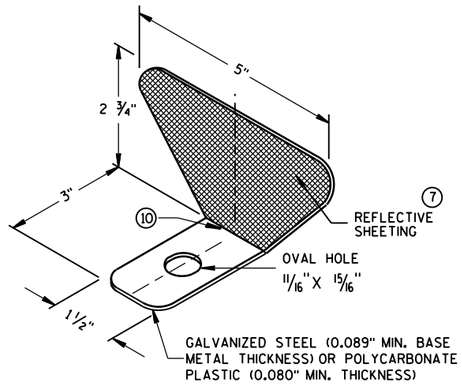
SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (7)

REFLECTOR SPACING (8)

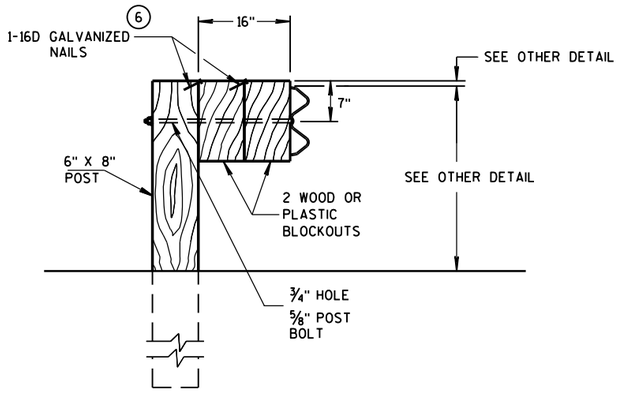
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 (9) 1	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 2 (10)	3

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

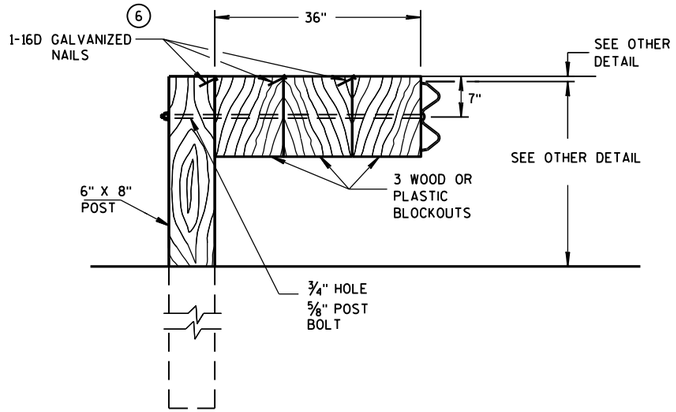
6

S.D.D. 14 B 42-4b



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.

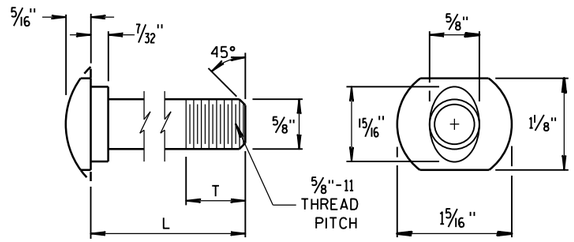


DETAIL FOR 36" BLOCKOUT DEPTH

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.

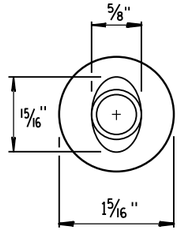
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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.

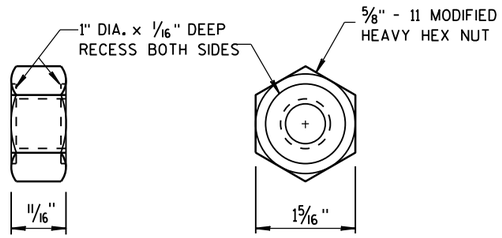


POST BOLT TABLE

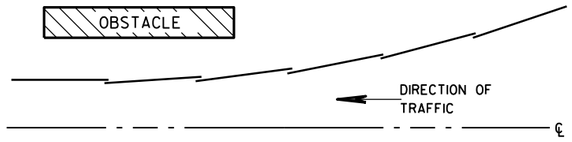
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

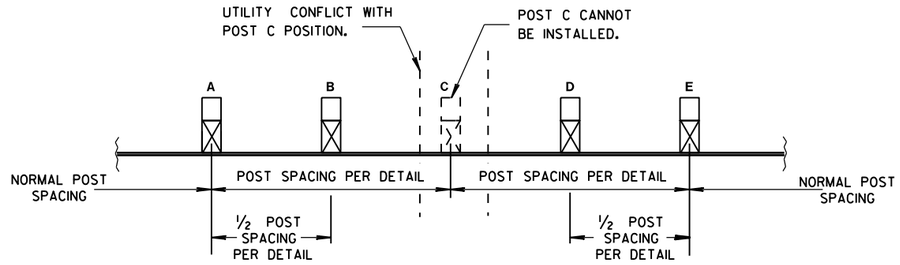


POST BOLT, SPLICE BOLT AND RECESS NUT

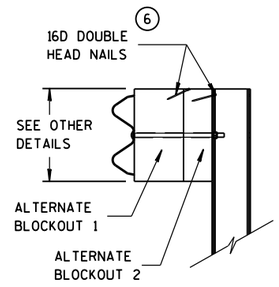


PLAN VIEW

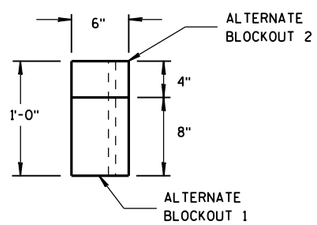
BEAM LAPPING DETAIL



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
June 2016 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6
S.D.D. 14 B 42-4c

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, 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) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

(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.

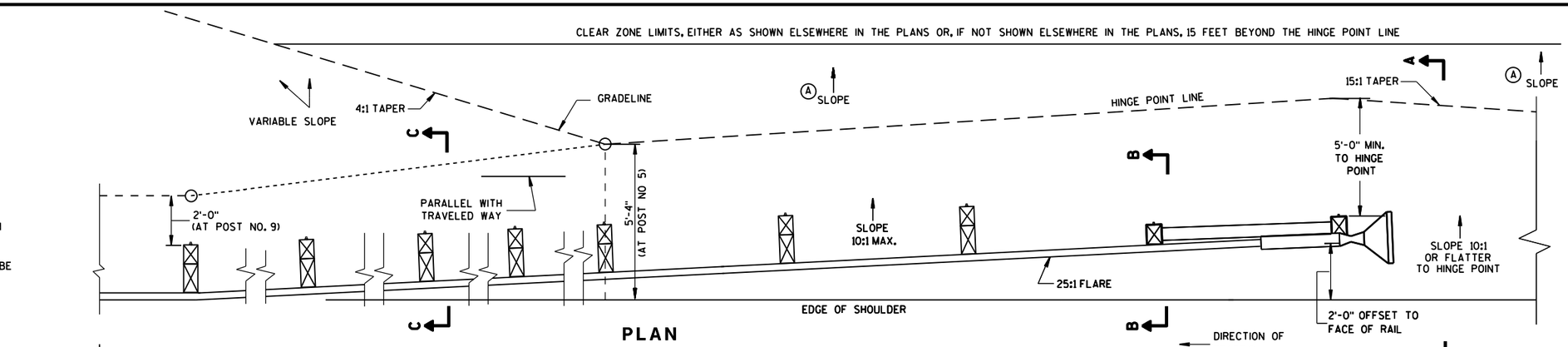
SEE SDD 14B42 FOR MORE INFORMATION.

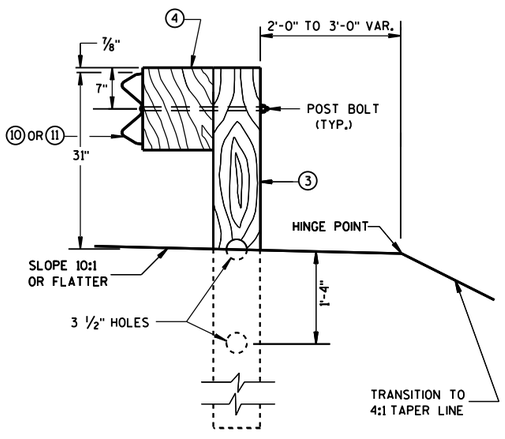
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

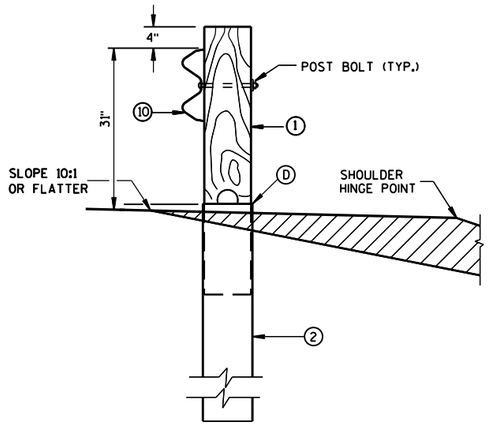
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.

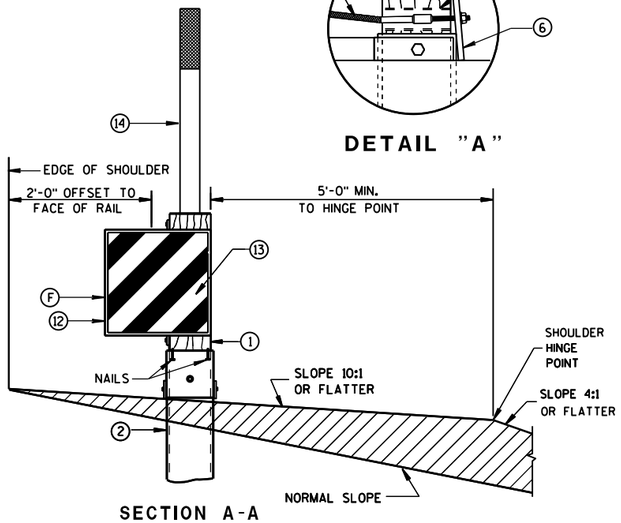




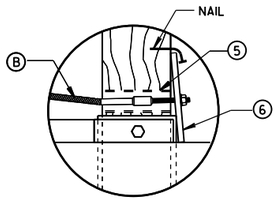
SECTION C-C
TYPICAL AT POST NOS. 3-9



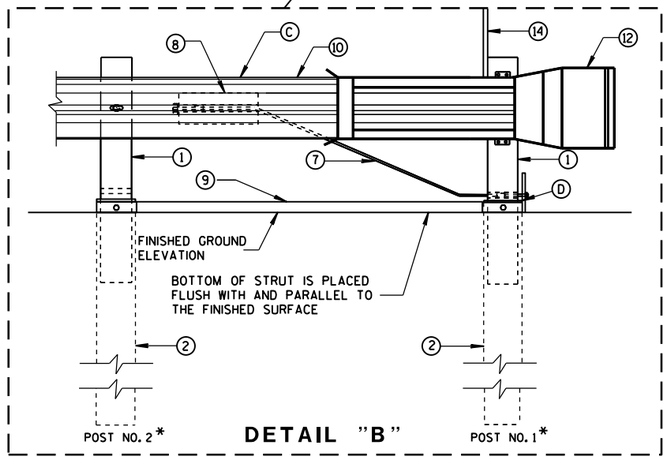
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



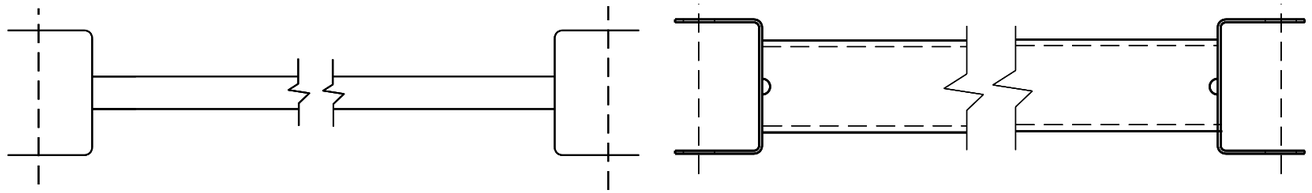
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

S.D.D. 14 B 44-2a

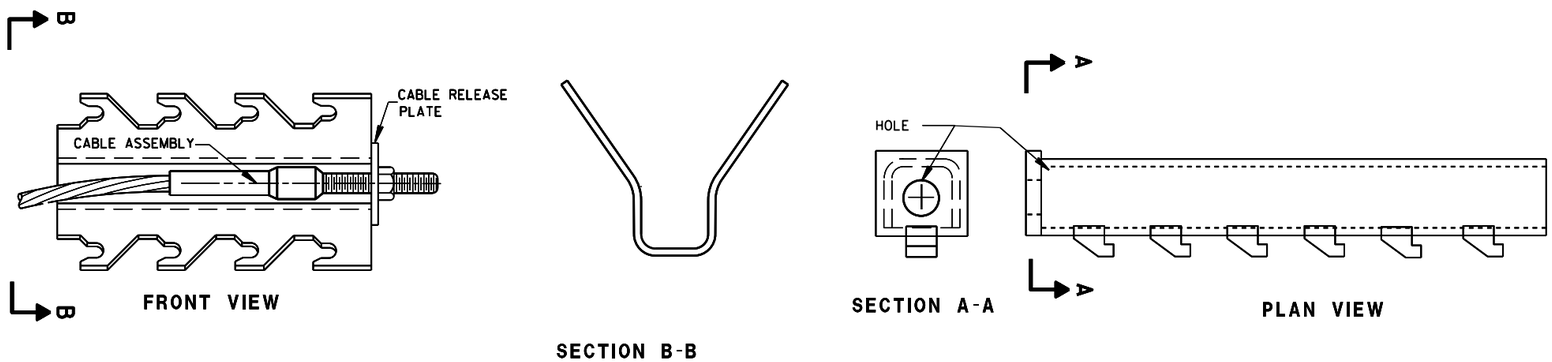
S.D.D. 14 B 44-2a



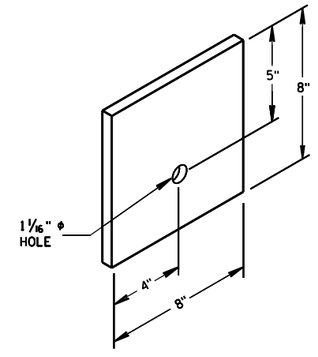
GENERIC GROUND STRUT (9) (H)

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 F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



GENERIC ANCHOR CABLE BOX (8) (H)

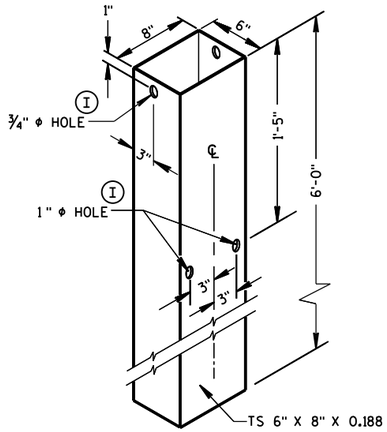


BEARING PLATE (6)

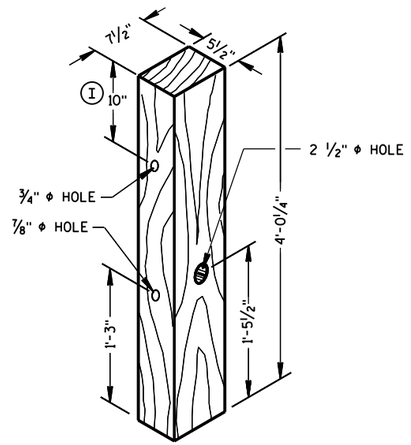
MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6
S.D.D. 14 B 44-2b

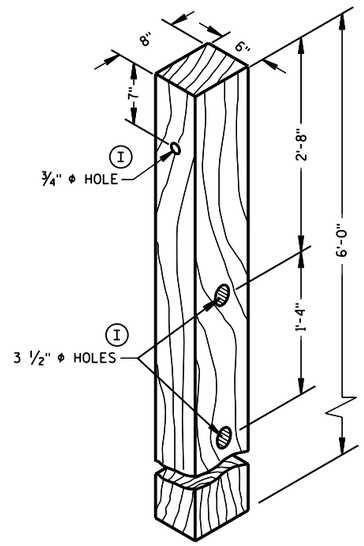


FOUNDATION TUBE (2)



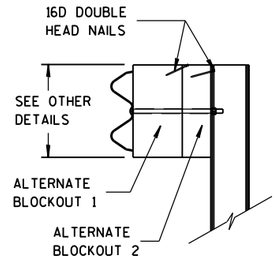
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

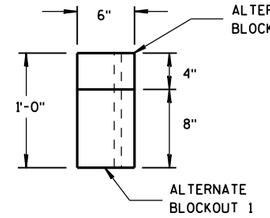


POSTS NUMBER 3-9

WOOD CRT POST (3)

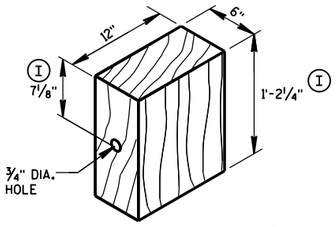


SIDE VIEW



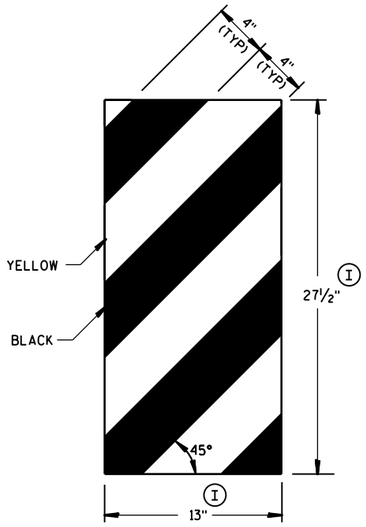
TOP VIEW

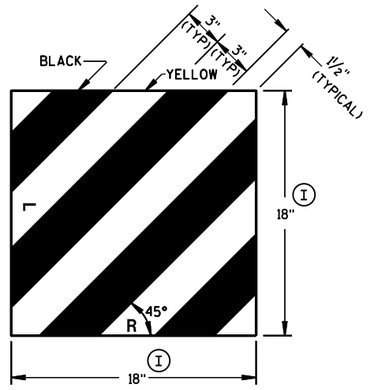
ALTERNATE WOOD BLOCKOUT DETAIL



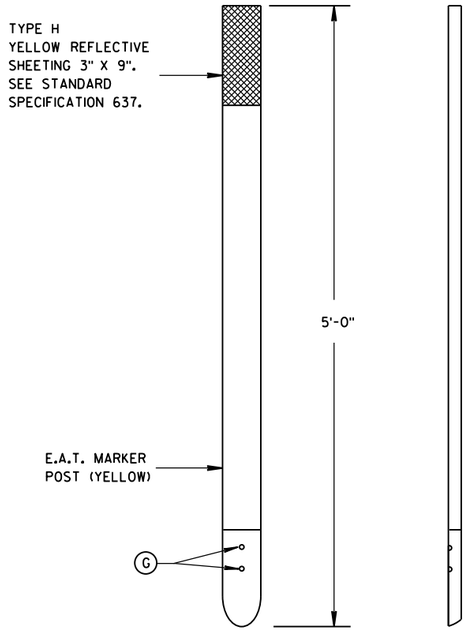
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2





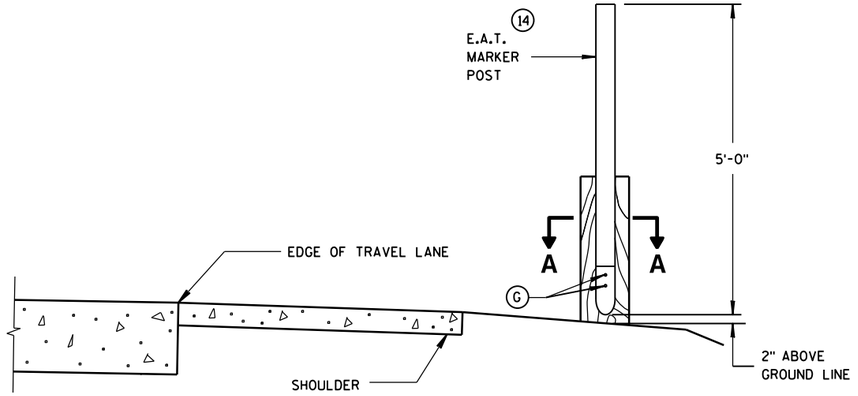
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

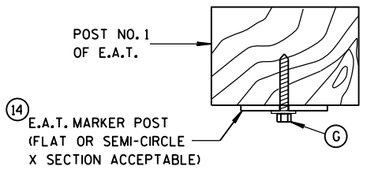
SIDE VIEW

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)

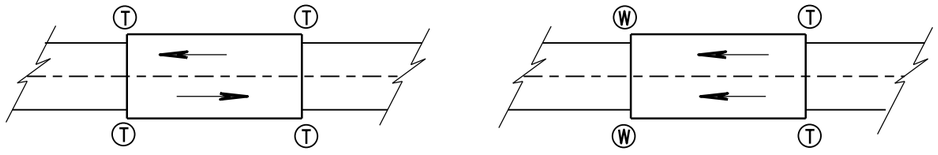
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

6

S.D.D. 14 B 44-2c



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

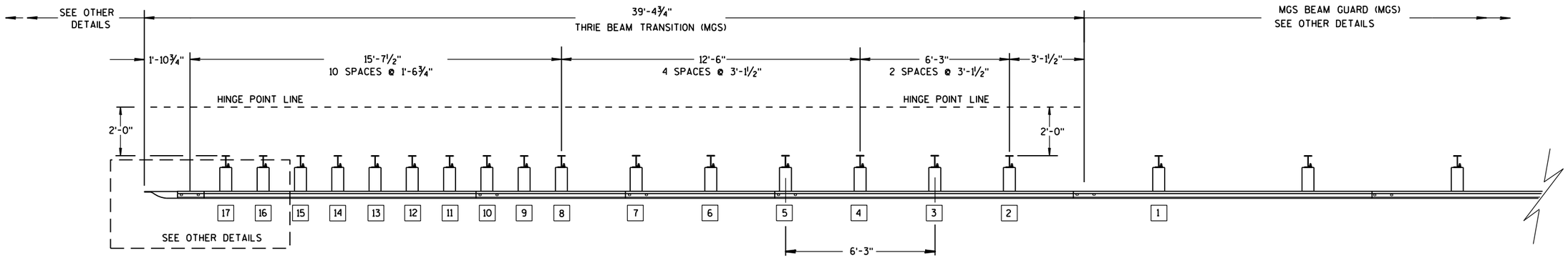
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

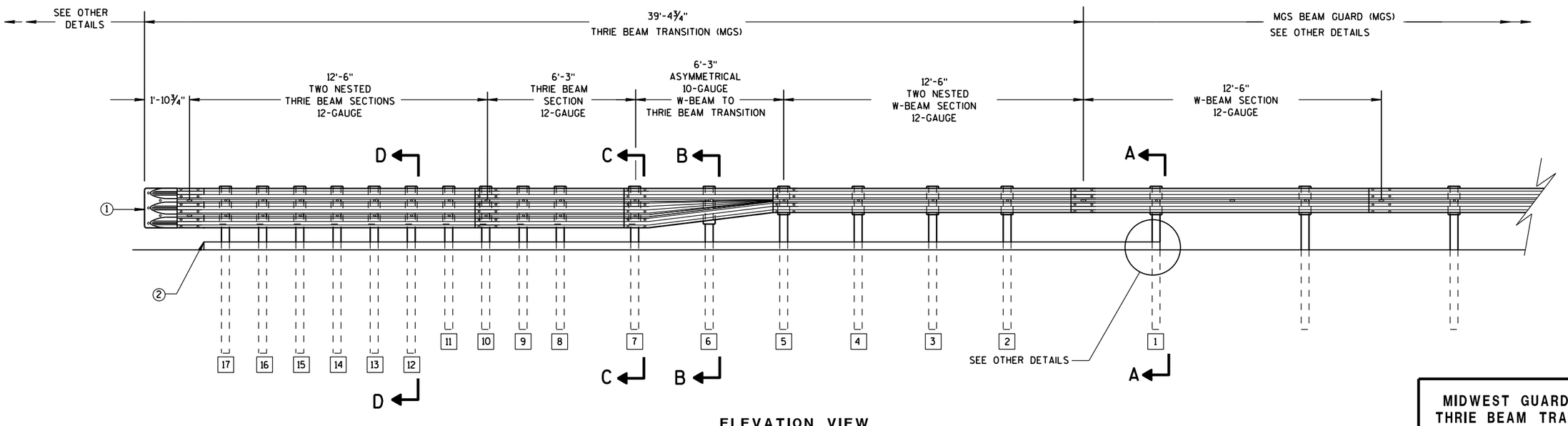
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-4a

6

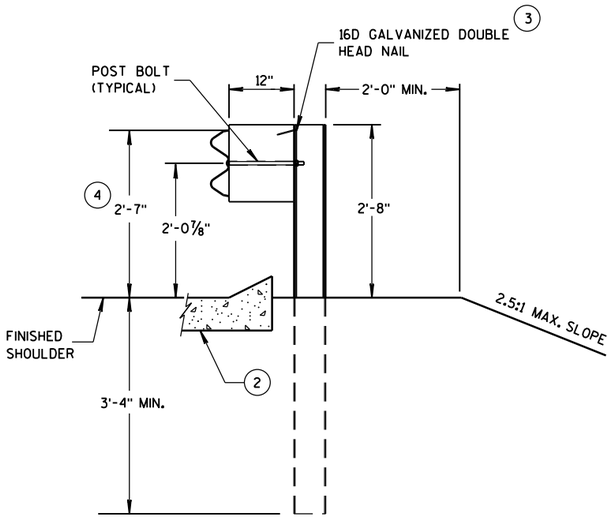
S.D.D. 14 B 45-4a

GENERAL NOTES

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE_FEATURE SEE PLAN FOR INFORMATION.

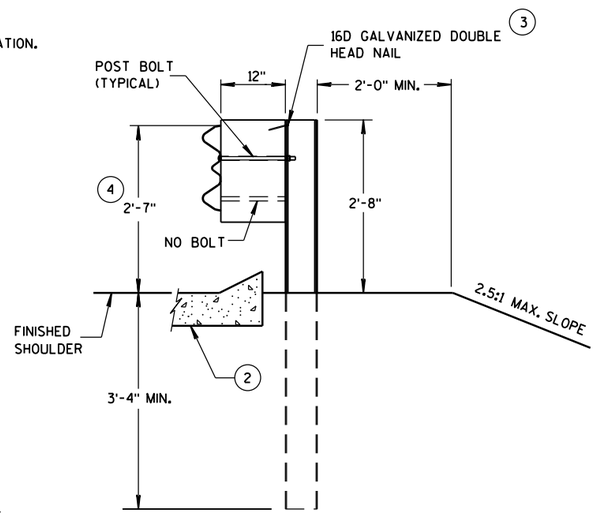
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



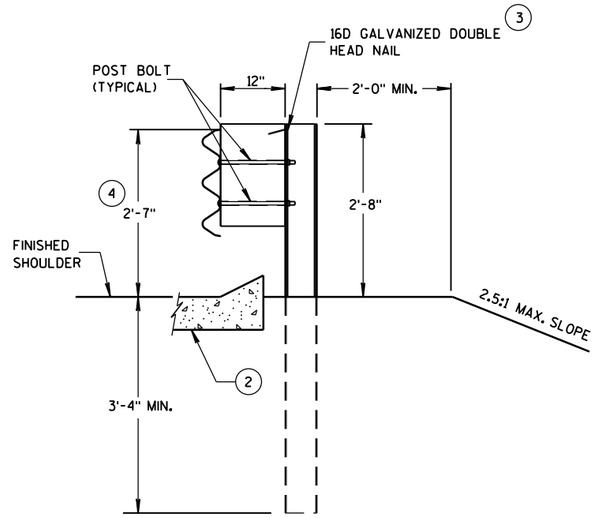
SECTION A-A

POSTS 1-5



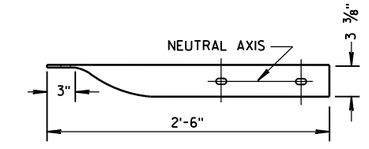
SECTION B-B

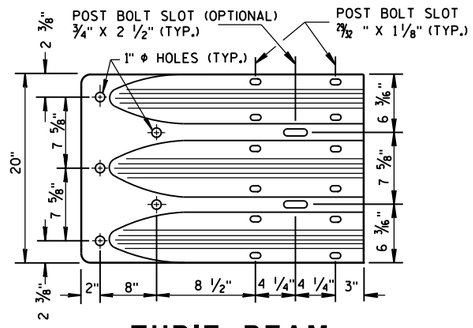
POST 6



SECTION C-C

POSTS 7-11

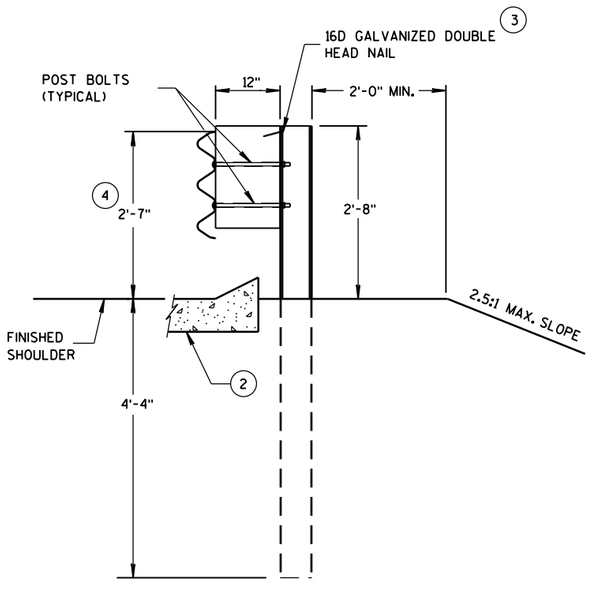




THRIE BEAM TERMINAL CONNECTOR

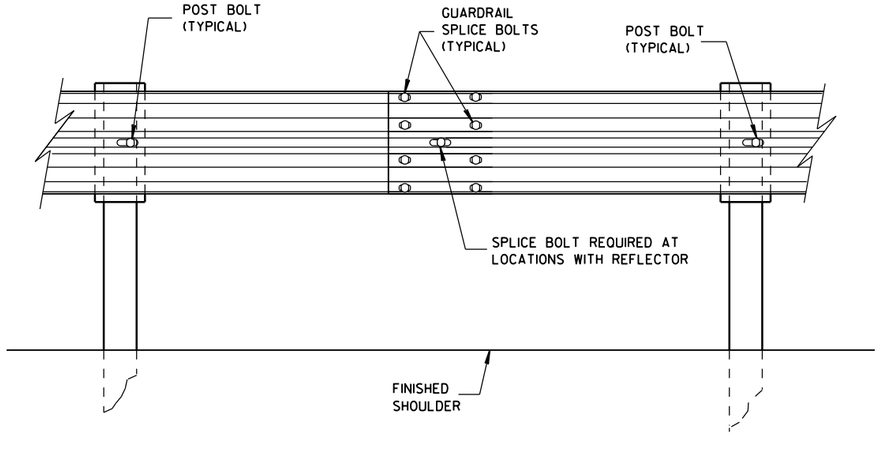
PLATE WASHER DETAIL

SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

POSTS 12-17



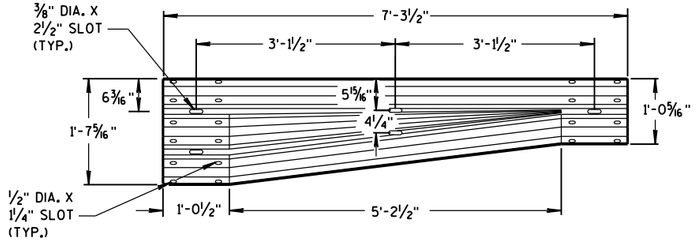
SPLICE DETAIL

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

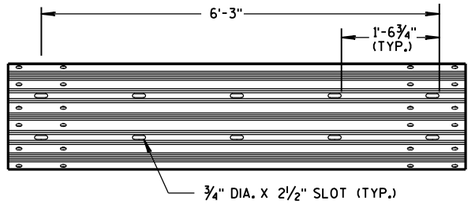
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

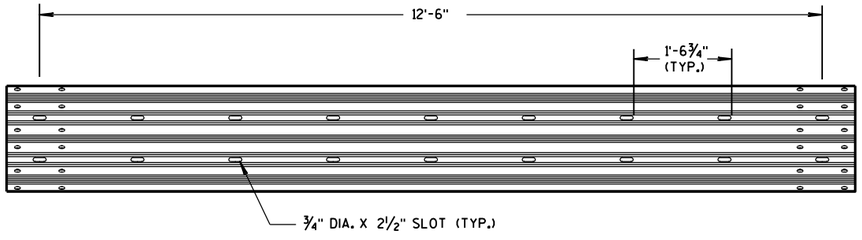
S.D.D. 14 B 45-4b



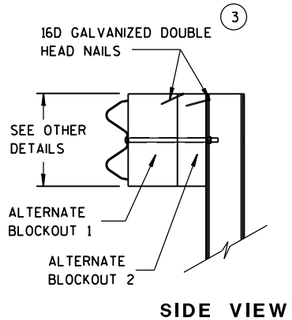
W-BEAM TO THRIE BEAM TRANSITION SECTION



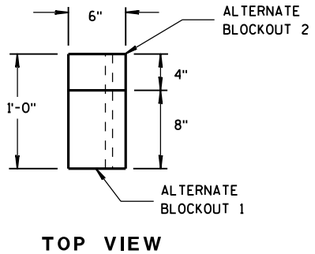
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

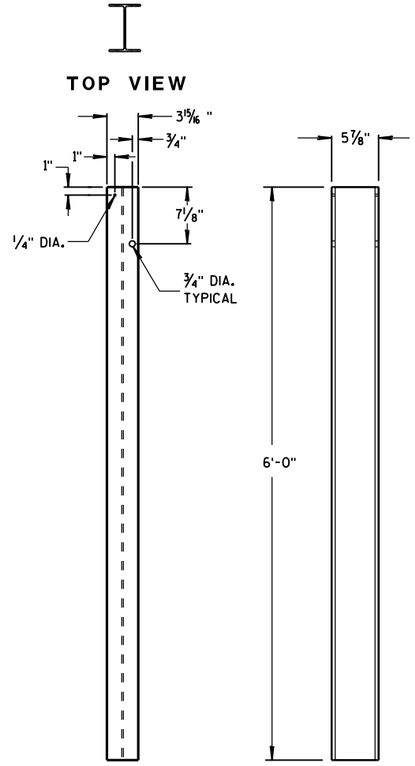


SIDE VIEW



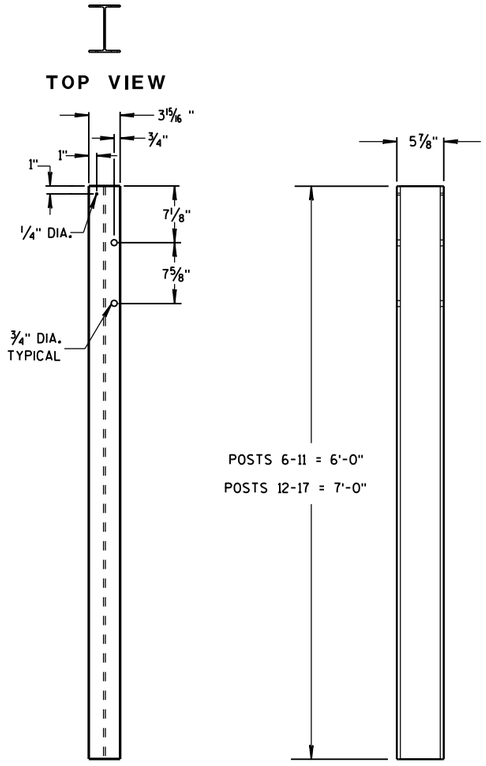
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



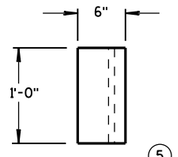
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5

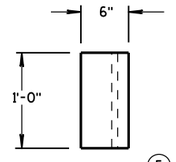


FRONT VIEW SIDE VIEW

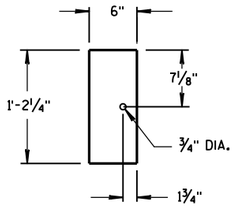
STEEL POSTS 6-17



TOP VIEW (5)

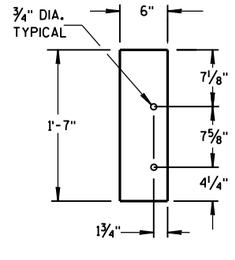


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

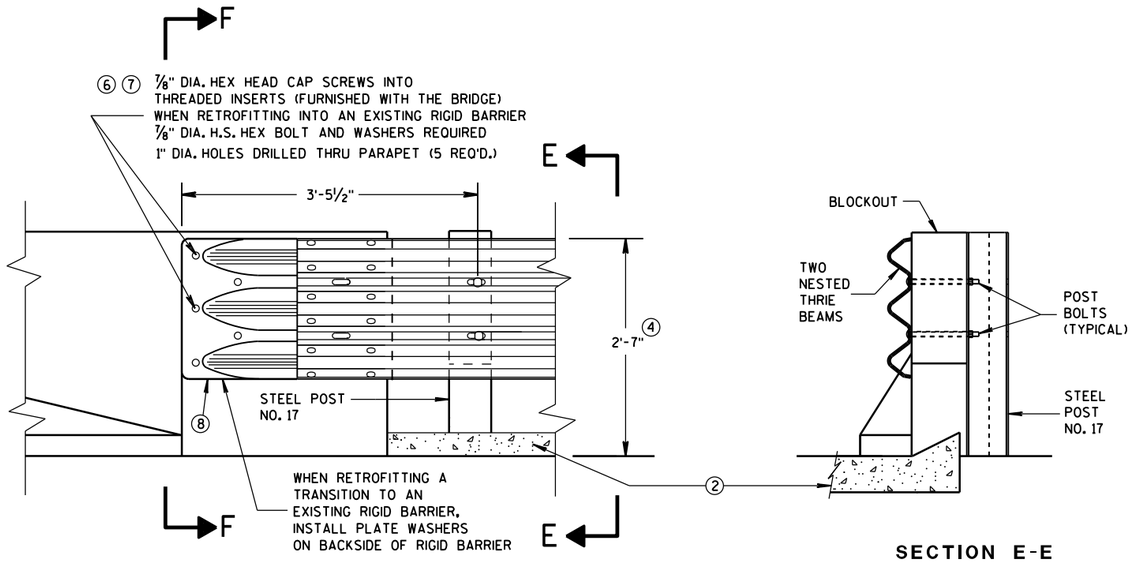
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-4c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

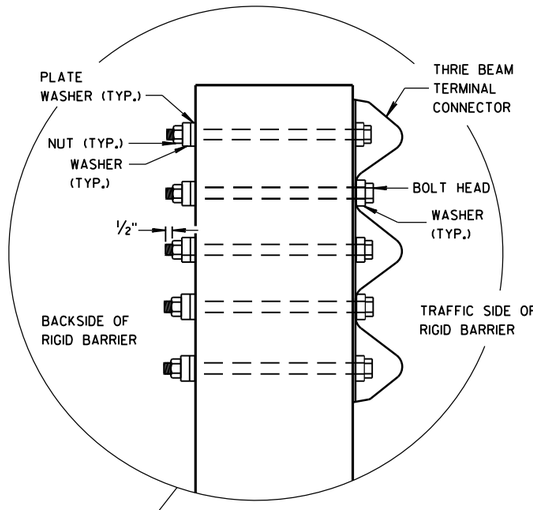
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

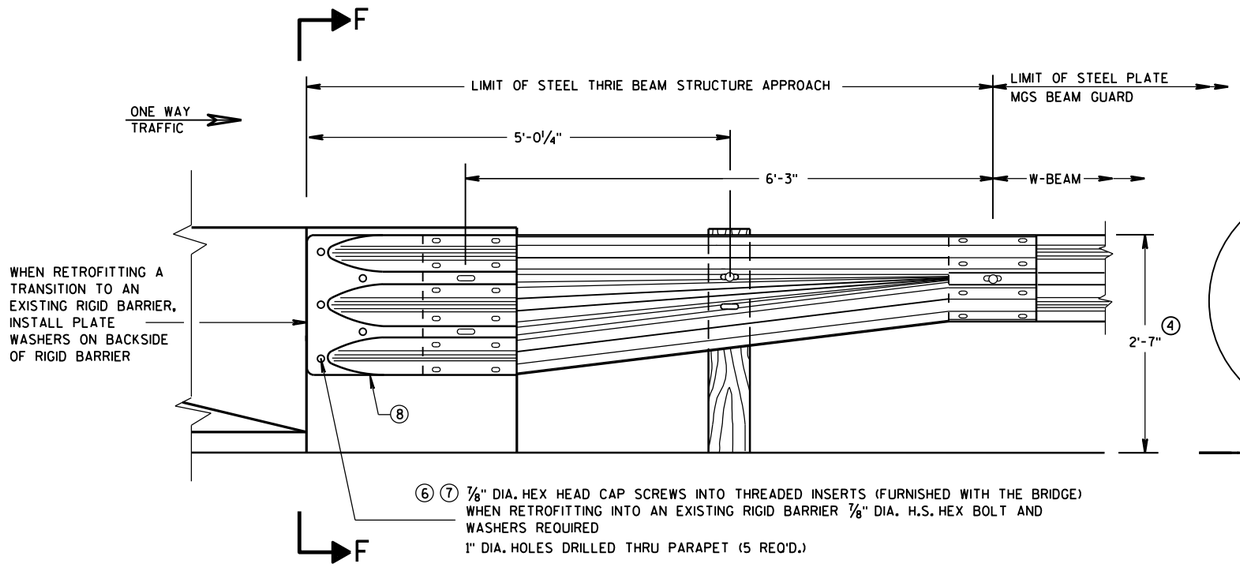
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

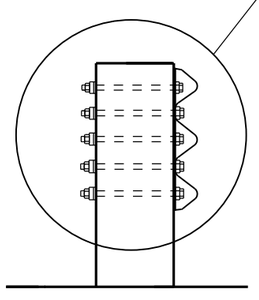
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. 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.

⑧ 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".

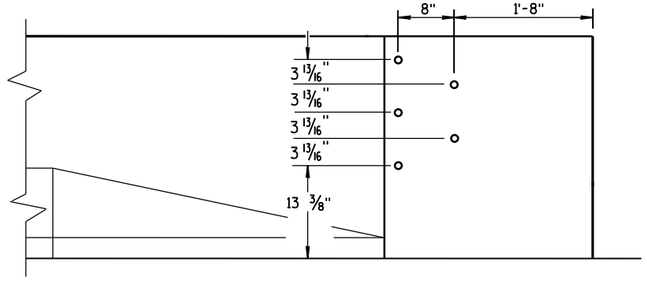




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

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
June, 2015
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS D ENGINEER

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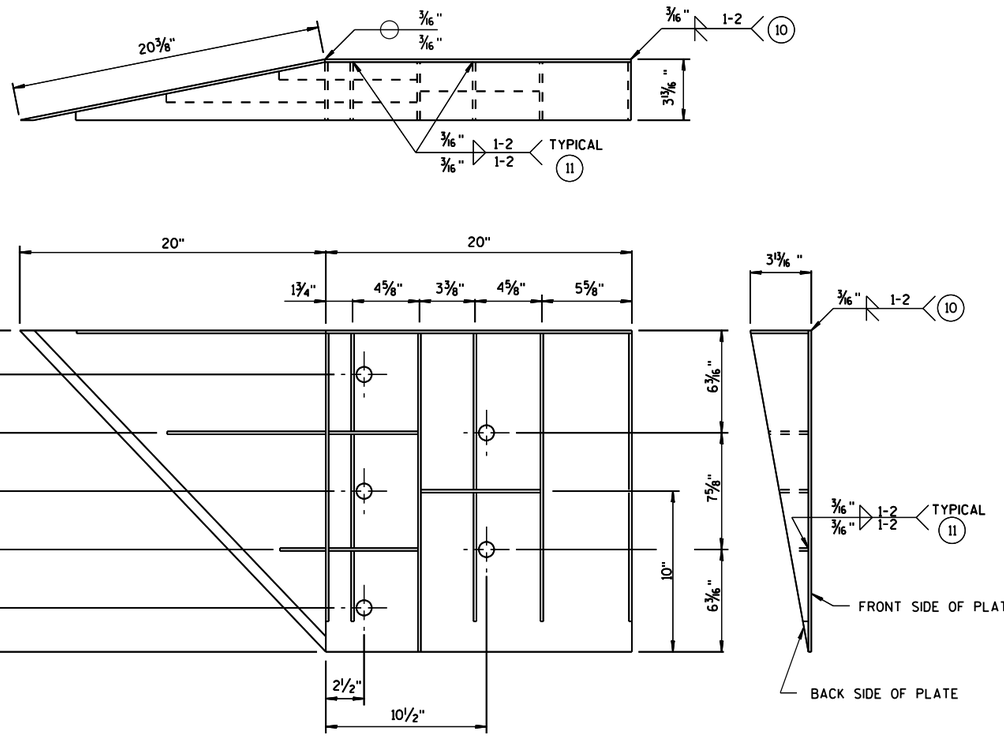

WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

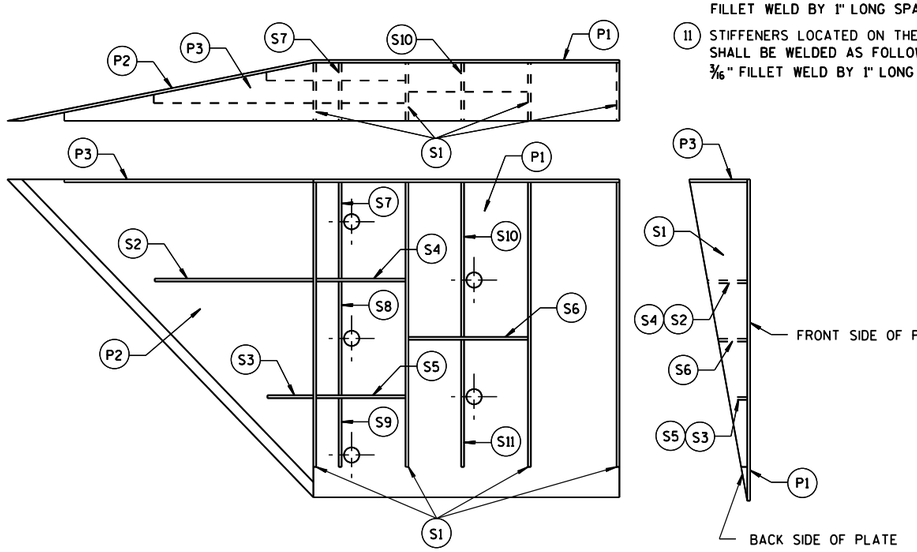

PLATE AND STIFFENER IDENTIFICATION

(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.

(10) 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.

(11) 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 3/8" 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 1/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

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S.D.D. 14 B 45-4i

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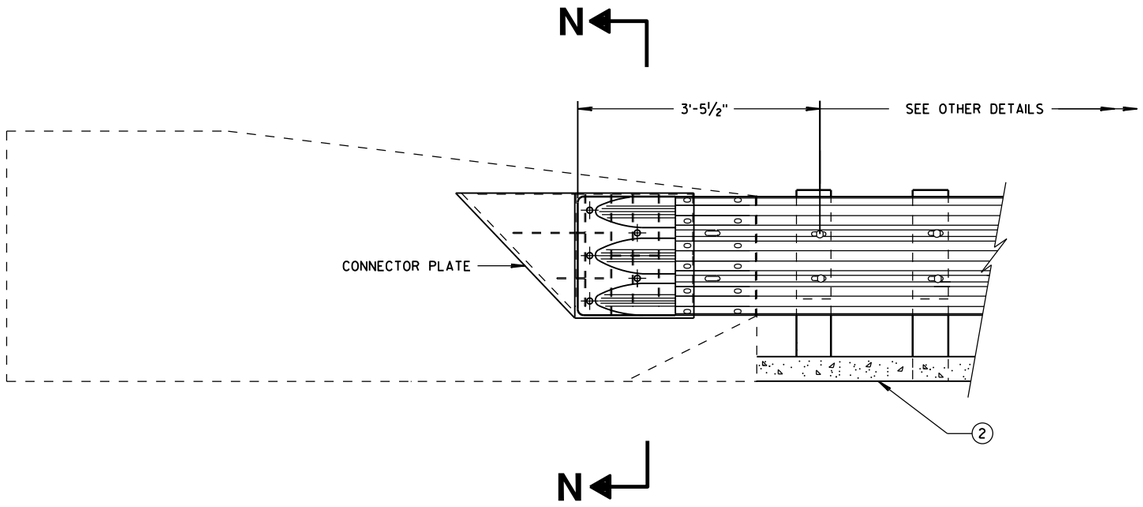
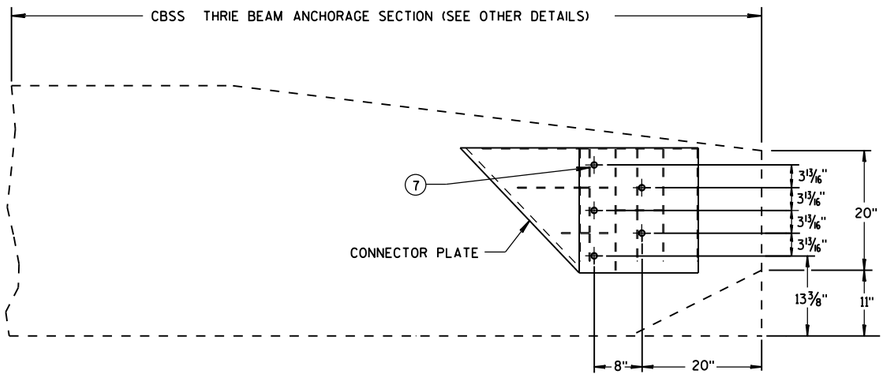


THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



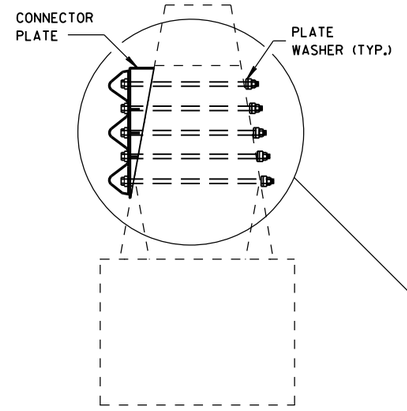
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

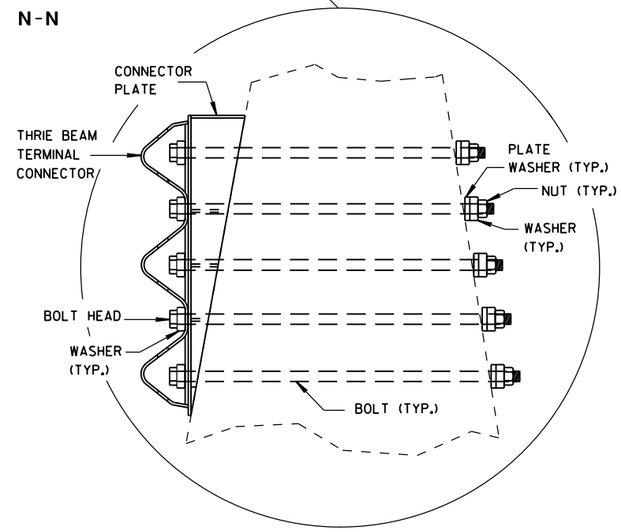
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(7) 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.



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Jerry H. Zoga — ROADWAY STANDARDS DEVELOPMENT ENGINEER
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S.D.D. 14 B 45-4j

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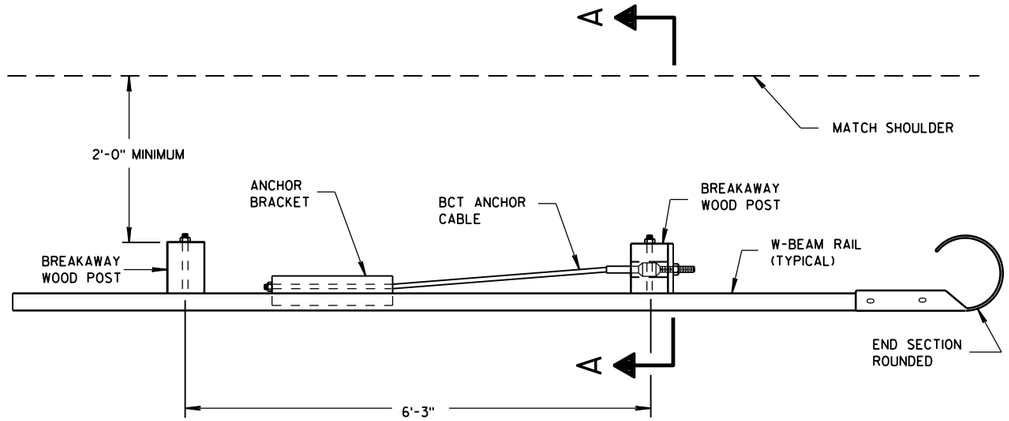
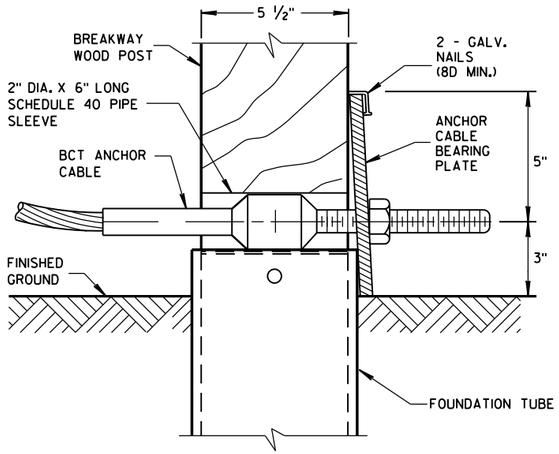


PLAN VIEW



DETAIL A

POST NO. 1
GROUNG STRUT NOT SHOWN FOR CLARITY.

GENERAL NOTES

SEE SDD 14 B 42 FOR MORE INFORMATION.

END SECTION BOLTS AND NUTS HAVE THE SAME MATERIAL REQUIREMENTS AS SPLICE BOLTS.

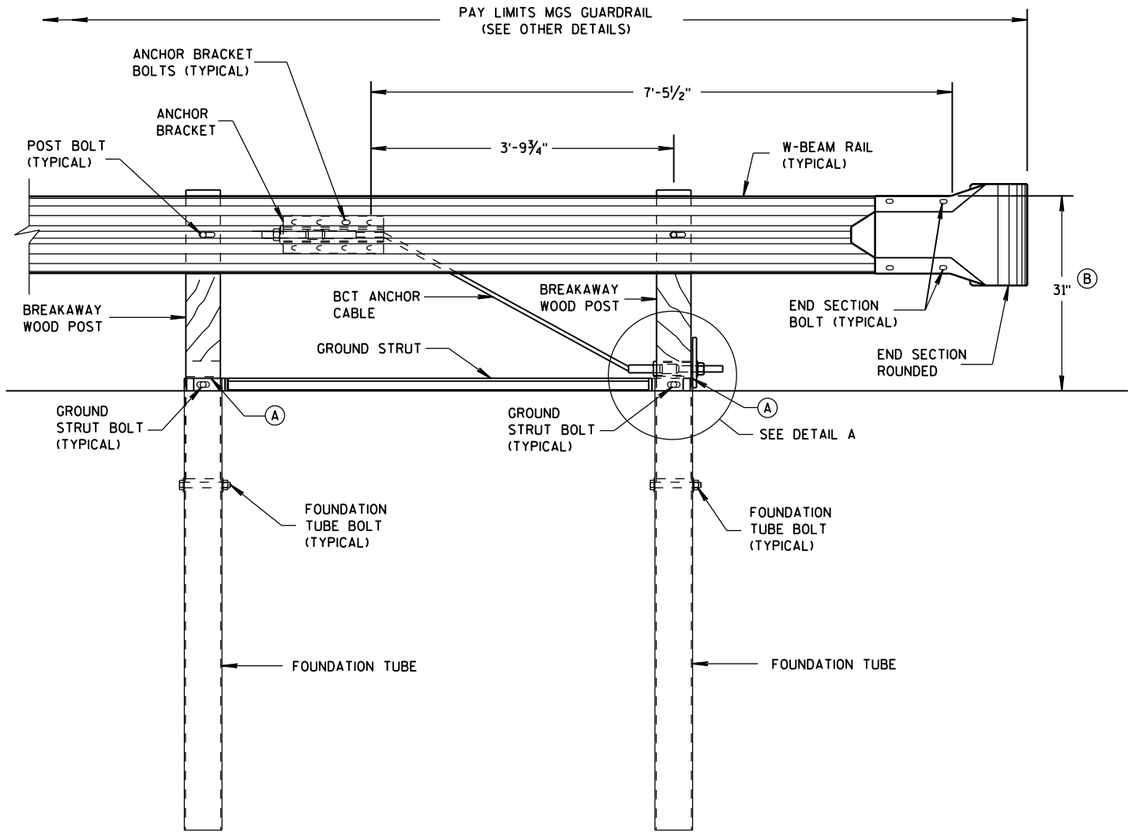
FOUNDATION TUBE BOLTS ARE ⅞" DIAMETER ASTM A307 HEX HEAD BOLT. FOUNDATION TUBE BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅞" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

ANCHOR BRACKET AND GROUND STRUT BOLTS ARE A ⅝" DIAMETER ASTM A307 HEX HEAD BOLT. ANCHOR BRACKET BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅝" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

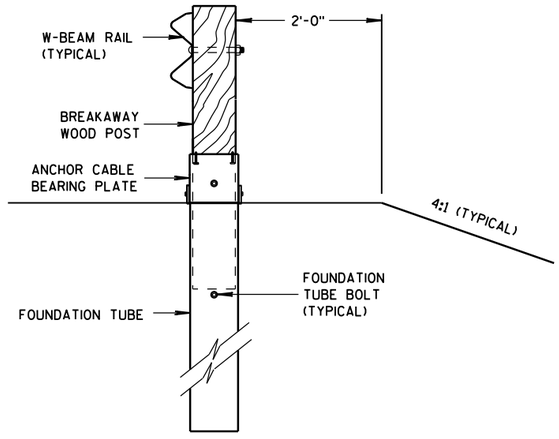
(A) TOP OF FOUNDATION TUBE SHALL BE NO MORE THAN 3" ABOVE FINISHED GROUND.

(B) FOR NEW CONSTRUCTION TOP OF RAIL IS 31" ± 1".
FOR EXISTING INSTALLATIONS TOP OF RAIL IS BETWEEN 27¾" TO 32" ± 1".

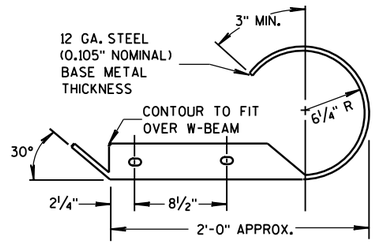


FRONT VIEW

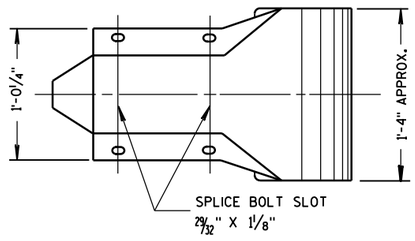
END RAIL DETAIL



SECTION A-A



PLAN VIEW



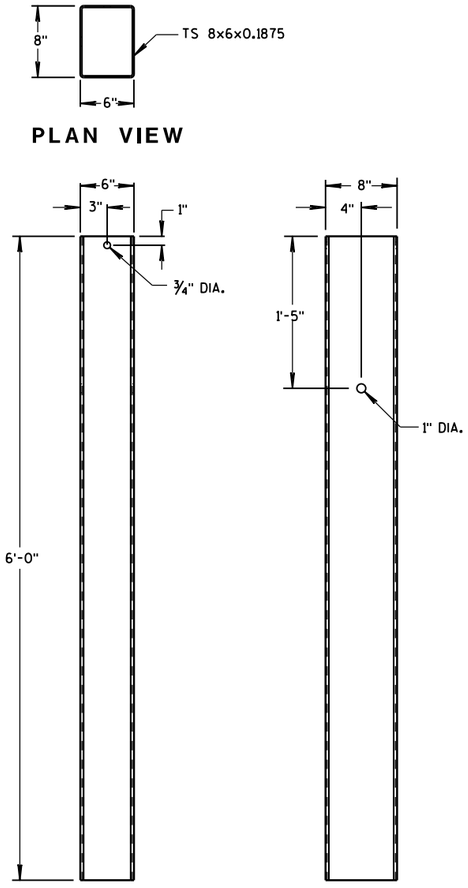
FRONT VIEW

W BEAM END SECTION ROUNDED

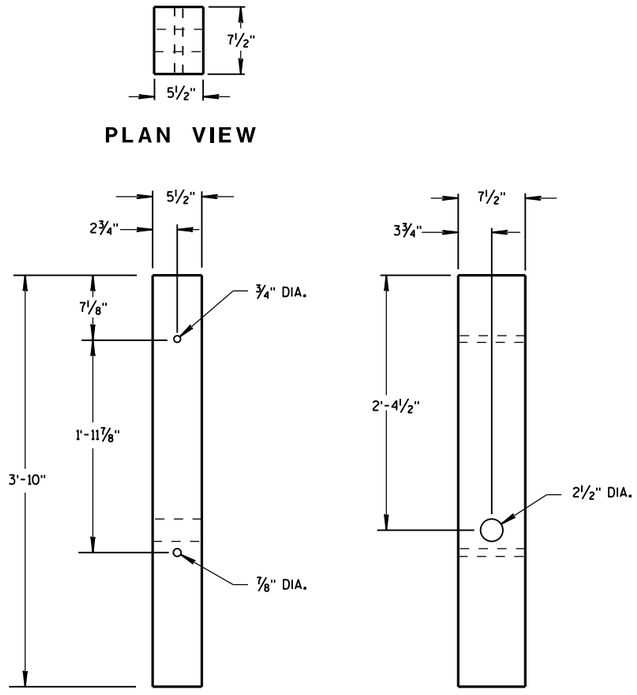
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6
S.D.D. 14 B 47-2a



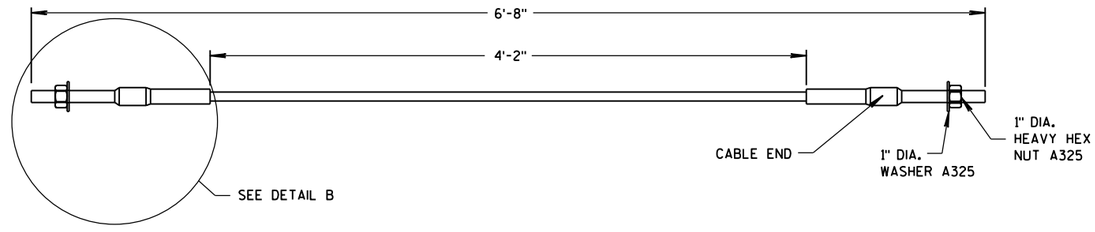
FOUNDATION TUBE



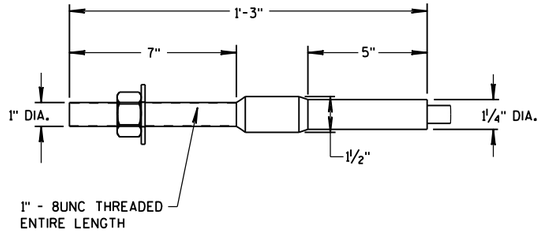
BREAKAWAY WOOD POST

GENERAL NOTES

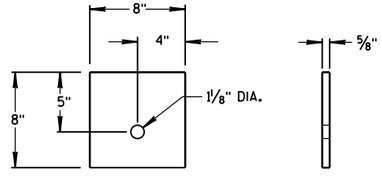
BCT ANCHOR CABLE IS A ¾" DIAMETER 6X19 IWRC IPS GALVANIZED WIRE ROPE. THE SWAGED FITTINGS AND STUD ARE REQUIRED. END FITTING SHALL BE MACHINED FROM HOT-ROLLED CARBON STEEL CONFORMING TO ASTM A576 GRADE 1035 AND GALVANIZED ACCORDING TO ASTM A123. TREADED STUD SHALL CONFORM TO ASTM A325 OR SAE GRADE 5. MINIMUM BREAKING STRENGTH OF WIRE ROPE IS 43,000 LB. WIRE ROPE IS TO BE TAUT.



BCT ANCHOR CABLE



DETAIL B



ANCHOR CABLE
BEARING PLATE

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
STATE OF WISCONSIN DEPARTMENT OF TRANSPOI

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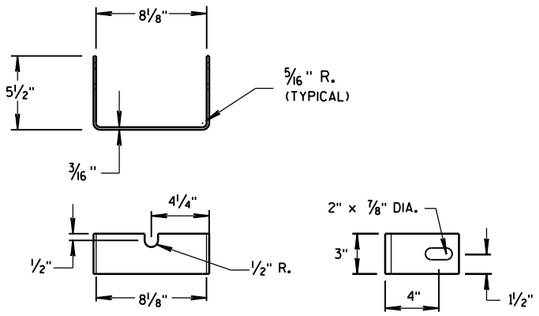

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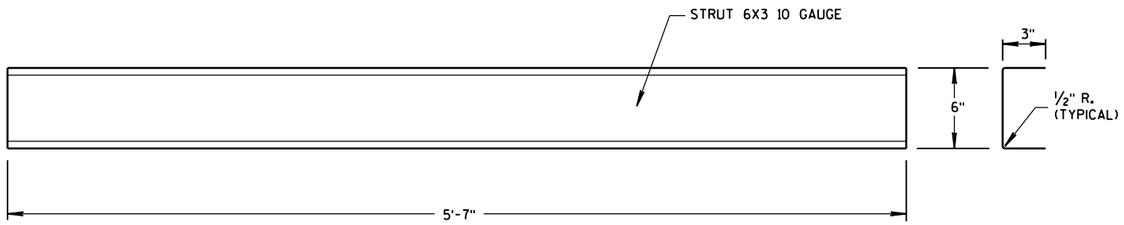
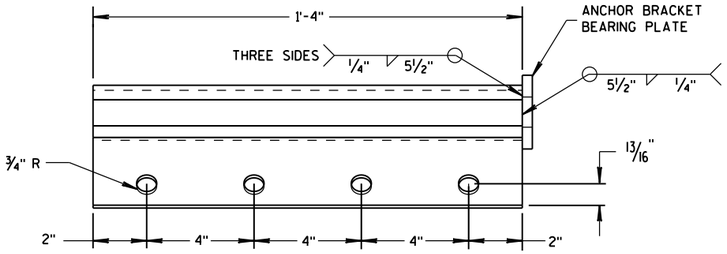
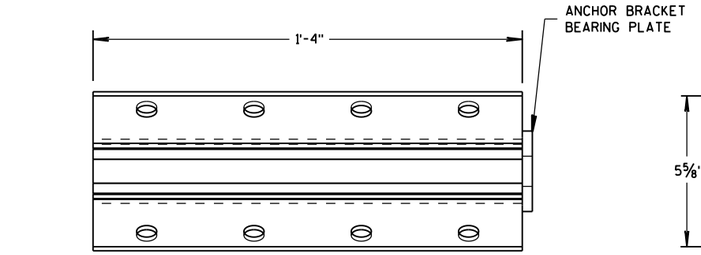
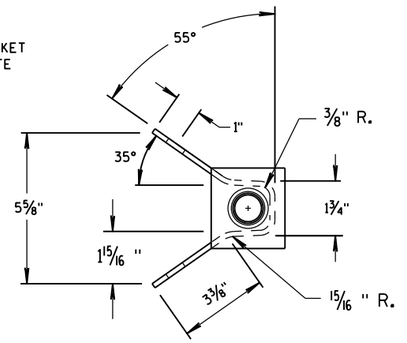


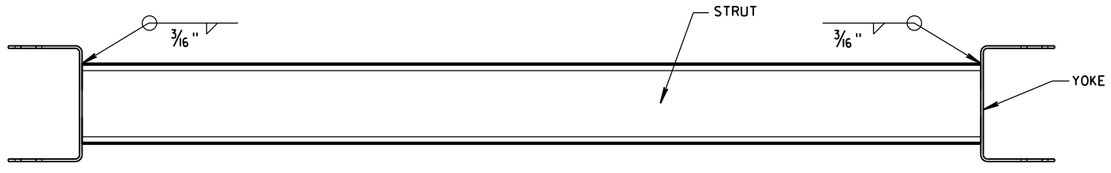
STRUT DETAIL



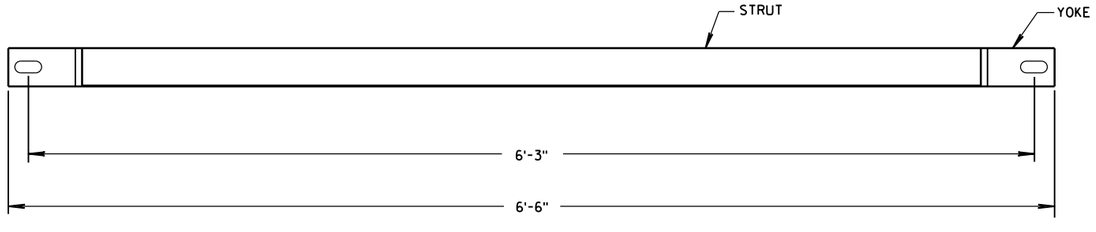




ANCHOR BRACKET

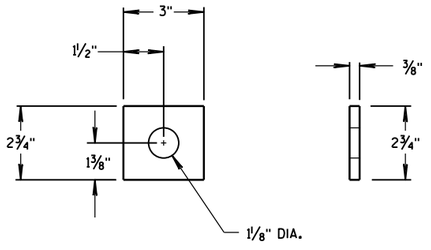


PLAN VIEW



FRONT VIEW

GROUND STRUT DETAIL



ANCHOR BRACKET BEARING PLATE

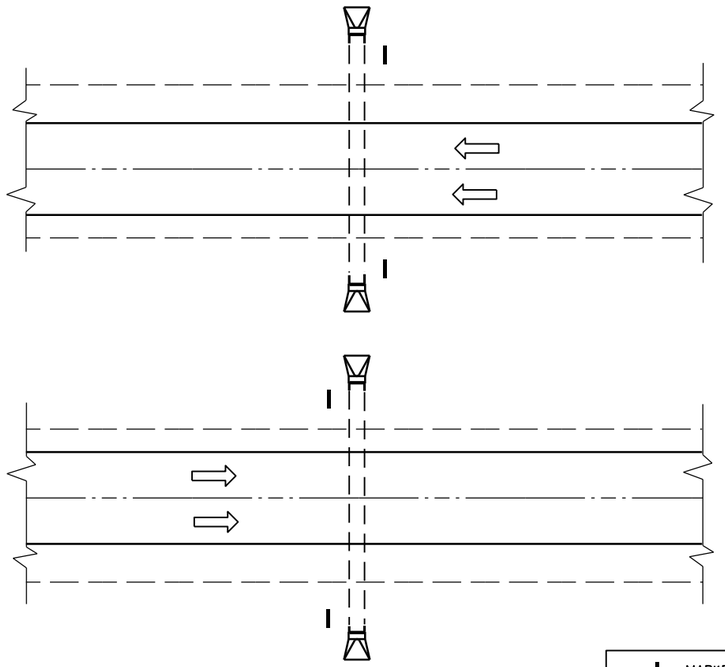
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

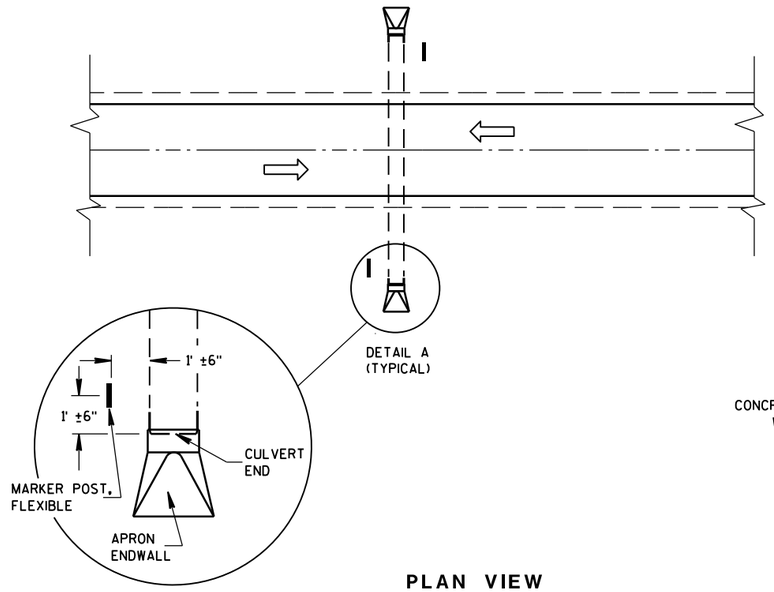
6

S.D.D. 14 B 47-2c



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

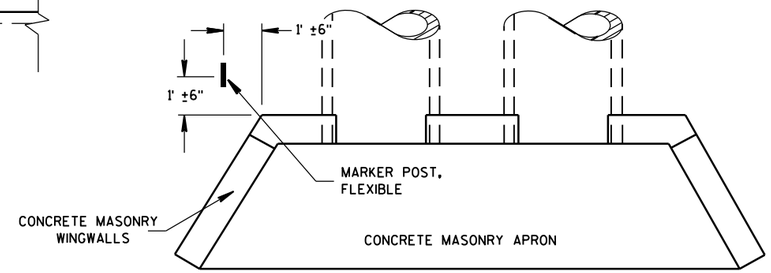
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

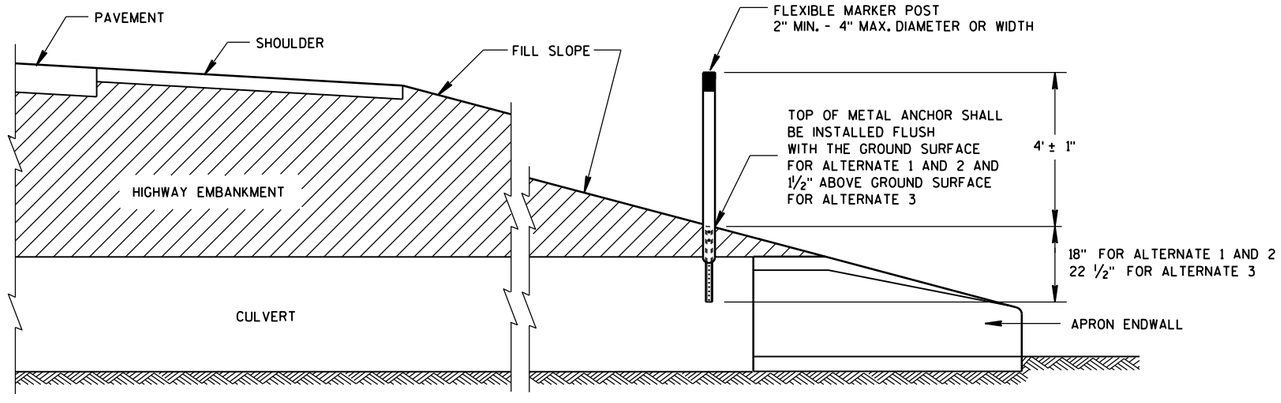
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 15 A 3-2a

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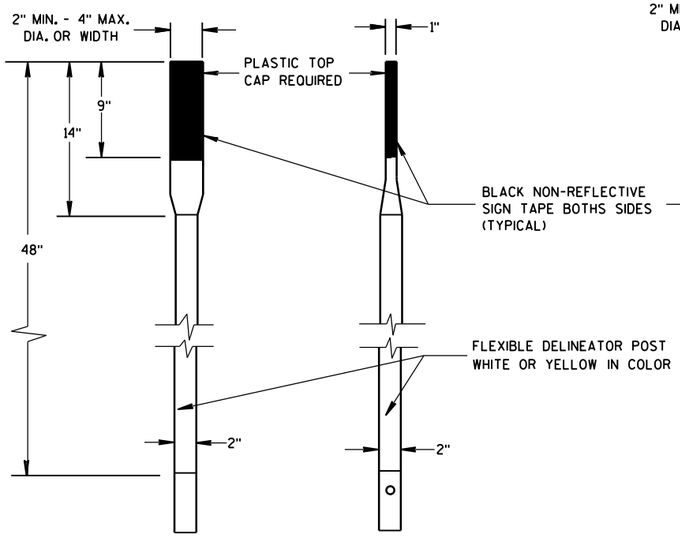
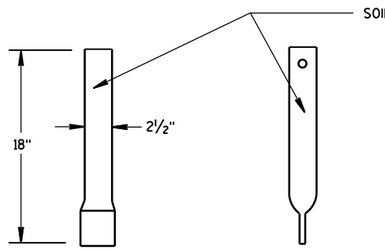
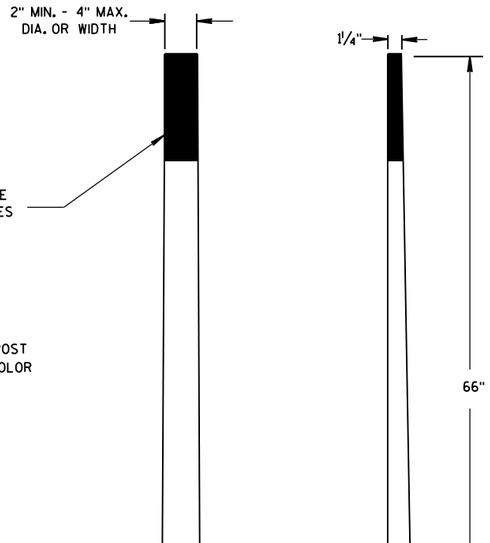
S.D.D. 15 A 3-2a





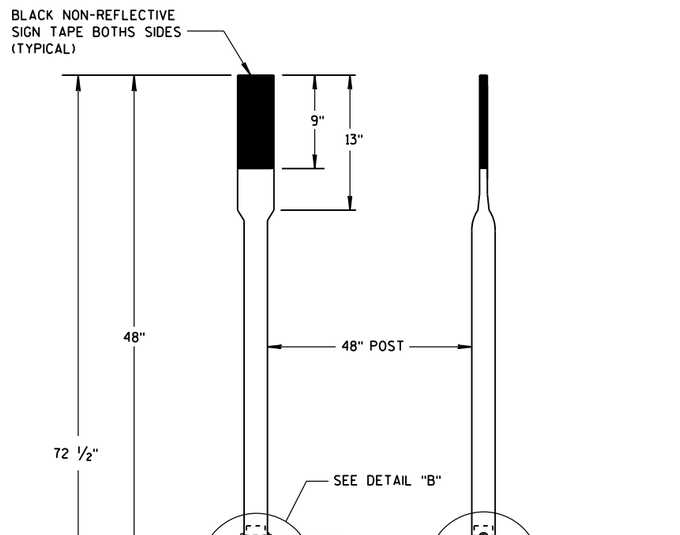
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

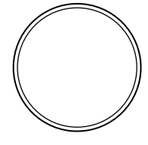
ALTERNATE 2



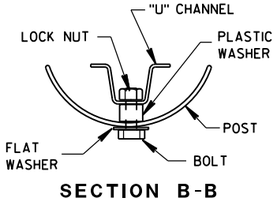
FRONT VIEW SIDE VIEW

ALTERNATE 3

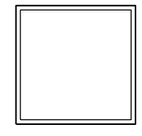
FLEXIBLE MARKER POSTS



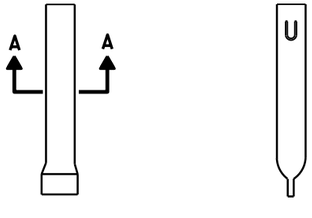
SECTION A-A



SECTION B-B

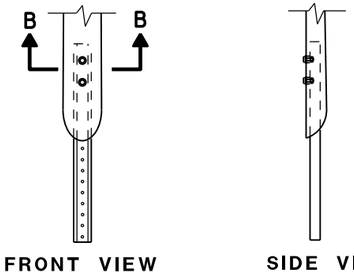


SECTION C-C



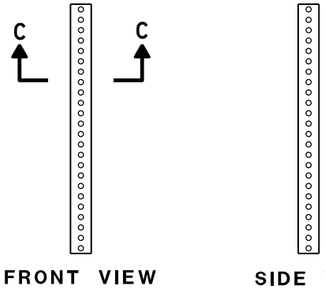
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

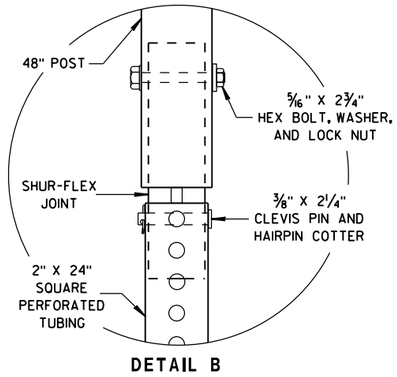
ALTERNATE 2



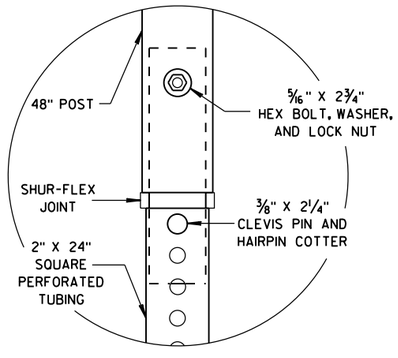
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

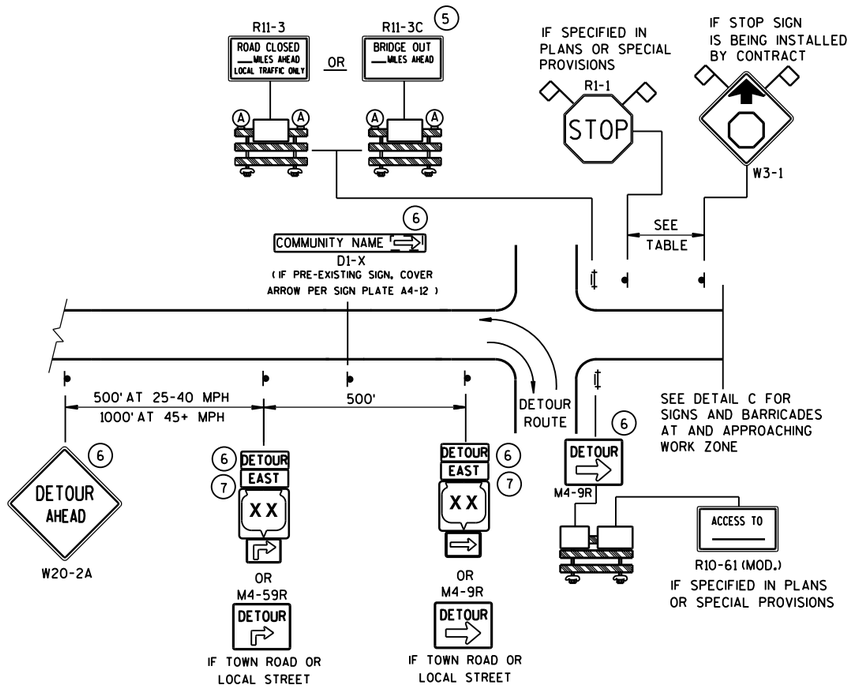
APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 A 3-2b

6

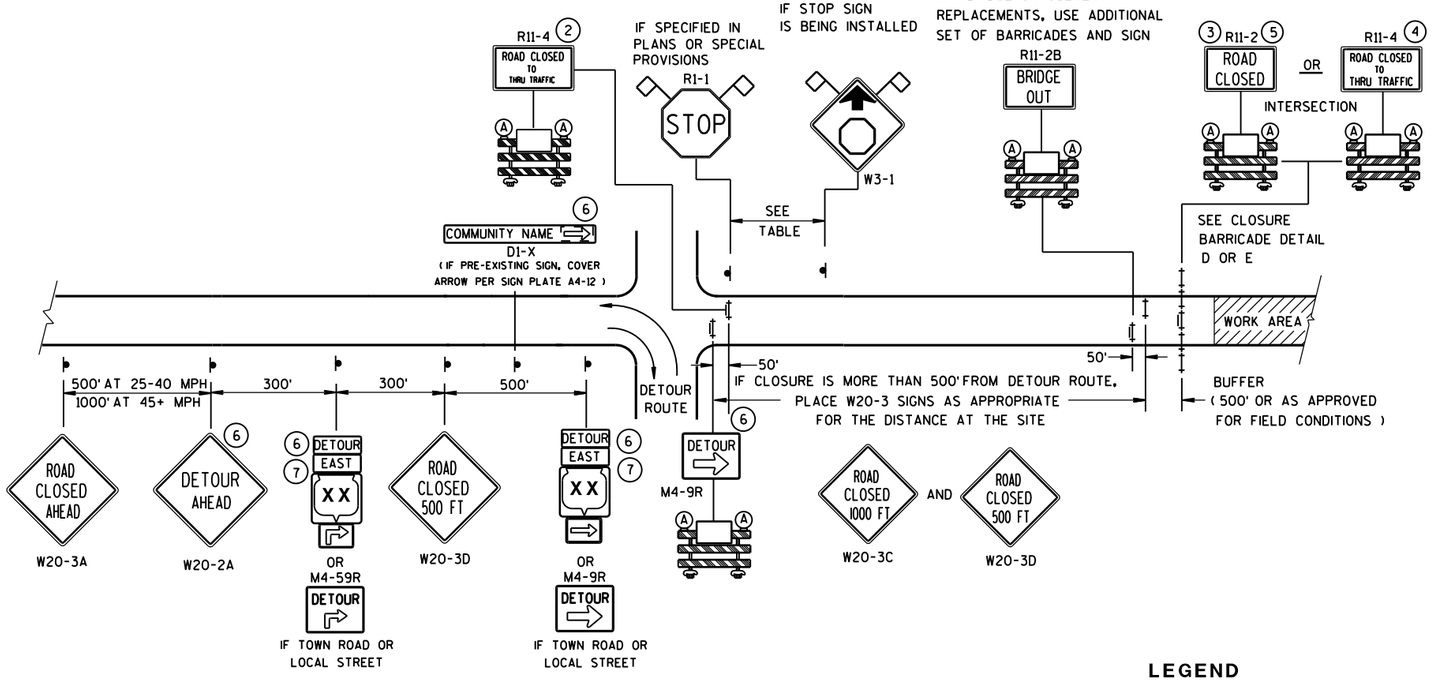
S.D.D. 15 A 3-2b



DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

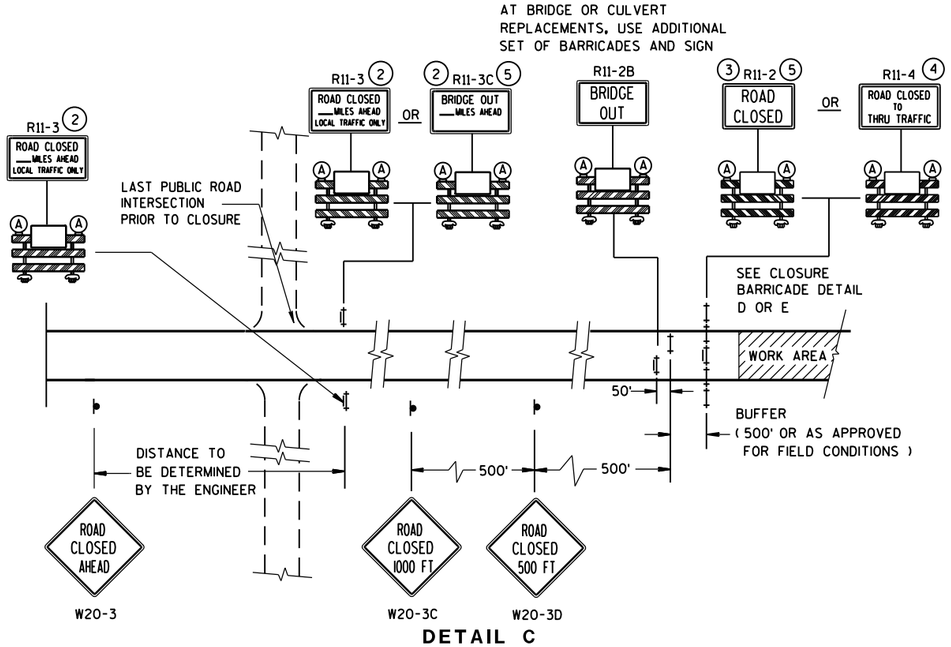
WORK ZONE GREATER THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B

MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL C

MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

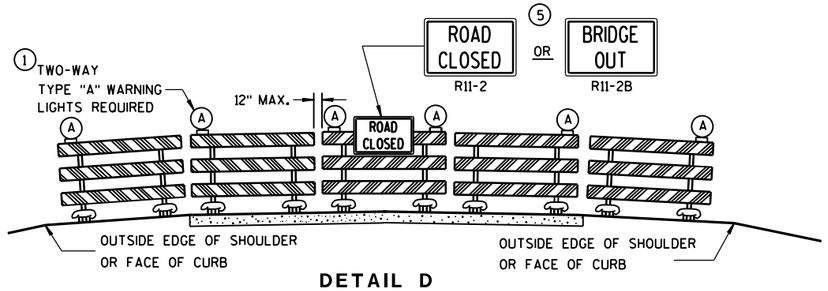
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

6

S.D.D. 15 C 2-6a

6

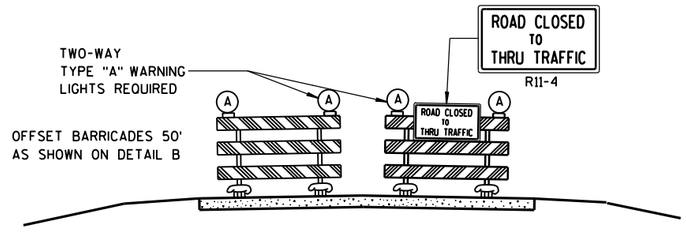
S.D.D. 15 C 2-6a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "**a**" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO SAFETY ENGI — FIC

FHWA

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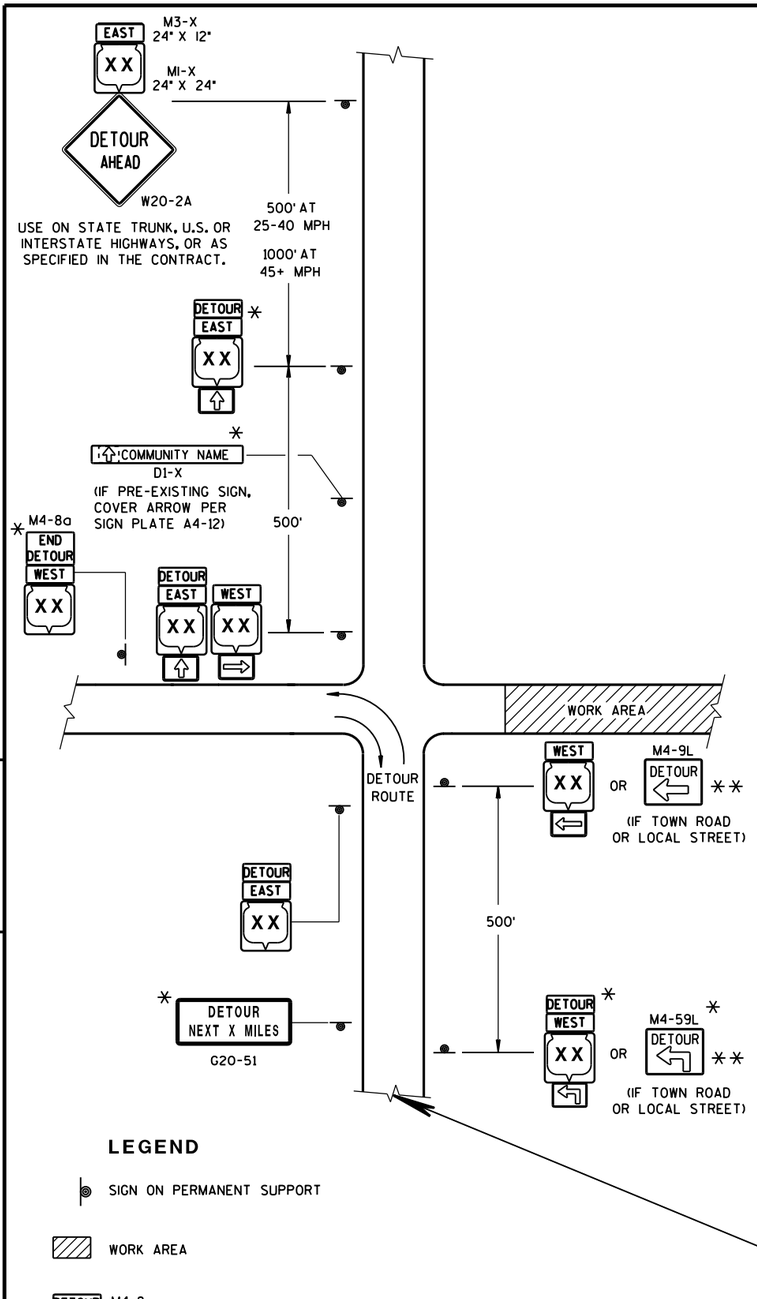
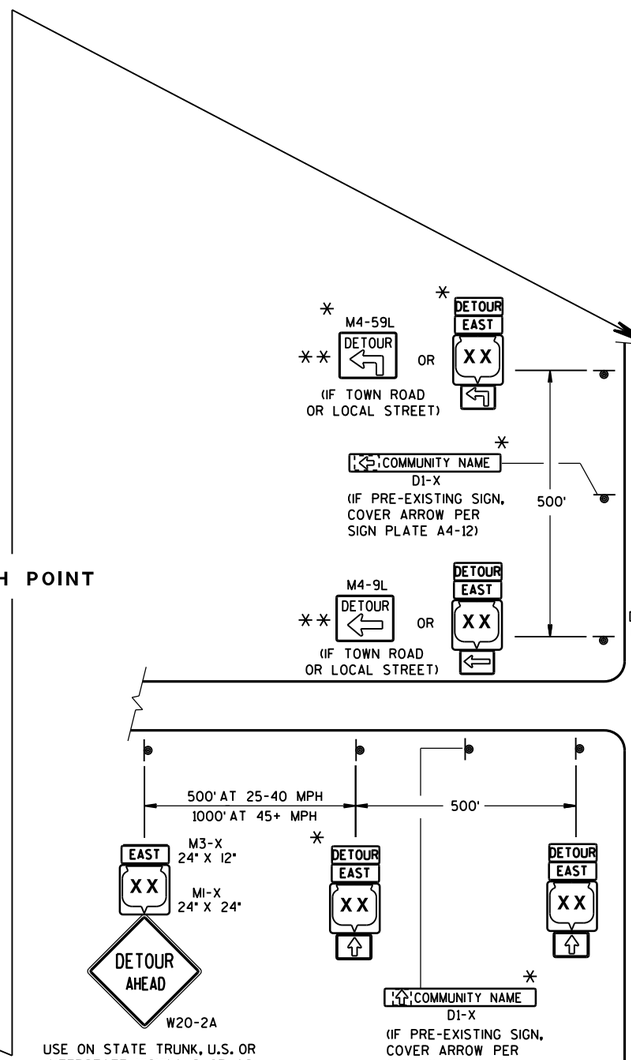
S.D.D. 15 C 2-6b



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

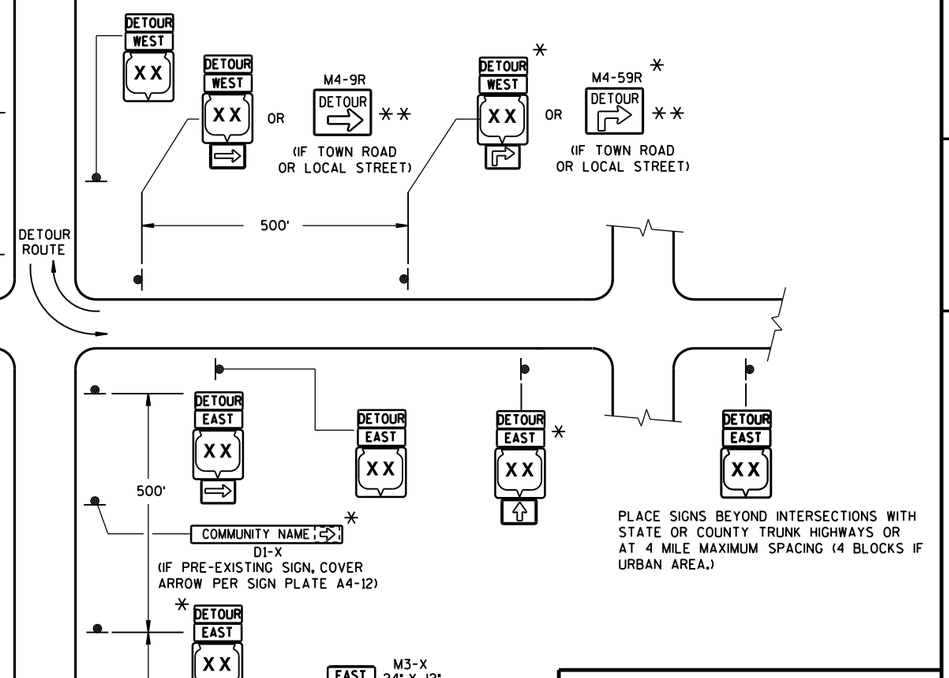
THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

MATCH POINT



DETAIL F

DETOUR SIGNING



GENERAL NOTES

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

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

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- MO5-1 AND MO6-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 SHALL BE 48" X 48".
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

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

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

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

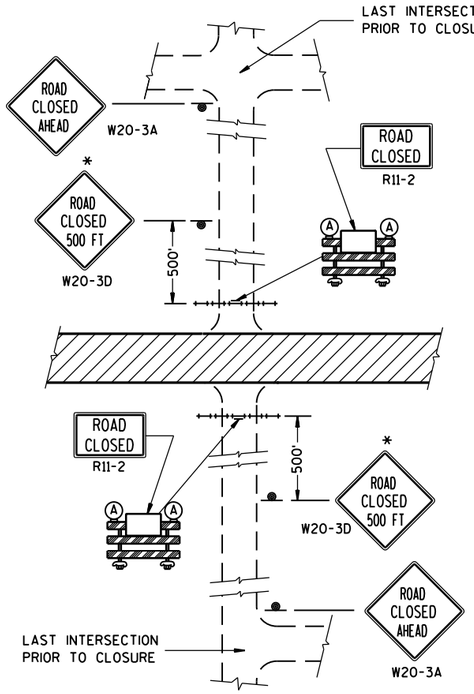
Sept. 2015
DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO SAFETY ENGI

FHWA

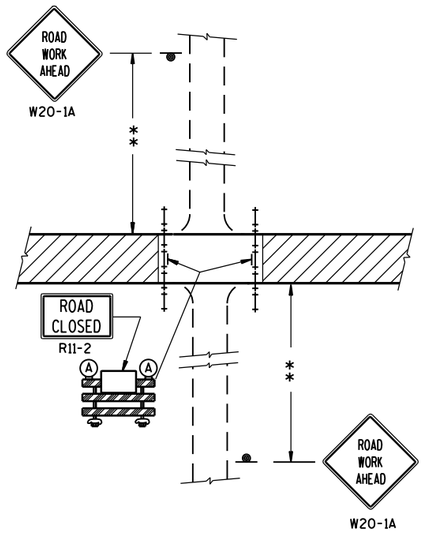
6

S.D.D. 15 C 2-6c



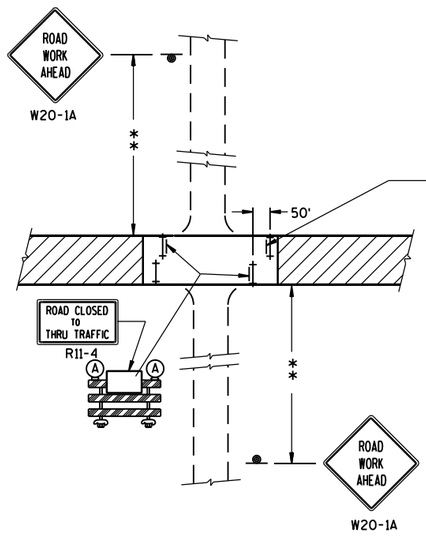
DETAIL 1

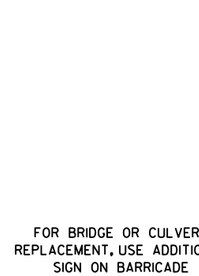
(NO ACCESS TO PROJECT)

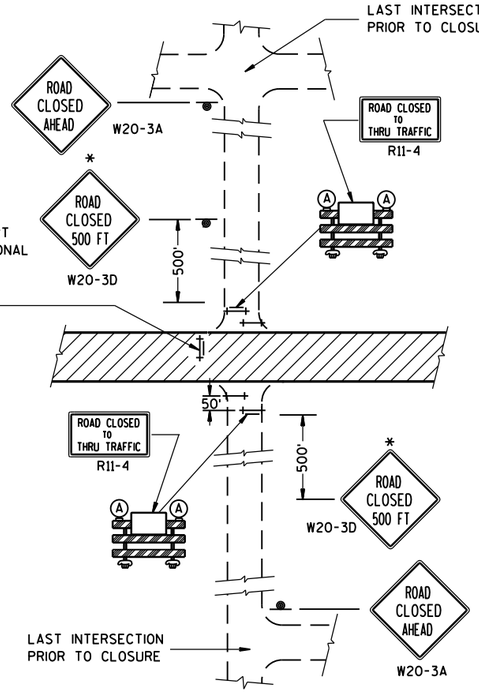


DETAIL 2

(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
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO... SAFETY ENGI... — FHWA

6

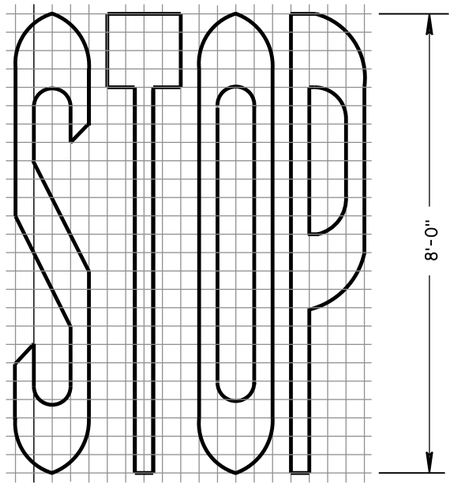
S.D.D. 15 C 3-3

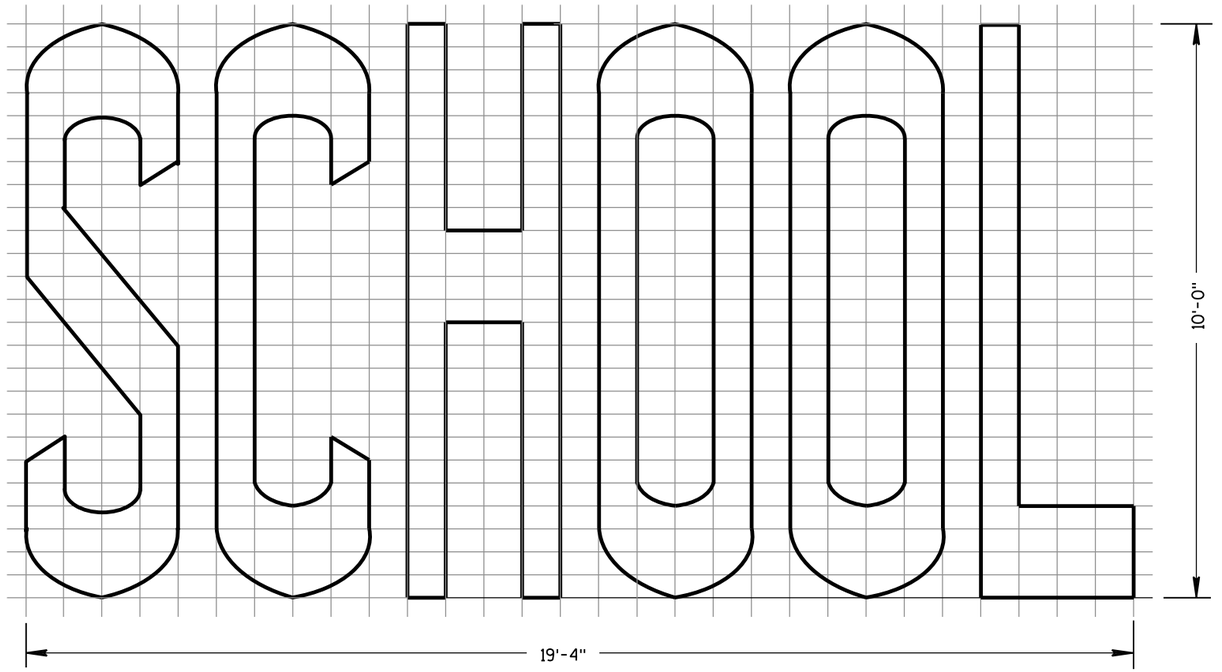
6

S.D.D. 15 C 3-3

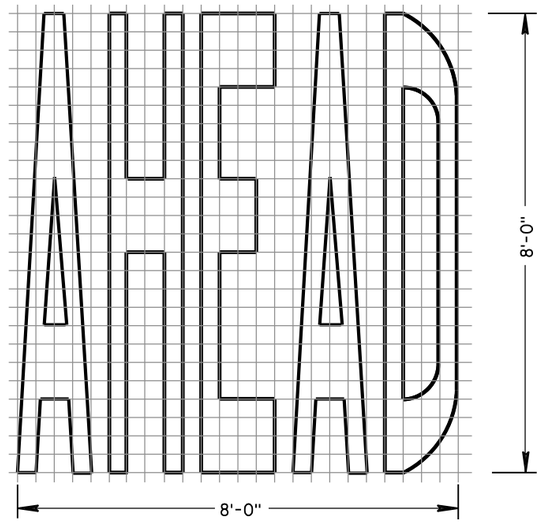
GENERAL NOTES

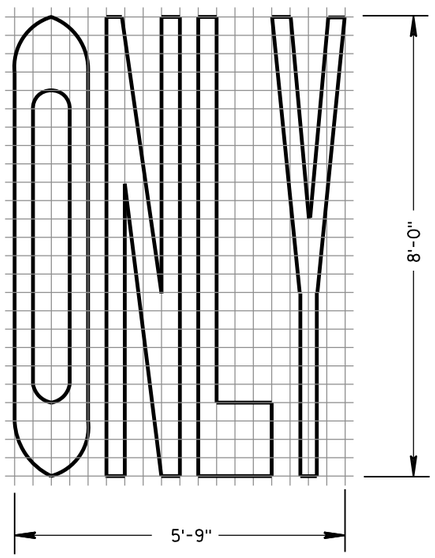
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

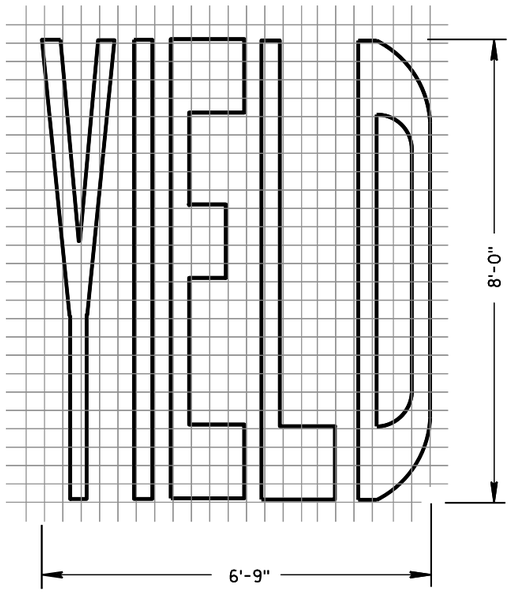


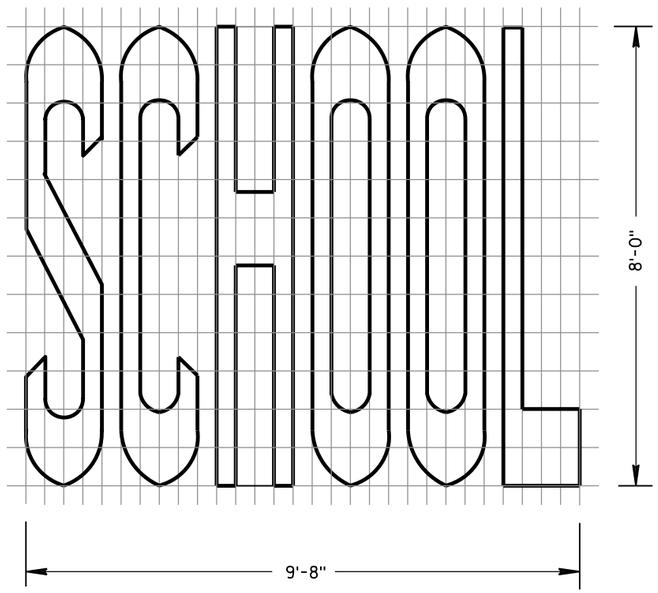


TWO-LANE









SINGLE-LANE

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4-18-16	/S/ Matthew R. Rauch	
DATE	STATE SIGNING AND MARK	EER

FHWA

6

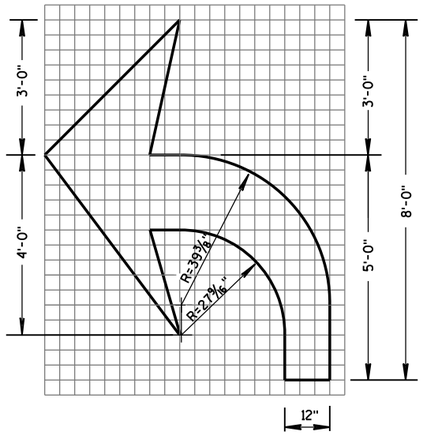
S.D.D. 15 C 7-13b

6

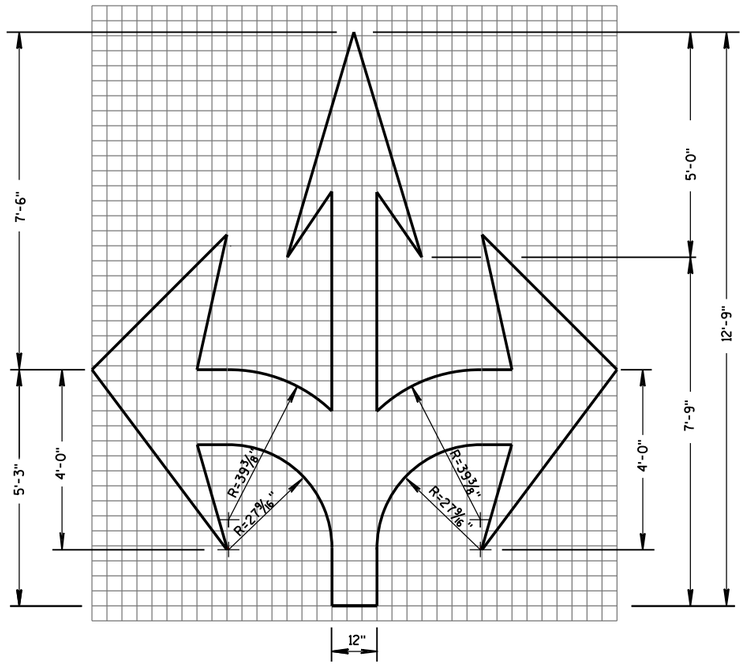
S.D.D. 15 C 7-13b

GENERAL NOTES

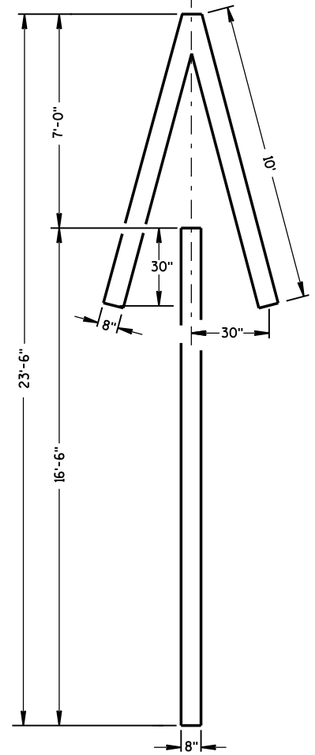
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



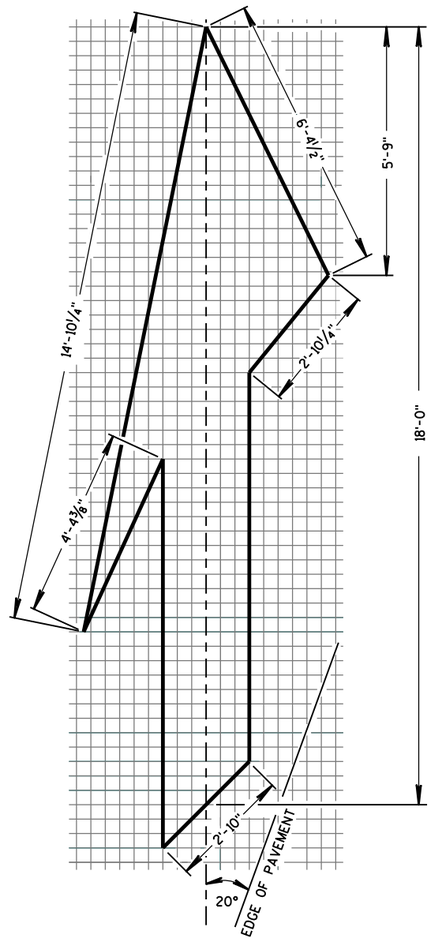
TYPE 2



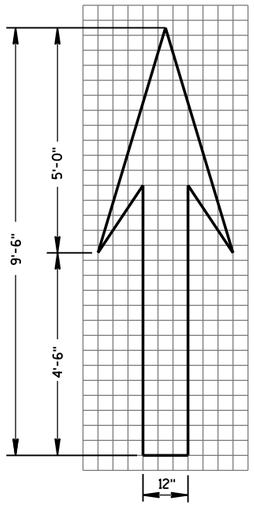
TYPE 6



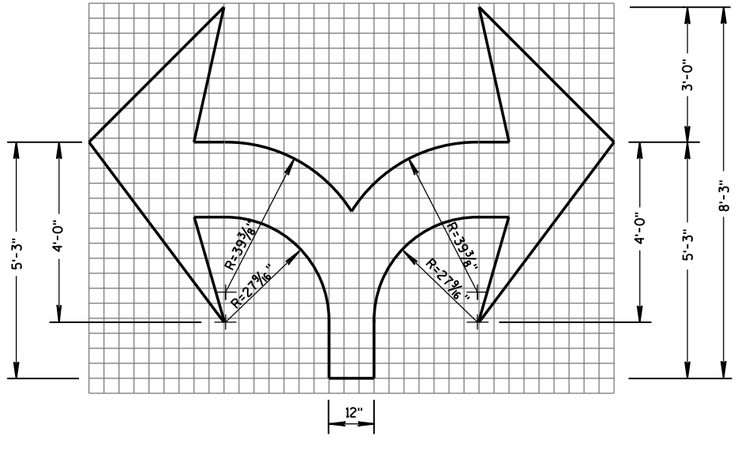
TYPE 4



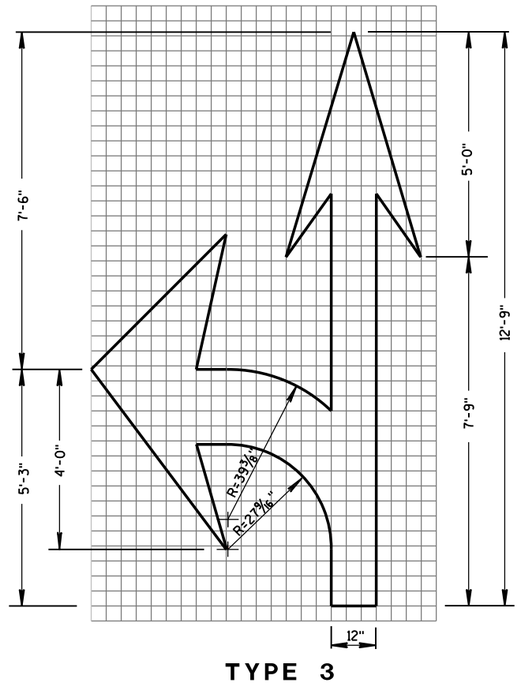
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

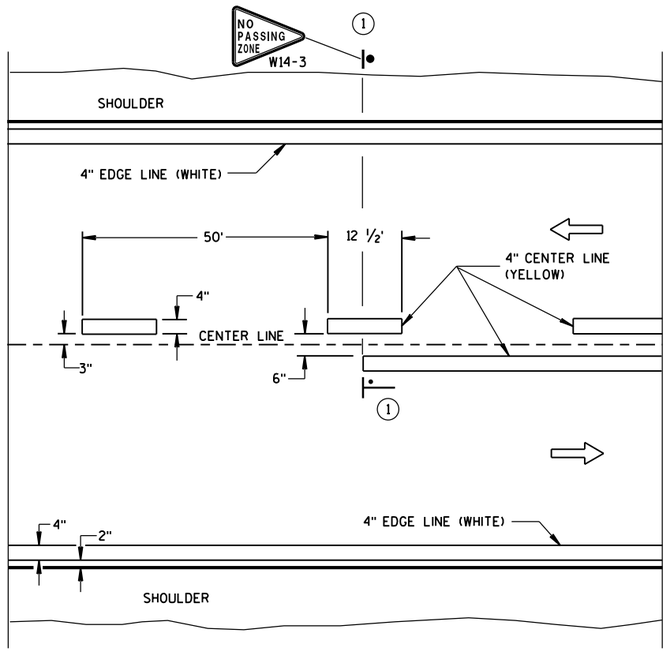
APPROVED
4-18-16 DATE
/S/ Matthew R. Rauch
STATE SIGNING AND MAR 378 NEER
FHWA

6

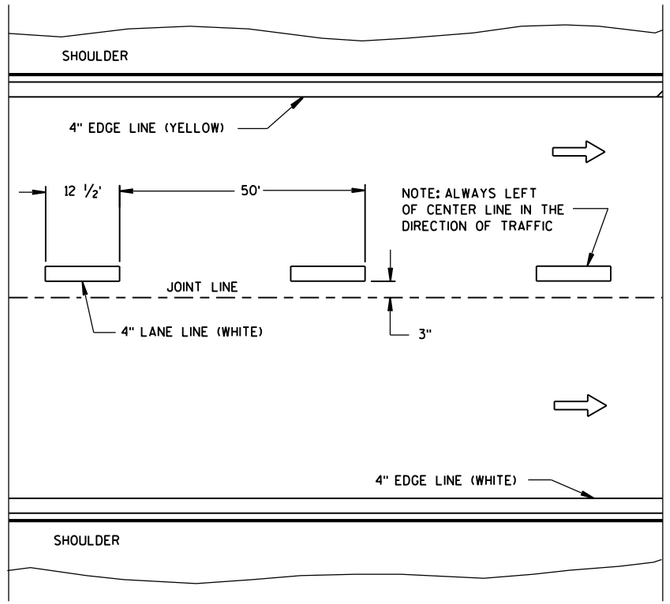
S.D.D. 15 C 7-13c

6

S.D.D. 15 C 7-13c



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

GENERAL NOTES

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

(1) NO PASSING ZONE W14-3 SIGN SHALL BE LOCATED WITHIN 50 FEET OF THE "T" MARKING.

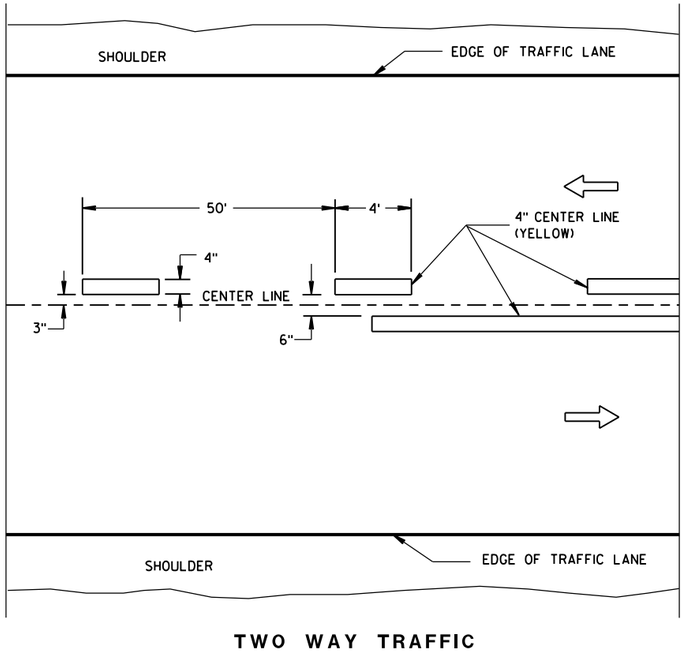
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

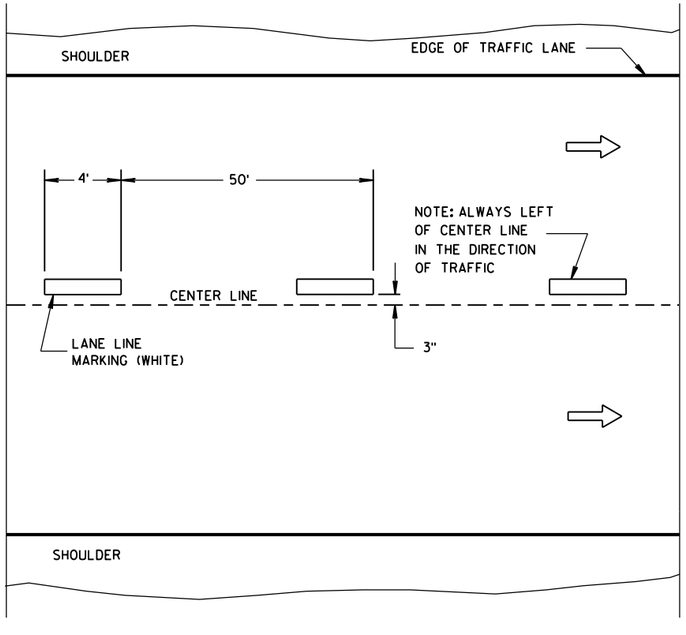
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

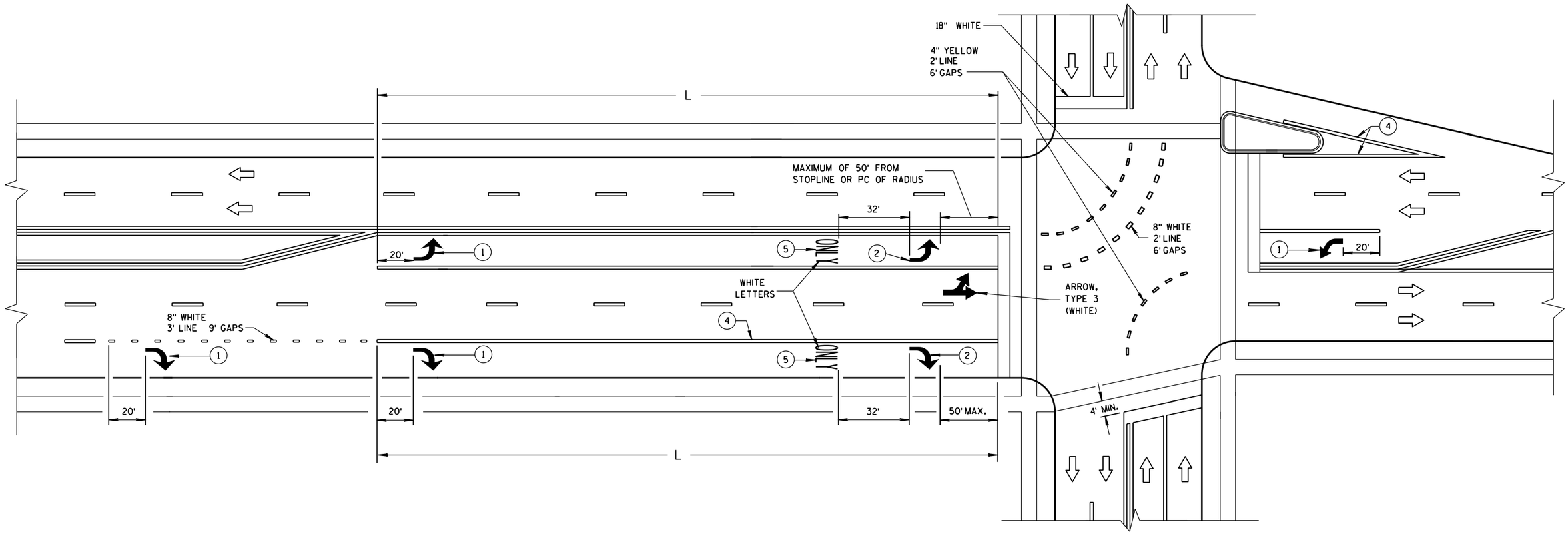
APPROVED
Sept., 2016 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

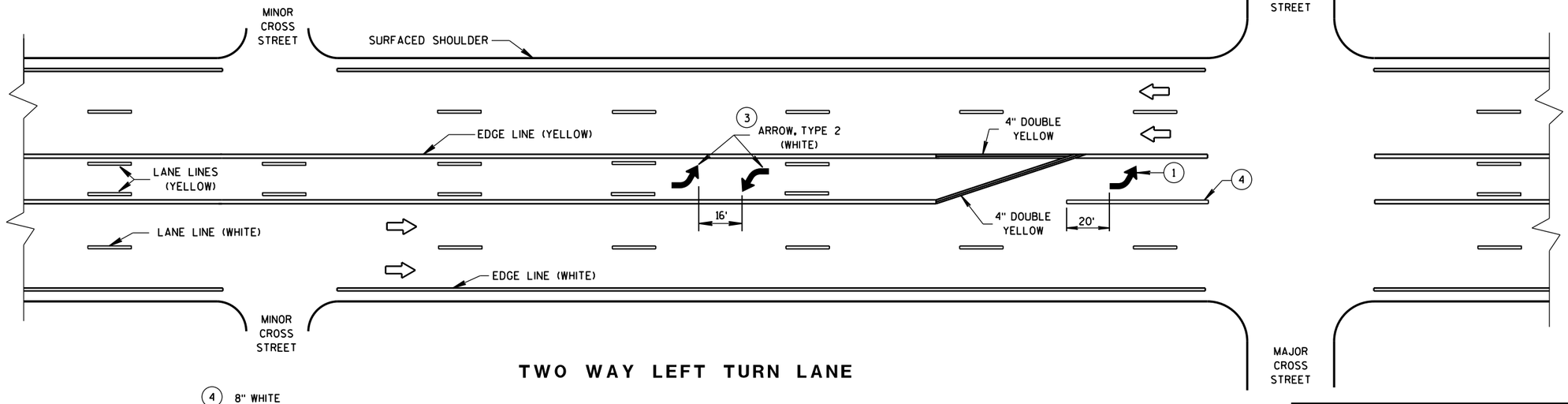
6

S.D.D. 15 C 8-17a

6

S.D.D. 15 C 8-17a





TWO WAY LEFT TURN LANE

GENERAL NOTES

(1) REQUIRED ARROW, TYPE 2 (WHITE).

(2) REQUIRED ARROW, TYPE 2 (WHITE) WHEN L IS GREATER THAN 78 FEET AND LESS THAN OR EQUAL TO 166 FEET.

(3) A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.

(4) 8" WHITE

(5) REQUIRED WORD ONLY WHEN L IS GREATER THAN 166 FEET.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL

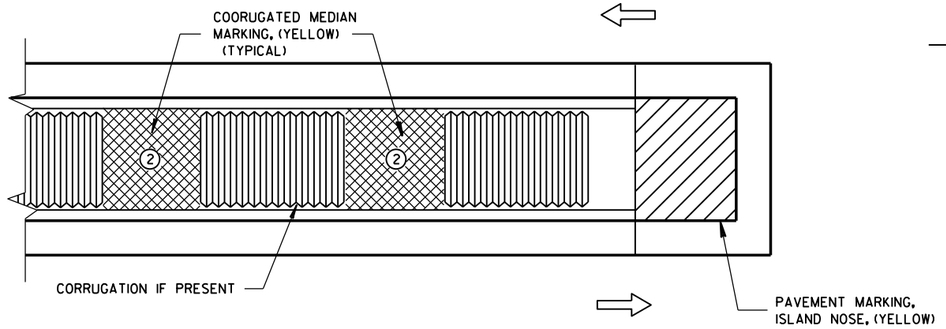
L = LENGTH OF TURN BAY

PAVEMENT MARKING (TURN LANES)

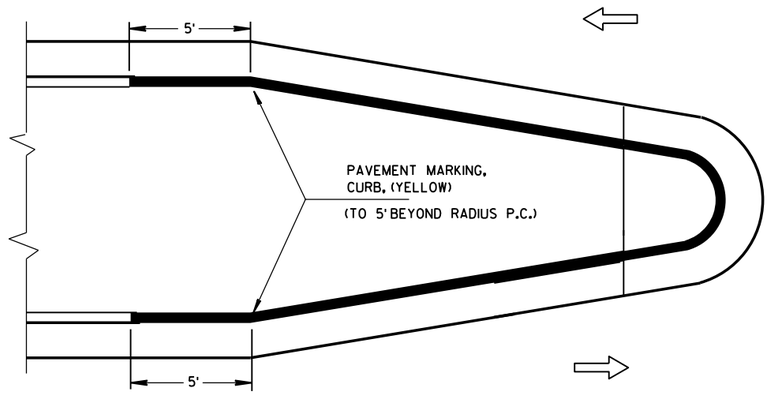
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

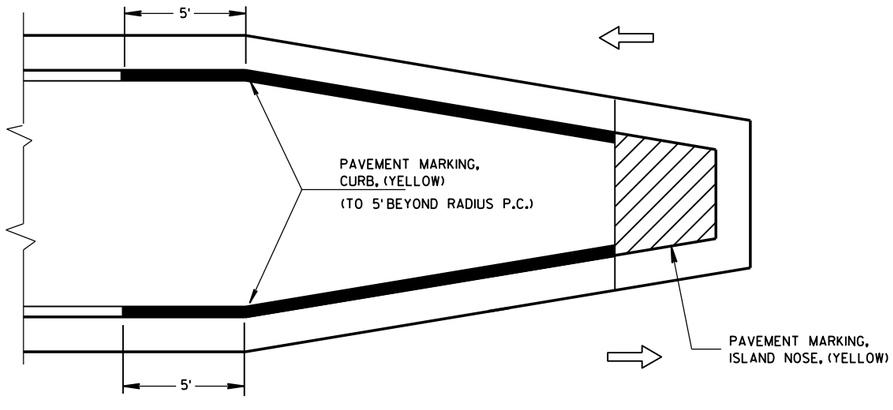
S.D.D. 15 C 8-17b



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

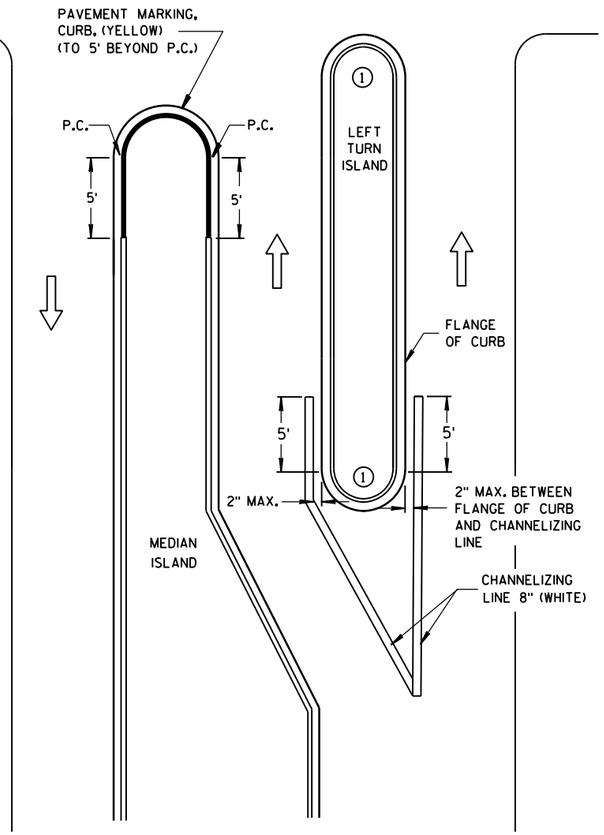


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

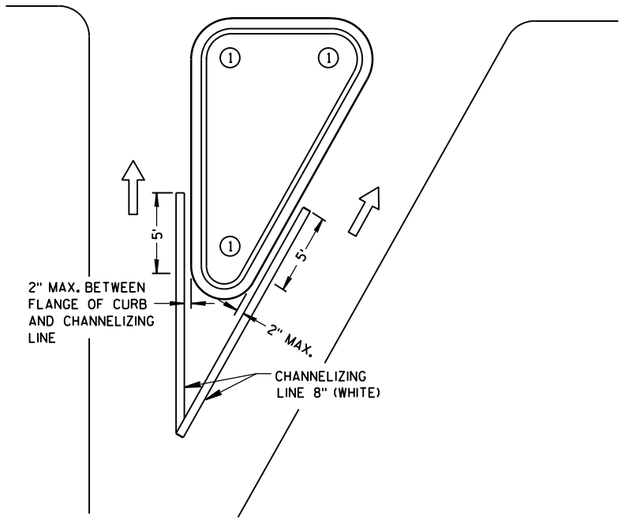


LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

1. DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.

2. WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



RIGHT TURN ISLAND

LEGEND

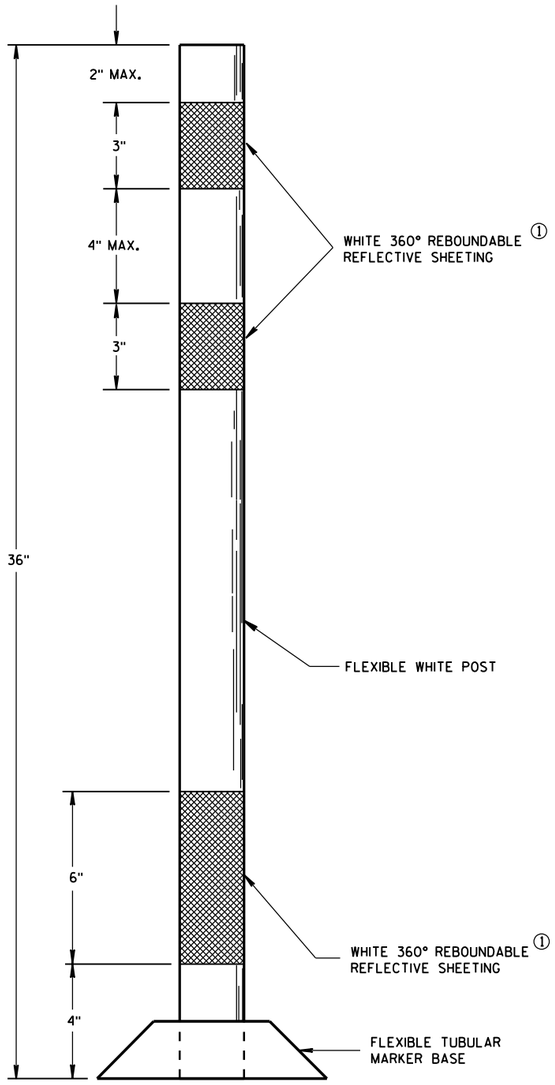
- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKING
(ISLANDS)

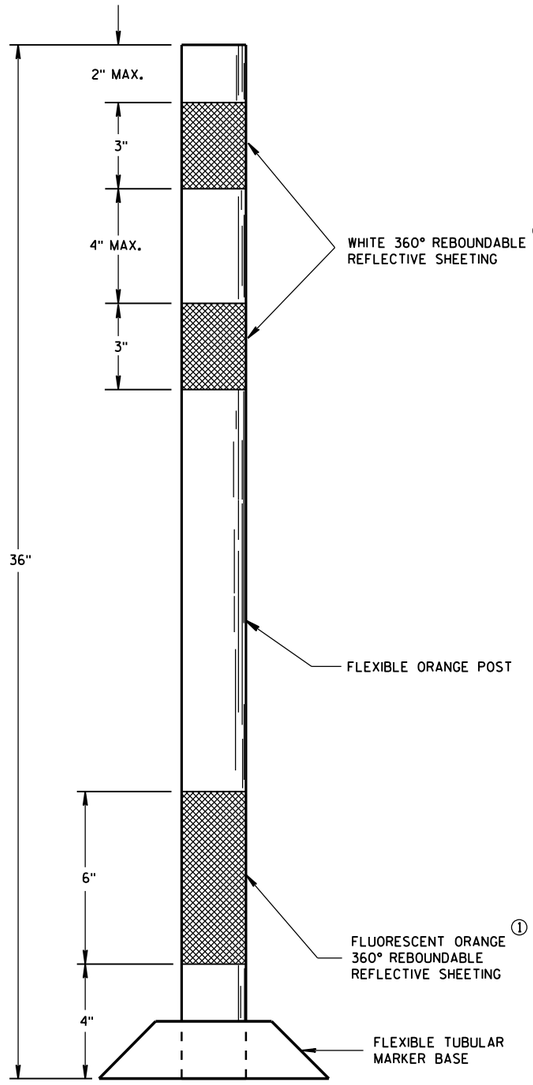
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 C 8-17c



FLEXIBLE
TUBULAR MARKER POST
PERMANENT CROSSOVER



FLEXIBLE
TUBULAR MARKER POST
WORK ZONE

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.

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

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

6

S.D.D. 15 C 11-6

FLEXIBLE TUBULAR MARKER POST

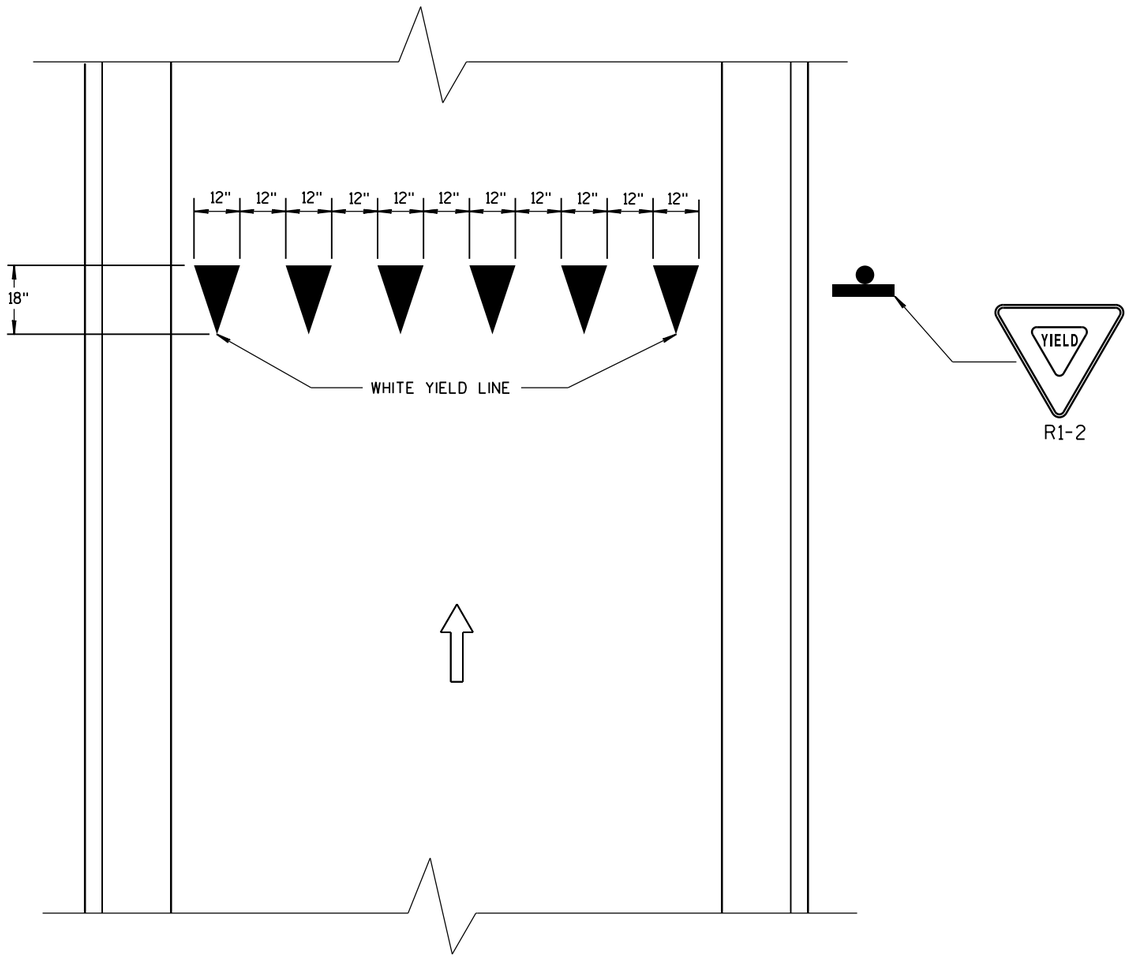
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10-16-2015
DATE
FHWA

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZON
SAFETY ENGINE

6

S.D.D. 15 C 11-6



R1-2

DIRECTION OF TRAVEL

YIELD LINE

6

6

S.D.D. 15 C 20-2

S.D.D. 15 C 20-2

YIELD MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4-18-2016
DATE

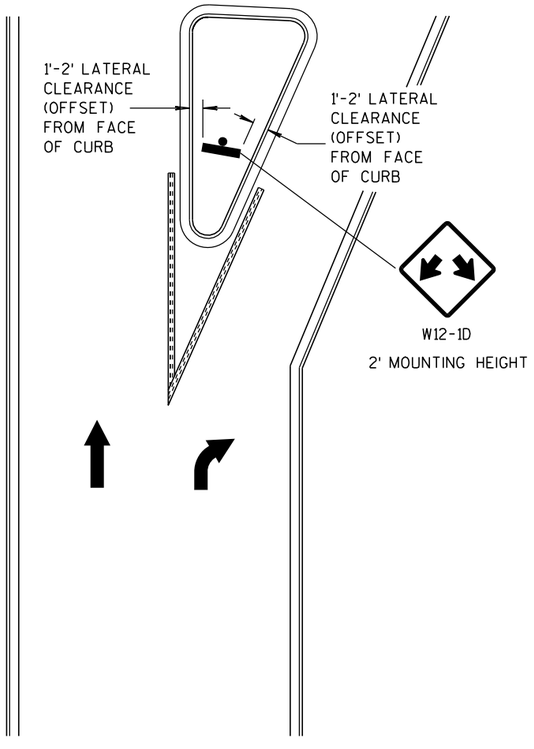
/S/ Matthew R. Rauch
STATE SIGNING AND MARI 383 IEER

FHWA

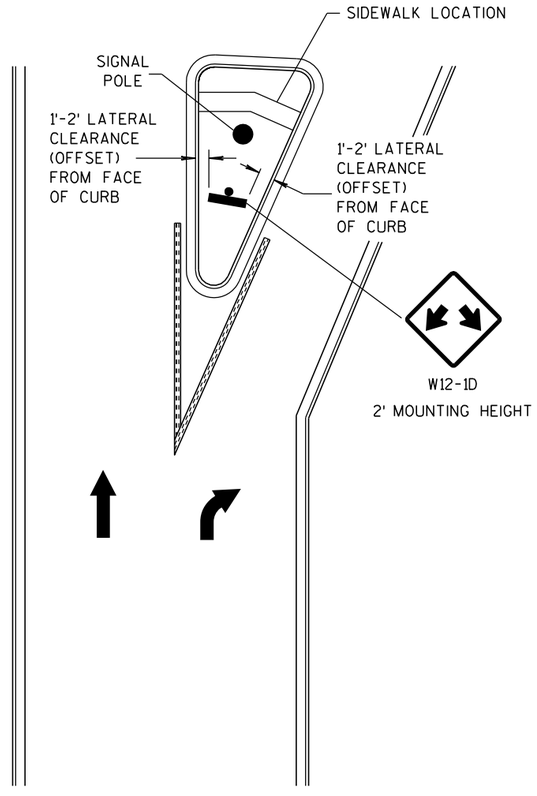
GENERAL NOTE

APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.

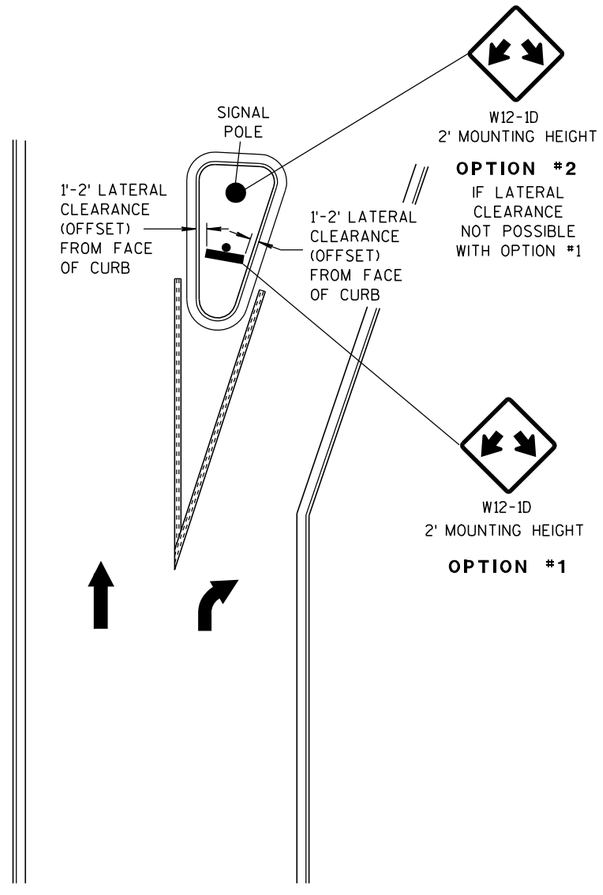
SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.



LARGE RIGHT TURN ISLAND



LARGE RIGHT TURN ISLAND
WITH SIGNAL POLE



SMALL RIGHT TURN ISLAND

DOUBLE ARROW WARNING SIGN PLACEMENT

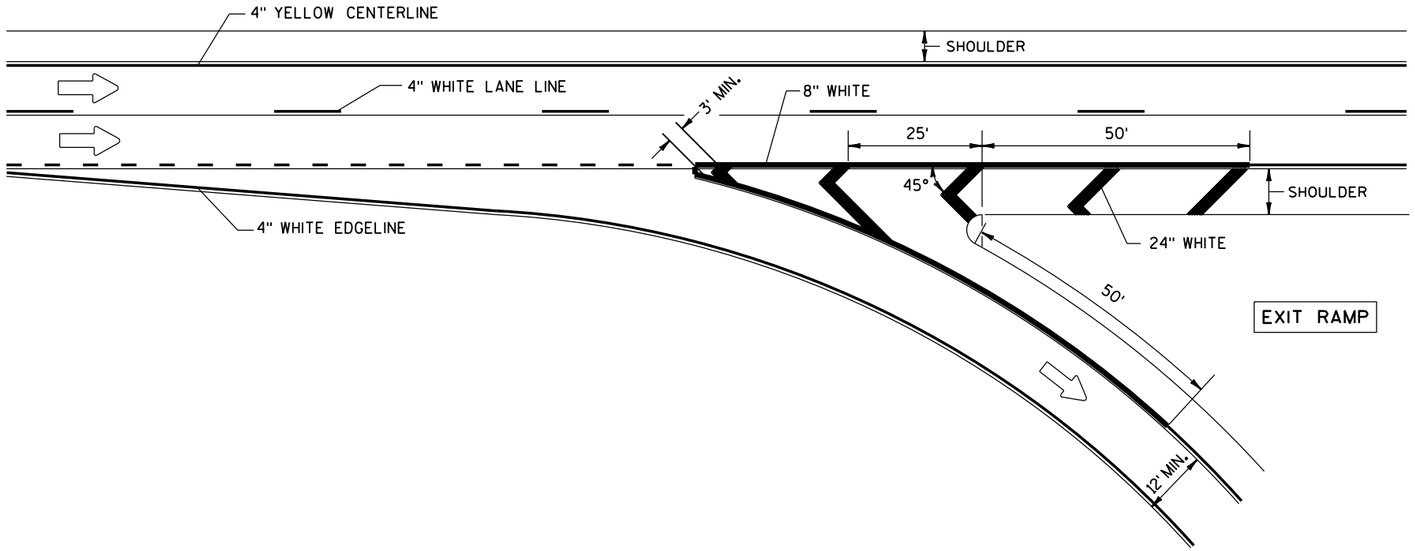
DOUBLE ARROW WARNING SIGN PLACEMENT	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
10-22-08 DATE	/S/ Thomas N. Nothdurft STATE TRAFFIC ENGINEER
FHWA	384 IGN

6

S.D.D. 15 C 27-1

6

S.D.D. 15 C 27-1



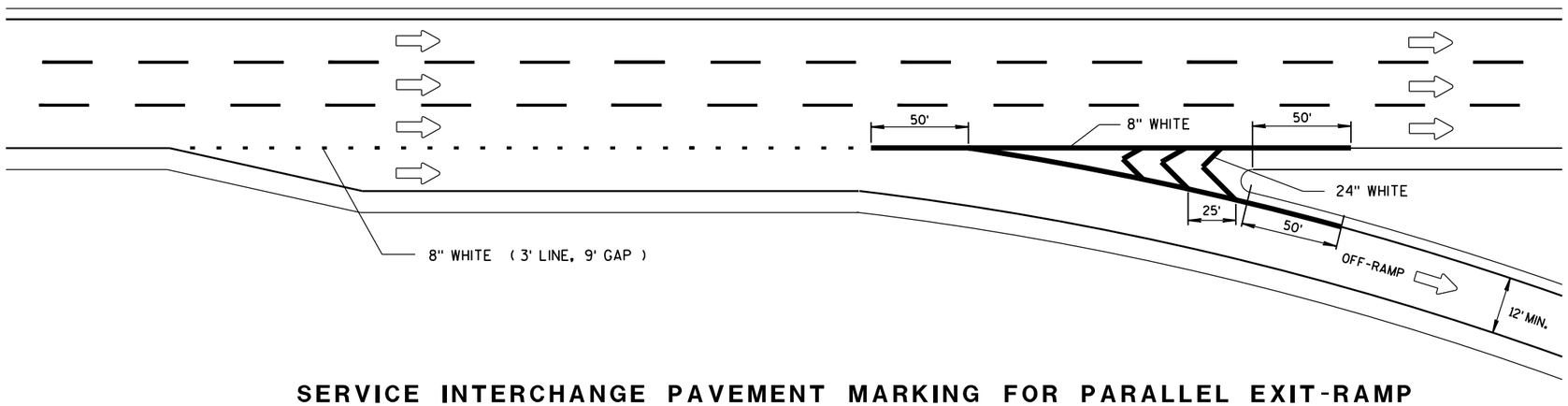
PAVEMENT MARKING FOR EXIT RAMP

GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

LEGEND

DIRECTION OF TRAVEL



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT-RAMP

6

S.D.D. 15 C 31-2a

PAVEMENT MARKING (RAMPS AND GORES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

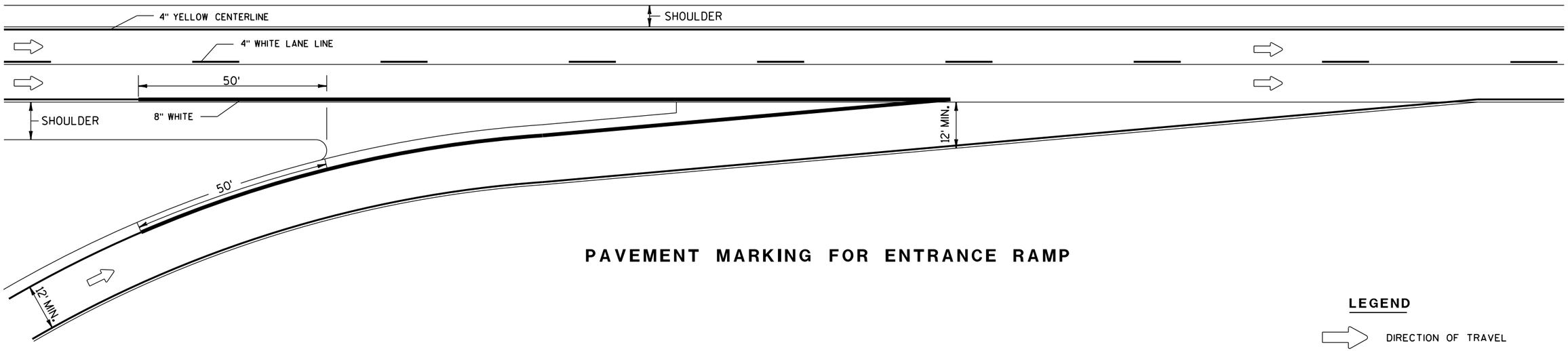
6

S.D.D. 15 C 31-2a

GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

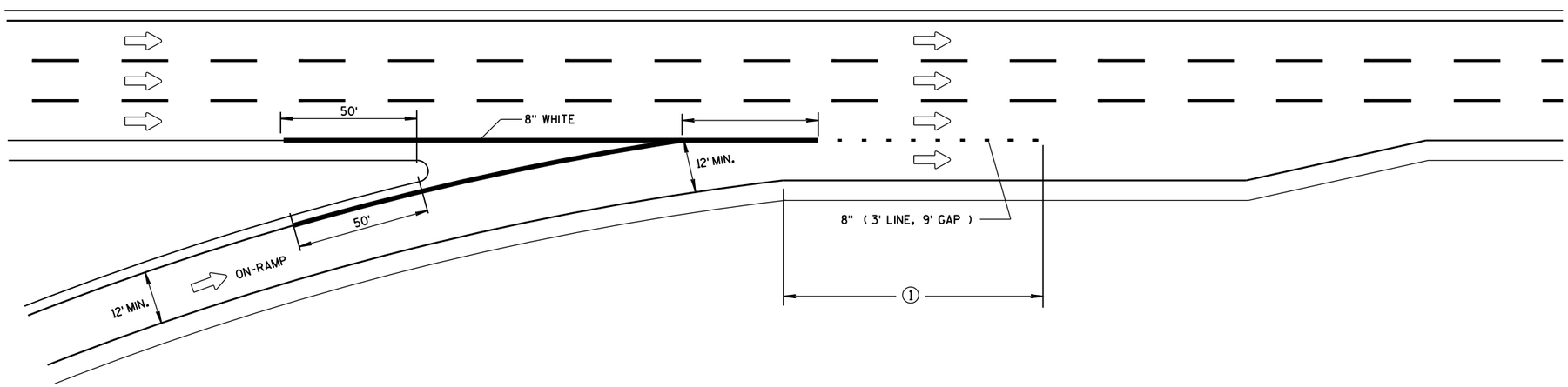
① ½ LENGTH OF FULL WIDTH ACCELERATION LANE.



PAVEMENT MARKING FOR ENTRANCE RAMP

LEGEND

DIRECTION OF TRAVEL



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ENTRANCE-RAMP

PAVEMENT MARKING FOR PARALLEL ON-RAMP AND PARALLEL OFF-RAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept., 2016
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MAR 386 NEER

FHWA

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S.D.D. 15 C 31-2c

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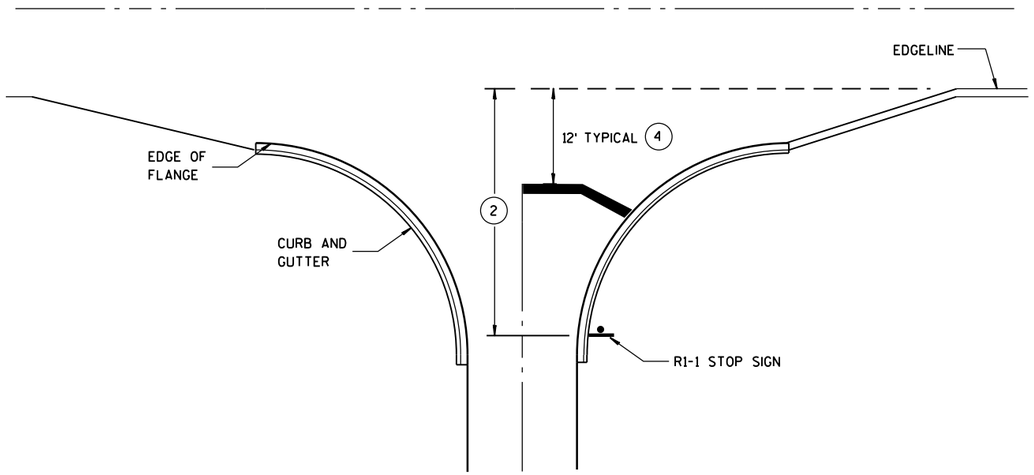
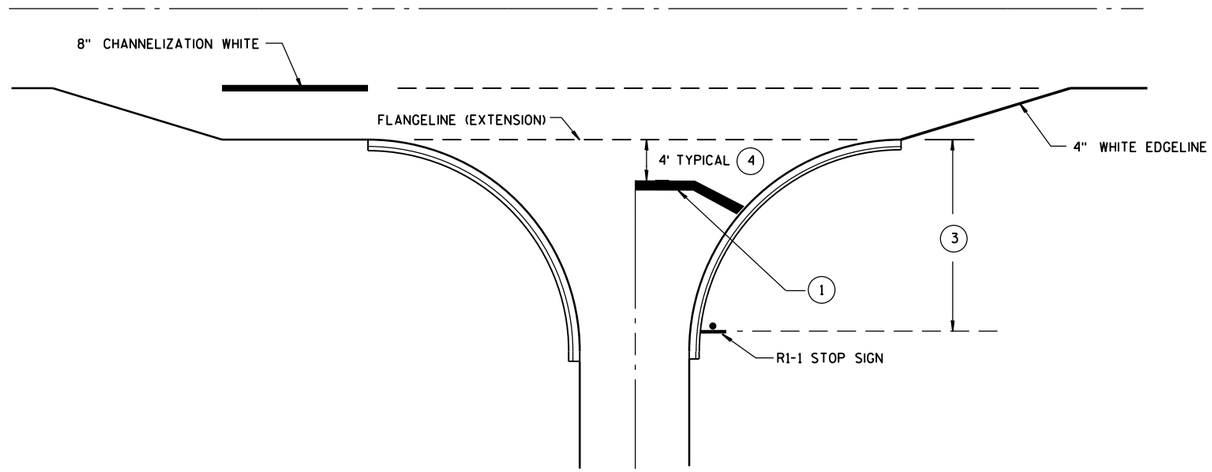
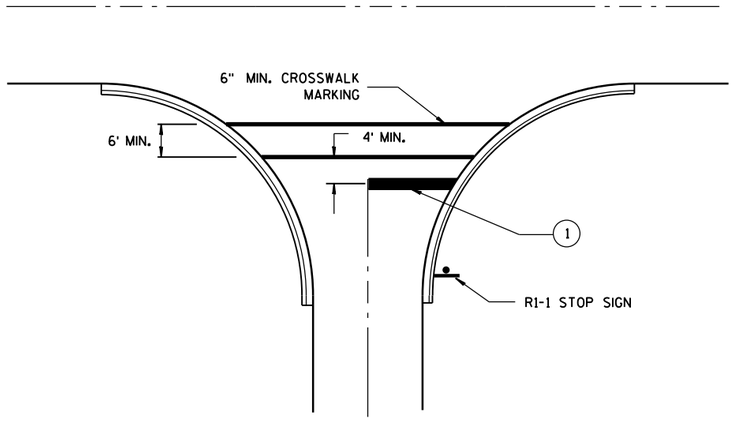
S.D.D. 15 C 31-2c



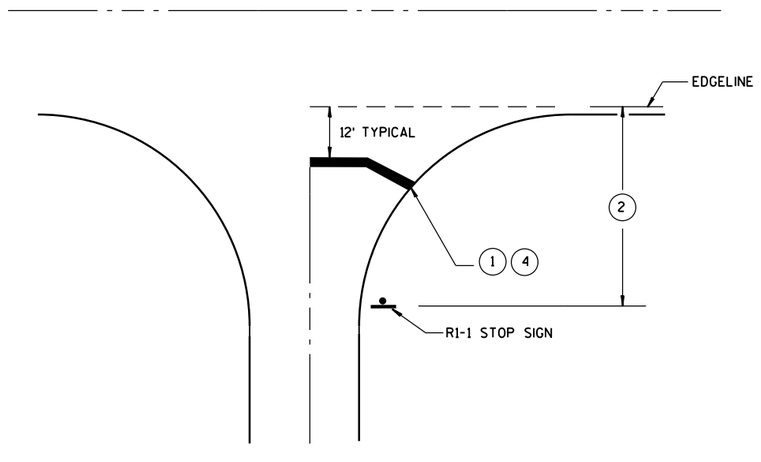
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE THAN NO STOP LINE IS REQUIRED.
3. IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
4. MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES. (NO CLOSER THAN 4 FEET).

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4-18-2016
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MAR 387 NEER

FHWA

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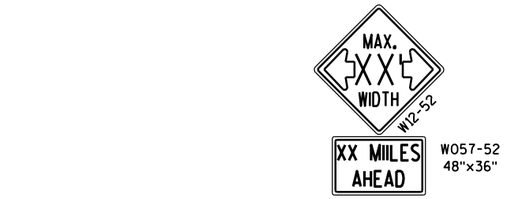
S.D.D. 15 C 33-2

LEGEND

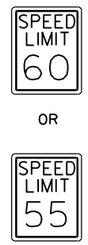
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- REMOVING PAVEMENT MARKING
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA

L, TAPER LENGTH (MPH)							
SPEED (MPH)	W, LATERAL OFFSET (FT)						
	10	11	12	13	14	15	16
45	450	495	540	585	630	675	720
50	500	550	600	650	700	750	800
55	550	605	660	715	770	825	880
60	600	660	720	780	840	900	960
65	650	715	780	845	910	975	1040
70	700	770	840	910	980	1050	1120



INSTALL ON EACH APPROACH AT THE CLOSEST INTERSECTION WITH A STATE OR COUNTY TRUNK HIGHWAY, OR AS DIRECTED BY THE ENGINEER. WIDTH ON SIGN TO BE APPROX. 1 FOOT LESS THAN AVAILABLE WIDTH (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET).

LOCATED 2600 FEET IN ADVANCE OF R2-1 SIGN AND 500 FEET BEYOND THE "ROAD WORK 1 MILE" SIGN.



R2-1
48"x60"
(BLACK AND WHITE)
LOCATED 500 FEET BEYOND W20-5G SIGN.

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.

* INCLUDE RESUME SPEED LIMIT SIGN A MINIMUM OF 200 FEET (500 FEET DESIRABLE) AFTER END ROAD WORK SIGNS.

GENERAL NOTES

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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 DESIRABLE) CLEARANCE TO EXISTING SIGNS.

ALL SIGNS ARE 48"x48" 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 OR AS APPROVED BY THE ENGINEER.

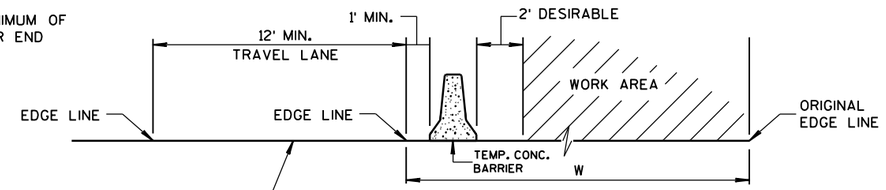
(1) CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUM TAPER.

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.

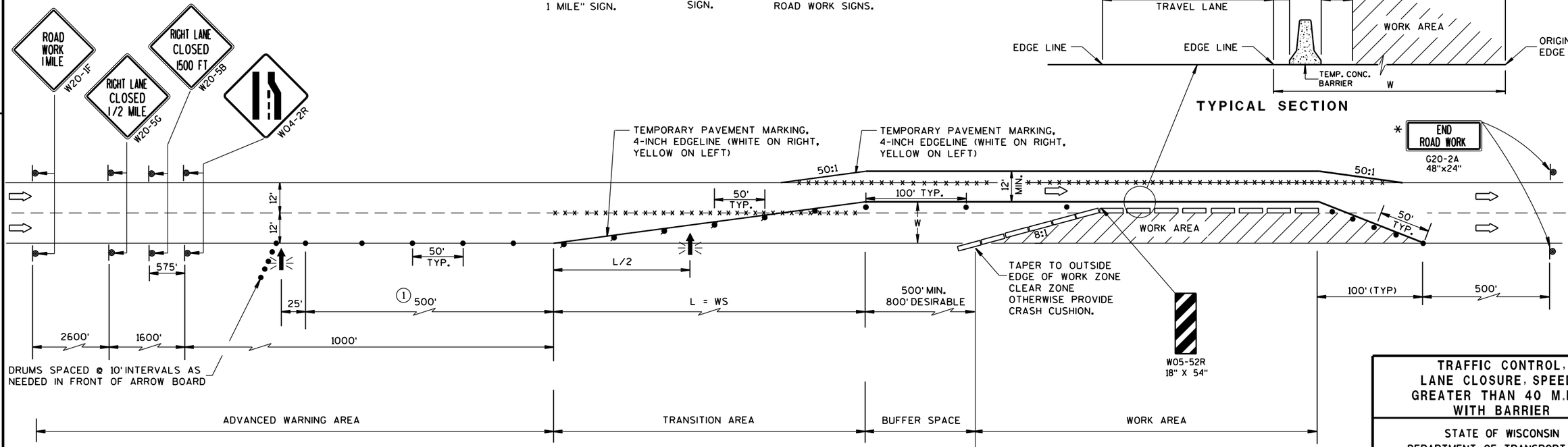
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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 OR INTERSECTION. THE LANE CLOSURE 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.



TYPICAL SECTION



TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZOI SAFETY ENGIN
FHWA

6

S.D.D. 15 D 3-4

6

S.D.D. 15 D 3-4

** NOTE: SEE SDD 15 D 12 FOR LANE CLOSURE DETAILS.

GENERAL NOTES

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

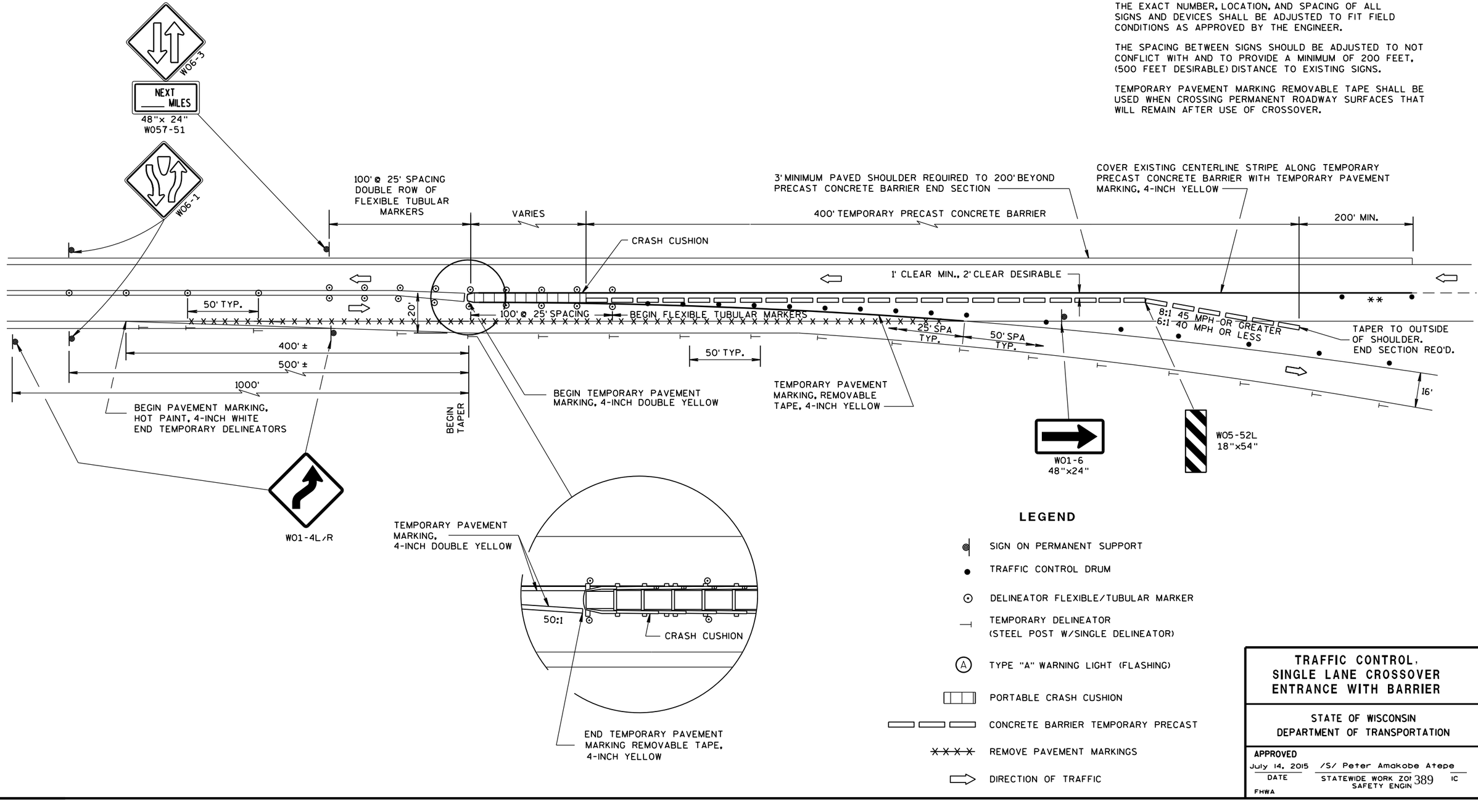
"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE 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.

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 DESIRABLE) DISTANCE TO EXISTING SIGNS.

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE SHALL BE USED WHEN CROSSING PERMANENT ROADWAY SURFACES THAT WILL REMAIN AFTER USE OF CROSSOVER.



LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- TEMPORARY DELINEATOR (STEEL POST W/SINGLE DELINEATOR)
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- PORTABLE CRASH CUSHION
- CONCRETE BARRIER TEMPORARY PRECAST
- REMOVE PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL, SINGLE LANE CROSSOVER ENTRANCE WITH BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 14, 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA

6

S.D.D. 15 D 5-4

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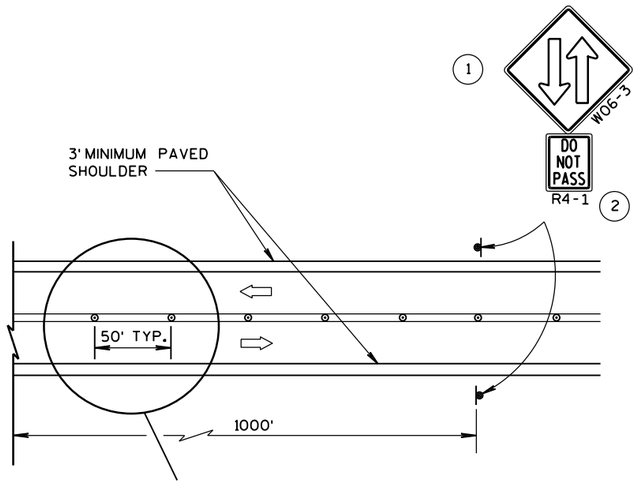
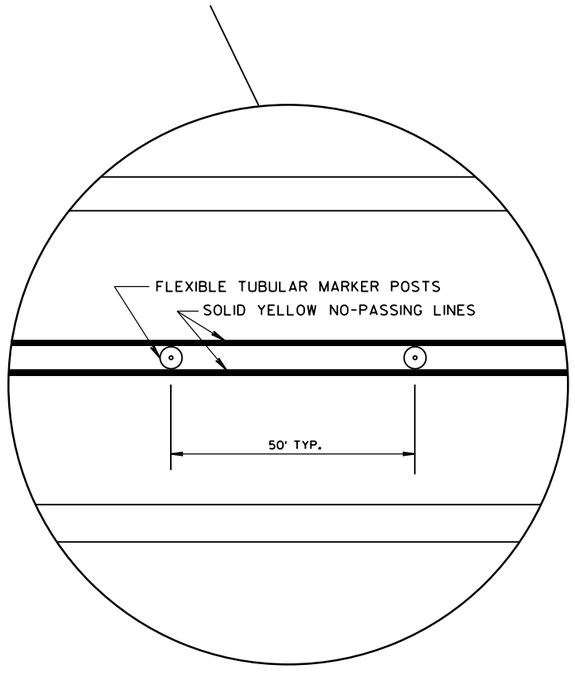
S.D.D. 15 D 5-4



TWO LANE, TWO WAY OPERATION



LEGEND

- SIGN ON PERMANENT SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC

GENERAL NOTES

ALL SIGNS ARE 48"x48" UNLESS OTHERS NOTED.

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

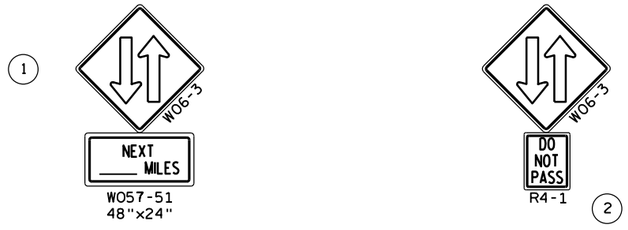
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

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 DESIRABLE) DISTANCE TO EXISTING SIGNS.

