MAD

Mar 08, 2022

PROJECT ID: 1161-00-70

COUNTY: COLUMBIA

ORDER OF SHEETS

TOTAL SHEETS = 152

N

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

MADISON - PACKWAUKEE

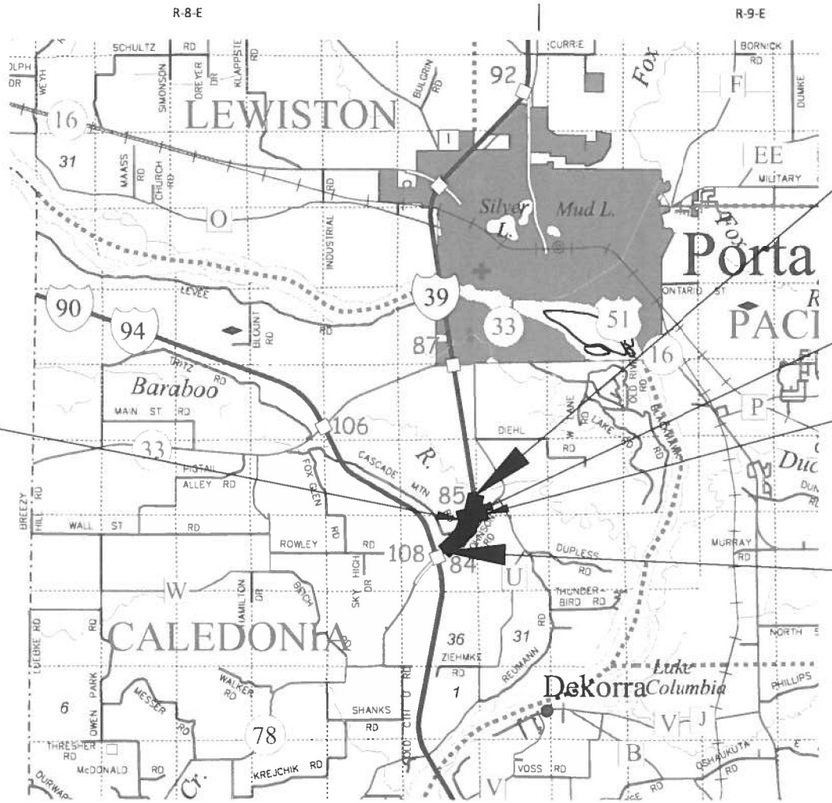
IH 90/94/78 TO THE WISCONSIN RIVER

IH 39

COLUMBIA COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1161-00-70	WISC 2022226	1

STATE PROJECT NUMBER
1161-00-70



BEGIN CONSTRUCTION
STA 21CMR+36.36

END PROJECT
STA 67NB+16.21

STRUCTURE B-11-051
STA 28CMR+62.58 - STA 30CMR+76.12

END CONSTRUCTION
STA 38CMR+16.56

BEGIN PROJECT
STA 36NB+91.36
Y= 376740.9676
X= 530177.6471

LAYOUT
SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 0.573 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), COLUMBIA COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 18.

DESIGN DESIGNATION

A.A.D.T.	2021	=	16,820 IH-39
A.A.D.T.	2041	=	16,830 IH-39
D.H.V.		=	14.7
D.D.		=	60/40
T.		=	17.5%
DESIGN SPEED		=	75 MPH
ESALS		=	N/A

CONVENTIONAL SYMBOLS

PLAN
- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'FB')
- 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

ORIGINAL PLANS PREPARED BY

benesch
Alfred Benesch & Company
1300 West Canal Street, Suite 150
Milwaukee, Wisconsin 53233
414-908-1310 Job No. 20278.00

AMANDA E. ZACHARIAS E-35716 MILWAUKEE WISCONSIN PROFESSIONAL ENGINEER

DATE: 8/24/21 Amanda Zacharias (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	M SQUARED
Designer	ALFRED BENESCH & CO
Project Manager	MAHESH SHRESTHA
Regional Examiner	SW REGION
Regional Supervisor	MARC SCHWEIGER

APPROVED FOR THE DEPARTMENT

DATE: _____ Mahesh Shrestha Digitally signed by Mahesh Shrestha Date: 2021.08.25 13:57:30 -05'00' (Signature)

E

GENERAL NOTES

1. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WIHTIN THE PROJECT AREA THAT ARE NOT SHOWN. THE CONTRACTOR SHALL COORDINATE THEIR CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.
2. THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPALITY OR PUBLIC AGENCY WHICH IS NOT A MEMBER OF DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.
3. ALL ELEVATIONS AND OFFSETS SHOWN IN THE PLAN SHALL BE VERIFIED IN THE FIELD.
4. NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.
5. THE COST OF GRADING, CONSTRUCTING, MAINTAINING, AND REMOVING TEMPORARY ACCESS IS INCIDENTAL TO THE CONTRACT.
6. HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY-IN
7. APPLY TACK COAT AT A RATE OF 0.07 GAL/SY TO CONCRETE PAVEMENT SURFACES AND 0.05 GAL/SY BETWEEN LAYERS OF HMA PAVEMENT.
8. THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING OR TURNING LANE.
9. BARRIER WALL REPAIRS WERE DESIGNED BY DAAR CORPORATION.

EROSION CONTROL GENERAL NOTES

1. RE-TOPSOIL DISTURBED AREAS, AS DESIGNATED BY THE ENGINEER. SEED AND E-MAT TOP-SOILED AREAS, AS DESIGNATED BY THE ENGINEER, WITHIN FIVE (5) CALENDAR DAYS AFTER PLACEMENT OF TOPSOIL. IF GRADED AREAS ARE LEFT EXPOSED FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THOSE AREAS WITH TEMPORARY SEED.
2. 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 FOURTEEN (14) CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED.
3. QUANTITIES FOR EROSION CONTROL ITEMS HAVE BEEN INCLUDED IN THE PROJECT, BUT MAY NOT BE REPRESENTED ON THE PLAN. THE LOCATIONS AND TYPE OF EROSION CONTROL ITEMS WILL BE DETERMINED BY THE CONTRACTOR'S ECIP AND BY THE ENGINEER. EROSION CONTROL ITEMS SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE ITEMS IS NO LONGER REQUIRED.

LIST OF STANDARD ABBREVIATIONS

ABUT	ABUTMENT
AC	ACRE
AGG	AGGREGATE
AADT	ANNUAL AVERAGE DAILY TRAFFIC
ASPH	ASPHALT
AVG	AVERAGE
ADT	AVERAGE DAILY TRAFFIC
BF	BACK FACE
BL	BASE LINE
BM	BENCH MARK
CB	CATCH BASIN
C/L	CENTERLINE
CC	CENTER TO CENTER
CE	COMMERCIAL ENTRANCE
CONC	CONCRETE
CO	COUNTY
CTH	COUNTY TRUNK HIGHWAY
CY	CUBIC YARD
CULV	CULVERT
C&G	CURB AND GUTTER
DHV	DESIGN HOUR VOLUME
DIA	DIAMETER
DD	DIRECTIONAL DISTRIBUTION
E	EAST
X	EAST GRID COORDINATE
EB	EASTBOUND
ELEC	ELECTRIC
ELEV	ELEVATION
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC	EXCAVATION
EBS	EXCAVATION BELOW SUBGRADE
EXIST	EXISTING
FF	FACE TO FACE
FE	FIELD ENTRANCE
FG	FINISHED GRADE
FL	FLOW LINE
FT	FOOT
FTMS	FREEWAY TRAFFIC MANAGEMENT SYSTEM
HES	HIGH EARLY STRENGTH
CWT	HUNDREDWEIGHT
HYD	HYDRANT
IN DIA	INCH DIAMETER
INL	INLET
ID	INSIDE DIAMETER
INV	INVERT
IP	IRON PIPE
JT	JOINT
JCT	JUNCTION
LT	LEFT
L	LENGTH OF CURVE
LHF	LEFT-HAND FORWARD
LF	LINEAR FOOT
L	LITER
LS	LUMP SUM
MH	MANHOLE
MB	MESSAGE BOARD
MLB	MAILBOX
ML	MATCH LINE
NC	NORMAL CROWN
N	NORTH
Y	NORTH GRID COORDINATE
NB	NORTHBOUND
NO	NUMBER
OD	OUTSIDE DIAMETER
PAVT	PAVEMENT
PERM	PERMANENT
PLE	PERMANENT LIMITED EASEMENT
PT	POINT
PVC	POLYVINYL CHLORIDE
PCC	PORTLAND CEMENT CONCRETE
PE	PRIVATE ENTRANCE
PROJ	PROJECT
PL	PROPERTY LINE
R	RADIUS
R/L	REFERENCE LINE
RCCP	REINFORCED CONCRETE CULVERT PIPE
REQD	REQUIRED
RT	RIGHT
RHF	RIGHT HAND FORWARD
R/W	RIGHT-OF-WAY
RD	ROAD
RDWY	ROADWAY
SALV	SALVAGED
SSS	SANITARY AND STORM SEWER
SAN S	SANITARY SEWER
SEC	SECTION
SHLDR	SHOULDER
SW	SIDEWALK
S	SOUTH
SB	SOUTHBOUND
SP	SPECIAL
SPECS	SPECIFICATIONS
SQ	SQUARE
SF	SQUARE FEET
SY	SQUARE YARD
STD	STANDARD
SDD	STANDARD DETAIL DRAWINGS
STH	STATE TRUNK HIGHWAYS
STA	STATION
SS	STORM SEWER
STR	STRUCTURE OR STRUCTURAL
SL	SURVEY LINE
TEL	TELEPHONE
TEMP	TEMPORARY
TLE	TEMPORARY LIMITED EASEMENT
T	TON
TC	TOP OF CURB
T	TRUCKS (PERCENT OF)
TYP	TYPICAL
UG	UNDERGROUND
USH	UNITED STATES HIGHWAY
VAR	VARIABLE
VERT	VERTICAL
W	WATER
WM	WATER MAIN
WV	WATER VALVE
W	WEST
WB	WESTBOUND
YD	YARD

OTHER AGENCIES

WISCONSIN ITSNET

WISDOT
JEFF MADSON
433 W ST PAUL AVE, STE 300
MILWAUKEE, WI 53203-3007
PHONE: (414) 225-3723
EMAIL: JEFFREY.MADSON@DOT.WI.GOV

WISDOT CONTACT

SOUTHWEST REGION
MAHESH SHRESTHA
2101 WRIGHT STREET
MADISON, WI 53074
PHONE: (608) 245-2674
EMAIL: MAHESH.SHRESTHA@DOT.WI.GOV

DESIGN CONTACT

ALFRED BENESCH
AMANDA ZACHARIAS
1300 W CANAL ST, SUITE 150
MILWAUKEE, WI 53233
PHONE: (414) 308-1310
EMAIL: AZACHARIAS@BENESCH.COM

DNR CONTACT

DNR SOUTHERN REGION
ERIC HEGGELUND
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
PHONE: (608) 228-7927
EMAIL: ERIC.HEGGELUND@WISCONSIN.GOV

UTILITIES

ELECTRICITY

ALLIANT ENERGY
STEVE KOHLHAGEN
2777 COLUMBIA DRIVE
PORTAGE, WI 53901
PHONE: (608) 742-0830
EMAIL: STEVEKOHLHAGEN@ALLIANTENERGY.COM

GAS/PETROLEUM

ALLIANT ENERGY
STEVE KOHLHAGEN
2777 COLUMBIA DRIVE
PORTAGE, WI 53901
PHONE: (608) 742-0830
EMAIL: STEVEKOHLHAGEN@ALLIANTENERGY.COM

COMMUNICATIONS

CHARTER COMMUNICATIONS
EDWIN DAVY
2701 DANIELS ST
MADISON, WI 53718
PHONE: (608) 301-7713
EMAIL: EDWIN.DAVY@CHARTER.COM

COMMUNICATIONS

FRONTIER COMMUNICATIONS OF WI LLC
JERRY MOORE
2222 WEST WISCONSIN STREET
PORTAGE, WI 53901
PHONE: (608) 742-9507
EMAIL: JERAL.R.MOORE@FTR.COM

COMMUNICATIONS

MADISON COLLEGE
KURT ADLER
5512 STATE ROAD 19 AND 113
WAUNAKEE, WI 53597
PHONE: (608) 220-4829
EMAIL: KADLER@INTERCON-CONST.COM

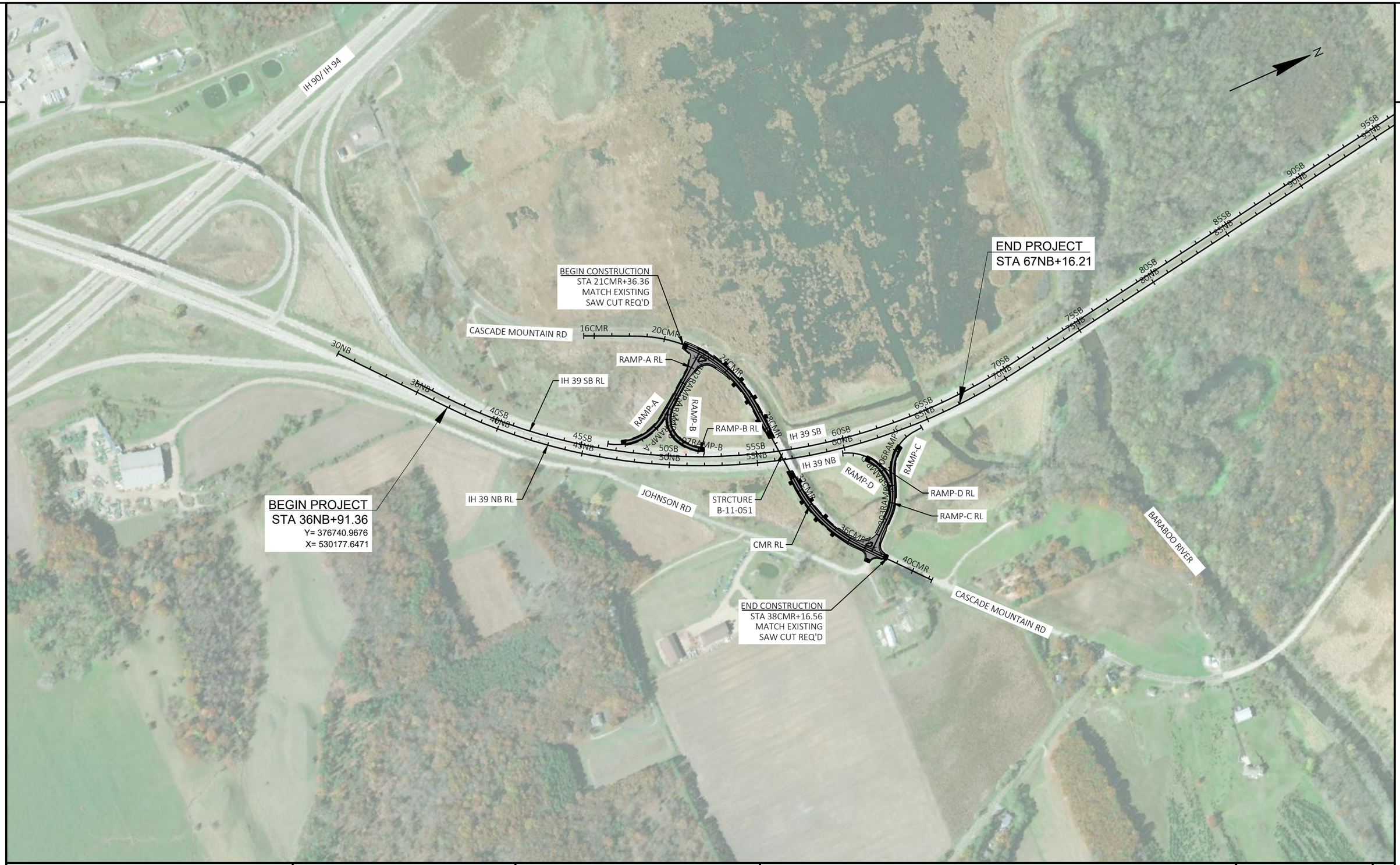
COMMUNICATIONS

TDS METROCOM LLC
JOSEPH MCNEELY
525 JUNCTION ROAD
MADISON, WI 53717
PHONE: (608) 370-4198
EMAIL: JOSEPH.MCNEELY@TDSTELECOM.COM

ORDER OF SECTION 2 SHEETS

PAVEMENT LOCATION	TOTAL PAVEMENT THICKNESS	LAYER	TYPE
CASCADE MOUNTAIN RD	2 1/2-INCHES	1 1/2" UPPER 1" LOWER (LEVELING)	5-MT 58-28 V
IH 39 RAMPS	2 1/2-INCHES	1 1/2" UPPER 1" LOWER (LEVELING)	5-MT 58-28 V

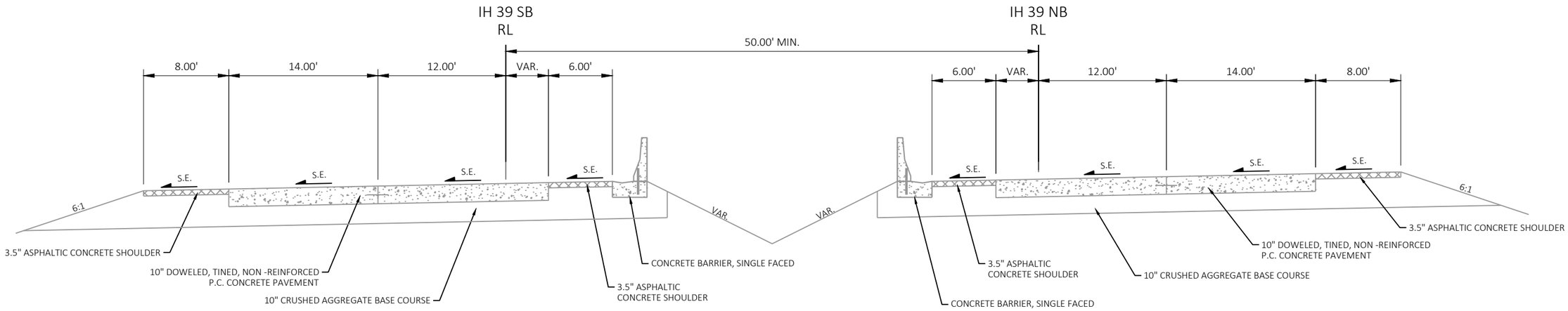
2



PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	PROJECT OVERVIEW	SHEET 3	E

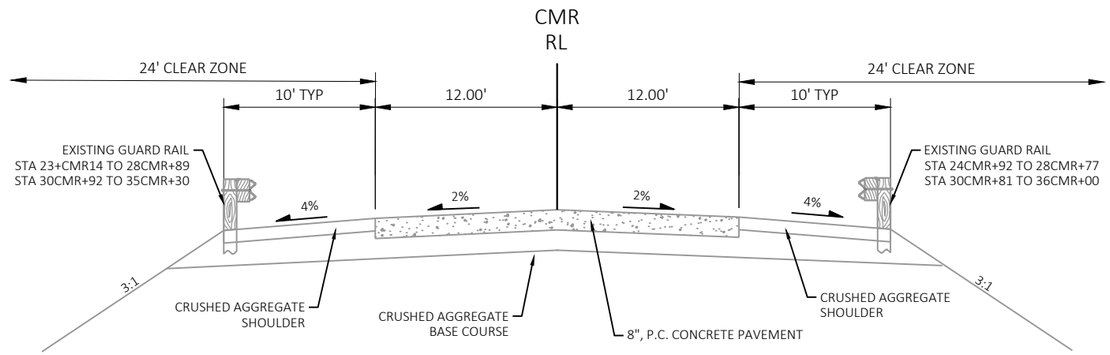
FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\020201-PO.DWG
LAYOUT NAME - 01
PLOT DATE : 9/7/2021 2:27 PM
PLOT BY : WATT, TIMOTHY
PLOT NAME :
PLOT SCALE : 1 IN:500 FT
WISDOT/CADDS SHEET 42

2



EXISTING TYPICAL SECTION

STA 36NB+91.36 TO 67NB+16.21



EXISTING TYPICAL SECTION

CASCADE MOUNTAIN RD

STA 21CMR+36.36 TO 28CMR+63.25

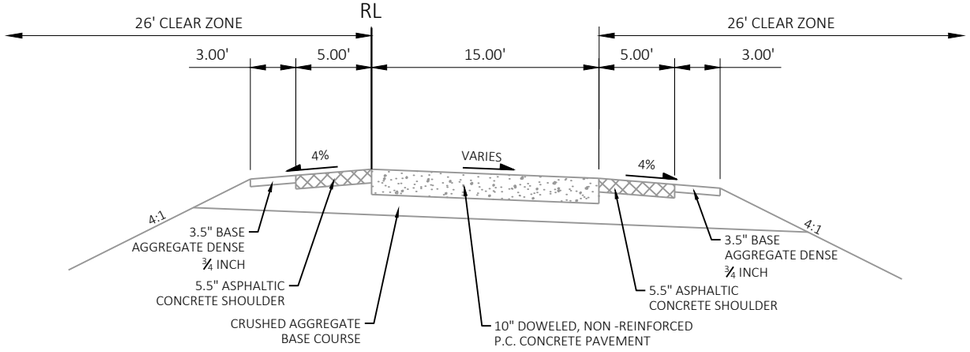
STA 30CMR+75.45 TO 38CMR+16.56

PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	TYPICAL SECTION	SHEET 4	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\020303-TS.DWG
LAYOUT NAME - 020301-ts 1in-10ft
PLOT DATE : 9/7/2021 2:28 PM
PLOT BY : WATT, TIMOTHY
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2

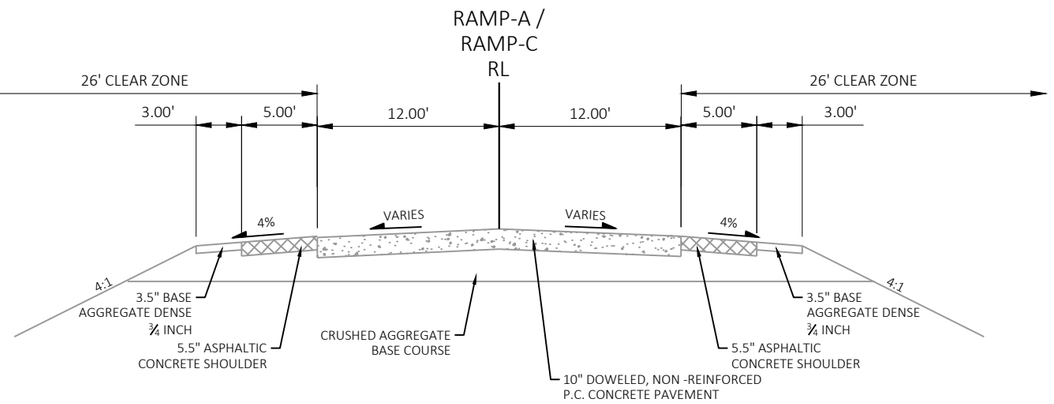
RAMP-A /
RAMP-B /
RAMP-C /
RAMP-D
RL



EXISTING TYPICAL SECTION
RAMPS

STA 103RAMP-A+64.81 TO 107RAMP-A+20.07
STA 203RAMP-B+64.81 TO 207RAMP-B+33.57
STA 303RAMP-C+96.55 TO 306RAMP-C+35.74
STA 403RAMP-D+96.55 TO 406RAMP-D+23.33

RAMP-A /
RAMP-C
RL



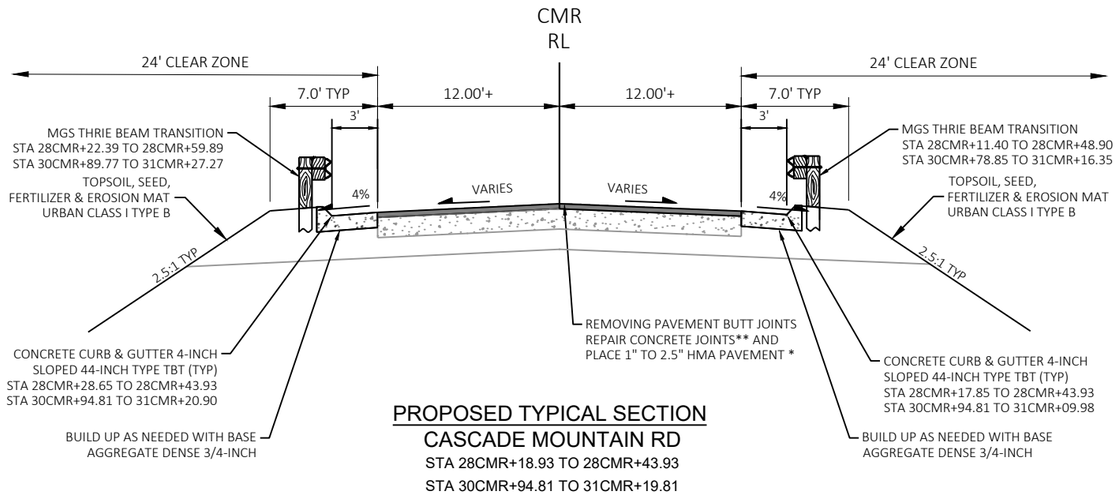
EXISTING TYPICAL SECTION
RAMPS

STA 100RAMP-A+00.00 TO 103RAMP-A+64.81
STA 300RAMP-C+00.00 TO 303RAMP-C+96.55

PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	TYPICAL SECTION	SHEET 5	E

2

+ PREPARE FOUNDATION FOR ASPHALTIC PAVING
STA 28CMR+18.93 TO 28CMR+43.93
STA 30CMR+94.81 TO 31CMR+19.81



PROPOSED TYPICAL SECTION
CASCADE MOUNTAIN RD
STA 28CMR+18.93 TO 28CMR+43.93
STA 30CMR+94.81 TO 31CMR+19.81

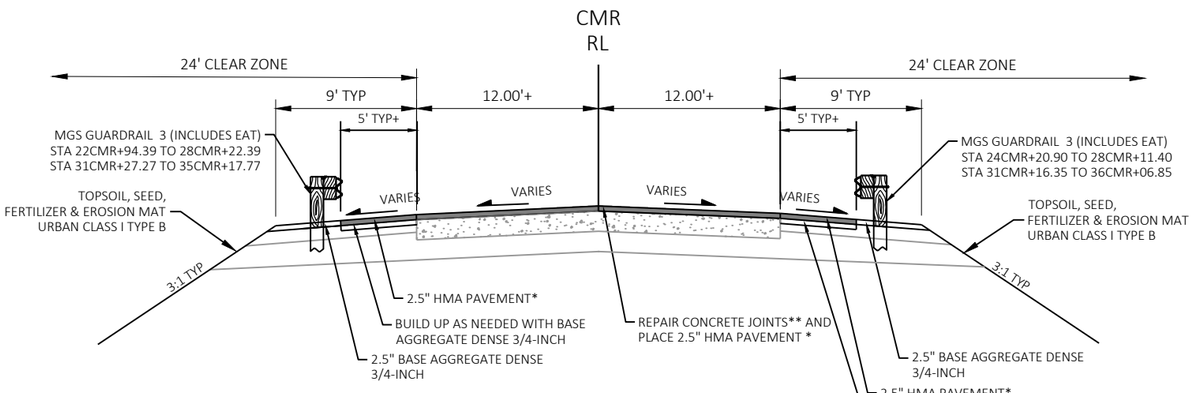
* PAVEMENT WEDGE VARY DEPTH FROM 2.5" AT BEGINNING BUTT JOINT TO 1" AT CONCRETE PAVEMENT APPROACH SLAB.

PAVEMENT STRUCTURE AT BEGIN BUTT JOINT
1" LOWER LAYER 5 MT 58-28 V (LEVELING)
1.5" UPPER LAYER 5 MT 58-28 V
PAVEMENT STRUCTURE AT CONCRETE PAVEMENT APPROACH SLAB
1" UPPER LAYER 5 MT 58-28 V

** REPAIR CONCRETE JOINTS USING CONCRETE JOINT AND CRACK CLEANING

2

+ PREPARE FOUNDATION FOR ASPHALTIC PAVING
STA 21CMR+36.36 TO 28CMR+18.93
STA 31CMR+19.81 TO 38CMR+16.56

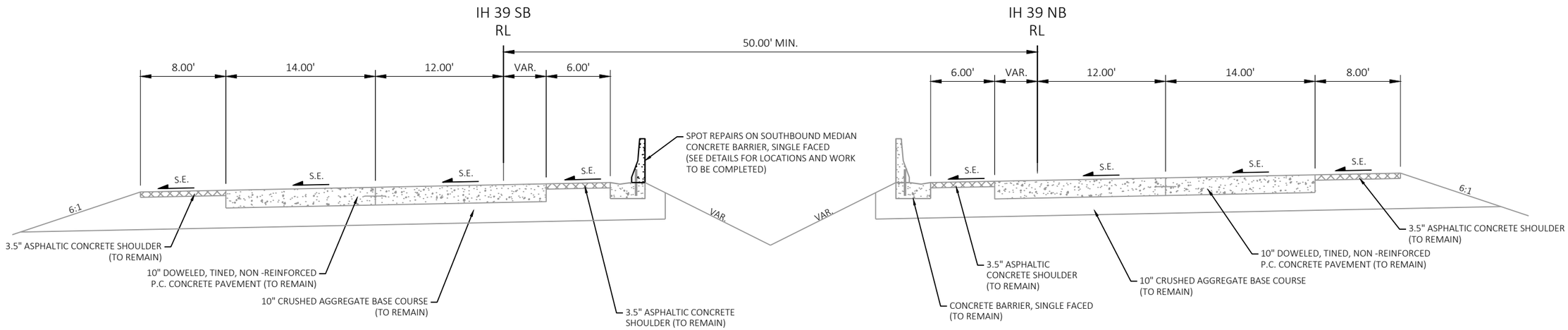


PROPOSED TYPICAL SECTION
CASCADE MOUNTAIN RD
STA 21CMR+36.36 TO 28CMR+18.93
STA 31CMR+19.81 TO 38CMR+16.56

* 1" LOWER LAYER 5 MT 58-28 V (LEVELING)
1.5" UPPER LAYER 5 MT 58-28 V

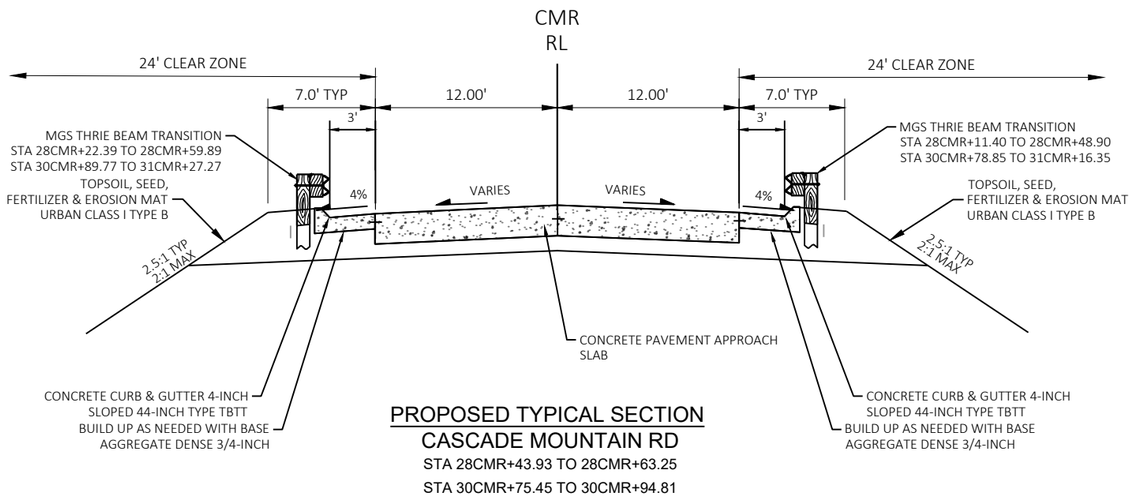
** REPAIR CONCRETE JOINTS USING CONCRETE JOINT AND CRACK CLEANING

PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	TYPICAL SECTION	SHEET 6	E



PROPOSED TYPICAL SECTION

STA 36NB+91.36 TO 67NB+16.21



PROPOSED TYPICAL SECTION
CASCADE MOUNTAIN RD

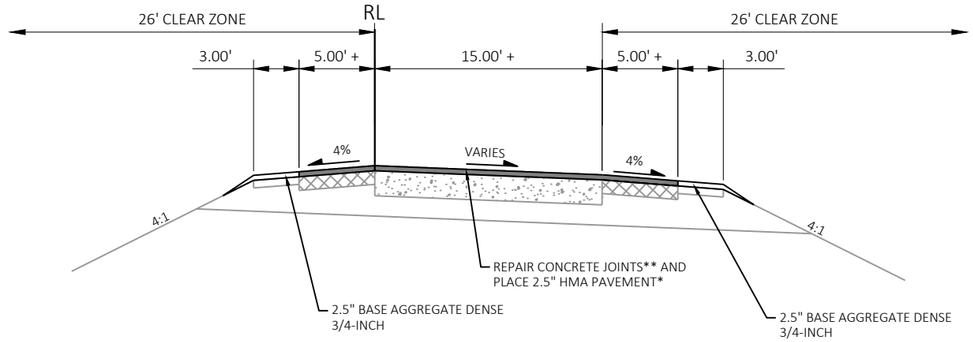
STA 28CMR+43.93 TO 28CMR+63.25

STA 30CMR+75.45 TO 30CMR+94.81

PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	TYPICAL SECTION	SHEET 7	E

2

RAMP-A /
RAMP-B /
RAMP-C /
RAMP-D
RL



\+ PREPARE FOUNDATION FOR ASPHALTIC PAVING
STA 103RAMP-A+64.81 TO 107RAMP-A+20.07
STA 203RAMP-B+64.81 TO 207RAMP-B+33.57
STA 303RAMP-C+96.55 TO 306RAMP-C+35.74
STA 403RAMP-D+96.55 TO 406RAMP-D+23.33

PROPOSED TYPICAL SECTION
RAMPS

STA 103RAMP-A+64.81 TO 107RAMP-A+20.07
STA 203RAMP-B+64.81 TO 207RAMP-B+33.57
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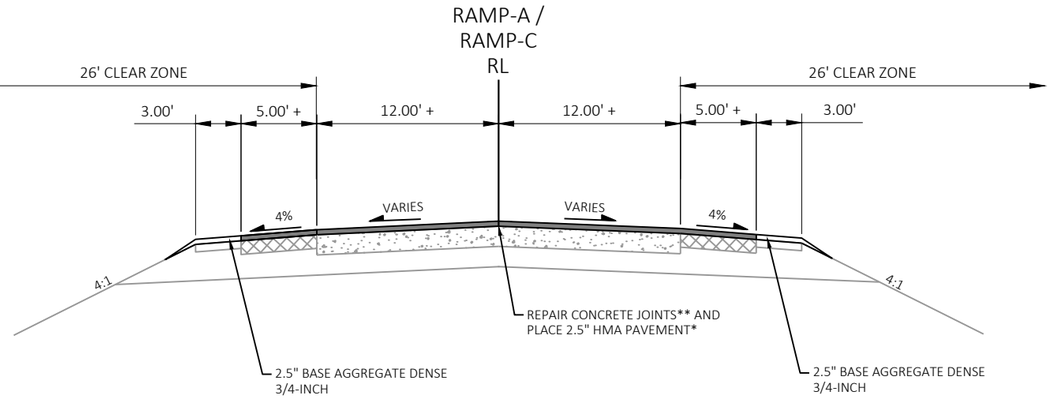
STA 403RAMP-D+96.55 TO 406RAMP-D+23.33

RAMP-A /
RAMP-C
RL



\+ PREPARE FOUNDATION FOR ASPHALTIC PAVING
STA 100RAMP-A+00.00 TO 103RAMP-A+64.81
STA 300RAMP-C+00.00 TO 303RAMP-C+96.55

PROPOSED TYPICAL SECTION
RAMPS

STA 100RAMP-A+00.00 TO 103RAMP-A+64.81
STA 300RAMP-C+00.00 TO 303RAMP-C+96.55

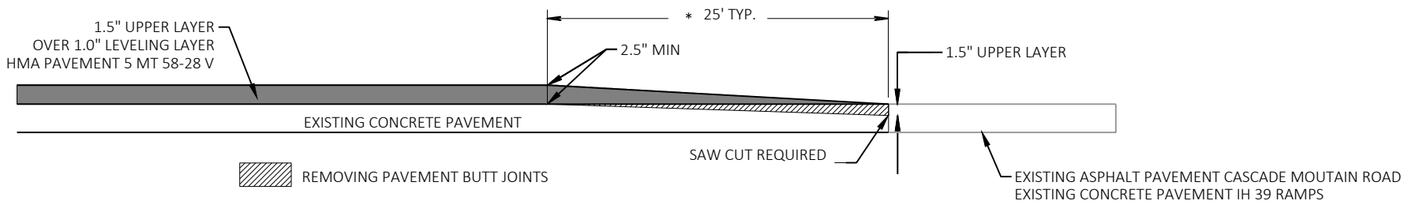
* 1" LOWER LAYER 5 MT 58-28 V (LEVELING)
1.5" UPPER LAYER 5 MT 58-28 V

** REPAIR CONCRETE JOINTS USING CONCRETE JOINT AND CRACK CLEANING

PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	TYPICAL SECTION	SHEET 8	E

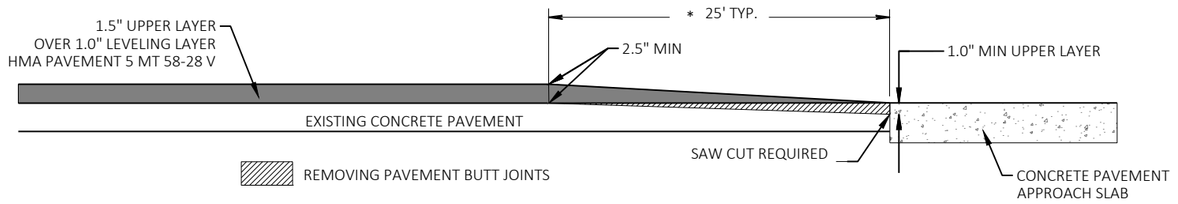
2

* VARIES, SEE PLAN DETAILS FOR LENGTH OF BUTT JOINTS



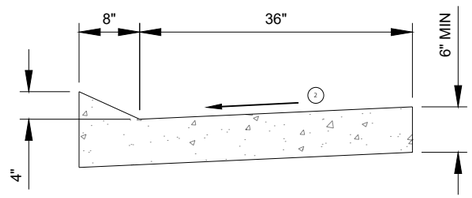
DETAIL OF BUTT JOINT MAINLINE CASCAE MOUNTAIN ROAD & RAMPS

* EXACT DIMENSIONS TO BE DETERMINED BY THE ENGINEER IN THE FIELD



DETAIL OF BUTT JOINT AT CONCRETE PAVEMENT APPROACH

WEST APPROACH SHOWN (EAST APPROACH MIRROR IMAGE)

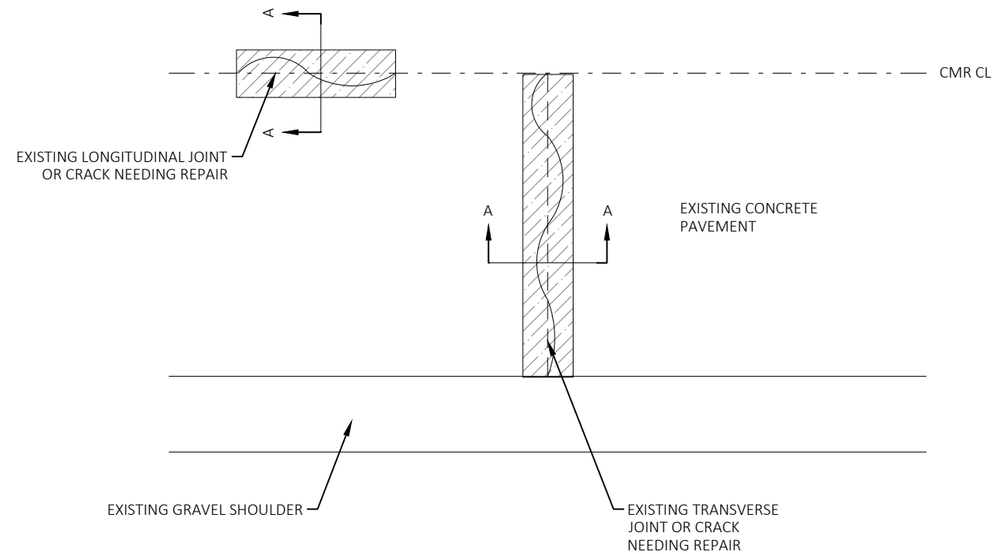


TYPES TBT & TBTT (1)

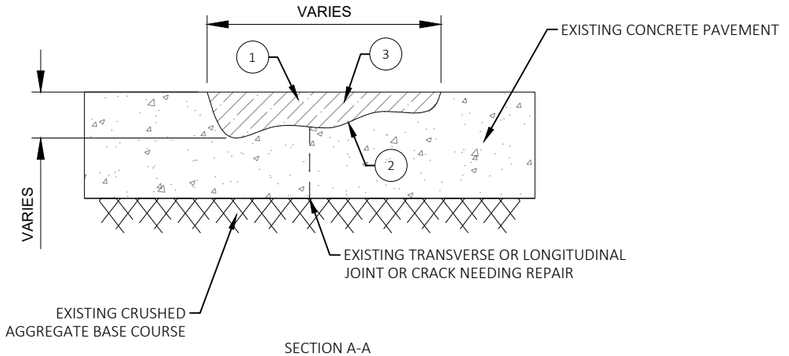
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPE TBTT

(2) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS

CONCRETE CURB & GUTTER SPECIAL DETAIL
CONCRETE CURB & GUTTER 4-INCH SLOPED 44-INCH TBT
CONCRETE CURB & GUTTER 4-INCH SLOPED 44-INCH TBTT



PLAN VIEW



SECTION A-A

(1) REMOVE ALL UNSOUND AND DETERIORATED MATERIAL

(2) BLOW OUT REPAIR AREAS WITH 80 PSI MINIMUM COMPRESSED AIR

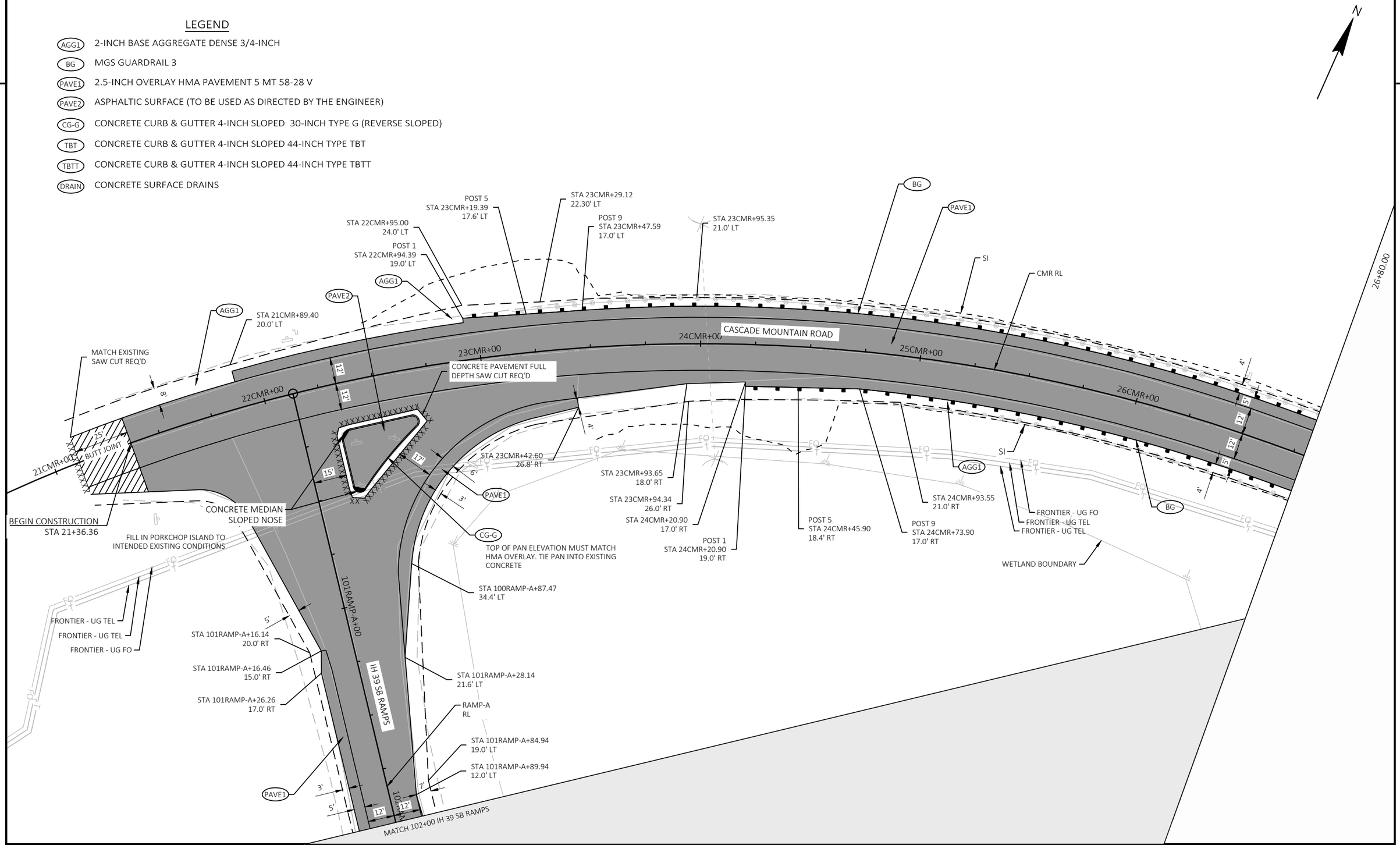
(3) ASPHALTIC SURFACE WITH TACK COAT

CONCRETE JOINT AND CRACK CLEANING DETAIL

2

LEGEND

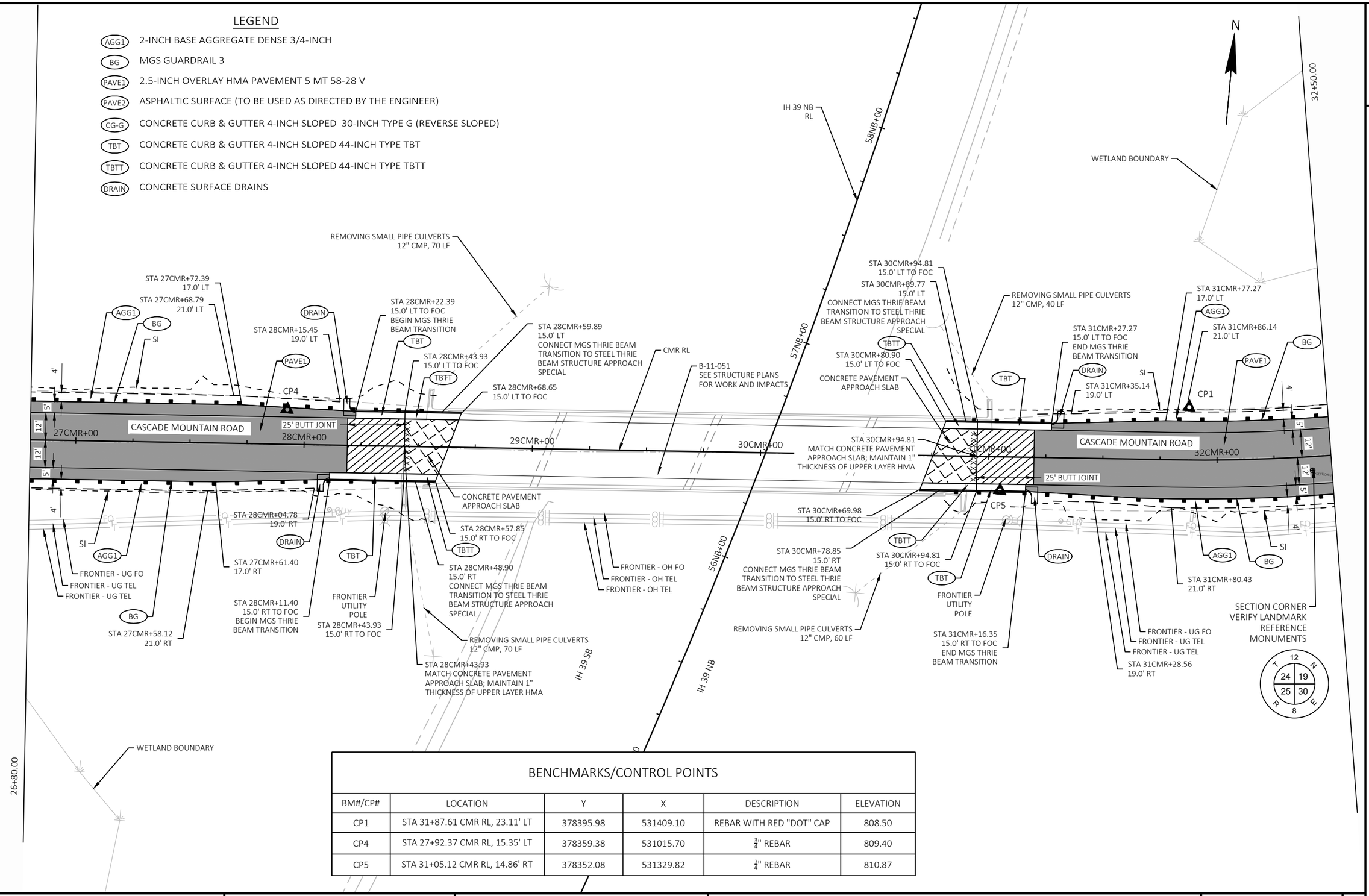
- AGG1 — 2-INCH BASE AGGREGATE DENSE 3/4-INCH
- BG — MGS GUARDRAIL 3
- PAVE1 — 2.5-INCH OVERLAY HMA PAVEMENT 5 MT 58-28 V
- PAVE2 — ASPHALTIC SURFACE (TO BE USED AS DIRECTED BY THE ENGINEER)
- CG-G — CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G (REVERSE SLOPED)
- TBT — CONCRETE CURB & GUTTER 4-INCH SLOPED 44-INCH TYPE TBT
- TBTT — CONCRETE CURB & GUTTER 4-INCH SLOPED 44-INCH TYPE TBTT
- DRAIN — CONCRETE SURFACE DRAINS



PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	PLAN DETAILS - CASCADE MOUNTAIN RD	SHEET 11	E

LEGEND

- AGG1 — 2-INCH BASE AGGREGATE DENSE 3/4-INCH
- BG — MGS GUARDRAIL 3
- PAVE1 — 2.5-INCH OVERLAY HMA PAVEMENT 5 MT 58-28 V
- PAVE2 — ASPHALTIC SURFACE (TO BE USED AS DIRECTED BY THE ENGINEER)
- CG-G — CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G (REVERSE SLOPED)
- TBT — CONCRETE CURB & GUTTER 4-INCH SLOPED 44-INCH TYPE TBT
- TBTT — CONCRETE CURB & GUTTER 4-INCH SLOPED 44-INCH TYPE TBTT
- DRAIN — CONCRETE SURFACE DRAINS



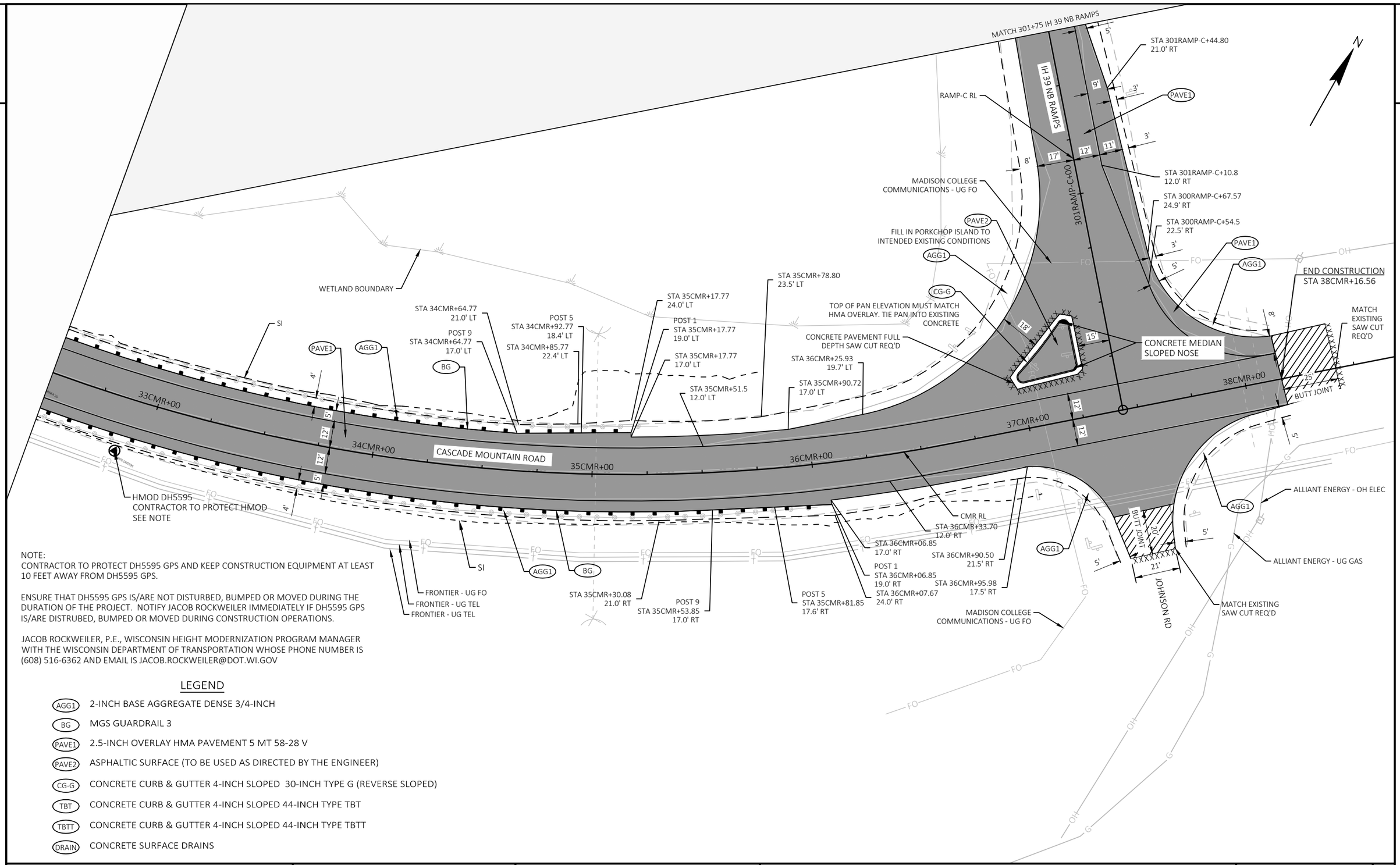
BENCHMARKS/CONTROL POINTS

BM#/CP#	LOCATION	Y	X	DESCRIPTION	ELEVATION
CP1	STA 31+87.61 CMR RL, 23.11' LT	378395.98	531409.10	REBAR WITH RED "DOT" CAP	808.50
CP4	STA 27+92.37 CMR RL, 15.35' LT	378359.38	531015.70	¾" REBAR	809.40
CP5	STA 31+05.12 CMR RL, 14.86' RT	378352.08	531329.82	¾" REBAR	810.87

PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	PLAN DETAILS - CASCADE MOUNTAIN RD	SHEET 12	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\021201-PD.DWG
LAYOUT NAME - 02
PLOT DATE : 10/12/2021 11:27 AM
PLOT BY : WATT, TIMOTHY
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2



NOTE:
CONTRACTOR TO PROTECT DH5595 GPS AND KEEP CONSTRUCTION EQUIPMENT AT LEAST 10 FEET AWAY FROM DH5595 GPS.

ENSURE THAT DH5595 GPS IS/ARE NOT DISTURBED, BUMPED OR MOVED DURING THE DURATION OF THE PROJECT. NOTIFY JACOB ROCKWEILER IMMEDIATELY IF DH5595 GPS IS/ARE DISTRUBED, BUMPED OR MOVED DURING CONSTRUCTION OPERATIONS.

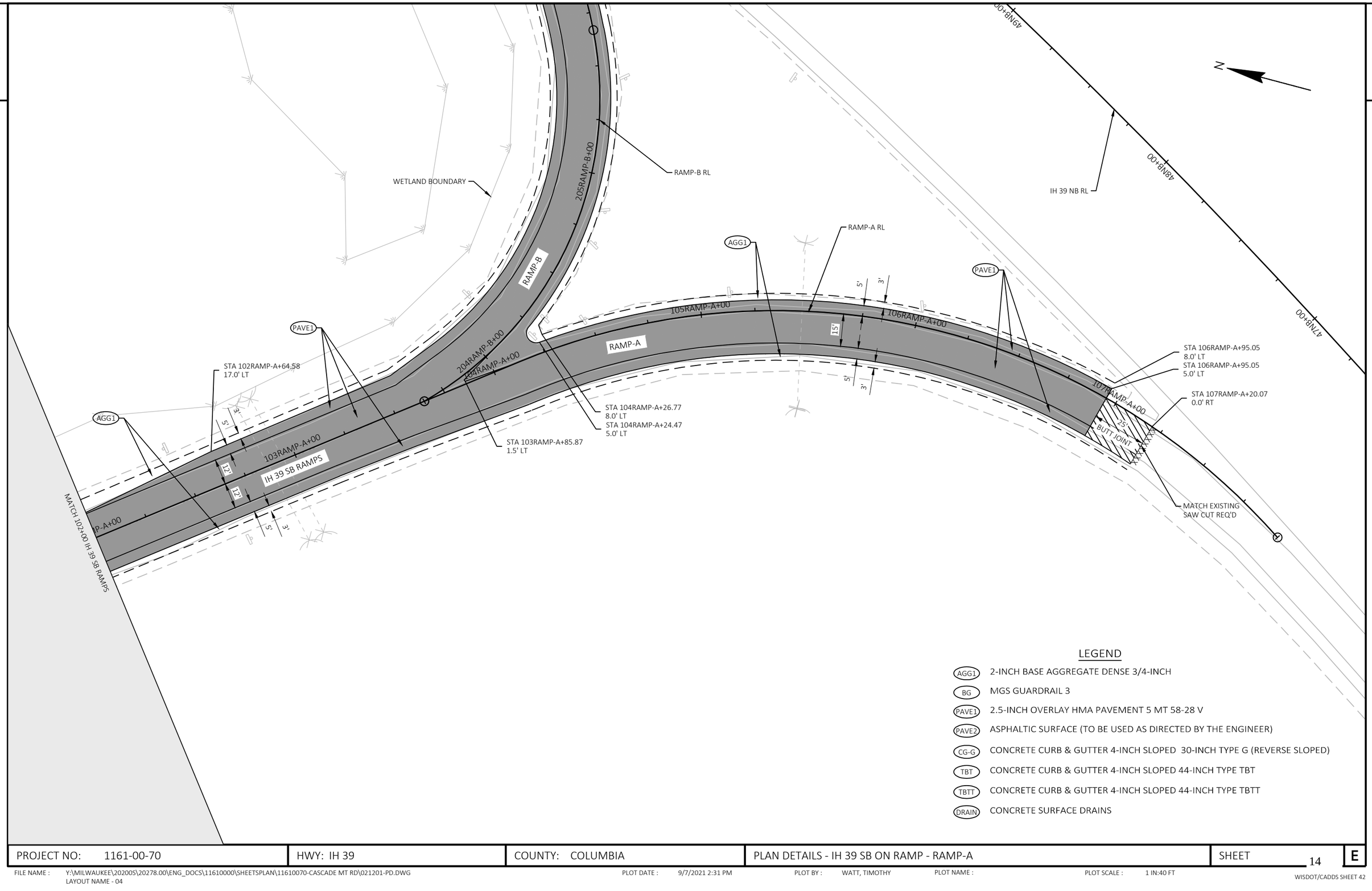
JACOB ROCKWEILER, P.E., WISCONSIN HEIGHT MODERNIZATION PROGRAM MANAGER WITH THE WISCONSIN DEPARTMENT OF TRANSPORTATION WHOSE PHONE NUMBER IS (608) 516-6362 AND EMAIL IS JACOB.ROCKWEILER@DOT.WI.GOV

LEGEND

- AGG1 — 2-INCH BASE AGGREGATE DENSE 3/4-INCH
- BG — MGS GUARDRAIL 3
- PAVE1 — 2.5-INCH OVERLAY HMA PAVEMENT 5 MT 58-28 V
- PAVE2 — ASPHALTIC SURFACE (TO BE USED AS DIRECTED BY THE ENGINEER)
- CG-G — CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G (REVERSE SLOPED)
- TBT — CONCRETE CURB & GUTTER 4-INCH SLOPED 44-INCH TYPE TBT
- TBTT — CONCRETE CURB & GUTTER 4-INCH SLOPED 44-INCH TYPE TBTT
- DRAIN — CONCRETE SURFACE DRAINS

PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	PLAN DETAILS - CASCADE MOUNTAIN RD	SHEET 13	E

2



LEGEND

- AGG1 — 2-INCH BASE AGGREGATE DENSE 3/4-INCH
- BG — MGS GUARDRAIL 3
- PAVE1 — 2.5-INCH OVERLAY HMA PAVEMENT 5 MT 58-28 V
- PAVE2 — ASPHALTIC SURFACE (TO BE USED AS DIRECTED BY THE ENGINEER)
- CG-G — CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G (REVERSE SLOPED)
- TBT — CONCRETE CURB & GUTTER 4-INCH SLOPED 44-INCH TYPE TBT
- TBTT — CONCRETE CURB & GUTTER 4-INCH SLOPED 44-INCH TYPE TBTT
- DRAIN — CONCRETE SURFACE DRAINS

PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	PLAN DETAILS - IH 39 SB ON RAMP - RAMP-A	SHEET 14	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\021201-PD.DWG
LAYOUT NAME - 04
PLOT DATE : 9/7/2021 2:31 PM
PLOT BY : WATT, TIMOTHY
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

2

MATCH 102+00 IH 39 SB RAMPS

102RAMP-A+00

AGG1

IH 39 SB RAMPS

103RAMP-A+00

PAVE1

STA 203RAMP-B+85.57
2.0' LT

STA 204RAMP-B+10.57
0.0' RT

STA 204RAMP-B+23.42
5.0' RT

STA 204RAMP-B+26.92
8.0' RT

204RAMP-B+00

204RAMP-A+00

RAMP-B

205RAMP-B+00

RAMP-A

105RAMP-A+00

RAMP-A RL

3'

5'

15'

5'

3'

RAMP-B RL

WETLAND BOUNDARY

PAVE1

AGG1

207RAMP-B+00

MATCH EXISTING
SAW CUT REQ'D
STA 207RAMP-B+33.57

25' BUTT JOINT

STA 207RAMP-B+08.53
5.0' RT

206RAMP-B+00

STA 206RAMP-B+24.35
8.0' RT

N

53NB+00

52NB+00

IH 39 NB RL

51NB+00

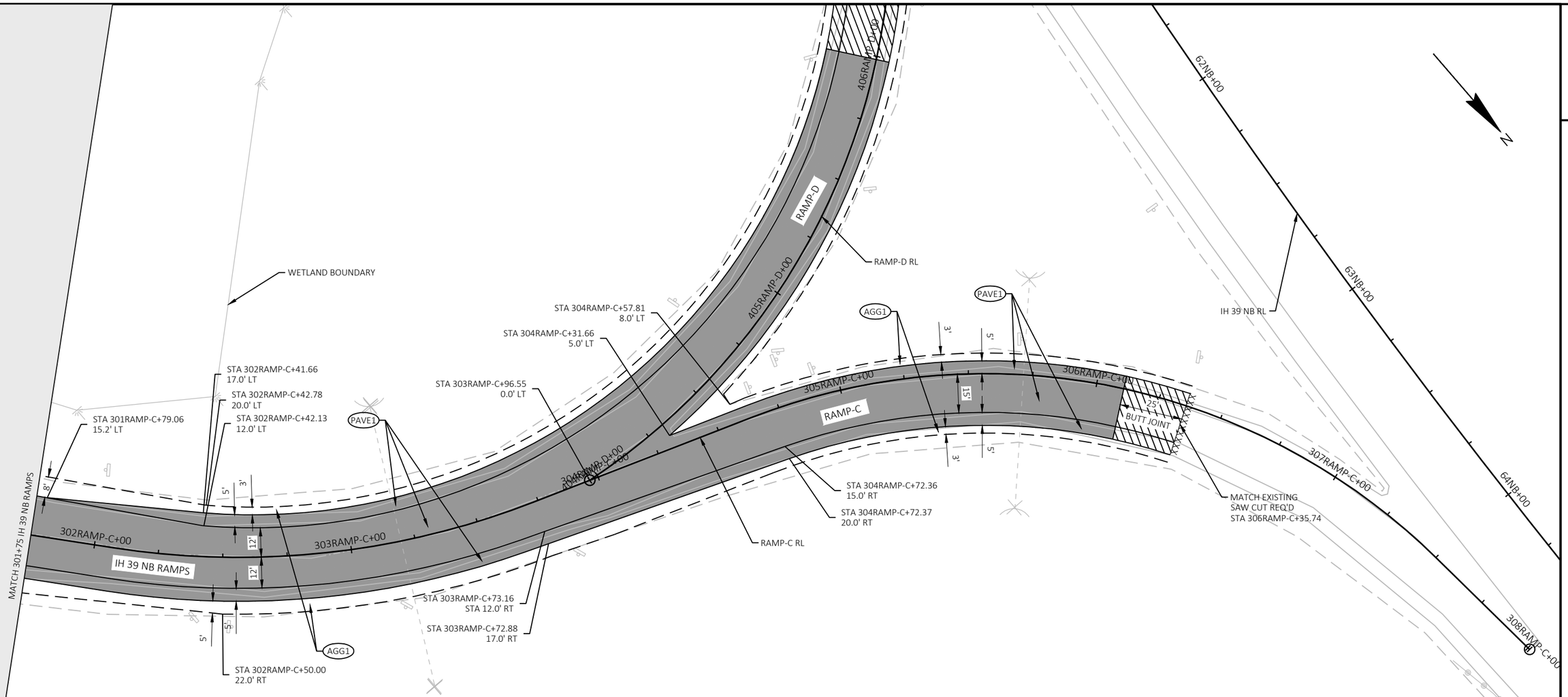
50NB+00

LEGEND

- AGG1 — 2-INCH BASE AGGREGATE DENSE 3/4-INCH
- BG — MGS GUARDRAIL 3
- PAVE1 — 2.5-INCH OVERLAY HMA PAVEMENT 5 MT 58-28 V
- PAVE2 — ASPHALTIC SURFACE (TO BE USED AS DIRECTED BY THE ENGINEER)
- CG-G — CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G (REVERSE SLOPED)
- TBT — CONCRETE CURB & GUTTER 4-INCH SLOPED 44-INCH TYPE TBT
- TBTT — CONCRETE CURB & GUTTER 4-INCH SLOPED 44-INCH TYPE TBTT
- DRAIN — CONCRETE SURFACE DRAINS

PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	PLAN DETAILS - IH 39 SB OFF RAMP - RAMP-B	SHEET 15	E

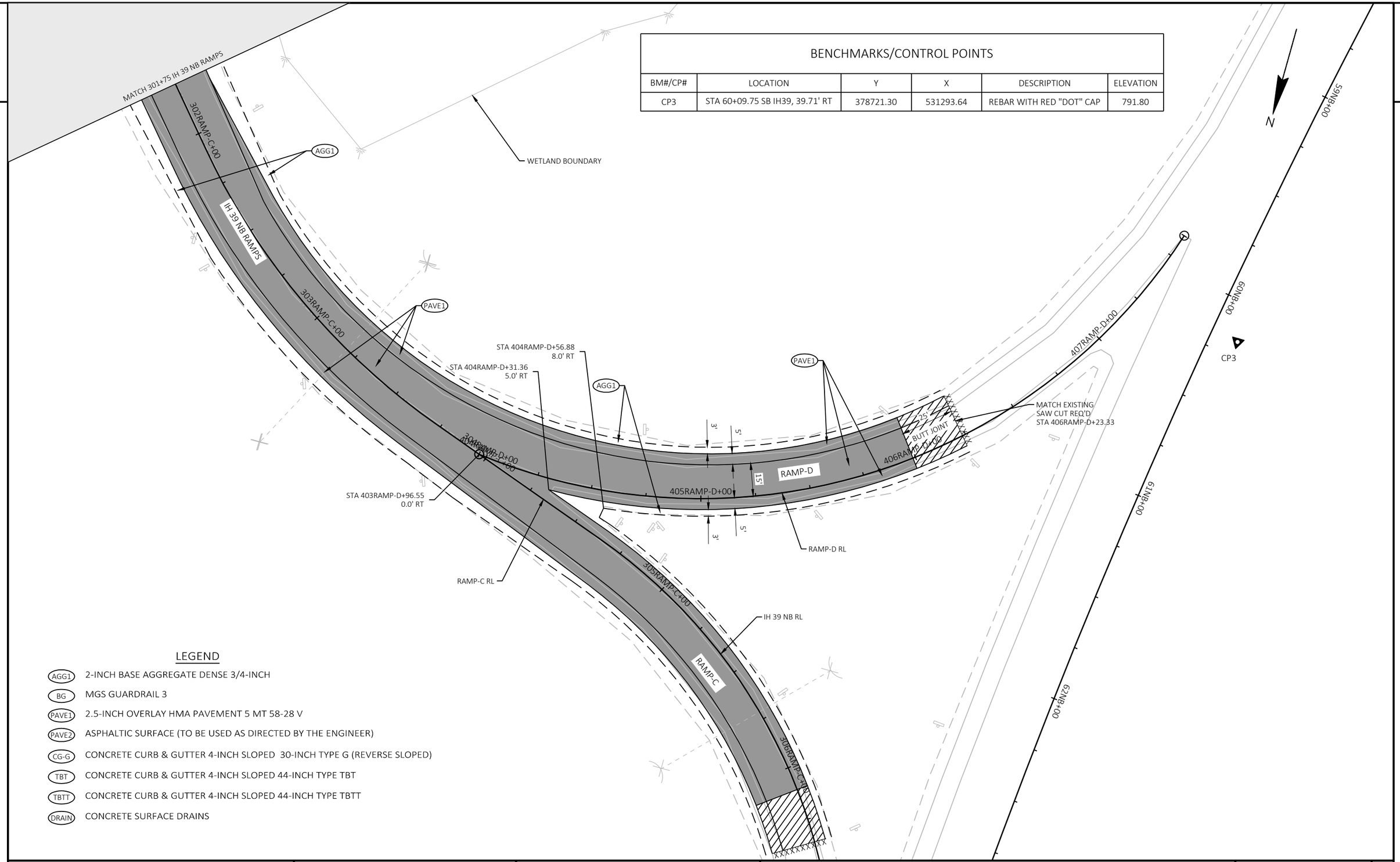
2



LEGEND

AGG1	2-INCH BASE AGGREGATE DENSE 3/4-INCH
BG	MGS GUARDRAIL 3
PAVE1	2.5-INCH OVERLAY HMA PAVEMENT 5 MT 58-28 V
PAVE2	ASPHALTIC SURFACE (TO BE USED AS DIRECTED BY THE ENGINEER)
CG-G	CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G (REVERSE SLOPED)
TBT	CONCRETE CURB & GUTTER 4-INCH SLOPED 44-INCH TYPE TBT
TBTT	CONCRETE CURB & GUTTER 4-INCH SLOPED 44-INCH TYPE TBTT
DRAIN	CONCRETE SURFACE DRAINS

BENCHMARKS/CONTROL POINTS					
BM#/CP#	LOCATION	Y	X	DESCRIPTION	ELEVATION
CP3	STA 60+09.75 SB IH39, 39.71' RT	378721.30	531293.64	REBAR WITH RED "DOT" CAP	791.80



LEGEND

- AGG1 — 2-INCH BASE AGGREGATE DENSE 3/4-INCH
- BG — MGS GUARDRAIL 3
- PAVE1 — 2.5-INCH OVERLAY HMA PAVEMENT 5 MT 58-28 V
- PAVE2 — ASPHALTIC SURFACE (TO BE USED AS DIRECTED BY THE ENGINEER)
- CG-G — CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G (REVERSE SLOPED)
- TBT — CONCRETE CURB & GUTTER 4-INCH SLOPED 44-INCH TYPE TBT
- TBTT — CONCRETE CURB & GUTTER 4-INCH SLOPED 44-INCH TYPE TBTT
- DRAIN — CONCRETE SURFACE DRAINS

PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	PLAN DETAILS - IH 39 NB OFF RAMP - RAMP-D	SHEET 17	E

2

2

PC: 36SB+46.68

PC: 36NB+91.36

BEGIN PROJECT
STA 36NB+91.36

37SB+00
38SB+00
39SB+00
40SB+00
41SB+00
42SB+00
43SB+00
44SB+00
45SB+00
46SB+00
47SB+00
48SB+00
49SB+00
50SB+00
51SB+00
52SB+00

37NB+00
38NB+00
39NB+00
40NB+00
41NB+00
42NB+00
43NB+00
44NB+00
45NB+00
46NB+00
47NB+00
48NB+00
49NB+00
50NB+00
51NB+00
52NB+00

STA 39SB+20 TO 39SB+32
STA 40SB+16 TO 40SB+20
STA 43SB+37.11
STA 43SB+19.67
STA 42SB+97.52
STA 45SB+61.33
STA 45SB+09.15
STA 44SB+70.78
STA 46SB+76.52
STA 47SB+33.52
STA 48SB+70.63
STA 48SB+11.37
IH 39 SB RL
STA 49SB+78 TO 49SB+92
IH 39 SB

STA 39SB+59.26
STA 39SB+78.45
STA 40SB+48.97
STA 41SB+08.67
STA 41SB+80.72
STA 42SB+00.13
STA 43SB+54.87
STA 43SB+73.61
STA 44SB+13.06
STA 44SB+51.76
STA 45SB+80.00
STA 45SB+99.87
STA 46SB+37.99
STA 46SB+57.95
STA 46SB+96.00
STA 47SB+53.11
STA 47SB+92.26
IH 39 NB RL
STA 49SB+59.21
IH 39 NB
STA 50SB+17.79
STA 51SB+26.81

LEGEND

CONCRETE BARRIER WALL SURFACE REPAIR

REPAIR/REPLACE CONCRETE BARRIER

CASCADE MOUNTAIN RD

IH 39 SB RL

53SB+00
54SB+00
55SB+00
56SB+00
57SB+00
58SB+00
59SB+00
60SB+00
61SB+00
62SB+00
63SB+00
64SB+00
65SB+00
66SB+00
67SB+00

53NB+00
54NB+00
55NB+00
56NB+00
57NB+00
58NB+00
59NB+00
60NB+00
61NB+00
62NB+00
63NB+00
64NB+00
65NB+00
66NB+00
67NB+00

STA 59SB+70.32
STA 59SB+50.08
STA 61SB+47.12
STA 61SB+25.57
STA 61SB+06.23
STA 61SB+68.55
IH 39 SB
STA 66SB+97.08
STA 66SB+78.03
STA 66SB+40.29

IH 39 NB RL

STA 56SB+92.92
STA 58SB+11.36
STA 58SB+49.46
STA 58SB+68.82
STA 58SB+89.02
STA 60SB+10.52
STA 60SB+47.70
STA 60SB+67.16
STA 60SB+86.53
STA 61SB+89.19
STA 62SB+11.47
STA 62SB+52.06
STA 63SB+70.61
STA 63SB+90.65
STA 64SB+11.42
IH 39 NB
STA 66SB+20.80

END PROJECT
STA 67NB+16.21

NOTE: NB REFERENCE LINE SHOWN FOR REFERENCE ONLY, ALL REPAIRS AND REPLACEMENT DONE ON SB BARRIER WALL AND STATIONS SHOWN ARE TO SB REFERENCE LINE.

PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	PLAN DETAILS - IH 39 SB BARRIER WALL REPAIRS	SHEET 18	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\021202-PD.DWG
LAYOUT NAME - 1
PLOT DATE : 9/7/2021 2:33 PM
PLOT BY : WATT, TIMOTHY
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

2

LEGEND

- PM1 MARKING LINE EPOXY 4-INCH (WHITE)
- PM2 MARKING LINE EPOXY 4-INCH (YELLOW)
- PM3 MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
- PM4 MARKING LINE EPOXY 8-INCH (WHITE)
- PM5 MARKING STOP LINE EPOXY 18-INCH
- PM6 MARKING CHEVRON EPOXY 24-INCH (WHITE) - 25' SPACING
- PM7 MARKING DIAGONAL EPOXY 12-INCH (YELLOW) - 25' SPACING
- PM8 MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
- PM9 MARKING CURB EPOXY (YELLOW)

- SH-X PERMANENT SIGN SUPPORT
- SF-X SIGNS TYPE II REFLECTIVE H
- R-X SIGNS TYPE II REFLECTIVE F
- M-X REMOVING SIGNS TYPE II
- MOVING SIGNS TYPE II
- SILT FENCE
- EROSION MAT URBAN CLASS I TYPE B
- MEDIUM RIPRAP
- PROPOSED MGS GUARDRAIL

N

R-3 DO NOT ENTER REMOVE

DO NOT ENTER R5-1 30"X30" SH-3

SIGN LOCATED ON THE BACK OF SH-2

R-2 STOP REMOVE

STOP R1-1 30"X30" SH-2

R-1 STOP REMOVE

STOP R1-1 30"X30" SH-1

SI

STA 22CMR+27.88

STA 22CMR+27.88

STA 22CMR+01.74

PM3

PM1

MATCH EXISTING SAW CUT REQ'D

STA 21CMR+11.36

8'

12'

12'

22CMR+00

PM9

PM5

14'

16'

6'

3'

PM9

PM5

PM1

PM4

STA 23CMR+01.86

STA 22CMR+67.51

STA 23CMR+93.61

SI

STA 24CMR+60.68

CMR RL

CASCADE MOUNTAIN ROAD

24CMR+00

23CMR+00

25CMR+00

26CMR+00

21CMR+00

4'

5'

12'

12'

5'

4'

PM1

BEGIN CONSTRUCTION
STA 21+36.36

STA 100RAMP-A+28.02

PM1

STA 100RAMP-A+79.20

PM3

REMOVE R-4

W12-1D 24"X24" SF-1

5'

101RAMP-A+00

IH 39 SB RAMPS

STA 101RAMP-A+26.19

RAMP-A RL

STA 101RAMP-A+89.90

3'

5'

12'

12'

101RAMP-A+00

MATCH 102+00 IH 39 SB RAMPS

PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	EROSION CONTROL - PERMANENT SIGNING - PAVEMENT MARKING	SHEET 19	E

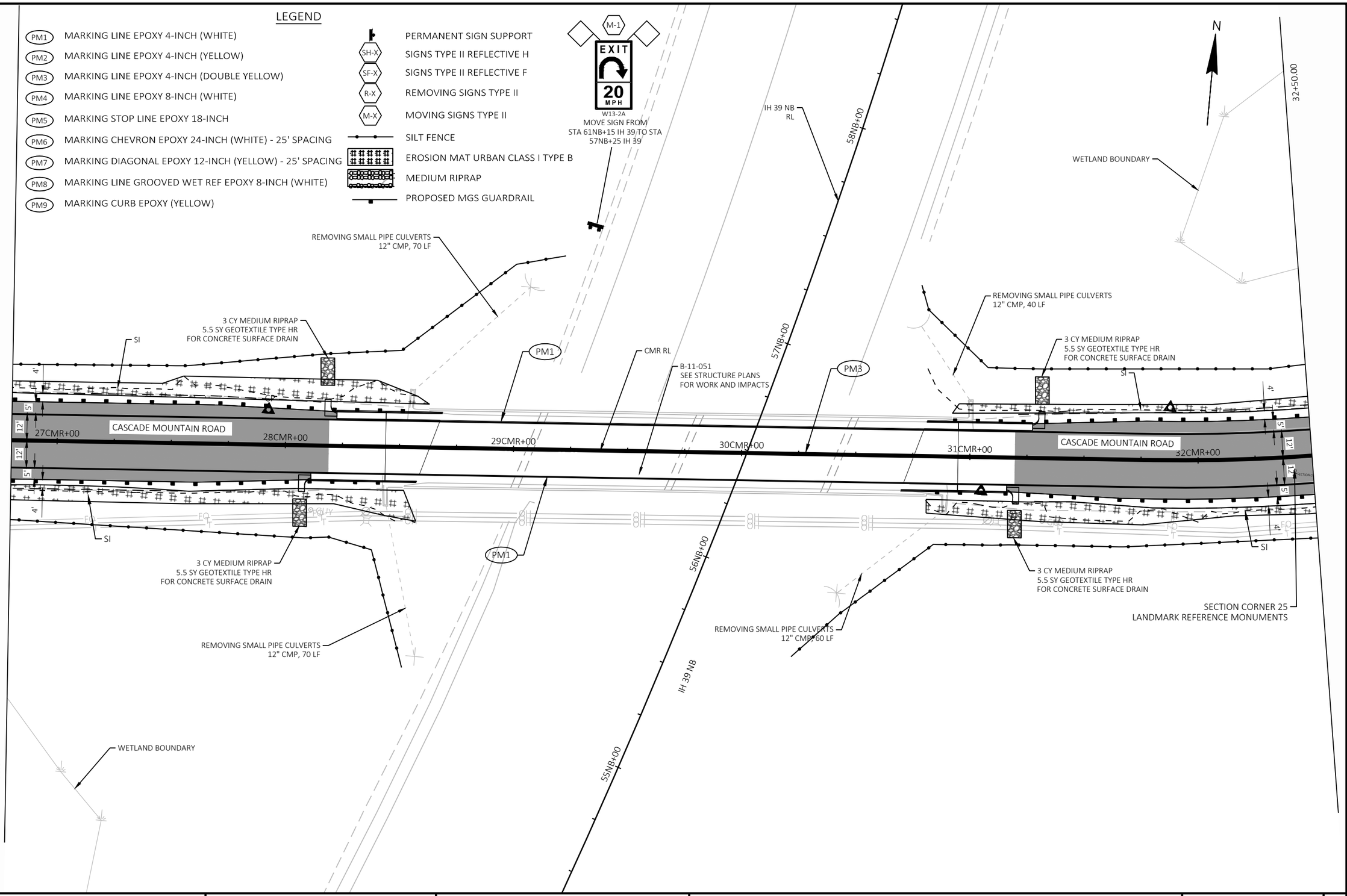
FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\022001-EC.DWG
LAYOUT NAME - 01

PLOT DATE : 9/7/2021 2:34 PM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:40 FT

LEGEND

- PM1 — MARKING LINE EPOXY 4-INCH (WHITE)
- PM2 — MARKING LINE EPOXY 4-INCH (YELLOW)
- PM3 — MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
- PM4 — MARKING LINE EPOXY 8-INCH (WHITE)
- PM5 — MARKING STOP LINE EPOXY 18-INCH
- PM6 — MARKING CHEVRON EPOXY 24-INCH (WHITE) - 25' SPACING
- PM7 — MARKING DIAGONAL EPOXY 12-INCH (YELLOW) - 25' SPACING
- PM8 — MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
- PM9 — MARKING CURB EPOXY (YELLOW)

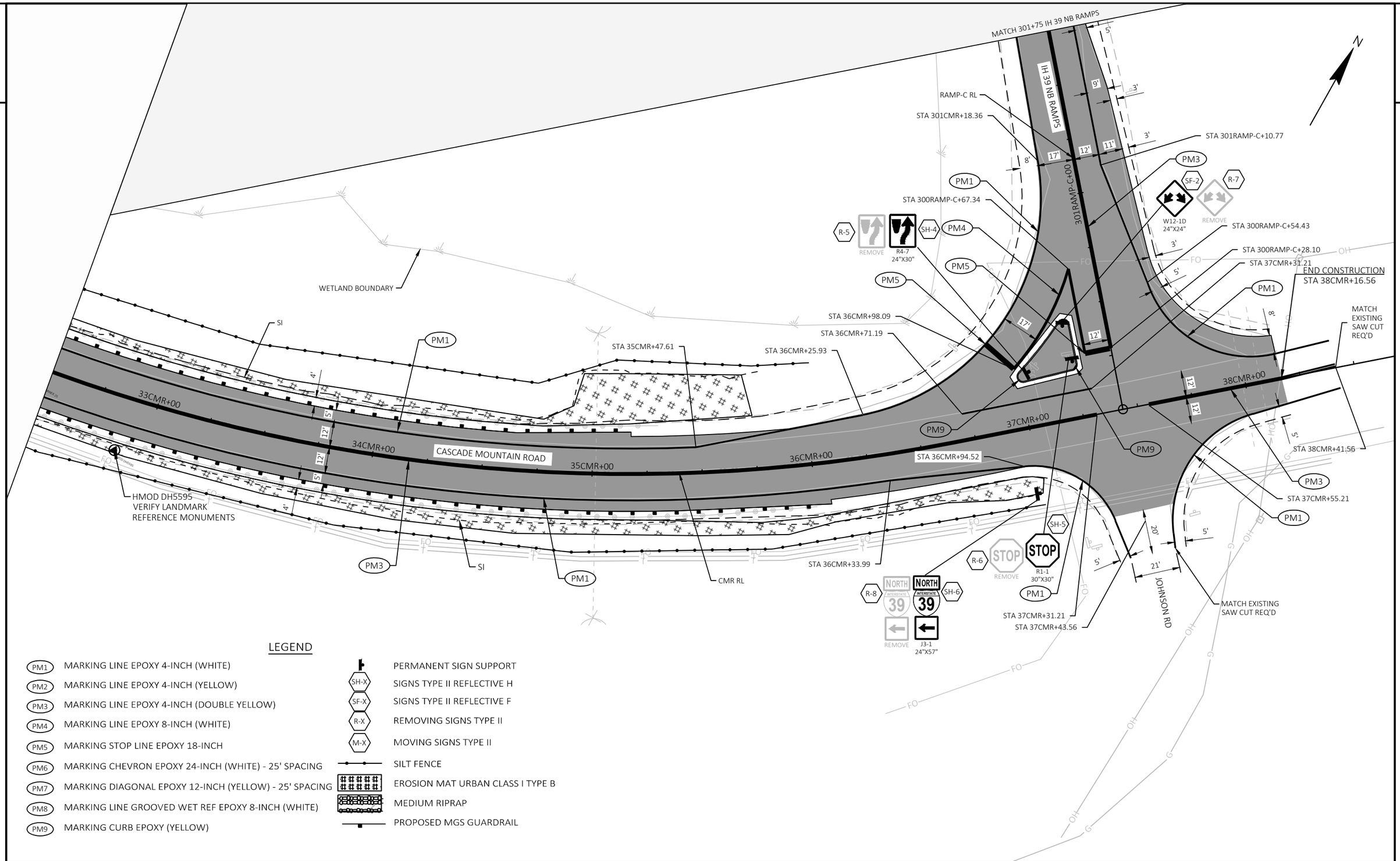
- PERMANENT SIGN SUPPORT
- SH-X — SIGNS TYPE II REFLECTIVE H
- SF-X — SIGNS TYPE II REFLECTIVE F
- R-X — REMOVING SIGNS TYPE II
- M-X — MOVING SIGNS TYPE II
- SILT FENCE
- EROSION MAT URBAN CLASS I TYPE B
- MEDIUM RIPRAP
- PROPOSED MGS GUARDRAIL



PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	EROSION CONTROL - PERMANENT SIGNING - PAVEMENT MARKING	SHEET 20	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\022001-EC.DWG
LAYOUT NAME - 02
PLOT DATE : 9/16/2021 9:54 AM
PLOT BY : WATT, TIMOTHY
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2



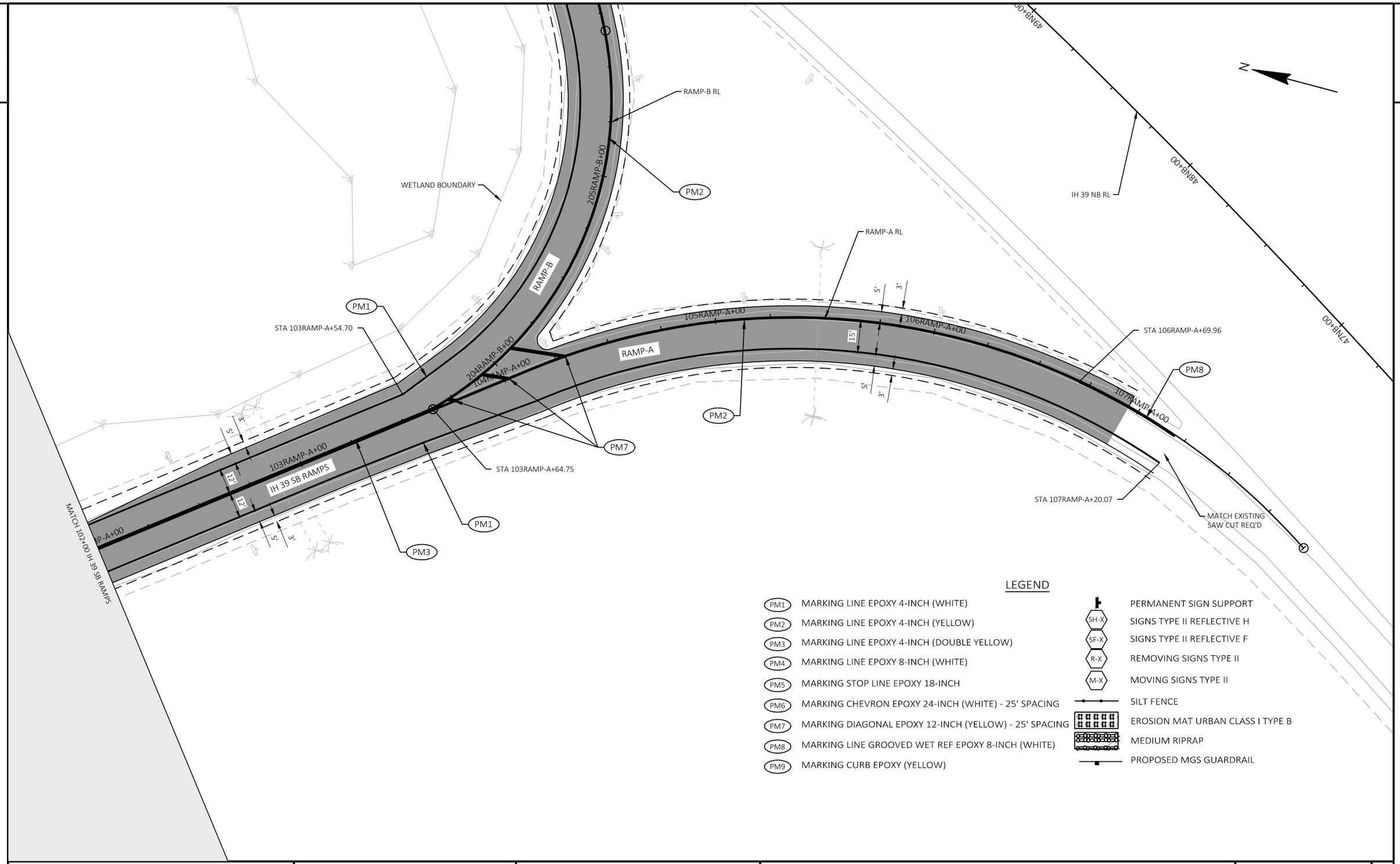
LEGEND

- PM1 MARKING LINE EPOXY 4-INCH (WHITE)
- PM2 MARKING LINE EPOXY 4-INCH (YELLOW)
- PM3 MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
- PM4 MARKING LINE EPOXY 8-INCH (WHITE)
- PM5 MARKING STOP LINE EPOXY 18-INCH
- PM6 MARKING CHEVRON EPOXY 24-INCH (WHITE) - 25' SPACING
- PM7 MARKING DIAGONAL EPOXY 12-INCH (YELLOW) - 25' SPACING
- PM8 MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
- PM9 MARKING CURB EPOXY (YELLOW)

- PERMANENT SIGN SUPPORT
- SH-X SIGNS TYPE II REFLECTIVE H
- SF-X SIGNS TYPE II REFLECTIVE F
- R-X REMOVING SIGNS TYPE II
- M-X MOVING SIGNS TYPE II
- SILT FENCE
- EROSION MAT URBAN CLASS I TYPE B
- MEDIUM RIPRAP
- PROPOSED MGS GUARDRAIL

PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	EROSION CONTROL - PERMANENT SIGNING - PAVEMENT MARKING	SHEET 21	E

2



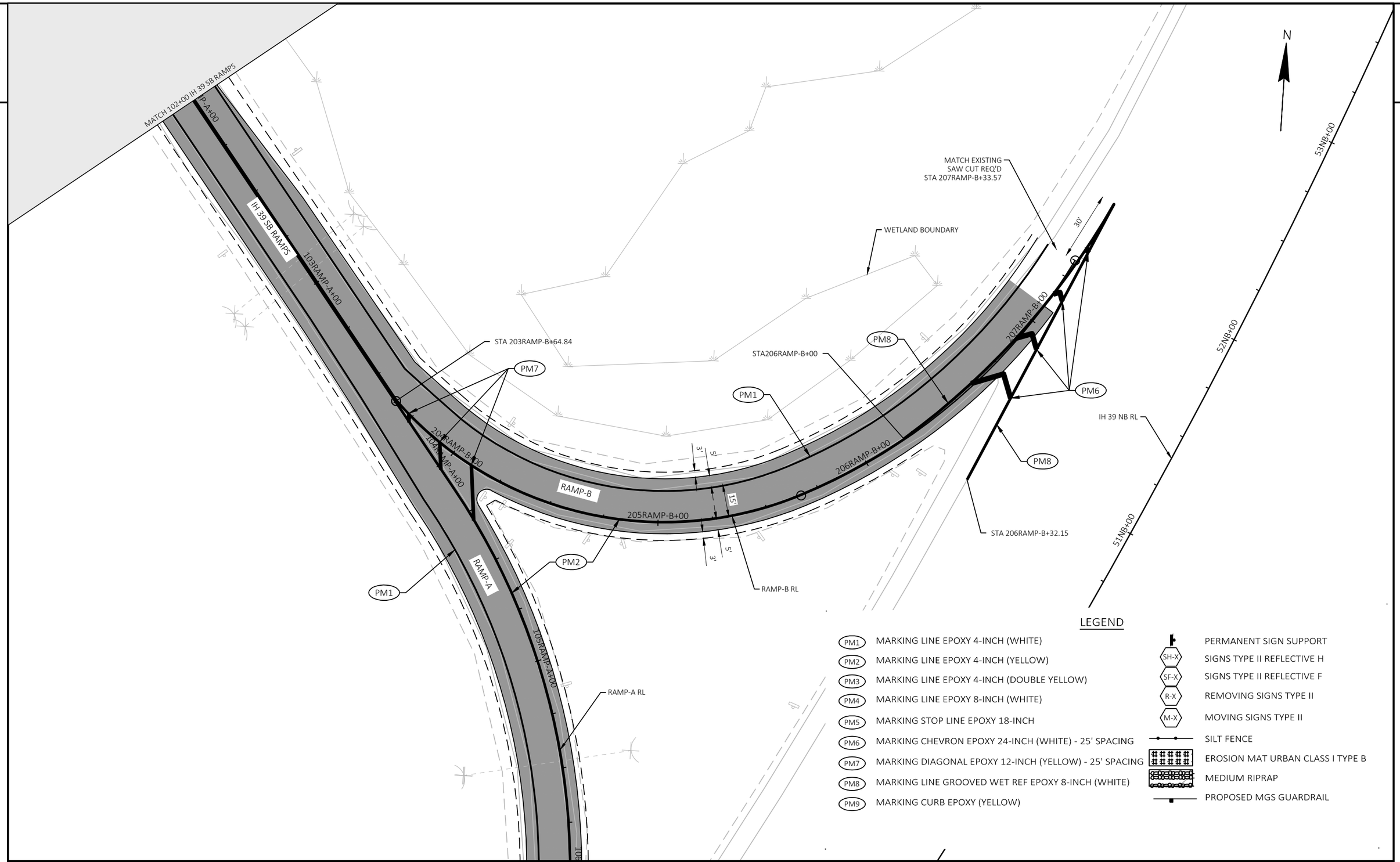
LEGEND

PM1	MARKING LINE EPOXY 4-INCH (WHITE)
PM2	MARKING LINE EPOXY 4-INCH (YELLOW)
PM3	MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
PM4	MARKING LINE EPOXY 8-INCH (WHITE)
PM5	MARKING STOP LINE EPOXY 18-INCH
PM6	MARKING CHEVRON EPOXY 24-INCH (WHITE) - 25' SPACING
PM7	MARKING DIAGONAL EPOXY 12-INCH (YELLOW) - 25' SPACING
PM8	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
PM9	MARKING CURB EPOXY (YELLOW)

	PERMANENT SIGN SUPPORT
SH-X	SIGNS TYPE II REFLECTIVE H
SF-X	SIGNS TYPE II REFLECTIVE F
R-X	REMOVING SIGNS TYPE II
M-X	MOVING SIGNS TYPE II
	SILT FENCE
	EROSION MAT URBAN CLASS I TYPE B
	MEDIUM RIPRAP
	PROPOSED MGS GUARDRAIL

PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	EROSION CONTROL - PERMANENT SIGNING - PAVEMENT MARKING	SHEET 22 E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\022001-EC.DWG
LAYOUT NAME - 04
PLOT DATE : 9/7/2021 2:35 PM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42



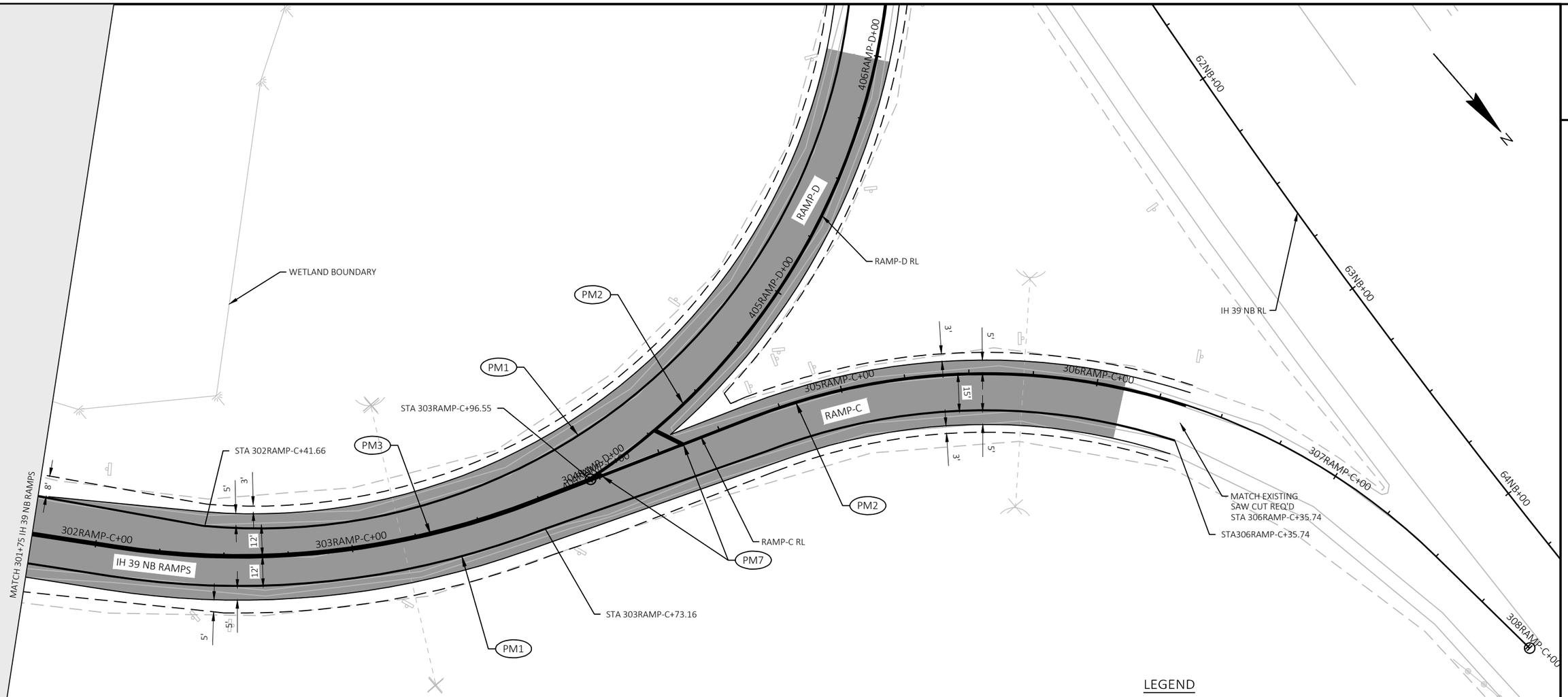
LEGEND

PM1	MARKING LINE EPOXY 4-INCH (WHITE)		PERMANENT SIGN SUPPORT
PM2	MARKING LINE EPOXY 4-INCH (YELLOW)	SH-X	SIGNS TYPE II REFLECTIVE H
PM3	MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)	SF-X	SIGNS TYPE II REFLECTIVE F
PM4	MARKING LINE EPOXY 8-INCH (WHITE)	R-X	REMOVING SIGNS TYPE II
PM5	MARKING STOP LINE EPOXY 18-INCH	M-X	MOVING SIGNS TYPE II
PM6	MARKING CHEVRON EPOXY 24-INCH (WHITE) - 25' SPACING		SILT FENCE
PM7	MARKING DIAGONAL EPOXY 12-INCH (YELLOW) - 25' SPACING		EROSION MAT URBAN CLASS I TYPE B
PM8	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)		MEDIUM RIPRAP
PM9	MARKING CURB EPOXY (YELLOW)		PROPOSED MGS GUARDRAIL

PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	EROSION CONTROL - PERMANENT SIGNING - PAVEMENT MARKING	SHEET 23 E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\022001-EC.DWG
LAYOUT NAME - 05
PLOT DATE : 10/12/2021 11:35 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:40 FT

2



LEGEND

PM1	MARKING LINE EPOXY 4-INCH (WHITE)
PM2	MARKING LINE EPOXY 4-INCH (YELLOW)
PM3	MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
PM4	MARKING LINE EPOXY 8-INCH (WHITE)
PM5	MARKING STOP LINE EPOXY 18-INCH
PM6	MARKING CHEVRON EPOXY 24-INCH (WHITE) - 25' SPACING
PM7	MARKING DIAGONAL EPOXY 12-INCH (YELLOW) - 25' SPACING
PM8	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
PM9	MARKING CURB EPOXY (YELLOW)

	PERMANENT SIGN SUPPORT
SH-X	SIGNS TYPE II REFLECTIVE H
SF-X	SIGNS TYPE II REFLECTIVE F
R-X	REMOVING SIGNS TYPE II
M-X	MOVING SIGNS TYPE II
	SILT FENCE
	EROSION MAT URBAN CLASS I TYPE B
	MEDIUM RIPRAP
	PROPOSED MGS GUARDRAIL

PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	EROSION CONTROL - PERMANENT SIGNING - PAVEMENT MARKING	SHEET 24	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\022001-EC.DWG
LAYOUT NAME - 06
PLOT DATE : 9/7/2021 2:35 PM
PLOT BY : WATT, TIMOTHY
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

MATCH 301+75 IH 39 NB RAMPS

302RAMP-C+00

IH 39 NB RAMPS

303RAMP-C+00

STA 302RAMP-C+41.66

WETLAND BOUNDARY

PM3

PM1

PM7

304RAMP-D+00

STA 303RAMP-C+73.16

STA 403RAMP-D+96.55

PM1

405RAMP-D+00

RAMP-D

406RAMP-D+00

15'

5'

3'

5'

3'

PM2

RAMP-D RL

STA 406RAMP-D+23.33

407RAMP-D+00

MATCH EXISTING
SAW CUT REQ'D
STA 406RAMP-D+23.33

405RAMP-C+00

RAMP-C

PM2

RAMP-C RL

306RAMP-C+00

N

59NB+00

60NB+00

61NB+00

62NB+00

IH 39 NB RL

EXIT
20
MPH

MOVE SIGN FROM
STA 61NB+15 IH 39 TO STA
57NB+25 IH 39

M-1

LEGEND

PM1	MARKING LINE EPOXY 4-INCH (WHITE)
PM2	MARKING LINE EPOXY 4-INCH (YELLOW)
PM3	MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
PM4	MARKING LINE EPOXY 8-INCH (WHITE)
PM5	MARKING STOP LINE EPOXY 18-INCH
PM6	MARKING CHEVRON EPOXY 24-INCH (WHITE) - 25' SPACING
PM7	MARKING DIAGONAL EPOXY 12-INCH (YELLOW) - 25' SPACING
PM8	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
PM9	MARKING CURB EPOXY (YELLOW)

	PERMANENT SIGN SUPPORT
SH-X	SIGNS TYPE II REFLECTIVE H
SF-X	SIGNS TYPE II REFLECTIVE F
R-X	REMOVING SIGNS TYPE II
M-X	MOVING SIGNS TYPE II
	SILT FENCE
	EROSION MAT URBAN CLASS I TYPE B
	MEDIUM RIPRAP
	PROPOSED MGS GUARDRAIL

PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	EROSION CONTROL - PERMANENT SIGNING - PAVEMENT MARKING	SHEET 25 E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\022001-EC.DWG
LAYOUT NAME - 07

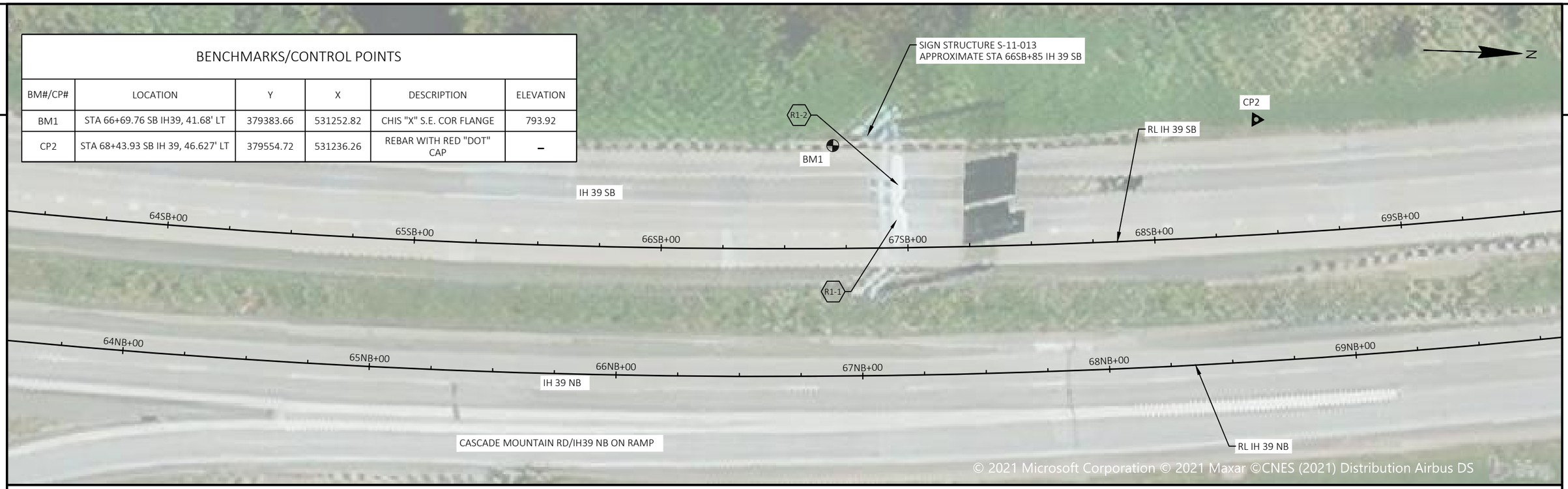
PLOT DATE : 9/7/2021 2:36 PM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:40 FT

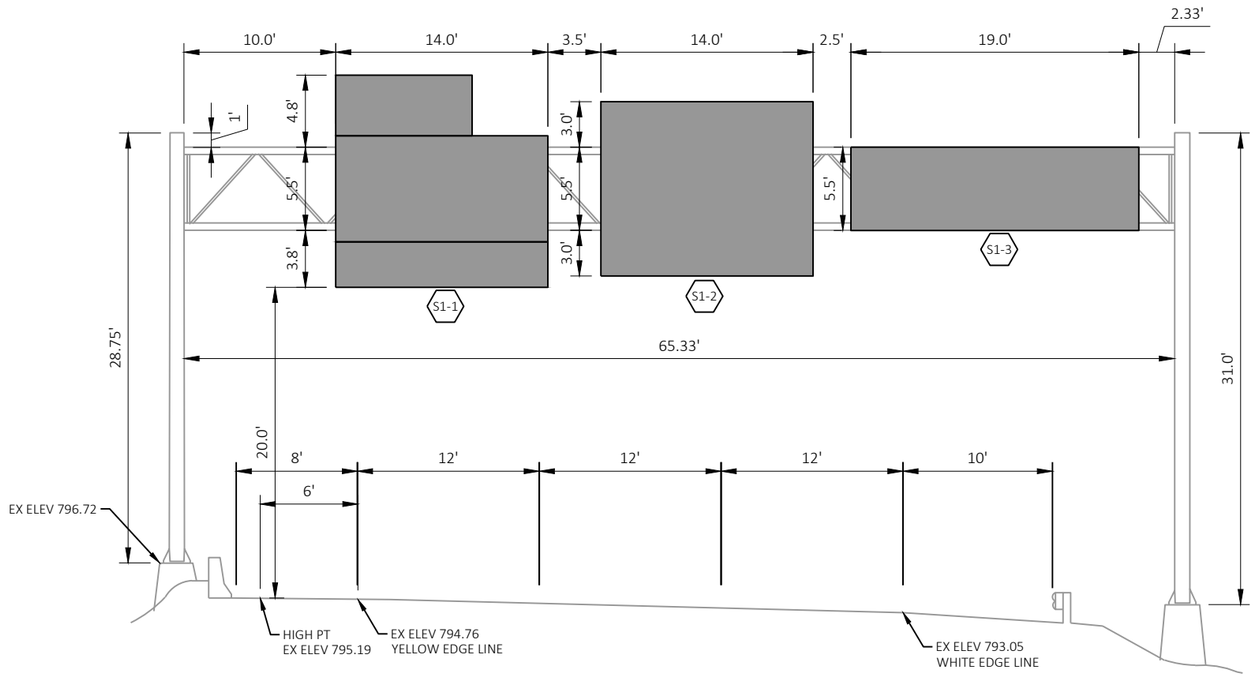
WISDOT/CADDS SHEET 42

2

BENCHMARKS/CONTROL POINTS

BM#/CP#	LOCATION	Y	X	DESCRIPTION	ELEVATION
BM1	STA 66+69.76 SB IH39, 41.68' LT	379383.66	531252.82	CHIS "X" S.E. COR FLANGE	793.92
CP2	STA 68+43.93 SB IH 39, 46.627' LT	379554.72	531236.26	REBAR WITH RED "DOT" CAP	–





LEGEND

R1-X REMOVING SIGNS TYPE I

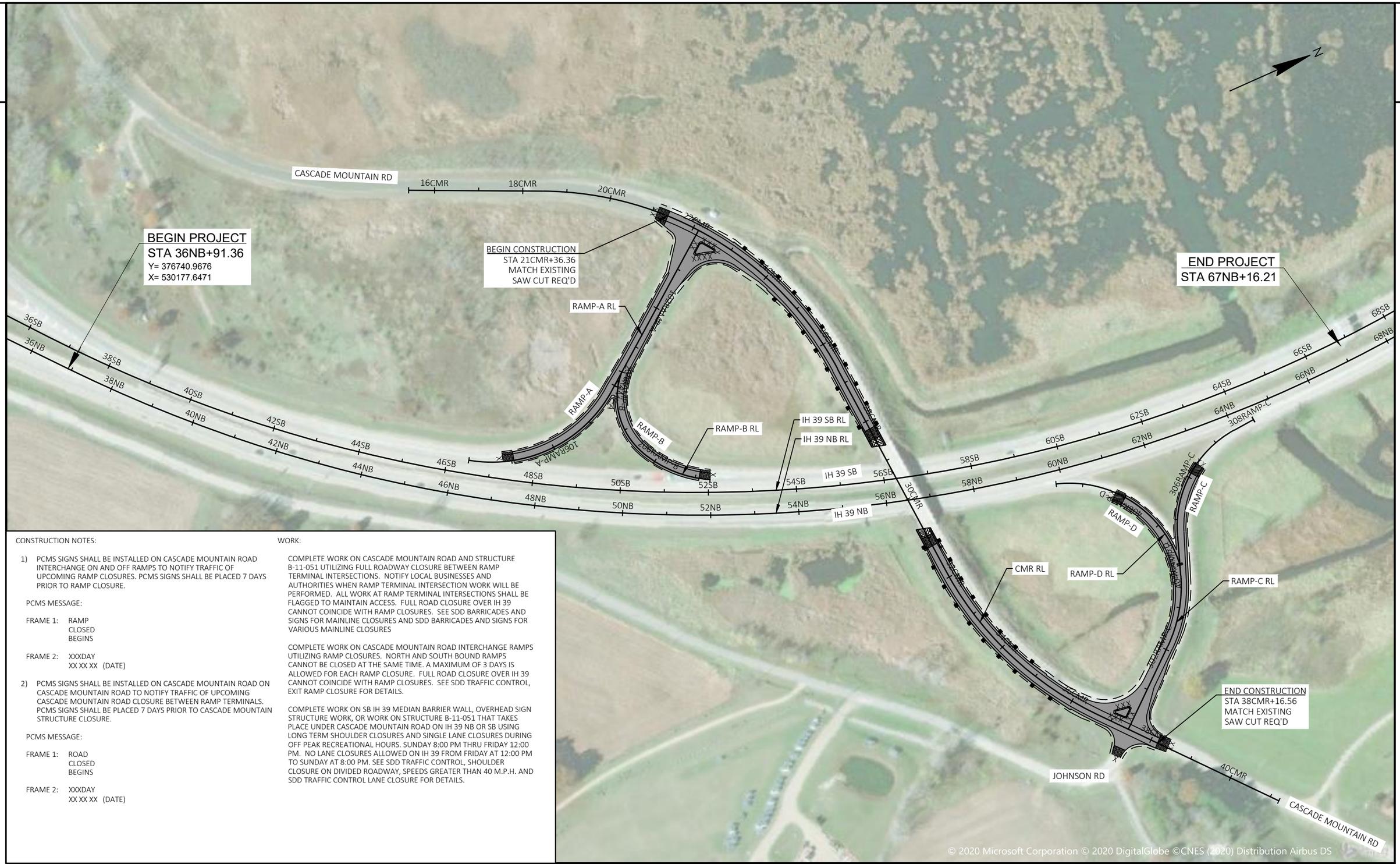
S1-X SIGNS TYPE I REFLECTIVE SH

NOTES:
SEE SIGN PLATE DETAIL SHEET FOR SIGN LAYOUT, DIMENTIONS AND INFORMATION

VERIFY ALL EXISTING ELEVATION AND VERTICAL CLEARANCES IN THE FIELD.

PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	PERMANENT SIGNING - S-11-013 SIGN REPLACEMENT	SHEET 26	E

2



CONSTRUCTION NOTES:

1) PCMS SIGNS SHALL BE INSTALLED ON CASCADE MOUNTAIN ROAD INTERCHANGE ON AND OFF RAMPS TO NOTIFY TRAFFIC OF UPCOMING RAMP CLOSURES. PCMS SIGNS SHALL BE PLACED 7 DAYS PRIOR TO RAMP CLOSURE.

   PCMS MESSAGE:

   FRAME 1: RAMP
   CLOSED
   BEGINS

   FRAME 2: XXXDAY
   XX XX XX (DATE)

2) PCMS SIGNS SHALL BE INSTALLED ON CASCADE MOUNTAIN ROAD ON CASCADE MOUNTAIN ROAD TO NOTIFY TRAFFIC OF UPCOMING CASCADE MOUNTAIN ROAD CLOSURE BETWEEN RAMP TERMINALS. PCMS SIGNS SHALL BE PLACED 7 DAYS PRIOR TO CASCADE MOUNTAIN STRUCTURE CLOSURE.

   PCMS MESSAGE:

   FRAME 1: ROAD
   CLOSED
   BEGINS

   FRAME 2: XXXDAY
   XX XX XX (DATE)

WORK:

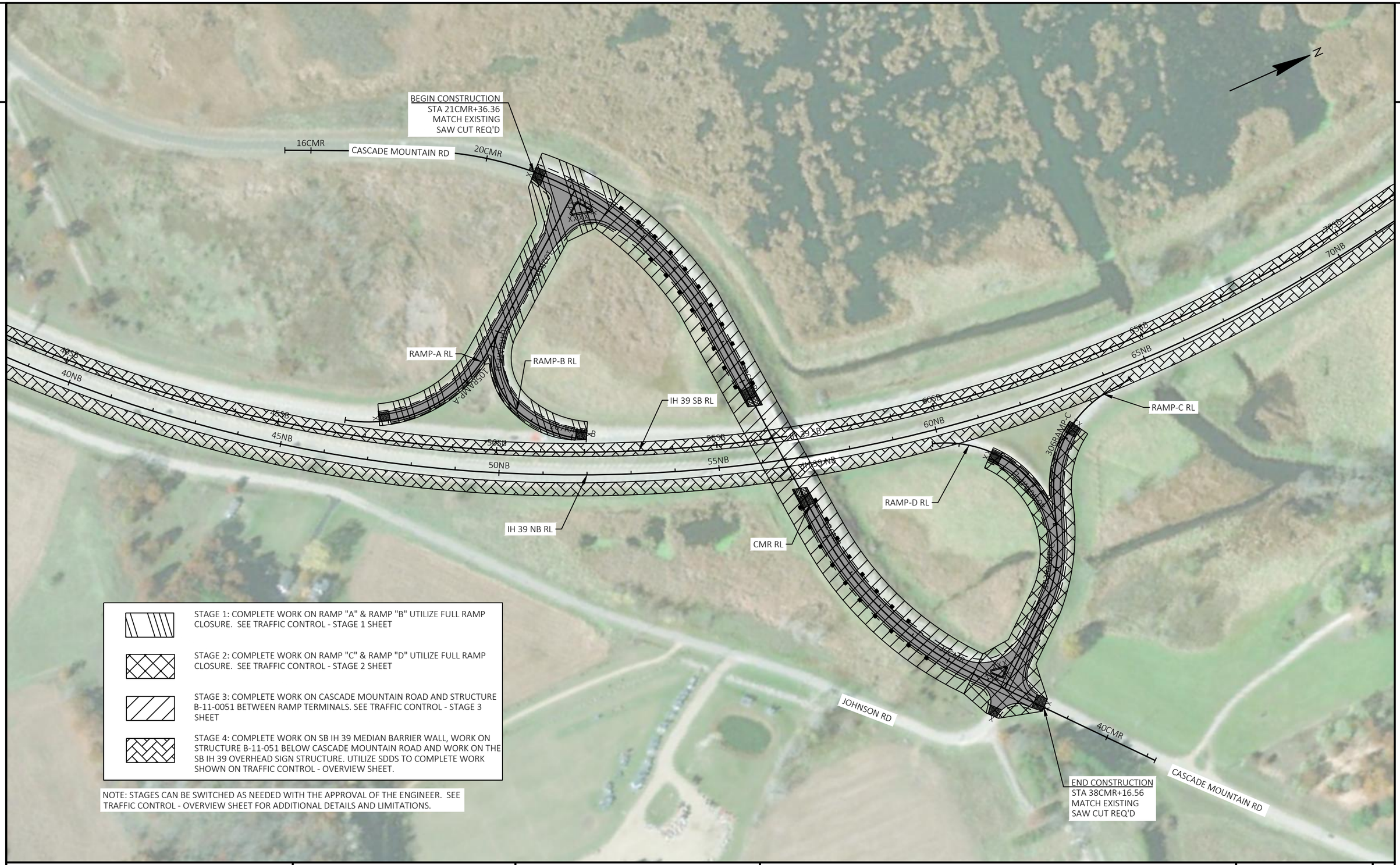
COMPLETE WORK ON CASCADE MOUNTAIN ROAD AND STRUCTURE B-11-051 UTILIZING FULL ROADWAY CLOSURE BETWEEN RAMP TERMINAL INTERSECTIONS. NOTIFY LOCAL BUSINESSES AND AUTHORITIES WHEN RAMP TERMINAL INTERSECTION WORK WILL BE PERFORMED. ALL WORK AT RAMP TERMINAL INTERSECTIONS SHALL BE FLAGGED TO MAINTAIN ACCESS. FULL ROAD CLOSURE OVER IH 39 CANNOT COINCIDE WITH RAMP CLOSURES. SEE SDD BARRICADES AND SIGNS FOR MAINLINE CLOSURES AND SDD BARRICADES AND SIGNS FOR VARIOUS MAINLINE CLOSURES

COMPLETE WORK ON CASCADE MOUNTAIN ROAD INTERCHANGE RAMPS UTILIZING RAMP CLOSURES. NORTH AND SOUTH BOUND RAMPS CANNOT BE CLOSED AT THE SAME TIME. A MAXIMUM OF 3 DAYS IS ALLOWED FOR EACH RAMP CLOSURE. FULL ROAD CLOSURE OVER IH 39 CANNOT COINCIDE WITH RAMP CLOSURES. SEE SDD TRAFFIC CONTROL, EXIT RAMP CLOSURE FOR DETAILS.

COMPLETE WORK ON SB IH 39 MEDIAN BARRIER WALL, OVERHEAD SIGN STRUCTURE WORK, OR WORK ON STRUCTURE B-11-051 THAT TAKES PLACE UNDER CASCADE MOUNTAIN ROAD ON IH 39 NB OR SB USING LONG TERM SHOULDER CLOSURES AND SINGLE LANE CLOSURES DURING OFF PEAK RECREATIONAL HOURS. SUNDAY 8:00 PM THRU FRIDAY 12:00 PM. NO LANE CLOSURES ALLOWED ON IH 39 FROM FRIDAY AT 12:00 PM TO SUNDAY AT 8:00 PM. SEE SDD TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 M.P.H. AND SDD TRAFFIC CONTROL LANE CLOSURE FOR DETAILS.

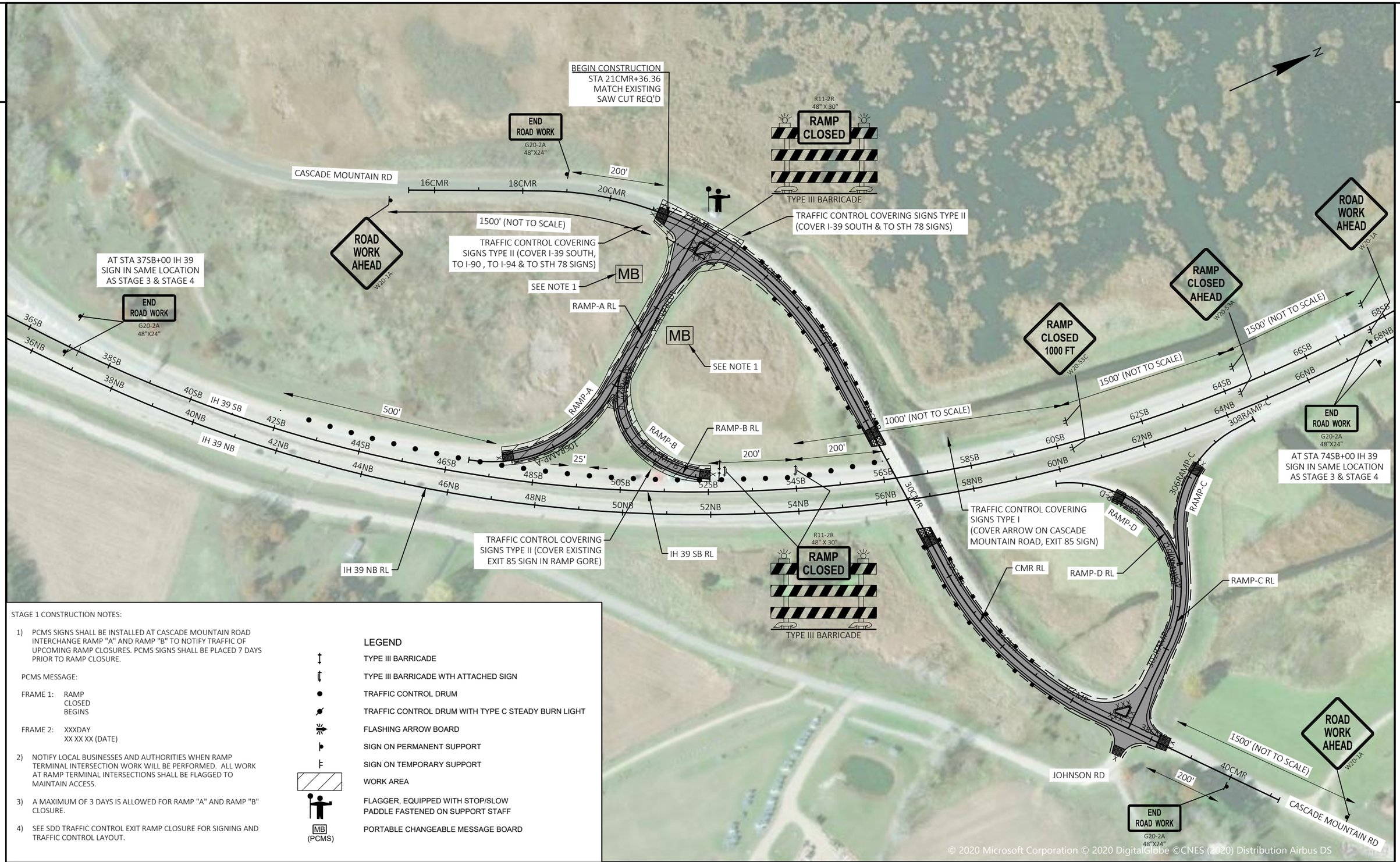
PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL - OVERVIEW	SHEET 27	E

2



PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL - STAGING OVERVIEW	SHEET 28	E

2



STAGE 1 CONSTRUCTION NOTES:

1) PCMS SIGNS SHALL BE INSTALLED AT CASCADE MOUNTAIN ROAD INTERCHANGE RAMP "A" AND RAMP "B" TO NOTIFY TRAFFIC OF UPCOMING RAMP CLOSURES. PCMS SIGNS SHALL BE PLACED 7 DAYS PRIOR TO RAMP CLOSURE.

   PCMS MESSAGE:

   FRAME 1: RAMP
   CLOSED
   BEGINS

   FRAME 2: XXXDAY
   XX XX XX (DATE)

2) NOTIFY LOCAL BUSINESSES AND AUTHORITIES WHEN RAMP TERMINAL INTERSECTION WORK WILL BE PERFORMED. ALL WORK AT RAMP TERMINAL INTERSECTIONS SHALL BE FLAGGED TO MAINTAIN ACCESS.

3) A MAXIMUM OF 3 DAYS IS ALLOWED FOR RAMP "A" AND RAMP "B" CLOSURE.

4) SEE SDD TRAFFIC CONTROL EXIT RAMP CLOSURE FOR SIGNING AND TRAFFIC CONTROL LAYOUT.

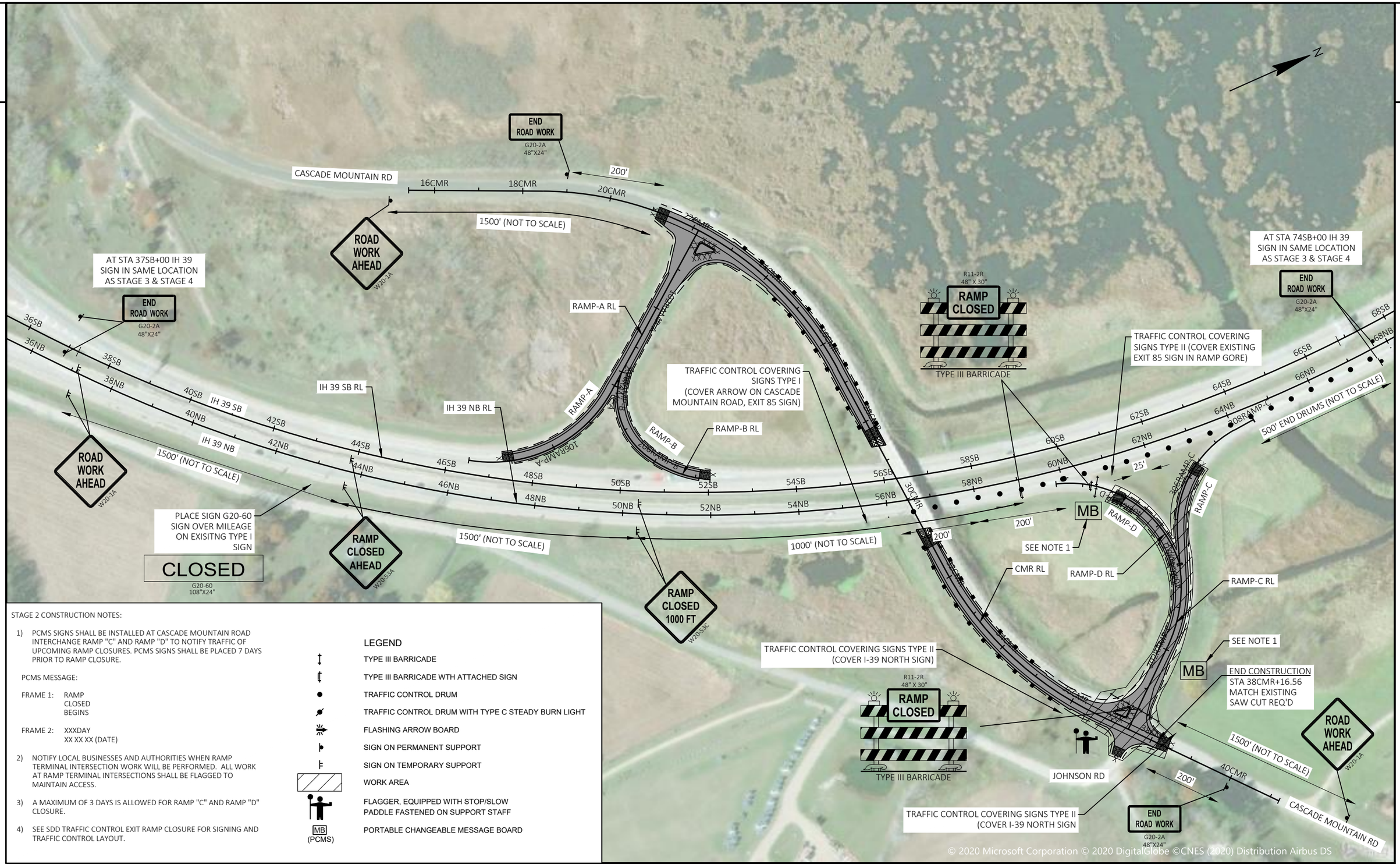
LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	WORK AREA
	FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
MB (PCMS)	PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL - STAGE 1	SHEET 29	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\025102-TC.DWG
LAYOUT NAME - 01
PLOT DATE : 9/7/2021 2:39 PM
PLOT BY : WATT, TIMOTHY
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42

2



STAGE 2 CONSTRUCTION NOTES:

1) PCMS SIGNS SHALL BE INSTALLED AT CASCADE MOUNTAIN ROAD INTERCHANGE RAMP "C" AND RAMP "D" TO NOTIFY TRAFFIC OF UPCOMING RAMP CLOSURES. PCMS SIGNS SHALL BE PLACED 7 DAYS PRIOR TO RAMP CLOSURE.

   PCMS MESSAGE:

   FRAME 1: RAMP CLOSED BEGINS

   FRAME 2: XXXDAY XX XX XX (DATE)

2) NOTIFY LOCAL BUSINESSES AND AUTHORITIES WHEN RAMP TERMINAL INTERSECTION WORK WILL BE PERFORMED. ALL WORK AT RAMP TERMINAL INTERSECTIONS SHALL BE FLAGGED TO MAINTAIN ACCESS.

3) A MAXIMUM OF 3 DAYS IS ALLOWED FOR RAMP "C" AND RAMP "D" CLOSURE.

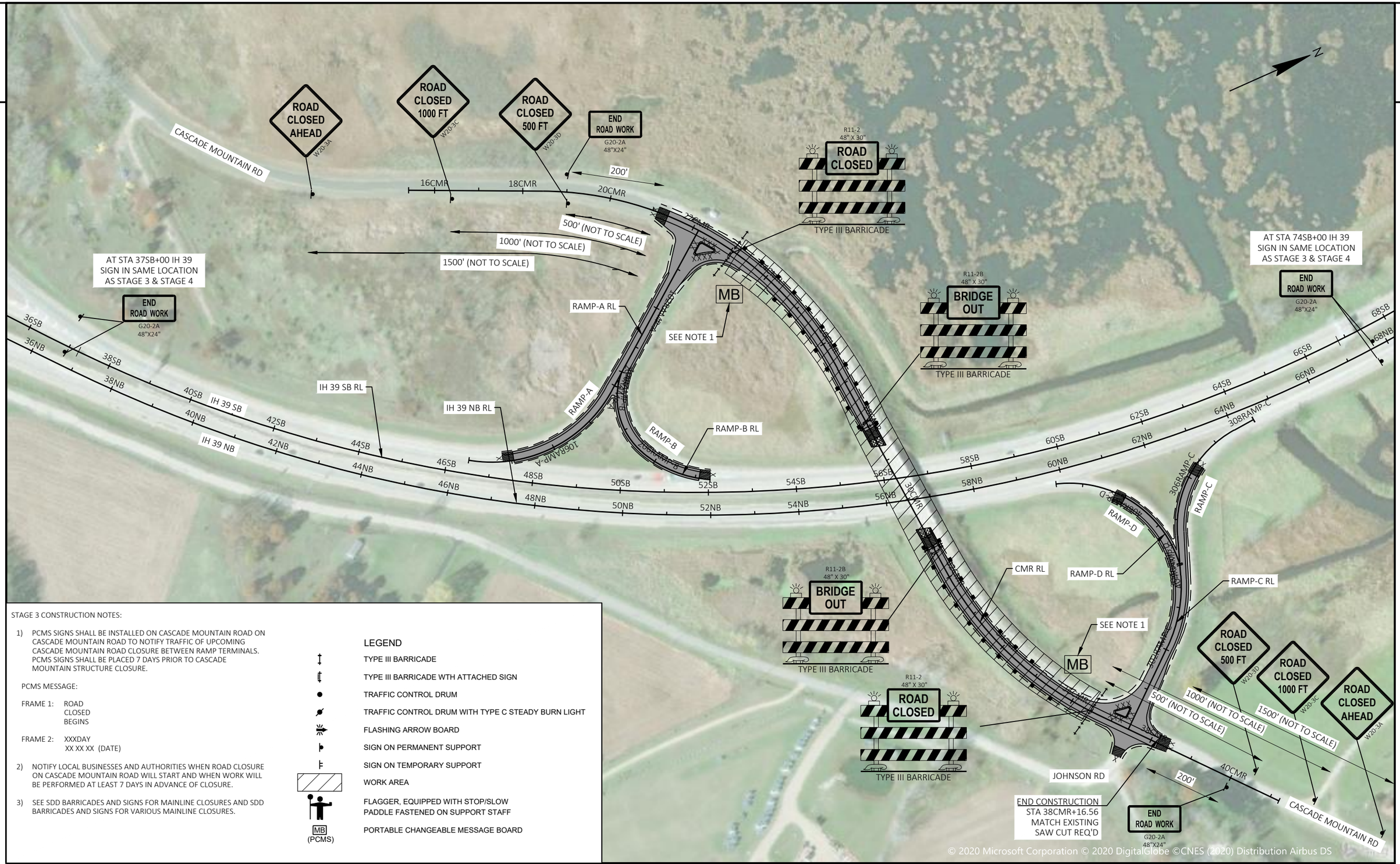
4) SEE SDD TRAFFIC CONTROL EXIT RAMP CLOSURE FOR SIGNING AND TRAFFIC CONTROL LAYOUT.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- MB (PCMS) PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL - STAGE 2	SHEET 30	E

2



STAGE 3 CONSTRUCTION NOTES:

1) PCMS SIGNS SHALL BE INSTALLED ON CASCADE MOUNTAIN ROAD ON CASCADE MOUNTAIN ROAD TO NOTIFY TRAFFIC OF UPCOMING CASCADE MOUNTAIN ROAD CLOSURE BETWEEN RAMP TERMINALS. PCMS SIGNS SHALL BE PLACED 7 DAYS PRIOR TO CASCADE MOUNTAIN STRUCTURE CLOSURE.

   PCMS MESSAGE:

   FRAME 1: ROAD CLOSED BEGINS

   FRAME 2: XXXDAY XX XX XX (DATE)

2) NOTIFY LOCAL BUSINESSES AND AUTHORITIES WHEN ROAD CLOSURE ON CASCADE MOUNTAIN ROAD WILL START AND WHEN WORK WILL BE PERFORMED AT LEAST 7 DAYS IN ADVANCE OF CLOSURE.

3) SEE SDD BARRICADES AND SIGNS FOR MAINLINE CLOSURES AND SDD BARRICADES AND SIGNS FOR VARIOUS MAINLINE CLOSURES.

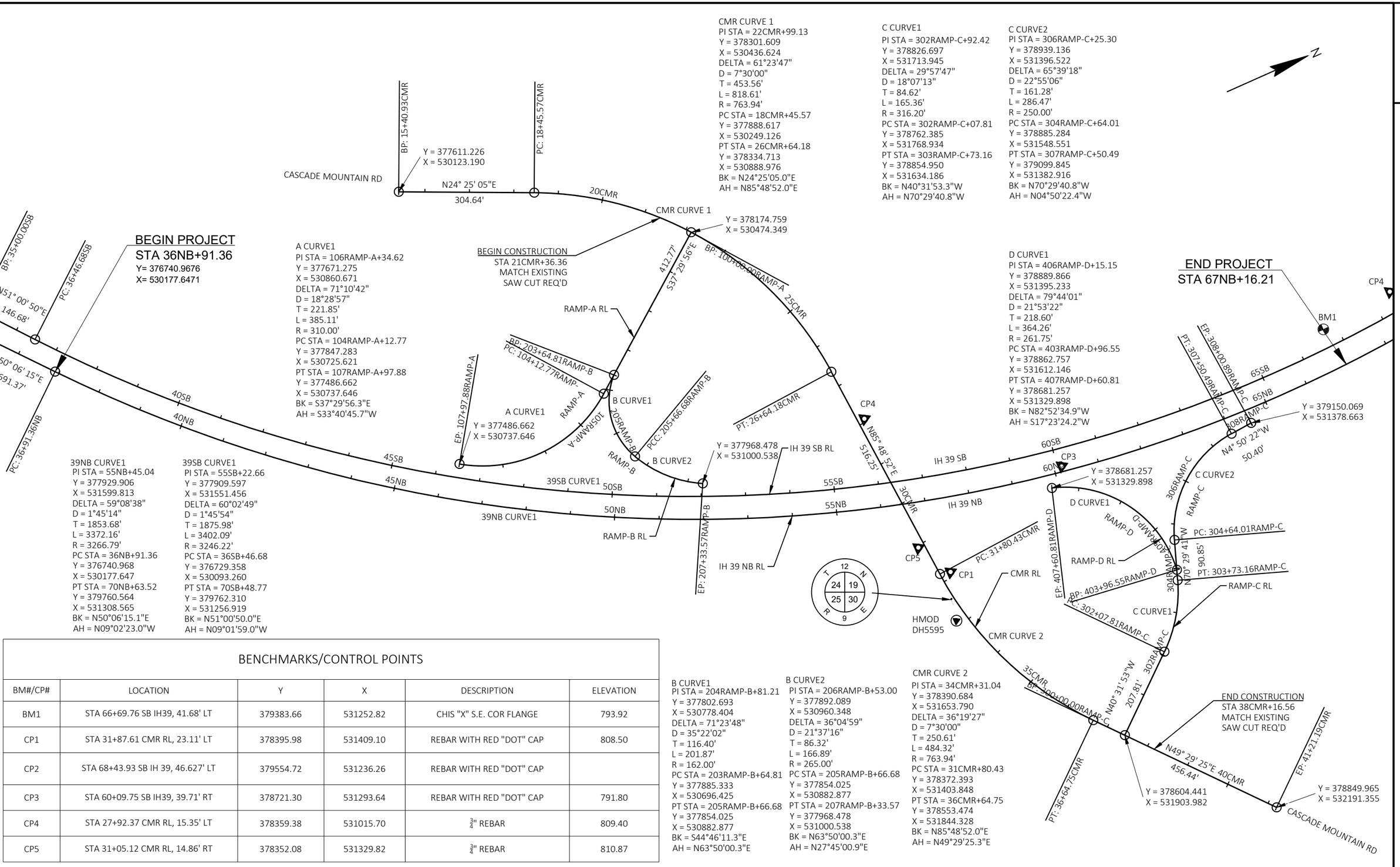
LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- MB (PCMS) PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL - STAGE 3	SHEET 31	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\025104-TC.DWG
LAYOUT NAME - 01
PLOT DATE : 9/7/2021 2:40 PM
PLOT BY : WATT, TIMOTHY
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42

2



BENCHMARKS/CONTROL POINTS

BM#/CP#	LOCATION	Y	X	DESCRIPTION	ELEVATION
BM1	STA 66+69.76 SB IH39, 41.68' LT	379383.66	531252.82	CHIS "X" S.E. COR FLANGE	793.92
CP1	STA 31+87.61 CMR RL, 23.11' LT	378395.98	531409.10	REBAR WITH RED "DOT" CAP	808.50
CP2	STA 68+43.93 SB IH 39, 46.627' LT	379554.72	531236.26	REBAR WITH RED "DOT" CAP	
CP3	STA 60+09.75 SB IH39, 39.71' RT	378721.30	531293.64	REBAR WITH RED "DOT" CAP	791.80
CP4	STA 27+92.37 CMR RL, 15.35' LT	378359.38	531015.70	$\frac{3}{4}$" REBAR	809.40
CP5	STA 31+05.12 CMR RL, 14.86' RT	378352.08	531329.82	$\frac{3}{4}$" REBAR	810.87

1161-00-70

Line	Item	Item Description	Unit	Total	Qty
0002	203.0100	Removing Small Pipe Culverts	EACH	4.000	4.000
0004	203.0211.S	Abatement of Asbestos Containing Material (structure) 01. B-11-51	EACH	1.000	1.000
0006	203.0220	Removing Structure (structure) 01. B-11-51	EACH	1.000	1.000
0008	204.0100	Removing Concrete Pavement	SY	104.000	104.000
0010	204.0105	Removing Pavement Butt Joints	SY	650.000	650.000
0012	204.0150	Removing Curb & Gutter	LF	315.000	315.000
0014	204.0165	Removing Guardrail	LF	1,876.000	1,876.000
0016	206.1000	Excavation for Structures Bridges (structure) 01. B-11-51	LS	1.000	1.000
0018	210.1500	Backfill Structure Type A	TON	178.000	178.000
0020	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 1161-00-70	LS	1.000	1.000
0022	213.0100	Finishing Roadway (project) 01. 1161-00-70	EACH	1.000	1.000
0024	305.0110	Base Aggregate Dense 3/4-Inch	TON	1,200.000	1,200.000
0026	305.0500	Shaping Shoulders	STA	64.000	64.000
0028	415.0410	Concrete Pavement Approach Slab	SY	104.000	104.000
0030	416.1010	Concrete Surface Drains	CY	4.000	4.000
0032	455.0605	Tack Coat	GAL	1,480.000	1,480.000
0034	460.2000	Incentive Density HMA Pavement	DOL	1,100.000	1,100.000
0036	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	1,690.000	1,690.000
0038	460.6625	HMA Pavement 5 MT 58-28 V	TON	1,695.000	1,695.000
0040	465.0105	Asphaltic Surface	TON	18.000	18.000
0042	502.0100	Concrete Masonry Bridges	CY	60.000	60.000
0044	502.3200	Protective Surface Treatment	SY	707.000	707.000
0046	502.3205	Pigmented Surface Sealer Reseal	SY	120.000	120.000
0048	502.4204	Adhesive Anchors No. 4 Bar	EACH	64.000	64.000
0050	502.4206	Adhesive Anchors No. 6 Bar	EACH	8.000	8.000
0052	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	9,126.000	9,126.000
0054	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	8.000	8.000
0056	506.7050.S	Removing Bearings (structure) 01. B-11-51	EACH	8.000	8.000
0058	509.0301	Preparation Decks Type 1	SY	24.000	24.000
0060	509.0302	Preparation Decks Type 2	SY	12.000	12.000
0062	509.0505.S	Cleaning Decks to Reapply Concrete Masonry Overlay	SY	707.000	707.000
0064	509.1500	Concrete Surface Repair	SF	330.000	330.000
0066	509.2000	Full-Depth Deck Repair	SY	1.000	1.000
0068	509.2500	Concrete Masonry Overlay Decks	CY	74.000	74.000
0070	509.9005.S	Removing Concrete Masonry Deck Overlay (structure) 01. B-11-51	SY	707.000	707.000
0072	513.9006.S	Removing and Resetting Tubular Railing (structure) 01. B-11-51	EACH	1.000	1.000
0074	516.0500	Rubberized Membrane Waterproofing	SY	26.000	26.000
0076	601.0574	Concrete Curb & Gutter 4-Inch Sloped 30-Inch Type G	LF	231.000	231.000
0078	606.0200	Riprap Medium	CY	12.000	12.000
0080	614.0010	Barrier System Grading Shaping Finishing	EACH	4.000	4.000
0082	614.2300	MGS Guardrail 3	LF	1,588.000	1,588.000
0084	614.2500	MGS Thrie Beam Transition	LF	150.000	150.000
0086	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0088	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1161-00-70	EACH	1.000	1.000
0090	619.1000	Mobilization	EACH	1.000	1.000
0092	620.0300	Concrete Median Sloped Nose	SF	25.000	25.000
0094	621.0100	Landmark Reference Monuments	EACH	1.000	1.000
0096	624.0100	Water	MGAL	26.000	26.000
0098	628.1504	Silt Fence	LF	2,830.000	2,830.000

1161-00-70

Line	Item	Item Description	Unit	Total	Qty
0100	628.1520	Silt Fence Maintenance	LF	2,830.000	2,830.000
0102	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000
0104	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0106	628.2008	Erosion Mat Urban Class I Type B	SY	1,910.000	1,910.000
0108	628.7504	Temporary Ditch Checks	LF	100.000	100.000
0110	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	10.000	10.000
0112	637.1220	Signs Type I Reflective SH	SF	441.500	441.500
0114	637.2210	Signs Type II Reflective H	SF	44.290	44.290
0116	637.2230	Signs Type II Reflective F	SF	8.000	8.000
0118	638.2102	Moving Signs Type II	EACH	1.000	1.000
0120	638.2601	Removing Signs Type I	EACH	2.000	2.000
0122	638.2602	Removing Signs Type II	EACH	8.000	8.000
0124	638.3000	Removing Small Sign Supports	EACH	9.000	9.000
0126	642.5001	Field Office Type B	EACH	1.000	1.000
0128	643.0300	Traffic Control Drums	DAY	599.000	599.000
0130	643.0420	Traffic Control Barricades Type III	DAY	691.000	691.000
0132	643.0705	Traffic Control Warning Lights Type A	DAY	814.000	814.000
0134	643.0800	Traffic Control Arrow Boards	DAY	7.000	7.000
0136	643.0900	Traffic Control Signs	DAY	1,562.000	1,562.000
0138	643.0910	Traffic Control Covering Signs Type I	EACH	4.000	4.000
0140	643.0920	Traffic Control Covering Signs Type II	EACH	13.000	13.000
0142	643.1050	Traffic Control Signs PCMS	DAY	42.000	42.000
0144	643.5000	Traffic Control	EACH	1.000	1.000
0146	645.0120	Geotextile Type HR	SY	22.000	22.000
0148	646.1020	Marking Line Epoxy 4-Inch	LF	11,079.000	11,079.000
0150	646.3020	Marking Line Epoxy 8-Inch	LF	277.000	277.000
0152	646.3040	Marking Line Grooved Wet Ref Epoxy 8-Inch	LF	337.000	337.000
0154	646.6120	Marking Stop Line Epoxy 18-Inch	LF	77.000	77.000
0156	646.7120	Marking Diagonal Epoxy 12-Inch	LF	60.000	60.000
0158	646.7220	Marking Chevron Epoxy 24-Inch	LF	62.000	62.000
0160	646.8120	Marking Curb Epoxy	LF	60.000	60.000
0162	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	250.000	250.000
0164	650.8000	Construction Staking Resurfacing Reference	LF	9,631.000	9,631.000
0166	650.9910	Construction Staking Supplemental Control (project) 01. 1161-00-70	LS	1.000	1.000
0168	690.0150	Sawing Asphalt	LF	117.000	117.000
0170	690.0250	Sawing Concrete	LF	339.000	339.000
0172	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	500.000	500.000
0174	740.0440	Incentive IRI Ride	DOL	2,000.000	2,000.000
0176	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	2,000.000	2,000.000
0178	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	1,200.000	1,200.000
0180	SPV.0060	Special 01. Concrete Barrier Wall Surface Repair	EACH	55.000	55.000
0182	SPV.0060	Special 02. Strapping B-11-51	EACH	3.000	3.000
0184	SPV.0090	Special 01. Repair/Replace Concrete Barrier	LF	30.000	30.000
0186	SPV.0090	Special 02. Concrete Joint and Crack Cleaning	LF	3,125.000	3,125.000
0188	SPV.0090	Special 03. Steel Thrie Beam Structure Approach Special	LF	455.000	455.000
0190	SPV.0090	Special 04. Concrete Curb & Gutter 4-Inch Sloped 44-Inch TBT	LF	110.000	110.000
0192	SPV.0090	Special 05. Concrete Curb & Gutter 4-Inch Sloped 44-Inch TBTT	LF	78.000	78.000
0194	SPV.0165	Special 50. Removing Loose Concrete	SF	200.000	200.000

REMOVALS

LOCATION	203.0100 REMOVING SMALL PIPE CULVERTS (EACH)	204.0100 REMOVING PAVEMENT (SY)	204.0105 REMOVING PAVEMENT BUTT JOINTS (SY)	204.0150 REMOVING CURB & GUTTER (LF)
Begin Construction CMR	-	-	88	-
End Construction CMR	-	-	88	-
West Side CMR	2	52	67	33
East Side CMR	2	52	67	41
Johnson Rd	-	-	55	-
IH 39 NB On Ramp	-	-	68	-
IH 39 NB Off Ramp	-	-	68	-
IH 39 SB On Ramp	-	-	68	-
IH 39 SB Off Ramp	-	-	68	-
IH 39 SB Ramp Pork Chop	-	-	-	127
IH 39 NB Ramp Pork Chop	-	-	-	104
Undistributed	-	-	13	10
TOTALS	**4**	**104**	**650**	**315**

BASE AGGREGATE DENSE

LOCATION	211.0100 PREPARE FOUNDATION FOR ASPHALTIC PAVING (LS)	305.0110 BASE AGGREGATE DENSE 3/4-INCH (TON)	305.0500 SHAPING SHOULDERS (STA)	SPV.0090.02 CONCRETE JOINT & CRACK CLEANING (LF)	624.0100 WATER (MGAL)
SB Ramps	-	327	18	777	7.0
NB Ramps	-	295	15	655	6.3
Cascade Mtn Rd	-	448	30	1408	9.6
Undistributed	1	130	-	284	2.6
TOTALS	**1**	**1200**	**64**	**3125**	**26**

PAVEMENT

LOCATION	415.0410 CONCRETE PAVEMENT APPROACH SLAB (SY)	455.0605 TACK COAT (GAL)	460.6625 HMA PAVEMENT 58-28 V 5-MT (TON)	465.0105 ASPHALTIC SURFACE (TON)
SB Ramps	-	455	530	-
NB Ramps	-	365	426	-
Cascade Mtn Rd	104	607	707	-
Pork Chop Islands	-	-	-	18
Undistributed	-	53	32	-
TOTALS	**104**	**1480**	**1695**	**18**

CURB & GUTTER

LOCATION	601.0574 CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G (LF)	SPV.0090.04 CONCRETE CURB & GUTTER 4-INCH SLOPED 44-INCH TYPE TBT (LF)	SPV.0090.05 CONCRETE CURB & GUTTER 4-INCH SLOPED 44-INCH TYPE TBTT (LF)	620.0300 CONCRETE MEDIAN SLOPED NOSE (SF)
NB Ramp Pork Chop Island	104	-	-	10
SB Ramp Pork Chop Island	127	-	-	15
NE Corner of Structure	-	33	15	-
NW Corner of Structure	-	22	24	-
SE Corner of Structure	-	22	24	-
SW Corner of Structure	-	33	15	-
TOTALS	**231**	**110**	**78**	**25**

NOTE: ALL ITEMS ON THIS SHEET ARE CATEGORY 0010

3

CONCRETE SURFACE DRAIN

LOCATION	416.1010 CONCRETE SURFACE DRAIN (CY)	606.0200 RIPRAP MEDIUM (CY)	645.0120 GEOTEXTILE TYPE HR (SY)
NE Corner of Structure	1	3	5.5
NW Corner of Structure	1	3	5.5
SE Corner of Structure	1	3	5.5
SW Corner of Structure	1	3	5.5
TOTALS	**4**	**12**	**22**

MGS GUARDRAIL

LOCATION	204.0165 REMOVING GUARDRAIL (LF)	614.2300 MGS GUARDRAIL 3 (LF)	614.2500 MGS THRIE BEAM TRANSITION * (LF)	614.2610 MGS GUARDRAIL TERMINAL EAT (EACH)
NE Corner of Structure	430	337.5	37.5	1
NW Corner of Structure	556	475.0	37.5	1
SE Corner of Structure	535	437.5	37.5	1
SW Corner of Structure	355	337.5	37.5	1
TOTALS	**1,876**	**1588.0**	**150**	**4**

* THRIE BEAM TERMINAL CONNECTOR NOT REQUIRED, CONNECT MGS THRIE BEAM TRANSITION DIRECTLY TO STEEL THRIE BEAM ON PARAPET WALL

EROSION CONTROL

LOCATION	628.1504 SILT FENCE (LF)	628.1520 SILT FENCE MAINTENANCE (LF)	628.1905 MOBILIZATIONS EROSION CONTROL (EACH)	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL (EACH)	628.7504 TEMPORARY DITCH CHECKS (LF)
NE Corner of Structure	610	610	-	-	-
NW Corner of Structure	800	800	-	-	-
SE Corner of Structure	770	770	-	-	-
SW Corner of Structure	650	650	-	-	-
Project Wide Undistributed	-	-	1	2	100
TOTALS	**2830**	**2830**	**1**	**2**	**100**

RESTORATION

LOCATION	614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING (EA)	628.2008 EROSION MAT URBAN CLASS I TYPE B (SY)	205.0100* EXCAVATION COMMON (CY)	208.0100* BORROW (CY)	625.0100* TOPSOIL (SY)	629.0205* FERTILIZER TYPE A (CWT)	630.0120* SEEDING MIXTURE NO. 20 (LB)	630.0200* SEEDING TEMPORARY (LB)
NE Corner of Structure	1	373	22	38	373	0.2	8	8
NW Corner of Structure	1	516	19	68	516	0.2	11	11
SE Corner of Structure	1	428	20	33	428	0.3	12	12
SW Corner of Structure	1	439	21	71	439	0.2	8	8
Undistributed	-	154	4	10	154	0.1	4	4
TOTALS	**4**	**1910**	**86**	**220**	**1910**	**1.0**	**42**	**42**

* Non pay items listed for Bid Information Only, paid under 614.0010

NOTE: ALL ITEMS ON THIS SHEET ARE CATEGORY 0010

TRAFFIC CONTROL

STAGE	DURATION CALANDAR DAYS	#	643.0300 TC DRUMS (DAY)	#	643.0420 TC BARRICADES TYPE III (DAY)	#	643.0705 TC WARNING LIGHTS TYPE A (DAY)	#	643.0800 TC ARROW BOARDS (DAY)	#	643.0900 TC SIGNS (DAY)	# OF SIGNS	CYCLES	643.0910 TC COVERING SIGNS TYPE 1 (EACH)	# OF SIGNS	CYCLES	643.0920 TC COVERING SIGNS TYPE 2 (EACH)	#	643.1050 TC SIGNS PCMS (DAY)	649.0150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (LF)
IH-39 Shoulder Closure	7	*45*	315	-	-	-	-	*1*	7	*8*	56			-			-	-	-	-
Cascade Mtn Rd Closure	45	-	-	*14*	630	*16*	720	-	-	*28*	1260			-			-	*2*	14	
NB Ramp Closure	7	*20*	140	*4*	28	*6*	42	-	-	*14*	98	1	1	1	3	1	3	2	14	125
SB Ramp Closure	7	*17*	119	*4*	28	*6*	42	-	-	*14*	98	1	1	1	7	1	7	*2*	14	125
UNDISTRIBUTED		-	25	-	5	-	10	-	-	-	50	1	2	2	1	3	3	-	-	-
	TOTALS		**599**		**691**		**814**		**7**		**1,562**			**4**			**13**		**42**	**250**

PAVEMENT MARKING

LOCATION	646.1020 MARKING LINE EPOXY 4-INCH *YELLOW* (LF)	x	*WHITE* (LF)	646.6120 MARKING STOP LINE EPOXY 18-INCH *WHITE* (LF)	646.3020 MARKING LINE EPOXY 8-INCH *WHITE* (LF)	646.3040 MARKING LINE GROOVED WET REF EPOXY 8-INCH *WHITE* (LF)	646.7120 MARKING DIAGONAL EPOXY 12-INCH *YELLOW* (LF)	646.7220 MARKING CHEVRON EPOXY 24-INCH *WHITE* (LF)	646.8120 MARKING CURB EPOXY (YELLOW) (LF)
Cascade Mtn Rd	2940		2286	-	277	-	-	-	-
NB Ramps	794		2319	29	-	-	17	-	30
SB Ramps	750		1990	35	-	337	43	62	30
JOHNSON RD	-		-	13	-	-	-	-	-
TOTALS		**11079**		**77**	**277**	**337**	**60**	**62**	**60**

NOTE: ALL ITEMS ON THIS SHEET ARE CATEGORY 0010

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PERMANENT SIGNING

SIGN NO.	SIGN CODE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.]	TYPE II SIGN SIZE H [IN.]	634.0616 POSTS WOOD 4x6-INCH x 16-FT (EA)	637.1220 SIGNS TYPE I REFLECTIVE SH (SF)	637.2210 SIGNS TYPE II REFLECTIVE H (SF)	637.2230 SIGNS TYPE II REFLECTIVE F (SF)	638.2102 MOVING SIGNS TYPE II (EACH)	638.2601 REMOVING SIGNS TYPE I (EA)	638.2602 REMOVING SIGNS TYPE II (EA)	638.3000 REMOVING SMALL SIGN SUPPORTS (EA)	COMMENTS
R-1	R1-1	II	STOP	-	-	-	-	-	-	-	-	1	1	
SH-1	R1-1	II	STOP	30	30	1	-	5.18	-	-	-	-	-	
R-2	R1-1	II	STOP	-	-	-	-	-	-	-	-	1	1	
SH-2	R1-1	II	STOP	30	30	1	-	5.18	-	-	-	-	-	
R-3	R5-1	II	DO NOT ENTER	30	30	-	-	-	-	-	-	1	-	
SH-3	R5-1	II	DO NOT ENTER	30	30	1	-	6.25	-	-	-	-	-	
R-4	W12-1D	II	MEDIAN ADVISORY ARROWS	-	-	-	-	-	-	-	-	1	1	
SF-1	W12-1D	II	MEDIAN ADVISORY ARROWS	24	24	1	-	4.00	4.00	-	-	-	-	
M-1	W13-2A	II	ADVISORY RAMP SPEED	-	-	2	-	-	-	1	-	-	2	
R-5	R4-7	II	MEDIAN ARROW	-	-	-	-	-	-	-	-	1	1	
SH-4	R4-7	II	MEDIAN ARROW	24	30	1	-	5.00	-	-	-	-	-	
R-6	R1-1	II	STOP	-	-	-	-	-	-	-	-	1	1	
SH-5	R1-1	II	STOP	30	30	1	-	5.18	-	-	-	-	-	
R-7	W12-1D	II	MEDIAN ADVISORY ARROWS	-	-	-	-	-	-	-	-	1	1	
SF-2	W12-1D	II	MEDIAN ADVISORY ARROWS	24	24	1	-	4.00	4.00	-	-	-	-	
R-8	J3-1	II	INTERSTATE DIRECTIONAL	-	-	-	-	-	-	-	-	1	1	
SH-6	J3-1	II	INTERSTATE DIRECTIONAL	24	57	1	-	9.50	-	-	-	-	-	
R1-1	-	I	DESIGNATION SIGN TYPE I	168	168	-	-	-	-	-	1	-	-	EXISTING SIGN ON OVERHEAD SIGN STRUCTURE S-11-13
R1-2	-	I	DESIGNATION SIGN TYPE I	168	138	-	-	-	-	-	1	-	-	EXISTING SIGN ON OVERHEAD SIGN STRUCTURE S-11-13
S1-1	-	I	STH 78 MERRIMAC EXIT ONLY	168	168	-	176.00	-	-	-	-	-	-	MOUNT TO SIGN STRUCTURE S-11-13, *
S1-2	-	I	MADISON WIS DELLS AHEAD	168	138	-	161.00	-	-	-	-	-	-	MOUNT TO SIGN STRUCTURE S-11-13, *
S1-3	-	I	CASCADE MTN RD NEXT RIGHT	228	66	-	104.50	-	-	-	-	-	-	MOUNT TO SIGN STRUCTURE S-11-13, *
TOTALS						**10**	**441.50**	**44.29**	**8.00**	**1**	**2**	**8**	**9**	

* INDICATES MOUNTING HARDWARE IS INDCIDENTAL TO BID ITEM SIGNS TYPE I REFLECTIVE SH

NOTE: ALL ITEMS ON THIS SHEET ARE CATEGORY 0010

CONCRETE BARRIER WALL REPAIRS

LOCATION		STATION	TO STATION	SPV.0060.01 CONCRETE BARRIER WALL SURFACE REPAIR (EACH)	SPV.0090.01 REPAIR/ REPLACE CONCRETE BARRIER (LF)
IH 39	MEDIAN	39SB+20	39SB+32	-	12
IH 39	MEDIAN	39SB+59.26		1	-
IH 39	MEDIAN	39SB+78.45		1	-
IH 39	MEDIAN	40SB+16	40SB+20	-	4
IH 39	MEDIAN	40SB+48.97		1	-
IH 39	MEDIAN	41SB+08.67		1	-
IH 39	MEDIAN	41SB+80.72		1	-
IH 39	MEDIAN	42SB+00.13		1	-
IH 39	MEDIAN	42SB+97.52		1	-
IH 39	MEDIAN	43SB+19.67		1	-
IH 39	MEDIAN	43SB+37.11		1	-
IH 39	MEDIAN	43SB+54.87		1	-
IH 39	MEDIAN	43SB+73.61		1	-
IH 39	MEDIAN	44SB+13.06		1	-
IH 39	MEDIAN	44SB+51.76		1	-
IH 39	MEDIAN	44SB+70.78		1	-
IH 39	MEDIAN	45SB+09.15		1	-
IH 39	MEDIAN	45SB+61.33		1	-
IH 39	MEDIAN	45SB+80.00		1	-
IH 39	MEDIAN	45SB+99.87		1	-
IH 39	MEDIAN	46SB+37.99		1	-
IH 39	MEDIAN	46SB+57.95		1	-
IH 39	MEDIAN	46SB+76.52		1	-
IH 39	MEDIAN	46SB+96.00		1	-
IH 39	MEDIAN	47SB+33.52		1	-
IH 39	MEDIAN	47SB+53.11		1	-
IH 39	MEDIAN	47SB+92.26		1	-
IH 39	MEDIAN	48SB+11.37		1	-
IH 39	MEDIAN	48SB+70.63		1	-
IH 39	MEDIAN	49SB+59.21		1	-
IH 39	MEDIAN	49SB+78	49SB+92	-	14
IH 39	MEDIAN	50SB+17.79		1	-
IH 39	MEDIAN	51SB+26.81		1	-
			SUBTOTAL	**30**	**30**

CONCRETE BARRIER WALL REPAIRS CONTINUED

LOCATION		STATION	TO STATION	SPV.0060.01 CONCRETE BARRIER WALL SURFACE REPAIR (EACH)	SPV.0090.01 REPAIR/ REPLACE CONCRETE BARRIER (LF)
IH 39	MEDIAN	56SB+92.92		1	-
IH 39	MEDIAN	58SB+11.36		1	-
IH 39	MEDIAN	58SB+49.46		1	-
IH 39	MEDIAN	58SB+68.82		1	-
IH 39	MEDIAN	58SB+89.02		1	-
IH 39	MEDIAN	59SB+50.08		1	-
IH 39	MEDIAN	59SB+70.32		1	-
IH 39	MEDIAN	60SB+10.52		1	-
IH 39	MEDIAN	60SB+47.70		1	-
IH 39	MEDIAN	60SB+67.16		1	-
IH 39	MEDIAN	60SB+86.53		1	-
IH 39	MEDIAN	61SB+06.23		1	-
IH 39	MEDIAN	61SB+25.57		1	-
IH 39	MEDIAN	61SB+47.12		1	-
IH 39	MEDIAN	61SB+68.55		1	-
IH 39	MEDIAN	61SB+89.19		1	-
IH 39	MEDIAN	62SB+11.47		1	-
IH 39	MEDIAN	62SB+52.06		1	-
IH 39	MEDIAN	63SB+70.61		1	-
IH 39	MEDIAN	63SB+90.65		1	-
IH 39	MEDIAN	64SB+11.42		1	-
IH 39	MEDIAN	66SB+20.80		1	-
IH 39	MEDIAN	66SB+40.29		1	-
IH 39	MEDIAN	66SB+78.03		1	-
IH 39	MEDIAN	66SB+97.08		1	-
			SUBTOTAL	25	-
			TOTAL	**55**	**30**

CONSTRUCTION STAKING

LOCATION	621.0100 LANDMARK REFERENCE MONUMENTS (EACH)	650.8000 RESURFACING REFERENCE (LF)	650.9910 SUPPLEMENTAL CONTROL (1161-00-70) (LS)
IH 39 SB	-	3025	-
IH 39 NB	-	3025	-
CASCADE MOUNTAIN ROAD	-	1681	-
SB RAMP	-	900	-
NB RAMP	-	1000	-
PROJECT	1	-	1
TOTALS	**1**	**9631**	**1**

SAWING

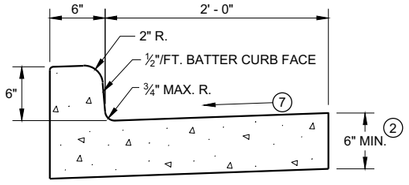
LOCATION	690.0150 SAWING ASPHALT (LF)	690.0250 SAWING CONCRETE (LF)
MAINLINE	57	48
SB ON RAMP	10	15
SB OFF RAMP	10	15
NB ON RAMP	10	15
NB OFF RAMP	10	15
NB ISLAND	-	104
SB ISLAND	-	127
JOHNSON RD	20	-
TOTALS	**117**	**339**

NOTE: ALL ITEMS ON THIS SHEET ARE CATEGORY 0010

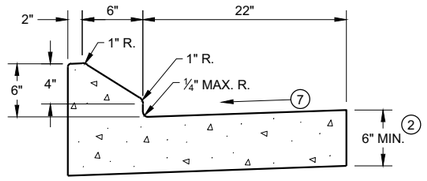
Standard Detail Drawing List

08D01-22A	CONCRETE CURB & GUTTER
08D01-22B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D02-07A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-07B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-07C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
11B02-02	CONCRETE MEDIAN NOSE
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C19-03	HMA LONGITUDINAL JOINTS
14B22-06A	CONCRETE BARRIER, SINGLE-FACED (WITH ANCHORAGE)
14B22-06B	CONCRETE BARRIER, SINGLE-FACED (WITH ANCHORAGE)
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C18-05B	MEDIAN ISLAND MARKING MEDIAN ISLAND NOSE
15C31-04A	PAVEMENT MARKING EXIT RAMP AND PARALLEL EXIT RAMP
15C31-04C	PAVEMENT MARKING ENTRANCE RAMP AND PARALLEL ENTRANCE RAMP
15D12-09A	TRAFFIC CONTROL, LANE CLOSURE
15D16-04	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
16A01-07	LANDMARK REFERENCE MONUMENTS AND COVERS

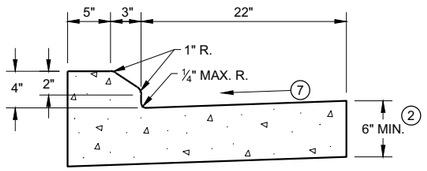
6



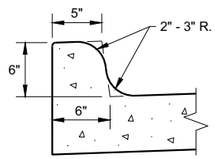
TYPES A (1) & D



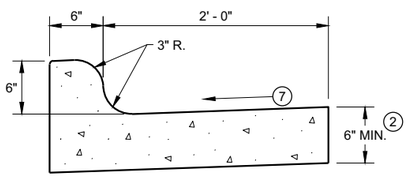
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

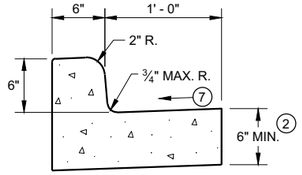


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



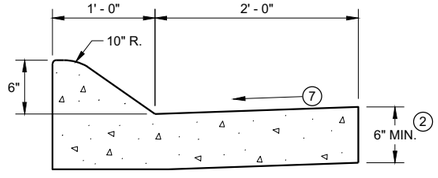
TYPES K (1) & L

CONCRETE CURB AND GUTTER 30"

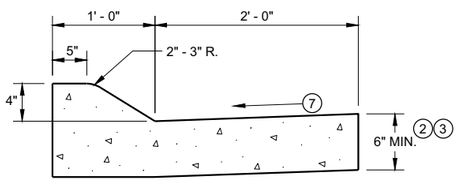


TYPES A (1) & D

CONCRETE CURB AND GUTTER 18"

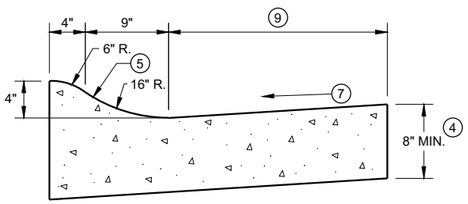


6" SLOPED CURB TYPES A (1) & D



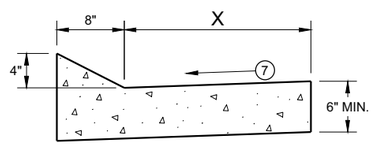
4" SLOPED CURB TYPES A (1) & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R (1) & T

TBT & TBTT	X
30"	22"
36"	28"

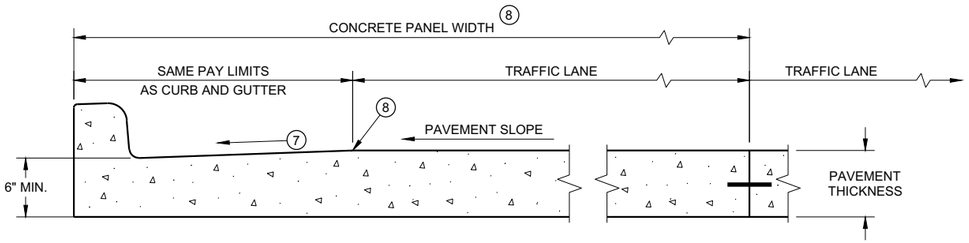


TYPES TBT & TBTT (1)

CONCRETE CURB AND GUTTER

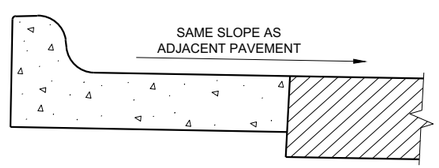
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



REVERSE SLOPE GUTTER (6)
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

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

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

INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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

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

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

(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) UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES 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.

