WKE SEPTEMBER 2020

PROJECT ID: 2220-02-70

COUNTY: WASHINGTON

05

ORDER OF SHEETS

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

TOTAL SHEETS = 790

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

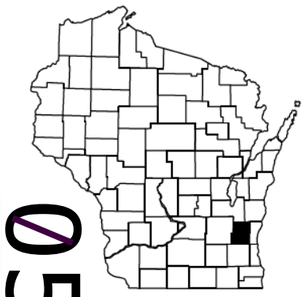
MILWAUKEE TO GREEN BAY ROAD

IH 41/USH 45 SPLIT TO ONE MILE NORTH OF CTH D

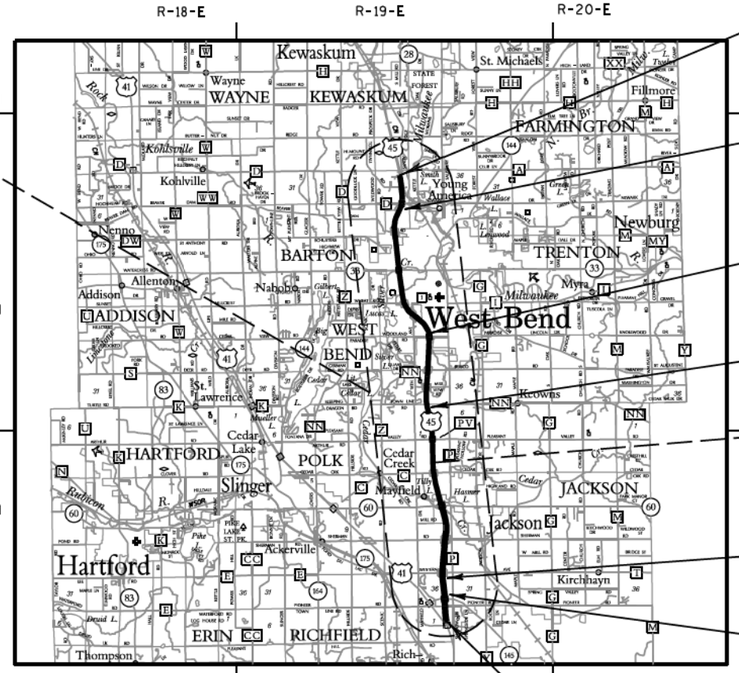
USH 45

WASHINGTON COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
2220-02-70	WISC 2020413	1



STATE PROJECT NUMBER
2220-02-70



BRIDGES
B-66-48
B-66-54
B-66-59
B-66-64

STRUCTURE
C-66-26

END PROJECT
STA 787+85.58

STATION EQUATION
STA 718+65.34 R/L USH 45 BACK =
STA 718+45.34 R/L USH 45 AHEAD
EQUATION

STATION EQUATION
STA 537+24.12 R/L USH 45 BACK =
STA 543+94.20 R/L USH 45 AHEAD
EQUATION

STATION EQUATION
STA 412+50.15 R/L USH 45 BACK =
STA 412+40.84 R/L USH 45 AHEAD
EQUATION

STATION EQUATION
STA 1756+94.79 R/L USH 45 BACK =
STA 102+20.23 R/L USH 45 AHEAD
EQUATION

STATION EQUATION
STA 1744+47.86 R/L USH 45 SB BACK =
STA 1744+47.86 R/L USH 45 NB BACK =
STA 1744+47.86 R/L USH 45 AHEAD
EQUATION

BEGIN PROJECT
STA 1694+70.00
X=362076.342
Y=128714.044

N

LAYOUT
SCALE 0 2 MI.

TOTAL NET LENGTH OF CENTERLINE = 14.043 MI.

"ELEVATIONS SHOWN ON THIS PLAN AER REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD 88 (1991)."

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

DESIGN DESIGNATION

A.A.D.T. 2019	=	18,400 - 34,100
A.A.D.T. 2039	=	20,902 - 40,500
D.H.V.	=	11.4
D.D.	=	60/40
T.	=	6.1%
DESIGN SPEED	=	70 MPH
ESALS	=	7,200,000

CONVENTIONAL SYMBOLS

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

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

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

ORIGINAL PLANS PREPARED BY
K&G Kenosha LLC
A Kapur & Associates and Graef Anhalt Schloemer Joint Venture
7711 North Port Washington Road Milwaukee, WI 53217

WISCONSIN
JUSTIN M. ARNDT
E-37695
ONTARIO, WI.
PROFESSIONAL ENGINEER

10/31/19 (Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	KAPUR & ASSOCIATES
Designer	KG KENOSHA
Project Manager	BRIAN PLUEMER
Regional Examiner	Richard Herrick
Regional Supervisor	Reem Shahin
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 10/31/19 (Signature)

E

GENERAL NOTES

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

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

ALL HOLES OR OPENINGS BELOW SUBGRADE RESULTING FROM ABANDONMENT OR REMOVAL OF EXISTING STRUCTURES SHALL BE FILLED WITH BACKFILL GRANULAR. BACKFILL GRANULAR MATERIAL IS INCIDENTAL TO THE REMOVAL ITEM.

INLET PROTECTION IS REQUIRED AT ALL INLETS AS PER DETAIL OR AS DIRECTED BY THE ENGINEER.

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

DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE RESTORED WITH TOPSOIL, FERTILIZER, SEED AND EROSION MAT AS DIRECTED BY THE ENGINEER.

RESTORE WITH SEED, EROSION MAT AND FERTILIZER ALL TOPSOILED AREAS WITHIN 7 WORKING DAYS AFTER GRADING WORK IS COMPLETED

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

ALL TRAFFIC CONTROL DEVICES, DETOURS, FIXED MESSAGE SIGNS, CLOSURES AND ADVANCED WARNING SIGNS FOR CONSTRUCTION UNDER THIS PROJECT SHALL BE PLACED PER THE TRAFFIC CONTROL OR AS DIRECTED BY THE ENGINEER.

SIGNS IN CONFLICT WITH TRAFFIC CONTROL “IN USE” SHALL BE COVERED AS DIRECTED BY THE ENGINEER AND PAID FOR UNDER THE ITEM ‘TRAFFIC CONTROL COVERING SIGNS’.

NO ASPHALTIC SURFACE MILLING OR ASPHALTIC OVERLAYS SHALL OCCUR ON BRIDGE STRUCTURES.

CONCRETE JOINTS SHALL MATCH ABUTTING PAVEMENT AND CURB AND GUTTER JOINTS UNLESS OTHERWISE DESIGNATED BY THE ENGINEER.

THE LOCATIONS OF LONGITUDINAL JOINTS IN HMA PAVEMENT SHALL BE APPROVED BY THE ENGINEER.

LIMITS OF MILL AND OVERLAY ON RAMPS MAY BE ADJUSTED BY THE ENGINEER.

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

LOCATION	TOTAL LAYER PAVEMENT THICKNESS	LAYER THICKNESS	LAYERS
STRUCTURE APPROACH	1 3/4”	1 3/4”	4 HT 52-28 H
PROFILE MILL (INCLUDING SHOULDERS	2”	2”	4 HT 52-28 H
MILL & OVERLAY SECTION (INCUDING SHOULDERS)	4”	1 3/4” 2 1/4”	4 HT 52-28 H (UPPER) 3 HT 52-28 H (LOWER)
SHOULDERS @ CONCRETE PAVEMENT	4”	4”	4 LT 52-28 S
SHOULDERS WITH LONG TERM TRAFFIC	5”	5”	4 LT 52-28 S

STANDARD ABBREVATIONS

AEW	APRON END WALL
AGG	AGGREGATE
BAD	BASE AGGREGATE DENSE
BM	BENCH MARK
C&G	CURB AND GUTTER
C/L	CENTER OR CONSTUCTION LINE
CONC	CONCRETE
CP	CULVERT PIPE
CPCM	CULVERT PIPE CORRUGATED METAL
CPRC	CULVERT PIPE REINFORCED CONCRETE
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
CSD	CONCRETE SURFACE DRAIN
CY	CUBIC-YARD
D	DEGREE OF CURVE
Δ	DELTA
DISCH	DISCHARGE
FE	FIELD ENTRANCE
HERCP	HORIZONTAL ELLIPTICAL REINFORCED CONCRETE PIPE
HMA	HOT MIX ASPHALT
INV	INVERT
L	LENGTH OF CURVE
LHF	LEFT HAND FORWARD
LT	LEFT
MIN	MINIMUM
M/L	MATCHLINE
NB	NORTHBOUND
NC	NORMAL CROWN
PAVT	PAVEMENT
PC	POINT-OF CURVE
PCC	POINT OF COMPOUND CURVE
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PLE	PERMANENT LIMITED EASMENT
PT	POINT OF TANGENT
PVC	POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENT
R	RADIUS OF CURVE
R/L	REFERENCE LINE
R/W	RIGHT OF WAY
RC	REVERSE CROWN
RCAEW	APRON ENDWALL FOR CULVERT PIPE REINFORCE CONCRETE
REQD	REQUIRED
RHF	RIGHT HAND FORWARD
RO	RUN OFF LENGTH
RT	RIGHT
SALV	SALVAGED
SB	SOUTHBOUND
SDD	STANDARD DETAIL DRAWING
SE	SUPER ELEVATION
SF	SQUARE FOOT
STA	STATION
SY	SQUARE YARD
T	TANGENT LENGTH
TC	TOP OF CURB
TLE	TEMPORARY LIMITED EASEMENT

ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES
UTILITY CONTACTS
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PLAN DETAILS
CABLE BARRIER
EROSION CONTROL
PERMANENT SIGNING
PAVEMENT MARKING
TRAFFIC CONTROL
DETOUR ROUTE
ALIGNMENT PLAN

2

UTILITY CONTACTS

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

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

DIGGERS HOTLINE

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

We Energies – Electric

Mr. Alex Dantinne
500 S. 116th St
West Allis, WI 53214
Phone (920) 621-6903
Alex.Dantinne@we-energies.com

Koch Pipeline Company LP

Mr. Drew Suydan
N4240 STH 26
Waupun, WI
Phone: (920) 948-4665
drew.suydan@fhr.com

Windstream NTI, LLC

Ms. Mary Beth Fisher
N17 W24222 Riverwood, Dr
Waukesha, WI 53188
Phone: (262) 792-7938
Mary.B.Fisher@Windstream.com

WisDOT ATR Pull Boxes

Mr. Russell Lewis
Travel Surveys Shop
3633 Pierstorff Street
Madison, WI 53704-2583
Phone: (608) 516-5754
Russell.lewis@dot.wi.gov

We Energies – Gas

Mr. Alex Dantinne
500 S. 116th St
West Allis, WI 53214
Phone (920) 621-6903
Alex.Dantinne@we-energies.com

PaeTec Communications

Ms. Mary Beth Fisher
N17 W24222 Riverwood, Dr
Waukesha, WI 53188
Phone: (262) 792-7938
Mary.B.Fisher@Windstream.com

City of West Bend - Water

Mr.Travis Thull
251 S. Municipal Drive
West Bend, WI 53095
Phone (262) 335-5040
thullt@ci.west-bend.wi.us

WISDOT SIGNALS

Ms. Elizabeth Lloyd-Weis
141 NW Barstow Street
PO Box 798
Waukesha, WI 53187-0798
Phone (262) 521-4404
Elizabeth.Lloyd-Weis@dot.wi.gov

City of West Bend - Sewer

Mr. Steve Randall
512 Municipal Drive
West Bend, WI 53095
Phone (262) 334-3925
randalls@ci.west-bend.wi.us

Charter Communications

Mr. Tom Harycki
1515 W. Washington Avenue
West Bend, WI 53095
Phone (920) 416-2437
tom.harycki@charter.com

AT&T Wisconsin

Mr. Jeff Oldenburg
2005 Pewaukee Road
Waukesha, WI 53188-2443
Phone (262) 896-7522
j02376@att.com

ATC Management Inc.

Chris Daley
PO Box 47
Waukesha, WI 531873
Phone (414) 651-3950
cdailey@atcllc.com

Windstream KDL, LLC

Ms. Mary Beth Fisher
N17 W24222 Riverwood, Dr
Waukesha, WI 53188
Phone: (262) 792-7938
Mary.B.Fisher@Windstream.com

OTHER CONTACTS- FOR INFORMATION ONLY

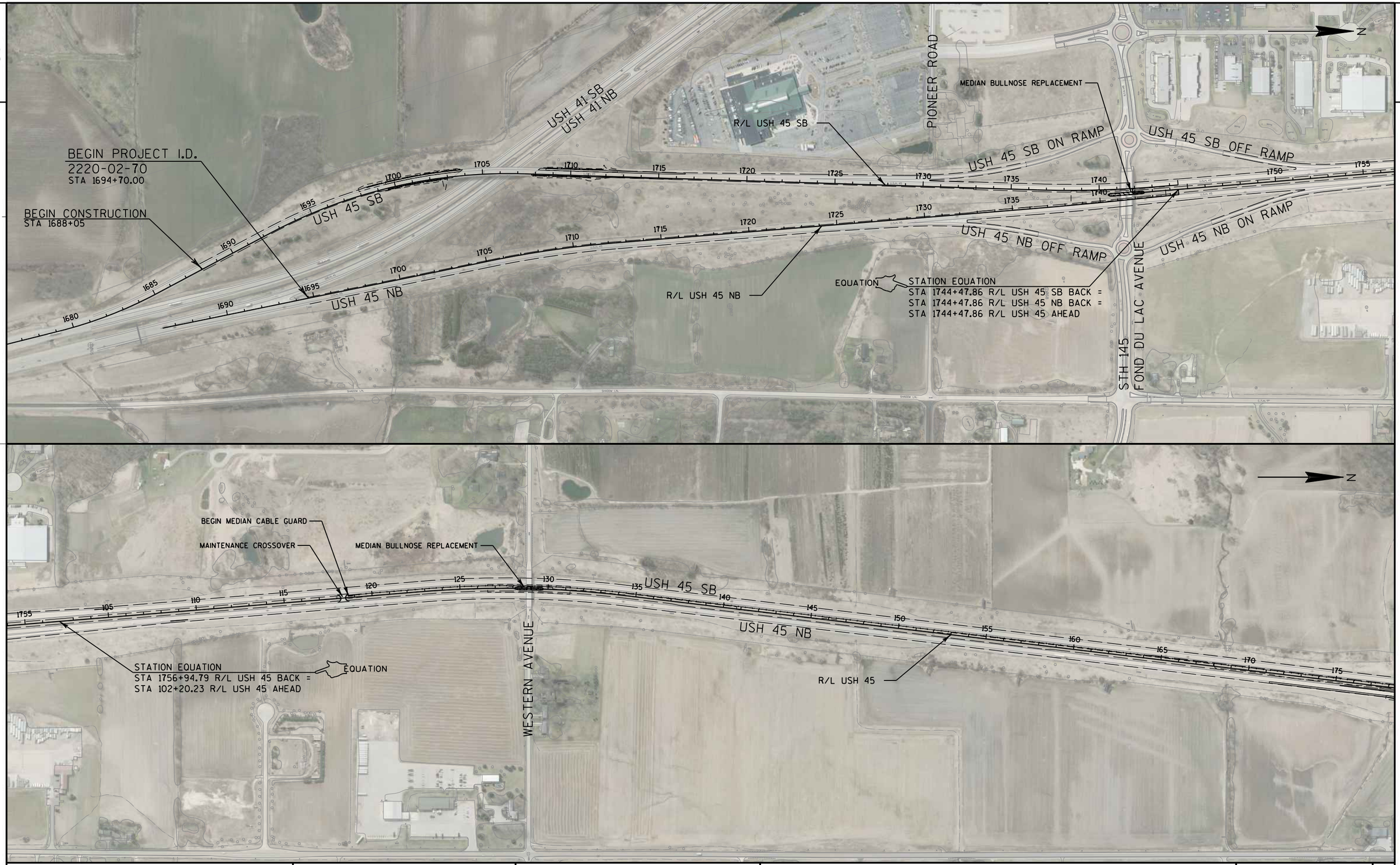
Wisconsin Department of Natural Resources

Ms. Kristina Betzold
2300 N Marin Luther King Jr. Dr
Milwaukee, WI 53212
Phone (414) 263-8517
kristina.betzold@wisconsin.gov

Consultants

Mr. Prasad Narayan
Project Manager
Kapur & Associates, Inc.
7711 North Port Washington Road
Milwaukee, WI 53217
Phone (414) 351-6668
prasad@kapur-assoc.com

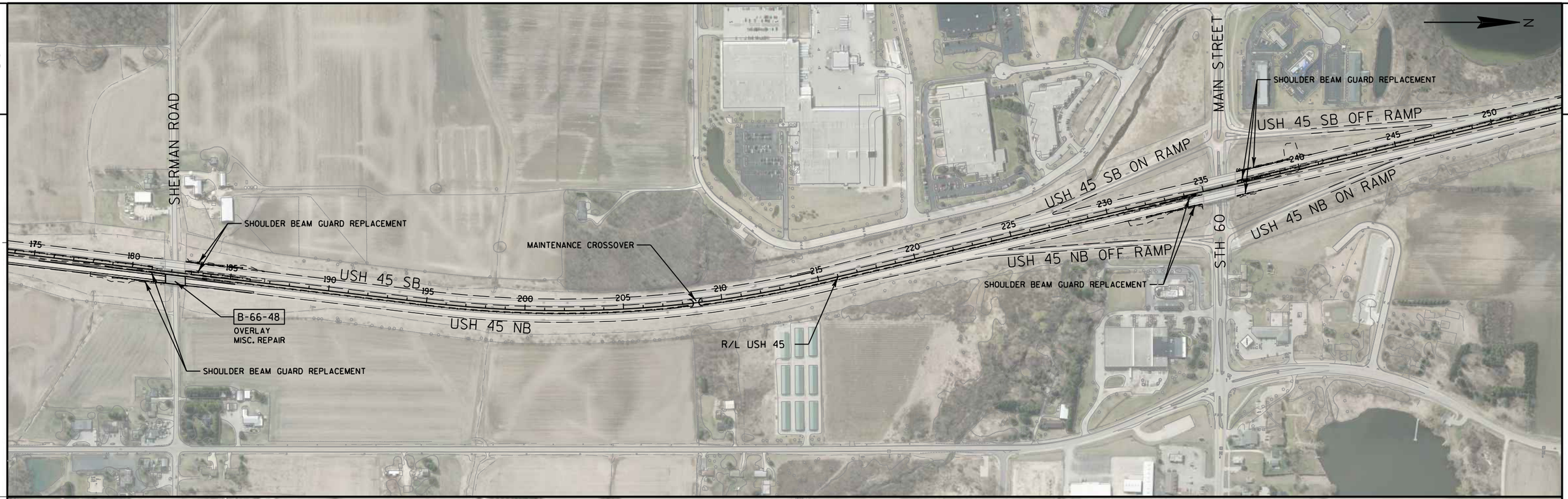
2

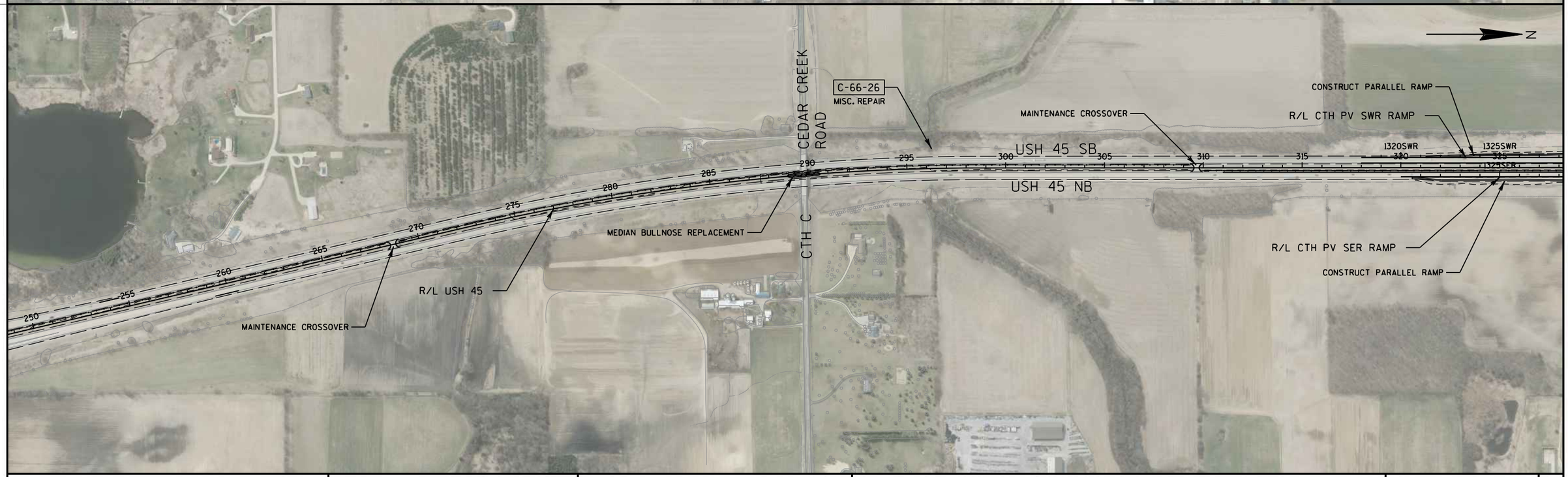


PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PROJECT OVERVIEW	SHEET 4	E

FILE NAME : C:\DOT WORK USH 45\020201_PO.DGN PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:500

WISDOT/CADDS SHEET 42

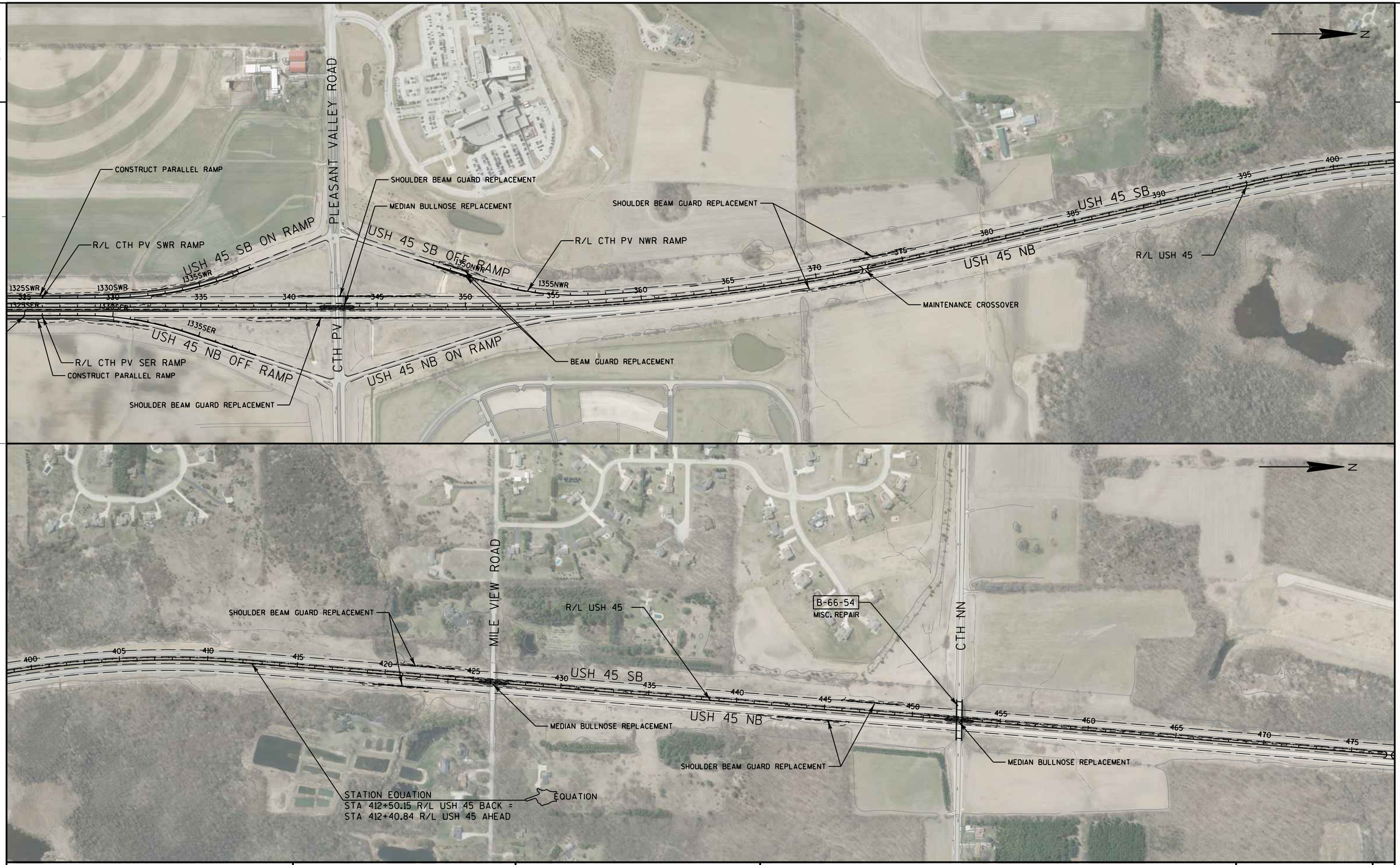




PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PROJECT OVERVIEW	SHEET 5	E

FILE NAME : C:\DOT WORK USH 45\020202_PO.DGN PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:500

WISDOT/CADDS SHEET 42

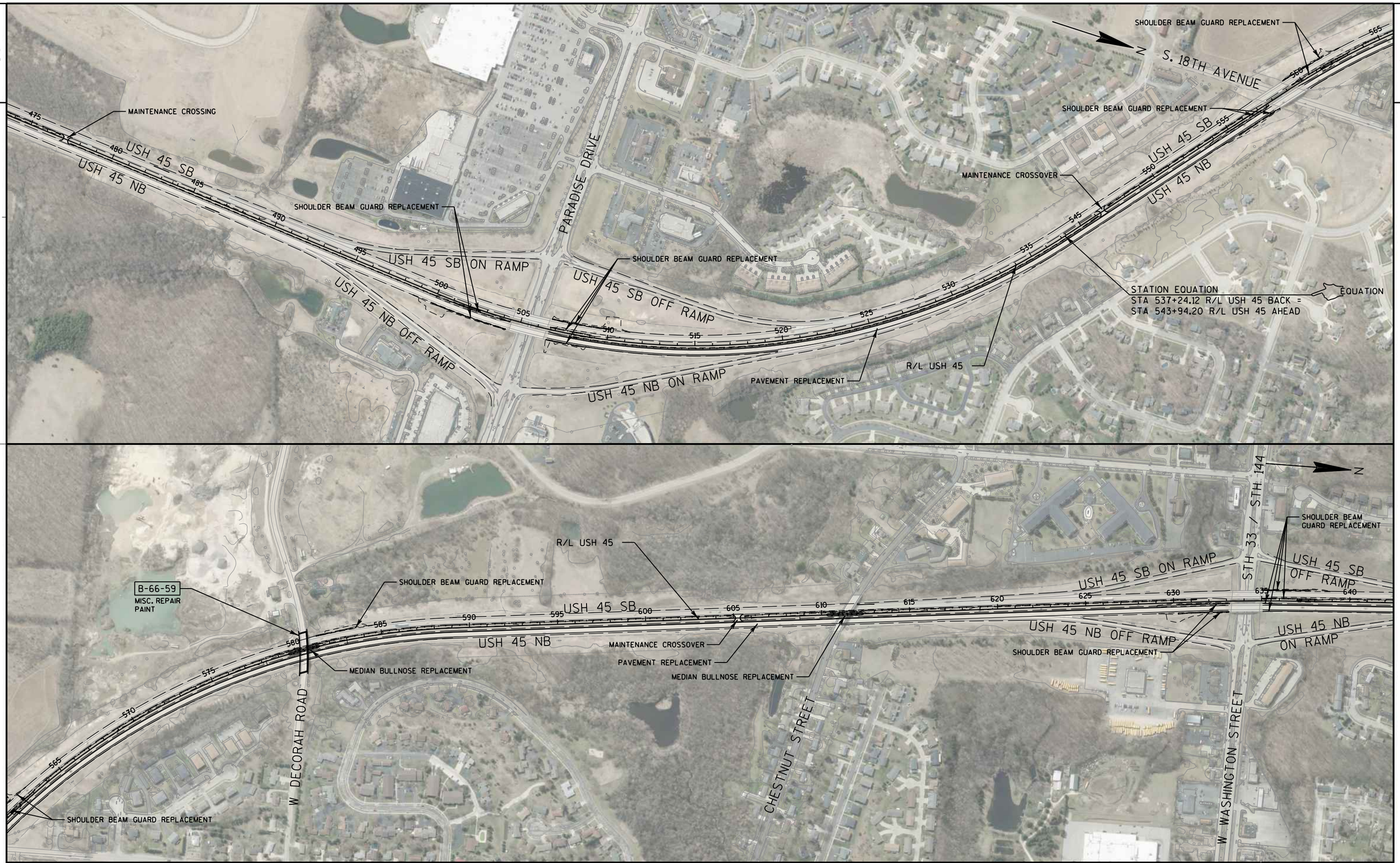


PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PROJECT OVERVIEW	SHEET 6	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\020203_PO.DGN PLOT DATE : 6/12/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:500

WISDOT/CADDS SHEET 42

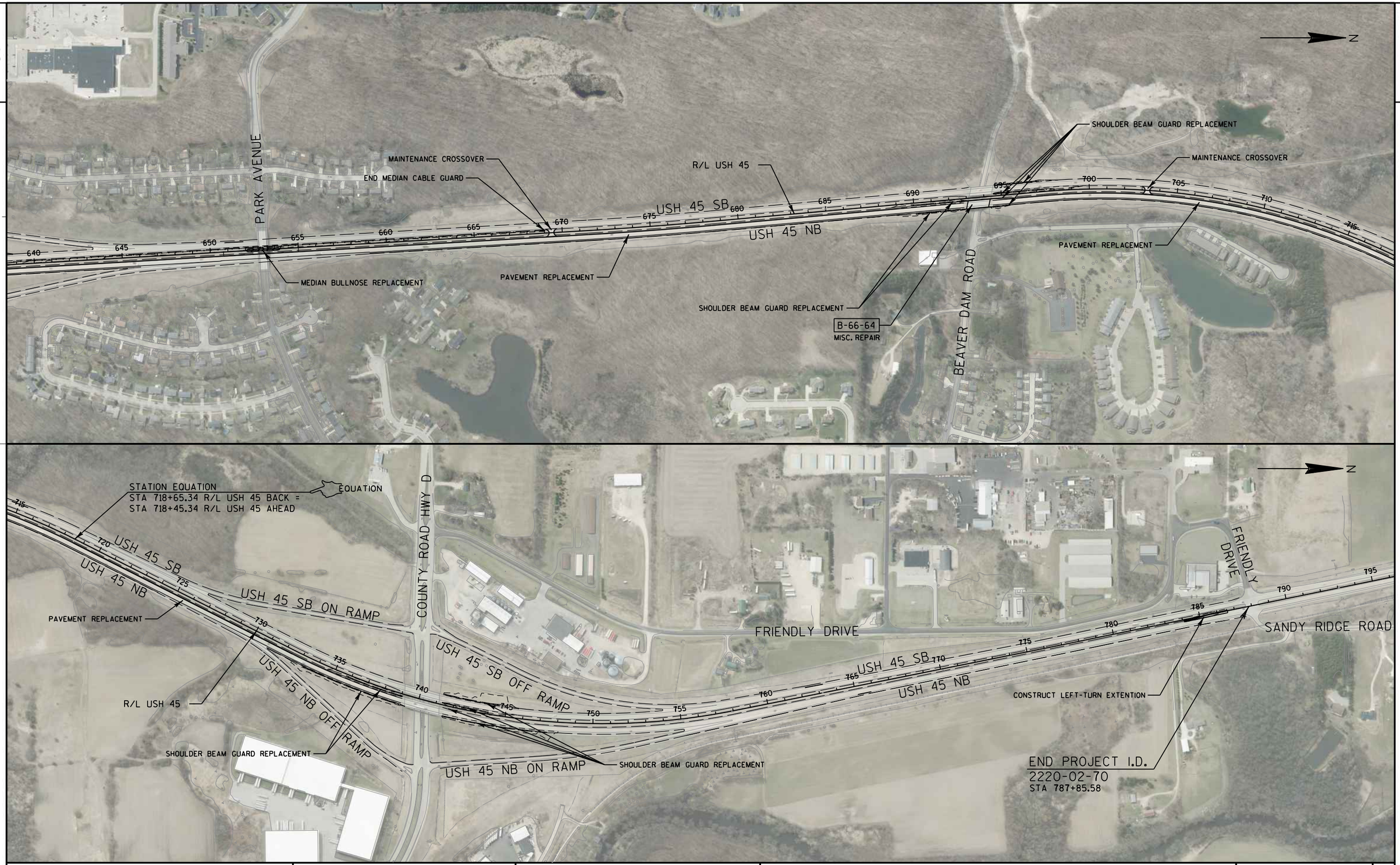
2



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PROJECT OVERVIEW	SHEET 7	E

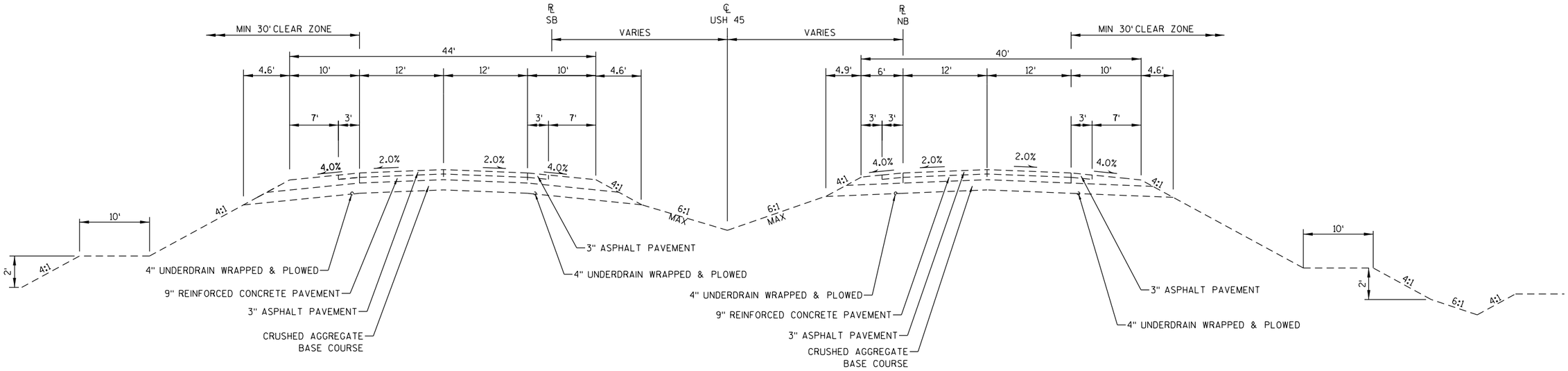
FILE NAME : C:\DOT WORK USH 45\020204_PO.DGN PLOT DATE : 5/1/2020 PLOT BY : wwoldk PLOT NAME : PLOT SCALE : 1:500

2



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PROJECT OVERVIEW	SHEET 8	E

2

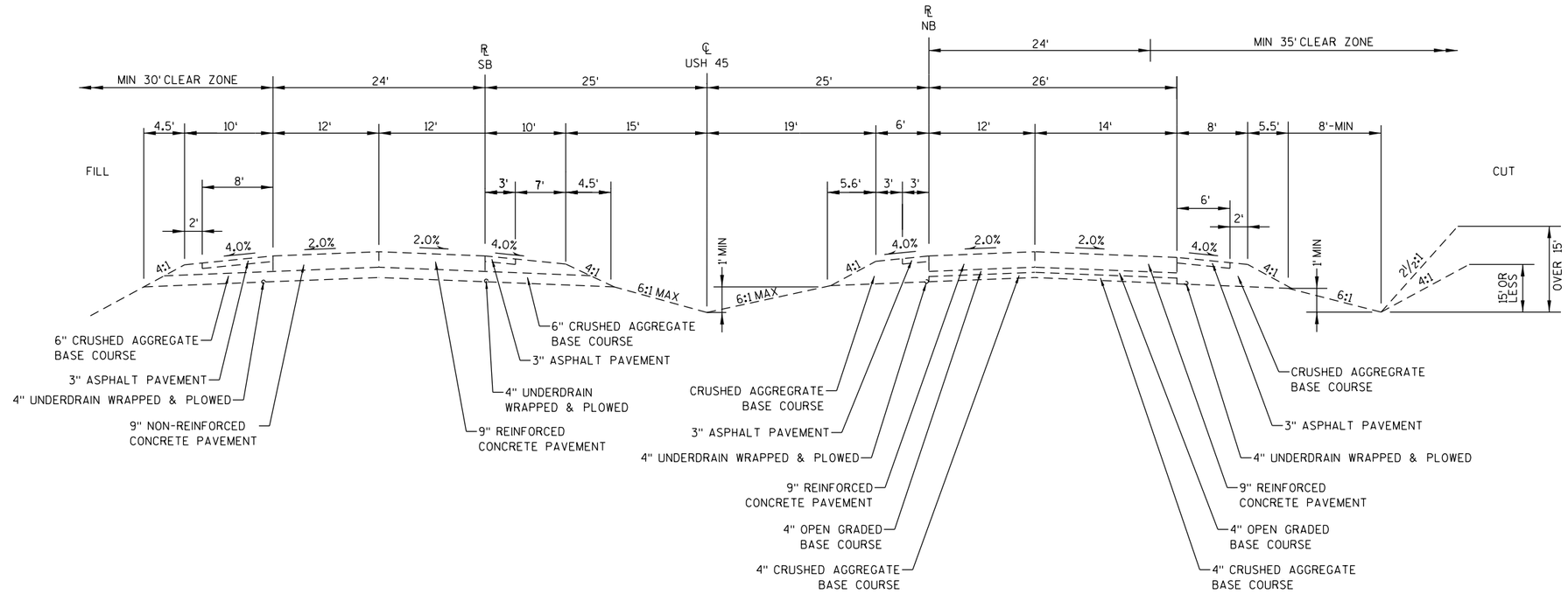


EXISTING TYPICAL SECTION

USH 45

STA 1688SB+05 TO STA 1732SB+88
STA 1694NB+70 TO STA 1733NB+13

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TYPICAL SECTIONS	SHEET 9	E



EXISTING TYPICAL SECTION

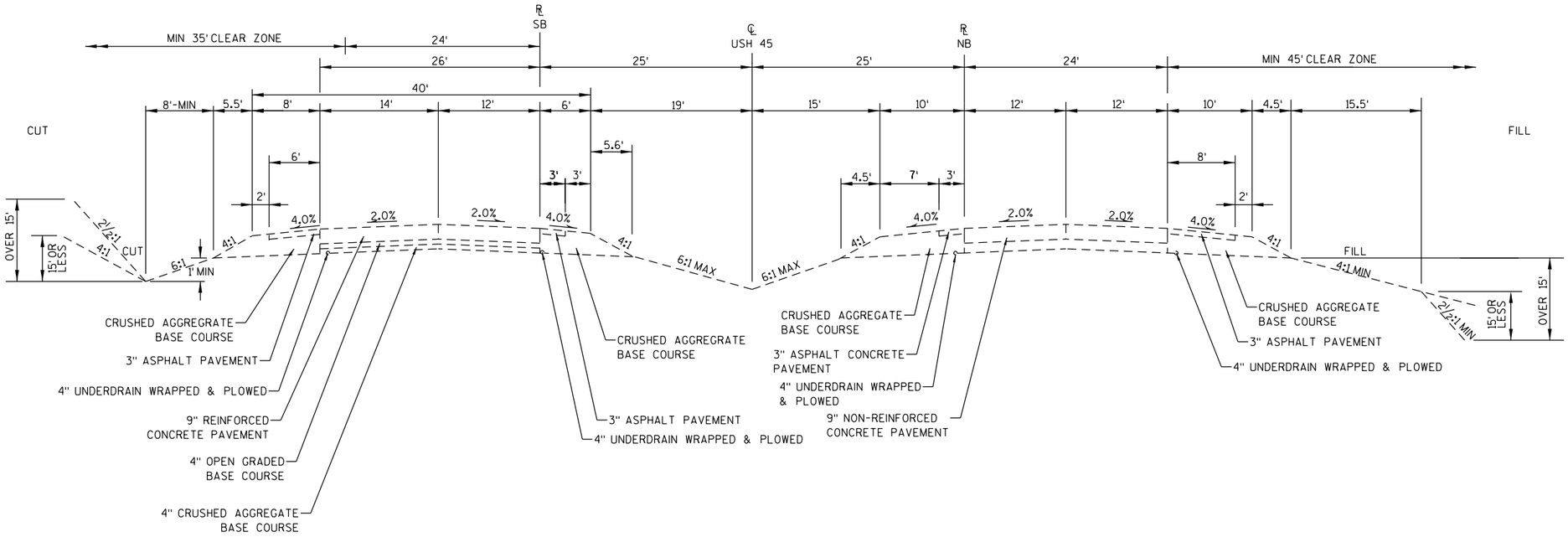
USH 45

STA 1732SB+88 TO STA 1756SB+94.8
STA 102SB+20.23 TO STA 164SB+00
STA 756SB+48 TO STA 787SB+43

STA 137NB+00 TO STA 159NB+00
STA 375NB+00 TO STA 385NB+98
STA 412NB+45 TO STA 427NB+00
STA 745NB+08 TO STA 787NB+43

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TYPICAL SECTIONS	SHEET 10	E

FILE NAME : C:\DOT WORK USH 45\020301_TS.dgn PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:10



EXISTING TYPICAL SECTION

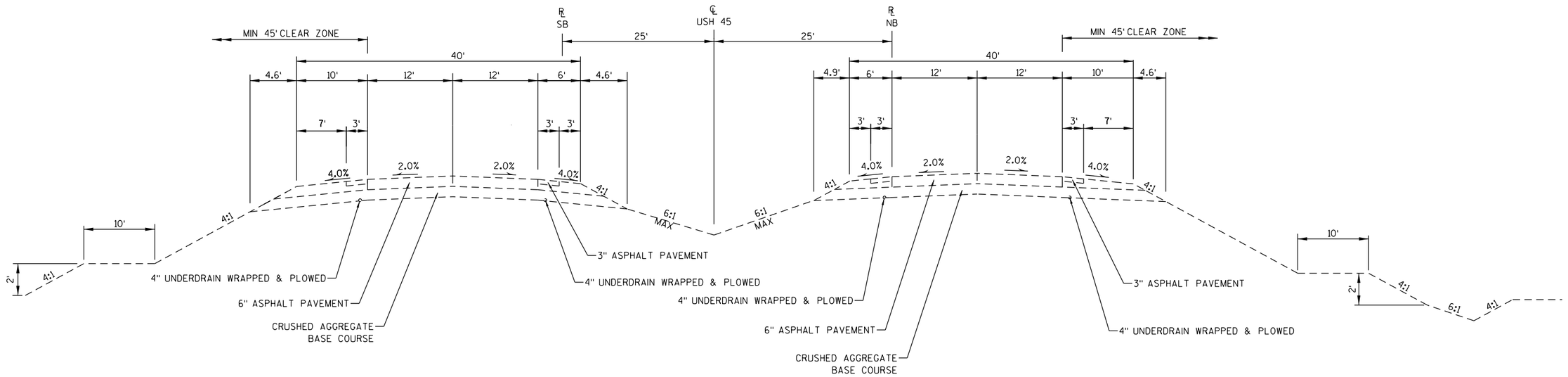
USH 45

STA 164SB+00 TO STA 385SB+98
STA 412SB+50 TO STA 756SB+48

STA 1733NB+13 TO STA 1756NB+94.8
STA 102NB+20.23 TO STA 137NB+00
STA 159NB+00 TO STA 375NB+00
STA 427NB+00 TO STA 745NB+08

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TYPICAL SECTIONS	SHEET 11	E

2

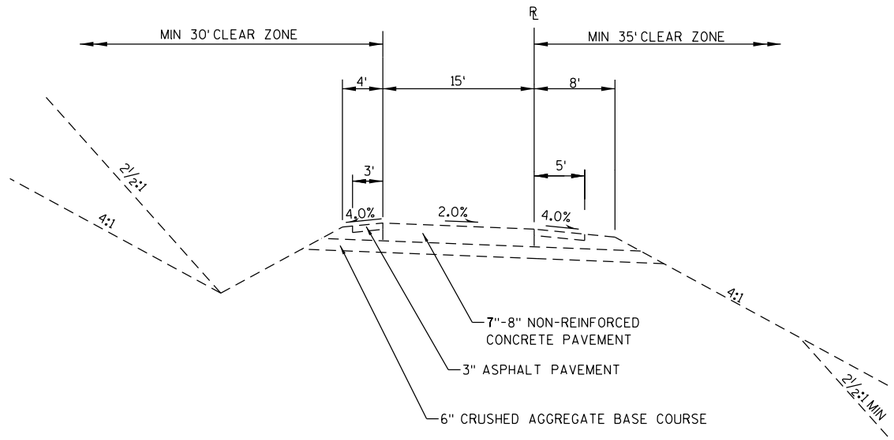


EXISTING TYPICAL SECTION

USH 45

STA 385SB+98 TO STA 412SB+60
STA 385NB+98 TO STA 412NB+45

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TYPICAL SECTIONS	SHEET 12	E



EXISTING TYPICAL SECTION

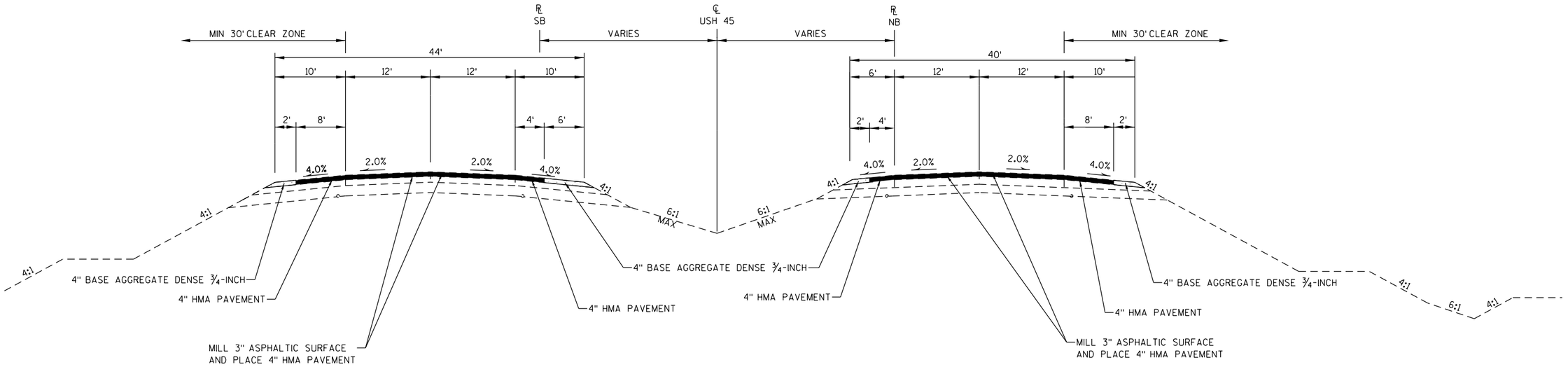
USH 45 RAMPS

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TYPICAL SECTIONS	SHEET 13	E

FILE NAME : C:\DOT WORK USH 45\020301_TS.dgn PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 42

2

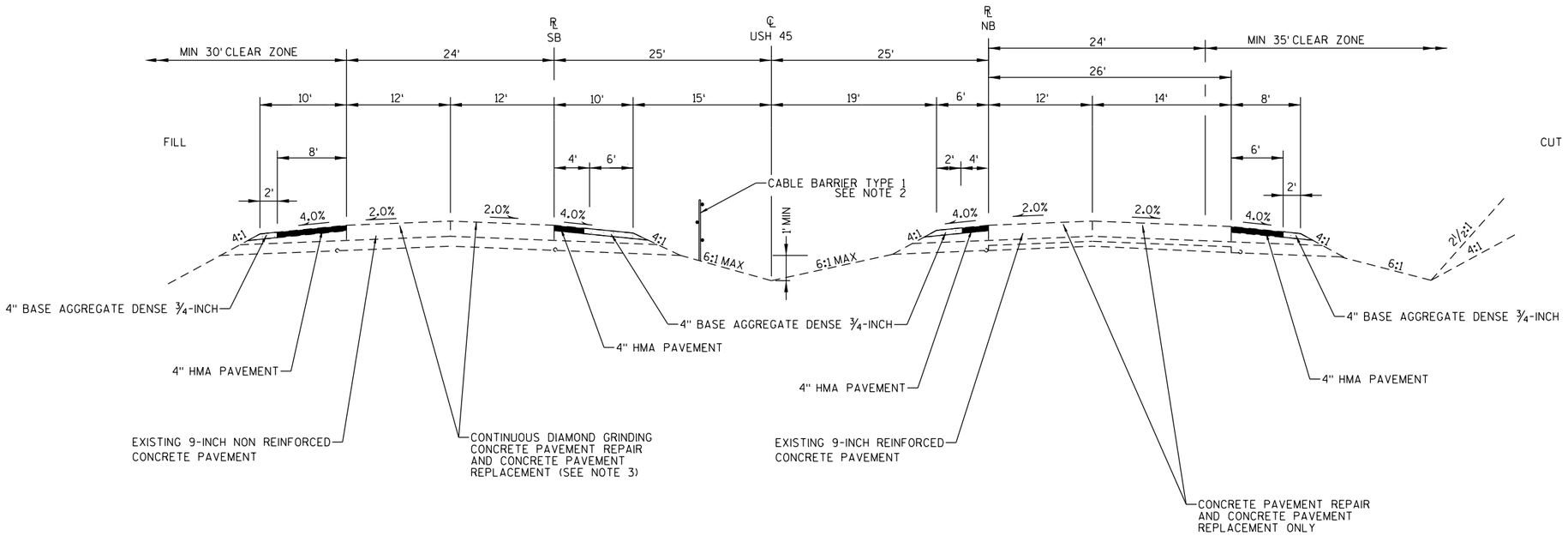


TYPICAL FINISHED SECTION
USH 45

STA 1688SB+05 TO STA 1732SB+88
STA 1694NB+70 TO STA 1733NB+13

NOTE:
1) EXISTING ASPHALTIC SHOULDER TO BE REMOVED
2) EXISTING ASPHALTIC SURFACE TO BE MILLED & REPLACED
3) CONCRETE PAVEMENT TO BE BASE PATCHED

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TYPICAL SECTIONS	SHEET 14	E



TYPICAL FINISHED SECTION

USH 45

STA 1732SB+88 TO STA 1756SB+94.8
STA 102SB+20.23 TO STA 164SB+00
STA 756SB+48 TO STA 787SB+43

STA 137NB+00 TO STA 159NB+00
STA 375NB+00 TO STA 385NB+98
STA 412NB+45 TO STA 427NB+00
STA 745NB+08 TO STA 787NB+43

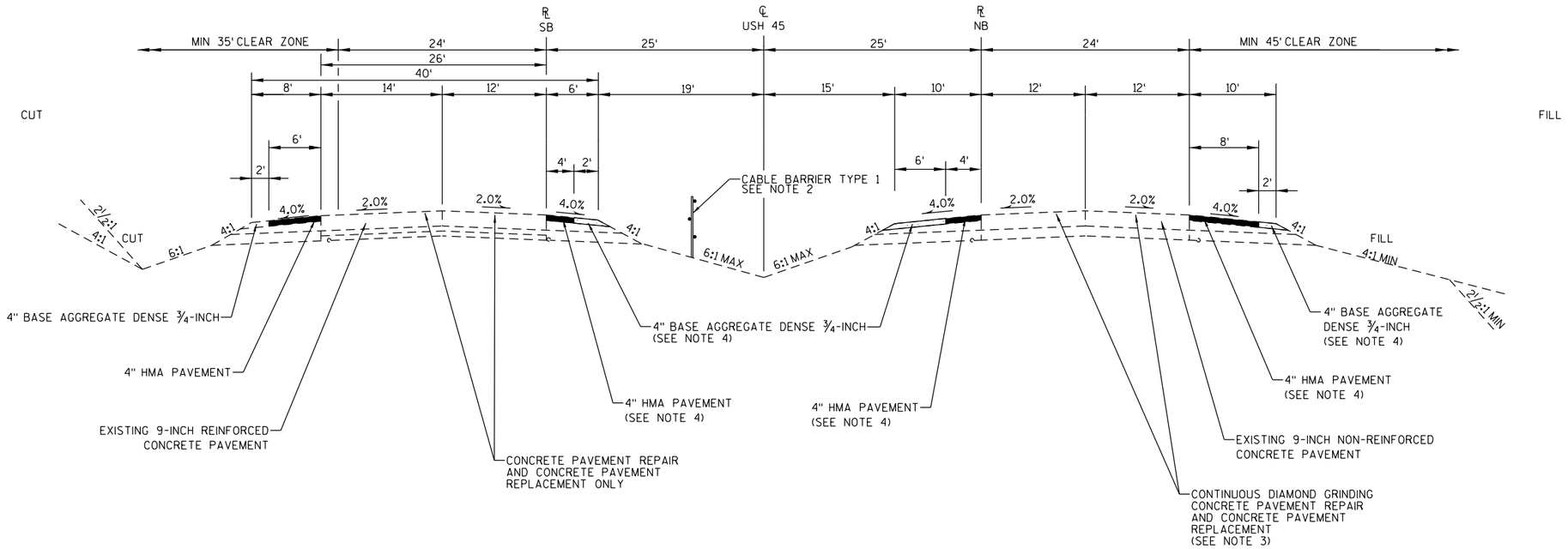
NOTE:

1) EXISTING ASPHALTIC SHOULDER TO BE REMOVED

2) CABLE BARRIER TYPE 1 TO BE PLACED FROM STA 118+64 TO STA 669+00 (SEE CONSTRUCTION DETAIL)

3) NON-REINFORCED CONCRETE PAVEMENT TO BE DOWELED IF REPAIRED OR REPLACED

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TYPICAL SECTIONS	SHEET 15	E



TYPICAL FINISHED SECTION

USH 45

STA 164SB+00 TO STA 385SB+98
STA 412SB+60 TO STA 504SB+50
STA 741SB+24 TO STA 756SB+48

STA 1733NB+10 TO STA 1756NB+94.8
STA 102NB+20.23 TO STA 137NB+44
STA 159NB+00 TO STA 375NB+00
STA 427NB+00 TO STA 504NB+52
STA 741NB+08 TO STA 745NB+08

NOTE:

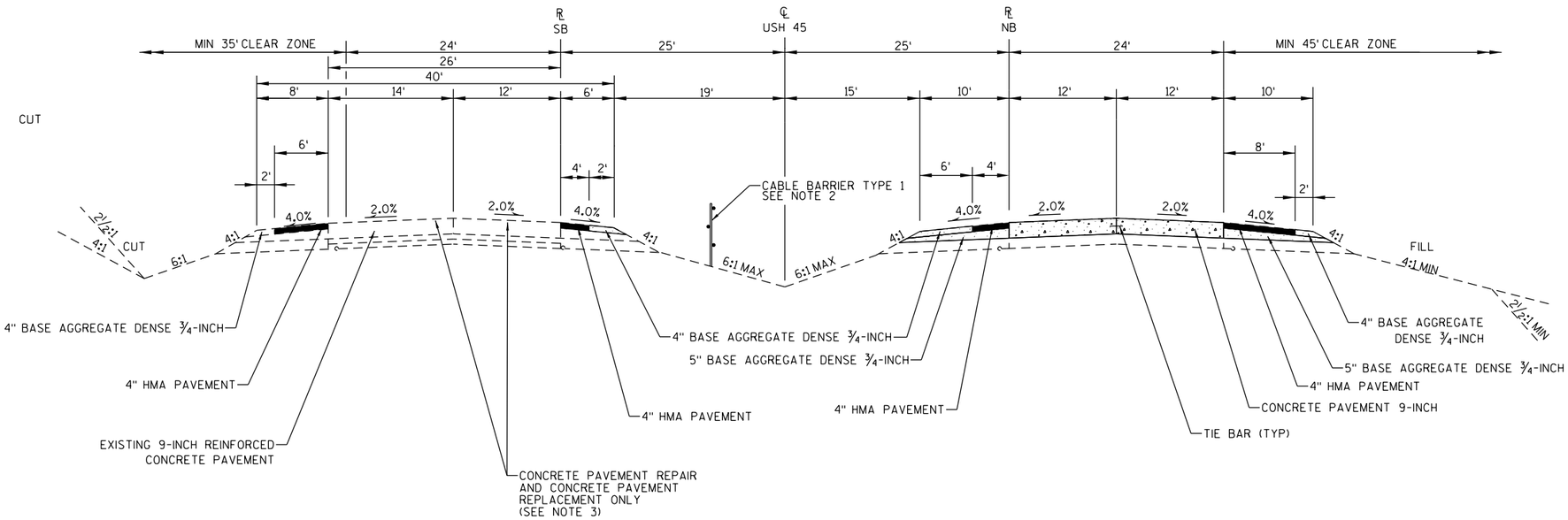
1) EXISTING ASPHALTIC SHOULDER TO BE REMOVED

2) CABLE BARRIER TYPE 1 TO BE PLACED FROM STA 142+50 TO STA 669+00 (SEE CONSTRUCTION DETAIL)

3) NON-REINFORCED CONCRETE PAVEMENT TO BE DOWELED IF REPAIRED OR REPLACED

4) 5" HMA PAVEMENT AND 5" BASE AGGREGATE DENSE 3/4"
   - STA 175+00 TO STA 186+00 NB OUTSIDE SHOULDER
   - STA 175+00 TO STA 186+00 NB MEDIAN SHOULDER
   - STA 312+00 TO STA 334+00 NB MEDIAN SHOULDER
   - STA 319+00 TO STA 341+00 SB MEDIAN SHOULDER

2



TYPICAL FINISHED SECTION

USH 45

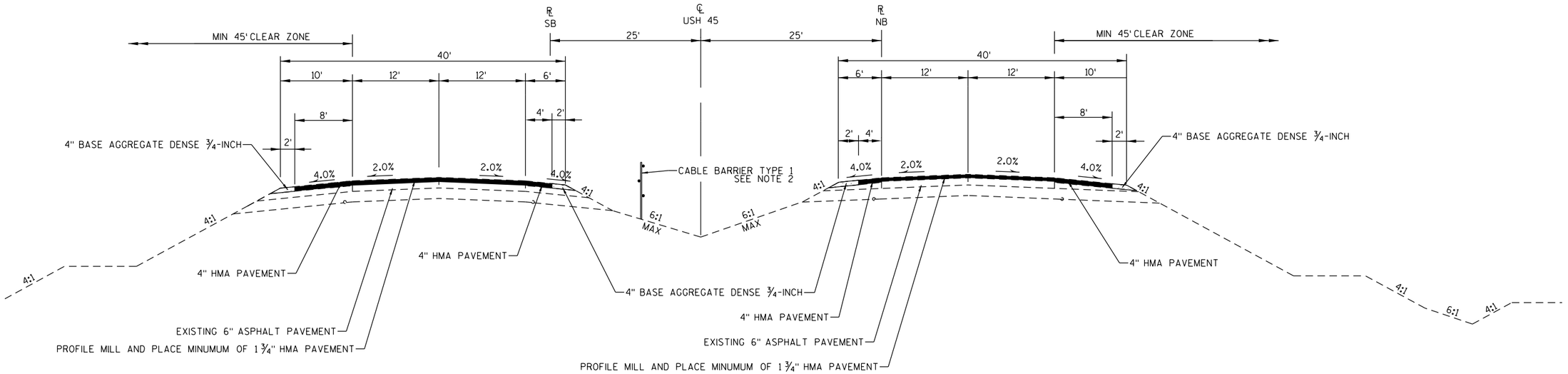
STA 506SB+46 TO STA 739SB+39
STA 506NB+55 TO STA 739NB+10

NOTE:

1) EXISTING ASPHALTIC SHOULDER TO BE REMOVED

2) CABLE BARRIER TYPE 1 TO BE PLACED FROM STA 118+67 TO STA 669+00 (SEE CONSTRUCTION DETAIL)

3) NON-REINFORCED CONCRETE PAVEMENT TO BE DOWELED IF REPAIRED OR REPLACED



TYPICAL FINISHED SECTION
USH 45

STA 385SB+98 TO STA 412SB+60
STA 385NB+98 TO STA 412NB+45

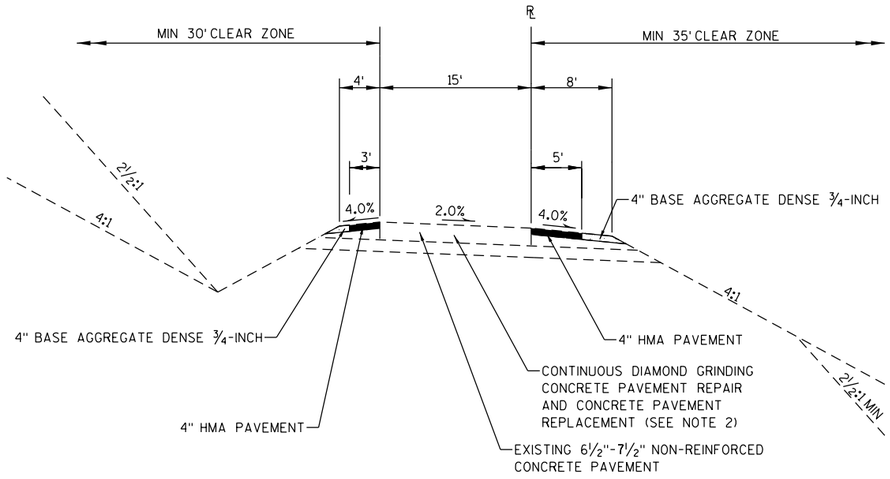
NOTE:

1) EXISTING ASPHALTIC SHOULDER TO BE REMOVED

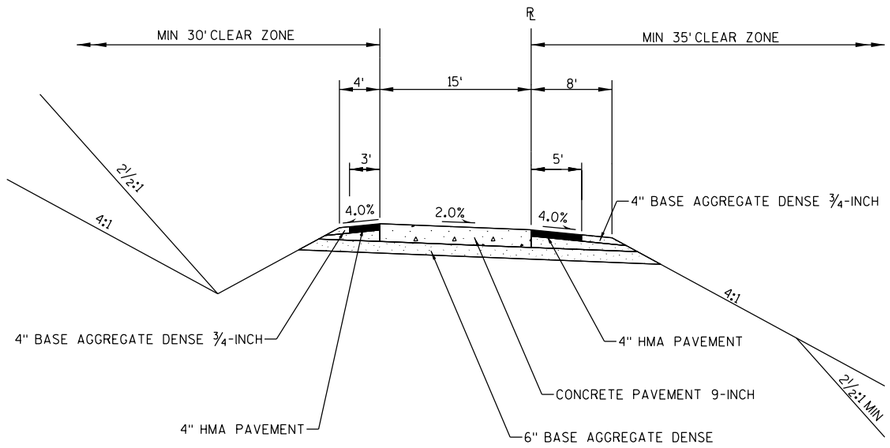
2) CABLE BARRIER TYPE 1 TO BE PLACED FROM STA 118+67 TO STA 669+00 (SEE CONSTRUCTION DETAIL)

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TYPICAL SECTIONS	SHEET 18	E

2



TYPICAL FINISHED SECTION
USH 45 RAMPS



TYPICAL FINISHED SECTION
USH 45 PARALLEL RAMPS

NOTE:

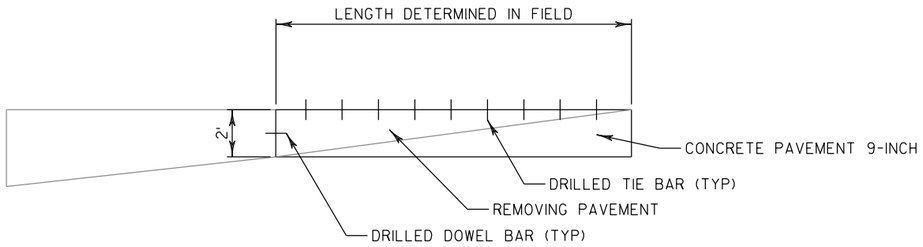
1) EXISTING ASPHALTIC SHOULDER TO BE REMOVED

2) NON-REINFORCED CONCRETE PAVEMENT TO BE DOWELED IF REPAIRED OR REPLACED

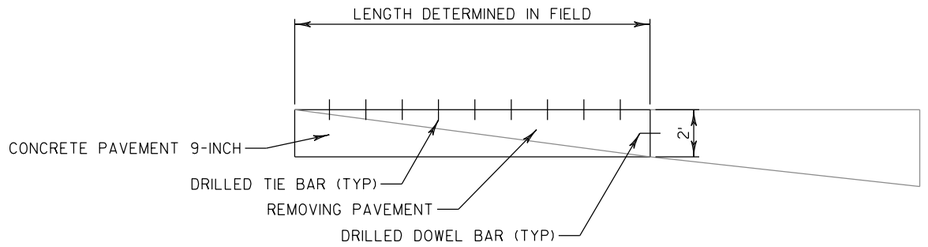
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TYPICAL SECTIONS	SHEET 19	E

NOTE:

SEE SDD "CONCRETE PAVEMENT REPAIR AND REPLACEMENT" FOR TIE BAR SPACING.

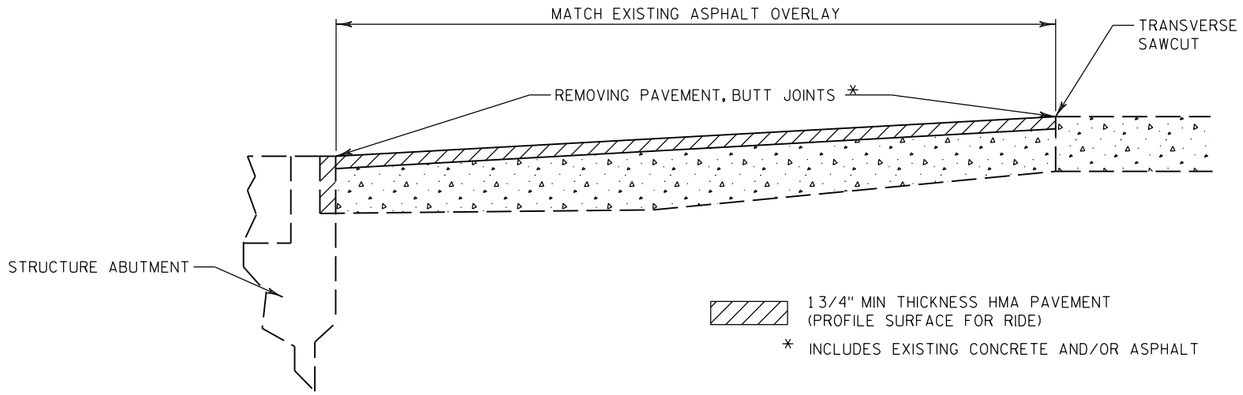


ENTRANCE RAMP PLAN VIEW



EXIT RAMP PLAN VIEW

CONCRETE JOINT DETAIL

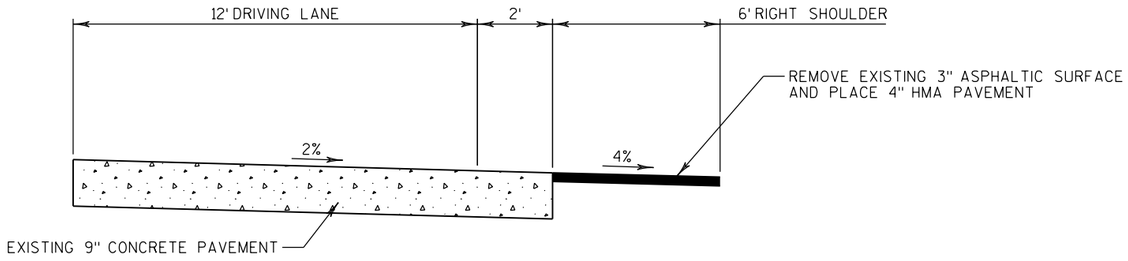


PROFILE VIEW OF APPROACH

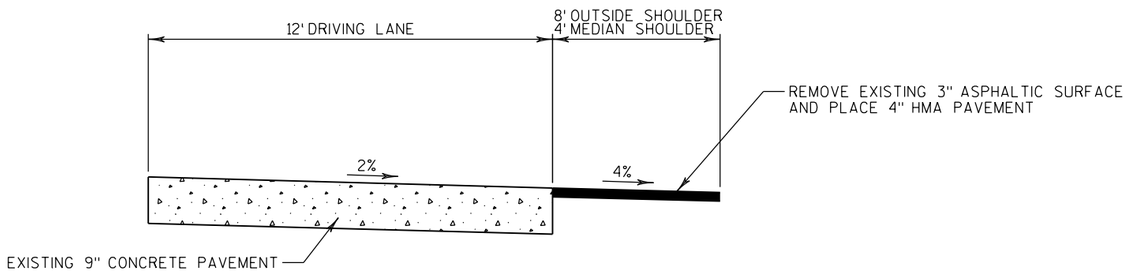
BRIDGE APPROACH REPAIR DETAIL

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CONSTRUCTION DETAILS	SHEET 20	E

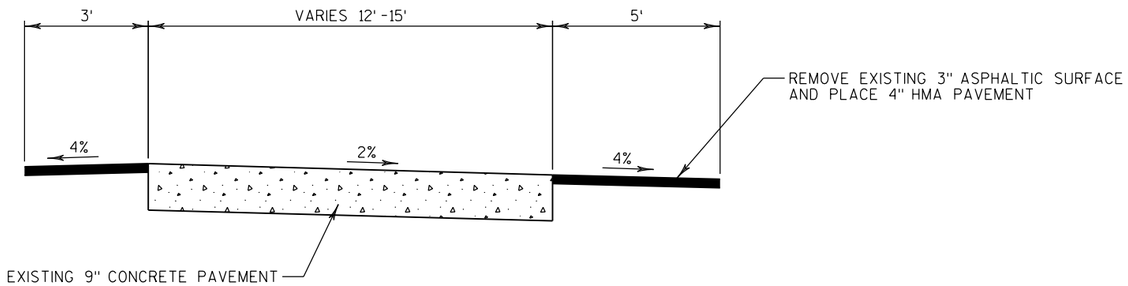
2



SHOULDER PAVING DETAIL - 14' LANE



SHOULDER PAVING DETAIL - 12' LANE

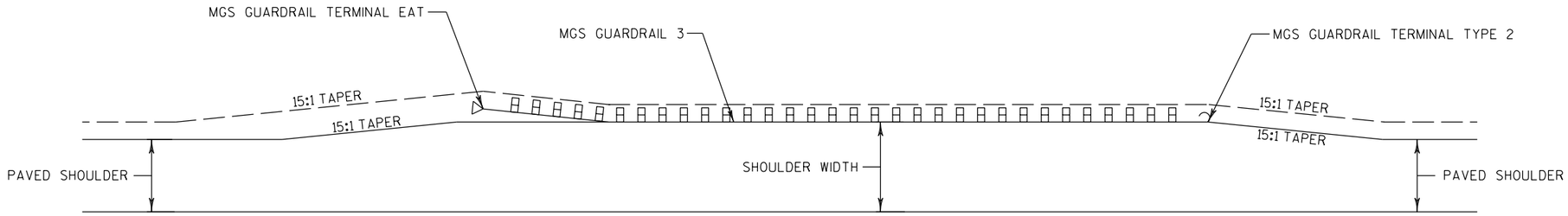


SHOULDER PAVING DETAIL - RAMP

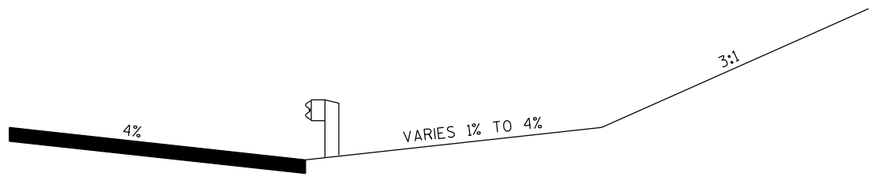
NOTE:

HMA PAVEMENT SHALL BE PLACED IN ONE LIFT.

2



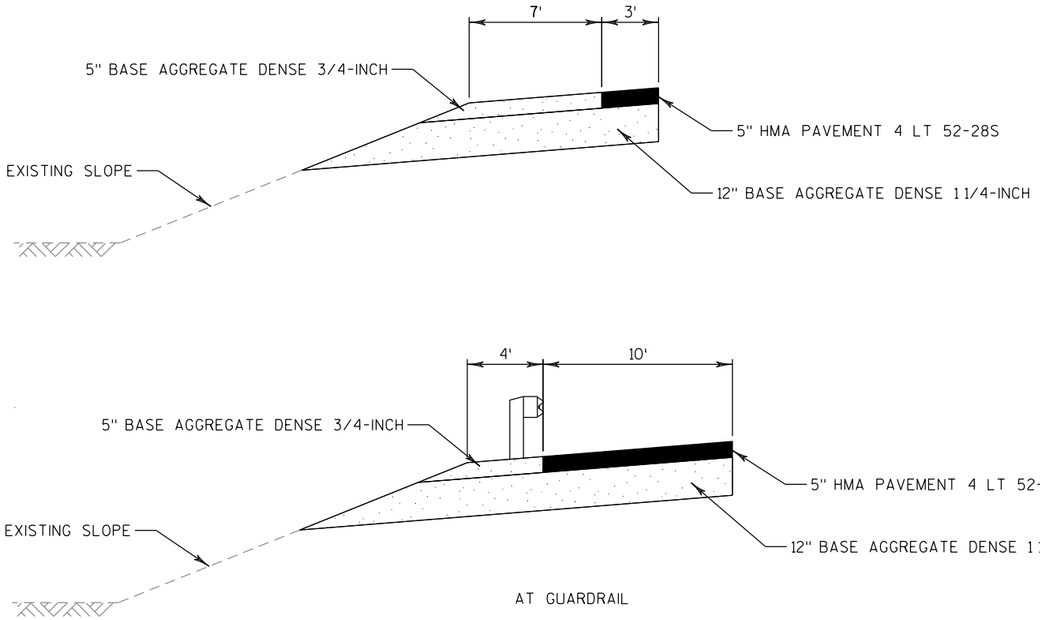
ASPHALT SHOULDER AT MGS GUARDRAIL



OUTSIDE SHOULDER GRADING UNDER CTH PV BRIDGE

STA 342+50 TO STA 343+00

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CONSTRUCTION DETAILS	SHEET 22	E

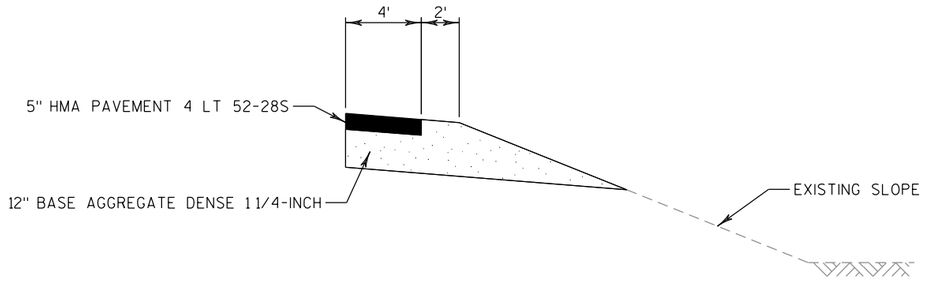


AT GUARDRAIL

MEDIAN SHOULDER RECONSTRUCTION

STA 175+25 TO STA 185+25 NB
STA 311+00 TO STA 333+75 NB

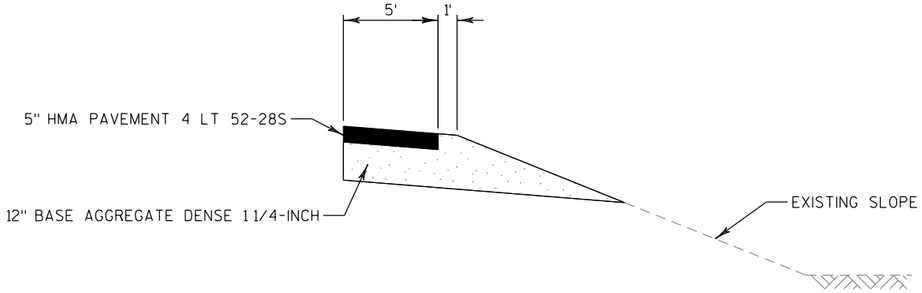
HMA PAVEMENT SHALL BE PLACED IN ONE LIFT

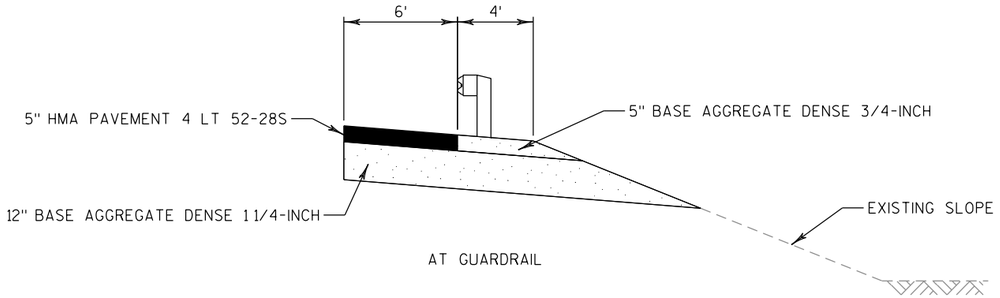


MEDIAN SHOULDER RECONSTRUCTION

STA 318+00 TO STA 241+00 SB

HMA PAVEMENT SHALL BE PLACED IN ONE LIFT

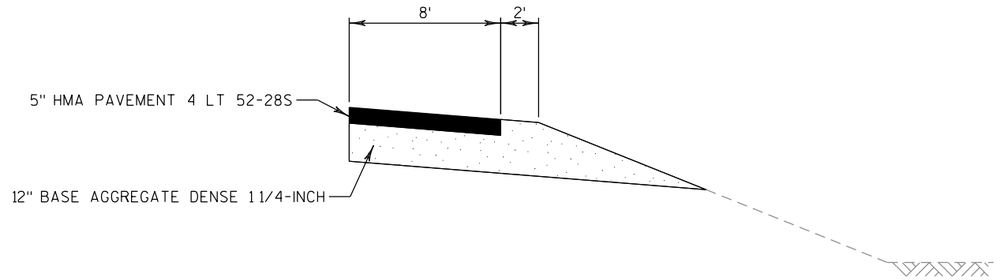


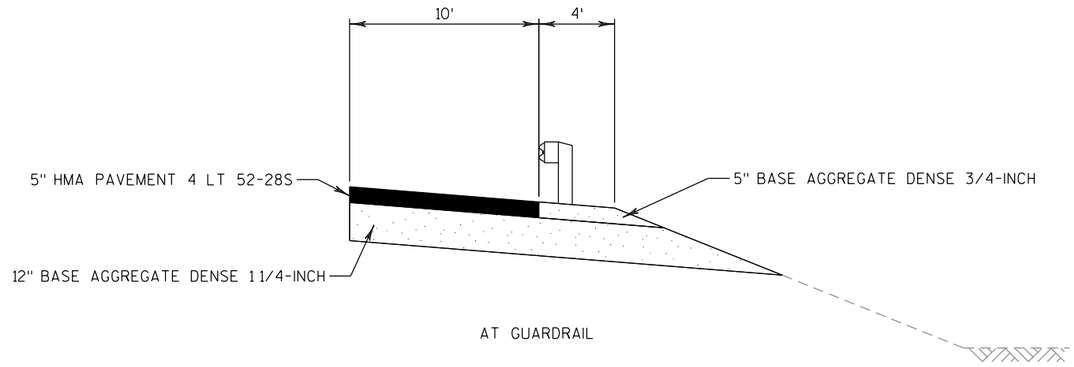


MEDIAN SHOULDER RECONSTRUCTION

STA 1700+25 TO STA 1715+75 SB

HMA PAVEMENT SHALL BE PLACED IN ONE LIFT

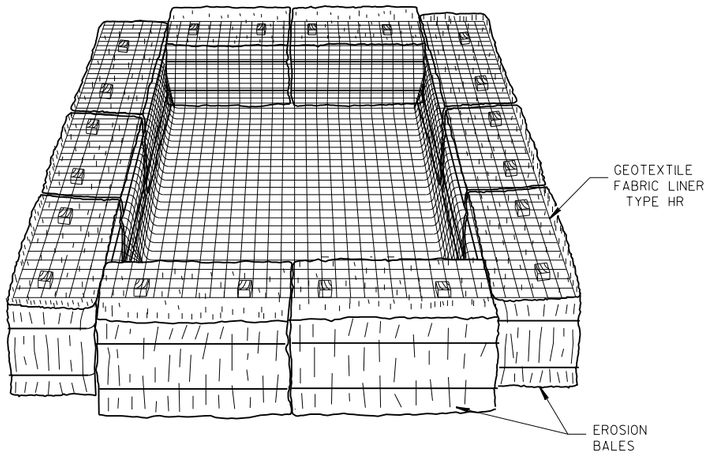




OUTSIDE SHOULDER RECONSTRUCTION

STA 1699+50 TO STA 1716+50 SB
STA 171+75 TO STA 186+25 NB

HMA PAVEMENT SHALL BE PLACED IN ONE LIFT



TEMPORARY SETTLING BASIN

(SIZE TO BE DETERMINED IN FIELD AS INDICATED BELOW:)

STORAGE VOLUME (C.F.) = 16 X GPM (PUMP RATE)

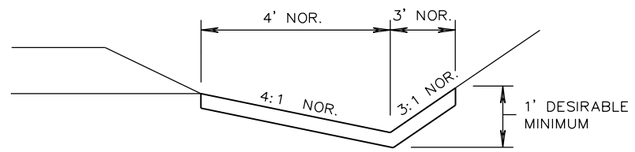
EXAMPLE:
CONTRACTOR INDICATES PUMP CAPABLE OF 50 GPM
HEIGHT OF BALES = 1.5 FT.

SOLUTION:
SV (C.F.) = 16 X 50
SV = 800 C.F.

$\frac{800 \text{ C.F.}}{1.5 \text{ FT.}}$ = 533 S.F.

USE A 20 FT. X 27 FT. BASIN

PAID AS GEOTEXTILE TYPE HR
AND EROSION BALES



EROSION MAT DETAIL FOR DITCHES

NOTES:

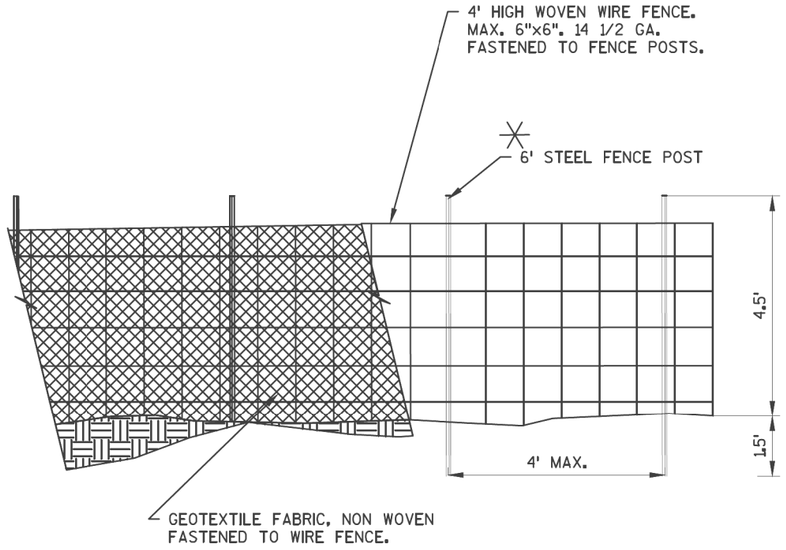
INSTALL SILT FENCE WITH MINIMUM 4" WIDE TRENCH & 6" MINIMUM TO BURY AND ANCHOR GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL. SEE STANDARD DETAIL 8 E 9-6 FOR TENCH DETAIL.

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 DEGRESS. B) HOOK THE END OF EACH SILT FENCE LENGTH.

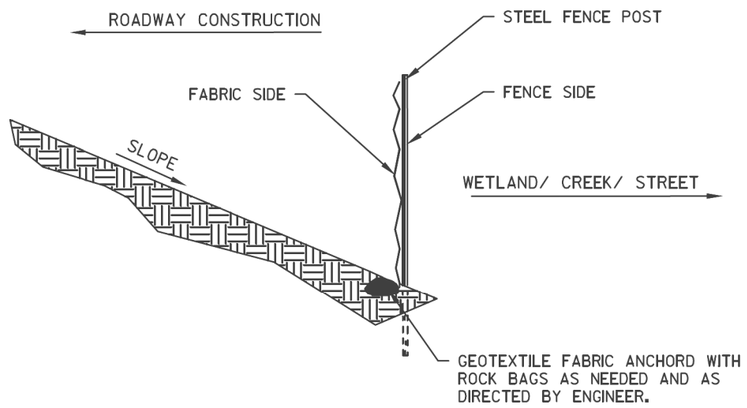
OFF SET SILT FENCE 10 FEET OUTSIDE OF SLOPE INTERCEPT (SI) WHEN POSSIBLE.

USE 14 GAUGE GALVANIZED WIRE TO FASTEN SILT FENCE TO WELDED WIRE.

REFERENCE STANDARD DETAIL FOR JOINING TWO LENGHTS OF SILT FENCE AND TYPICAL APPLICATION OF SILT FENCE.



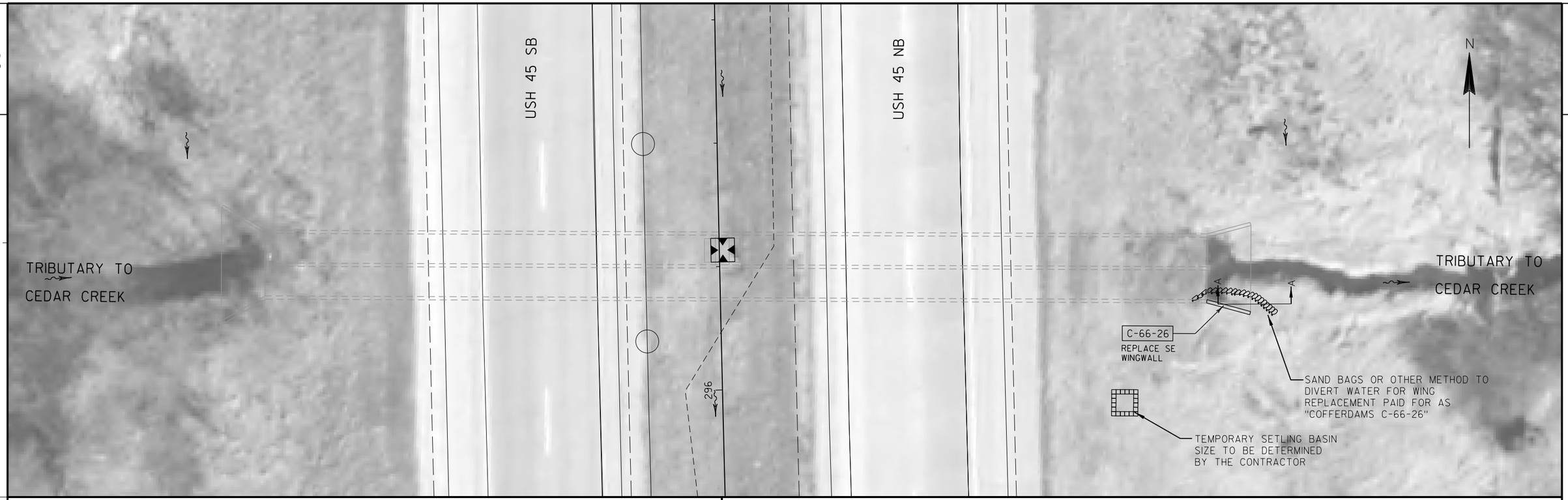
FRONT VIEW



SIDE VIEW

HEAVY DUTY SILT FENCE

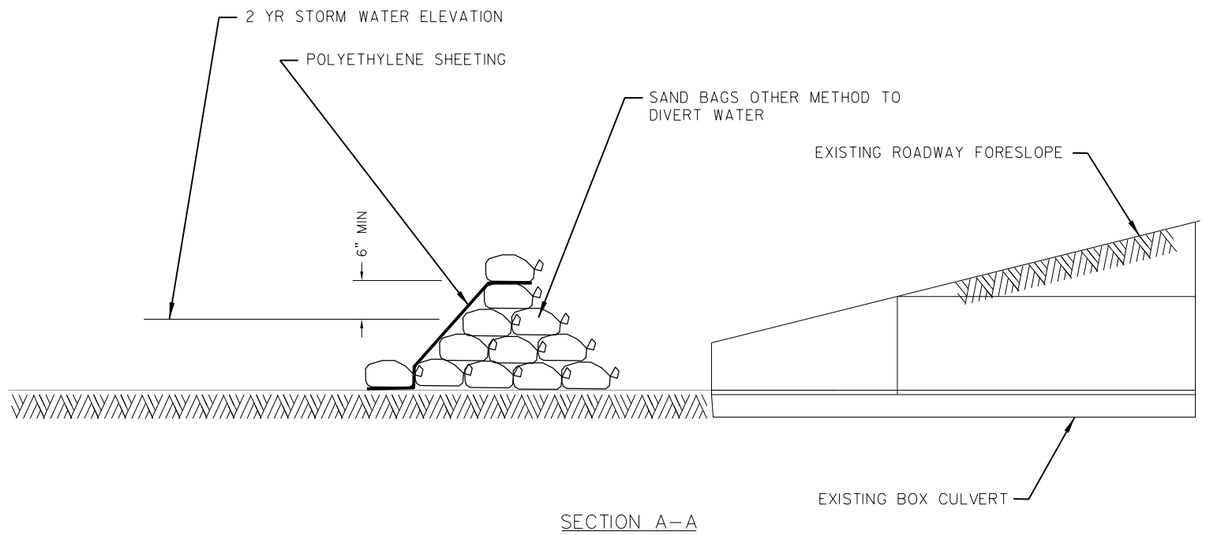
✳ ADD GUY SUPPORTS TO SLOPE WHERE REQUIRED.



LEGEND

- EROSION MAT CLASS ITYPE A
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TSB — TEMPORARY SEDIMENT BASIN
- SURFACE WATER FLOW

NOTES:
1. CONTRACTOR TO SUBMIT DESIGN FOR MAINTAINING TEMPORARY DRAINAGE DURING CONSTRUCTION AS PART OF THE EROSION CONTROL IMPLEMENTATION PLAN (ECIP).
2. DETAIL SHOWN ON THIS SHEET IS FOR REFERENCE ONLY TO SHOW ONE POTENTIAL METHOD OF MAINTAINING TEMPORARY DRAINAGE.
3. METHOD OF MAINTAINING TEMPORARY DRAINAGE SHALL BE DESIGNED FOR THE 2 YEAR 24-HOUR STORM.
4. ANY WATER THAT COMES INTO CONTACT WITH DIRT THAT IS PUMPED SHALL BE DISCHARGED INTO A SEDIMENT BASIN OR FILTER BAG. THE SIZE OF THAT BASIN OR BAG SHALL BE DESIGNED BY THE CONTRACTOR AS PART OF THE ECIP. THE SEDIMENT BASIN WILL BE PAID FOR AS GEOTEXTILE TYPE HR AND EROSION BALES. CLEAN WATER CAN BE PUMPED AROUND THE WORK ZONE.
5. FILTER BAGS AND SAND BAGS USED TO DIVERT WATER WILL BE PAID FOR AS "COFFERDAMS C-66-26".
6. DO NOT DISTURB WETLANDS BEYOND WHAT IS APPROVED IN THE 404 WETLAND PERMIT.



SECTION A–A

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CONSTRUCTION DETAIL C-66-26 EROSION CONTROL	SHEET 27	E

2

USH 45 SB

USH 45 NB

453

452

CTH NN

SIGN

N

4" HMA PAVEMENT 4 LT 58-28 S
OVER 10" BASE AGGREGATE
DENSE 1 1/4"

25'

6'

ADJUST INLET

CONCRETE CURB & GUTTER 4-INCH
SLOPED 36-INCH TYPE TBT

C-66-26
REPLACE SE
WINGWALL

REMOVE AND REPLACE STEEL THRIE
BEAM STRUCTURE APPROACH

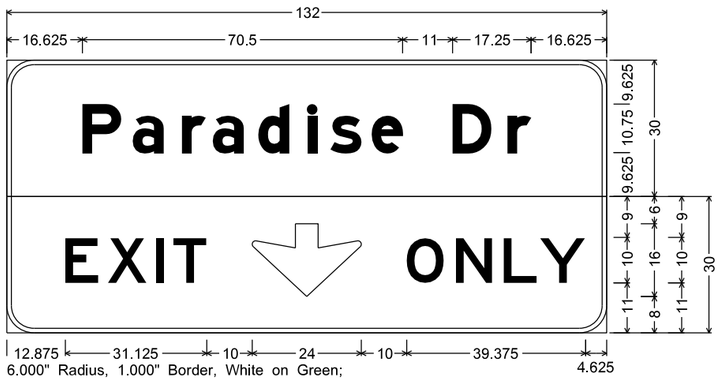
REMOVING FENCE

FENCE WOVEN WIRE 4-FT

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CONSTRUCTION DETAIL B-66-54 CTH NN	SHEET 28	E

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
4. EXIT ONLY PANEL ON YELLOW TYPE F REFLECTIVE SHEETING WITH BLACK NON-REFLECTIVE MESSAGE.

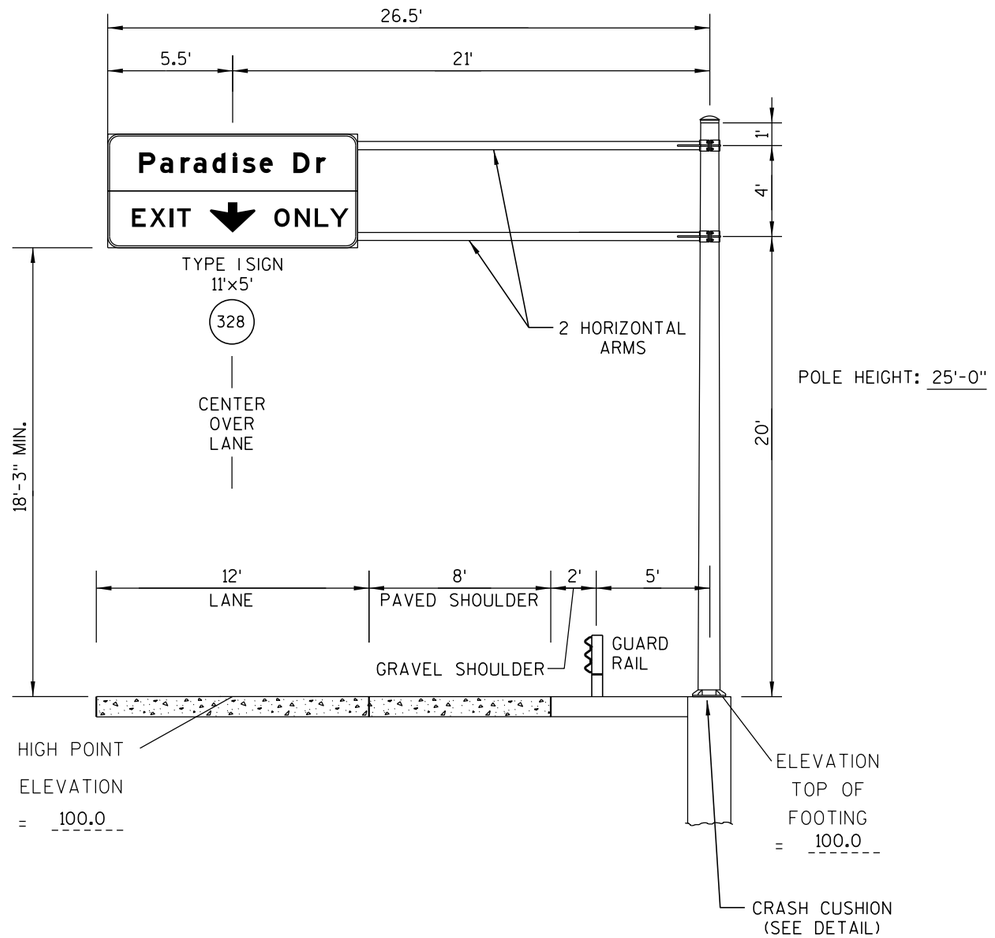


6.000" Radius, 1.000" Border, White on Green;
[Paradise] E Mod; [Dr] E Mod;
6.000" Radius, 1.000" Border, Black on Yellow;
[EXIT] E specified length; Down Arrow C-Minimum - 16.000" 270°;
[ONLY] E specified length;

LEGEND

(X) DENOTES SIGN NUMBER

(X) INDICATES SIGN SIZE



REUSE STRUCTURE (OVERHEAD SIGN SUPPORT)
S-40-935
STORED AT WEST ALLIS SIGN SHOP
STATION 464+00 USH 45 NB

NOTE, CONTRACTOR

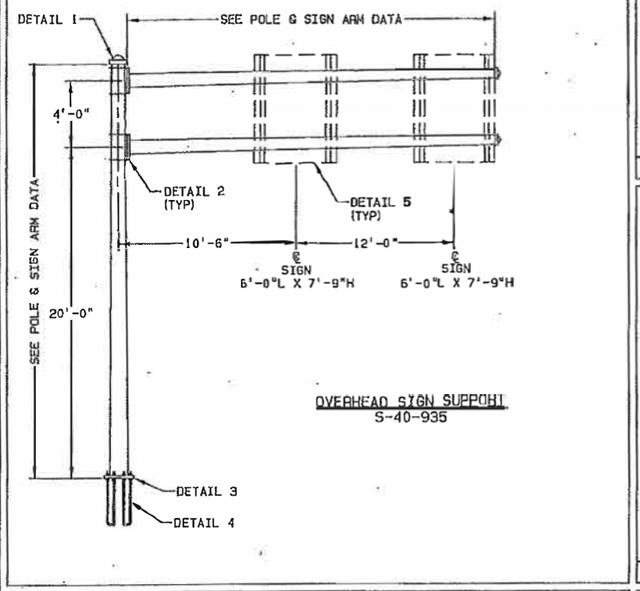
1. FOOTING IS INCIDENTAL TO OVERHEAD SIGN SUPPORT.
2. 6 ANCHOR RODS SHALL BE USED.

CONTRACTOR TO USE SDD, 42" DIAMETER CANTILEVER OVERHEAD SIGN SUPPORT BASE

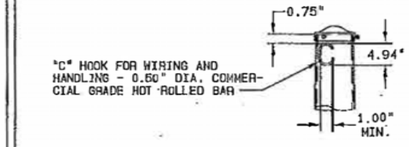
I BEAMS - W5X3.7 I BEAMS FOR MOUNTING SIGNS ARE INCIDENTAL.

SHEET 1 OF 2

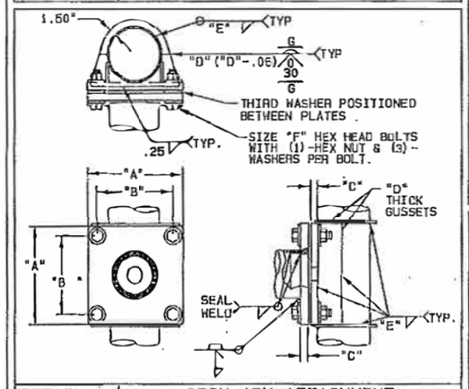
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	OVERHEAD SIGN SUPPORT S-40-935 (TEMPORARY)	SHEET 29	E



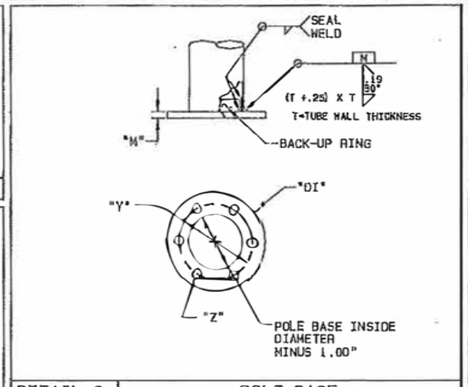
OVERHEAD SIGN SUPPORT
S-40-935



DETAIL 1 | POLE TOP



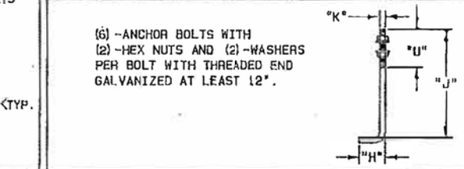
DETAIL 2 | SIGN ARM ATTACHMENT



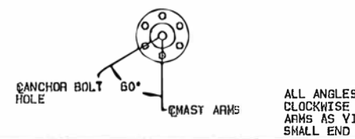
DETAIL 3 | POLE BASE

1. TRAFFIC SIGNAL SUPPORT STRUCTURES ON THIS DRAWING HAVE BEEN DESIGNED IN ACCORDANCE WITH LOADING AND ALLOWABLE STRESS REQUIREMENTS OF 2001 AASHTO "STANDARD SPECIFICATION FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS", FOURTH EDITION. WIND LOADS ARE BASED ON A BASIC WIND SPEED OF 90 MPH-APPENDIX C WITH A RECURRENCE INTERVAL OF 50 YEARS, AND A FATIGUE CATEGORY OF 3. FATIGUE LOADS ARE BASED ON THE REQUIREMENTS OF SECTION 11.7 AND THE FOLLOWING DESIGN LOADS:
   - VORTEX SHEDDING: NOT APPLICABLE FOR STRUCTURES WITH A TAPER OF AT LEAST 0.14 IN/FT. PER AASHTO.
   - NATURAL WIND GUSTS: THE YEARLY MEAN WIND SPEED FOR NATURAL WIND GUSTS WILL BE ASSUMED TO BE 11.2 MPH.
   - GALLOPING: STRUCTURES ARE DESIGNED TO RESIST PERIODIC GALLOPING FORCES.
   - TRUCK-INDUCED GUST: STRUCTURES ARE DESIGNED TO INCLUDE TRUCK-INDUCED GUSTS. (THE SPECIFIED AVERAGE TRUCK SPEED IS 65 MPH)
2. ALTHOUGH RARE, VIBRATIONS SEVERE ENOUGH TO CAUSE DAMAGE CAN OCCASIONALLY OCCUR IN STRUCTURES OF ALL TYPES. BECAUSE THEY ARE INFLUENCED BY MANY INTERACTING VARIABLES, VIBRATIONS ARE GENERALLY UNPREDICTABLE. THE USER'S MAINTENANCE PROGRAM SHOULD INCLUDE OBSERVATION FOR EXCESSIVE VIBRATION AND EXAMINATION FOR ANY STRUCTURAL DAMAGE OR BOLT LOOSENING. THE VALMONT WARRANTY SPECIFICALLY EXCLUDES FATIGUE FAILURE OR SIMILAR PHENOMENA RESULTING FROM INDUCED VIBRATION, HARMONIC OSCILLATION OR RESONANCE ASSOCIATED WITH MOVEMENT OF AIR CURRENTS AROUND THE PRODUCT.

GENERAL NOTES



DETAIL 4 | ANCHOR BOLT



ALL ANGLES MEASURED CLOCKWISE FROM MAST-ARMS AS VIEWED FROM SMALL END OF POLE

RADIAL INDEX

MATERIAL DATA

COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)
TAPERED TUBES	A595 GR.A OR A572	55
POLE BASE	A36	36
ARM ATTACHMENT	A36	36
ANCHOR BOLTS	F1554 GR.55	55
GALVANIZING	A123 & A153	
SIGN ARM CONN. BOLTS	A325*	

* LUBRICATE IN THE FIELD IF NECESSARY

COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)

HARDWARE LESS THAN 0.63" DIAMETER TO BE STAINLESS STEEL.

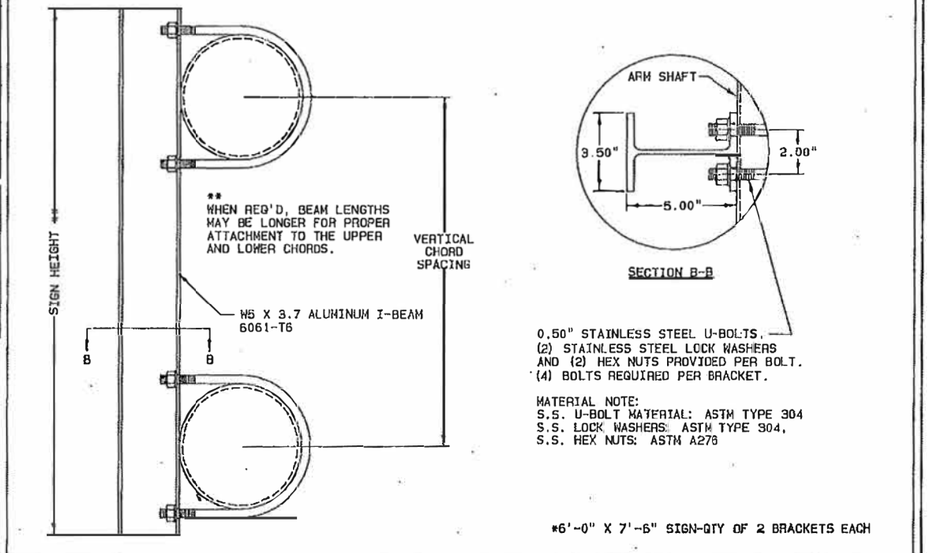
SIGN ARM ATTACHMENT DATA

POLE BASE DIA.	"A" (IN)	"B" (IN)	"C" (IN)	"D" (IN)	"E" (IN)	"F"
12.50"	17.25	14.00	1.50	0.25	0.19	1.25" X 5.00"

POLE AND SIGN ARM DATA

STRUCTURE NO.	QTY.	POLE TUBE				POLE BASE				ANCHOR BOLT				SIGN ARM TUBES			
		BASE DIA. (IN)	TOP DIA. (IN)	LENGTH (FT)	GAUGE OR THK. (IN)	DIA. "DI" (IN)	BOLT CIRCLE "Y" (IN)	THK. "M" (IN)	HOLE / SLOT "Z" (IN)	DIA. "K" (IN)	LENGTH "J" (IN)	HOOK "H" (IN)	THREAD LENGTH "U" (IN)	FIXED END DIA. (IN)	FREE END DIA. (IN)	GAUGE OR THICK (IN)	SPAN (FT)
S-40-935	1	12.50	9.00	25.00	3	21.00	16.50	1.50	1.75	1.50	54.00	6.00	8.00	10.00	6.29	7	26.50
														10.00	6.29	7	26.50

WISCONSIN
NIZAM A QASSEM
E-41317
OMAHA NE
PROFESSIONAL ENGINEER
1-5-11



DETAIL 5 | SIGN MOUNTING BRACKETS

REV	DRAWN BY-DATE	CHECK BY-DATE	DESCRIPTION
—	JDF1 12/30/11	JDF1 12/30/11	

SOLD TO: TRAFFIC SIGNAL OF WISCONSIN
SHIP TO: HIGHWAY LANDSCAPERS
P.O. #: 6759
AGENT: SPECTRUM LIGHTING

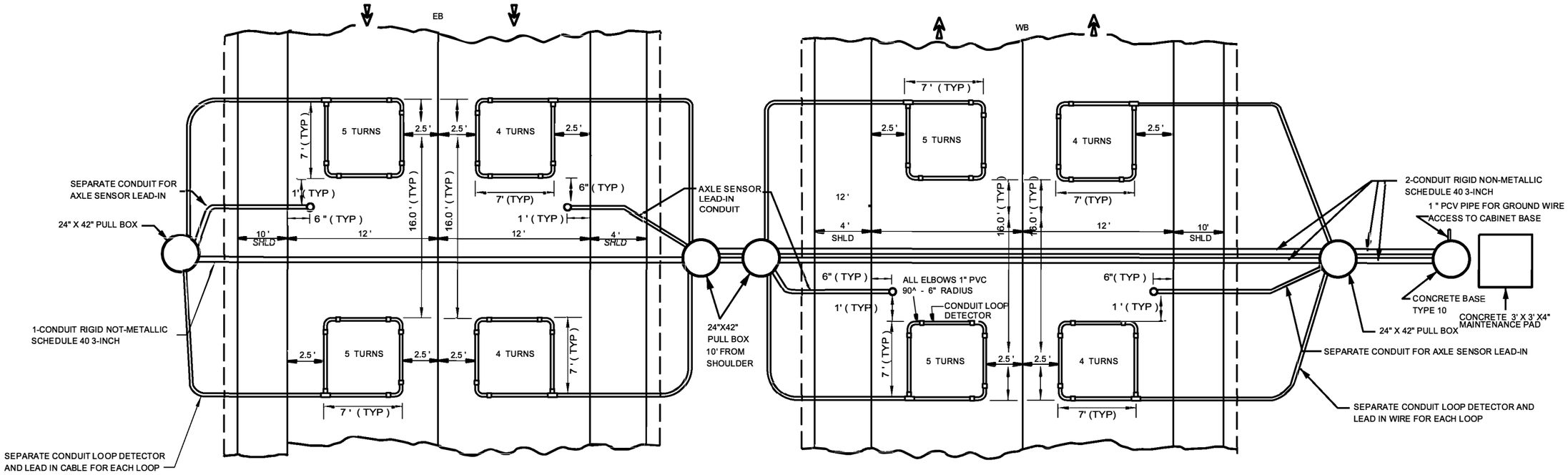
JOB: 2032-02-73 - MAYFAIR ROAD MILWAUKEE COUNTY
TITLE: OVERHEAD SIGN SUPPORT

VALMONT INDUSTRIES, INC. RESERVES THE RIGHT TO INSTALL VARIOUS, ENGINEER APPROVED, MATERIAL HANGING ACCOMMODATIONS TO FACILITATE THE MANUFACTURING PROCESS.

valmont
Valley, NE 68064
(402) 359-2201

ORDER NUMBER: 167710-P1
PAGE NUMBER: 1 OF 2
DRAWING NUMBER: WI167710P1
REV

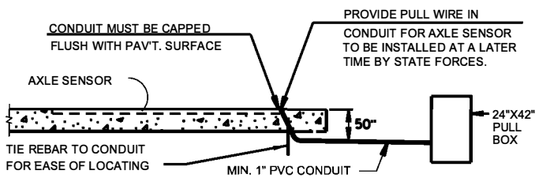
EXISTING SHOP DRAWING
ANCHOR BOLT INFORMATION



ATR CLASSIFICATION DETECTOR INSTALLATION

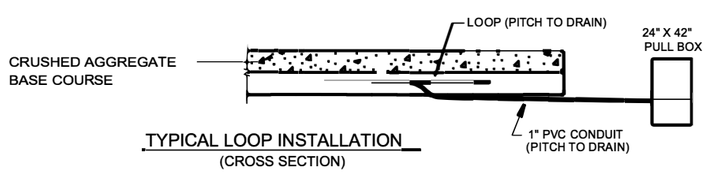
ATR 66-0051 STA 150+00 +/- 100 '

ITEM DESCRIPTION	QUANTITY
CONDUIT LOOP DETECTOR	224 LF
LOOP DETECTOR WIRE	1488 LF
LOOP DETECTOR LEAD IN CABLE	824 LF
CONDUIT RIGID NON-METALLIC SCH 40 1-INCH	312 LF
CONDUIT RIGID NON-METALLIC SCH 80 3-INCH	314 LF
PULL BOXES STEEL 24X42-INCH	4 EA.
CONCRETE CONTROL CABINET BASE TYPE 10 WITH MAINTENENCE PLATFORM 3' X 3' X 4"	1 EA.



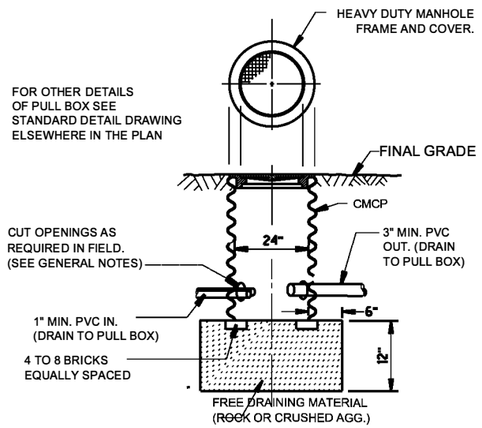
TYPICAL AXLE WHEEL SENSOR INSTALLATION

(CROSS SECTION)



TYPICAL LOOP INSTALLATION

(CROSS SECTION)



24" X 42" PULL BOX DETAIL

(SEE S.D.D. FOR ADDITIONAL INFORMATION)

GENERAL NOTES

DO NOT CHANGE THE LOOP DESIGN. OTHER DESIGNS DO NOT WORK WITH OUR EQUIPMENT.

ALL LOOPS TO HAVE THE NUMBER OF TURNS INDICATED ON DETAIL. LOOP WIRE SHALL BE NO. 12 AWG TYPE USE, WITH XLP INSULATION, STRANDED COPPER. LOOP LEAD WIRE FROM LOOP TO PULL BOX TO BE TWISTED AT LEAST 3 TURNS PER FOOT BEFORE INSTALLATION.

THE TWO SINGLE CONDUCTOR LOOP WIRES SHALL BE TWISTED TOGETHER AT A RATE OF 3-4 TWISTS PER FOOT FROM THE EXIT OF THE LOOP TO THE CONTROL CABINET BASE OR ITS CONNECTION WITH LOOP LEAD-IN CABLE AT THE PULL BOX. THESE TWISTED SINGLE CONDUCTOR PAIRS SHALL BE INSTALLED IN WELL DRAINED, PVC CONDUIT.

ALL LOOP INSTALLATIONS SHALL HAVE THE LOOP DETECTOR CONDUIT PITCHED TO DRAIN TO THE PULL BOX.

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

LOOP WIRE TO LEAD-IN CABLE SPICES SHALL BE MADE ONLY IN THE PULL BOX WHICH IS NEAR THE EDGE OF THE ROAD. ALL SPLICES SHALL BE MADE AS SOON AS POSSIBLE AFTER WIRES ARE INSTALLED. A SPLICE OF A TWO CONDUCTOR CABLE CONSISTS OF TWO SOLDERED JOINTS ENCLOSED IN A SINGLE SPLICE KIT. EACH SOLDERED CONNECTION SHALL BE INSULATED FROM ONE ANOTHER. ALL SPLICES SHALL BE MADE WITH EPOXY TYPE SPLICE KITS SUCH AS "3M 82A1" OR APPROVED EQUAL.

IF A SPLICE TO THE LEAD-IN WIRE CANNOT BE MADE THE DAY THAT THE WIRE IS INSTALLED, THE WIRE ENDS SHALL BE SEALED WITH TAR OR SCOTCHKOTE TO KEEP WATER OUT OF THE INSULATING JACKET OF THE WIRE.

TWO CONDUCTOR, NO. 12 AWG, LOOP DETECTOR LEAD IN CABLE SHALL BE USED FROM THE SPLICE CONNECTION AT THE PULL BOX TO THE CONTROL CABINET.

DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS IN THE PULL BOX AND CABINET.

A COMPLETE "AS BUILT" WIRING DIAGRAM SHOWING LOOPS, CONNECTIONS AND LEAD-INS, SHALL BE PROVIDED TO THE ENGINEER AND JANE OLDENBURG - WI DOT - TRAVEL SURVEY SHOP, 3633 PIERSTORFF ST., MADISON, WI 53704, 608-245-2679, UPON COMPLETION OF THE LOOP WIRING INSTALLATION.

DRAIN SUMPS FOR CONDUIT, INCLUDING ALL LABOR, FITTINGS AND MATERIALS SHALL BE INCIDENTAL TO THE INSTALLED UNIT COST OF THE CONDUIT.

THE CONTRACTOR SHALL FURNISH THE FOLLOWING: LOOP AND AXLE SENSOR DETECTOR CONDUIT 1", LOOP DETECTOR WIRE, 3" P.V.C. CONDUIT, TYPE 10 CONCRETE CONTROL CABINET BASE TYPE 10 AND MAINTENANCE PLATFORM AND 24" x 42" PULL BOXES PER THIS DETAIL AND AS SHOWN ON CONSTRUCTION DETAIL SHEET, PULL BOX.

NO JOINTS OR PAVEMENT CORING ALLOWED 6 FEET EITHER SIDE OF LOOP AND PIEZO AREA.

A 2' 1/2 " DIA. PIECE OF REBAR SHOULD BE USED TO SUPPORT THE AXLE SENSOR CONDUIT. THIS AIDS IN SUPPORT DURING CONCRETE POUR AND AIDS LOCATING LATER. PUT A TEMPORARY COVERING OVER THE AXLE SENSOR CONDUIT END THAT CAN BE REMOVED OR PUNCTURED LATER, BUT WILL KEEP THE CONCRETE OUT OF THE PVC CONDUIT, SUCH AS DUCT TAPE, OR PLUMBERS PUTTY.

DESIGNED BY WISDOT CO

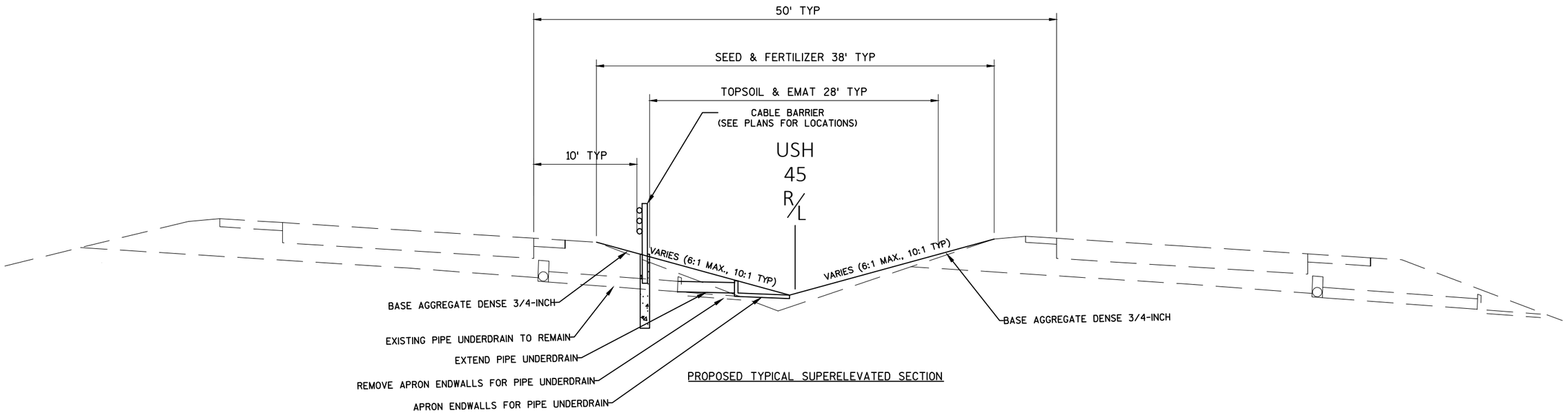
PLOT DATE:

PLOT SCALE:

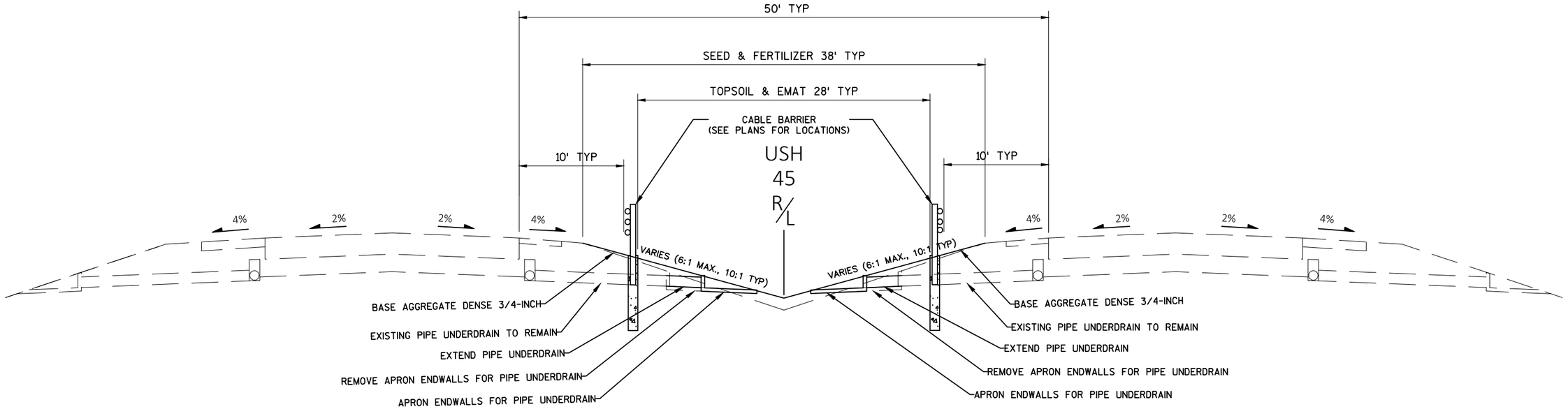
FILE NAME: atr classification loop detector .dgn Originator : dotjmo

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	INSTALLATION OF CLASSIFICATION ATR	SHEET E

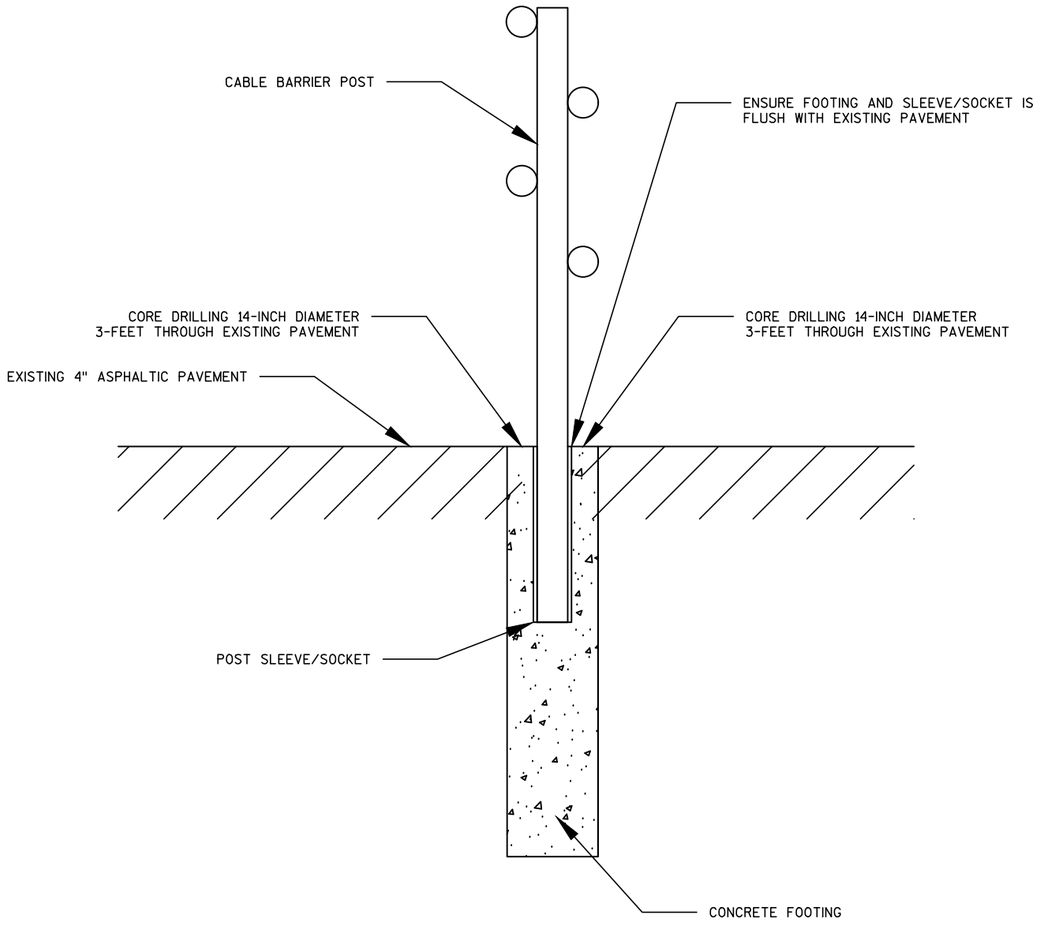
2



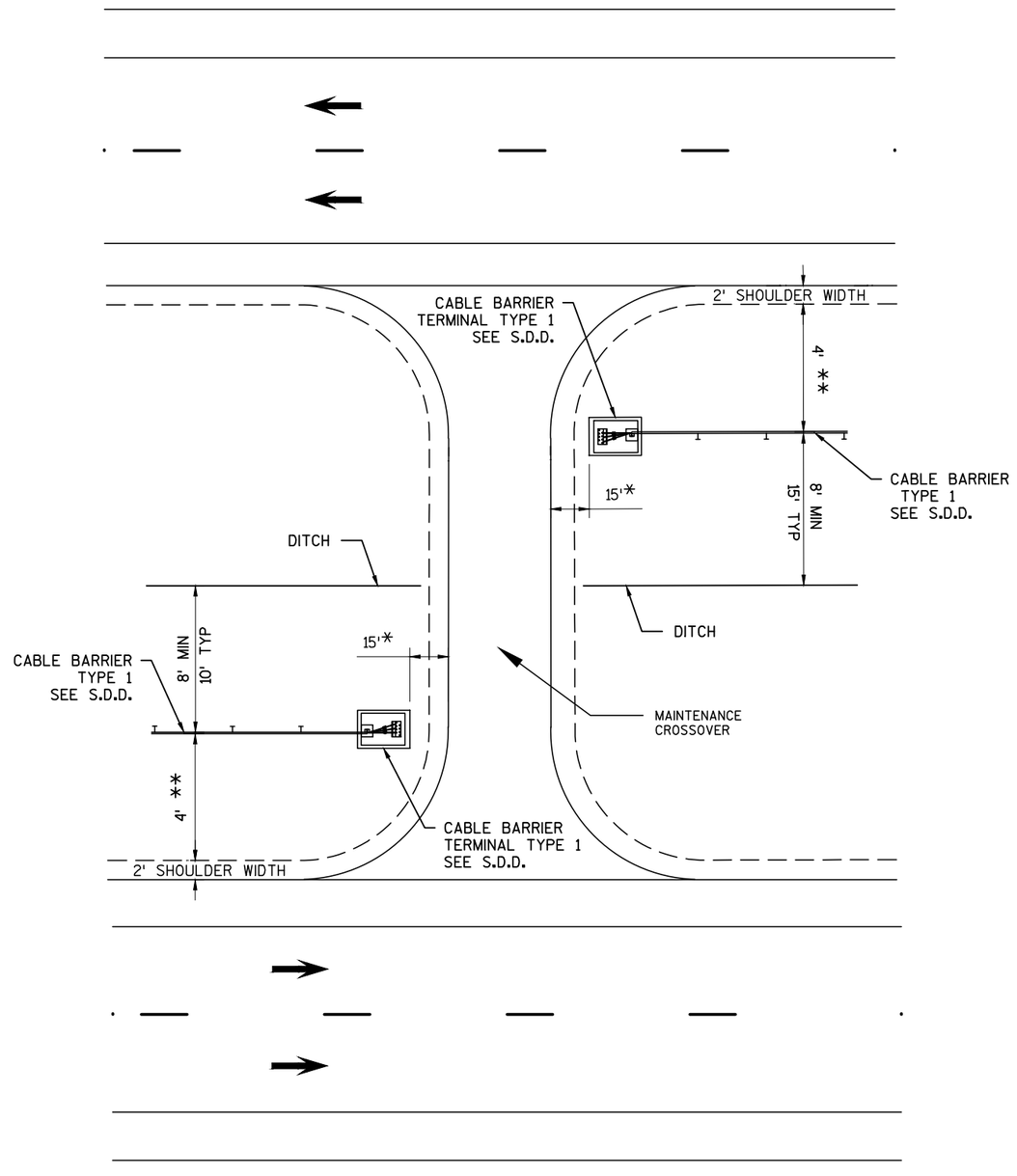
PROPOSED TYPICAL SUPERELEVATED SECTION



PROPOSED TYPICAL SECTION



CABLE BARRIER FOOTING IN PAVEMENT
AT EMERGENCY CROSSOVER

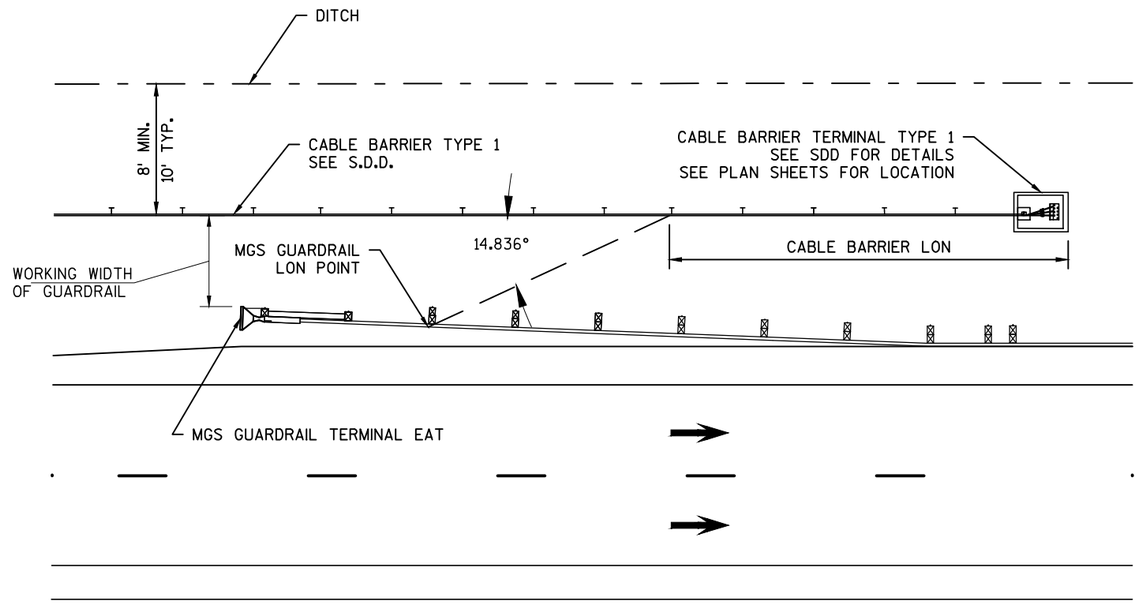


CABLE BARRIER END TERMINAL
AT MAINTENANCE CROSSOVER

* DISTANCE MEASURED FROM EDGE OF ASPHALT

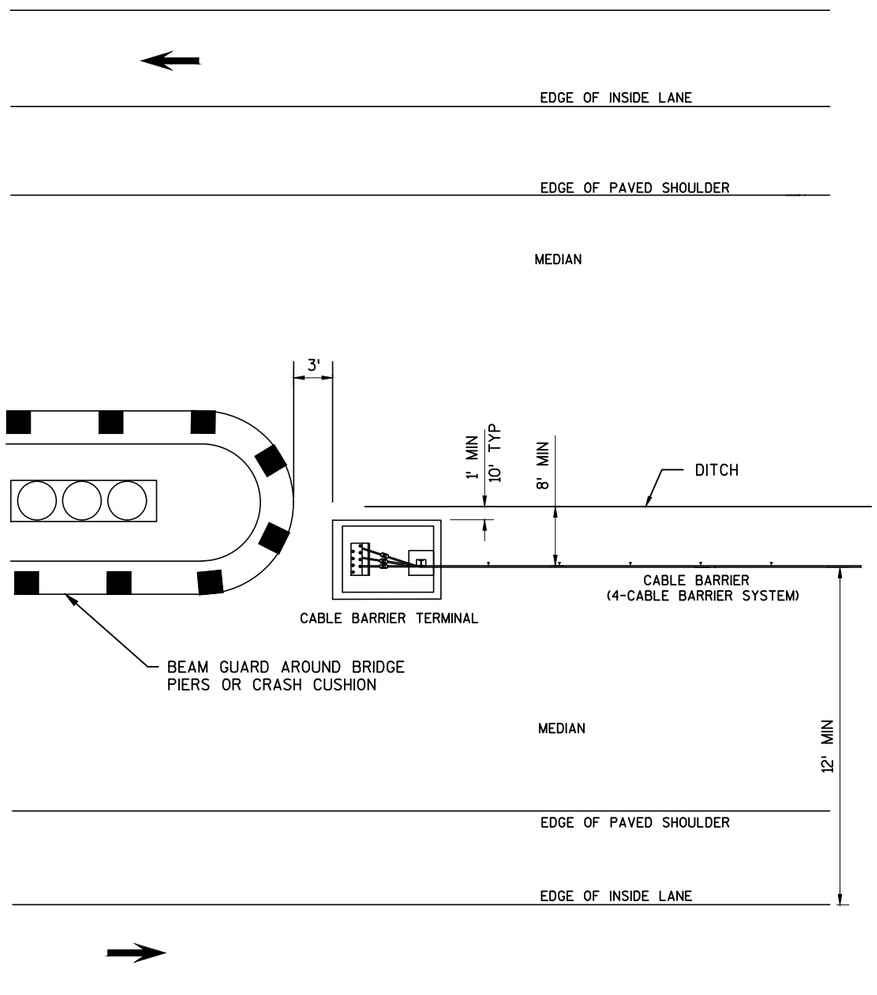
** DISTANCE MEASURED FROM SHOULDER BREAK POINT

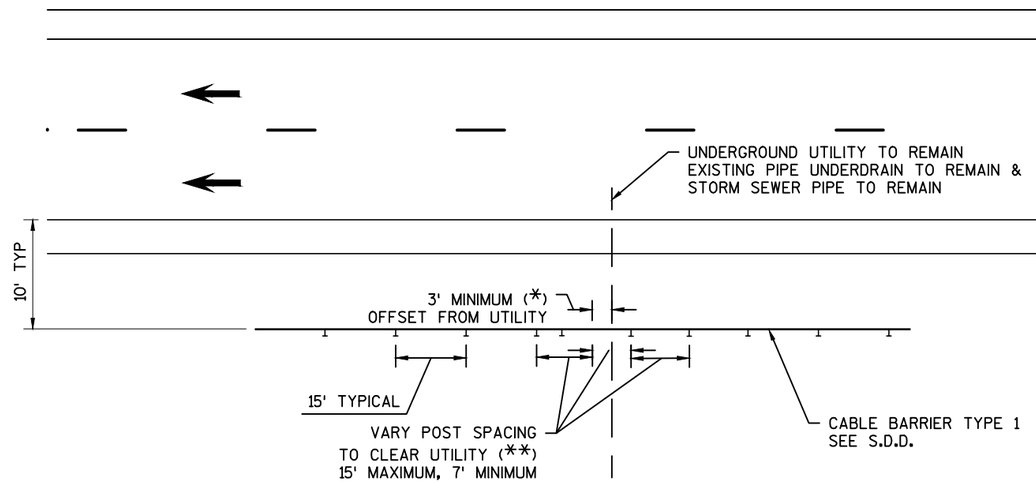
2



CABLE BARRIER END TERMINAL
AT MGS GUARDRAIL TERMINAL EAT

CABLE BARRIER TERMINAL END





CABLE BARRIER AT UNDERGROUND UTILITY

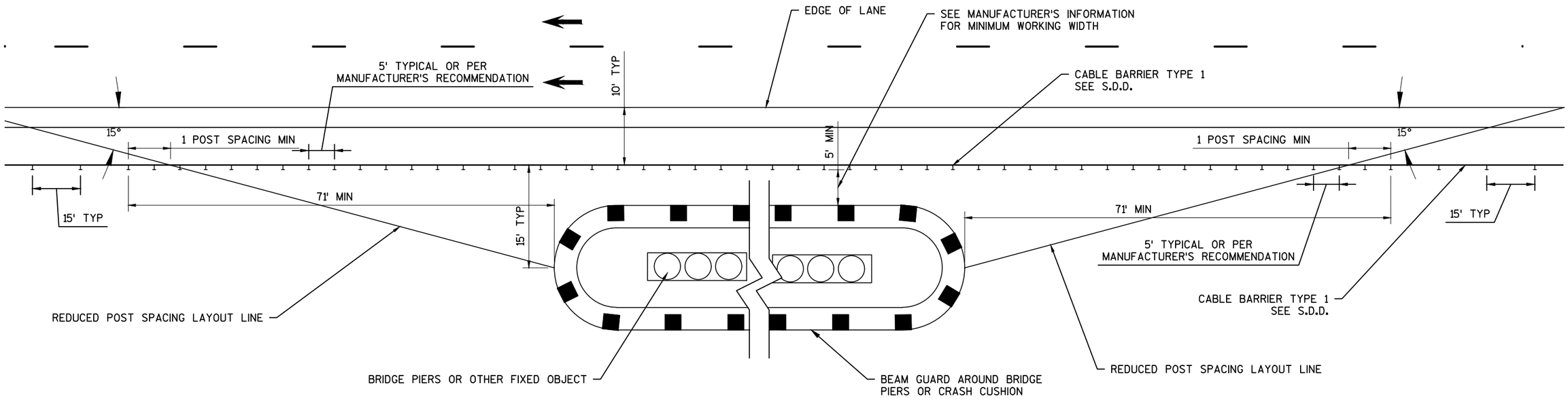
GENERAL NOTES:

HIGH PRESSURE GAS PIPELINE STA 155+00+/-

* 3' MINIMUM OFFSET FROM ALL OTHER UTILITIES, 7' MINIMUM OFFSET FROM HIGH PRESSURE GAS PIPELINE (SEE PLANS FOR LOCATION).

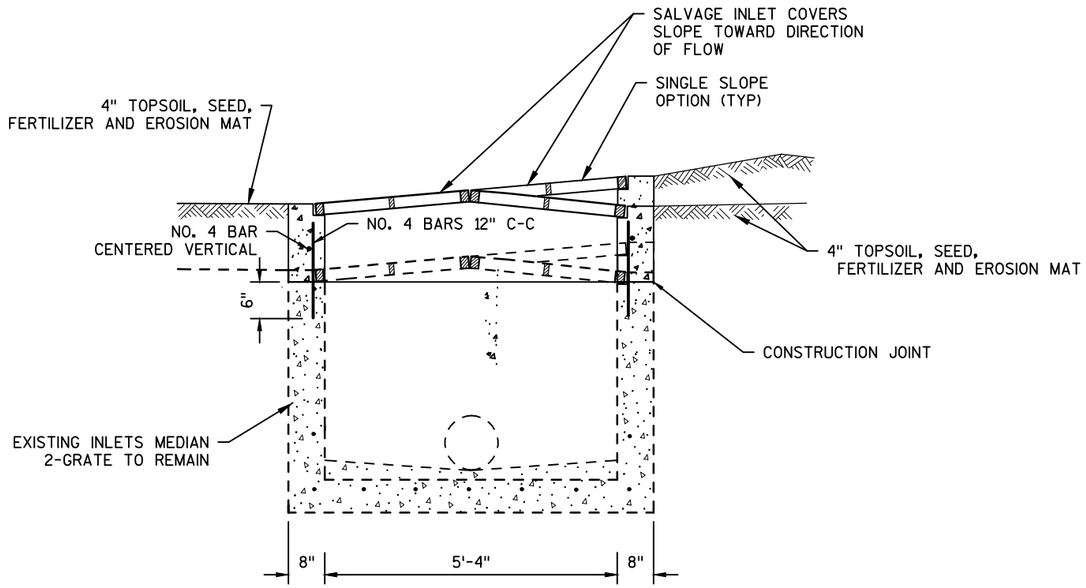
** VARY POST SPACING SO THE HIGH PRESSURE GAS PIPELINE IS AT THE CENTER OF THE 15-FT POST SPACING.

2

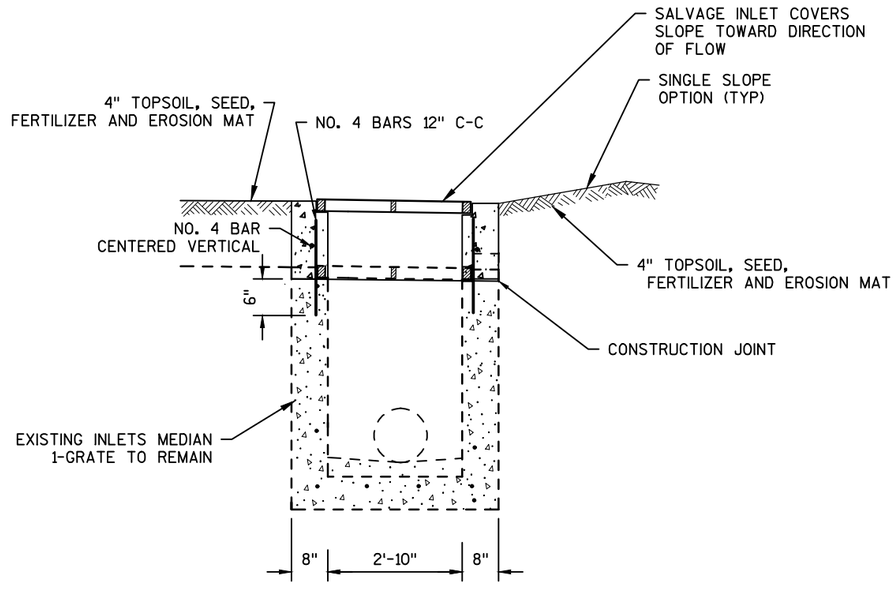


REDUCE CABLE BARRIER POST SPACING BY PIERS

(SEE PLAN DETAIL FOR LOCATIONS)



RECONSTRUCTING INLETS



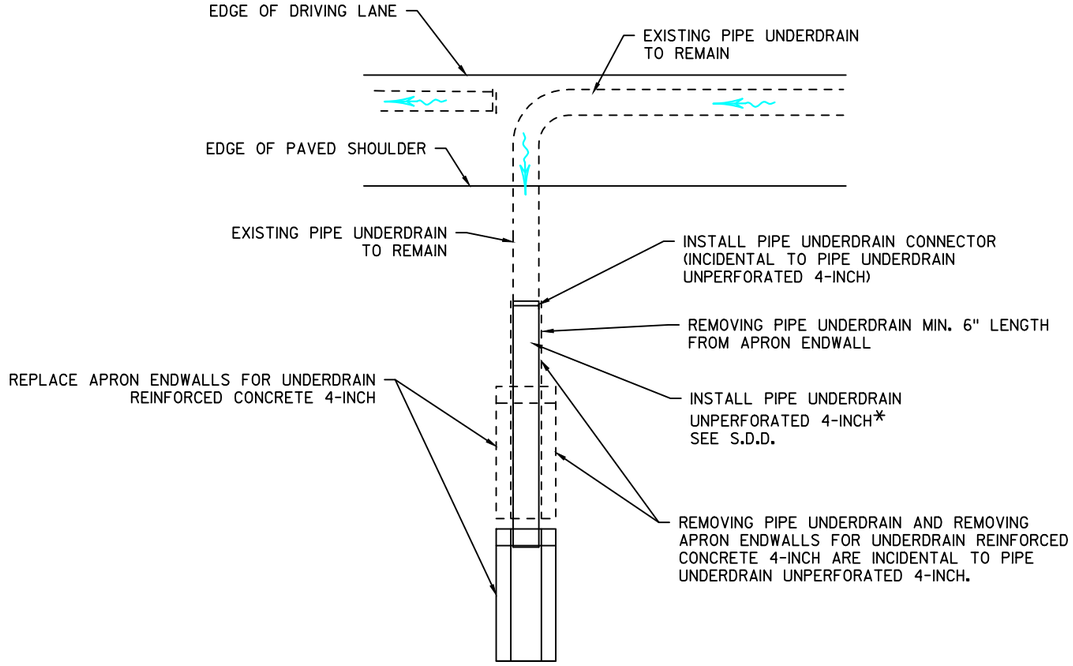
RECONSTRUCTING INLETS

GENERAL NOTES:

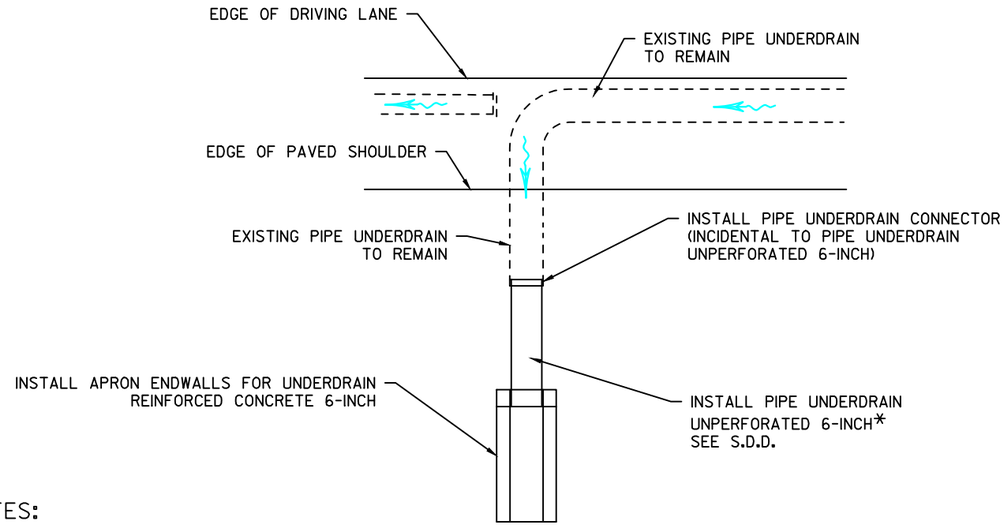
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

SEE S.D.D. "INLETS MEDIAN 1 & 2 GRATE" FOR MORE INFORMATION



EXTEND
PIPE UNDERDRAIN 4-INCH



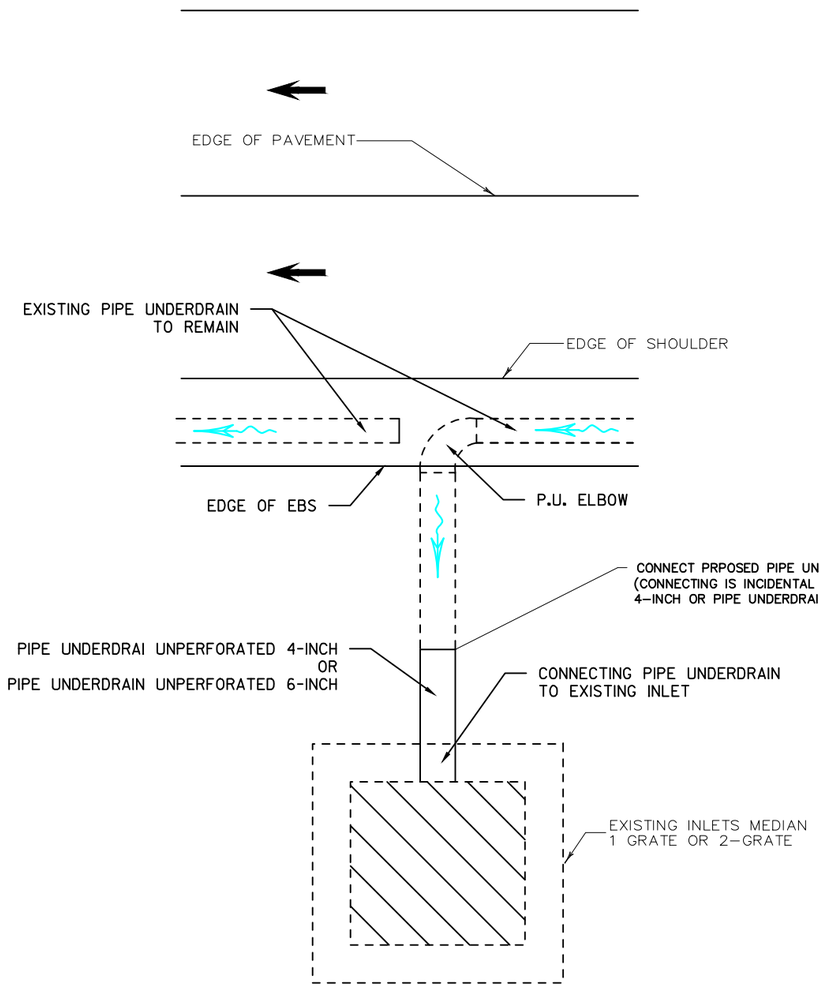
EXTEND
PIPE UNDERDRAIN 6-INCH

GENERAL NOTES:

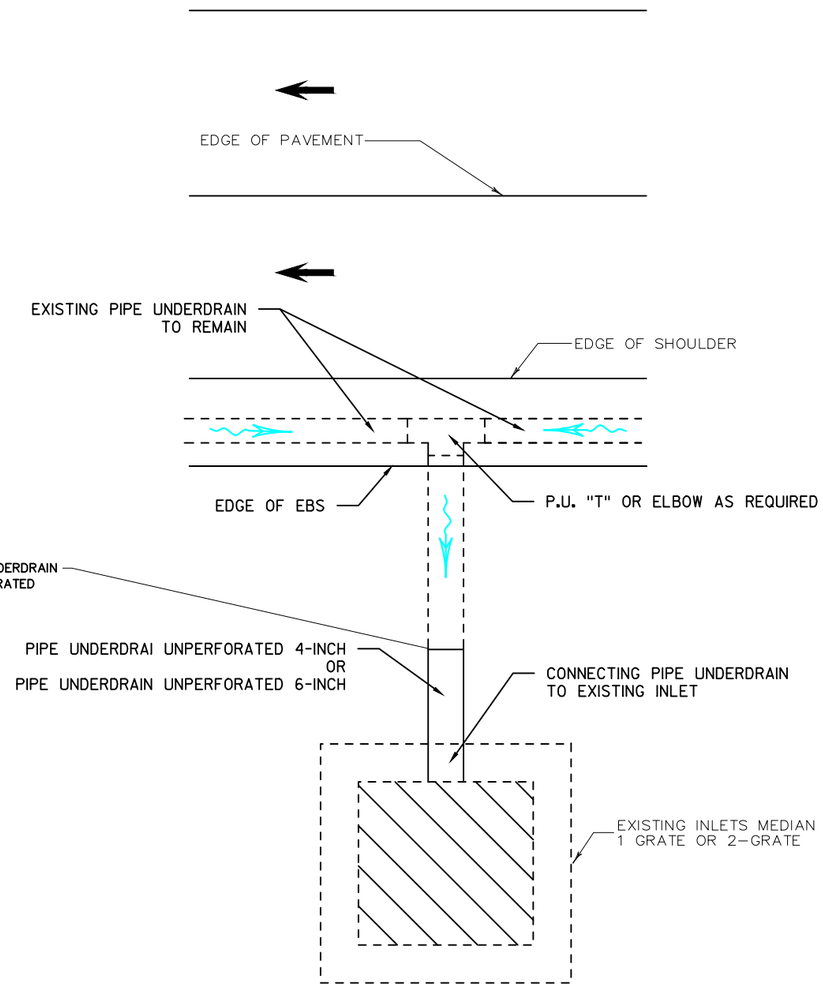
SEE MISCELLANEOUS QUANTITIES FOR LOCATIONS OR AS DIRECTED BY FIELD ENGINEER.
FIELD VERIFY ALL PIPE UNDERDRAIN LOCATIONS.
SEE S.D.D. FOR MORE INFORMATION.