A SINGLE ROW OF FLEXIBLE TUBULAR MARKERS ON CENTERLINE EXTEND FOR THE ENTIRE LENGTH OF TWO-WAY TRAFFIC AT 50-FOOT SPACING.

COVER EXISTING CENTERLINE STRIPE WITH TEMPORARY PAVEMENT MARKING, 4-INCH DOUBLE YELLOW.



THE W06-3 WITH THE W057-51 SHALL BE LOCATED 200 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP AND/OR 500 FEET BEYOND ANY SIDEROAD. THE W06-3 WITH THE R4-1 SHALL BE LOCATED 1000 FEET BEYOND THE W06-3 AND THE W057-51 AND THE SIGNS SHALL BE ALTERNATED WITH ONE MILE INTERVALS BETWEEN W06-3 SIGNS.

(2) CONVENTIONAL: 24"x30"
FREEWAY AND EXPRESSWAY: 36"x48"

TRAFFIC CONTROL, TWO LANE TWO WAY OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013	/S/ Travis Feltes	
DATE	STATE TRAFFIC ENGINEER	SIGN

FHWA

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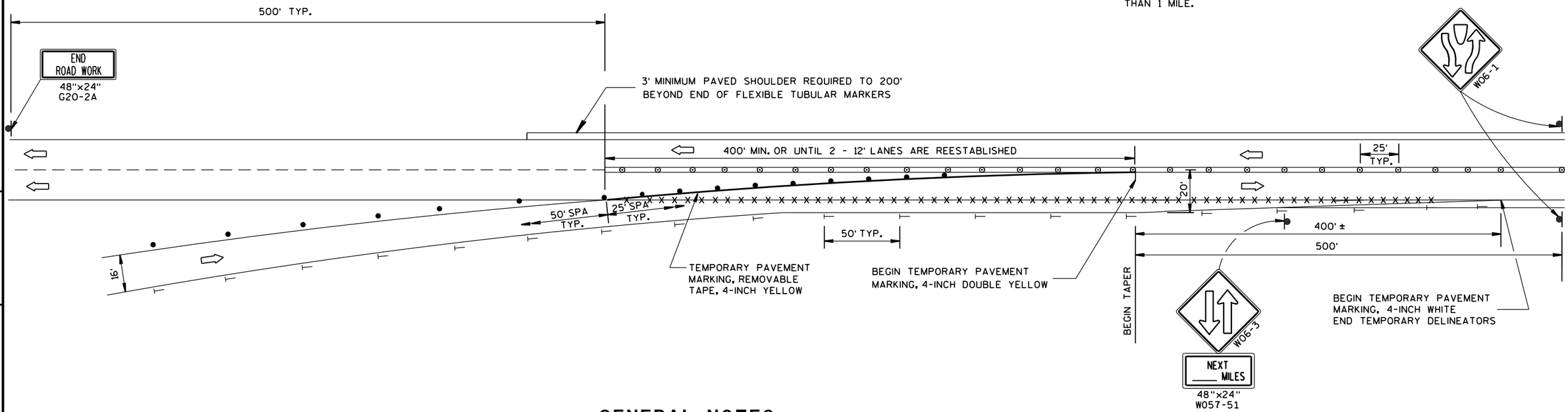
S.D.D. 15 D 6-3

LEGEND

- SIGN ON PERMANEMT SUPPORT
- TRAFFIC CONTROL DRUM
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- TEMPORARY DELINEATOR (STEEL POST W/SINGLE DELINEATOR) COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE RESPECTIVE EDGELINE MARKING
- REMOVE PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC



REPEAT EVERY 1/4 MILE IF PROJECT IS LONGER THAN 1 MILE.

GENERAL NOTES

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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 DESIRABLE) DISTANCE TO EXISTING SIGNS.

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE SHALL BE USED WHEN CROSSING PERMANENT ROADWAY SURFACES THAT WILL REMAIN AFTER USE OF CROSSOVER.

TRAFFIC CONTROL, SINGLE LANE CROSSOVER EXIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

DESIGN

FHWA

6

S.D.D. 15 D 9-3

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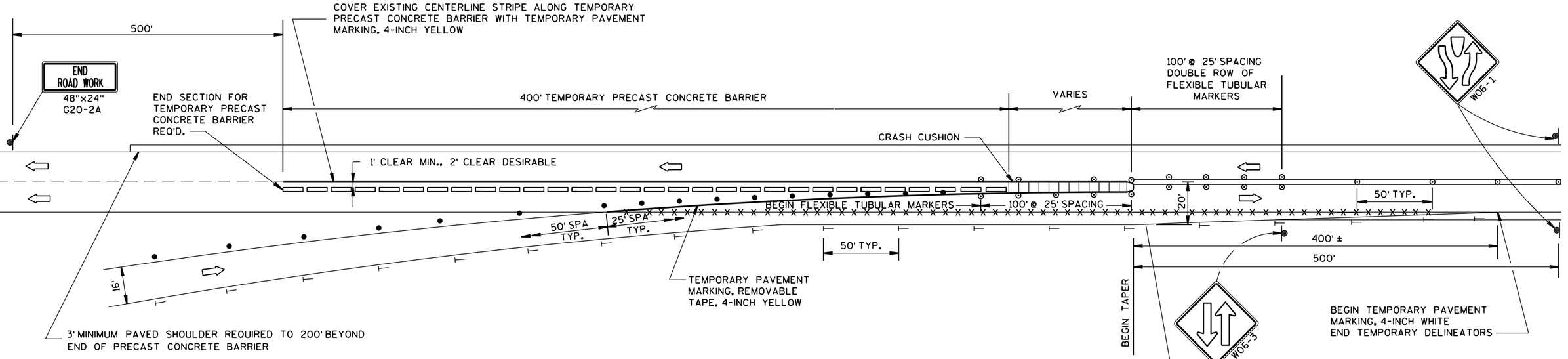
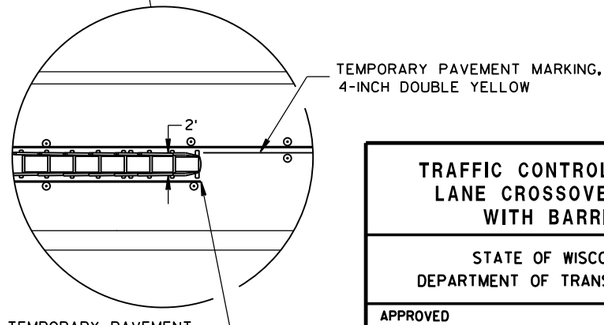
S.D.D. 15 D 9-3

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- TEMPORARY DELINEATOR (STEEL POST W/SINGLE DELINEATOR) COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE RESPECTIVE EDGELINE MARKING
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- PORTABLE CRASH CUSHION
- CONCRETE BARRIER TEMPORARY PRECAST
- XXXX REMOVE PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC





GENERAL NOTES

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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 DESIRABLE) DISTANCE TO EXISTING SIGNS.

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE SHALL BE USED WHEN CROSSING PERMANENT ROADWAY SURFACES THAT WILL REMAIN AFTER USE OF CROSSOVER.

TRAFFIC CONTROL, SINGLE LANE CROSSOVER EXIT WITH BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 14, 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA

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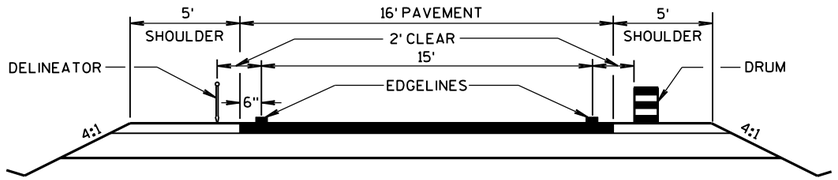
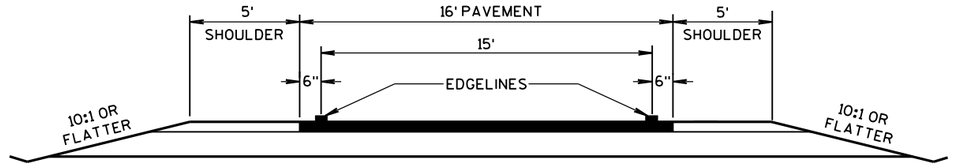
S.D.D. 15 D 10-4



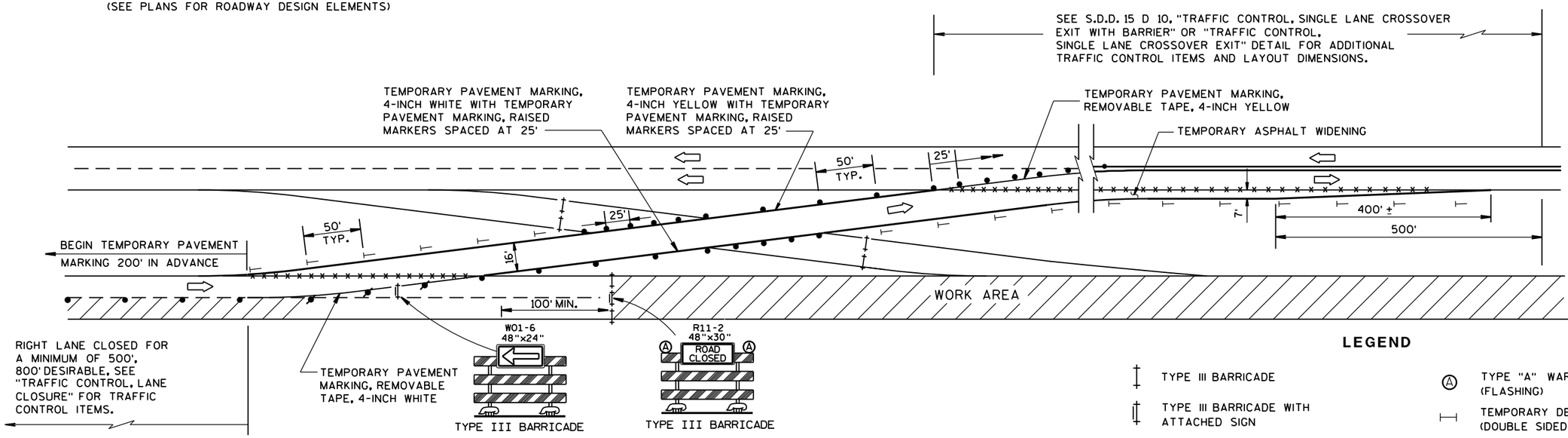
TYPICAL TEMPORARY CROSSOVER ROADWAY DIMENSIONS

(SEE PLANS FOR ROADWAY DESIGN ELEMENTS)



TYPICAL CROSSOVER TO REMAIN IN PLACE ROADWAY DIMENSIONS

(SEE PLANS FOR ROADWAY DESIGN ELEMENTS)



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- TEMPORARY DELINEATOR (STEEL POST W/SINGLE DELINEATOR) COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE RESPECTIVE EDGELINE MARKING
- TYPE "A" WARNING LIGHT (FLASHING)
- TEMPORARY DELINEATOR (DOUBLE SIDED)
- REMOVING PAVEMENT MARKINGS
- DELINEATOR FLEXIBLE/ TUBULAR MARKER
- 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 PROPOSED SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE SHALL BE USED WHEN CROSSING PERMANENT ROADWAY SURFACES THAT WILL REMAIN AFTER USE OF CROSSOVER AND TEMPORARY PAVEMENT MARKING WHERE USED.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

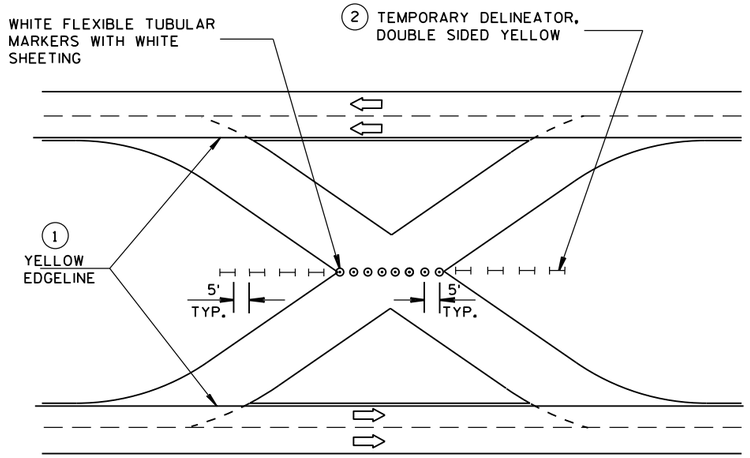
"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE 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.

REVERSE DEVICES WHEN OTHER LEG OF CROSSOVER IS IN USE.

(1) FOR PERMANENT CROSSOVER, PAVEMENT MARKING SHOULD CONFORM TO SECTION 646 OF THE STANDARD SPECIFICATIONS.

(2) FOR PERMANENT CROSSOVER, INSTALL PERMANENT DELINEATORS ACCORDING TO SECTION 633 OF THE STANDARD SPECIFICATIONS.



TRAFFIC CONTROL FOR CROSSOVER THAT IS NOT IN USE

TRAFFIC CONTROL, SINGLE LANE CROSSOVER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10-16-2015 DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZON SAFETY ENGIN IC
FHWA

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S.D.D. 15 D 11-6

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S.D.D. 15 D 11-6

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMENENT SUPPORT
- 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"x48" 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.

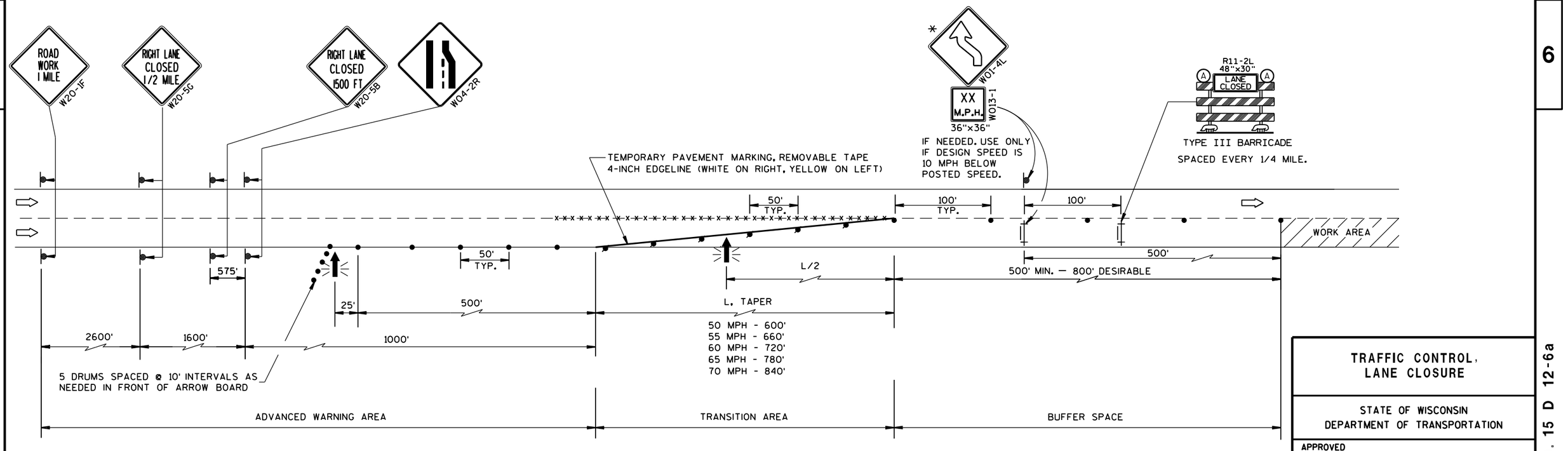
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

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.



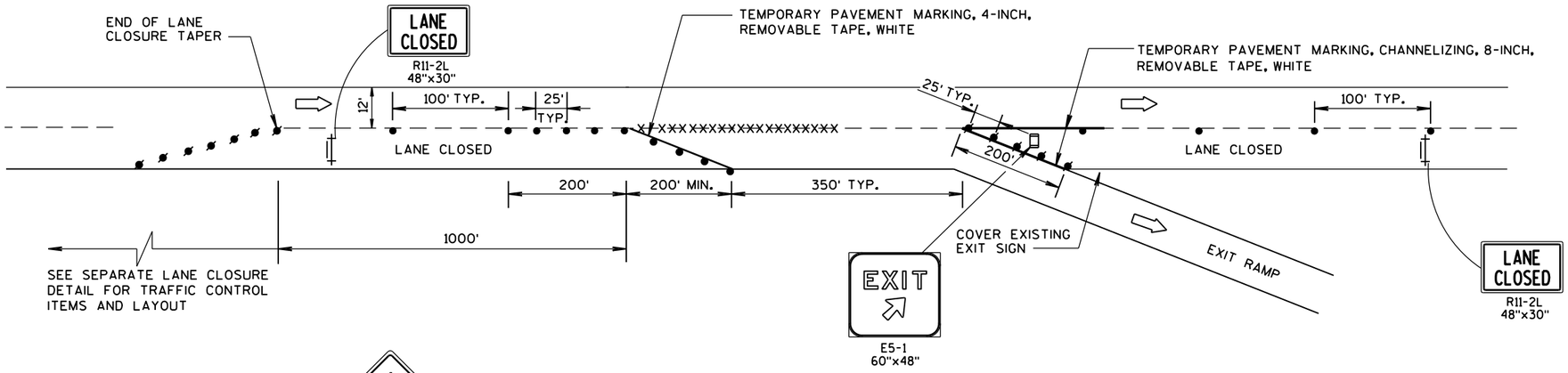
TRAFFIC CONTROL, LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

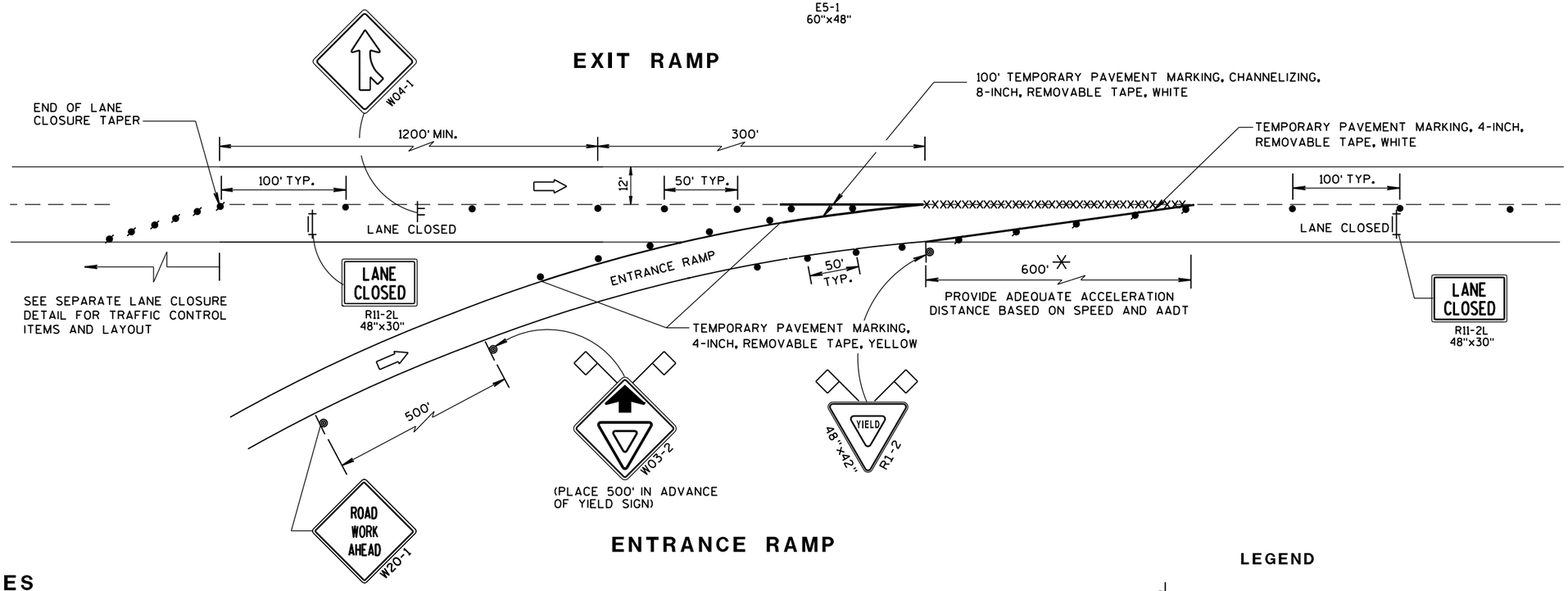
APPROVED
March 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

S.D.D. 15 D 12-6a

S.D.D. 15 D 12-6a



EXIT RAMP



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 R11-2L "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

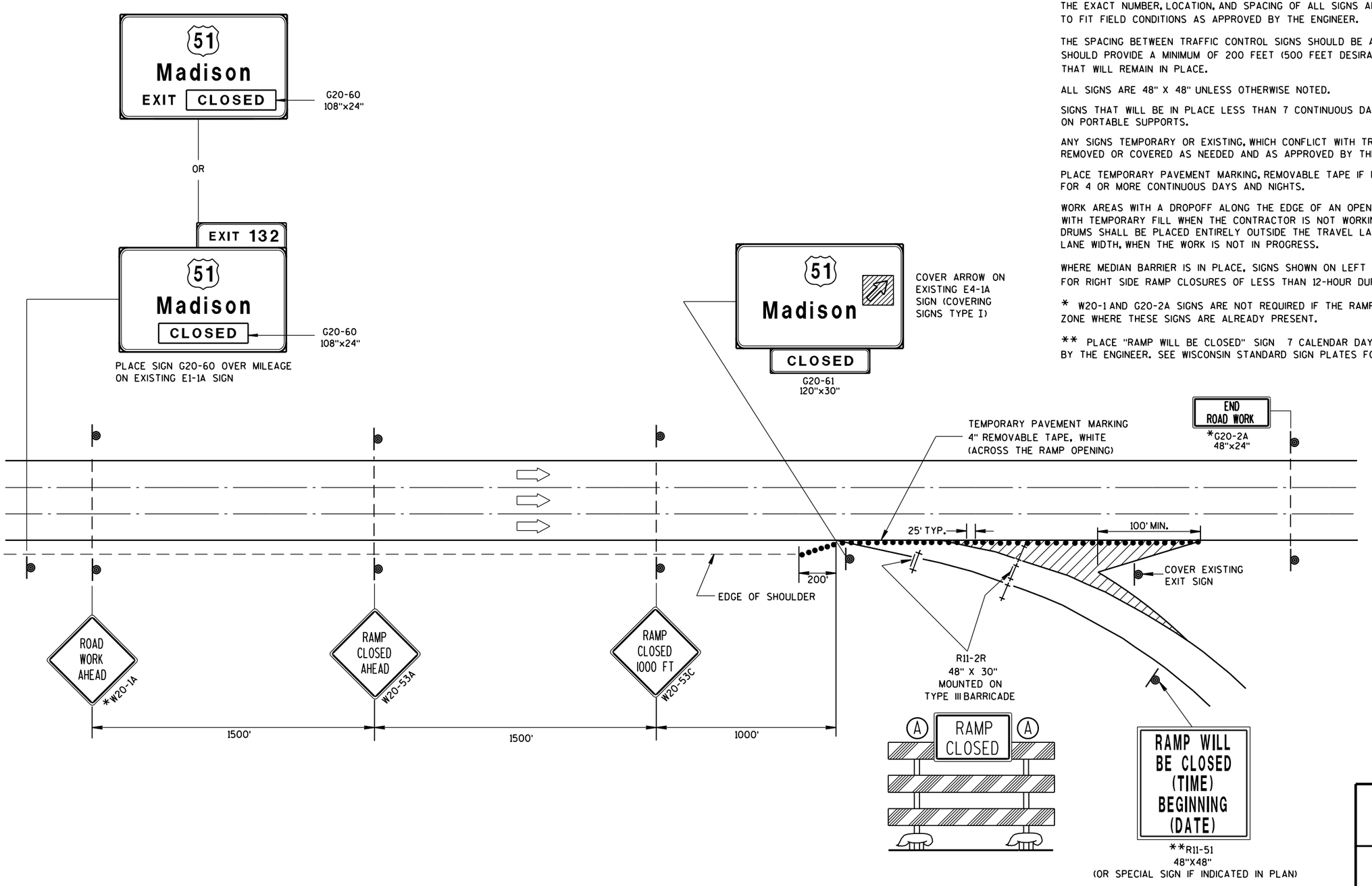
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGS, 16" x 16" MIN., (ORANGE)
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA

6
S.D.D. 15 D 15-2



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 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL, EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO FIC
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FHWA

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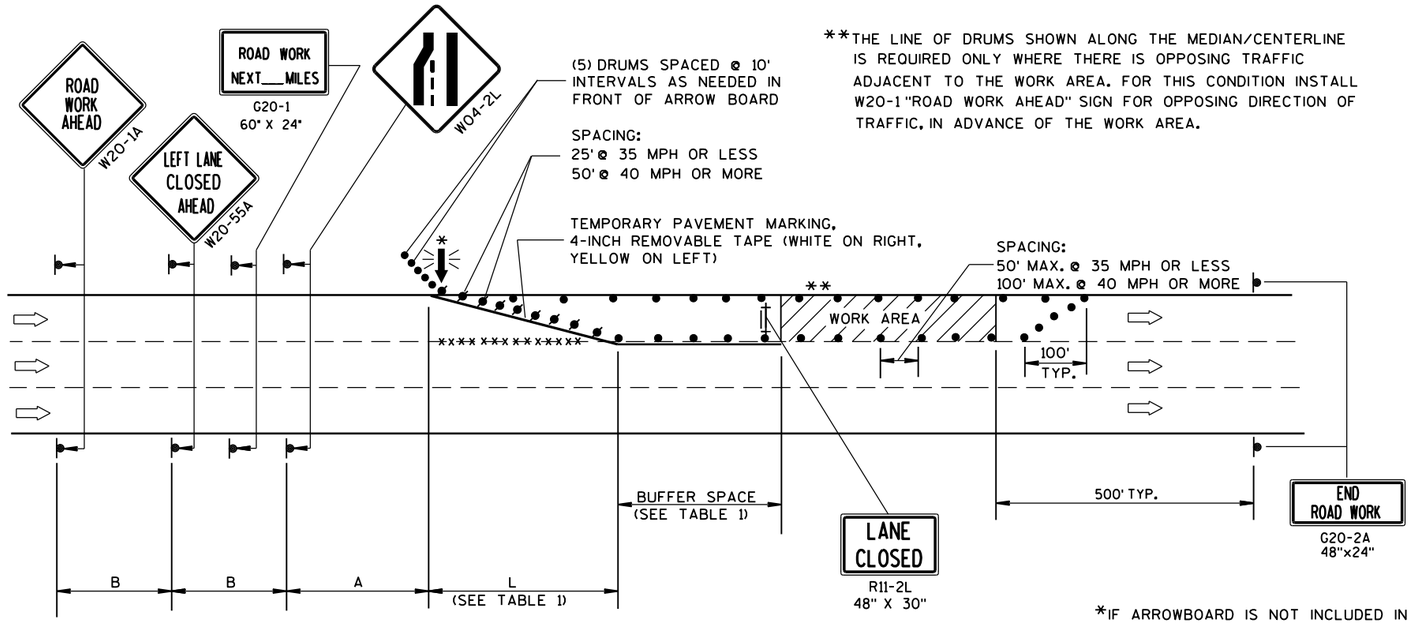

**THE LINE OF DRUMS SHOWN ALONG THE MEDIAN/CENTERLINE IS REQUIRED ONLY WHERE THERE IS OPPOSING TRAFFIC ADJACENT TO THE WORK AREA. FOR THIS CONDITION INSTALL W20-1 "ROAD WORK AHEAD" SIGN FOR OPPOSING DIRECTION OF TRAFFIC, IN ADVANCE OF THE WORK AREA.

B=400' AT 25-30 MPH
700' AT 35-40 MPH
1000' AT 45-55 MPH

A=200' AT 25-30 MPH
350' AT 35-40 MPH
500' AT 45-55 MPH

(PLACE BARRICADE AND SIGN APPROX. EVERY 1000' ACROSS THE CLOSED LANE)

*IF ARROWBOARD IS NOT INCLUDED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE A TYPE III BARRICADE WITH W01-6 SIGN IN THE LANE CLOSURE TAPER.

W01-6
48"x24"

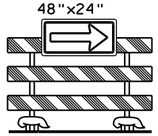

TABLE 1
TAPER AND BUFFER SPACE
FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- WORK AREA

GENERAL NOTES

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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 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 IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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.

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 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
FHWA

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE SAFETY ENGINEER

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S.D.D. 15 D 20-4

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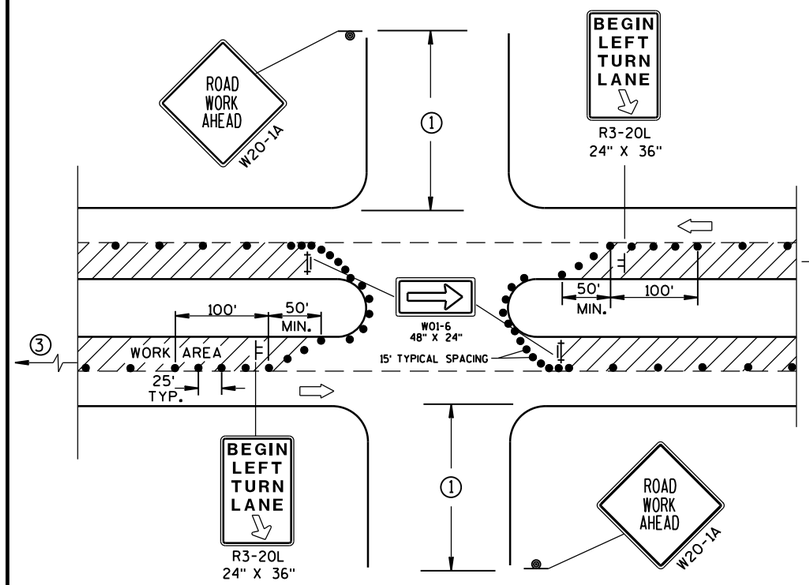
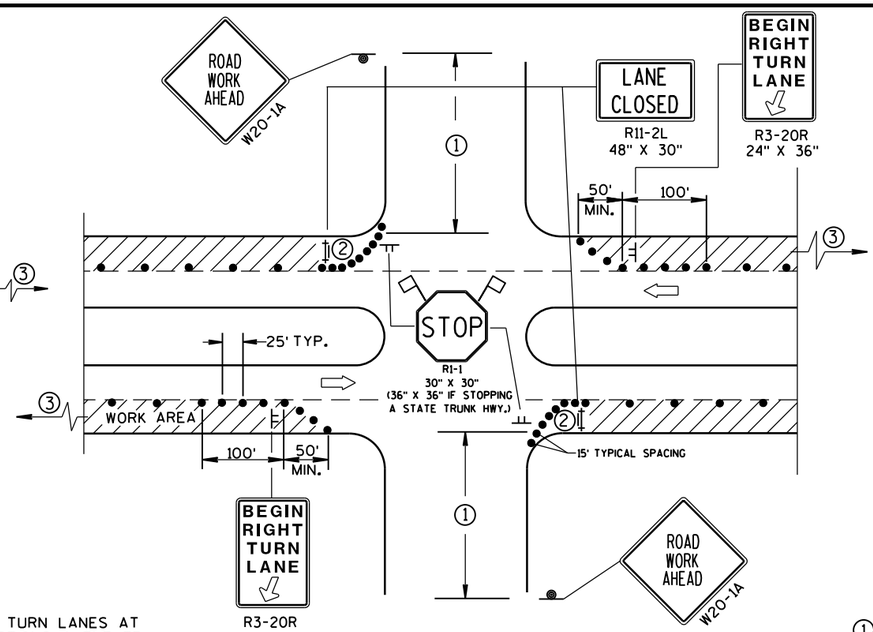


DETAIL A

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.



DETAIL B

FOR RIGHT LANE CLOSURE AT INTERSECTION

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 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 IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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, OR THAT WILL BE PLACED IN A CLOSED LANE, 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.

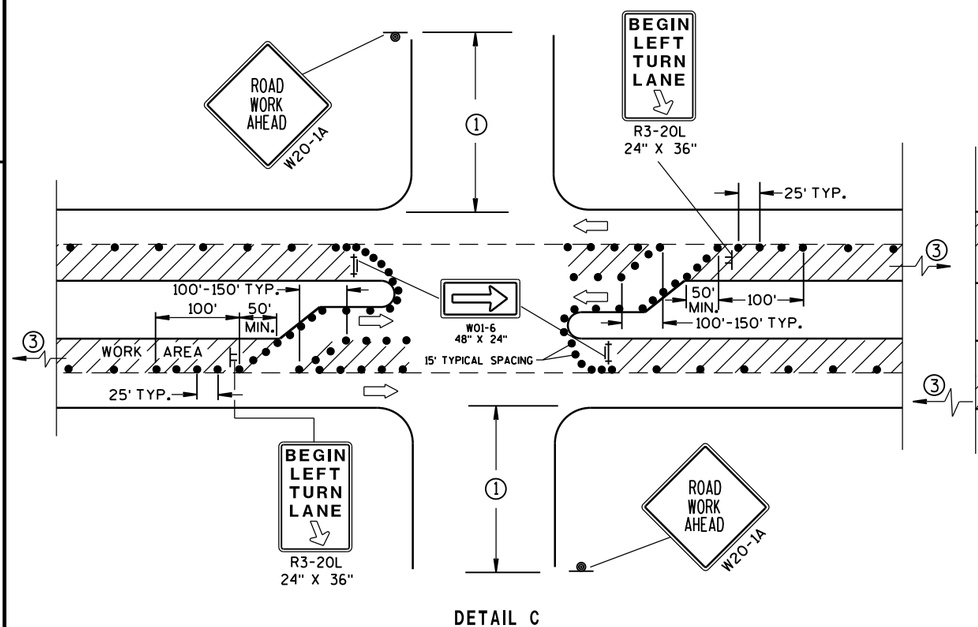
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.

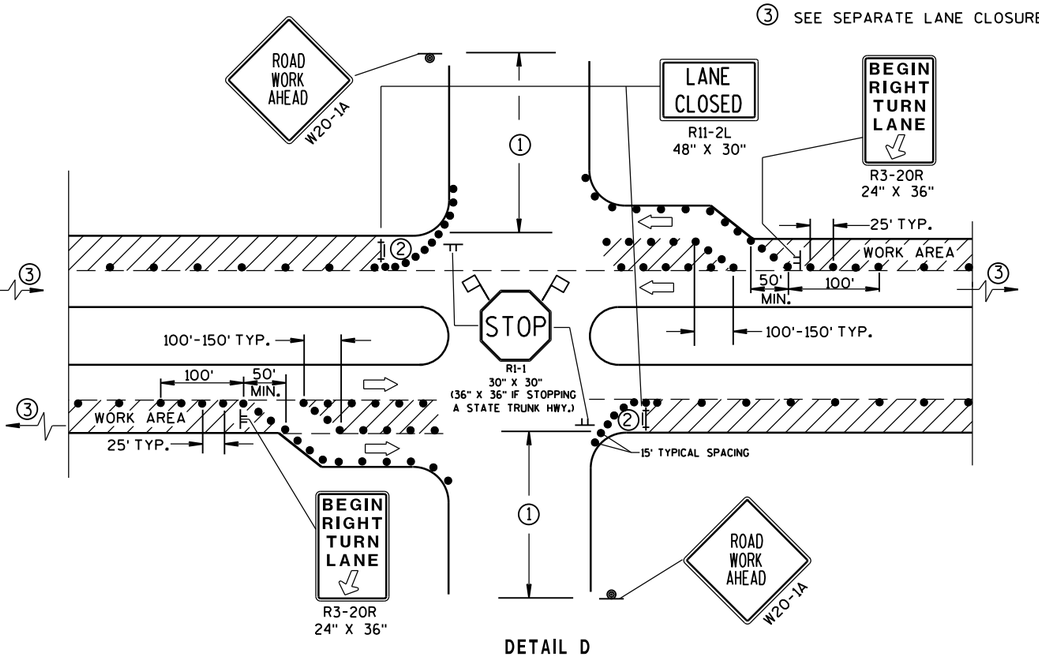
② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.



DETAIL C

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



DETAIL D

FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
/S/ Peter Anakobe Atepe
STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible]
FHWA

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S.D.D. 15 D 21-4

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.

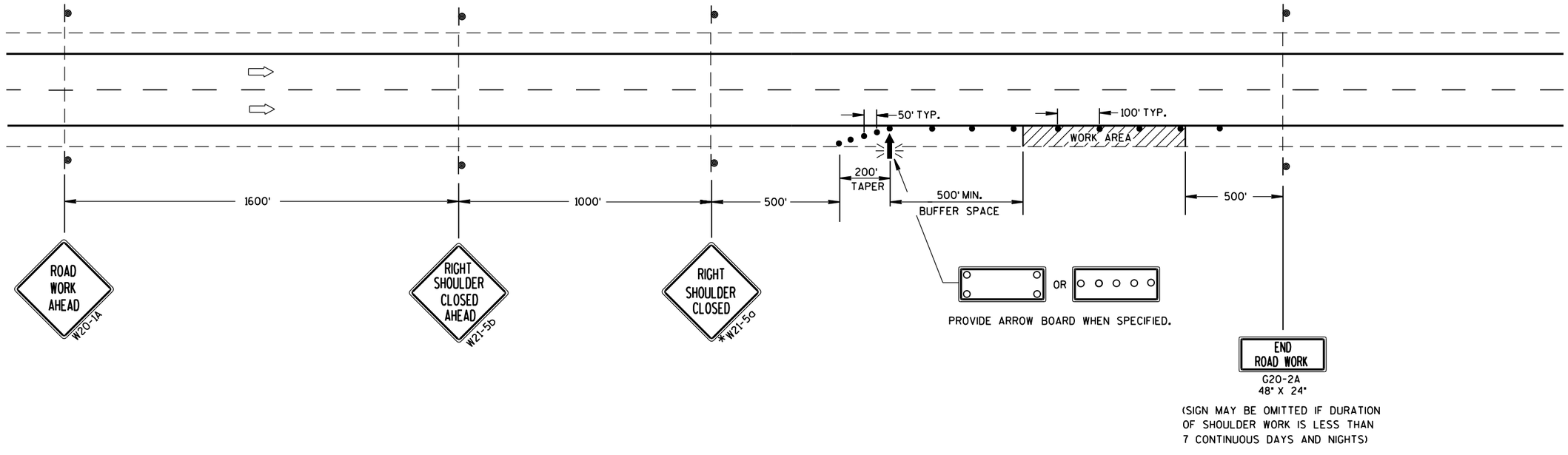
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

June 2016 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible]

FHWA

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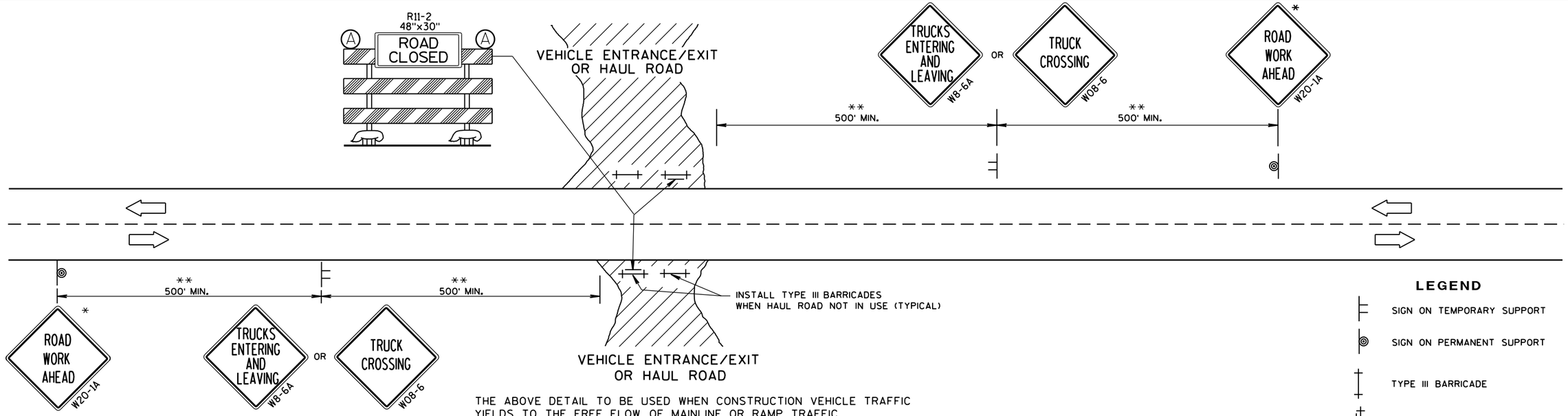


THE ABOVE DETAIL TO BE USED WHEN CONSTRUCTION VEHICLE TRAFFIC YIELDS TO THE FREE FLOW OF MAINLINE OR RAMP TRAFFIC

LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC

GENERAL NOTES

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

WHEN ACTIVITY REFLECTED BY THE SIGN IS NOT CURRENTLY TAKING PLACE, THE HIGHWAY SHALL BE RESTORED TO NORMAL CONDITION AND THE SIGNS SHALL BE REMOVED, COVERED OR TURNED AWAY FROM TRAFFIC.

WHEN A SIDE ROAD OR RAMP INTERSECTS WITHIN THE ADVANCE SIGNING AREA, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

* THESE SIGNS ARE TO BE USED ONLY WHEN VEHICLE **ENTRANCE/EXIT CONDITIONS ARE SEPARATED BY MORE THAN 2 MILES** FROM PREVIOUS WORK AREA OR SIGNING OR AS DIRECTED BY THE ENGINEER.

** 500 FEET SHOWN IS FOR ROADWAYS WITH A NON-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350 FEET. FOR 25-30 MPH, USE 200 FEET. USE 1000 FEET/1500 FEET FOR EXPRESSWAY/FREEWAY.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

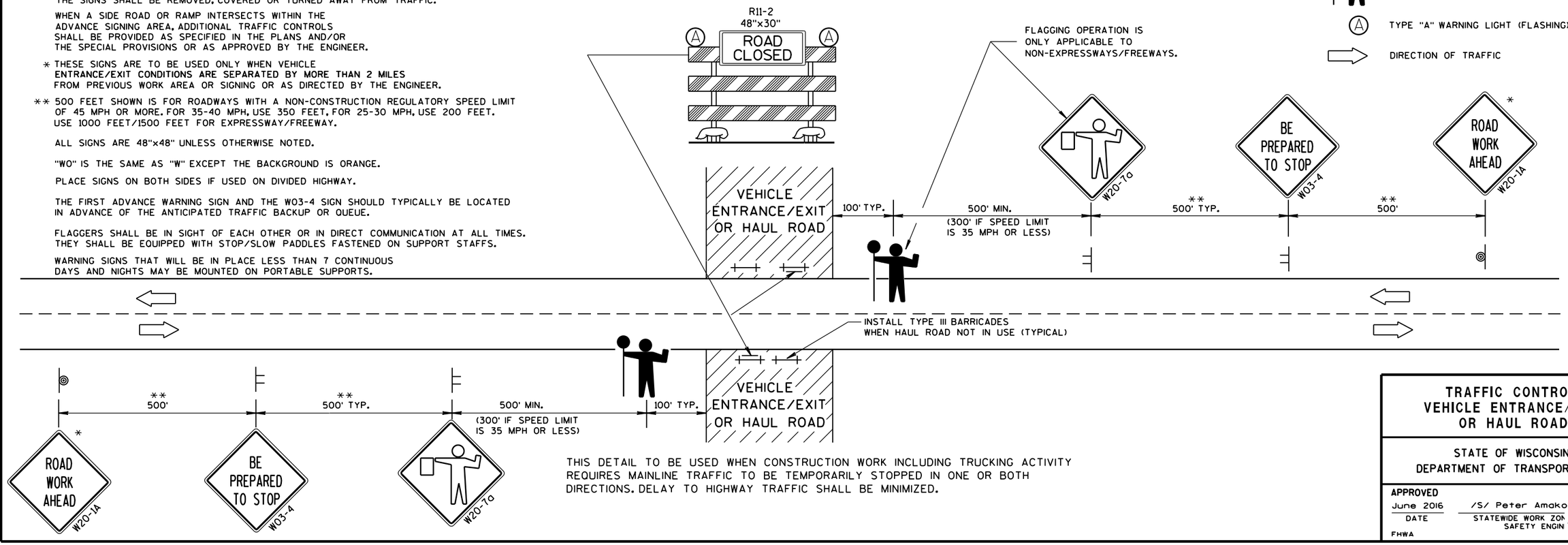
"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

PLACE SIGNS ON BOTH SIDES IF USED ON DIVIDED HIGHWAY.

THE FIRST ADVANCE WARNING SIGN AND THE W03-4 SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS.

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



THIS DETAIL TO BE USED WHEN CONSTRUCTION WORK INCLUDING TRUCKING ACTIVITY REQUIRES MAINLINE TRAFFIC TO BE TEMPORARILY STOPPED IN ONE OR BOTH DIRECTIONS. DELAY TO HIGHWAY TRAFFIC SHALL BE MINIMIZED.

TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA

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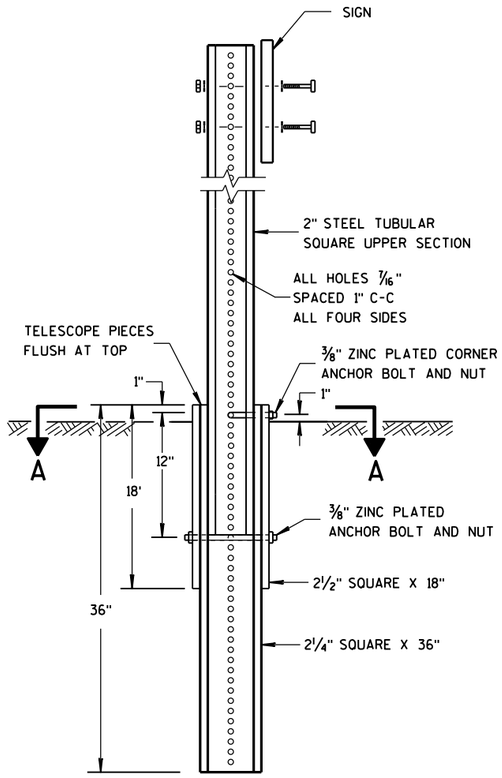
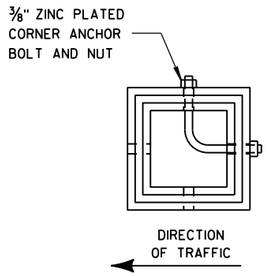
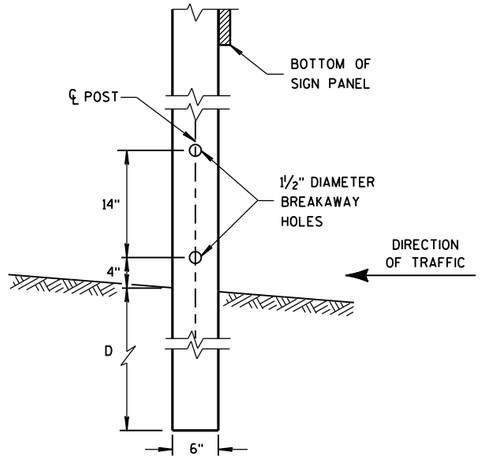
S.D.D. 15 D 29-4



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



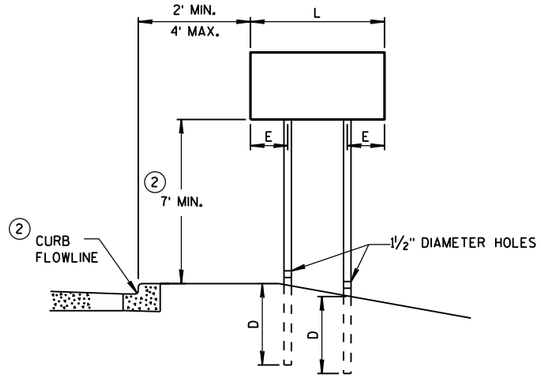
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

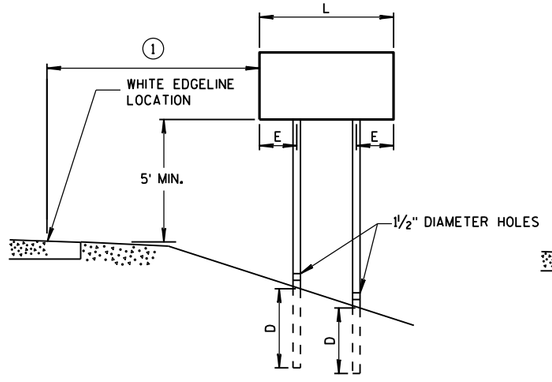
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

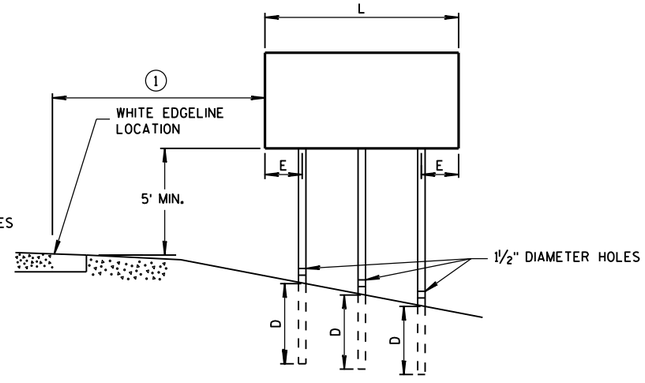
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

WOOD POST EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'

4" X 6" WOOD POST

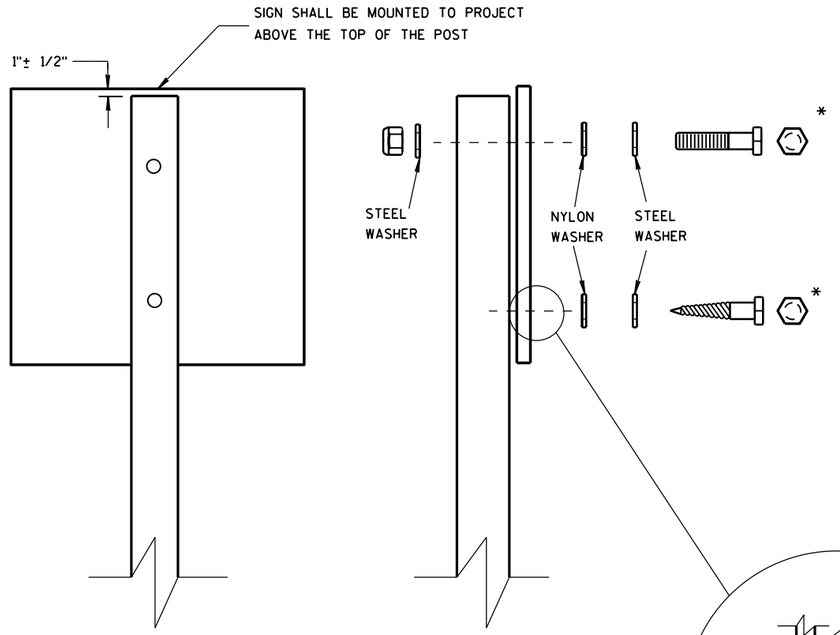
POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

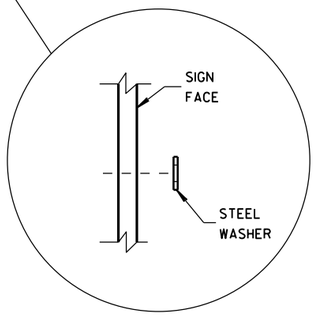
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 15 D 38-1a





WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

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

* 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. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

6

6

S.D.D. 15 D 38-1b

S.D.D. 15 D 38-1b

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

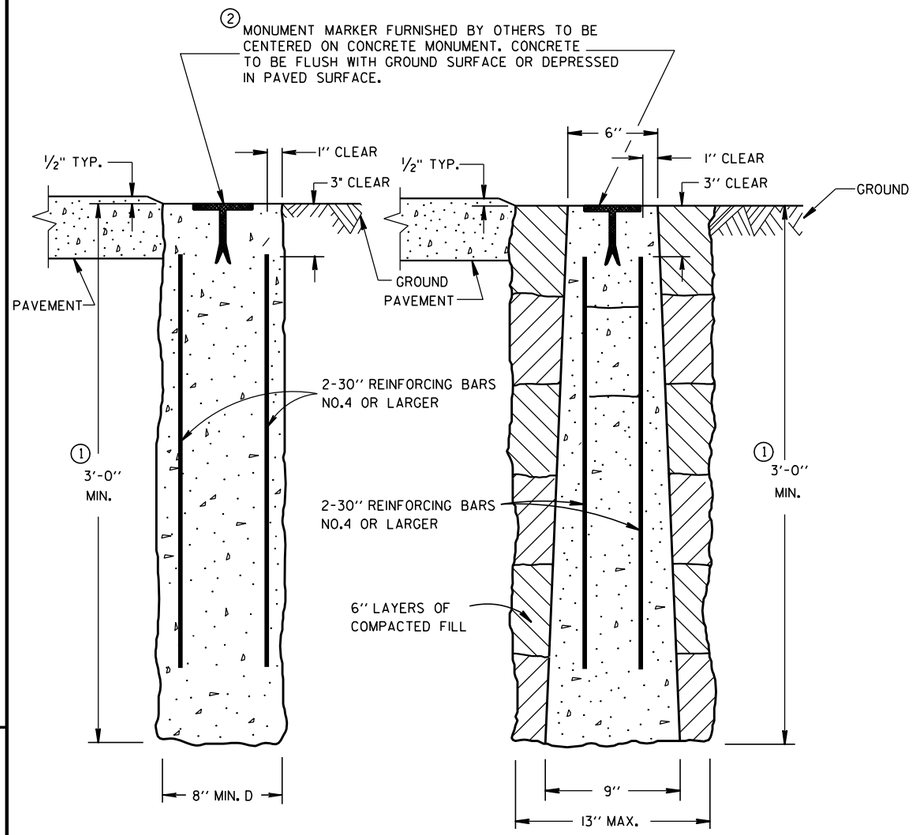
APPROVED

Feb. 2015 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

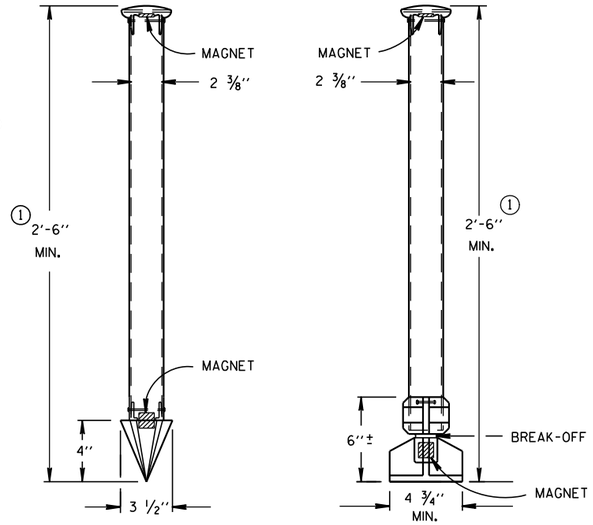
SIGN



CAST-IN-PLACE PRECAST

CONCRETE MONUMENTS

TYPE A



TYPE C TYPE D

DRIVE-IN MONUMENT BREAK-OFF MONUMENT

ALUMINUM MONUMENTS

(INCLUDES MARKER)

GENERAL NOTES

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

DETAILED DRAWINGS OF PROPOSED ALTERNATE DESIGNS FOR METAL MONUMENTS OR MONUMENT COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

INSTALLED METAL MONUMENTS MUST BE EASILY DETECTED WITH A DIP NEEDLE. INSERT PERMANENT MAGNETS SHALL BE ATTACHED NEAR THE TOP AND BOTTOM OF THOSE MONUMENTS CONSTRUCTED OF A METAL ALLOY WHICH IS NOT ATTRACTIVE TO A DIP NEEDLE.

THE CAST IRON MONUMENT COVER SHALL BE A "NON-ROCKING" TYPE. ADJUSTMENT OF THE COVER TO GRADE MAY BE ACCOMPLISHED BY THE USE OF MORTAR AND BRICK, OR BY EITHER PRECAST OR CAST-IN-PLACE REINFORCED CONCRETE GRADE RINGS.

MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE ENGINEER.

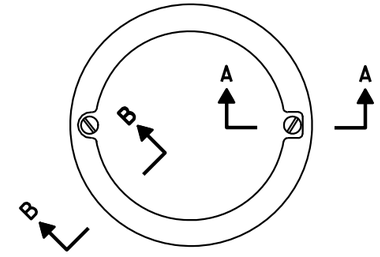
ALUMINUM MONUMENTS AND MONUMENT COVERS SHALL BE MADE FROM AN ALUMINUM AND MAGNESIUM ALLOY AS DETERMINED BY THE MANUFACTURER.

THE MONUMENT COVERS DETAILED ON THIS DRAWING ARE NOT EQUAL ALTERNATES. MONUMENT COVERS SHALL BE CAST IRON UNLESS ALUMINUM IS SPECIFIED ELSEWHERE IN THE CONTRACT.

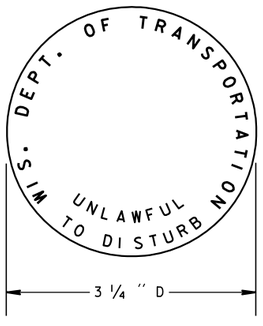
MONUMENT SHALL BE CAST-IN-PLACE CONCRETE UNLESS PRECAST CONCRETE OR ALUMINUM MONUMENTS ARE SPECIFIED IN THE CONTRACT OR PERMITTED BY THE ENGINEER.

① MINIMUM LENGTH SHALL BE 4'-0" FOR MONUMENTS INSTALLED IN PAVED AREAS.

② AN OFFICIAL COUNTY MONUMENT MARKER SUPPLIED BY A COUNTY MAY BE REQUIRED FOR SOME SECTION CORNERS AND WITNESS MONUMENTS INSTEAD OF THIS WIS DOT MARKER.

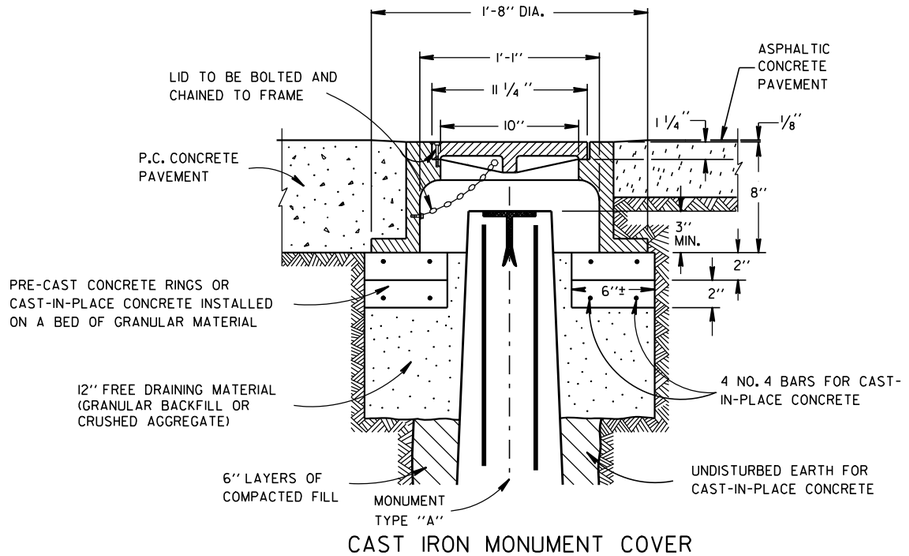


TOP VIEW



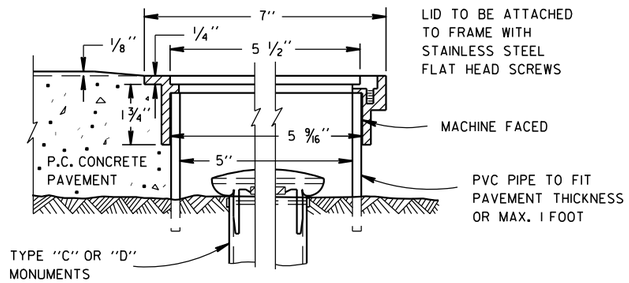
② WIS DOT MONUMENT MARKER LOGO

FOR TYPES "A", "C" & "D"



CAST IRON MONUMENT COVER

(APPROXIMATE WEIGHT - 95 LBS.)



SECTION B-B SECTION A-A

ALUMINUM MONUMENT COVER

(APPROXIMATE WEIGHT 2 LBS)

(FOR CONCRETE PAVEMENT ONLY)

LANDMARK REFERENCE MOUNMENTS AND COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

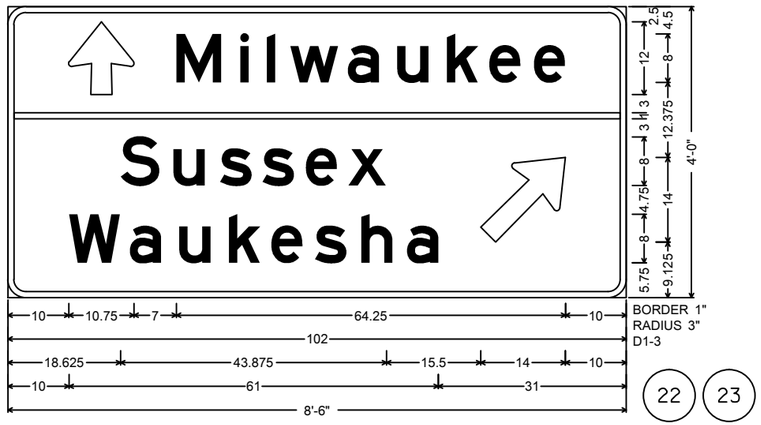
9/22/1999 DATE

/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

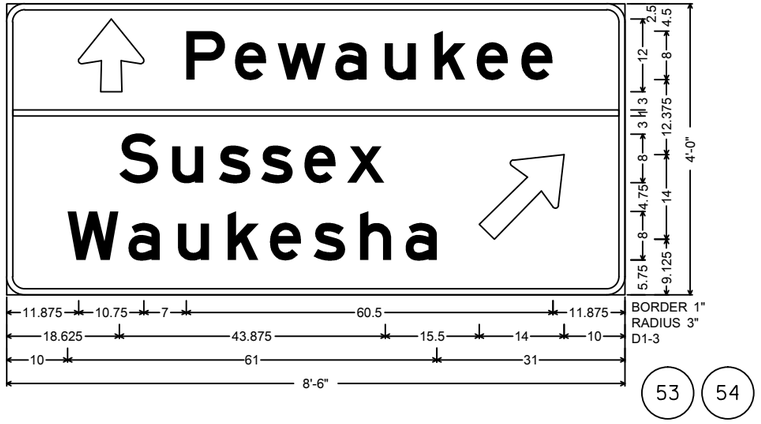
6

S.D.D. 16 A 1-6

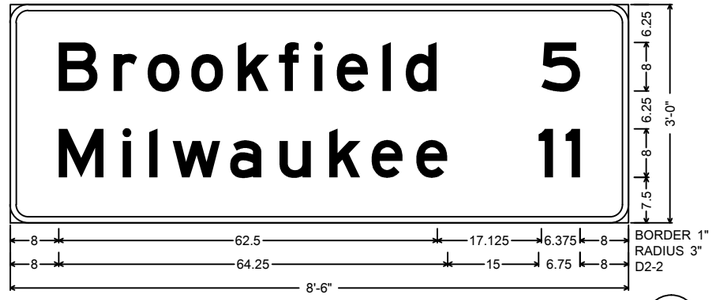


22 23

44



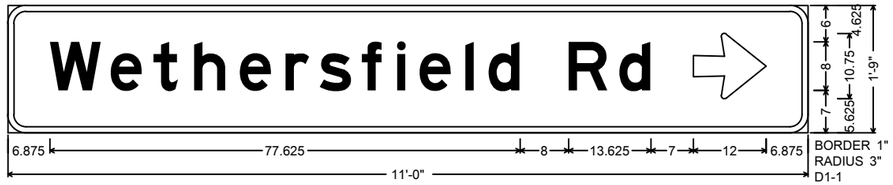
53 54



64

GENERAL NOTES:

1. DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE PLANS.
2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE II".
3. UNLESS OTHERWISE NOTED, TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND "TYPE H MESSAGE MATERIAL". TYPE I SIGNS SHALL HAVE "TYPE SH REFLECTIVE SHEETING".
4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.
5. TYPE II SIGNS ALL UPPERCASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E". ALL LOWERCASE MESSAGE WITH AN INITIAL UPPERCASE LETTER SHALL BE "SERIES E".
6. TYPE I SIGNS ALL UPPERCASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E MODIFIED". ALL LOWER CASE MESSAGE WITH AN INITIAL UPPERCASE LETTER SHALL BE "SERIES E MODIFIED". ALL CAP WORDS ARE "SERIES E".
7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "TYPE C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.
8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.
9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.
10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE "SERIES E" PER PLATES A11-7 AND A11-10.



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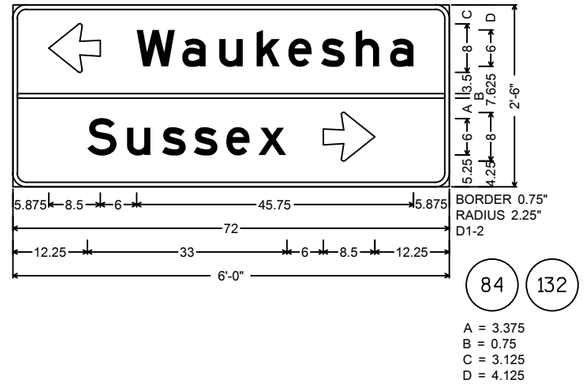

84 132

A = 3.375
B = 0.75
C = 3.125
D = 4.125

GENERAL NOTES:

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8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.
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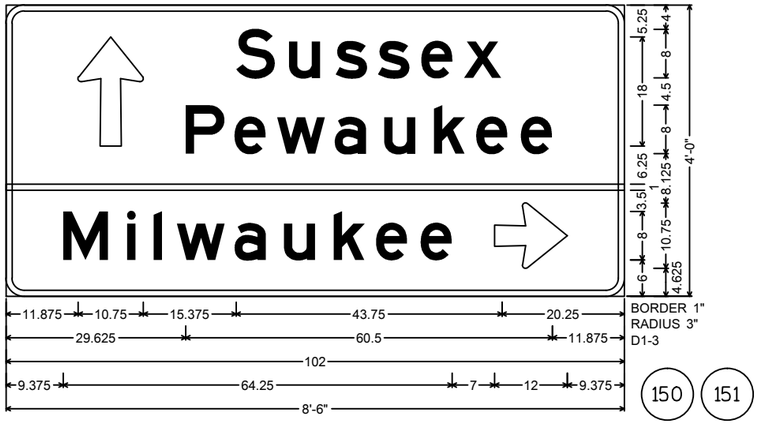
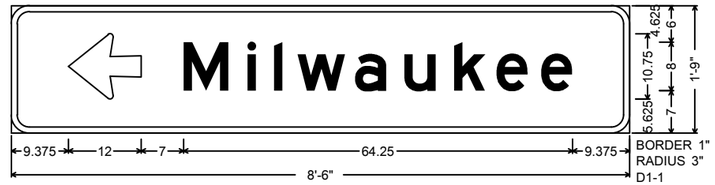
10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE "SERIES E" PER PLATES A11-7 AND A11-10.



150 151



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SHEET 2 OF 2

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	SIGN DETAIL - TYPE II	SHEET 405	E

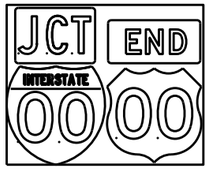
FILE NAME : N:\PDS\C3D\CAD\20251300\SIGN\070101_MS.DWG
LAYOUT NAME - 070701_MS (2)

PLOT DATE : 8/23/2016 10:00 AM PLOT BY : DODGE, BRIAN M PLOT NAME :

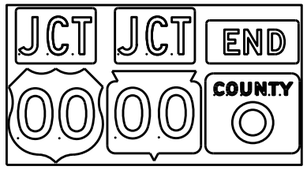
WISDOT/CADDS SHEET

TYPICAL ASSEMBLIES

J1-1

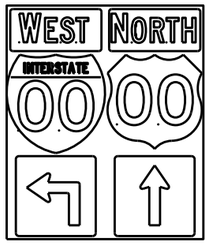


J1-2

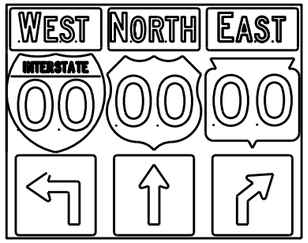


J1-3

J2-1



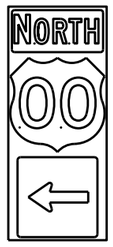
J2-2



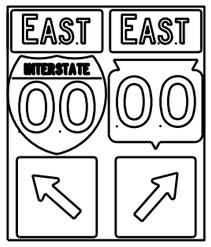
J2-3

JV

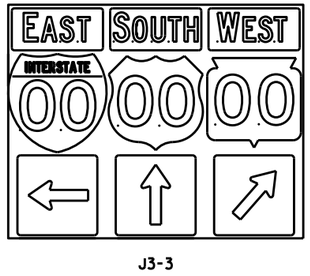
(Typical Vertical J-Assembly
See Note 10 and 11)



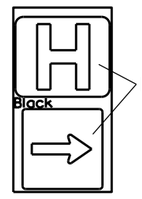
J3-1



J3-2



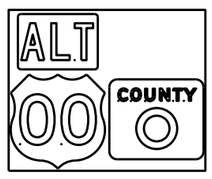
J3-3



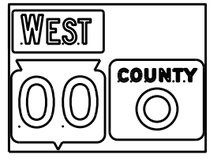
Blue Background

JH-1

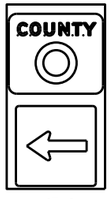
J4-1



J4-2



J4-2



J13-1

J12-1

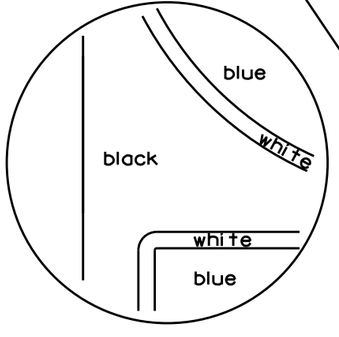
J32-1

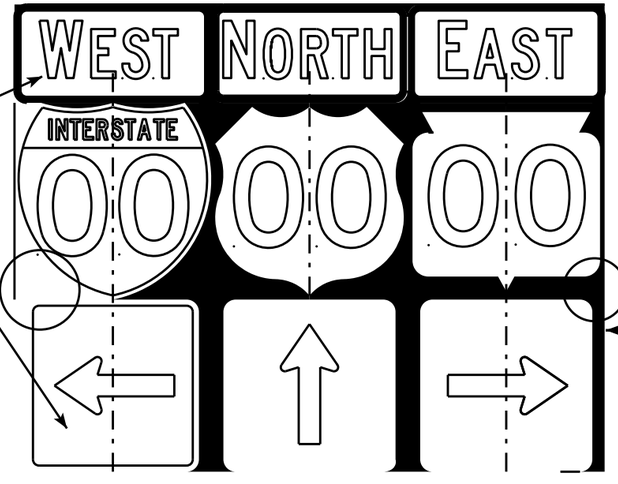
J33-1

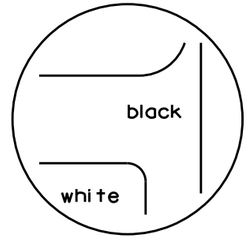
J23-1

J22-1

[blue background with interstate]







[black background]

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Black Non-reflective
   Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inchs (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

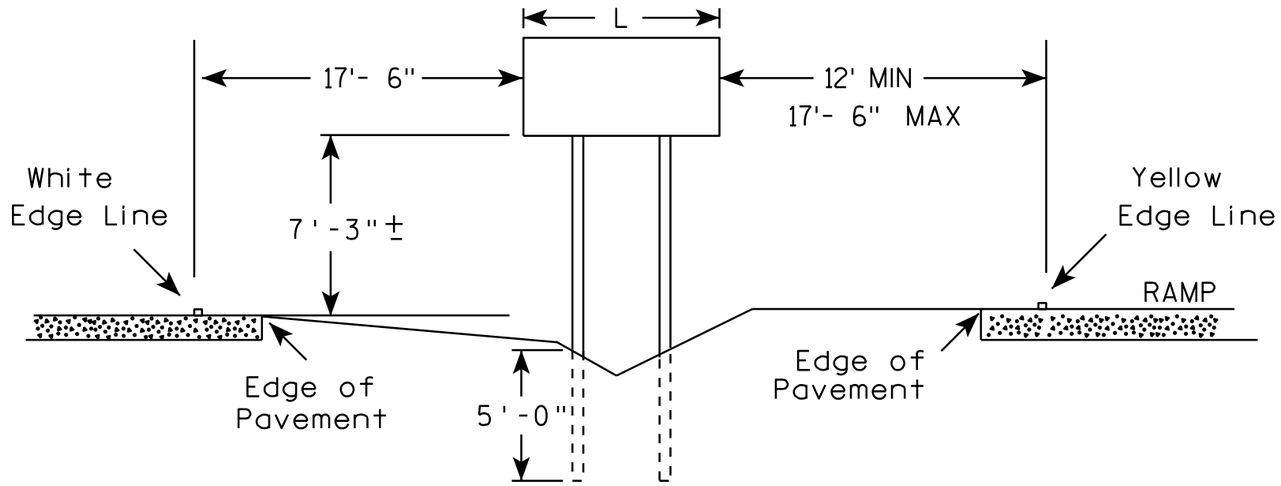
DATE 2/06/14 PL... A2-1S.8

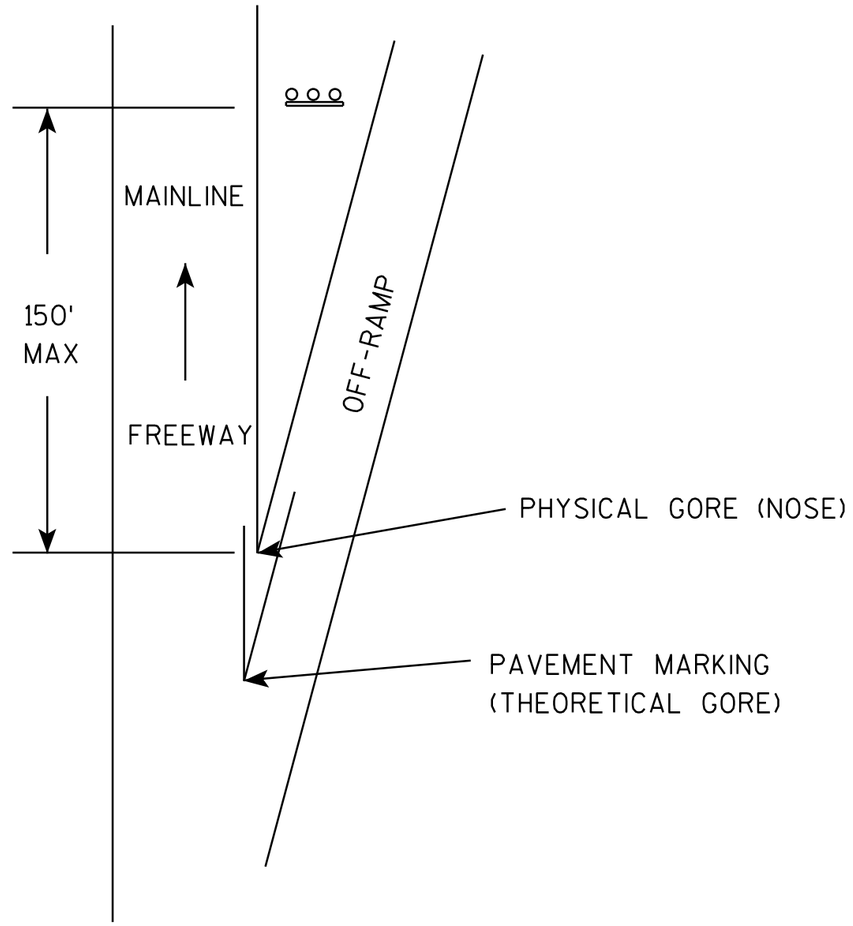
PROJECT NO:

SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A21S.DGN PLOT DATE : 06-FEB-2014 14:10 PLOT BY : mscsja PLOT NAME :

WISDOT/CADDS SHEET 42





GENERAL NOTES

1. The 150 foot distance from the physical gore (where pavement ends) will normally provide the offsets as shown.
2. If roadway geometrics permit, the sign may be closer than the 150 foot distance as long as the offsets are maintained.
3. At no time shall the location be greater than 150 feet. If the normal offsets cannot be maintained, they can be reduced to 6 feet from the edge of the paved shoulder (both freeway and ramp).
4. The offset from edge of sign to the yellow edge line on the ramp is shown as a minimum of 12 feet and a maximum of 17 feet, 6 inches. Preference is adhering to the maximum rather than the minimum dimension.
5. When L is equal to or exceeds 10 feet, use 3 posts as per A4-4.
6. The (∓) tolerance for the mounting height is 3 inches.

7

7

TYPICAL INSTALLATION
OF TYPE II SIGNS ON
WOOD POSTS IN GORE

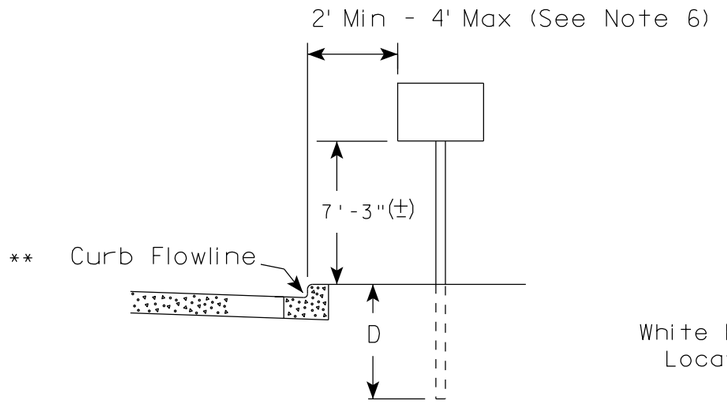
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

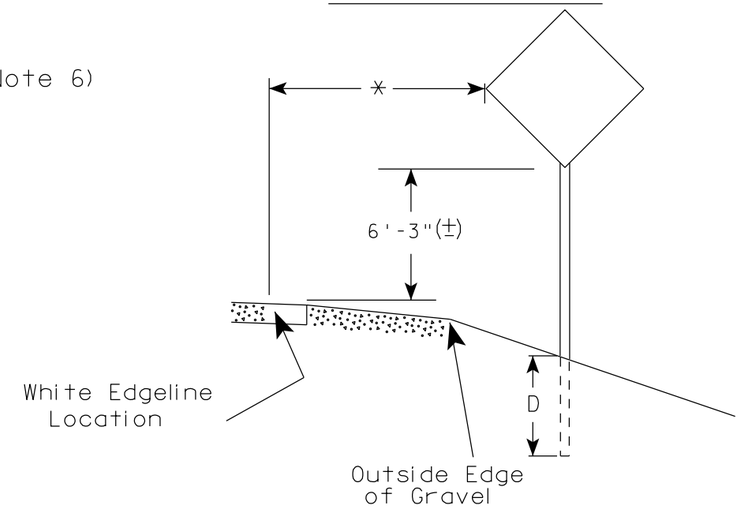
DATE 2/06/14 PLA 407 A4-2.3

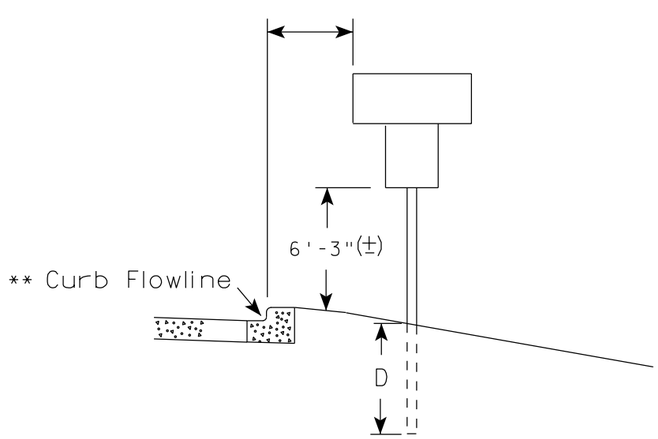
PROJECT NO: | SHEET NO: E

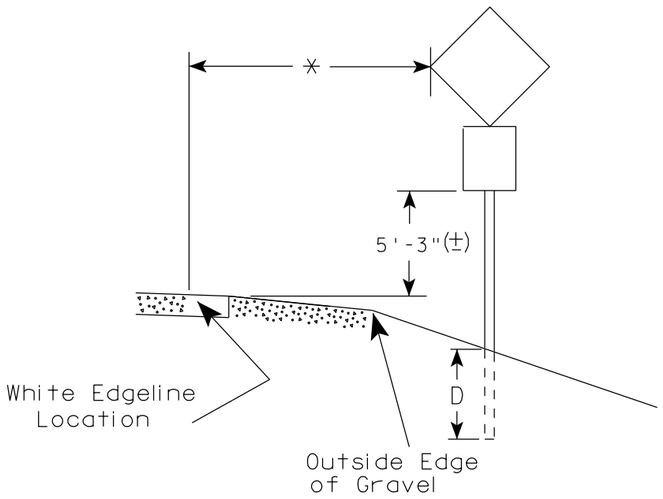
URBAN AREA



RURAL AREA (See Note 2)







** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

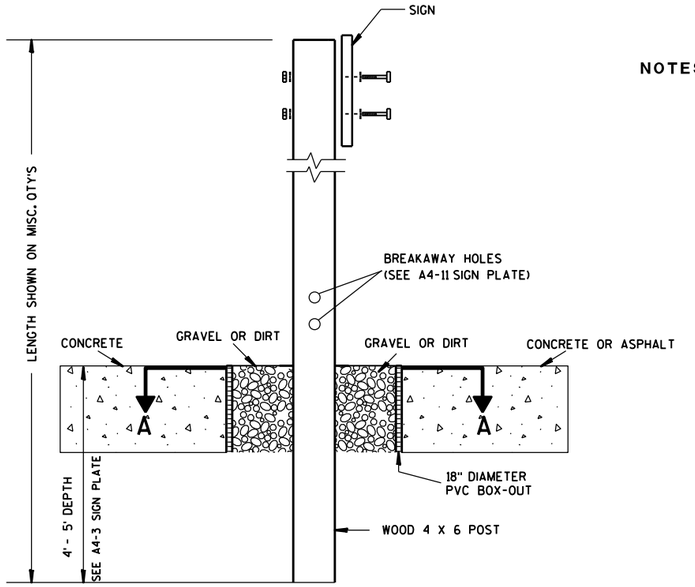
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

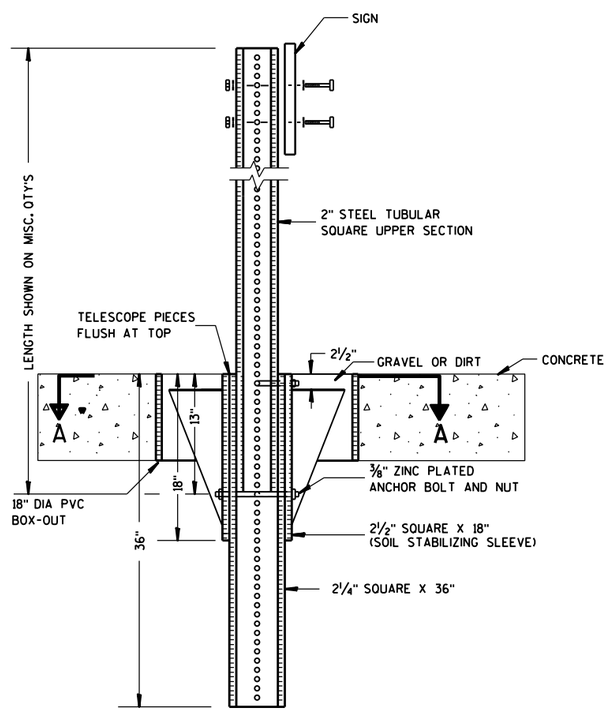
7



ELEVATION VIEW

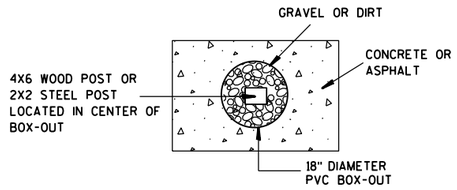
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

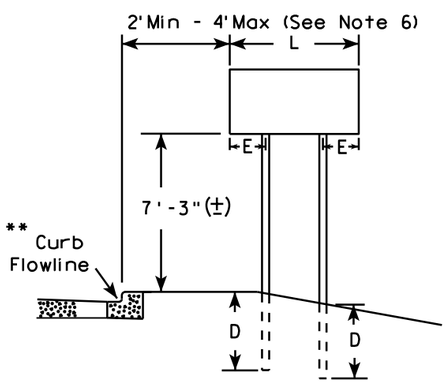
APPROVED Matthew R Rauch
for State Traffic Engineer

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

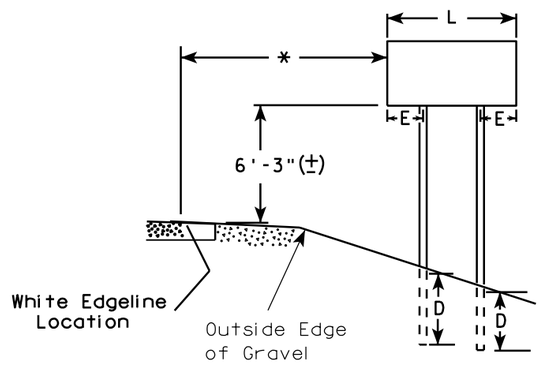
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

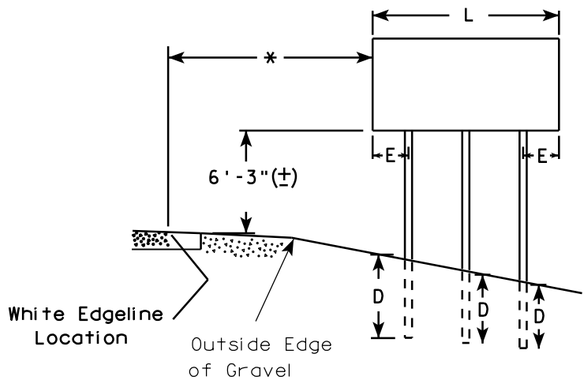
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

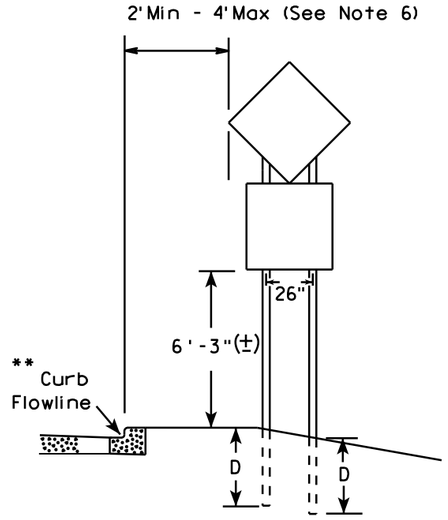
URBAN AREA



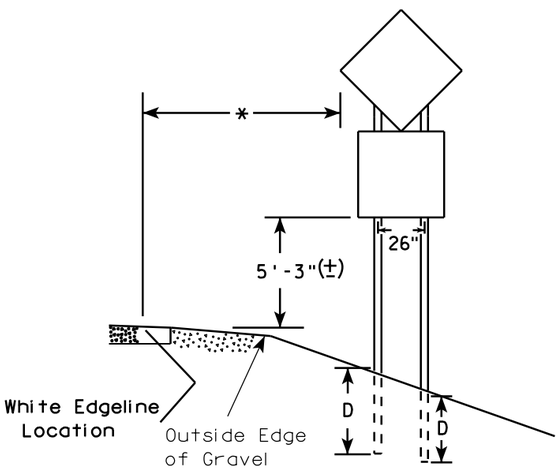
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

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

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

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

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

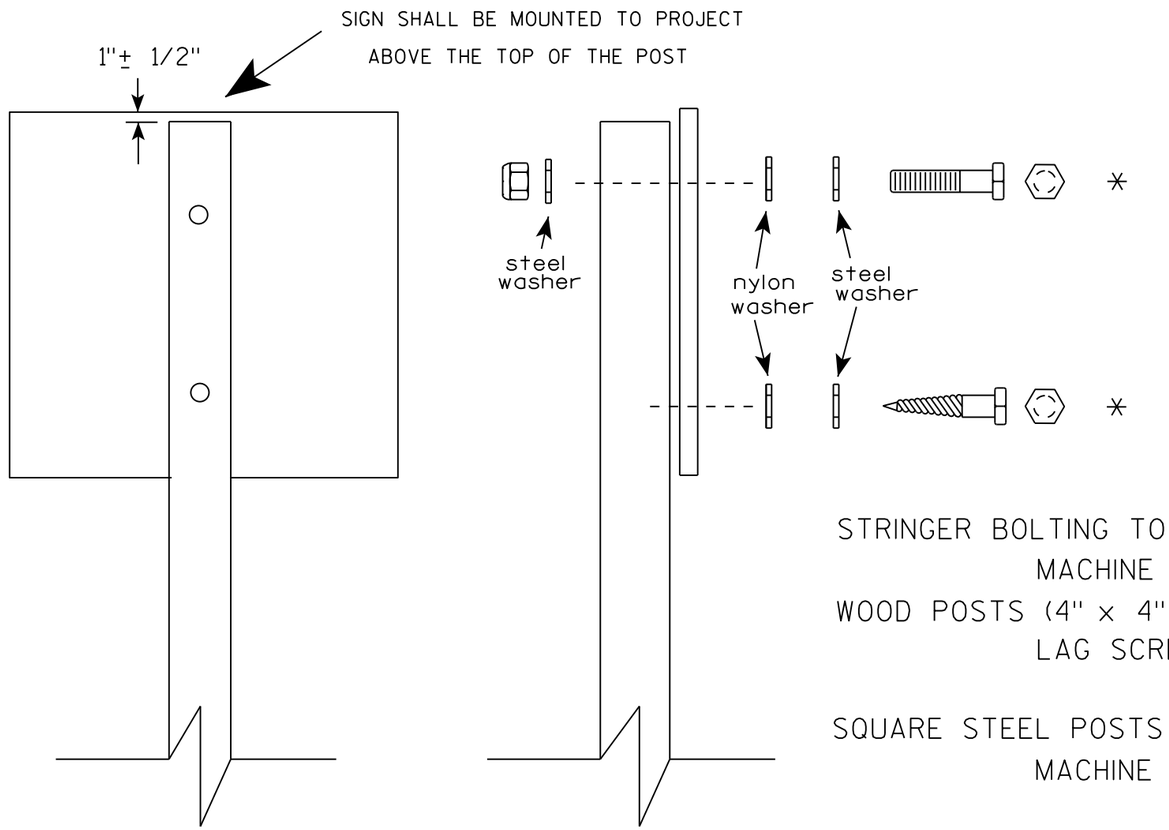
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-4 410 14

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A44.DGN PLOT DATE : 23-JUL-2015 15:23 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 107.021305:1.000000

WISDOT/CADDS SHEET 42



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

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

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

WOOD POSTS (4" x 4" or 4" x 6")

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

SQUARE STEEL POSTS (2" x 2")

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

RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

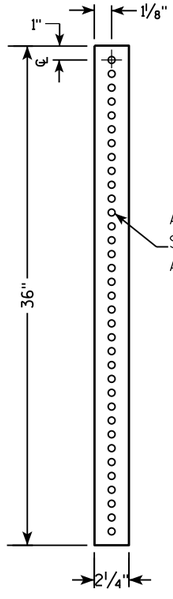
DATE 8/11/16 PLATE NO. A4-8.8

PROJECT NO: SHEET NO: E

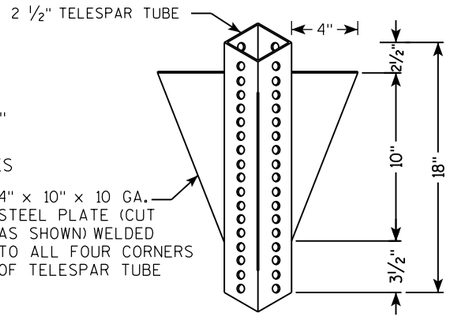
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 11-AUG-2016 11:35 PLOT BY : $$ plotuser $$

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

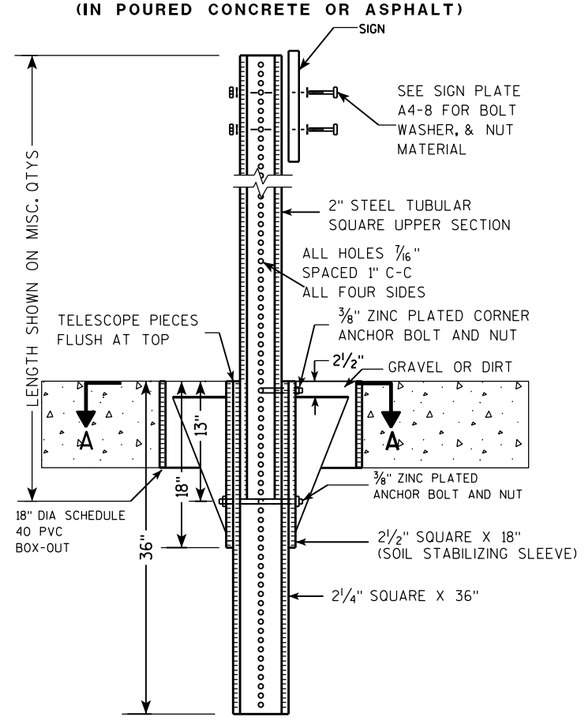
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



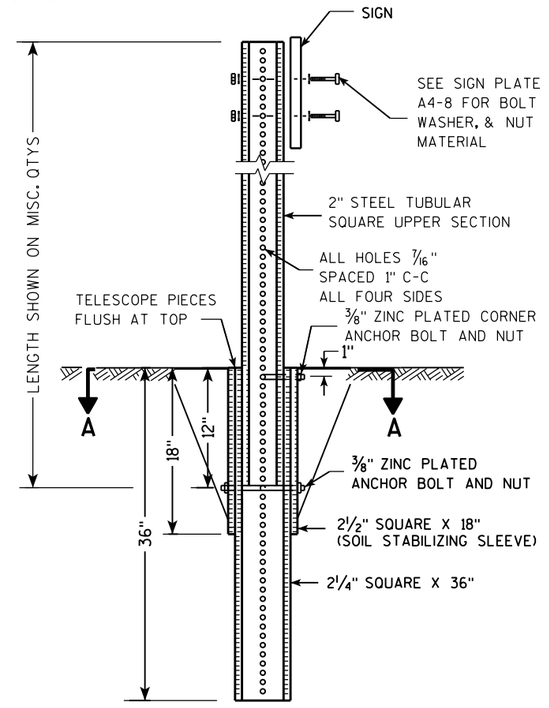
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

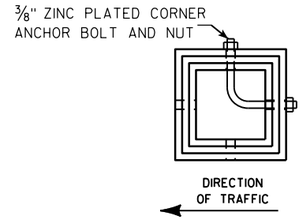


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

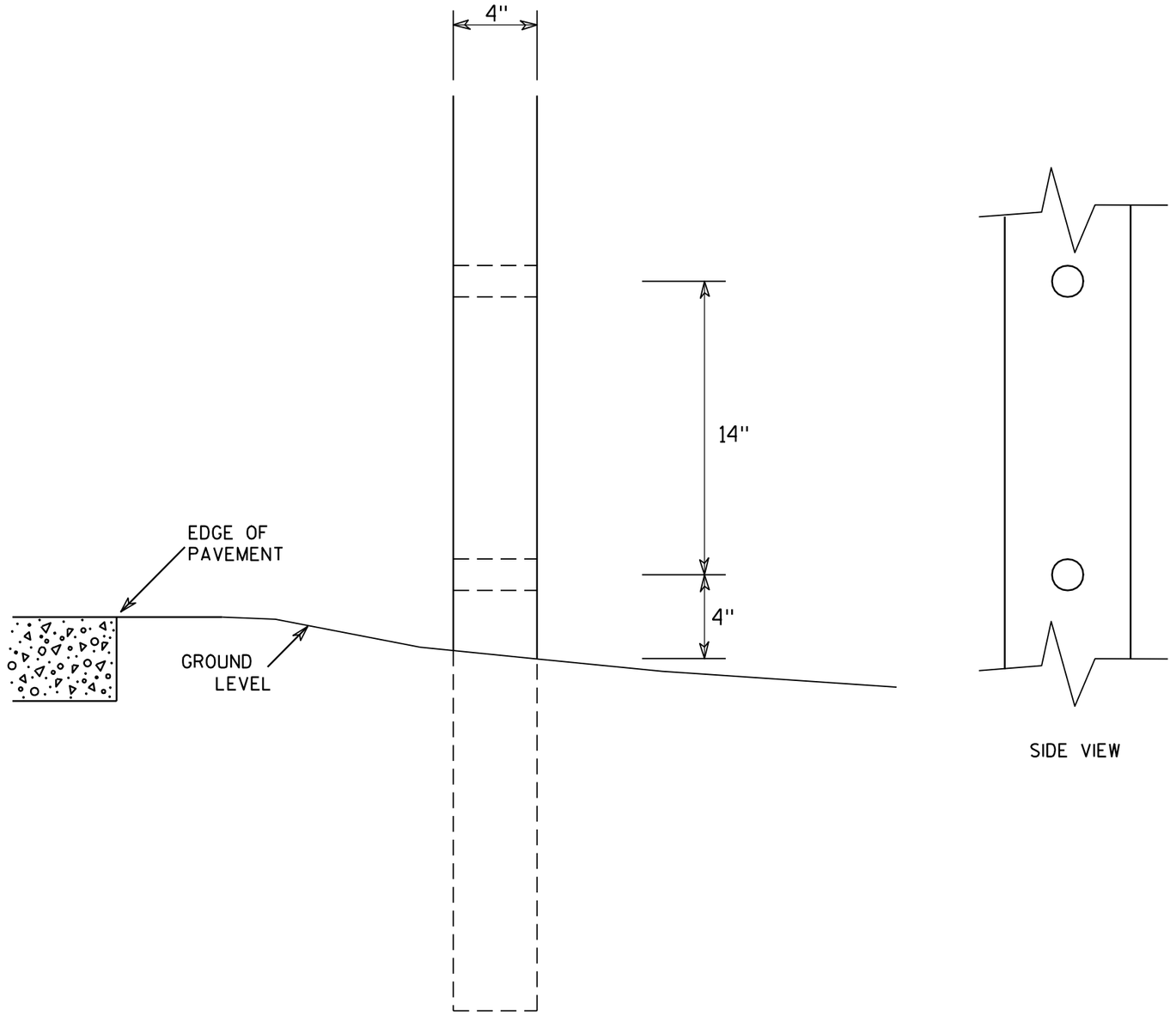
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 412 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000

WISDOT/CADDS SHEET 42



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.

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

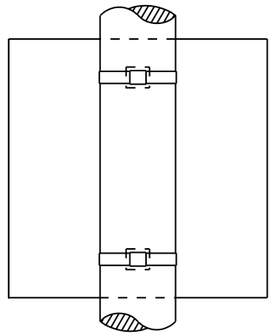
APPROVED Chester J Spang
for State Traffic Engineer

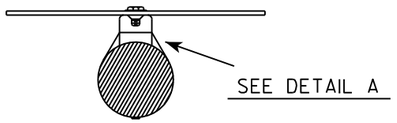
DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 413	E

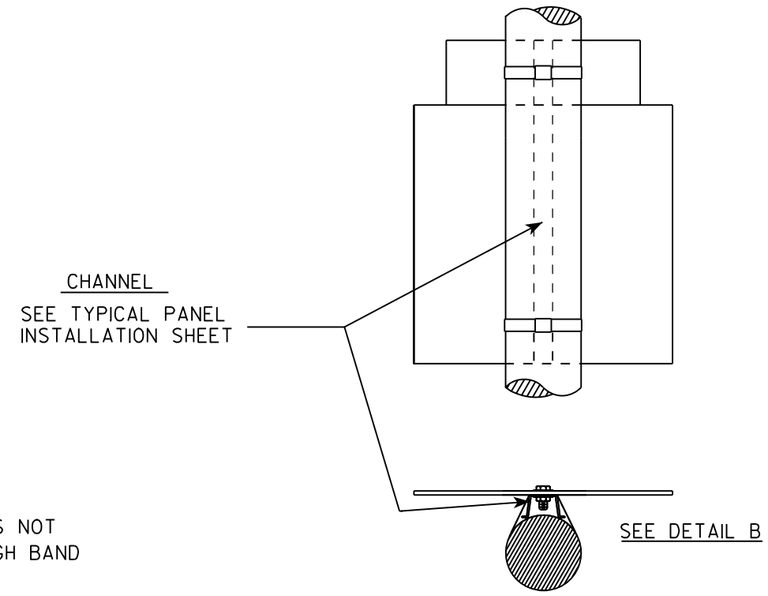
BANDING

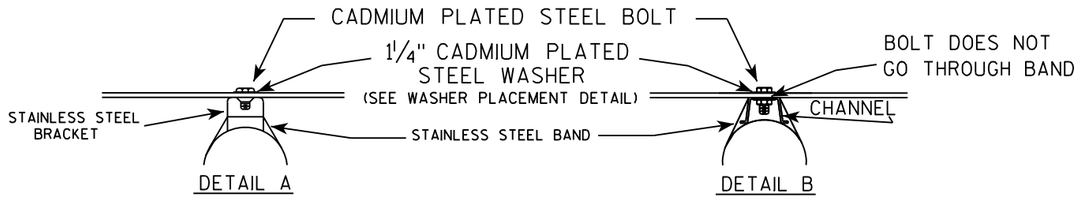
SINGLE SIGN



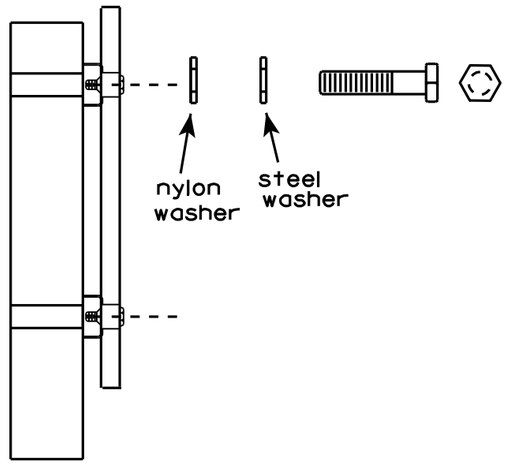


"J" ASSEMBLY





WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.

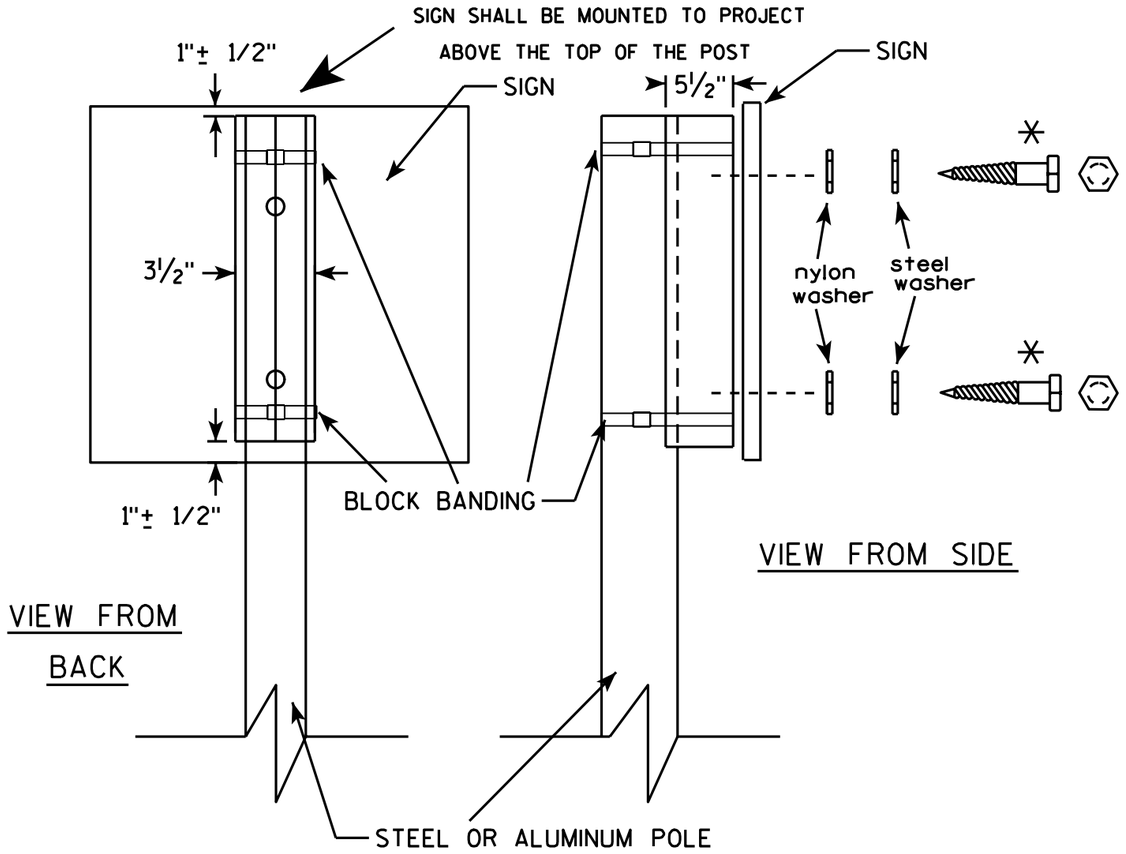
STANDARD SIGN
SIGN BANDING DETAILS

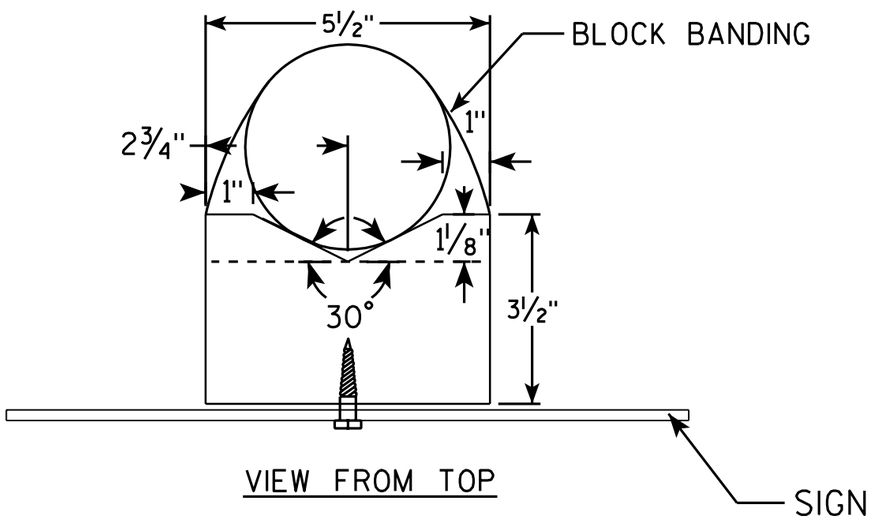
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/16/13 PLATE NO. A5-9.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 414	E





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D, or
   b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
   c. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

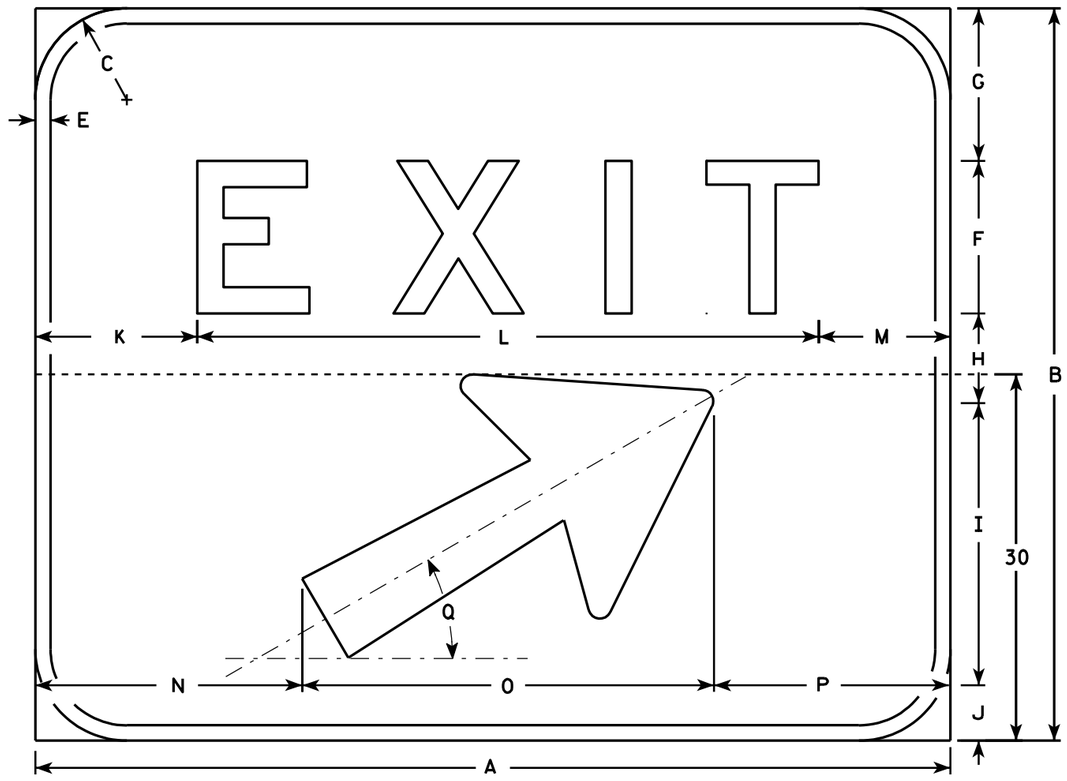
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/12/07 PLATE NO. A5-10.1

PROJECT NO:

SHEET NO: 415 E



E5-1

NOTES

1. Sign is Type II - Type H reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White (Type H reflective)
3. Message Series - E
4. Corners may be square or rounded but borders shall be rounded as shown.
5. Base material for this sign shall be plywood and shall be split into two seperate pieces for the 72 x 60 size as shown on the detail by the dashed line (----------).
6. Arrow is Type "A" from sign plate A1-1.
7. As per the Standard Spec's, this sign shall not have a vertical joint.

Metric equivalent for this sign is:

SIZE	
1	
2	
3	
4	1500 mm X 1200 mm
5	1800 mm X 1500 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2																												
3																												
4	60	48	6		1	10	10	5 7/8	18 1/2	3 5/8	10 5/8	40 3/4	8 5/8	17 1/2	27	15 1/2	30°										20.0	1.80
5	72	60	6		1	12	12	10	18 1/2	7 1/2	13 1/4	48 1/2	10 1/4	23 1/2	27	21 1/2	30°										30.0	2.70

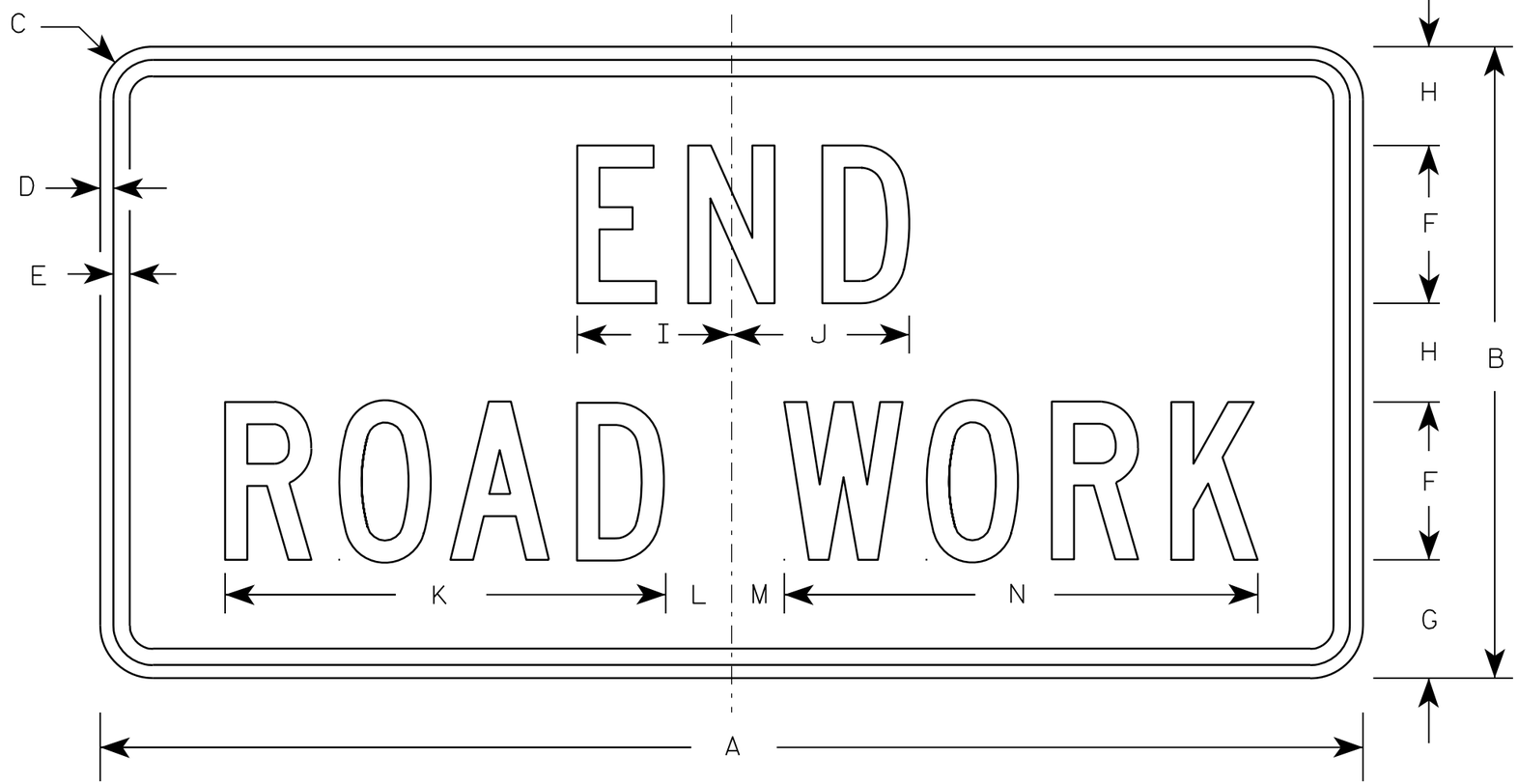
STANDARD SIGN
E5 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

DATE 6/22/00 PLATE NO. E5-1.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 416	E



G20-2A

NOTES

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

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

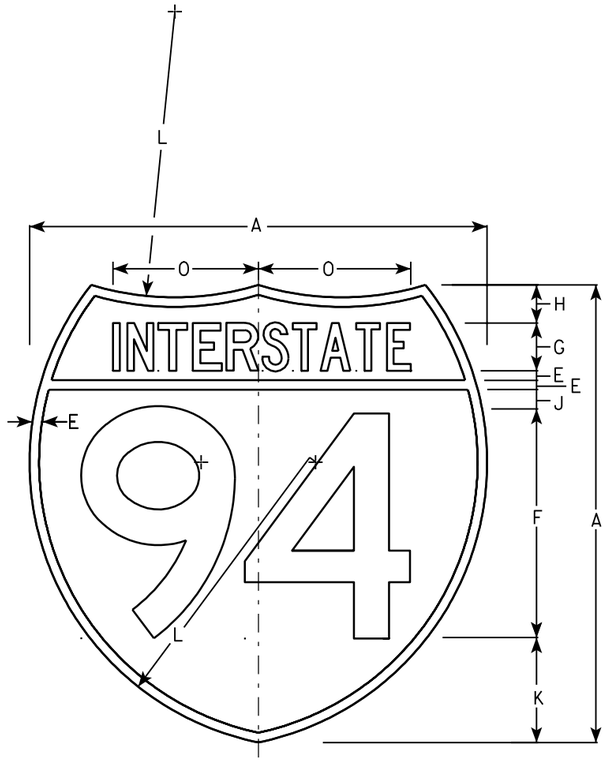
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

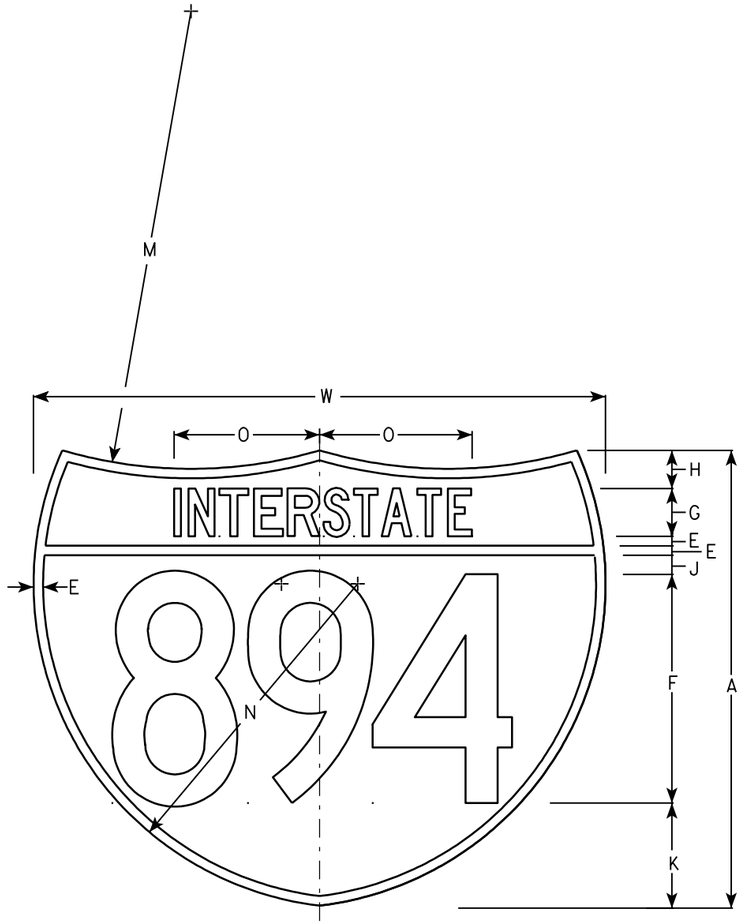
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 417	E



M1-1



M1-1A

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Top Red - Bottom Blue (See Note 6)
   Message - White - See Note 6
3. Message Series - See note 5
4. Substitute appropriate numerals & ajust spacing as per plate A10-1.
5. M1-1 - Numerals - D
   Interstate - C
   M1-1A - All copy - C
6. Permanent Signs
   Message - Type H Reflective
   Detour or other temporary signs
   Background - Reflective
   Message - Reflective

Metric equivalent for these signs are:

SIZE	M1-1	SIZE	M1-1A
1			
2	600 mm X 600 mm	2	600 mm X 750 mm
3	900 mm X 900 mm	3	900 mm X 1125 mm
4	900 mm X 900 mm	4	900 mm X 1125 mm
5	900 mm X 900 mm	5	900 mm X 1125 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	M1-1 Area sq. ft.	M1-1A Area sq. ft.	M1-1 Area m2	M1-1A Area m2
1																													
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91	.36	.46
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05

INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

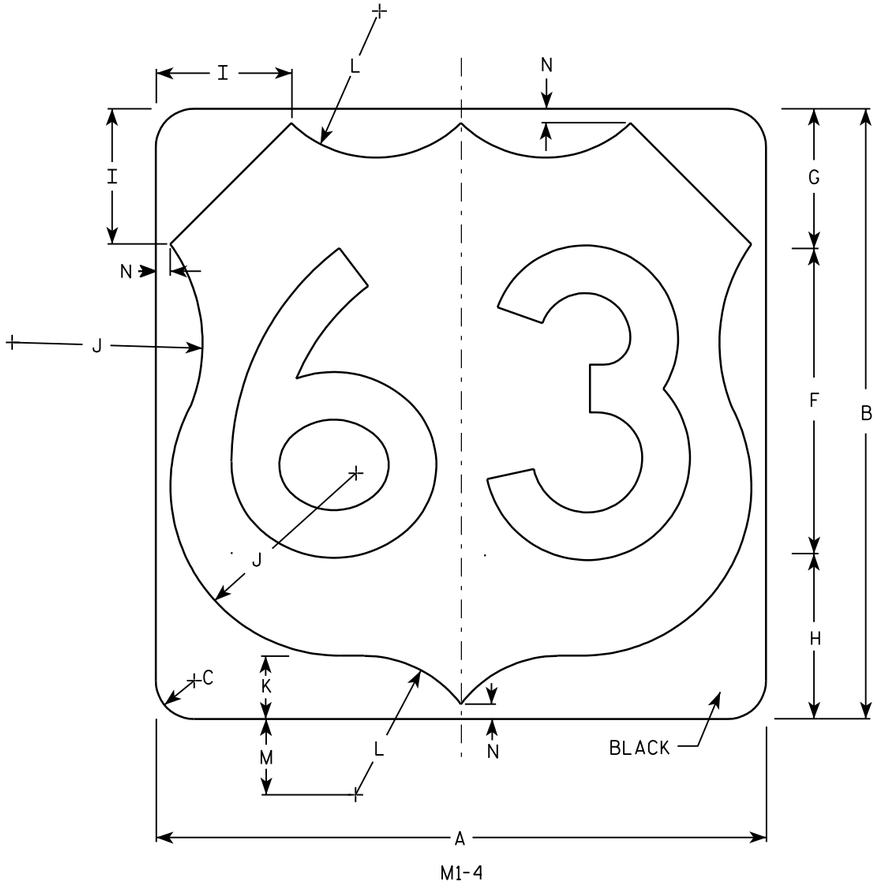
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 08/23/05 PLATE NO. M1-1.8

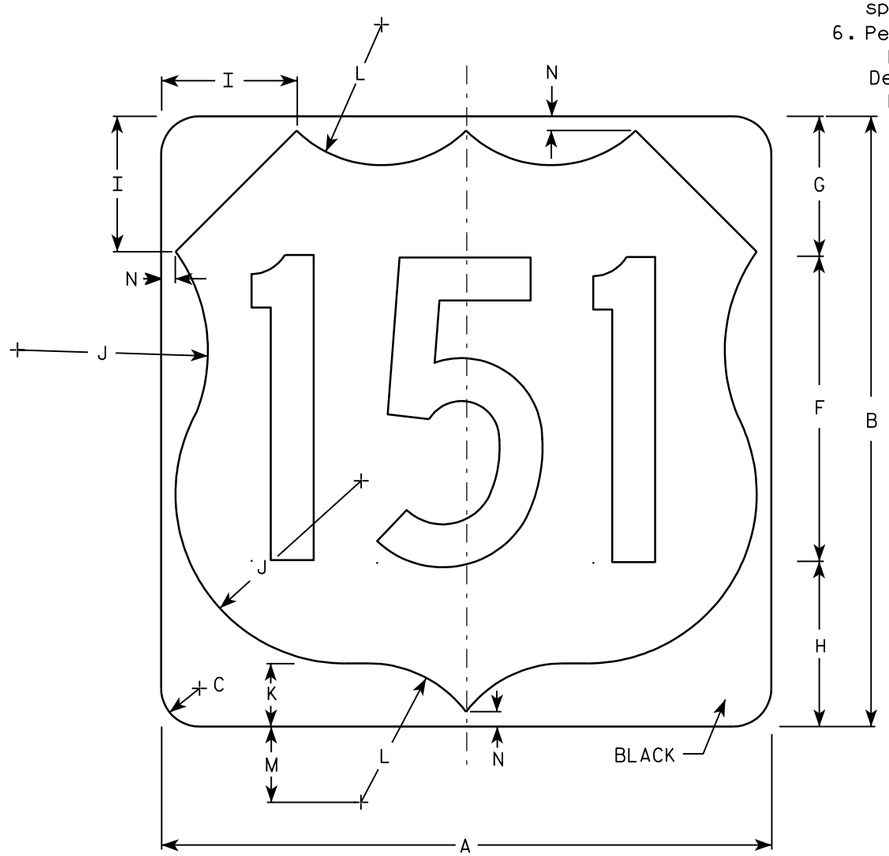
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 418	E

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and adjust spacing as per Plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or other temporary signs
   Background - Reflective



M1-4



M1-4

Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Areq sq. ft.	Area m2
1																												
2	24	24	1 ½			12	5 ½	6 ½	5	7 ½	2 ½	5 ½	3	½													4.0	.36
3	36	36	2 ¼			18	8 ¼	9 ¼	7 ¼	11 ¼	3 ¾	8 ¼	4 ½	¾													9.0	.81
4	36	36	2 ¼			18	8 ¼	9 ¼	7 ¼	11 ¼	3 ¾	8 ¼	4 ½	¾													9.0	.81
5	36	36	2 ¼			18	8 ¼	9 ¼	7 ¼	11 ¼	3 ¾	8 ¼	4 ½	¾													9.0	.81

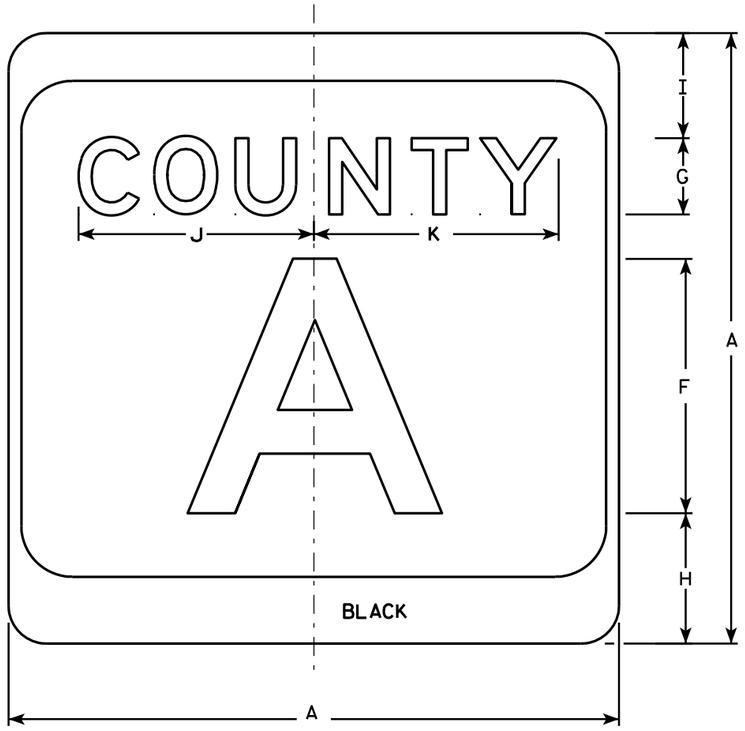
USH MARKER
M1-4 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

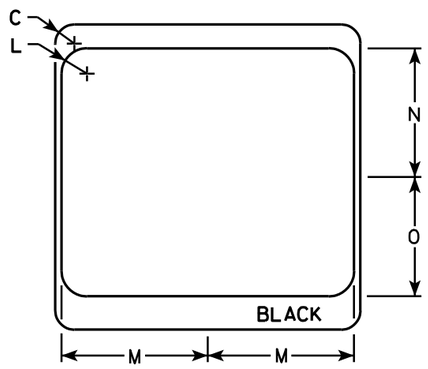
APPROVED Matthew R Rauch
for State Traffic Engineer

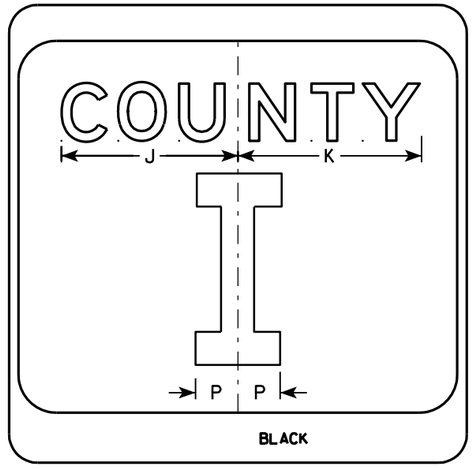
DATE 08/25/05 PLATE NO. M1-4.9

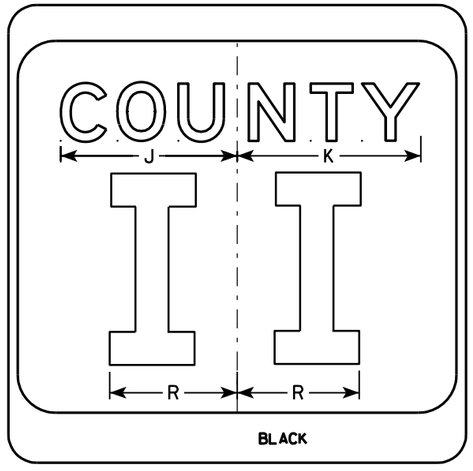
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 419 | E



M1-5A







NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 7
   Message - Black
3. Message Series - see Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Message Series E for 1 letter.
   Message Series D for 2 letters unless message is too big then Series C.
   Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

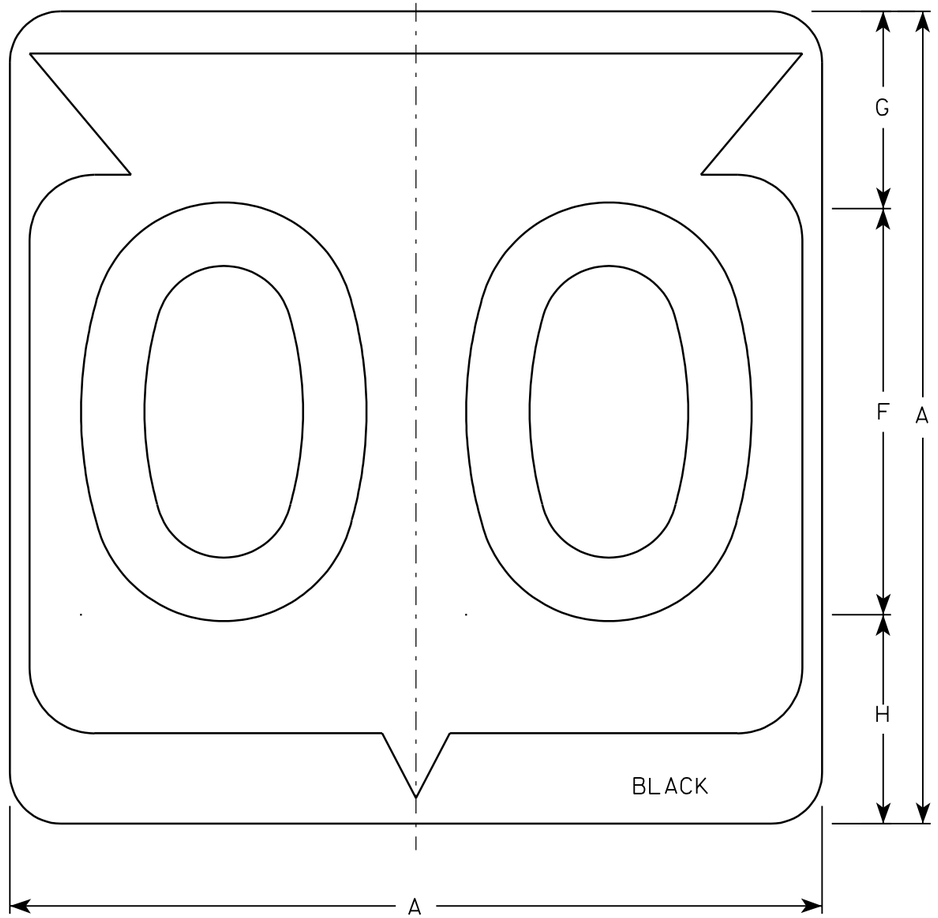
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/27/11 PLATE NO. M1-5A.8

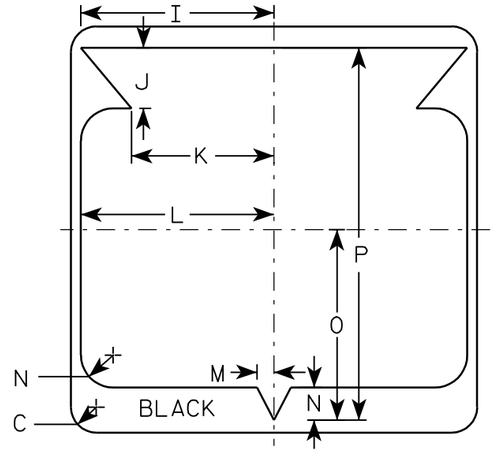
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 420	E



M1-6

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective



Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

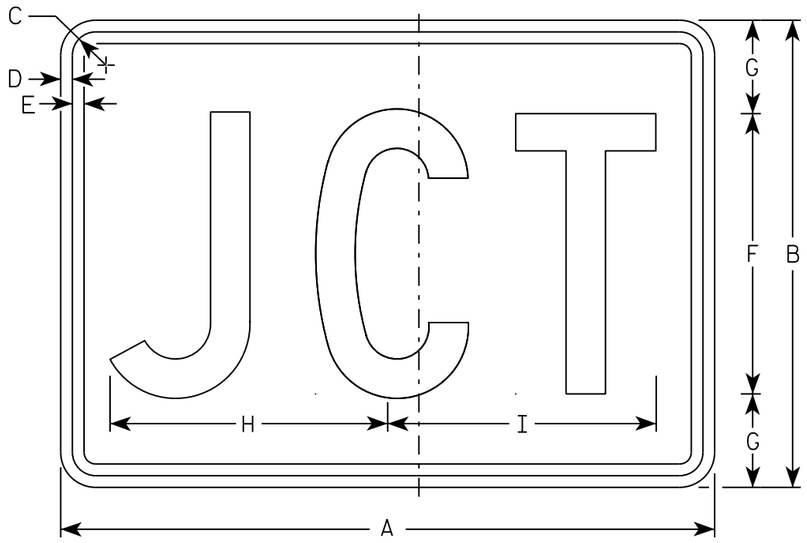
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

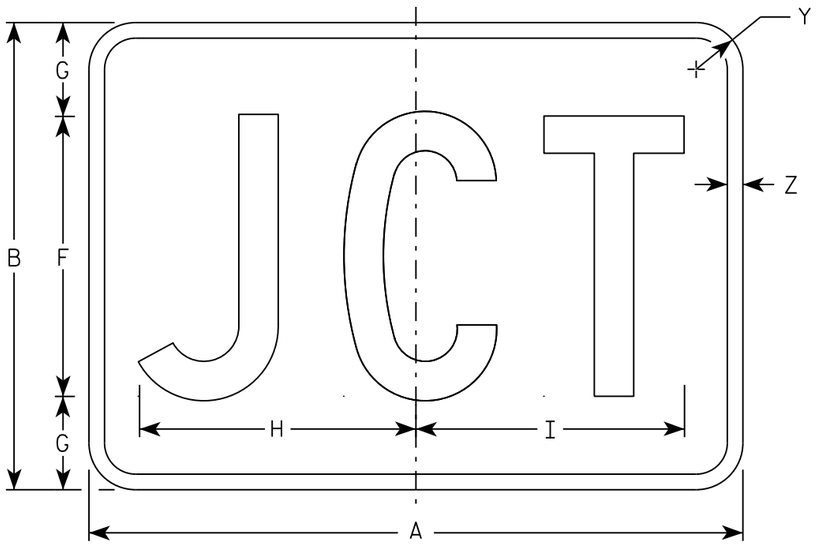
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 421	E



M2-1
MM2-1
MP2-1



MB2-1
MK2-1
MN2-1
MR2-1

NOTES

1. Sign is Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M2-1 Background - White
   Message - Black
   MB2-1 Background - Blue
   Message - White
   MK2-1 Background - Green
   Message - White
   MM2-1 Background - White
   Message - Green
   MN2-1 Background - Brown
   Message - White
   MP2-1 Background - White
   Message - Blue
   MR2-1 Background - Brown
   Message - Yellow

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
5	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40

STANDARD SIGN
M2-1

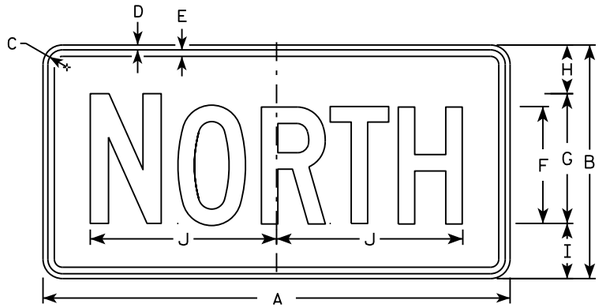
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

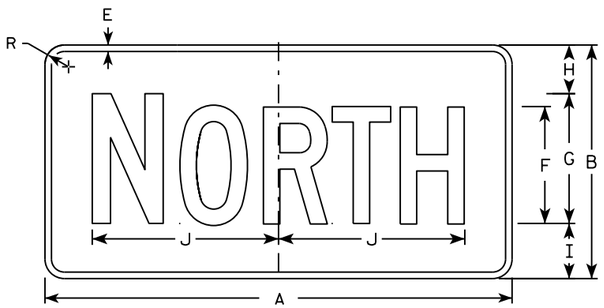
DATE 10/15/15 PLATE 422 12-1.12

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M21.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 4.864603:1.000000



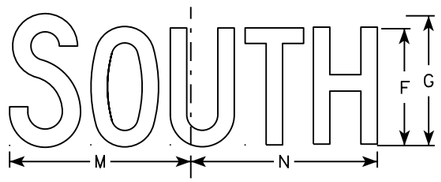
M3-1
MM3-1
MP3-1



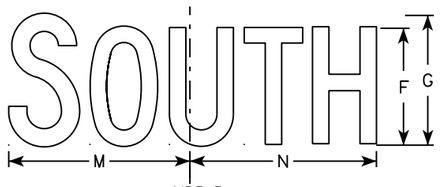
MB3-1
MK3-1
MN3-1

M3-2
MM3-2
MP3-2

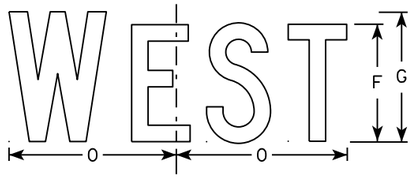
MB3-2
MK3-2
MN3-2



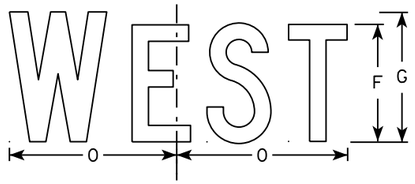
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
   MP3-1 thru MP3-4 Background - White
   Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thur M3-4
SERIES

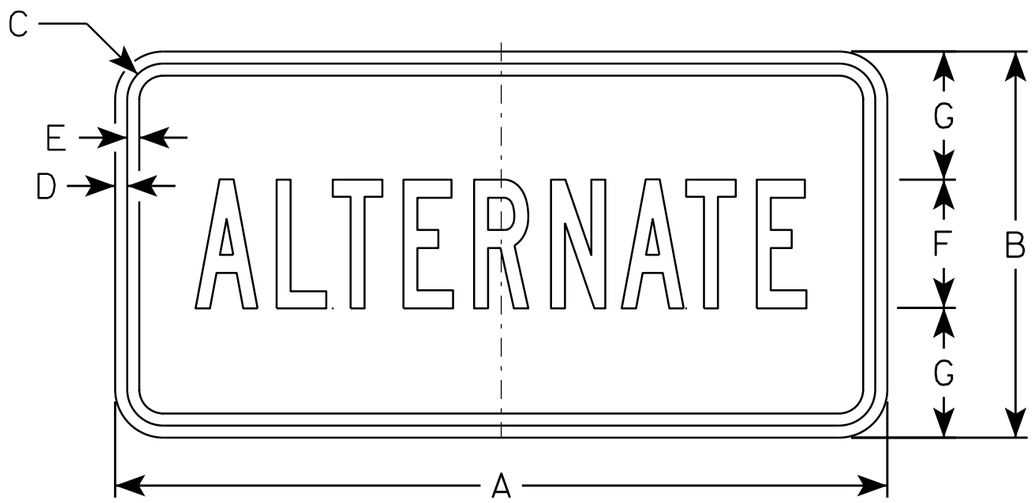
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

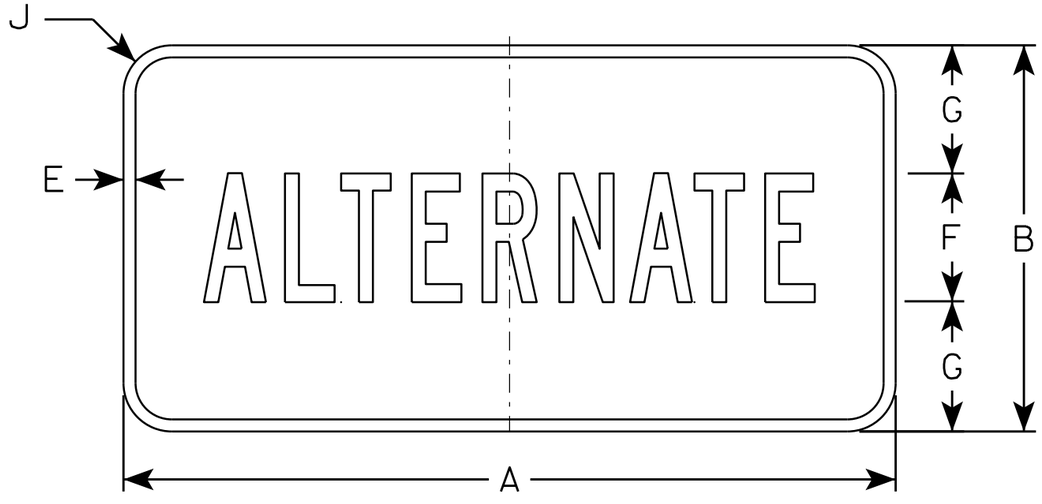
DATE 10/15/15 PLATE NO M3-1.14

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



M4-1
M04-1



MB4-1

NOTES

1. Sign is Type II - Type H except as Shown
2. Color:
   Background - See Note 5
   Message - See note 5
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-1 Background - White
   Message - Black

   MB4-1 Background - Blue
   Message - White

   M04-1 Background - Orange - Type F
   Message - Black

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	4	4	9 3/4	9 1/2	1 1/2																	2.00
3	36	18	1 1/8	3/8	1/2	7	5 1/2	16 3/8	16 1/2	1 1/2																	4.5
4	36	18	1 1/8	3/8	1/2	7	5 1/2	16 3/8	16 1/2	1 1/2																	4.5
5	36	18	1 1/8	3/8	1/2	7	5 1/2	16 3/8	16 1/2	1 1/2																	4.5

STANDARD SIGN
M4-1

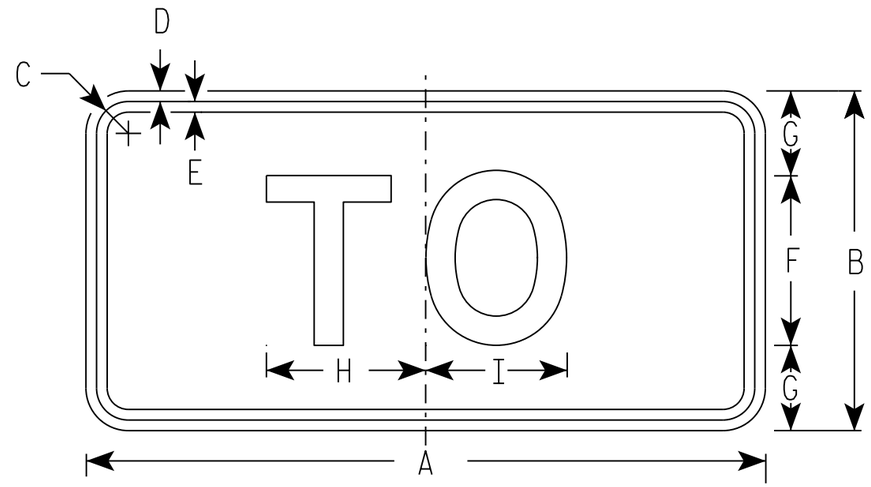
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

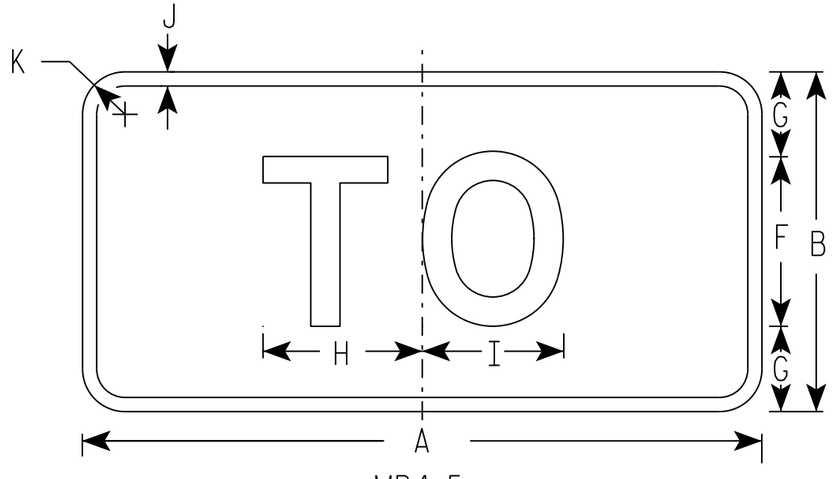
DATE 6/30/14 PLATE 14-1.8

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

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\M41.DGN PLOT DATE : 30-JUN-2014 15:38 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 4.708937:1.000000
WISDOT/CADDS SHEET 42



M4-5
MM4-5
MP4-5



MB4-5
MK4-5
MN4-5

NOTES

1. Sign is Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-5 Background - White
   Message - Black

   MB4-5 Background - Blue
   Message - White

   MK4-5 Background - Green
   Message - White

   MM4-5 Background - White
   Message - Green

   MN4-5 Background - Brown
   Message - White

   MP4-5 Background - White
   Message - Blue

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	5 3/8	5 1/4	1/2	1 1/2																2.00
3	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
4	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
5	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5

STANDARD SIGN
M4-5

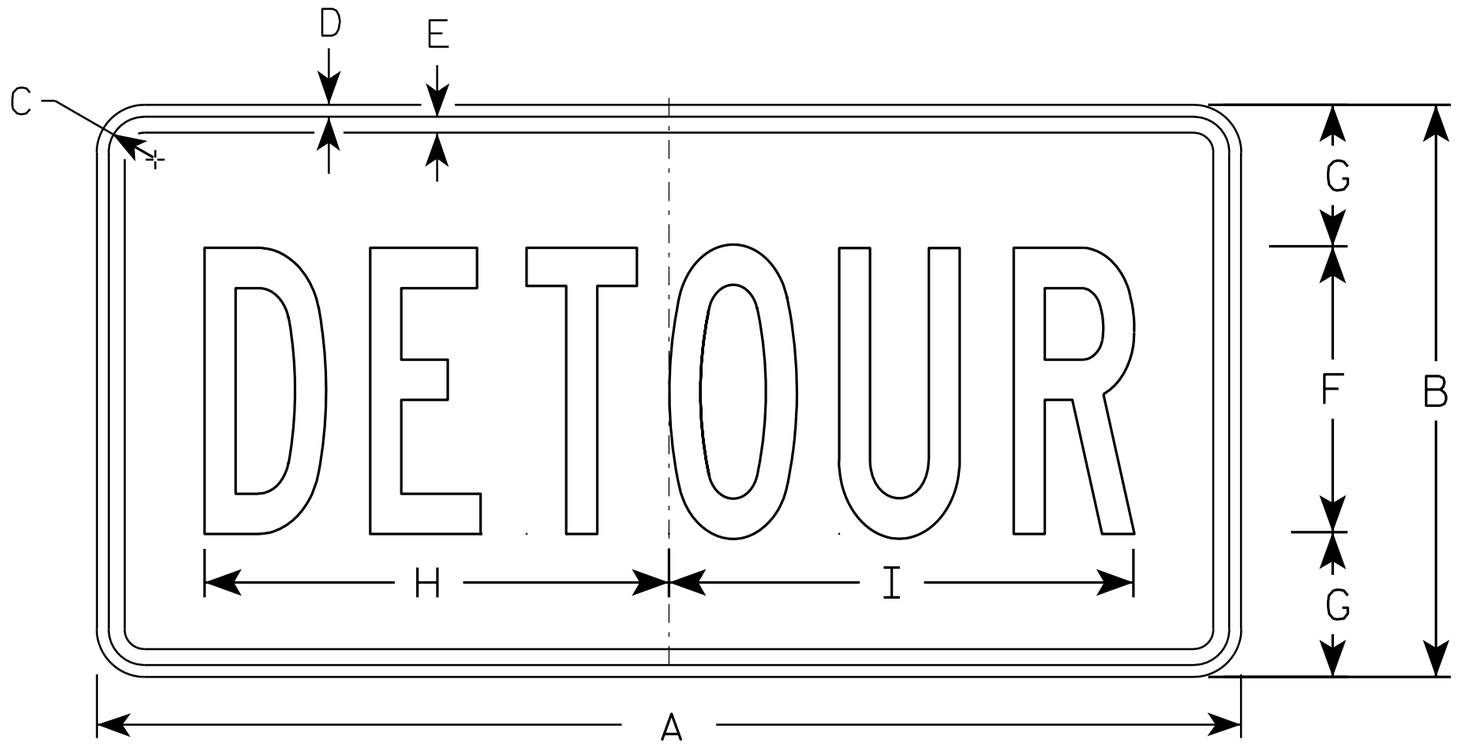
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 425 M4-5.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M45.DGN PLOT DATE : 01-DEC-2015 17:55 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 5.351066:1.000000



M4-8

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

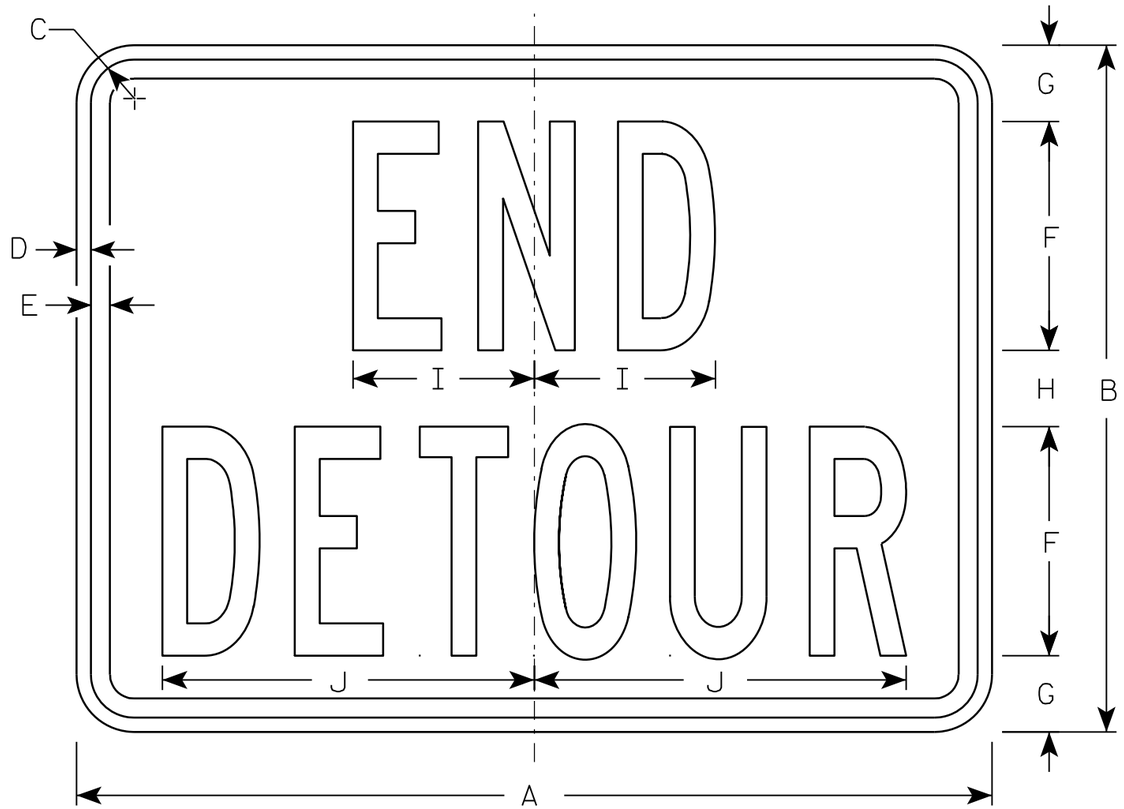
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 426	E



M4-8A

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

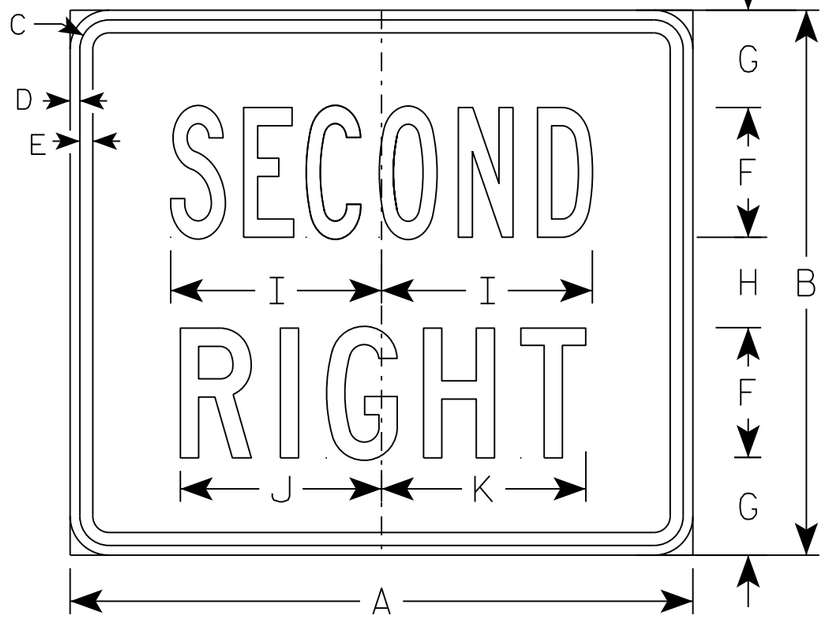
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

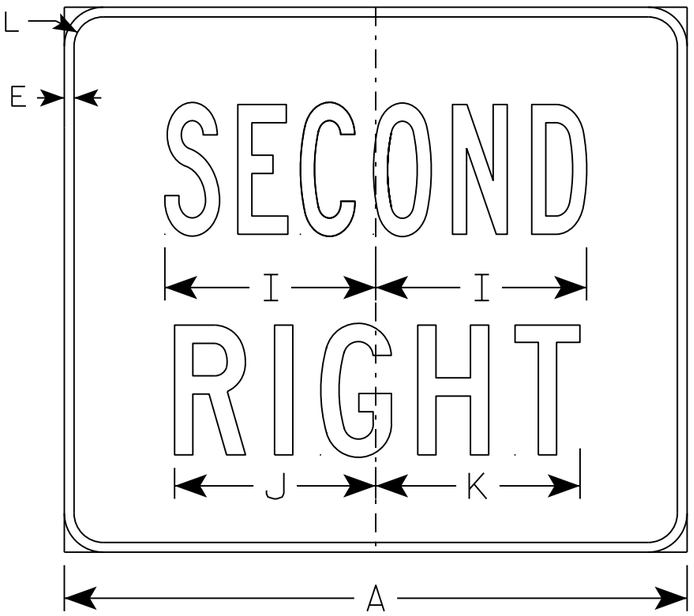
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2

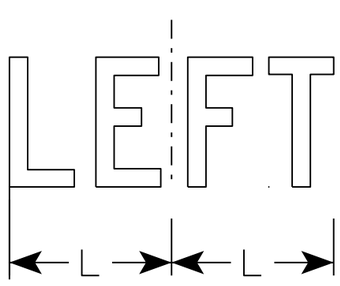
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 427	E



M4-22R
MM4-22R
M04-22R
MP4-22R



MB4-22R
MK4-22R
MN4-22R
MR4-22R



M4-22L
MB4-22L
MK4-22L
MM4-22L
MN4-22L
M04-22L
MP4-22L
MR4-22L

NOTES

1. Sign is Type II - Type H except as Shown
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-22 Background - White
   Message - Black
   MB4-22 Background - Blue
   Message - White
   MK4-22 Background - Green
   Message - White
   MM4-22 Background - White
   Message - Green
   MN4-22 Background - Brown
   Message - White
   M04-22 Background - Orange - Type F Reflective
   Message - Black
   MP4-22 Background - White
   Message - Blue
   MR4-22 Background - Brown
   Message - Yellow

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	21	1 1/8	3/8	1/2	5	3 3/4	3 1/2	8 1/8	7 3/4	7 7/8	1 1/2															3.5
3	36	30	1 5/8	5/8	3/4	8	4 3/4	4 1/2	13 1/8	12 5/8	12 1/2	1 7/8															7.5
4																											
5																											

STANDARD SIGN
M4-22

WISCONSIN DEPT OF TRANSPORTATION

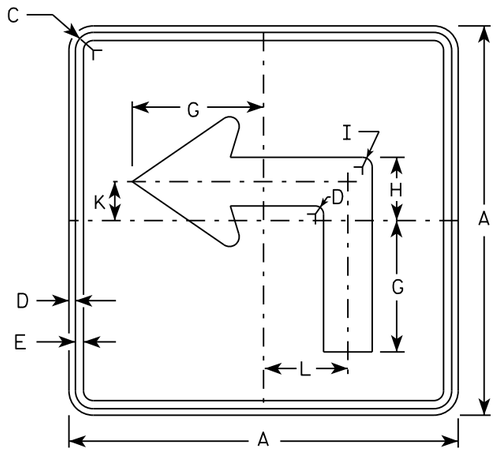
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. 14-22.4

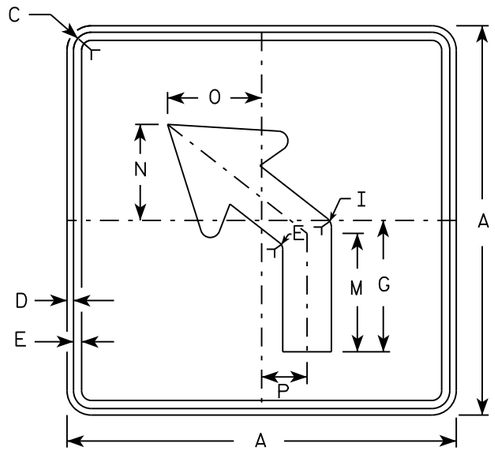
428

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

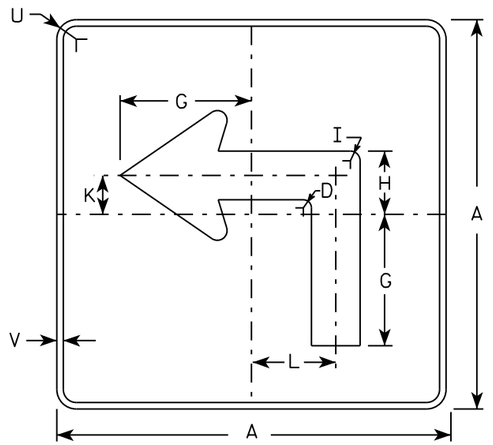
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M422.DGN PLOT DATE : 01-DEC-2015 18:04 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 5.837526:1.000000



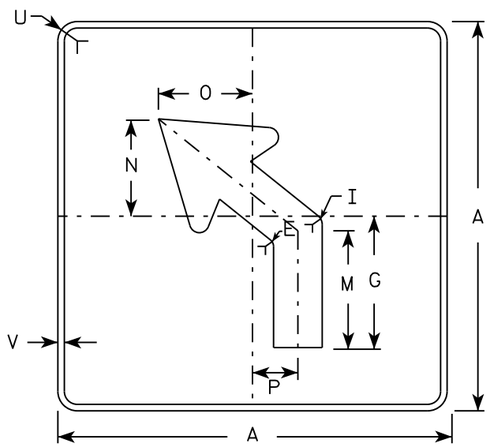
M5-1L
MM5-1L
MO5-1L
MP5-1L



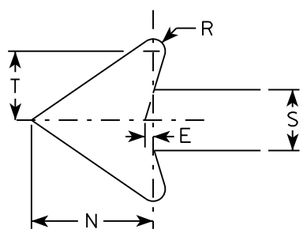
M5-2L
MM5-2L
MO5-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L



MB5-2L
MK5-2L
MN5-2L
MR5-2L



NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

STANDARD SIGN
M5-1 & M5-2

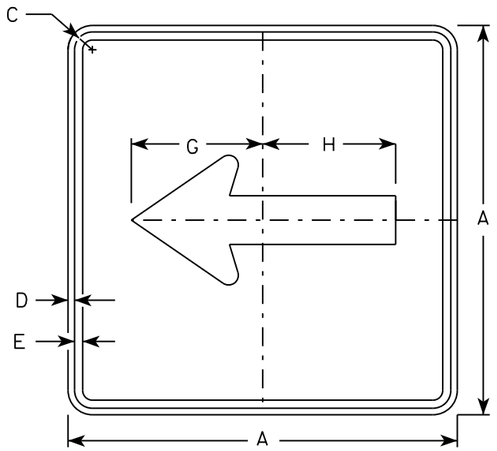
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

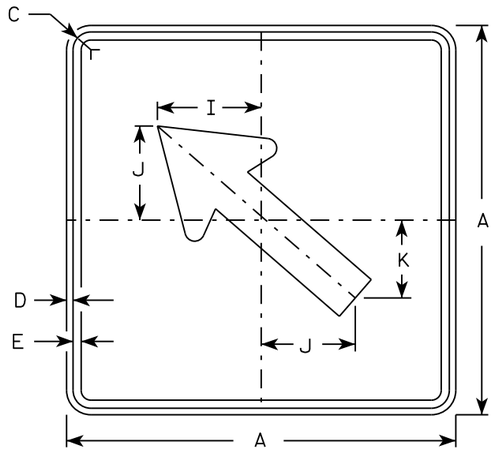
DATE 10/15/15 PLATE NO. M5-1.13

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



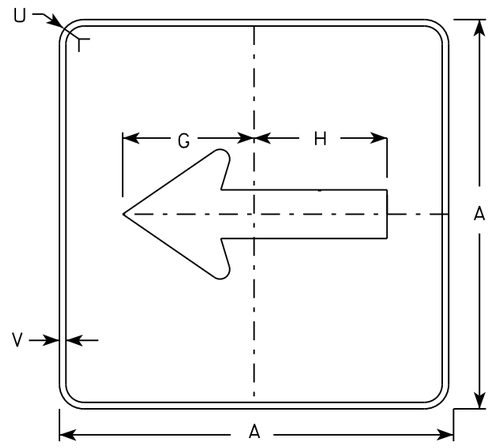
M6-1
MM6-1
MO6-1
MP6-1



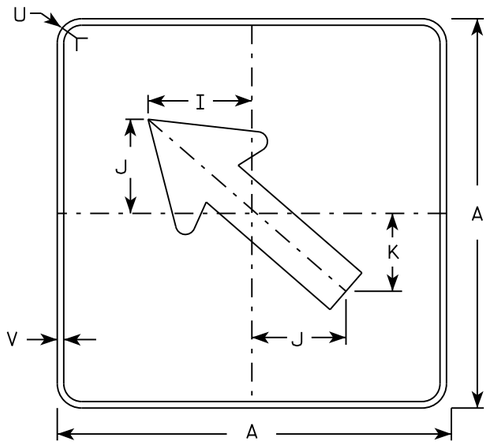
M6-2
MM6-2
MO6-2
MP6-2

NOTES

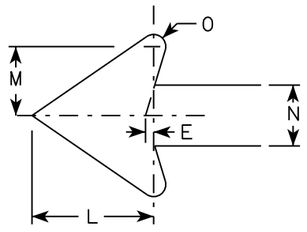
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow



MB6-1
MK6-1
MN6-1
MR6-1



MB6-2
MK6-2
MN6-2
MR6-2



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2						3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25

STANDARD SIGN M6-1 & M6-2 SERIES

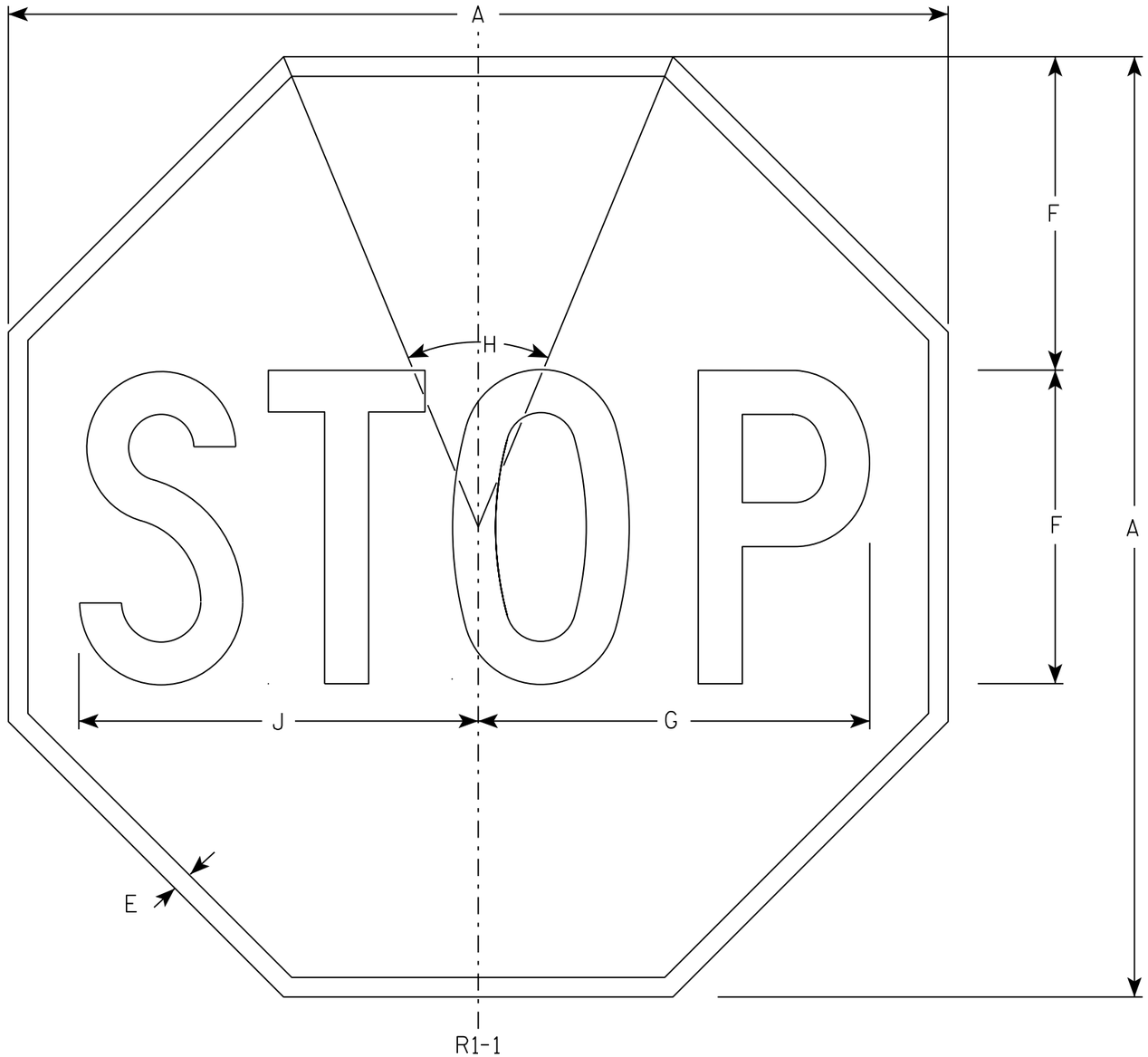
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 430 M6-1.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 01-DEC-2015 17:57 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



NOTES

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

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

STANDARD SIGN
R1-1

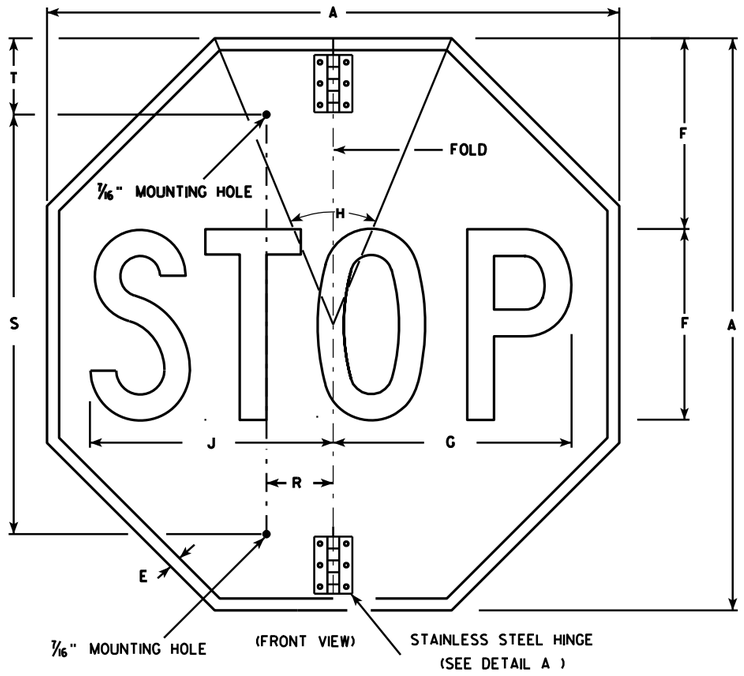
WISCONSIN DEPT OF TRANSPORTATION

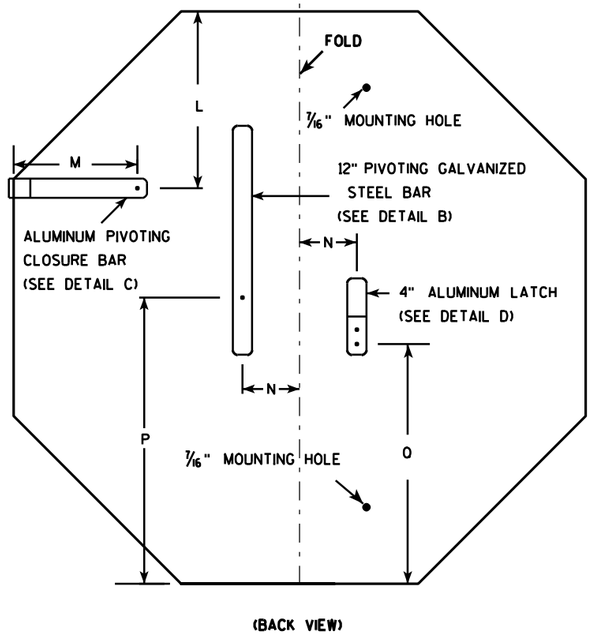
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/15 PLATE 431 R1-1.13

PROJECT NO:	HWY:	COUNTY:		SHEET NO: E

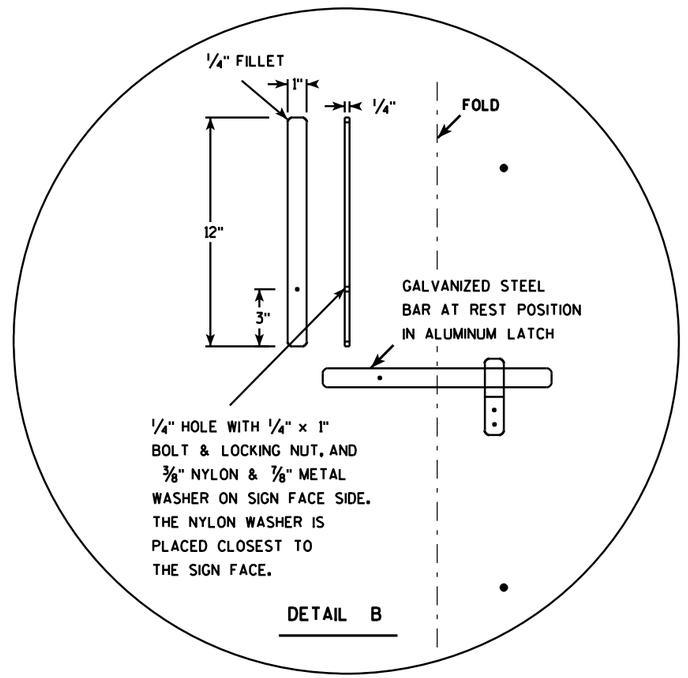
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R11.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 4.378143:1.000000

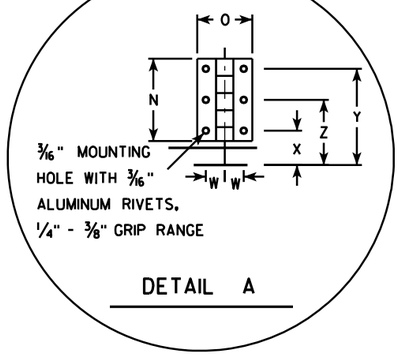


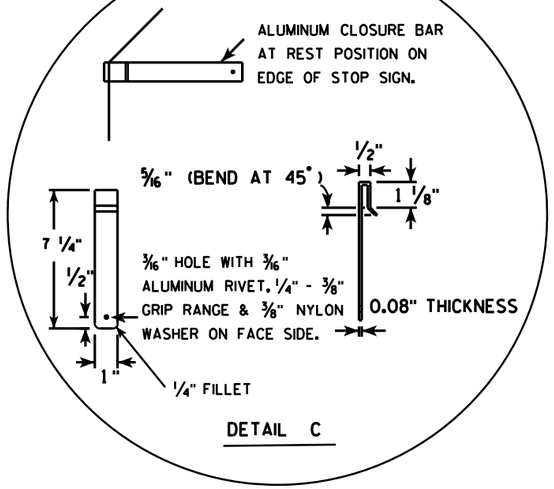


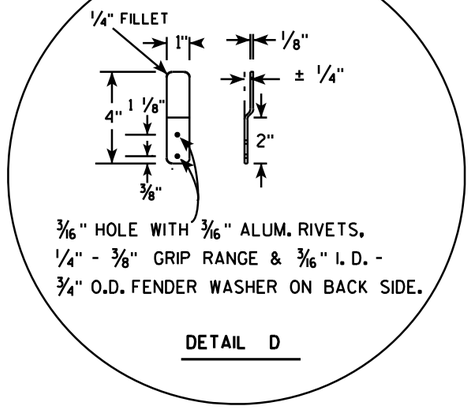
NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C
4. All hardware used on the folding STOP sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.