(7) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

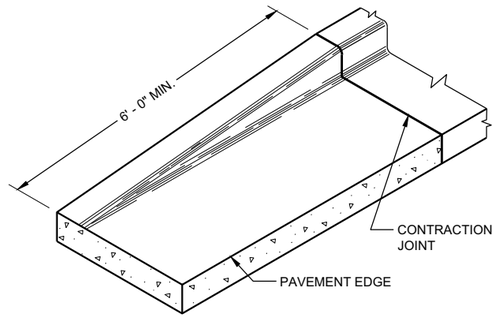
(9) CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES

CONCRETE CURB AND GUTTER

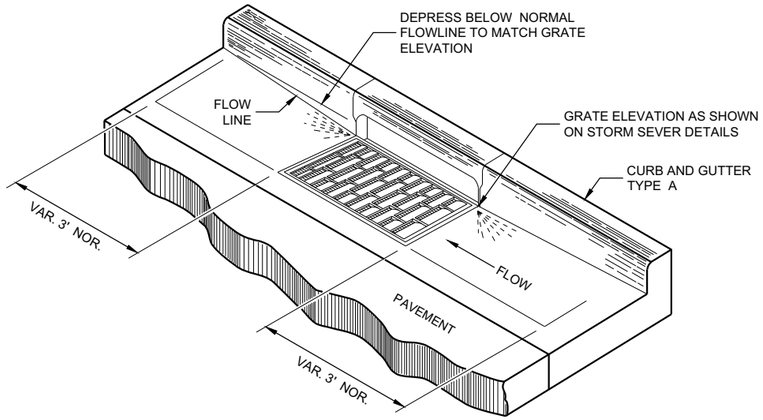
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 08D01 - 22a



END SECTIONCURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS
(TYPICAL H INLET COVER SHOWN)

GENERAL NOTES

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

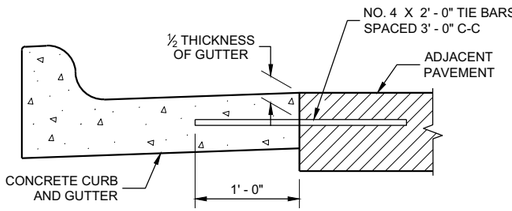
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

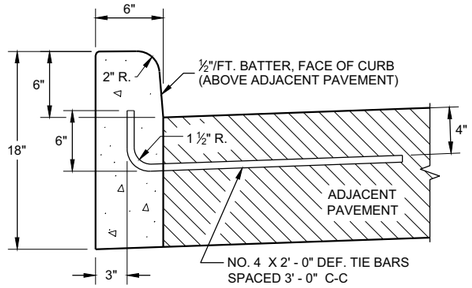
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

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

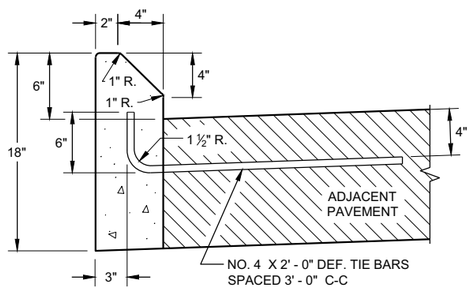
(9) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



TYPICAL TIE BAR LOCATION (1)

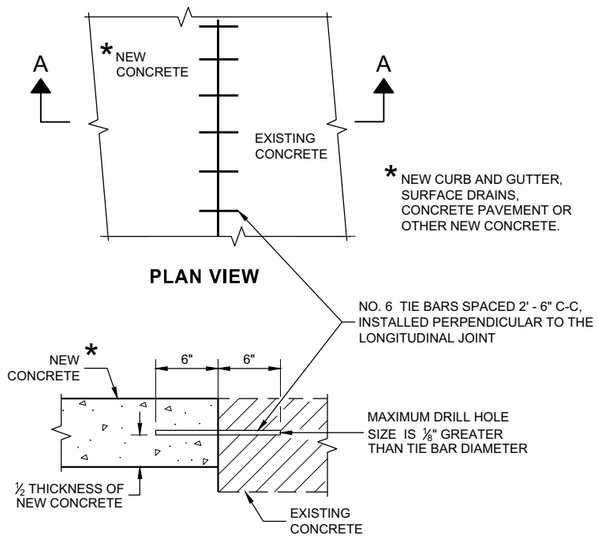


TYPES A (1) & D



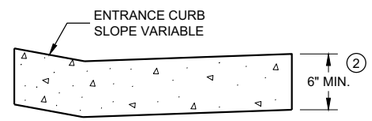
TYPES G (1) & J

CONCRETE CURB



SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT



DRIVEWAY ENTRANCE CURB (9)
(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD08D01 - 22b

GENERAL NOTES

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

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

(1) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

(2) NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

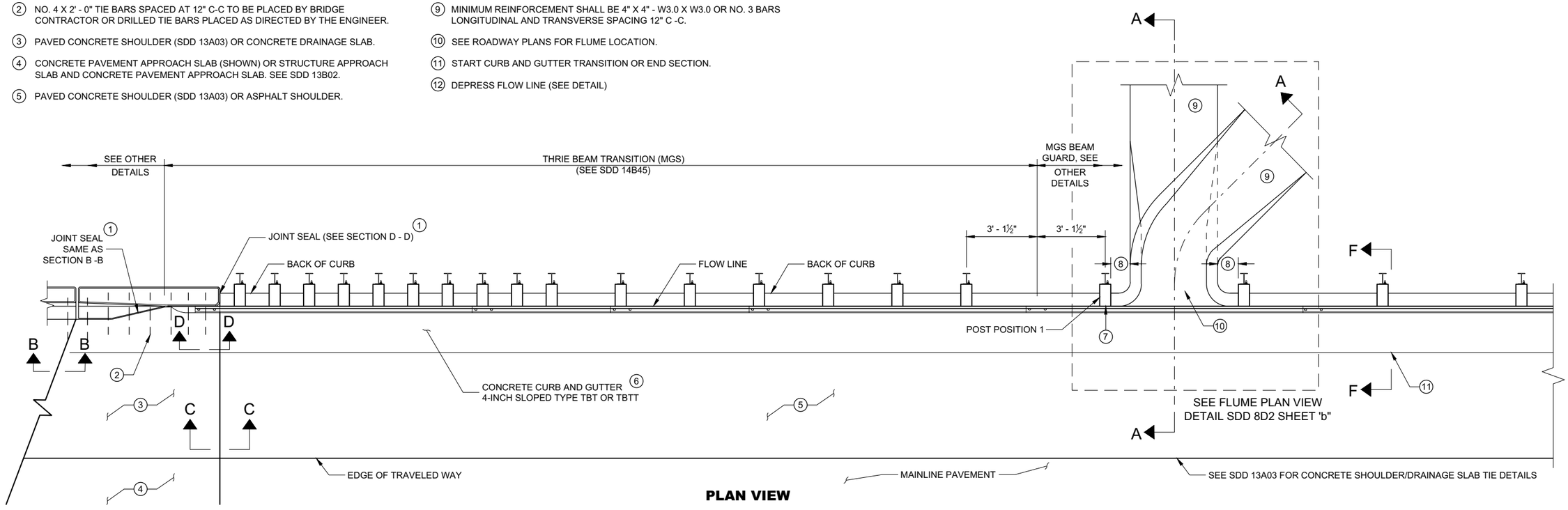
(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

(9) MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.

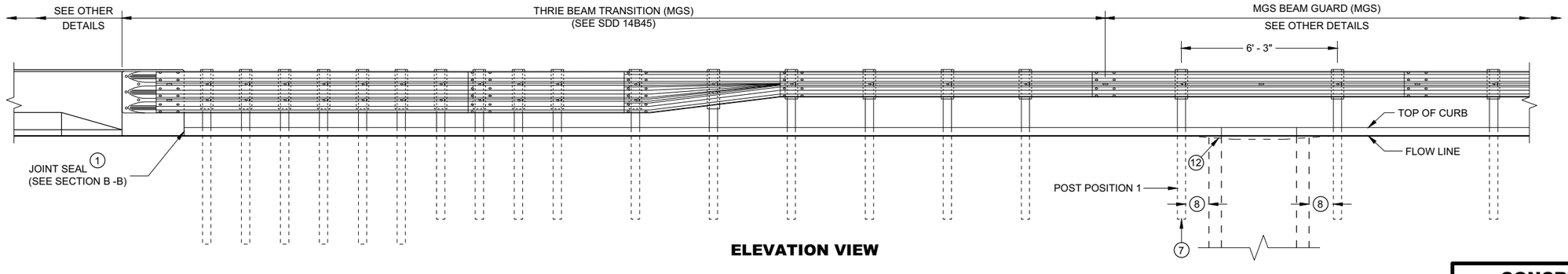
(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)



PLAN VIEW



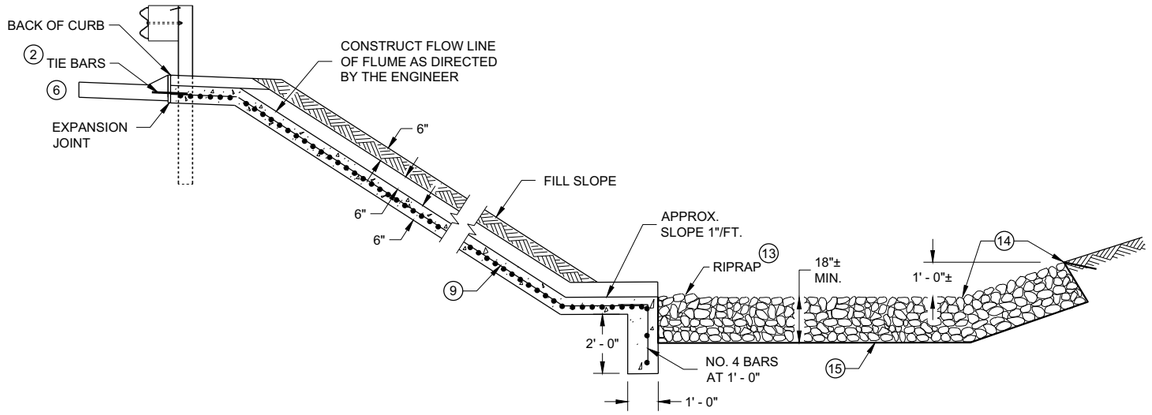
ELEVATION VIEW

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

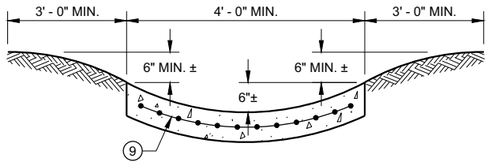
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D02 - 07a

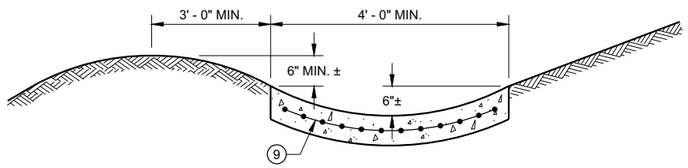
SDD 08D02 - 07a



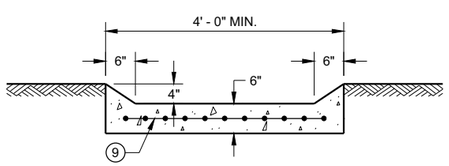
SECTION A - A



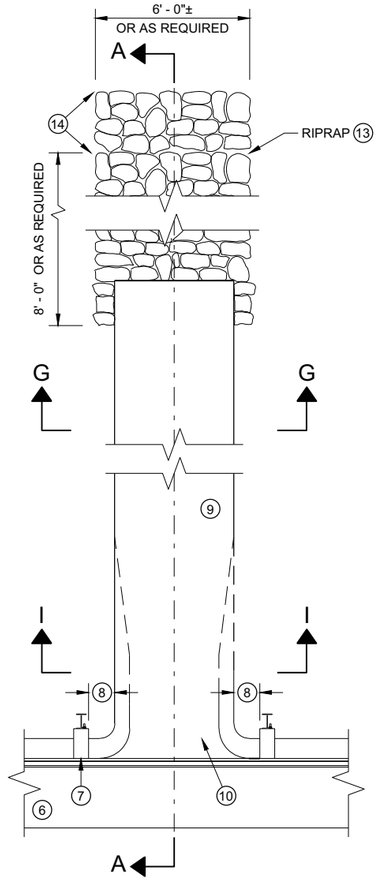
SECTION G - G



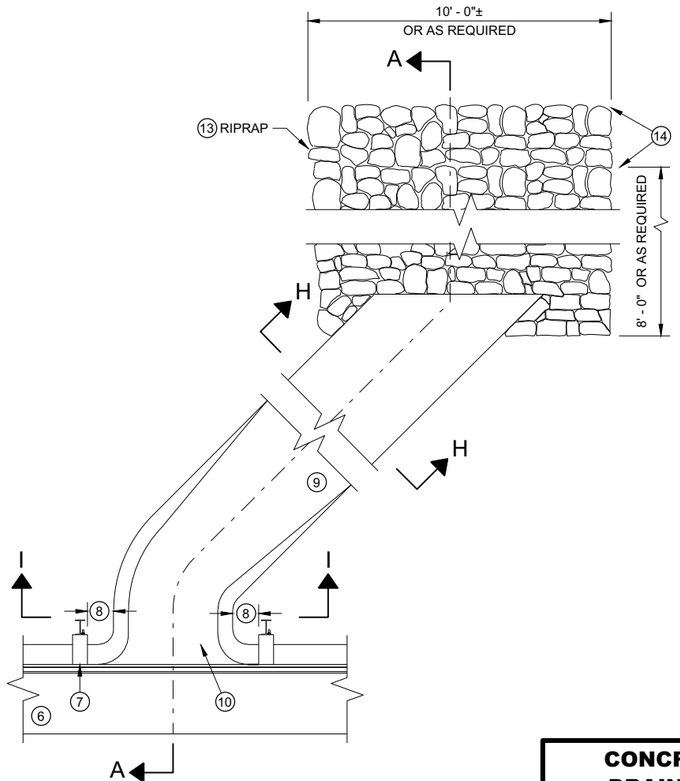
SECTION H - H



SECTION I - I



PLAN VIEW PERPENDICULAR FLUME



PLAN VIEW SKEWED FLUME

GENERAL NOTES

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

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

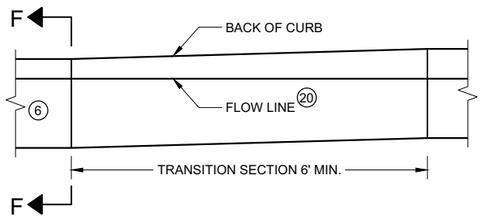
1. USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
2. NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
3. PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
4. CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.
5. PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.
6. CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.
7. PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
8. CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
9. MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.
10. SEE ROADWAY PLANS FOR FLUME LOCATION.
11. START CURB AND GUTTER TRANSITION OR END SECTION.
12. DEPRESS FLOW LINE (SEE DETAIL)
13. MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
14. LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH AS REQUIRED.
15. GEOTEXTILE FABRIC TYPE HR.

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

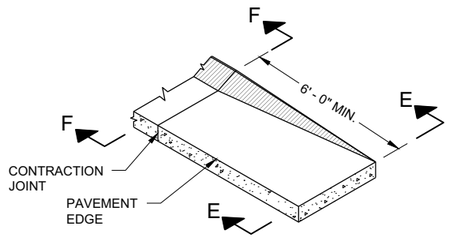
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

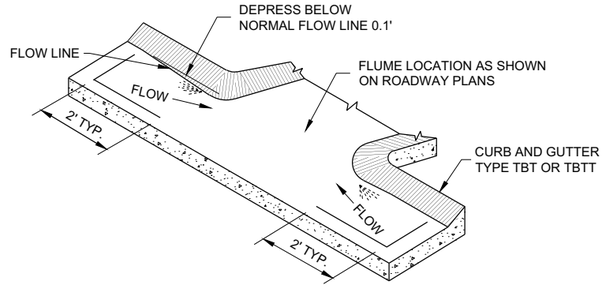
SDD 08D02 - 07b



CURB AND GUTTER TRANSITION SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT



CURB AND GUTTER END SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT



CURB AND GUTTER FLOW LINE DEPRESSION
AT FLUMES CONCRETE CURB AND GUTTER
4-INCH SLOPED 36 INCH TYPE TBT OR TBTT

GENERAL NOTES

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

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

(1) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

(2) NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

(9) MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.

(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)

(13) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

(14) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

(15) GEOTEXTILE FABRIC TYPE HR.

(16) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.

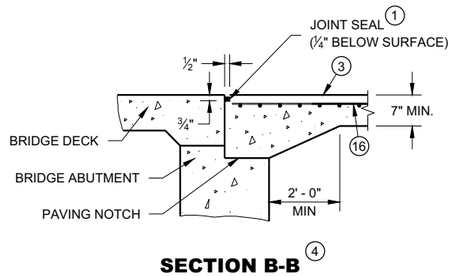
(17) MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.

(18) MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.

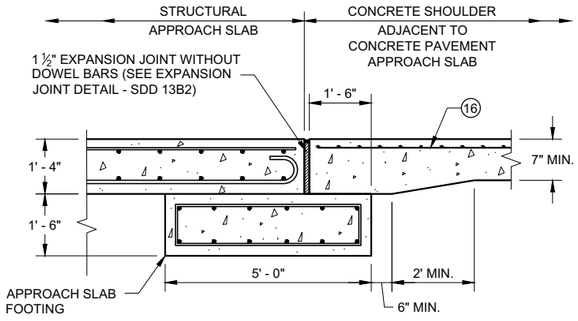
(19) ALIGN FACE OF POST BLOCK WITH FLOW LINE.

(20) MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.

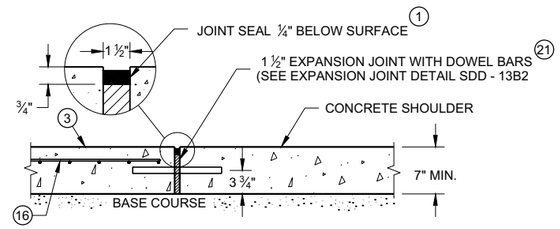
(21) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



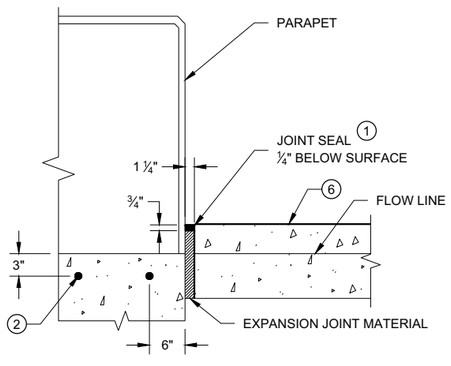
SECTION B-B (4)



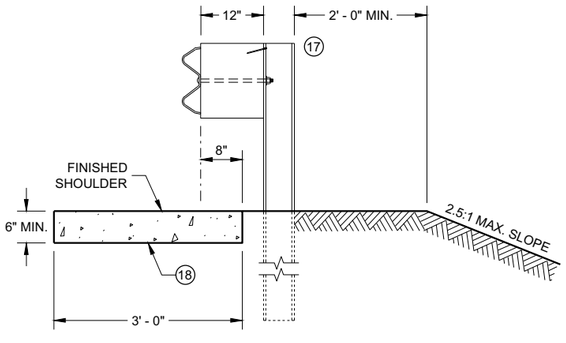
SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB



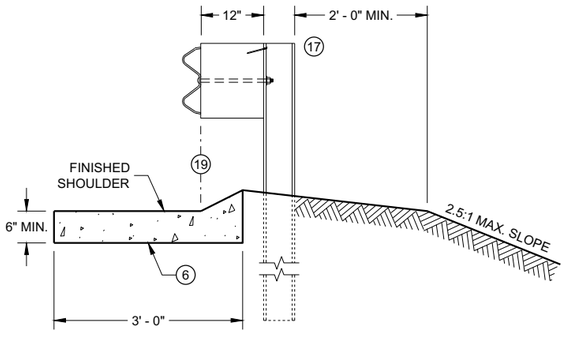
SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS



SECTION D - D



SECTION E - E



SECTION F - F

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

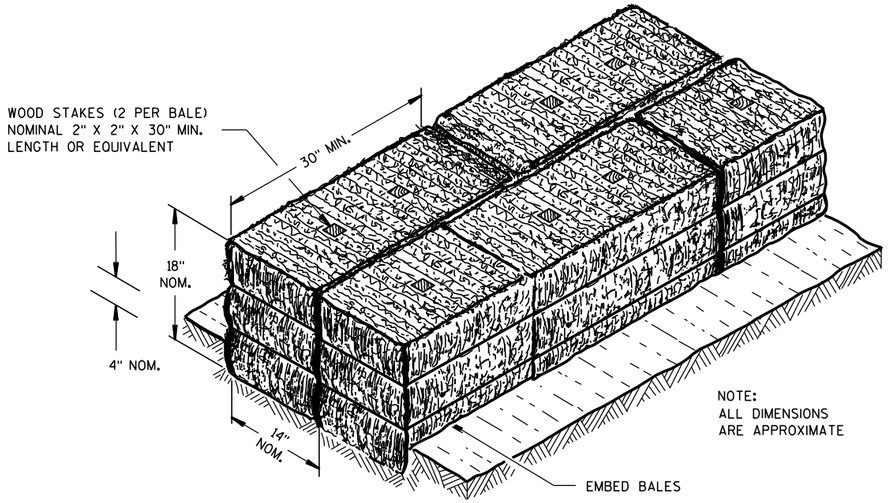
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

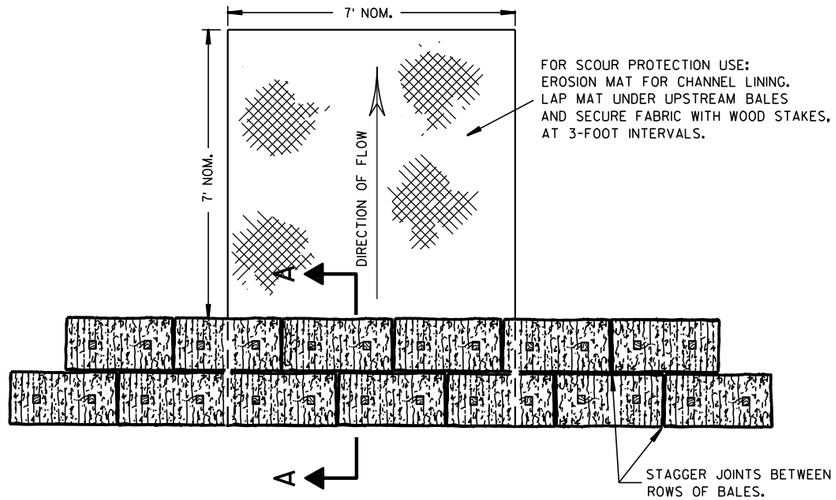
FHWA

SDD 08D02 - 07c

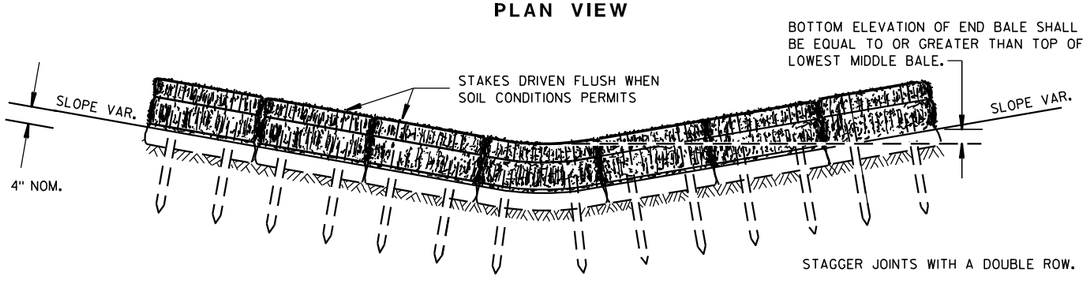
SDD 08D02 - 07c



SECTION A-A



PLAN VIEW



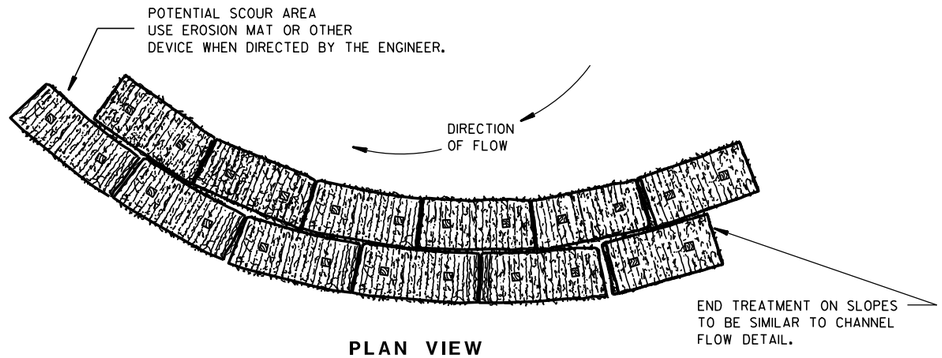
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

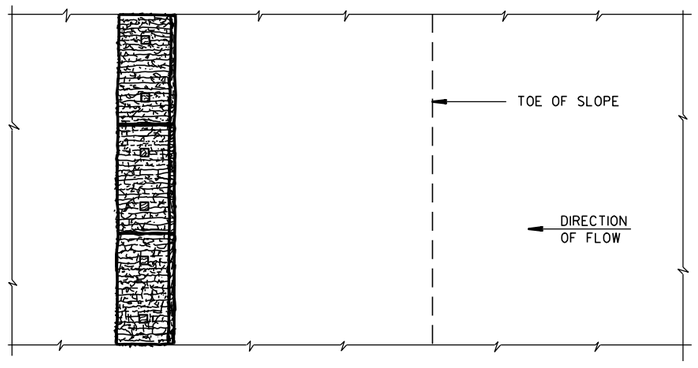
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

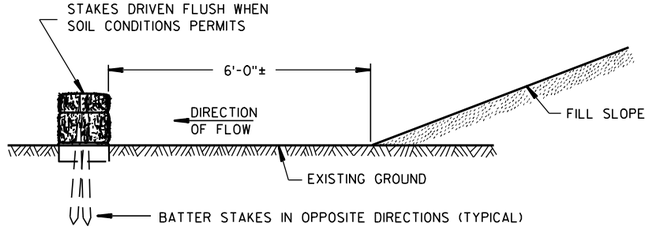


PLAN VIEW

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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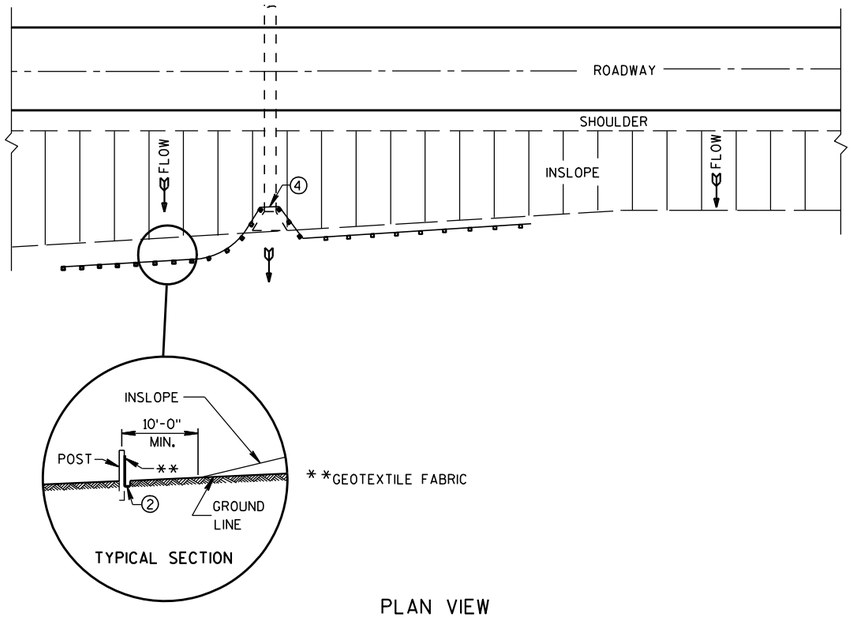
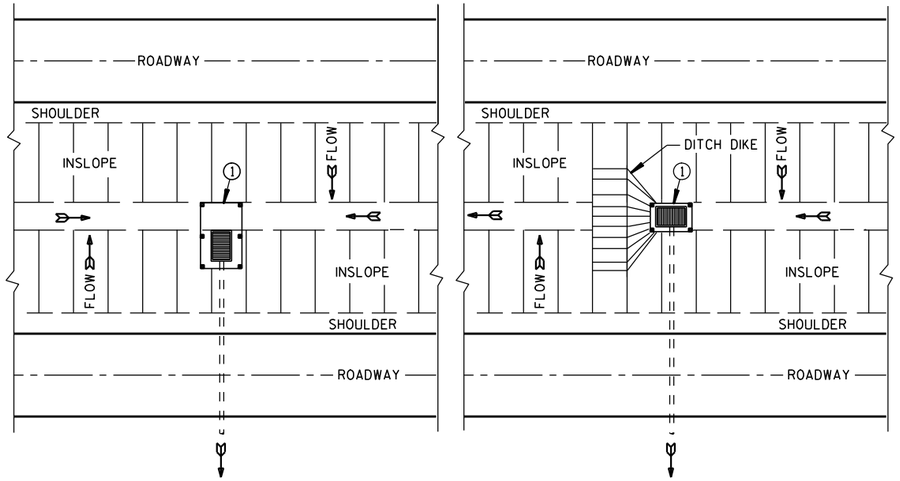
S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



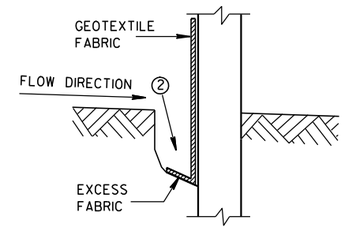
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

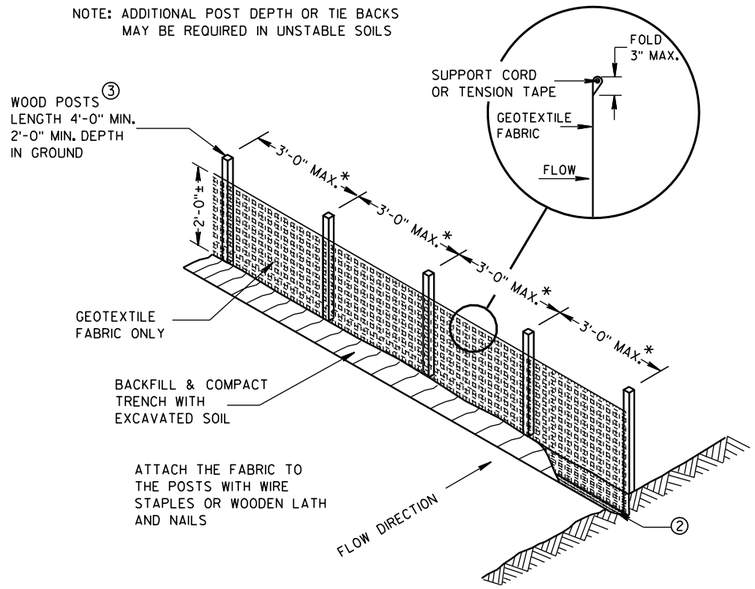
GENERAL NOTES

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

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

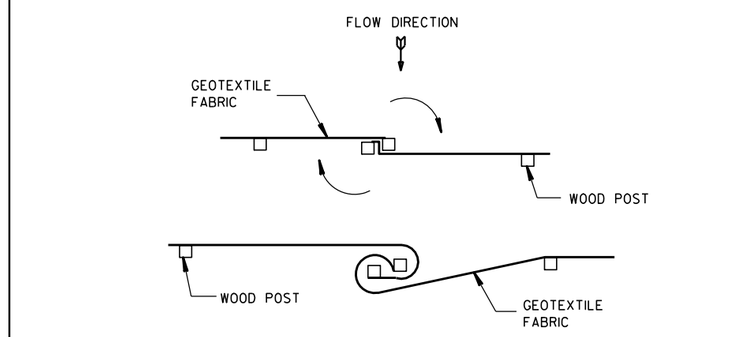


TRENCH DETAIL

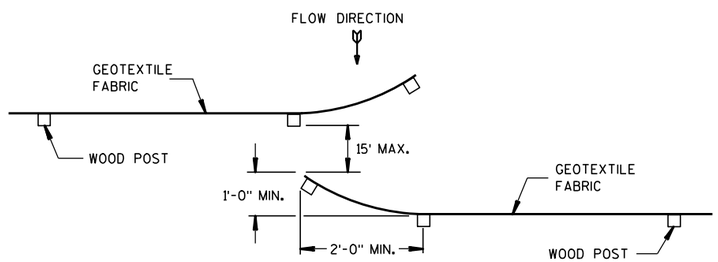


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

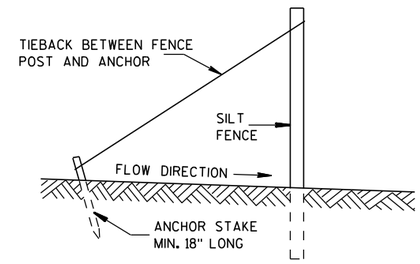


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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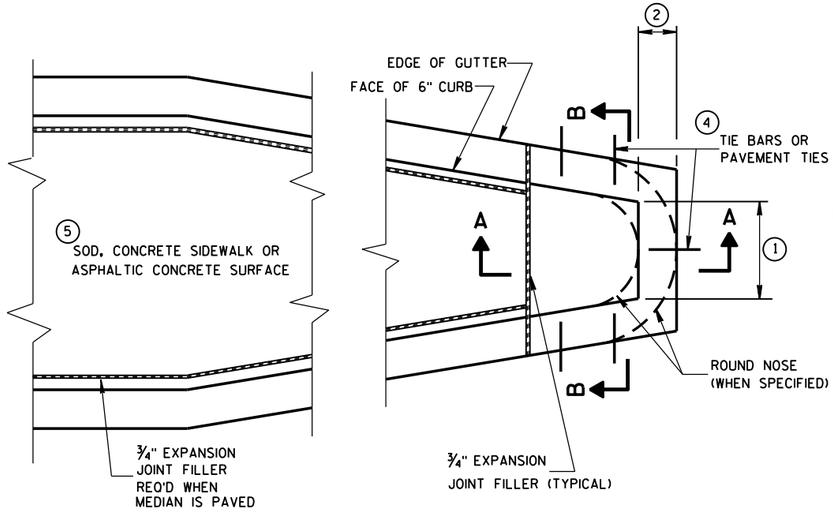
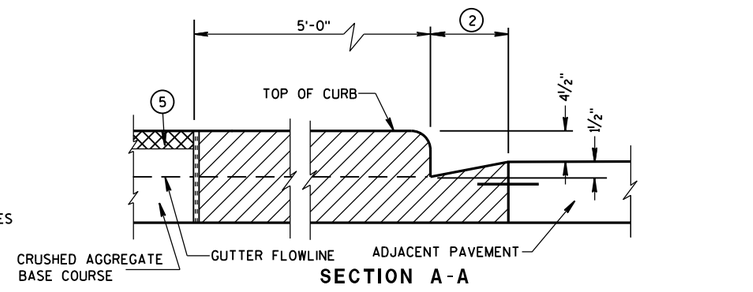
S.D.D. 8 E 9-6





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.

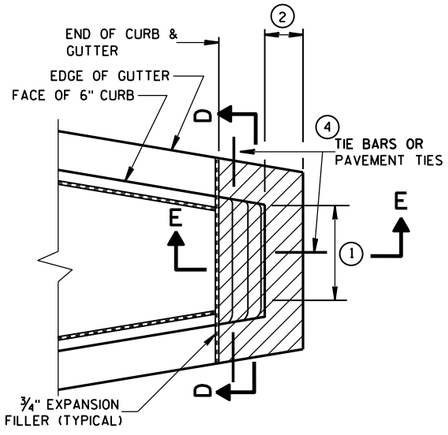
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

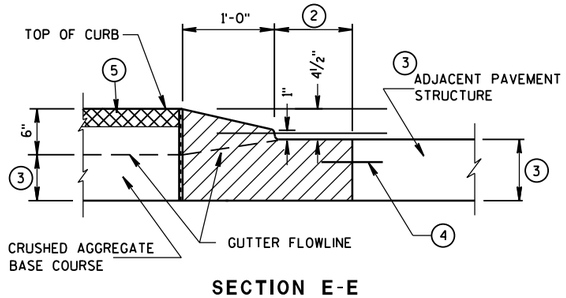
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

(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.

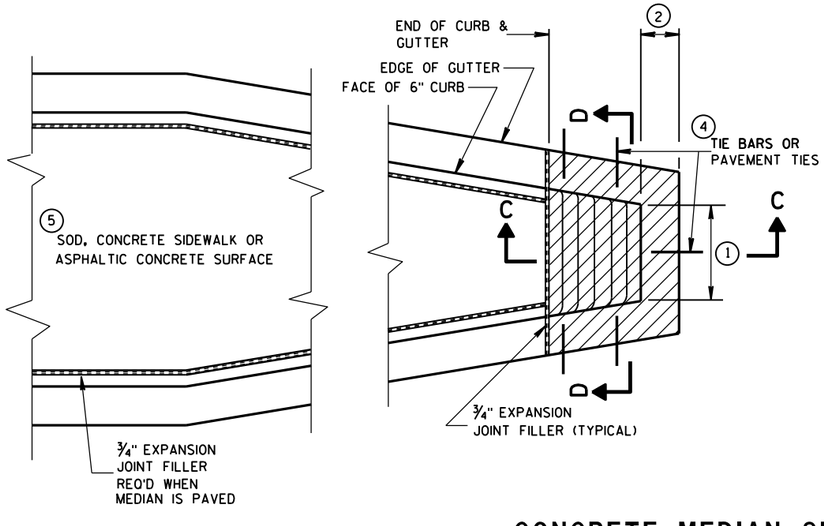
(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

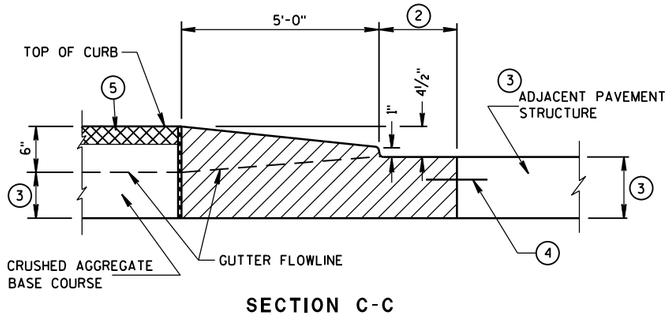




SECTION E-E

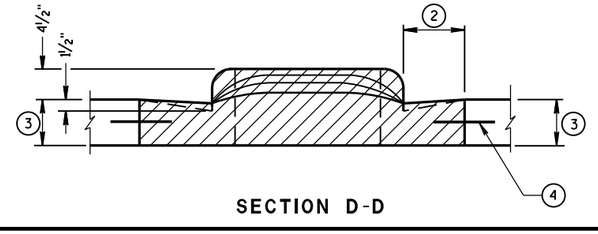
CONCRETE MEDIAN SLOPED NOSE TYPE 2





SECTION C-C

CONCRETE MEDIAN SLOPED NOSE TYPE 1



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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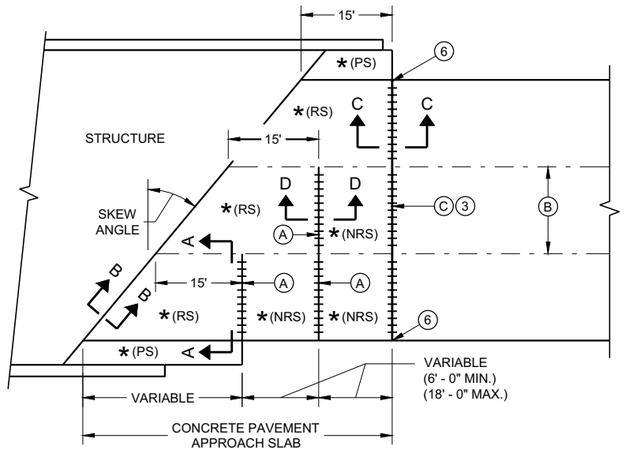
S.D.D. 11 B 2-2



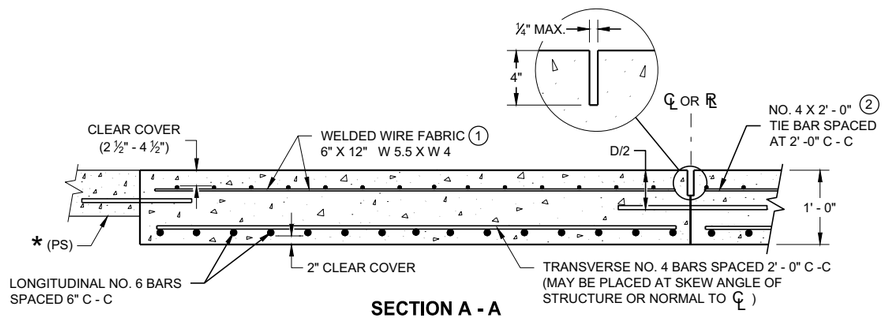
SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)

* (RS) = REINFORCED CONCRETE SLAB

* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB

* (NRS) - NON - REINFORCED CONCRETE SLAB

*** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



SECTION A - A
REINFORCEMENT POSITIONING DETAIL

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 THE 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 CONFORMING TO STANDARD SPECIFICATION 415.2.6.

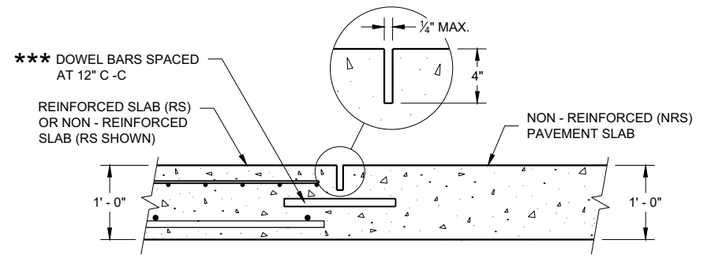
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

(6) EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

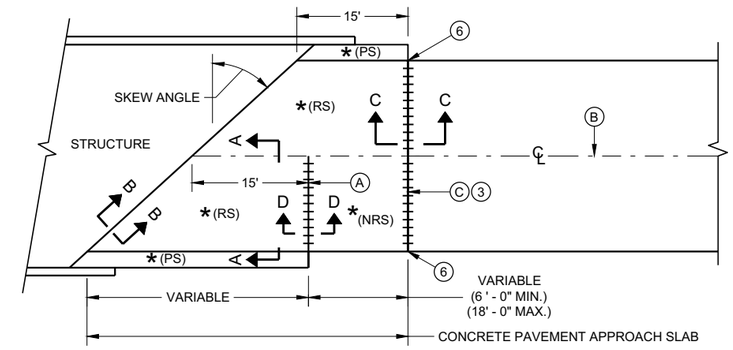
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

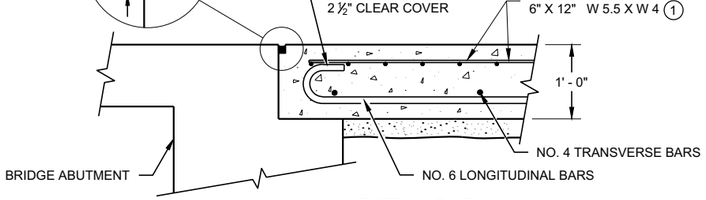
(C) 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞ .



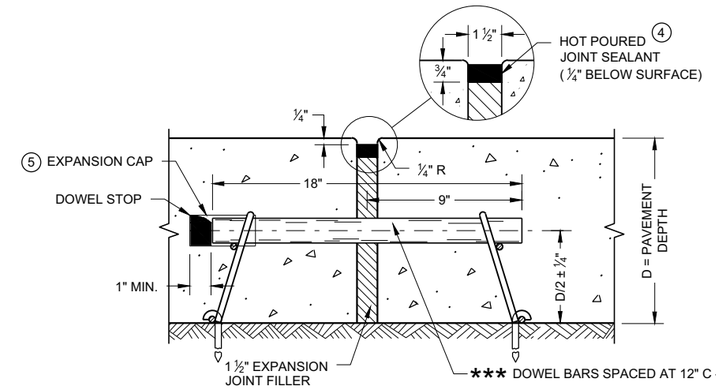
SECTION D - D
CONTRACTION JOINT



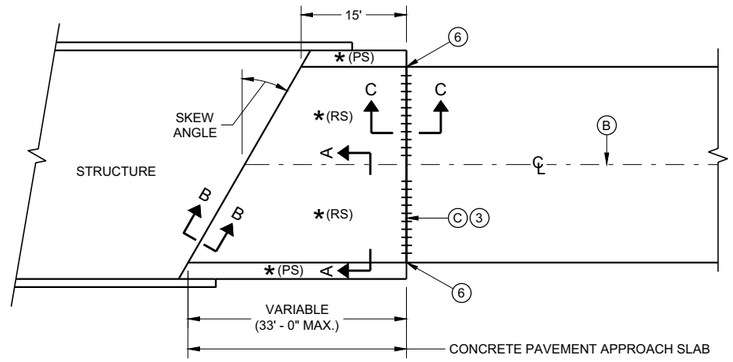
SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')



SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT

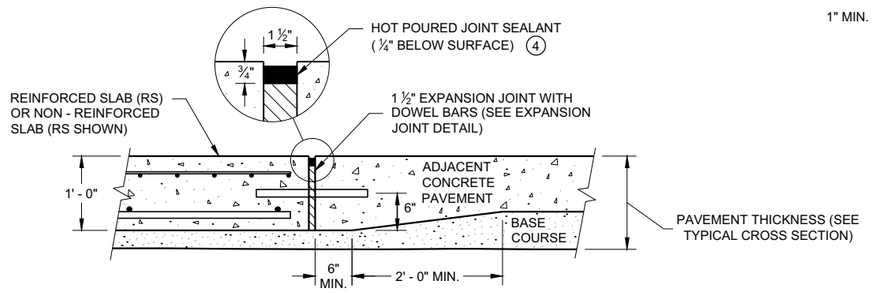


EXPANSION JOINT DETAIL



SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

APPROACH SLAB AND ADJACENT PAVEMENT



SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

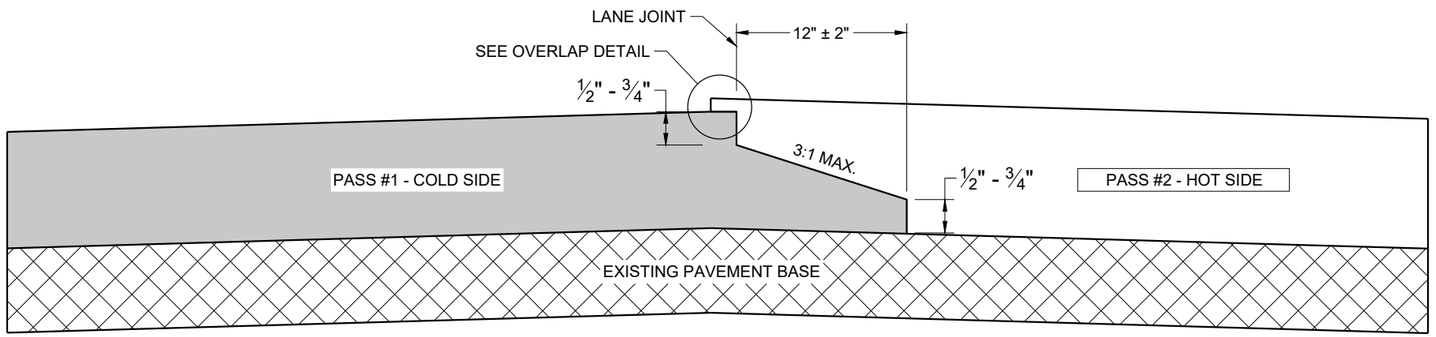
/S/ Peter Kemp, P.E.
PAVEMENT SUPERVISOR

FHWA

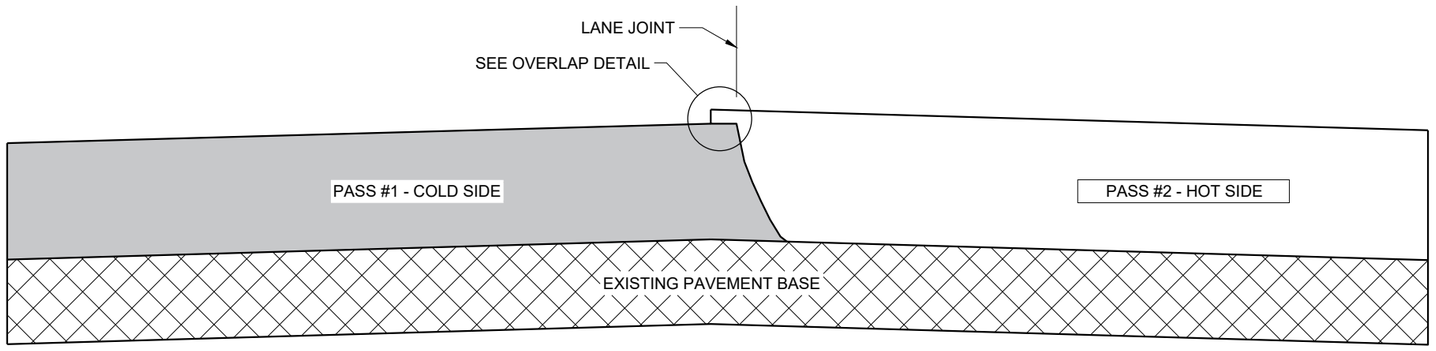
6

SDD 13B02 - 09a

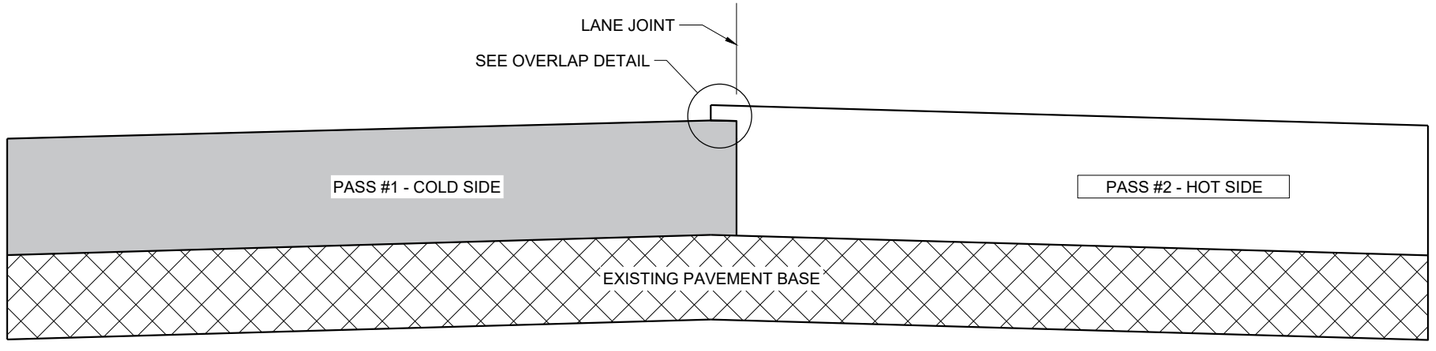
SDD 13B02 - 09a



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

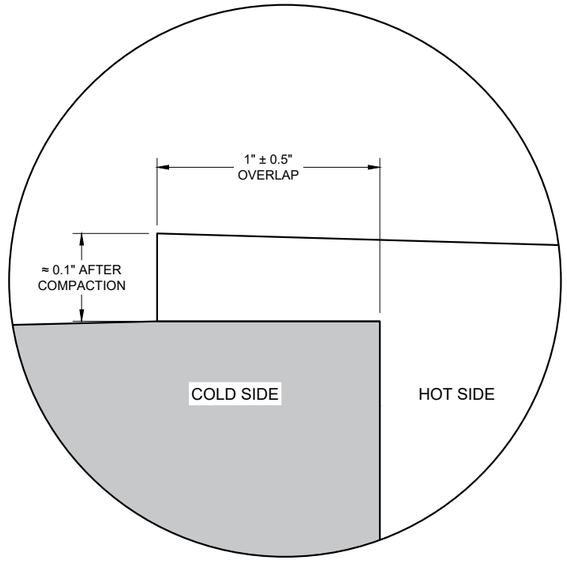
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY 1" ± 0.5" AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY 0.1" AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO 2" FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.



OVERLAP DETAIL (TYPICAL)

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SDD 13C19 - 03

SDD 13C19 - 03

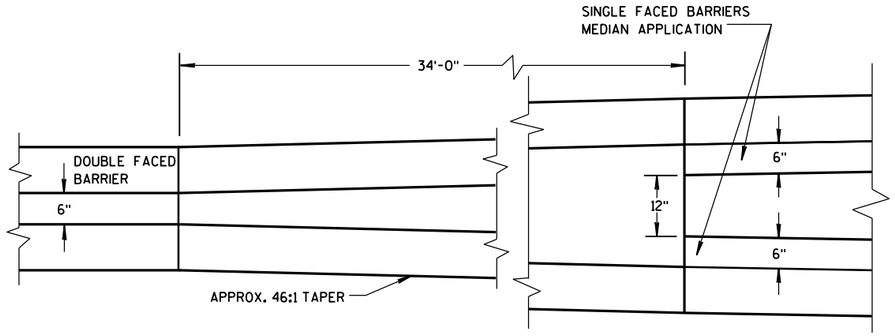
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA



PLAN VIEW

TRANSITION DETAILS OF DOUBLE FACED TO SINGLE FACED CONCRETE MEDIAN BARRIER

(FOOTINGS ARE NOT SHOWN)

GENERAL NOTES

SPLICES OF LONGITUDINAL BARS SHALL BE MADE WITH BARS LAPPED AT LEAST 18-INCHES AND FIRMLY TIED OR FASTENED TOGETHER.

ALL BAR STEEL REINFORCEMENT SHALL CONFORM TO REQUIREMENTS OF AASHTO M31, GRADE 60.

(1) BARRIER SHALL BE INSTALLED ON A CONCRETE SHOULDER INSTEAD OF THE CONCRETE FOOTING WHEN SPECIFIED OR SHOWN ELSEWHERE IN CONTRACT.

(2) OPENINGS FOR DRAINAGE SHALL BE PLACED AT LOW POINTS OF VERTICAL CURVES OR WHERE DIRECTED BY THE ENGINEER.

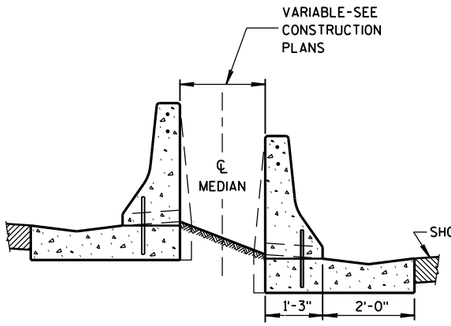
(3) 3/4-INCH BEVEL OR 1-INCH RADIUS (TYPICAL).

(4) NO. 4 BARS SHALL BE CONTINUED THROUGH CONSTRUCTION JOINTS.

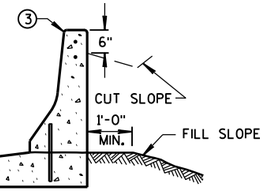
(5) EXPANSION JOINTS SHALL BE PLACED AT EXISTING EXPANSION JOINTS IN THE PAVEMENT AND AT STRUCTURES. SEE REINFORCEMENT AT BARRIER END DETAIL.

(6) SAWED CONTRACTION JOINTS SHALL BE PROVIDED ACROSS THE FULL WIDTH OF THE BARRIER FOOTING, AND IN FRONT, TOP AND BACK FACE OF THE BARRIER AT EXISTING PAVEMENT JOINTS AND AT UNIFORM INTERVALS BETWEEN WITH A MAXIMUM SPACING OF 25 FEET.

HIGH SIDE
CONCRETE BARRIER DETAIL

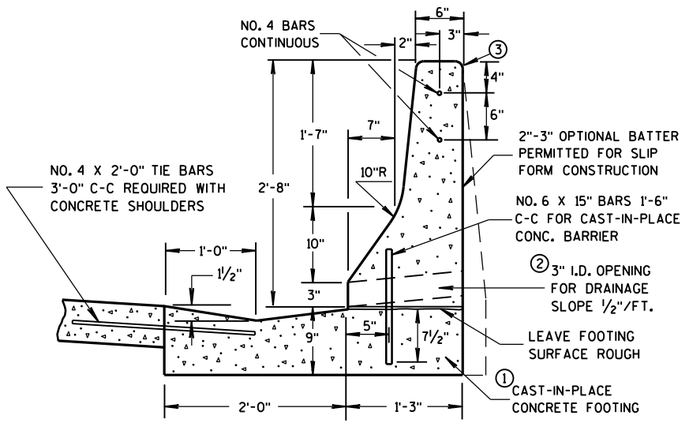


MEDIAN

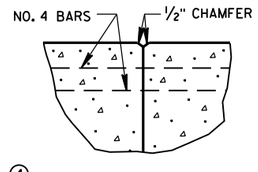


SHOULDER

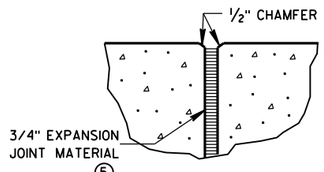
TYPICAL APPLICATIONS



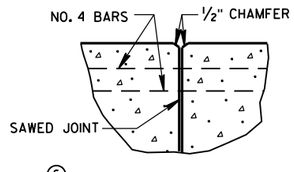
SECTION VIEW



4 CONSTRUCTION JOINT



5 EXPANSION JOINT



6 CONTRACTION JOINT

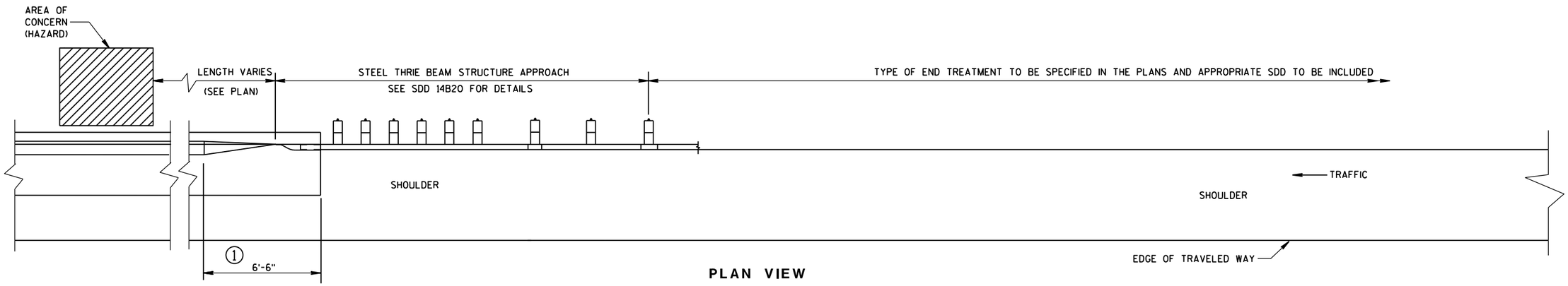
JOINT DETAILS

CONCRETE BARRIER,
SINGLE-FACED
(WITH ANCHORAGE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

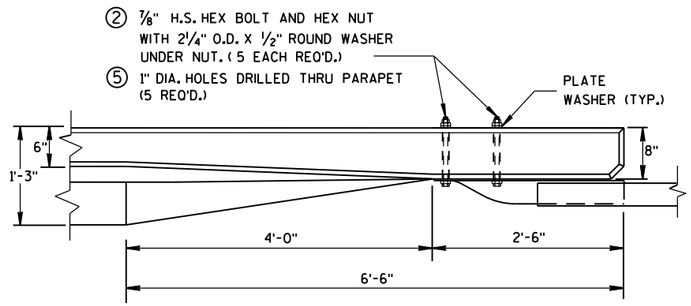
6

S.D.D. 14 B 22-6a



PLAN VIEW

TRANSITION TO STEEL PLATE BEAM GUARD AND END TERMINAL



PLAN VIEW

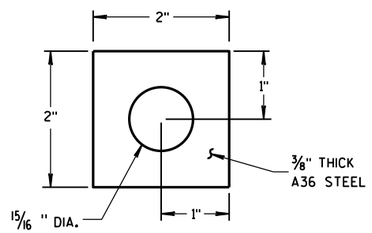
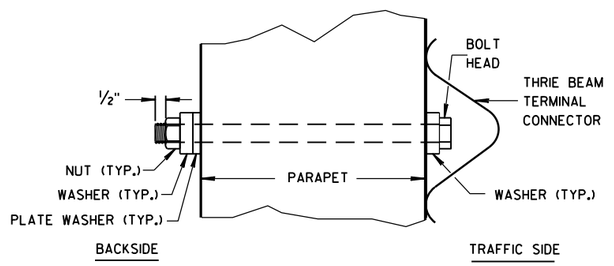


PLATE WASHER DETAIL



THRIE BEAM BOLT DETAIL

GENERAL NOTES

① A SPECIAL END IS REQUIRED ON THE CONCRETE BARRIER TO TRANSITION TO A CONNECTION WITH THE STEEL THRIE BEAM STRUCTURE APPROACH. SEE THE DETAILS ON THIS SHEET.

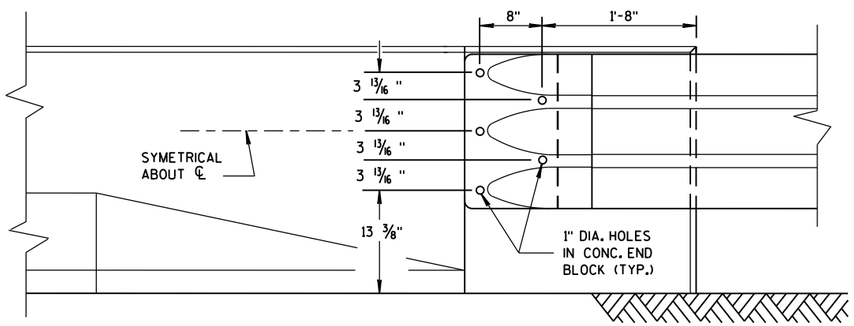
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

③ REINFORCEMENT REQUIRED AT EXPANSION JOINTS AND WHERE CONCRETE BARRIER IS TERMINATED.

④ PLACE REINFORCEMENT SUCH THAT IT WILL NOT CONFLICT WITH THE BOLT HOLES IN THE THRIE BEAM TERMINAL CONNECTOR.

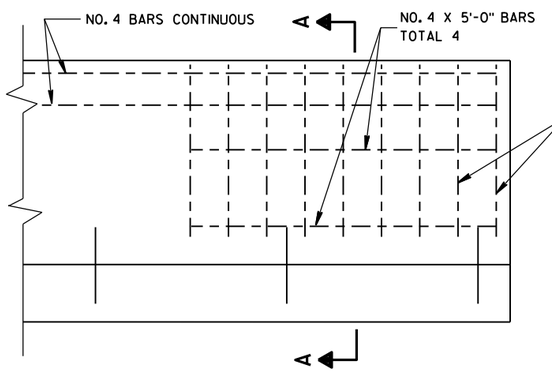
⑤ INCLUDE THE PAYMENT FOR DRILLING BOLT HOLES THROUGH THE PARAPET, AND ALL BOLTS, NUTS AND WASHERS IN THE ITEM "STEEL THRIE BEAM STRUCTURAL APPROACH".

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.

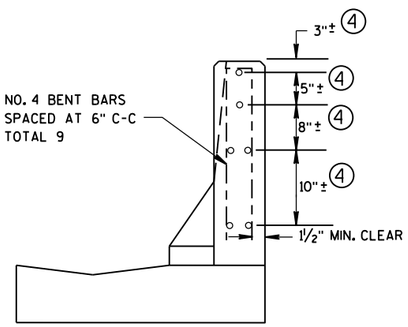


FRONT VIEW

CONCRETE BARRIER TRANSITION TO THRIE BEAM

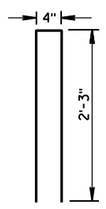


FRONT VIEW



SECTION A-A

③ REINFORCEMENT AT BARRIER END



BENT BAR DETAIL

CONCRETE BARRIER, SINGLE-FACED (WITH ANCHORAGE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 14 B 22-6b

(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.

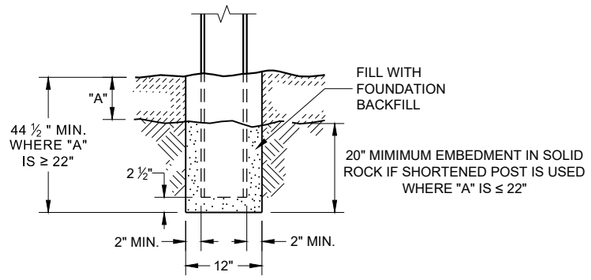
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL 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).

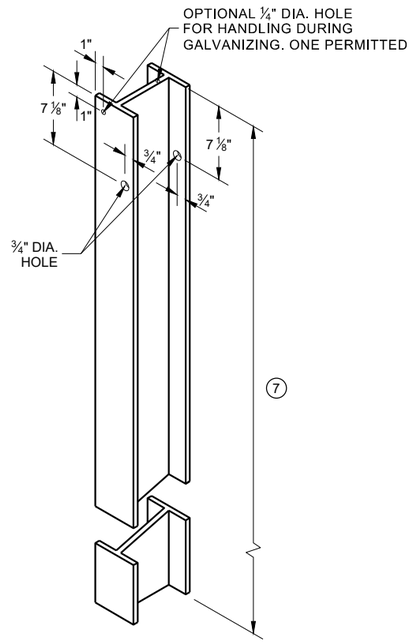
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(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.

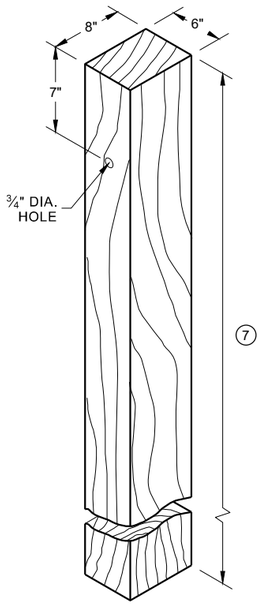
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



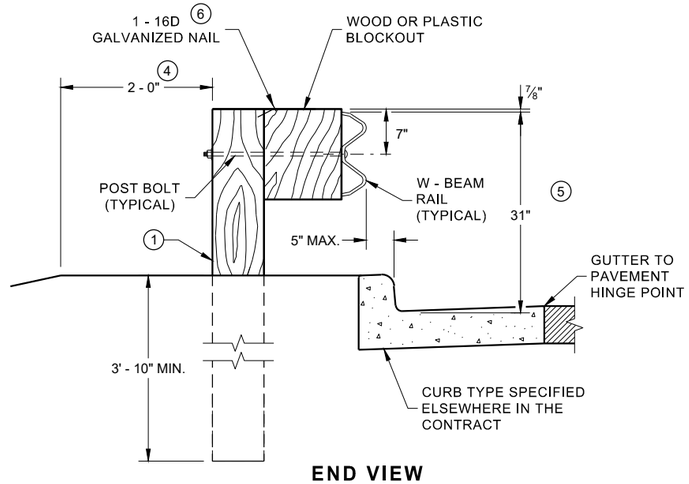
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



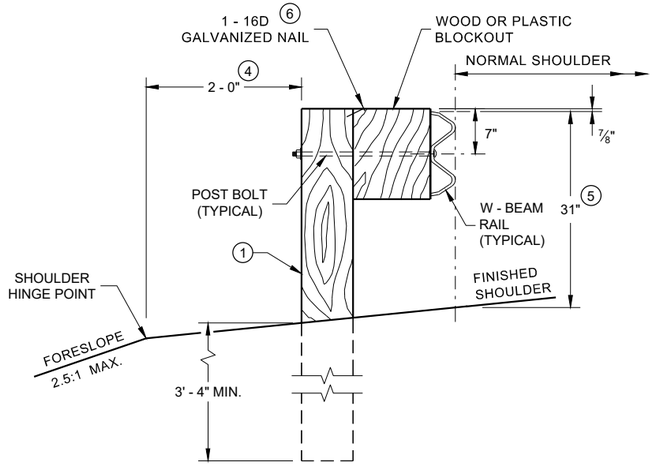
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



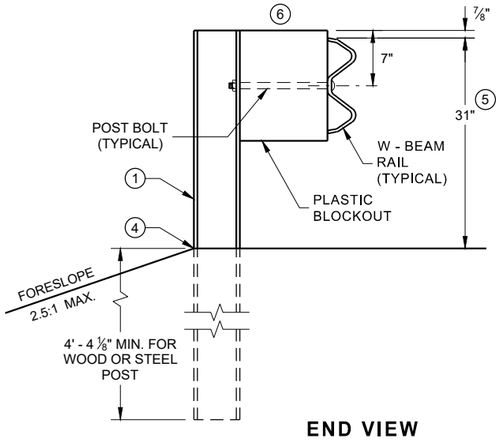
WOOD POST (6" X 8") NOMINAL (1)



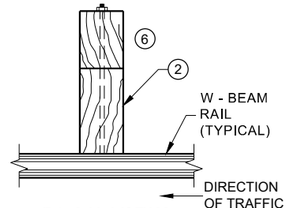
END VIEW
LOCATED ALONG A CURBED ROADWAY



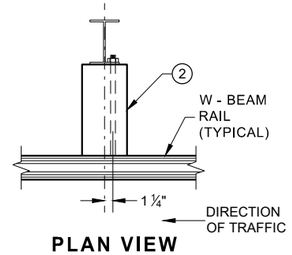
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



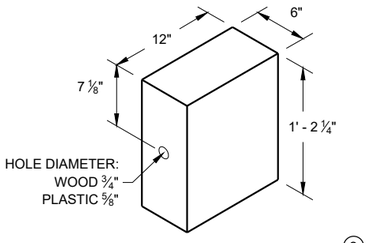
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



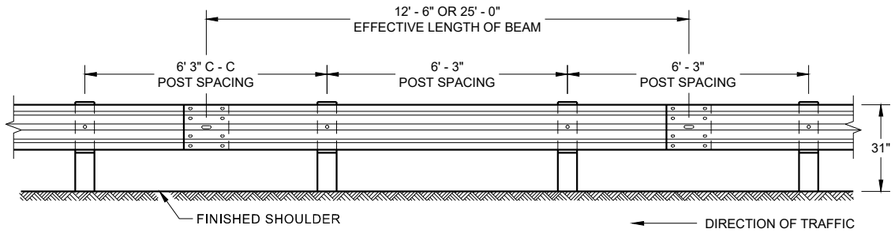
PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



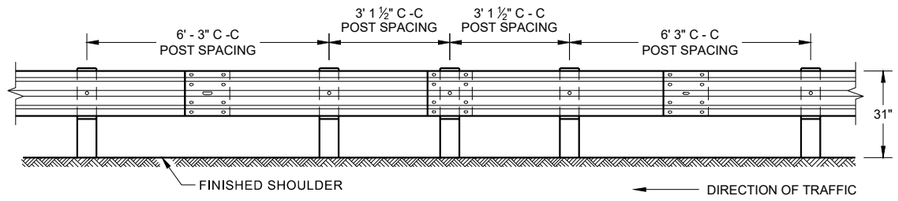
WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

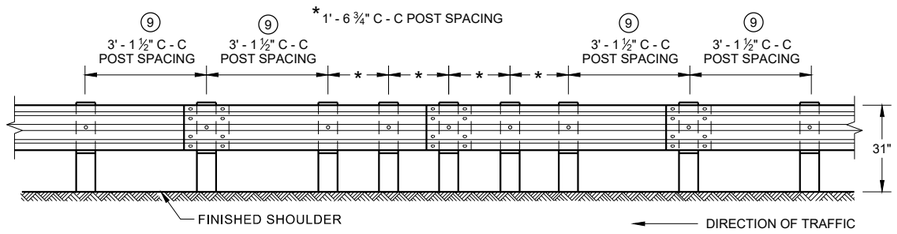
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



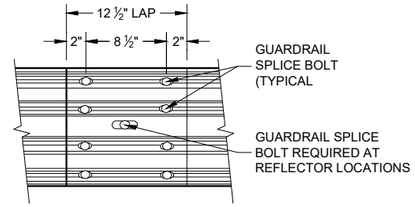
FRONT VIEW
POST SPACING STANDARD INSTALLATION



FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



FRONT VIEW
QUARTER POST SPACING (QS)



FRONT VIEW
MID-SPAN BEAM SPLICE

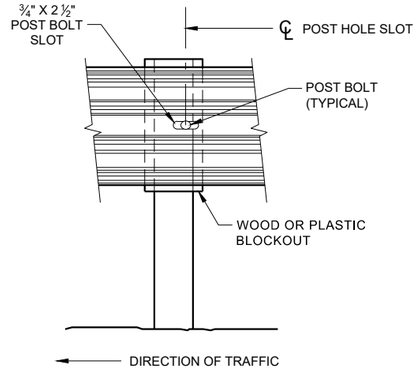
GENERAL NOTES

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

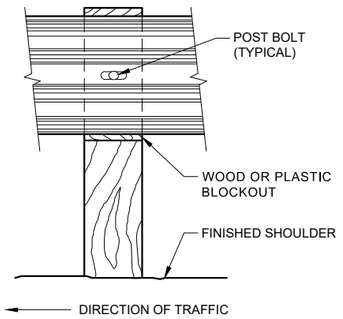
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

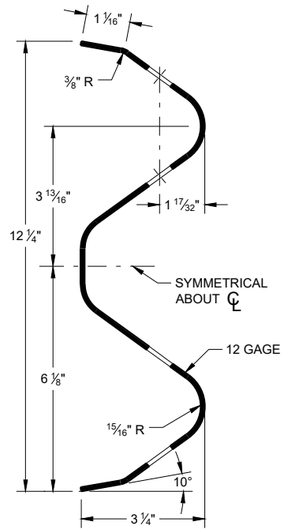
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



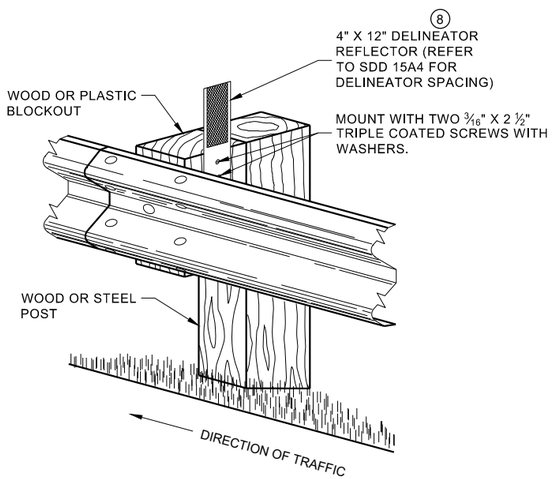
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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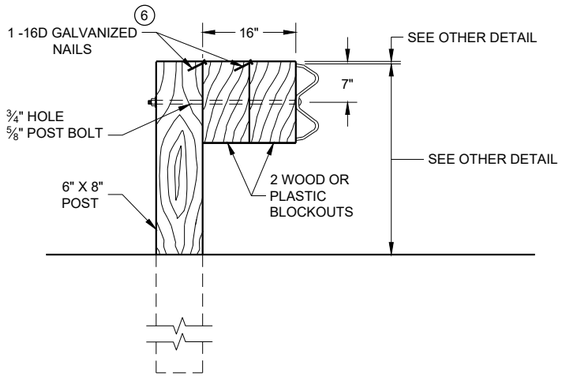
SDD 14B42 - 07b
SDD 14B42 - 07b

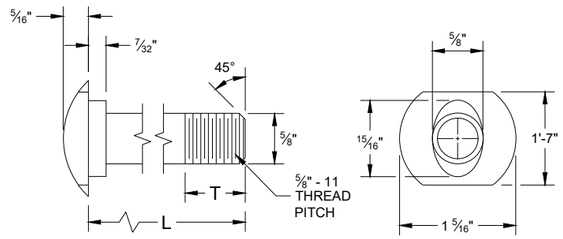


DETAIL FOR 16" BLOCKOUT DEPTH

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.

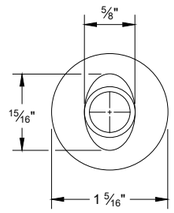
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3⁄16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

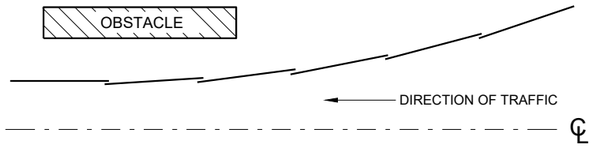


POST BOLT TABLE

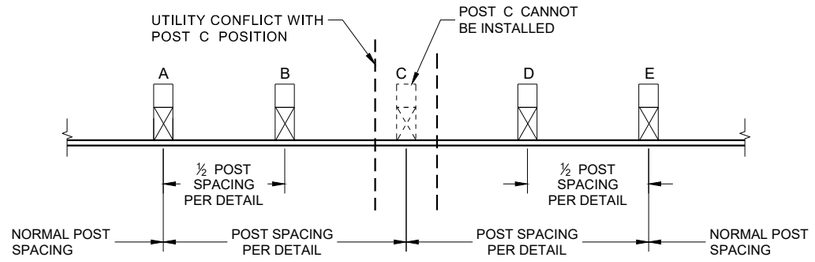
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



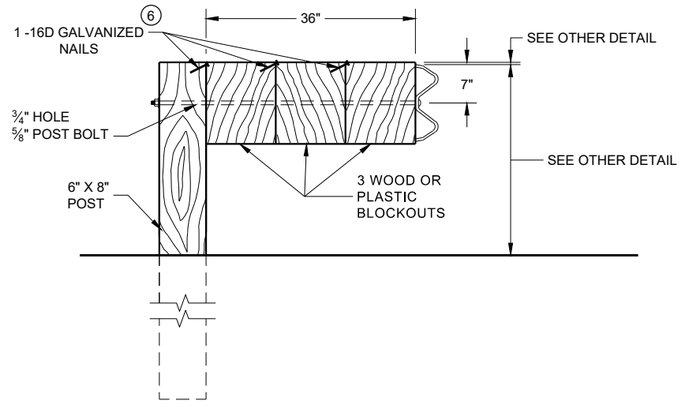
ALTERNATE BOLT HEAD



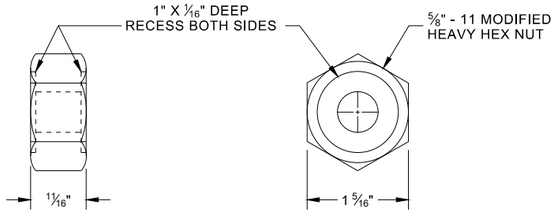
PLAN VIEW
BEAM LAPPING DETAIL



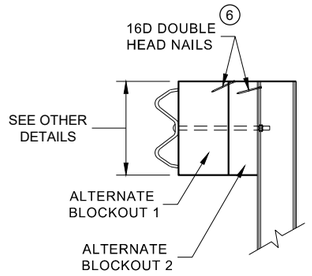
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



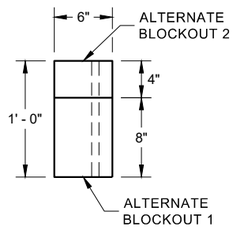
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

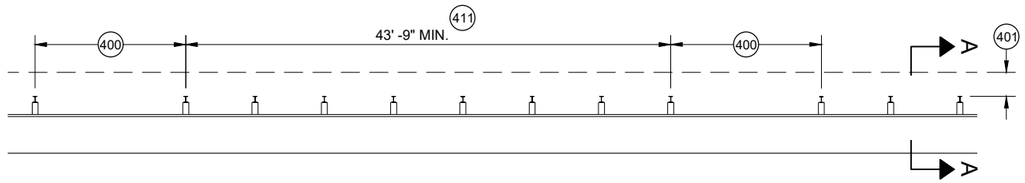
ALTERNATE WOOD BLOCKOUT DETAIL

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.

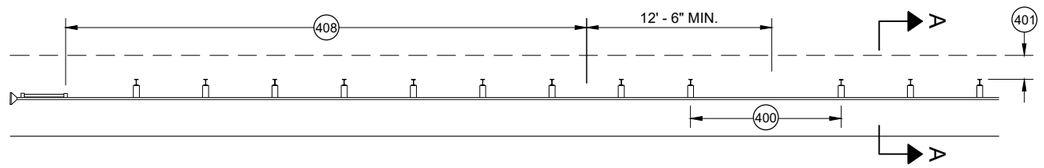
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

(6) WHEN USING STEEL POST AD 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.

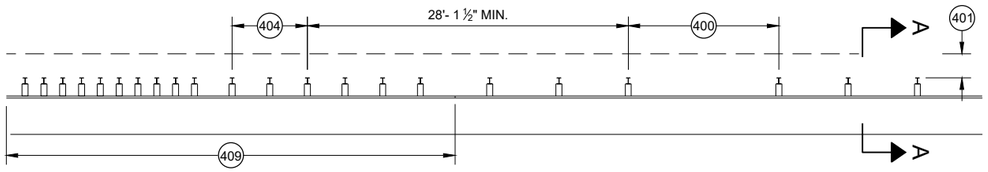
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL



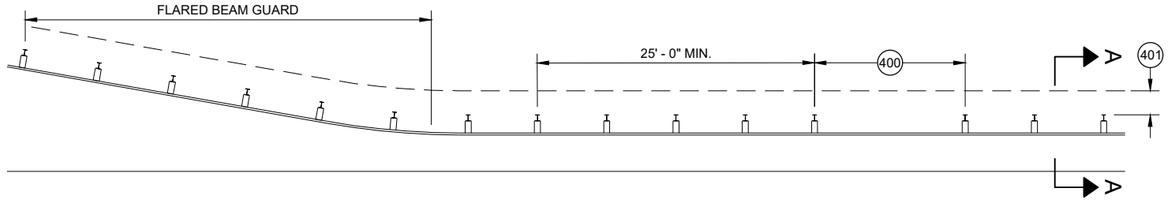
MISSING POST IN MGS GUARDRAIL



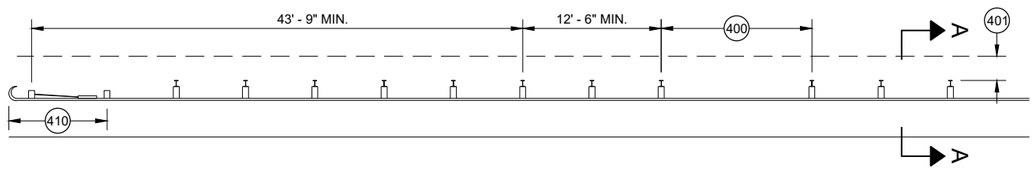
MISSING POST IN MGS GUARDRAIL NEAR EAT



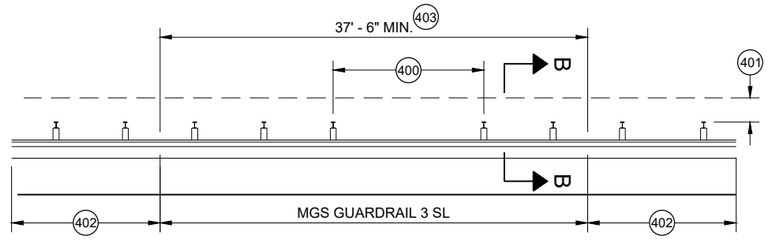
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

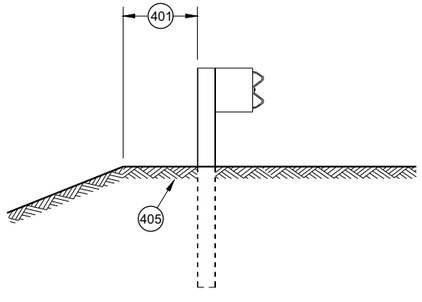


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

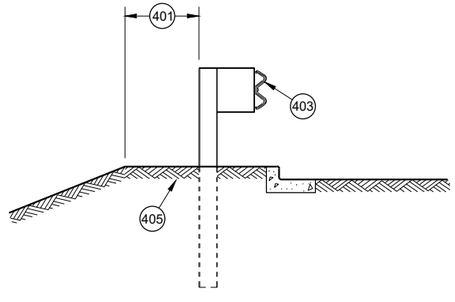


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

(400) MAX SPAN 12' - 6"
(401) 2' MIN.
(402) MGS GUARDRAIL 3
(403) NESTING BEAM GUARD
(404) ASYMMETRIC TRANSITION
(405) SOIL WELL DRAINED AND COMPACTED
(406) SEE OTHER DRAWINGS IN THIS SDD
(407) SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
(408) SEE SDD 14B44
(409) SEE SDD 14B45
(410) SEE SDD 14B47
(411) MINIMUM DISTANCE BETWEEN MISSING POST SPANS.