*USE PVC MATERIAL CONFORMING TO SDD

2



INTERMEDIATE LOCATIONS AT INLETS

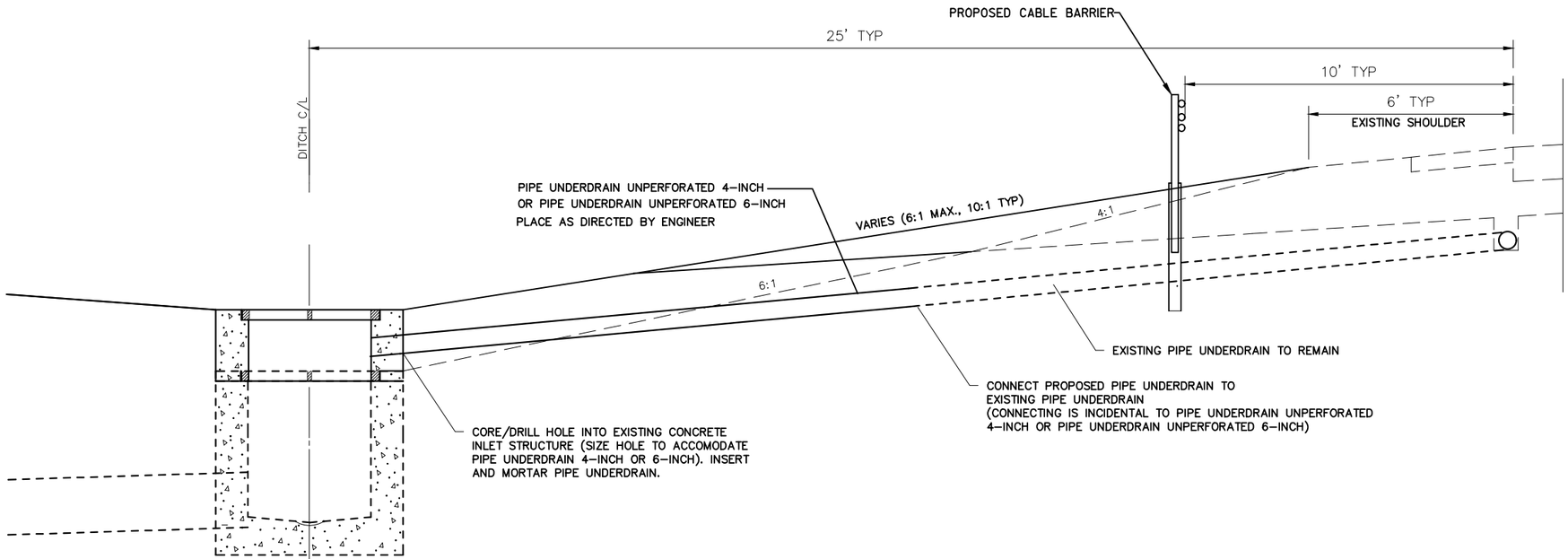


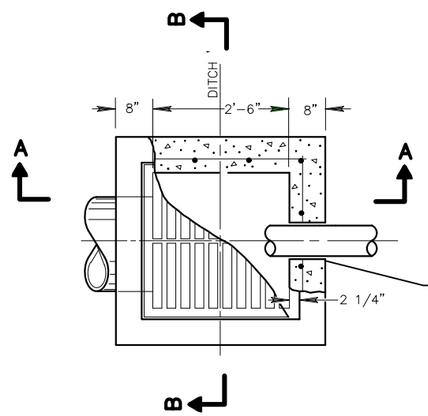
LOW POINT LOCATIONS

DETAIL FOR PIPE UNDERDRAIN OUTFALLS

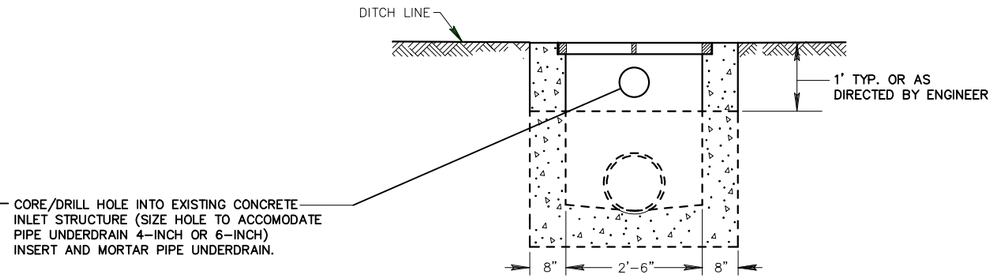
(SEE MISCELLANEOUS QUANTITIES FOR LOCATIONS)

2





PLAN VIEW
EXISTING INLET (TYP.)



SECTION B-B

CONNECTING PIPE UNDERDRAIN TO EXISTING INLET

(SEE MISCELLANEOUS QUANTITIES FOR LOCATIONS)
NOT TO SCALE

GESTRA

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

SOIL BORING LOG

PAGE NUMBER: 1 of 1

PROJECT NAME: USH 45 (WisDOT Project ID # 2220-02-70)		DATE DRILLING STARTED: 12/22/2011	BORING NUMBER: B-15
PROJECT LOCATION: Washington Co., WI		DATE DRILLING ENDED: 12/22/2011	PROJECT NUMBER: 10161-10
BORING DRILLED BY: FIRM: Gestra; CREW CHIEF: A. Woerpel	FIELD LOG: S. Nealy	NORTHING:	DRILLING RIG: CME 75 (F700)
	LAB LOG / QC: D. Dettmers	EASTING:	DRILLING METHOD: 2¼" HSA
			SURFACE ELEVATION: ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) / Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	AASHTO Classification	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	6	50/6"			CONCRETE (9")								
					BASE COURSE (5"), silty sand, with gravel, brown/ gray								
					FILL, sand, with silt and gravel, brown, moist			A-1-b					
SS - 2	22	9 18 32 25	50	5	FILL, clayey and silty sand, with gravel, trace cobbles, moist			A-2-4				6.8	
SS - 3	17	8 13 17 15	30	10	End of Boring at 7.5'								
				15									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NE ft.	▨	CAVE DEPTH AT COMPLETION: NMR ft. WET ☐ DRY ☐
▼	WATER LEVEL AT COMPLETION: NE ft.		CAVE DEPTH AFTER HOURS: NMR ft., 0 hrs. WET ☐ DRY ☐
▼	WATER LEVEL AFTER 0 HOURS: NMR ft.		

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

SOIL BORING LOG

PAGE NUMBER: 1 of 1

PROJECT NAME: USH 45 (WisDOT Project ID # 2220-02-70)		DATE DRILLING STARTED: 12/22/2011	BORING NUMBER: B-26
PROJECT LOCATION: Washington Co., WI		DATE DRILLING ENDED: 12/22/2011	PROJECT NUMBER: 10161-10
BORING DRILLED BY: FIRM: Gestra; CREW CHIEF: A. Woerpel	FIELD LOG: S. Nealy	NORTHING:	DRILLING RIG: CME 75 (F700)
	LAB LOG / QC: D. Dettmers	EASTING:	DRILLING METHOD: 2¼" HSA
			SURFACE ELEVATION: ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) / Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	AASHTO Classification	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	1	50/1"			ASPHALT (5")								Road shoulder thickness was difficult to distinguish from subgrade
					BASE COURSE (5")								
					FILL, sand, with gravel, trace silt and asphalt, brown, moist			A-1-b					
SS - 2	18	10 21 11 11	32	5	FILL, clayey or silty sand, with gravel, trace cobbles, brown and gray, moist			A-2-4				10.2	
SS - 3	22	7 10 18 24	28	10	End of Boring at 7.5'							9.6	
				15									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NE ft.	▨	CAVE DEPTH AT COMPLETION: NMR ft. WET ☐ DRY ☐
▼	WATER LEVEL AT COMPLETION: NE ft.		CAVE DEPTH AFTER HOURS: NMR ft., 0 hrs. WET ☐ DRY ☐
▼	WATER LEVEL AFTER 0 HOURS: NMR ft.		

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

SOIL BORING LOG

PAGE NUMBER: 1 of 1

PROJECT NAME: USH 45 (WisDOT Project ID # 2220-02-70)		DATE DRILLING STARTED: 1/5/2011	BORING NUMBER: B-28
PROJECT LOCATION: Washington Co., WI		DATE DRILLING ENDED: 1/5/2011	PROJECT NUMBER: 10161-10
BORING DRILLED BY: FIRM: Gestra; CREW CHIEF: A. Woerpel	FIELD LOG: J. Bruesewitz	NORTHING:	DRILLING RIG: CME 75 (INT)
	LAB LOG / QC: D. Dettmers	EASTING:	DRILLING METHOD: 2¼" HSA
			SURFACE ELEVATION: ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) / Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	AASHTO Classification	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
					CONCRETE (8½")								Distinct base coarse layer not identifiable
SS - 1	20	21 54 15 11	69		FILL, sandy clay, trace to with gravel, brown, moist							6	
SS - 2	10	3 10 9 10	19	5	White fine sand at 4.5'			A-6				5.3	
SS - 3	18	5 7 10 14	17										
				10	End of Boring at 7.5'								
				15									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NMR ft.	▨	CAVE DEPTH AT COMPLETION: NMR ft. WET ☐ DRY ☐
▼	WATER LEVEL AT COMPLETION: NMR ft.		CAVE DEPTH AFTER HOURS: NMR ft., 0 hrs. WET ☐ DRY ☐
▼	WATER LEVEL AFTER 0 HOURS: NMR ft.		

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

SOIL BORING LOG

PAGE NUMBER: 1 of 1

PROJECT NAME: USH 45 (WisDOT Project ID # 2220-02-70)		DATE DRILLING STARTED: 1/5/2011	BORING NUMBER: B-32
PROJECT LOCATION: Washington Co., WI		DATE DRILLING ENDED: 1/5/2011	PROJECT NUMBER: 10161-10
BORING DRILLED BY: FIRM: Gestra; CREW CHIEF: A. Woerpel	FIELD LOG: J. Bruesewitz	NORTHING:	DRILLING RIG: CME 75 (INT)
	LAB LOG / QC: D. Dettmers	EASTING:	DRILLING METHOD: 2¼" HSA
			SURFACE ELEVATION: ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) / Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	AASHTO Classification	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
					CONCRETE (9")								
SS - 1	16	24 21 17 31	38		POSSIBLE BASE COURSE (9"), sand and gravel, brown, moist							21.9	LOI = 3.5%
					FILL, lean clay, dark brown, moist			A-6					
SS - 2	16	24 38 28 23	66	5	FILL, gravel, with sand, trace silt, brown and white, moist			A-1-a				6.4	
					FILL, clayey sand, with large gravel, brown, moist			A-2-6					
SS - 3	16	10 18 17 20	35		Layer of sand with silt and pulverized gravel at 7.0'								
				10	End of Boring at 7.5'								
				15									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NMR ft.	▨	CAVE DEPTH AT COMPLETION: NMR ft. WET ☐ DRY ☐
▼	WATER LEVEL AT COMPLETION: NMR ft.		CAVE DEPTH AFTER HOURS: NMR ft., 0 hrs. WET ☐ DRY ☐
▼	WATER LEVEL AFTER 0 HOURS: NMR ft.		

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

SOIL BORING LOG

PAGE NUMBER: 1 of 1

PROJECT NAME: USH 45 (WisDOT Project ID # 2220-02-70)		DATE DRILLING STARTED: 4/12/2011	BORING NUMBER: B-35
PROJECT LOCATION: Washington Co., WI		DATE DRILLING ENDED: 4/12/2011	PROJECT NUMBER: 10161-10
BORING DRILLED BY: FIRM: Gestra CREW CHIEF: B. Sargent	FIELD LOG: G. Kolbo	NORTHING:	DRILLING RIG: CME 45
	LAB LOG / QC: E. Jeske	EASTING:	DRILLING METHOD: 2¼" HSA
			SURFACE ELEVATION: ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) / Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	AASHTO Classification	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	13	4 8 10 11	18		CONCRETE (9")								**B-35A** was drilled on 4/21/2011, due to frost encountered while first attempted.
					BASE COURSE (6"), silty sand, with gravel, light brown, moist								
					FILL, sandy clay, fine to medium grained sand, some gravel, light brown, moist			A-6				8.2	
SS - 2	18	4 8 12 12	20	5	FILL, silty sand, fine grained sand, some clay layers, light brown, moist			A-2-4					
SS - 3	20	5 9 15 11	24										
				10	End of Boring at 7.5'								
				15									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NMR ft.	▨	CAVE DEPTH AT COMPLETION: NMR ft. WET ☐ DRY ☐
▼	WATER LEVEL AT COMPLETION: NMR ft.		CAVE DEPTH AFTER HOURS: NMR ft., 0 hrs. WET ☐ DRY ☐
▼	WATER LEVEL AFTER 0 HOURS: NMR ft.		

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

SOIL BORING LOG

PAGE NUMBER: 1 of 1

PROJECT NAME: USH 45 (WisDOT Project ID # 2220-02-70)		DATE DRILLING STARTED: 1/5/2011	BORING NUMBER: B-36
PROJECT LOCATION: Washington Co., WI		DATE DRILLING ENDED: 1/5/2011	PROJECT NUMBER: 10161-10
BORING DRILLED BY: FIRM: Gestra CREW CHIEF: A. Woerpel	FIELD LOG: J. Bruesewitz	NORTHING:	DRILLING RIG: CME 75 (INT)
	LAB LOG / QC: D. Dettmers	EASTING:	DRILLING METHOD: 2¼" HSA
			SURFACE ELEVATION: ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) / Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	AASHTO Classification	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	18	53 42 34 28	76		CONCRETE (9")								Distinct base course layer not identifiable Gravel = 21.8% Sand = 47.5% P200 =30.7%
					FILL, silty sand, trace gravel, brown to reddish brown, moist			A-2-4					
SS - 2	16	11 20 24 26	44	5	SILTY SAND, trace gravel, light brown, moist, medium dense to dense	SM		A-2-4					Gravel = 0.5% Sand = 69.5% P200 =30.1%
SS - 3	20	4 8 13 19	21										
				10	End of Boring at 7.5'								
				15									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NMR ft.	▨	CAVE DEPTH AT COMPLETION: NMR ft. WET ☐ DRY ☐
▼	WATER LEVEL AT COMPLETION: NMR ft.		CAVE DEPTH AFTER HOURS: NMR ft., 0 hrs. WET ☐ DRY ☐
▼	WATER LEVEL AFTER 0 HOURS: NMR ft.		

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

SOIL BORING LOG

PAGE NUMBER: 1 of 1

PROJECT NAME: USH 45 (WisDOT Project ID # 2220-02-70)		DATE DRILLING STARTED: 1/6/2011	BORING NUMBER: B-42
PROJECT LOCATION: Washington Co., WI		DATE DRILLING ENDED: 1/6/2011	PROJECT NUMBER: 10161-10
BORING DRILLED BY: FIRM: Gestra, CREW CHIEF: A. Woerpel	FIELD LOG: J. Bruesewitz	NORTHING:	DRILLING RIG: CME 75 (INT)
	LAB LOG / QC: D. Dettmers	EASTING:	DRILLING METHOD: 2¼" HSA
			SURFACE ELEVATION: ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) / Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	AASHTO Classification	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	3	50+			ROADWAY SHOULDER GRAVEL FILL, sand, with gravel, trace silt, brown, moist			A-1-b					Distinct base course layer not identifiable
SS - 2	20	10 9 13 13	22	5	FILL, silty sand, brown, moist			A-2-4					
SS - 3		4 8 7 7	15		LEAN CLAY, with layered fine silty sand, brown to black, moist, stiff	CL		A-6				16.4	Recovery not recorded on field log
				10	End of Boring at 7.5'								
				15									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NMR ft.		CAVE DEPTH AT COMPLETION: NMR ft. WET ☐ DRY ☐
▽	WATER LEVEL AT COMPLETION: NMR ft.		CAVE DEPTH AFTER HOURS: NMR ft., 0 hrs. WET ☐ DRY ☐
▼	WATER LEVEL AFTER 0 HOURS: NMR ft.		

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

SOIL BORING LOG

PAGE NUMBER: 1 of 1

PROJECT NAME: USH 45 (WisDOT Project ID # 2220-02-70)		DATE DRILLING STARTED: 1/7/2011	BORING NUMBER: B-48
PROJECT LOCATION: Washington Co., WI		DATE DRILLING ENDED: 1/7/2011	PROJECT NUMBER: 10161-10
BORING DRILLED BY: FIRM: Gestra, CREW CHIEF: A. Woerpel	FIELD LOG: J. Bruesewitz	NORTHING:	DRILLING RIG: CME 75 (INT)
	LAB LOG / QC: D. Dettmers	EASTING:	DRILLING METHOD: 2¼" HSA
			SURFACE ELEVATION: ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) / Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	AASHTO Classification	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
					CONCRETE (9")								
					BASE COURSE (8"), sand and gravel								
SS - 1	20	57 33 19 23	52		FILL, sandy silt, with clay, trace gravel, brown to dark brown, moist			A-4				10.9	
SS - 2	18	16 14 17 16	31	5	SILTY SAND, trace clay, brown, moist, medium dense to dense	SM		A-2-4					
SS - 3	22	8 13 13 12	26										
				10	End of Boring at 7.5'								
				15									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NMR ft.		CAVE DEPTH AT COMPLETION: NMR ft. WET ☐ DRY ☐
▽	WATER LEVEL AT COMPLETION: NMR ft.		CAVE DEPTH AFTER HOURS: NMR ft., 0 hrs. WET ☐ DRY ☐
▼	WATER LEVEL AFTER 0 HOURS: NMR ft.		

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

SOIL BORING LOG

PAGE NUMBER: 1 of 1

PROJECT NAME: USH 45 (WisDOT Project ID # 2220-02-70)		DATE DRILLING STARTED: 3/30/2011	BORING NUMBER: B-57
PROJECT LOCATION: Washington Co., WI		DATE DRILLING ENDED: 3/30/2011	PROJECT NUMBER: 10161-10
BORING DRILLED BY: FIRM: Gestra CREW CHIEF: A. Woerpel	FIELD LOG: J. Bruesewitz	NORTHING:	DRILLING RIG: CME 45
	LAB LOG / QC: E. Jeske	EASTING:	DRILLING METHOD: 2¼" HSA
			SURFACE ELEVATION: ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	AASHTO Classification	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	3	3 2 4 6	6		ASPHALT (3") BASE COURSE, sand and gravel, brown and gray, moist FILL, gravel, with silt and sand, fine to coarse grained sand, light brown, moist			A-1-a					Gravel = 54.1% Sand = 37.3% P200 =8.6%
SS - 2	18	3 5 4 7	9	5	SANDY SILT, fine to medium grained sand, light brown, moist, medium dense	ML		A-4					
SS - 3	20	7 7 10 15	17	10	SANDY SILTY CLAY, with gravel, fine grained gravel, light brown, moist, very stiff	CL-ML		A-4	2.75			12.2	
				15	End of Boring at 7.5'								

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NE ft.	▤	CAVE DEPTH AT COMPLETION: NMR ft. WET DRY
▼	WATER LEVEL AT COMPLETION: NE ft.		CAVE DEPTH AFTER HOURS: NMR ft., 0 hrs. WET DRY
▼	WATER LEVEL AFTER 0 HOURS: NMR ft.		

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

SOIL BORING LOG

PAGE NUMBER: 1 of 1

PROJECT NAME: USH 45 (WisDOT Project ID # 2220-02-70)		DATE DRILLING STARTED: 3/31/2011	BORING NUMBER: B-76
PROJECT LOCATION: Washington Co., WI		DATE DRILLING ENDED: 3/31/2011	PROJECT NUMBER: 10161-10
BORING DRILLED BY: FIRM: Gestra CREW CHIEF: A. Woerpel	FIELD LOG: J. Bruesewitz	NORTHING:	DRILLING RIG: CME 75 (INT)
	LAB LOG / QC: E. Jeske	EASTING:	DRILLING METHOD: 2¼" HSA
			SURFACE ELEVATION: ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	AASHTO Classification	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	18	10 11 13 16	24		CONCRETE (8¼") BASE COURSE (6") FILL, sand, fine to medium grained sand, with silt and gravel, brown, moist			A-2-4					Gravel = 12.8% Sand = 76.9% P200 = 10.4%
SS - 2	16	6 16 15 18	31	5									
SS - 3	19	9 11 18 24	29	10	Dark brown silty sand layers/ pockets in sample SS-3								
				15	End of Boring at 7.5'								

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NE ft.	▤	CAVE DEPTH AT COMPLETION: NMR ft. WET DRY
▼	WATER LEVEL AT COMPLETION: NMR ft.		CAVE DEPTH AFTER HOURS: NMR ft., 0 hrs. WET DRY
▼	WATER LEVEL AFTER 0 HOURS: NMR ft.		

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

SOIL BORING LOG

PAGE NUMBER: 1 of 1

PROJECT NAME: USH 45 (WisDOT Project ID # 2220-02-70)		DATE DRILLING STARTED: 3/30/2011	BORING NUMBER: B-79
PROJECT LOCATION: Washington Co., WI		DATE DRILLING ENDED: 3/30/2011	PROJECT NUMBER: 10161-10
BORING DRILLED BY: FIRM: Gestra, CREW CHIEF: A. Woerpel	FIELD LOG: J. Bruesewitz	NORTHING:	DRILLING RIG: CME 45
	LAB LOG / QC: E. Jeske	EASTING:	DRILLING METHOD: 2¼" HSA
			SURFACE ELEVATION: ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	AASHTO Classification	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
					CONCRETE (8½")								
					BASE COURSE (6")								
SS - 1	16	10 12 15 16	27		SAND, fine to medium grained sand, with silt, few to some gravel, light brown, moist, medium dense to dense	SP-SM		A-3					
SS - 2	17	7 18 17 21	35	5									
SS - 3	20	9 13 13 10	26										
					End of Boring at 7.5'								
				10									
				15									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NE ft.	▨	CAVE DEPTH AT COMPLETION: NMR ft. WET DRY
▼	WATER LEVEL AT COMPLETION: NMR ft.		CAVE DEPTH AFTER HOURS: NMR ft., 0 hrs. WET DRY
▼	WATER LEVEL AFTER 0 HOURS: NMR ft.		

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

SOIL BORING LOG

PAGE NUMBER: 1 of 1

PROJECT NAME: USH 45 (WisDOT Project ID # 2220-02-70)		DATE DRILLING STARTED: 3/31/2011	BORING NUMBER: B-82
PROJECT LOCATION: Washington Co., WI		DATE DRILLING ENDED: 3/31/2011	PROJECT NUMBER: 10161-10
BORING DRILLED BY: FIRM: Gestra, CREW CHIEF: A. Woerpel	FIELD LOG: J. Bruesewitz	NORTHING:	DRILLING RIG: CME 75 (INT)
	LAB LOG / QC: E. Jeske	EASTING:	DRILLING METHOD: 2¼" HSA
			SURFACE ELEVATION: ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	AASHTO Classification	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
					ASPHALT (4")								
					BASE COURSE (4")								
SS - 1	10	1 2 2 6	4		SILTY SAND, fine to medium grained sand, light brown, moist to very moist, loose to dense	SM		A-2-4					
SS - 2	16	4 4 6 8	10	5									
SS - 3	18	8 10 19 18	29		Few large angular gravel pieces								
					End of Boring at 7.5'								
				10									
				15									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NE ft.	▨	CAVE DEPTH AT COMPLETION: NMR ft. WET DRY
▼	WATER LEVEL AT COMPLETION: NMR ft.		CAVE DEPTH AFTER HOURS: NMR ft., 0 hrs. WET DRY
▼	WATER LEVEL AFTER 0 HOURS: NMR ft.		

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

SOIL BORING LOG

PAGE NUMBER: 1 of 1

PROJECT NAME: USH 45 (WisDOT Project ID # 2220-02-70)		DATE DRILLING STARTED: 4/1/2011	BORING NUMBER: B-85
PROJECT LOCATION: Washington Co., WI		DATE DRILLING ENDED: 4/1/2011	PROJECT NUMBER: 10161-10
BORING DRILLED BY: FIRM: Gestra; CREW CHIEF: A. Woerpel	FIELD LOG: J. Bruesewitz	NORTHING:	DRILLING RIG: CME 75 (INT)
	LAB LOG / QC: E. Jeske	EASTING:	DRILLING METHOD: 2¼" HSA
			SURFACE ELEVATION: ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) / Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	AASHTO Classification	Unconfined Comp. Strength (q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
					ASPHALT (3½")								
					BASE COURSE (4")								
SS - 1	12	3 4 5 8	9		SILTY SAND, fine to medium grained sand, with gravel, some clay, grayish brown, moist, medium dense	SM		A-2-4					
SS - 2	14	10 5 6 7	11	5	SANDY LEAN CLAY, with gravel, light brown, moist	CL		A-6				7.8	
SS - 3	22	17 19 19 15	38		SILTY SAND, fine to medium grained sand, with gravel, light brown, moist, dense	SM		A-2-4					
				10	End of Boring at 7.5'								
				15									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NE ft.	▨	CAVE DEPTH AT COMPLETION: NMR ft. WET ☐ DRY ☐
▼	WATER LEVEL AT COMPLETION: NMR ft.		CAVE DEPTH AFTER HOURS: NMR ft., 0 hrs. WET ☐ DRY ☐
▼	WATER LEVEL AFTER 0 HOURS: NMR ft.		

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

SOIL BORING LOG

PAGE NUMBER: 1 of 1

PROJECT NAME: USH 45 (WisDOT Project ID # 2220-02-70)		DATE DRILLING STARTED: 3/31/2011	BORING NUMBER: B-88
PROJECT LOCATION: Washington Co., WI		DATE DRILLING ENDED: 3/31/2011	PROJECT NUMBER: 10161-10
BORING DRILLED BY: FIRM: Gestra; CREW CHIEF: A. Woerpel	FIELD LOG: J. Bruesewitz	NORTHING:	DRILLING RIG: CME 75 (INT)
	LAB LOG / QC: E. Jeske	EASTING:	DRILLING METHOD: 2¼" HSA
			SURFACE ELEVATION: ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) / Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	AASHTO Classification	Unconfined Comp. Strength (q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
					CONCRETE (9")								
					BASE COURSE (6")								
SS - 1	10	8 10 50/4"	60/4"		FILL, silty sand and large gravel, brown, moist			A-1-a					
SS - 2	0			5	Cobble or Boulder								No sample obtained due to cobble or boulder at 3.0' to 4.0'
					FILL, silty sand and large angular gravel, brown, moist			A-2-4					
SS - 3	16	14 16 30 23	46										
				10	End of Boring at 7.5'								
				15									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NE ft.	▨	CAVE DEPTH AT COMPLETION: NMR ft. WET ☐ DRY ☐
▼	WATER LEVEL AT COMPLETION: NMR ft.		CAVE DEPTH AFTER HOURS: NMR ft., 0 hrs. WET ☐ DRY ☐
▼	WATER LEVEL AFTER 0 HOURS: NMR ft.		

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

SOIL BORING LOG

PAGE NUMBER: 1 of 1

PROJECT NAME: USH 45 (WisDOT Project ID # 2220-02-70)		DATE DRILLING STARTED: 3/31/2011	BORING NUMBER: B-90
PROJECT LOCATION: Washington Co., WI		DATE DRILLING ENDED: 3/31/2011	PROJECT NUMBER: 10161-10
BORING DRILLED BY: FIRM: Gestra; CREW CHIEF: A. Woerpel	FIELD LOG: J. Bruesewitz	NORTHING:	DRILLING RIG: CME 75 (INT)
	LAB LOG / QC: E. Jeske	EASTING:	DRILLING METHOD: 2¼" HSA
			SURFACE ELEVATION: ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) / Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	AASHTO Classification	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
					CONCRETE (8½")								
					BASE COURSE (4")								
SS - 1	18	9 11 16 28	27		SAND, fine to coarse grained sand, with silt and few gravel, brown, moist, dense to very dense (POSSIBLE FILL)								
SS - 2	16	12 20 25 26	45	5		SP-SM		A-1-b					
SS - 3	17	9 19 35 28	54		Few large gravel in sample SS-3								
					End of Boring at 7.5'								
				10									
				15									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NE ft.	▽	CAVE DEPTH AT COMPLETION: NMR ft. WET / DRY
▽	WATER LEVEL AT COMPLETION: NMR ft.		CAVE DEPTH AFTER HOURS: NMR ft., 0 hrs. WET / DRY
▼	WATER LEVEL AFTER 0 HOURS: NMR ft.		

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

SOIL BORING LOG

PAGE NUMBER: 1 of 1

PROJECT NAME: USH 45 (WisDOT Project ID # 2220-02-70)		DATE DRILLING STARTED: 4/9/2011	BORING NUMBER: B-100
PROJECT LOCATION: Washington Co., WI		DATE DRILLING ENDED: 4/9/2011	PROJECT NUMBER: 10161-10
BORING DRILLED BY: FIRM: Gestra; CREW CHIEF: B. Sargent	FIELD LOG: E. Jeske	NORTHING:	DRILLING RIG: CME 75 (INT)
	LAB LOG / QC: E. Jeske	EASTING:	DRILLING METHOD: 2¼" HSA
			SURFACE ELEVATION: ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) / Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	AASHTO Classification	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
					CONCRETE (7")								
SS - 1	17½	4 12 18 22	30		BASE COURSE (15"), sand, with gravel, brown, moist								
SS - 2	12	10 22 24 22	46	5 ▽	SAND, fine to medium grained sand, brown, moist to wet, loose to medium dense	SP		A-3					
SS - 3	19	3 4 4 4	8		Wet at 5.5'								
					End of Boring at 5.5'								
				10									
				15									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: 5.5 ft.	▽	CAVE DEPTH AT COMPLETION: NMR ft. WET / DRY
▽	WATER LEVEL AT COMPLETION: 5.5 ft.		CAVE DEPTH AFTER HOURS: NMR ft., 0 hrs. WET / DRY
▼	WATER LEVEL AFTER 0 HOURS: NMR ft.		

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

SOIL BORING LOG

PAGE NUMBER: 1 of 1

PROJECT NAME: USH 45 (WisDOT Project ID # 2220-02-70)		DATE DRILLING STARTED: 4/11/2011	BORING NUMBER: B-103
PROJECT LOCATION: Washington Co., WI		DATE DRILLING ENDED: 4/11/2011	PROJECT NUMBER: 10161-10
BORING DRILLED BY: FIRM: Gestra, CREW CHIEF: B. Sargent	FIELD LOG: J. Bruesewitz	NORTHING:	DRILLING RIG: CME 75 (INT)
	LAB LOG / QC: E. Jeske	EASTING:	DRILLING METHOD: 2¼" HSA
			SURFACE ELEVATION: ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	AASHTO Classification	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	16	13 11 20 23	31		CONCRETE (7") BASE COURSE (6") FILL, sand, fine to coarse grained sand, with gravel and dark brown clay layers, light brown, moist			A-1-b					Gravel = 27.1% Sand = 57.4% P200 = 15.5%
SS - 2	16	10 21 24 22	45	5									
SS - 3	18	17 22 15 16	37	10	End of Boring at 7.5'								
				15									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NE ft.		CAVE DEPTH AT COMPLETION: NMR ft. WET DRY
▼	WATER LEVEL AT COMPLETION: NMR ft.		CAVE DEPTH AFTER HOURS: NMR ft., 0 hrs. WET DRY
▼	WATER LEVEL AFTER 0 HOURS: NMR ft.		

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

SOIL BORING LOG

PAGE NUMBER: 1 of 1

PROJECT NAME: USH 45 (WisDOT Project ID # 2220-02-70)		DATE DRILLING STARTED: 4/9/2011	BORING NUMBER: B-106
PROJECT LOCATION: Washington Co., WI		DATE DRILLING ENDED: 4/9/2011	PROJECT NUMBER: 10161-10
BORING DRILLED BY: FIRM: Gestra, CREW CHIEF: B. Sargent	FIELD LOG: E. Jeske	NORTHING:	DRILLING RIG: CME 75 (INT)
	LAB LOG / QC: E. Jeske	EASTING:	DRILLING METHOD: 2¼" HSA
			SURFACE ELEVATION: ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	AASHTO Classification	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	18	8 9 9 14	18		ASPHALT (3") BASE COURSE (9"), sand and gravel, brown, moist SAND, fine to medium grained sand, brown, moist, medium dense	SP		A-2-4					Gravel = 1.8% Sand = 75.8% P200 = 18.7%
SS - 2		4 9 10 12	19	5									Recovery not recorded on the field log
SS - 3	19	6 11 13 15	24	▽	SAND, with gravel, brown, moist to very moist, medium dense 5" thick wet silt seam at 7.0'	SP		A-1-b					
				10	End of Boring at 8.0'								
				15									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: 7 ft.		CAVE DEPTH AT COMPLETION: NMR ft. WET DRY
▼	WATER LEVEL AT COMPLETION: NE ft.		CAVE DEPTH AFTER HOURS: NMR ft., 0 hrs. WET DRY
▼	WATER LEVEL AFTER 0 HOURS: NMR ft.		

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA
Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

SOIL BORING LOG

PAGE NUMBER: 1 of 1

PROJECT NAME: USH 45 (WisDOT Project ID # 2220-02-70)		DATE DRILLING STARTED: 4/11/2011	BORING NUMBER: B-109
PROJECT LOCATION: Washington Co., WI		DATE DRILLING ENDED: 4/11/2011	PROJECT NUMBER: 10161-10
BORING DRILLED BY: FIRM: Gestra; CREW CHIEF: B. Sargent	FIELD LOG: J. Bruesewitz	NORTHING	DRILLING RIG: CME 75 (INT)
	LAB LOG / QC: E. Jeske	EASTING	DRILLING METHOD: 2¼" HSA
			SURFACE ELEVATION: ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	AASHTO Classification	Unconfined Comp. Strength (Q_u or C_u) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	16	1 3 11 14	14		ASPHALT (2") BASE COURSE (3") FILL, sand, with silt and gravel, brown, moist			A-3					
SS - 2	12	7 11 9 10	20	5	FILL, sandy clay, with gravel, dark gray to black, moist			A-6				11.8	
SS - 3		6 9 10 7	19		Light brown sandy silt seam in sample SS-3								Recovery not recorded on field log
					End of Boring at 7.5'								
				10									
				15									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NE ft.	CAVE DEPTH AT COMPLETION: NMR ft.	WET ☐ DRY ☐
▼	WATER LEVEL AT COMPLETION: NMR ft.	CAVE DEPTH AFTER HOURS: NMR ft., 0 hrs.	WET ☐ DRY ☐
▼	WATER LEVEL AFTER 0 HOURS: NMR ft.		

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

LEGEND

- BEAM GUARD
- REMOVE ASPHALT AND REPLACE W/HMA
- CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- REMOVE ASPHALT SURFACE MILLING AND OVERLAY W/ HMA
- PROFILE MILL AND OVERLAY W/HMA

N

BEGIN CONSTRUCTION
STA 1688+05

PT 1685+00.74

PC 1679+16.92

PI 1682+10.28

8"
24"
4"

1676 1677 1678 1679 1680 1681 1682 1683 1684 1685 1686 1687 1688 1689 1690 1691

USH 45 SB

R/L USH 45 SB

USH 41 SB

USH 41 NB 1687 1688 1689 1690 1691 1692

USH 45 NB

R/L USH 45 NB

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 50 E

FILE NAME : C:\DOT WORK USH 45\021200_PD.DGN PLOT DATE : 4/30/2020 PLOT BY : wwoldk PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

LEGEND

- BEAM GUARD
- REMOVE ASPHALT AND REPLACE W/HMA
- CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- REMOVE ASPHALT SURFACE MILLING AND OVERLAY W/ HMA
- PROFILE MILL AND OVERLAY W/HMA

RECONSTRUCT SHOULDER

SLOPE INTERCEPT (TYP)

1691 1692 1693 1694 1695 1696 1697 1698 1699 1700 1701 1702 1703 1704 1705 B-66-37 1706 1707

B-66-37
NO WORK

RECONSTRUCT SHOULDER

SLOPE INTERCEPT (TYP)

24' 8' 4'

USH 45 SB

R/L USH 45 SB

N

PC 1692+43.56

USH 41 SB

USH 41 NB

BEGIN PROJECT ID
2220-02-70
STA 1694+70

R/L USH 45 NB

USH 45 NB

1691 1692 1693 1694 1695 1696 1697 1698 1699 1700 4' 1701 1702 1703 1704 1705 1706 170

24' 8'

PC 1705+27.65

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 51	E

FILE NAME : C:\DOT WORK USH 45\021201_PD.DGN PLOT DATE : 4/30/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

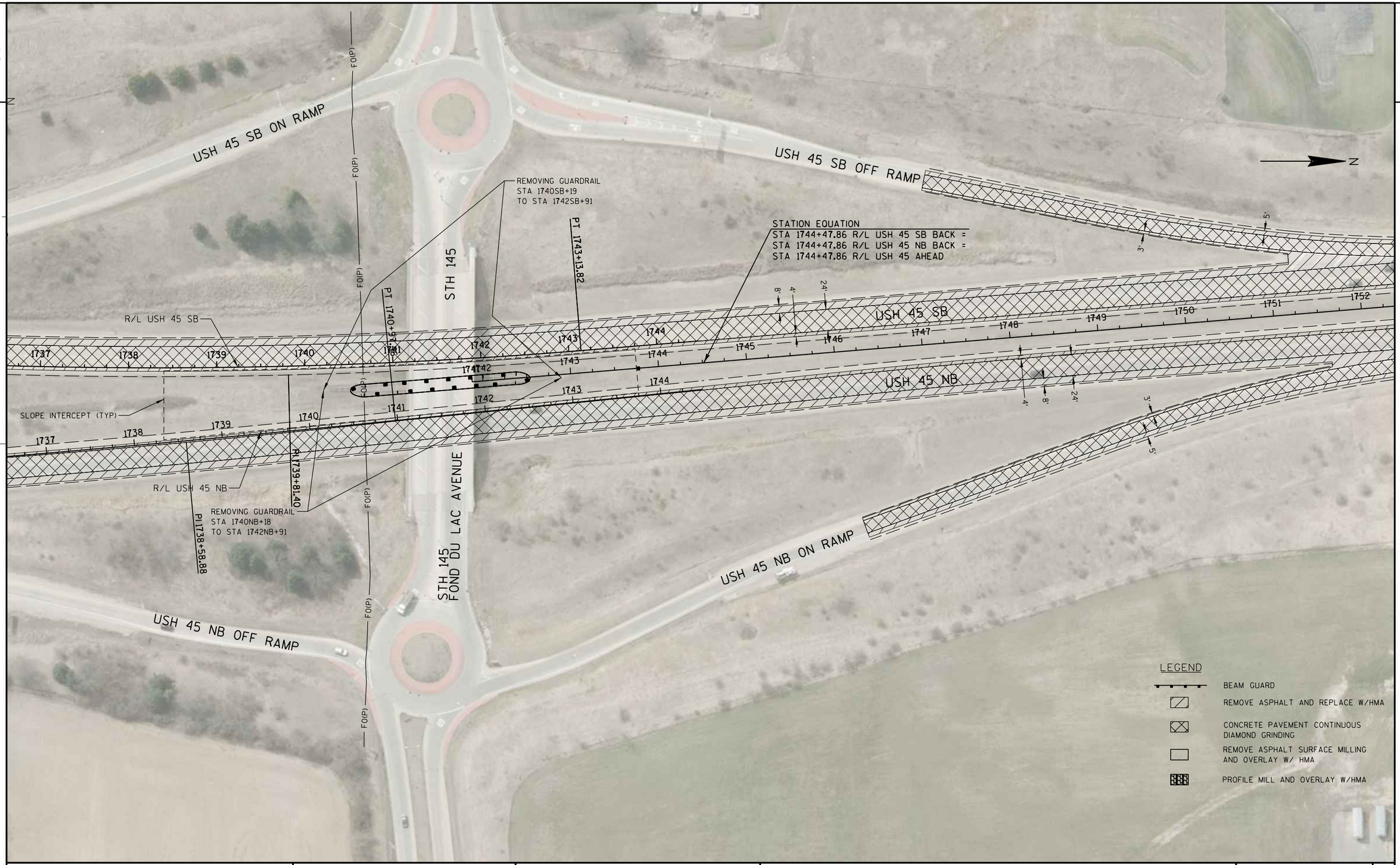
2

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 52	E

2

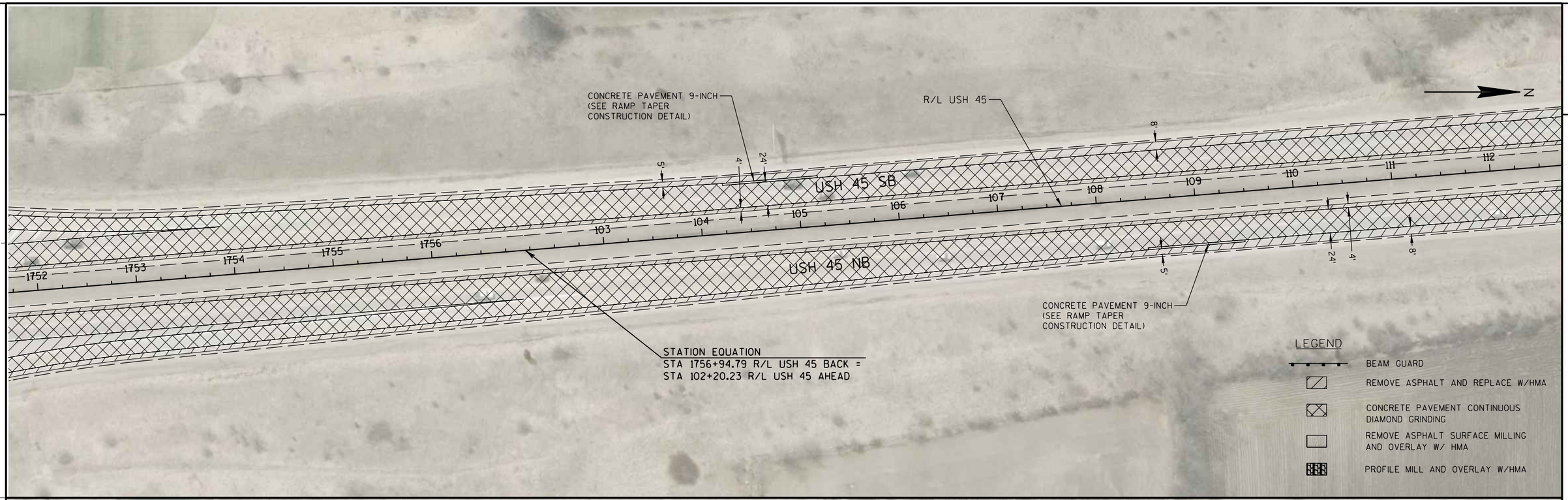
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 53	E

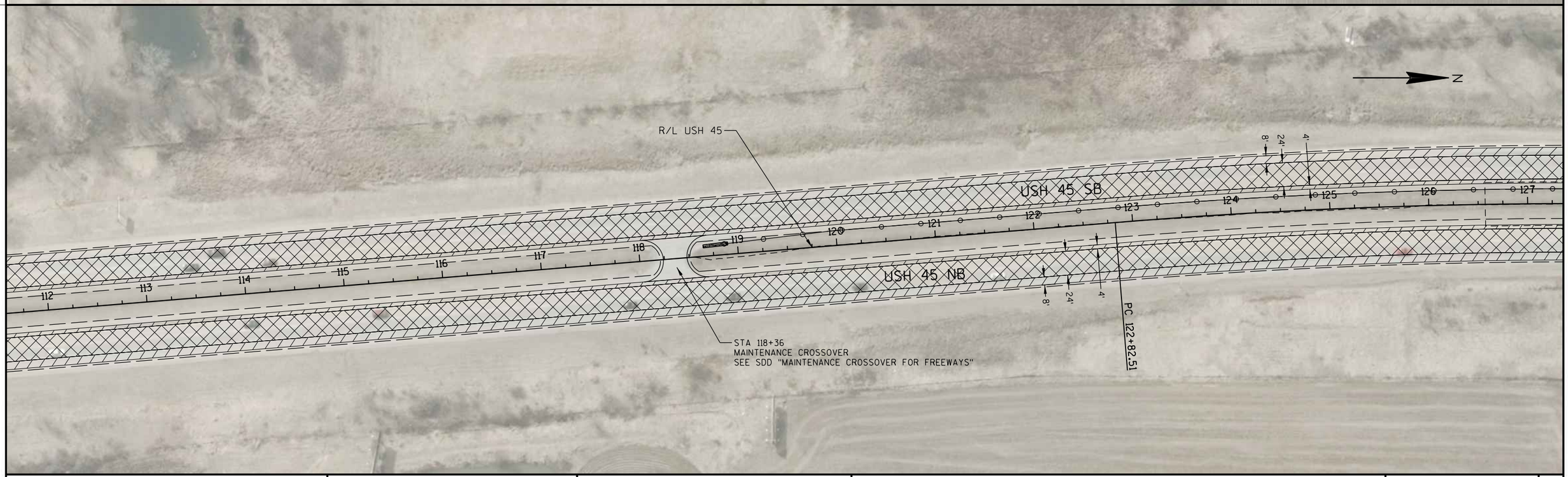
2



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 54	E

2





PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 55	E

2

N

EP
PI 128+60.72
EP
EP
EP
EP
EP
EP
WESTERN AVE.

REMOVING GUARDRAIL
STA 127SB+83
TO STA 130SB+02

REMOVING CURB AND GUTTER
STA 128SB+47 TO STA 129SB+33

REMOVING CURB AND GUTTER
STA 128NB+48 TO STA 129NB+34

REMOVING GUARDRAIL
STA 127NB+83
TO STA 130NB+00

R/L USH 45

SLOPE INTERCEPT (TYP)

PT 134+35.03

USH 45 SB

USH 45 NB

8'
4'
24'
4'
8'
24'
26'
6'
4'

CONCRETE PAVEMENT REPAIR
AND REPLACEMENT ONLY

127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142

N

R/L USH 45

USH 45 SB

24'
4'
8'

142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157

USH 45 NB

26'
4'
6'

CONCRETE PAVEMENT REPAIR
AND REPLACEMENT ONLY

LEGEND

- BEAM GUARD
- REMOVE ASPHALT AND REPLACE W/HMA
- CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- REMOVE ASPHALT SURFACE MILLING AND OVERLAY W/ HMA
- PROFILE MILL AND OVERLAY W/HMA

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 56	E

2

LEGEND

- BEAM GUARD
- REMOVE ASPHALT AND REPLACE W/HMA
- CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- REMOVE ASPHALT SURFACE MILLING AND OVERLAY W/ HMA
- PROFILE MILL AND OVERLAY W/HMA

N

CONCRETE PAVEMENT REPAIR AND REPLACEMENT ONLY

R/L USH 45

USH 45 SB

USH 45 NB

157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172

8' 4' 24' 26' 6'

CONCRETE PAVEMENT REPAIR AND REPLACEMENT ONLY

6' 4' 26' 24' 8'

SHERMAN ROAD

REMOVING GUARDRAIL STA 182SB+68 TO STA 184SB+22

SLOPE INTERCEPT (TYP)

N

REMOVING GUARDRAIL STA 182SB+71 TO STA 185SB+26

CONCRETE PAVEMENT REPAIR AND REPLACEMENT ONLY

B-66-47 NO WORK

CONCRETE PAVEMENT REPAIR AND REPLACEMENT ONLY

RECONSTRUCT SHOULDER

26' 4' 6'

USH 45 SB

B-66-47

172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187

USH 45 NB

B-66-48

8' 4' 24'

R/L USH 45

RECONSTRUCT SHOULDER

REMOVING GUARDRAIL STA 179NB+58 TO STA 181NB+62

B-66-48 OVERLAY MISC. REPAIR

RECONSTRUCT SHOULDER

REMOVING GUARDRAIL STA 182NB+76 TO STA 184NB+84

SLOPE INTERCEPT (TYP)

REMOVING GUARDRAIL STA 180NB+16 TO STA 181NB+68

REMOVING GUARDRAIL STA 182NB+82 TO STA 183NB+51

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 57	E

FILE NAME : C:\DOT WORK USH 45\021207_PD.DGN PLOT DATE : 4/30/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

2

LEGEND

- BEAM GUARD
- REMOVE ASPHALT AND REPLACE W/HMA
- CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- REMOVE ASPHALT SURFACE MILLING AND OVERLAY W/ HMA
- PROFILE MILL AND OVERLAY W/HMA

N

CONCRETE PAVEMENT REPAIR AND REPLACEMENT ONLY

PC 195+05.11

USH 45 SB

USH 45 NB

R/L USH 45

CONCRETE PAVEMENT 9-INCH (SEE RAMP TAPER CONSTRUCTION DETAIL)

PT 215+02.30

CONCRETE PAVEMENT REPAIR AND REPLACEMENT ONLY

STA 208+69
MAINTENANCE CROSSOVER
SEE SDD "MAINTENANCE CROSSOVER FOR FREEWAYS"

R/L USH 45

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 58	E

FILE NAME : C:\DOT WORK USH 45\021208_PD.DGN PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

2

LEGEND

- BEAM GUARD
- REMOVE ASPHALT AND REPLACE W/HMA
- CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- REMOVE ASPHALT SURFACE MILLING AND OVERLAY W/ HMA
- PROFILE MILL AND OVERLAY W/HMA

N

CONCRETE PAVEMENT REPAIR AND REPLACEMENT ONLY

R/L USH 45

USH 45 SB ON RAMP

USH 45 SB

USH 45 NB

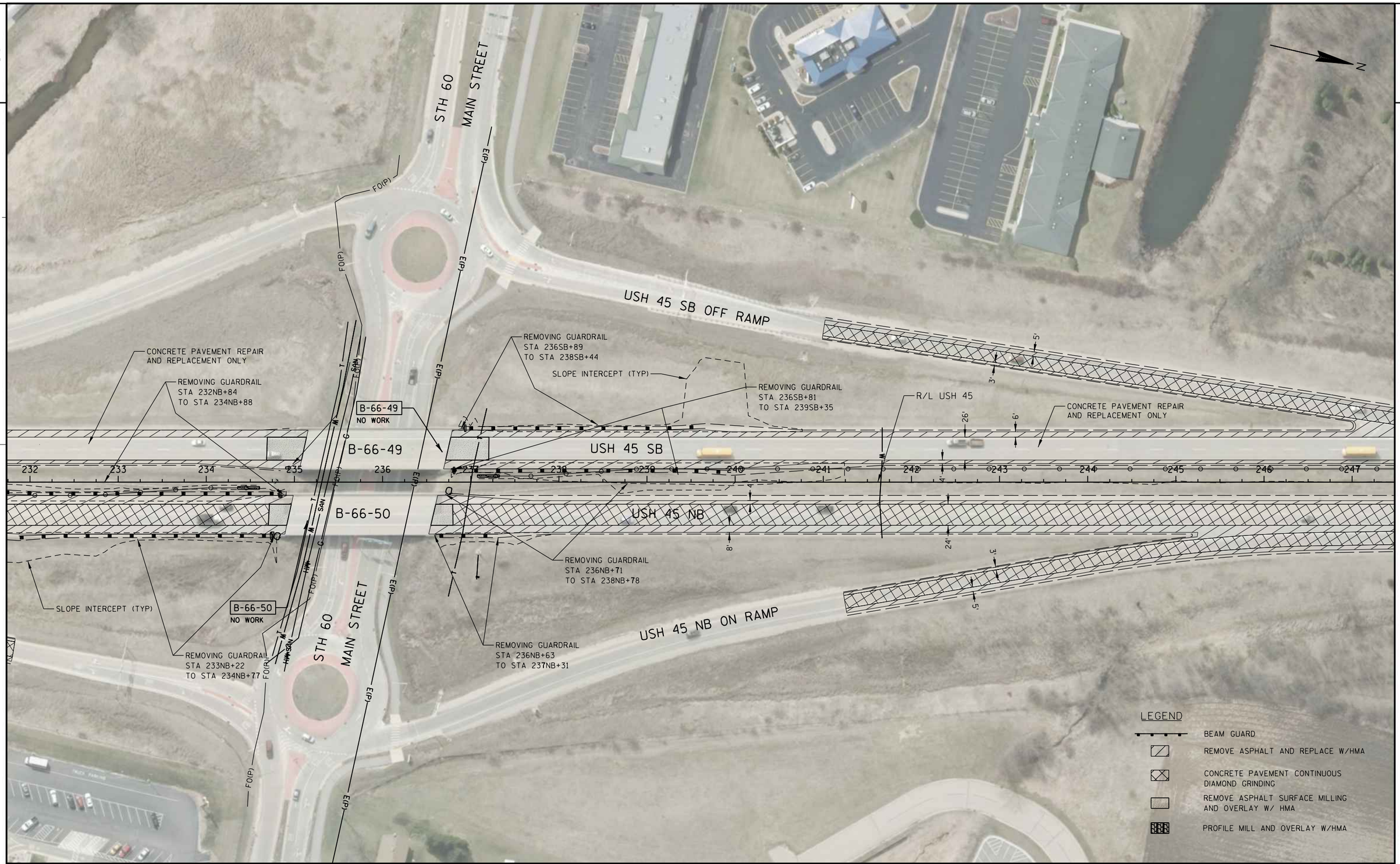
USH 45 NB OFF RAMP

5"
3"
26'
6'
4'
24'
8'

217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 59	E

FILE NAME : C:\DOT WORK USH 45\021209_PD.DGN PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 60	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\021210_PD.DGN PLOT DATE : 7/22/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

LEGEND

- BEAM GUARD
- REMOVE ASPHALT AND REPLACE W/HMA
- CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- REMOVE ASPHALT SURFACE MILLING AND OVERLAY W/ HMA
- PROFILE MILL AND OVERLAY W/HMA

N

CONCRETE PAVEMENT 9-INCH (SEE RAMP TAPER CONSTRUCTION DETAIL)

R/L USH 45

CONCRETE PAVEMENT REPAIR AND REPLACEMENT ONLY

3' 5' 6' 26' 4' 6'

USH 45 SB

247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262

USH 45 NB

5' 5' 4' 24'

CONCRETE PAVEMENT 9-INCH (SEE RAMP TAPER CONSTRUCTION DETAIL)

N

CONCRETE PAVEMENT REPAIR AND REPLACEMENT ONLY

R/L USH 45

6' 4' 26'

USH 45 SB

262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277

USH 45 NB

24' 8' 4'

STA 268+67
MAINTENANCE CROSSOVER
SEE SDD "MAINTENANCE CROSSOVER FOR FREEWAYS"

PC 272+51.69

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 61	E

FILE NAME : C:\DOT WORK USH 45\021211_PD.DGN PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

LEGEND

- BEAM GUARD
- REMOVE ASPHALT AND REPLACE W/HMA
- CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- REMOVE ASPHALT SURFACE MILLING AND OVERLAY W/ HMA
- PROFILE MILL AND OVERLAY W/HMA

PI 285+66.46

R/L USH 45

CONCRETE PAVEMENT REPAIR AND REPLACEMENT ONLY

USH 45 SB

USH 45 NB

277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292

26' 4' 6' 8' 4' 24'

REMOVING GUARDRAIL
STA 288SB+70
TO STA 290SB+83

SLOPE INTERCEPT (TYP)

REMOVING GUARDRAIL
STA 288NB+70
TO STA 290NB+83

CTH C
CEDAR CREEK ROAD

GRP

REMOVING CURB AND GUTTER
STA 289SB+33 TO STA 290SB+26

REMOVING CURB AND GUTTER
STA 289NB+32 TO STA 290NB+24

N

C-66-26
MISC. REPAIR

R/L USH 45

CONCRETE PAVEMENT REPAIR
AND REPLACEMENT ONLY

USH 45 SB

USH 45 NB

292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307

26' 6' 4' 4' 24' 8'

PT 298+69.77

N

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 62	E

FILE NAME : C:\DOT WORK USH 45\021212_PD.DGN PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

LEGEND

- BEAM GUARD
- REMOVE ASPHALT AND REPLACE W/HMA
- CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- REMOVE ASPHALT SURFACE MILLING AND OVERLAY W/ HMA
- PROFILE MILL AND OVERLAY W/HMA

N

STA 309+66
MAINTENANCE CROSSOVER
SEE SDD "MAINTENANCE CROSSOVER FOR FREEWAYS"

CONCRETE PAVEMENT REPAIR AND REPLACEMENT ONLY

R/L USH 45

PARALLEL EXIT RAMP

R/L CTH PV SWR RAMP

SLOPE INTERCEPT (TYP)

RECONSTRUCT SHOULDER

1320SWR

1322SWR

USH 45 SB

307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322

USH 45 NB

1322SER

RECONSTRUCT SHOULDER

R/L CTH PV SER RAMP

PARALLEL EXIT RAMP

PARALLEL ENTRANCE RAMP

N

REMOVING GUARDRAIL
STA 1331SWR+09
TO STA 1332SWR+55

CONCRETE PAVEMENT 9-INCH

R/L USH 45

SLOPE INTERCEPT (TYP)

R/L CTH PV SWR RAMP

CONCRETE PAVEMENT REPAIR AND REPLACEMENT ONLY

1322SWR 1324SWR 1326SWR 1328SWR 1330SWR 1332SWR 1334SWR 1336SWR

CTH PV SW RAMP

USH 45 SB

RECONSTRUCT SHOULDER

322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337

1322SER 1324SER 1326SER 1328SER 1330SER 1332SER 1334SER 1336SER

USH 45 NB

CONCRETE PAVEMENT 9-INCH

PARALLEL EXIT RAMP

R/L CTH PV SER RAMP

CTH PV SE RAMP

REMOVING GUARDRAIL
STA 1330SER+31
TO STA 1332SER+00

CTH PV SB ON RAMP SE TABLE		
	STATION	SE
END NC	1329SWR+42.51	2.0%
FULL SE	1330SWR+89.51	5.5%
FULL SE	1335SWR+94.30	5.5%
MATCH EXIST	1337SWR+32.10	2.9%

CTH PV NB OFF RAMP SE TABLE		
	STATION	SE
END NC	1327SER+10.90	2.0%
FULL SE	1328SER+54.90	5.5%
FULL SE	1329SER+85.90	5.5%
MATCH EXIST	1330SER+07.10	6.3%

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 63 E

FILE NAME : C:\DOT WORK USH 45\021213_PD.DGN PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

2

LEGEND

- BEAM GUARD
- REMOVE ASPHALT AND REPLACE W/HMA
- CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- REMOVE ASPHALT SURFACE MILLING AND OVERLAY W/ HMA
- PROFILE MILL AND OVERLAY W/HMA

N

CTH PV
PLEASANT VALLEY ROAD

USH 45 SB

USH 45 NB

1338SWR
USH 45 SB ON RAMP

SLOPE INTERCEPT (TYP)

RECONSTRUCT SHOULDER

REMOVING GUARDRAIL
STA 340SB+85
TO STA 341SB+85

REMOVING CURB AND GUTTER
STA 341SB+98 TO STA 343SB+44

REMOVING GUARDRAIL
STA 341SB+51
TO STA 344SB+00

REMOVING CURB AND GUTTER
STA 342SB+09 TO STA 343SB+35

REMOVING GUARDRAIL
STA 344SB+52
TO STA 345SB+74

CONCRETE PAVEMENT REPAIR
AND REPLACEMENT ONLY

REMOVING GUARDRAIL
STA 1348NWR+60
TO STA 1349NWR+55

SLOPE INTERCEPT (TYP)

REMOVING GUARDRAIL
STA 1348NWR+61
TO STA 1349NWR+52

1348NWR
USH 45 SB OFF RAMP
1349NWR
1350NWR
1351NWR
1352NWR

R/L CTH PV NWR RAMP

PC 350+67.43

R/L USH 45

SLOPE INTERCEPT (TYP)

REMOVING GUARDRAIL
STA 340NB+16
TO STA 341NB+77

REMOVING GUARDRAIL
STA 341NB+48
TO STA 344NB+02

REMOVING CURB AND GUTTER
STA 342NB+22 TO STA 343NB+28

REMOVING CURB AND GUTTER
STA 342NB+16 TO STA 343NB+35

REMOVING GUARDRAIL
STA 343NB+84
TO STA 345NB+50

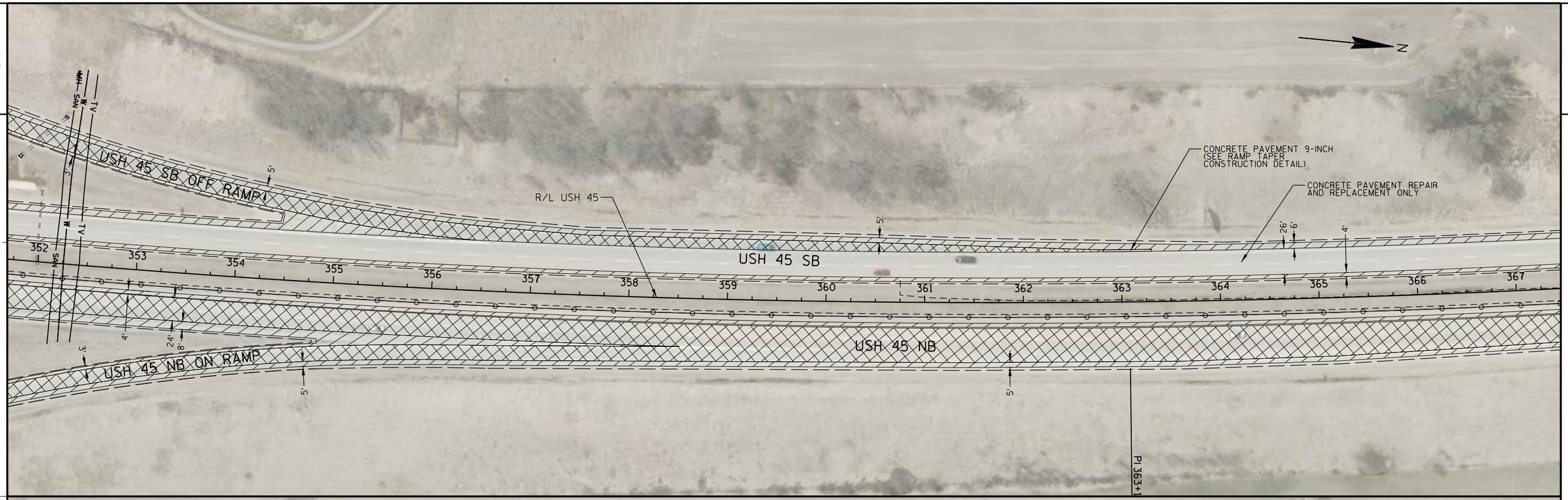
1338SER
USH 45 NB OFF RAMP

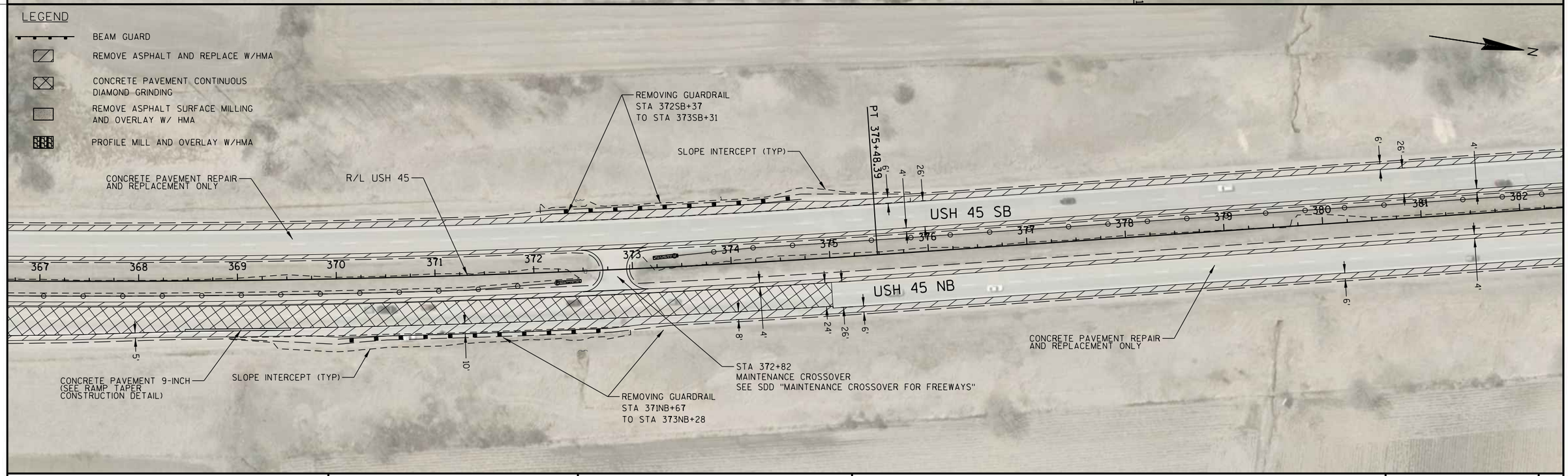
USH 45 NB ON RAMP

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 64	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\021214_PD.DGN PLOT DATE : 6/12/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:100

2





PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 65	E

LEGEND

- BEAM GUARD
- REMOVE ASPHALT AND REPLACE W/HMA
- CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- REMOVE ASPHALT SURFACE MILLING AND OVERLAY W/ HMA
- PROFILE MILL AND OVERLAY W/HMA

CONCRETE PAVEMENT REPAIR AND REPLACEMENT ONLY

USH 45 SB

USH 45 NB

CONCRETE PAVEMENT REPAIR AND REPLACEMENT ONLY

R/L USH 45

PC 395+41.42

PI 404+00.62

R/L USH 45

USH 45 SB

USH 45 NB

EQUATION

STATION EQUATION
STA 412+50.15 R/L USH 45 BACK =
STA 412+40.84 R/L USH 45 AHEAD

PT 412+

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 66	E

FILE NAME : C:\DOT WORK USH 45\021216_PD.DGN PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

LEGEND

- BEAM GUARD
- REMOVE ASPHALT AND REPLACE W/HMA
- CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- REMOVE ASPHALT SURFACE MILLING AND OVERLAY W/ HMA
- PROFILE MILL AND OVERLAY W/HMA

N

CONCRETE PAVEMENT REPAIR AND REPLACEMENT ONLY

SLOPE INTERCEPT (TYP)

REMOVING GUARDRAIL STA 420SB+96 TO STA 421SB+94

REMOVING CURB AND GUTTER STA 425SB+68 TO STA 426SB+55

REMOVING GUARDRAIL STA 425SB+11 TO STA 427SB+21

SLOPE INTERCEPT (TYP)

R/L USH 45

USH 45 SB

USH 45 NB

412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427

26' 6' 4' 6' 26' 24' 8'

GUTTER

MILE VIEW ROAD

CONCRETE PAVEMENT REPAIR AND REPLACEMENT ONLY

STATION EQUATION
STA 412+50.15 R/L USH 45 BACK =
STA 412+40.84 R/L USH 45 AHEAD
EQUATION

PT 412+47.10

SLOPE INTERCEPT (TYP)

REMOVING GUARDRAIL STA 420NB+76 TO STA 422NB+17

REMOVING GUARDRAIL STA 425NB+08 TO STA 427NB+25

REMOVING CURB AND GUTTER STA 425NB+73 TO STA 426NB+50

N

CONCRETE PAVEMENT REPAIR AND REPLACEMENT ONLY

SLOPE INTERCEPT (TYP)

USH 45 SB

USH 45 NB

427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442

6' 4' 26' 24' 4' 8'

R/L USH 45

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 67	E

FILE NAME : C:\DOT WORK USH 45\021217_PD.DGN PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

2

LEGEND

BEAM GUARD

REMOVE ASPHALT AND REPLACE W/HMA

CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING

REMOVE ASPHALT SURFACE MILLING AND OVERLAY W/ HMA

PROFILE MILL AND OVERLAY W/HMA

N

REMOVING GUARDRAIL
STA 446SB+42
TO STA 447SB+36

CONCRETE PAVEMENT REPAIR AND REPLACEMENT ONLY

SLOPE INTERCEPT (TYP)

B-66-54
MISC. REPAIR

REMOVING CURB AND GUTTER
STA 452SB+20 TO STA 453SB+11

REMOVING GUARDRAIL
STA 451SB+61
TO STA 453SB+76

GIP

EIP

CTH NN

USH 45 SB

USH 45 NB

26'

4'

6'

8'

24'

4'

442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457

R/L USH 45

SLOPE INTERCEPT (TYP)

REMOVING GUARDRAIL
STA 444NB+73
TO STA 446NB+33

REMOVING GUARDRAIL
STA 451NB+60
TO STA 453NB+76

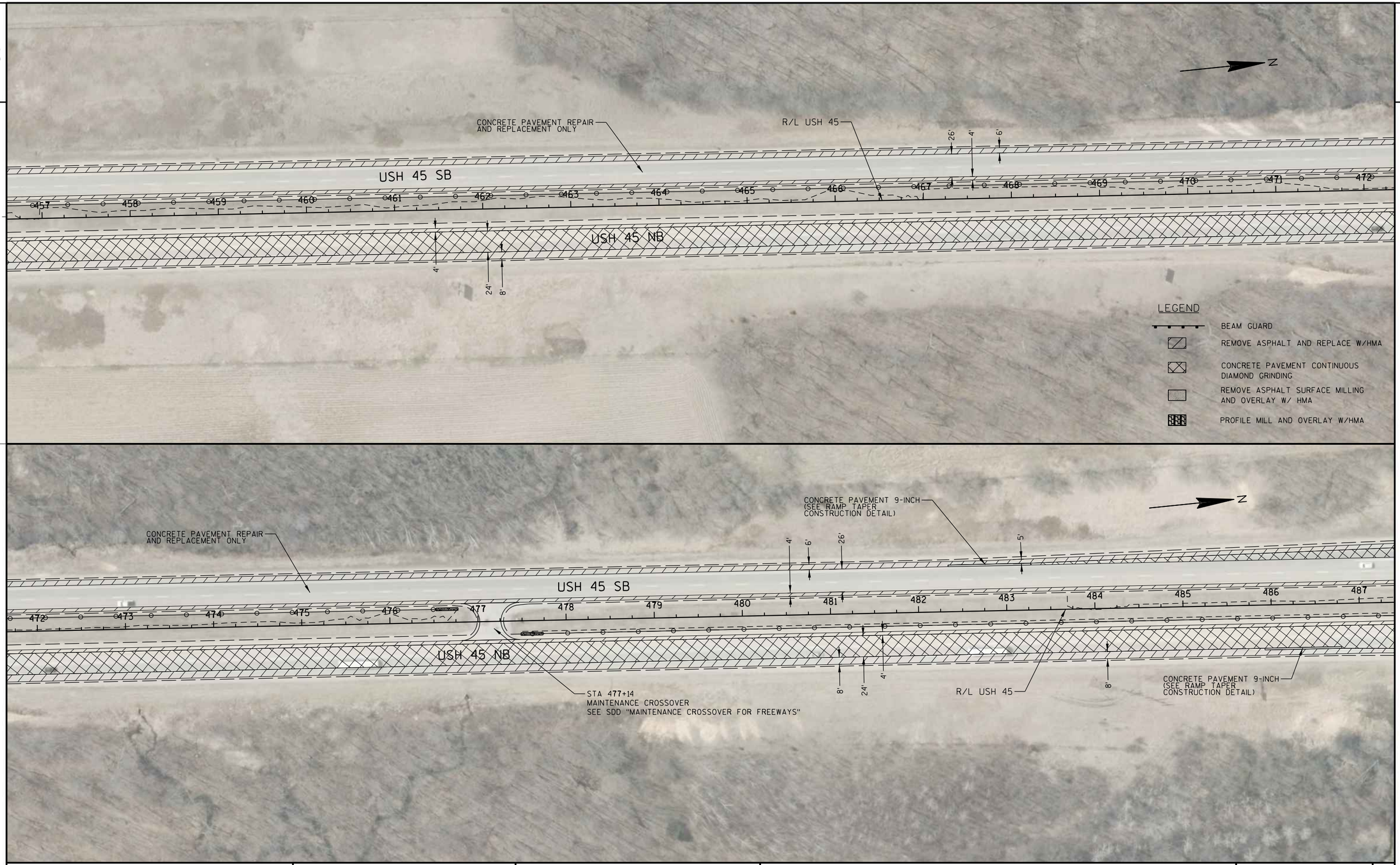
REMOVING CURB AND GUTTER
STA 452NB+23 TO STA 453NB+14

CTH NN

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 68	E

FILE NAME : C:\DOT WORK USH 45\021218_PD.DGN PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

2



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 69	E

FILE NAME : C:\DOT WORK USH 45\021219_PD.DGN PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

LEGEND

- BEAM GUARD
- REMOVE ASPHALT AND REPLACE W/HMA
- CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- REMOVE ASPHALT SURFACE MILLING AND OVERLAY W/ HMA
- PROFILE MILL AND OVERLAY W/HMA

N

CONCRETE PAVEMENT REPAIR AND REPLACEMENT ONLY

USH 45 SB ON RAMP

PC 500+04.22

SLOPE INTERCEPT (TYP)

USH 45 SB

USH 45 NB

USH 45 NB OFF RAMP

R/L USH 45

REMOVING GUARDRAIL
STA 499NB+97
TO STA 504NB+28

SLOPE INTERCEPT (TYP)

CONCRETE PAVEMENT 9-INCH
(SEE RAMP TAPER
CONSTRUCTION DETAIL)

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 70	E

FILE NAME : C:\DOT WORK USH 45\021220_PD.DGN PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

USH 45 SB OFF RAMP

USH 45 SB ON RAMP

PARADISE DRIVE

B-66-55

B-66-56

N

REMOVING GUARDRAIL
STA 506SB+70
TO STA 508SB+29

REMOVING GUARDRAIL
STA 506SB+70
TO STA 509SB+26

SLOPE INTERCEPT (TYP)

CONCRETE PAVEMENT REPAIR
AND REPLACEMENT ONLY

USH 45 SB

USH 45 NB

CONCRETE PAVEMENT 9-INCH

R/L USH 45

SLOPE INTERCEPT (TYP)

REMOVING GUARDRAIL
STA 506NB+61
TO STA 508NB+70

B-66-55
NO WORK

CONCRETE PAVEMENT REPAIR
AND REPLACEMENT ONLY

REMOVING GUARDRAIL
STA 502NB+33
TO STA 504NB+39

B-66-56
NO WORK

7" CONCRETE
PAVEMENT

REMOVING GUARDRAIL
STA 506NB+61
TO STA 507NB+27

CONCRETE PAVEMENT APPROACH SLAB

REMOVING GUARDRAIL
STA 499NB+97
TO STA 504NB+28

USH 45 NB ON RAMP

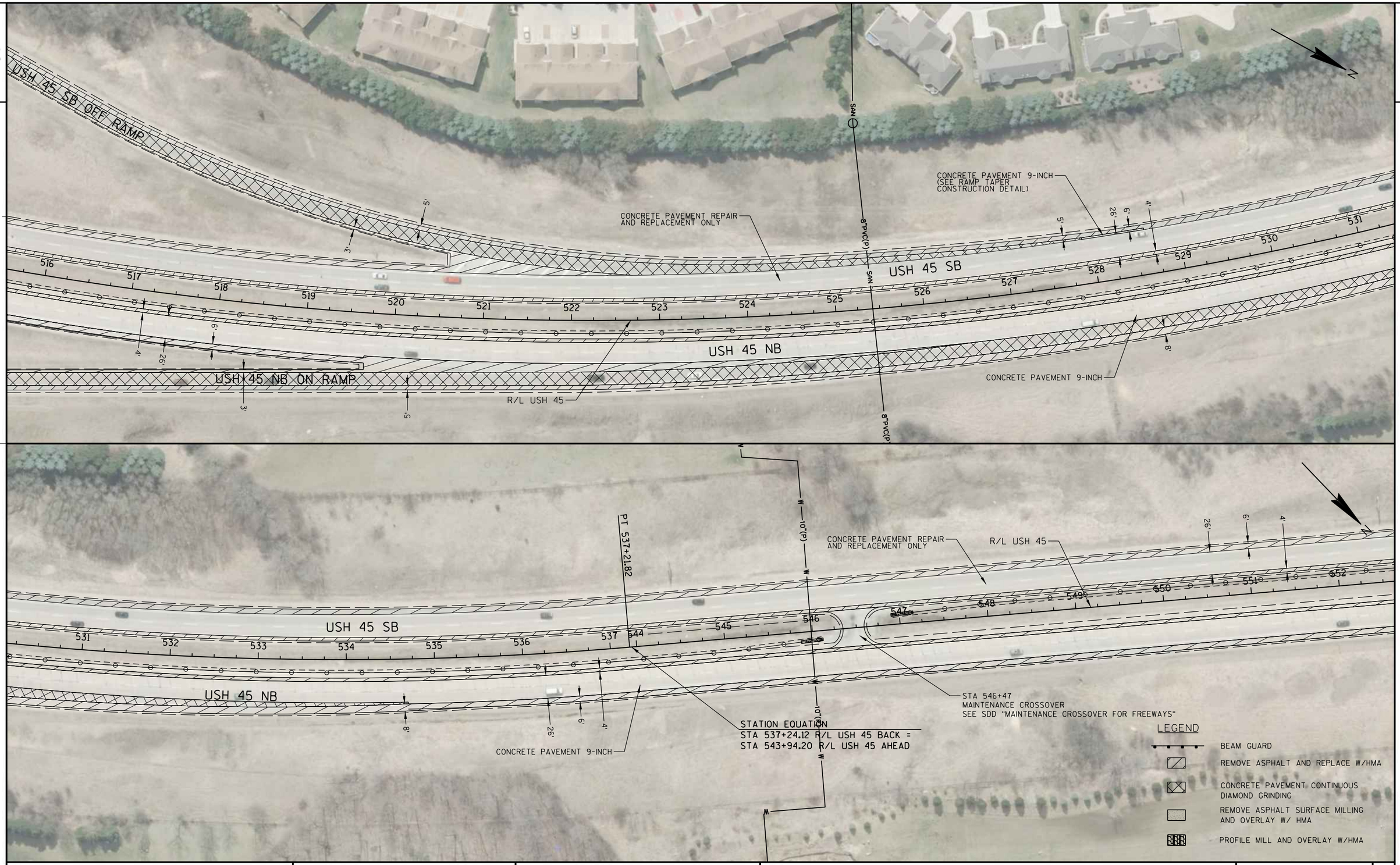
USH 45 NB OFF RAMP

LEGEND

- BEAM GUARD
- REMOVE ASPHALT AND REPLACE W/HMA
- CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- REMOVE ASPHALT SURFACE MILLING AND OVERLAY W/ HMA
- PROFILE MILL AND OVERLAY W/HMA

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 71	E

2



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 72	E

LEGEND

- BEAM GUARD
- REMOVE ASPHALT AND REPLACE W/HMA
- CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- REMOVE ASPHALT SURFACE MILLING AND OVERLAY W/ HMA
- PROFILE MILL AND OVERLAY W/HMA

S 18TH AVENUE

B-66-57
NO WORK

B-66-58
NO WORK

B-66-59
MISC. REPAIR PAINT

USH 45 SB

USH 45 NB

W DECORAH ROAD

W DECORAH RD

CONCRETE PAVEMENT APPROACH SLAB

CONCRETE PAVEMENT REPAIR AND REPLACEMENT ONLY

SLOPE INTERCEPT (TYP)

R/L USH 45

7" CONCRETE PAVEMENT

CONCRETE PAVEMENT 9-INCH

REMOVING GUARDRAIL STA 555NB+57 TO STA 557NB+65

REMOVING GUARDRAIL STA 557NB+44 TO STA 558NB+08

REMOVING GUARDRAIL STA 559SB+05 TO STA 560SB+58

REMOVING GUARDRAIL STA 559SB+34 TO STA 561SB+88

REMOVING GUARDRAIL STA 560NB+03 TO STA 560NB+71

REMOVING GUARDRAIL STA 559NB+66 TO STA 561NB+92

INLETS 2 X 2 W/ TYPE V COVER

CONCRETE SURFACE DRAIN (DROP INLET TYPE) REMOVE EXISTING CURB AND GUTTER AND INLET

PC 559+21.31

REMOVING CURB AND GUTTER STA 579SB+99 TO STA 581SB+07

REMOVING GUARDRAIL STA 579SB+34 TO STA 581SB+61

REMOVING GUARDRAIL STA 581SB+39 TO STA 582SB+33

REMOVING CURB AND GUTTER STA 579NB+72 TO STA 581NB+20

REMOVING GUARDRAIL STA 579NB+31 TO STA 581NB+61

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 73	E

FILE NAME : C:\DOT WORK USH 45\021223_PD.DGN PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

2

2

SLOPE INTERCEPT (TYP)

CONCRETE PAVEMENT REPAIR AND REPLACEMENT ONLY

USH 45 SB

USH 45 NB

R/L USH 45

CONCRETE PAVEMENT 9-INCH

PT 589+05.49

582 583 584 589 586 587 588 589 590 591 592 593 594 595 596 597

26' 6' 4'

CONCRETE PAVEMENT REPAIR AND REPLACEMENT ONLY

R/L USH 45

CONCRETE PAVEMENT 9-INCH

597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612

REMOVING CURB AND GUTTER
STA 610SB+80 TO STA 612SB+04

REMOVING GUARDRAIL
STA 610SB+14
TO STA 612SB+55

REMOVING GUARDRAIL
STA 610NB+14
TO STA 612NB+55

REMOVING CURB AND GUTTER
STA 610NB+55 TO STA 612NB+00

STA 605+24
MAINTENANCE CROSSOVER
SEE SDD "MAINTENANCE CROSSOVER FOR FREEWAYS"

CHESTNUT STREET

LEGEND

- BEAM GUARD
- REMOVE ASPHALT AND REPLACE W/HMA
- CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- REMOVE ASPHALT SURFACE MILLING AND OVERLAY W/ HMA
- PROFILE MILL AND OVERLAY W/HMA

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 74	E

FILE NAME : C:\DOT WORK USH 45\021224_PD.DGN PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

LEGEND

- BEAM GUARD
- REMOVE ASPHALT AND REPLACE W/HMA
- CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- REMOVE ASPHALT SURFACE MILLING AND OVERLAY W/ HMA
- PROFILE MILL AND OVERLAY W/HMA

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 75	E

FILE NAME : C:\DOT WORK USH 45\021225_PD.DGN PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

N

USH 45 SB ON RAMP

USH 45 SB OFF RAMP

USH 45 NB OFF RAMP

USH 45 NB ON RAMP

USH 45 SB

USH 45 NB

STH 33 / STH 144

W WASHINGTON STREET

B-66-61
NO WORK

B-66-62
NO WORK

B-66-61

B-66-62

P1634+10.54

PC 631+11.08

PT 637+09.87

CONCRETE PAVEMENT APPROACH SLAB

7" CONCRETE PAVEMENT

CONCRETE PAVEMENT REPAIR
AND REPLACEMENT ONLY

R/L USH 45

SLOPE INTERCEPT (TYP)

CONCRETE PAVEMENT 9-INCH

REMOVING GUARDRAIL
STA 631NB+13
TO STA 633NB+18

REMOVING GUARDRAIL STA 631NB+51
TO STA 633NB+14

INLETS 2 X 2
W/ TYPE V COVER

CONCRETE SURFACE DRAIN
(DROP INLET TYPE)
REMOVE EXISTING
CURB AND GUTTER AND INLET

REMOVING GUARDRAIL
STA 635SB+01
TO STA 637SB+55

REMOVING GUARDRAIL
STA 635SB+04
TO STA 636SB+61

REMOVING GUARDRAIL
STA 635NB+00
TO STA 637NB+22

REMOVING GUARDRAIL
STA 634NB+95
TO STA 635NB+64

LEGEND

- BEAM GUARD
- REMOVE ASPHALT AND REPLACE W/HMA
- CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- REMOVE ASPHALT SURFACE MILLING AND OVERLAY W/ HMA
- PROFILE MILL AND OVERLAY W/HMA

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 76	E

FILE NAME : C:\DOT WORK USH 45\021226_PD.DGN PLOT DATE : 5/1/2020 PLOT BY : wwoldk PLOT NAME : PLOT SCALE : 1:100

LEGEND

- BEAM GUARD
- REMOVE ASPHALT AND REPLACE W/HMA
- CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- REMOVE ASPHALT SURFACE MILLING AND OVERLAY W/ HMA
- PROFILE MILL AND OVERLAY W/HMA

N

USH 45 SB

USH 45 NB

USH 45 NB ON RAMP

642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657

CONCRETE PAVEMENT 9-INCH (SEE RAMP TAPER CONSTRUCTION DETAIL)

REMOVING GUARDRAIL STA 651SB+80 TO STA 654SB+17

REMOVING CURB AND GUTTER STA 652SB+40 TO STA 653SB+51

CONCRETE PAVEMENT REPAIR AND REPLACEMENT ONLY

PARK AVENUE

R/L USH 45

CONCRETE PAVEMENT 9-INCH

REMOVING GUARDRAIL STA 651NB+79 TO STA 654NB+20

REMOVING CURB AND GUTTER STA 652NB+47 TO STA 653NB+60

PARK AVENUE

N

USH 45 SB

USH 45 NB

657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672

R/L USH 45

CONCRETE PAVEMENT REPAIR AND REPLACEMENT ONLY

PC 671+48.70

CONCRETE PAVEMENT 9-INCH

STA 669+39
MAINTENANCE CROSSOVER
SEE SDD "MAINTENANCE CROSSOVER FOR FREEWAYS"

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 77	E

FILE NAME : C:\DOT WORK USH 45\021227_PD.DGN PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

2

N

PT 678+48.29

CONCRETE PAVEMENT REPAIR AND REPLACEMENT ONLY

USH 45 SB

USH 45 NB

PI 674+98.52

CONCRETE PAVEMENT 9-INCH

R/L USH 45

LEGEND

- BEAM GUARD
- REMOVE ASPHALT AND REPLACE W/HMA
- CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- REMOVE ASPHALT SURFACE MILLING AND OVERLAY W/ HMA
- PROFILE MILL AND OVERLAY W/HMA

BEAVER DAM ROAD

B-66-65
NO WORK

B-66-64
NO WORK

7" CONCRETE PAVEMENT

CONCRETE PAVEMENT APPROACH SLAB

REMOVING GUARDRAIL
STA 690NB+88
TO STA 692NB+98

REMOVING GUARDRAIL
STA 692NB+16
TO STA 692NB+85

REMOVING GUARDRAIL
STA 694SB+56
TO STA 697SB+09

REMOVING GUARDRAIL
STA 694SB+65
TO STA 696SB+18

REMOVING GUARDRAIL
STA 694NB+43
TO STA 696NB+50

REMOVING GUARDRAIL
STA 694NB+33
TO STA 694NB+96

SLOPE INTERCEPT (TYP)

CONCRETE SURFACE DRAIN
(DROP INLET TYPE)
REMOVE EXISTING
CURB AND GUTTER AND INLET

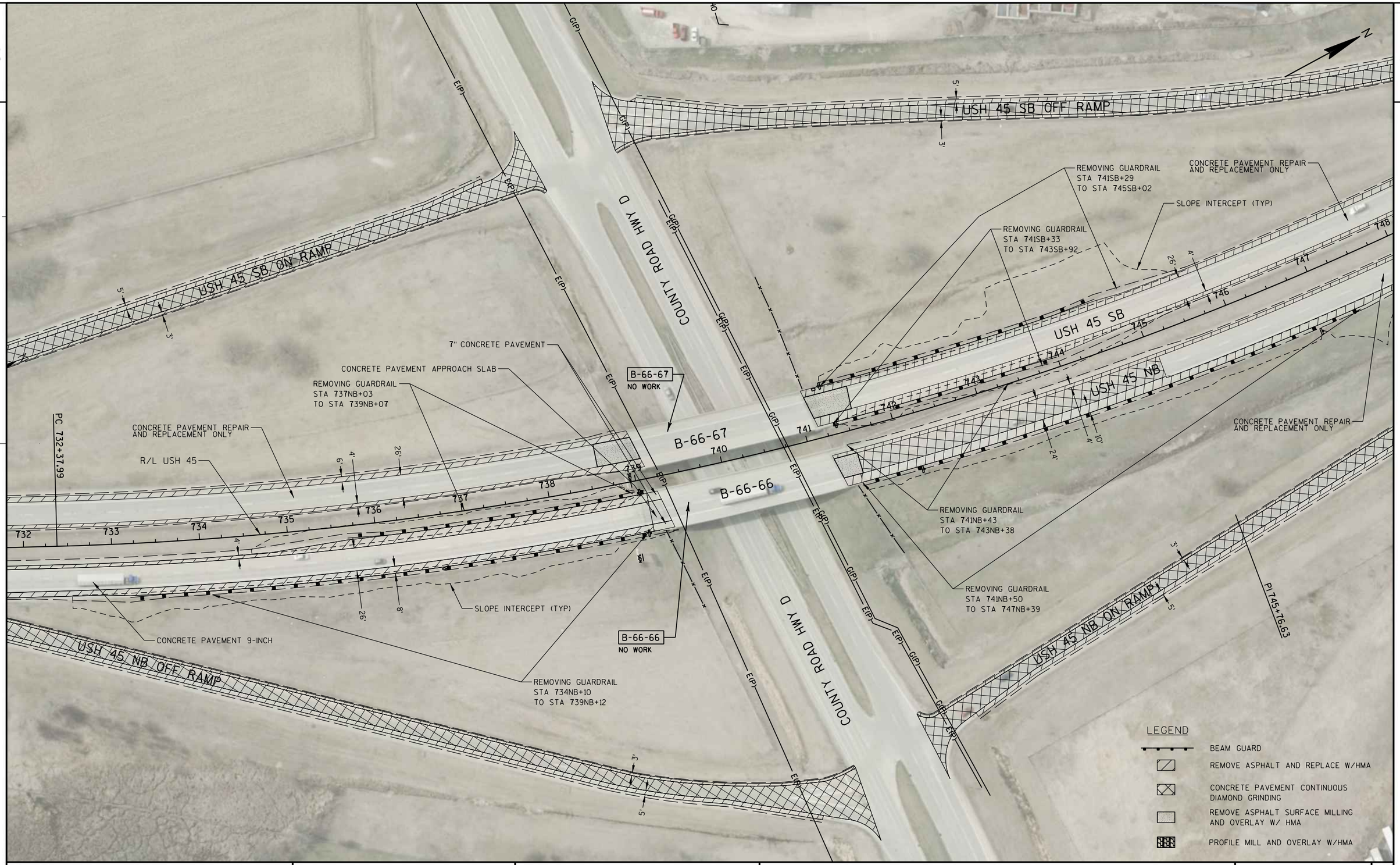
INLETS 2 X 2
W/ TYPE V COVER

PC 697+36.98

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 78	E

2

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 79	E



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 80	E

FILE NAME : C:\DOT WORK USH 45\021230_PD.DGN PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

LEGEND

- BEAM GUARD
- REMOVE ASPHALT AND REPLACE W/HMA
- CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- REMOVE ASPHALT SURFACE MILLING AND OVERLAY W/ HMA
- PROFILE MILL AND OVERLAY W/HMA

N

USH 45 SB OFF RAMP

USH 45 SB

USH 45 NB

USH 45 NB ON RAMP

CONCRETE PAVEMENT REPAIR AND REPLACEMENT ONLY

SLOPE INTERCEPT (TYP)

R/L USH 45

PT 758+15.32

747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762

26' 6' 4' 5' 3'

FRIENDLY DRIVE

N

CONCRETE PAVEMENT 9-INCH (SEE RAMP TAPER CONSTRUCTION DETAIL)

PC 775+73.19

PT 776+88.93

PT 776+31.06

762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777

8' 24' 4' 8' 6' 26' 6' 4'

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 81	E

2

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 82	E

NOTE:
1) RAMP ALIGNMENTS ARE APPROXIMATE AND ARE BASE ON FIELD TOPO.

N

STA 1321SWR+86.50
-2.00

4" BASE AGGREGATE DENSE ¾-INCH

4" HMA PAVEMENT

STA 1324SWR+26.41
-15.00

STA 1321SWR+56.41
-6.00

STA 1321SWR+26.50
-6.00

CONCRETE PAVEMENT 9-INCH

STA 1324SWR+26.50
-10.00

STA 1321SWR+26.50
-2.00

5"

3"

1320SWR 1321SWR 1322SWR 1323SWR 1324SWR 10" 1325SWR CTH PV SW RAMP 1326SWR

4"

2"

R/L CTH PV SWR RAMP

USH 45 SB

R/L USH 45

320 321 322 323 324 325 326

USH 45 NB

STA 1320SER+81.90
5.00

2"

1321SER 1322SER 1323SER 1324SER 1325SER 1326SER

6"

2"

12"

CTH PV SE RAMP

STA 1320SER+56.90
5.00

STA 1320SER+56.90
11.00

STA 1322SER+06.90
15.00

STA 1322SER+06.70
20.00

5"

3"

CONCRETE PAVEMENT 9-INCH

4" HMA PAVEMENT

4" BASE AGGREGATE DENSE ¾-INCH

STA 1320SER+94.20
11.00

R/L CTH PV SER RAMP

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 83	E

FILE NAME : C:\DOT WORK USH 45\021240_PD.DGN PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

NOTE:
1) RAMP ALIGNMENTS ARE APPROXIMATE AND ARE BASE ON FIELD TOPO.

N

4" BASE AGGREGATE DENSE ¾-INCH
4" HMA PAVEMENT
4" HMA PAVEMENT
CONCRETE PAVEMENT 9-INCH
CONCRETE PAVEMENT 9-INCH

STA 1327SWR+26.43
-15.00
STA 1327SWR+26.50
-10.00
STA 1330SWR+44.00
-19.95
STA 1330SWR+89.38
-26.95
STA 1330SWR+89.43
-22.95
STA 1330SWR+28.84
-23.00

5'
3'
10'
4'
8'
15'
3'

1326SWR
1327SWR
1328SWR
1329SWR
1330SWR
1331SWR
1332SWR
CTH PV SW RAMP

R/L CTH PV SWR RAMP
STA 1330SWR+26.76
2.89
4" HMA PAVEMENT

USH 45 SB

R/L USH 45

326
327
328
329
330
331
332

USH 45 NB

1326SER
1327SER
1328SER
1329SER
1330SER
1331SER
1332SER
CTH PV SE RAMP

12'
5'
3'

STA 1328SER+06.90
15.00
STA 1328SER+06.90
15.00
STA 1328SER+06.90
20.00
STA 1328SER+10.46
23.00
STA 1328SER+76.33
20.00
STA 1329SER+21.80
23.00
STA 1329SER+21.80
30.33
STA 1330SER+07.10
15.00

CONCRETE PAVEMENT 9-INCH
4" HMA PAVEMENT
4" BASE AGGREGATE DENSE ¾-INCH

R/L CTH PV SER RAMP

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 84	E

FILE NAME : C:\DOT WORK USH 45\021241_PD.DGN PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40

NOTE:
1) RAMP ALIGNMENTS ARE APPROXIMATE AND ARE BASE ON FIELD TOPO.

N

STA 1332SWR+69.63
-26.96

STA 1333SWR+20.26
-30.30

STA 1333SWR+20.26
-22.97

STA 1333SWR+65.72
-19.97

STA 1334SWR+31.60
-22.97

4" BASE AGGREGATE DENSE ¾-INCH

4" HMA PAVEMENT

CONCRETE PAVEMENT 9-INCH

STA 1337SWR+32.09
-20.00

5"

3"

15"

3"

1"

1332SWR

1333SWR

1334SWR

CTH PV SW RAMP

1335SWR

1336SWR

1337SWR

1338SWR

4" HMA PAVEMENT

R/L CTH PV SWR RAMP

4" BASE AGGREGATE DENSE ¾-INCH

FRIENDLY DRIVE

N

USH 45 SB

R/L USH 45

STA 784+10.87
8.64

STA 784+70.87
8.26

STA 785+60.87
-0.21

STA 786+04.37
3.68
REMOVE EXISTING PAVEMENT

STA 786+60.55
-3.33
REMOVE EXISTING PAVEMENT

STA 786+60.87
-0.77

784

785

786

787

788

789

MATCH EXISTING PAVEMENT

CONCRETE CURB & GUTTER 6-INCH
SLOPED 36-INCH TYPE A

CONCRETE PAVEMENT 9-INCH

MATCH EXISTING PAVEMENT

STA 785+65.65
11.63
REMOVE EXISTING PAVEMENT

STA 786+04.70
6.23
REMOVE EXISTING PAVEMENT

STA 786+60.94
11.06
REMOVE EXISTING PAVEMENT

USH 45 NB

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 85	E

2

STA 121+93, 13' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

CABLE BARRIER TERMINAL NO. 1
STA 118+67, 10.0' LT

STA 119+96, 15.0' LT

PC: 122+82.51

EXISTING DOT MARKER TO REMAIN

SI

110 112 USH 45 114 116 118 120 122 124

LEGEND

GRADING & TOPSOIL

RECONSTRUCTING INLETS

CABLE BARRIER TYPE 1

CABLE BARRIER TERMINAL TYPE 1

STA 125+95, 13' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

WESTERN AVE

REDUCE POST SPACING TO 5-FT C-C OR PER
MANUFACTURER'S RECOMMENDATION

U.S.H. 45

126 128 130 132 134 136 138 140

SI

SI

SI

PT: 134+35.03

EXISTING DOT MARKER TO REMAIN

EXISTING INLET TO REMAIN

STA 128+10, 3.9' RT
CASTING ELEV 919.14
ADJUSTING INLETS REQD

U.S.H. 45

WESTERN AVE

SIGN

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CABLE BARRIER	SHEET 86	E

FILE NAME : N:\PDS\C3D\22200200\SHEETSOTHER\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - sheet 1

PLOT DATE : 4/30/2020 1:47 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

SIGN

SIGN

U.S.H. 45

142 144 146 148 150 152 154 156

CAUTION

U.S.H. 45

SI

EXISTING INLET TO REMAIN

STA 147+02, 9' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

EXISTING INLET TO REMAIN

VARY POST SPACING SO THE HIGH PRESSURE GAS PIPELINE
IS AT THE CENTER OF THE 15-FT MAXIMUM POST SPACING
(SEE CONSTRUCTION DETAILS)

PIPL

SIGN

SIGN

LEGEND

GRADING & TOPSOIL

RECONSTRUCTING INLETS

CABLE BARRIER TYPE 1

CABLE BARRIER TERMINAL TYPE 1

SIGN

U.S.H. 45

156 158 160 162 164 166 168 170

U.S.H. 45

SI

EXISTING INLET TO REMAIN

EXISTING INLET TO REMAIN

STA 168+50, 7' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

STA 168+82, R/L
CASTING ELEV 863.53
ADJUSTING INLETS REQD

SIGN

SIGN

SIGN

STA 170+90, 8' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

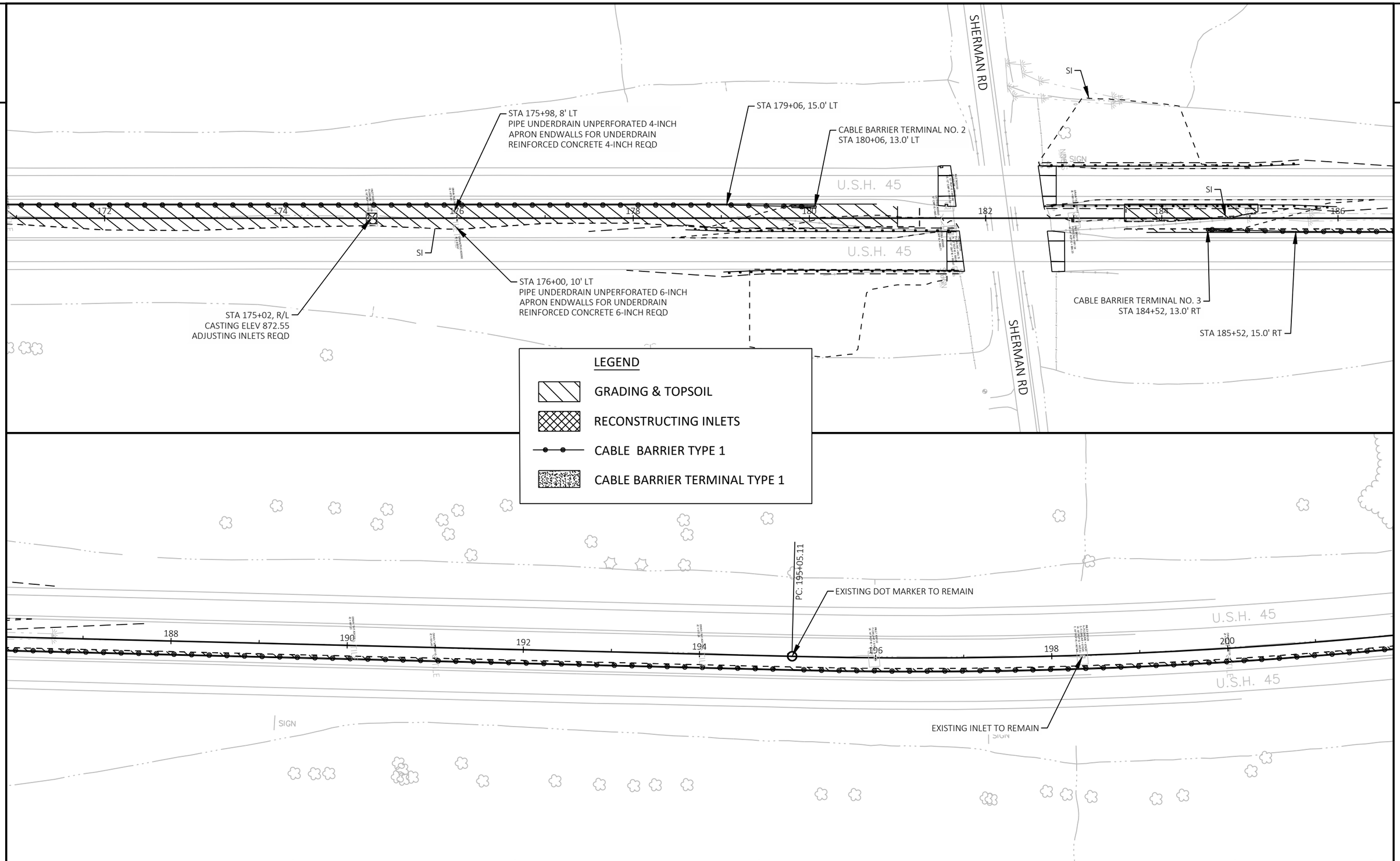
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CABLE BARRIER	SHEET 87	E

FILE NAME : N:\PDS\C3D\22200200\SHEETSOTHER\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - sheet 2

PLOT DATE : 4/24/2020 8:04 AM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

2



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CABLE BARRIER	SHEET 88	E

FILE NAME : N:\PDS\C3D\22200200\SHEETSOTHER\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - sheet 3

PLOT DATE : 4/24/2020 8:05 AM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

EXISTING DOT MARKER TO REMAIN

PT: 215+02.30

202 204 206 208 210 212 214 216

STA 207+20, 15.0' RT

CABLE BARRIER TERMINAL NO. 4
STA 208+26, 10.5' RT

CABLE BARRIER TERMINAL NO. 5
STA 209+07, 15.0' RT

MH

SIGN

LEGEND

GRADING & TOPSOIL

RECONSTRUCTING INLETS

CABLE BARRIER TYPE 1

CABLE BARRIER TERMINAL TYPE 1

U.S.H. 45

218 220 222 224 226 228 230 232

STA 230+34, 15.0' RT

STA 231+60, 6.6' RT

EXISTING INLET TO REMAIN

EXISTING INLET TO REMAIN

EXISTING INLET TO REMAIN

CABLE BARRIER TERMINAL NO. 6
STA 232+25, 6.6' RT

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CABLE BARRIER	SHEET 89	E

FILE NAME : N:\PDS\C3D\22200200\SHEETSOTHER\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - sheet 4

PLOT DATE : 4/24/2020 8:07 AM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

2

2

STH 60

STH 60

U.S.H. 45

U.S.H. 45

U.S.H. 45

SIGN

SIGN

SIGN

SIGN

SIGN

232 234 236 238 240 242 244 246

STA 241+18, 15.0' LT

SI

CABLE BARRIER TERMINAL NO. 7
STA 239+32, 6.9' LT

STA 239+95, 6.9' LT

EXISTING INLET TO REMAIN

STA 243+48, 11' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

LEGEND

GRADING & TOPSOIL

RECONSTRUCTING INLETS

CABLE BARRIER TYPE 1

CABLE BARRIER TERMINAL TYPE 1

SIGN

U.S.H. 45

U.S.H. 45

248 250 252 254 256 258 260 262

SI

STA 247+45, 11' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

EXISTING INLET TO REMAIN

STA 252+40, 12' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

EXISTING INLET TO REMAIN

STA 257+92, 11' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

EXISTING INLET TO REMAIN

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CABLE BARRIER	SHEET 90	E

2

2

CABLE BARRIER TERMINAL NO. 8
STA 268+28, 13.0' LT

CABLE BARRIER TERMINAL NO.9
STA 269+07, 9.5' LT

STA 270+30, 15.0' LT

PC: 272+51.69

EXISTING DOT MARKER TO REMAIN

SIGN

U.S.H. 45

264 266 268 270 272 274 276 278

STA 262+89, 10' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

STA 267+28, 15.0' LT

STA 269+00, R/L
CASTING ELEV 919.95
ADJUSTING INLET REQD

SI

EXISTING INLET TO REMAIN

LEGEND

GRADING & TOPSOIL

RECONSTRUCTING INLETS

CABLE BARRIER TYPE 1

CABLE BARRIER TERMINAL TYPE 1

CEDAR CREEK RD

REDUCE POST SPACING TO 5-FT C-C OR PER
MANUFACTURER'S RECOMMENDATION

278 280 282 284 286 288 290 292

SI

EXISTING INLET TO REMAIN

STA 278+08, 9' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

STA 191+01, 0.3' RT
CASTING ELEV 944.69
ADJUSTING INLETS REQD

LEGEND

PERMANENT IMPACTS

TEMPORARY IMPACTS

SLOPE INTERCEPTS

WETLAND BOUNDARY

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CABLE BARRIER	SHEET 91	E

FILE NAME : N:\PDS\C3D\22200200\SHEETSOTHER\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - sheet 6

PLOT DATE : 4/30/2020 1:40 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

PT: 298+69.77

EXISTING DOT MARKER TO REMAIN

STA 308+25, 15.0' LT

SIGN

294 296 298 300 302 304 306 308

EXISTING INLET TO REMAIN

STA 298+96, 6' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

SI

STA 303+00, R/L
CASTING ELEV 959.85
ADJUSTING INLET REQD

STA 305+06, 5' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

SIGN

SIGN

LEGEND

GRADING & TOPSOIL

RECONSTRUCTING INLETS

CABLE BARRIER TYPE 1

CABLE BARRIER TERMINAL TYPE 1

CABLE BARRIER TERMINAL NO. 10
STA 309+25, 13.0' LT

BP: 1318+00.00

SIGN

1319+00 1320+00 1321+00 1322+00 1323+00

BP: 1320+00.00

U.S.H. 45

310 312 314 316 318 320 322

SI

U.S.H. 45

1321+00 1322+00 1323+00

STA 311+06, 15.0' RT

SIGN

CABLE BARRIER TERMINAL NO. 11
STA 310+06, 13.0' RT

STA 310+00, R/L
CASTING ELEV 971.85
ADJUSTING INLET REQD

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CABLE BARRIER	SHEET 92	E

FILE NAME : N:\PDS\C3D\22200200\SHEETSOTHER\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - sheet 7

PLOT DATE : 4/24/2020 8:11 AM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

2

2

USH 45 SB ON-RAMP

PI: 1328+61.12

PC: 1330+19.49

PC: 1328+38.07

U.S.H. 45

SI

EXISTING INLET TO REMAIN

PT: 1334+18.80

USH 45 NB OFF-RAMP

EP: 1338+31.74

LEGEND

GRADING & TOPSOIL

RECONSTRUCTING INLETS

CABLE BARRIER TYPE 1

CABLE BARRIER TERMINAL TYPE 1

PLEASANT VALLEY RD

USH 45 SB OFF-RAMP

PC: 350+67.43

REDUCE POST SPACING TO 5-FT C-C OR PER MANUFACTURER'S RECOMMENDATION

USH 45 NB ON-RAMP

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CABLE BARRIER	SHEET 93	E

FILE NAME : N:\PDS\C3D\22200200\SHEETSOTHER\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - sheet 8

PLOT DATE : 4/24/2020 8:12 AM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

2

2

SIGN

I SIGN

U.S.H. 45

354 356 358 360 362 364 366 368

SI

U.S.H. 45

LEGEND

GRADING & TOPSOIL

RECONSTRUCTING INLETS

CABLE BARRIER TYPE 1

CABLE BARRIER TERMINAL TYPE 1

PT: 375+48.39

EXISTING DOT MARKER TO REMAIN

EXISTING INLET TO REMAIN

U.S.H. 45

SI

370 372 374 376 378 380 382 384

STA 271+33, 15.0' RT

STA 274+26, 15.0' LT

SI

CABLE BARRIER TERMINAL NO. 13
STA 373+23, 10.0' LT

CABLE BARRIER TERMINAL NO. 12
STA 372+46, 10.0' RT

STA 380+98, 9' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

EXISTING INLET TO REMAIN

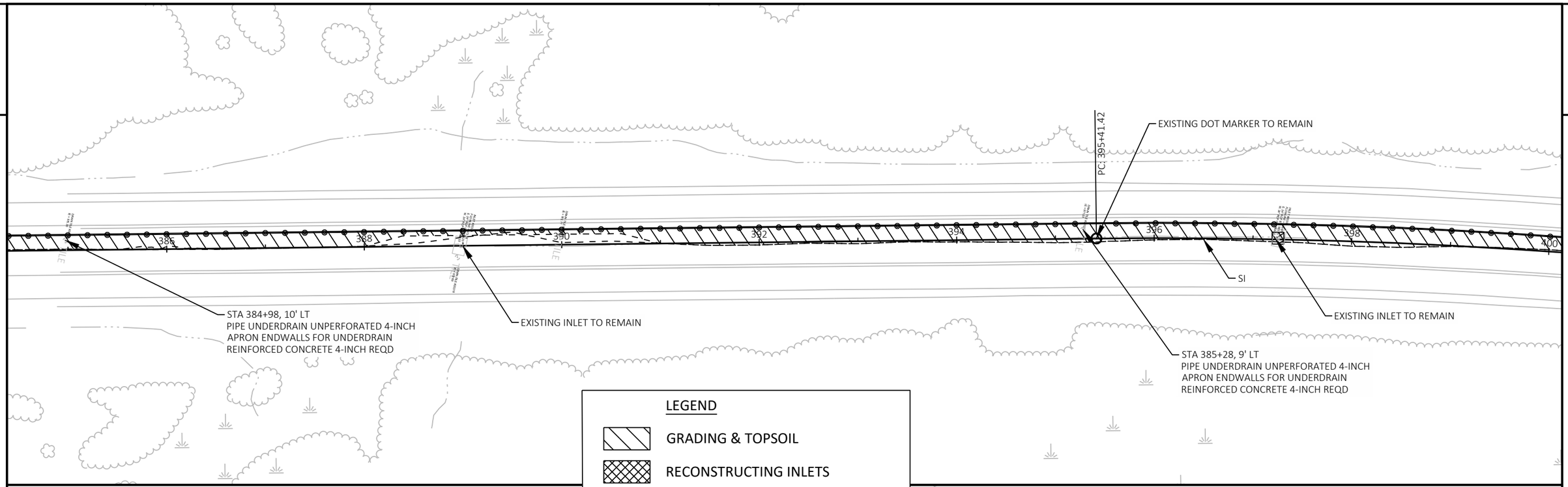
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CABLE BARRIER	SHEET 94	E

FILE NAME : N:\PDS\C3D\22200200\SHEETSOTHER\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - sheet 9

PLOT DATE : 4/24/2020 8:13 AM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:100 FT

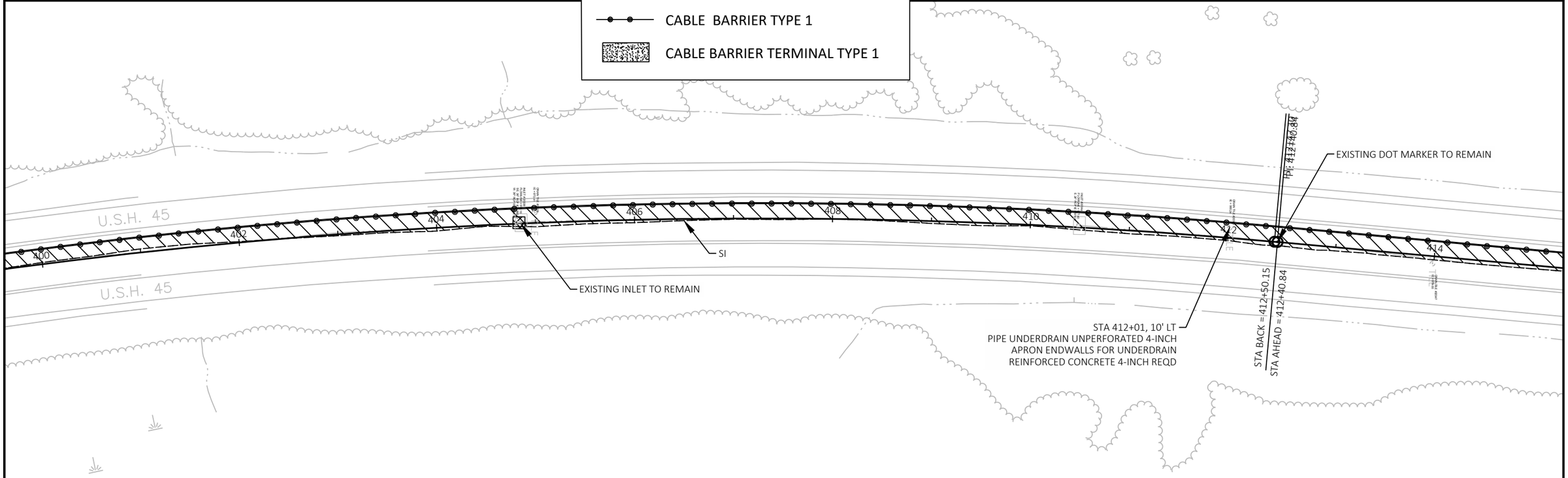
2

2



LEGEND

- GRADING & TOPSOIL
- RECONSTRUCTING INLETS
- CABLE BARRIER TYPE 1
- CABLE BARRIER TERMINAL TYPE 1



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CABLE BARRIER	SHEET 95	E

FILE NAME : N:\PDS\C3D\22200200\SHEETSOTHER\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - sheet 10

PLOT DATE : 4/24/2020 8:15 AM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

2

2

MILE VIEW RD

SIGN

SI

SI

SI

U.S.H. 45

REDUCE POST SPACING TO 5-FT C-C OR PER MANUFACTURE'S RECOMMENDATION

416 418 420 422 424 426 428 430

SI

SI

U.S.H. 45

SIGN

SIGN

STA 415+97, 10' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

STA 421+75, R/L
CASTING ELEV 982.27
RECONSTRUCTING INLETS REQD

STA 424+94, 7' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

LEGEND

GRADING & TOPSOIL

RECONSTRUCTING INLETS

CABLE BARRIER TYPE 1

CABLE BARRIER TERMINAL TYPE 1

U.S.H. 45

432 434 436 438 440 442 444

U.S.H. 45

SIGN

SIGN

SI

EXISTING INLET TO REMAIN

EXISTING INLET TO REMAIN

STA 431+09, 12' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

STA 435+95, 13' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

STA 440+88, 8' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CABLE BARRIER	SHEET 96	E

FILE NAME : N:\PDS\C3D\22200200\SHEETSOTHER\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - sheet 11

PLOT DATE : 4/24/2020 8:16 AM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

REDUCE POST SPACING TO 5-FT C-C OR PER MANUFACTURER'S RECOMMENDATION

CTH NN

U.S.H. 45

U.S.H. 45

SI

EXISTING INLET TO REMAIN

STA 446+05, 7' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

STA 455+90, 8' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

LEGEND

GRADING & TOPSOIL

RECONSTRUCTING INLETS

CABLE BARRIER TYPE 1

CABLE BARRIER TERMINAL TYPE 1

STA 475+76, 15.0' LT

U.S.H. 45

U.S.H. 45

SI

EXISTING INLET TO REMAIN

STA 461+01, 10' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CABLE BARRIER	SHEET 97	E

2

2

CABLE BARRIER TERMINAL NO. 14
STA 476+76, 13.0' LT

476 478 480 482 484 486 488 490

SI

STA 478+25, 15.0' RT

CABLE BARRIER TERMINAL NO. 15
STA 477+25, 13.0' RT

EXISTING INLET TO REMAIN

EXISTING INLET TO REMAIN

EXISTING INLET TO REMAIN

STA 484+34, 12' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

STA 488+91, 13' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

SIGN

LEGEND

GRADING & TOPSOIL

RECONSTRUCTING INLETS

CABLE BARRIER TYPE 1

CABLE BARRIER TERMINAL TYPE 1

W PARADISE DR

USH 45 SB ON-RAMP

EXISTING DOT MARKER TO REMAIN

PC: 500+04.22

CABLE BARRIER TERMINAL NO. 16
STA 501+66, 6.6' RT

U.S.H. 45

492 494 496 498 500 502 504 506

SI

U.S.H. 45

SIGN

EXISTING INLET TO REMAIN

EXISTING INLET TO REMAIN

STA 499+78, 15.0' RT

STA 501+01, 6.6' RT

USH 45 NB OFF-RAMP

STA 494+07, 12' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

SI

W PARADISE DR

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CABLE BARRIER	SHEET 98	E

FILE NAME : N:\PDS\C3D\22200200\SHEETSOTHER\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - sheet 13

PLOT DATE : 4/24/2020 8:19 AM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

2

2

USH 45 SB OFF-RAMP

EXISTING INLET TO REMAIN

SI

SI

U.S.H. 45

U.S.H. 45

508

510

512

514

516

518

520

522

STA 508+66, 15.0' RT

EXISTING INLET TO REMAIN

USH 45 NB ON-RAMP

CABLE BARRIER TERMINAL NO. 17
STA 507+66, 13.0' RT

LEGEND

GRADING & TOPSOIL

RECONSTRUCTING INLETS

CABLE BARRIER TYPE 1

CABLE BARRIER TERMINAL TYPE 1

U.S.H. 45

522

524

526

528

530

532

534

536

EXISTING INLET TO REMAIN

EXISTING INLET TO REMAIN

PI: 541+94.80

PC = 537+24.12

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CABLE BARRIER	SHEET 99	E

FILE NAME : N:\PDS\C3D\22200200\SHEETSOTHER\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - sheet 14

PLOT DATE : 4/24/2020 8:20 AM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

CABLE BARRIER TERMINAL NO. 19
STA 546+92, 11.0' LT

STA 548+07, 15.0' LT

STA 555+22, 15.0' LT

CABLE BARRIER TERMINAL NO. 20
STA 556+22, 13.0' LT

S 18TH AVE

PI: 543+94.30

U.S.H. 45

544 546 548 550 552 554 556 558

STA BACK = 537+24.12
STA AHEAD = 543+94.20

STA 545+10, 15.0' RT

CABLE BARRIER TERMINAL NO. 18
STA 546+10, 10.0' RT

EXISTING INLET TO REMAIN

SIGN

LEGEND

GRADING & TOPSOIL

RECONSTRUCTING INLETS

CABLE BARRIER TYPE 1

CABLE BARRIER TERMINAL TYPE 1

STA 563+98, 15.0' LT

STA 562+66, 7.0' LT

PC: 559+21.31

U.S.H. 45

560 562 564 566 568 570 572 574

SI

EXISTING INLET TO REMAIN

CABLE BARRIER TERMINAL NO. 21
STA 562+02, 6.2' LT

STA 564+87, 7' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

EXISTING DOT MARKER TO REMAIN

S 18TH AVE

18TH AVE

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CABLE BARRIER	SHEET 100	E

FILE NAME : N:\PDS\C3D\22200200\SHEETSOTHER\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - sheet 15

PLOT DATE : 4/24/2020 8:21 AM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

W DECORAH RD

U.S.H. 45

SIGN

574 576 580 581 584 586 588

PT: 589+05.49

SI

REDUCE POST SPACING TO 5-FT C-C OR PER MANUFACTURER'S RECOMMENDATION

EXISTING INLET TO REMAIN

STA 574+99, 9' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

STA 584+92, 8' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

EXISTING DOT MARKER TO REMAIN

LEGEND

- GRADING & TOPSOIL
- RECONSTRUCTING INLETS
- CABLE BARRIER TYPE 1
- CABLE BARRIER TERMINAL TYPE 1

16'(P)

590 592 594 596 598 600 602 604

EXISTING INLET TO REMAIN

SI

EXISTING INLET TO REMAIN

STA 589+92, 8' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

STA 594+90, 8' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CABLE BARRIER	SHEET 101	E

FILE NAME : N:\PDS\C3D\22200200\SHEETSOTHER\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - sheet 16
PLOT DATE : 4/24/2020 8:22 AM
PLOT BY : YANG, VANG NENG
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

2

2

CABLE BARRIER TERMINAL NO. 22
STA 604+85, 15.0' LT

STA 606+80, 15.0' LT

REDUCE POST SPACING TO 5-FT C-C OR PER
MANUFACTURER'S RECOMMENDATION

CHESTNUT ST

STA 618+06, 12' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

U.S.H. 45

606 608 610 612 614 616 618 620

SI

SI

EXISTING INLET TO REMAIN

STA 606+95, 9' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

EXISTING INLET TO REMAIN

CABLE BARRIER TERMINAL NO. 23
STA 605+64, 9.5' RT

CHESTNUT ST

SIGN

SIGN

U.S.H. 45

EXISTING INLET TO REMAIN

LEGEND

GRADING & TOPSOIL

RECONSTRUCTING INLETS

CABLE BARRIER TYPE 1

CABLE BARRIER TERMINAL TYPE 1

W WASHINGTON ST

CABLE BARRIER TERMINAL NO. 24
STA 631+62, 15.0' LT

PC: 631+11.08

STA 630+62, 15.0' LT

620 622 624 626 628 630 632 634

EXISTING INLET TO REMAIN

EXISTING INLET TO REMAIN

EXISTING DOT MARKER TO REMAIN

SIGN

SIGN

SIGN

SIGN

SIGN

SIGN

STH 33/144

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CABLE BARRIER	SHEET 102	E

FILE NAME : N:\PDS\C3D\22200200\SHEETSOTHER\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - sheet 17

PLOT DATE : 4/24/2020 8:24 AM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

2

EXISTING DOT MARKER TO REMAIN

PT: 637+09.87

STA 638+16, 7.4' LT

STA 639+52, 15.0' LT

U.S.H. 45

636 640 642 644 646 648 650

SIGN

SIGN

SI

EXISTING INLET TO REMAIN

U.S.H. 45

SIGN

CABLE BARRIER TERMINAL NO. 25
STA 637+54, 7.4' LT

STA 642+95, 12' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

LEGEND

- GRADING & TOPSOIL
- RECONSTRUCTING INLETS
- CABLE BARRIER TYPE 1
- CABLE BARRIER TERMINAL TYPE 1

PARK AVE

REDUCE POST SPACING TO 5-FT C-C OR PER
MANUFACTURER'S RECOMMENDATION

SIGN

U.S.H. 45

652 654 656 658 660 662 664

SI

SI

U.S.H. 45

PARK AVE

EXISTING INLET TO REMAIN

EXISTING INLET TO REMAIN

STA 655+89, 8' LT
PIPE UNDERDRAIN UNPERFORATED 4-INCH
APRON ENDWALLS FOR UNDERDRAIN
REINFORCED CONCRETE 4-INCH REQD

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CABLE BARRIER	SHEET 103	E

FILE NAME : N:\PDS\C3D\22200200\SHEETSOTHER\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - sheet 18

PLOT DATE : 4/24/2020 8:25 AM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

2

2

CABLE BARRIER TERMINAL NO. 26
STA 669+00, 13.0' LT

STA 668+00, 15.0' LT

PC: 671+48.70

PT: 678+48.29

SIGN

U.S.H. 45

USH 45

666 668 670 672 674 676 678 680

SI

STA 669+05, R/L
CASTING ELEV 992.08
ADJUSTING INLET REQD

U.S.H. 45

LEGEND

GRADING & TOPSOIL

RECONSTRUCTING INLETS

CABLE BARRIER TYPE 1

CABLE BARRIER TERMINAL TYPE 1

SIGN

U.S.H. 45

682 684 686 688 690 692 694 696

SIGN

U.S.H. 45

SIGN

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CABLE BARRIER	SHEET 104	E

FILE NAME : N:\PDS\C3D\22200200\SHEETSOTHER\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - sheet 19

PLOT DATE : 4/24/2020 8:26 AM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:100 FT

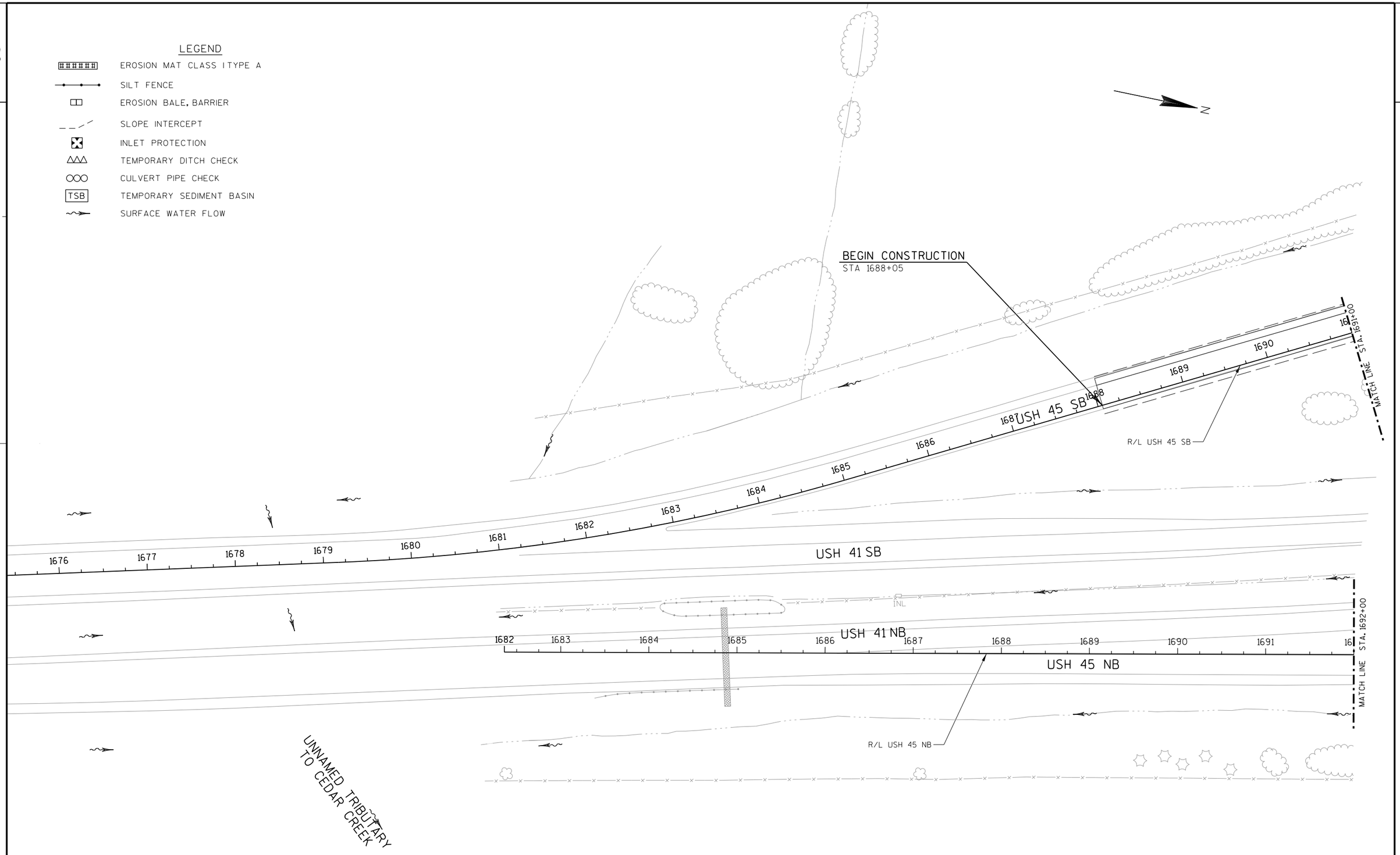
WISDOT/CADDS SHEET 44

2

2

LEGEND

- EROSION MAT CLASS I TYPE A
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TSB — TEMPORARY SEDIMENT BASIN
- SURFACE WATER FLOW



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 105	E

FILE NAME : L:\Jobs2010\20100347\CAD\WISDOT_Trans\dgn\00\022001_EC.DGN PLOT DATE : 4/28/2020 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

LEGEND

- EROSION MAT CLASS I TYPE A
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TSB — TEMPORARY SEDIMENT BASIN
- SURFACE WATER FLOW

B-66-37
NO WORK

B-66-37

USH 45 SB

R/L USH 45 SB

LITTLE CEDAR CREEK

MATCH LINE STA. 1691+00

MATCH LINE STA. 1707+00

N

USH 41 SB

USH 41 NB

BEGIN PROJECT ID
2220-02-70
STA 1694+70

R/L USH 45 NB

USH 45 NB

MATCH LINE STA. 1692+00

MATCH LINE STA. 1706+50

SIGN

INL

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 106	E

2

USH 41 SB

USH 41 NB

RIPRAP

N

B-66-37
NO WORK

MATCH LINE STA. 1707+00

1707 1708 1709 1710 1711 1712 1713 1714 1715 1716 1717 1718 1719 1720 1721 17

USH 45 SB

R/L USH 45 SB

MATCH LINE STA. 1722+00

R/L USH 45 NB

MATCH LINE STA. 1706+50

1707 1708 1709 1710 1711 1712 1713 1714 1715 1716 1717 1718 1719 1720 1721 17

USH 45 NB

MATCH LINE STA. 1722+00

LEGEND

- EROSION MAT CLASS I TYPE A
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TSB — TEMPORARY SEDIMENT BASIN
- SURFACE WATER FLOW

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 107	E

2

RIPRAP

RIPRAP

SIGN

N

USH 45 SB ON RAMP

INL

MATCH LINE STA. 1722+00

MATCH LINE STA. 1737+00

22 1723 1724 1725 1726 1727 1728 1729 1730 1731 1732 1733 1734 1735 1736 17

USH 45 SB

R/L USH 45 SB

R/L USH 45 NB

MATCH LINE STA. 1722+00

MATCH LINE STA. 1737+00

22 1723 1724 1725 1726 1727 1728 1729 1730 1731 1732 1733 1734 1735 1736 17

USH 45 NB

SIGN

SIGN

USH 45 NB OFF RAMP

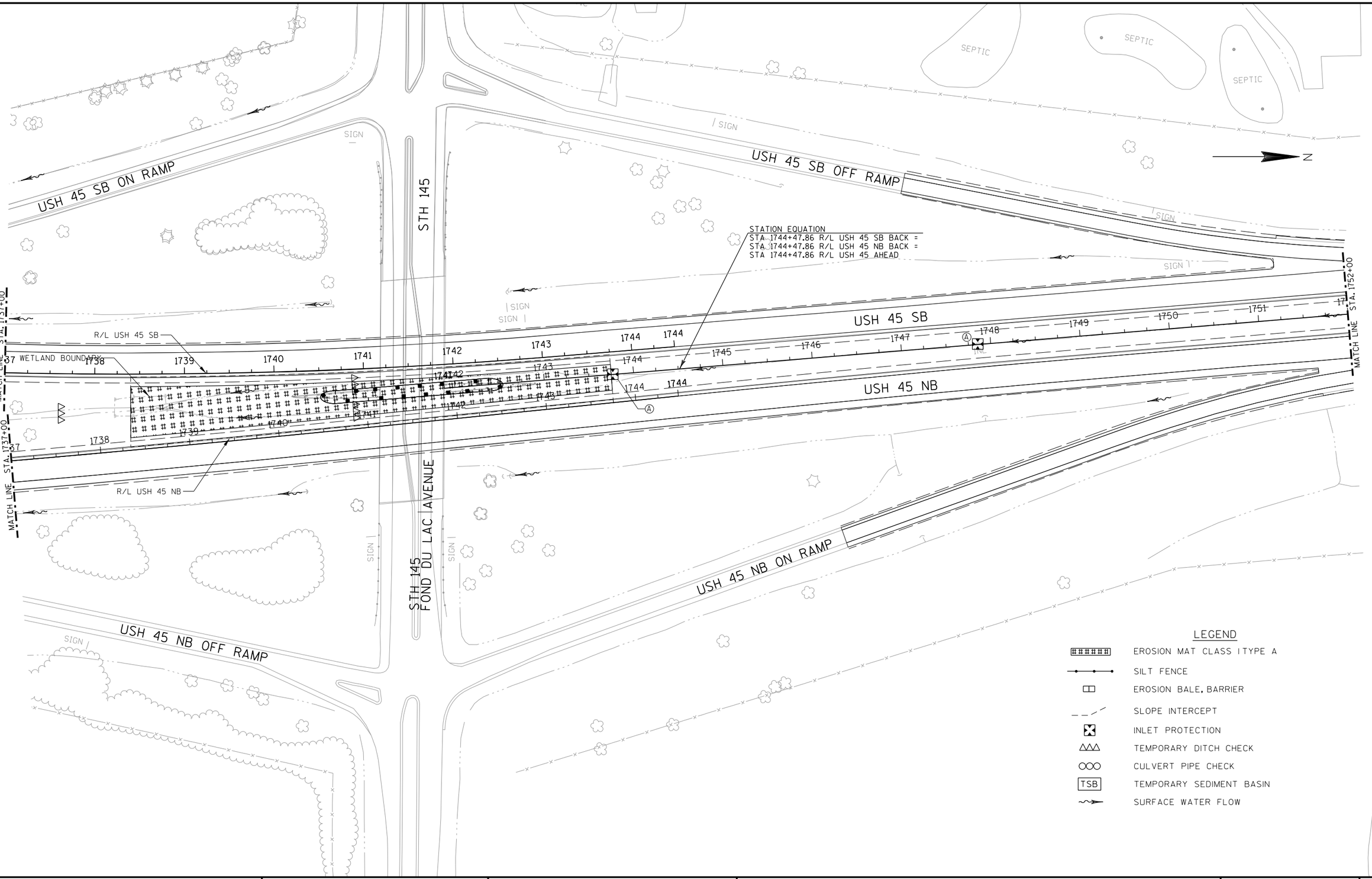
T31S R20E

LEGEND

- EROSION MAT CLASS I TYPE A
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TSB — TEMPORARY SEDIMENT BASIN
- SURFACE WATER FLOW

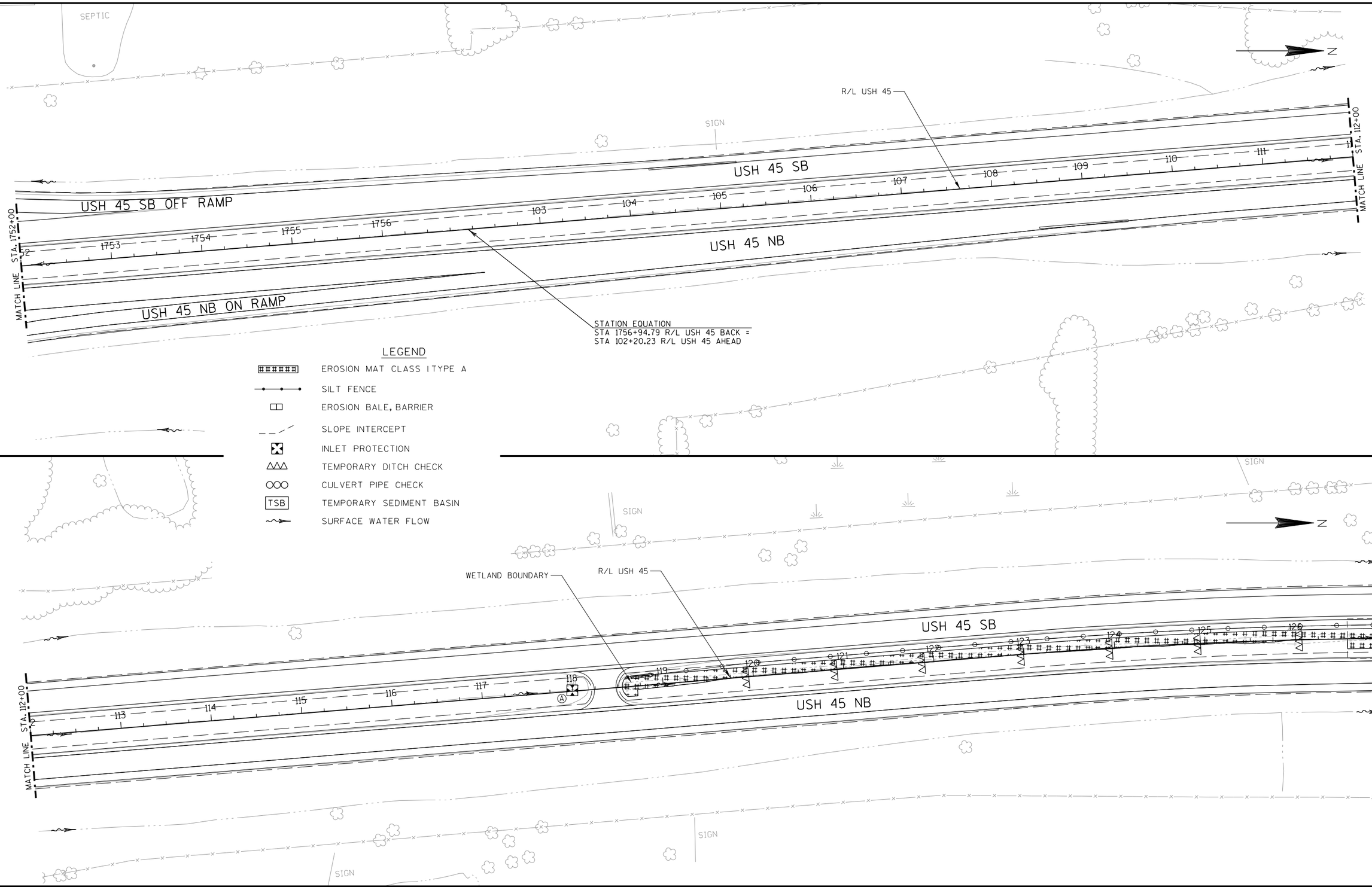
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 108	E

2



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 109	E

2

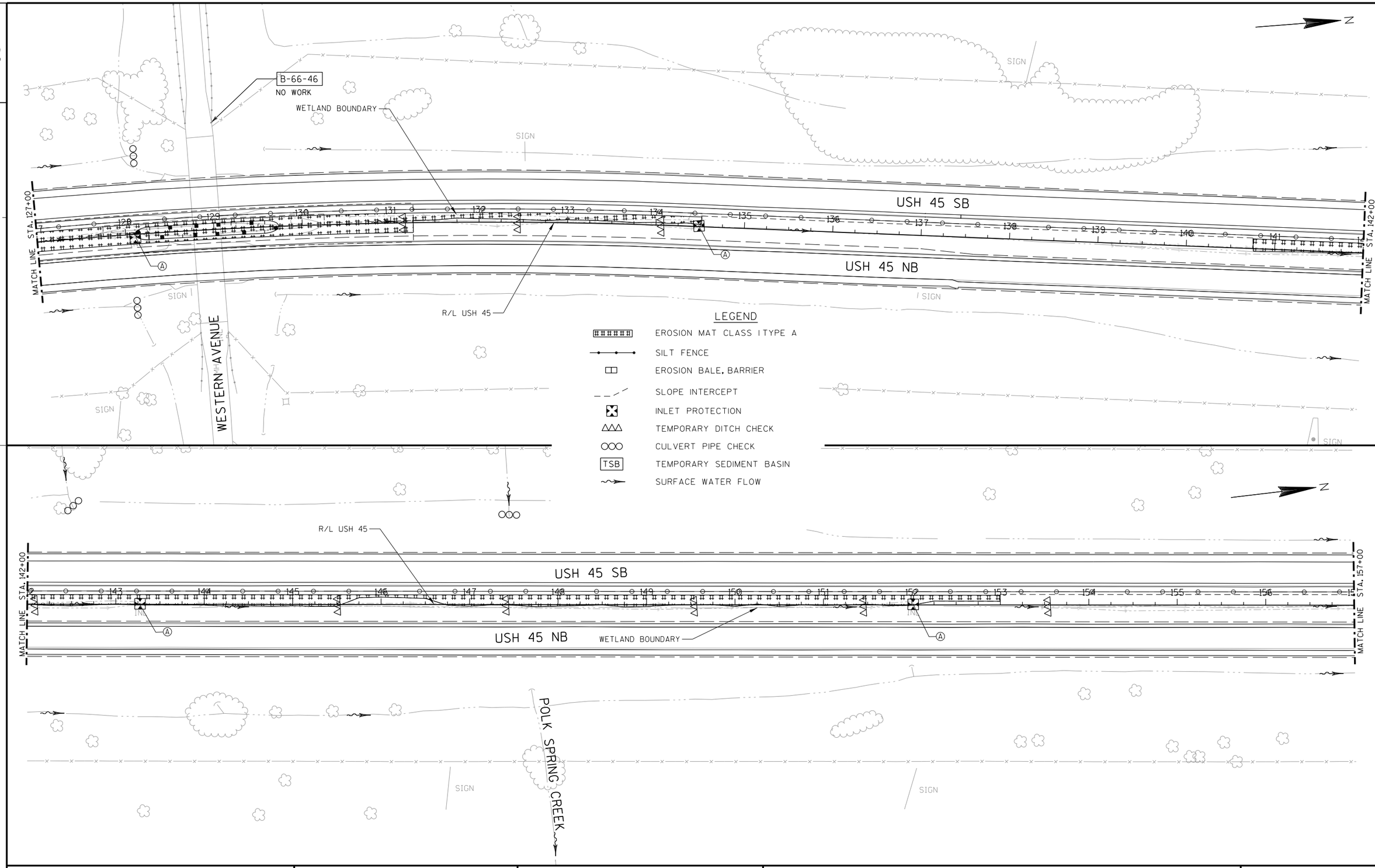


LEGEND

- EROSION MAT CLASS I TYPE A
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TSB — TEMPORARY SEDIMENT BASIN
- SURFACE WATER FLOW

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 110	E

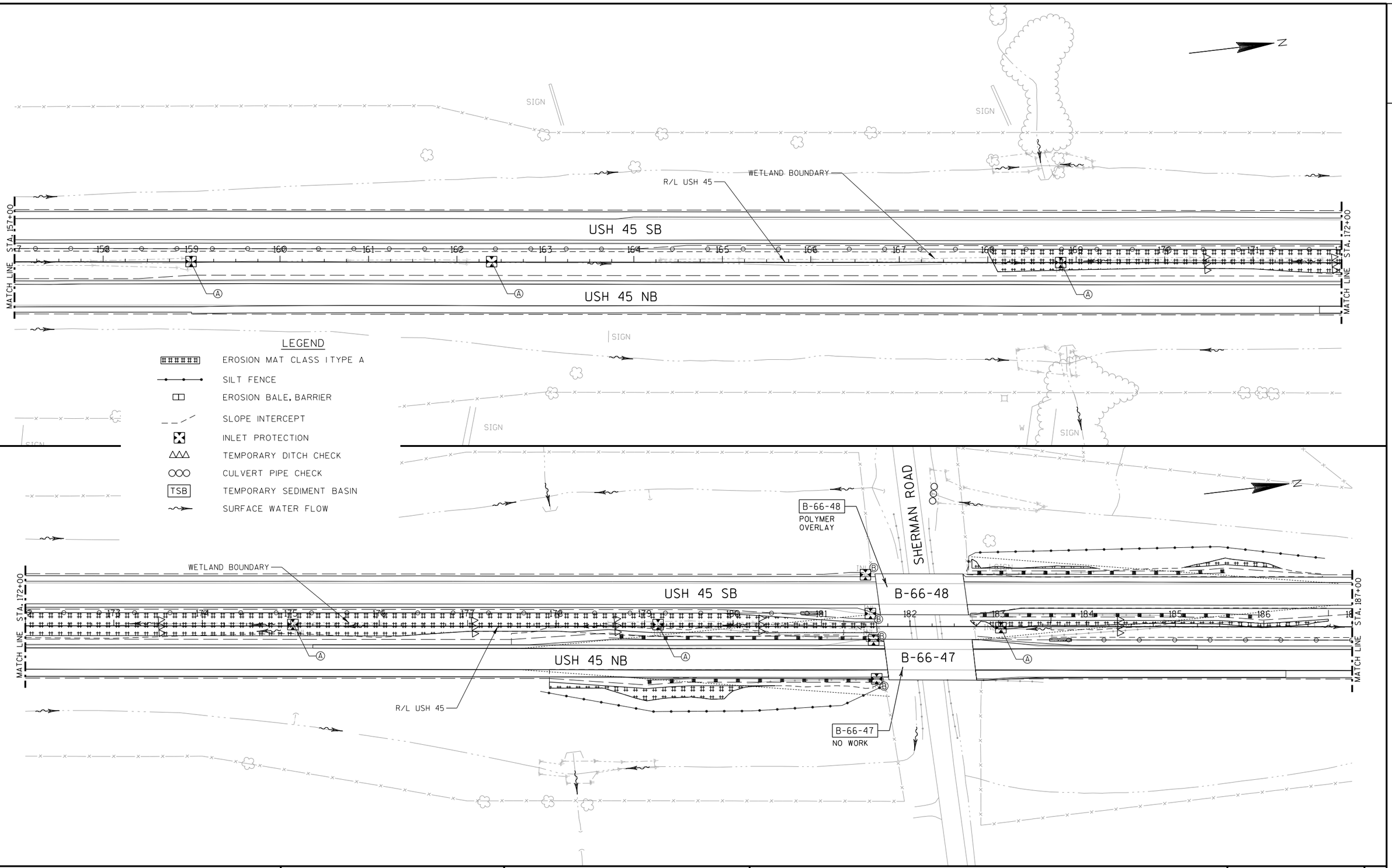
2



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 111	E

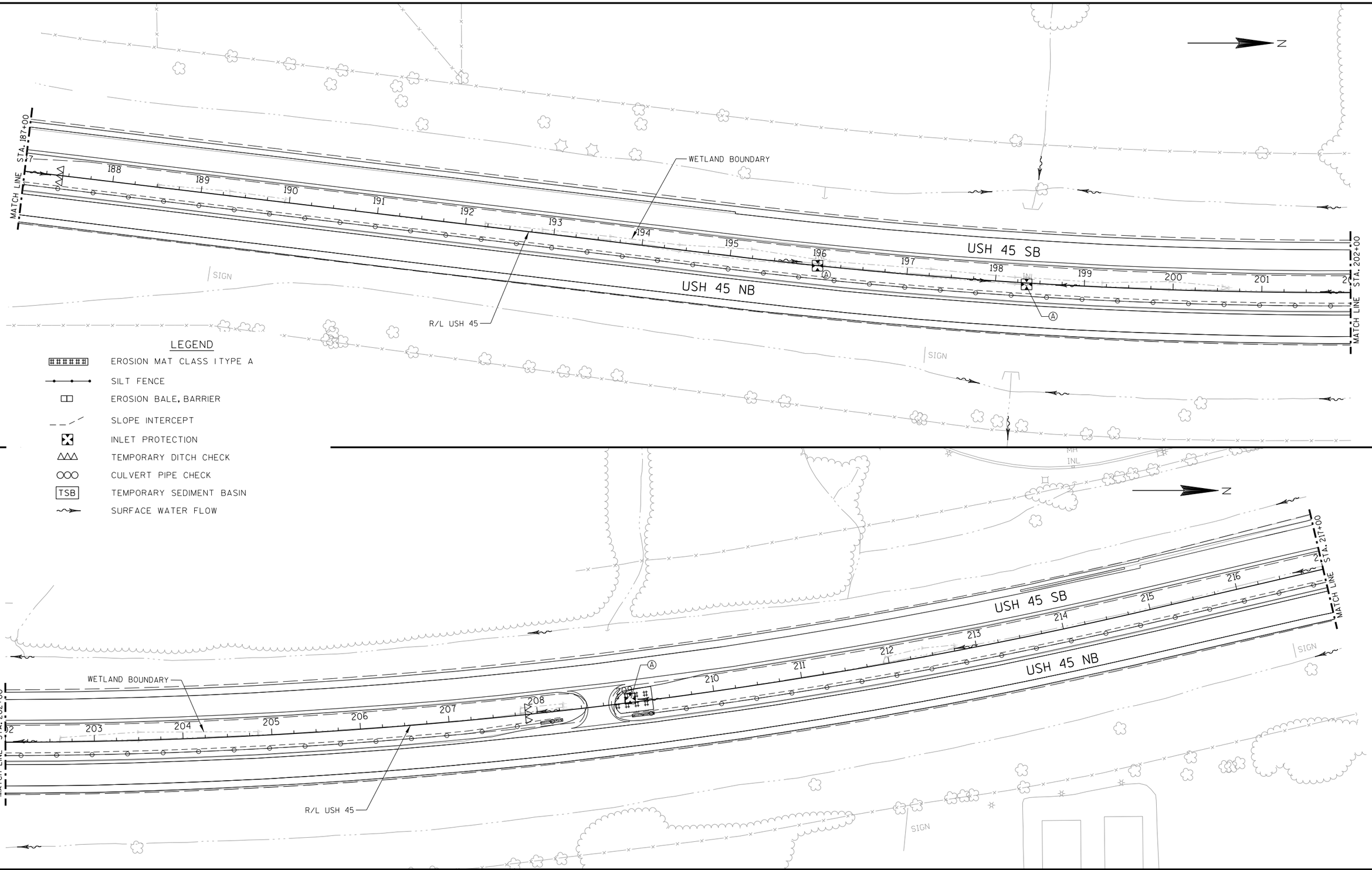
2

2



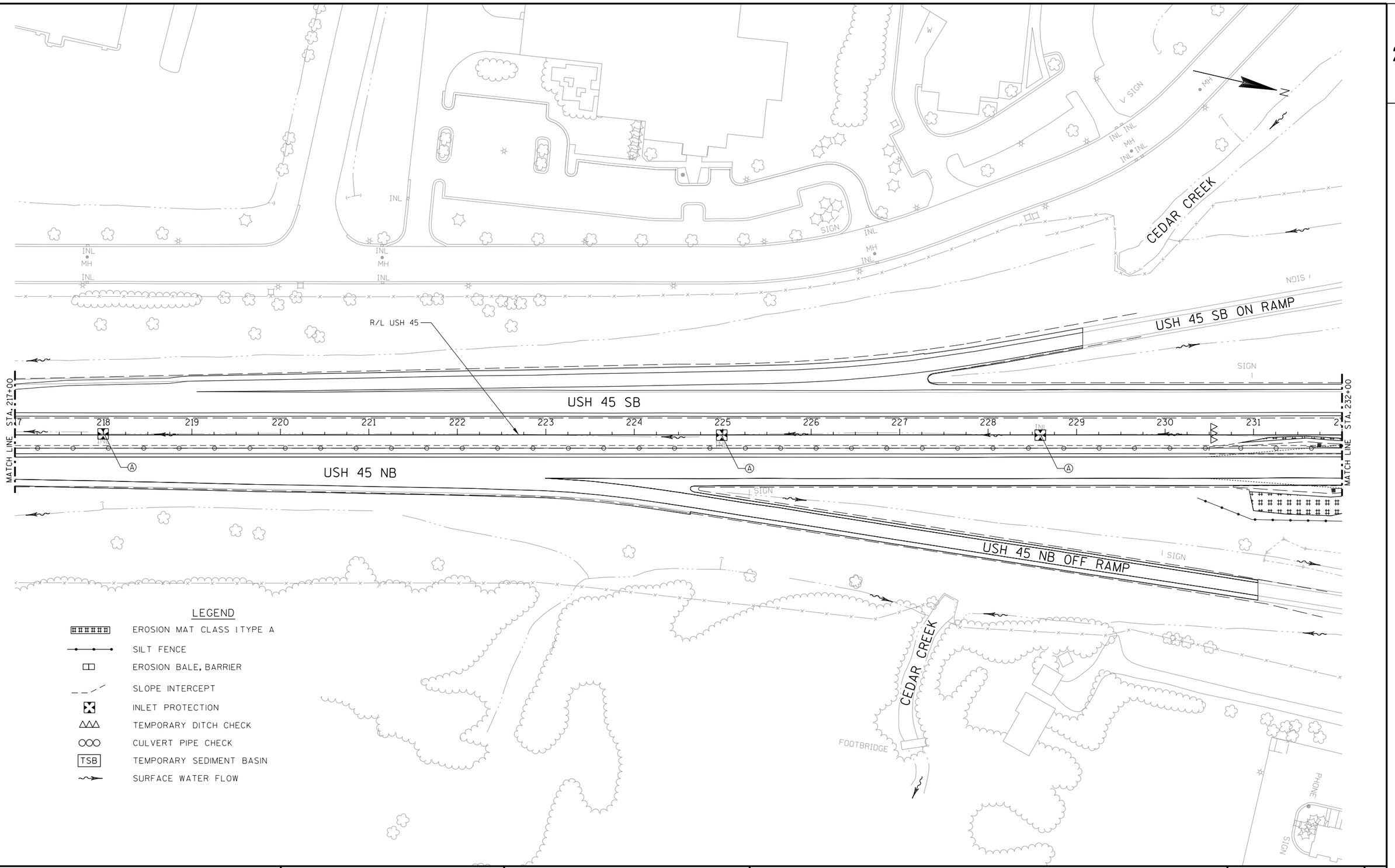
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 112	E