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	30				5/8	10	12 1/2	45		12 3/4		9 1/4	6 1/2	3	2	15	12 3/8	2 1/2	22	5			11/16	1 1/4	3 1/2	2 3/8	5.18
2M	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
3	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
4																											
5																											

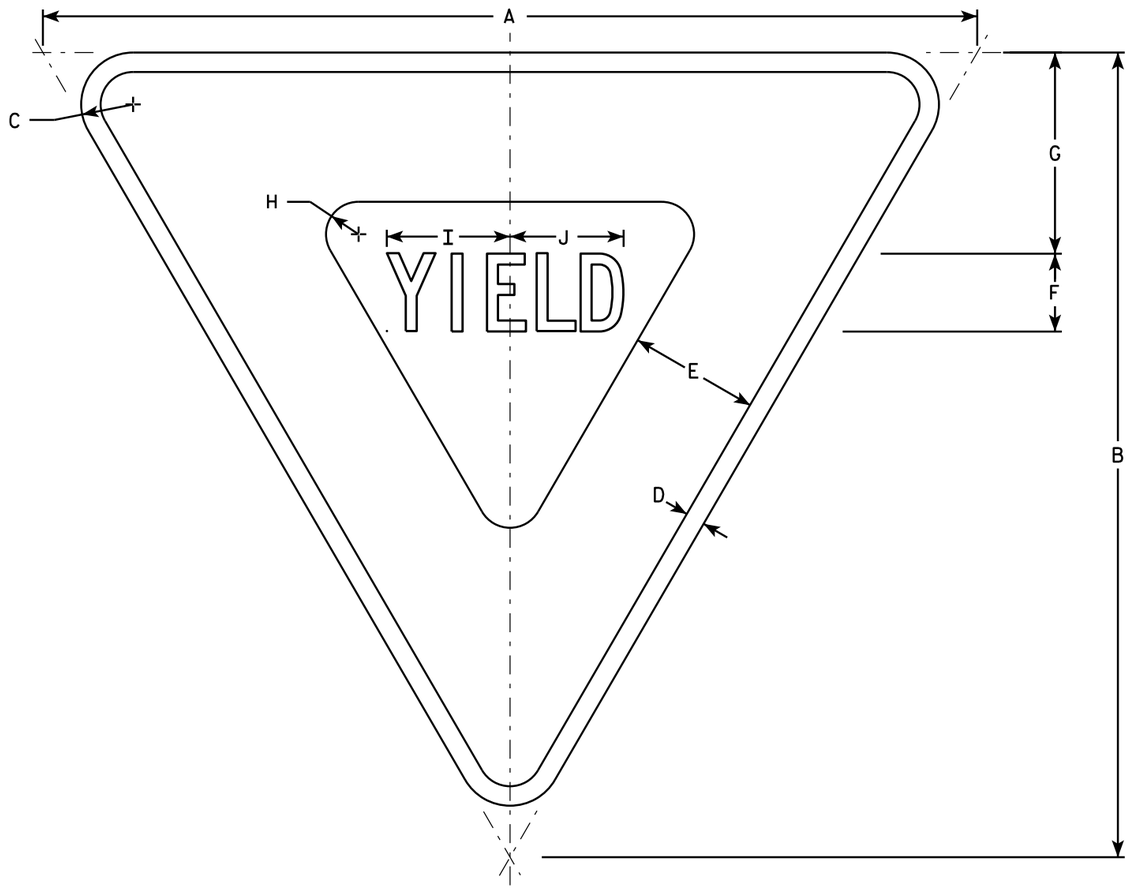
STANDARD SIGN
R1-1F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1F.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 432	E



R1-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The border strip and word message are reflectorized red.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6																											
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

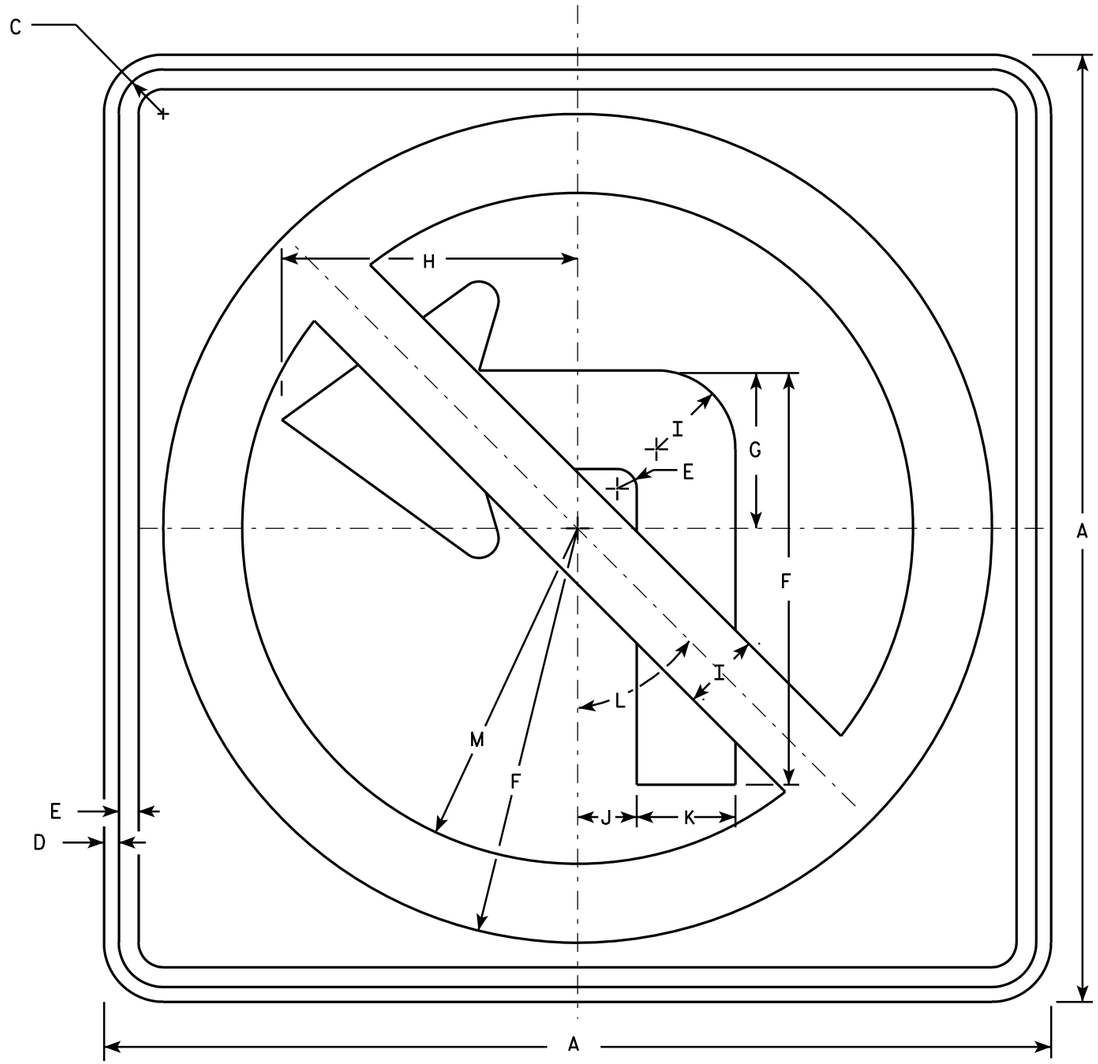
STANDARD SIGN
R1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/13/14 PLATE P1-2.12

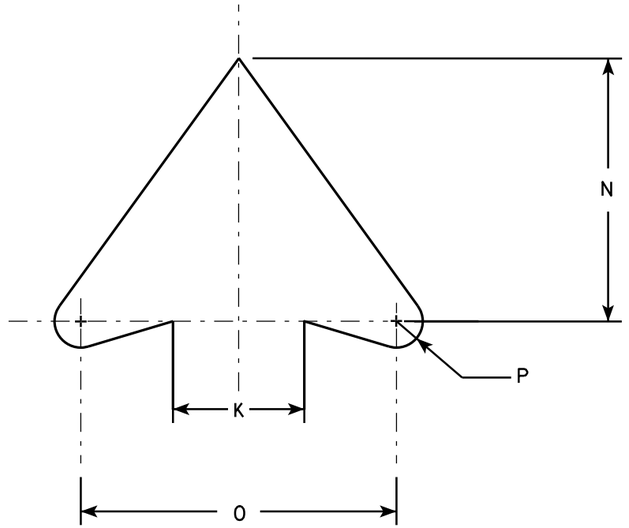
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



R3-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

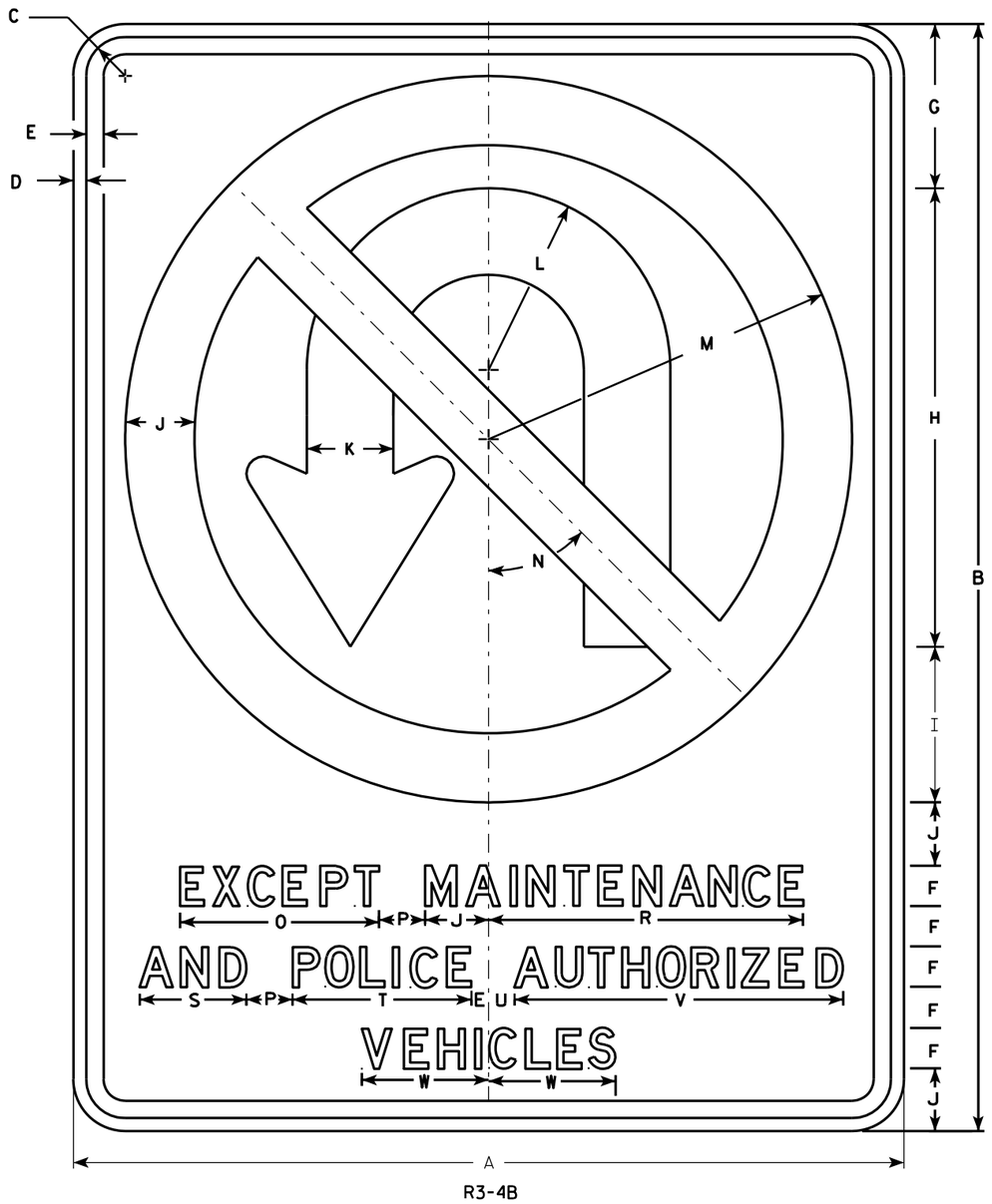
STANDARD SIGN
R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

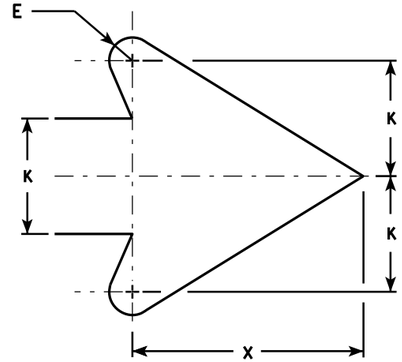
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 434	E



R3-4B

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S																											
2M																											
3																											
4	36	48	1 5/8	5/8	3/4	1 3/4	7 1/8	19 7/8	6 3/4	2 3/4	3 3/4	7 7/8	15 3/4	45°	8 5/8	2		13 5/8	4 5/8	7 3/4	1 1/8	14 1/4	5 1/2	7 5/8			12.0
5	36	48	1 5/8	5/8	3/4	1 3/4	7 1/8	19 7/8	6 3/4	2 3/4	3 3/4	7 7/8	15 3/4	45°	8 5/8	2		13 5/8	4 5/8	7 3/4	1 1/8	14 1/4	5 1/2	7 5/8			12.0

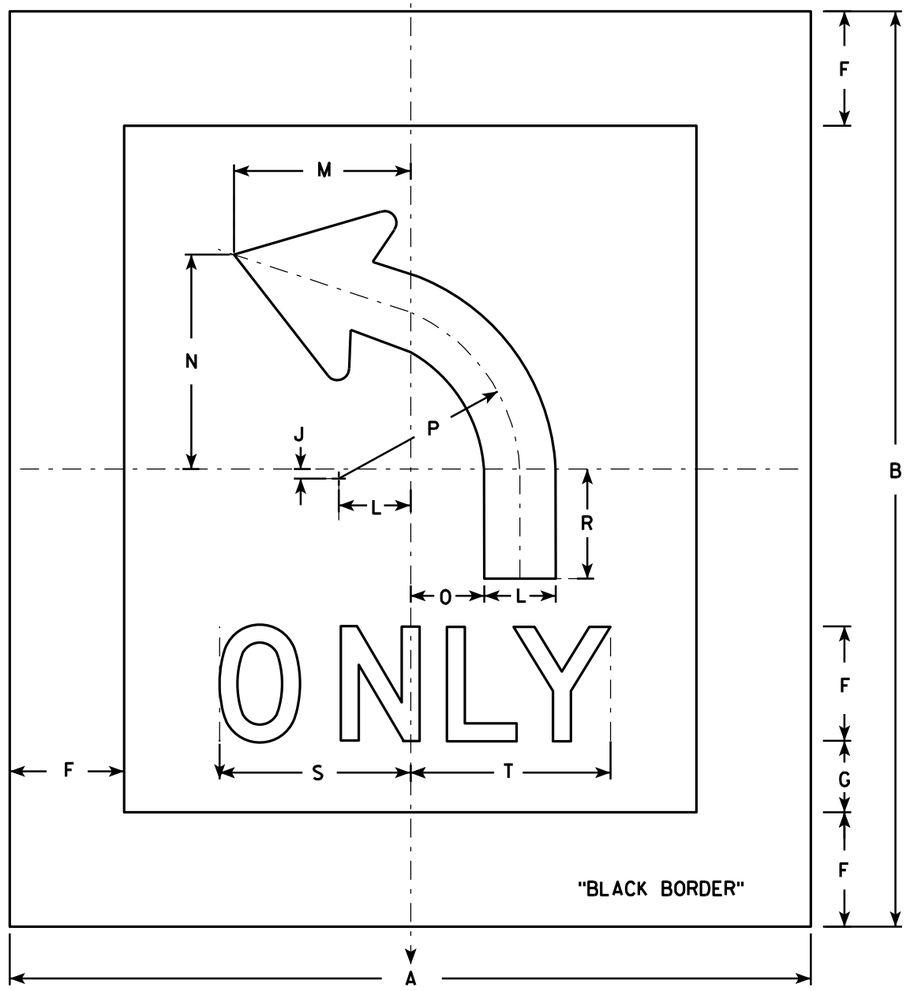
STANDARD SIGN
R3-4B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/17/2011 PLATE NO. R3-4B.2

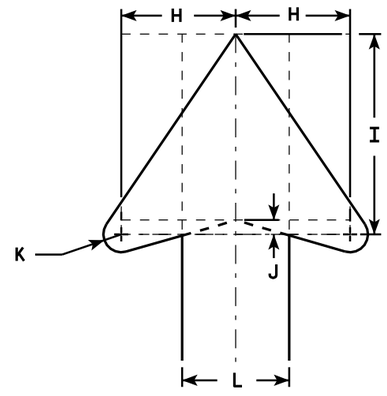
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 435	E



R3-5L

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood. When base material is metal, the corners shall be rounded.
5. R3-5R is the same as R3-5L except curved portion of arrow points right.
6. The 6" border is non-reflective black.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	42	48				6	3 3/4	4	7	1/2	5/8	3 3/4	9 1/4	11 1/4	3 7/8	9 1/2		5 3/4	10	10 1/2							1.26
2M	42	48				6	3 3/4	4	7	1/2	5/8	3 3/4	9 1/4	11 1/4	3 7/8	9 1/2		5 3/4	10	10 1/2							1.26
3																											
4																											
5																											

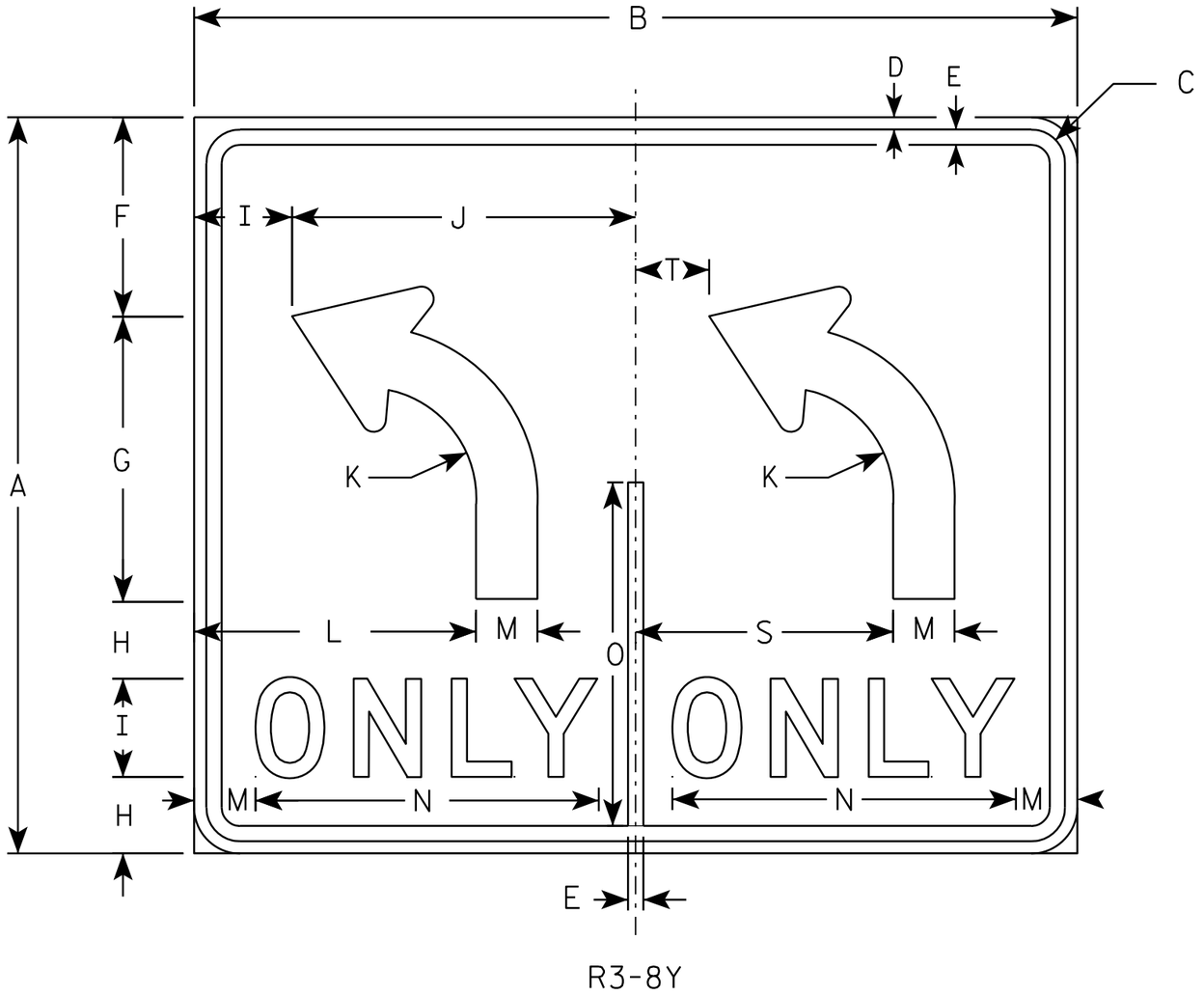
STANDARD SIGN
R3-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/24/11 PLATE NO. R3-5.6

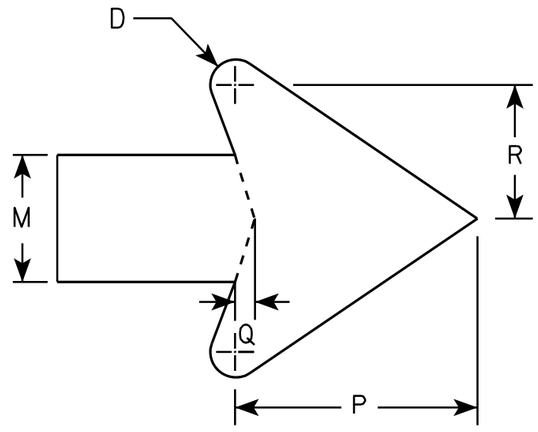
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 436 | E



R3-8Y

NOTES

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



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	14	4 1/2	11 1/2	2 1/2	14	14	4 3/4	3/8	2 5/8	10 1/2	3							7.5
2M	30	36	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	14	4 1/2	11 1/2	2 1/2	14	14	4 3/4	3/8	2 5/8	10 1/2	3							7.5
3																											
4	48	54	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	21	7 1/4	17 1/4	3 3/4	20 5/8	22 3/8	7 1/8	5/8	4	15 3/4	4 1/2							18.0
5	48	54	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	21	7 1/4	17 1/4	3 3/4	20 5/8	22 3/8	7 1/8	5/8	4	15 3/4	4 1/2							18.0

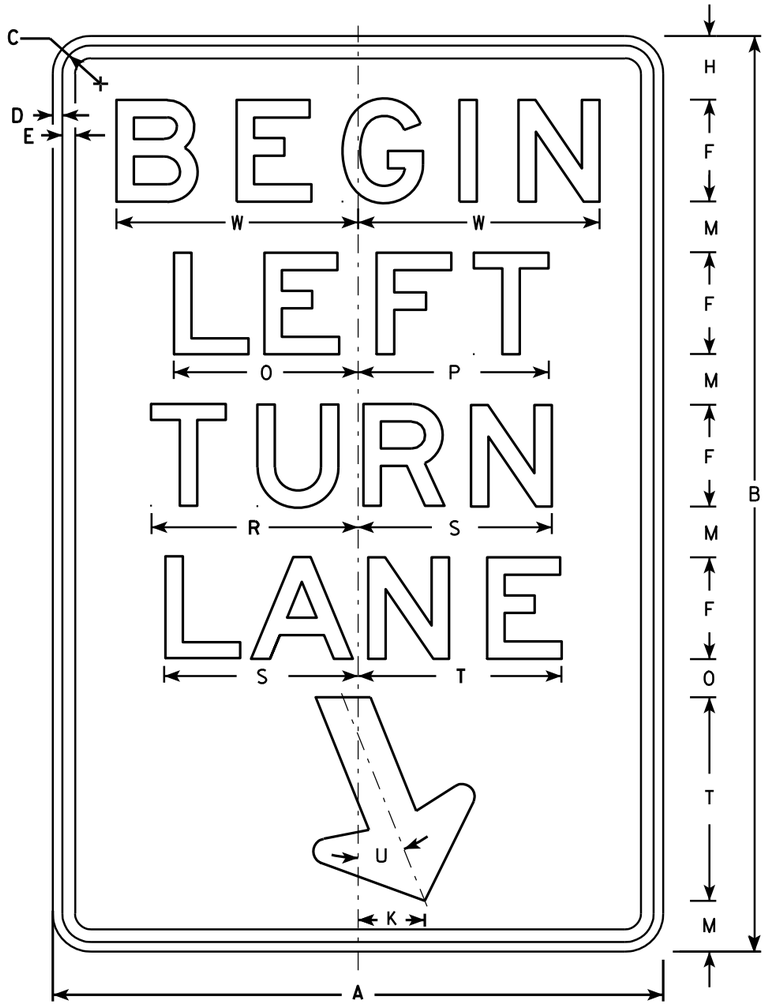
STANDARD SIGN
R3-8Y

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/24/2011 PLATE NO. R3-8Y.2

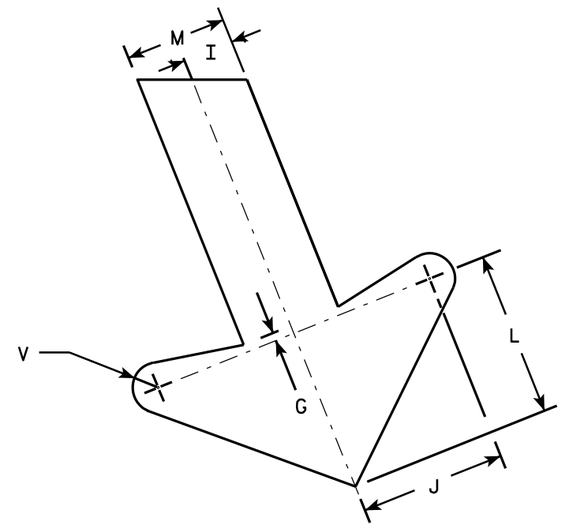
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 437	E



R3-20L

NOTES

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



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	10 7/8	11 1/4		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

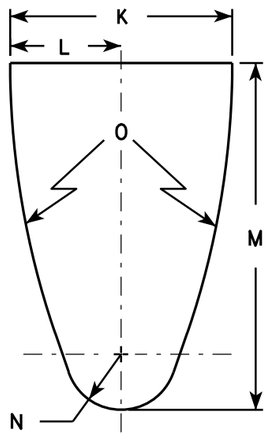
STANDARD SIGN
R3-20L

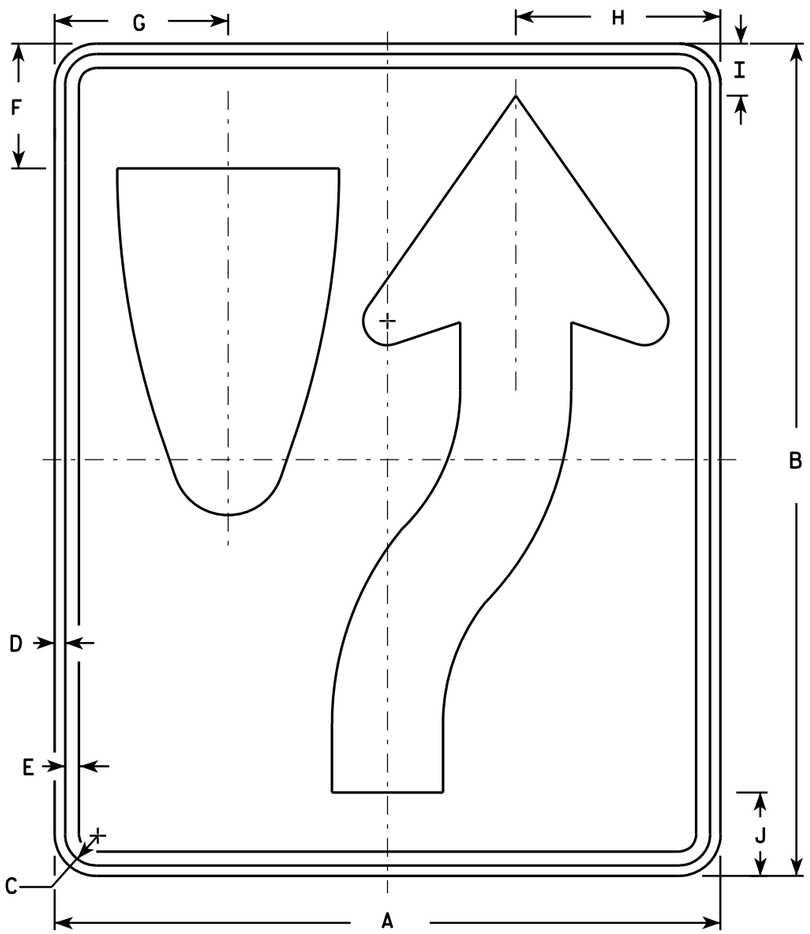
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20L.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 438 | E

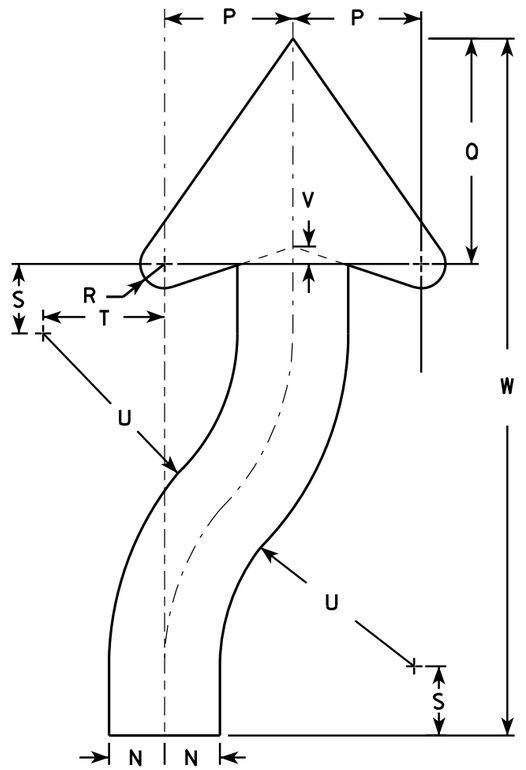




R4-7

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
2. Color:
   Background - White
   Message - Black
3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
4. R4-8 is the same as R4-7 except Legend is reversed.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

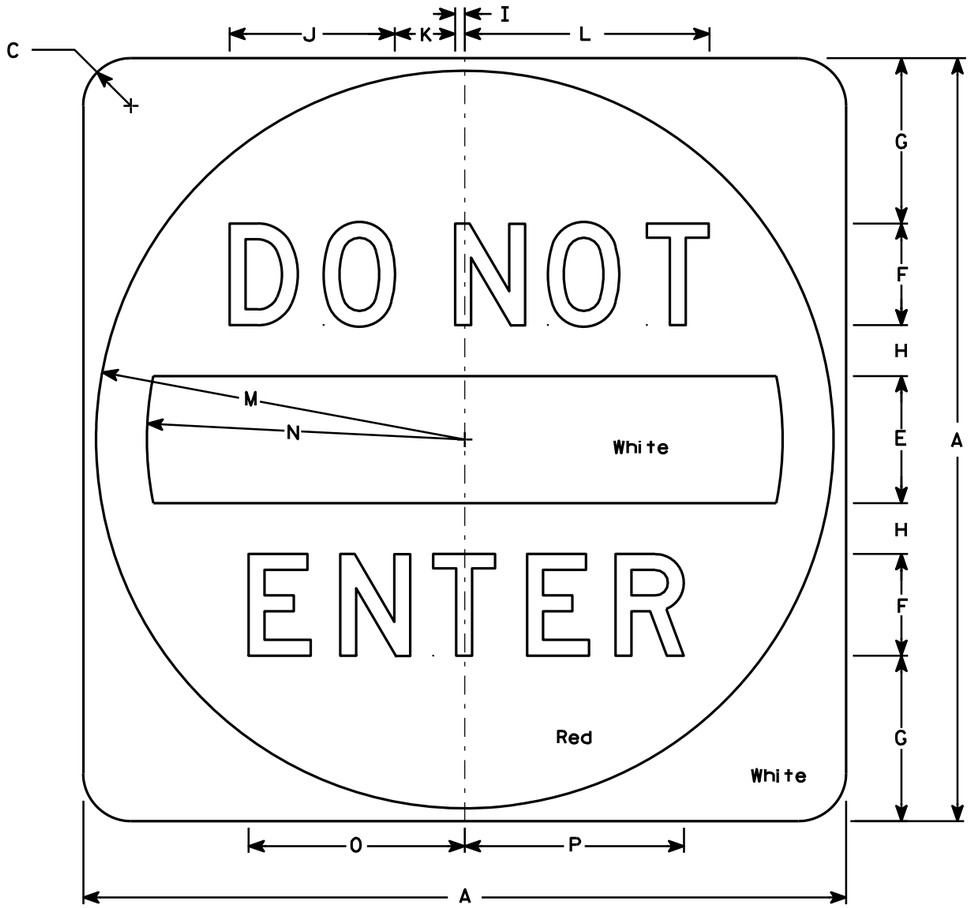
STANDARD SIGN
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 439	E



R5-1

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30		1 7/8		5	4	6 1/2	2	3/8	6 1/2	2 3/8	9 5/8	14 1/2	12 1/2	8 1/2	8 5/8											6.26
2M	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
3	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
4	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
5	48		3		8	6	11	3	5/8	9 3/4	3 5/8	14 1/2	23 1/2	20	12 3/4	12 7/8											16.0

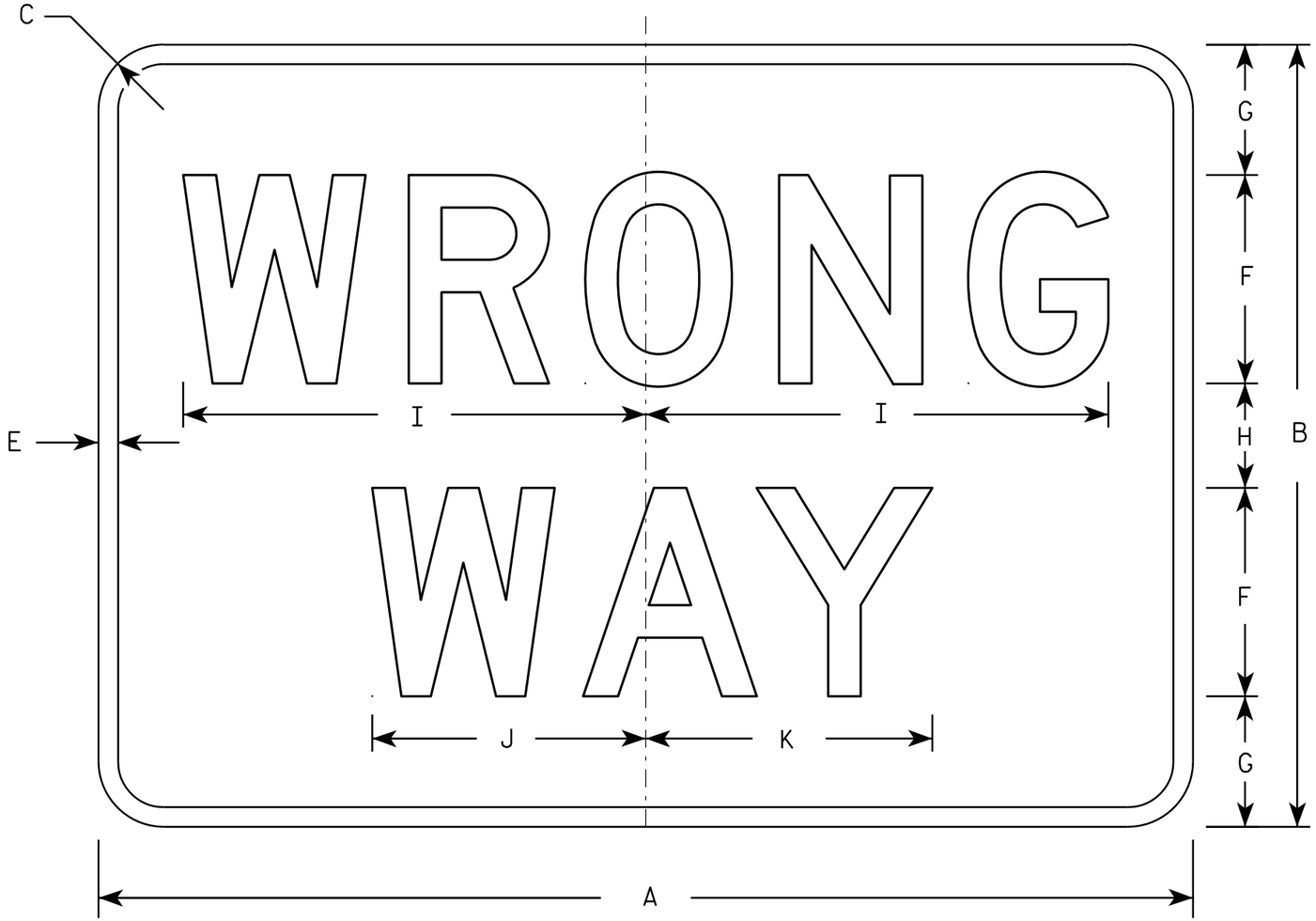
STANDARD SIGN
R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1.15

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 440 | E



R5-1A

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	1 1/2		1/2	5	3	2	11	6 1/2	6 7/8																3.75
2S	36	24	2		5/8	6	4 1/2	3	13 1/4	7 7/8	8 1/4																6.00
2M	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
3	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
4	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
5	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75

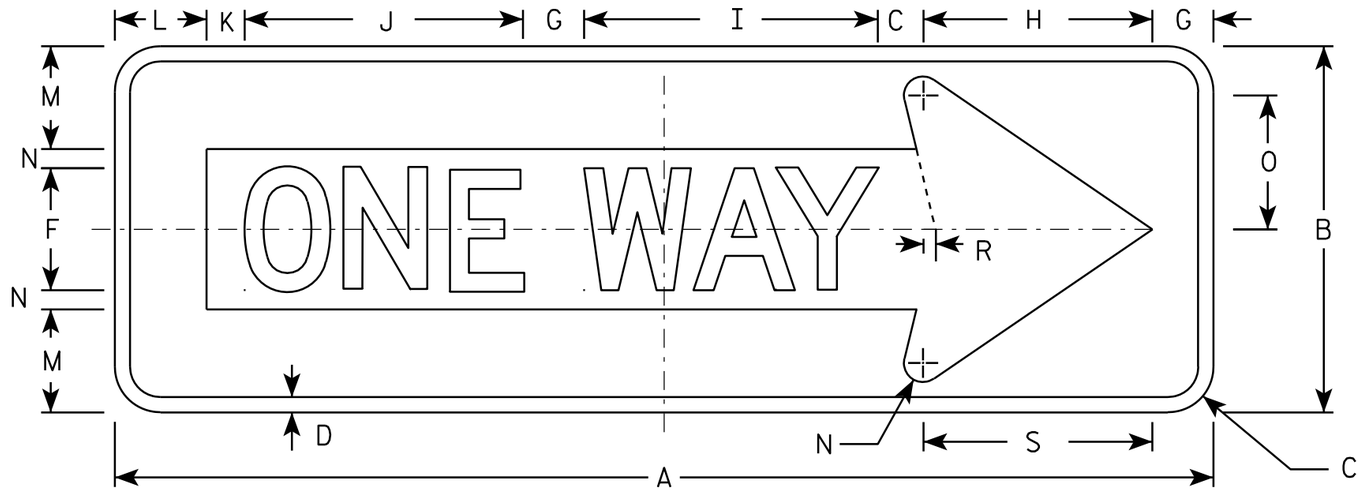
STANDARD SIGN
R5-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1A.2

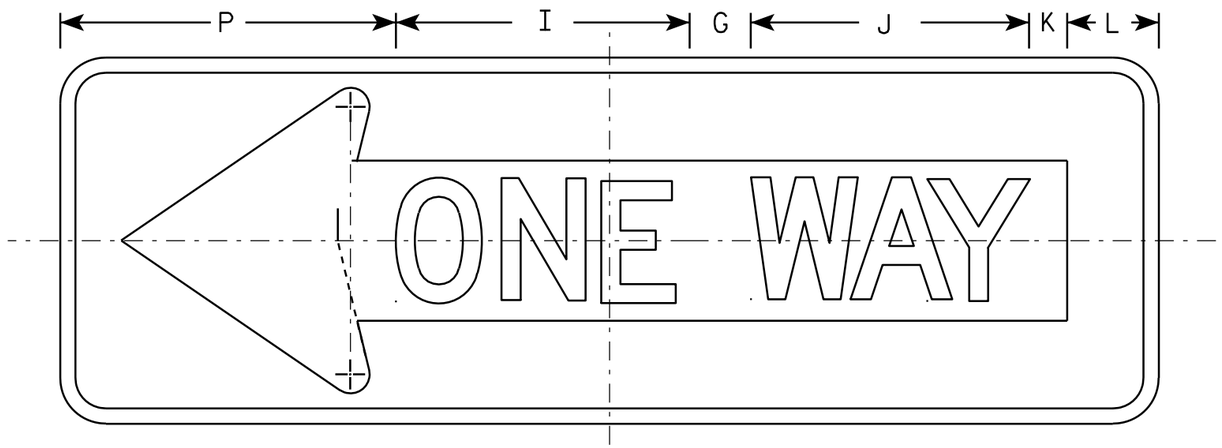
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 441 | E



R6-1R

NOTES

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



R6-1L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36	12	1 ½	½		4	2	7 ½	9 ⅝	9 ⅛	1 ¼	3	3 ⅜	⅝	4 ⅜	11		⅜	7 ½								3.0
2M	54	18	2 ¼	¾		6	3	11 ¼	14 ½	13 ⅝	1 ⅞	4 ½	5	1	6 ½	16 ½		⅝	11 ¼								6.75
3	54	18	2 ¼	¾		6	3	11 ¼	14 ½	13 ⅝	1 ⅞	4 ½	5	1	6 ½	16 ½		⅝	11 ¼								6.75
4	54	18	2 ¼	¾		6	3	11 ¼	14 ½	13 ⅝	1 ⅞	4 ½	5	1	6 ½	16 ½		⅝	11 ¼								6.75
5																											

STANDARD SIGN
R6-1 L & R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R6-1.2

PROJECT NO:

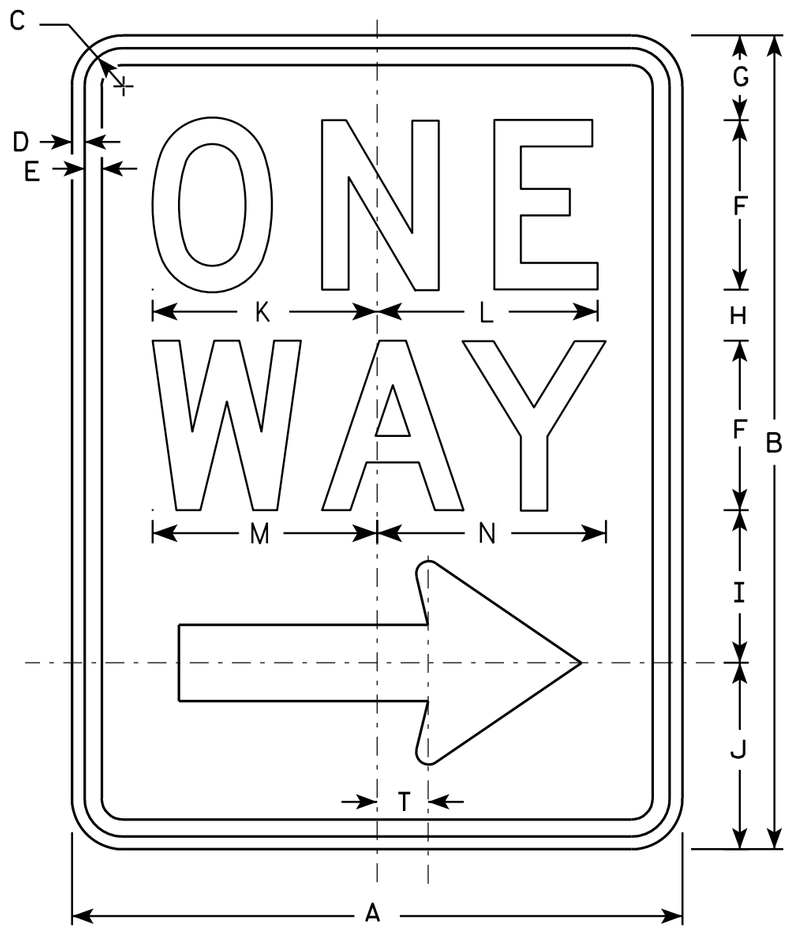
SHEET NO: 442 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R61.DGN PLOT DATE : 17-DEC-2010 14:11 PLOT BY : dotsja

WISDOT/CADDS SHEET 42

7

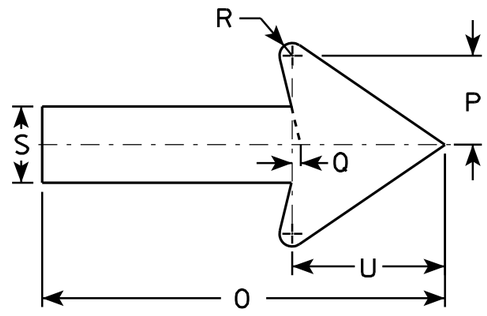
7



R6-2R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R6-2L same as R6-2R except arrow points to the left.



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
1	18	24	1 1/8	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 5/8	6 1/2	6 5/8	6 3/4	11 7/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
2S	24	30	1 1/8	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 3/8	1/2	5/8	8	2 1/2	2 5/8	6 7/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
4	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

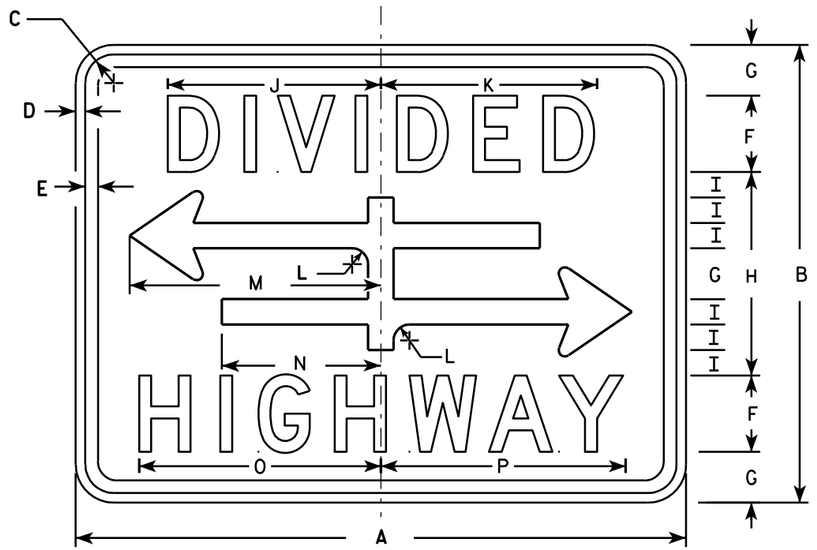
STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/2/10 PLATE NO. R6-2.8

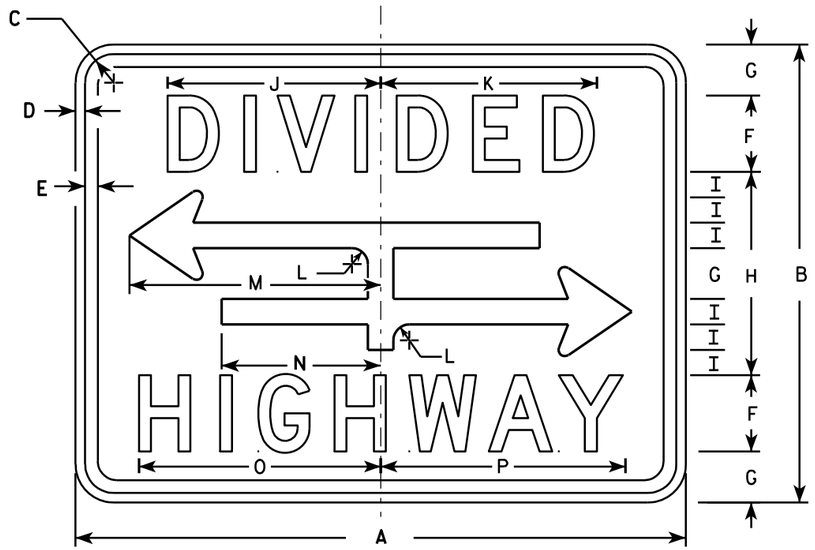
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 443	E



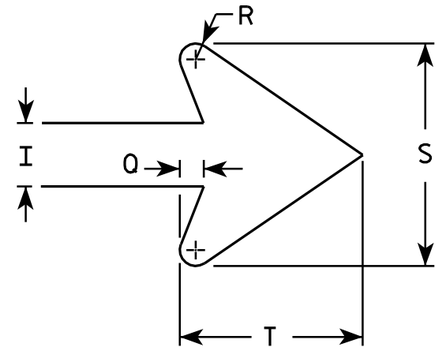
R6-3

NOTES

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



R6-3A



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	18	1 1/8	3/8	3/8	3	2	8	1	8 3/8	8 1/2	5/8	9 7/8	6 1/4	9 1/2	9 5/8	3/8	1/4	3 1/2	2 3/4							3.0
2S	30	24	1 1/8	3/8	1/2	4	2 5/8	10 3/4	1 3/8	10 1/2	10 5/8	7/8	12 1/2	7 7/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 5/8							5.0
2M	30	24	1 1/8	3/8	1/2	4	2 5/8	10 3/4	1 3/8	10 1/2	10 5/8	7/8	12 1/2	7 7/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 5/8							5.0
3																											
4																											
5																											

STANDARD SIGN
R6-3 & R6-3A

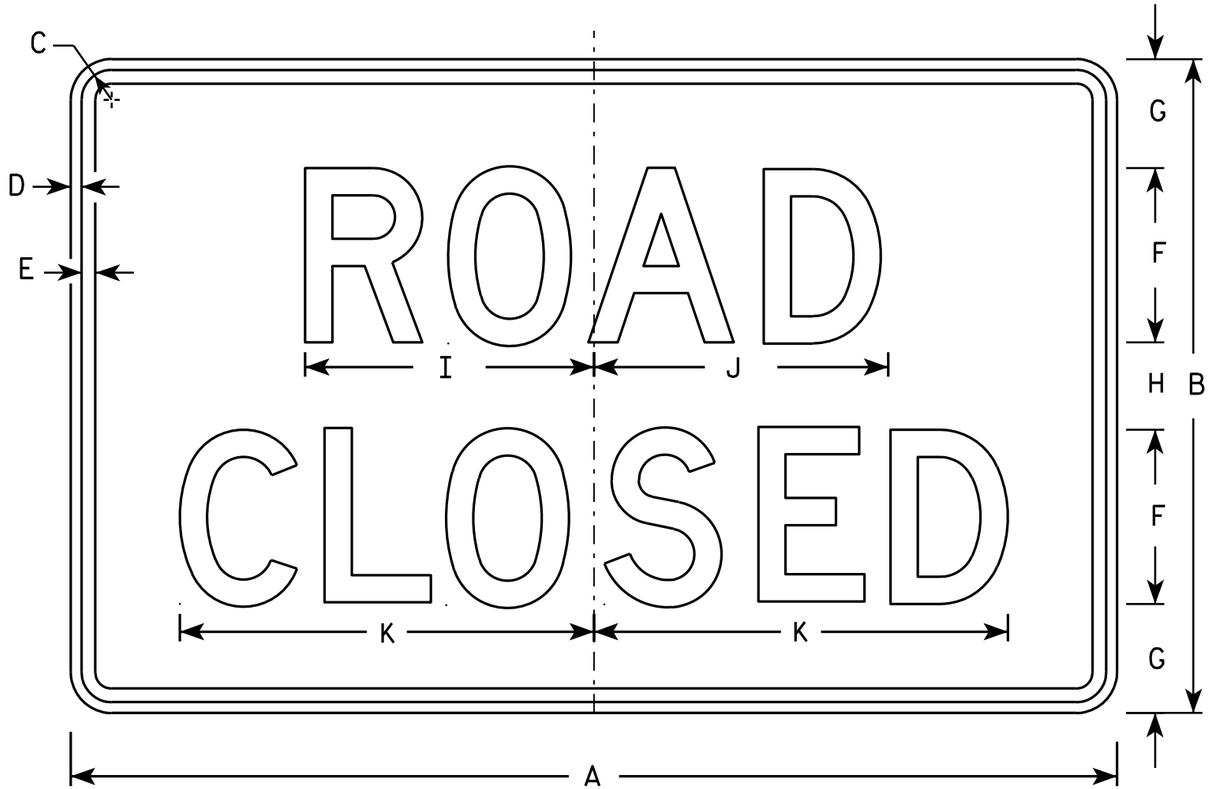
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R6-3.5

PROJECT NO:

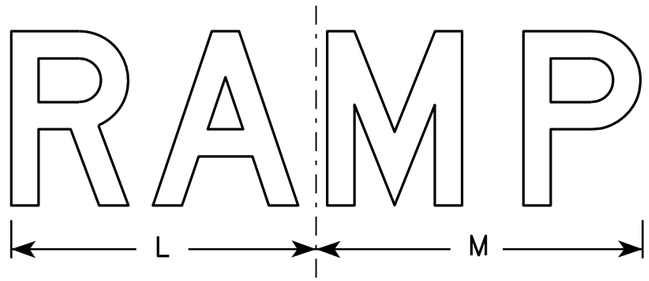
SHEET NO: 444 E



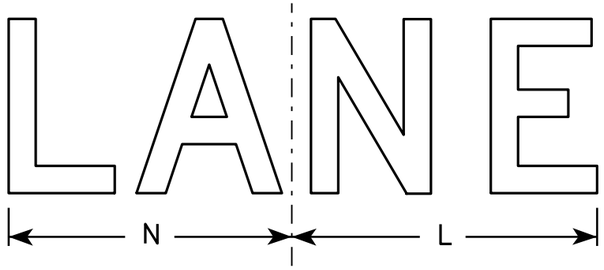
R11-2

NOTES

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



R11-2R



R11-2L

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

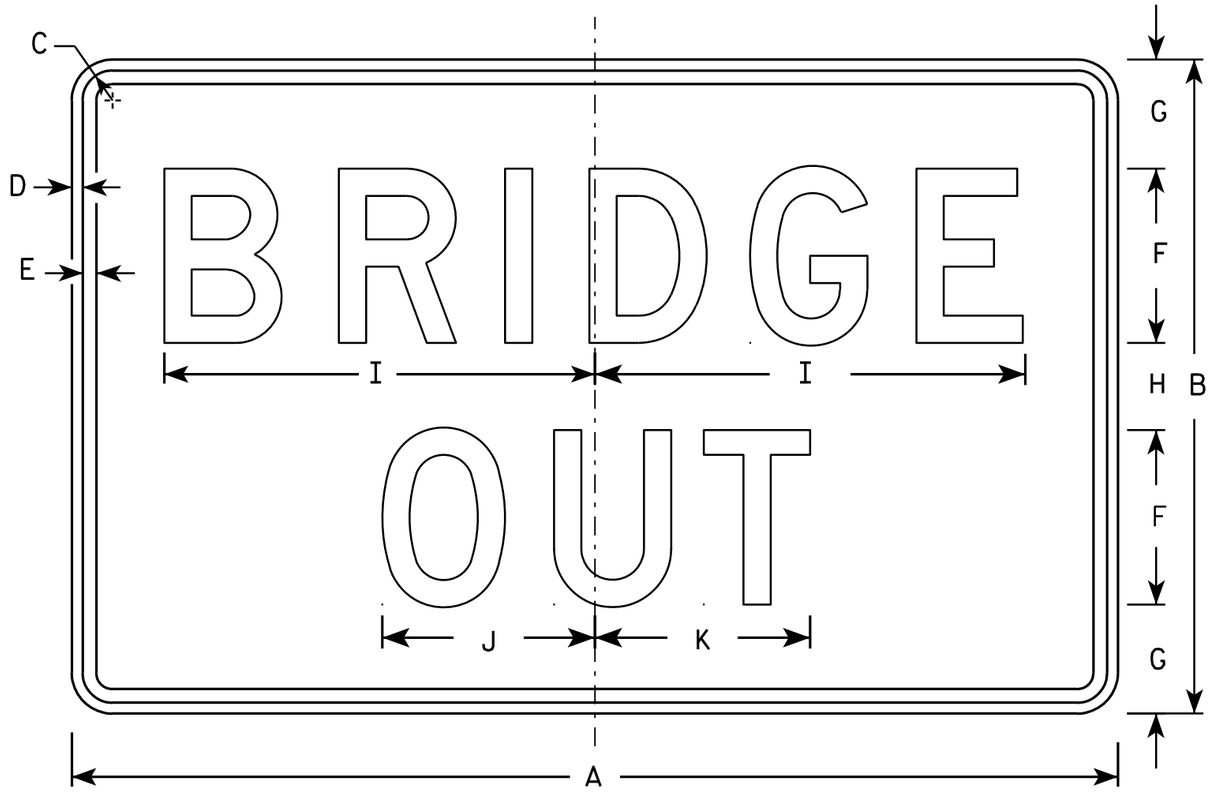
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 445	E



R11-2B

NOTES

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

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

STANDARD SIGN
R11-2B

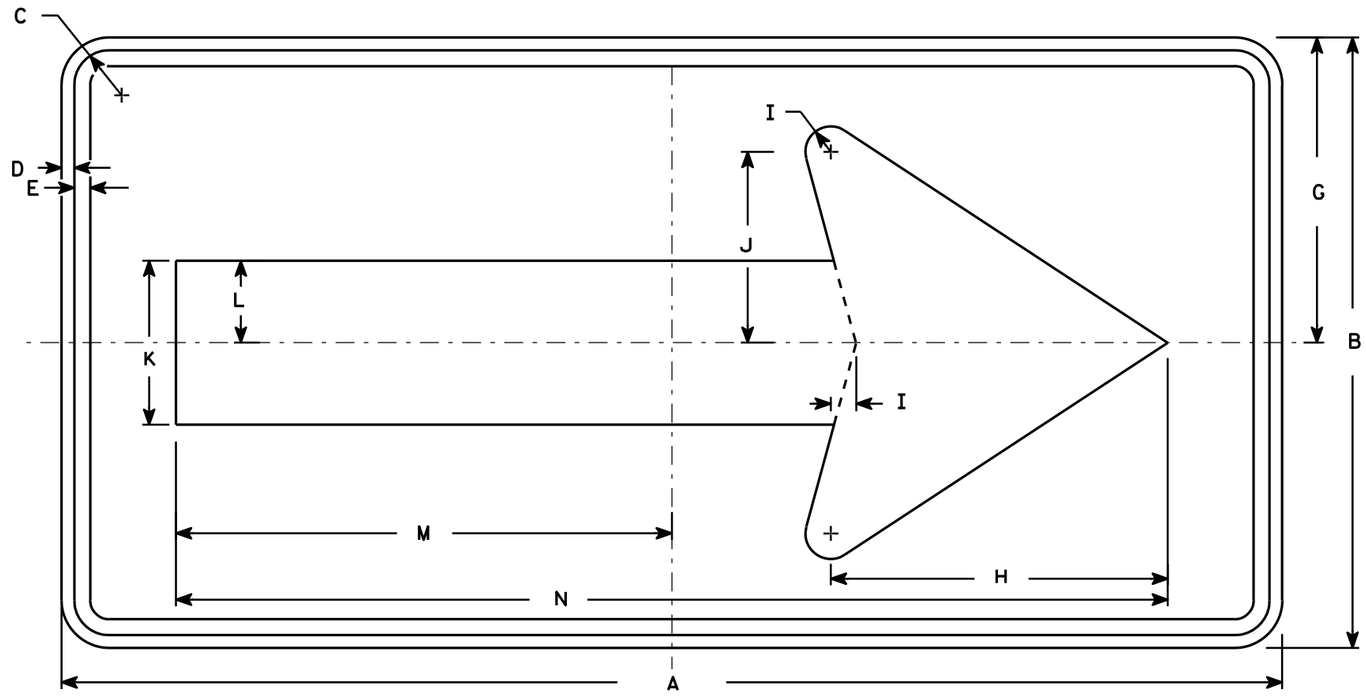
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

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

PROJECT NO:

SHEET NO: 446 E



W1-6

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/8	3/8	3/8		9	10	3/4	5 5/8	4 3/4	2 3/8	14 5/8	29 1/4													4.5
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	96	48	2 1/4	3/4	1		24	26 1/2	2	15	13	6 1/2	39	78													32.0

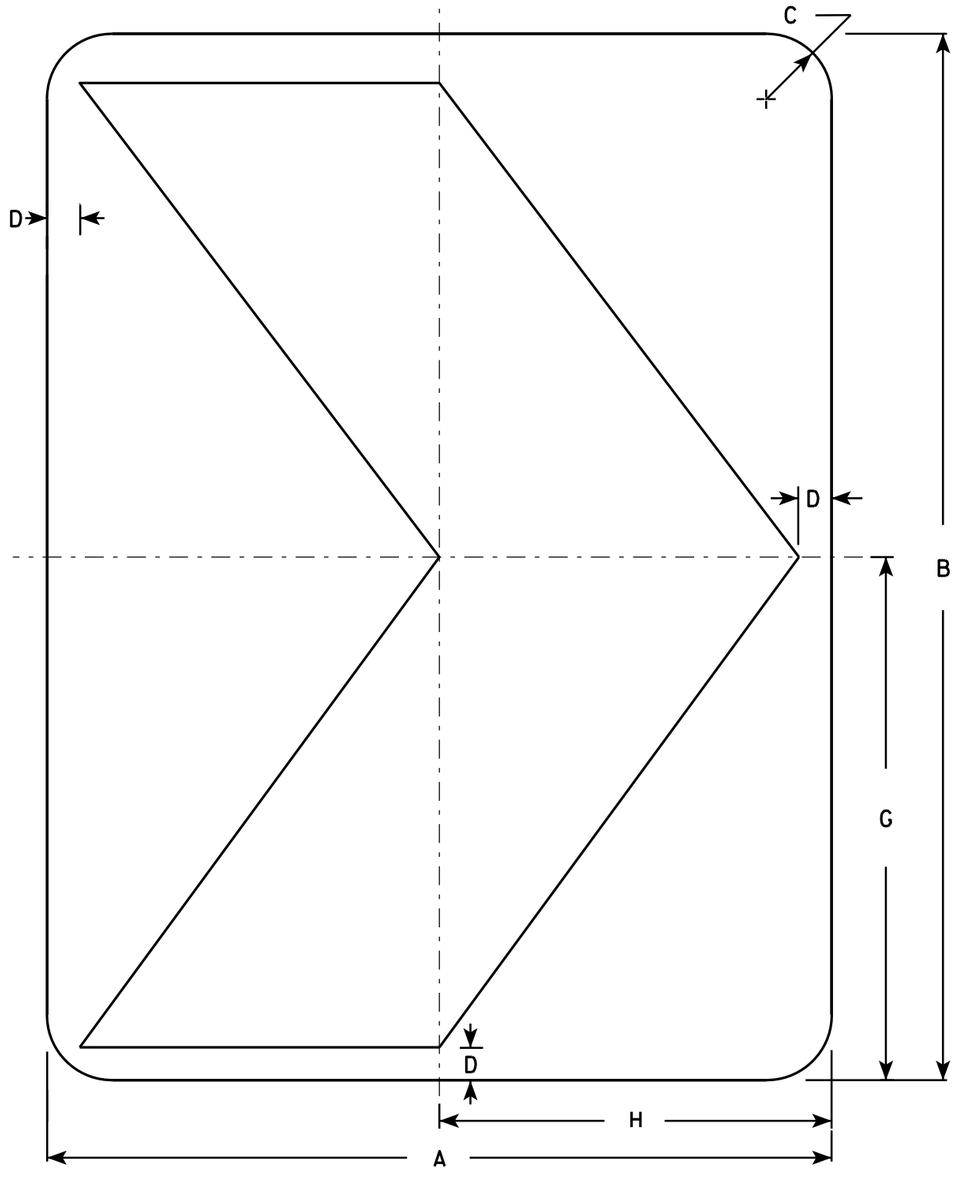
STANDARD SIGN
W1-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-6.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 447



NOTES

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

W1-8

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 ½	½			9	6																			1.5
2S	18	24	1 ½	¾			12	9																			3.0
2M	18	24	1 ½	¾			12	9																			3.0
3	24	30	1 ½	1			15	12																			5.0
4	30	36	1 ⅞	1 ¼			18	15																			7.5
5	36	48	2 ¼	1 ½			24	18																			12.0

STANDARD SIGN
W1-8

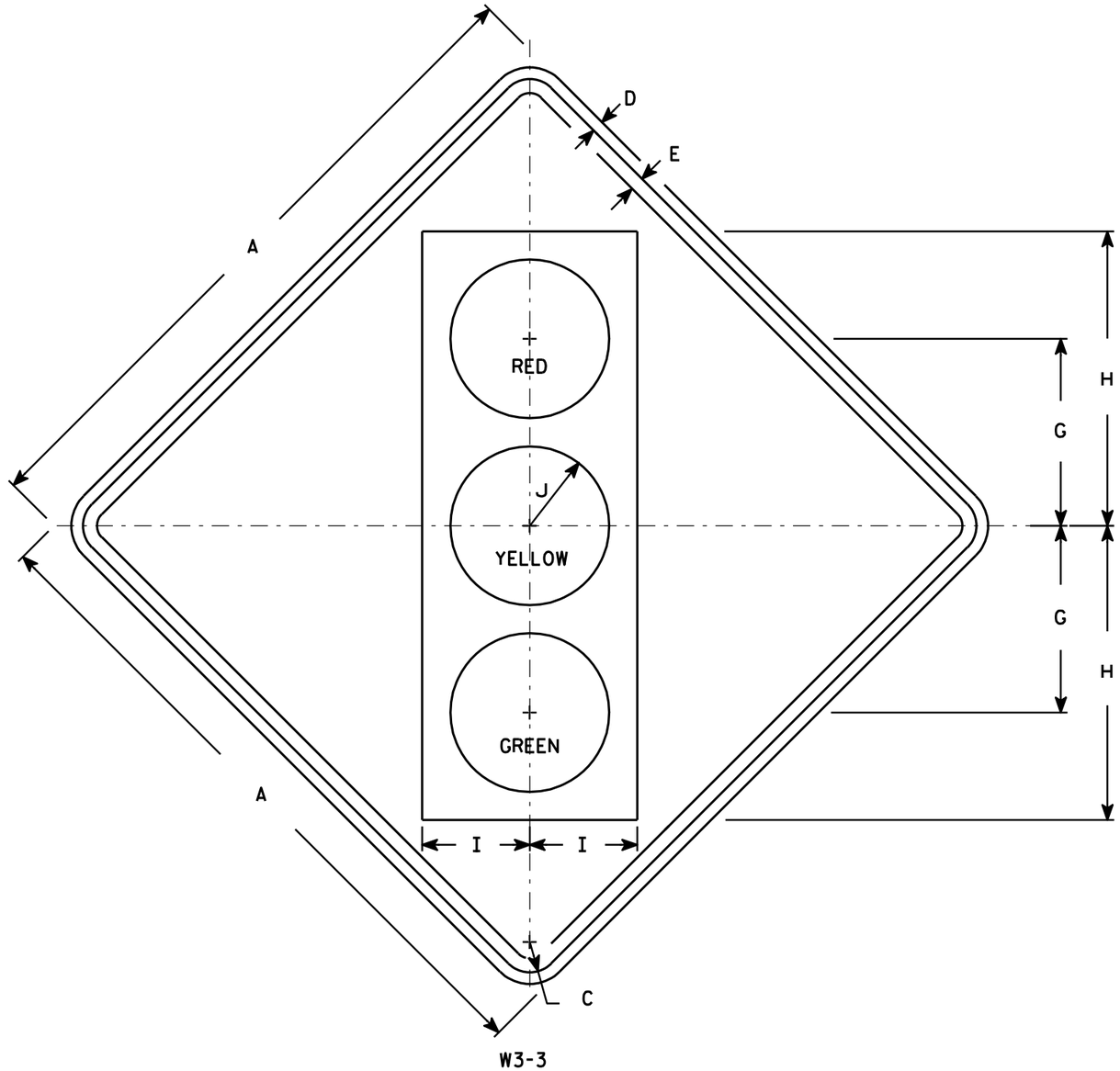
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-8.6

PROJECT NO:

SHEET NO: 448 E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Symbol and border are non-reflective black.
   Top circle - Type H Reflectorized Red
   Center circle - Same as background
   Bottom circle - Type H Reflectorized Green

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		8 3/4	13 3/4	5	3 3/4																	6.25
2S	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
2M	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
3	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
4	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
5	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0

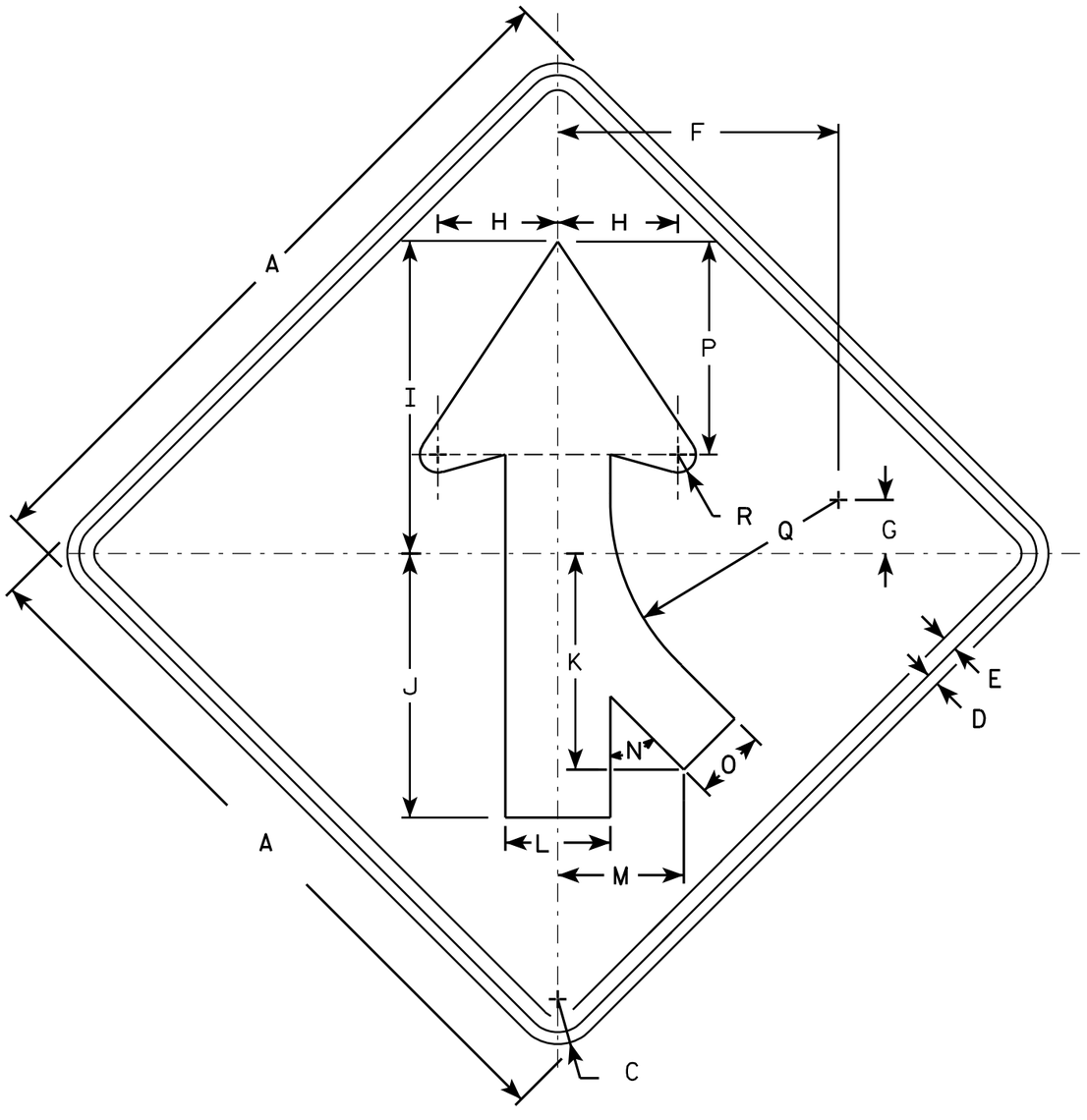
STANDARD SIGN
W3-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-3.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 449 | E



W4-1 R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W4-1L is the same as W4-1R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	11 5/8	2 1/2	5	13	11	9	4 3/8	5 1/4	45°	3	8 7/8	9 1/2	3/4									6.25
2S	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
2M	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
3	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
4	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
5	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0

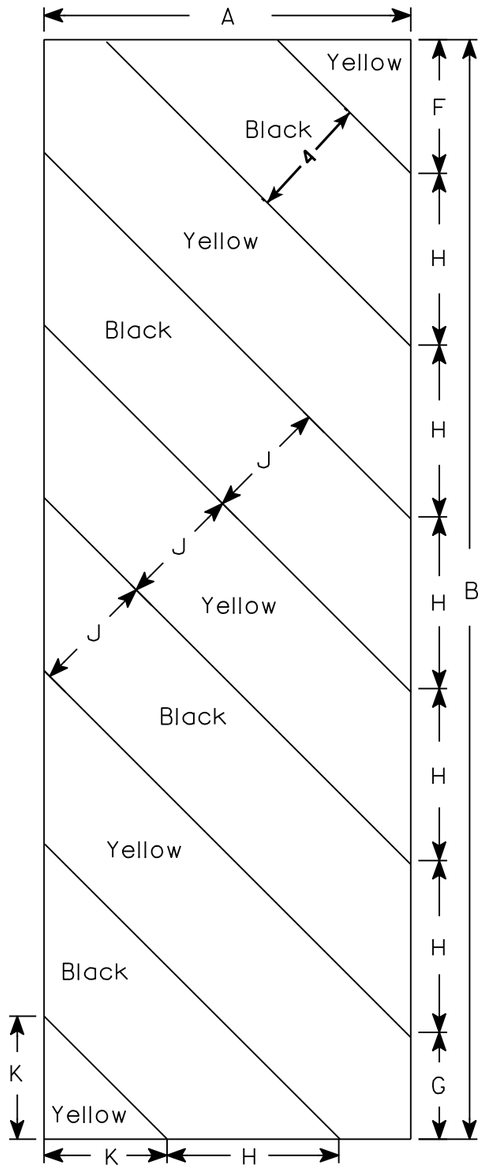
STANDARD SIGN
W4-1

WISCONSIN DEPT OF TRANSPORTATION

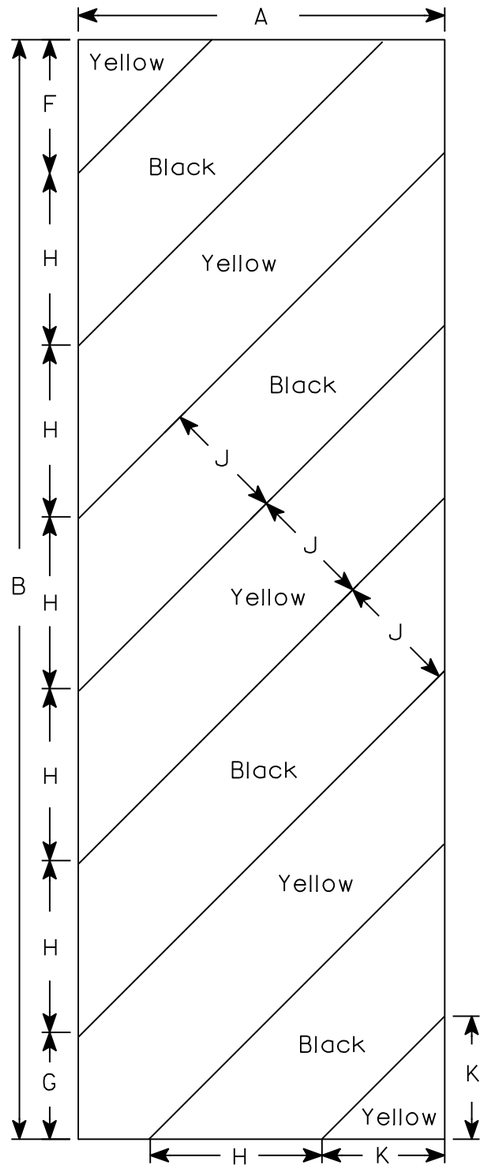
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 03/12/13 PLATE NO. W4-1.14

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 450	E



W5-52L



W5-52R

NOTES

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

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

STANDARD SIGN

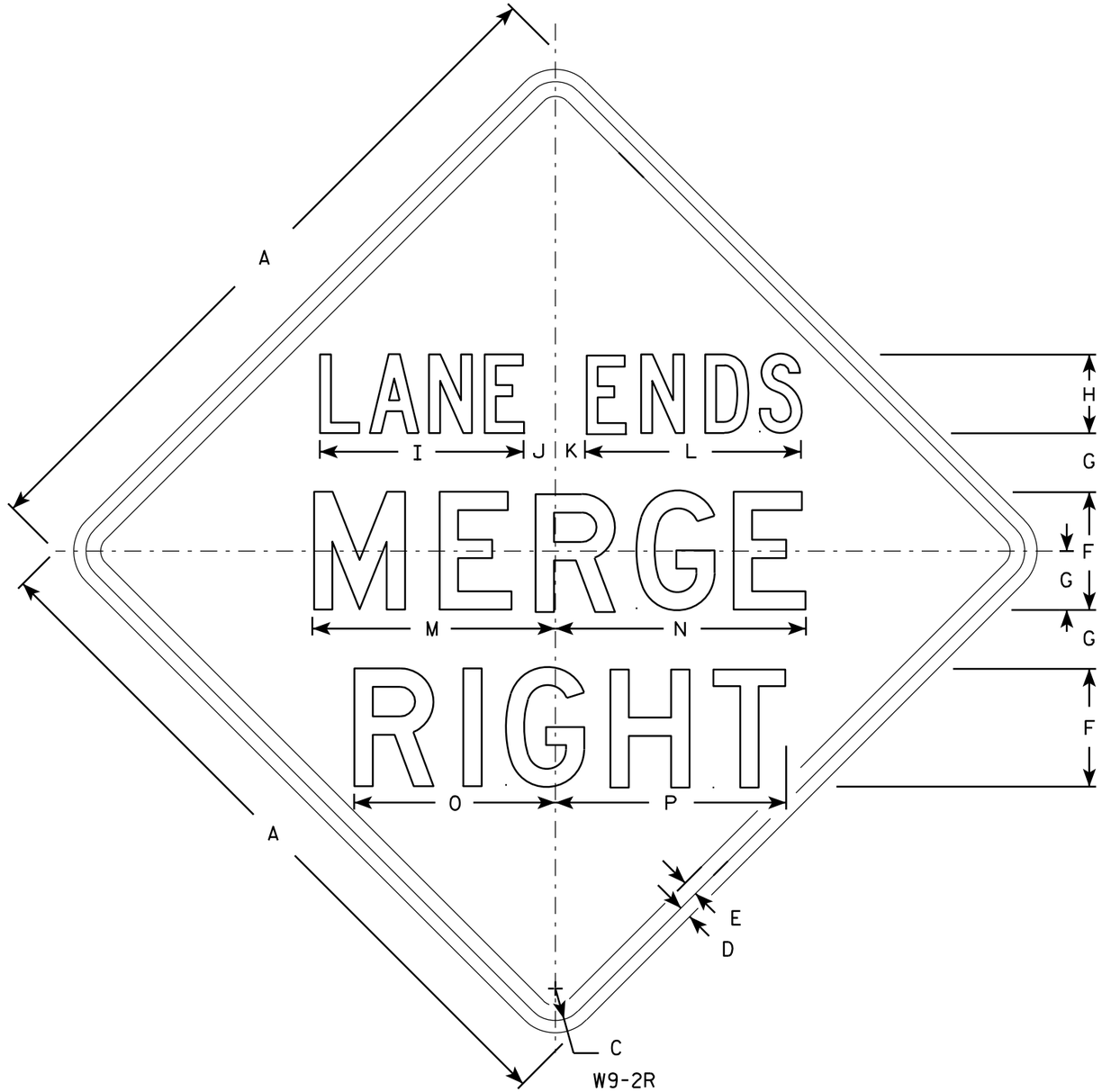
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

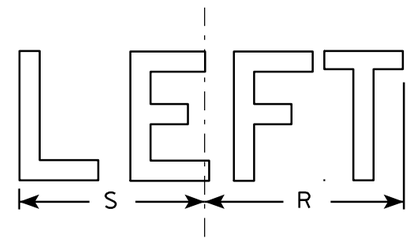
DATE 5/29/12 PLATE NO. W5-52.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 451 | E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series C, lines 2 & 3 are Series D.
6. W9-1L is the same as W9-2R except the word LEFT replaces RIGHT.



W9-2L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	5	2 1/2	3	8	1	1 1/8	8 1/4	10 3/8	10 5/8	8 5/8	9 7/8		7 5/8	7 1/8								6.25
2S	36		1 5/8	5/8	3/4	6	3	4	10 3/8	1 5/8	1 1/2	11	12 3/8	12 3/4	10 1/4	11 3/4		9 1/8	8 1/2								9.0
2M	36		1 5/8	5/8	3/4	6	3	4	10 3/8	1 5/8	1 1/2	11	12 3/8	12 3/4	10 1/4	11 3/4		9 1/8	8 1/2								9.0
3																											
4	48		2 1/4	3/4	1	8	4	6	14 1/2	2	3 1/4	13 3/4	16 3/8	17 1/8	13 3/4	15 3/4		12 1/4	11 1/4								16.0
5	48		2 1/4	3/4	1	8	4	6	14 1/2	2	3 1/4	13 3/4	16 3/8	17 1/8	13 3/4	15 3/4		12 1/4	11 1/4								16.0

STANDARD SIGN
W9-2

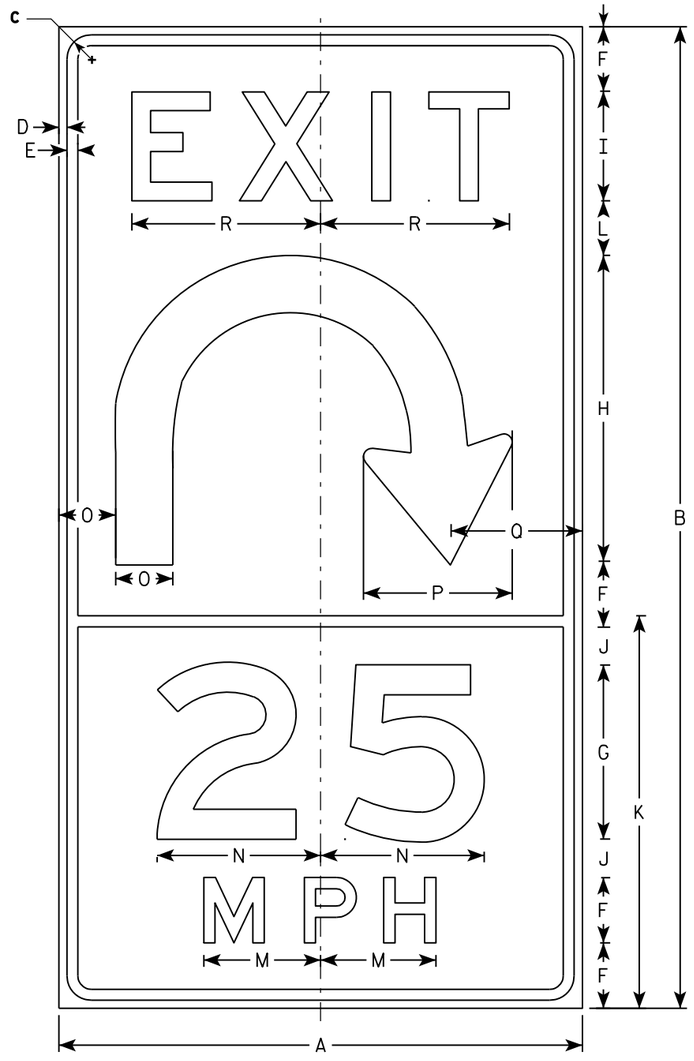
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/18/13 PLATE NO. W9-2.10

PROJECT NO:

SHEET NO: 452 E



W13-2A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - 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.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	90	2 1/4	3/4	1	6	16	28	10	3 1/2	36	5	10 3/4	15	5 1/4	13 5/8	12	17 3/8									30
2M	48	90	2 1/4	3/4	1	6	16	28	10	3 1/2	36	5	10 3/4	15	5 1/4	13 5/8	12	17 3/8									30
3																											
4																											
5																											

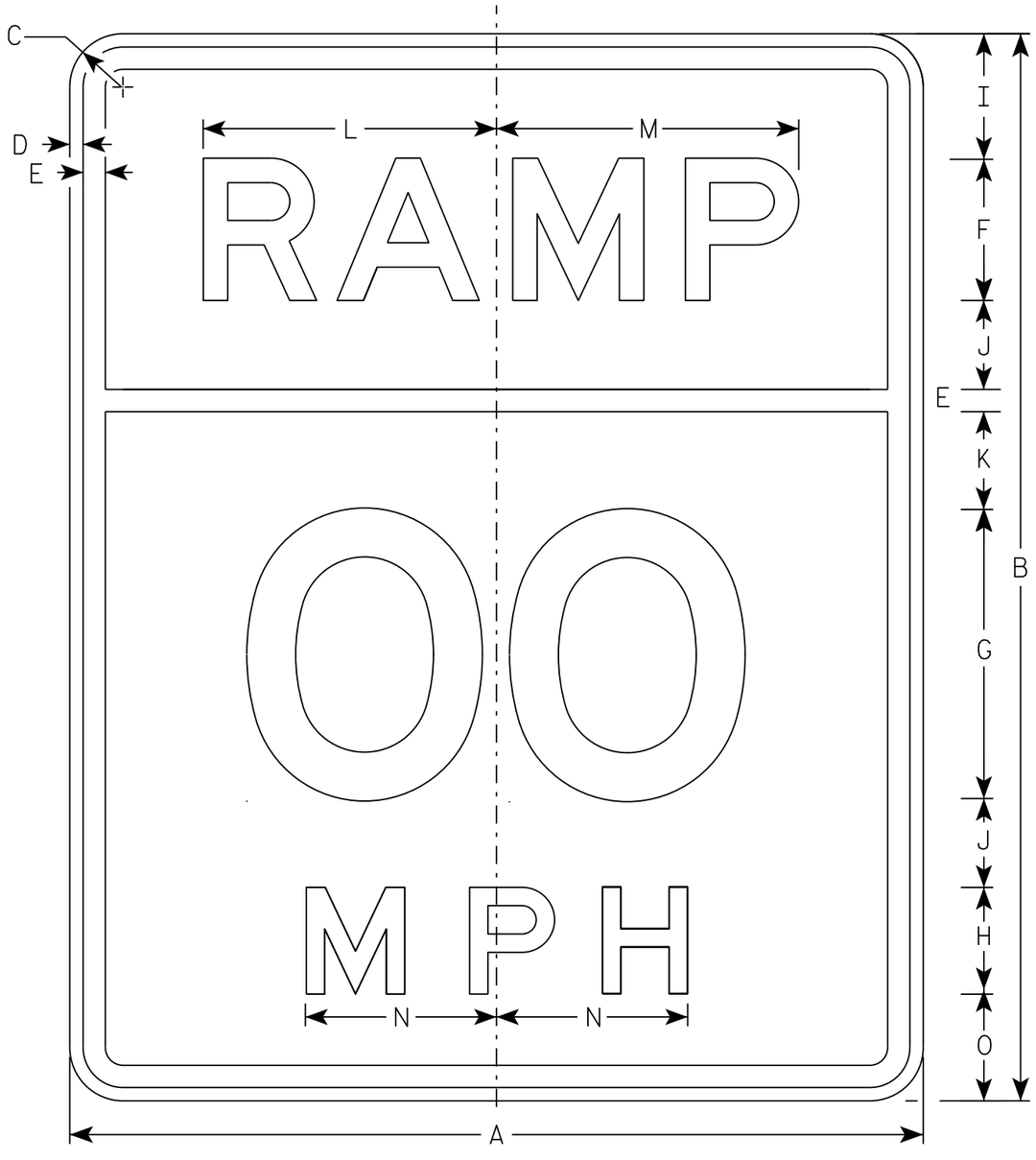
STANDARD SIGN
W13-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-2A.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 453	E



W13-3

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - E
4. Substitute appropriate numerals and optically space about centerline to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	30	1 1/8	3/8	5/8	4	8	3	3 1/2	2 1/2	2 7/8	8 1/4	8 1/2	5 3/8	3												5.0
2S	24	30	1 1/8	3/8	5/8	4	8	3	3 1/2	2 1/2	2 7/8	8 1/4	8 1/2	5 3/8	3												5.0
2M	24	30	1 1/8	3/8	5/8	4	8	3	3 1/2	2 1/2	2 7/8	8 1/4	8 1/2	5 3/8	3												5.0
3	36	48	1 5/8	5/8	7/8	6	12	4	6	4 1/8	5 1/8	13 1/2	13 5/8	7 1/8	6												12.0
4	36	48	1 5/8	5/8	7/8	6	12	4	6	4 1/8	5 1/8	13 1/2	13 5/8	7 1/8	6												12.0
5	48	60	2 1/4	3/4	1 1/4	8	16	6	7	5	5 3/4	16 1/2	17	10 5/8	6												20.0

STANDARD SIGN
W13-3

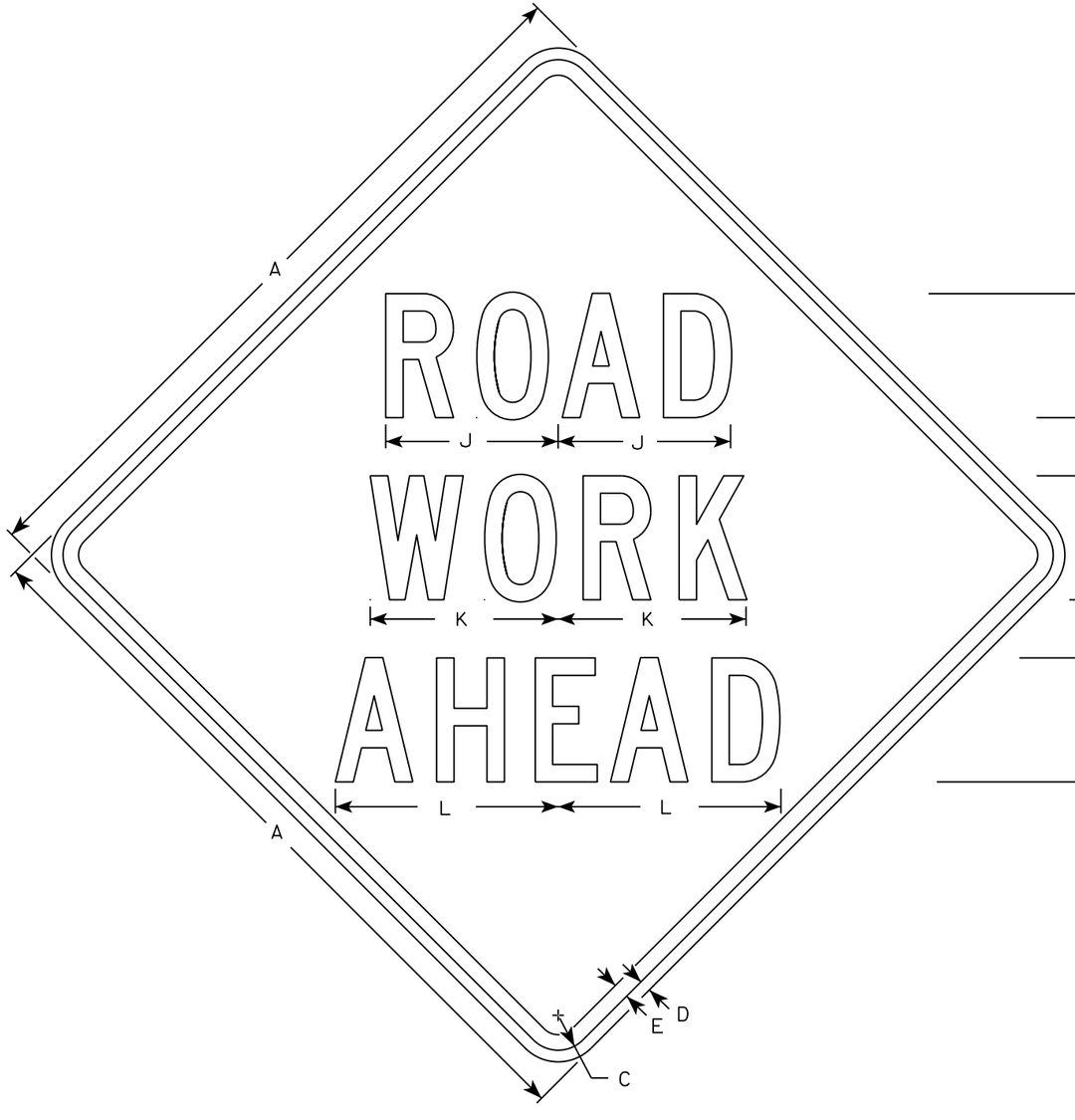
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

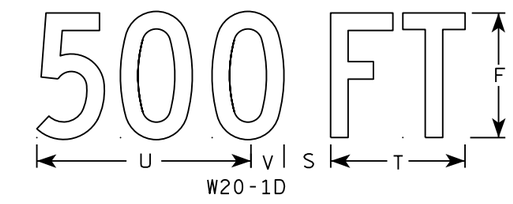
DATE 8/1/16 PLATE NO 454 W13-3.10

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

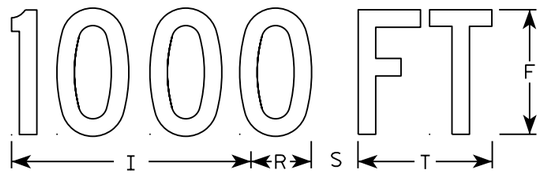
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W133.DGN PLOT DATE : 01-AUG-2016 09:57 PLOT BY : ** platuser ** PLOT NAME : PLOT SCALE : 4.086268:1.000000



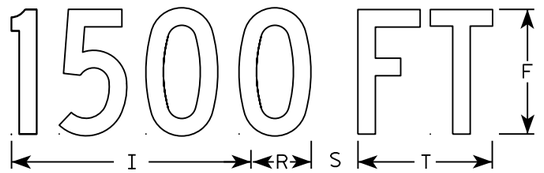
W20-1A



W20-1D

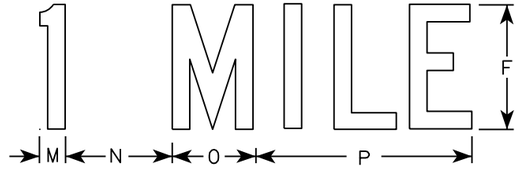


W20-1C

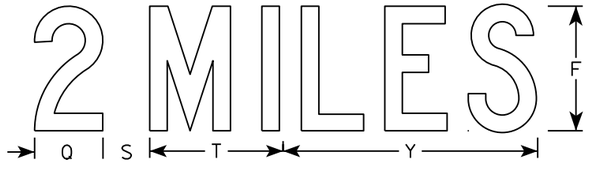


W20-1B

W20-1G



W20-1F



W20-1E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

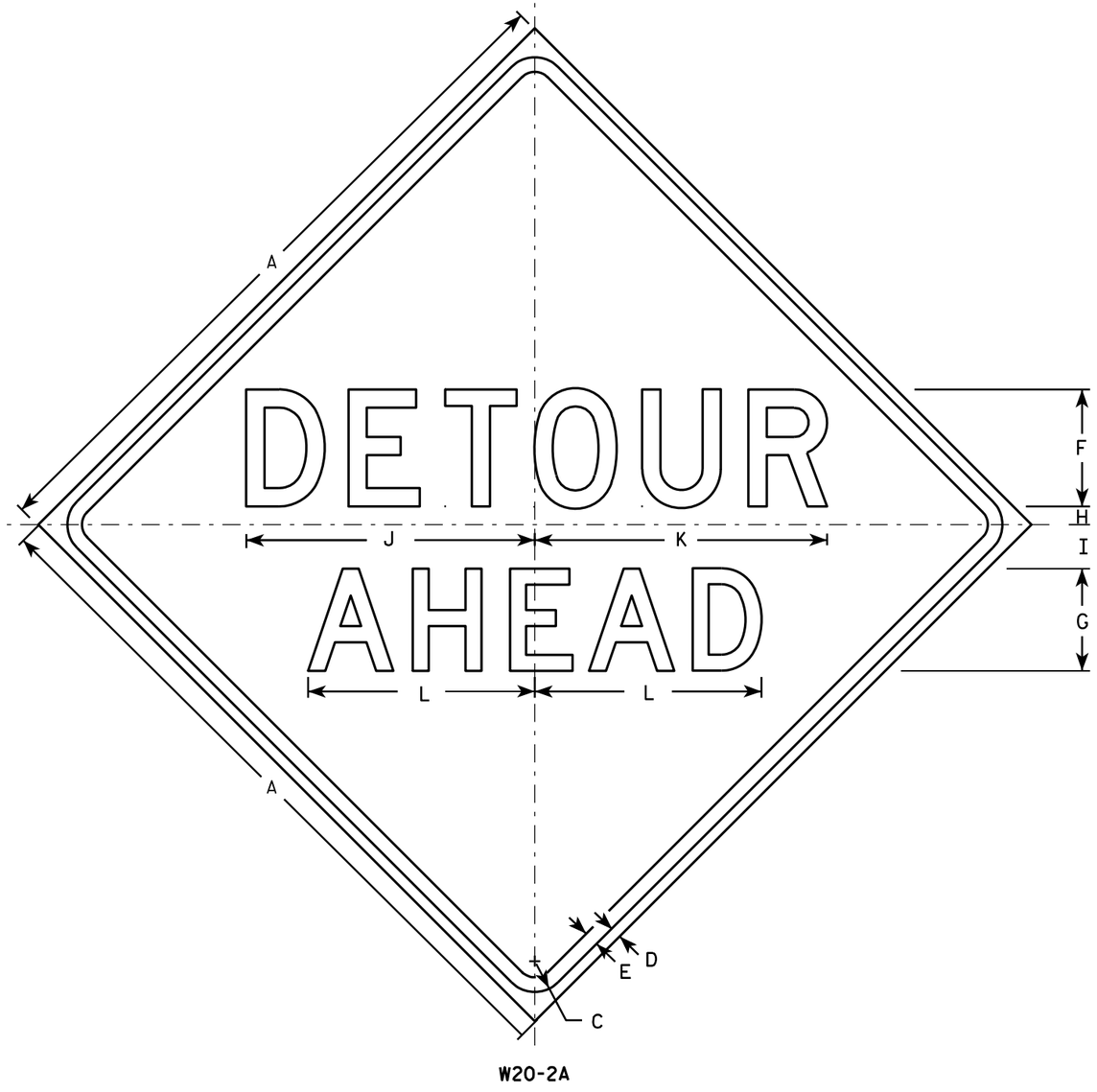
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10

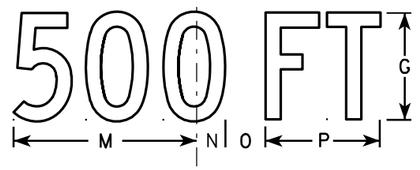
PROJECT NO:

SHEET NO: E

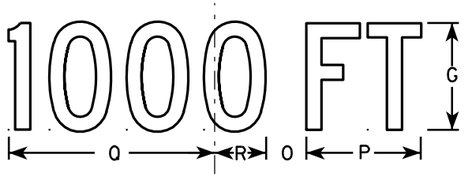
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 01-DEC-2015 18:24 PLOT BY : $$ plotuser $$



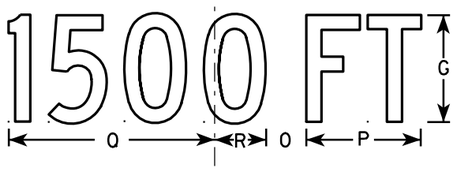
W20-2A



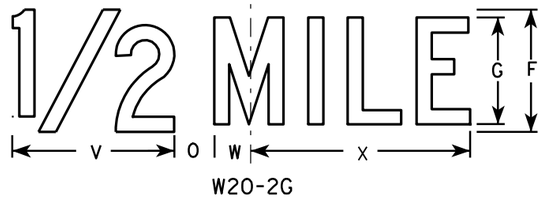
W20-2D



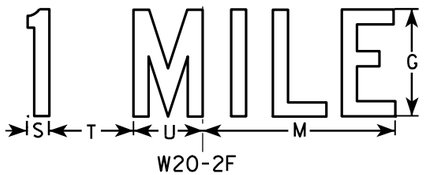
W20-2C



W20-2B



W20-2G



W20-2F

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN
W20-2A,B,C,D,F & G

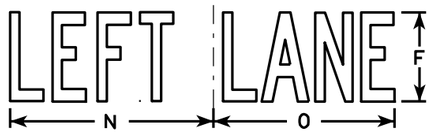
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

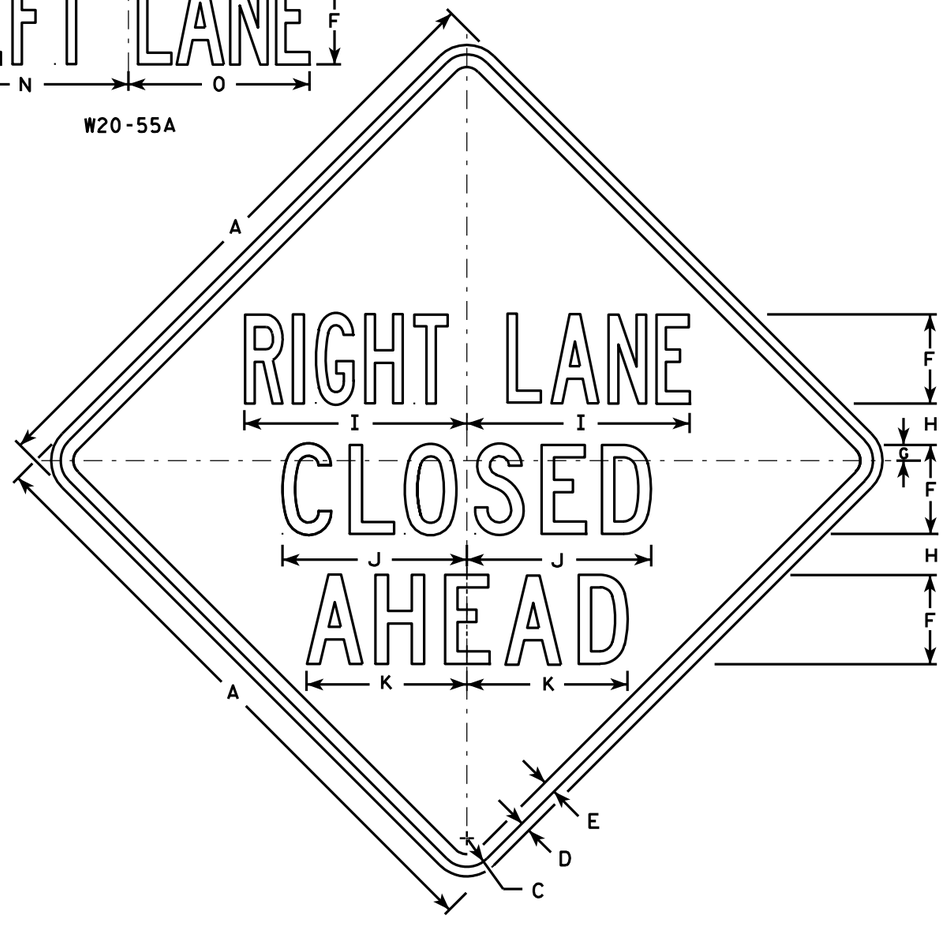
DATE 3/18/11 PLATE NO. W20-2.6

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 456	E

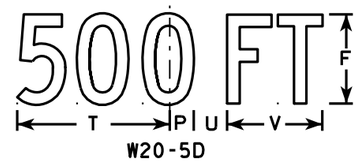
W20-56A



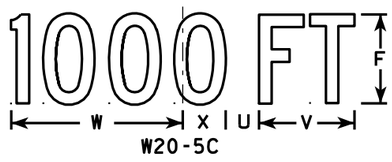
W20-55A



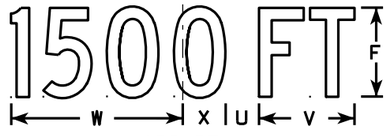
W20-5A



W20-5D



W20-5C



W20-5B

W20-5G

W20-5F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. " _____ LANE" is Series B.
   All other copy is Series C.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	6	1 5/8	5/8	3/4	5	1/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 1/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

STANDARD SIGN
W20-5A, B, C, D, F & G

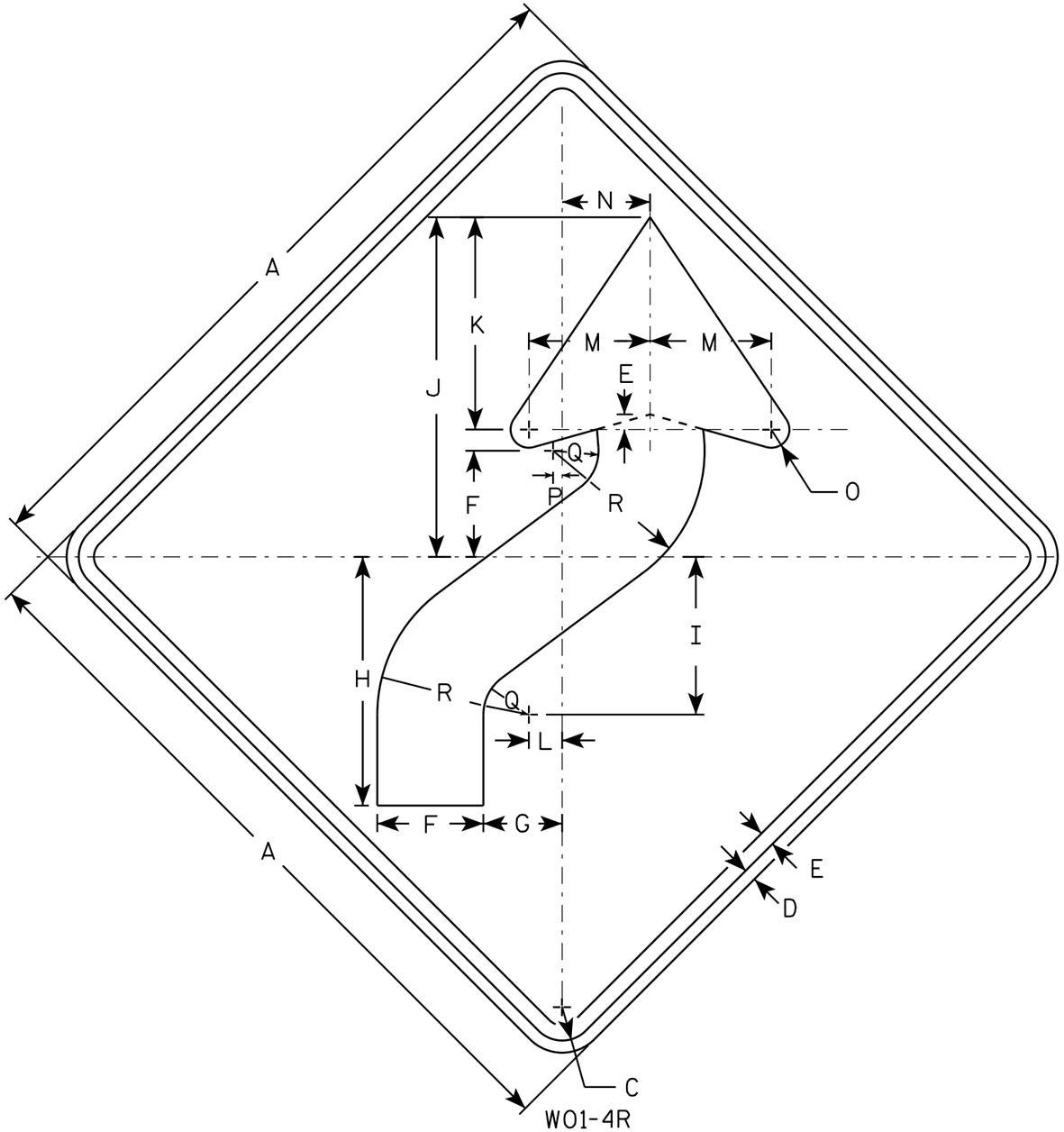
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-5.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 457	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W205.DGN PLOT DATE : 18-MAR-2011 12:15 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.918087:1.000000
WISDOT/CADDS SHEET 42



W01-4R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W01-4L is the same as W01-4R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
2S	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
2M	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
3	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
4	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
5	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0

STANDARD SIGN
W01-4

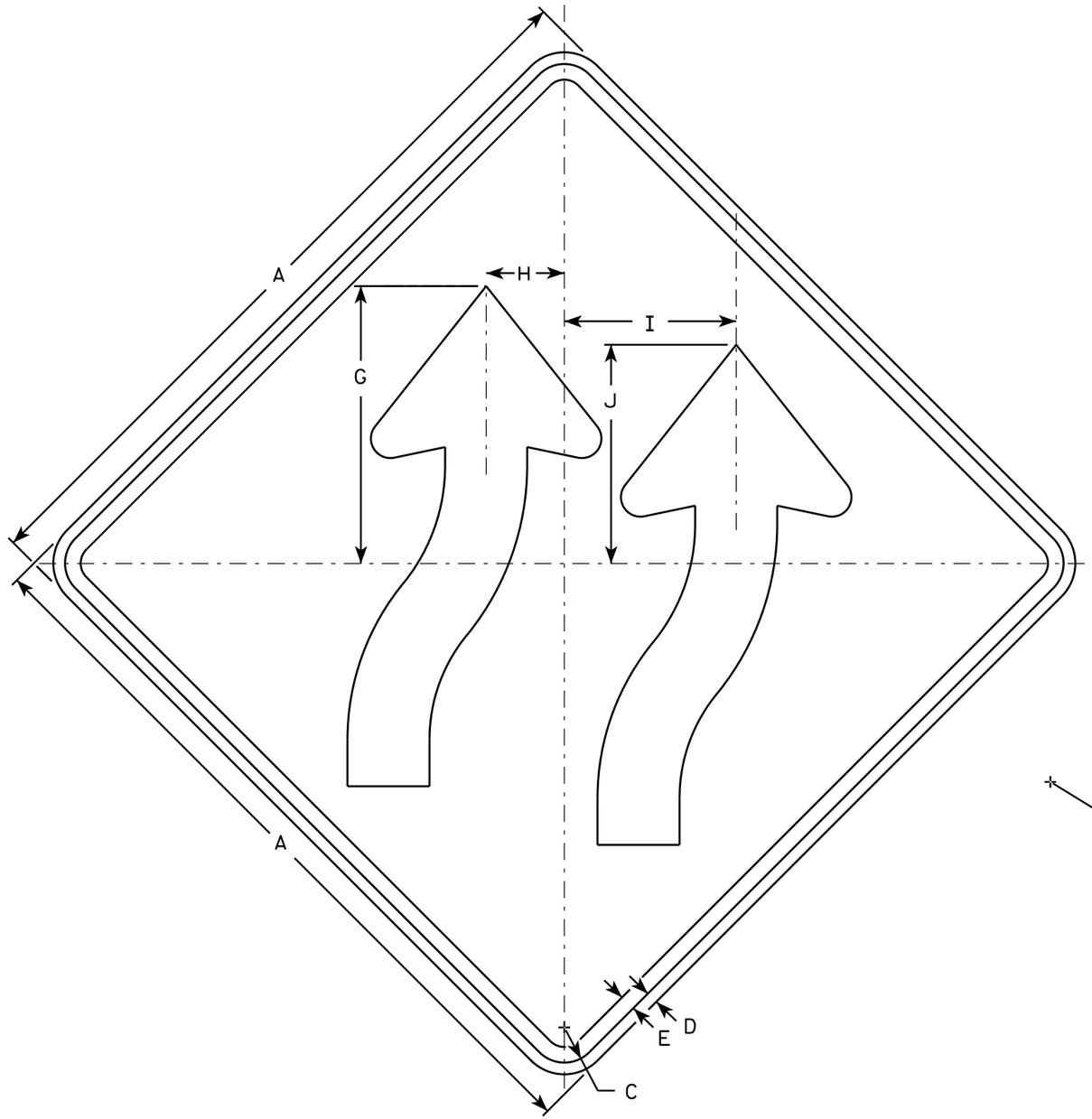
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

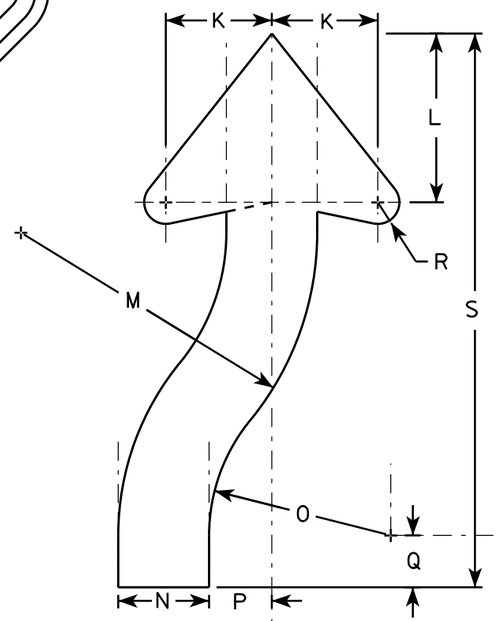
DATE 11/18/13 PLATE NO W01-4.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W014.DGN PLOT DATE : 28-FEB-2014 11:35 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 6.755110:1.000000
WISDOT/CADDS SHEET 42



W01-4bR



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W01-4bL is the same as W014-bR exept arrows are reversed along the vertical centerline

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4		13 3/8	3 3/4	8 1/4	10 1/2	4 5/8	7 3/8	12 7/8	3 7/8	7 7/8	2 3/4	2 1/4	7/8	24								9.0
2S	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
2M	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
3	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
4	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
5	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0

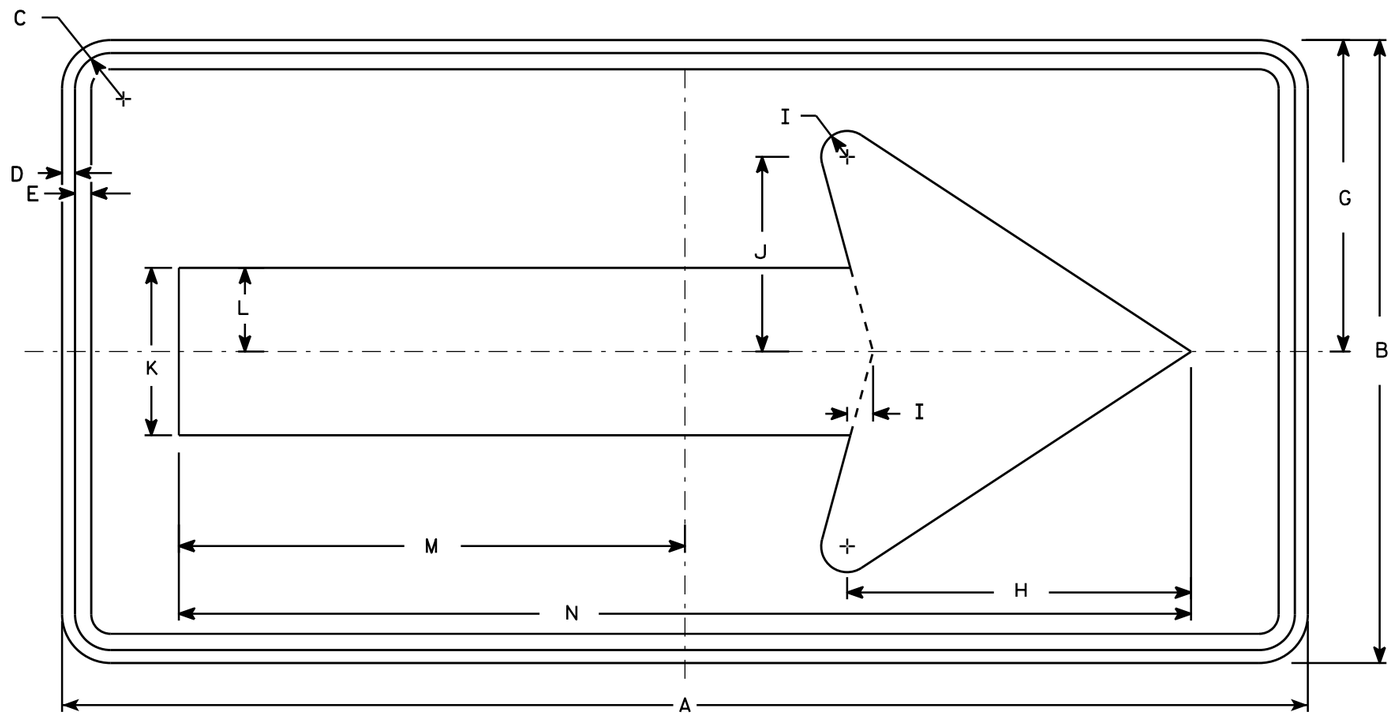
STANDARD SIGN
W01-4b

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-4b.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



W01-6

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

STANDARD SIGN
W01-6

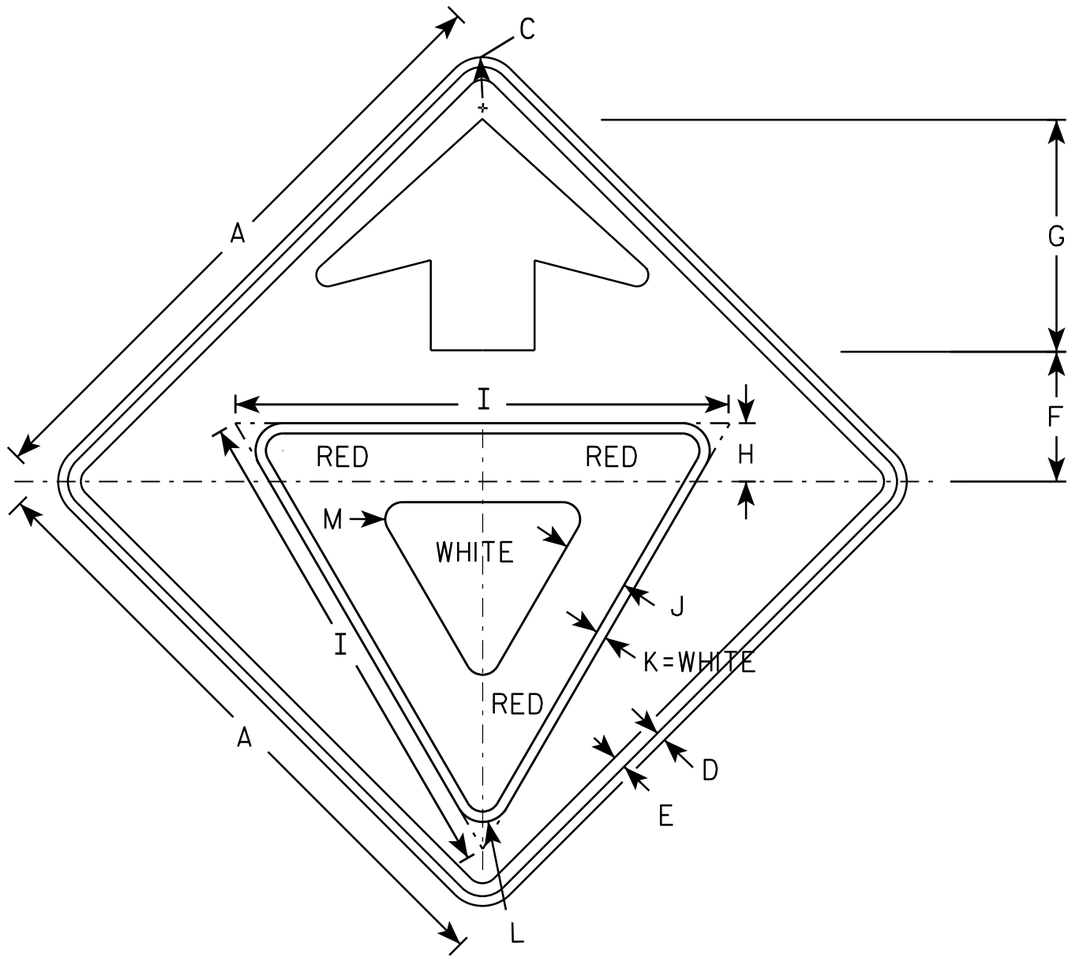
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE W01-6.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

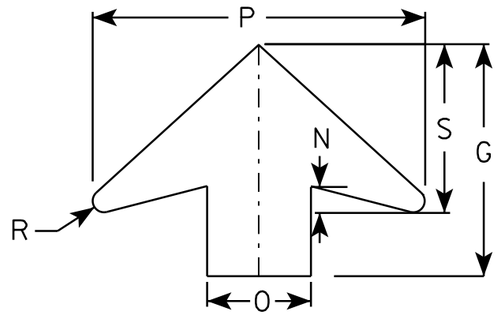
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W016.DGN PLOT DATE : 28-FEB-2014 11:37 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 5.837526:1.000000 WISDOT/CADDS SHEET 42



W03-2

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - ORANGE
   Arrow & Border - BLACK
   Yield Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
2S	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
2M	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
3	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0

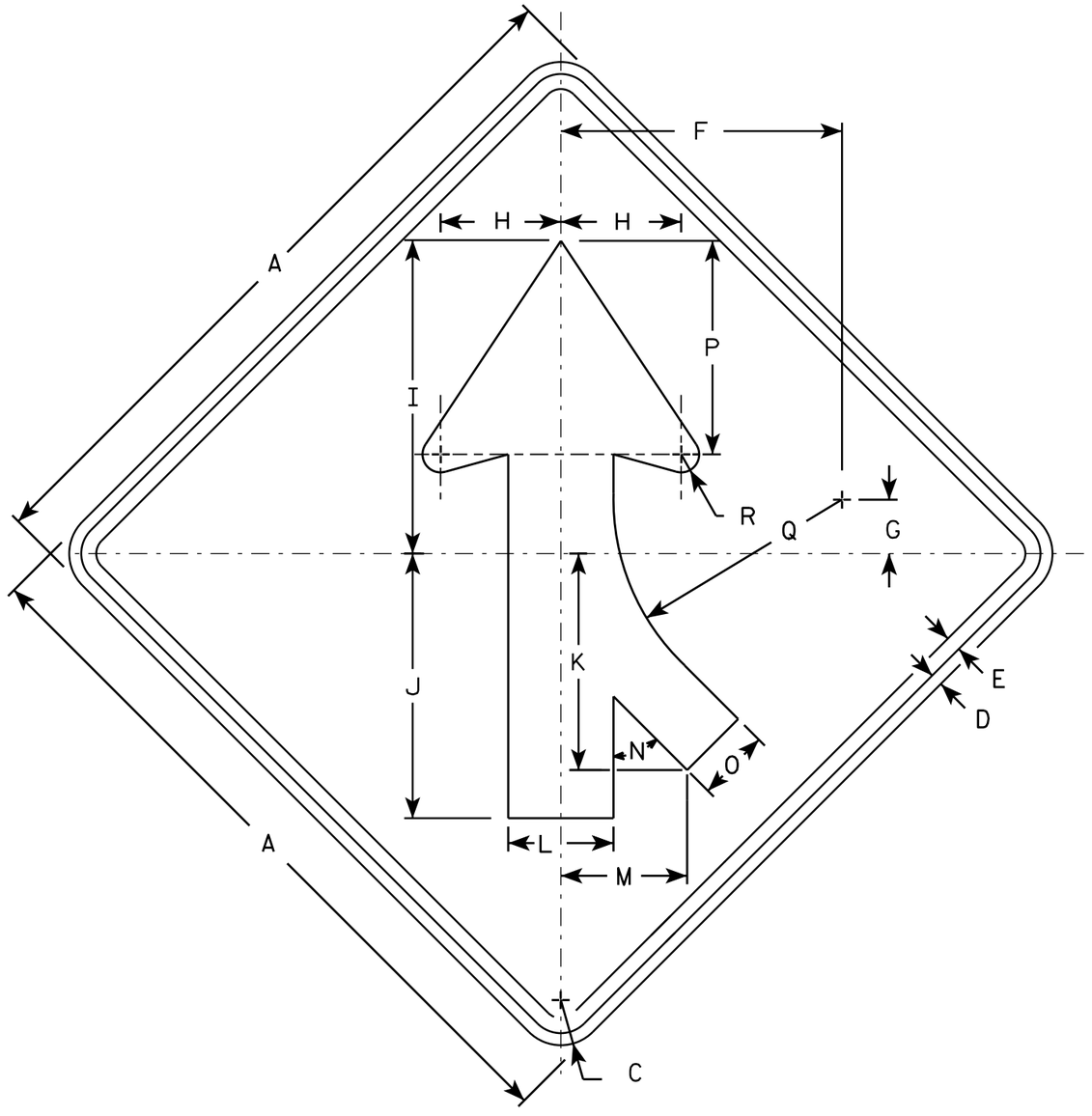
STANDARD SIGN
W03-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W03-2.1

PROJECT NO: SHEET NO: E



W04-1R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W4-1L is the same as W4-1R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
2S	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
2M	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
3	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
4	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
5	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0

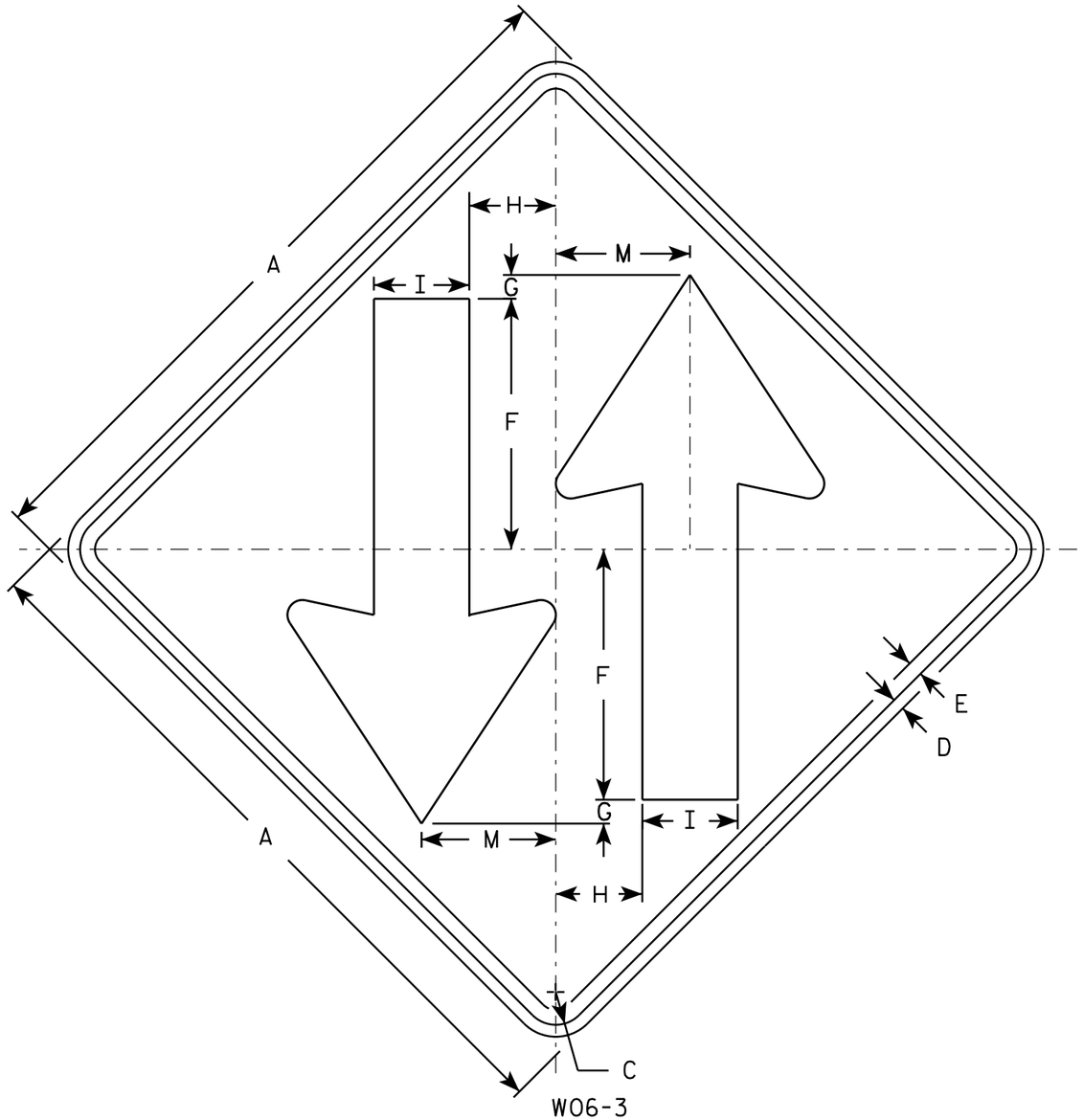
STANDARD SIGN
W04-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

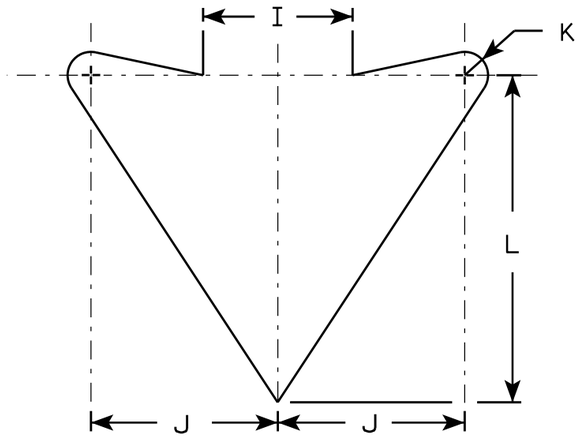
DATE 11/20/13 PLATE NO. W04-1.1

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



NOTES

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



ARROW DETAIL

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

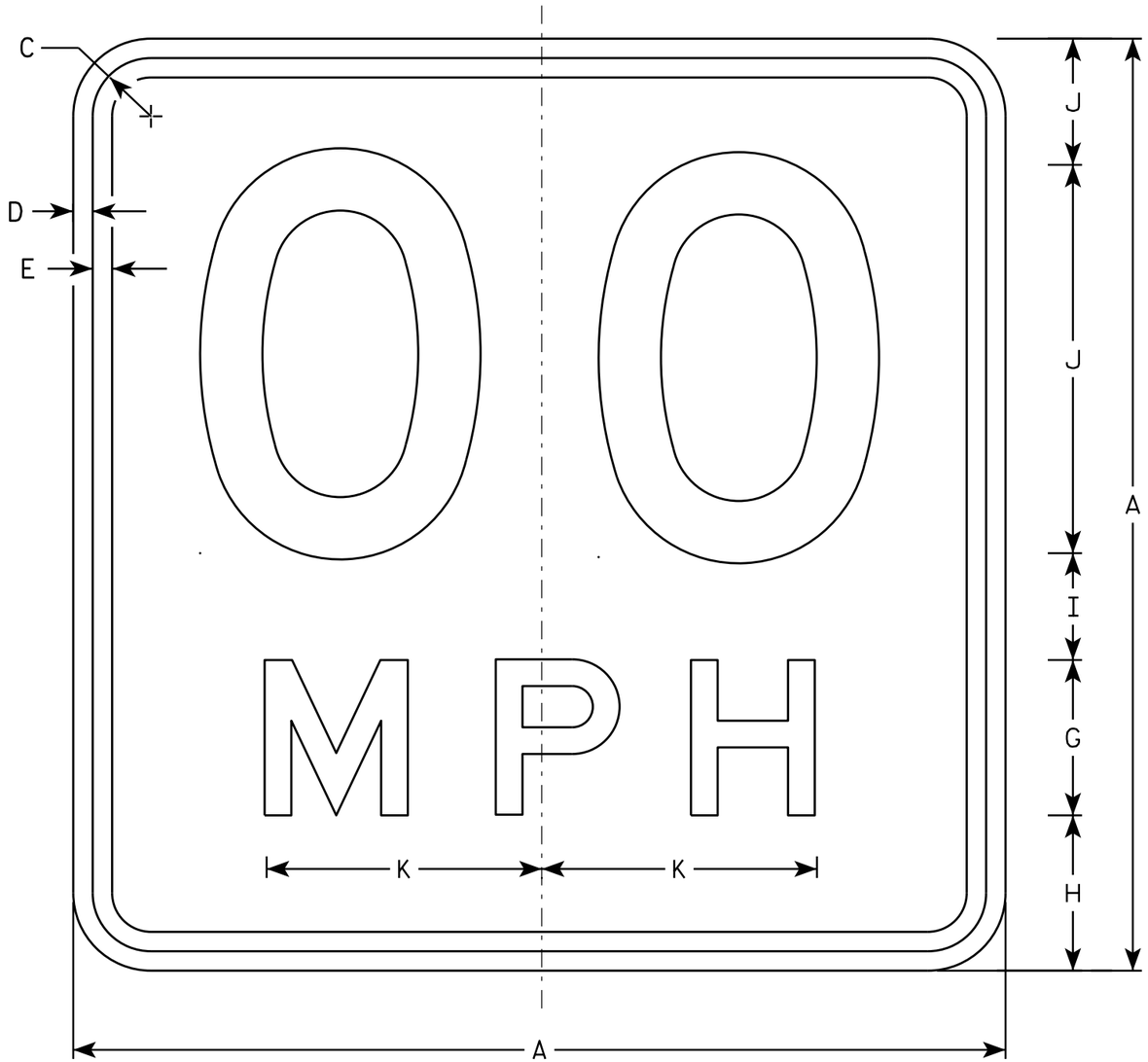
STANDARD SIGN
W06-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 463 W06-3.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



W013-1

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See Note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
6. Line 1 is Series D
   Line 2 is Series E

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	7 1/8																4.00
2S	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
2M	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
3	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

STANDARD SIGN
W013-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

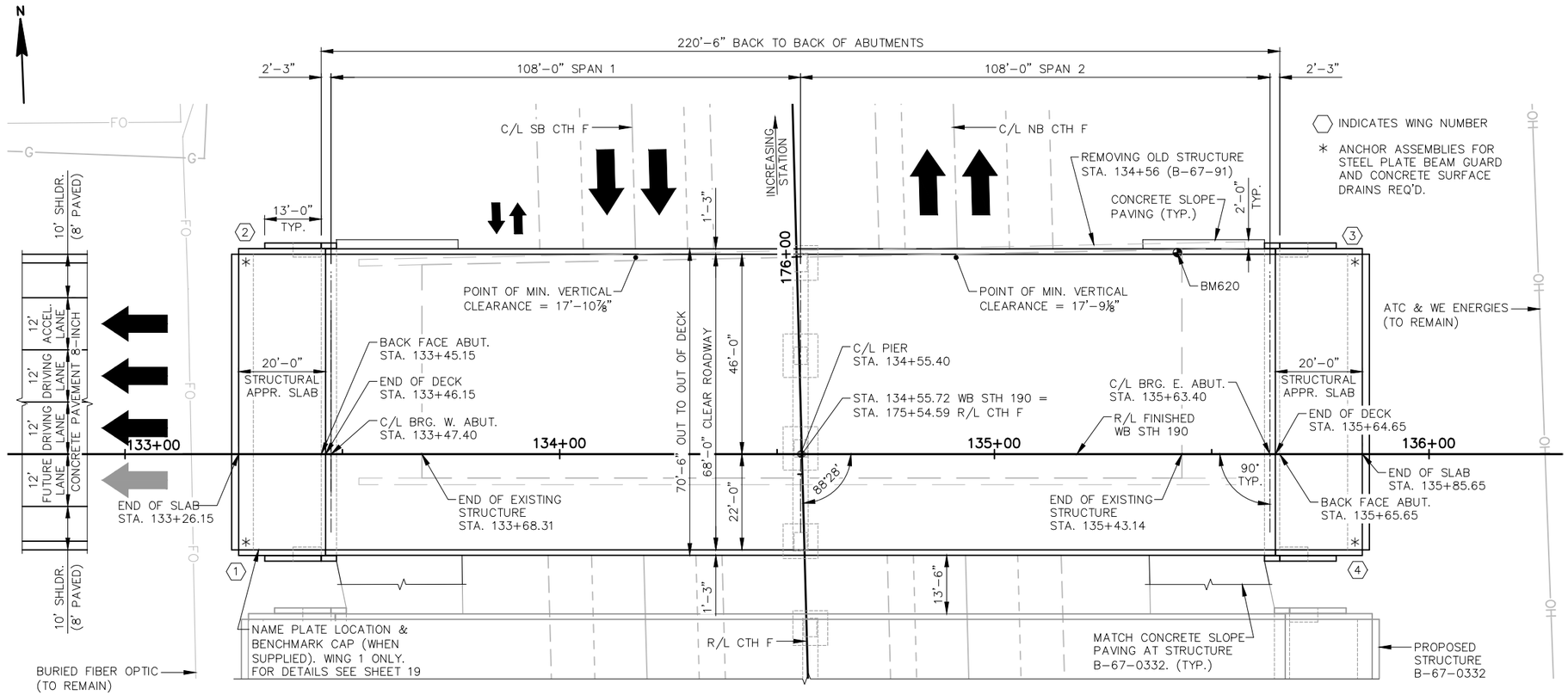
DATE 11/21/13 PLATE 464 W013-1.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W0131.DGN PLOT DATE : 02-DEC-2013 13:55 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 3.794391:1.000000
WISDOT/CADDS SHEET 42

STATE PROJECT NUMBER

2025-13-71

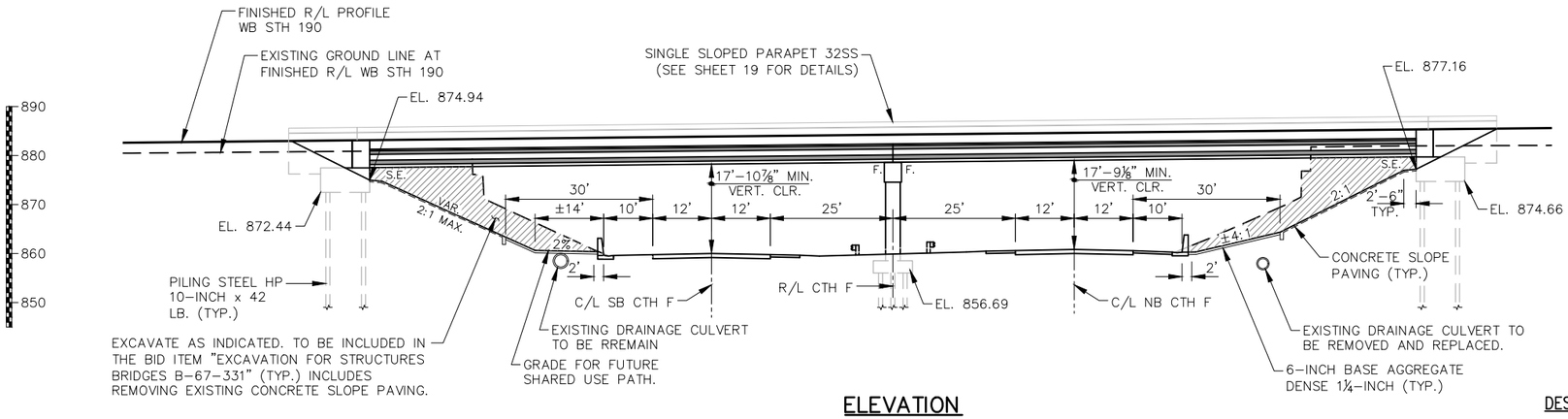


PLAN B-67-331

(TWO-SPAN 45W-INCH PRESTRESSED CONCRETE GIRDER STRUCTURE)

BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
620	135+42	CHISELED SQUARE ON CONCRETE CURB NE WING, B-67-91, 46.4' LT.	881.84
621	133+58	CHISELED SQUARE ON CONCRETE CURB SW WING, B-67-92, 95.4' RT.	881.75



ELEVATION

(NORMAL TO CTH F)

DESIGN DATA

LIVE LOAD:

DESIGN LOADING	HL-93
INVENTORY RATING FACTOR	RF=1.10
OPERATING RATING FACTOR	RF=1.43
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV)	250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 P.S.F.

MATERIAL PROPERTIES:

CONCRETE MASONRY, DECK	f'c = 4,000 P.S.I.
ALL OTHER	f'c = 3,500 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.
45W-INCH PRESTRESSED GIRDER CONCRETE MASONRY	f'c = 8,000 P.S.I.
STRANDS 0.6 INCH DIA. WITH ULTIMATE TENSILE STRENGTH	fy = 270,000 P.S.I.

FOUNDATION DATA

ABUTMENTS AND PIER TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 30 FT PILE LENGTHS AT BOTH ABUTMENTS AND 15 FT PILE LENGTHS AT PIER.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

TRAFFIC DATA

	STH 190 (TOTAL)	CTH F (TOTAL)
A.D.T. (2014)	25,700	25,600
A.D.T. (2039)	32,100	28,800
DESIGN SPEED	60 M.P.H.	60 M.P.H.

LIST OF DRAWINGS

GENERAL PLAN 1.
CROSS SECTION AND QUANTITIES 2.
SUBSURFACE EXPLORATION 3.
WEST ABUTMENT ELEVATION 4.
WEST ABUTMENT LAYOUT 5.
WEST ABUTMENT DETAILS 6.
EAST ABUTMENT ELEVATION 7.
EAST ABUTMENT LAYOUT 8.
EAST ABUTMENT DETAILS 9.
PIER ELEVATION 10.
PIER LAYOUT 11.
GIRDER LAYOUT 12.
45W-INCH PRESTRESSED GIRDER DETAILS 13.
STEEL DIAPHRAGM 14.
SUPERSTRUCTURE 15.
SUPERSTRUCTURE DETAILS (1 OF 2) 16.
SUPERSTRUCTURE DETAILS (2 OF 2) 17.
APPROACH SLAB 18.
SINGLE SLOPE PARAPET 32SS 19.
SLOPE PAVING DETAILS 20.

NO.	DATE	REVISION	BY

JEWELL associates engineers, inc. Engineers - Surveyors - Architects

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 11/23/16
CHIEF STRUCTURES DESIGN ENGINEER — DATE

WISCONSIN PROFESSIONAL ENGINEER
PATRICK T. BOLAND
E-36303
SPRING GREEN
WIS.
Patrick Boland 11-23-16

STRUCTURE B-67-331

WB STH 190 (CAPITAL DRIVE) OVER CTH F

COUNTY	WAUKESHA
TOWN/CITY/~~VILLAGE~~	PEWAUKEE
DESIGN SPEC.	AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS
DESIGNED BY	PTB
DESIGN CK'D.	RBH
DRAWN BY	JZ
PLANS CK'D.	PTB

GENERAL PLAN

SHEET 1 OF 20

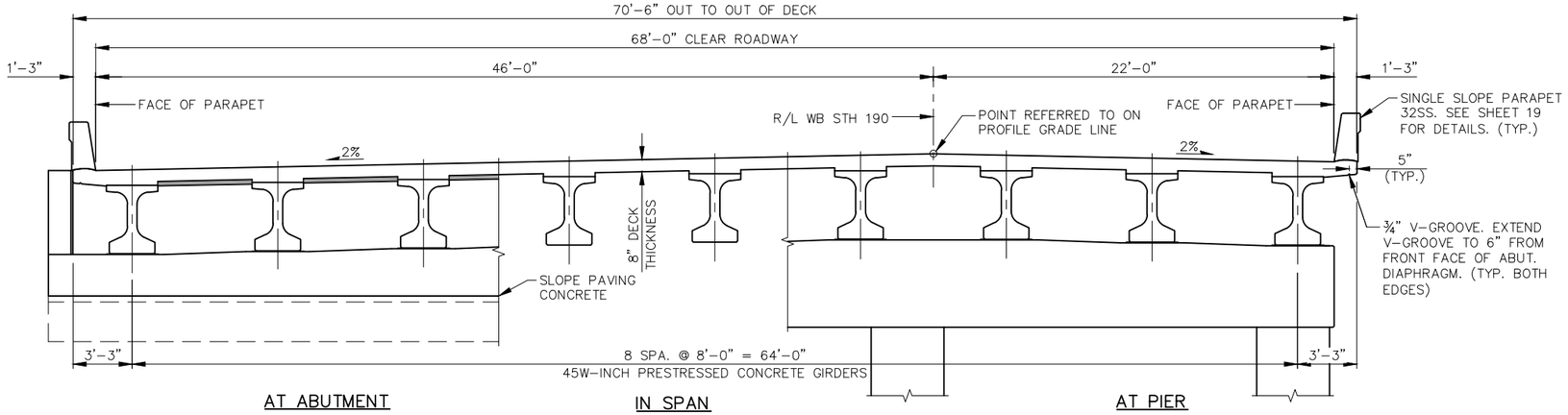
DESIGN CONSULTANT
PATRICK BOLAND, PE
(608) 588-7484

BRIDGE OFFICE CONTACT
WILLIAM DREHER, PE
(608) 266-8489

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B-67-0331\01-GENERAL PLAN.DWG
LAYOUT : GENERAL PLAN
PLOT DATE : 3/21/2016
PLOT TIME : 2:41:39 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

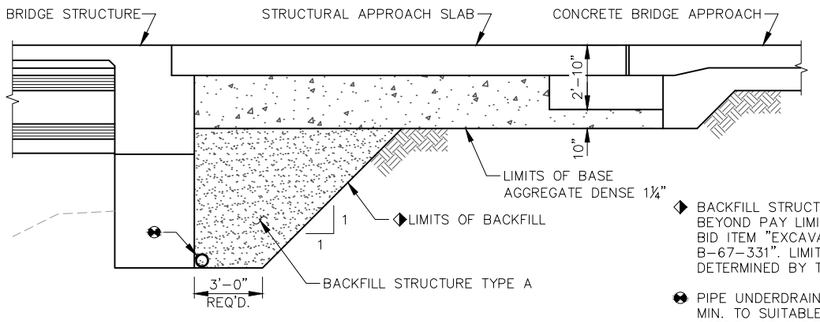
STATE PROJECT NUMBER

2025-13-71



PROPOSED CROSS-SECTION THROUGH ROADWAY

(LOOKING EAST)



BACKFILL STRUCTURE DETAIL

(TYPICAL AT BOTH ABUTMENTS)

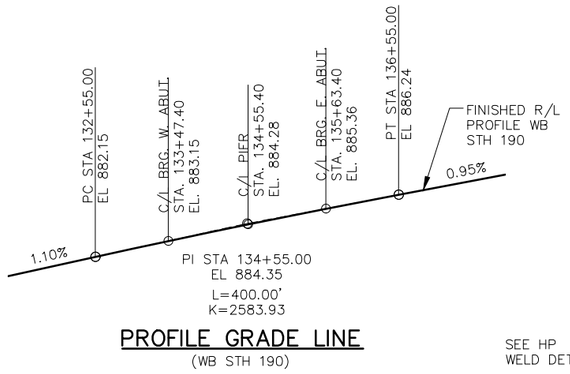
◆ BACKFILL STRUCTURE TYPE A PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO THE BID ITEM "EXCAVATION FOR STRUCTURES B-67-331". LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

◓ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 7. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."

TOTAL ESTIMATED QUANTITIES

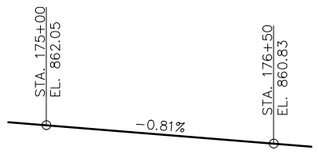
ITEM NUMBER	ITEM DESCRIPTION	UNIT	W. APPR. SLAB	W. ABUT.	PIER	E. ABUT.	E. APPR. SLAB	*SUPER	TOTALS
203.0200	REMOVING OLD STRUCTURE STA. 134+56	LS	--	--	--	--	--	--	1
203.0225.S	DEBRIS CONTAINMENT B-67-331	LS	--	--	--	--	--	--	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-67-331	LS	--	--	--	--	--	--	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	--	230	--	230	--	--	460
305.0120	BASE AGGREGATE DENSE 1¼-INCH	TON	215	--	--	--	215	--	430
501.1000.S	ICE HOT WEATHER CONCRETING	LB	700	515	555	515	700	4,265	7,250
502.0100	CONCRETE MASONRY BRIDGES	CY	93	69	74	69	93	569	967
502.3200	PROTECTIVE SURFACE TREATMENT	SY	150	--	--	--	150	1,690	1,990
502.3210	PIGMENTED SURFACE SEALER	SY	17	--	--	--	17	181	215
503.0146	PRESTRESSED GIRDER TYPE I 45W-INCH	LF	--	--	--	--	--	1,951	1,951
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	--	4,790	2,040	4,790	--	--	11,620
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	14,710	1,680	23,790	1,700	14,710	124,620	181,210
505.0800.S	BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES	LB	1,205	--	--	--	1,205	--	2,410
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	--	--	--	--	--	36	36
506.4000	STEEL DIAPHRAGMS B-67-331	EACH	--	--	--	--	--	--	32
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	--	13	--	13	--	--	26
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	--	510	540	510	--	--	1,560
604.0400	SLOPE PAVING CONCRETE	SY	--	275	--	275	--	--	550
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	--	310	--	310	--	--	620
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	--	--	--	--	--	4	4
	NON-BID ITEMS								
	FILLER	SIZE	--	--	--	--	--	--	½", ¾", 1¼"

*THE SUPERSTRUCTURE QUANTITIES INCLUDE THE CONCRETE AND BAR STEEL REINFORCEMENT OF THE PARAPETS ON THE DECK INCLUDING THOSE PORTIONS LOCATED ON THE STRUCTURAL APPROACH SLABS.



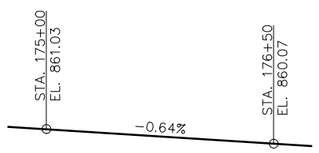
PROFILE GRADE LINE

(WB STH 190)



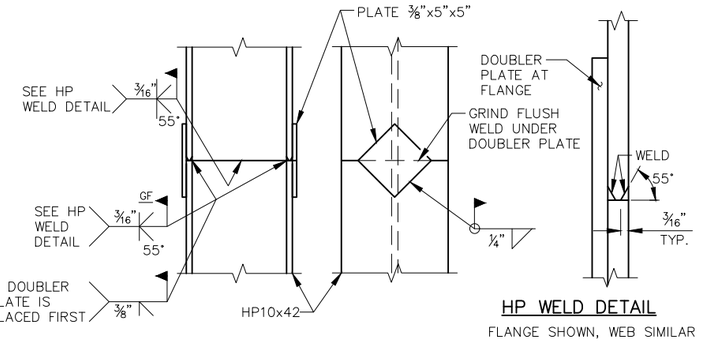
PROFILE GRADE LINE – CTH F

(C/L NB CTH F)



PROFILE GRADE LINE – CTH F

(C/L SB CTH F)



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

PILE SPLICE DETAIL

STEEL "HP" PILE MATERIAL SHALL BE ASTM A 572 GRADE 50.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED. BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (1991 ADJUSTMENT).

JOINT FILLER SHALL CONFORM TO A.A.S.H.T.O. DESIGNATION M153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M213.

THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING CONCRETE TO THE EXTENT SHOWN ON SHEET 1 AND IN THE SLOPE PAVING DETAILS.

AT THE BACK FACE OF ABUTMENTS, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A. SEE THIS SHEET FOR DETAIL.

APPLY PROTECTIVE SURFACE TREATMENT TO THE ENTIRE TOP OF THE DECK, TO THE ENTIRE TOP OF THE STRUCTURAL APPROACH SLABS, AND TO THE PAVING NOTCHES.

APPLY PIGMENTED SURFACE SEALER TO THE FRONT FACE AND TOP OF THE PARAPETS INCLUDING PARAPETS ON THE STRUCTURAL APPROACH SLABS.

THE EXISTING STRUCTURE (B-67-0091) IS A 2-SPAN CONTINUOUS PRESTRESSED CONCRETE DECK GIRDER STRUCTURE WITH REINFORCED SEMI-RETAINING ABUTMENTS SUPPORTED ON H-PILES, AND A REINFORCED CONCRETE 4-COLUMN SPREAD FOOTING PIER. THE STRUCTURE HAS A 49.9' CLEAR ROADWAY WIDTH AND A 174.8' OVERALL LENGTH AND SHALL BE REMOVED.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAILS SHEET.

ALL STATIONS AND ELEVATIONS SHOWN ARE IN FEET.

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

THE FIRST DIGIT OF A THREE DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-331

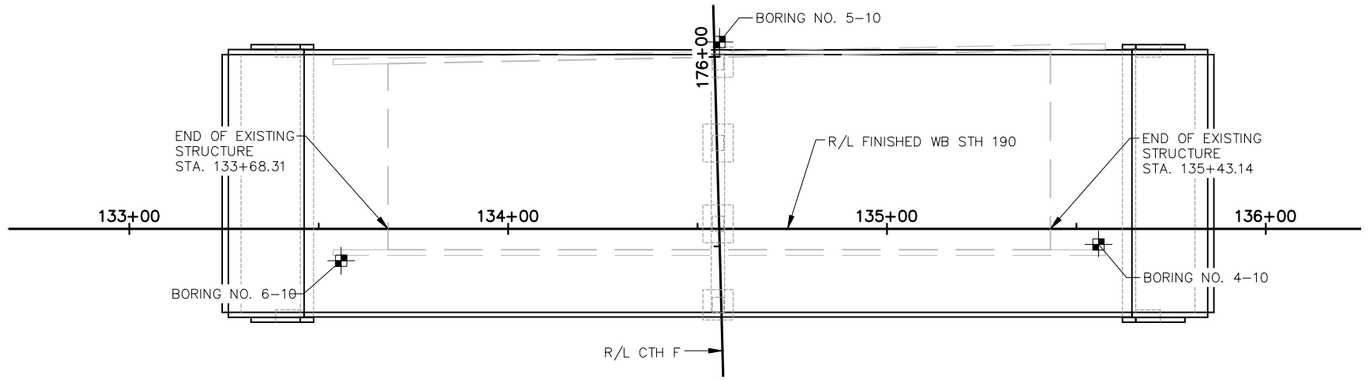
DRAWN BY PTB | PLANS CK'D. RBH

CROSS SECTION AND QUANTITIES

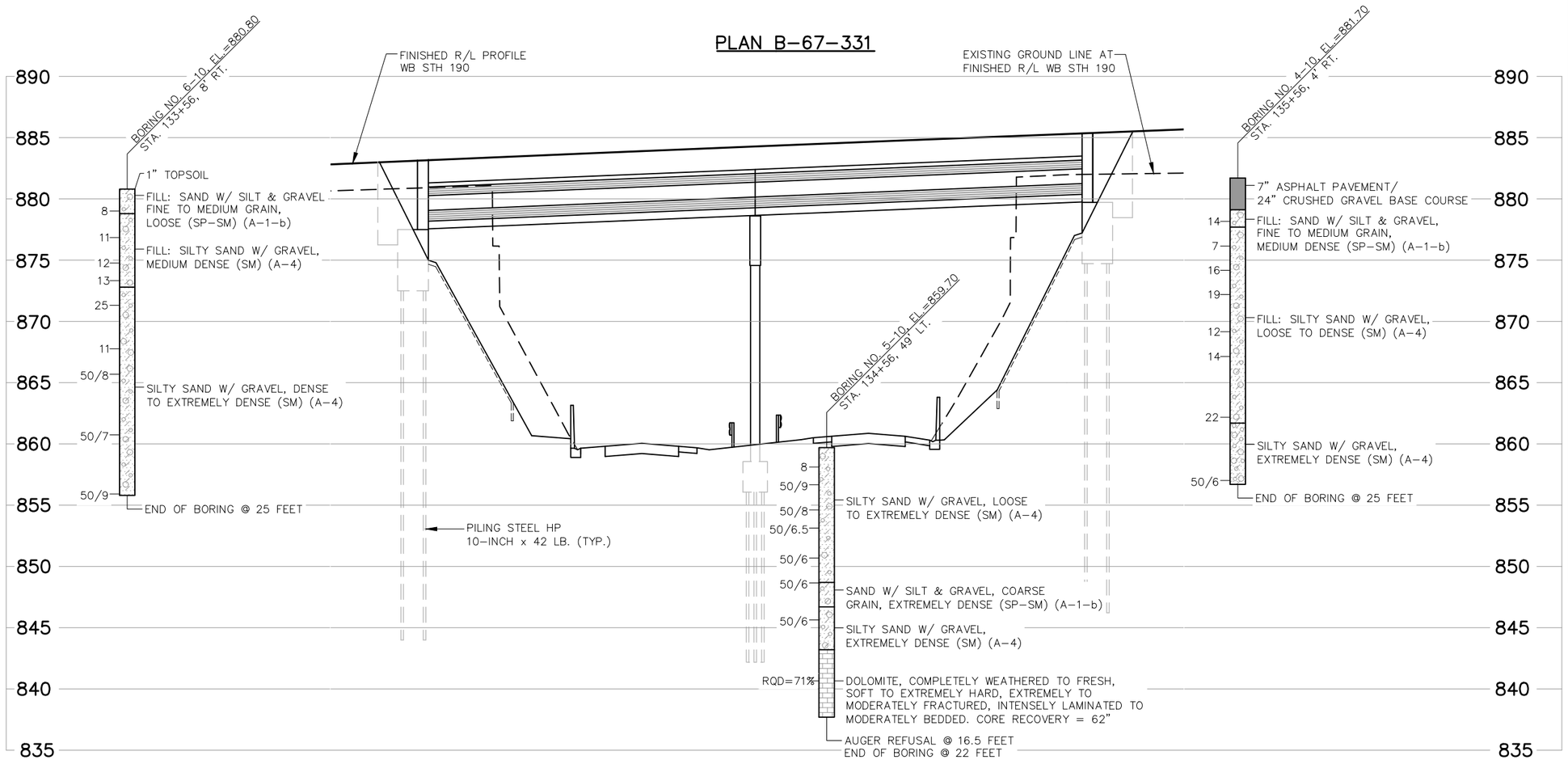
SHEET 2 OF 20

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B-67-0331\02-CROSS SECTION AND QUANTITIES.DWG
LAYOUT : CROSS SECTION AND QUANTITIES
PLOT DATE : 11/22/2016
PLOT TIME : 4:17:22 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

NORTH



PLAN B-67-331



SOIL BORINGS

BY: RVT. CORP.
1060 BREEZEWOOD LN.
NEENAH, WI 54956

ON: MAY 24, 2010

STATE PROJECT NUMBER

2025-13-71

ABBREVIATIONS

F - Fine M - Medium C - Course
Ws - Weathered So - Sound

MATERIAL SYMBOLS

Asphalt, Silt, Sandstone
Sand, Peat, Limestone
Gravel, Clay, Igneous Rock

LEGEND OF PROBING

PROBING No.; Elevation
Station

95/6 = 96 Blows for 6" Penetration. Probing Taken with a 350# Weight Falling 18" on a 2" O.D. Point.

7 Average Blows Per Foot

Refusal 95/6

LEGEND OF BORING

Boring No.; Elevation
Station

Unconfined Strength — 7.7 8

Blows Per Ft. Using 140# Wt. Falling 30"

Wash Sample

Shelby Tube — S.T.

No Ground Water Observed Above This Elevation

Ground Water Elevation

Sandy Gravel
Boulders or Cobbles
F. Sand
Silty Clay
So. Limestone

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-331

DRAWN BY DJT | PLANS CK'D. PTB

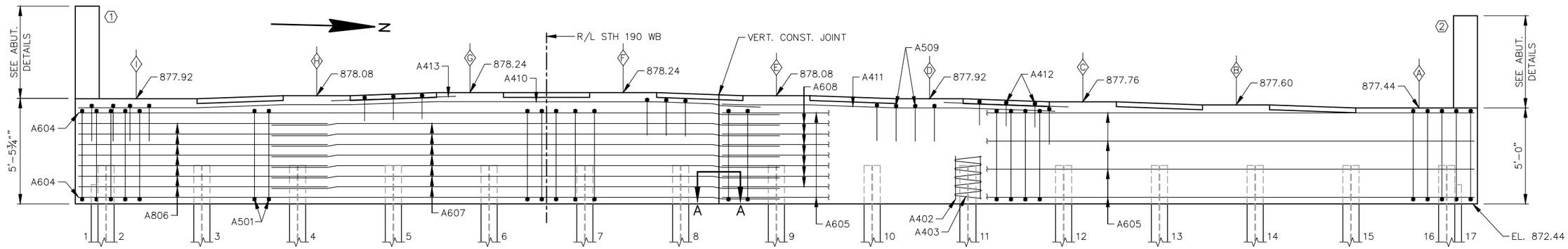
SUBSURFACE EXPLORATION

SHEET 3 OF 20

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B-67-0331\03-SUBSURFACE EXPLORATION.DWG
LAYOUT : SUBSURFACE EXPLORATION
PLOT DATE : 10/31/2016
PLOT TIME : 8:35:59 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

2025–13–71



BACK FACE BAR STEEL REINF.

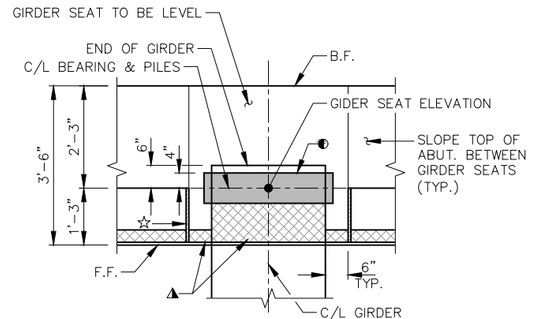
FRONT FACE BAR STEEL REINF.

ELEVATION

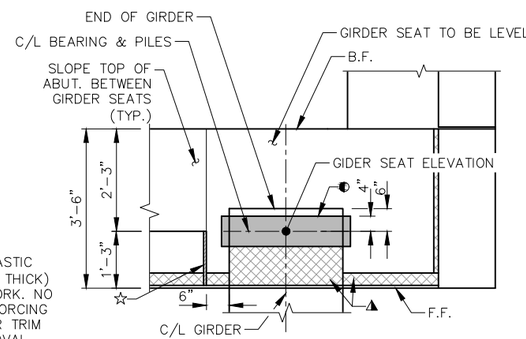
(WEST ABUTMENT LOOKING WEST)

LEGEND

- ⬣ 18" RUBBERIZED MEMBRANE WATERPROFING (HORIZONTAL)
- ◪ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING.
- ▲ 4"x¾" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF DECK. EXTEND IN FRONT OF BEARING PAD AS SHOWN.
- ☆ ¾" CORK FILLER ON VERTICAL GIRDER SEAT FACES THAT RUN PARALLEL WITH GIRDER.
- ◑ ½"x8"x2'–10" ELASTOMERIC BEARING PAD.
- ⬬ PIPE UNDERDRAIN WRAPPED 6–INCH, SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. SEE SHEET 7 FOR DETAILS. ATTACH RODENT SCREEN AT EXPOSED ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 7. RODENT SCREEN TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6–INCH".
- △ STEEL TROWEL ENTIRE TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ⬡ INDICATES WING NUMBER.
- ◇ INDICATES GIRDER LINE.

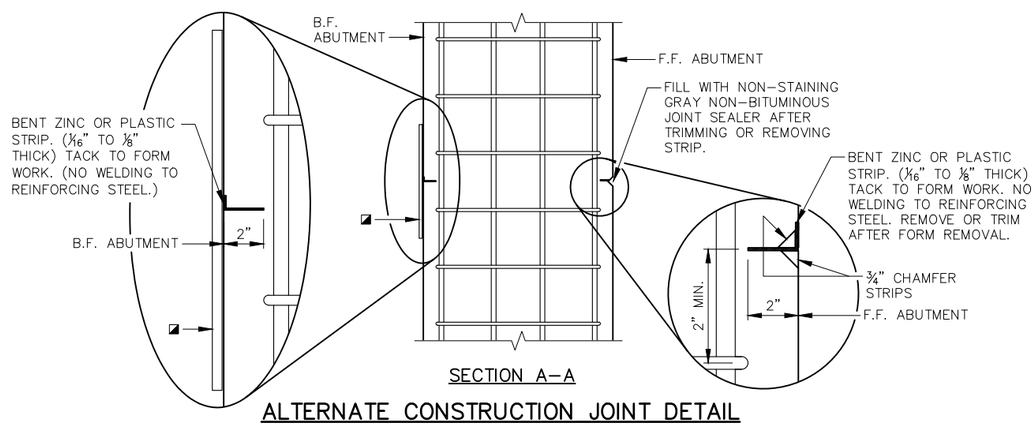


GIRDER SEAT DETAIL



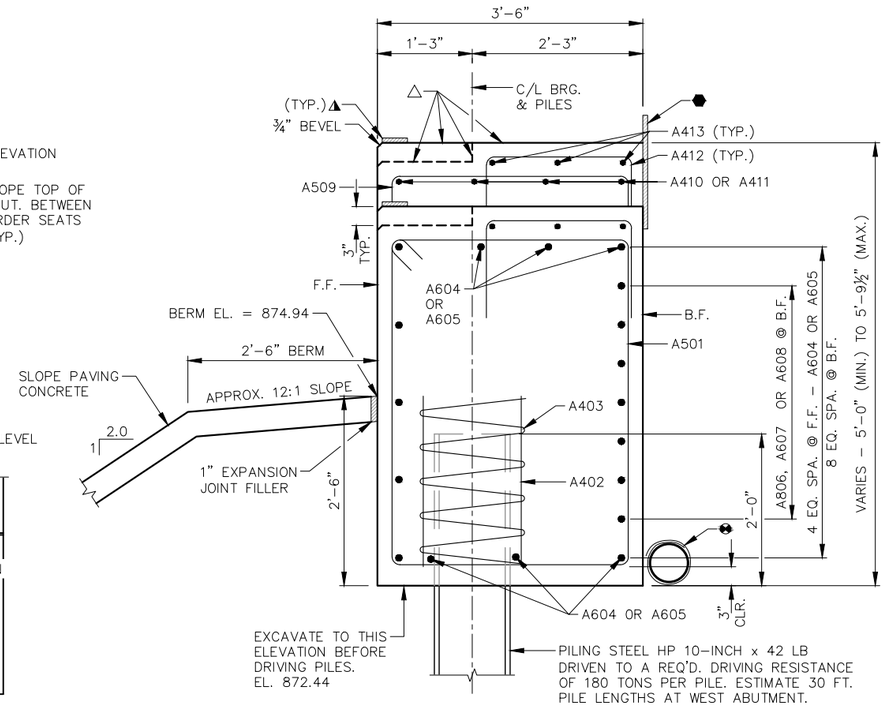
EXTERIOR GIRDER SEAT

GIRDER LINE A SHOWN
GIRDER LINE I SIMILAR



SECTION A–A

ALTERNATE CONSTRUCTION JOINT DETAIL



TYPICAL SECTION THROUGH ABUTMENT BODY

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 6 FOR BILL OF BARS.

DO NOT PLACE FILL HIGHER THAN 3 FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

SPACE REINFORCEMENT TO MISS PILING.

F.F. – FRONT FACE

B.F. – BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–67–331

DRAWN BY JZ | PLANS CK'D. PTB

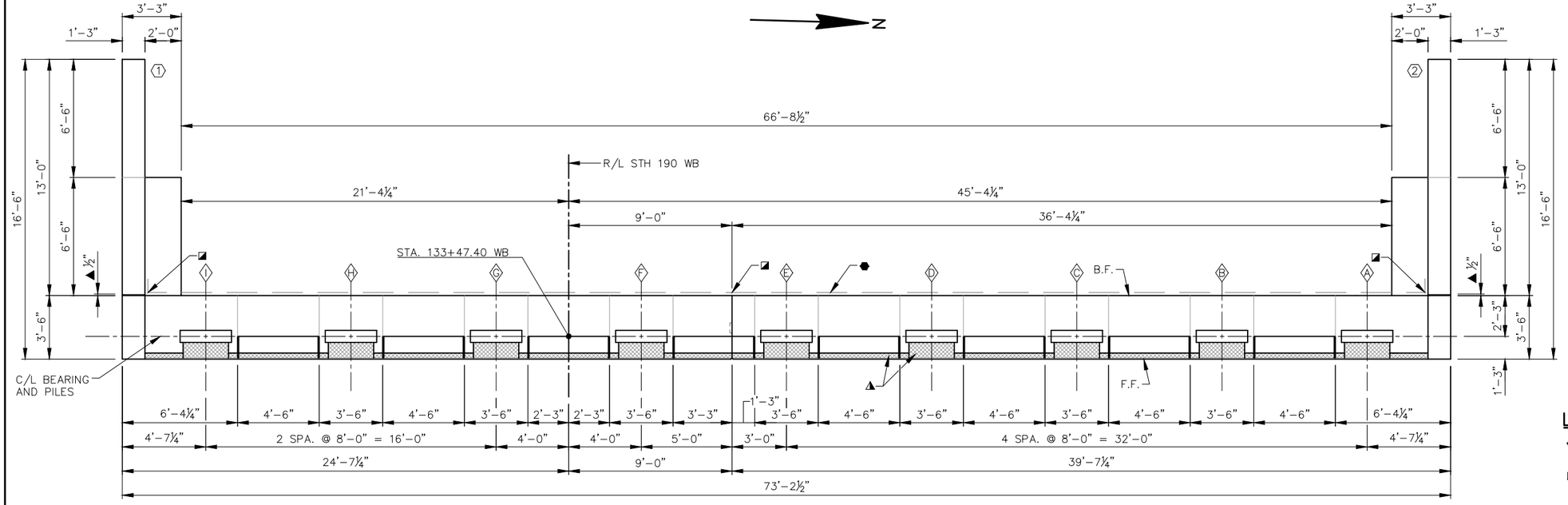
WEST ABUTMENT ELEVATION

SHEET 4 OF 20

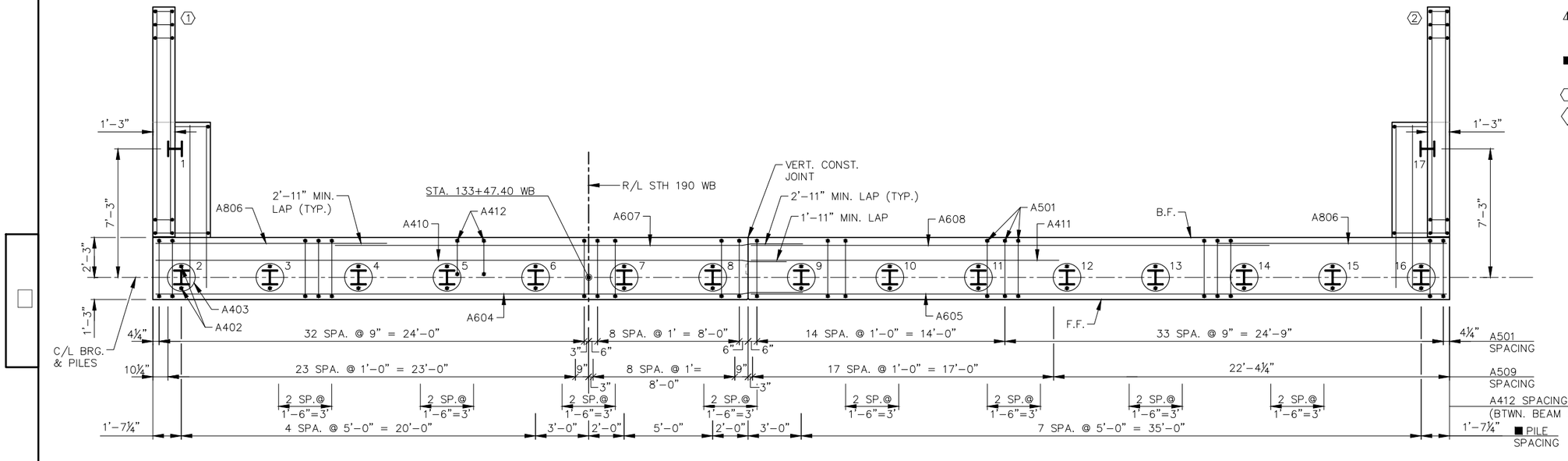
FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B–67–0331\04–ABUTMENTS.DWG
LAYOUT : WEST ABUT. ELEV.
PLOT DATE : 10/31/2016
PLOT TIME : 8:36:16 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

2025-13-71



PLAN



LAYOUT

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 6 FOR WINGWALL STEEL DETAILS AND BILL OF BARS.