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA

6

SDD 14B42 - 07d

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 MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

(D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

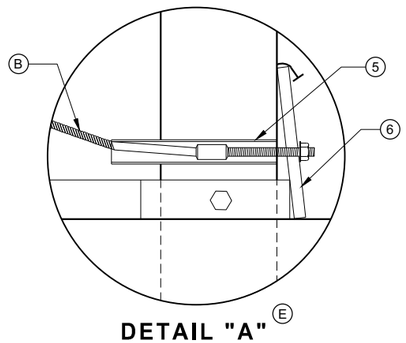
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

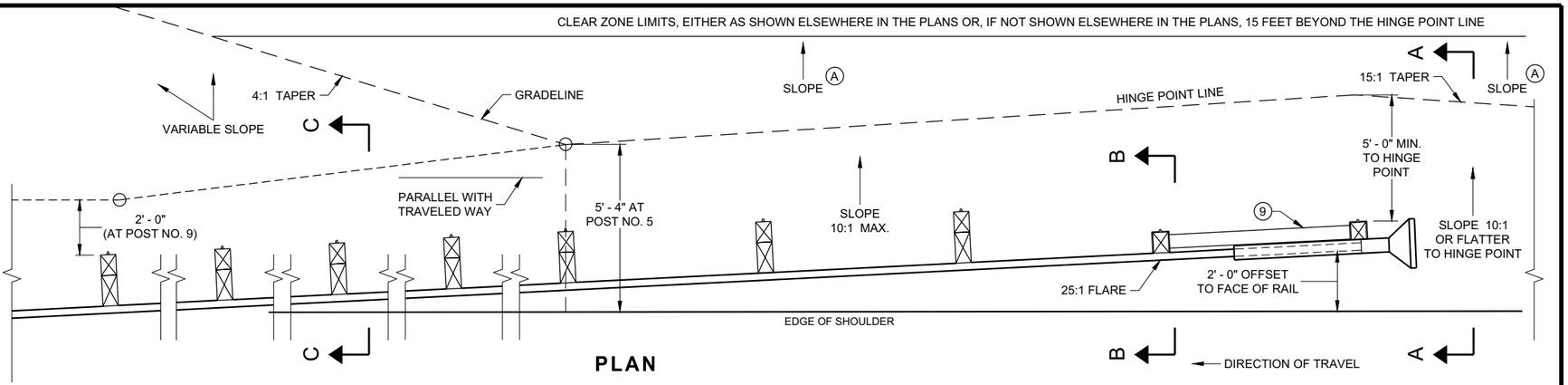
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

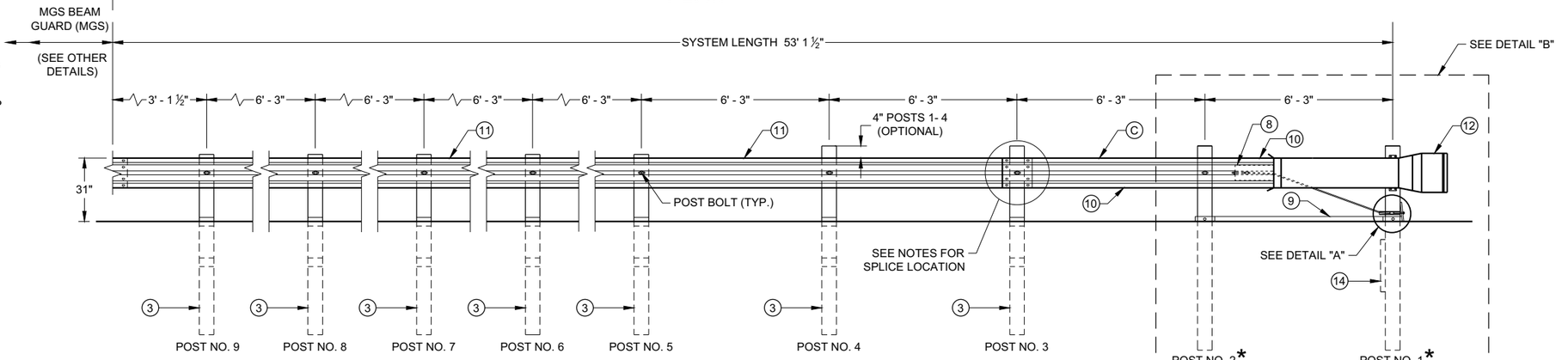
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



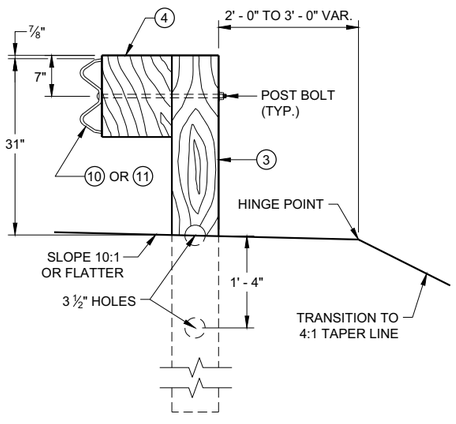
DETAIL "A" (E)



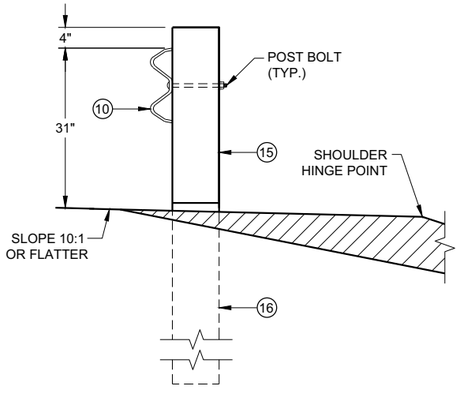
PLAN



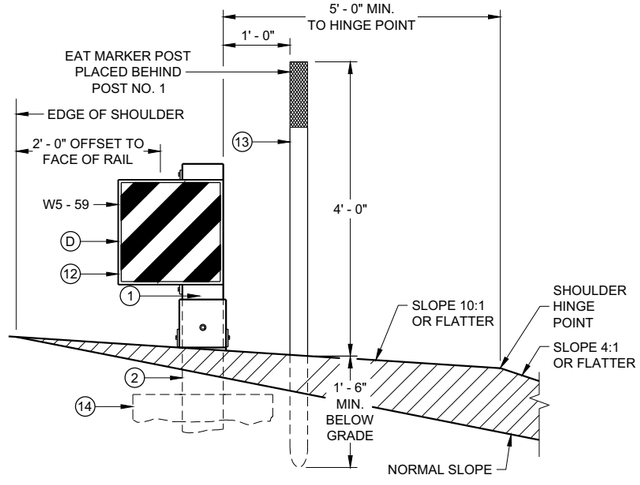
ELEVATION



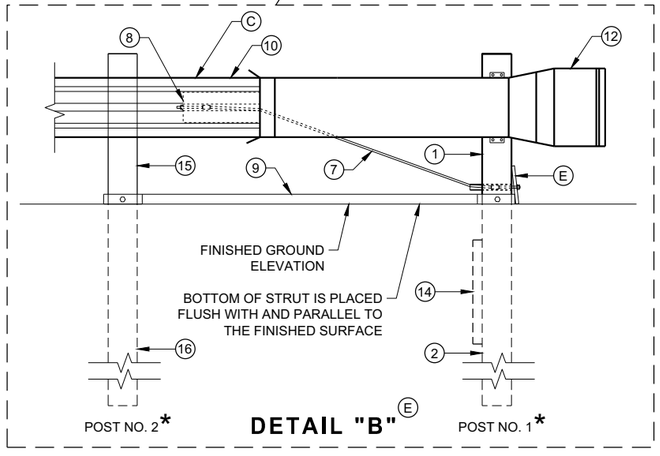
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*

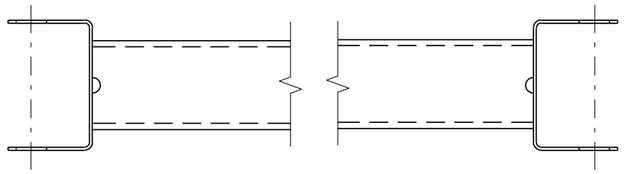


DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

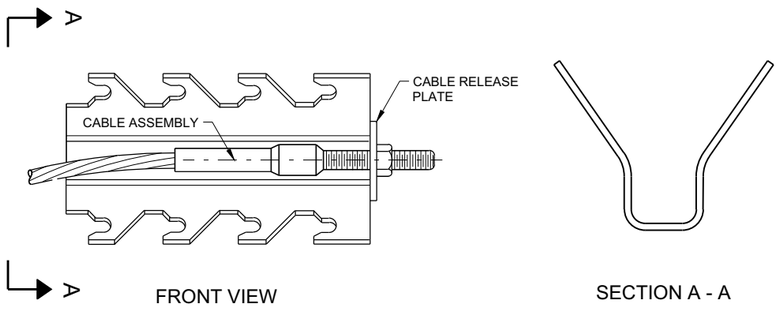
6
SDD 14B44 - 04a



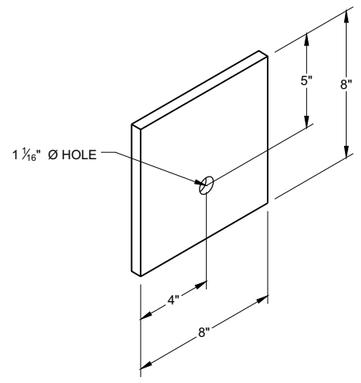
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUGACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
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	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



GENERIC ANCHOR CABLE BOX ⑨ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

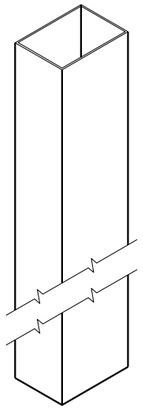
6

SDD 14B44 - 04b

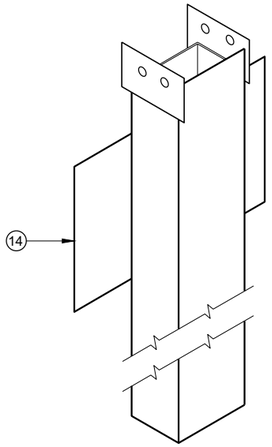
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

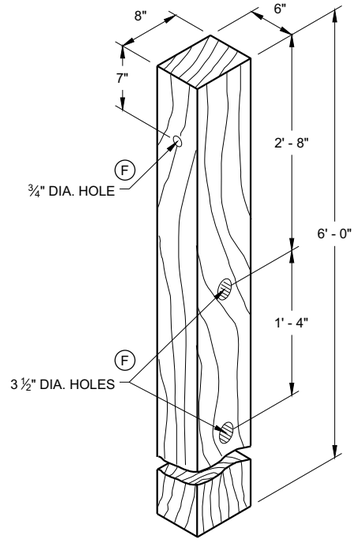
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



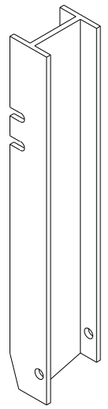
UPPER POST NO. 1 (1) (E)



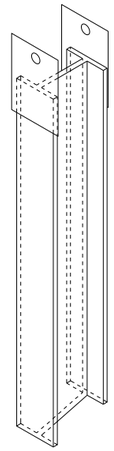
LOWER POST NO. 1 (2) (E)



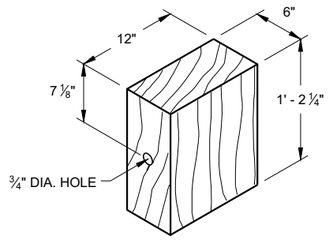
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



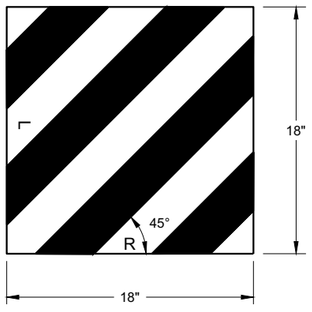
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

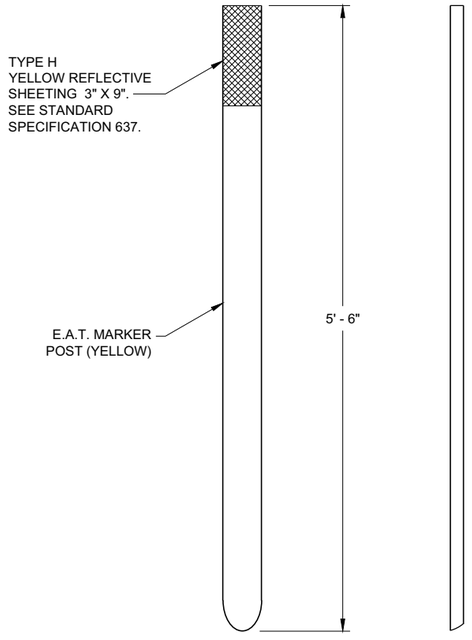


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



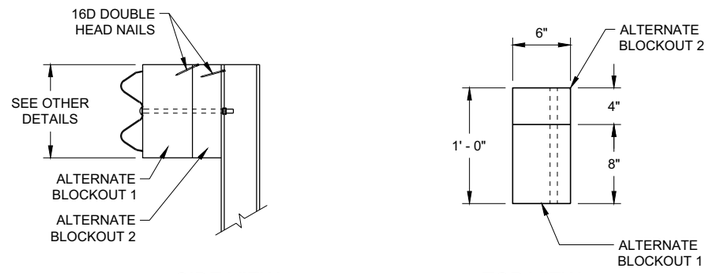
W5 - 59

REFLECTIVE SHEETING DETAIL (E)



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

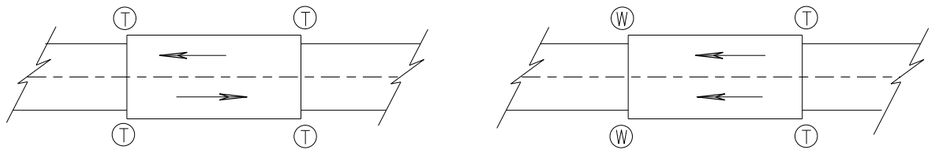
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA

6

SDD 14B44 - 04c



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

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.

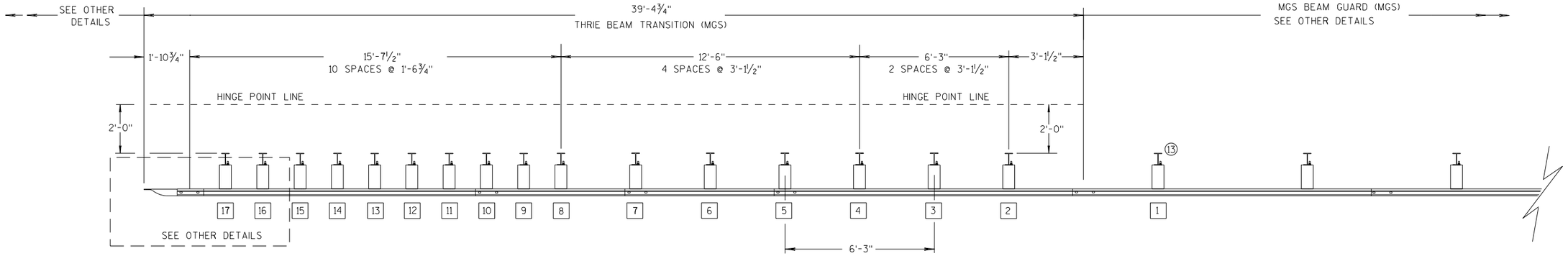
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

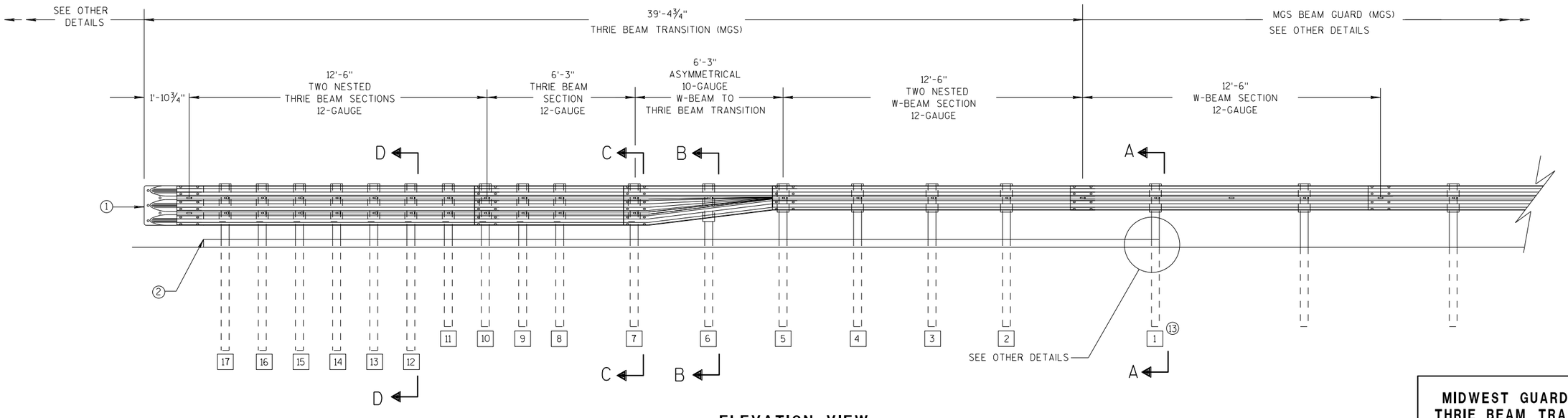
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



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 45-5a

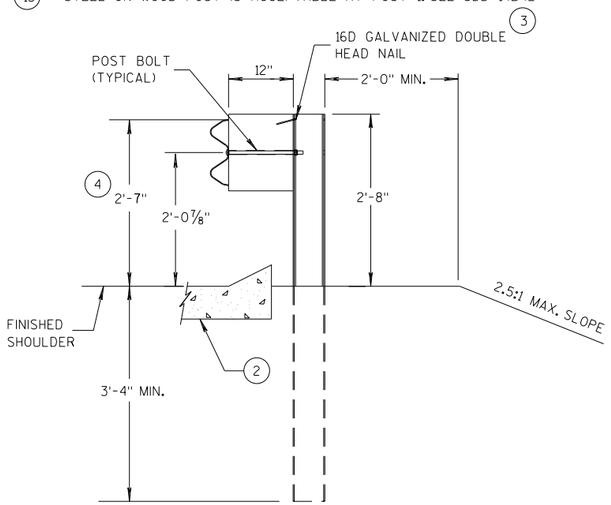
GENERAL NOTES

(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.

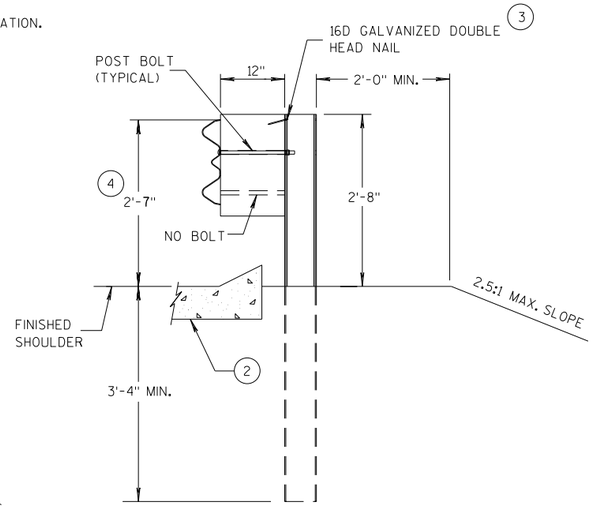
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



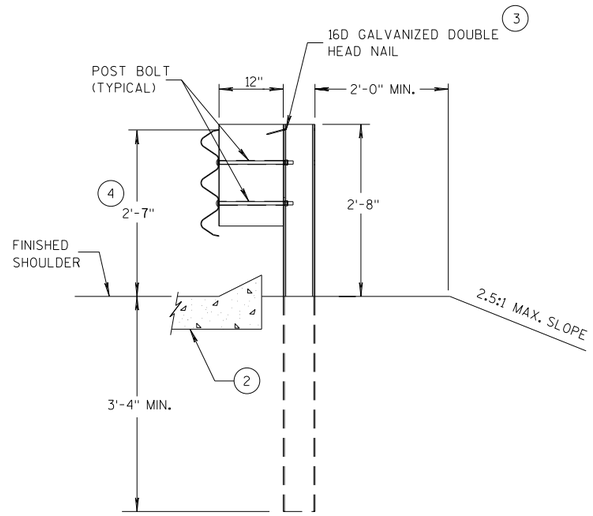
SECTION A-A (13)

POSTS 1-5



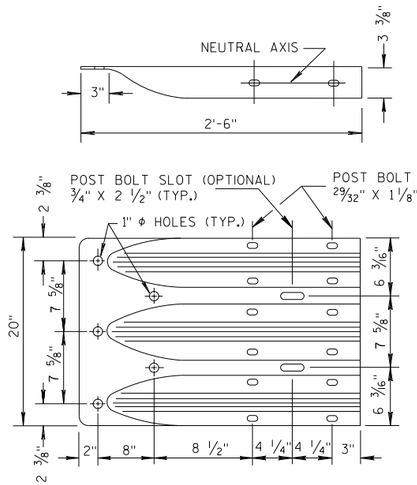
SECTION B-B

POST 6

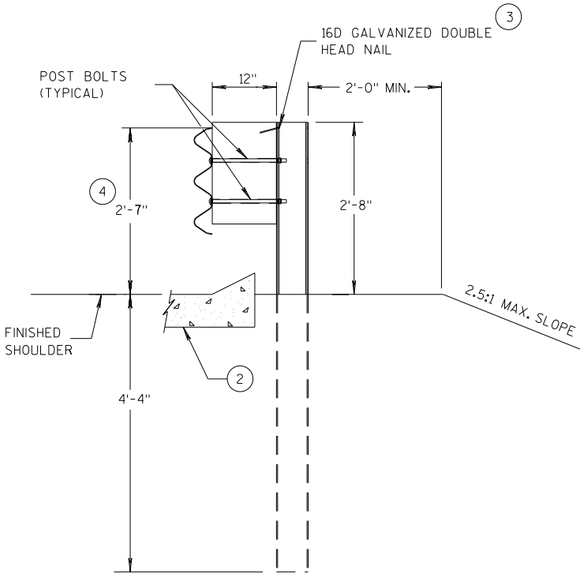


SECTION C-C

POSTS 7-11

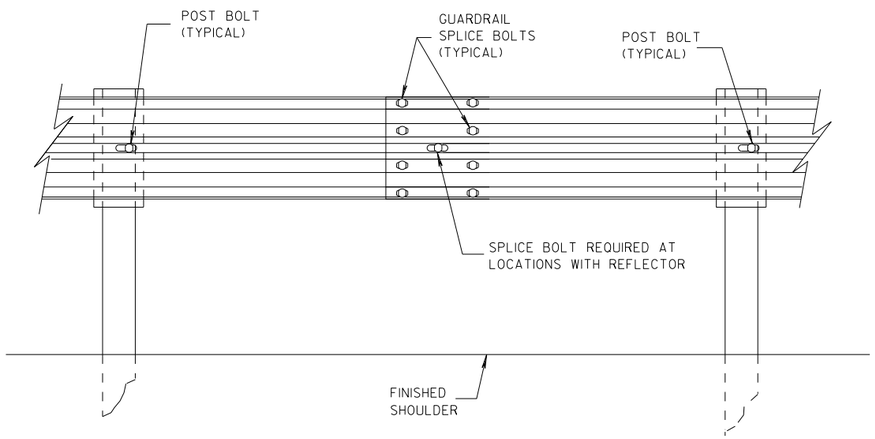


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

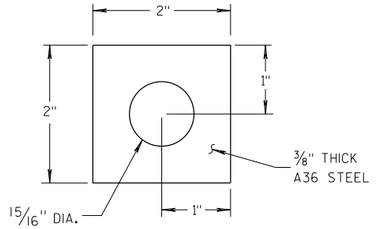
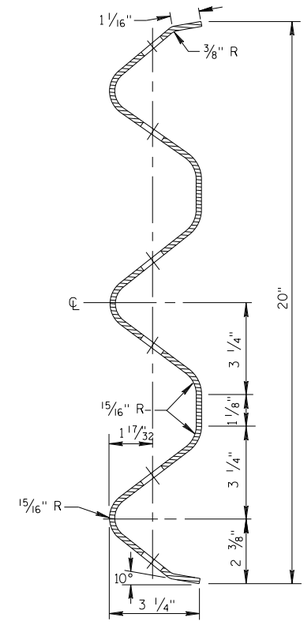


PLATE WASHER DETAIL



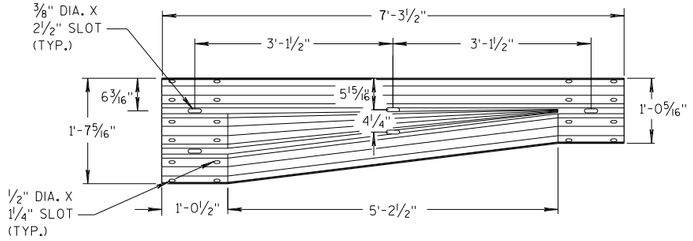
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

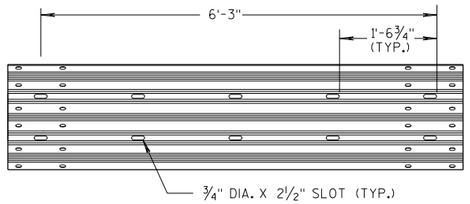
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

6

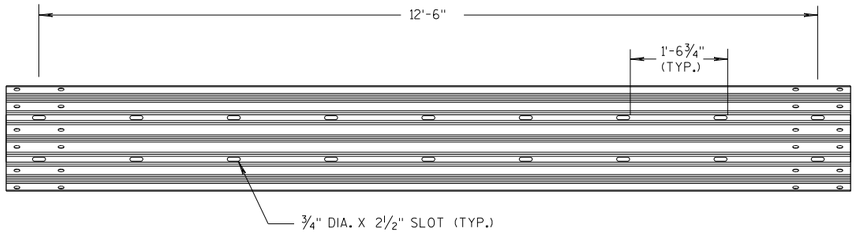
S.D.D. 14 B 45-5b



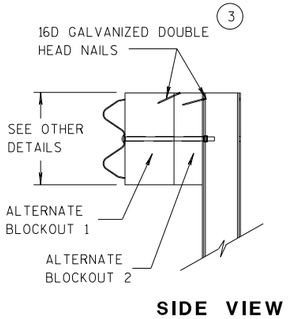
W-BEAM TO THRIE BEAM TRANSITION SECTION



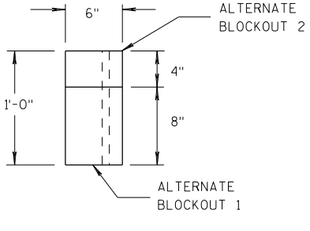
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

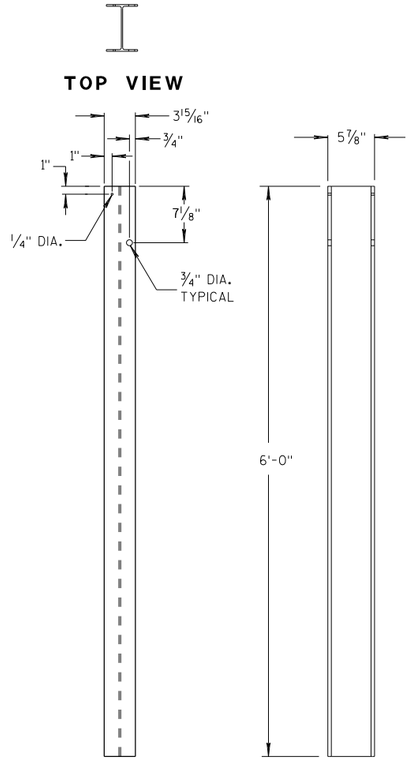


SIDE VIEW



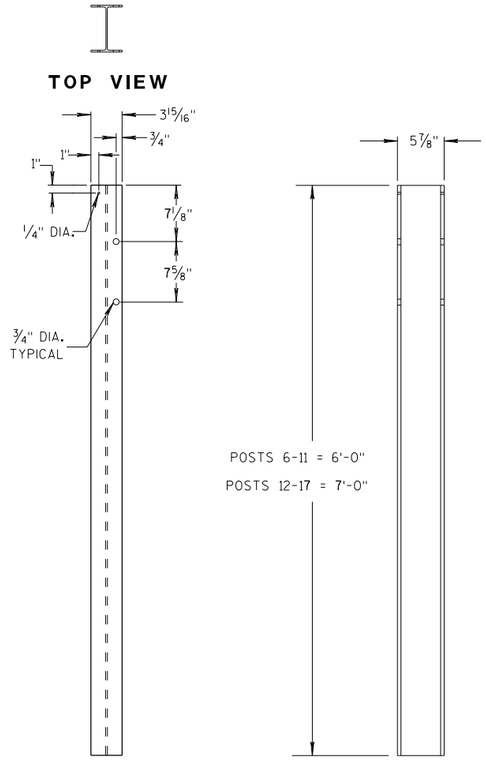
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



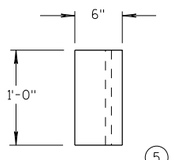
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

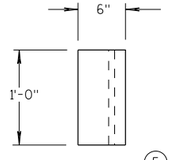


FRONT VIEW SIDE VIEW

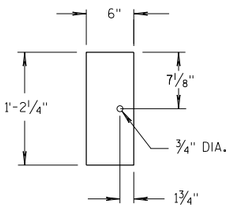
STEEL POSTS 6-17



TOP VIEW (5)

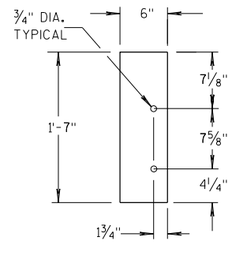


TOP VIEW (5)



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.

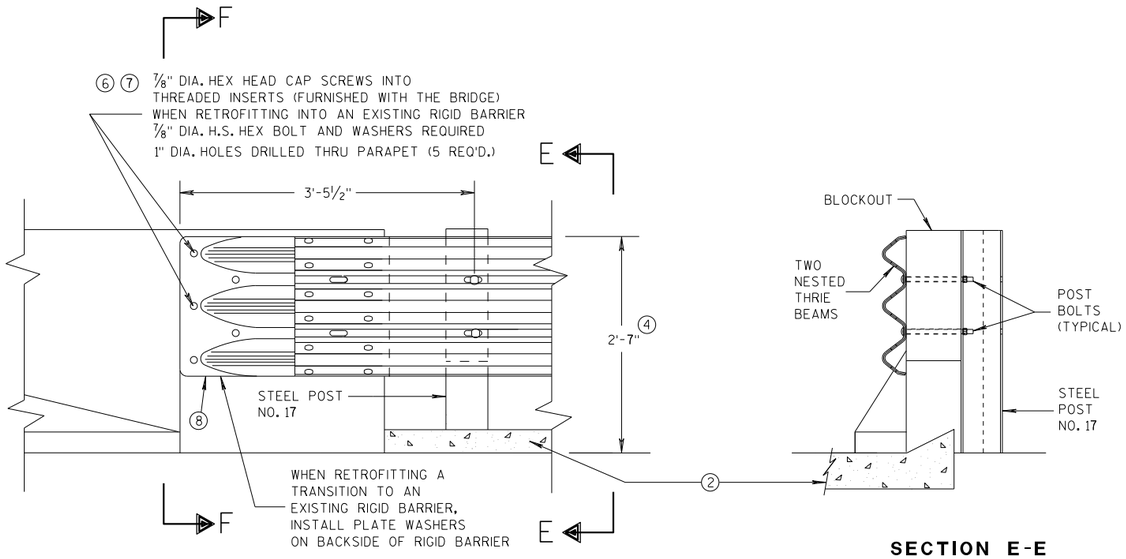
(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

6

S.D.D. 14 B 45-5c



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.

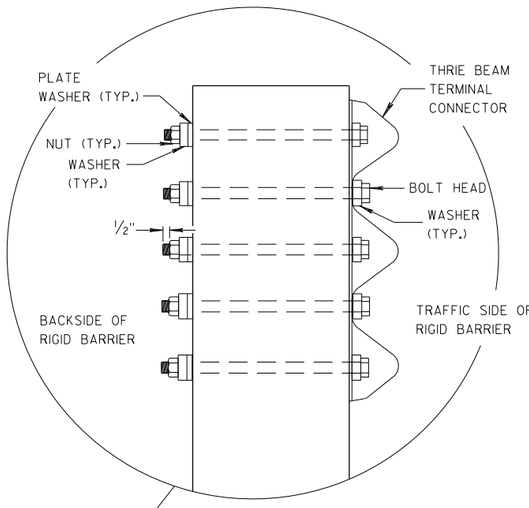
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

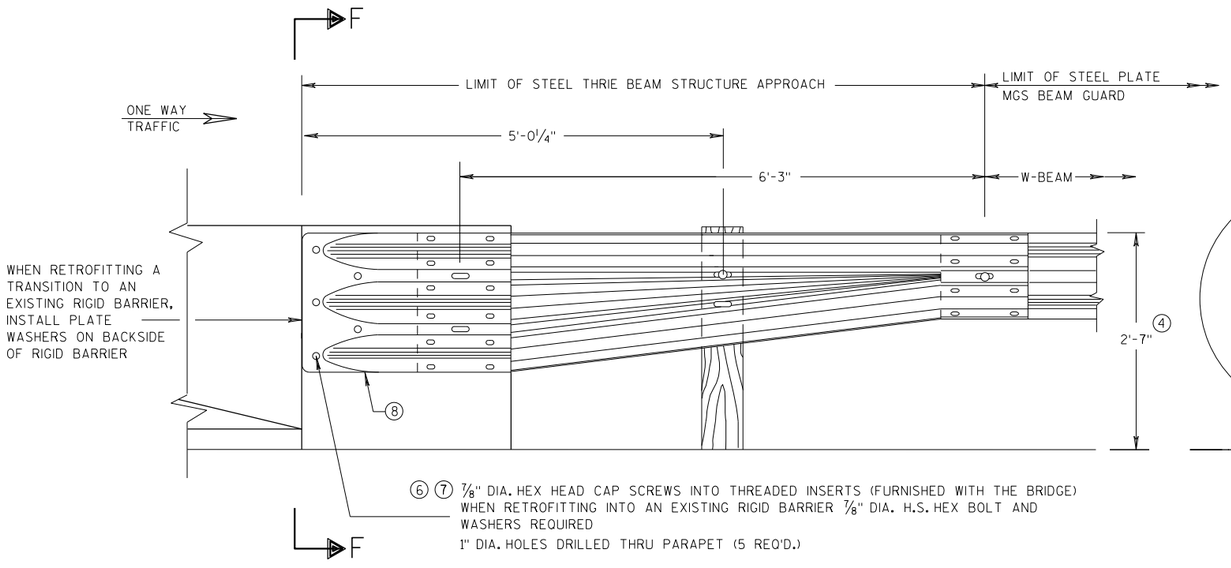
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

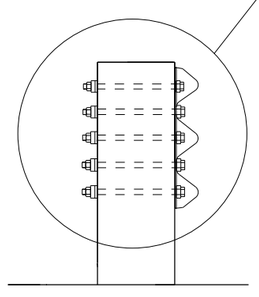
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" 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".

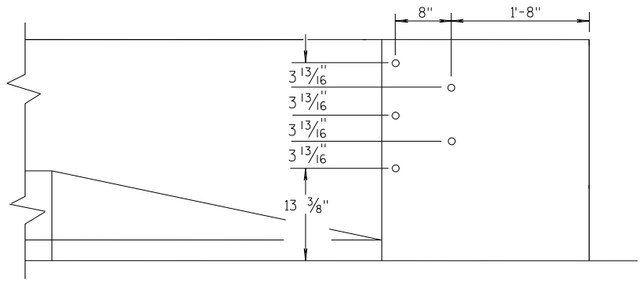




FRONT VIEW



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

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07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS D[UNIT SUPERVIS
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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.

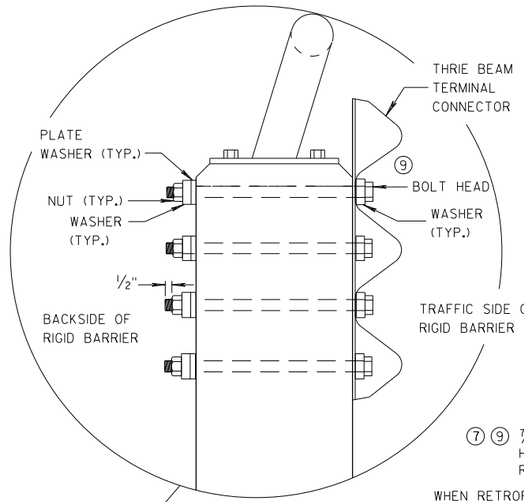
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

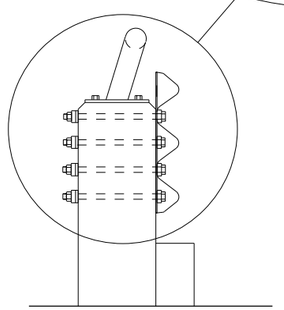
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(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 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

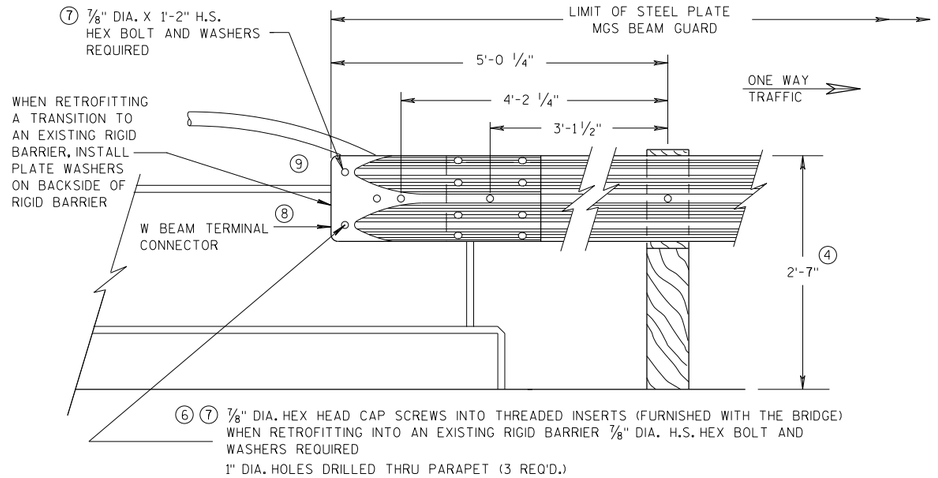
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

(9) BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.





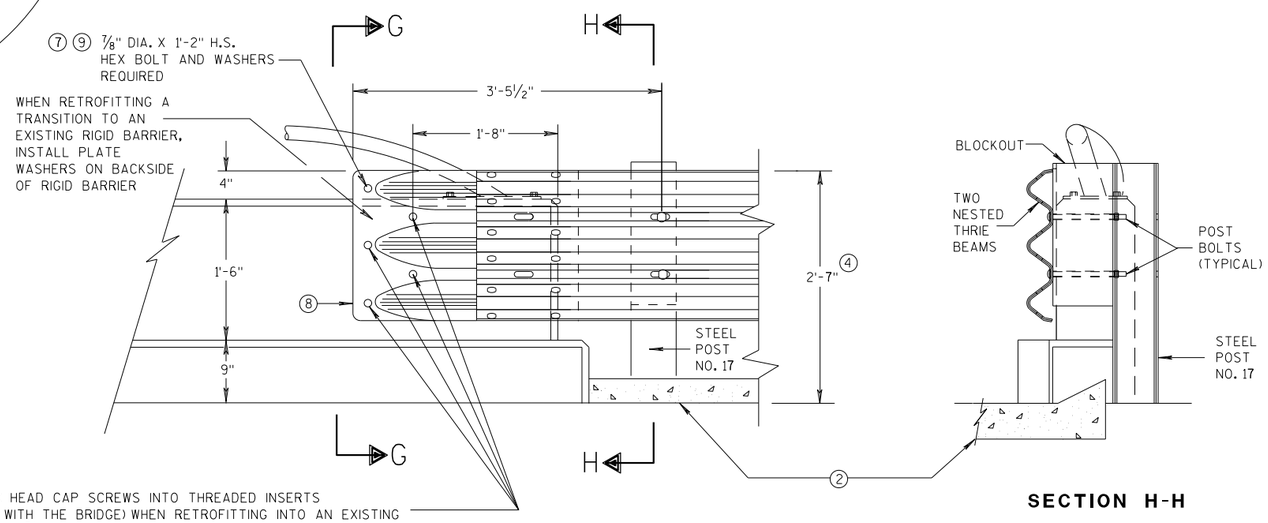
SECTION G-G



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



FRONT VIEW

SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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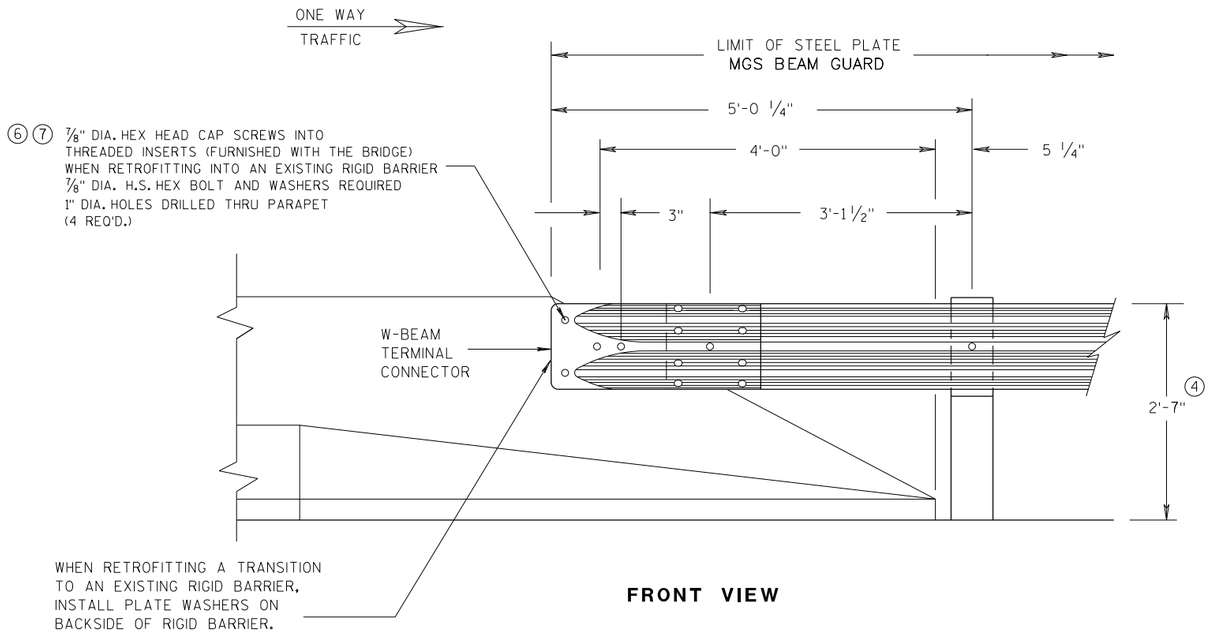


FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

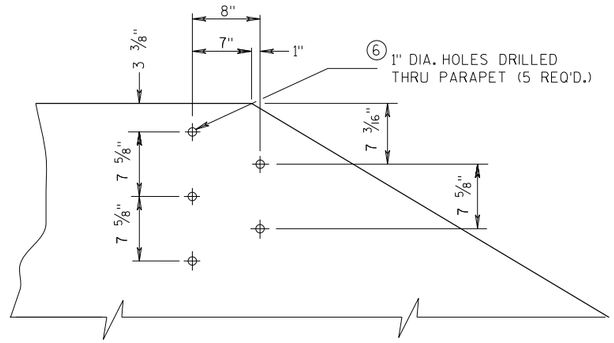
GENERAL NOTES

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

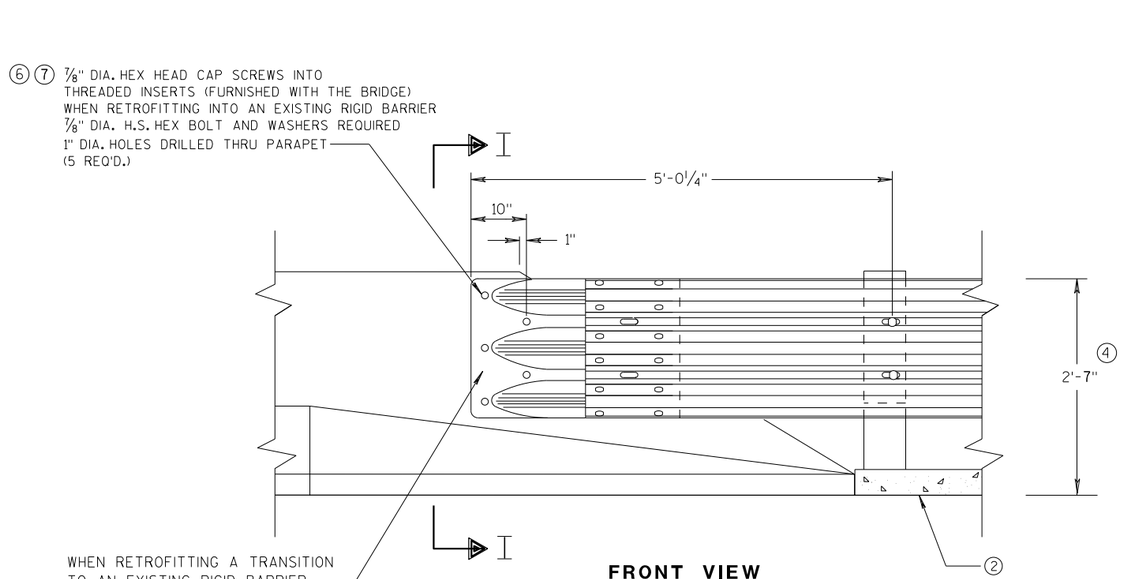
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

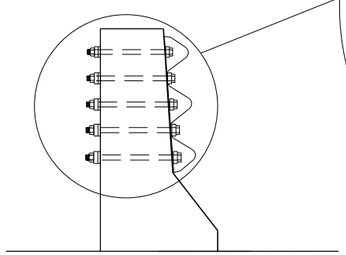
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



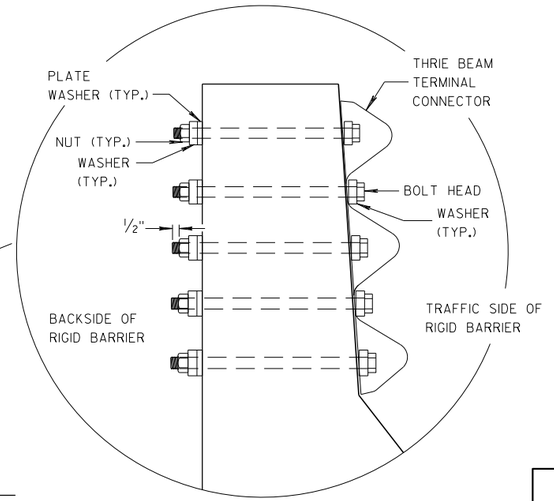
DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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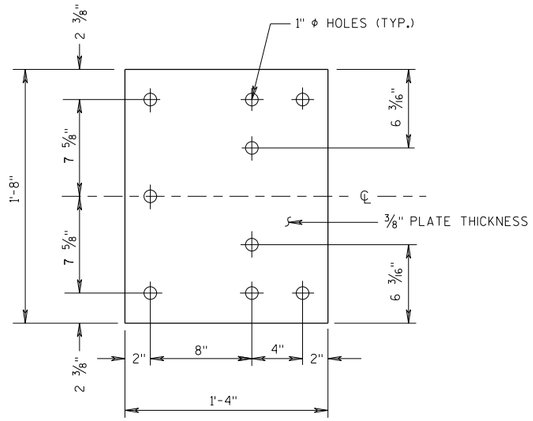
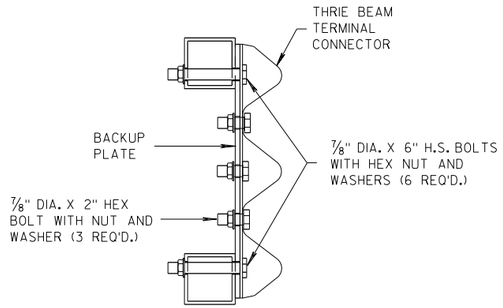


BACK-UP PLATE DETAIL

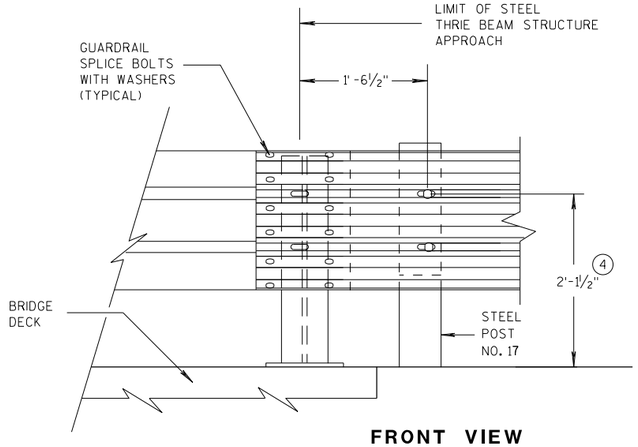


SECTION J-J

GENERAL NOTES

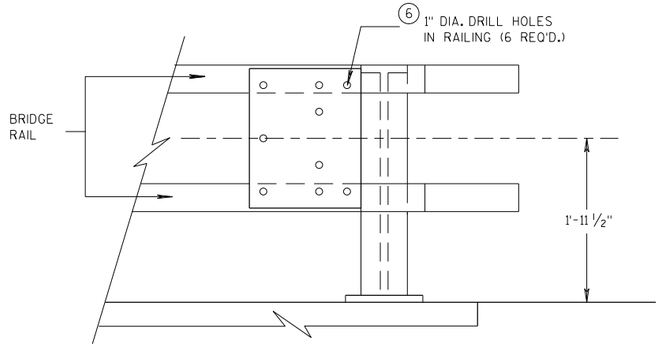
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(6) DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

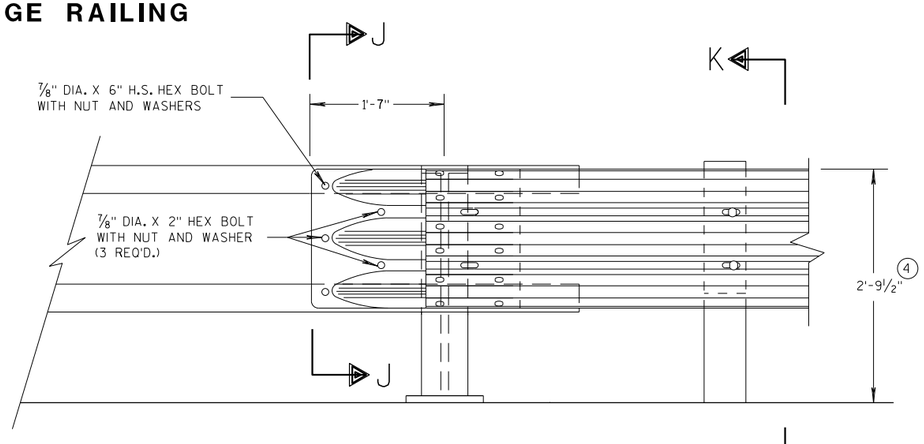


FRONT VIEW

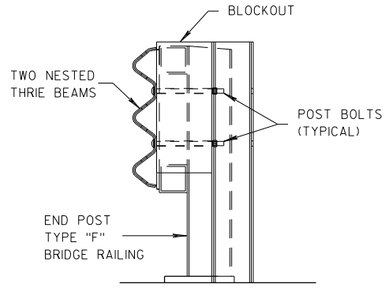
THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 07/2018 — DATE
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ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

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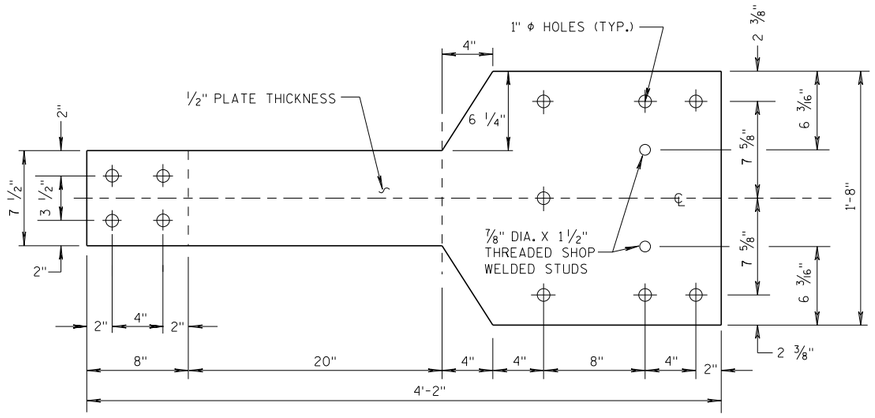
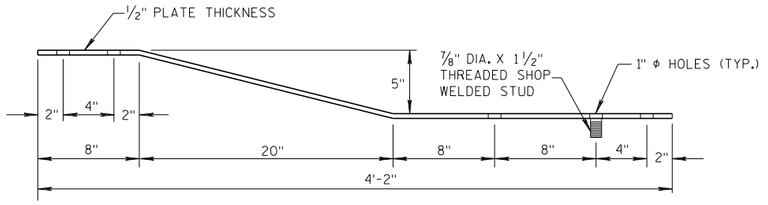
GENERAL NOTES

(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

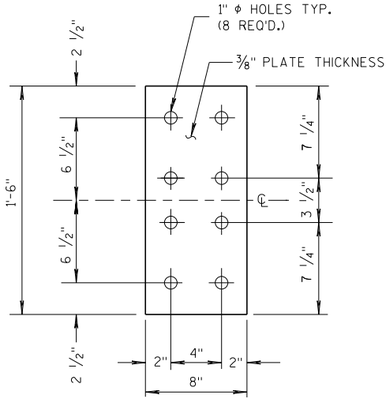


FRONT VIEW



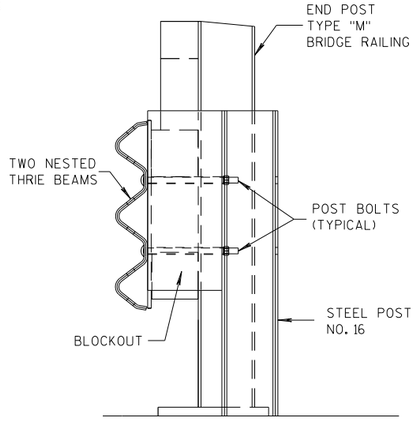
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

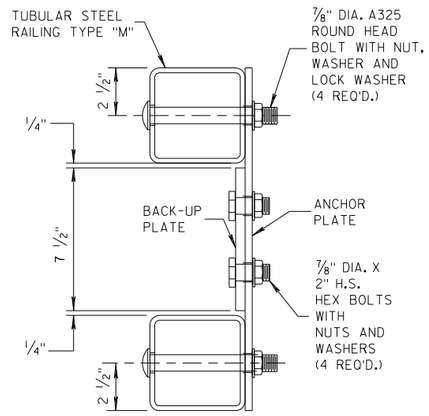


FRONT VIEW

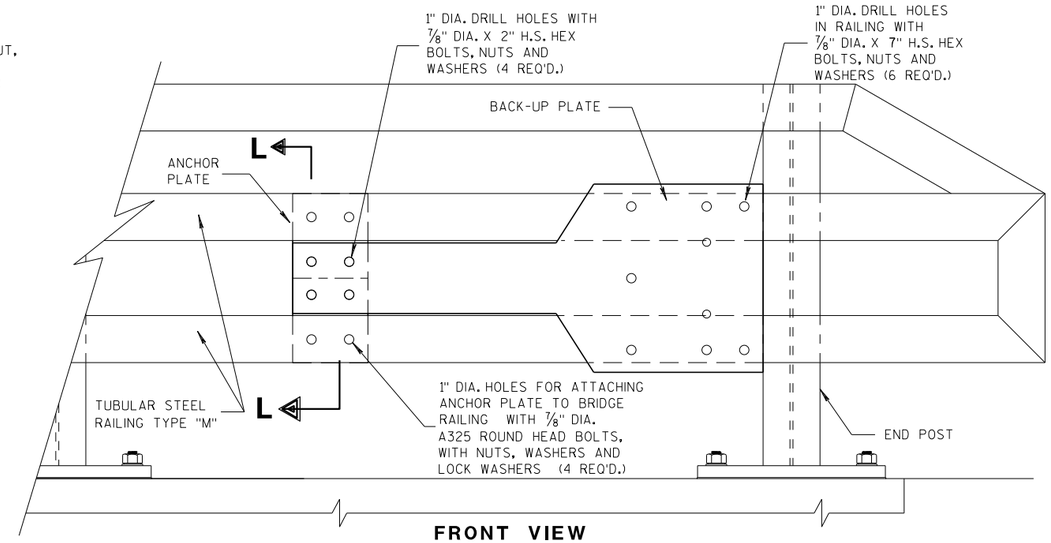
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

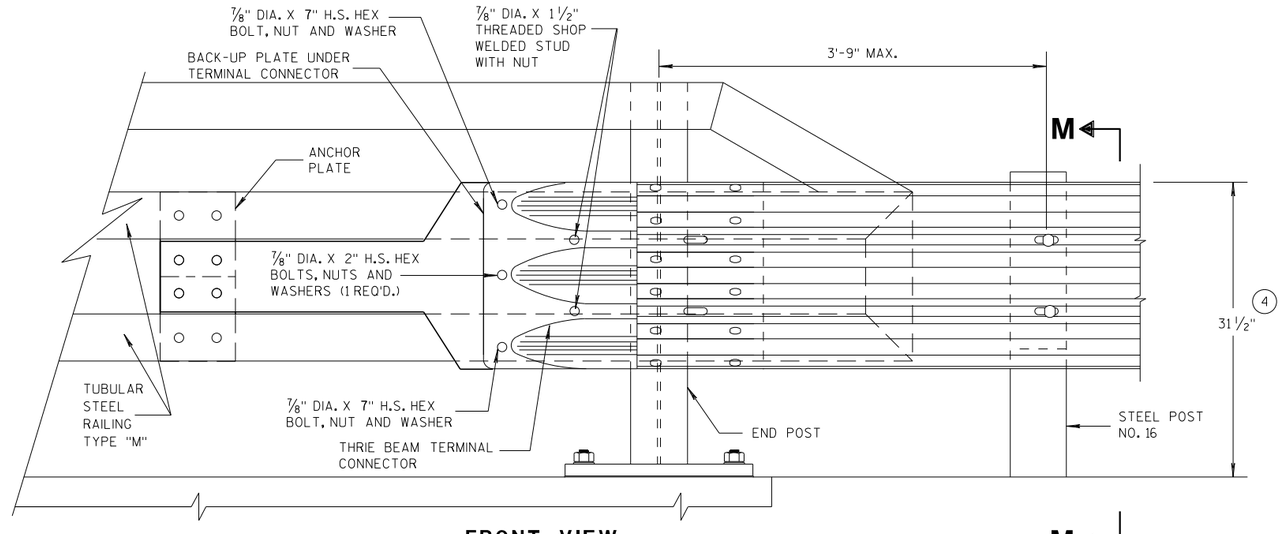


SECTION L-L

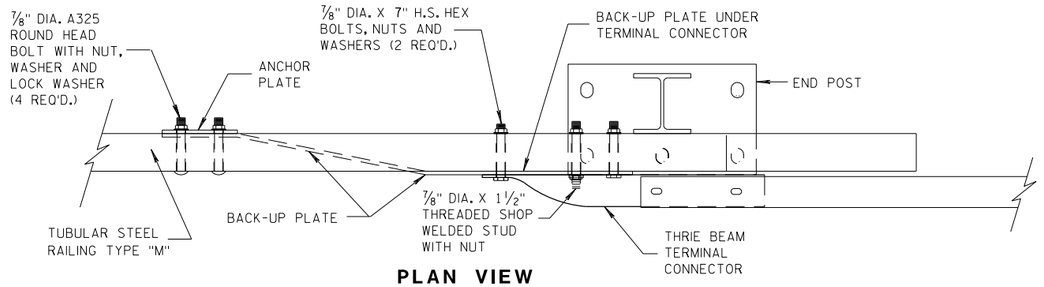


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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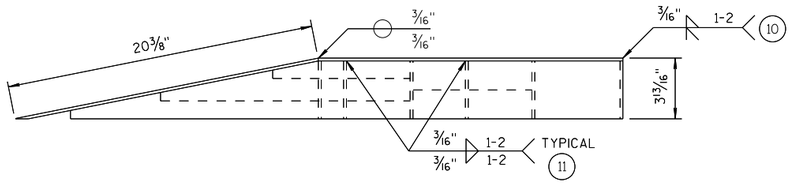

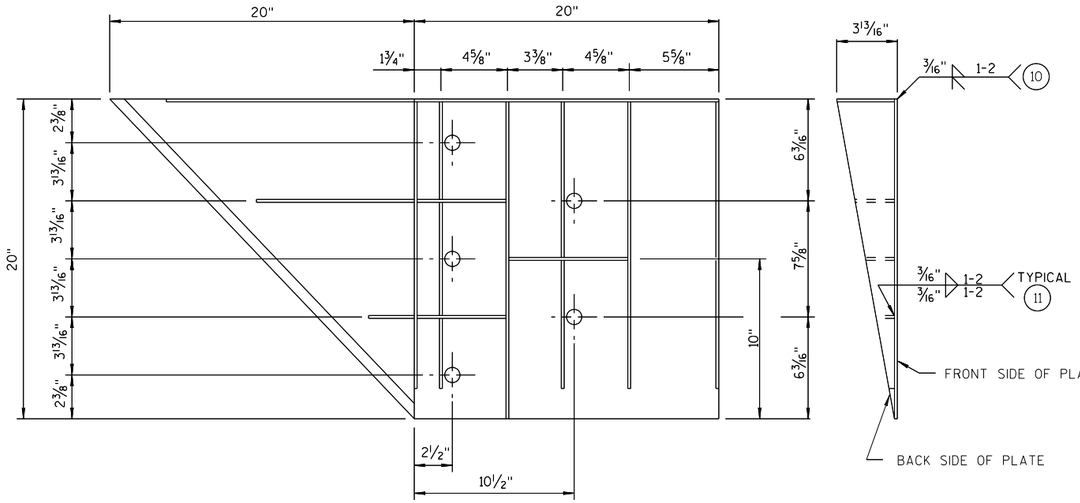

WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

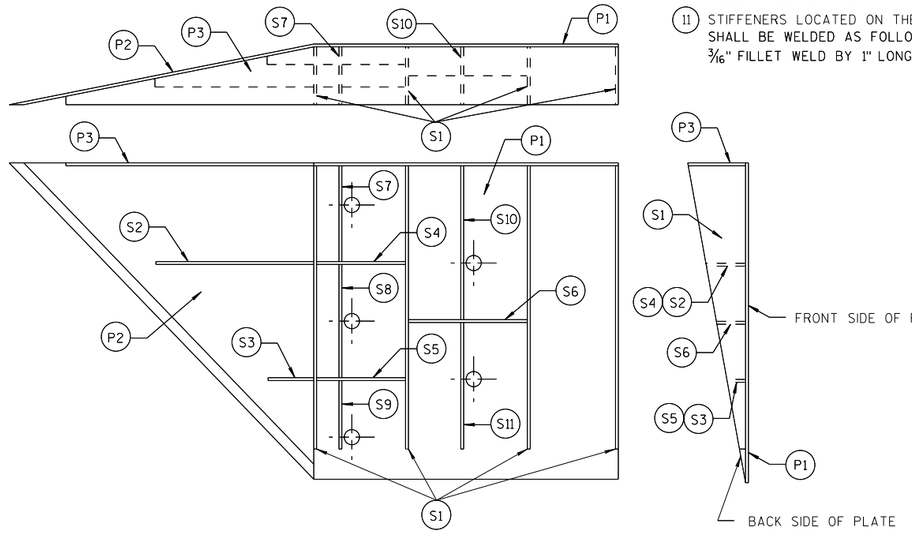

PLATE AND STIFFENER IDENTIFICATION

(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 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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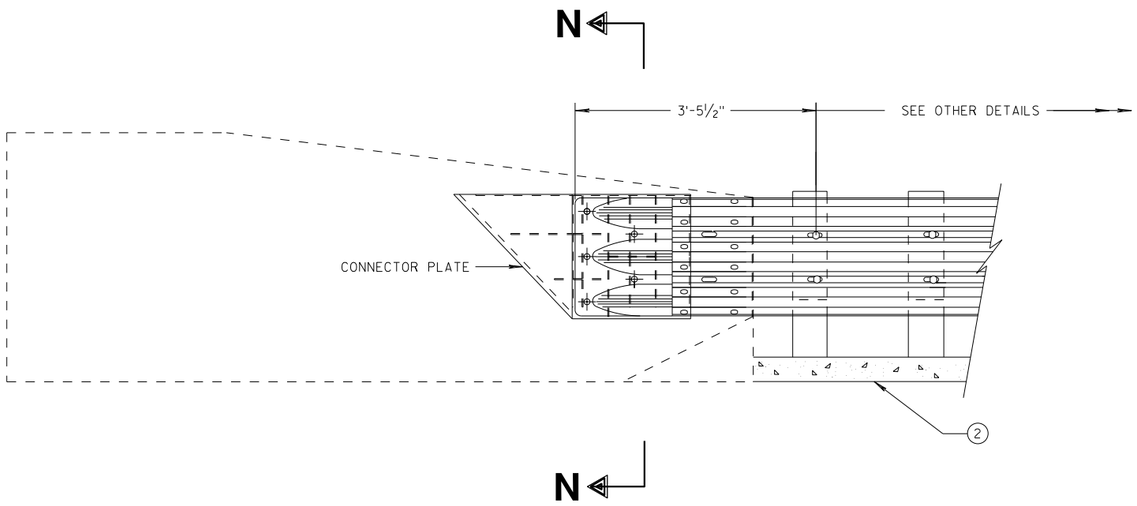
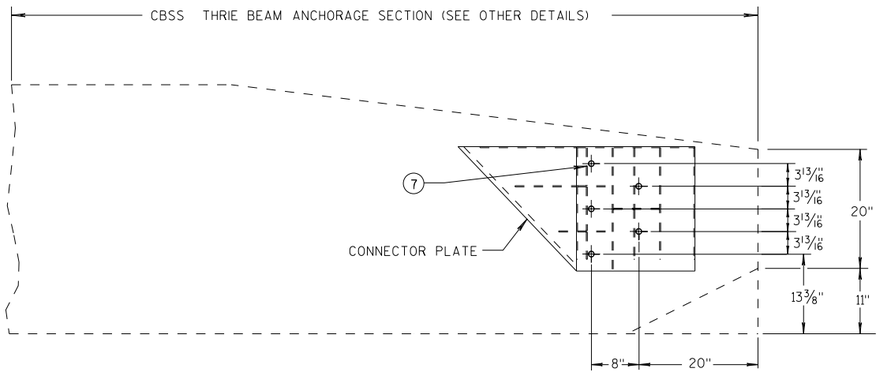


THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



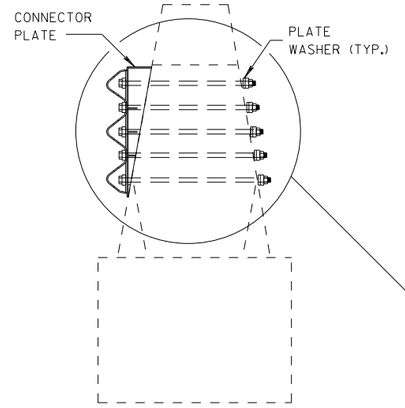
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

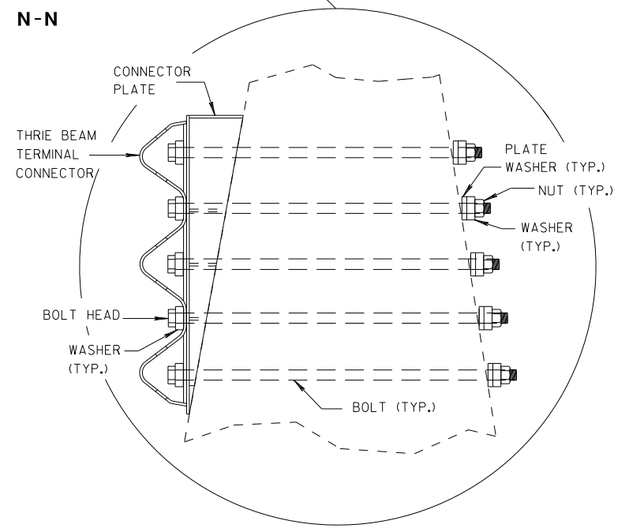
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(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 5/32" 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
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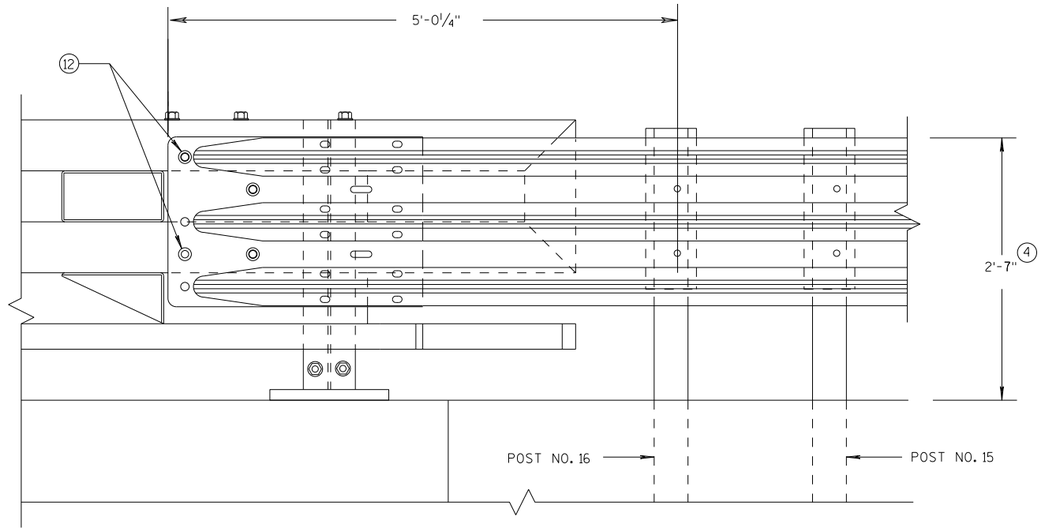
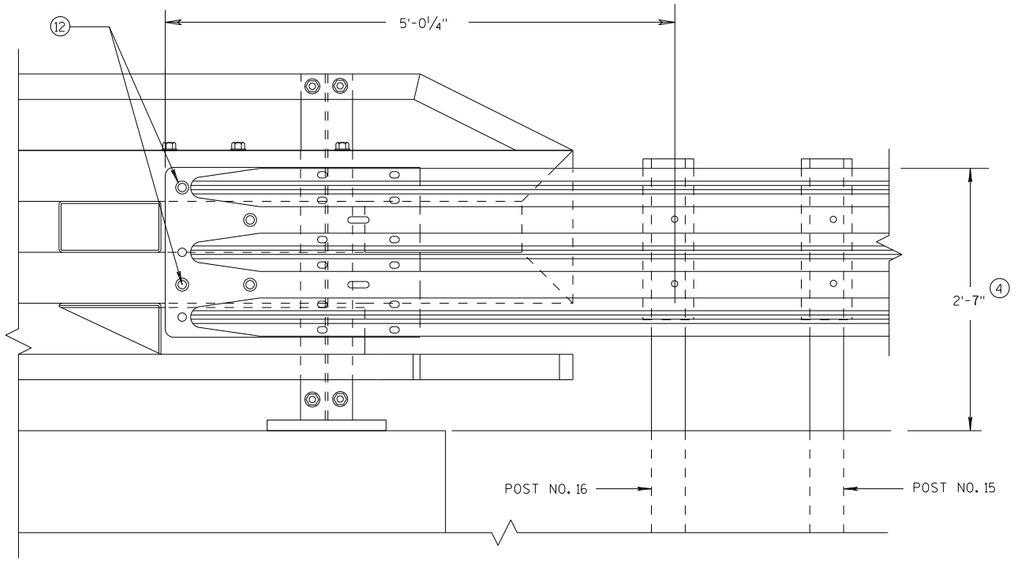


ELEVATION OF DETAIL AT NY3 END POST

THRIE BEAM RAIL ATTACHMENT



ELEVATION OF DETAIL AT NY4 END POST

THRIE BEAM RAIL ATTACHMENT

GENERAL NOTES

(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(12) 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. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

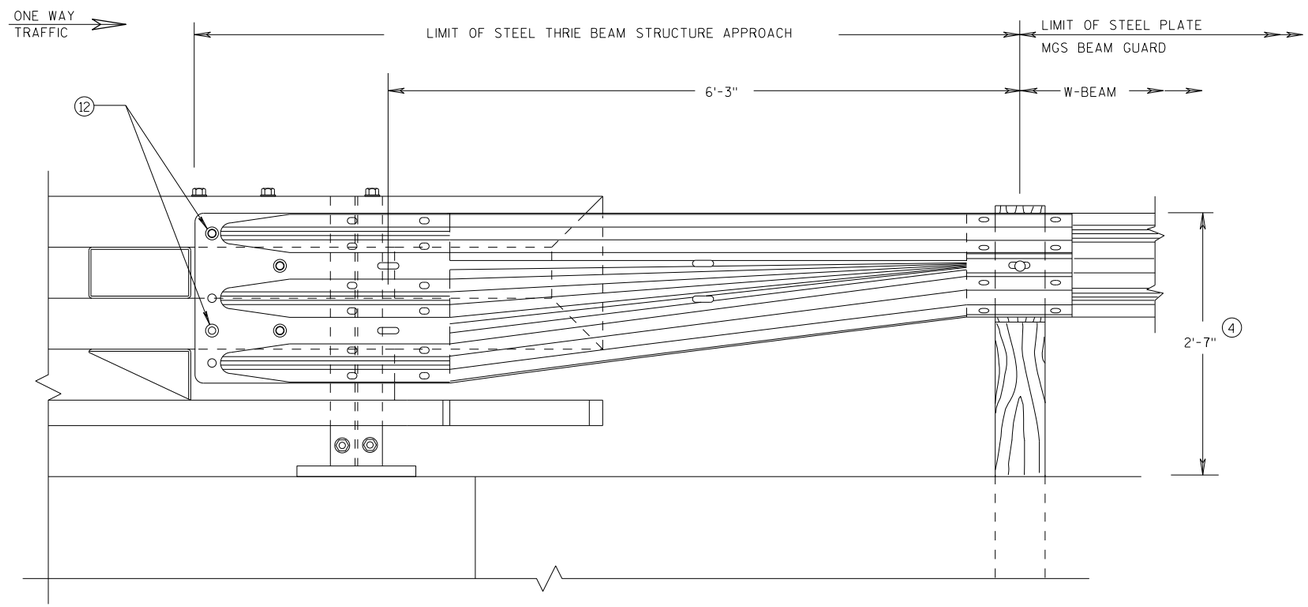
APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D
UNIT SUPERVIS
NT
FHWA

6

S.D.D. 14 B 45-5k

6

S.D.D. 14 B 45-5k



FRONT VIEW

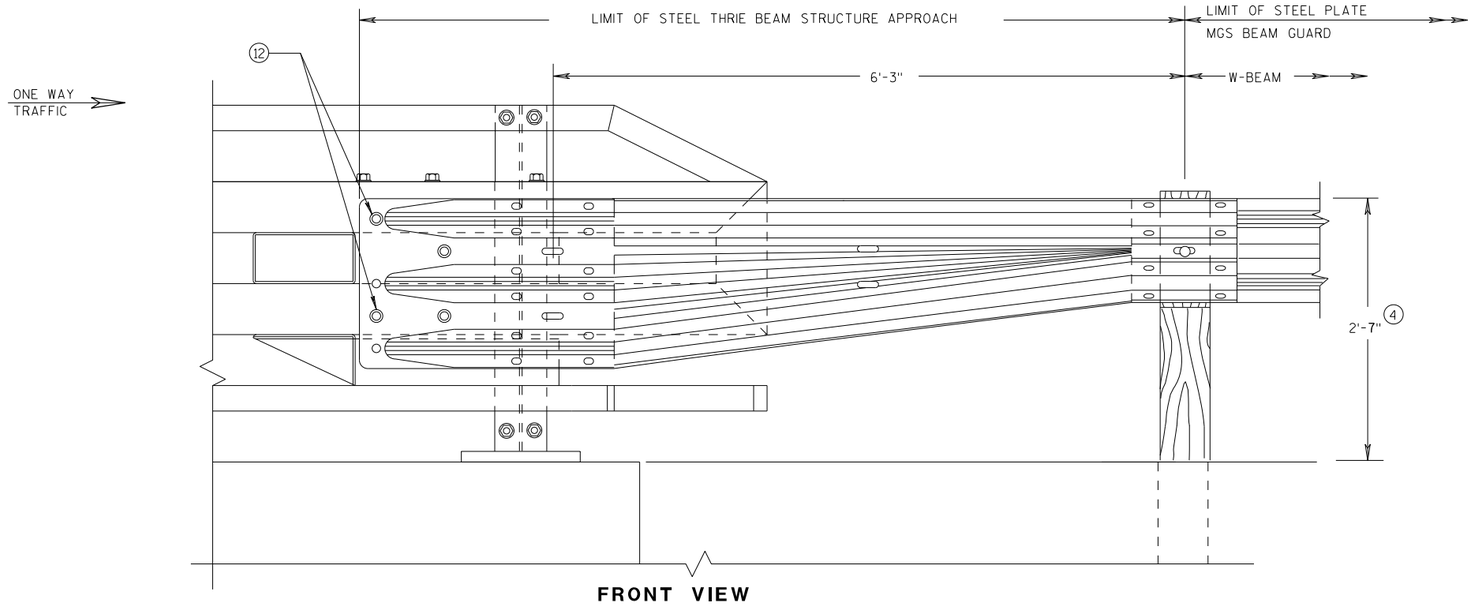
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

GENERAL NOTES

(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(12) 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. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY4"

(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
7/2018 DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D UNIT SUPERVIS
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FHWA

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S.D.D. 14 B 45-5L

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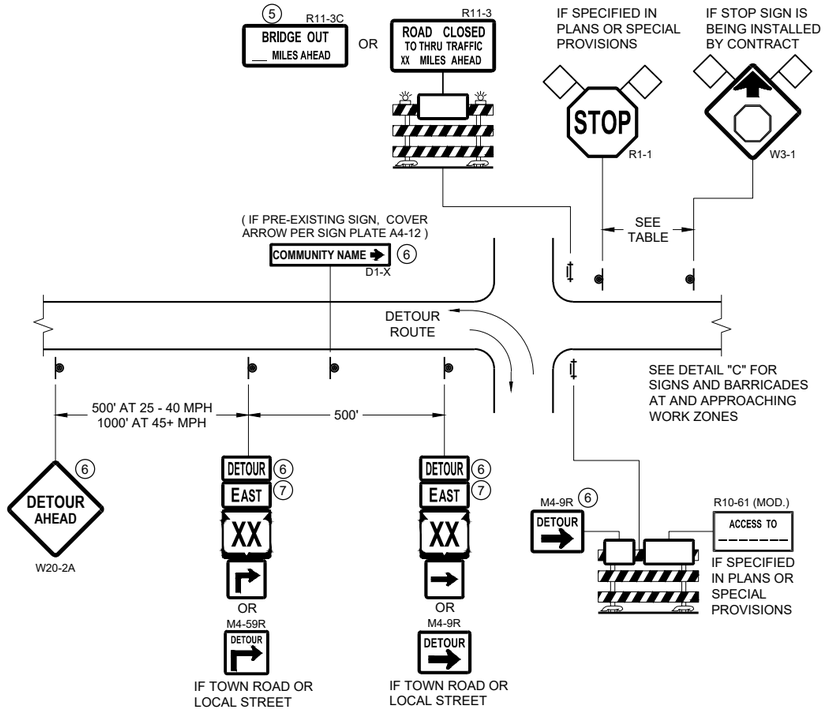
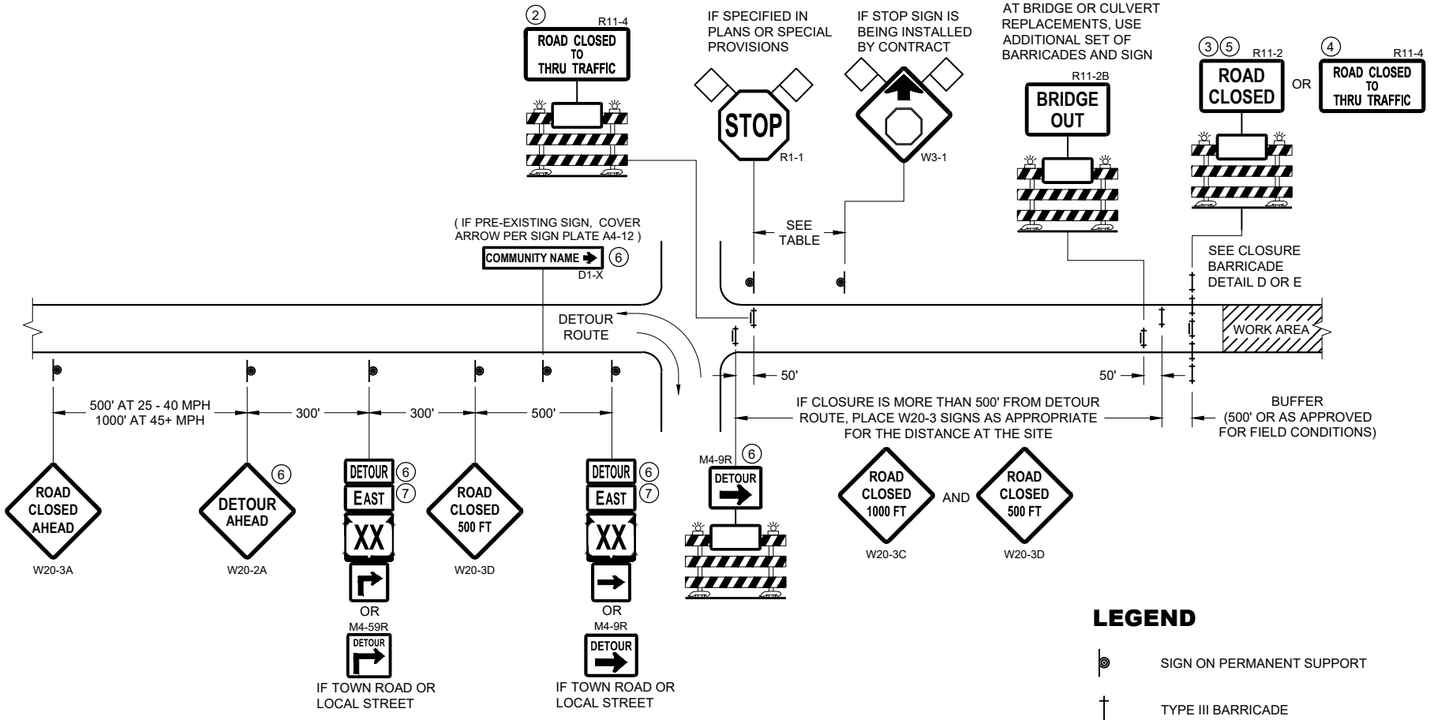
S.D.D. 14 B 45-5L



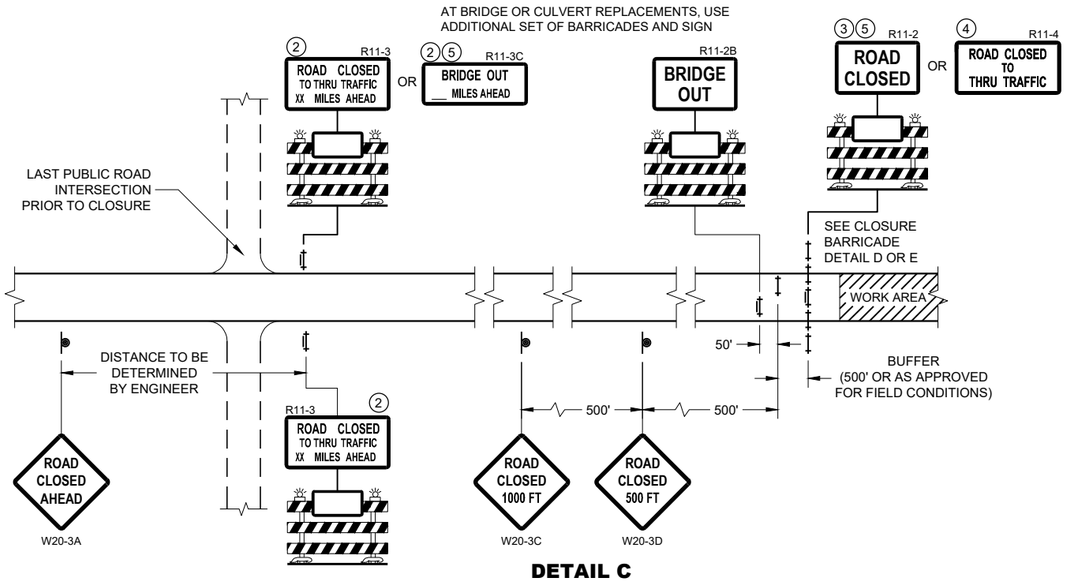
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)
- DETOUR — M4 - 8
- EAST — M3 - X
- XX — M1 - 4 OR XX — M1 - 6 OR COUNTY X — M1 - 5A
- M05 - 1 OR M06 - 1

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

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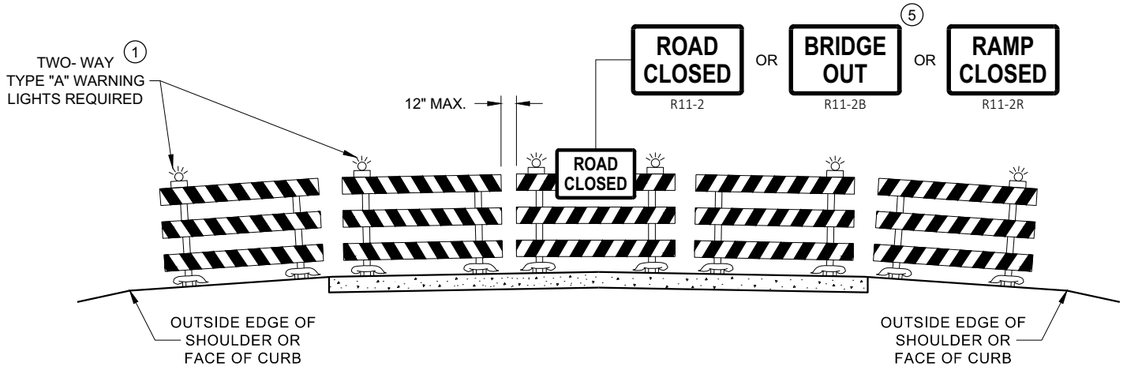
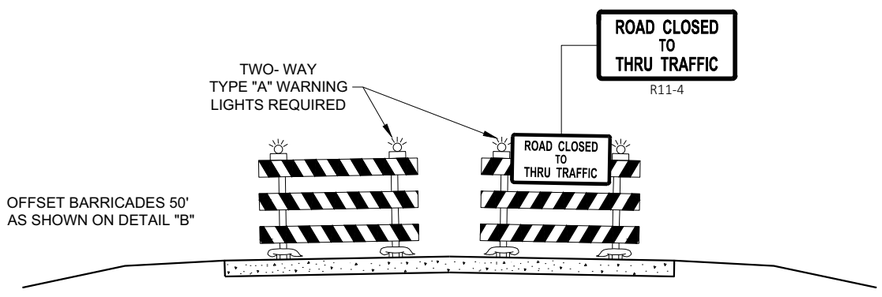
SDD 15C02 - 08a

SDD 15C02 - 08a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING.