2



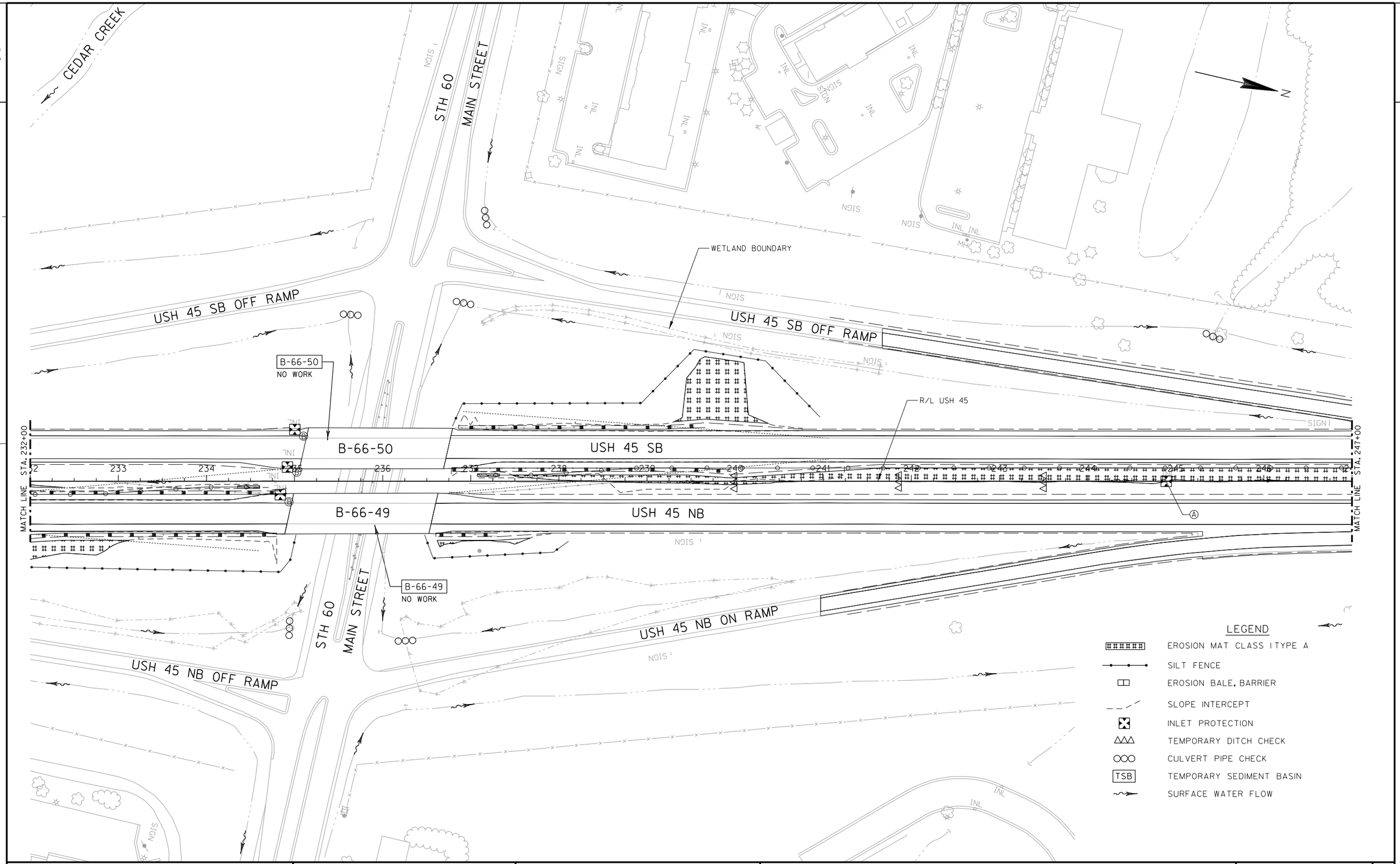
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 113	E

2



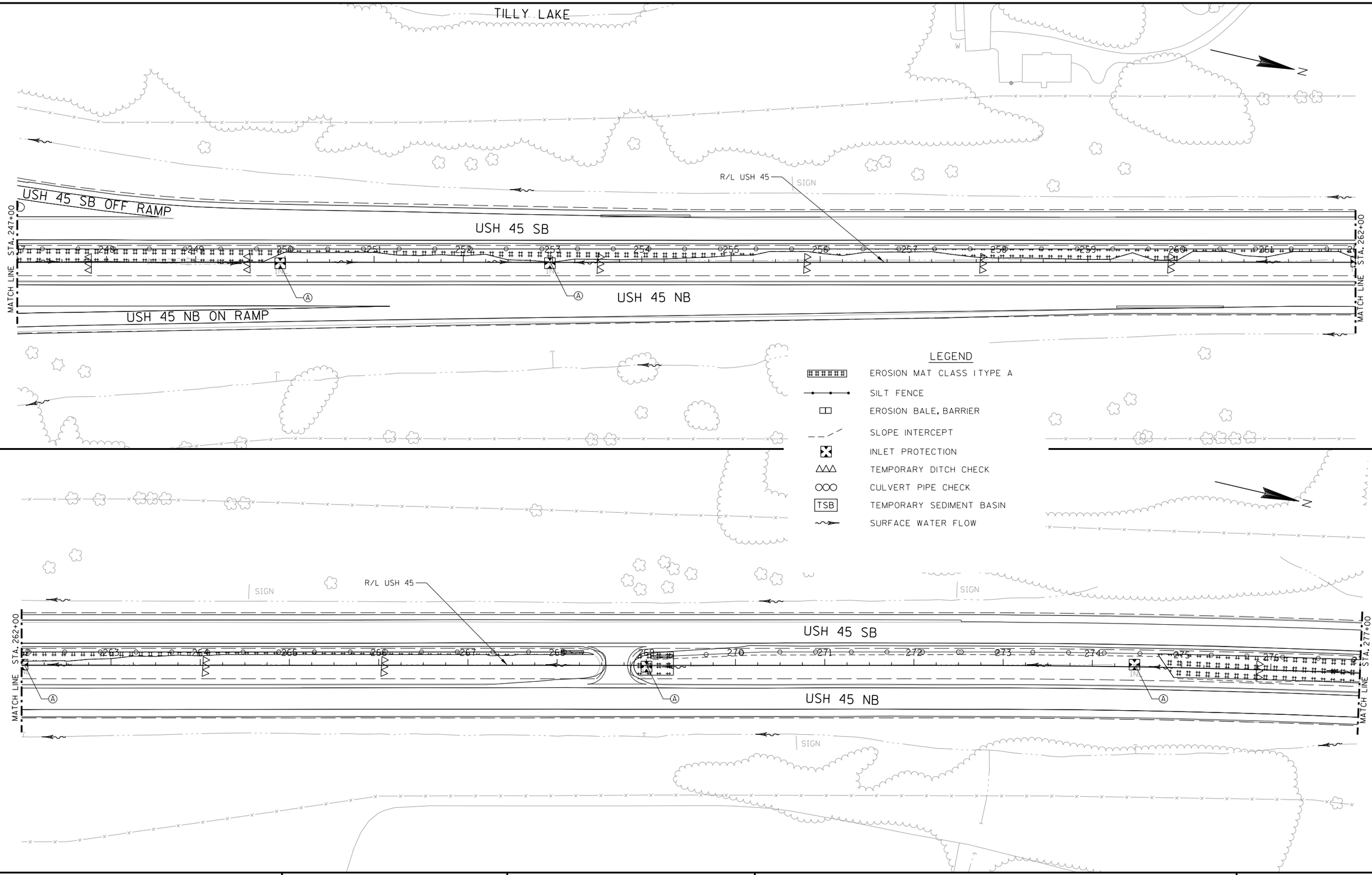
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 114	E

2



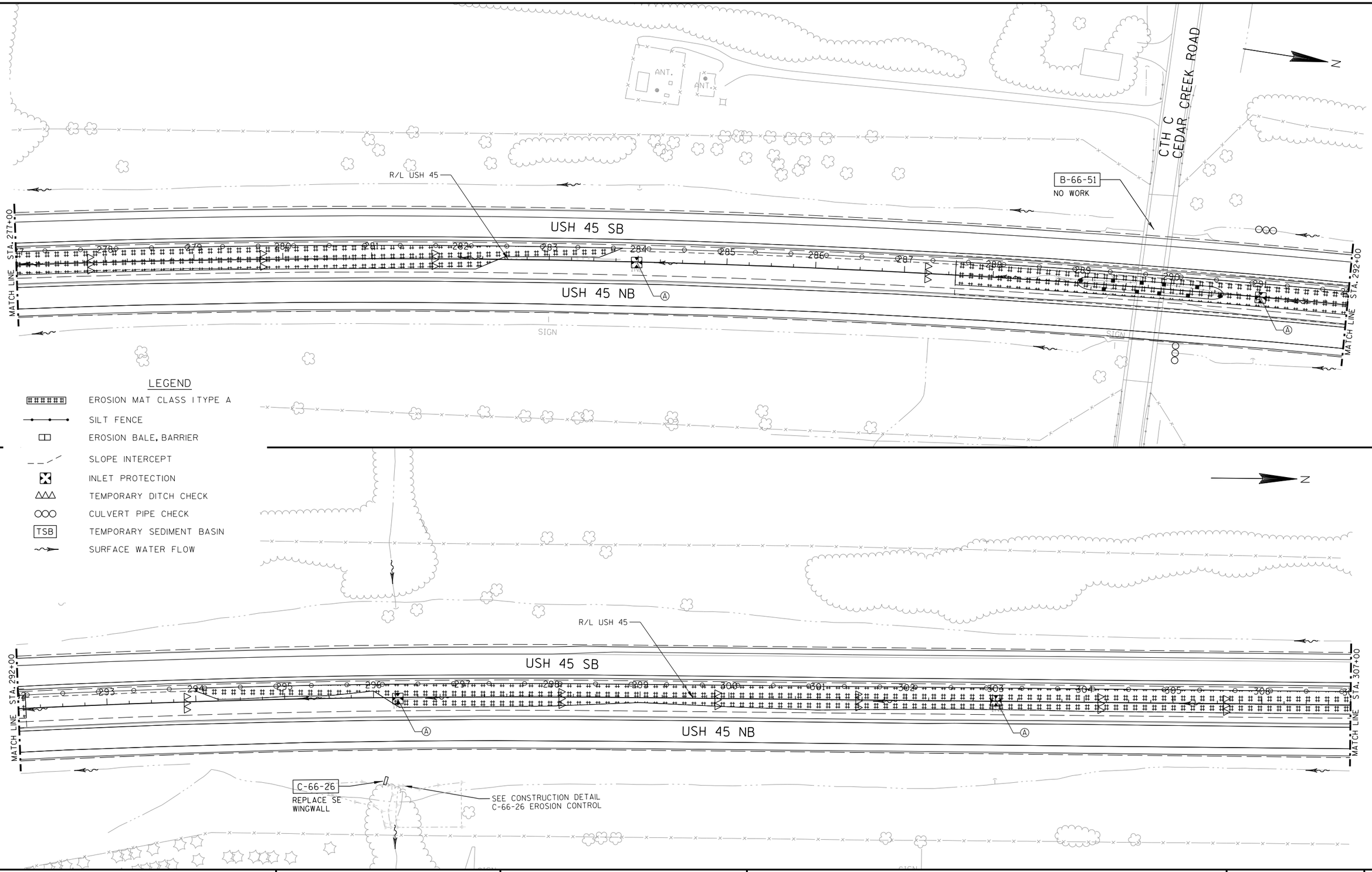
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 115	E

2



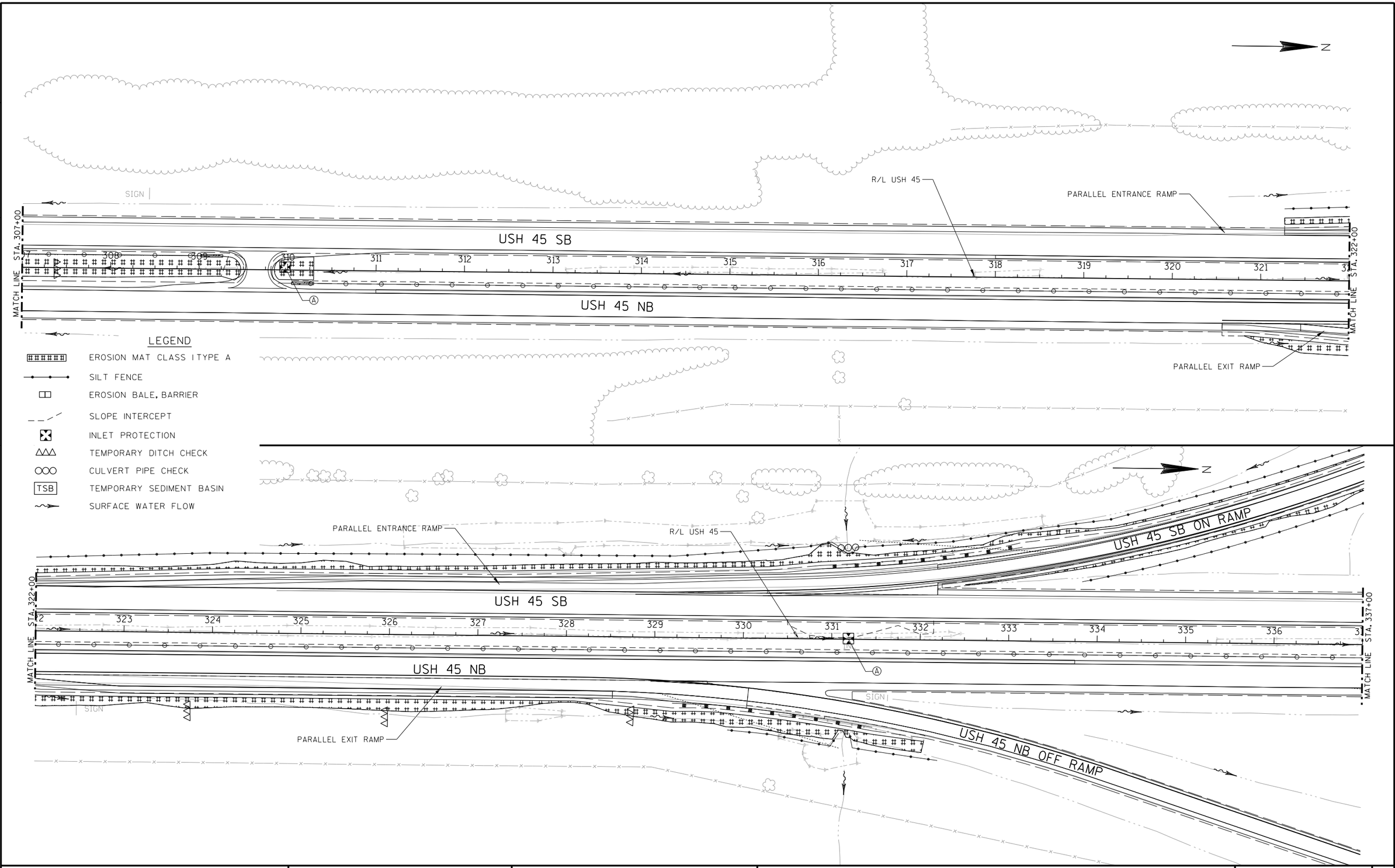
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 116	E

2



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 117	E

2



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 118	E

2

N

USH 45 SB ON RAMP

USH 45 SB OFF RAMP

PLEASANT VALLEY ROAD

CTH PV

MH

I SIGN

WETLAND BOUNDARY

B-66-52
NO WORK

R/L USH 45

USH 45 SB

USH 45 NB

MATCH LINE STA. 337+00

MATCH LINE STA. 352+00

337 338 339 340 341 342 343 344 345 346 347 348 349 350 351

USH 45 NB OFF RAMP

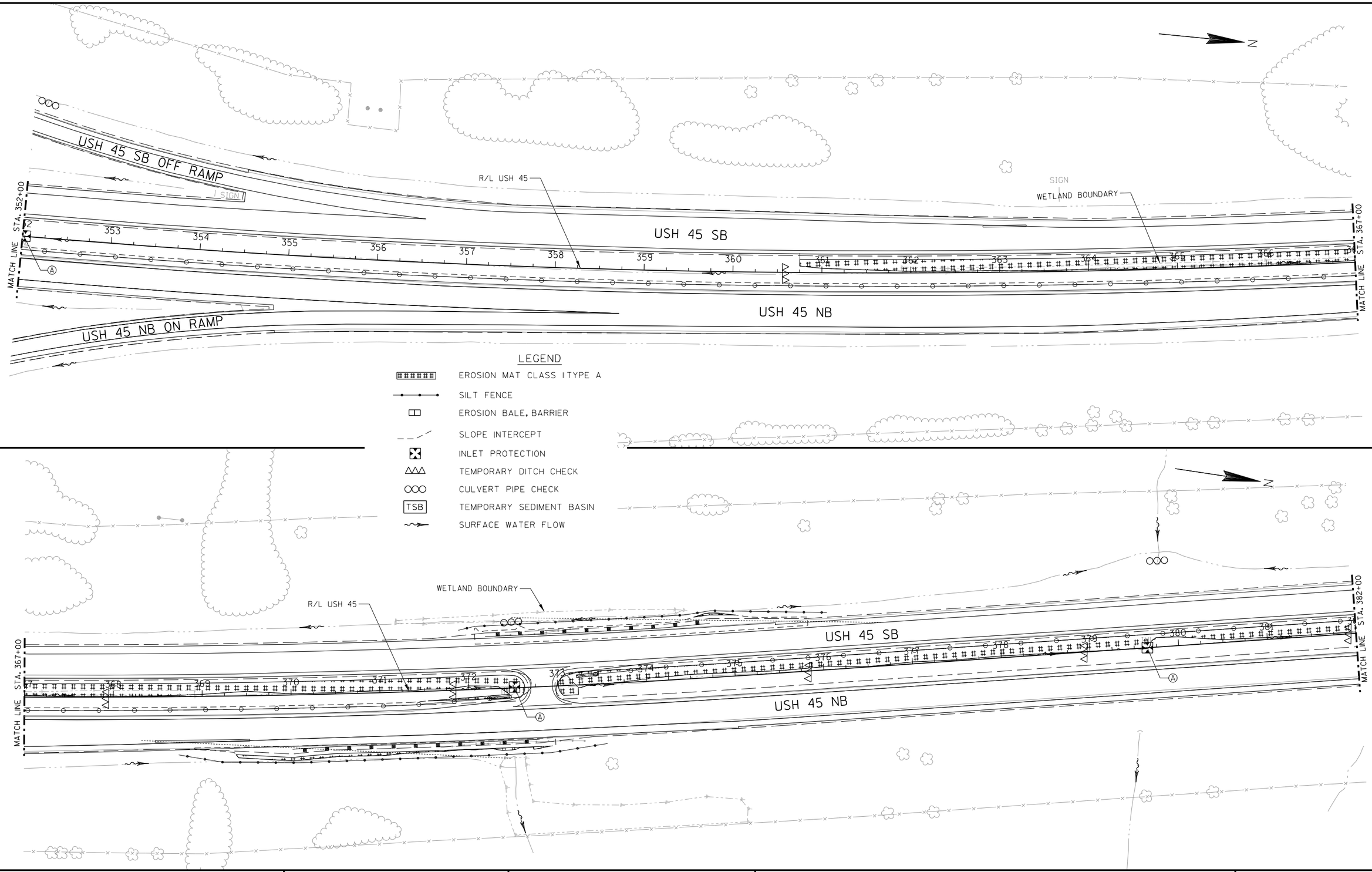
USH 45 NB ON RAMP

LEGEND

- EROSION MAT CLASS I TYPE A
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TSB — TEMPORARY SEDIMENT BASIN
- SURFACE WATER FLOW

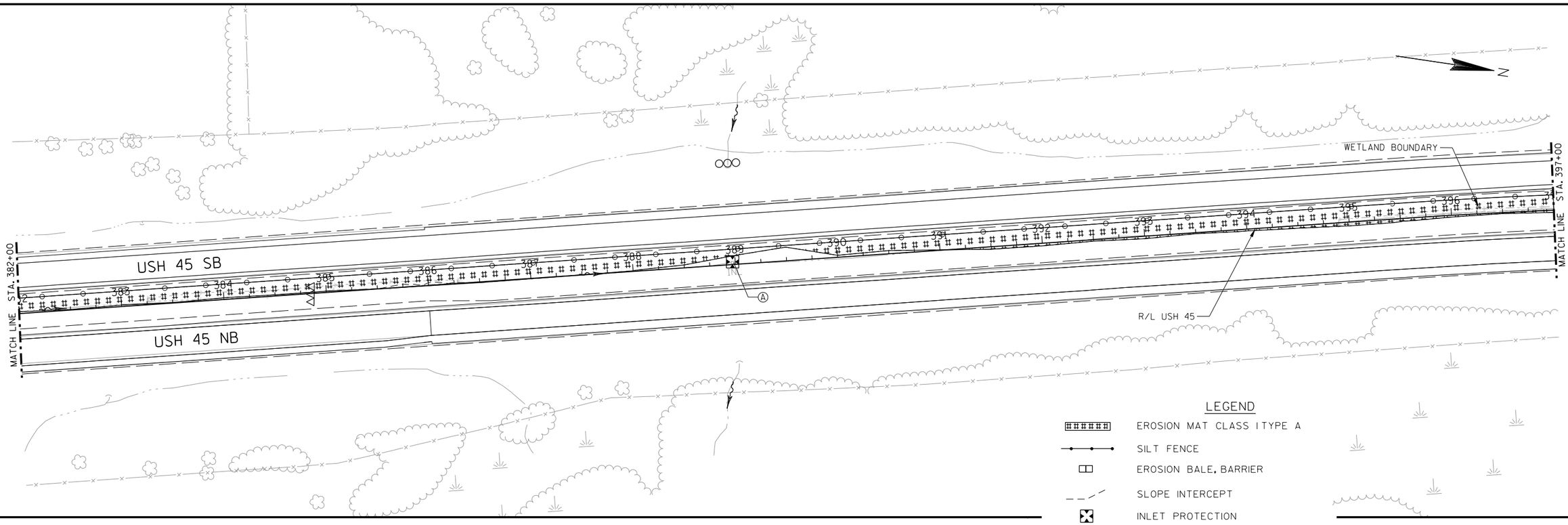
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 119	E

2



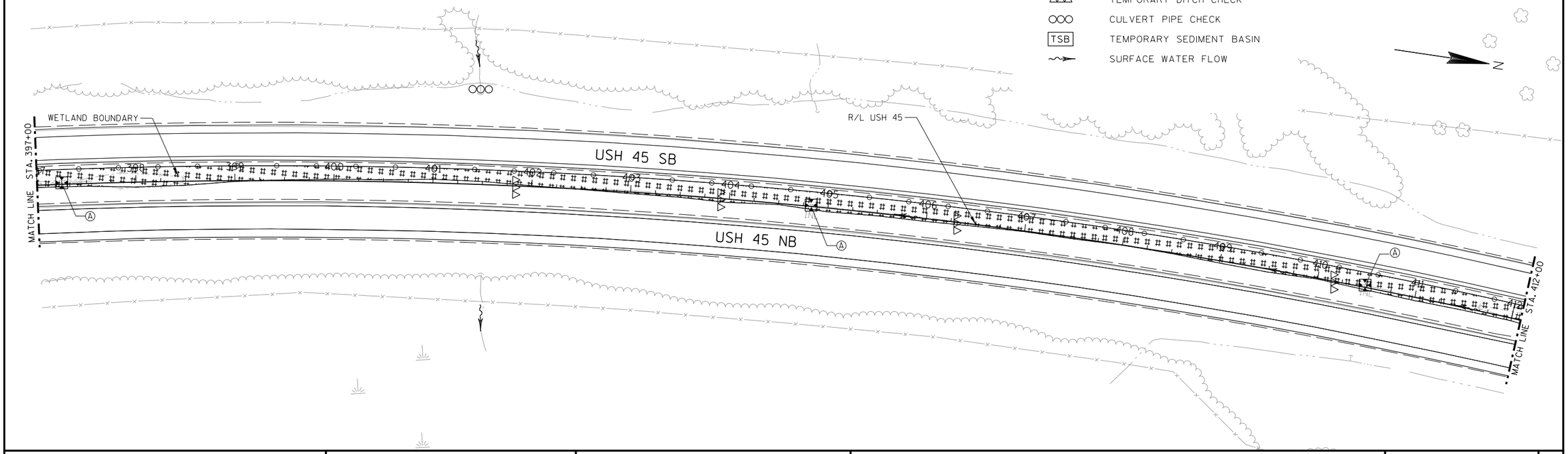
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 120	E

2



LEGEND

- EROSION MAT CLASS I TYPE A
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TSB — TEMPORARY SEDIMENT BASIN
- SURFACE WATER FLOW



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 121	E

2

N

B-66-53
NO WORK

WETLAND BOUNDARY

QUAS CREEK

R/L USH 45

SIGN

USH 45 SB

USH 45 NB

MATCH LINE STA. 412+00

MATCH LINE STA. 427+00

INL

Ⓐ

STATION EQUATION
STA 412+50.15 R/L USH 45 BACK =
STA 412+40.84 R/L USH 45 AHEAD
EQUATION

MILE VIEW ROAD

LEGEND

- EROSION MAT CLASS ITYPE A
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TSB — TEMPORARY SEDIMENT BASIN
- SURFACE WATER FLOW

N

MATCH LINE STA. 427+00

MATCH LINE STA. 442+00

USH 45 SB

USH 45 NB

INL

Ⓐ

SIGN

R/L USH 45

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 122	E

2

2

LEGEND

- EROSION MAT CLASS I TYPE A
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TSB — TEMPORARY SEDIMENT BASIN
- SURFACE WATER FLOW

N

CTH NN

USH 45 SB

USH 45 NB

MATCH LINE STA. 442+00

MATCH LINE STA. 457+00

442 443 444 445 446 447 448 449 450 451 452 453 454 455 456

IN

A

R/L USH 45

WETLAND BOUNDARY

SIGN

B-66-54
SE WINGWALL REPAIR

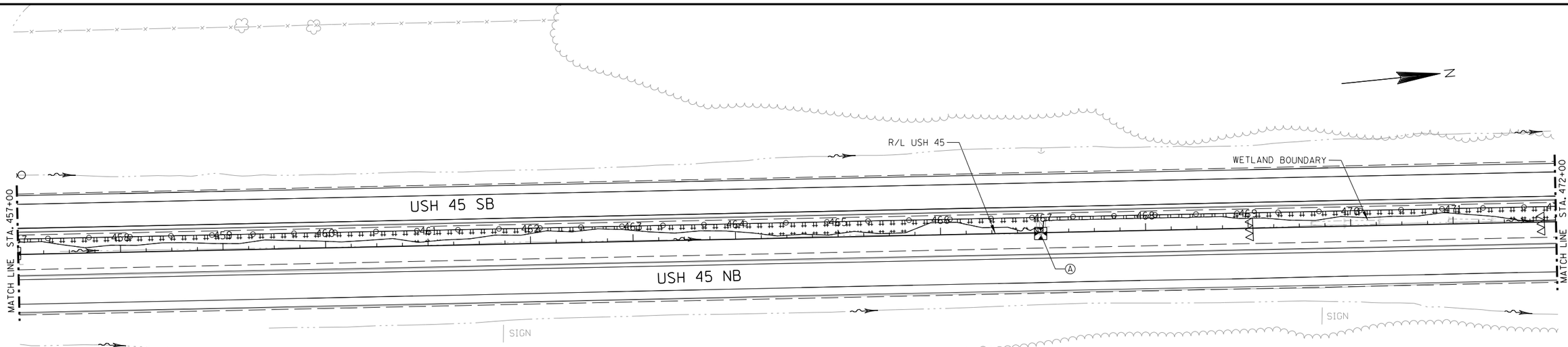
MH

MH

CTH NN

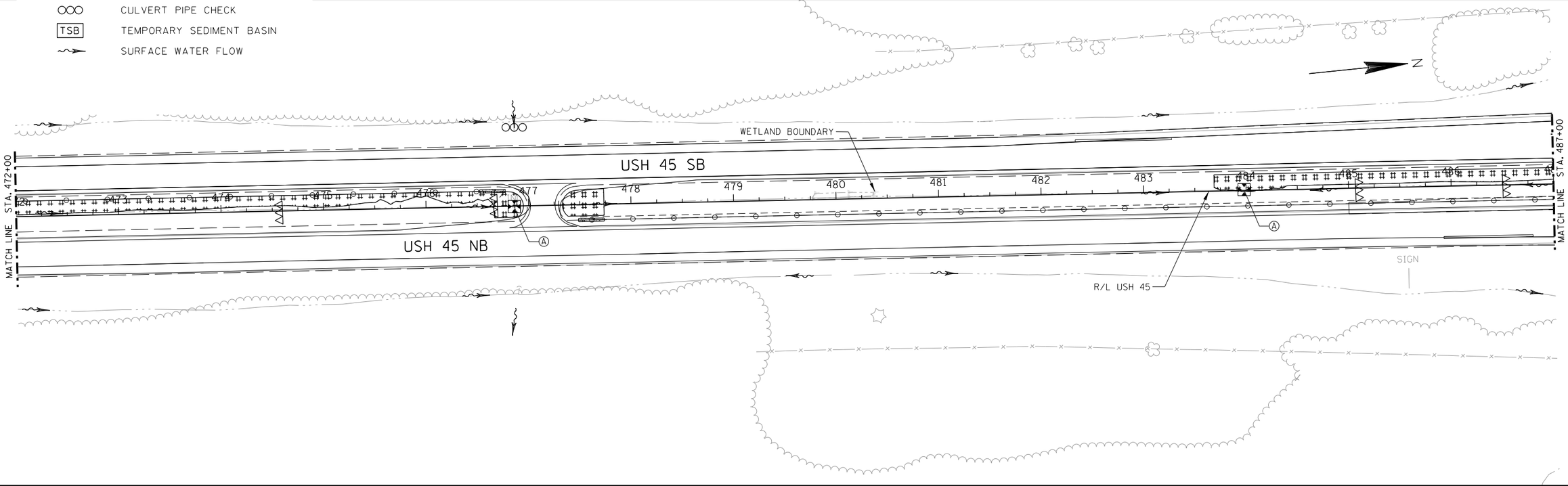
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 123	E

2



LEGEND

- EROSION MAT CLASS ITYPE A
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TSB — TEMPORARY SEDIMENT BASIN
- SURFACE WATER FLOW



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 124	E

2

2

LEGEND

- EROSION MAT CLASS I TYPE A
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TSB — TEMPORARY SEDIMENT BASIN
- SURFACE WATER FLOW

WETLAND BOUNDARY

USH 45 SB ON RAMP

USH 45 SB

USH 45 NB

USH 45 NB OFF RAMP

MATCH LINE STA. 487+00

MATCH LINE STA. 502+00

INSTALL AFTER CROSSOVER REMOVAL

R/L USH 45

INL

MH

SIGN

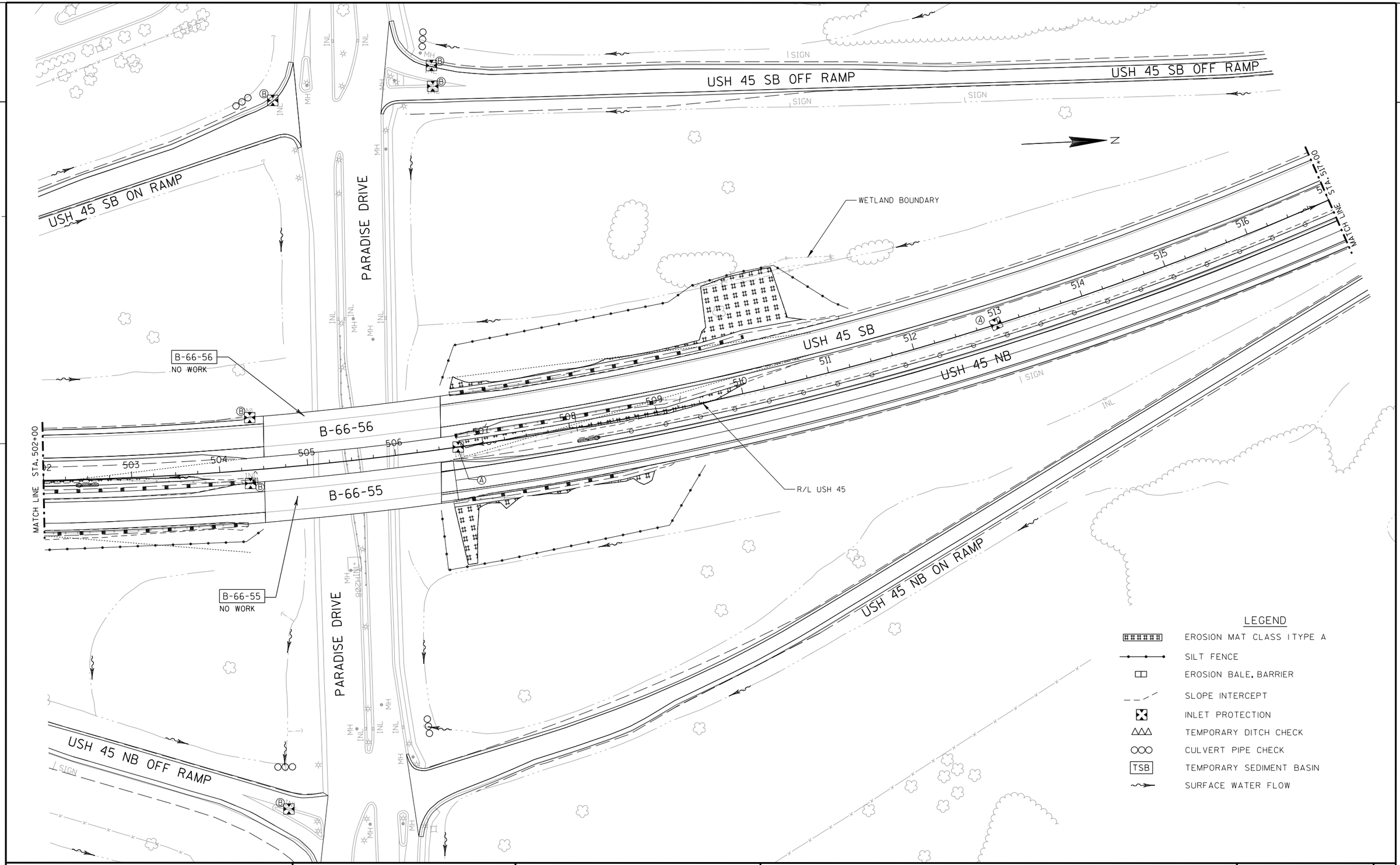
ANT.

W

U/C

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 125	E

2

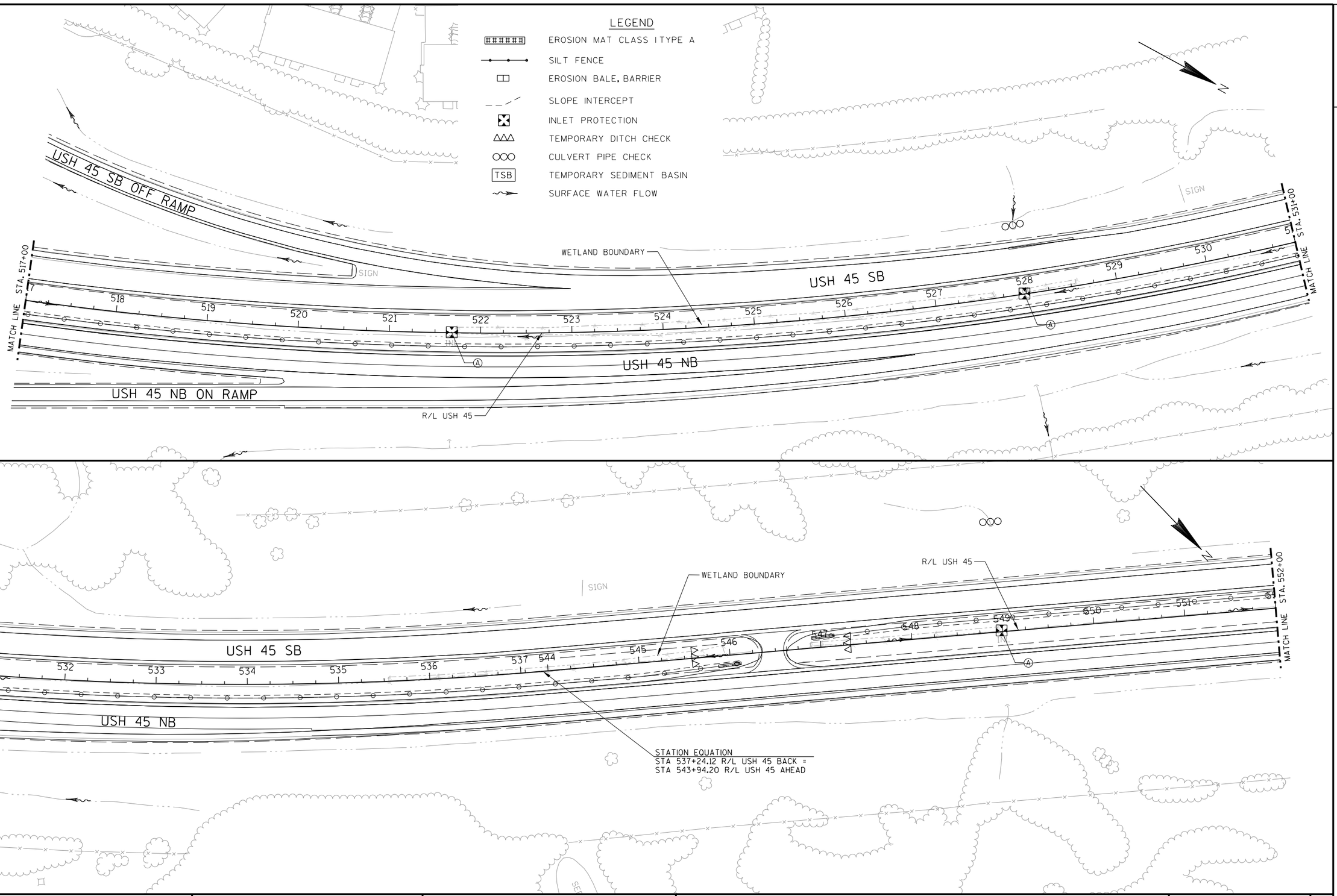


PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 126	E

2

LEGEND

- EROSION MAT CLASS I TYPE A
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TSB — TEMPORARY SEDIMENT BASIN
- SURFACE WATER FLOW



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 127	E

2

2

LEGEND

- EROSION MAT CLASS I TYPE A
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TSB — TEMPORARY SEDIMENT BASIN
- SURFACE WATER FLOW

S 18TH AVENUE

WETLAND BOUNDARY

R/L USH 45

B-66-58
NO WORK

B-66-57
NO WORK

USH 45 SB

USH 45 NB

STA. 552+00
MATCH LINE

STA. 567+00
MATCH LINE

SIGN

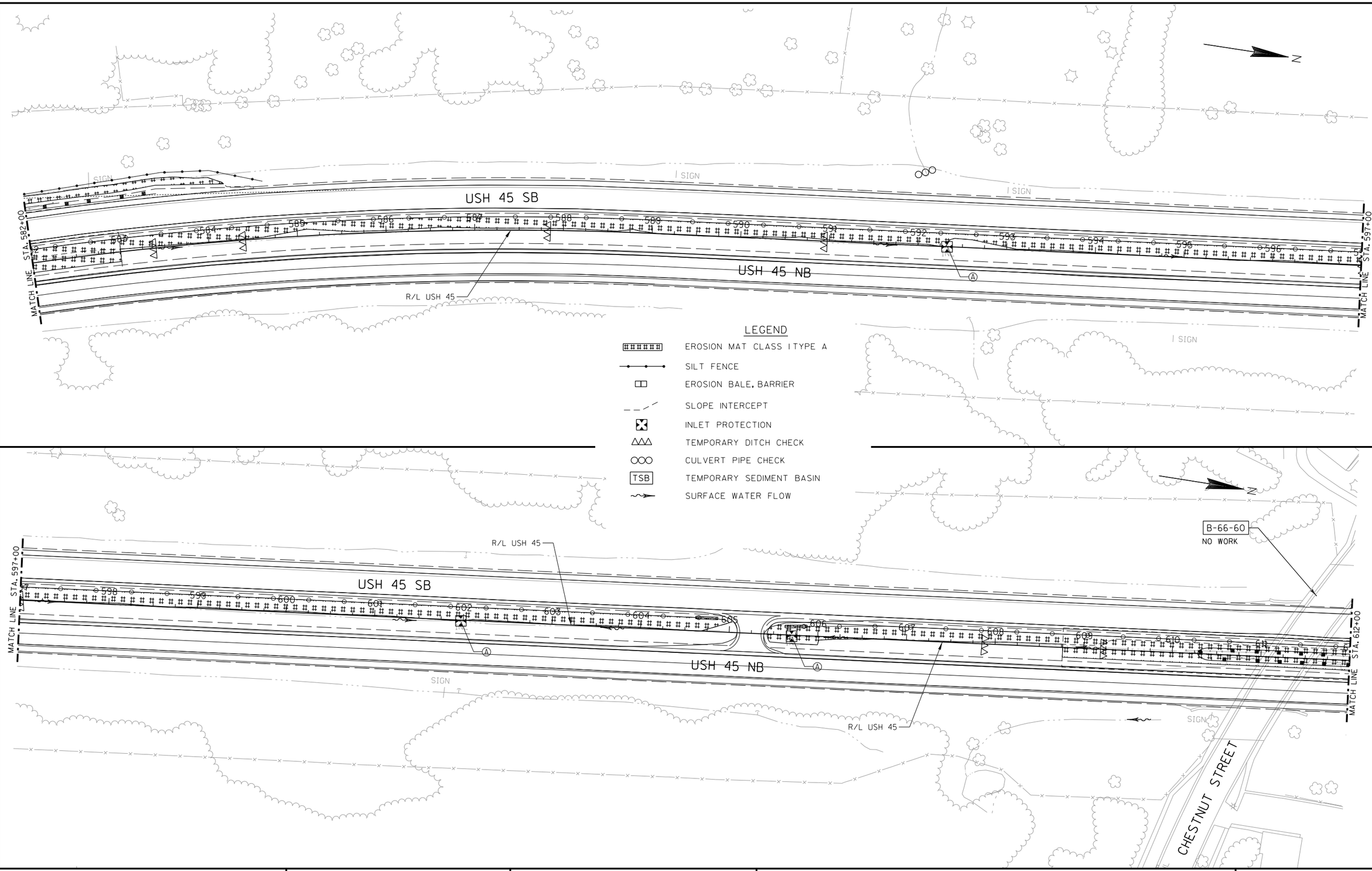
B-66-59
PAINT STEEL GIRDERS

W DECORAH ROAD

STA. 582+00
MATCH LINE

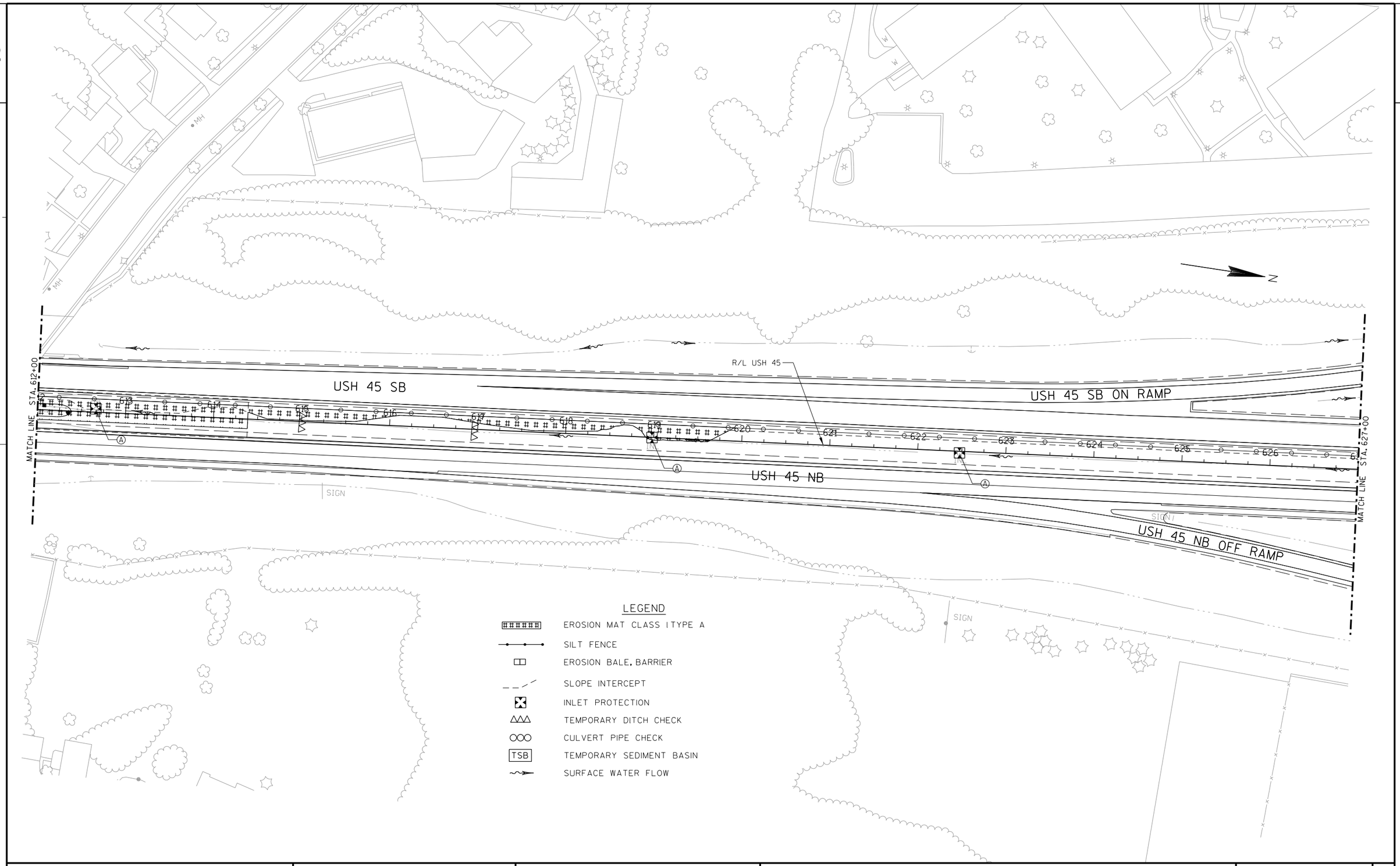
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 128	E

2



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 129	E

2

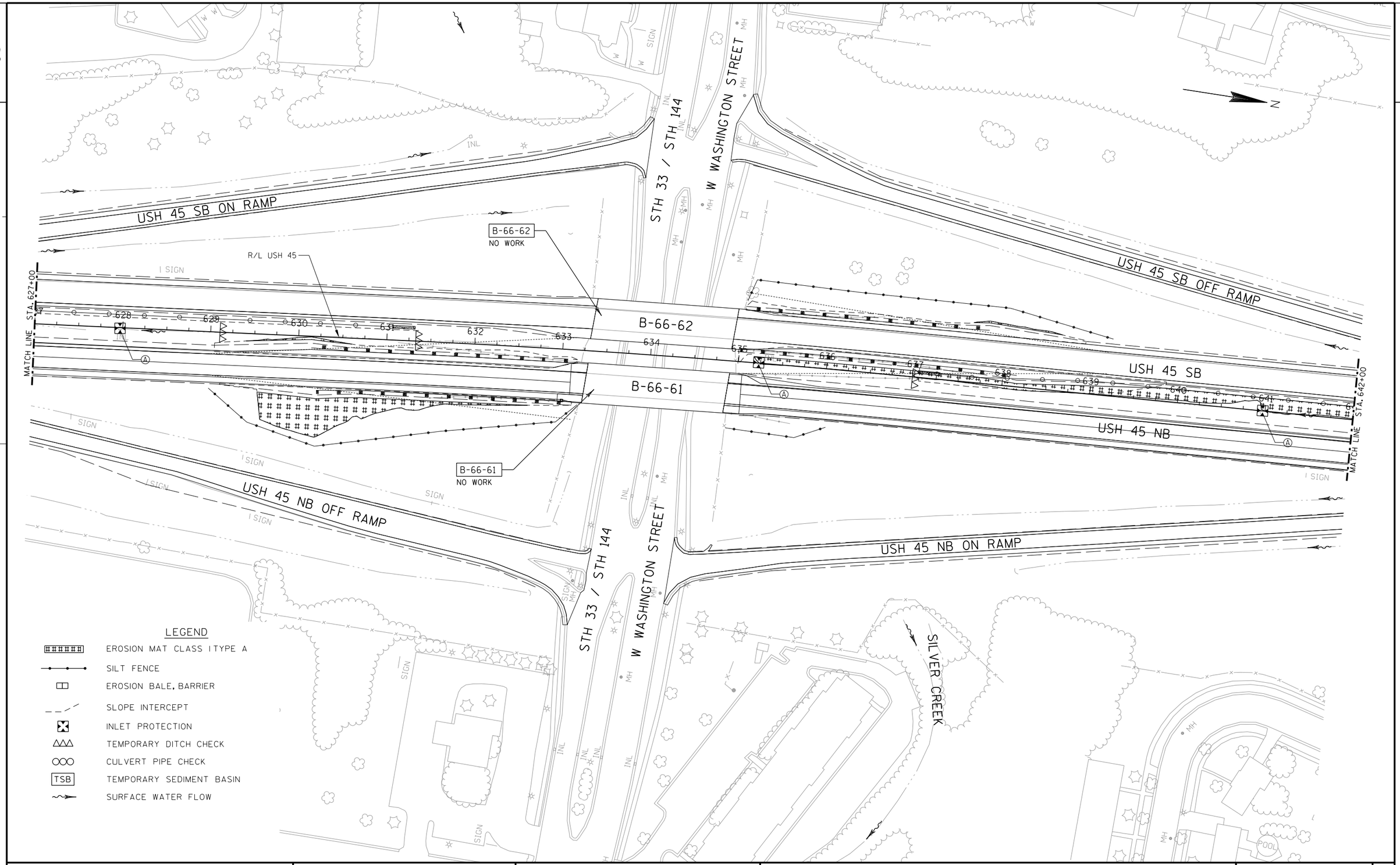


LEGEND

- EROSION MAT CLASS ITYPE A
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TSB — TEMPORARY SEDIMENT BASIN
- SURFACE WATER FLOW

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 130	E

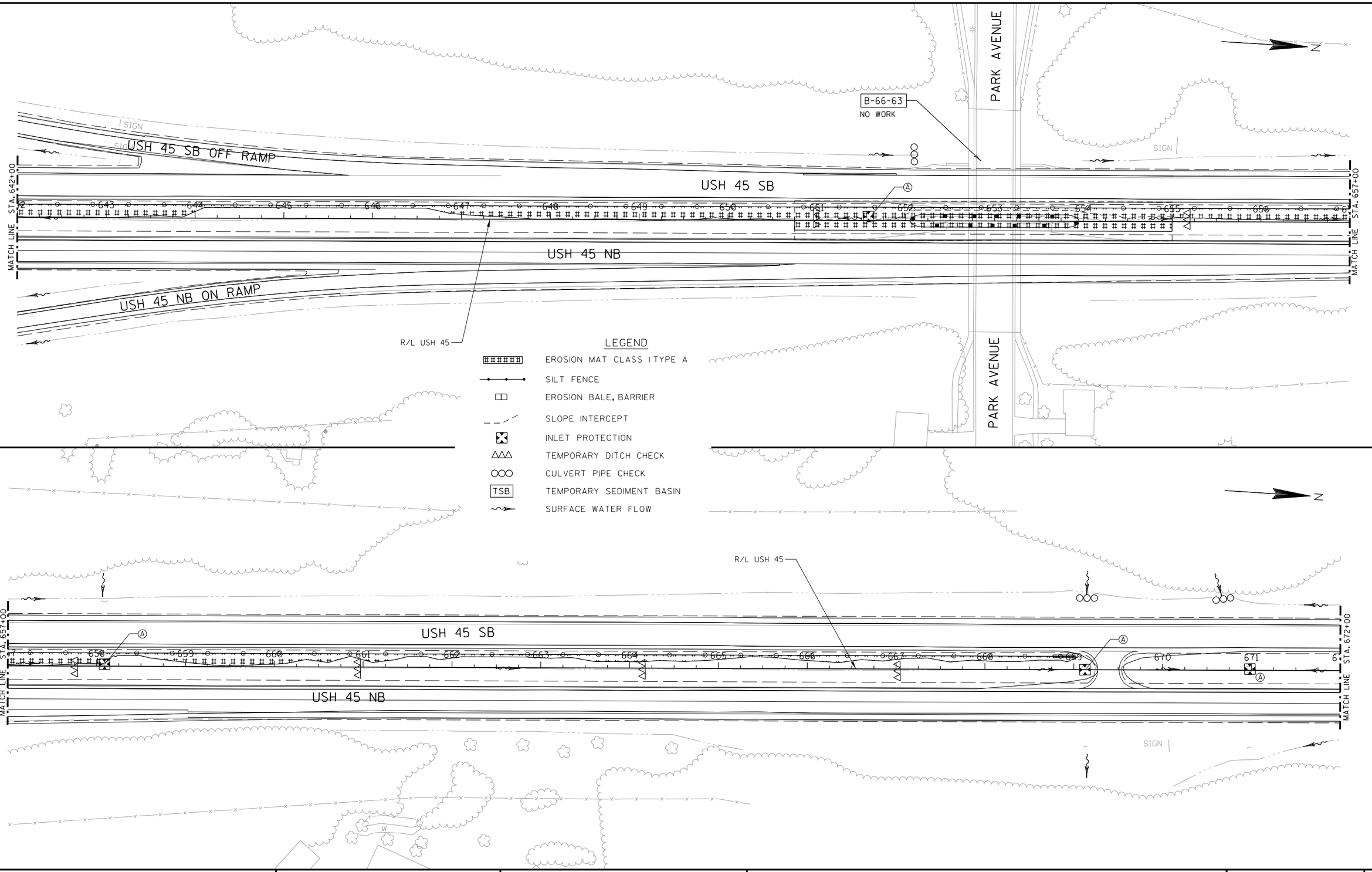
2



LEGEND

- EROSION MAT CLASS ITYPE A
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TSB — TEMPORARY SEDIMENT BASIN
- SURFACE WATER FLOW

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 131	E

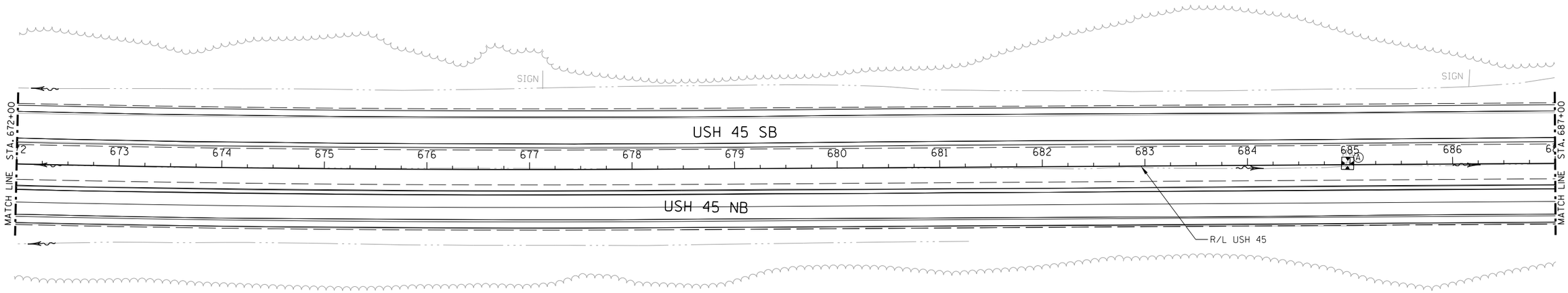


LEGEND

- EROSION MAT CLASS I TYPE A
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TSB — TEMPORARY SEDIMENT BASIN
- SURFACE WATER FLOW

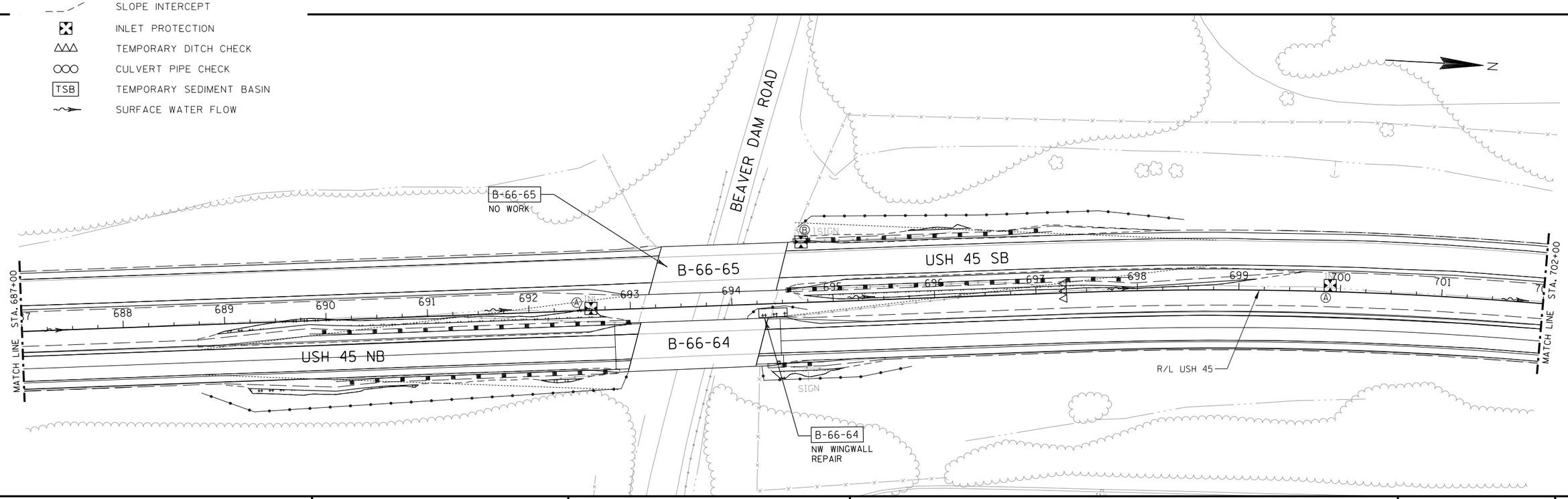
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 132	E

2



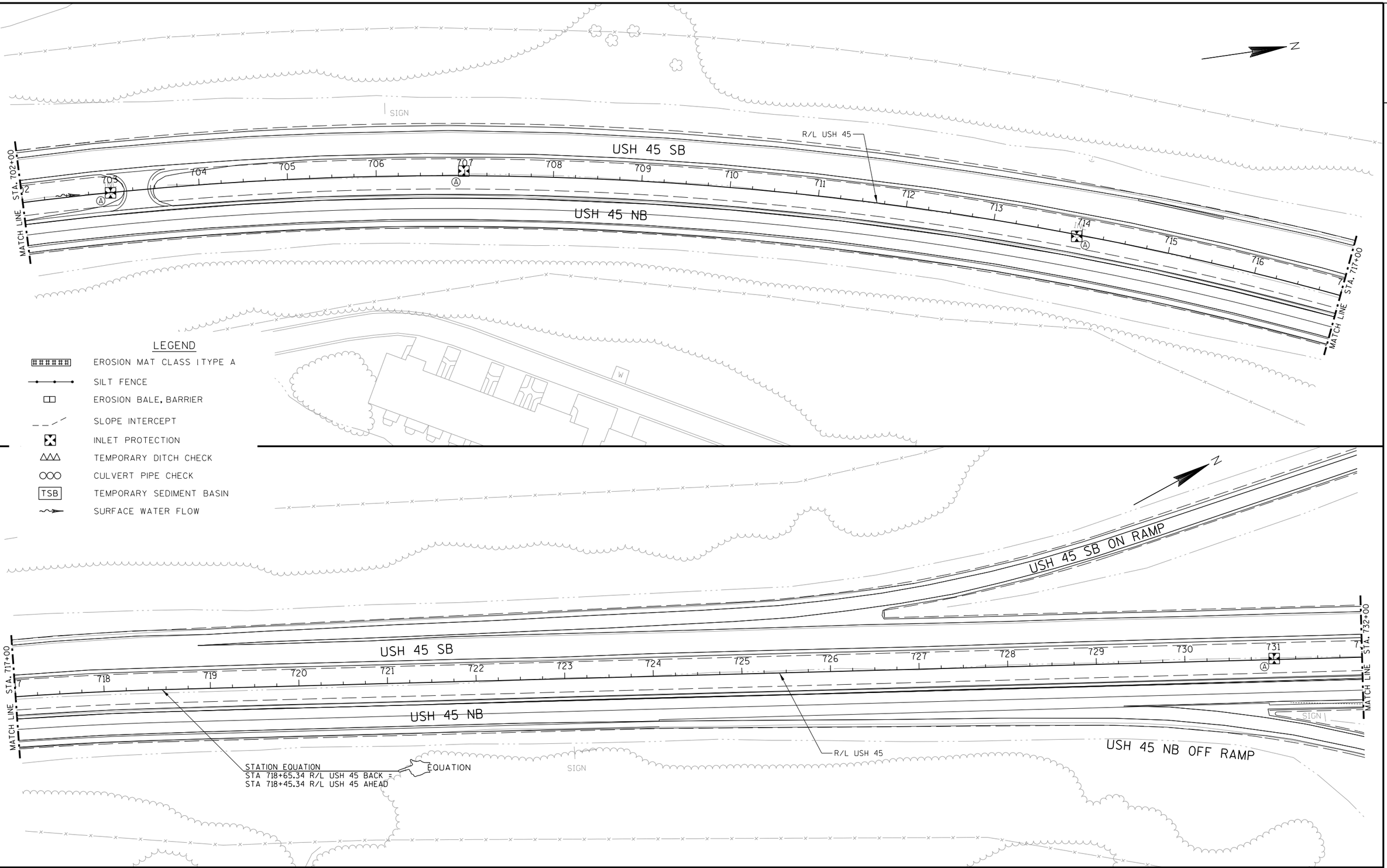
LEGEND

- EROSION MAT CLASS ITYPE A
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TSB — TEMPORARY SEDIMENT BASIN
- SURFACE WATER FLOW



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 133	E

2



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 134	E

2

LEGEND

- EROSION MAT CLASS ITYPE A
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TSB — TEMPORARY SEDIMENT BASIN
- SURFACE WATER FLOW

USH 45 SB OFF RAMP

USH 45 SB ON RAMP

COUNTY ROAD HWY D

WETLAND BOUNDARY

B-66-67
NO WORK

B-66-66
NO WORK

R/L USH 45

USH 45 SB

USH 45 NB

B-66-67

B-66-66

USH 45 NB OFF RAMP

USH 45 NB ON RAMP

MATCH LINE STA. 732+00

MATCH LINE STA. 747+00

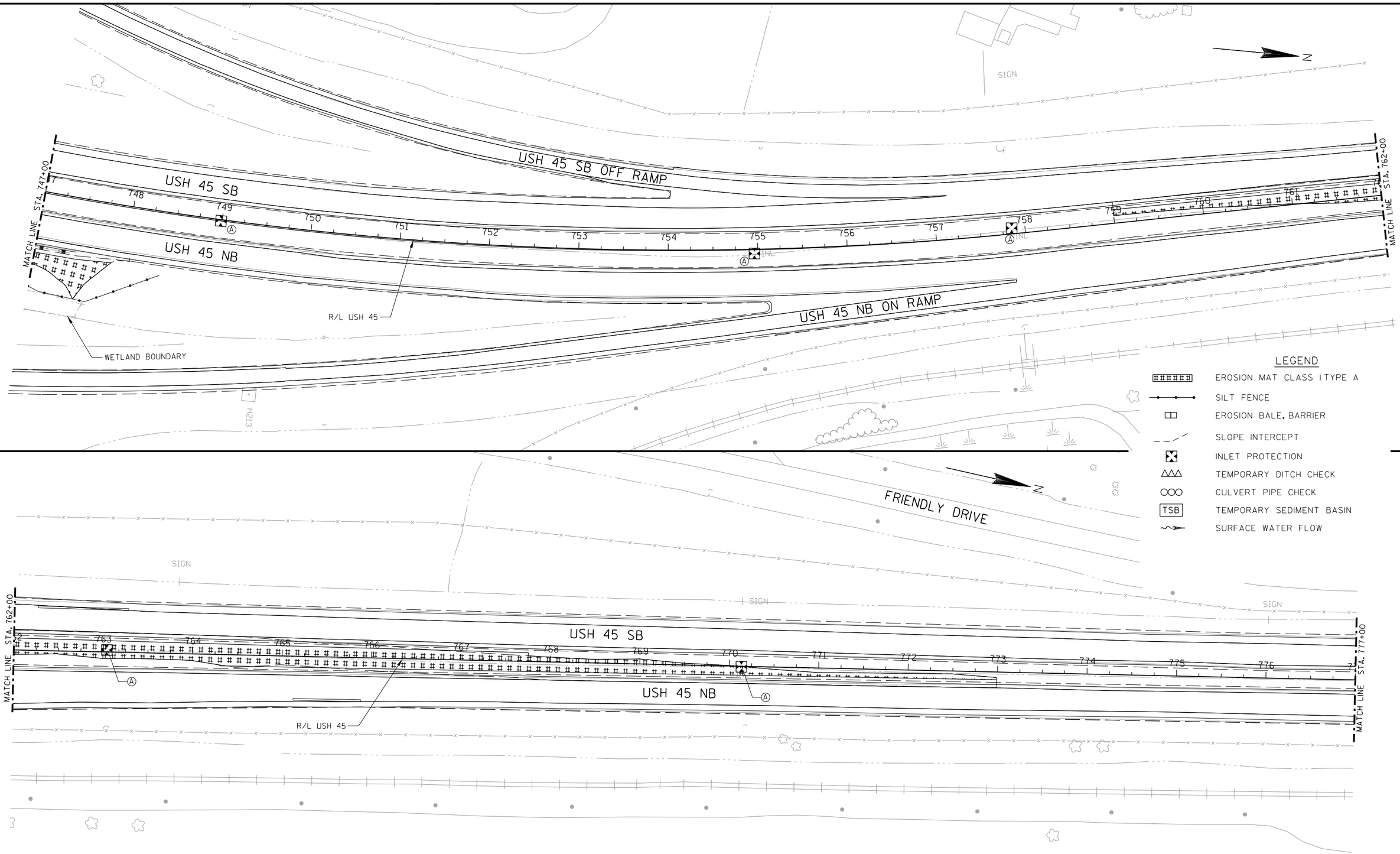
SIGN

INL

MH

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 135	E

2



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 136	E

2

LEGEND

- EROSION MAT CLASS ITYPE A
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TSB — TEMPORARY SEDIMENT BASIN
- SURFACE WATER FLOW

N

FRIENDLY DRIVE

SIGN

SIGN

INL

STA. 777+00

MATCH LINE

777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792

USH 45 SB

INL

INL

INL

USH 45 NB

SIGN

R/L USH 45

END PROJECT I.D.
2220-02-70
STA 787+85.58

SANDY RIDGE ROAD

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 137	E

LEGEND

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

N

1680 1682 1685 1690 1695 1700 1705 1710

USH 41

USH 45

ASPH=36,783 SF

AS=9,779 SF

AS=15,116 SF

AS=29,772 SF

323 W4-3 MOVE

324 LANE ENDS MERGE LEFT W9-2L MOVE

325 RIGHT LANE ENDS W9-1R MOVE

EXIT 59 E5-1A

W5-54

W5-54 ALTERNATE M4-1 41 M1-1 JV-F ESTR

REMOVE

EXIT 60 145 1/2 MILE

2 SLOWER TRAFFIC KEEP RIGHT R4-3 MOVE

3 MILE 60 D10-2 MOVE 4' M

4 SPEED LIMIT 70 R2-1 MOVE

5 NORTH M3-1 45 M1-4 J4-1 MOVE

6 W5-52L MOVE

7 W5-52R MOVE

Fond Du Lac Avenue Next Right ESTR

Richfield Park & Ride EXIT 60 ESTR

1A EXIT 60 145 1/2 MILE

1

TYPE I SIGN ON NEW STEEL POSTS

SHEET 1 OF 26

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET 138 E

FILE NAME : J:\projects\d2_22200245\70\SIGN\023201_PS.dgn PLOT DATE : 22-OCT-2019 10:25 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 200:1

WISDOT/CADDS SHEET 42

2

LEGEND

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

N

8 9 W1-2L MOVE

10 SOUTH M3-3 / 45 M1-4 J4-1 MOVE

USH 45

ASPH=75,338 SF

AS=15,116 SF

ASPH=95,399 SF

AS=29,772 SF

AS=4,305 SF

AS=7,666 SF

AS=19,544 SF

AS=4,488 SF

AS=5,452 SF

DG=17,285 SF

11 SIS ESTR

11 EMERGENCY STOPPING ONLY R8-7 MOVE

12 EXIT 50 M.P.H. W13-2 MOVE

REMOVE

EXIT 60 / 145 Fond du Lac Ave

13A EXIT 60

13 145 Fond du Lac Ave

TYPE I SIGN
REUSE STEEL POSTS

14 W2-6

15 ROUNDABOUT AHEAD W2-6P

16 15 M.P.H. W13-1 MOVE

17 EXIT 60 E5-1A

18 ALTERNATE M4-1 / ALTERNATE 41 M1-1 JV-F

19 W5-54 MOVE

20 W5-54 MOVE

21 JCT M2-1 JCT M2-1 / COUNTY FD M1-5A / 145 M1-6 J1-2 MOVE

22 W3-2 MOVE

23 PARK RIDE D4-2L MOVE

24 W4-1 MOVE

STH 145

SHEET 2 OF 26

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET E

FILE NAME : J:\projects\d2_22200245\70\SIGN\023202_PS.dgn PLOT DATE : 22-OCT-2019 10:25 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 200:1

2

LEGEND

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

N

REMOVE
INTERSTATE 41
1 MILE
INTERSTATE 41
1 MILE
TYPE I SIGN
REUSE STEEL POSTS
25
26
W3-2
MOVE
27
Richfield
D1-1
MOVE
28
JCT
M2-1
COUNTY FD
M1-5A
MOVE
29
W2-6
30
ROUNDABOUT AHEAD
W2-6P
31
15 M.P.H.
W013-1
MOVE
32
33
EXIT 60
E5-1A
34
W5-54
MOVE
ALTERNATE
M4-1
JV-F
INTERSTATE 41
M1-1
35
W5-54
MOVE
36
MILE 6 1
D10-2
MOVE
SIS
ESTR
STH 145
DG=19,703 SF
DG=60,318 SF
DG=149,610 SF
1740
1744
1741
1744
1740
1745
1750
1755
105
110
115
USH 45
AS=13,195 SF
DG=57,270 SF
AS=3,118 SF
DG=24,567 SF
AS=7,943 SF
39
Milwaukee
Germantown
Holy Hill
D1-2
MOVE
40
PARK RIDE
D4-2R
MOVE
38
W4-1
MOVE
41
MILE 6 1
D10-2
MOVE
Gas Attraction
ESTR
REMOVE
EXIT 60
145
Fond du Lac Ave
EXIT 60
37A
145
Fond du Lac Ave
37
TYPE I SIGN
REUSE STEEL POSTS
DG=91,415 SF

SHEET 3 OF 26

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET 140 E

2

LEGEND

EXISTING SIGN MOUNTED ON POST(S)

EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

PROPOSED SIGN MOUNTED ON POST(S)

PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

EXISTING LIGHT OR SIGNAL POLE

SIGN BRIDGE

CANTILEVER SIGN BRIDGE

(XXX) DENOTES SIGN NUMBER

(X) INDICATES SIGN SIZE

ESTR EXISTING SIGN TO REMAIN

N

42
EMERGENCY STOPPING ONLY
R8-7
MOVE

46
Western Ave
M1-94
MOVE

120 125 130 135 140 145

USH 45

WESTERN AVE.

326
327
EXCEPT MAINTENANCE AND POLICE AUTHORIZED VEHICLES
R3-4B
MOVE

43
JCT
M2-1
45
M1-4
J4-1
MOVE

44
SPEED LIMIT 70
R2-1
MOVE

45
Western Ave
M1-94
MOVE

DG=51,058 SF

SHEET 4 OF 26

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET 141	E

FILE NAME : J:\projects\d2_22200245\70\SIGN\023204_PS.dgn PLOT DATE : 22-OCT-2019 10:25 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 200:1

2

2

LEGEND

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

N

REMOVE

EXIT 60
145
Fond du Lac Ave
1 MILE

EXIT 60 49A
145
Fond du Lac Ave
1 MILE
49

TYPE I SIGN
REUSE STEEL POSTS

Richfield
Park & Ride
EXIT 60

ESTR

MILE 62
D10-2
MOVE
47

Richfield
NEXT 2 EXITS

ESTR

DG=41,613 SF

150 155 160 165 170 175

USH 45

MILE 62
D10-2
MOVE
48

REMOVE

EXIT 63
60
Jackson
1 MILE

EXIT 63 50A
60
Jackson
1 MILE
50

TYPE I SIGN
REUSE STEEL POSTS

SHEET 5 OF 26

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET 142	E

FILE NAME : J:\projects\d2_22200245\70\SIGN\023205_PS.dgn PLOT DATE : 22-OCT-2019 10:25 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 200:1

2

2

LEGEND

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

N

52 Sherman Rd M1-94 MOVE

54 W5-52L MOVE

53 W5-52R MOVE

58 SPEED LIMIT 70 R2-1 MOVE

59 MILE 63 D10-2 MOVE

60 SOUTH M3-3 45 M1-4 J4-1 MOVE

DG=138,434 SF

180 185 190 195 200 205

USH 45

2,325 SF

SHERMAN RD.

55 W5-52R MOVE

56 Sherman Rd M1-94 MOVE

57 W5-52L MOVE

SIS ESTR

DG=546,498 SF

SIS ESTR

61 MILE 63 D10-2 MOVE

SHEET 6 OF 26

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET	E

FILE NAME : J:\projects\d2_22200245\70\SIGN\023206_PS.dgn PLOT DATE : 22-OCT-2019 10:25 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 200:1

LEGEND

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

62 R3-4B MOVE

63 R3-4B MOVE

REMOVE
EXIT 63
60 Jackson

EXIT 63 64A
60 64
Jackson
TYPE I SIGN
REUSE STEEL POSTS

65 EXIT 63 E5-1A

66 W5-54 MOVE

67 W5-54

68 W2-6

69 ROUNDABOUT AHEAD W2-6P

70 15 M.P.H. W13-1 MOVE

SIS ESTR

73 W4-1 MOVE

71 W5-52L MOVE

72 W5-52R MOVE

DG=2,600 SF

DG=11,960 SF

3,823 SF

210 215 220 225 230 235

USH 45

STH 60

SHEET 7 OF 26

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET 144 E

FILE NAME : J:\projects\d2_22200245\70\SIGN\023207_PS.dgn PLOT DATE : 22-OCT-2019 10:25 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 200:1

2

LEGEND

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

N

STH 60

DG=8,026 SF

3,823 SF

DG=15,301 SF

USH 45

240 245 250 255 260 265

74 W5-52R MOVE

75 W5-52L MOVE

76 JCT M2-1 / 60 M1-6 / J4-1 MOVE

SIS ESTR

77 W2-6

78 ROUNDABOUT AHEAD W2-6P

79 15 M.P.H. W13-1 MOVE

80 EXIT 63 E5-1A

81 W5-54

82 W5-54 MOVE

83 W4-1 MOVE

REMOVE EXIT 63

84 60 Hartford Jackson

84A EXIT 63

TYPE I SIGN
REUSE STEEL POSTS

85 MILE 64 D10-2 MOVE

86 MILE 64 D10-2 MOVE

SIS ESTR

SHEET 8 OF 26

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET 145 E

2

LEGEND

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

N

88
EXCEPT MAINTENANCE AND POLICE AUTHORIZED VEHICLES
R3-4B
MOVE

SIS
ESTR

Hwy C 94
M1-94
MOVE

270 275 280 285 290 295

USH 45

87
EXCEPT MAINTENANCE AND POLICE AUTHORIZED VEHICLES
R3-4B
MOVE

REMOVE
EXIT 65
PV
Pleasant
Valley Rd
1 MILE

EXIT 65 89A
PV
Pleasant
Valley Rd
1 MILE 89
TYPE I SIGN
REUSE STEEL POSTS

90
NORTH
M3-1
45
M1-4
J4-1
MOVE

91
SPEED LIMIT
70
R2-1
MOVE

93
Hwy C
M1-94
MOVE

CTH C

REMOVE
HOSPITAL
NEXT RIGHT
E10-62

92
HOSPITAL
NEXT RIGHT
E10-62
TYPE I SIGN
REUSE STEEL POSTS

SHEET 9 OF 26

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET 146 E

FILE NAME : J:\projects\d2_22200245\70\SIGN\023209_PS.dgn PLOT DATE : 22-OCT-2019 10:25 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 200:1

WISDOT/CADDS SHEET 42

2

2

REMOVE

EXIT 63

60

Hartford

Jackson

EXIT 63 97A

60

Hartford 97

Jackson

TYPE I SIGN
REUSE STEEL POSTS

DG=380.849 SF

95 SPEED LIMIT 70 R2-1 MOVE

SOUTH M3-3 96

45 M1-4

J4-1 MOVE

98 MILE 6 5 D10-2 MOVE

99 EXCEPT MAINTENANCE AND POLICE AUTHORIZED VEHICLES R3-4B MOVE

LEGEND

EXISTING SIGN MOUNTED ON POST(S)

EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

PROPOSED SIGN MOUNTED ON POST(S)

PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

EXISTING LIGHT OR SIGNAL POLE

SIGN BRIDGE

CANTILEVER SIGN BRIDGE

(XXX) DENOTES SIGN NUMBER

(X) INDICATES SIGN SIZE

ESTR EXISTING SIGN TO REMAIN

N

300 305 310 315 320 325

USH 45

100 MILE 6 5 D10-2 MOVE

101 EXCEPT MAINTENANCE AND POLICE AUTHORIZED VEHICLES R3-4B MOVE

SIGN

REMOVE

EXIT 65

PV

Pleasant

Valley Rd

EXIT 65 102A

PV

Pleasant 102

Valley Rd

TYPE I SIGN
REUSE STEEL POSTS

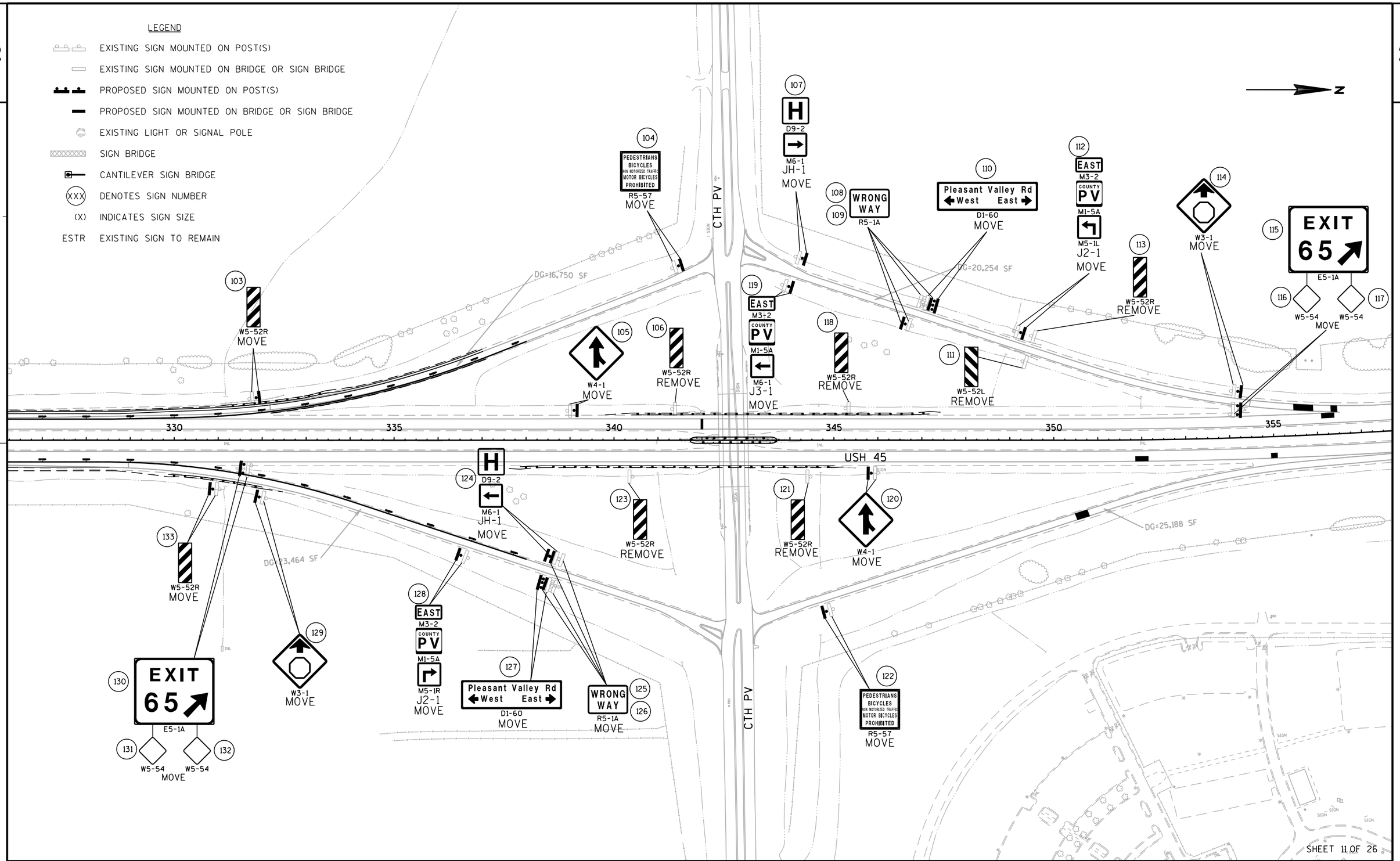
SHEET 10 OF 26

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET 147 E

FILE NAME : J:\projects\d2_22200245\70\SIGN\023210_PS.dgn PLOT DATE : 22-OCT-2019 10:25 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 200:1

LEGEND

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



SHEET 11 OF 26

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET 148 E

FILE NAME : J:\projects\d2_22200245\70\SIGN\023211_PS.dgn PLOT DATE : 22-OCT-2019 10:25 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 200:1

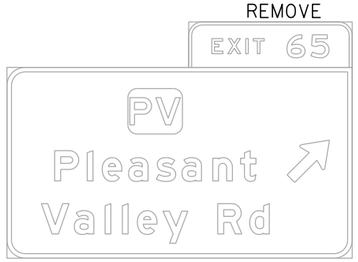
WISDOT/CADDS SHEET 42

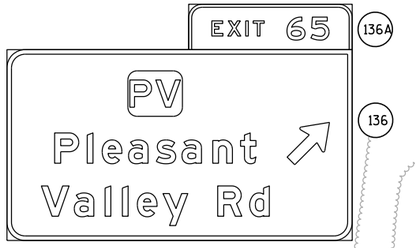
2

LEGEND

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

REMOVE





TYPE I SIGN
REUSE STEEL POSTS

134
SLOWER TRAFFIC KEEP RIGHT
R4-3
MOVE

135
MILE 6 6
D10-2
MOVE

139
EXCEPT MAINTENANCE AND POLICE AUTHORIZED VEHICLES
R3-4B
MOVE

137
MILE 6 6
D10-2
MOVE

138
EXCEPT MAINTENANCE AND POLICE AUTHORIZED VEHICLES
R3-4B
MOVE

140
NORTH
M3-1
45
M1-4
j4-1
MOVE

360 365 370 375 380 385

USH 45

DG=26,109 SF

SHEET 12 OF 26

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET 149 E

FILE NAME : J:\projects\d2_22200245\70\SIGN\023212_PS.dgn PLOT DATE : 22-OCT-2019 10:25 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 200:1

WISDOT/CADDS SHEET 42

2

LEGEND

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

N

REMOVE
EXIT 65
PV
Pleasant
Valley Rd
1 MILE

143
HOSPITAL
EXIT 65
E10-61
TYPE I SIGN
REUSE STEEL POSTS

EXIT 65
146A
PV
Pleasant
Valley Rd
1 MILE
146
TYPE I SIGN
REUSE STEEL POSTS

145
MILE 6 7
D10-2
MOVE

ASPH=63,224 SF

390 395 400 405 410 415

USH 45

ASPH=63,196 SF

141
SPEED LIMIT 70
R2-1
MOVE

142
RIDESHARE
INFORMATION
www.rideshare.wi.gov
D12-2B
MOVE

West Bend
NEXT 3 EXITS
ESTR

147
MILE 6 7
D10-2
MOVE

REMOVE
Downtown
West Bend
EXIT 68

148
Downtown
West Bend
EXIT 68
TYPE I SIGN
REUSE STEEL POSTS

SHEET 13 OF 26

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET 150 E

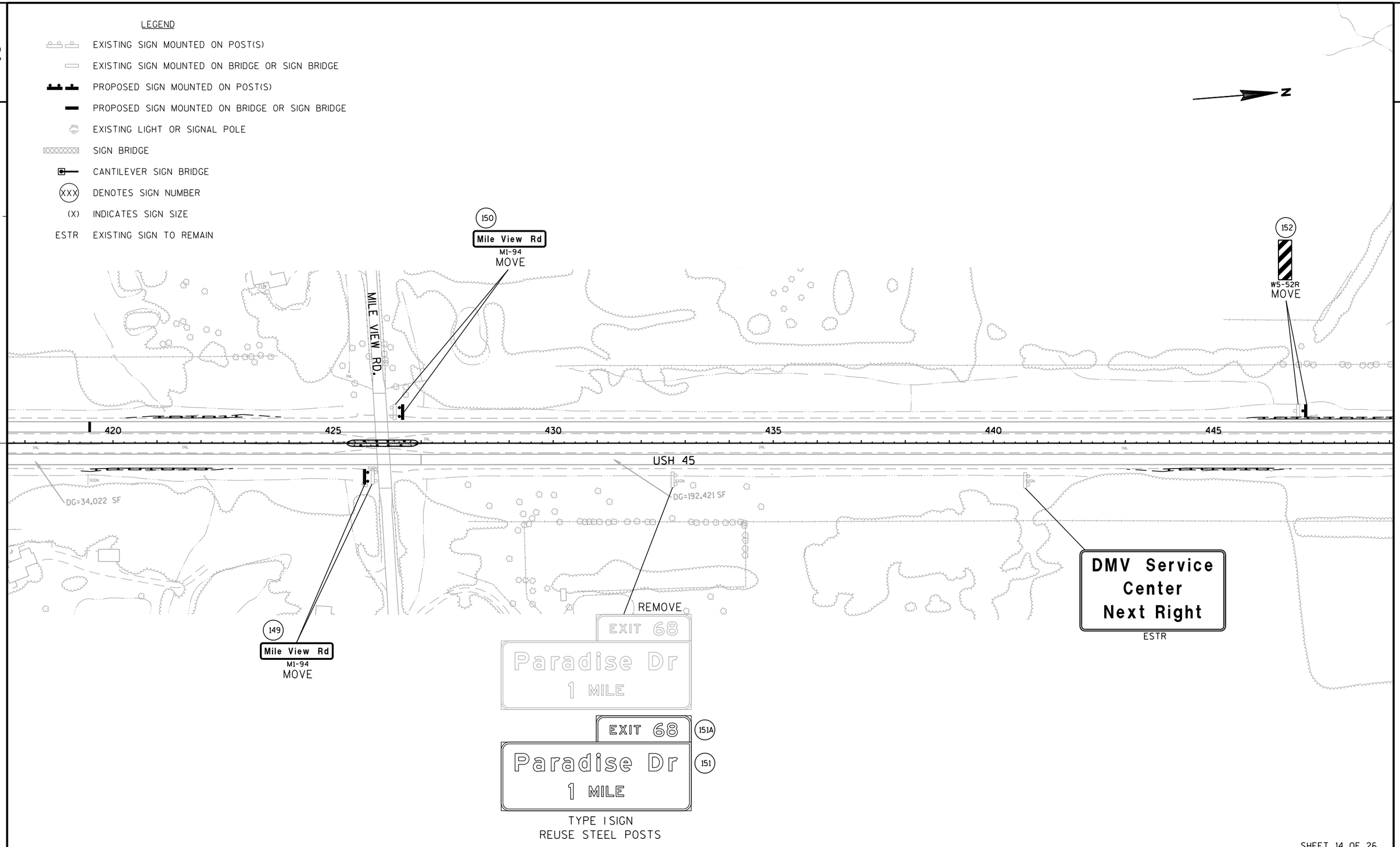
FILE NAME : J:\projects\d2_22200245\70\SIGN\023213_PS.dgn PLOT DATE : 22-OCT-2019 10:25 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 200:1

WISDOT/CADDS SHEET 42

2

LEGEND

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



TYPE I SIGN
REUSE STEEL POSTS

SHEET 14 OF 26

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET 151 E

FILE NAME : J:\projects\d2_22200245\70\SIGN\023214_PS.dgn PLOT DATE : 22-OCT-2019 10:25 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 200:1

WISDOT/CADDS SHEET 42

2

2

LEGEND

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

N

154
Hwy NN
M1-94
MOVE

155
SPEED LIMIT 70
R2-1
MOVE

156
SOUTH
M3-3
45
M1-4
J4-1
MOVE

157
MILE 6 8
D10-2
MOVE

CTH NN

DG=230,135 SF

450 455 460 465 470 475

USH 45

153
Hwy NN
M1-94
MOVE

SIS
ESTR

Paradise Dr
EXIT ONLY
328
TYPE I TEMPORARY SIGN

TEMPORARY OVERHEAD
SIGN SUPPORT.
USE S-40-935 STORED
AT WEST ALLIS SIGN SHOP.

158
MILE 6 8
D10-2
MOVE

SIS
ESTR

159
160
EXCEPT MAINTENANCE AND POLICE AUTHORIZED VEHICLES
R3-4B
MOVE

Park & Ride
EXIT 68
ESTR

SHEET 15 OF 26

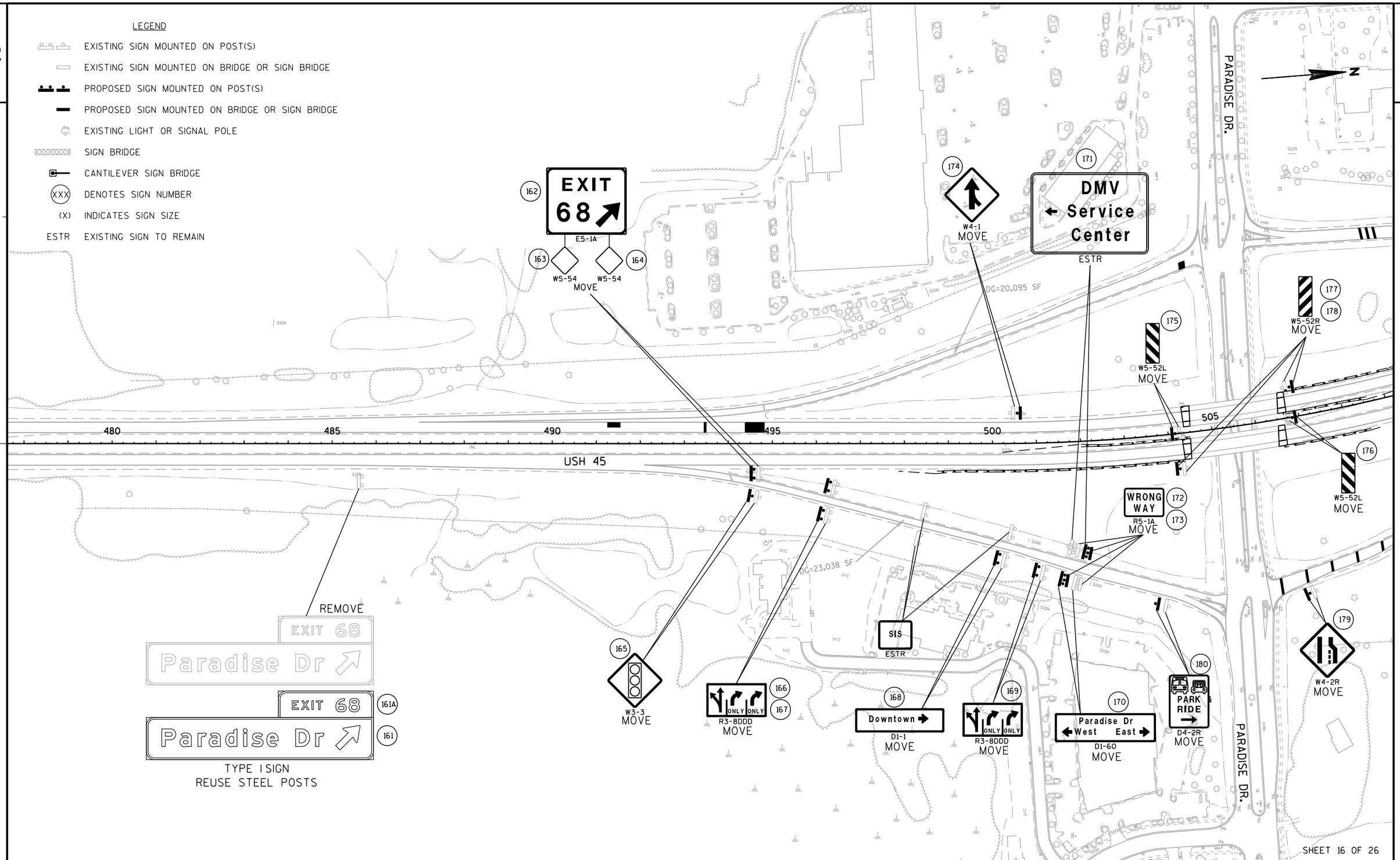
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET 152	E

FILE NAME : J:\projects\d2_22200245\70\SIGN\023215_PS.dgn PLOT DATE : 22-OCT-2019 10:25 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 200:1

2

LEGEND

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



SHEET 16 OF 26

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET 153 E

2

2

LEGEND

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

N

181 PARK RIDE D4-2L

182 Downtown D1-1 MOVE

183 WRONG WAY R5-1A MOVE

184 Paradise Dr ← East West → D1-60

185 DMV Service Center → MOVE

186 ONLY ONLY R3-8P

187

188 W3-3 MOVE

189 MILE 6 9 D10-2 MOVE

190 EXIT 68 E5-1A

191 W5-54

192 W5-54

MOVE

SIS ESTR

WRONG WAY R5-1A ESTR

SIS ESTR

SIS ESTR

DG=168 SF

DG=110,721 SF

DG=125,669 SF

DG=27,117 SF

510 515 520 525 530 535 545

USH 45

193 PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED R5-57 MOVE

194 W4-1 MOVE

195 MILE 6 9 D10-2 MOVE

197 EXCEPT MAINTENANCE AND POLICE AUTHORIZED VEHICLES R3-4B MOVE

198

REMOVE

EXIT 68

Paradise Dr

196A EXIT 68

196 Paradise Dr

TYPE I SIGN
REUSE STEEL POSTS

SHEET 17 OF 26

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET 154 E

FILE NAME : J:\projects\d2_22200245\70\SIGN\023217_PS.dgn PLOT DATE : 22-OCT-2019 10:25 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 200:1

WISDOT/CADDS SHEET 42

2

2

LEGEND

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

N

S. 18TH ST.

USH 45

550 555 560 565 570 575

199 NORTH M3-1 45 M1-4 MOVE

200 W5-52L MOVE

201 W5-52R MOVE

202 18th Ave M1-94 MOVE

203 W5-52R MOVE

204 18th Ave M1-94 MOVE

205 W5-52L MOVE

SIS ESTR

SIS ESTR

Park & Ride EXIT 68 D4-3 ESTR

DMV Service Center Next Right ESTR

REMOVE EXIT 71 33 144 Washington St 1 MILE

206 EXIT 71 206A 33 144 Washington St 1 MILE

TYPE I SIGN
REUSE STEEL POSTS

207 SPEED LIMIT 70 R2-1 MOVE

SIS ESTR

209 RIDESHARE INFO CALL 1-800-455-POOL D12-2A MOVE

SHEET 18 OF 26

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET 155 E

FILE NAME : J:\projects\d2_22200245\70\SIGN\023218_PS.dgn PLOT DATE : 22-OCT-2019 10:26 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 200:1

REMOVE

EXIT 68
Paradise Dr
1 MILE

214
W5-52R
REMOVE

EXIT 68 (215A)
Paradise Dr
1 MILE (215)

TYPE I SIGN
REUSE STEEL POSTS

RIDESHARE
INFO CALL
1-800-455-POOL
216
D12-2A
MOVE

SIS
ESTR

217
SPEED LIMIT 70
R2-1
MOVE

218
SOUTH
M3-3
45
M1-4
J4-1
MOVE

210
MILE 70
D10-2
MOVE

DG=192,458 SF

585 580 590 595 600 605

USH 45

DG=184,405 SF

DECORAH RD

Decorah Rd
M1-94
MOVE
212
213

University of Wisconsin
Washington County
EXIT 71
ESTR

211
MILE 70
D10-2
MOVE

219
220
EXCEPT MAINTENANCE AND POLICE AUTHORIZED VEHICLES
R3-4B
MOVE

LEGEND

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

N

SHEET 19 OF 26

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET 156	E

LEGEND

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

N

221 222 Chestnut St M1-94 MOVE

610 615 620 625 630 635

USH 45

243 W4-1 MOVE

242 241 MILE 7 1 D10-2 MOVE

240 W5-52R MOVE

237 238 W5-52L MOVE

239 W5-52R MOVE

STH 33

236 West Bend D1-1 MOVE

SIS ESTR

DG=14,344 SF

DG=20,651 SF

REMOVE

EXIT 71 33 144 Washington St 1 MILE

223A EXIT 71

223 33 144 Washington St 1 MILE

TYPE I SIGN
REUSE STEEL POSTS

224 EXIT 71 E5-1A

225 W5-54 MOVE

226 W5-54 MOVE

SIS ESTR

227 W3-3 MOVE

228 WEST M3-4 SOUTH M3-3 EAST M3-2 NORTH M3-1
33 M1-6 144 M1-6 33 M1-6 144 M1-6
M5-1L M5-1L M5-1R M5-1R
J2-4 MOVE

229 WRONG WAY R5-1A MOVE

230 231 ONLY R3-8 MOVE

232 Washington St West East D1-60 MOVE

233 WRONG WAY R5-1A MOVE

235 PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED R5-57 MOVE

234 UW Washington County MOVE

SHEET 20 OF 26

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET 157 E

2

LEGEND

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

N

University of Wisconsin
Washington County
EXIT 71

244
Washington St
East West

245
UW
Washington
County
MOVE

246
EAST NORTH WEST SOUTH
M3-2 M3-1 M3-4 M3-3
33 144 33 144
M1-6 M1-6 M1-6 M1-6
M5-1L M5-1L M5-1R M5-1R
J2-4
MOVE

247
EXIT
71
E5-1A

248 W5-54
249 W5-54
MOVE

250
W3-3
MOVE

SIS
ESTR

DG=15,562 SF

PARK AVE

REMOVE
EXIT 71
33 144
Washington St
1 MILE

EXIT 71 255A
33 144
Washington St
1 MILE
255
TYPE I SIGN
REUSE STEEL POSTS

ESTR

DG=148,938 S

640 645 650 655 660 665

USH 45

DG=158,364 SF

DG=8,217 SF

Downtown 251
D1-1
MOVE

252
W4-1
MOVE

Park Ave 250
254
M1-94
MOVE

SHEET 21 OF 26

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET 158 E

FILE NAME : J:\projects\d2_22200245\70\SIGN\023221_PS.dgn PLOT DATE : 22-OCT-2019 10:26 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 200:1

2

LEGEND

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

N

256 257
EXCEPT MAINTENANCE AND POLICE AUTHORIZED VEHICLES
R3-4B
MOVE

SIS
ESTR

SIS
ESTR

270
SPEED LIMIT 70
R2-1
MOVE

269
W5-52L
MOVE

268
Beaver Dam Rd
M1-94
MOVE

267
W5-52R
MOVE

266
W5-52L
MOVE

DG=148

670 675 680 685 690 695

USH 45

8,364 SF

259
NORTH
M3-1
45
M1-4
J4-1
MOVE

MILE 7 2 260 261
D10-2
MOVE

262
SPEED LIMIT 70
R2-1
MOVE

263
W5-52R
MOVE

264
Beaver Dam Rd
M1-94
MOVE

BEAVER DAM RD

REMOVE
EXIT 73
D
1 MILE

EXIT 73 258A
D
1 MILE 258
TYPE I SIGN
REUSE STEEL POSTS

REMOVE
Moraine Park Tech College Next Right

Moraine Park Tech College Next Right 265
TYPE I SIGN
REUSE STEEL POSTS

SHEET 22 OF 26

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET 159 E

FILE NAME : J:\projects\d2_22200245\70\SIGN\023222_PS.dgn PLOT DATE : 22-OCT-2019 10:26 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 200:1

2

REMOVE

EXIT 71

33 144

Washington St

1 MILE

271

SOUTH

M3-3

45

M1-4

J4-1

MOVE

EXIT 71 272A

33 144

Washington St

1 MILE

272

TYPE I SIGN

REUSE STEEL POSTS

DG=120.515 SF

DG=114.692 SF

700 705 710 715 720 725

USH 45

273

274

EXCEPT MAINTENANCE AND POLICE AUTHORIZED VEHICLES

R3-4B

MOVE

275

EMERGENCY STOPPING ONLY

R8-7

MOVE

REMOVE

EXIT 73

D

EXIT 73 276A

D 276

TYPE I SIGNS

INSTALL ON NEW STEEL POSTS & STUBS

LEGEND

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

N

SHEET 23 OF 26

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET 160 E

LEGEND

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

N

CTH D

USH 45

730 735 740 745 750 755 760

DG=14,080 SF

DG=23,724 SF

DG=10,502 SF

282 W4-1 MOVE

FREEWAY ENDS 1 MILE
W19-1 TYPE I SIGN ESTR (2019)

281 PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED R5-57 MOVE

277 278 MILE 7 3 D10-2 MOVE

283 284 W5-52L MOVE

285 W5-52R MOVE

289 290 WRONG WAY R5-1A MOVE

288 West Bend D1-1 MOVE

291 EAST M3-2 COUNTY D M1-5A M5-1L; WEST M3-4 COUNTY D M1-5A M5-1R J2-2 MOVE

292 W3-1 MOVE

293 EXIT 73 E5-1A

294 295 W5-54 W5-54 MOVE

287 SPONSOR I55-56 MOVE

286 W5-52R MOVE

296 W4-1 MOVE

297 PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED R5-57 MOVE

303 W3-1 MOVE

304 EXIT 71 E5-1A

305 306 W5-54 W5-54 MOVE

302 WEST M3-4 COUNTY D M1-5A M5-1L; EAST M3-2 COUNTY D M1-5A M5-1R J2-2 MOVE

299 Moraine Park Tech College D1-2 MOVE

300 301 WRONG WAY R5-1A MOVE

298 West Bend D1-1 MOVE

ABANDONED RAILROAD

SHEET 24 OF 26

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET 161 E

FILE NAME : J:\projects\d2_22200245\70\SIGN\023224_PS.dgn PLOT DATE : 22-OCT-2019 10:26 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 200:1

LEGEND

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

REMOVE
EXIT 73
D
307A
EXIT 73
D
307
TYPE I SIGNS
INSTALL ON NEW
POSTS AND STUBS

REMOVE
Moraine Park
Tech College
Next Right
Moraine Park
Tech College
Next Right
308
TYPE I SIGN
REUSE STEEL POSTS

309
SPEED LIMIT
70
R2-1
MOVE

REMOVE
EXIT 73
D
1/4 MILE
EXIT 73
310A
D
1/4 MILE
310
TYPE I SIGN
INSTALL ON NEW
POSTS AND STUBS

REMOVE
Downtown
West Bend
EXIT 71
Downtown
West Bend
EXIT 71
311
TYPE I SIGN
REUSE STEEL POSTS

312
SOUTH
M3-3
45
M1-4
J4-1
MOVE

West Bend
NEXT 3 EXITS
ESTR

760 765 770 775 780 785

USH 45

DG=121,683 SF

DG=131,483 SF

321
322
SPEED LIMIT
55
W3-5
MOVE

320
NORTH
M3-1
45
M1-4
J4-1
MOVE

318
319
SPEED LIMIT
55
R2-1
MOVE

316
WRONG WAY
R5-1A
MOVE

313
WRONG WAY
R5-1A
MOVE

315
DO NOT
ENTER
R5-1
MOVE

R4-7
ESTR

317
← Friendly Dr
Sandy Ridge Rd →
D2-2
MOVE

SHEET 25 OF 26

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET 162 E

2

2

LEGEND

EXISTING SIGN MOUNTED ON POST(S)

EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

PROPOSED SIGN MOUNTED ON POST(S)

PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

EXISTING LIGHT OR SIGNAL POLE

SIGN BRIDGE

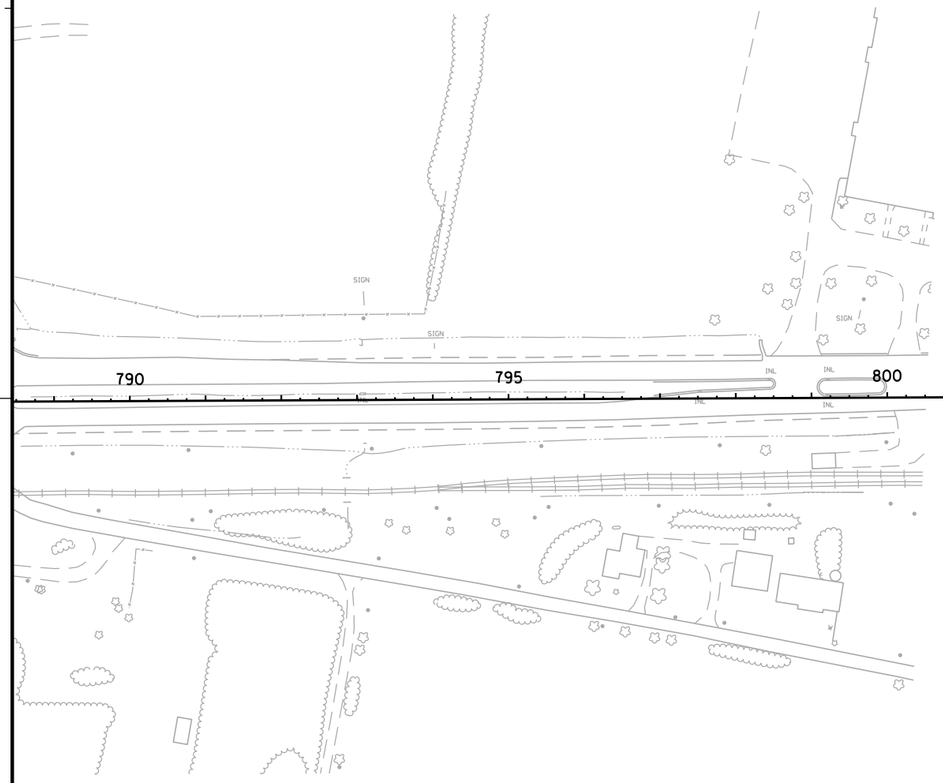
CANTILEVER SIGN BRIDGE

XXX DENOTES SIGN NUMBER

(X) INDICATES SIGN SIZE

ESTR EXISTING SIGN TO REMAIN

N



805 810 815 8

USH 45

NO SIGNS THIS SHEET

SHEET 26 OF 26

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET 163	E

FILE NAME : J:\projects\d2_22200245\70\SIGN\023226_PS.dgn PLOT DATE : 22-OCT-2019 10:26 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 200:1

WISDOT/CADDS SHEET 42

PAVEMENT MARKING LEGEND

1. MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
2. MARKING LINE GROOVED WET REF EPOXY 4-INCH (YELLOW)
3. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (DASHED WHITE)(12.5 FT LINE 7.5 FT SKIP)
4. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (DOT PATTERN WHITE)(3 FT LINE 9 FT SKIP)
5. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH
6. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (DOT PATTERN WHITE)(3 FT LINE 9 FT SKIP)
7. MARKING CHEVRON EPOXY 24-INCH (WHITE)
8. MARKING LINE EPOXY 4-INCH (WHITE)
9. MARKING LINE EPOXY 4-INCH (YELLOW)
10. MARKING LINE EPOXY 8-INCH (WHITE)
11. MARKING LINE EPOXY 8-INCH (DOT PATTERN WHITE)(3 FT LINE 9 FT SKIP)
12. MARKING ARROW EPOXY TYPE 2
13. MARKING ARROW EPOXY TYPE 3
14. MARKING ARROW EPOXY TYPE 3R
15. MARKING ARROW EPOXY TYPE 4
16. MARKING ARROW EPOXY TYPE 5
17. MARKING WORDS EPOXY
18. MARKING STOP LINE EPOXY 18-INCH
19. MARKING YIELD LINE EPOXY 18-INCH
20. MARKING CROSSWALK EPOXY LADDER PATTERN 24-INCH
21. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH

2

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PAVEMENT MARKING	SHEET 165	E

2

2

STATION EQUATION
STA 1744+47.86 R/L USH 45 SB BACK =
STA 1744+47.86 R/L USH 45 NB BACK =
STA 1744+47.86 R/L USH 45 AHEAD

USH 45 SB ON RAMP
USH 45 SB OFF RAMP
USH 45 SB
USH 45 NB
R/L USH 45 SB
R/L USH 45 NB
STH 145
STH 145
FOND DU LAC AVENUE
USH 45 NB OFF RAMP
USH 45 NB ON RAMP

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PAVEMENT MARKING	SHEET 166	E

FILE NAME : C:\DOT WORK USH 45\024504_PM.dgn PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

NOTES:

1) PAVEMENT MARKING CONTINUES AS SHOWN TO NEXT INTERCHANGE SEE STANDARD DETAIL DRAWINGS.

N

STATION EQUATION
STA 1756+94.79 R/L USH 45 BACK =
STA 102+20.23 R/L USH 45 AHEAD

R/L USH 45

USH 45 SB

USH 45 NB

1752 1753 1754 1755 1756 103 104 105 106 107 108 109 110 111 112

+78 +21 +47 +88

13' 12'

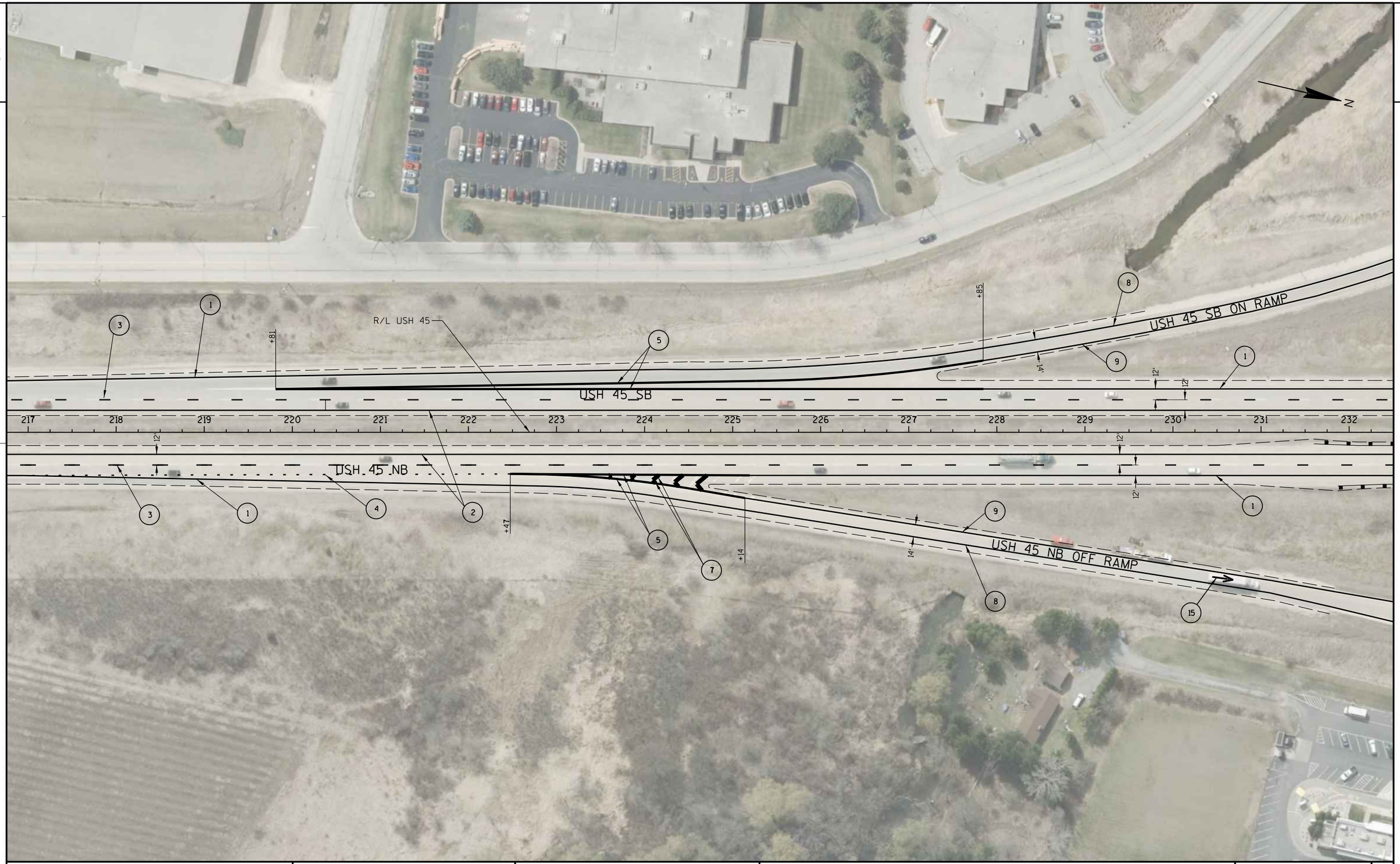
1 2 3 4 5 7

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PAVEMENT MARKING	SHEET 167	E

FILE NAME : C:\DOT WORK USH 45\024505_PM.dgn PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

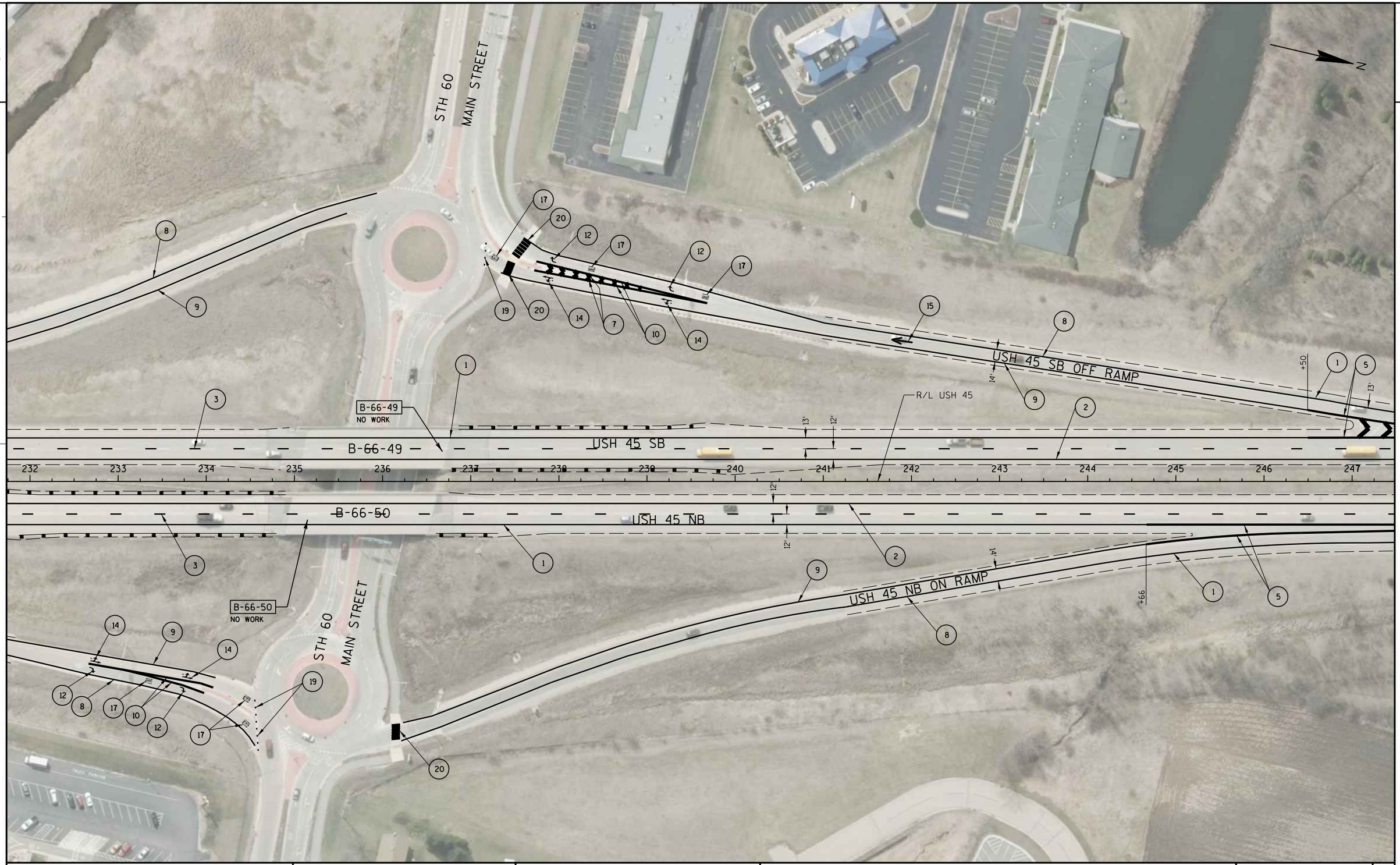
WISDOT/CADDS SHEET 42

2



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PAVEMENT MARKING	SHEET	E

FILE NAME : C:\DOT WORK USH 45\024509_PM.dgn PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PAVEMENT MARKING	SHEET 169	E

FILE NAME : C:\DOT WORK USH 45\024510_PM.dgn PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

NOTES:

1) PAVEMENT MARKING CONTINUES AS SHOWN TO NEXT INTERCHANGE SEE STANDARD DETAIL DRAWINGS.

N

USH 45 SB

USH 45 NB

R/L USH 45

247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262

+78 +76 +65 +51

12' 12' 12' 12'

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PAVEMENT MARKING	SHEET 170	E

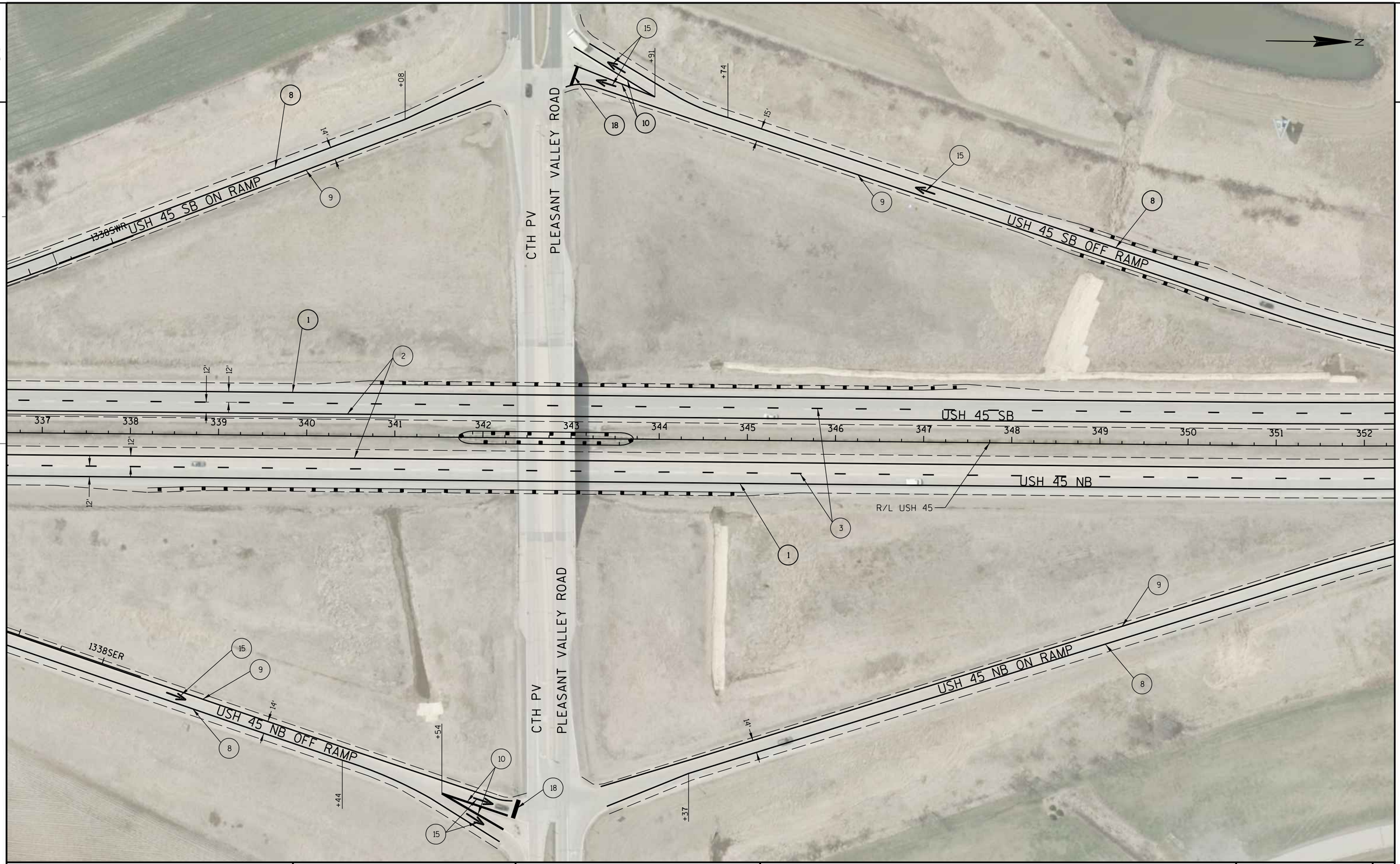
FILE NAME : C:\DOT WORK USH 45\024511_PM.dgn PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PAVEMENT MARKING	SHEET 171	E

FILE NAME : C:\DOT WORK USH 45\024513_PM.dgn PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100


N
USH 45 SB ON RAMP
1338SWR
CTH PV
PLEASANT VALLEY ROAD
USH 45 SB OFF RAMP
USH 45 SB
USH 45 NB
R/L USH 45
USH 45 NB OFF RAMP
1338SER
USH 45 NB ON RAMP
+08
+91
+74
+54
+44
+37
14'
15'
12'
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352

NOTES:

1) PAVEMENT MARKING CONTINUES AS SHOWN TO NEXT INTERCHANGE SEE STANDARD DETAIL DRAWINGS.

N

USH 45 SB OFF RAMP

R/L USH 45

USH 45 SB

USH 45 NB

USH 45 NB ON RAMP

352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367

+96 +57 +82 +72 +32

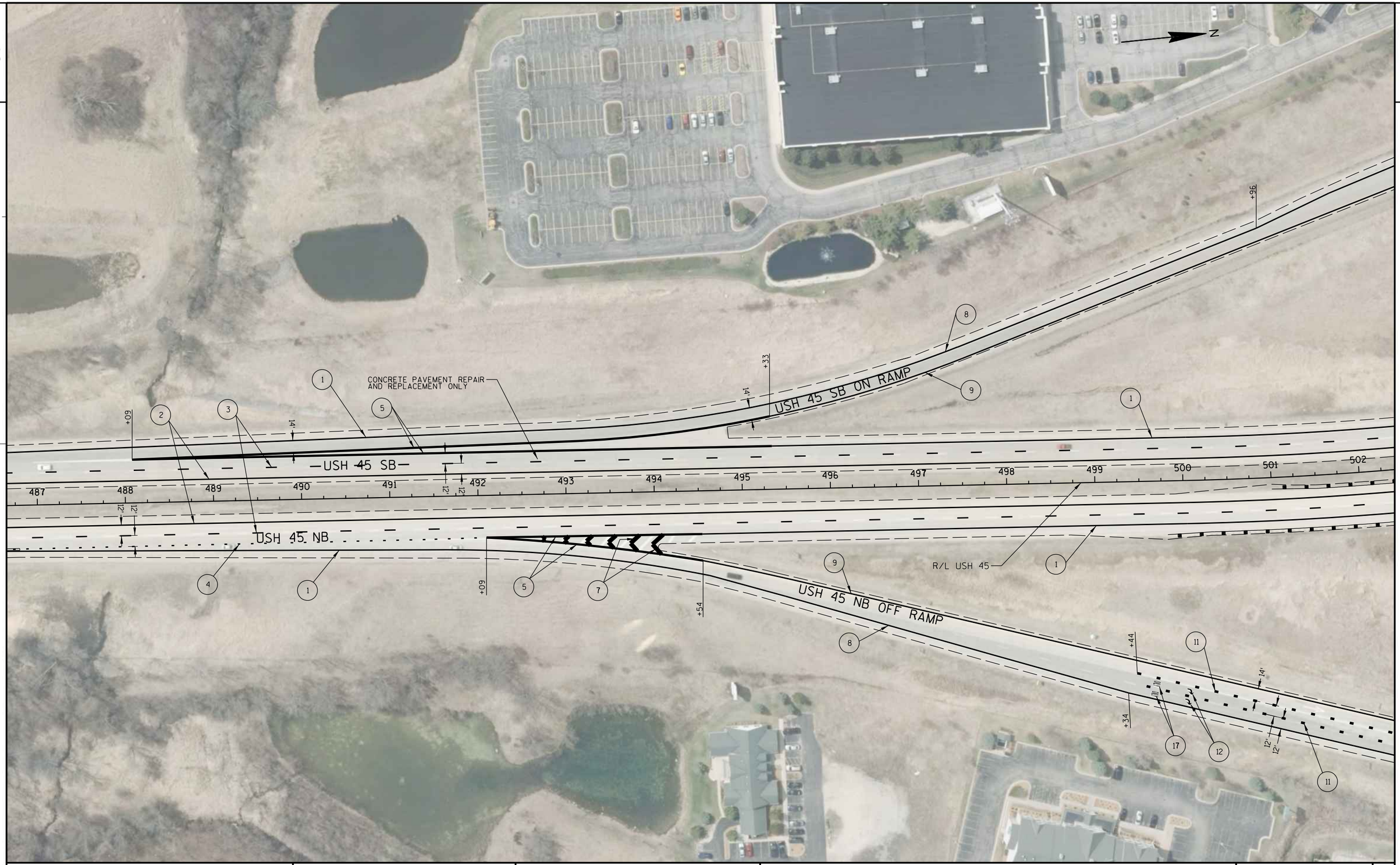
14' 12' 12' 10' 12' 12' 14'

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PAVEMENT MARKING	SHEET 173	E

FILE NAME : C:\DOT WORK USH 45\024515_PM.dgn PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PAVEMENT MARKING	SHEET 174	E

FILE NAME : C:\DOT WORK USH 45\024520_PM.dgn PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

2

USH 45 SB OFF RAMP

USH 45 SB ON RAMP

PARADISE DRIVE

B-66-55
NO WORK

B-66-55

B-66-56

B-66-56
NO WORK

USH 45 SB

USH 45 NB

R/L USH 45

USH 45 NB ON RAMP

USH 45 NB OFF RAMP

PARADISE DRIVE

N

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PAVEMENT MARKING	SHEET 175	E

FILE NAME : C:\DOT WORK USH 45\024521_PM.dgn PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

NOTES:

1) PAVEMENT MARKING CONTINUES AS SHOWN TO NEXT INTERCHANGE SEE STANDARD DETAIL DRAWINGS.

N

USH 45 SB OFF RAMP

USH 45 SB

USH 45 NB

USH 45 NB ON RAMP

R/L USH 45

+05 +99 +00 +75 +14

516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PAVEMENT MARKING	SHEET 176	E

FILE NAME : C:\DOT WORK USH 45\024522_PM.dgn PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

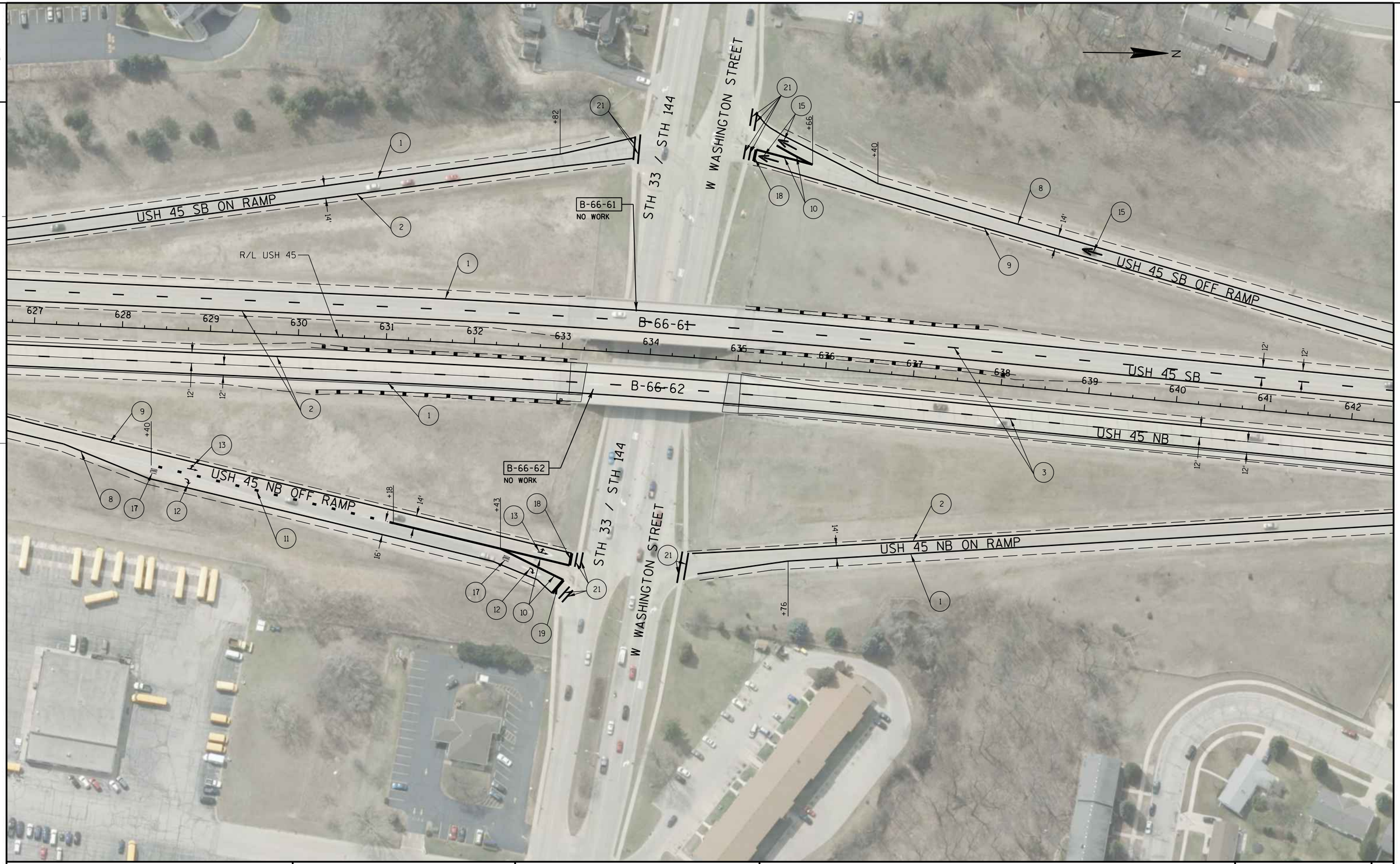
WISDOT/CADDS SHEET 42

2

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PAVEMENT MARKING	SHEET 177	E

FILE NAME : C:\DOT WORK USH 45\024525_PM.dgn PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

2



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PAVEMENT MARKING	SHEET 178	E

FILE NAME : C:\DOT WORK USH 45\024526_PM.dgn PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

NOTES:

1) PAVEMENT MARKING CONTINUES AS SHOWN TO NEXT INTERCHANGE SEE STANDARD DETAIL DRAWINGS.

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PAVEMENT MARKING	SHEET 179	E

FILE NAME : C:\DOT WORK USH 45\024527_PM.dgn PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

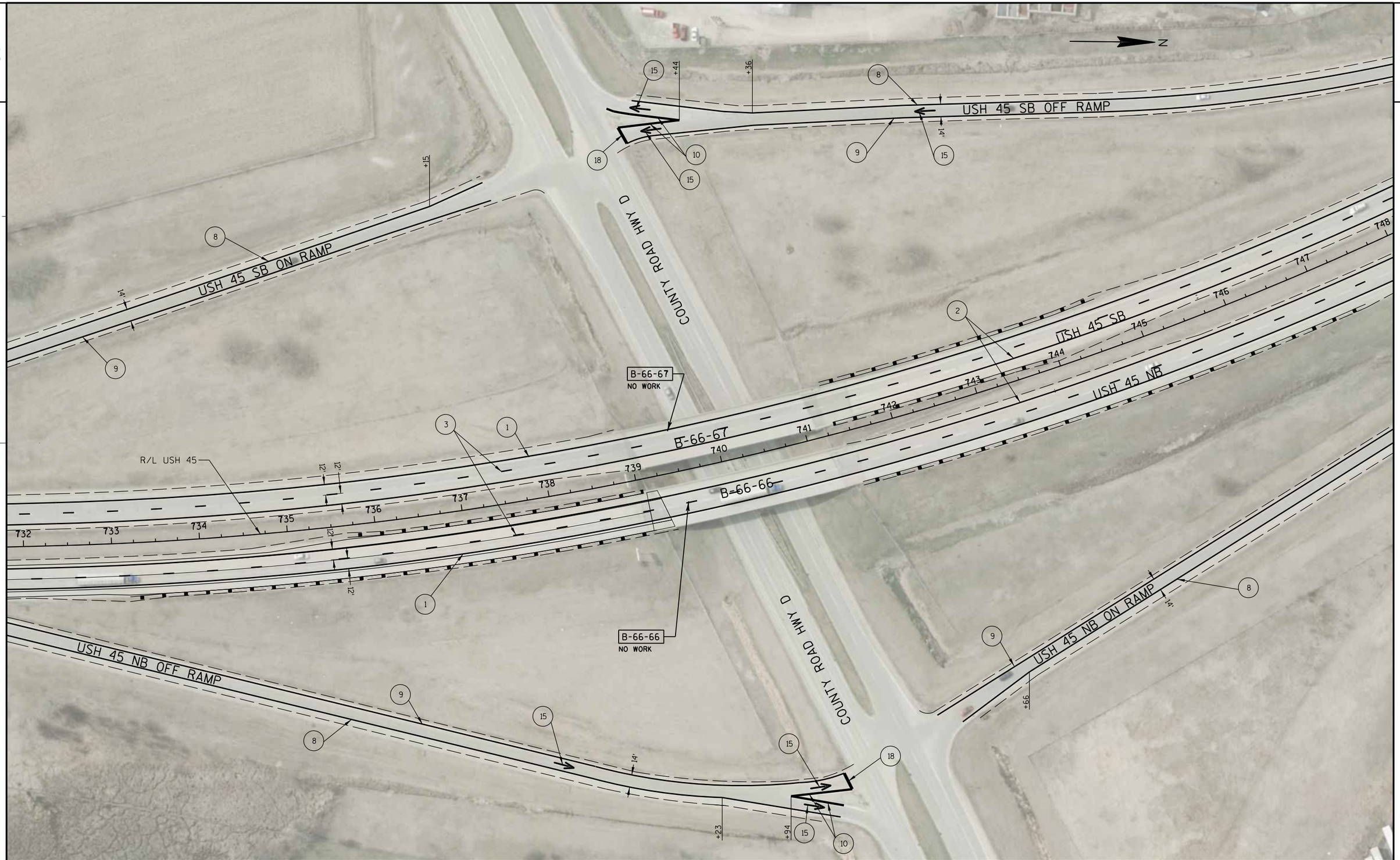
WISDOT/CADDS SHEET 42

2

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PAVEMENT MARKING	SHEET 180	E

FILE NAME : C:\DOT WORK USH 45\024529_PM.dgn PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

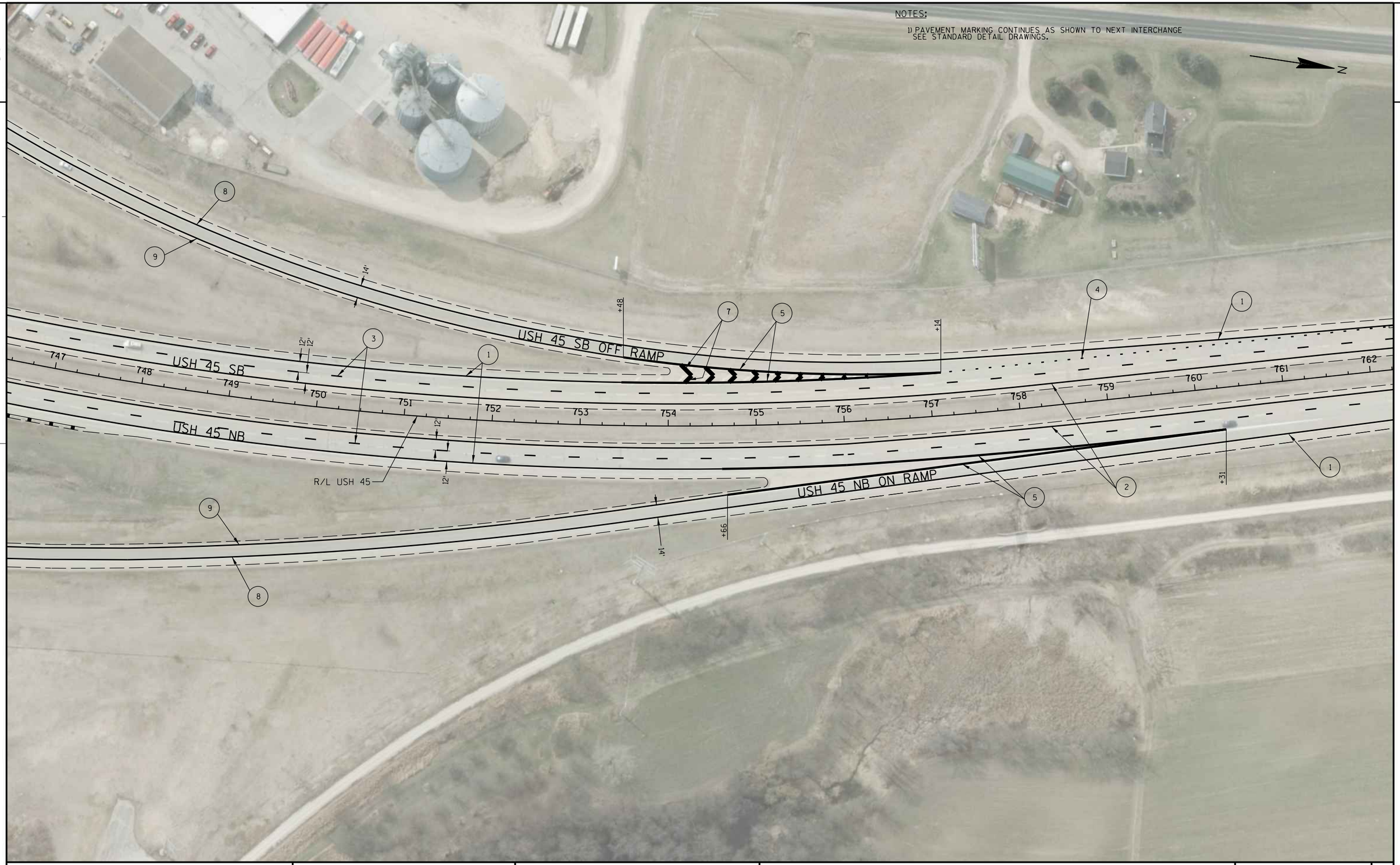
2



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PAVEMENT MARKING	SHEET 181	E

NOTES:

1) PAVEMENT MARKING CONTINUES AS SHOWN TO NEXT INTERCHANGE SEE STANDARD DETAIL DRAWINGS.