DO NOT PLACE FILL HIGHER THAN 3 FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

SPACE REINFORCEMENT TO MISS PILING.

SEE SHEET 4 FOR GIRDER SEAT DETAILS.

F.F. – FRONT FACE

B.F. – BACK FACE

AT WEST ABUTMENT, DRIVE PILING STEEL HP 10-INCH x 42 LB TO A REQ'D. DRIVING RESISTANCE OF 180 TONS PER PILE. ESTIMATE 30 FT. PILE LENGTHS AT WEST ABUTMENT.

LEGEND

- ⬣ 18" RUBBERIZED MEMBRANE WATERPROFING (HORIZONTAL)
- ◪ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING. AT WINGWALLS EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.
- ▲ 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINUOS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE)
- ▲ 4"x¾" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF DECK. EXTEND IN FRONT OF BEARING PAD AS SHOWN.
- ■ PILE SPACING MEASURED AT BASE OF ABUTMENT BODY.
- ⬡ INDICATES WING NUMBER.
- ◇ INDICATES GIRDER LINE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-331

DRAWN BY JZ | PLANS CK'D. PTB

WEST ABUTMENT LAYOUT

SHEET 5 OF 20

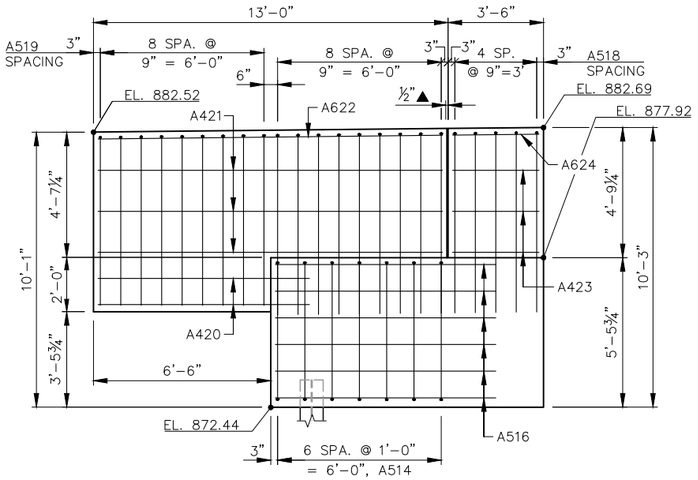
469

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B-67-0331\04-ABUTMENTS.DWG
LAYOUT : WEST ABUTMENT

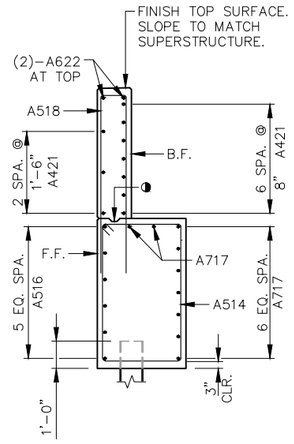
PLOT DATE : 10/31/2016
PLOT TIME : 8:36:19 AM

PLOT BY : BOLAND, PATRICK

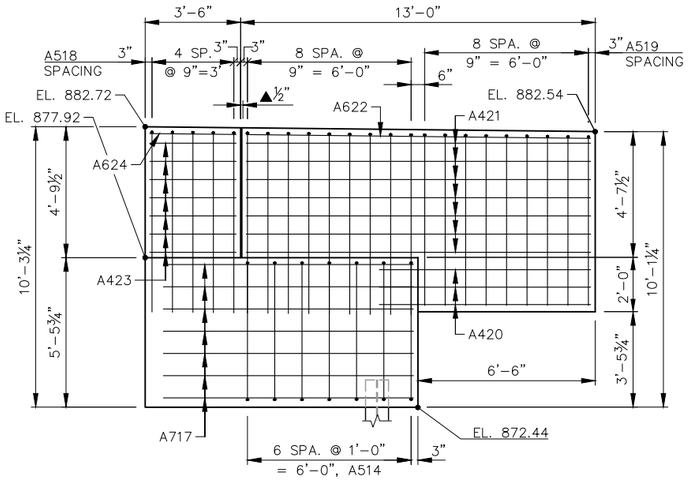
PLOT SCALE : 1" = 1'



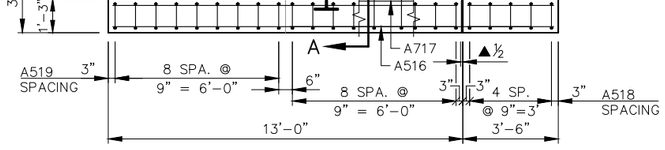
F.F. ELEVATION – WING 1



SECTION A–A



B.F. ELEVATION – WING 1

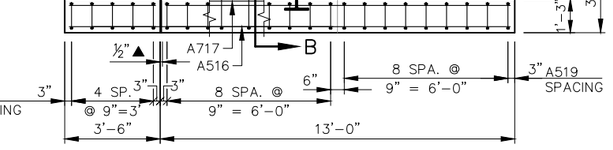


PLAN VIEW – WING 1

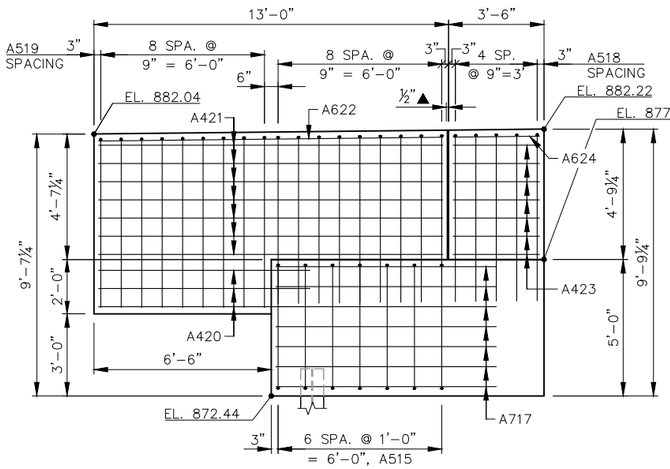
LEGEND

◑ OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2X6. ¾" "V" GROOVE AT FRONT FACE OF WING WALL & HORIZONTAL 18" RUBBERIZED MEMBRANE WATERPROOFING AT BACK FACE IF CONSTRUCTION JOINT IS USED. COST IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY BRIDGES".

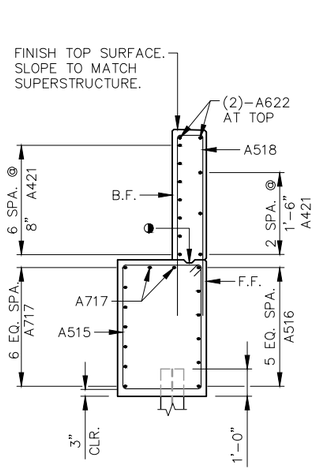
▲ ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON–STAINING, GRAY, NON–BITUMINUOS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.



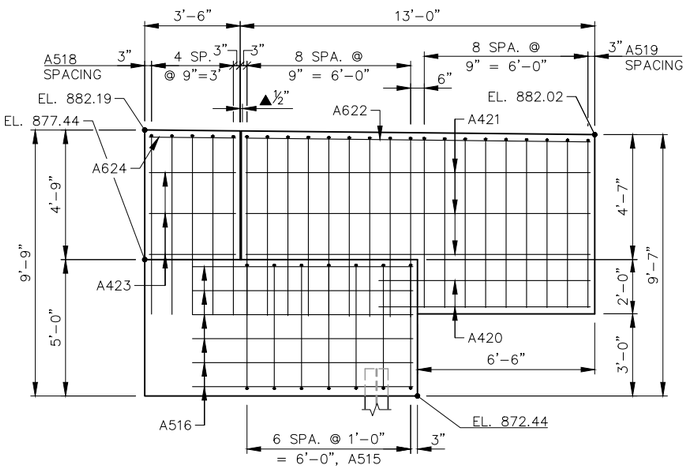
PLAN VIEW – WING 2



B.F. ELEVATION – WING 2



SECTION B–B



F.F. ELEVATION – WING 2

STATE PROJECT NUMBER

2025–13–71

BILL OF BARS
WEST ABUTMENT

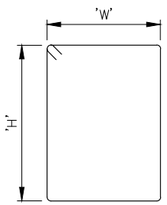
1,680 LB (COATED)
4,790 LB (UNCOATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
A501	90	15–8	X		BODY – VERT. – STIRRUP
A402	30	2–3			BODY – VERT. – 2 PER PILE
A403	15	28–0	X		BODY – VERT. – SPIRAL – 1 PER PILE
A604	11	36–9			BODY – HORIZ.
A605	11	39–3			BODY – HORIZ.
A806	14	13–0			BODY – HORIZ. – B.F. @ ENDS
A607	7	26–6			BODY – HORIZ. – B.F.
A608	7	29–2			BODY – HORIZ. – B.F.
A509	51	6–7	X		BODY – VERT. – TOP
A410	4	35–7			BODY – HORIZ. – TOP
A411	4	17–6			BODY – HORIZ. – TOP
A412	24	4–5	X		BODY – VERT. – TOP BETWEEN SEATS
A413	24	6–6			BODY – HORIZ. – TOP BETWEEN SEATS
A514	7	16–6	X	X	WING 1 – VERT. – STIRRUP
A515	7	15–8	X	X	WING 2 – VERT. – STIRRUP
A516	12	8–1		X	WINGS 1 & 2 – HORIZ. – F.F.
A717	18	9–2		X	WINGS 1 & 2 – HORIZ. – B.F. & TOP
A518	28	14–0	X	X	WINGS 1 & 2 – VERT. – TOP
A519	18	13–0	X	X	WINGS 1 & 2 – VERT. – TOP
A420	10	7–9		X	WINGS 1 & 2 – HORIZ. – F.F. & B.F.
A421	20	12–7		X	WINGS 1 & 2 – HORIZ. – F.F. & B.F.
A622	4	12–7		X	WINGS 1 & 2 – HORIZ. – TOP
A423	20	3–2		X	WINGS 1 & 2 – HORIZ. – F.F. & B.F.
A624	4	3–2		X	WINGS 1 & 2 – HORIZ. – TOP

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

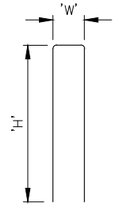
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.



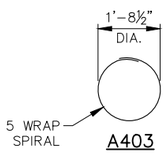
MARK	'W'	'H'
A501	3–2	4–4
A514	2–11	5–0
A515	2–11	4–7

A501, A514, A515



MARK	'W'	'H'
A509	3–2	1–10
A412	1–11	1–4
A518	0–11	6–8
A519	0–11	6–2

A509, A412, A518, A519



A403

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–67–331

DRAWN BY JZ | PLANS CK'D. PTB

WEST ABUTMENT DETAILS

SHEET 6 OF 20

470

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B-67-0331\04-ABUTMENTS.DWG
LAYOUT : WEST ABUT. WINGS

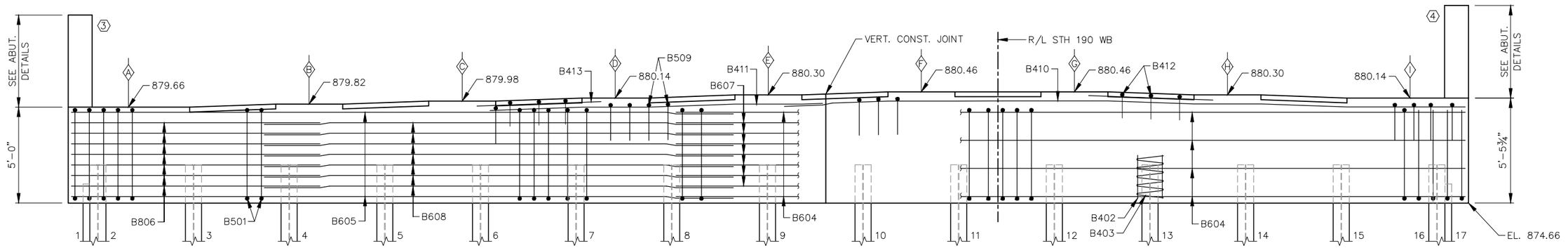
PLOT DATE : 10/31/2016
PLOT TIME : 8:36:25 AM

PLOT BY : BOLAND, PATRICK

PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

2025-13-71



BACK FACE BAR STEEL REINF.

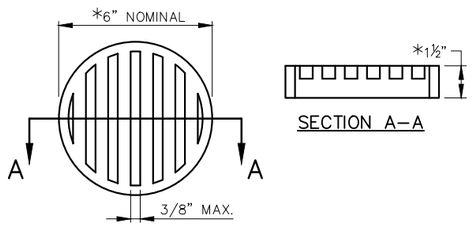
ELEVATION

(EAST ABUTMENT LOOKING EAST)

FRONT FACE BAR STEEL REINF.

LEGEND

- ⬣ 18" RUBBERIZED MEMBRANE WATERPROFING (HORIZONTAL)
- ◭ 4"x¾" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF DECK. EXTEND IN FRONT OF BEARING PAD AS SHOWN.
- ☆ ¾" CORK FILLER ON VERTICAL GIRDER SEAT FACES THAT RUN PARALLEL WITH GIRDER.
- ◑ ½"x8"x2'-10" ELASTOMERIC BEARING PAD.
- ⬣ PIPE UNDERDRAIN WRAPPED 6-INCH, SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. SEE THIS SHEET FOR DETAILS. ATTACH RODENT SCREEN AT EXPOSED ENDS OF PIPE UNDERDRAIN AS DETAILED ON THIS SHEET. RODENT SCREEN TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".
- △ STEEL TROWEL ENTIRE TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ⬡ INDICATES WING NUMBER.
- ○ INDICATES GIRDER LINE.



RODENT SCREEN

SECTION A-A

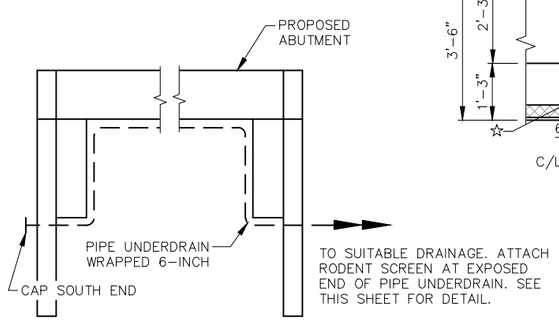
NOTES:

*DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

ORIENT SCREEN SO SLOTS ARE VERTICAL.

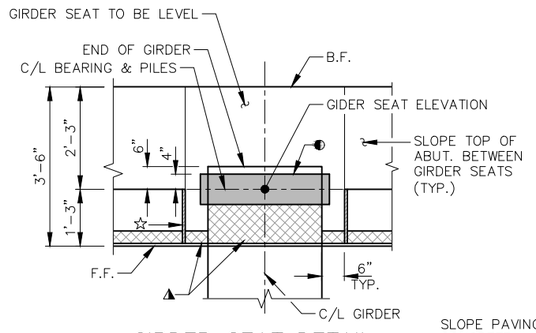
THE RODENT SCREEN, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

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 ENDS OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

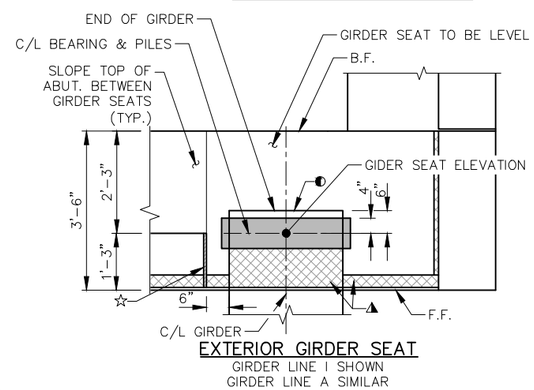


PIPE UNDERDRAIN DETAIL

EAST ABUT. SHOWN, WEST ABUT. SIMILAR

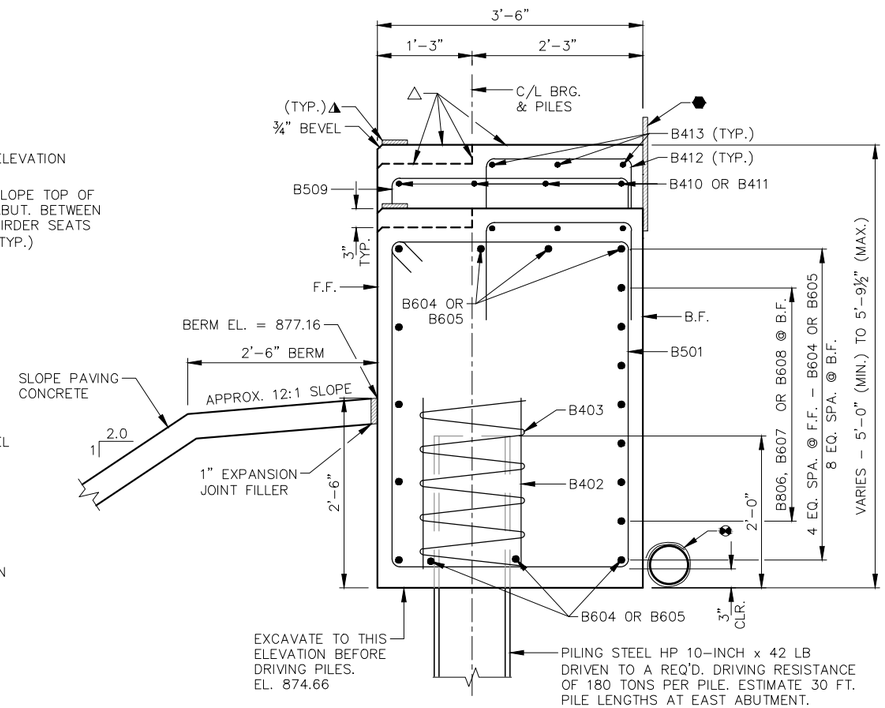


GIRDER SEAT DETAIL



EXTERIOR GIRDER SEAT

GIRDER LINE I SHOWN
GIRDER LINE A SIMILAR



TYPICAL SECTION THROUGH ABUTMENT BODY

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 9 FOR BILL OF BARS.

DO NOT PLACE FILL HIGHER THAN 3 FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

SPACE REINFORCEMENT TO MISS PILING.

F.F. - FRONT FACE

B.F. - BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-331

DRAWN BY JZ | PLANS CK'D. PTB

EAST ABUTMENT ELEVATION

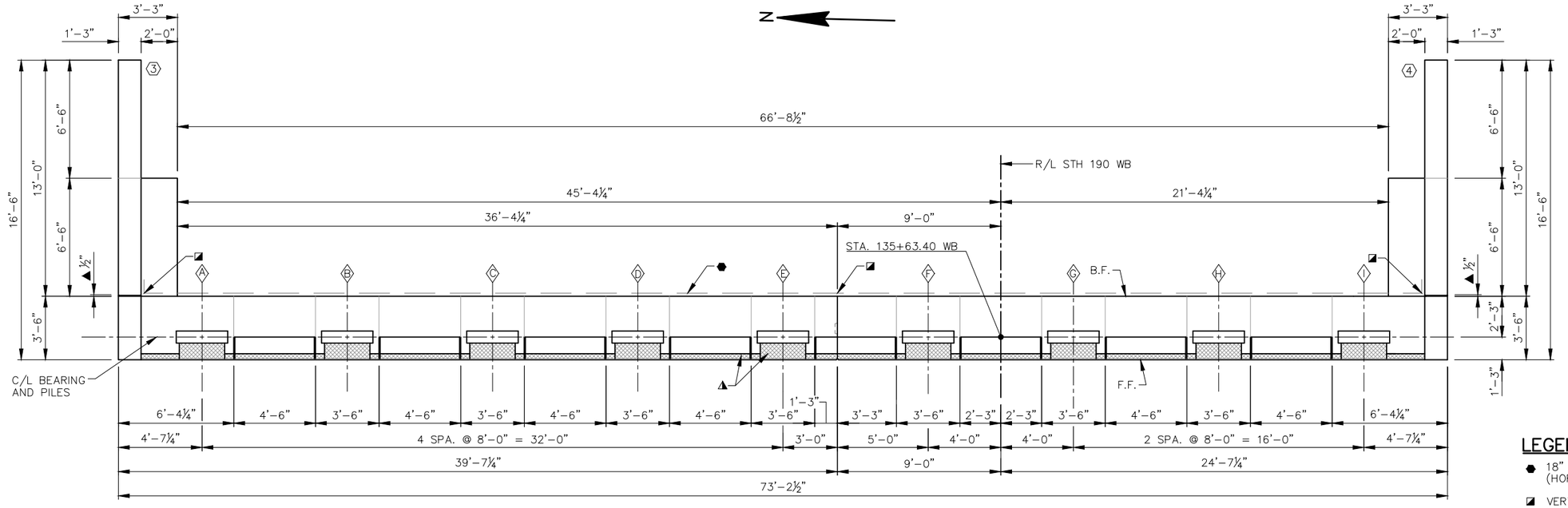
SHEET 7 OF 20

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B-67-0331\04-ABUTMENTS.DWG
LAYOUT : EAST ABUT. ELEV.

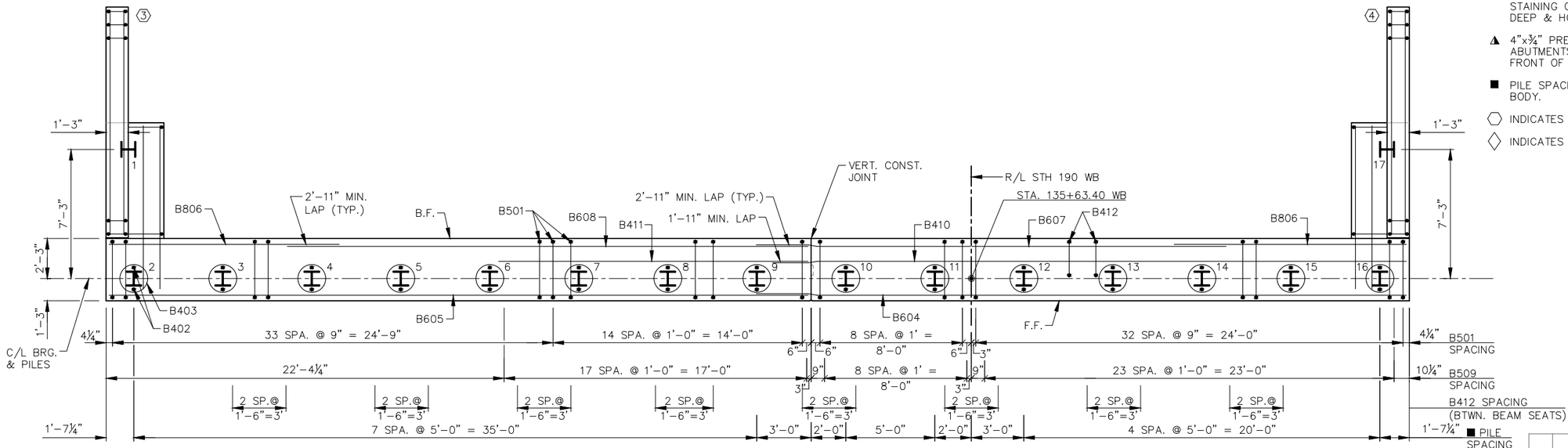
PLOT DATE : 11/22/2016
PLOT TIME : 4:17:55 PM

PLOT BY : BOLAND, PATRICK

PLOT SCALE : 1" = 1'



PLAN



LAYOUT

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 9 FOR WINGWALL STEEL DETAILS AND BILL OF BARS.

DO NOT PLACE FILL HIGHER THAN 3 FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

SPACE REINFORCEMENT TO MISS PILING.

SEE SHEET 7 FOR GIRDER SEAT DETAILS.

F.F. – FRONT FACE

B.F. – BACK FACE

AT EAST ABUTMENT, DRIVE PILING STEEL HP 10–INCH x 42 LB TO A REQ'D. DRIVING RESISTANCE OF 180 TONS PER PILE. ESTIMATE 30 FT. PILE LENGTHS AT EAST ABUTMENT.

LEGEND

- ⬣ 18" RUBBERIZED MEMBRANE WATERPROFING (HORIZONTAL)
- ◪ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING. AT WINGWALLS EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.
- ▲ 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON–STAINING GRAY, NON–BITUMINUOS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE)
- ◭ 4"x¾" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF DECK. EXTEND IN FRONT OF BEARING PAD AS SHOWN.
- ■ PILE SPACING MEASURED AT BASE OF ABUTMENT BODY.
- ⬡ INDICATES WING NUMBER.
- ◇ INDICATES GIRDER LINE.

STATE PROJECT NUMBER

2025–13–71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–67–331

DRAWN BY JZ | PLANS CK'D. PTB

EAST ABUTMENT LAYOUT

SHEET 8 OF 20

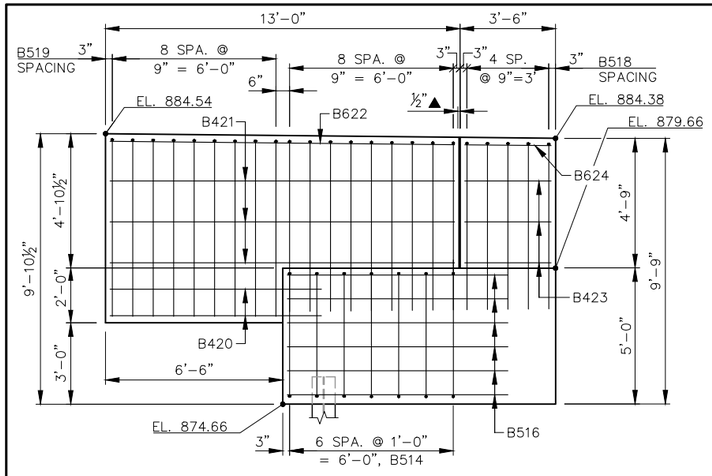
472

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B–67–0331\04–ABUTMENTS.DWG
LAYOUT : EAST ABUTMENT

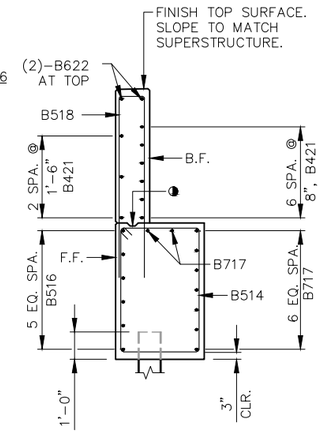
PLOT DATE : 10/31/2016
PLOT TIME : 8:36:33 AM

PLOT BY : BOLAND, PATRICK

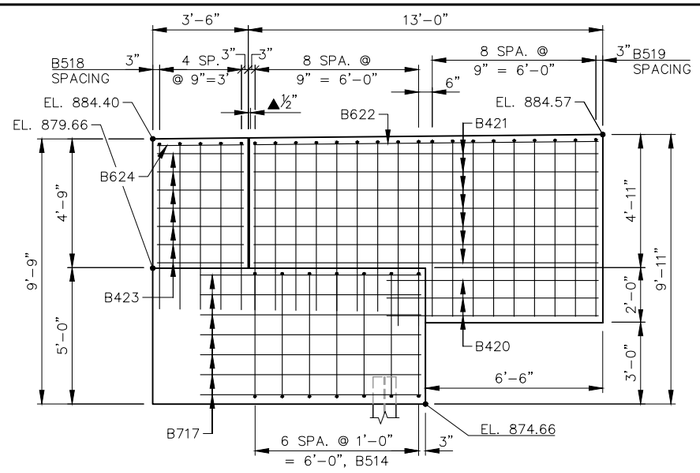
PLOT SCALE : 1" = 1'



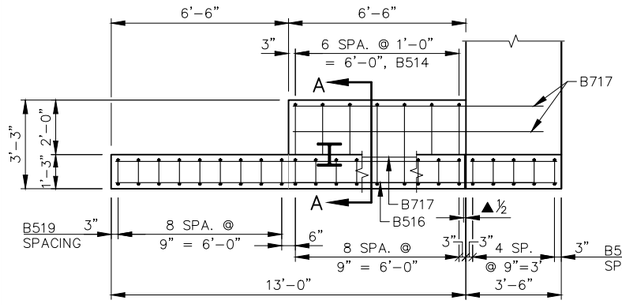
F.F. ELEVATION – WING 3



SECTION A–A



B.F. ELEVATION – WING 3

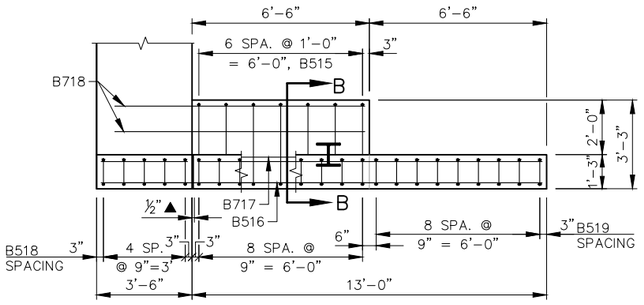


PLAN VIEW – WING 3

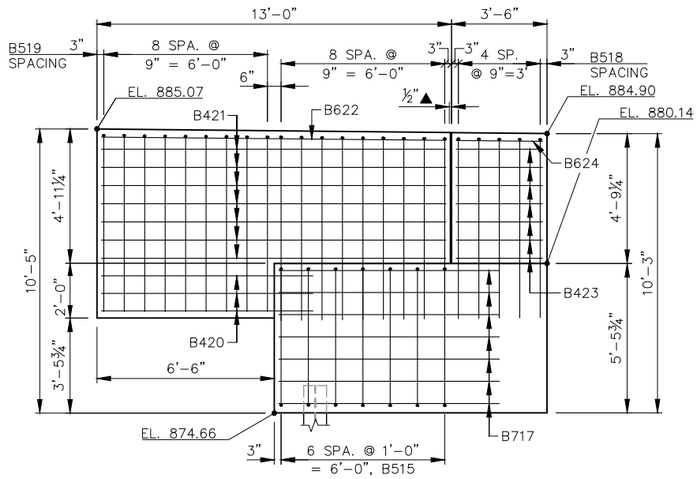
LEGEND

◑ OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2X6. ¾" "V" GROOVE AT FRONT FACE OF WING WALL & HORIZONTAL 18" RUBBERIZED MEMBRANE WATERPROOFING AT BACK FACE IF CONSTRUCTION JOINT IS USED. COST IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY BRIDGES".

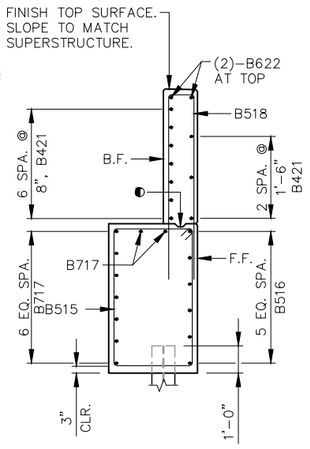
▲ ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON–STAINING, GRAY, NON–BITUMINUOS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.



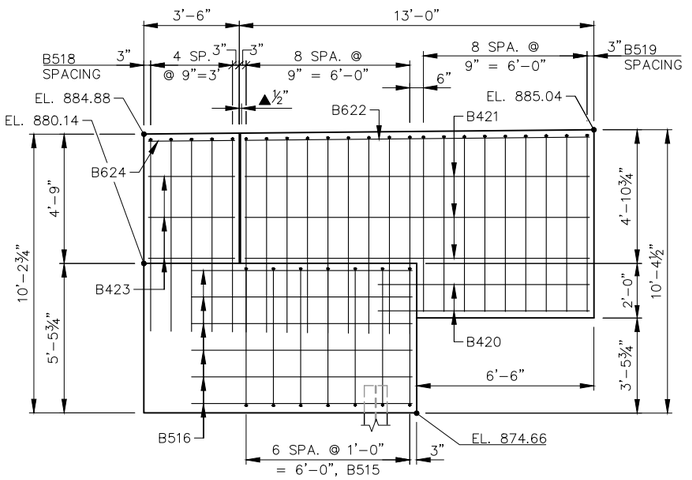
PLAN VIEW – WING 4



B.F. ELEVATION – WING 4



SECTION B–B



F.F. ELEVATION – WING 4

STATE PROJECT NUMBER

2025–13–71

BILL OF BARS
EAST ABUTMENT

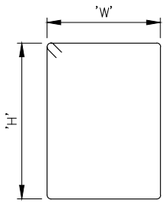
1,700 LB (COATED)
4,790 LB (UNCOATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
B501	90	15–8	X		BODY – VERT. – STIRRUP
B402	30	2–3			BODY – VERT. – 2 PER PILE
B403	15	28–0	X		BODY – VERT. – SPIRAL – 1 PER PILE
B604	11	36–9			BODY – HORIZ.
B605	11	39–3			BODY – HORIZ.
B806	14	13–0			BODY – HORIZ. – B.F. @ ENDS
B607	7	26–6			BODY – HORIZ. – B.F.
B608	7	29–2			BODY – HORIZ. – B.F.
B509	51	6–7	X		BODY – VERT. – TOP
B410	4	35–7			BODY – HORIZ. – TOP
B411	4	17–6			BODY – HORIZ. – TOP
B412	24	4–5	X		BODY – VERT. – TOP BETWEEN SEATS
B413	24	6–6			BODY – HORIZ. – TOP BETWEEN SEATS
B514	7	15–8	X	X	WING 3 – VERT. – STIRRUP
B515	7	16–6	X	X	WING 4 – VERT. – STIRRUP
B516	12	8–1		X	WINGS 3 & 4 – HORIZ. – F.F.
B717	18	9–2		X	WINGS 3 & 4 – HORIZ. – B.F. & CENTER
B518	28	14–4	X	X	WINGS 3 & 4 – VERT. – TOP
B519	18	13–4	X	X	WINGS 3 & 4 – VERT. – TOP
B420	10	7–9		X	WINGS 3 & 4 – HORIZ. – F.F. & B.F.
B421	20	12–7		X	WINGS 3 & 4 – HORIZ. – F.F. & B.F.
B622	4	12–7		X	WINGS 3 & 4 – HORIZ. – TOP
B423	20	3–2		X	WINGS 3 & 4 – HORIZ. – F.F. & B.F.
B624	4	3–2		X	WINGS 3 & 4 – HORIZ. – TOP

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

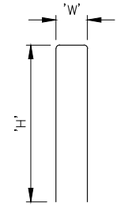
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.



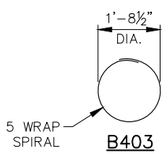
MARK	'W'	'H'
B501	3–2	4–4
B514	2–11	4–7
B515	2–11	5–0

B501, B514, B515



MARK	'W'	'H'
B509	3–2	1–10
B412	1–11	1–4
B518	0–11	6–10
B519	0–11	6–4

B509, B412, B518, B519



B403

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–67–331

DRAWN BY DJT | PLANS CK'D. PTB

EAST ABUTMENT DETAILS

SHEET 9 OF 20

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B-67-0331\04-ABUTMENTS.DWG
LAYOUT : EAST ABUT. WINGS

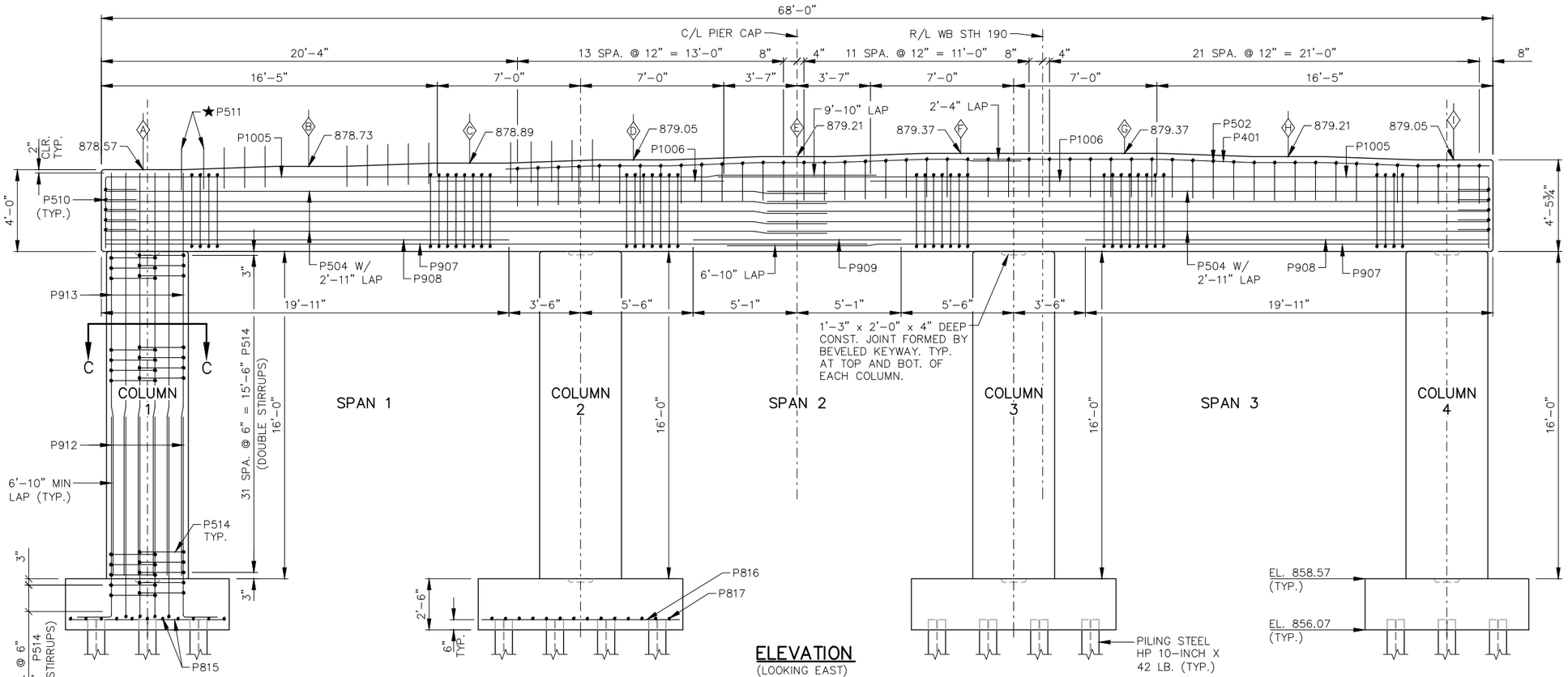
PLOT DATE : 10/31/2016
PLOT TIME : 8:36:39 AM

PLOT BY : BOLAND, PATRICK

PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

2025-13-71



ELEVATION
(LOOKING EAST)

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 11 FOR BILL OF BARS.

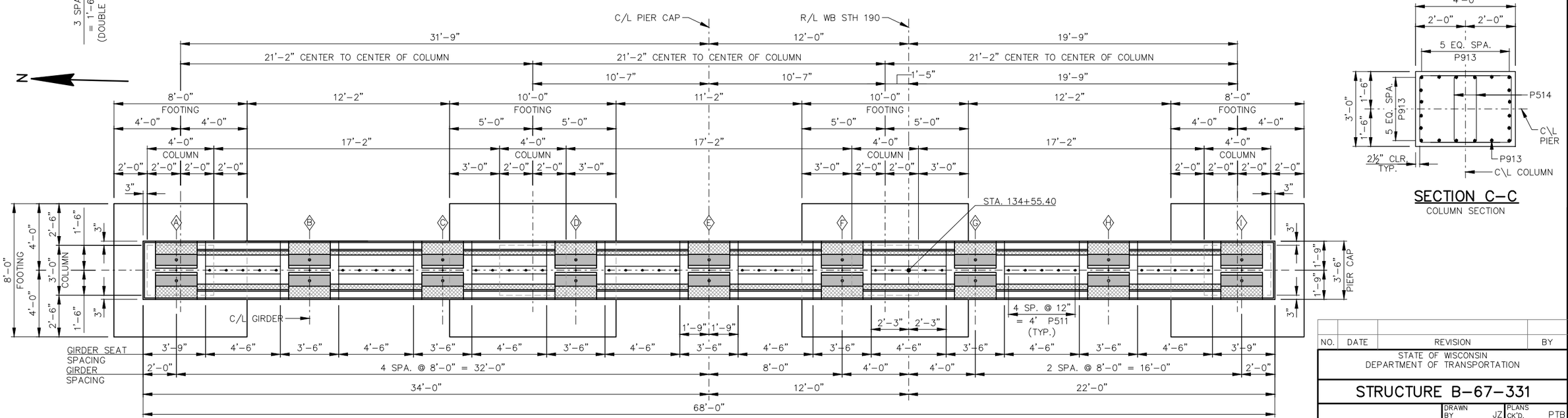
AT PIER, DRIVE PILING STEEL HP 10-INCH x 42 LB TO A REQ'D. DRIVING RESISTANCE OF 180 TONS PER PILE. ESTIMATE 15 FT. PILE LENGTHS AT PIER.

SEE SHEET 11 FOR PILE LAYOUT AND PIER LAYOUT.

LEGEND

◇ INDICATES GIRDER LINE.

★ P511 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0". PLACE P511 BARS BETWEEN GIRDERS.



PIER PLAN

SECTION C-C
COLUMN SECTION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-331

DRAWN BY JZ | PLANS CK'D. PTB

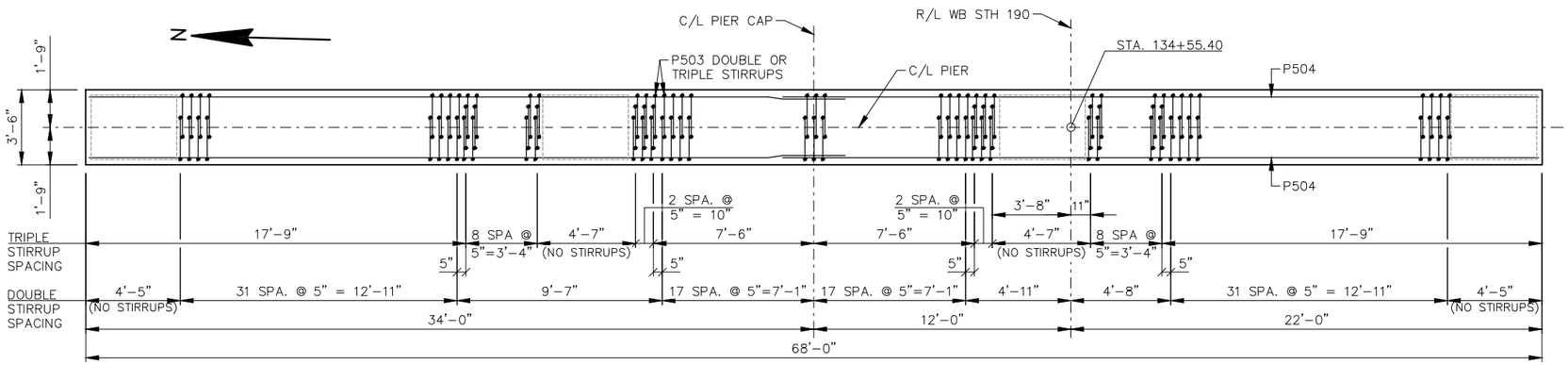
PIER ELEVATION

SHEET 10 OF 20

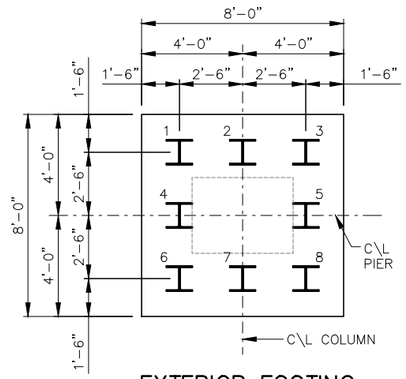
474

STATE PROJECT NUMBER

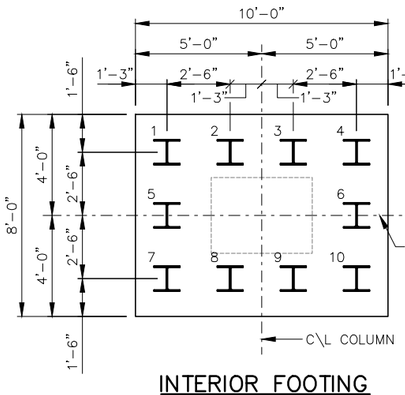
2025–13–71



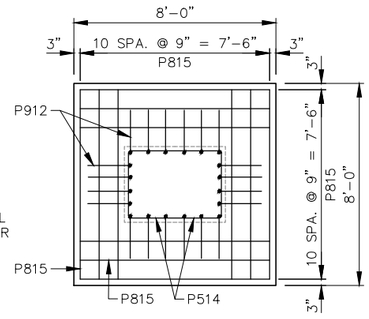
PIER CAP LAYOUT



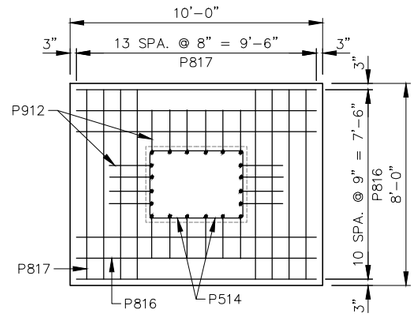
EXTERIOR FOOTING PILE LAYOUT



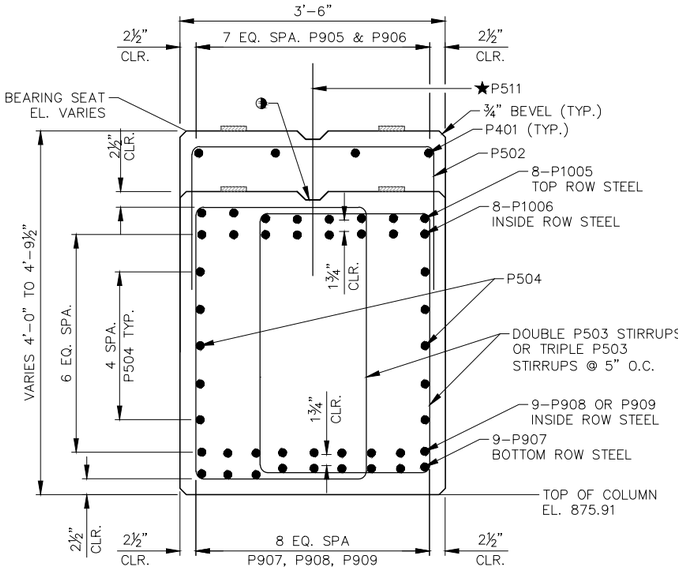
INTERIOR FOOTING PILE LAYOUT



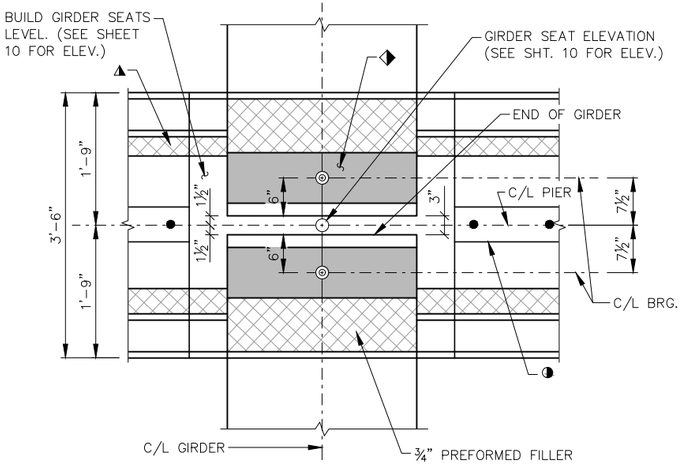
EXTERIOR FOOTING PLAN



INTERIOR FOOTING PLAN



SECTION THROUGH PIER CAP



GIRDER SEAT DETAIL @ PIER

BILL OF BARS
PIER

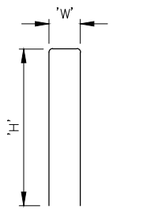
23,790 LB (COATED)
2,040 LB (UNCOATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
P401	8	25–2		X	PIER CAP – TOP – HORIZ.
P502	48	6–7	X	X	PIER CAP – TOP – VERT.
P503	270	11–9	X	X	PIER CAP – STIRRUPS
P504	20	35–4		X	PIER CAP – HORIZ. – AT FACES
P1005	16	42–2	X	X	PIER CAP – TOP
P1006	16	14–0		X	PIER CAP – TOP
P907	18	37–3		X	PIER CAP – BOT.
P908	18	19–9		X	PIER CAP – BOT.
P909	9	10–2		X	PIER CAP – BOT.
P510	10	6–2	X	X	PIER CAR – HORIZ AT ENDS.
P511	40	2–0		X	PIER DOWELS
P912	80	11–3	X	X	COLUMN – VERT. – FACES – BOT.
P913	80	19–8		X	COLUMN – VERT. – FACES – TOP
P514	288	10–2	X	X	COLUMN – HORIZ. – STIRRUPS
P815	44	7–8			FOOTING – EXT.
P816	22	9–8			FOOTING – INT.
P817	28	7–8			FOOTING – INT.

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

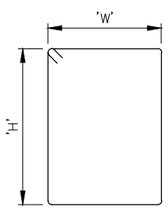
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.



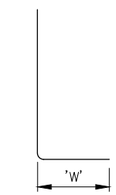
MARK	'W'	'H'
P502	3–2	1–10
P510	2–11	1–9

P502, P510



MARK	'W'	'H'
P503	2–0	3–7
P514	2–2	2–7

P503, P514



MARK	'W'
P1005	3–6
P912	1–10

P1005, P912

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.

AT PIER, DRIVE PILING STEEL HP 10–INCH x 42 LB TO A REQ'D. DRIVING RESISTANCE OF 180 TONS PER PILE. ESTIMATE 15 FT. PILE LENGTHS AT PIER.

LEGEND

- ◑ KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2X6.
- ▲ 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON–STAINING GRAY, NON–BITUMINUOS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE)
- ◭ 4"x¾" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF DECK. EXTEND IN FRONT OF BEARING PAD AS SHOWN.
- ★ P511 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'–0". PLACE P511 BARS BETWEEN GIRDERS.
- ◈ ½" X 8" X 2'–6" NON–LAMINATED ELASTROMERIC BEARING PAD.
- ◇ INDICATES GIRDER LINE.
- ◯ INDICATED GIRDER NUMBER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–67–331

DRAWN BY JZ | PLANS CK'D. PTB

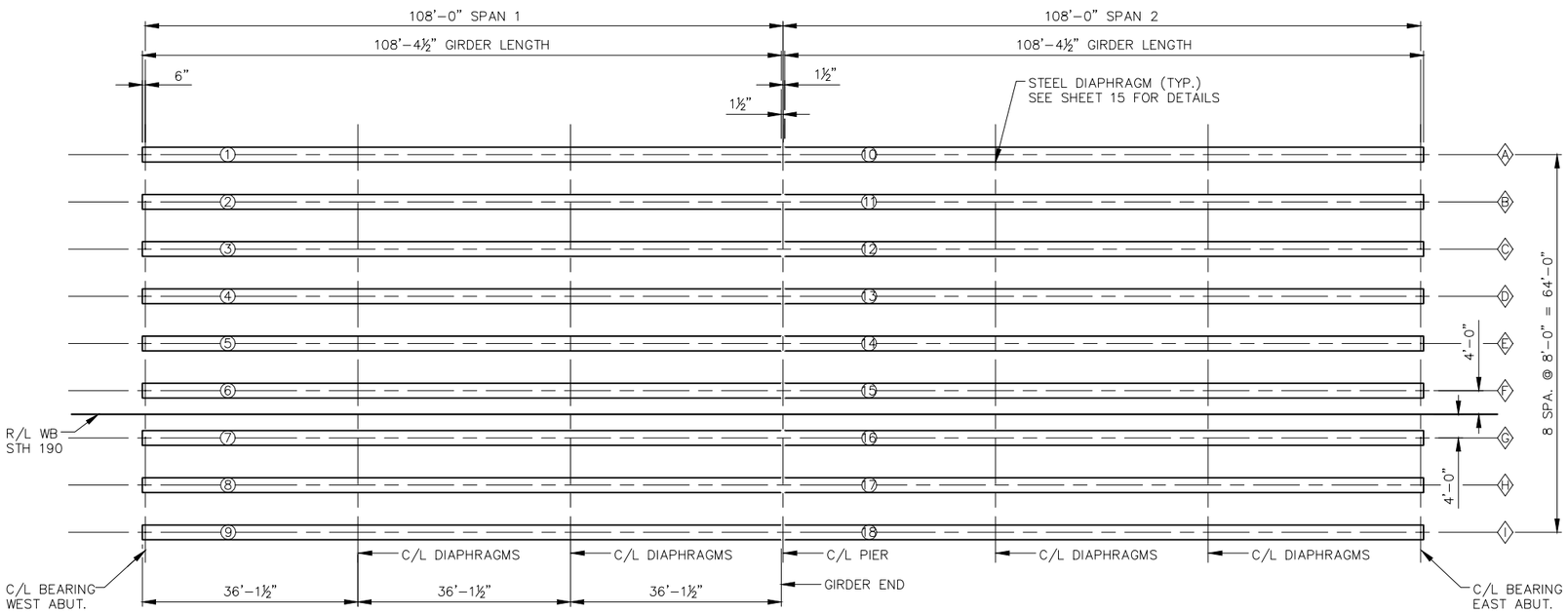
PIER LAYOUT

SHEET 11 OF 20

475

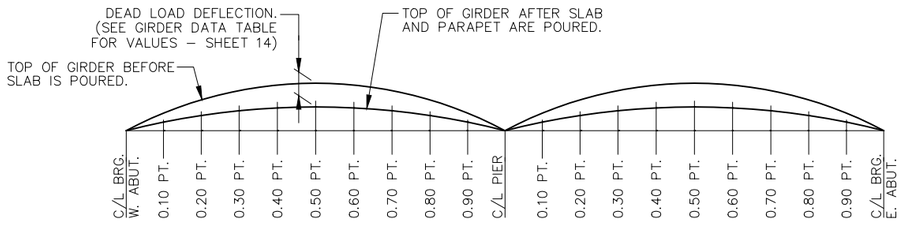
STATE PROJECT NUMBER

2025-13-71



N

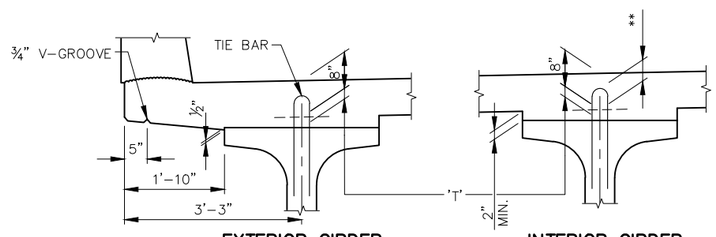
GIRDER LAYOUT



DEAD LOAD DEFLECTION DIAGRAM

ELEVATIONS AT TOP OF DECK

GIRDER LINE	C/L BRG. W. ABUT.	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	C/L PIER	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	C/L BRG. E. ABUT.
N. EDGE	882.21	882.32	882.44	882.55	882.66	882.78	882.89	883.00	883.11	883.22	883.33	883.45	883.56	883.66	883.77	883.88	883.99	884.10	884.21	884.31	884.42
A	882.27	882.39	882.50	882.61	882.73	882.84	882.95	883.07	883.18	883.29	883.40	883.51	883.62	883.73	883.84	883.95	884.06	884.16	884.27	884.38	884.48
B	882.43	882.55	882.66	882.77	882.89	883.00	883.11	883.23	883.34	883.45	883.56	883.67	883.78	883.89	884.00	884.11	884.22	884.32	884.43	884.54	884.64
C	882.59	882.71	882.82	882.93	883.05	883.16	883.27	883.39	883.50	883.61	883.72	883.83	883.94	884.05	884.16	884.27	884.38	884.48	884.59	884.70	884.80
D	882.75	882.87	882.98	883.09	883.21	883.32	883.43	883.55	883.66	883.77	883.88	883.99	884.10	884.21	884.32	884.43	884.54	884.64	884.75	884.86	884.96
E	882.91	883.03	883.14	883.25	883.37	883.48	883.59	883.71	883.82	883.93	884.04	884.15	884.26	884.37	884.48	884.59	884.70	884.80	884.91	885.02	885.12
F	883.07	883.19	883.30	883.41	883.53	883.64	883.75	883.87	883.98	884.09	884.20	884.31	884.42	884.53	884.64	884.75	884.86	884.96	885.07	885.18	885.28
CROWN	883.15	883.27	883.38	883.49	883.61	883.72	883.83	883.95	884.06	884.17	884.28	884.39	884.50	884.61	884.72	884.83	884.94	885.04	885.15	885.26	885.36
G	883.07	883.19	883.30	883.41	883.53	883.64	883.75	883.87	883.98	884.09	884.20	884.31	884.42	884.53	884.64	884.75	884.86	884.96	885.07	885.18	885.28
H	882.91	883.03	883.14	883.25	883.37	883.48	883.59	883.71	883.82	883.93	884.04	884.15	884.26	884.37	884.48	884.59	884.70	884.80	884.91	885.02	885.12
I	882.75	882.87	882.98	883.09	883.21	883.32	883.43	883.55	883.66	883.77	883.88	883.99	884.10	884.21	884.32	884.43	884.54	884.64	884.75	884.86	884.96
S. EDGE	882.69	882.80	882.92	883.03	883.14	883.26	883.37	883.48	883.59	883.70	883.81	883.93	884.04	884.14	884.25	884.36	884.47	884.58	884.69	884.79	884.90



EXTERIOR GIRDER

INTERIOR GIRDER

SLAB HAUNCH DETAIL

IF 2" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEVATION OF TOP OF GIRDERS AT THE C/L OF SUBSTRUCTURE UNITS AND AT THE 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
– TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
– SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH HEIGHT ('T') OF 3" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-331

DRAWN BY JZ | PLANS CK'D. PTB

GIRDER LAYOUT

SHEET 12 OF 20

476

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B-67-0331\GIRDER LAYOUT.DWG
LAYOUT : GIRDER LAYOUT

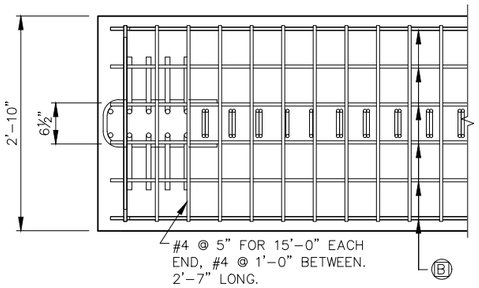
PLOT DATE : 10/31/2016
PLOT TIME : 8:37:07 AM

PLOT BY : BOLAND, PATRICK

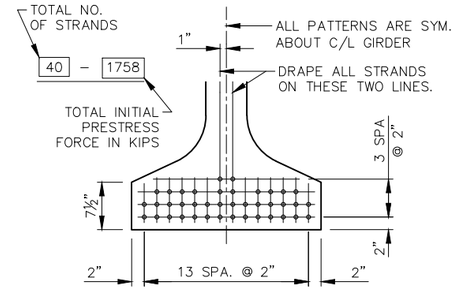
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

2025-13-71



TOP FLANGE



TYP. STRAND PATTERN

THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN

SPAN	CAMBER (IN.)
1	4.7"

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

GIRDER NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

PRESTRESSING STRANDS SHALL BE 0.60"ø – 7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI AND SHALL BE FLUSH WITH THE ENDS OF THE GIRDER. ENDS OF STRANDS SHALL BE PAINTED WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. THIS APPLIES ONLY TO THOSE ENDS OF GIRDERS THAT ARE FINALLY EXPOSED.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

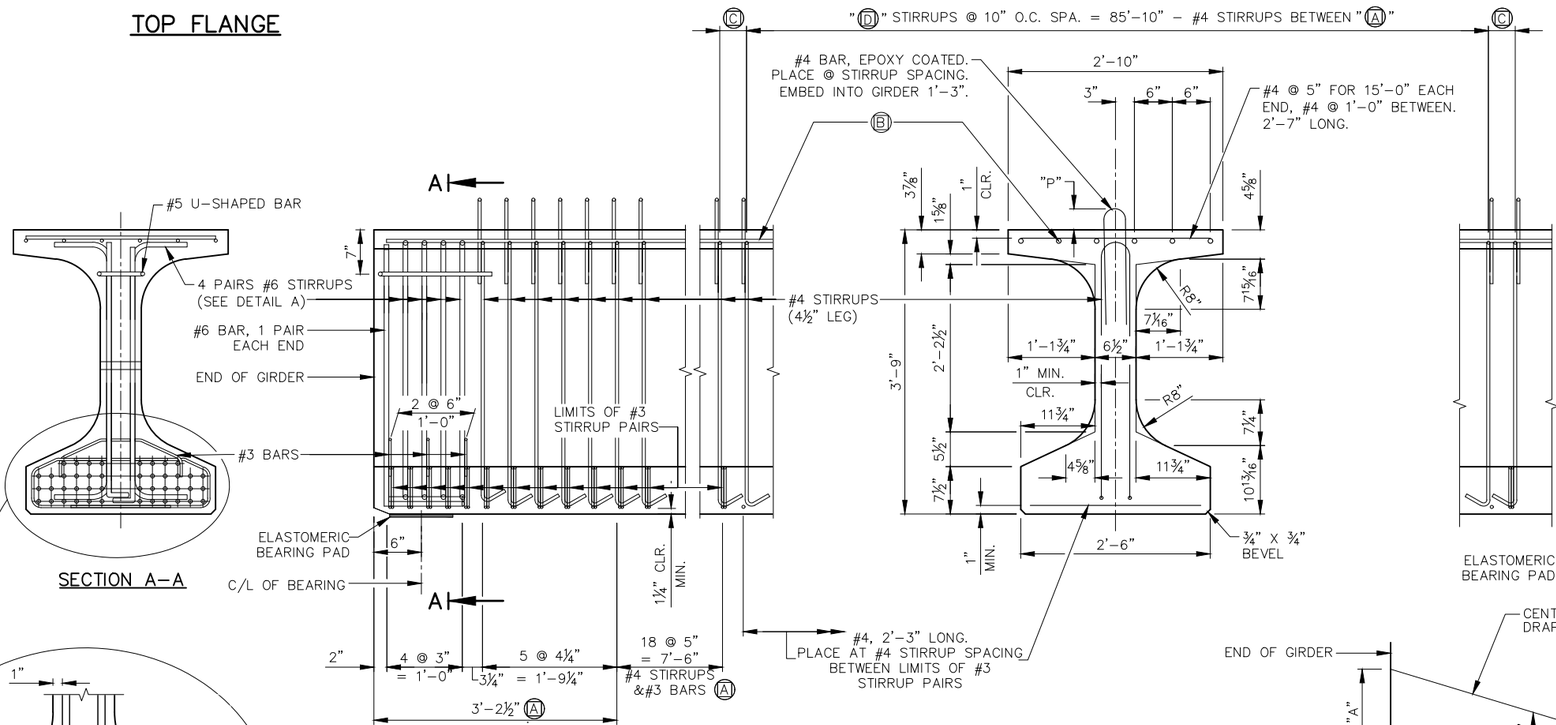
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, 1 OPTION IS AVAILABLE:

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

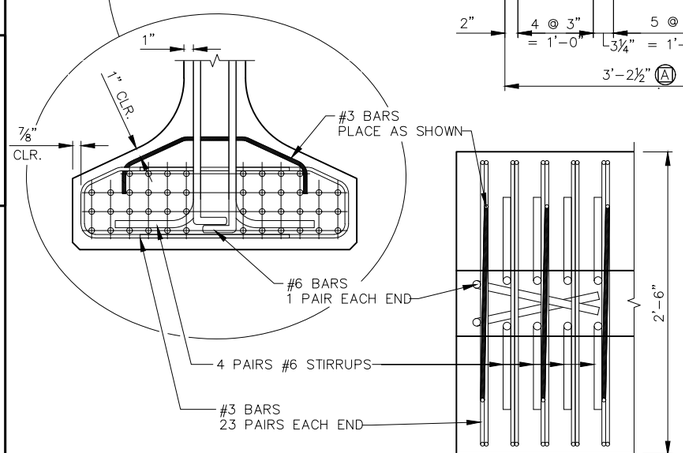
DATA SHOWN IN DEFLECTION DATA IS THEORETICAL AND MAY VERY WITH CONCRETE STRENGTH, VARIABLE PRESTRESS CONDITIONS AND PRESTRESS LOSSES.



SIDE VIEW & TYP. SECTION IN SPAN

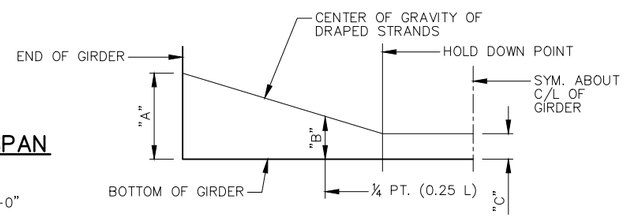
A DETAIL TYP. AT EACH END

B 6 #4 BARS, FULL LENGTH, MIN. LAP = 3-0"

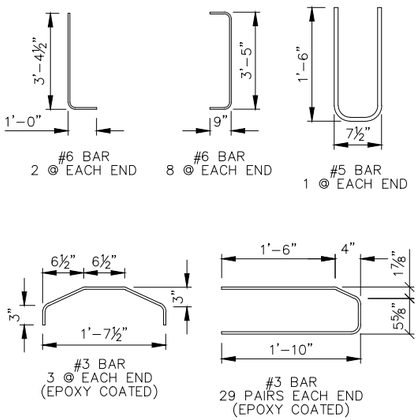


BOTTOM FLANGE

DETAIL A



DRAPED STRAND PROFILE



GIRDER DATA

GIRDER LENGTH "L"	QUANTITY	DEAD LOAD DEFL. (IN.)									CONC. STRGTH. f'c (p.s.i.)	STIRRUP PROJECTION "P"			DIA. OF STRAND (IN.)	DRAPED PATTERN						Ⓒ STIRRUP SPACE (IN.)	Ⓓ NO. OF EQ. STIRRUP SPACES
		1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10		1ST 1/3	MID 1/3	END 1/3		TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	(IN.) "B" MIN.	(IN.) "B" MAX.	(IN.) "C"		
108'-4½"	18	1³⁄₁₆	1½	2¹⁄₁₆	2⁷⁄₁₆	2⁹⁄₁₆	2⁷⁄₁₆	2¹⁄₁₆	1½	1³⁄₁₆	8.0	8"	7"	8"	0.6"	40	6.8	40	13¾	16¾	5	6¾	103

*MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

NOTE: SEE SHEET 13 FOR DEAD LOAD DEFLECTION DIAGRAM.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-331

DRAWN BY JZ | PLANS CK'D. PTB

45W-INCH PRESTRESSED GIRDER DETAILS

SHEET 13 OF 20

477

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B-67-0331\GIRDER DETAILS.DWG
LAYOUT : LAYOUT1

PLOT DATE : 10/31/2016
PLOT TIME : 8:37:18 AM

PLOT BY : BOLAND, PATRICK

PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

2025-13-71

NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-67-331", EACH.

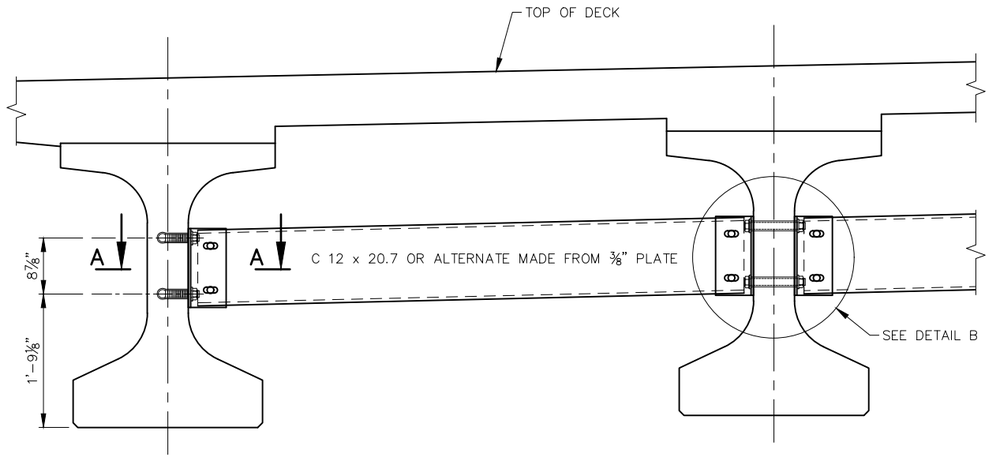
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

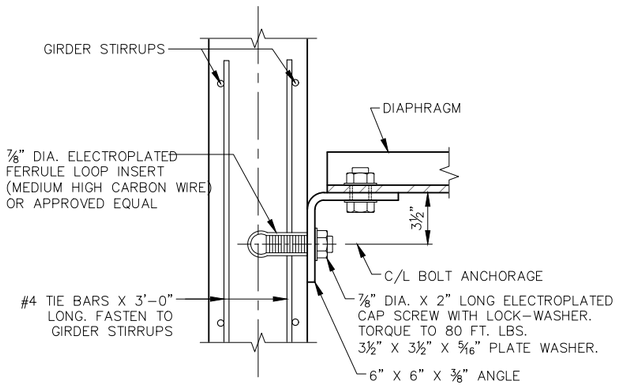
ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

PLACE DIAPHRAGMS AT ⅓ AND ⅔ POINTS OF GIRDER.

SEE SHEET 12 FOR STEEL DIAPHRAGM LOCATIONS & SPACING.

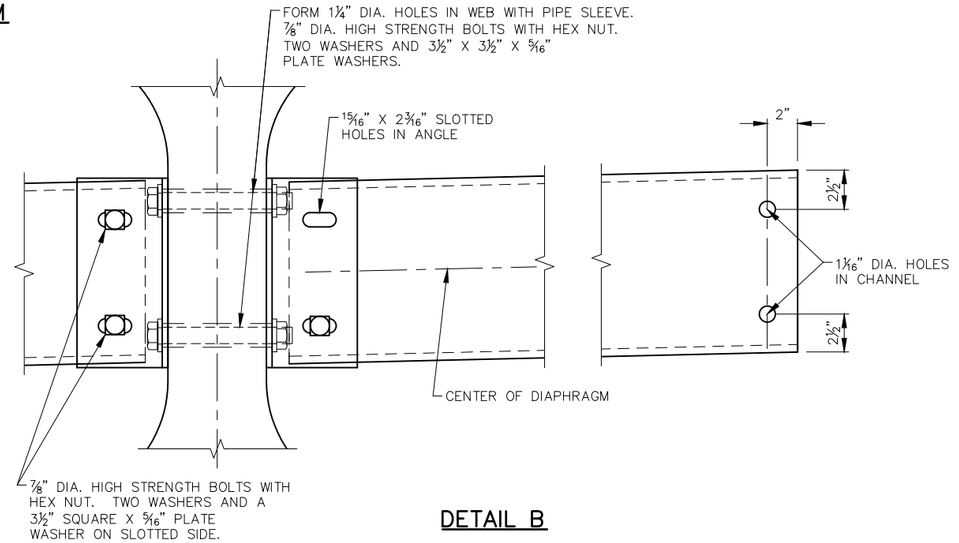


PART TRANSVERSE SECTION AT DIAPHRAGM

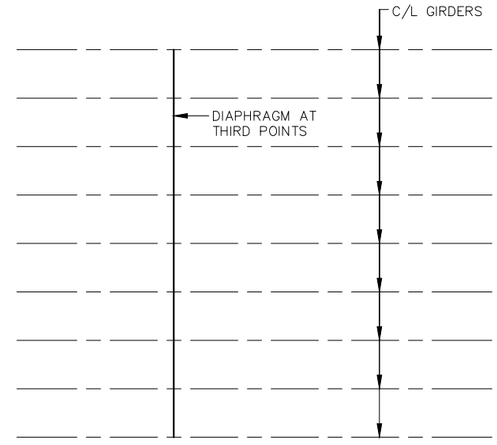


SECTION A-A

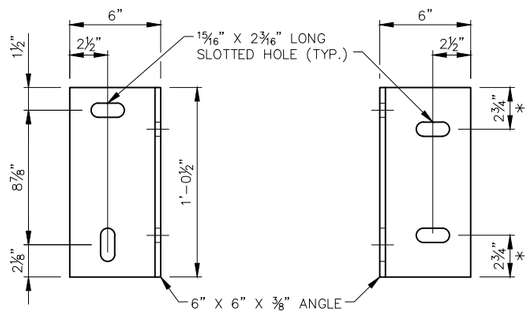
(FOR EXTERIOR ATTACHMENT)



DETAIL B



PLAN FOR SKEW ANGLES < 10°

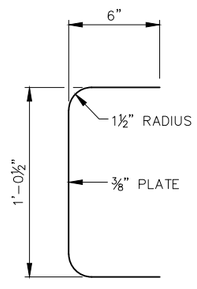


BEAM FACE

DIAPHRAGM FACE

DIAPHRAGM SUPPORT

* 2½" FOR ALTERNATE PLATE DIAPHRAGM



SECTION THRU ALTERNATE DIAPHRAGM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-331

DRAWN BY JZ | PLANS CK'D. PTB

STEEL DIAPHRAGM

SHEET 14 OF 20

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B-67-0331\STEEL DIAPHRAGM.DWG
LAYOUT : LAYOUT1

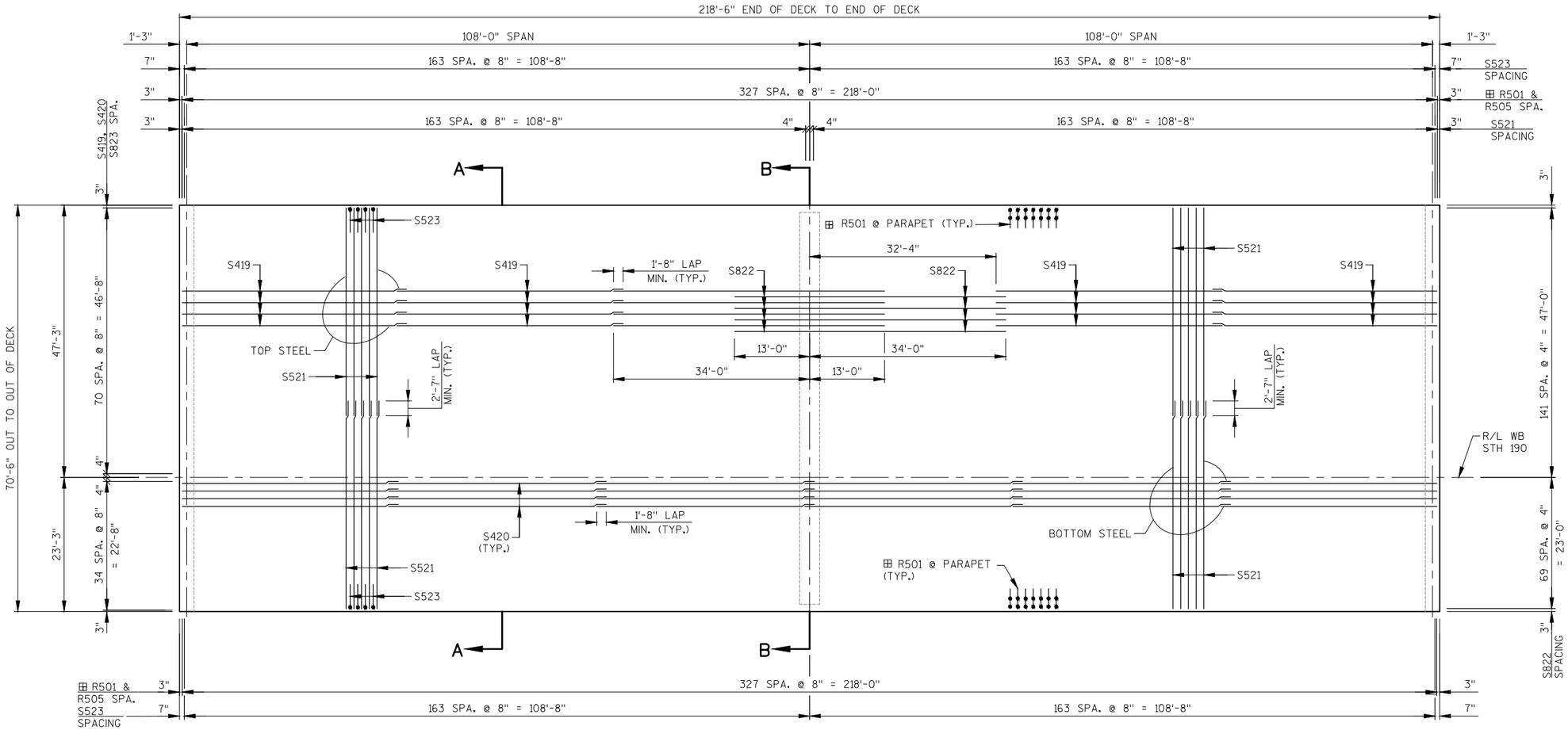
PLOT DATE : 10/31/2016
PLOT TIME : 8:37:29 AM

PLOT BY : BOLAND, PATRICK

PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

2025-13-71

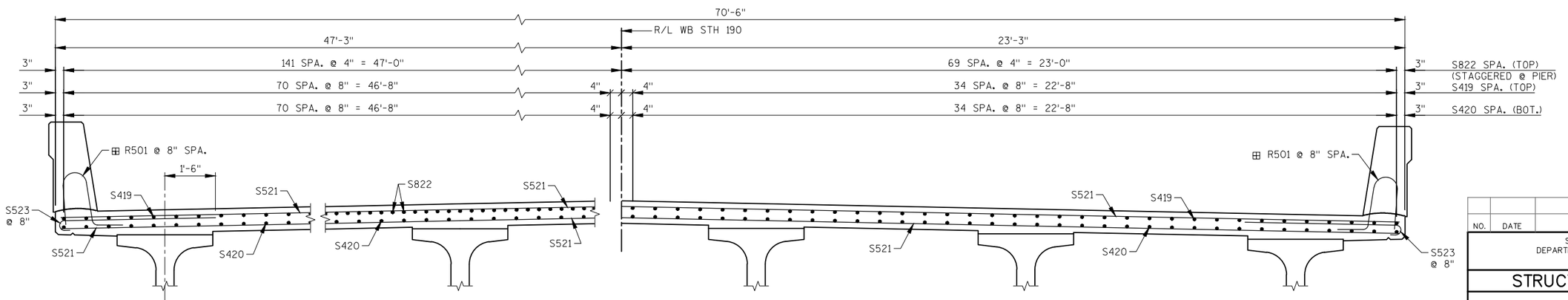


PLAN

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 17 FOR BILL OF BARS.

⊞ R501 BARS TO BE TIED TO DECK STEEL BEFORE DECK IS POURED.



SECTION A–A
(PARTIAL TRANSVERSE SECTION WITHIN SPAN)
LOOKING EAST

SECTION B–B
(PARTIAL TRANSVERSE SECTION AT PIER)
LOOKING EAST

SECTION A–A
(PARTIAL TRANSVERSE SECTION WITHIN SPAN)
LOOKING EAST

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–67–331

DRAWN BY JZ | PLANS CK'D. PTB

SUPERSTRUCTURE

SHEET 15 OF 20

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B-67-0331\SUPERSTRUCTURE.DWG
LAYOUT : SUPERSTRUCTURE

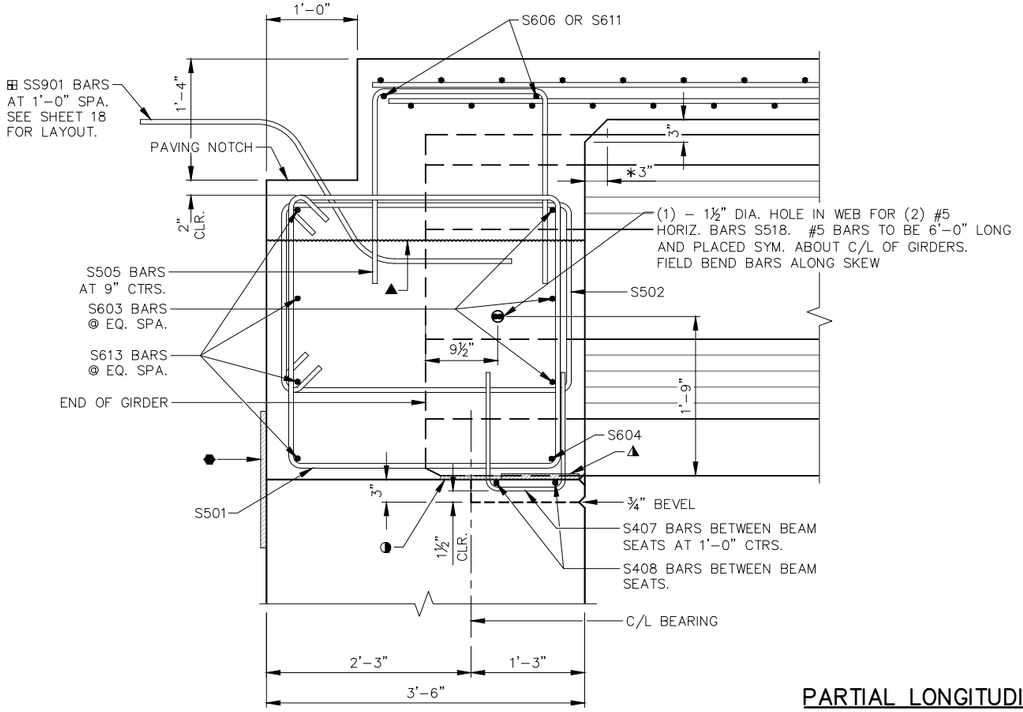
PLOT DATE : 8/19/2016
PLOT TIME : 11:04:46 AM

PLOT BY : BOLAND, PATRICK

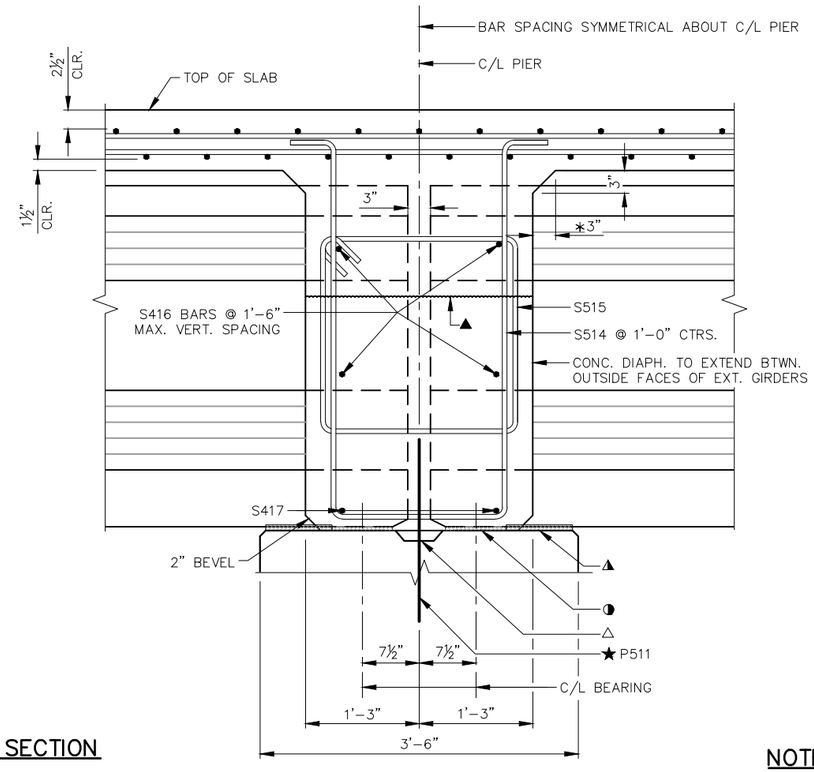
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

2025-13-71

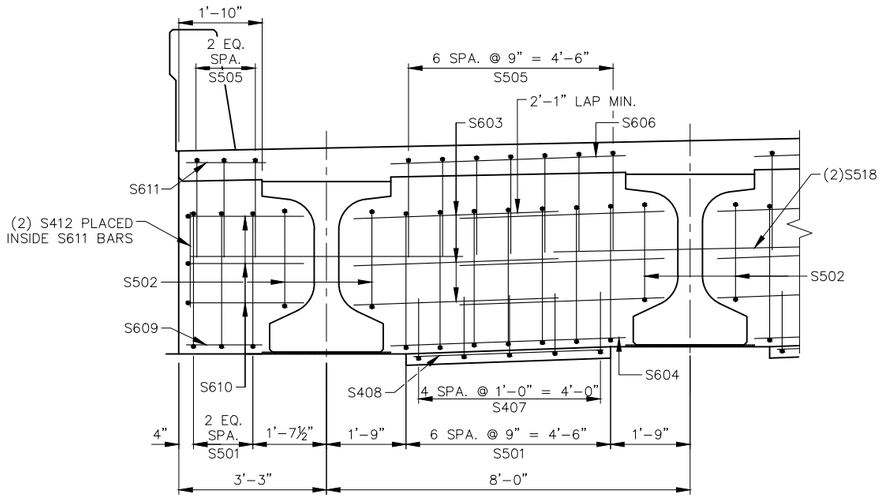


PARTIAL LONGITUDINAL SECTION

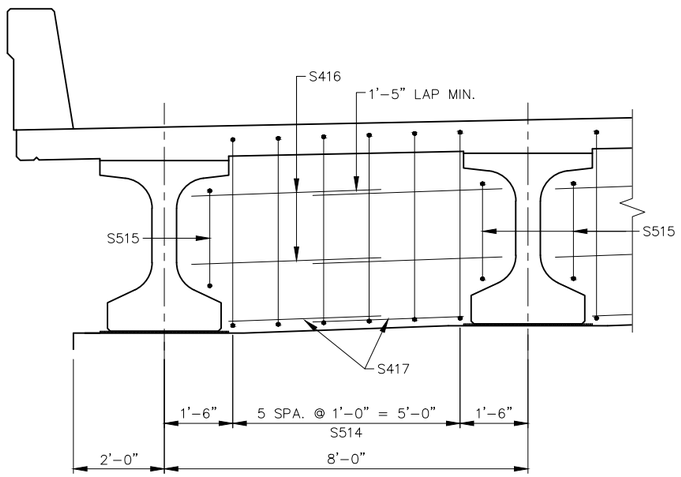


NOTES

SEE SHEET 17 FOR BILL OF BARS.



PART TRANSVERSE SECTION AT ABUTMENT DIAPHRAGM



PART TRANSVERSE SECTION AT PIER DIAPHRAGM

LEGEND

- ⬣ 18" RUBBERIZED MEMBRANE WATERPROFING (HORIZONTAL)
- ◭ ¾" PREFORMED FILLER UNDER GIRDER FLANGE IN FRONT OF BRG. PAD.
- △ KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2 X 6.
- ◑ ½"x8"x1'-6" ELASTOMERIC BEARING PAD.
- ★ SEE SHEET 11 FOR PLACEMENT OF P511 BARS.
- ⊞ SS901 BARS TO BE TIED TO DECK STEEL BEFORE DECK IS POURED. SEE SHEET 18 FOR LAYOUT.
- ▲ OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-331

DRAWN BY JZ | PLANS CK'D. PTB

SUPERSTRUCTURE DETAILS (1 OF 2)

SHEET 16 OF 20

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B-67-0331\SUPERSTRUCTURE.DWG
LAYOUT : SUPERSTRUCTURE DETAILS
PLOT DATE : 8/29/2016
PLOT TIME : 2:08:59 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

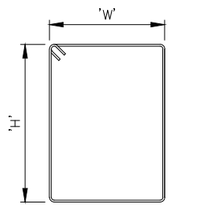
STATE PROJECT NUMBER

2025–13–71

BILL OF BARS
SUPERSTRUCTURE

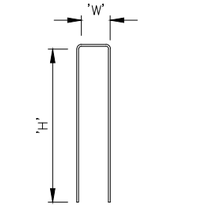
113,490 LB (COATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
S501	124	13–0	X	X	DIAPHRAGM – ABUTMENT – VERT.
S502	36	11–4	X	X	DIAPHRAGM – ABUTMENT – VERT.
S603	96	4–8		X	DIAPHRAGM – ABUTMENT – HORIZ.
S604	16	5–2		X	DIAPHRAGM – ABUTMENT – HORIZ.
S505	124	5–9	X	X	DIAPHRAGM/DECK – BTWN. GIRDERS
S606	32	5–0		X	DIAPHRAGM/DECK – ABUTMENT
S407	80	3–2	X	X	DIAPHRAGM – ABUTMENT
S408	32	4–2		X	DIAPHRAGM – ABUTMENT
S609	4	1–8		X	DIAPHRAGM – ABUTMENT – EDGE
S610	12	7–11	X	X	DIAPHRAGM – ABUTMENT – EDGE
S611	8	1–6		X	DIAPHRAGM/DECK – ABUTMENT – EDGE
S412	8	2–2		X	DIAPHRAGM – ABUTMENT – EDGE
S613	16	36–2		X	DIAPHRAGM – ABUTMENT
S514	48	11–0	X	X	DIAPHRAGM – PIER – VERT.
S515	16	9–4	X	X	DIAPHRAGM – PIER – VERT.
S416	64	4–4		X	DIAPHRAGM – PIER – HORIZ.
S417	32	3–4		X	DIAPHRAGM – PIER – HORIZ.
S518	36	6–0		X	DIAPHRAGM – ABUTMENT – GIRDER
S419	424	39–3		X	BRIDGE DECK – TOP – LONGIT.
S420	636	37–9		X	BRIDGE DECK – BOTTOM – LONGIT.
S521	1312	36–6		X	BRIDGE DECK – TOP & BOT. – TRANS.
S822	211	47–0		X	BRIDGE DECK – TOP – AT PIER
S523	654	5–2	X	X	BRIDGE DECK – EDGES



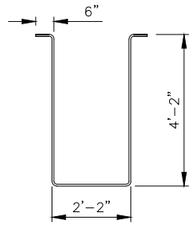
MARK	'W'	'H'
S501	3–2	3–0
S502	3–2	2–2
S515	2–2	2–2

S501, S502, S515

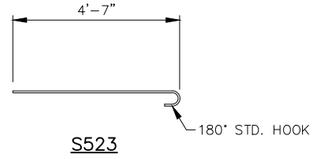


MARK	'W'	'H'
S505	2–2	1–11
S407	0–11	1–3
S610	3–0	2–7

S505, S407, S610



S514

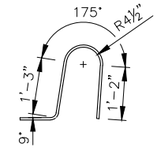


S523

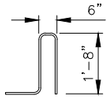
BILL OF BARS
PARAPETS

11,130 LB (COATED)

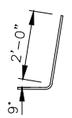
BAR MARK	NUMBER REQ'D.	LENGTH	BENT	COAT	LOCATION
R501	656	4–5	X	X	PARAPET – VERT.
R502	68	4–5	X	X	PARAPET – VERT.
R503	20	4–4	X	X	PARAPET – VERT.
R504	48	2–9	X	X	PARAPET – VERT.
R505	724	5–0	X	X	PARAPET – VERT.
R506	24	4–10	X	X	PARAPET – VERT.
R507	44	4–9	X	X	PARAPET – VERT.
R508	84	33–8		X	PARAPET – HORIZ.
R509	20	19–8		X	PARAPET – HORIZ.
R510	4	10–10	X	X	PARAPET – HORIZ.
R511	4	11–9		X	PARAPET – HORIZ.



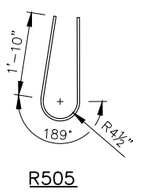
R501 & R502



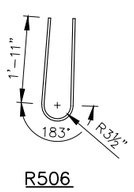
R503



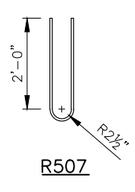
R504



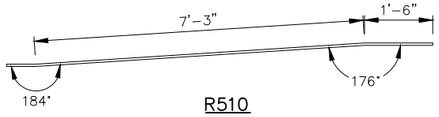
R505



R506



R507



R510

NOTES

THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–67–331

DRAWN BY JZ | PLANS CK'D. PTB

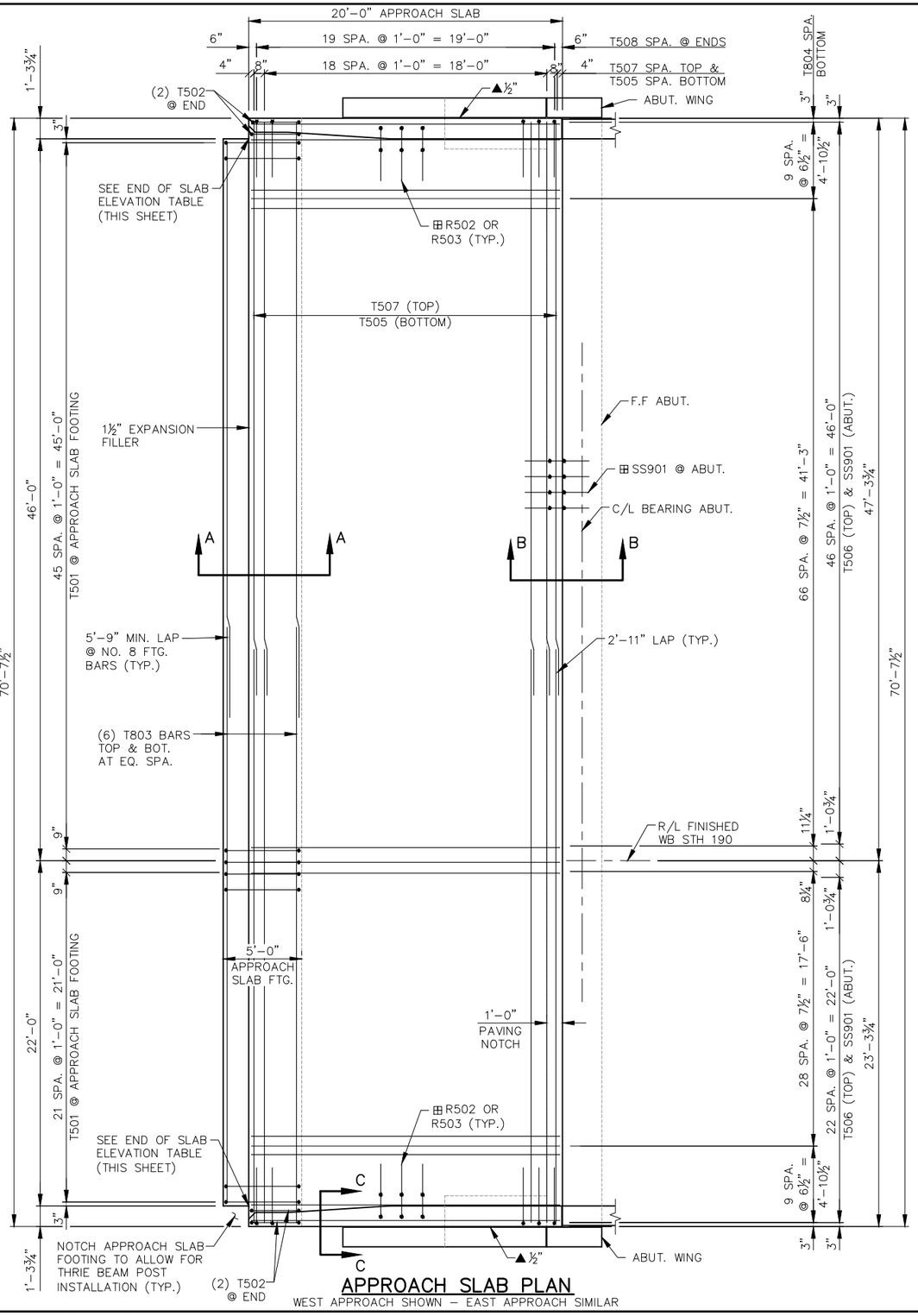
SUPERSTRUCTURE DETAILS (2 OF 2)

SHEET 17 OF 20

481

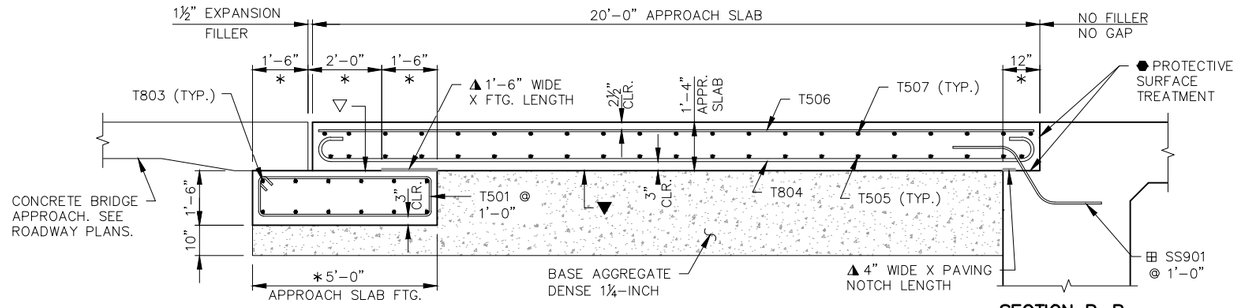
STATE PROJECT NUMBER

2025-13-71



APPROACH SLAB PLAN

WEST APPROACH SHOWN – EAST APPROACH SIMILAR



SECTION A–A

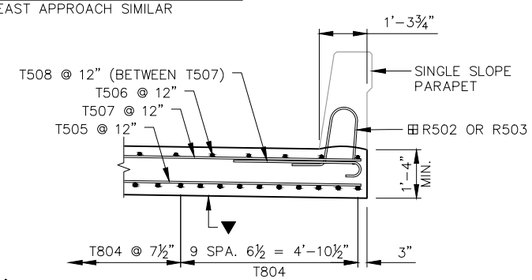
SECTION B–B

CROSS SECTION THROUGH APPROACH SLAB

WEST APPROACH SHOWN – EAST APPROACH SIMILAR

END OF SLAB ELEVATIONS

END OF SLAB LOCATION	WEST APPROACH SLAB		EAST APPROACH SLAB	
	STATION	ELEV.	STATION	ELEV.
FACE N. PARAPET	133+26.15 WB	882.00	135+84.65 WB	884.65
R/L WB STH 190	133+26.15 WB	882.92	135+84.65 WB	885.57
FACE S. PARAPET	133+26.15 WB	881.56	135+84.65 WB	885.13



SECTION C–C

BILL OF BARS
TWO APPROACH SLABS

29,420 LB (COATED)
2,410 LB (STAINLESS STEEL)

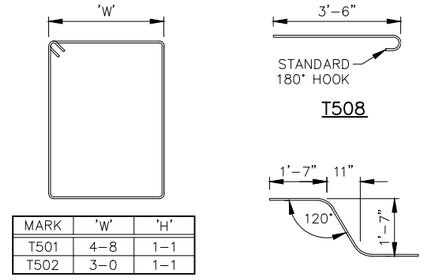
BAR MARK	NUMBER REQ'D.	LENGTH	BENT	COAT	LOCATION
T501	138	12-2	X	X	APPROACH SLAB FTG. – STIRRUP
T502	8	8-10	X	X	APPROACH SLAB FTG. – ENDS
T803	24	36-9		X	APPROACH SLAB FTG. – TRANS.
T804	230	21-6	X	X	APPROACH SLAB – LONG. – BOT.
T505	84	36-8		X	APPROACH SLAB – TRANS. – BOT.
T506	142	19-8		X	APPROACH SLAB – LONG. – TOP
T507	84	36-8		X	APPROACH SLAB – TRANS. – TOP
T508	80	4-1	X	X	APPROACH SLAB – TRANS. – ENDS
STAINLESS STEEL					
SS901	142	5-0	X		CONC. ABUT. DIAPH. TO APPROACH SLAB

NOTES: BOTH THE WEST AND EAST APPROACH SLABS ARE INCLUDED IN THIS BILL OF BARS.

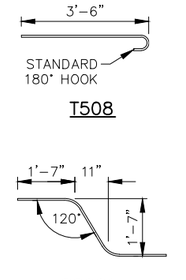
THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.

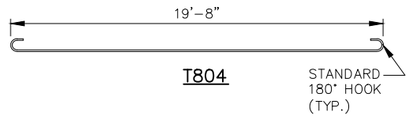


T501, T502



T508

SS901



T804

LEGEND

- ● APPLY PROTECTIVE SURFACE TREATMENT TO PAVING NOTCH PRIOR TO POURING STRUCTURAL APPROACH SLAB.
- ∗ DIMENSION IS NORMAL TO THE C/L OF SUBSTRUCTURE UNITS.
- ◭ ¾" PREFORMED JOINT FILLER, EXTEND AS SHOWN.
- ▲ FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINUOS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE)
- ▽ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE TOP OF FOOTING. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ▼ PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF SUBGRADE BENEATH SLAB. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ⊞ SS901 BARS (PAVING NOTCH) TO BE TIED TO DECK STEEL BEFORE DECK IS POURED. R502 & R503 BARS (PARAPET) TO BE TIED TO APPROACH SLAB STEEL BEFORE APPROACH SLAB IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-331

DRAWN BY JZ | PLANS CK'D. PTB

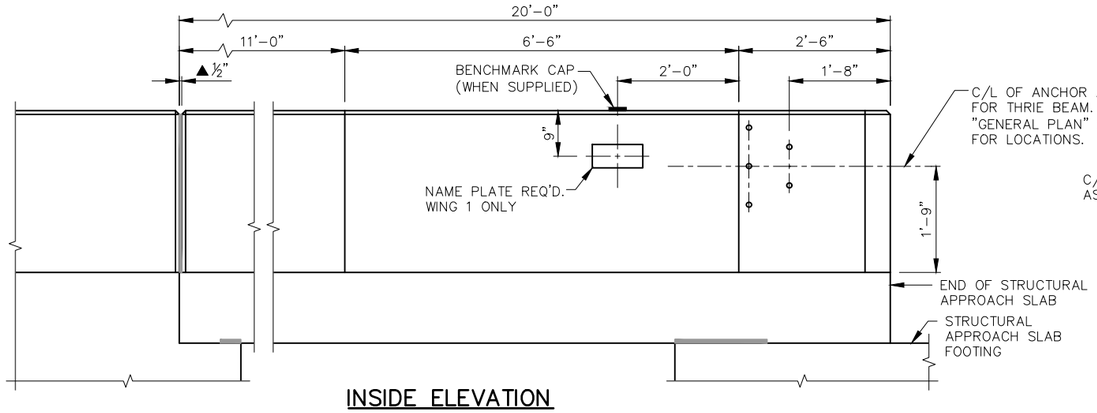
APPROACH SLAB

SHEET 18 OF 20

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B-67-0331\SUPERSTRUCTURE.DWG
LAYOUT : APPROACH SLAB
PLOT DATE : 8/29/2016
PLOT TIME : 10:59:10 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

2025-13-71

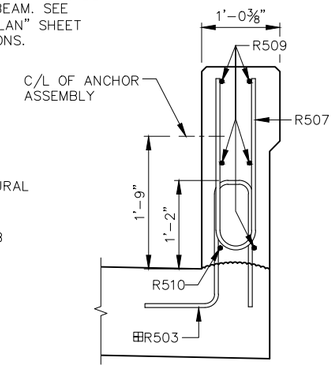


INSIDE ELEVATION

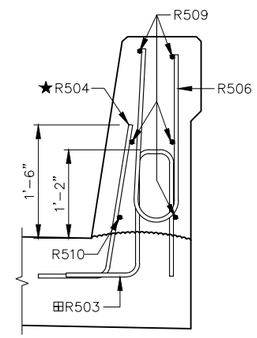
(WING 1 SHOWN – OTHER WINGS SIMILAR)

NOTES

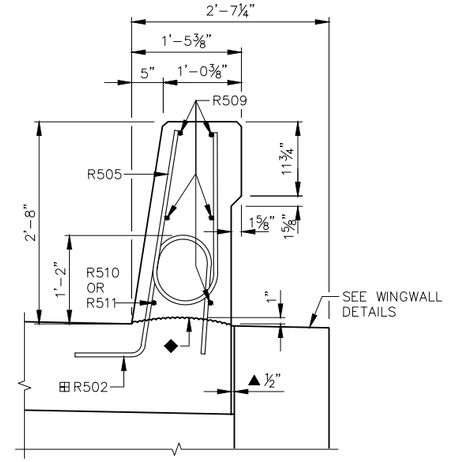
SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 17 FOR BILL OF BARS.



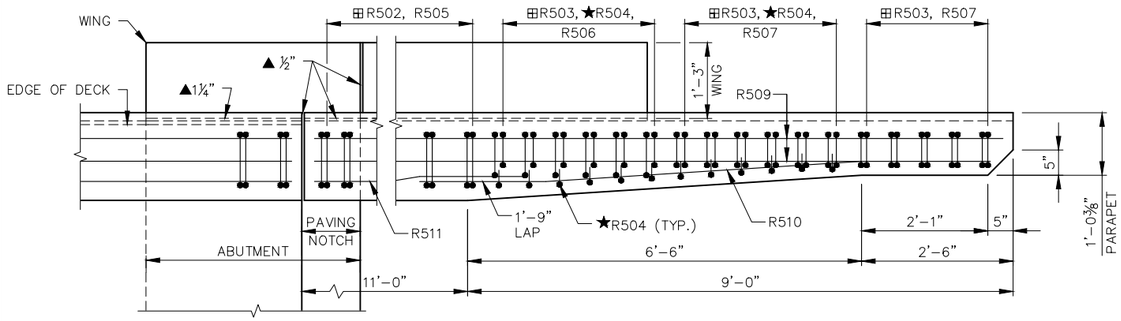
SECTION A



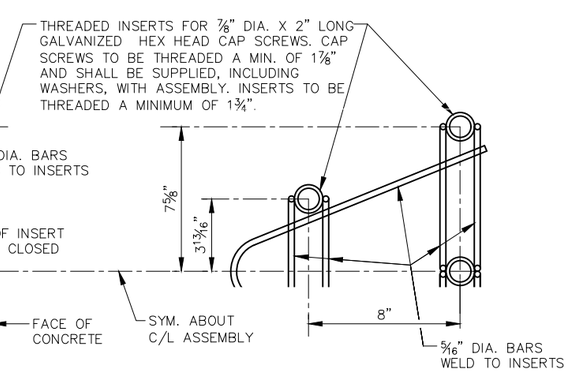
SECTION B



SECTION C



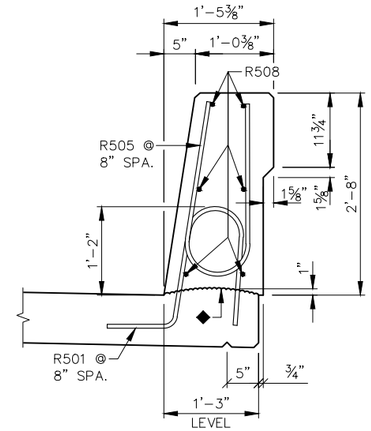
PLAN LAYOUT



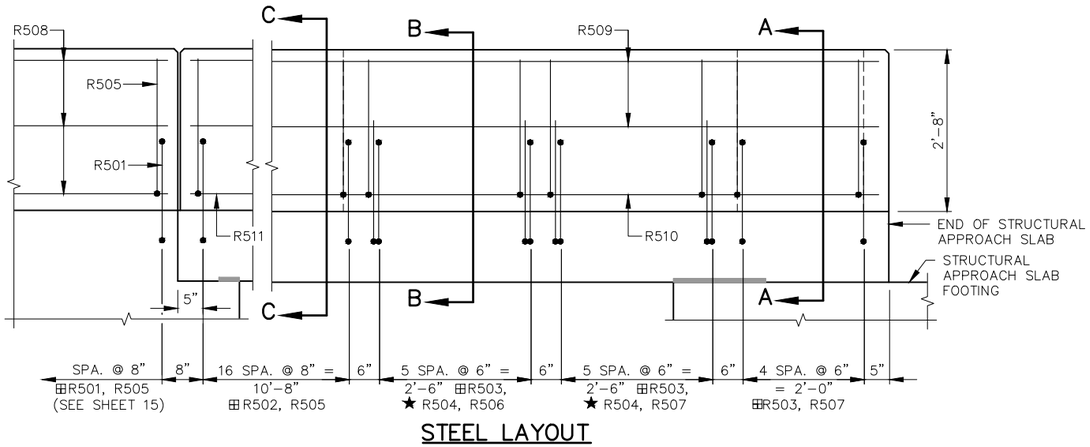
DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS AND WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232, CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD".



SECTION THROUGH PARAPET ON BRIDGE



STEEL LAYOUT

LEGEND

◆ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN.

▲ FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING, GRAY, NON-BITUMINUOS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE).

★ R504 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R504 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

⊞ R501 BARS TO BE TIED TO DECK STEEL BEFORE DECK IS POURED. R502 AND R503 BARS TO BE TIED TO APPROACH SLAB STEEL BEFORE APPROACH SLAB IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-331

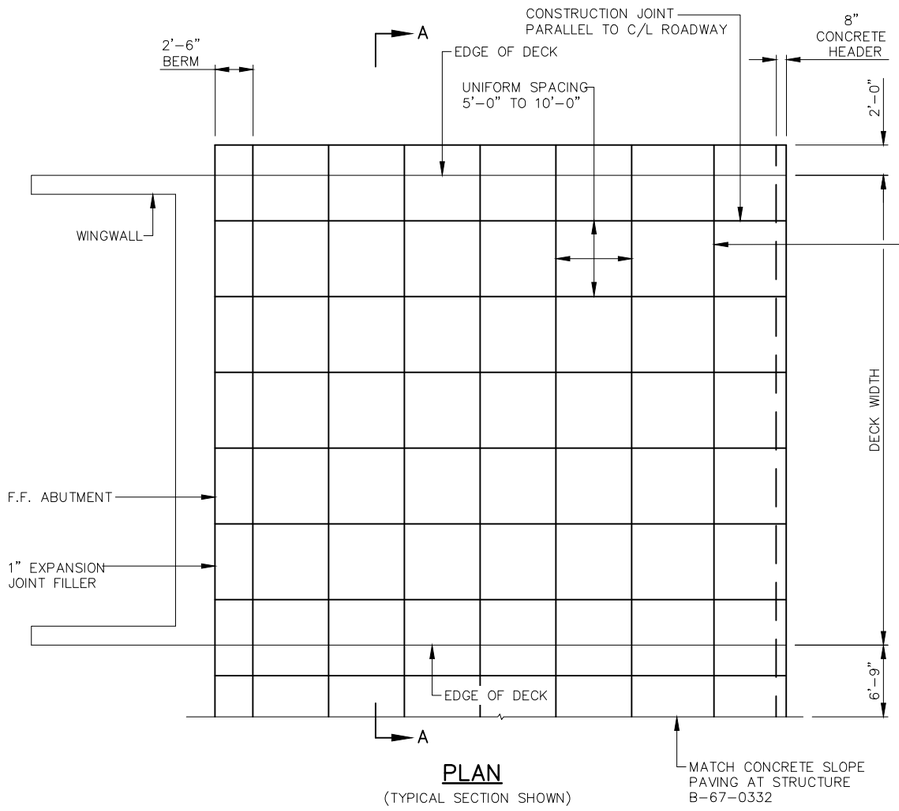
DRAWN BY JZ | PLANS CK'D. PTB

SINGLE SLOPE PARAPET 32SS

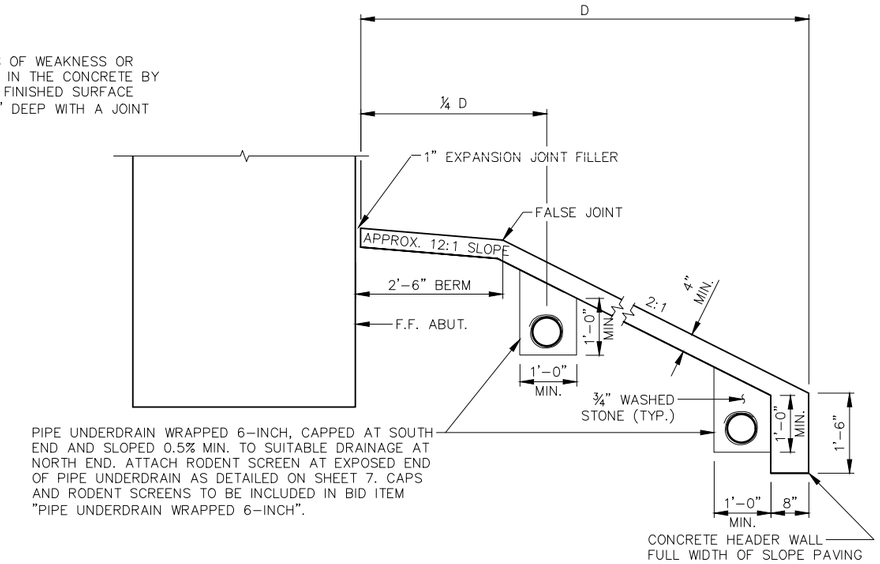
SHEET 19 OF 20

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B-67-0331\SUPERSTRUCTURE.DWG
LAYOUT : 32SS
PLOT DATE : 8/19/2016
PLOT TIME : 11:10:05 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

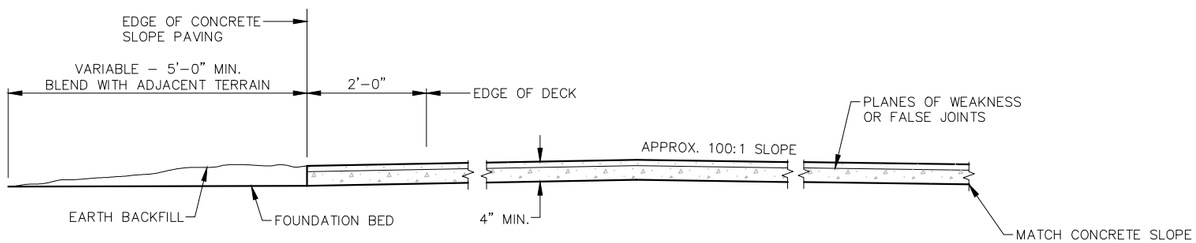
STATE PROJECT NUMBER
2025–13–71



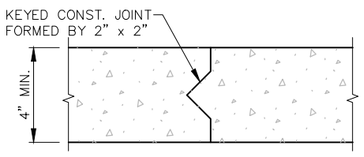
PLAN
(TYPICAL SECTION SHOWN)



TYPICAL SECTION



SECTION A–A



CONSTRUCTION JOINT

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN HEREON SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–67–331

DRAWN BY JZ | PLANS CK'D. PTB

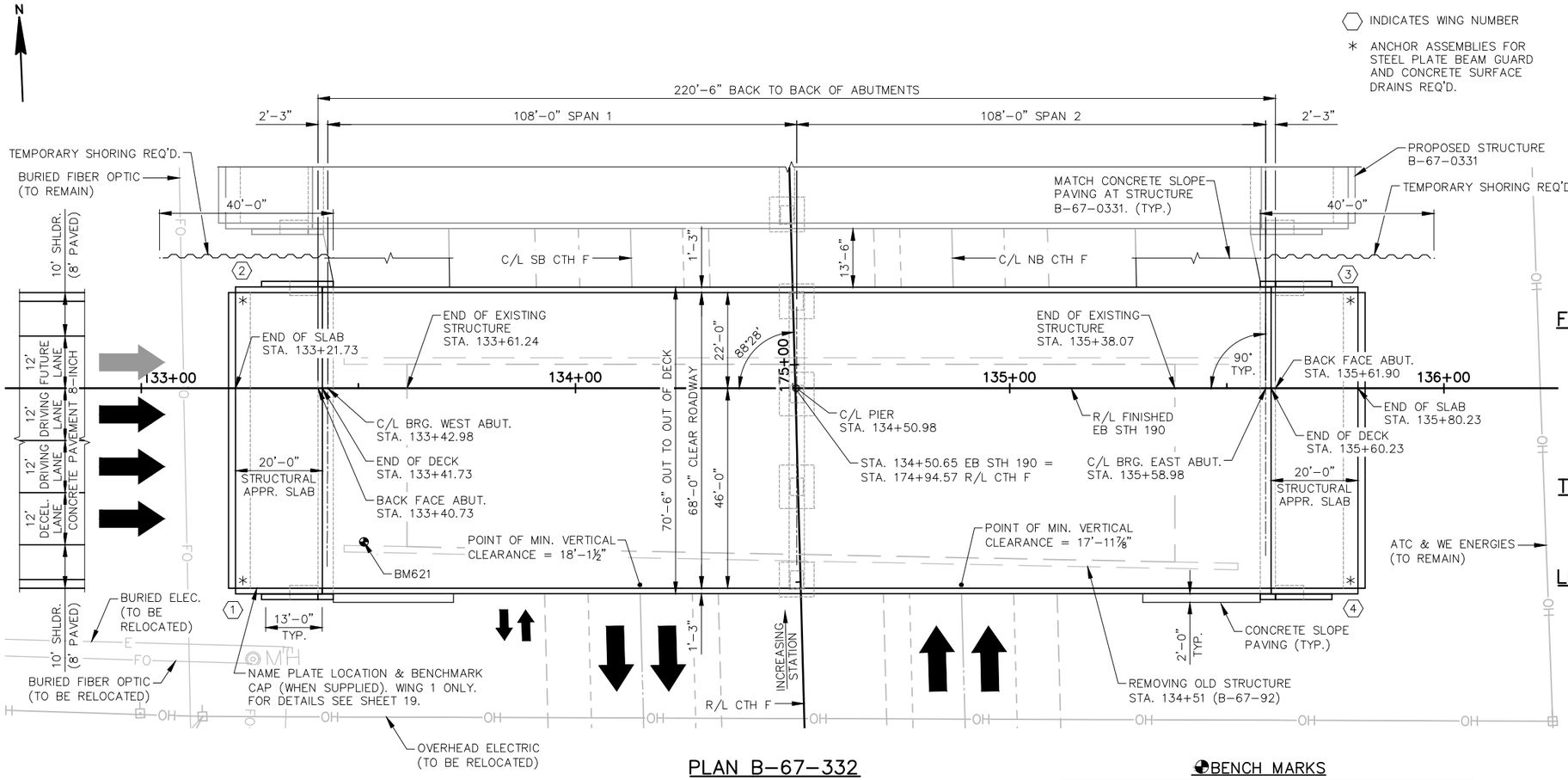
SLOPE PAVING DETAILS

SHEET 20 OF 20

484

STATE PROJECT NUMBER

2025-13-71

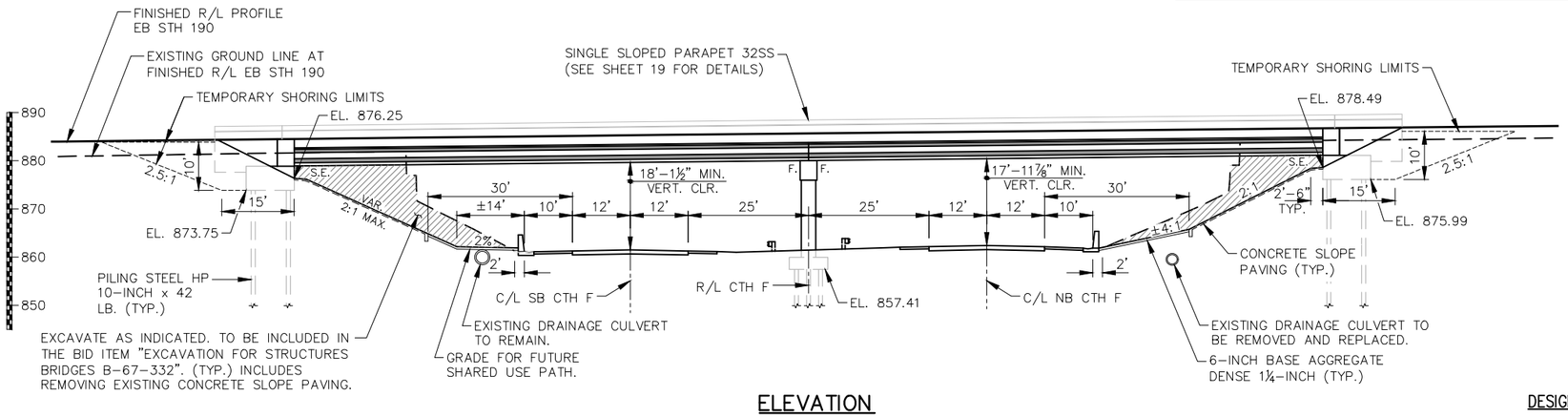


PLAN B-67-332

(TWO-SPAN 45W-INCH PRESTRESSED CONCRETE GIRDER STRUCTURE)

BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
620	135+35	CHISELED SQUARE ON CONCRETE CURB NE WING, B-67-91, 106.4' LT.	881.84
621	133+51	CHISELED SQUARE ON CONCRETE CURB SW WING, B-67-92, 35.4' RT.	881.75



ELEVATION

(NORMAL TO CTH F)

DESIGN DATA

LIVE LOAD:

DESIGN LOADING	HL-93
INVENTORY RATING FACTOR	RF=1.10
OPERATING RATING FACTOR	RF=1.43
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV)	250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 P.S.F.

MATERIAL PROPERTIES:

CONCRETE MASONRY, DECK	f'c = 4,000 P.S.I.
ALL OTHER	f'c = 3,500 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.
45W-INCH PRESTRESSED GIRDER CONCRETE MASONRY	f'c = 8,000 P.S.I.
STRANDS 0.6 INCH DIA. WITH ULTIMATE TENSILE STRENGTH	fy = 270,000 P.S.I.

FOUNDATION DATA

ABUTMENTS AND PIER TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 30 FT PILE LENGTHS AT BOTH ABUTMENTS AND 15 FT PILE LENGTHS AT PIER.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

TRAFFIC DATA

	STH 190 (TOTAL)	CTH F (TOTAL)
A.D.T. (2014)	25,700	25,600
A.D.T. (2039)	32,100	28,800
DESIGN SPEED	60 M.P.H.	60 M.P.H.

LIST OF DRAWINGS

GENERAL PLAN	1.
CROSS SECTION AND QUANTITIES	2.
SUBSURFACE EXPLORATION	3.
WEST ABUTMENT ELEVATION	4.
WEST ABUTMENT LAYOUT	5.
WEST ABUTMENT DETAILS	6.
EAST ABUTMENT ELEVATION	7.
EAST ABUTMENT LAYOUT	8.
EAST ABUTMENT DETAILS	9.
PIER ELEVATION	10.
PIER LAYOUT	11.
GIRDER LAYOUT	12.
45W-INCH PRESTRESSED GIRDER DETAILS	13.
STEEL DIAPHRAGM	14.
SUPERSTRUCTURE	15.
SUPERSTRUCTURE DETAILS (1 OF 2)	16.
SUPERSTRUCTURE DETAILS (2 OF 2)	17.
APPROACH SLAB	18.
SINGLE SLOPE PARAPET 32SS	19.
SLOPE PAVING DETAILS	20.

WISCONSIN PROFESSIONAL ENGINEER
PATRICK T. BOLAND
E-36303
SPRING GREEN, WIS.
Patrick T. Boland 11-23-16

NO.	DATE	REVISION	BY

JEWELL associates engineers, inc. Engineers - Surveyors - Architects

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR — 11/23/16
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-67-332

EB STH 190 (CAPITAL DRIVE) OVER CTH F

COUNTY	WAUKESHA
TOWN/CITY/~~VILLAGE~~	PEWAUKEE
DESIGN SPEC.	AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS
DESIGNED BY	PTB
DESIGN CK'D.	RBH
DRAWN BY	JZ
PLANS CK'D.	PTB

GENERAL PLAN

SHEET 1 OF 20

485

DESIGN CONSULTANT
PATRICK BOLAND, PE
(608) 588-7484

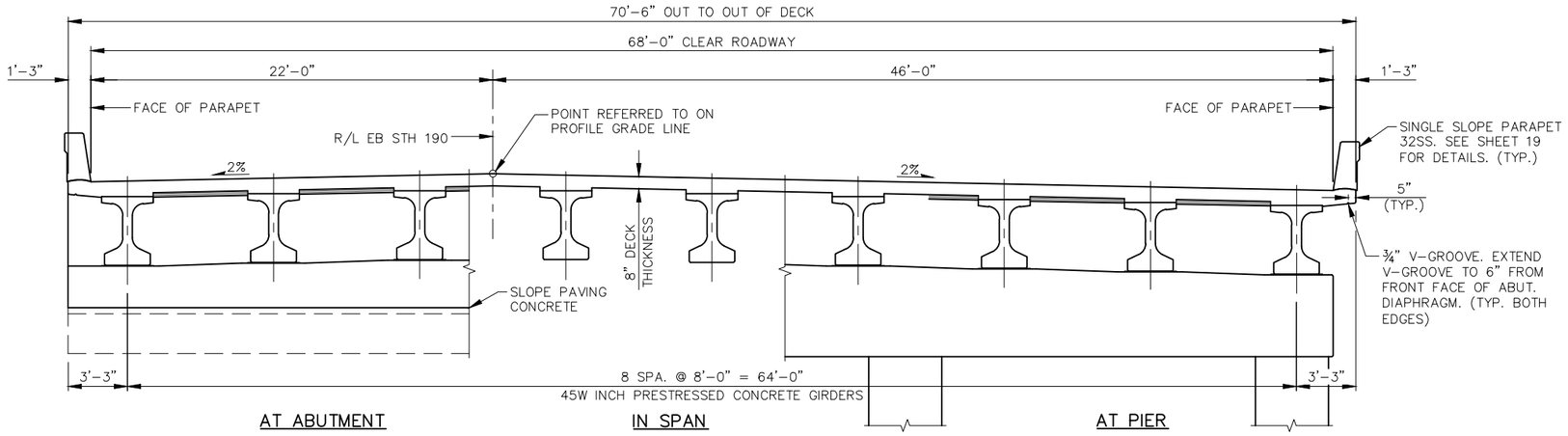
BRIDGE OFFICE CONTACT
WILLIAM DREHER, PE
(608) 266-8489

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B-67-0332\01-GENERAL PLAN.DWG
LAYOUT : GENERAL PLAN

PLOT DATE : ----
PLOT TIME : ----

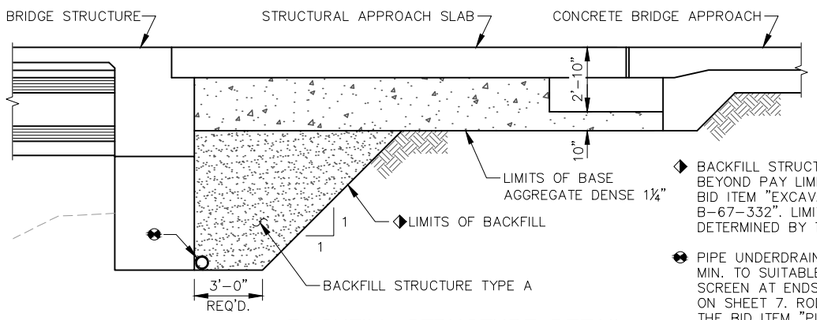
PLOT BY : BOLAND, PATRICK

PLOT SCALE : 1" = 1'



PROPOSED CROSS-SECTION THROUGH ROADWAY

(LOOKING EAST)

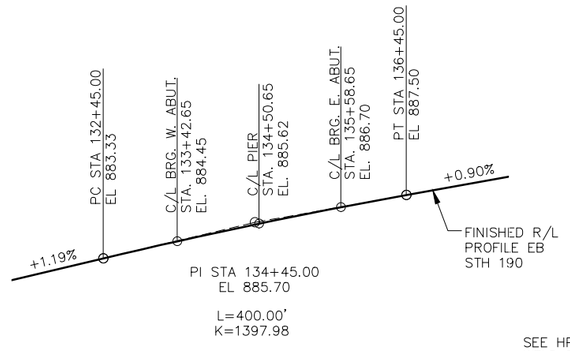


BACKFILL STRUCTURE DETAIL

(TYPICAL AT BOTH ABUTMENTS)

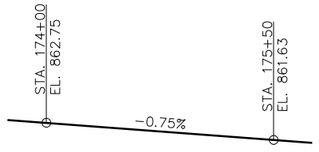
◆ BACKFILL STRUCTURE TYPE A PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO THE BID ITEM "EXCAVATION FOR STRUCTURES B-67-332". LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

◆ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 7. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."



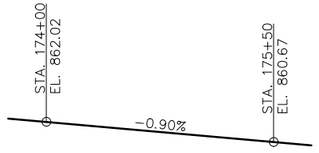
STH 190 - PROFILE GRADE LINE

(EB STH 190)



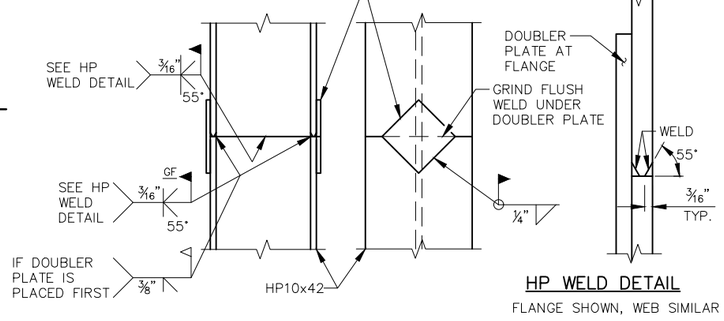
CTH F - PROFILE GRADE LINE

(C/L NB CTH F)



CTH F - PROFILE GRADE LINE

(C/L SB CTH F)



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

PILE SPLICE DETAIL

STEEL "HP" PILE MATERIAL SHALL BE ASTM A 572 GRADE 50.

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	UNIT	W. APPR. SLAB	W. ABUT.	PIER	E. ABUT.	E. APPR. SLAB	*SUPER	TOTALS
203.0200	REMOVING OLD STRUCTURE STA. 134+56	LS	--	--	--	--	--	--	1
203.0225.S	DEBRIS CONTAINMENT B-67-332	LS	--	--	--	--	--	--	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-67-332	LS	--	--	--	--	--	--	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	--	230	--	230	--	--	460
305.0120	BASE AGGREGATE DENSE 1¼-INCH	TON	215	--	--	--	215	--	430
502.0100	CONCRETE MASONRY BRIDGES	CY	93	69	74	69	93	569	967
502.3200	PROTECTIVE SURFACE TREATMENT	SY	150	--	--	--	150	1,690	1,990
502.3210	PIGMENTED SURFACE SEALER	SY	17	--	--	--	17	181	215
503.0146	PRESTRESSED GIRDER TYPE I 45W-INCH	LF	--	--	--	--	--	1,951	1,951
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	--	4,790	2,040	4,790	--	--	11,620
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	14,710	1,680	23,790	1,700	14,710	124,620	181,210
505.0800.S	BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES	LB	1,205	--	--	--	1,205	--	2,410
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	--	--	--	--	--	36	36
506.4000	STEEL DIAPHRAGMS B-67-332	EACH	--	--	--	--	--	32	32
511.1200	TEMPORARY SHORING B-67-332	SF	--	275	--	275	--	--	550
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	--	13	--	13	--	--	26
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	--	510	540	510	--	--	1,560
604.0400	SLOPE PAVING CONCRETE	SY	--	275	--	275	--	--	550
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	--	310	--	310	--	--	620
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	--	--	--	--	--	4	4
	NON-BID ITEMS								
	FILLER	SIZE	--	--	--	--	--	--	½", ¾", 1¼"

*THE SUPERSTRUCTURE QUANTITIES INCLUDE THE CONCRETE AND BAR STEEL REINFORCEMENT OF THE PARAPETS ON THE DECK INCLUDING THOSE PORTIONS LOCATED ON THE STRUCTURAL APPROACH SLABS.

STATE PROJECT NUMBER

2025-13-71

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED. BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (1991 ADJUSTMENT).

JOINT FILLER SHALL CONFORM TO A.A.S.H.T.O. DESIGNATION M153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M213.

THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING CONCRETE TO THE EXTENT SHOWN ON SHEET 1 AND IN THE SLOPE PAVING DETAILS.

AT THE BACK FACE OF ABUTMENTS, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A. SEE THIS SHEET FOR DETAIL.

APPLY PROTECTIVE SURFACE TREATMENT TO THE ENTIRE TOP OF THE DECK, TO THE ENTIRE TOP OF THE STRUCTURAL APPROACH SLABS, AND TO THE PAVING NOTCHES.

APPLY PIGMENTED SURFACE SEALER TO THE FRONT FACE AND TOP OF THE PARAPETS INCLUDING PARAPETS ON THE STRUCTURAL APPROACH SLABS.

THE EXISTING STRUCTURE (B-67-0092) IS A 2-SPAN CONTINUOUS PRESTRESSED CONCRETE DECK GIRDER STRUCTURE WITH REINFORCED SEMI-RETAINING ABUTMENTS SUPPORTED ON H-PILES, AND A REINFORCED CONCRETE 3-COLUMN SPREAD FOOTING PIER. THE STRUCTURE HAS A 39.8' CLEAR ROADWAY WIDTH AND A 176.8' OVERALL LENGTH AND SHALL BE REMOVED.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAILS SHEET.

ALL STATIONS AND ELEVATIONS SHOWN ARE IN FEET.

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

THE FIRST DIGIT OF A THREE DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-332

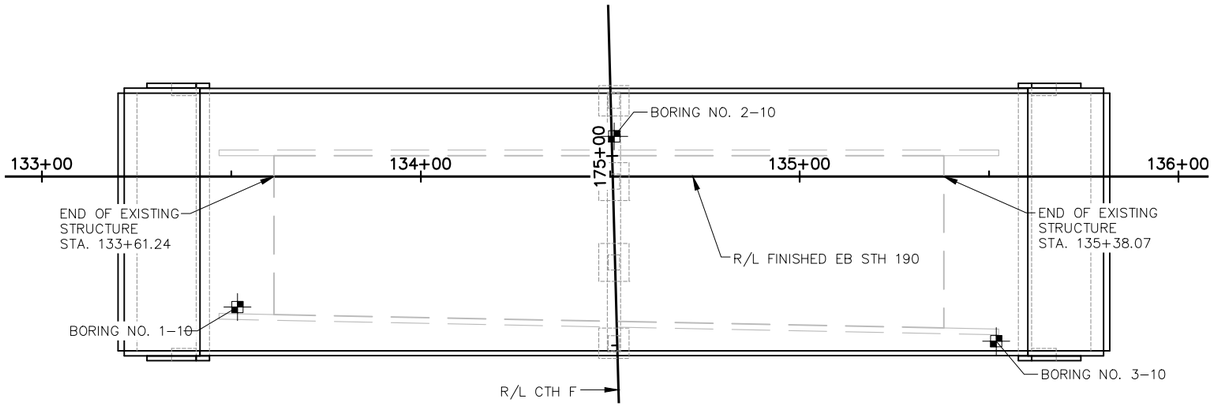
DRAWN BY JZ | PLANS CK'D. PTB

CROSS SECTION AND QUANTITIES

SHEET 2 OF 20

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\PRELIMS\B-67-0332\02-CROSS SECTION AND QUANTITES.DWG
LAYOUT : LAYOUT1
PLOT DATE : 4/19/2016
PLOT TIME : 2:55:08 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

NORTH

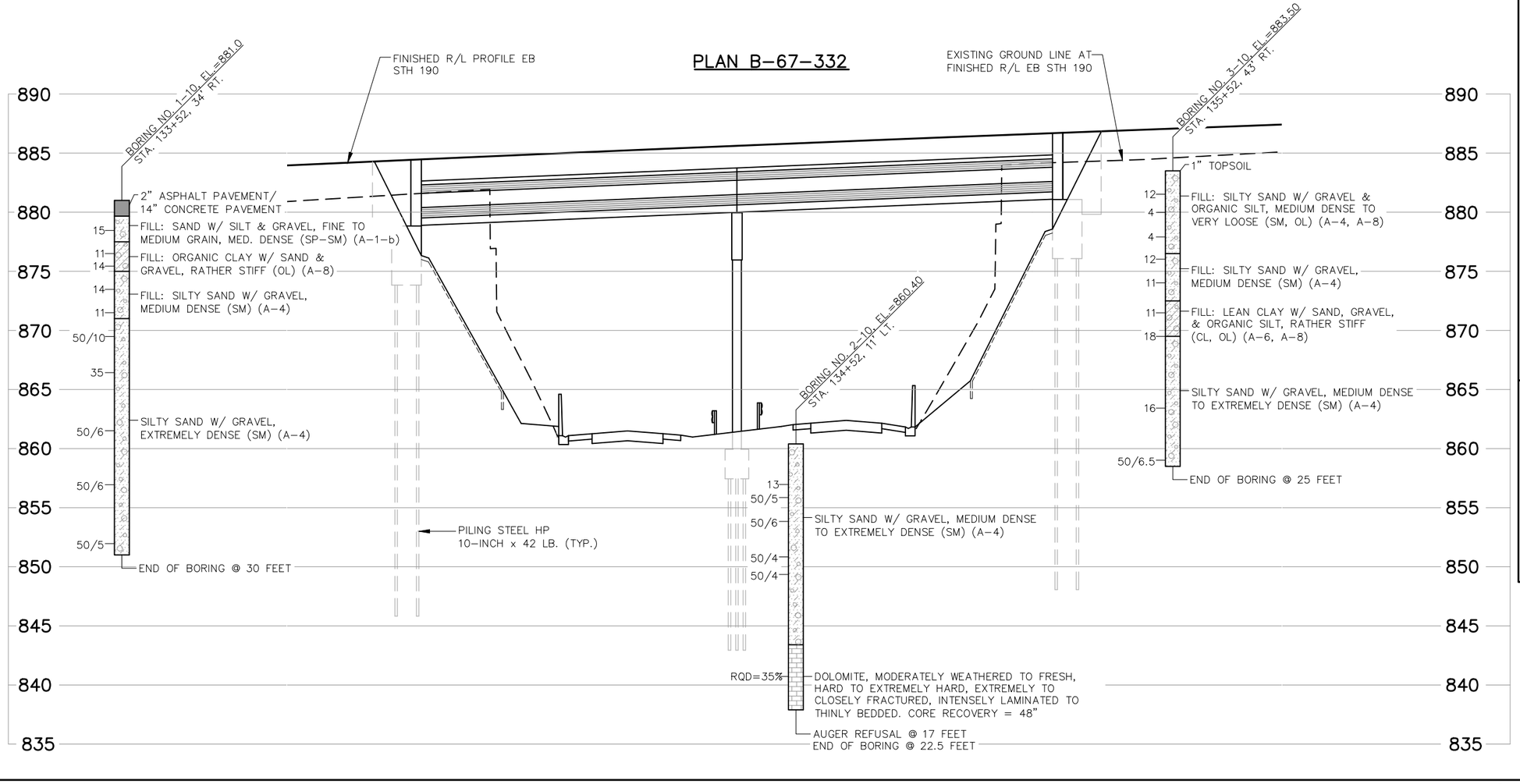


SOIL BORINGS

BY: RVT. CORP.
1060 BREEZEWOOD LN.
NEENAH, WI 54956

ON: MAY 24, 2010

PLAN B-67-332



STATE PROJECT NUMBER

2025-13-71

ABBREVIATIONS

F - Fine M - Medium C - Course
Ws - Weathered So - Sound

MATERIAL SYMBOLS

Asphalt, Silt, Sandstone
Sand, Peat, Limestone
Gravel, Clay, Igneous Rock

LEGEND OF PROBING

PROBING No.; Elevation
Station

95/6 = 96 Blows for 6" Penetration. Probing Taken with a 350# Weight Falling 18" on a 2" O.D. Point.

7 Average Blows Per Foot

Refusal 95/6

LEGEND OF BORING

Boring No.; Elevation
Station

Unconfined Strength — 7.7 — 8

Blows Per Ft. Using 140# Wt. Falling 30"

Wash Sample

Shelby Tube — S.T.

No Ground Water Observed Above This Elevation

Ground Water Elevation

Sandy Gravel
Boulders or Cobbles
F. Sand
Silty Clay
So. Limestone

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-332

DRAWN BY JZ | PLANS CK'D. PTB

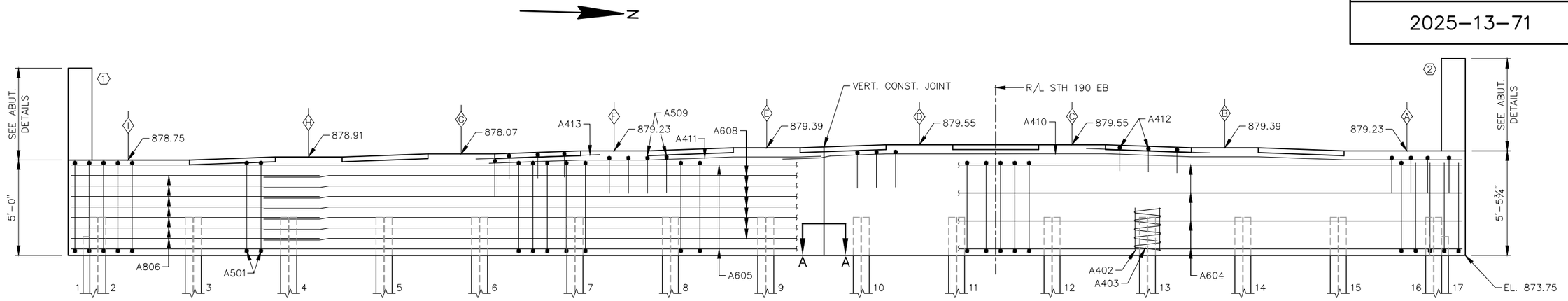
SUBSURFACE EXPLORATION

SHEET 3 OF 20

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\PRELIMS\B-67-0332\03-SUBSURFACE EXPLORATION.DWG
LAYOUT : LAYOUT1
PLOT DATE : ----
PLOT TIME : ----
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

2025–13–71



BACK FACE BAR STEEL REINF.

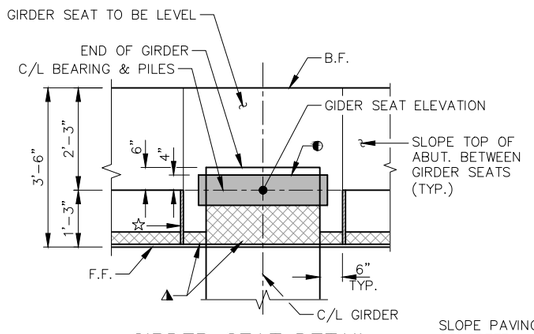
FRONT FACE BAR STEEL REINF.

ELEVATION

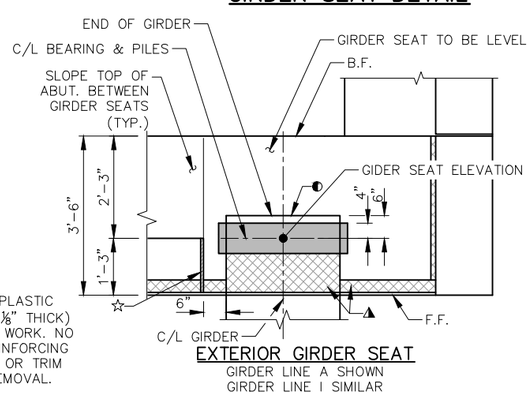
(WEST ABUTMENT LOOKING WEST)

LEGEND

- ⬣ 18" RUBBERIZED MEMBRANE WATERPROFING (HORIZONTAL)
- ◪ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING.
- ▲ 4"x¾" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF DECK. EXTEND IN FRONT OF BEARING PAD AS SHOWN.
- ☆ ¾" CORK FILLER ON VERTICAL GIRDER SEAT FACES THAT RUN PARALLEL WITH GIRDER.
- ◑ ½"x8"x2'–10" ELASTOMERIC BEARING PAD.
- ⬣ PIPE UNDERDRAIN WRAPPED 6–INCH, SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. SEE SHEET 7 FOR DETAILS. ATTACH RODENT SCREEN AT EXPOSED ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 7. RODENT SCREEN TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6–INCH".
- △ STEEL TROWEL ENTIRE TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ⬡ INDICATES WING NUMBER.
- ◇ INDICATES GIRDER LINE.

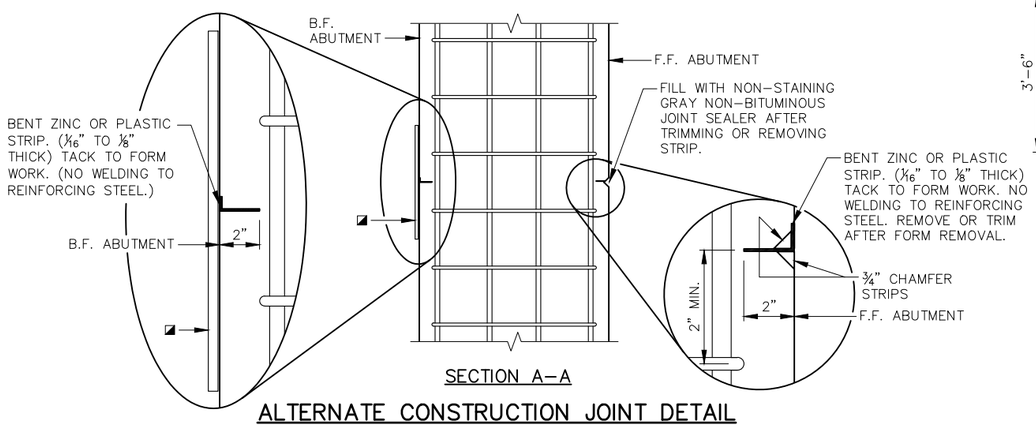


GIRDER SEAT DETAIL



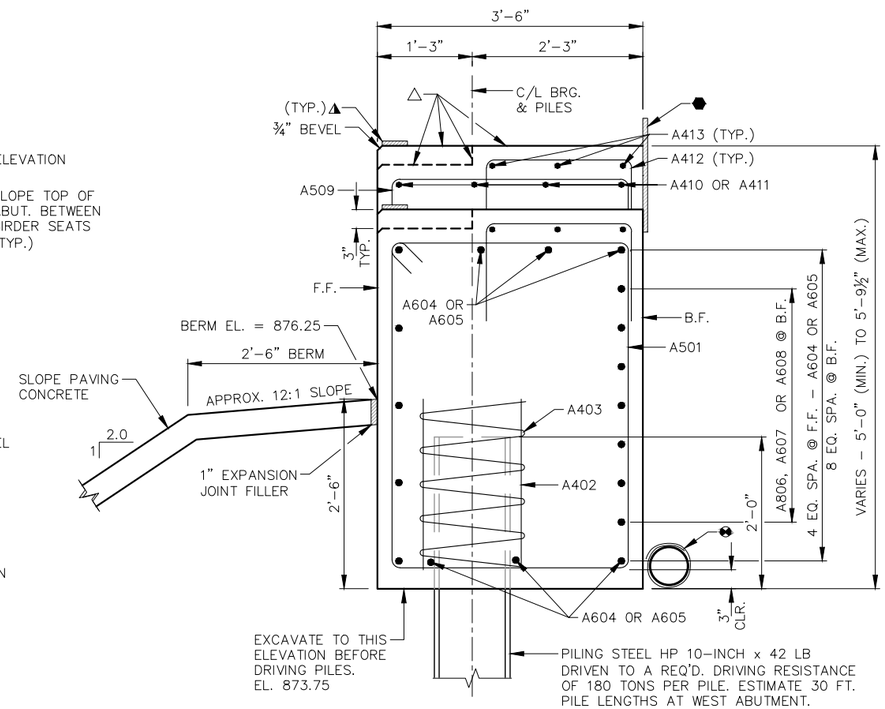
EXTERIOR GIRDER SEAT

GIRDER LINE A SHOWN
GIRDER LINE I SIMILAR



SECTION A–A

ALTERNATE CONSTRUCTION JOINT DETAIL



TYPICAL SECTION THROUGH ABUTMENT BODY

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 6 FOR BILL OF BARS.

DO NOT PLACE FILL HIGHER THAN 3 FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

SPACE REINFORCEMENT TO MISS PILING.

F.F. – FRONT FACE

B.F. – BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–67–332

DRAWN BY JZ | PLANS CK'D. PTB

WEST ABUTMENT ELEVATION

SHEET 4 OF 20

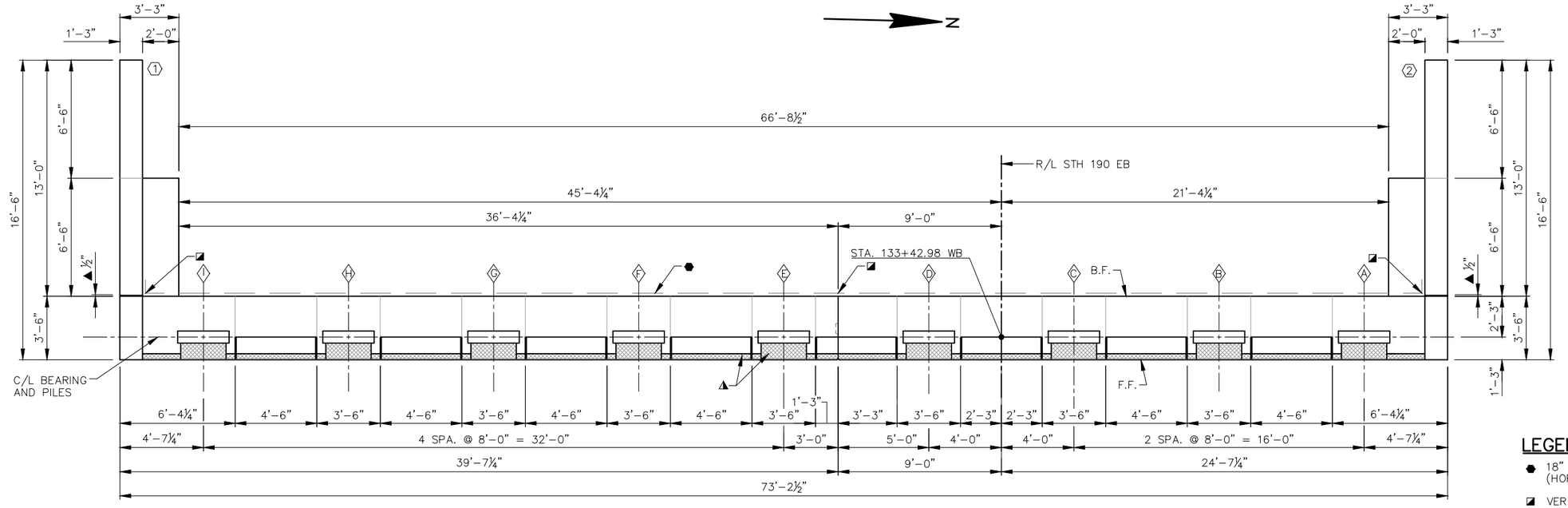
488

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B–67–0332\04–ABUTMENTS.DWG
LAYOUT : WEST ABUT. ELEV.

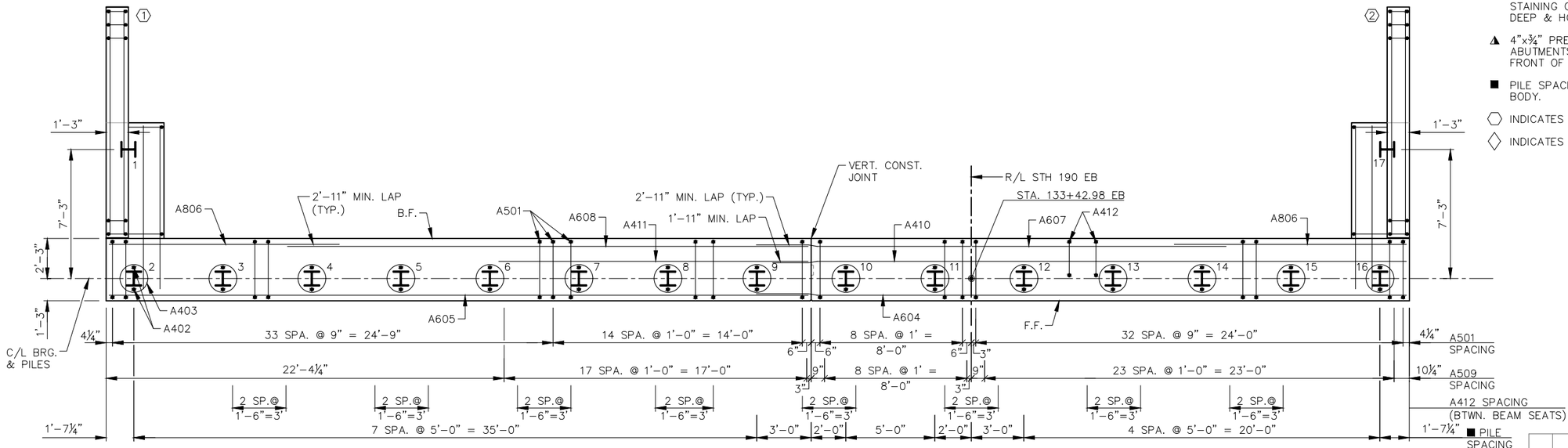
PLOT DATE : 9/1/2016
PLOT TIME : 11:54:20 AM

PLOT BY : BOLAND, PATRICK

PLOT SCALE : 1" = 1'



PLAN



LAYOUT

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 6 FOR WINGWALL STEEL DETAILS AND BILL OF BARS.

DO NOT PLACE FILL HIGHER THAN 3 FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

SPACE REINFORCEMENT TO MISS PILING.

SEE SHEET 4 FOR GIRDER SEAT DETAILS.

F.F. – FRONT FACE

B.F. – BACK FACE

AT WEST ABUTMENT, DRIVE PILING STEEL HP 10–INCH x 42 LB TO A REQ'D. DRIVING RESISTANCE OF 180 TONS PER PILE. ESTIMATE 30 FT. PILE LENGTHS AT WEST ABUTMENT.

LEGEND

- ⬣ 18" RUBBERIZED MEMBRANE WATERPROFING (HORIZONTAL)
- ◪ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING. AT WINGWALLS EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.
- ▲ 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON–STAINING GRAY, NON–BITUMINUOS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE)
- ◭ 4"x¾" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF DECK. EXTEND IN FRONT OF BEARING PAD AS SHOWN.
- ■ PILE SPACING MEASURED AT BASE OF ABUTMENT BODY.
- ⬡ INDICATES WING NUMBER.
- ◇ INDICATES GIRDER LINE.

STATE PROJECT NUMBER

2025–13–71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

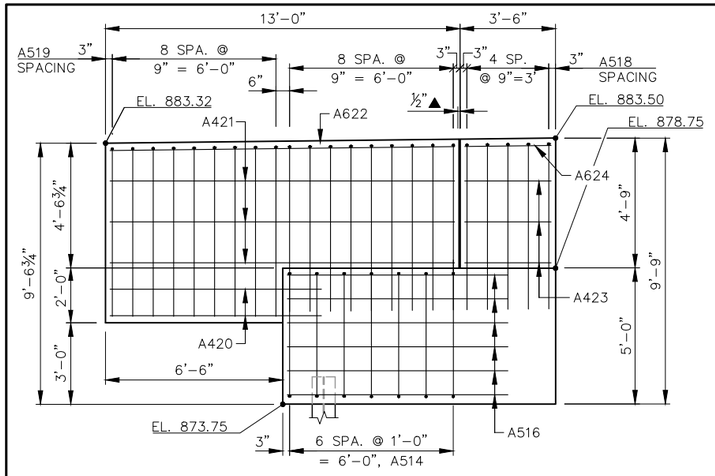
STRUCTURE B–67–332

DRAWN BY JZ | PLANS CK'D. PTB

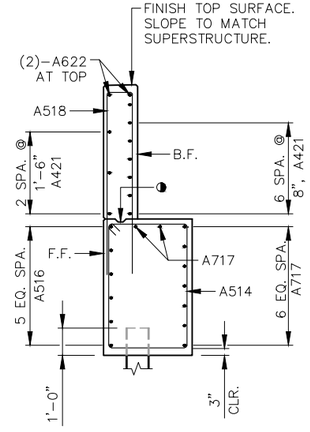
WEST ABUTMENT LAYOUT

SHEET 5 OF 20

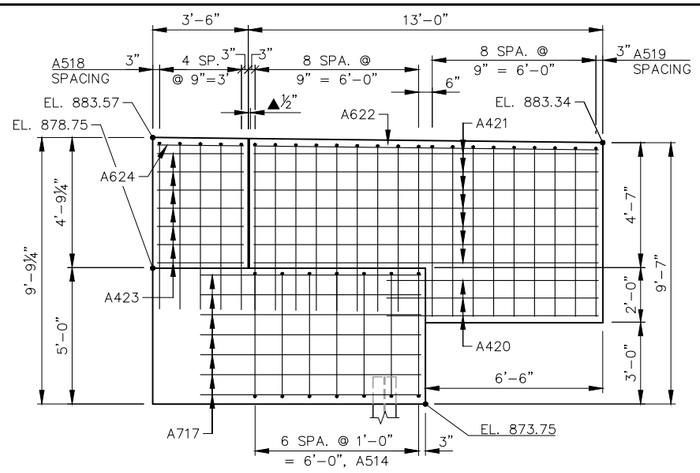
489



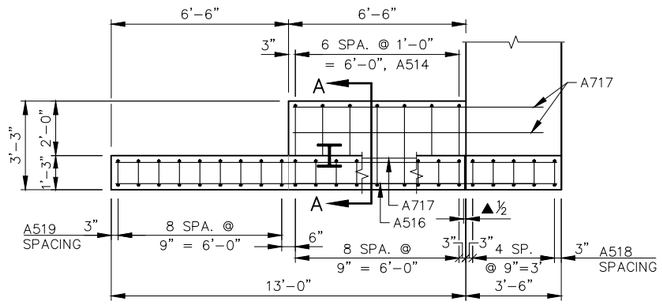
F.F. ELEVATION – WING 1



SECTION A–A



B.F. ELEVATION – WING 1

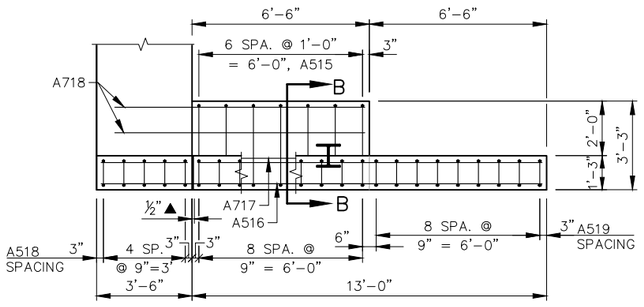


PLAN VIEW – WING 1

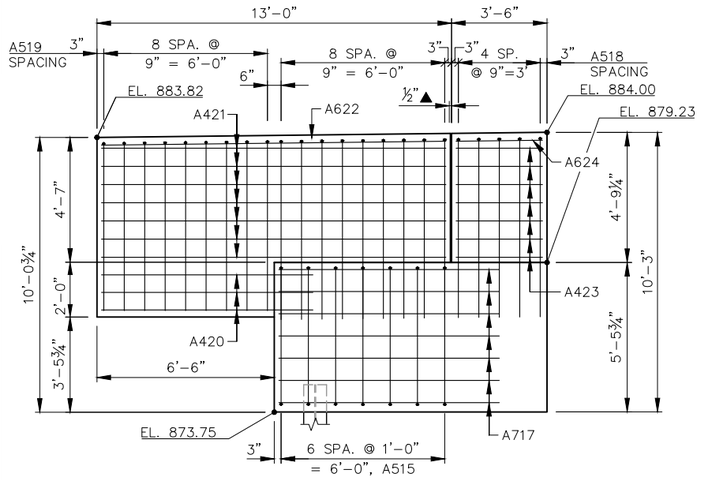
LEGEND

◑ OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2X6. ¾" "V" GROOVE AT FRONT FACE OF WING WALL & HORIZONTAL 18" RUBBERIZED MEMBRANE WATERPROOFING AT BACK FACE IF CONSTRUCTION JOINT IS USED. COST IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY BRIDGES".

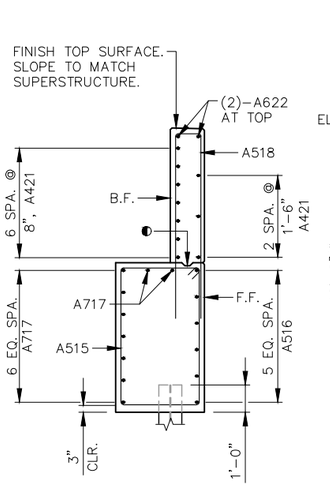
▲ ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON–STAINING, GRAY, NON–BITUMINUOS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.



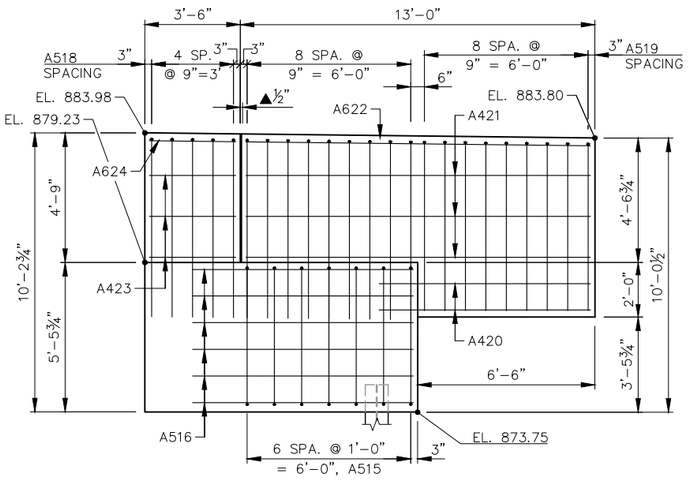
PLAN VIEW – WING 2



B.F. ELEVATION – WING 2



SECTION B–B



F.F. ELEVATION – WING 2

BILL OF BARS
WEST ABUTMENT

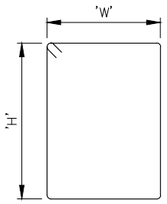
1,680 LB (COATED)
4,790 LB (UNCOATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
A501	90	15–8	X		BODY – VERT. – STIRRUP
A402	30	2–3			BODY – VERT. – 2 PER PILE
A403	15	28–0	X		BODY – VERT. – SPIRAL – 1 PER PILE
A604	11	36–9			BODY – HORIZ.
A605	11	39–3			BODY – HORIZ.
A806	14	13–0			BODY – HORIZ. – B.F. @ ENDS
A607	7	26–6			BODY – HORIZ. – B.F.
A608	7	29–2			BODY – HORIZ. – B.F.
A509	51	6–7	X		BODY – VERT. – TOP
A410	4	35–7			BODY – HORIZ. – TOP
A411	4	17–6			BODY – HORIZ. – TOP
A412	24	4–5	X		BODY – VERT. – TOP BETWEEN SEATS
A413	24	6–6			BODY – HORIZ. – TOP BETWEEN SEATS
A514	7	15–8	X	X	WING 1 – VERT. – STIRRUP
A515	7	16–6	X	X	WING 2 – VERT. – STIRRUP
A516	12	8–1		X	WINGS 1 & 2 – HORIZ. – F.F.
A717	18	9–2		X	WINGS 1 & 2 – HORIZ. – B.F. & CENTER
A518	28	14–0	X	X	WINGS 1 & 2 – VERT. – TOP
A519	18	13–0	X	X	WINGS 1 & 2 – VERT. – TOP
A420	10	7–9		X	WINGS 1 & 2 – HORIZ. – F.F. & B.F.
A421	20	12–7		X	WINGS 1 & 2 – HORIZ. – F.F. & B.F.
A622	4	12–7		X	WINGS 1 & 2 – HORIZ. – TOP
A423	20	3–2		X	WINGS 1 & 2 – HORIZ. – F.F. & B.F.
A624	4	3–2		X	WINGS 1 & 2 – HORIZ. – TOP

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

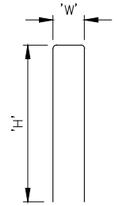
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.



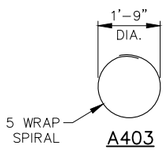
MARK	'W'	'H'
A501	3–2	4–4
A514	2–11	4–7
A515	2–11	5–0

A501, A514, A515



MARK	'W'	'H'
A509	3–2	1–10
A412	1–11	1–4
A518	0–11	6–8
A519	0–11	6–2

A509, A412, A518, A519



A403

STATE PROJECT NUMBER

2025–13–71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–67–332

DRAWN BY JZ | PLANS CK'D. PTB

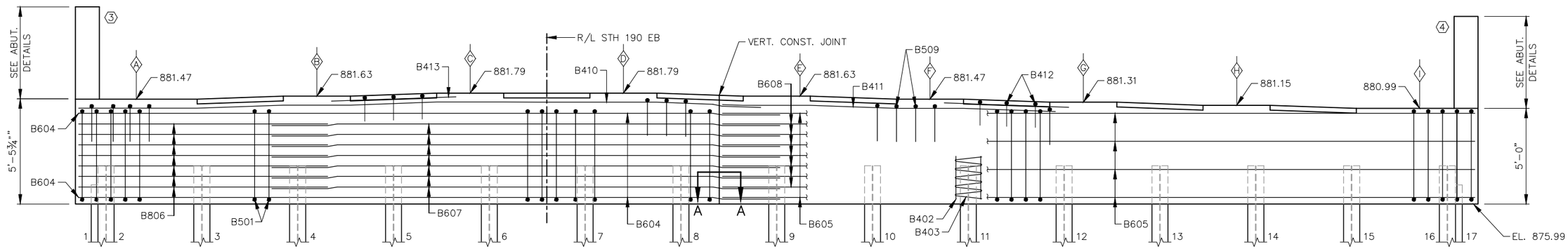
WEST ABUTMENT DETAILS

SHEET 6 OF 20

490

STATE PROJECT NUMBER

2025-13-71



BACK FACE BAR STEEL REINF.

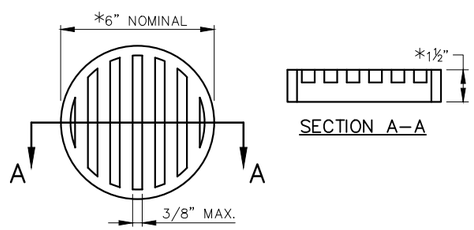
ELEVATION

(EAST ABUTMENT LOOKING EAST)

FRONT FACE BAR STEEL REINF.

LEGEND

- ⬣ 18" RUBBERIZED MEMBRANE WATERPROFING (HORIZONTAL)
- ◮ 4"x¾" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF DECK. EXTEND IN FRONT OF BEARING PAD AS SHOWN.
- ☆ ¾" CORK FILLER ON VERTICAL GIRDER SEAT FACES THAT RUN PARALLEL WITH GIRDER.
- ◑ ½"x8"x2'-10" ELASTOMERIC BEARING PAD.
- ⓫ PIPE UNDERDRAIN WRAPPED 6-INCH, SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. SEE THIS SHEET FOR DETAILS. ATTACH RODENT SCREEN AT EXPOSED ENDS OF PIPE UNDERDRAIN AS DETAILED ON THIS SHEET. RODENT SCREEN TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".
- △ STEEL TROWEL ENTIRE TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ⬡ INDICATES WING NUMBER.
- ○ INDICATES GIRDER LINE.



SECTION A-A

RODENT SCREEN

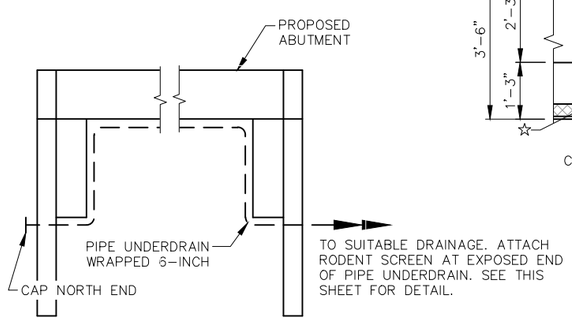
NOTES:

*DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

ORIENT SCREEN SO SLOTS ARE VERTICAL.

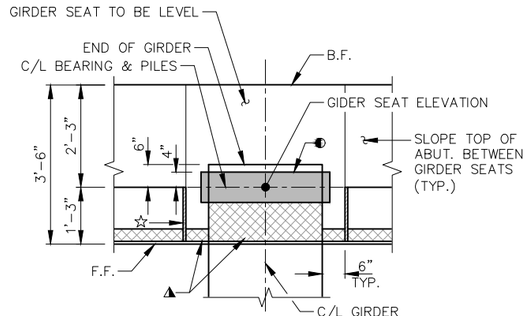
THE RODENT SCREEN, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

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 ENDS OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

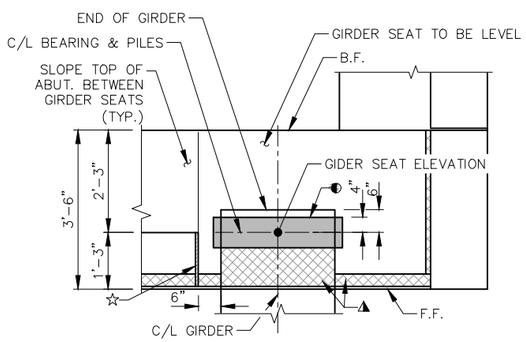


PIPE UNDERDRAIN DETAIL

WEST ABUT. SHOWN, EAST ABUT. SIMILAR

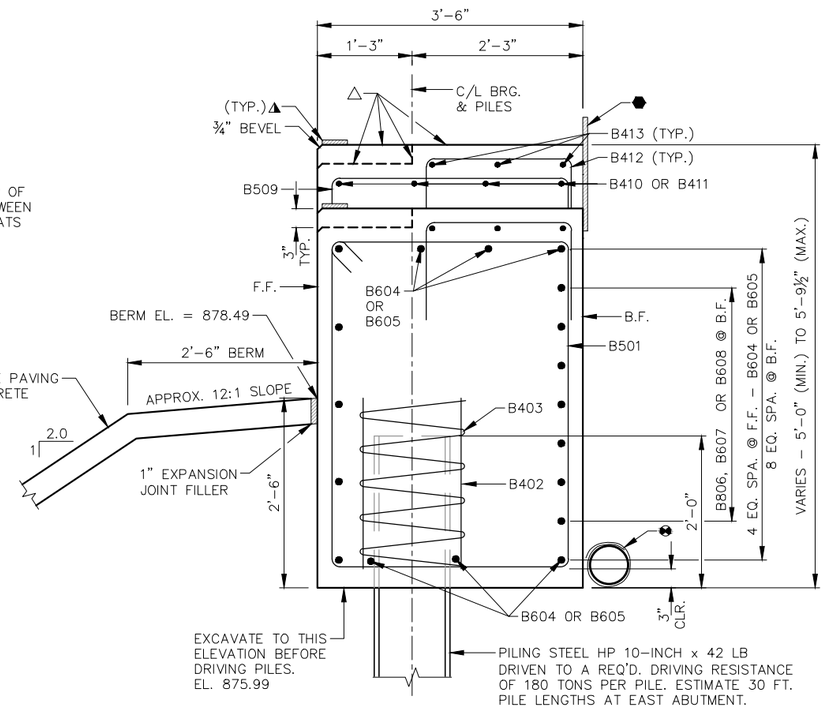


GIRDER SEAT DETAIL



EXTERIOR GIRDER SEAT

GIRDER LINE I SHOWN
GIRDER LINE A SIMILAR



TYPICAL SECTION THROUGH ABUTMENT BODY

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 9 FOR BILL OF BARS.

DO NOT PLACE FILL HIGHER THAN 3 FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

SPACE REINFORCEMENT TO MISS PILING.

F.F. - FRONT FACE

B.F. - BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-332

DRAWN BY JZ | PLANS CK'D. PTB

EAST ABUTMENT ELEVATION

SHEET 7 OF 20

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B-67-0332\04-ABUTMENTS.DWG
LAYOUT : EAST ABUT. ELEV.