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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SDD 15C02 - 08b

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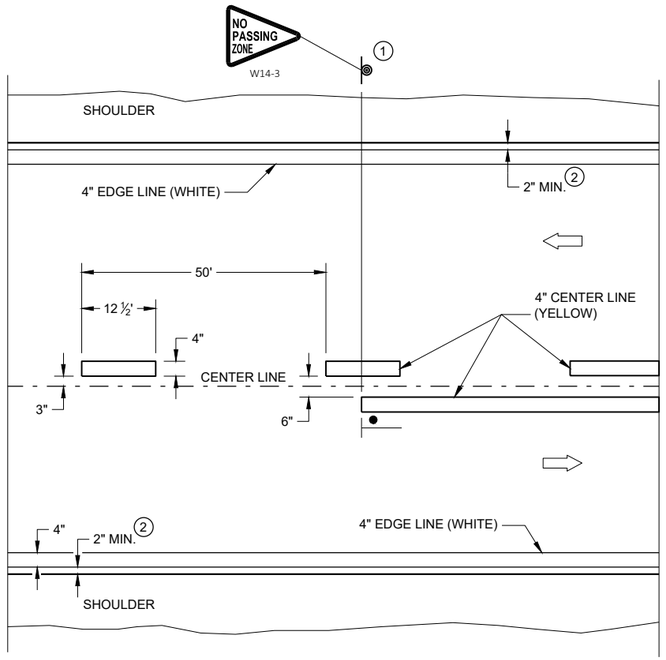
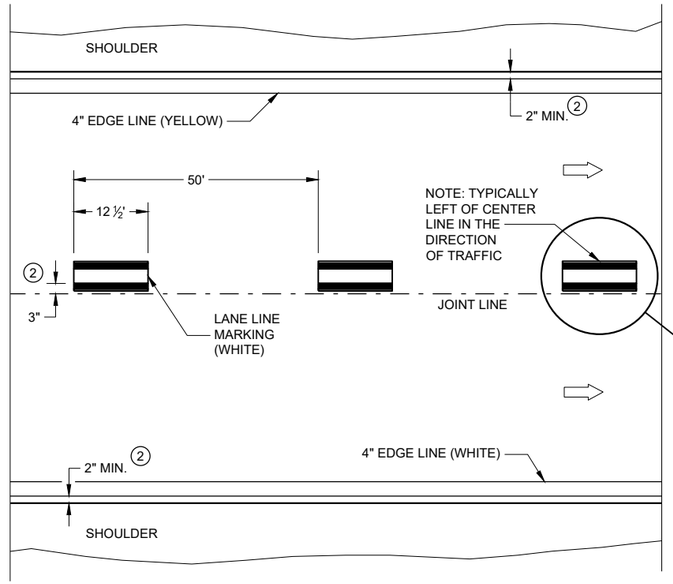
SDD 15C02 - 08b

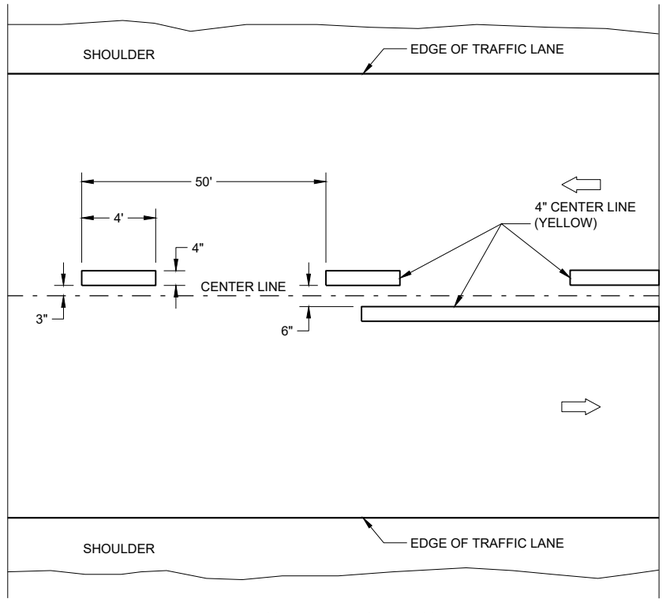


TWO WAY TRAFFIC

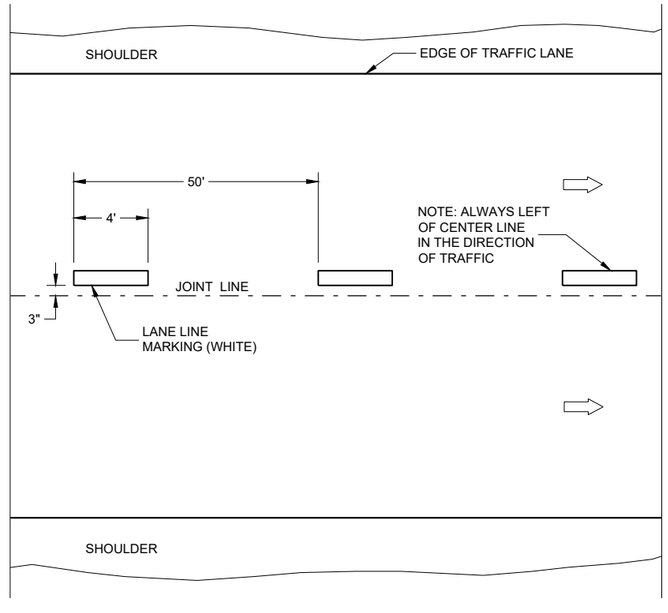


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

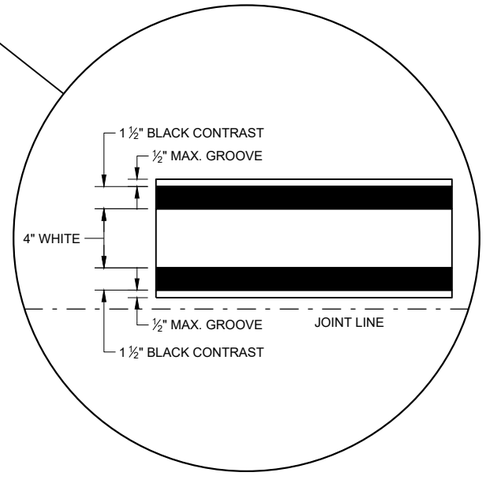
1. LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
2. MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 — DATE
/S/ Matthew Rauch — STATEWIDE SIGNING AND M ENGINEER

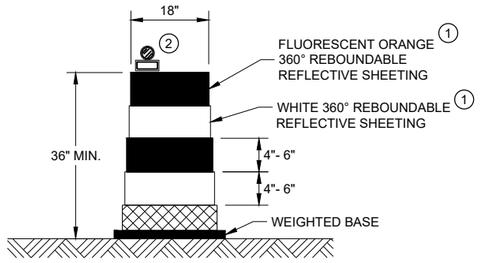
FHWA

SDD 15C08 - 20a

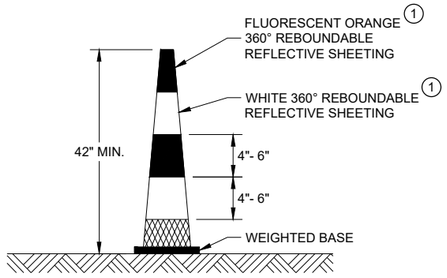
SDD 15C08 - 20a

GENERAL NOTES

1. REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
2. LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

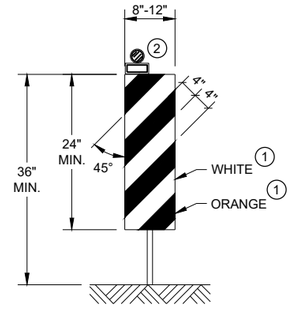


DRUM



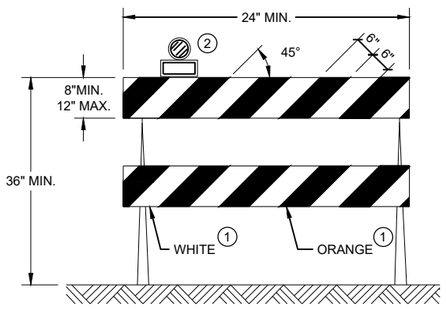
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



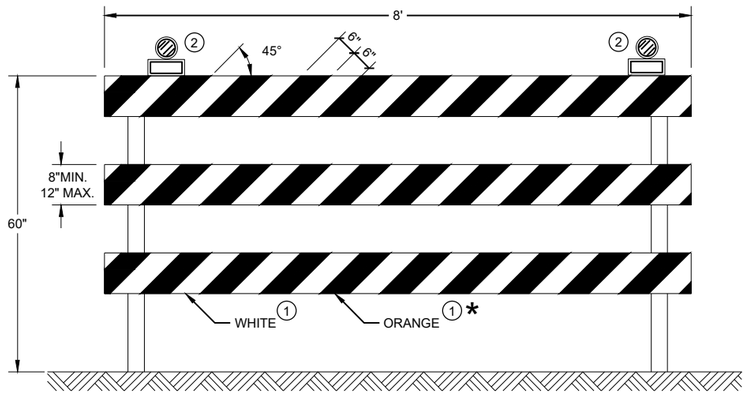
VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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SDD15C11 - 09b

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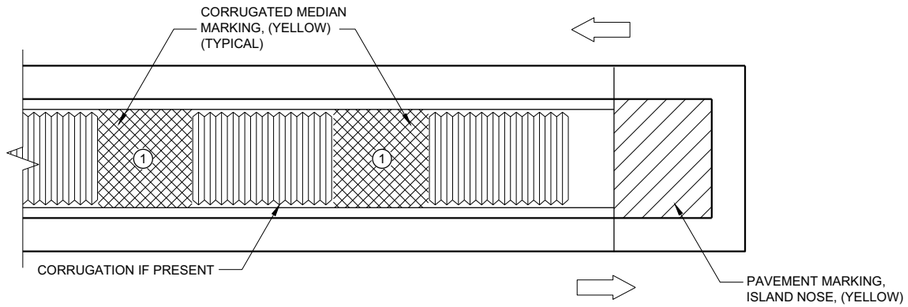
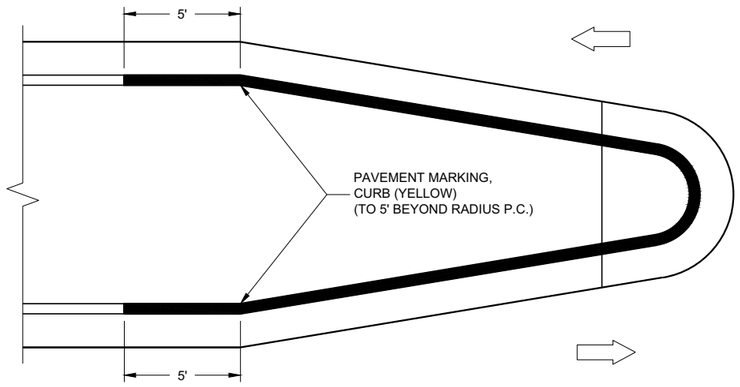
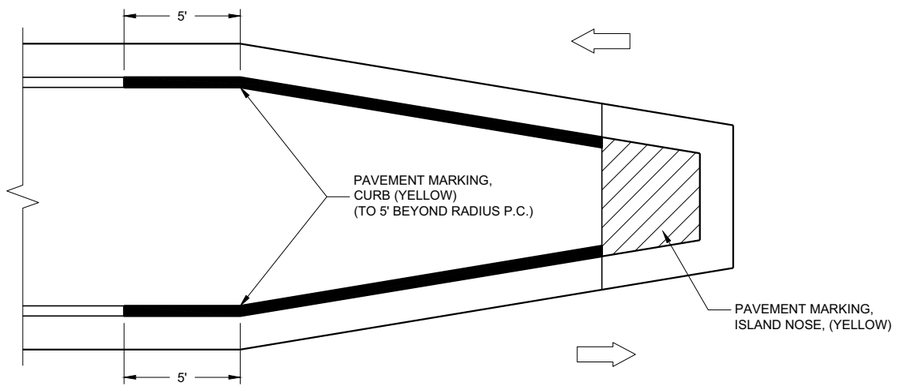
SDD15C11 - 09b



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

GENERAL NOTES

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 ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

ISLAND NOSE MARKING

CURB MARKING

CORRUGATED MEDIAN MARKING

DIRECTION OF TRAVEL

**PAVEMENT MARKINGS,
MEDIAN ISLAND NOSE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

February 2021
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MAR ENGINEER

FHWA

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SDD 15C18 - 05b

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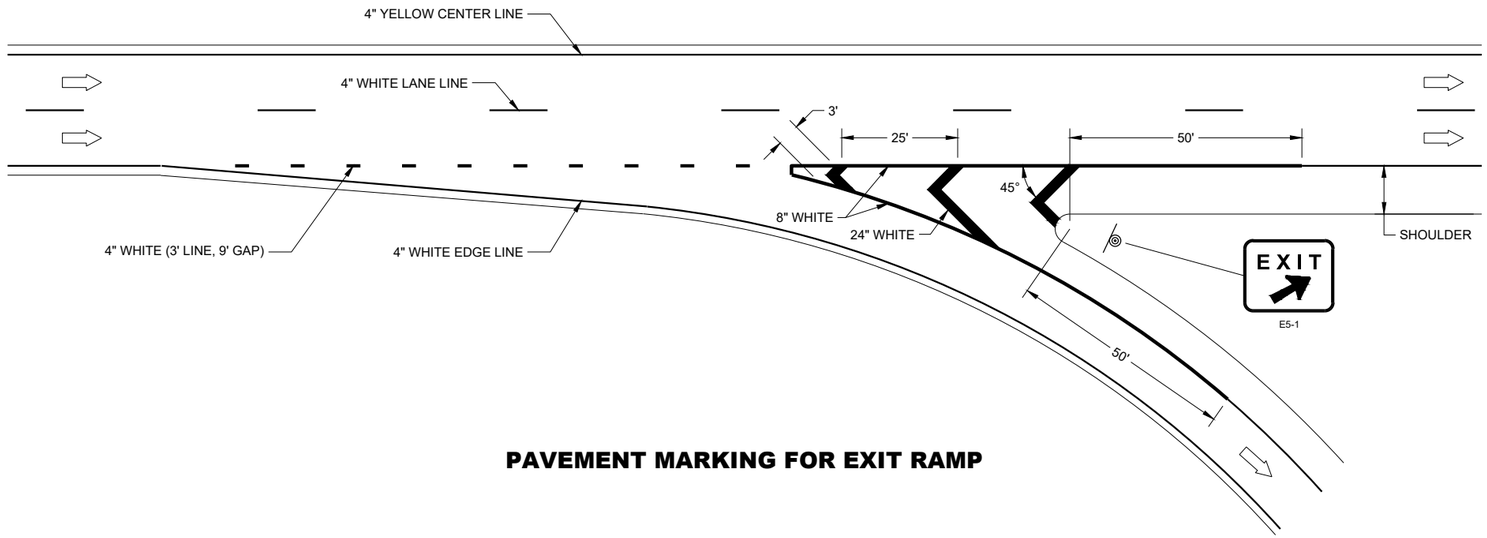
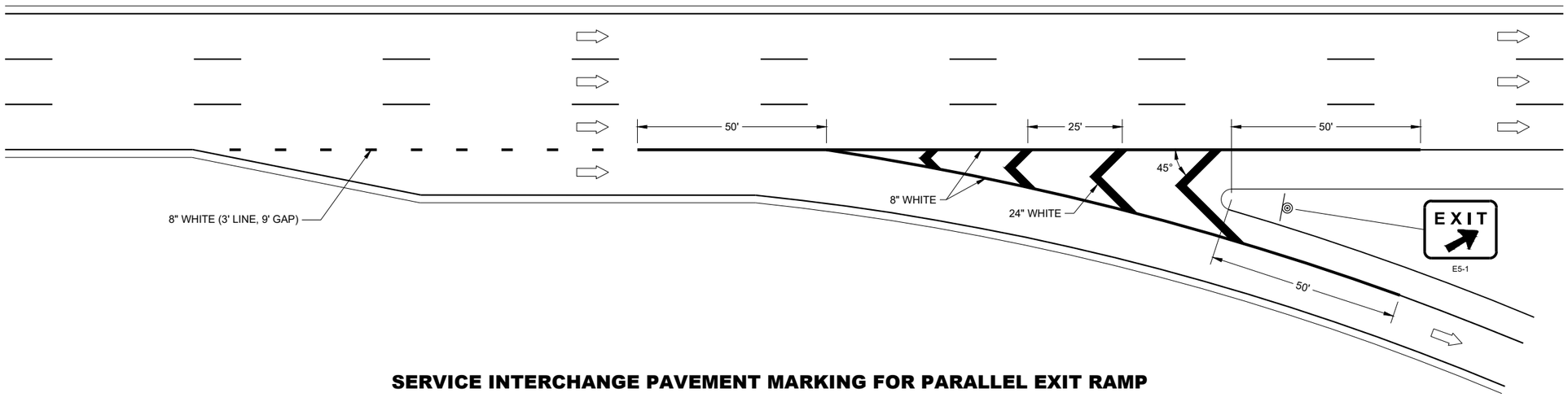
SDD15C18 - 05b



PAVEMENT MARKING FOR EXIT RAMP



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT RAMP

GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAVEL

6

SDD 15C31 - 04a

PAVEMENT MARKING, EXIT RAMP AND PARALLEL EXIT RAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 15C31 - 04a

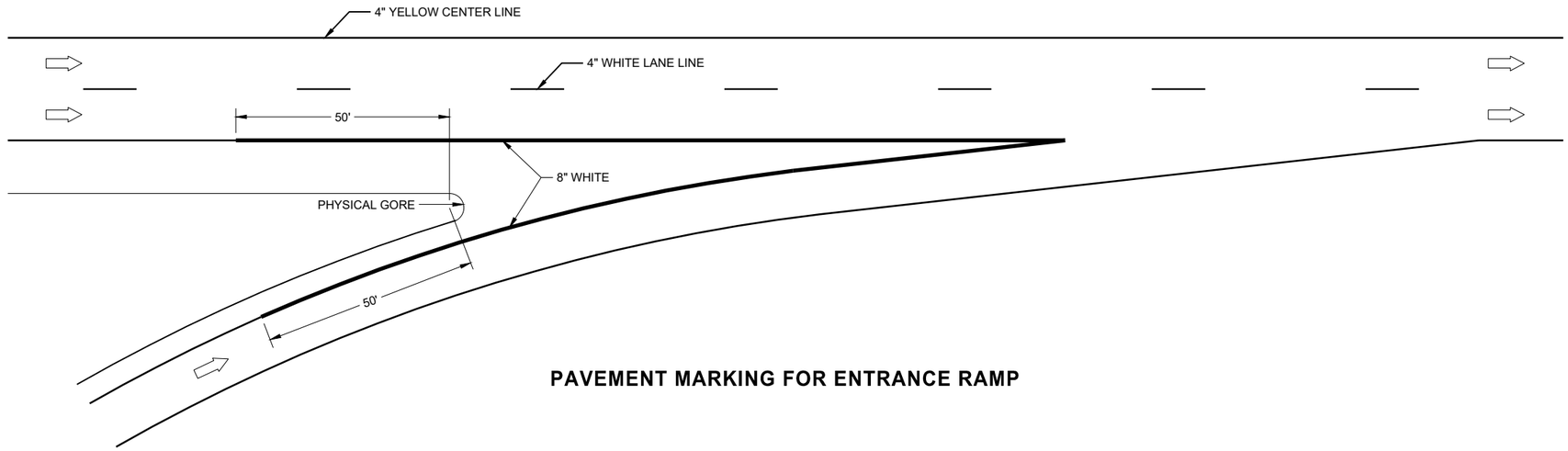
GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

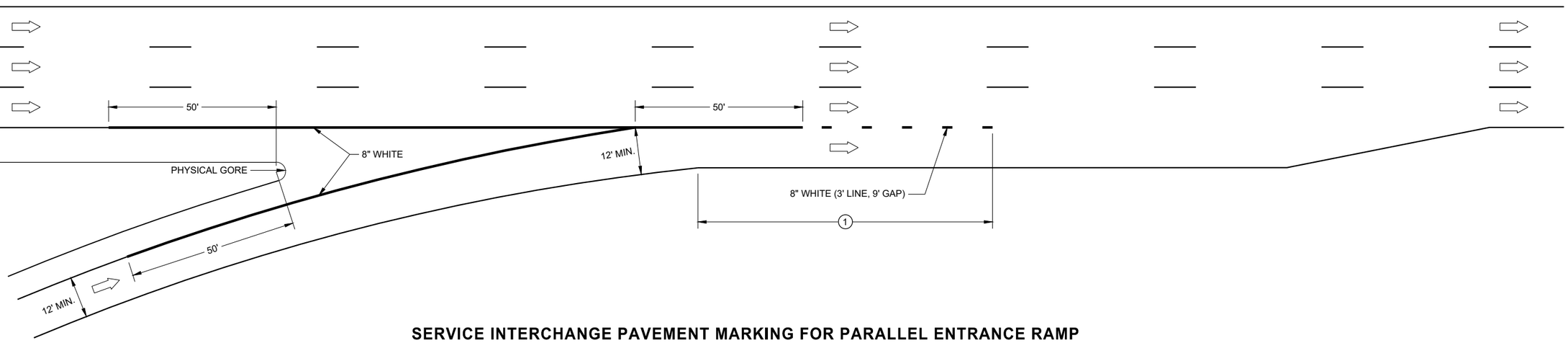
(1) ½ LENGTH OF FULL WIDTH ACCELERATION LANE.

LEGEND

DIRECTION OF TRAVEL



PAVEMENT MARKING FOR ENTRANCE RAMP



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ENTRANCE RAMP

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SDD 14C31 - 04c

SDD 14C31 - 04c

PAVEMENT MARKING, ENTRANCE RAMP AND PARALLEL ENTRANCE RAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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 DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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

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

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

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 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.

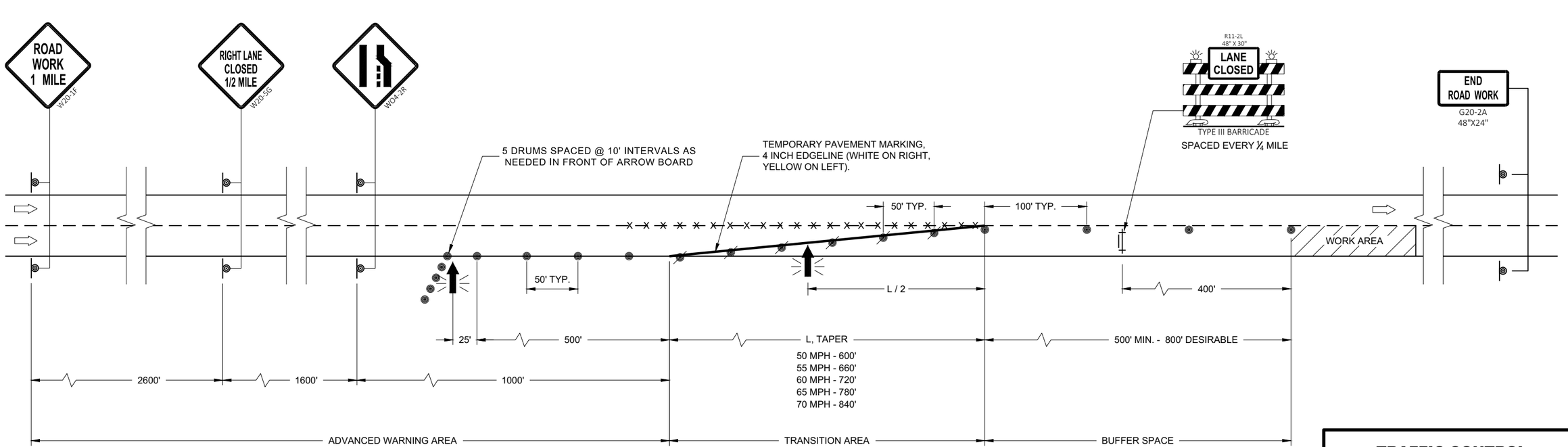
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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 ONE HALF 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.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- FLASHING ARROW BOARD



TRAFFIC CONTROL LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

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SDD 15D12 - 09a

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SDD 15D12 - 09a

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC

GENERAL NOTES

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

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

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

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

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

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

PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROP OFF 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 WORK IS NOT IN PROGRESS.

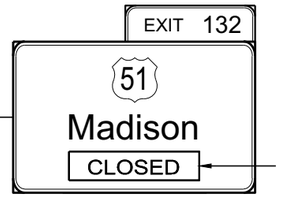
WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12 - HOUR DURATION.

* W20 - 1A 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 CLOSED BEGINNING" SIGN OR PCMS 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.

G20 - 60
108" X 24"

OR

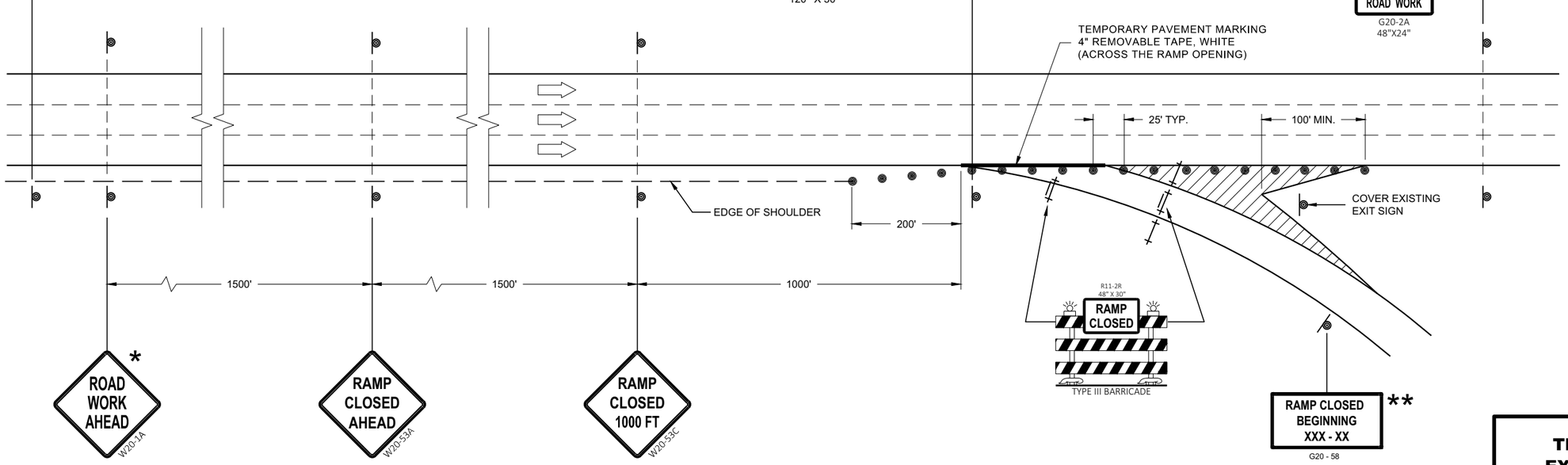


G20 - 60
108" X 24"

PLACE SIGN G20 - 60 OVER MILEAGE ON EXISTING E1 - 1A SIGN

COVER ARROW ON EXISTING E4 - 1 SIGN (COVERING SIGNS TYPE I)

G20 - 61
120 ' X 30"



OR

PCMS MESSAGING

FRAME 1	FRAME 2
RAMP TO CLOSE	XXXDAY XX XX XX

TRAFFIC CONTROL, EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Andrew Heidtke
ROADWAY STANDARDS DEVE ENGINEER

FHWA

6

SDD 15D16 - 04

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.

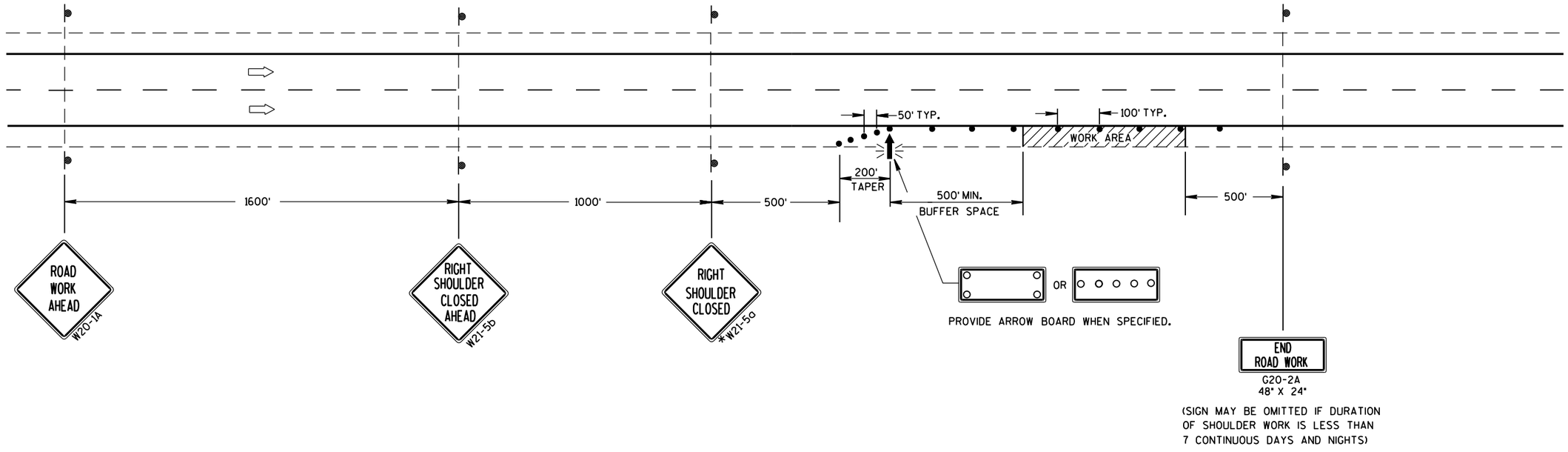
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

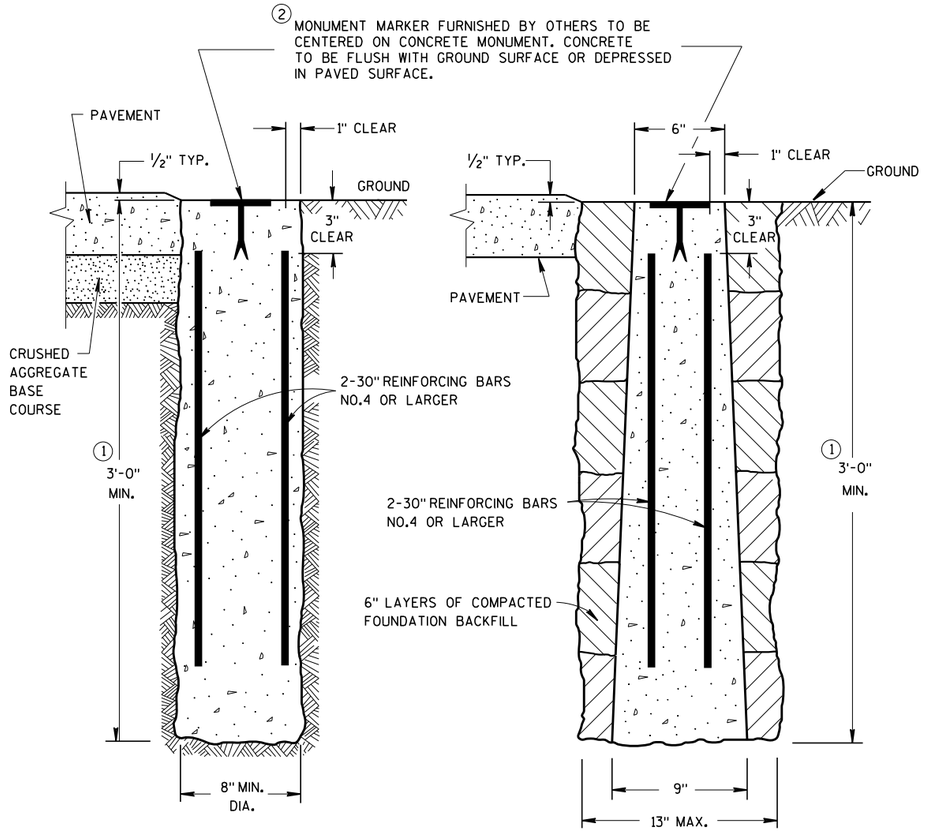
June 2016 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible]

FHWA

6

S.D.D. 15 D 27-3

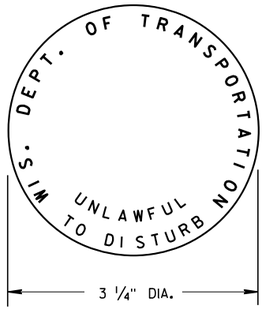


CAST-IN-PLACE

PRECAST

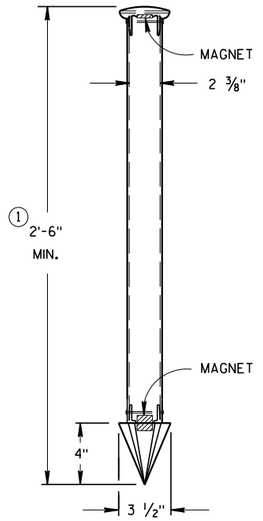
CONCRETE MONUMENTS

TYPE A



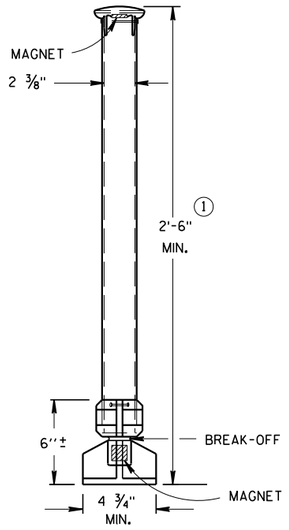
② **WIS DOT MONUMENT MARKER LOGO**

FOR TYPES "A", "C", & "D"



TYPE C

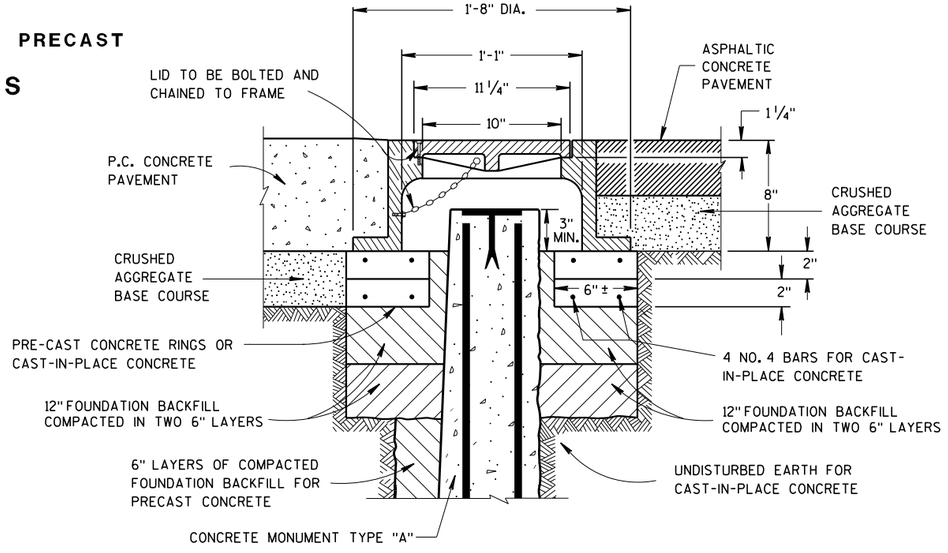
DRIVE-IN MONUMENT



TYPE D
NON-DRIVEN
BREAK-OFF MONUMENT

ALUMINUM MONUMENTS

(INCLUDES MARKER)



CAST IRON MONUMENT COVER

(APPROXIMATE WEIGHT 95 LBS)

GENERAL NOTES

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

DETAILED DRAWINGS OF PROPOSED ALTERNATE DESIGNS FOR METAL MONUMENTS OR MONUMENT COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

PERMANENT MAGNETS SHALL BE INSERTED NEAR THE TOP AND BOTTOM OF ALL ALUMINUM MONUMENTS SO THE MONUMENT CAN EASILY BE DETECTED BY A METAL DETECTOR.

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.

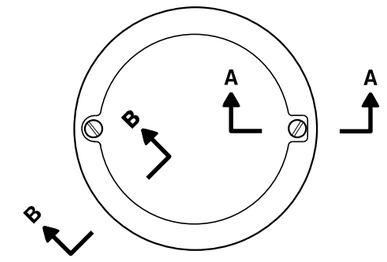
ALUMINUM MONUMENTS AND MONUMENT COVERS SHALL BE MADE FROM AN ALUMINUM AND MAGNESIUM ALLOY AS DETERMINED BY THE MANUFACTURER.

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.

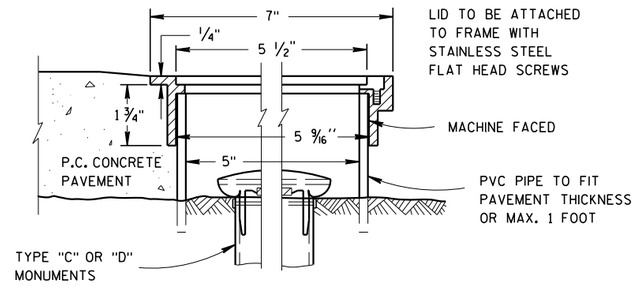
MONUMENT SHALL BE CAST-IN-PLACE CONCRETE UNLESS PRECAST CONCRETE OR ALUMINUM MONUMENTS ARE SPECIFIED IN THE CONTRACT OR PERMITTED BY THE ENGINEER

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



SECTION B-B SECTION A-A

ALUMINUM MONUMENT COVER

(APPROXIMATE WEIGHT 2 LBS)
(FOR CONCRETE PAVEMENT ONLY)

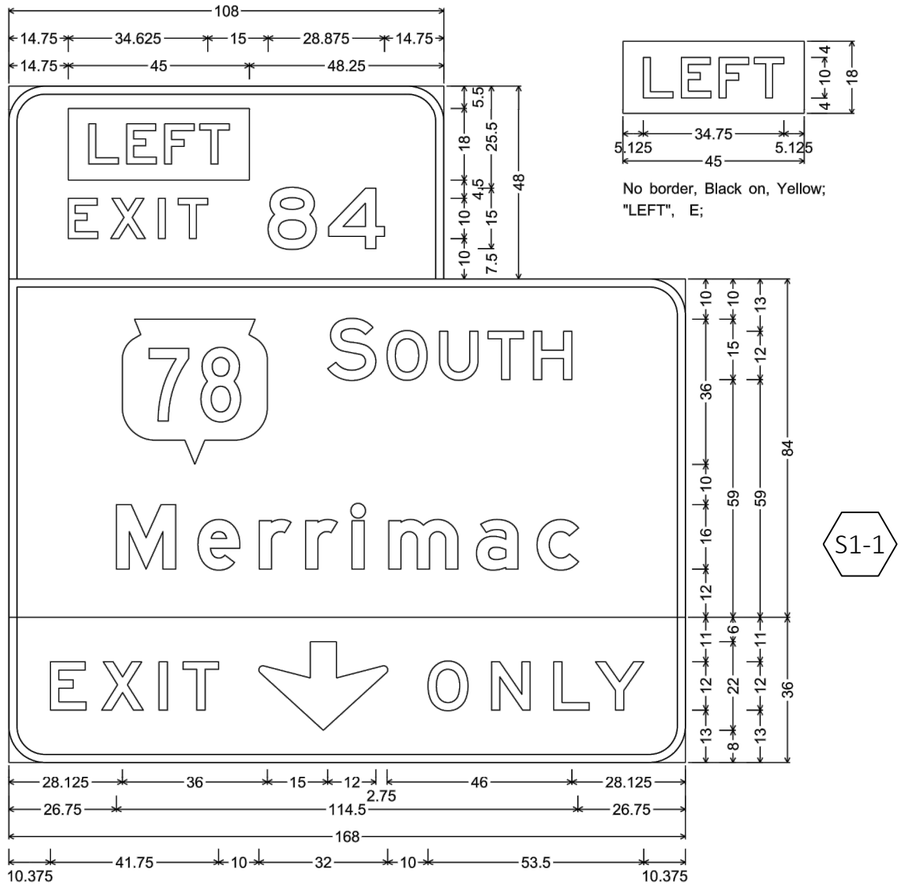
LANDMARK REFERENCE MONUMENTS AND COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Raymond A. Kumagai — CHIEF SURVEYING AND MAPPING ENGINEER
FHWA

6

S.D.D. 16 A 1-7

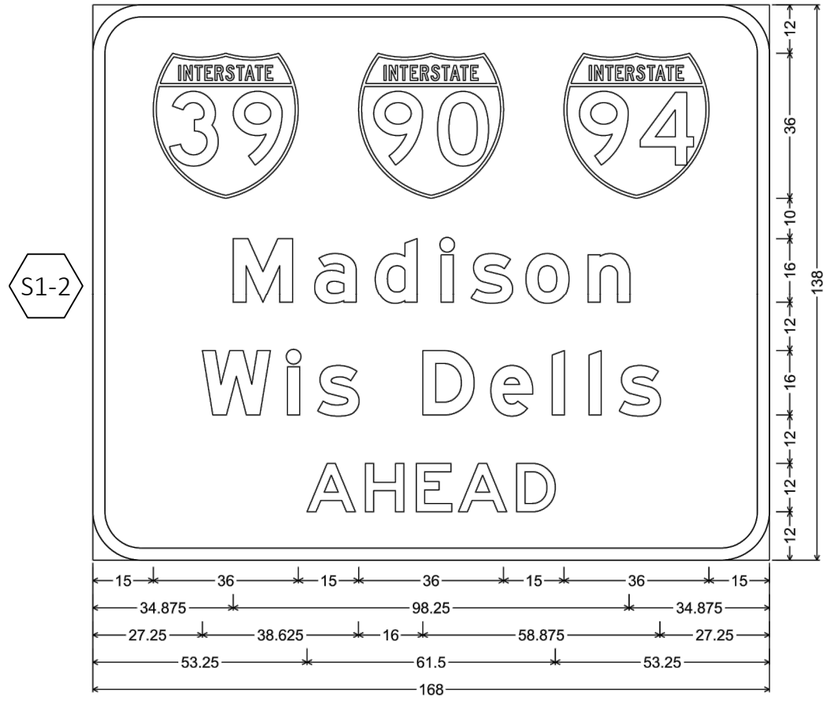


No border, Black on, Yellow;
"LEFT", E;

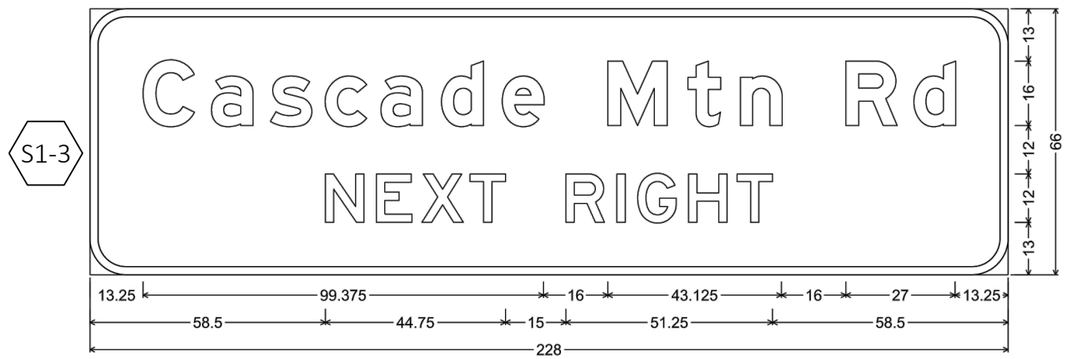
E1-5BP; 9.000" Radius, 2.000" Border, White on, Green;
E6-1; 9.000" Radius, 2.000" Border, White on, Green;
E11-1; 9.000" Radius, 2.000" Border, Black on, Yellow

NOTES

1. All Signs Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all CAP words Series E or as noted
4. Exit Only Planel and Left Plaque is on Yellow Type F Reflective Sheeting with Black Non-Reflective Message



E6-51; 12.000" Radius, 3.000" Border



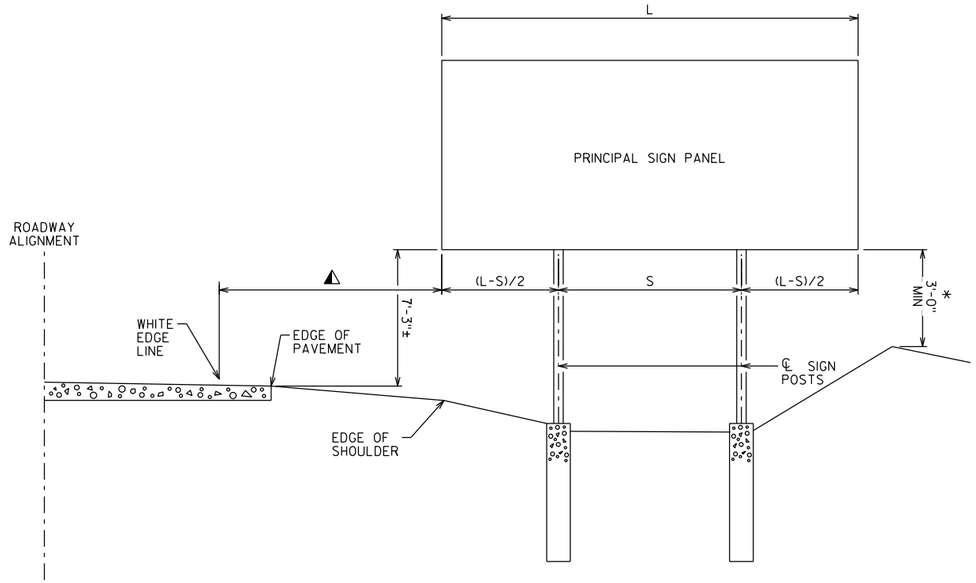
E6-1; 9.000" Radius, 2.000" Border

7

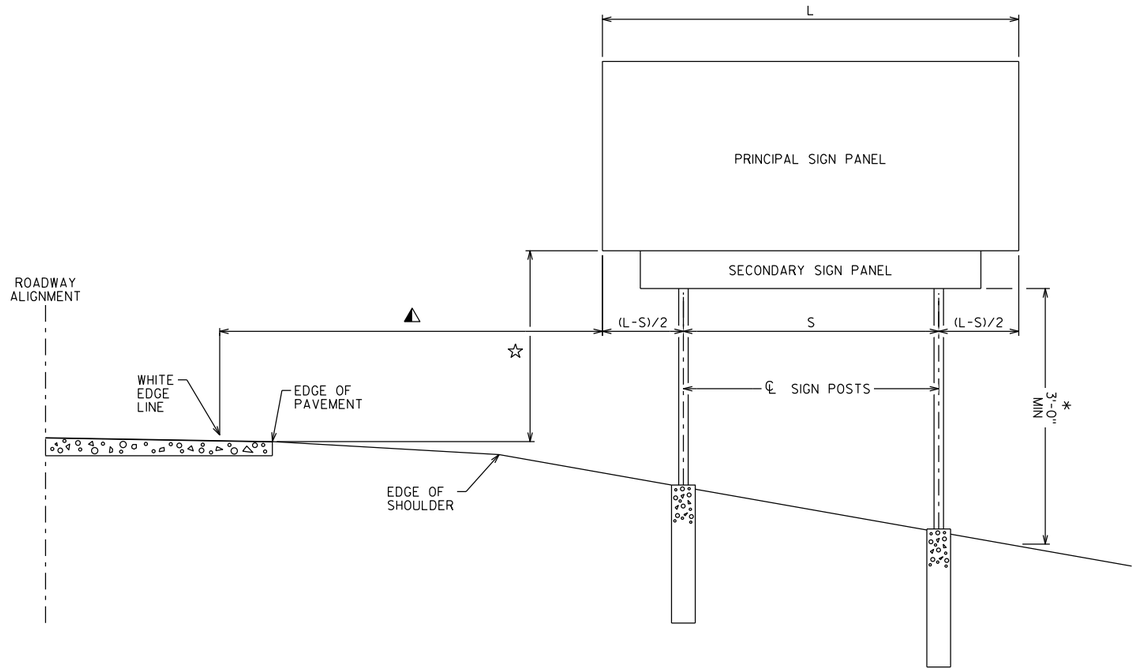
7

PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	PERMANENT SIGNING	SHEET 83	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\070101-SD.DWG
LAYOUT NAME - Plan 1 IN 20 FT
PLOT DATE : 9/7/2021 2:42 PM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET



INSTALLATION WITHOUT SECONDARY SIGN



INSTALLATION WITH SECONDARY SIGN

TYPE 1 SIGN INSTALLATION NOTES:

FOR A 2-POST INSTALLATION, "S" EQUALS 3L/5, BUT SHALL NOT BE LESS THAN 6'-0".

FOR A 3-POST INSTALLATION, "S" EQUALS 5L/7, BUT SHALL NOT BE LESS THAN 12'-0". THE SPACING BETWEEN ANY TWO POSTS SHALL NOT BE LESS THAN 6'-0".

◭ UNLESS NOTED IN THE PLANS, THE SIGN OFFSET DISTANCE SHALL BE A MINIMUM OF 17'-6" FROM THE WHITE EDGE LINE, DESIRABLE 30'-0".

THE ± TOLERANCE SHOWN ON THIS SHEETS IS 3".

THE VERTICAL SIGN HEIGHT CLEARANCES SHOWN ON THIS SHEET ARE MEASURED FROM THE BOTTOM OF THE SIGN PANEL TO THE NEAR EDGE OF PAVEMENT.

☆ THE VERTICAL CLEARANCE SHALL BE 8'-3"± WHEN THE SECONDARY SIGN HEIGHT IS 3'-0" OR LESS. FOR SECONDARY SIGN HEIGHTS LARGER THAN 3'-0", THE VERTICAL CLEARANCE TO THE BOTTOM OF THE SECONDARY SIGN PANEL SHALL BE 5'-3"±.

* THE VERTICAL SIGN GROUND CLEARANCE ON RIGHT END OF SIGN SHALL BE A MINIMUM OF 3'-0"±.

POST LENGTHS SHOWN IN THE MISCELLANEOUS QUANTITIES ARE ESTIMATED LENGTHS. THE CONTRACTOR SHALL VERIFY POST LENGTHS AT THE TIME OF FINAL GRADING.

REFER TO THE TRAFFIC ENGINEERING OPERATIONS AND SAFETY MANUAL FOR FURTHER GUIDANCE ON MINIMUM VERTICAL CLEARANCE REQUIREMENTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE BTO TYPE I SIGNS

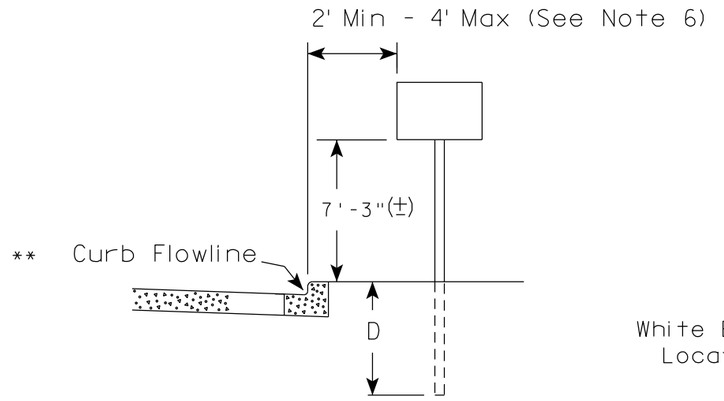
DRAWN BY | PLANS CK'D.

TYPICAL TYPE I SIGN INSTALLATION

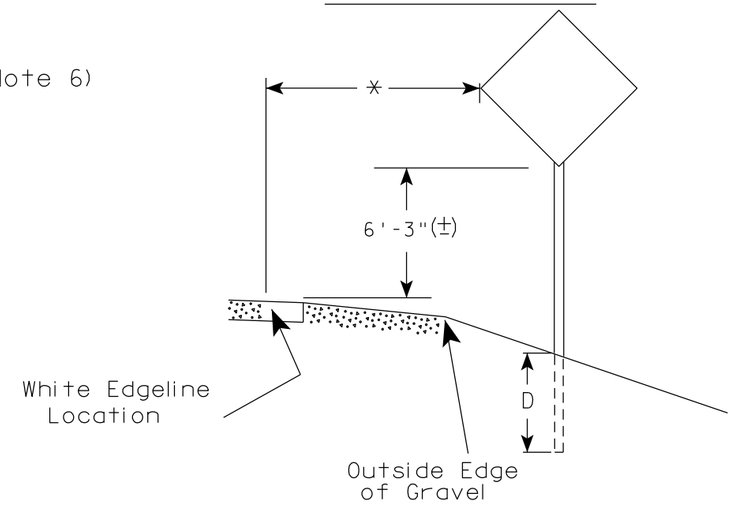
SHEET A4-1.10

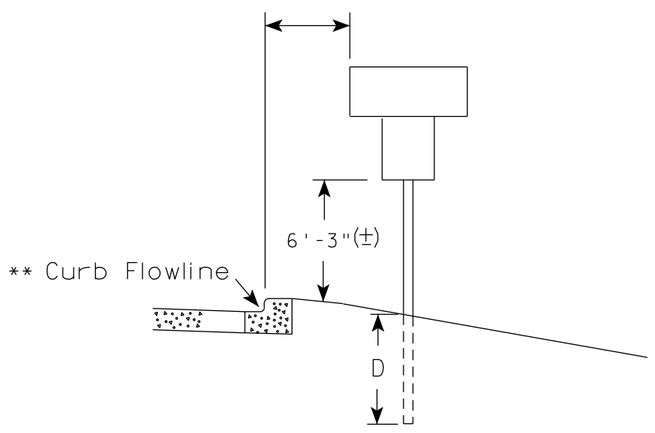
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 84 | E

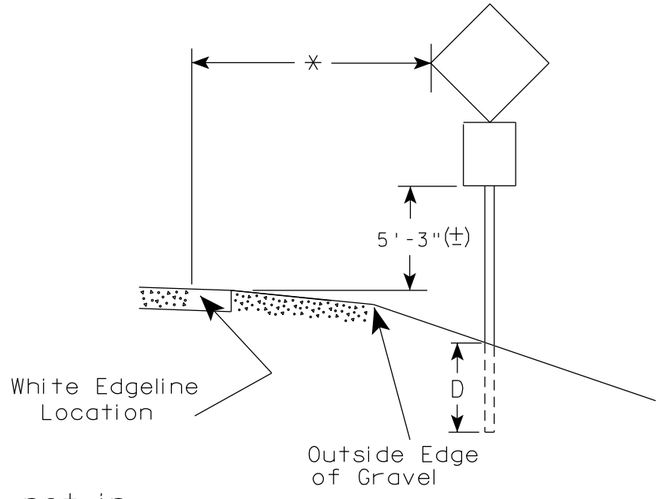
URBAN AREA



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

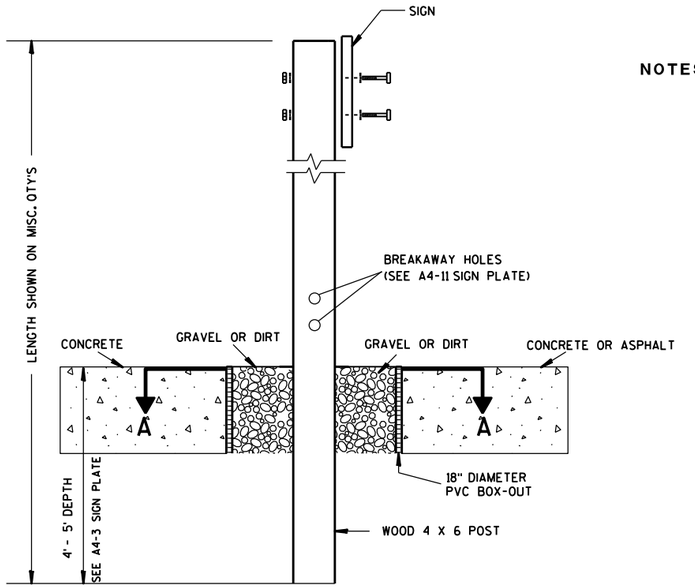
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

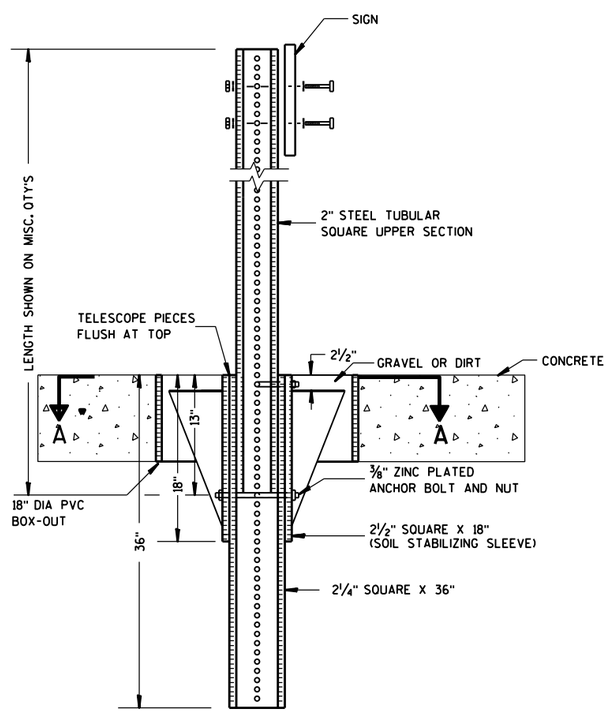
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 85	E



ELEVATION VIEW

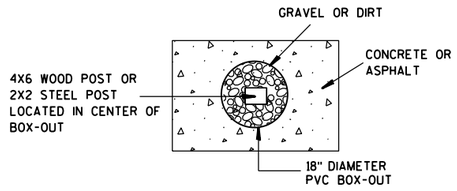
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

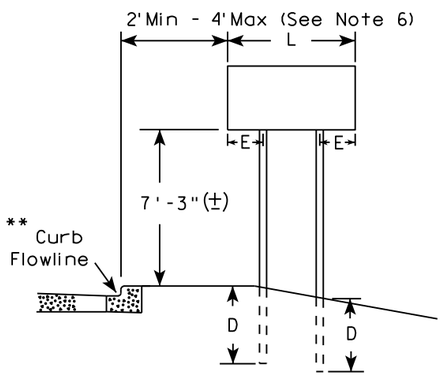
APPROVED Matthew R Rauch
for State Traffic Engineer

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

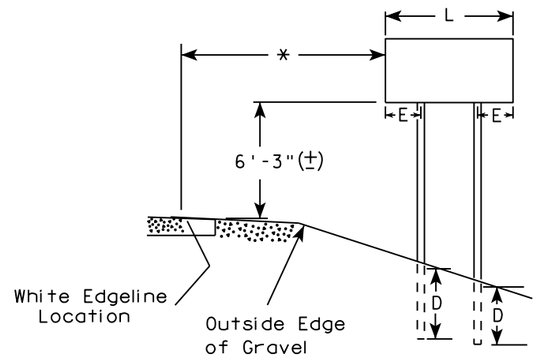
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

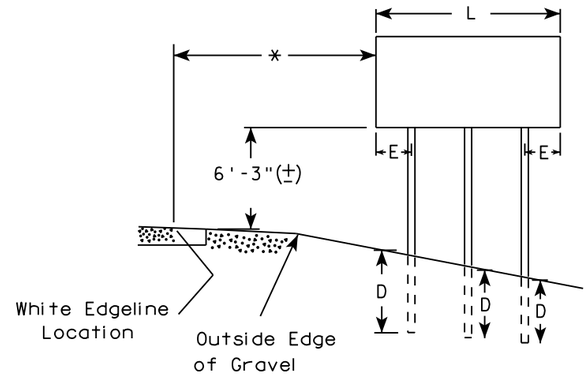
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

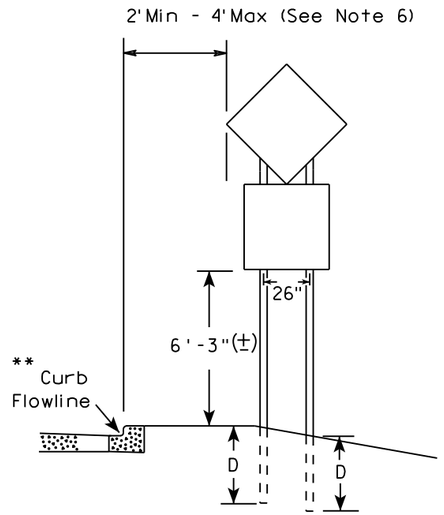
URBAN AREA



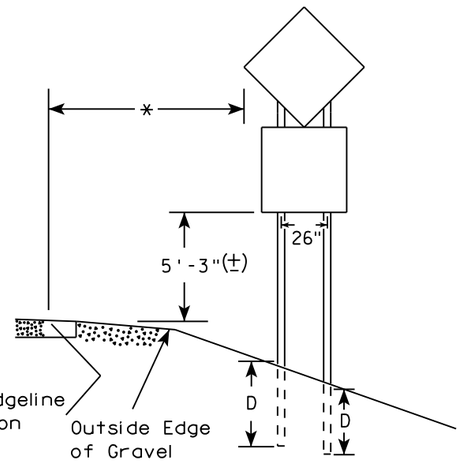
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

GENERAL NOTES

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

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

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

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

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

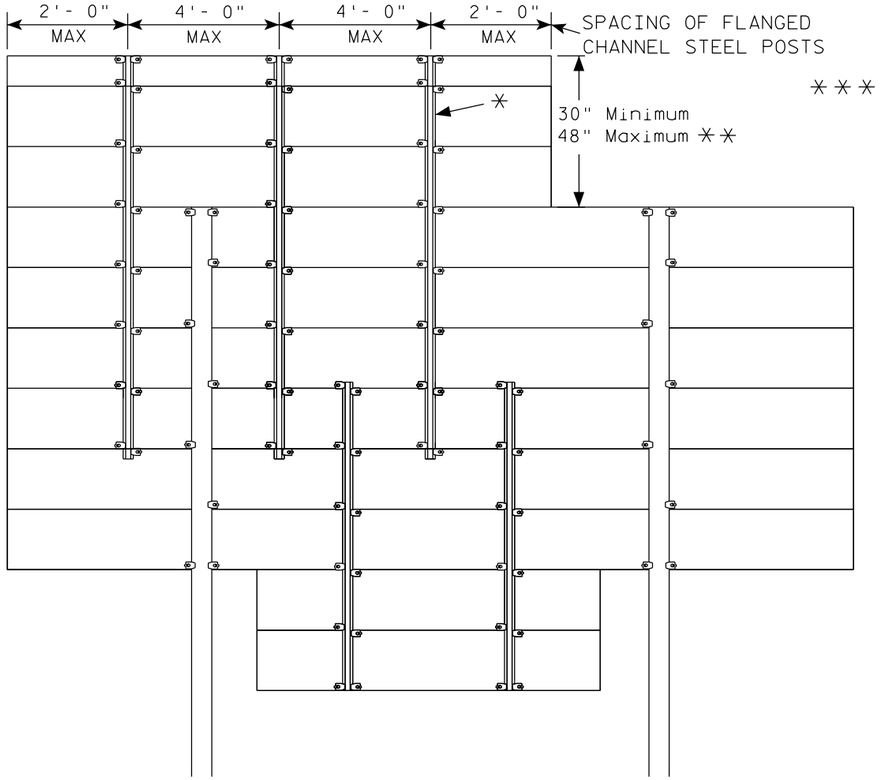
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 87	E

GROUND MOUNTED SIGN



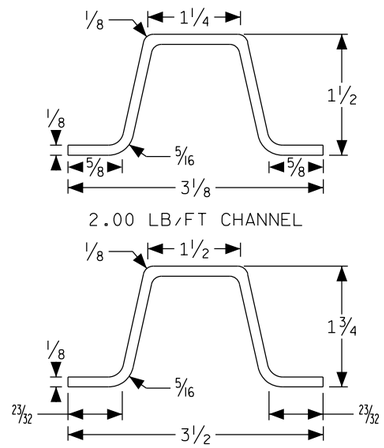
⁑=2.00 lb/ft AND 4.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

⁑⁑=FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

⁑⁑⁑ THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 15 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 15 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

FLANGE CHANNEL DETAILS

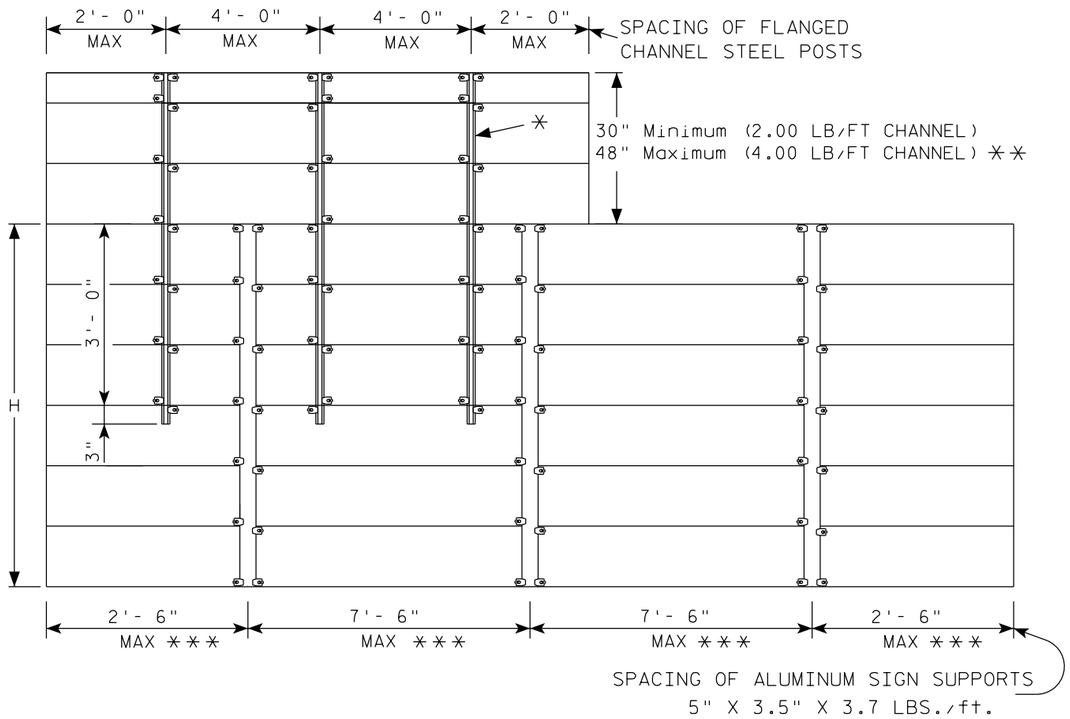
NOT TO SCALE



2.00 LB/FT CHANNEL

4.00 LB/FT CHANNEL

SIGN BRIDGE MOUNTED SIGN



GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.

2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:

   PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS
   PANEL LENGTH 9'- 0" - 12'- 0" = 3 CHANNELS
   PANEL LENGTH 13'- 0" OR MORE = 4 CHANNELS

   If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.

3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.

4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.

5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)

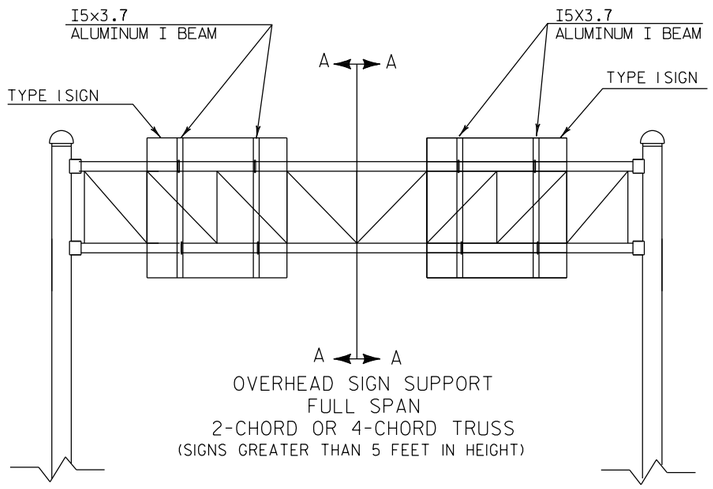
6. Structural steel sign supports shall extend to the top of the main signs, as shown on the above details.

ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

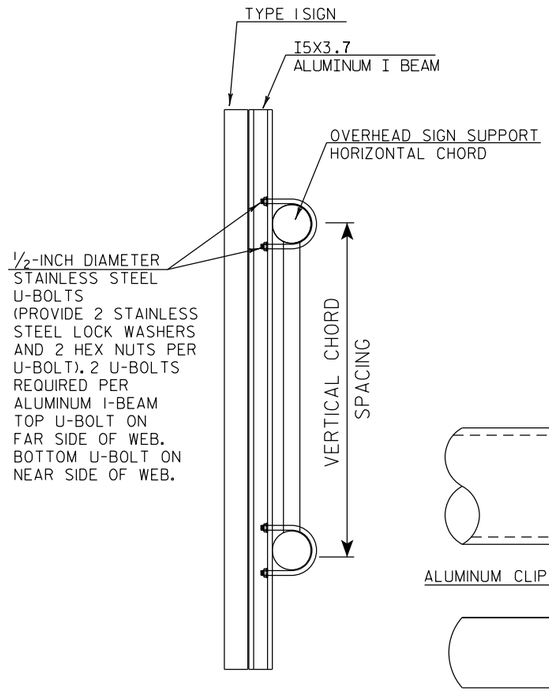
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

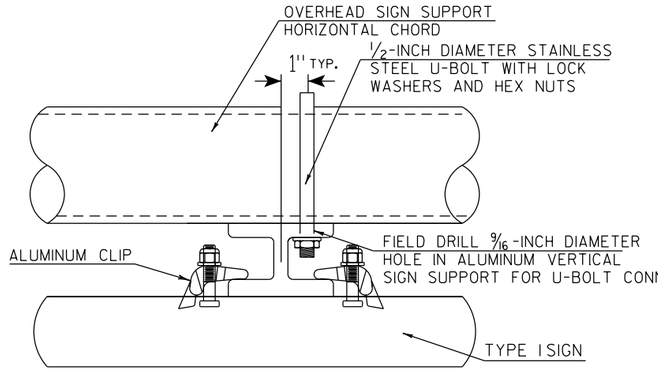
DATE 1/07/20 PLATE NO. A4-6.12



OVERHEAD SIGN SUPPORT
FULL SPAN
2-CHORD OR 4-CHORD TRUSS
(SIGNS GREATER THAN 5 FEET IN HEIGHT)



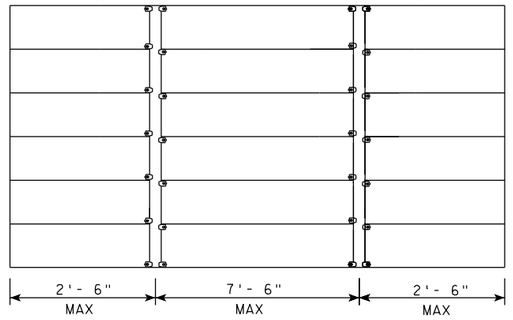
CUT SECTION A-A



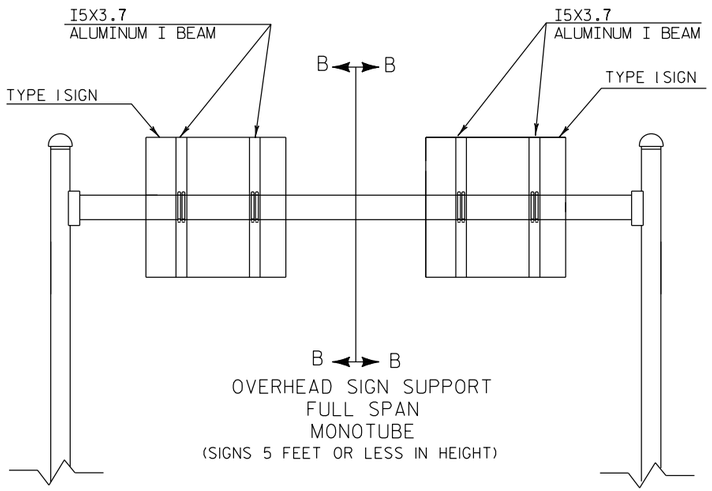
TYPICAL SIGN CONNECTION FOR
2-CHORD OR 4-CHORD TRUSS
PLAN VIEW

GENERAL NOTES

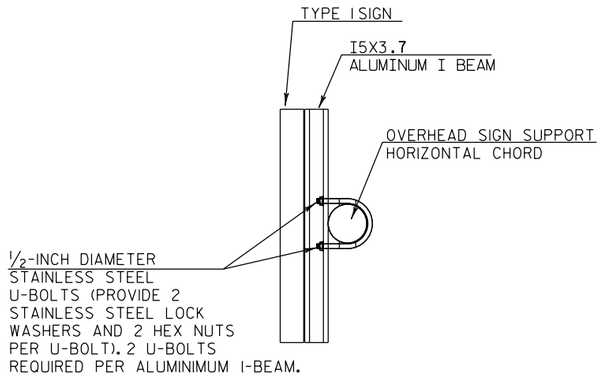
1. USE STAINLESS STEEL U-BOLTS, WASHERS, AND NUTS.
2. USE CLIPS ON EVERY EXTRUDED PANEL JOINT PER SIGN PLATE A4-6.
3. USE ALUMINUM VERTICAL SIGN SUPPORT BEAMS HAVING A 5 INCH BEAM DEPTH AND WEIGHT OF 3.7 LBS PER FOOT.
4. U-BOLTS SHALL BE STAINLESS STEEL AND MANUFACTURED TO THE PROPER SIZE TO FIT THE CHORDS OF THE OVERHEAD SIGN STRUCTURE.
5. DIAMETER OF U-BOLTS SHALL BE AS SHOWN.
6. THE LENGTH OF THE ALUMINUM VERTICAL SIGN SUPPORT BEAMS SHALL BE THE SAME AS THE HEIGHT OF THE SIGN THEY ARE SUPPORTING. BEAM LENGTHS MAY BE LONGER FOR PROPER ATTACHMENT TO CHORDS.
7. MINIMUM NUMBER OF BRACKETS PER SIGN IS TWO. SEE DETAIL BELOW FOR SPACING OF ALUMINUM VERTICAL SIGN SUPPORTS
8. MATERIAL NOTES:
   STAINLESS STEEL U-BOLTS AND LOCKWASHERS ASTM 304.
   STAINLESS STEEL HEX NUTS ASTM A276.
   ALUMINUM I-BEAMS ARE 6061-T6.
9. SLOTTED HOLES IN I-BEAMS ARE NOT ALLOWED



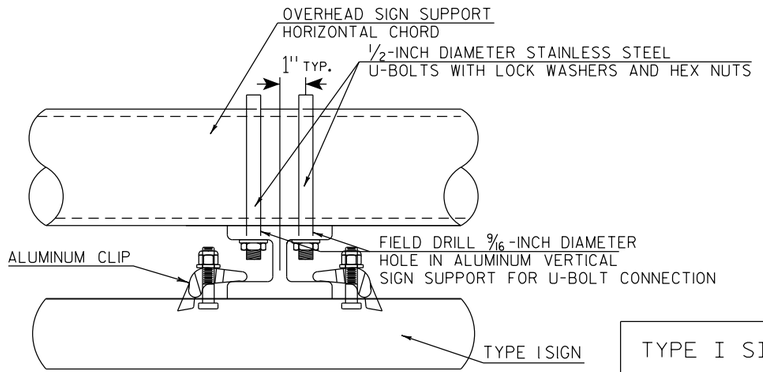
SPACING OF I5X3.7 ALUMINUM
VERTICAL SIGN SUPPORT



OVERHEAD SIGN SUPPORT
FULL SPAN
MONOTUBE
(SIGNS 5 FEET OR LESS IN HEIGHT)



CUT SECTION B-B



TYPICAL SIGN CONNECTION FOR
MONOTUBE
PLAN VIEW

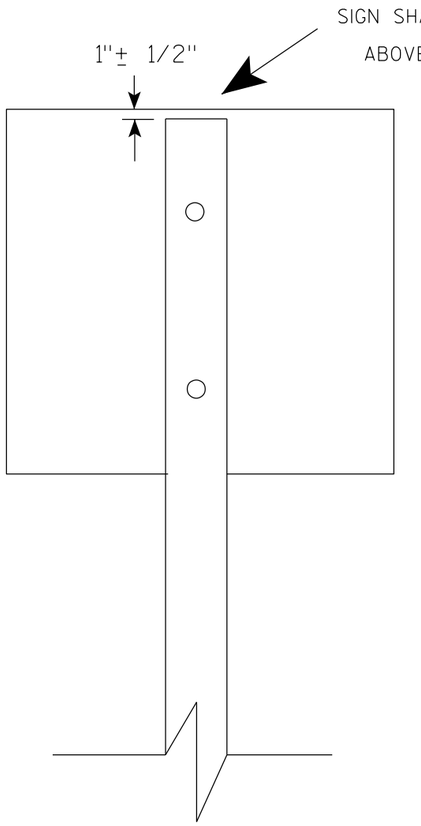
TYPE I SIGN CONNECTION
TO OVERHEAD SIGN SUPPORT

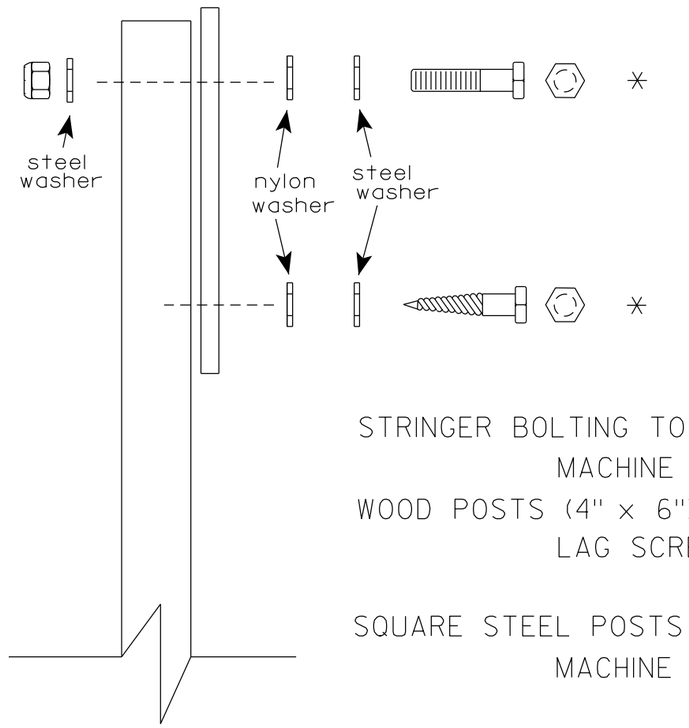
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
State Traffic Engineer

DATE 1/07/20 PLATE NO. A4-7A.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 89	E





Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

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

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

WOOD POSTS (4" x 6")

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

SQUARE STEEL POSTS (2" x 2")

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

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS

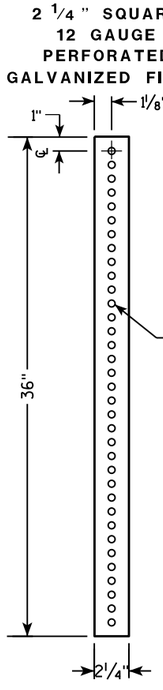
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

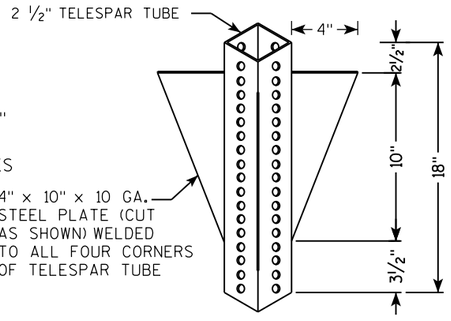
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

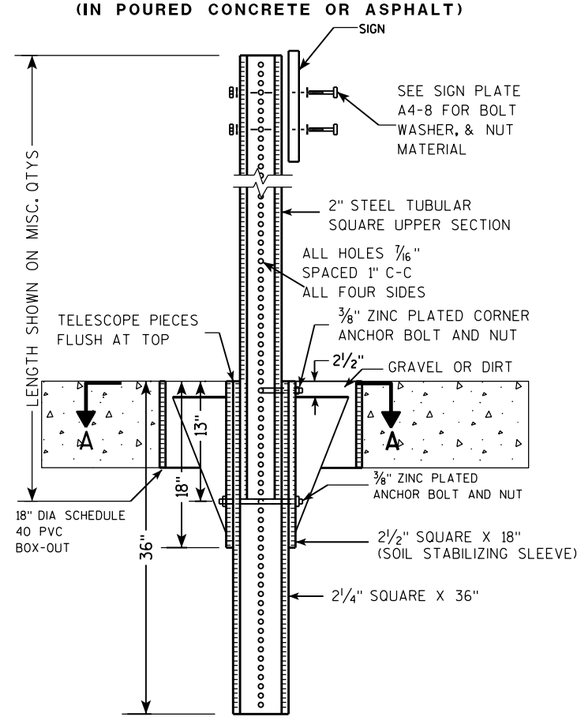
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



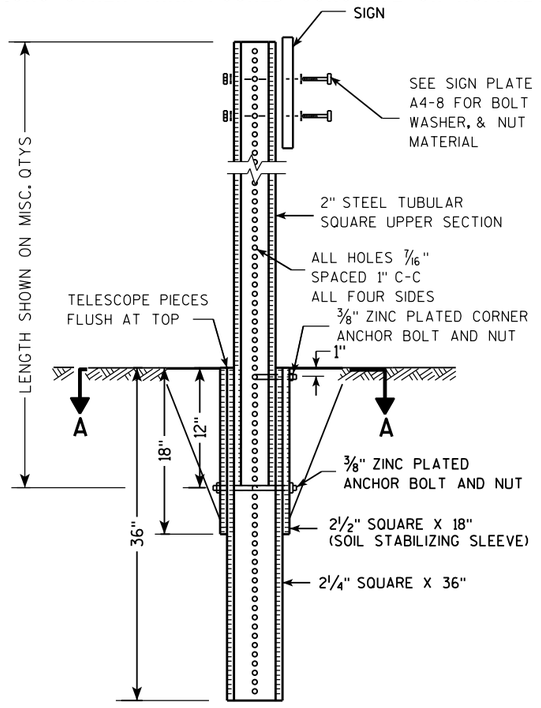
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

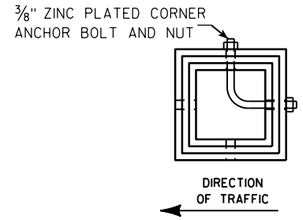


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

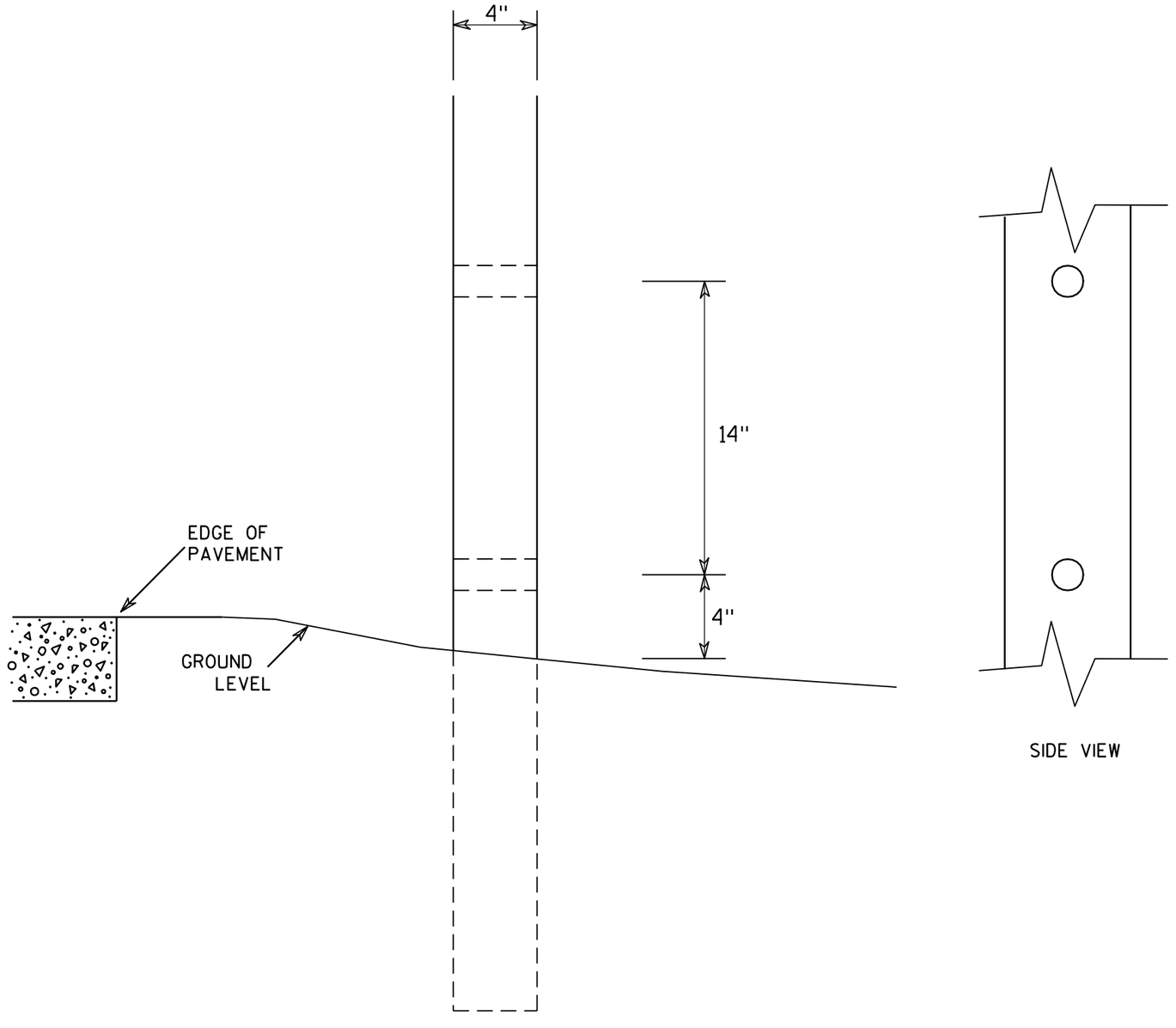
TUBULAR STEEL SIGN POST A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 91 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

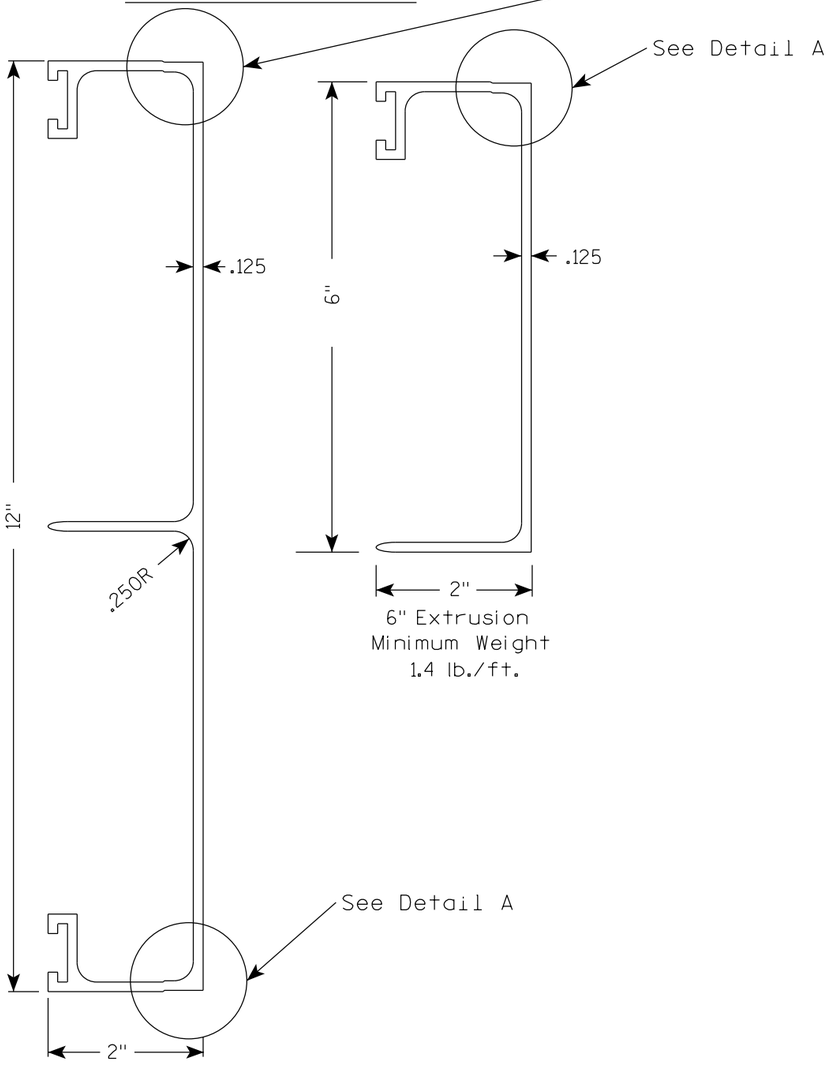
WISCONSIN DEPT OF TRANSPORTATION

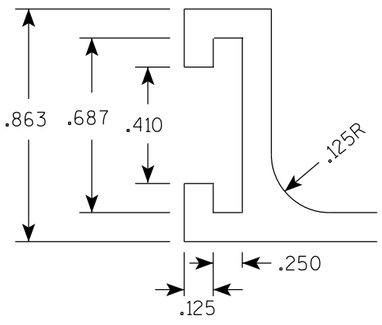
APPROVED Chester J Spang for State Traffic Engineer

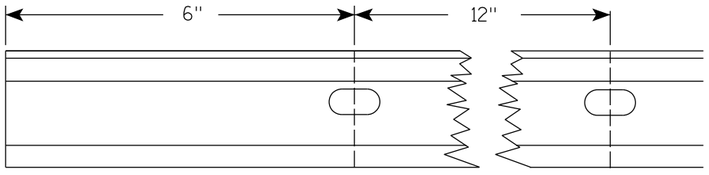
DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 92	E

Extruded Shape







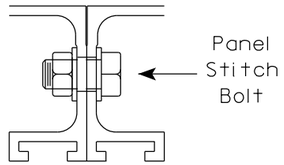
Punch 7/16" x 7/8" oval holes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.