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PAVEMENT MARKING	SHEET 182	E

FILE NAME : C:\DOT WORK USH 45\024531_PM.dgn PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

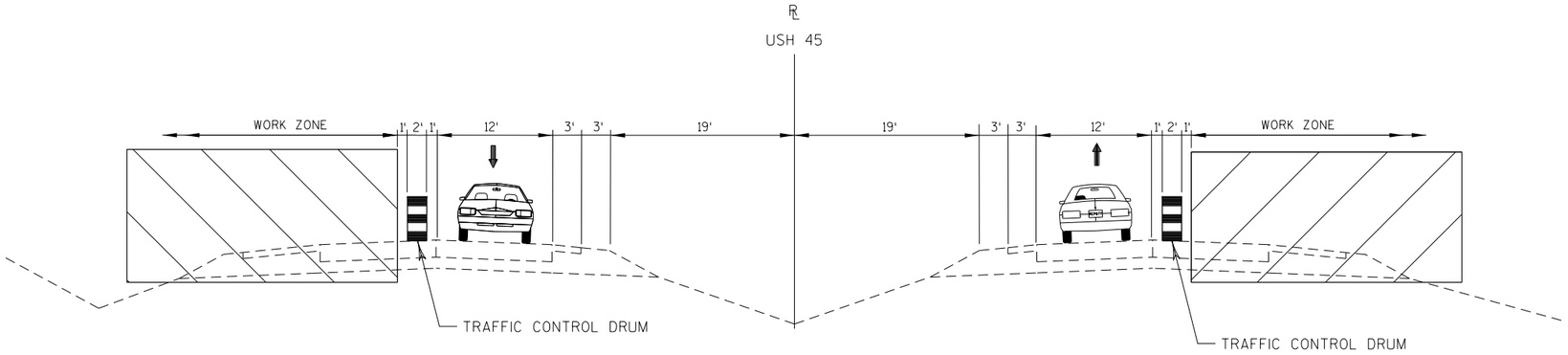
2

2

STAGE 1 - USH 45

TRAFFIC - OUTSIDE LANES OF USH 45 NB AND SB CLOSED
- TRAFFIC ON INSIDE LANES OF USH 45 NB AND SB
- SEE SDD 15D12B - TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
- SEE SDD 15D15 - TRAFFIC CONTROL RAMPS WITHIN LANE CLOSURE
- SEE SDD 15D16 - TRAFFIC CONTROL, EXIT RAMP CLOSURE

CONSTRUCTION - DIAMOND GRIND OUTSIDE 8'-10' OF CONCRETE PAVEMENT

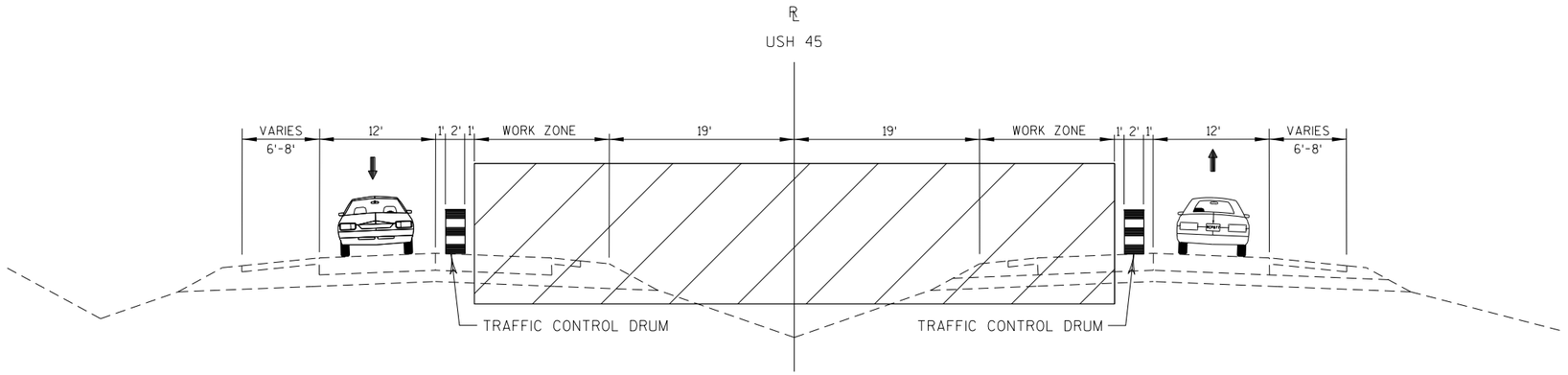


STAGE 1 - USH 45 MAINLINE
SHORT-TERM NON-PEAK OUTSIDE LANE CLOSURE

STAGE 1 - USH 45

TRAFFIC - INSIDE LANES OF USH 45 NB AND SB CLOSED
- TRAFFIC ON OUTSIDE LANES OF USH 45 NB AND SB
- SEE SDD 15D12B - TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

CONSTRUCTION - DIAMOND GRIND INSIDE 8' OF CONCRETE PAVEMENT

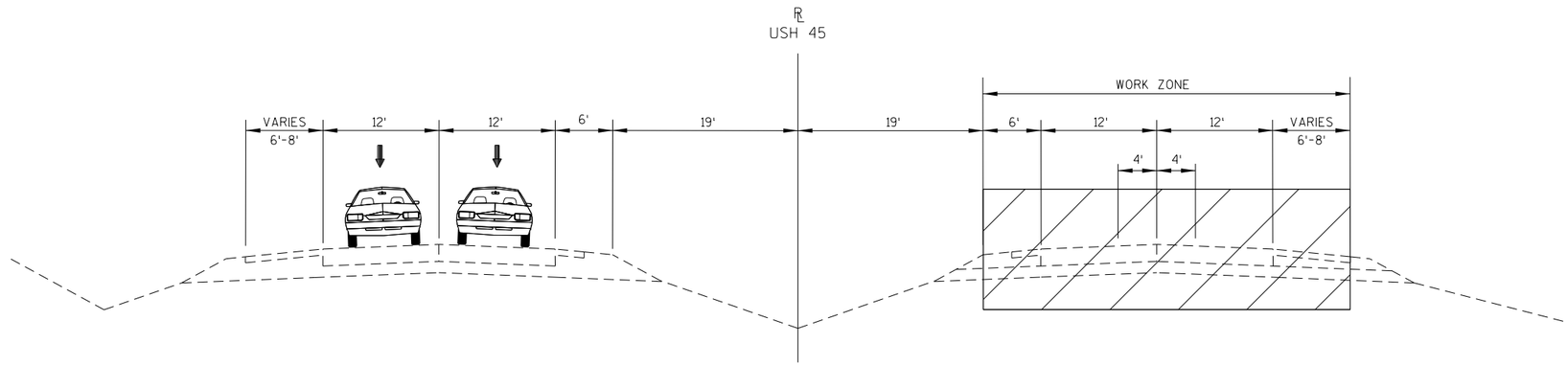


STAGE 1 - USH 45 MAINLINE
SHORT-TERM NON-PEAK INSIDE LANE CLOSURE

STAGE 1 - USH 45

TRAFFIC - FULL FREEWAY CLOSURE DURING NIGHTTIME WORK ONLY ALLOWED IN ONE DIRECTION AT A TIME
- SEE SDD 15D42 - TRAFFIC CONTROL TWO LANE FULL FREEWAY CLOSURE
- SEE CONSTRUCTION DETAIL "TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE SHORT TERM ONLY.
- SEE CONSTRUCTION DETAIL "TYPICAL SYSTEM RAMP CLOSURE"

CONSTRUCTION - CONCRETE REPAIR AND REPLACEMENT
- DIAMOND GRIND 4' OF CONCRETE PAVEMENT ON EACH SIDE OF CROWN LINE



STAGE 1 - USH 45 MAINLINE
NIGHTTIME FULL CLOSURE

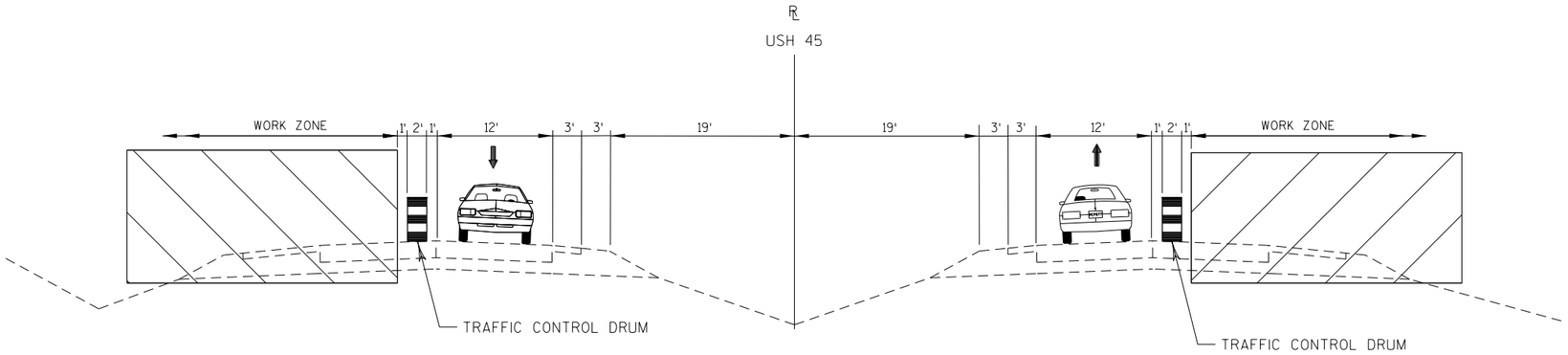
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TRAFFIC CONTROL - USH 45 STAGE 1	SHEET 183	E

2

STAGE 2 - USH 45

TRAFFIC
- OUTSIDE LANES OF USH 45 NB AND SB CLOSED
- TRAFFIC ON INSIDE LANES OF USH 45 NB AND SB
- SEE SDD 15D12B - TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
- SEE SDD 15D15 - TRAFFIC CONTROL RAMPS WITHIN LANE CLOSURE
- SEE SDD 15D16 - TRAFFIC CONTROL, EXIT RAMP CLOSURE

CONSTRUCTION
- REPLACE OUTSIDE HMA SHOULDERS
- INSTALL BEAM GUARD

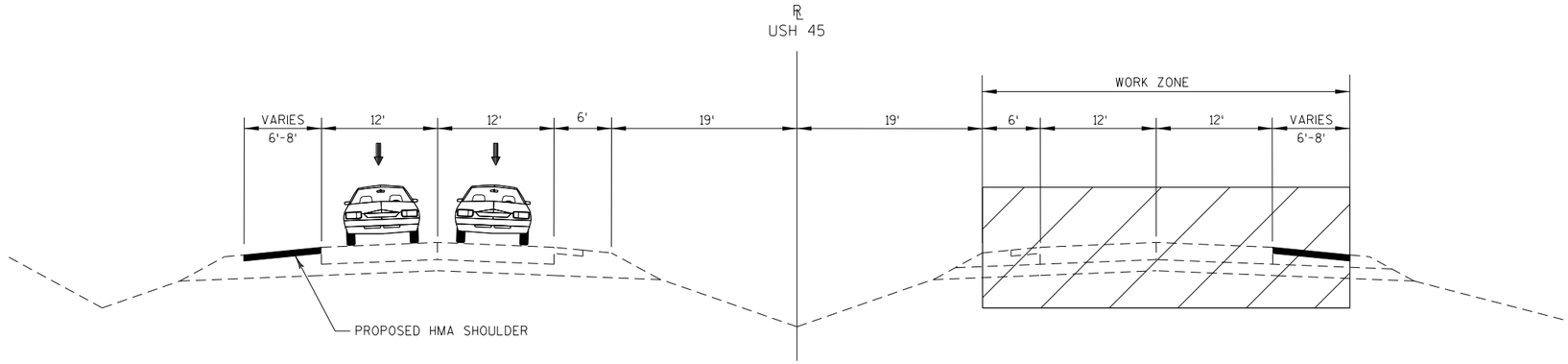


STAGE 2 - USH 45 MAINLINE
SHORT-TERM NON-PEAK OUTSIDE LANE CLOSURE

STAGE 2 - USH 45

TRAFFIC
- FULL FREEWAY CLOSURE DURING NIGHTTIME WORK ONLY ALLOWED IN ONE DIRECTION AT A TIME
- SEE SDD 15D42 - TRAFFIC CONTROL TWO LANE FULL FREEWAY CLOSURE
- SEE CONSTRUCTION DETAIL "TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE SHORT TERM ONLY.
- SEE CONSTRUCTION DETAIL "TYPICAL SYSTEM RAMP CLOSURE"

CONSTRUCTION
- ASPHALT MILLING AND HMA OVERLAY AT BRIDGE APPROACHES
- ASPHALT MILLING AND HMA OVERLAY OF MAINLINE PAVEMENT SOUTH OF STH 145
- PROFILE MILL AND OVERLAY STA 386+00 - 412+50
- PARTIAL EXTENSION OF NORTHBOUND PLEASANT VALLEY EXIT RAMP
- BRIDGE PAINTING OF DECORAH ROAD BRIDGE OVER SOUTHBOUND LANES



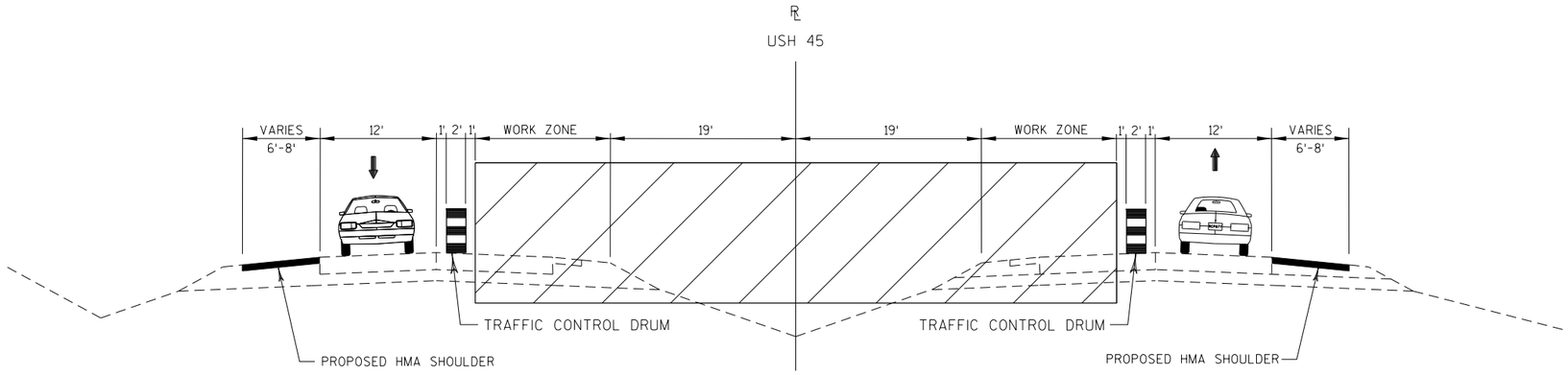
STAGE 2 - USH 45 MAINLINE
NIGHTTIME FULL CLOSURE

2

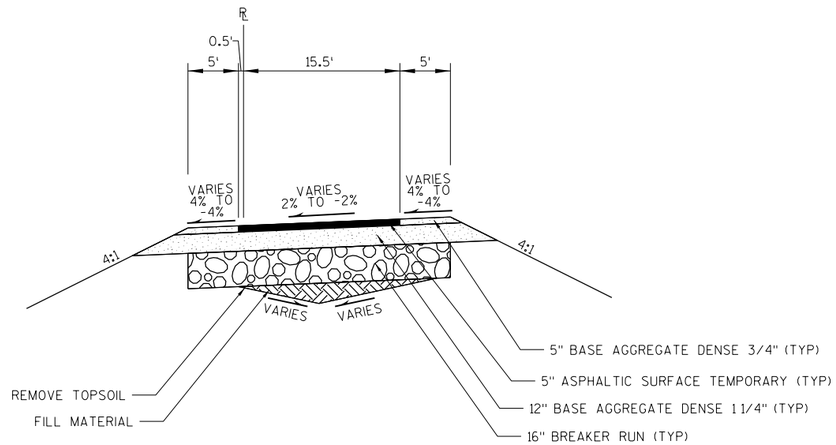
STAGE 3 - USH 45

TRAFFIC
- INSIDE LANES OF USH 45 NB AND SB CLOSED
- TRAFFIC ON OUTSIDE LANES OF USH 45 NB AND SB
- SEE SDD 15D12B - TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

CONSTRUCTION
- CONSTRUCT CROSSOVERS
- REPLACE MEDIAN HMA SHOULDERS
- INSTALL BEAM GUARD
- INSTALL CABLE GUARD



STAGE 3 - USH 45 MAINLINE
SHORT-TERM NON-PEAK INSIDE LANE CLOSURE



FINISHED TYPICAL SECTION - TEMPORARY CROSSOVERS

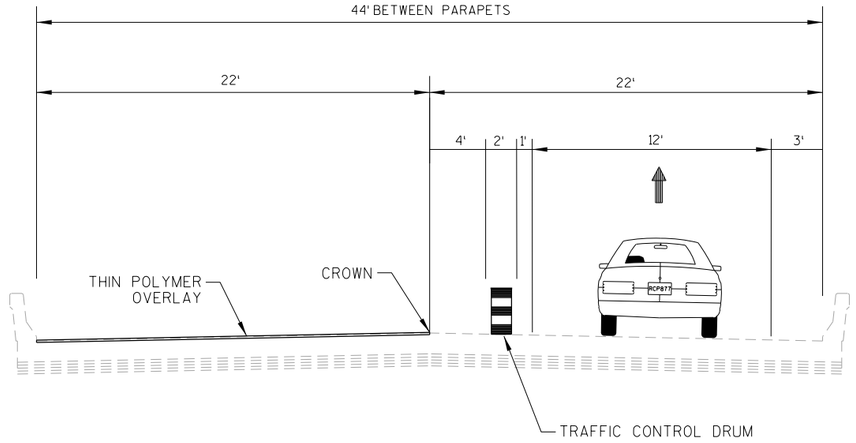
STA 85+00SC - STA 100+01.60SC
STA 59+00NC - STA 73+01.28NC

2

STAGE 3A (B-66-48)

TRAFFIC - INSIDE LANE OF BRIDGE CLOSED
- TRAFFIC ON OUTSIDE LANE AND ON NEW SHOULDER.
- SEE TRAFFIC CONTROL PLANS FOR LAYOUT

CONSTRUCTION - THIN POLYMER OVERLAY ON LEFT SIDE OF BRIDGE

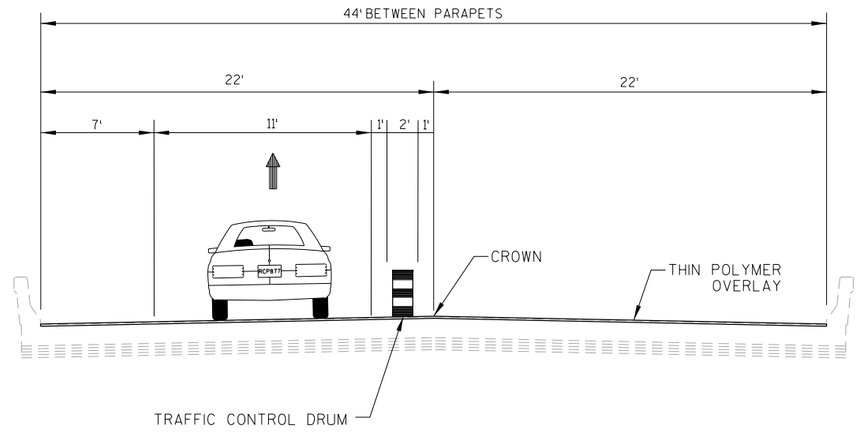


STAGE 3A - CROSS SECTION THRU
B-66-48 ON NB USH 45
(LOOKING NORTH)

STAGE 3B (B-66-48)

TRAFFIC - OUTSIDE LANE OF BRIDGE CLOSED
- TRAFFIC ON INSIDE LANE AND ON NEW SHOULDER.
- SEE TRAFFIC CONTROL PLANS FOR LAYOUT

CONSTRUCTION - THIN POLYMER OVERLAY ON RIGHT SIDE OF BRIDGE



STAGE 3B - CROSS SECTION THRU
B-66-48 ON NB USH 45
(LOOKING NORTH)

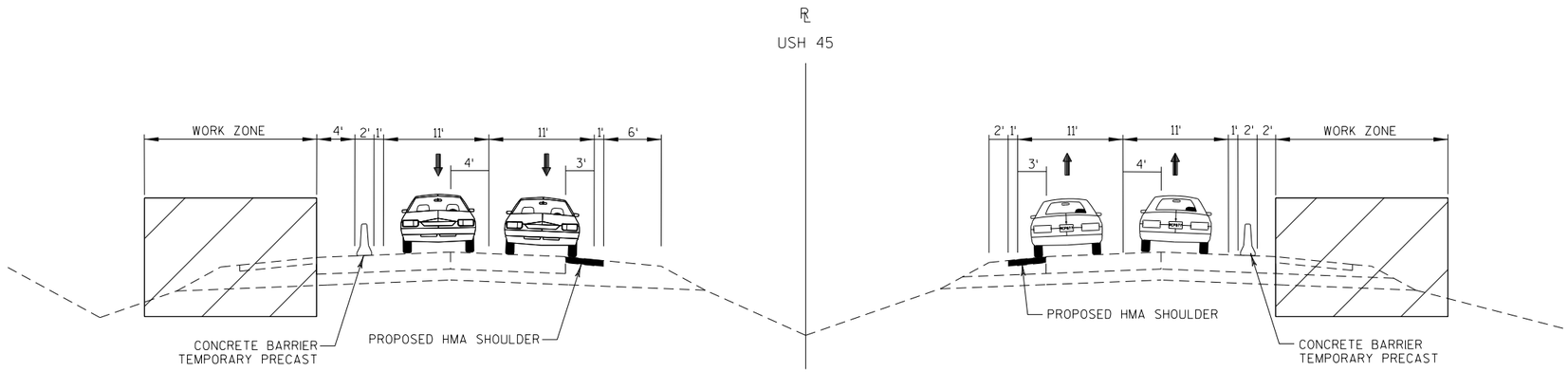
2

2

STAGE 3C - USH 45

TRAFFIC - LANES SHIFTED TO MEDIAN SHOULDER
- SEE TRAFFIC CONTROL PLANS FOR LAYOUT

CONSTRUCTION - CONSTRUCT EXIT AND ENTRANCE RAMP EXTENSIONS AT PLEASANT VALLEY ROAD

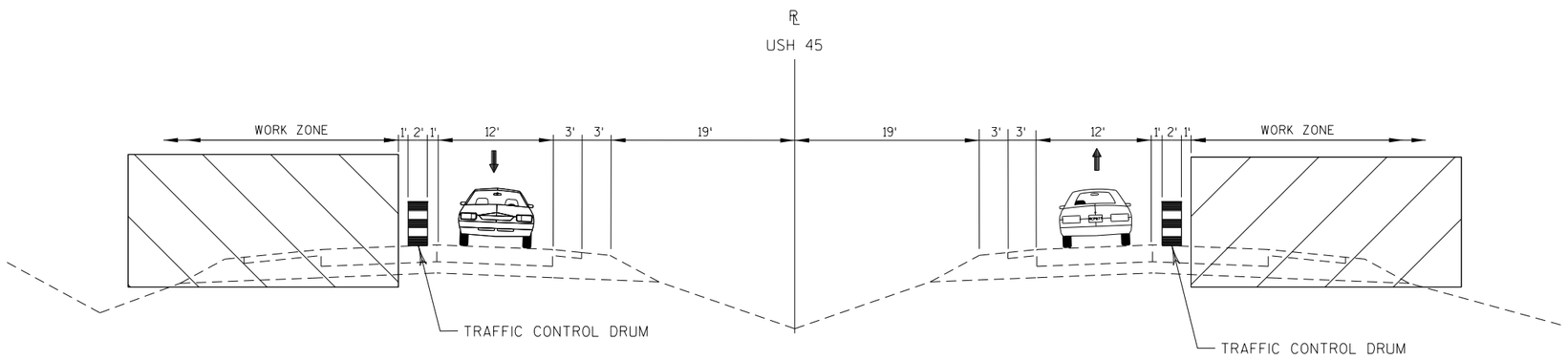


STAGE 3C - USH 45 MAINLINE
STA 312+00 - 342+00

STAGE 4 - USH 45

TRAFFIC - OUTSIDE LANES OF USH 45 NB AND SB CLOSED
- TRAFFIC ON INSIDE LANES OF USH 45 NB AND SB
- SEE SDD 15D12B - TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
- SEE SDD 15D15 - TRAFFIC CONTROL RAMPS WITHIN LANE CLOSURE

CONSTRUCTION - INSTALL RUMBLE STRIPS

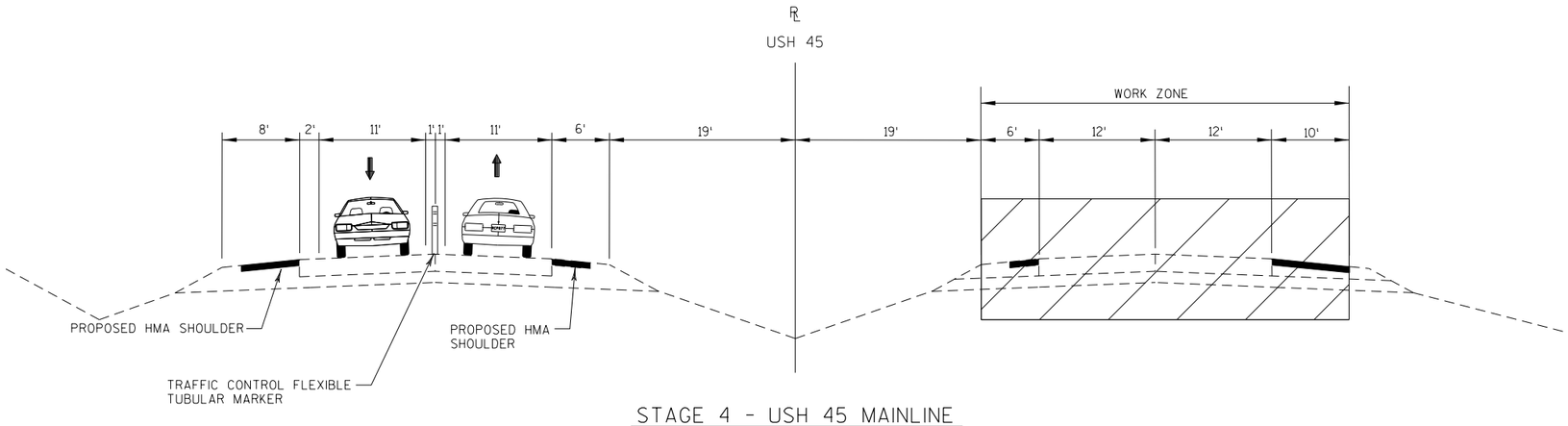


STAGE 4 - USH 45 MAINLINE
SHORT-TERM NON-PEAK OUTSIDE LANE CLOSURE
STA. 1688+00 - 492+50

STAGE 4 - USH 45

TRAFFIC
- USH 45 NB CLOSED
- ONE LANE OF TRAFFIC IN EACH DIRECTION ON THE USH 45 SB LANES
- SEE TRAFFIC CONTROL PLANS FOR LAYOUT

CONSTRUCTION
- REPLACE PAVEMENT ON USH 45 NB LANES
- CONSTRUCT HMA SHOULDER ON USH 45 NB
- INSTALL GUARDRAIL ON NB LANES
- INSTALL CABLE BARRIER STA 508-00 - 546+00



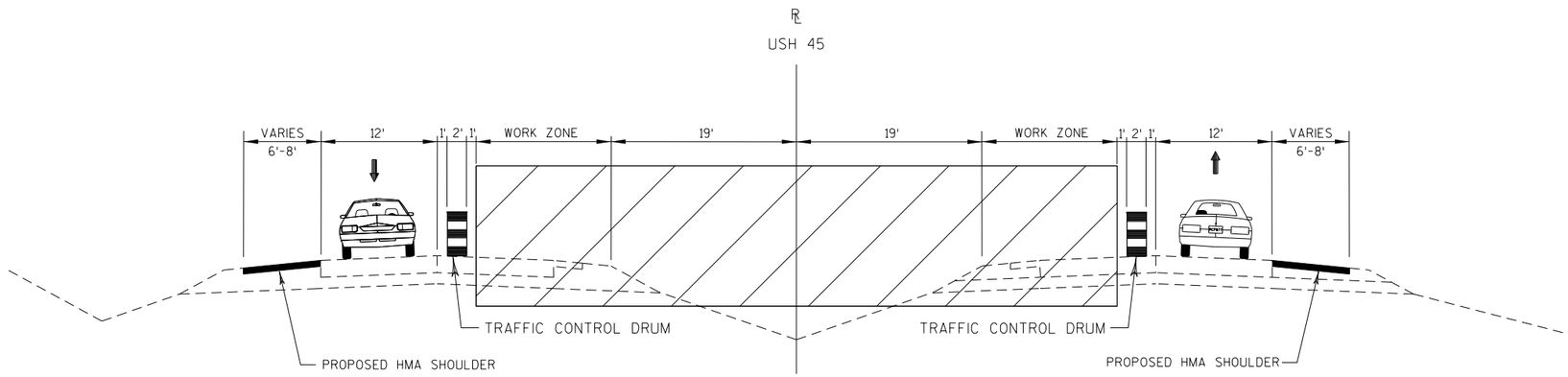
STAGE 4 - USH 45 MAINLINE
FULL CLOSURE NORTHBOUND

STA. 492+50 - 759+00

STAGE 5 - USH 45

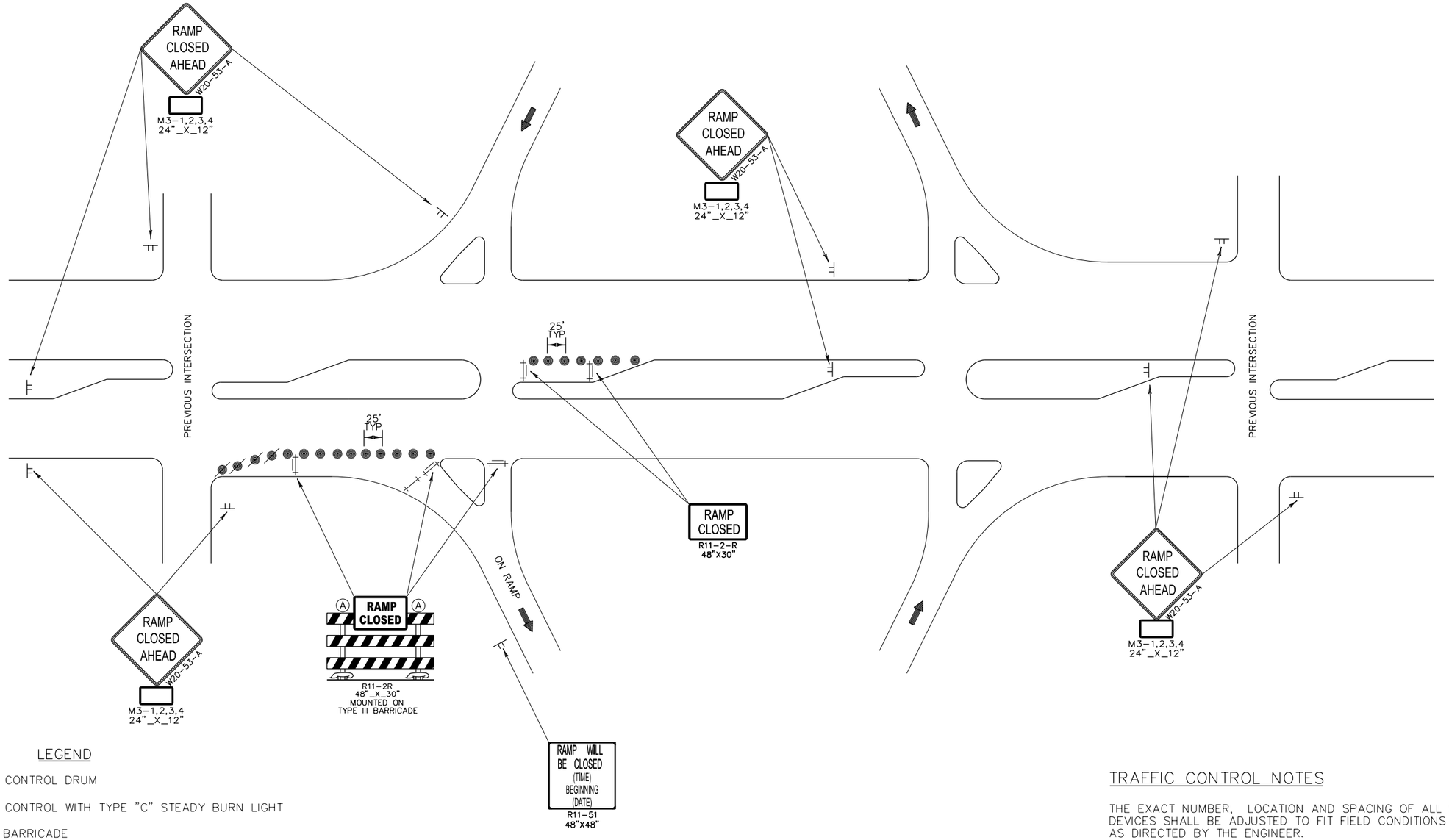
TRAFFIC
- INSIDE LANES OF USH 45 NB AND SB CLOSED
- TRAFFIC ON OUTSIDE LANES OF USH 45 NB AND SB
- SEE SDD 15D12B - TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

CONSTRUCTION
- REMOVE CROSSOVERS
- REMOVE TEMPORARY EMERGENCY PULLOUTS
- INSTALL CABLE GUARD
- INSTALL RUMBLE STRIPS IN MEDIAN SHOULDER



STAGE 5- USH 45 MAINLINE
SHORT-TERM NON-PEAK INSIDE LANE CLOSURE

2



NORTH
M3-1
24"_X_12"

EAST
M3-2
24"_X_12"

SOUTH
M3-3
24"_X_12"

WEST
M3-4
24"_X_12"

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH 2 TYPE "A" WARNING LIGHT (FLASHING)
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL NOTES

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

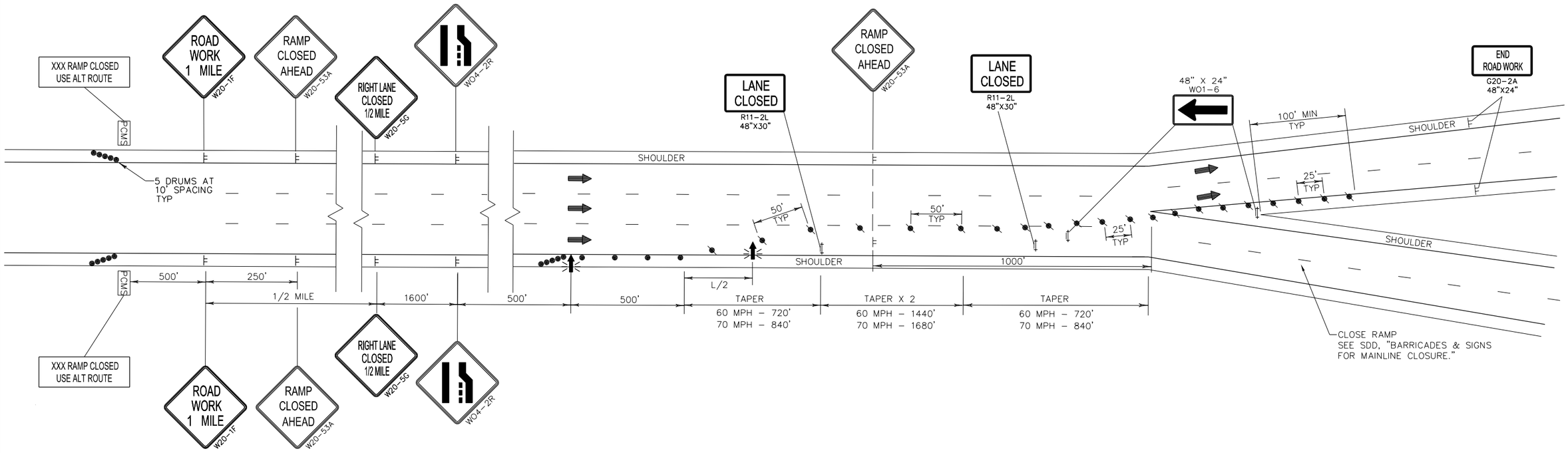
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

SHORT TERM DEFINED AS 7 DAYS/NIGHTS OR LESS. FOR NIGHT TIME OPERATIONS ALL DRUMS IN TAPERS SHALL HAVE WARNING LIGHT, TYPE C (STEADY BURN). MAY BE APPLIED TO ARTERIALS OR LOCAL ROADS.

TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE
SHORT TERM ONLY

2



LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH TWO (2) TYPE "A" WARNING LIGHTS (FLASHING)
- TYPE III BARRICADE WITH SIGN WITH TWO (2) AND TYPE "A" WARNING LIGHTS (FLASHING)
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- PCMS — TRAFFIC CONTROL SIGN PORTABLE CHANGEABLE MESSAGE BOARD

TRAFFIC CONTROL NOTES

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

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

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

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

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

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

REFER TO DETOUR ROUTES FOR TRAFFIC CLOSING SIGNS.

ADD FREEWAY SHIELD AND DIRECTION IF APPLICABLE
COVER EXISTING RAMP AND LANE SIGNS IF APPLICABLE

TYPICAL SYSTEM RAMP CLOSURE

2

SOUTH
45
M3-3
24" X 12"
M1-4
24" X 24"
MAX. 11' WIDTH
W12-52

45
M1-4
24" X 24"
MAX. 11' WIDTH
W12-52

60

41

28

MAX. 11' WIDTH
W12-52
4 MILES AHEAD
W057-52
36" X 24"

45
M1-4
24" X 24"
MAX. 11' WIDTH
W12-52

167

33

45

HWY 45 SOUTH LANE CLOSURES AHEAD
FIXED MESSAGE SIGN
SEE DETAIL

MAX. 11' WIDTH
W12-52

WIDE LOADS EXCEEDING 11 FT
R12-70B(MOD)
114" X 42"

MAX. 11' WIDTH
W12-52

MAX. 11' WIDTH
W12-52

45
M1-4
36" X 36"
MAX. 11' WIDTH
W12-52

45
M1-4
24" X 24"
MAX. 11' WIDTH
W12-52

45
M1-4
24" X 24"
MAX. 11' WIDTH
W12-52

145

41

HWY 45 NORTH LANE CLOSURES AHEAD
FIXED MESSAGE SIGN
SEE DETAIL

60

PLACE SIGN
200'EAST OF
NORTHBOUND
ENTRANCE RAMP

PLACE SIGN
200'EAST OF
NORTHBOUND
ENTRANCE RAMP

45
M1-4
24" X 24"
MAX. 11' WIDTH
W12-52

PLACE SIGN
200'EAST OF
NORTHBOUND
ENTRANCE RAMP

28

WIDE LOADS EXCEEDING 11 FT
R12-70B (MOD)
90" X 36"

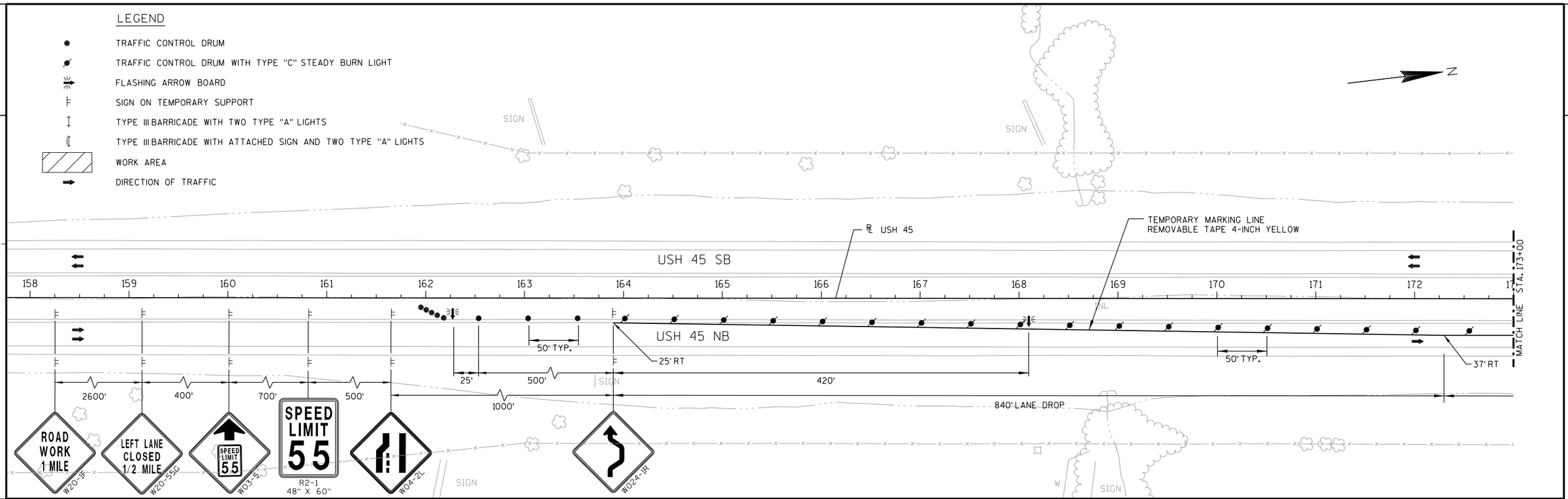
LEGEND

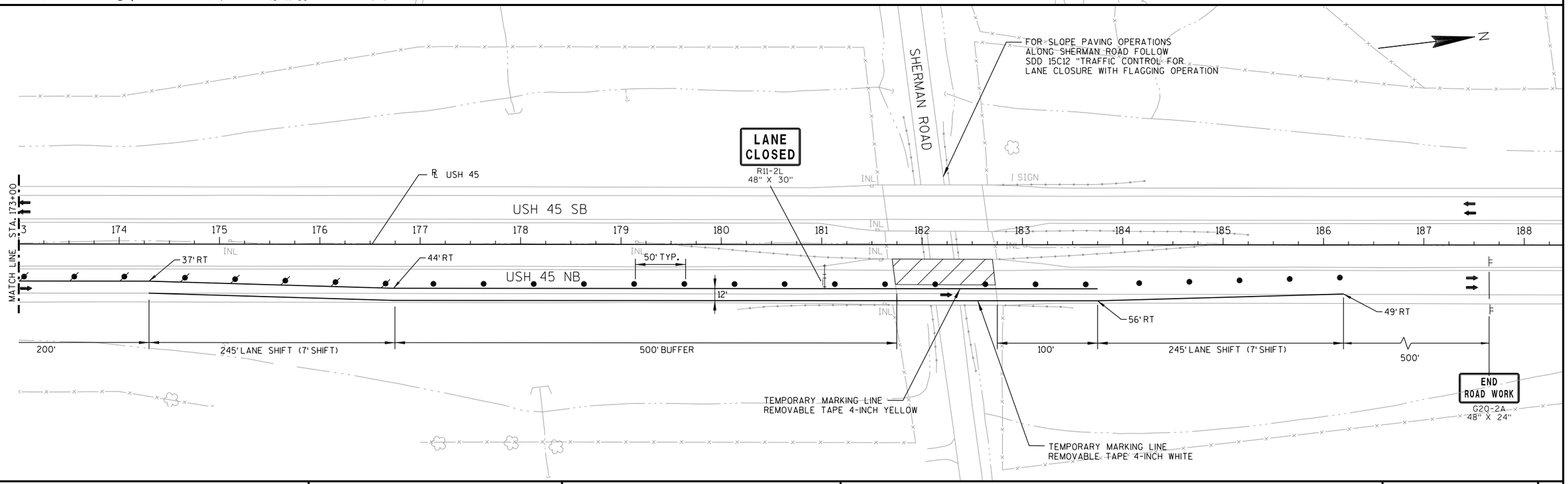
TEMPORARY TRAFFIC CONTROL SIGN POST

PROJECT NO:2220-02-70	HWY:USH 45	COUNTY:WASHINGTON	TRAFFIC CONTROL OVERSIZE/OVERWEIGHT	SHEET 191	E

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE III BARRICADE WITH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- WORK AREA
- DIRECTION OF TRAFFIC

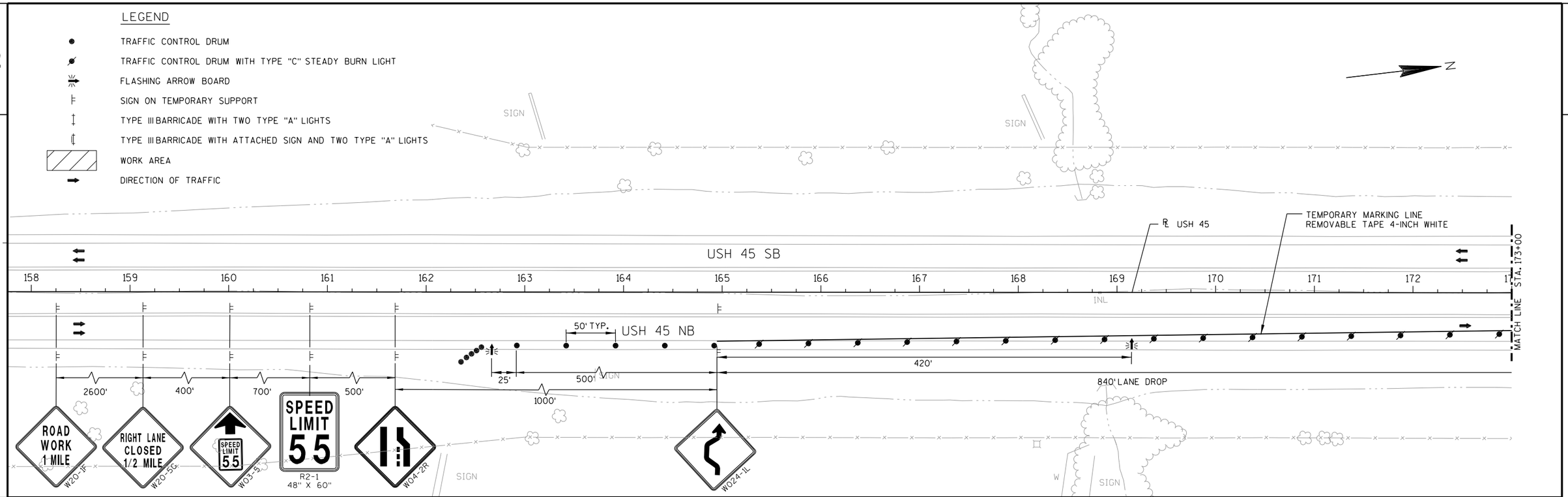


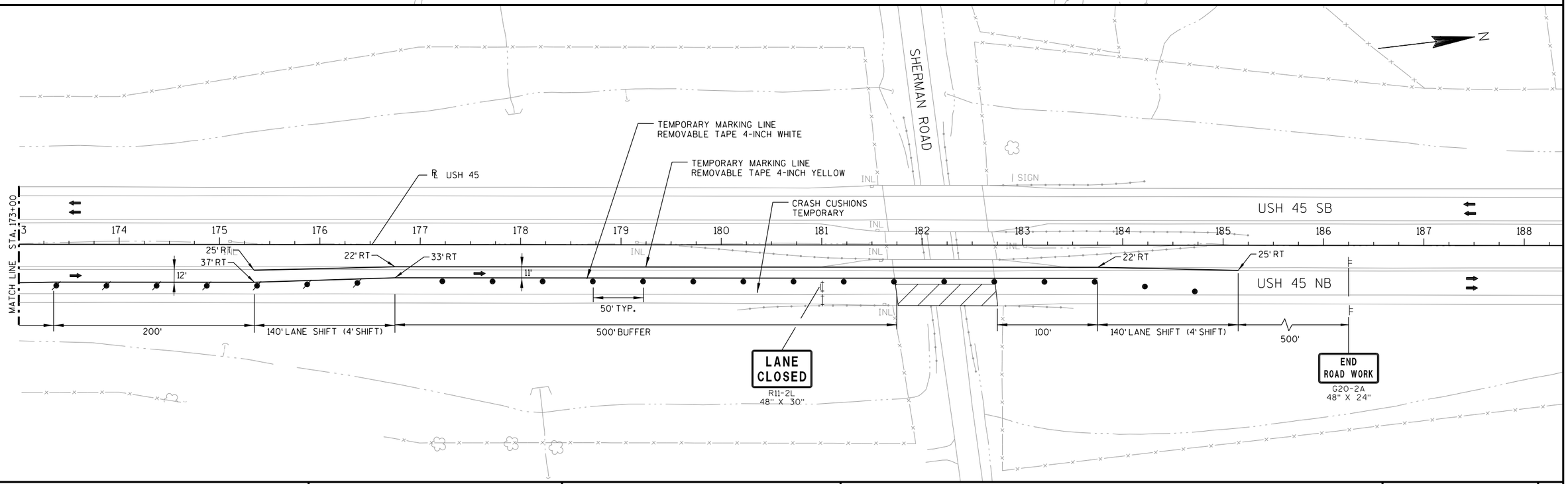


PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TRAFFIC CONTROL - STAGE 3A - SHERMAN ROAD	SHEET 192	E

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE III BARRICADE WITH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- WORK AREA
- DIRECTION OF TRAFFIC





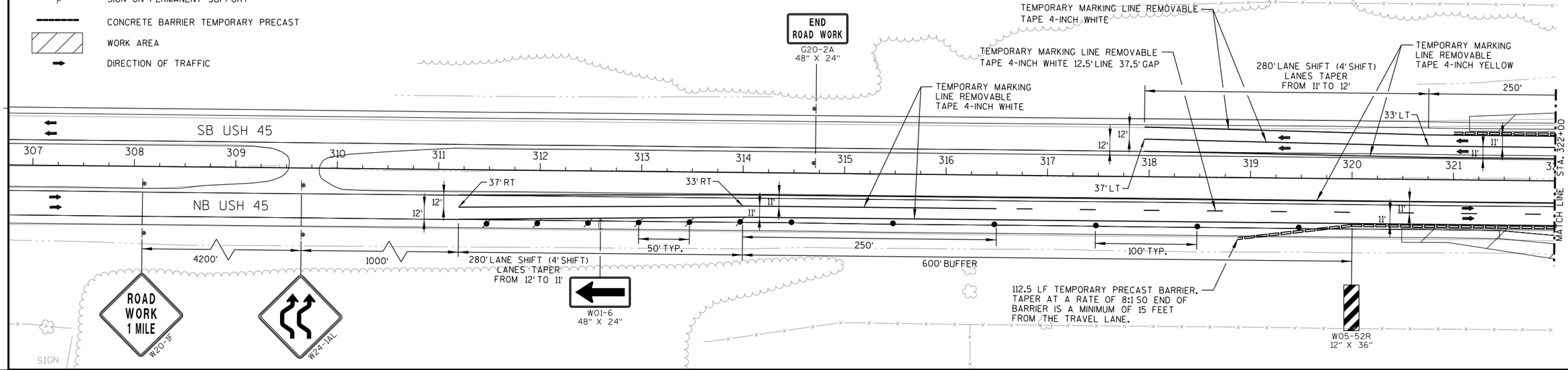
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TRAFFIC CONTROL - STAGE 3B - SHERMAN ROAD	SHEET 193	E

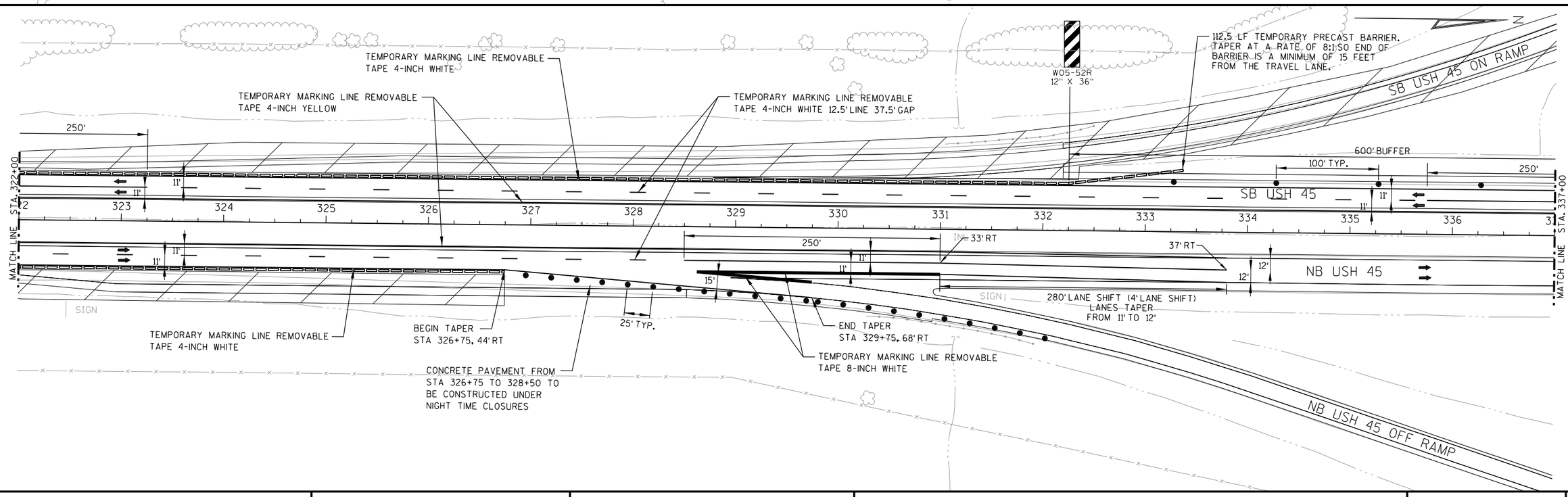
2

2

LEGEND

- TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE III BARRICADE WTH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC



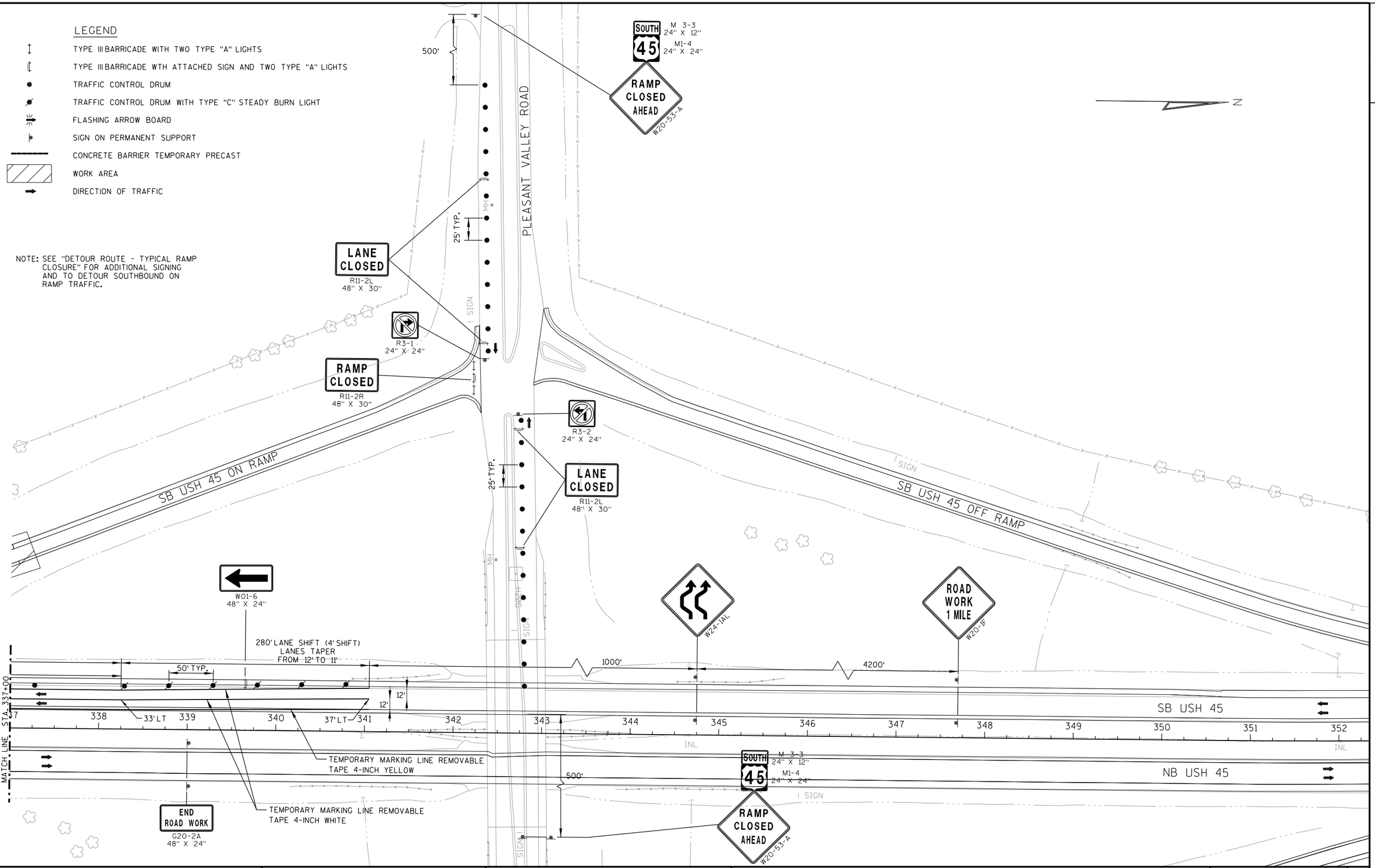


PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TRAFFIC CONTROL - STAGE 3C	SHEET 194	E

LEGEND

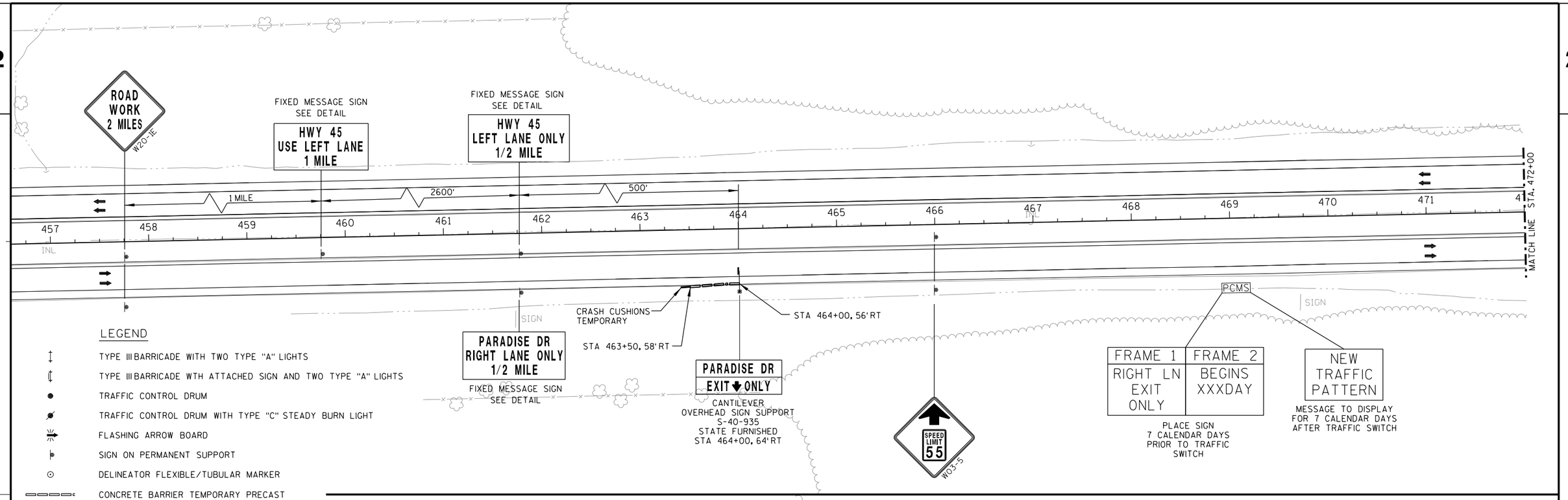
- TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE III BARRICADE WTH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTE: SEE "DETOUR ROUTE - TYPICAL RAMP CLOSURE" FOR ADDITIONAL SIGNING AND TO DETOUR SOUTHBOUND ON RAMP TRAFFIC.



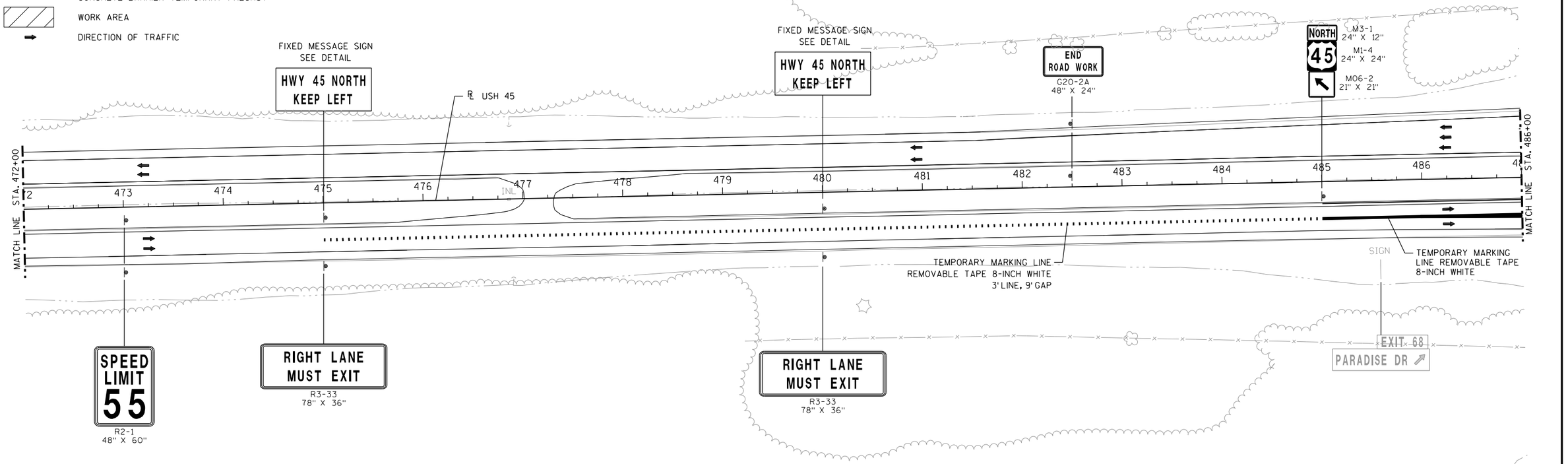
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TRAFFIC CONTROL - STAGE 3C	SHEET 195 E

2



LEGEND

- TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE III BARRICADE WTH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC



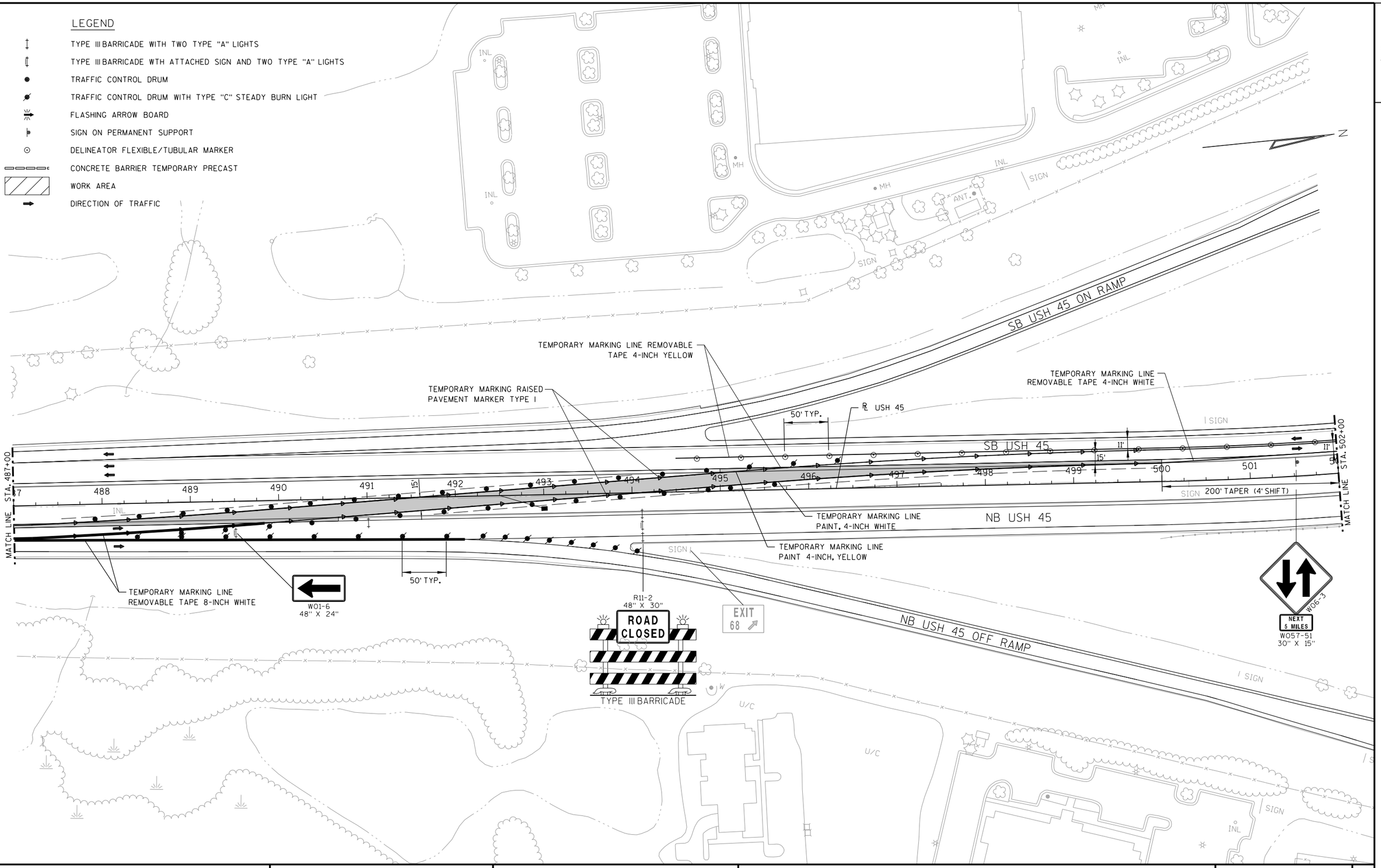
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TRAFFIC CONTROL - STAGE 4	SHEET 196	E

2

2

LEGEND

- TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE III BARRICADE WTH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TRAFFIC CONTROL - STAGE 4	SHEET 197 E

2

N

SB USH 45 OFF RAMP

SB USH 45 ON RAMP

W PARADISE DR

NORTH 45
M3-1
24" X 12"
M1-4
24" X 24"

RAMP CLOSED AHEAD
W20-53-A

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

W06-1

TEMPORARY MARKING LINE REMOVABLE
TAPE 4-INCH YELLOW

TEMPORARY MARKING LINE REMOVABLE
TAPE 4-INCH WHITE

℄ USH 45

50' TYP.

11'

SB USH 45

NB USH 45

MATCH LINE STA. 502+00

MATCH LINE STA. 517+00

100 LF TEMPORARY PRECAST BARRIER. OVERLAP BRIDGE PARAPET AND TAPER AT A RATE OF 8:1 SO END OF BARRIER IS A MINIMUM OF 20 FEET FROM THE TRAVEL LANE.

RAMP CLOSED
R11-2R
48" X 30"

RAMP CLOSED
R11-2R
48" X 30"

25' TYP.

NB USH 45 ON RAMP

NB USH 45 OFF RAMP

R3-2
24" X 24"

MATCH LINE A-A

LEGEND

- TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE III BARRICADE WTH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TRAFFIC CONTROL - STAGE 4	SHEET 198	E

2

N

S SILVERBROOK DR

RAMP CLOSED
R11-2R
48" X 30"

COVER SIGNS ON SIGN BRIDGE

ONLY

ONLY

LANE CLOSED
R11-2L
48" X 30"

25' TYP.

MATCH LINE A-A

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

BEGIN RIGHT TURN LANE
R3-20R
24" X 36"

200'

100'

25' TYP.

W PARADISE DR

TEMPORARY MARKING LINE
REMOVABLE TAPE 8-INCH

NORTH 45
M3-1
24" X 12"
M1-4
24" X 24"

RAMP CLOSED AHEAD
W20-53-A

200'

PARKWAY DR

LEGEND

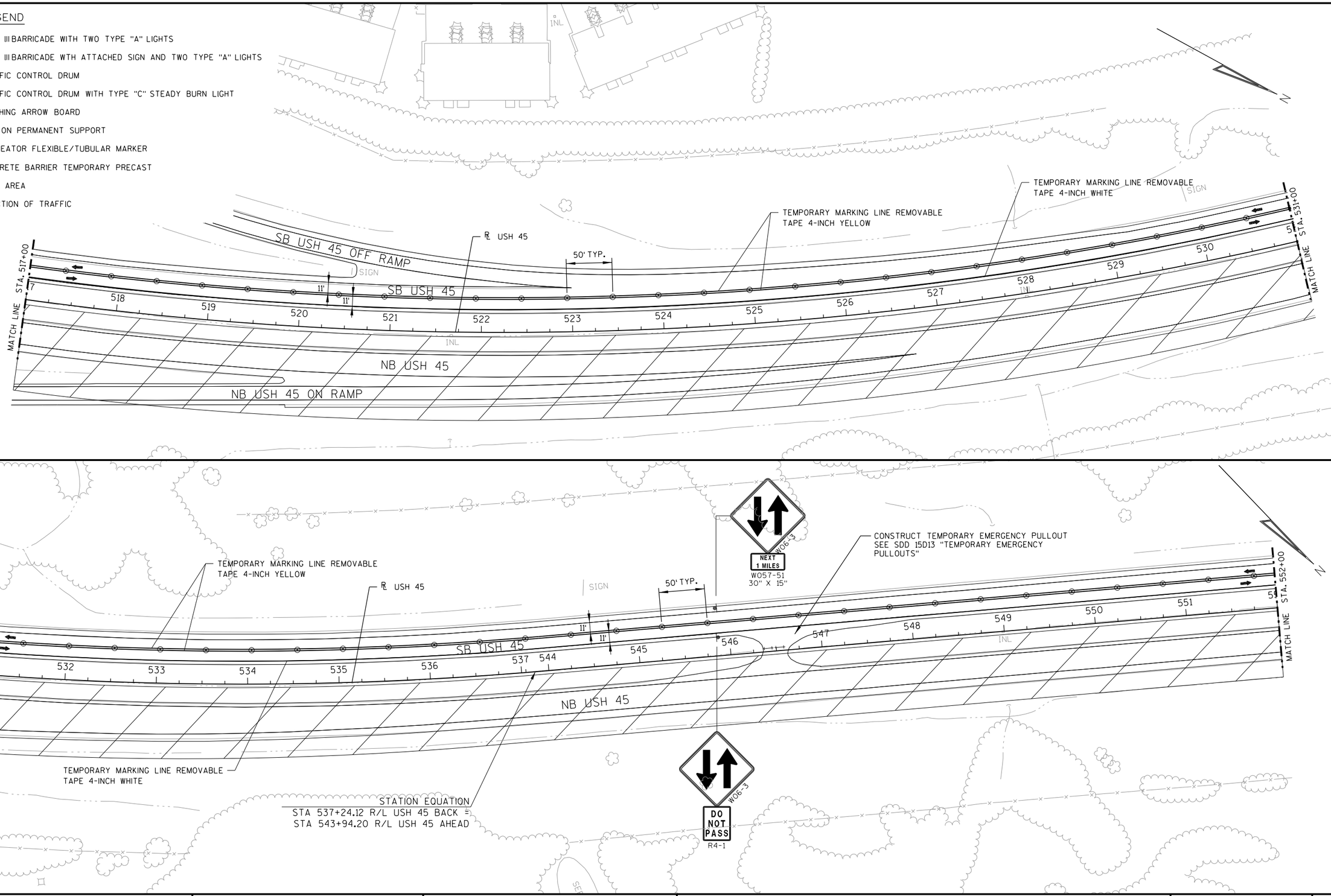
- TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE III BARRICADE WTH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TRAFFIC CONTROL - STAGE 4	SHEET 199	E

2

LEGEND

- TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE III BARRICADE WTH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC



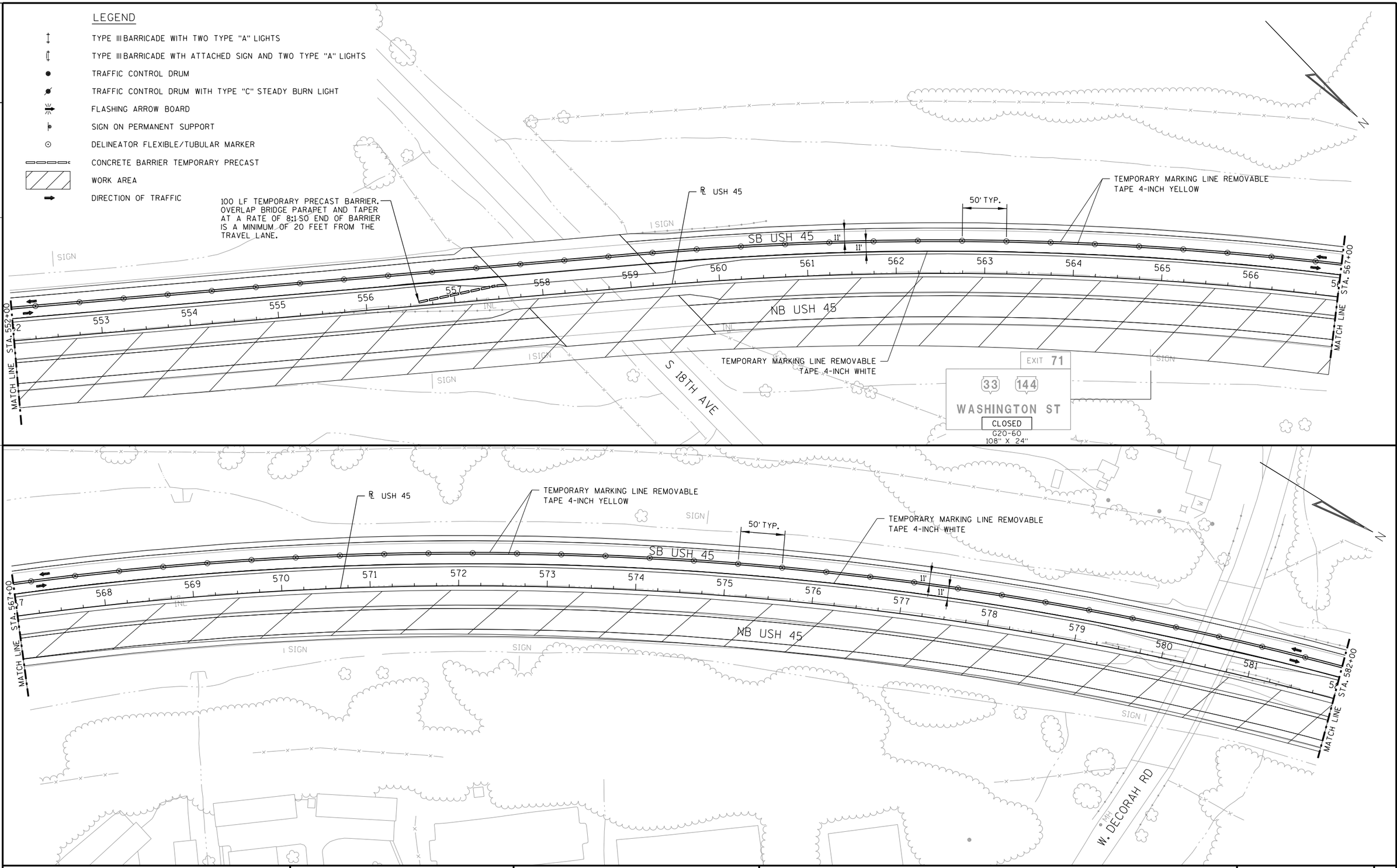
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TRAFFIC CONTROL - STAGE 4	SHEET 200	E

2

2

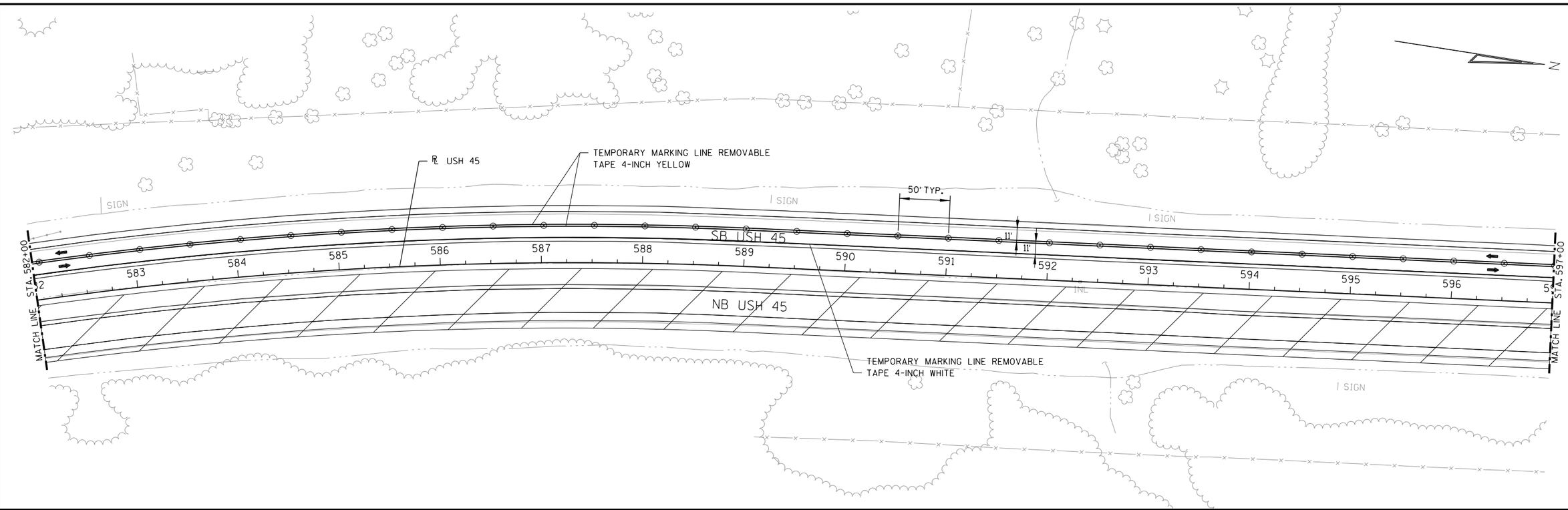
LEGEND

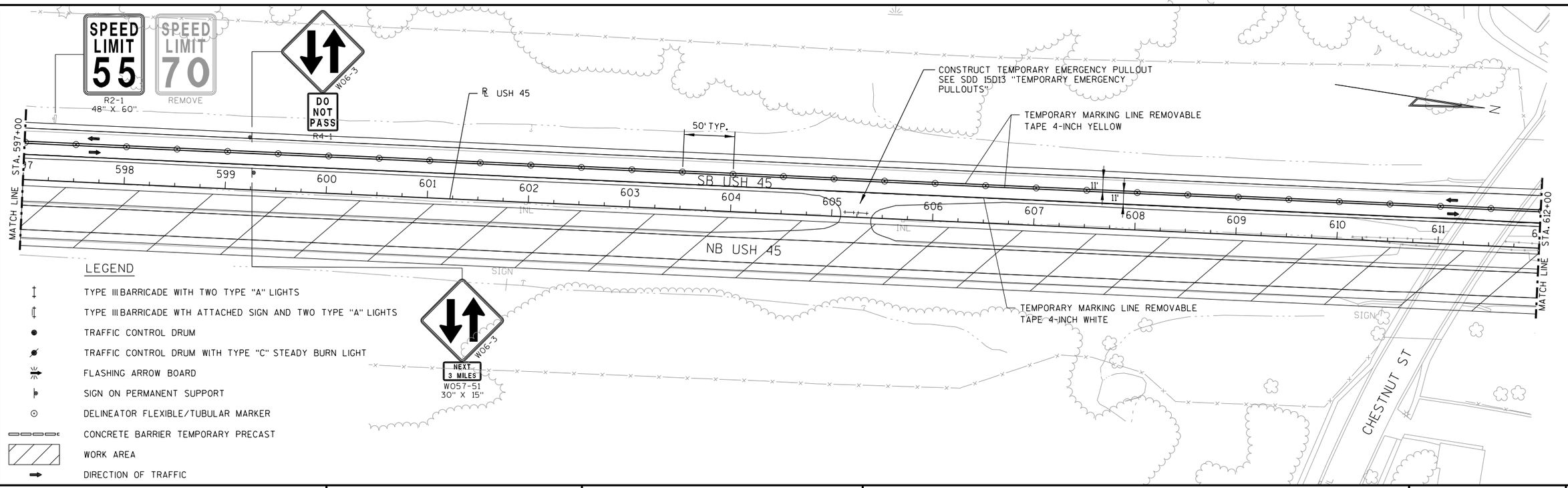
- TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE III BARRICADE WTH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TRAFFIC CONTROL - STAGE 4	SHEET 201	E

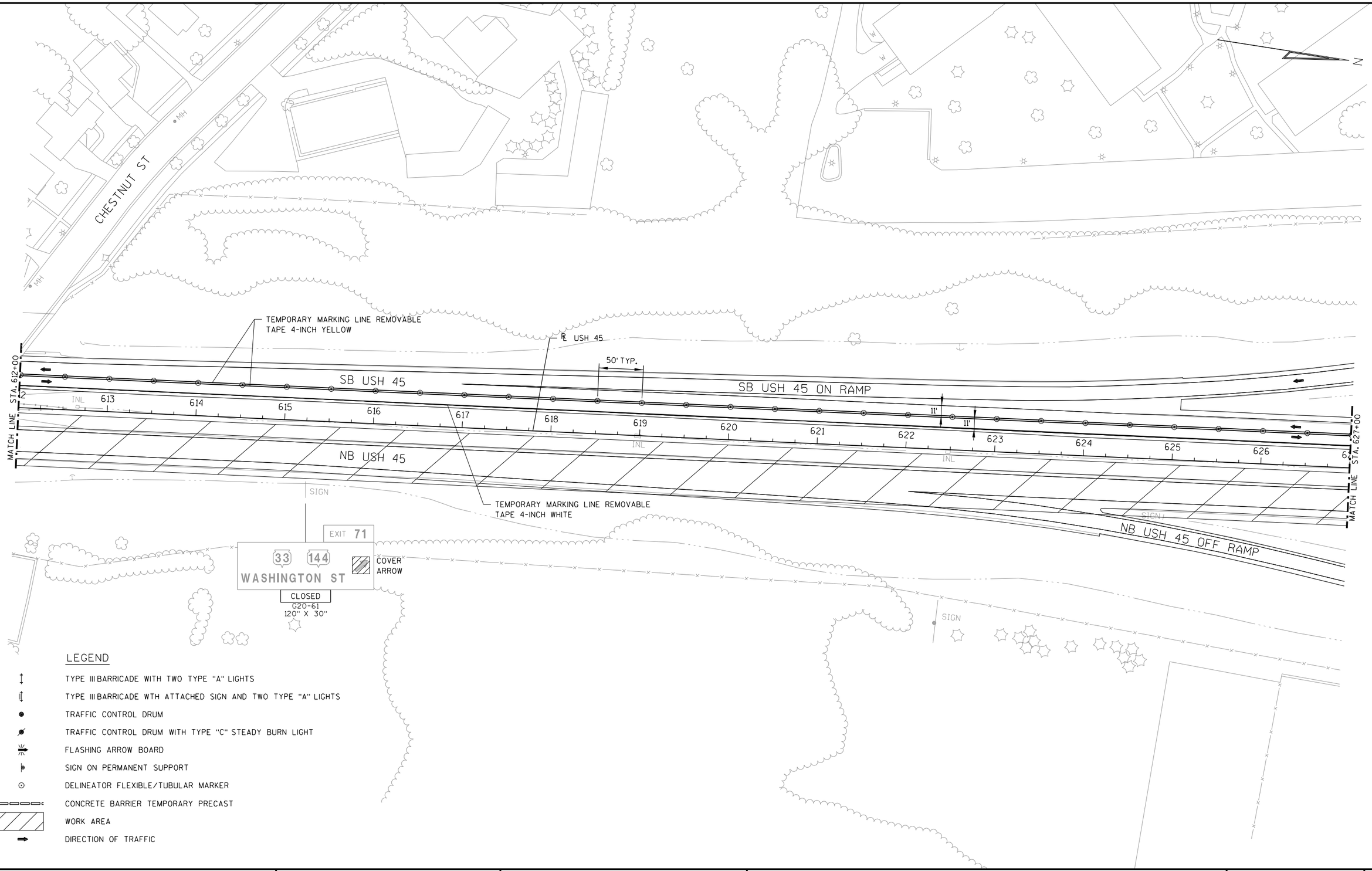
2





PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TRAFFIC CONTROL - STAGE 4	SHEET 202	E

2



LEGEND

- TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE III BARRICADE WTH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TRAFFIC CONTROL - STAGE 4	SHEET 203	E

2

NORTH 45 M3-1 24" X 12" M1-4 24" X 24"

RAMP CLOSED AHEAD W20-53-A

N

SB USH 45 ON RAMP

STH 33 (WASHINGTON ST)

SB USH 45 OFF RAMP

RAMP CLOSED R11-2R 48" X 30"

100 LF TEMPORARY PRECAST BARRIER. OVERLAP BRIDGE PARAPET AND TAPER AT A RATE OF 8:1 SO END OF BARRIER IS A MINIMUM OF 20 FEET FROM THE TRAVEL LANE.

50' TYP.

℄ USH 45

TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH YELLOW

MATCH LINE STA. 627+00

627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642

MATCH LINE STA. 642+00

SB USH 45

NB USH 45

11' 11'

TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH WHITE

NB USH 45 OFF RAMP

25' TYP.

R3-2 24" X 24"

RAMP CLOSED R11-2R 48" X 30"

NB USH ON RAMP

RAMP CLOSED R11-2R 48" X 30"

R3-1 24" X 24"

RAMP CLOSED R11-2R 48" X 30"

NORTH 45 M3-1 24" X 12" M1-4 24" X 24"

RAMP CLOSED AHEAD W20-53-A

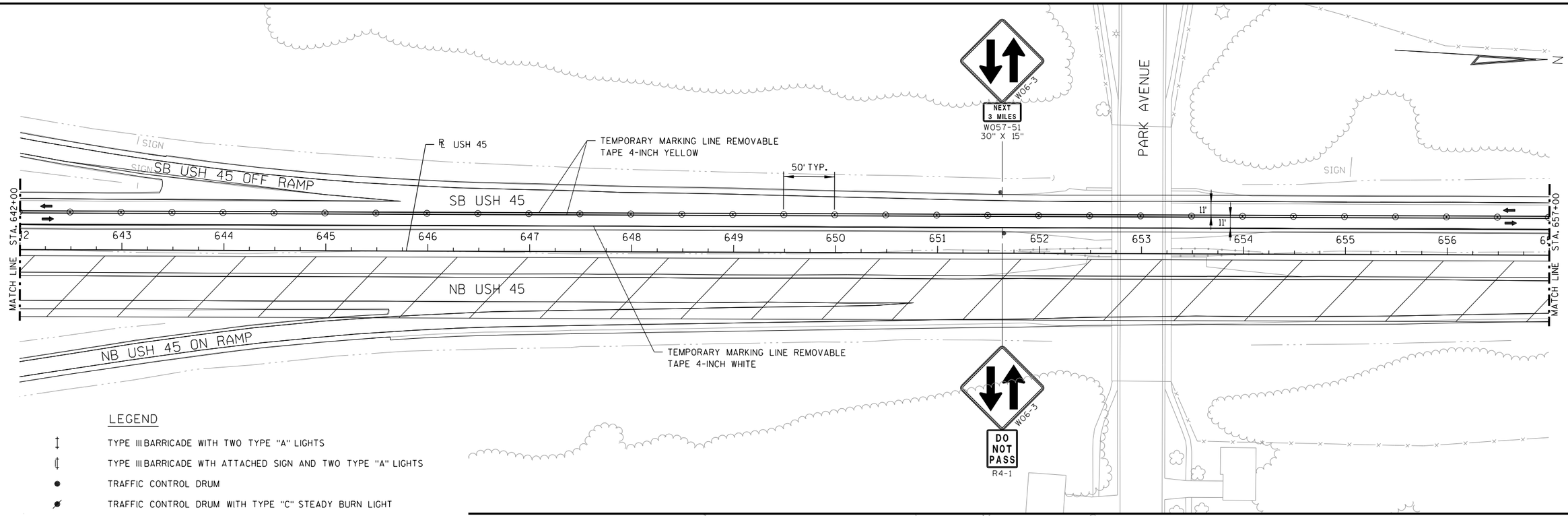
POOL

LEGEND

- TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE III BARRICADE WTH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

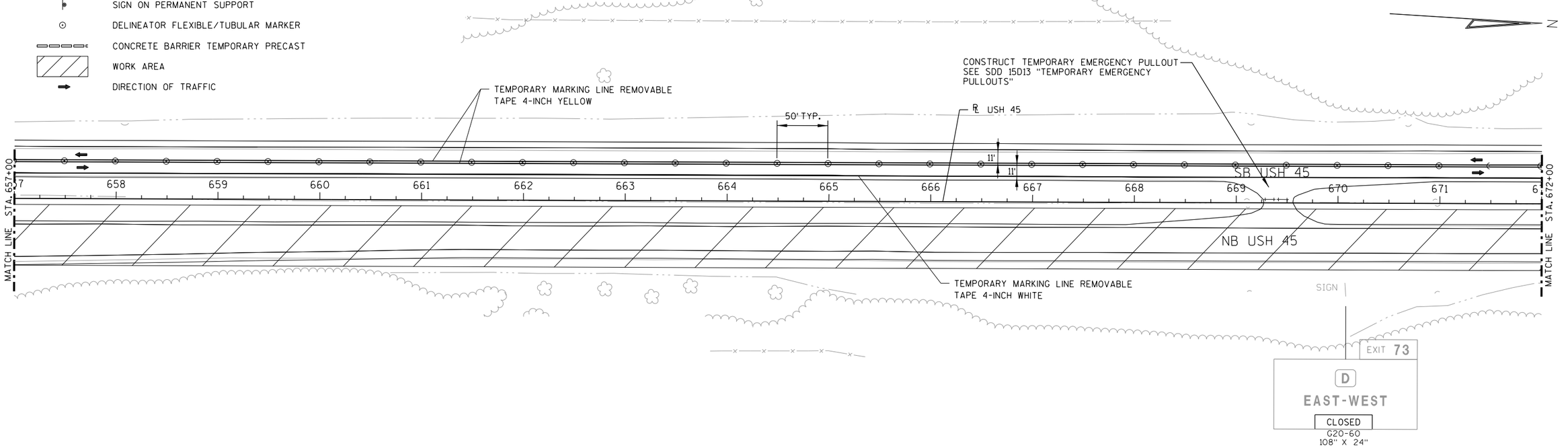
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TRAFFIC CONTROL - STAGE 4	SHEET 204	E

2



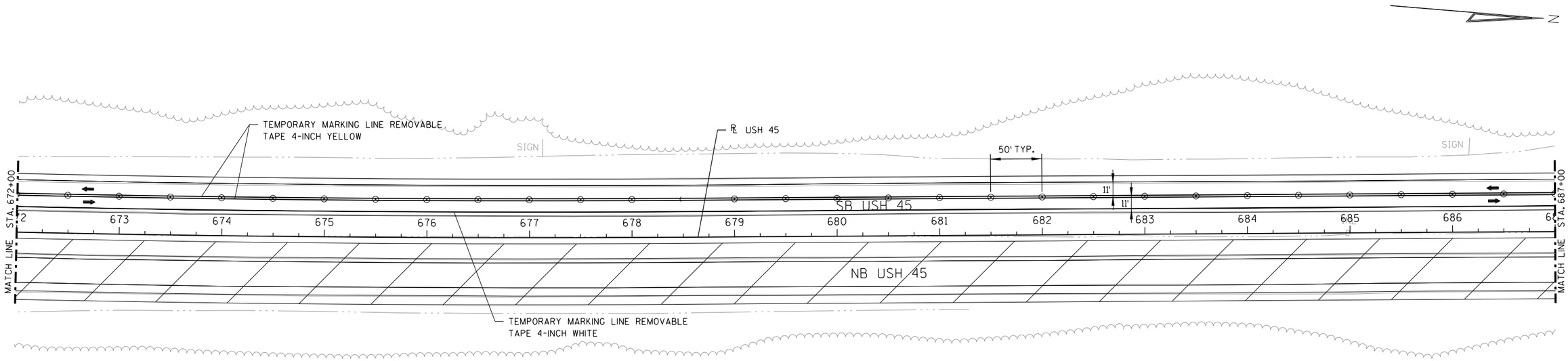
LEGEND

- TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE III BARRICADE WTH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC



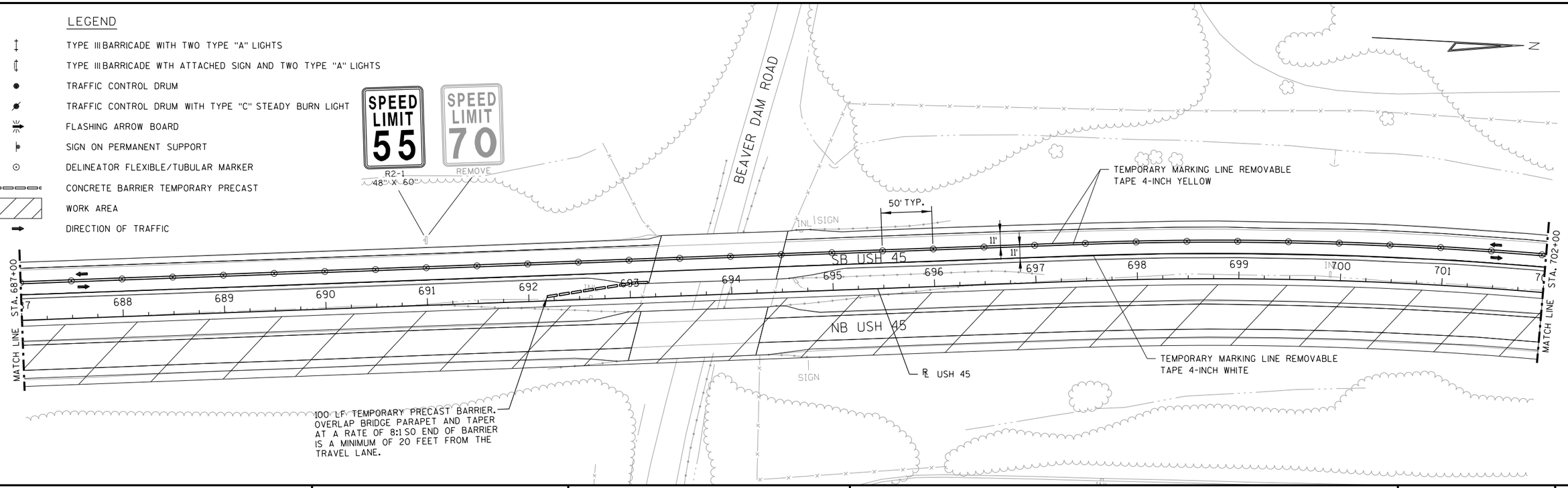
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TRAFFIC CONTROL - STAGE 4	SHEET 205	E

2



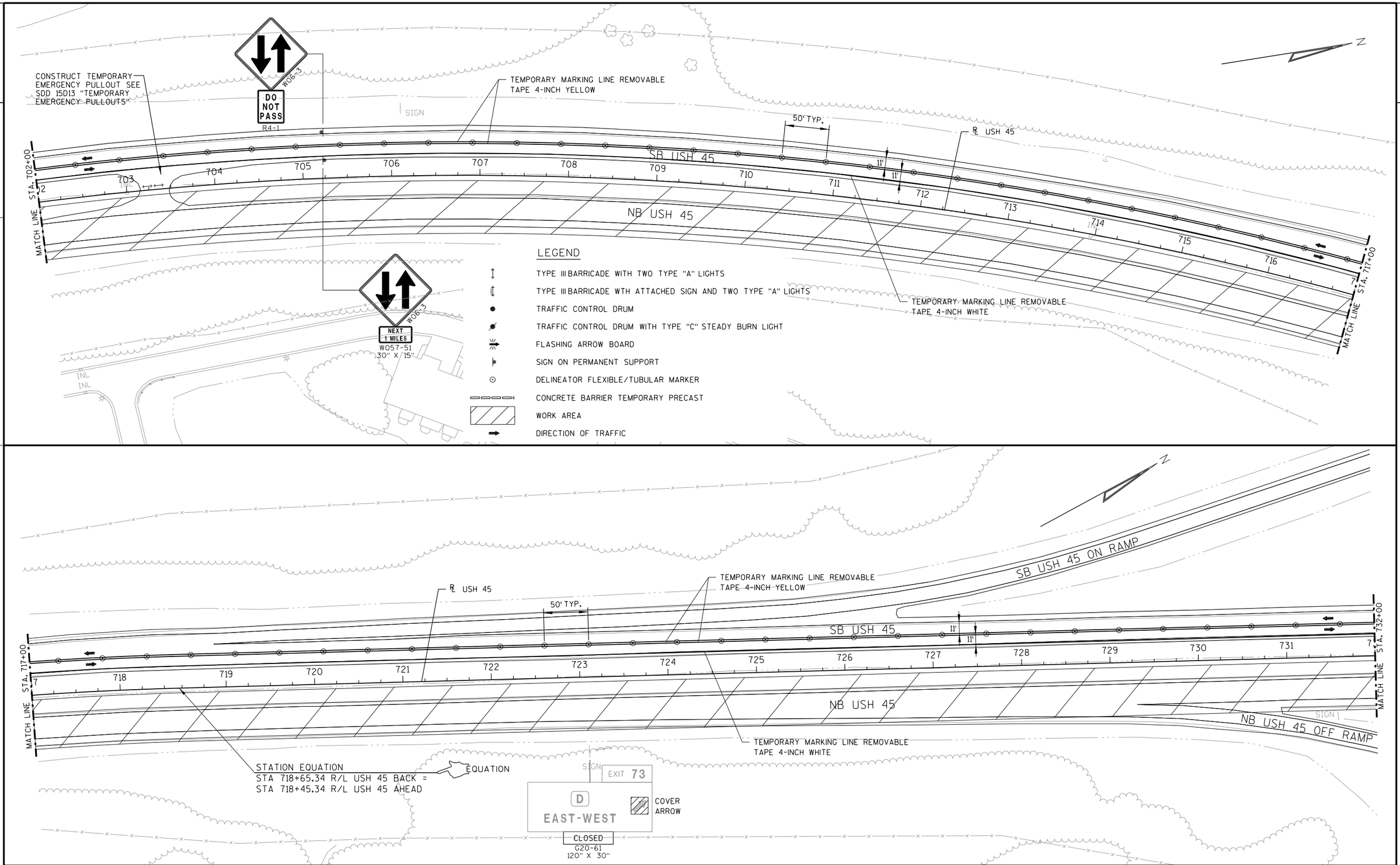
LEGEND

- TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE III BARRICADE WTH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TRAFFIC CONTROL - STAGE 4	SHEET 206	E

2



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TRAFFIC CONTROL - STAGE 4	SHEET 207	E

2

2

LEGEND

- TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE III BARRICADE WTH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

SB USH 45 ON RAMP

SB USH 45 OFF RAMP

C.T.H. D

MH

INL

SIGN

100 LF TEMPORARY PRECAST BARRIER. OVERLAP BRIDGE PARAPET AND TAPER AT A RATE OF 8:1 SO END OF BARRIER IS A MINIMUM OF 20 FEET FROM THE TRAVEL LANE.

℄ USH 45

50' TYP.

11'

11'

TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH YELLOW

TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH WHITE

SB USH 45

NB USH 45

MATCH LINE STA. 732+00

MATCH LINE STA. 747+00

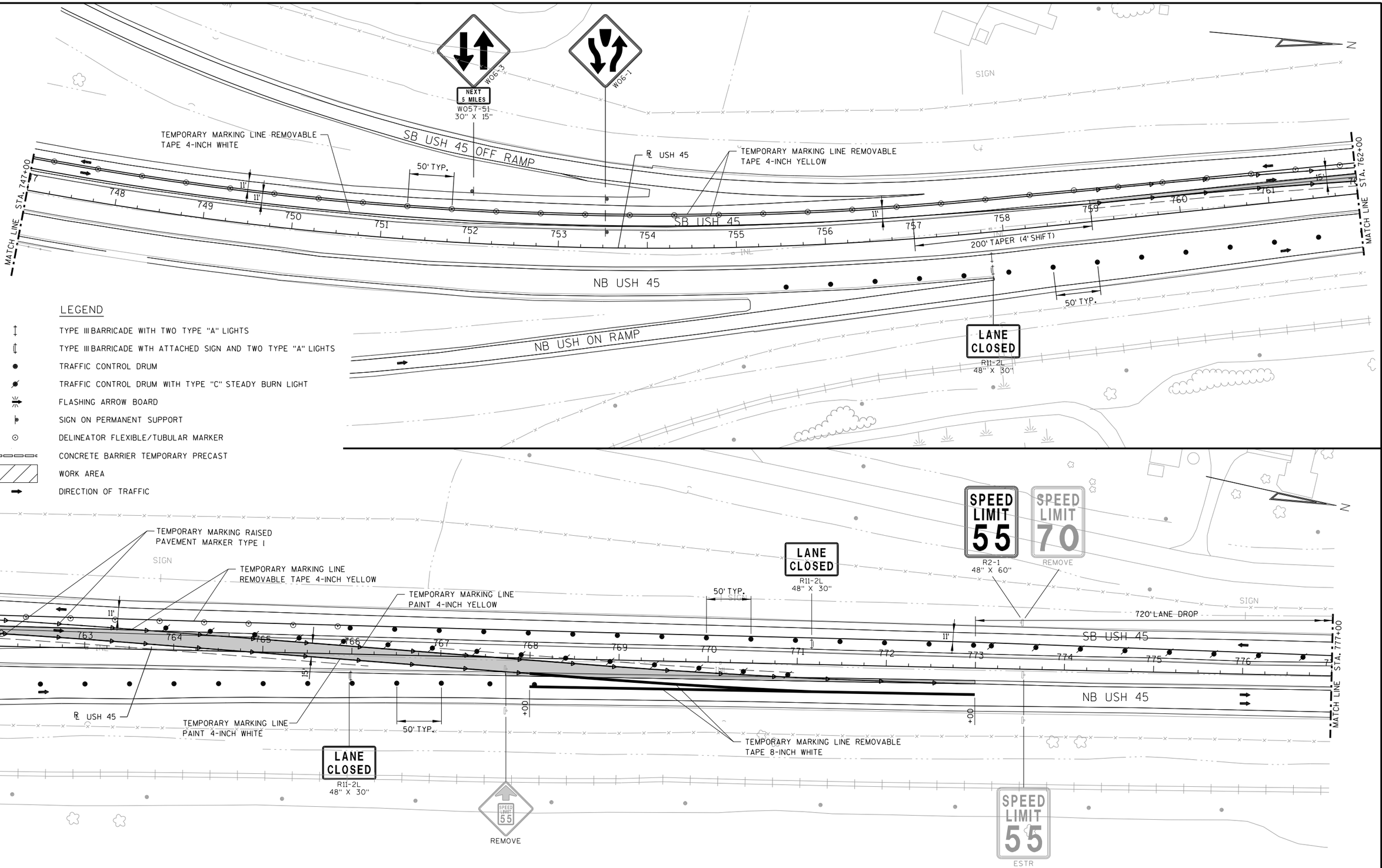
732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747

NB USH 45 OFF RAMP

NB USH 45 ON RAMP

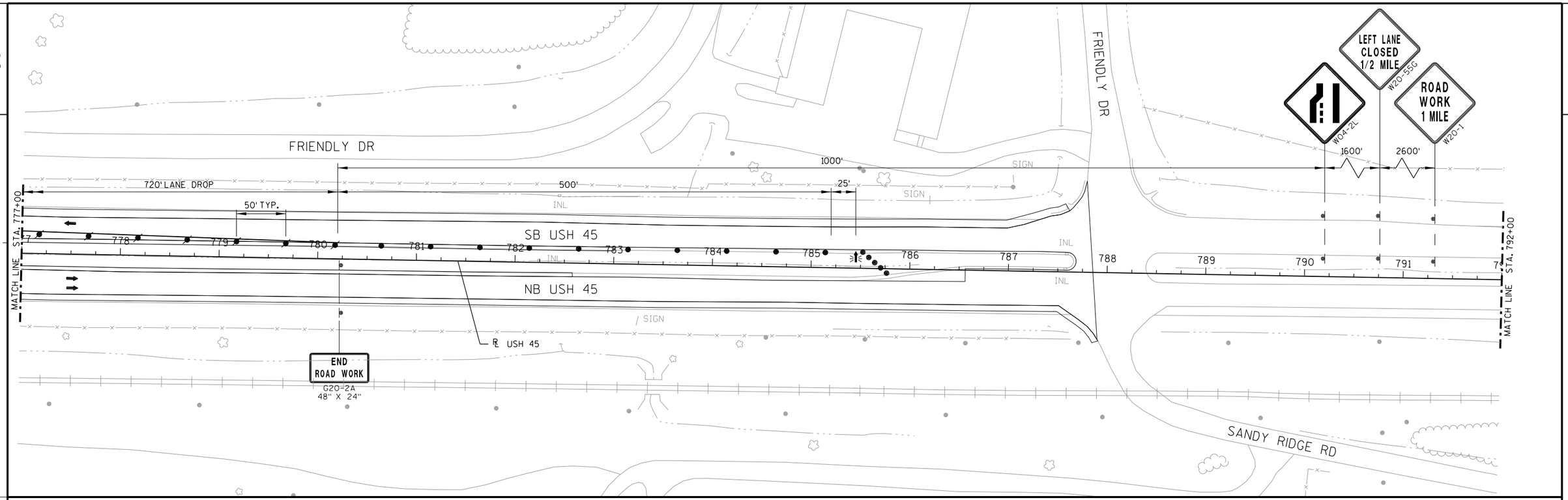
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TRAFFIC CONTROL - STAGE 4	SHEET 208	E

2



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TRAFFIC CONTROL - STAGE 4	SHEET 209	E

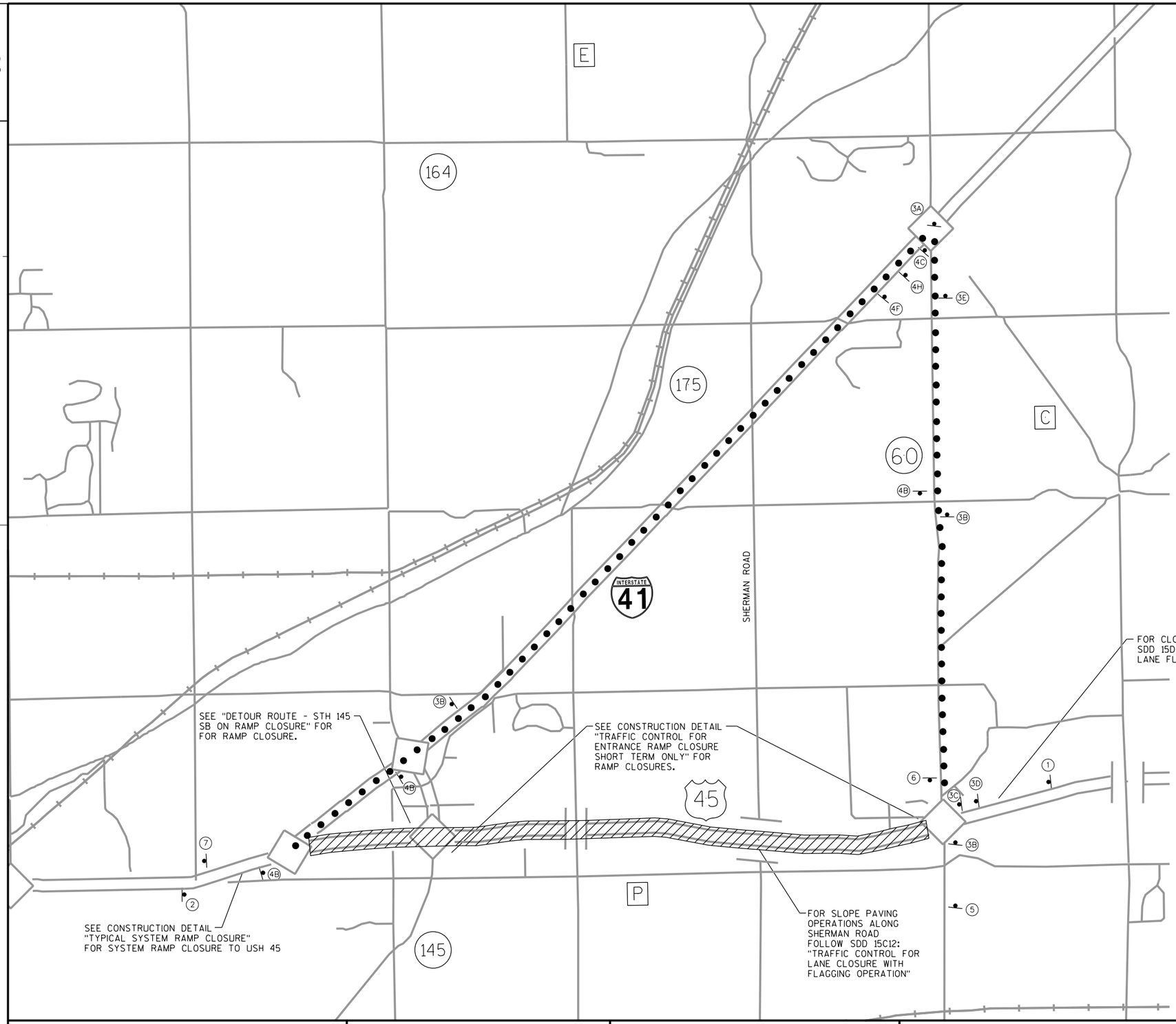
FILE NAME : L:\Jobs2010\20100347\CAD\WISDOT_Trans\dgn\00\026333_S4.dgn PLOT DATE : 4/24/2020 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

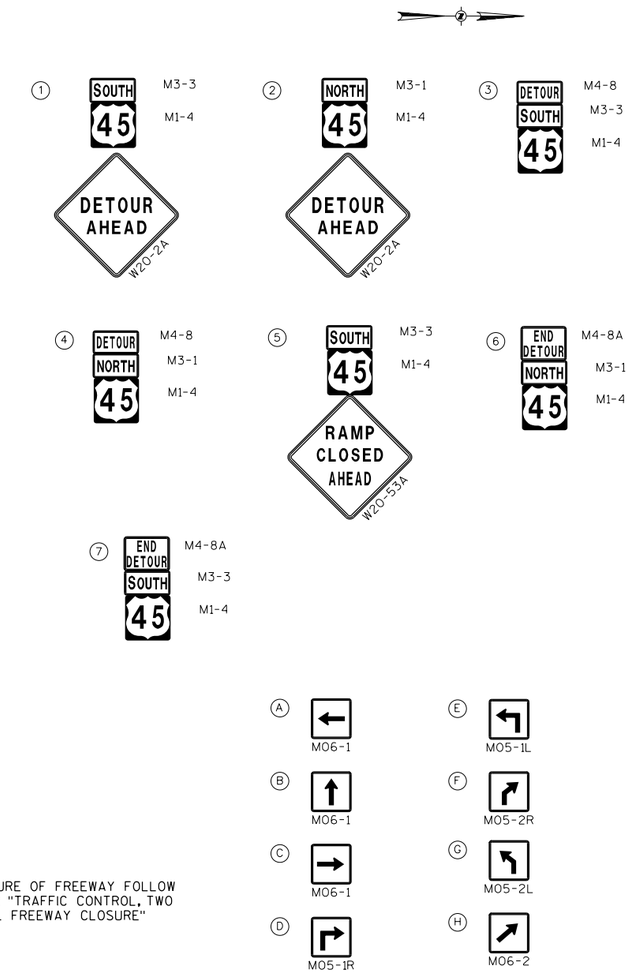


LEGEND

- TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE III BARRICADE WTH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TRAFFIC CONTROL - STAGE 4	SHEET 210	E





LEGEND

- DETOUR ROUTE
- TEMPORARY TRAFFIC CONTROL SIGN POST
- WORK AREA

NOTES

SIGNS ON I-41 AND USH 45 ARE SIZE 3. SIGNS ON ALL OTHER ROADS ARE SIZE 2.

NB AND SB CLOSURES ARE SHOWN BUT ONLY ONE DIRECTION CAN BE CLOSED AT A TIME.

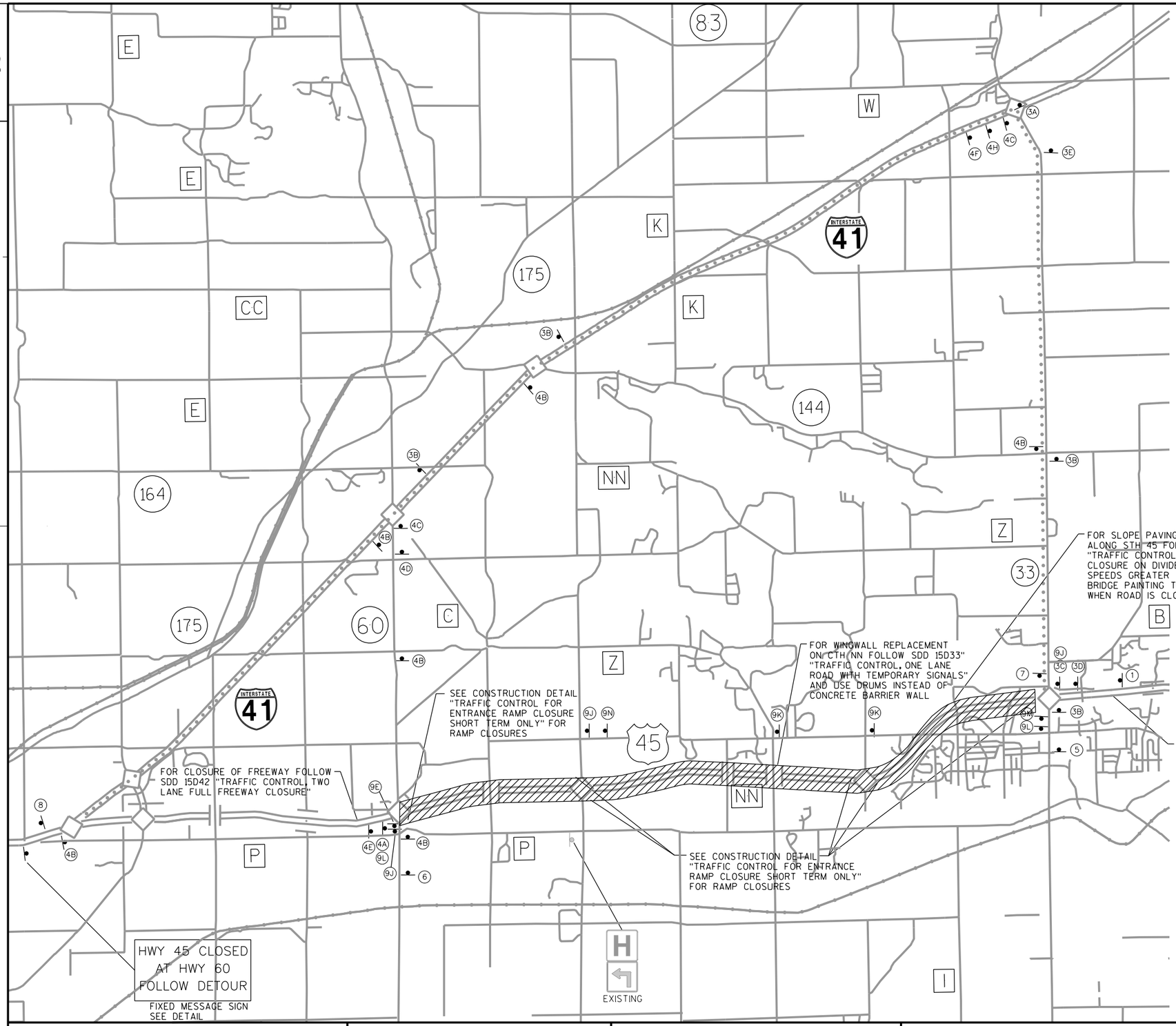
THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES.

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

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

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	DETOUR ROUTE - NIGHTTIME FULL CLOSURE - IH 41 TO STH 60	SHEET 211	E



1 SOUTH 45 M3-3 M1-4 / DETOUR AHEAD W20-2A

2 NORTH 45 M3-1 M1-4 / DETOUR AHEAD W20-2A

3 DETOUR SOUTH 45 M4-8 M3-3 M1-4

4 DETOUR NORTH 45 M4-8 M3-1 M1-4

5 SOUTH 45 M3-3 M1-4 / RAMP CLOSED AHEAD W20-53A

6 NORTH 45 M3-1 M1-4 / RAMP CLOSED AHEAD W20-53A

7 END DETOUR NORTH 45 M4-8A M3-1 M1-4

8 END DETOUR SOUTH 45 M4-8A M3-3 M1-4

9 H D9-2

A MO6-1 · B MO6-1 · C MO6-1 · D MO5-1R

E MO5-1L · F MO5-2R · G MO5-2L · H MO6-2

J MB6-1 · K MB6-1 · L MB6-1 · M MB5-1R · N MB5-1L

LEGEND

- DETOUR ROUTE
- TEMPORARY TRAFFIC CONTROL SIGN POST
- WORK AREA

NOTES

SIGNS ON I-41 AND USH 45 ARE SIZE 3. SIGNS ON ALL OTHER ROADS ARE SIZE 2.

NB AND SB CLOSURES ARE SHOWN BUT ONLY ONE DIRECTION CAN BE CLOSED AT A TIME.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

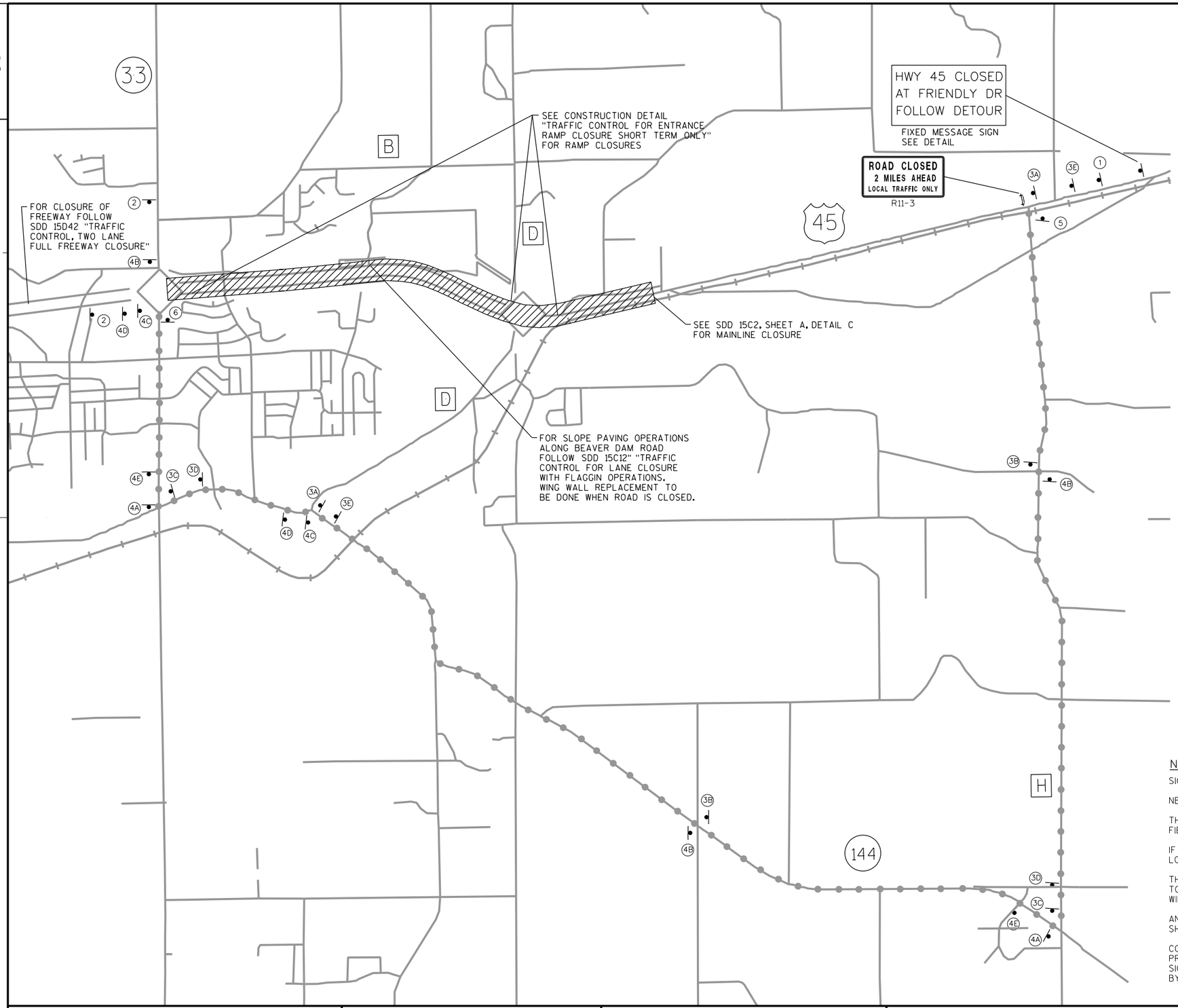
IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES.

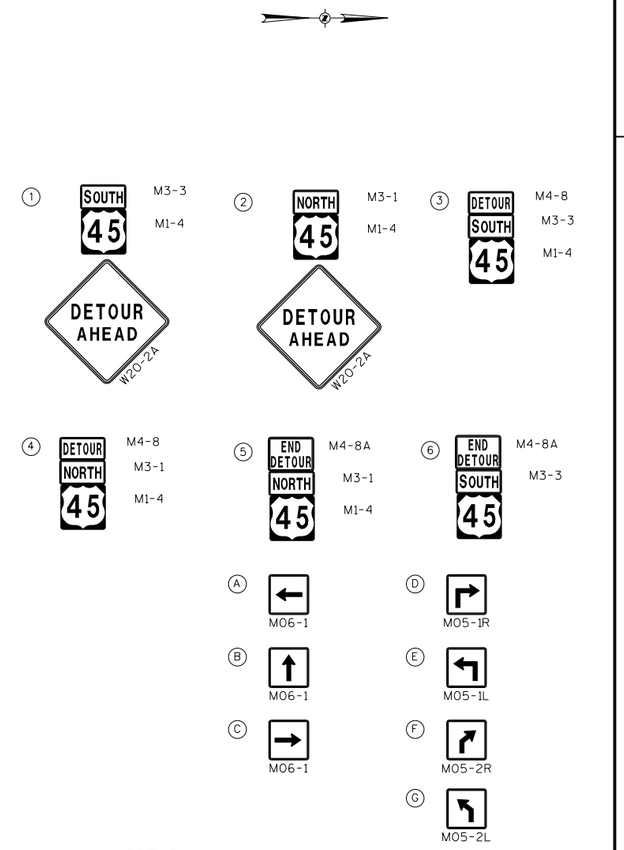
THE SPACING BETWEEN THE TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED NOT TO CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200'CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

CONTRACTOR SHALL COORDINATE AND OBTAIN APPROVAL FROM THE CITY OF WEST BEND PRIOR TO PLACING ANY DETOUR SIGNS ON CITY OWNED SIGNALS, LIGHT POLES OR EXISTING SIGN POSTS. STH 33 AND STH 144 WITHIN THE CITY ARE CONNECTING HIGHWAYS MAINTAINED BY THE CITY OF WEST BEND.

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	DETOUR ROUTE - NIGHTTIME FULL CLOSURE - STH 60 TO STH 33	SHEET 212	E





LEGEND

- DETOUR ROUTE
- TEMPORARY TRAFFIC CONTROL SIGN POST
- TYPE III BARRICADE WITH SIGN AND 2 TYPE "A" WARNING LIGHTS (FLASHING)
- WORK AREA

NOTES

SIGNS ON I-41 AND USH 45 ARE SIZE 3. SIGNS ON ALL OTHER ROADS ARE SIZE 2.

NB AND SB CLOSURES ARE SHOWN BUT ONLY ONE DIRECTION CAN BE CLOSED AT A TIME.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

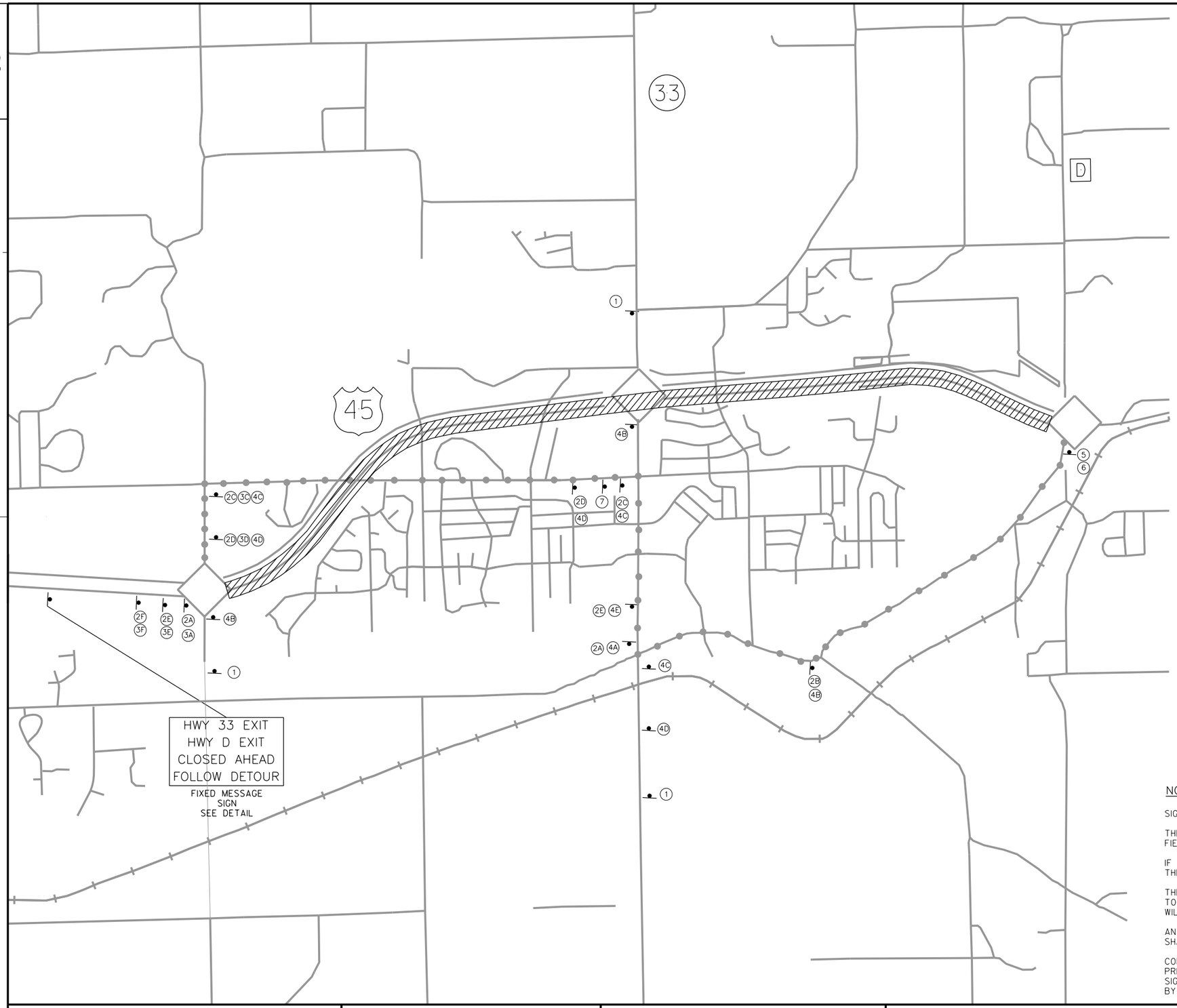
IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES.

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

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

CONTRACTOR SHALL COORDINATE AND OBTAIN APPROVAL FROM THE CITY OF WEST BEND PRIOR TO PLACING ANY DETOUR SIGNS ON CITY OWNED SIGNALS, LIGHT POLES OR EXISTING SIGN POSTS. STH 33 AND STH 144 WITHIN THE CITY ARE CONNECTING HIGHWAYS MAINTAINED BY THE CITY OF WEST BEND.

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	DETOUR ROUTE - NIGHTTIME FULL CLOSURE - STH 33 TO CTH H	SHEET 213	E



2

① NORTH 45 — M3-1, M1-4

② TO COUNTY D — M4-5, M1-5A

③ TO 33 — M4-5, M1-6

DETOUR AHEAD W20-2A

④ DETOUR NORTH 45 — M4-8, M3-1, M1-4

⑤ NORTH 45 — M3-1, M1-4

⑥ END DETOUR COUNTY D — M4-8A, M1-5A

⑦ 33 — M1-6, M06-4

Ⓐ M06-1

Ⓑ M06-1

Ⓒ M06-1

Ⓓ M05-1R

Ⓔ M05-1L

Ⓕ M05-2R

LEGEND

- DETOUR ROUTE
- TEMPORARY TRAFFIC CONTROL SIGN POST
- TYPE III BARRICADE WITH SIGN AND 2 TYPE "A" WARNING LIGHTS (FLASHING)
- WORK AREA

NOTES

SIGNS ON I-41 AND USH 45 ARE SIZE 3. SIGNS ON ALL OTHER ROADS ARE SIZE 2.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

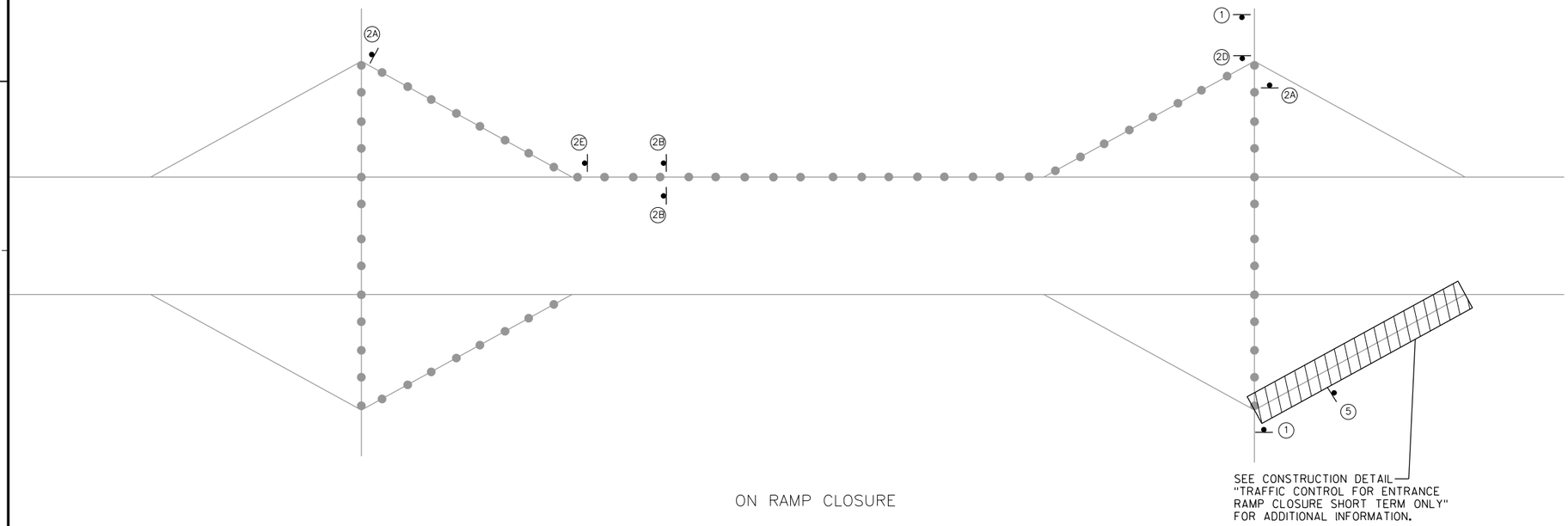
IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES.

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

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

CONTRACTOR SHALL COORDINATE AND OBTAIN APPROVAL FROM THE CITY OF WEST BEND PRIOR TO PLACING ANY DETOUR SIGNS ON CITY OWNED SIGNALS, LIGHT POLES OR EXISTING SIGN POSTS. STH 33 AND STH 144 WITHIN THE CITY ARE CONNECTING HIGHWAYS MAINTAINED BY THE CITY OF WEST BEND.

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	DETOUR ROUTE - STH 33 AND CTH D NB OFF RAMP CLOSURES	SHEET 214	E



ON RAMP CLOSURE

SEE CONSTRUCTION DETAIL "TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE SHORT TERM ONLY" FOR ADDITIONAL INFORMATION.

① NORTH 45 M3-1 M1-4 / SOUTH 45 M3-3 M1-4
RAMP CLOSED AHEAD W20-53A OR RAMP CLOSED AHEAD W20-53A

② TO NORTH 45 MO4-5 M3-1 M1-4 OR TO SOUTH 45 MO4-5 M3-3 M1-4

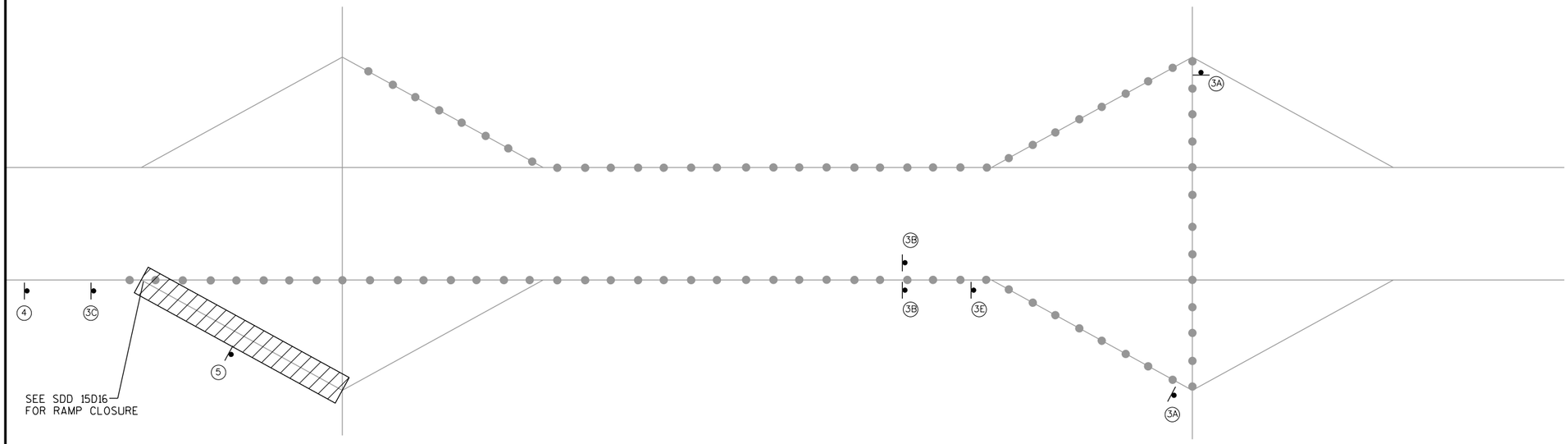
③ TO MO4-5 145 M1-6 OR TO MO4-5 60 M1-6 OR TO MO4-5 PLEASANT VALLEY RD FIXED MESSAGE SIGN SEE DETAIL OR TO MO4-5 PARADISE DR FIXED MESSAGE SIGN SEE DETAIL OR TO MO4-5 33 M1-6 OR TO MO4-5 COUNTY D M1-5A

④ RAMP CLOSED AHEAD W20-53A

⑤ RAMP CLOSED 9AM - 3PM 6PM - 6AM MON - FRI
BEGINS XXX XX
FIXED MESSAGE SIGN SEE DETAIL

THIS SIGN WILL INITIALLY BE PAID FOR UNDER THE ITEM "TRAFFIC CONTROL "SIGNS FIXED MESSAGE". SIGNS THAT CAN BE MOVED AND REUSED ON OTHER RAMPS WILL BE PAID FOR UNDER THE ITEM "TRAFFIC CONTROL SIGNS"

Ⓐ MO6-1
Ⓑ MO5-2R
Ⓒ MO6-1
Ⓓ MO6-1
Ⓔ MO6-2



OFF RAMP CLOSURE

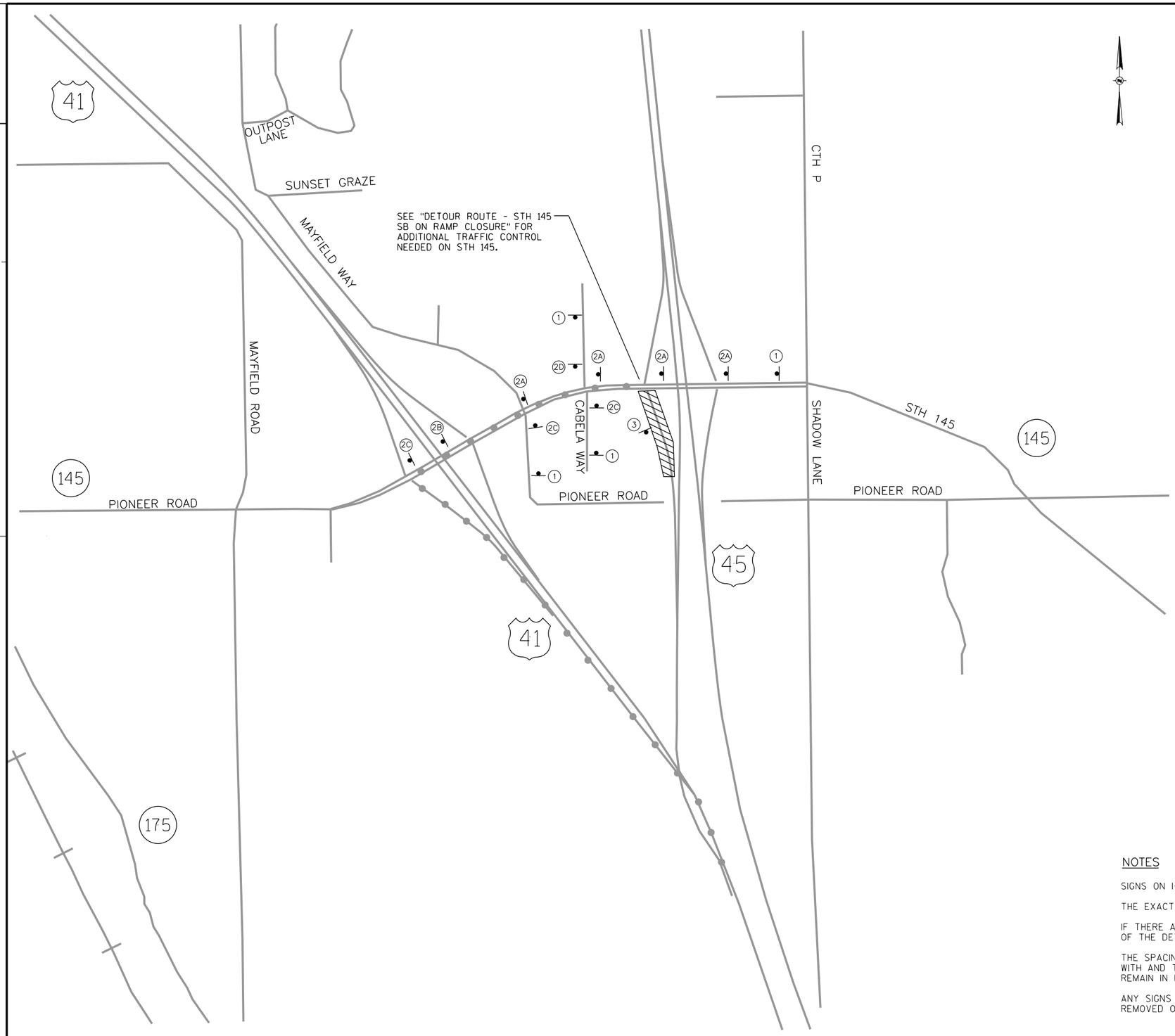
LEGEND

- DETOUR ROUTE
- TEMPORARY TRAFFIC CONTROL SIGN POST
- WORK AREA

NOTES

SIGNS ON I-41 AND USH 45 ARE SIZE 3. SIGNS ON ALL OTHER ROADS ARE SIZE 2.

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	DETOUR ROUTE - TYPICAL RAMP CLOSURE	SHEET 215	E



① SOUTH 45 — M3-3, M14

② TO SOUTH 45 — M04-5, M3-3, M14

RAMP CLOSED AHEAD — W20-5SA

③ RAMP CLOSED 9AM -. 3PM 6PM -. 6AM MON -. FRI / BEGINS XXX XX — FIXED MESSAGE SIGN SEE DETAIL

Ⓐ M06-1

Ⓑ M05-1L

Ⓒ M06-1

Ⓓ M06-1

LEGEND

- DETOUR ROUTE
- TEMPORARY TRAFFIC CONTROL SIGN POST
- WORK AREA

NOTES

SIGNS ON I-41 AND USH 45 ARE SIZE 3. SIGNS ON ALL OTHER ROADS ARE SIZE 2.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES.

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

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

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	DETOUR ROUTE - STH 145 SB ON RAMP	SHEET 216	E

2

2

N

MAYFIELD WAY

MATCH LINE A

IH 41 NB ON RAMP

IH 41 SB OFF RAMP

IH 41 NB

IH 41 SB

STH 145

350'

W04-2R

MAYFIELD WAY

RIGHT LANE CLOSED AHEAD
W20-5A

ROAD WORK AHEAD
W20-1A

IH 41 SB ON RAMP

IH 41 NB OFF RAMP

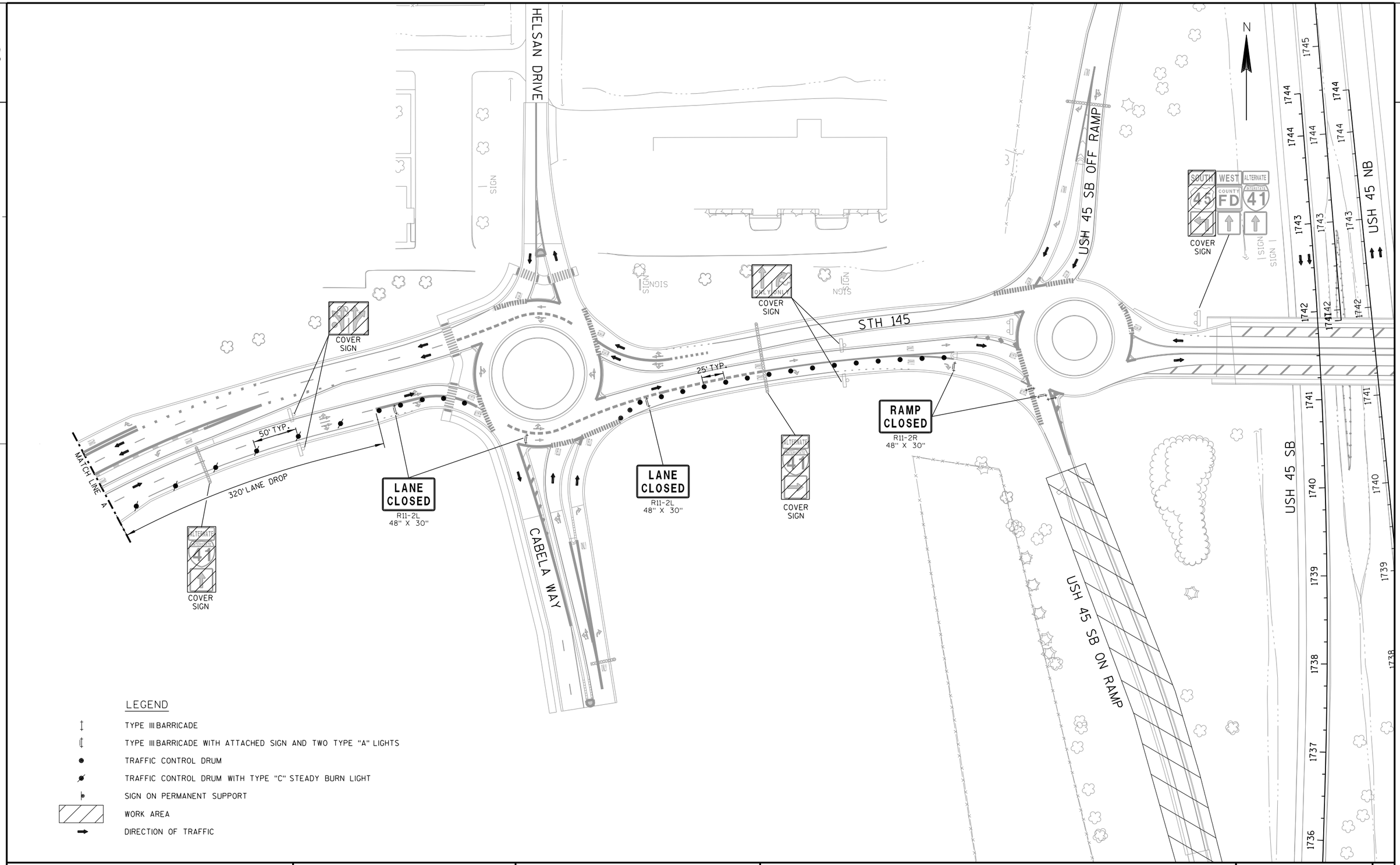
RIPRAP

INGIS

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC

PROJECT NO: 2220-02-70	HWY: USH 41	COUNTY: WASHINGTON	DETOUR ROUTE - STH 145 SB ON RAMP CLOSURE	SHEET 217	E



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	DETOUR ROUTE - STH 145 SB ON RAMP CLOSURE	SHEET 218 E

2

2

PIONEER ROAD

IH 41

MAYFIELD ROAD

MAYFIELD ROAD

MAYFIELD WAY

WESTERN AVE

SHERMAN ROAD

MILL ROAD

STH 60

PIONEER ROAD

STH 45

SEE CONSTRUCTION DETAIL "TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE SHORT TERM ONLY" FOR ADDITIONAL INFORMATION.

SHADOW LANE

CTH P

CTH P

STH 145

PIONEER ROAD

WESTERN AVE

① M3-1 M14 — NORTH 45 — RAMP CLOSED AHEAD W20-5A

② M04-5 M3-1 M14 — TO NORTH 45

③ RAMP CLOSED 9AM - 3PM 6PM - 6AM MON - FRI BEGINS XXX XX — FIXED MESSAGE SIGN SEE DETAIL

Ⓐ M06-1

Ⓑ M06-1

Ⓒ M06-1

Ⓓ M05-1L

Ⓔ M05-1R

LEGEND

- DETOUR ROUTE
- TEMPORARY TRAFFIC CONTROL SIGN POST
- WORK AREA

NOTES

SIGNS ON I-41 AND USH 45 ARE SIZE 3. SIGNS ON ALL OTHER ROADS ARE SIZE 2.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES.

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

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

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	DETOUR ROUTE - STH 145 NB ON RAMP	SHEET 219	E

2

PIONEER ROAD

IH 41

MAYFIELD ROAD

MAYFIELD ROAD

MAYFIELD WAY

WESTERN AVE

SHERMAN ROAD

MILL ROAD

STH 60

PIONEER ROAD

③ SEE SDD 15D16 FOR RAMP CLOSURE

STH 45

1A

1C

1D

2

1D

1E

1B

1F

1F

1F

SHADOW LANE

CTH P

CTH P

PIONEER ROAD

STH 145

WESTERN AVE

① TO 145 — M04-5, M1-6

② HWY 145 RAMP CLOSED USE EXIT 63 — G20-56, 120" X 54"

③ RAMP CLOSED 9AM - 3PM 6PM - 6AM MON - FRI BEGINS XXX XX — FIXED MESSAGE SIGN SEE DETAIL

Ⓐ M06-1

Ⓑ M06-1

Ⓒ M06-2

Ⓓ M05-2L

Ⓔ M05-1R

Ⓕ M06-1

LEGEND

- DETOUR ROUTE
- TEMPORARY TRAFFIC CONTROL SIGN POST
- WORK AREA

NOTES

SIGNS ON I-41 AND USH 45 ARE SIZE 3. SIGNS ON ALL OTHER ROADS ARE SIZE 2.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

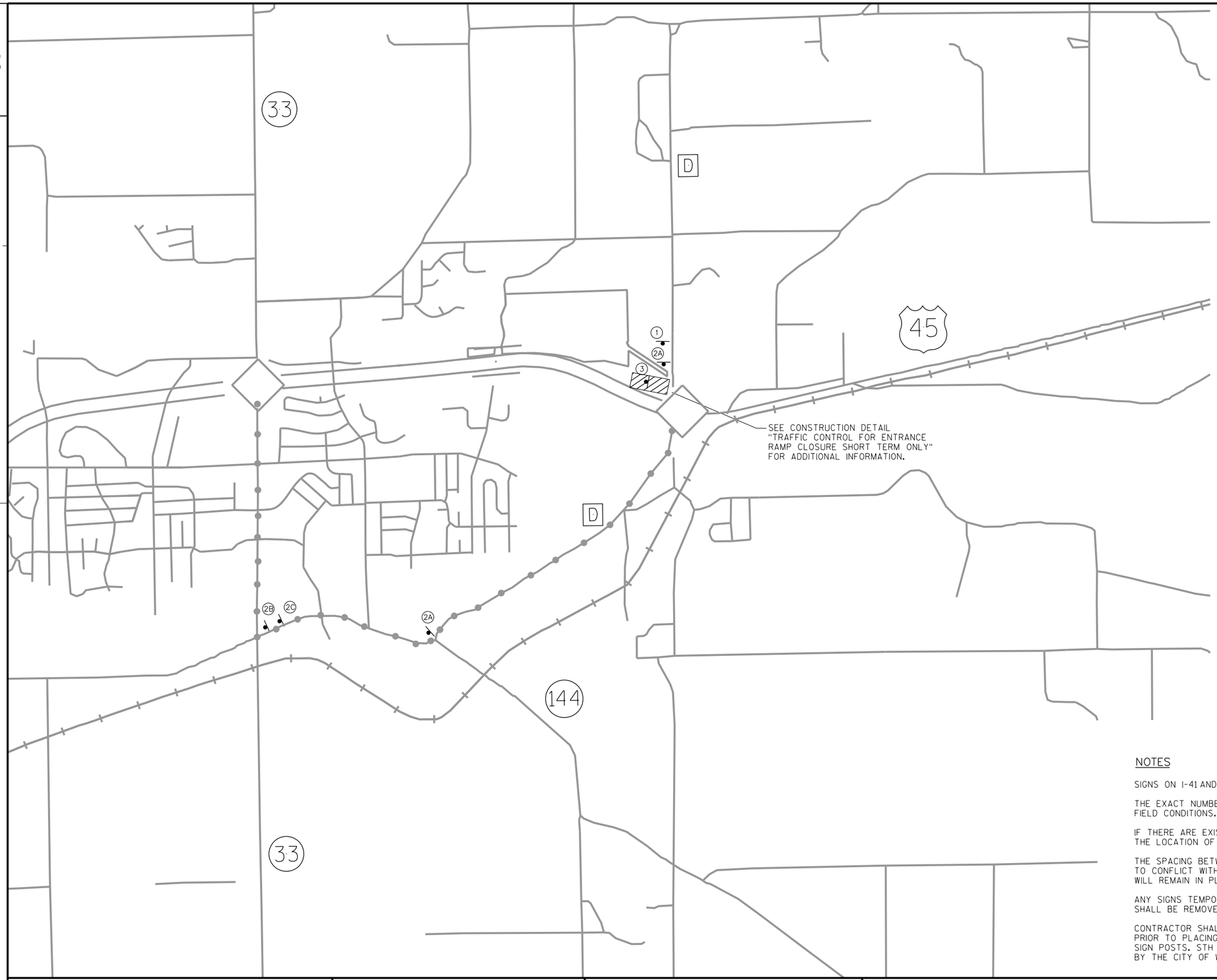
IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES.

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

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

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	DETOUR ROUTE - STH 145 SB OFF RAMP	SHEET 220	E

2



① M3-3 M14

SOUTH
45

② MO4-5 M3-3 M14

TO
SOUTH
45

RAMP CLOSED AHEAD
W20-53A

③

RAMP CLOSED
9AM - 3PM
6PM - 6AM
MON - FRI
BEGINS XXX XX

FIXED MESSAGE SIGN
SEE DETAIL

Ⓐ MO6-1

Ⓑ MO6-1

Ⓒ MO5-1R

LEGEND

- DETOUR ROUTE
- TEMPORARY TRAFFIC CONTROL SIGN POST
- WORK AREA

NOTES

SIGNS ON I-41 AND USH 45 ARE SIZE 3. SIGNS ON ALL OTHER ROADS ARE SIZE 2.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

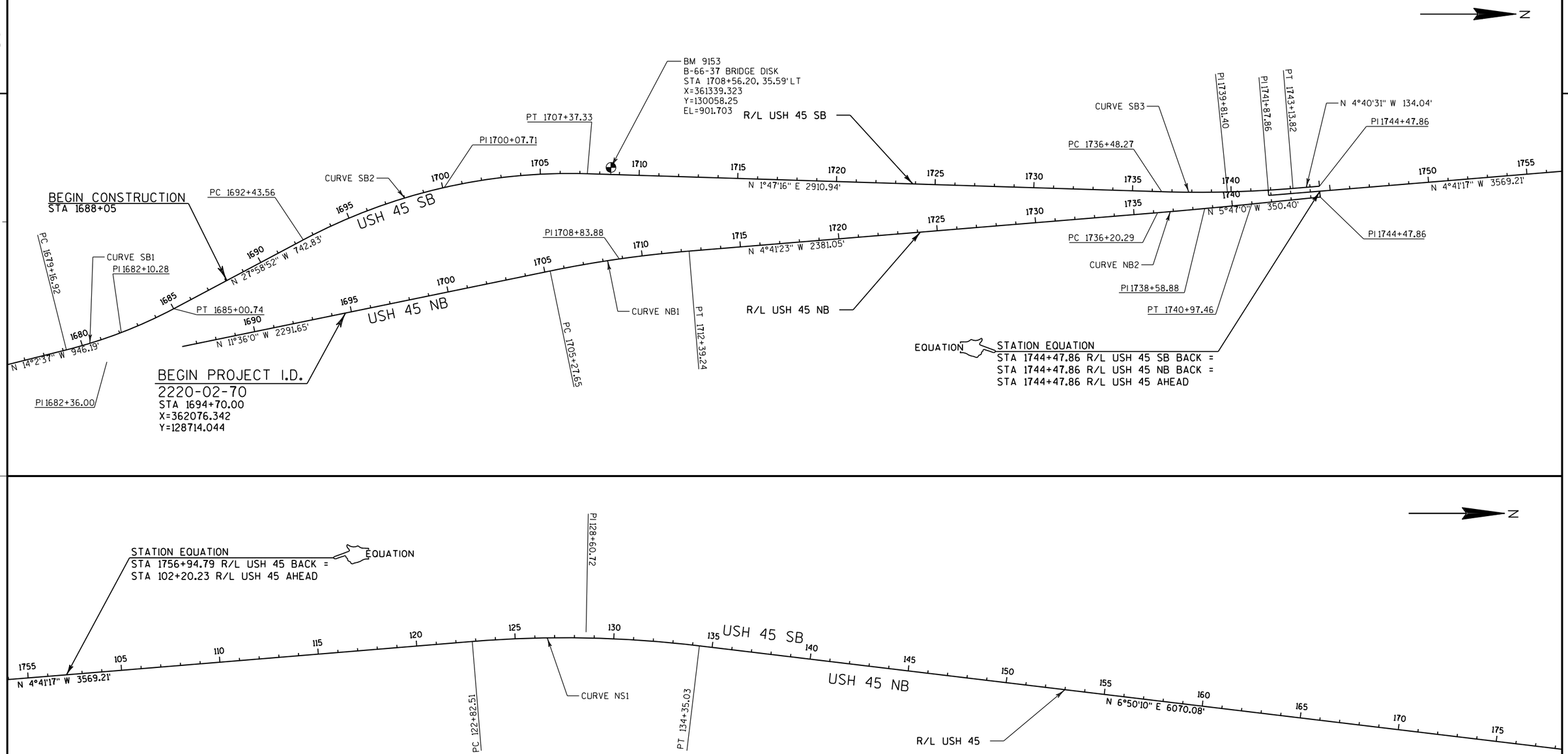
IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES.

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

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

CONTRACTOR SHALL COORDINATE AND OBTAIN APPROVAL FROM THE CITY OF WEST BEND PRIOR TO PLACING ANY DETOUR SIGNS ON CITY OWNED SIGNALS, LIGHT POLES OR EXISTING SIGN POSTS. STH 33 AND STH 144 WITHIN THE CITY ARE CONNECTING HIGHWAYS MAINTAINED BY THE CITY OF WEST BEND.

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	DETOUR ROUTE - CTH D SB ON RAMP	SHEET 221	E



CURVE SB1	CURVE SB2	CURVE SB3	CURVE NB1	CURVE NB2	CURVE NS1
PC = 1679+16.92	PC = 1692+43.56	PC = 1736+48.27	PC = 1705+27.65	PC = 1736+20.29	PC = a 122+82.51
X = 127300.08	X = 128499.72	X = 132847.85	X = 129750.10	X = 132827.16	X = 136946.62
Y = 362263.22	Y = 361705.87	Y = 361462.00	Y = 361863.67	Y = 361568.24	Y = 361188.98
PI = 1682+10.28	PI = 1700+07.71	PI = 1739+81.40	PI = 1708+83.88	PI = 1738+58.88	PI = a 128+60.72
X = 127584.67	X = 129174.54	X = 133180.81	X = 130099.04	X = 133064.95	X = 137522.90
Y = 362192.03	Y = 361347.35	Y = 361472.40	Y = 361792.04	Y = 361548.73	Y = 361141.72
PT = 1685+00.74	PT = 1707+37.33	PT = 1743+13.82	PT = 1712+39.24	PT = 1740+97.46	PT = a 134+35.03
X = 127843.73	X = 129938.32	X = 133512.83	X = 130454.08	X = 133302.33	X = 138097.00
Y = 362054.39	Y = 361371.19	Y = 361445.24	Y = 361762.92	Y = 361524.69	Y = 361210.54
R = 2400.00	R = 2875.00	R = 5900.00	R = 5900.00	R = 25000.00	R = 5730.00
DELTA = 13°56'15" LT	DELTA = 29°46'09" RT	DELTA = 6°27'48" LT	DELTA = 6°54'37" RT	DELTA = 1°05'37" LT	DELTA = 11°31'28" RT
D = 2°23'14"	D = 1°59'34"	D = 0°58'16"	D = 0°58'16"	D = 0°13'45"	D = 1°00'00"
L = 583.81	L = 1493.76	L = 665.55	L = 711.59	L = 477.17	L = 1152.52
T = 293.36	T = 764.15	T = 333.13	T = 356.22	T = 238.59	T = 578.21
BK = N 14°02'37" W	BK = N 27°58'53" W	BK = N 1°47'16" E	BK = N 11°36'00" W	BK = N 4°41'23" W	BK = N 4°41'18" W
AH = N 27°58'53" W	AH = N 1°47'16" E	AH = N 4°40'31" W	AH = N 4°41'23" W	AH = N 5°47'00" W	AH = N 6°50'10" E

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	ALIGNMENT PLAN	SHEET 222	E

2

N

CURVE NS2

PC = 195+05.11
X = 144123.92
Y = 361933.07
PI = 205+13.94
X = 145125.58
Y = 362053.15
PT = 215+02.30
X = 146108.02
Y = 361823.91
R = 5730.00
DELTA = 19°58'14" LT
D = 1°00'00"
L = 1997.19
T = 1008.83
BK = N 6°50'10" E
AH = N 13°08'04" W

CURVE NS3

PC = 272+51.69
X = 151707.01
Y = 360517.44
PI = 285+66.46
X = 152987.38
Y = 360218.68
PT = 298+69.77
X = 154302.14
Y = 360217.65
R = 11460.00
DELTA = 13°05'22" RT
D = 0°30'00"
L = 2618.08
T = 1314.76
BK = N 13°08'04" W
AH = N 0°02'42" W

BM 9141
B-66-47 BRIDGE DISK
STA 182+63.18, 59.54'LT
X=361726.117
Y=142897.919
EL=887.604

BM 9142
B-66-48 BRIDGE DISK
STA 181+72.62, 60.36'RT
X=361834.394
Y=142793.727
EL=886.728

BM 9119
B-66-49 BRIDGE DISK
STA 236+85.12, 60.39'LT
X=361269.082
Y=148220.02
EL=918.398

N 6°50'10" E 6070.08'

N 13°8'3" W 5749.39'

USH 45 SB

USH 45 NB

PC 195+05.11

PT 215+02.30

PT 215+02.30

R/L USH 45

CURVE NS2

175 180 185 190 195 200 205 210 215 220 225 230 235 240 245 250

NOTE:

1) RAMP ALIGNMENTS ARE APPROXIMATE AND ARE BASE ON FIELD TOPO.

R/L CTH PV SWR RAMP
SEE NOTE 1

N 0°2'41" W 1113.43'

PI 1318SWR+00.00

1320SWR

1325SWR

1329SER

N 0°2'41" W 5197.66'

N 0°2'41" W 806.89'

PI 1320SER+00.00

PC 1328SER+06.90

R/L CTH PV SER RAMP
SEE NOTE 1

PC 272+51.69

PI 285+66.46

PT 298+69.77

R/L USH 45

CURVE NS3

250 255 260 265 270 275 280 285 290 295 300 305 310 315 320 325

N 13°8'3" W 5749.39'

USH 45 SB

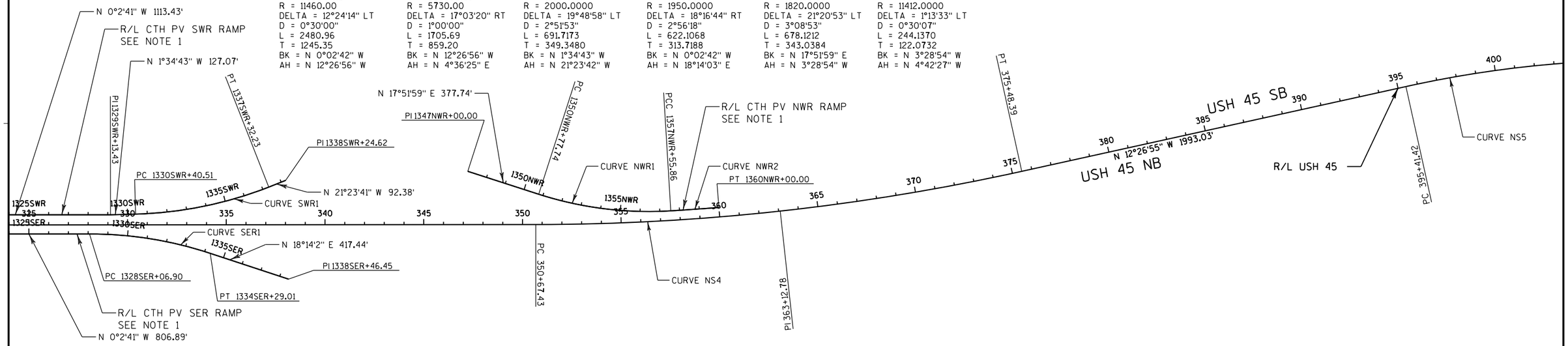
USH 45 NB

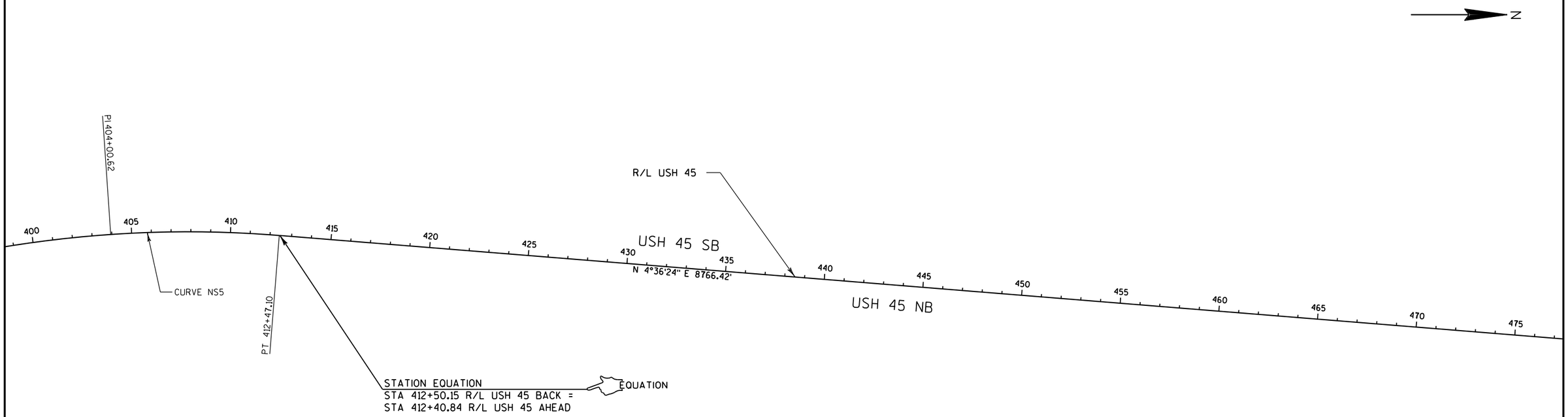
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	ALIGNMENT PLAN	SHEET 223	E

CURVE NS4	CURVE NS5	CURVE SWR1	CURVE SER1	CURVE NWR1	CURVE NWR2
PC = 350+67.43	PC = 395+41.42	PC = 1330SWR+40.51	PC = 1328SER+06.90	PC = 1350NWR+77.74	PCC = 1357NWR+55.86
X = 159499.80	X = 163907.38	X = 360160.77	X = 360261.35	X = 360060.11	X = 360144.52
Y = 360213.58	Y = 359514.52	Y = 157472.79	Y = 157239.30	Y = 159514.96	Y = 160183.86
PI = 363+12.78	PI = 404+00.62	PI = 1333SWR+89.86	PI = 1331SER+20.62	PI = 1354NWR+20.78	PI = 1358NWR+77.94
X = 160745.15	X = 164746.38	X = 360151.14	X = 360261.11	X = 360165.35	X = 360137.11
Y = 360212.61	Y = 359329.31	Y = 157822.01	Y = 157553.02	Y = 159841.46	Y = 160305.71
PT = 375+48.39	PT = 412+47.10	PT = 1337SWR+32.23	PT = 1334SER+29.01	PCC = 1357NWR+55.86	PT = 1360NWR+00.00
X = 161961.21	X = 165602.80	X = 360023.70	X = 360359.27	X = 360144.52	X = 360127.09
Y = 359944.15	Y = 359398.31	Y = 158147.28	Y = 157850.99	Y = 160183.86	Y = 160427.37
R = 11460.00	R = 5730.00	R = 2000.0000	R = 1950.0000	R = 1820.0000	R = 11412.0000
DELTA = 12°24'14" LT	DELTA = 17°03'20" RT	DELTA = 19°48'58" LT	DELTA = 18°16'44" RT	DELTA = 21°20'53" LT	DELTA = 1°13'33" LT
D = 0°30'00"	D = 1°00'00"	D = 2°51'53"	D = 2°56'18"	D = 3°08'53"	D = 0°30'07"
L = 2480.96	L = 1705.69	L = 691.7173	L = 622.1068	L = 678.1212	L = 244.1370
T = 1245.35	T = 859.20	T = 349.3480	T = 313.7188	T = 343.0384	T = 122.0732
BK = N 0°02'42" W	BK = N 12°26'56" W	BK = N 1°34'43" W	BK = N 0°02'42" W	BK = N 17°51'59" E	BK = N 3°28'54" W
AH = N 12°26'56" W	AH = N 4°36'25" E	AH = N 21°23'42" W	AH = N 18°14'03" E	AH = N 3°28'54" W	AH = N 4°42'27" W

NOTE:

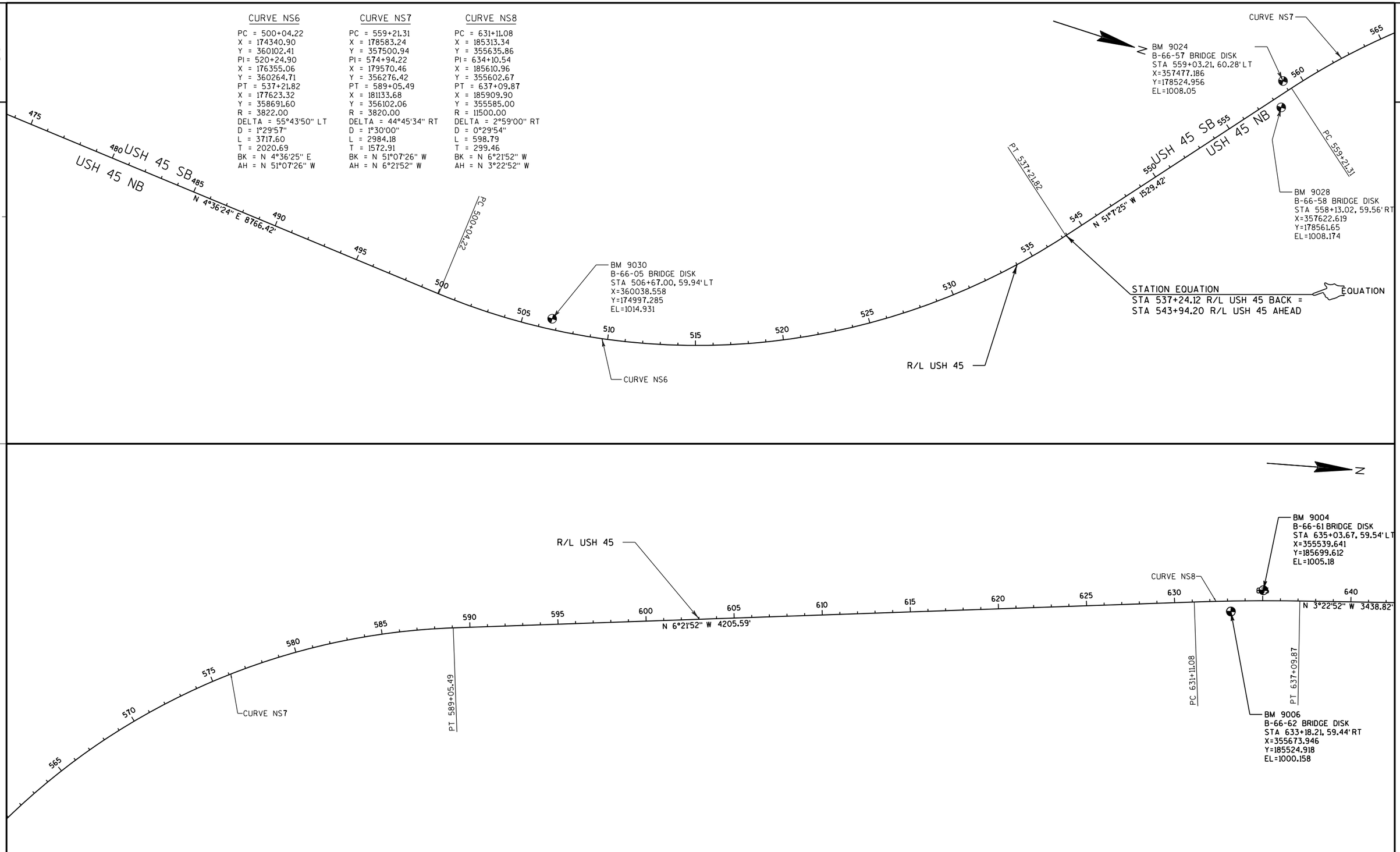
1) RAMP ALIGNMENTS ARE APPROXIMATE AND ARE BASE ON FIELD TOPO.





PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	ALIGNMENT PLAN	SHEET 224	E

CURVE NS6	CURVE NS7	CURVE NS8
PC = 500+04.22	PC = 559+21.31	PC = 631+11.08
X = 174340.90	X = 178583.24	X = 185313.34
Y = 360102.41	Y = 357500.94	Y = 355635.86
PI = 520+24.90	PI = 574+94.22	PI = 634+10.54
X = 176355.06	X = 179570.46	X = 185610.96
Y = 360264.71	Y = 356276.42	Y = 355602.67
PT = 537+21.82	PT = 589+05.49	PT = 637+09.87
X = 177623.32	X = 181133.68	X = 185909.90
Y = 358691.60	Y = 356102.06	Y = 355585.00
R = 3822.00	R = 3820.00	R = 11500.00
DELTA = 55°43'50" LT	DELTA = 44°45'34" RT	DELTA = 2°59'00" RT
D = 1°29'57"	D = 1°30'00"	D = 0°29'54"
L = 3717.60	L = 2984.18	L = 598.79
T = 2020.69	T = 1572.91	T = 299.46
BK = N 4°36'25" E	BK = N 51°07'26" W	BK = N 6°21'52" W
AH = N 51°07'26" W	AH = N 6°21'52" W	AH = N 3°22'52" W



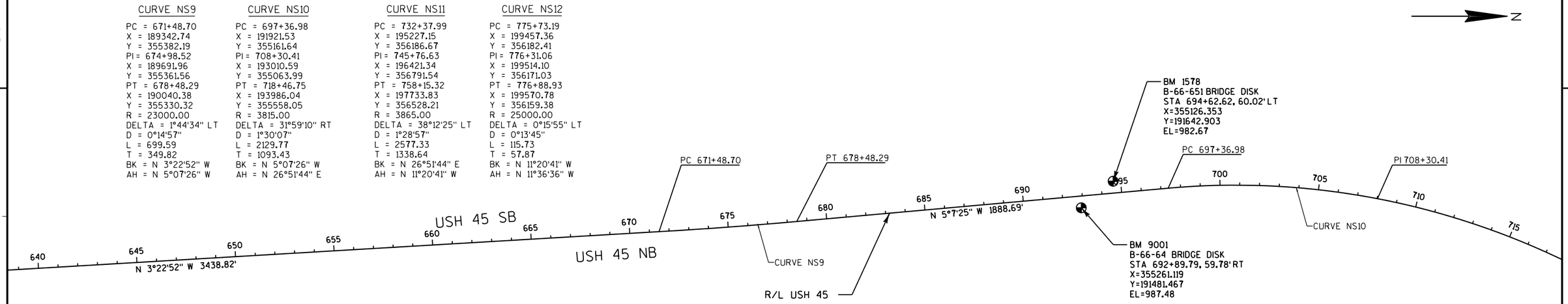
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	ALIGNMENT PLAN	SHEET 225	E

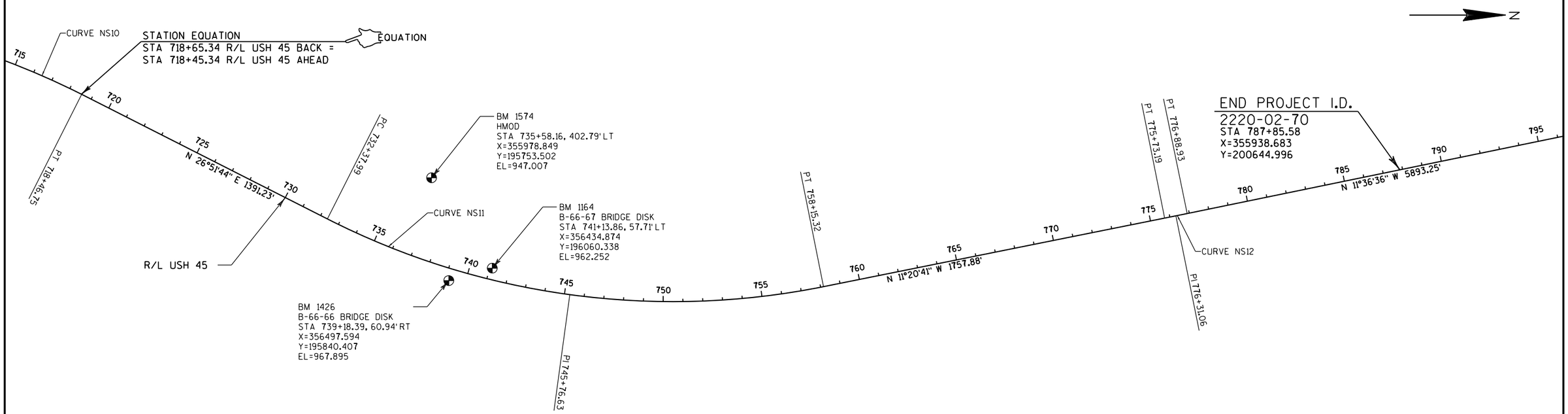
CURVE NS9
PC = 671+48.70
X = 189342.74
Y = 355382.19
PI = 674+98.52
X = 189691.96
Y = 355361.56
PT = 678+48.29
X = 190040.38
Y = 355330.32
R = 23000.00
DELTA = 1°44'34" LT
D = 0°14'57"
L = 699.59
T = 349.82
BK = N 3°22'52" W
AH = N 5°07'26" W

CURVE NS10
PC = 697+36.98
X = 191921.53
Y = 355161.64
PI = 708+30.41
X = 193010.59
Y = 355063.99
PT = 718+46.75
X = 193986.04
Y = 355558.05
R = 3815.00
DELTA = 31°59'10" RT
D = 1°30'07"
L = 2129.77
T = 1093.43
BK = N 5°07'26" W
AH = N 26°51'44" E

CURVE NS11
PC = 732+37.99
X = 195227.15
Y = 356186.67
PI = 745+76.63
X = 196421.34
Y = 356791.54
PT = 758+15.32
X = 197733.83
Y = 356528.21
R = 3865.00
DELTA = 38°12'25" LT
D = 1°28'57"
L = 2577.33
T = 1338.64
BK = N 26°51'44" E
AH = N 11°20'41" W

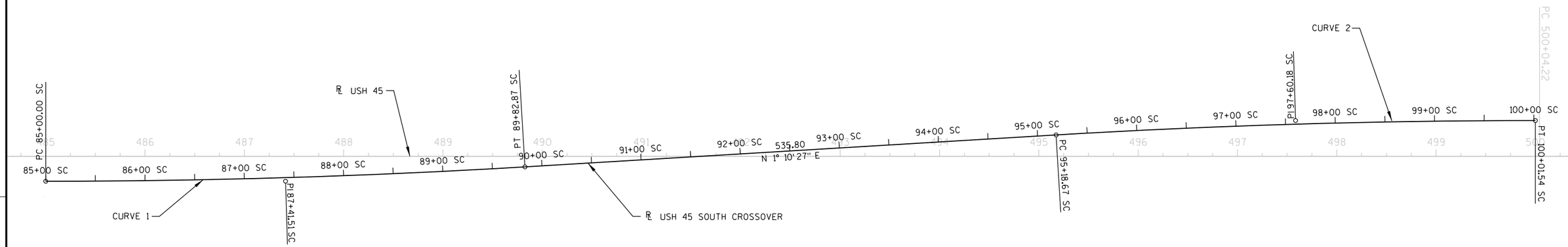
CURVE NS12
PC = 775+73.19
X = 199457.36
Y = 356182.41
PI = 776+31.06
X = 199514.10
Y = 356171.03
PT = 776+88.93
X = 199570.78
Y = 356159.38
R = 25000.00
DELTA = 0°15'55" LT
D = 0°13'45"
L = 115.73
T = 57.87
BK = N 11°20'41" W
AH = N 11°36'36" W





PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	ALIGNMENT PLAN	SHEET 226	E

2

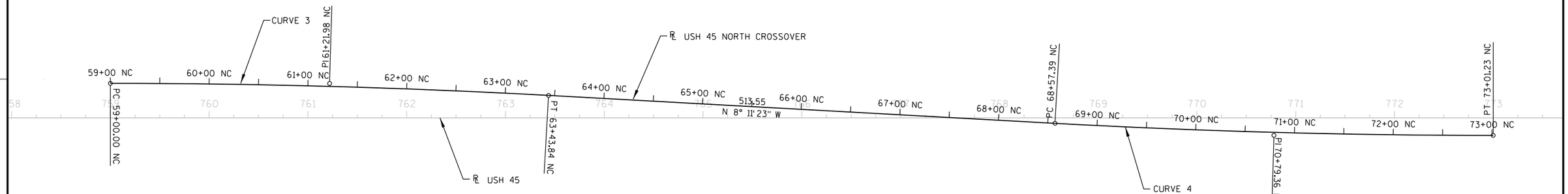


CURVE 1
P.I. = 87+41.51 SC
Y = 173,080.26
X = 360,025.91
DELTA = 3° 25' 57" (LT)
D = 0° 42' 39"
T = 241.51'
L = 482.87'
R = 8,060.00'
P.C. = 85+00.00 SC
Y = 172,839.54
X = 360,006.52
P.T. = 89+82.87 SC
Y = 173,321.72
X = 360,030.86

CURVE 2
P.I. = 97+60.18 SC
Y = 174,098.86
X = 360,046.79
DELTA = 3° 25' 57" (RT)
D = 0° 42' 39"
T = 241.51'
L = 482.87'
R = 8,060.00'
P.C. = 95+18.67 SC
Y = 173,857.41
X = 360,041.84
P.T. = 100+01.54 SC
Y = 174,339.59
X = 360,066.19

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	ALIGNMENT DETAILS: USH 45 SOUTH CROSSOVER	SHEET 227	E

2



CURVE 3
P.I. = 61+21.98 NC
Y = 198,027.61
X = 356,433.57
DELTA = 3° 09' 18" (RT)
D = 0° 42' 39"
T = 221.98'
L = 443.84'
R = 8,060.00'
P.C. = 59+00.00 NC
Y = 197,809.97
X = 356,477.23
P.T. = 63+43.84 NC
Y = 198,247.33
X = 356,401.95

CURVE 4
P.I. = 70+79.36 NC
Y = 198,975.35
X = 356,297.17
DELTA = 3° 09' 18" (LT)
D = 0° 42' 39"
T = 221.98'
L = 443.84'
R = 8,060.00'
P.C. = 68+57.39 NC
Y = 198,755.64
X = 356,328.79
P.T. = 73+01.23 NC
Y = 199,192.99
X = 356,253.51

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	ALIGNMENT DETAILS: USH 45 NORTH CROSSOVER	SHEET 228	E

2220-02-70

Line	Item	Item Description	Unit	Total	Qty
0002	108.4400	CPM Progress Schedule	EACH	1.000	1.000
0004	203.0100	Removing Small Pipe Culverts	EACH	2.000	2.000
0006	203.0200	Removing Old Structure (station) 01. 296+23 Southeast Wing	LS	1.000	1.000
0008	203.0200	Removing Old Structure (station) 01. 50+00	LS	1.000	1.000
0010	203.0200	Removing Old Structure (station) 02. 693+72.18	LS	1.000	1.000
0012	204.0100	Removing Concrete Pavement	SY	79,907.000	79,907.000
0014	204.0105	Removing Pavement Butt Joints	SY	1,995.000	1,995.000
0016	204.0110	Removing Asphaltic Surface	SY	175,849.000	175,849.000
0018	204.0120	Removing Asphaltic Surface Milling	SY	45,693.000	45,693.000
0020	204.0150	Removing Curb & Gutter	LF	1,999.000	1,999.000
0022	204.0165	Removing Guardrail	LF	14,618.000	14,618.000
0024	204.0170	Removing Fence	LF	20.000	20.000
0026	204.0220	Removing Inlets	EACH	6.000	6.000
0028	204.0245	Removing Storm Sewer (size) 01. 24-Inch	LF	16.000	16.000
0030	204.9060.S	Removing (item description) 01. Apron Endwall for Pipe Underdrain	EACH	3.000	3.000
0032	204.9090.S	Removing (item description) 02. Underdrain	LF	150.000	150.000
0034	204.9105.S	Removing (item description) 01. Removing Overhead Sign Support S-40-935	LS	1.000	1.000
0036	205.0100	Excavation Common	CY	15,413.000	15,413.000
0038	205.3000.S	Temporary Emergency Pullouts	EACH	3.000	3.000
0040	206.1000	Excavation for Structures Bridges (structure) 01. B-66-54	LS	1.000	1.000
0042	206.1000	Excavation for Structures Bridges (structure) 02. B-66-64	LS	1.000	1.000
0044	206.2000	Excavation for Structures Culverts (structure) 01. C-66-26	LS	1.000	1.000
0046	206.5000	Cofferdams (structure) 01. C-66-26	LS	1.000	1.000
0048	208.0100	Borrow	CY	11,766.000	11,766.000
0050	210.1500	Backfill Structure Type A	TON	60.000	60.000
0052	210.2500	Backfill Structure Type B	TON	35.000	35.000
0054	213.0100	Finishing Roadway (project) 01. 2220-02-70	EACH	1.000	1.000
0056	305.0110	Base Aggregate Dense 3/4-Inch	TON	81,919.000	81,919.000
0058	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	31,299.000	31,299.000
0060	305.0500	Shaping Shoulders	STA	2,843.000	2,843.000
0062	305.0502.S	Shaping Roadway	STA	222.000	222.000
0064	311.0110	Breaker Run	TON	4,381.000	4,381.000
0066	390.0403	Base Patching Concrete Shes	SY	8,950.000	8,950.000
0068	415.0070	Concrete Pavement 7-Inch	SY	259.000	259.000
0070	415.0090	Concrete Pavement 9-Inch	SY	66,246.000	66,246.000

2220-02-70

Line	Item	Item Description	Unit	Total	Qty
0072	415.0410	Concrete Pavement Approach Slab	SY	453.000	453.000
0074	415.1090	Concrete Pavement HES 9-Inch	SY	314.000	314.000
0076	415.5110.S	Concrete Pavement Joint Layout	LS	1.000	1.000
0078	416.0610	Drilled Tie Bars	EACH	3,110.000	3,110.000
0080	416.0620	Drilled Dowel Bars	EACH	18,936.000	18,936.000
0082	416.1010	Concrete Surface Drains	CY	15.400	15.400
0084	416.1110	Concrete Shoulder Rumble Strips	LF	68,375.000	68,375.000
0086	416.1715	Concrete Pavement Repair SHES	SY	5,050.000	5,050.000
0088	416.1725	Concrete Pavement Replacement SHES	SY	4,050.000	4,050.000
0090	420.1000	Continuous Diamond Grinding Concrete Pavement	SY	192,380.000	192,380.000
0092	455.0605	Tack Coat	GAL	6,735.000	6,735.000
0094	460.2000	Incentive Density HMA Pavement	DOL	38,510.000	38,510.000
0096	460.5224	HMA Pavement 4 LT 58-28 S	TON	48,198.000	48,198.000
0098	460.7423	HMA Pavement 3 HT 58-28 H	TON	5,107.000	5,107.000
0100	460.7424	HMA Pavement 4 HT 58-28 H	TON	6,861.000	6,861.000
0102	465.0125	Asphaltic Surface Temporary	TON	1,040.000	1,040.000
0104	465.0400	Asphaltic Shoulder Rumble Strips	LF	203,255.000	203,255.000
0106	502.0100	Concrete Masonry Bridges	CY	11.000	11.000
0108	502.3210	Pigmented Surface Sealer	SY	11.000	11.000
0110	502.4205	Adhesive Anchors No. 5 Bar	EACH	50.000	50.000
0112	504.0100	Concrete Masonry Culverts	CY	4.000	4.000
0114	505.0400	Bar Steel Reinforcement HS Structures	LB	150.000	150.000
0116	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	1,900.000	1,900.000
0118	509.0301	Preparation Decks Type 1	SY	2.000	2.000
0120	509.0302	Preparation Decks Type 2	SY	1.000	1.000
0122	509.0310.S	Sawing Pavement Deck Preparation Areas	LF	20.000	20.000
0124	509.1500	Concrete Surface Repair	SF	26.000	26.000
0126	509.2000	Full-Depth Deck Repair	SY	1.000	1.000
0128	509.5100.S	Polymer Overlay	SY	495.000	495.000
0130	509.9015.S	Removing Polymer Overlay (structure) 01. B-66-48	SY	495.000	495.000
0132	511.1200	Temporary Shoring (structure) 01. B-66-54	SF	104.000	104.000
0134	511.1200	Temporary Shoring (structure) 01. C-66-26	SF	96.000	96.000
0136	516.0500	Rubberized Membrane Waterproofing	SY	14.000	14.000
0138	517.1800.S	Structure Repainting Recycled Abrasive (structure) 01. B-66-59	LS	1.000	1.000
0140	517.4500.S	Negative Pressure Containment and Collection of Waste Materials (structure) 01. B-66-59	LS	1.000	1.000
0142	517.6001.S	Portable Decontamination Facility	EACH	1.000	1.000
0144	520.2015	Culvert Pipe Temporary 15-Inch	LF	158.000	158.000
0146	520.8000	Concrete Collars for Pipe	EACH	3.000	3.000

2220-02-70

Line	Item	Item Description	Unit	Total	Qty
0148	521.1012	Apron Endwalls for Culvert Pipe Steel 12-Inch	EACH	3.000	3.000
0150	601.0555	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type A	LF	250.000	250.000
0152	601.0588	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT	LF	25.000	25.000
0154	603.8000	Concrete Barrier Temporary Precast Delivered	LF	2,575.000	2,575.000
0156	603.8125	Concrete Barrier Temporary Precast Installed	LF	2,575.000	2,575.000
0158	604.0600	Slope Paving Select Crushed Material	SY	9.000	9.000
0160	604.9010.S	Slope Paving Repair Crushed Aggregate	CY	55.000	55.000
0162	604.9015.S	Reseal Crushed Aggregate Slope Paving	SY	1,417.000	1,417.000
0164	608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	LF	82.000	82.000
0166	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	14.000	14.000
0168	611.0420	Reconstructing Manholes	EACH	1.000	1.000
0170	611.0430	Reconstructing Inlets	EACH	9.000	9.000
0172	611.0530	Manhole Covers Type J	EACH	1.000	1.000
0174	611.0642	Inlet Covers Type MS	EACH	7.000	7.000
0176	611.0654	Inlet Covers Type V	EACH	3.000	3.000
0178	611.3220	Inlets 2x2-FT	EACH	3.000	3.000
0180	611.3901	Inlets Median 1 Grate	EACH	1.000	1.000
0182	611.3902	Inlets Median 2 Grate	EACH	3.000	3.000
0184	611.8115	Adjusting Inlet Covers	EACH	1.000	1.000
0186	611.8120.S	Cover Plates Temporary	EACH	2.000	2.000
0188	612.0204	Pipe Underdrain Unperforated 4-Inch	LF	470.000	470.000
0190	612.0206	Pipe Underdrain Unperforated 6-Inch	LF	100.000	100.000
0192	612.0212	Pipe Underdrain Unperforated 12-Inch	LF	150.000	150.000
0194	612.0804	Apron Endwalls for Underdrain Reinforced Concrete 4-Inch	EACH	47.000	47.000
0196	612.0806	Apron Endwalls for Underdrain Reinforced Concrete 6-Inch	EACH	10.000	10.000
0198	613.1100.S	Cable Barrier Type 1	LF	50,243.000	50,243.000
0200	613.1200.S	Cable Barrier End Terminal Type 1	EACH	26.000	26.000
0202	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	1.000	1.000
0204	614.0200	Steel Thrie Beam Structure Approach	LF	21.000	21.000
0206	614.0220	Steel Thrie Beam Bullnose Terminal	EACH	18.000	18.000
0208	614.0230	Steel Thrie Beam	LF	1,450.000	1,450.000
0210	614.0905	Crash Cushions Temporary	EACH	1.000	1.000
0212	614.2300	MGS Guardrail 3	LF	12,037.500	12,037.500
0214	614.2310	MGS Guardrail 3 HS	LF	37.500	37.500
0216	614.2500	MGS Thrie Beam Transition	LF	1,231.200	1,231.200
0218	614.2610	MGS Guardrail Terminal EAT	EACH	43.000	43.000

2220-02-70

Line	Item	Item Description	Unit	Total	Qty
0220	614.2620	MGS Guardrail Terminal Type 2	EACH	19.000	19.000
0222	616.0100	Fence Woven Wire (height) 04. 4 Ft.	LF	20.000	20.000
0224	616.0404	Fence Chain Link Salvaged 4-FT	LF	8.000	8.000
0226	616.0700.S	Fence Safety	LF	2,000.000	2,000.000
0228	618.0100	Maintenance And Repair of Haul Roads (project) 01. 2220-02-70	EACH	1.000	1.000
0230	619.1000	Mobilization	EACH	1.000	1.000
0232	624.0100	Water	MGAL	194.000	194.000
0234	625.0100	Topsoil	SY	17,474.000	17,474.000
0236	625.0500	Salvaged Topsoil	SY	69,896.000	69,896.000
0238	628.1104	Erosion Bales	EACH	100.000	100.000
0240	628.1504	Silt Fence	LF	21,624.000	21,624.000
0242	628.1520	Silt Fence Maintenance	LF	21,624.000	21,624.000
0244	628.1905	Mobilizations Erosion Control	EACH	8.000	8.000
0246	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0248	628.2002	Erosion Mat Class I Type A	SY	87,370.000	87,370.000
0250	628.7005	Inlet Protection Type A	EACH	106.000	106.000
0252	628.7010	Inlet Protection Type B	EACH	14.000	14.000
0254	628.7015	Inlet Protection Type C	EACH	3.000	3.000
0256	628.7504	Temporary Ditch Checks	LF	3,570.000	3,570.000
0258	628.7555	Culvert Pipe Checks	EACH	504.000	504.000
0260	628.7560	Tracking Pads	EACH	6.000	6.000
0262	628.7570	Rock Bags	EACH	500.000	500.000
0264	629.0210	Fertilizer Type B	CWT	55.000	55.000
0266	630.0130	Seeding Mixture No. 30	LB	1,573.000	1,573.000
0268	630.0200	Seeding Temporary	LB	1,179.000	1,179.000
0270	633.5200	Markers Culvert End	EACH	62.000	62.000
0272	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	311.000	311.000
0274	635.0200	Sign Supports Structural Steel HS	LB	3,780.000	3,780.000
0276	635.0300	Sign Supports Replacing Base Connection Bolts	EACH	52.000	52.000
0278	636.0100	Sign Supports Concrete Masonry	CY	7.800	7.800
0280	636.0500	Sign Supports Steel Reinforcement	LB	896.000	896.000
0282	637.1220	Signs Type I Reflective SH	SF	4,954.000	4,954.000
0284	637.2210	Signs Type II Reflective H	SF	100.000	100.000
0286	637.2230	Signs Type II Reflective F	SF	100.000	100.000
0288	638.2102	Moving Signs Type II	EACH	283.000	283.000
0290	638.2601	Removing Signs Type I	EACH	31.000	31.000
0292	638.2602	Removing Signs Type II	EACH	7.000	7.000
0294	638.3000	Removing Small Sign Supports	EACH	318.000	318.000
0296	638.3100	Removing Structural Steel Sign Supports	EACH	10.000	10.000

2220-02-70

Line	Item	Item Description	Unit	Total	Qty
0298	642.5401	Field Office Type D	EACH	1.000	1.000
0300	643.0300	Traffic Control Drums	DAY	51,192.000	51,192.000
0302	643.0420	Traffic Control Barricades Type III	DAY	5,068.000	5,068.000
0304	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	530.000	530.000
0306	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	530.000	530.000
0308	643.0705	Traffic Control Warning Lights Type A	DAY	10,136.000	10,136.000
0310	643.0715	Traffic Control Warning Lights Type C	DAY	14,714.000	14,714.000
0312	643.0800	Traffic Control Arrow Boards	DAY	776.000	776.000
0314	643.0900	Traffic Control Signs	DAY	31,609.000	31,609.000
0316	643.0910	Traffic Control Covering Signs Type I	EACH	4.000	4.000
0318	643.0920	Traffic Control Covering Signs Type II	EACH	22.000	22.000
0320	643.1000	Traffic Control Signs Fixed Message	SF	744.500	744.500
0322	643.1050	Traffic Control Signs PCMS	DAY	314.000	314.000
0324	643.1070	Traffic Control Cones 42-Inch	DAY	1,500.000	1,500.000
0326	643.4100.S	Traffic Control Interim Lane Closure	EACH	200.000	200.000
0328	643.5000	Traffic Control	EACH	1.000	1.000
0330	645.0105	Geotextile Type C	SY	9.000	9.000
0332	645.0120	Geotextile Type HR	SY	300.000	300.000
0334	646.1020	Marking Line Epoxy 4-Inch	LF	49,188.000	49,188.000
0336	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	297,463.000	297,463.000
0338	646.1555	Marking Line Grooved Contrast Permanent Tape 4-Inch	LF	38,907.000	38,907.000
0340	646.3020	Marking Line Epoxy 8-Inch	LF	3,383.000	3,383.000
0342	646.3555	Marking Line Grooved Contrast Permanent Tape 8-Inch	LF	23,455.000	23,455.000
0344	646.4520	Marking Line Same Day Epoxy 4-Inch	LF	25,000.000	25,000.000
0346	646.5020	Marking Arrow Epoxy	EACH	50.000	50.000
0348	646.5120	Marking Word Epoxy	EACH	18.000	18.000
0350	646.5520	Marking Outfall Epoxy	EACH	120.000	120.000
0352	646.6120	Marking Stop Line Epoxy 18-Inch	LF	190.000	190.000
0354	646.6220	Marking Yield Line Epoxy 18-Inch	EACH	105.000	105.000
0356	646.7220	Marking Chevron Epoxy 24-Inch	LF	1,735.000	1,735.000
0358	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	361.000	361.000
0360	646.7520	Marking Crosswalk Epoxy Block Style 24-Inch	LF	165.000	165.000
0362	646.9100	Marking Removal Line 8-Inch	LF	350.000	350.000
0364	649.0105	Temporary Marking Line Paint 4-Inch	LF	3,300.000	3,300.000
0366	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	97,510.000	97,510.000
0368	649.0250	Temporary Marking Line Removable Tape 8-Inch	LF	2,700.000	2,700.000
0370	649.0760	Temporary Marking Raised Pavement Marker Type I	EACH	82.000	82.000
0372	649.0850	Temporary Marking Stop Line Removable Tape 18-Inch	LF	24.000	24.000
0374	652.0210	Conduit Rigid Nonmetallic Schedule 40 1-Inch	LF	312.000	312.000
0376	652.0335	Conduit Rigid Nonmetallic Schedule 80 3-Inch	LF	314.000	314.000

2220-02-70

Line	Item	Item Description	Unit	Total	Qty
0378	652.0800	Conduit Loop Detector	LF	224.000	224.000
0380	653.0140	Pull Boxes Steel 24x42-Inch	EACH	4.000	4.000
0382	654.0220	Concrete Control Cabinet Bases Type 10	EACH	1.000	1.000
0384	655.0700	Loop Detector Lead In Cable	LF	824.000	824.000
0386	655.0800	Loop Detector Wire	LF	1,488.000	1,488.000
0388	661.0100	Temporary Traffic Signals for Bridges (structure) 01. B-66-64	LS	1.000	1.000
0390	690.0150	Sawing Asphalt	LF	1,664.000	1,664.000
0392	690.0250	Sawing Concrete	LF	33,497.000	33,497.000
0394	715.0415	Incentive Strength Concrete Pavement	DOL	19,874.000	19,874.000
0396	715.0502	Incentive Strength Concrete Structures	DOL	1,500.000	1,500.000
0398	715.0710	Optimized Aggregate Gradation Incentive	DOL	63,348.000	63,348.000
0400	740.0440	Incentive IRI Ride	DOL	112,344.000	112,344.000
0402	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	4,800.000	4,800.000
0404	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	9,000.000	9,000.000
0406	SPV.0035	Special 01. Rapid Set Deck Repair	CY	1.000	1.000
0408	SPV.0060	Special 01. Connecting Pipe Underdrain to Existing Inlets	EACH	10.000	10.000
0410	SPV.0060	Special 02. Joint Sealant Parapet	EACH	58.000	58.000
0412	SPV.0060	Special 03. Removing Raised Pavement Markers	EACH	1,700.000	1,700.000
0414	SPV.0060	Special 04. Traffic Control Close-Open Freeway Service Ramp	EACH	48.000	48.000
0416	SPV.0060	Special 05. Traffic Control Close-Open Freeway to Freeway System Ramp	EACH	8.000	8.000
0418	SPV.0060	Special 06. Traffic Control Full Freeway Closure	EACH	30.000	30.000
0420	SPV.0090	Special 01. Heavy Duty Silt Fence	LF	500.000	500.000
0422	SPV.0105	Special 01. Survey Project I.D. 2220-02-70	LS	1.000	1.000
0424	SPV.0105	Special 02. Installing Temporary State Furnished Overhead Sign Support S-40-935	LS	1.000	1.000
0426	SPV.0165	Special 01. Removing Loose Concrete Overhead	SF	70.000	70.000

PAVEMENT REPAIR

STATION	LOCATION	204.0100* REMOVING PAVEMENT SY	390.0403 BASE PATCHING CONCRETE SHES SY	416.1715 CONCRETE PAVEMENT REPAIR SHES SY	416.1725 CONCRETE PAVEMENT REPLACEMENT SHES SY	690.0250* SAWING CONCRETE LF
UNDISTRIBUTED	USH 45	18,050	8,950	5,050	4,050	31,538
PROJECT 2220-02-70 TOTAL		18,050	8,950	5,050	4,050	31,538

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CPM PROGRESS SCHEDULE

LOCATION	108.4400 CPM PROGRESS SCHEDULE EACH
PROJECT 2220-02-70	1
PROJECT 2220-02-70 TOTAL	1

3

REMOVING CURB & GUTTER

STATION		STATION	OFFSET	LOCATION	204.0150* REMOVING CURB & GUTTER LF
128+48	-	129+34	LT	USH 45 NB	86
289+32	-	290+24	LT	USH 45 NB	93
342+16	-	343+35	LT	USH 45 NB	119
425+73	-	426+50	LT	USH 45 NB	77
452+23	-	453+14	LT	USH 45 NB	91
579+72	-	581+20	LT	USH 45 NB	155
610+55	-	612+00	LT	USH 45 NB	149
652+47	-	653+60	LT	USH 45 NB	114
128+47	-	129+33	RT	USH 45 SB	87
289+33	-	290+26	RT	USH 45 SB	94
341+98	-	343+45	LT	USH 45 SB	149
342+09	-	343+35	RT	USH 45 SB	127
342+22	-	343+28	RT	USH 45 NB	107
425+68	-	426+55	RT	USH 45 SB	89
452+20	-	453+11	RT	USH 45 SB	91
579+99	-	581+07	RT	USH 45 SB	109
610+80	-	612+04	RT	USH 45 SB	125
652+40	-	653+51	RT	USH 45 SB	112
PROJECT 2220-02-70 TOTAL					1,974

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

FINISHING ROADWAY

LOCATION	213.0100 FINISHING ROADWAY PROJECT ID 2220-02-70 EACH
PROJECT 2220-02-70	1
PROJECT 2220-02-70 TOTAL	1

ALL ITEMS ARE CATEGORY **0010** UNLESS OTHERWISE SPECIFIED.

REMOVING GUARDRAIL

STATION	LOCATION	OFFSET	204.0165* REMOVING GUARDRAIL LF	REMARKS
1740+18 - 1742+91	USH 45	NB LT	273	DTA (2)
127+83 - 130+00	USH 45	NB LT	217	DTA (2)
179+58 - 181+62	USH 45	NB LT	205	STB + DTA
180+16 - 181+68	USH 45	NB RT	152	STB + DTA
182+76 - 184+84	USH 45	NB LT	208	STB + DTA
182+82 - 183+51	USH 45	NB RT	62	STB + DTA
232+84 - 234+88	USH 45	NB LT	204	STB + DTA
233+22 - 234+77	USH 45	NB RT	155	STB + DTA
236+63 - 237+31	USH 45	NB RT	68	STB + DTA
236+71 - 238+78	USH 45	NB LT	207	STB + DTA
288+70 - 290+83	USH 45	NB LT	213	DTA (2)
340+16 - 341+77	USH 45	NB RT	161	DTA (2)
341+48 - 344+02	USH 45	NB LT	254	DTA (2)
343+84 - 345+50	USH 45	NB RT	165	DTA (2)
371+67 - 373+28	USH 45	NB RT	163	DTA (2)
420+76 - 422+17	USH 45	NB RT	140	DTA
425+08 - 427+25	USH 45	NB LT	217	DTA (2)
444+73 - 446+33	USH 45	NB RT	161	DTA (2)
451+60 - 453+76	USH 45	NB LT	216	DTA (2)
499+97 - 504+28	USH 45	NB LT	435	STB + DTA
502+33 - 504+39	USH 45	NB RT	207	STB + DTA
506+61 - 507+27	USH 45	NB RT	67	STB + DTA
506+61 - 508+70	USH 45	NB LT	210	STB + DTA
555+57 - 557+65	USH 45	NB LT	208	STB + DTA
557+44 - 558+08	USH 45	NB RT	64	STB + DTA
559+66 - 561+92	USH 45	NB LT	226	STB + DTA
560+03 - 560+71	USH 45	NB RT	67	STB + DTA
579+31 - 581+61	USH 45	NB LT	230	DTA (2)
610+14 - 612+55	USH 45	NB LT	241	DTA (2)
631+13 - 633+18	USH 45	NB LT	205	STB + DTA
631+51 - 633+14	USH 45	NB RT	161	STB + DTA
634+95 - 635+64	USH 45	NB RT	69	STB + DTA
635+00 - 637+22	USH 45	NB LT	222	STB + DTA
651+79 - 654+20	USH 45	NB LT	241	DTA (2)
690+88 - 692+98	USH 45	NB LT	210	STB + DTA
692+16 - 692+85	USH 45	NB RT	69	STB + DTA
694+33 - 694+96	USH 45	NB RT	62	STB + DTA
694+43 - 696+50	USH 45	NB LT	207	STB + DTA
734+10 - 739+12	USH 45	NB RT	505	STB + DTA
737+03 - 739+07	USH 45	NB LT	204	STB + DTA

REMOVING GUARDRAIL

STATION	LOCATION	OFFSET	204.0165* REMOVING GUARDRAIL LF	REMARKS
741+43 - 743+38	USH 45	NB LT	196	STB + DTA
741+50 - 747+39	USH 45	NB RT	599	STB + DTA
1740+19 - 1742+91	USH 45	SB RT	272	DTA (2)
127+83 - 130+02	USH 45	SB RT	219	DTA (2)
182+68 - 184+22	USH 45	SB LT	156	STB + DTA
182+71 - 185+26	USH 45	SB RT	254	STB + DTA
236+81 - 239+35	USH 45	SB RT	255	STB + DTA
236+89 - 238+44	USH 45	SB LT	156	STB + DTA
288+70 - 290+83	USH 45	SB RT	213	DTA (2)
340+85 - 341+85	USH 45	SB LT	100	DTA
341+51 - 344+00	USH 45	SB RT	249	DTA (2)
344+52 - 345+74	USH 45	SB LT	122	DTA
372+37 - 373+31	USH 45	SB LT	94	EAT
420+96 - 421+94	USH 45	SB LT	98	DTA
425+11 - 427+21	USH 45	SB RT	210	DTA (2)
446+42 - 447+36	USH 45	SB LT	94	DTA
451+61 - 453+76	USH 45	SB RT	215	DTA (2)
506+70 - 508+29	USH 45	SB LT	157	STB + DTA
506+70 - 509+26	USH 45	SB RT	258	STB + DTA
559+05 - 560+58	USH 45	SB LT	154	STB + DTA
559+34 - 561+88	USH 45	SB RT	253	STB + DTA
579+34 - 581+61	USH 45	SB RT	227	DTA (2)
581+39 - 582+33	USH 45	SB LT	95	DTA
610+14 - 612+55	USH 45	SB RT	241	DTA (2)
635+01 - 637+55	USH 45	SB RT	236	STB + DTA
635+04 - 636+61	USH 45	SB LT	157	STB + DTA
651+80 - 654+17	USH 45	SB RT	237	DTA (2)
694+56 - 697+09	USH 45	SB RT	253	STB + DTA
694+65 - 696+18	USH 45	SB LT	152	STB + DTA
741+29 - 745+02	USH 45	SB LT	366	STB + DTA
741+33 - 743+92	USH 45	SB RT	258	STB + DTA
1348+60 - 1349+55	CTH PV NW RAMP	RT	95	DTA
1348+61 1349+52	CTH PV NW RAMP	LT	91	DTA
1330+31 - 1332+00	CTH PV SE RAMP	RT	167	DTA (2)
1331+09 - 1332+55	CTH PV SW RAMP	LT	147	DTA
PROJECT 2220-02-70 TOTAL			14,597	

REMARKS: STB = STEEL THRIE BEAM STRUCTURE APPROACH
EAT = ENERGY ABSORPTION TERMINAL
DTA = DOWNTURNED ANCHORAGE

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ALL ITEMS ARE CATEGORY **0010** UNLESS OTHERWISE SPECIFIED.

3

2020-02-70 USH 45
EARTHWORK SUMMARY

LOCATION	205.0100* COMMON EXCAVATION (1) CUT (2) CY	AVAILABLE MATERIAL (5) CY	UNEXPANDED FILL CY	EXPANDED FILL (13) FACTOR 1.2 CY	MASS ORDINATE +/- (14) CY	WASTE CY	208.0100* BORROW CY	COMMENT
RECONSTRUCTION								
USH 45 1699+50 - 1703+50 SB LT	242	242	17	21	221			
USH 45 1708+65 - 1716+50 SB LT	560	560	1	1	559			
USH 45 1700+25 - 1702+80 SB RT	165	165	44	50	115			
USH 45 1708+00 - 1715+75 SB RT	421	421	6	8	413			
USH 45 171+75 - 186+25 NB RT	968	968	12	0	968			
USH 45 175+25 - 185+25 NB LT	519	519	15	17	502			
USH 45 311+00 - 333+75 NB LT	1,534	1,534	0	0	1,534			
USH 45 318+00 - 341+00 SB RT	1,065	1,065	0	0	1,065			
USH 45 CTH PV NB OFF RAMP	820	820	309	371	449			
USH 45 CTH PV SB ON RAMP	1,973	1,973	23	25	1,948			
USH 45 NB LEFT TURN LANE AT FRIENDLY DRIVE	78	78	65	77	1			
BEAM GUARD GRADING								
USH 45 NB INSIDE SHOULDER GRADING	0	0	562	675	-674			
USH 45 NB OUTSIDE SHOULDER GRADING	4	4	1,182	1,418	-1,414			
USH 45 SB INSIDE SHOULDER GRADING	5	5	1,202	1,443	-1,437			
USH 45 SB OUTSIDE SHOULDER GRADING	4	4	1,288	1,545	-1,542			
USH 45 MEDIAN GRADING	245	245	2,347	2,817	-2,571			
USH 45 CTH PV SB OFF RAMP	2	2	62	75	-72			
TOTALS	**8,605**	**8,605**	**7,135**	**8,543**	**65**	**65**	**0**	
TOTAL COMMON EXC	**8,605**							

(1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
(2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT
(5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
(13) EXPANDED FILL FACTOR = 1.2
(14) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ALL ITEMS ARE CATEGORY **0010** UNLESS OTHERWISE SPECIFIED.

3

DIVISION	FROM/TO STATION	LOCATION	205.0100* COMMON EXCAVATION (1) CUT (2)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (13) FACTOR 1.25	MASS ORDINATE +/- (14)	WASTE	208.0100* BORROW	COMMENT
DIVISION 1										
VOLUMEREPORT-USH45-1OF4	118+71.89/268+00	USH 45	804	804	1,359	1,699	-895	0	895	
DIVISION 1 SUBTOTAL			804	804	1,359	1,699	-895	0	895	
DIVISION 2										
VOLUMEREPORT-USH45-2OF4	275+00/425+00	USH 45	629	629	3,023	3,779	-3,150	0	3,150	
DIVISION 2 SUBTOTAL			629	629	3,023	3,779	-3,150	0	3,150	
DIVISION 3										
VOLUMEREPORT-USH45-3OF4	437+00/509+00	USH 45	154	154	757	946	-792	0	792	
DIVISION 3 SUBTOTAL			154	154	757	946	-792	0	792	
DIVISION 4										
VOLUMEREPORT-USH45-4OF4	554+75/662+00	USH 45	353	353	1,826	2,283	-1,930	0	1,930	
DIVISION 4 SUBTOTAL			353	353	1,826	2,283	-1,930	0	1,930	
UNDISTRIBUTED	118+80 - 662+00	USH 45							5,000	
GRAND TOTAL			1,940	1,940	6,965	8,706	-6,766	0	11,766	
TOTAL COMMON EXC			1,940							

NOTES:

(1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100

(2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.

5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL

(13) EXPANDED FILL FACTOR = 1.25

(14) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

DIVISION	FROM/TO STATION	LOCATION	205.0100* COMMON EXCAVATION (1) CUT (2)	205.0100* COMMON EXCAVATION (1) EBS EXCAVATION	SALVAGED/UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (6) FACTOR 1.20	MASS ORDINATE +/- (7)	WASTE	208.0100* BORROW	COMMENT
DIVISION 1												
	85+00 to 100+00	South Crossover	1,603	0		1,603	44	53	1,550			
	59+00 to 73+00	North Crossover	1,632	0		1,632	113	136	1,497			
DIVISION 1 SUBTOTAL			3,235	0	0	3,235	157	189	3,046	3,046		
DIVISION 2												
	88+00 to 100+00	South Crossover Removal	808	0		808	1	1	807			
	60+00 TO 71+00	North Crossover Removal	824	0		824	4	4	820			
DIVISION 2 SUBTOTAL			1,632	0	0	1,632	5	6	1,627	1,627		
GRAND TOTAL			4,868	0	0	4,868	162	194	4,673	4,673	0	
TOTAL COMMON EXC			4,868									

NOTES:

(1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
(2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
(3) EBS EXCAVATION TO BE BACKFILLED WITH BREAKER RUN
(4) SALVAGED/UNUSABLE PAVEMENT MATERIAL
(5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL
(6) EXPANDED FILL FACTOR = 1.25
(7) THE MASS ORDINATE+OR-QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
(8) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE SPECIFIED

3

MAINTENANCE CROSSOVERS

STATION	LOCATION	OFFSET	305.0110* BASE AGGREGATE DENSE 3/4-INCH TON	305.0120* BASE AGGREGATE DENSE 1 1/4-INCH TON	460.5224* HMA PAVEMENT 4 LT 52-28 S TON
118+35	USH 45	MEDIAN	11	121	39
208+70	USH 45	MEDIAN	11	121	39
268+70	USH 45	MEDIAN	11	121	39
309+65	USH 45	MEDIAN	11	121	39
373+80	USH 45	MEDIAN	11	121	39
477+15	USH 45	MEDIAN	11	121	39
546+45	USH 45	MEDIAN	11	121	39
605+25	USH 45	MEDIAN	11	121	39
669+40	USH 45	MEDIAN	11	121	39
703+30	USH 45	MEDIAN	11	121	39
PROJECT 2220-02-70 TOTAL			110	1,210	390

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CONCRETE PAVEMENT JOINT LAYOUT

LOCATION	415.5110.S CONCRETE PAVEMENT JOINT LAY OUT PROJECT I.D.2220-02-70 EACH
PROJECT 2220-02-70	1
PROJECT 2220-02-70 TOTAL	1

3

RAMP TAPER ITEMS

STATION #	LOCATION	OFFSET	204.0100* REMOVING PAVEMENT SY	415.1090 CONCRETE PAVEMENT HES 9-INCH SY	690.0250* SAWING CONCRETE LF	REMARKS
108NB+49 - 109NB+47	USH 45	NB	11	22	100	STH 145 NE Ramp
259NB+32 - 260NB+52	USH 45	NB	13	27	122	STH 60 NE Ramp
368NB+47 - 369NB+53	USH 45	NB	11	22	108	CTH PV NE Ramp
485NB+92 - 486NB+79	USH 45	NB	10	19	89	CTH PD SE Ramp
765NB+13 - 765NB+89	USH 45	NB	8	17	78	CTH D NE RAMP
104SB+24 - 105SB+21	USH 45	SB	11	21	99	STH 145 NW Ramp
213SB+62 - 214SB+83	USH 45	SB	13	27	123	STH 60 SW Ramp
253SB+54 - 254SB+54	USH 45	SB	11	22	102	STH 60 NW Ramp
362SB+82 - 363SB+31	USH 45	SB	5	11	51	CTH PV NW Ramp
482SB+34 - 483SB+28	USH 45	SB	10	21	96	CTH PD SW Ramp
527SB+88 - 528SB+60	USH 45	SB	8	16	74	CTH PD NW Ramp
612SB+03 - 613SB+01	USH 45	SB	11	22	100	STH 33 SW Ramp
650SB+85 - 651SB+89	USH 45	SB	12	23	106	STH 33 NW Ramp
714SB+55 - 715SB+53	USH 45	SB	11	22	100	CTH D SW Ramp
762SB+26 - 763SB+27	USH 45	SB	11	22	103	CTH D NW Ramp
PROJECT 2220-02-70 TOTAL			156	314	1,451	

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE
\# STATION RANGE AND QUANTITIES APPROXIMATE

ASPHALTIC APPROACHES AT BRIDGES

STRUCTURES	LOCATION	204.0105 REMOVING PAVEMENT BUTT JOINTS SY	455.0605* TACK COAT GAL	460.7424* HMA PAVEMENT 4 HT 52-28 H TON	690.0250* SAWING CONCRETE LF
B-66-47	USH 45 NB OVER SHERMAN ROAD	116	8	13	52
B-66-48	USH 45 SB OVER SHERMAN ROAD	160	12	18	48
B-66-49	USH 45 SB OVER STH 60	255	19	28	52
B-66-50	USH 45 NB OVER STH 60	121	8	14	48
B-66-55	USH 45 SB OVER CTH PD	280	21	30	52
B-66-56	USH 45 NB OVER CTH PD	59	4	6	24
B-66-59	USH 45 SB OVER CTH PD	280	21	30	52
B-66-60	USH 45 SB OVER CTH PD	140	11	16	52
B-66-59	USH 45 SB OVER CTH PD	248	18	27	52
B-66-60	USH 45 SB OVER CTH D	270	20	29	52
B-66-63	USH 45 NB OVER CTH D	66	5	7	24
PROJECT 2220-02-70 TOTAL		1,995	147	218	508

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ALL ITEMS ARE CATEGORY **0010** UNLESS OTHERWISE SPECIFIED.

3

AGGREGATE ITEMS

STATION	LOCATION	OFFSET	305.0110* BASE AGGREGATE DENSE 3/4-INCH TON	305.0120* BASE AGGREGATE DENSE 1 1/4-INCH TON	305.0500 SHAPING SHOULDERS STA	305.0502.S SHAPING ROADWAY STA	REMARKS
1694NB+70 - 1733NB+10	USH 45	NB	1,225	--	77	--	
1733NB+10 - 137NB+00	USH 45	NB	2,595	--	117	--	Includes STH 145 NE Ramp
137NB+00 - 159NB+00	USH 45	NB	703	--	44	--	
159NB+00 - 181NB+90	USH 45	NB	1,013	1222	46	--	
182NB+65 235NB+00	USH 45	NB	2,315	406	105	--	Includes STH 60 SE Ramp
236NB+76 - 289NB+75	USH 45	NB	2,343	--	106	--	Includes STH 60 NE Ramp
289NB+75 - 342NB+50	USH 45	NB	2,335	1012	106	--	
342NB+50 - 375NB+00	USH 45	NB	1,438	--	65	--	Includes CTH PV NE Ramp
375NB+00 - 386NB+00	USH 45	NB	488	--	22	--	
386NB+00 - 412NB+50	USH 45	NB	848	--	53	--	
412NB+40 - 427NB+00	USH 45	NB	645	--	29	--	
427NB+00 452NB+75	USH 45	NB	1,138	--	52	--	
452NB+75 - 504NB+45	USH 45	NB	2,288	--	103	--	Includes CTH PD SE Ramp
506NB+65 - 557NB+85	USH 45	NB	3,573	2,390	--	45	
559NB+85 - 580NB+50	USH 45	NB	1,655	1,108	--	21	
580NB+50 - 633NB+11	USH 45	NB	4,223	2,834	--	53	
635NB+05 - 692NB+85	USH 45	NB	4,638	3,106	--	58	
694NB+45 - 739NB+10	USH 45	NB	3,600	2,418	--	45	
741NB+20 - 745NB+10	USH 45	NB	173	--	8	--	
745NB+10 - 787NB+86	USH 45	NB	1,363	158	86	--	
1688SB+05 - 1703SB+85	USH 45	SB	505	410	32	--	
1707SB+80 - 1732SB+88	USH 45	SB	800	912	50	--	Includes STH 145 SW Ramp
1732SB+88 - 129SB+00	USH 45	SB	2,293	--	104	--	Includes STH 145 NW Ramp
129SB+00 - 164SB+00	USH 45	SB	1,550	--	70	--	
164SB+00 - 181SB+65	USH 45	SB	563	--	35	--	
182SB+60 - 235SB+20	USH 45	SB	1,680	--	105	--	
236SB+70 - 289SB+75	USH 45	SB	1,690	--	106	--	
289SB+75 - 342SB+50	USH 45	SB	1,683	1022	106	--	
342SB+50 - 386SB+00	USH 45	SB	1,390	--	87	--	
386SB+00 - 412SB+50	USH 45	SB	848	--	53	--	
412SB+40 - 452SB+75	USH 45	SB	1,285	--	81	--	
452SB+75 - 504SB+55	USH 45	SB	1,653	--	104	--	
506SB+55 - 557SB+60	USH 45	SB	1,415	--	89	--	
558SB+85 - 580SB+50	USH 45	SB	693	--	43	--	
580SB+50 - 633SB+35	USH 45	SB	1,685	--	106	--	
634SB+90 - 693SB+35	USH 45	SB	1,865	--	117	--	
694SB+45 - 739SB+15	USH 45	SB	1,433	--	90	--	
741SB+05 - 756SB+48	USH 45	SB	490	--	31	--	
756SB+48 - 787SB+86	USH 45	SB	1,390	--	63	--	
STH 145 SE RAMP			105	--	7	--	

ALL ITEMS ARE CATEGORY **0010** UNLESS OTHERWISE SPECIFIED.

AGGREGATE ITEMS (CONTINUED)

STATION	LOCATION	OFFSET	305.0110* BASE AGGREGATE DENSE 3/4-INCH TON	305.0120* BASE AGGREGATE DENSE 1 1/4-INCH TON	305.0500 SHAPING SHOULDERS STA	305.0502.S SHAPING ROADWAY STA	REMARKS
STH 60 NW RAMP			175	--	12	--	
STH 60 SW RAMP			70	--	5	--	
CTH PV NW RAMP			350	--	25	--	
CTH PV SE RAMP			380	1,162	27	--	Includes Parallel Ramp
CTH PV SW RAMP			158	2,310	11	--	Includes Parallel Ramp
CTH PD NE RAMP			425	--	30	--	
CTH PD NW RAMP			398	--	28	--	
CTH PD SW RAMP			338	--	24	--	
STH 33 NE RAMP			338	--	24	--	
STH 33 NW RAMP			258	--	18	--	
STH 33 SE RAMP			250	--	18	--	
STH 33 SW RAMP			258	--	18	--	
CTH D NE RAMP			433	--	30	--	
CTH D NW RAMP			345	--	24	--	
CTH D SE RAMP			315	--	22	--	
CTH D SW RAMP			420	--	29	--	
PAVEMENT REPAIR AREAS			--	3,008	--	--	
UNDISTRIBUTED			6,853	2,047	--	--	
PROJECT 2220-02-70 TOTAL			75,379	25,525	2,843	222	

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CONCRETE PAVEMENT APPROACH SLABS & CONCRETE SURFACE DRAINS

STATION	LOCATION	OFFSET	415.0070 CONCRETE PAVEMENT 7-INCH SY	416.0050 CONCRETE PAVEMENT APPROACH SLAB SY	416.1010 CONCRETE SURFACE DRAINS CY	521.1012 APRON ENDWALS FOR CULVERT PIPE STEEL 12-INCH EACH	611.3220 INLETS 2X2 EACH	611.0654 INLET COVERS TYPE V EACH	612.0212 PIPE UNDERDRAIN UNPERFORATED 12-INCH LF	NOTE
506+48 - 506+65	USH 45	NB	33	48	--	--	--	--	--	B-66-56
557+78 - 558+03	USH 45	NB	52	74	--	--	--	--	--	B-66-58
559+72 - 559+97	USH 45	NB	32	75	5.5	1	1	1	50	B-66-58
663+11 - 663+27	USH 45	NB	20	47	5.2	1	1	1	50	B-66-62
634+89 - 635+05	USH 45	NB	32	47	--	--	--	--	--	B-66-62
692+85 - 693+03	USH 45	NB	39	55	--	--	--	--	--	B-66-64
694+28 - 694+47	USH 45	NB	15	54	4.7	1	1	1	50	B-66-64
739+09 - 739+27	USH 45	NB	36	53	--	--	--	--	--	B-66-66
PROJECT 2220-02-70 TOTAL			259	453	15.4	3	3	3	150	

ALL ITEMS ARE CATEGORY **0010** UNLESS OTHERWISE SPECIFIED.

PAVEMENT ITEMS

STATION	LOCATION	OFFSET	204.0100* REMOVING PAVEMENT SY	204.0110* REMOVING ASPHALTIC SURFACE SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	415.0090 CONCRETE PAVEMENT 9-INCH SY	420.1000 CONTINUOUS DIAMOND GRINDING CONCRETE PAVEMENT SY	455.0605* TACK COAT GAL	460.5224* HMA PAVEMENT 4 LT 52-28 S TON	460.7423 HMA PAVEMENT 3 HT 52-28 H TON	460.7424* HMA PAVEMENT 4 HT 52-28 H TON	REMARKS
1694NB+70 - 1733NB+10	USH 45	NB	--	4,378	11,145	--	--	2,344	--	2,261	1,758	
1733NB+10 - 137NB+00	USH 45	NB	--	8,801	--	--	18,020	--	2,490	--	--	Includes STH 145 NE Ramp
137NB+00 - 159NB+00	USH 45	NB	--	2,200	--	--	--	--	616	--	--	
159NB+00 - 181NB+90	USH 45	NB	--	1,600	--	--	6,001	--	910	--	--	
182NB+65 235NB+00	USH 45	NB	--	6,755	--	--	15,739	--	2,007	--	--	Includes STH 60 SE Ramp
236NB+76 - 289NB+75	USH 45	NB	--	6,802	--	--	16,567	--	1,866	--	--	Includes STH 60 NE Ramp
289NB+75 - 342NB+50	USH 45	NB	--	5,085	--	--	14,059	--	1,683	--	--	
342NB+50 - 375NB+00	USH 45	NB	--	4,980	--	--	12,275	--	1,346	--	--	Includes CTH PV NE Ramp
375NB+00 - 386NB+00	USH 45	NB	--	1,088	--	--	--	--	306	--	--	
386NB+00 - 412NB+50	USH 45	NB	--	--	10,280	--	--	777	--	--	1,331	
412NB+50 - 427NB+00	USH 45	NB	--	1,525	--	--	--	--	425	--	--	
427NB+00 452NB+75	USH 45	NB	--	3,240	--	--	6,867	--	888	--	--	
452NB+75 - 504NB+45	USH 45	NB	--	7,620	--	--	18,993	--	2,080	--	--	Includes CTH PD SE Ramp
506NB+65 - 557NB+85	USH 45	NB	11,707	4,398	--	12,588	--	--	1,254	--	--	
559NB+85 - 580NB+50	USH 45	NB	5,451	2,038	--	5,861	--	--	573	--	--	
580NB+50 - 633NB+11	USH 45	NB	13,932	5,212	--	14,981	--	--	1,474	--	--	
635NB+05 - 692NB+85	USH 45	NB	15,353	5,604	--	16,508	--	--	1,591	--	--	
694NB+45 - 739NB+10	USH 45	NB	11,861	4,448	--	12,754	--	--	1,264	--	--	
741NB+20 - 745NB+10	USH 45	NB	--	554	--	--	960	--	150	--	--	
745NB+10 - 787NB+86	USH 45	NB	81	3,813	--	238	--	--	1,066	--	--	
1688SB+05 - 1703SB+85	USH 45	SB	--	1,430	4,218	--	--	851	--	899	699	
1707SB+80 - 1732SB+88	USH 45	SB	--	2,576	9,709	--	--	1,835	--	1,947	1,514	Includes STH 145 SW Ramp
1732SB+88 - 129SB+00	USH 45	SB	--	5,683	--	--	15,068	--	1,504	--	--	Includes STH 145 NW Ramp
129SB+00 - 164SB+00	USH 45	SB	--	4,270	--	--	9,330	--	1,174	--	--	
164SB+00 - 181SB+65	USH 45	SB	--	1,808	--	--	--	--	508	--	--	
182SB+60 - 235SB+20	USH 45	SB	--	5,115	--	--	--	--	1,452	--	--	
236SB+70 - 289SB+75	USH 45	SB	--	5,441	--	--	--	--	1,535	--	--	
289SB+75 - 342SB+50	USH 45	SB	--	3,824	--	--	--	--	1,369	--	--	
342SB+50 - 386SB+00	USH 45	SB	--	4,173	--	--	--	--	1,173	--	--	
386SB+00 - 412SB+40	USH 45	SB	--	--	10,341	--	--	781	--	--	1,341	
412SB+60 - 452SB+75	USH 45	SB	--	4,191	--	--	--	--	1,169	--	--	
452SB+75 - 504SB+55	USH 45	SB	--	4,895	--	--	--	--	1,381	--	--	
506SB+55 - 557SB+60	USH 45	SB	--	4,410	--	--	--	--	1,253	--	--	
558SB+85 - 580SB+50	USH 45	SB	--	2,534	--	--	--	--	715	--	--	
580SB+50 - 633SB+35	USH 45	SB	--	5,935	--	--	--	--	1,723	--	--	
634SB+90 - 693SB+35	USH 45	SB	--	5,831	--	--	--	--	1,651	--	--	
694SB+45 - 739SB+15	USH 45	SB	--	4,389	--	--	--	--	1,250	--	--	
741SB+05 - 756SB+48	USH 45	SB	--	2,941	--	--	--	--	798	--	--	
756SB+48 - 787SB+86	USH 45	SB	--	3,502	--	--	8,792	--	965	--	--	
STH 145 SE RAMP			--	319	--	--	547	--	81	--	--	

ALL ITEMS ARE CATEGORY **0010** UNLESS OTHERWISE SPECIFIED.

PAVEMENT ITEMS (CONTINUED)

STATION	LOCATION	OFFSET	204.0100* REMOVING PAVEMENT SY	204.0110* REMOVING ASPHALTIC SURFACE SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	415.0090 CONCRETE PAVEMENT 9-INCH SY	420.1000 CONTINUOUS DIAMOND GRINDING CONCRETE PAVEMENT SY	455.0605* TACK COAT GAL	460.5224* HMA PAVEMENT 4 LT 52-28 S TON	460.7423 HMA PAVEMENT 3 HT 52-28 H TON	460.7424* HMA PAVEMENT 4 HT 52-28 H TON	REMARKS
STH 60 NW RAMP			--	904	--	--	1,571	--	228	--	--	
STH 60 SW RAMP			--	964	--	--	1,933	--	243	--	--	
CTH PV NW RAMP			--	1,641	--	--	3,310	--	414	--	--	
CTH PV SE RAMP			1,218	1,169	--	1,218	2,521	--	438	--	--	Includes Parallel Ramp
CTH PV SW RAMP			2,098	477	--	2,098	1,026	--	439	--	--	Includes Parallel Ramp
CTH PD NE RAMP			--	2,441	--	--	5,138	--	615	--	--	
CTH PD NW RAMP			--	1,569	--	--	4,360	--	396	--	--	
CTH PD SW RAMP			--	1,539	--	--	3,567	--	387	--	--	
STH 33 NE RAMP			--	1,742	--	--	3,602	--	439	--	--	
STH 33 NW RAMP			--	1,166	--	--	2,613	--	294	--	--	
STH 33 SE RAMP			--	1,197	--	--	3,067	--	301	--	--	
STH 33 SW RAMP			--	1,437	--	--	3,102	--	362	--	--	
CTH D NE RAMP			--	1,830	--	--	3,906	--	461	--	--	
CTH D NW RAMP			--	1,379	--	--	3,118	--	348	--	--	
CTH D SE RAMP			--	1,321	--	--	2,817	--	333	--	--	
CTH D SW RAMP			--	1,648	--	--	3,511	--	416	--	--	
PROJECT 2220-02-70 TOTAL			61,701	175,832	45,693	66,246	192,380	6,588	47,804	5,107	6,643	

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

DRAINAGE ITEMS

STATION	OFFSET	LOCATION	204.0220* REMOVING INLETS EACH	204.0245.01 REMOVING STORM SEWER PPIPE 24-INCH LF	204.9060.S.01 REMOVING APRON ENDWALL FOR PIPE UNDERDRAIN EACH	204.9090.S.02 REMOVING UNDERDRAIN LF	520.8000 CONCRETE COLLARS FOR PIPE EACH	608.0318 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH LF	608.0324 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH LF	611.0420 RECONSTRUCTING MANHOLES EACH	611.0530 MANHOLE COVERS TYPE J EACH	611.0642* INLET COVERS TYPE MS EACH	611.3902 INLETS MEDIAN 2 GRATE EACH	RIM ELEV	APPROXIMATE STRUCTURE DEPTH (A)	REMARK
427+08	0' RT	USH 41	1	6	--	--	--	--	--	--	--	--	--	--	--	
427+08	5.8' RT	USH 41	--	--	--	--	1	--	2	--	--	2	1	987.82	3.9'	24" CPRC TO EAST
560+07	58' RT	USH 41	1	--	1	50	--	--	--	--	--	--	--	--	--	
612+66	5.0' LT	USH 41	1	10	--	--	--	--	--	--	--	--	--	--	--	
612+66	2.8' RT	USH 41	--	--	--	--	2	--	12	--	--	2	1	967.00	4.2'	24" CPRC TO EAST & WEST
633+08	58' RT	USH 41	1	--	1	50	--	--	--	--	--	--	--	--	--	
650+75	0.4' LT	USH 41	--	--	--	--	--	82	--	--	--	2	1	1005.33	3.0'	CONNECT TO MH AT 651+57, 0.5% SLOPE
651+57	3' LT	USH 41	--	--	--	--	--	--	--	1	1	--	--	1006.56	--	RECONSTRUCT INLET INTO MANHOLE
692+82	58' RT	USH 41	1	--	1	50	--	--	--	--	--	--	--	--	--	
PROJECT 2220-02-70 TOTAL			5	16	3	150	3	82	14	1	1	6	3			

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

(A) STRUCTURE DEPTHS APPROXIMATED FOR ORIGINAL USH 45 GRADING & DRAINAGE AS-BUILT PLANS. FIELD VERIFY DEPTH PRIOR TO ORDERING STRUCTURES.

ALL ITEMS ARE CATEGORY **0010** UNLESS OTHERWISE SPECIFIED.

RUMBLE STRIPS

STATION	LOCATION	OFFSET	416.1110 CONCRETE SHOULDER RUMBLE STRIP LF	465.0400 ASPHALTIC SHOULDER RUMBLE STRIP LF
1694NB+70 - 1722NB+25	USH 45	NB RT	--	2,755
1732NB+40 - 1751NB+60	USH 45	NB RT	--	1,920
103NB+00 137NB+00	USH 45	NB RT	--	3,400
137NB+00 - 159NB+00	USH 45	NB RT	2,200	--
159NB+00 - 181NB+75	USH 45	NB RT	--	2,275
182NB+85 - 216NB+00	USH 45	NB RT	--	3,315
224NB+65 - 234NB+85	USH 45	NB RT	--	1,020
236NB+65 - 245NB+15	USH 45	NB RT	--	850
253NB+75 - 319NB+80	USH 45	NB RT	--	6,605
331NB+00 - 354NB+85	USH 45	NB RT	--	2,385
359NB+00 - 412NB+50	USH 45	NB RT	--	5,350
412NB+40 - 427NB+00	USH 45	NB RT	1,460	--
427NB+00 485NB+50	USH 45	NB RT	--	5,850
494NB+05 - 504NB+35	USH 45	NB RT	--	1,030
506NB+65 - 519NB+60	USH 45	NB RT	1,295	--
527NB+75 - 534NB+70	USH 45	NB RT	--	695
534NB+70 - 537NB+25	USH 45	NB RT	255	--
543NB+95 - 557NB+75	USH 45	NB RT	1,380	--
560NB+00 - 615NB+00	USH 45	NB RT	5,500	--
624NB+85 - 633NB+10	USH 45	NB RT	825	--
635NB+10 - 646NB+00	USH 45	NB RT	1,090	--
653NB+00 - 659NB+05	USH 45	NB RT	--	605
659NB+05 - 692NB+85	USH 45	NB RT	3,380	--
694NB+45 - 718NB+65	USH 45	NB RT	2,420	--
718NB+45 - 722NB+25	USH 45	NB RT	380	--
730NB+85 - 739NB+10	USH 45	NB RT	825	--
741NB+40 - 745NB+10	USH 45	NB RT	--	370
745NB+10 - 755NB+10	USH 45	NB RT	1,000	--
761NB+50 - 765NB+85	USH 45	NB RT	--	435
765NB+85 - 783NB+65	USH 45	NB RT	1,780	--
1694NB+70 - 1756NB+95	USH 45	NB LT	--	6,225
102NB+20 - 181NB+65	USH 45	NB LT	--	7,945
182NB+75 - 234NB+90	USH 45	NB LT	--	5,215
236NB+70 - 412NB+50	USH 45	NB LT	--	17,580
412NB+40 - 504NB+35	USH 45	NB LT	--	9,195
506NB+65 - 537NB+25	USH 45	NB LT	--	3,060
543NB+95 - 557NB+75	USH 45	NB LT	--	1,380
559NB+90 - 633NB+10	USH 45	NB LT	--	7,320
635NB+10 - 692NB+85	USH 45	NB LT	--	5,775
694NB+45 - 718NB+65	USH 45	NB LT	--	2,420
718NB+45 - 739NB+10	USH 45	NB LT	--	2,065
741NB+30 - 783NB+00	USH 45	NB LT	--	4,170
1688SB+05 - 1703SB+20	USH 45	SB RT	--	1,515
1707SB+90 - 1756SB+95	USH 45	SB RT	--	4,905
102SB+20 - 181NB+60	USH 45	SB RT	--	7,940

RUMBLE STRIPS

STATION	LOCATION	OFFSET	416.1110 CONCRETE SHOULDER RUMBLE STRIP LF	465.0400 ASPHALTIC SHOULDER RUMBLE STRIP LF
182SB+75 - 235SB+00	USH 45	SB RT	--	5,225
236SB+80 - 412SB+50	USH 45	SB RT	--	17,570
412SB+40 - 504SB+40	USH 45	SB RT	--	9,200
506SB+60 - 537SB+45	USH 45	SB RT	--	3,085
543SB+95 - 557SB+45	USH 45	SB RT	--	1,350
559SB+35 - 633SB+25	USH 45	SB RT	--	7,390
635SB+00 - 693SB+10	USH 45	SB RT	--	5,810
694SB+55 - 718SB+65	USH 45	SB RT	--	2,410
718SB+45 - 739SB+05	USH 45	SB RT	--	2,060
741SB+25 - 785SB+50	USH 45	SB RT	--	4,425
1688SB+05 - 1703SB+65	USH 45	SB LT	--	1,560
1708SB+25 - 1723SB+75	USH 45	SB LT	--	1,550
1730SB+35 - 1751SB+20	USH 45	SB LT	--	2,085
106SB+20 - 164SB+00	USH 45	SB LT	--	5,780
164SB+00 - 181SB+55	USH 45	SB LT	1,755	--
182SB+70 - 213SB+60	USH 45	SB LT	3,090	--
213SB+60 - 219SB+00	USH 45	SB LT	--	540
227SB+35 - 235SB+05	USH 45	SB LT	770	--
236SB+80 - 247SB+00	USH 45	SB LT	1,020	--
255SB+50 - 321SB+25	USH 45	SB LT	6,575	--
321SB+25 - 330SB+25	USH 45	SB LT	--	900
332SB+25 - 354SB+45	USH 45	SB LT	2,220	--
364SB+25 - 386SB+00	USH 45	SB LT	2,175	--
386SB+00 - 412SB+50	USH 45	SB LT	--	2,650
412SB+40 - 482SB+35	USH 45	SB LT	6,995	--
482SB+35 - 488SB+35	USH 45	SB LT	--	600
494SB+80 - 504SB+50	USH 45	SB LT	970	--
506SB+65 - 520SB+60	USH 45	SB LT	1,395	--
529SB+50 - 537SB+25	USH 45	SB LT	775	--
543SB+95 - 557SB+25	USH 45	SB LT	1,330	--
559SB+15 - 612SB+05	USH 45	SB LT	5,290	--
612SB+05 - 618SB+05	USH 45	SB LT	--	600
625SB+10 - 633SB+25	USH 45	SB LT	815	--
635SB+00 - 643SB+40	USH 45	SB LT	840	--
652SB+75 - 693SB+20	USH 45	SB LT	4,045	--
694SB+65 - 714SB+55	USH 45	SB LT	1,990	--
714SB+55 - 718SB+65	USH 45	SB LT	--	410
718SB+45 - 720SB+55	USH 45	SB LT	--	210
726SB+60 - 739SB+10	USH 45	SB LT	1,250	--
741SB+15 - 754SB+00	USH 45	SB LT	1,285	--
764SB+25 - 787SB+00	USH 45	SB LT	--	2,275
PROJECT 2220-02-70 TOTAL			68,375	203,255

3

ALL ITEMS ARE CATEGORY **0010** UNLESS OTHERWISE SPECIFIED.

3

DRILLED DOWEL & TIE BARS

STATION	LOCATION	OFFSET	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	REMARK
108NB+49 - 109NB+47	USH 45	NB	33	1	RAMP TAPER
259NB+32 - 260NB+52	USH 45	NB	40	1	RAMP TAPER
320NB+57 - 329NB+60	USH 45	NB	301	--	PARALLEL RAMP
368NB+47 - 369NB+53	USH 45	NB	35	1	RAMP TAPER
485NB+92 - 486NB+79	USH 45	NB	29	1	RAMP TAPER
525NB+74 - 534NB+69	USH 45	NB	298	1	NEW PAVEMENT WITH EXISTING RAMP
616NB+57 - 622NB+47	USH 45	NB	197	1	NEW PAVEMENT WITH EXISTING RAMP
650NB+57 - 659NB+03	USH 45	NB	282	2	NEW PAVEMENT WITH EXISTING RAMP
724NB+05 - 729NB+73	USH 45	NB	189	1	NEW PAVEMENT WITH EXISTING RAMP
765NB+13 - 765NB+89	USH 45	NB	25	1	RAMP TAPER
784NB+11 - 786NB+61	USH 45	NB	83	8	LEFT TURN LANE EXTENSION
104SB+24 - 105SB+21	USH 45	SB	32	1	RAMP TAPER
213SB+62 - 214SB+83	USH 45	SB	40	1	RAMP TAPER
253SB+54 - 254SB+54	USH 45	SB	33	1	RAMP TAPER
321SB+26 - 330SB+27	USH 45	SB	300	--	PARALLEL RAMP
362SB+82 - 363SB+31	USH 45	SB	16	1	RAMP TAPER
482SB+34 - 483SB+28	USH 45	SB	31	1	RAMP TAPER
527SB+88 - 528SB+60	USH 45	SB	24	1	RAMP TAPER
612SB+03 - 613SB+01	USH 45	SB	33	1	RAMP TAPER
650SB+85 - 651SB+89	USH 45	SB	35	1	RAMP TAPER
714SB+55 - 715SB+53	USH 45	SB	33	1	RAMP TAPER
762SB+26 - 763SB+27	USH 45	SB	34	1	RAMP TAPER
1330NB+07	USH 45	PV SE RAMP	--	10	PARALLEL RAMP MATCH
1337SB+32	USH 45	PV SW RAMP	--	10	PARALLEL RAMP MATCH
UNDISTRIBUTED			396	7,608	CONCRETE BASE PATCHING
UNDISTRIBUTED			--	9,504	CONCRETE PAVEMENT REPAIR
UNDISTRIBUTED			591	1,776	CONCRETE PAVEMENT REPLACEMENT
PROJECT 2220-02-70 TOTAL			3,110	18,936	

CONCRETE CURB & GUTTER

STATION	OFFSET	LOCATION	601.0555 CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A LF
784NB+08 - 786NB+56	RT	USH 45 NB	250
PROJECT 2220-02-70 TOTAL			250

3

FENCE SAFETY

LOCATION	616.0700.S FENCE SAFETY LF
UNDISTRIBUTED	2,000
PROJECT 2220-02-70 TOTAL	2,000

MAINTENANCE AND REPAIR OF HAUL ROADS

LOCATION	618.0100 MAINTENANCE AND REPAIR OF HAUL ROADS PROJECT I.D.2220-02-70 EACH
PROJECT 2220-02-70	1
PROJECT 2220-02-70 TOTAL	1

MOBILIZATION

LOCATION	619.1000 MOBILIZATION EACH
PROJECT 2220-02-70	1
PROJECT 2220-02-70 TOTAL	1

ALL ITEMS ARE CATEGORY **0010** UNLESS OTHERWISE SPECIFIED.

3

BASE AGGREGATE DENSE

STATION	TO	STATION	LOCATION	305.0110* BASE AGGREGATE DENSE 3/4-INCH TON
118+67	-	181+00	USH 45 MEDIAN	708
183+59	-	208+26	USH 45 MEDIAN	281
209+07	-	234+59	USH 45 MEDIAN	290
237+09	-	268+28	USH 45 MEDIAN	355
269+07	-	309+25	USH 45 MEDIAN	457
310+06	-	372+46	USH 45 MEDIAN	709
373+23	-	476+76	USH 45 MEDIAN	1,176
477+25	-	502+60	USH 45 MEDIAN	288
508+08	-	546+10	USH 45 MEDIAN	432
546+92	-	556+03	USH 45 MEDIAN	104
561+29	-	604+85	USH 45 MEDIAN	495
605+64	-	631+30	USH 45 MEDIAN	292
637+05	-	669+00	USH 45 MEDIAN	363
			TOTAL 0010	5,950

NOTE:
*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

INLETS

STATION	TO	STATION	LOCATION	611.0430 RECONSTRUCTING INLETS EACH	633.5200 MARKERS CULVERT END EACH	REMARKS
118+67	-	182+00	USH 45 MEDIAN	3	9	SEE PLAN DETAILS FOR LOCATIONS
182+00	-	236+00	USH 45 MEDIAN	--	7	SEE PLAN DETAILS FOR LOCATIONS
236+00	-	290+00	USH 45 MEDIAN	1	7	SEE PLAN DETAILS FOR LOCATIONS
290+00	-	343+00	USH 45 MEDIAN	3	6	SEE PLAN DETAILS FOR LOCATIONS
343+00	-	426+00	USH 45 MEDIAN	1	9	SEE PLAN DETAILS FOR LOCATIONS
426+00	-	506+00	USH 45 MEDIAN	--	7	SEE PLAN DETAILS FOR LOCATIONS
506+00	-	559+00	USH 45 MEDIAN	--	4	SEE PLAN DETAILS FOR LOCATIONS
559+00	-	634+00	USH 45 MEDIAN	--	9	SEE PLAN DETAILS FOR LOCATIONS
634+00	-	669+00	USH 45 MEDIAN	1	4	SEE PLAN DETAILS FOR LOCATIONS
			TOTAL 0010	9	62	

3

PIPE UNDERDRAIN

STATION	TO	STATION	LOCATION	612.0204 PIPE UNDERDRAIN UNPERFORATED 4-INCH LF	612.0206 PIPE UNDERDRAIN UNPERFORATED 6-INCH LF	612.0804 APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 4-INCH EACH	612.0806 APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 6-INCH EACH	646.5520 MARKING OUTFALL EPOXY EACH	SPV.0060.01 CONNECTING PIPE UNDERDRAIN TO EXISTING INLETS EACH
118+67	-	181+00	USH 45 MEDIAN	70	--	7	--	8	--
183+59	-	208+26	USH 45 MEDIAN	--	--	--	--	6	--
209+07	-	234+59	USH 45 MEDIAN	--	--	--	--	6	--
237+09	-	268+28	USH 45 MEDIAN	50	--	5	--	6	--
269+07	-	309+25	USH 45 MEDIAN	30	--	3	--	6	--
310+06	-	372+46	USH 45 MEDIAN	--	--	--	--	12	--
373+23	-	476+76	USH 45 MEDIAN	120	--	12	--	18	--
477+25	-	502+60	USH 45 MEDIAN	30	--	3	--	6	--
508+08	-	546+10	USH 45 MEDIAN	--	--	--	--	10	--
546+92	-	556+03	USH 45 MEDIAN	--	--	--	--	2	--
561+29	-	604+85	USH 45 MEDIAN	50	--	5	--	10	--
605+64	-	631+30	USH 45 MEDIAN	20	--	2	--	4	--
637+05	-	669+00	USH 45 MEDIAN	--	--	--	--	6	--
			UNDISTRIBUTED	100	100	10	10	20	10
			TOTAL 0010	470	100	47	10	120	10

3

CABLE BARRIER

STATION	TO	STATION	LOCATION	613.1100.S CABLE BARRIER TYPE 1* LF	613.1200.S CABLE BARRIER END TERMINAL TYPE 1 EACH	REMARKS
118+67	-	180+06	USH 45 LT	6,087	2	SEE PLANS FOR LOCATIONS
184+52	-	208+26	USH 45 RT	2,322	2	SEE PLANS FOR LOCATIONS
209+07	-	232+25	USH 45 RT	2,266	2	SEE PLANS FOR LOCATIONS
239+32	-	268+28	USH 45 LT	2,844	2	SEE PLANS FOR LOCATIONS
269+07	-	309+25	USH 45 LT	3,966	2	SEE PLANS FOR LOCATIONS
310+06	-	372+46	USH 45 RT	6,188	2	SEE PLANS FOR LOCATIONS
373+23	-	412+50	USH 45 LT	3,901	1	STATION EQUIPTION
412+41	-	476+76	USH 45 LT	6,409	1	SEE PLANS FOR LOCATIONS
477+25	-	501+66	USH 45 RT	2,389	2	SEE PLANS FOR LOCATIONS
507+66	-	537+24	USH 45 RT	2,932	1	STATION EQUIPTION
543+94	-	546+10	USH 45 RT	190	1	SEE PLANS FOR LOCATIONS
546+92	-	556+22	USH 45 LT	878	2	SEE PLANS FOR LOCATIONS
562+02	-	604+85	USH 45 LT	4,231	2	SEE PLANS FOR LOCATIONS
605+64	-	631+62	USH 45 LT	2,546	2	SEE PLANS FOR LOCATIONS
637+54	-	669+00	USH 45 LT	3,094	2	SEE PLANS FOR LOCATIONS
			TOTAL 0010	50,243	26	

NOTES:
ASSUME CABLE BARRIER END TERMINAL TYPE 1 LENGTH IS 26-FT.
*MEASUREMENT FOR CABLE BARRIER TYPE 1 SHALL NOT INCLUDE THE LENGTH OF THER END TERMINAL
*CABLE BARRIER TYPE 1 = (UP STATION) - (DOWN STATION) - (NO. OF END TERMINAL)*26-FT

BEAM GUARD

STATION	LOCATION	OFFSET	614.0220 STEEL THRIE BEAM BULLNOSE TERMINAL EACH	614.0230 STEEL THRIE BEAM LF	614.2300 MGS GUARDRAIL 3 LF	614.2310 MGS GUARDRAIL 3 HS LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EACH
178NB+59 - 181NB+64	USH 45	NB LT	--	--	212.5	--	39.4	1	--
179NB+02 - 181NB+70	USH 45	NB RT	--	--	175.0	--	39.4	1	--
231NB+60 - 234NB+90	USH 45	NB LT	--	--	237.5	--	39.4	1	--
231NB+87 - 234NB+80	USH 45	NB RT	--	--	200.0	--	39.4	1	--
236NB+60 - 237NB+31	USH 45	NB RT	--	--	62.5	--	8.2	--	1
338NB+20 - 344NB+98	USH 45	NB RT	--	--	625.0	--	--	1	1
370NB+00 - 372NB+77	USH 45	NB RT	--	--	225.0	--	--	1	1
419NB+33 - 422NB+36	USH 45	NB RT	--	--	250.0	37.5	--	1	1
442NB+34 - 445NB+87	USH 45	NB RT	--	--	300.0	--	--	1	1
499NB+82 - 504NB+28	USH 45	NB RT	--	--	362.5	--	39.4	1	--
501NB+00 - 504NB+39	USH 45	NB LT	--	--	250.0	--	39.4	1	--
506NB+58 - 508NB+51	USH 45	NB RT	--	--	187.5	--	8.2	--	1
554NB+75 - 557NB+68	USH 45	NB LT	--	--	200.0	--	39.4	1	--
555NB+31 - 558NB+11	USH 45	NB RT	--	--	187.5	--	39.4	1	--
630NB+15 - 633NB+18	USH 45	NB LT	--	--	212.5	--	39.4	1	--
630NB+22 - 633NB+14	USH 45	NB RT	--	--	200.0	--	39.4	1	--
689NB+83 - 693NB+01	USH 45	NB LT	--	--	225.0	--	39.4	1	--
690NB+07 - 692NB+87	USH 45	NB RT	--	--	187.5	--	39.4	1	--
694NB+33 - 694NB+89	USH 45	NB RT	--	--	50.0	--	8.2	--	1
733NB+19 - 739NB+12	USH 45	NB RT	--	--	512.5	--	39.4	1	--
735NB+67 - 739NB+06	USH 45	NB LT	--	--	250.0	--	39.4	1	--
741NB+49 - 747NB+46	USH 45	NB RT	--	--	600.0	--	8.2	--	1
1740NB+51 - 1742NB+54	USH 45	MEDIAN	2	200	--	--	--	--	--
128NB+11 - 129NB+73	USH 45	MEDIAN	2	125	--	--	--	--	--
288NB+93 - 290NB+62	USH 45	MEDIAN	2	125	--	--	--	--	--
341NB+73 - 343NB+71	USH 45	MEDIAN	2	200	--	--	--	--	--
425NB+32 - 426NB+93	USH 45	MEDIAN	2	125	--	--	--	--	--
451NB+85 - 453NB+50	USH 45	MEDIAN	2	125	--	--	--	--	--
579NB+57 - 581NB+41	USH 45	MEDIAN	2	150	--	--	--	--	--
610NB+29 - 612NB+39	USH 45	MEDIAN	2	225	--	--	--	--	--
652NB+05 - 653NB+95	USH 45	MEDIAN	2	175	--	--	--	--	--
1698SB+40 - 1703SB+77	USH 45	SB LT	--	--	537.5	--	8.2	--	1
1699SB+55 - 1702SB+99	USH 45	SB RT	--	--	337.5	--	8.2	--	1
1707SB+88 - 1711SB+16	USH 45	SB RT	--	--	237.5	--	39.4	1	--
1708SB+59 - 1711SB+86	USH 45	SB LT	--	--	237.5	--	39.4	1	--
182SB+64 - 185SB+56	USH 45	SB LT	--	--	200.0	--	39.4	1	--
182SB+69 - 185SB+99	USH 45	SB RT	--	--	237.5	--	39.4	1	--
236SB+78 - 239SB+95	USH 45	SB RT	--	--	225.0	--	39.4	1	--
236SB+86 - 239SB+66	USH 45	SB LT	--	--	187.5	--	39.4	1	--
340SB+71 - 347SB+49	USH 45	SB LT	--	--	625.0	--	--	1	1

ALL ITEMS ARE CATEGORY **0010** UNLESS OTHERWISE SPECIFIED.

BEAM GUARD (CONTINUED)

STATION	LOCATION	OFFSET	614.0220 STEEL THRIE BEAM BULLNOSE TERMINAL EACH	614.0230 STEEL THRIE BEAM LF	614.2300 MGS GUARDRAIL 3 LF	614.2310 MGS GUARDRAIL 3 HS LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EACH
372SB+21 - 374SB+75	USH 45	SB LT	--	--	200.0	--	--	1	1
420SB+89 - 423SB+92	USH 45	SB LT	--	--	250.0	--	--	1	1
446SB+18 - 449SB+21	USH 45	SB LT	--	--	250.0	--	--	1	1
506SB+70 - 509SB+11	USH 45	SB RT	--	--	150.0	--	39.4	1	--
506SB+70 - 510SB+16	USH 45	SB LT	--	--	250.0	--	39.4	1	--
559SB+05 - 561SB+79	USH 45	SB LT	--	--	187.5	--	39.4	1	--
559SB+39 - 562SB+65	USH 45	SB RT	--	--	237.5	--	39.4	1	--
581SB+34 - 583SB+46	USH 45	SB LT	--	--	162.5	--	--	1	1
635SB+01 - 638SB+16	USH 45	SB RT	--	--	225.0	--	39.4	1	--
635SB+04 - 637SB+80	USH 45	SB LT	--	--	187.5	--	39.4	1	--
694SB+54 - 697SB+96	USH 45	SB RT	--	--	250.0	--	39.4	1	--
694SB+63 - 697SB+18	USH 45	SB LT	--	--	162.5	--	39.4	1	--
741SB+29 - 744SB+62	USH 45	SB LT	--	--	237.5	--	39.4	1	--
741SB+33 - 743SB+99	USH 45	SB RT	--	--	175.0	--	39.4	1	--
1348NWR+50 - 1350NWR+28	CTH PV NW RAMP	RT	--	--	125.0	--	--	1	1
1348NWR+51 1350NWR+04	CTH PV NW RAMP	LT	--	--	100.0	--	--	1	1
1329SER+22 - 1331SER+53	CTH PV SE RAMP	RT	--	--	175.0	--	--	1	1
1330SWR+89 - 1333SWR+20	CTH PV SW RAMP	LT	--	--	175.0	--	--	1	1
PROJECT 2220-02-70 TOTAL			18	1,450	12,037.5	37.5	1,231.2	43	19

ALL ITEMS ARE CATEGORY **0010** UNLESS OTHERWISE SPECIFIED.

3

CTH NN ROADWAY REPAIRS

LOCATION	204.0110* REMOVING ASPHALTIC SURFACE SY	204.0150* REMOVING CURB & GUTTER LF	204.0165* REMOVING GUARDRAIL LF	204.0170 REMOVING FENCE LF	305.0120* BASE AGGREGATE DENSE 1 1/4-INCH TON	460.5224* HMA PAVEMENT 4 LT 58-28 S TON	601.0588 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT LF	611.8115 ADJUSTING INLET COVERS EACH	614.0200 STEEL THRIE BEAM STRUCTURE APPROACH LF	616.0100 FENCE WOVEN WIRE 4-FT LF	690.0150* SAWING ASPHALT LF
CTH NN BRIDGE - 452+50 RT	17	25	21	20	14	4	25	1	21	20	34
PROJECT TOTALS	17	25	21	20	14	4	25	1	21	20	34

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

LOCATION	616.0404 FENCE CHAIN LINK SALVAGED 4-FT LF
BEAVER DAM ROAD BRIDGE - 694+40 RT	8
PROJECT TOTALS	8

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE SPECIFIED

3

CROSSOVERS

LOCATION	EACH	203.0100 REMOVING SMALL PIPE CULVERTS REMARKS	204.0220* REMOVING INLETS EACH	305.0110* BASE AGGREGATE DENSE 3/4-INCH TON	305.0120* BASE AGGREGATE DENSE 1 1/4-INCH TON	311.0110 BREAKER RUN TON	465.0125 ASPHALTIC SURFACE TEMPORARY TON	520.2015 CULVERT PIPE TEMPORARY 15-INCH LF	611.0642 INLET COVERS TYPE MS EACH	611.3901 INLETS MEDIAN 1 GRATE EACH	611.8120.S COVER PLATES TEMPORARY EACH	690.0150* SAWING ASPHALT LF
STA 85+00 SC - 100+00 SC	1	52 LF OF 15 INCH TEMPORARY CULERT PIPE	1	270	2,425	2,325	550	52	1	1	1	830
STA 59+00 NC - 73+00 NC	1	106 LF OF 15 INCH TEMPORARY CULERT PIPE		210	2,125	2,050	490	106			1	800
PROJECT TOTALS	2		1	480	4,550	4,375	1,040	158	1	1	2	1,630

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

TOPSOIL

STREET	FROM		TO	TOPSOIL 625.0100 SY	SALVAGED TOPSOIL 625.0500 SY
USH 45	1694+70	-	236+00	2,293	9,170
USH 45	236+00	-	505+50	7,794	31,178
USH 45	505+50	-	787+86	4,475	17,898
UNDISTRIBUTED				2,912	11,649
			PROJECT TOTAL	17,474	69,896

TEMPORARY SETTLING BASINS

STREET	628.1104 EROSION BALES EACH	645.0120 GEOTEXTILE TYPE HR SY
UNDISTRIBUTED	100	300
PROJECT TOTALS	100	300

SILT FENCE

STREET	FROM	TO	STATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	SPV.0090.01 HEAVY DUTY SILT FENCE LF
USH 45	1694+70	-	236+00	3420	3420	--
USH 45	236+00	-	505+50	8500	8500	--
USH 45	505+50	-	787+86	6100	6100	--
UNDISTRIBUTED				3,604	3,604	500
			PROJECT TOTAL	21,624	21,624	500

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE SPECIFIED

3

EROSION CONTROL MOBILIZATIONS

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
PROJECT 2220-02-70	8	4
PROJECT TOTAL	8	4

EROSION MATTING

STREET	FROM		TO	628.2002 EROSION MAT CLASS I TYPE A SY
USH 45	1694+70	-	236+00	11,463
USH 45	236+00	-	505+50	38,972
USH 45	505+50	-	787+86	22,373
UNDISTRIBUTED				14,562
			PROJECT TOTAL	87,370

3

DITCH CHECKS

STREET	FROM		TO	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	628.7570 ROCK BAGS EACH
USH 45	1694+70	-	236+00	725	70	0
USH 45	236+00	-	505+50	1,450	270	0
USH 45	505+50	-	787+86	800	80	0
UNDISTRIBUTED				595	84	500
			PROJECT TOTAL	3,570	504	500

INLET PROTECTION

STREET	FROM		TO	628.7005 INLET PROTECTION TYPE A EACH	628.7010 INLET PROTECTION TYPE B EACH	628.7015 INLET PROTECTION TYPE C EACH
USH 45	1694+70	-	236+00	19	7	
USH 45	236+00	-	505+50	33	3	
USH 45	505+50	-	787+86	36	2	2
UNDISTRIBUTED				18	2	1
			PROJECT TOTAL	106	14	3

TRACKING PADS

STREET	628.7560 EACH
USH 45	6
PROJECT TOTAL	6

SEEDING QUANTITIES

STREET	FROM		TO	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0200 SEEDING TEMPORARY LB
USH 45	1694+70	-	236+00	7.2	206	155
USH 45	236+00	-	505+50	24.6	702	526
USH 45	505+50	-	787+86	14.1	403	302
UNDISTRIBUTED				9.2	262	197
			PROJECT TOTAL	55	1573	1179

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE SPECIFIED

SIGN NO.	SIGN CODE & SIZE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	634.0618 POSTS WOOD 4"X 6"x18' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] x H [FT.]	637.1220 SIGNS TYPE I REFLC SH [SF]	637.1230 SIGNS TYPE I REFLC F [SF]	638.2601 REMOVING SIGNS TYPE I [EA]	638.3100 REMOVING STR STEEL SIGN SUPPORTS [EA]	STEEL POST TYPE	636.0100 SIGN SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF. [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONNECTION BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
1	E1-1A	I	[145] 1/2 MILE	-- x --	--	--	--	--	--	--	--	INSTALL ON NEW POSTS AND STUBS MOUNT 20' NORTH OF EXISTING SIGN	11 x 8	88.000	--	1	2	W8X18	1.6	192	840	--	18.25	19.25	30	7.2
1A	E1-5P	I	EXIT 60	-- x --	--	--	--	--	--	--	1	--	9 x 2.5	22.500	--	--	--	--	--	--	--	--	--	--	--	--
2	R4-3	II	--	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
3	D10-2	II	MILE 60	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
4	R2-1	II	70	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
5	J4-1	II	NORTH-[45]	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
6	W5-52L	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
7	W5-52R	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
8	W1-2L	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
9	W1-2L	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
10	J4-1	II	SOUTH-[45]	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
11	R8-7	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
12	W13-2	II	50 MPH	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
13	E4-1A	I	[145] FOND DU LAC AVE	-- x --	--	--	--	--	--	--	--	REUSE STEEL POSTS	28 x 8	224.00	--	1	--	--	--	--	--	2	--	--	--	--
13A	E1-5P	I	EXIT 60	-- x --	--	--	--	--	--	--	13	--	9 x 2.5	22.50	--	--	--	--	--	--	--	--	--	--	--	--
14	W2-6	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
15	W2-6P	II	--	-- x --	--	--	--	--	--	1	14	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
16	W13-1	II	15 MPH	-- x --	--	--	--	--	--	1	14	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
17	E5-1A	II	EXIT 60	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
18	JV-F	II	--	-- x --	--	--	--	--	--	1	17	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
19	W5-54	II	--	-- x --	--	--	--	--	--	1	17	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
20	W5-54	II	--	-- x --	--	--	--	--	--	1	17	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
21	J1-2	II	JCT-[FD]--JCT-[145]	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
22	W3-2	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
23	D4-2L	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
24	W4-1R	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
25	E1-1A	I	[41] 1 MILE	-- x --	--	--	--	--	--	--	--	REUSE STEEL POSTS	10 x 7.5	75.00	--	1	--	--	--	--	--	2	--	--	--	--
26	W3-2	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
27	D1-1	II	RICHFIELD [A]	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
28	J1-1	II	JCT-[FD]	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
29	W2-6	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
30	W2-6P	II	--	-- x --	--	--	--	--	--	1	29	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
31	W13-1	II	15 MPH	-- x --	--	--	--	--	--	1	29	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
32	E5-1A	II	EXIT 60	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
33	JV-F	II	--	-- x --	--	--	--	--	--	1	32	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
34	W5-54	II	--	-- x --	--	--	--	--	--	1	32	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
35	W5-54	II	--	-- x --	--	--	--	--	--	1	32	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
36	D10-2	II	MILE 61	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
37	E4-1A	II	[145] FOND DU LAC AVE	-- x --	--	--	--	--	--	--	--	REUSE STEEL POSTS	28 x 8	224.00	--	1	--	--	--	--	--	2	--	--	--	--
37A	E1-5P	I	EXIT 60	-- x --	--	--	--	--	--	--	37	--	9 x 2.5	22.50	--	--	--	--	--	--	--	--	--	--	--	--
38	W4-1R	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
39	D1-2	II	[A] MILWAUKEE-GERMANTOWN	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
40	D4-2R	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
41	D10-2	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
42	R8-7	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
43	J4-1	II	NORTH-[45]	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
44	R2-1	II	70	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
45	M1-94	II	WESTERN AVE	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
46	M1-94	II	WESTERN AVE	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
47	D10-2	II	MILE 62	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
48	D10-2	II	MILE 62	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--

SIGN NO.	SIGN CODE & SIZE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE W x H [IN.] x [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	634.0618 POSTS WOOD 4"X 6"x18' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W x H [FT.] x [FT.]	637.1220 SIGNS TYPE I REFLC SH [SF]	637.1230 SIGNS TYPE I REFLC F [SF]	638.2601 REMOVING SIGNS TYPE I [EA]	638.3100 REMOVING STR STEEL SIGN SUPPORTS [EA]	STEEL POST TYPE	636.0100 SIGN SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF. [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONNECTION BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
49	E1-1A	I	[145] FOND DU LAC AVE 1 MILE	-- x --	--	--	--	--	--	--	--	REUSE STEEL POSTS	25 x 10.5	262.50	--	1	--	--	--	--	--	2	--	--	--	--
49A	E1-5P	I	EXIT 60	-- x --	--	--	--	--	--	--	49	--	9 x 2.5	22.50	--	--	--	--	--	--	--	--	--	--	--	--
50	E1-1A	I	[60] JACKSON 1 MILE	-- x --	--	--	--	--	--	--	--	REUSE STEEL POSTS	13 x 10.5	136.50	--	1	--	--	--	--	--	2	--	--	--	--
50A	E1-5P	I	EXIT 63	-- x --	--	--	--	--	--	--	50	--	9 x 2.5	22.50	--	--	--	--	--	--	--	--	--	--	--	--
51	NOT USED	--	--	-- x --	--	--	--	--	--	--	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
52	M1-94	II	SHERMAN RD	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
53	W5-52R	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
54	W5-52L	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
55	W5-52R	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
56	M1-94	II	SHERMAN RD	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
57	W5-52L	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
58	R2-1	II	70	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
59	D10-2	II	MILE 63	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
60	J4-1	II	SOUTH-[45]	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
61	D10-2	II	MILE 63	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
62	R3-4B	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
63	R3-4B	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
64	E4-1A	I	[60] JACKSON	-- x --	--	--	--	--	--	--	--	REUSE STEEL POSTS	17 x 8	136.00	--	1	--	--	--	--	--	2	--	--	--	--
64A	E1-5P	I	EXIT 63	-- x --	--	--	--	--	--	--	64	--	9 x 2.5	22.50	--	--	--	--	--	--	--	--	--	--	--	--
65	E5-1A	II	EXIT 63	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
66	W5-54	II	--	-- x --	--	--	--	--	--	1	65	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
67	W5-54	II	--	-- x --	--	--	--	--	--	1	65	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
68	W2-6	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
69	W2-6P	II	--	-- x --	--	--	--	--	--	1	68	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
70	W13-1	II	15 MPH	-- x --	--	--	--	--	--	1	68	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
71	W5-52L	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
72	W5-52R	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
73	W4-1R	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
74	W5-52R	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
75	W5-52L	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
76	J1-1	II	JCT-[60]	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
77	W2-6	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
78	W2-6P	II	--	-- x --	--	--	--	--	--	1	77	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
79	W13-1	II	15 MPH	-- x --	--	--	--	--	--	1	77	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
80	E5-1A	II	EXIT 63	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
81	W5-54	II	--	-- x --	--	--	--	--	--	1	80	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
82	W5-54	II	--	-- x --	--	--	--	--	--	1	80	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
83	W4-1R	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
84	E4-1A	I	[60] HARTFORD JACKSON	-- x --	--	--	--	--	--	--	--	REUSE STEEL POSTS	17 x 11	187.00	--	1	--	--	--	--	--	2	--	--	--	--
84A	E1-5P	I	EXIT 63	-- x --	--	--	--	--	--	--	84	--	9 x 2.5	22.50	--	--	--	--	--	--	--	--	--	--	--	--
85	D10-2	II	MILE 64	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
86	D10-2	II	MILE 64	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
87	R3-4B	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
88	R3-4B	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
89	E1-1A	I	[PV] PLEASANT VALLEY RD 1 MILE	-- x --	--	--	--	--	--	--	--	REUSE STEEL POSTS	16 x 13	208.00	--	1	--	--	--	--	--	2	--	--	--	--
89A	E1-5P	I	EXIT 65	-- x --	--	--	--	--	--	--	89	--	9 x 2.5	22.50	--	--	--	--	--	--	--	--	--	--	--	--

SIGN NO.	SIGN CODE & SIZE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	634.0618 POSTS WOOD 4"X 6"x18' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] x H [FT.]	637.1220 SIGNS TYPE I REFLC SH [SF]	637.1230 SIGNS TYPE I REFLC F [SF]	638.2601 REMOVING SIGNS TYPE I [EA]	638.3100 REMOVING STR STEEL SIGN SUPPORTS [EA]	STEEL POST TYPE	636.0100 SIGN SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF. [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONNECTION BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
90	J4-1	II	NORTH-[45]	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
91	R2-1	II	70	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
92	E10-62	I	HOSPITAL NEXT RIGHT	-- x --	--	--	--	--	--	--	--	REUSE STEEL POSTS	12 x 4.5	54.00	--	1	--	--	--	--	--	2	--	--	--	--
93	M1-94	II	HWY C	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
94	M1-94	II	HWY C	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
95	R2-1	II	70	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
96	J4-1	II	SOUTH-[45]	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
97	E1-1A	I	[60] HARTFORD JACKSON 1 MILE	-- x --	--	--	--	--	--	--	--	REUSE STEEL POSTS	14 x 13.5	189.00	--	1	--	--	--	--	--	2	--	--	--	--
97A	E1-5P	I	EXIT 63	-- x --	--	--	--	--	--	--	97	--	9 x 2.5	22.50	--	--	--	--	--	--	--	--	--	--	--	--
98	D10-2	II	MILE 65	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
99	R3-4B	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
100	D10-2	II	MILE 65	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
101	R3-4B	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
102	E4-1A	I	[PV] PLEASANT VALLEY RD	-- x --	--	--	--	--	--	--	--	REUSE STEEL POSTS	19 x 10.5	199.50	--	1	--	--	--	--	--	2	--	--	--	--
102A	E1-5P	I	EXIT 65	-- x --	--	--	--	--	--	--	102	--	9 x 2.5	22.50	--	--	--	--	--	--	--	--	--	--	--	--
103	W5-52R	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
104	R5-57	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
105	W4-1R	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
106	W5-52R	II	--	-- x --	--	--	1	1	--	--	--	REMOVE SIGN	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
107	JH-1	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
108	R5-1A	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
109	R5-1A	II	--	-- x --	--	--	--	--	--	1	110	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
110	D1-60	II	--	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
111	W5-52L	II	--	-- x --	--	--	1	1	--	--	--	REMOVE SIGN	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
112	J2-1	II	EAST-[PV]-[LA]	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
113	W5-52R	II	--	-- x --	--	--	1	1	--	--	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
114	W3-1	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
115	E5-1A	II	EXIT 65	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
116	W5-54	II	--	-- x --	--	--	--	--	--	1	115	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
117	W5-54	II	--	-- x --	--	--	--	--	--	1	115	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
118	W5-52R	II	--	-- x --	--	--	1	1	--	--	--	REMOVE SIGN	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
119	J3-1	II	EAST-[PV]-[LA]	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
120	W4-1R	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
121	W5-52R	II	--	-- x --	--	--	1	1	--	--	--	REMOVE SIGN	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
122	R5-57	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
123	W5-52R	II	--	-- x --	--	--	1	1	--	--	--	REMOVE SIGN	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
124	JH-1	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
125	R5-1A	II	--	-- x --	--	--	--	--	--	1	124	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
126	R5-1A	II	--	-- x --	--	--	--	--	--	1	127	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
127	D1-60	II	PLEASANT VALLEY RD	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
128	J2-1	II	EAST-[PV]-[RA]	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
129	W3-1	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
130	E5-1A	II	EXIT 65	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
131	W5-54	II	--	-- x --	--	--	--	--	--	1	130	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
132	W5-54	II	--	-- x --	--	--	--	--	--	1	130	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
133	W5-52R	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
134	R4-3	II	--	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
135	D10-2	II	MILE 66	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
136	E4-1A	I	[PV] PLEASANT VALLEY RD	-- x --	--	--	--	--	--	--	--	REUSE STEEL POSTS	19 x 10.5	199.50	--	1	--	--	--	--	--	2	--	--	--	--
136A	E1-5P	I	EXIT 65	-- x --	--	--	--	--	--	--	136	--	9 x 2.5	22.50	--	--	--	--	--	--	--	--	--	--	--	--

3

SIGN NO.	SIGN CODE & SIZE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	634.0618 POSTS WOOD 4"X 6"x18' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] x H [FT.]	637.1220 SIGNS TYPE I REFLC SH [SF]	637.1230 SIGNS TYPE I REFLC F [SF]	638.2601 REMOVING SIGNS TYPE I [EA]	638.3100 REMOVING STR STEEL SIGN SUPPORTS [EA]	STEEL POST TYPE	636.0100 SIGN SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF. [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONNECTION BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
137	D10-2	II	MILE 66	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
138	R3-4B	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
139	R3-4B	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
140	J4-1	II	NORTH-[45]	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
141	R2-1	II	70	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
142	D12-2B	II	--	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
143	E10-61	I	HOSPITAL EXIT 65	-- x --	--	--	--	--	--	--	--	REUSE STEEL POSTS	12 x 4.5	54.00	--	1	--	--	--	--	--	2	--	--	--	--
144	NOT USED	--	--	-- x --	--	--	--	--	--	--	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
145	D10-2	II	MILE 67	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
146	E1-1A	I	[PV] PLEASANT VALLEY RD 1 MILE	-- x --	--	--	--	--	--	--	--	REUSE STEEL POSTS	16 x 13	208.00	--	1	--	--	--	--	2	--	--	--	--
146A	E1-5P	I	EXIT 65	-- x --	--	--	--	--	--	--	146	--	9 x 2.5	22.50	--	--	--	--	--	--	--	--	--	--	--
147	D10-2	II	MILE 67	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
148	E3-1	I	DOWNTOWN WEST BEND EXIT 68	-- x --	--	--	--	--	--	--	--	REUSE STEEL POSTS	11 x 7	77.00	--	1	--	--	--	--	2	--	--	--	--
149	M1-94	II	MILE VIEW RD	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
150	M1-94	II	MILE VIEW RD	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
151	E1-1A	I	PARADISE DR 1 MILE	-- x --	--	--	--	--	--	--	--	REUSE STEEL POSTS	18 x 6.5	117.00	--	1	--	--	--	--	2	--	--	--	--
151A	E1-5P	I	EXIT 68	-- x --	--	--	--	--	--	--	151	--	9 x 2.5	22.50	--	--	--	--	--	--	--	--	--	--	--
152	W5-52R	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
153	M1-94	II	HWY NN	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
154	M1-94	II	HWY NN	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
155	R2-1	II	70	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
156	J4-1	II	SOUTH-[45]	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
157	D10-2	II	MILE 68	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
158	D10-2	II	MILE 68	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
159	R3-4B	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
160	R3-4B	II	--	-- x --	--	--	--	--	--	1	159	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
161	E4-1A	I	PARADISE DR [A]	-- x --	--	--	--	--	--	--	--	REUSE STEEL POSTS	21.5 x 4	86.00	--	1	--	--	--	--	2	--	--	--	--
161A	E1-5P	I	EXIT 68	-- x --	--	--	--	--	--	--	161	--	9 x 2.5	22.50	--	--	--	--	--	--	--	--	--	--	--
162	E5-1A	II	EXIT 68	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
163	W5-54	II	--	-- x --	--	--	--	--	--	1	162	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
164	W5-54	II	--	-- x --	--	--	--	--	--	1	162	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
165	W3-3	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
166	R3-8DDD	II	--	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
167	R3-8DDD	II	--	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
168	D1-1	II	DOWNTOWN [A]	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
169	R3-8DDD	II	--	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
170	D1-60	II	PARADISE DR	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
171	--	II	DMV SERVICE CENTER	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
172	R5-1A	II	--	-- x --	--	--	--	--	--	1	171	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
173	R5-1A	II	--	-- x --	--	--	--	--	--	1	170	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
174	W4-1R	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
175	W5-52L	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
176	W5-52L	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
177	W5-52R	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
178	W5-52R	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
179	W4-2R	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--
180	D4-2R	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--

SIGN NO.	SIGN CODE & SIZE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	634.0618 POSTS WOOD 4"X 6"x18' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] x H [FT.]	637.1220 SIGNS TYPE I REFLC SH [SF]	637.1230 SIGNS TYPE I REFLC F [SF]	638.2601 REMOVING SIGNS TYPE I [EA]	638.3100 REMOVING STR STEEL SIGN SUPPORTS [EA]	STEEL POST TYPE	636.0100 SIGN SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF. [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONNECTION BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
181	D4-2L	II	--	-- x --	--	--	--	--	--	1	182	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
182	D1-1	II	[A] DOWNTOWN	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
183	R5-1A	II	--	-- x --	--	--	--	--	--	1	184	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
184	D1-60	II	PARADISE DR	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
185	--	II	DMV SERVICE CENTER	-- x --	--	--	--	--	--	1	184	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
186	R3-8P	II	--	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
187	R3-8P	II	--	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
188	W3-3	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
189	D10-2	II	MILE 69	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
190	E5-1A	II	EXIT 68	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
191	W5-54	II	--	-- x --	--	--	--	--	--	1	190	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
192	W5-54	II	--	-- x --	--	--	--	--	--	1	190	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
193	R5-57	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
194	W4-1R	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
195	D10-2	II	MILE 69	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
196	E4-1A	I	PARADISE DR [A]	-- x --	--	--	--	--	--	--	--	REUSE STEEL POSTS	21.5 x 4	86.00	--	1	--	--	--	--	--	--	2	--	--	--	--
196A	E1-5P	I	EXIT 68	-- x --	--	--	--	--	--	--	196	--	9 x 2.5	22.50	--	--	--	--	--	--	--	--	--	--	--	--	--
197	R3-4B	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
198	R3-4B	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
199	J4-1	II	NORTH-[45]	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
200	W5-52L	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
201	W5-52R	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
202	M1-94	II	18TH AVE	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
203	W5-52R	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
204	M1-94	II	18TH AVE	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
205	W5-52L	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
206	E1-1A	I	[33] [144] WASHINGTON ST 1 MILE	-- x --	--	--	--	--	--	--	--	REUSE STEEL POSTS	22 x 10.5	231.00	--	1	--	--	--	--	--	--	2	--	--	--	--
206A	E1-5P	I	EXIT 71	-- x --	--	--	--	--	--	--	206	--	8 x 2.5	20.00	--	--	--	--	--	--	--	--	--	--	--	--	--
207	R2-1	II	70	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
208	NOT USED	--	--	-- x --	--	--	--	--	--	--	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
209	D12-2A	II	--	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
210	D10-2	II	MILE 70	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
211	D10-2	II	MILE 70	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
212	M1-94	II	DECORAH RD	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
213	M1-94	II	DECORAH RD	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
214	W5-52	II	--	-- x --	--	--	1	1	--	--	--	REMOVE SIGN	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
215	E1-1A	I	PARADISE DR 1 MILE	-- x --	--	--	--	--	--	--	--	REUSE STEEL POSTS	18 x 6.5	117.00	--	1	--	--	--	--	--	--	2	--	--	--	--
215A	E1-5P	I	EXIT 68	-- x --	--	--	--	--	--	--	215	--	9 x 2.5	22.50	--	--	--	--	--	--	--	--	--	--	--	--	--
216	D12-2A	II	--	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
217	R2-1	II	70	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
218	J4-1	II	SOUTH-[45]	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
219	R3-4B	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
220	R3-4B	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
221	M1-94	II	CHESTNUT ST	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
222	M1-94	II	CHESTNUT ST	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
223	E4-1A	I	[33] [144] WASHINGTON ST	-- x --	--	--	--	--	--	--	--	REUSE STEEL POSTS	25 x 8	200.00	--	1	--	--	--	--	--	--	2	--	--	--	--
223A	E1-5P	I	EXIT 71	-- x --	--	--	--	--	--	--	223	--	8 x 2.5	20.00	--	--	--	--	--	--	--	--	--	--	--	--	--
224	E5-1A	II	EXIT 71	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
225	W5-54	II	--	-- x --	--	--	--	--	--	1	224	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
226	W5-54	II	--	-- x --	--	--	--	--	--	1	224	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
227	W3-3	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
228	J2-4	II	--	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--

SHEET 5 OF 8

SIGN NO.	SIGN CODE & SIZE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	634.0618 POSTS WOOD 4"X 6"x18' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] x H [FT.]	637.1220 SIGNS TYPE I REFLC SH [SF]	637.1230 SIGNS TYPE I REFLC F [SF]	638.2601 REMOVING SIGNS TYPE I [EA]	638.3100 REMOVING STR STEEL SIGN SUPPORTS [EA]	STEEL POST TYPE	636.0100 SIGN SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF. [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONNECTION BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
229	R5-1A	II	--	-- x --	--	--	--	--	--	1	230	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
230	R3-8	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
231	R3-8	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
232	D1-60	II	WASHINGTON ST	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
233	R5-1A	II	--	-- x --	--	--	--	--	--	1	232	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
234	--	II	UW WASHINGTON COUNTY	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
235	R5-57	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
236	D1-1	II	[A] WEST BEND	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
237	W5-52L	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
238	W5-52L	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
239	W5-52R	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
240	W5-52R	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
241	D10-2D	II	MILE 71	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
242	D10-2D	II	MILE 71	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
243	W4-1R	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
244	D1-60	II	WASHINGTON ST	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
245	--	II	UW WASHINGTON COUNTY	-- x --	--	--	--	--	--	1	244	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
246	J2-4	II	--	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
247	E5-1A	II	EXIT 71	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
248	W5-52	II	--	-- x --	--	--	--	--	--	1	247	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
249	W5-52	II	--	-- x --	--	--	--	--	--	1	247	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
250	W3-3	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
251	D1-1	II	[A] DOWNTOWN	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
252	W4-1R	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
253	M1-94	II	PARK AVE	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
254	M1-94	II	PARK AVE	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
255	E4-1A	I	[33] [144] WASHINGTON ST	-- x --	--	--	--	--	--	--	--	REUSE STEEL POSTS	25 x 8	200.00	--	1	--	--	--	--	--	--	2	--	--	--	--
255A	E1-5P	I	EXIT 71	-- x --	--	--	--	--	--	--	--	--	8 x 2.5	20.00	--	--	--	--	--	--	--	--	--	--	--	--	--
256	R3-4	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
257	R3-4	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
258	E1-1A	I	[D] 1 MILE	-- x --	--	--	--	--	--	--	--	INSTALL ON NEW POSTS AND STUBS MOUNT 20' NORTH OF EXISTING SIGN	12 x 7.5	90.00	--	1	2	W8x18	1.6	192	850	--	18.55	19.65	30	7.2
258A	E1-5P	I	EXIT 73	-- x --	--	--	--	--	--	--	258	--	9 x 2.5	22.50	--	--	--	--	--	--	--	--	--	--	--	--	--
259	J4-1	II	NORTH-[45]	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
260	D10-2	II	MILE 72	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
261	D10-2	II	MILE 72	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
262	R2-1	II	70	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
263	W5-52R	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
264	M1-94	II	BEAVER DAM RD	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
265	E3-1	I	MORAINE PARK TECH COLLEGE NEXT RIGHT	-- x --	--	--	--	--	--	--	--	REUSE STEEL POSTS	14 x 7	98.00	--	1	--	--	--	--	--	2	--	--	--	--
266	W5-52L	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
267	W5-52R	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
268	M1-94	II	BEAVER DAM RD	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
269	W5-52L	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
270	R2-1	II	70	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
271	J4-1	II	SOUTH-[45]	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
272	E1-1A	I	[33] [144] WASHINGTON ST 1 MILE	-- x --	--	--	--	--	--	--	--	REUSE STEEL POSTS	22 x 10.5	231.00	--	1	--	--	--	--	--	--	2	--	--	--	--
272A	E1-5P	I	EXIT 71	-- x --	--	--	--	--	--	--	272	--	8 x 2.5	20.00	--	--	--	--	--	--	--	--	--	--	--	--	--
273	R3-4B	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
274	R3-4B	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--
275	R8-7	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--	--

SIGN NO.	SIGN CODE & SIZE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	634.0618 POSTS WOOD 4"X 6"x18' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] x H [FT.]	637.1220 SIGNS TYPE I REFLC SH [SF]	637.1230 SIGNS TYPE I REFLC F [SF]	638.2601 REMOVING SIGNS TYPE I [EA]	638.3100 REMOVING STR STEEL SIGN SUPPORTS [EA]	STEEL POST TYPE	636.0100 SIGN SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF. [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONNECTION BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
276	E4-1A	I	[D] [A]	-- x --	--	--	--	--	--	--	--	INSTALL ON NEW POSTS AND STUBS MOUNT 20' NORTH OF EXISTING SIGN	14 x 4.5	63.00	--	1	2	W6x15	1.4	128	500	--	12.95	10.15	30	8.4
276A	E1-5P	I	EXIT 73	-- x --	--	--	--	--	--	--	276	--	9 x 2.5	22.50	--	--	--	--	--	--	--	--	--	--	--	--
277	D10-2	II	MILE 73	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
278	D10-2	II	MILE 73	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
279	NOT USED	--	--	-- x --	--	--	--	--	--	--	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
280	NOT USED	--	--	-- x --	--	--	--	--	--	--	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
281	R5-57	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
282	W4-1	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
283	W5-52L	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
284	W5-52R	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
285	W5-52R	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
286	W5-52R	II	--	-- x --	--	--	--	1	1	1	--	4 FT MOUNT HEIGHT	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
287	I55-56	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
288	D1-1	II	[A] WEST BEND	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
289	R5-1A	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
290	R5-1A	II	--	-- x --	--	--	--	--	--	1	288	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
291	J2-2	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
292	W3-1	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
293	E5-1A	II	EXIT 73	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
294	W5-54	II	--	-- x --	--	--	--	--	--	1	293	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
295	W5-54	II	--	-- x --	--	--	--	--	--	1	293	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
296	W4-1	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
297	R5-57	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
298	D1-1	II	WEST BEND [A]	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
299	D1-2	II	MORAINE PARK TECH COLLEGE	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
300	R5-1A	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
301	R5-1A	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
302	J2-2	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
303	W3-1	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
304	E5-1A	II	EXIT 71	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
305	W5-54	II	--	-- x --	--	--	--	--	--	1	304	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
306	W5-54	II	--	-- x --	--	--	--	--	--	1	304	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
307	E4-1A	I	[D] [A]	-- x --	--	--	--	--	--	--	--	INSTALL ON NEW POSTS AND STUBS MOUNT 20' SOUTH OF EXISTING SIGN	14 x 4.5	63.00	--	1	2	W8x18	1.6	192	800	--	17.45	17.55	30	8.4
307A	E1-5P	I	EXIT 73	-- x --	--	--	--	--	--	--	307	--	9 x 2.5	22.50	--	--	--	--	--	--	--	--	--	--	--	--
308	E3-1	I	MORAINE PARK TECH COLLEGE EXIT 73	-- x --	--	--	--	--	--	--	--	--	14 x 7	98.00	--	1	--	--	--	--	--	--	2	--	--	--	--
309	R2-1	II	70	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
310	E1-1A	I	[D] 1/4 MILE	-- x --	--	--	--	--	--	--	--	INSTALL ON NEW POSTS AND STUBS MOUNT 20' SOUTH OF EXISTING SIGN	12 x 7.5	90.00	--	1	2	W8x18	1.6	192	790	--	17.85	16.75	25	7.2
310A	E1-5P	I	EXIT 73	-- x --	--	--	--	--	--	--	310	--	9 x 2.5	22.50	--	--	--	--	--	--	--	--	--	--	--	--
311	E3-1	I	DOWNTOWN WEST BEND EXIT 71	-- x --	--	--	--	--	--	--	--	REUSE STEEL POSTS	11 x 7	77.00	--	1	--	--	--	--	--	2	--	--	--	--

SIGN NO.	SIGN CODE & SIZE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE W x H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	634.0618 POSTS WOOD 4"X 6"x18' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W x H [FT.]	637.1220 SIGNS TYPE I REFLC SH [SF]	637.1230 SIGNS TYPE I REFLC F [SF]	638.2601 REMOVING SIGNS TYPE I [EA]	638.3100 REMOVING STR STEEL SIGN SUPPORTS [EA]	STEEL POST TYPE	636.0100 SIGN SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF. [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONNECTION BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
312	J4-1	II	SOUTH-[45]	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
313	R5-1A	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
314	NOT USED	--	--	-- x --	--	--	--	--	--	--	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
315	R5-1	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
316	R5-1A	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
317	D2-2	II	FRIENDLY DR/SANDY RIDGE RD	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
318	R2-1	II	55	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
319	R2-1	II	55	-- x --	--	--	--	2	2	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
320	J4-1	II	NORTH-[45]	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
321	W3-5	II	55	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
322	W3-5	II	55	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
323	W4-3	II	--	-- x --	--	--	--	1	1	1	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
324	W9-2L	II	--	-- x --	--	--	--	1	1	1	--	SHEET 1 OF 26	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
325	W9-1R	II	--	-- x --	--	--	--	1	1	1	--	SHEET 1 OF 26	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
326	R3-4B	II	--	-- x --	--	--	--	1	1	1	--	SHEET 4 OF 26	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
327	R3-4B	II	--	-- x --	--	--	--	1	1	1	--	SHEET 4 OF 26	-- x --	--	--	--	--	--	--	--	--	--	--	--	--	--
328	E6-1 MODIFIED	I										TEMPORARY TYPE I SIGN - SEE OVERHEAD SIGN SUPPORT DRAWING FOR SIGN. MOUNT ON OVERHEAD SIGN SUPPORT TEMPORARILY. I BEAMS INCIDENTAL	11 X 5	55.00												
	UNDISTRIBUTED				100.000	100.000	--	--	--	--	--	--														
	TOTALS				100.000	100.000	7	318	311	283				4954.000	0.000	31	10		7.8	896	3780	52				

3

3

TEMPORARY OVERHEAD SIGN SUPPORT - MISC QUANTITIES

2220-02-70

LOCATION	INSTALLING TEMPORARY STATE FURNISHED OVERHEAD SIGN SUPPORT S-40-935 SPV.0105.02 L.S.	REMOVING OVERHEAD SIGN SUPPORT S-40-935 204.9105.S.01 L.S.
USH 45 NB AT PARADISE DRIVE	1	
USH 45 NB AT PARADISE DRIVE		1
TOTAL	1	1

SHEET 1 OF 1

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	MISCELLANEOUS QUANTITIES	SHEET:	E

TRAFFIC CONTROL

LOCATION	DAYS	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0500 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS EACH	643.0600 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	643.0800 TRAFFIC CONTROL ARROW BOARDS DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY
FULL FREEWAY CLOSURE										
IH 41 TO STH 60	8	2,088	264			528	1,048	32	1,168	32
STH 60 TO STH 33	16	5,120	864			1,728	6,560	256	3,536	256
STH 33 TO CTH H	6	960	180			360	330	12	948	12
LANE CLOSURE (4 MILES)	200	27,800	1,800			3,600	2,800	400	4,000	
RAMP CLOSURE WITH DETOUR	48	1,008	288			576	192		2,928	
ADVANCED OSOW SIGNING	257								6,425	
STAGE 3A	4	240	8			16	104	8	60	
STAGE 3B	4	216	8			16	92	8	60	
STAGE 3C	14	980	126			252	168		364	
STAGE 4	60	12,060	1,500	530	530	3,000	3,120	60	11,580	14
CTH NN	30	720	30			60	300		540	
PROJECT TOTALS		51,192	5,068	530	530	10,136	14,714	776	31,609	314

TRAFFIC CONTROL

LOCATION	205.3000.S TEMPORARY EMERGENCY PULLOUTS EACH	643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I EACH	CYCLES	SIGNS	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	CYCLES	SIGNS	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE SF	643.1070 TRAFFIC CONTROL CONES 42-INCH DAY	643.5000 TRAFFIC CONTROL EACH
STAGE 4	3	4	1	4				246		
DETOURS					7	1	7	498.5		
UNDISTRIBUTED					15	1	15		1,500	1
PROJECT TOTALS	3			4			22	744.5	1,500	1

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE SPECIFIED

3

3

TRAFFIC CONTROL

LOCATION	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	649.0105 TEMPORARY MARKING LINE PAINT 4-INCH LF	649.0150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH LF	649.0250 TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH LF	649.0760 TEMPORARY MARKING RAISED PAVEMENT MARKER TYPE I EACH	649.0850 TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH LF	661.0100 TEMPORARY TRAFFIC SIGNALS FOR BRIDGES B-66-0054 LS
STAGE 3A				3,175				
STAGE 3B				2,860				
STAGE 3C	2,025	2,025		11,755	350			
STAGE 4	550	550	3,300	79,720	2,350	82		
CTH NN							24	1
PROJECT TOTALS	2,575	2,575	3,300	97,510	2,700	82	24	1

CRASH CUSHIONS

LOCATION	614.0905 CRASH CUSHIONS TEMPORARY EACH	BACK WIDTH FT	OBJECT MARKING PATTERN	CRASH TEST LEVEL	TRAFFIC DIRECTION	TRAFFIC LOCATION	CRASH CUSHION SHIELDS
STAGE 4							
STA 463+50, 58' RT	1	2	OM-3R (W05-58R)	TL-3	UNIDIRECTIONAL	L	TEMPORARY CONCRETE BARRIER ON SHOULDER
PROJECT TOTALS	1						

TRAFFIC CONTROL

LOCATION	643.4100.S TRAFFIC CONTROL ITERIM LANE CLOSURE EACH	SPV.0060.04 TRAFFIC CONTROL CLOSE-OPEN FREEWAY SERVICE RAMP EACH	SPV.0060.05 TRAFFIC CONTROL CLOSE-OPEN FREEWAY TO FREEWAY SYSTEM RAMP EACH	SPV.0060.06 TRAFFIC CONTROL FULL FREEWAY CLOSURE EACH
LANE CLOSURE (4 MILES)	200			
SERVICE RAMP CLOSURE		48		
SYSTEM RAMP CLOSURE			8	
FREEWAY CLOSURE				30
PROJECT TOTALS	200	48	8	30

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE SPECIFIED

WATER

LOCATION	624.0100 WATER MGAL
AGGREGATE COMPACTION	194
PROJECT 2220-02-70 TOTAL	194

MARKING REMOVALS

LOCATION	646.9100 MARKING REMOVAL LINE 8-INCH LF	SPV.0060.03 REMOVING RAISED PAVEMENT MARKERS EACH	NOTE
STH 33 SW RAMP	350	--	Permanent Tape Only
UNDISTRIBUTED	--	1700	
PROJECT 2220-02-70 TOTAL	350	1700	

PAVEMENT MARKING

LOCATION	646.1020 MARKING LINE EPOXY 4-INCH (WHITE) LF	646.1020 MARKING LINE EPOXY 4-INCH (YELLOW) LF	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE) LF	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH (YELLOW) LF	646.1555 MARKING LINE GROOVED CONTRAST PERMANENT EPOXY 4-INCH (12.5' LINE 37.5 SPACE) (WHITE) LF	646.1555 MARKING LINE GROOVED CONTRAST PERMANENT EPOXY 4-INCH (3' LINE (12 SPACE) (WHITE) LF	646.3020 MARKING LINE EPOXY 8-INCH (WHITE) LF	646.3020 MARKING LINE EPOXY 8-INCH (3' LINE (12 SPACE) (WHITE) LF	646.3555 MARKING LINE GROOVED CONTRAST PERMANENT TAPE EPOXY 8-INCH (WHITE) LF	646.3555 MARKING LINE GROOVED CONTRAST PERMANENT TAPE EPOXY 8-INCH (3' LINE (12 SPACE) (WHITE) LF	646.4520 MARKING LINE SAME DAY EPOXY 4-INCH (WHITE) LF	646.5020 MARKING ARROW EPOXY TYPE 2 EACH	646.5020 MARKING ARROW EPOXY TYPE 3 EACH	646.5020 MARKING ARROW EPOXY TYPE 3R EACH	646.5020 MARKING ARROW EPOXY TYPE 4 EACH	646.5020 MARKING ARROW EPOXY TYPE 5 EACH	646.5120 MARKING WORDS EPOXY EACH	646.6120 MARKING STOP LINE EPOXY 18-INCH (WHITE) LF	646.6220 MARKING YIELD LINE EPOXY 18-INCH (WHITE) EACH	646.7220 PAVEMENT CHEVRON EPOXY 24-INCH (WHITE) LF	646.7505 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE) LF	646.7520 MARKING CROSSWALK EPOXY LADDER PATTERN 24-INCH (WHITE) LF
USH 45 MAINLINE	--	--	148,675	148,788	37,200		--	--	23,293	--	25,000	--	--	--	--	2	--	--	--	--	--	--	
USH 45 RAMPS	24,647	24,541	--	--	--	1,707	3,075	308	--	162	--	16	4	6	22	--	18	190	105	1,735	361	165	
PROJECT 2220-02-70 TOTAL	24,647	24,541	148,675	148,788	37,200	1,707	3,075	308	23,293	162	25,000	16	4	6	22	2	18	190	105	1,735	361	165	
	49,188		297,463		38,907		3,383		23,455			50											

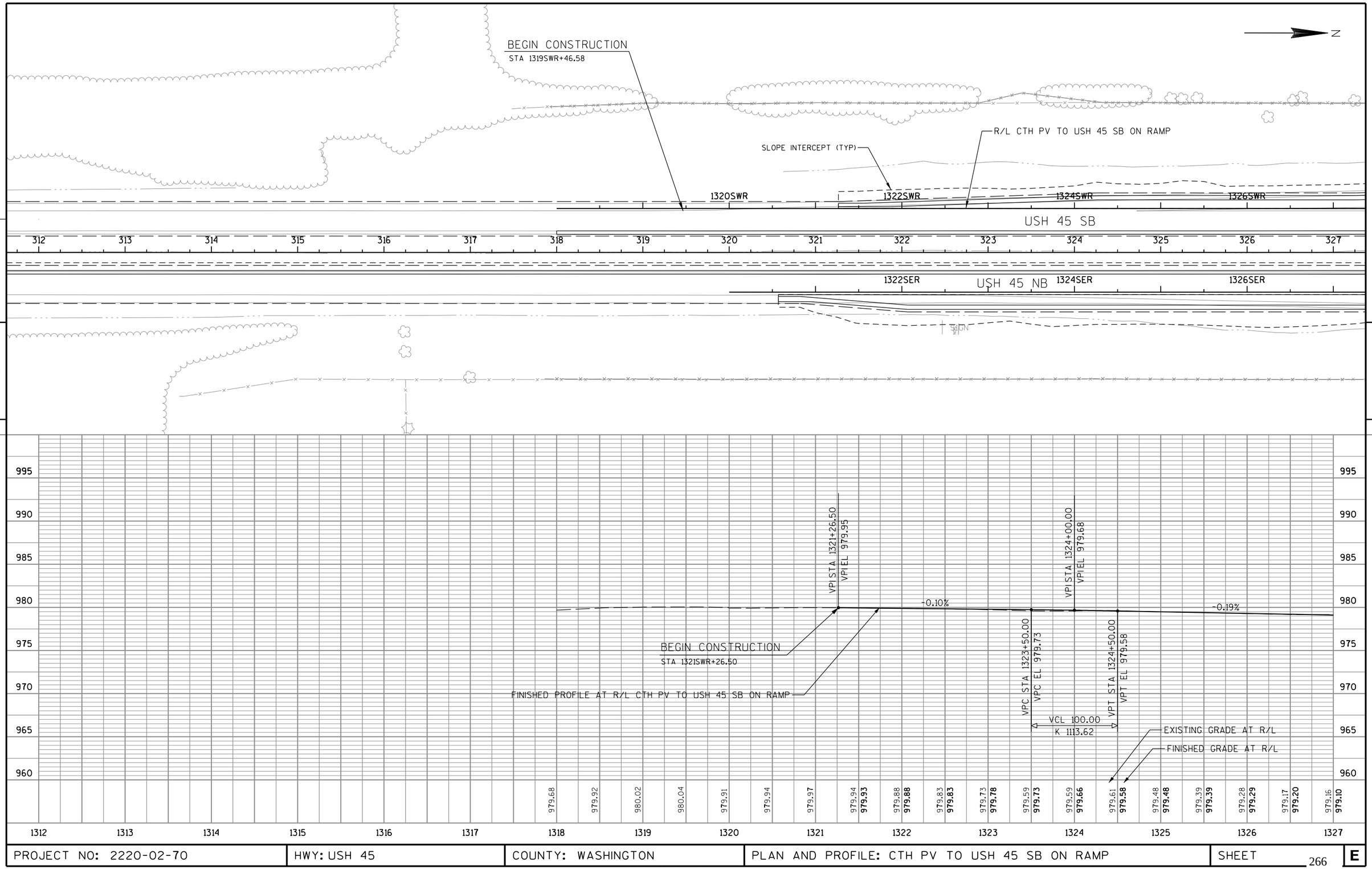
FIELD OFFICE TYPE D

LOCATION	642.5401 FIELD OFFICE TYPE D EACH
PROJECT 2220-02-70	1
PROJECT 2220-02-70 TOTAL	1

SURVEY PROJECT

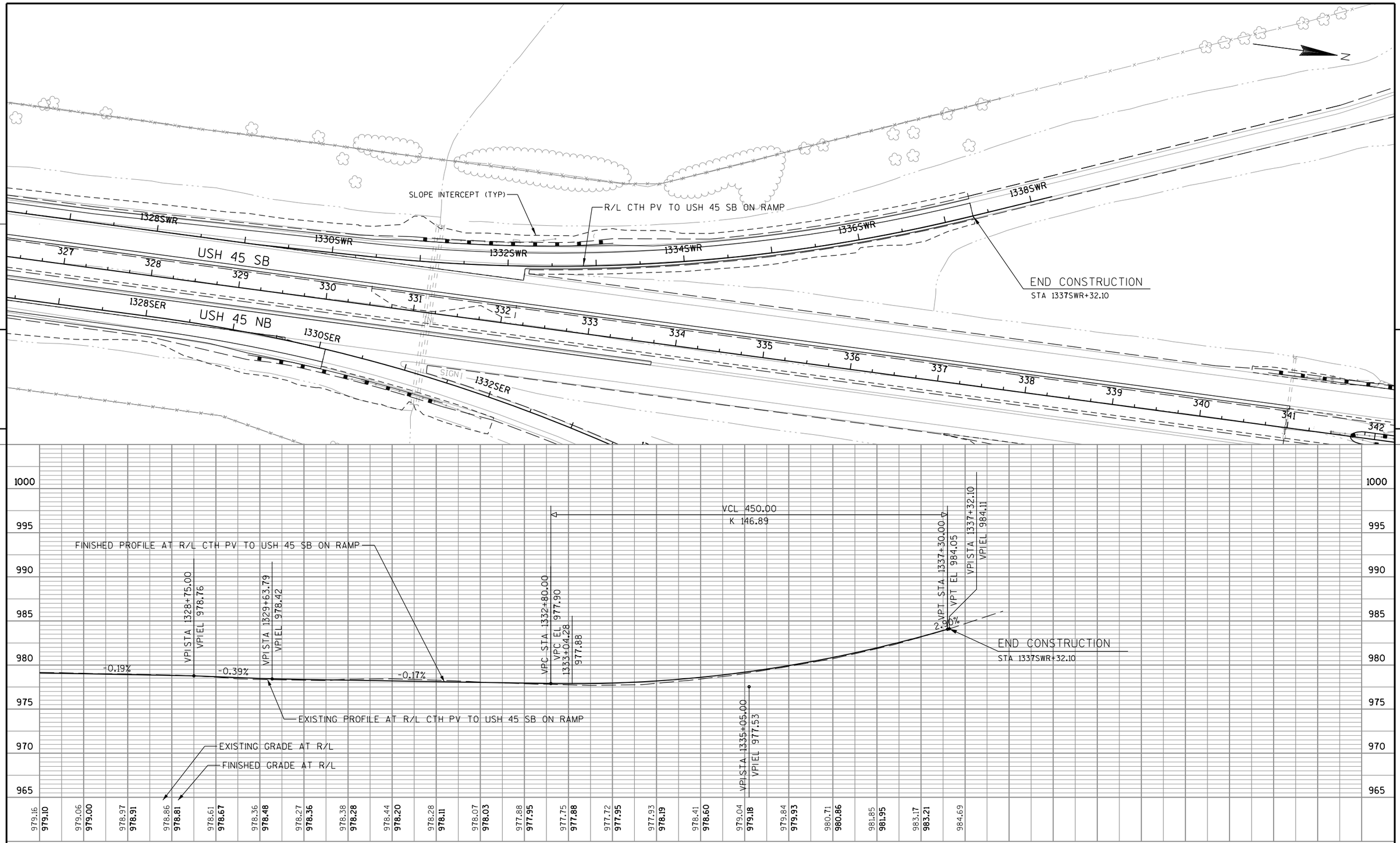
LOCATION	SPV.0105.01 SURVEY PROJECT ID 2220-02-70 LS
PROJECT 2220-02-70	1
PROJECT 2220-02-70 TOTAL	1

ALL ITEMS ARE CATEGORY **0010** UNLESS OTHERWISE SPECIFIED.

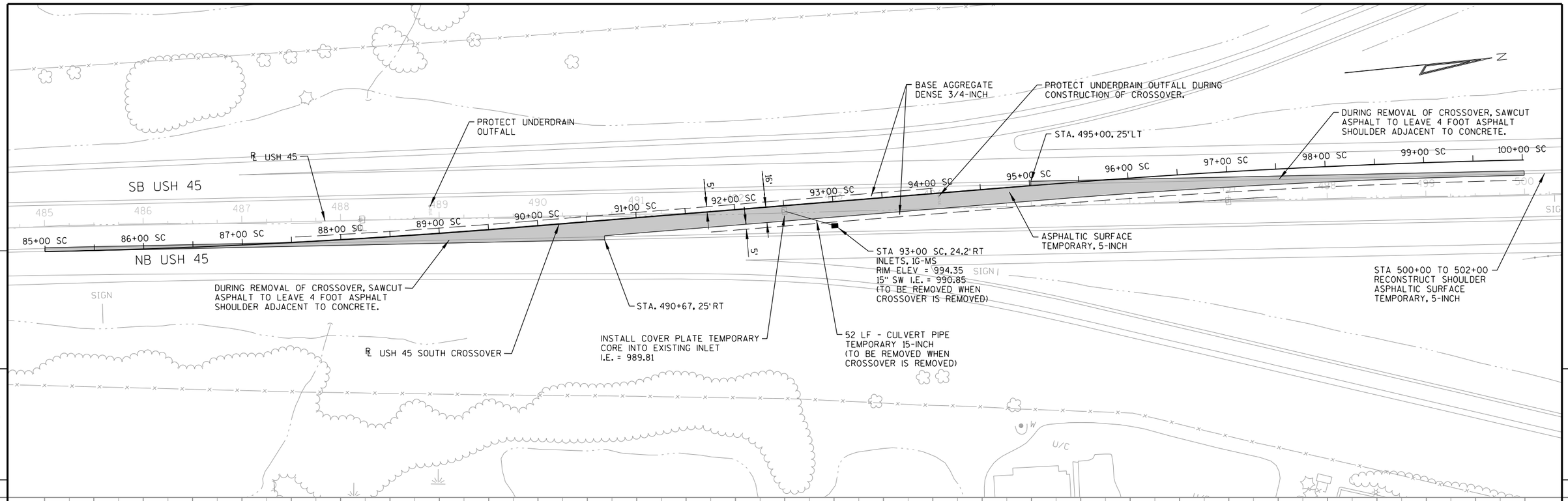


PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN AND PROFILE: CTH PV TO USH 45 SB ON RAMP	SHEET 266	E

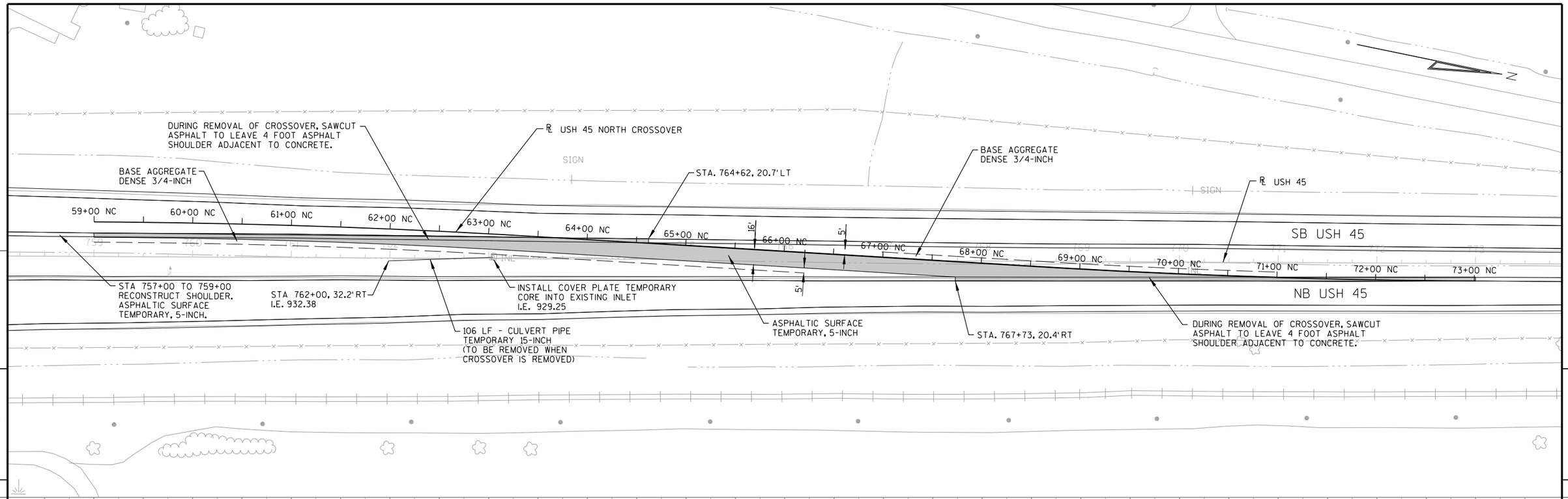
FILE NAME : C:\DOT WORK USH 45\050101_PP.DGN PLOT DATE : 5/1/2020 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN AND PROFILE: CTH PV TO USH 45 SB ON RAMP	SHEET 267 E



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN AND PROFILE: SOUTH CROSSOVER	SHEET 268	E



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PLAN AND PROFILE: NORTH CROSSOVER	SHEET 269	E

Standard Detail Drawing List

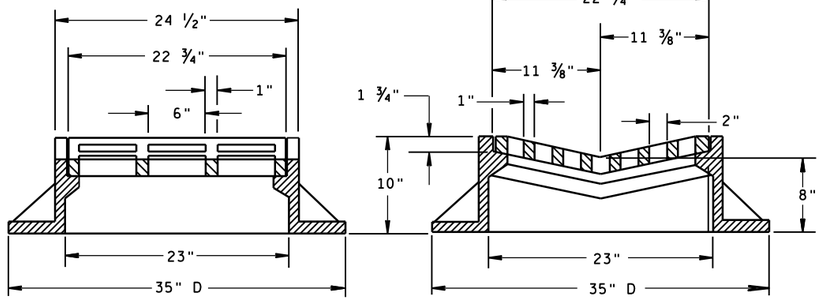
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08C07-02	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08C08-02	INLETS MEDIAN 1 AND 2 GRATE
08D01-21A	CONCRETE CURB & GUTTER
08D01-21B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D03-08A	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08D03-08B	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08D15-05A	EDGEDRAIN OUTLET AND OUTFALL MARKERS
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F07-05	STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE DRAINS
09B02-10	CONDUIT
09B04-11	PULL BOX
09C05-10	CONCRETE CONTROL CABINET BASES
09G02-05A	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-05B	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-05C	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
11A01-06	MAINTENANCE CROSSOVER FOR FREEWAYS
12A03-10	NAME PLATE (STRUCTURES)
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C09-15A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-15B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-15C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C11-12A	RURAL DOWELED CONCRETE PAVEMENT
13C11-12B	RURAL DOWELED CONCRETE PAVEMENT
13C14-07A	BASE PATCHING CONCRETE
13C14-07B	BASE PATCHING CONCRETE
13C14-07C	BASE PATCHING CONCRETE
13C17-01A	CONCRETE JOINT DETAIL FOR EXIT RAMP TERMINI
13C17-01B	CONCRETE JOINT DETAIL FOR ENTRANCE RAMP TERMINI
13C18-07A	CONCRETE PAVEMENT JOINTING
13C18-07B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-07C	CONCRETE PAVEMENT JOINT TYPES
13C18-07D	CONCRETE PAVEMENT JOINT TYPES AT UTILITY FIXTURES
13C18-07F	CONCRETE PAVEMENT INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER
13C18-07G	CONCRETE PAVEMENT JOINTING ACCELERATION/DECELERATION LANE
14B07-15A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15I	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B15-11A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B20-11G	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL
14B26-03A	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03B	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03C	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03D	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03E	STEEL THRIE BEAM BULLNOSE TERMINAL
14B42-06A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

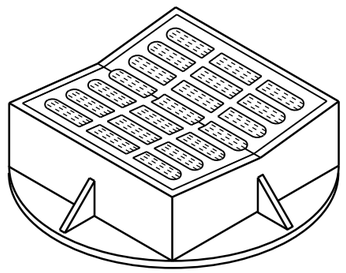
6

Standard Detail Drawing List

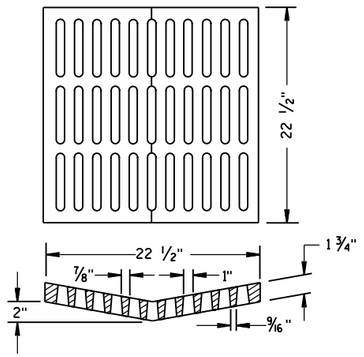
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B47-02A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B52-01A	CABLE BARRIER TYPE 1 LAYOUT
14B52-01B	CABLE BARRIER TYPE 1 LAYOUT
15B01-08A	FENCE WOVEN WIRE
15B01-08B	FENCE WOVEN WIRE
15B03-15A	FENCE CHAIN LINK
15B03-15B	FENCE CHAIN LINK
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-08C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C02-08D	ON RAMP LANE CLOSURE
15C02-08E	OFF RAMP LANE CLOSURE
15C02-08F	ADVANCED WIDTH RESTRICTION SIGNING
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C07-15B	PAVEMENT MARKING WORDS
15C07-15C	PAVEMENT MARKING ARROWS
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C11-07A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-07	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-06C	MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15C20-02	YIELD MARKING
15C25-04	42" DIAMETER CANTILEVER OVERHEAD SIGN SUPPORT BASE
15C31-03A	PAVEMENT MARKING (RAMPS AND GORES)
15C31-03C	PAVEMENT MARKING FOR PARALLEL ON-RAMP AND PARALLEL OFF-RAMP
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-04A	PAVEMENT MARKING (INTERSECTIONS)
15D03-05	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D04-01	TRAFFIC CONTROL, RAMP CONSTRUCTION STAGING
15D05-04	TRAFFIC CONTROL, SINGLE LANE CROSSOVER ENTRANCE WITH BARRIER
15D06-04	TRAFFIC CONTROL, TWO LANE TWO WAY OPERATION
15D09-05	TRAFFIC CONTROL, SINGLE LANE CROSSOVER EXIT
15D11-07	TRAFFIC CONTROL, SINGLE LANE CROSSOVER
15D12-08A	TRAFFIC CONTROL, LANE CLOSURE
15D12-08C	DYNAMIC LATE MERGE SYSTEM
15D12-08D	TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM
15D13-02	TEMPORARY EMERGENCY PULLOUTS
15D15-05A	TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-05B	TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-05C	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-05D	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-05E	TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE
15D16-04	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D33-06	TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING
15D42-01	TRAFFIC CONTROL, TWO LANE FULL FREEWAY CLOSURE

6



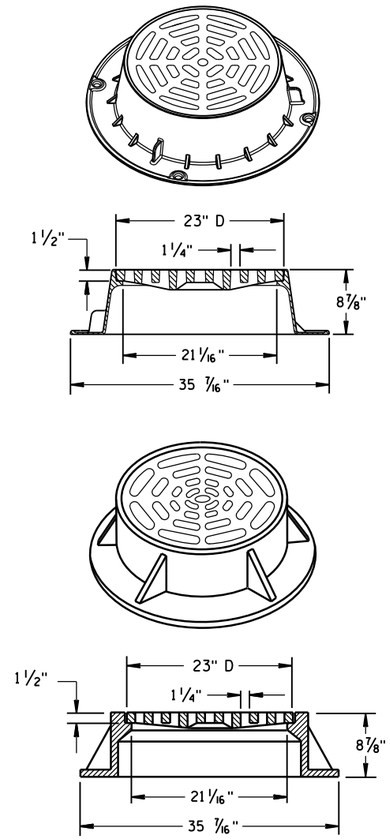


TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

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



TYPE "C"

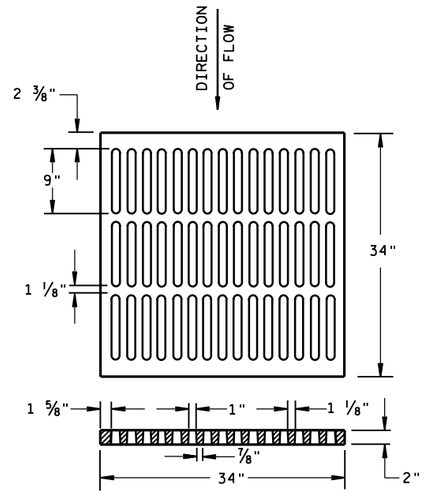
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

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

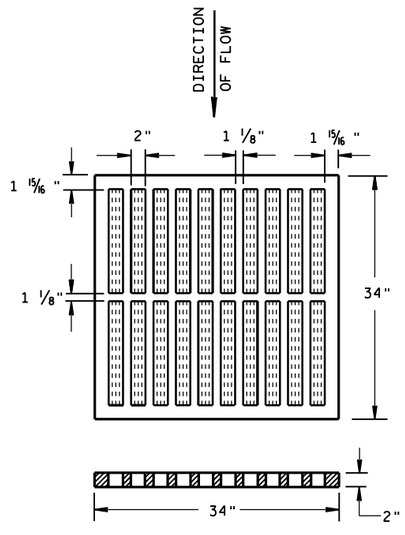
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



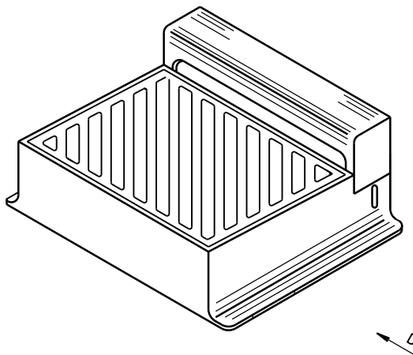
ALTERNATIVE TYPE "MS"

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



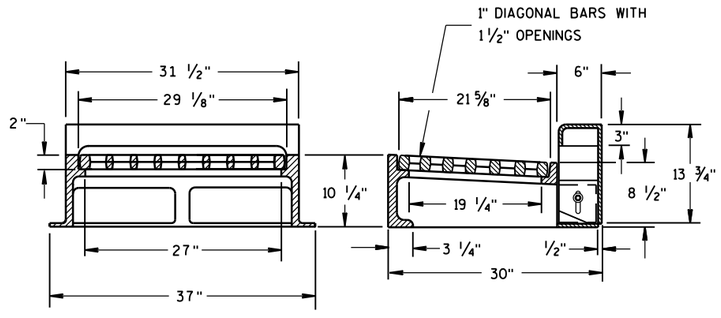
TYPE "MS"

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



DIRECTION OF FLOW

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



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

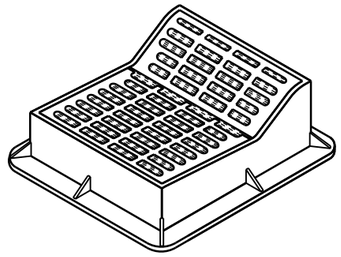
INLET COVERS
TYPE B, B-A, C,
MS, MS-A, & WM

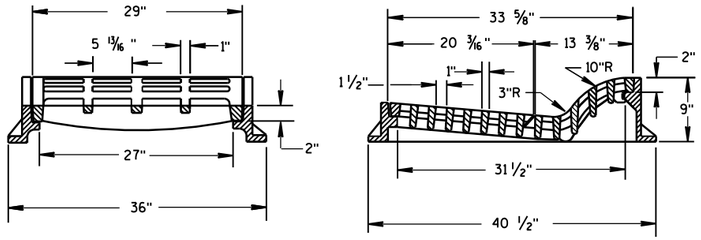
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

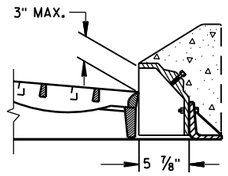
S.D.D. 8 A 5-19b





TYPE "F"

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



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

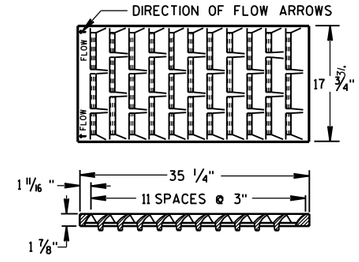
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

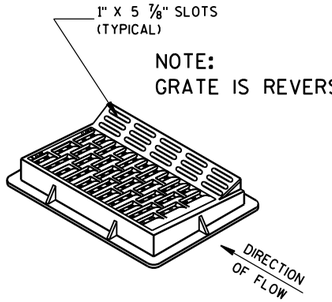
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

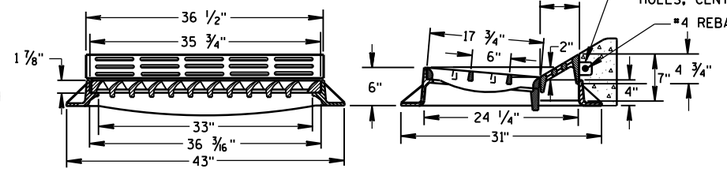
GENERAL NOTES

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

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



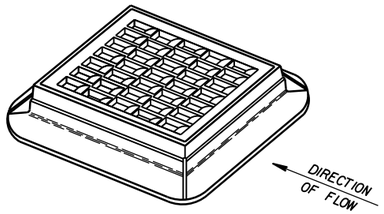


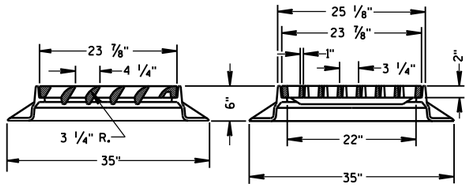


TYPE "HM"

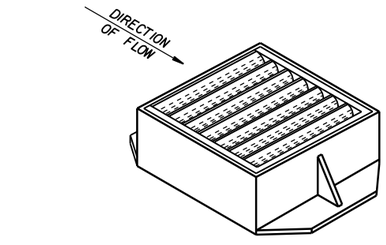
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

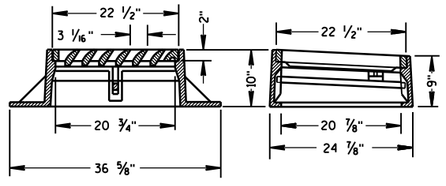
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



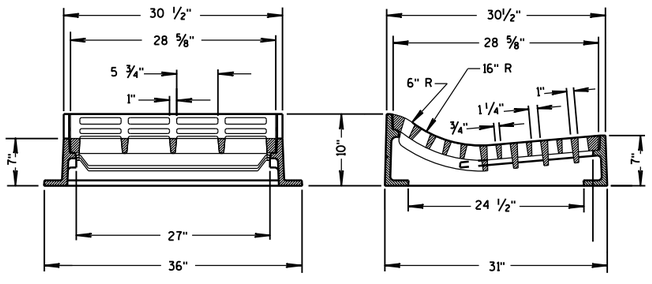


TYPE "S"



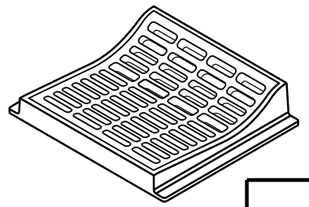


TYPE "V"



TYPE "T"

USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.