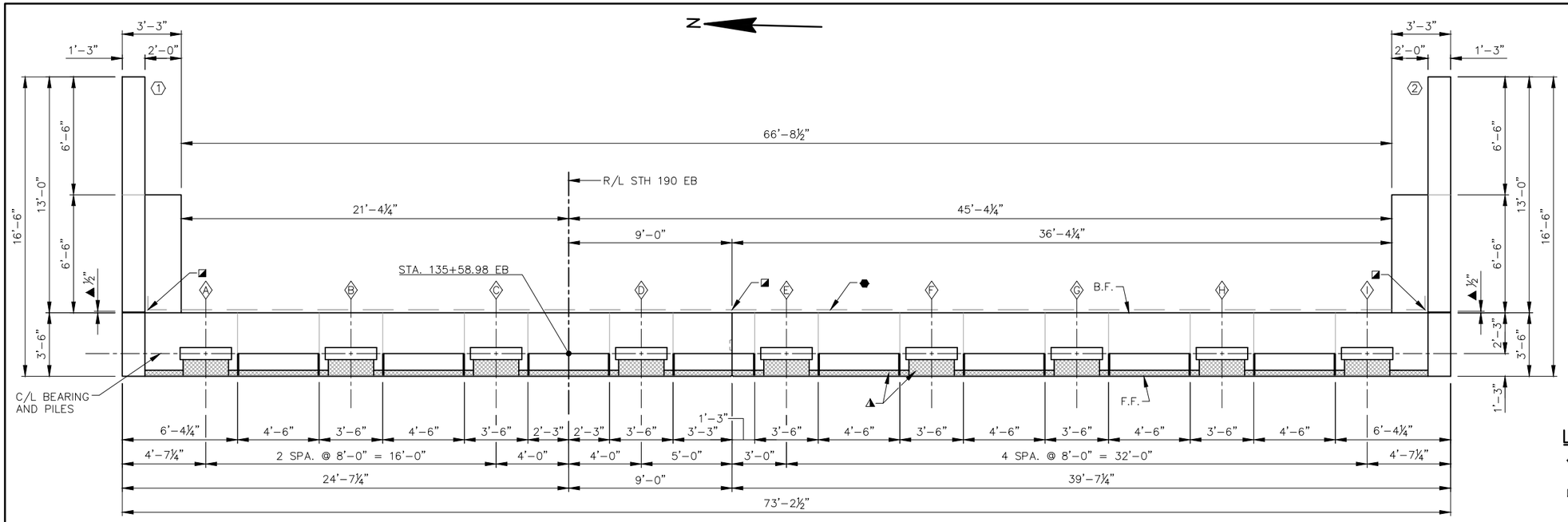
PLOT DATE : 9/1/2016
PLOT TIME : 11:54:20 AM

PLOT BY : BOLAND, PATRICK

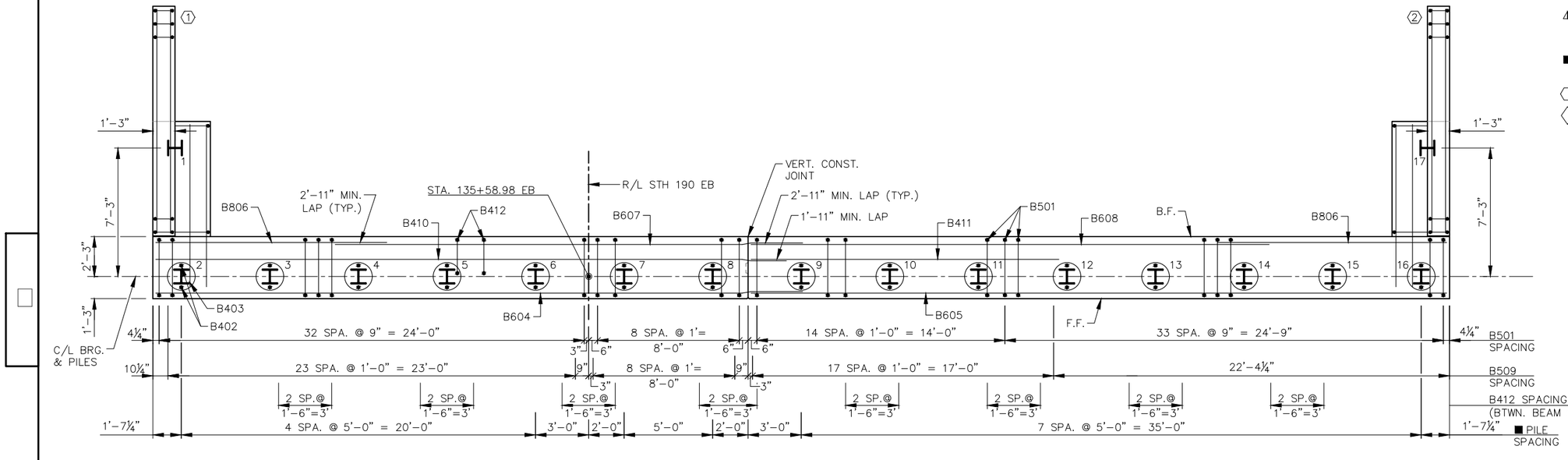
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

2025-13-71



PLAN



LAYOUT

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 9 FOR WINGWALL STEEL DETAILS AND BILL OF BARS.

DO NOT PLACE FILL HIGHER THAN 3 FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

SPACE REINFORCEMENT TO MISS PILING.

SEE SHEET 7 FOR GIRDER SEAT DETAILS.

F.F. – FRONT FACE

B.F. – BACK FACE

AT EAST ABUTMENT, DRIVE PILING STEEL HP 10-INCH x 42 LB TO A REQ'D. DRIVING RESISTANCE OF 180 TONS PER PILE. ESTIMATE 30 FT. PILE LENGTHS AT EAST ABUTMENT.

LEGEND

- ⬣ 18" RUBBERIZED MEMBRANE WATERPROFING (HORIZONTAL)
- ◪ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING. AT WINGWALLS EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.
- ▲ 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINUOS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE)
- ◭ 4"x¾" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF DECK. EXTEND IN FRONT OF BEARING PAD AS SHOWN.
- ■ PILE SPACING MEASURED AT BASE OF ABUTMENT BODY.
- ⬡ INDICATES WING NUMBER.
- ◇ INDICATES GIRDER LINE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-332

DRAWN BY JZ | PLANS CK'D. PTB

EAST ABUTMENT LAYOUT

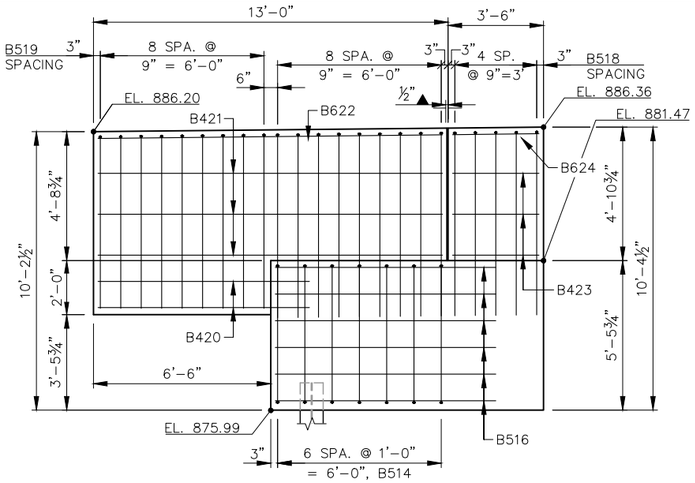
SHEET 8 OF 20

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B-67-0332\04-ABUTMENTS.DWG
LAYOUT : EAST ABUTMENT

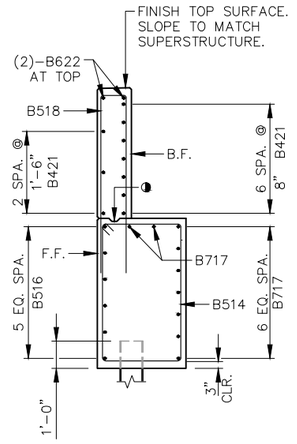
PLOT DATE : 9/1/2016
PLOT TIME : 11:54:20 AM

PLOT BY : BOLAND, PATRICK

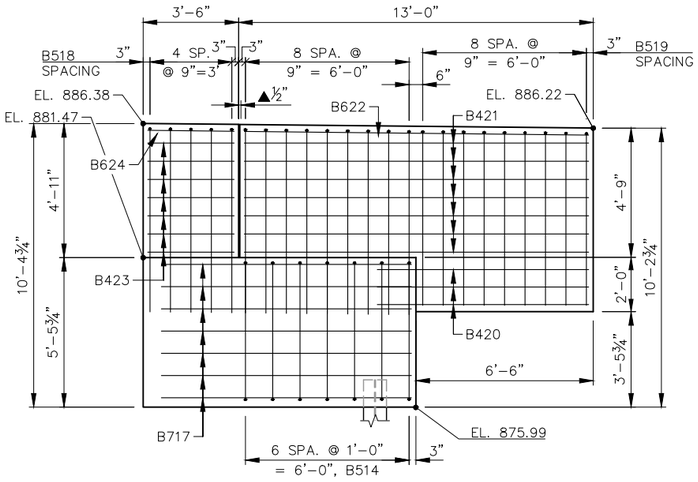
PLOT SCALE : 1" = 1'



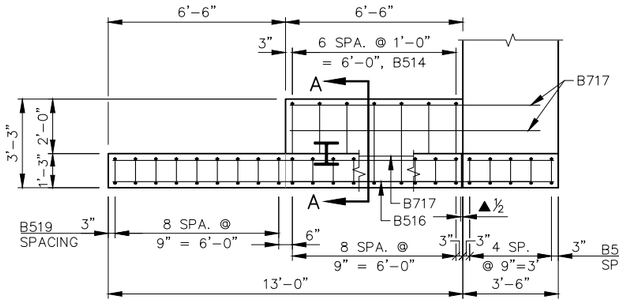
F.F. ELEVATION – WING 3



SECTION A–A



B.F. ELEVATION – WING 3

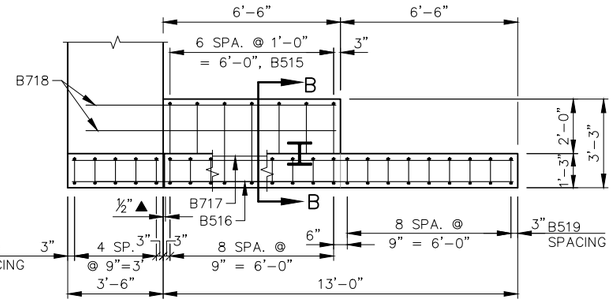


PLAN VIEW – WING 3

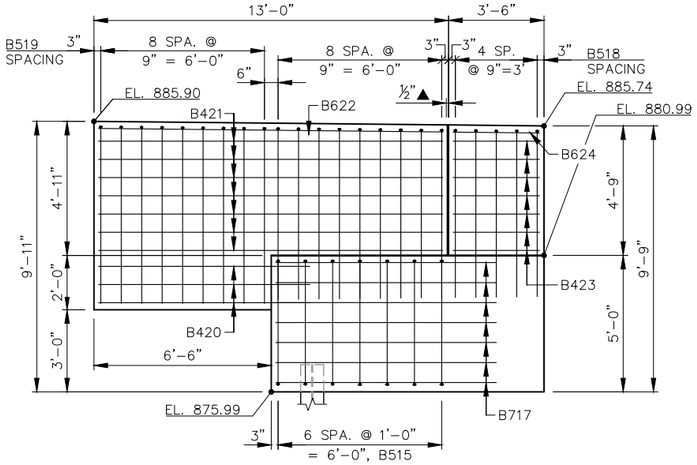
LEGEND

◑ OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2X6. ¾" "V" GROOVE AT FRONT FACE OF WING WALL & HORIZONTAL 18" RUBBERIZED MEMBRANE WATERPROOFING AT BACK FACE IF CONSTRUCTION JOINT IS USED. COST IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY BRIDGES".

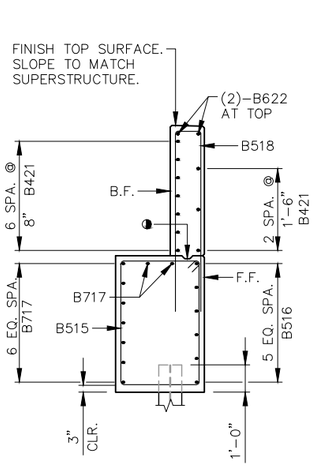
▲ ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON–STAINING, GRAY, NON–BITUMINUOS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.



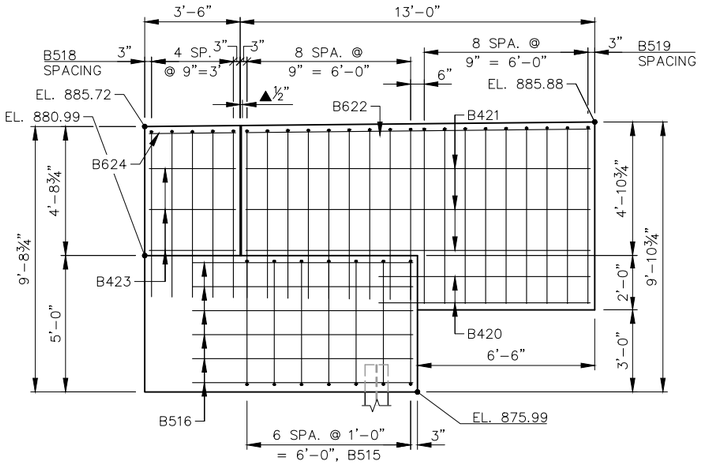
PLAN VIEW – WING 4



B.F. ELEVATION – WING 4



SECTION B–B



F.F. ELEVATION – WING 4

STATE PROJECT NUMBER

2025–13–71

BILL OF BARS EAST ABUTMENT

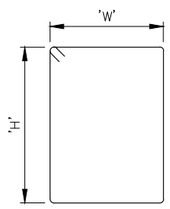
1,700 LB (COATED)
4,790 LB (UNCOATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
B501	90	15–8	X		BODY – VERT. – STIRRUP
B402	30	2–3			BODY – VERT. – 4 PER PILE
B403	15	28–0	X		BODY – VERT. – SPIRAL – 3 PER PILE
B604	11	36–9			BODY – HORIZ.
B605	11	39–3			BODY – HORIZ.
B806	14	13–0			BODY – HORIZ. – B.F. @ ENDS
B607	7	26–6			BODY – HORIZ. – B.F.
B608	7	29–2			BODY – HORIZ. – B.F.
B509	51	6–7	X		BODY – VERT. – TOP
B410	4	35–7			BODY – HORIZ. – TOP
B411	4	17–6			BODY – HORIZ. – TOP
B412	24	4–5	X		BODY – VERT. – TOP BETWEEN SEATS
B413	24	6–6			BODY – HORIZ. – TOP BETWEEN SEATS
B514	7	16–6	X	X	WING 3 – VERT. – STIRRUP
B515	7	15–8	X	X	WING 4 – VERT. – STIRRUP
B516	12	8–1		X	WINGS 3 & 4 – HORIZ. – F.F.
B717	18	9–2		X	WINGS 3 & 4 – HORIZ. – B.F. & TOP
B518	28	14–4	X	X	WINGS 3 & 4 – VERT. – TOP
B519	18	13–4	X	X	WINGS 3 & 4 – VERT. – TOP
B420	10	7–9		X	WINGS 3 & 4 – HORIZ. – F.F. & B.F.
B421	20	12–7		X	WINGS 3 & 4 – HORIZ. – F.F. & B.F.
B622	4	12–7		X	WINGS 3 & 4 – HORIZ. – TOP
B423	20	3–2		X	WINGS 3 & 4 – HORIZ. – F.F. & B.F.
B624	4	3–2		X	WINGS 3 & 4 – HORIZ. – TOP

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

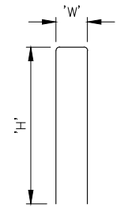
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.



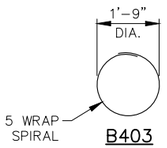
MARK	'W'	'H'
B501	3–2	4–4
B514	2–11	5–0
B515	2–11	4–7

B501, B514, B515



MARK	'W'	'H'
B509	3–2	1–10
B412	1–11	1–4
B518	0–11	6–10
B519	0–11	6–4

B509, B412, B518, B519



B403

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–67–332

DRAWN BY JZ | PLANS CK'D. PTB

EAST ABUTMENT DETAILS

SHEET 9 OF 20

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B-67-0332\04-ABUTMENTS.DWG
LAYOUT : EAST ABUT. WINGS

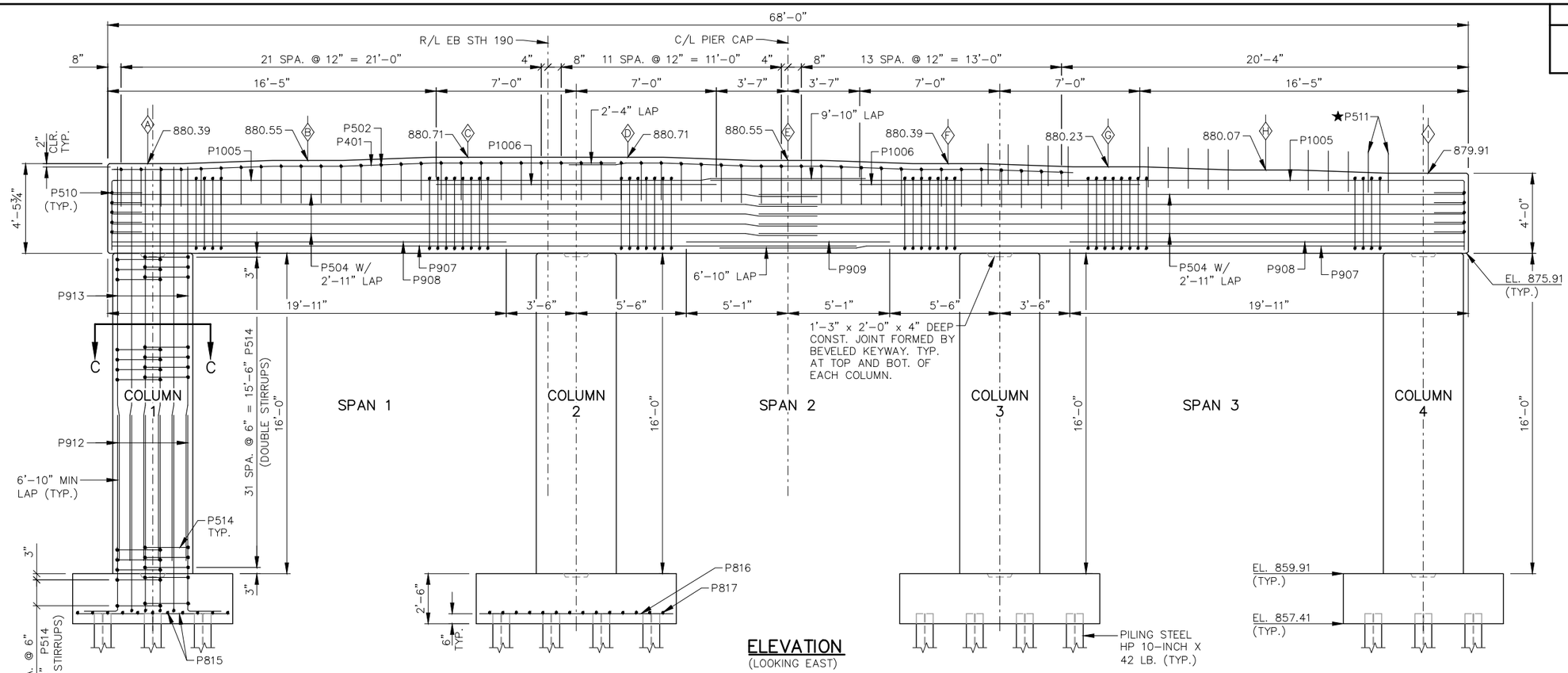
PLOT DATE : 8/30/2016
PLOT TIME : 4:07:53 PM

PLOT BY : BOLAND, PATRICK

PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

2025-13-71



ELEVATION
(LOOKING EAST)

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 11 FOR BILL OF BARS.

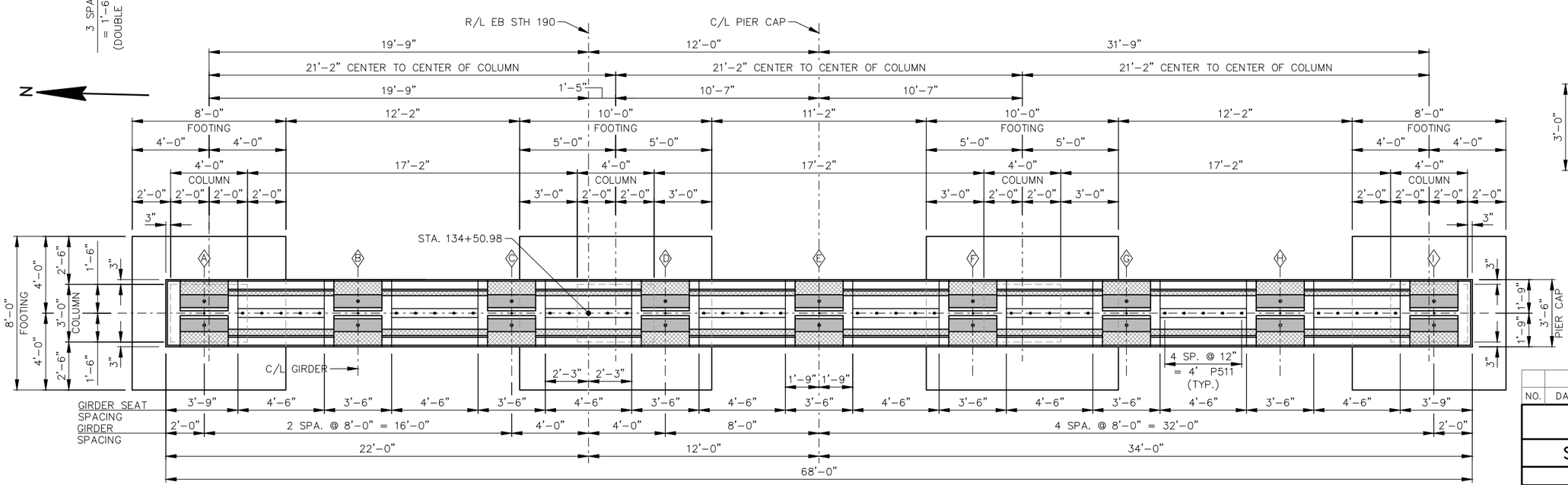
AT PIER, DRIVE PILING STEEL HP 10-INCH x 42 LB TO A REQ'D. DRIVING RESISTANCE OF 180 TONS PER PILE. ESTIMATE 15 FT. PILE LENGTHS AT PIER.

SEE SHEET 11 FOR PILE LAYOUT AND PIER LAYOUT.

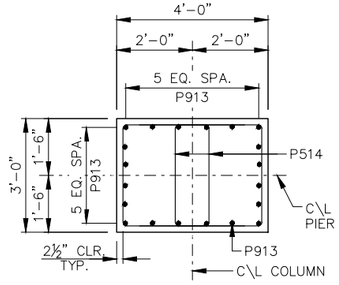
LEGEND

◇ INDICATES GIRDER LINE.

★ P511 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0". PLACE P511 BARS BETWEEN GIRDERS.



PIER PLAN



SECTION C-C
COLUMN SECTION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-332

DRAWN BY JZ | PLANS CK'D. PTB

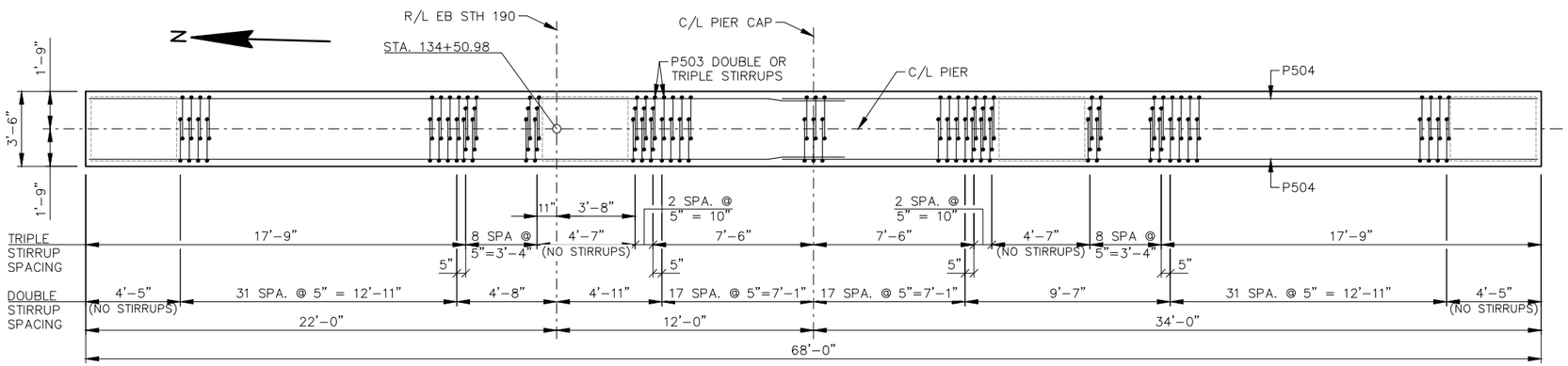
PIER ELEVATION

SHEET 10 OF 20

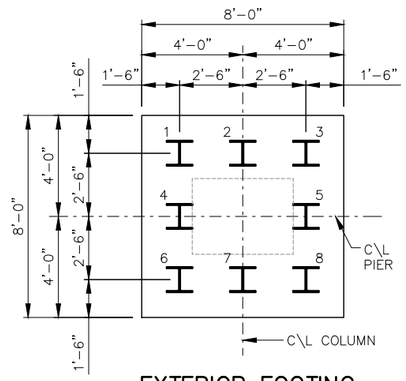
494

STATE PROJECT NUMBER

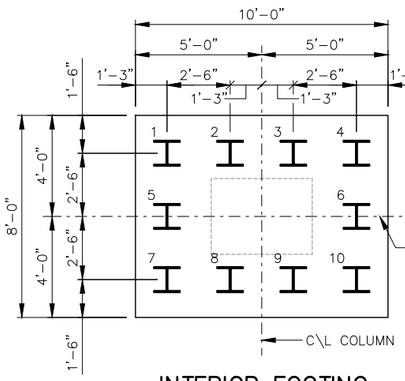
2025–13–71



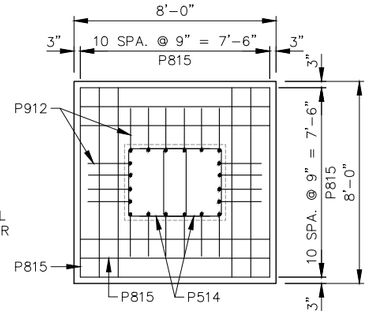
PIER CAP LAYOUT



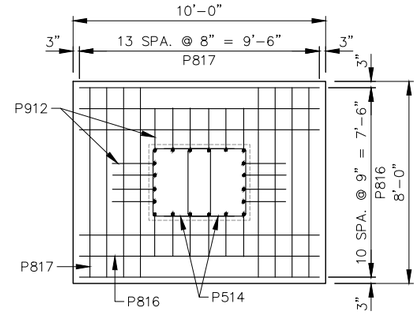
EXTERIOR FOOTING PILE LAYOUT



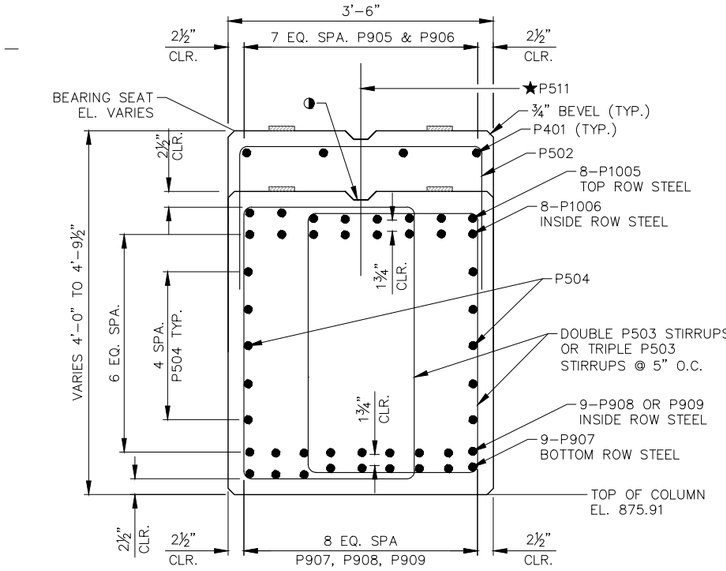
INTERIOR FOOTING PILE LAYOUT



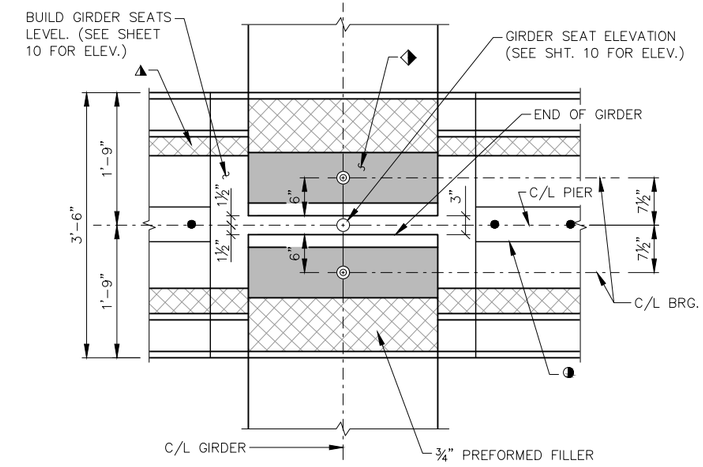
EXTERIOR FOOTING PLAN



INTERIOR FOOTING PLAN



SECTION THROUGH PIER CAP



GIRDER SEAT DETAIL @ PIER

BILL OF BARS
PIER

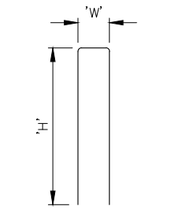
23,790 LB (COATED)
2,040 LB (UNCOATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
P401	8	25–2		X	PIER CAP – TOP – HORIZ.
P502	48	6–7	X	X	PIER CAP – TOP – VERT.
P503	270	11–9	X	X	PIER CAP – STIRRUPS
P504	20	35–4		X	PIER CAP – HORIZ. – AT FACES
P1005	16	42–2	X	X	PIER CAP – TOP
P1006	16	14–0		X	PIER CAP – TOP
P907	18	37–3		X	PIER CAP – BOT.
P908	18	19–9		X	PIER CAP – BOT.
P909	9	10–2		X	PIER CAP – BOT.
P510	10	6–2	X	X	PIER CAR – HORIZ AT ENDS.
P511	40	2–0		X	PIER DOWELS
P912	80	11–3	X	X	COLUMN – VERT. – FACES – BOT.
P913	80	19–8		X	COLUMN – VERT. – FACES – TOP
P514	288	10–2	X	X	COLUMN – HORIZ. – STIRRUPS
P815	44	7–8			FOOTING – EXT.
P816	22	9–8			FOOTING – INT.
P817	28	7–8			FOOTING – INT.

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

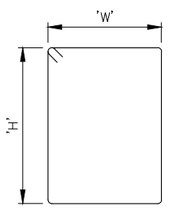
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.



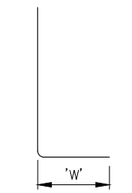
MARK	'W'	'H'
P502	3–2	1–10
P510	2–11	1–9

P502, P510



MARK	'W'	'H'
P503	2–0	3–7
P514	2–2	2–7

P503, P514



MARK	'W'
P1005	3–6
P912	1–10

P1005, P912

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.

AT PIER, DRIVE PILING STEEL HP 10–INCH x 42 LB TO A REQ'D. DRIVING RESISTANCE OF 180 TONS PER PILE. ESTIMATE 15 FT. PILE LENGTHS AT PIER.

LEGEND

◑ KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2X6.

▲ 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON–STAINING GRAY, NON–BITUMINUOS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE)

◭ 4"x¾" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF DECK. EXTEND IN FRONT OF BEARING PAD AS SHOWN.

★ P511 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'–0". PLACE P511 BARS BETWEEN GIRDERS.

◆ ½" X 8" X 2'–6" NON–LAMINATED ELASTROMERIC BEARING PAD.

◇ INDICATES GIRDER LINE.

○ INDICATED GIRDER NUMBER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–67–332

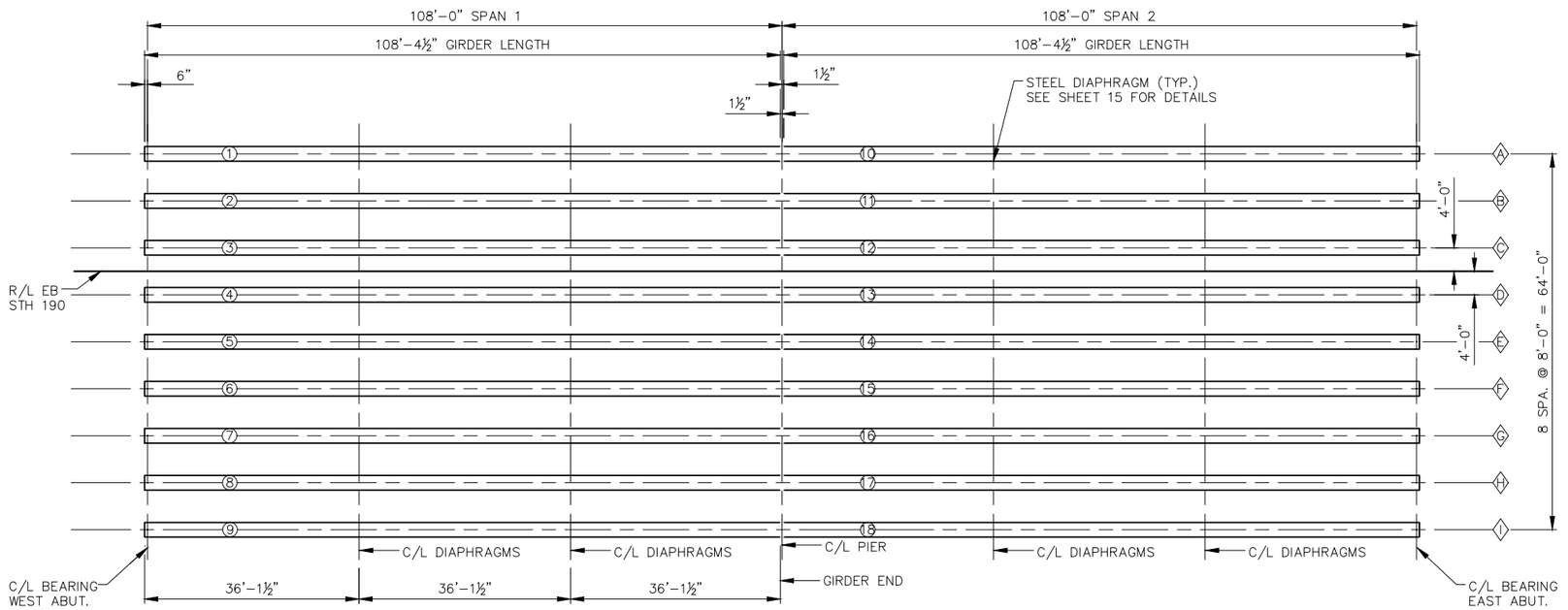
DRAWN BY JZ | PLANS CK'D. PTB

PIER LAYOUT

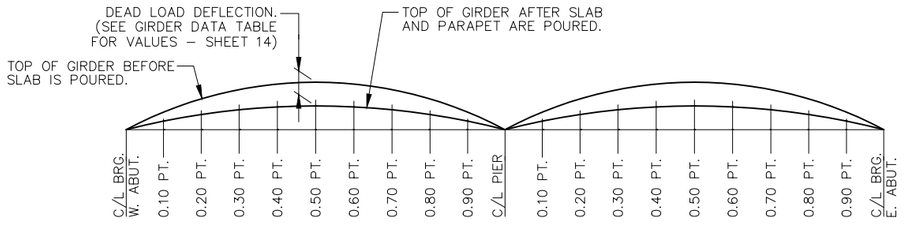
SHEET 11 OF 20

495

STATE PROJECT NUMBER
2025–13–71



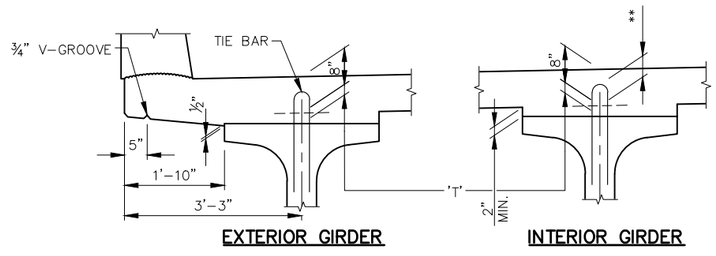
GIRDER LAYOUT



DEAD LOAD DEFLECTION DIAGRAM

ELEVATIONS AT TOP OF DECK

GIRDER LINE	C/L BRG. W. ABUT.	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	C/L PIER	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	C/L BRG. E. ABUT.
N. EDGE	883.99	884.11	884.23	884.35	884.47	884.58	884.70	884.82	884.93	885.04	885.16	885.27	885.38	885.49	885.60	885.71	885.81	885.92	886.03	886.13	886.24
A	884.06	884.18	884.30	884.42	884.53	884.65	884.77	884.88	884.99	885.11	885.22	885.33	885.44	885.55	885.66	885.77	885.88	885.99	886.09	886.20	886.30
B	884.22	884.34	884.46	884.58	884.69	884.81	884.93	885.04	885.15	885.27	885.38	885.49	885.60	885.71	885.82	885.93	886.04	886.15	886.25	886.36	886.46
C	884.38	884.50	884.62	884.74	884.85	884.97	885.09	885.20	885.31	885.43	885.54	885.65	885.76	885.87	885.98	886.09	886.20	886.31	886.41	886.52	886.62
CROWN	884.46	884.58	884.70	884.82	884.93	885.05	885.17	885.28	885.39	885.51	885.62	885.73	885.84	885.95	886.06	886.17	886.28	886.39	886.49	886.60	886.70
D	884.38	884.50	884.62	884.74	884.85	884.97	885.09	885.20	885.31	885.43	885.54	885.65	885.76	885.87	885.98	886.09	886.20	886.31	886.41	886.52	886.62
E	884.22	884.34	884.46	884.58	884.69	884.81	884.93	885.04	885.15	885.27	885.38	885.49	885.60	885.71	885.82	885.93	886.04	886.15	886.25	886.36	886.46
F	884.06	884.18	884.30	884.42	884.53	884.65	884.77	884.88	884.99	885.11	885.22	885.33	885.44	885.55	885.66	885.77	885.88	885.99	886.09	886.20	886.30
G	883.90	884.02	884.14	884.26	884.37	884.49	884.61	884.72	884.83	884.95	885.06	885.17	885.28	885.39	885.50	885.61	885.72	885.83	885.93	886.04	886.14
H	883.74	883.86	883.98	884.10	884.21	884.33	884.45	884.56	884.67	884.79	884.90	885.01	885.12	885.23	885.34	885.45	885.56	885.67	885.77	885.88	885.98
I	883.58	883.70	883.82	883.94	884.05	884.17	884.29	884.40	884.51	884.63	884.74	884.85	884.96	885.07	885.18	885.29	885.40	885.51	885.61	885.72	885.82
S. EDGE	883.51	883.63	883.75	883.87	883.99	884.10	884.22	884.34	884.45	884.56	884.68	884.79	884.90	885.01	885.12	885.23	885.33	885.44	885.55	885.65	885.76



SLAB HAUNCH DETAIL

IF 2" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEVATION OF TOP OF GIRDERS AT THE C/L OF SUBSTRUCTURE UNITS AND AT THE 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
– TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
– SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH HEIGHT ('T') OF 3" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–67–332

DRAWN BY JZ | PLANS CK'D. PTB

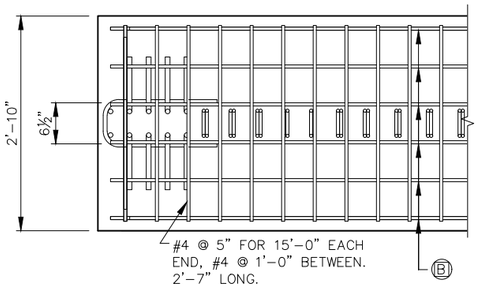
GIRDER LAYOUT

SHEET 12 OF 20

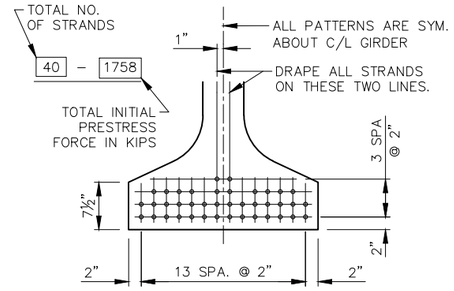
FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B–67–0332\GIRDER LAYOUT.DWG
LAYOUT : GIRDER LAYOUT
PLOT DATE : 10/31/2016
PLOT TIME : 9:29:45 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

2025-13-71



TOP FLANGE



TYP. STRAND PATTERN

THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN

SPAN	CAMBER (IN.)
1	4.7"

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

GIRDER NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

PRESTRESSING STRANDS SHALL BE 0.60"ø – 7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI AND SHALL BE FLUSH WITH THE ENDS OF THE GIRDER. ENDS OF STRANDS SHALL BE PAINTED WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. THIS APPLIES ONLY TO THOSE ENDS OF GIRDERS THAT ARE FINALLY EXPOSED.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

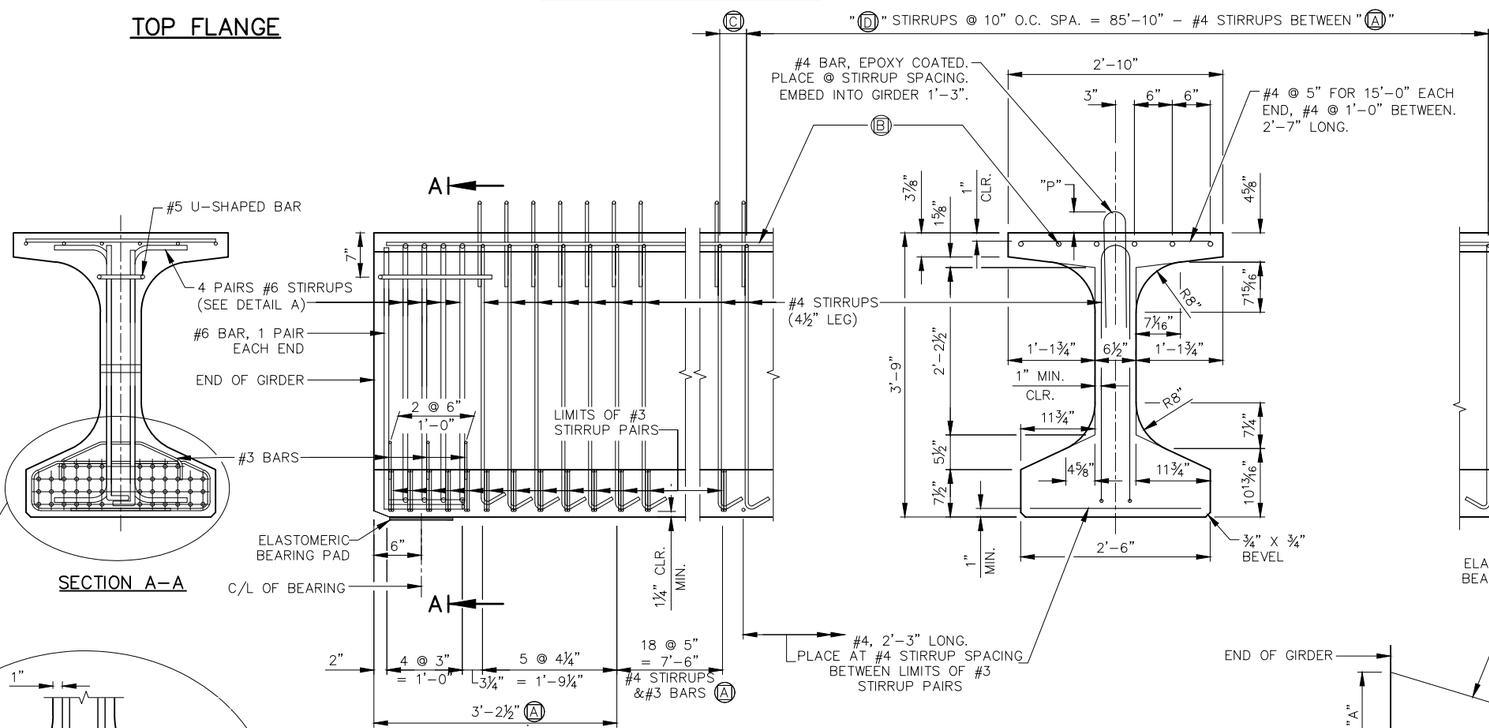
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, 1 OPTION IS AVAILABLE:

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

DATA SHOWN IN DEFLECTION DATA IS THEORETICAL AND MAY VERY WITH CONCRETE STRENGTH, VARIABLE PRESTRESS CONDITIONS AND PRESTRESS LOSSES.

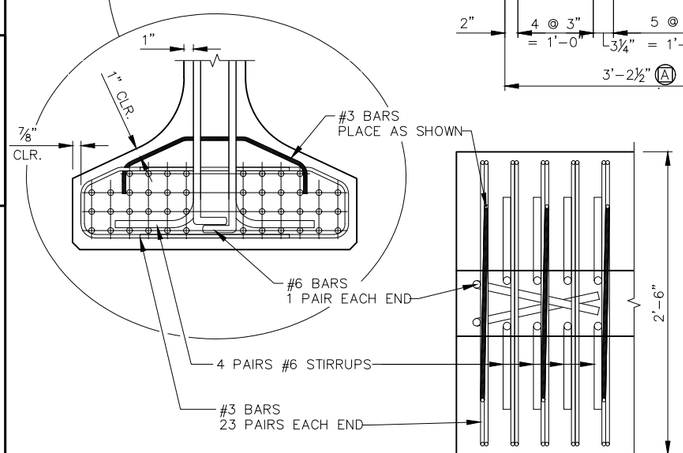


SECTION A-A

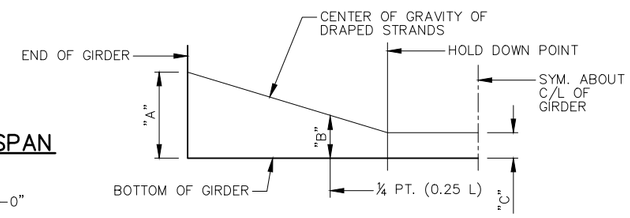
SIDE VIEW & TYP. SECTION IN SPAN

A DETAIL TYP. AT EACH END

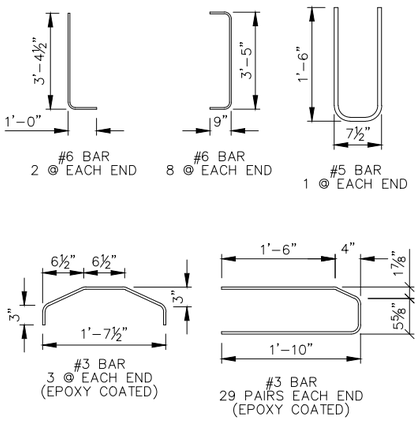
B 6 #4 BARS, FULL LENGTH, MIN. LAP = 3-0"



BOTTOM FLANGE DETAIL A



DRAPED STRAND PROFILE



GIRDER DATA

GIRDER LENGTH "L"	QUANTITY	DEAD LOAD DEFL. (IN.)									CONC. STRGTH. f'c (p.s.i.)	STIRRUP PROJECTION "P"			DIA. OF STRAND (IN.)	DRAPED PATTERN						Ⓒ STIRRUP SPACE (IN.)	Ⓓ NO. OF EQ. STIRRUP SPACES
		1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10		1ST ⅓	MID ⅓	END ⅓		TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	(IN.) "B" MIN.	(IN.) "B" MAX.	(IN.) "C"		
108'-4½"	18	1³⁄₁₆	1½	2¹⁄₁₆	2⁷⁄₁₆	2⁹⁄₁₆	2⁷⁄₁₆	2¹⁄₁₆	1½	1³⁄₁₆	8.0	8"	7"	8"	0.6"	40	6.8	40	13¾	16¾	5	6¾	103

*MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

NOTE: SEE SHEET 13 FOR DEAD LOAD DEFLECTION DIAGRAM.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-332

DRAWN BY JZ | PLANS CK'D. PTB

45W-INCH PRESTRESSED GIRDER DETAILS

SHEET 13 OF 20

497

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B-67-0332\GIRDER DETAILS.DWG
LAYOUT : LAYOUT1

PLOT DATE : 10/31/2016
PLOT TIME : 9:29:58 AM

PLOT BY : BOLAND, PATRICK

PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

2025-13-71

NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-67-332", EACH.

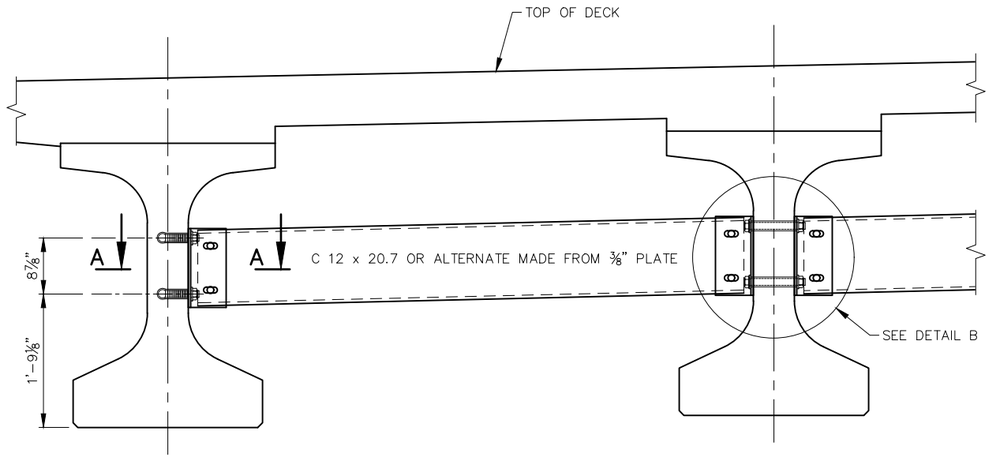
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

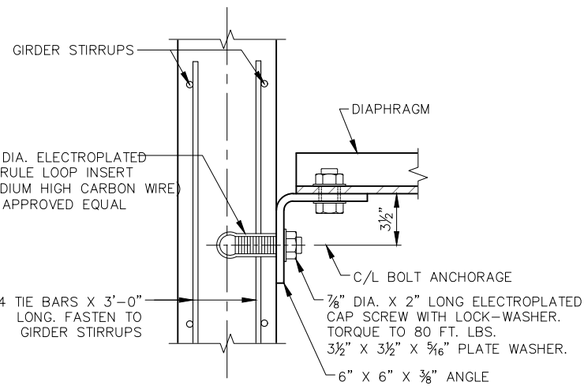
ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

PLACE DIAPHRAGMS AT ⅓ AND ⅔ POINTS OF GIRDER.

SEE SHEET 12 FOR STEEL DIAPHRAGM LOCATIONS & SPACING.

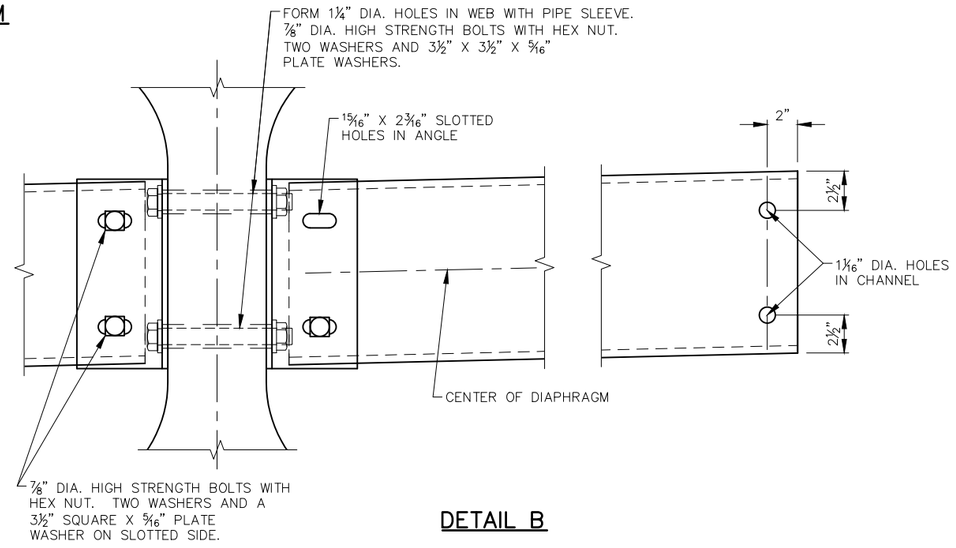


PART TRANSVERSE SECTION AT DIAPHRAGM

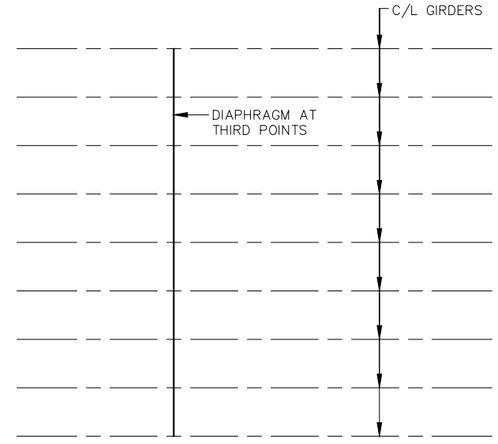


SECTION A-A

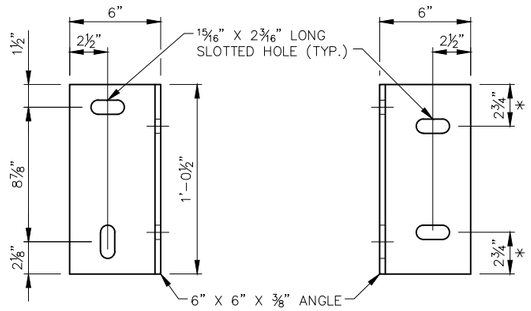
(FOR EXTERIOR ATTACHMENT)



DETAIL B



PLAN FOR SKEW ANGLES < 10°

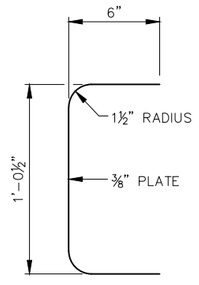


BEAM FACE

DIAPHRAGM FACE

DIAPHRAGM SUPPORT

* 2½" FOR ALTERNATE PLATE DIAPHRAGM



SECTION THRU ALTERNATE DIAPHRAGM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-332

DRAWN BY JZ | PLANS CK'D. PTB

STEEL DIAPHRAGM

SHEET 14 OF 20

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B-67-0332\STEEL DIAPHRAGM.DWG
LAYOUT : LAYOUT1

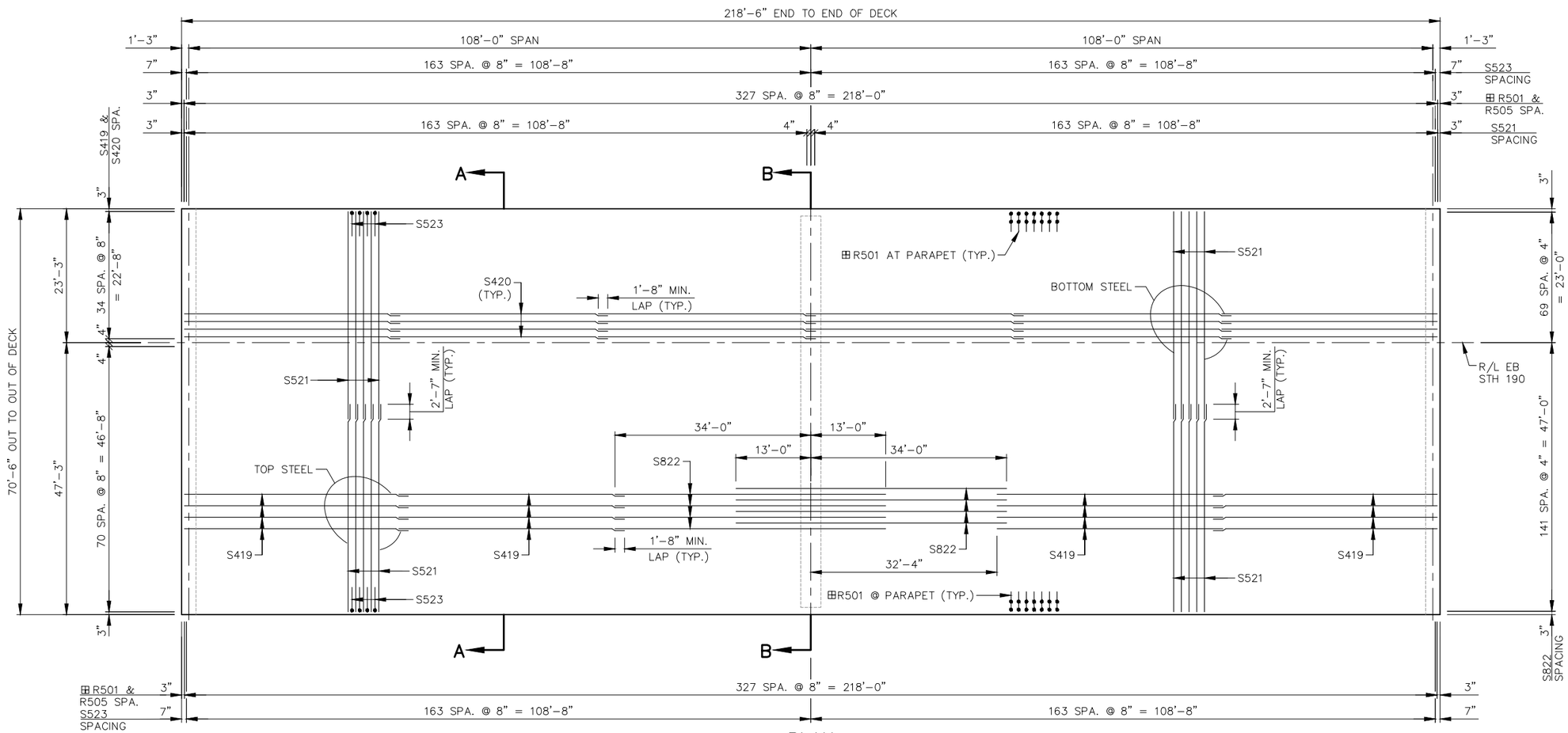
PLOT DATE : 10/31/2016
PLOT TIME : 9:30:09 AM

PLOT BY : BOLAND, PATRICK

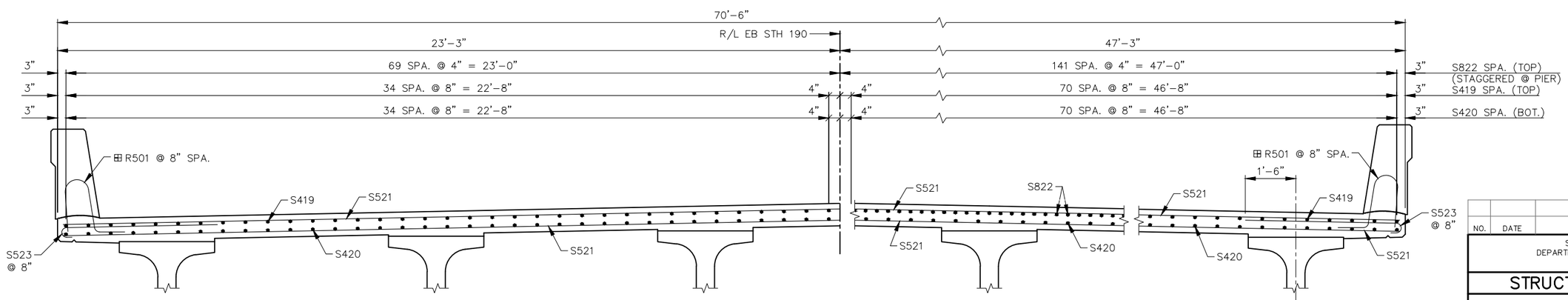
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

2025-13-71



PLAN



SECTION A-A
(PARTIAL TRANSVERSE SECTION WITHIN SPAN)
LOOKING EAST

SECTION B-B
(PARTIAL TRANSVERSE SECTION AT PIER)
LOOKING EAST

SECTION A-A
(PARTIAL TRANSVERSE SECTION WITHIN SPAN)
LOOKING EAST

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 17 FOR BILL OF BARS.

⊞ R501 BARS TO BE TIED TO DECK STEEL BEFORE DECK IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-332

DRAWN BY JZ | PLANS CK'D. PTB

SUPERSTRUCTURE

SHEET 15 OF 20

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B-67-0332\SUPERSTRUCTURE.DWG
LAYOUT : SUPERSTRUCTURE

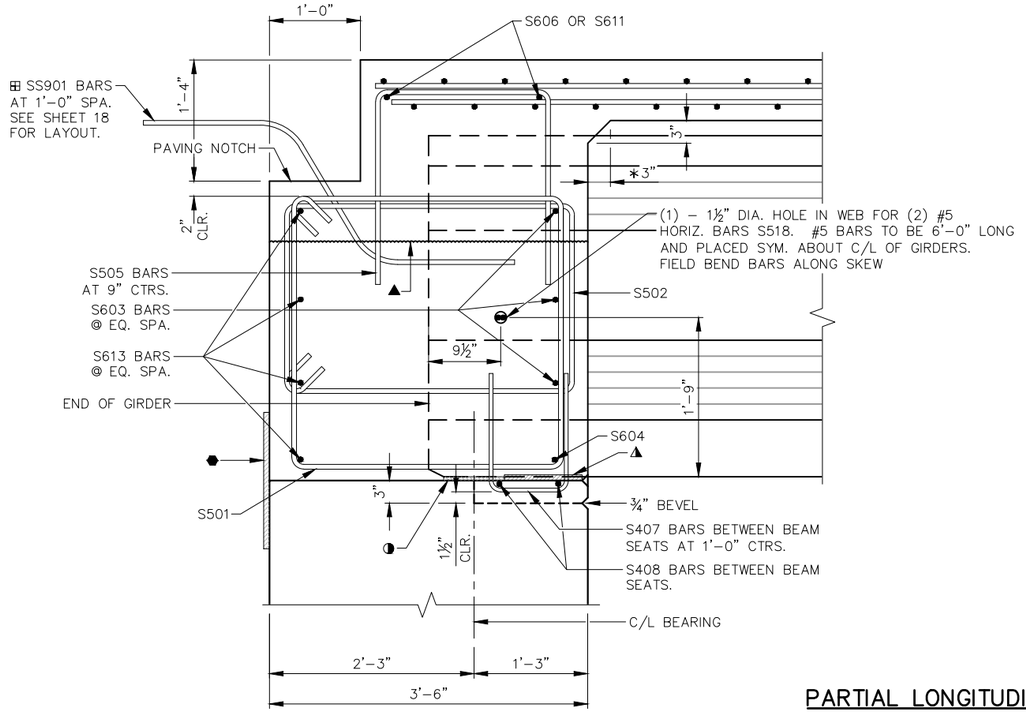
PLOT DATE : 10/10/2016
PLOT TIME : 8:48:57 AM

PLOT BY : BOLAND, PATRICK

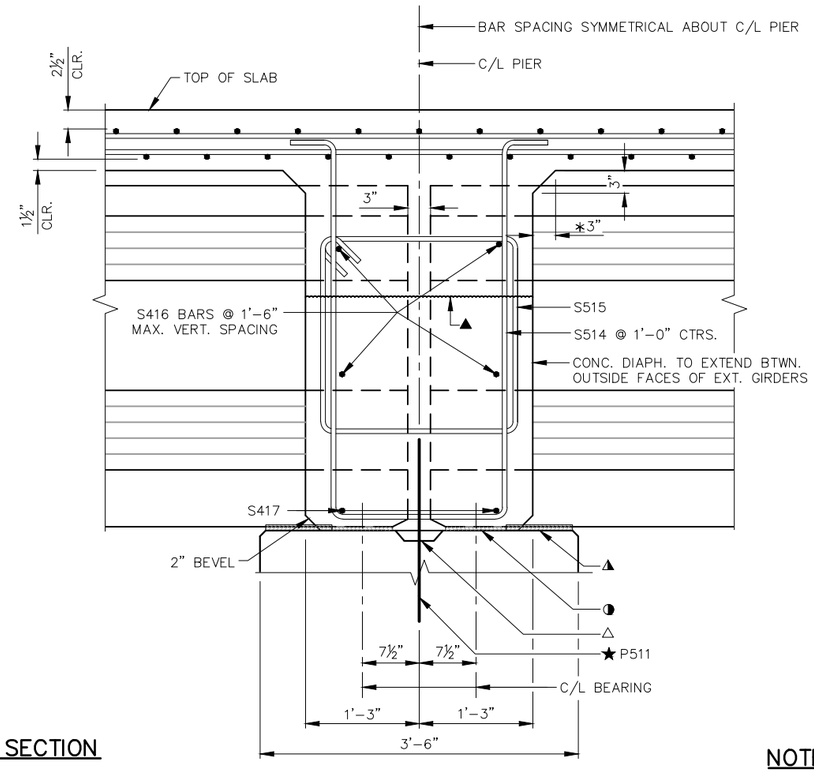
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

2025-13-71

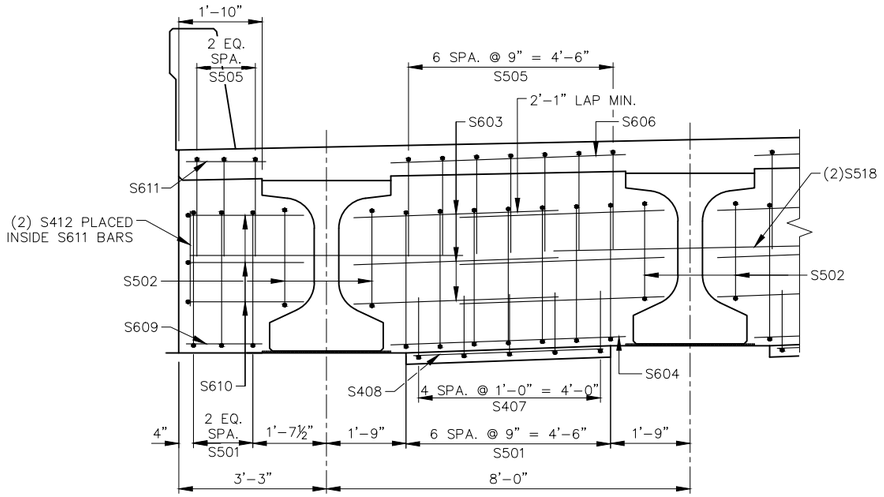


PARTIAL LONGITUDINAL SECTION

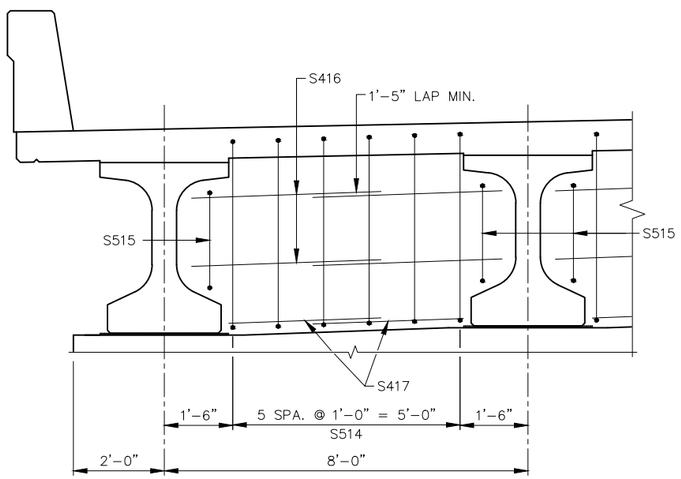


NOTES

SEE SHEET 17 FOR BILL OF BARS.



PART TRANSVERSE SECTION AT ABUTMENT DIAPHRAGM



PART TRANSVERSE SECTION AT PIER DIAPHRAGM

LEGEND

- ⬣ 18" RUBBERIZED MEMBRANE WATERPROFING (HORIZONTAL)
- ◭ ¾" PREFORMED FILLER UNDER GIRDER FLANGE IN FRONT OF BRG. PAD.
- △ KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2 X 6.
- ◑ ½"x8"x1'-6" ELASTOMERIC BEARING PAD.
- ★ SEE SHEET 11 FOR PLACEMENT OF P511 BARS.
- ⊞ SS901 BARS TO BE TIED TO DECK STEEL BEFORE DECK IS POURED. SEE SHEET 18 FOR LAYOUT.
- ▲ OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-332

DRAWN BY JZ | PLANS CK'D. PTB

SUPERSTRUCTURE DETAILS (1 OF 2)

SHEET 16 OF 20

500

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B-67-0332\SUPERSTRUCTURE.DWG
LAYOUT : SUPERSTRUCTURE DETAILS

PLOT DATE : 8/29/2016
PLOT TIME : 2:08:59 PM

PLOT BY : BOLAND, PATRICK

PLOT SCALE : 1" = 1'

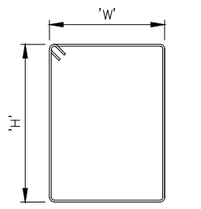
STATE PROJECT NUMBER

2025–13–71

BILL OF BARS
SUPERSTRUCTURE

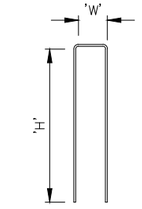
113,490 LB (COATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
S501	124	13–0	X	X	DIAPHRAGM – ABUTMENT – VERT.
S502	36	11–4	X	X	DIAPHRAGM – ABUTMENT – VERT.
S603	96	4–8		X	DIAPHRAGM – ABUTMENT – HORIZ.
S604	16	5–2		X	DIAPHRAGM – ABUTMENT – HORIZ.
S505	124	5–9	X	X	DIAPHRAGM/DECK – BTWN. GIRDERS
S606	32	5–0		X	DIAPHRAGM/DECK – ABUTMENT
S407	80	3–2	X	X	DIAPHRAGM – ABUTMENT
S408	32	4–2		X	DIAPHRAGM – ABUTMENT
S609	4	1–8		X	DIAPHRAGM – ABUTMENT – EDGE
S610	12	7–11	X	X	DIAPHRAGM – ABUTMENT – EDGE
S611	8	1–6		X	DIAPHRAGM/DECK – ABUTMENT – EDGE
S412	8	2–2		X	DIAPHRAGM – ABUTMENT – EDGE
S613	16	36–2		X	DIAPHRAGM – ABUTMENT
S514	48	11–0	X	X	DIAPHRAGM – PIER – VERT.
S515	16	9–4	X	X	DIAPHRAGM – PIER – VERT.
S416	64	4–4		X	DIAPHRAGM – PIER – HORIZ.
S417	32	3–4		X	DIAPHRAGM – PIER – HORIZ.
S518	36	6–0		X	DIAPHRAGM – ABUTMENT – GIRDER
S419	424	39–3		X	BRIDGE DECK – TOP – LONGIT.
S420	636	37–9		X	BRIDGE DECK – BOTTOM – LONGIT.
S521	1312	36–6		X	BRIDGE DECK – TOP & BOT. – TRANS.
S822	211	47–0		X	BRIDGE DECK – TOP – AT PIER
S523	654	5–2	X	X	BRIDGE DECK – EDGES



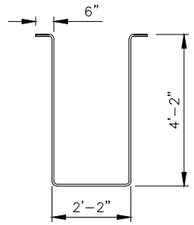
MARK	'W'	'H'
S501	3–2	3–0
S502	3–2	2–2
S515	2–2	2–2

S501, S502, S515

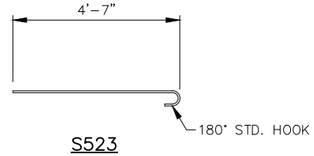


MARK	'W'	'H'
S505	2–2	1–11
S407	0–11	1–3
S610	3–0	2–7

S505, S407, S610



S514

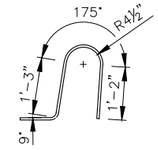


S523

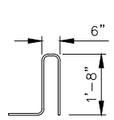
BILL OF BARS
PARAPETS

11,130 LB (COATED)

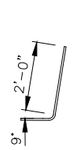
BAR MARK	NUMBER REQ'D.	LENGTH	BENT	COAT	LOCATION
R501	656	4–5	X	X	PARAPET – VERT.
R502	68	4–5	X	X	PARAPET – VERT.
R503	20	4–4	X	X	PARAPET – VERT.
R504	48	2–9	X	X	PARAPET – VERT.
R505	724	5–0	X	X	PARAPET – VERT.
R506	24	4–10	X	X	PARAPET – VERT.
R507	44	4–9	X	X	PARAPET – VERT.
R508	84	33–8		X	PARAPET – HORIZ.
R509	20	19–8		X	PARAPET – HORIZ.
R510	4	10–10	X	X	PARAPET – HORIZ.
R511	4	11–9		X	PARAPET – HORIZ.



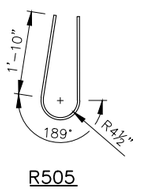
R501 & R502



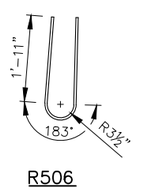
R503



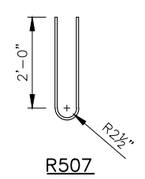
R504



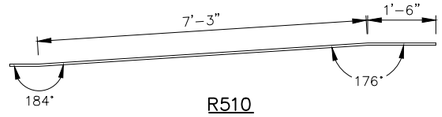
R505



R506



R507



R510

NOTES

THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–67–332

DRAWN BY JZ | PLANS CK'D. PTB

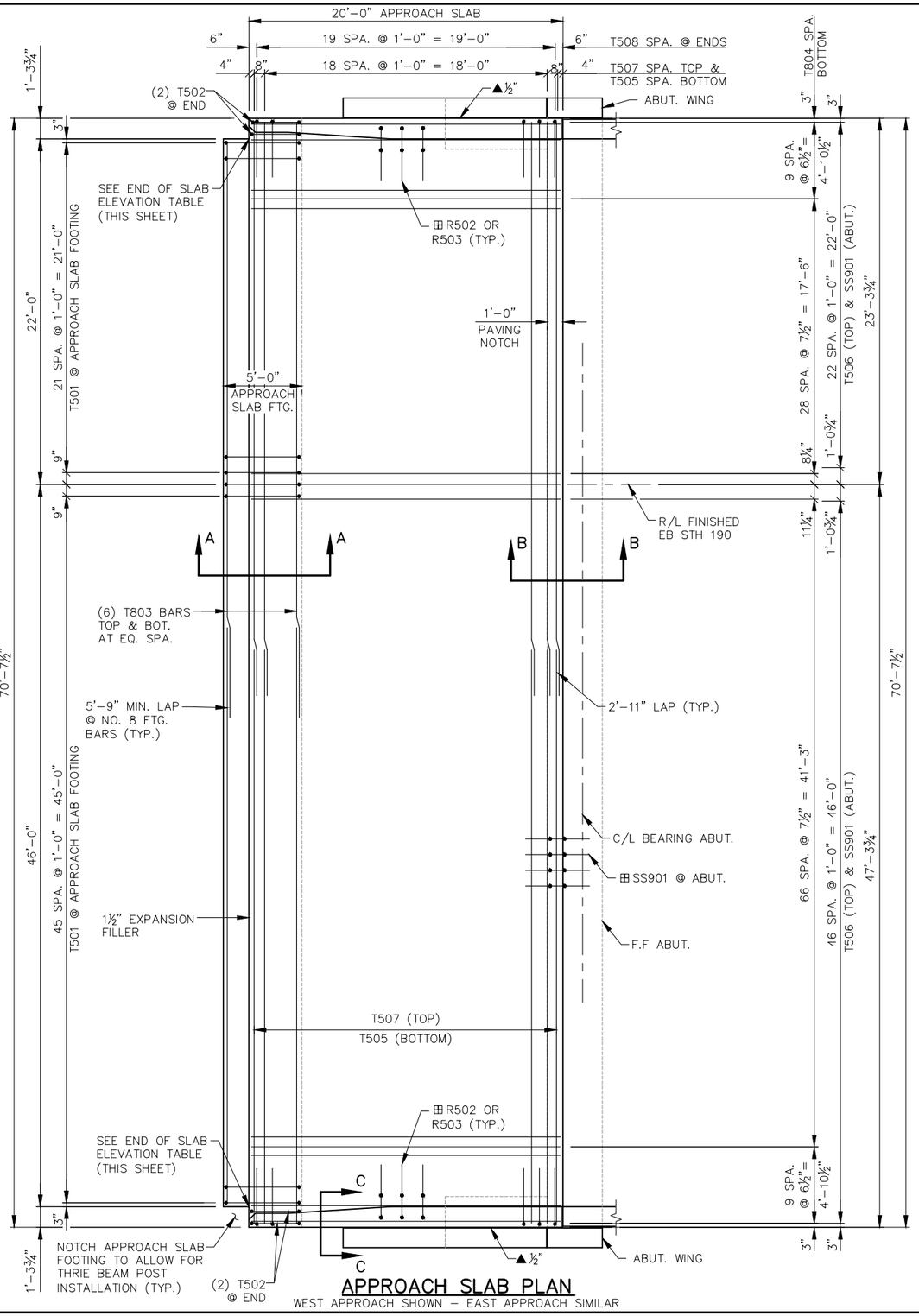
SUPERSTRUCTURE DETAILS (2 OF 2)

SHEET 17 OF 20

501

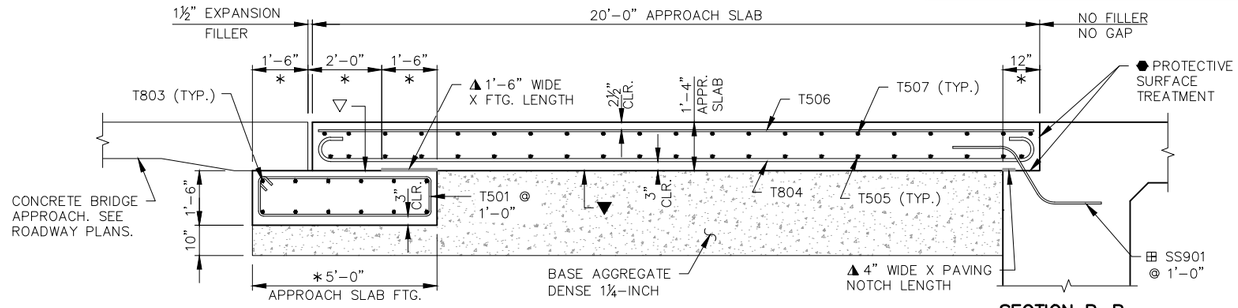
STATE PROJECT NUMBER

2025-13-71



APPROACH SLAB PLAN

WEST APPROACH SHOWN – EAST APPROACH SIMILAR



SECTION A–A

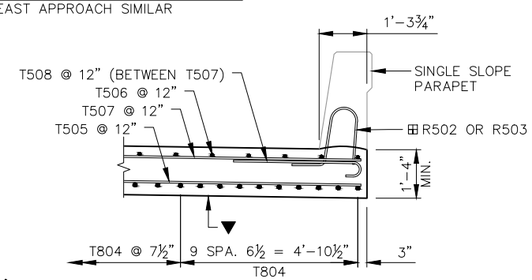
SECTION B–B

CROSS SECTION THROUGH APPROACH SLAB

WEST APPROACH SHOWN – EAST APPROACH SIMILAR

END OF SLAB ELEVATIONS

END OF SLAB LOCATION	WEST APPROACH SLAB		EAST APPROACH SLAB	
	STATION	ELEV.	STATION	ELEV.
FACE N. PARAPET	133+21.73 EB	883.78	135+80.23 EB	886.46
R/L WB STH 190	133+21.73 EB	884.22	135+80.23 EB	886.90
FACE S. PARAPET	133+21.73 EB	883.30	135+80.23 EB	885.98



SECTION C–C

BILL OF BARS
TWO APPROACH SLABS

29,420 LB (COATED)
2,410 LB (STAINLESS STEEL)

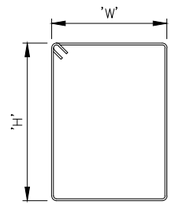
BAR MARK	NUMBER REQ'D.	LENGTH	BENT	COAT	LOCATION
T501	138	12–2	X	X	APPROACH SLAB FTG. – STIRRUP
T502	8	8–10	X	X	APPROACH SLAB FTG. – ENDS
T803	24	36–9		X	APPROACH SLAB FTG. – TRANS.
T804	230	21–6	X	X	APPROACH SLAB – LONG. – BOT.
T505	84	36–8		X	APPROACH SLAB – TRANS. – BOT.
T506	142	19–8		X	APPROACH SLAB – LONG. – TOP
T507	84	36–8		X	APPROACH SLAB – TRANS. – TOP
T508	80	4–1	X	X	APPROACH SLAB – TRANS. – ENDS
STAINLESS STEEL					
SS901	142	5–0	X		CONC. ABUT. DIAPH. TO APPROACH SLAB

NOTES: BOTH THE WEST AND EAST APPROACH SLABS ARE INCLUDED IN THIS BILL OF BARS.

THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

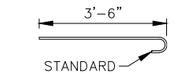
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.

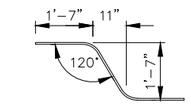


MARK	'W'	'H'
T501	4–8	1–1
T502	3–0	1–1

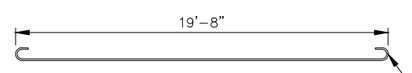
T501, T502



T508



SS901



T804

LEGEND

- ● APPLY PROTECTIVE SURFACE TREATMENT TO PAVING NOTCH PRIOR TO POURING STRUCTURAL APPROACH SLAB.
- ∗ DIMENSION IS NORMAL TO THE C/L OF SUBSTRUCTURE UNITS.
- ◭ ¾" PREFORMED JOINT FILLER, EXTEND AS SHOWN.
- ▲ FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON–STAINING GRAY, NON–BITUMINUOS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE)
- ▽ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE TOP OF FOOTING. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ▼ PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF SUBGRADE BENEATH SLAB. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ⊞ SS901 BARS (PAVING NOTCH) TO BE TIED TO DECK STEEL BEFORE DECK IS POURED. R502 & R503 BARS (PARAPET) TO BE TIED TO APPROACH SLAB STEEL BEFORE APPROACH SLAB IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–67–332

DRAWN BY JZ | PLANS CK'D. PTB

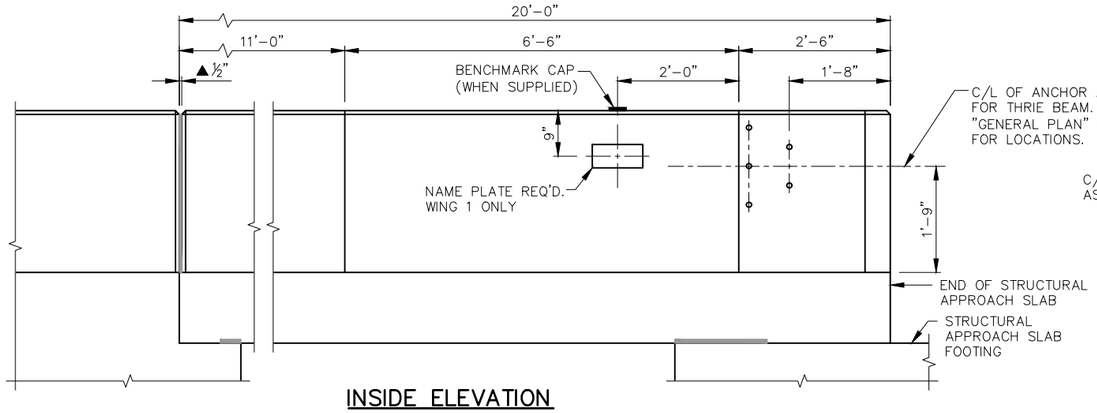
APPROACH SLAB

SHEET 18 OF 20

FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B-67-0332\SUPERSTRUCTURE.DWG
LAYOUT : APPROACH SLAB
PLOT DATE : 8/29/2016
PLOT TIME : 10:59:10 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

2025-13-71

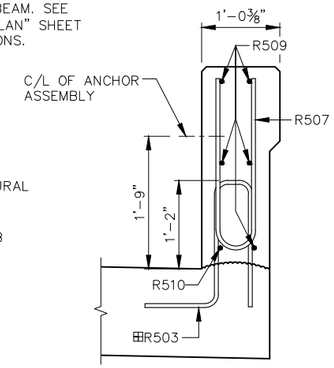


INSIDE ELEVATION

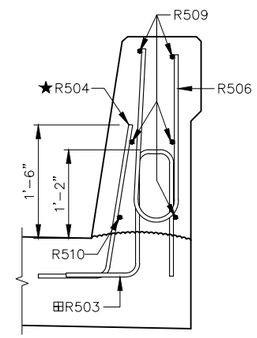
(WING 1 SHOWN – OTHER WINGS SIMILAR)

NOTES

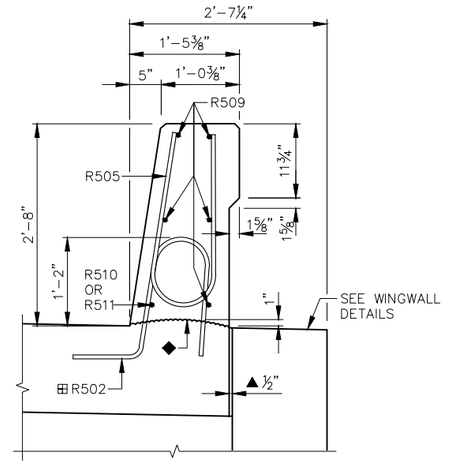
SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 17 FOR BILL OF BARS.



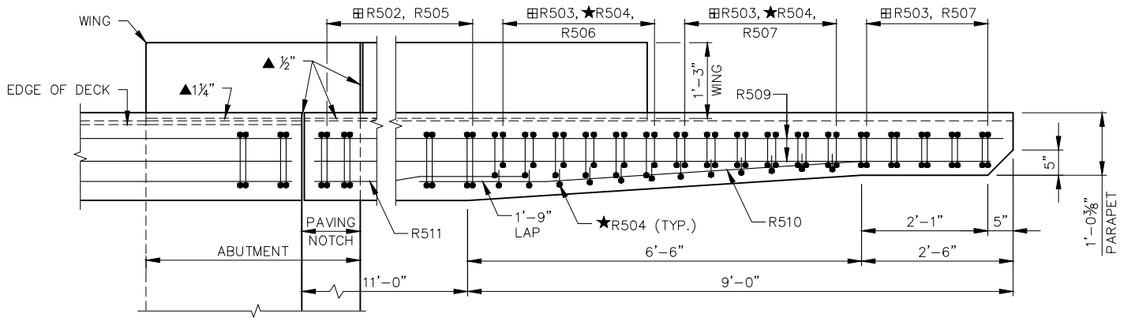
SECTION A



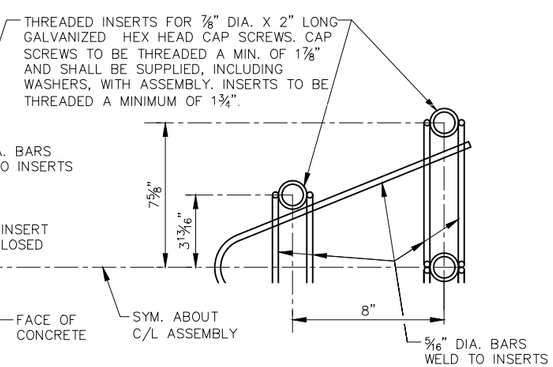
SECTION B



SECTION C



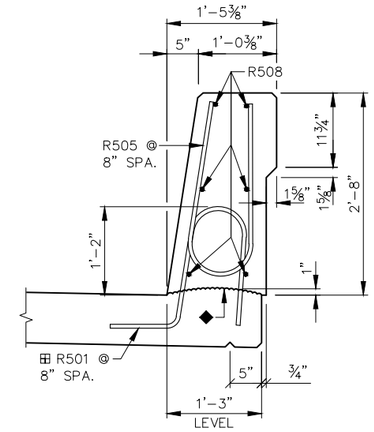
PLAN LAYOUT



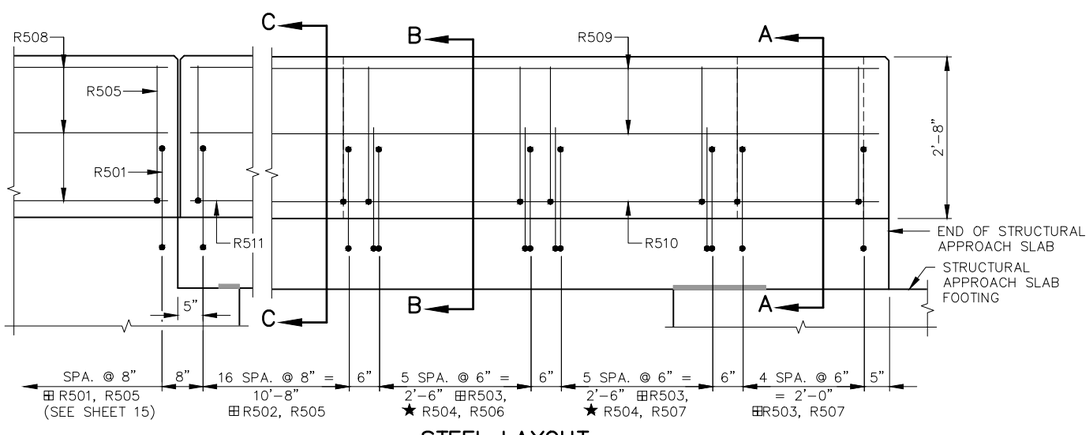
DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS AND WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232, CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD".



SECTION THROUGH PARAPET ON BRIDGE



STEEL LAYOUT

LEGEND

◆ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN.

▲ FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING, GRAY, NON-BITUMINUOS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE).

★ R504 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R504 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

⊞ R501 BARS TO BE TIED TO DECK STEEL BEFORE DECK IS POURED. R502 AND R503 BARS TO BE TIED TO APPROACH SLAB STEEL BEFORE APPROACH SLAB IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-332

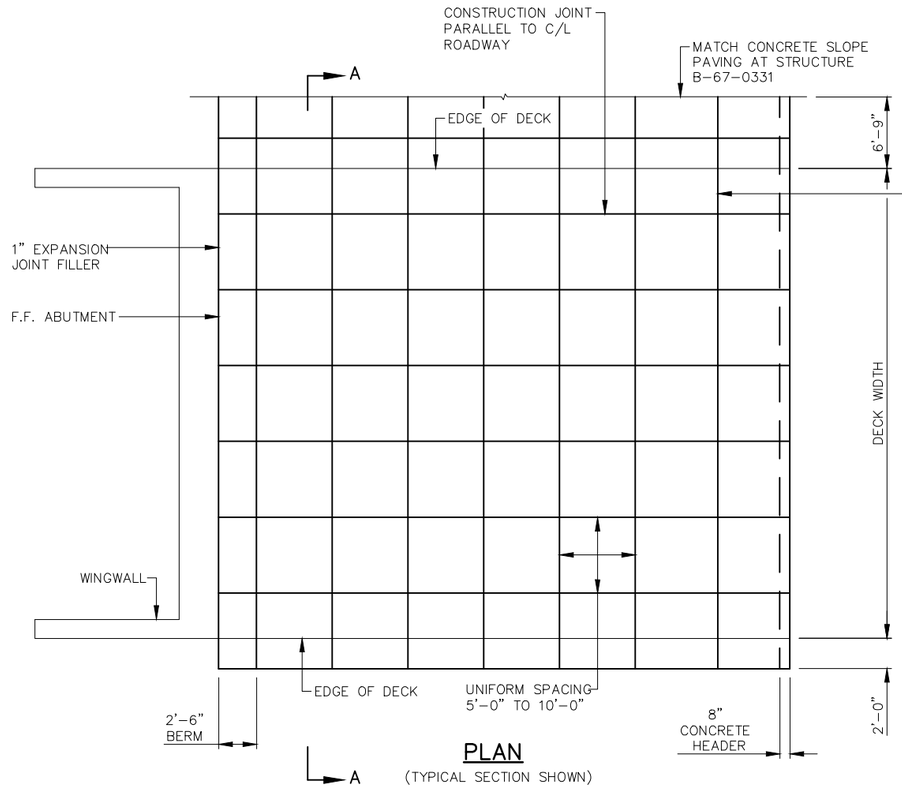
DRAWN BY JZ | PLANS CK'D. PTB

SINGLE SLOPE PARAPET 32SS

SHEET 19 OF 20

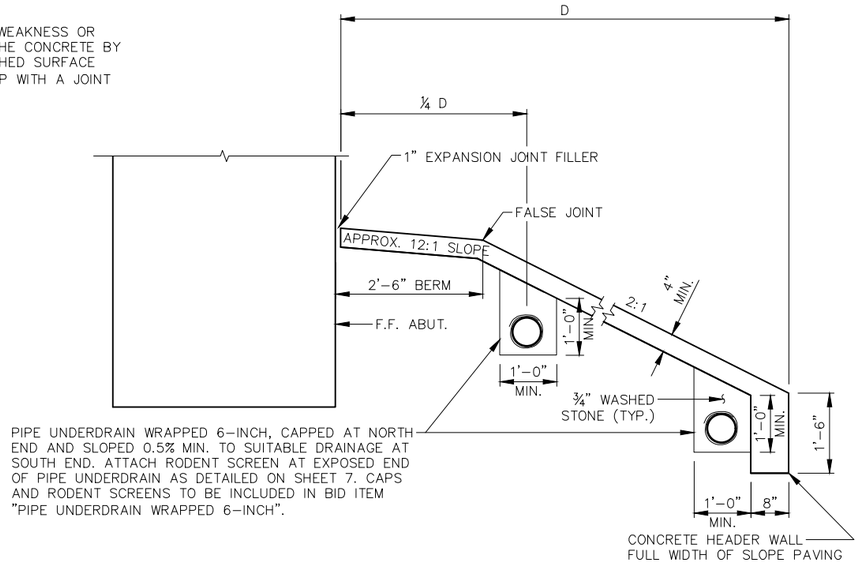
FILE NAME : S:\PROJECTS\W11447 STH 190 BRIDGES, WAUKESHA CO\STRUCTURE\CAD FILES\FINALS\B-67-0332\SUPERSTRUCTURE.DWG
LAYOUT : 32SS
PLOT DATE : 8/19/2016
PLOT TIME : 11:10:05 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER
2025–13–71

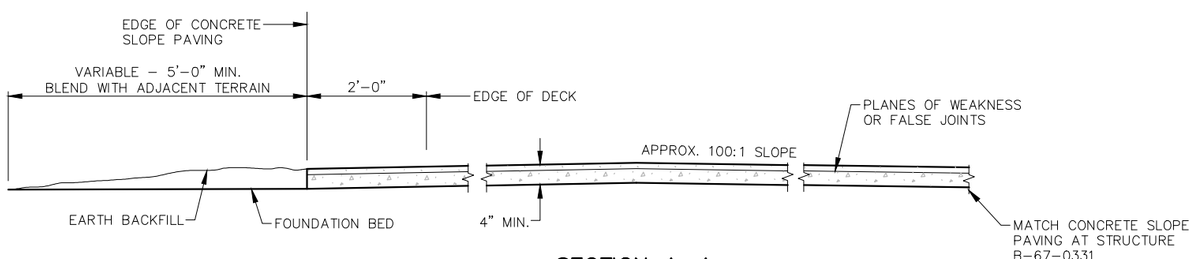


PLAN

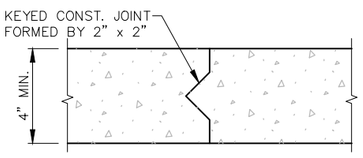
(TYPICAL SECTION SHOWN)



TYPICAL SECTION



SECTION A–A



CONSTRUCTION JOINT

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN HEREON SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–67–332

DRAWN BY JZ | PLANS CK'D. PTB

SLOPE PAVING DETAILS

SHEET 20 OF 20

504

Stage 1B Crossover A

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.10	
30+00	0.00	6.95	0.00	0	0	0	0	0
30+50	50.00	7.48	0.00	13	0	13	0	13
31+00	50.00	9.03	0.00	15	0	29	0	29
31+50	50.00	11.32	0.00	19	0	47	0	47
32+00	50.00	15.30	0.00	25	0	72	0	72
32+50	50.00	18.99	0.00	32	0	104	0	104
33+00	50.00	18.78	0.09	35	0	139	0	139
33+50	50.00	23.53	0.00	39	0	178	0	178
34+00	50.00	20.23	0.26	41	0	219	0	218
34+50	50.00	20.82	1.06	38	1	257	2	255
35+00	50.00	18.67	5.50	37	6	293	8	285
35+50	50.00	9.66	16.78	26	21	319	31	288
36+00	50.00	10.74	38.93	19	52	338	88	250
36+50	50.00	16.29	54.54	25	87	363	183	180
37+00	50.00	13.40	64.48	27	110	391	304	86
37+50	50.00	12.00	47.28	24	103	414	418	-4
38+00	50.00	14.02	33.57	24	75	438	501	-62
38+50	50.00	14.56	23.41	26	53	465	559	-94
39+00	50.00	16.86	12.81	29	34	494	595	-101
39+18	18.00	20.89	7.96	13	7	507	603	-97
		Totals		507	548			

Stage 1B Crossover B

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.10	
10+85	0.00	13.23	0.00	0	0	0	0	0
11+00	15.00	12.54	0.15	7	0	7	0	7
11+50	50.00	10.79	2.79	22	3	29	3	26
12+00	50.00	10.94	6.73	20	9	49	13	36
12+50	50.00	11.23	9.71	21	15	69	29	40
13+00	50.00	10.77	15.47	20	23	90	55	35
13+50	50.00	10.06	25.63	19	38	109	97	12
14+00	50.00	9.73	35.22	18	56	127	159	-32
14+50	50.00	9.21	43.66	18	73	145	239	-94
15+00	50.00	10.26	52.26	18	89	163	337	-174
15+50	50.00	2.65	52.48	12	97	175	444	-269
16+00	50.00	8.43	38.71	10	84	185	537	-351
16+50	50.00	20.32	17.58	27	52	212	594	-382
17+00	50.00	88.41	0.00	101	16	312	612	-299
17+50	50.00	98.83	0.00	173	0	486	612	-126
18+00	50.00	28.70	3.16	118	3	604	615	-11
18+50	50.00	16.04	6.68	41	9	645	625	20
19+00	50.00	13.17	6.19	27	12	672	638	34
19+50	50.00	12.44	2.62	24	8	696	647	49
20+00	50.00	12.88	0.48	23	3	720	650	69
20+50	50.00	8.49	0.00	20	0	739	651	89
21+00	50.00	7.36	0.00	15	0	754	651	103
		Totals		754	592			

1) Common Excavation is the sum of the Cut (A) and EBS Excavation (B) columns. Item number 205.0100
2) Salvaged/Unsuable Pavement Material is included in Cut.
3) EBS Excavation (B) to be backfilled with Breaker Run. See Breaker Run table for quantity
4) EBS Areas were taken from Geotechnical Report and are not shown on cross sections. Actual EBS locations to be determined by engineer.
5) EBS Excavation Material (B) shall be removed from the site and shall not be used as fill material. EBS Excavation material (B) is not included in the Mass Ordinate
6) Salvaged/Unusable Pavement Material (C) is included in the Cut (A). This assumes the existing pavement structure is salvaged or wasted by the contractor. The existing pavement structure is not shown on the cross sections.
7) Available Material = Cut - Salvaged/Unusuable Pavement Material
8) Expanded EBS Backfill - This is to be filled with Breaker Run material. EBS Backfill Factor = 1.0. Item number 311.0110
9) Expanded Fill (G) = (Unexpanded Fill (F)) * Expanded Fill Factor (1.20)
10) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates a waste volume of material within the Division. Minus indicates a borrow volume of material within the Division.
11) Undistributed EBS Excavation is to be used at discretion of engineer for unstable soils
12) Waste material from Stage 1A to be used as Borrow material in Stage 1B. No additional payment for Borrow will be made for Stage 1B unless the engineer determines that the Stage 1A waste material is unsuitable
13) The ramp infield areas outside of wetlands are potential sources of borrow material. Do not impact additional wetlands beyond what is shown in the plans and 404 Permit

STH 190 WB - Stage 2

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.10	
111+00	0.00	24.20	8.81	0	0	0	0	0
111+50	50.00	37.22	12.32	57	20	57	22	35
112+00	50.00	36.07	10.36	68	21	125	45	80
112+50	50.00	34.35	7.24	65	16	190	63	127
113+00	50.00	34.61	2.82	64	9	254	73	181
113+50	50.00	39.30	0.00	68	3	322	76	247
114+00	50.00	43.06	0.06	76	0	398	76	323
114+50	50.00	49.08	6.86	85	6	484	83	401
115+00	50.00	51.30	17.72	93	23	577	108	469
115+50	50.00	48.95	2.95	93	19	670	129	541
116+00	50.00	44.08	9.16	86	11	756	141	615
116+50	50.00	41.30	21.62	79	29	835	173	662
117+00	50.00	40.56	24.42	76	43	911	219	691
117+50	50.00	40.33	21.86	75	43	985	267	719
118+00	50.00	39.83	20.06	74	39	1,060	309	750
118+50	50.00	39.06	17.08	73	34	1,133	347	786
119+00	50.00	38.74	12.90	72	28	1,205	378	827
119+50	50.00	38.33	11.34	71	22	1,276	402	874
120+00	50.00	39.07	1.99	72	12	1,348	416	932
120+50	50.00	37.46	1.48	71	3	1,419	419	999
121+00	50.00	37.31	2.49	69	4	1,488	423	1,064
121+50	50.00	50.46	0.00	81	2	1,569	426	1,143
122+00	50.00	121.31	0.00	159	0	1,728	426	1,302
122+50	50.00	105.61	0.00	210	0	1,938	426	1,512
123+00	50.00	48.78	0.50	143	0	2,081	427	1,655
123+50	50.00	43.52	0.89	85	1	2,167	428	1,739
124+00	50.00	43.34	0.24	80	1	2,247	429	1,818
124+50	50.00	40.26	0.53	77	1	2,325	430	1,895
125+00	50.00	38.40	7.31	73	7	2,397	438	1,960
125+50	50.00	40.81	9.18	73	15	2,471	455	2,016
126+00	50.00	42.31	22.61	77	29	2,548	487	2,061
126+50	50.00	45.14	22.23	81	42	2,629	533	2,096
127+00	50.00	50.59	28.32	89	47	2,717	584	2,133
127+50	50.00	56.45	32.04	99	56	2,816	646	2,171
128+00	50.00	54.72	44.75	103	71	2,919	724	2,195
128+50	50.00	61.24	31.96	107	71	3,027	802	2,225
129+00	50.00	60.21	37.59	112	64	3,139	873	2,266
129+50	50.00	58.84	21.34	110	55	3,249	933	2,317
130+00	50.00	51.52	20.62	102	39	3,352	976	2,376
130+50	50.00	38.63	21.40	83	39	3,435	1,018	2,417
131+00	50.00	23.45	21.71	57	40	3,493	1,062	2,430
131+50	50.00	12.12	25.15	33	43	3,525	1,110	2,415
132+00	50.00	1.51	26.07	13	47	3,538	1,162	2,376
132+50	50.00	0.00	46.16	1	67	3,540	1,236	2,304
133+00	50.00	0.00	63.66	0	102	3,540	1,348	2,192
133+26 BK	26.00	0.00	63.23	0	61	3,540	1,415	2,125
135+85 AH	0.00	0.00	159.07	0	0	3,540	1,415	2,125
136+00	15.00	0.00	228.67	0	108	3,540	1,533	2,006
136+50	50.00	0.00	206.19	0	403	3,540	1,976	1,563
137+00	0.00	0.00	229.80	0	0	3,540	1,976	1,563
137+50	50.00	0.00	249.28	0	444	3,540	2,464	1,075
137+82	32.00	0.00	253.58	0	298	3,540	2,792	748
138+00	18.00	0.00	245.39	0	166	3,540	2,975	565
138+25	25.00	0.00	396.63	0	297	3,540	3,302	238

STH 190 WB - Stage 2 Continued

STATION	Distance	AREA (SF)		Incremental Vol		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.10	
138+42	17.00	0.00	419.35	0	257	3,540	3,584	-45
138+50	8.00	0.00	409.53	0	123	3,540	3,720	-180
138+75	25.00	0.00	365.70	0	359	3,540	4,114	-575
138+96	21.00	0.00	93.71	0	179	3,540	4,311	-771
139+00	4.00	0.00	93.97	0	14	3,540	4,326	-787
139+50	50.00	0.00	114.59	0	193	3,540	4,539	-999
140+00	50.00	0.00	129.51	0	226	3,540	4,787	-1,248
140+50	50.00	0.00	174.26	0	281	3,540	5,097	-1,557
141+00	50.00	0.00	231.91	0	376	3,540	5,510	-1,971
141+50	50.00	29.45	219.89	27	418	3,567	5,970	-2,404
142+00	50.00	149.51	202.26	166	391	3,732	6,400	-2,668
142+50	50.00	248.76	173.76	369	348	4,101	6,783	-2,682
143+00	50.00	169.17	155.73	387	305	4,488	7,119	-2,631
143+50	50.00	70.99	125.19	222	260	4,711	7,405	-2,695
144+00	50.00	5.52	103.28	71	212	4,781	7,638	-2,856
144+50	50.00	0.00	77.52	5	167	4,787	7,822	-3,035
145+00	50.00	0.00	40.65	0	109	4,787	7,942	-3,156
145+50	50.00	0.00	23.91	0	60	4,787	8,008	-3,222
146+00	50.00	0.00	6.60	0	28	4,787	8,039	-3,253
146+21	21.00	0.00	3.40	0	4	4,787	8,043	-3,257
146+50	29.00	1.72	15.19	1	10	4,787	8,054	-3,267
147+00	50.00	12.52	18.29	13	31	4,801	8,088	-3,288
147+50	50.00	32.88	14.44	42	30	4,843	8,122	-3,279
148+00	50.00	49.73	10.28	76	23	4,919	8,147	-3,228
148+50	50.00	63.40	5.77	105	15	5,024	8,163	-3,139
149+00	50.00	79.30	2.05	132	7	5,156	8,171	-3,015
149+50	50.00	99.34	0.68	165	3	5,321	8,174	-2,853
150+00	50.00	116.83	0.00	200	1	5,522	8,175	-2,653
150+50	50.00	140.26	0.00	238	0	5,760	8,175	-2,415
151+00	50.00	144.80	0.00	264	0	6,024	8,175	-2,151
151+50	50.00	155.35	0.00	278	0	6,302	8,175	-1,873
152+00	50.00	167.85	0.00	299	0	6,601	8,175	-1,574
152+50	50.00	173.46	0.00	316	0	6,917	8,175	-1,258
153+00	50.00	166.44	0.00	315	0	7,232	8,175	-943
153+50	50.00	155.71	0.00	298	0	7,530	8,175	-645
154+00	50.00	145.73	0.00	279	0	7,809	8,175	-366
154+50	50.00	147.02	0.00	271	0	8,080	8,175	-95
155+00	50.00	148.44	0.00	274	0	8,354	8,175	179
155+50	50.00	146.65	0.00	273	0	8,627	8,175	452
156+00	50.00	157.65	0.00	282	0	8,909	8,175	734
156+50	50.00	135.54	3.59	271	3	9,180	8,178	1,002
157+00	50.00	191.46	0.95	303	4	9,483	8,183	1,300
157+50	50.00	199.30	0.00	362	1	9,845	8,184	1,661
158+00	50.00	107.40	55.35	284	51	10,129	8,240	1,888
158+50	50.00	143.27	0.04	232	51	10,361	8,297	2,064
159+00	50.00	138.73	1.11	261	1	10,622	8,298	2,324
159+50	50.00	145.53	1.99	263	3	10,885	8,301	2,584
160+00	50.00	133.22	4.41	258	6	11,143	8,308	2,835
160+50	50.00	128.57	6.32	242	10	11,386	8,319	3,067
161+00	50.00	128.98	6.66	238	12	11,624	8,332	3,292
161+50	50.00	132.29	5.61	242	11	11,866	8,344	3,522
162+00	50.00	112.53	3.17	227	8	12,093	8,353	3,739
162+50	50.00	70.05	0.07	169	3	12,262	8,357	3,905
163+00	50.00	48.92	0.00	110	0	12,372	8,357	4,015
163+12	12.00	0.00	0.00	11	0	12,383	8,357	4,026
			Totals	12,383	7,597			

Ramp A - Stage 2

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.10	
139+00	0.00	0.95	187.96	0	0	0	0	0
139+50	50.00	86.52	232.30	81	389	81	428	-347
140+00	50.00	150.37	437.01	219	620	300	1,110	-809
140+50	50.00	179.02	656.80	305	1,013	605	2,224	-1,618
141+00	50.00	199.05	617.97	350	1,180	955	3,522	-2,567
141+50	50.00	522.99	538.99	669	1,071	1,624	4,701	-3,077
142+00	50.00	786.60	536.28	1,213	996	2,837	5,796	-2,959
142+50	50.00	810.52	581.67	1,479	1,035	4,315	6,934	-2,619
143+00	50.00	792.75	672.66	1,485	1,161	5,800	8,212	-2,412
143+50	50.00	757.34	462.83	1,435	1,051	7,235	9,368	-2,133
144+00	50.00	734.32	287.37	1,381	695	8,616	10,133	-1,516
144+50	50.00	722.92	226.18	1,349	476	9,966	10,656	-690
145+00	50.00	738.93	196.46	1,354	391	11,319	11,086	233
145+50	50.00	736.83	164.59	1,366	334	12,686	11,454	1,232
146+00	50.00	747.49	129.29	1,374	272	14,060	11,753	2,307
146+50	50.00	762.72	88.11	1,398	201	15,458	11,975	3,484
147+00	50.00	817.98	37.07	1,464	116	16,922	12,102	4,820
147+50	50.00	806.76	11.20	1,504	45	18,426	12,151	6,275
147+75	25.00	815.87	4.41	751	7	19,178	12,159	7,018
148+00	25.00	814.09	0.98	755	2	19,932	12,162	7,770
148+50	50.00	771.86	0.00	1,468	1	21,401	12,163	9,238
149+00	50.00	695.09	0.00	1,358	0	22,759	12,163	10,596
149+50	50.00	571.53	0.00	1,173	0	23,932	12,163	11,769
150+00	50.00	199.07	0.00	714	0	24,645	12,163	12,482
150+50	50.00	153.49	0.33	326	0	24,972	12,163	12,808
150+98	48.00	16.27	0.00	151	0	25,123	12,164	12,959
		Totals		25,123	11,058			

Ramp B - Stage 2

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.10	
132+93	0.00	136.54	0.00	0	0	0	0	0
133+00	7.00	141.41	0.00	36	0	36	0	36
133+50	50.00	62.65	33.73	189	31	225	34	191
134+00	50.00	84.06	12.82	136	43	361	82	279
134+50	50.00	155.82	11.29	222	22	583	106	477
135+00	50.00	188.97	10.81	319	20	902	129	773
135+50	50.00	174.93	12.80	337	22	1,239	153	1,086
136+00	50.00	65.45	29.01	223	39	1,462	195	1,266
136+50	50.00	4.42	64.19	65	86	1,526	290	1,236
137+00	50.00	0.61	97.57	5	150	1,531	455	1,076
137+50	50.00	0.00	109.86	1	192	1,532	666	865
138+00	50.00	0.00	128.32	0	221	1,532	909	623
138+50	50.00	0.00	192.28	0	297	1,532	1,236	296
139+00	50.00	0.27	247.32	0	407	1,532	1,683	-151
139+50	50.00	0.00	266.14	0	475	1,532	2,206	-674
140+00	50.00	0.00	314.92	0	538	1,532	2,798	-1,266
140+50	50.00	0.00	402.12	0	664	1,532	3,528	-1,996
141+00	50.00	0.00	559.88	0	891	1,532	4,508	-2,976
141+50	50.00	0.00	696.32	0	1,163	1,532	5,788	-4,256
142+00	50.00	18.61	642.77	17	1,240	1,549	7,152	-5,602
142+50	50.00	173.28	580.38	178	1,133	1,727	8,397	-6,670
143+00	50.00	201.97	484.50	347	986	2,074	9,482	-7,407
143+50	50.00	146.28	379.20	322	800	2,397	10,362	-7,965
144+00	50.00	32.78	279.51	166	610	2,563	11,033	-8,470
144+50	50.00	0.00	210.59	30	454	2,593	11,532	-8,939
145+00	50.00	0.00	124.00	0	310	2,593	11,873	-9,279
145+50	50.00	0.00	33.18	0	146	2,593	12,033	-9,440
146+00	50.00	0.00	22.56	0	52	2,593	12,089	-9,496
146+20.75	20.75	0.00	16.94	0	15	2,593	12,106	-9,513
		Totals		2,593	11,006			

STH 190 WB Temporary Widening - Stage 3

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.10	
109+74	0.00	6.83	0.00	0	0	0	0	0
110+00	26.00	10.68	1.00	8	0	8	1	8
110+50	50.00	6.64	6.28	16	7	24	8	17
111+00	50.00	24.20	8.81	29	14	53	23	30
111+50	50.00	23.60	9.84	44	17	97	42	55
112+00	50.00	21.37	11.30	42	20	139	64	75
112+50	50.00	17.00	17.95	36	27	174	94	81
113+00	50.00	14.42	16.70	29	32	204	129	75
113+50	50.00	13.02	21.42	25	35	229	168	61
114+00	50.00	11.53	27.19	23	45	252	217	34
114+50	50.00	12.68	26.52	22	50	274	272	2
115+00	50.00	13.28	26.22	24	49	298	326	-28
115+50	50.00	12.61	26.58	24	49	322	379	-57
116+00	50.00	17.63	38.42	28	60	350	446	-96
116+50	50.00	13.16	42.11	29	75	379	528	-149
117+00	50.00	12.25	55.21	24	90	402	627	-225
117+50	50.00	11.76	59.09	22	106	424	743	-319
118+00	50.00	10.73	58.87	21	109	445	863	-418
118+50	50.00	10.69	57.71	20	108	465	982	-517
119+00	50.00	10.24	55.30	19	105	484	1,097	-613
119+50	50.00	11.51	46.88	20	95	505	1,201	-697
120+00	50.00	11.33	42.02	21	82	526	1,292	-766
120+50	50.00	10.27	35.70	20	72	546	1,371	-825
121+00	50.00	9.32	41.29	18	71	564	1,449	-886
121+50	50.00	12.64	27.46	20	64	584	1,519	-935
122+00	50.00	55.64	0.00	63	25	647	1,547	-900
122+50	50.00	61.04	0.00	108	0	755	1,547	-792
123+00	50.00	21.15	8.10	76	8	832	1,556	-724
123+50	50.00	14.72	40.37	33	45	865	1,605	-740
124+00	50.00	15.41	40.07	28	74	893	1,687	-794
124+50	50.00	13.87	38.13	27	72	920	1,767	-847
125+00	50.00	12.50	32.65	24	66	944	1,839	-895
125+50	50.00	9.81	39.62	21	67	965	1,912	-947
126+00	50.00	11.07	36.77	19	71	984	1,990	-1,006
126+50	50.00	12.62	21.68	22	54	1,006	2,050	-1,044
127+00	50.00	15.02	10.20	26	30	1,032	2,082	-1,050
127+50	50.00	14.63	12.67	27	21	1,059	2,105	-1,046
128+00	50.00	13.83	20.61	26	31	1,085	2,139	-1,054
128+50	50.00	15.02	32.12	27	49	1,112	2,193	-1,081
129+00	50.00	14.91	38.79	28	66	1,140	2,265	-1,125
129+50	50.00	13.85	43.97	27	77	1,167	2,350	-1,183
130+00	50.00	11.30	42.81	23	80	1,190	2,438	-1,248
130+50	50.00	8.54	49.79	18	86	1,208	2,532	-1,324
131+00	50.00	5.81	53.61	13	96	1,221	2,638	-1,416
131+50	50.00	1.64	51.50	7	97	1,228	2,745	-1,516
132+00	50.00	0.00	50.30	2	94	1,230	2,848	-1,618
132+50	50.00	0.00	58.76	0	101	1,230	2,959	-1,729

STH 190 WB Temporary Widening Continued - Stage 3

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.10	
133+00	50.00	0.00	54.84	0	105	1,230	3,075	-1,845
133+26 BK	26.00	0.00	41.41	0	46	1,230	3,126	-1,896
135+85 AH	0.00	0.00	99.27	0	0	1,230	3,126	-1,896
136+00	15.00	0.00	133.99	0	65	1,230	3,197	-1,967
136+50	50.00	0.00	135.83	0	250	1,230	3,472	-2,242
137+00	50.00	0.00	143.14	0	258	1,230	3,756	-2,526
137+50	50.00	0.00	153.41	0	275	1,230	4,058	-2,828
138+00	50.00	0.00	167.96	0	298	1,230	4,386	-3,156
138+50	50.00	0.00	169.23	0	312	1,230	4,729	-3,499
139+00	50.00	0.00	170.11	0	314	1,230	5,075	-3,845
139+50	50.00	0.00	157.16	0	303	1,230	5,408	-4,178
140+00	50.00	0.00	156.32	0	290	1,230	5,727	-4,497
140+50	50.00	0.00	160.80	0	294	1,230	6,050	-4,820
141+00	50.00	0.00	154.53	0	292	1,230	6,371	-5,142
141+50	50.00	0.00	148.59	0	281	1,230	6,680	-5,450
142+00	50.00	0.00	137.42	0	265	1,230	6,971	-5,742
142+50	50.00	0.00	127.43	0	245	1,230	7,241	-6,011
143+00	50.00	0.00	113.71	0	223	1,230	7,487	-6,257
143+50	50.00	0.00	105.48	0	203	1,230	7,710	-6,480
144+00	50.00	0.00	99.84	0	190	1,230	7,919	-6,689
144+50	50.00	0.00	87.76	0	174	1,230	8,110	-6,880
145+00	50.00	0.00	79.97	0	155	1,230	8,281	-7,051
145+50	50.00	0.00	71.66	0	140	1,230	8,436	-7,206
146+00	50.00	0.00	55.49	0	118	1,230	8,565	-7,335
146+50	50.00	0.37	42.98	0	91	1,230	8,665	-7,435
147+00	50.00	2.43	34.16	3	71	1,233	8,744	-7,511
147+50	50.00	5.08	23.08	7	53	1,240	8,802	-7,562
148+00	50.00	11.66	21.92	16	42	1,255	8,848	-7,593
148+50	50.00	13.99	16.96	24	36	1,279	8,888	-7,609
149+00	50.00	18.46	12.86	30	28	1,309	8,918	-7,609
149+50	50.00	23.05	10.60	38	22	1,348	8,942	-7,594
150+00	50.00	25.00	5.66	44	15	1,392	8,958	-7,566
150+50	50.00	32.08	4.55	53	9	1,445	8,969	-7,524
151+00	50.00	34.84	0.80	62	5	1,507	8,974	-7,468
151+50	50.00	36.06	0.13	66	1	1,572	8,975	-7,403
152+00	50.00	47.13	0.00	77	0	1,650	8,975	-7,326
152+50	50.00	51.96	0.00	92	0	1,741	8,975	-7,234
153+00	50.00	52.29	0.00	97	0	1,838	8,975	-7,138
153+50	50.00	60.98	0.00	105	0	1,943	8,975	-7,033
154+00	50.00	56.20	0.00	109	0	2,051	8,975	-6,924
154+50	50.00	51.77	0.00	100	0	2,151	8,975	-6,824
155+00	50.00	60.65	0.00	104	0	2,255	8,975	-6,720
155+50	50.00	68.92	0.00	120	0	2,375	8,975	-6,600
156+00	50.00	68.31	0.00	127	0	2,502	8,975	-6,473
156+50	50.00	106.05	0.00	161	0	2,664	8,975	-6,312
156+97	47.00	156.55	0.00	229	0	2,892	8,975	-6,083
			Totals	2,892	8,159			

Stage 3 Crossover C

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.10	
50+00	0.00	7.12	0.00	0	0	0	0	0
50+50	50.00	7.68	0.00	14	0	14	0	14
51+00	50.00	8.88	0.00	15	0	29	0	29
51+50	50.00	11.52	0.00	19	0	48	0	48
52+00	50.00	16.17	0.00	26	0	74	0	74
52+50	50.00	16.26	2.73	30	3	104	3	101
53+00	50.00	16.72	5.42	31	8	134	11	123
53+50	50.00	29.29	4.07	43	9	177	21	156
54+00	50.00	40.78	14.35	65	17	242	40	202
54+50	50.00	31.91	13.44	67	26	309	68	241
55+00	50.00	24.87	11.71	53	23	361	93	268
55+50	50.00	33.01	0.00	54	11	415	105	310
56+00	50.00	50.20	1.21	77	1	492	107	386
56+50	50.00	77.42	0.92	118	2	610	109	502
57+00	50.00	80.20	0.69	146	1	756	110	646
57+50	50.00	63.49	4.06	133	4	889	115	774
58+00	50.00	45.30	15.18	101	18	990	135	855
58+50	50.00	32.00	22.81	72	35	1,062	174	888
59+00	50.00	12.85	26.07	42	45	1,103	223	880
59+50	50.00	9.07	3.17	20	27	1,123	253	870
59+66	16.00	7.54	0.00	5	1	1,128	254	874
		Totals		1,128	231			

Stage 3 Crossover D

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.10	
70+00	0.00	159.01	0.00	0	0	0	0	0
70+50	50.00	155.09	0.00	291	0	291	0	291
71+00	50.00	82.98	0.00	245	0	245	0	245
71+50	50.00	45.77	5.67	175	4	466	4	462
72+00	50.00	32.19	15.98	99	13	344	15	330
72+50	50.00	30.78	17.85	67	24	533	31	502
73+00	50.00	35.18	15.23	61	30	405	48	357
73+50	50.00	35.51	16.51	63	31	596	64	531
74+00	50.00	39.88	14.29	68	28	473	79	394
74+50	50.00	57.40	11.52	82	26	678	93	585
75+00	50.00	60.71	5.05	98	19	571	100	471
75+50	50.00	61.99	0.00	111	10	789	104	685
76+00	50.00	62.38	0.04	114	3	685	104	581
76+50	50.00	60.24	3.97	114	2	903	107	796
77+00	50.00	67.45	8.00	117	7	802	112	691
77+50	50.00	65.75	7.02	119	12	1,022	120	902
78+00	50.00	63.59	1.62	121	10	924	123	801
78+50	50.00	55.74	0.97	114	6	1,137	126	1,010
79+00	50.00	37.39	7.75	97	6	1,021	130	890
79+50	50.00	32.21	5.36	77	9	1,214	136	1,078
80+00	50.00	28.78	7.27	61	13	1,081	144	937
80+50	50.00	25.53	12.73	53	16	1,267	153	1,114
		Totals		2,349	270			

STH 190 EB - Stage 4

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.10	
111+00	0.00	46.14	0.00	0	0	0	0	0
111+50	50.00	41.77	0.00	81	0	81	0	81
112+00	50.00	43.97	0.00	79	0	161	0	161
112+50	50.00	44.36	0.00	82	0	243	0	243
113+00	50.00	59.51	0.00	96	0	339	0	339
113+50	50.00	175.27	0.00	217	0	556	0	556
114+00	50.00	43.68	27.55	203	26	759	28	731
114+50	50.00	41.72	60.38	79	81	838	118	720
115+00	50.00	42.22	67.78	78	119	916	248	668
115+50	50.00	48.62	89.48	84	146	1,000	408	591
116+00	50.00	37.69	99.56	80	175	1,080	601	479
116+50	50.00	34.05	103.31	66	188	1,146	807	339
117+00	50.00	34.62	129.76	64	216	1,210	1,045	165
117+50	50.00	35.47	166.37	65	274	1,275	1,346	-72
118+00	50.00	34.92	174.89	65	316	1,340	1,694	-354
118+50	50.00	35.40	146.95	65	298	1,405	2,022	-617
119+00	50.00	32.73	118.56	63	246	1,468	2,292	-824
119+50	50.00	31.54	105.03	60	207	1,527	2,520	-993
120+00	50.00	28.28	85.19	55	176	1,583	2,714	-1,131
120+50	50.00	27.63	64.14	52	138	1,635	2,866	-1,231
121+00	50.00	26.36	52.66	50	108	1,685	2,985	-1,300
121+50	50.00	45.06	6.32	66	55	1,751	3,045	-1,294
122+00	50.00	78.56	0.00	114	6	1,865	3,051	-1,186
122+50	50.00	88.67	0.00	155	0	2,020	3,051	-1,031
123+00	50.00	27.50	26.17	108	24	2,128	3,078	-950
123+50	50.00	13.87	7.29	38	31	2,166	3,112	-946
124+00	50.00	13.15	2.10	25	9	2,191	3,122	-931
124+50	50.00	10.72	2.08	22	4	2,213	3,126	-913
125+00	50.00	32.12	0.00	40	2	2,253	3,128	-875
125+50	50.00	1.22	5.16	31	5	2,284	3,133	-850
126+00	50.00	42.29	4.15	40	9	2,324	3,143	-819
126+50	50.00	2.72	14.23	42	17	2,366	3,161	-796
127+00	50.00	53.48	24.70	52	36	2,418	3,201	-784
127+50	50.00	23.45	26.79	71	48	2,489	3,254	-765
128+00	50.00	29.30	33.62	49	56	2,538	3,315	-777
128+50	50.00	35.25	47.44	60	75	2,597	3,398	-800
129+00	50.00	35.22	54.33	65	94	2,663	3,501	-839
129+50	50.00	35.62	64.24	66	110	2,728	3,622	-894
130+00	50.00	41.92	83.41	72	137	2,800	3,772	-972
130+50	50.00	33.06	100.12	69	170	2,870	3,959	-1,090
131+00	50.00	30.46	115.34	59	200	2,928	4,179	-1,251
131+07	7.00	30.15	116.03	8	30	2,936	4,212	-1,276
131+32	25.00	22.70	114.78	24	107	2,961	4,329	-1,369
131+50	18.00	16.76	114.31	13	76	2,974	4,413	-1,440
131+57	7.00	13.94	114.75	4	30	2,978	4,446	-1,468
132+00	43.00	3.81	114.02	14	182	2,992	4,646	-1,655
132+50	50.00	0.00	123.11	4	220	2,995	4,888	-1,893
133+00	50.00	0.00	139.94	0	244	2,995	5,156	-2,160
133+22 BK	22.00	0.00	129.20	0	110	2,995	5,276	-2,281
135+80 AH	0.00	0.00	114.59	0	0	2,995	5,276	-2,281
136+00	20.00	0.00	118.95	0	86	2,995	5,372	-2,376
136+50	50.00	0.00	130.74	0	231	2,995	5,626	-2,631
137+00	50.00	0.12	121.78	0	234	2,996	5,883	-2,888
137+50	50.00	0.00	78.06	0	185	2,996	6,087	-3,091

STH 190 EB - Stage 4

STATION	Distance	AREA (SF)		Incremental Vol		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.10	
138+00	50.00	1.34	45.17	1	114	2,997	6,212	-3,215
138+25	25.00	0.00	12.41	1	27	2,998	6,242	-3,244
138+50	25.00	0.00	10.66	0	11	2,998	6,253	-3,256
139+00	50.00	0.00	15.62	0	24	2,998	6,280	-3,283
139+50	50.00	0.00	9.40	0	23	2,998	6,306	-3,308
140+00	50.00	3.14	32.53	3	39	3,000	6,348	-3,348
140+50	50.00	33.11	29.16	34	57	3,034	6,411	-3,377
141+00	50.00	151.55	22.63	171	48	3,205	6,464	-3,259
141+50	50.00	338.10	12.57	453	33	3,658	6,500	-2,841
142+00	50.00	286.32	3.76	578	15	4,237	6,516	-2,280
142+50	50.00	183.05	0.88	435	4	4,671	6,521	-1,850
143+00	50.00	98.66	2.04	261	3	4,932	6,524	-1,592
143+50	50.00	62.81	0.00	150	2	5,081	6,526	-1,445
144+00	50.00	62.40	0.00	116	0	5,197	6,526	-1,329
144+50	50.00	60.60	0.00	114	0	5,311	6,526	-1,215
145+00	50.00	80.70	0.00	131	0	5,442	6,526	-1,084
145+50	50.00	67.99	0.00	138	0	5,580	6,526	-946
146+00	50.00	59.02	0.00	118	0	5,697	6,526	-829
146+46	46.00	60.26	0.00	102	0	5,799	6,526	-727
146+50	4.00	129.18	0.00	14	0	5,813	6,526	-713
147+00	50.00	131.35	0.00	241	0	6,054	6,526	-472
147+50	50.00	148.20	0.00	259	0	6,313	6,526	-213
148+00	50.00	165.11	0.00	290	0	6,603	6,526	77
148+50	50.00	180.49	0.00	320	0	6,923	6,526	397
149+00	50.00	183.12	0.00	337	0	7,260	6,526	734
149+50	50.00	184.43	0.00	340	0	7,600	6,526	1,074
150+00	50.00	186.44	0.00	343	0	7,944	6,526	1,418
150+50	50.00	184.09	0.00	343	0	8,287	6,526	1,761
151+00	50.00	176.86	0.00	334	0	8,621	6,526	2,095
151+50	50.00	186.46	0.00	336	0	8,957	6,526	2,431
152+00	50.00	191.30	0.00	350	0	9,307	6,526	2,781
152+50	50.00	194.58	0.00	357	0	9,664	6,526	3,138
153+00	50.00	179.79	0.00	347	0	10,011	6,526	3,485
153+50	50.00	169.95	0.00	324	0	10,335	6,526	3,809
154+00	50.00	156.35	0.00	302	0	10,637	6,526	4,111
154+50	50.00	140.25	0.00	275	0	10,912	6,526	4,386
155+00	50.00	130.91	0.00	251	0	11,163	6,526	4,637
155+50	50.00	124.52	0.00	237	0	11,399	6,526	4,873
156+00	50.00	119.20	0.00	226	0	11,625	6,526	5,099
156+50	50.00	108.99	0.52	211	0	11,836	6,527	5,310
157+00	50.00	332.17	0.00	408	0	12,245	6,527	5,718
157+50	50.00	133.35	0.00	431	0	12,676	6,527	6,149
158+00	50.00	134.05	0.00	248	0	12,923	6,527	6,396
158+50	50.00	139.57	0.00	253	0	13,177	6,527	6,650
159+00	50.00	157.48	0.00	275	0	13,452	6,527	6,925
159+50	50.00	186.99	0.00	319	0	13,771	6,527	7,244
160+00	50.00	202.39	0.27	361	0	14,131	6,527	7,604
160+50	50.00	157.28	1.15	333	1	14,464	6,529	7,935
161+00	50.00	142.32	0.63	277	2	14,742	6,531	8,211
161+50	50.00	76.60	0.00	203	1	14,944	6,531	8,413
162+00	50.00	49.90	0.00	117	0	15,061	6,531	8,530
162+50	50.00	29.48	0.00	74	0	15,135	6,531	8,604
163+00	50.00	0.96	1.29	28	1	15,163	6,533	8,631
163+50	50.00	0.00	0.00	1	1	15,164	6,534	8,630
		Totals		15,164	5,940			

9

PROJECT NO: 2025-13-71 | HWY: STH 190 | COUNTY: WAUKESHA | EARTHWORK DATA | SHEET NO: 510 | E

FILE NAME : T:\(Project #)\Quants\3030201_mq.ppt PLOT DATE : 10/27/2016 12:42 PM PLOT BY : PLOT NAME : 901001_ew PLOT SCALE : 1.000000:1.000000

WISDOT / CADDS SHEET 42

Ramp C - Stage 4

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.10	
138+25	0.00	17.48	24.79	0	0	0	0	0
138+50	25.00	26.02	32.90	20	27	20	29	-9
139+00	50.00	32.42	108.62	54	131	74	174	-99
139+50	50.00	27.06	256.74	55	338	129	546	-416
140+00	50.00	15.76	276.56	40	494	169	1,089	-920
140+50	50.00	121.80	166.52	127	410	296	1,540	-1,244
141+00	50.00	596.34	73.15	665	222	961	1,784	-823
141+50	50.00	403.92	37.43	926	102	1,887	1,897	-9
142+00	50.00	234.29	22.34	591	55	2,478	1,958	521
142+50	50.00	42.96	33.49	257	52	2,735	2,015	721
143+00	50.00	48.57	1.70	85	33	2,820	2,050	769
143+50	50.00	64.53	0.06	105	2	2,925	2,052	872
144+00	50.00	58.80	0.00	114	0	3,039	2,052	986
144+50	50.00	56.20	1.02	106	1	3,145	2,053	1,092
145+00	50.00	204.24	4.79	241	5	3,386	2,059	1,327
145+50	50.00	399.60	6.79	559	11	3,946	2,071	1,874
146+00	50.00	287.89	12.51	637	18	4,582	2,091	2,491
146+50	50.00	196.55	0.00	449	12	5,031	2,103	2,927
147+00	50.00	141.06	0.00	313	0	5,343	2,103	3,240
147+50	50.00	178.34	0.00	296	0	5,639	2,103	3,536
148+00	50.00	120.97	0.55	277	1	5,916	2,104	3,812
148+50	50.00	88.05	64.42	163	119	6,079	2,235	3,844
148+80	30.00	115.69	0.00	113	36	6,192	2,275	3,918
		Totals		6,192	2,068			

Ramp D - Stage 4

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.10	
133+50	0.00	8.40	0.00	0	0	0	0	0
134+00	50.00	83.03	6.15	85	6	85	6	78
134+50	50.00	47.86	0.00	121	6	206	13	193
135+00	50.00	51.67	0.00	92	0	298	13	285
135+50	50.00	85.13	0.00	127	0	425	13	412
136+00	50.00	96.92	0.00	169	0	593	13	581
136+50	50.00	86.59	4.89	170	5	763	18	746
137+00	50.00	113.20	1.59	185	6	948	24	924
137+50	50.00	146.48	3.98	240	5	1,189	30	1,159
138+00	50.00	162.06	4.96	286	8	1,474	39	1,435
138+50	50.00	165.78	2.18	304	7	1,778	46	1,732
139+00	50.00	137.74	0.66	281	3	2,059	49	2,010
139+50	50.00	151.56	0.00	268	1	2,327	50	2,277
140+00	50.00	181.89	0.00	309	0	2,635	50	2,586
140+50	50.00	224.38	0.00	376	0	3,012	50	2,962
141+00	50.00	378.81	0.17	559	0	3,570	50	3,520
141+50	50.00	545.54	0.00	856	0	4,426	50	4,376
142+00	50.00	616.27	0.00	1,076	0	5,502	50	5,452
142+50	50.00	410.42	0.00	951	0	6,452	50	6,402
143+00	50.00	255.52	2.08	617	2	7,069	52	7,017
143+50	50.00	163.39	0.00	388	2	7,457	54	7,403
144+00	50.00	128.08	1.70	270	2	7,727	56	7,671
144+50	50.00	91.61	0.89	203	2	7,930	59	7,872
145+00	50.00	64.58	0.00	145	1	8,075	60	8,015
145+50	50.00	68.31	0.00	123	0	8,198	60	8,138
146+00	50.00	78.75	0.00	136	0	8,334	60	8,274
146+46	46.00	68.13	0.00	125	0	8,459	60	8,400
			Totals	8,459	54			

CTH F - Stage 2

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.10	
171+00	0.00	81.00	19.97	0	0	0	0	0
171+50	50.00	133.13	17.51	198	35	198	38	160
172+00	50.00	72.08	12.13	190	27	388	68	320
172+50	50.00	33.84	7.52	98	18	486	88	398
173+00	50.00	25.77	6.60	55	13	542	103	439
173+50	50.00	40.87	7.18	62	13	603	117	486
174+00	50.00	134.12	1.11	162	8	765	125	640
174+50	50.00	326.54	0.00	427	1	1,192	126	1,065
175+00	50.00	457.16	0.07	726	0	1,917	126	1,791
175+50	50.00	506.04	0.33	892	0	2,809	127	2,682
	Totals			2,809	115			

CTH F - Stage 4

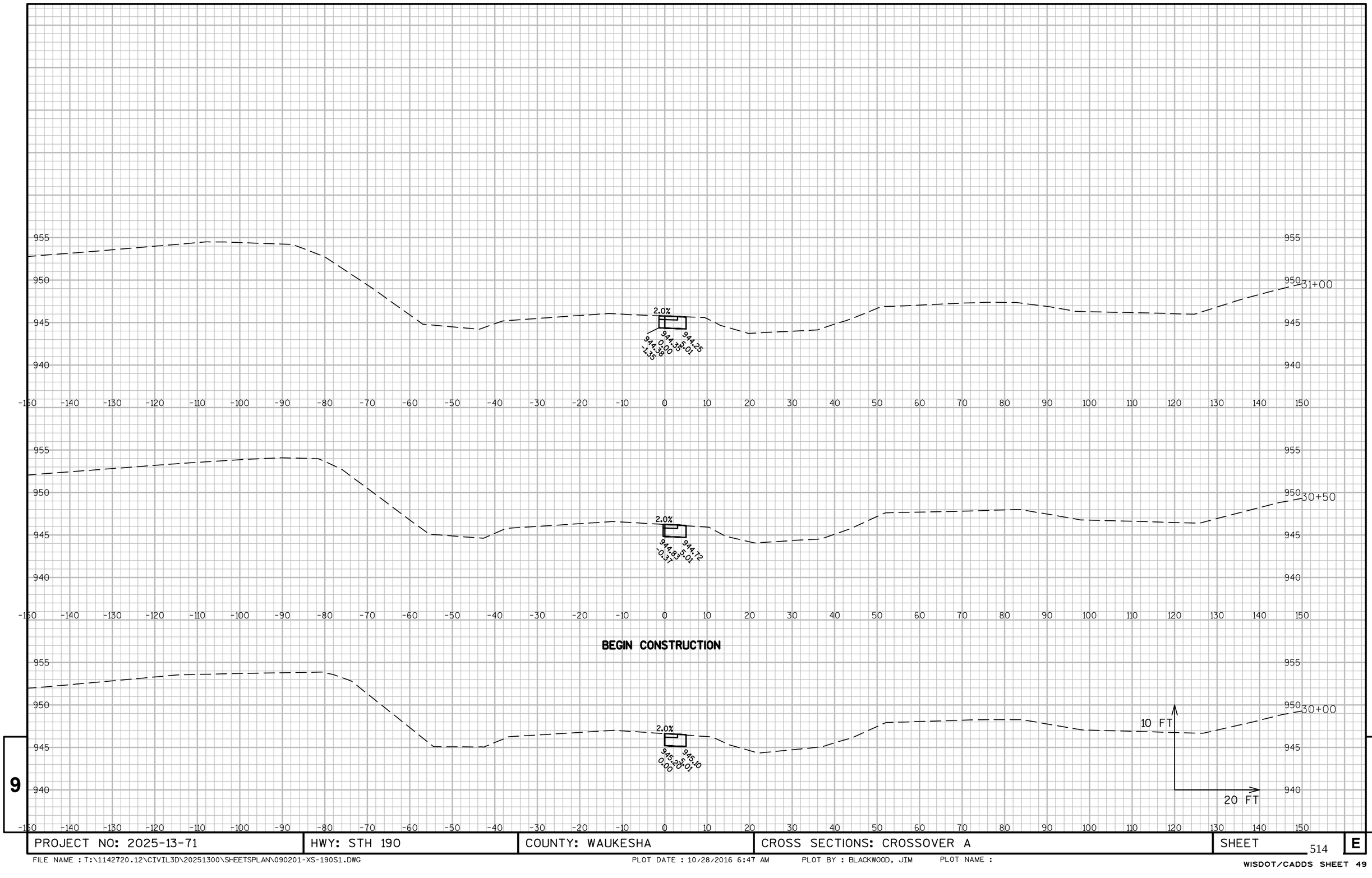
STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.10	
175+50	0.00	454.70	0.29	0	0	0	0	0
176+00	50.00	270.54	3.59	672	4	672	4	668
176+50	50.00	67.28	16.86	313	19	984	25	960
177+00	50.00	51.39	11.37	110	26	1,094	54	1,041
177+50	50.00	38.89	10.04	84	20	1,178	75	1,102
178+00	50.00	31.21	11.12	65	20	1,243	97	1,146
178+50	50.00	32.64	14.42	59	24	1,302	123	1,179
179+00	50.00	17.97	17.05	47	29	1,349	155	1,194
179+50	50.00	40.57	12.31	54	27	1,403	185	1,218
179+75	25.00	40.52	12.30	38	11	1,440	197	1,243
	Totals			1,440	179			

STH 190 Median - Stage 5

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.10	
111+00	0.00	57.02	0.00	0	0	0	0	0
111+50	50.00	57.79	0.00	106	0	106	0	106
112+00	50.00	58.41	0.00	108	0	214	0	214
112+50	50.00	59.42	0.00	109	0	323	0	323
113+00	50.00	59.27	0.00	110	0	433	0	433
113+50	50.00	57.91	0.00	109	0	541	0	541
114+00	50.00	68.86	0.00	117	0	659	0	659
114+50	50.00	82.47	0.00	140	0	799	0	799
115+00	50.00	90.44	0.00	160	0	959	0	959
115+50	50.00	93.02	0.00	170	0	1,129	0	1,129
116+00	50.00	85.97	0.00	166	0	1,295	0	1,295
116+50	50.00	82.27	0.00	156	0	1,450	0	1,450
117+00	50.00	78.33	2.99	149	3	1,599	3	1,596
117+50	50.00	75.18	9.53	142	12	1,741	16	1,725
118+00	50.00	72.33	14.41	137	22	1,878	40	1,838
118+50	50.00	72.26	13.08	134	25	2,012	68	1,944
119+00	50.00	70.94	12.78	133	24	2,144	95	2,050
119+50	50.00	72.31	7.45	133	19	2,277	115	2,162
120+00	50.00	71.59	3.49	133	10	2,410	126	2,284
120+50	50.00	68.65	1.53	130	5	2,540	131	2,409
121+00	50.00	53.06	2.94	113	4	2,653	136	2,517
121+50	50.00	44.19	4.08	90	7	2,743	143	2,600
122+00	50.00	34.63	18.02	73	20	2,816	166	2,650
122+50	50.00	32.64	21.47	62	37	2,878	206	2,672
123+00	50.00	39.10	19.97	66	38	2,944	248	2,696
123+50	50.00	39.08	23.85	72	41	3,017	293	2,724
124+00	50.00	40.30	12.43	74	34	3,090	330	2,761
124+50	50.00	40.72	8.88	75	20	3,165	351	2,814
125+00	50.00	39.59	8.57	74	16	3,240	369	2,871
125+50	50.00	39.64	7.92	73	15	3,313	386	2,927
126+00	50.00	38.77	15.49	73	22	3,386	410	2,976
126+50	50.00	39.14	16.63	72	30	3,458	442	3,015
127+00	50.00	27.70	37.32	62	50	3,520	497	3,022
127+50	50.00	55.30	20.48	77	54	3,597	556	3,040
128+00	50.00	55.30	29.65	102	46	3,699	607	3,092
128+50	50.00	57.04	35.42	104	60	3,803	674	3,129
129+00	50.00	56.62	37.59	105	68	3,908	748	3,160
129+50	50.00	57.55	41.63	106	73	4,014	829	3,185
130+00	50.00	59.51	46.04	108	81	4,122	918	3,204
130+50	50.00	49.31	58.62	101	97	4,223	1,025	3,199
131+00	50.00	33.84	78.32	77	127	4,300	1,164	3,136
131+08	8.00	32.60	80.70	10	24	4,310	1,190	3,120
131+33	25.00	29.89	86.42	29	77	4,339	1,275	3,064
131+50	17.00	29.06	88.87	19	55	4,357	1,336	3,022
131+58	8.00	28.84	90.04	9	27	4,366	1,365	3,001
132+00	42.00	27.84	92.67	44	142	4,410	1,521	2,889
132+50	50.00	26.72	88.76	51	168	4,461	1,706	2,755
133+00	50.00	28.23	80.42	51	157	4,511	1,878	2,633
133+20 BK	20.00	0.00	97.86	10	66	4,522	1,951	2,571
135+81 AH	0.00	0.53	87.89	0	0	4,522	1,951	2,571
136+00	19.00	28.21	78.27	10	58	4,532	2,015	2,517
136+50	50.00	26.63	78.02	51	145	4,583	2,174	2,408
137+00	50.00	27.89	77.63	50	144	4,633	2,333	2,300
137+50	50.00	29.99	70.45	54	137	4,687	2,484	2,203

STH 190 Median - Stage 5

STATION	Distance	AREA (SF)		Incremental Vol		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.10	
138+00	50.00	40.48	45.62	65	107	4,752	2,602	2,150
138+25	25.00	51.84	36.12	43	38	4,795	2,644	2,151
138+50	25.00	56.82	32.58	50	32	4,845	2,679	2,167
139+00	50.00	58.25	32.12	107	60	4,952	2,745	2,207
139+50	50.00	58.40	29.60	108	57	5,060	2,807	2,252
140+00	50.00	58.69	28.10	108	53	5,168	2,866	2,302
140+50	50.00	59.35	25.49	109	50	5,277	2,921	2,357
141+00	50.00	60.29	25.66	111	47	5,388	2,973	2,415
141+50	50.00	61.51	20.27	113	43	5,501	3,020	2,481
142+00	50.00	63.07	18.28	115	36	5,616	3,059	2,557
142+50	50.00	64.11	17.65	118	33	5,734	3,095	2,639
143+00	50.00	65.57	16.29	120	31	5,854	3,130	2,724
143+50	50.00	67.34	12.95	123	27	5,977	3,160	2,817
144+00	50.00	68.43	9.67	126	21	6,103	3,183	2,920
144+50	50.00	70.83	7.41	129	16	6,232	3,200	3,032
145+00	50.00	74.23	4.24	134	11	6,366	3,212	3,154
145+50	50.00	78.11	2.03	141	6	6,507	3,219	3,289
146+00	50.00	81.05	0.10	147	2	6,655	3,221	3,434
146+46	46.00	87.42	0.00	144	0	6,798	3,221	3,577
146+50	4.00	87.93	0.00	13	0	6,811	3,221	3,590
147+00	50.00	93.72	0.00	168	0	6,979	3,221	3,759
147+50	50.00	98.08	0.00	178	0	7,157	3,221	3,936
148+00	50.00	100.61	0.00	184	0	7,341	3,221	4,120
148+50	50.00	104.31	0.00	190	0	7,531	3,221	4,310
149+00	50.00	106.06	0.00	195	0	7,725	3,221	4,505
149+50	50.00	105.66	0.00	196	0	7,921	3,221	4,701
150+00	50.00	106.54	0.00	196	0	8,118	3,221	4,897
150+50	50.00	107.56	0.00	198	0	8,316	3,221	5,095
151+00	50.00	107.07	0.00	199	0	8,515	3,221	5,294
151+50	50.00	101.12	0.00	193	0	8,708	3,221	5,487
152+00	50.00	87.67	0.30	175	0	8,883	3,221	5,661
152+50	50.00	78.84	3.84	154	4	9,037	3,225	5,811
153+00	50.00	82.94	5.16	150	8	9,186	3,234	5,952
153+50	50.00	86.96	4.02	157	9	9,344	3,244	6,100
154+00	50.00	88.02	3.77	162	7	9,506	3,252	6,254
154+50	50.00	89.42	3.64	164	7	9,670	3,259	6,411
155+00	50.00	90.24	3.51	166	7	9,836	3,267	6,570
155+50	50.00	87.64	4.01	165	7	10,001	3,274	6,727
156+00	50.00	79.65	3.86	155	7	10,156	3,282	6,874
156+50	50.00	69.73	3.14	138	6	10,294	3,289	7,005
157+00	50.00	79.36	0.00	138	3	10,432	3,293	7,140
157+50	50.00	78.70	2.49	146	2	10,579	3,295	7,284
158+00	50.00	71.58	0.00	139	2	10,718	3,298	7,420
158+50	50.00	67.22	0.00	129	0	10,846	3,298	7,549
159+00	50.00	78.32	0.00	135	0	10,981	3,298	7,684
159+50	50.00	90.72	0.00	157	0	11,138	3,298	7,840
160+00	50.00	91.20	0.00	168	0	11,306	3,298	8,009
160+50	50.00	86.65	0.00	165	0	11,471	3,298	8,173
161+00	50.00	99.71	0.00	173	0	11,643	3,298	8,346
161+50	50.00	110.54	0.00	195	0	11,838	3,298	8,540
162+00	50.00	117.54	0.18	211	0	12,049	3,298	8,751
162+50	50.00	121.03	0.00	221	0	12,270	3,298	8,972
163+00	50.00	118.15	0.00	221	0	12,492	3,298	9,194
		Totals		12,492	2,998			



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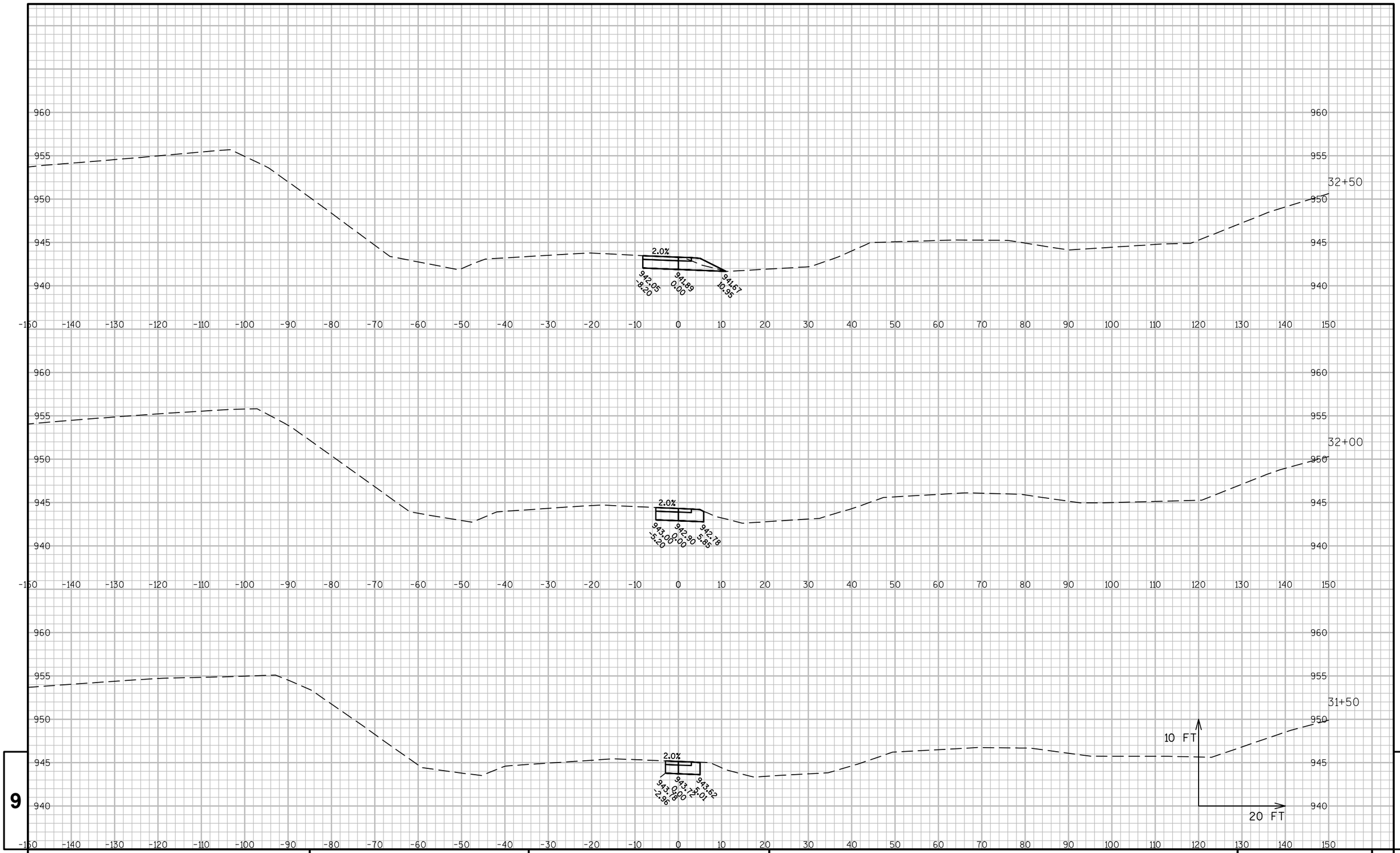
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER A	SHEET 514	E



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PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER A	SHEET 515	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090201-XS-190S1.DWG PLOT DATE : 10/26/2016 12:26 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

9

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PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER A	SHEET 516	E

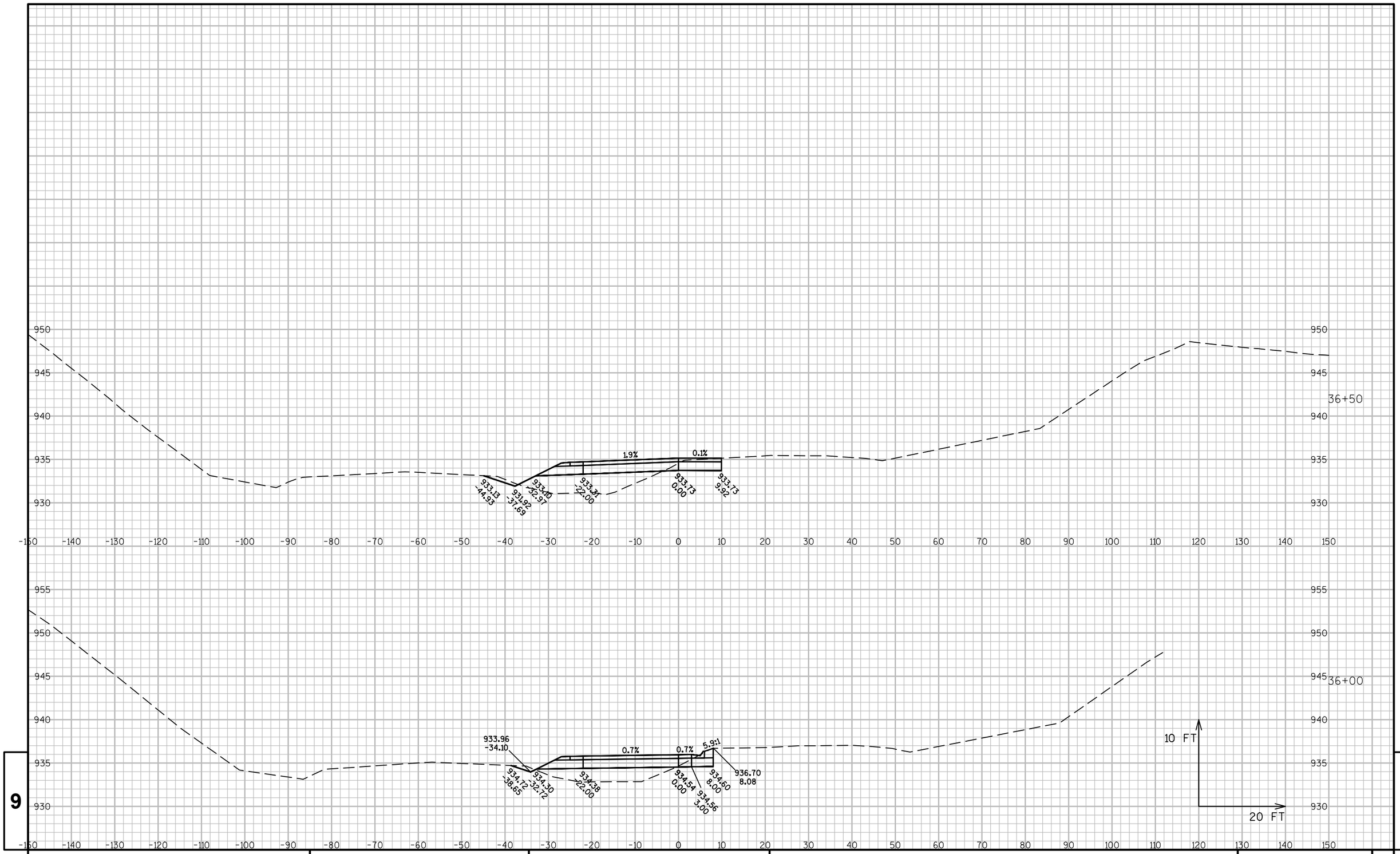
FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090201-XS-190S1.DWG PLOT DATE : 10/26/2016 12:26 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER A	SHEET 517	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090201-XS-190S1.DWG PLOT DATE : 10/26/2016 12:26 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



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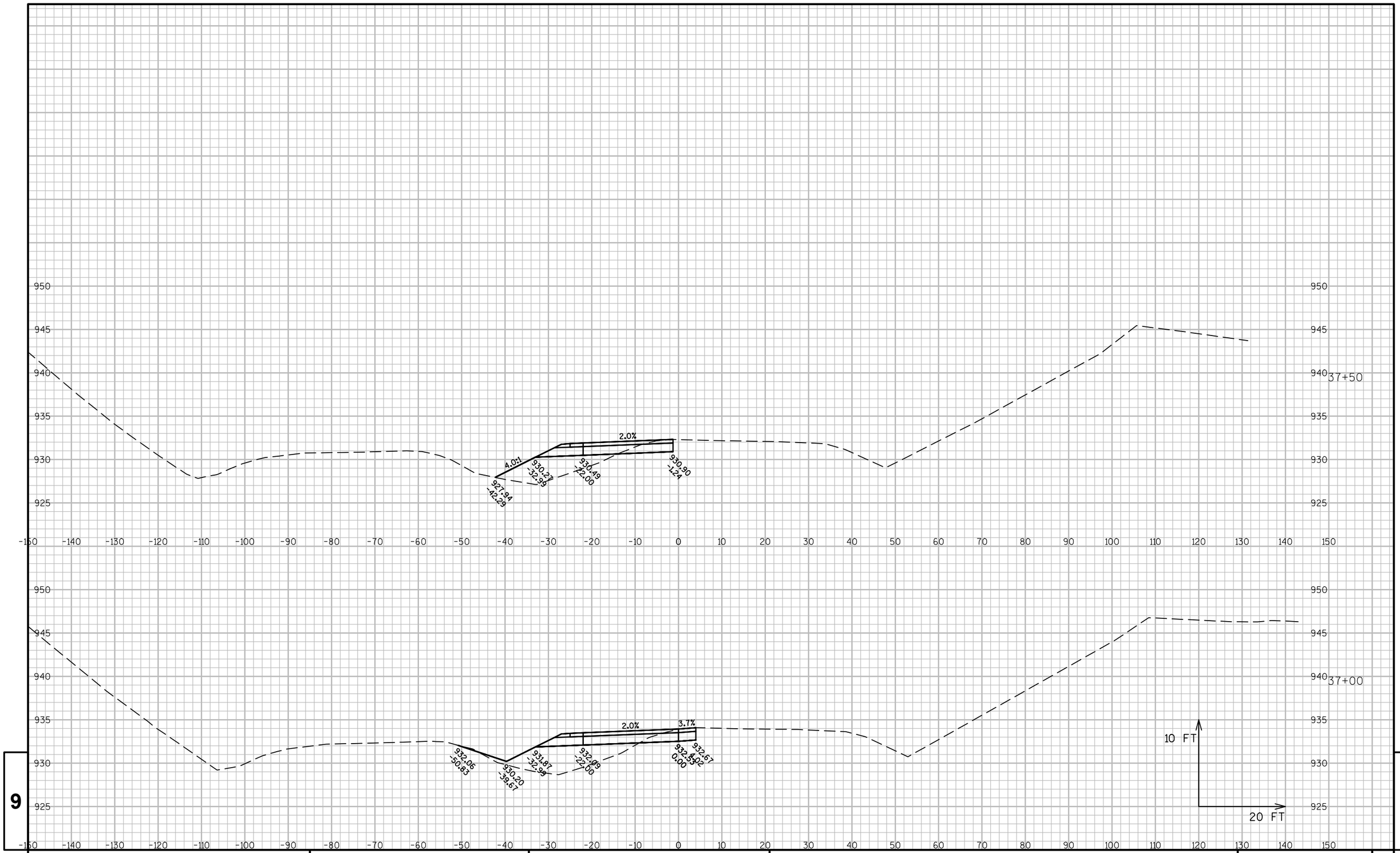
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER A	SHEET 518	E



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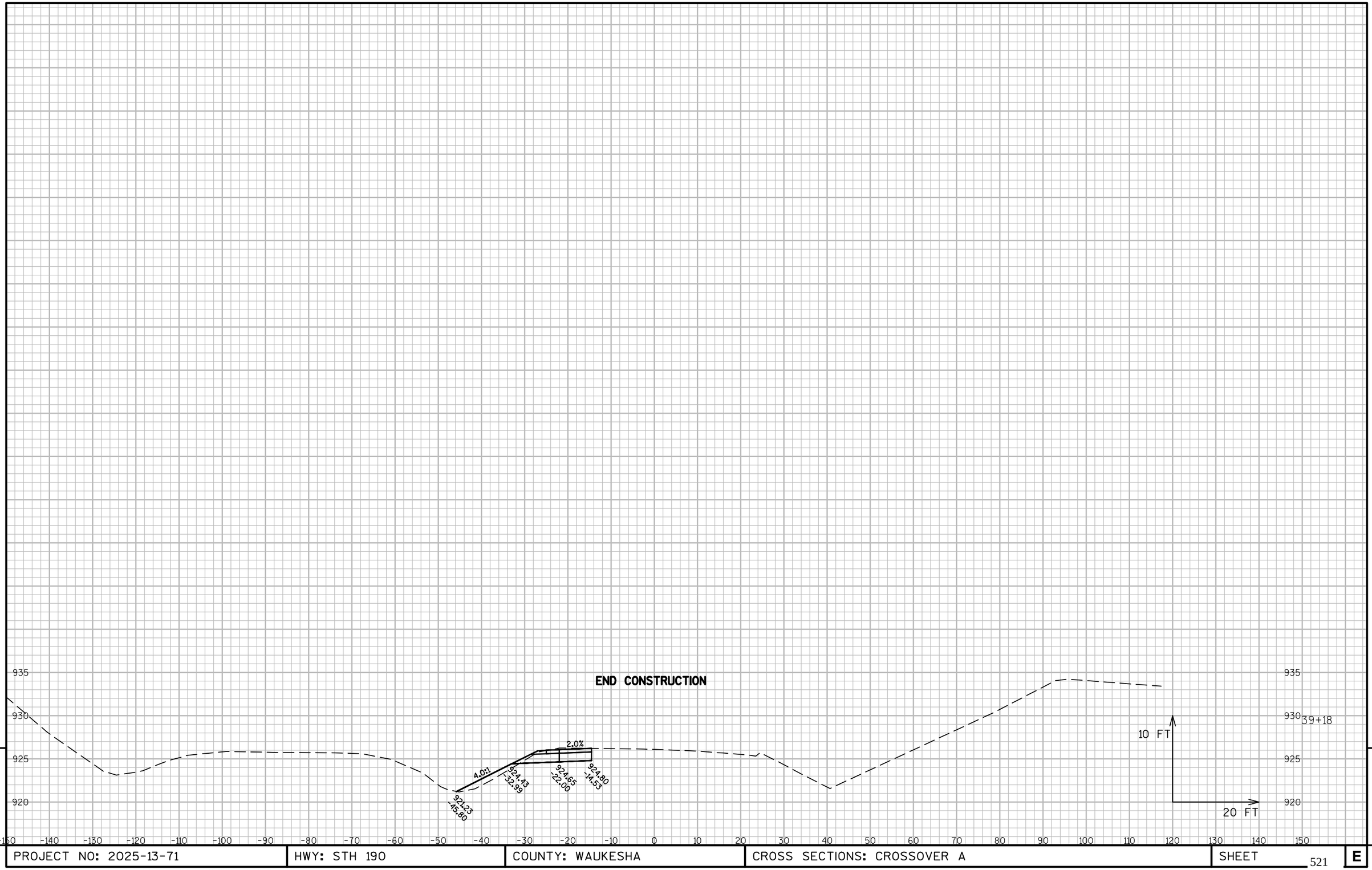
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER A	SHEET 519	E

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER A	SHEET 520	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090201-XS-190S1.DWG PLOT DATE : 10/26/2016 12:26 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



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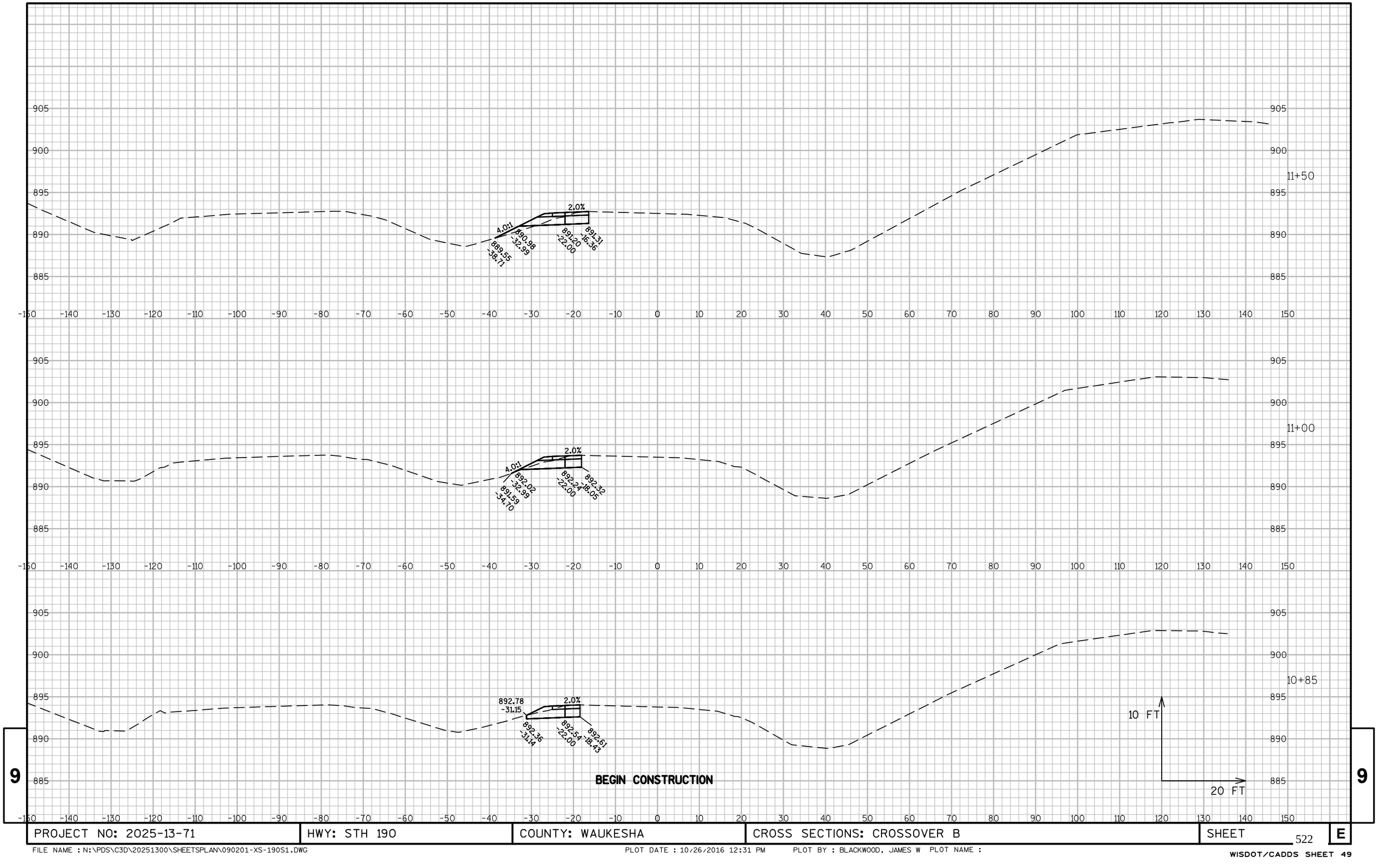
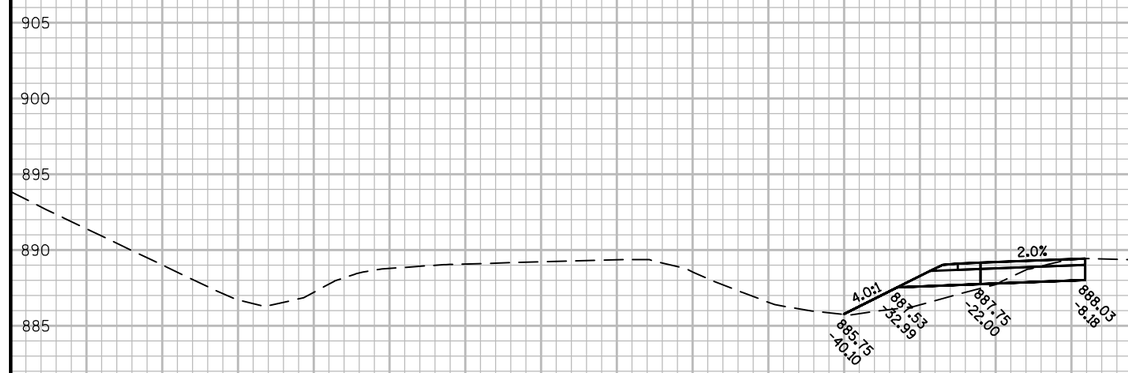
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER A	SHEET 521	E



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER B	SHEET 522	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090201-XS-190S1.DWG PLOT DATE : 10/26/2016 12:31 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

13+00



12+50

12+00

10 FT

20 FT

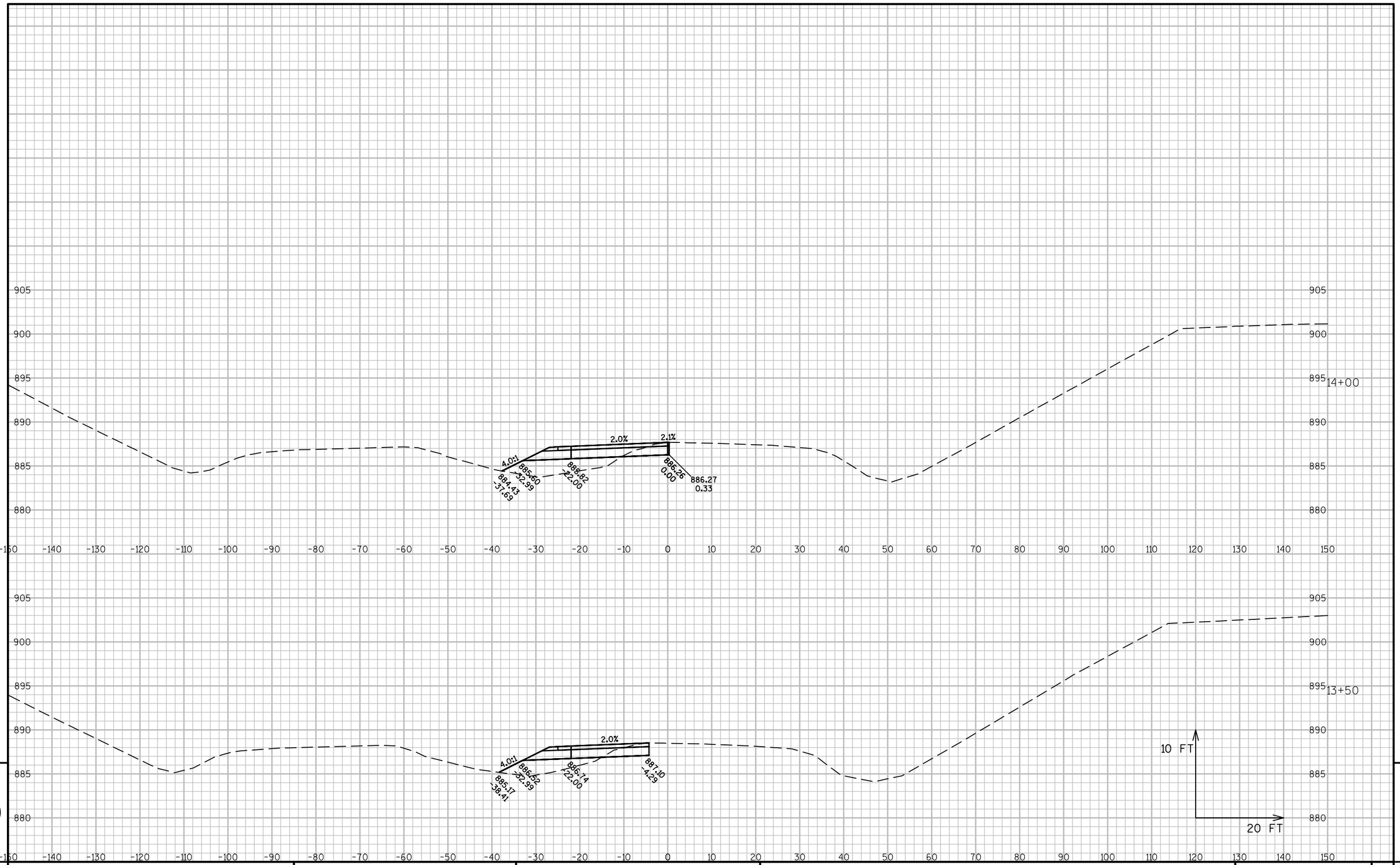
9

9

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER B	SHEET 523	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090201-XS-190S1.DWG PLOT DATE : 10/26/2016 12:31 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