Hardware

STITCH BOLT, WASHER & NUT

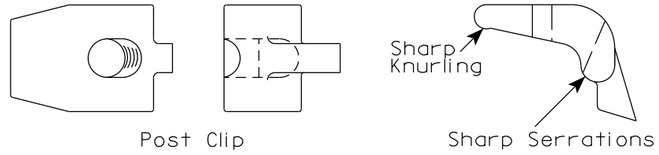
The hardware includes:

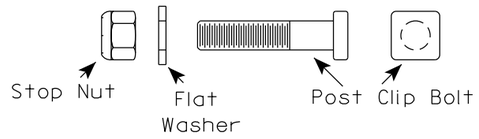
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy



POST CLIP, POST CLIP BOLT, WASHER & NUT

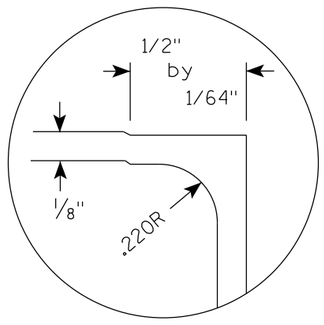
Post Clip shall be Alum. Alloy 356-T6
Post Clip Bolt shall be Stainless Steel.
Flat washer shall be 3/8" X .091, Stainless Steel.
Stop nut shall be stainless steel.





NOTES

1. The contractor may select any brand of extrusion that conforms to the illustrations or meets with the approval of the engineer, but all extrusions used on this contract shall be of the same brand.
2. Panel Stitch Bolts shall be used to assemble adjacent panels. Maximum stitch bolt spacing shall be 24" C-C, and a minimum of 4 bolts shall be used to connect any two extrusions.
3. Post Clips shall be used to attach the sign panel to the sign support.
4. Edge wrapping of sign sheeting required on all extrusions joints shown in Detail A.



DETAIL A (EDGE WRAP JOINT)

ALUMINUM EXTRUSIONS FOR TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

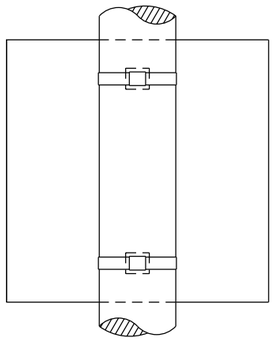
DATE 1/07/20 PLATE NO. A5-2.10

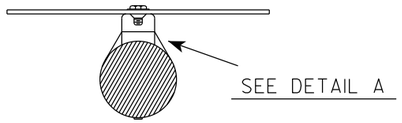
PROJECT NO:

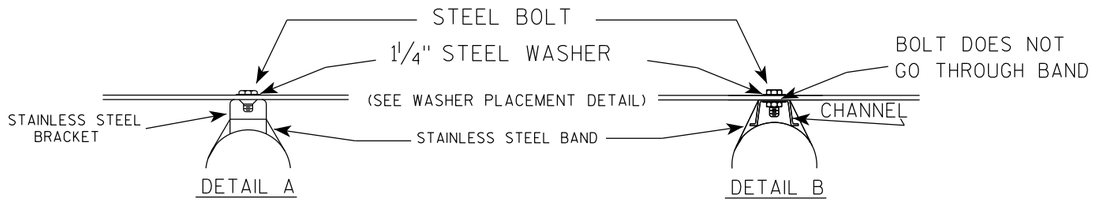
SHEET NO: 93 E

BANDING

SINGLE SIGN



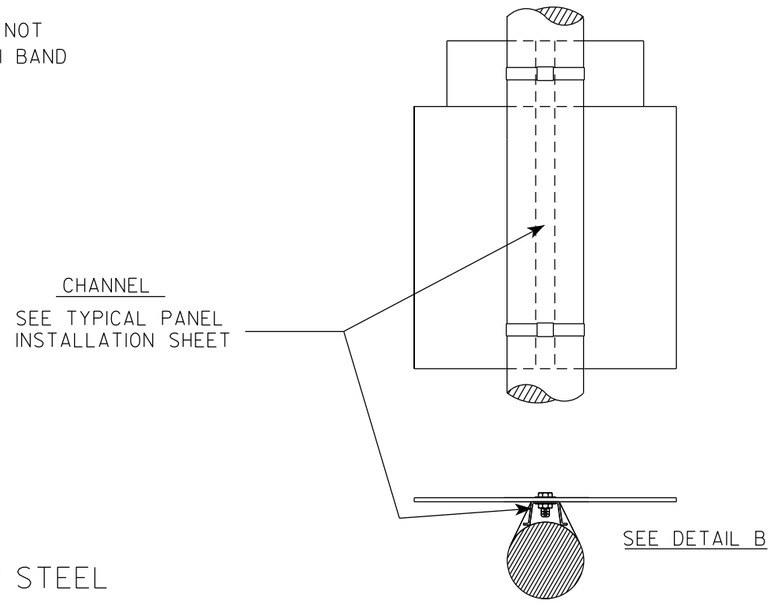




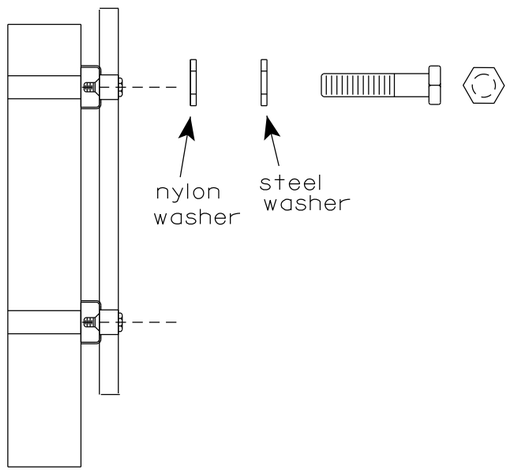
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X ⅜" I.D. X 1/16" STEEL
1-1/4" O.D. X ⅜" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

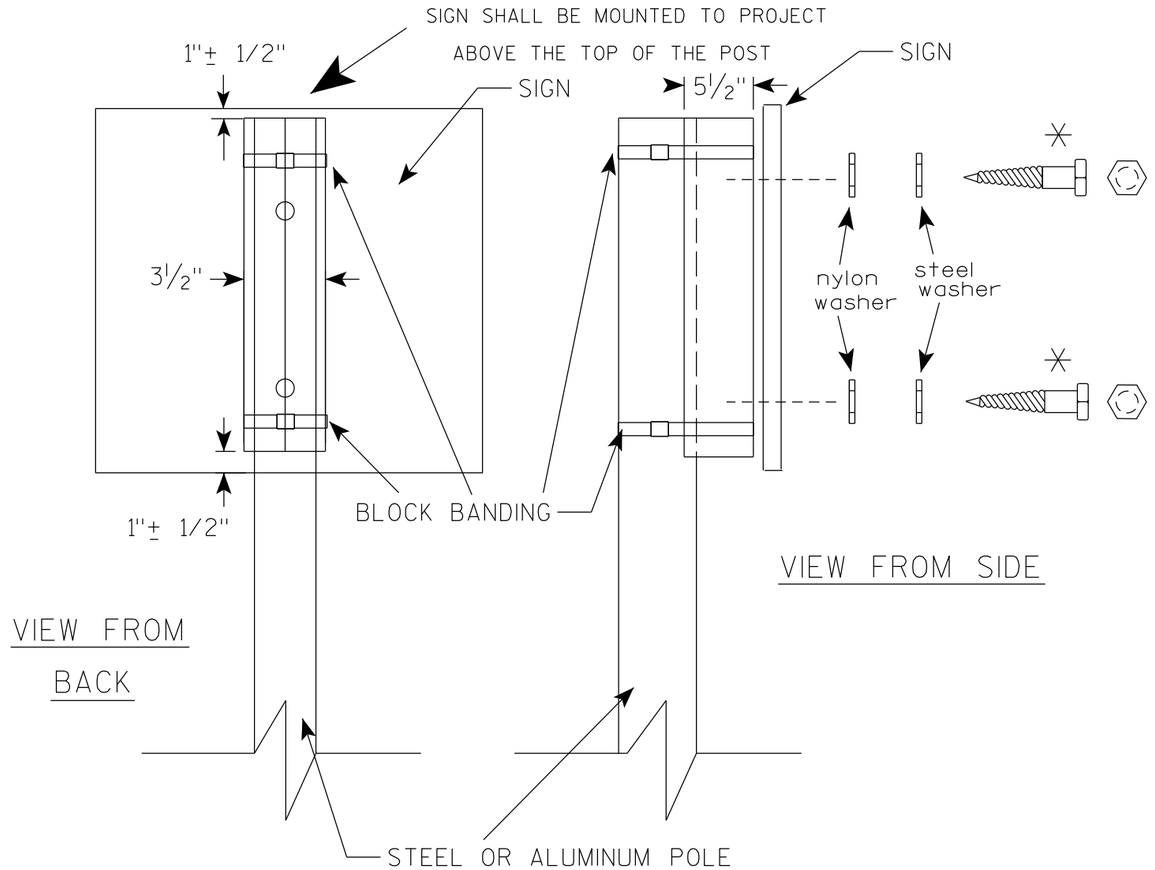
WISCONSIN DEPT OF TRANSPORTATION

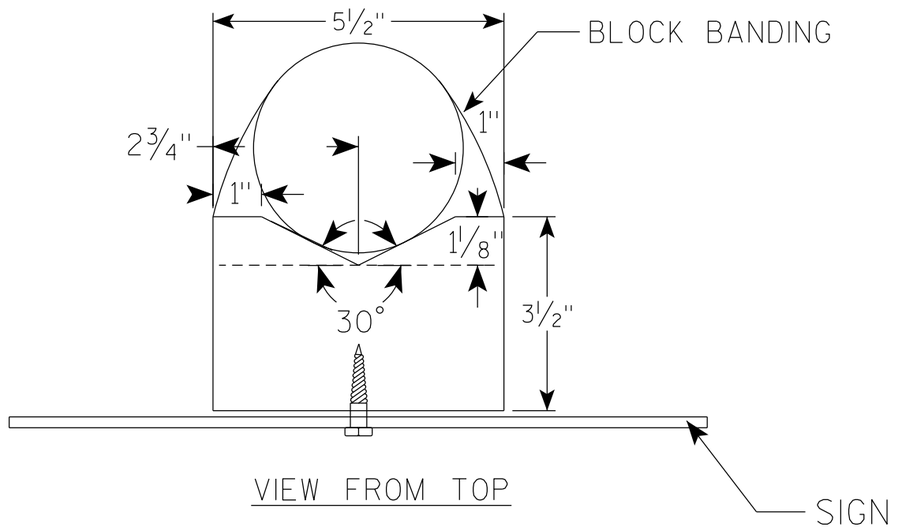
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-9.4

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 94	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42





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
   b. 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"

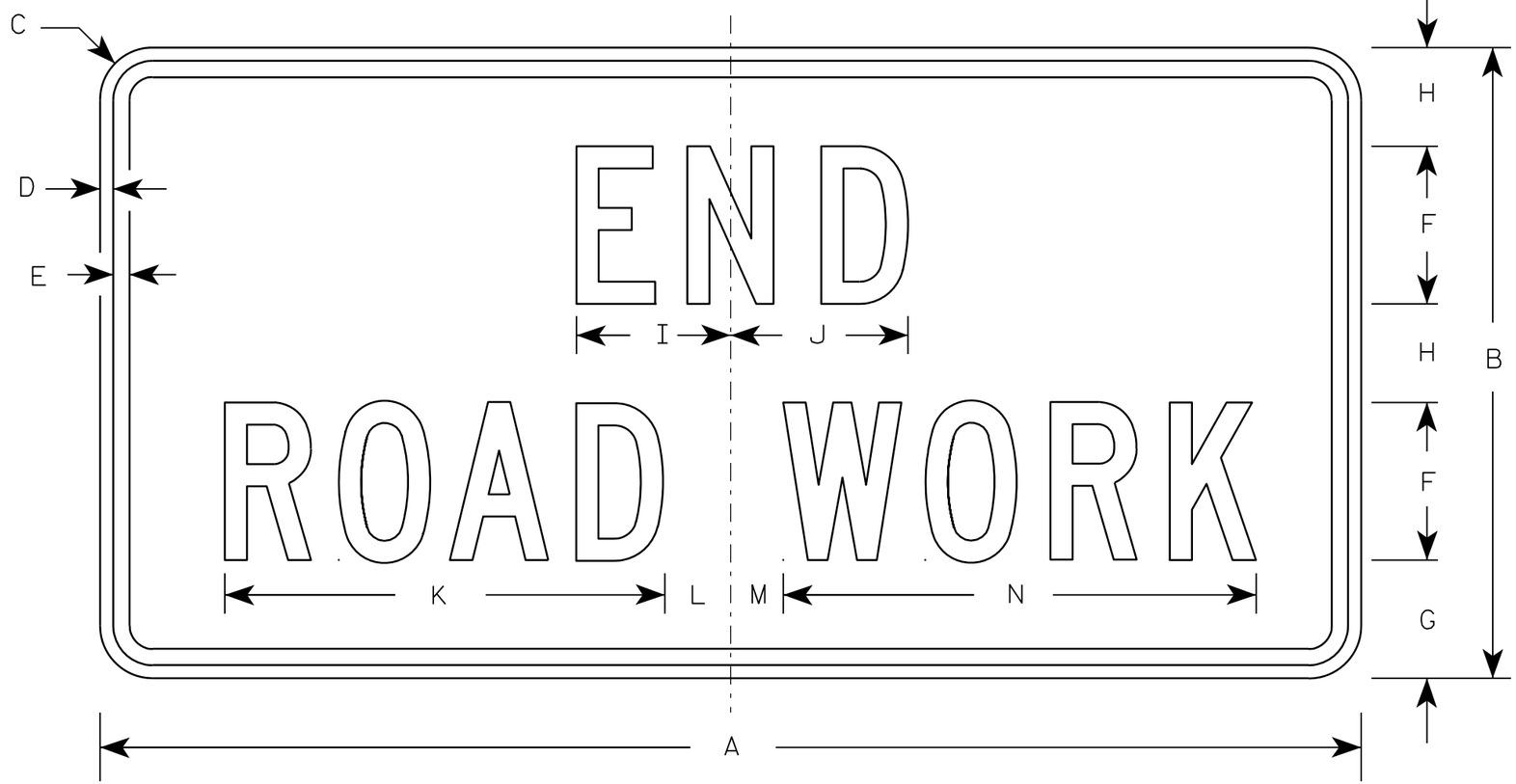
BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-10.2

PROJECT NO: | SHEET NO: 95 | 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: 96	E

NOTES

1. Sign is Type II- Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - E
4. Material shall be .040 aluminmum

G20-60

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																											
3																											
4	108	24				12	6	14 7/8	78 1/4																		18.0
5																											

STANDARD SIGN
G20-60

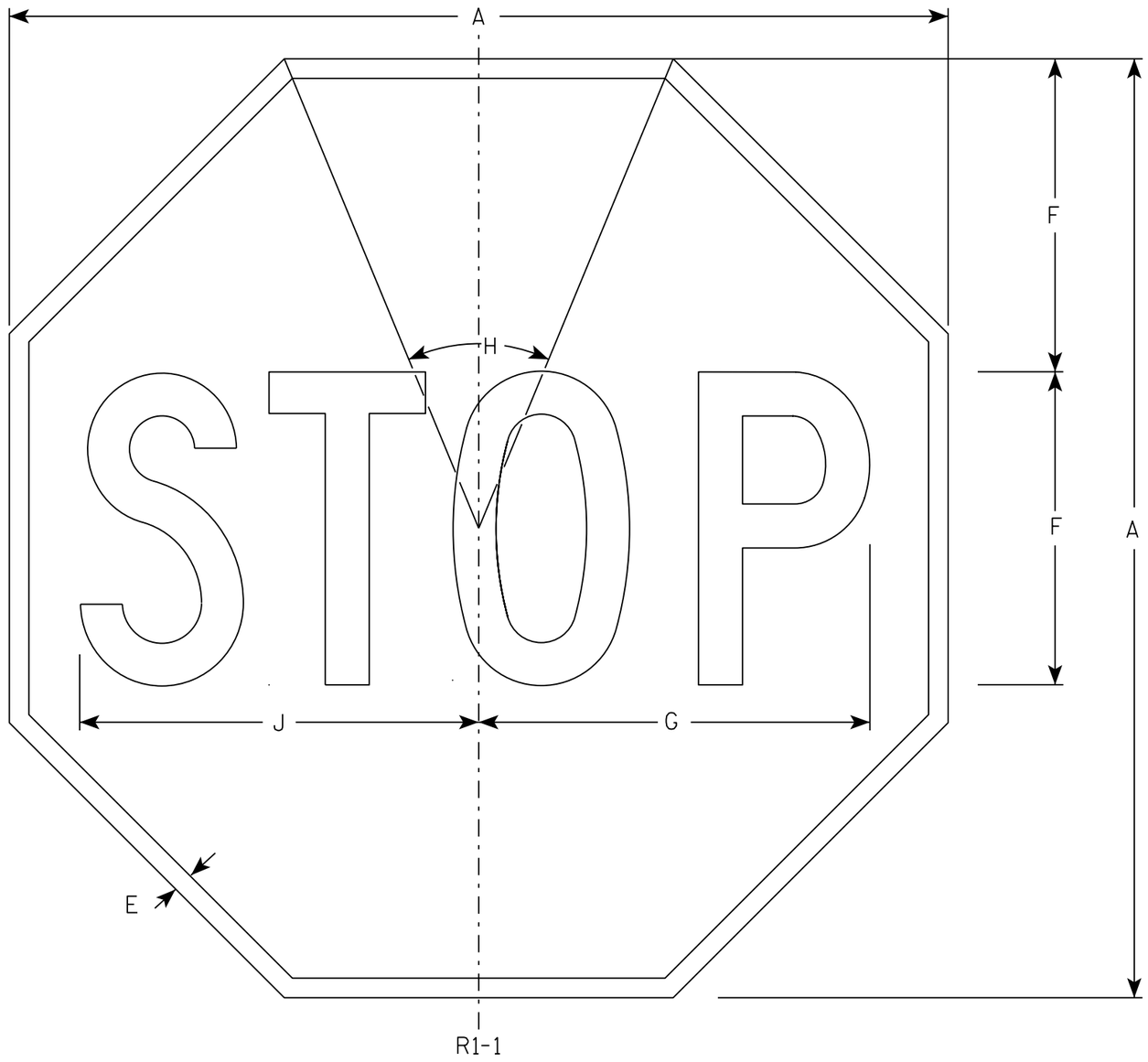
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/13/15 PLATE NO G20-60.1

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\G2060.DGN PLOT DATE : 13-MAY-2015 08:46 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 20.431338:1.000000



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

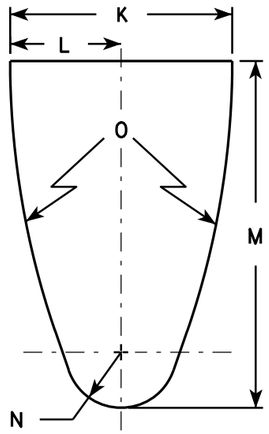
WISCONSIN DEPT OF TRANSPORTATION

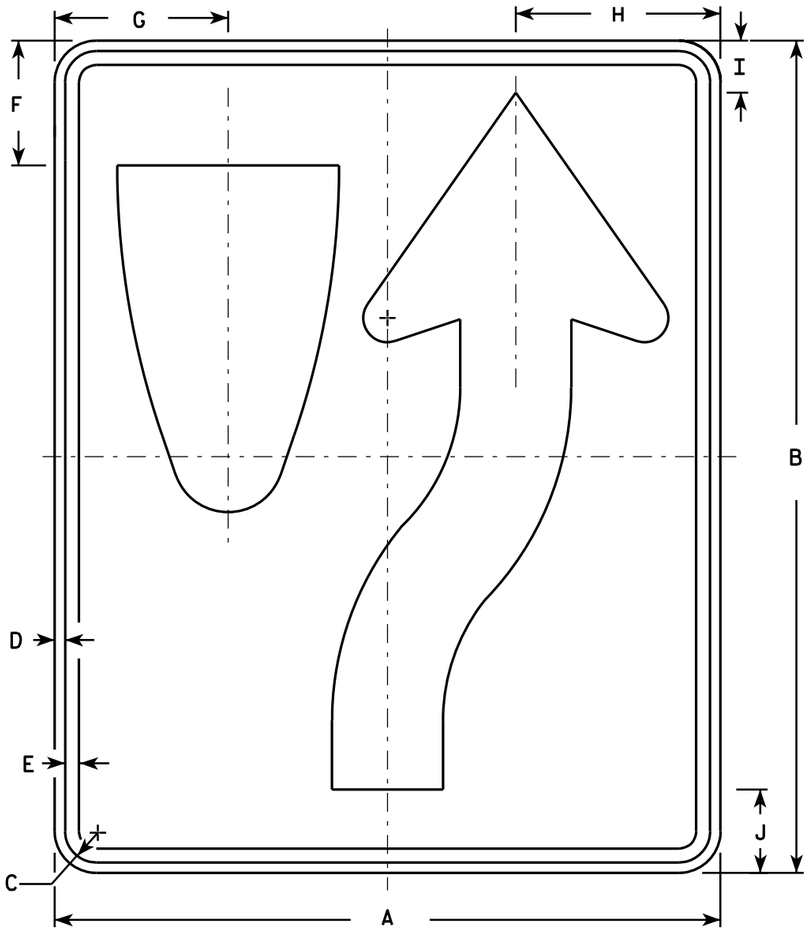
APPROVED Matthew R Rauch

for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 98	E

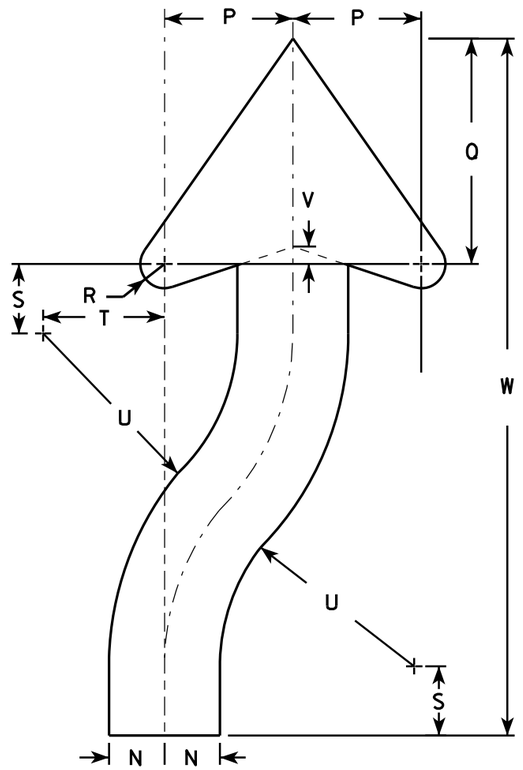




R4-7

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

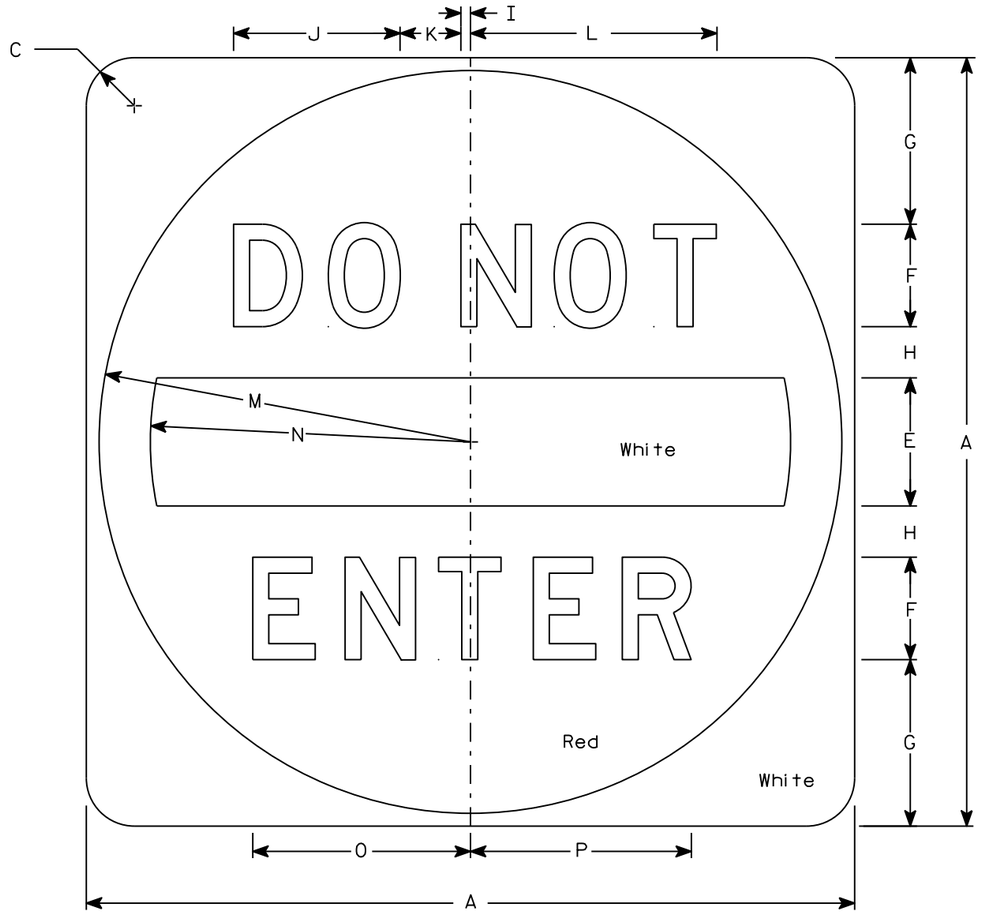
STANDARD SIGN
R4-7 & R4-8

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: 99	E



R5-1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - See detail
   Message - White
3. Message Series - D

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											6.25
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

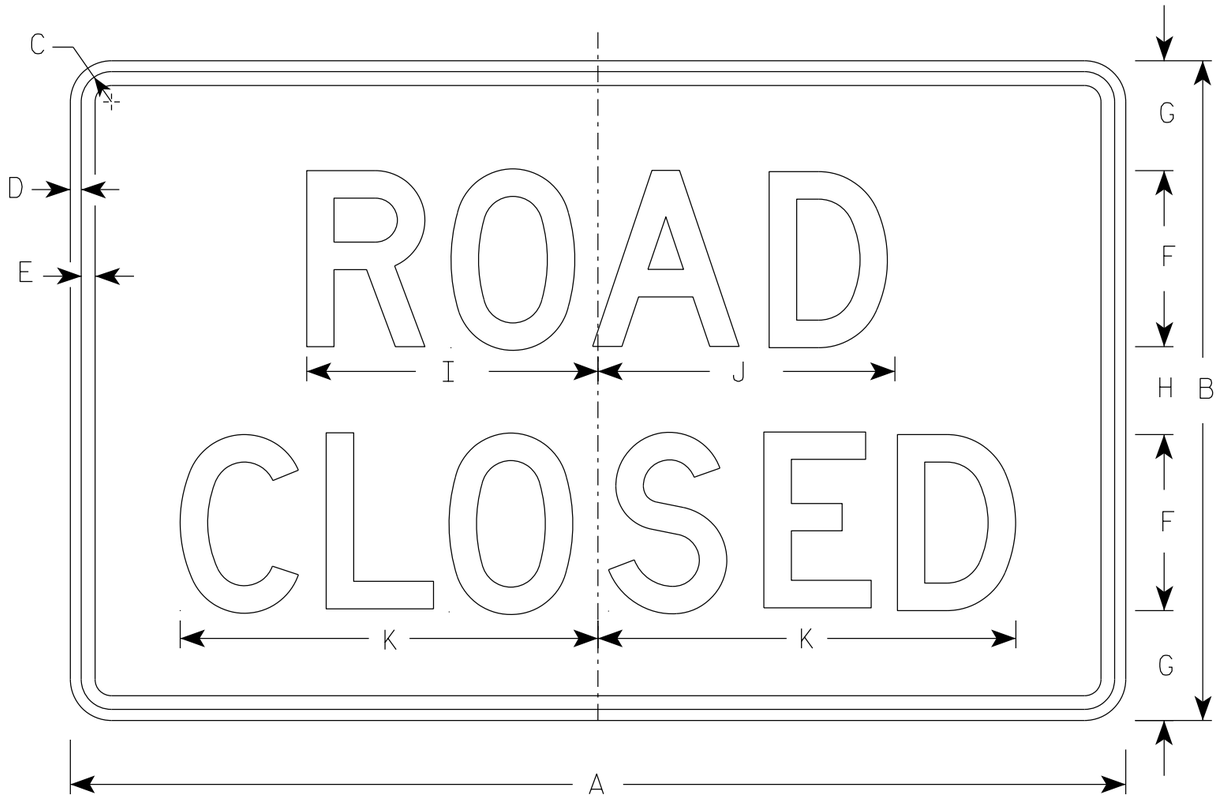
STANDARD SIGN
R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/15/18 PLATE NO. R5-1.16

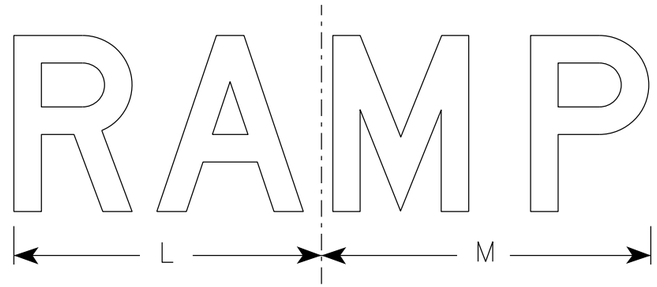
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 100 | E



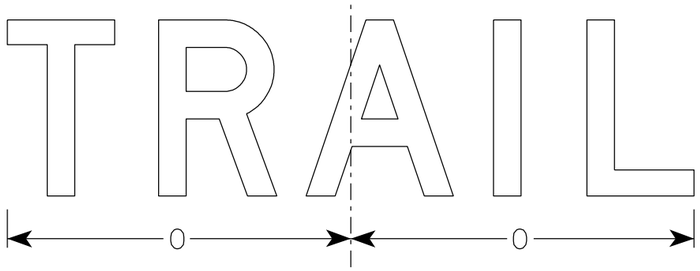
R11-2

NOTES

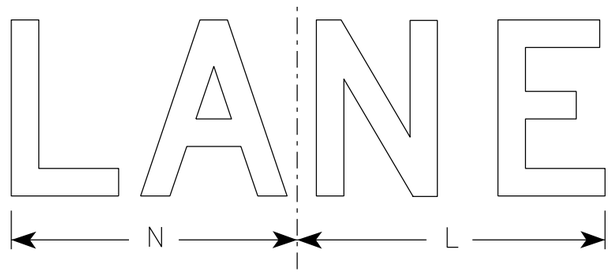
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the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



R11-2R



R11-2T



R11-2L

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

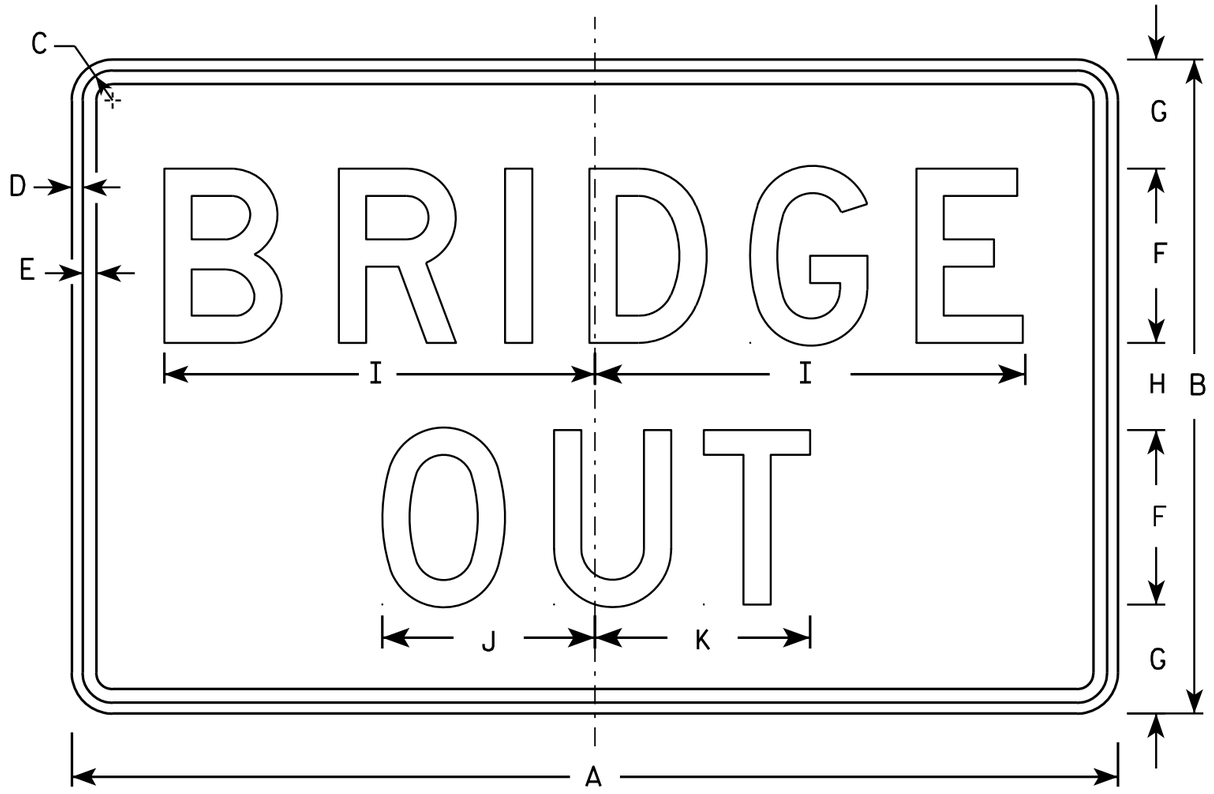
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

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

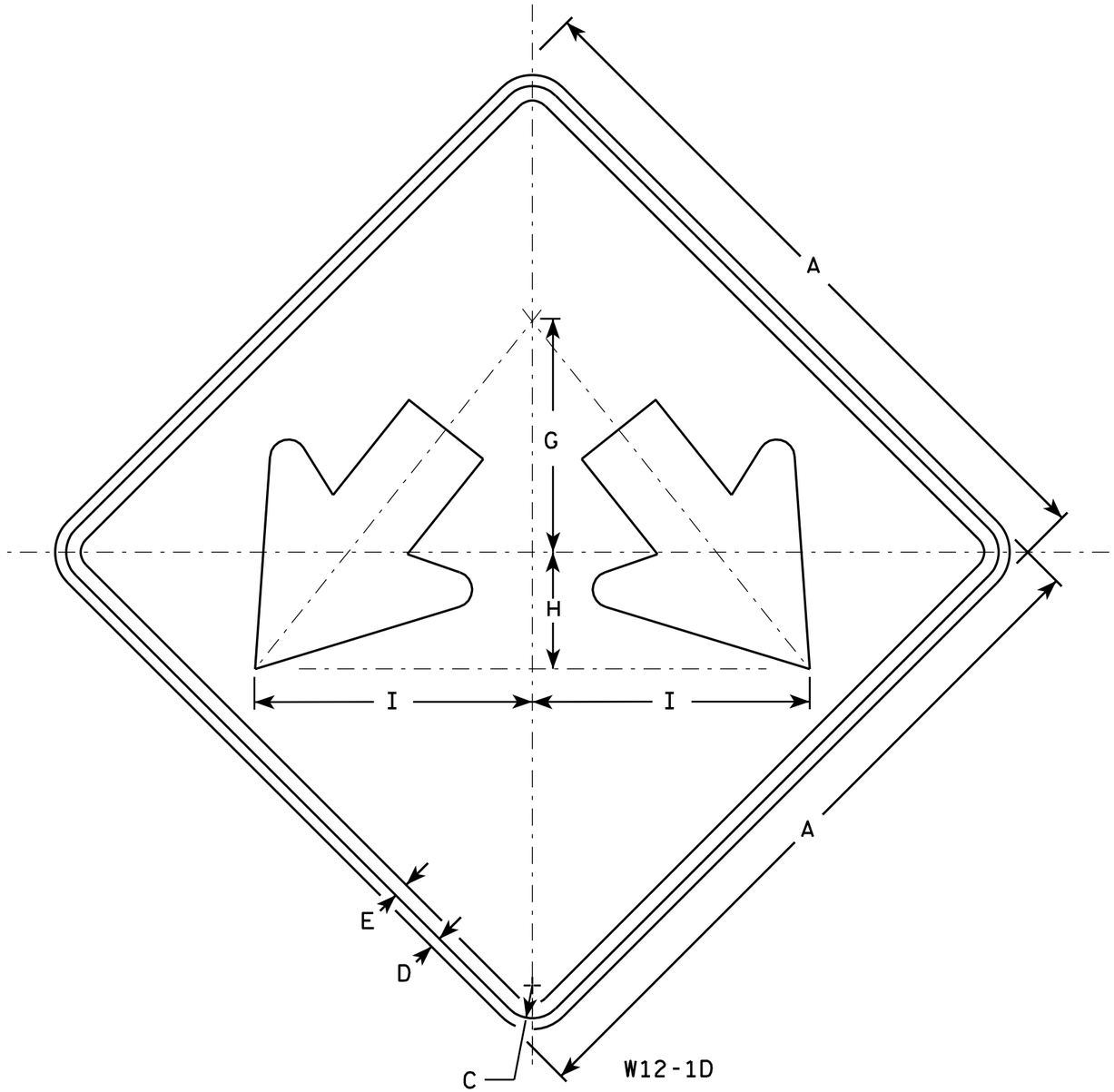
PROJECT NO:

SHEET NO: 102 E

7

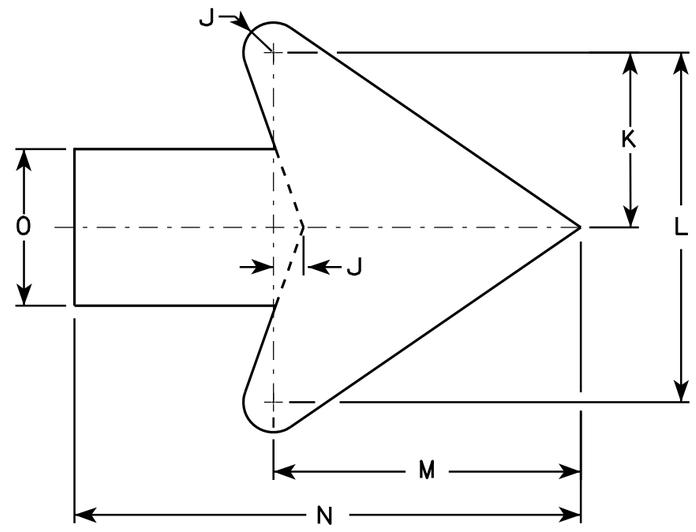
FILE NAME : C:\Users\PROJECTS\tr_stdplate\R112B.DGN PLOT DATE : 01-APR-2011 14:23 PLOT BY : mscj9h

WISDOT/CADDS SHEET 42



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.



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		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2M	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
3	30		1 3/8	1/2	5/8		10	5	11 7/8	3/4	4 1/2	9	7 7/8	13	4												6.25
4	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0
5	48		2 1/4	3/4	1		16	8	19	1 1/4	7 1/4	14 1/2	12 3/4	21	6 1/4												16.0

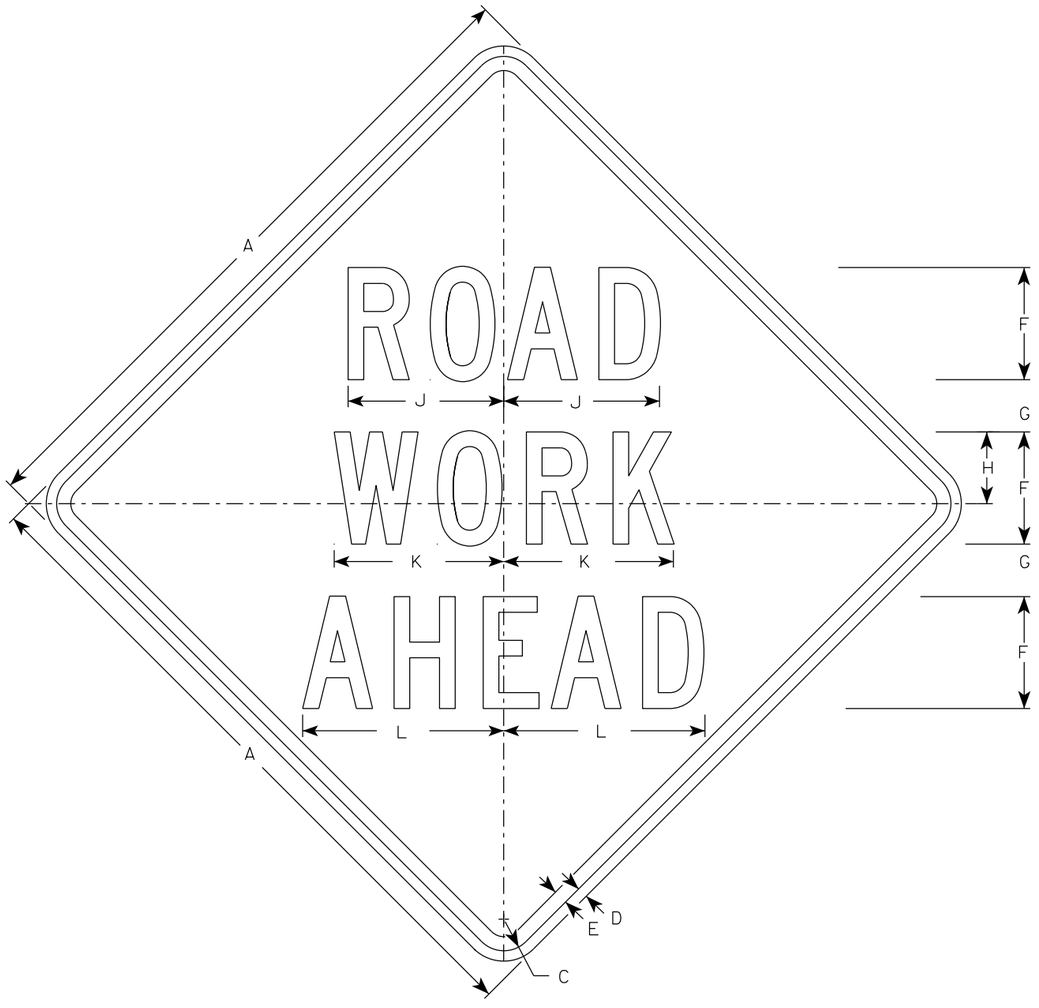
STANDARD SIGN
W12-1D

WISCONSIN DEPT OF TRANSPORTATION

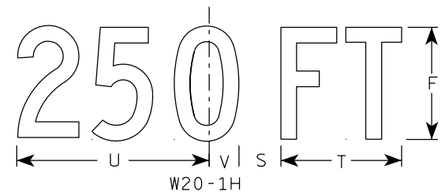
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W12-1D.15

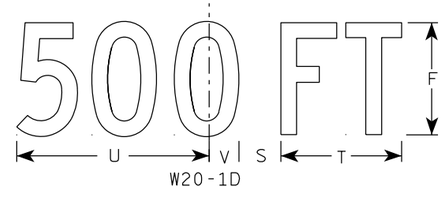
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 103	E



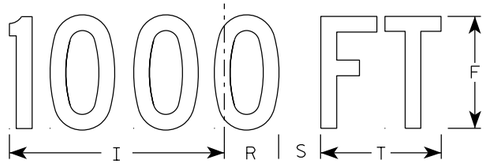
W20-1A



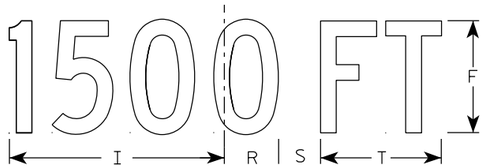
W20-1H



W20-1D



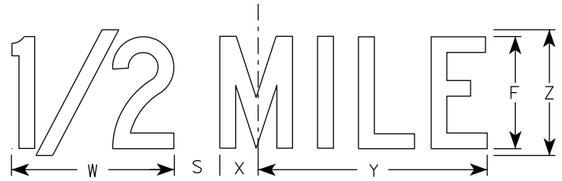
W20-1C



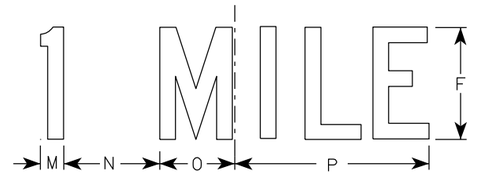
W20-1B

NOTES

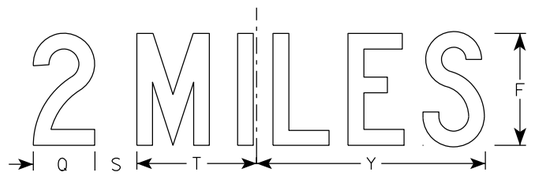
1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W20-1G



W20-1F



W20-1E

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	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	3 1/4	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, E, F, G & H

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 3/25/2020 PLATE NO. W20-1.11

PROJECT NO:

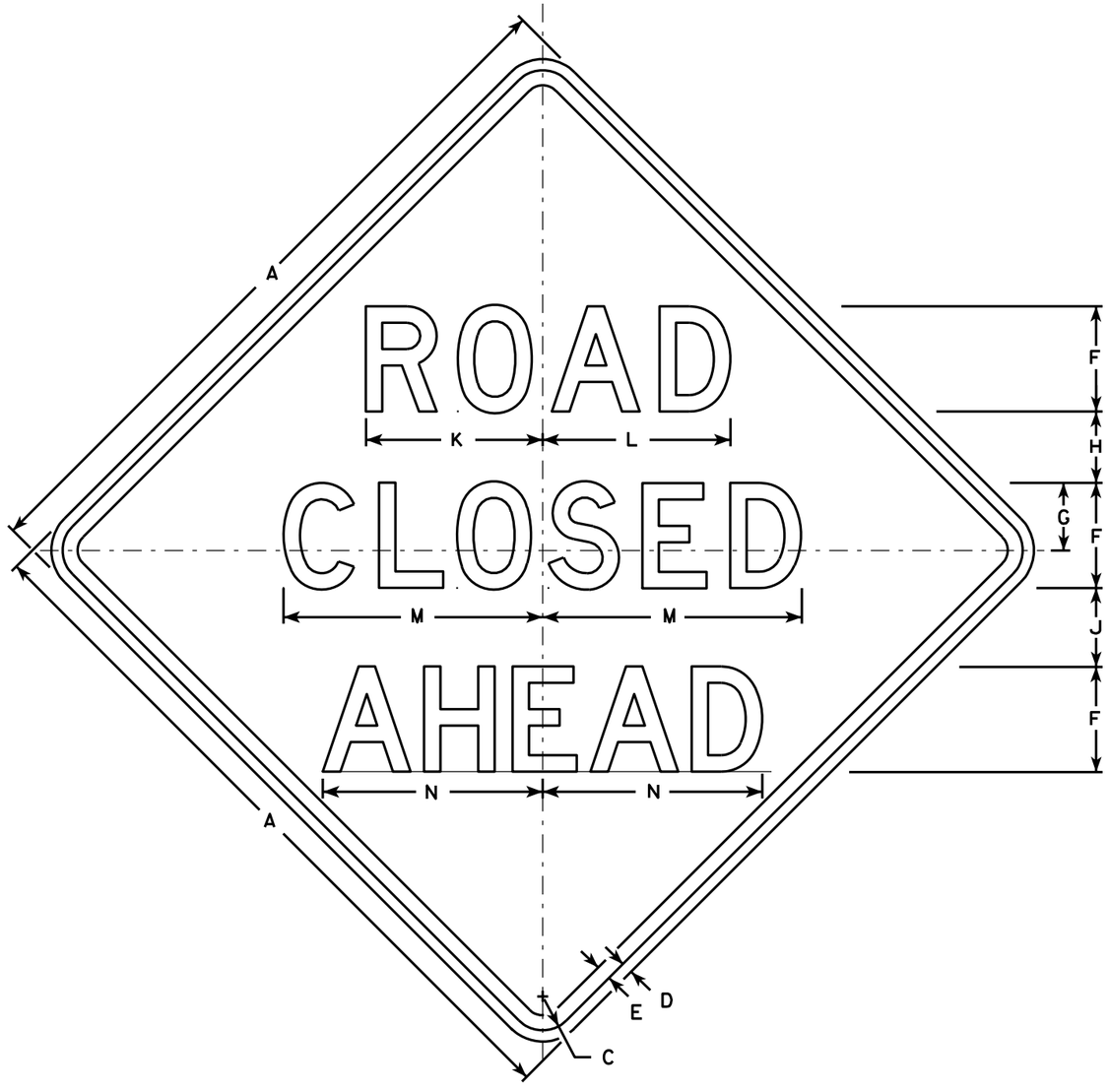
SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 25-MARCH-2020 PLOT BY : dotc4c

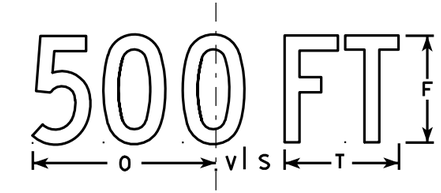
WISDOT/CADDS SHEET 42

7

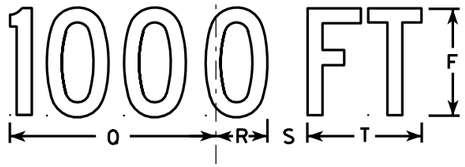
7



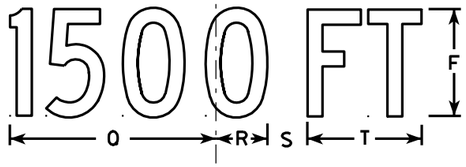
W20-3A



W20-3D



W20-3C



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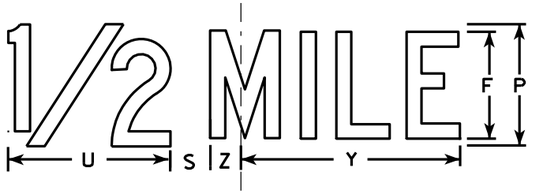
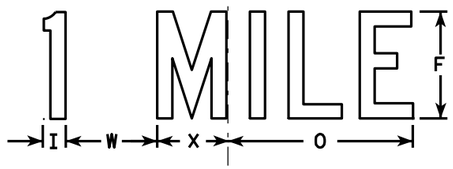


W20-3G



W20-3F

NOTES

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

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

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

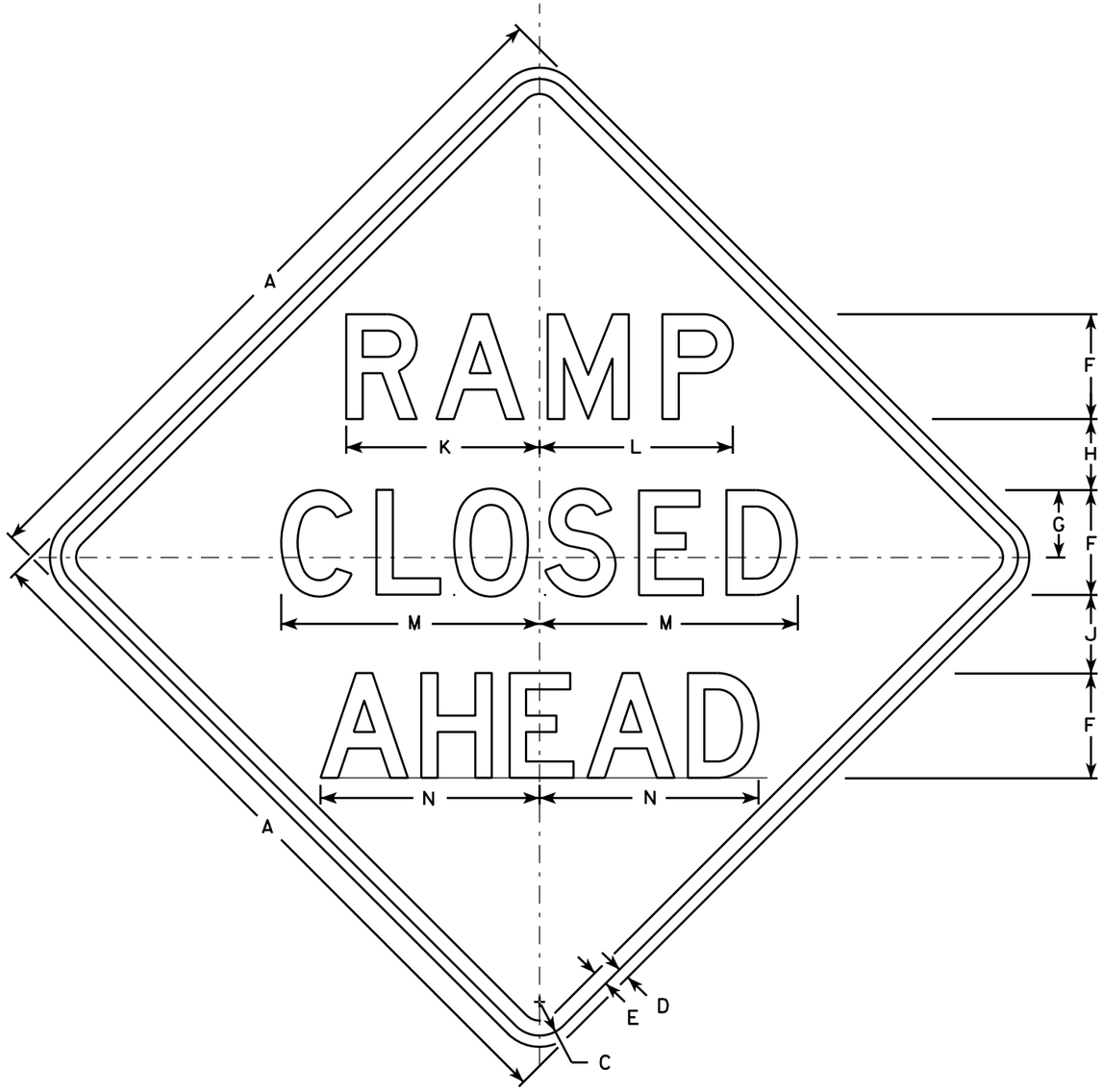
WISCONSIN DEPT OF TRANSPORTATION

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 105 | E

7

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



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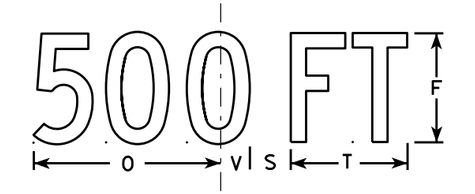

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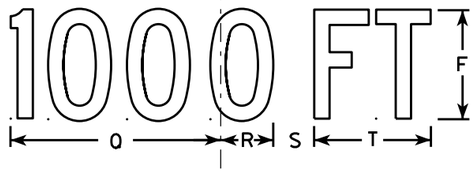

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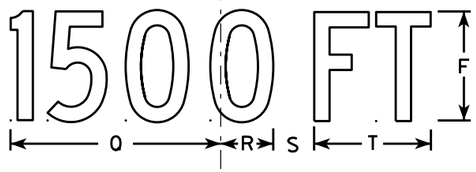

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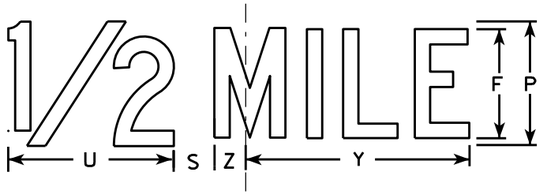

W20-53G

W20-53F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
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2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-53A,B,C,D,F,G

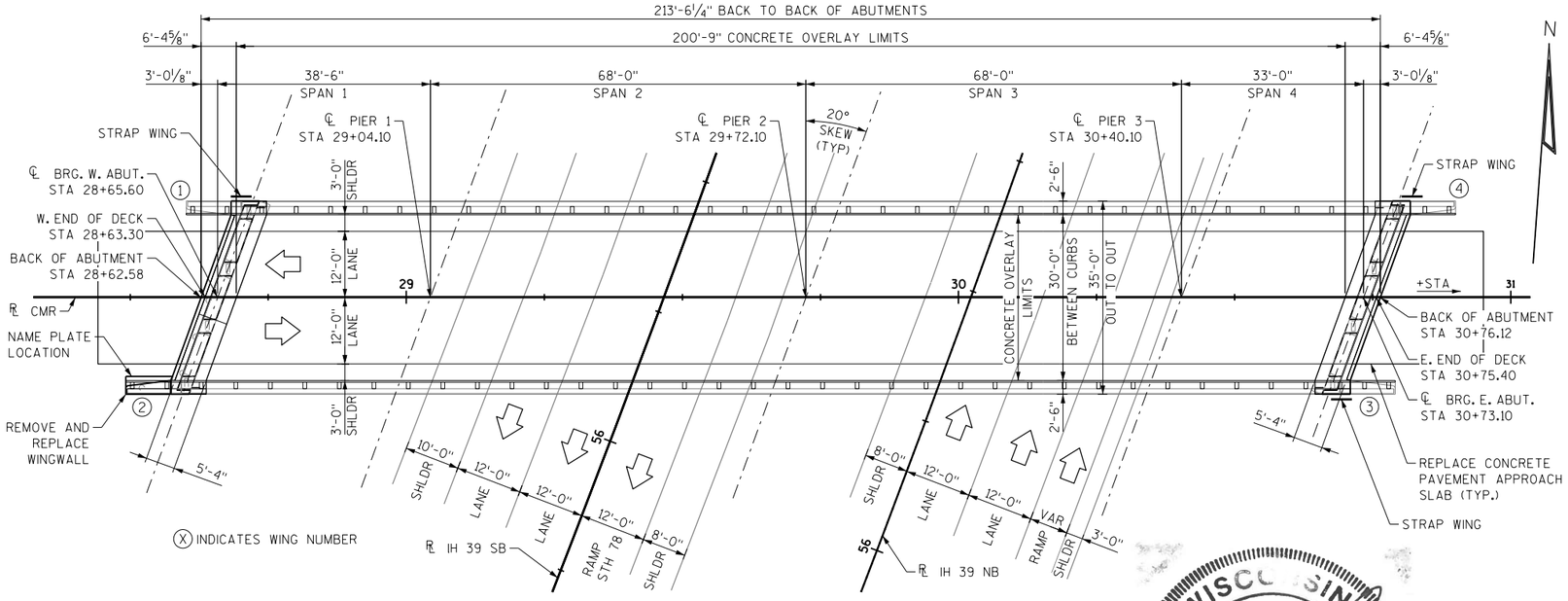
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/27/15 PLATE NO. W20-53.1

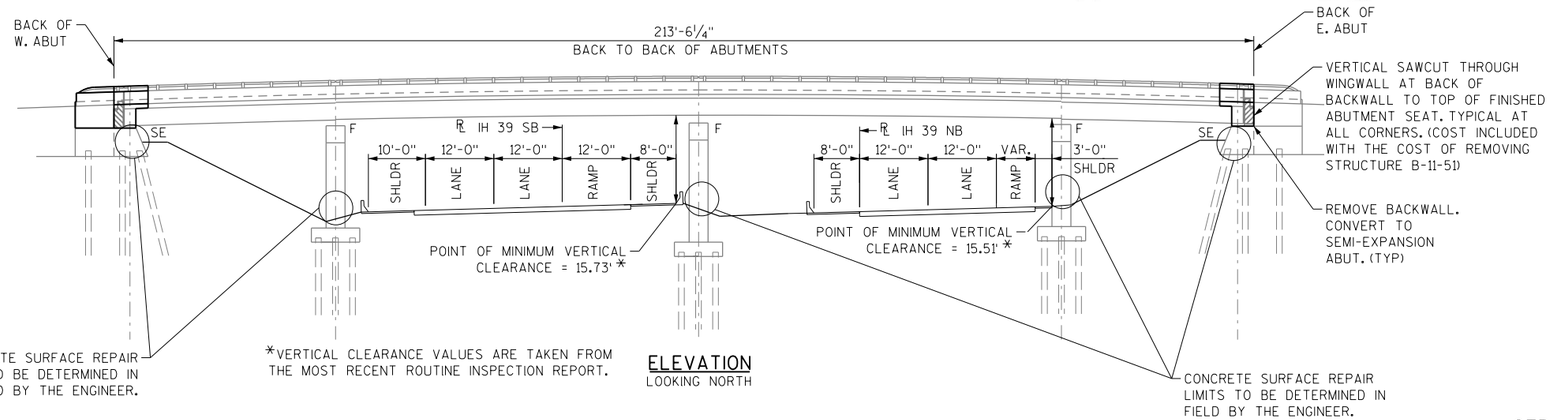
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W2053.DGN PLOT DATE : 27-MAY-2015 19:40 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.729210:1.000000
WISDOT/CADDS SHEET 42



PLAN

EXISTING PRESTRESSED GIRDER BRIDGE
CONCRETE OVERLAY, ABUTMENT MODIFICATIONS, & RAILING REPAIRS



*VERTICAL CLEARANCE VALUES ARE TAKEN FROM THE MOST RECENT ROUTINE INSPECTION REPORT.

ELEVATION

LOOKING NORTH

EXISTING STRUCTURE

THE EXISTING BRIDGE (B-11-51) IS A 214'LONG, 35'-0" WIDE 4 SPAN PRESTRESSED CONCRETE GIRDER BRIDGE SUPPORTED ON REINFORCED CONCRETE PIERS AND ABUTMENTS. PLANS OF THE EXISTING BRIDGE ARE AVAILABLE FOR REVIEW AT WISDOT SW REGION OFFICE, 2101 WRIGHT ST, MADISON, WI, 53704, OR THROUGH THE WISDOT STRUCTURES WEBSITE.

DESIGN DATA

LIVE LOAD:
DESIGN LOADING HS20
INVENTORY RATING HS16
OPERATING RATING HS28
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV) = 205 KIPS

MATERIAL PROPERTIES:
CONCRETE MASONRY:
SUPERSTRUCTURE ..... f'c = 4,000 psi
SUBSTRUCTURE ..... f'c = 3,500 psi
BAR STEEL REINFORCEMENT ..... fy = 60,000 psi

GENERAL NOTES:

DRAWINGS SHALL NOT BE SCALED.

EXISTING STRUCTURE DIMENSIONS ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS NOTED OTHERWISE.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY.

PIGMENTED SURFACE SEALER RESEAL SHALL BE APPLIED TO THE FRONT FACE AND TOP OF PARAPETS AFTER CLEANING, INCUDING WINGWALLS.

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, AND FULL-DEPTH REPAIR AREAS ARE DETERMINED BY THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 4". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION

THE AVERAGE OVERLAY THICKNESS IS BASED ON THE MINIMUM OVERLAY THICKNESS PLUS ½-INCH TO ACCOUNT FOR VARIATIONS IN THE DECK SURFACE.

CONCRETE SURFACE REPAIRS ARE REQUIRED AT ALL SUBSTRUCTURE UNITS. SPECIFIC LOCATIONS OF CONCRETE SURFACE REPAIR SHALL BE DETERMINED IN THE FIELD BY THE PROJECT ENGINEER. QUANTITIES SHOWN FOR THIS BID ITEM ARE APPROXIMATE.

SPECIFIC LOCATIONS OF REMOVING LOOSE CONCRETE SHALL BE DETERMINED IN THE FIELD BY THE PROJECT ENGINEER. QUANTITIES SHOWN FOR THIS BID ITEM ARE APPROXIMATE.

REMOVE LOOSE CONCRETE AT GIRDER ENDS AS DIRECTED BY THE ENGINEER PRIOR TO POURING NEW CONCRETE DIAPHRAGMS.

BEVEL EDGES OF THE EXPOSED CONCRETE TO MATCH THE EXISTING BEVELS, UNLESS NOTED OTHERWISE.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR, 1963.

COST OF PARTIAL REMOVAL OF THE SW WINGWALL, ABUTMENTS, AND DECK IS INCLUDED IN THE COST OF "REMOVING STRUCTURE B-11-51"

ASBESTOS LOCATED AT GASKETS UNDER RAILING ATTACHMENT PLATES ON THE PARAPETS. REMOVAL TO BE INCLUDED WITH "ABATEMENT OF ASBESTOS CONTAINTING MATERIAL" BID ITEM.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-11-051" SHALL BE THE EXISTING GROUNDLINE.

LIST OF DRAWINGS:

1. GENERAL PLAN & ELEVATION
2. QUANTITIES, REMOVALS & DETAILS
3. ABUTMENT MODIFICATIONS
4. DIAPHRAGM DETAILS
5. DECK DETAILS
6. WINGWALL REPLACEMENT
7. WING STRAPPING
8. PARAPET REPAIR
9. 'W' RAILING DETAILS
10. DECK INFRARED THERMOGRAPHIC SURVEY

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
AARON BONK, PE
(608) 261-0261

CONSULTANT:
WILLIAM J. ZIPPEL, PE, SE
ALFRED BENESCH & CO
1300 W CANAL ST, SUITE 150
MILWAUKEE, WI 53233
(414) 308-1321

WISCONSIN
WILLIAM J. ZIPPEL
38868-006
MILWAUKEE, WI
10/22/2021
PROFESSIONAL ENGINEER

STATE PROJECT NUMBER
1161-00-70

NO.	DATE	REVISION	BY

benesch
Alfred Benesch & Company
1300 West Canal Street, Suite 150
Milwaukee, Wisconsin 53233
414-308-1310 Job No. 20278.00

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 11/02/21
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-11-51

CASCADE MOUNTAIN ROAD OVER IH-39

COUNTY	TOWN ~~/CITY/VILLAGE~~
COLUMBIA	CALEDONIA

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY JAP	DESIGN CK'D. WJZ	DRAWN BY MRL	PLANS CK'D. WJZ

GENERAL PLAN & ELEVATION

SHEET 1 OF 10

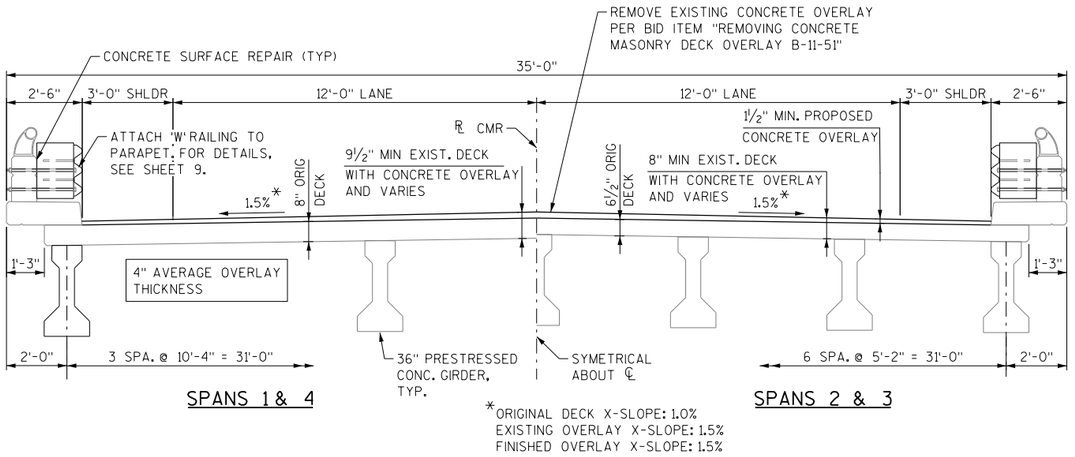
107

FILE= B1151_10_GP&E_B1151.DGN
SCALE = 1:20

8

8

STATE PROJECT NUMBER
1161-00-70



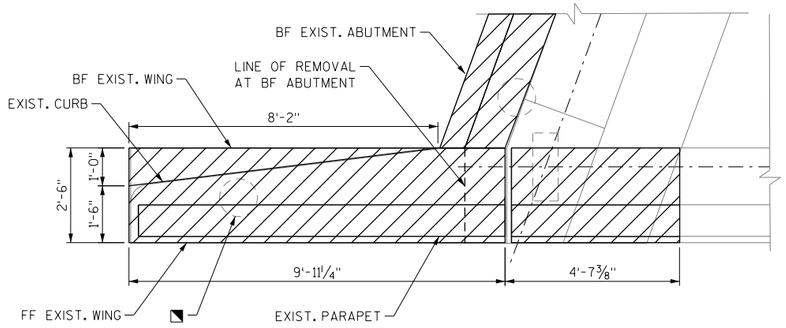
*ORIGINAL DECK X-SLOPE: 1.0%
EXISTING OVERLAY X-SLOPE: 1.5%
FINISHED OVERLAY X-SLOPE: 1.5%

CROSS SECTION THRU ROADWAY

NOTE: EXISTING OVERLAY THICKNESS VARIES BOTH LONGITUDINALLY AND TRANSVERSALLY. BEFORE REMOVING THE EXISTING CONCRETE OVERLAY SURVEY AT SPAN 1/10TH POINTS ALONG THE CENTERLINE AND CURB FLOW LINES OF THE DECK. PLACE PROPOSED CONCRETE OVERLAY TO MATCH THE EXISTING TOP OF DECK ELEVATIONS.

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	UNIT	W. ABUT	PIER 1	PIER 2	PIER 3	E. ABUT	SUPER	TOTAL
203.0211.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL	EA	-	-	-	-	-	1	1
	B-11-51								
203.0220	REMOVING STRUCTURE B-11-51	EA	1/2	-	-	-	1/2	-	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-11-51	LS	-	-	-	-	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	121	-	-	-	57	-	178
502.0100	CONCRETE MASONRY BRIDGES	CY	31.8	-	-	-	24.0	3.7	60
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	-	-	-	707	707
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	-	-	-	-	-	120	120
502.4204	ADHESIVE ANCHORS NO. 4 BAR	EA	32	-	-	-	32	-	64
502.4206	ADHESIVE ANCHORS NO. 6 BAR	EA	8	-	-	-	-	-	8
505.0600	BAR STEEL REINFORCEMENT HS COATED	LB	6060	-	-	-	3066	-	9126
	STRUCTURES								
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EA	4	-	-	-	4	-	8
506.7050.S	REMOVING BEARINGS B-11-51	EA	4	-	-	-	4	-	8
509.0301	PREPARATION DECKS TYPE 1	SY	-	-	-	-	-	24	24
509.0302	PREPARATION DECKS TYPE 2	SY	-	-	-	-	-	12	12
509.0505.S	CLEANING DECKS TO REAPPLY CONCRETE MASONRY	SY	-	-	-	-	-	707	707
	OVERLAY								
509.1500	CONCRETE SURFACE REPAIR	SF	17	15	8	2	24	264	330
509.2000	FULL-DEPTH DECK REPAIR	SY	-	-	-	-	-	1	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	-	-	-	-	-	74	74
509.9005.S	REMOVING CONCRETE MASONRY DECK OVERLAY	SY	-	-	-	-	-	707	707
	B-11-51								
513.9006.S	REMOVING AND RESETTING TUBULAR RAILING B-11-51	LS	-	-	-	-	-	-	1
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	17	-	-	-	9	-	26
SPV.0060.02	STRAPPING B-11-51	EA	1	-	-	-	2	-	3
SPV.0090.03	STEEL THRIE BEAM STRUCTURE APPROACH SPECIAL	LF	-	-	-	-	-	455	455
SPV.0165.50	REMOVING LOOSE CONCRETE	SF	-	-	-	-	-	200	200
	NON-BID ITEMS								
	NAME PLATE								
	JOINT FILLER & JOINT SEALER								



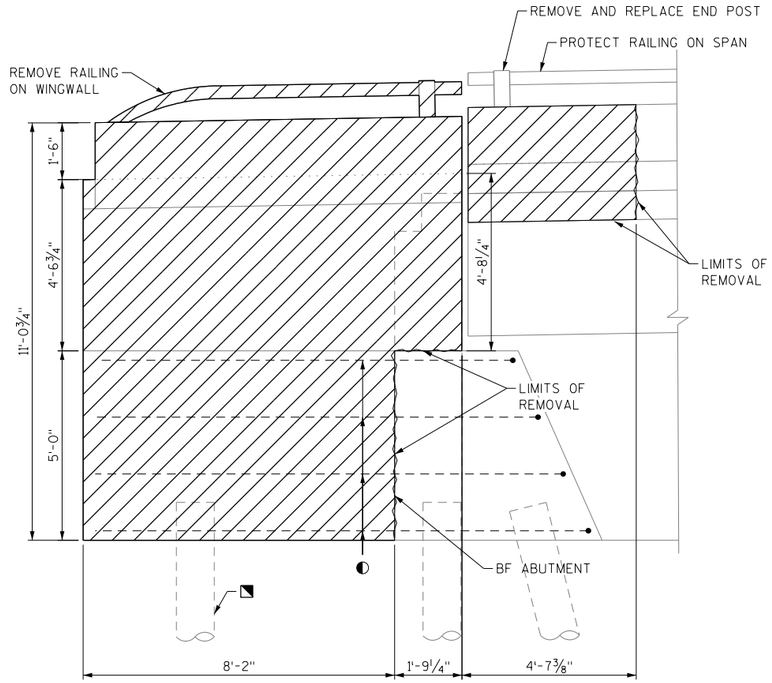
SW WING PLAN - REMOVAL

◥ SAVE AND INCORPORATE EXISTING TIMBER PILE

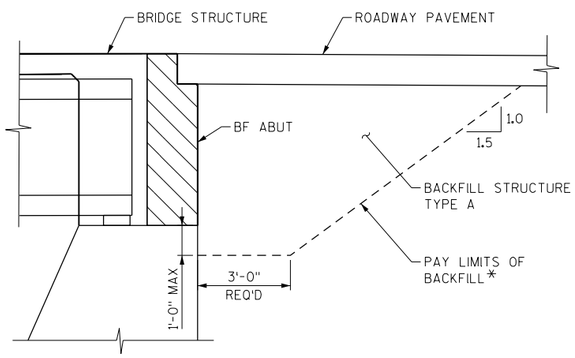
◐ EXISTING HORIZ. NO. 4 BARS SPACED AT 1'-6" ON FF AND BF OF WING. PRESERVE 2'-4" MIN. OF REINFORCEMENT AND INCORPORATE INTO NEW WORK.

ALL LINES OF REMOVAL TO BE DEFINED BY A 1" DEEP SAWCUT.

FF = FRONT FACE
BF = BACK FACE



SW WING ELEVATION - REMOVAL



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

SECTION THROUGH ABUTMENT BACKFILL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-11-51

DRAWN BY MRL | PLANS CK'D. WJZ

QUANTITIES, REMOVALS & DETAILS

SHEET 2 OF 10

108

FILE= B1151.20_REMOVALSANDQUANTITIES_B11.DGN
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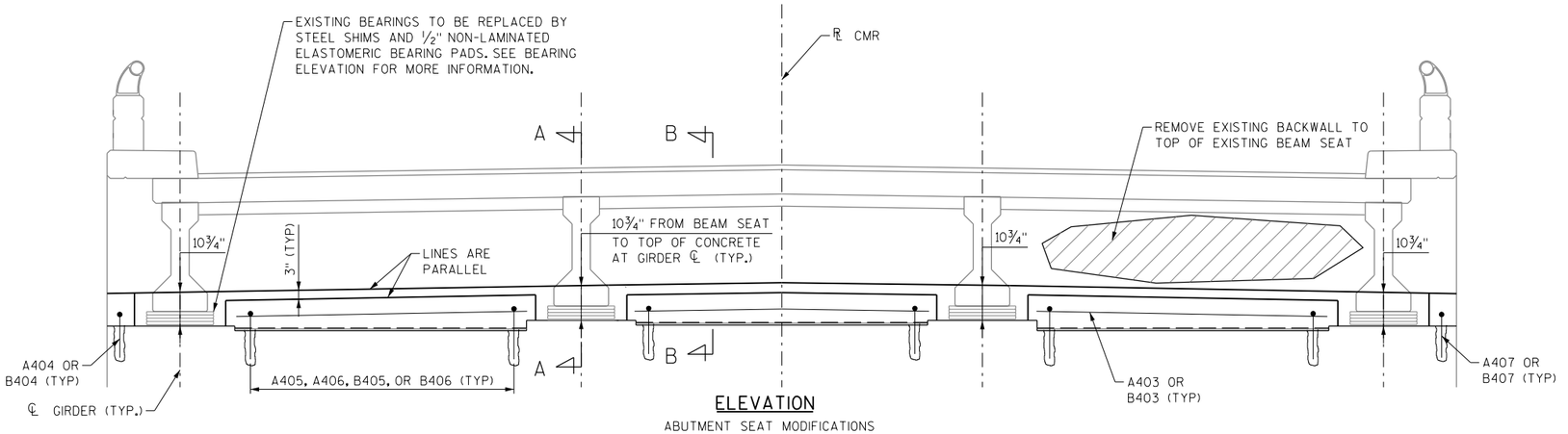
8

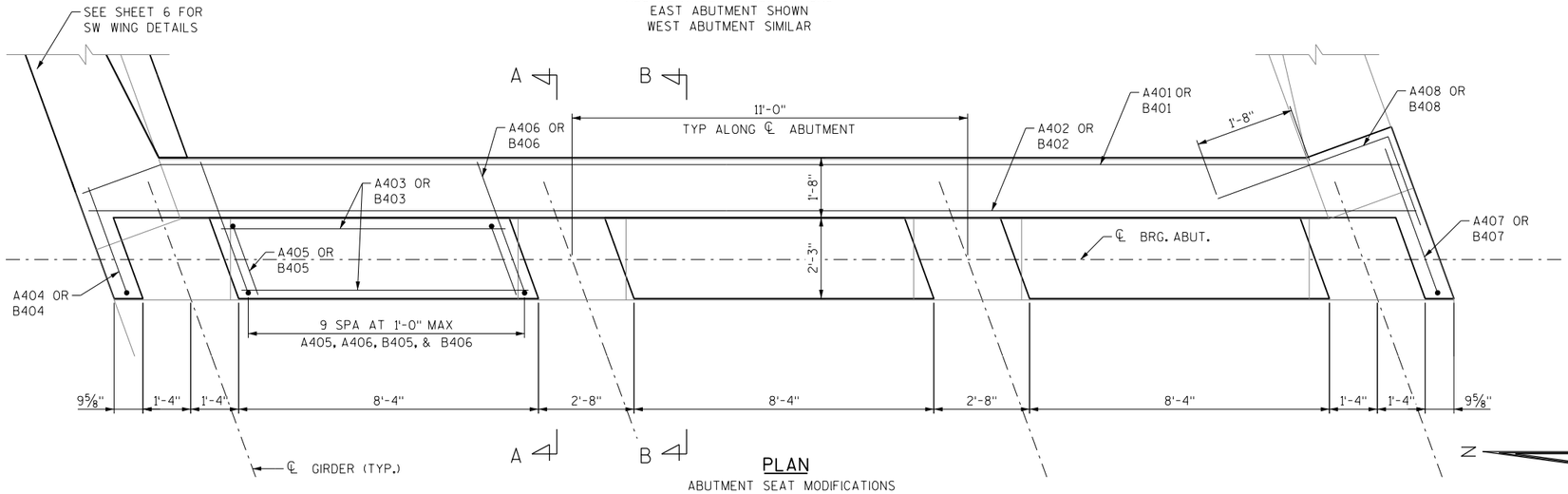
STATE PROJECT NUMBER

1161-00-70



ELEVATION

ABUTMENT SEAT MODIFICATIONS
EAST ABUTMENT SHOWN
WEST ABUTMENT SIMILAR



PLAN

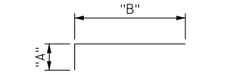
ABUTMENT SEAT MODIFICATIONS

BILL OF BARS - EAST ABUTMENT

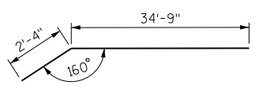
BAR NO.	COATED BAR	NO. REQ'D	LENGTH	BENT BAR	BUNDLED BAR	◭ SERIES	258 # COATED -- # UNCOATED LOCATION
A401	X	1	37'-1"	X			BACKWALL LONGITUDINAL
A402	X	1	36'-11"				BACKWALL LONGITUDINAL
A403	X	6	8'-0"				SEAT LONGITUDINAL
A404	X	1	4'-1"	X			END TRANSVERSE
A405	X	30	3'-3"	X			SEAT TRANSVERSE
A406	X	30	5'-0"	X			SEAT/BACKWALL TRANSVERSE
A407	X	1	4'-11"	X			END TRANSVERSE
A408	X	1	6'-3"	X			END TRANSVERSE

BILL OF BARS - WEST ABUTMENT

BAR NO.	COATED BAR	NO. REQ'D	LENGTH	BENT BAR	BUNDLED BAR	◭ SERIES	258 # COATED -- # UNCOATED LOCATION
B401	X	1	37'-1"	X			BACKWALL LONGITUDINAL
B402	X	1	36'-11"				BACKWALL LONGITUDINAL
B403	X	6	8'-0"				SEAT LONGITUDINAL
B404	X	1	4'-1"	X			END TRANSVERSE
B405	X	30	3'-3"	X			SEAT TRANSVERSE
B406	X	30	5'-0"	X			SEAT/BACKWALL TRANSVERSE
B407	X	1	4'-11"	X			END TRANSVERSE
B408	X	1	6'-3"	X			END TRANSVERSE

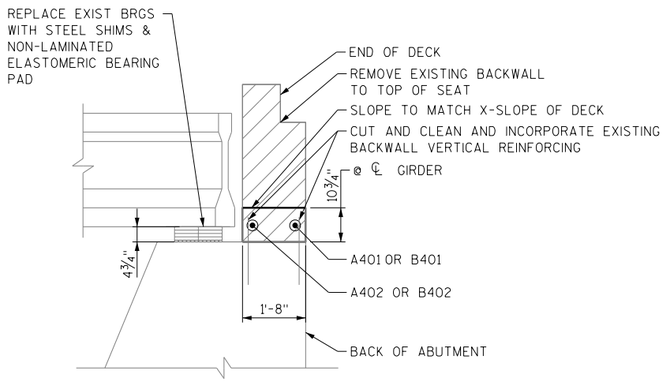


BAR NO.	DIM "A"	DIM "B"
A404/B404	1'-4"	2'-10"
A405/B405	1'-4"	2'-0"
A406/B406	1'-4"	3'-9"
A407/B407	1'-4"	3'-8"
A408/B408	2'-4"	4'-0"

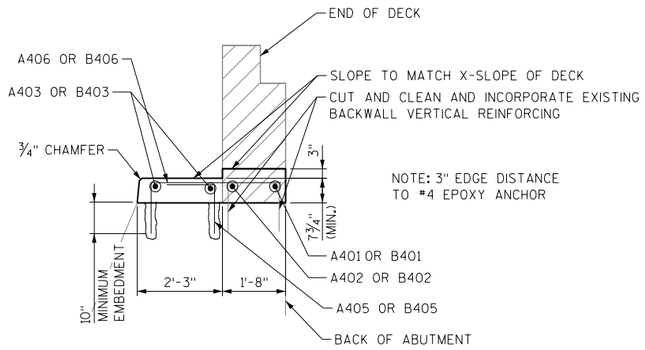


A401/B401

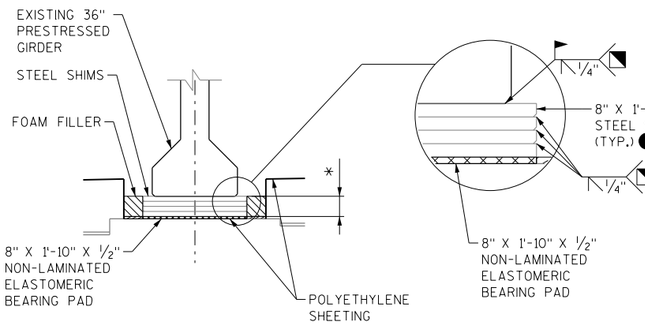
◐ STEEL PLATES AND SHIMS SHALL BE ASTM A709 GRADE 50W. STEEL PLATES/SHIMS SHALL BE WELDED TO THE EXISTING EMBED PLATES IN THE GIRDERS & WELDED TOGETHER AS SHOWN. STEEL SHIMS INCLUDED IN BID ITEM "BEARING PADS ELASTOMERIC NON-LAMINATED." MINIMUM THICKNESS OF INDIVIDUAL SHIM PLATES SHALL BE ¾".



SECTION A-A



SECTION B-B



BEARING ELEVATION

◥ WELD TYPICAL ON SHORT SIDE OF PLATES/SHIMS. PROVIDE BEVEL ON THE BOTTOM SIDE OF EACH PLATE/SHIM.

* TOTAL STEEL SHIM HEIGHT = 4¼"

USE FEWEST PRACTICAL INDIVIDUAL SHIM PLATES.