INLET COVERS
TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

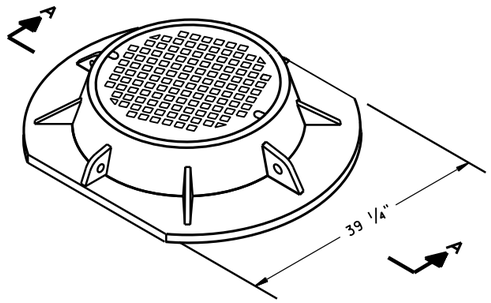
APPROVED
11/27/2013
DATE

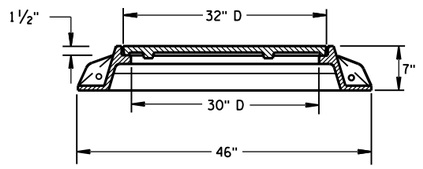
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

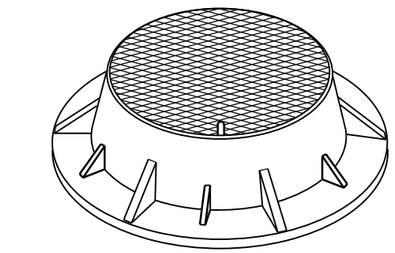
6

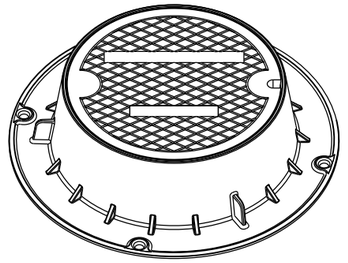
S.D.D. 8 A 5-19c

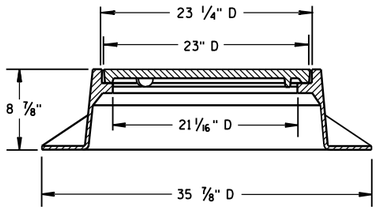


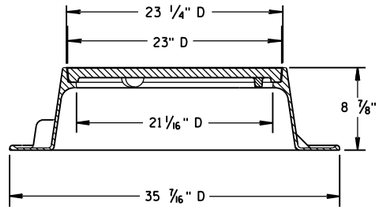


SECTION A-A
TYPE "K"









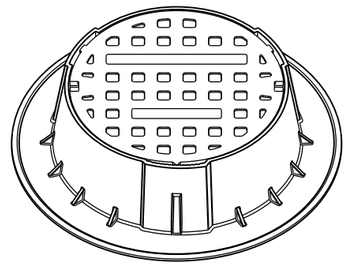
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

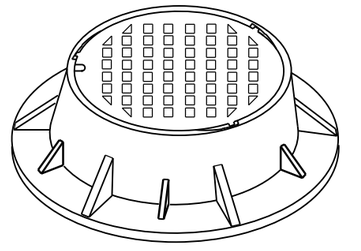
GENERAL NOTES

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

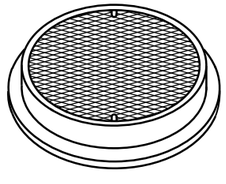
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

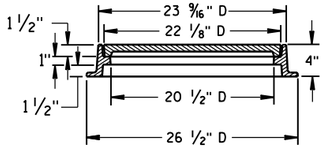
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



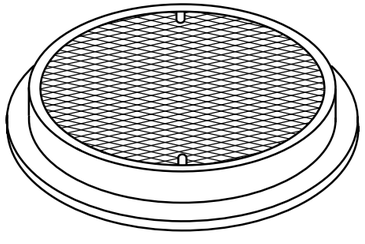


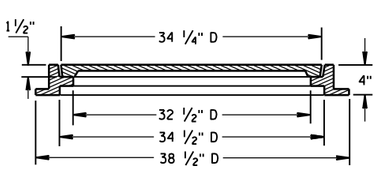
TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE



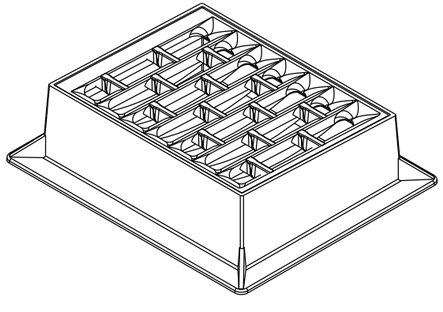


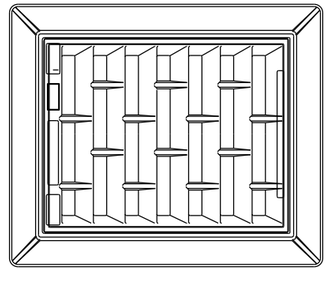
TYPE "L"

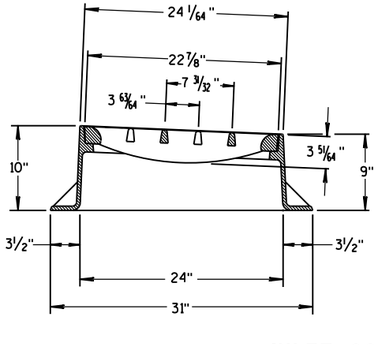


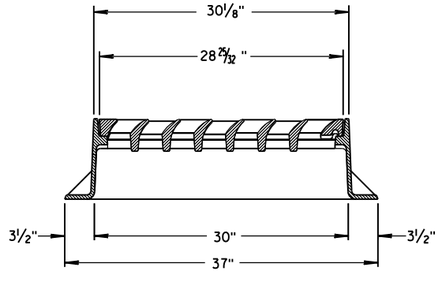


TYPE "M"









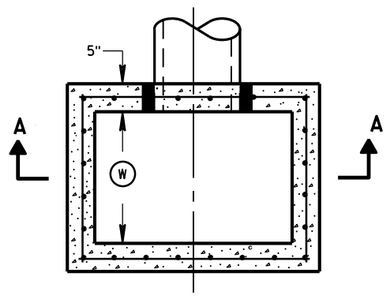
INLET COVER TYPE "BW"

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

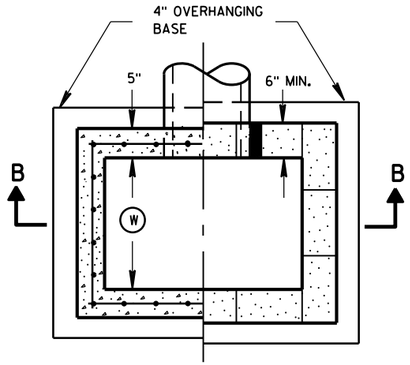
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

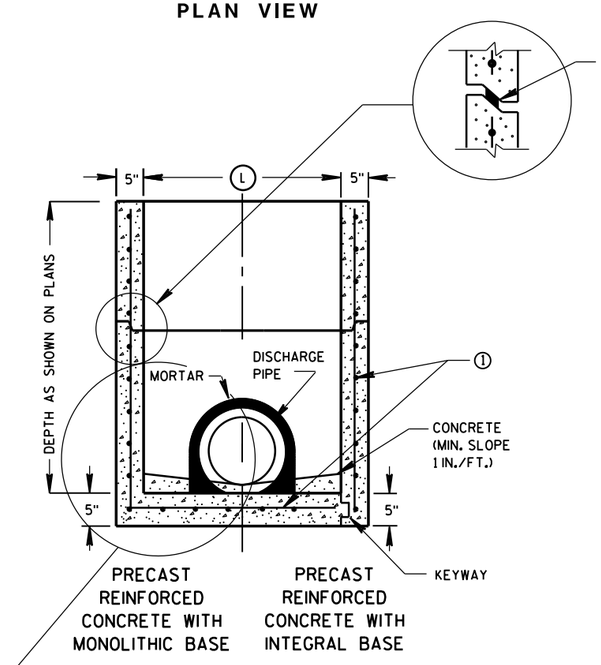
6
S.D.D. 8 A 5-19d



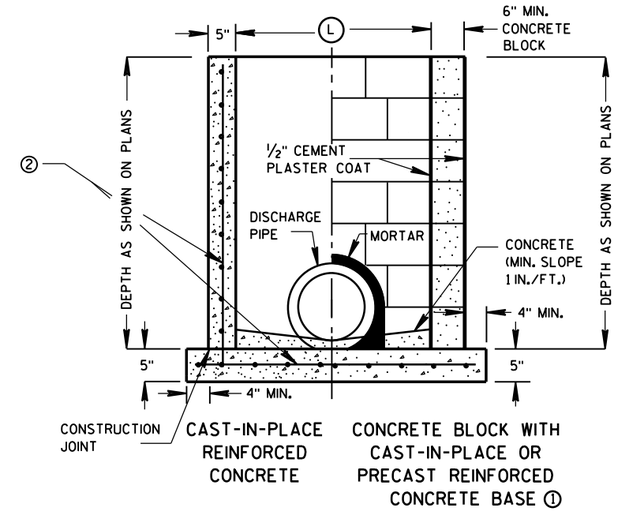
PLAN VIEW



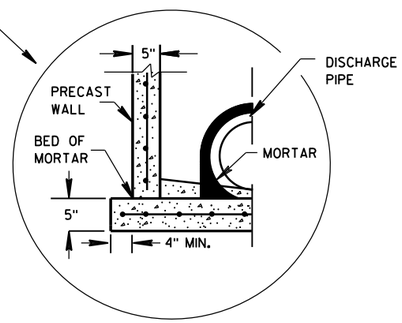
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

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

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

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

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED.
OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

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

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

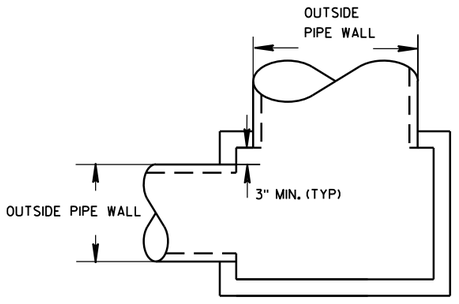
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH Ⓦ (FT)	LENGTH Ⓛ (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D IT
UNIT SUPERVIS
FHWA

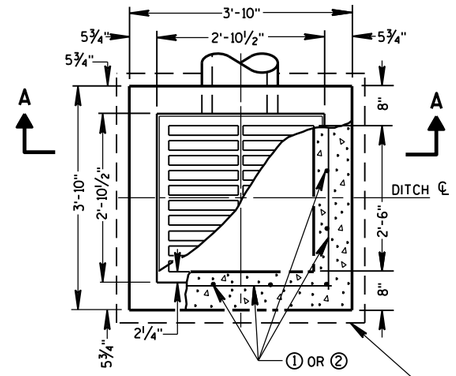
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

6

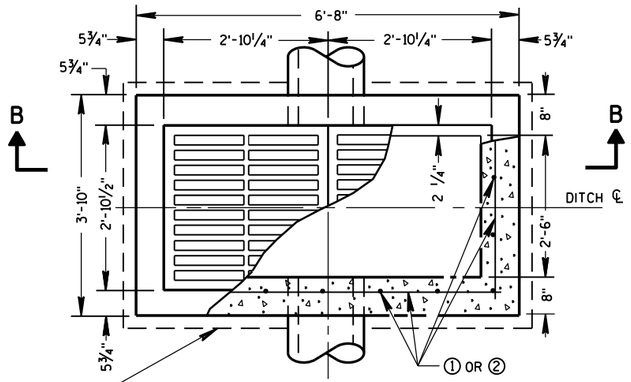
S.D.D. 8 C 7-2

6

S.D.D. 8 C 7-2

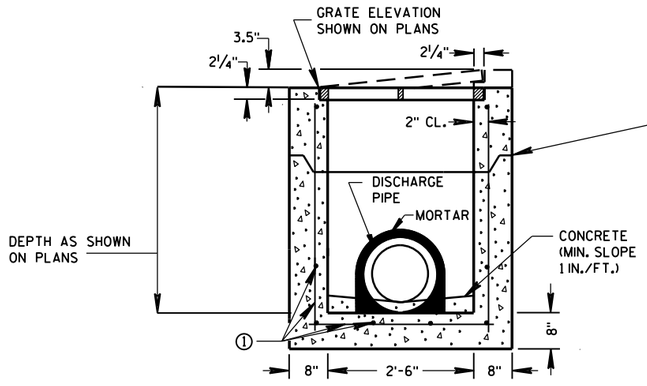


PLAN VIEW

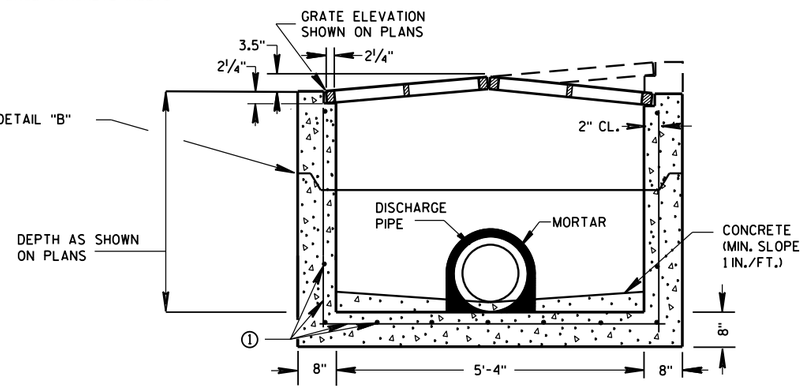


PLAN VIEW

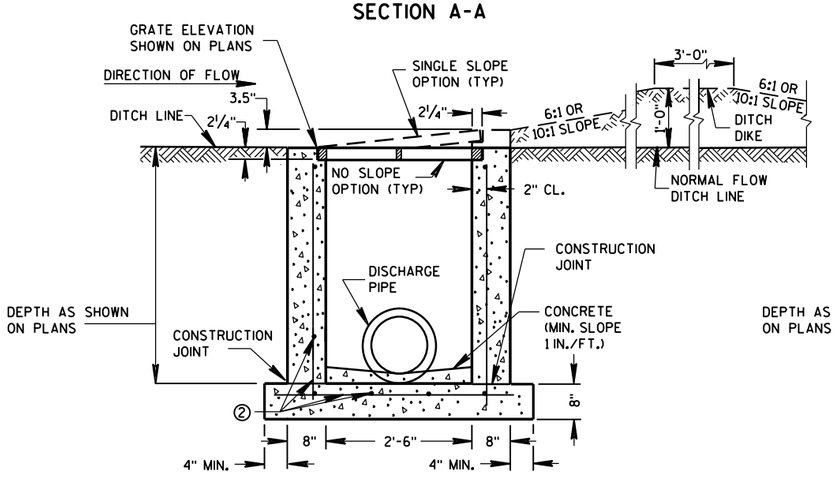
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



PRECAST REINFORCED CONCRETE SECTION A-A

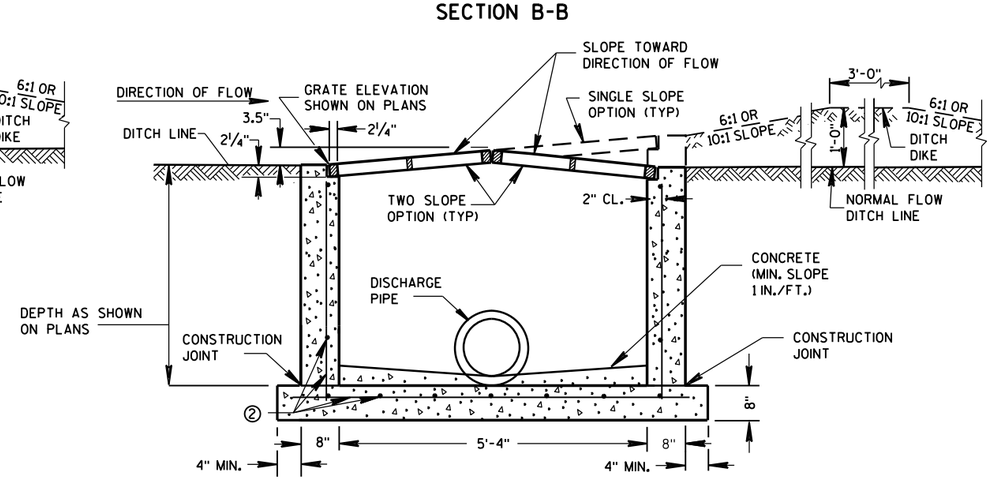


PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A

INLETS MEDIAN 1 GRATE



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

INLETS MEDIAN 2 GRATE

GENERAL NOTES

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

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

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

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

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

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

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

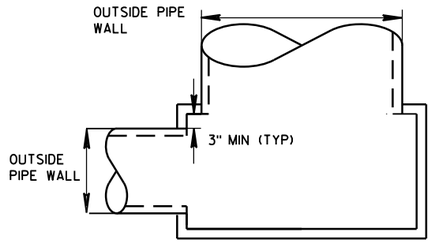
MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

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

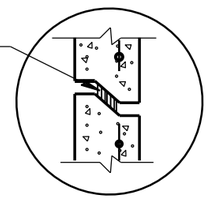
PIPE MATRIX

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



DETAIL "A"

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



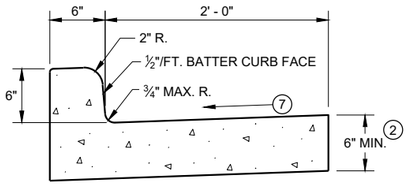
DETAIL "B"

INLETS MEDIAN 1 AND 2 GRATE

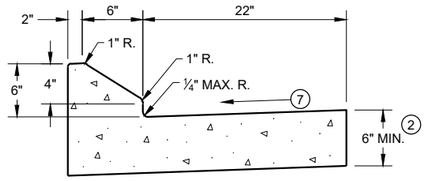
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERVI ENT
FHWA

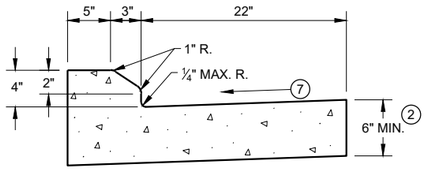
6
S.D.D. 8 C 8-2



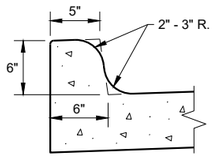
TYPES A (1) & D



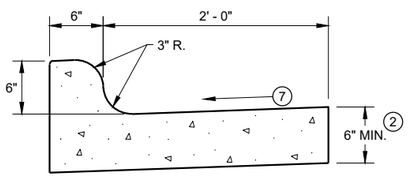
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

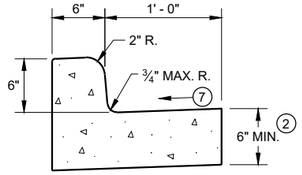


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



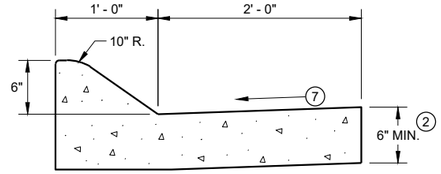
TYPES K (1) & L

CONCRETE CURB AND GUTTER 30"

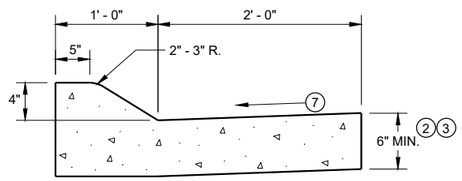


TYPES A (1) & D

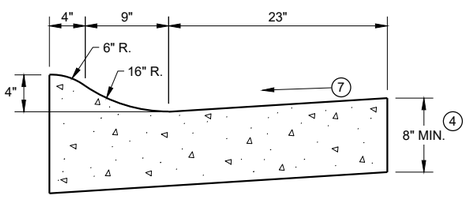
CONCRETE CURB AND GUTTER 18"



6" SLOPED CURB TYPES A (1) & D



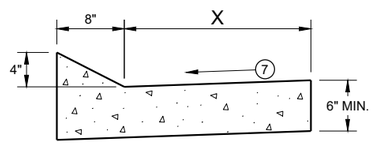
4" SLOPED CURB TYPES A (1) & D



4" SLOPED CURB TYPES R (1) & T (5)

CONCRETE CURB AND GUTTER 36"

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

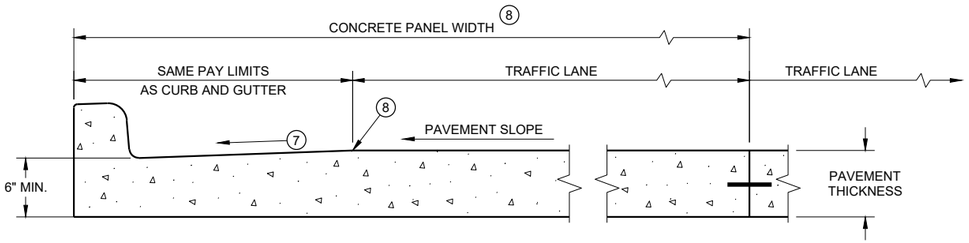


TYPES TBT & TBTT (1)

CONCRETE CURB AND GUTTER

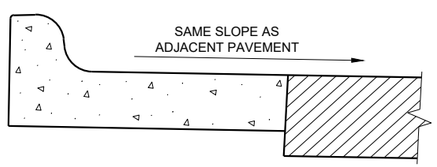
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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) 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.

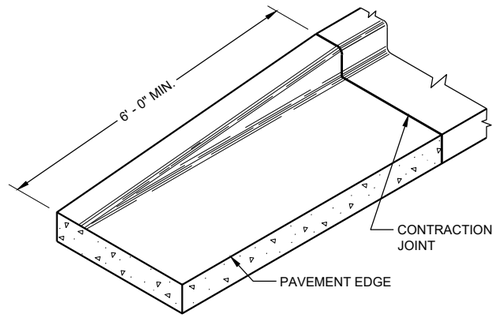
(7) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

(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.

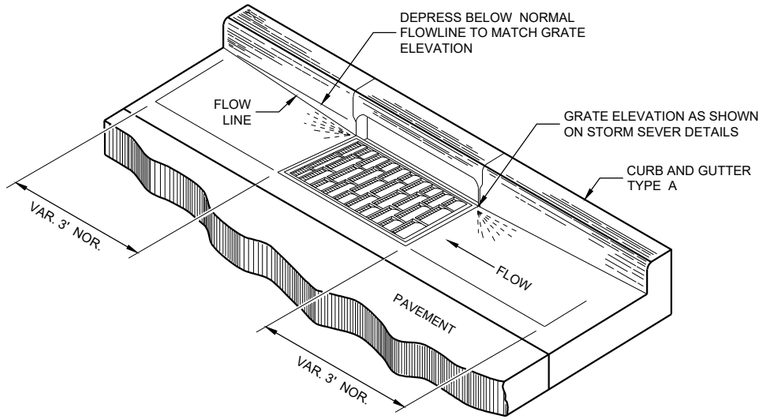
CONCRETE CURB AND GUTTER

SDD 08D01 - 21a

6



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.

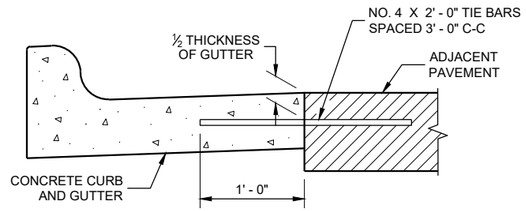
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

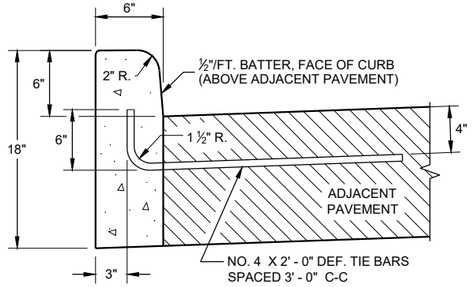
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

(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.

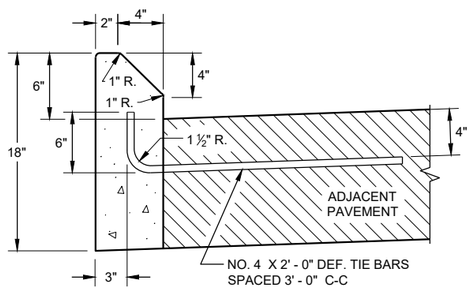
(9) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



TYPICAL TIE BAR LOCATION (1)

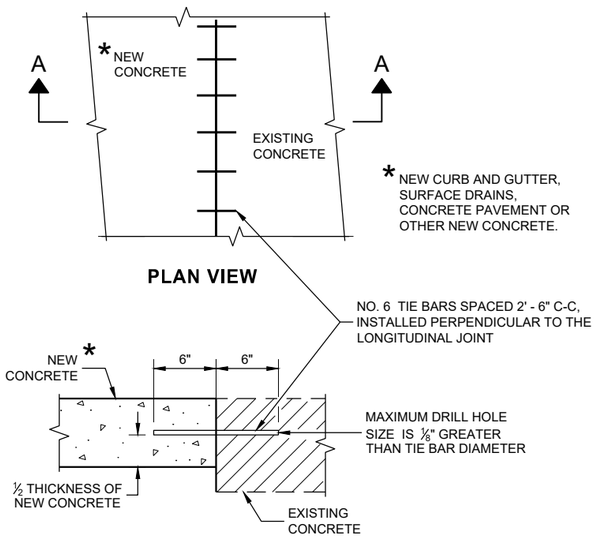


TYPES A (1) & D



TYPES G (1) & J

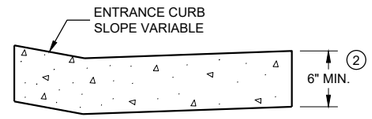
CONCRETE CURB



PLAN VIEW

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 2020 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER
278

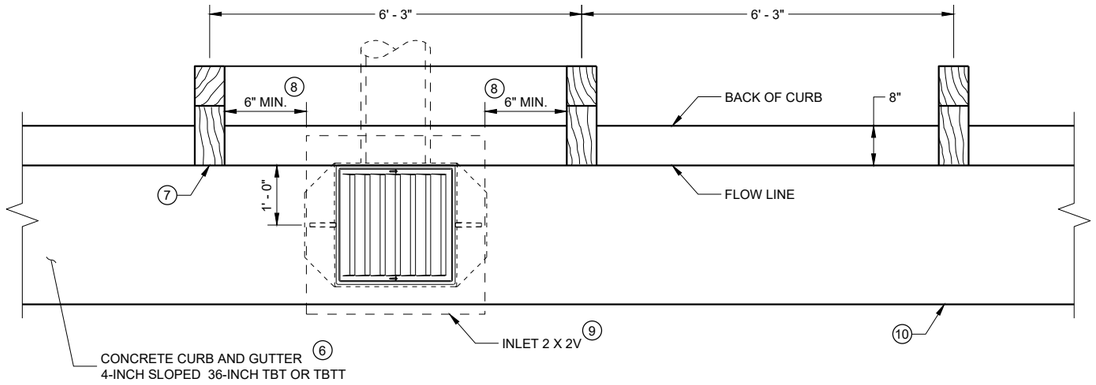
FHWA

6

SDD08D01 - 21b

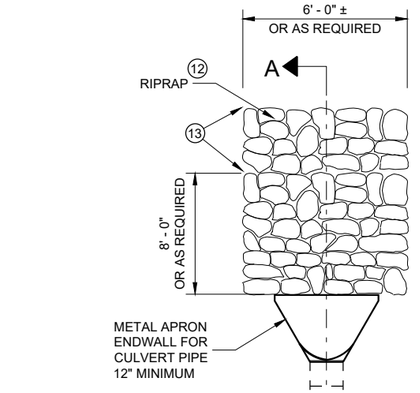
6

SDD08D01 - 21b



INLET PLAN VIEW

(NOTE: RAIL NOT SHOWN FOR CLARITY)

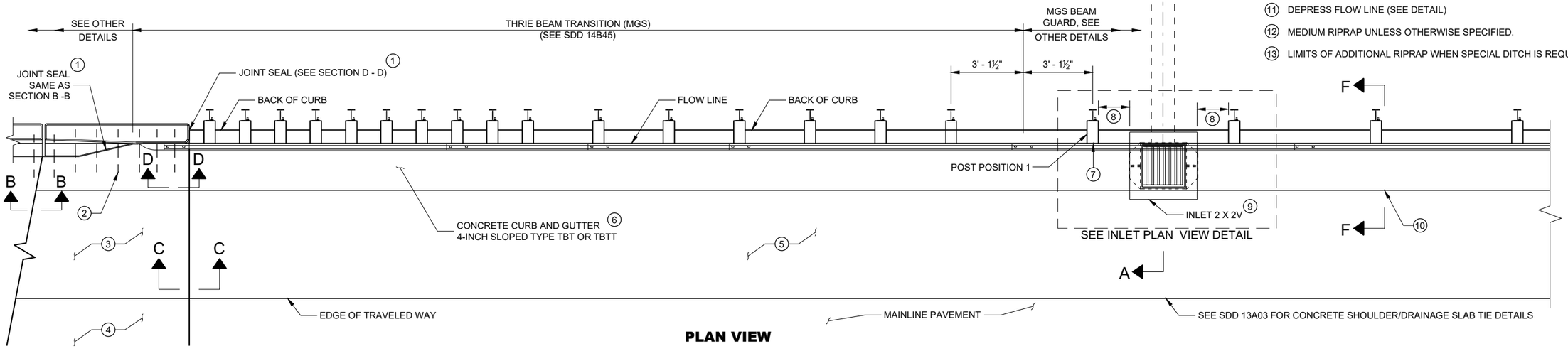


GENERAL NOTES

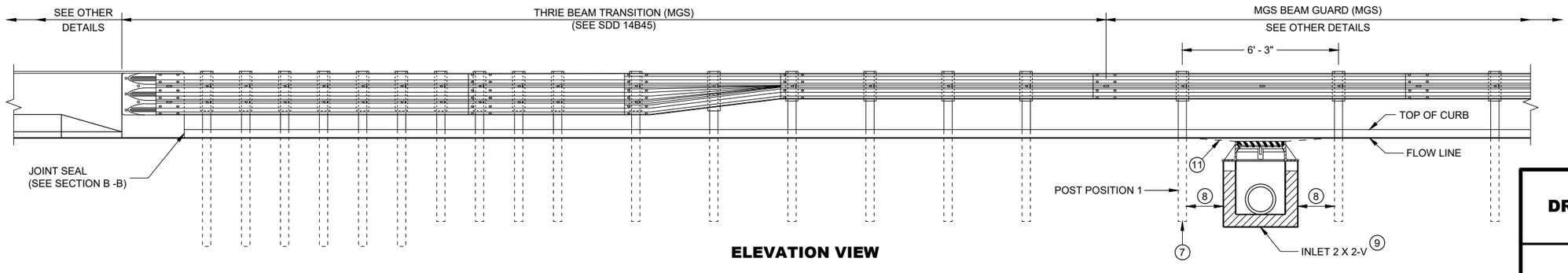
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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 DRAINAGE STRUCTURE BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
8. CENTER DRAINAGE STRUCTURE BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE WALL OF DRAINAGE STRUCTURE TO POSTS.
9. SEE SDD 08A05 AND 08C07 FOR DETAILS. SEE ROADWAY PLANS FOR LOCATION.
10. START CURB AND GUTTER TRANSITION OR END SECTION.
11. DEPRESS FLOW LINE (SEE DETAIL)
12. MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
13. LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.



PLAN VIEW



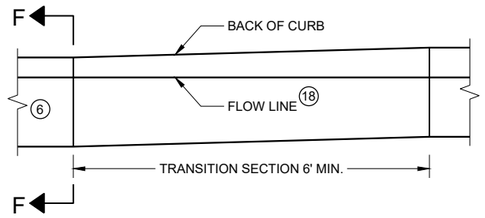
ELEVATION VIEW

CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

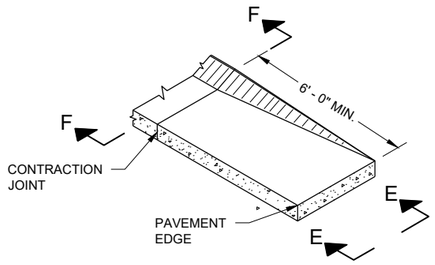
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D03 - 08a

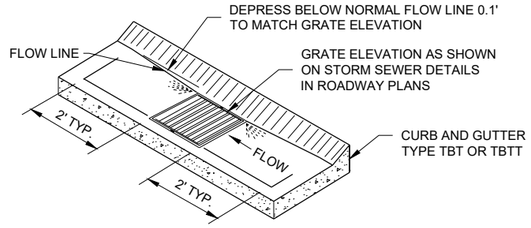
SDD 08D03 - 08a



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 INLETS 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 DRAINAGE STRUCTURE BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

(8) CENTER DRAINAGE STRUCTURE BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE WALL OF DRAINAGE STRUCTURE TO POSTS.

(9) SEE SDD 08A05 AND 08C07 FOR DETAILS. SEE ROADWAY PLANS FOR LOCATION.

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

(11) DEPRESS FLOW LINE (SEE DETAIL)

(12) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

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

(14) GEOTEXTILE FABRIC TYPE HR.

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

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

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

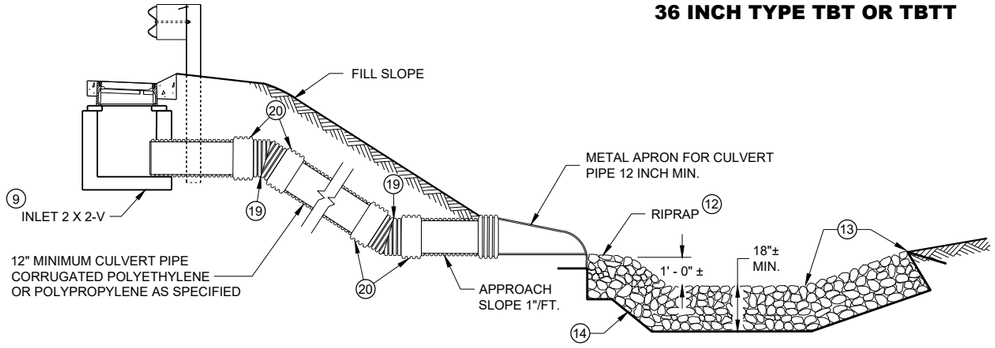
(18) MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.

(19) MANUFACTURER SUPPLIED BEND.

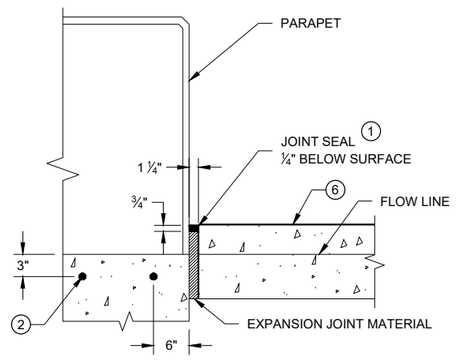
(20) MANUFACTURER SUPPLIED EXTERNAL MECHANICAL COUPLING OR A MANUFACTURER RECOMMENDED COUPLING WITH A MASTIC IMPREGNATED GEOTEXTILE WRAP AND MECHANICAL FASTENING BANDS.

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

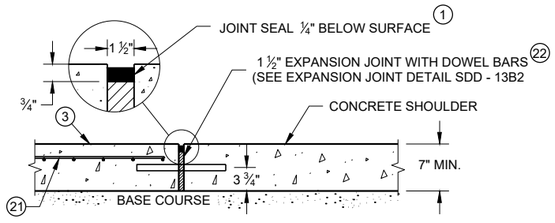
(22) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



SECTION A - A

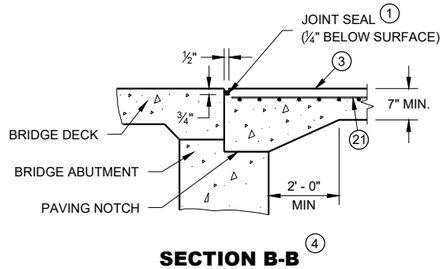


SECTION D - D

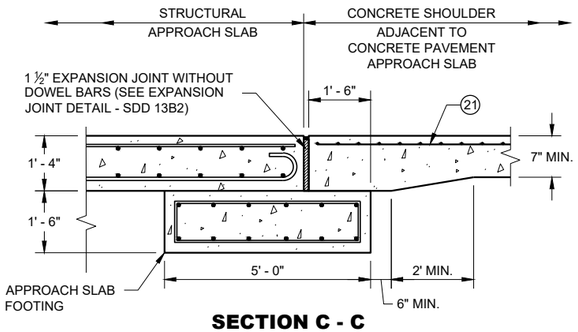


SECTION C - C

JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS

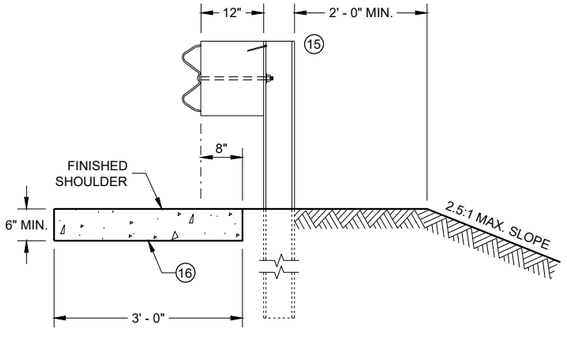


SECTION B-B (4)

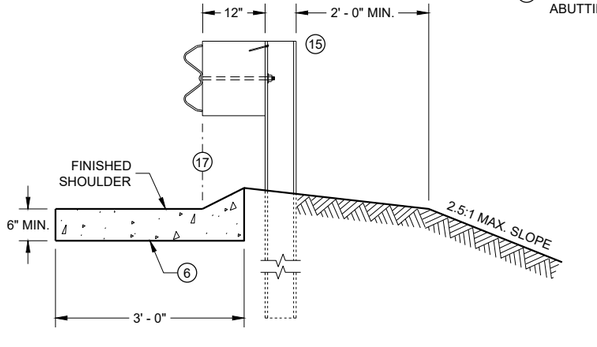


SECTION C - C

JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB



SECTION E - E



SECTION F - F

CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 08D03 - 08b

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) UNPERFORATED PIPE UNDERDRAIN AND FITTINGS FURNISHED FOR OUTFALL PIPE SHALL MEET THE REQUIREMENTS OF ONE OF THE FOLLOWING SPECIFICATIONS:

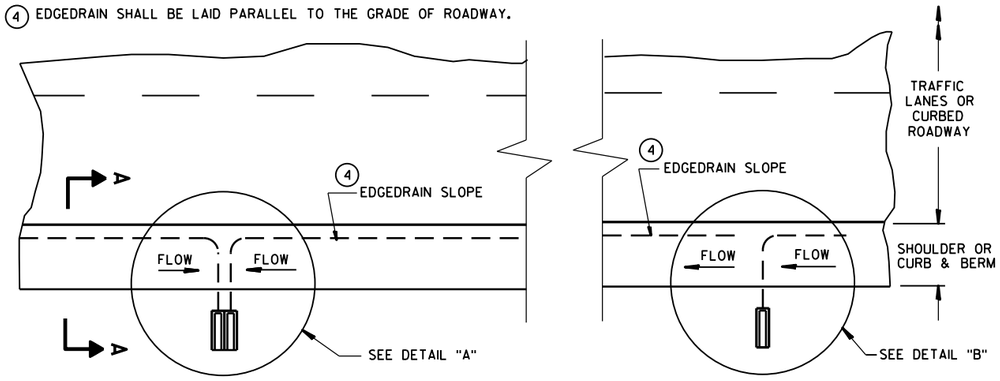
POLYVINYL CHLORIDE (PVC) PLASTIC DRAIN, WASTE, AND VENT PIPE AND FITTINGS, ASTM D 2665, SCHEDULE 40 PVC.

TYPE PSM POLYVINYL CHLORIDE (PVC) SEWER PIPE AND FITTINGS, ASTM D 3034, SDR 23.5 PVC SEWER PIPE.

(2) MAXIMUM SPACING OF EDGEDRAIN OUTLETS SHALL BE 250 FEET UNLESS OTHERWISE SPECIFIED IN THE CONTRACT OR DIRECTED BY THE ENGINEER.

(3) EDGEDRAIN SHALL BE CONNECTED TO INLETS REGARDLESS OF FLOW DIRECTION FOR DRAINAGE AND MAINTENANCE ACCESS.

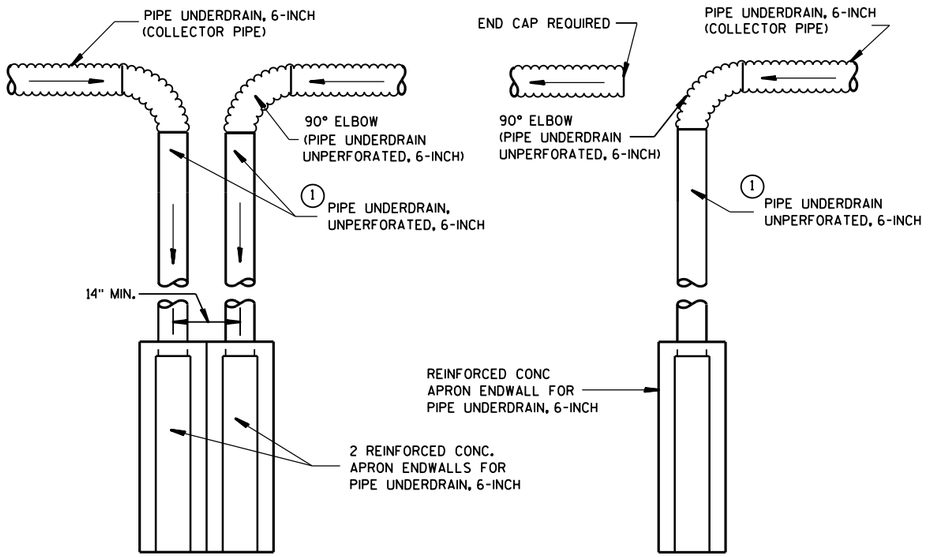
(4) EDGEDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF ROADWAY.



PLAN VIEW

ROADWAY WITH SHOULDERS OR CURBS

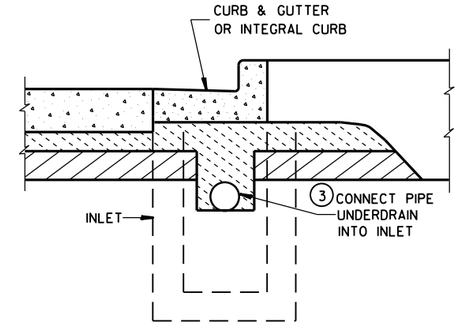
(EDGEDRAIN OUTLETS TO ROADSIDE)(2)



DETAIL "A"
TO BE USED AT LOW POINT LOCATIONS

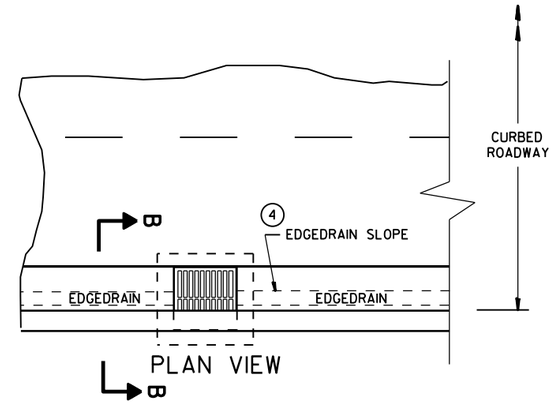
DETAIL "B"
TO BE USED AT INTERMEDIATE LOCATIONS

TYPICAL DRAIN OUT DETAILS



SECTION B-B

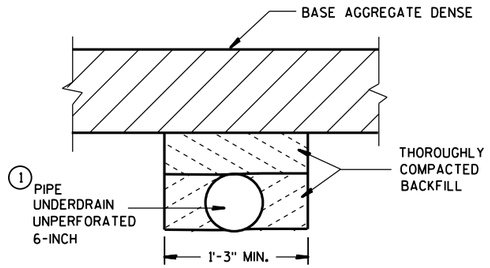
URBAN CROSS SECTION



PLAN VIEW

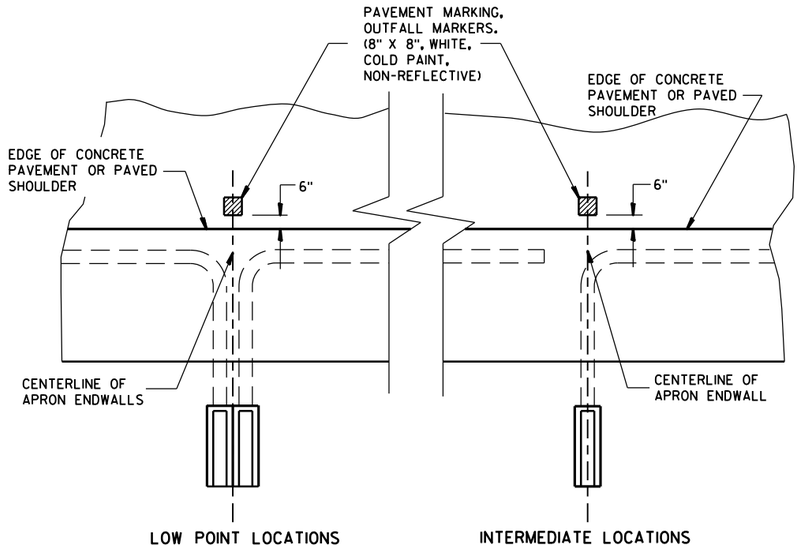
ROADWAY WITH CURBS

(EDGEDRAIN CONNECTS INTO INLET STRUCTURE)



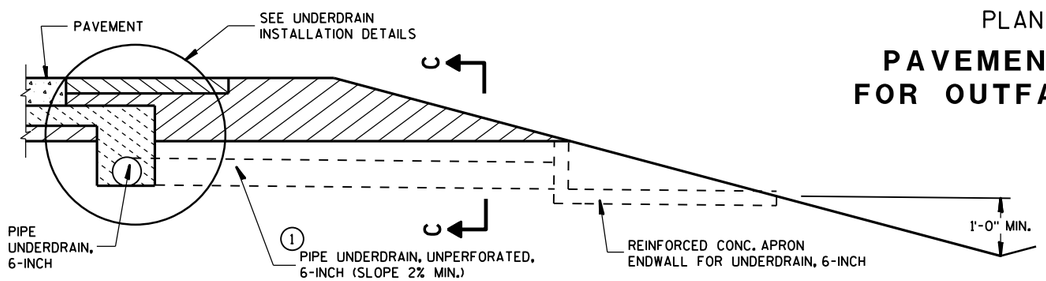
SECTION C-C

(TRENCH FOR OUTFALL PIPE)



PLAN VIEW

PAVEMENT MARKING FOR OUTFALL MARKERS



SECTION A-A

RURAL CROSS SECTION

EDGEDRAIN OUTLET AND OUTFALL MARKERS

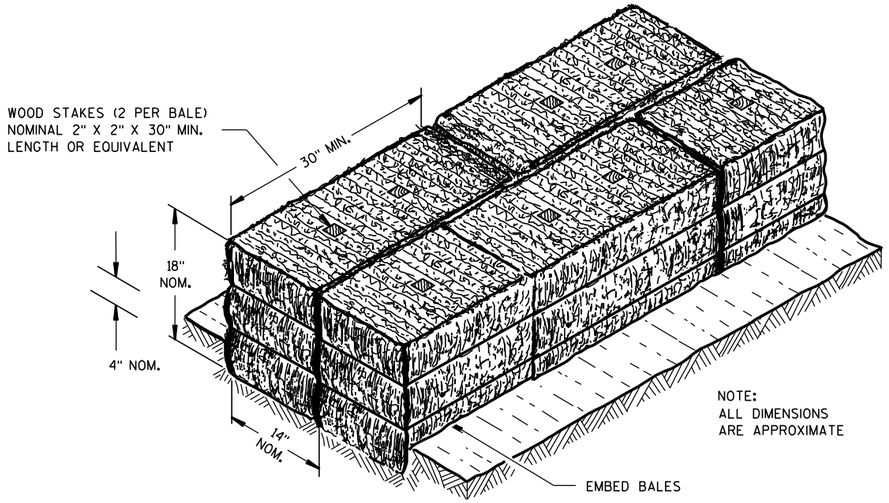
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

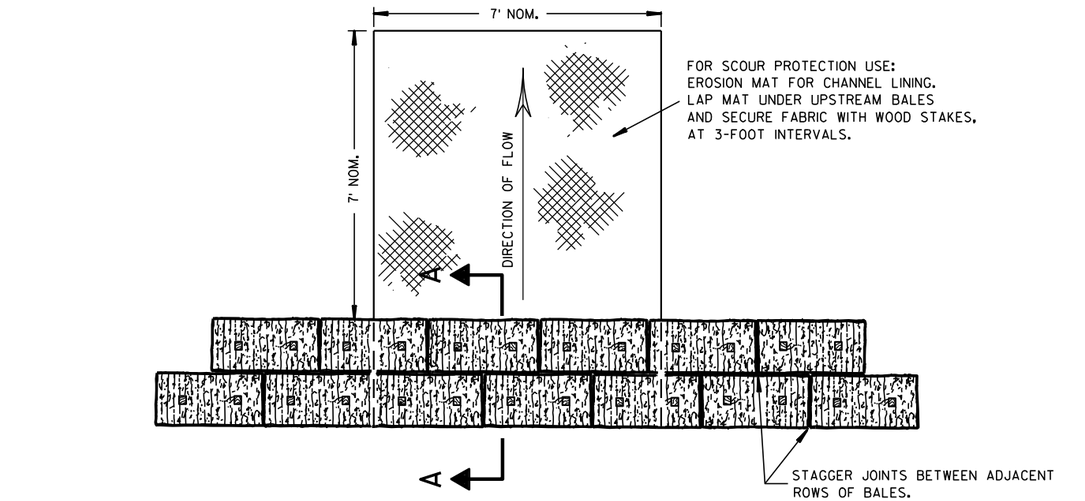
S.D.D. 8 D 15-5a

6

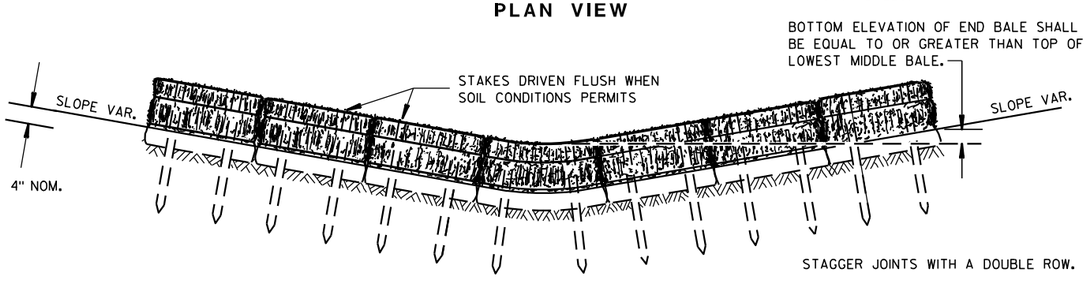
S.D.D. 8 D 15-5a



SECTION A-A



PLAN VIEW



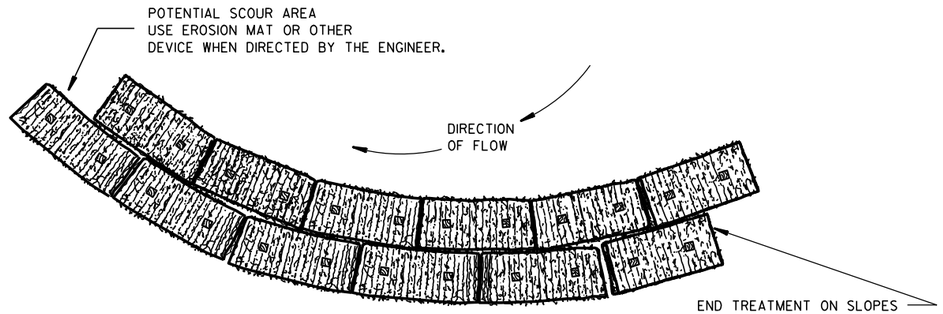
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

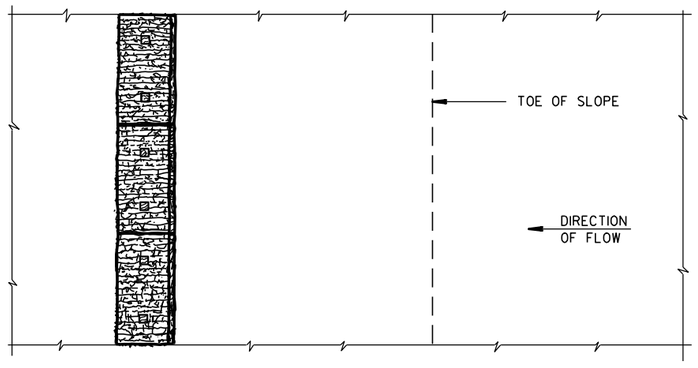
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

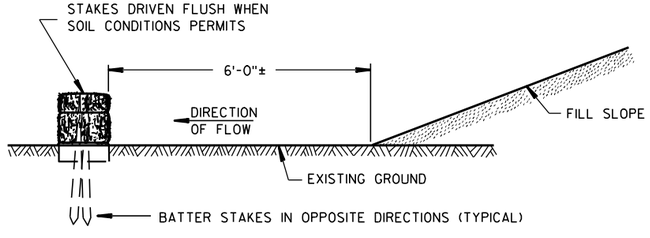


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

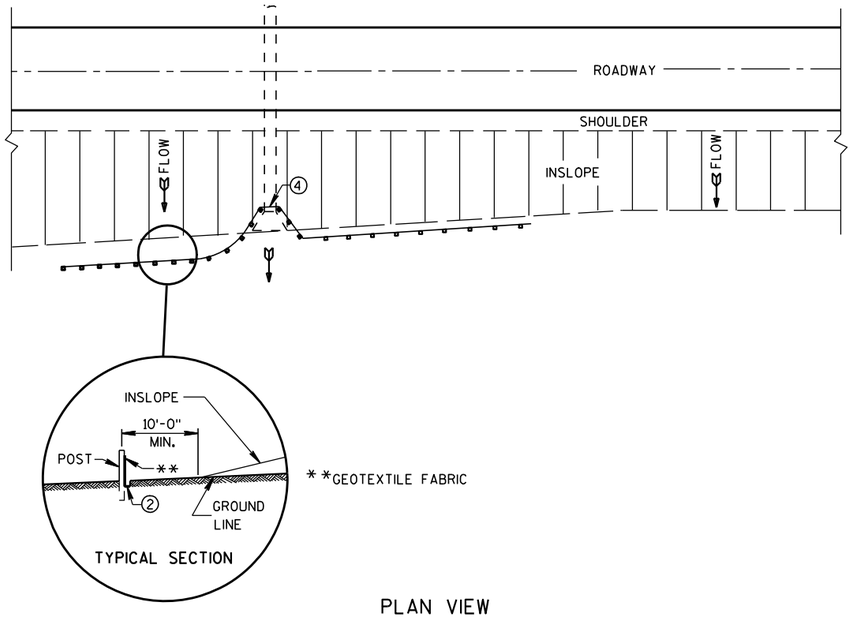
APPROVED
6/04/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 8-3

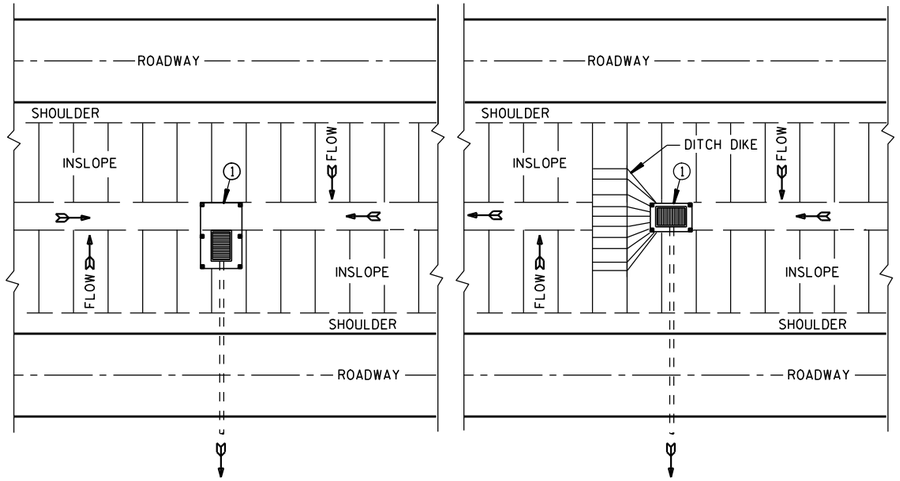
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



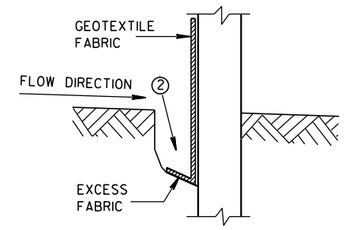
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

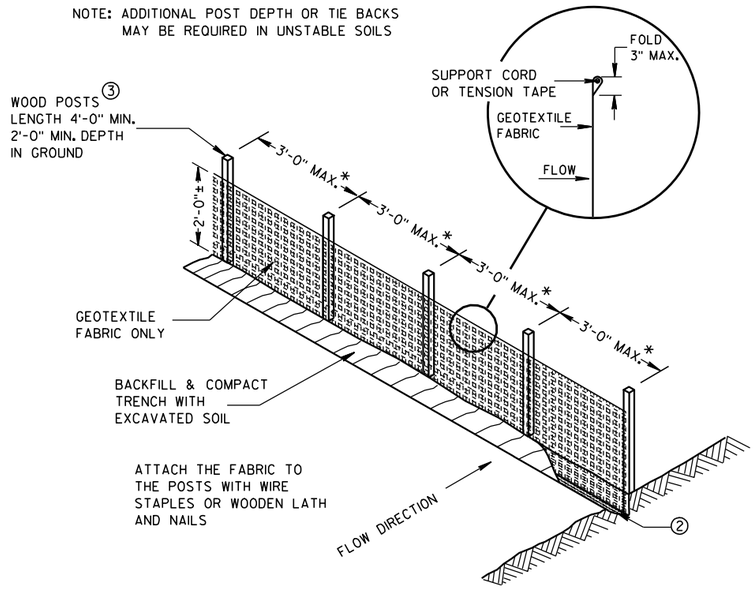
GENERAL NOTES

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

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

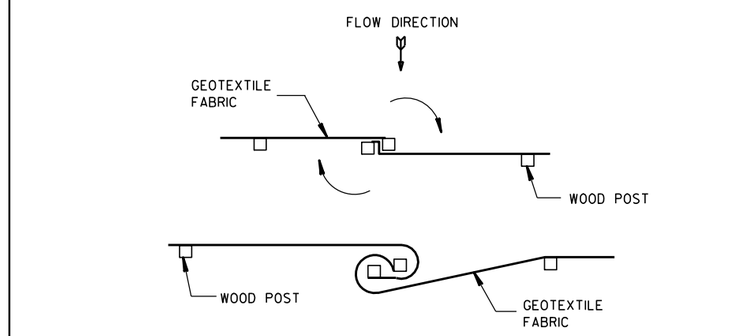


TRENCH DETAIL

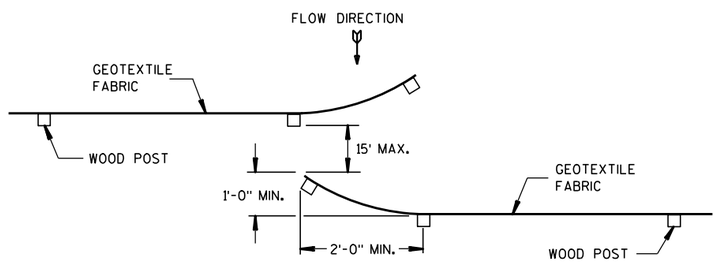


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

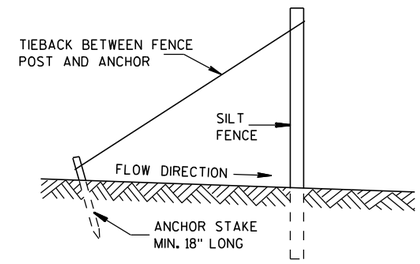


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

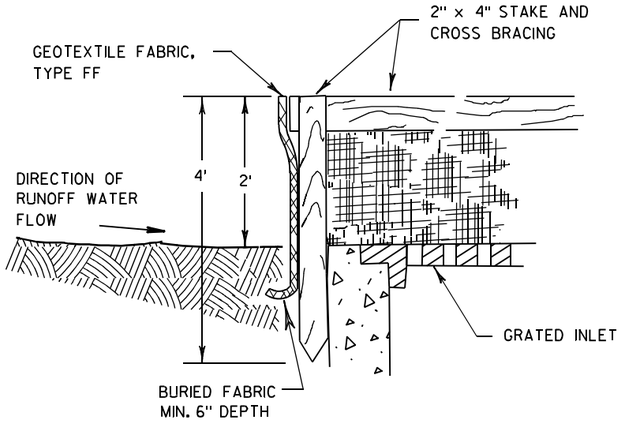
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

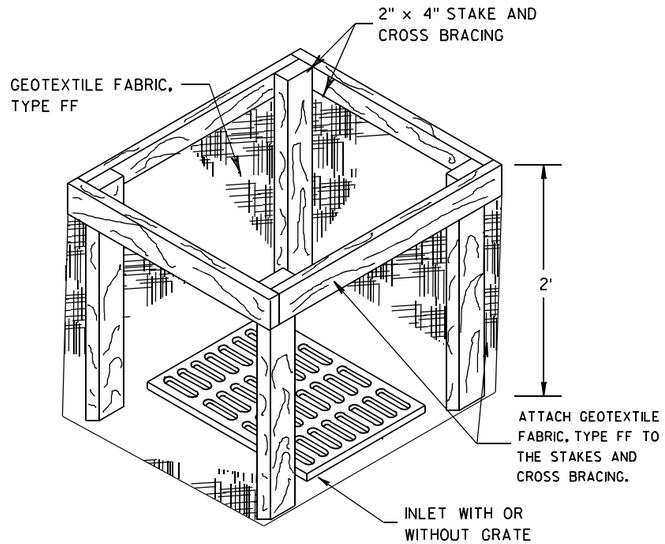
6

S.D.D. 8 E 9-6

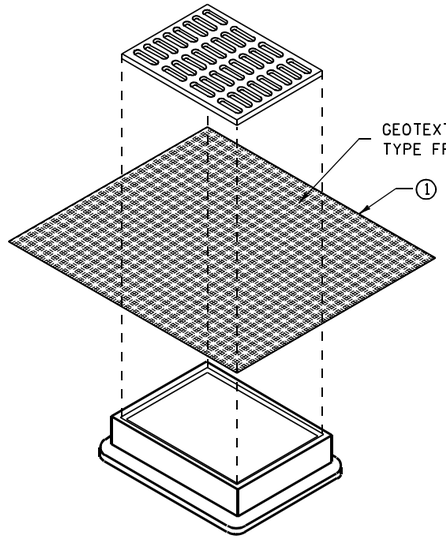
6

S.D.D. 8 E 9-6



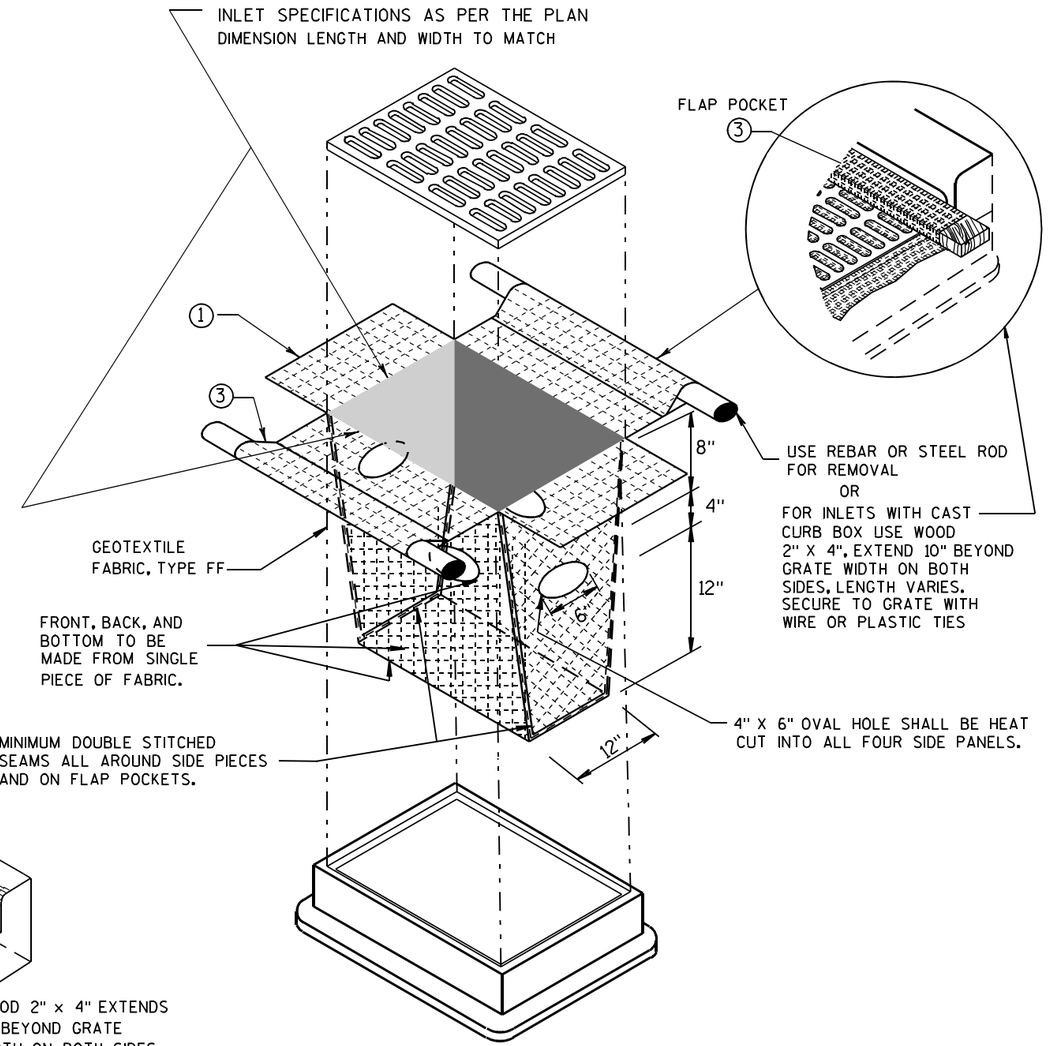


INLET PROTECTION, TYPE A



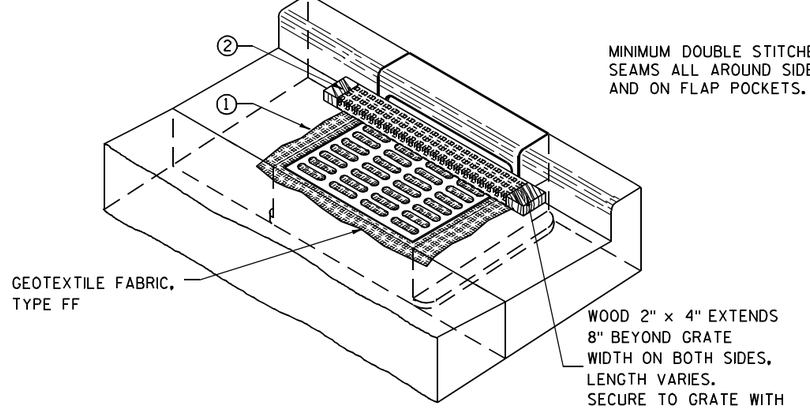
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE D

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

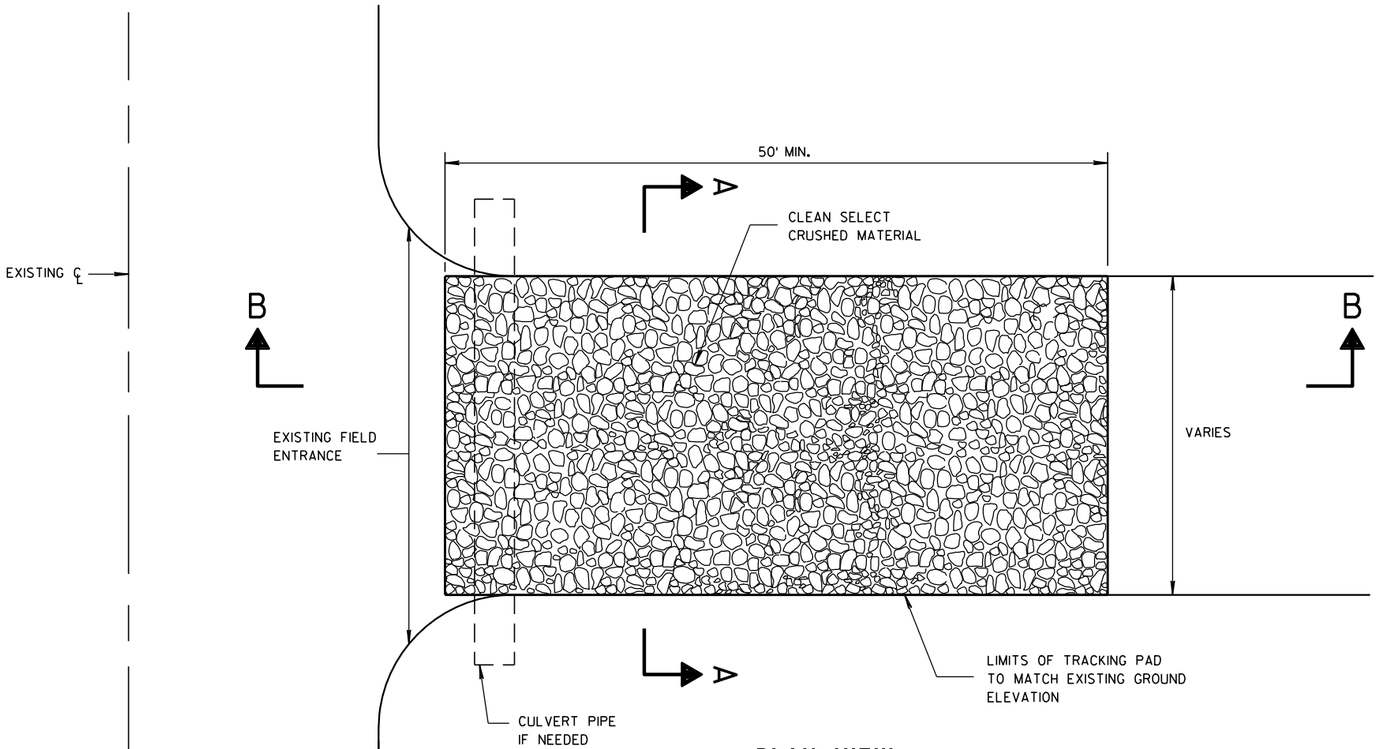
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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

INLET PROTECTION
TYPE A, B, C, AND D

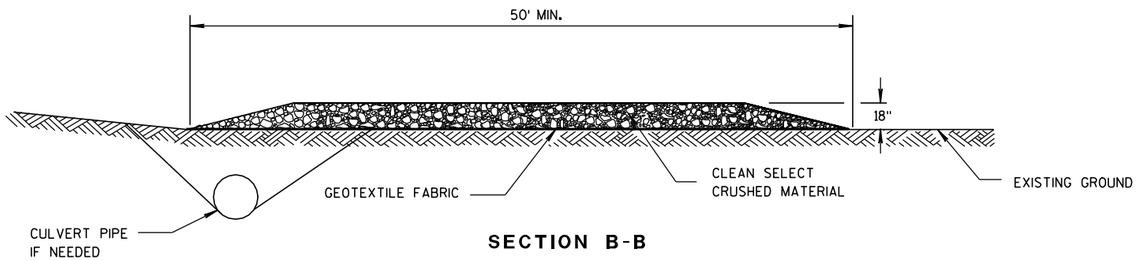
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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



PLAN VIEW



SECTION B-B

GENERAL NOTES

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

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

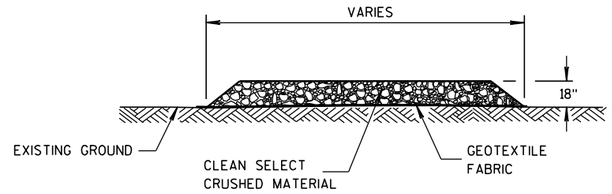
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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

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

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

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



SECTION A-A

TRACKING PAD

TRACKING PAD

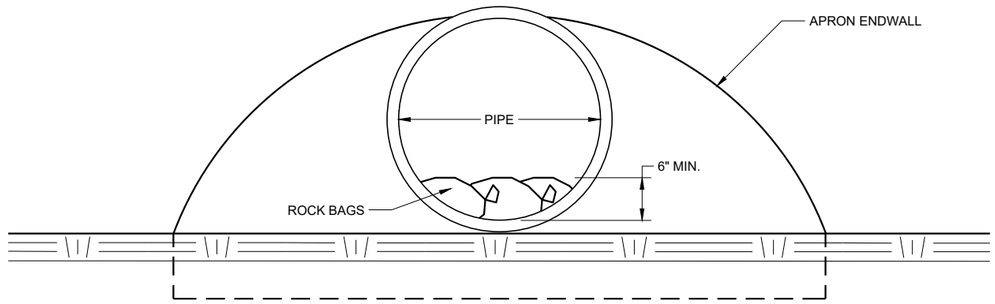
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

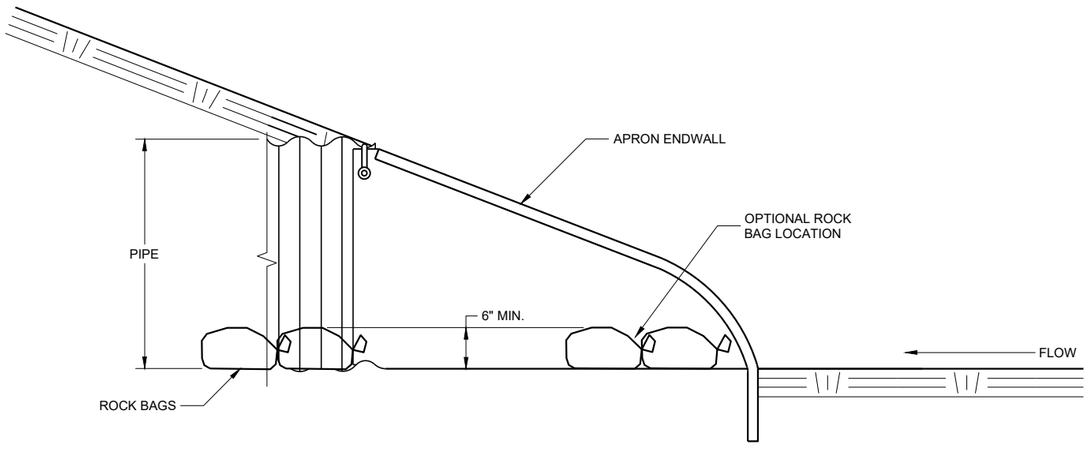
6

S.D.D. 8 E 14-1

S.D.D. 8 E 14-1



END VIEW



SIDE VIEW

CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE

/S/ Daniel Schave
EROSION CONTROL ENGI

FHWA

6

SDD 08E15 - 01

6

SDD 08E15 - 01

METAL APRON ENDWALLS

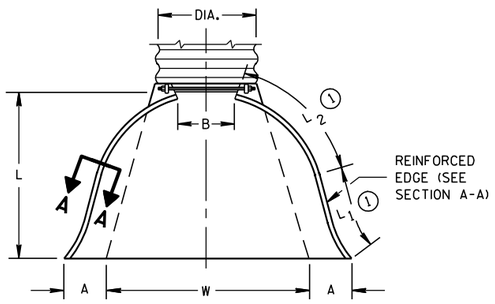
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

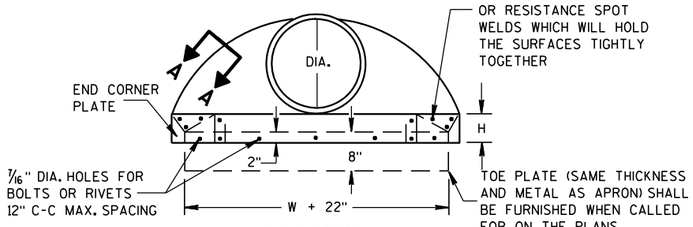
REINFORCED CONCRETE APRON ENDWALLS

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

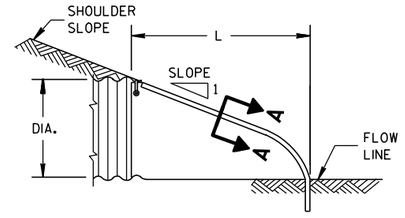
*MINIMUM
**MAXIMUM



PLAN VIEW

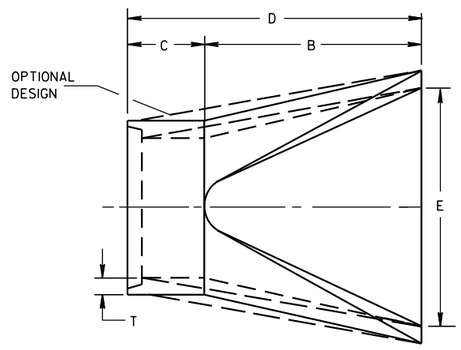


END VIEW

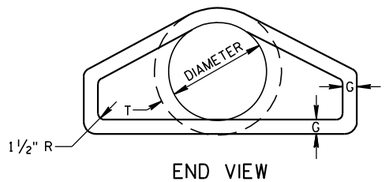


SIDE ELEVATION

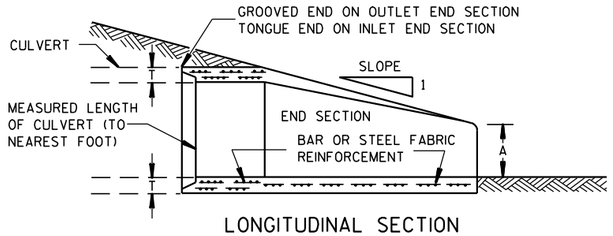
METAL ENDWALLS



PLAN

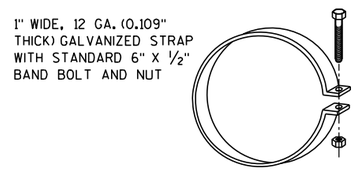


END VIEW



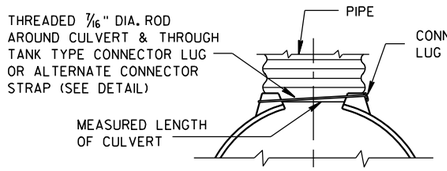
LONGITUDINAL SECTION

CONCRETE ENDWALLS

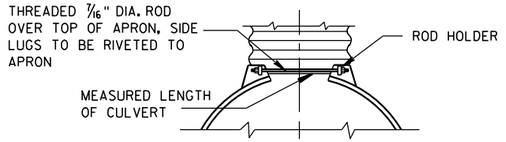


ALTERNATE FOR TYPE 1 CONNECTION

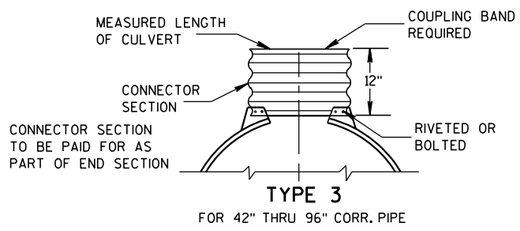
END SECTION CONNECTOR STRAP



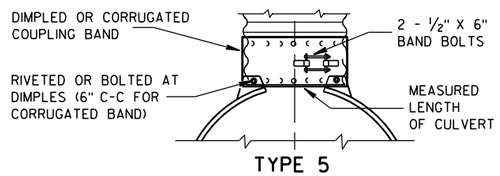
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

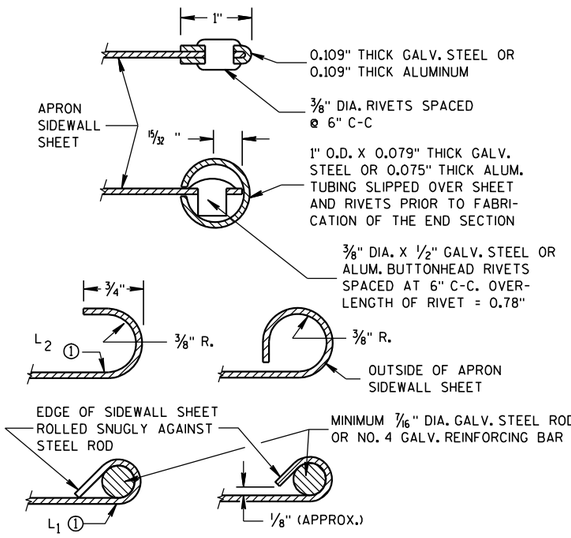
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

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

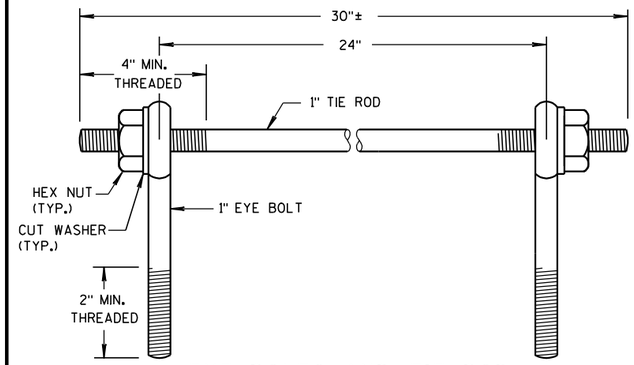
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

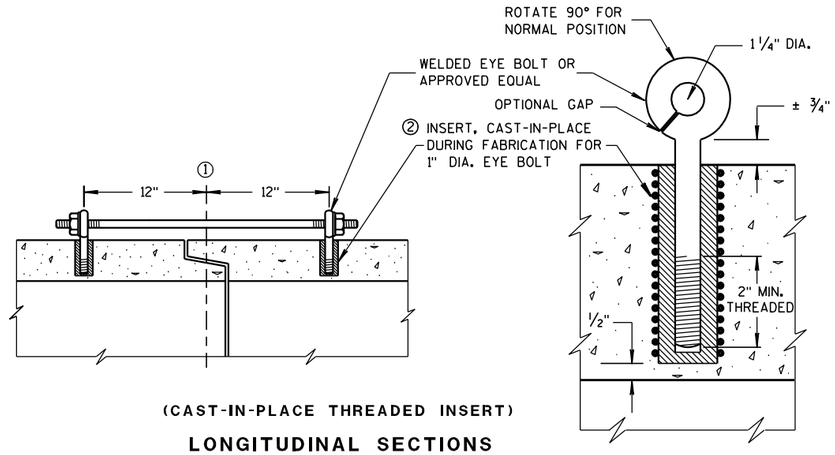
APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOP 287 NEER
FHWA

6

S.D.D. 8 F 1-11



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

GENERAL NOTES

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

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

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

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

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

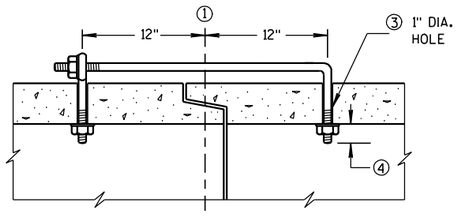
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

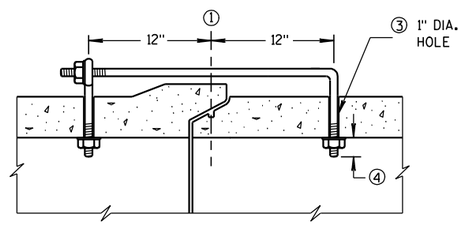
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

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



(TONGUE & GROOVE PIPE)

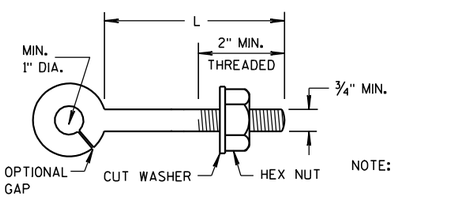


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

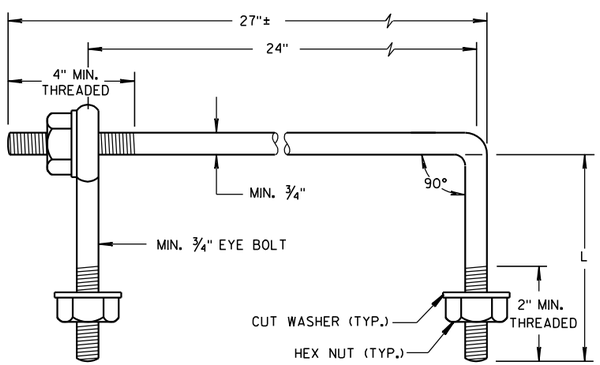
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

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



EYE BOLT AND TIE ROD

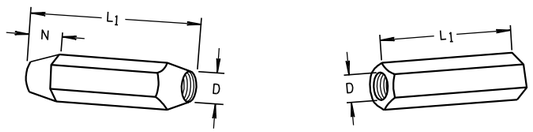
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

ADJUSTABLE TIE ROD TABLE

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

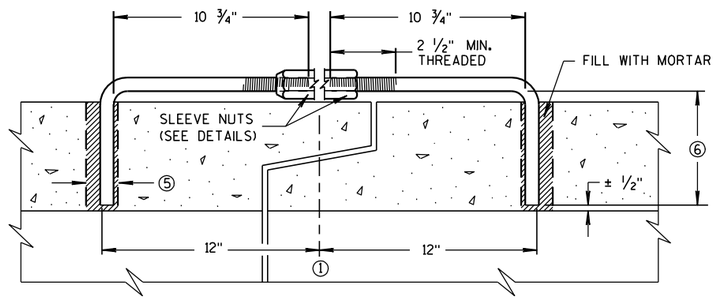
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

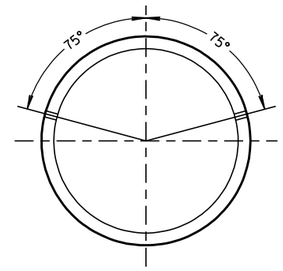
SLEEVE NUTS



LONGITUDINAL SECTION

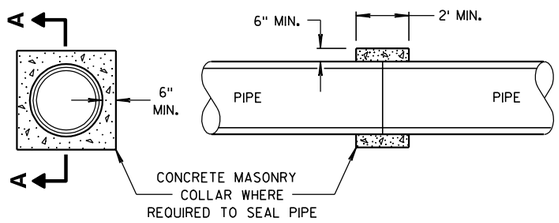
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

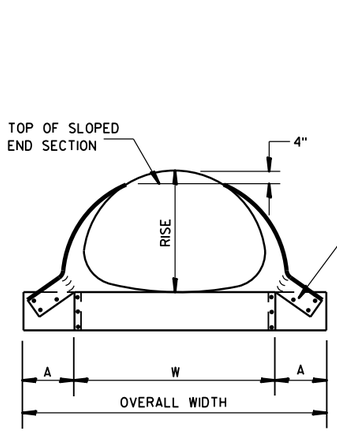
APPROVED
6/5/2012 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
288
FHWA

6

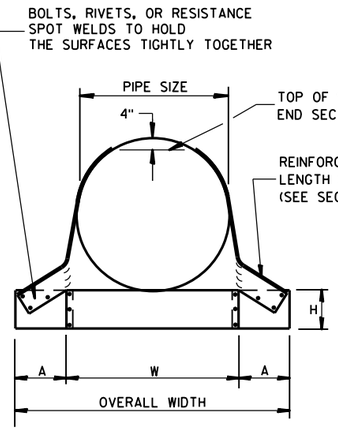
S.D.D. 8 F 4-7

6

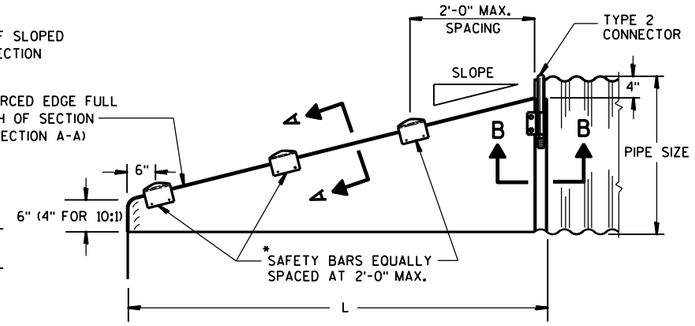
S.D.D. 8 F 4-7



FRONT VIEW



FRONT VIEW



SIDE VIEW

GENERAL NOTES

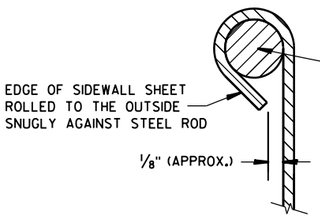
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

SLOPED END SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, SECTION 521 FOR STEEL APRON ENDWALLS.

SAFETY BARS SHALL BE FABRICATED FROM GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A-53, GRADE B, SCHEDULE 40 OR APPROVED EQUAL.

STEEL APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS

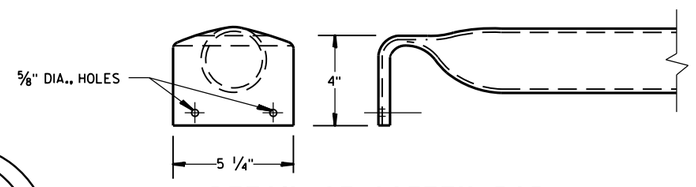
PIPE DIA. (IN.)	MIN. THICK. (Inches)	DIMENSIONS (Inches)				L DIMENSIONS					
		A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
15	.064	8	6	21	37	4:1	20	6:1	30	10:1	70
18	.064	8	6	24	40	4:1	32	6:1	48	10:1	100
21	.064	8	6	27	43	4:1	44	6:1	66	10:1	130
24	.064	8	6	30	46	4:1	56	6:1	84	10:1	160
30	.109	12	9	36	60	4:1	80	6:1	120	10:1	220
36	.109	12	9	42	66	4:1	104	6:1	156	10:1	280
42	.109	16	12	48	80	4:1	128	6:1	192	——	——
48	.109	16	12	54	86	4:1	152	6:1	228	——	——
54	.109	16	12	60	92	4:1	176	6:1	264	——	——
60	.109	16	12	66	98	4:1	200	6:1	300	——	——



SECTION A-A

*NOTE:
THREE SAFETY BARS ARE SHOWN. ACTUAL NUMBER OF BARS REQUIRED AT A 2'-0" C-C MAX. SPACING WILL VARY DEPENDING ON THE LENGTH OF THE END SECTION.

3" GALVANIZED PIPE. FLATTEN ENDS, THEN BEND OUTSIDE 4" TO MATCH END SECTION SIDES.

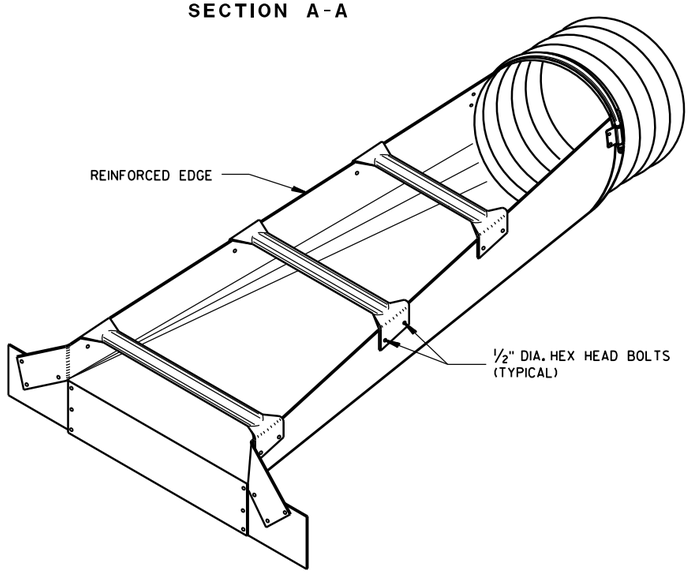


DETAIL OF SAFETY BAR

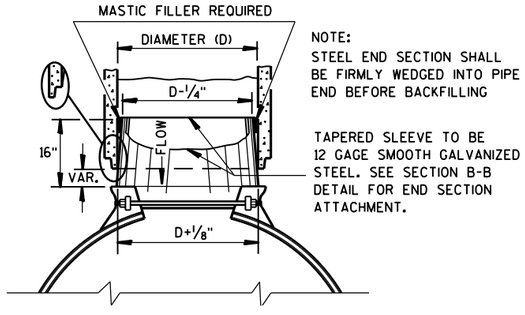
STEEL APRON ENDWALLS FOR PIPE ARCH SLOPED SIDE DRAINS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	MIN. THICK. (Inches) ①	DIMENSIONS (Inches) A	H	W	OVERALL WIDTH	L DIMENSIONS SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
15	17	13	.064 *	7	6	30	44	4:1	19	6:1	30	10:1 ②	70
18	21	15	.064 *	8	6	27	43	4:1	20	6:1	30	10:1	70
21	24	18	.064 *	8	6	30	46	4:1	32	6:1	48	10:1	100
24	28	20	.064 *	8	6	34	50	4:1	40	6:1	60	10:1	120
30	35	24	.079 *	12	9	41	65	4:1	56	6:1	84	10:1	160
36	42	29	.109 *	12	9	48	72	4:1	76	6:1	114	10:1	210
42	49	33	.109	16	12	55	87	4:1	92	6:1	138	——	——
48	57	38	.109	16	12	63	95	4:1	112	6:1	168	——	——
54	64	43	.109	16	12	70	102	4:1	132	6:1	198	——	——

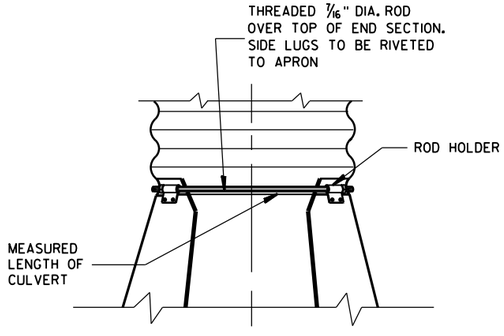
① * MINIMUM THICKNESS OF ALL 10:1 SLOPED SIDE DRAINS IS 0.109".
② ACTUAL SLOPE GREATER THAN 10:1.



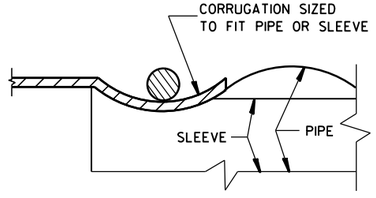
ISOMETRIC VIEW



STEEL ADAPTER SLEEVE FOR CONCRETE PIPE



TYPE 2
CONNECTION DETAIL



SECTION B-B

STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE DRAINS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/14/2012 DATE
/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

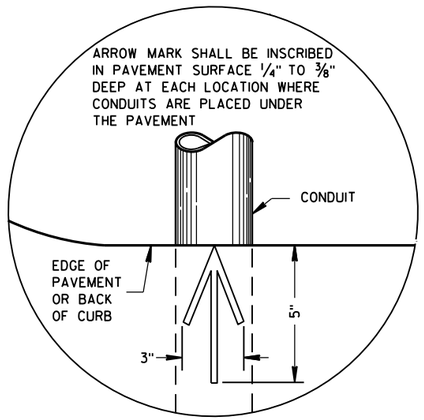
289

6

S.D.D. 8 F 7-5

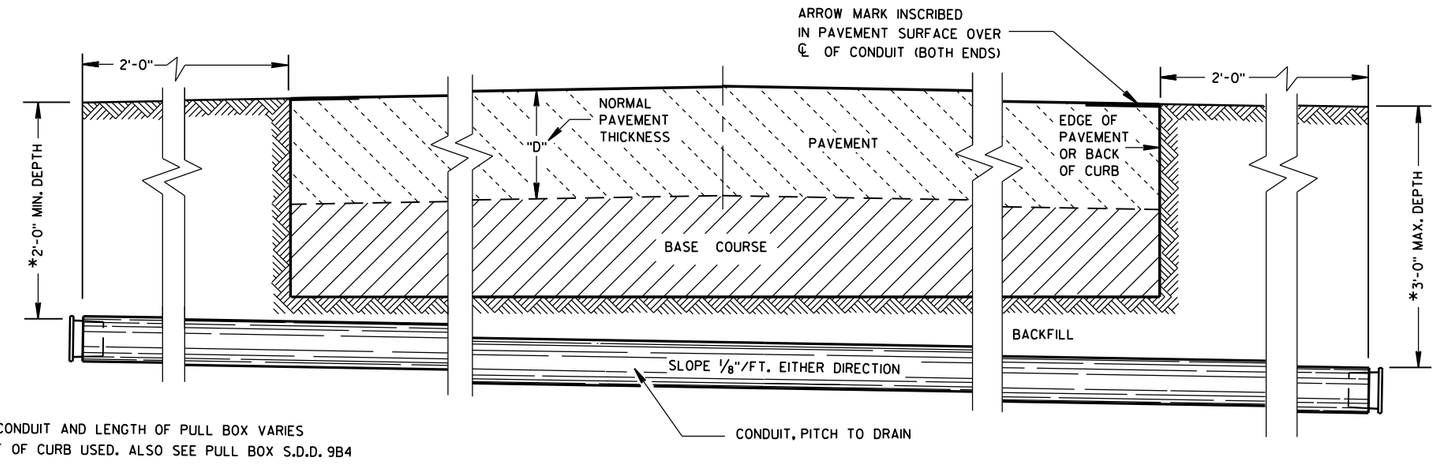
6

S.D.D. 8 F 7-5



PLAN VIEW

ARROW MARK



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

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

GENERAL NOTES

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

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

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

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

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

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

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

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

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

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

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

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

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

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

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

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

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

TRACER WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

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

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March, 2017 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

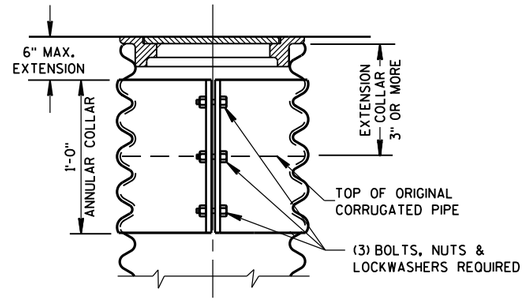
S.D.D. 9 B 2-10

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

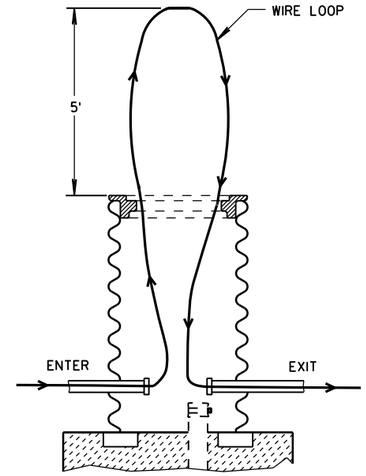
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2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

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

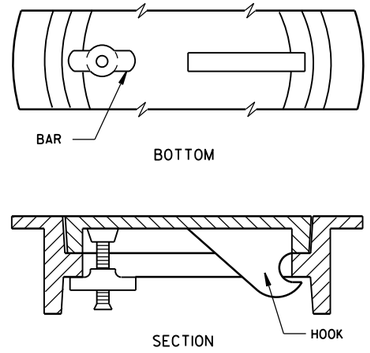
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

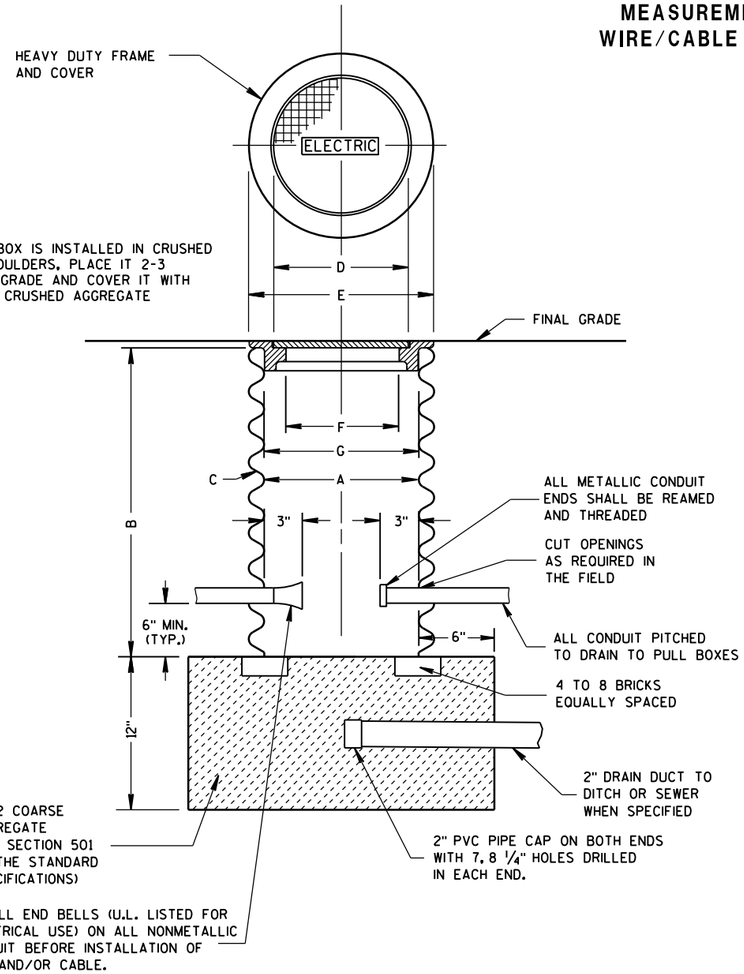


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



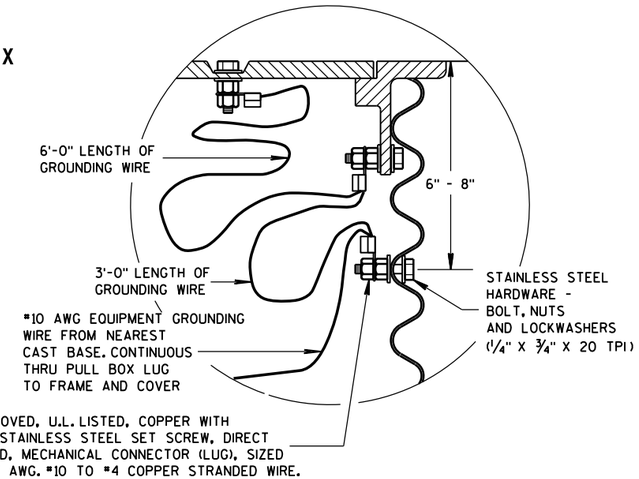
ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE



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

PULL BOX



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

GENERAL NOTES

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

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

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

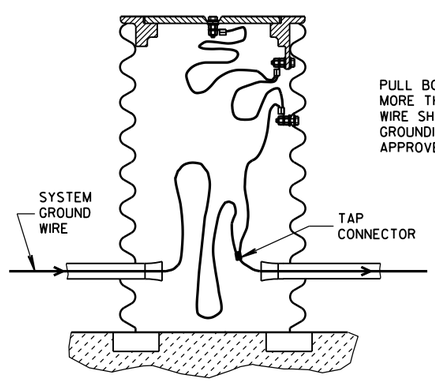
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

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

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

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

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



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

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

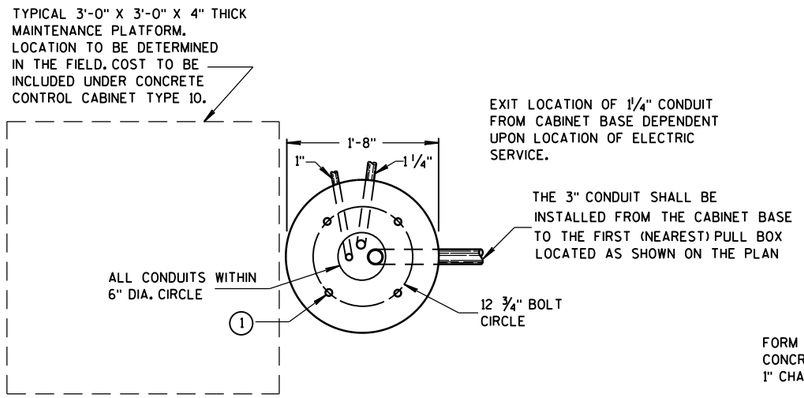
S.D.D. 9 B 4-11

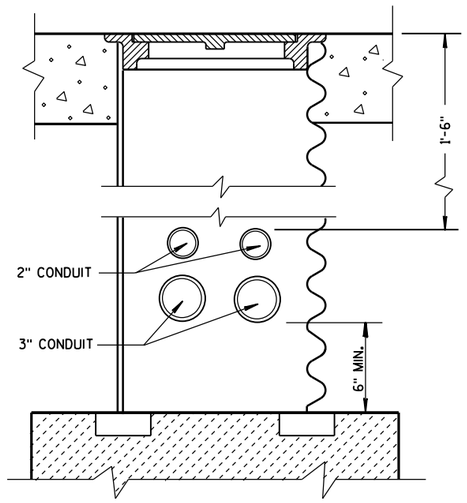
6

S.D.D. 9 B 4-11

CONTROL CABINET BASE TYPE	DIMENSIONS				C.Y. CONCRETE (APPROX.)
	H	I	J	K	
TYPE 6 - 30" CABINET	34"	60"	10"	17"	.64
TYPE 7 - 38" CABINET	42"	60"	10"	21"	.93
TYPE 8 - 38" CABINET	42"	72"	12"	21"	1.29
TYPE 9 - VARIABLE	54"	72"	14"	27"	1.56
TYPE 10 - POST MOUNT	AS SHOWN				.65 *

* INCLUDES MAINTENANCE PLATFORM.





CONDUIT LOCATIONS IN 24" X 36" PULL BOX

(LEADING TO CONTROLLER CABINET BASE TYPE 6, 7, 8 AND 9)

GENERAL NOTES

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

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

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

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

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

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

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

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

WHEN A TYPE 10 CONTROL CABINET BASE IS USED TO POST MOUNT A CONTROL CABINET, A 36" SQUARE 4" THICK CONCRETE MAINTENANCE PLATFORM SHALL BE REQUIRED ON THE DOOR SIDE OF THE CABINET. THE TOP 1 INCH SHALL BE ABOVE FINISHED GRADE AND BE BROOM FINISHED AND LEVEL.

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

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

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

ALL FOUR (TWO INCH AND THREE INCH) CONDUIT SHALL BE INSTALLED FROM THE CABINET BASE TO THE FIRST (NEAREST PULL BOX LOCATED AS SHOWN ON THE PLANS.

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

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

WHEN ANCHOR RODS USING THE ALTERNATE L BEND ARE FURNISHED FOR THE TYPE 10 BASE, THE 4" L BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH.

THE "L" BEND SHALL NOT BE THREADED.

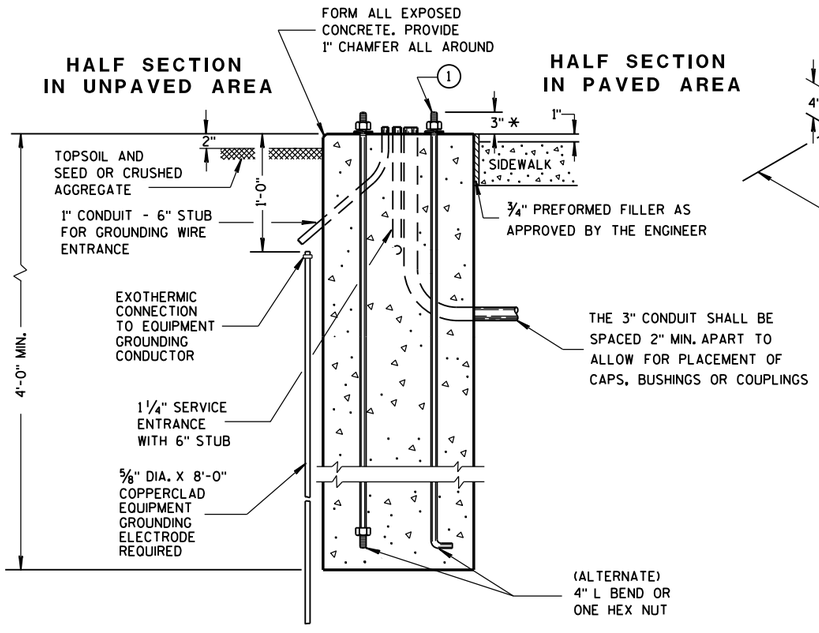
STRAIGHT ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD.

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

(1) FOUR (4) ANCHOR RODS, 1" DIA. X 3'-6". ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

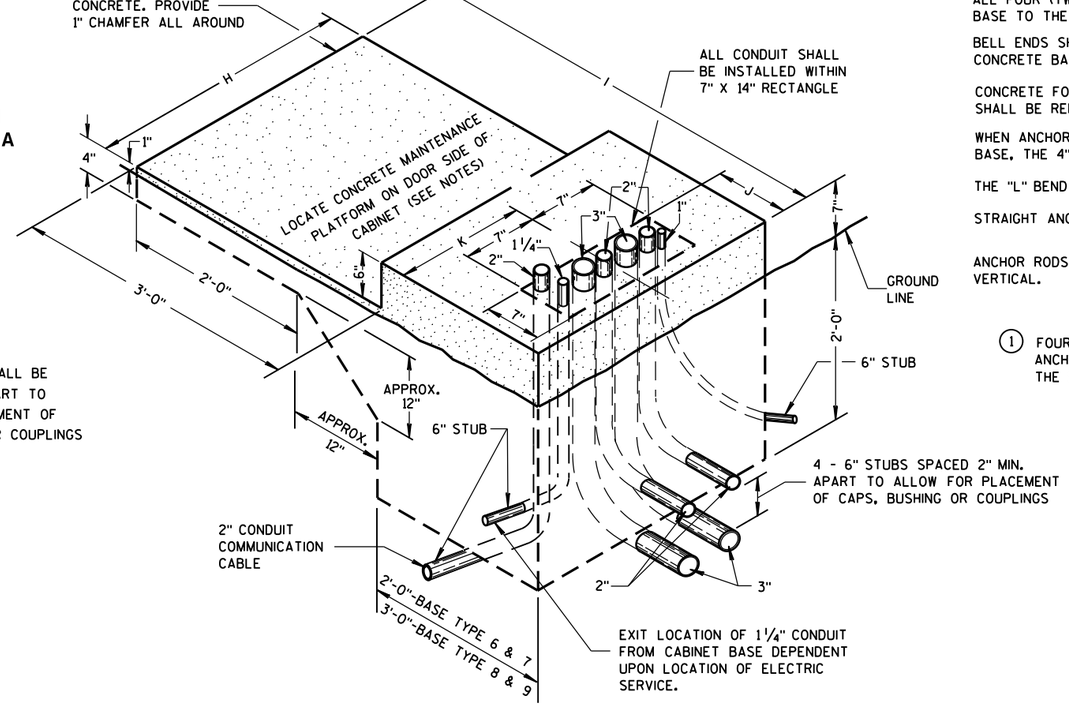
HALF SECTION IN UNPAVED AREA

HALF SECTION IN PAVED AREA



TYPE 10

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



TYPE 6,7,8 AND 9
(ISOMETRIC VIEW)

CONCRETE CONTROL CABINET BASES

CONCRETE CONTROL CABINET BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

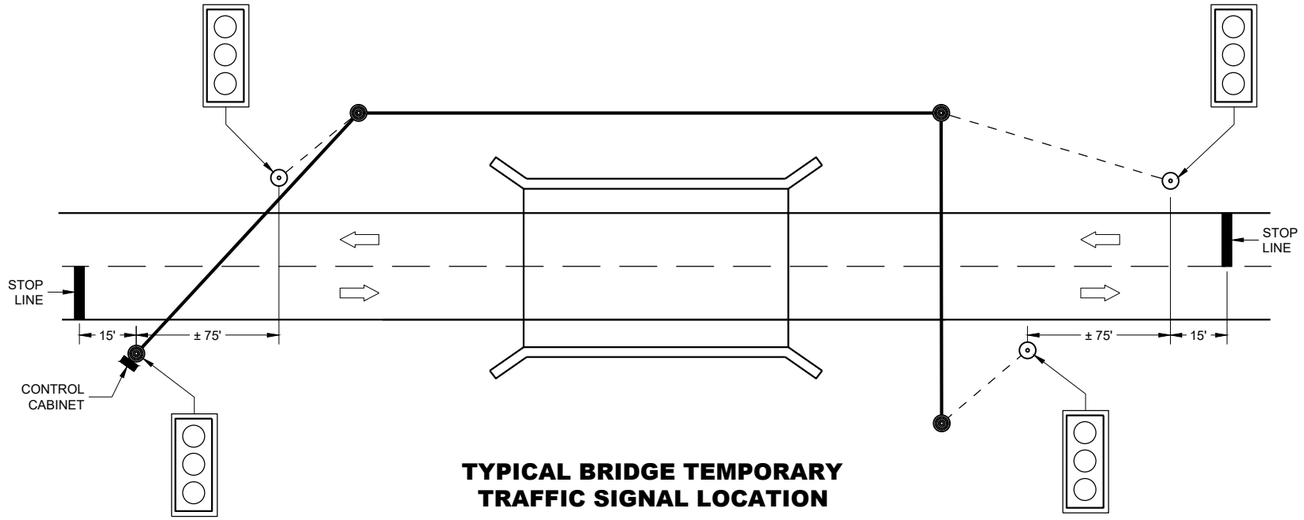
APPROVED
Sept. 2016 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 C 5-10

6

S.D.D. 9 C 5-10



TYPICAL BRIDGE TEMPORARY TRAFFIC SIGNAL LOCATION

LEGEND

- WOOD POLE (NON-BREAKAWAY)
- WOOD POST (BREADAWAY)
- SIGNAL CABLE
- SIGNAL CABLE W/MESSENGER
- DIRECTION OF TRAFFIC
- LED TRAFFIC SIGNAL WITH BACKPLATE (3-12")

GENERAL NOTES

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

POLE MOUNTED TRAFFIC SIGNAL CONTROL CABINET MAY BE MOUNTED ON THE SERVICE POLE IF THE ELECTRICAL UTILITY ALLOWS THE INSTALLATION.

WHEN UTILITY POLES ARE USED TO SPAN THE TEMPORARY OVERHEAD CABLE, WRITTEN PERMISSION MUST BE OBTAINED FROM THE OWNER OF THE POLES AND GIVEN TO THE PROJECT MANAGER. ALL PERTINENT UTILITY AND CODE CLEARANCES SHALL BE MAINTAINED.

WOOD POLES (NON-BREAKAWAY) SHALL BE NO CLOSER TO EDGE OF PAVEMENT THAN OFFSET DISTANCE CHART ALLOWS OR 4 FEET BEHIND PROTECTIVE BARRIER (BEAM GUARD, ETC.).

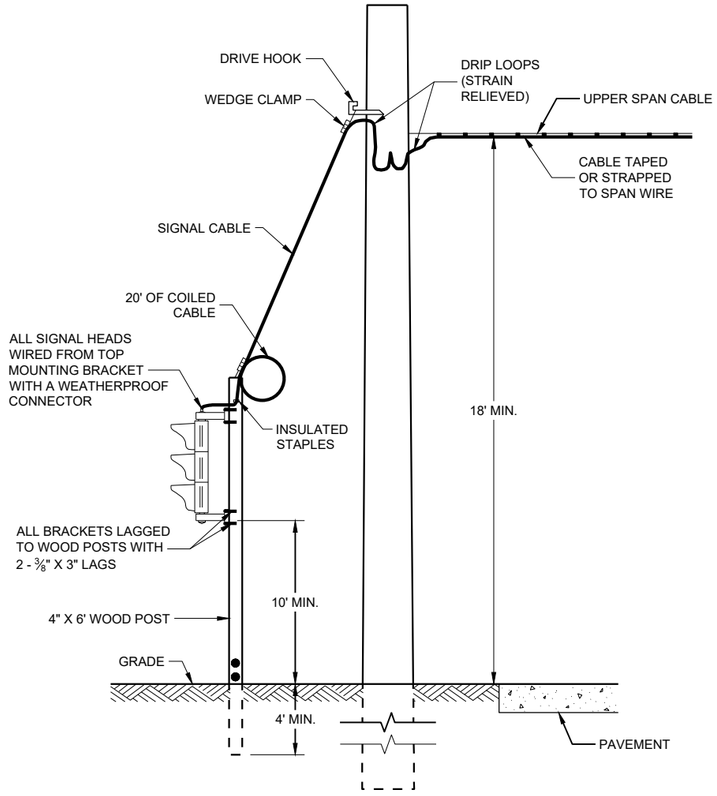
WOOD POSTS (BREAKAWAY) SHALL BE NO CLOSER THAN 2 FEET OUTSIDE OF SHOULDER.

VERTICAL CLEARANCE ETC. PER NEC.

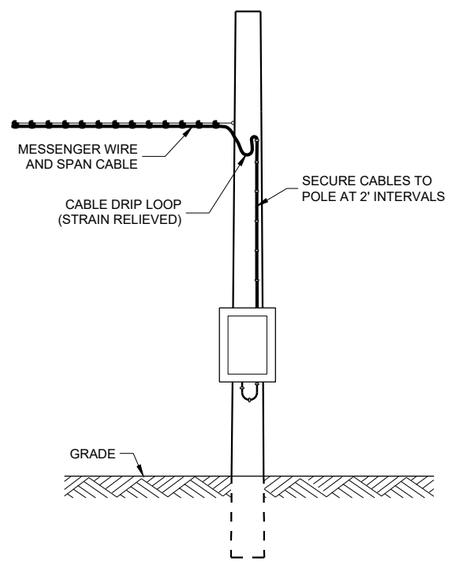
TRAFFIC SIGNAL FACES SHALL BE TYPICALLY PLACED 12 FEET FROM EDGE OF PAVEMENT.

EACH TRAFFIC SIGNAL SHALL HAVE A BACKPLATE.

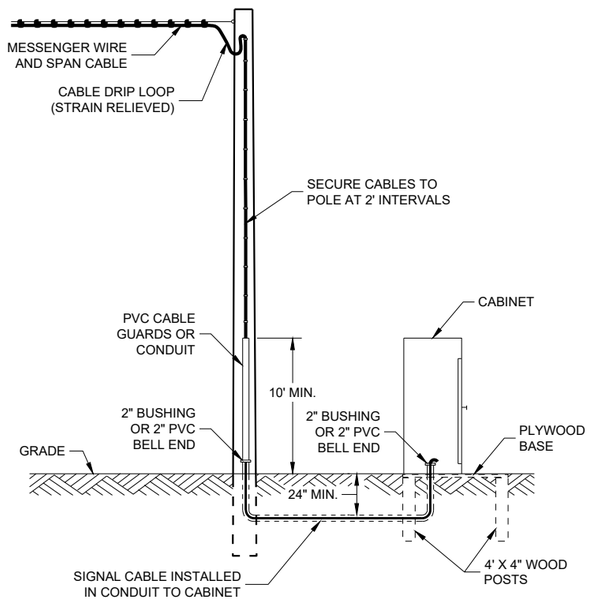
SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15D33.



TYPICAL DROP TO TRAFFIC SIGNAL FACE



POLE MOUNT CABINET INSTALLATION



GROUND MOUNT CABINET INSTALLATION

MINIMUM POLE LENGTHS	CLASS	POLE BURIAL DEPTHS
25'	V	5'
30'	V	6'
35'	IV	7'
40'	IV	8'
45'	IV	9'

OFFSET DISTANCES FOR TEMPORARY NON-BREAKAWAY POLES	
SPEED LIMIT	OFFSET DISTANCE*
GREATER THAN 45 MPH	18 FT
45 MPH OR LESS	12 FT
45 MPH OR LESS W/CURBS	2 FT

* NOTE: OFFSET MEASURED FROM OUTER EDGE OF OUTSIDE THRU LANE.

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Ahmet Demirbilek — ROADWAY STANDARDS DEVE ENGINEER

FHWA

6

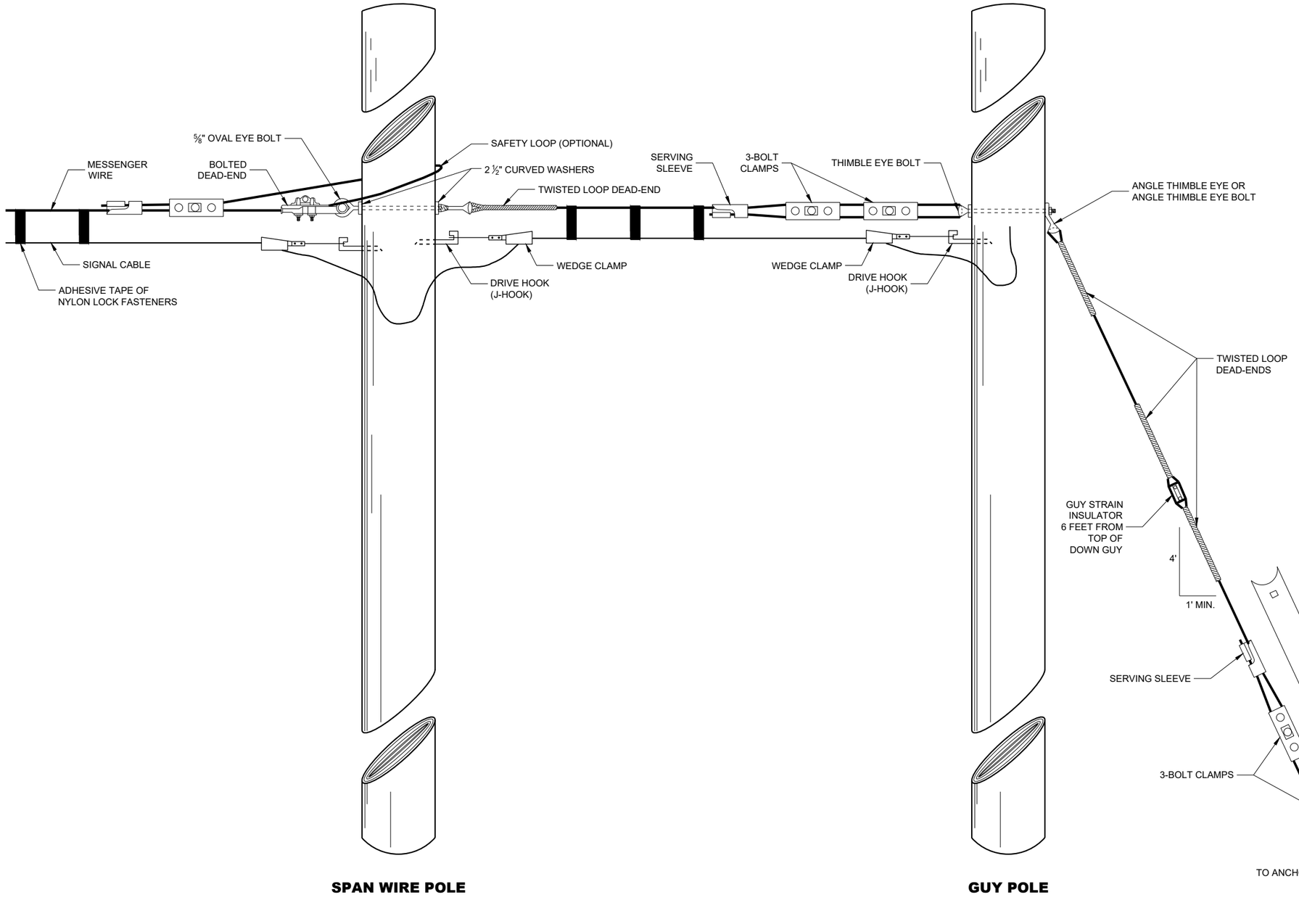
SDD09G02 - 05a

6

SDD09G02 - 05a

GENERAL NOTES

USE ¾" DRILL IN WOOD POLE TO PROVIDE FOR ⅝" BOLTS.



SPAN WIRE POLE

GUY POLE

TYPICAL DEAD-ENDINGS OR GUYING

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2015
DATE

/S/ Ahmet Demerbilek
ROADWAY STANDARDS DEVE ENGINEER

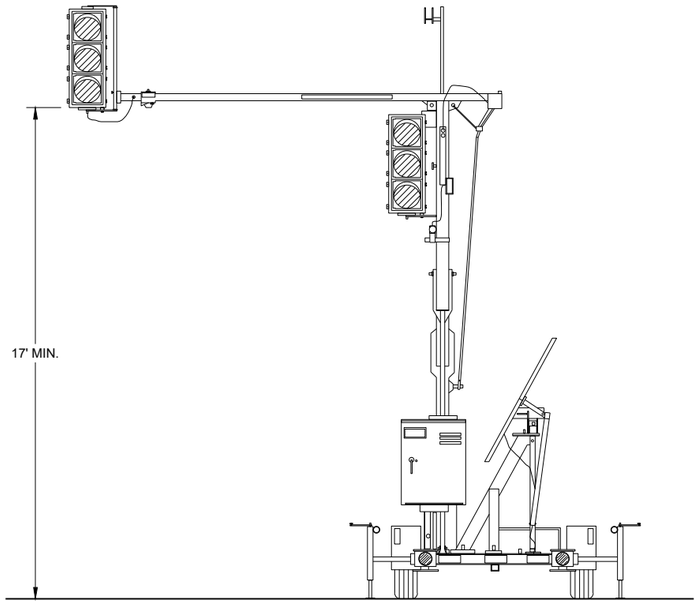
FHWA

6

SDD09G02 - 05b

6

SDD09G02 - 05b

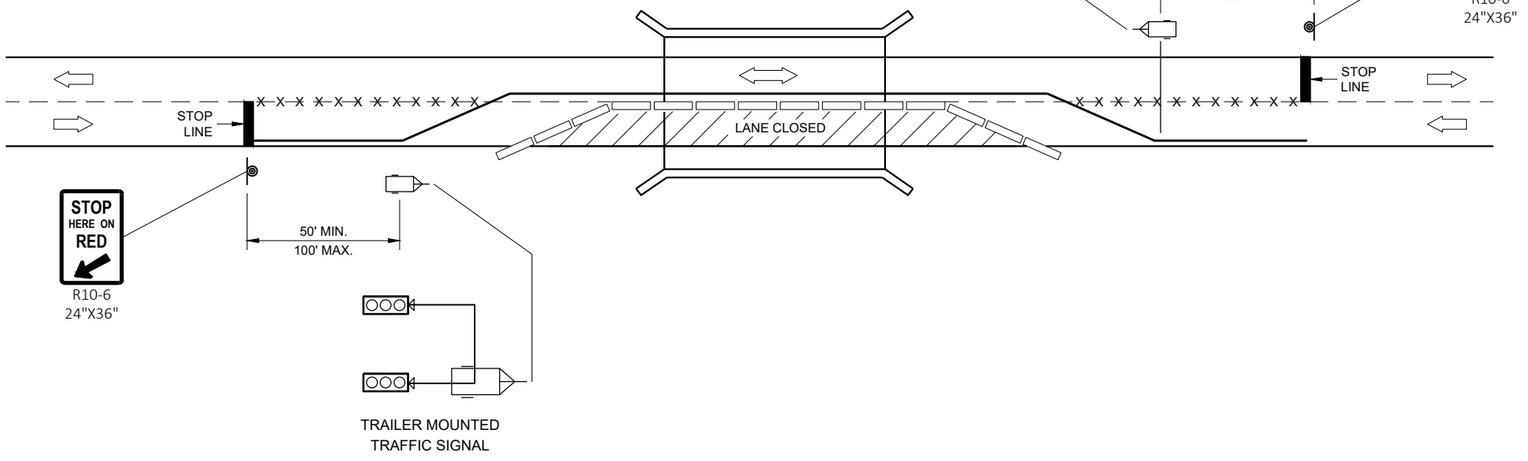


TRAILER MOUNTED TRAFFIC SIGNAL

GENERAL NOTES

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

SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15D33.



TYPICAL TRAILER MOUNTED TRAFFIC SIGNAL LOCATION

LEGEND

- POST MOUNTED SIGN
- TEMPORARY PRECAST CONCRETE BARRIER
- TRAILER MOUNTED TRAFFIC SIGNAL
- REMOVE PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2015
DATE

/S/ Ahmet Demerbilek
ROADWAY STANDARDS DEVE ENGINEER

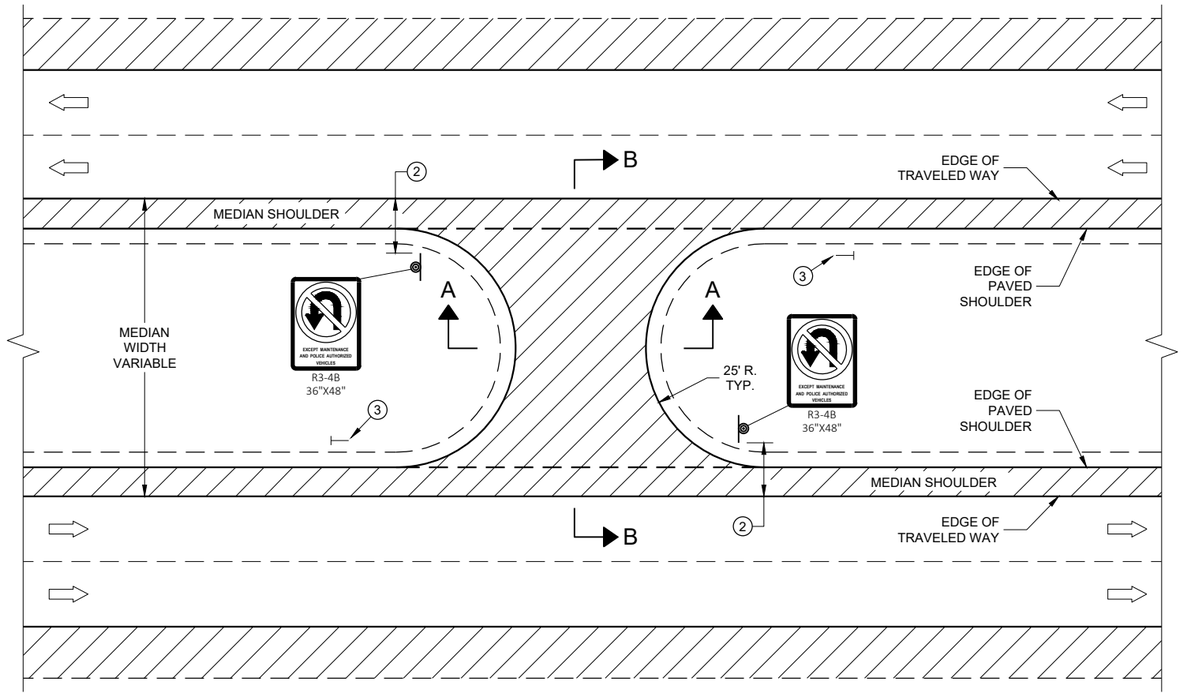
FHWA

6

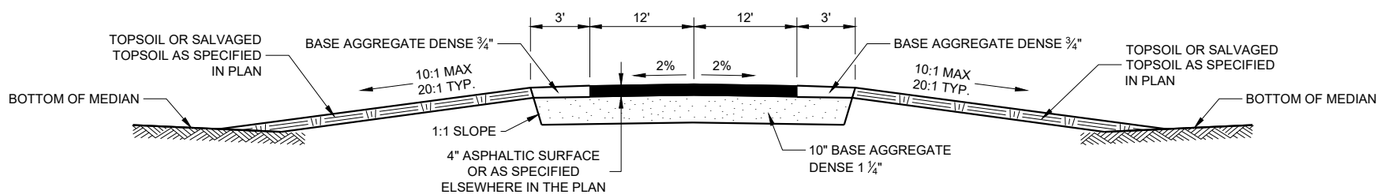
SDD09G02 - 05c

6

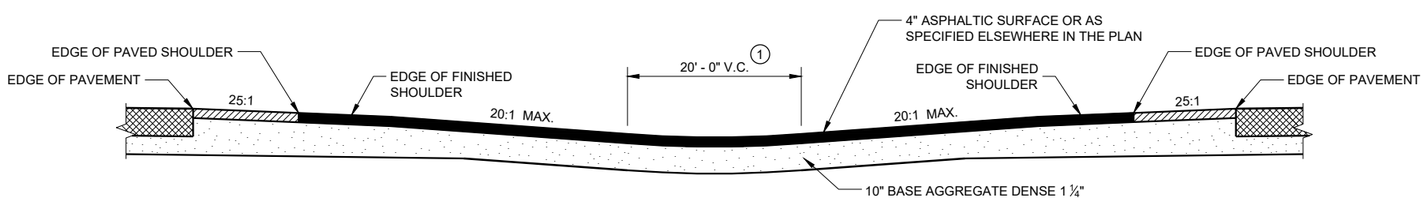
SDD09G02 - 05c



PLAN VIEW



SECTION A-A



SECTION B-B

GENERAL NOTES

1. ADJUST VERTICAL CURVE LOCATION LATERALLY TO MAINTAIN 20:1 MAX.
2. SIGNING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.
3. INSTALL DELINEATOR. SEE STANDARD DETAIL DRAWING 15A4.

LEGEND

- SIGN ON PERMANENT SUPPORT
- DELINEATOR
- DIRECTION OF TRAFFIC

MAINTENANCE CROSSOVER FOR FREEWAYS

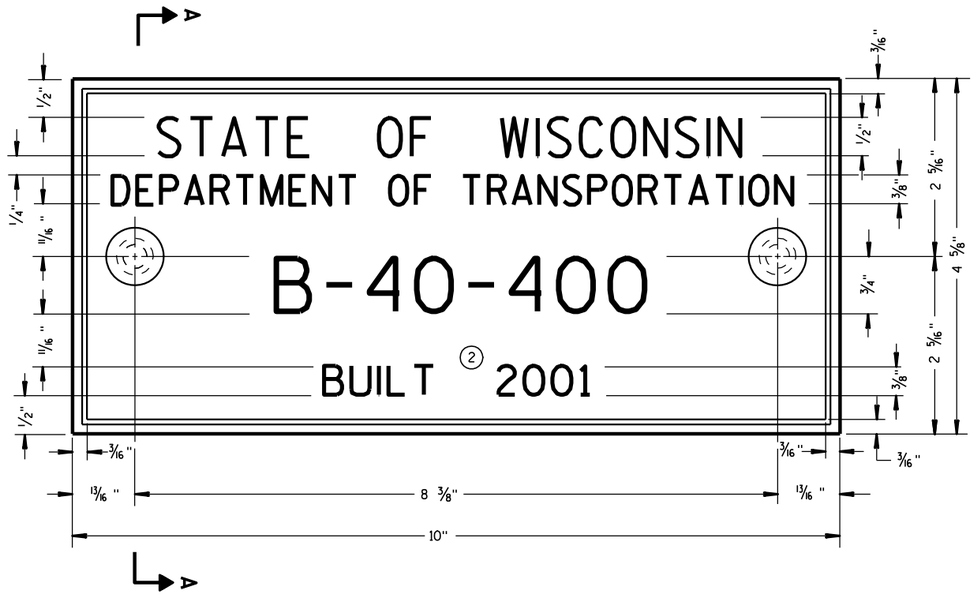
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

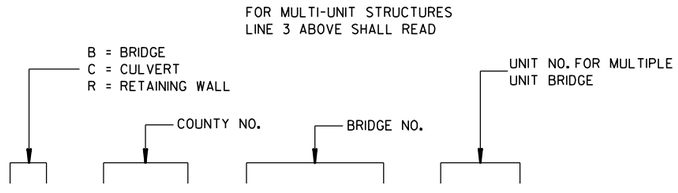
FHWA

6
SDD 11A01 - 06



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

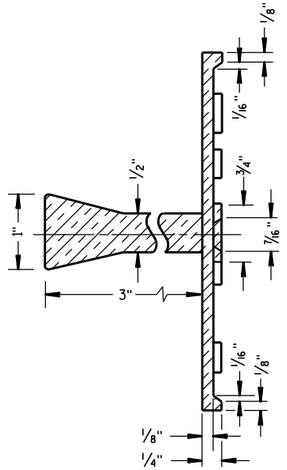
GENERAL NOTES

NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

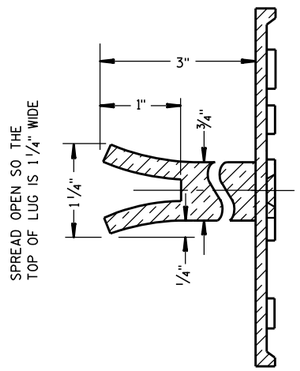
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

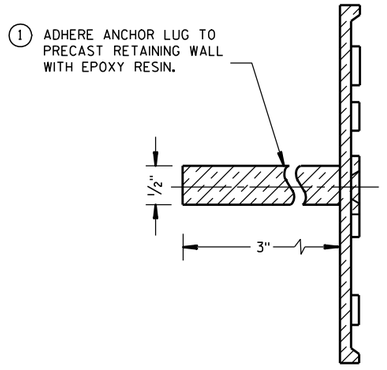
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

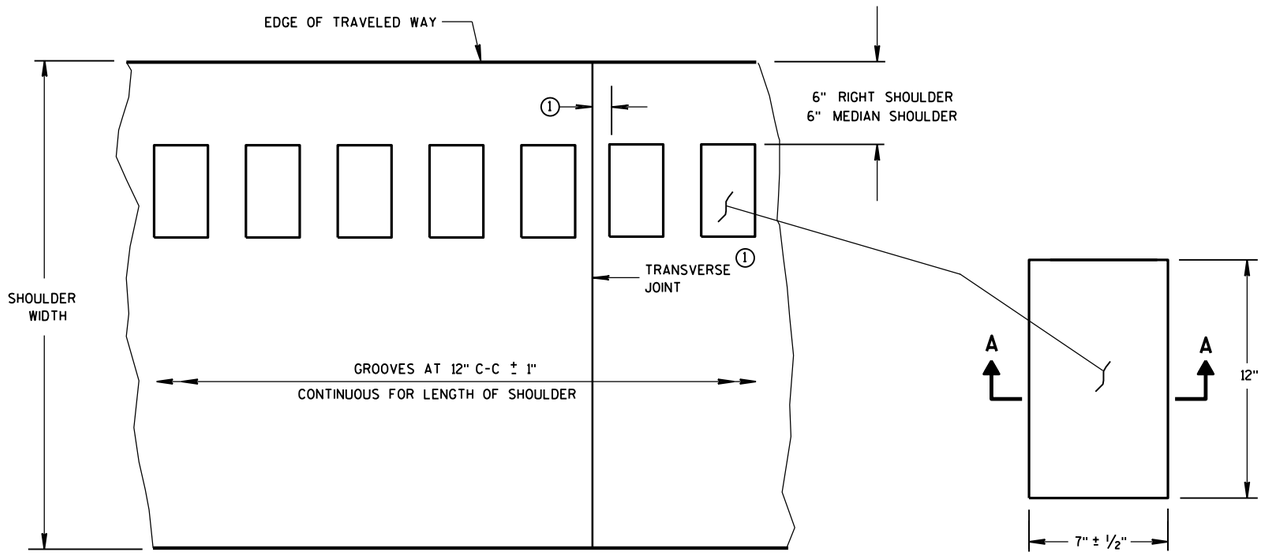
NAME PLATE (STRUCTURES)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
3/26/10 DATE	/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP 297 ENGINEER
FHWA	

6

S.D.D. 12 A 3-10

6

S.D.D. 12 A 3-10



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

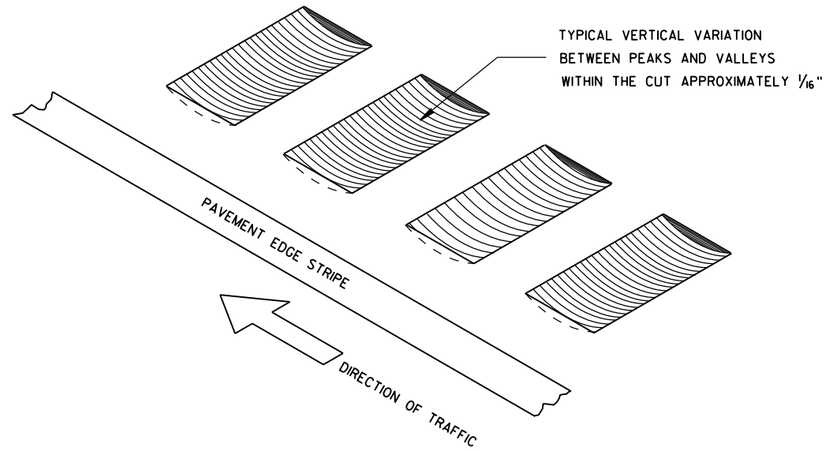
GENERAL NOTES

DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

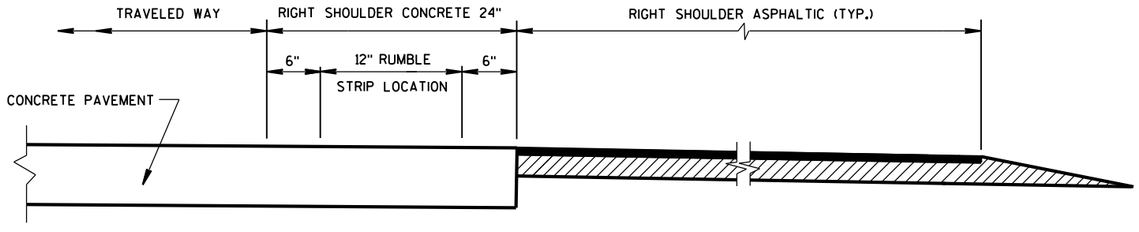
RUMBLE STRIPS ON EXPRESSWAYS

DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS, PRIVATE DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, BRIDGE DECKS, BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSING. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

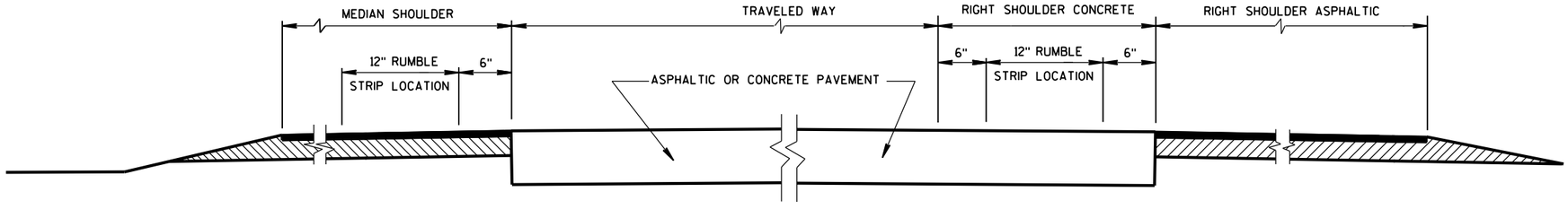
(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



ISOMETRIC



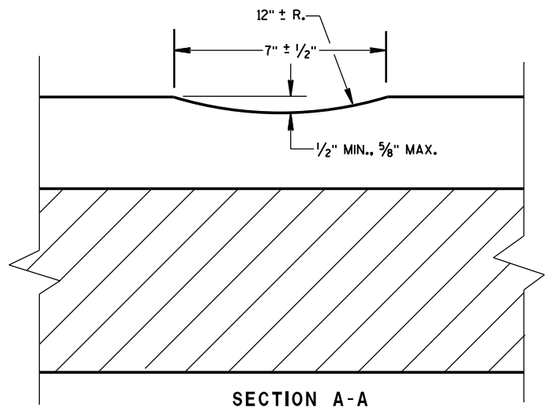
SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



SECTION VIEW

TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

(ONE ROADWAY IS SHOWN)



SECTION A-A

SHOULDER RUMBLE STRIP, MILLING

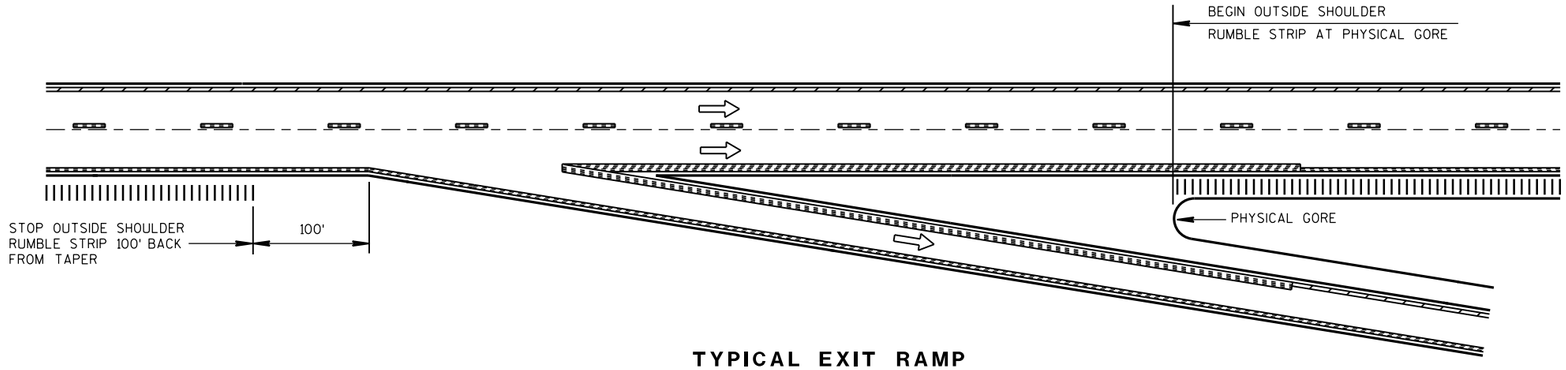
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 13 A 5-5a

6

S.D.D. 13 A 5-5a



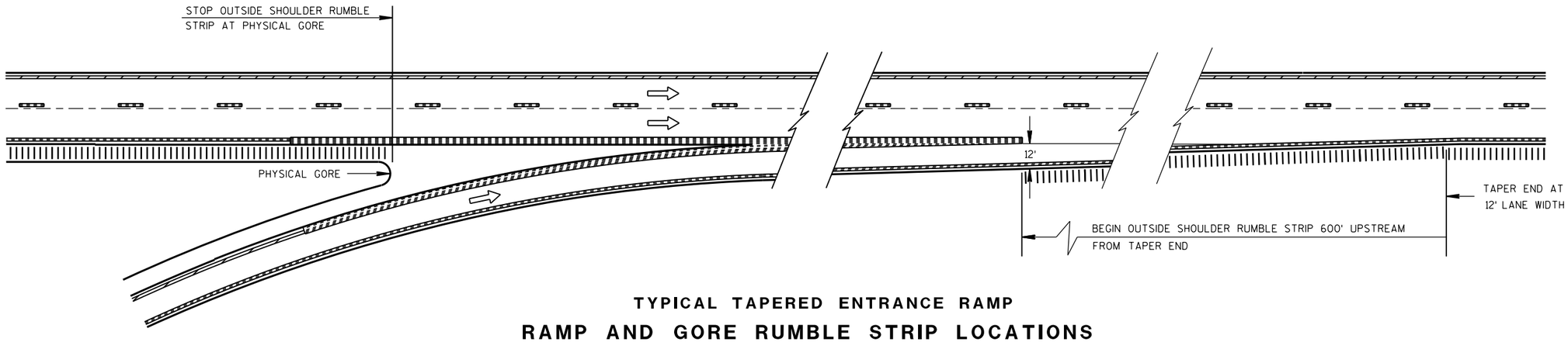
TYPICAL EXIT RAMP

NOTES:

NO RUMBLE STRIP ON EXIT, DIRECTIONAL, OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

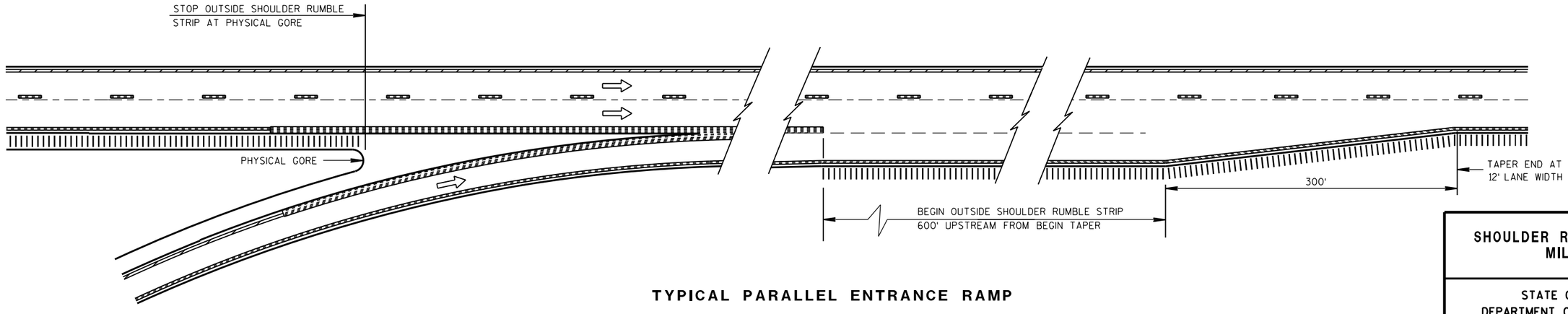
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TYPICAL TAPERED ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS



TYPICAL PARALLEL ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS

SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

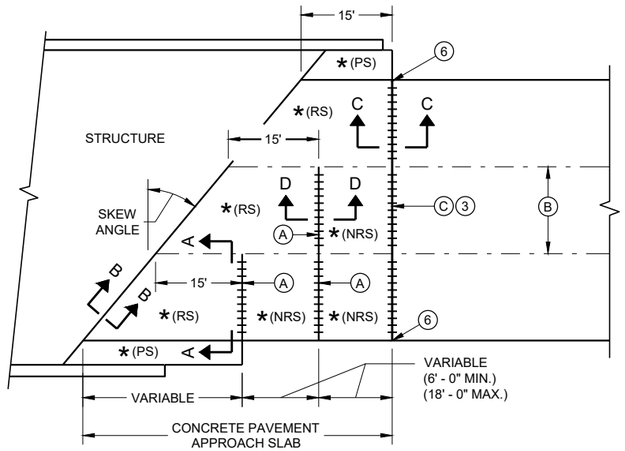
APPROVED
12/17/2012 — DATE
/S/ Jerry H. Zoga — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 13 A 5-5b

6

S.D.D. 13 A 5-5b



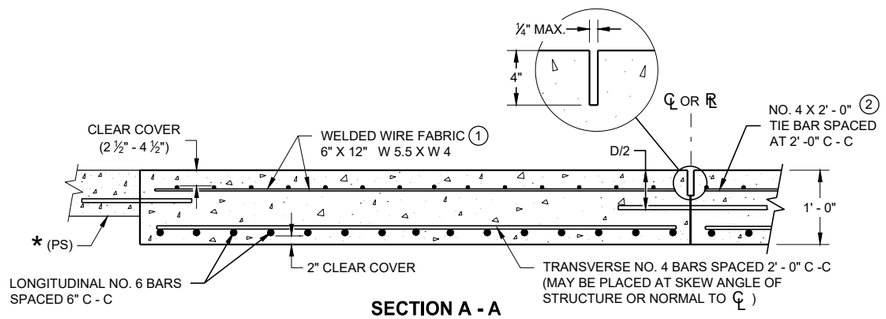
SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)

* (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.