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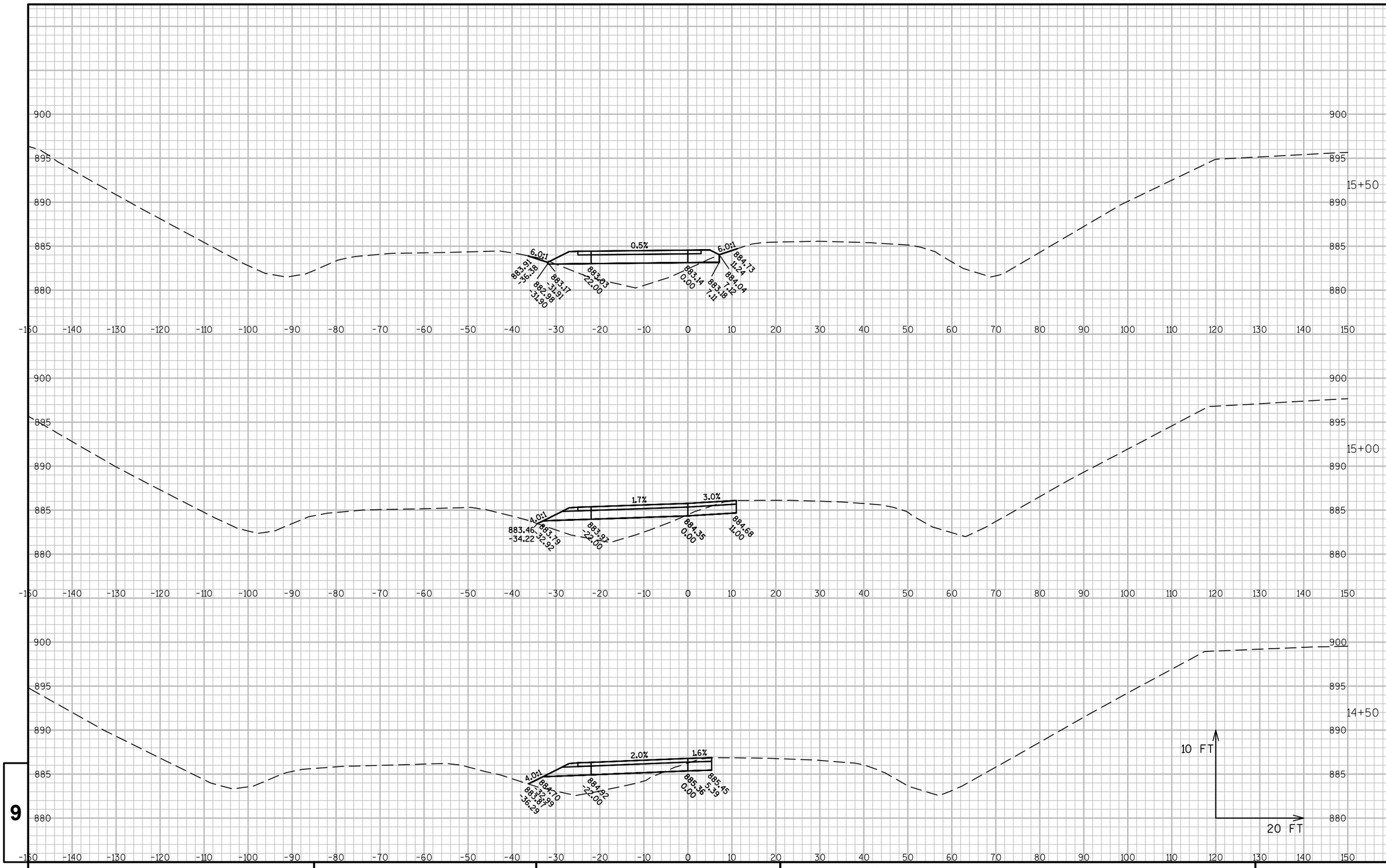
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER B	SHEET 524	E



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER B	SHEET 525	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090201-XS-190S1.DWG PLOT DATE : 10/26/2016 12:31 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

17+00

1.9% 2.0% 6.0:1

881.04 -23.71 | 881.01 -22.00 | 880.57 0.00 | 880.38 9.32 | 880.76 9.33 | 884.21 29.99

16+50

0.9% 1.9% 6.0:1

881.62 -29.52 | 881.55 -22.00 | 881.14 0.00 | 881.00 7.83 | 881.72 7.84 | 884.46 24.24

16+00

1.5% 0.7% 0.7% 6.0:1

882.06 -32.62 | 882.15 -25.00 | 882.00 0.00 | 881.95 7.59 | 882.71 7.60 | 884.43 17.91

10 FT

20 FT

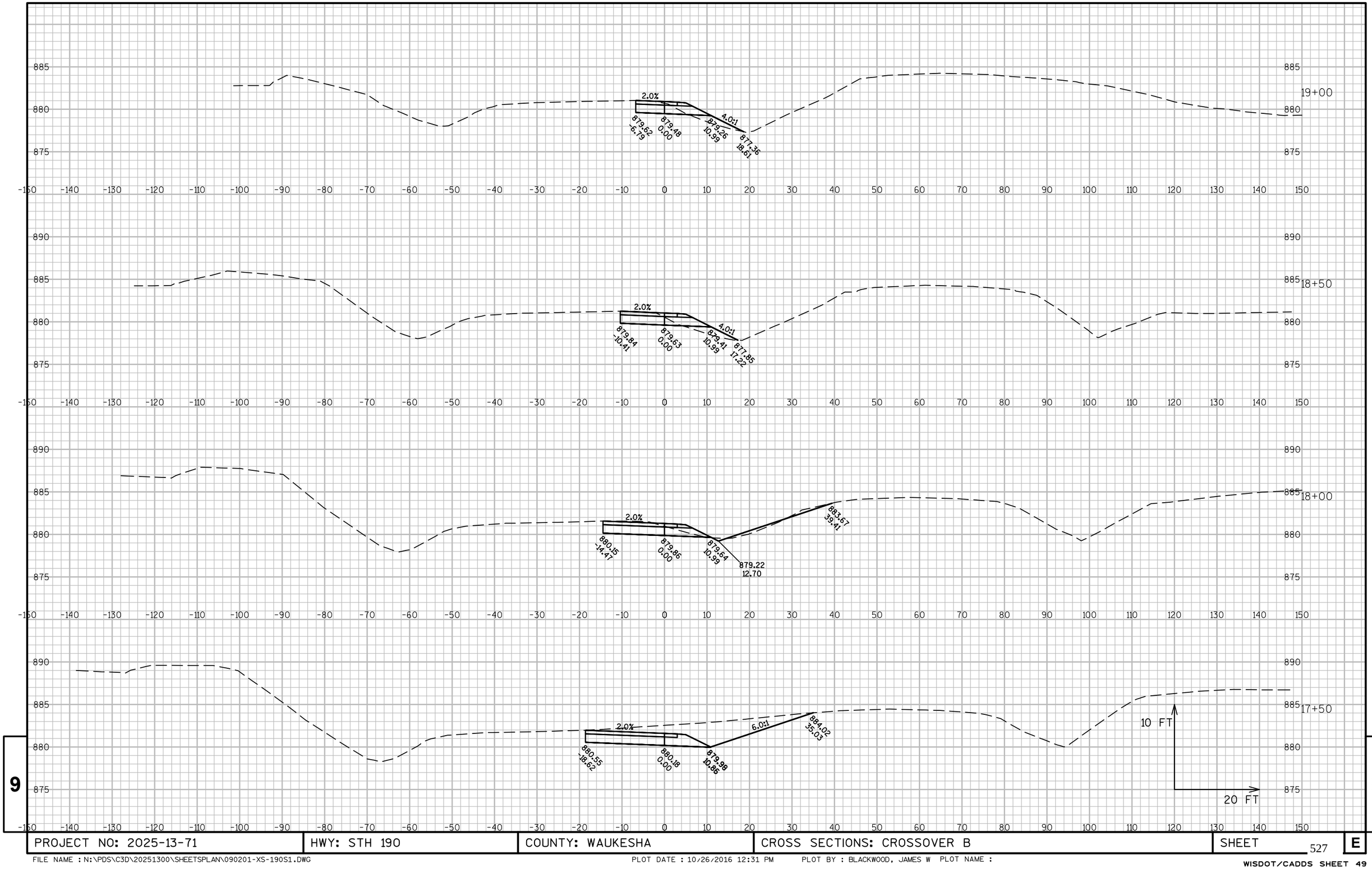
9

9

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER B	SHEET 526	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090201-XS-190S1.DWG PLOT DATE : 10/26/2016 12:31 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

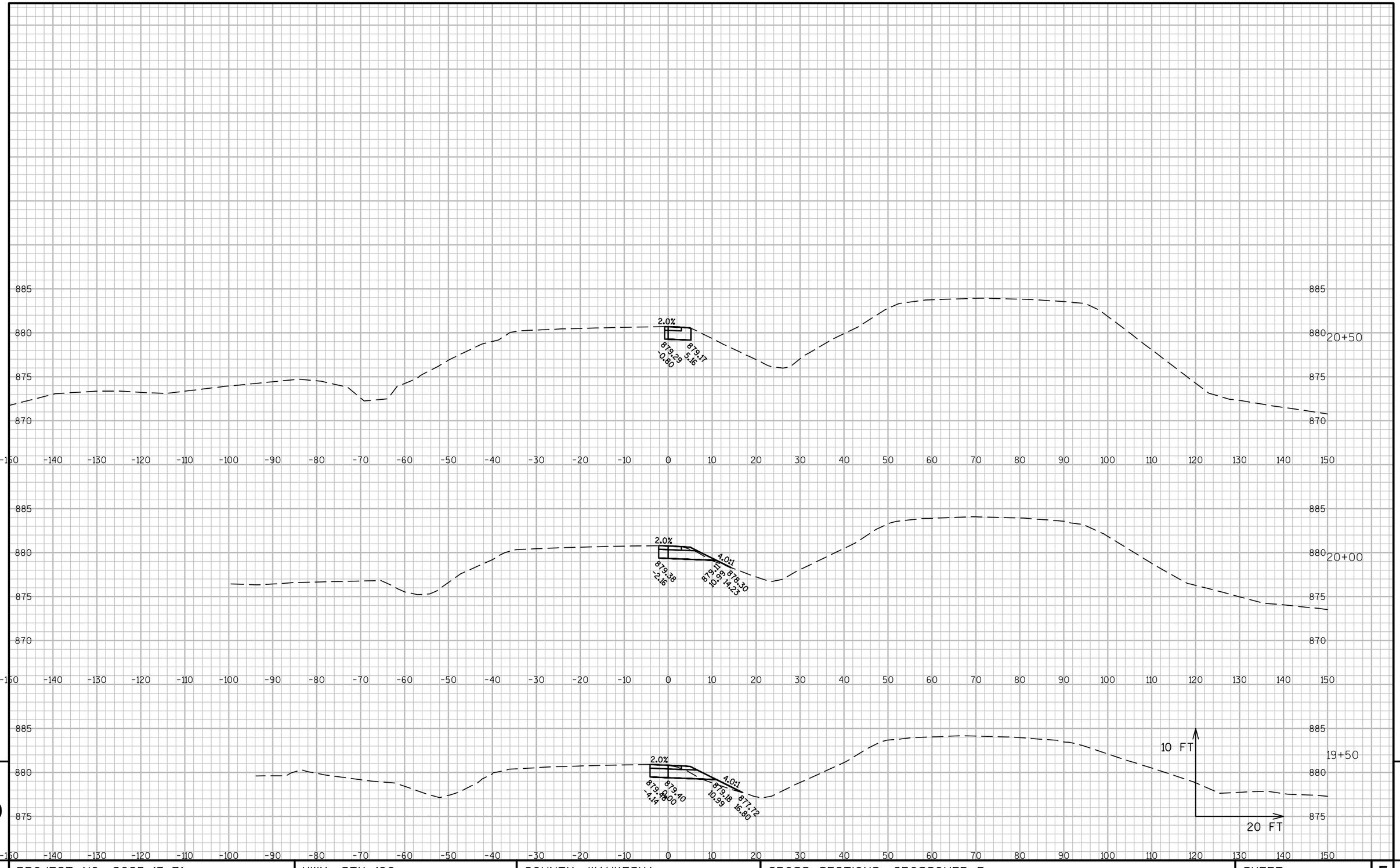
WISDOT/CADDS SHEET 49



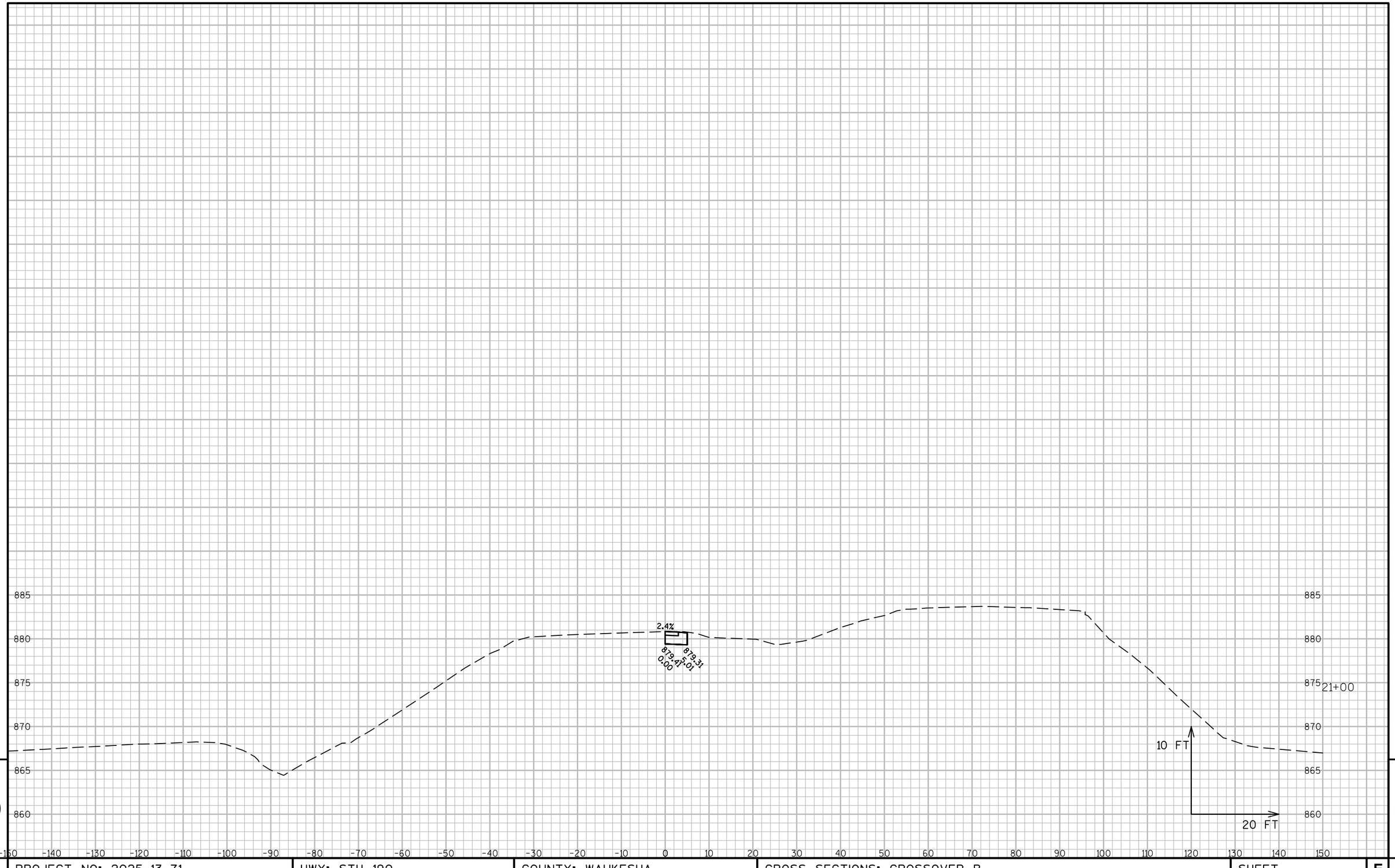
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER B	SHEET 527	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090201-XS-190S1.DWG PLOT DATE : 10/26/2016 12:31 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



9	PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER B	SHEET 528 E



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PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER B	SHEET 529	E

ALL WORK ON THIS SHEET
COMPLETED IN STAGE 3

EX RW
FO
GAS
FO
2.0%
920.97
920.86
920.97
920.34
20.11
MATCH EXISTING
GAS
FO
109+74

EX RW
FO
GAS
FO
10 FT
20 FT
GAS
FO
109+50

950 945 940 935 930 925 920 915 955

-150 -140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

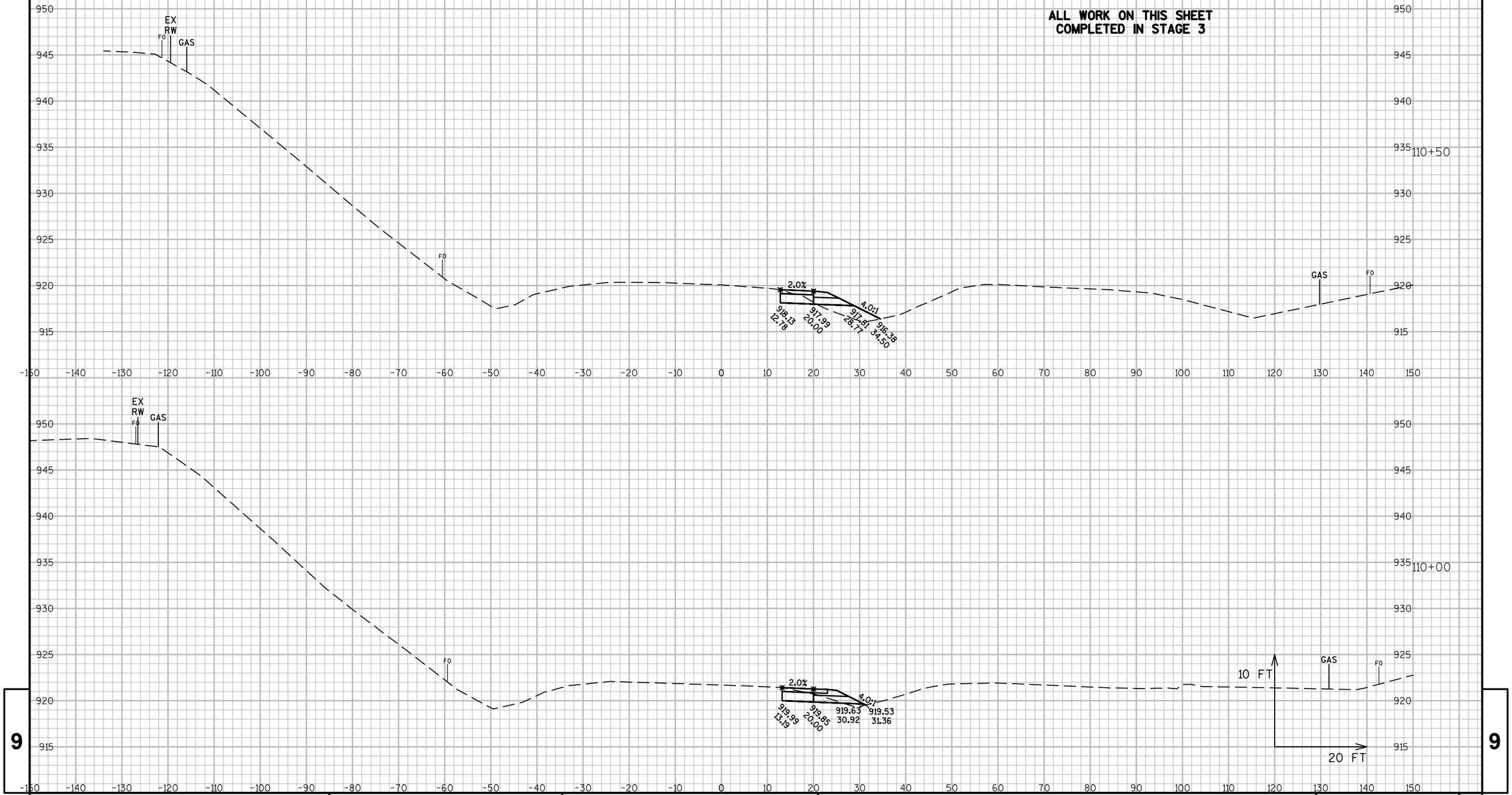
9

9

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 530	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:41 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

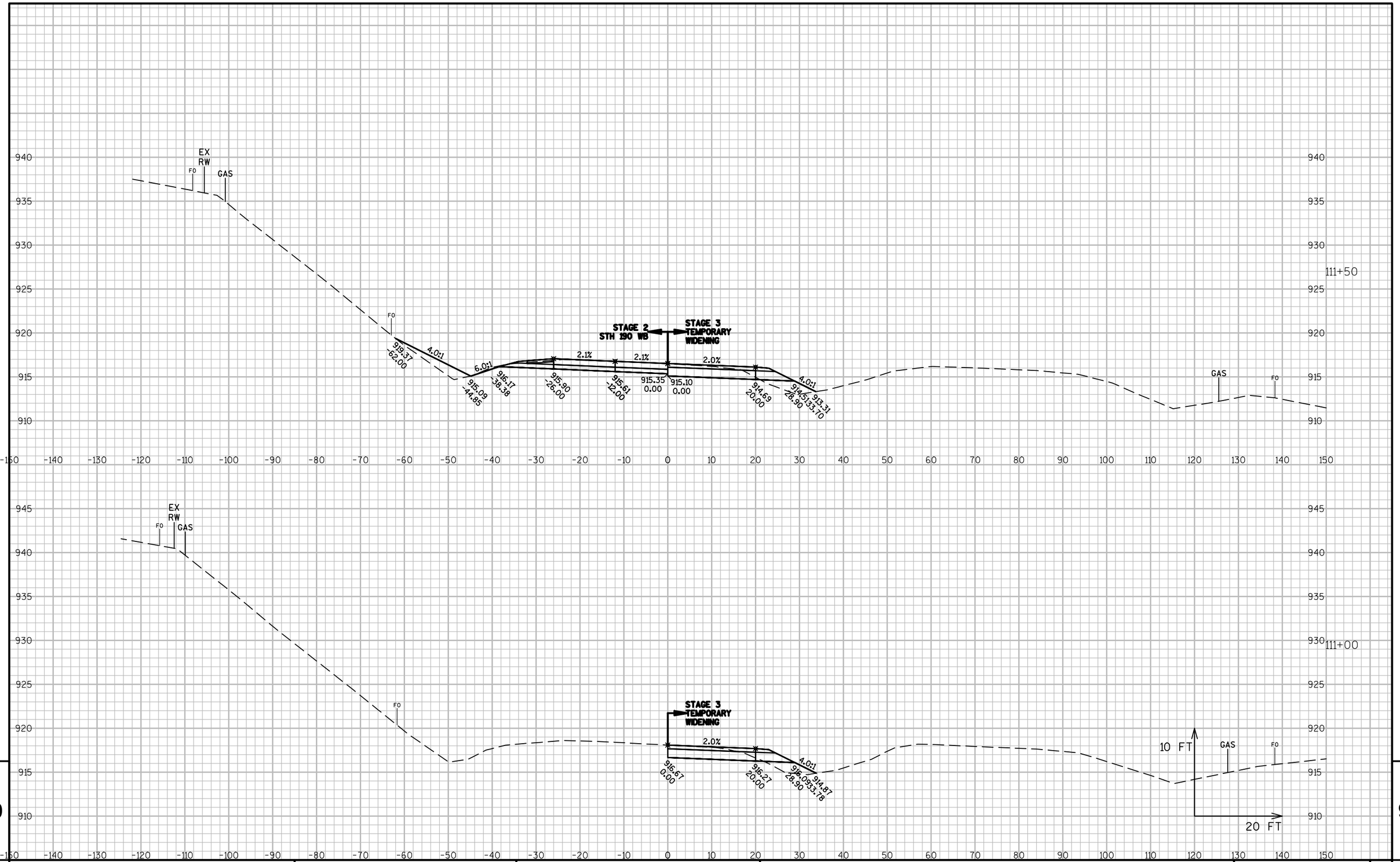
ALL WORK ON THIS SHEET COMPLETED IN STAGE 3



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 531	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:41 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



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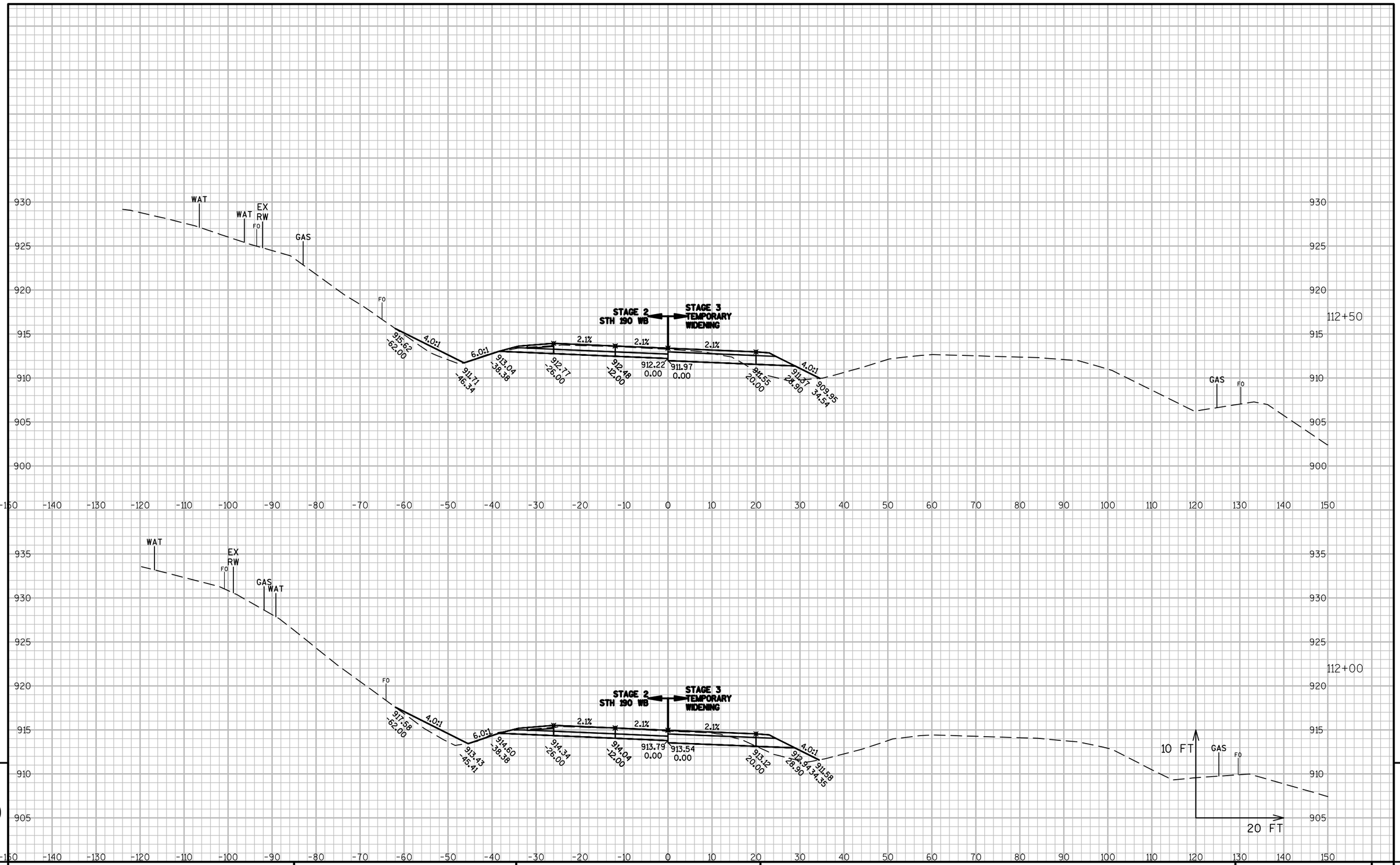
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 532	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:41 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



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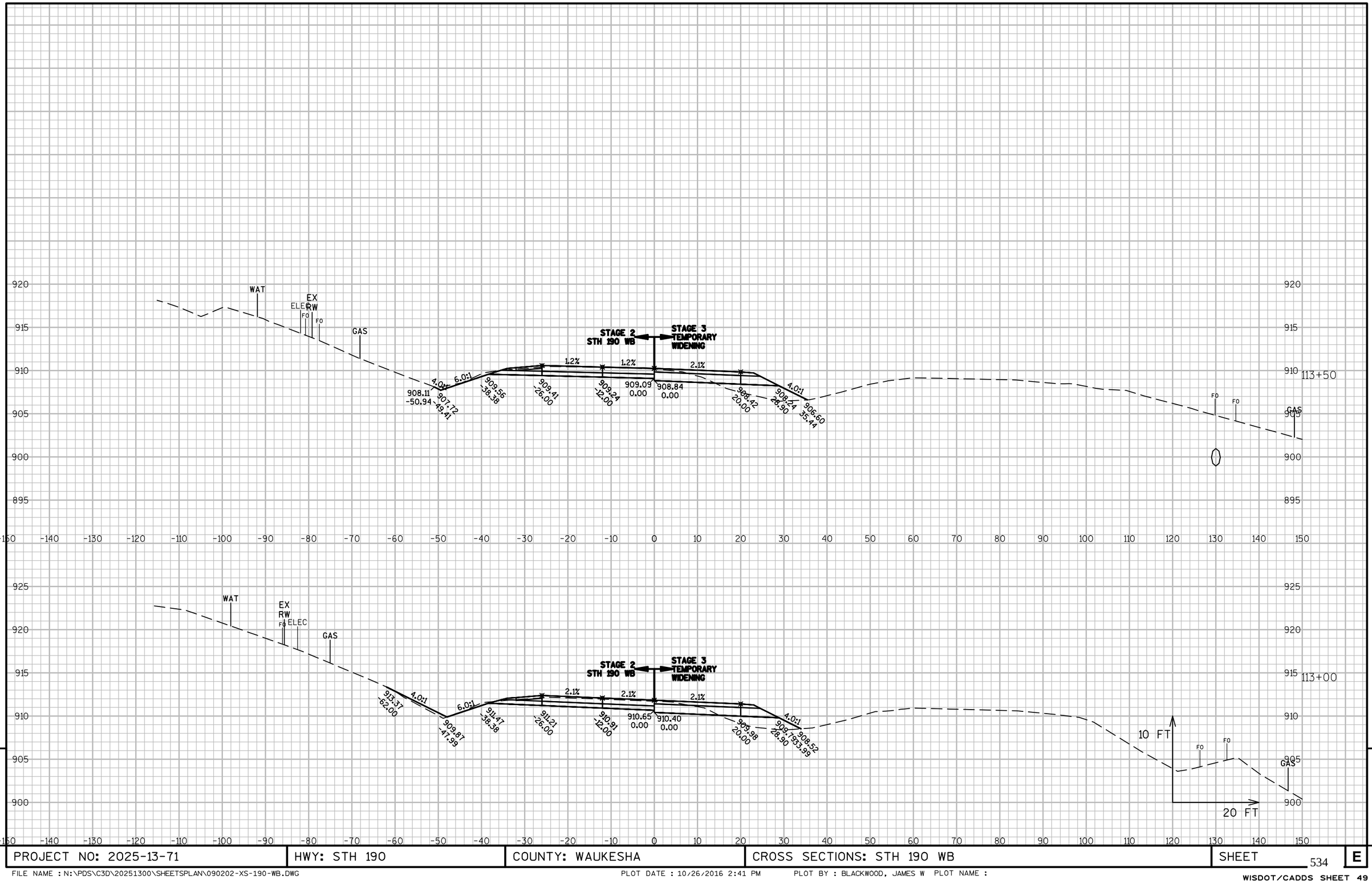
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 533	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:41 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

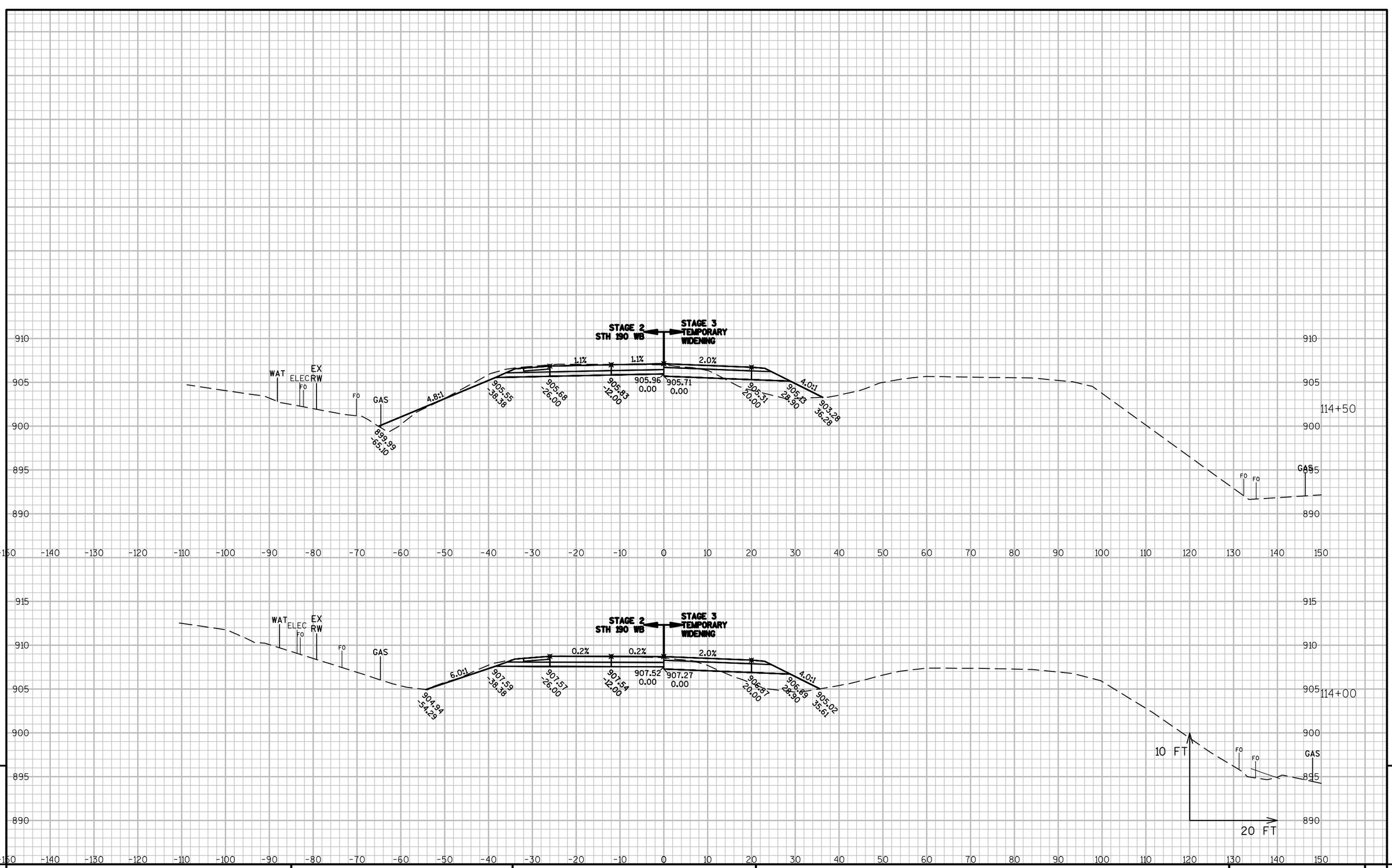


9 9

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 534	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:41 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

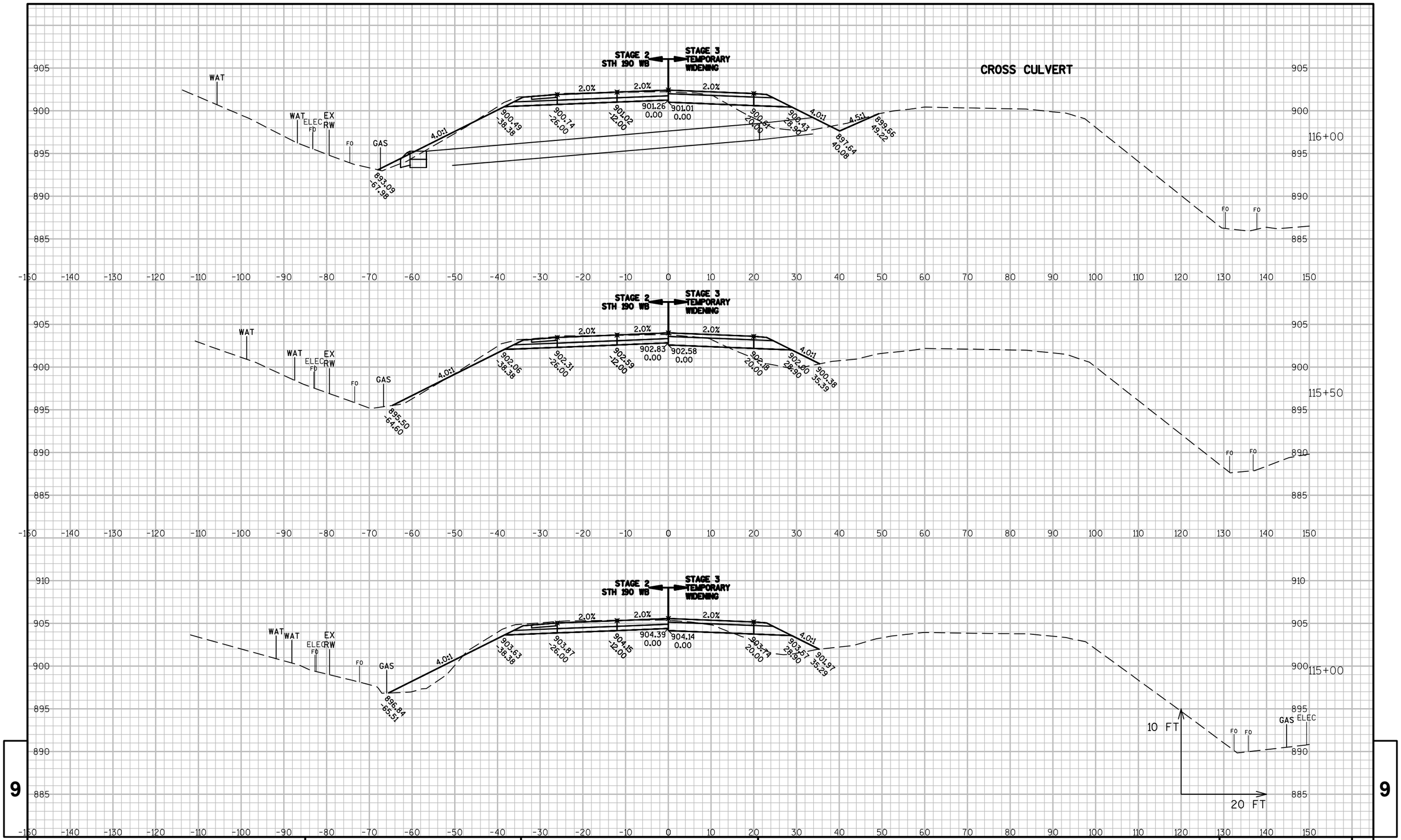


PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 535	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:42 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

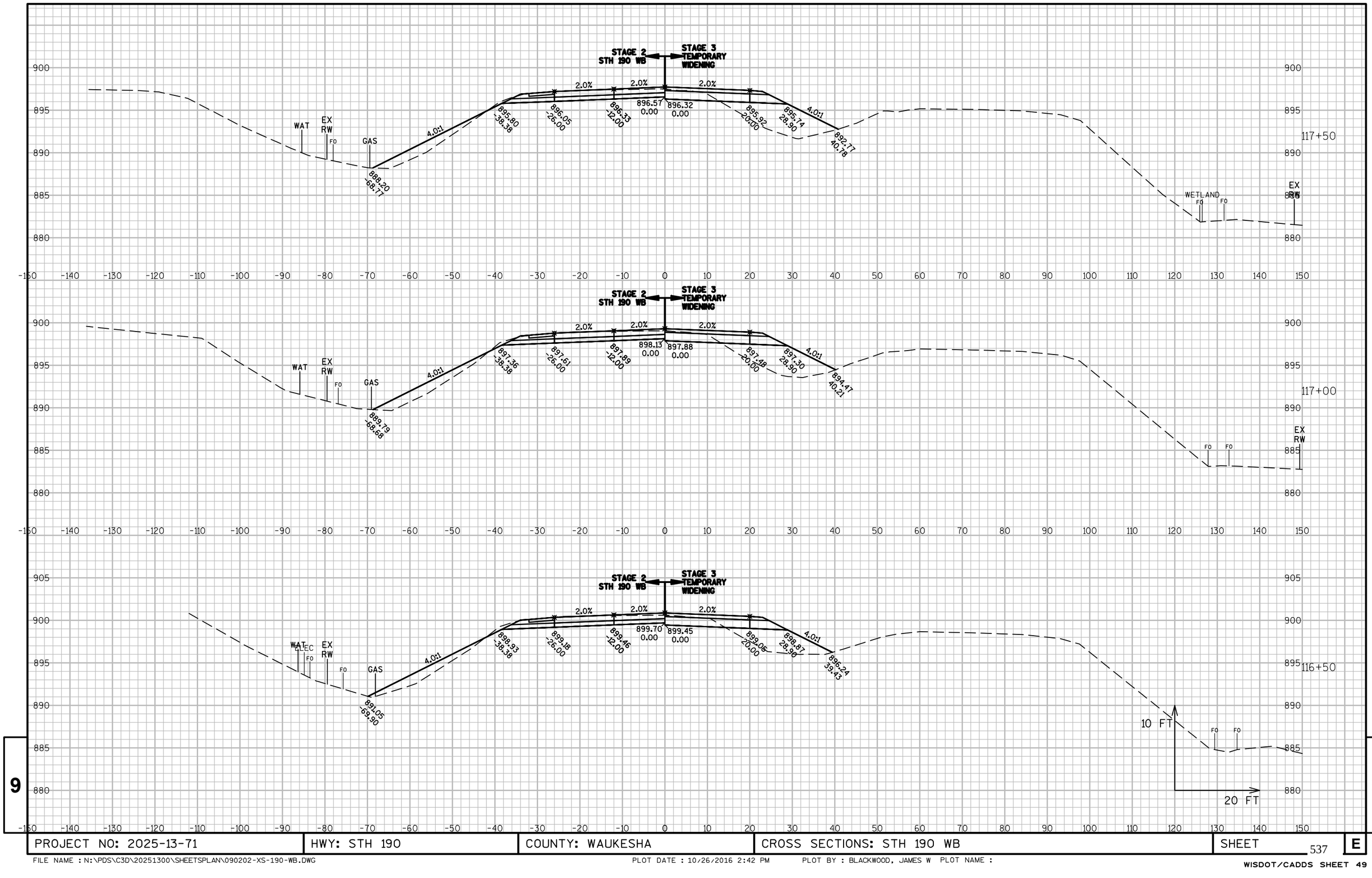
CROSS CULVERT



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 536	E

FILE NAME : T:\1142720.12\CIVIL3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/28/2016 6:54 AM PLOT BY : BLACKWOOD, JIM PLOT NAME :

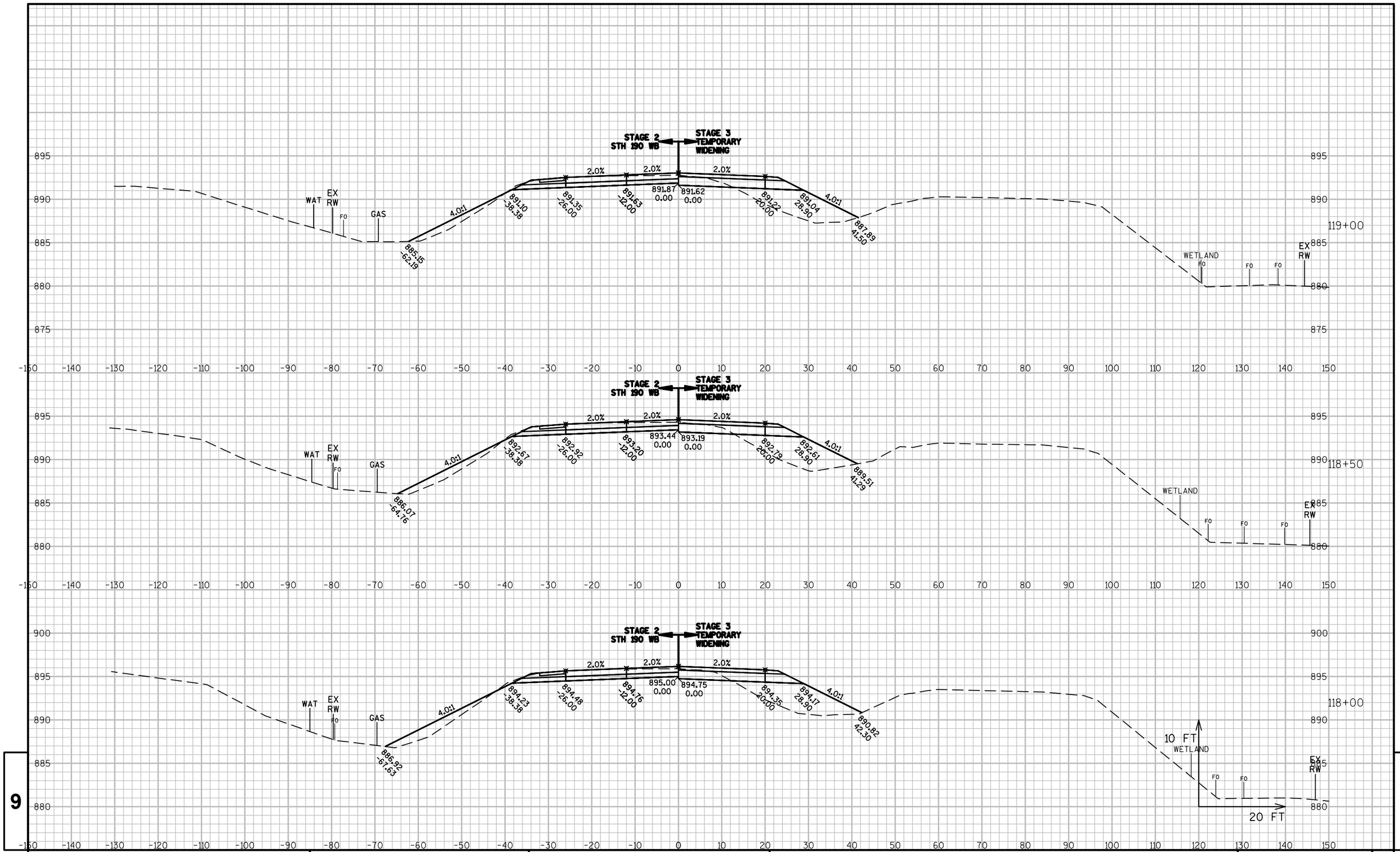
WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 537	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:42 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



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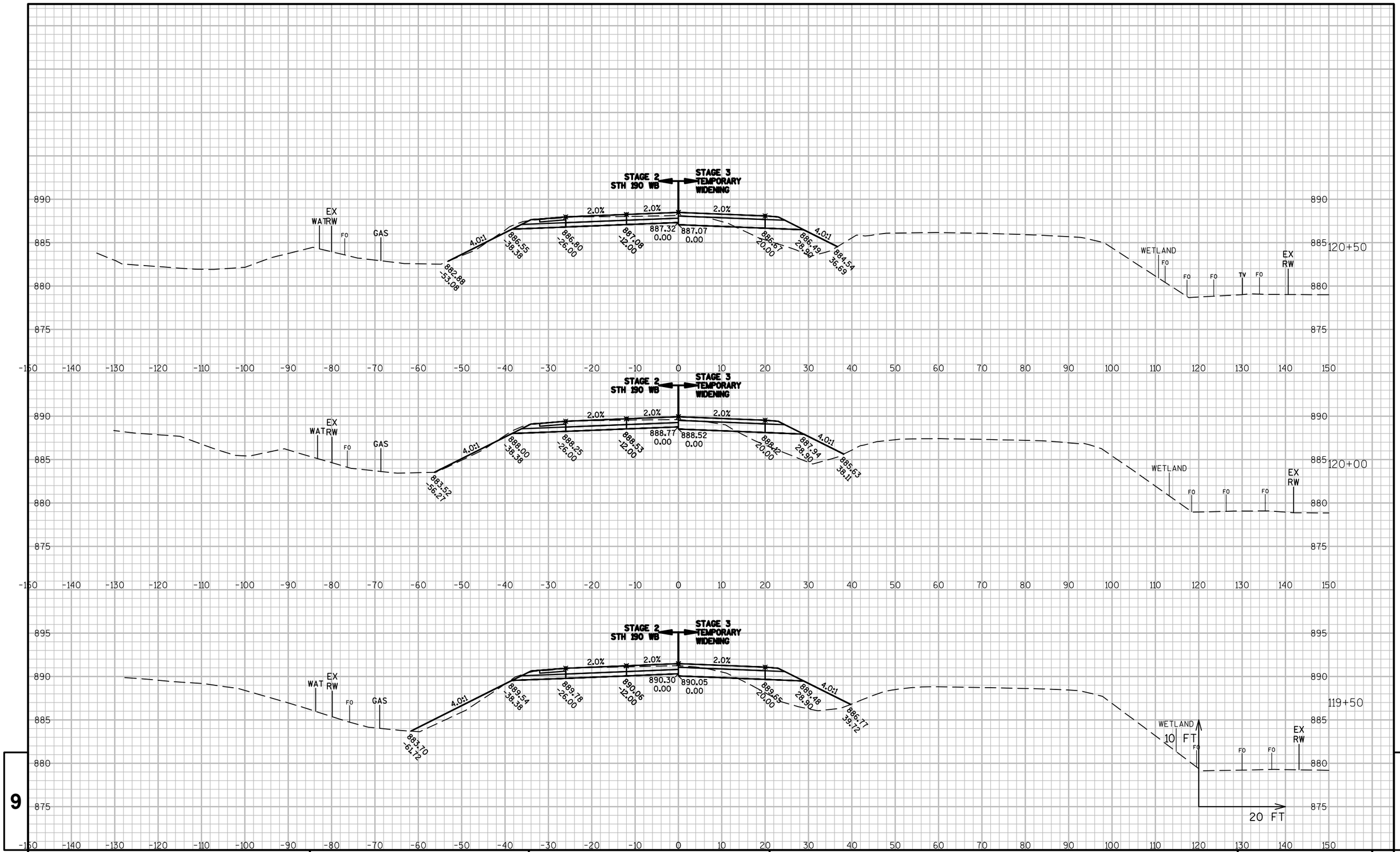
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 538	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:42 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

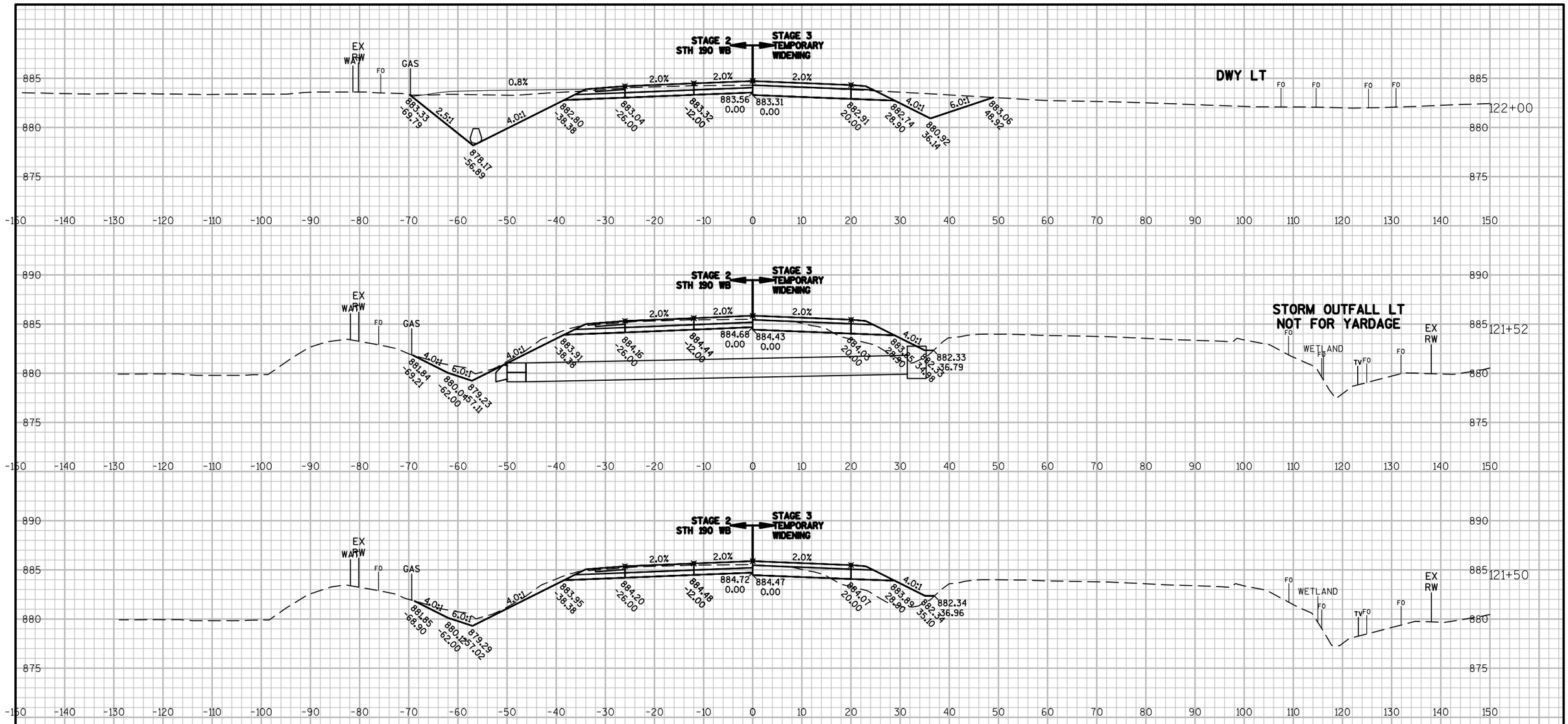
WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 539	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:42 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



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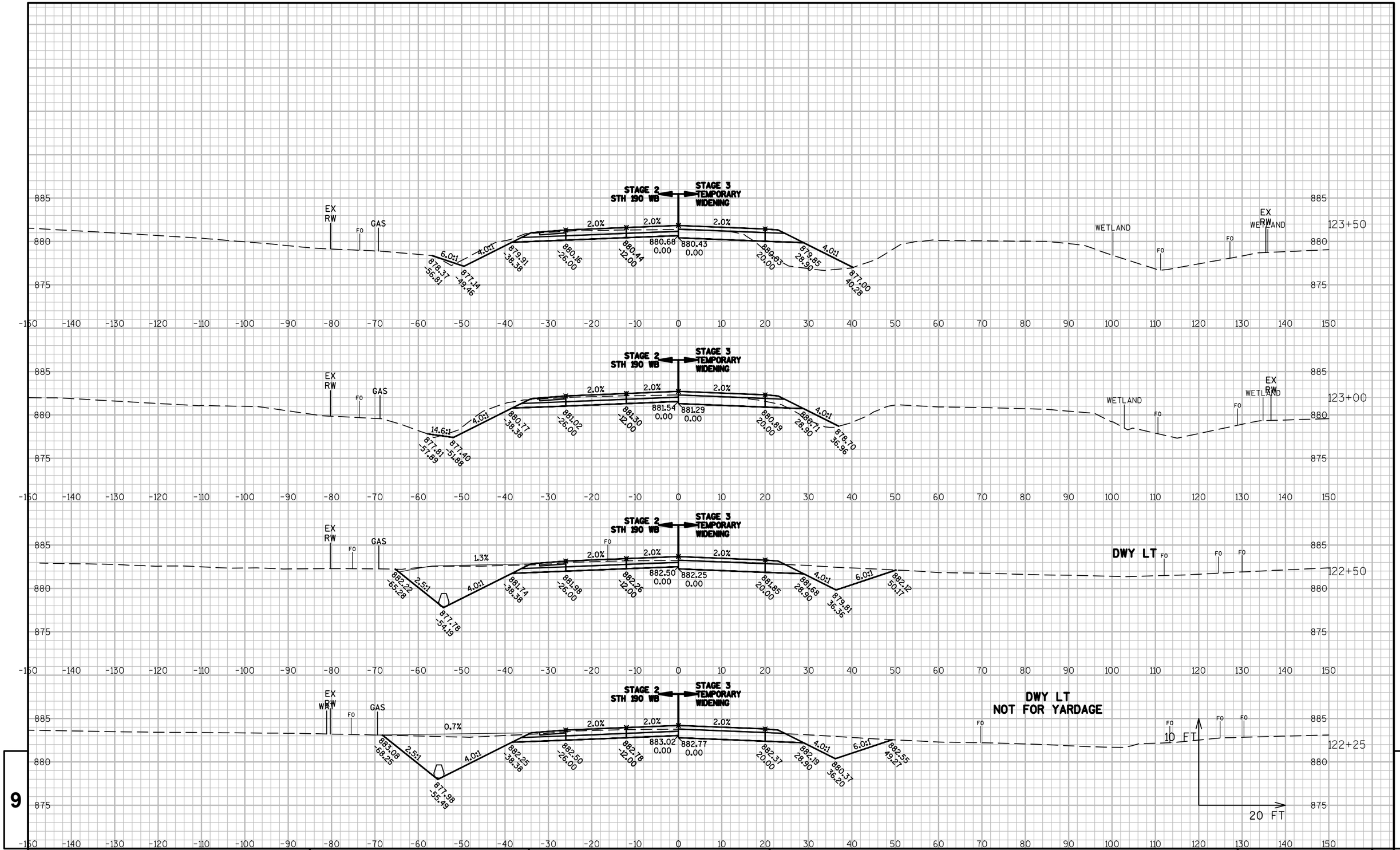
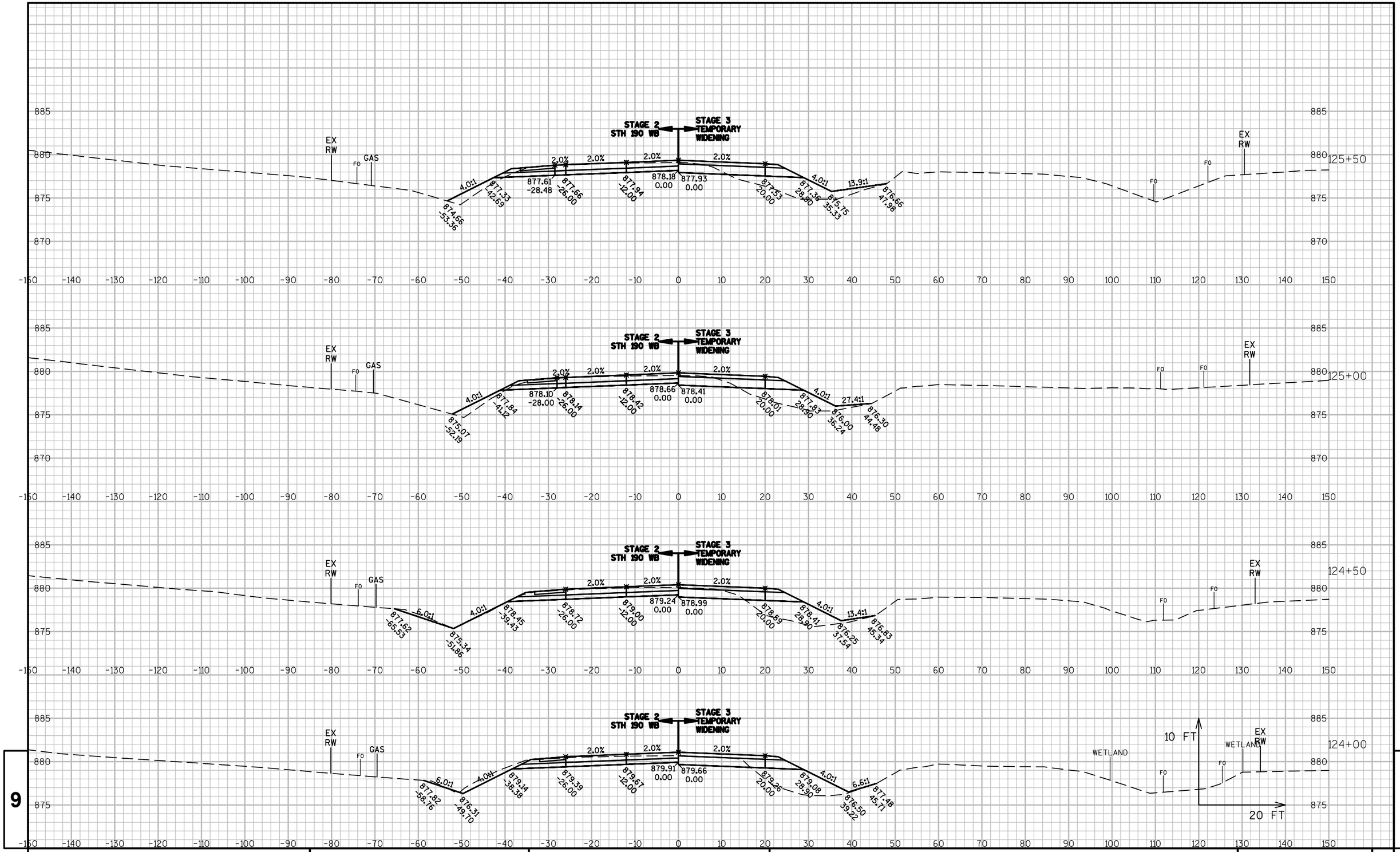
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 540	E



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 541	E

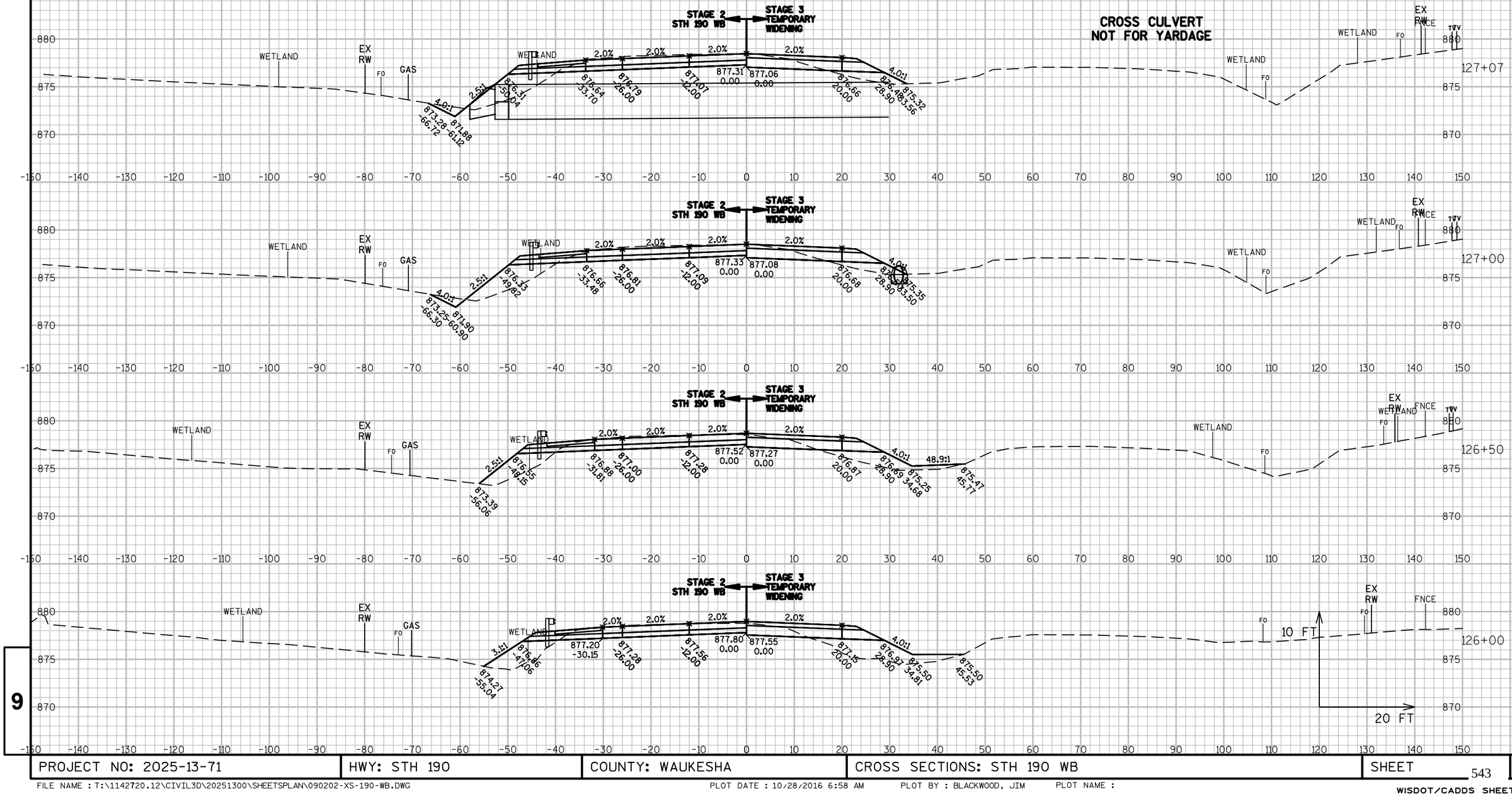
FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:42 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 542	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:42 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



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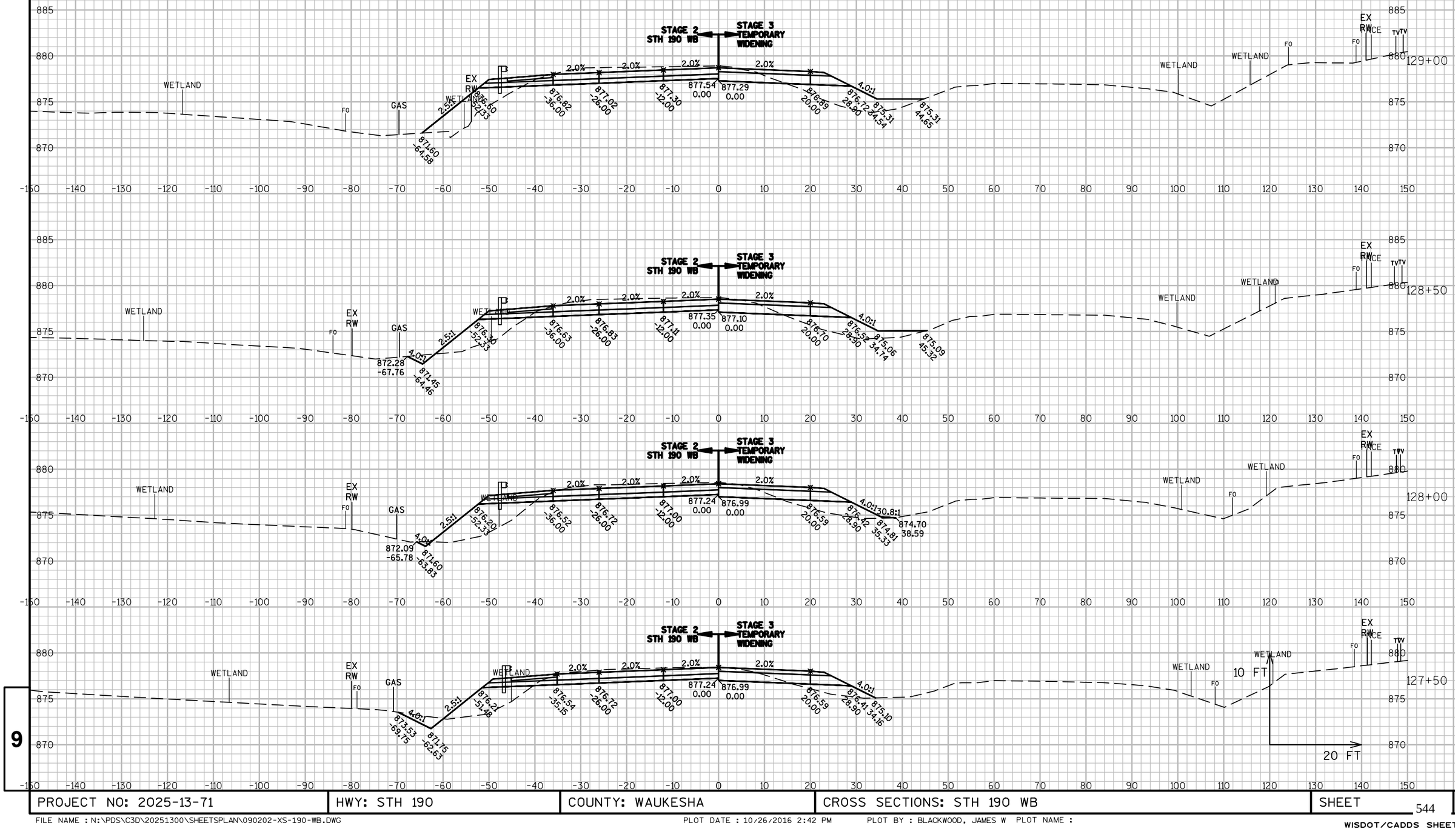
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 543	E

FILE NAME : T:\1142720.12\CIVIL3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/28/2016 6:58 AM PLOT BY : BLACKWOOD, JIM PLOT NAME :

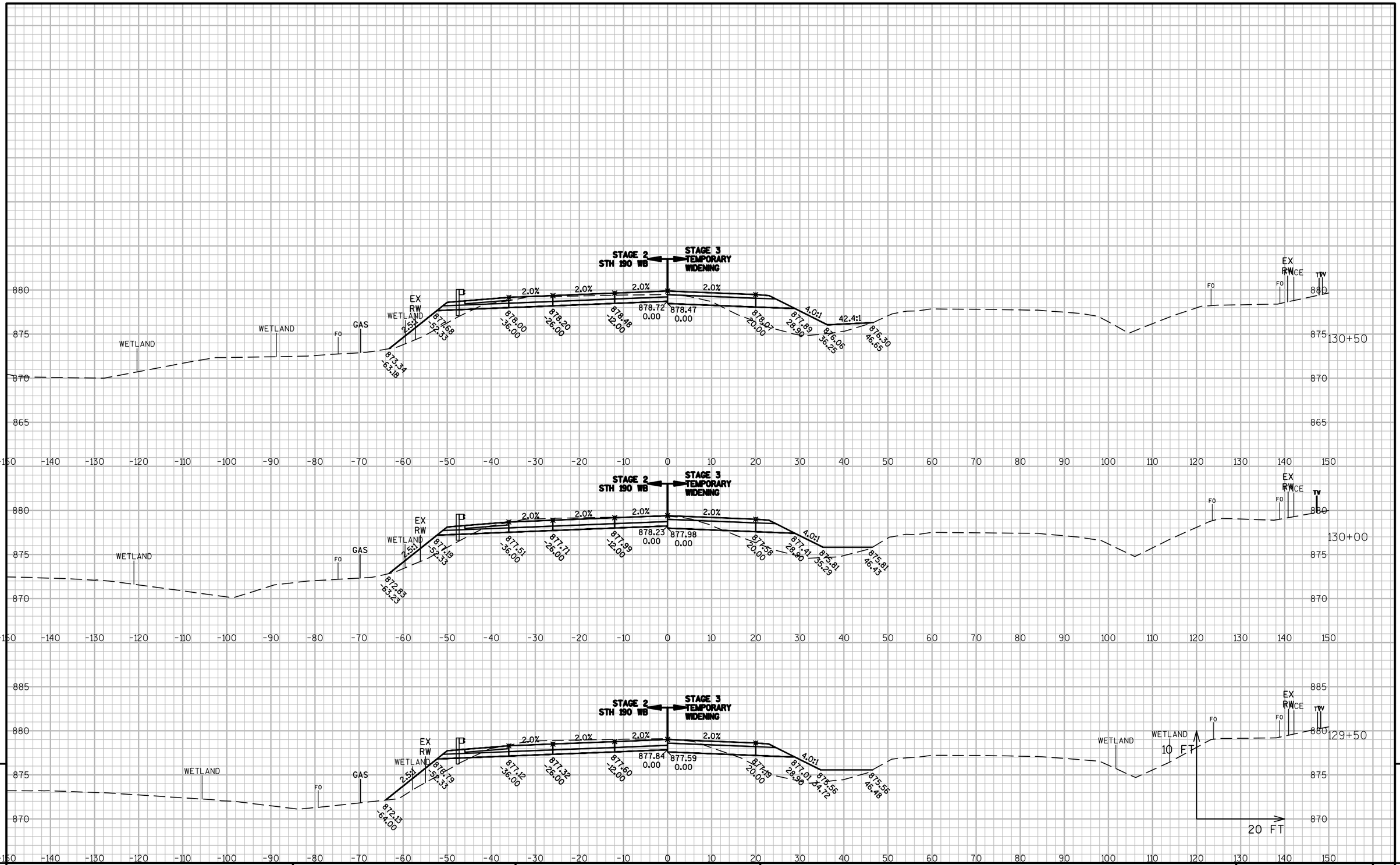
WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 544	E

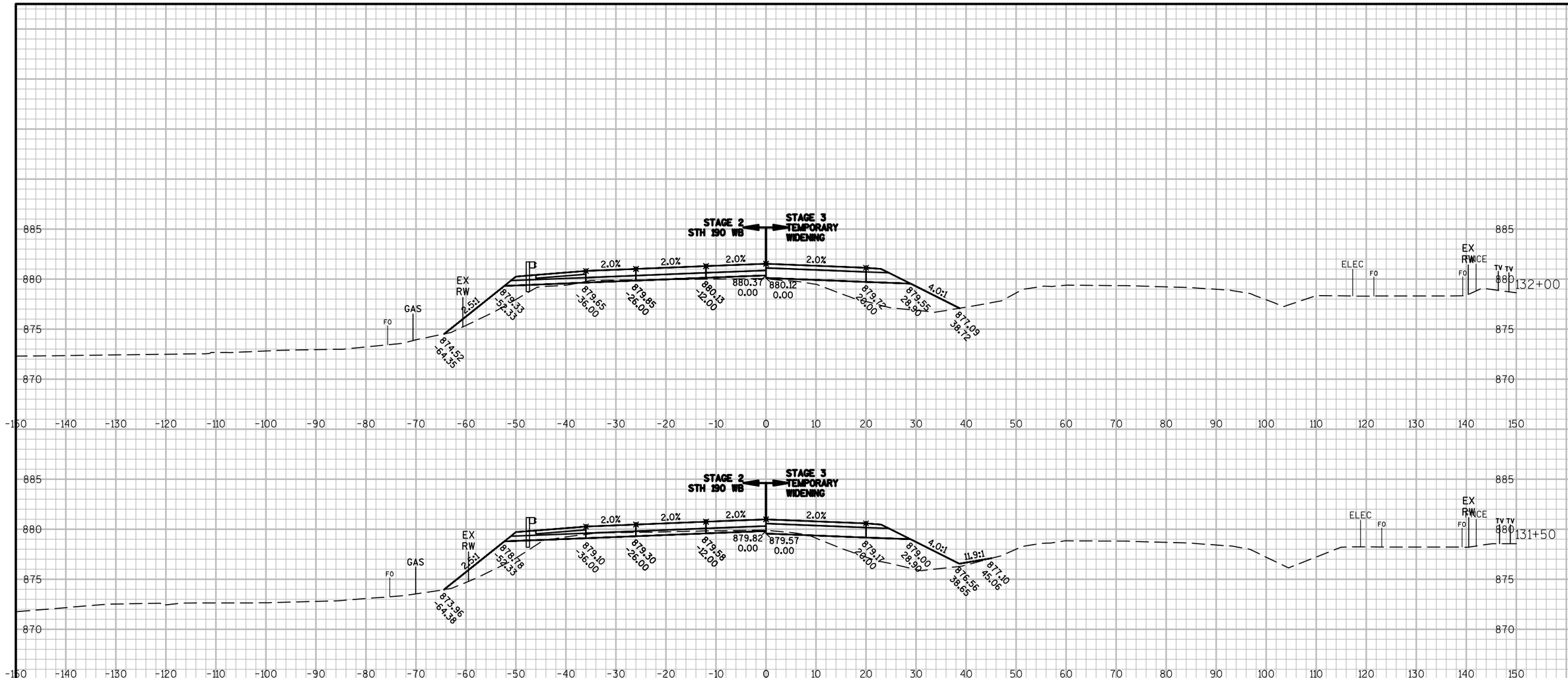
FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:42 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 545	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:42 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 546	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:42 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

CTH F

STAGE 2 STH 190 WB

STAGE 3 TEMPORARY WIDENING

STATION BACK

2.0% 2.0% 2.0% 2.0%

4.0:1

2.5:1

880.71 -52.33

881.03 -36.00

881.23 -26.00

881.51 -12.00

881.75 0.00

881.50 0.00

881.40 20.00

880.93 28.90

879.50 34.62

874.94 -66.76

ELEC

FO

133+26

885 880 875 870

-150 -140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

STAGE 2 STH 190 WB

STAGE 3 TEMPORARY WIDENING

2.0% 2.0% 2.0% 2.0%

4.0:1

EX RW

GAS

FO

2.5:1

880.43 -52.33

880.75 -36.00

880.95 -26.00

881.23 -12.00

881.47 0.00

881.22 0.00

880.82 20.00

880.64 28.90

879.55 31.27

874.14 -68.05

ELEC

FO

EX RW

FO

FENCE

TWV

133+00

885 880 875 870

-150 -140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

STAGE 2 STH 190 WB

STAGE 3 TEMPORARY WIDENING

2.0% 2.0% 2.0% 2.0%

4.0:1

EX RW

GAS

FO

2.5:1

879.88 -52.33

880.20 -36.00

880.40 -26.00

880.68 -12.00

880.92 0.00

880.67 0.00

880.27 20.00

880.10 28.90

877.75 38.29

874.52 -65.73

ELEC

FO

10 FT

20 FT

EX RW

FO

FENCE

TWV

132+50

885 880 875 870

-150 -140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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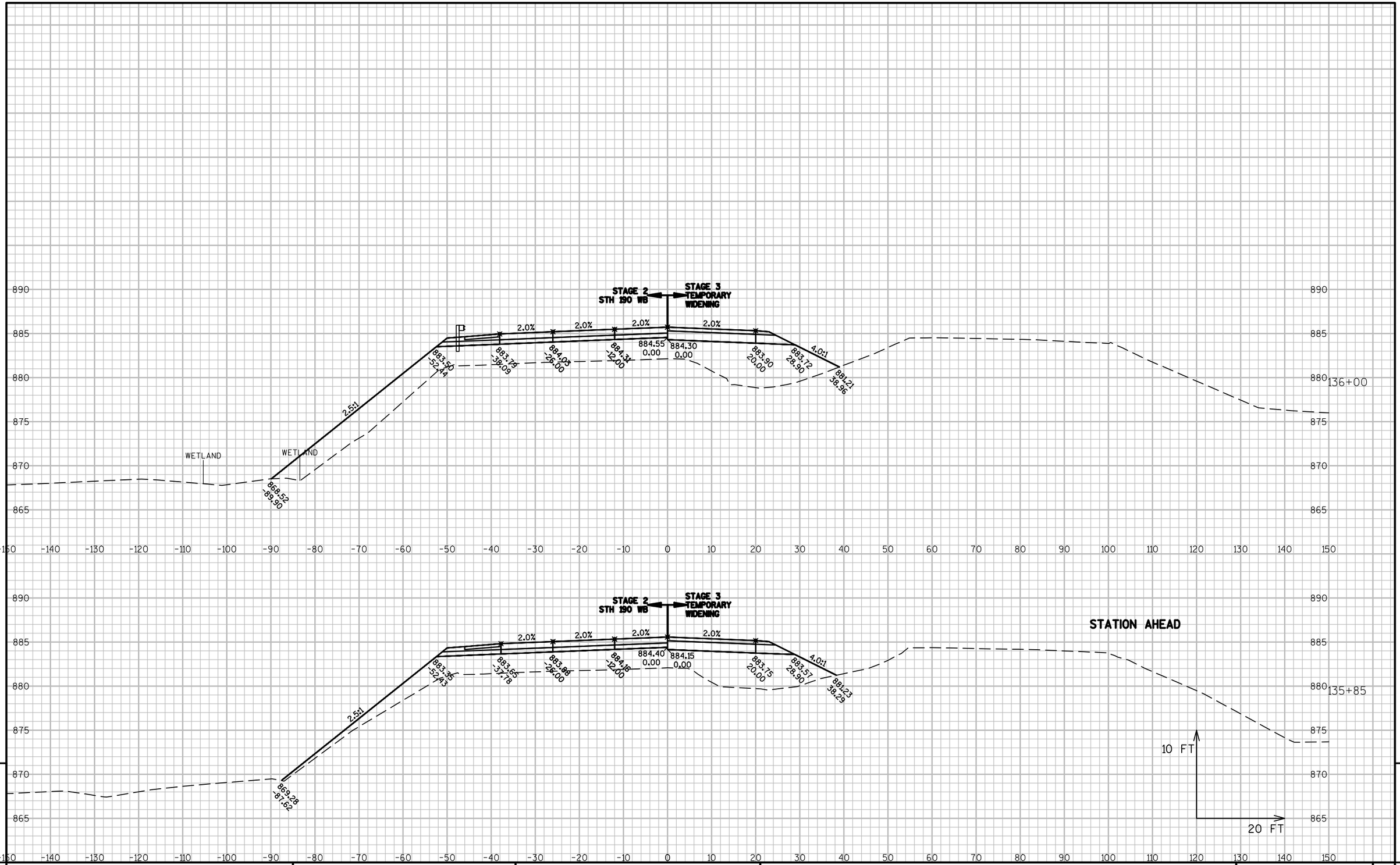
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 547	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG

PLOT DATE : 10/26/2016 2:43 PM

PLOT BY : BLACKWOOD, JAMES W PLOT NAME :



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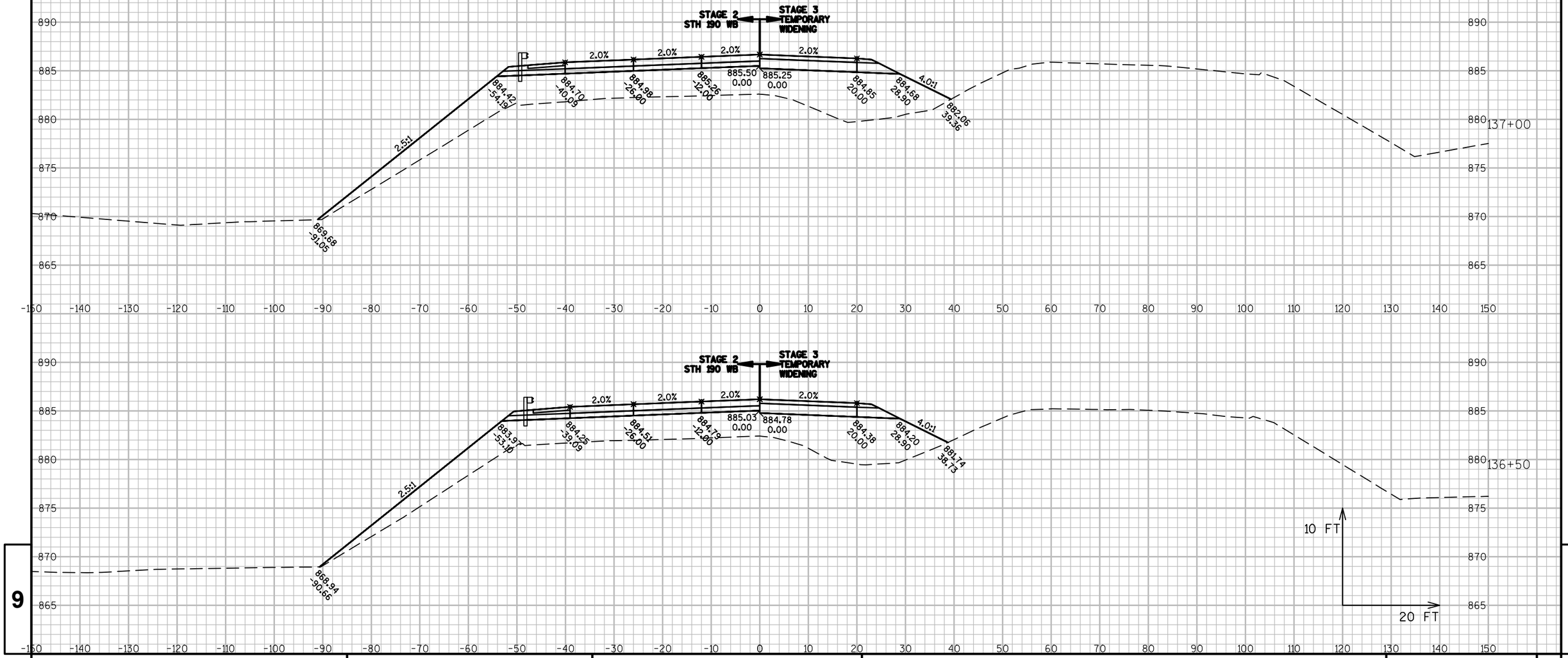
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 548	E



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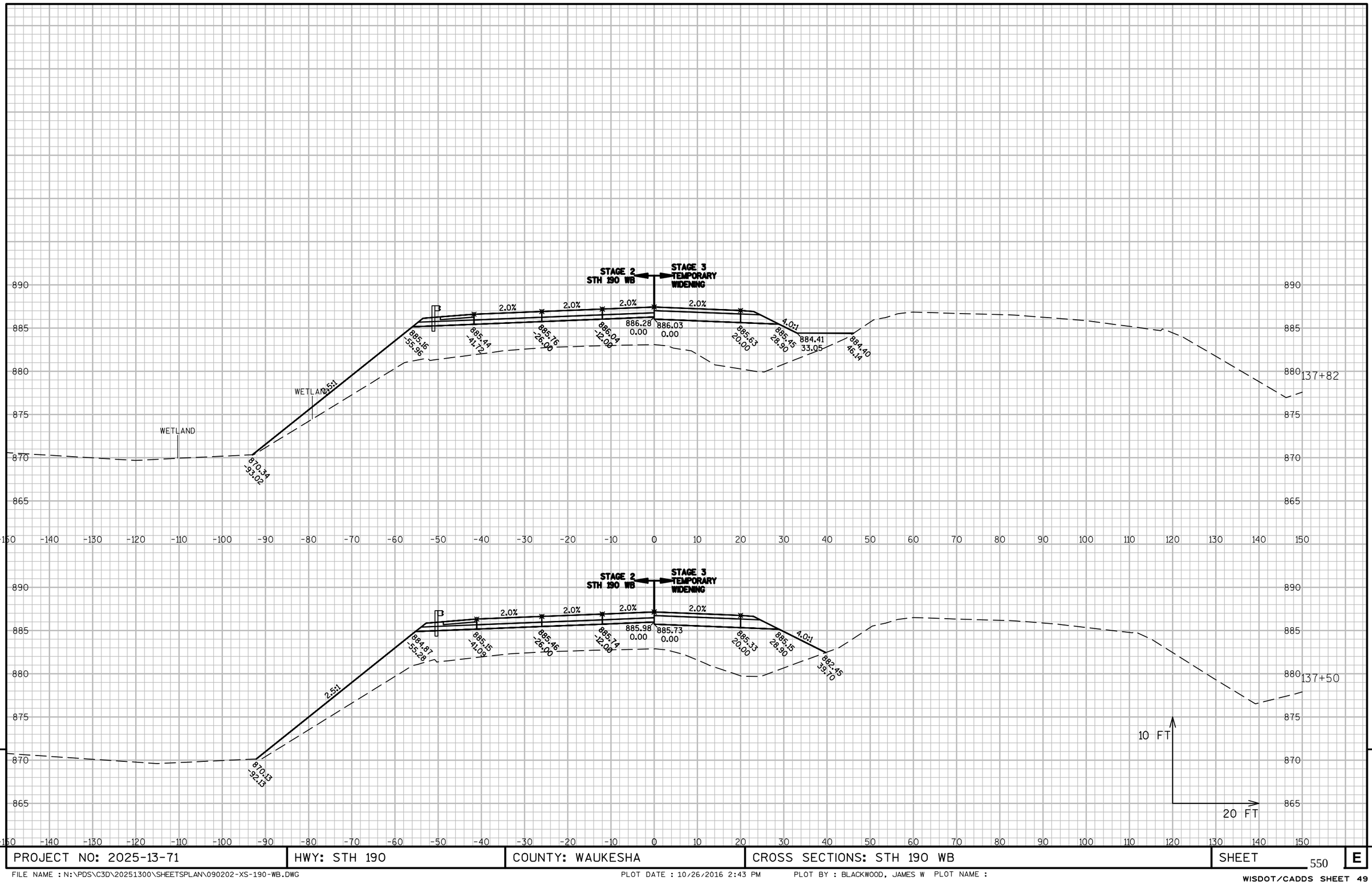
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 549	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:43 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

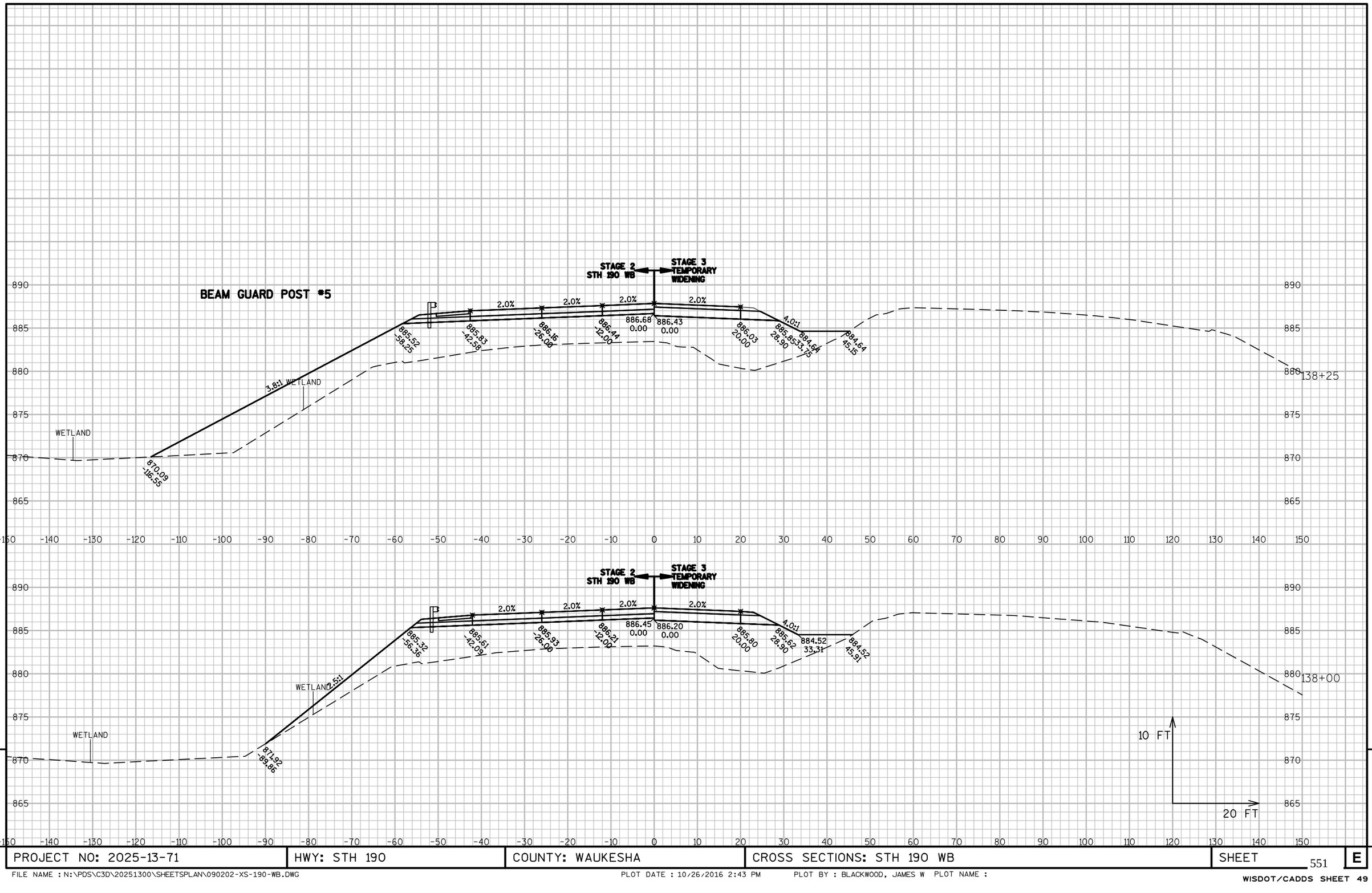
WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 550	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:43 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

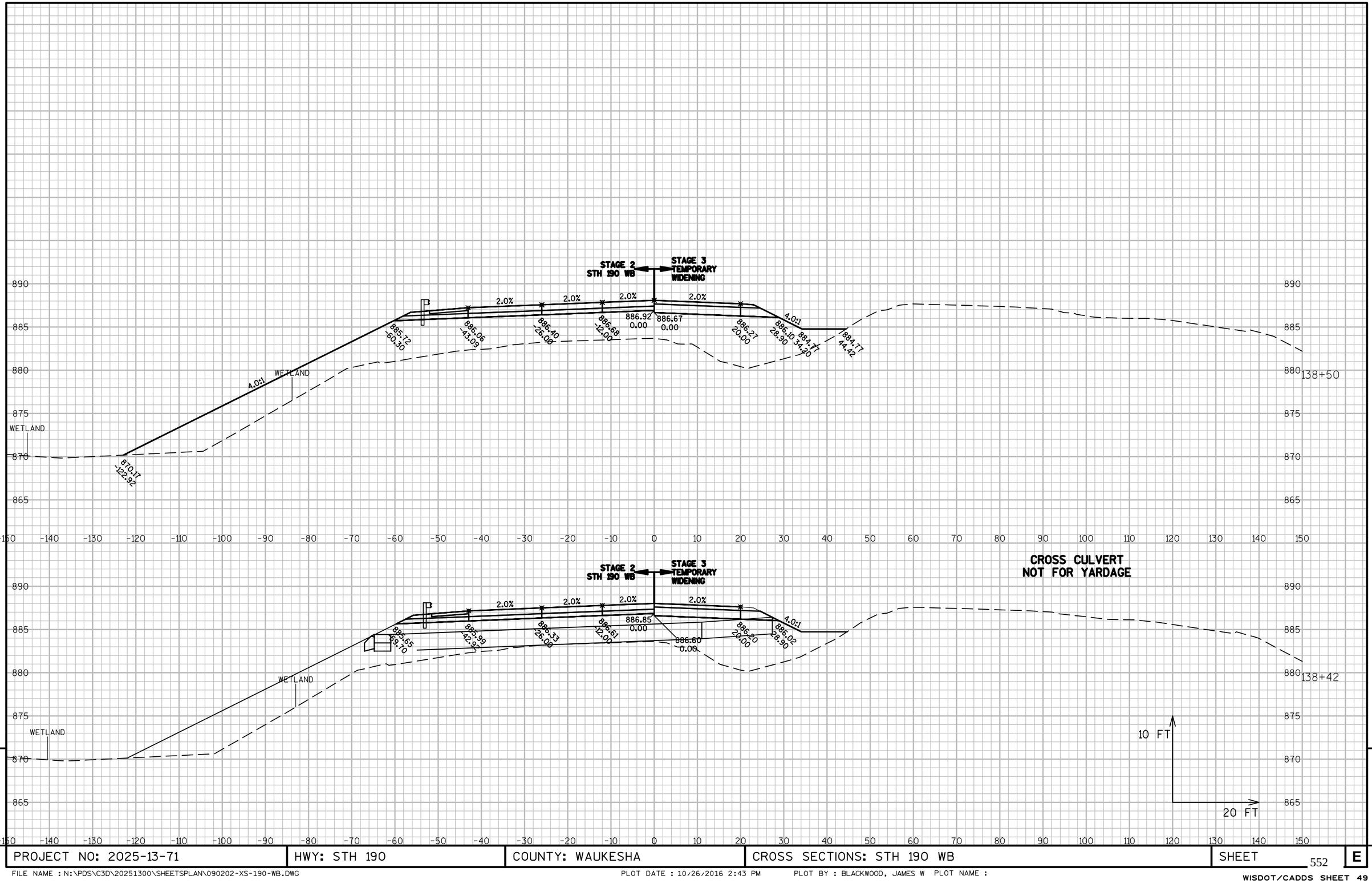
WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 551	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:43 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

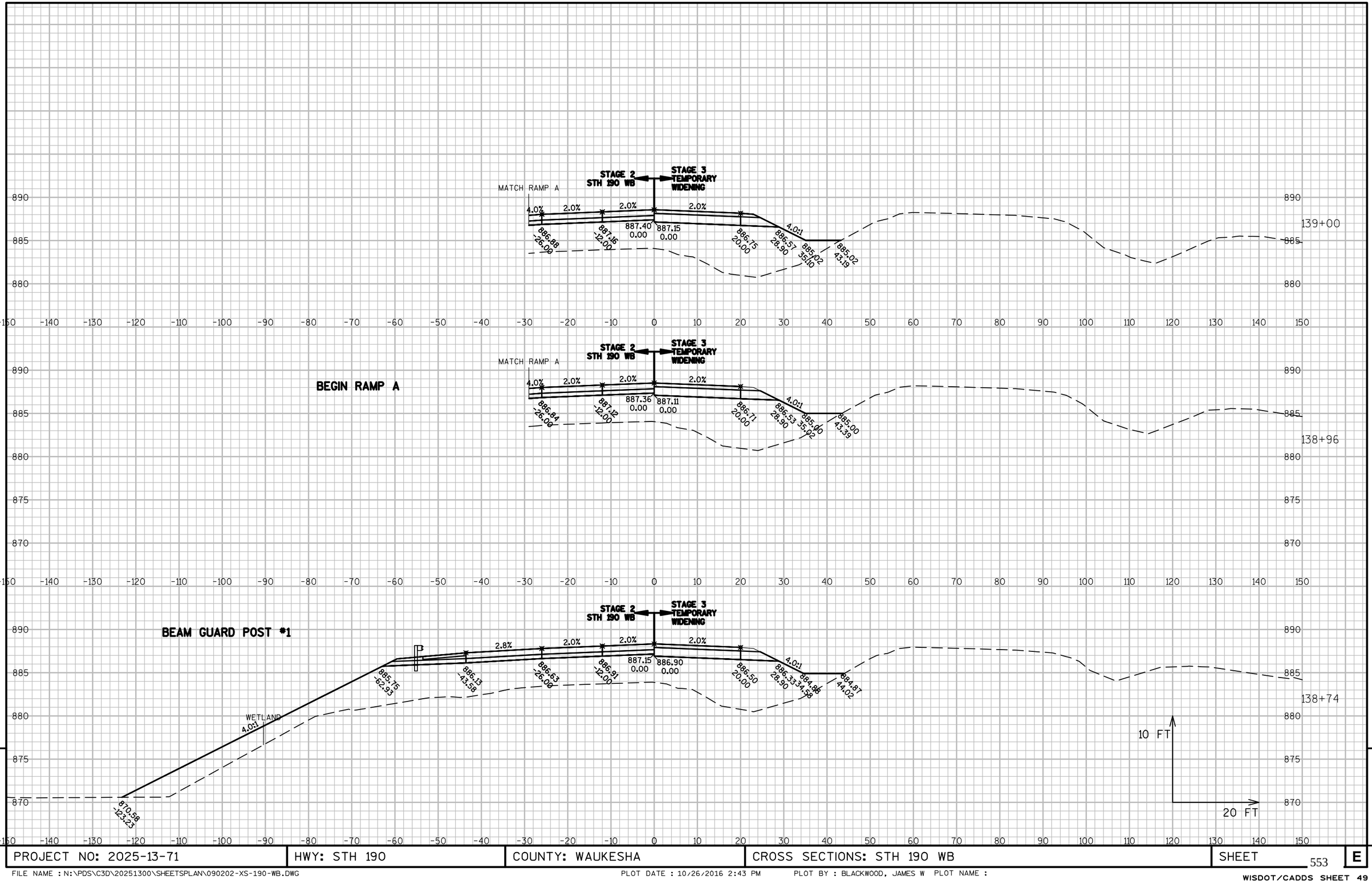
WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 552	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:43 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

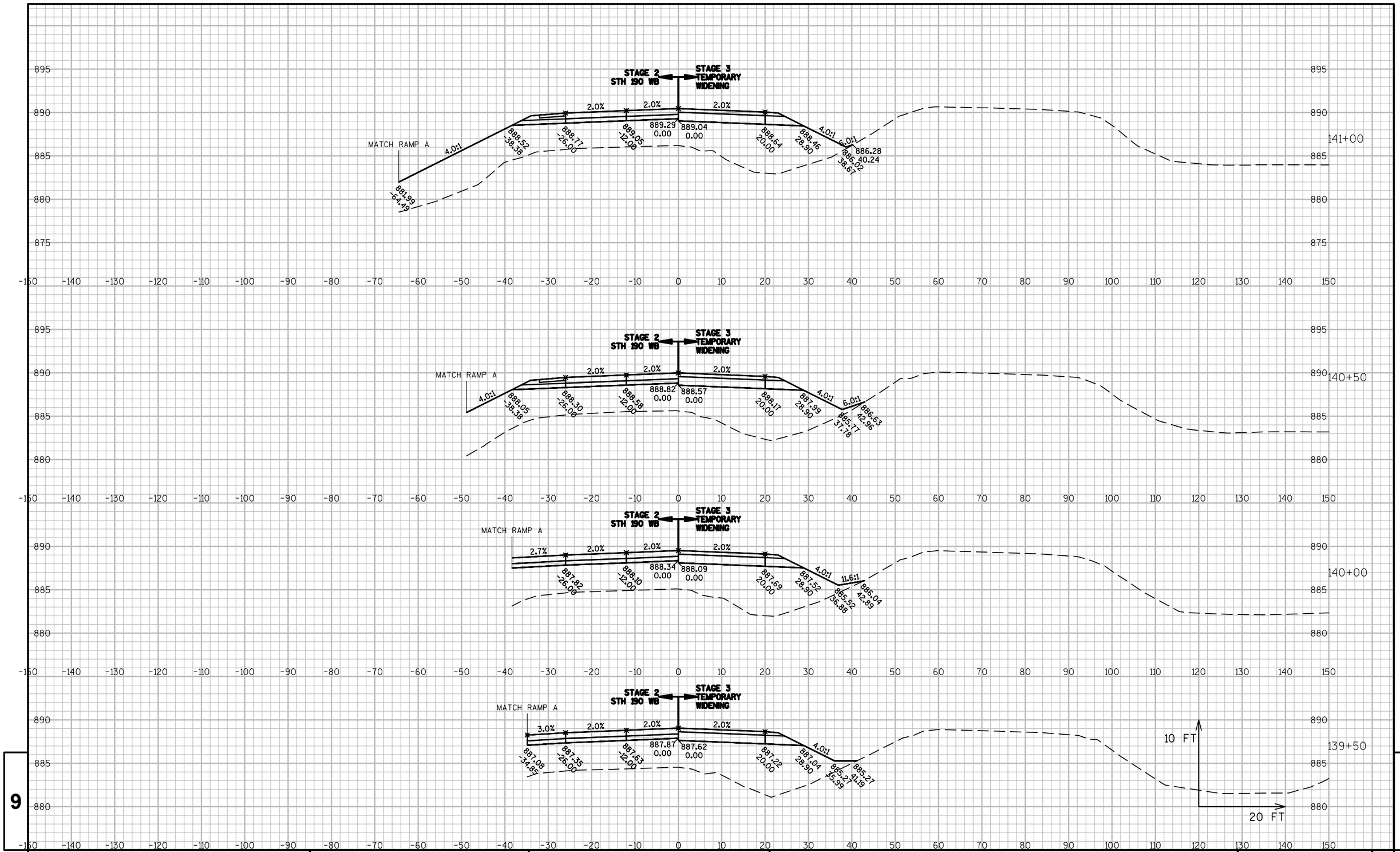
WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 553	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:43 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



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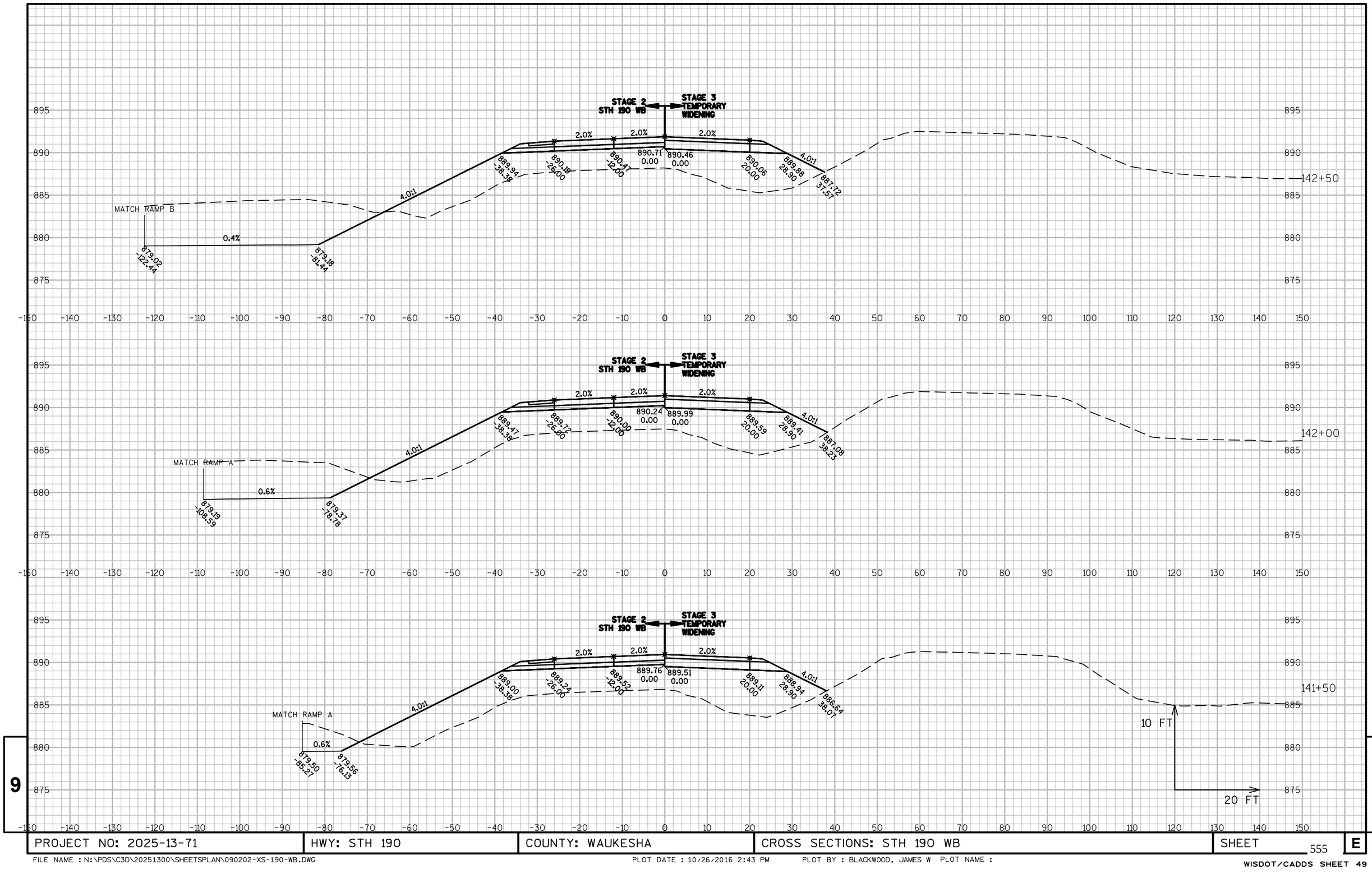
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 554	E

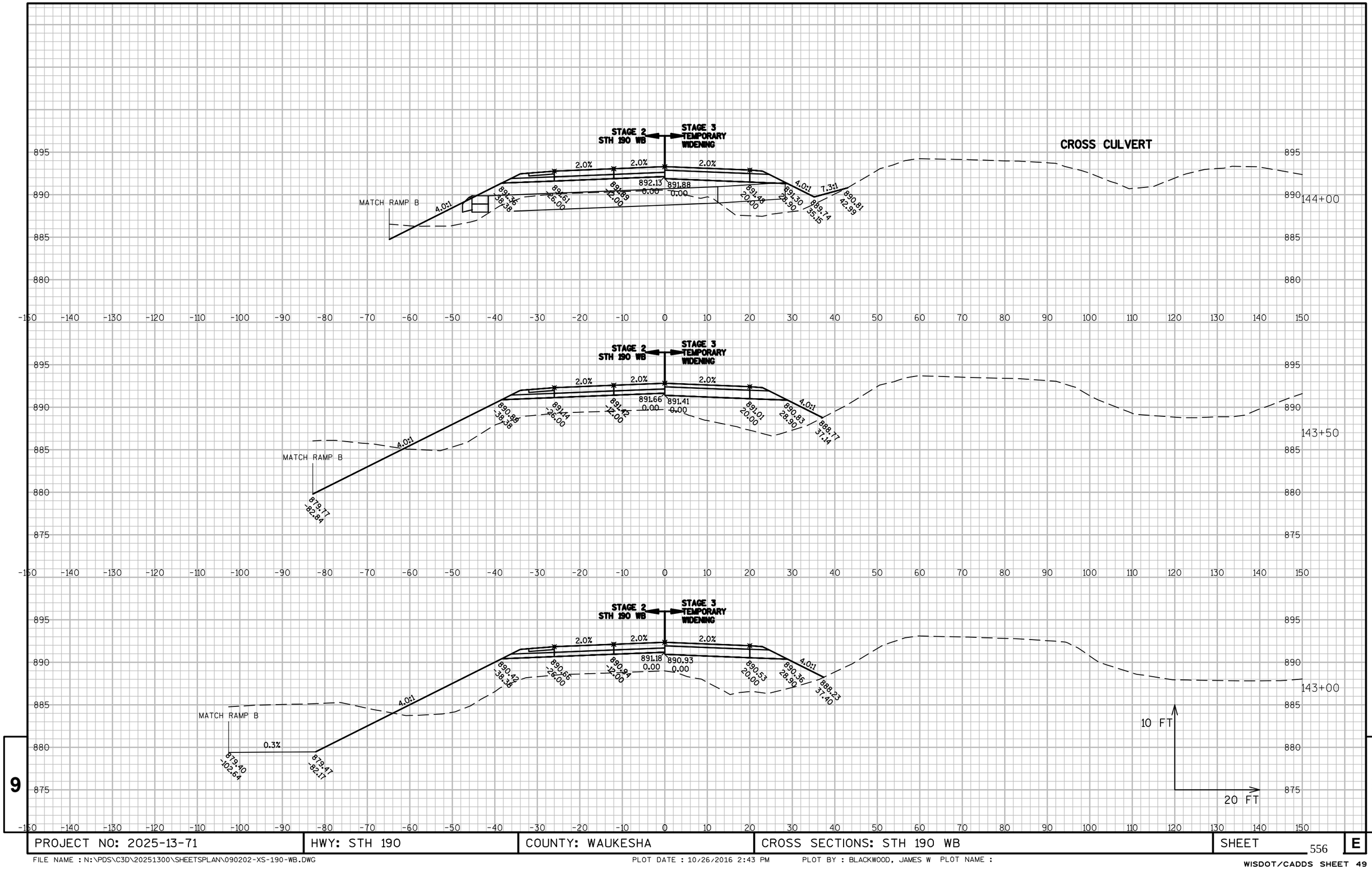
FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:43 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 555	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:43 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



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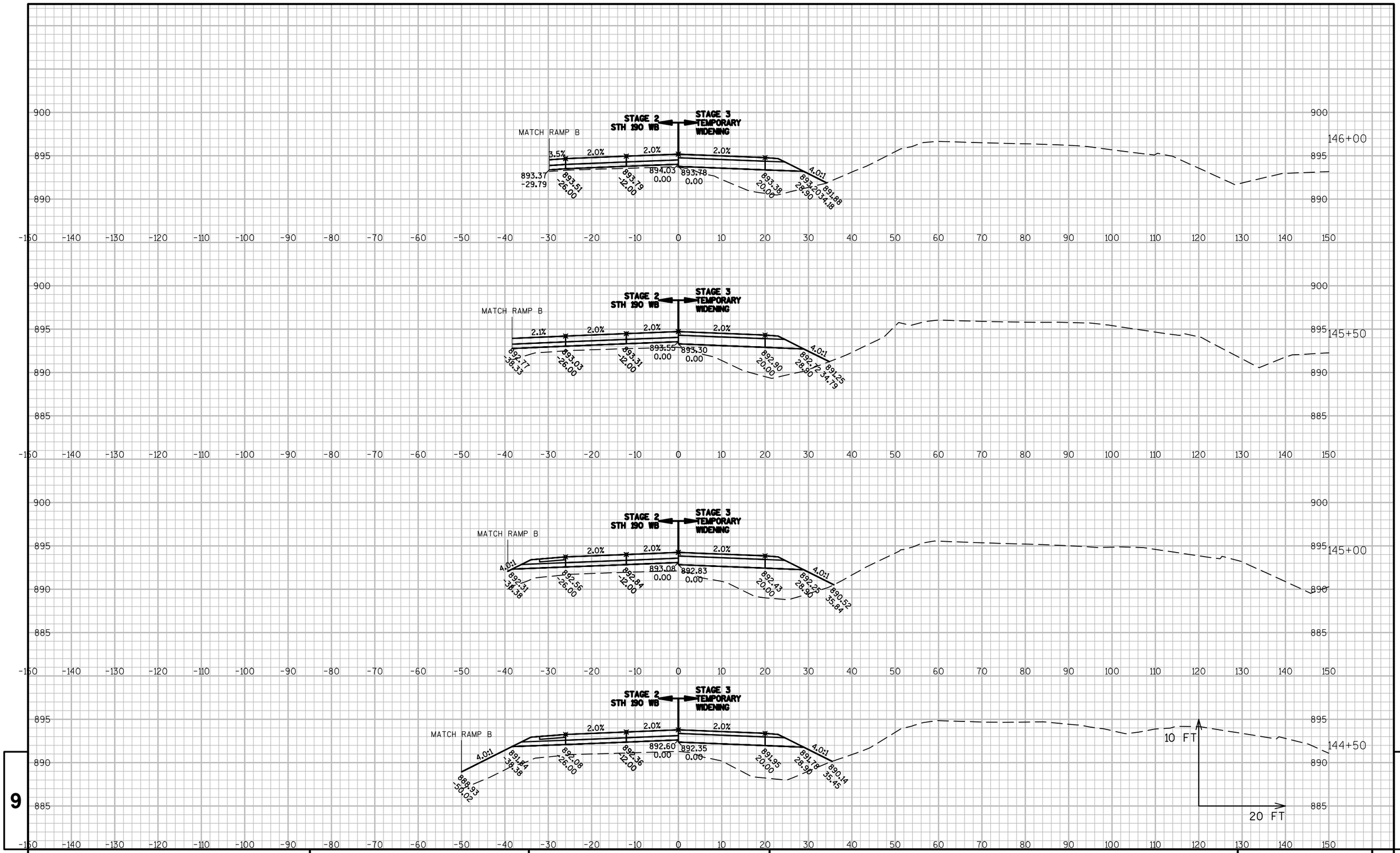
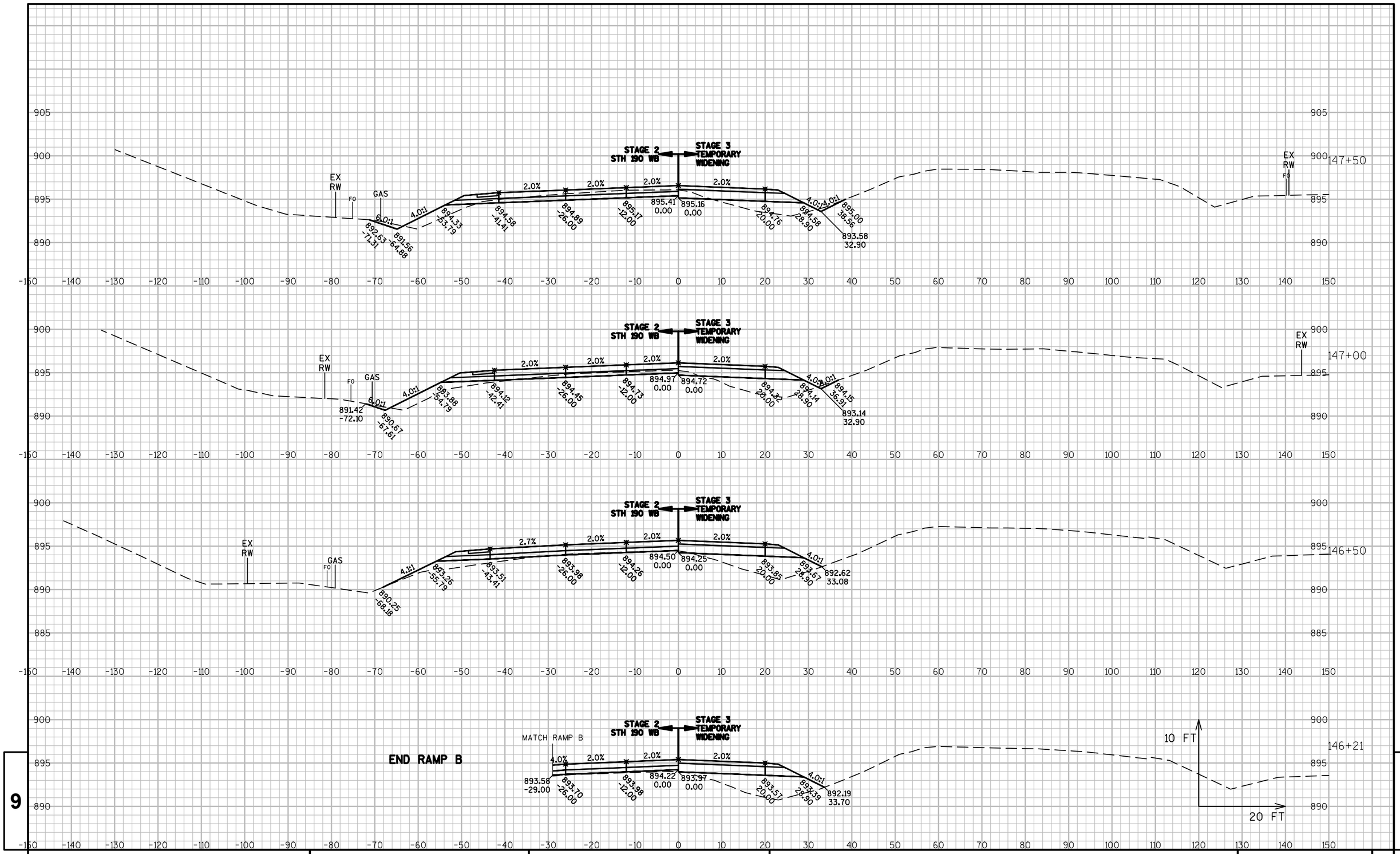
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 556	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:43 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



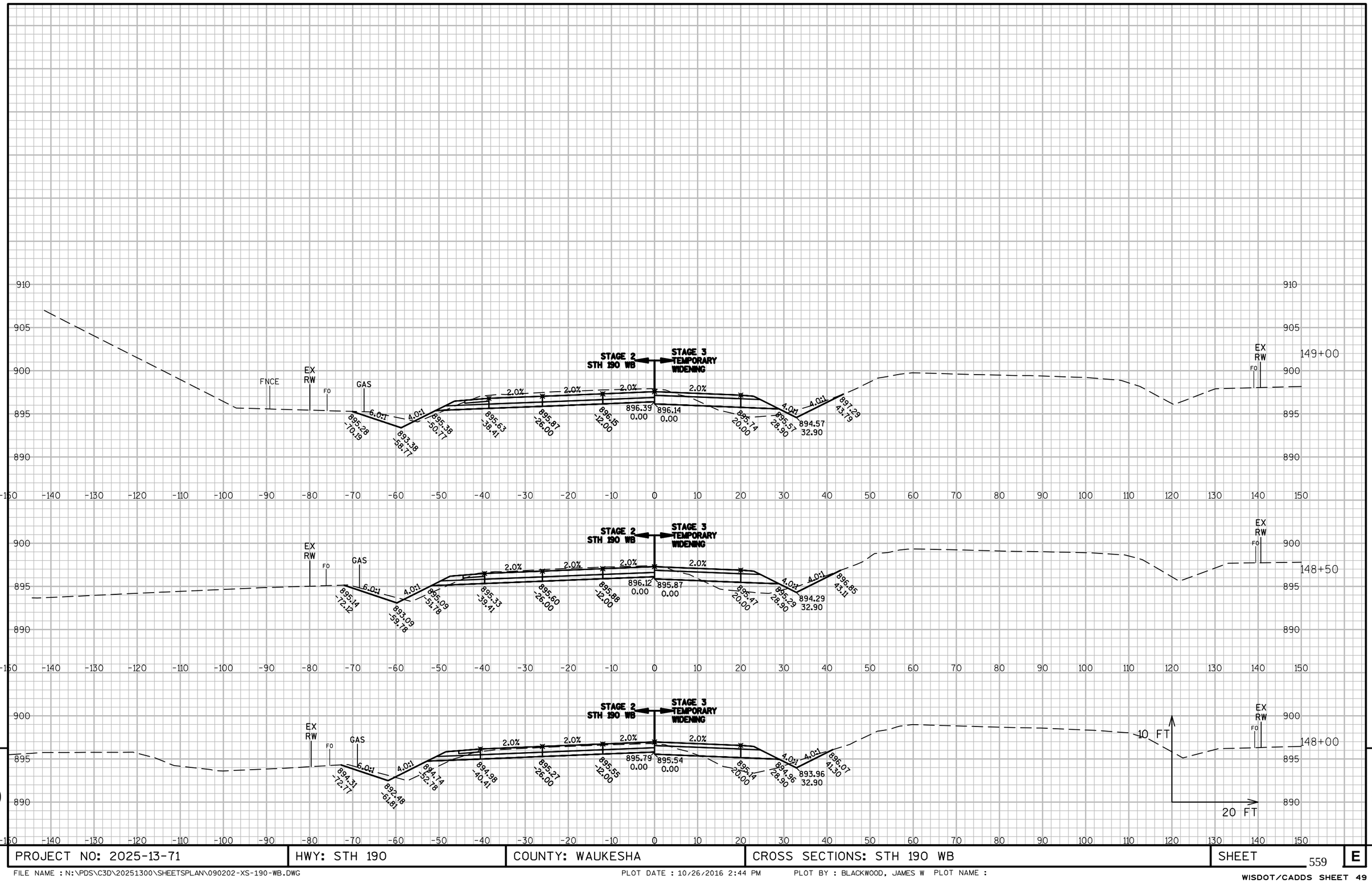
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 557	E



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 558	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:43 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

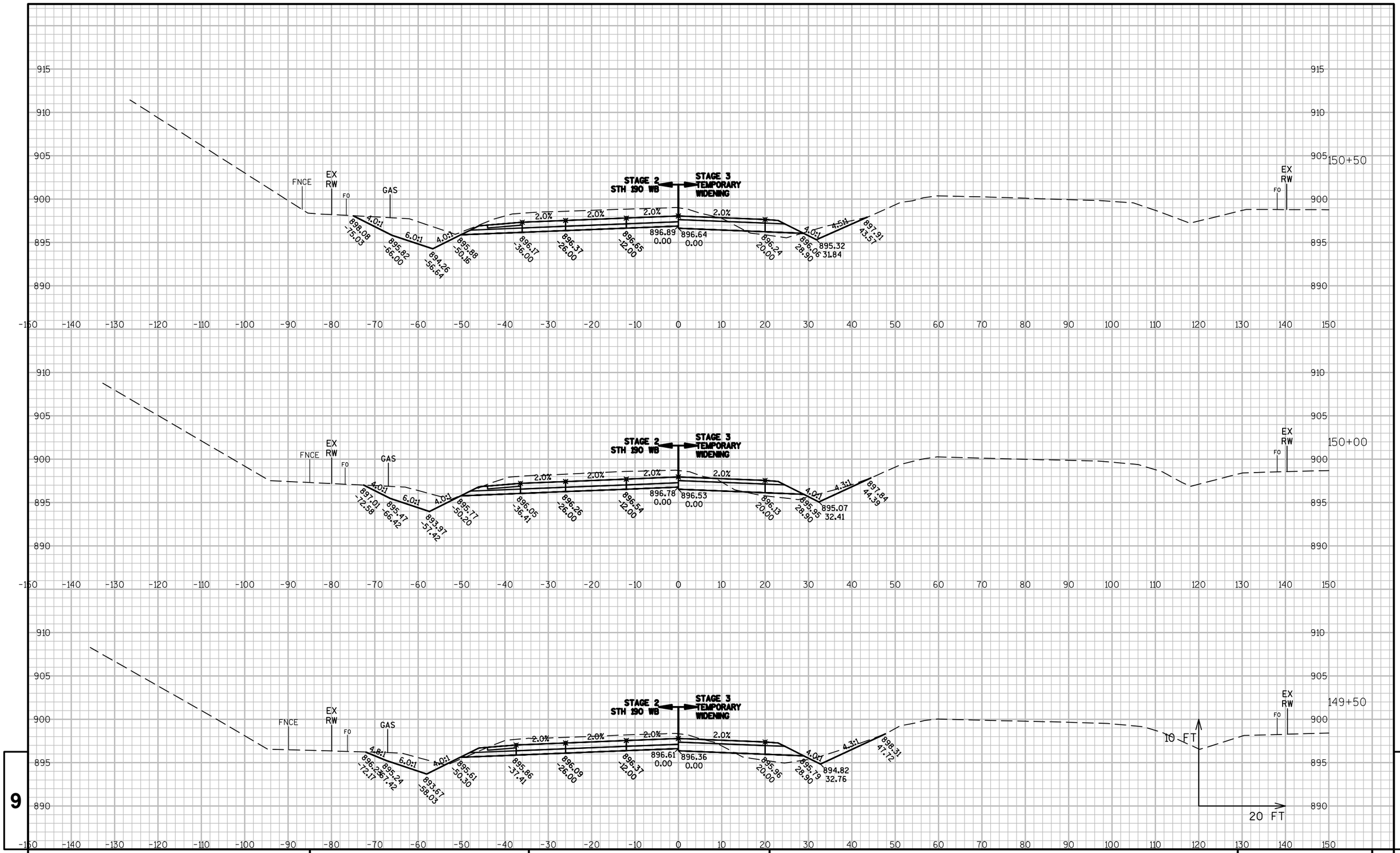
WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 559	E

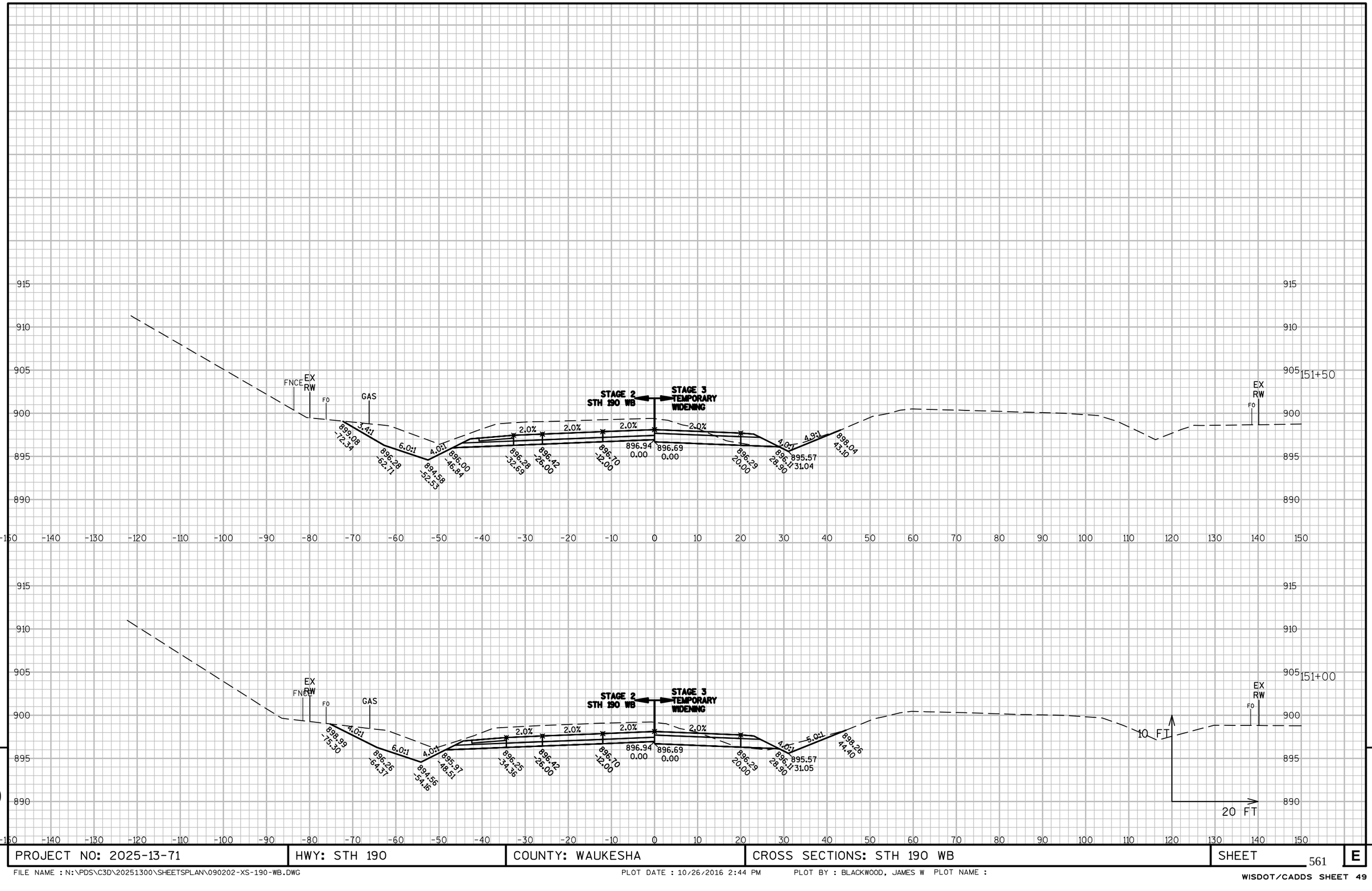
FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:44 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 560	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:44 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :



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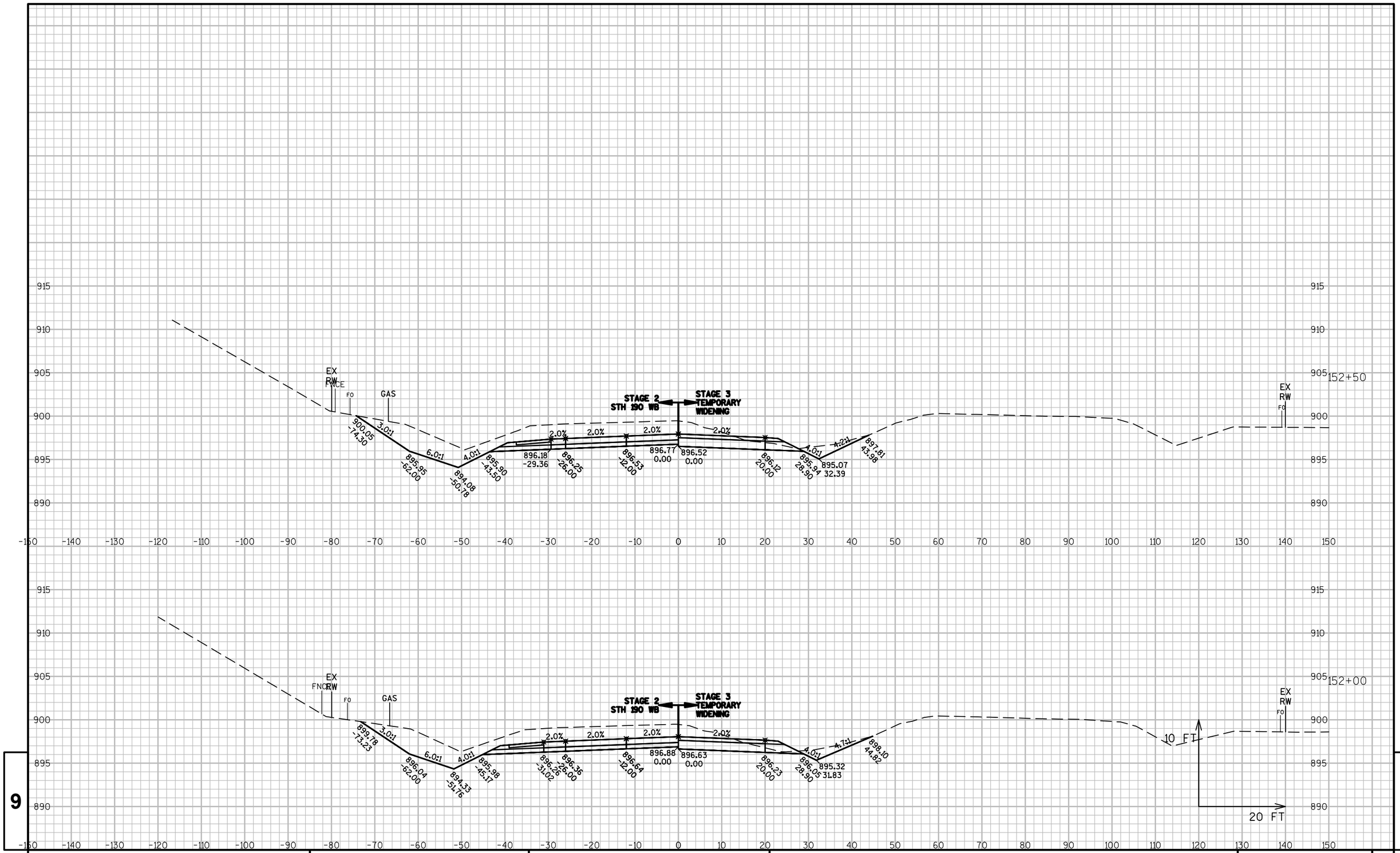
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 561	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:44 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



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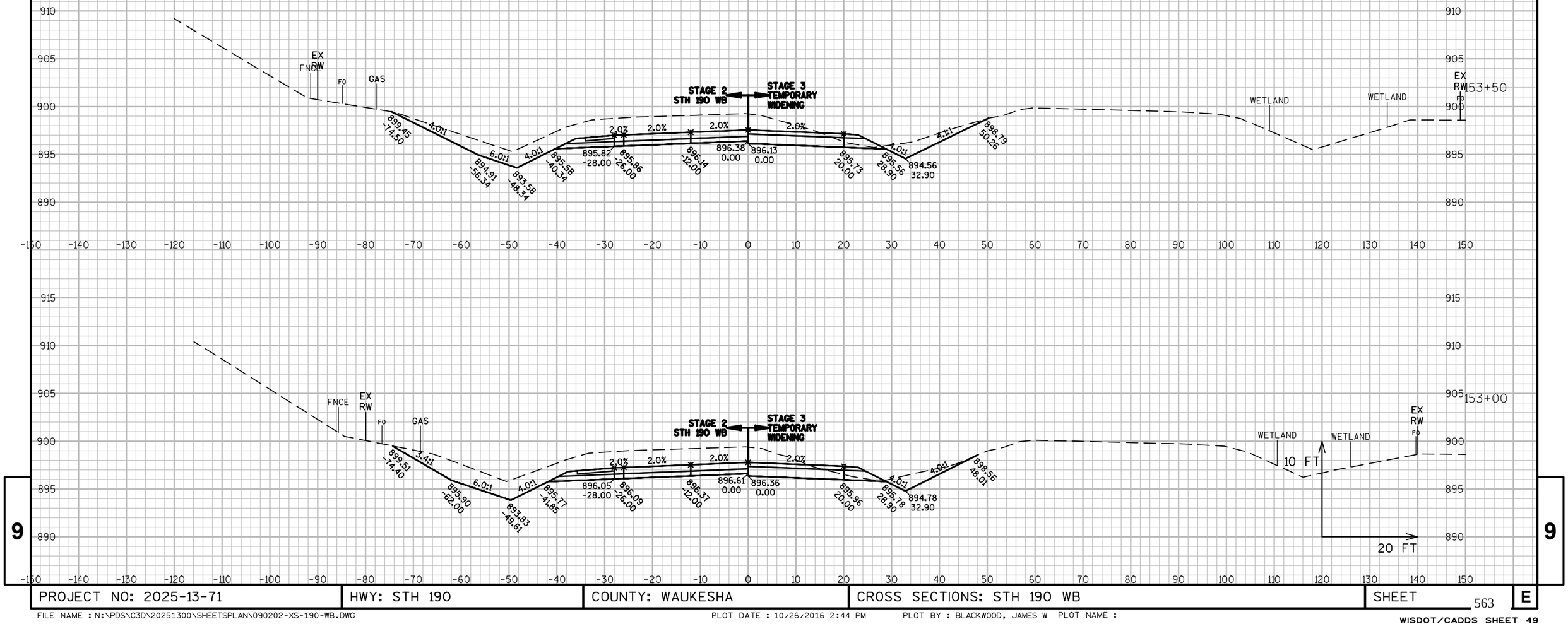
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 562	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:44 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



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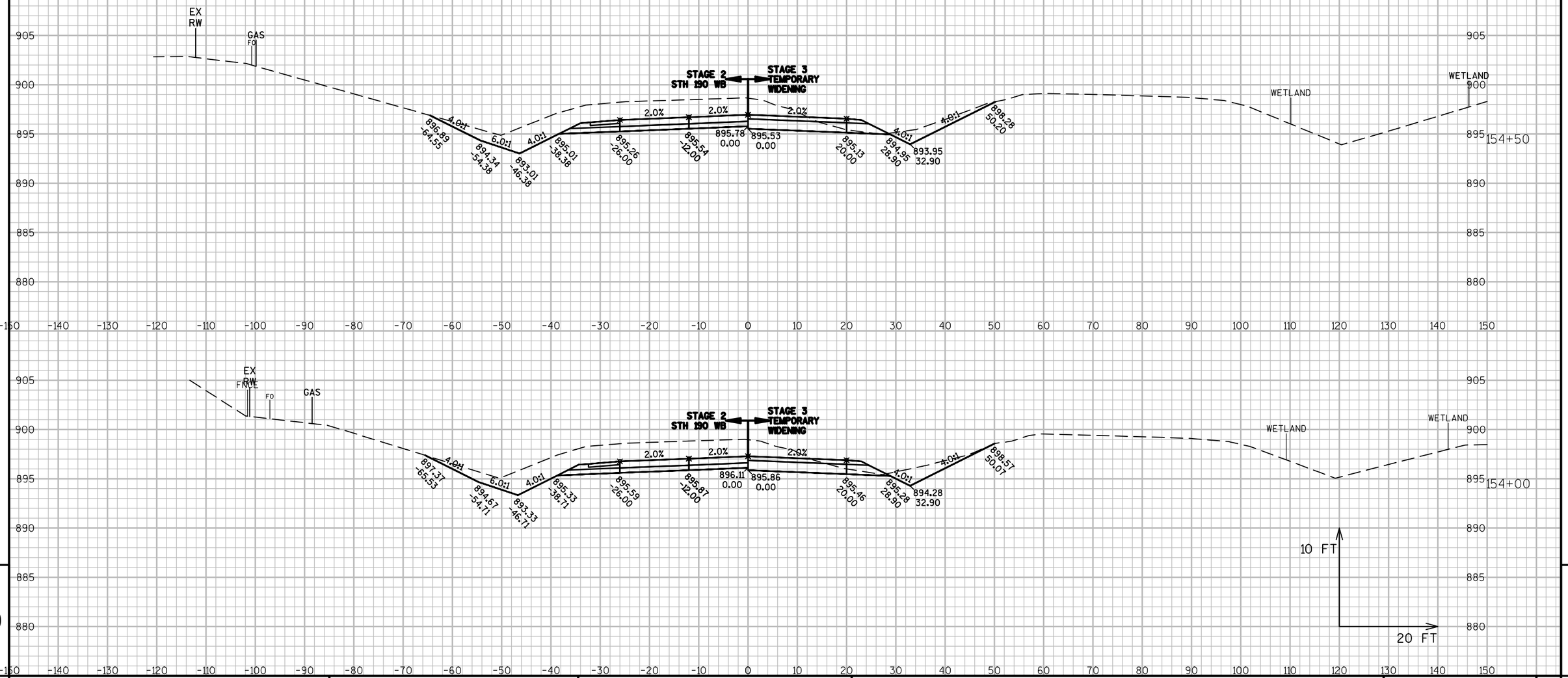
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 563	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:44 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

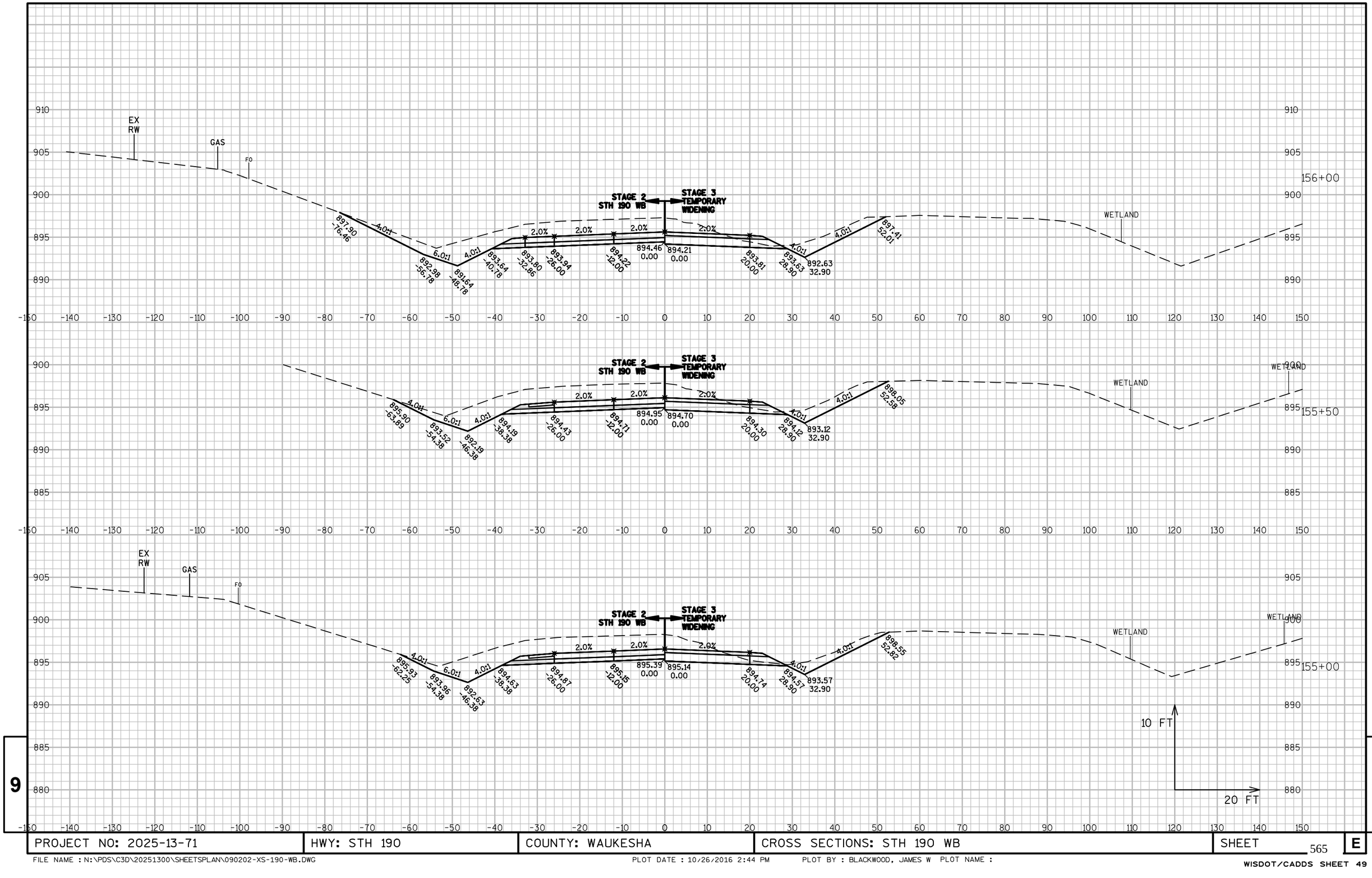
WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 564	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:44 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

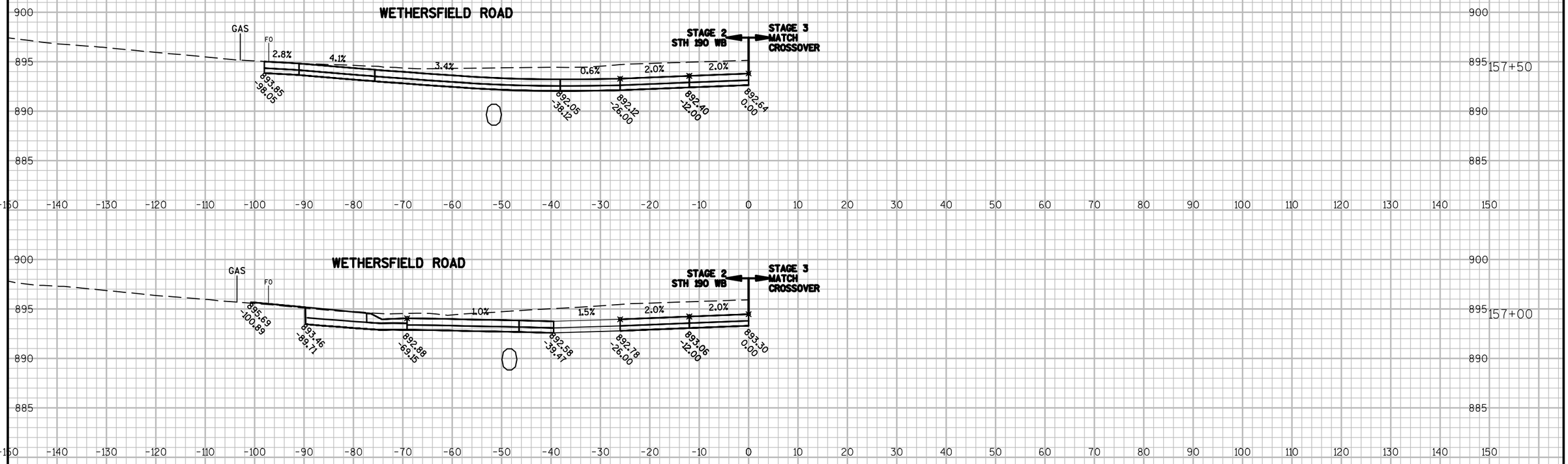
WISDOT/CADDS SHEET 49

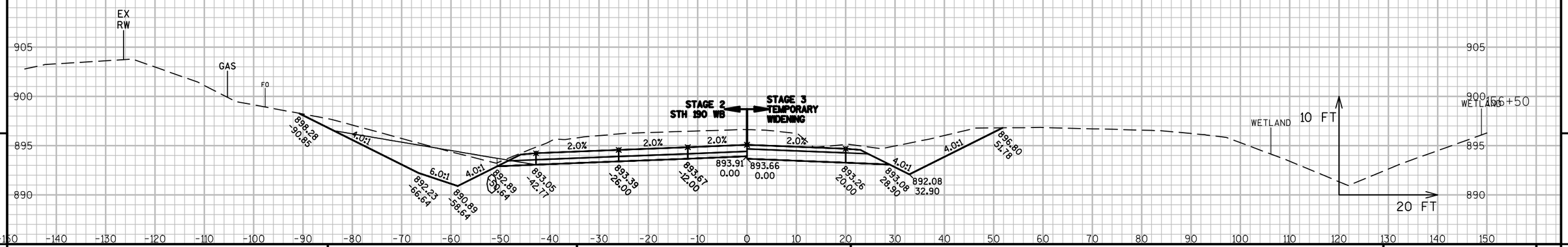


PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 565	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:44 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

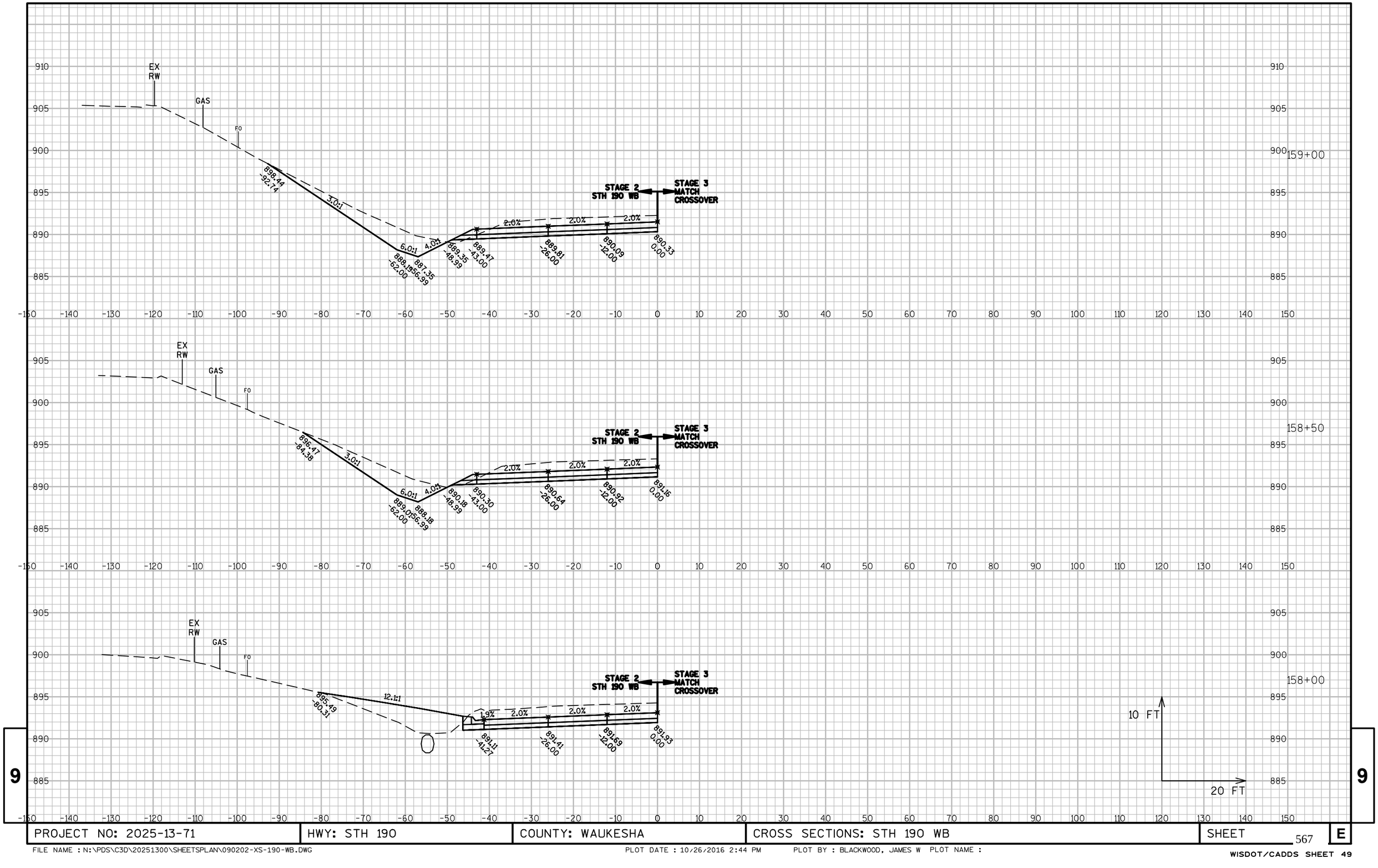




PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 566 E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:44 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

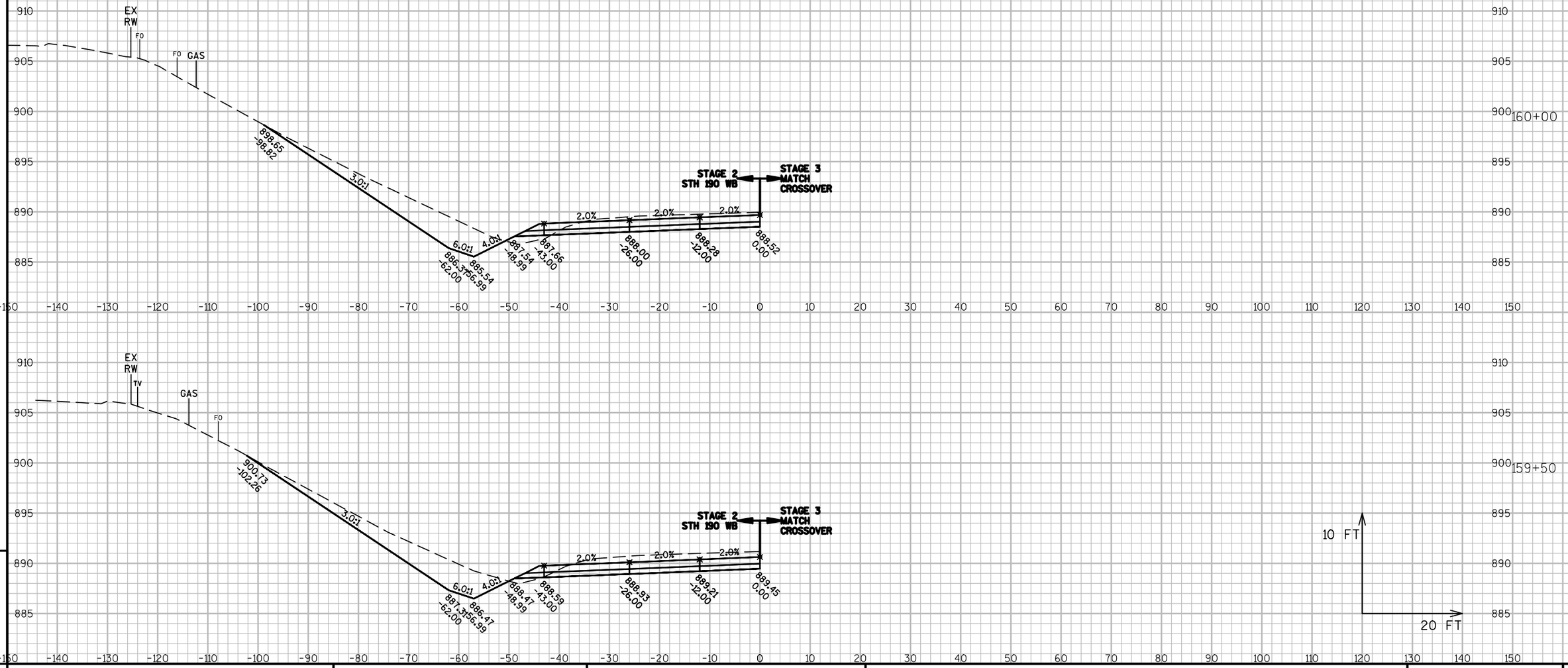
WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 567	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:44 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

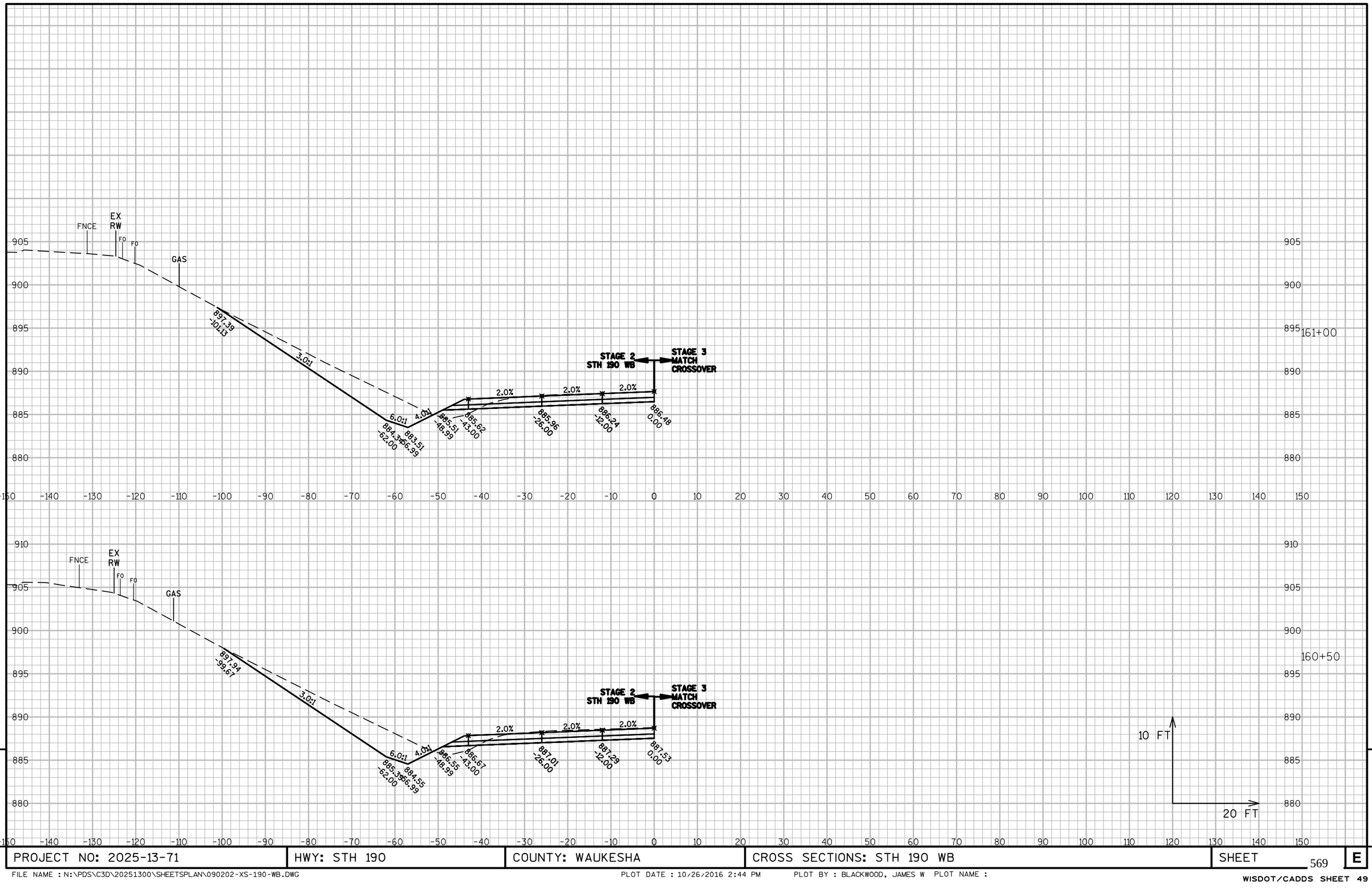
WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 568	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:44 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

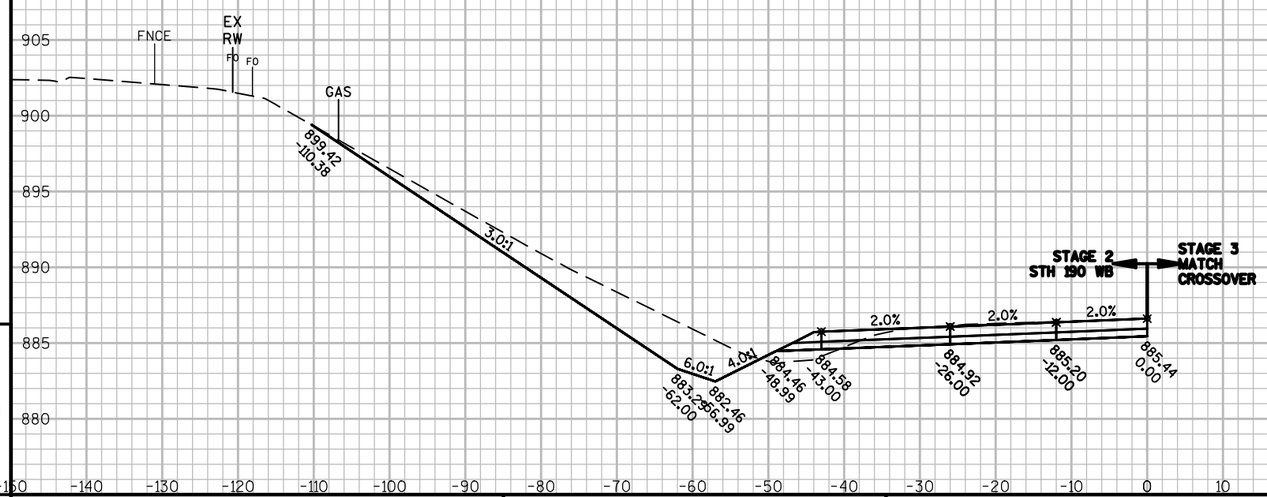
WISDOT/CADDS SHEET 49

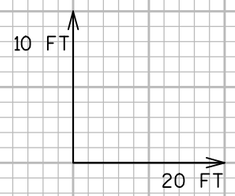


PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 569	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:44 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49





-150 -140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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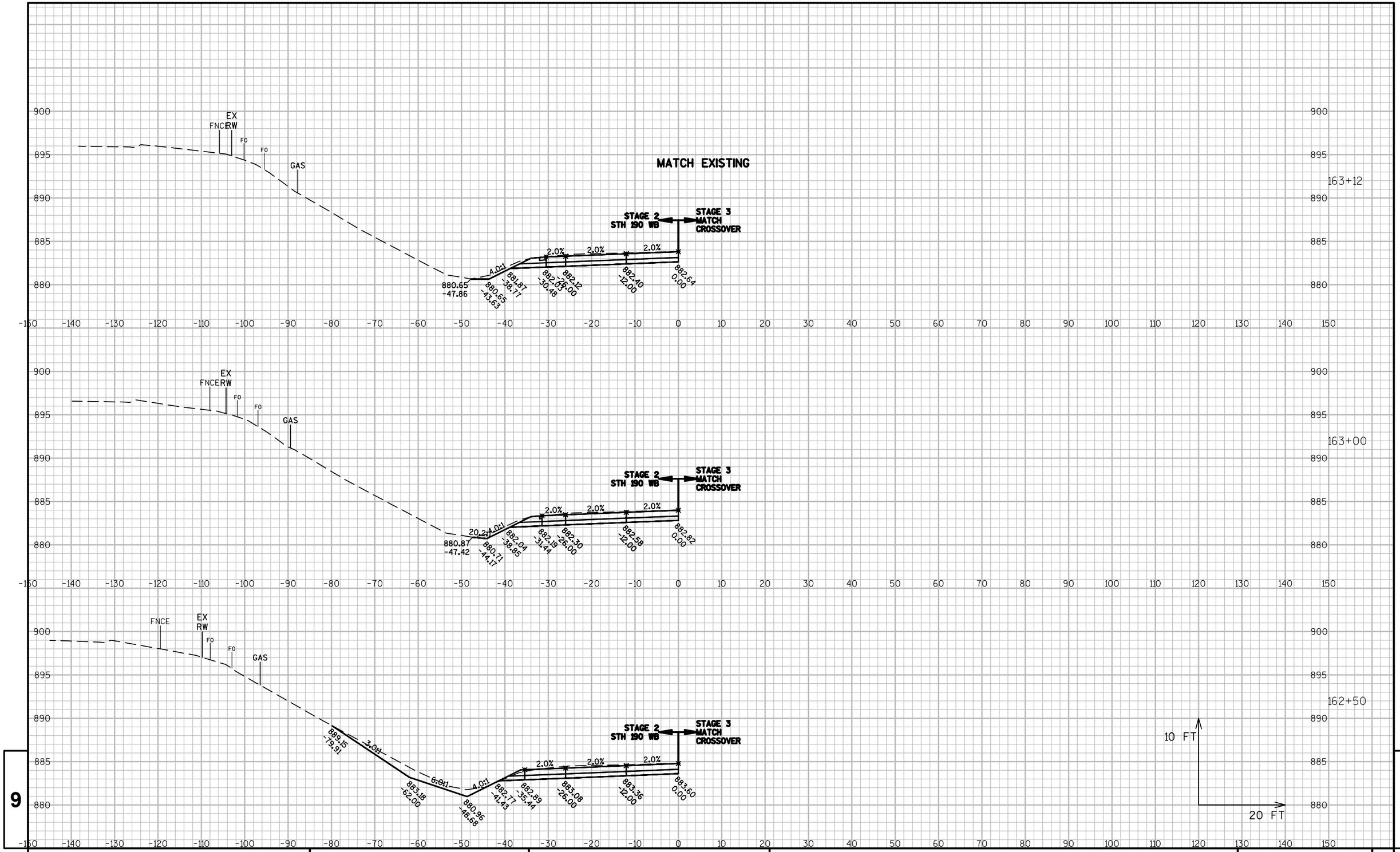
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 570	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:45 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



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PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 571	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:45 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

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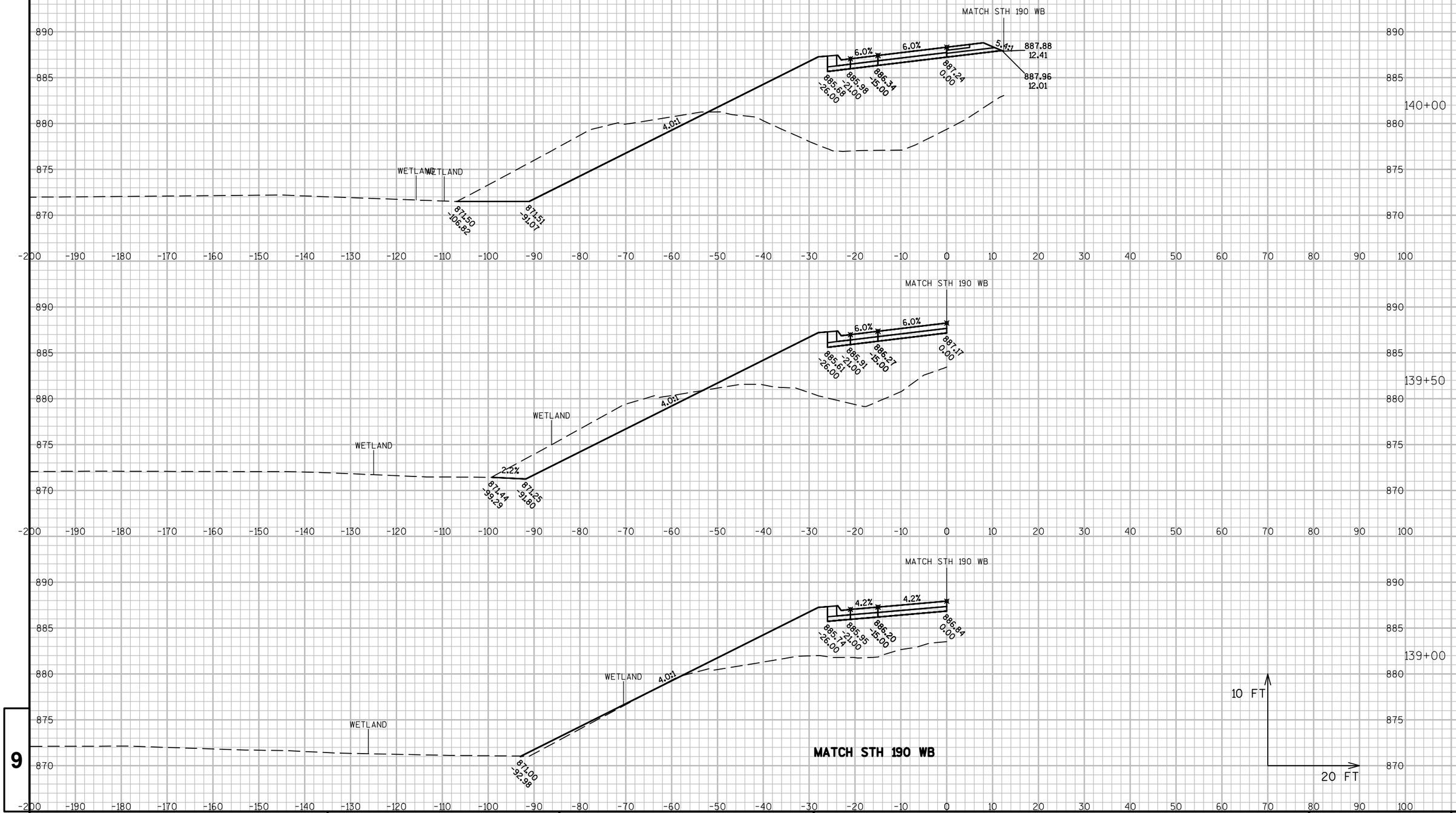
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 WB	SHEET 572	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090202-XS-190-WB.DWG PLOT DATE : 10/26/2016 2:45 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK THIS SHEET COMPLETED IN STAGE 2



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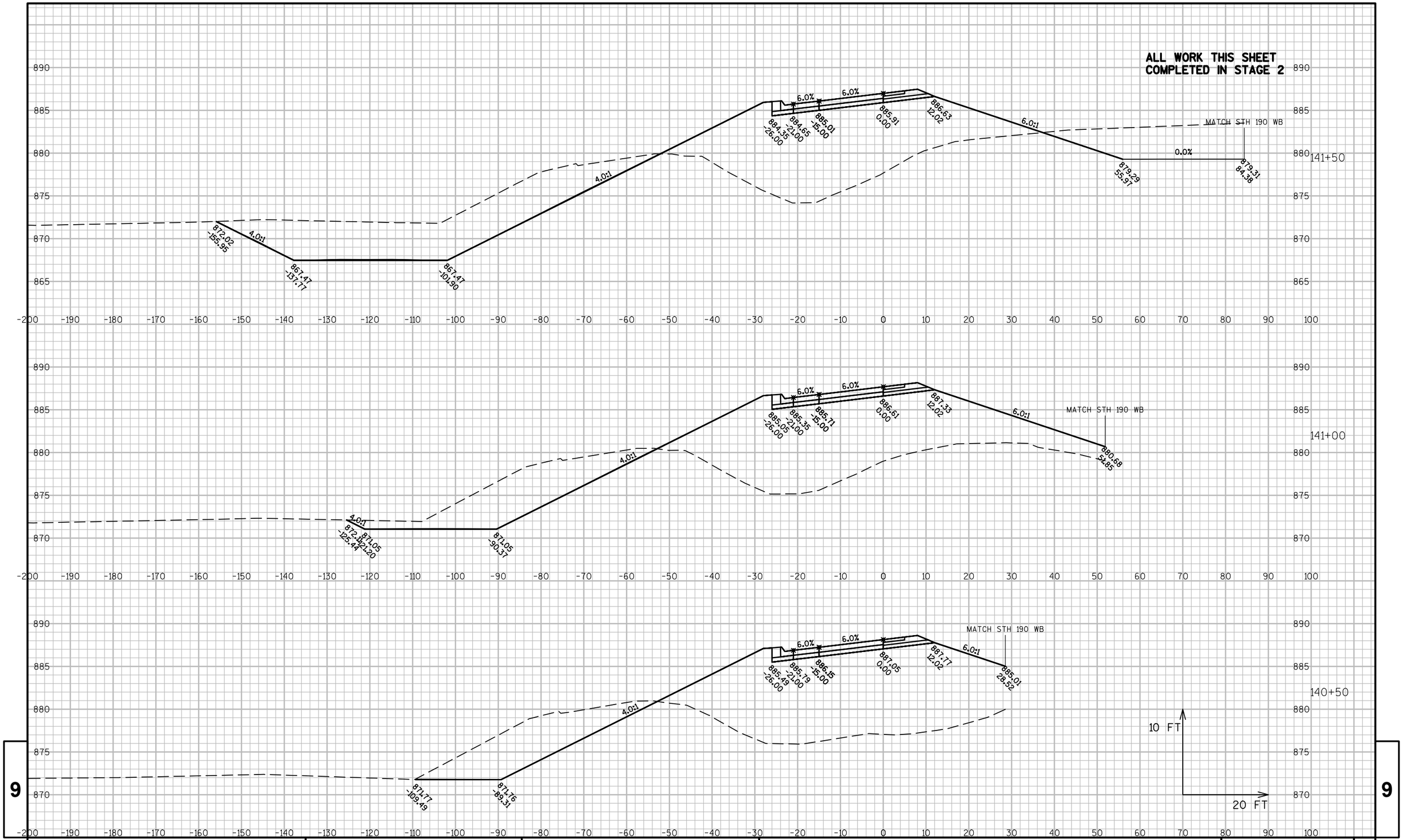
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP A	SHEET 573	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090203-XS-RAMPA.DWG PLOT DATE : 10/26/2016 3:02 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