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-11-51

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ABUTMENT MODIFICATIONS

SHEET 3 OF 10

109

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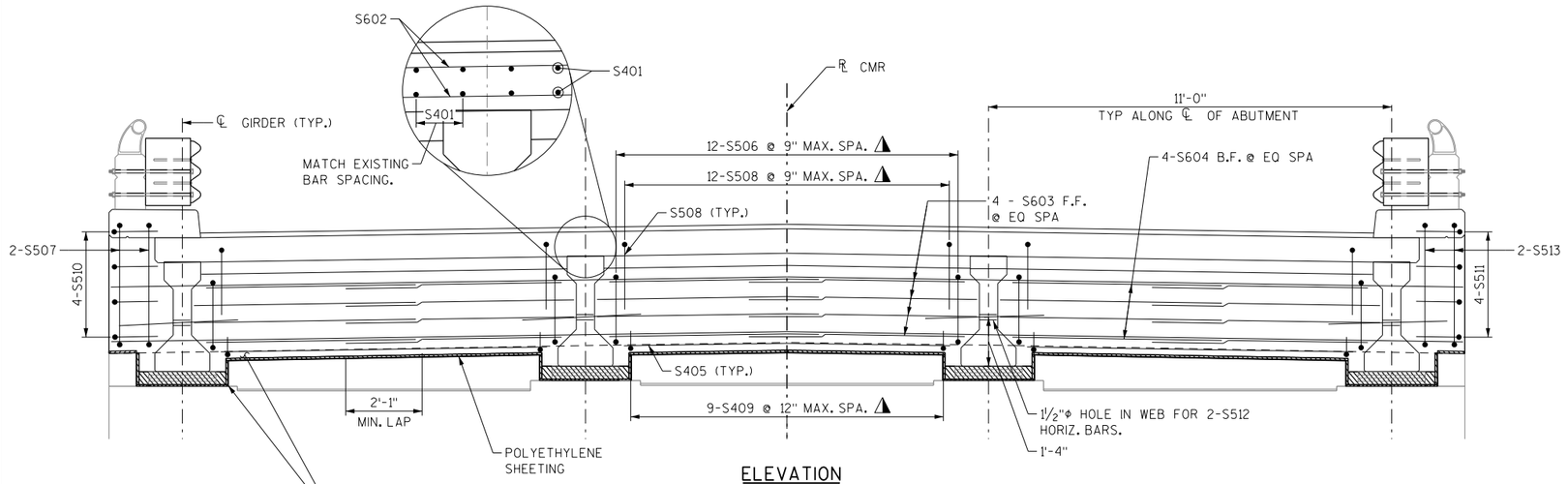
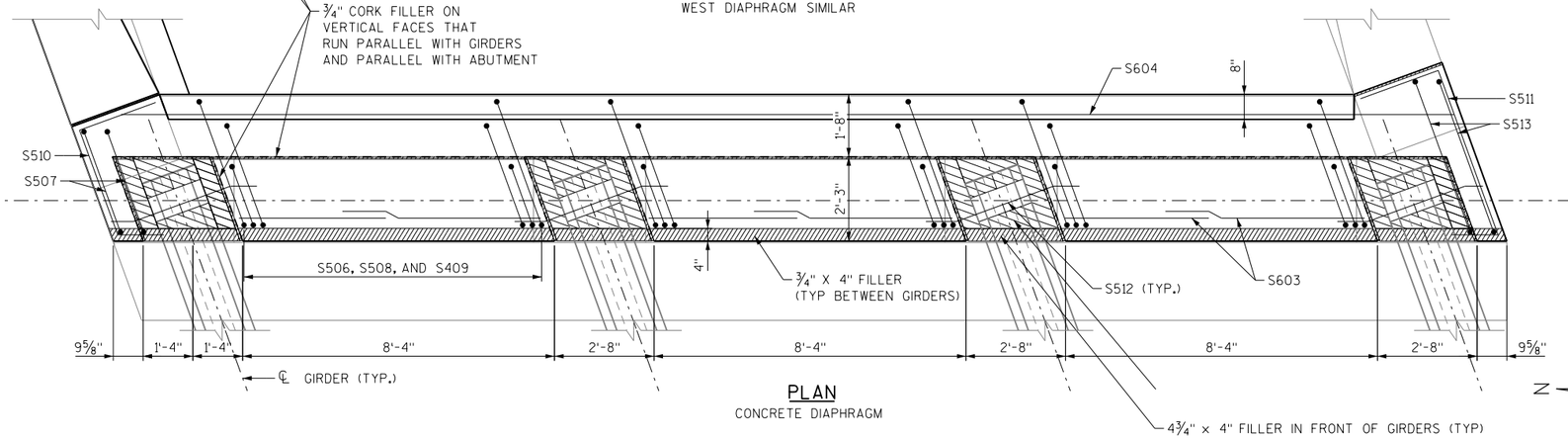
STATE PROJECT NUMBER
1161-00-70



ELEVATION

CONCRETE DIAPHRAGM
EAST DIAPHRAGM SHOWN
WEST DIAPHRAGM SIMILAR

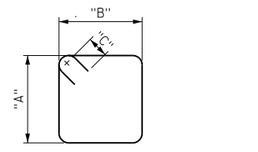


PLAN

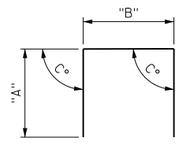
CONCRETE DIAPHRAGM

BILL OF BARS - EAST & WEST ABUTMENT

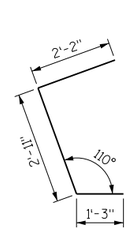
BAR NO.	COATED BAR	NO. REQ'D	LENGTH	BENT BAR	BUNDLED	▲ BAR SERIES	5616 * COATED -- * UNCOATED LOCATION
S401	X	142	5'-4"				DECK LONGITUDINAL
S602	X	44	34'-3"				DECK TRANSVERSE
S603	X	48	6'-2"				DIAPHRAGM HORIZONTAL F.F
S604	X	8	36'-8"				DIAPHRAGM HORIZONTAL B.F.
S405	X	12	8'-6"				DIAPHRAGM SEAT LONGITUDINAL
S506	X	72	11'-8"	X			DIAPHRAGM STIRRUP
S507	X	4	13'-2"	X			DIAPHRAGM NE & SW CORNER STIRRUP
S508	X	72	6'-9"	X			DIAPHRAGM TOP U-BAR
S409	X	54	4'-9"	X			DIAPHRAGM BOT U-BAR
S510	X	8	6'-1"	X			DIAPHRAGM NE & SW END U-BAR
S511	X	8	7'-10"	X			DIAPHRAGM NW & SE END U-BAR
S512	X	16	6'-0"				DIAPHRAGM THRU GIRDER
S513	X	4	16'-0"	X			DIAPHRAGM NW & SE CORNER STIRRUP



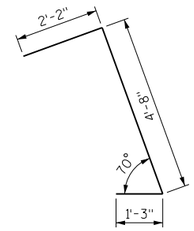
BAR NO.	DIM "A"	DIM "B"	DIM "C"
S506	1'-9"	3'-9"	4"
S507	2'-10"	3'-5"	4"
S513	4'-3"	3'-5"	4"



BAR NO.	DIM "A"	DIM "B"	DIM "C"
S508	2'-0"	3'-0"	90°
S409	1'-6"	1'-11"	90°

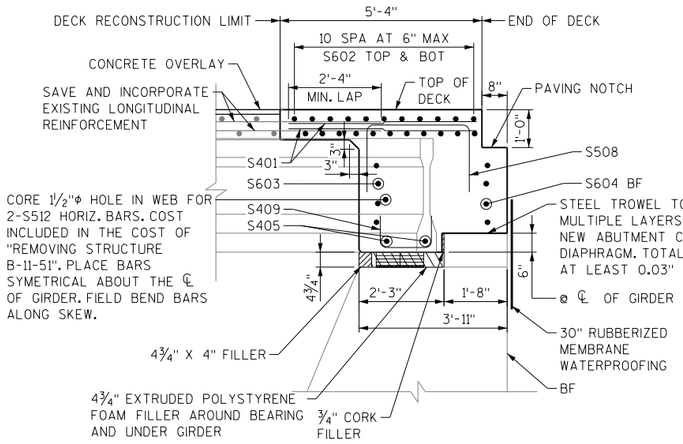


S510

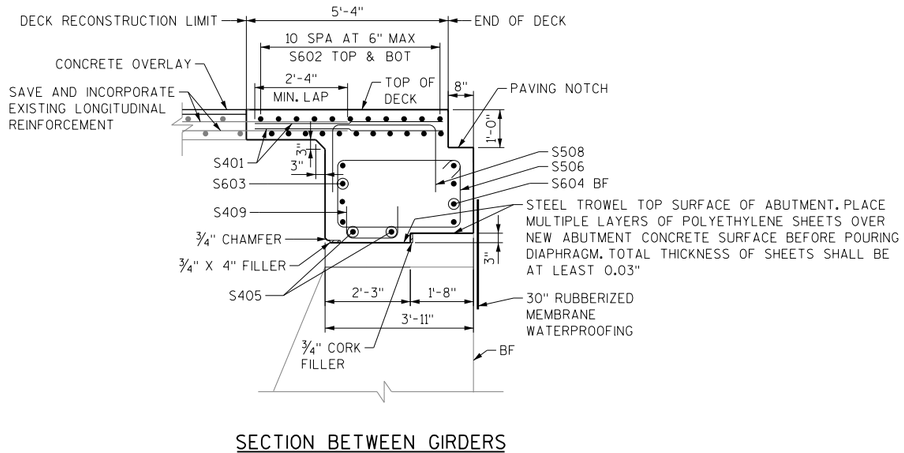


S511

▲ BARS PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO GIRDERS.



SECTION AT GIRDERS



SECTION BETWEEN GIRDERS

LEGEND

FF FRONT FACE
BF BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-11-51

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DIAPHRAGM DETAILS

SHEET 4 OF 10

110

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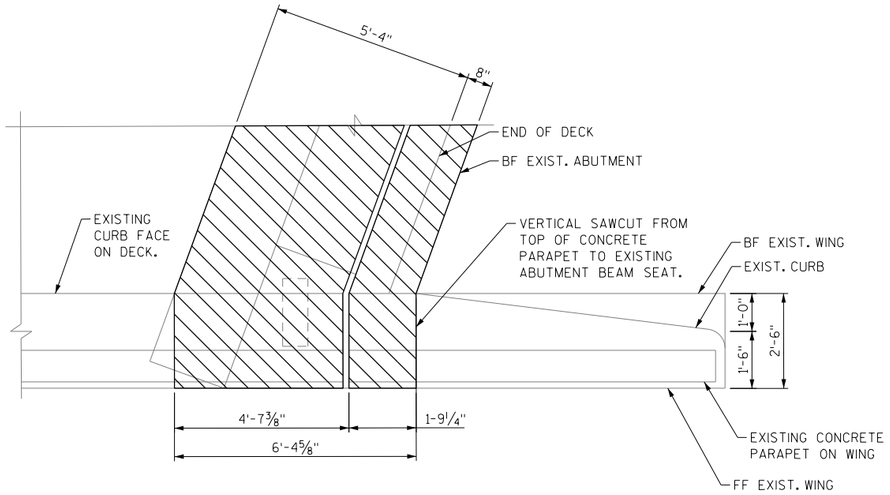
8

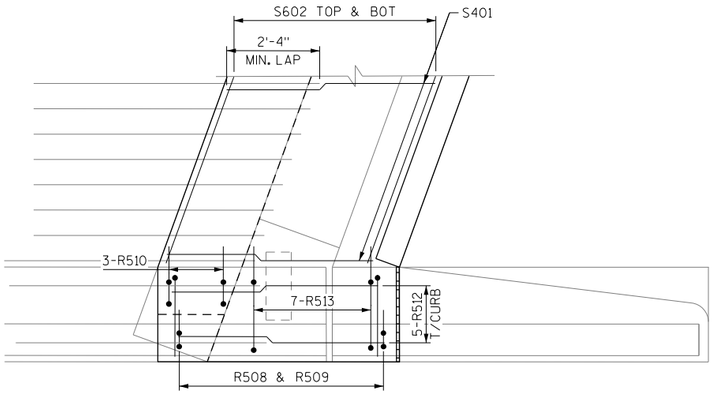
STATE PROJECT NUMBER

1161-00-70



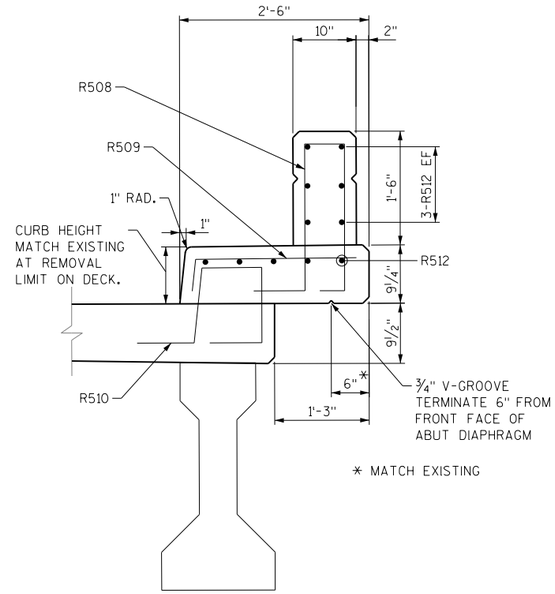
REMOVAL LIMITS

PLAN SHOWING SE WING
NW WING SIMILAR
NE WING SIMILAR OH, OPPOSITE SKEW



PLAN

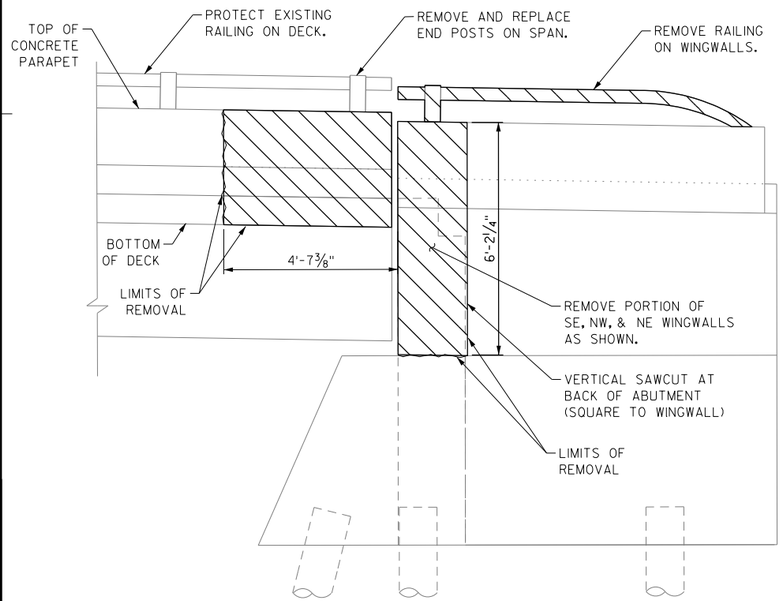
SE WIING SHOWN. NW WING SIMILAR.
NE WING SIMILAR OH, OPPOSITE SKEW



* MATCH EXISTING

PARAPET SECTION A-A

(TYP. ALL CORNERS)



REMOVAL LIMITS

ELEVATION SHOWING SE WING
NW WING SIMILAR
NE WING SIMILAR OH

SE WING ELEVATION

ELEVATION SHOWING SE WING
NW WING SIMILAR
NE WING SIMILAR OH

NOTES:

FINISHED 'W' RAIL NOT SHOWN FOR CLARITY.

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

SEE SHEET 6 FOR PARAPET BAR TABLE

ALL LINES OF REMOVAL TO BE DEFINED BY A 1" DEEP SAWCUT.

FF = FRONT FACE
BF = BACK FACE
OH = OPPOSITE HAND

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-11-51

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DECK DETAILS

SHEET 5 OF 10

111

8

8

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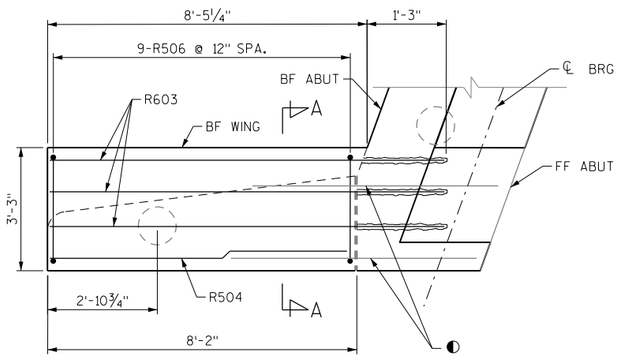
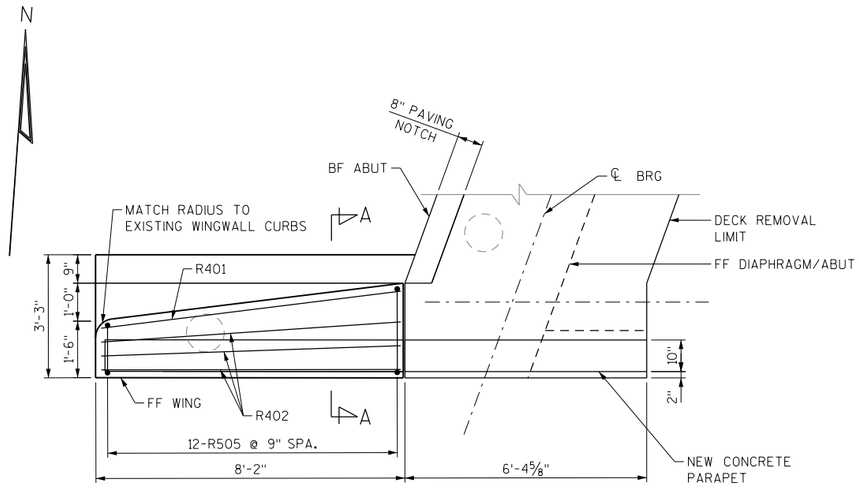
STATE PROJECT NUMBER

1161-00-70



SW WING PLAN

AT ABUTMENT SEAT

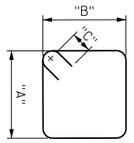


SW WING PLAN

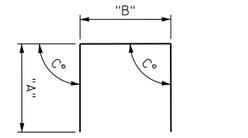
AT TOP OF CURB

BILL OF BARS - SW WINGWALL & DECK CORNERS

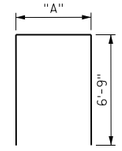
BAR NO.	COATED BAR	NO. REQ'D	LENGTH	BENT BAR	BUNDLED	⚠ BAR SERIES	2994# COATED -- # UNCOATED LOCATION
R401	X	8	7'-9"				SW WING UPPER HORIZ. BF
R402	X	7	7'-10"				SW WING UPPER HORIZ. FF
R603	X	8	9'-3"				SW WING LOWER HORIZ. BF
R504	X	6	7'-10"				SW WING LOWER HORIZ. FF
R505	X	12	15'-0"	X		X	SW WING UPPER VERT. U-BARS
R506	X	9	15'-4"	X			SW WING LOWER STIRRUPS
R507	X	19	5'-10"	X			PARAPET VERT. AT SW WING
R508	X	36	5'-1"	X			PARAPET VERT.
R509	X	36	2'-6"	X			TRANSVERSE AT SIDEWALK
R510	X	12	4'-0"	X			VERTICAL AT CURB
R511	X	6	7'-7"				PARAPET HORIZ. AT SW WING
R512	X	44	6'-0"				PARAPET HORIZONTAL
R513	X	28	5'-3"	X			CURB AT DIAPHRAGM



BAR NO.	DIM "A"	DIM "B"	DIM "C"
R506	4'-8"	2'-11"	4"



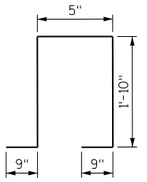
BAR NO.	DIM "A"	DIM "B"	DIM "C"
R507	2'-10"	5"	90°



R505

BAR NO.	NUMBER REQUIRED	LENGTH	DIM "A"
R505	1 SERIES OF 12	14'-5" TO 15'-6"	1'-1" TO 2'-2"

⚠ LENGTH SHOWN FOR BAR SERIES IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS.



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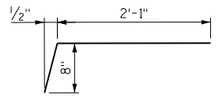

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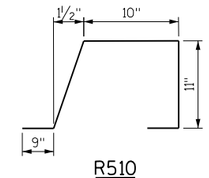

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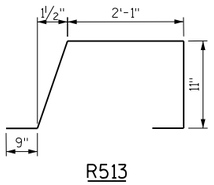


R513

NOTES:

'W' RAIL NOT SHOWN FOR CLARITY.

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

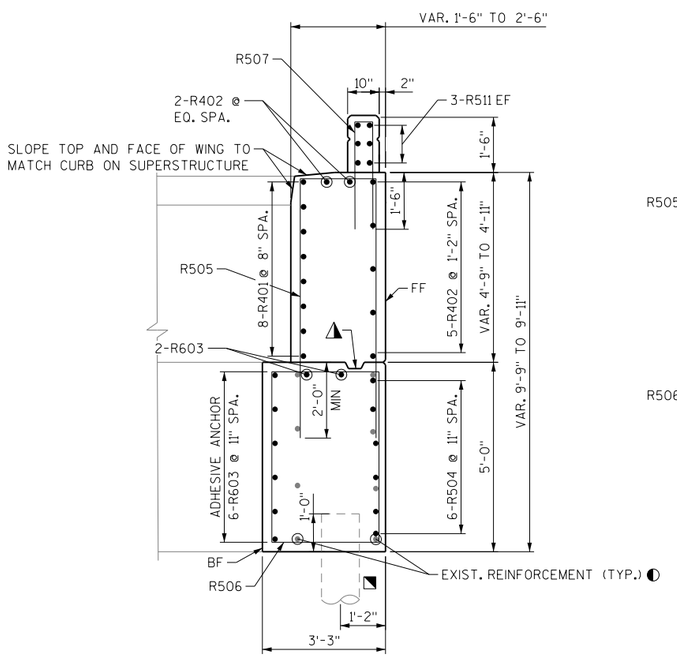
◥ SAVE AND INCORPORATE EXISTING TIMBER PILE

◐ EXISTING HORIZ. WING NO. 4 BARS, SPACED AT 1'-6" ON FF AND BF OF WING. PRESERVE 2'-4" MIN. OF REINFORCEMENT AND INCORPORATE INTO NEW WORK.

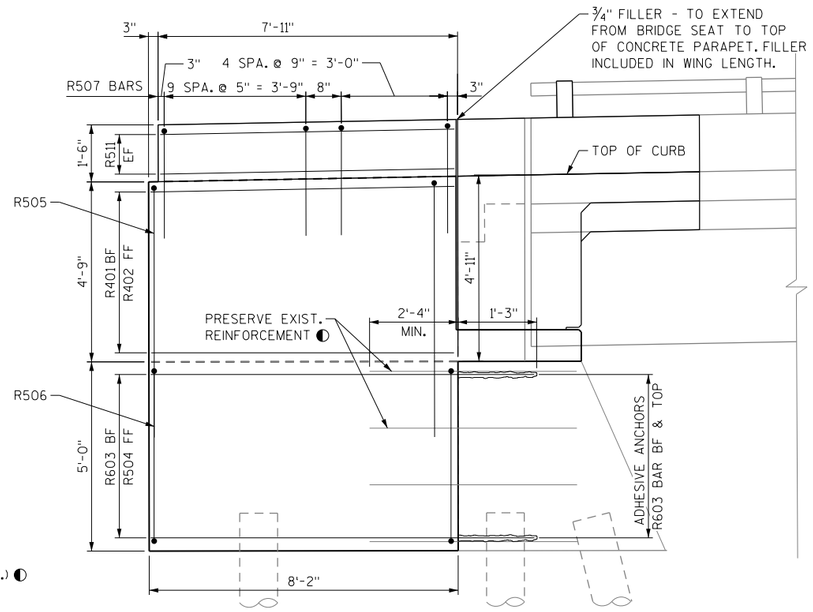
⚠ OPTIONAL CONST. JT. FORMED BY BEVELLED 2"X6" KEYWAY WITH MEMBRANE ON BACKFACE.

ALL LINES OF REMOVAL TO BE DEFINED BY A 1" DEEP SAWCUT.

FF = FRONT FACE
BF = BACK FACE
EF = EACH FACE



SW WING SECTION A-A



SW WING ELEVATION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-11-51

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WINGWALL REPLACEMENT

SHEET 6 OF 10

112

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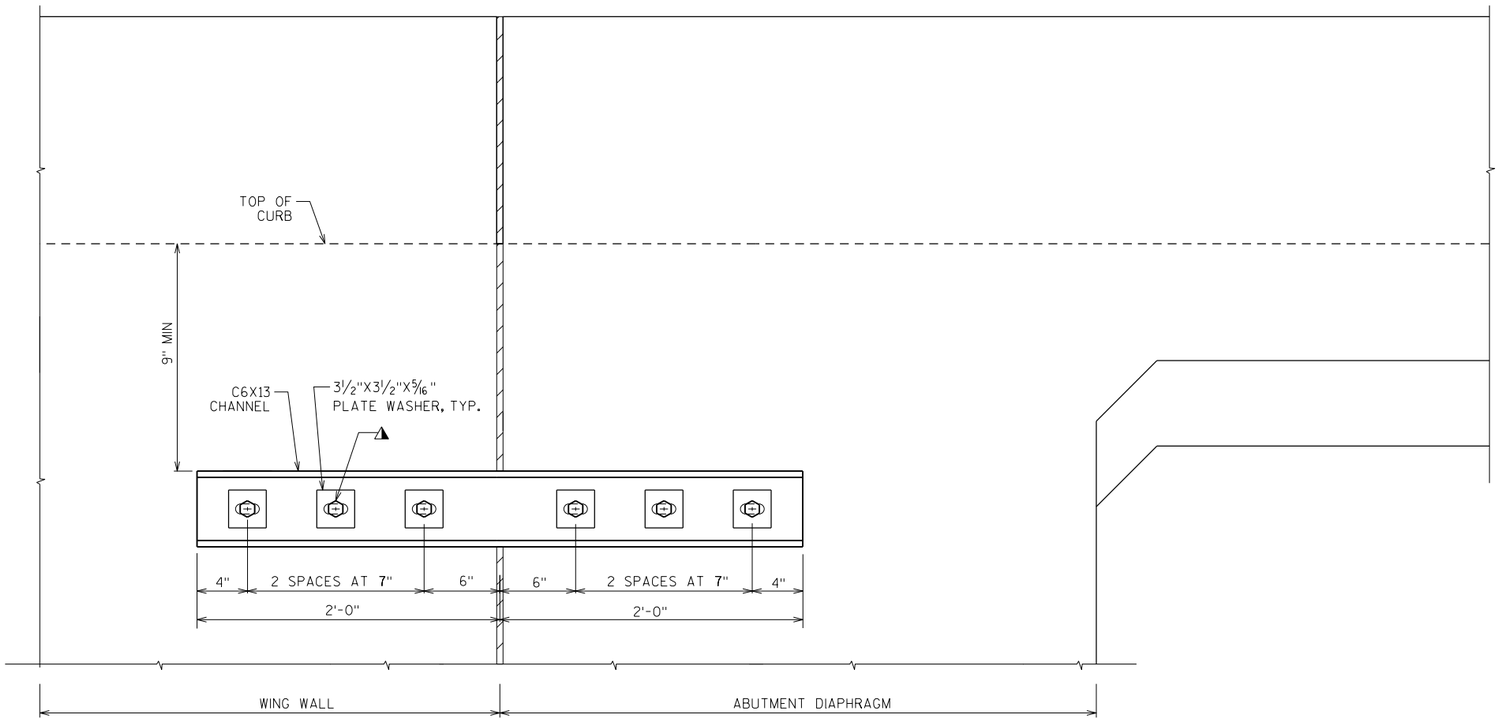
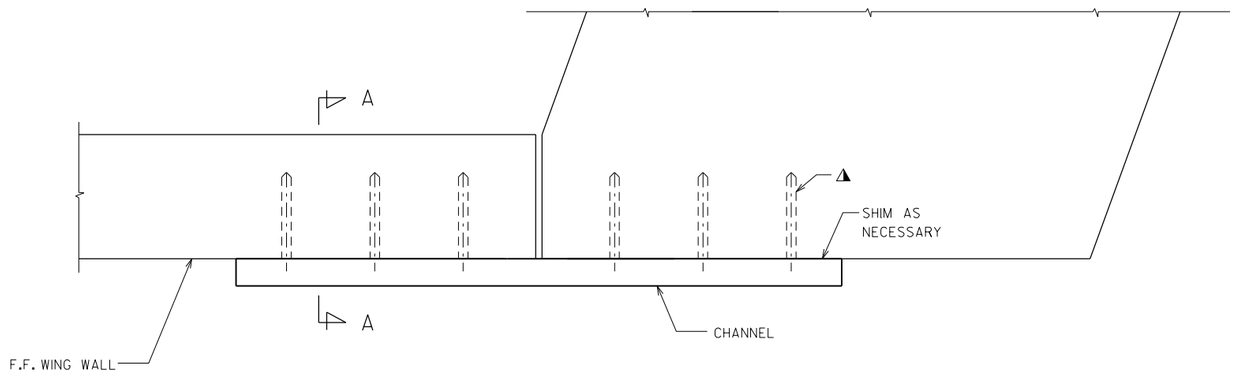
STATE PROJECT NUMBER
1161-00-70

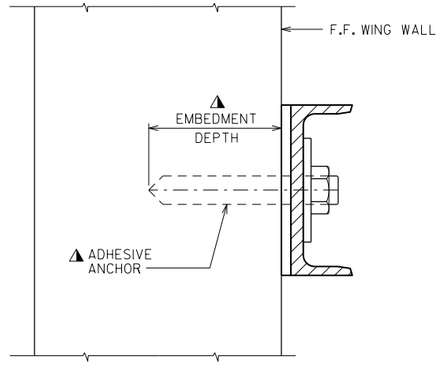


WING ELEVATION

NE WING SHOWN
NW & SW WING SIMILAR OH



PLAN



SECTION A-A

▲ ADHESIVE ANCHOR 1-INCH. EMBED 10" IN CONCRETE.

USE 1⁄16" X 2½" LONG SLOTTED HOLES

NOTES

BID ITEM "STRAPPING B-11-51" INCLUDES ALL ITEMS SHOWN.

ALL PROVIDED STEEL MATERIAL SHALL CONFORM TO ASTM A36.

ALL STRUCTURAL STEEL SHOWN SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123. THREADED RODS, MASONRY ANCHORS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C.

CUTTING AND DRILLING OF CHANNEL SHALL BE DONE IN FABRICATION SHOP, PRIOR TO GALVANIZING.

CAULK AROUND PERIMETER OF CHANNEL AND FILL PORTION OF HOLE AROUND ANCHOR BOLT AND SHIM WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. LEAVE UNDERSIDE OF CHANNEL UN-CAULKED TO ALLOW DRAINAGE.

ADHESIVE ANCHORS SHALL CONFORM TO SECTION 502.2.12 OF THE STANDARD SPECIFICATIONS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-11-51

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WING STRAPPING

SHEET 7 OF 10

113

FILE= B1151_70_STRAPING_B1151.DGN
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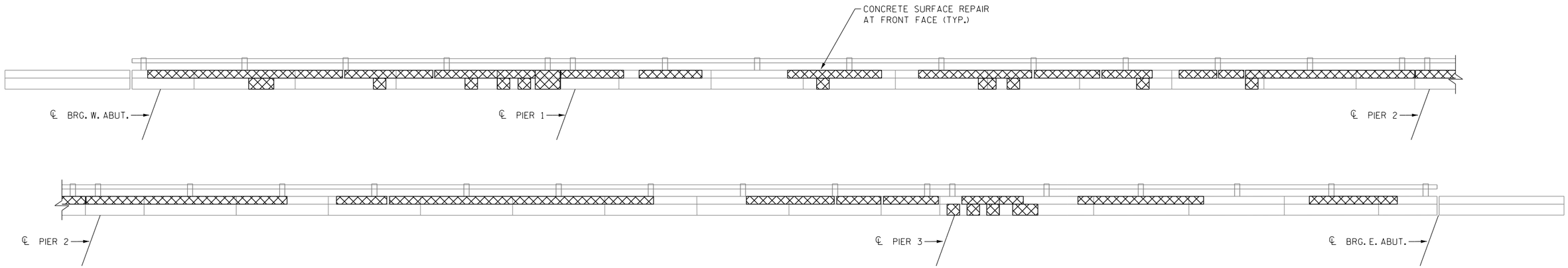
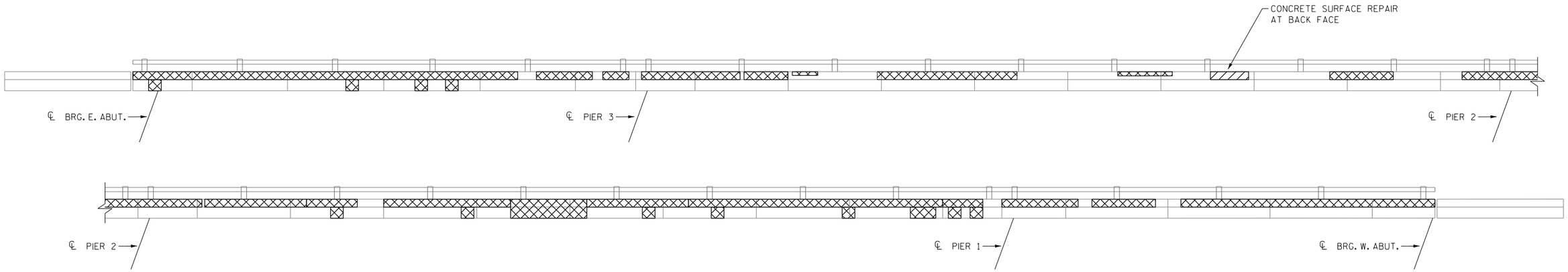
STATE PROJECT NUMBER
1161-00-70



NORTH PARAPET
INSIDE ELEVATION



SOUTH PARAPET
INSIDE ELEVATION

CONCRETE SURFACE REPAIR AT FRONT FACE

CONCRETE SURFACE REPAIR AT BACK FACE

NOTES:

'W' RAIL NOT SHOWN FOR CLARITY.

CONCRETE SURFACE REPAIR LOCATIONS SHOWN ARE APPROXIMATE. COORDINATE ACTUAL REPAIR LOCATIONS WITH THE FIELD ENGINEER.

TOTAL ESTIMATED QUANTITY

ITEM NUMBER	ITEM DESCRIPTION	UNIT	NORTH PARAPET	SOUTH PARAPET	TOTAL
509.1500	CONCRETE SURFACE REPAIR	SF	132	132	264

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-11-51

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PARAPET REPAIR

SHEET 8 OF 10

114

FILE= B1151_80_PARAPETREPAIR_B1151.DGN
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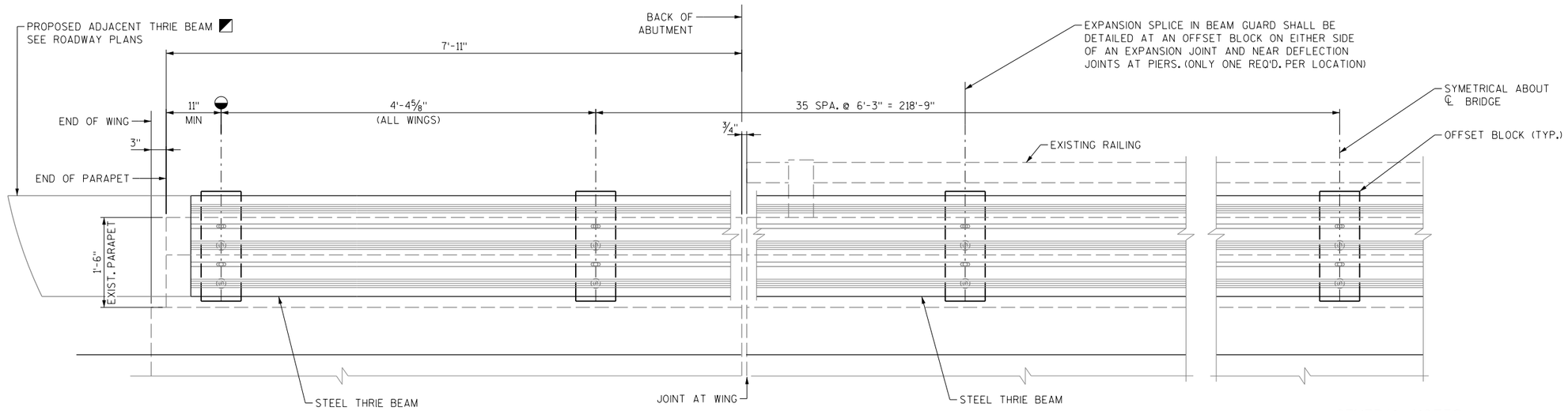
8

STATE PROJECT NUMBER

1161-00-70



ELEVATION

PROVIDE RAIL MEMBER SPLICE WITH PROPOSED THRIE BEAM AT OFFSET BLOCK. SEE RAIL MEMBER SPLICE FOR BEAM NESTING.

PAY LIMITS FOR "STEEL THRIE BEAM STRUCTURE APPROACH SPECIAL"

GENERAL NOTES

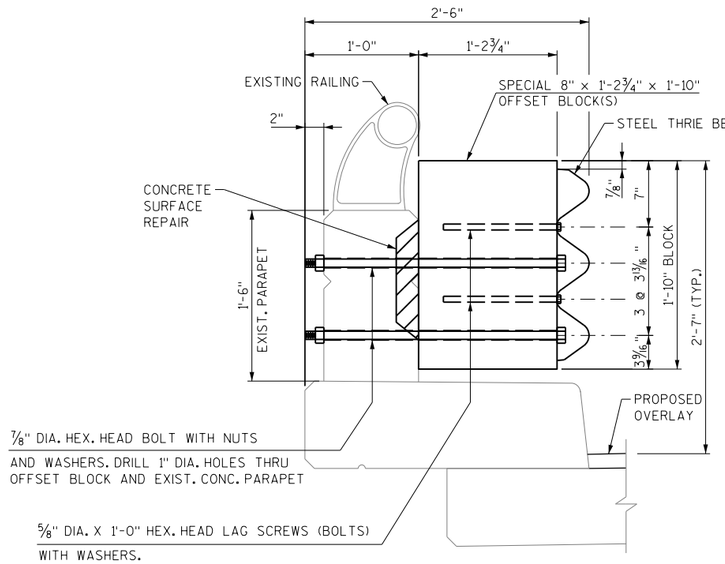
STEEL THRIE BEAM, TIMBER OFFSET BLOCKS, BOLTS, WASHERS, NUTS, AND DRILLING TO BE INCLUDED IN THE BID ITEM "STEEL THRIE BEAM STRUCTURE APPROACH SPECIAL".

USE LAG SCREWS TO BOLT THE STEEL THRIE BEAM TO ALL TIMBER OFFSET BLOCKS. DRILL OR PUNCH HOLES IN THRIE BEAM IF THE BLOCK SPACING IS LESS THAN 6'-3".

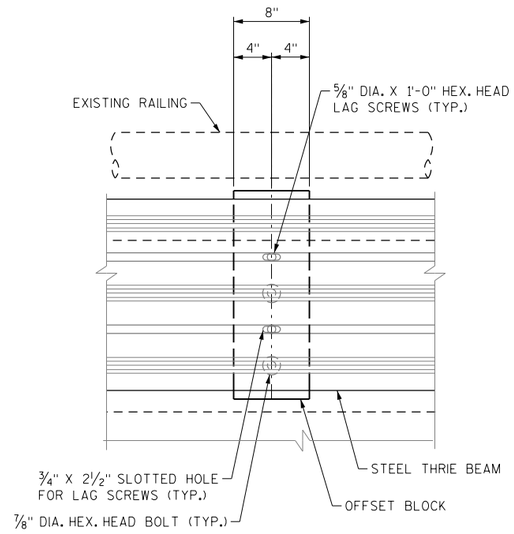
SEE SDD'S FOR ADDITIONAL STEEL THRIE BEAM DETAILS.

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

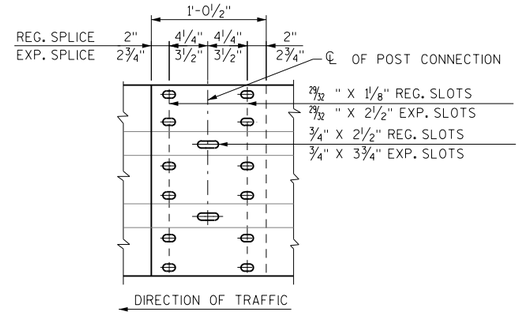
OFFSET BLOCK THICKNESS SHALL BE ADJUSTED TO ALLOW FACE OF THRIE BEAM TO BE FLUSH WITH BOTTOM OF CURB.



SECTION THRU CURB WITH STEEL THRIE BEAM



PARTIAL ELEVATION AT THRIE BEAM POST



RAIL MEMBER SPLICE

5/8" DIA. BUTTON HEAD OVAL SHOULDER BOLTS WITH HEX NUTS AT ALL SLOTS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-11-51

DRAWN BY MRL | PLANS CK'D. WJZ

'W' RAILING DETAILS

SHEET 9 OF 10

115

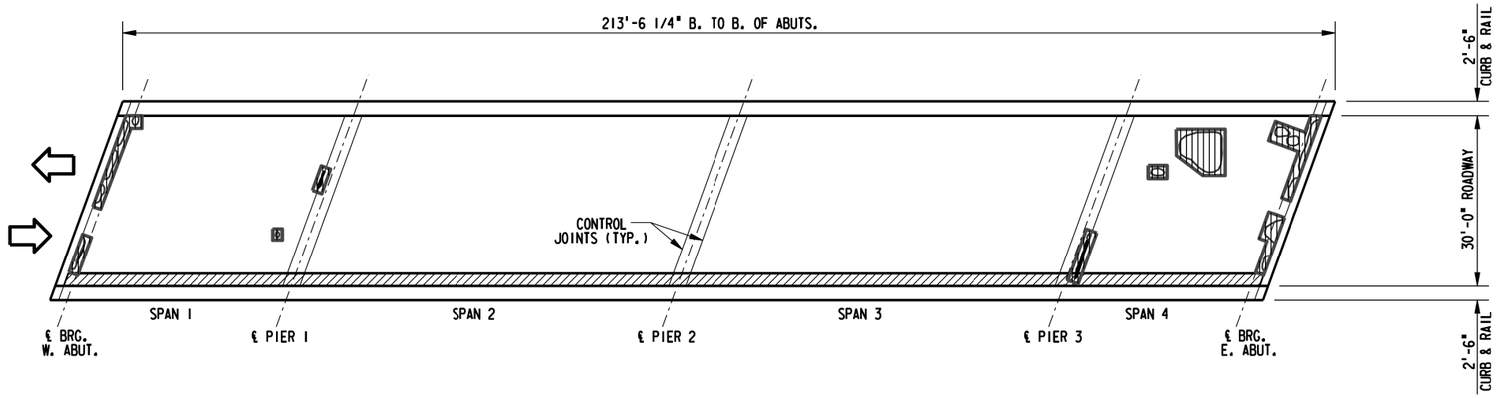
8

8

FILE= B1151_90_WRAILINGDETAILS_B1151.DGN
SCALE = 1:20

STATE PROJECT NUMBER

1161-00-70



PLAN

PROPOSED REHABILITATION AREAS

N

REHABILITATION AREA SUMMARY		STRUCTURE NO. B-11-51	
ITEM	UNIT	QUANT.	%
TOTAL AREA	yd^2	707.0	
SHADE/DEBRIS	yd^2	51.2	
PREPARATION, DECKS, TYPE 1	yd^2	23.3	3.6
PREPARATION, DECKS, TYPE 2	yd^2	11.7	1.8
FULL DEPTH DECK REPAIR	yd^2	1.0	0.2

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION

SPALL

DEBOND

ASPHALT PATCH

CONCRETE PATCH

SCALE 0' 5' 10' 20'

SURFACE TYPE: CONCRETE OVERLAY
INFRARED INSPECTION DATE: 11/22/19

NO | REVISIONS | DRN | CHK | DATE

DATA COL | TT/DS
ANALYSIS | DS
CADD | JT
CHECKED | DU

AECOM

PROPOSED REHABILITATION AREAS FOR CASCADE MOUNTAIN ROAD OVER IH 39 STRUCTURE NO. B-11-51

PREPARED FOR WISCONSIN DEPARTMENT OF TRANSPORTATION SOUTHWEST REGION

DATE 12/23/19
PROJECT NO 60617241
FILENAME B-11-51-REHAB.DGN
SHEET NO 1 OF 1
DRAWING NO

NOTES:

LEVEL 3 INFRARED INSPECTION PERFORMED BY AECOM ON 11/22/2019

DEFECT AREAS SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY. THE FIELD ENGINEER WILL SOUND AND MARK AREAS IN THE FIELD. THE ESTIMATED QUANTITIES FOR THE FULL-DEPTH BID ITEMS ARE ADAPTED FROM THE ABOVE INFRARED THERMOGRAPHIC SURVEY RESULTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-11-51

DRAWN BY MRL | PLANS CK'D. WJZ

DECK INFRARED THERMOGRAPHIC SURVEY

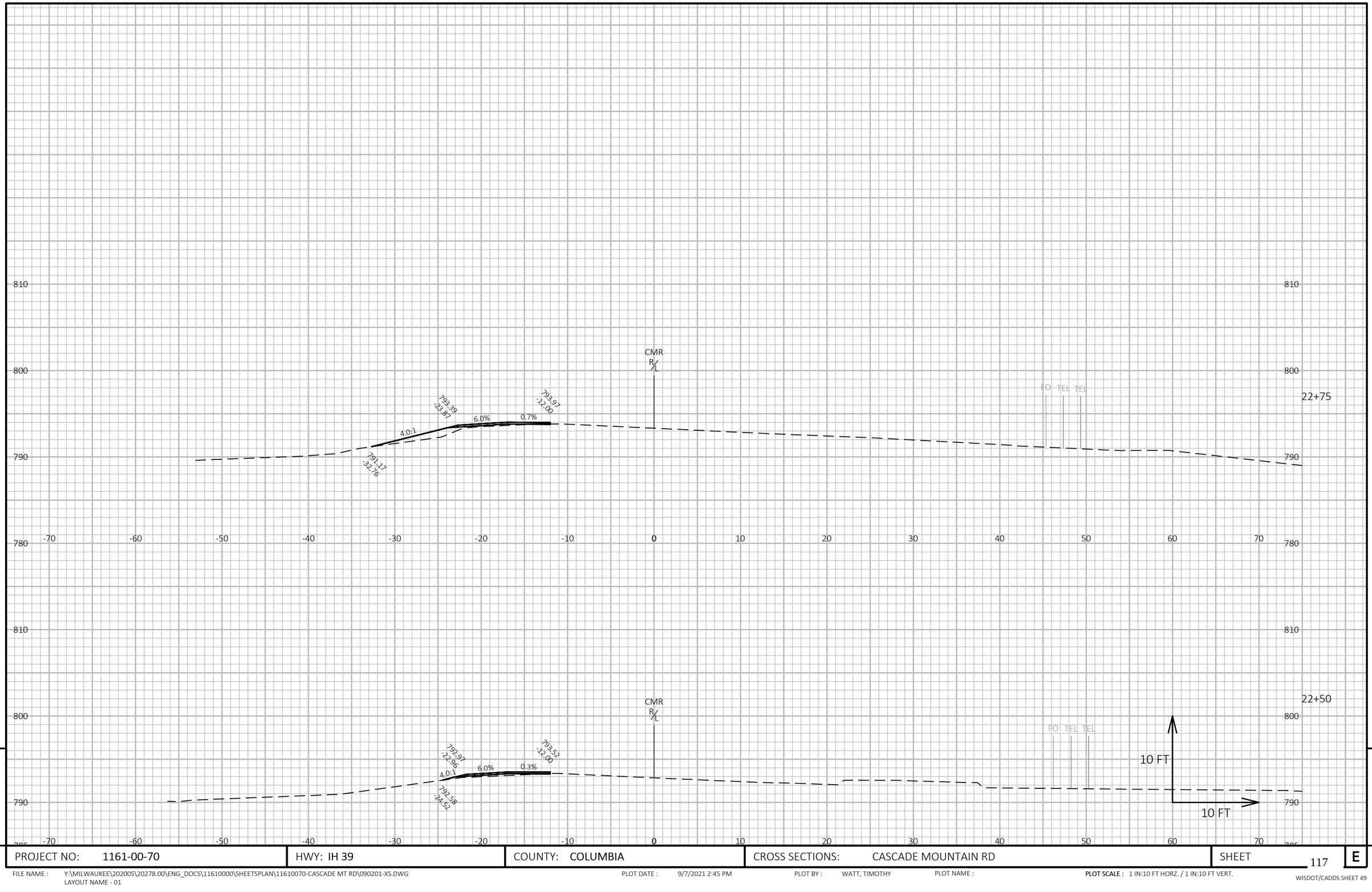
SHEET 10 OF 10

116

FILE= B1151_100_THERMOGRAPHIC_B1151.DGN
SCALE = 1:1

8

8



9

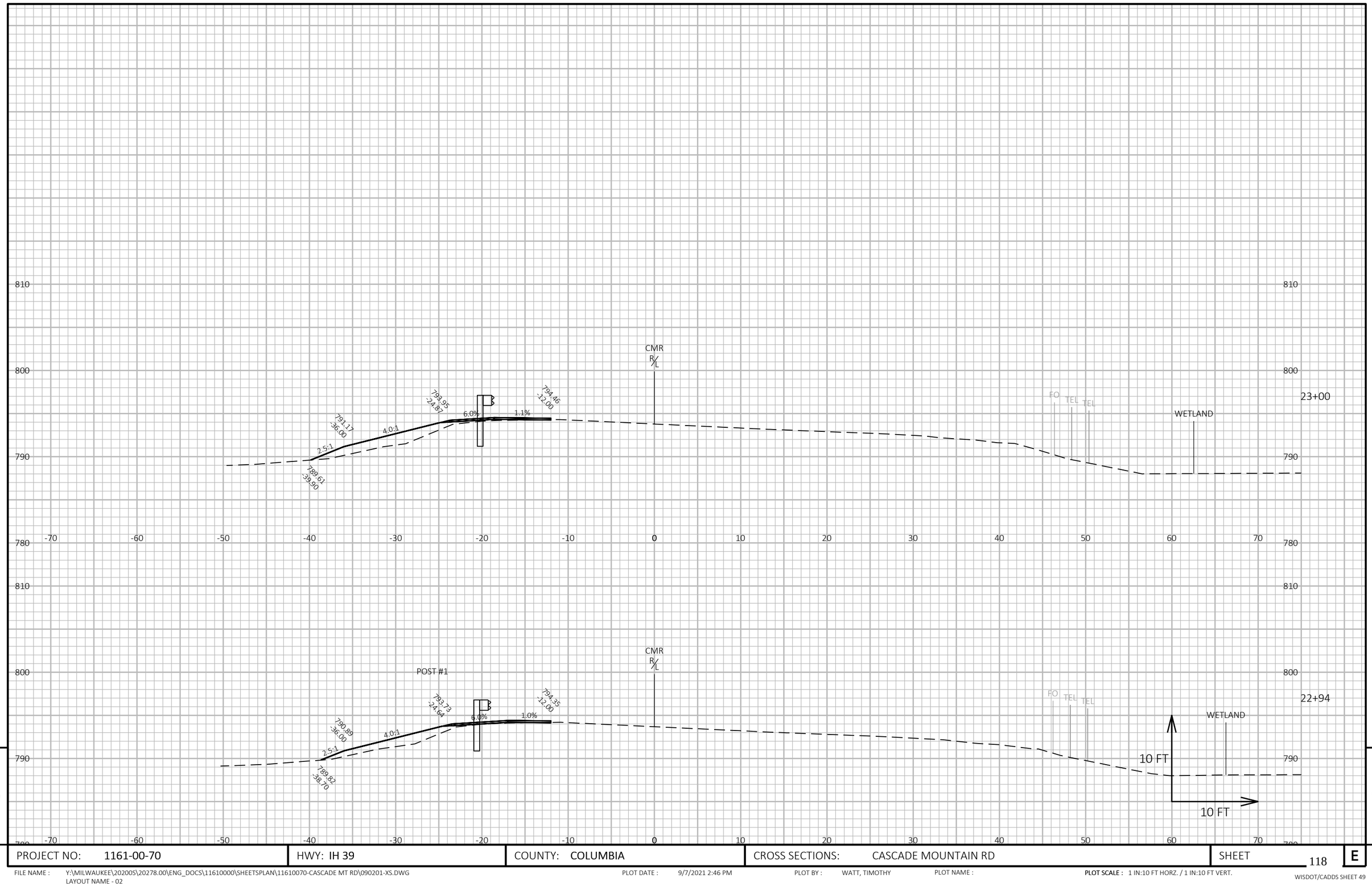
9

PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 117	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 01

PLOT DATE : 9/7/2021 2:45 PM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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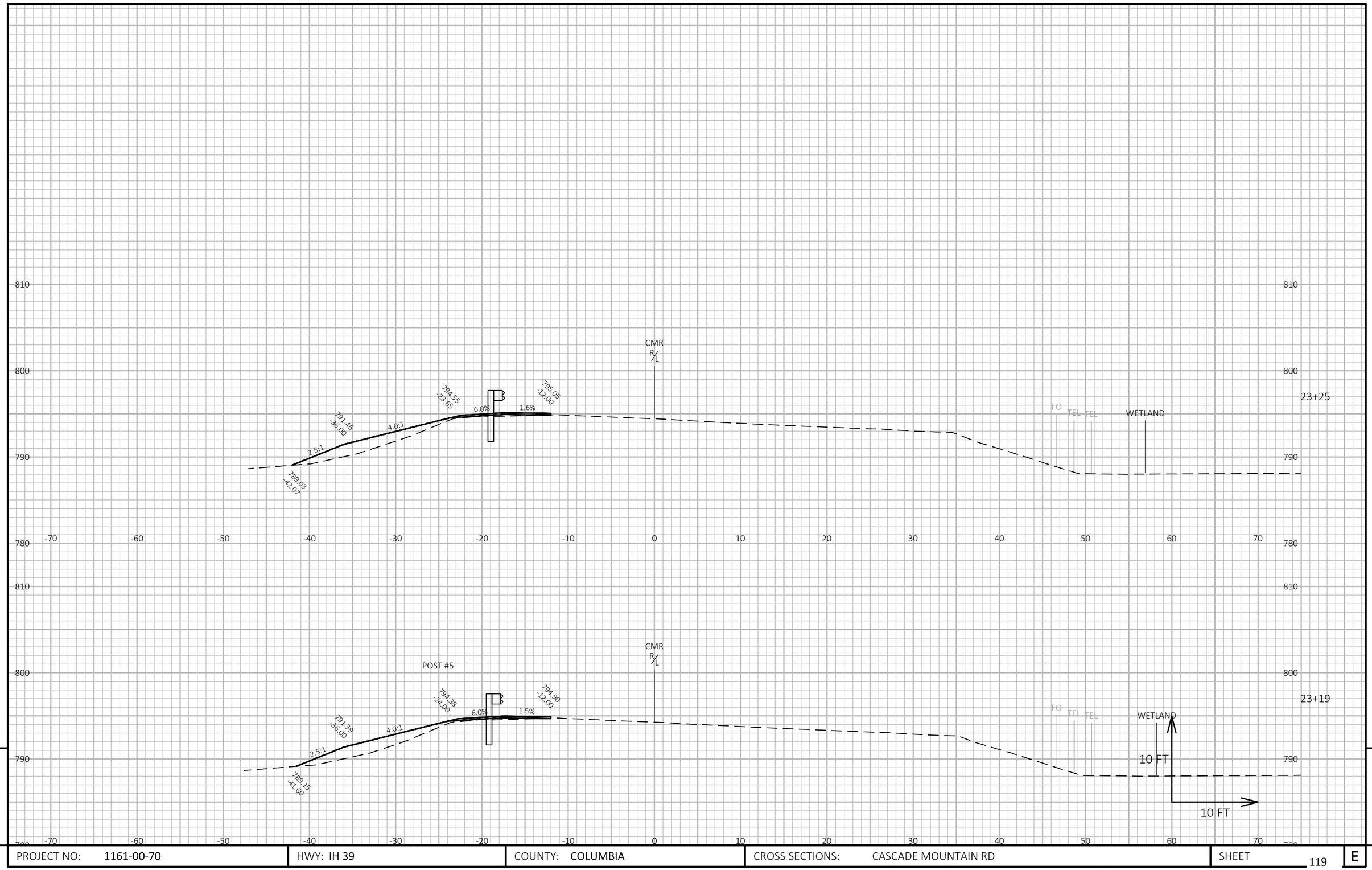
9

PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 118	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 02

PLOT DATE : 9/7/2021 2:46 PM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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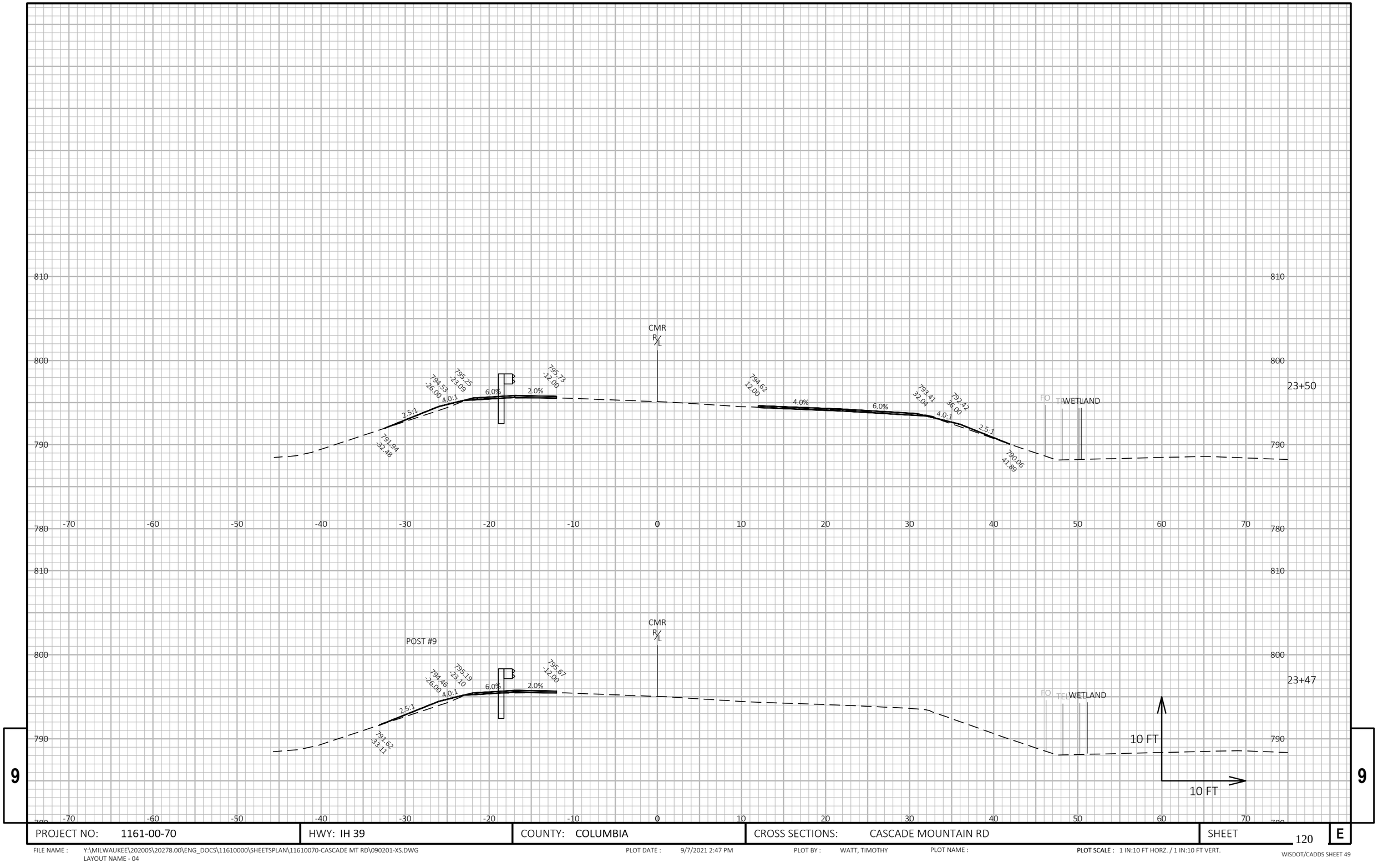
PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 119	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 03

PLOT DATE : 9/7/2021 2:46 PM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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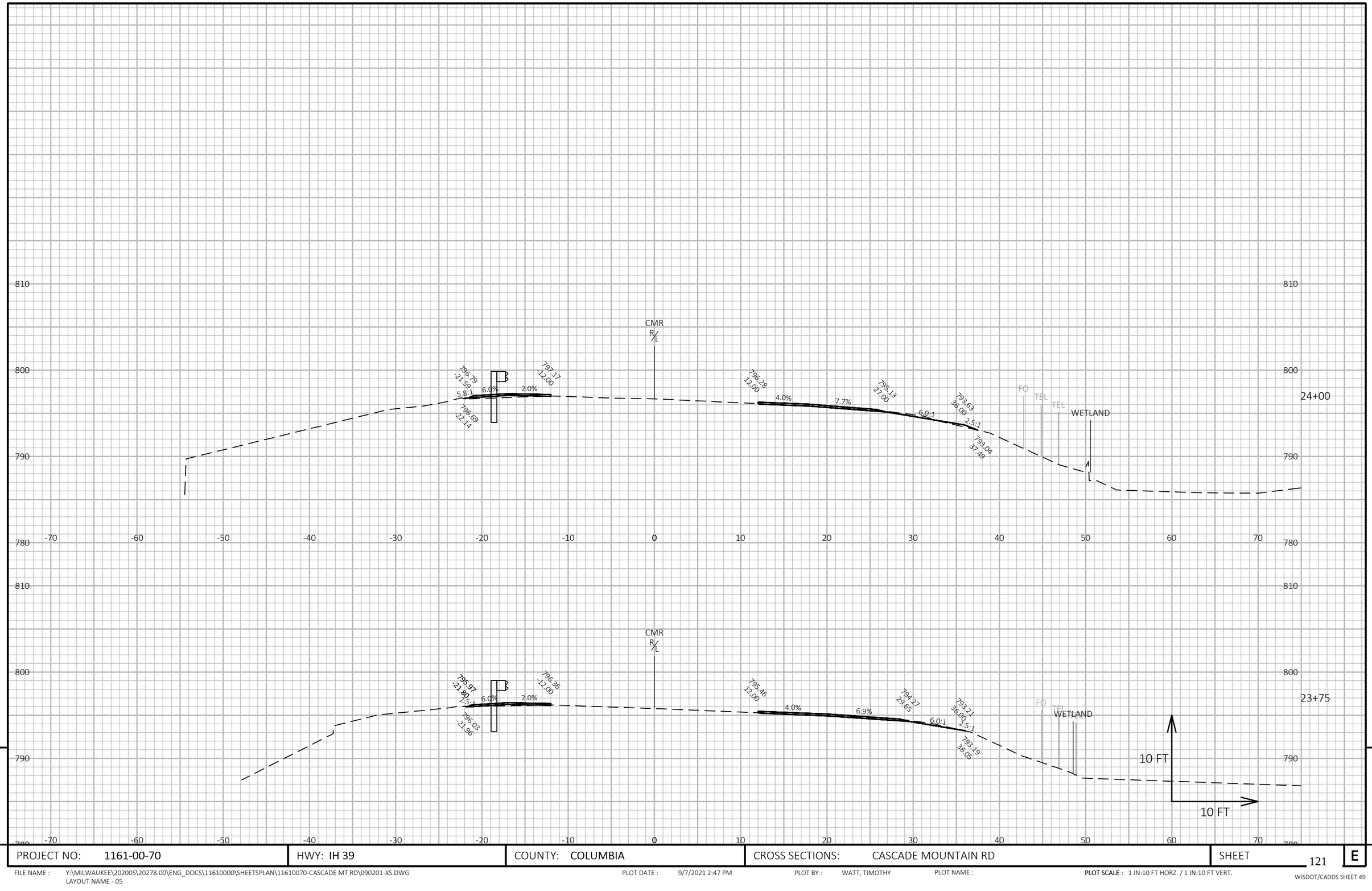
PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 120	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 04

PLOT DATE : 9/7/2021 2:47 PM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

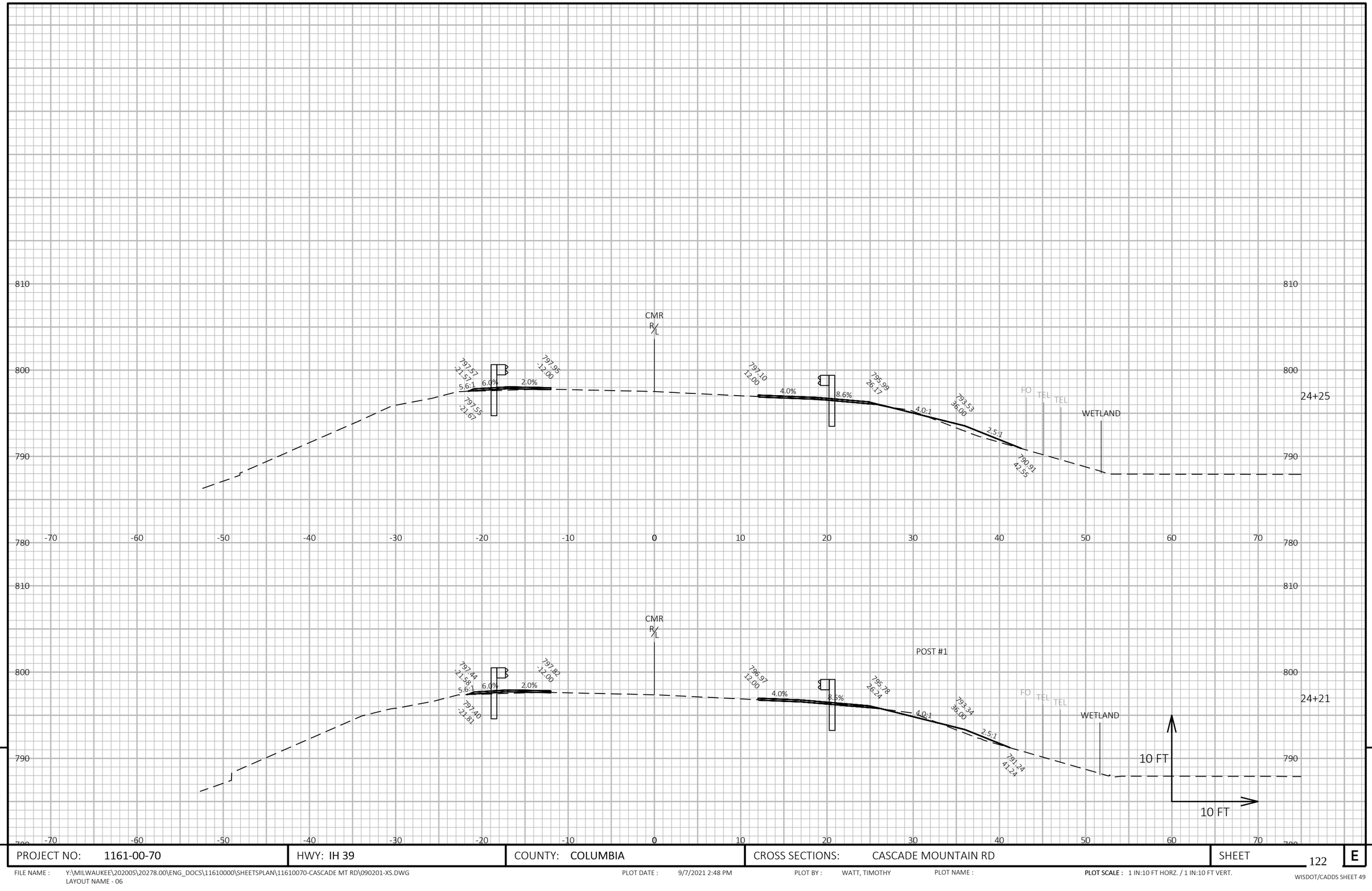


PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 121	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 05

PLOT DATE : 9/7/2021 2:47 PM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

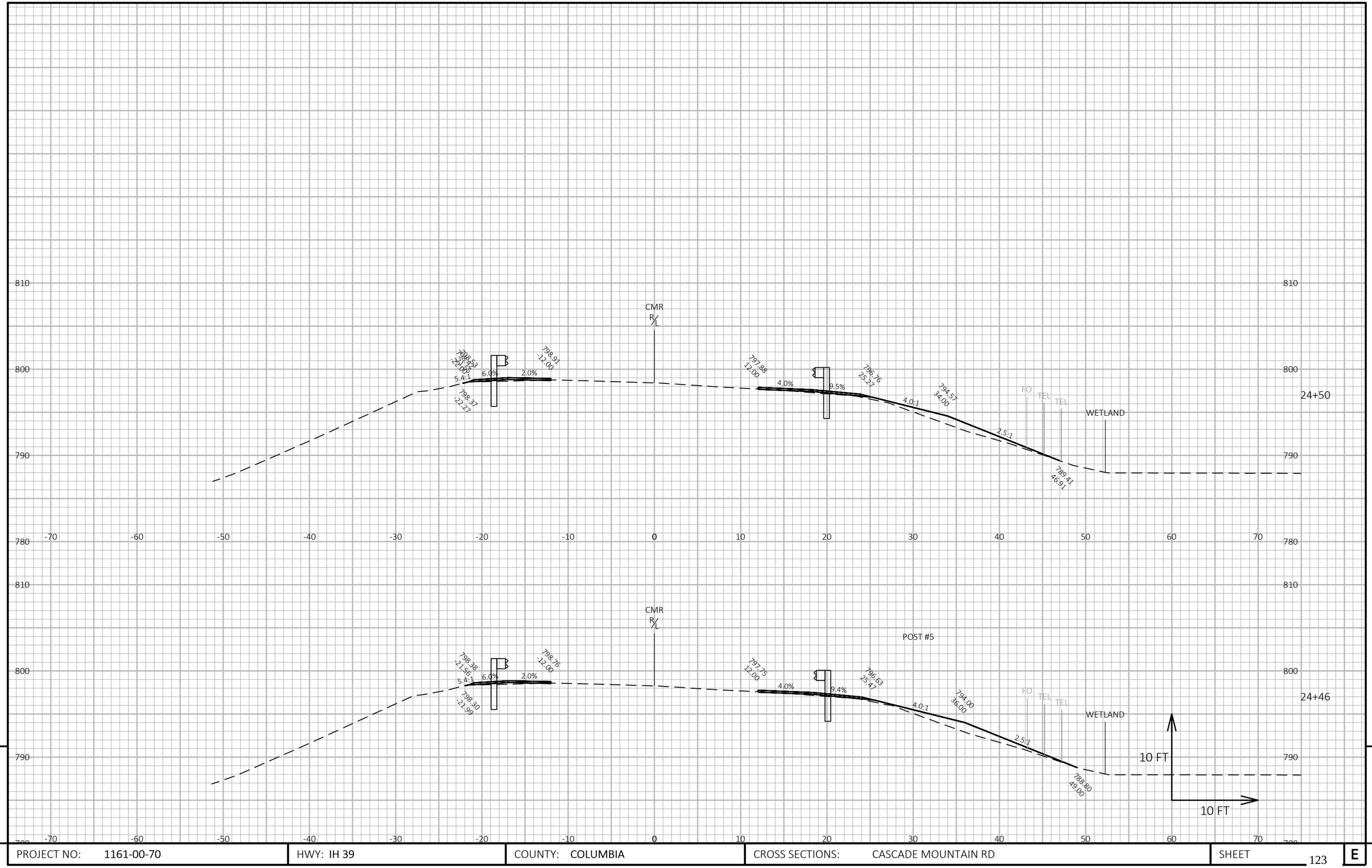


PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 122	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 06

PLOT DATE : 9/7/2021 2:48 PM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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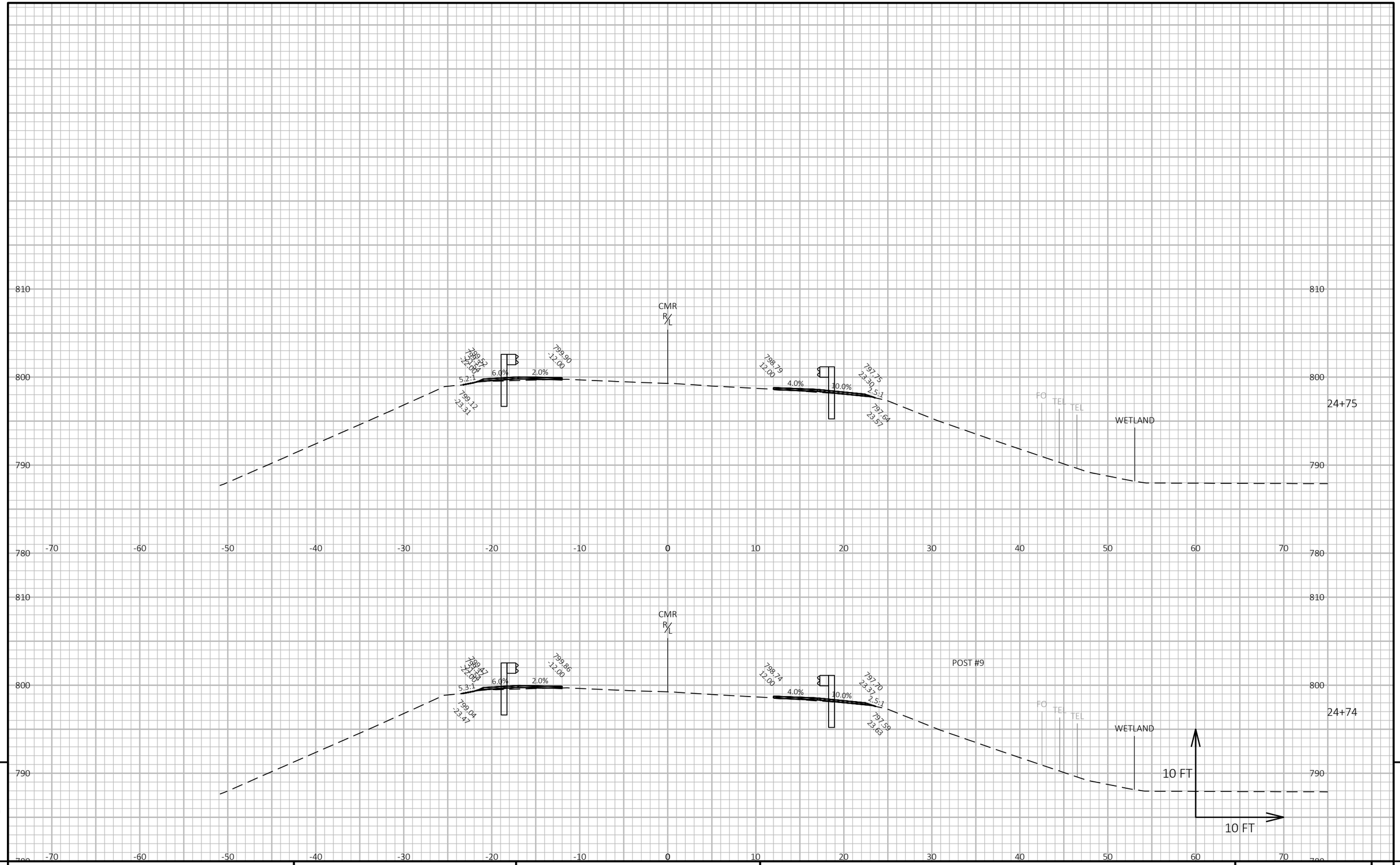
PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 123	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 07

PLOT DATE : 9/7/2021 2:49 PM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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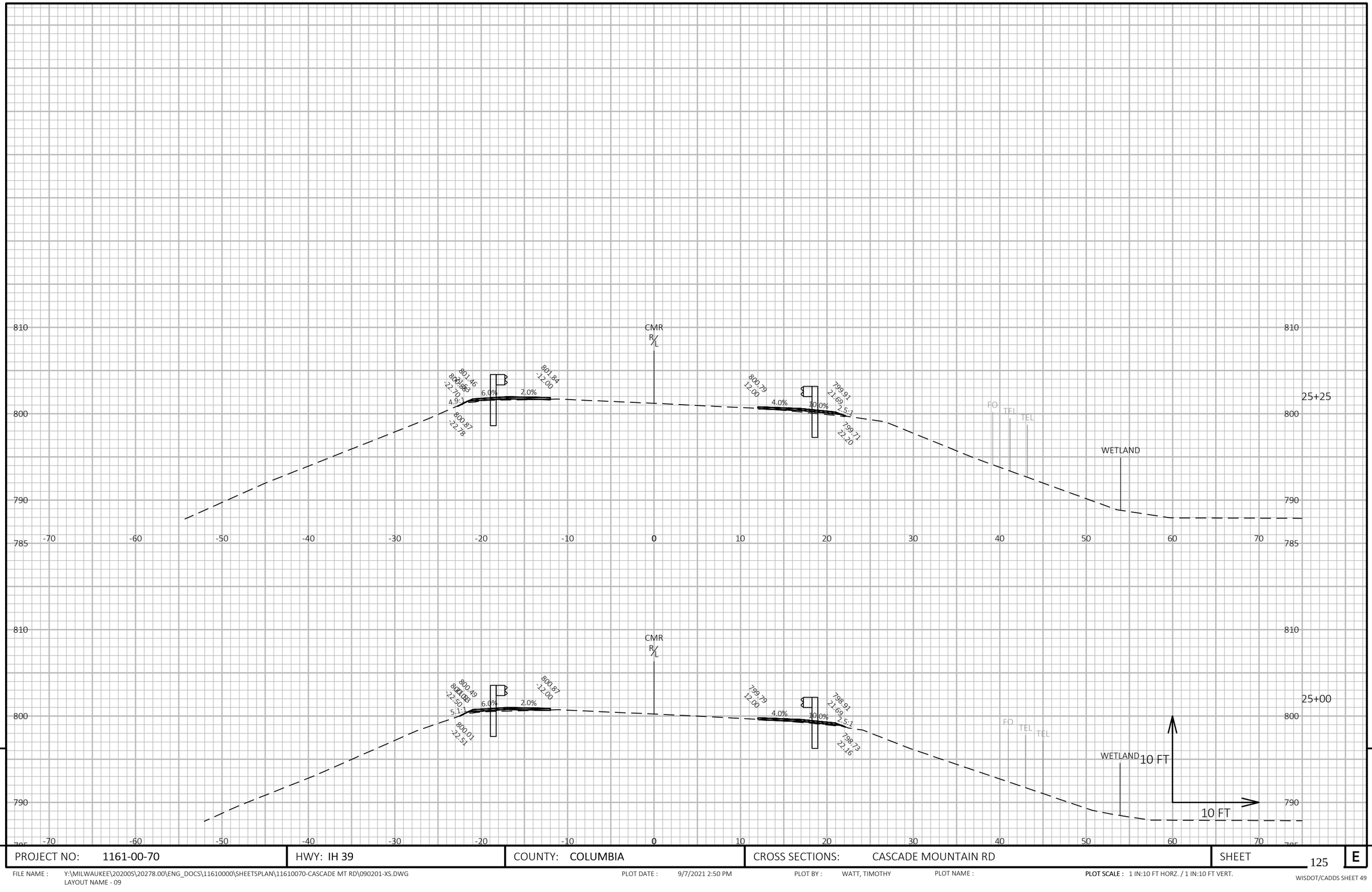
PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 124	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 08

PLOT DATE : 9/7/2021 2:49 PM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

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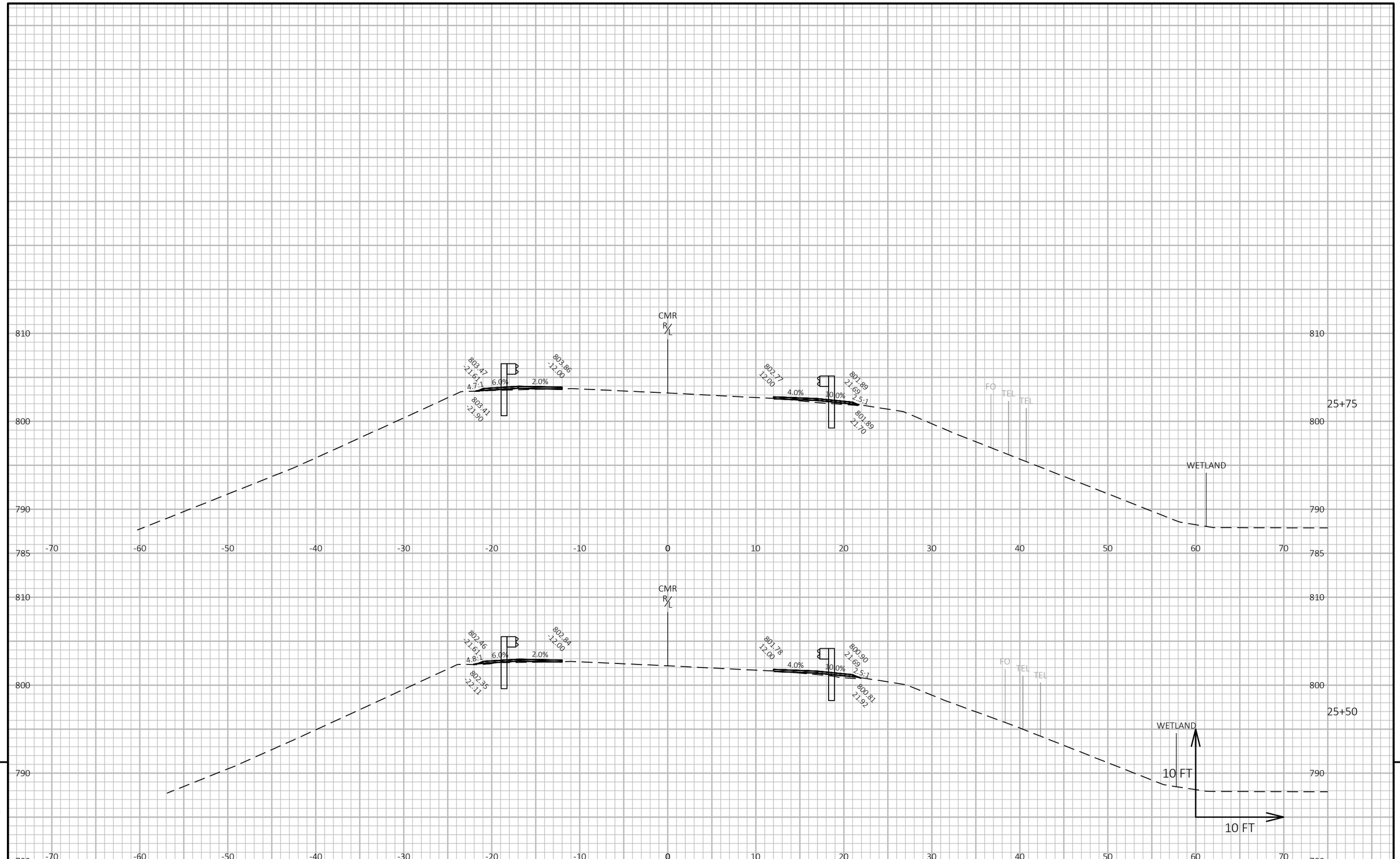
PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 125	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 09

PLOT DATE : 9/7/2021 2:50 PM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

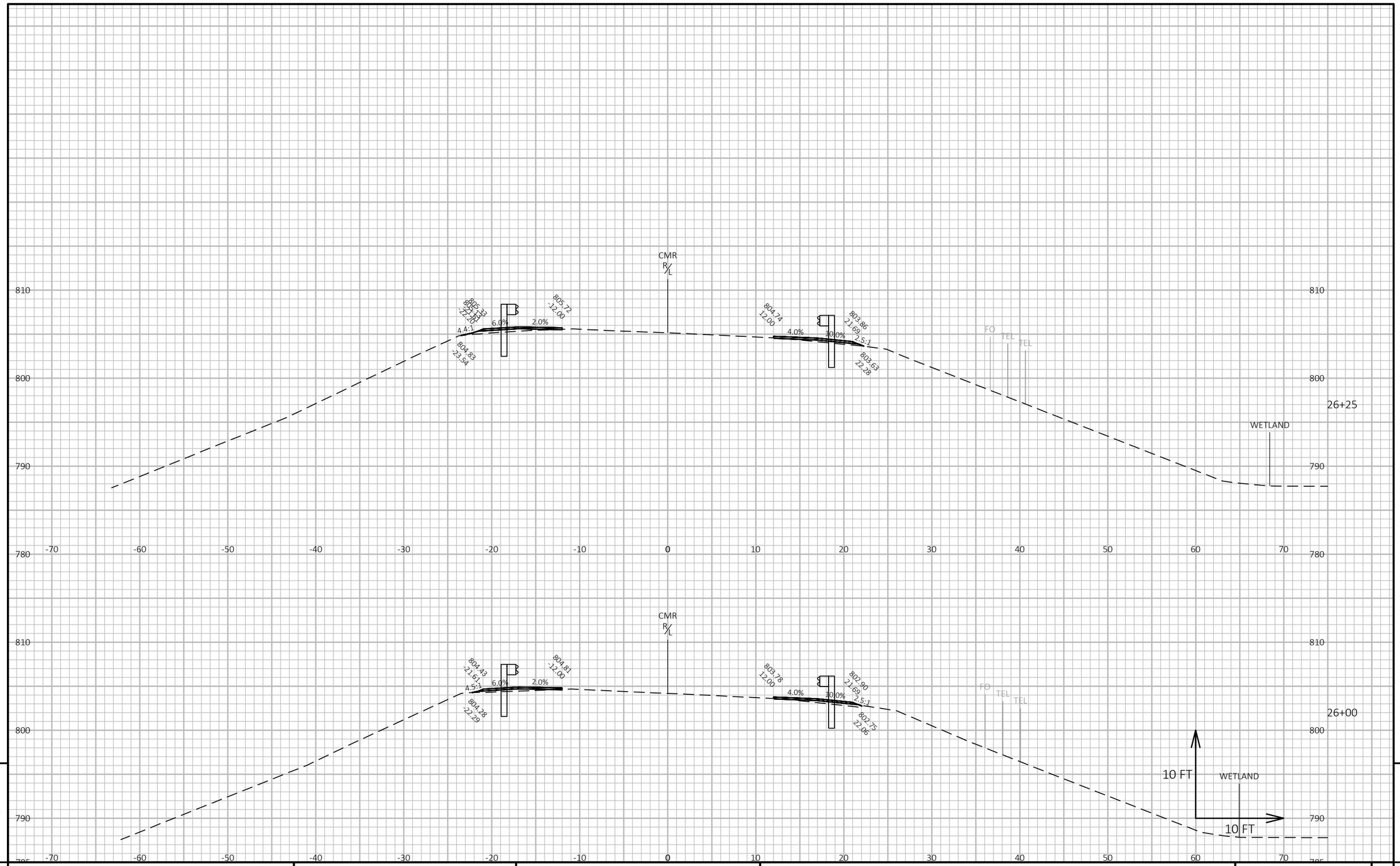


PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 126 E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 10

PLOT DATE : 9/7/2021 2:50 PM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 127	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 11