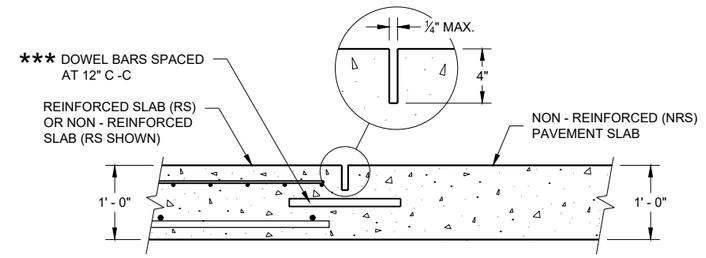
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

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

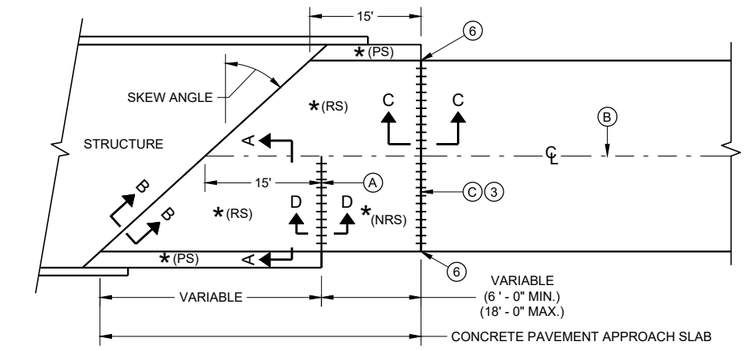
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

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

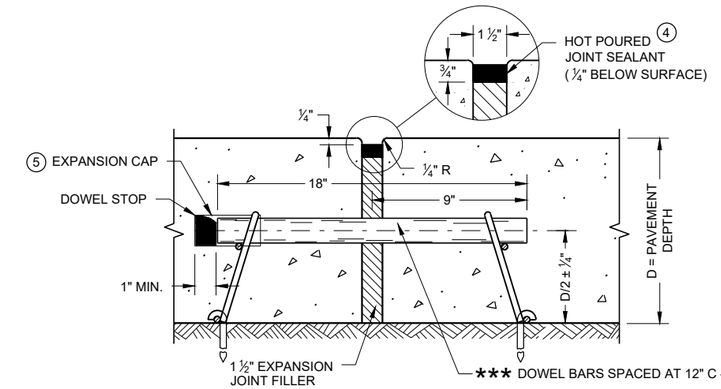


SECTION D - D
CONTRACTION JOINT

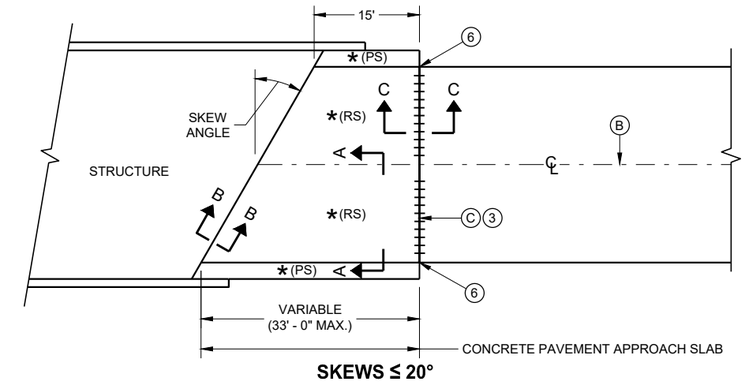


SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')

SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT

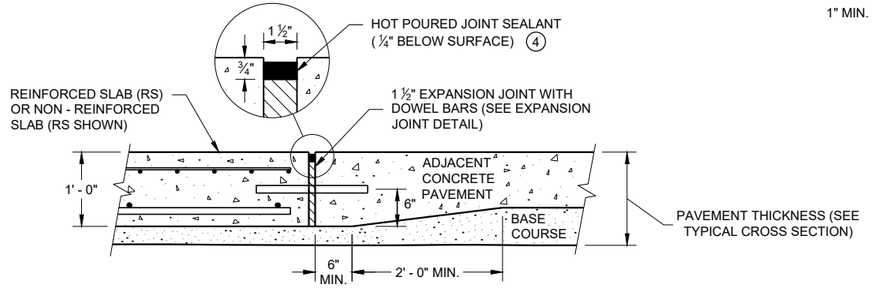


EXPANSION JOINT DETAIL



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 SUPERVIS

300

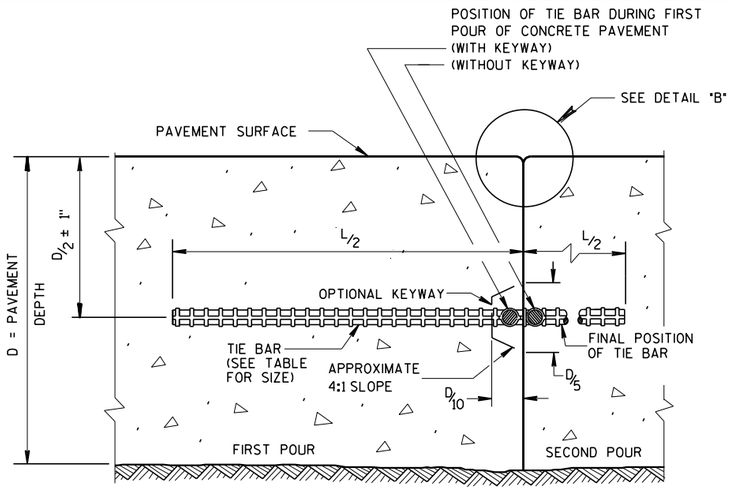
FHWA

6

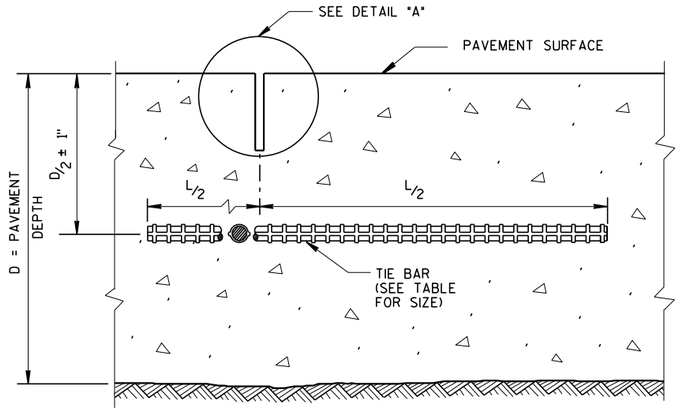
SDD 13B02 - 09a

6

SDD 13B02 - 09a



CONSTRUCTION JOINT



SAWED JOINT

GENERAL NOTES

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

PLAN VIEW

SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

DETAIL "A"

DETAIL "B"

DETAIL "C"

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Peter Kemp — PAVEMENT SUPE
FHWA

6

S.D.D. 13 C 1-19

6

S.D.D. 13 C 1-19

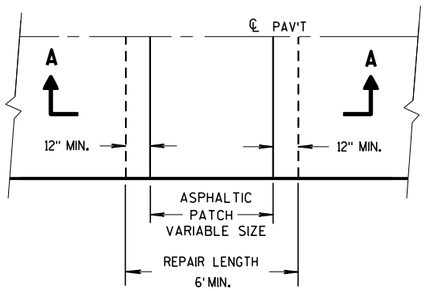
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

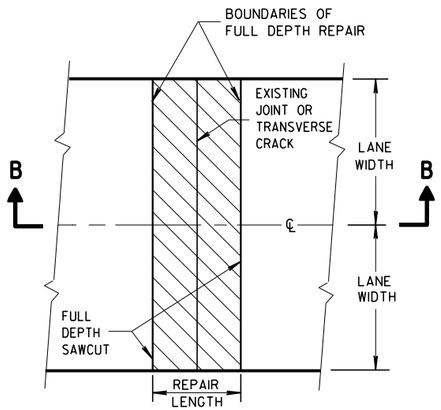
PROVIDE A 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK IN THE SAME LANE.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

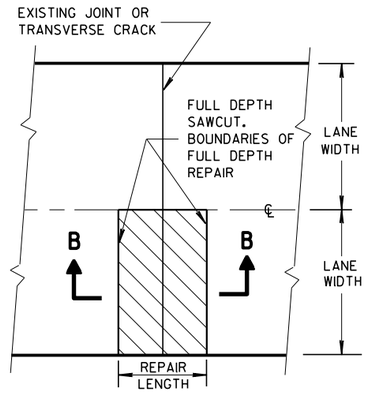
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW

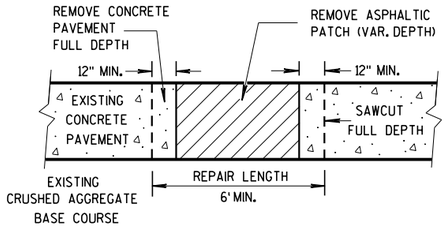


PLAN VIEW
(DOUBLE LANE REPAIR)



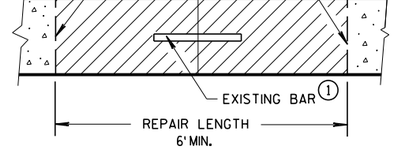
PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

CONCRETE REMOVAL

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

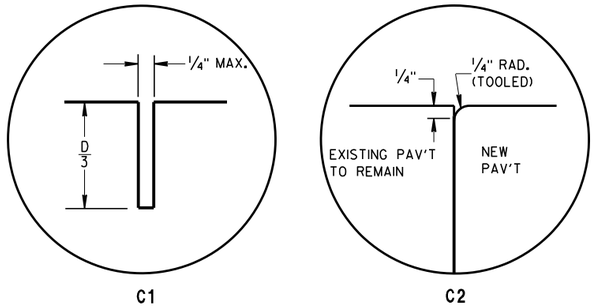
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 13 C 9-15a

6

S.D.D. 13 C 9-15a



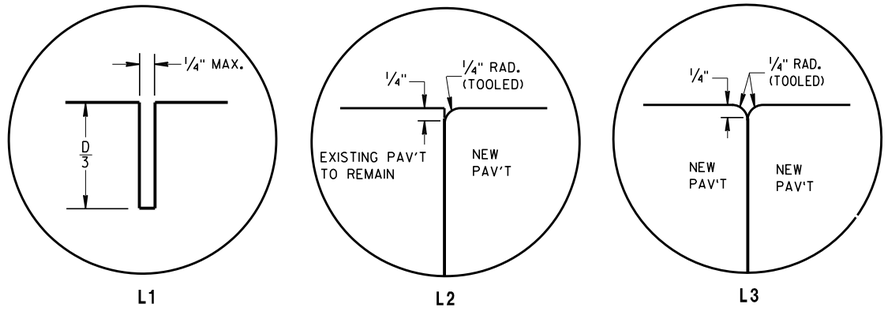
TRANSVERSE JOINTS

TIE BAR TABLE

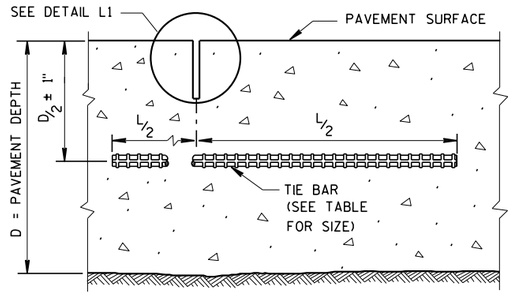
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT

GENERAL NOTES

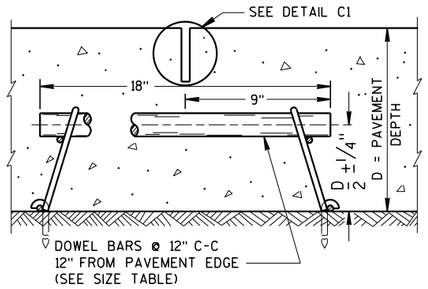
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

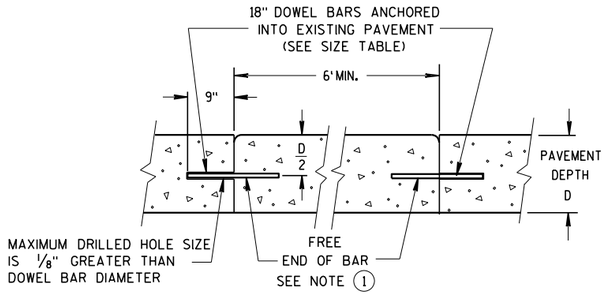
FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

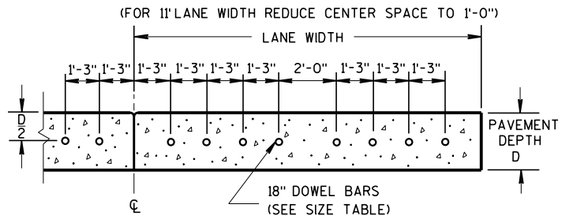


SECTION F-F

CONTRACTION JOINT



SECTION D-D

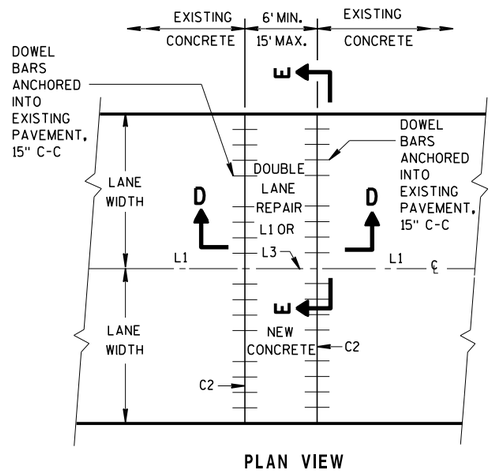


SECTION E-E

DRILLED DOWEL BAR CONSTRUCTION JOINT

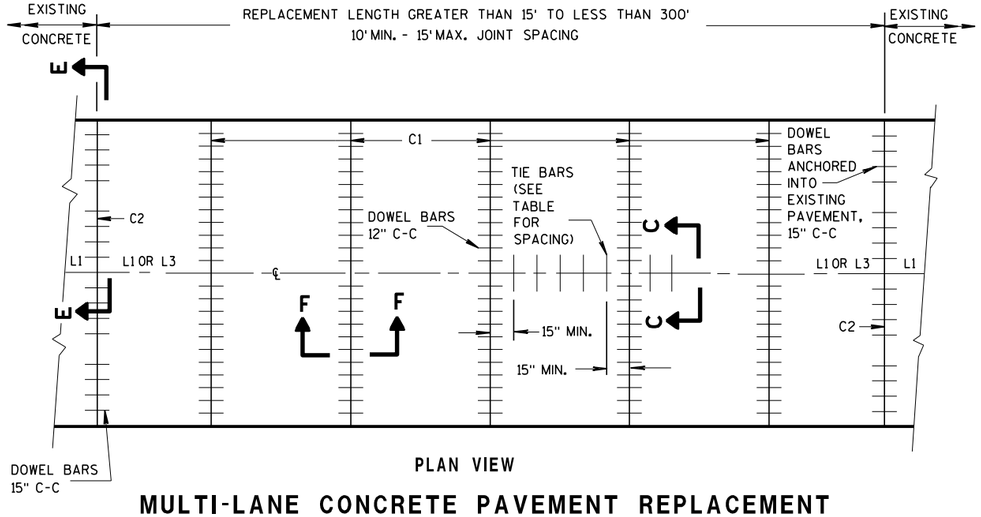
PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	DRILLED DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	NONE	12'
7", 7 1/2"	1"	1"	14'
8", 8 1/2"	1 1/4"	1 1/4"	15'
9", 9 1/2"	1 1/4"	1 1/4"	15'
10" & ABOVE	1 1/2"	1 1/4"	15'



PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPAIR



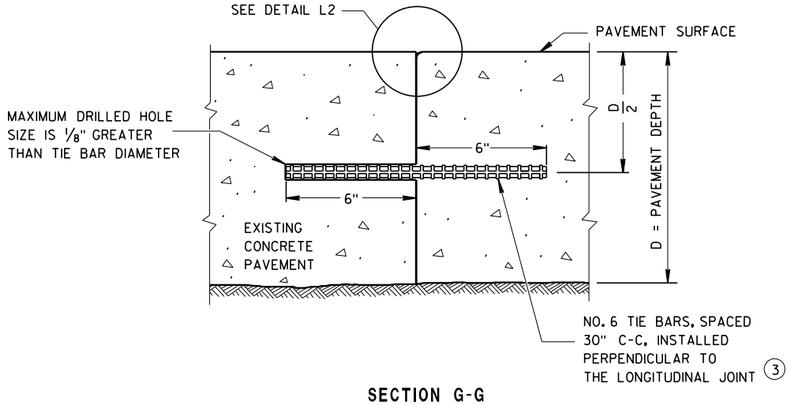
PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

6

S.D.D. 13 C 9-15b



SECTION G-G

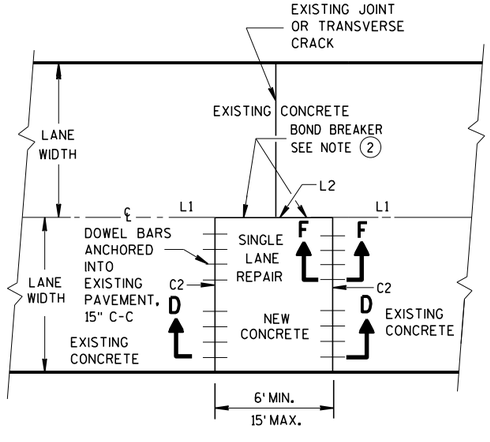
TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

(1) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

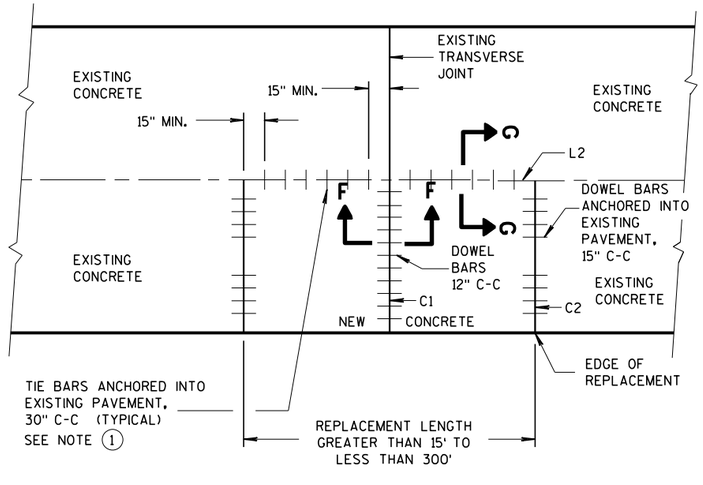
(2) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.

(3) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPLACEMENT

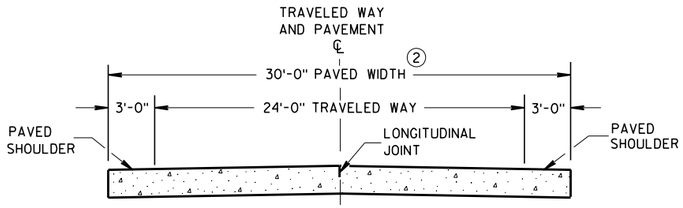
CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

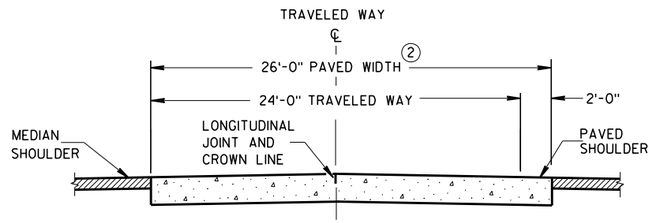
APPROVED
March 2018 — DATE
/S/ Peter Ken... P.E. — PAVEMENT SUPE...
FHWA

6

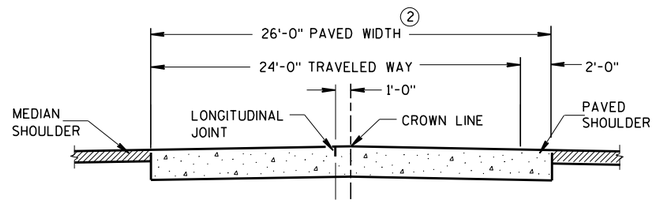
S.D.D. 13 C 9-15c



SECTION A-A
TWO-LANE TWO-WAY HIGHWAY (1)



SECTION B-B



ALTERNATIVE SECTION B-B
(1)
DIVIDED HIGHWAY

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

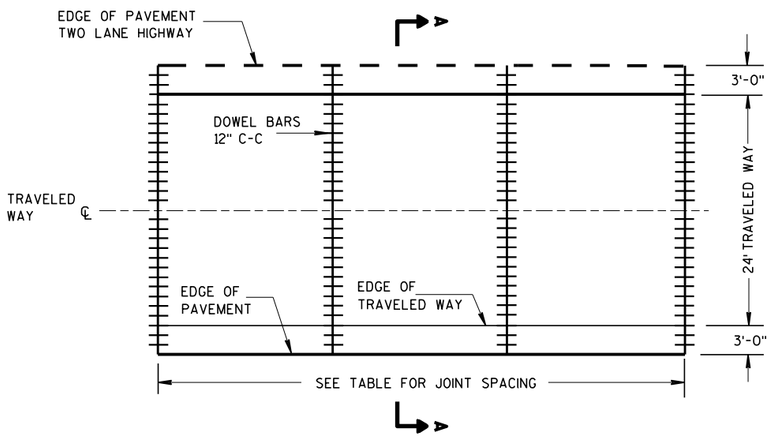
LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

(1) REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.

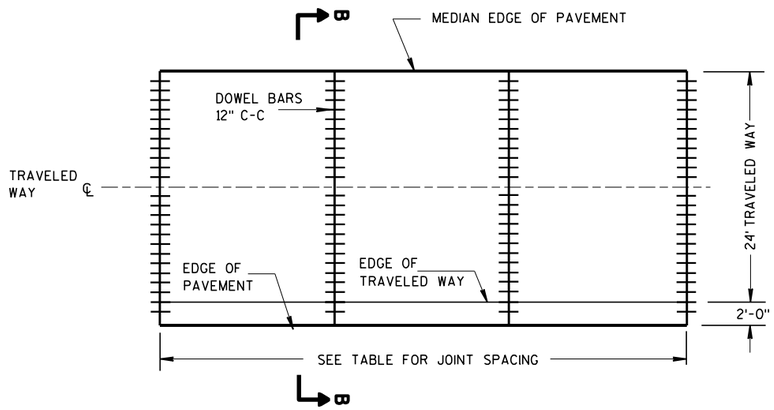
(2) MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



CONTRACTION JOINT LAYOUT
FOR TWO-LANE TWO-WAY HIGHWAY



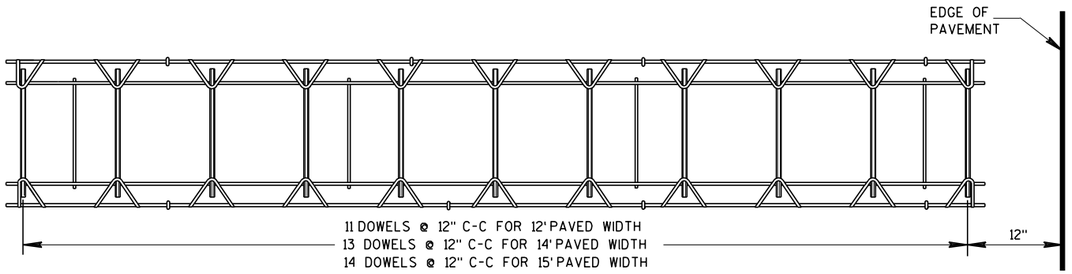
CONTRACTION JOINT LAYOUT
FOR DIVIDED HIGHWAY

RURAL DOWELED CONCRETE PAVEMENT

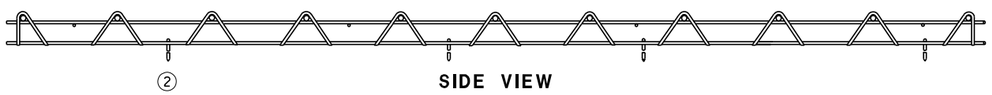
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 13 C 11-12a



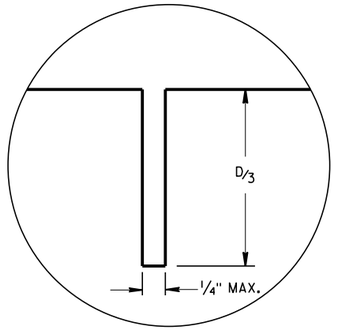
PLAN VIEW



SIDE VIEW

(NORMAL TO CENTERLINE)

CONTRACTION JOINT DOWEL ASSEMBLY ①



JOINT DETAIL

GENERAL NOTES

① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.

② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

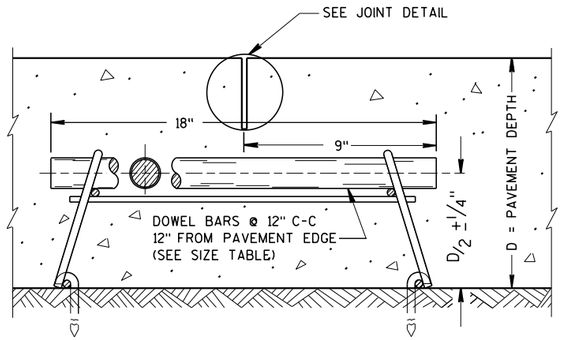
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

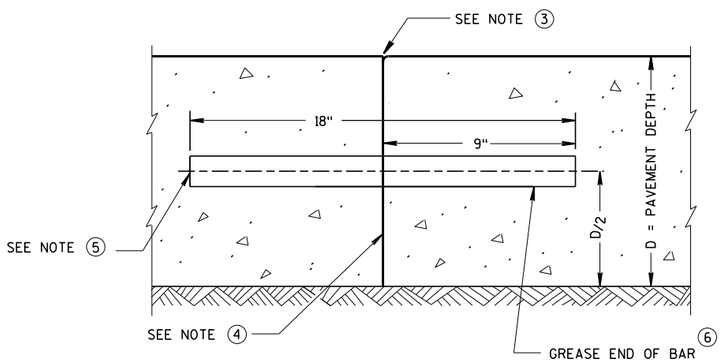
⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

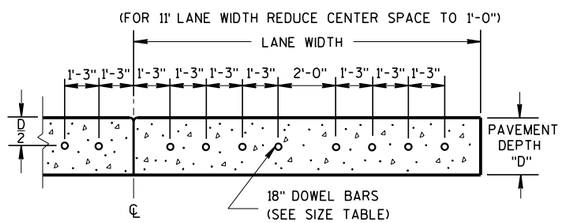
⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



DOWELED CONTRACTION JOINT



TRANSVERSE CONSTRUCTION JOINT



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦

RURAL DOWELED CONCRETE PAVEMENT	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED March 2018 DATE FHWA	/S/ Peter Kemp P.E. PAVEMENT SUP

6

S.D.D. 13 C 11-12b

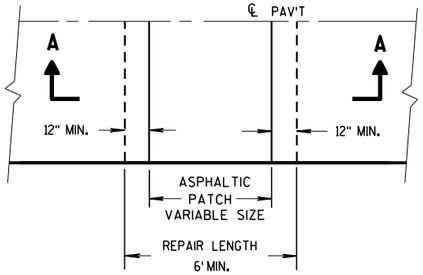
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

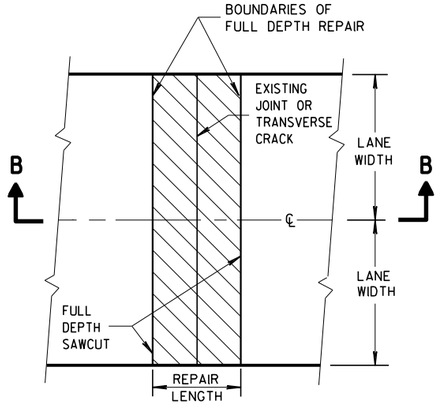
PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

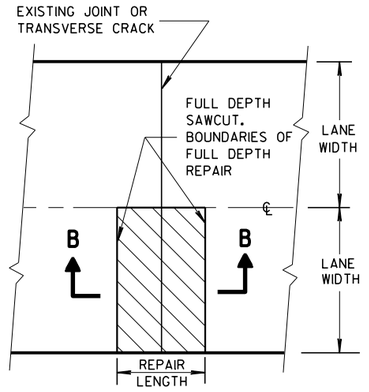
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW

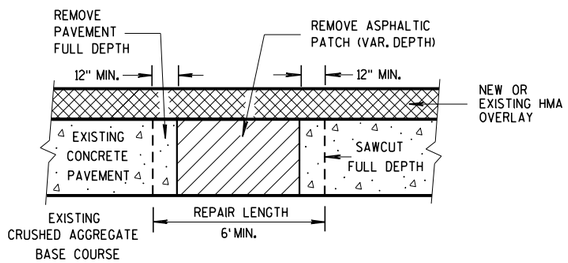


PLAN VIEW
(DOUBLE LANE REPAIR)



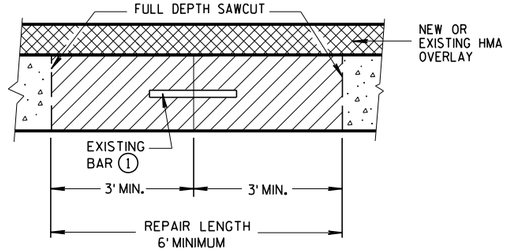
PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

CONCRETE REMOVAL

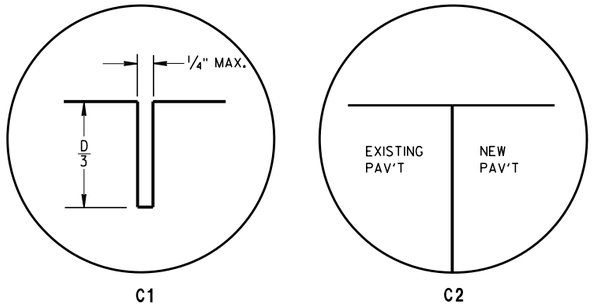
6

6

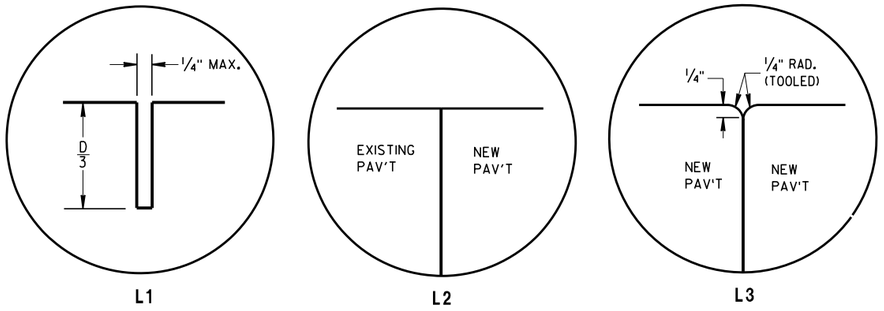
S.D.D. 13 C 14-7a

S.D.D. 13 C 14-7a

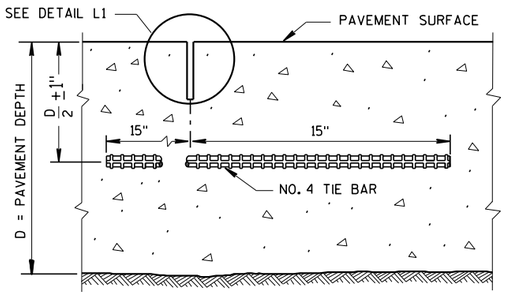
BASE PATCHING CONCRETE



TRANSVERSE JOINTS

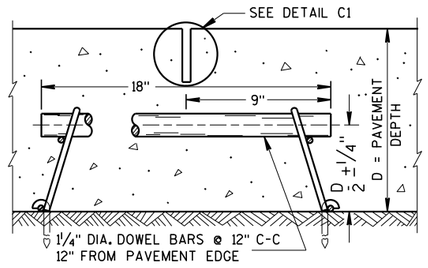


LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT



SECTION F-F

CONTRACTION JOINT

GENERAL NOTES

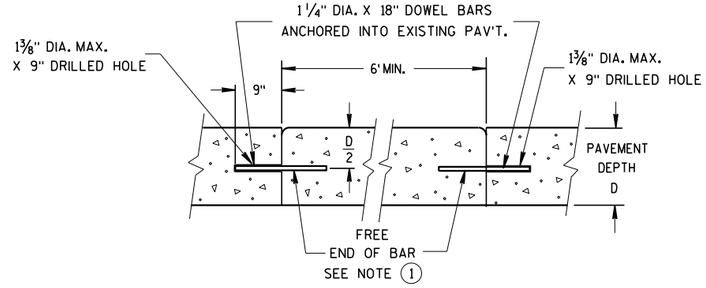
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

CONCRETE BASE PATCHES OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

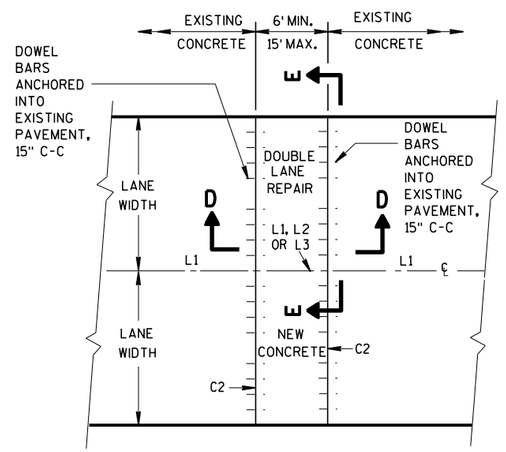
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

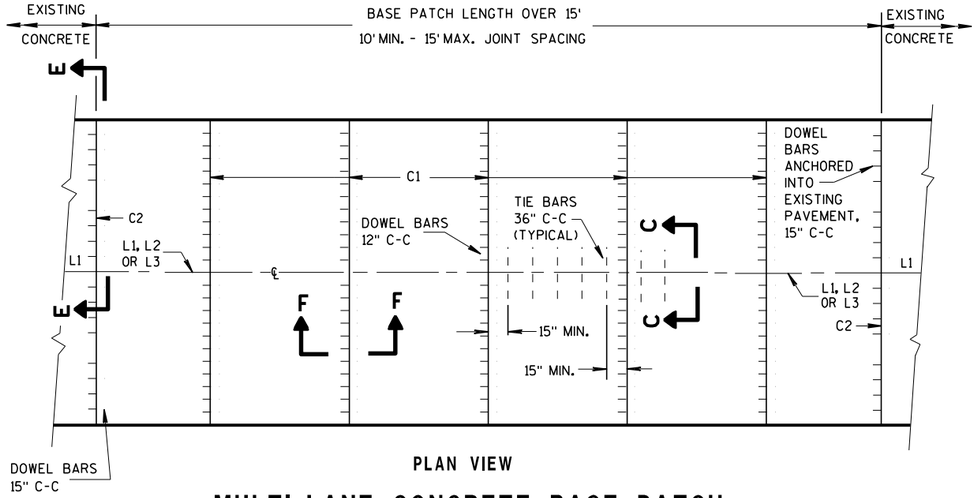


SECTION D-D



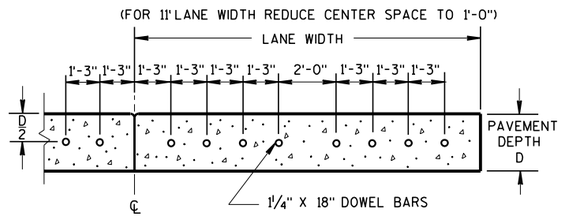
PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH



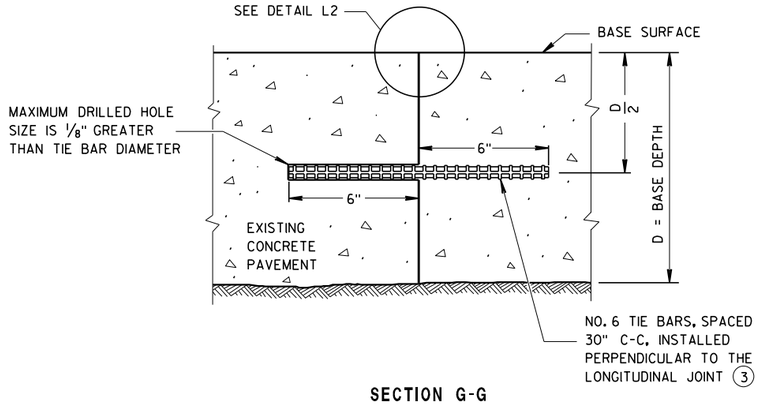
SECTION E-E

SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT

BASE PATCHING CONCRETE

6

S.D.D. 13 C 14-7b



SECTION G-G

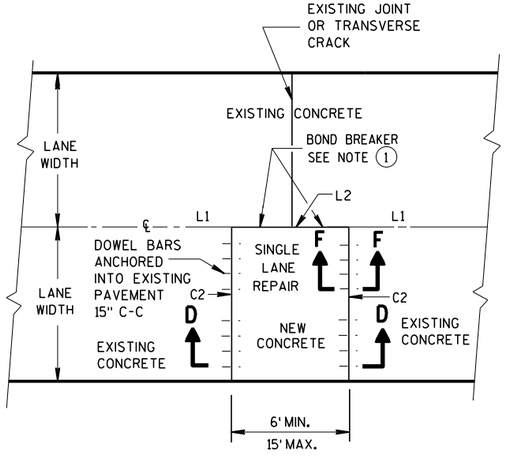
TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

(1) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE BASE PATCHES UP TO 15 FEET IN LENGTH.

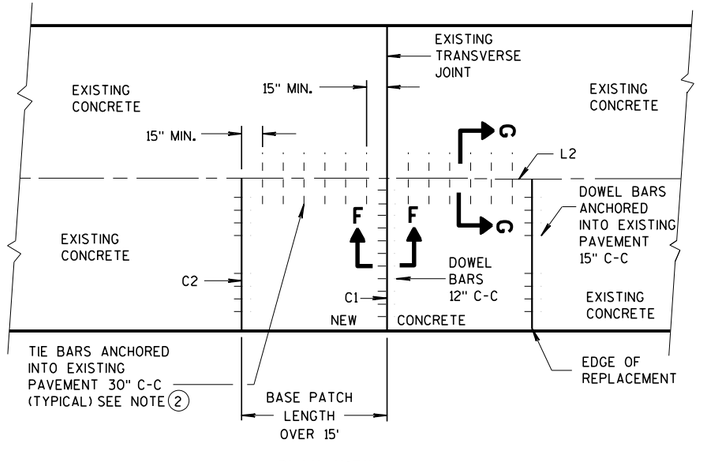
(2) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, DRILLED TIE BARS MAY BE INSTALLED ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

(3) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

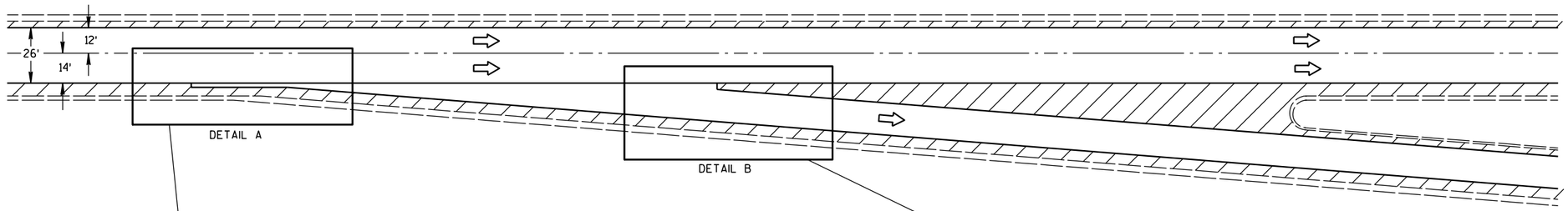
SINGLE LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH

BASE PATCHING CONCRETE

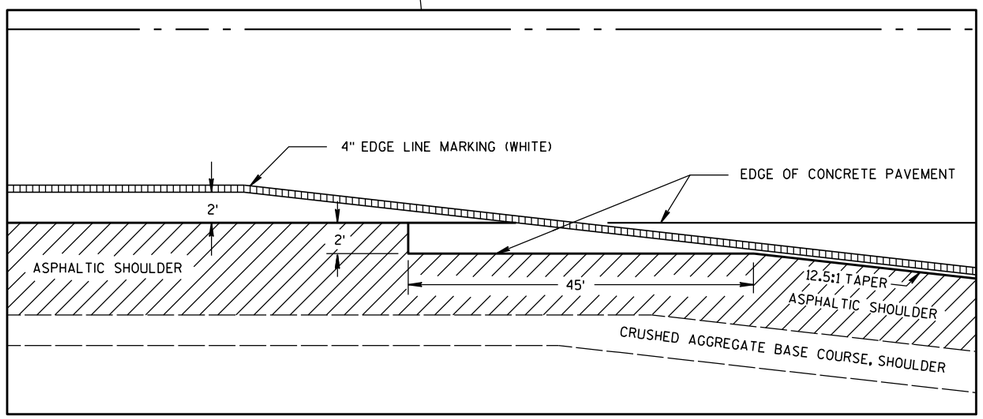
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Peter Kemp P.E. — PAVEMENT SUPERVISOR
FHWA

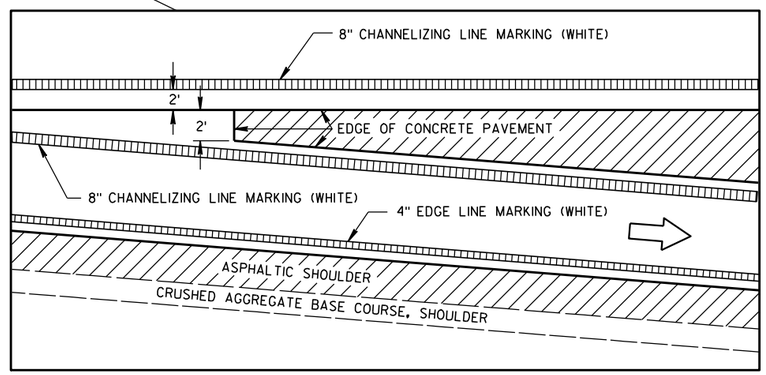
S.D.D. 13 C 14-7c



EXIT RAMP DETAIL



DETAIL A



DETAIL B

CONCRETE JOINT PAVING DETAILS

GENERAL NOTES

PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

SEE SDD 13 A 4-4c OR SDD 13 A 5-1b FOR RAMP AND GORE RUMBLE STRIP LOCATION.

CONCRETE JOINT DETAIL FOR EXIT RAMP TERMINI

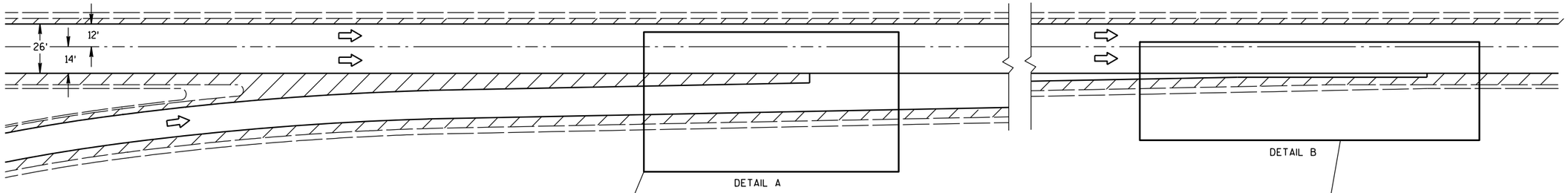
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

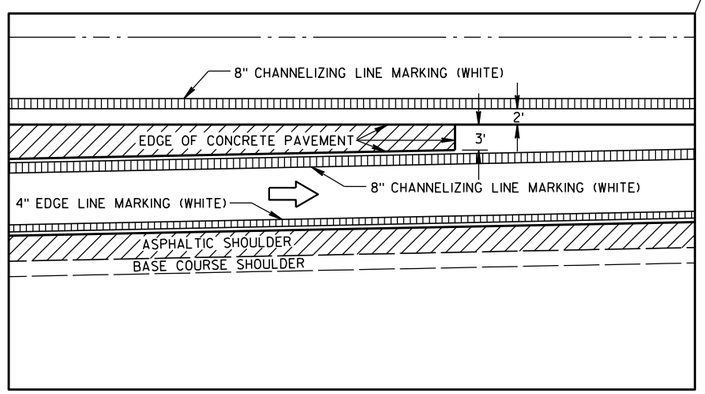
S.D.D. 13 C 17-1a

6

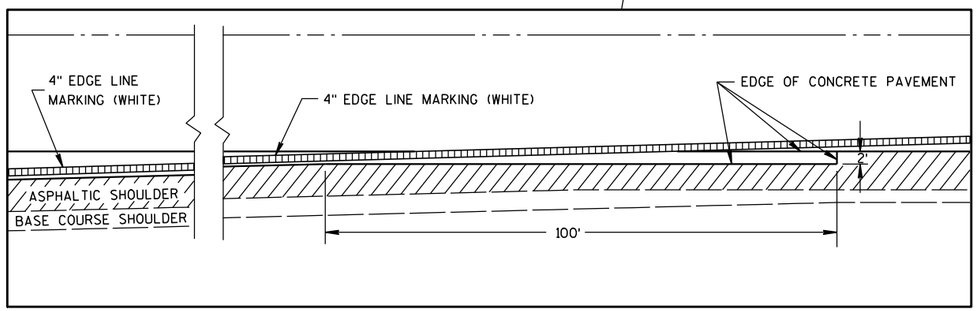
S.D.D. 13 C 17-1a



ENTRANCE RAMP DETAIL



DETAIL A



DETAIL B

CONCRETE JOINT PAVING DETAILS

GENERAL NOTES

PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

SEE SDD 13 A 4-4c OR SDD 13 A 5-1b FOR RAMP AND GORE RUMBLE STRIP LOCATION.

CONCRETE JOINT DETAIL FOR ENTRANCE RAMP TERMINI

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

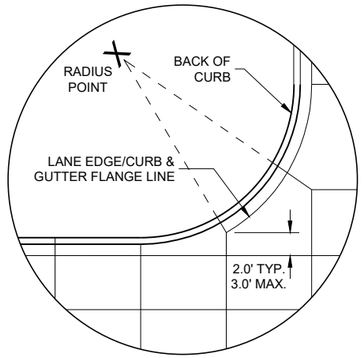
5/27/98
DATE

/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER

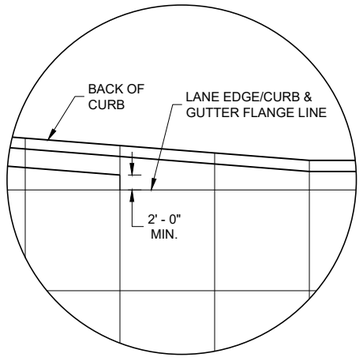
FHWA

6

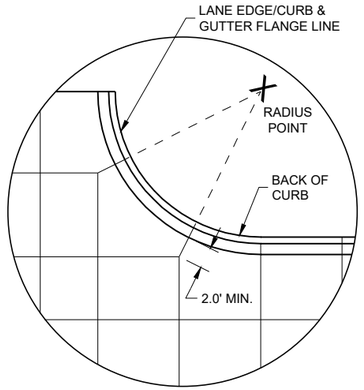
S.D.D. 13 C 17-1b



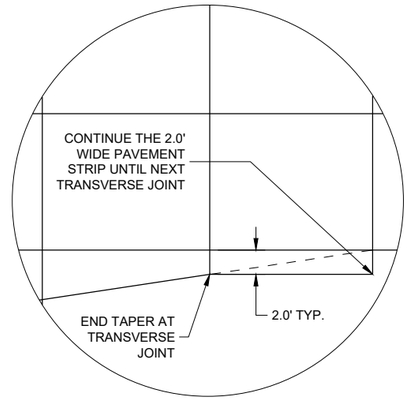
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

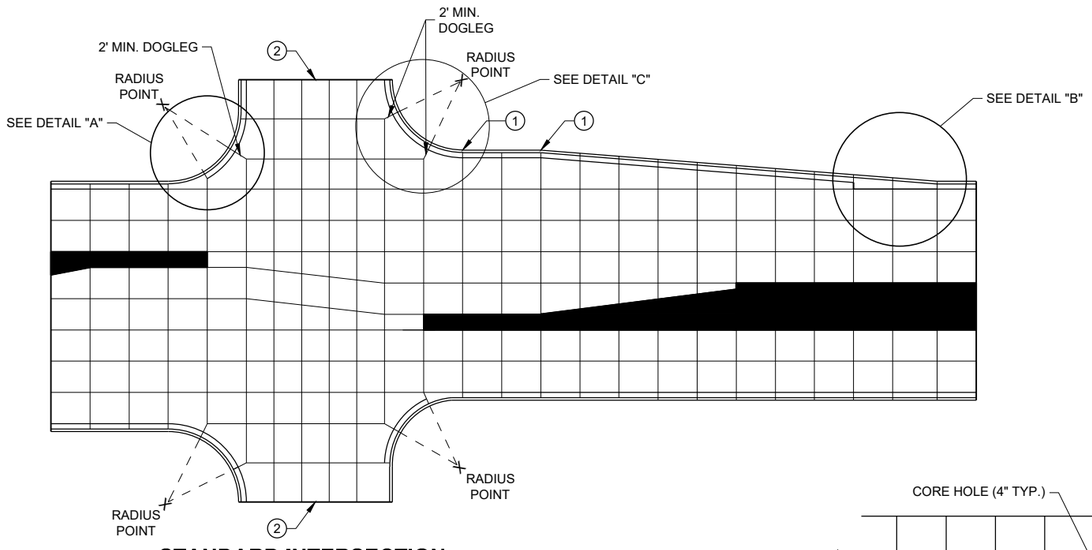
AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.

(2) CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITHEDGE OF RADIUS.

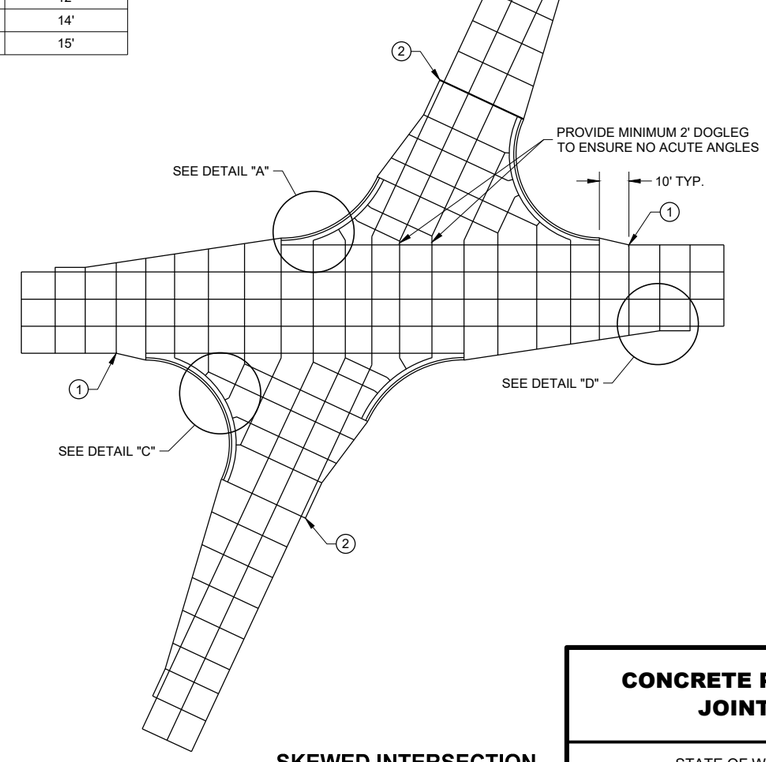
(3) THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



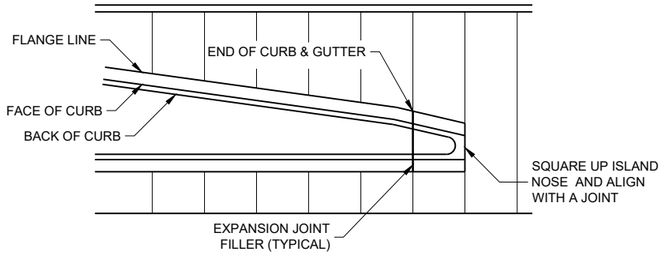
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

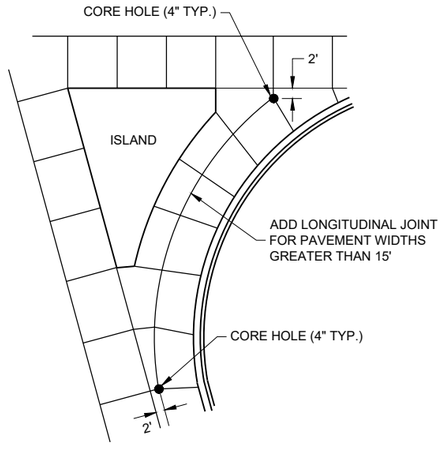
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 ½"	12'
7", 7 ½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 13C18 - 07a

6

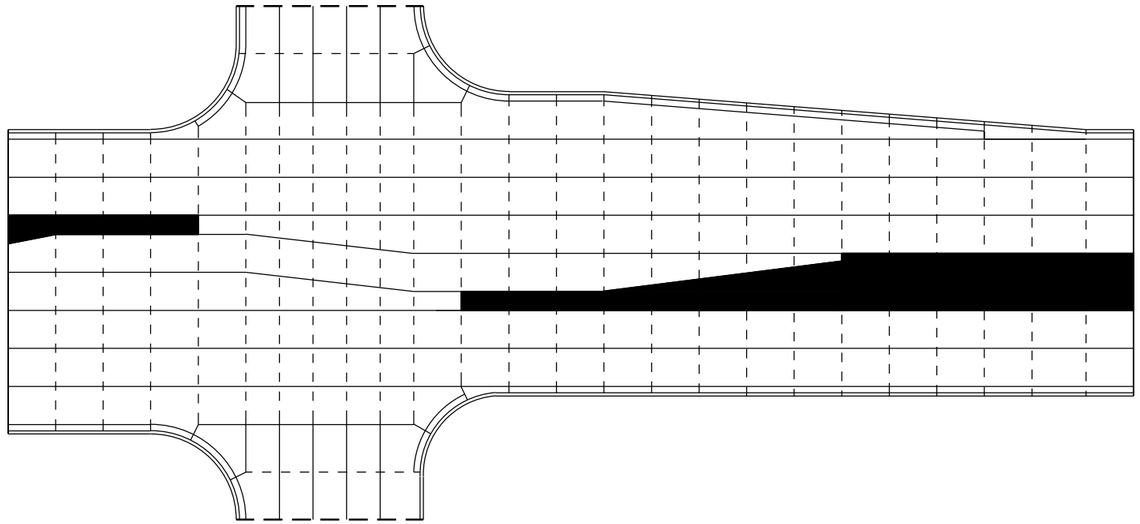
SDD 13C18 - 07a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

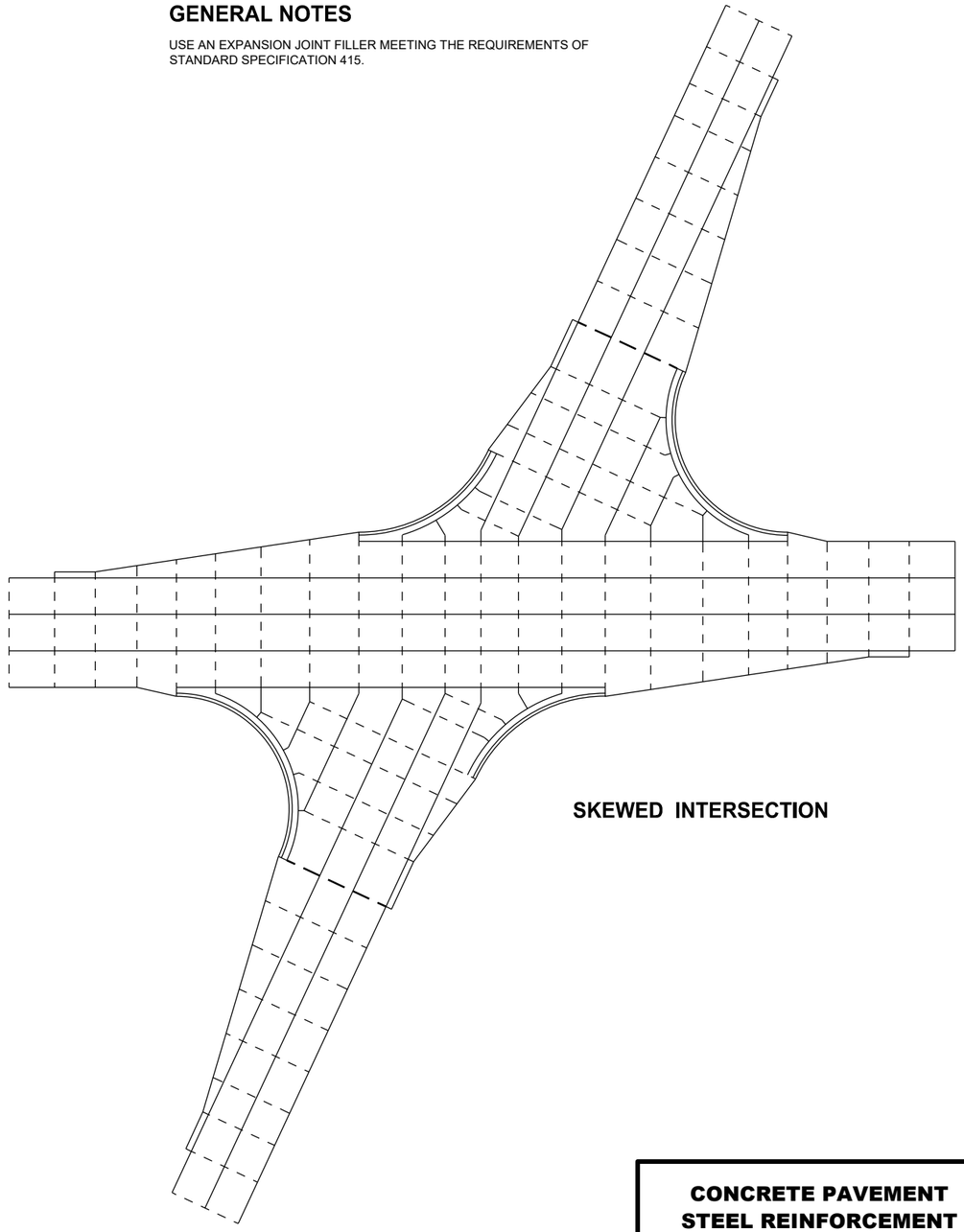
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

6

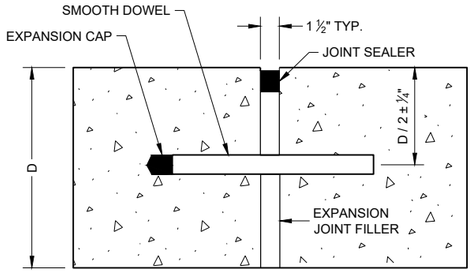
SDD 13C18 - 07b

CONCRETE PAVEMENT
STEEL REINFORCEMENT

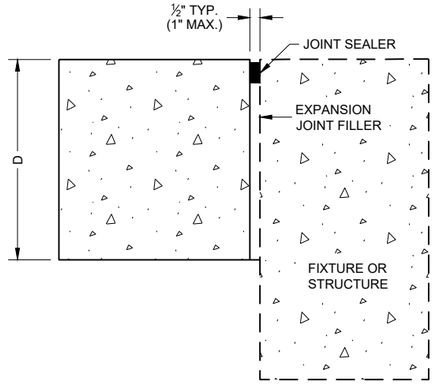
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 13C18 - 07b



DOWELED TRANSVERSE (1)



UNTIED - LONGITUDINAL

EXPANSION JOINTS

TIE BAR TABLE

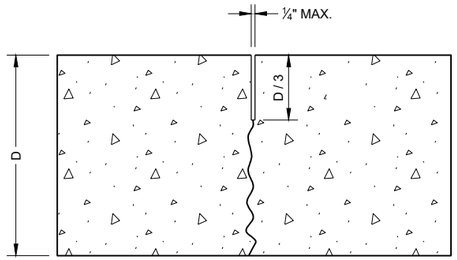
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

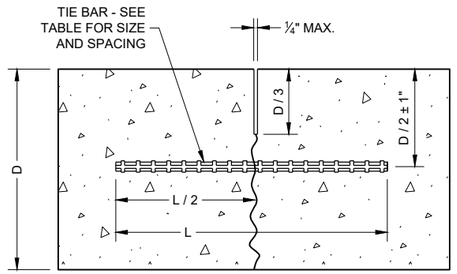
** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

GENERAL NOTES

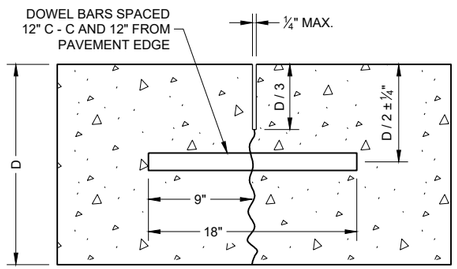
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATETHE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
5. IF JOINT IS FORMED, PROVIDE A ¼" RADIUS.
6. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



UNDOWELED TRANSVERSE

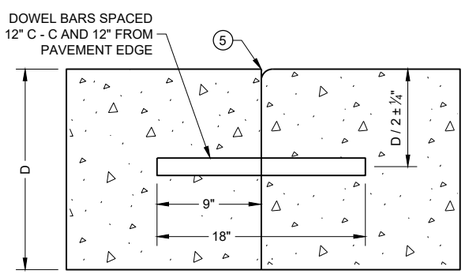


TIED LONGITUDINAL

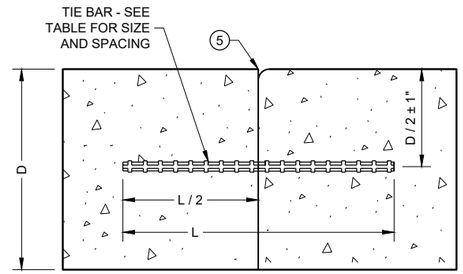


DOWELED TRANSVERSE

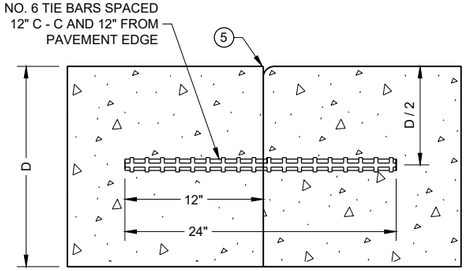
CONTRACTION JOINTS (2)



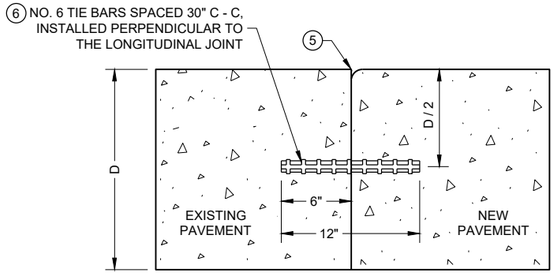
DOWELED TRANSVERSE (3)



TIED LONGITUDINAL



TIED TRANSVERSE (3)
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

CONSTRUCTION JOINTS (4)

CONCRETE PAVEMENT JOINT TYPES

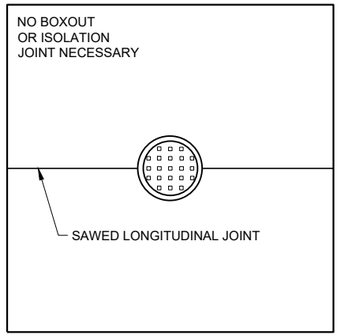
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

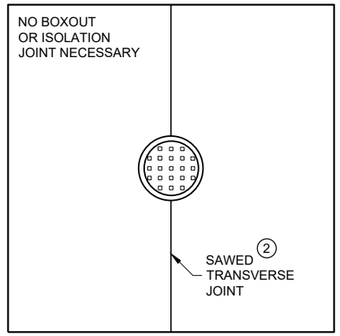
SDD 13C18 - 07c

6

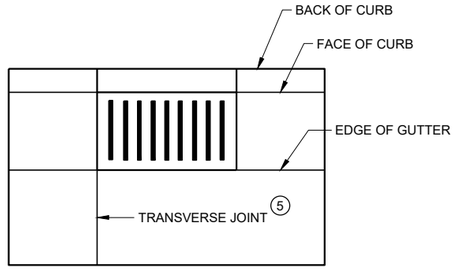
SDD 13C18 - 07c



MANHOLE WITH LONGITUDINAL JOINT



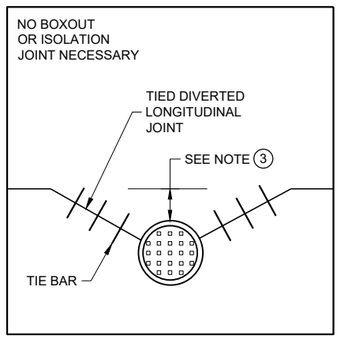
MANHOLE WITH TRANSVERSE JOINT



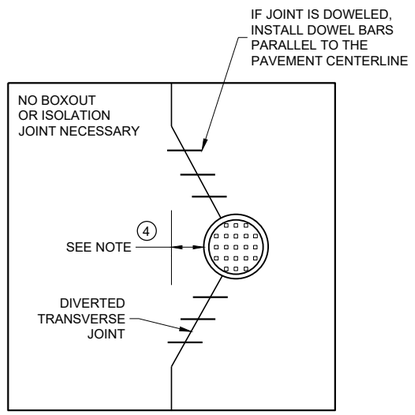
INLET WITH TRANSVERSE JOINT

GENERAL NOTES

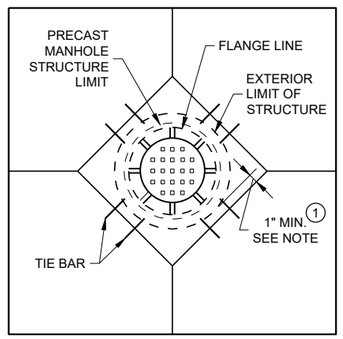
1. USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1 FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
2. ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
3. IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDINAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REINFORCEMENT REBAR AROUND THE MANHOLE.
4. IF THE DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS LESS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REINFORCEMENT REBAR AROUND THE MANHOLE.
5. ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT



DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS

CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Peter Kemp P.E.
PAVEMENT SUPERVISOR

FHWA

6

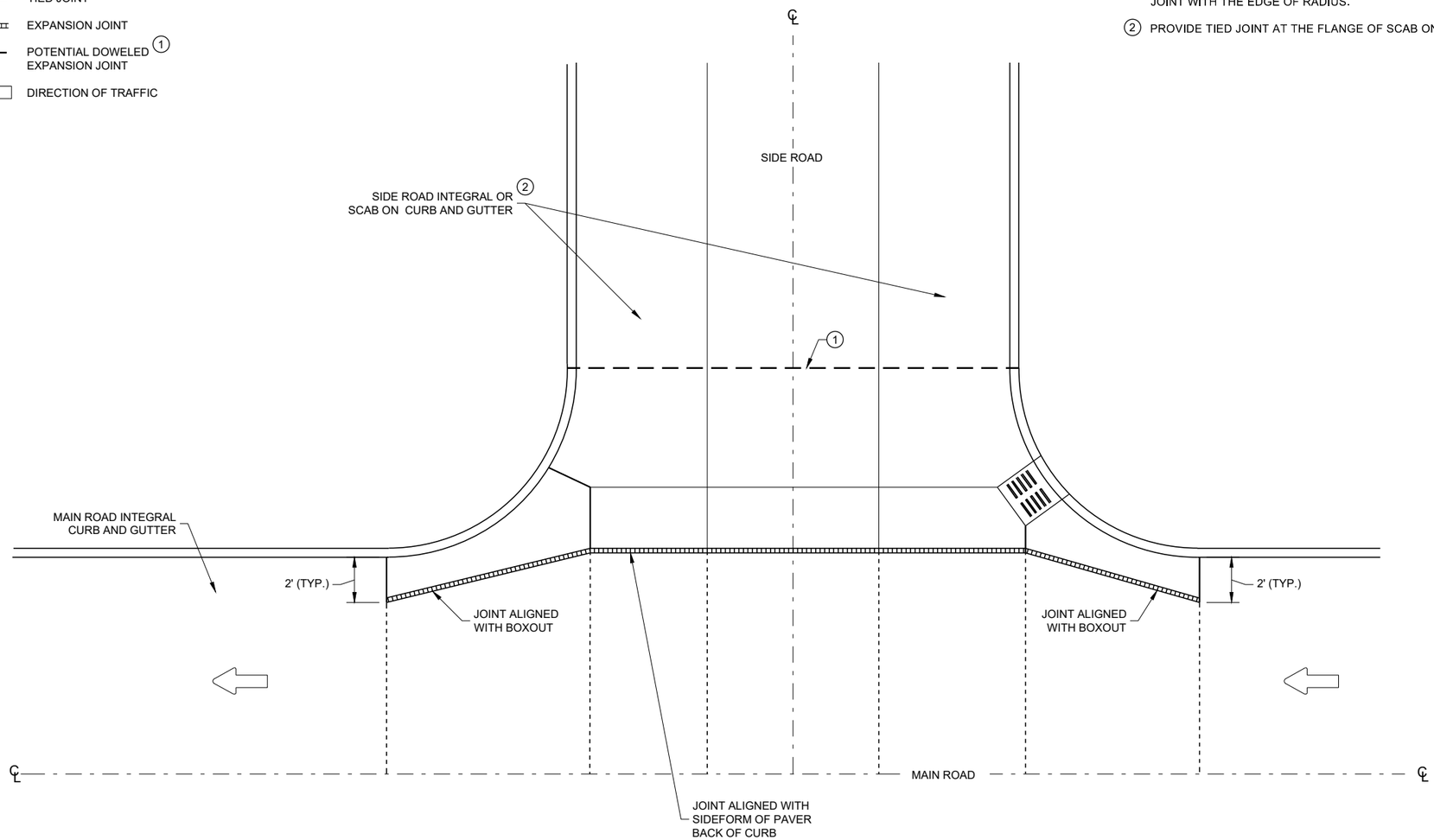
SDD 13C18 - 07d

6

SDD 13C18 - 07d

LEGEND

- DOWELED JOINT
- TIED JOINT
- EXPANSION JOINT
- POTENTIAL DOWELED EXPANSION JOINT (1)
- DIRECTION OF TRAFFIC



GENERAL NOTES

(1) CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH THE EDGE OF RADIUS.

(2) PROVIDE TIED JOINT AT THE FLANGE OF SCAB ON CURB IF SCAB ON CURB AND GUTTER IS USE.

INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER

CONCRETE PAVEMENT INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Peter Kemp P.E.
ROADWAY STANDARDS DEVE ENGINEER

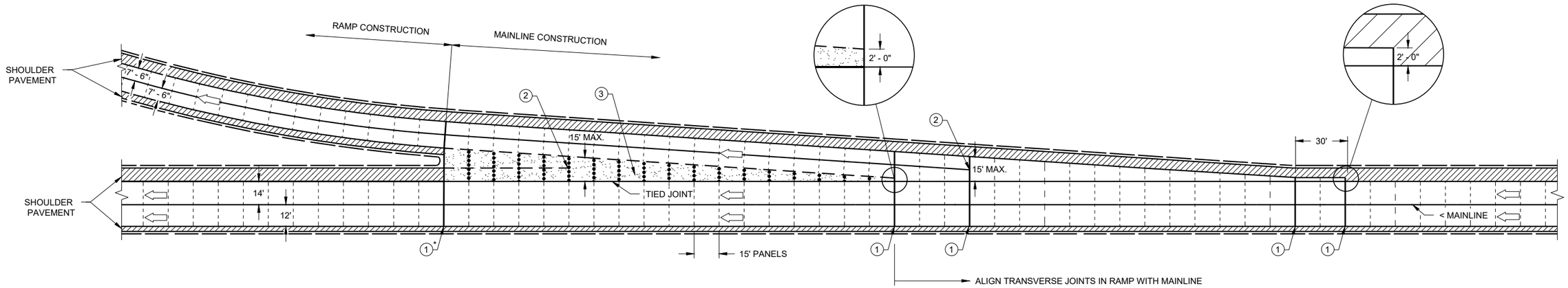
FHWA

6

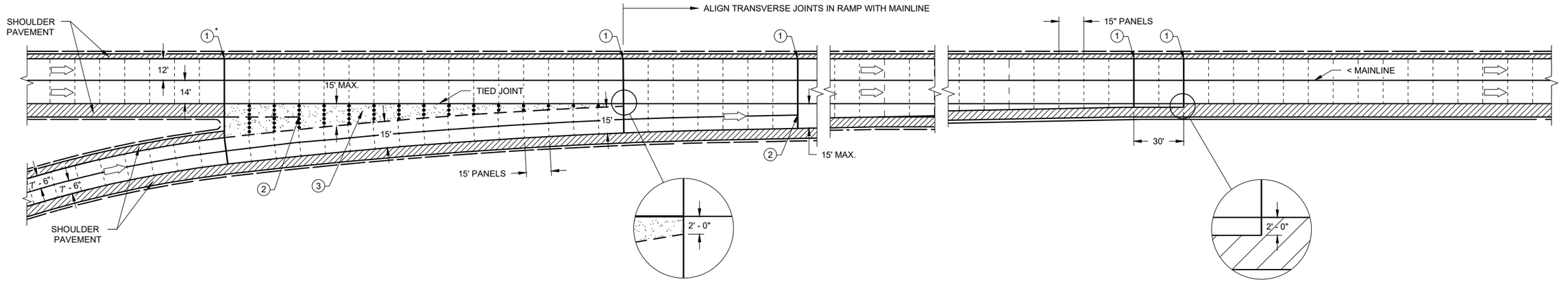
SDD 13C18 - 07f

6

SDD 13C18 - 07f



DECELERATION LANE



ACCELERATION LANE

GENERAL NOTES

PAVEMENT AND BASE THICKNESS, PANEL LENGTHS, JOINTS AND REINFORCEMENT FOR THE DECELERATION AND ACCELERATION LANES, INCLUDING TAPERS, SHALL BE THE SAME AS THE MAINLINE, EXCEPT WHERE OTHERWISE NOTED.

ALL REINFORCEMENT BARS SHALL BE EPOXY COATED CONFORMING TO SUBSECTION 505.2.6 OF THE STANDARD SPECIFICATIONS.

LANE AND SHOULDER WIDTHS MAY VARY FROM SHOWN. SEE CONSTRUCTION PLANS FOR ACTUAL PROPOSED WIDTHS.

(1) CRITICAL TRANSVERSE JOINT LOCATIONS AT PAVEMENT WIDTH CHANGES. ((1)* IS NOT A CRITICAL TRANSVERSE JOINT WHEN ASPHALTIC GORE IS INSTALLED).

(2) STOP LONGITUDINAL JOINT WITH CORE HOLE (2" TYP.) WHEN IT MEETS THE FIRST TRANSVERSE JOINT LESS THAN 15' WIDE OR STOP LONGITUDINAL JOINT WHEN IT MEETS 2' AWAY FROM THE TIED JOINT OF THE MAINLINE.

(3) DISREGARD THE JOINT DETAILS IN AND AROUND THE GORE WHEN ASPHALTIC GORE IS INSTALLED.

LEGEND

- DOWELED JOINT
- UNDOWELED JOINT
- TIED JOINT
- UNTIED JOINT
- GORE
- DIRECTION OF TRAVEL

CONCRETE PAVEMENT JOINTING ACCELERATION/ DECELERATION LANE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Peter Kemp P.E.
ROADWAY STANDARDS DEVE ENGINEER

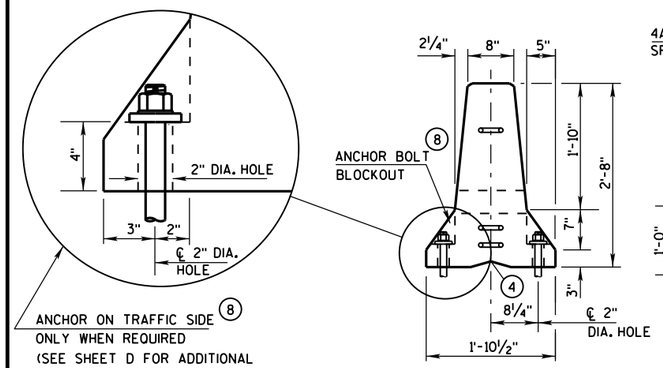
FHWA

6

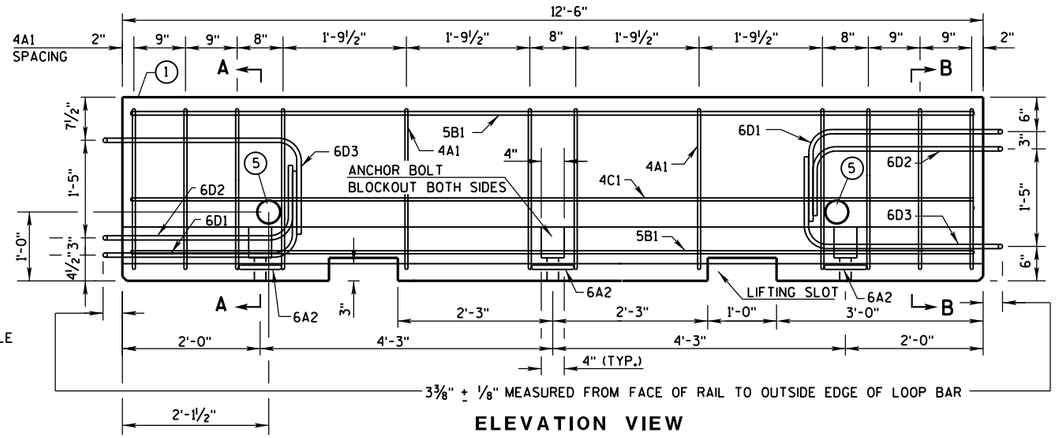
SDD 13C18 - 07g

6

SDD 13C18 - 07g

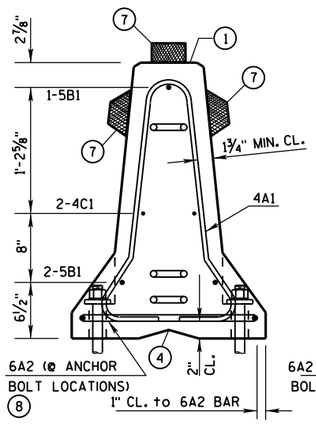


END VIEW

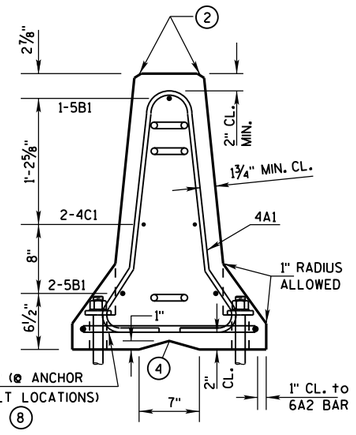


ELEVATION VIEW

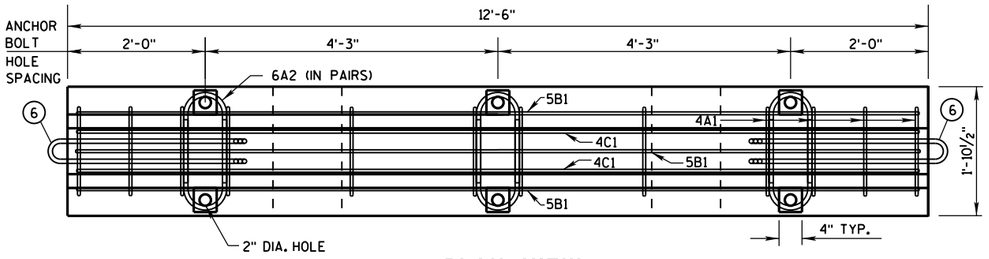
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

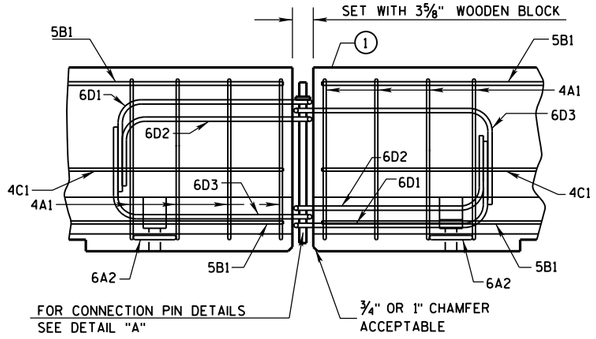


SECTION B-B
(STIRRUP PLACEMENT)

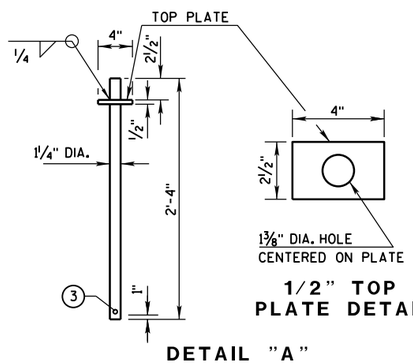


PLAN VIEW

DETAILS OF BARRIER SECTION

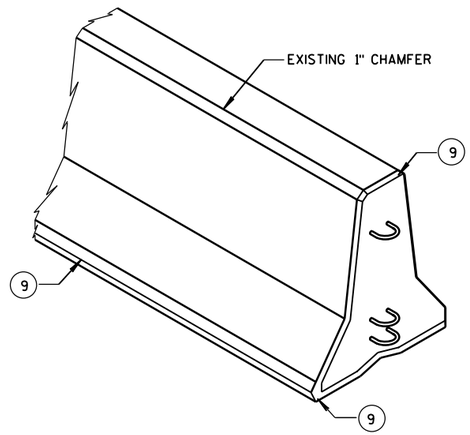


DETAILS OF BARRIER CONNECTION



1/2" TOP
PLATE DETAIL

DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-15(a) THRU 14B7-15(i).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRCAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE ¾" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-½" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR ADHESIVE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

(1) MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
- a. TYPE: WI CBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

(3) A ⅜" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..

(4) "V" NOTCH IS OPTIONAL.

(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

(6) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

(8) SEE SHEET D FOR HOW TO ANCHOR BARRIER. SEE SHEET E FOR WHEN TO ANCHOR BARRIER.

(9) 1" CHAMFER OPTIONAL.

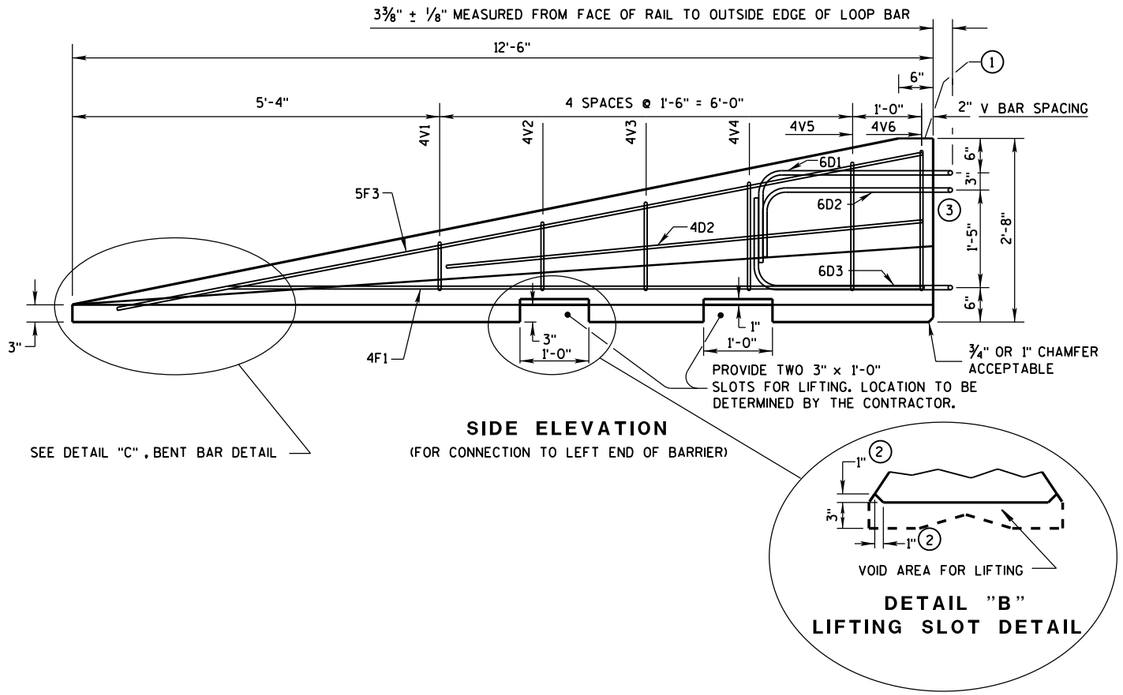
f'c = 4,000 psi

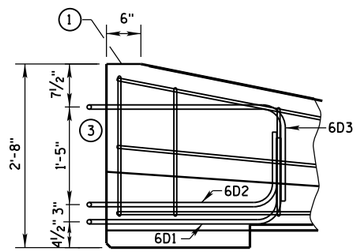
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

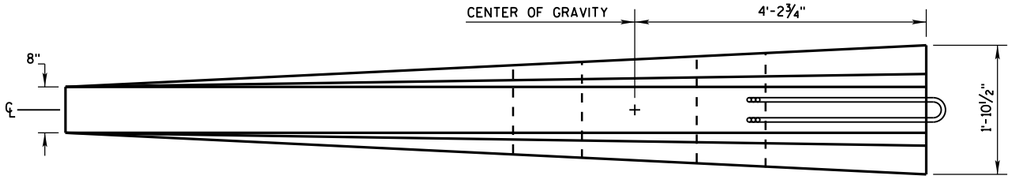
S.D.D. 14 B 7-15a

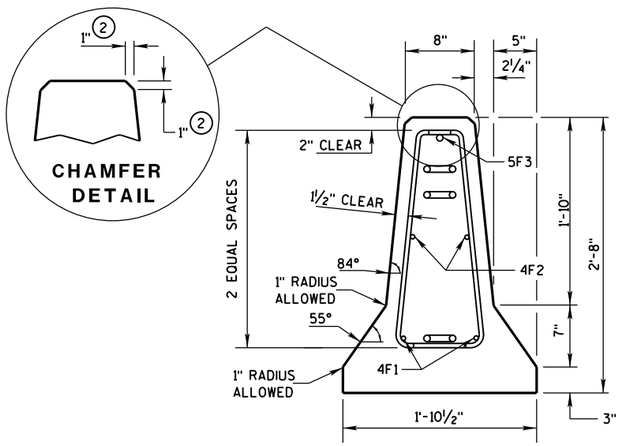


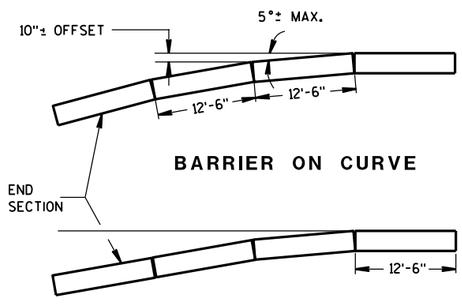


GENERAL NOTES

1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.







POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

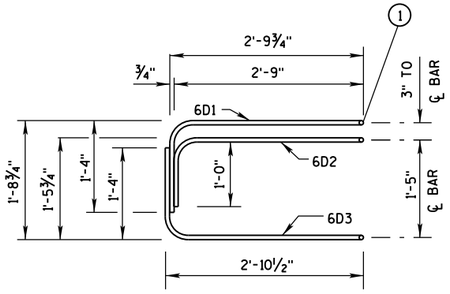
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 7-15b

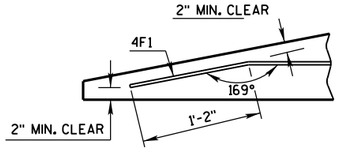
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

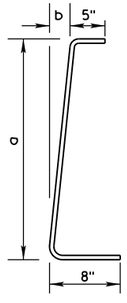
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



BAR	a	b
V1	10"	1"
V2	1'-1"	1¼"
V3	1'-5"	1⅝"
V4	1'-8"	1⅞"
V5	2'-0½"	2⅜"
V6	2'-3"	2¾"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

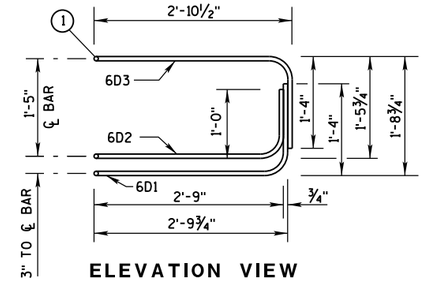
GENERAL NOTES

(1) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

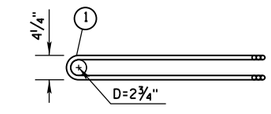
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

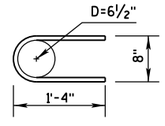
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



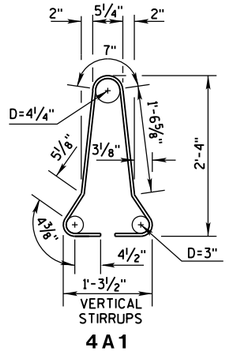
ELEVATION VIEW



PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



6A2



4A1

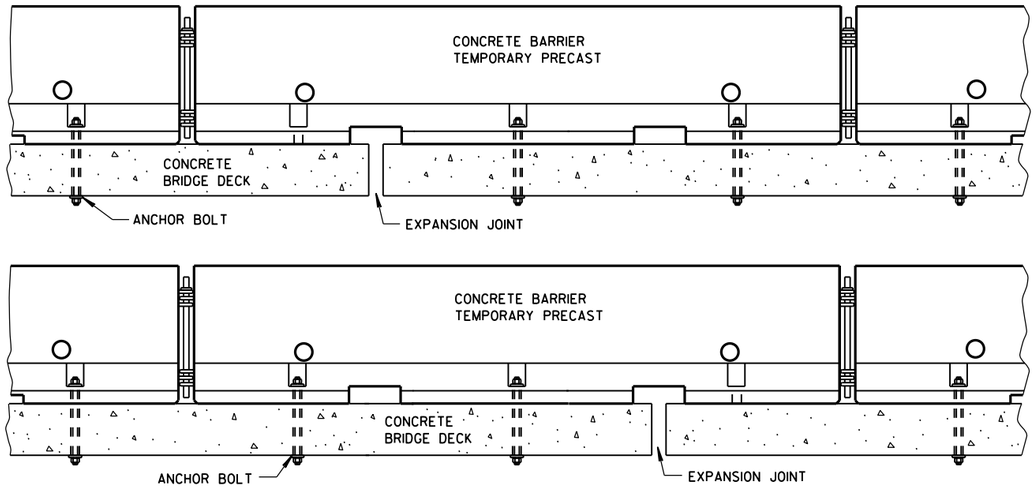
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 7-15c



TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)

GENERAL NOTES

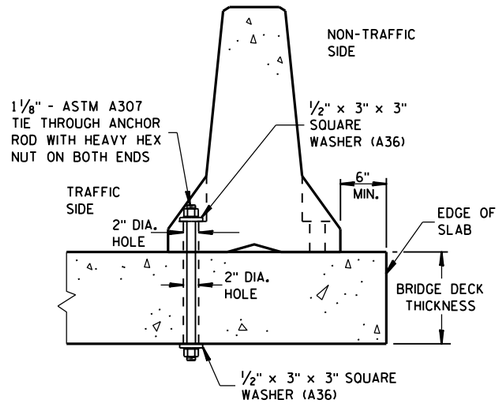
SEE SHEET E FOR WHEN TO ANCHOR. OTHER PARTS OF THE PLAN MAY SHOW ADDITIONAL LOCATIONS REQUIRING ANCHORING.

REMOVE ALL ANCHORS WHEN NO LONGER NEEDED. FILL CONCRETE PAVEMENTS, DECKS AND APPROACH SLABS WITH NON-SHRINK COMMERICAL GROUT FROM THE APPROVED PRODUCT LIST. FILL ASPHALT PAVEMENTS WITH ASTM D6690 TYPE II RUBBERIZED CRACK FILLER.

(1) 1⅛" DIAMENTER A307 THREADED ROD. ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL. ASTM A563A HEAVY HEX NUT.

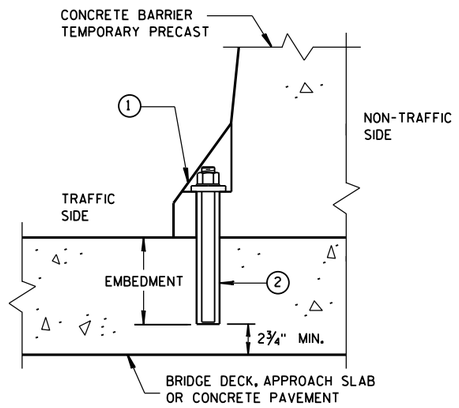
(2) ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.

(3) ASPHALT SURFACE SHOWN. CONTRACTOR MAY DRILL THROUGH CONCRETE PAVEMENT AND THAN DRIVE ASPHALT ANCHOR PIN.



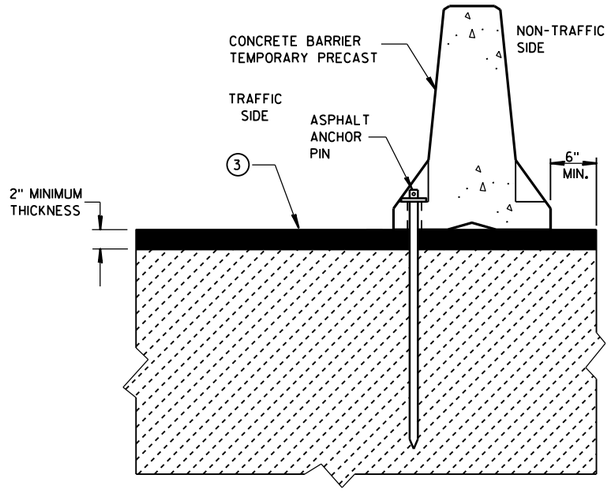
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)

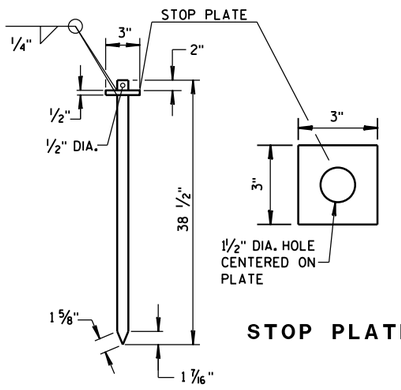


REMOVABLE ADHESIVE ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)



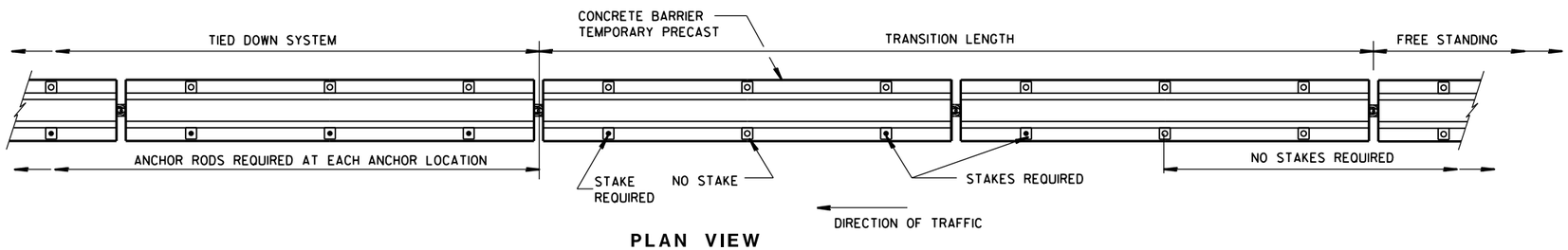
STAKE DOWN INSTALLATION FOR ASPHALTIC SURFACE



STOP PLATE

ASPHALT ANCHOR PIN

(ASTM A36 STEEL)



PLAN VIEW

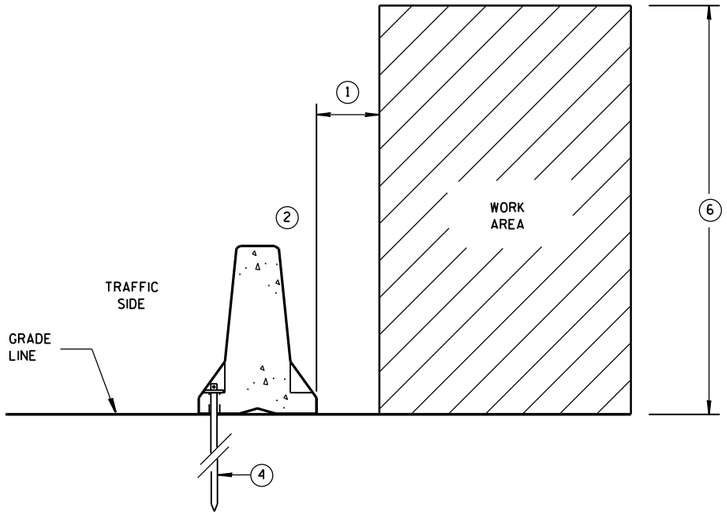
FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

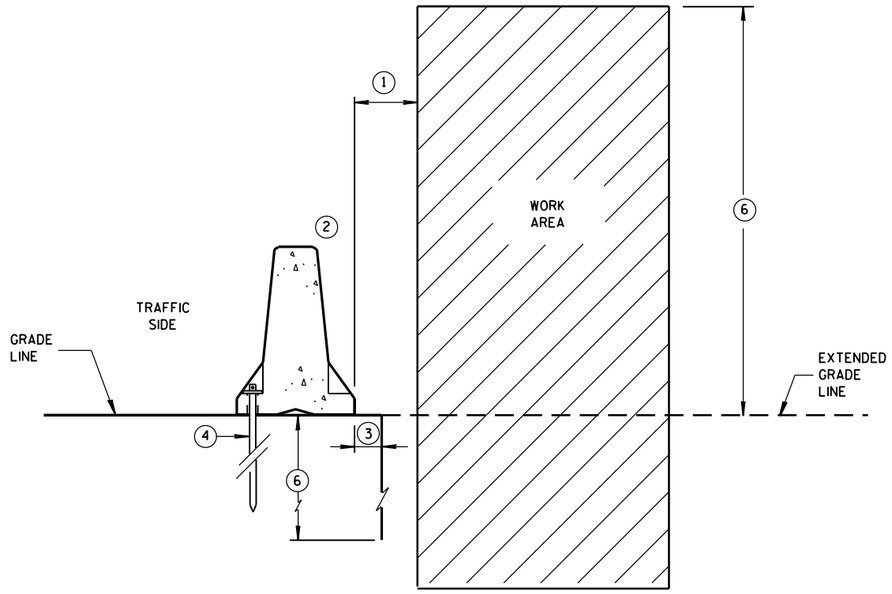
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 7-15d



ANCHORED BARRIER SPACE REQUIREMENTS FOR HAZARDS EXTENDED ABOVE THE GRADE LINE

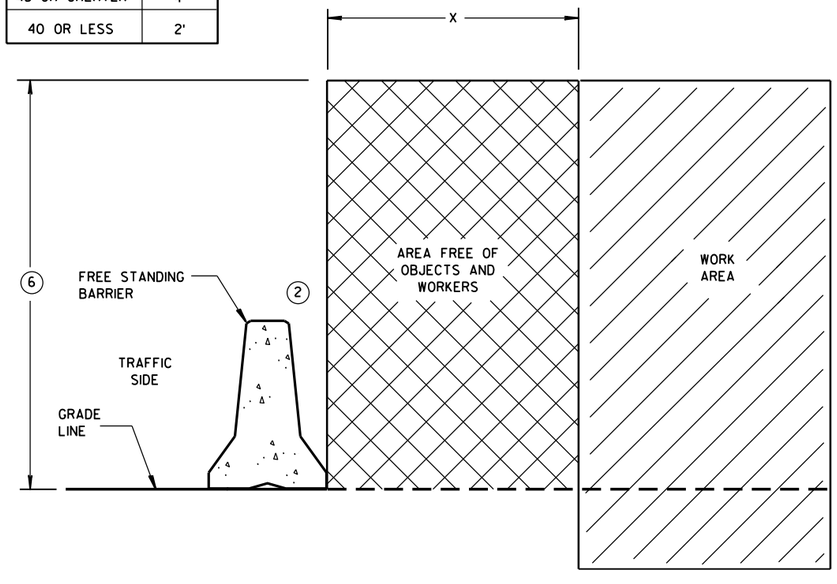


ANCHORED BARRIER SPACE REQUIREMENTS ON VERTICAL DROP OFFS

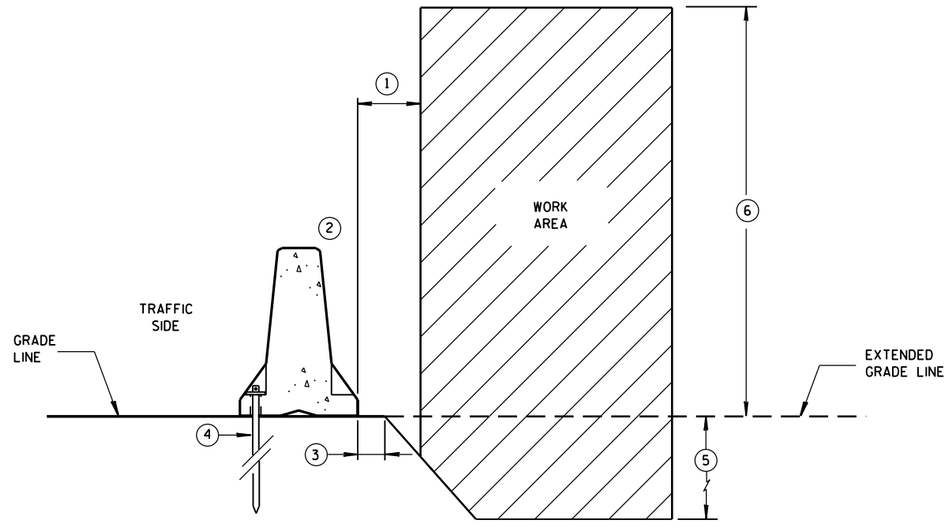
GENERAL NOTES

1. WHEN OBJECTS EXTEND ABOVE THE GRADE, A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT. SEE OTHER DETAILS FOR FOR THE MINIMUM OFFSET FROM BACK OF BARRIER TO SLOPES OR VERTICAL DROPS.
2. OBJECTS ARE NOT TO BE PLACED ON, MOUNTED TO, OR LEANED AGAINST THE BARRIER WITHOUT PERMISSION OF THE PROJECT ENGINEER.
3. SEE OTHER DETAIL ON SHEET "D" FOR SPACE REQUIREMENTS.
4. SEE BOLT THROUGH DECK, REMOVABLE ADHESIVE ANCHOR, OR A STAKE DOWN FOR ASPHALTIC SURFACE TREATMENT DETAILS. ASPHALTIC ANCHOR SHOWN.
5. DEPTH OF 3 FEET OR MORE.
6. Y = 6'-6".

POSTED SPEED MPH	X
45 OR GREATER	4'
40 OR LESS	2'



FREE STANDING BARRIER SPACE REQUIREMENTS



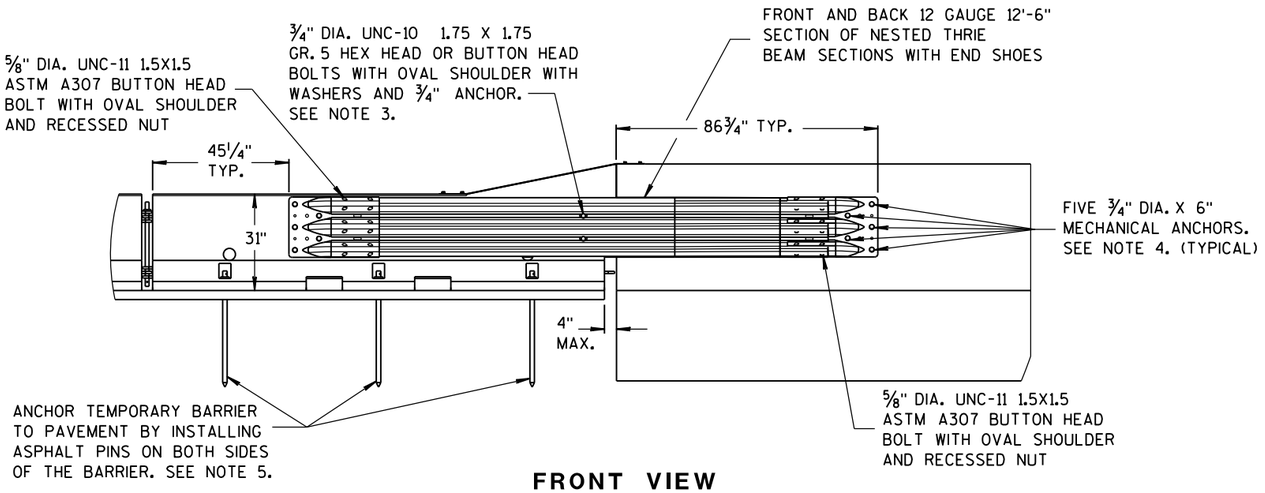
ANCHORED BARRIER SPACE REQUIREMENTS ON SLOPES

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

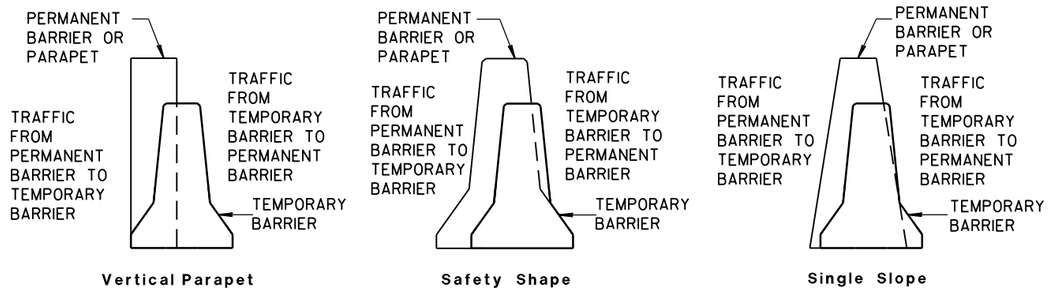
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 7-15e



FRONT VIEW

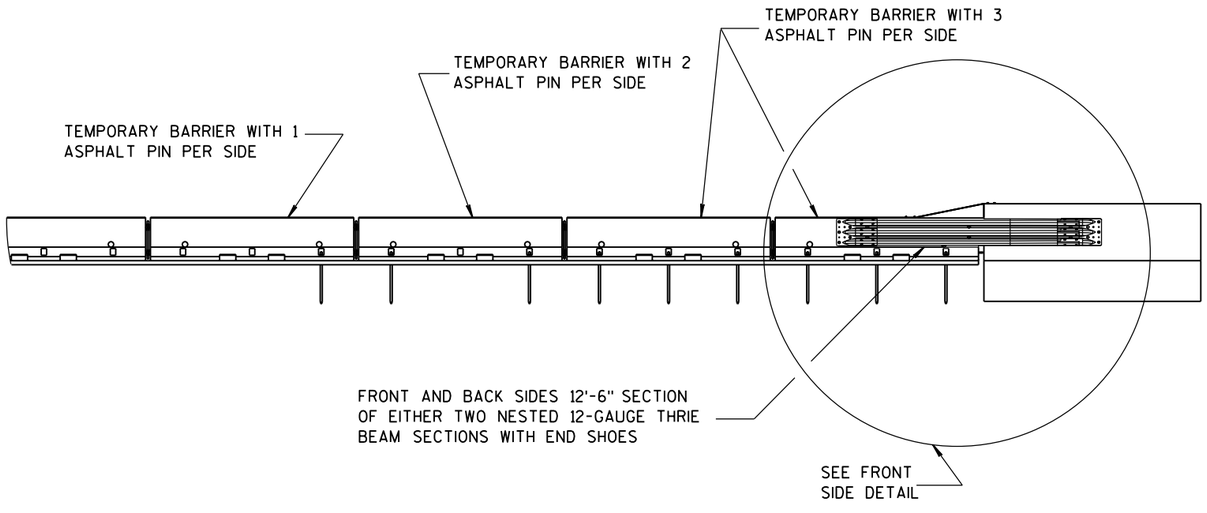


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

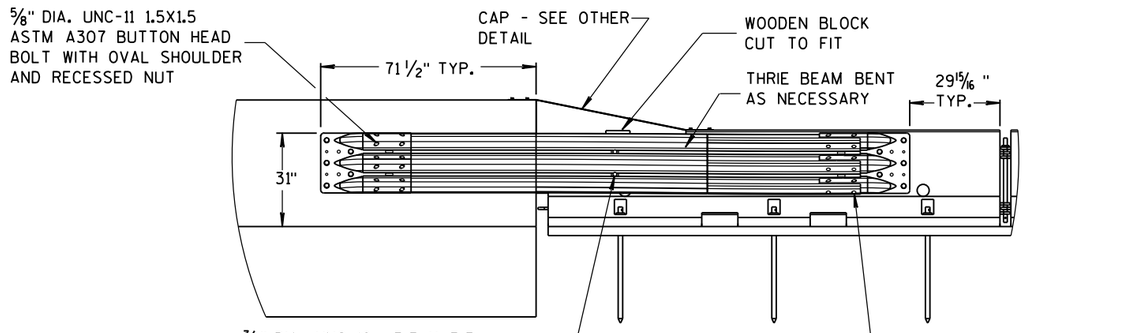
NOTES

NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS REGARDLESS OF TRAFFIC.

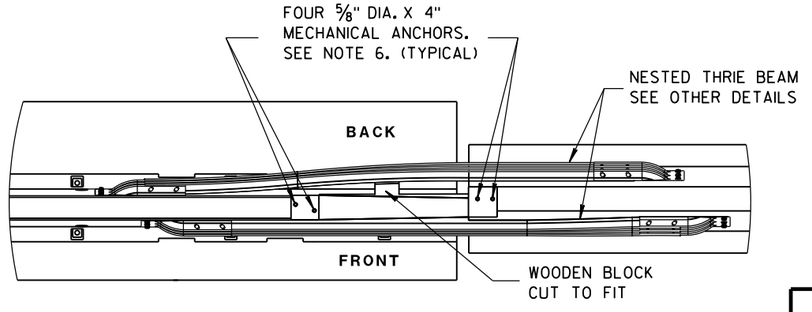
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.



FRONT VIEW



BACK VIEW



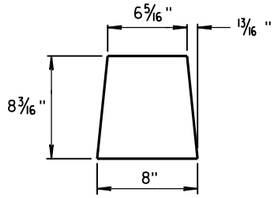
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

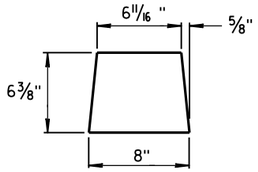
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

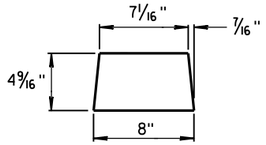
6
S.D.D. 14 B 7-15f



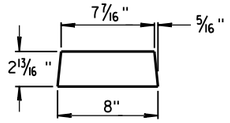
GUSSET 1



GUSSET 2

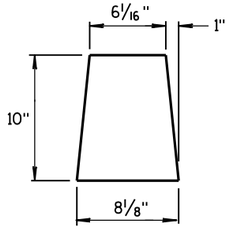


GUSSET 3

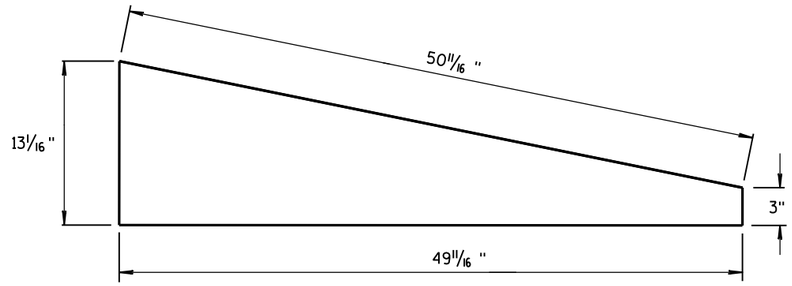


GUSSET 4

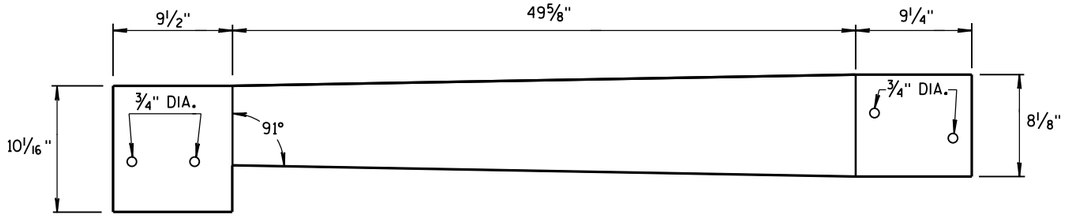
GUSSETS

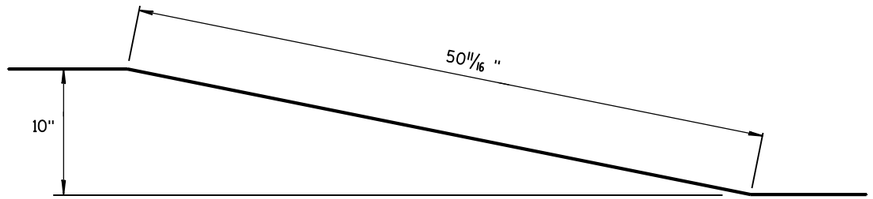


END PLATE



SIDE PLATE

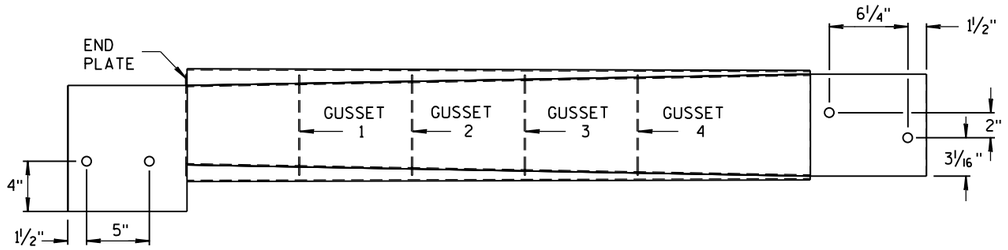


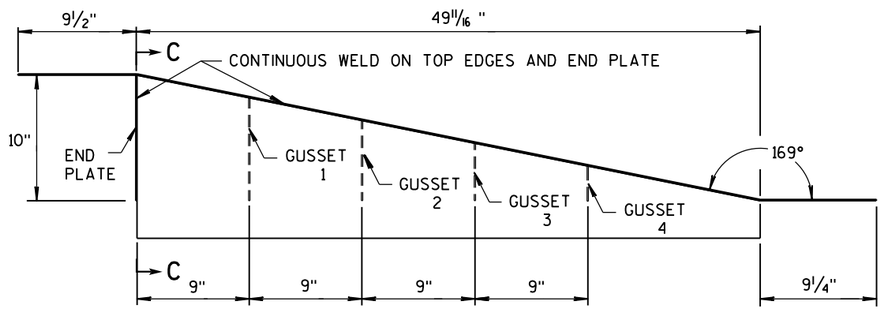


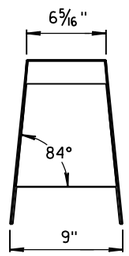
TOP PLATE

SIDE, TOP AND END PLATES FOR CAP FROM TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.







SECTION C-C

NOTES

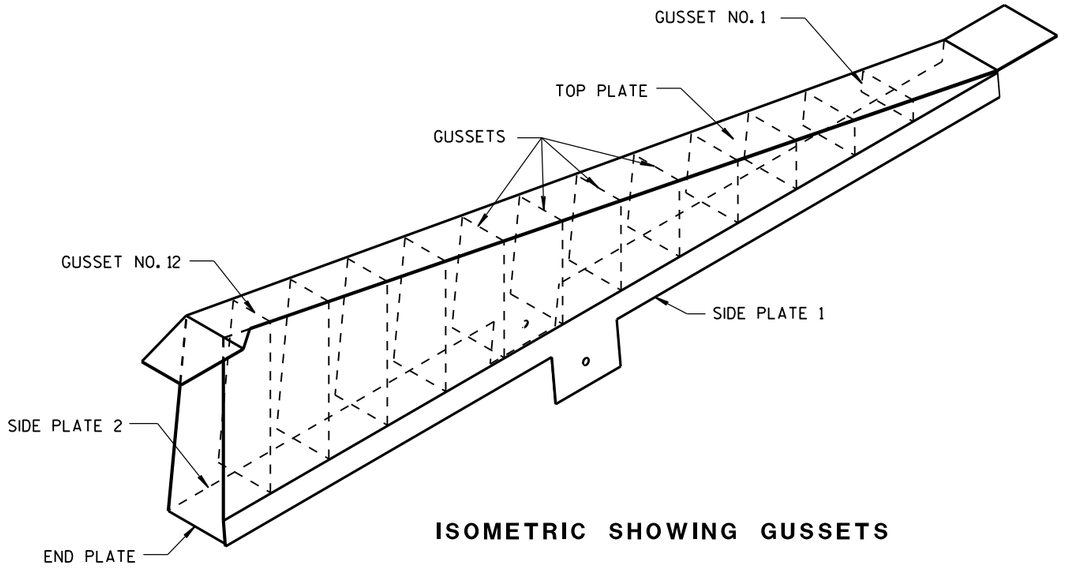
1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

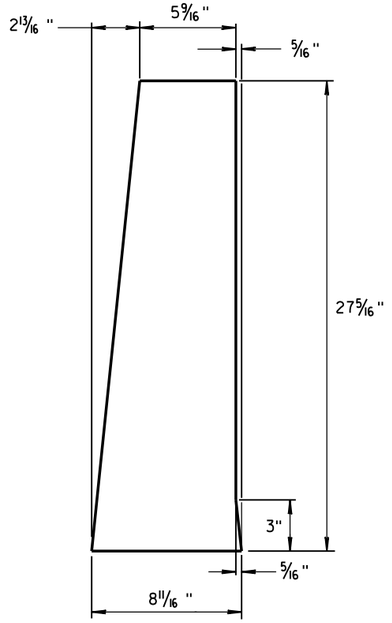
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 7-15g

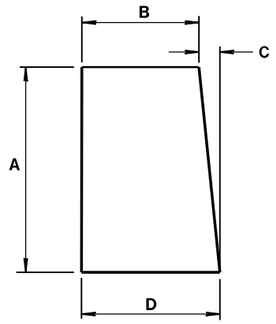


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



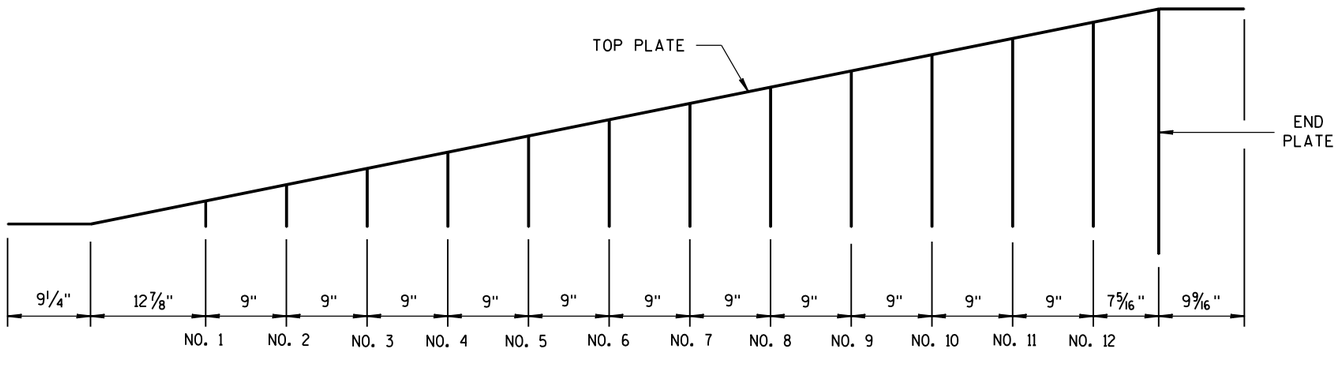
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 11/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8"	11/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8"	7"	1 1/16 "	8 1/16 "
6	11 15/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8"	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8"	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



GUSSET LOCATION

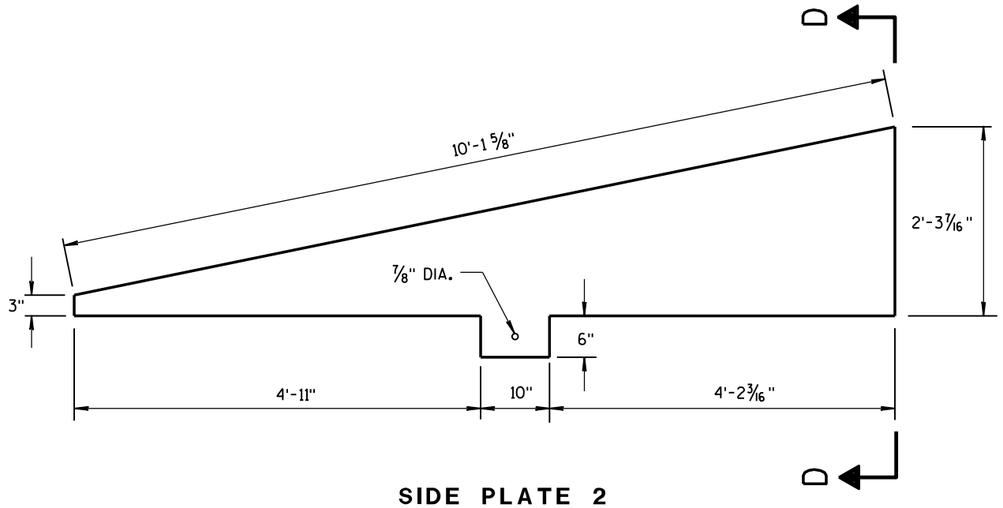
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

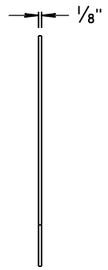
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

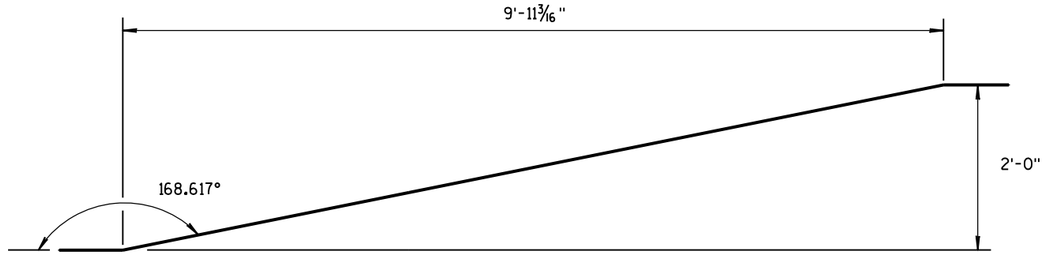
S.D.D. 14 B 7-15h



SIDE PLATE 2

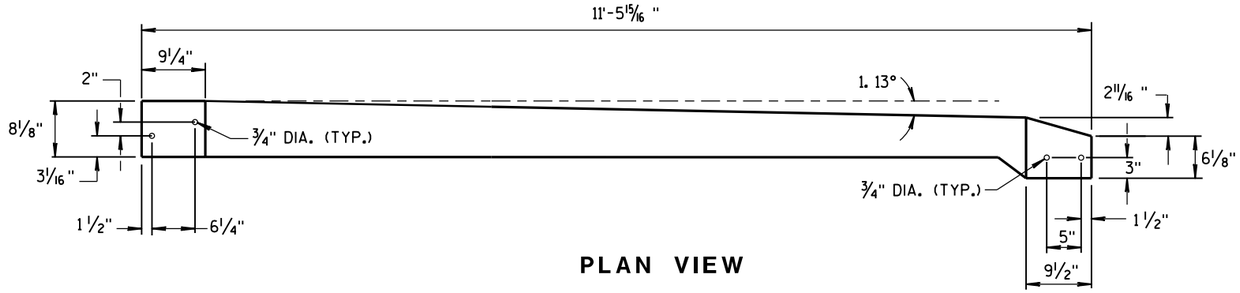


END VIEW



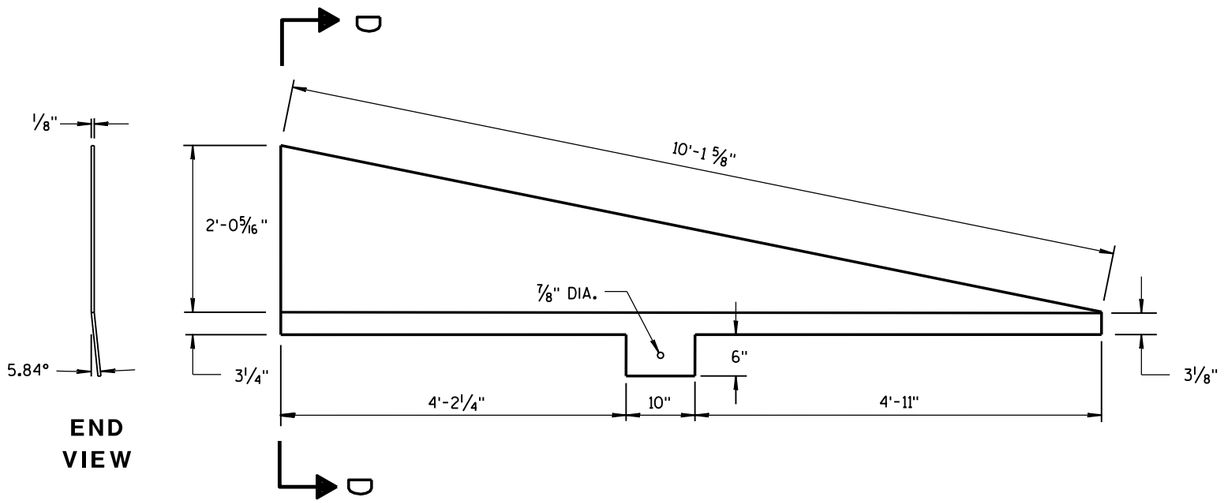
SIDE VIEW

TOP PLATE



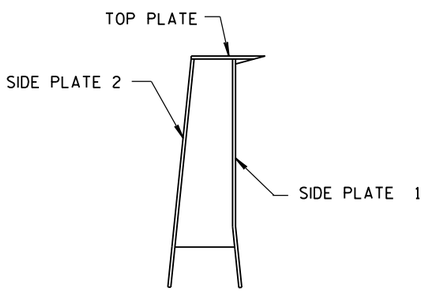
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

6

S.D.D. 14 B 7-15i

6

S.D.D. 14 B 7-15i

GENERAL NOTES

(1) W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS.

DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.

(2) USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.

(3) INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(4) USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.

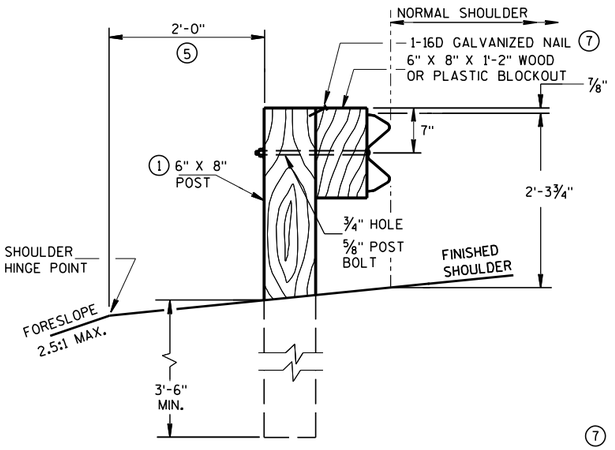
(5) IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

(6) IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2½ INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN YHE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATEY.

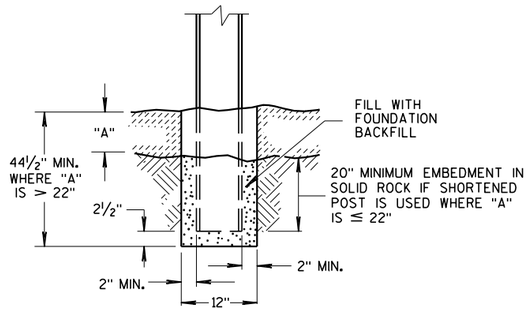
(7) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

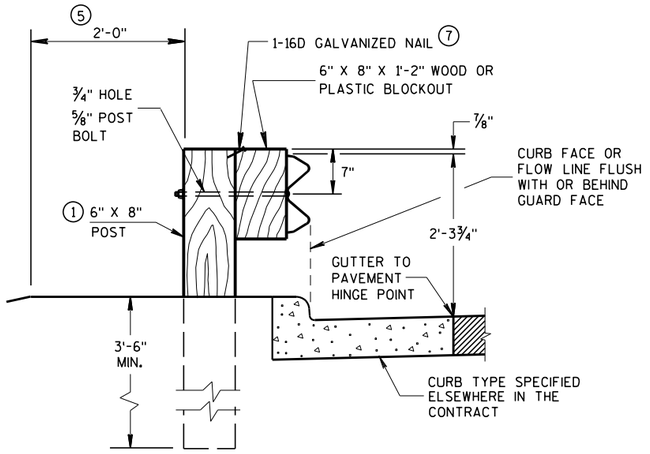
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



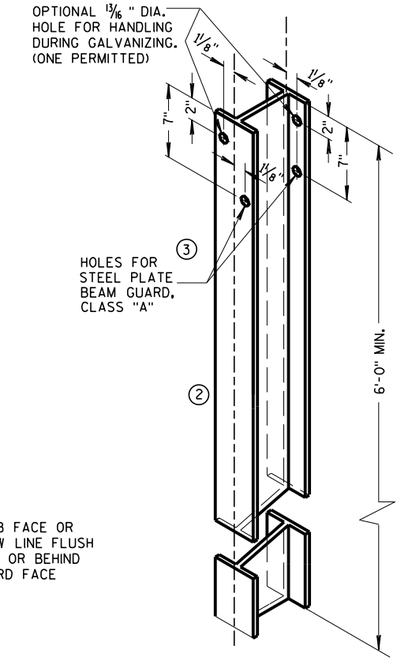
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



END VIEW
SETTING STEEL OR WOOD POST IN ROCK (6)

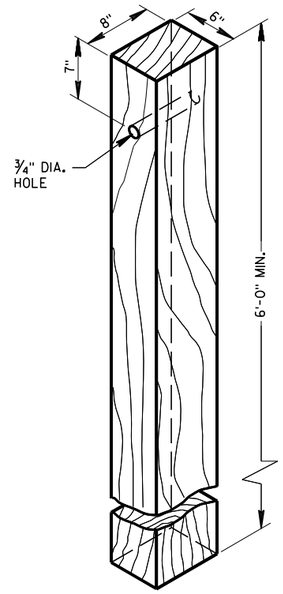


END VIEW
LOCATED ALONG A CURBED ROADWAY

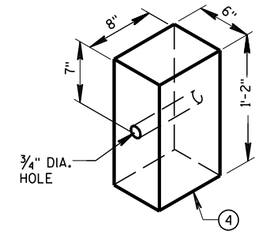


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) (1)

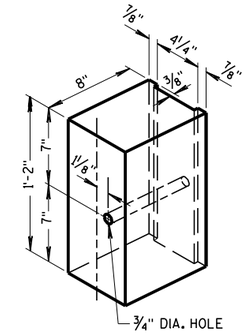
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



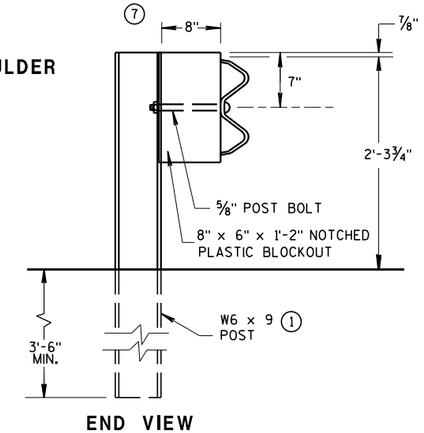
WOOD POST
(6"X8") NOMINAL



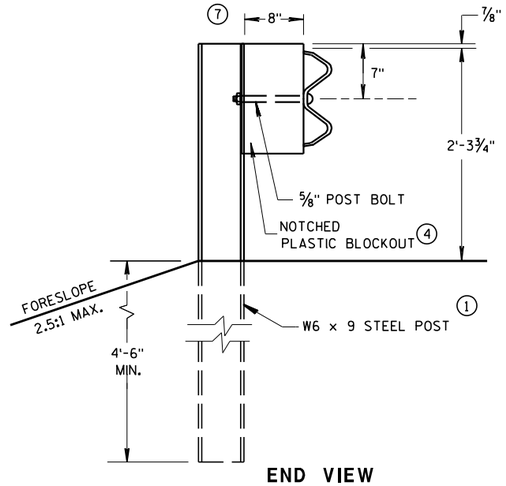
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



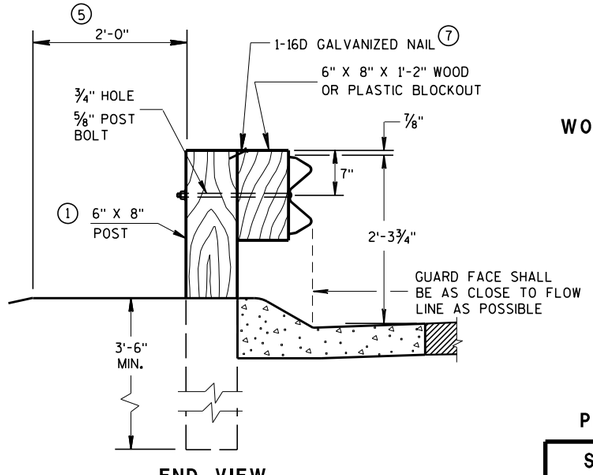
TYPICAL NOTCHED
PLASTIC BLOCKOUT
FOR STEEL POSTS (1)



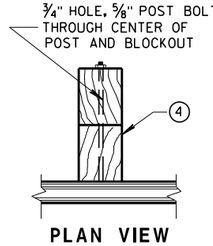
END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



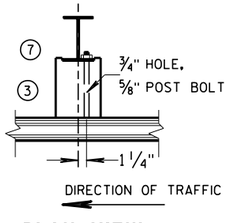
END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)



END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



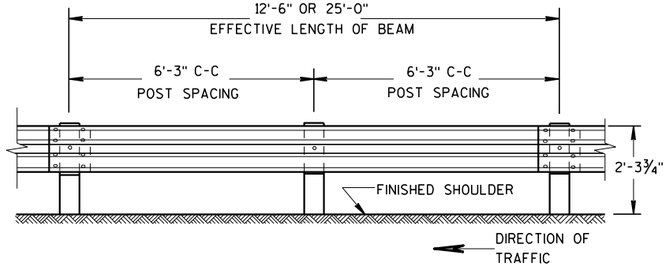
PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM

TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

STEEL PLATE BEAM GUARD,
CLASS "A"
INSTALLATION & ELEMENTS

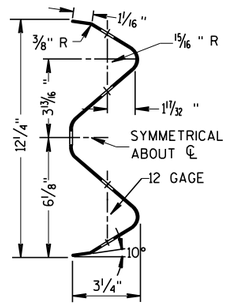
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 15-11a

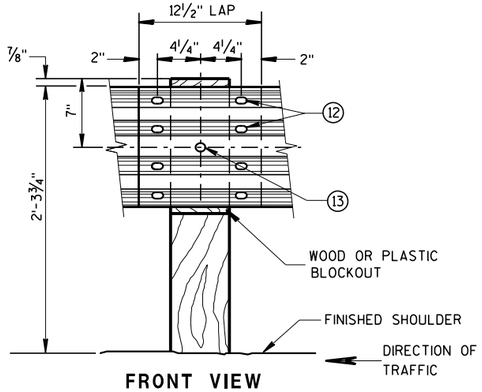


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

GENERAL NOTES

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

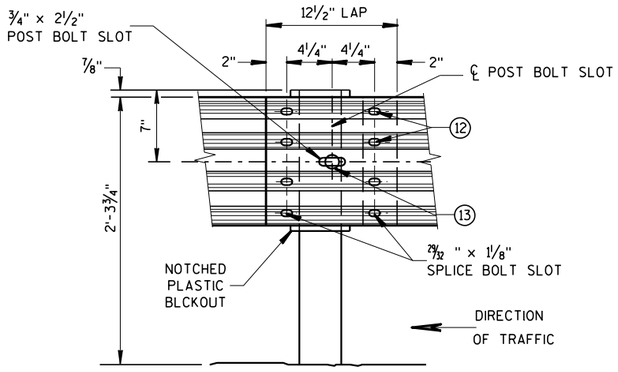
(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.

(12) 8 -5/8" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.

(13) 5/8" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH 5/8" DIA. F844 FLAT WASHER UNDER NUT.

FRONT VIEW

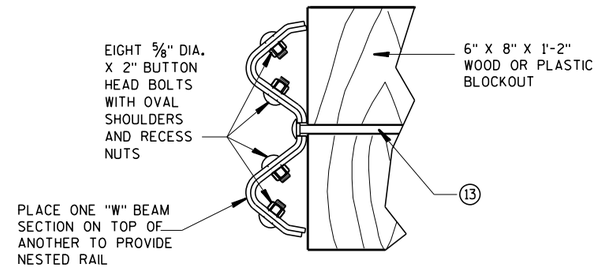
POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

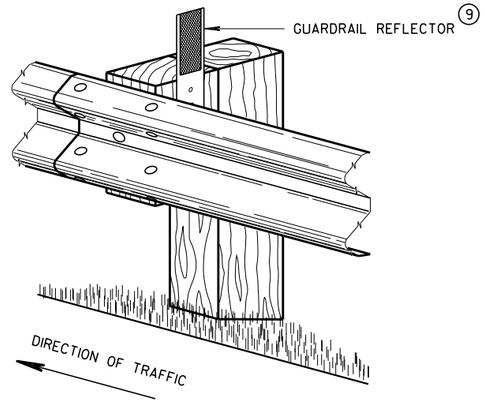
TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD



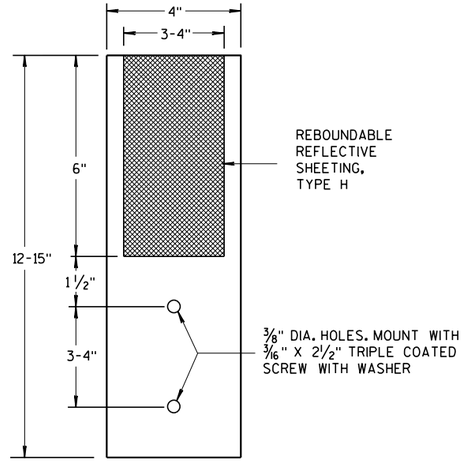
NESTED W BEAM (NW)

USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

* USE DOUBLE SIDED WHITE GUADRAIL REFLECTORS ON ROADWAYS WITH BI-DIRECTIONAL TRAFFIC (NO MEDIAN). USE SINGLE SIDED WHITE (RIGHT SIDE) AND SINGLE SIDED YELLOW (LEFT SIDE) ON ROADWAYS WITH MEDIAN SEPARATION.



4" X 12" GUARDRAIL REFLECTOR DETAIL AND TYPICAL INSTALLATION *



4"x 12" GUARDRAIL REFLECTOR

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

STATE OF WISCO 328
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 15-11b

6

S.D.D. 14 B 15-11b

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

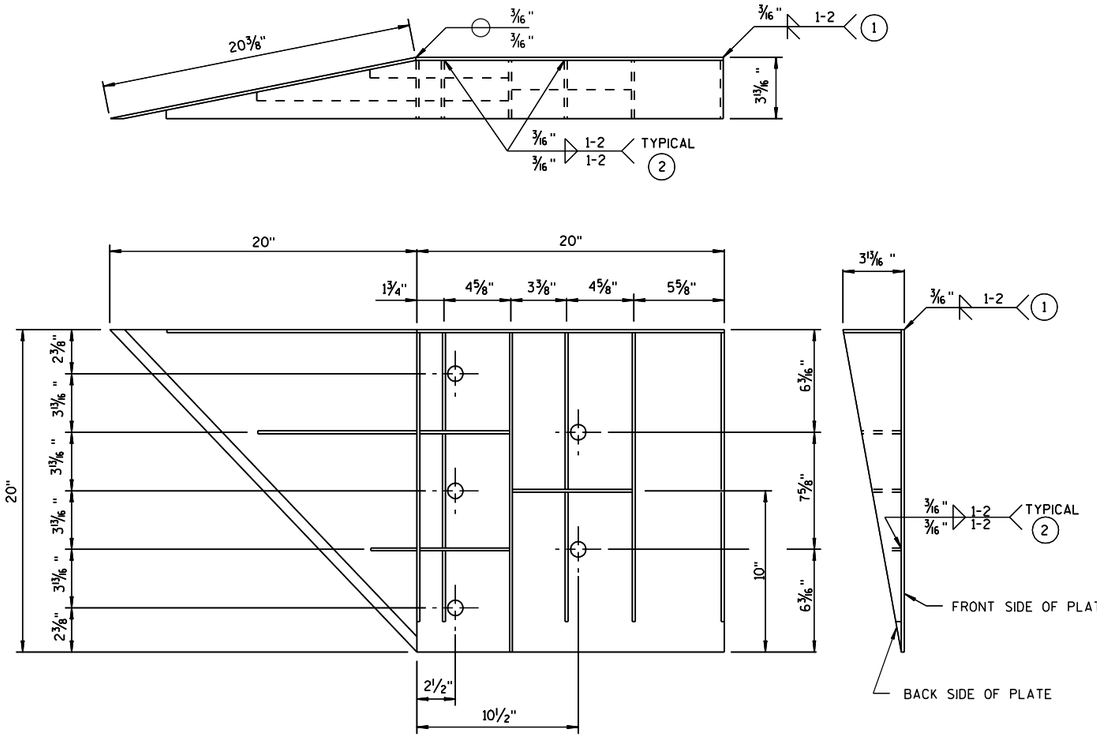
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(1) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(2) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

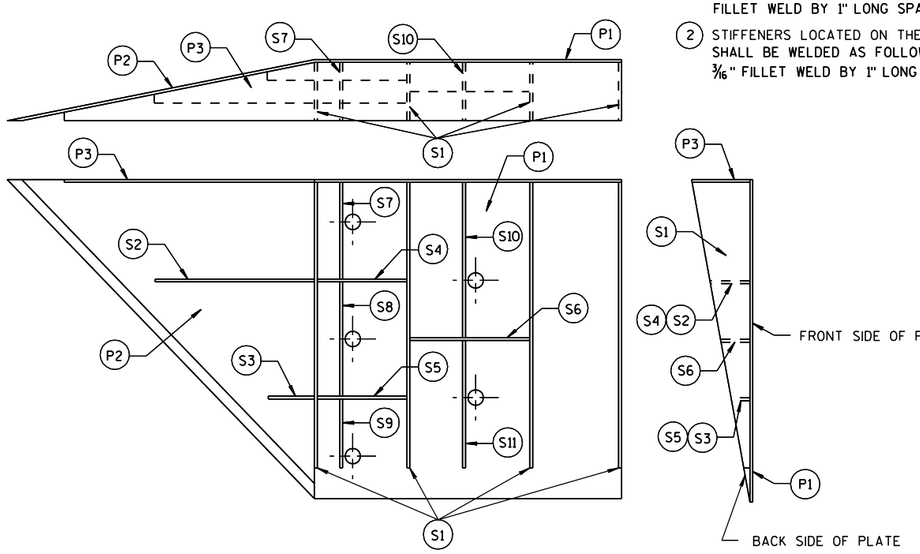


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

STEEL THRIE BEAM STRUCTURE APPROACH

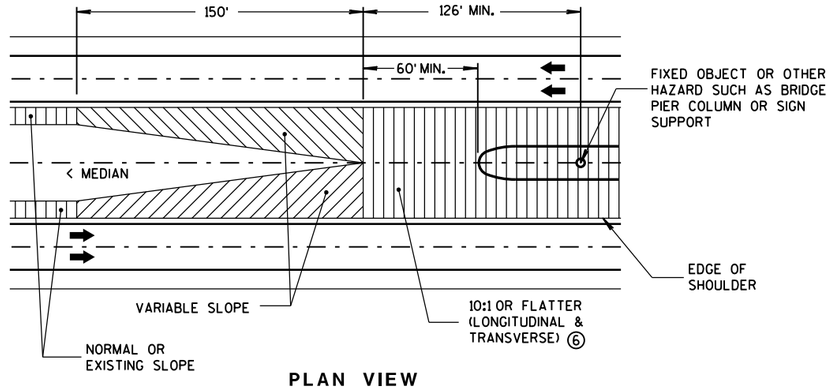
STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 — DATE
/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER
FHWA

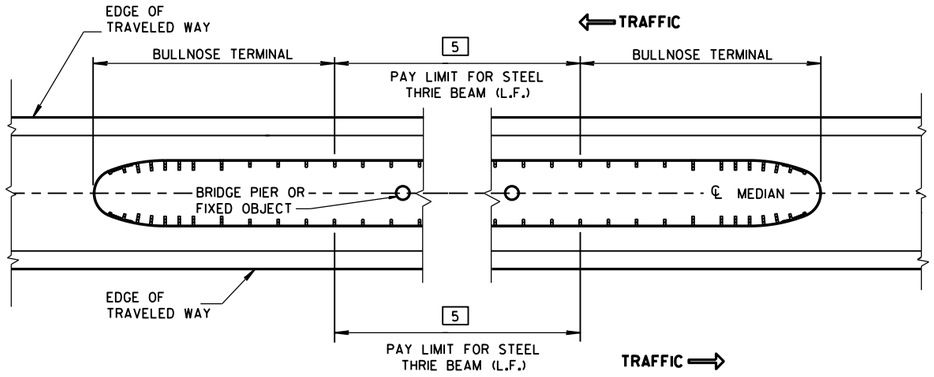
6

S.D.D. 14 B 20-11g

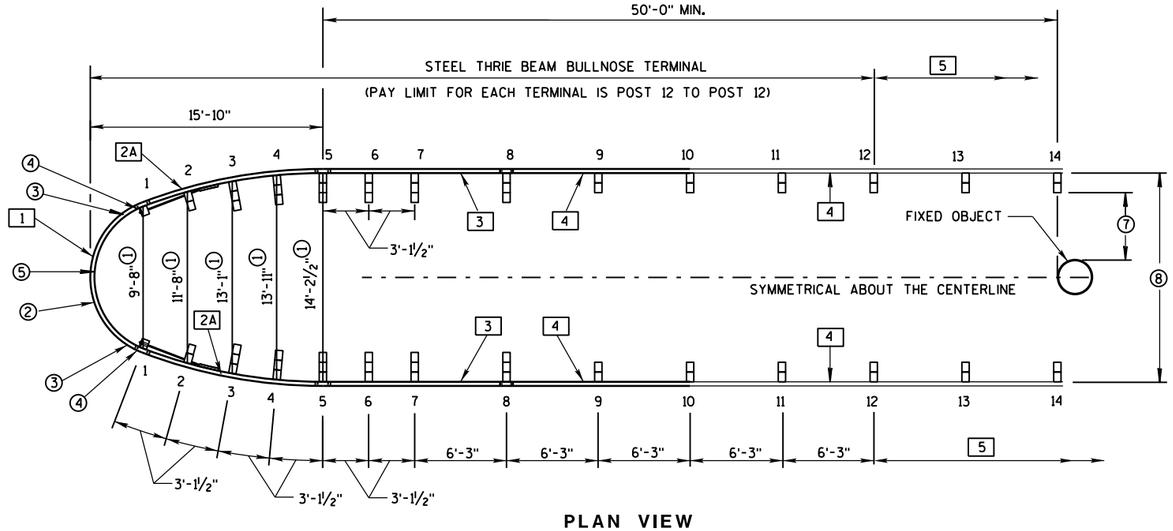


PLAN VIEW

GRADING AT BULLNOSE
(ALL INSTALLATIONS)

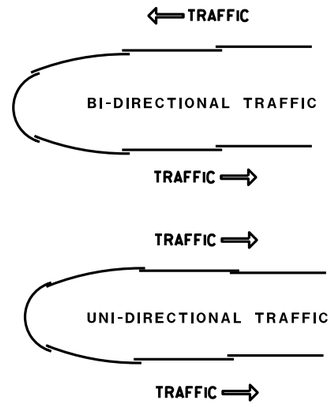


MEDIAN HAZARD PROTECTION PAY LIMITS



PLAN VIEW

TYPICAL BULLNOSE LAYOUT



LAPPING DETAIL
(ALL INSTALLATIONS)

GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.