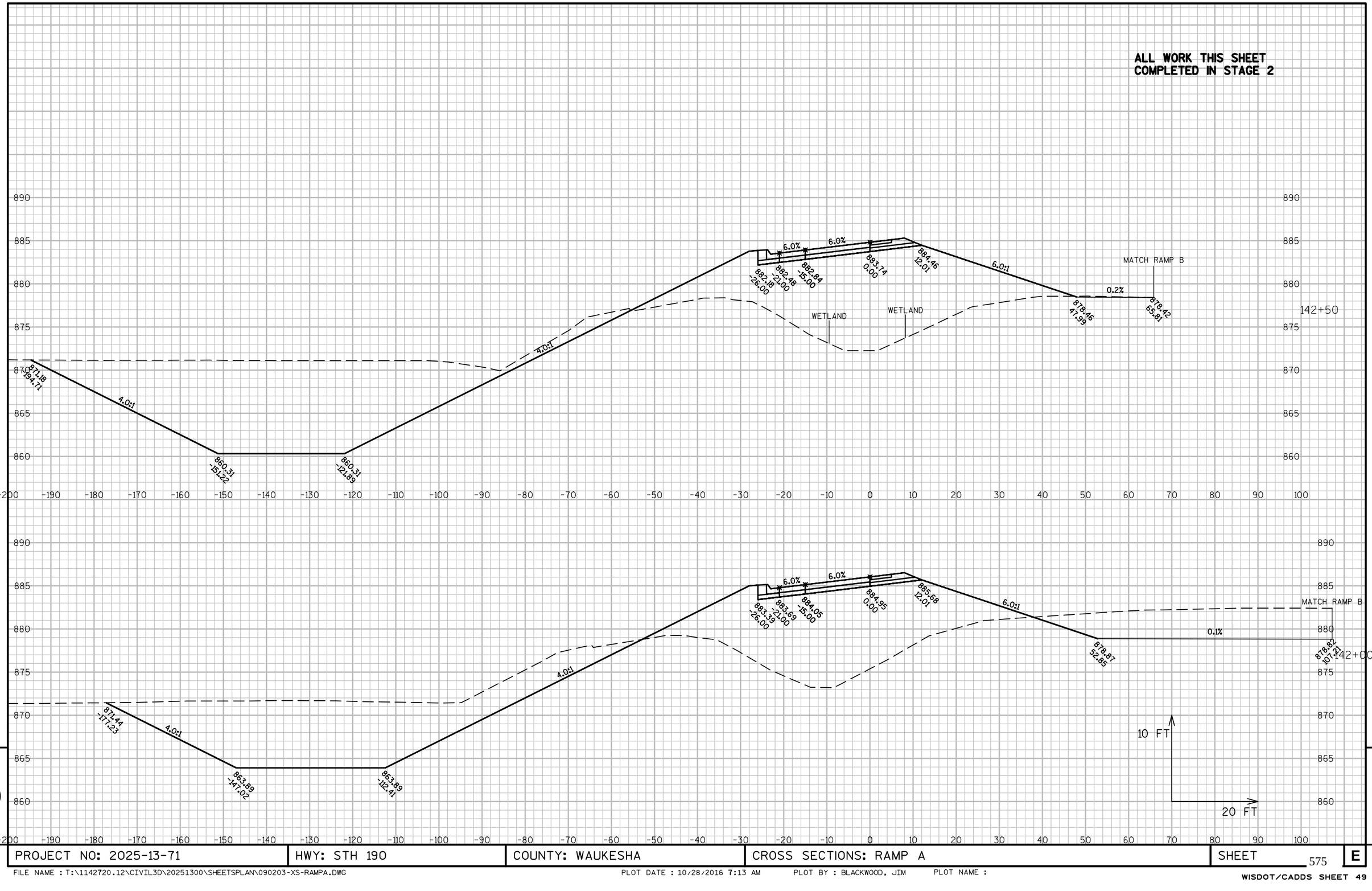
ALL WORK THIS SHEET COMPLETED IN STAGE 2



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP A	SHEET 574	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090203-XS-RAMPA.DWG PLOT DATE : 10/26/2016 3:02 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

ALL WORK THIS SHEET
COMPLETED IN STAGE 2



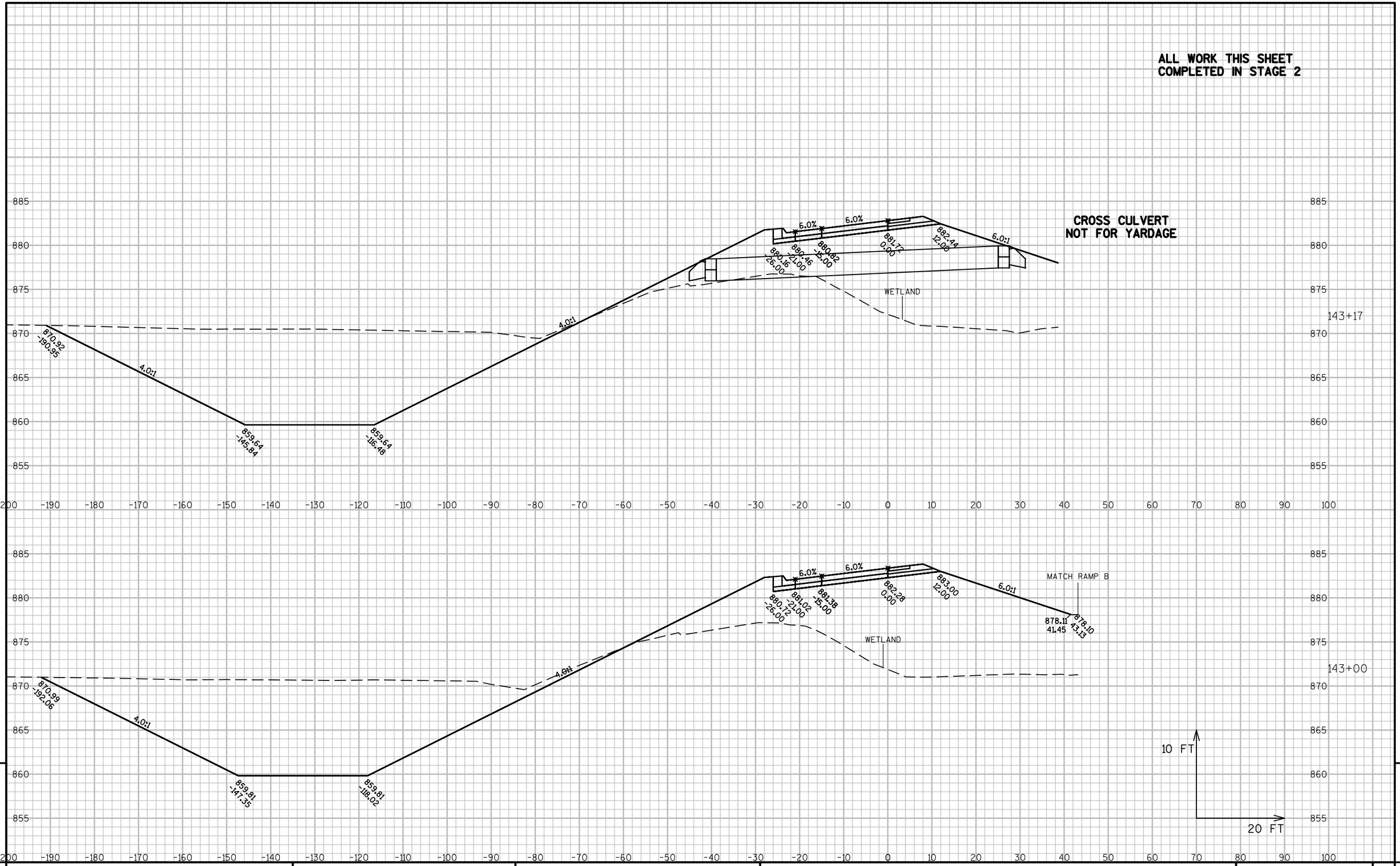
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP A	SHEET 575	E

FILE NAME : T:\1142720.12\CIVIL3D\20251300\SHEETSPLAN\090203-XS-RAMPA.DWG PLOT DATE : 10/28/2016 7:13 AM PLOT BY : BLACKWOOD, JIM PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK THIS SHEET
COMPLETED IN STAGE 2

CROSS CULVERT
NOT FOR YARDAGE

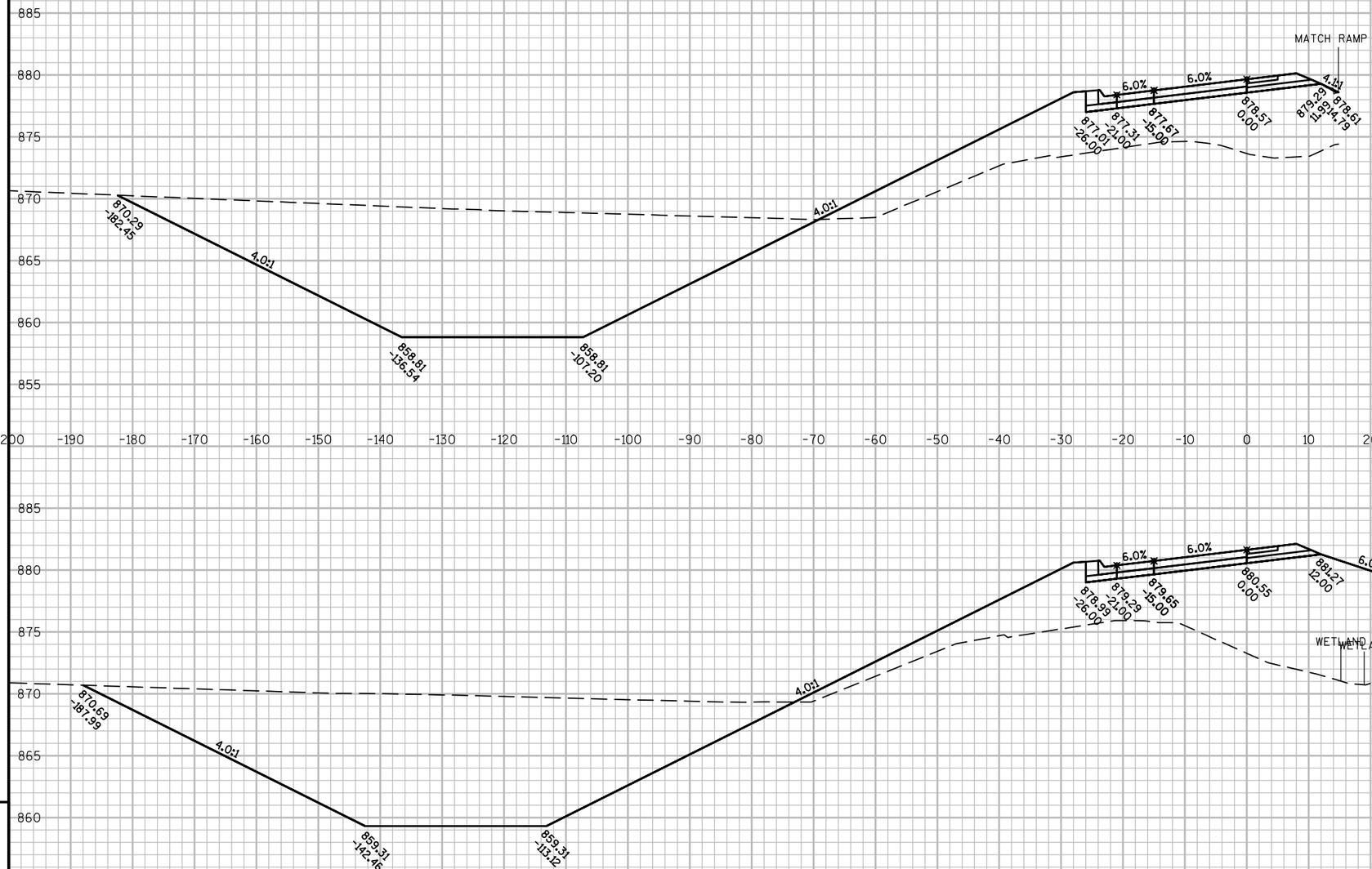


PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP A	SHEET 576	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090203-XS-RAMPA.DWG PLOT DATE : 10/26/2016 3:02 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK THIS SHEET COMPLETED IN STAGE 2



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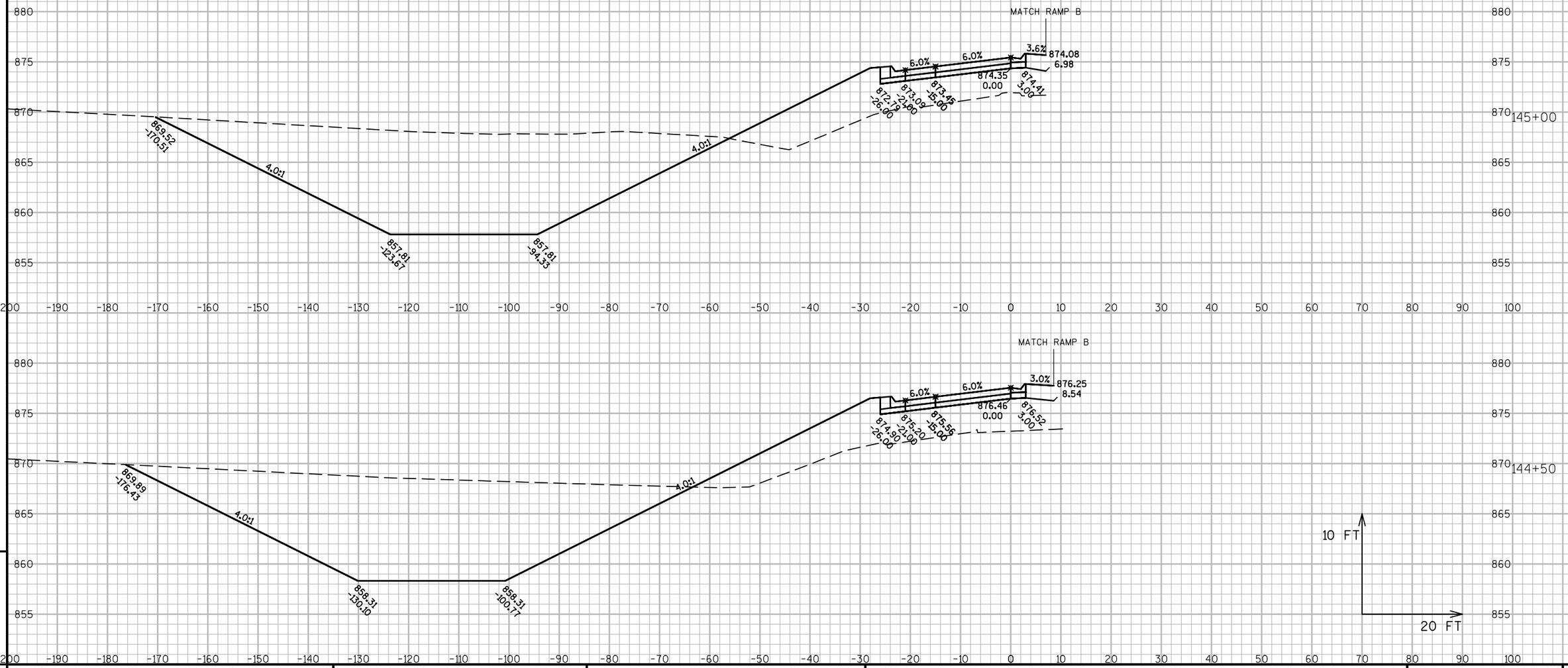
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP A	SHEET 577	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090203-XS-RAMPA.DWG PLOT DATE : 10/26/2016 3:02 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

ALL WORK THIS SHEET COMPLETED IN STAGE 2

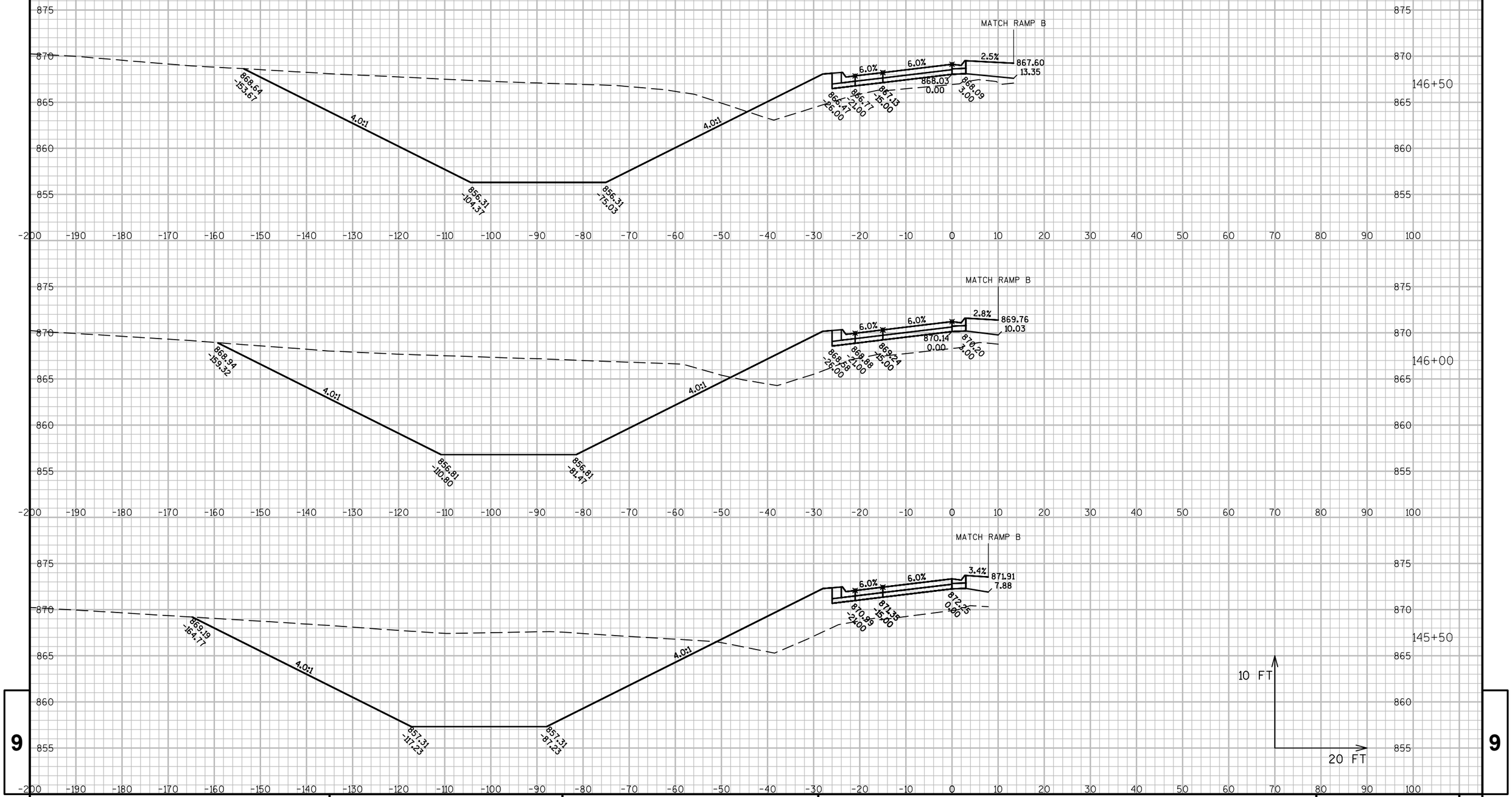


PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP A	SHEET 578	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090203-XS-RAMPA.DWG PLOT DATE : 10/26/2016 3:02 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK THIS SHEET COMPLETED IN STAGE 2



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP A	SHEET 579	E

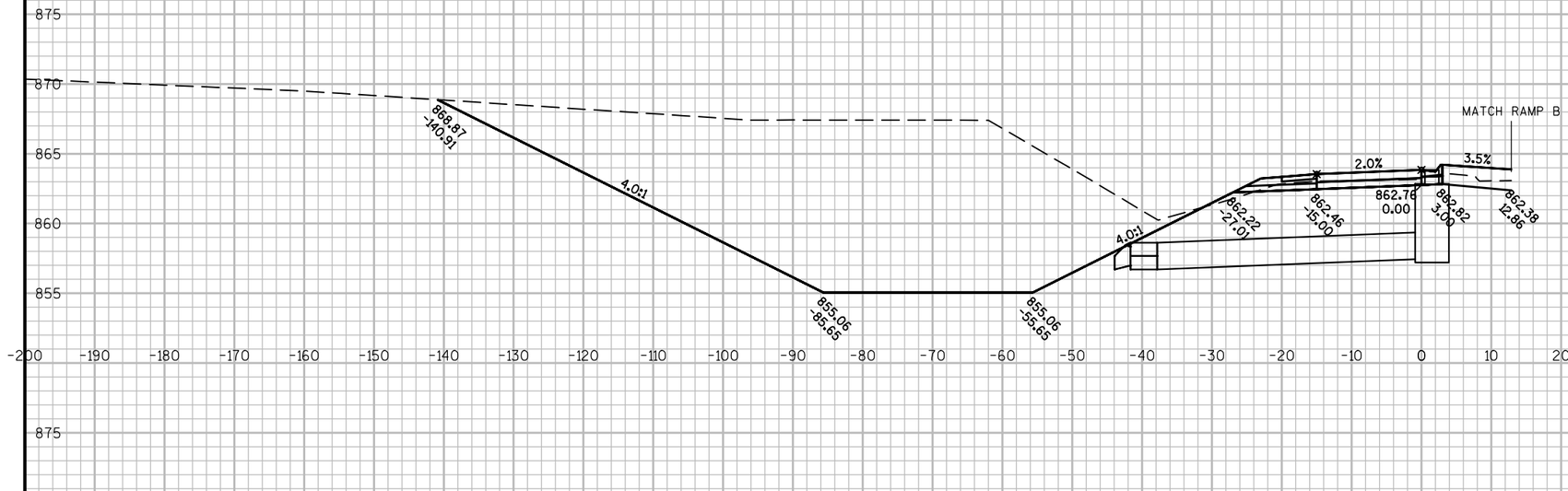
FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090203-XS-RAMPA.DWG PLOT DATE : 10/26/2016 3:02 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

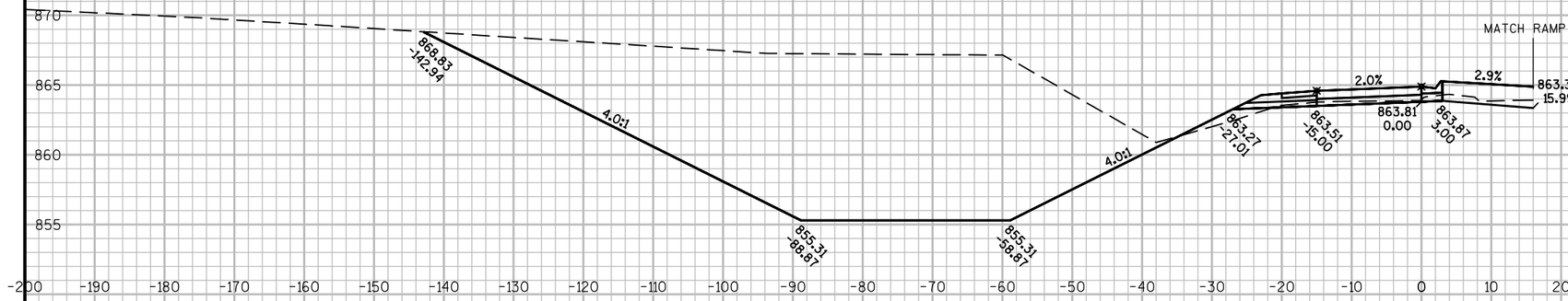
ALL WORK THIS SHEET
COMPLETED IN STAGE 2

STORM SEWER
OUTFALL LT

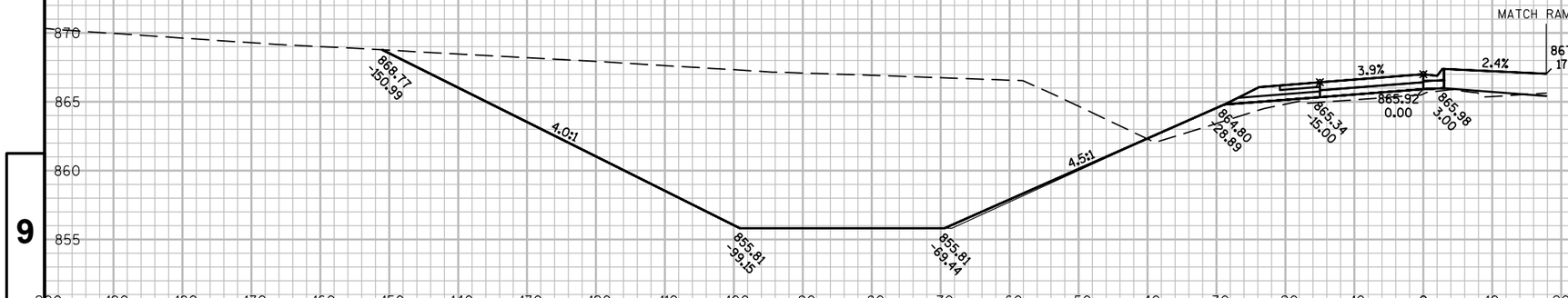
147+75



147+50



147+00



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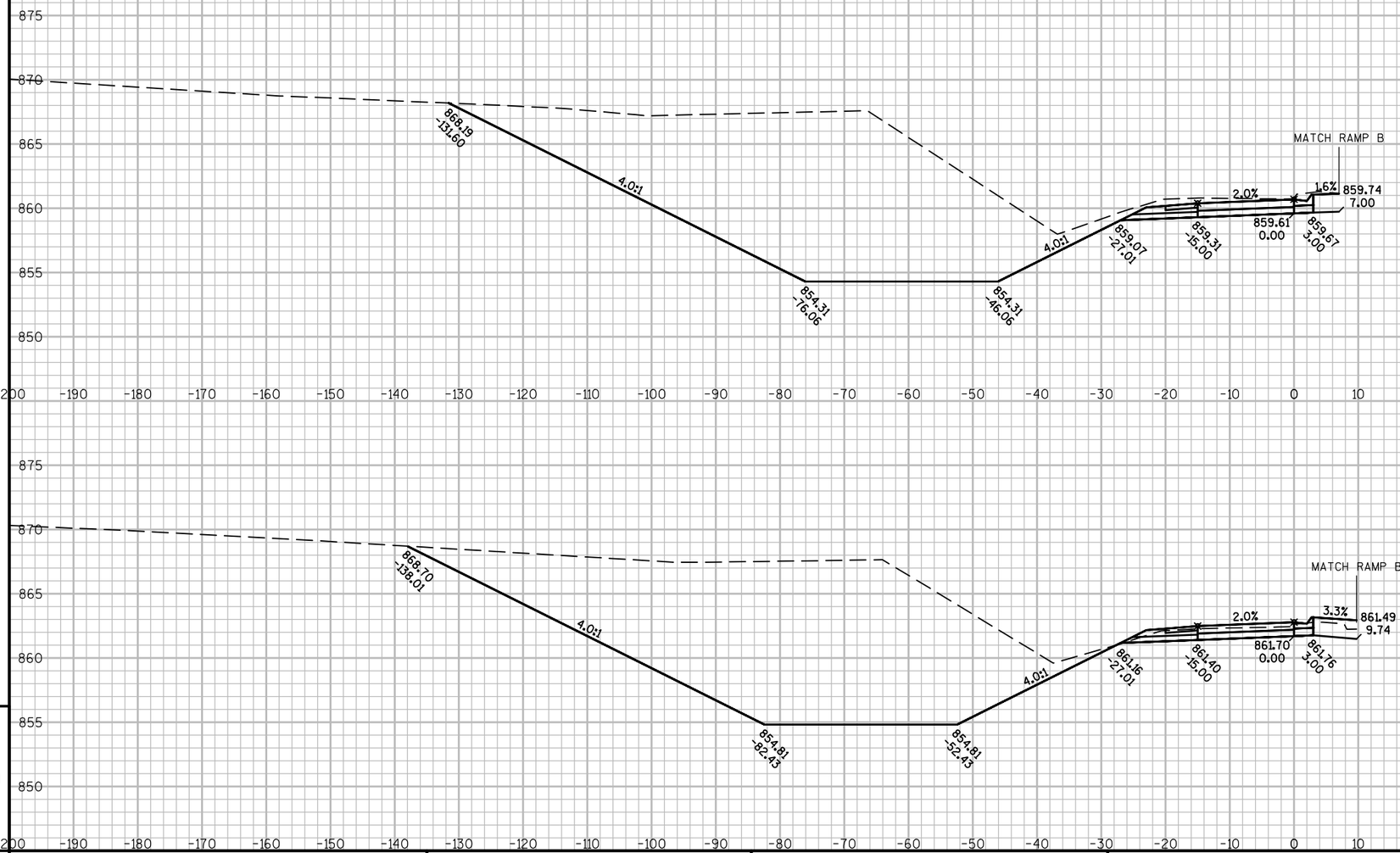
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP A	SHEET 580	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090203-XS-RAMPA.DWG PLOT DATE : 10/26/2016 3:02 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

ALL WORK THIS SHEET COMPLETED IN STAGE 2

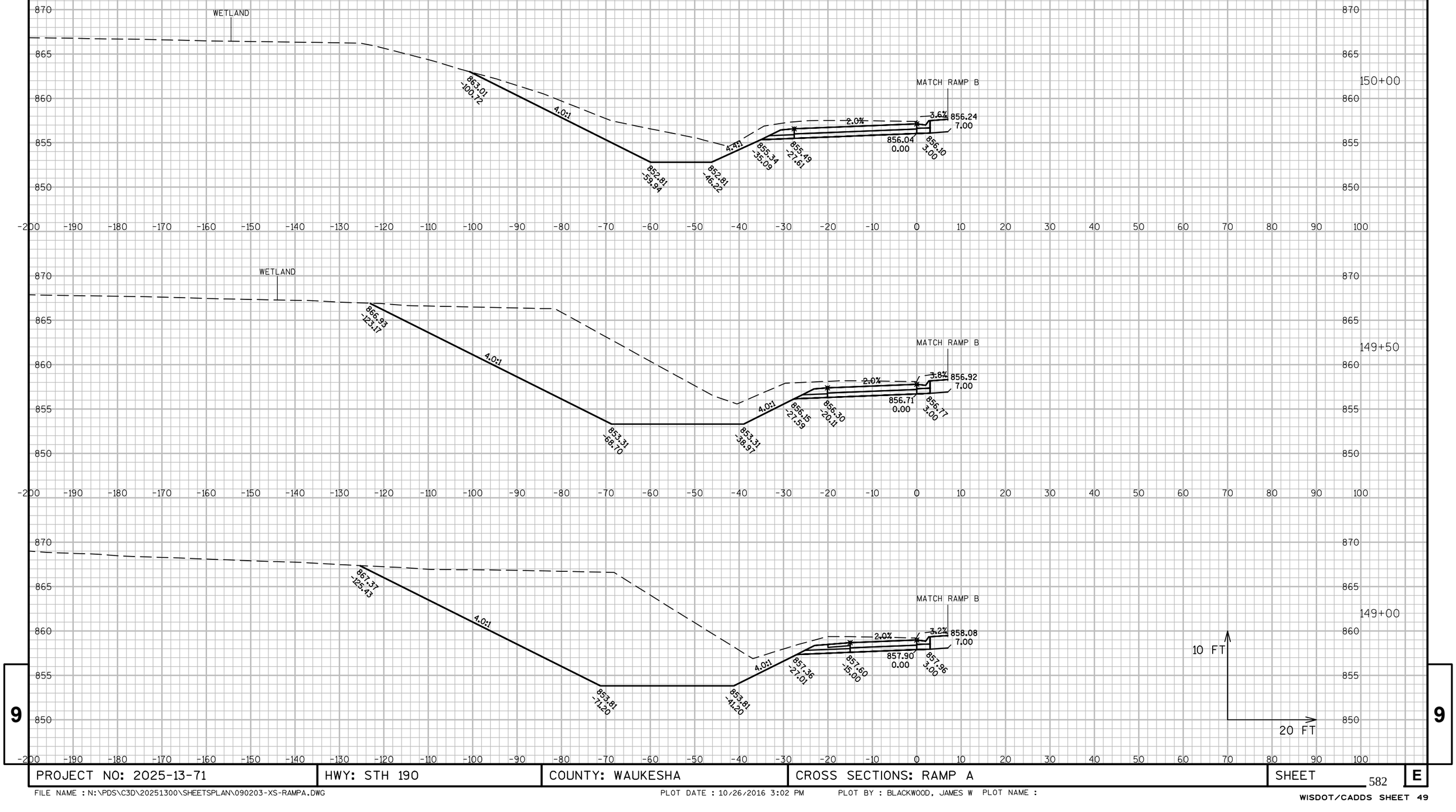


PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP A	SHEET 581	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090203-XS-RAMPA.DWG PLOT DATE : 10/26/2016 3:02 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK THIS SHEET COMPLETED IN STAGE 2



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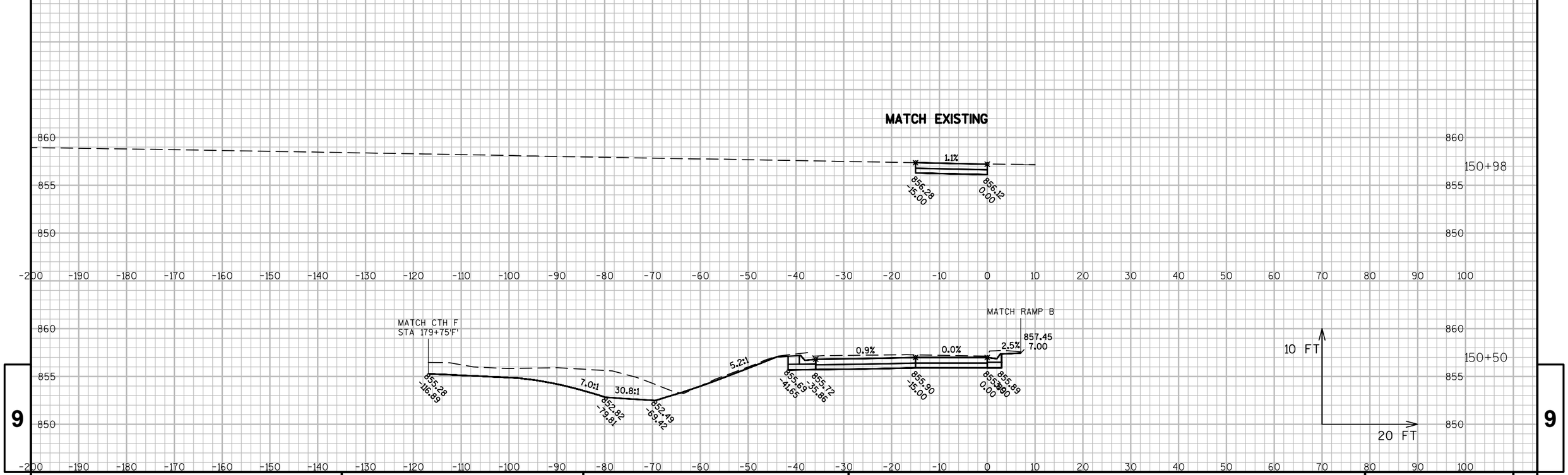
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP A	SHEET 582	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090203-XS-RAMPA.DWG PLOT DATE : 10/26/2016 3:02 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

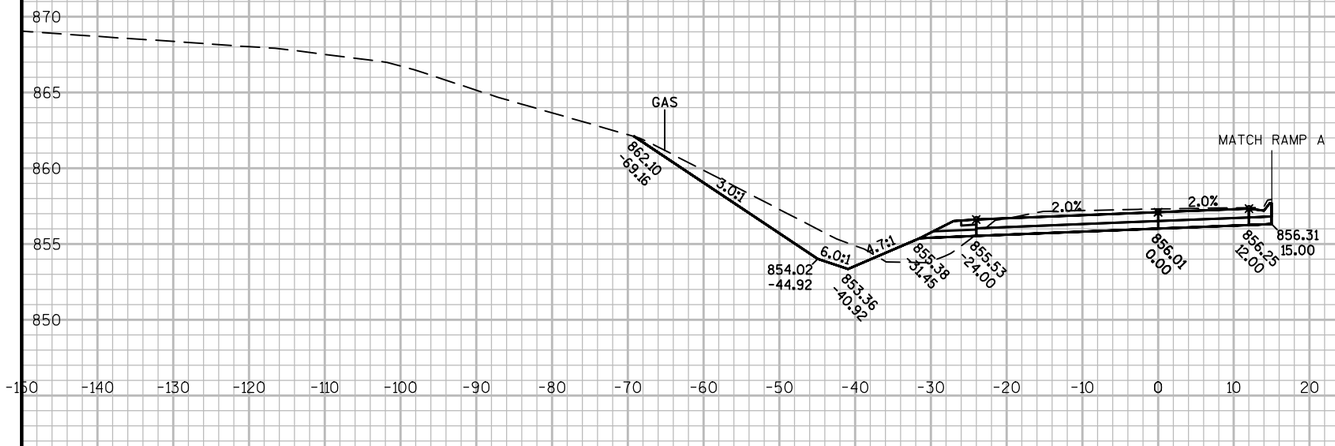
ALL WORK THIS SHEET
COMPLETED IN STAGE 2



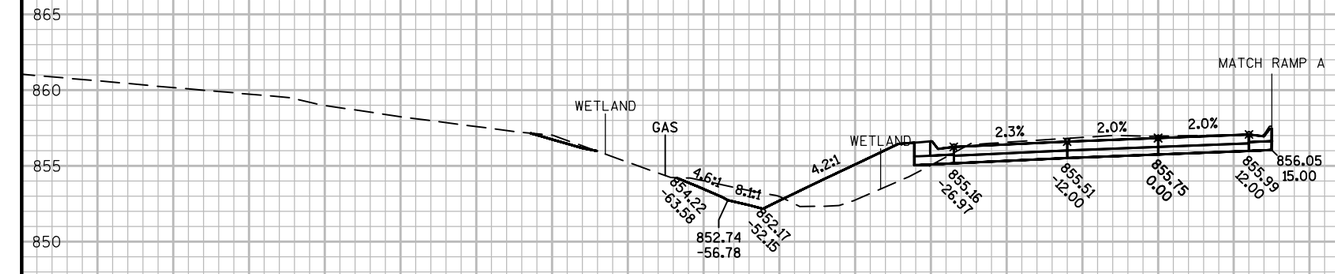
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP A	SHEET 583	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090203-XS-RAMPA.DWG PLOT DATE : 10/26/2016 3:02 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

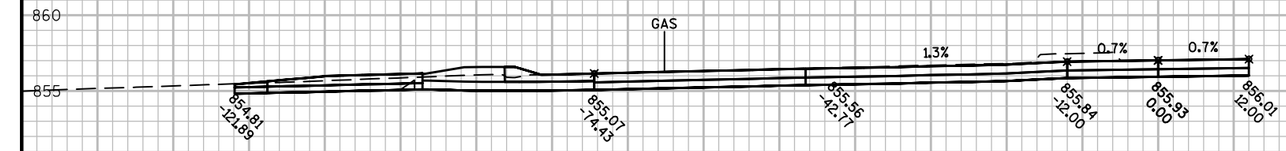
ALL WORK ON THIS SHEET TO BE COMPLETED IN STAGE 2



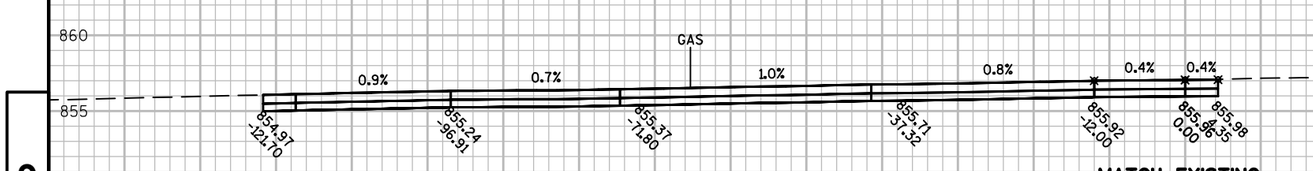
134+00



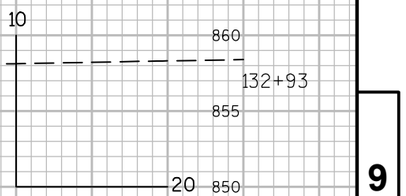
133+50



133+00



132+93



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PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP B	SHEET 584	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090204-XS-RAMPB.DWG PLOT DATE : 10/27/2016 8:37 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK ON THIS SHEET
TO BE COMPLETED IN STAGE 2

9

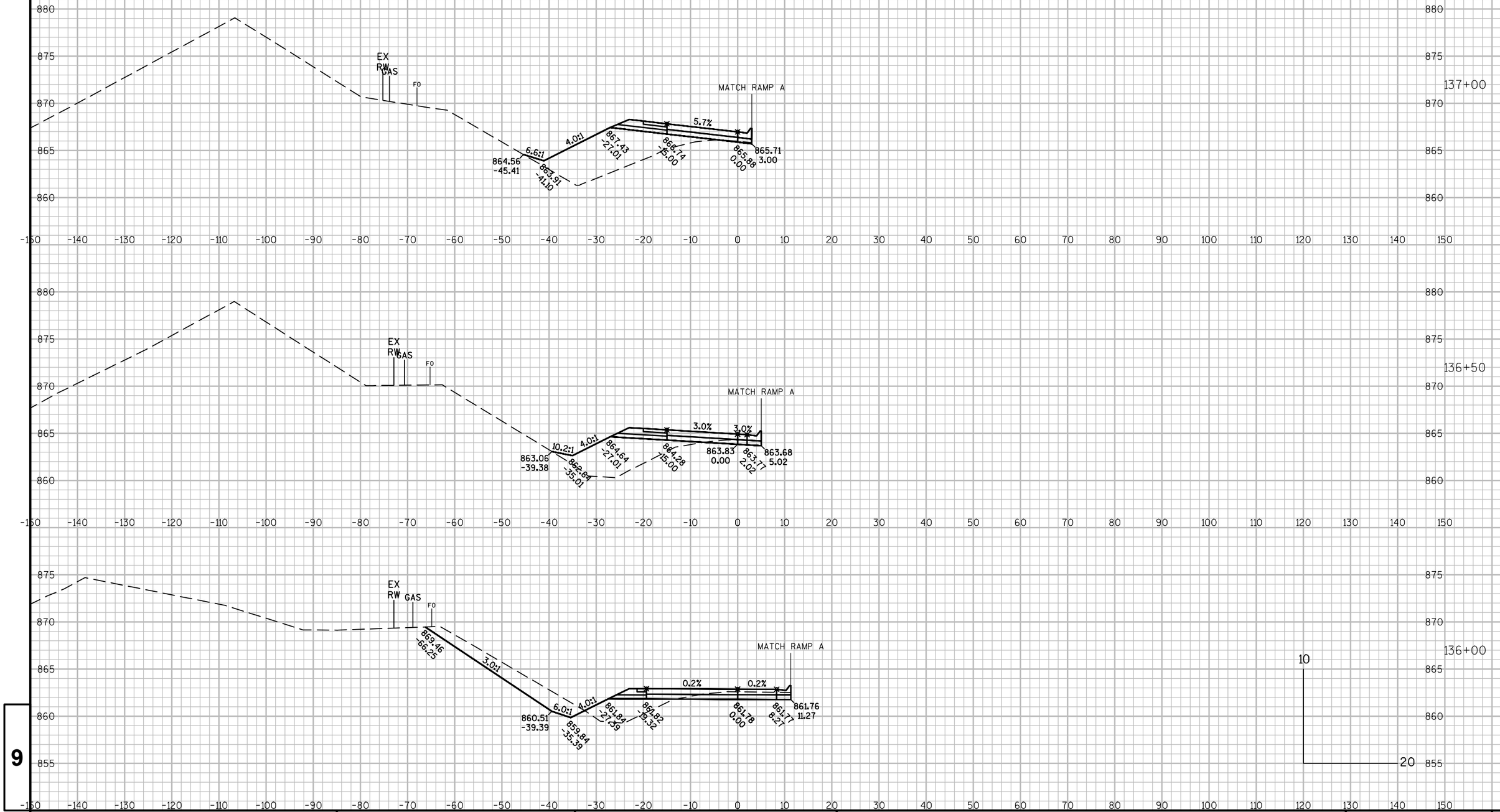
9

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP B	SHEET 585	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090204-XS-RAMPB.DWG PLOT DATE : 10/27/2016 8:37 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK ON THIS SHEET TO BE COMPLETED IN STAGE 2

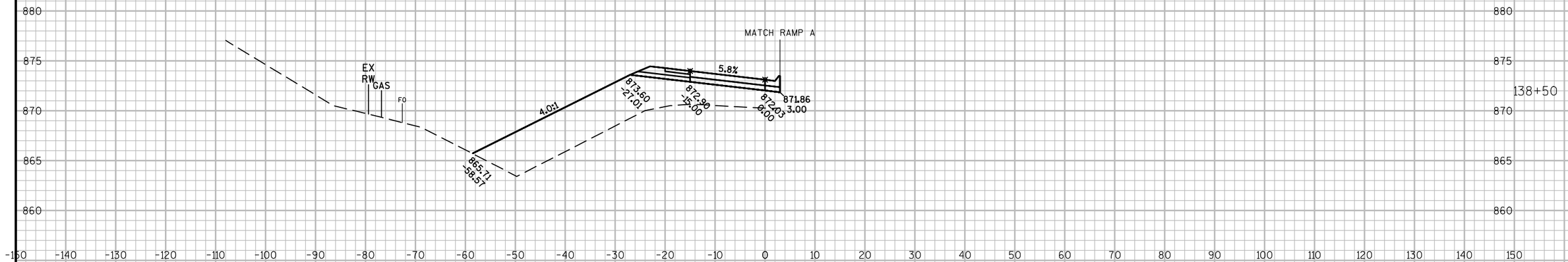


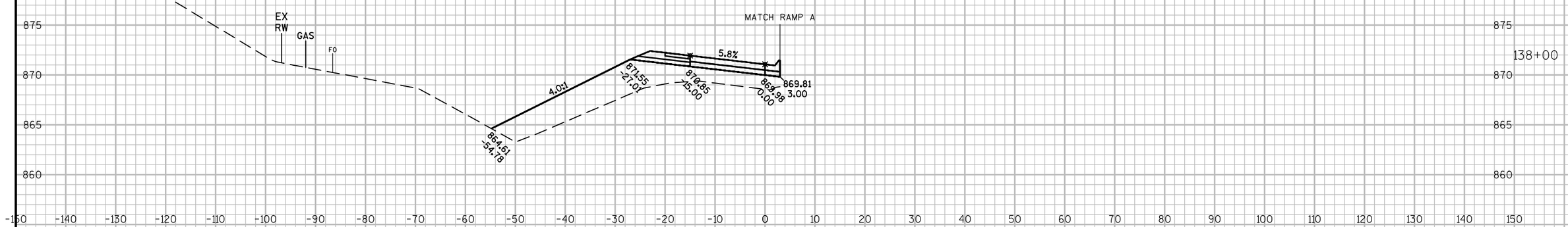
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP B	SHEET 586	E

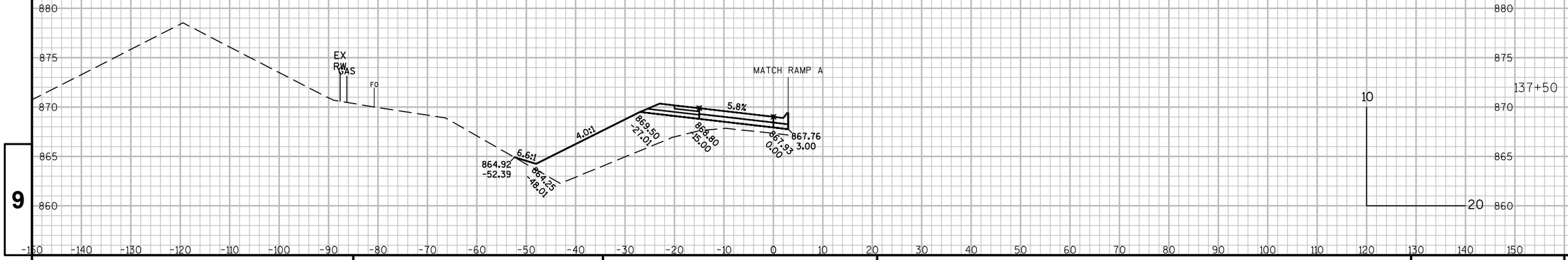
FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090204-XS-RAMPB.DWG PLOT DATE : 10/27/2016 8:37 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK ON THIS SHEET TO BE COMPLETED IN STAGE 2







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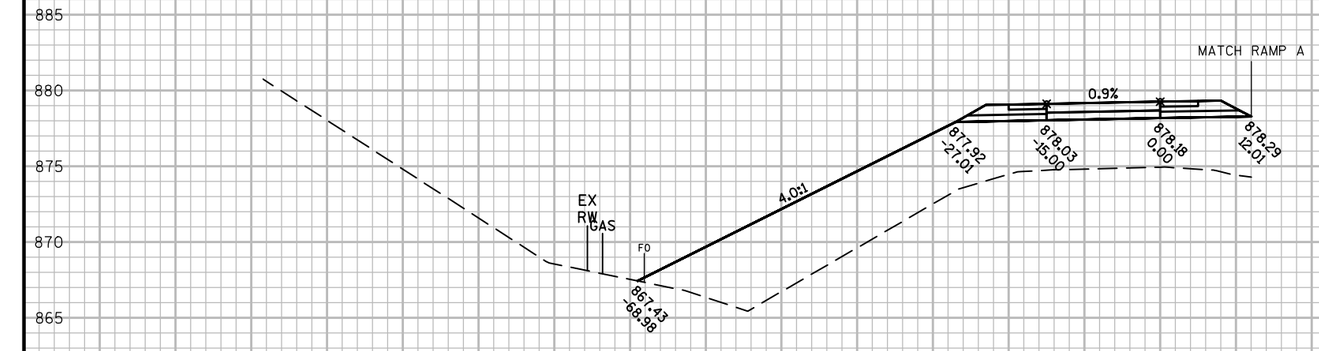
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP B	SHEET 587	E

ALL WORK ON THIS SHEET
TO BE COMPLETED IN STAGE 2



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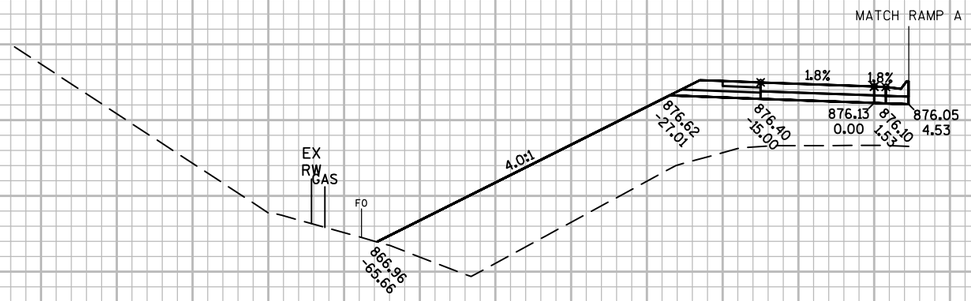
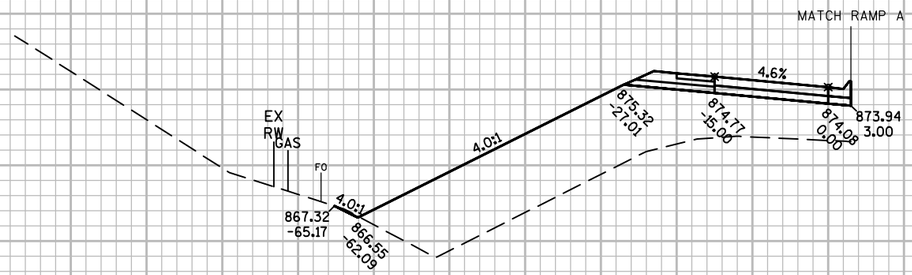


139+50



139+00

10

20

9

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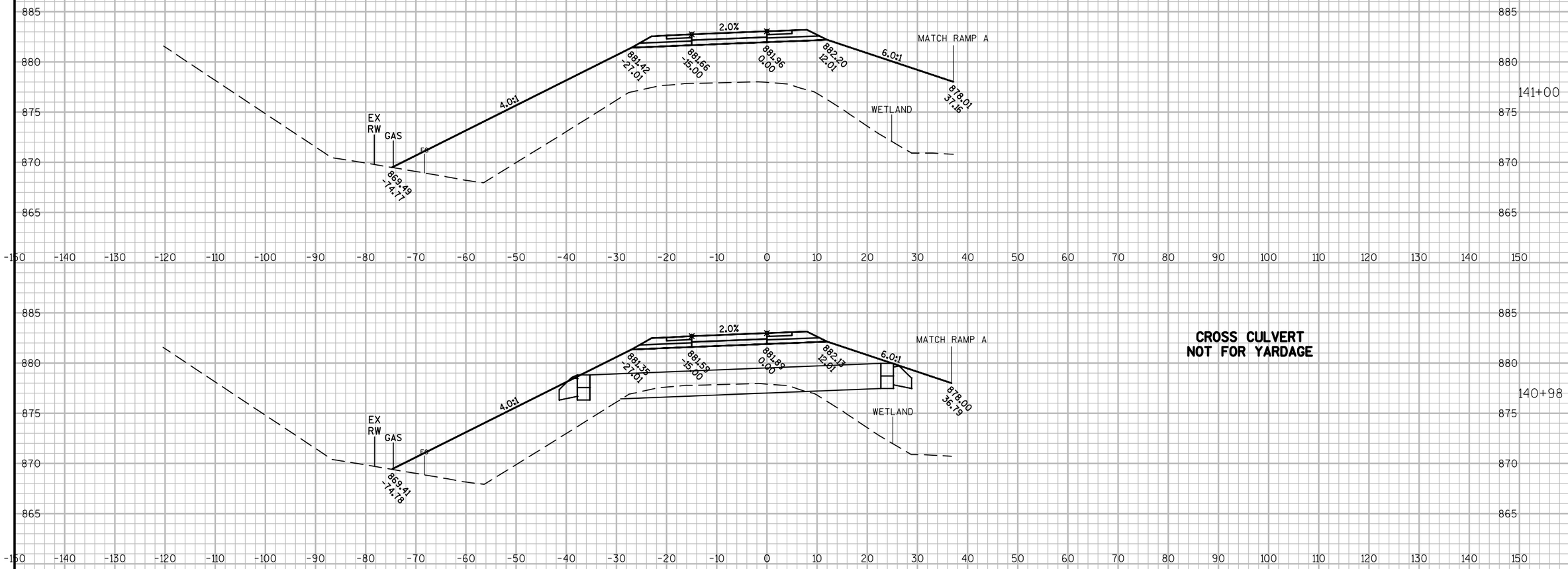
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP B	SHEET 588	E

ALL WORK ON THIS SHEET
TO BE COMPLETED IN STAGE 2



CROSS CULVERT
NOT FOR YARDAGE

9

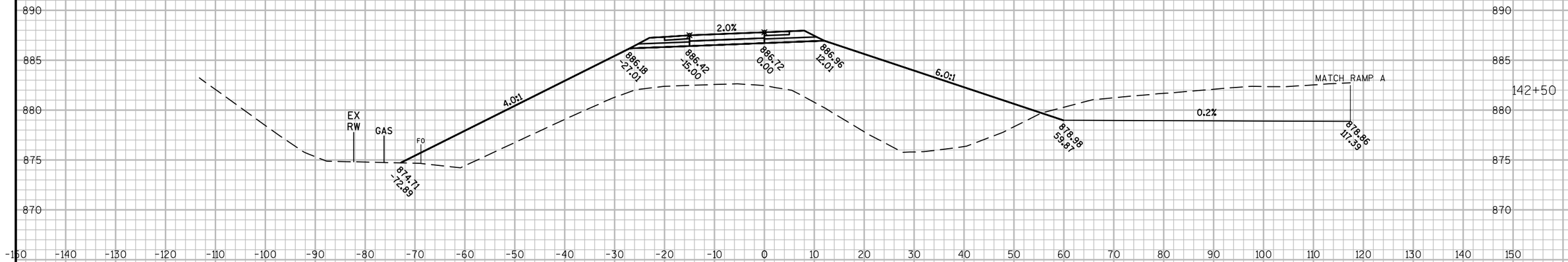
9

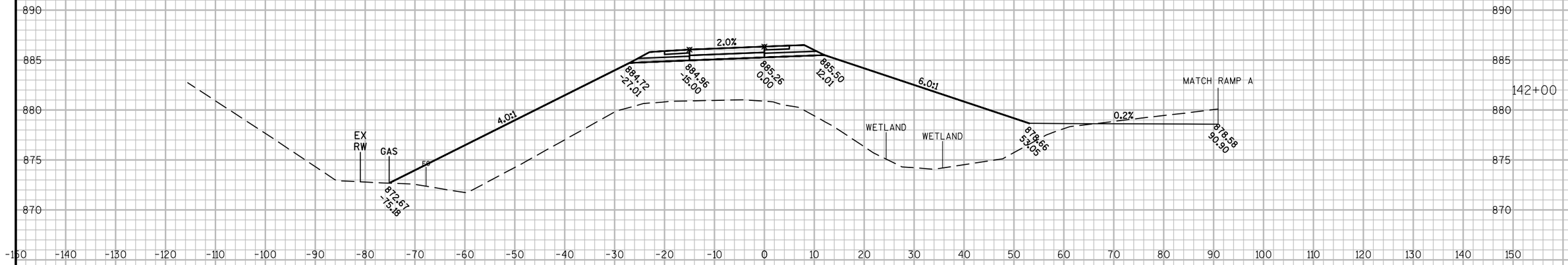
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP B	SHEET 589	E

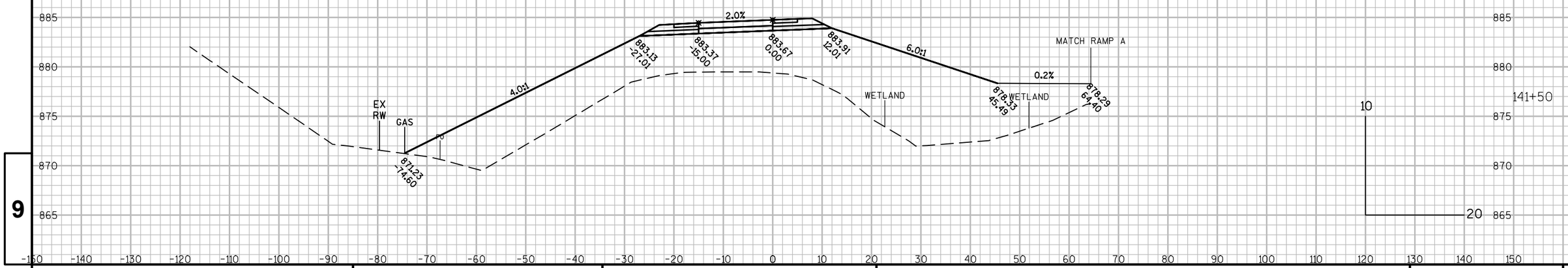
FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090204-XS-RAMPB.DWG PLOT DATE : 10/27/2016 8:37 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK ON THIS SHEET
TO BE COMPLETED IN STAGE 2



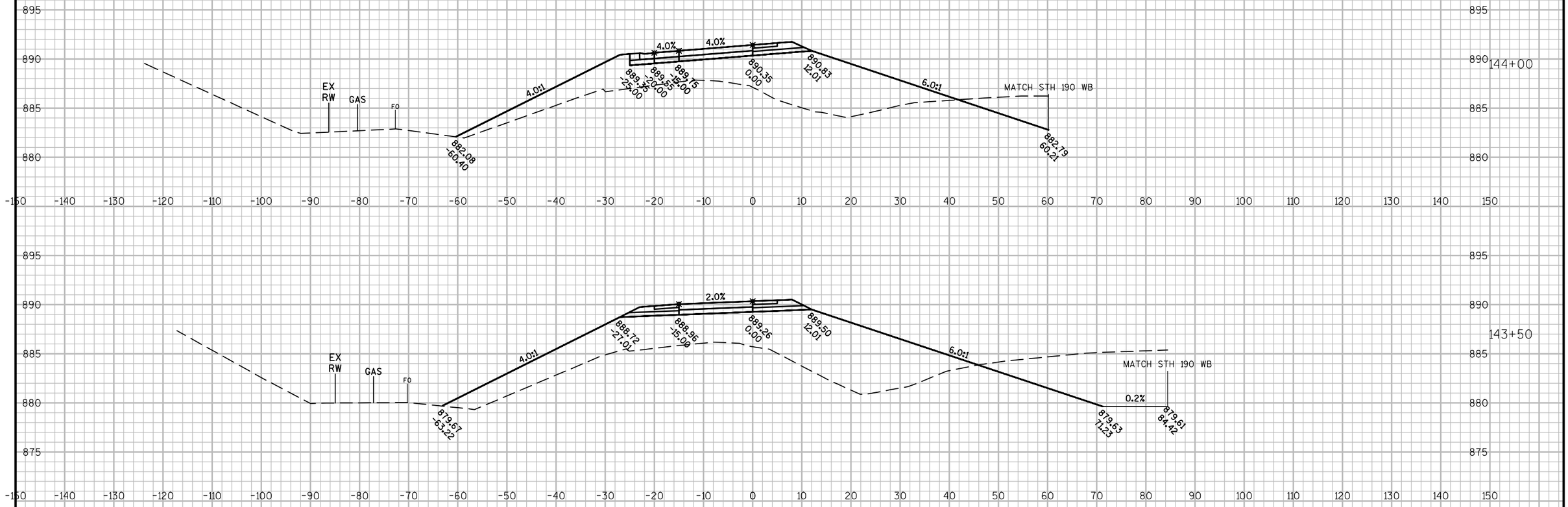


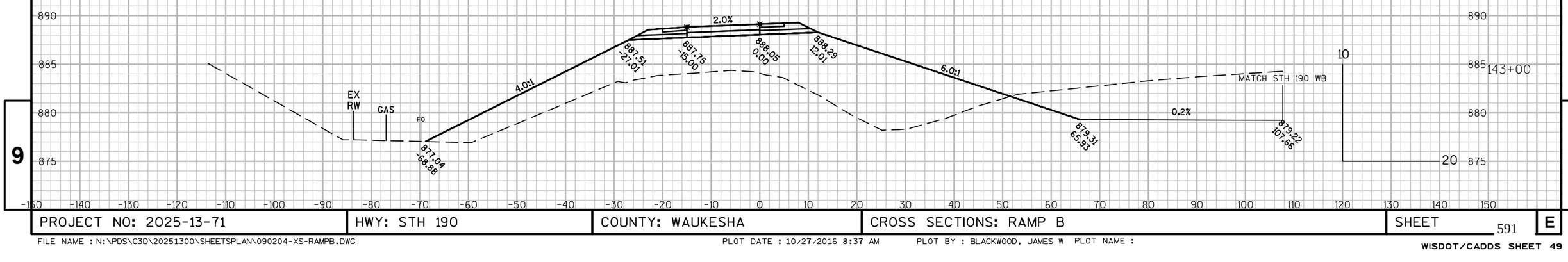


PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP B	SHEET 590	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090204-XS-RAMPB.DWG PLOT DATE : 10/27/2016 8:37 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

ALL WORK ON THIS SHEET
TO BE COMPLETED IN STAGE 2





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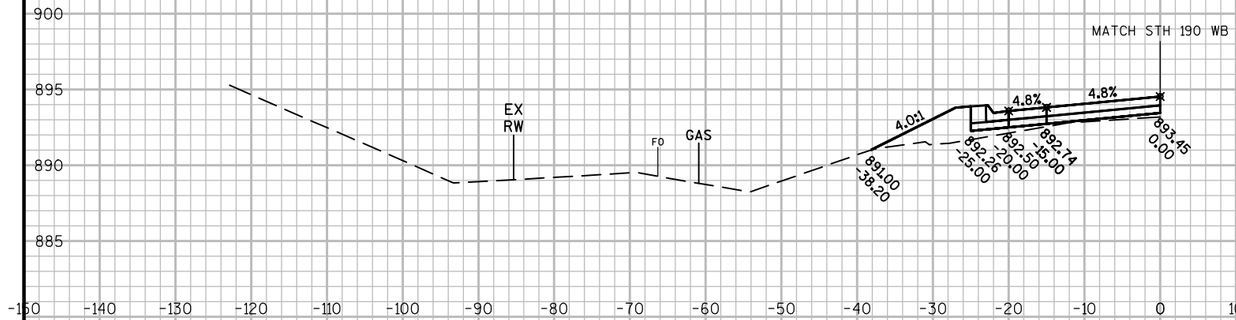
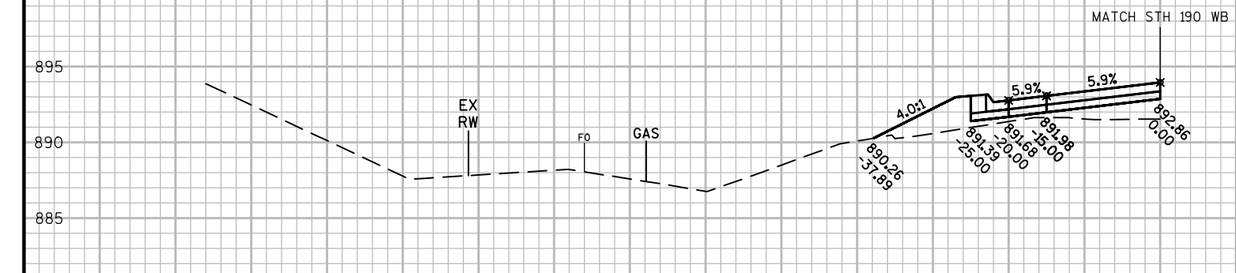
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP B	SHEET 591	E

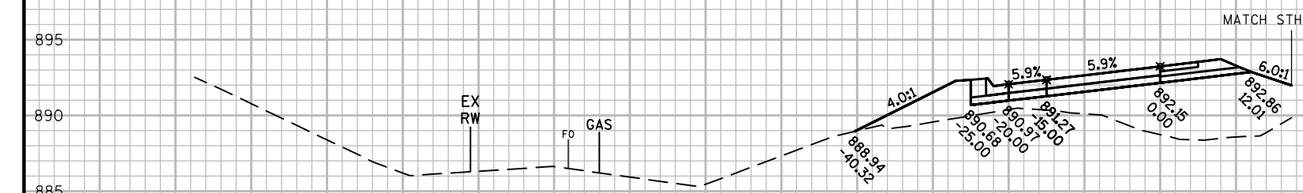
FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090204-XS-RAMPB.DWG PLOT DATE : 10/27/2016 8:37 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

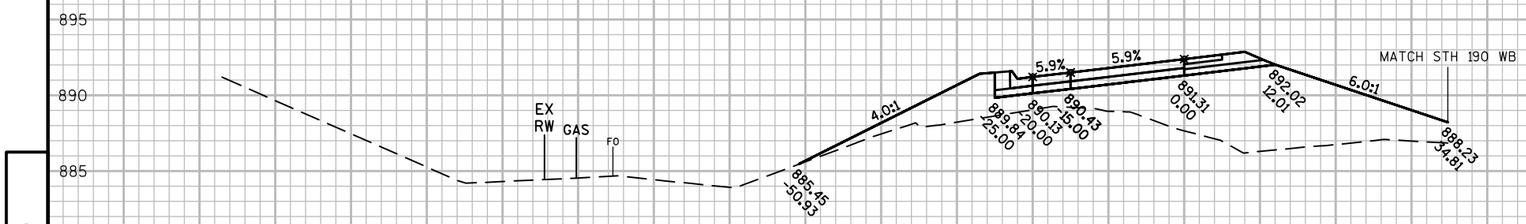
WISDOT/CADDS SHEET 49

ALL WORK ON THIS SHEET
TO BE COMPLETED IN STAGE 2









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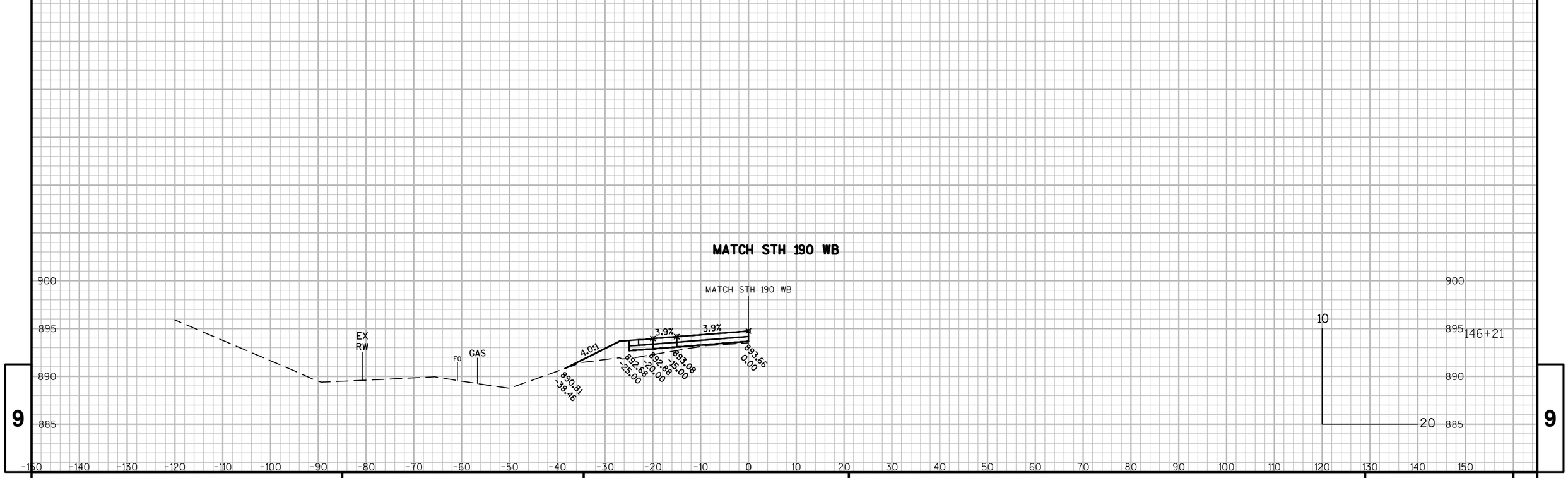
9

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP B	SHEET 592	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090204-XS-RAMPB.DWG PLOT DATE : 10/27/2016 8:37 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

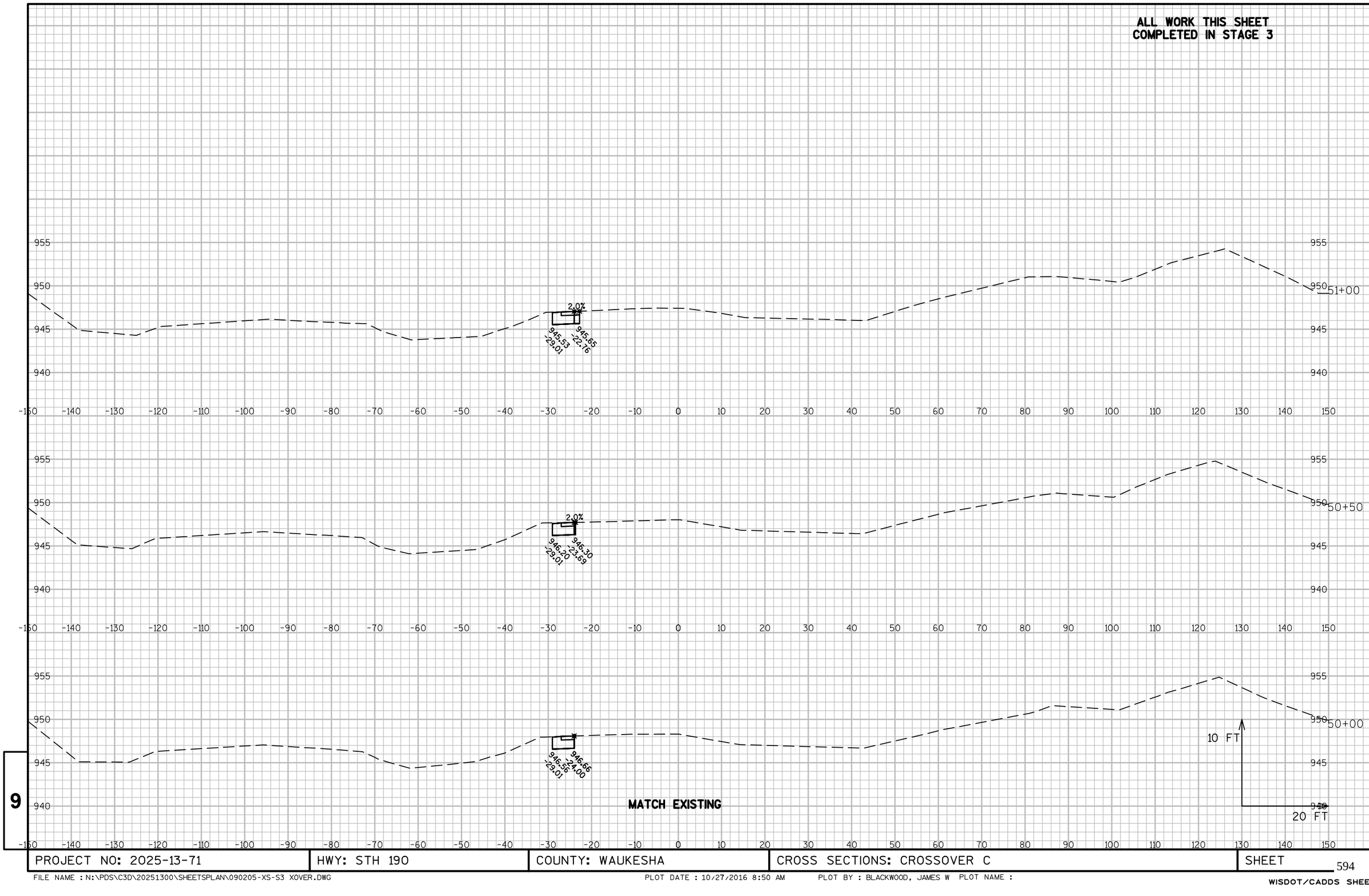
ALL WORK ON THIS SHEET
TO BE COMPLETED IN STAGE 2



9 9

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP B	SHEET 593	E

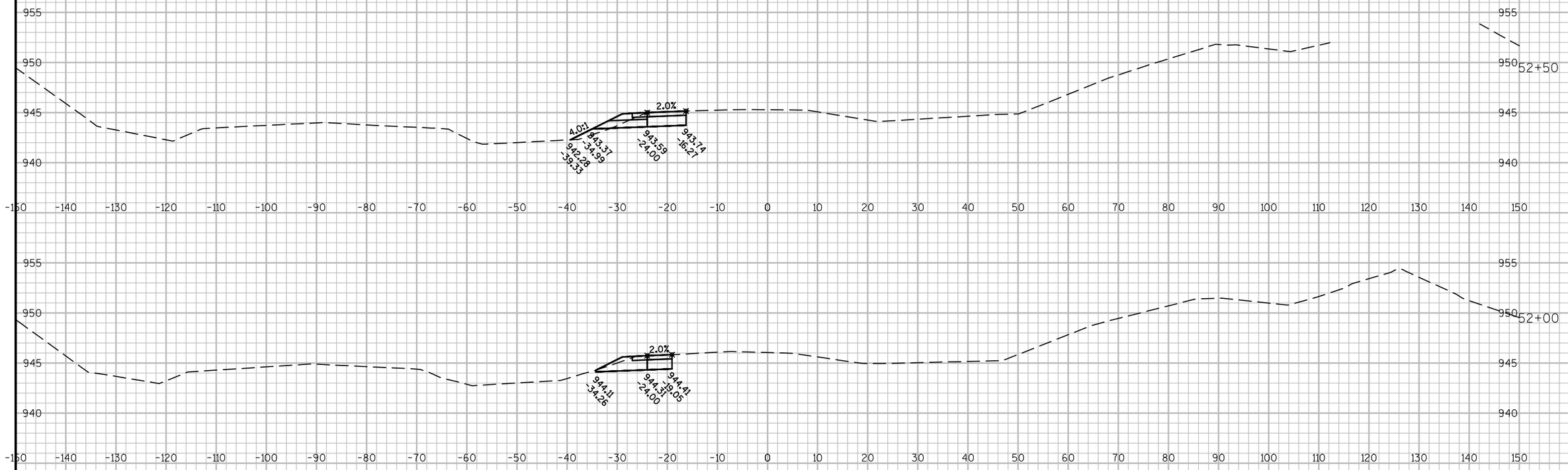
ALL WORK THIS SHEET
COMPLETED IN STAGE 3



9 9

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER C	SHEET 594	E

ALL WORK THIS SHEET
COMPLETED IN STAGE 3



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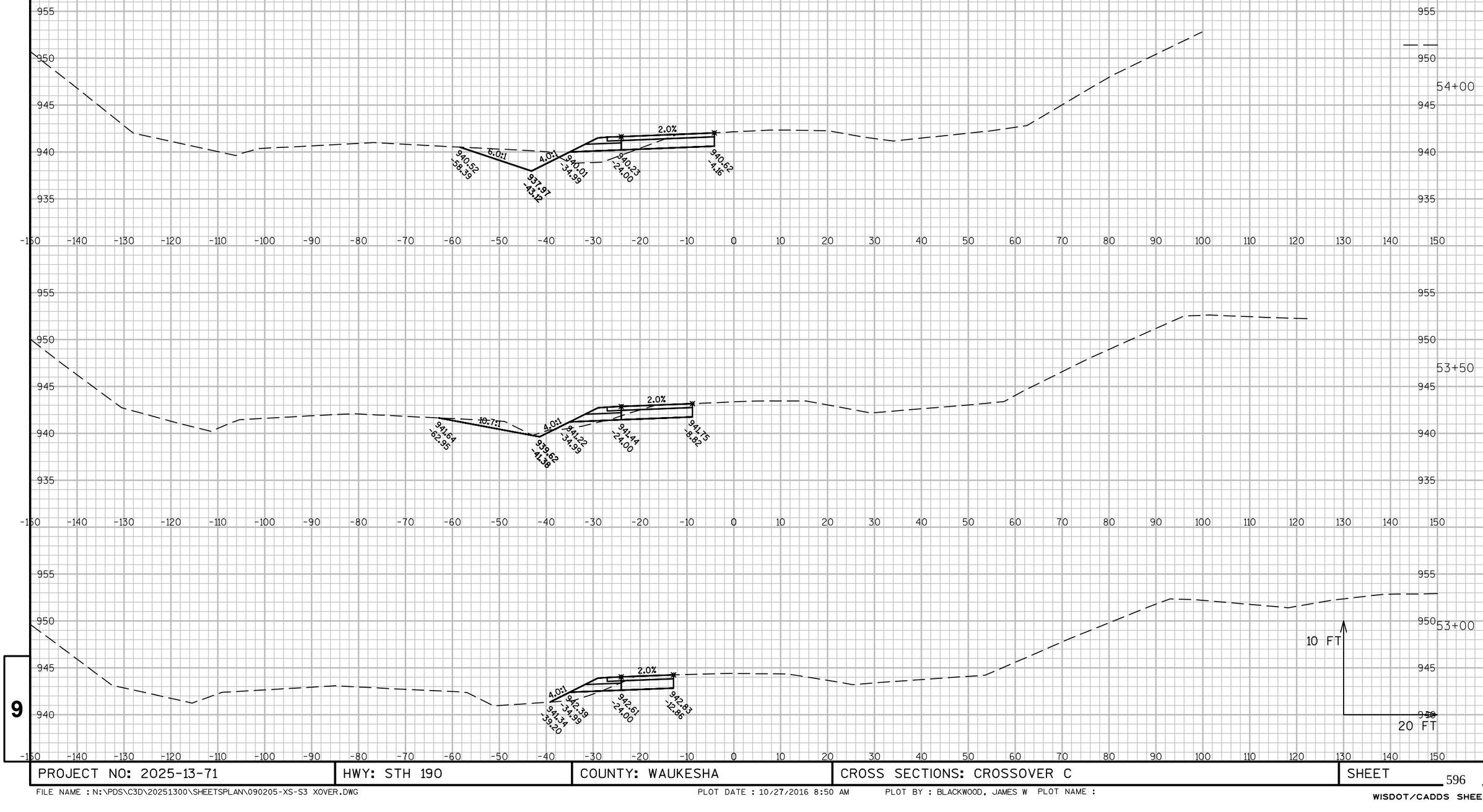
9

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER C	SHEET 595	E

ALL WORK THIS SHEET COMPLETED IN STAGE 3

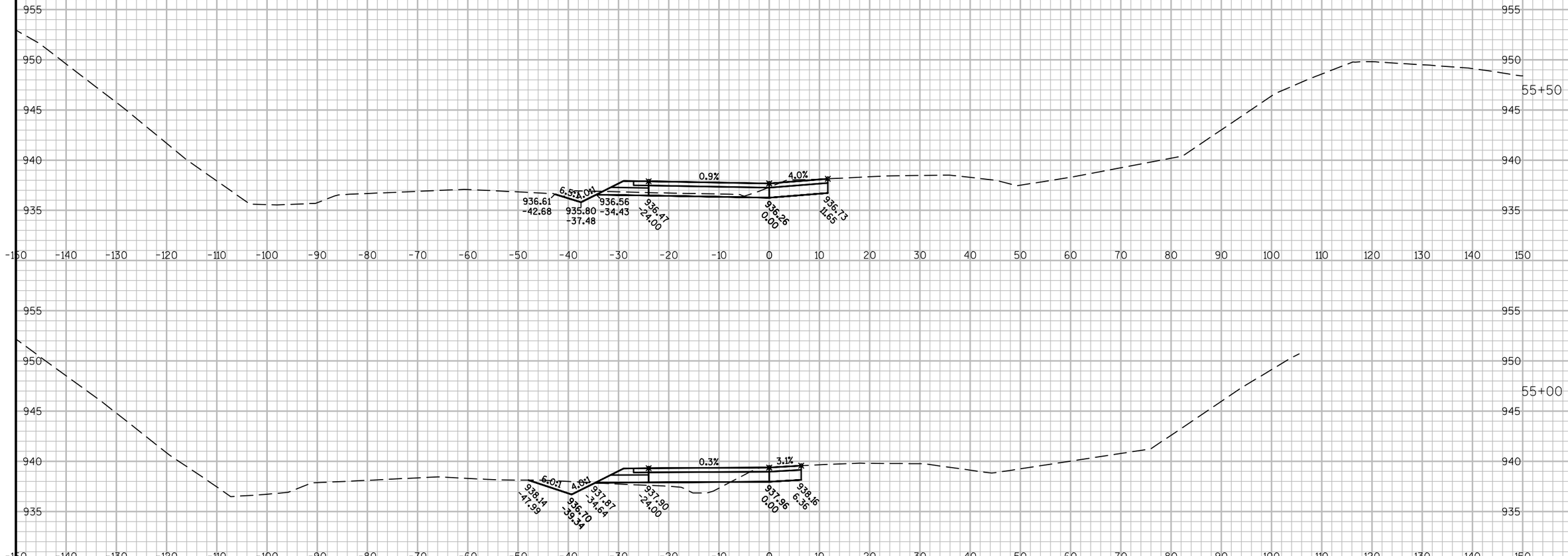


PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER C	SHEET 596 E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090205-XS-S3 XOVER.DWG PLOT DATE : 10/27/2016 8:50 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK THIS SHEET COMPLETED IN STAGE 3

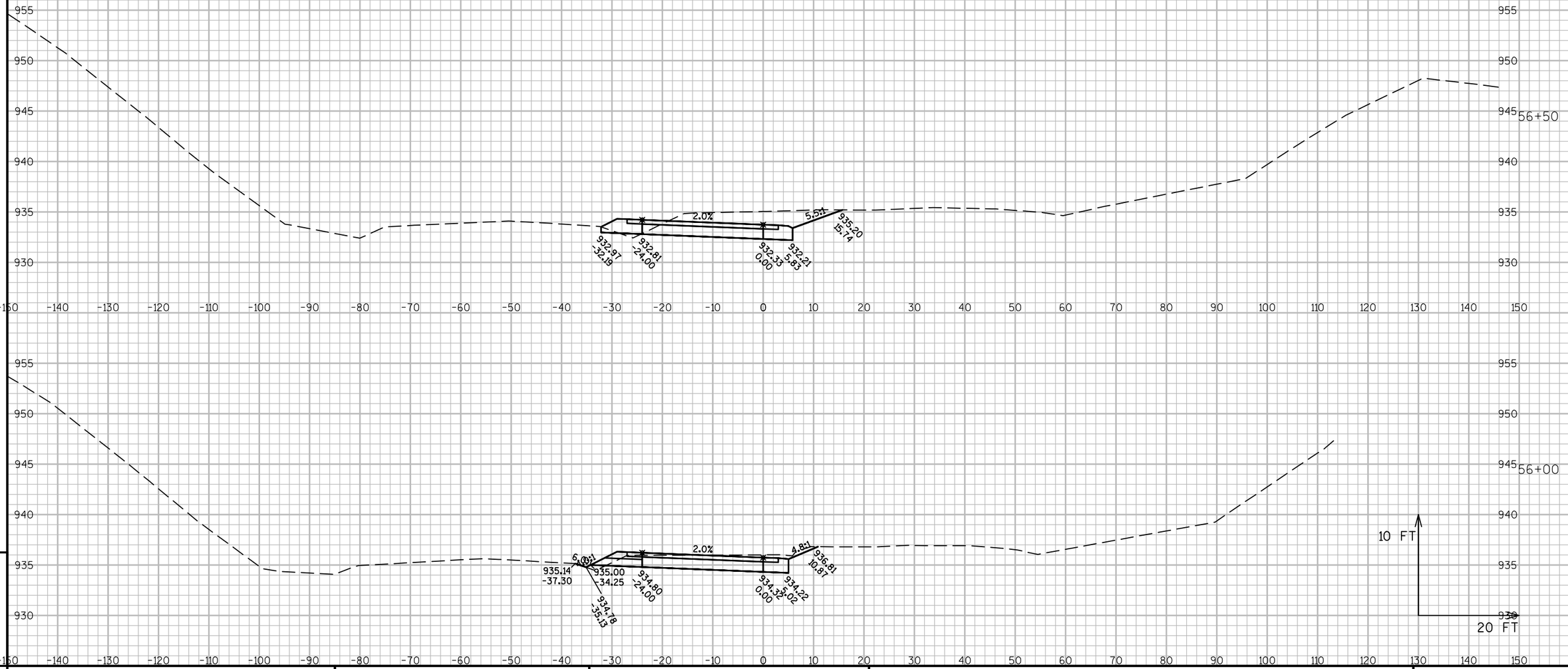


PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER C	SHEET 597	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090205-XS-S3 XOVER.DWG PLOT DATE : 10/27/2016 8:50 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK THIS SHEET
COMPLETED IN STAGE 3

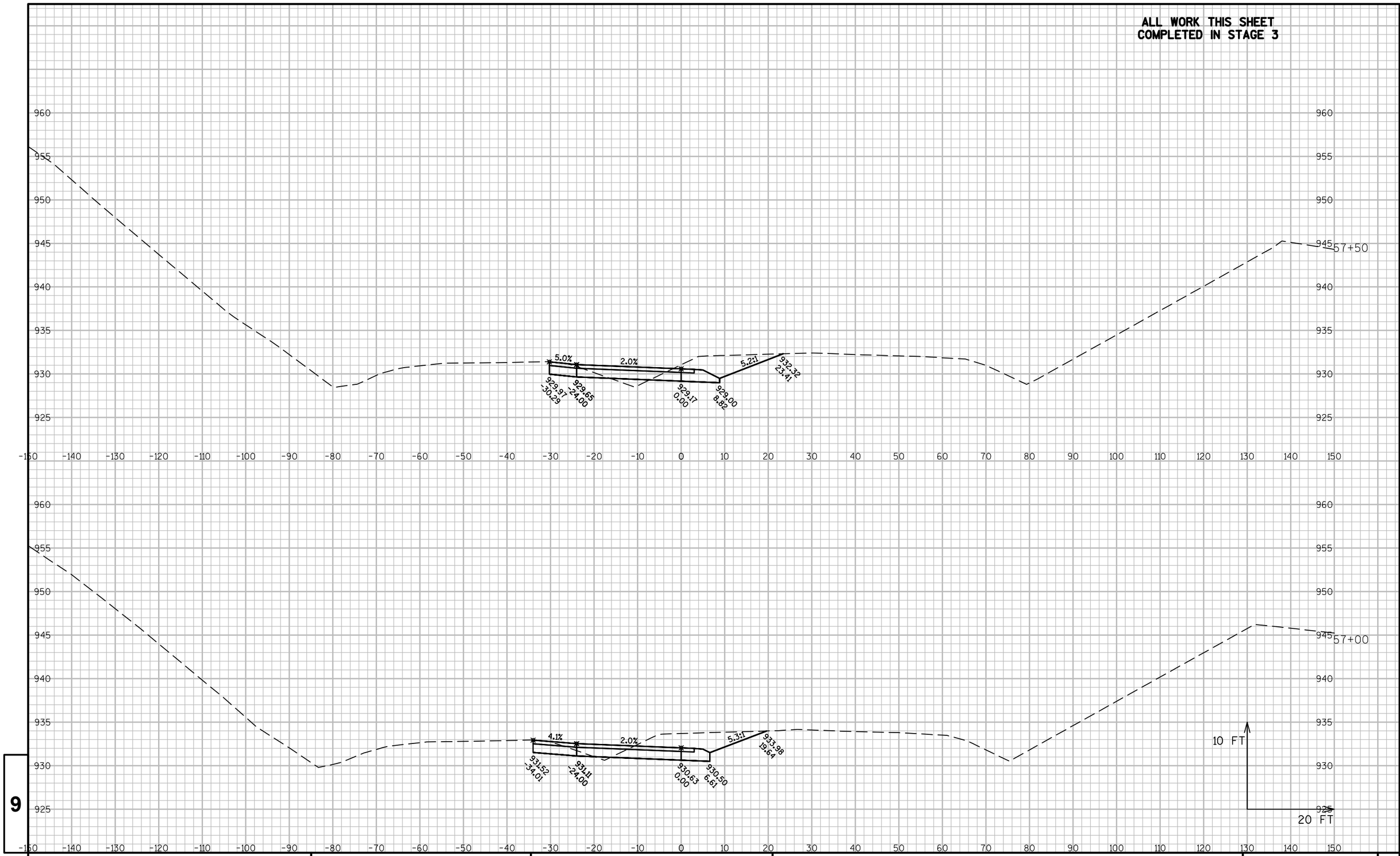


9

9

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER C	SHEET 598	E

ALL WORK THIS SHEET COMPLETED IN STAGE 3



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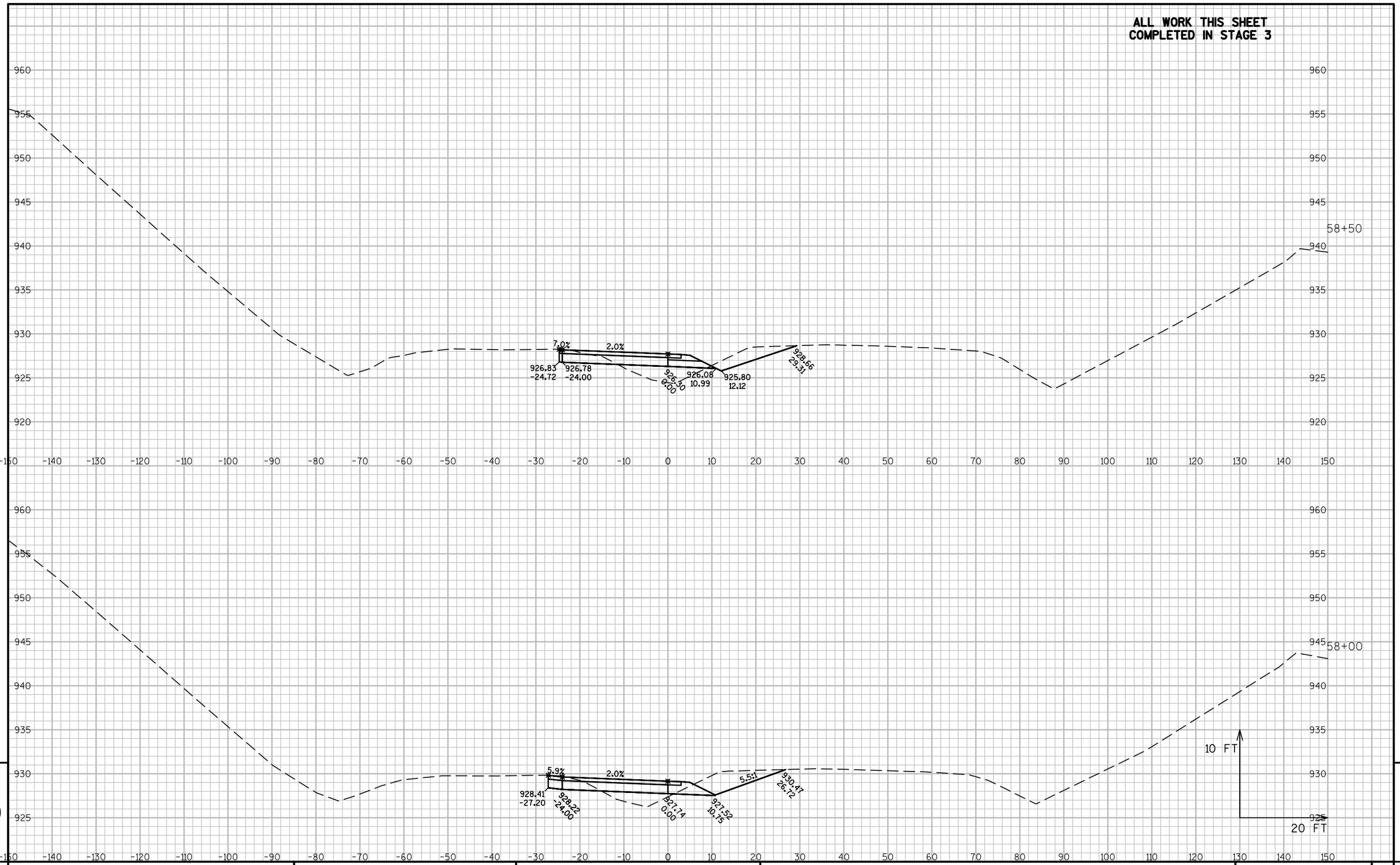
9

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER C	SHEET 599	E

ALL WORK THIS SHEET
COMPLETED IN STAGE 3



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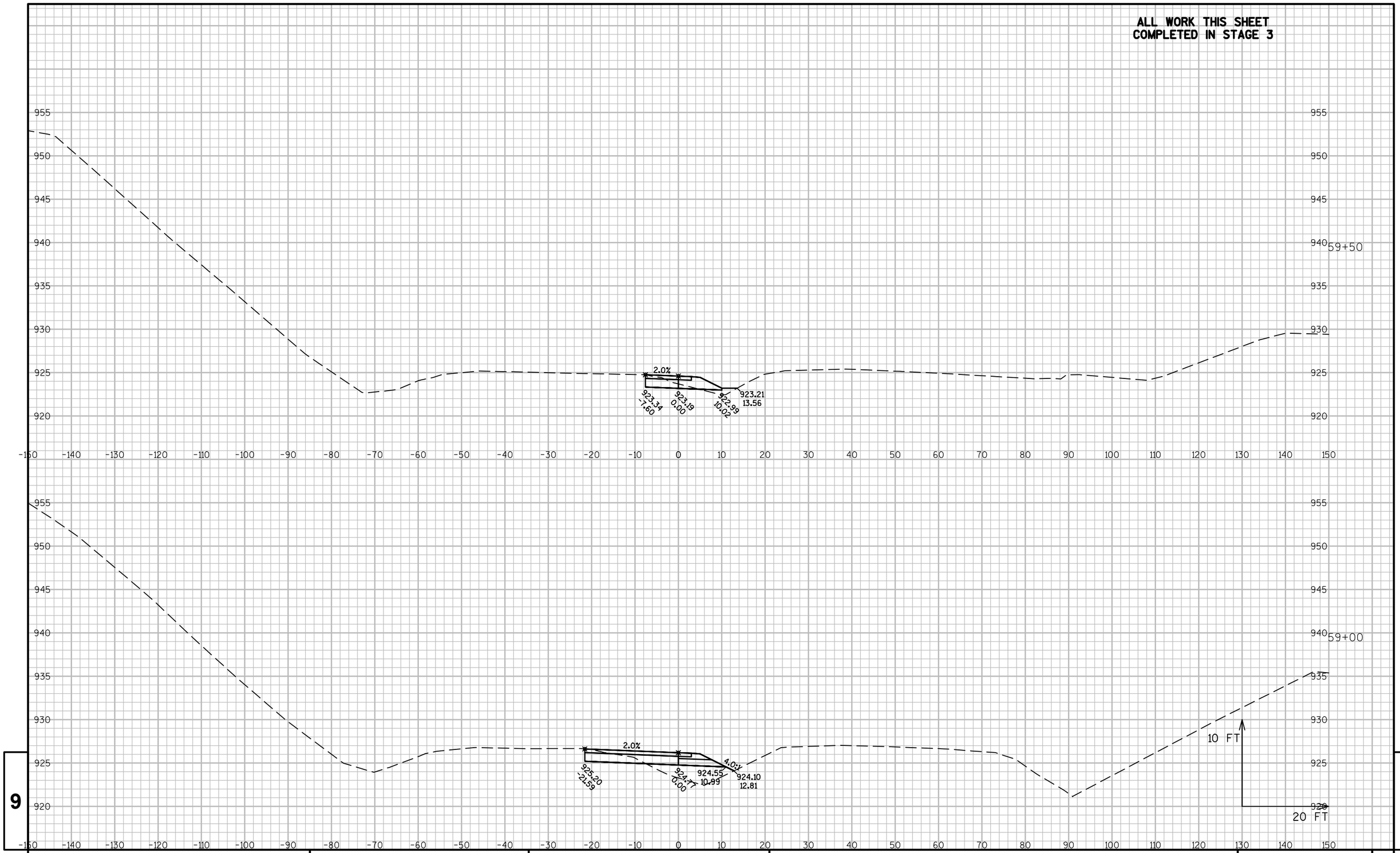
9

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER C	SHEET 600	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090205-XS-S3 XOVER.DWG PLOT DATE : 10/27/2016 8:50 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK THIS SHEET
COMPLETED IN STAGE 3



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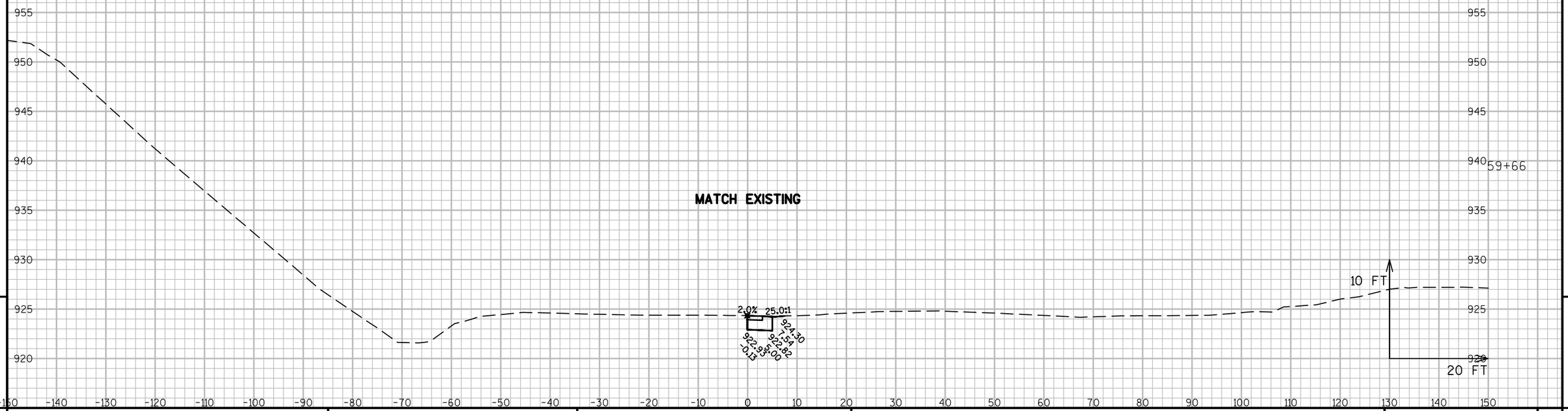
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER C	SHEET 601	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090205-XS-S3 XOVER.DWG PLOT DATE : 10/27/2016 8:50 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

ALL WORK THIS SHEET
COMPLETED IN STAGE 3



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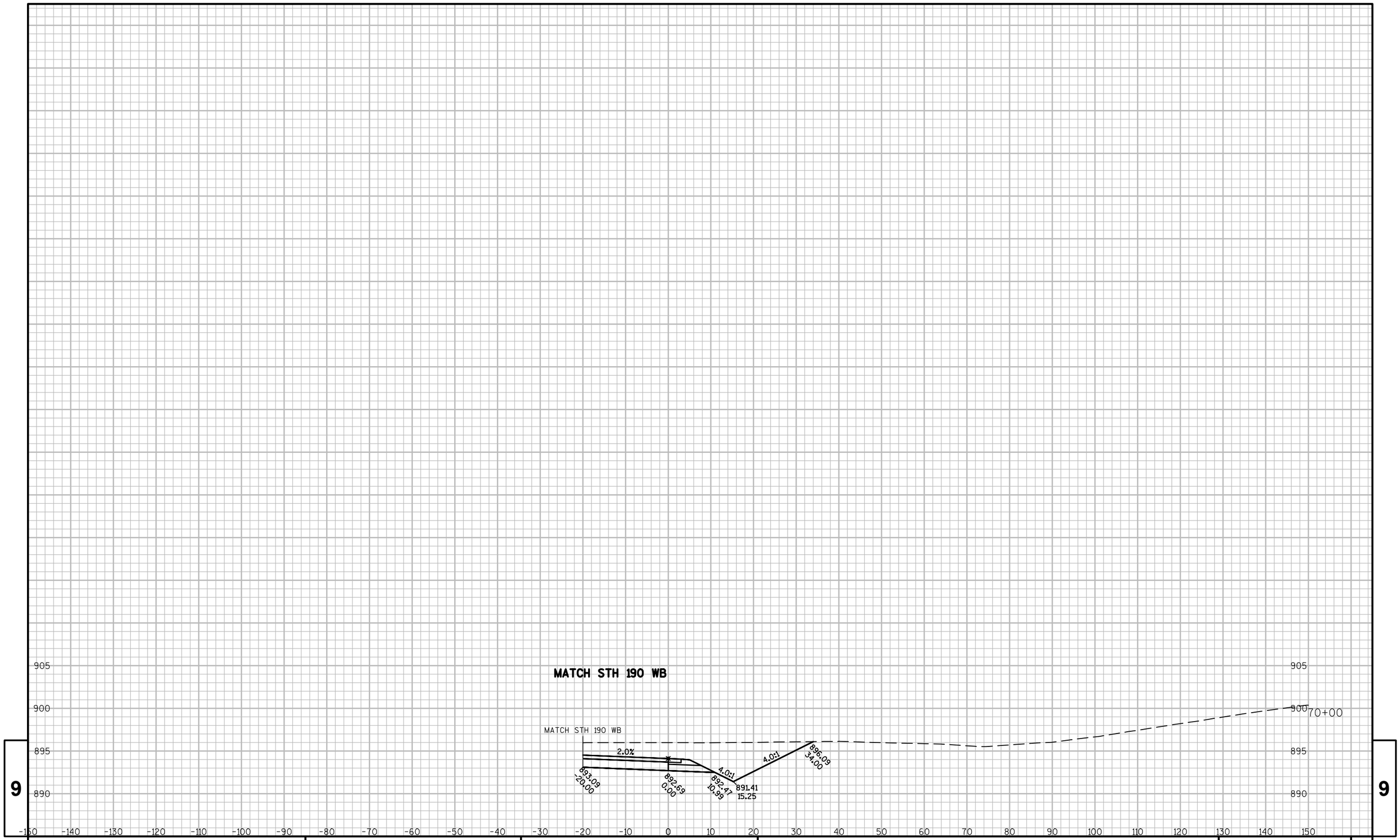
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER C	SHEET 602	E



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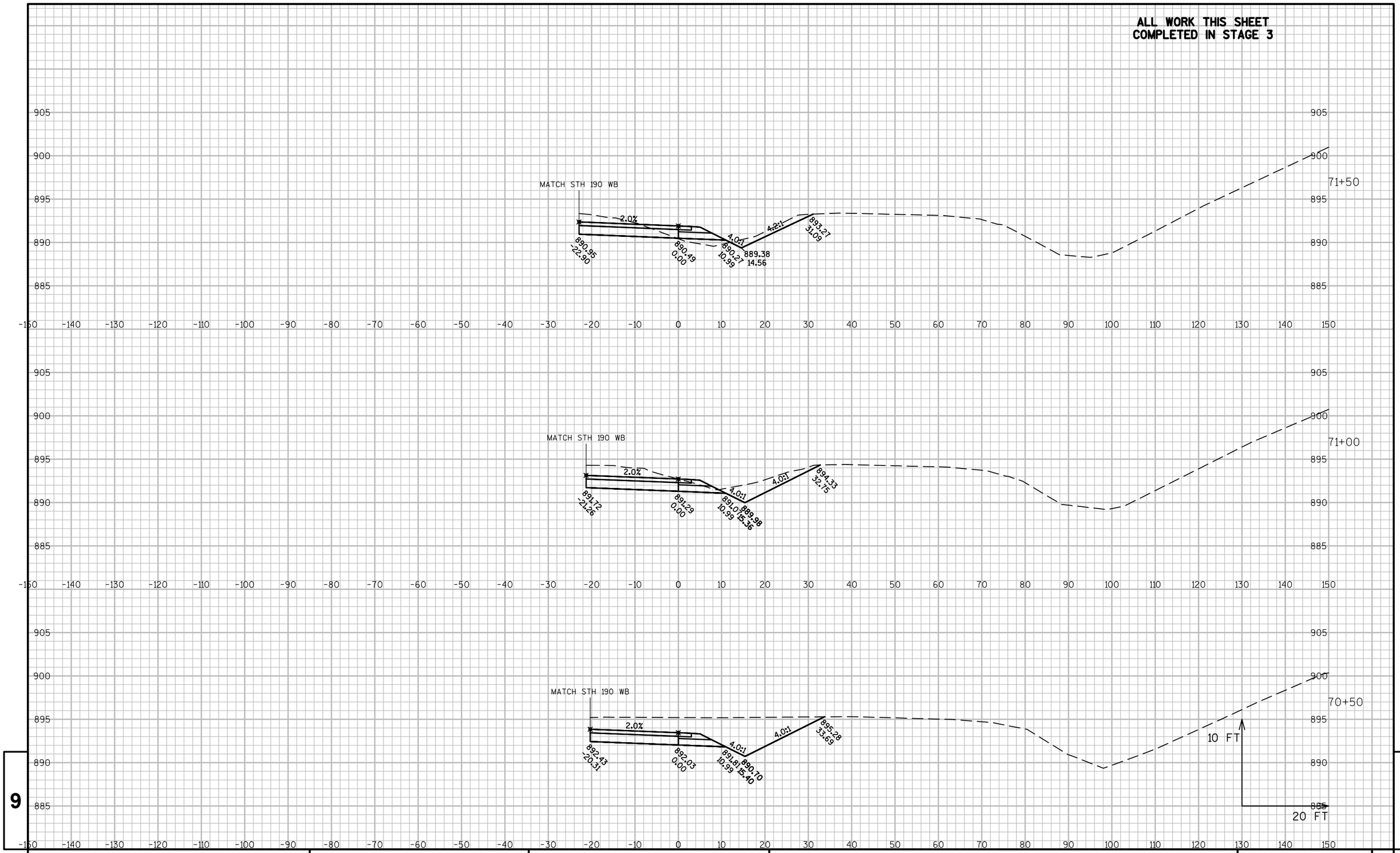
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER D	SHEET 603	E

ALL WORK THIS SHEET COMPLETED IN STAGE 3



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PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER D	SHEET 604	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090205-XS-S3 XOVER.DWG PLOT DATE : 10/27/2016 12:19 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

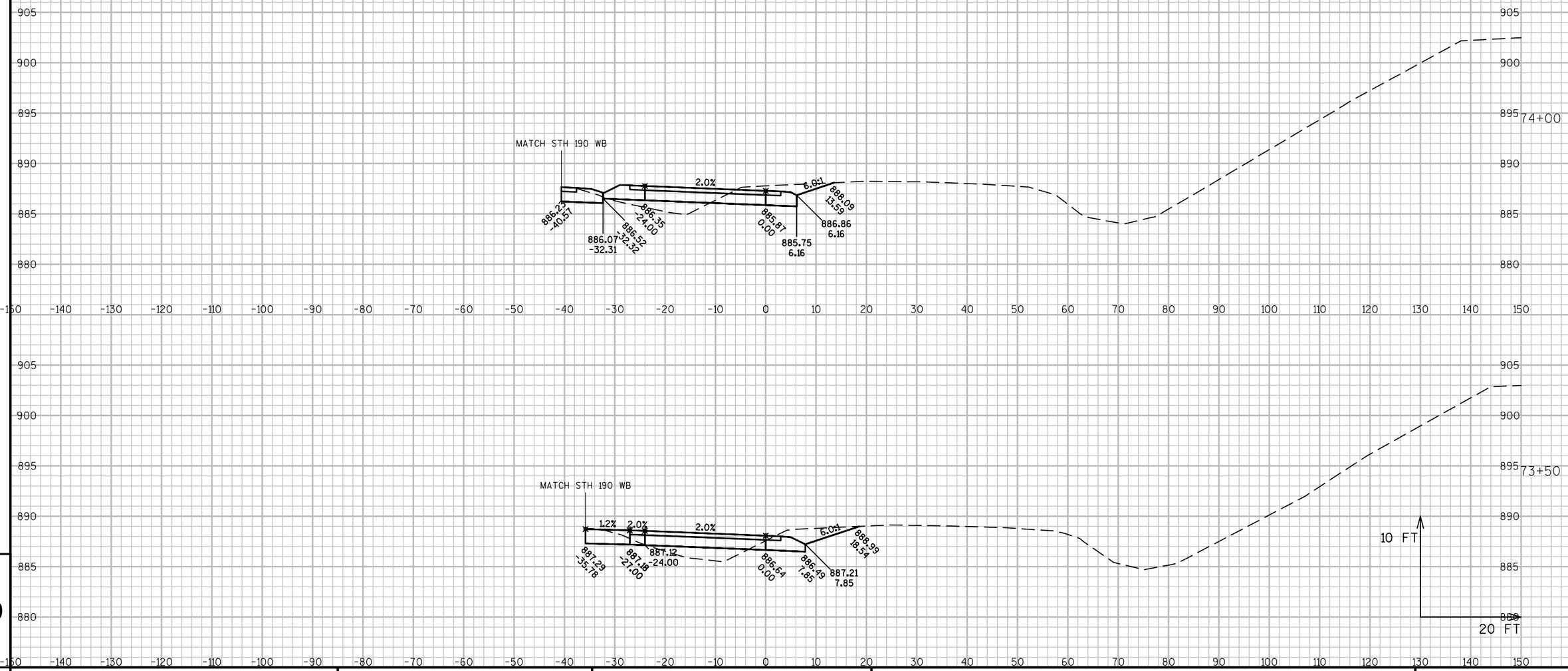
ALL WORK THIS SHEET COMPLETED IN STAGE 3

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER D	SHEET 605 E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090205-XS-S3 XOVER.DWG PLOT DATE : 10/27/2016 12:19 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK THIS SHEET COMPLETED IN STAGE 3



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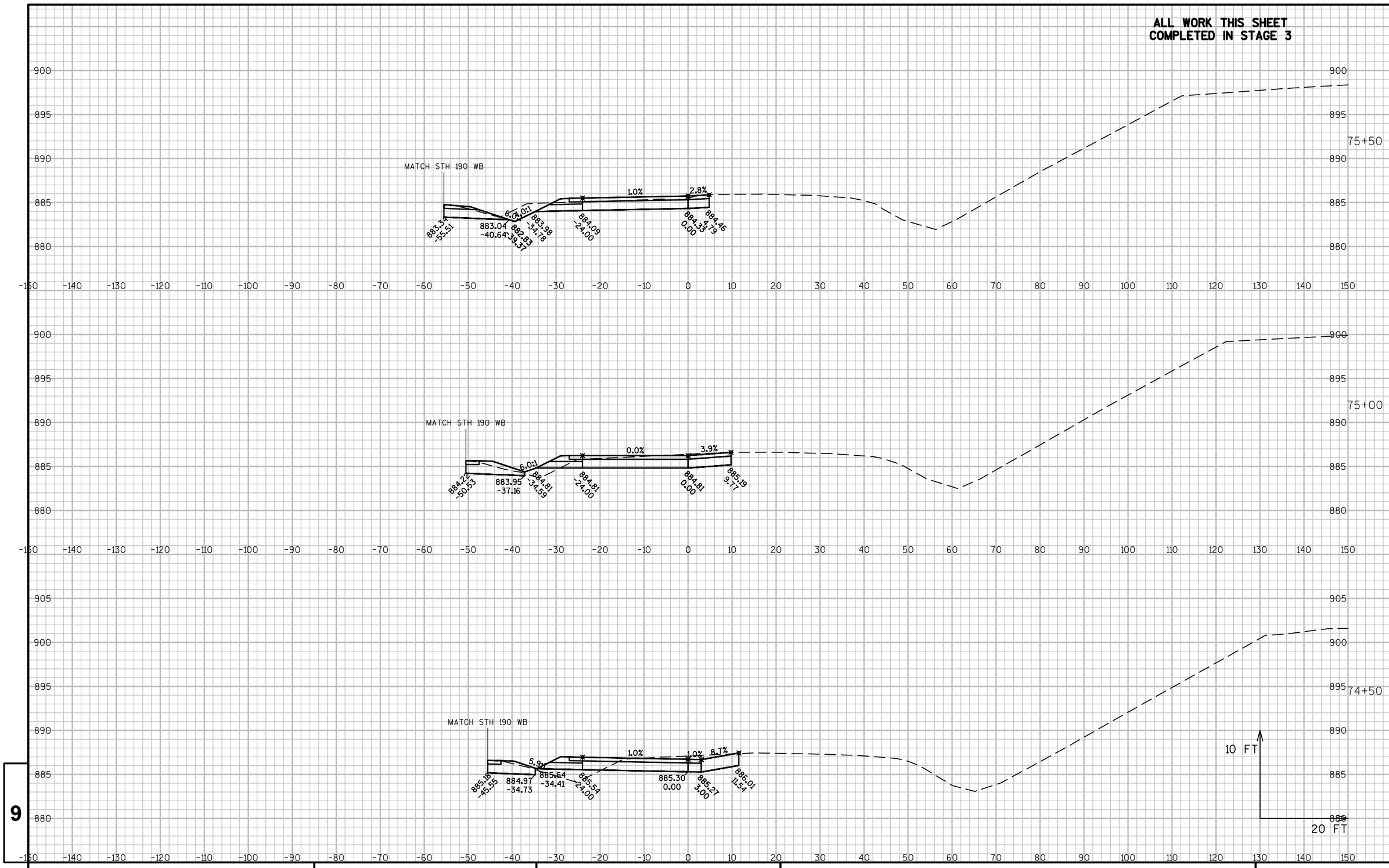
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER D	SHEET 606	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090205-XS-S3 XOVER.DWG PLOT DATE : 10/27/2016 12:19 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK THIS SHEET COMPLETED IN STAGE 3



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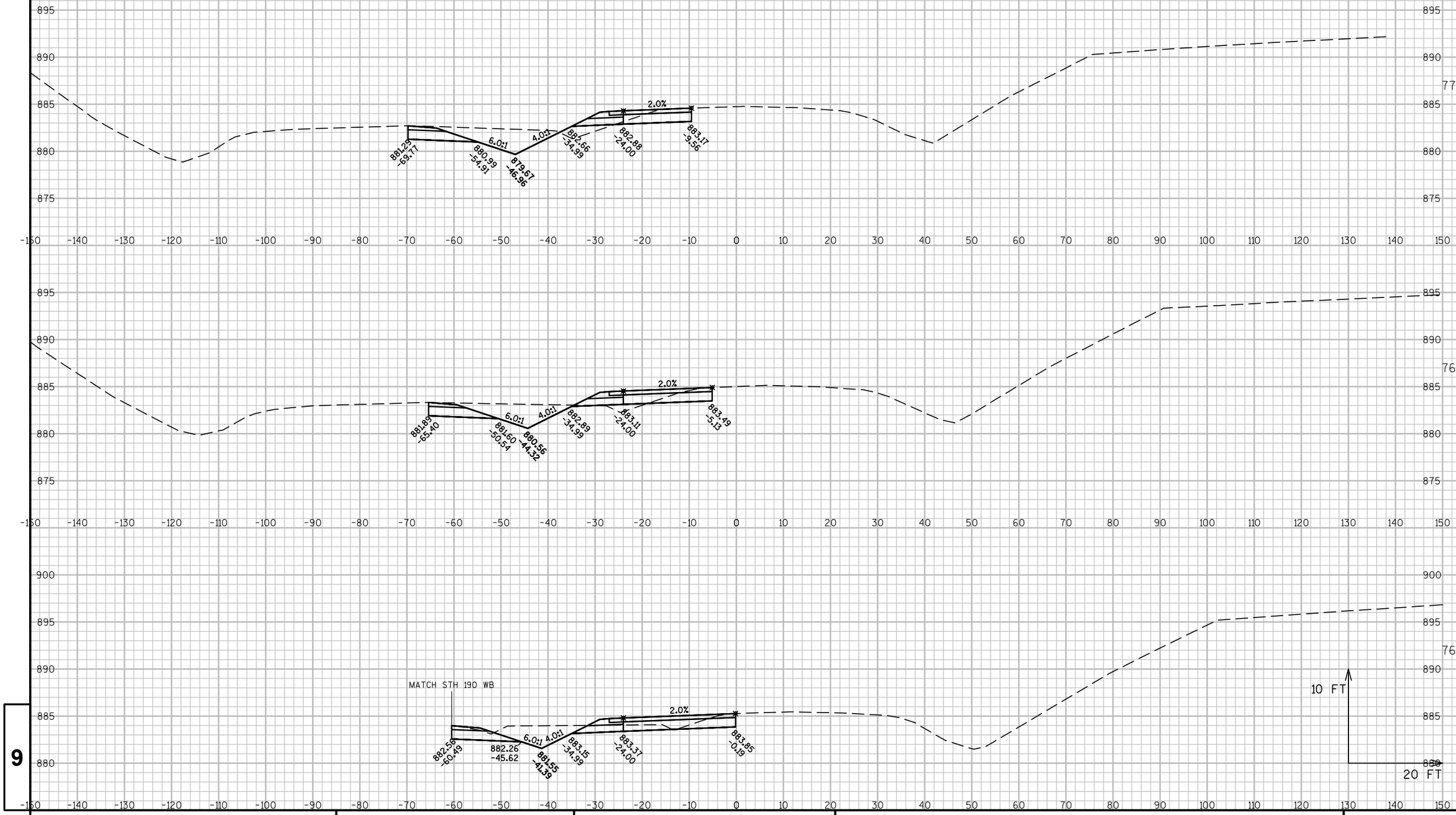
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER D	SHEET 607	E

ALL WORK THIS SHEET
COMPLETED IN STAGE 3

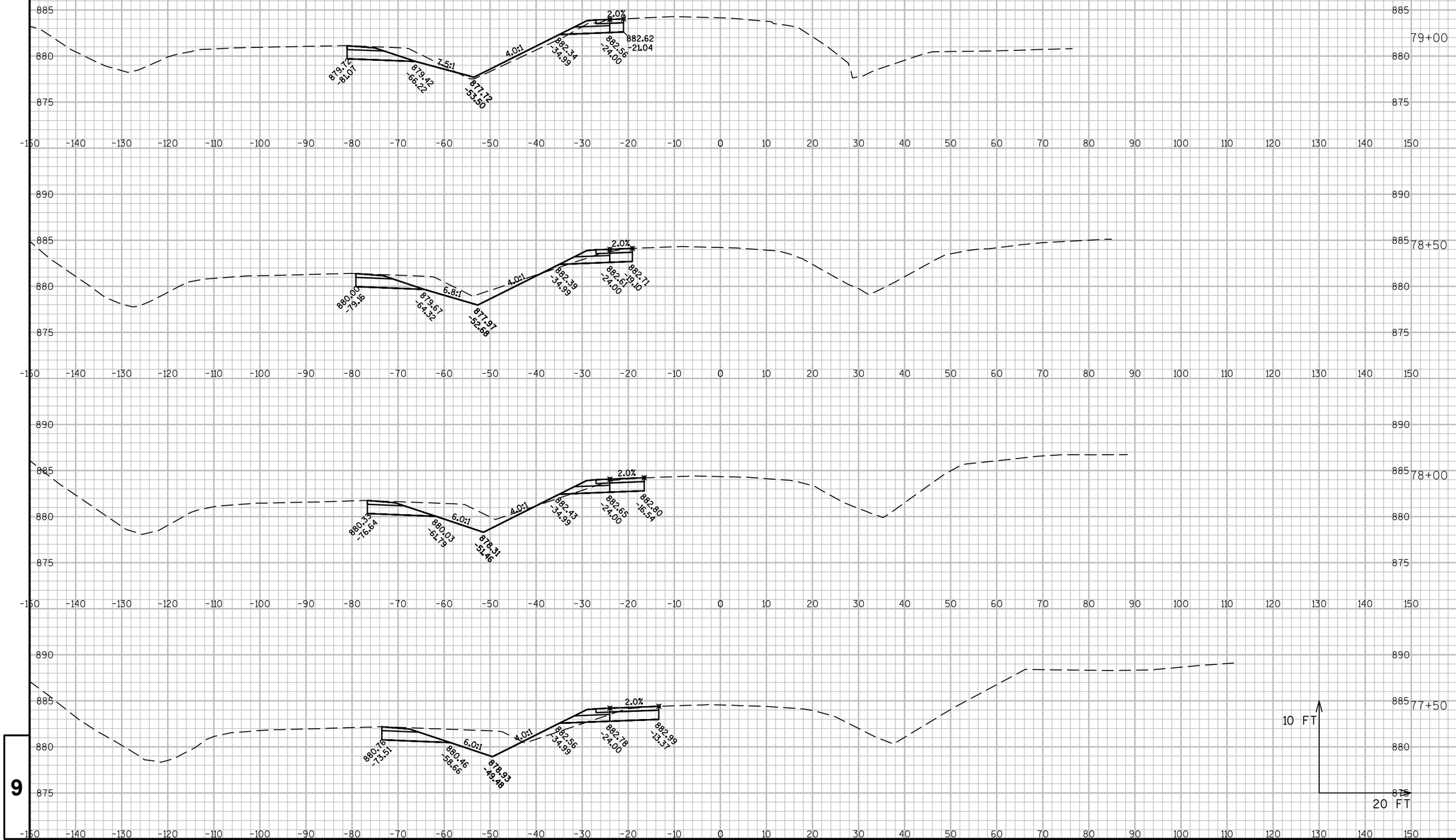


PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER D	SHEET 608	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090205-XS-S3 XOVER.DWG PLOT DATE : 10/27/2016 12:19 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK THIS SHEET COMPLETED IN STAGE 3



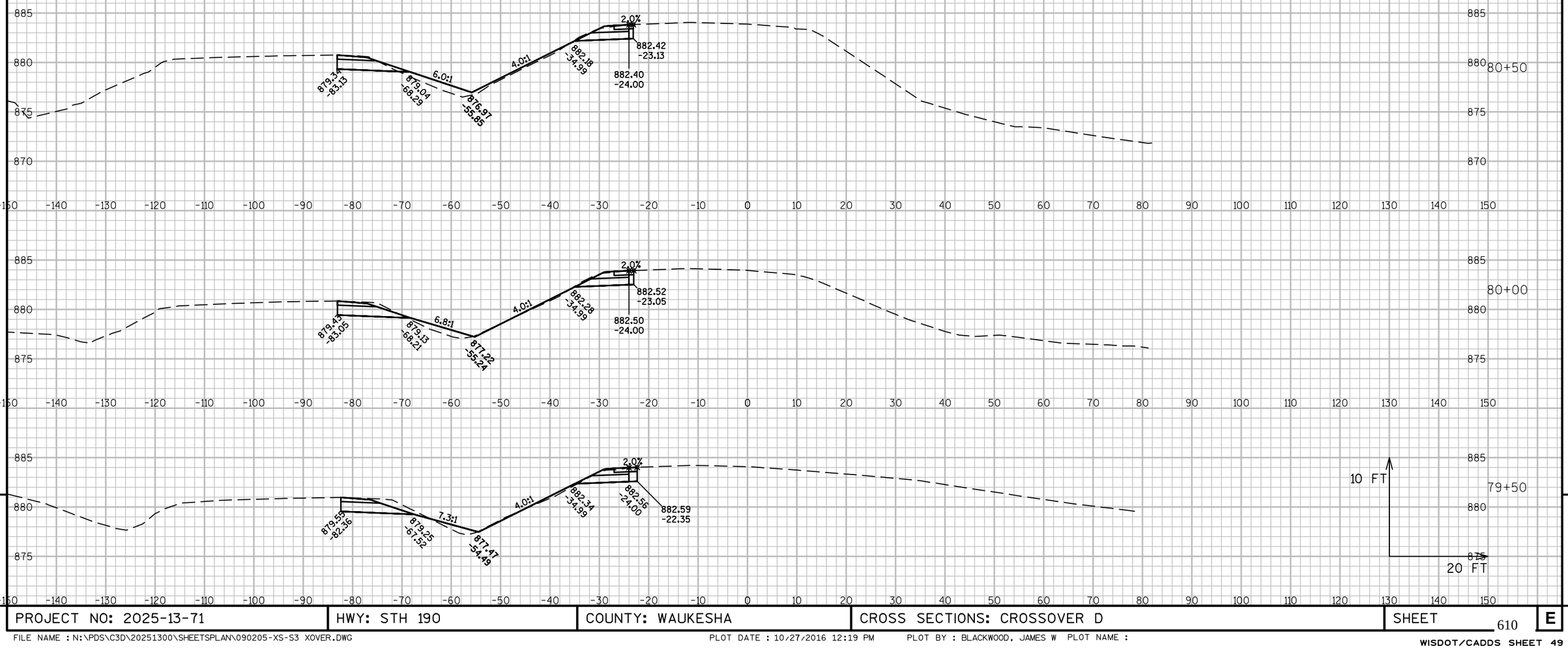
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER D	SHEET 609	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090205-XS-S3 XOVER.DWG PLOT DATE : 10/27/2016 12:19 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK THIS SHEET
COMPLETED IN STAGE 3

MATCH EXISTING



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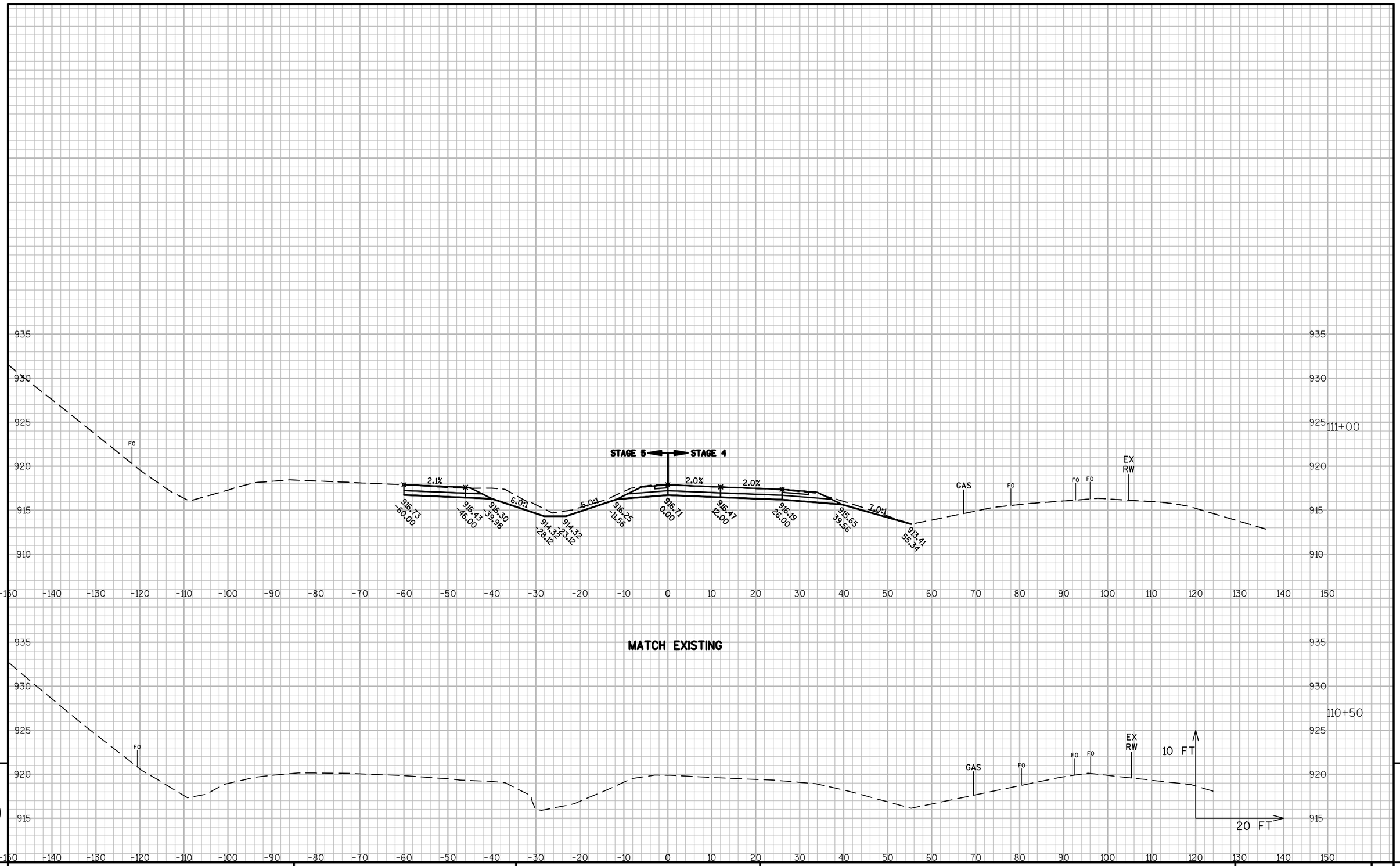
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CROSSOVER D	SHEET 610	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090205-XS-S3 XOVER.DWG PLOT DATE : 10/27/2016 12:19 PM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :



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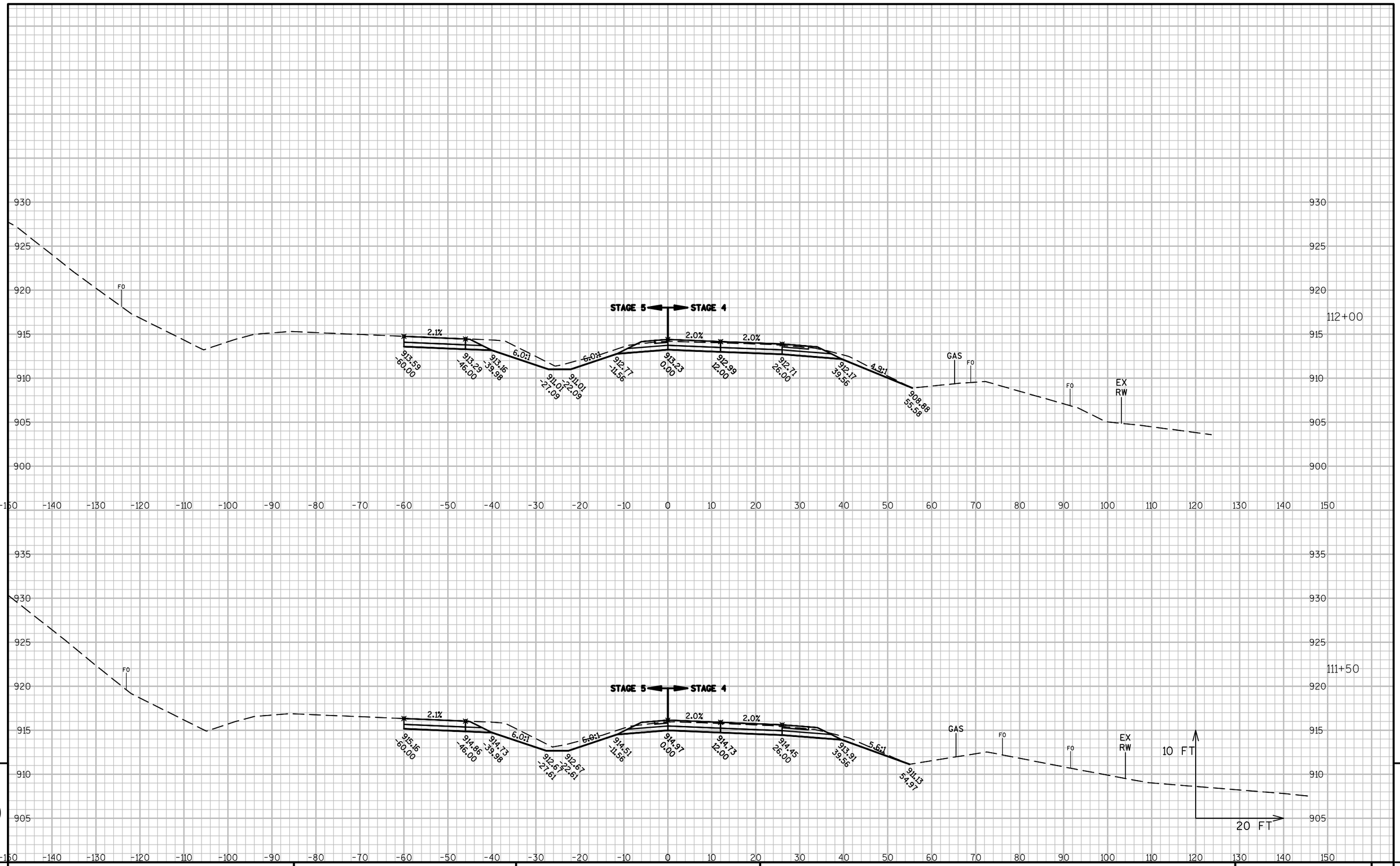
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 611	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:56 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :



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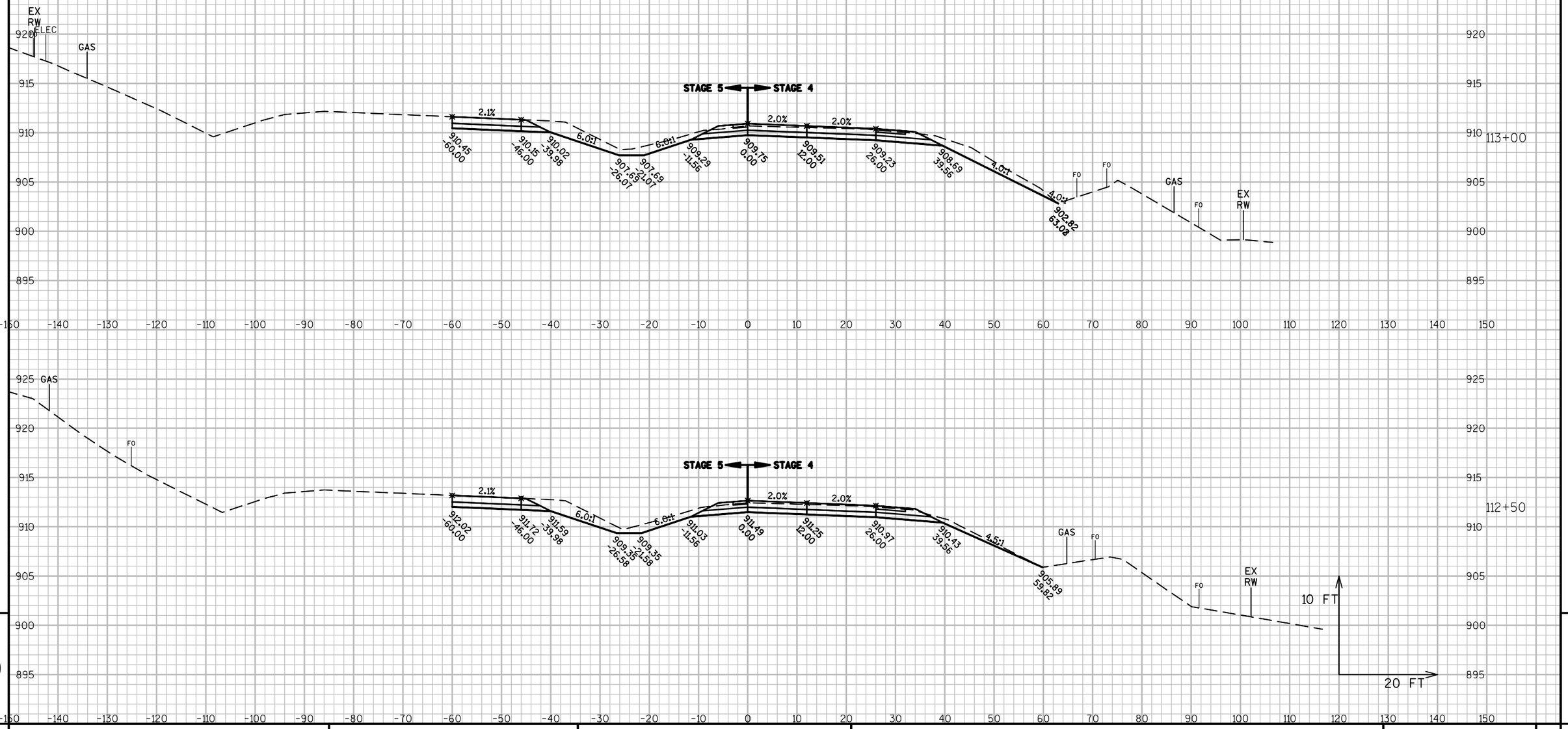
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 612	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:56 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

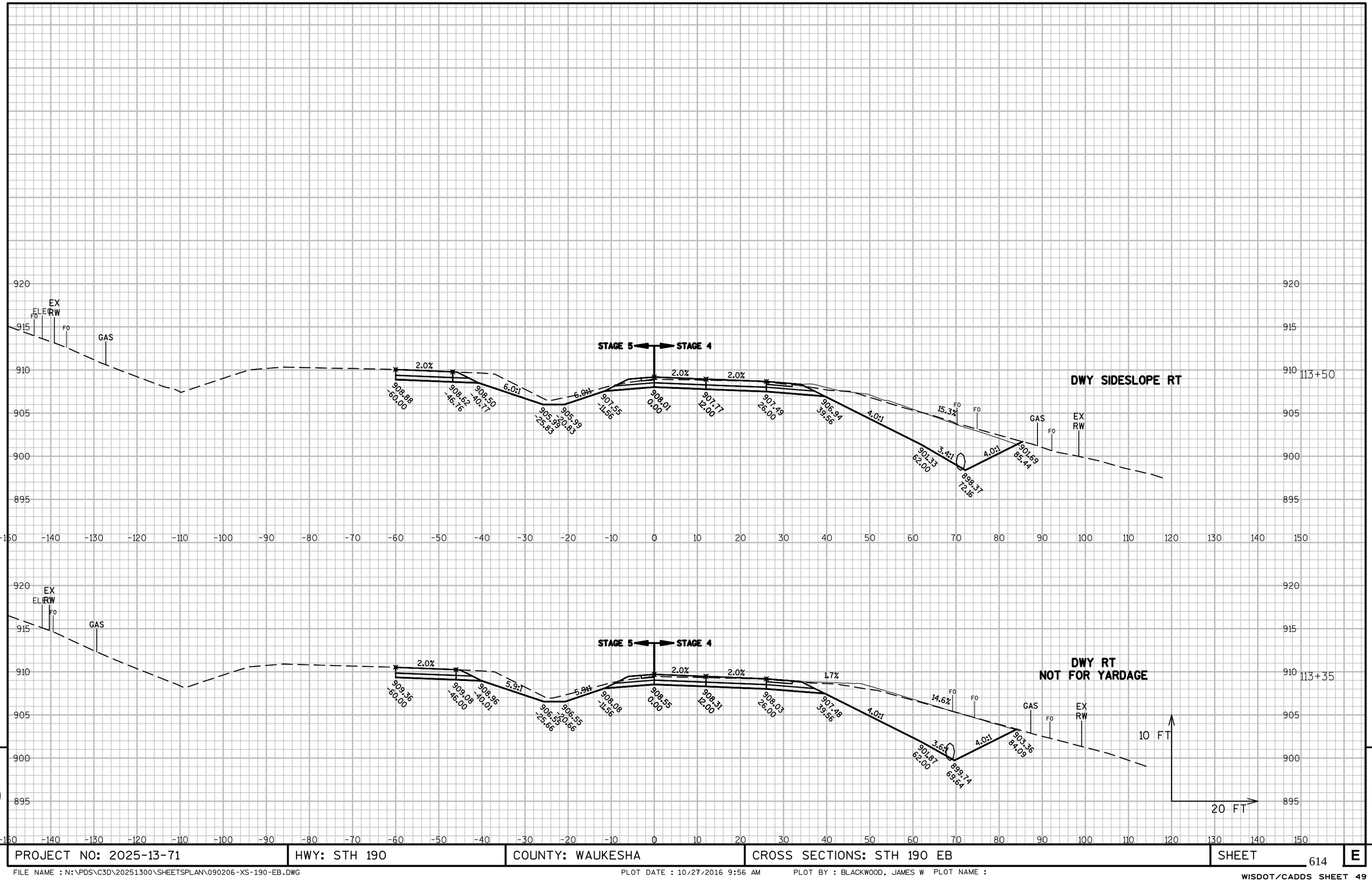
WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 613 E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:56 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

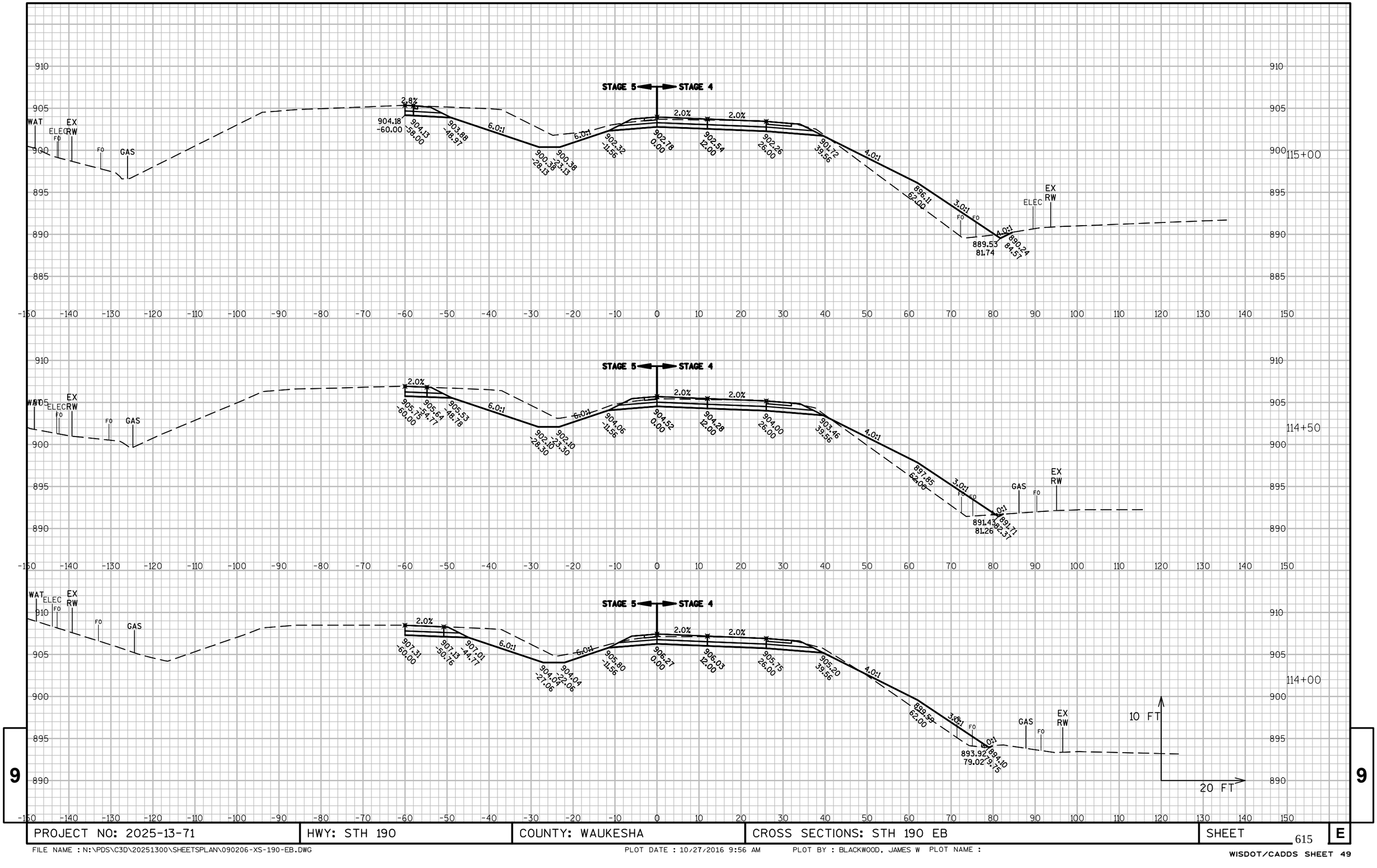
WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 614	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:56 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

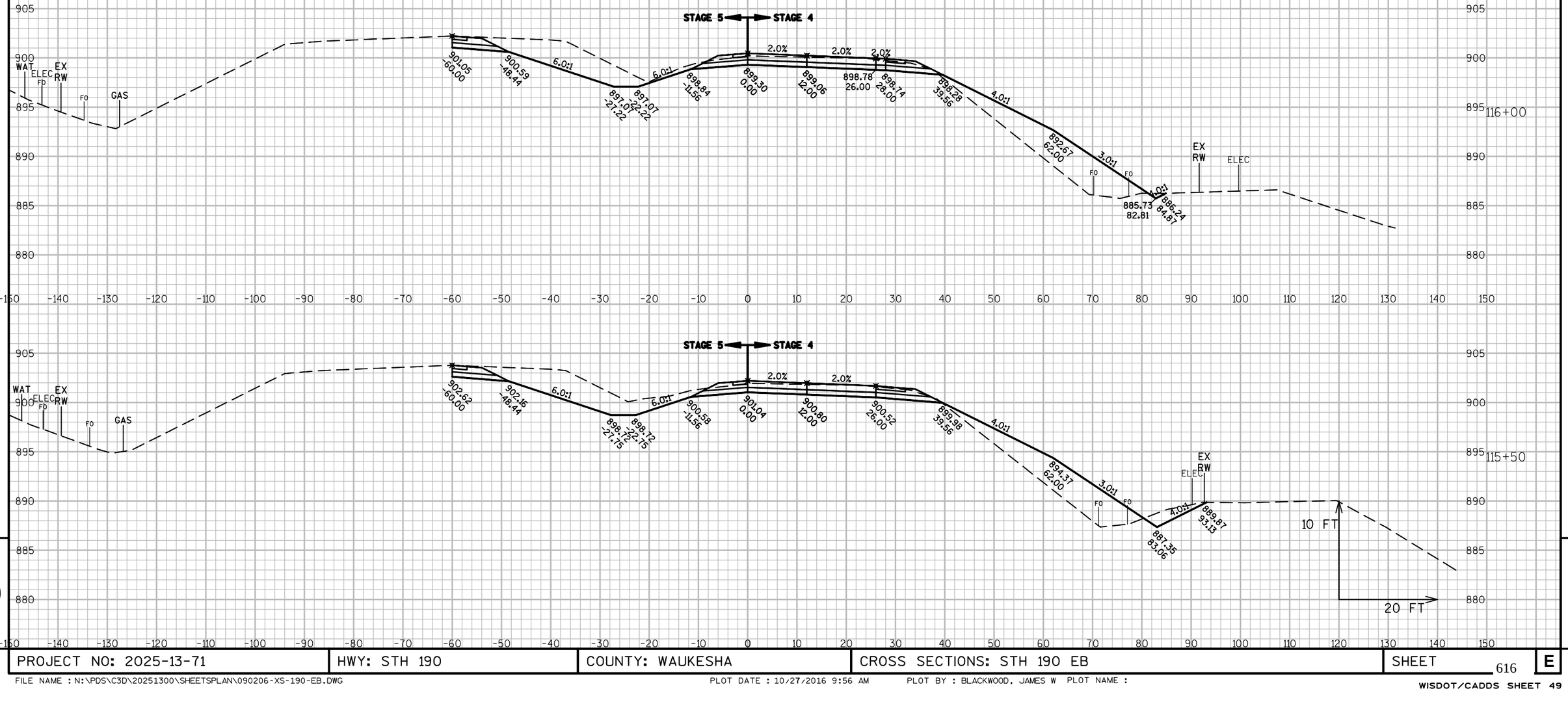
WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 615	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:56 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

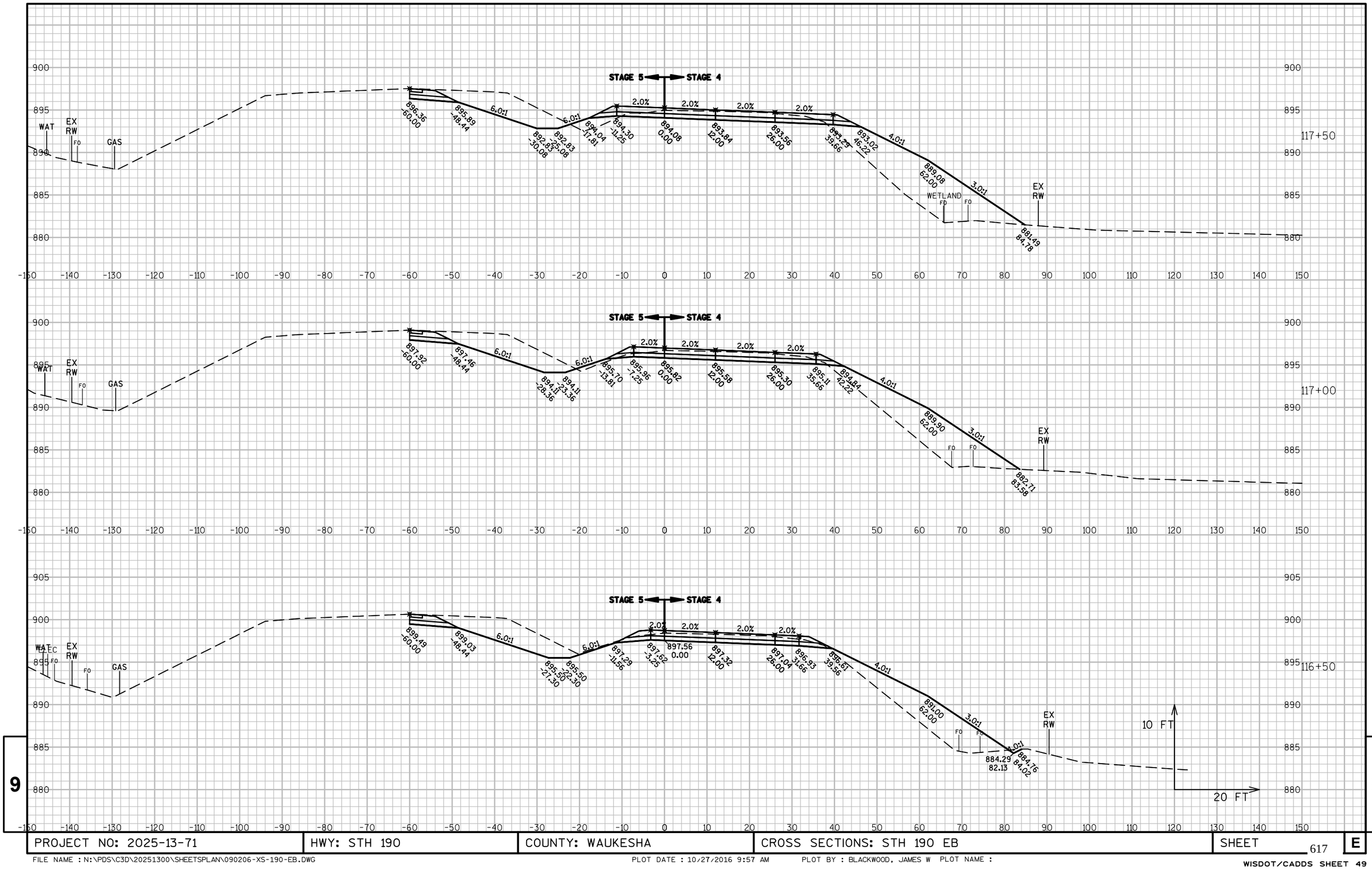
WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 616	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:56 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

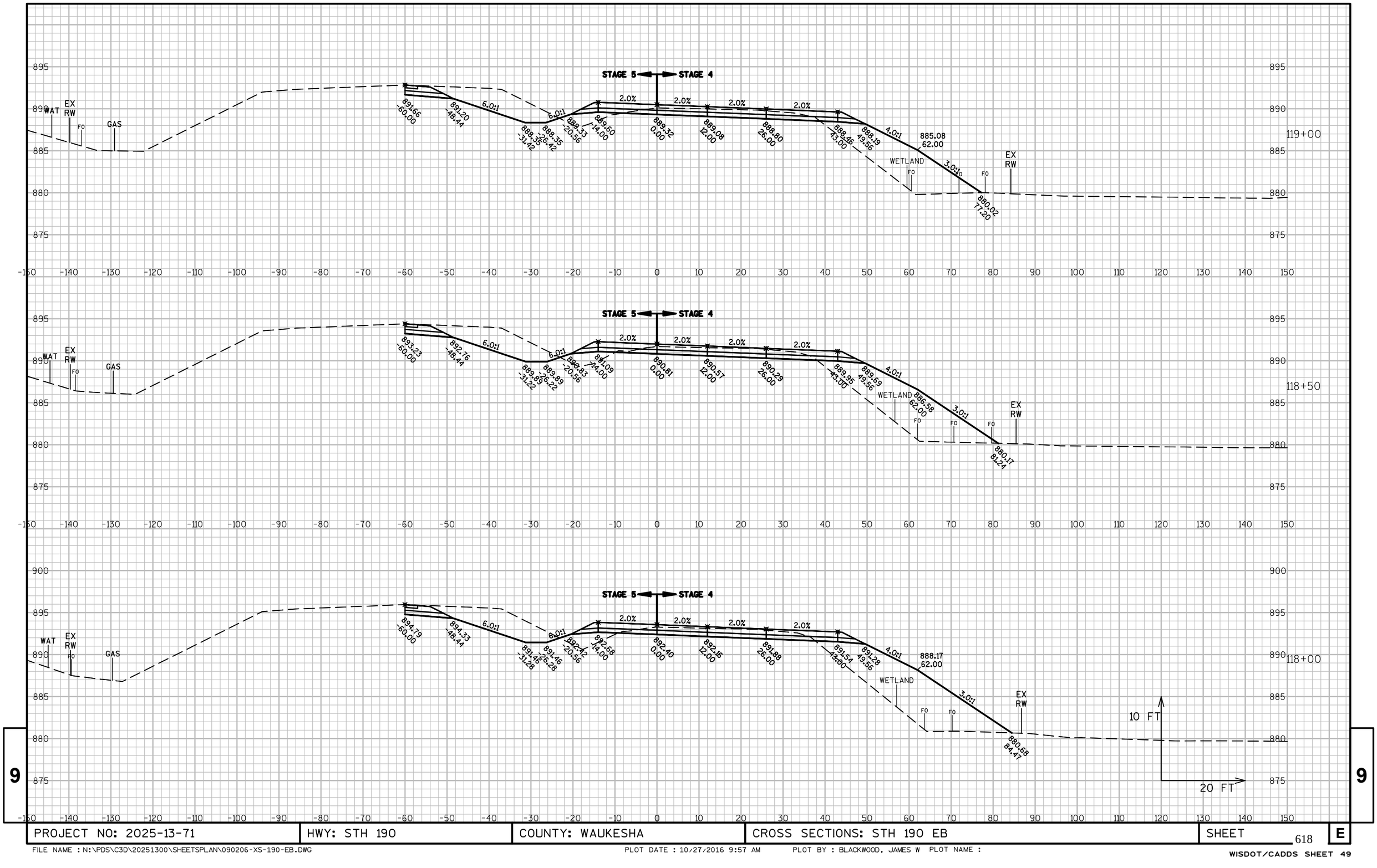
WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 617	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



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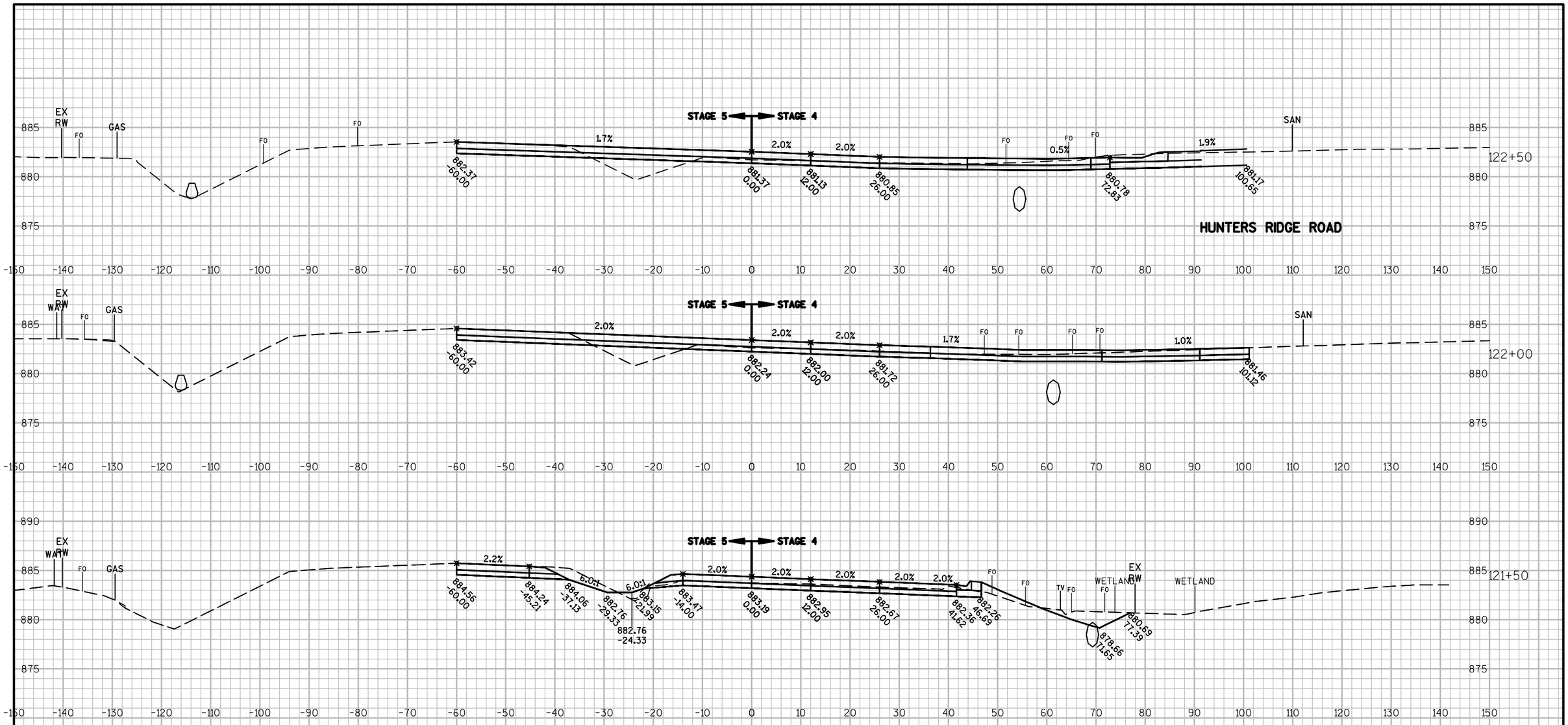
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 618	E

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 619	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

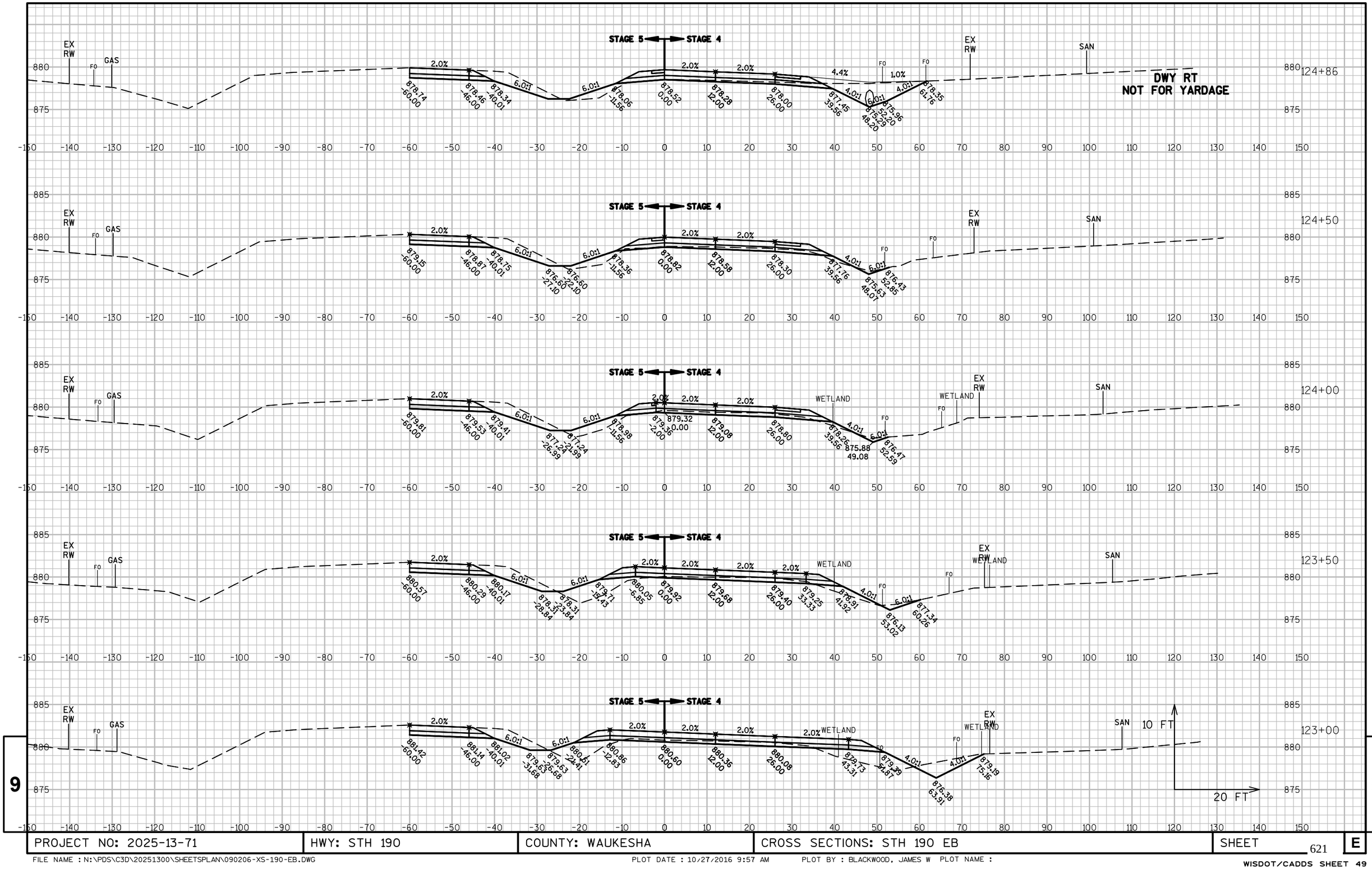
WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 620	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



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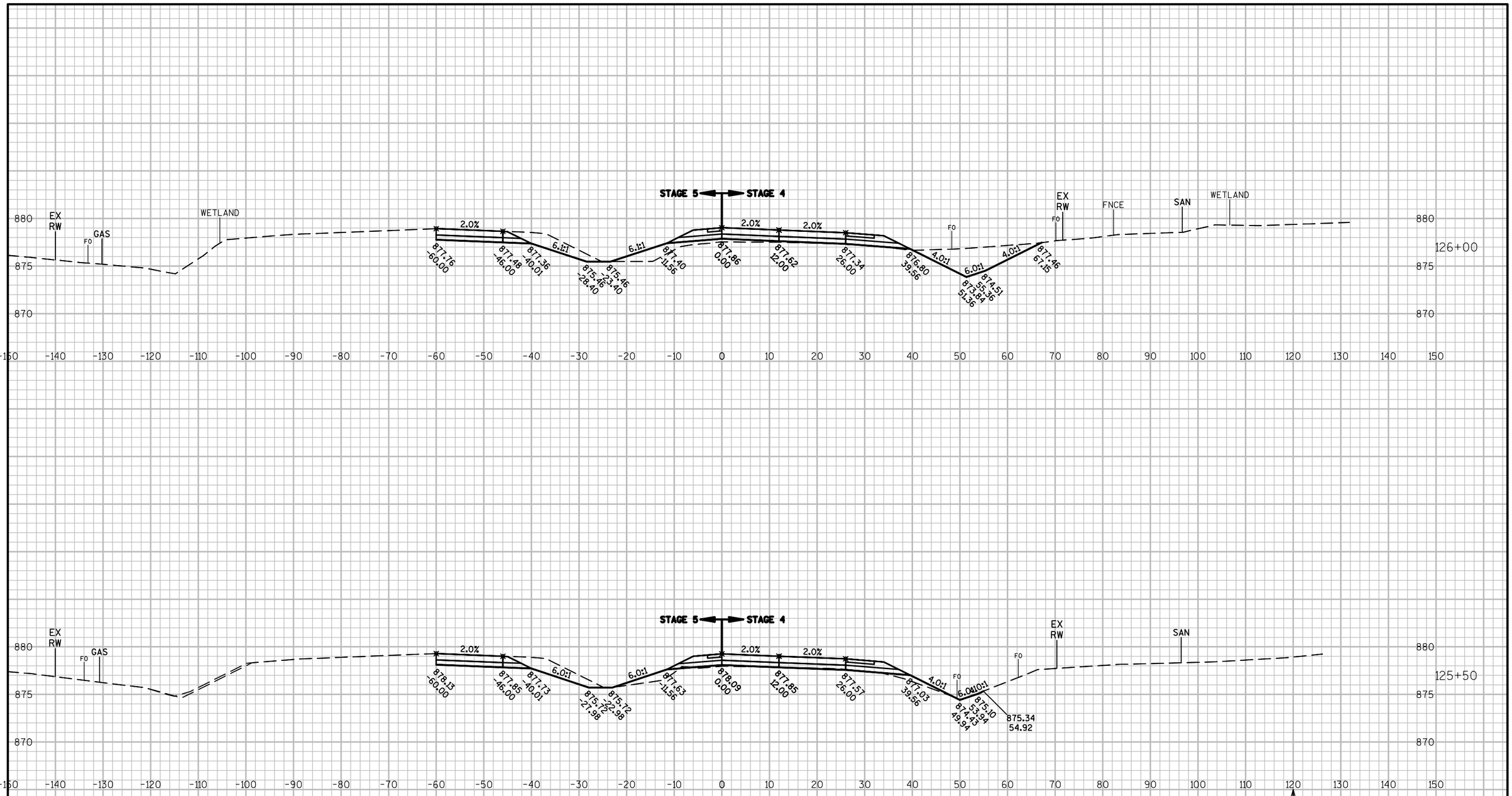
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 621	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



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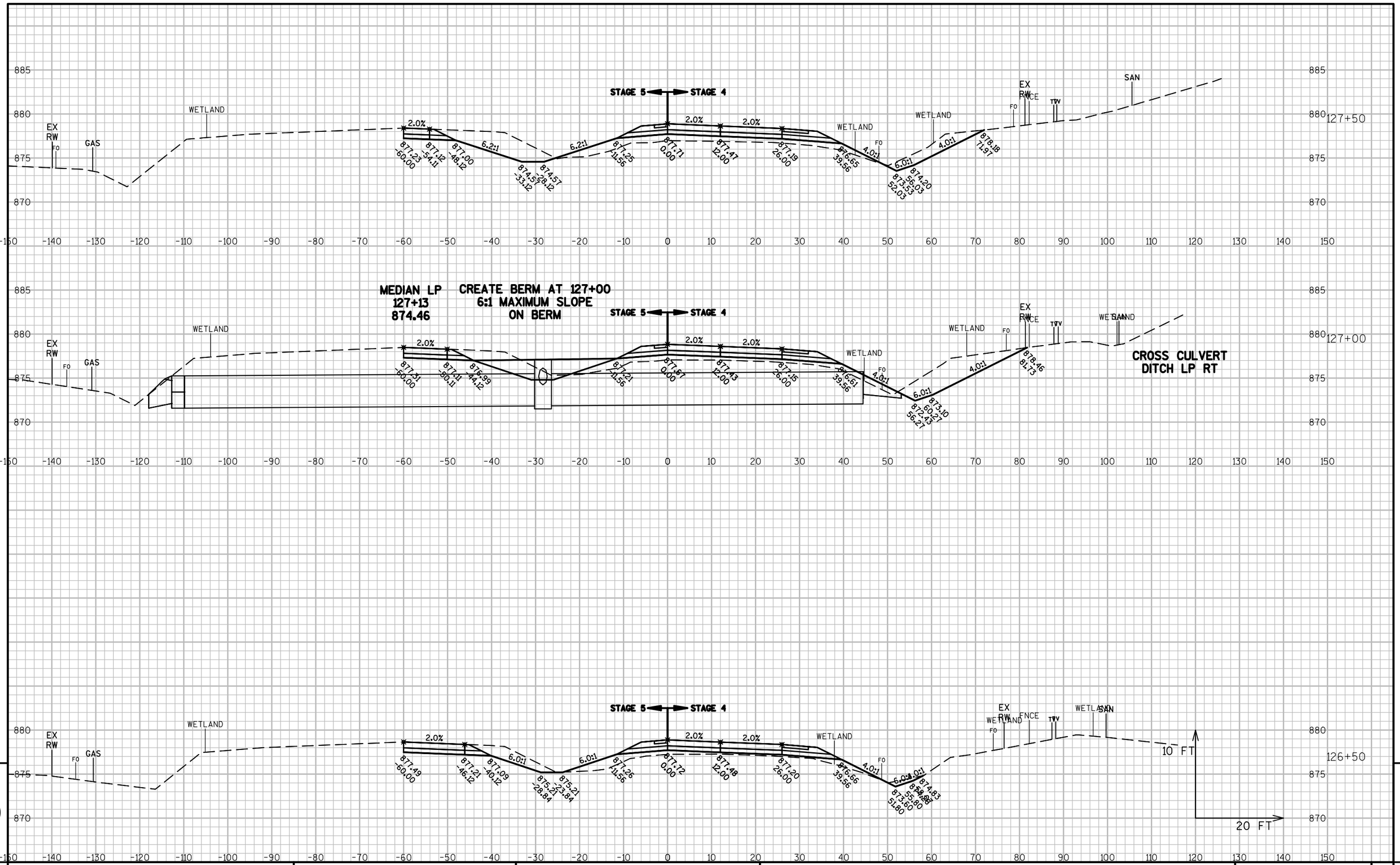
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 622	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 623	E

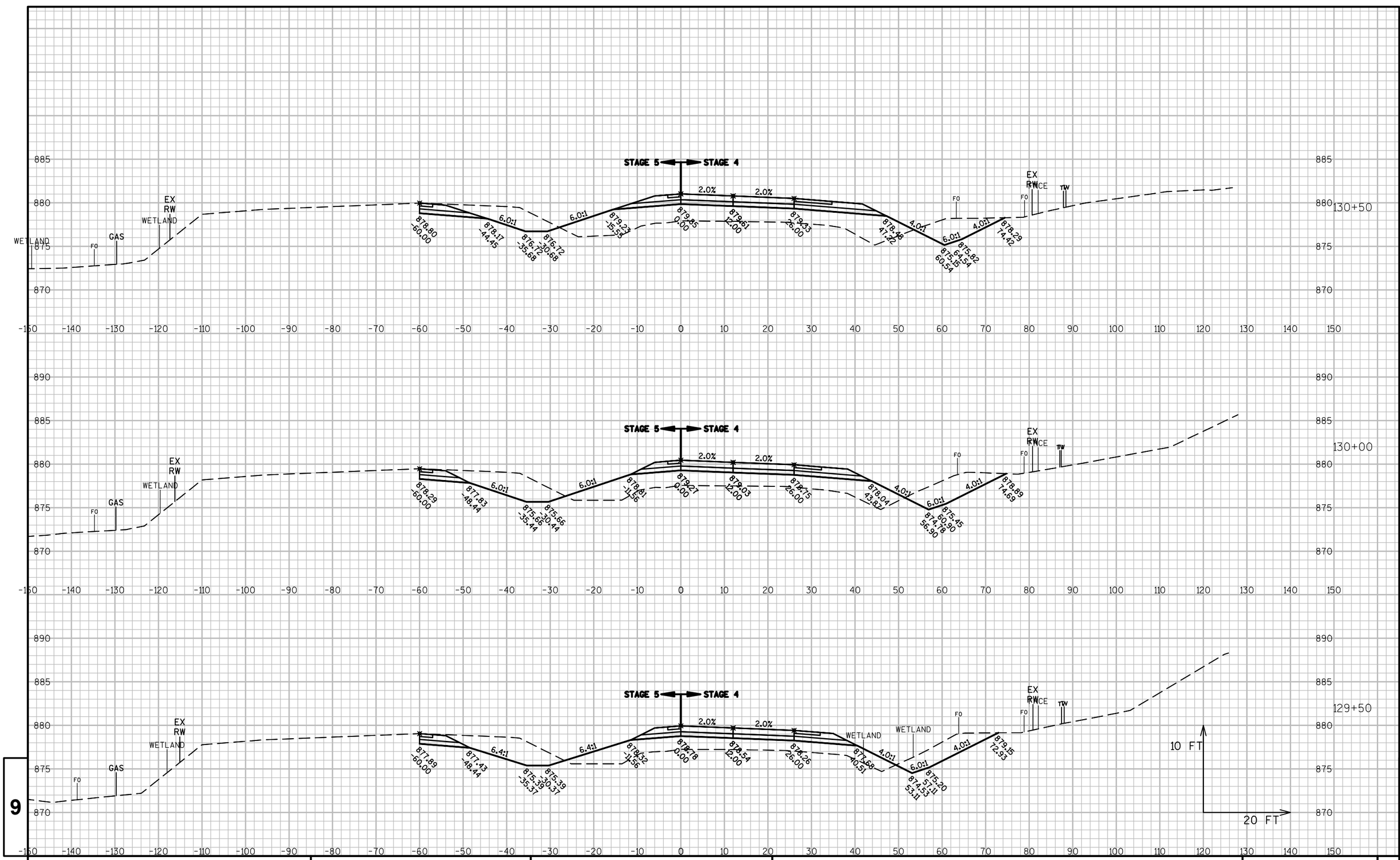
FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 624	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