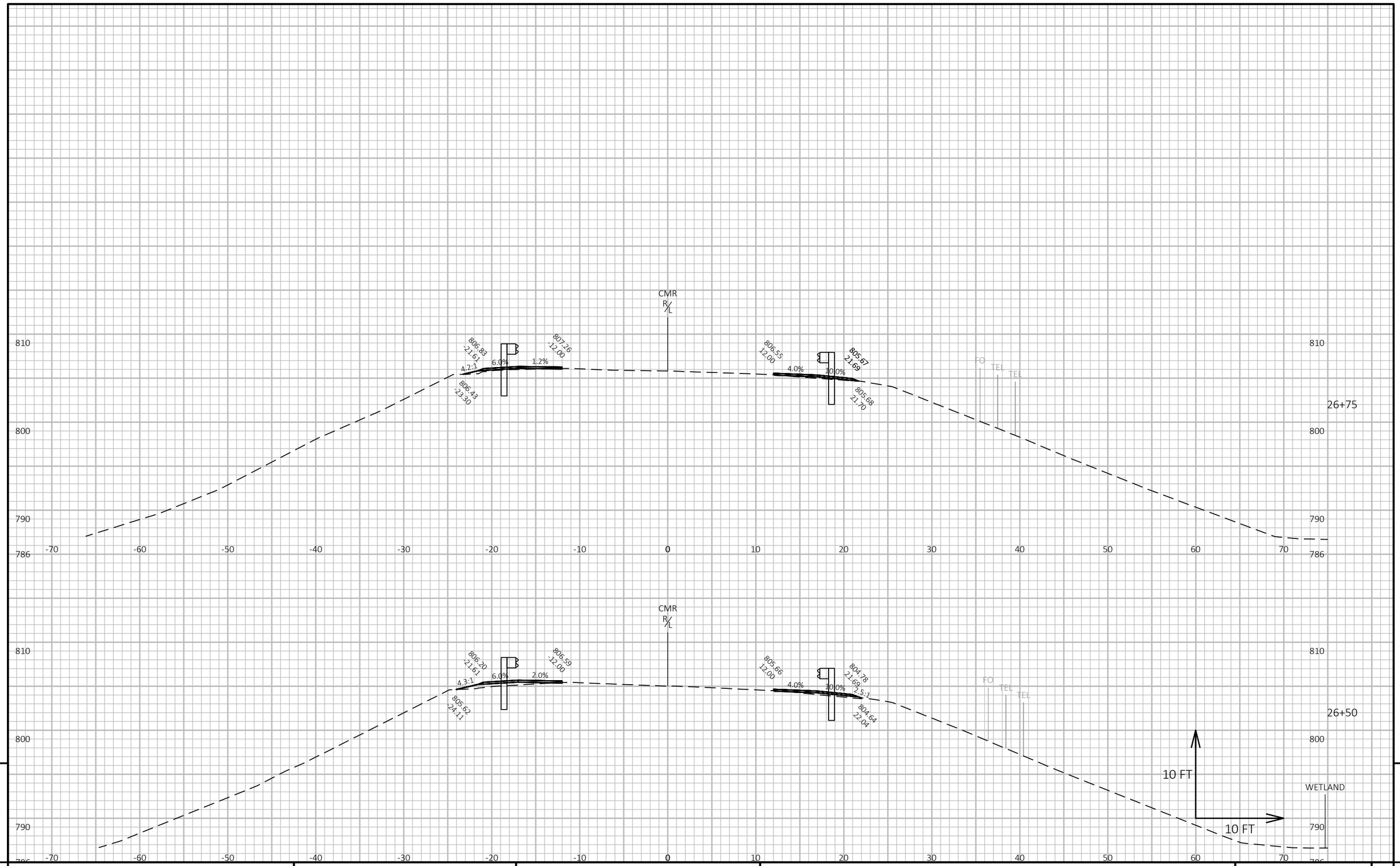
PLOT DATE : 9/7/2021 2:51 PM

PLOT BY : WATT, TIMOTHY

PLOT NAME :

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

WISDOT/CADDS SHEET 49



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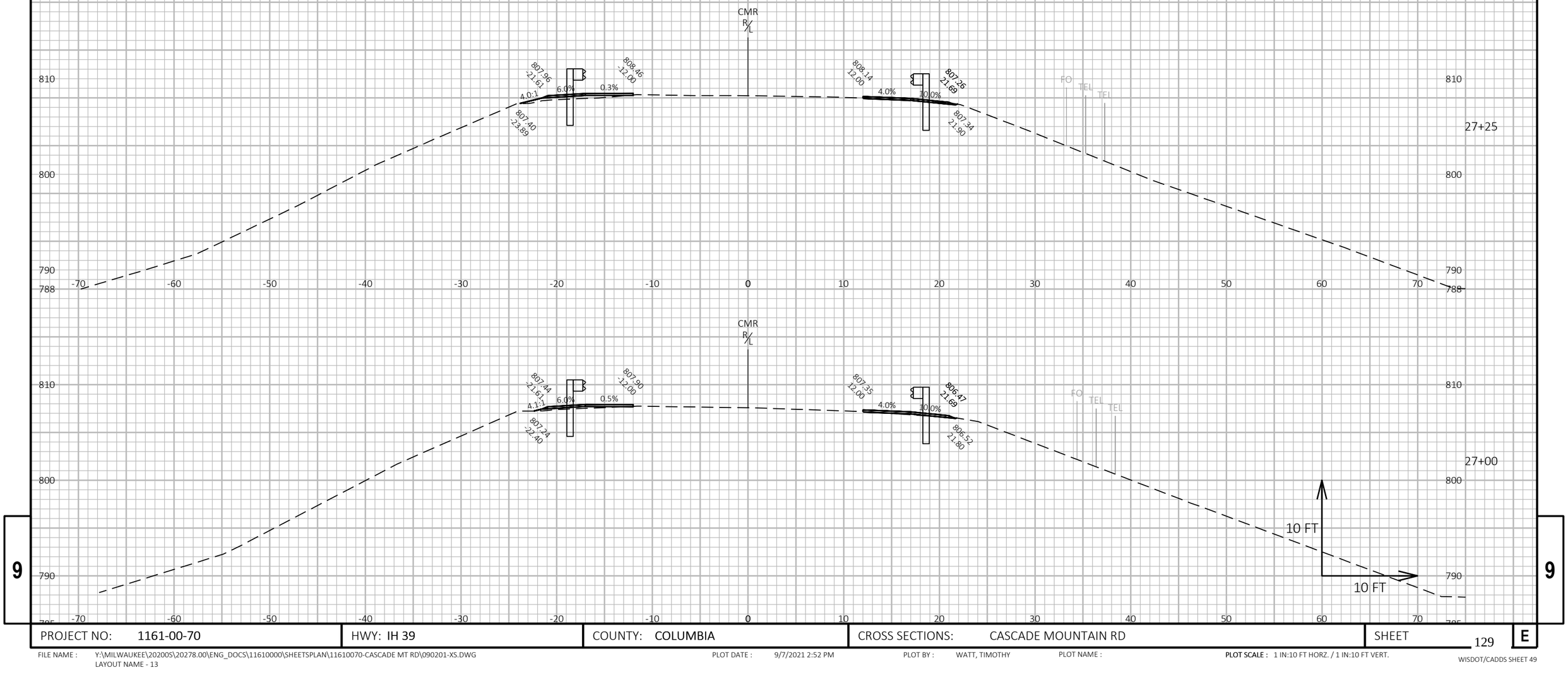
PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 128	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 12

PLOT DATE : 9/7/2021 2:51 PM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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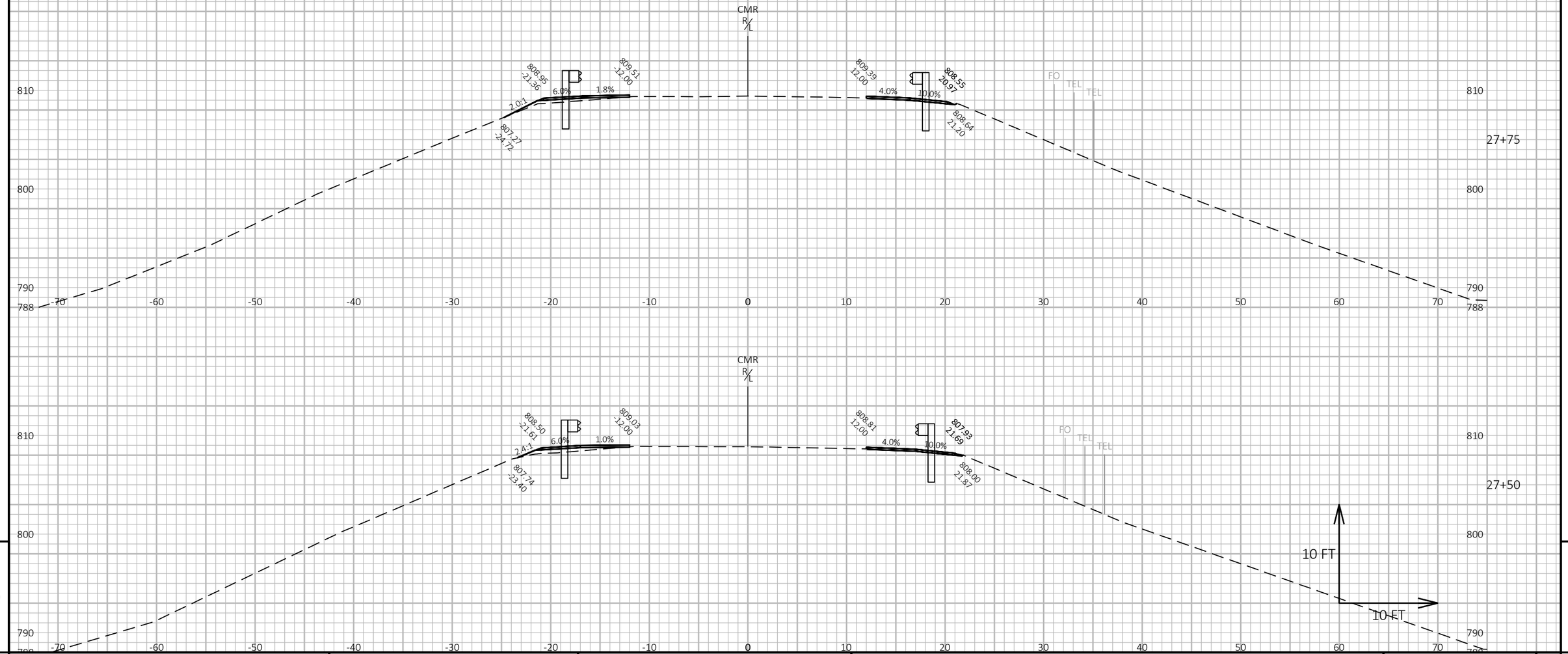
PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 129	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 13

PLOT DATE : 9/7/2021 2:52 PM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

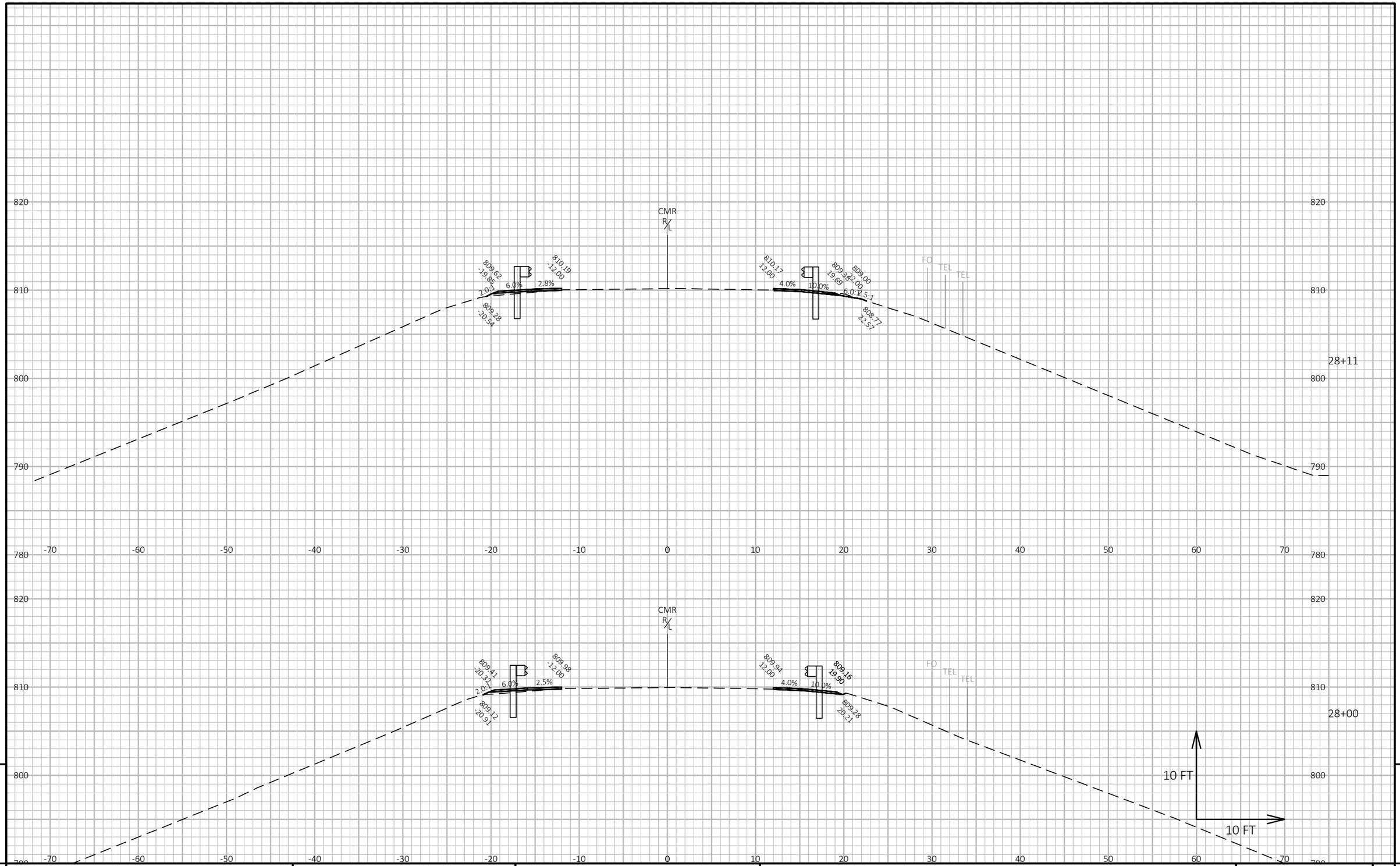


PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 130	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 14

PLOT DATE : 9/7/2021 2:52 PM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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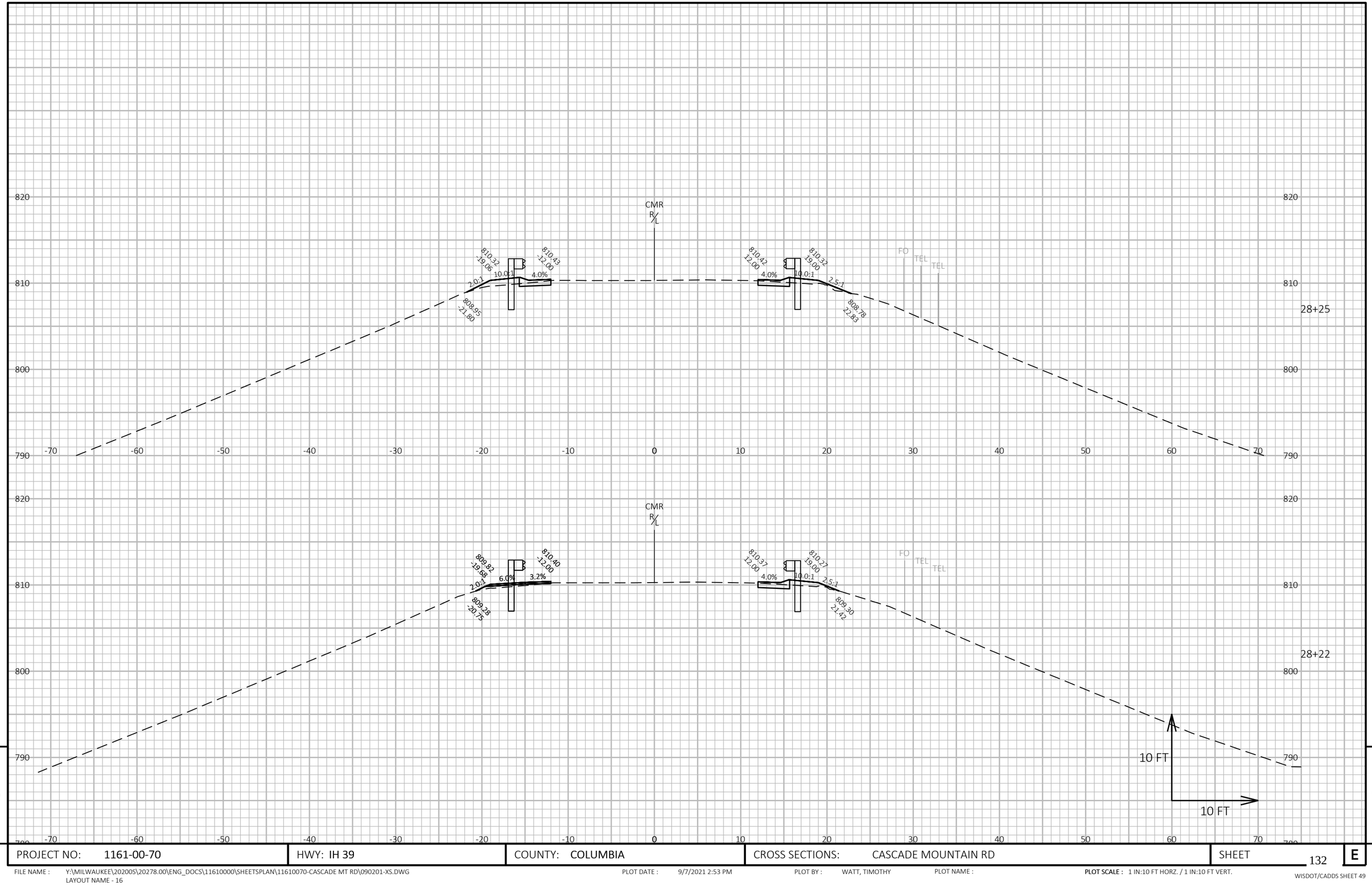
PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 131	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 15

PLOT DATE : 9/7/2021 2:53 PM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

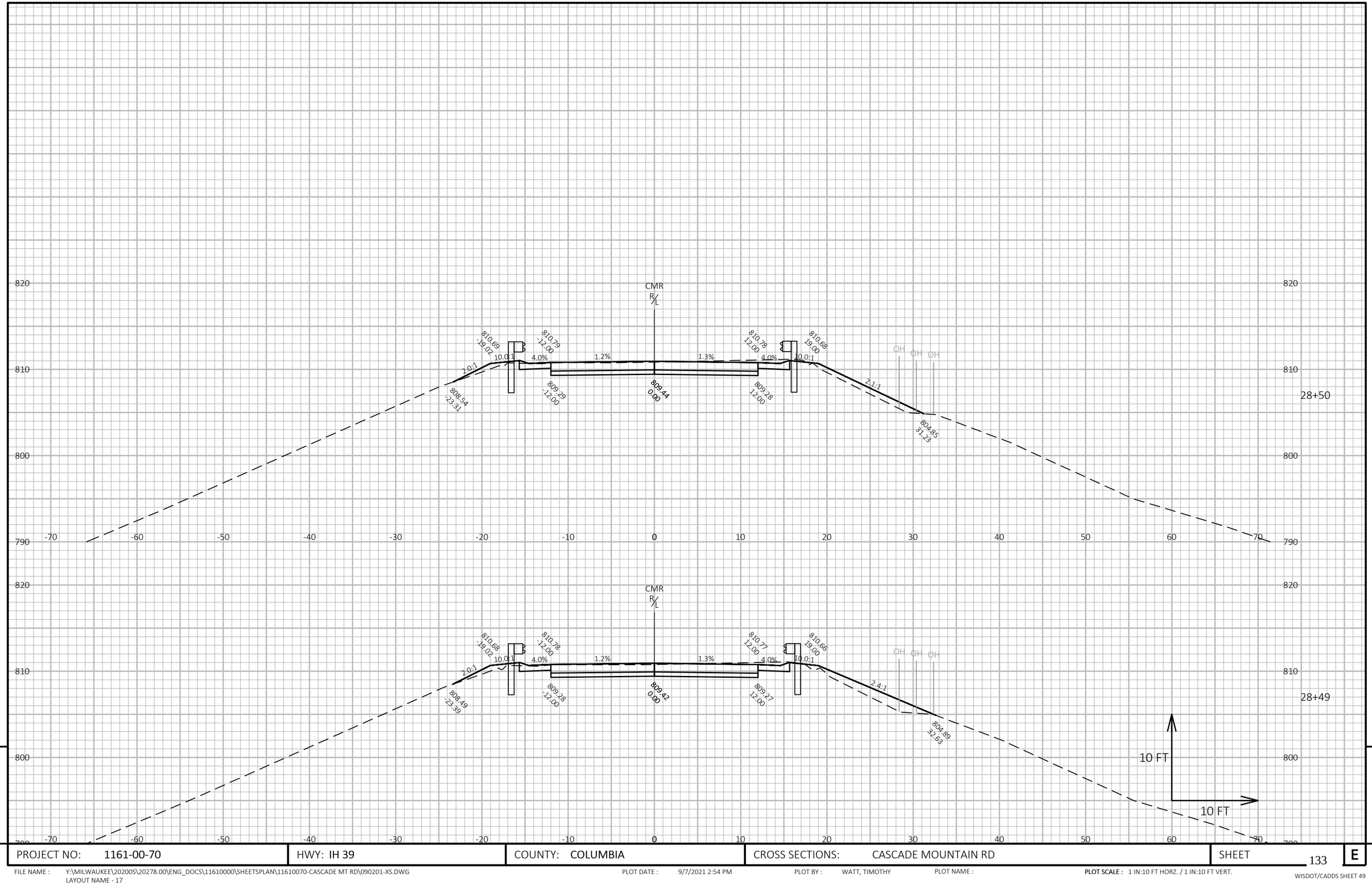
9

PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 132	E

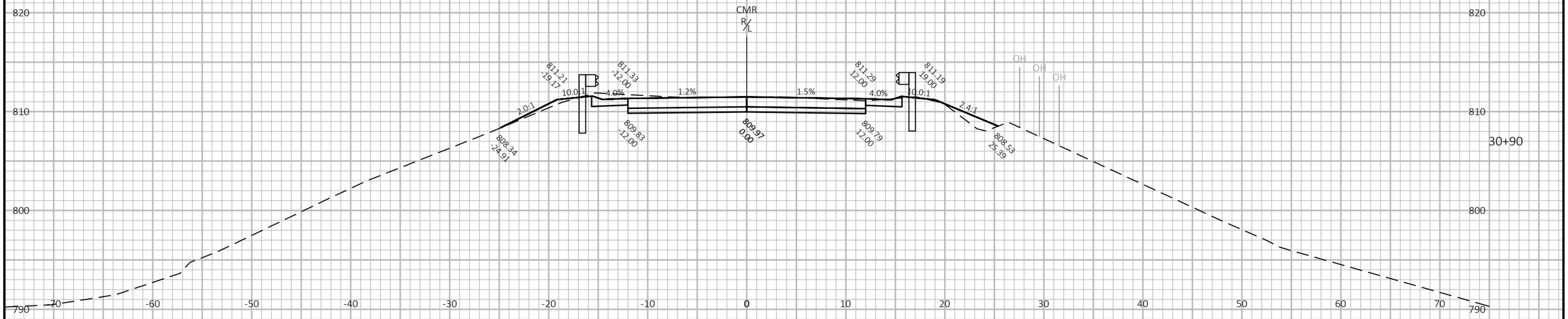
FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 16

PLOT DATE : 9/7/2021 2:53 PM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

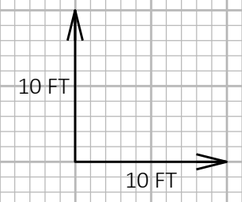
WISDOT/CADDS SHEET 49



PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 133	E



STRUCTURE B-11-051
STA 28CMR+62.58 TO STA 30CMR+76.12



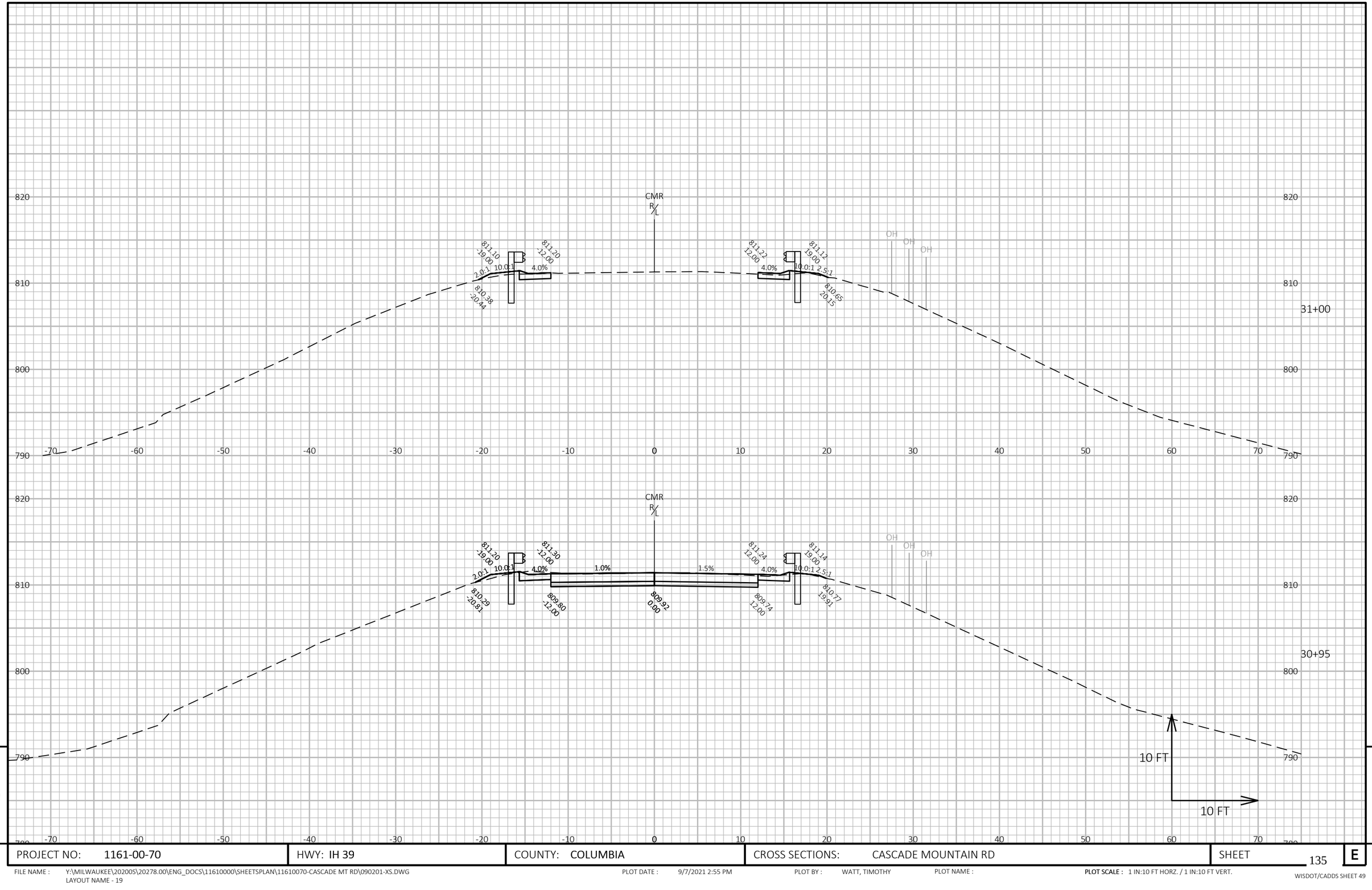
9 9

PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 134	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 18

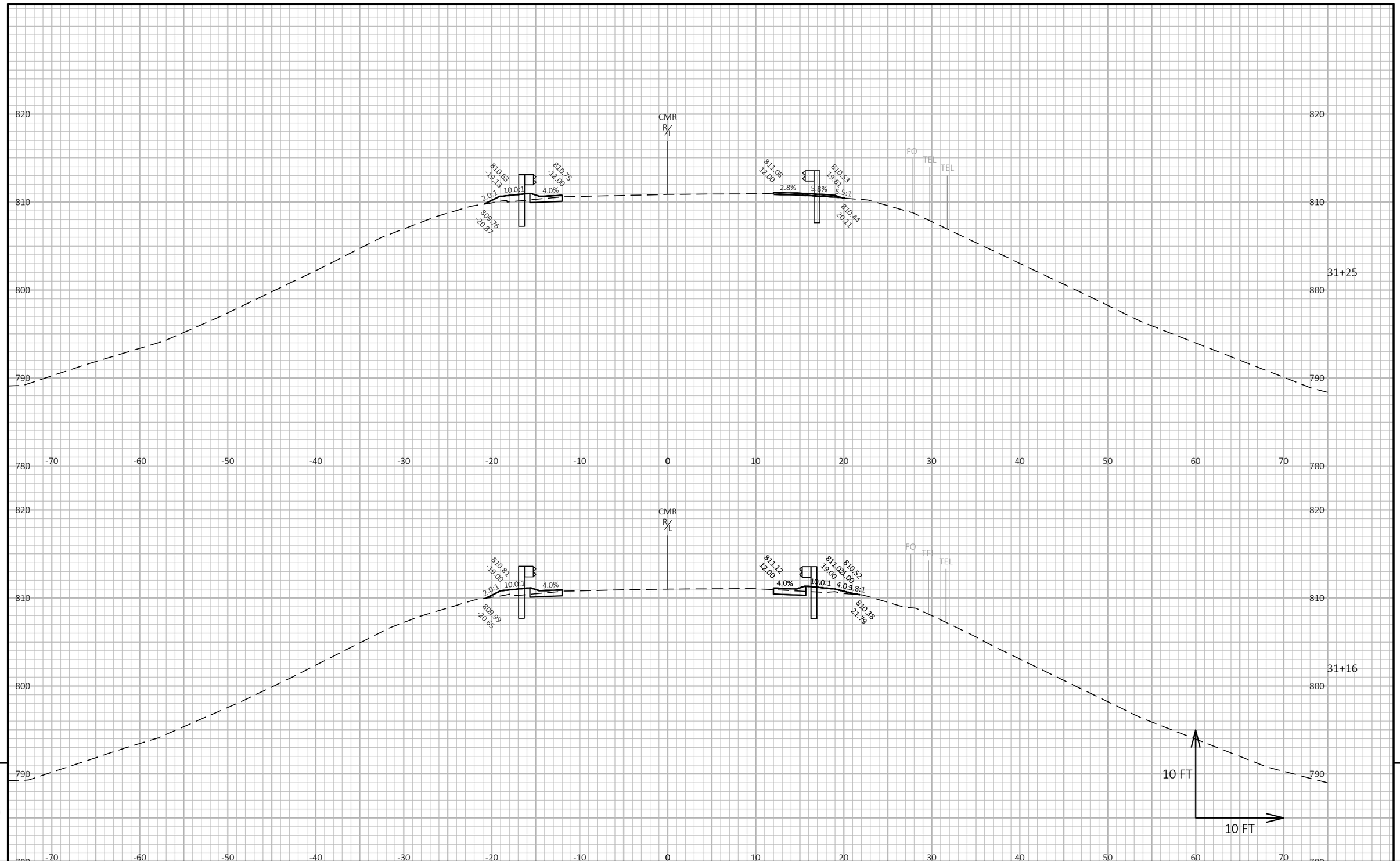
PLOT DATE : 9/7/2021 2:54 PM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 135	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 19
PLOT DATE : 9/7/2021 2:55 PM
PLOT BY : WATT, TIMOTHY
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49

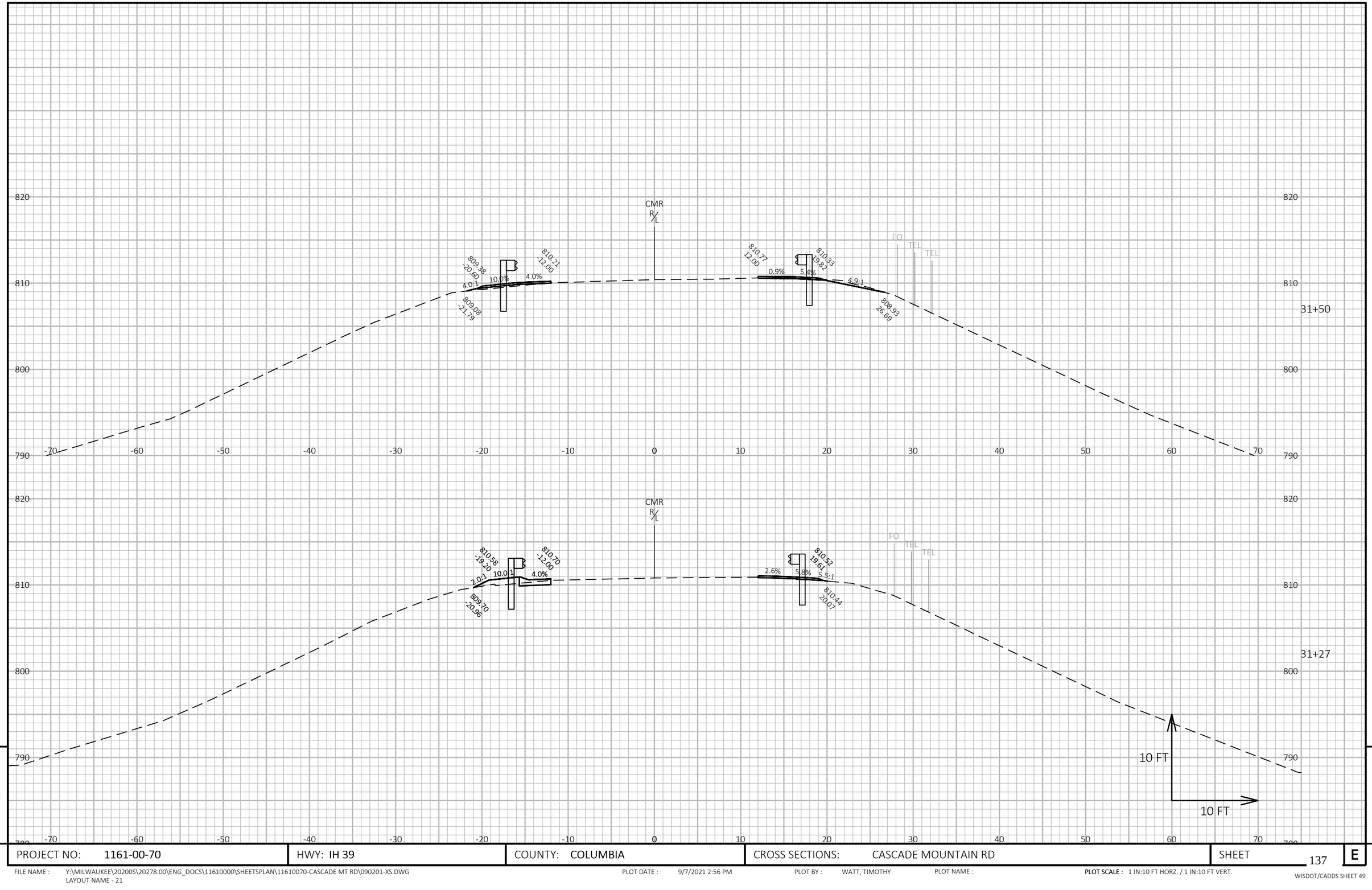


PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 136	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 20

PLOT DATE : 9/7/2021 2:55 PM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

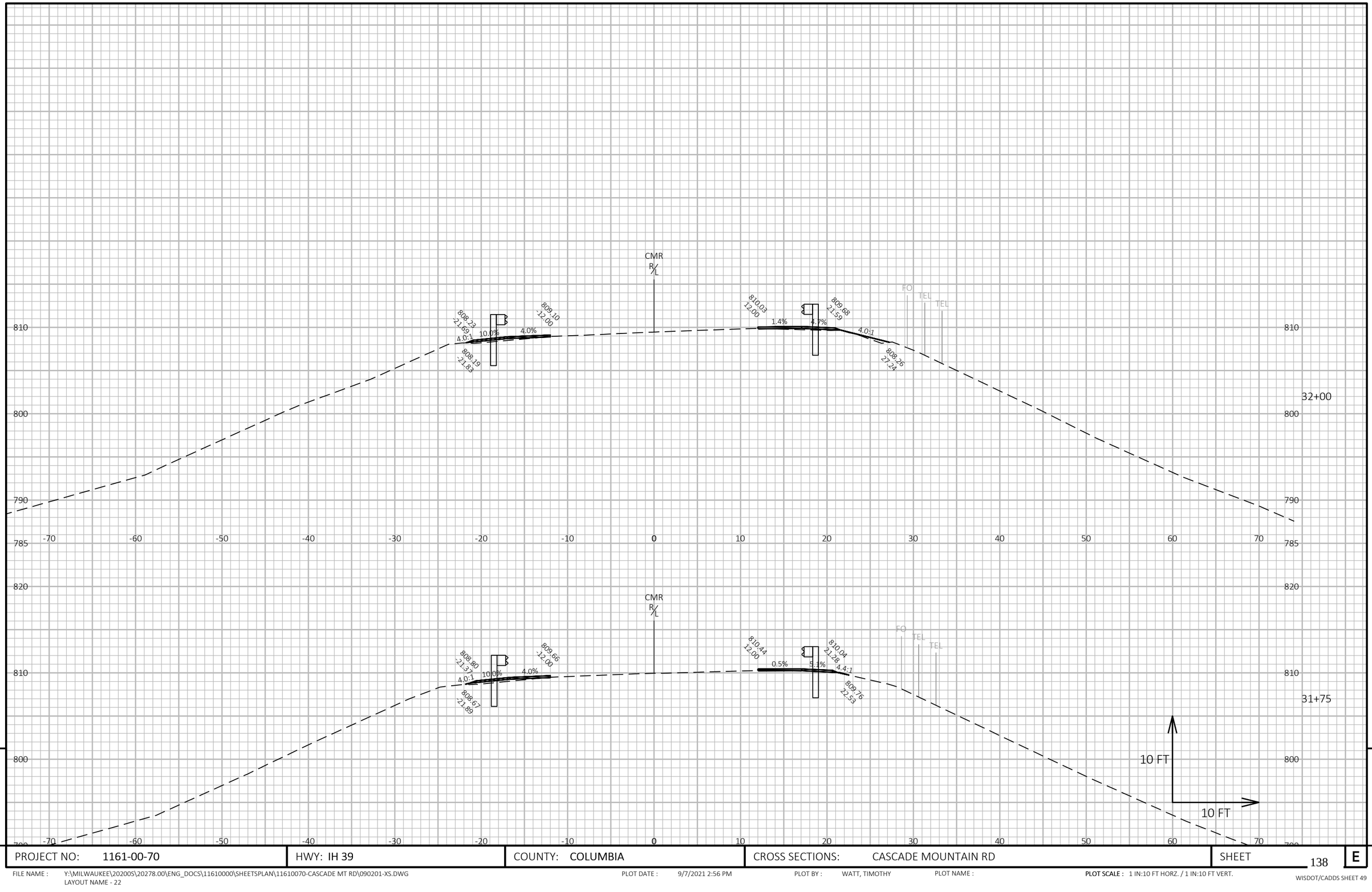


PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 137	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 21

PLOT DATE : 9/7/2021 2:56 PM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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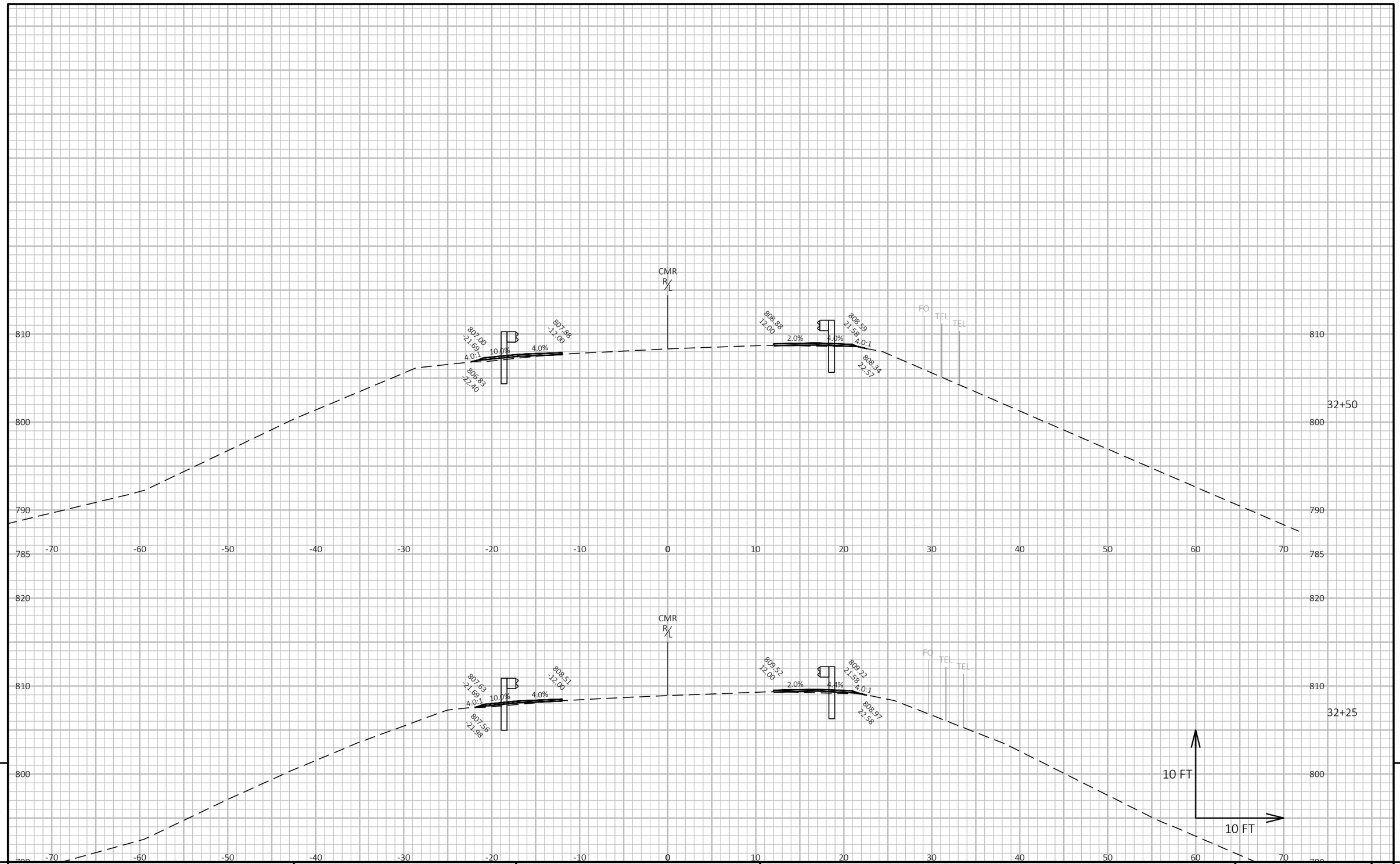
PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 138	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 22

PLOT DATE : 9/7/2021 2:56 PM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

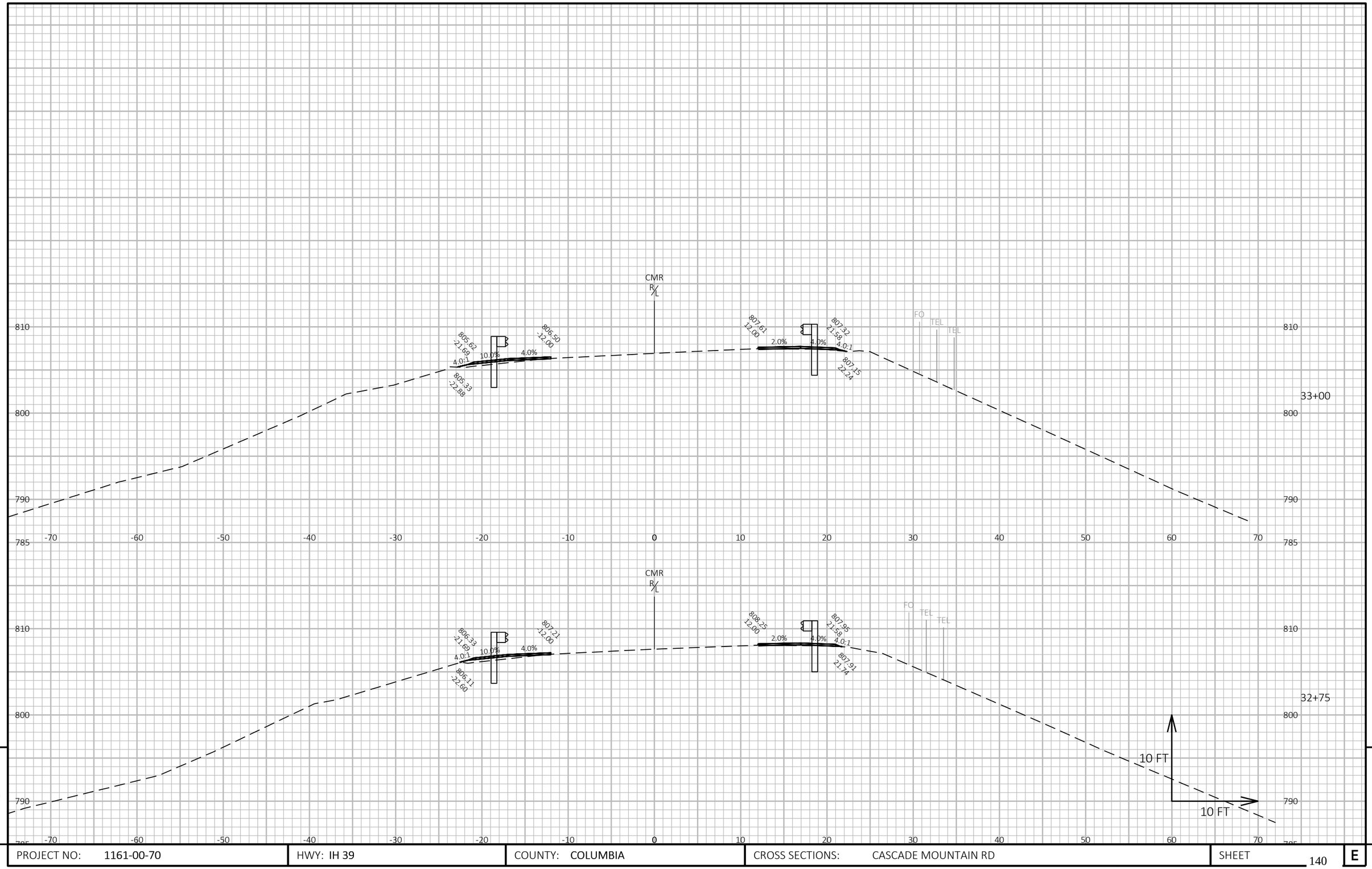


PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 139	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 23

PLOT DATE : 9/7/2021 2:57 PM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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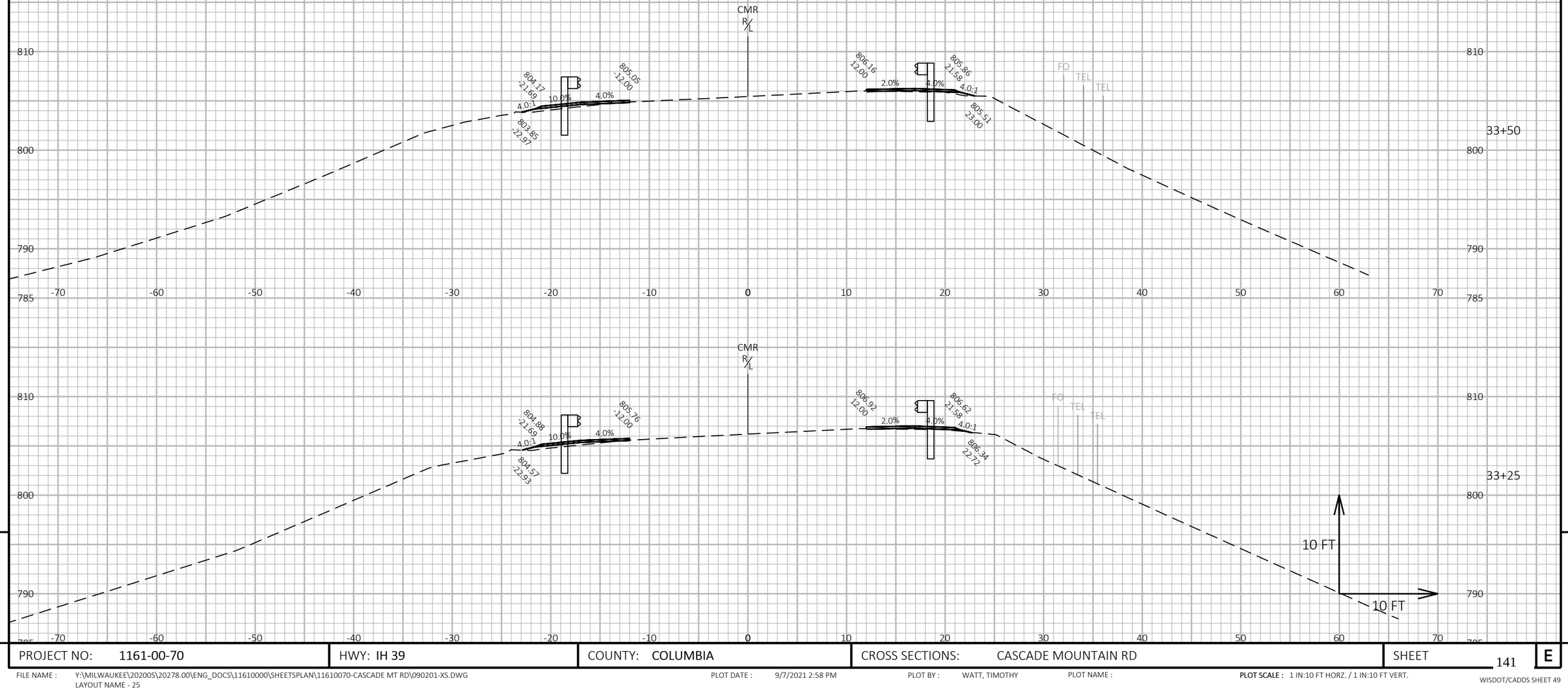
PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 140	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 24

PLOT DATE : 9/7/2021 2:57 PM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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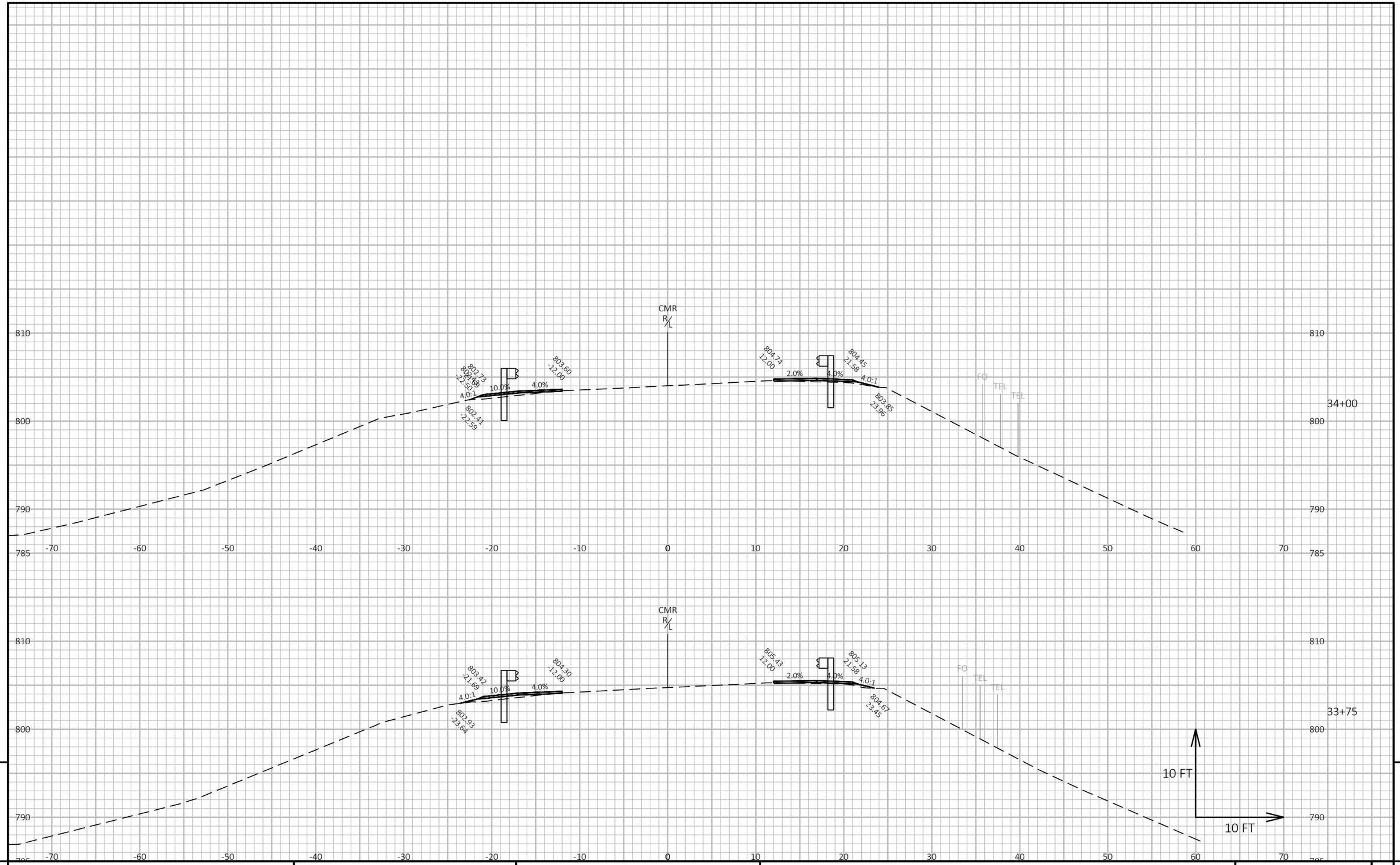
PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 141	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 25

PLOT DATE : 9/7/2021 2:58 PM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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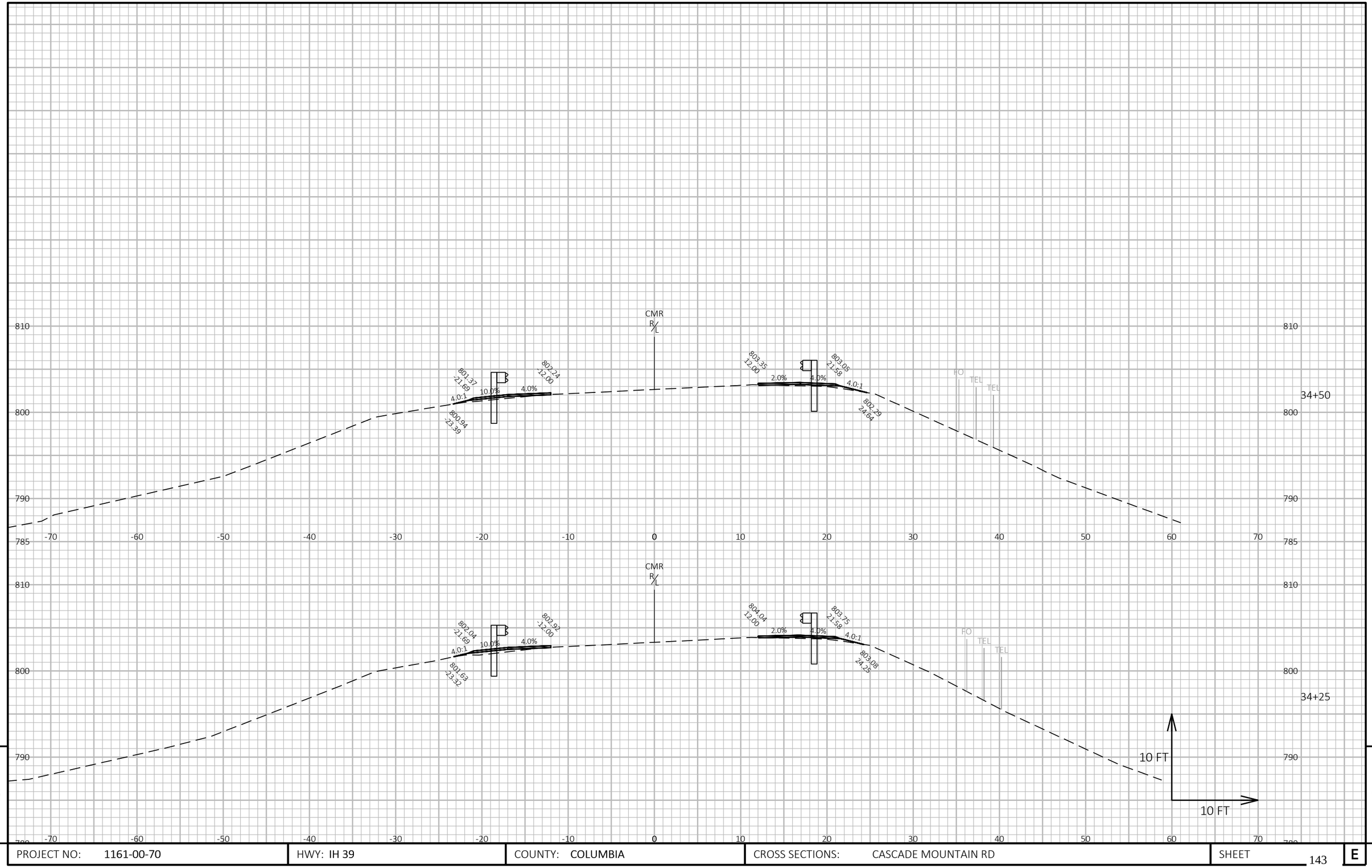
PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 142	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 26

PLOT DATE : 9/7/2021 2:58 PM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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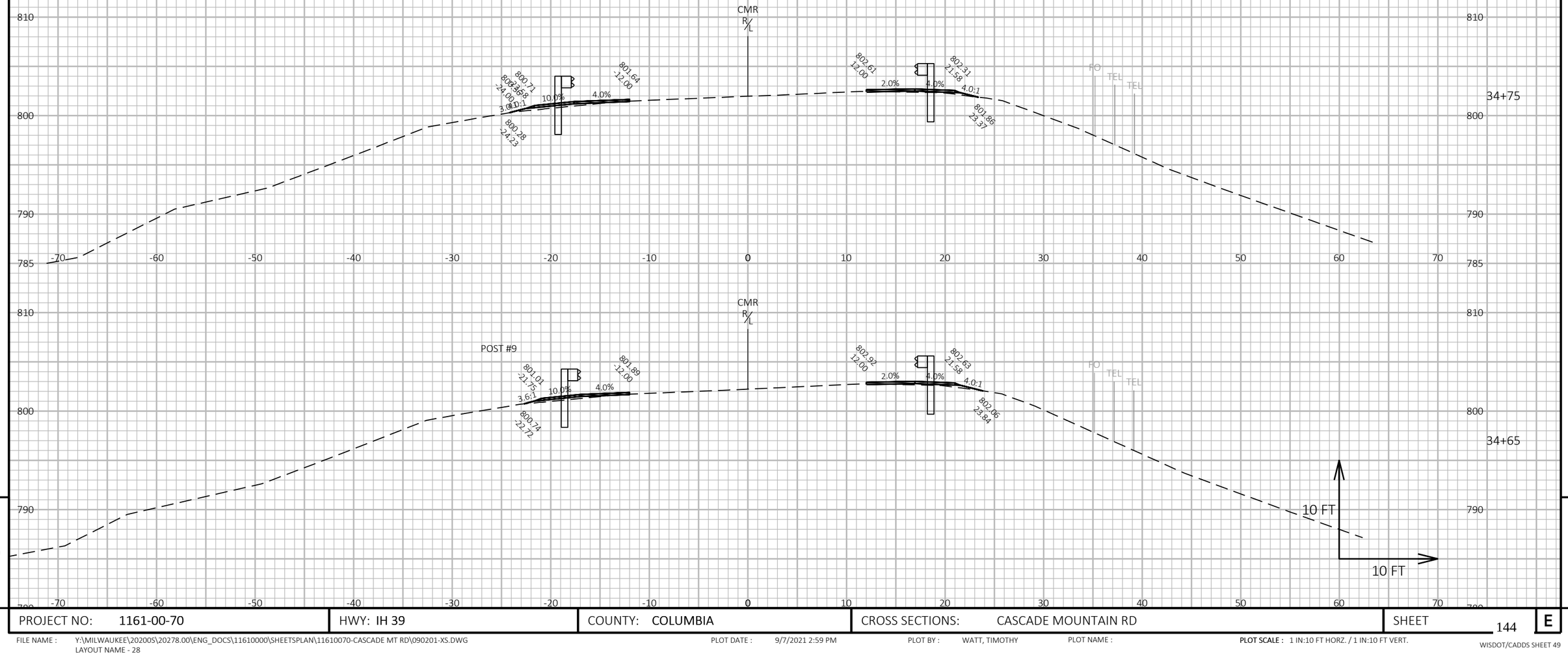
PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 143	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 27

PLOT DATE : 9/7/2021 2:59 PM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

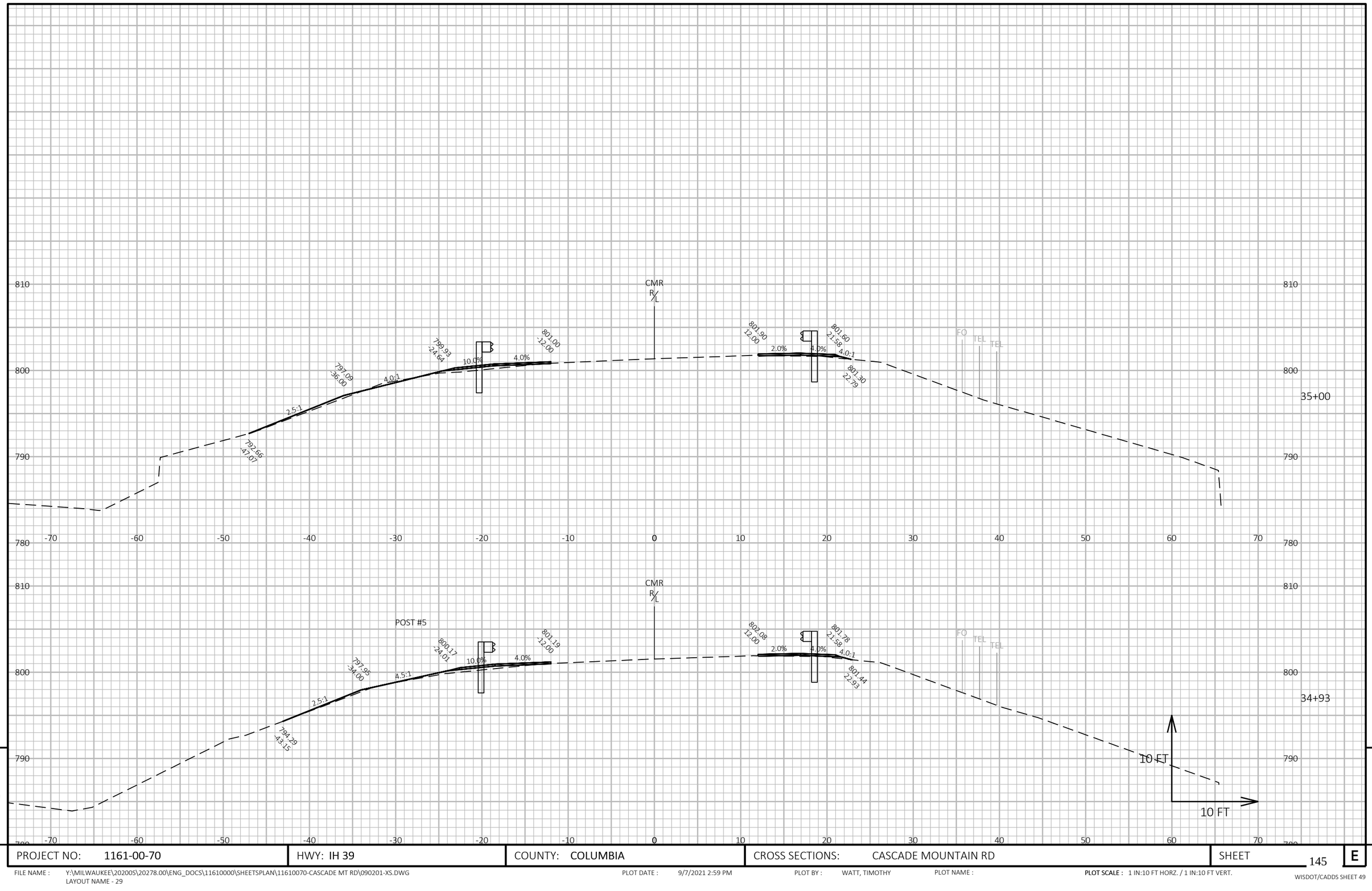


PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 144	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 28

PLOT DATE : 9/7/2021 2:59 PM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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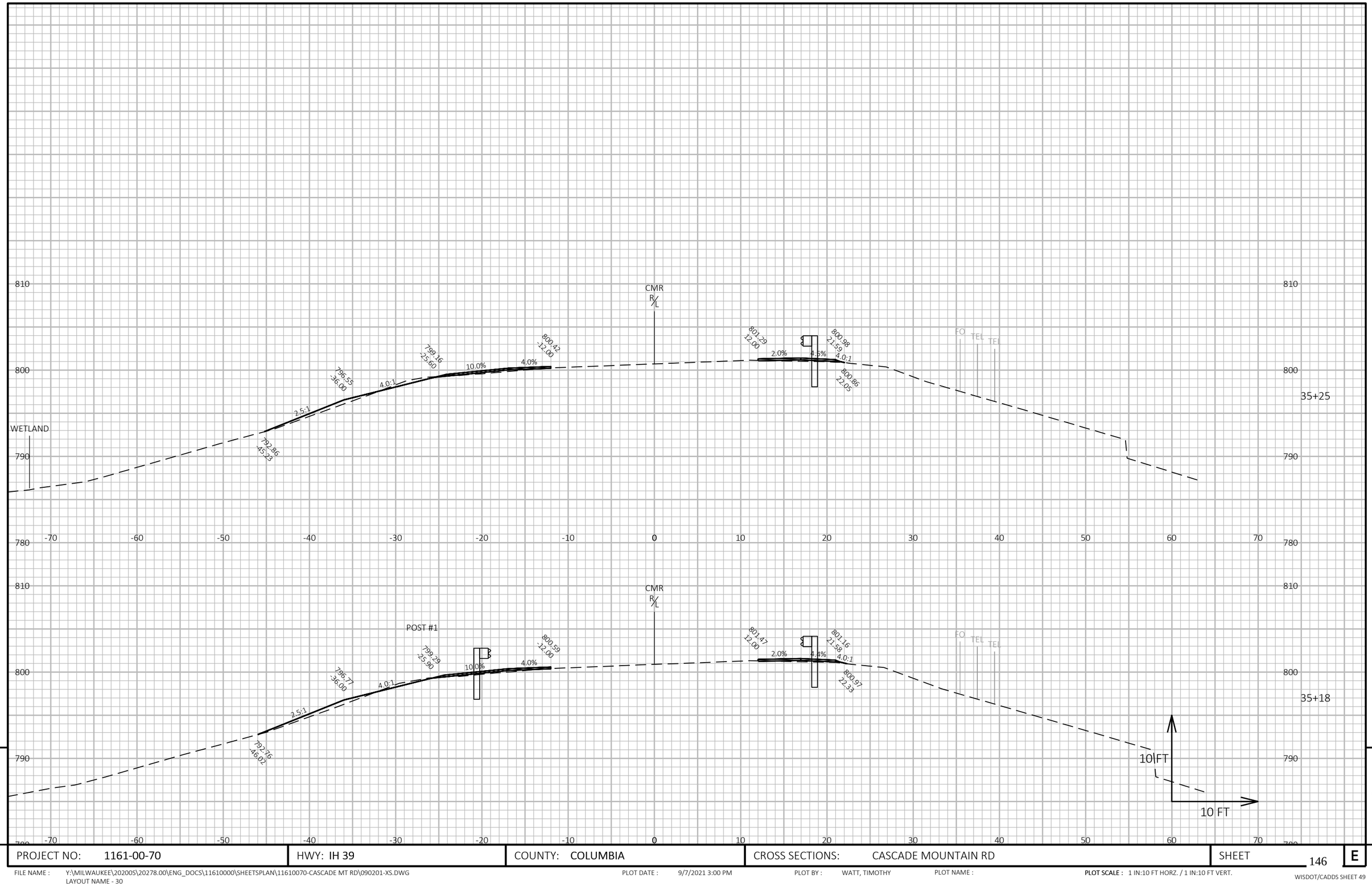
PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 145	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 29

PLOT DATE : 9/7/2021 2:59 PM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

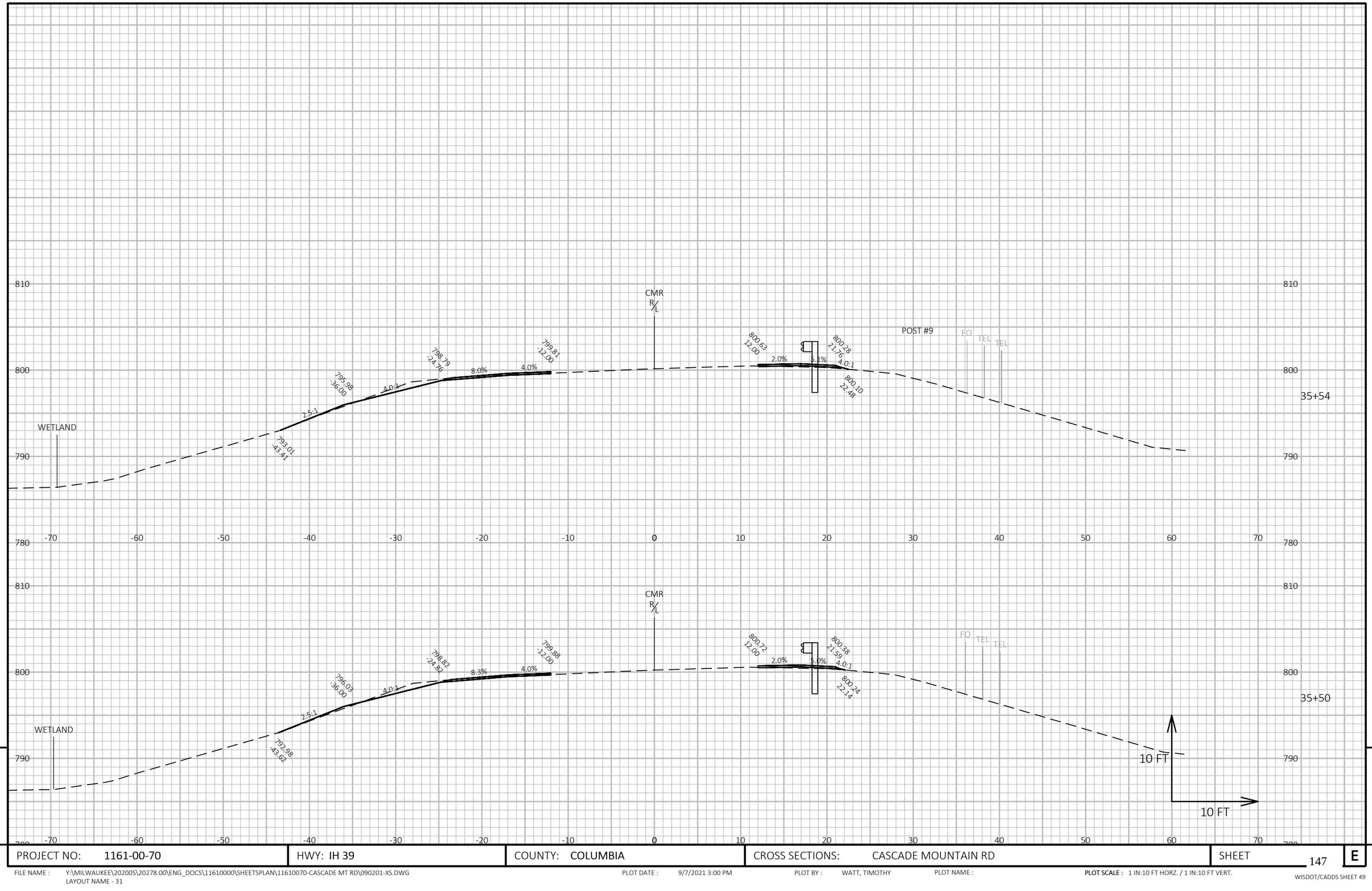


PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 146	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 30

PLOT DATE : 9/7/2021 3:00 PM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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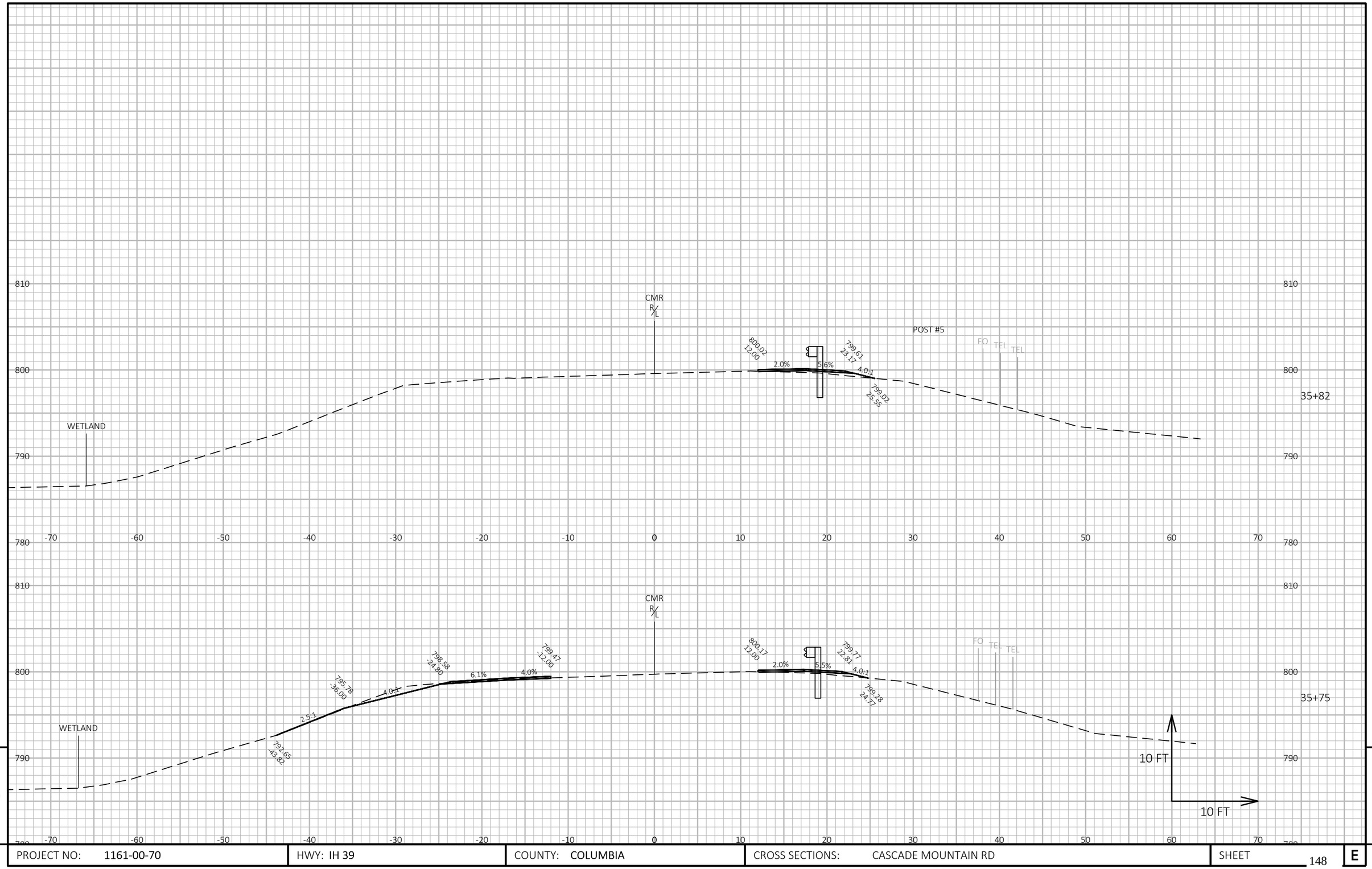
PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 147	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 31

PLOT DATE : 9/7/2021 3:00 PM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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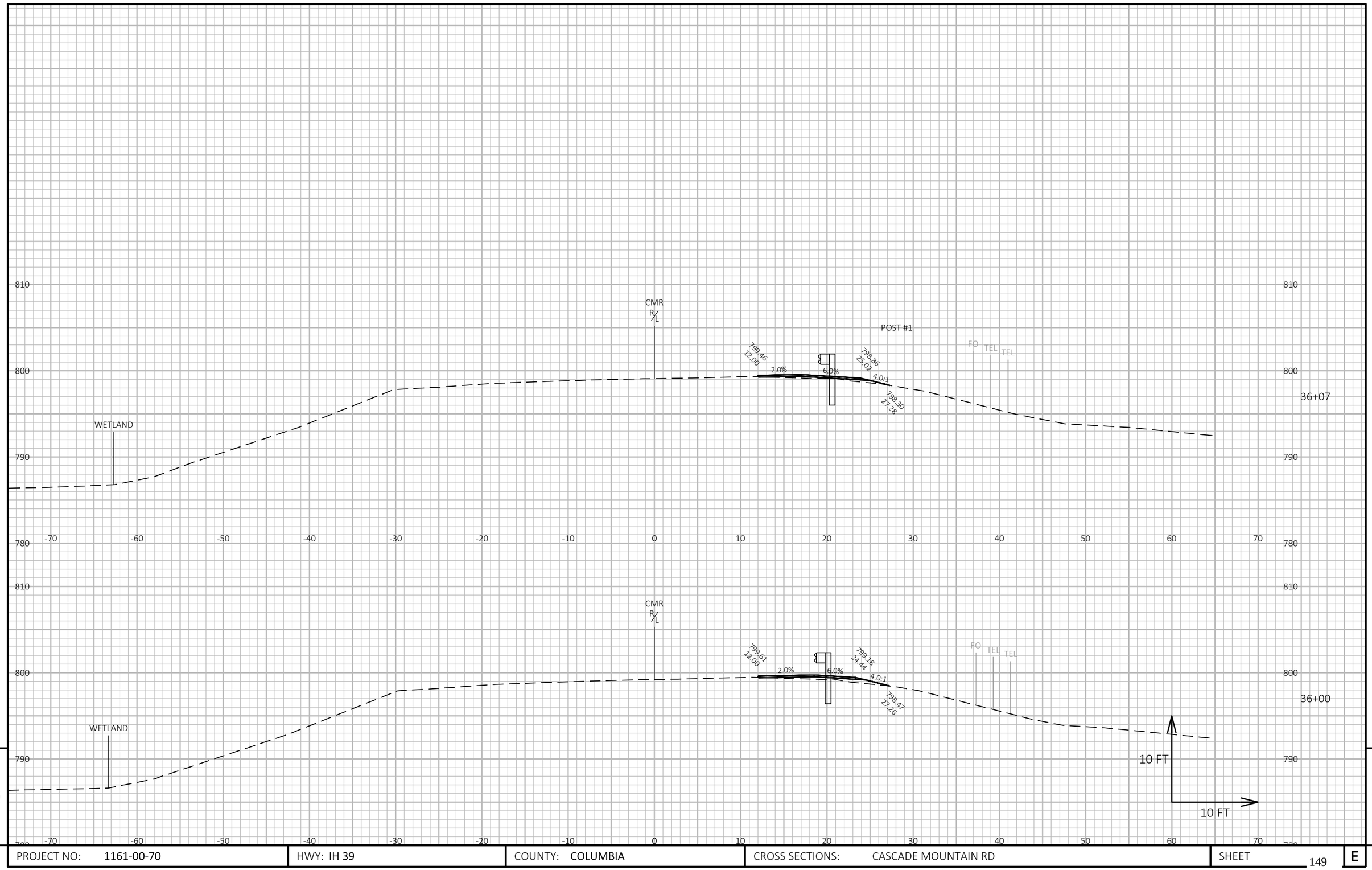
PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 148	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 32

PLOT DATE : 9/7/2021 3:01 PM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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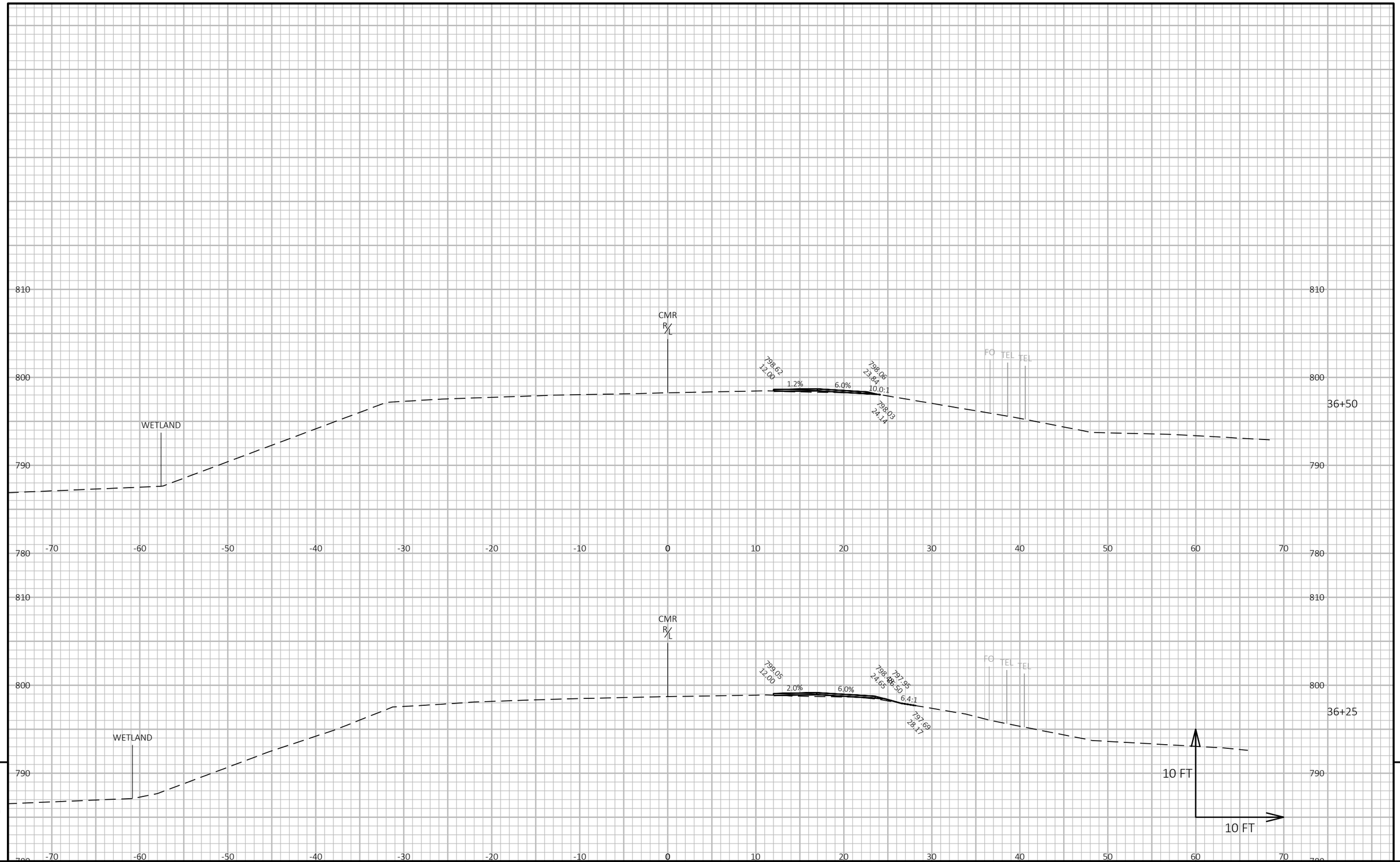
PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 149	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 33

PLOT DATE : 9/7/2021 3:01 PM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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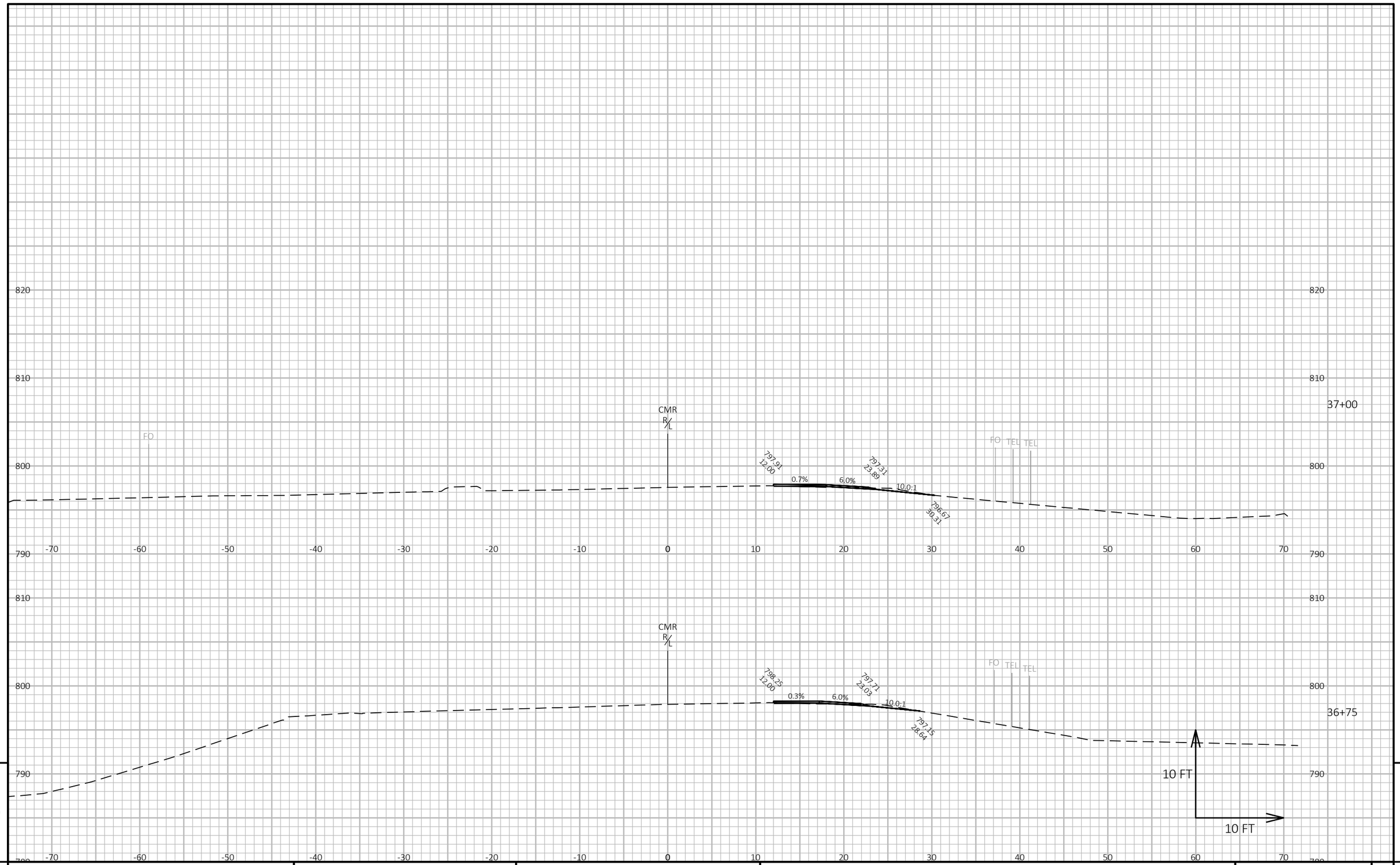
PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 150	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 34

PLOT DATE : 9/7/2021 3:01 PM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1161-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: CASCADE MOUNTAIN RD	SHEET 151	E

FILE NAME : Y:\MILWAUKEE\20200S\20278.00\ENG_DOCS\11610000\SHEETSPLAN\11610070-CASCADE MT RD\090201-XS.DWG
LAYOUT NAME - 35

PLOT DATE : 9/7/2021 3:02 PM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

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