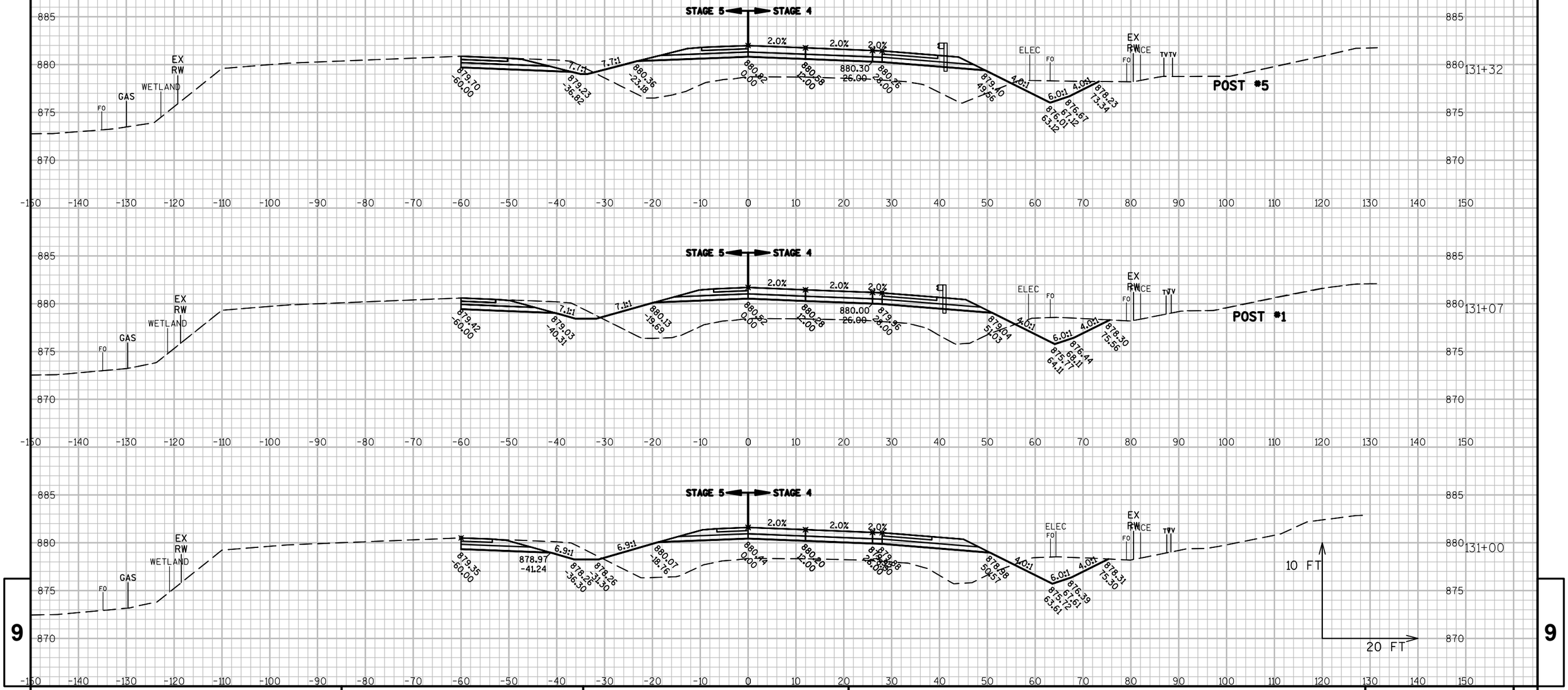
WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 625	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 626 E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

9 9

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 627	E

CTH F

STAGE 5 ◄ ► STAGE 4

STATION BACK

133+22

2.0% 4.1% 2.0% 2.0% 2.0% 2.0%

881.78 -60.00 | 881.54 -48.00 | 882.61 -22.00 | 883.05 0.00 | 882.81 12.00 | 882.63 26.00 | 882.35 35.12 | 881.53 55.56 | ELEC 4.0:1 | 878.34 68.31

STAGE 5 ◄ ► STAGE 4

133+00

2.0% 7.9% 2.0% 2.0% 2.0% 2.0%

881.54 -60.00 | 881.10 -38.00 | 882.36 -22.00 | 882.80 0.00 | 882.36 12.00 | 882.26 26.00 | 882.12 34.25 | 881.27 55.56 | ELEC 4.0:1 | 877.82 69.35

EX RW | GAS | FO | FENCE | TV TV

STAGE 5 ◄ ► STAGE 4

132+50

2.0% 1.8% 2.0% 2.0% 2.0%

881.00 -60.00 | 881.51 -35.46 | 880.55 -38.47 | 882.22 0.00 | 881.98 12.00 | 881.70 26.00 | 881.58 32.25 | 880.7 53.85 | ELEC 4.0:1 | 878.21 63.65

EX RW | GAS | FO | FENCE | TV

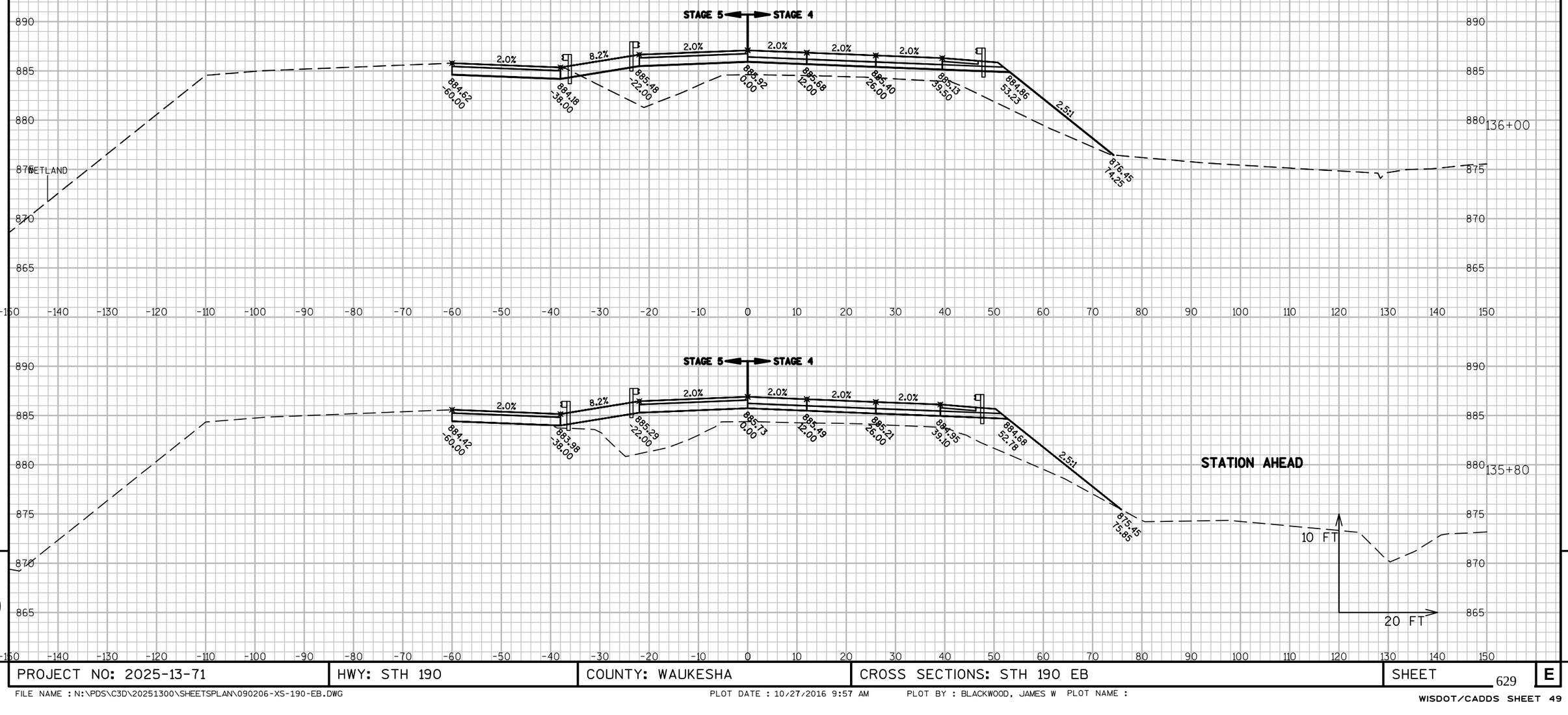
10 FT

20 FT

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 628	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

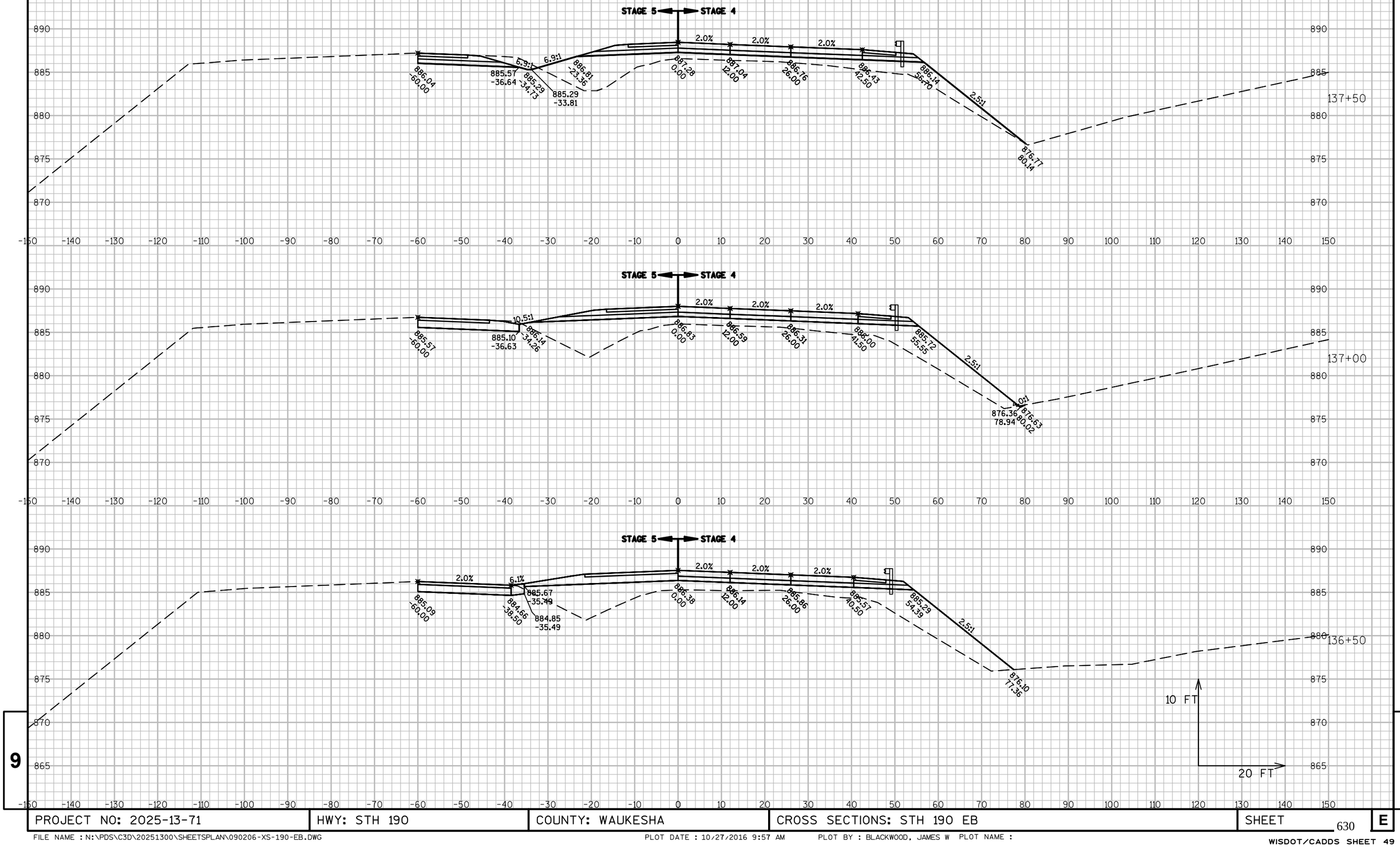
WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 629	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



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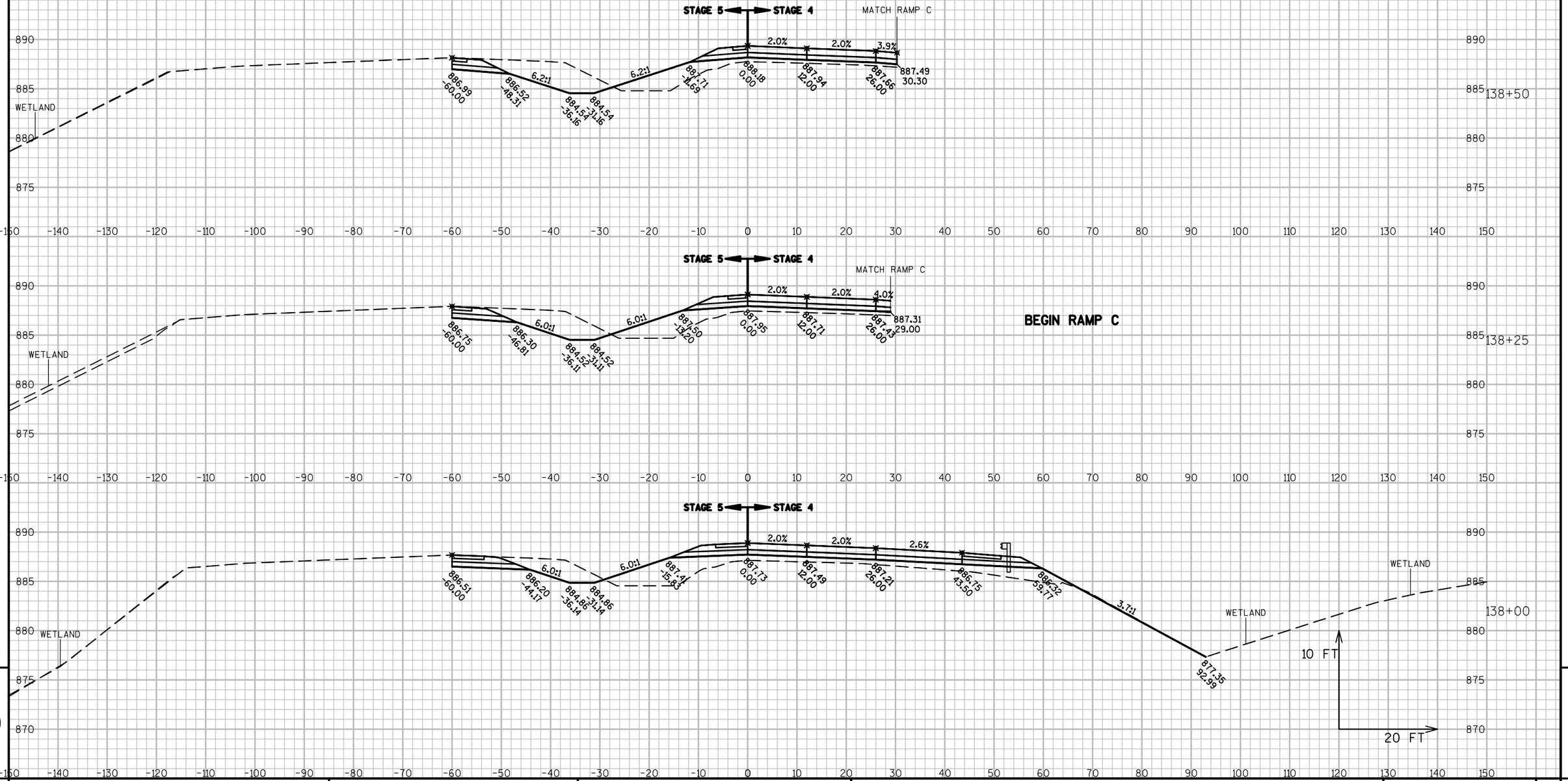
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 630	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

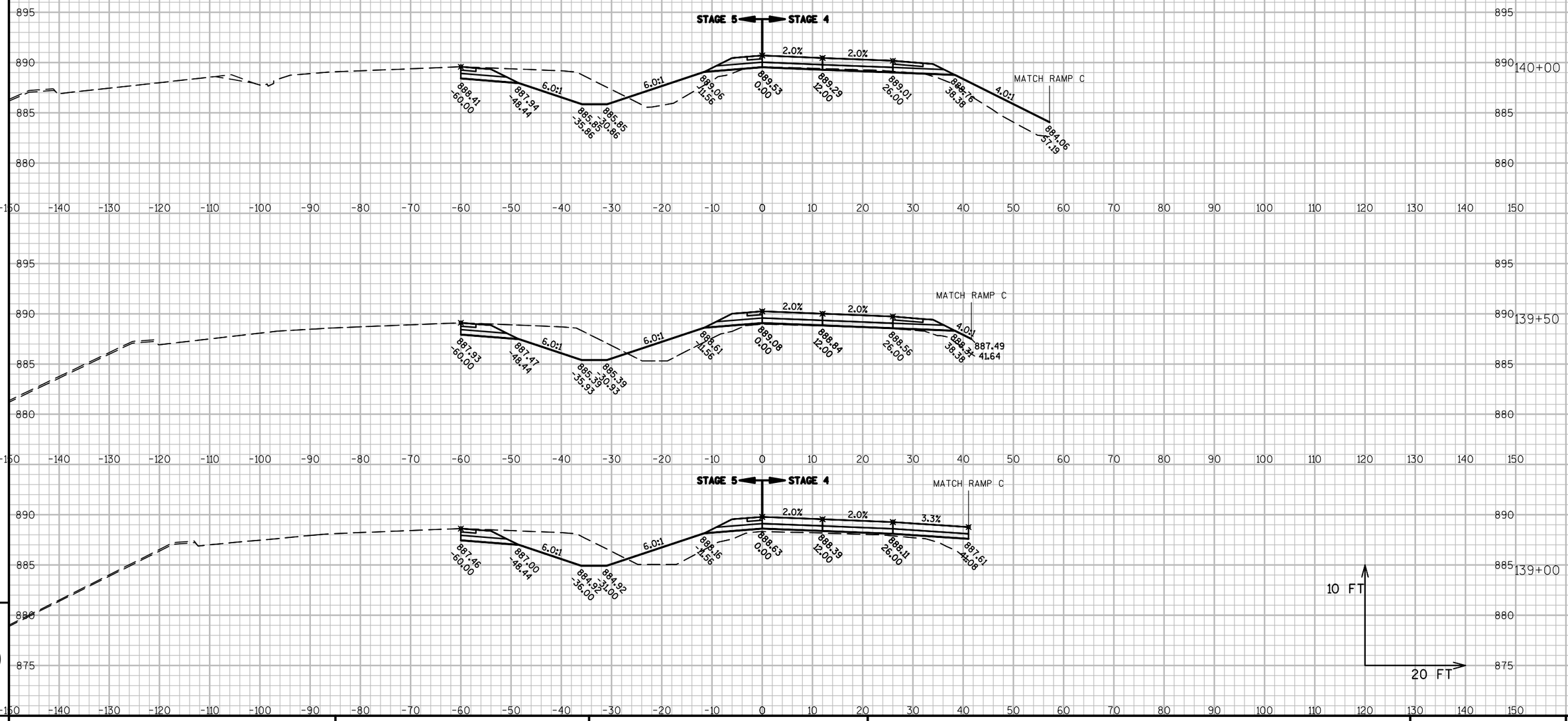
WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 631	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

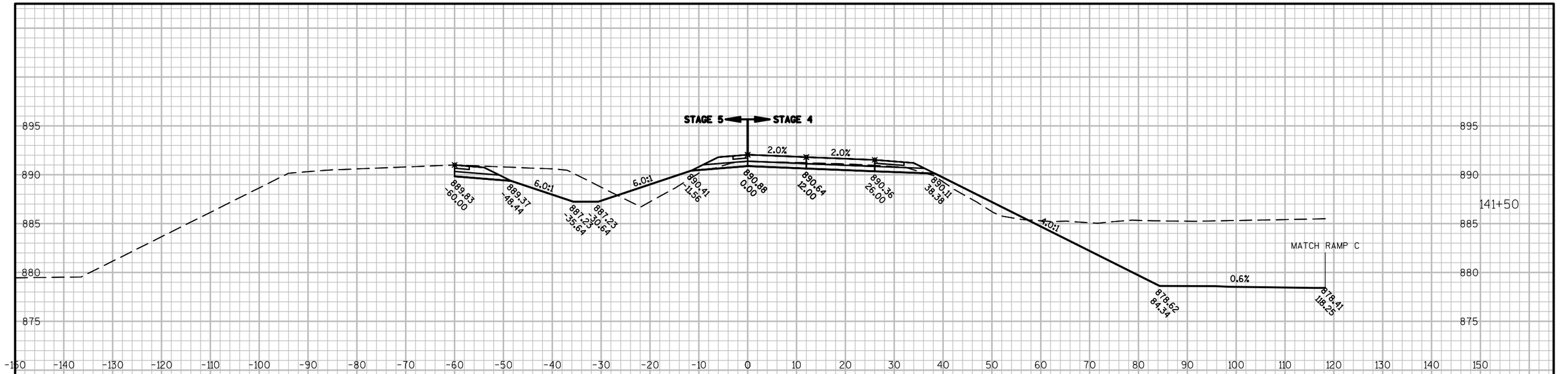
WISDOT/CADDS SHEET 49

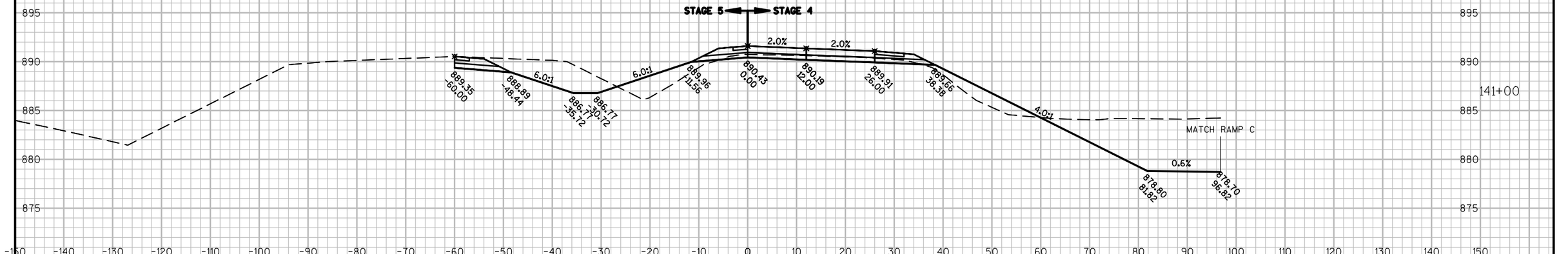


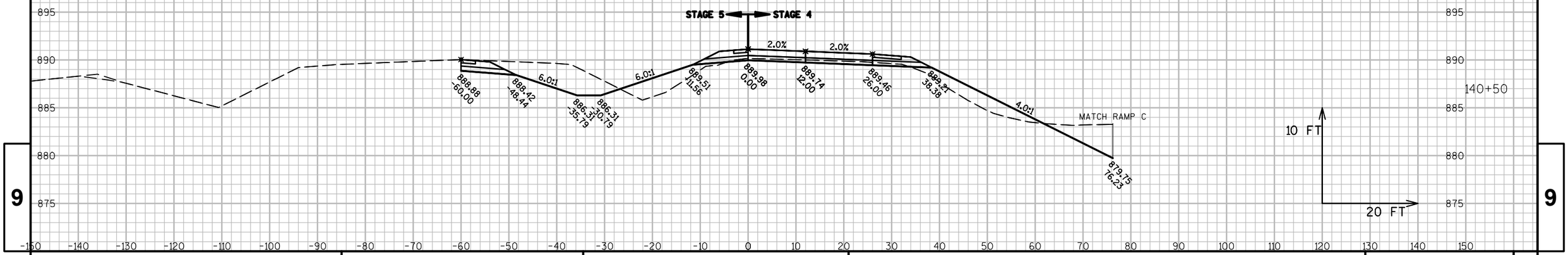
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 632	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49







PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 633	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

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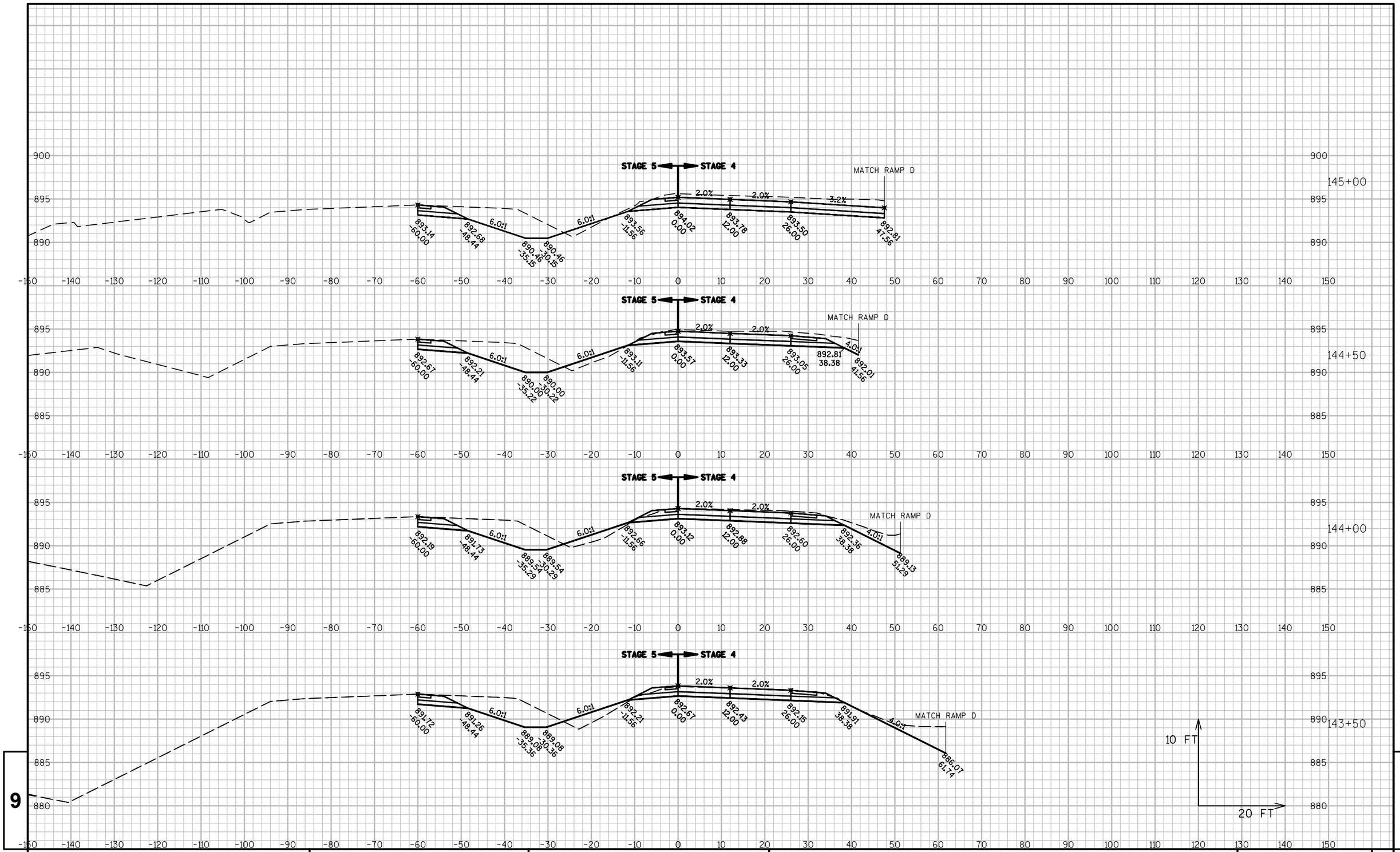
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 634	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

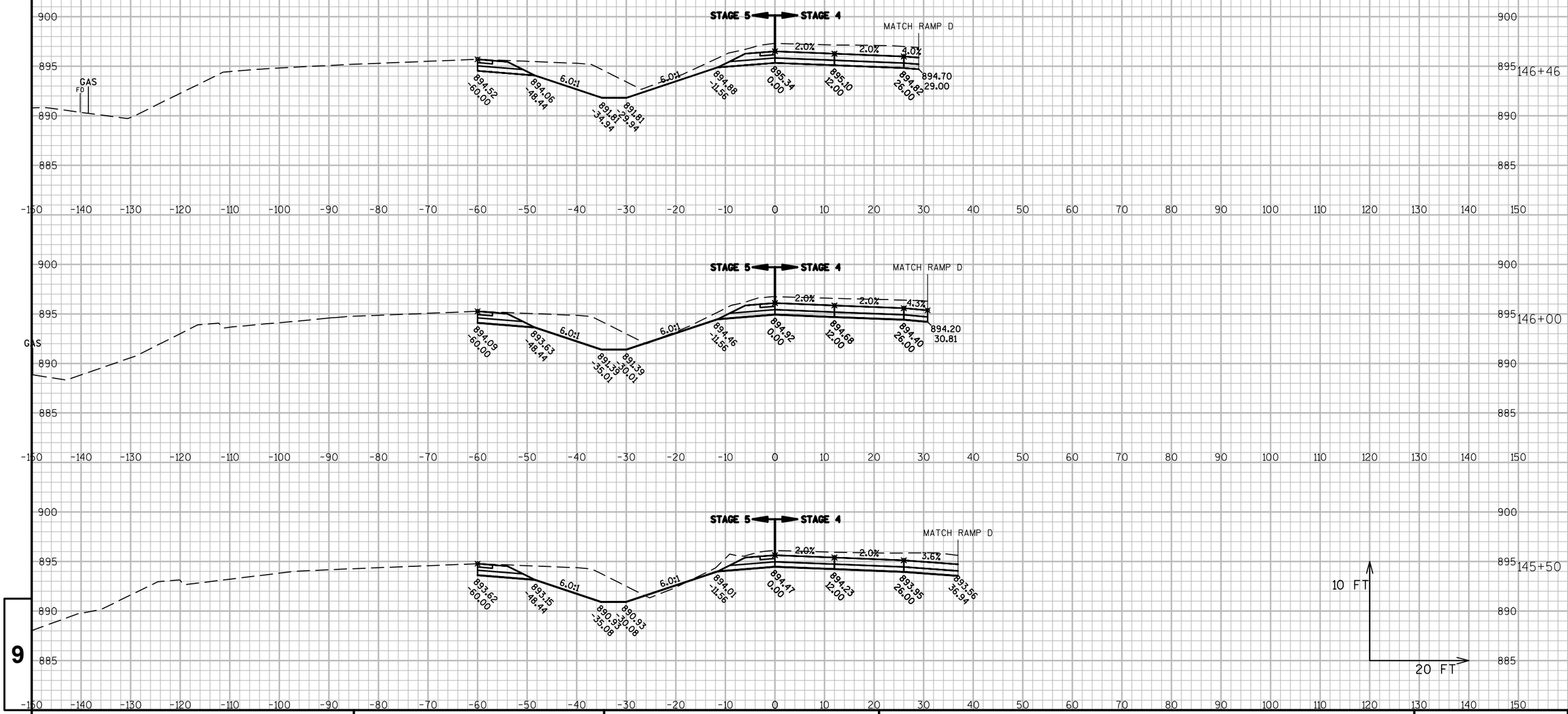
WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 635	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



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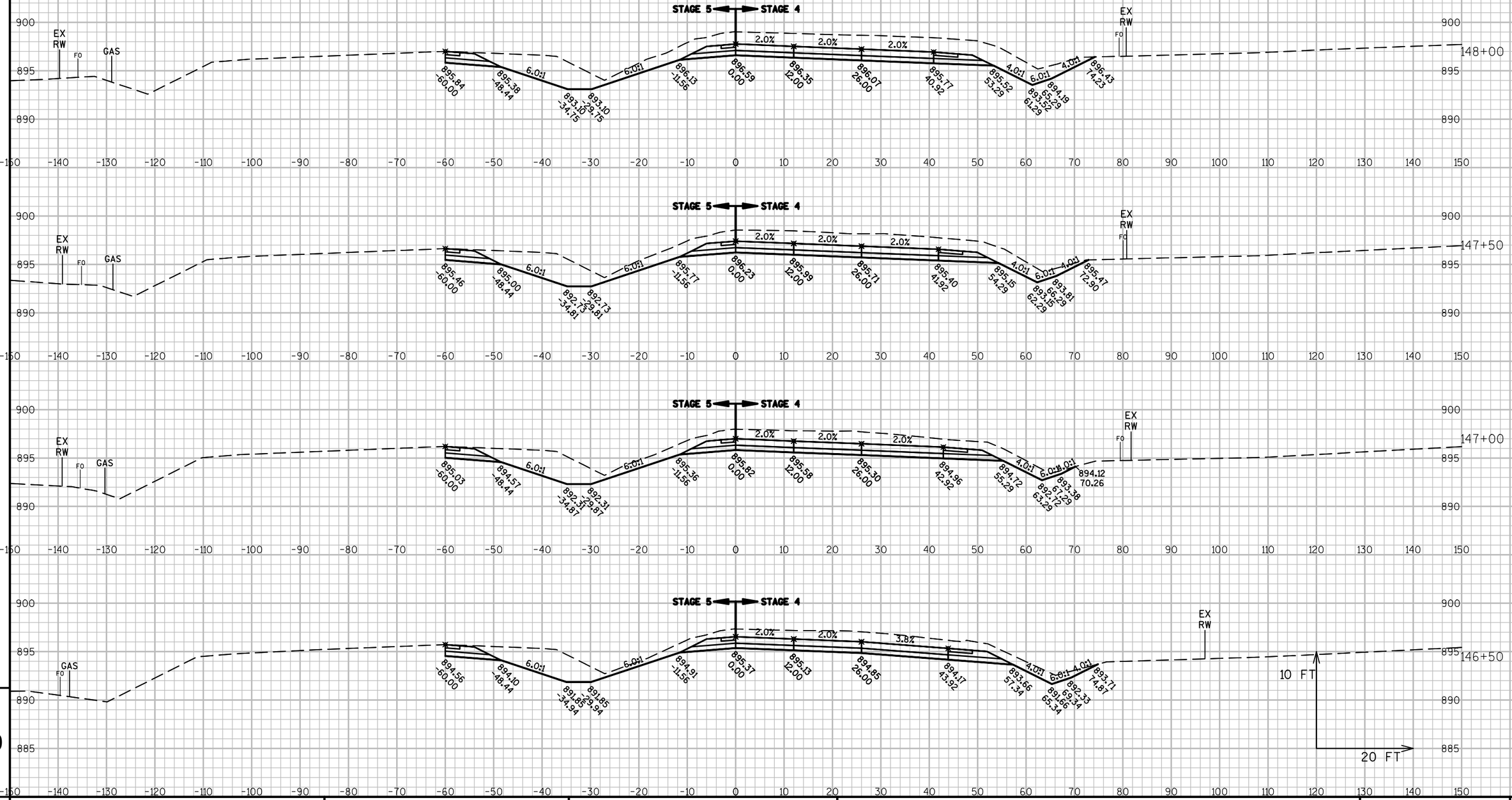
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 636	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

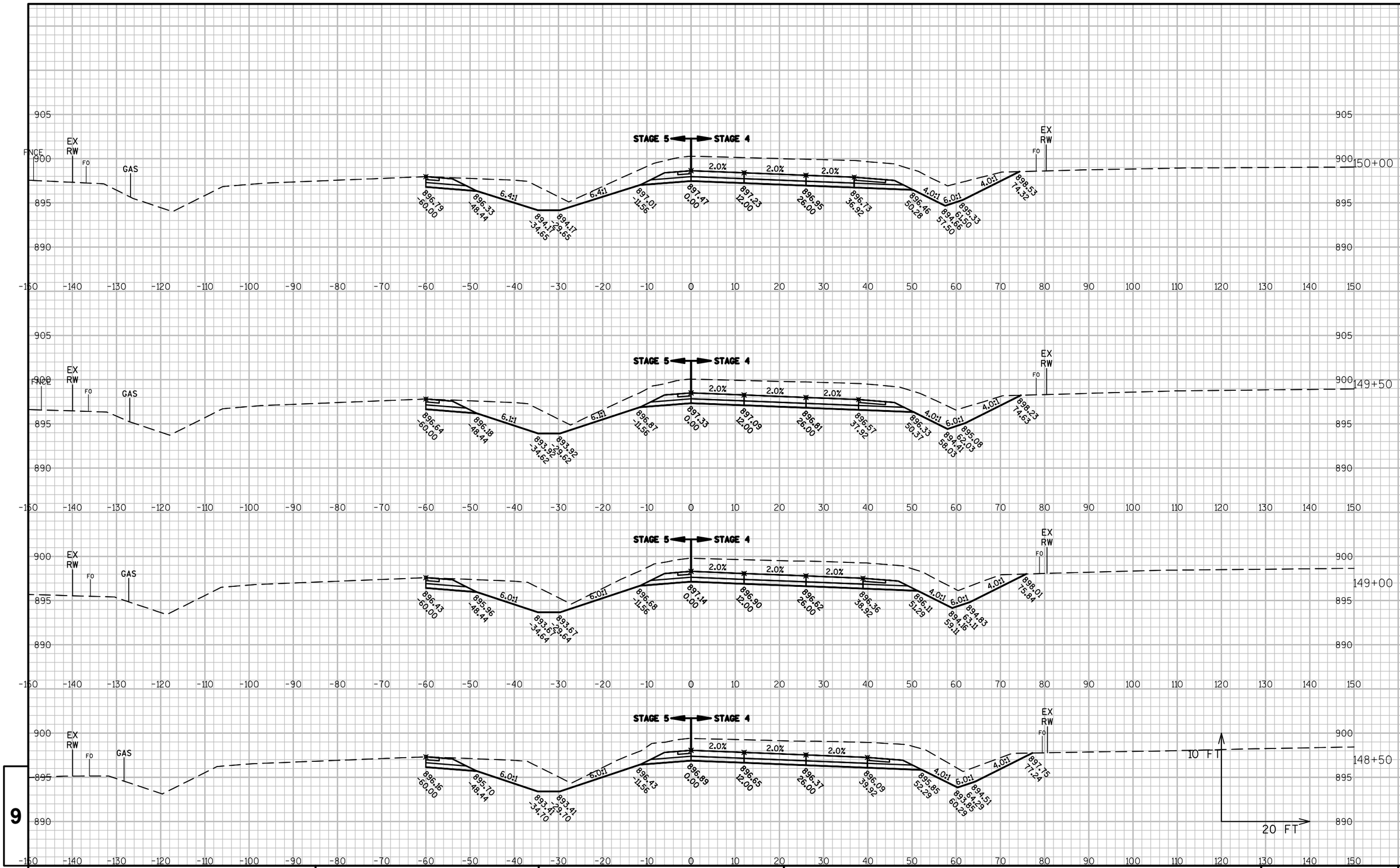
WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 637 E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



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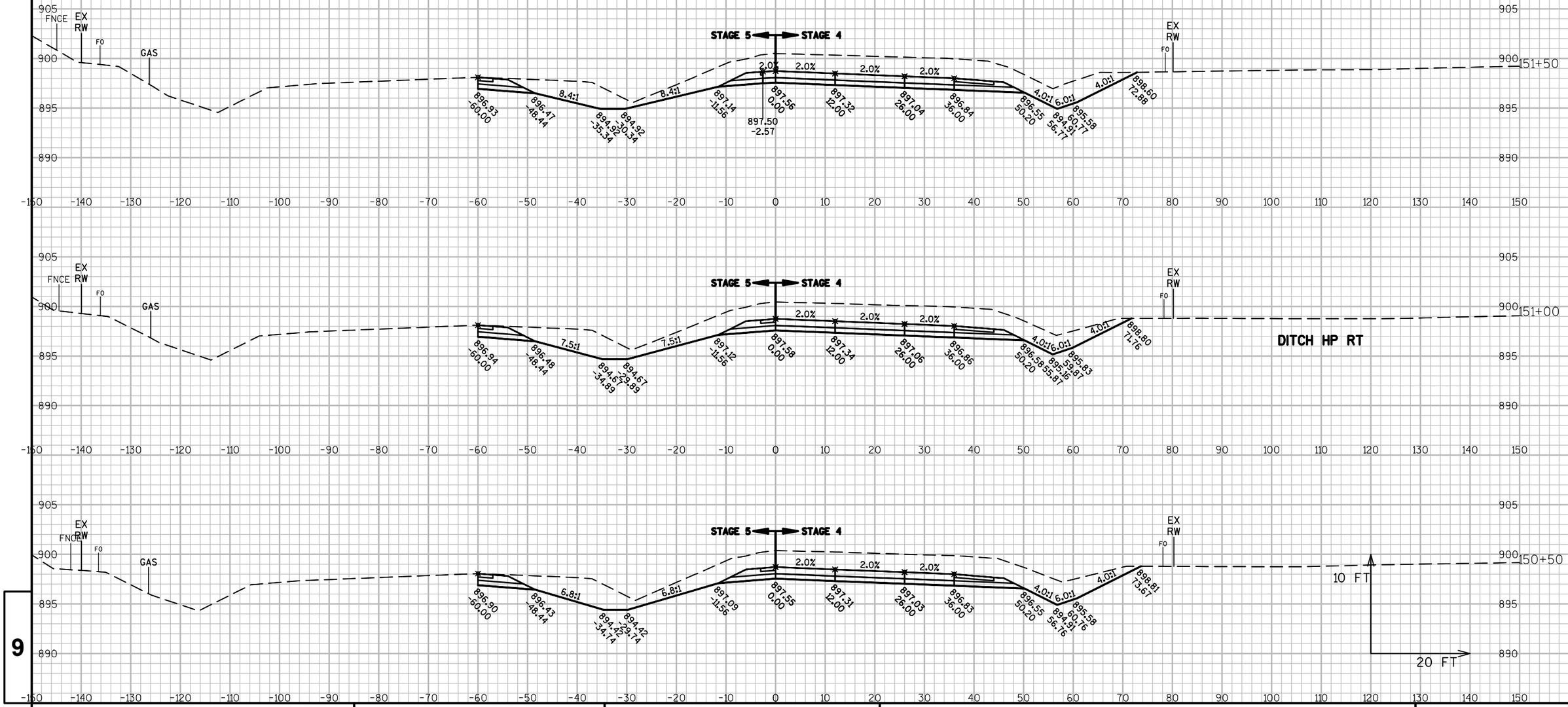
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 638	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:58 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

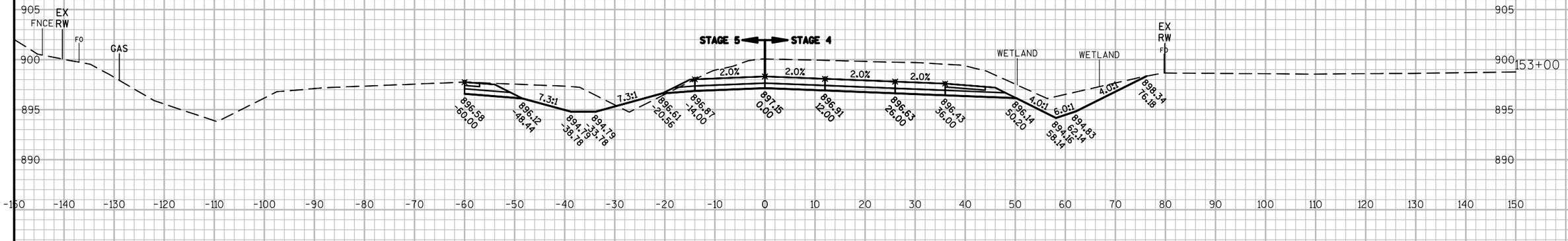
WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 639	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:58 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



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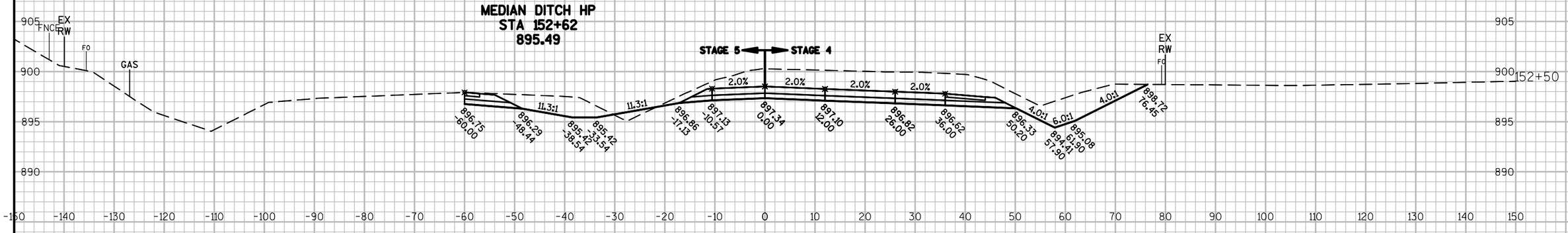

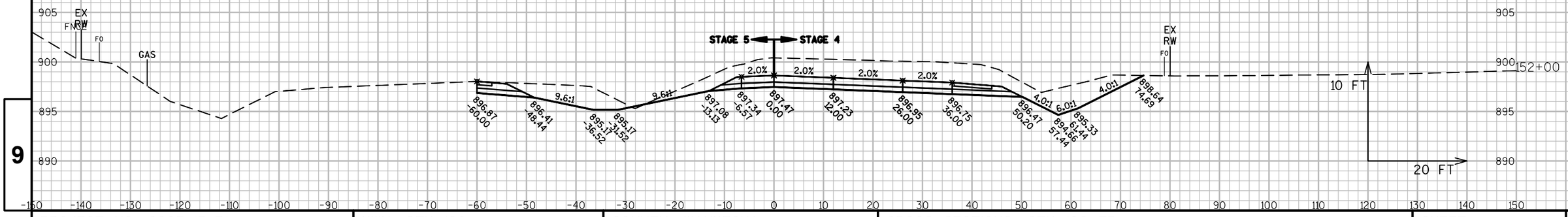

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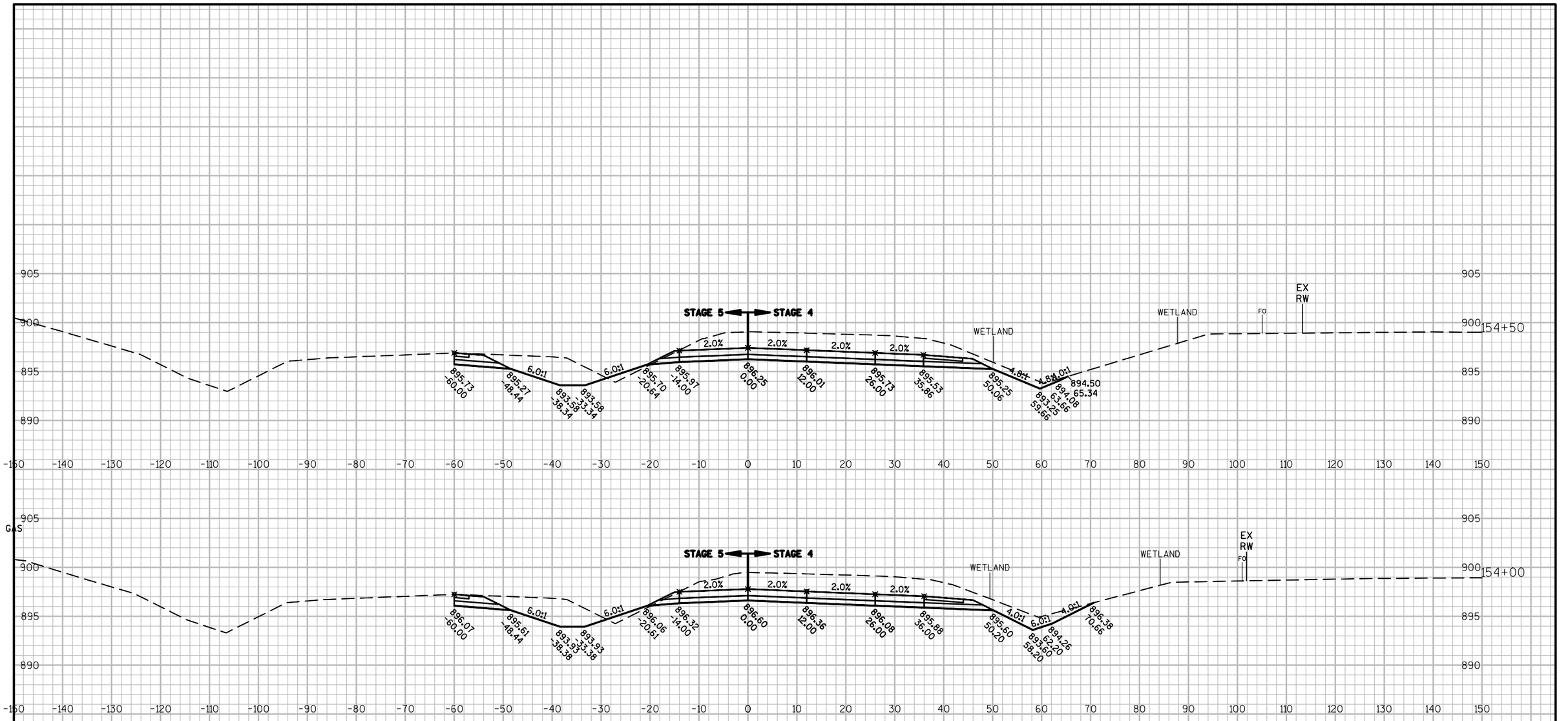
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 640	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:58 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

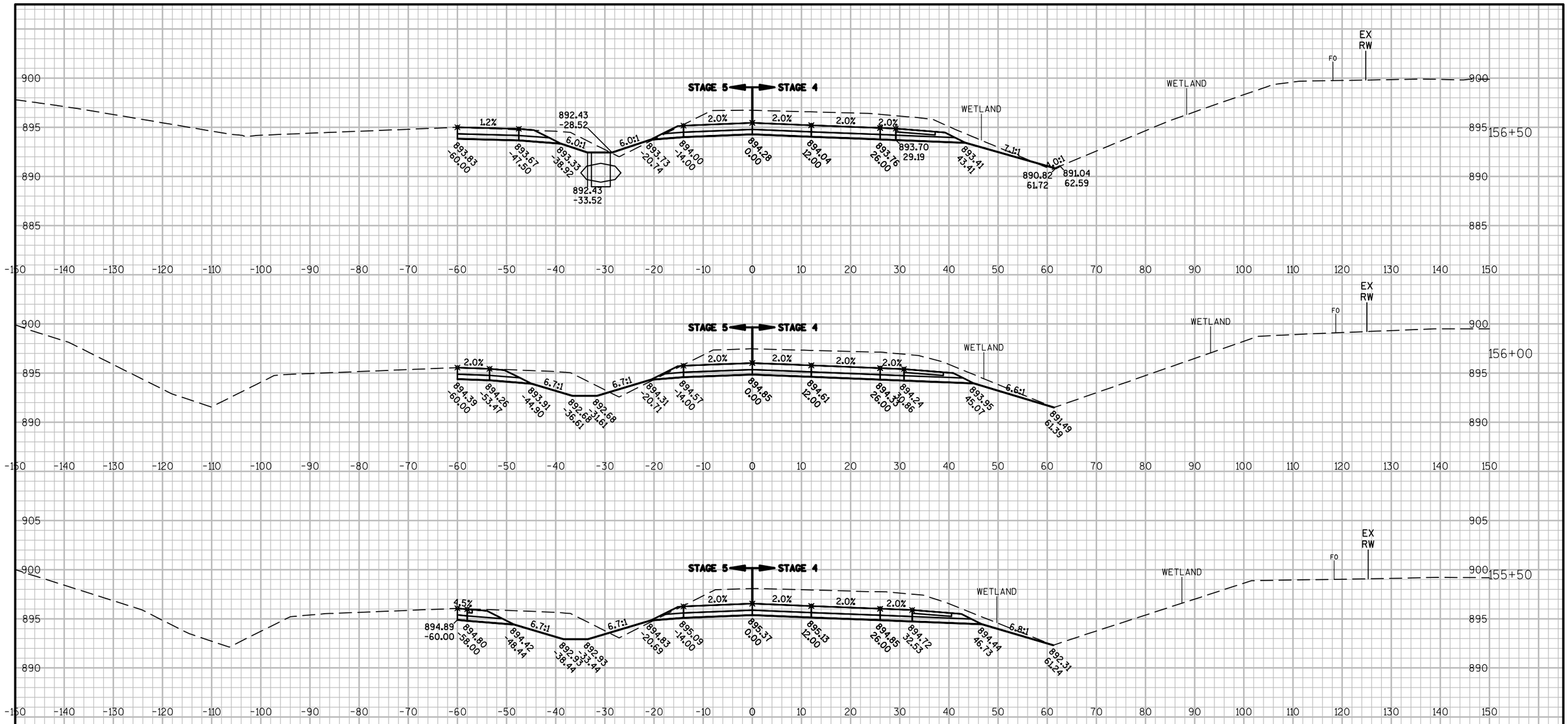
WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 641	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:58 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

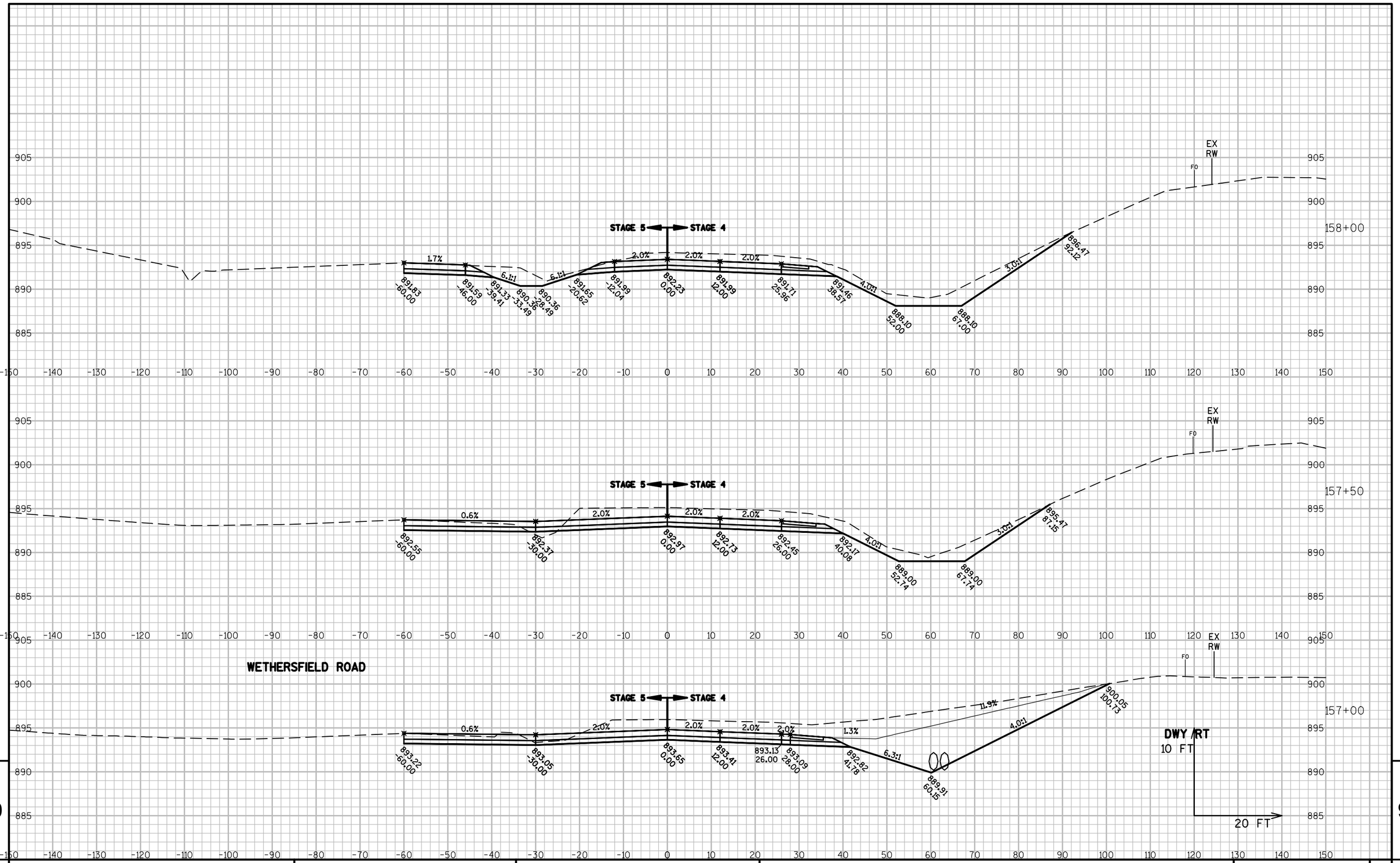
WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 642 E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:58 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

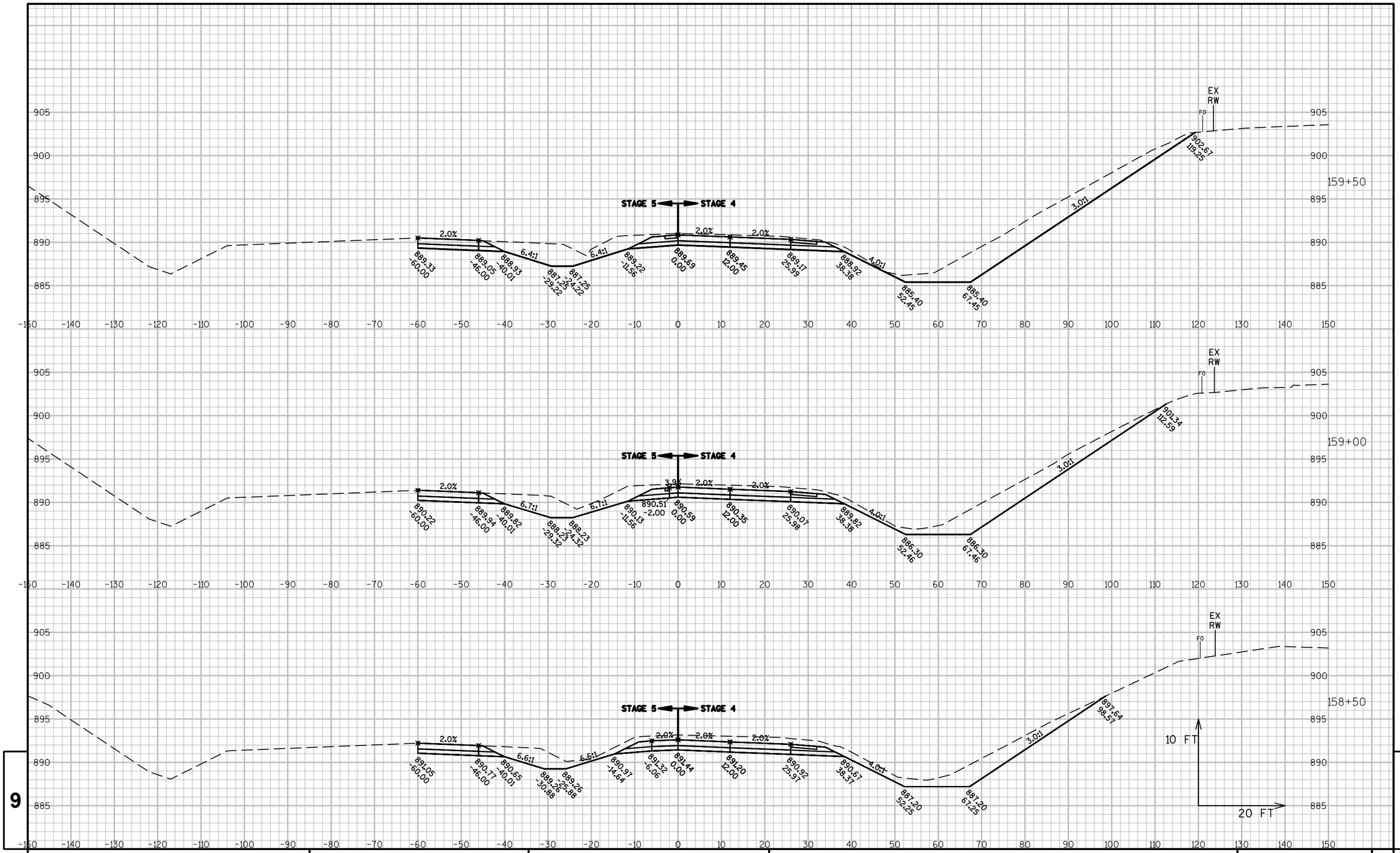
WISDOT/CADDS SHEET 49



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 643	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:58 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



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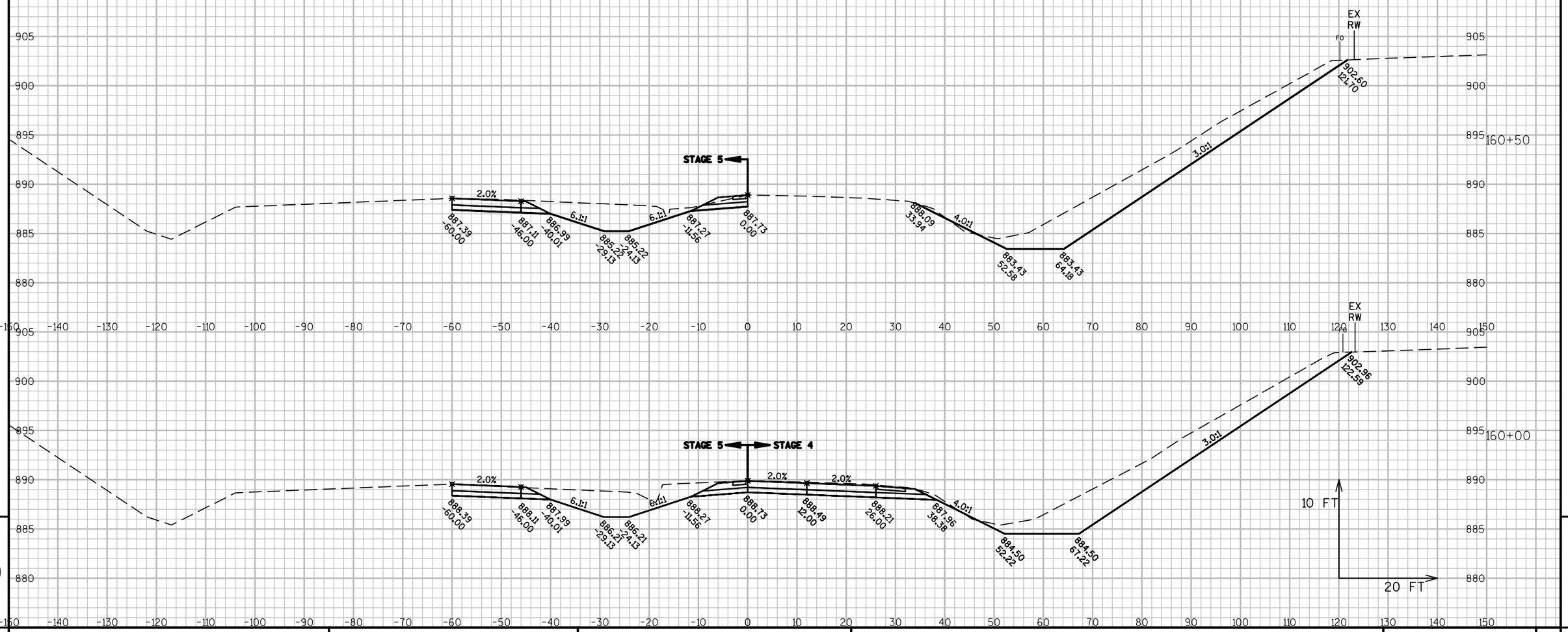
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 644	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:58 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



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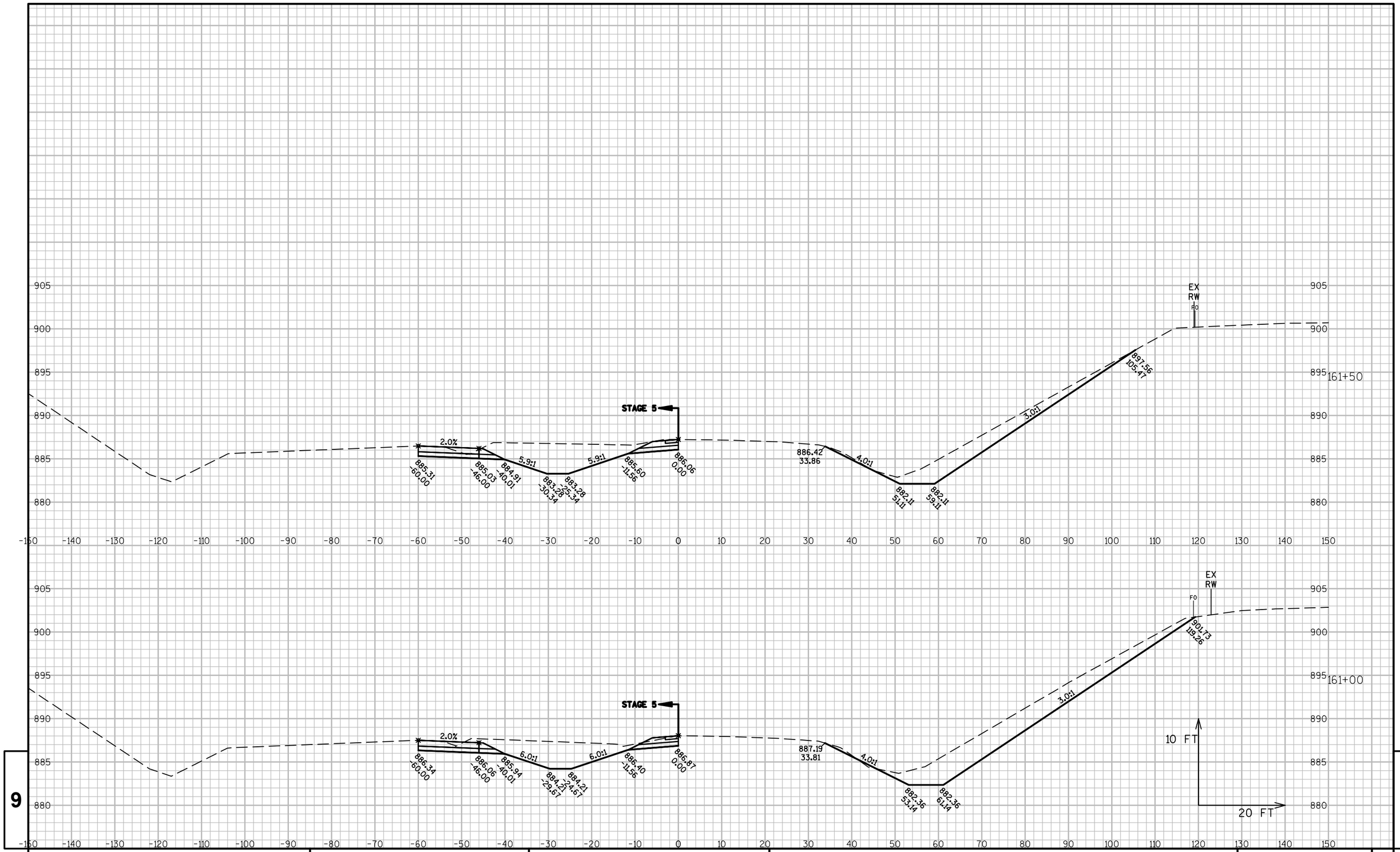
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 645	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:58 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49



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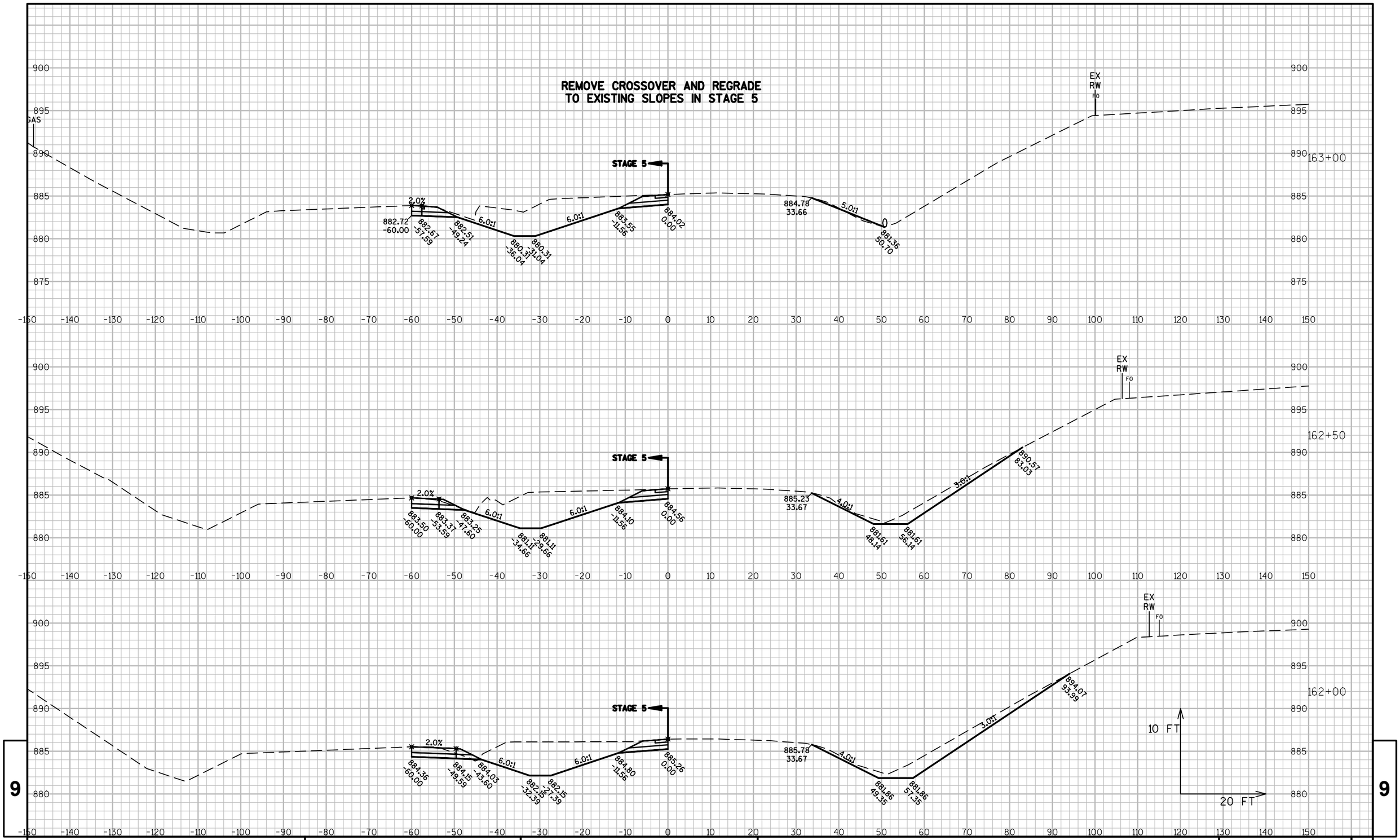
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 646	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:58 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

REMOVE CROSSOVER AND REGRADE TO EXISTING SLOPES IN STAGE 5



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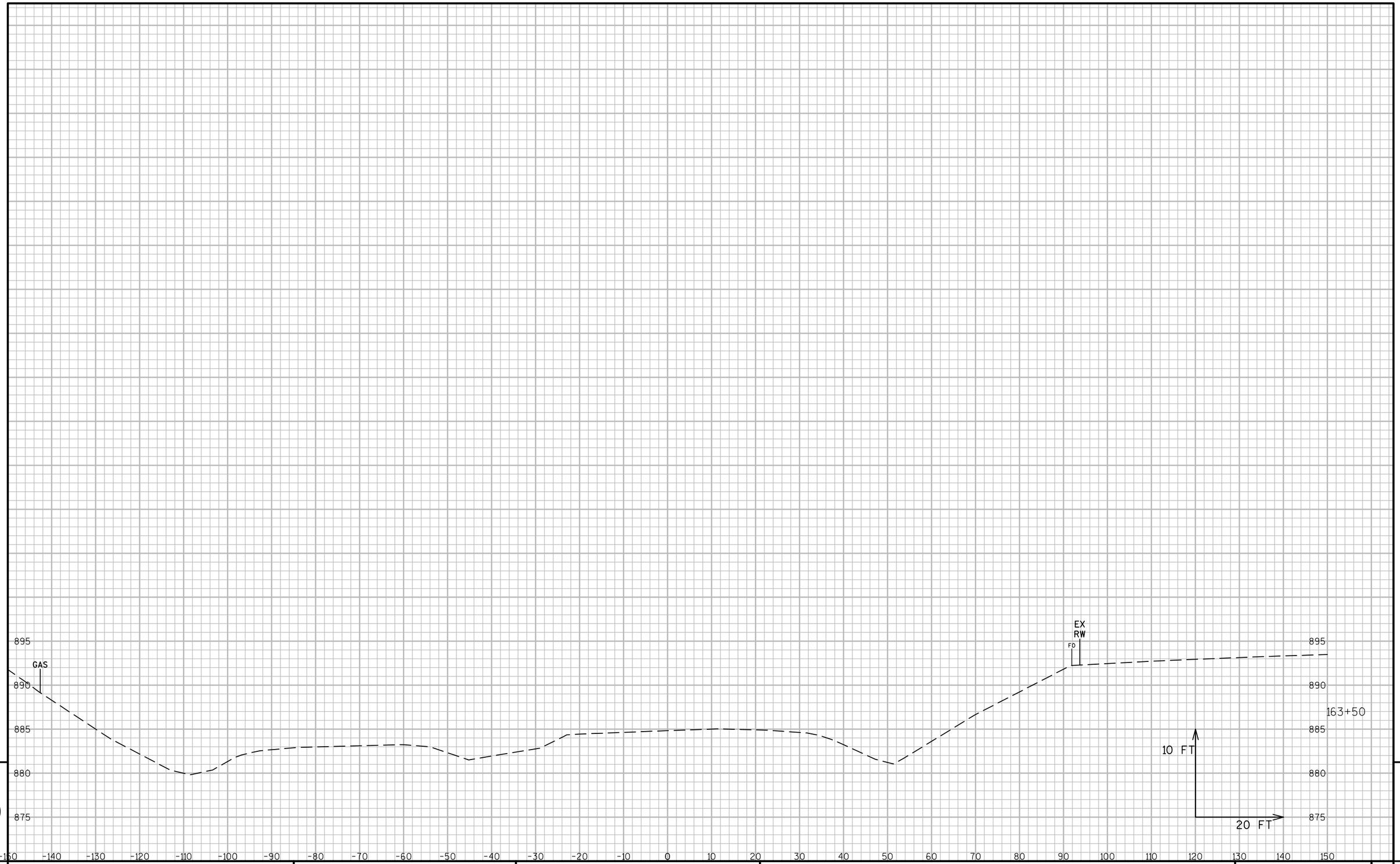
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 647	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:58 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :



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PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: STH 190 EB	SHEET 648	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090206-XS-190-EB.DWG PLOT DATE : 10/27/2016 9:58 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

ALL WORK THIS SHEET COMPLETED IN STAGE 4

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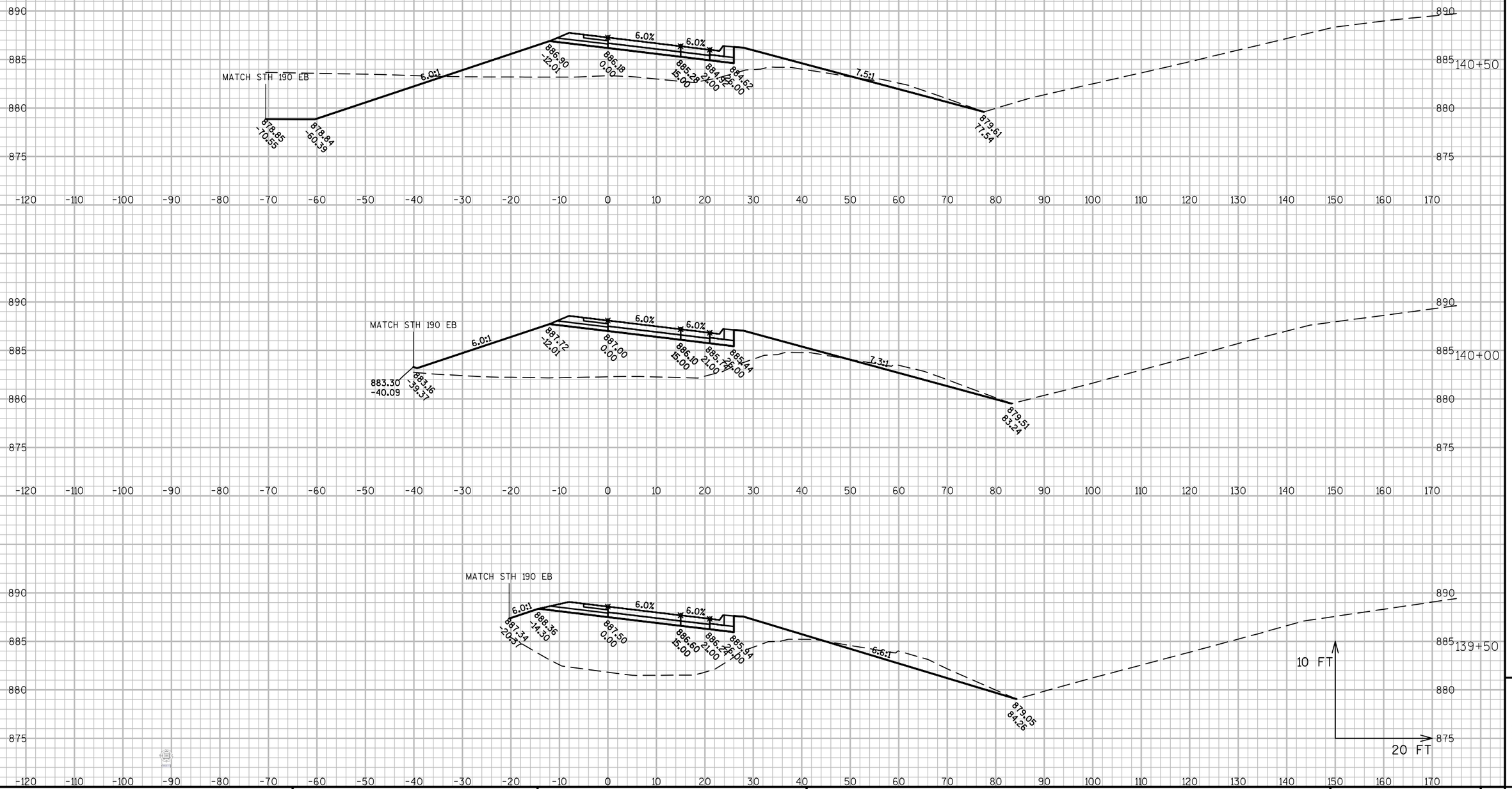
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP C	SHEET 649	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090207-XS-RAMPC.DWG PLOT DATE : 10/27/2016 10:56 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

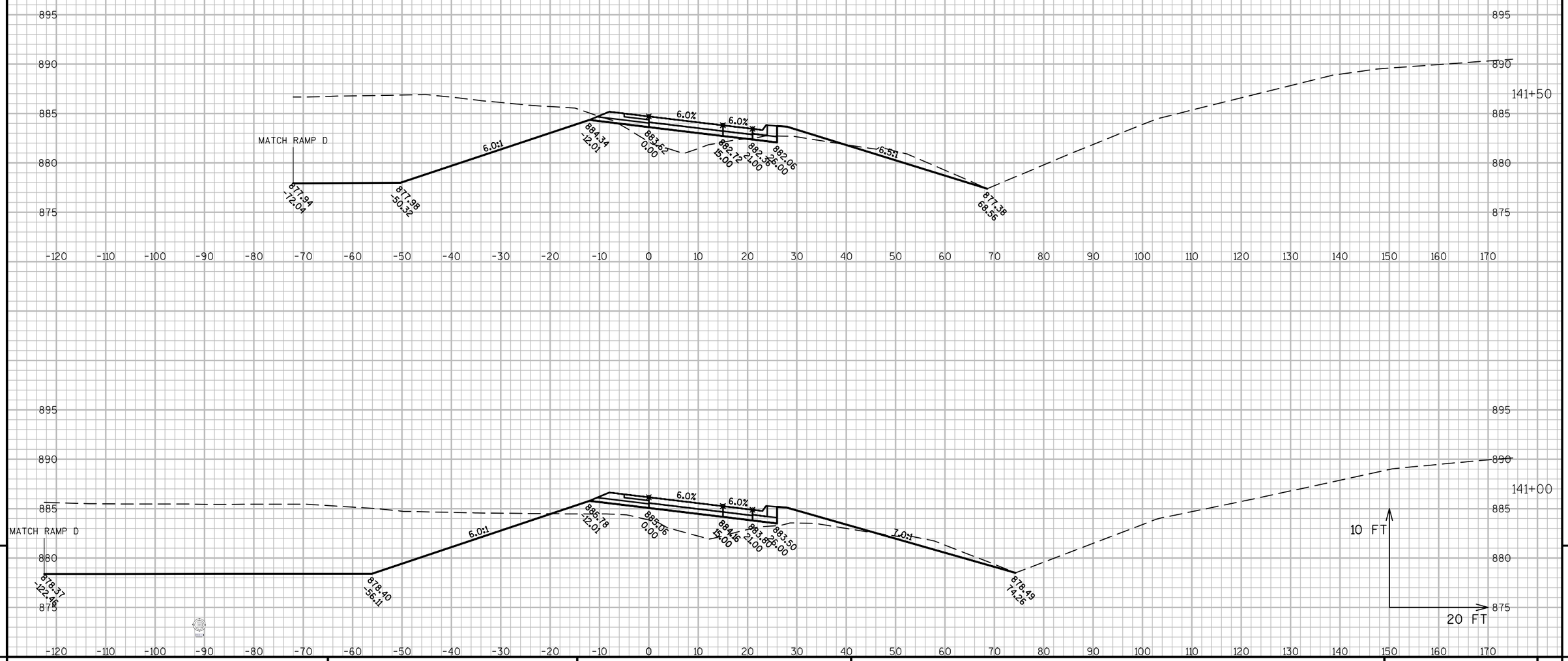
ALL WORK THIS SHEET COMPLETED IN STAGE 4



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP C	SHEET 650	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090207-XS-RAMPC.DWG PLOT DATE : 10/27/2016 10:56 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

ALL WORK THIS SHEET COMPLETED IN STAGE 4

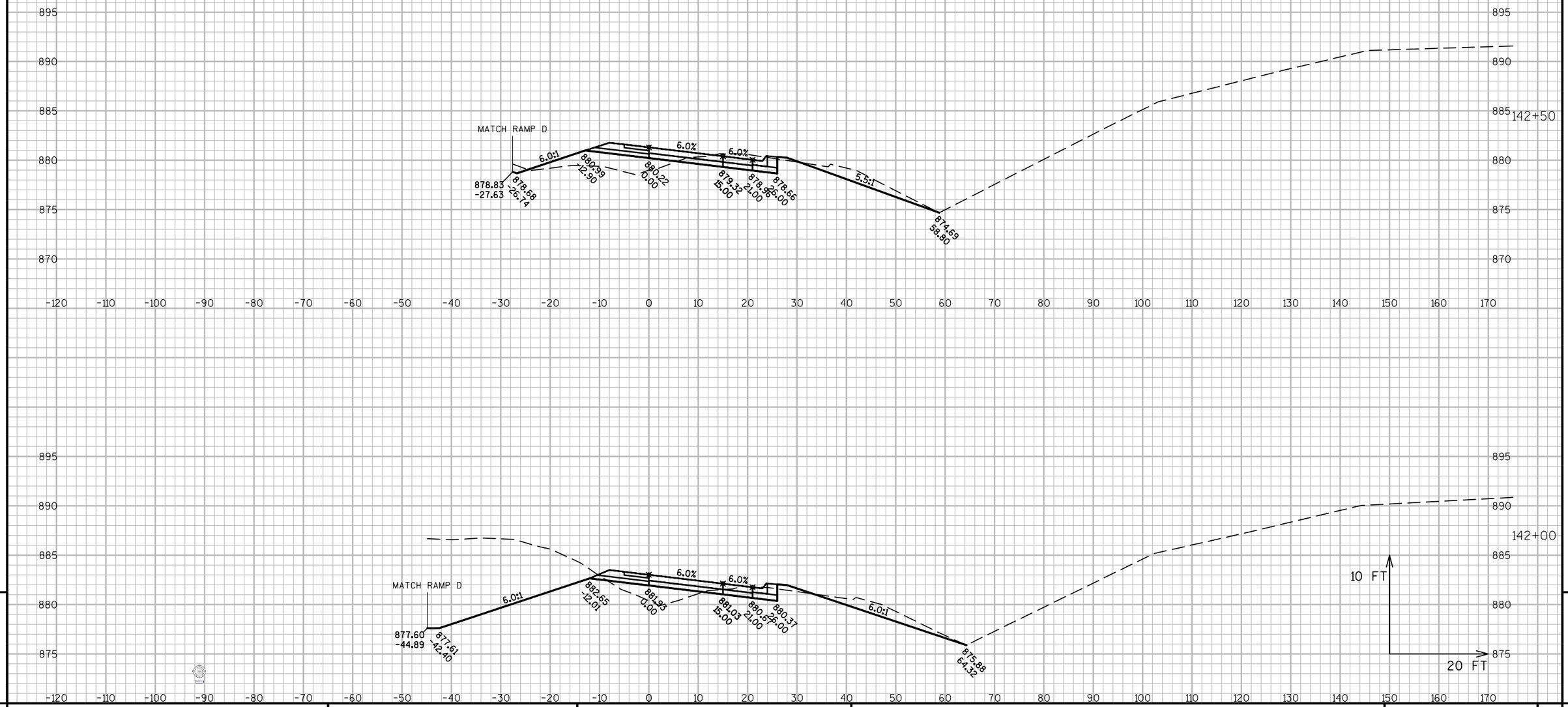


PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP C	SHEET 651	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090207-XS-RAMPC.DWG PLOT DATE : 10/27/2016 10:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK THIS SHEET
COMPLETED IN STAGE 4



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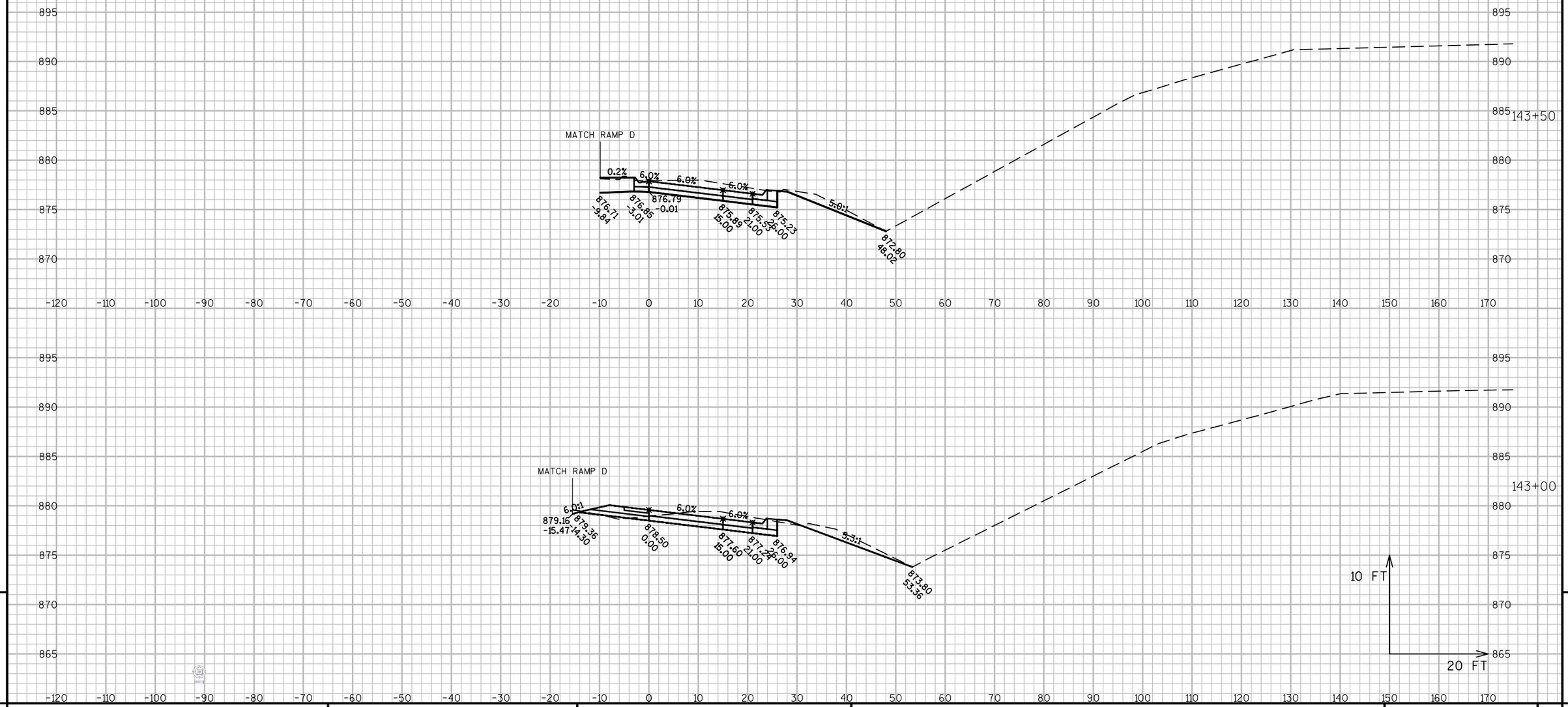
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP C	SHEET 652	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090207-XS-RAMPC.DWG PLOT DATE : 10/27/2016 10:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK THIS SHEET
COMPLETED IN STAGE 4



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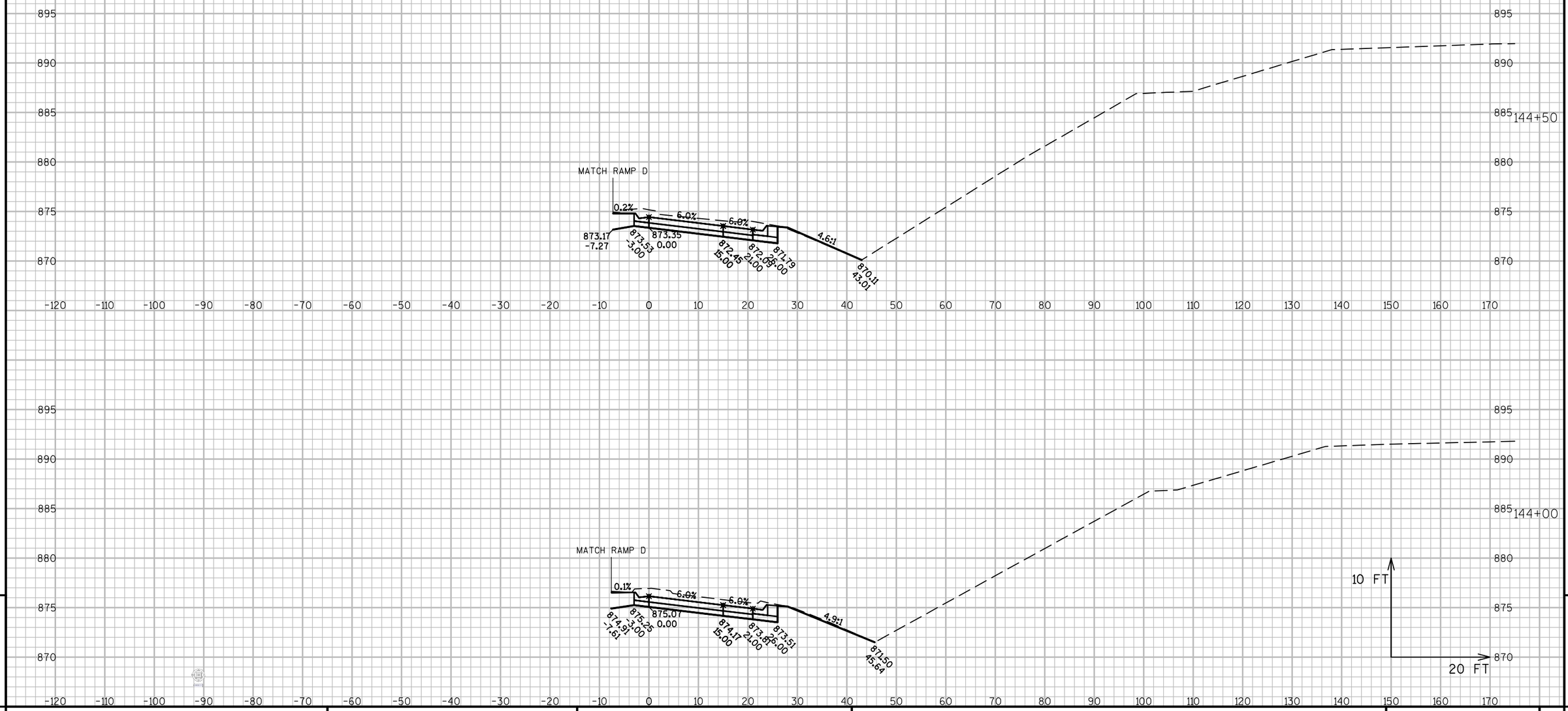
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP C	SHEET 653	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090207-XS-RAMPC.DWG PLOT DATE : 10/27/2016 10:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK THIS SHEET
COMPLETED IN STAGE 4



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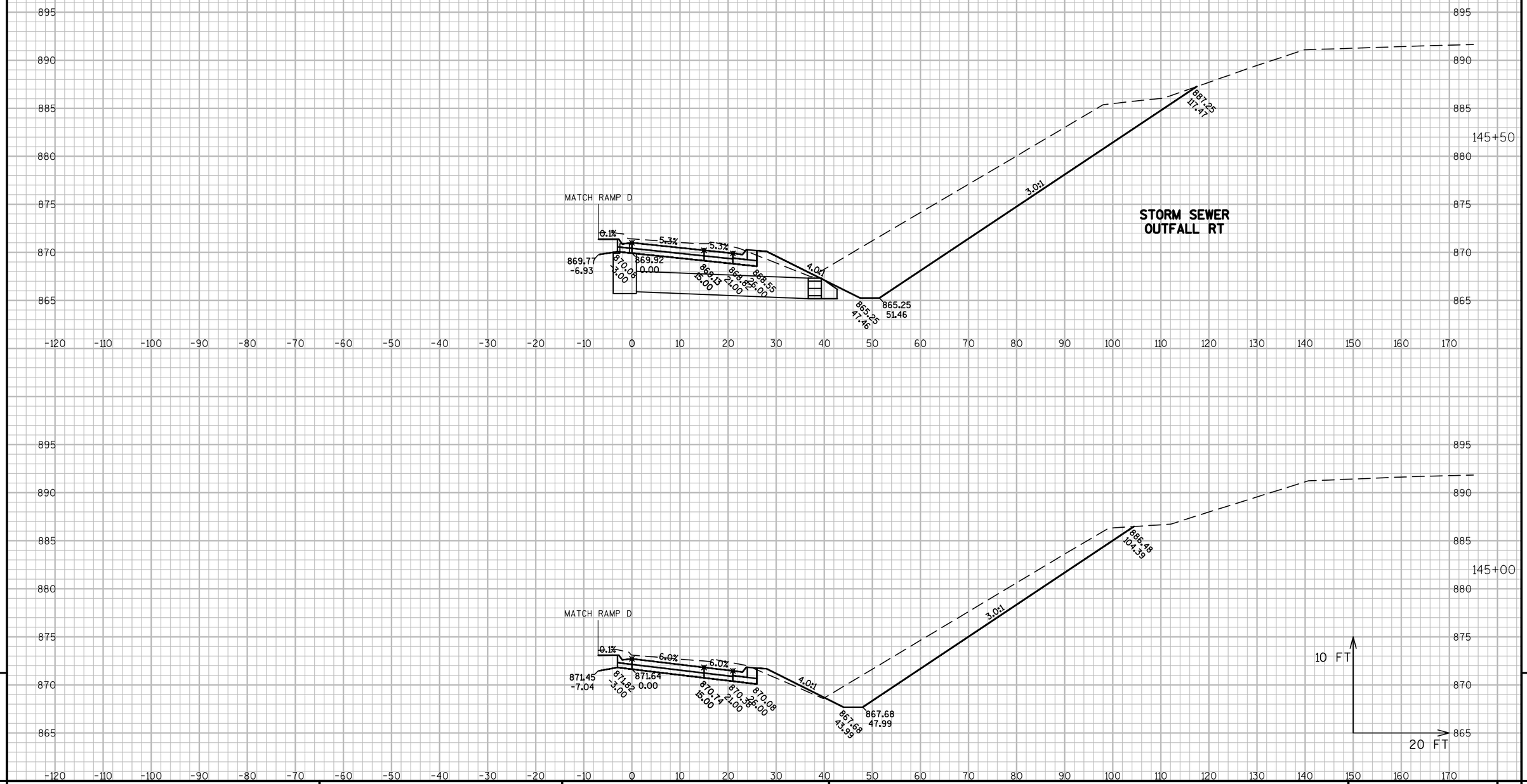
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP C	SHEET 654	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090207-XS-RAMPC.DWG PLOT DATE : 10/27/2016 10:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK THIS SHEET
COMPLETED IN STAGE 4



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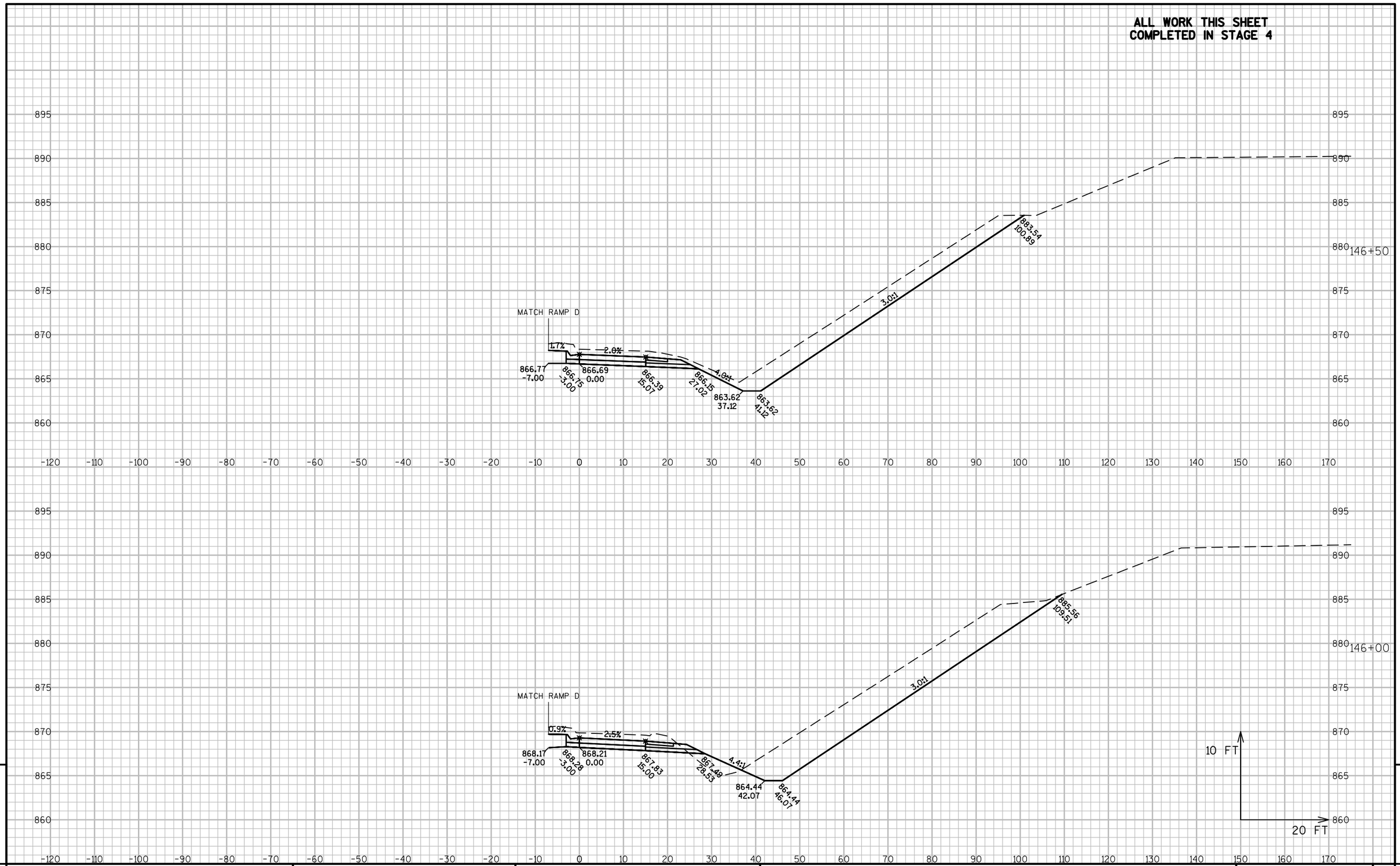
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP C	SHEET 655	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090207-XS-RAMPC.DWG PLOT DATE : 10/27/2016 10:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

ALL WORK THIS SHEET COMPLETED IN STAGE 4



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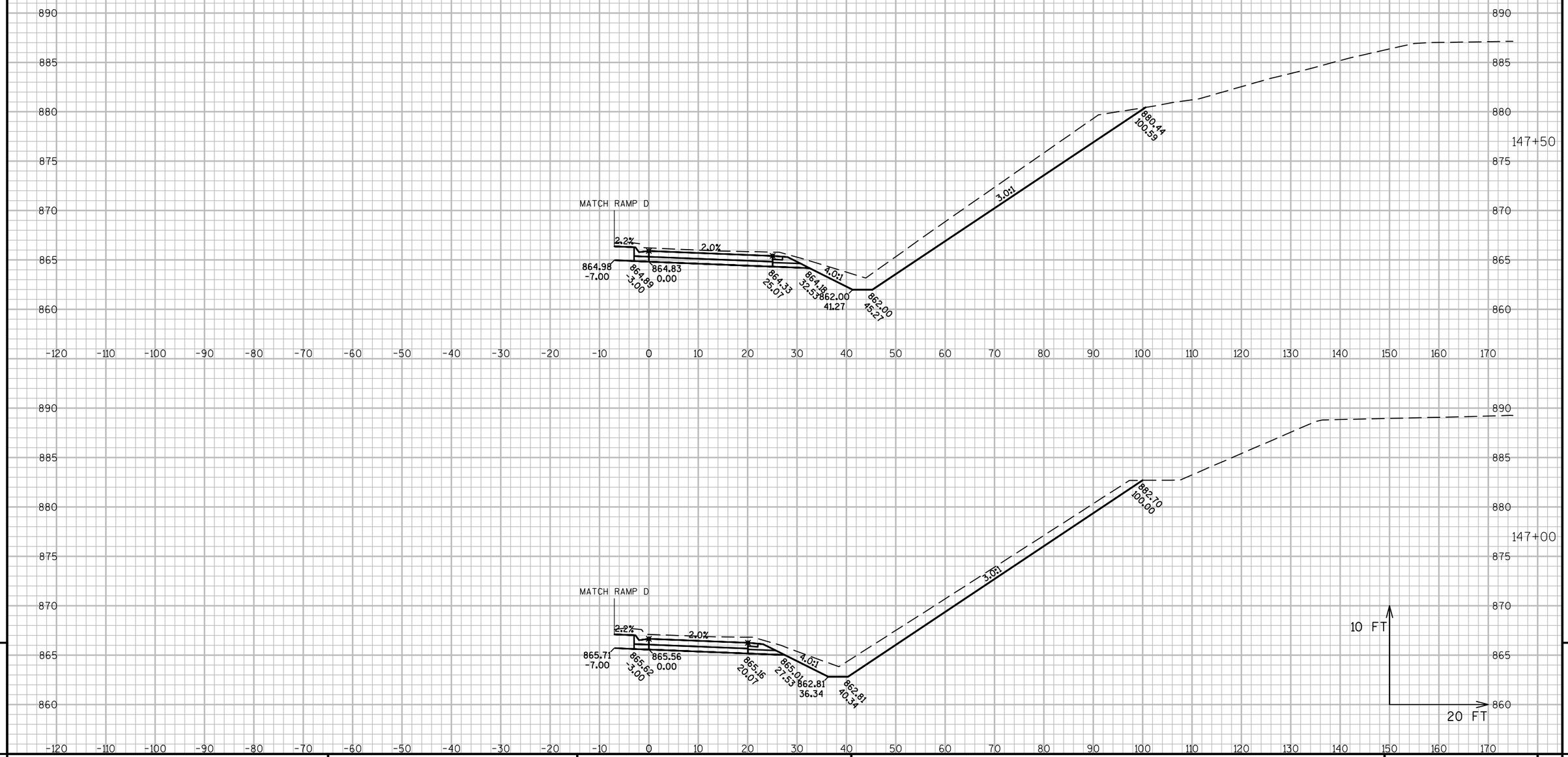
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP C	SHEET 656	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090207-XS-RAMPC.DWG PLOT DATE : 10/27/2016 10:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK THIS SHEET
COMPLETED IN STAGE 4



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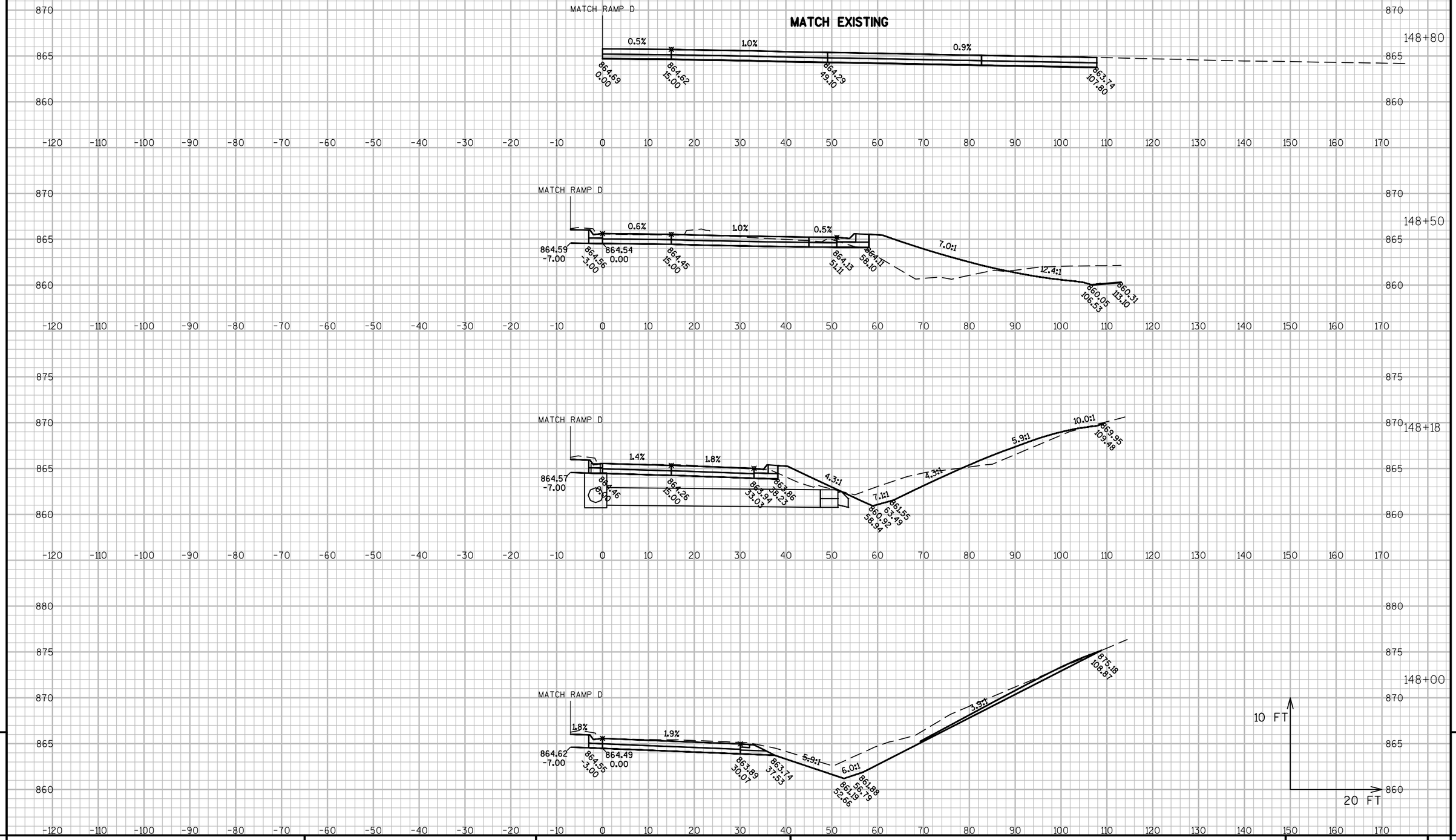
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP C	SHEET 657	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090207-XS-RAMPC.DWG PLOT DATE : 10/27/2016 10:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK THIS SHEET COMPLETED IN STAGE 4

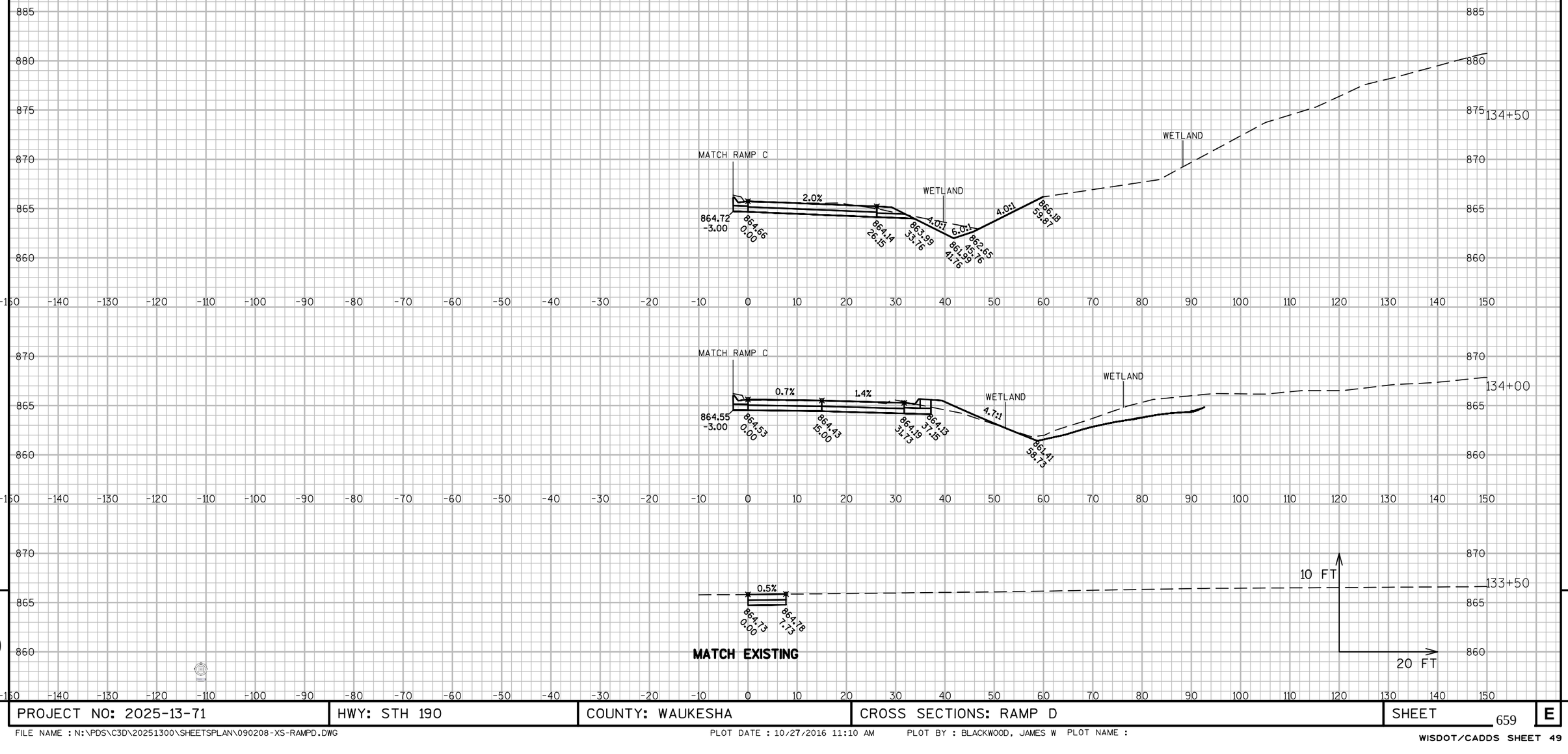


PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP C	SHEET 658 E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090207-XS-RAMPC.DWG PLOT DATE : 10/27/2016 10:57 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK ON THIS SHEET COMPLETED IN STAGE 4

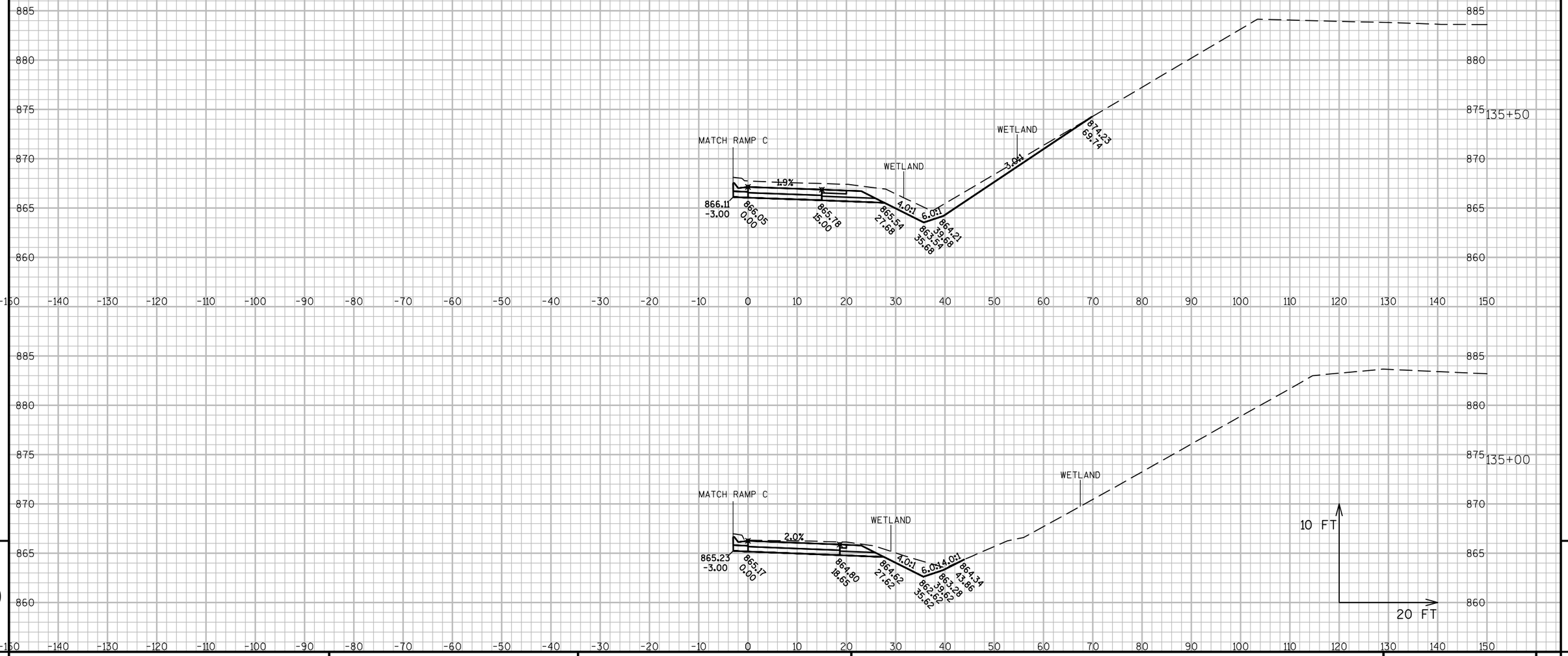


PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP D	SHEET 659	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090208-XS-RAMPD.DWG PLOT DATE : 10/27/2016 11:10 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK ON THIS SHEET COMPLETED IN STAGE 4



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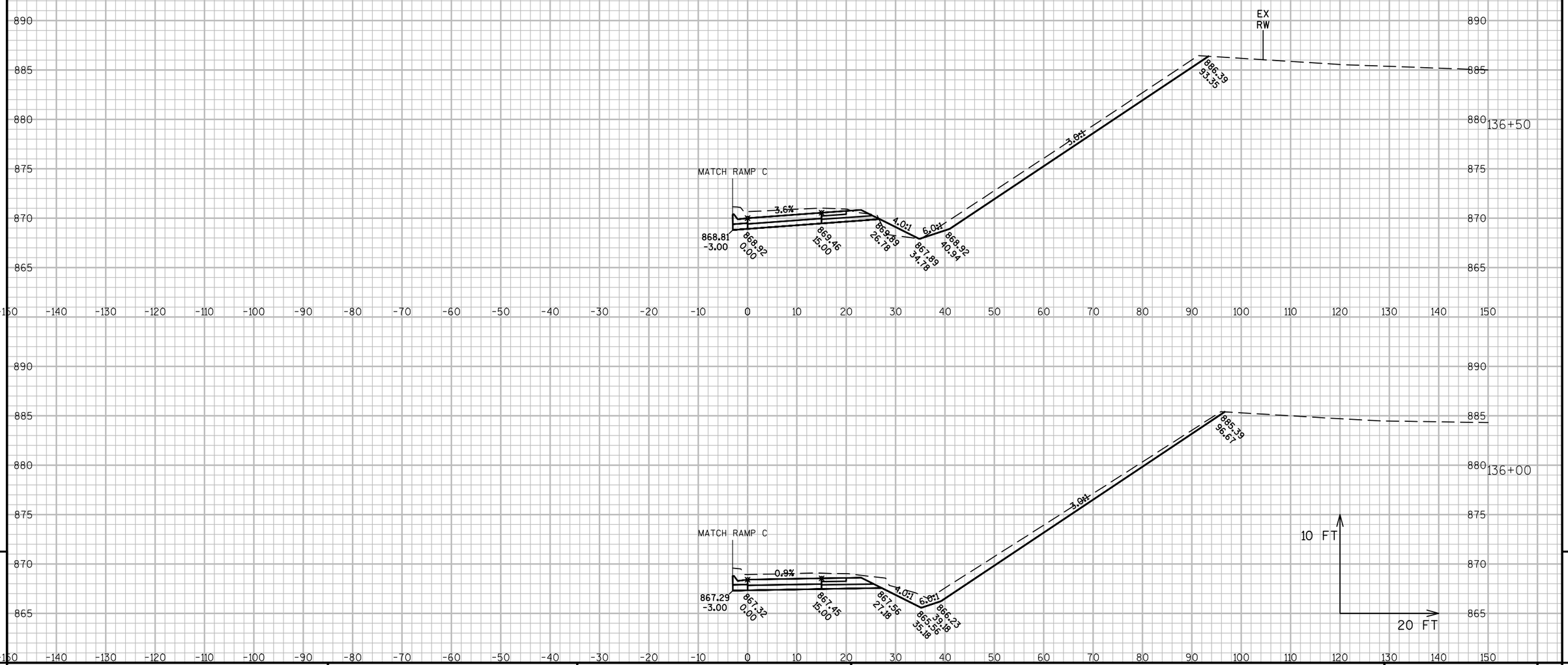
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP D	SHEET 660	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090208-XS-RAMPD.DWG PLOT DATE : 10/27/2016 11:10 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

ALL WORK ON THIS SHEET
COMPLETED IN STAGE 4



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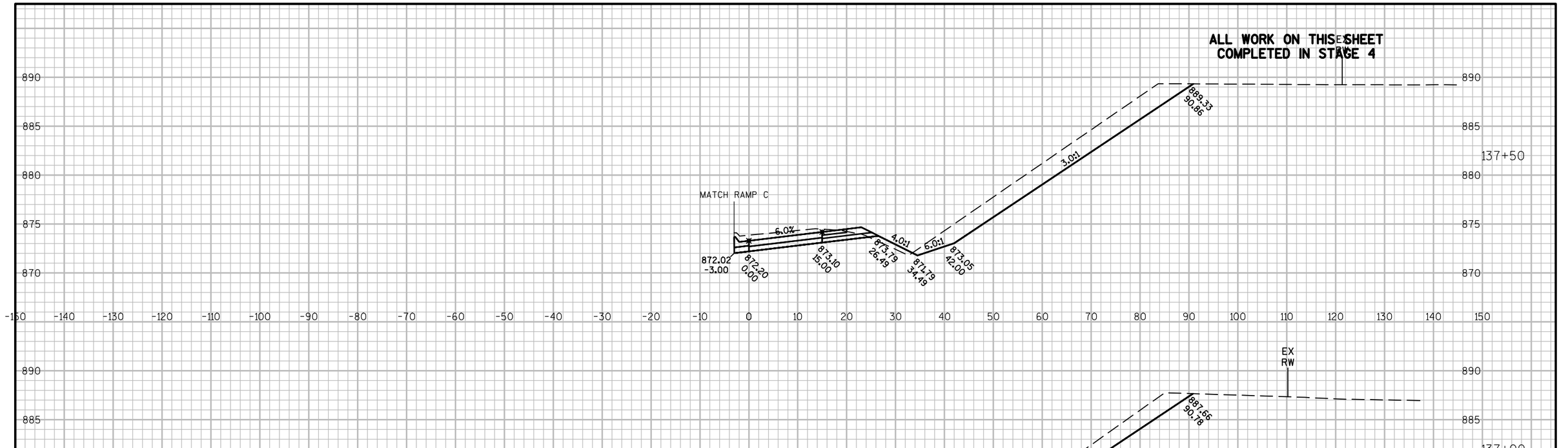
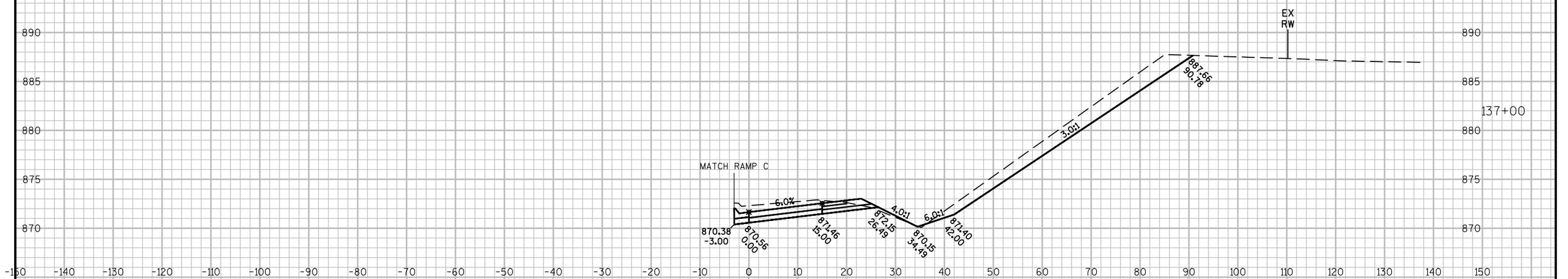
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP D	SHEET 661	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090208-XS-RAMPD.DWG PLOT DATE : 10/27/2016 11:10 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK ON THIS SHEET
COMPLETED IN STAGE 4



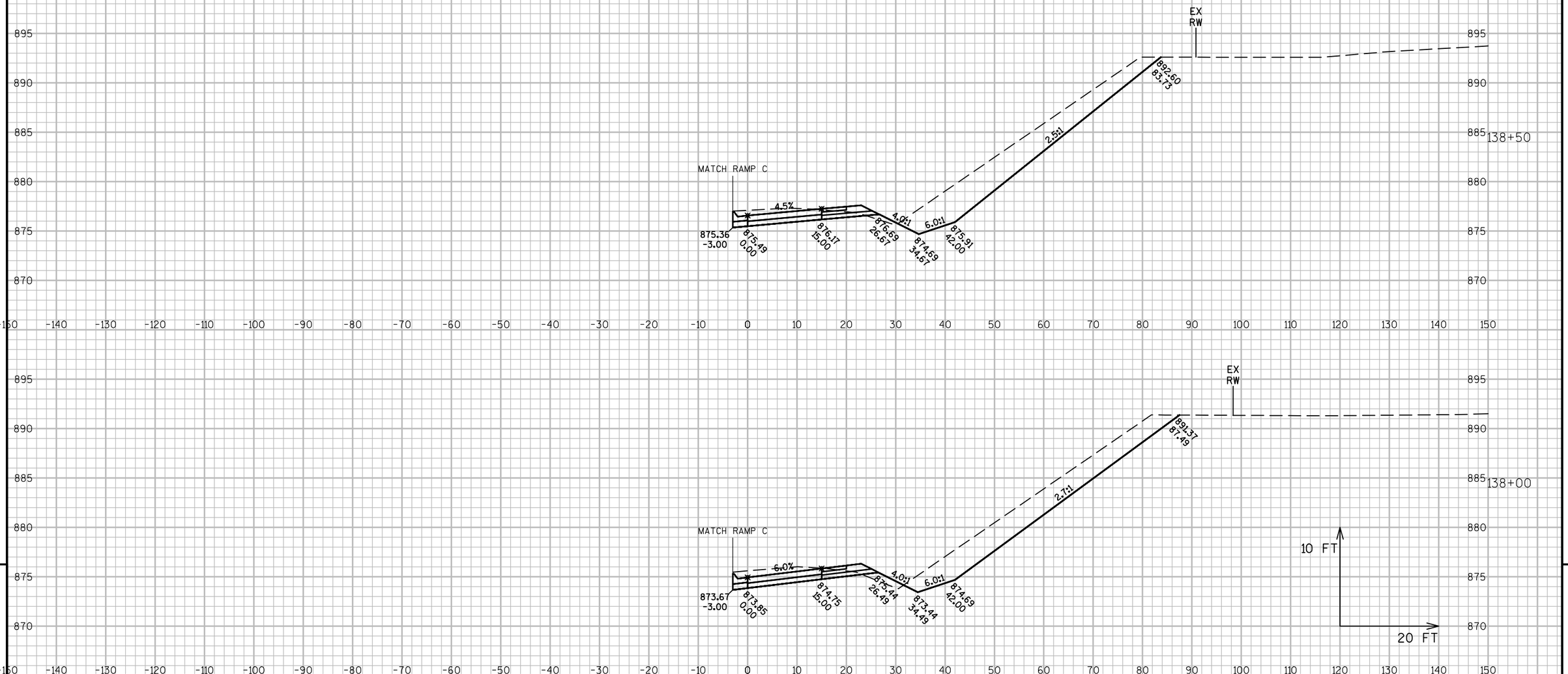


PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP D	SHEET 662	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090208-XS-RAMPD.DWG PLOT DATE : 10/27/2016 11:10 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK ON THIS SHEET
COMPLETED IN STAGE 4



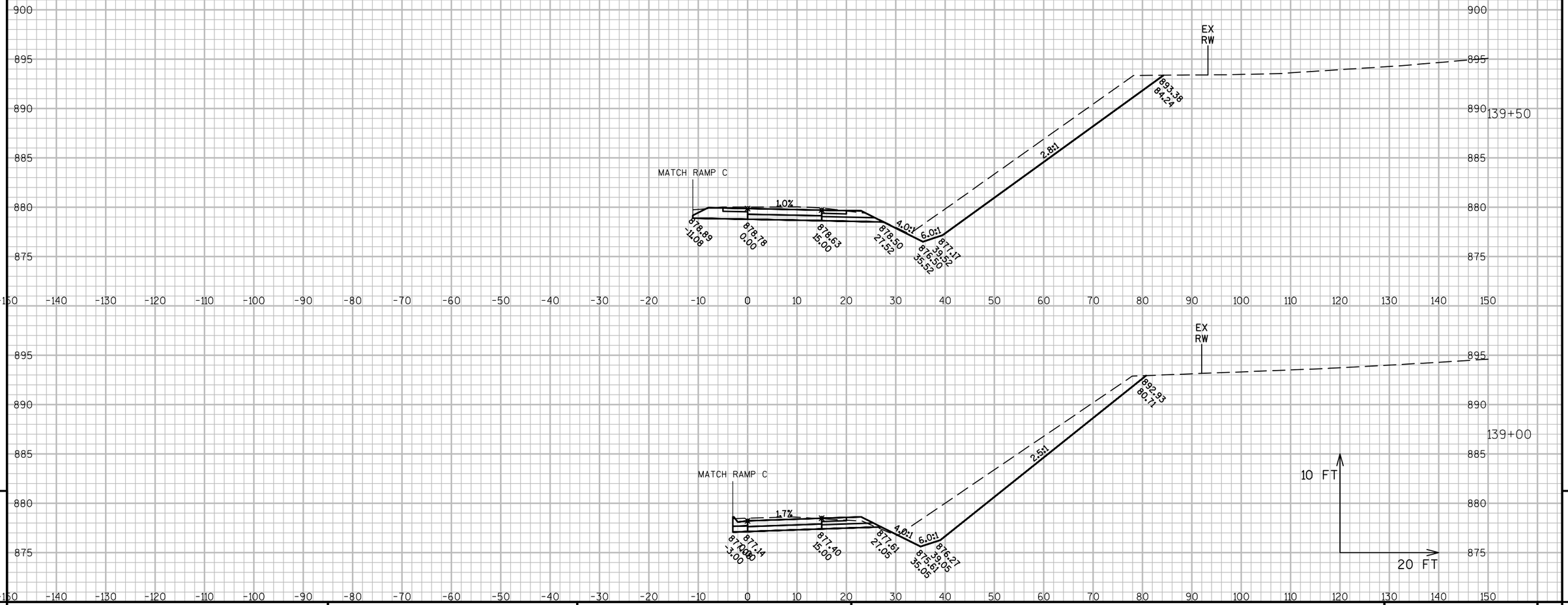
9 9

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP D	SHEET 663	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090208-XS-RAMPD.DWG PLOT DATE : 10/27/2016 11:10 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

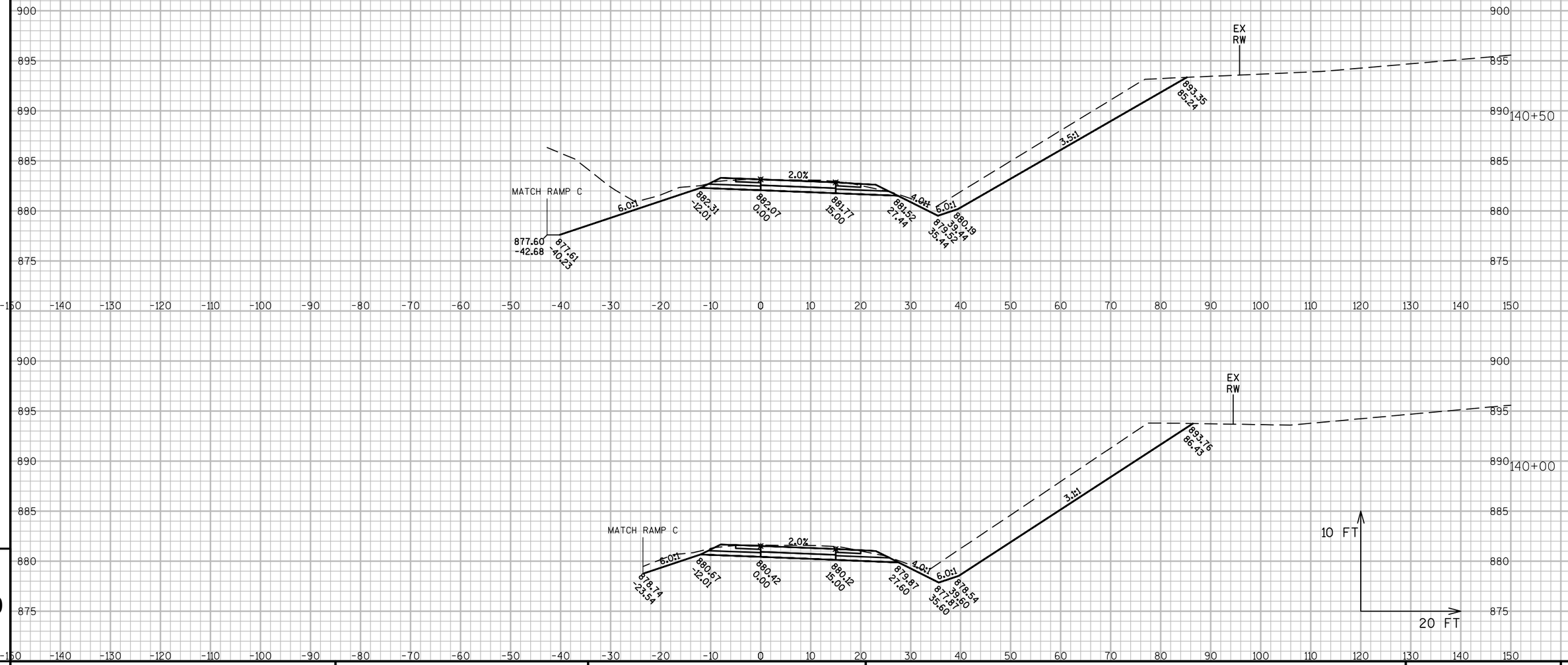
ALL WORK ON THIS SHEET
COMPLETED IN STAGE 4



9 9

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP D	SHEET 664	E

ALL WORK ON THIS SHEET COMPLETED IN STAGE 4

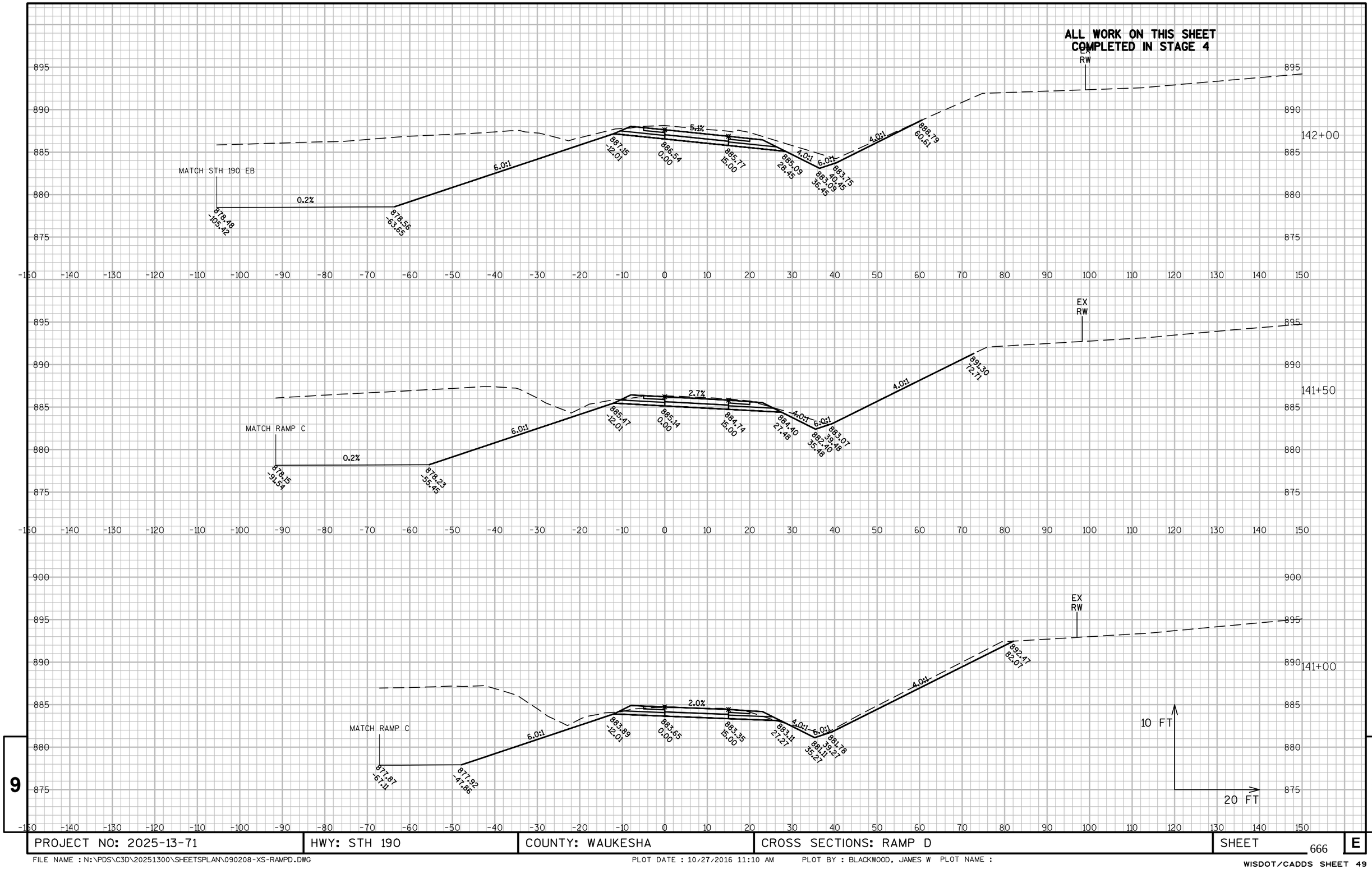


PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP D	SHEET 665	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090208-XS-RAMPD.DWG PLOT DATE : 10/27/2016 11:10 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK ON THIS SHEET
COMPLETED IN STAGE 4

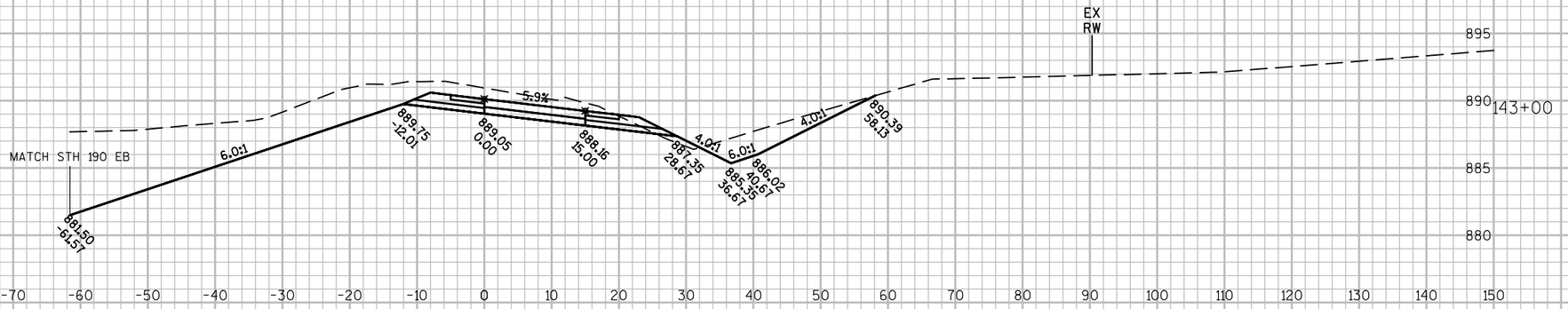


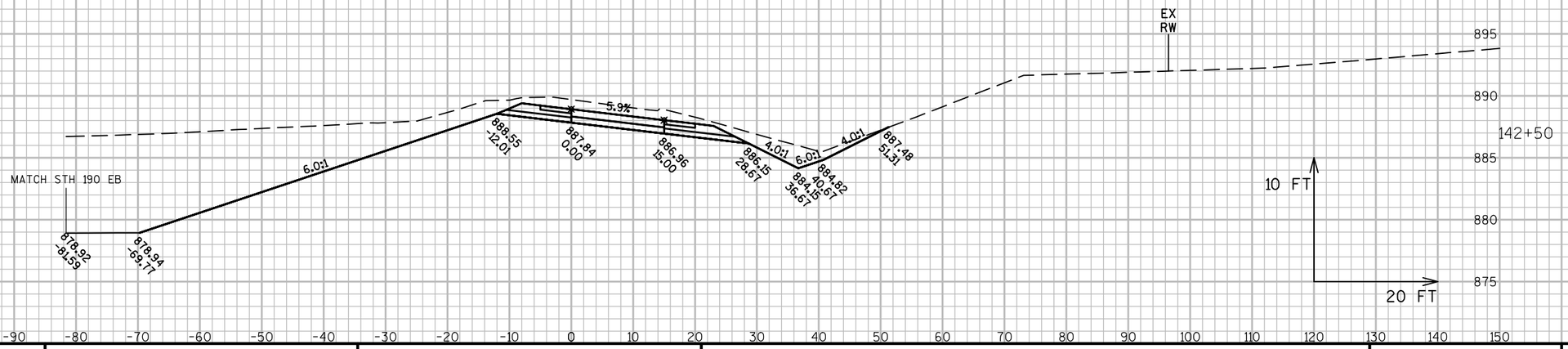
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP D	SHEET 666	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090208-XS-RAMPD.DWG PLOT DATE : 10/27/2016 11:10 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK ON THIS SHEET COMPLETED IN STAGE 4



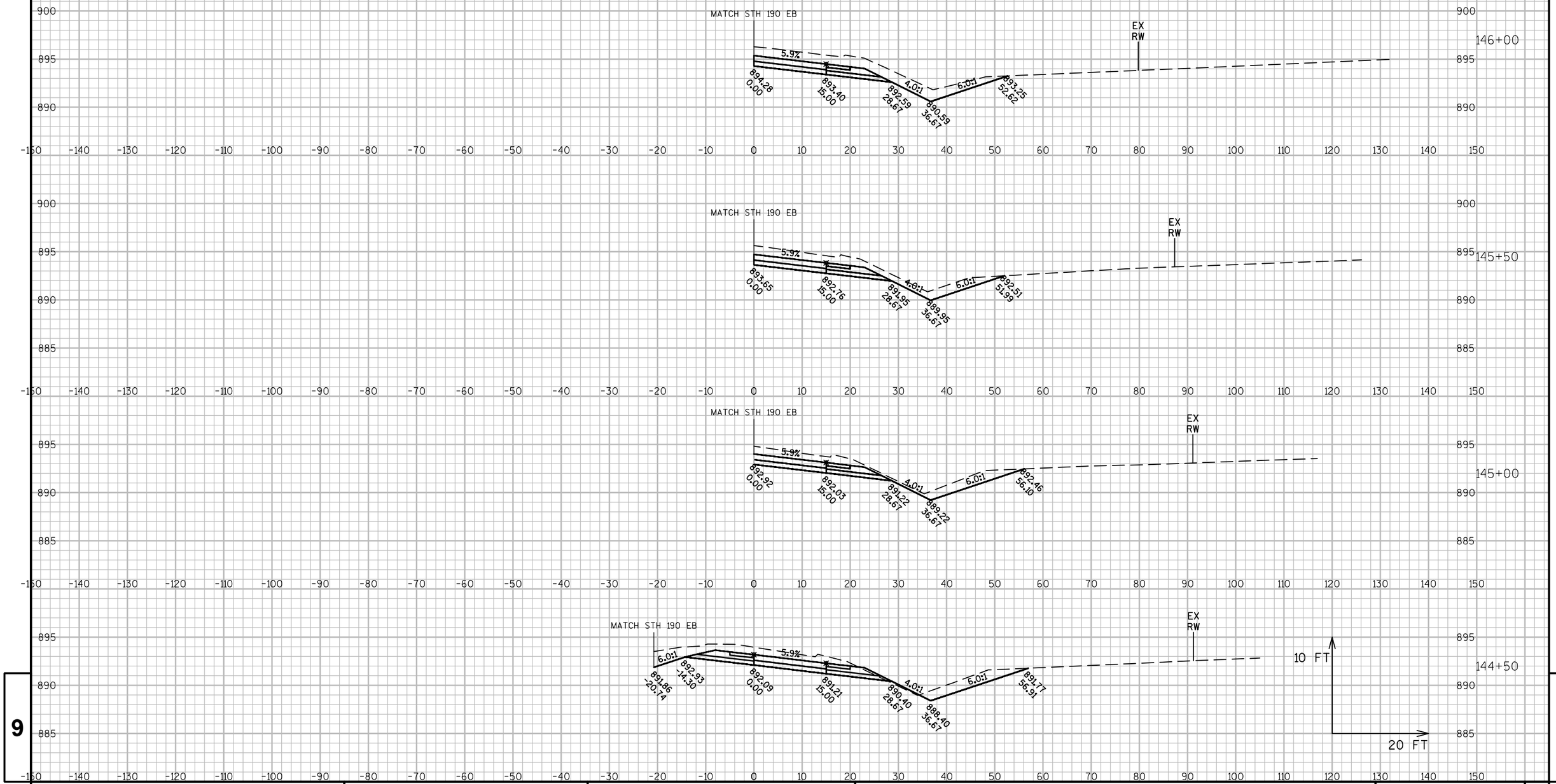


PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP D	SHEET 667	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090208-XS-RAMPD.DWG PLOT DATE : 10/27/2016 11:10 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK ON THIS SHEET COMPLETED IN STAGE 4



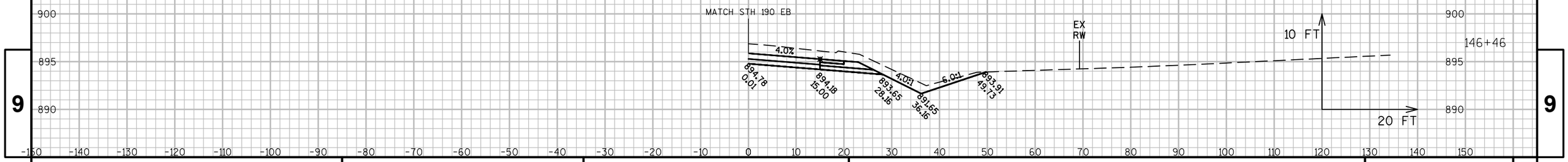
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP D	SHEET 668	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090208-XS-RAMPD.DWG PLOT DATE : 10/27/2016 11:10 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

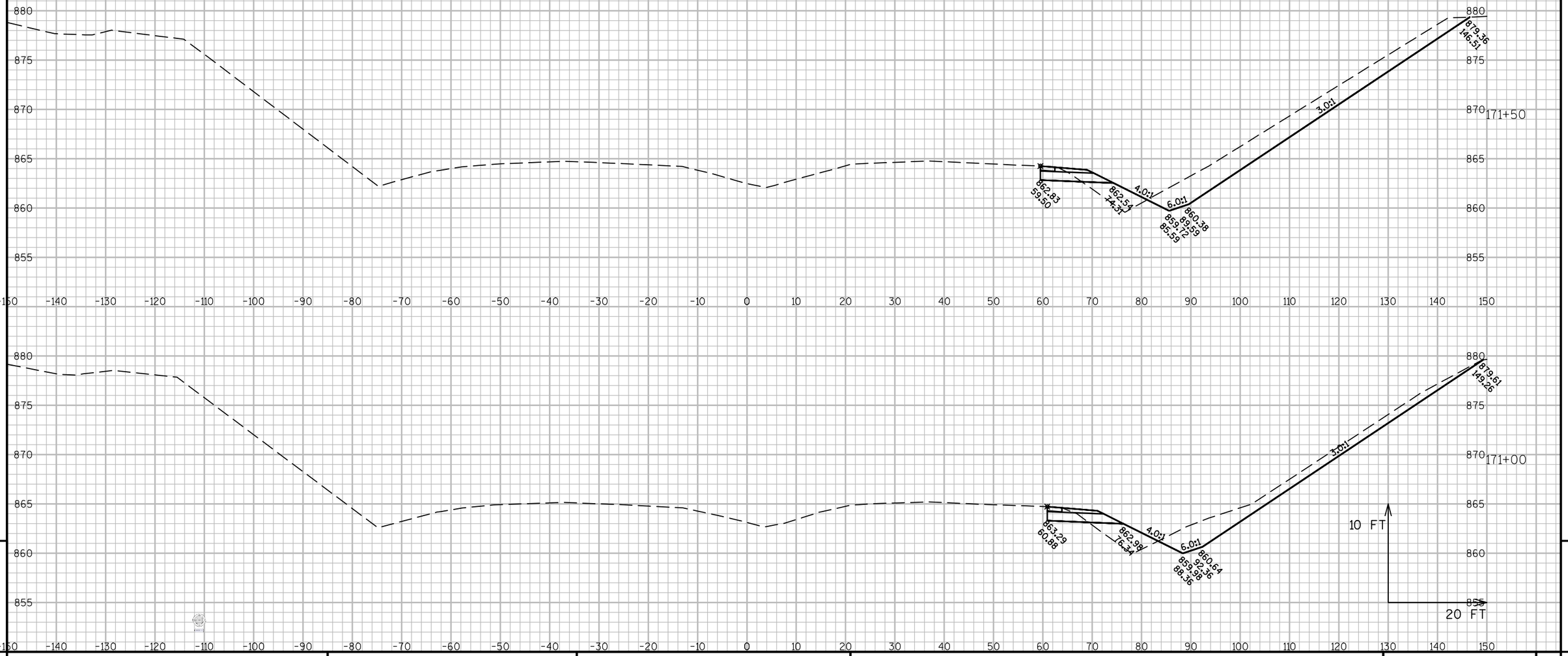
ALL WORK ON THIS SHEET
COMPLETED IN STAGE 4

MATCH STH 190 EB



PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: RAMP D	SHEET 669	E

ALL WORK THIS SHEET
COMPLETED IN STAGE 2



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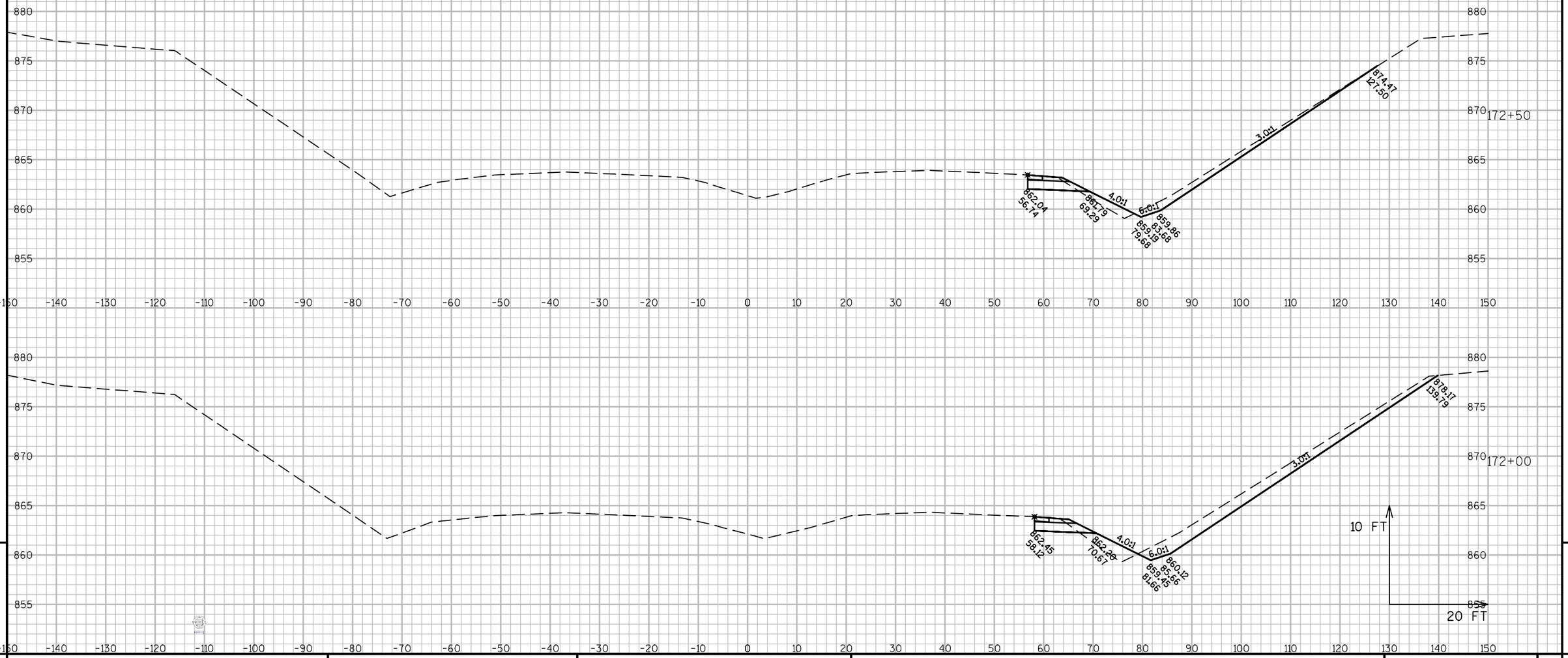
PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CTH F	SHEET 670	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090209-XS-CTH F.DWG PLOT DATE : 10/27/2016 11:23 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK THIS SHEET
COMPLETED IN STAGE 2



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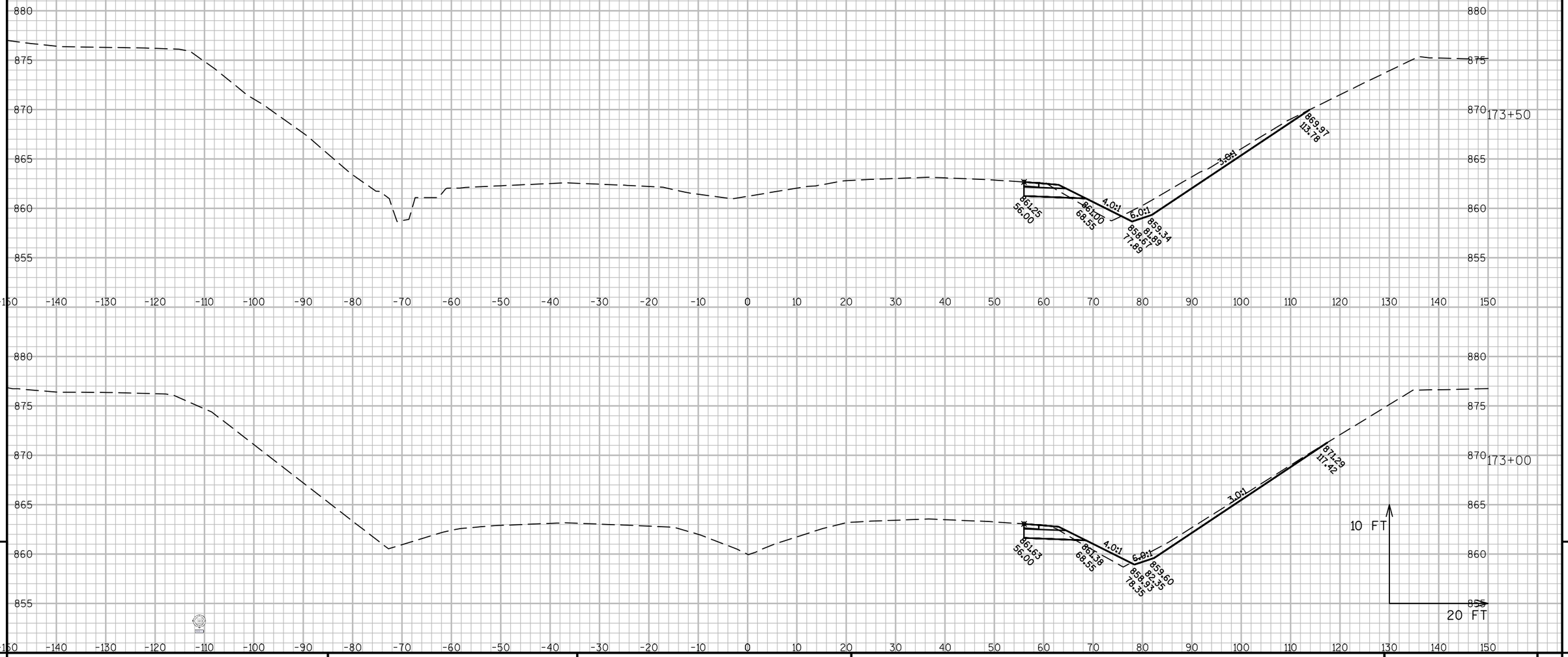
9

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CTH F	SHEET 671	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090209-XS-CTH F.DWG PLOT DATE : 10/27/2016 11:24 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK THIS SHEET
COMPLETED IN STAGE 2



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9

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CTH F	SHEET 672	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090209-XS-CTH F.DWG PLOT DATE : 10/27/2016 11:24 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK THIS SHEET
COMPLETED IN STAGE 2

BRDIGE ABUTMENT
SEE STRUCTURE PLANS

876.04
-105.16
2:1
2.0%
861.98
-73.08
859.46
-61.06
859.54
-57.06

BRDIGE ABUTMENT
SEE STRUCTURE PLANS

878.27
104.09
2:1
25.0%
866.64
79.00
860.43
56.00
860.35
60.00

174+50

BRDIGE ABUTMENT
SEE STRUCTURE PLANS

873.46
-100.56
2.5:1
2.0%
862.17
-73.09
859.91
-61.07
860.05
-57.07

4.0:1
3.5%
869.25
104.40
862.89
79.00
860.76
56.00
860.68
60.00

174+00

10 FT
20 FT

9

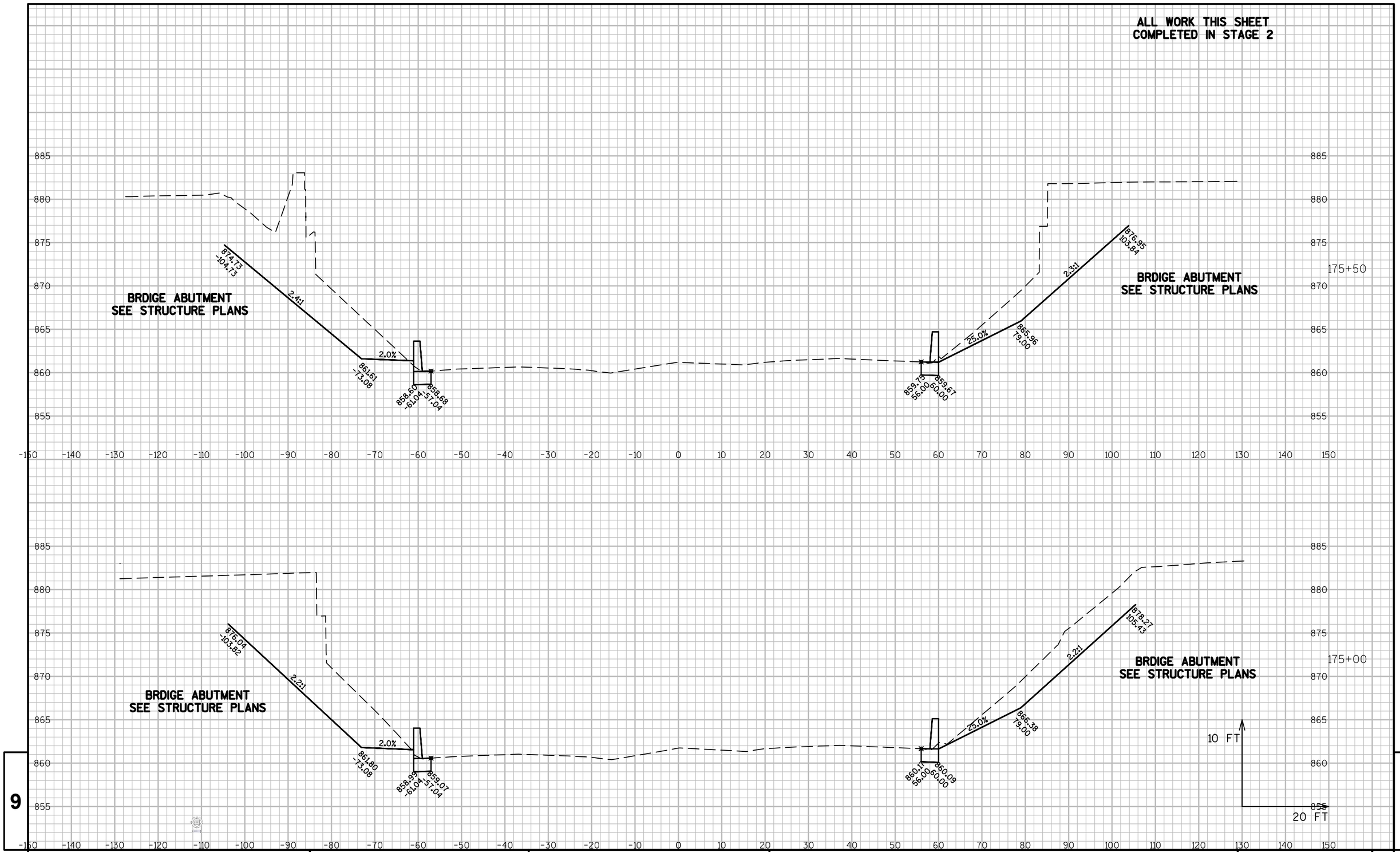
9

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CTH F	SHEET 673	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090209-XS-CTH F.DWG PLOT DATE : 10/27/2016 11:24 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK THIS SHEET
COMPLETED IN STAGE 2

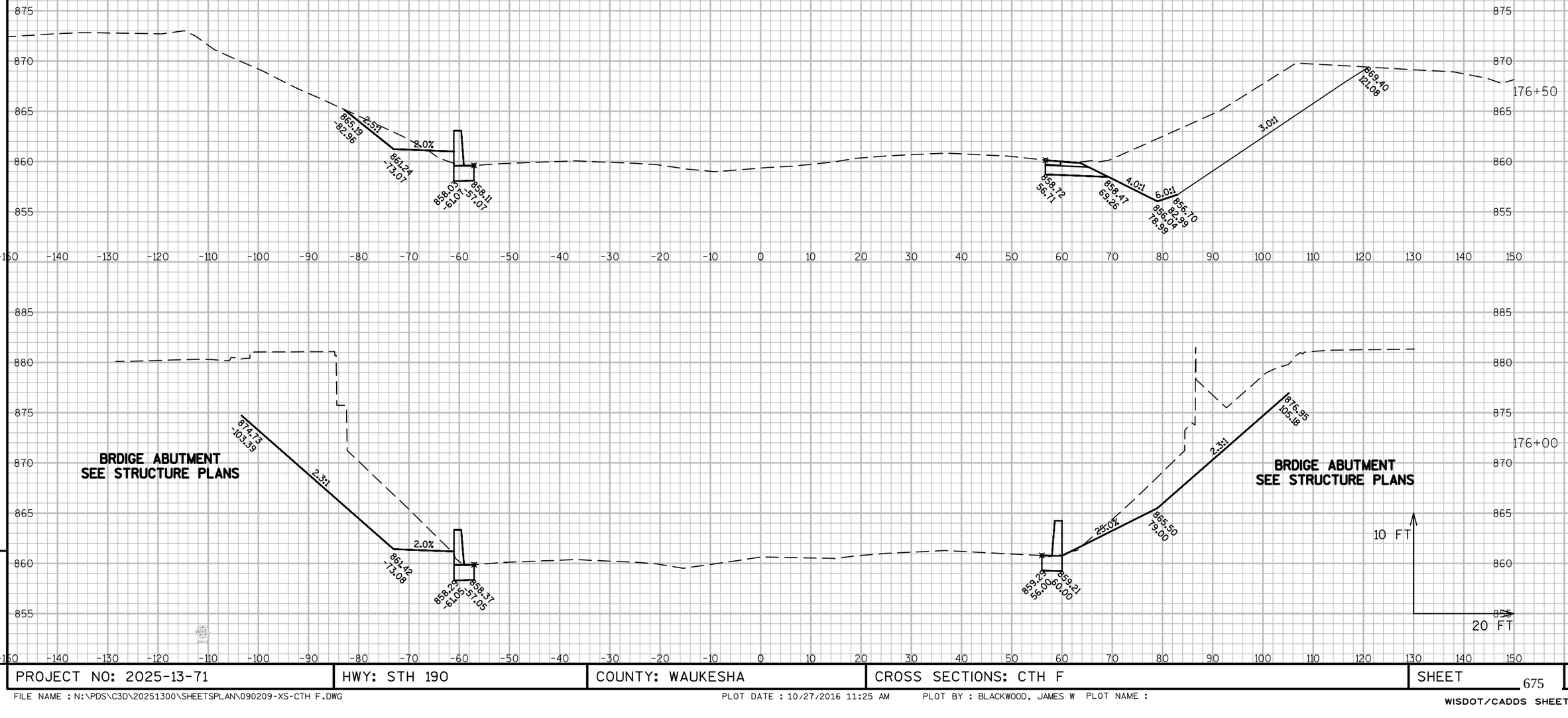


9

9

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CTH F	SHEET 674	E

ALL WORK THIS SHEET
COMPLETED IN STAGE 4



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PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CTH F	SHEET 675	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090209-XS-CTH F.DWG PLOT DATE : 10/27/2016 11:25 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK THIS SHEET
COMPLETED IN STAGE 4

178+00

857.68
60.25
857.44
72.81
855.70
86.42
855.03
82.42
4.0:1
6.0:1
3.8:1
867.76
122.60

177+50

858.09
58.25
857.84
70.80
856.03
84.69
855.37
80.69
4.0:1
6.0:1
3.0:1
868.35
121.63

177+00

858.51
57.55
858.26
70.06
856.37
84.28
855.70
80.28
4.0:1
6.0:1
3.0:1
868.03
119.26

856.40
71.25
3.6:1

9

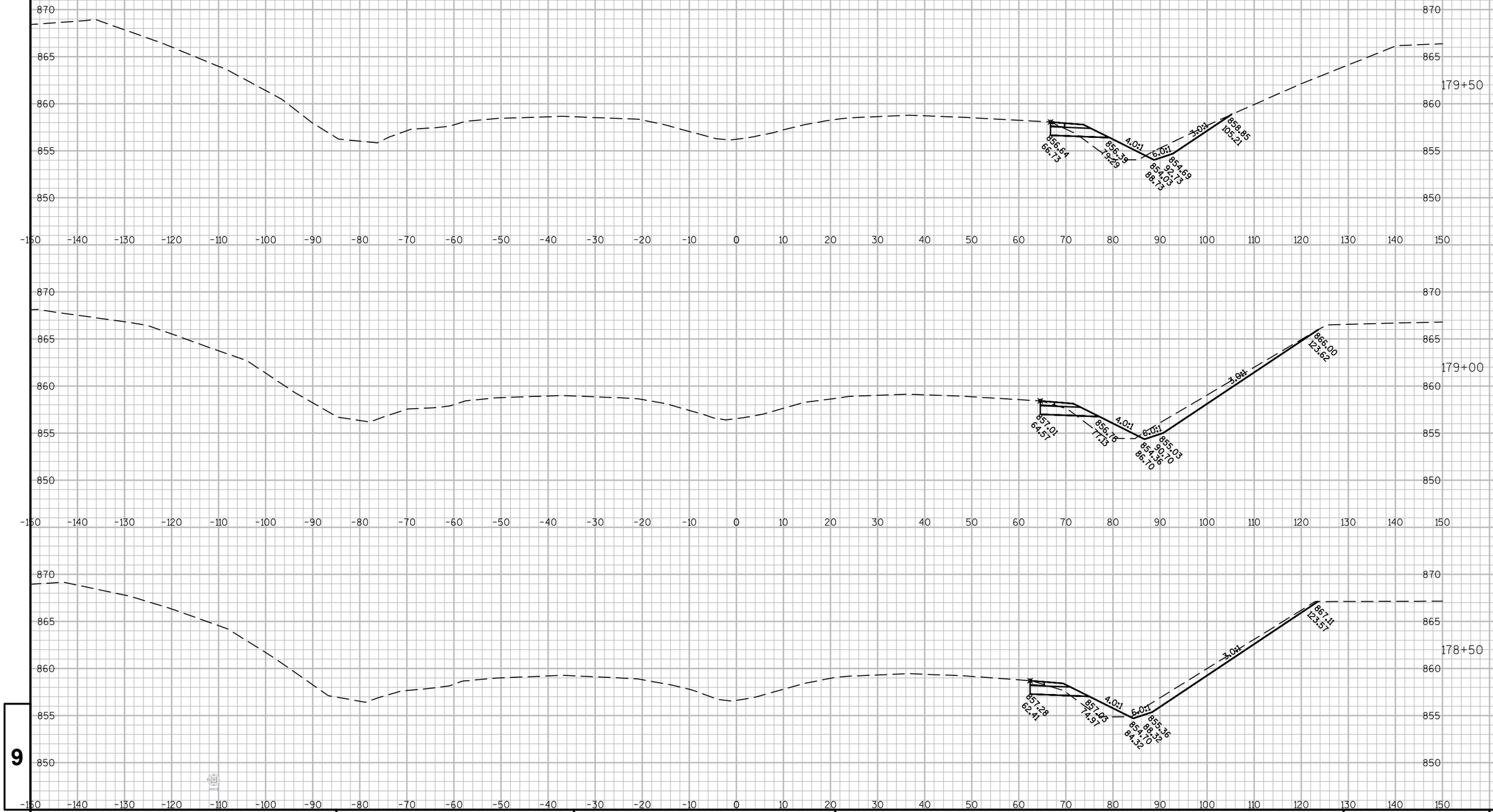
9

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CTH F	SHEET 676	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090209-XS-CTH F.DWG PLOT DATE : 10/27/2016 11:25 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK THIS SHEET COMPLETED IN STAGE 4

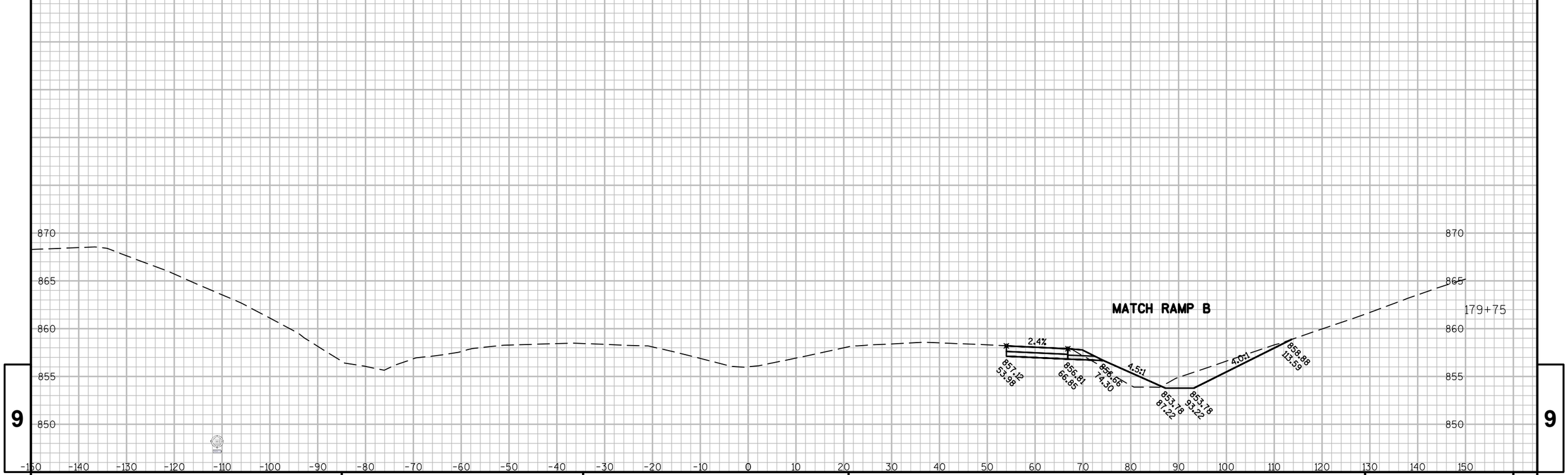


PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CTH F	SHEET 677	E

FILE NAME : N:\PDS\C3D\20251300\SHEETSPLAN\090209-XS-CTH F.DWG PLOT DATE : 10/27/2016 11:25 AM PLOT BY : BLACKWOOD, JAMES W PLOT NAME :

WISDOT/CADDS SHEET 49

ALL WORK THIS SHEET
COMPLETED IN STAGE 4



9

9

PROJECT NO: 2025-13-71	HWY: STH 190	COUNTY: WAUKESHA	CROSS SECTIONS: CTH F	SHEET 678	E

Notes

Wisconsin Department of Transportation

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