PUNCHING, DRILLING, CUTTING OR WELDING IS NOT PERMITTED ON ANY GALVANIZED THRIE BEAM ACCESSORY OR TERMINAL ACCESSORY.

OTHER ANCHOR CABLE ASSEMBLIES HAVING 40,000 LBS. MIN. BREAKING STRENGTH MAY BE USED.

FOR POSTS 2 THROUGH 14, IF POST CANNOT BE INSTALLED AT SPECIFIED LOCATION 1 EXTRA STANDARD WOOD BLOCK MAY BE ADDED.

THE USE OF STEEL POSTS ON THE BULLNOSE IS NOT ALLOWED.

BOLTS AND ALL NECESSARY HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

ALL THRIE BEAM SHALL BE 12-GAUGE.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½" AND 12" DIAMETER AROUND POST. SEE SDD 14B15 OR SDD 14B42 FOR MORE INFORMATION.

[1] SLOTTED THRIE BEAM RAIL NO. 1. (POST 1 TO POST 1)

[2A] SLOTTED THRIE BEAM RAIL NO. 2A. (POST 1 TO POST 5)

[3] SLOTTED THRIE BEAM RAIL NO. 3. (POST 5 TO POST 8)

[4] UNBENT STANDARD THRIE-BEAM RAIL NO.4. (POST 8 TO POST 10 & POST 10 TO POST 12)

[5] BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.

① DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST OR BLOCK.

② U-BOLT CABLE CLIPS (3 PER CABLE) SPACED OUT ON NOSE, TO HOLD CABLE TO BACKSIDE OF THE RAIL.

③ NOSE CABLE W/SWAGGED END BUTTONS.

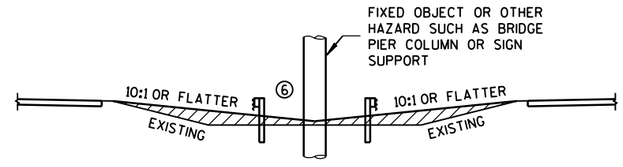
④ NOSE CABLE ANCHOR PLATE (BACKSIDE OF SPLICE).

⑤ THE SLACK IN THE NOSE CABLES SHALL BE EVENLY DISTRIBUTED BETWEEN THE CABLE CLIP FASTENERS AND POST NO. 1 ON EITHER SIDE OF THE NOSE.

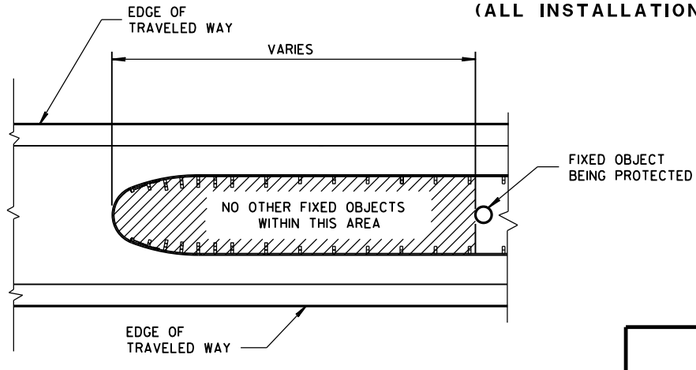
⑥ PROVIDE SUITABLE DRAINAGE WHEN MEDIAN GRADING IMPEDES NORMAL FLOW.

⑦ 2'-6" MINIMUM LATERAL DISTANCE BETWEEN BACK OF POST AND FACE OF FIXED OBJECT.

⑧ MAXIMUM WIDTH OF SYSTEM IS 14'-2½" MEASURED FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.



MEDIAN GRADING SECTION
(ALL INSTALLATIONS)

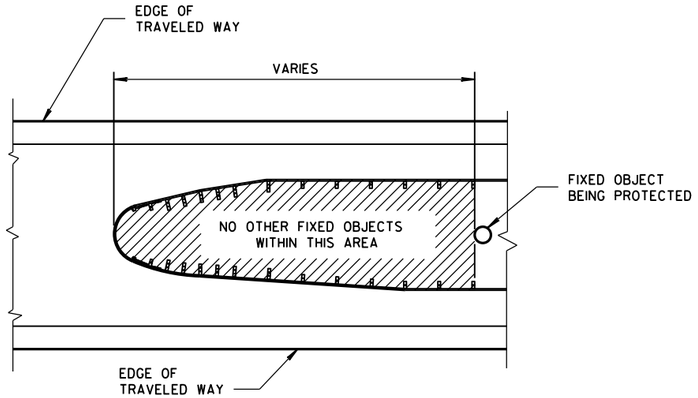


HAZARD FREE AREA INSIDE BULLNOSE

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6
S.D.D. 14 B 26-3a



HAZARD FREE
AREA INSIDE BULLNOSE

GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.

FOR POSTS 2 THROUGH 14, IF POST CANNOT BE INSTALLED AT SPECIFIED LOCATION 1 EXTRA STANDARD WOOD BLOCK MAY BE ADDED.

[1] SLOTTED THRIE BEAM RAIL NO. 1. (POST 1 TO POST 1)

[2A] SLOTTED THRIE BEAM RAIL NO. 2A, (POST 1 TO POST 5)

[2B] SLOTTED THRIE BEAM RAIL NO. 2B, (POST 1 TO POST 5)

[3] SLOTTED THRIE BEAM RAIL NO. 3. (POST 5 TO POST 8)

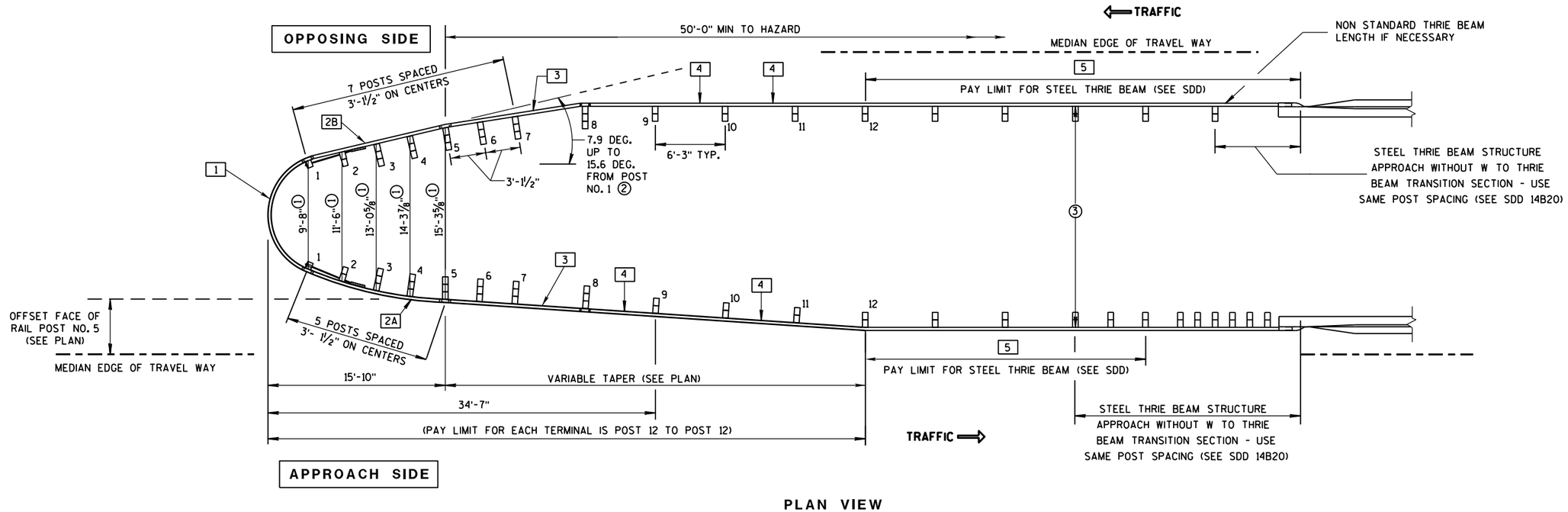
[4] UNBENT STANDARD THRIE-BEAM RAIL NO. 4, (POST 8 TO POST 10 & POST 10 TO POST 12)

[5] BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.

① DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST.

② TAPER BEGINNING AT POST NO. 1 MUST CONTINUE TO POST NO. 5. PAST POST NO. 5 TAPER MAY END OR BE EXTENDED UP TO 15.6 DEGREES TO FIT VARIABLE MEDIAN WIDTHS. (SEE PLAN)

③ FOR MEDIANS WIDER THAN 14'-2½" MEASURED FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.



PLAN VIEW

WIDENED BULLNOSE DESIGN

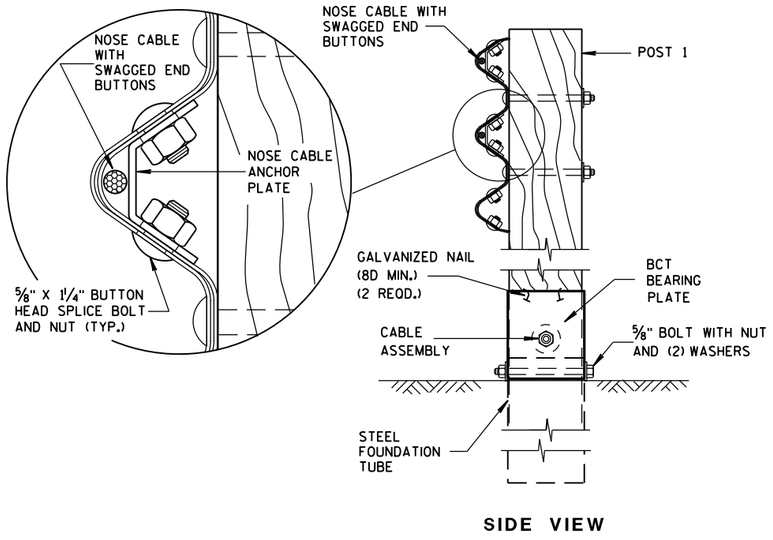
(INSTALLATION AT TWIN BRIDGES WITH BI-DIRECTIONAL TRAFFIC SHOWN)

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

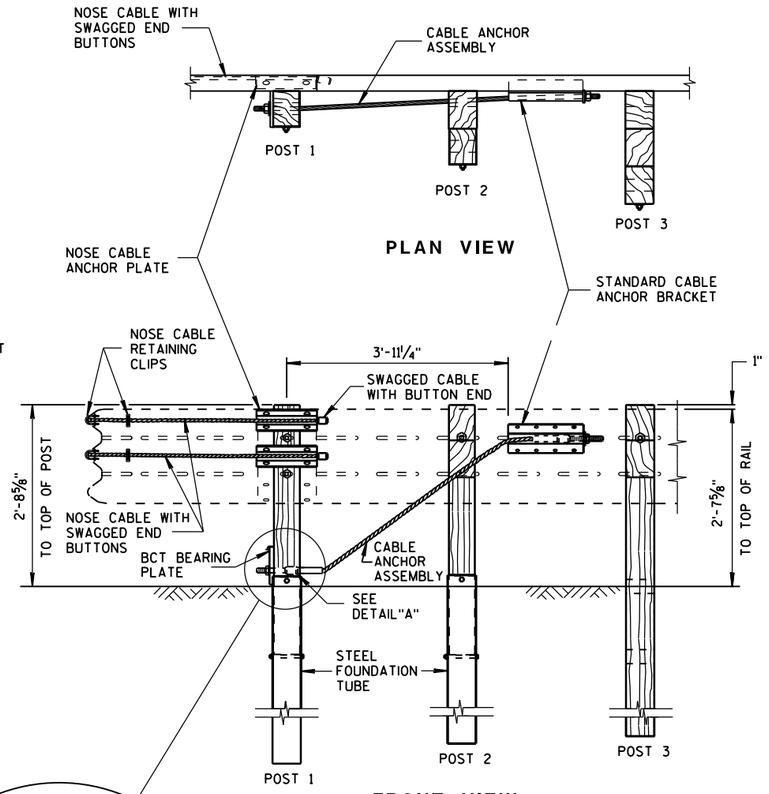
6

S.D.D. 14 B 26-3b



SIDE VIEW

NOSE CABLE ASSEMBLY AT POST NO. 1



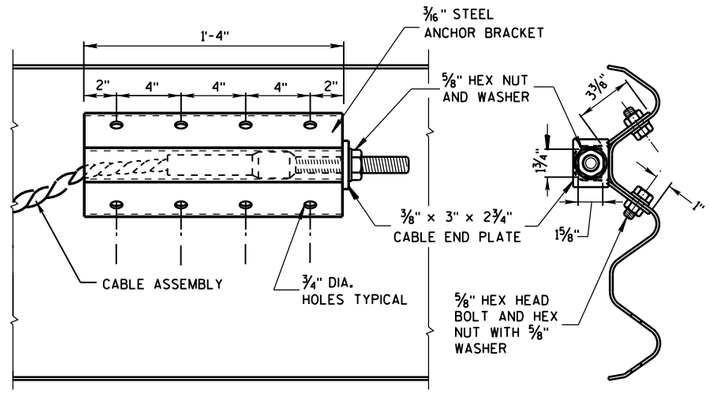
PLAN VIEW

FRONT VIEW

NOSE CABLE ANCHOR AND STANDARD BRACKET ASSEMBLY

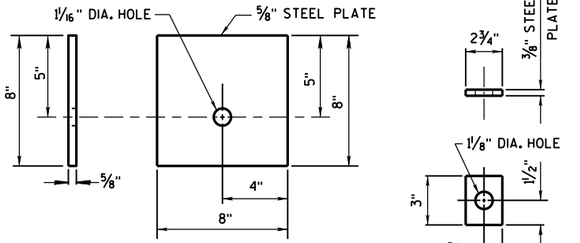
GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.



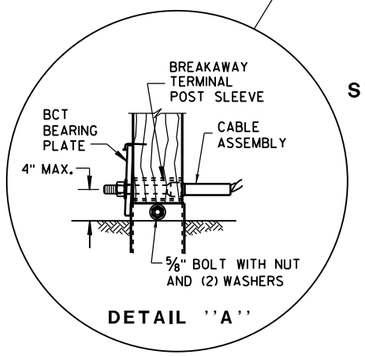
FRONT VIEW END VIEW

DETAILS OF CABLE ANCHOR BRACKET

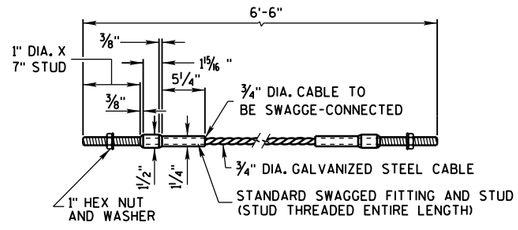


BCT BEARING PLATE

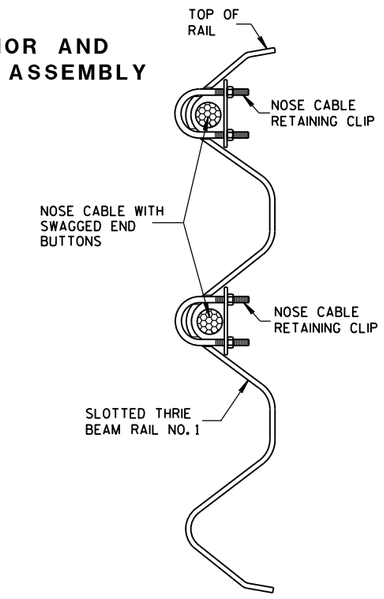
CABLE END PLATE



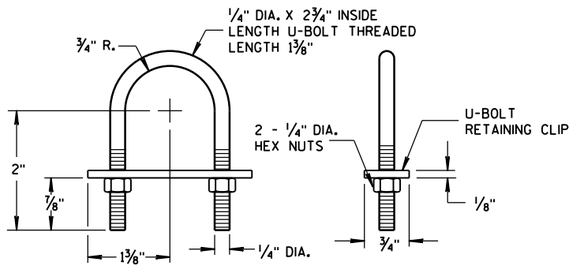
DETAIL ''A''



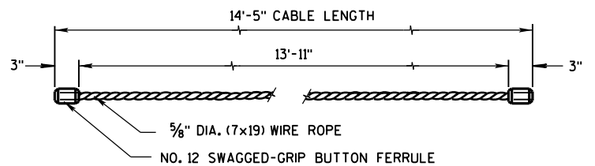
DETAILS OF CABLE ANCHOR ASSEMBLY



PLACEMENT OF NOSE CABLE RETAINING CLIP

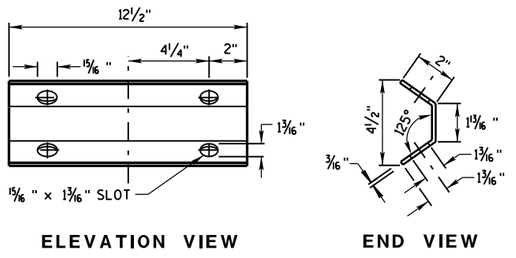


NOSE CABLE RETAINING CLIP



NOSE CABLE WITH SWAGGED END BUTTONS

TO PULL OFF SWAGGED GRIP BUTTON FERRULE FROM WIRE ROPE REQUIRES A FORCE EQUAL TO 98% OF THE WIRE ROPE'S BREAKING STRENGHT.



ELEVATION VIEW END VIEW

NOSE CABLE ANCHOR PLATE

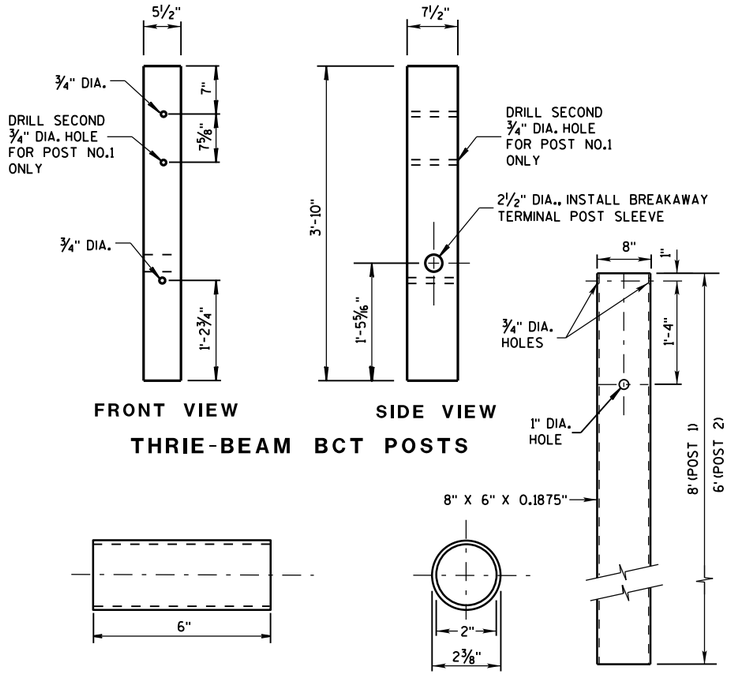
NOTE: 12 1/2" x 5 13/16" x 3/16" STEEL PLATE (A306)

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

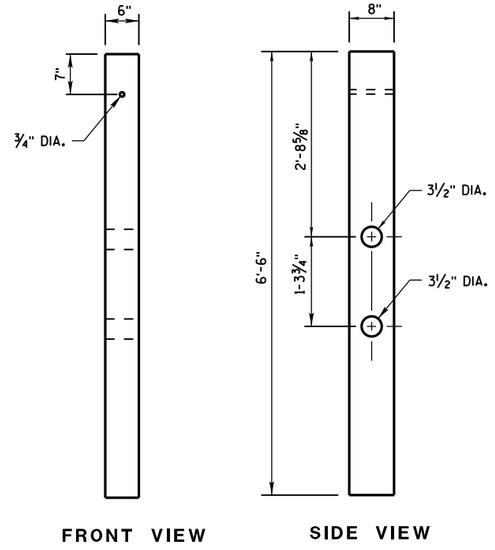
S.D.D. 14 B 26-3c



THRIE-BEAM BCT POSTS

BREAKAWAY TERMINAL POST SLEEVE

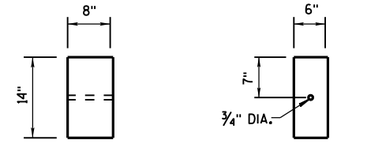
STEEL FOUNDATION TUBE



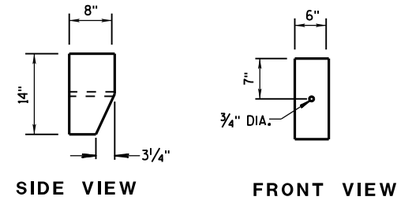
THRIE-BEAM CRT WOOD POSTS

GENERAL NOTES

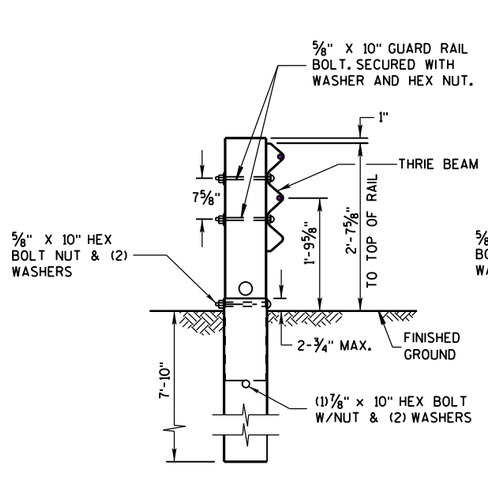
SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.



STANDARD WOOD BLOCK

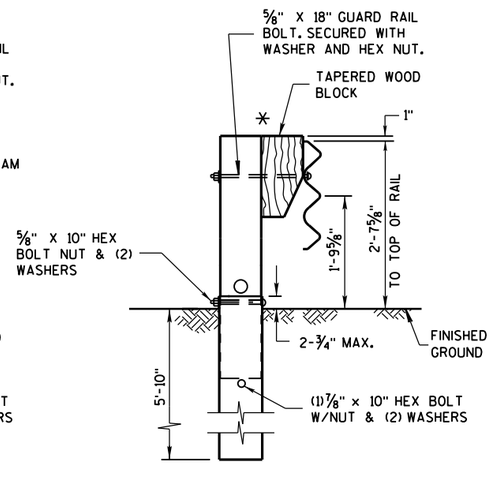


TAPERED WOOD BLOCK



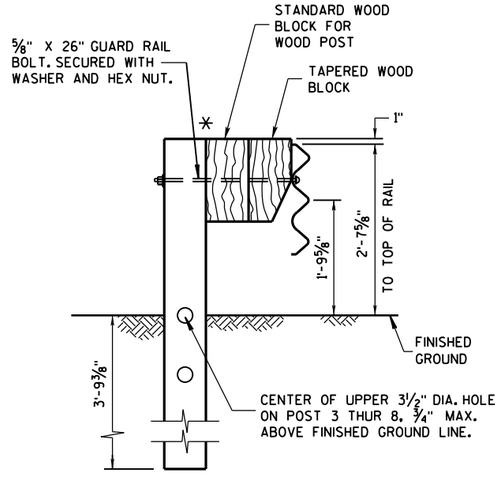
THRIE-BEAM BCT POST
(WITH 8'-0" FOUNDATION TUBE)

POST NO. 1



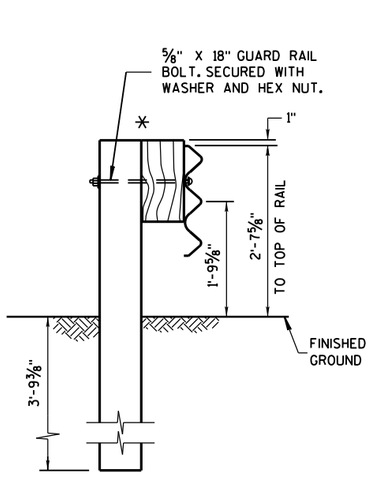
THRIE-BEAM BCT POST
(WITH 6'-0" FOUNDATION TUBE AND 1'-2" TAPERED BLOCK)

POST NO. 2



THRIE-BEAM CRT POST
(6'-6" LONG POST WITH 1'-2" BLOCK AND 1'-2" TAPERED BLOCK)

POST NO. 3,4,5,6,7, & 8



THRIE-BEAM POST
(6'-6" LONG POST WITH 1'-2" BLOCK)

POST NO. 9,10,11,& 12

(ALSO USE FOR STEEL THRIE BEAM BEYOND POST 12)

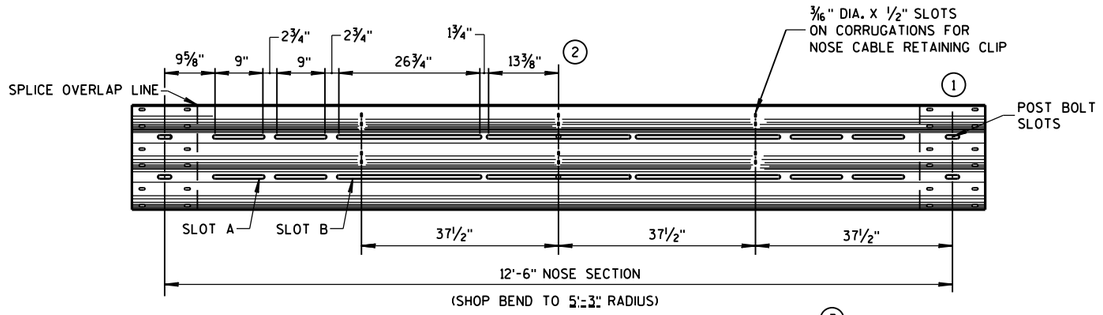
* IF NEEDED DUE TO AN UNDERGROUND OBSTACLE ADD 1 ADDITIONAL STANDARD BLOCKOUT TO POST.

STEEL THRIE BEAM BULLNOSE TERMINAL

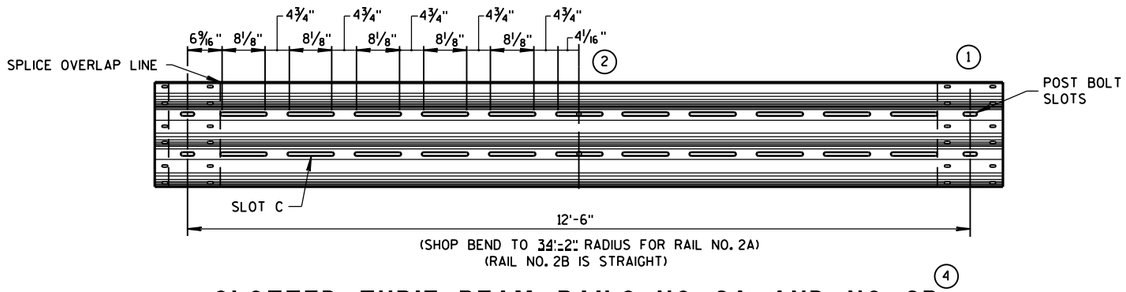
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

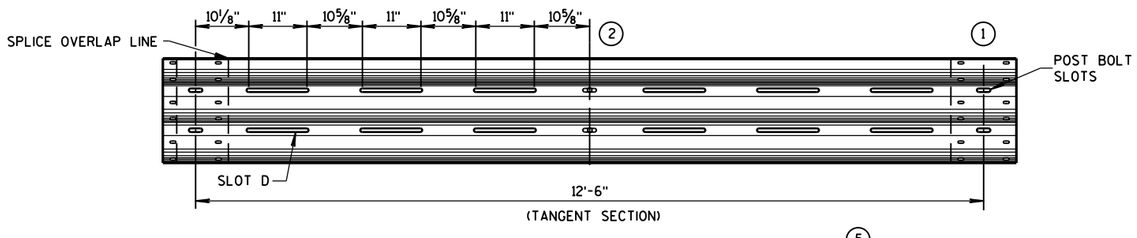
S.D.D. 14 B 26-3d



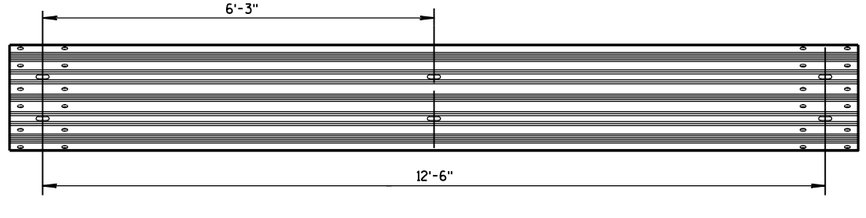
SLOTTED THRIE BEAM RAIL NO. 1 (3)



SLOTTED THRIE BEAM RAILS NO. 2A AND NO. 2B (4)



SLOTTED THRIE BEAM RAIL NO. 3 (5)



UNBENT STANDARD THRIE BEAM RAIL NO. 4 AND NO. 5

GENERAL NOTES

SEE STANADRD DETAIL DRAWINGS 14 B 26a-e.

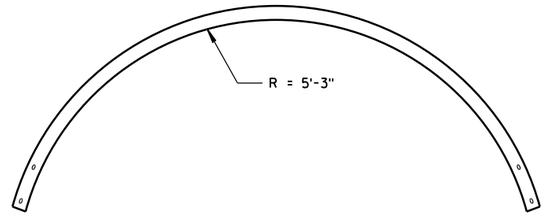
(1) SLOTTED THRIE BEAM RAIL DIMENSIONS SHOWN ARE BEFORE BENDING TO THE RADIUS SHOWN.

(2) SLOT SIZE AND SPACING SYMMETRIC.

(3) SLOTTED THRIE BEAM RAIL NO. 1, 12'-6", SHOP BEND TO R=5'-3".

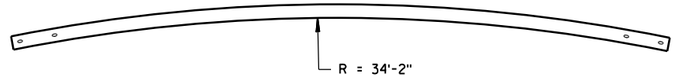
(4) SLOTTED THRIE BEAM RAIL NO. 2A, 12'-6", SHOP BEND TO R=34'-2".
SLOTTED THRIE BEAM RAIL NO. 2B, 12'-6", RAIL IS STRAIGHT.

(5) SLOTTED THRIE BEAM RAIL NO. 3, 12'-6", TANGENT.



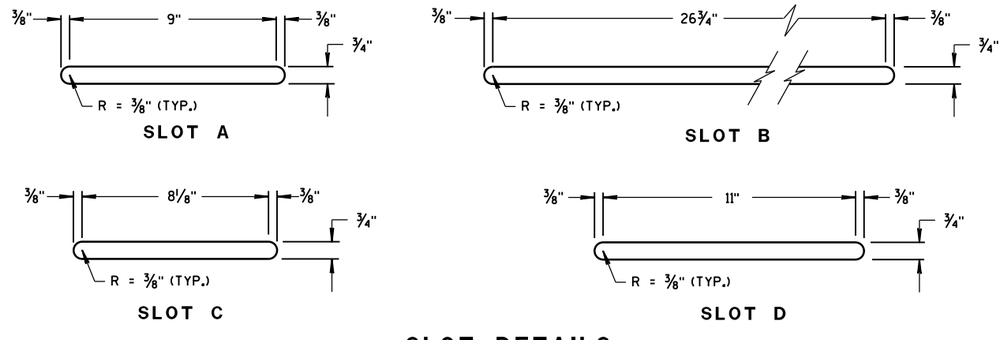
PLAN VIEW

SLOTTED THRIE BEAM RAIL NO. 1



PLAN VIEW

SLOTTED THRIE BEAM RAIL NO. 2A



SLOT DETAILS

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

NT

6

S.D.D. 14 B 26-3e

6

S.D.D. 14 B 26-3e

(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.

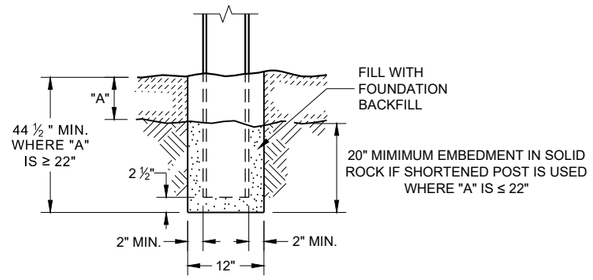
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

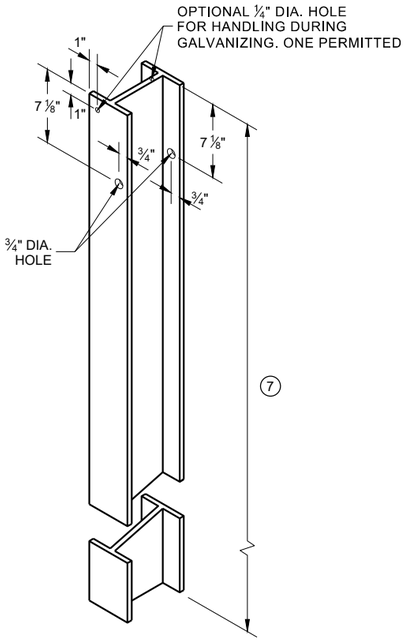
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS +1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(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.

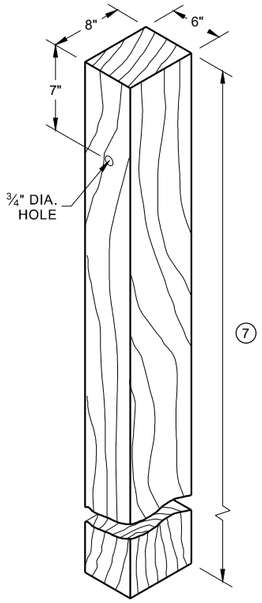
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



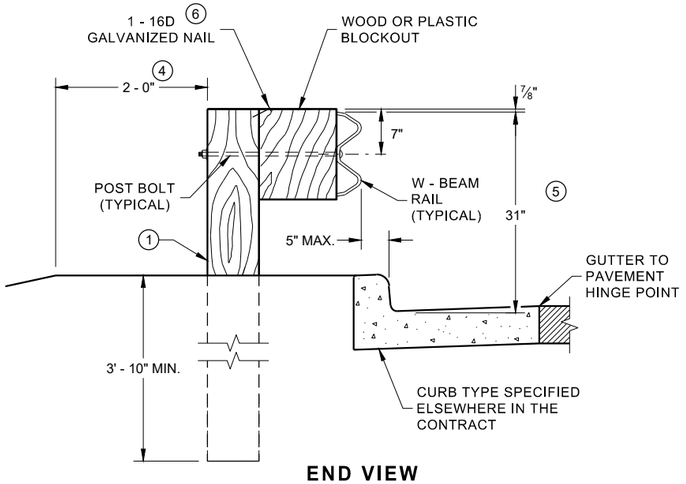
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



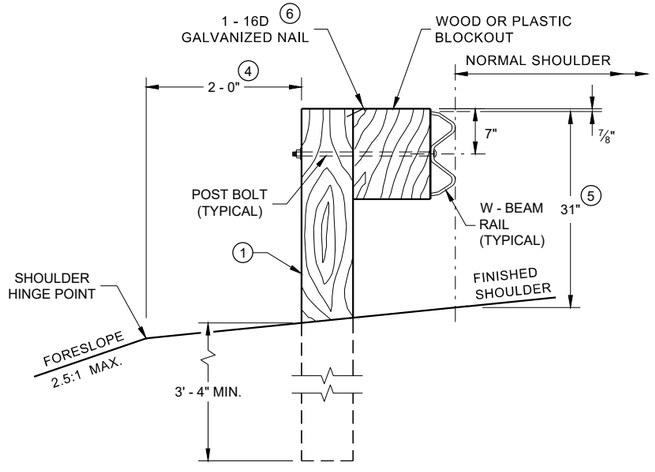
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



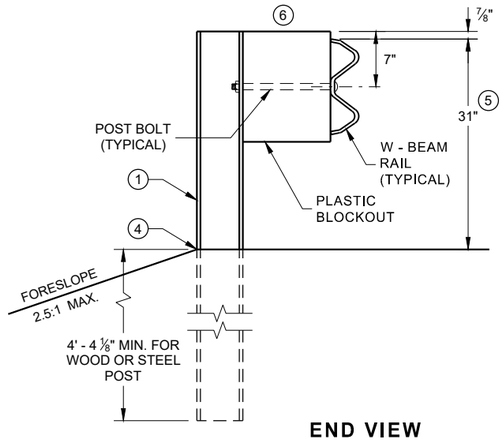
WOOD POST (6" X 8") NOMINAL (1)



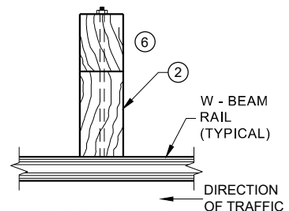
END VIEW
LOCATED ALONG A CURBED ROADWAY



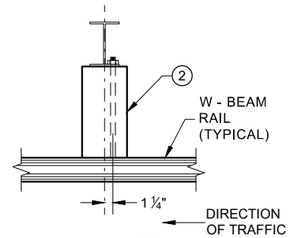
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



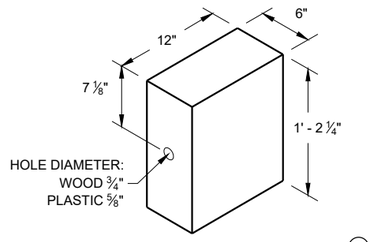
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)

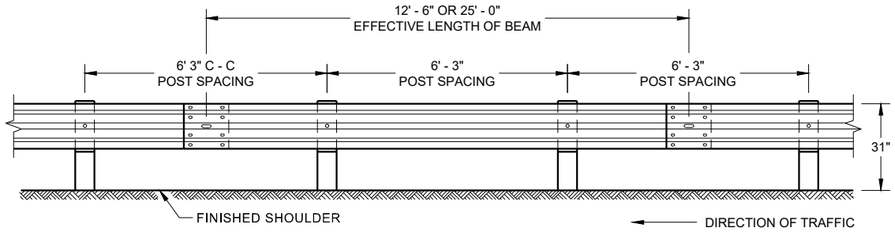
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

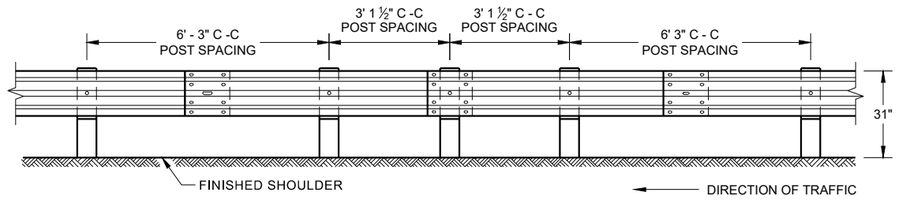
SDD 14B42 - 06a

6

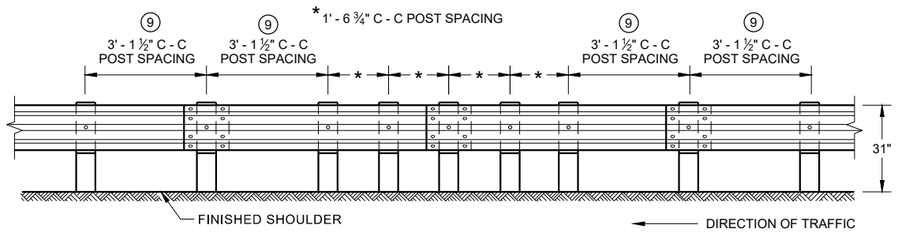
SDD 14B42 - 06a



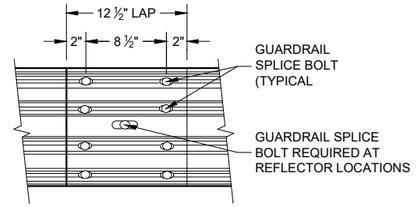
FRONT VIEW
POST SPACING STANDARD INSTALLATION



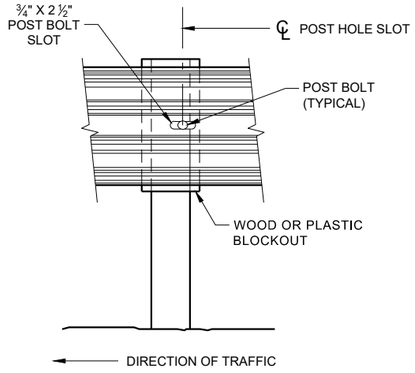
FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



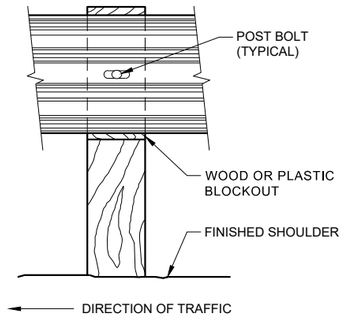
FRONT VIEW
QUARTER POST SPACING (QS)



FRONT VIEW
MID-SPAN BEAM SPLICE



FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST

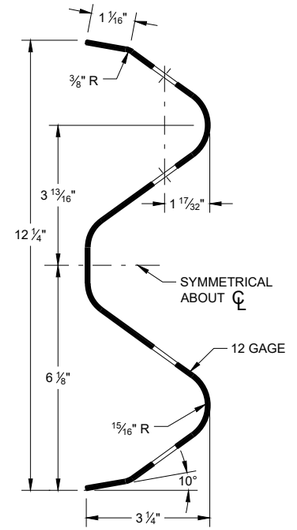
GENERAL NOTES

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

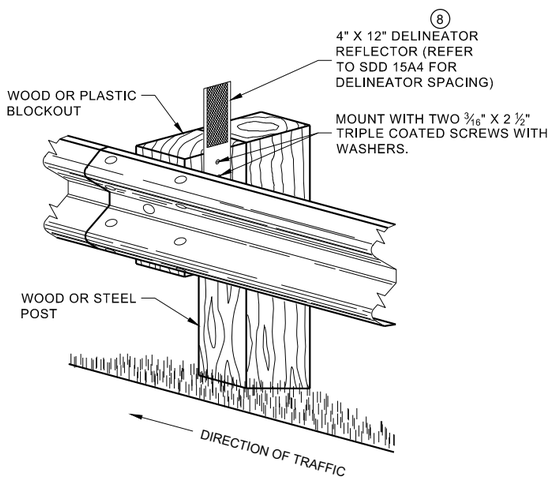
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

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.



SECTION THRU W-BEAM RAIL



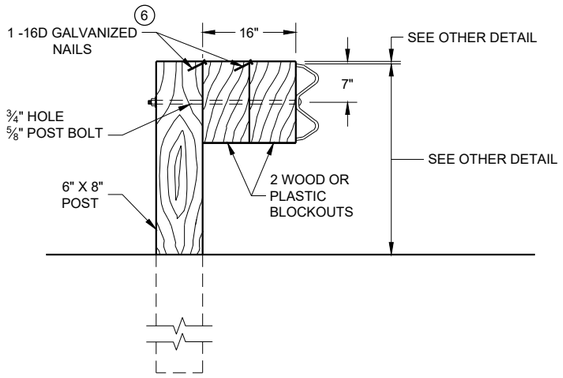
ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B42 - 06b

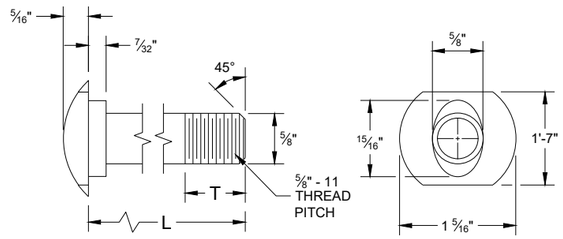


DETAIL FOR 16" BLOCKOUT DEPTH

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.

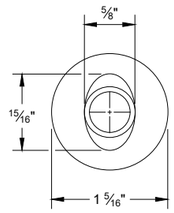
NOTE:

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.

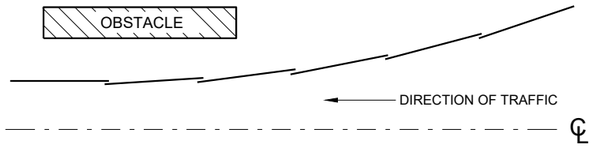


POST BOLT TABLE

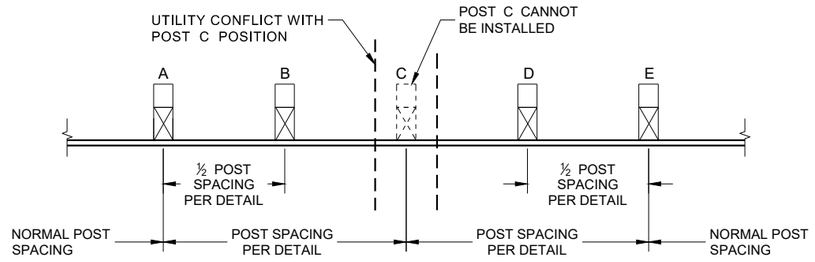
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



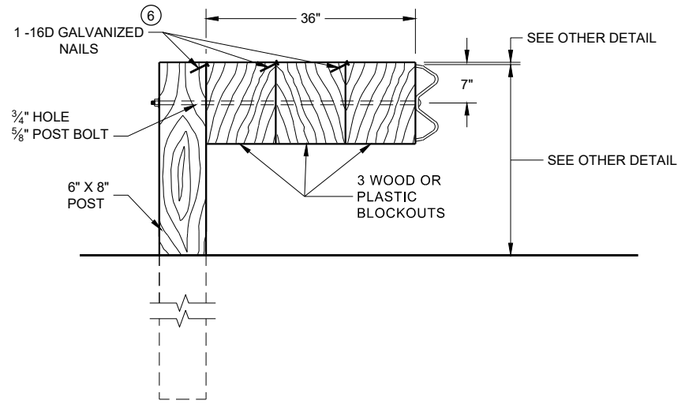
ALTERNATE BOLT HEAD



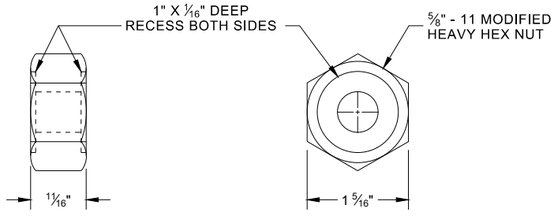
PLAN VIEW
BEAM LAPPING DETAIL



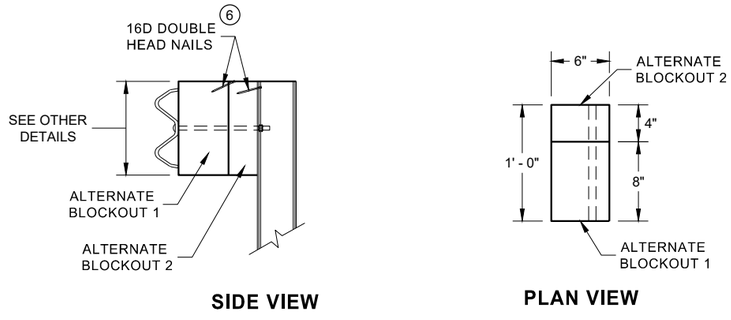
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



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.

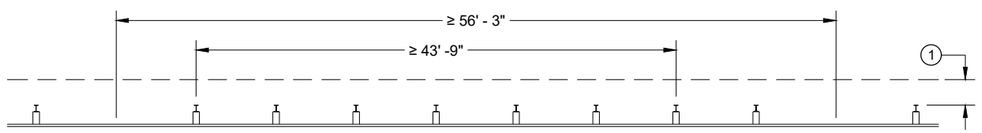
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

(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.

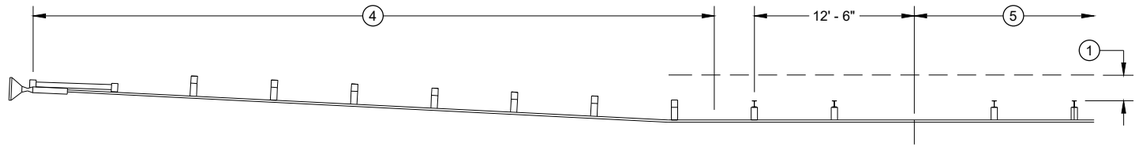
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

6

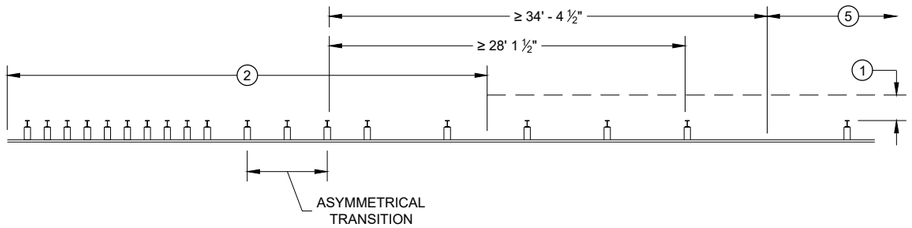
SDD 14B42 - 06c



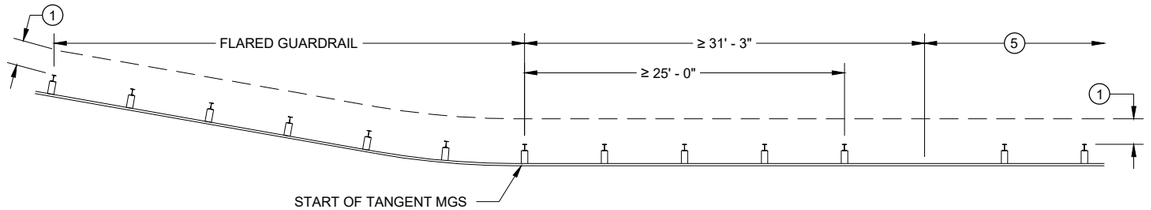
MISSING POST IN NORMAL BEAM GUARD RUN



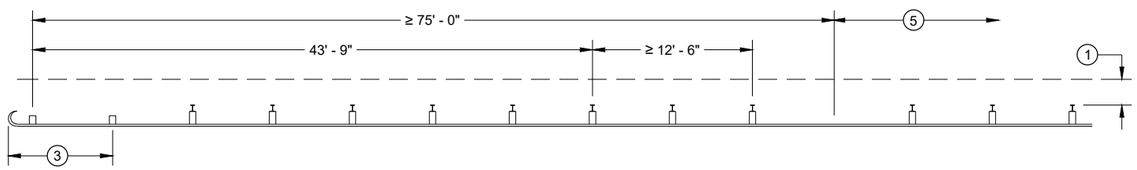
MISSING POST IN NORMAL BEAM GUARD RUN NEAR EAT



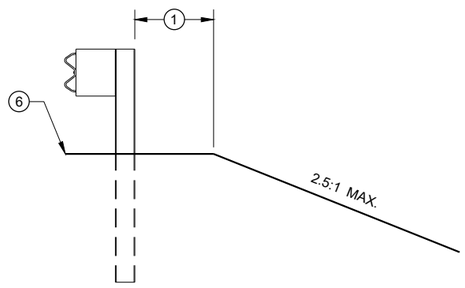
MISSING POST NEAR APPROACH THRIE BEAM TRANSITION



MISSING POST IN NORMAL BEAM GUARD RUN NEAR FLARED BEAM GUARD



MISSING POST IN NORMAL BEAM GUARD RUN NEAR TYPE 2 TERMINAL



CROSS SECTION VIEW

1. MINIMUM OF 2 FEET OF GRADING BEHIND POST.
2. SEE SDD 14B45 FOR MORE DETAILS.
3. SEE SDD 14B47 FOR MORE DETAILS.
4. SEE SDD 14B44 FOR MORE DETAILS.
5. SEE MISSING POST IN NORMAL BEAM GUARD RUN FOR DISTANCE TO NEXT MISSING POST AND AREA FOR WELL DRAINED, COMPACTED SOILS.
6. SEE PLAN FOR SHOULDER DESIGN.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

SDD 14B42 - 06d

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.

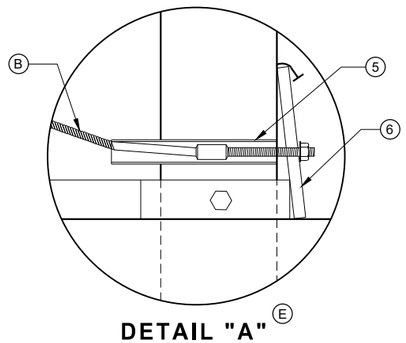
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

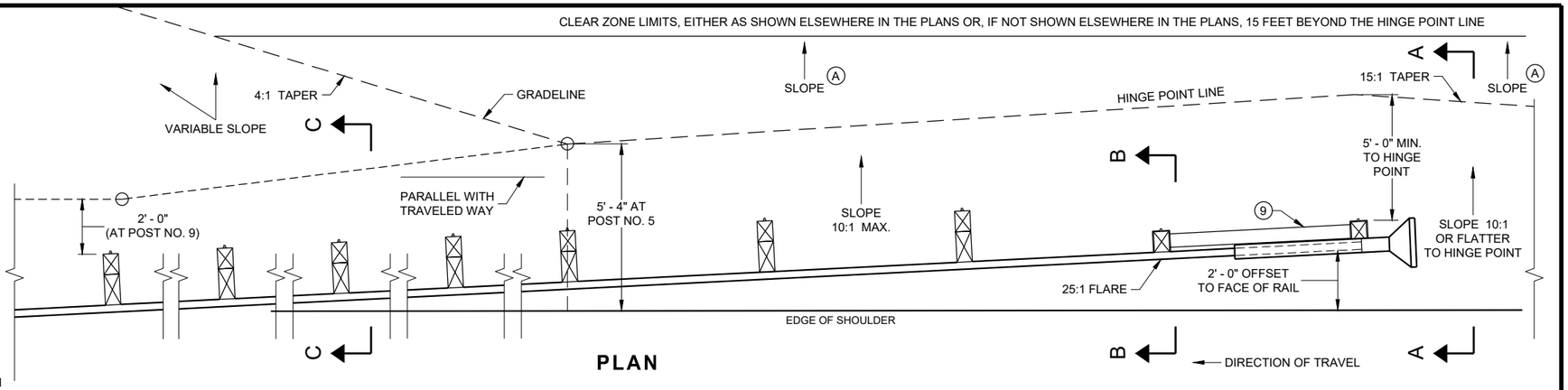
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

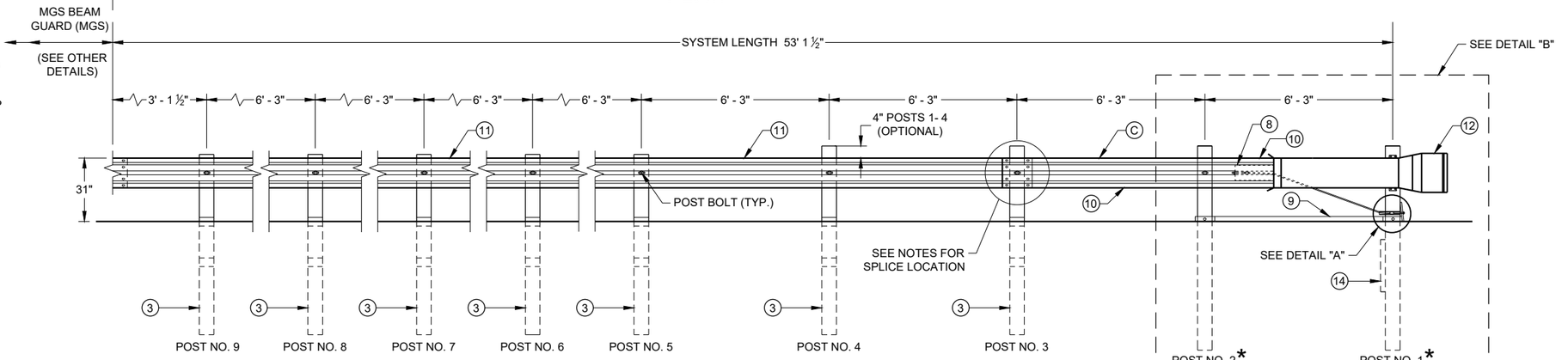
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

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.

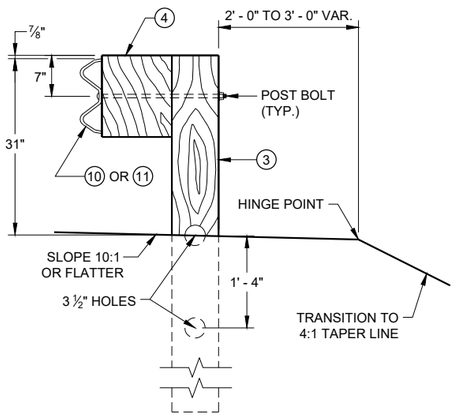


DETAIL "A" (E)

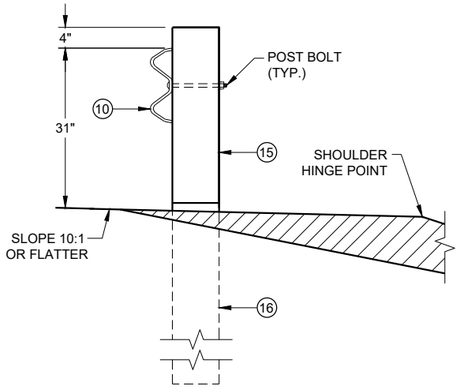




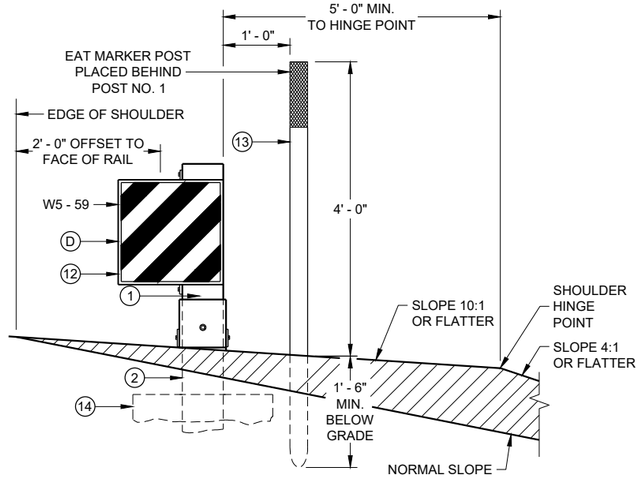
ELEVATION



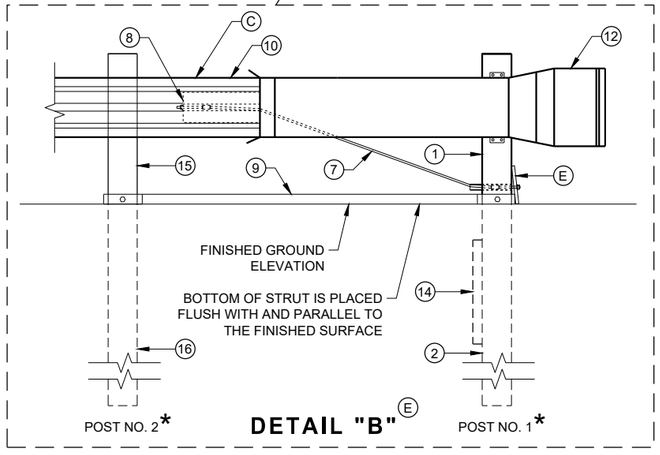
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



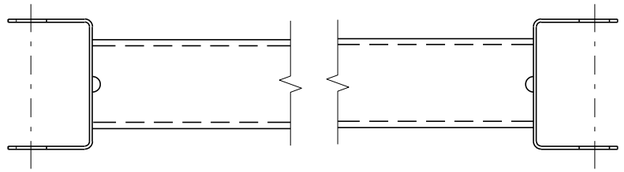
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

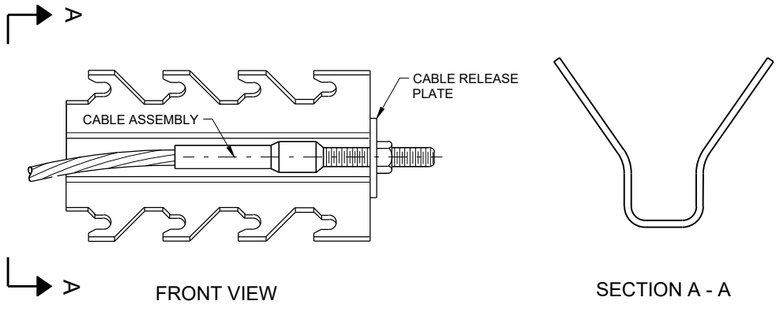
SDD 14B44 - 04a



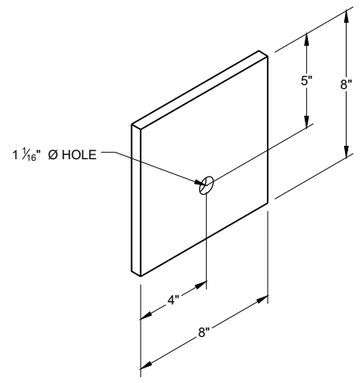
GENERIC GROUND STRUT ⑨ Ⓔ

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 ⑧ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

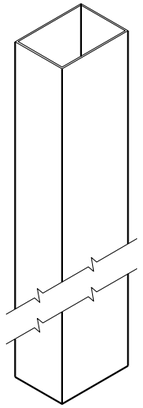
6

SDD 14B44 - 04b

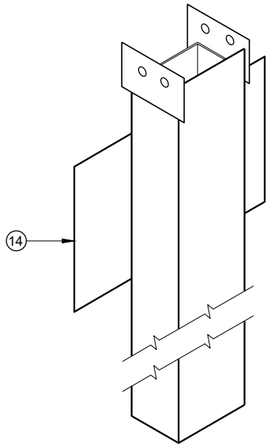
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

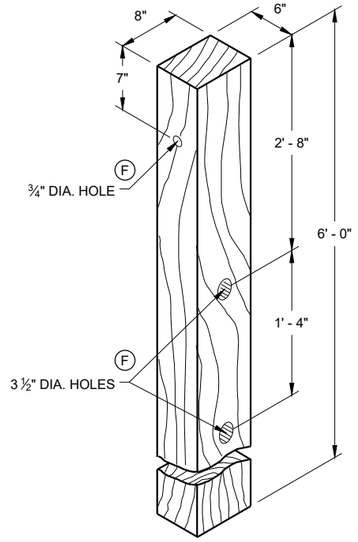
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



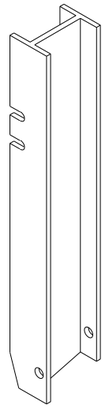
UPPER POST NO. 1 (1) (E)



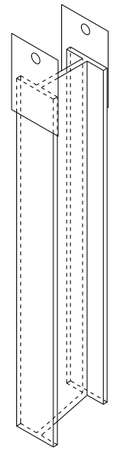
LOWER POST NO. 1 (2) (E)



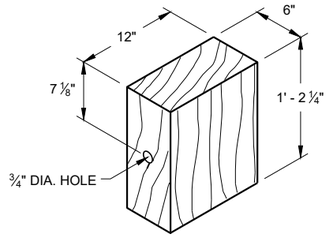
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



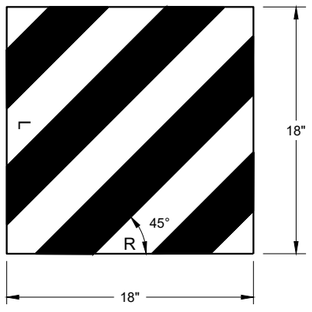
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

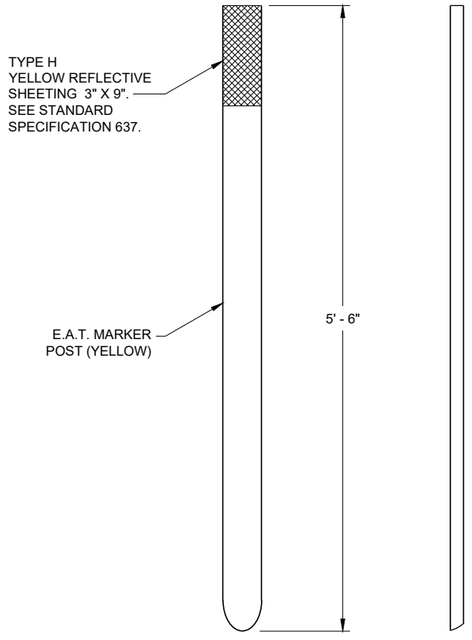


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



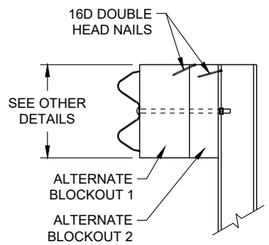
W5 - 59

REFLECTIVE SHEETING DETAIL (E)

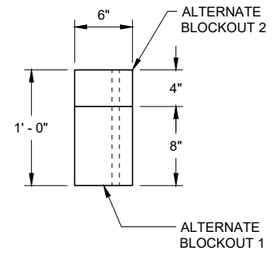


FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

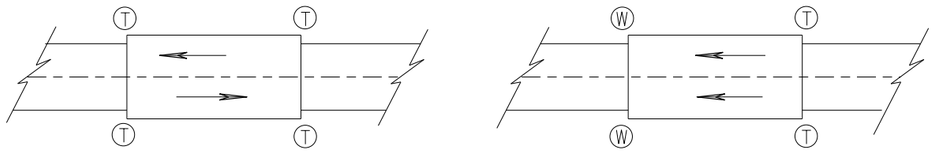
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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.

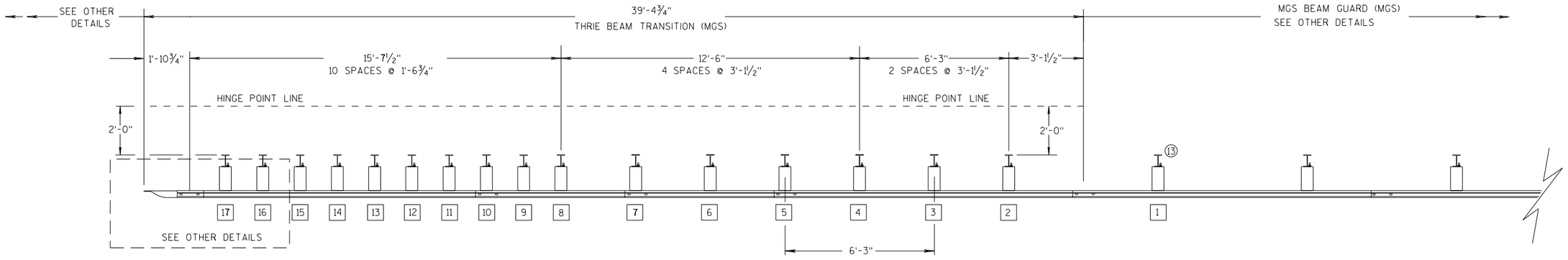
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

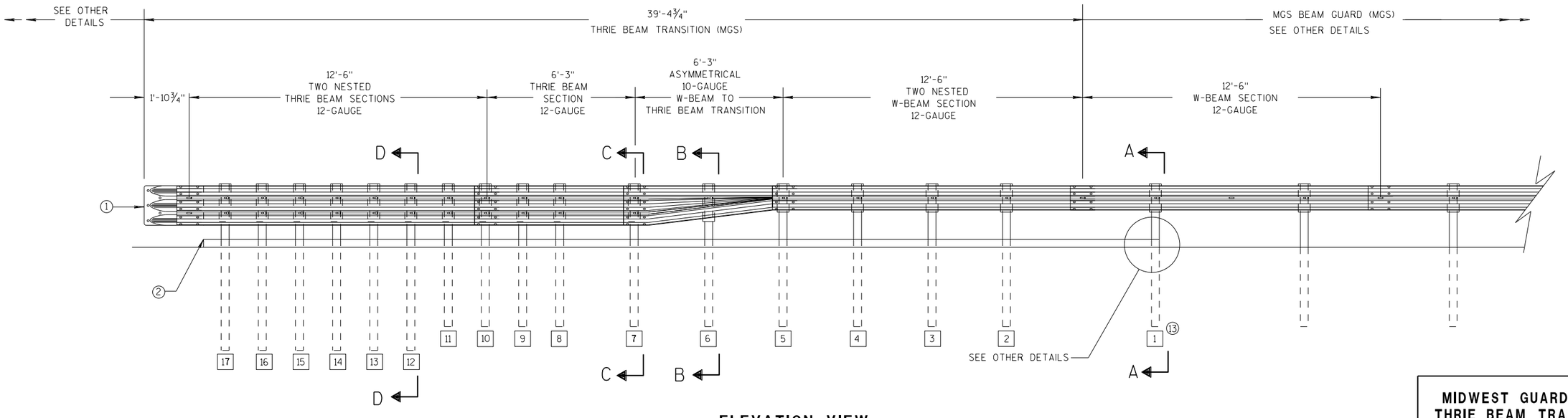
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(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

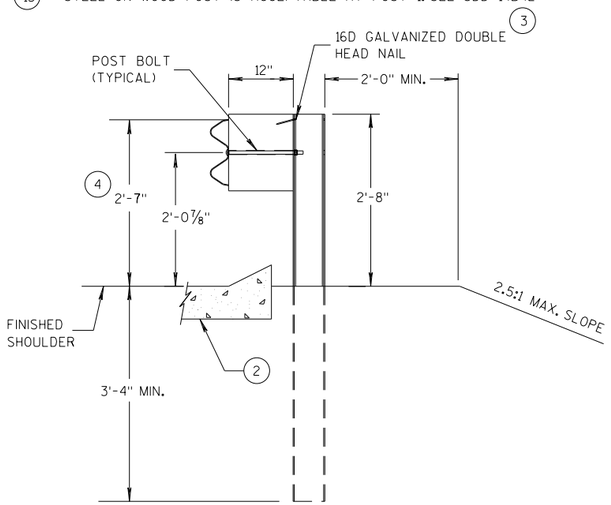
GENERAL NOTES

(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.

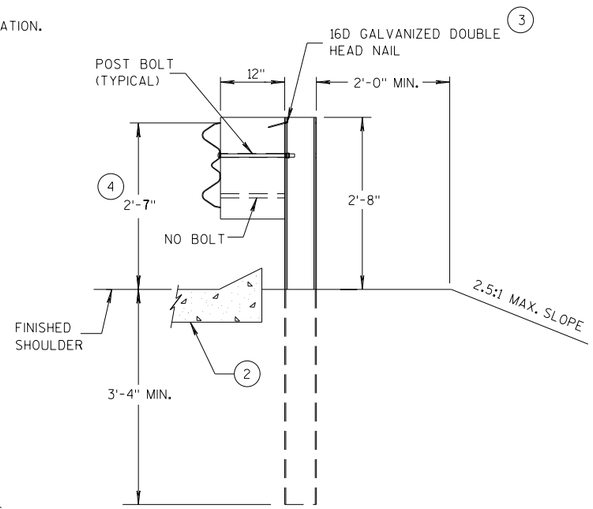
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



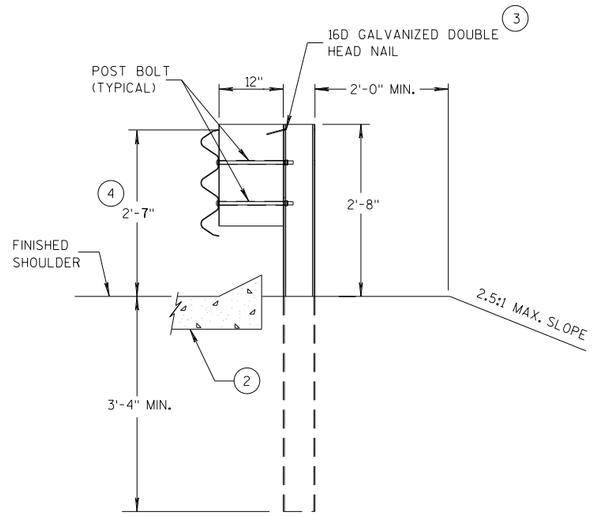
SECTION A-A (13)

POSTS 1-5



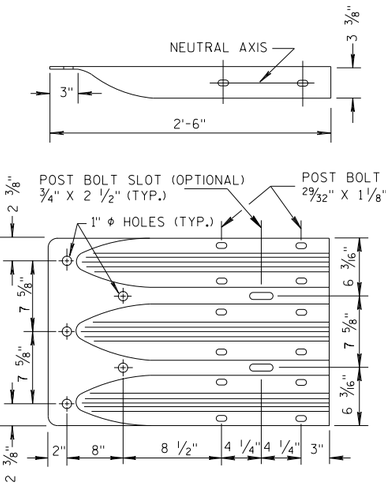
SECTION B-B

POST 6

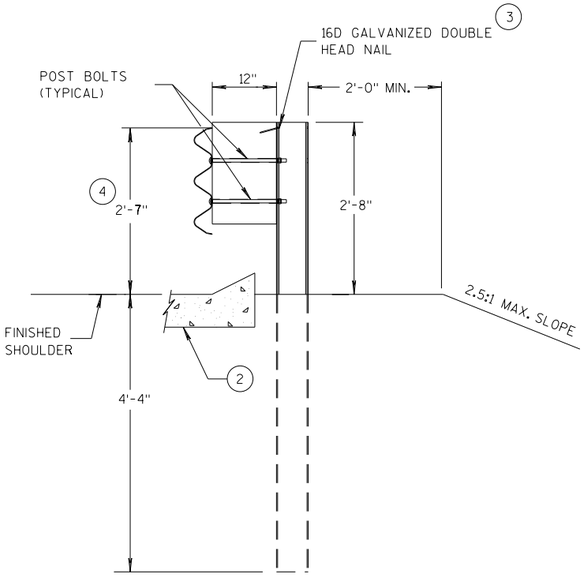


SECTION C-C

POSTS 7-11

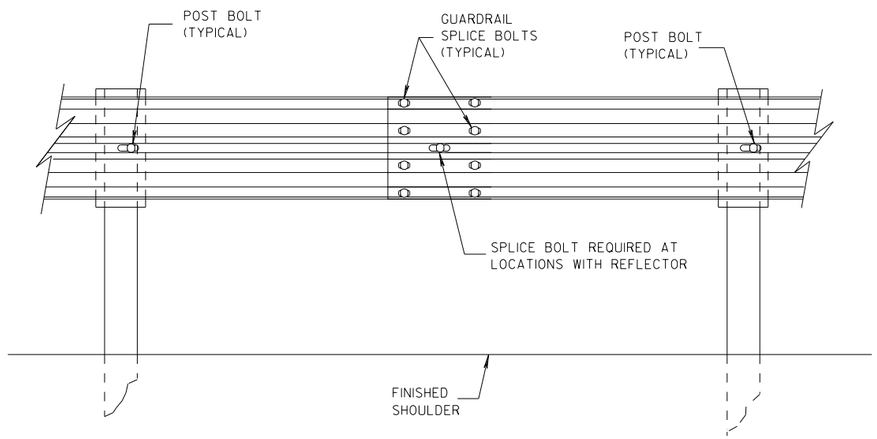


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

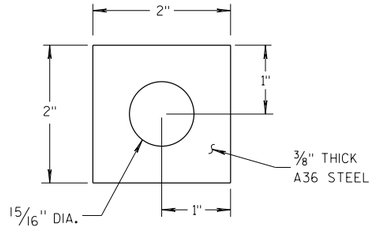
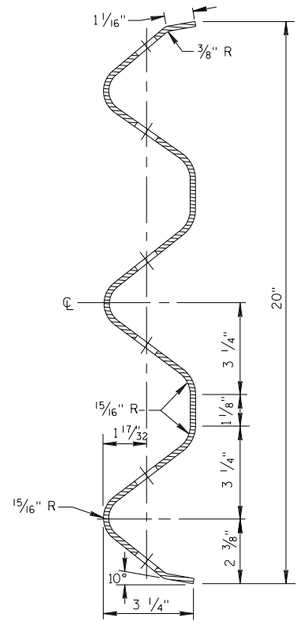


PLATE WASHER DETAIL



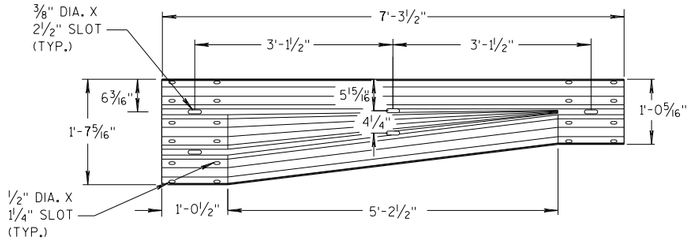
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

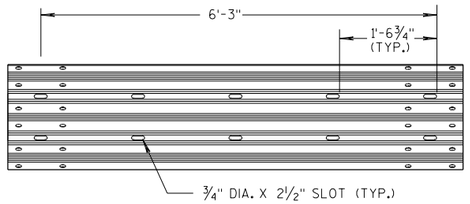
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

6

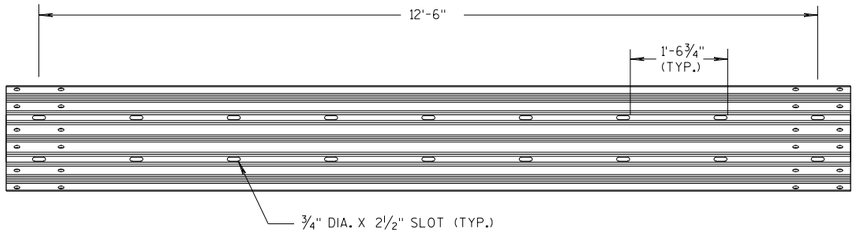
S.D.D. 14 B 45-5b



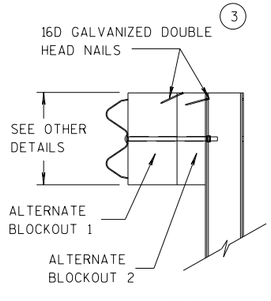
W-BEAM TO THRIE BEAM TRANSITION SECTION



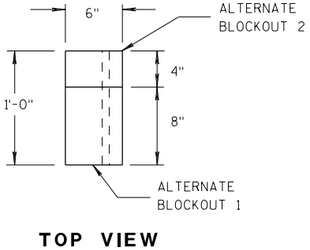
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

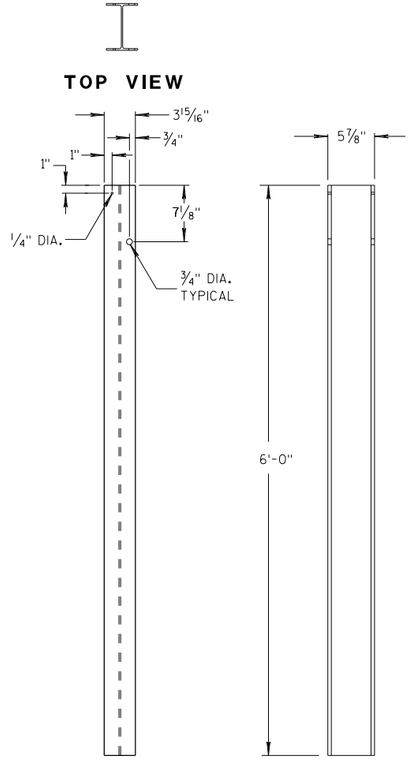


SIDE VIEW



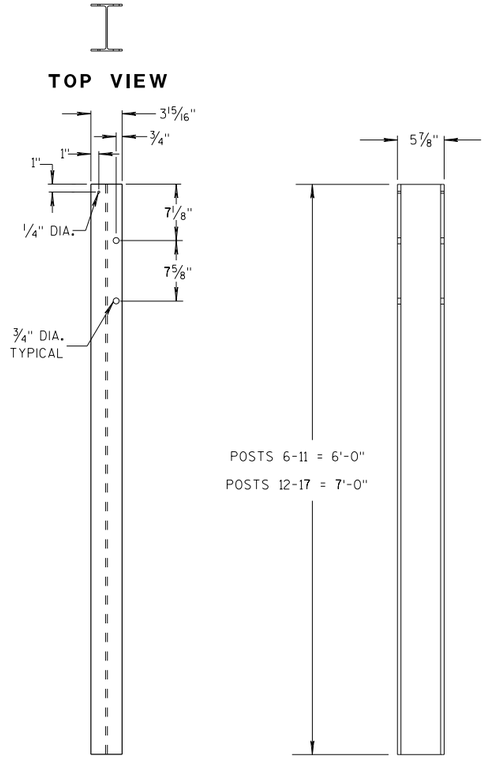
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



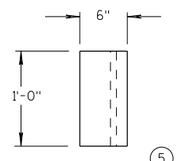
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

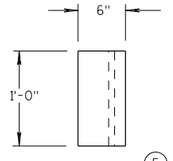


FRONT VIEW SIDE VIEW

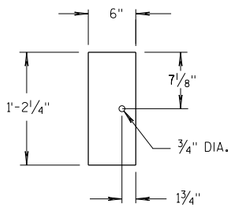
STEEL POSTS 6-17



TOP VIEW (5)

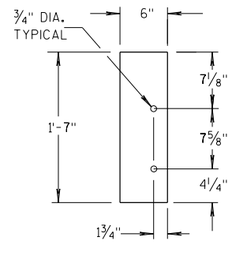


TOP VIEW (5)



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.

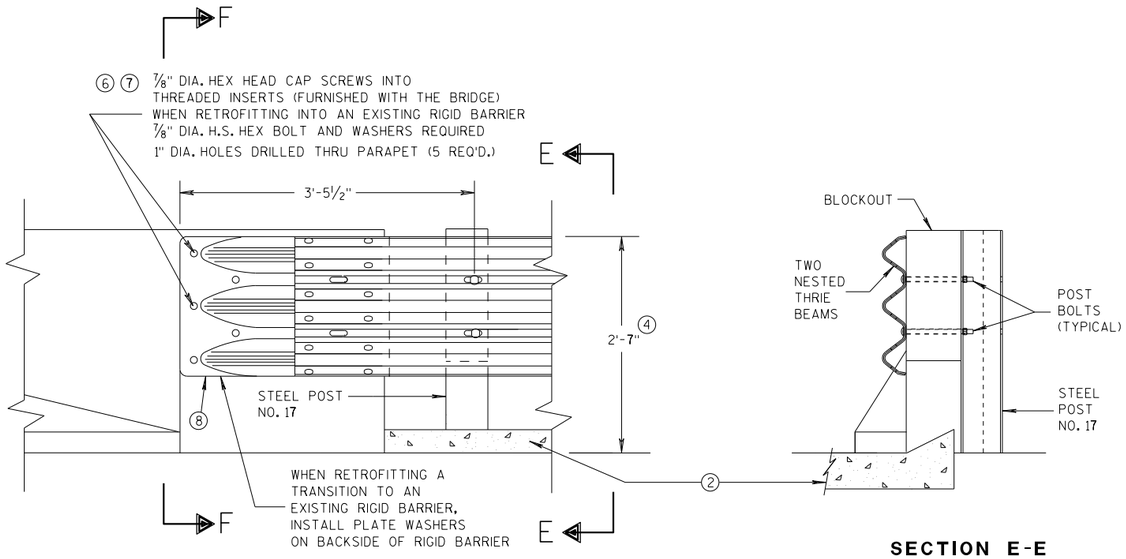
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

(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 TRANSPOR 344

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.

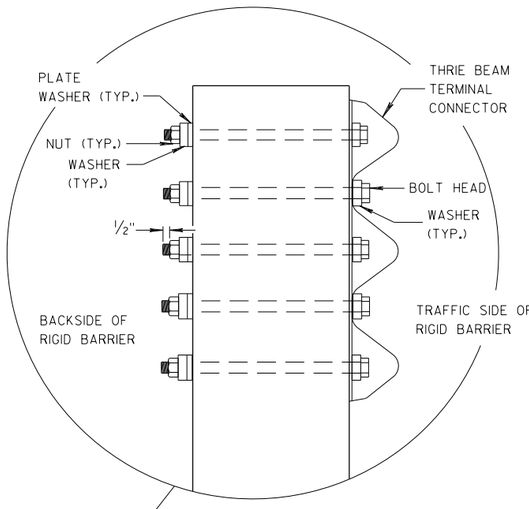
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

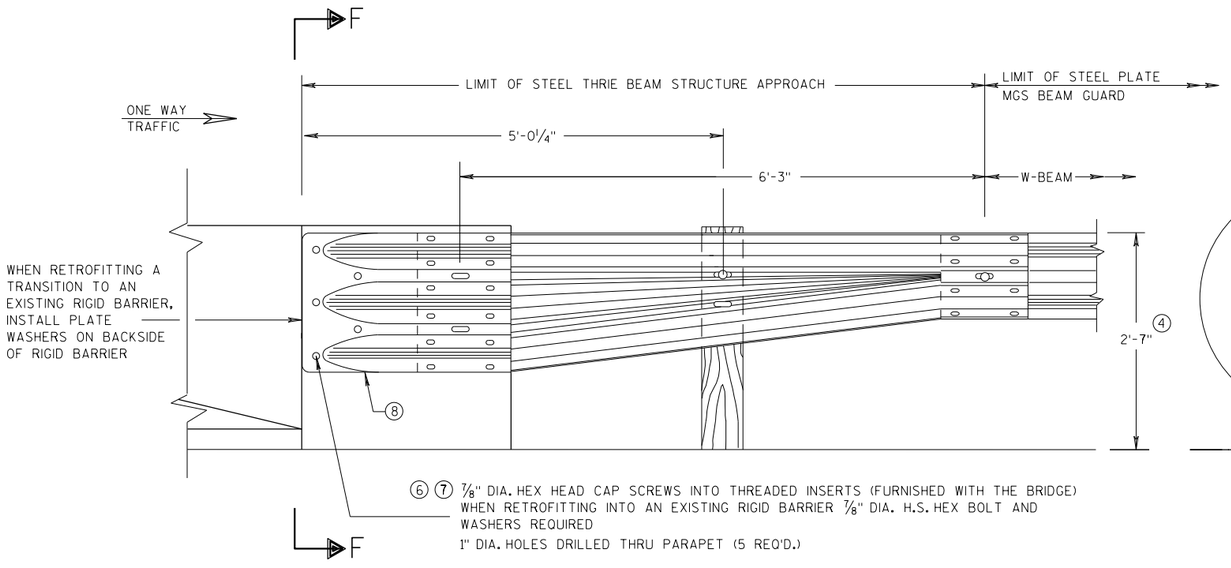
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

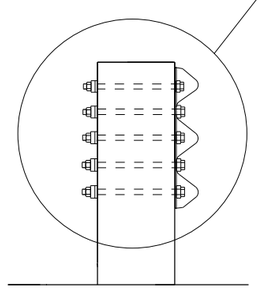
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. 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".

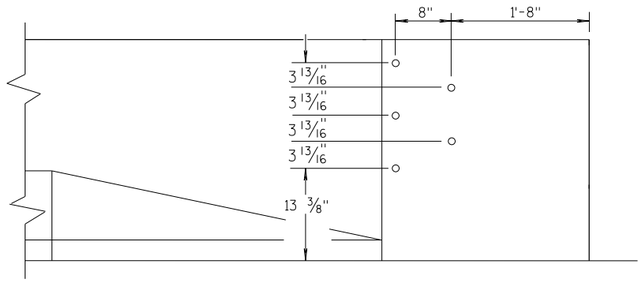




FRONT VIEW



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)

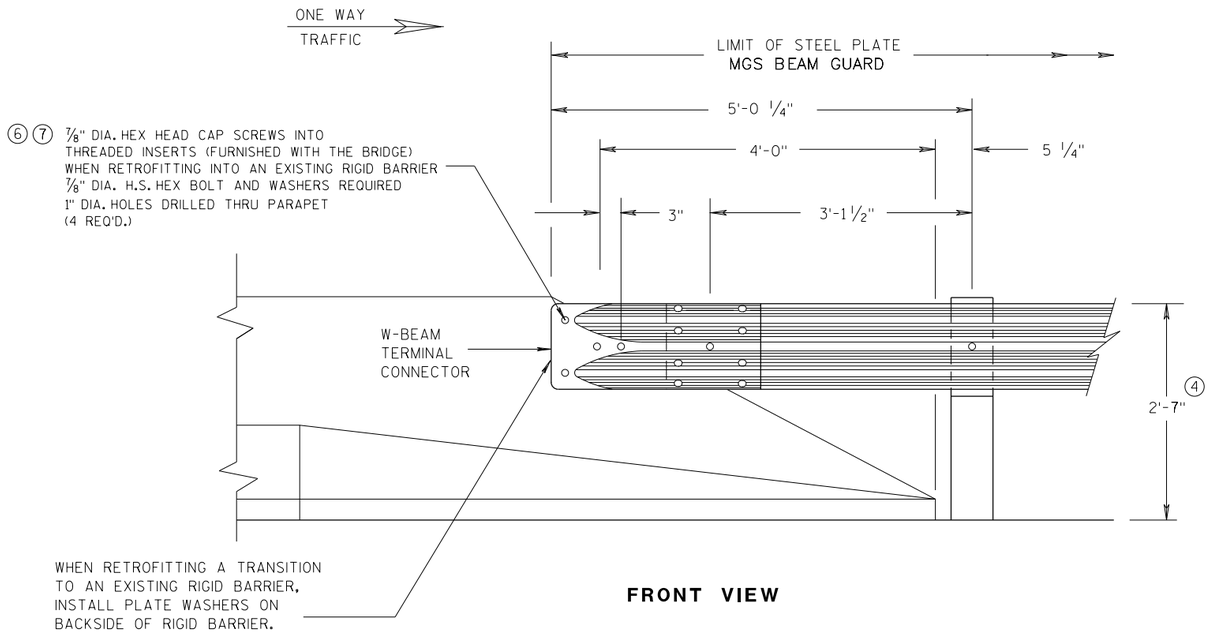
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS D[illegible] UNIT SUPERVI[illegible]NT
FHWA

6

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



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

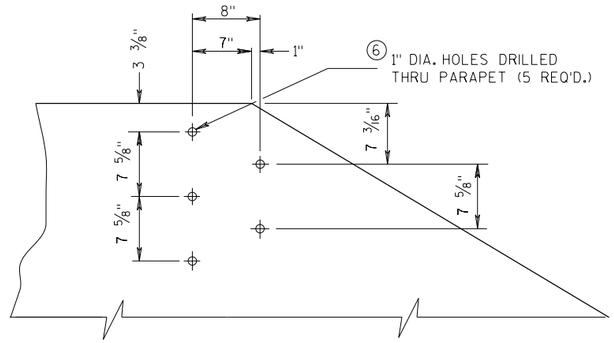
GENERAL NOTES

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

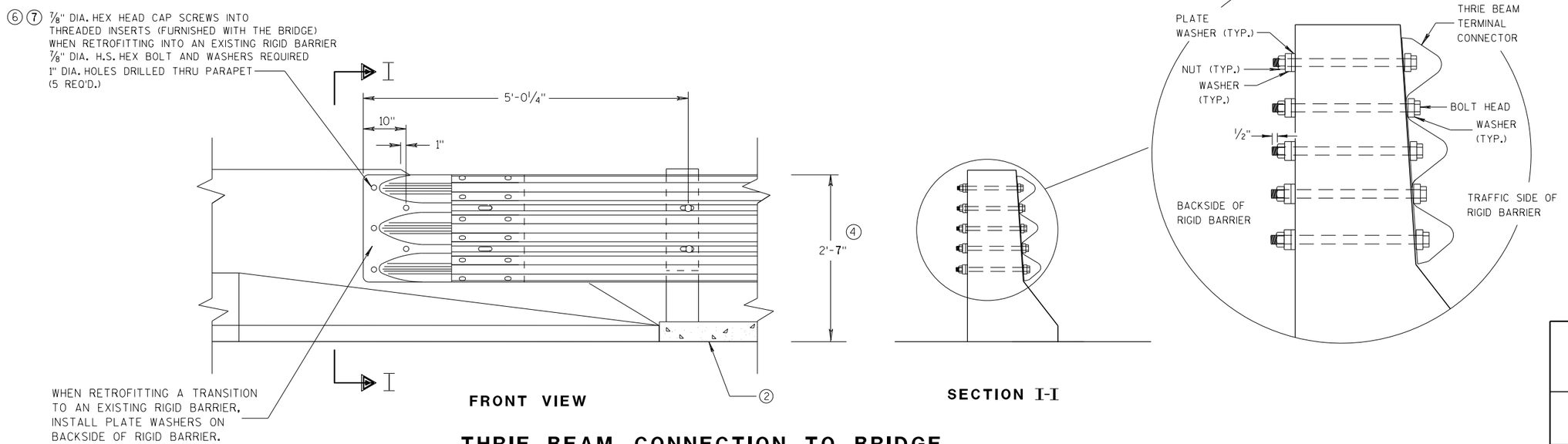
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

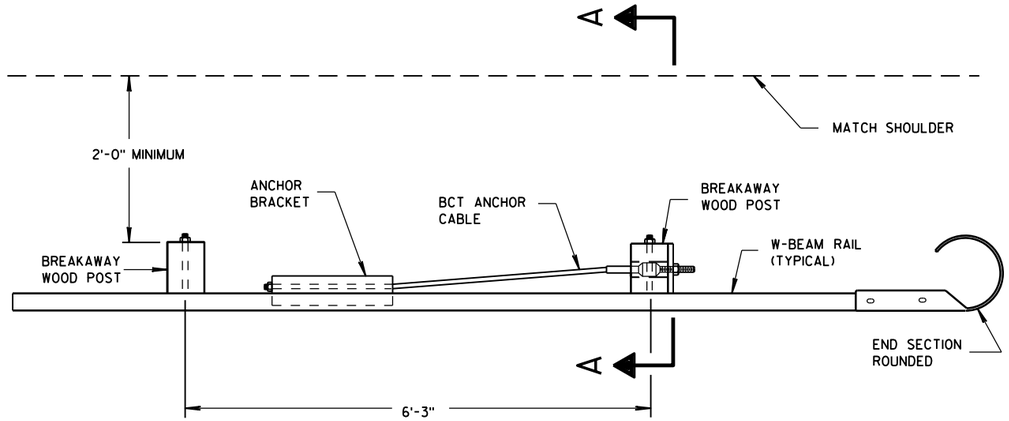
APPROVED
07/2018 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS I[illegible]ENT
UNIT SUPERVI
FHWA

6

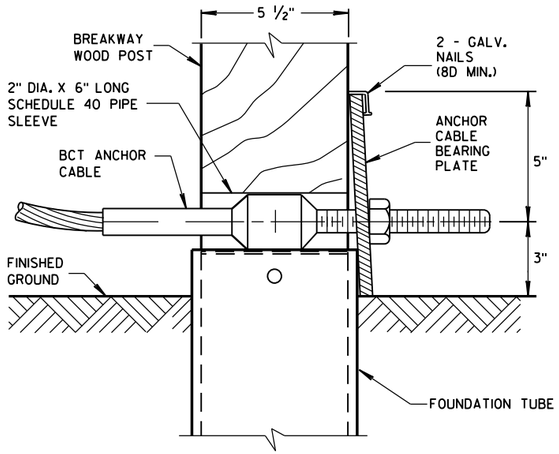
S.D.D. 14 B 45-5f

6

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



PLAN VIEW



DETAIL A

POST NO. 1
GROUNG STRUT NOT SHOWN FOR CLARITY.

GENERAL NOTES

SEE SDD 14 B 42 FOR MORE INFORMATION.

END SECTION BOLTS AND NUTS HAVE THE SAME MATERIAL REQUIREMENTS AS SPLICE BOLTS.

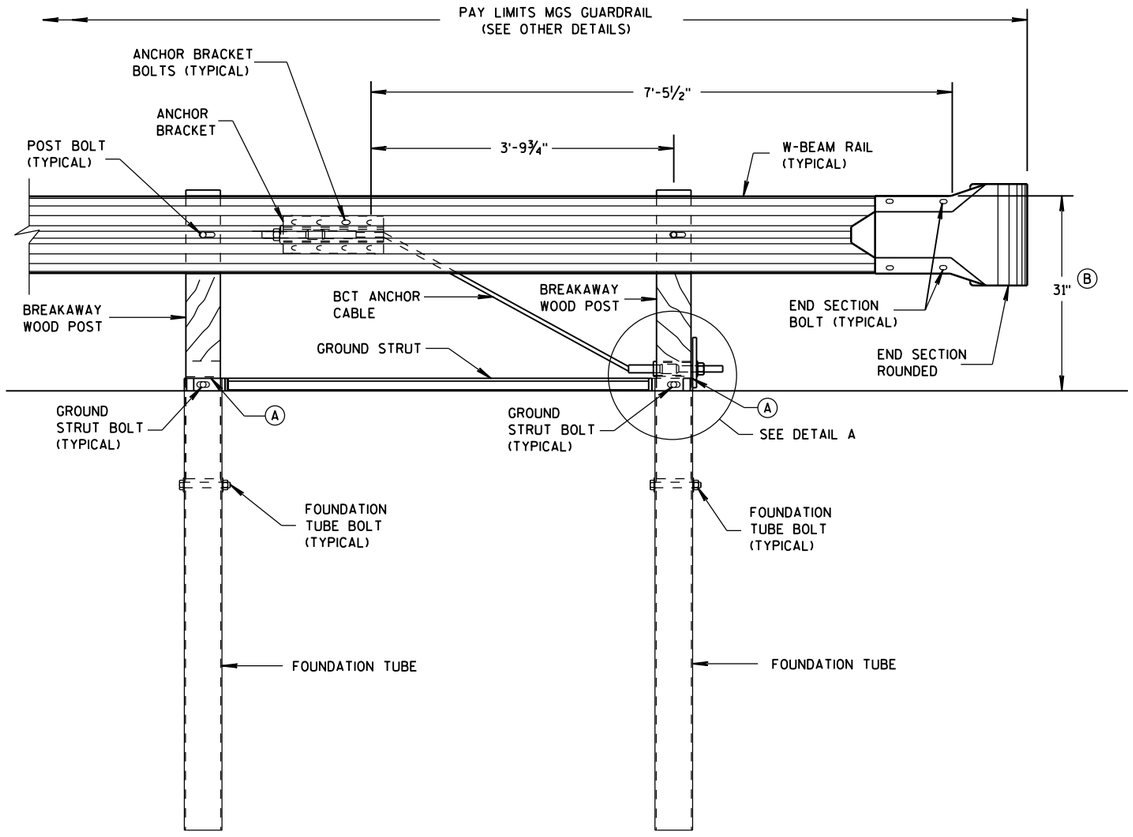
FOUNDATION TUBE BOLTS ARE ⅞" DIAMETER ASTM A307 HEX HEAD BOLT. FOUNDATION TUBE BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅞" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

ANCHOR BRACKET AND GROUND STRUT BOLTS ARE A ⅝" DIAMETER ASTM A307 HEX HEAD BOLT. ANCHOR BRACKET BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅝" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

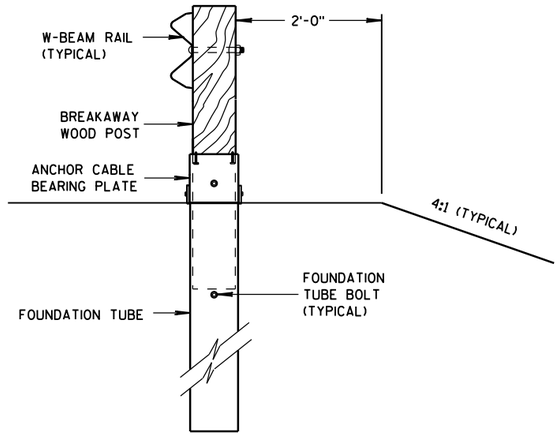
(A) TOP OF FOUNDATION TUBE SHALL BE NO MORE THAN 3" ABOVE FINISHED GROUND.

(B) FOR NEW CONSTRUCTION TOP OF RAIL IS 31" ± 1".
FOR EXISTING INSTALLATIONS TOP OF RAIL IS BETWEEN 27¾" TO 32" ± 1".

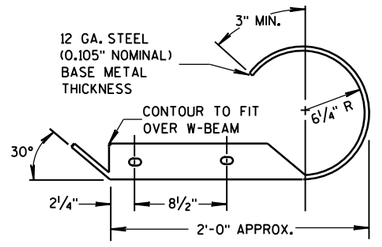


FRONT VIEW

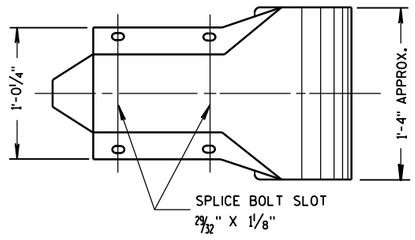
END RAIL DETAIL



SECTION A-A



PLAN VIEW



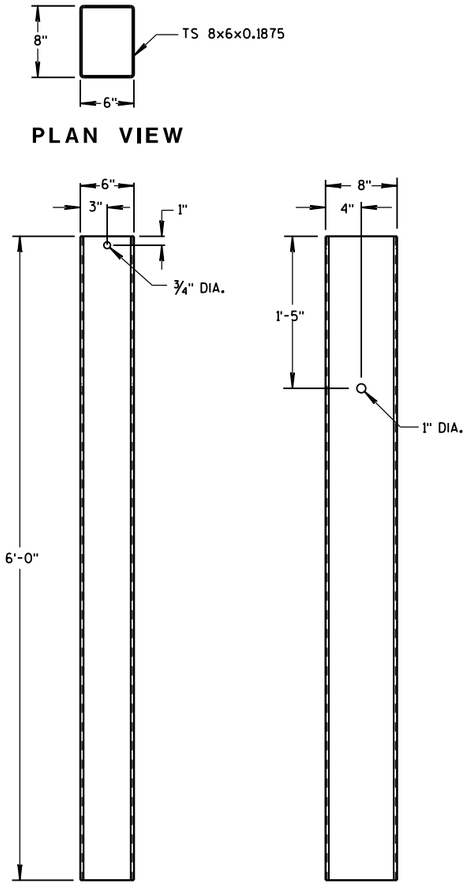
FRONT VIEW

W BEAM END SECTION ROUNDED

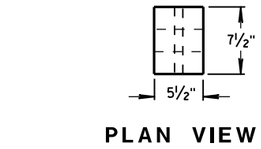
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

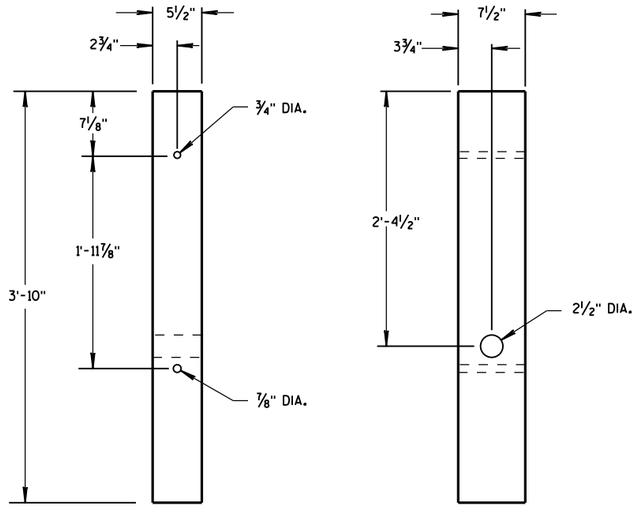
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6
S.D.D. 14 B 47-2a



FOUNDATION TUBE



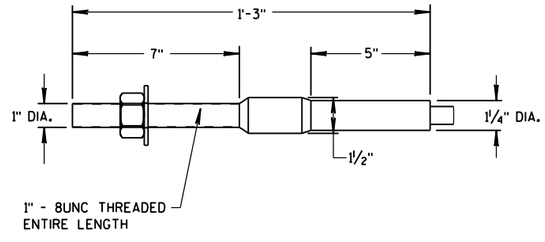


BREAKAWAY WOOD POST

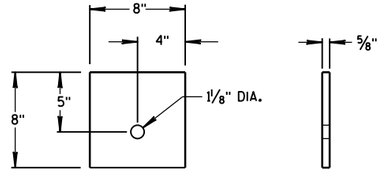
GENERAL NOTES

BCT ANCHOR CABLE IS A ¾" DIAMETER 6X19 IWRC IPS GALVANIZED WIRE ROPE. THE SWAGED FITTINGS AND STUD ARE REQUIRED. END FITTING SHALL BE MACHINED FROM HOT-ROLLED CARBON STEEL CONFORMING TO ASTM A576 GRADE 1035 AND GALVANIZED ACCORDING TO ASTM A123. TREADED STUD SHALL CONFORM TO ASTM A325 OR SAE GRADE 5. MINIMUM BREAKING STRENGTH OF WIRE ROPE IS 43,000 LB. WIRE ROPE IS TO BE TAUT.

BCT ANCHOR CABLE



DETAIL B



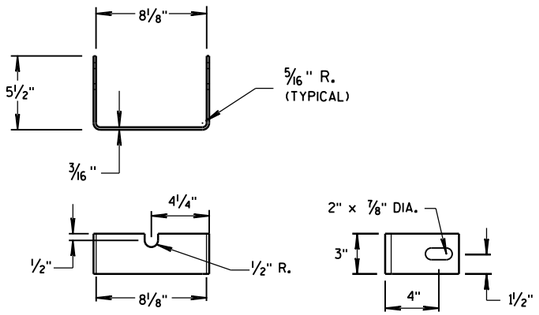
ANCHOR CABLE
BEARING PLATE

MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

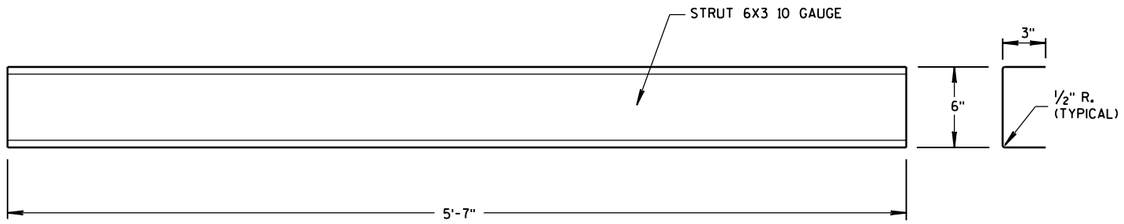
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

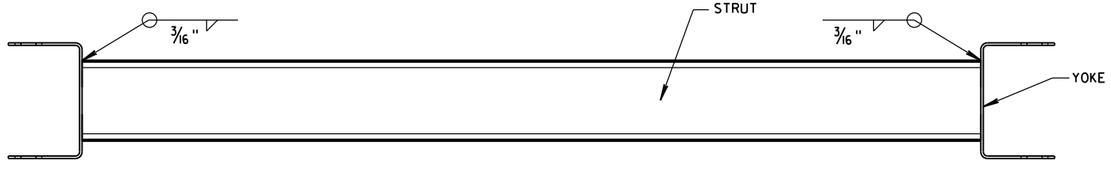
S.D.D. 14 B 47-2b



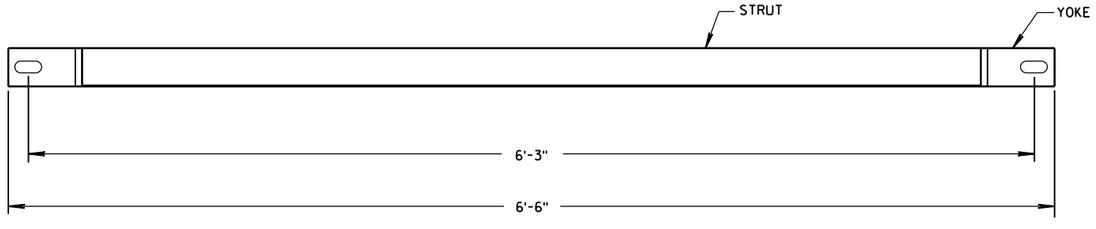
YOKE DETAIL



STRUT DETAIL

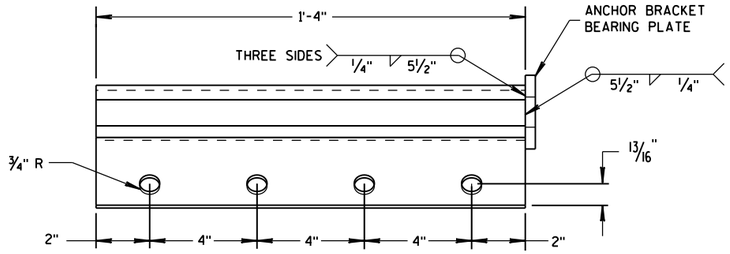


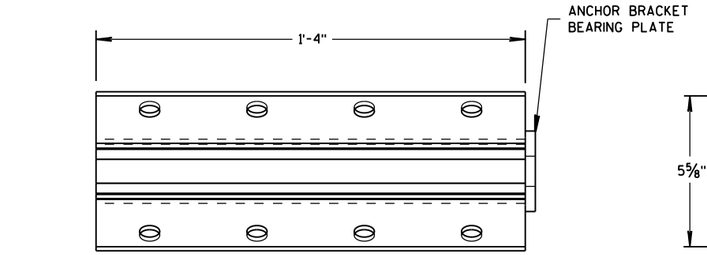
PLAN VIEW

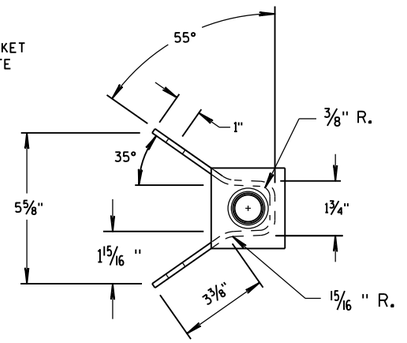


FRONT VIEW

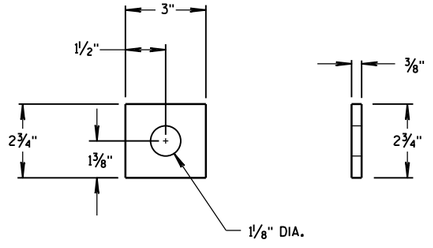
GROUND STRUT DETAIL







ANCHOR BRACKET

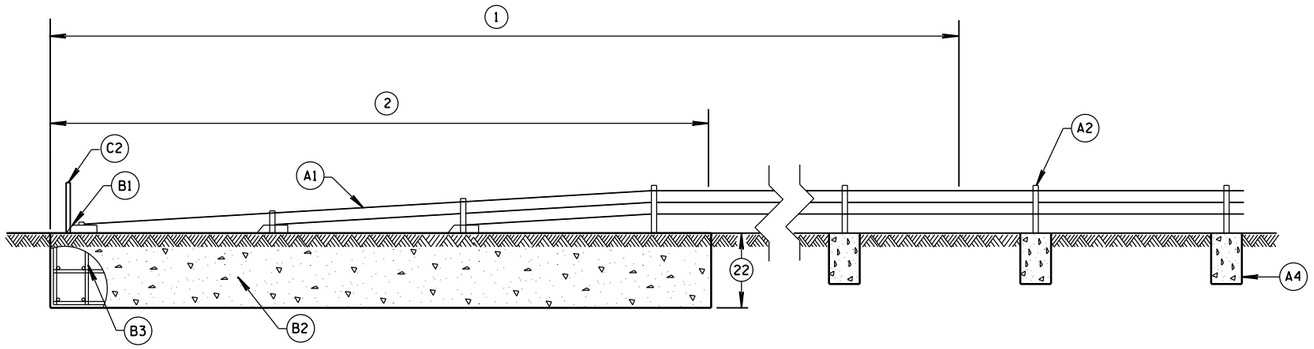


ANCHOR BRACKET BEARING PLATE

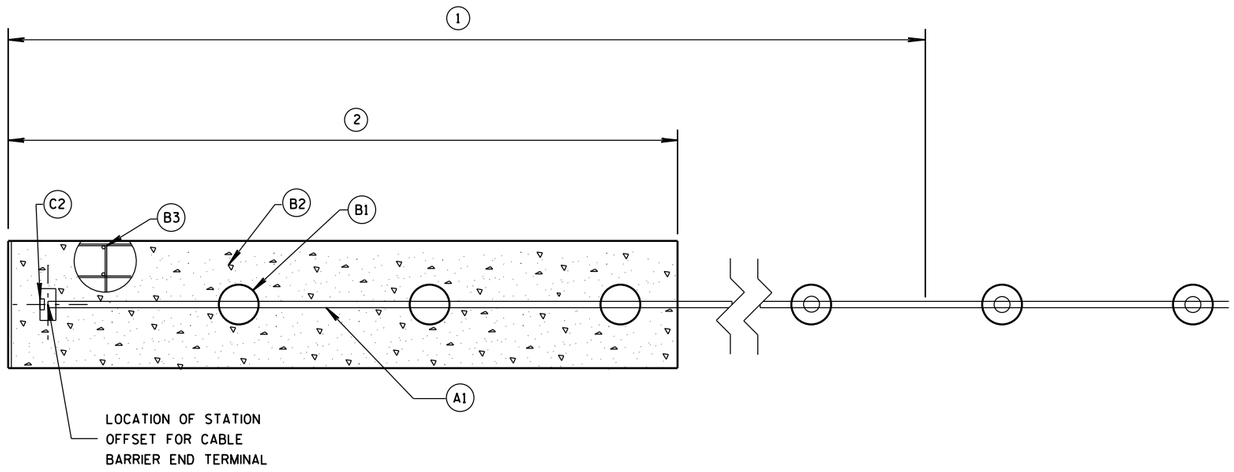
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

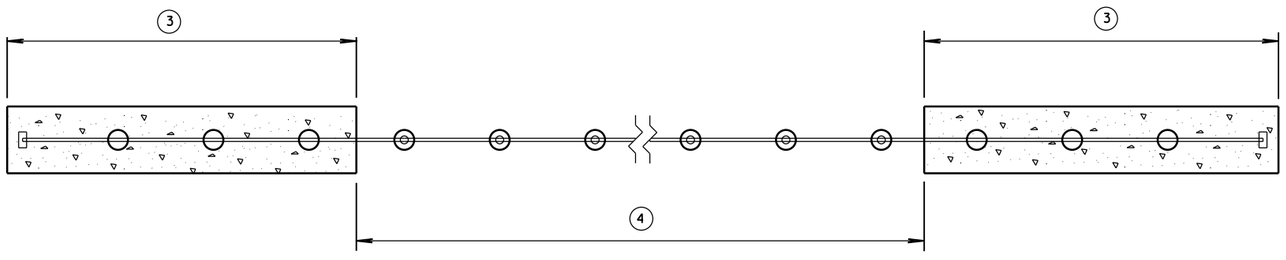


PROFILE VIEW



PLAN VIEW

TRANSITION FROM CABLE BARRIER TERMINAL TO CABLE BARRIER LINE POSTS



TYPICAL PLAN VIEW

GENERAL NOTES

DRAWINGS ARE GENERAL IN NATURE. SEE MANUFACTURER'S INFORMATION FOR MORE DETAIL.

PROVIDE 2 INCH CLEAR COVER FROM OUTER EDGE OF CONCRETE FOOTINGS TO REINFORCEMENT.

INSTALL LINE POST PLUMB. LINE POSTS ARE TO BE EASILY REMOVED BY HAND AND HOLD CABLES AT THE PROPER ELEVATION.

PROVIDE CABLE BARRIER SYSTEM FROM APPROVED PRODUCT LIST.

PROVIDE A SYSTEM TO HAVE THE WORKING WIDTH INDICTED IN PLAN.

PROVIDE DOCUMENTATION HOW POST SPACING, RADIUS OF CURVE AND ANCHOR SPACING INFLUENCES WORKING WIDTH TO CONSTRUCTION STAFF.

PROVIDE A WISCONSIN PROFESSIONAL ENGINEERS STAMPED ANALYSIS THAT THE LINE POST AND CABLE BARRIER END TERMINAL FOOTINGS ARE DESIGNED FOR THE SOIL CONDITIONS PRESENT. THE WISCONSIN P.E. STAMP ANALYSIS IS TO INCLUDE, BUT IS NOT LIMITED TO: DESIGN IMPACT LOADS, FOUNDATION DEISGN METHODOLOGY USED, FACTORS OF SAFETY, SOIL TYPE, SOIL CONDITIONS, AND TEMPERATURE RANGES.

DESIGN LINE POST FOOTINGS SO THAT LINE POST FOOTING MOVE LESS THAN 1 INCH WHEN LINE POST IS IMPACTED BY A TL-3 SMALL CAR.

BILL OF MATERIALS

PART NUMBER	QTY.	DESCRIPTION	MATERIALS SPECIFICATIONS
(A1)	3 OR 4	3/4" 3x7 PRESTRECHED GALVANIZED STEEL WIRE ROPE	ASTM A741 MIN. BREAKING STRENGTH 39,000 LBS.
			AASHTO M30 TYPE 1 CLASS A (GALVANIATION).
			MINIMUM WIRE ROPE MODULUS OF ELASTICITY OF 19,000 PSI ACCORDING TO ISO 12067-202 WIRE ROPE MODULUS OF ELASTICITY "INITIAL" (AS MANUFACTURED), WITH NO BEDDING OR PRESTRECHING OF THE ROPE PERMITTED DURING TESTING.
(A2)	1 PER LINE POST	GALVANIZED REMOVABLE STEEL LINE POST	SEE MANUFACTURER'S INFORMATION ON DIMENSIONS AND MATERIAL REQUIREMENTS.
			ASTM A123 (GALVANIZATION).
(A3)	1 PER LINE POST	GALVANIZED METAL SLEEVE	SEE MANUFACTURER'S INFORMATION ON DIMENSIONS AND MATERIAL REQUIREMENTS.
			ASTM A123 (GALVANIZATION).
(A4)	VARIES	CONCRETE FOR LINE POST FOOTING	A, A-FA.A-T, OR A-IP OF STANDARD SPECIFICATION 501.2 OR AS MANUFACTURER SPECIFIES.
			STANDARD SPECIFICATION 716 OMP FOR CLASS II ANCILLARY CONCRETE.
			SEE MANUFACTURER'S INFORMATION ON DIMENSIONS.
(A5)	VARIES	EPOXY COATED STEEL REINFORCEMENT	STANDARD SPECIFICATION 505.
(A6)	VARIES	TURNBUCKLES AND OTHER CABLE CONNECTING HARDWARE	SEE MANUFACTURER'S INFORMATION ON DIMENSIONS.
			MINIMUM BREAKING STRENGTH OF TURNBUCKLES AND CONNECTION HARDWARE IS EQUAL TO CABLE.
			TURNBUCKLES AND OTHER CABLE CONNECTION HARDWARE IS FIELD SWAGED PER MANUFACTURER'S RECOMMENDATIONS AND DETAILS.
(B1)	VARIES	CABLE CONNECTION TO CABLE BARRIER END TERMINAL	SEE MANUFACTURER'S INFORMATION ON DIMENSIONS AND MATERIAL REQUIREMENTS.
(B2)	VARIES	CONCRETE FOR CABLE BARRIER END TERMINAL	A, A-FA.A-T, OR A-IP OF STANDARD SPECIFICATION 501.2.
			STANDARD SPECIFICATION 716 OMP FOR CLASS II ANCILLARY CONCRETE.
(B3)	VARIES	EPOXY COATED STEEL REINFORCEMENT	STANDARD SPECIFICATION 505.
(C1)	VARIES	LINE POST DELINEATOR	REFLECTIVE SHEETING TYPE SH. SEE APPROVE PRODUCT LIST YELLOW.
(C2)	VARIES	CABLE BARRIER END TERMINAL DELINEATOR	REFLECTIVE SHEETING TYPE SH. SEE APPROVE PRODUCT LIST OBJECT MARKER TYPE 3 PATTERN.

(1) LOCATION OF LENGTH OF NEED POINT FOR CABLE BARRIER END TERMINAL VARIES. (SEE MANUFACTURER'S INFORMATION)

(2) PAY LIMIT FOR CABLE BARRIER END TERMINAL. LENGTH OF CABLE BARRIER END TERMINAL VARIES. (SEE MANUFACTURER'S INFORMATION)

(3) CABLE BARRIER END TERMINAL

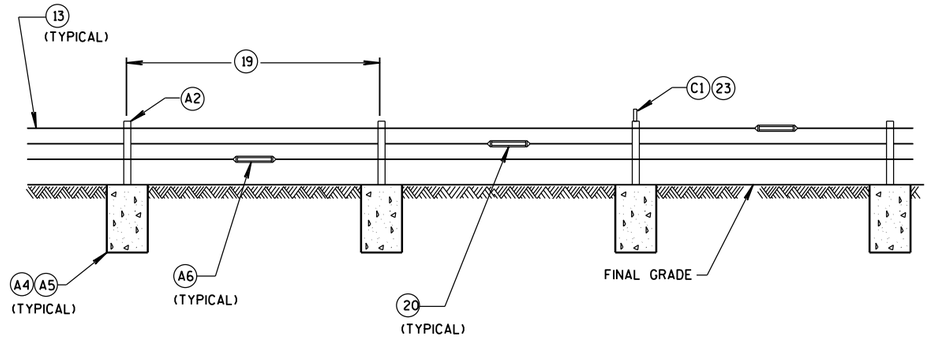
(4) CABLE BARRIER AND LINE POSTS

CABLE BARRIER TYPE 1 LAYOUT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

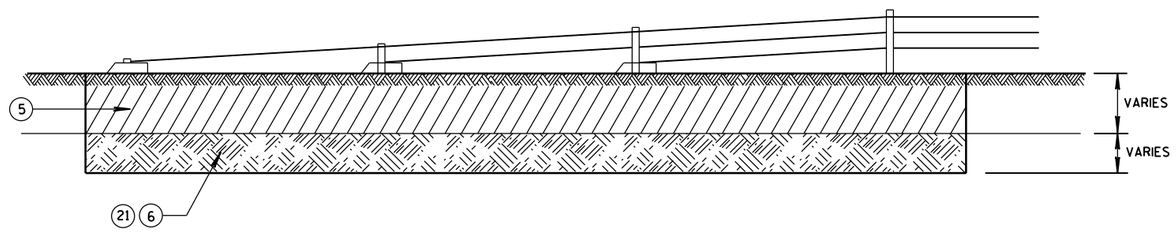
6

S.D.D. 14 B 52-1a



PROFILE VIEW

LINE POST INSTALLATION



CABLE BARRIER END TERMINAL ROCK EXCAVATION DETAIL

(5) SOIL TO BE EXCAVATED FOR CABLE BARRIER END TERMINAL (VARIES).

(6) ROCK TO BE EXCAVATED FOR CABLE BARRIER END TERMINAL (VARIES).

(7) SOIL TO BE EXCAVATED FOR LINE POST (VARIES).

(8) ROCK TO BE EXCAVATED FOR LINE POST (VARIES).

(9) EXCAVATE AND GRADE LINE FOR LINE POST FOOTINGS. INSTALL LINE POST FOOTING TO MINIMIZE 4 INCH TALL OBJECT ON 5 FOOT CHORD.

(10) 2 INCHES OF CLEAR COVER FROM EDGE OF CONCRETE TO REINFORCEMENT.

(11) DIAMETER OF LINE POST FOOTING VARIES. SEE MANUFACTURER'S INFORMATION.

(12) MINIMUM DEPTH OF LINE POST FOOTING IS 48 INCHES IN SOIL. DEEPER FOOTINGS PER MANUFACTURER'S RECOMMENDATION ARE ACCEPTABLE.

(13) NUMBER AND LOCATION OF CABLES VARY. SEE MANUFACTURER'S INFORMATION.

(14) LINE POST DIMENSIONS AND CONNECTION HARDWARE VARY. SEE MANUFACTURER'S INFORMATION.

(15) LANE OF ROADWAY (VARIES). SEE PLAN FOR MORE INFORMATION.

(16) PAVED SHOULDER (VARIES). SEE PLAN FOR MORE INFORMATION.

(17) GRAVEL SHOULDER (VARIES). SEE PLAN FOR MORE INFORMATION.

(18) CABLE BARRIER OFFSET FROM CENTERLINE OF MEDIAN DITCH (8 FOOT MINIMUM). SEE PLAN FOR MORE INFORMATION.

(19) MAXIMUM POST SPACING IS 15 FEET.

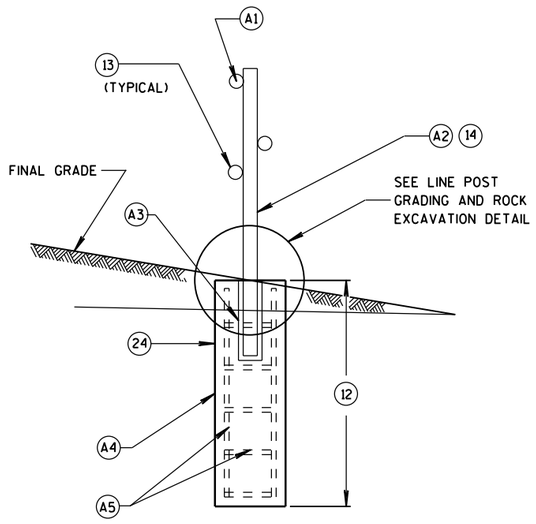
(20) STAGGER TURNBUCKLES (TYPICAL).

(21) SEE MANUFACTURER'S DESIGN WHEN ROCK IS ENCOUNTERED.

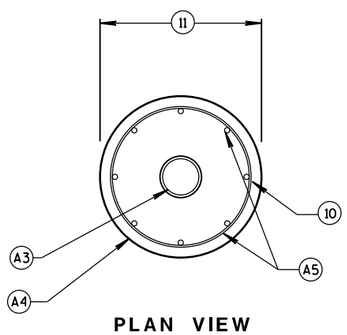
(22) IN SOIL MINIMUM DEPTH OF CABLE BARRIER END TERMINAL FOOTING IS 60 INCHES. DEEPER FOOTINGS PER MANUFACTURER'S RECOMMENATION ARE ACCEPTABLE.

(23) LINE POST DELINEATOR SPACING IS 100 FEET.

(24) LINE POST FOOTINGS ARE REQUIRED TO HAVE LESS THAN 1 INCH OF MOVEMENT WHEN LINE POST IS IMPACTED BY A NCHRP 350 SMALL CAR UNDER TL-3 TEST CONDITIONS.

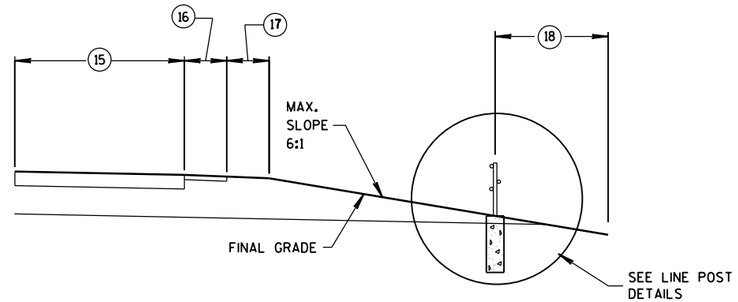


CROSS SECTION

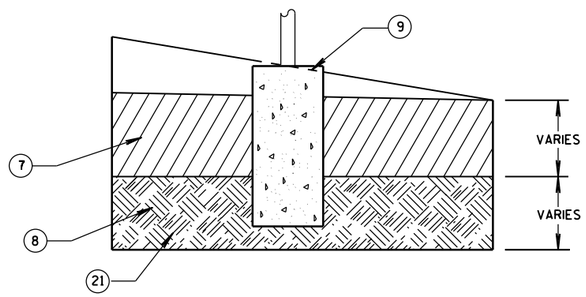


PLAN VIEW
(LINE POST AND CABLES NOT SHOWN)

LINE POST DETAILS



CABLE BARRIER OFFSET FROM DITCH LINE



LINE POST GRADING AND ROCK EXCAVATION DETAIL

CABLE BARRIER TYPE 1
LAYOUT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June. 2015
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

6

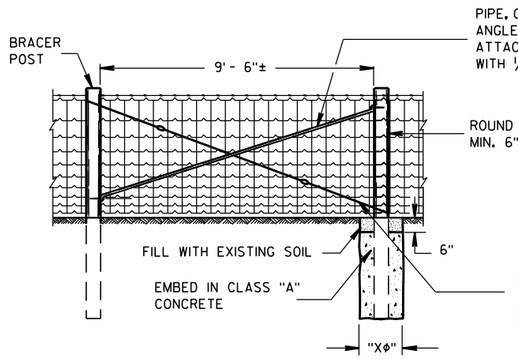
S.D.D. 14 B 52-1b

6

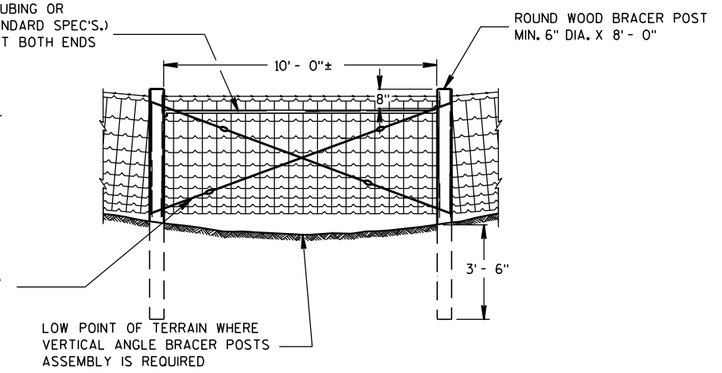
S.D.D. 14 B 52-1b

NOTE: PULL OR STRETCHER POST ASSEMBLIES SHALL BE PLACED MIDWAY BETWEEN END POSTS AND CORNER POSTS WHERE A RUN OF FENCE EXCEEDS 660' BUT IS LESS THAN 1,320'. FOR RUNS OF FENCE IN EXCESS OF 1,320' MAXIMUM SPACING OF PULL OR STRETCHER POST ASSEMBLIES SHALL BE 660'± C-C.

ILLUSTRATION SHOWS POSITION OF STANDARD STEEL BRACE, DOUBLE STRAND GALVANIZED WIRE, AND THE POST TO BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM LEFT TO RIGHT. THE BRACES SHALL BE POSITIONED ON THE OPPOSITE DIAGONALS AND THE OPPOSITE POST SHALL BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM RIGHT TO LEFT.



PULL OR STRETCHER POSTS ASSEMBLY



VERTICAL ANGLE BRACER POSTS ASSEMBLY

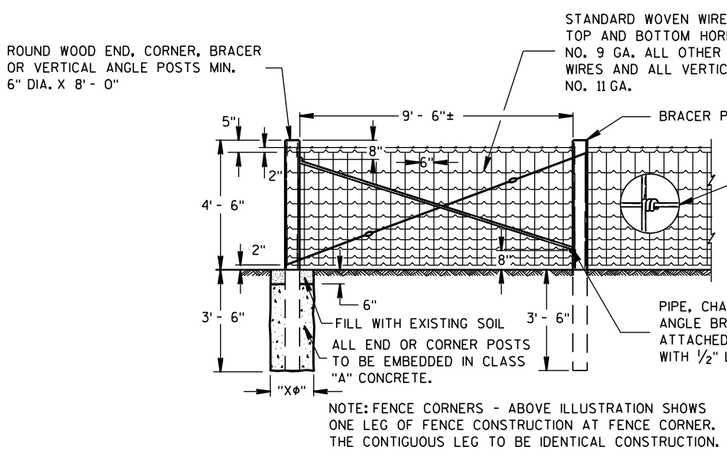
GENERAL NOTES

"XΦ" = DIAMETER OF THE POST PLUS 12".

FENCE STAPLES SHOULD NEVER BE DRIVEN VERTICALLY INTO WOOD POSTS (WITH BOTH LEGS PARALLEL WITH THE WOOD GRAIN). DOING SO CAN SEPARATE THE GRAIN AND SIGNIFICANTLY REDUCE THE HOLDING POWER. ROTATING THE STAPLES SLIGHTLY OFF VERTICAL STRADDLES THE GRAIN AND PROVIDES MORE RESISTANCE TO PULL-OUT.

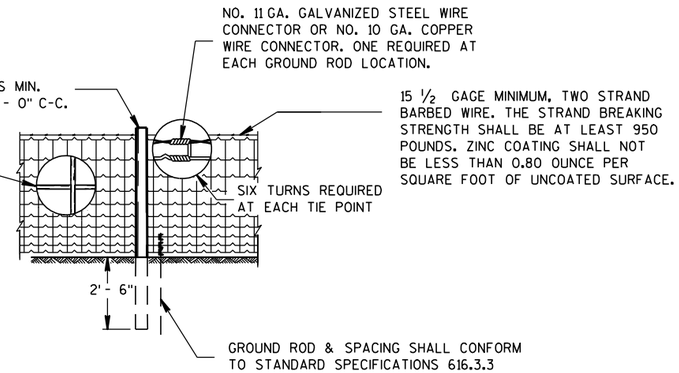
DO NOT STAPLE WIRE TIGHT TO THE LINE POSTS. ALLOW MOVEMENT OF WIRE FOR EXPANSION AND CONTRACTION. STAPLE ARRANGEMENT SHALL BE THE SAME FOR ALL OTHER POSTS EXCEPT THAT THEY SHALL BE DRIVEN TIGHT TO POSTS. ALL STAPLES SHALL BE 2" X 9 GAGE AND SHALL BE MANUFACTURED FROM GALVANIZED WIRE OR HOT DIP GALVANIZED AFTER FORMING. STAPLES SHALL HAVE SLASH-CUT POINTS.

FENCE SHALL BE LOCATED 3'-0" INSIDE THE RIGHT OF WAY LINE UNLESS OTHERWISE INDICATED ON THE PLANS.



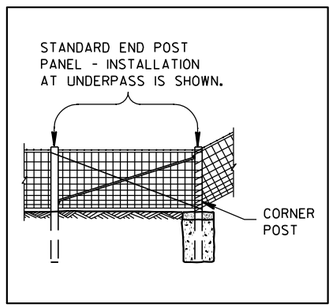
NOTE: FENCE CORNERS - ABOVE ILLUSTRATION SHOWS ONE LEG OF FENCE CONSTRUCTION AT FENCE CORNER. THE CONTIGUOUS LEG TO BE IDENTICAL CONSTRUCTION.

END OR CORNER POSTS ASSEMBLY

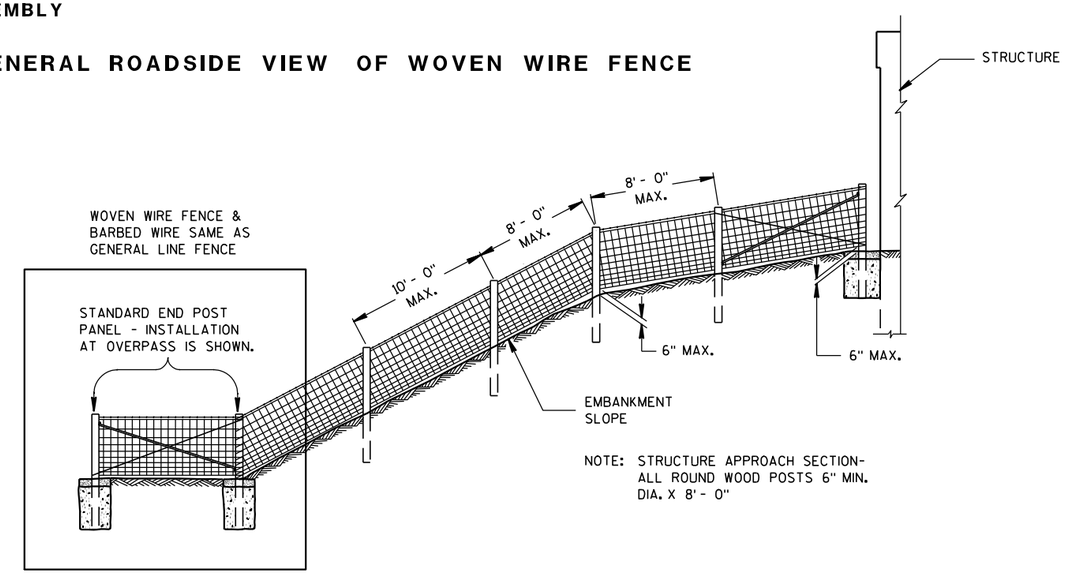


LINE FENCE CONSTRUCTION

GENERAL ROADSIDE VIEW OF WOVEN WIRE FENCE



ALTERNATE FENCE DESIGN AT STRUCTURE



NOTE: STRUCTURE APPROACH SECTION- ALL ROUND WOOD POSTS 6" MIN. DIA. X 8' - 0"

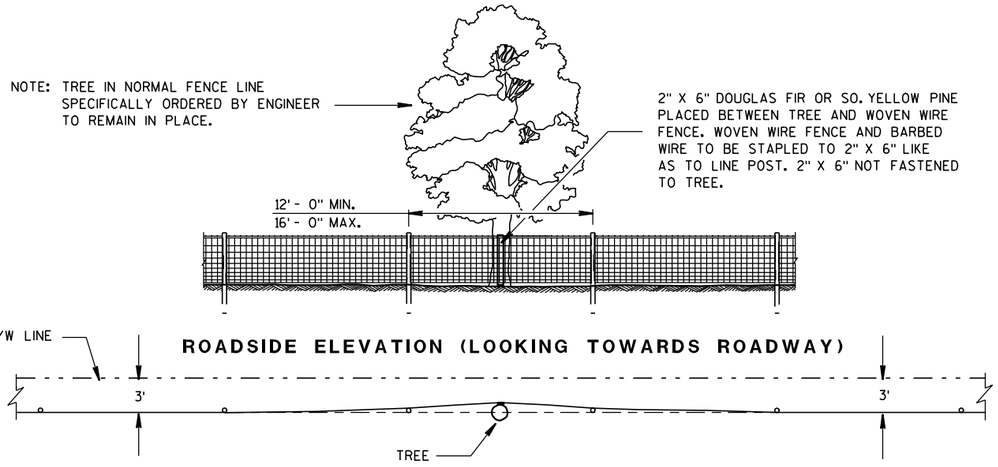
FENCE DESIGN AT STRUCTURE APPROACH

FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

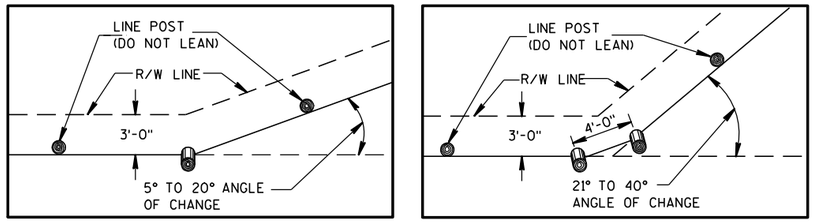
6

S.D.D. 15 B 1-8a



PLAN VIEW

FENCE DESIGN AT TREES REMAINING IN NORMAL FENCE LINE



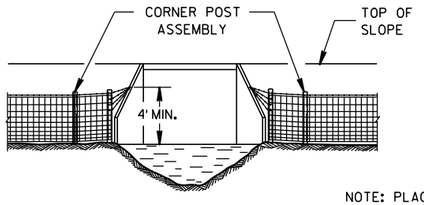
PLAN VIEW
SINGLE POST CORNER

PLAN VIEW
DOUBLE POST CORNER

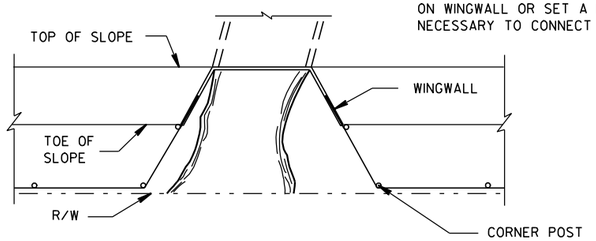
RIGHT OF WAY LINE CHANGE 40° AND LESS

NOTE: SINGLE AND DOUBLE POSTS SHALL BE A MIN. 6" DIA. X 8'-0" WITH A LEAN OF 4" TOWARD THE OUTSIDE OF THE CURVE.

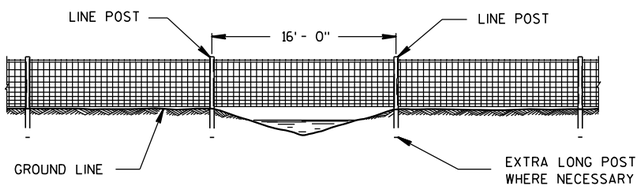
WHEN THE RIGHT OF WAY LINE CHANGE IS MORE THAN 40° USE THE CORNER OR STRETCHER POSTS ASSEMBLY.



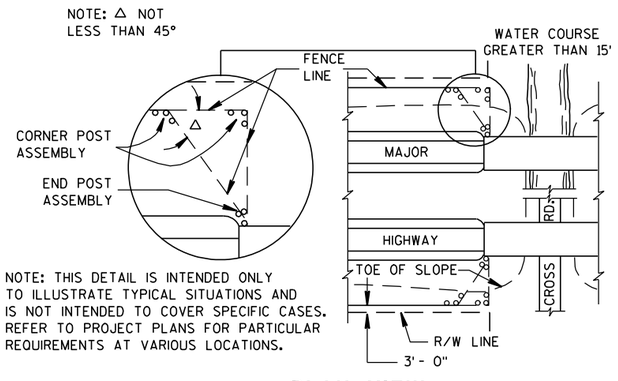
NOTE: PLACE A MINIMUM OF 4 STRANDS OF BARBED WIRE, 6" MAXIMUM CENTERS IN FAN SHAPE CONNECTED TO AN EYE BOLT ON WINGWALL OR SET A LONE POST WHEN NECESSARY TO CONNECT BARBED WIRE.



FENCE INSTALLATION TO WINGWALLS

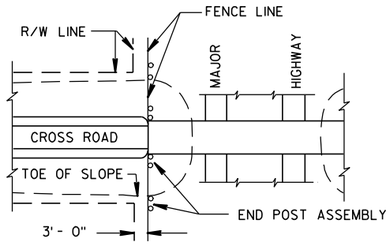


FENCE CONSTRUCTION OVER STREAM COURSES OF 15 FT. OR LESS IN WIDTH



PLAN VIEW

MAJOR HIGHWAY OVERPASS OR STREAM COURSE CROSSING OF GREATER THAN 15 FT. IN WIDTH

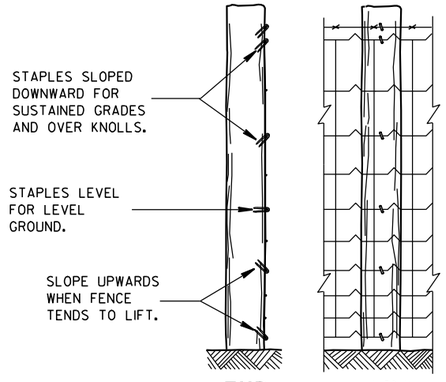


PLAN VIEW

MAJOR HIGHWAY UNDERPASS

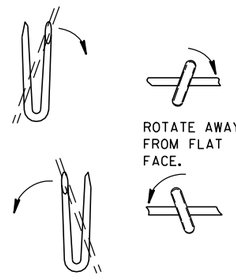
FENCE LOCATION AT STRUCTURES

NOTE: WHEN POSTS ARE DRIVEN THE SMALL END SHALL BE DOWN.



END ELEVATION **FARM SIDE ELEVATION**

FENCE MOUNTING DETAIL



LINE POST

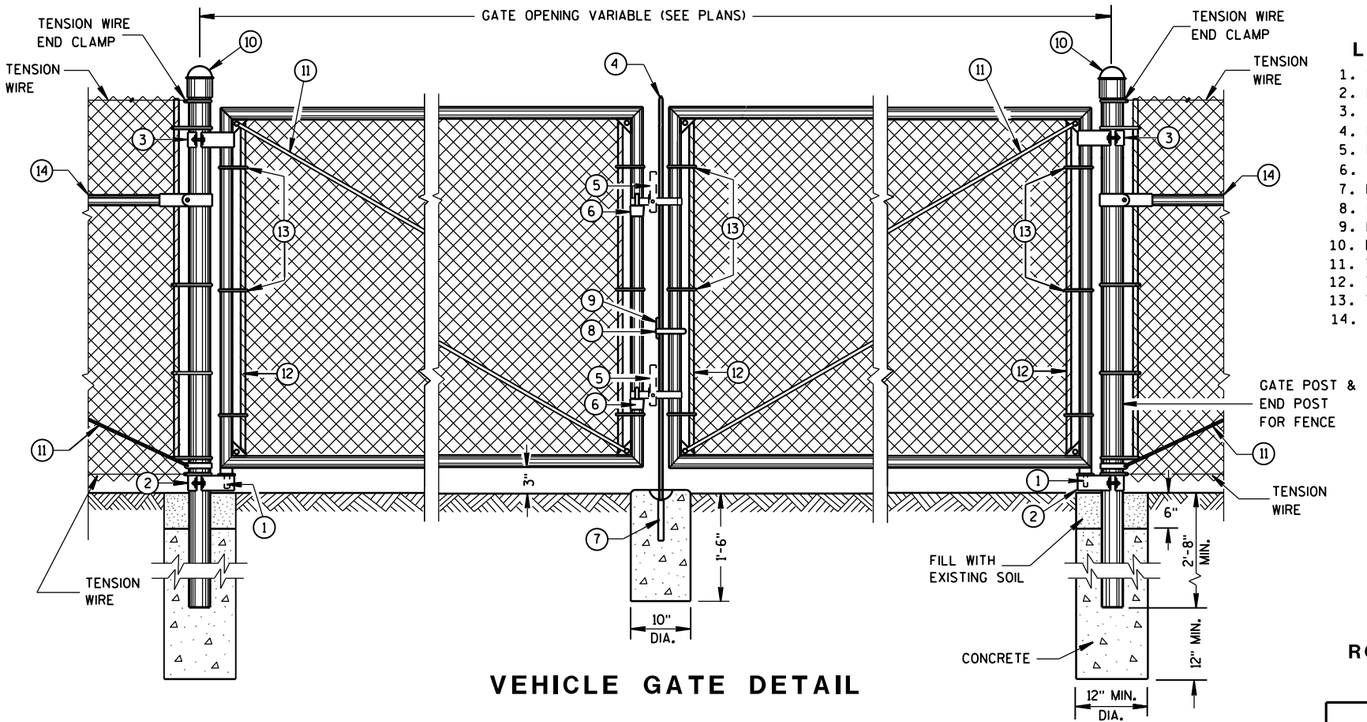
FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

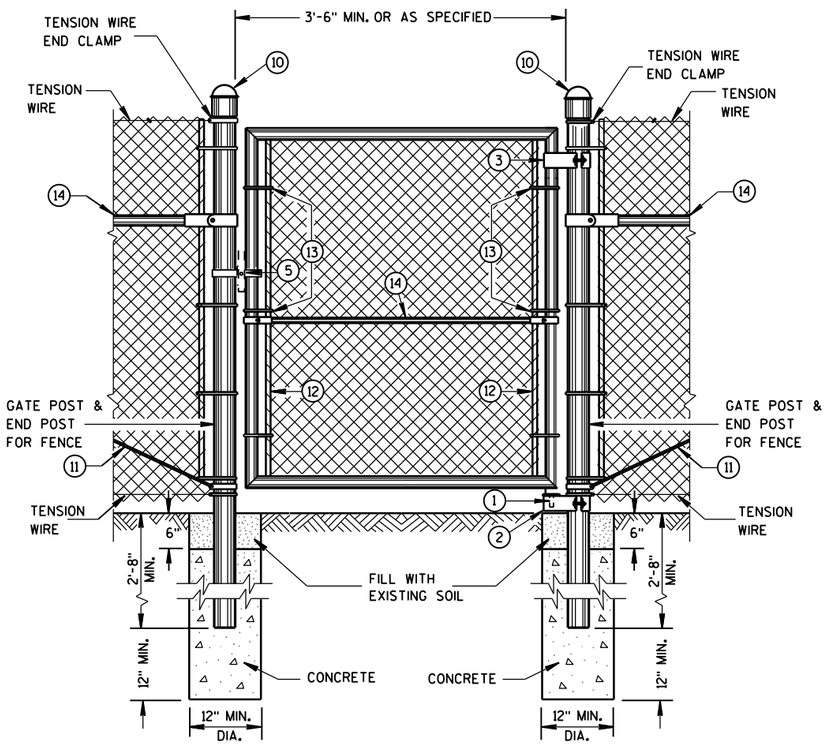
APPROVED
4/4/2008
DATE
/S/ Jerry H. Zinn
ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 15 B 1-8b



VEHICLE GATE DETAIL



PEDESTRIAN GATE DETAIL

LEGEND

1. STRAIGHT PLUG
2. BOTTOM HINGE
3. TOP HINGE
4. PLUNGER ROD
5. FULCRUM LATCH
6. FORK CATCH *
7. PLUNGER ROD CATCH
8. LOCK KEEPER GUIDE
9. LOCK KEEPER
10. DOME TOPS
11. TRUSS RODS
12. TENSION BAR
13. TENSION BANDS
14. BRACE RAIL

*NOT REQUIRED ON SINGLE SWING PEDESTRIAN GATE

GENERAL NOTES

FENCE POSTS INSTALLED ON CONCRETE WALLS SHALL BE ANCHORED INTO EMBEDDED METAL SLEEVES OR CORED HOLE BY FILLING THE ANNULAR SPACE WITH PEA GRAVEL FOLLOWED BY AN EPOXY RESIN ADHESIVE. THE EPOXY RESIN ADHESIVE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 235, CLASS A, B OR C.

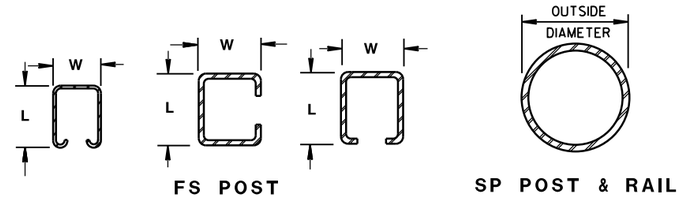
USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

FOR LEAF GATES GREATER THAN 8 FEET WIDE, INSTALL INTERIOR VERTICAL BRACE RAIL AT 8 FOOT INTERVALS.

FOR FABRIC HEIGHTS GREATER THAN 8 FEET, INSTALL INTERIOR HORIZONTAL BRACE RAILS TO LEAF GATE.

MAXIMUM SAG FOR OUTER GATE MEMBER SHALL NOT EXCEED THE GREATER OF 1% OF THE LEAF GATE WIDTH OR 2 INCHES.

USE TYPE 2, CLASS 3, MARCELLED/CRIMPED, TENSION WIRE PER ASTM A 817.



CROSS SECTIONS OF POSTS AND RAILS

REQUIRED FENCE POST SIZES

USE	FABRIC HEIGHTS FEET	POST TYPE
TERMINAL POSTS **	LESS THAN OR EQUAL TO 6 FT.	SP3
	GREATER THAN OR EQUAL TO 6 FT.	SP4
LINE POSTS	LESS THAN OR EQUAL TO 6 FT.	SP2
	LESS THAN OR EQUAL TO 8 FT.	SP3
	GREATER THAN OR EQUAL TO 8 FT.	SP4
	LESS THAN OR EQUAL TO 8 FT.	FS2 OR FS2†
	GREATER THAN OR EQUAL TO 8 FT.	FS3

BRACE RAIL TYPES

USE		TYPE
BRACE RAIL		SP1 OR FS1

** INCLUDES END, CORNER, ANGLE, INTERSECTION AND INTERMEDIATE BRACED POSTS

ROLLED-FORMED STEEL FENCE POST (2.0 OZ./SQ. FT. COATING)

POST TYPE	LENGTH (L) INCH	WIDTH (W) INCH	WEIGHT LBS/FT
FS1	1.625	1.25	1.35
FS2†	1.875	1.625	1.850
FS2	1.875	1.625	2.400
FS3	2.250	1.700	2.780

REQUIRED POST SIZE FOR GATES

USE	LEAF WIDTHS FEET	POST TYPE
GATES	LESS THAN OR EQUAL TO 6 FT.	SP4
	LESS THAN OR EQUAL TO 13 FT.	SP5
	LESS THAN OR EQUAL TO 18 FT.	SP6
	LESS THAN OR EQUAL TO 23 FT.	SP7

ROUND STEEL FENCE POST (1.8 OZ./SQ. FT. COATING)

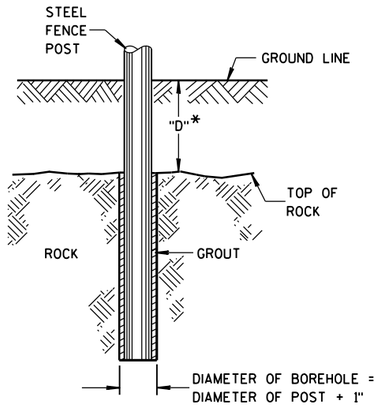
POST TYPE	OUTSIDE DIMENSION INCH	WALL THICKNESS INCH	WEIGHT LBS/FT
SP1	1.660	0.140	2.270
SP2	1.900	0.145	2.720
SP3	2.375	0.154	3.650
SP4	2.875	0.203	5.800
SP5	4.000	0.226	9.120
SP6	6.625	0.280	18.990
SP7	8.625	0.322	28.580

FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

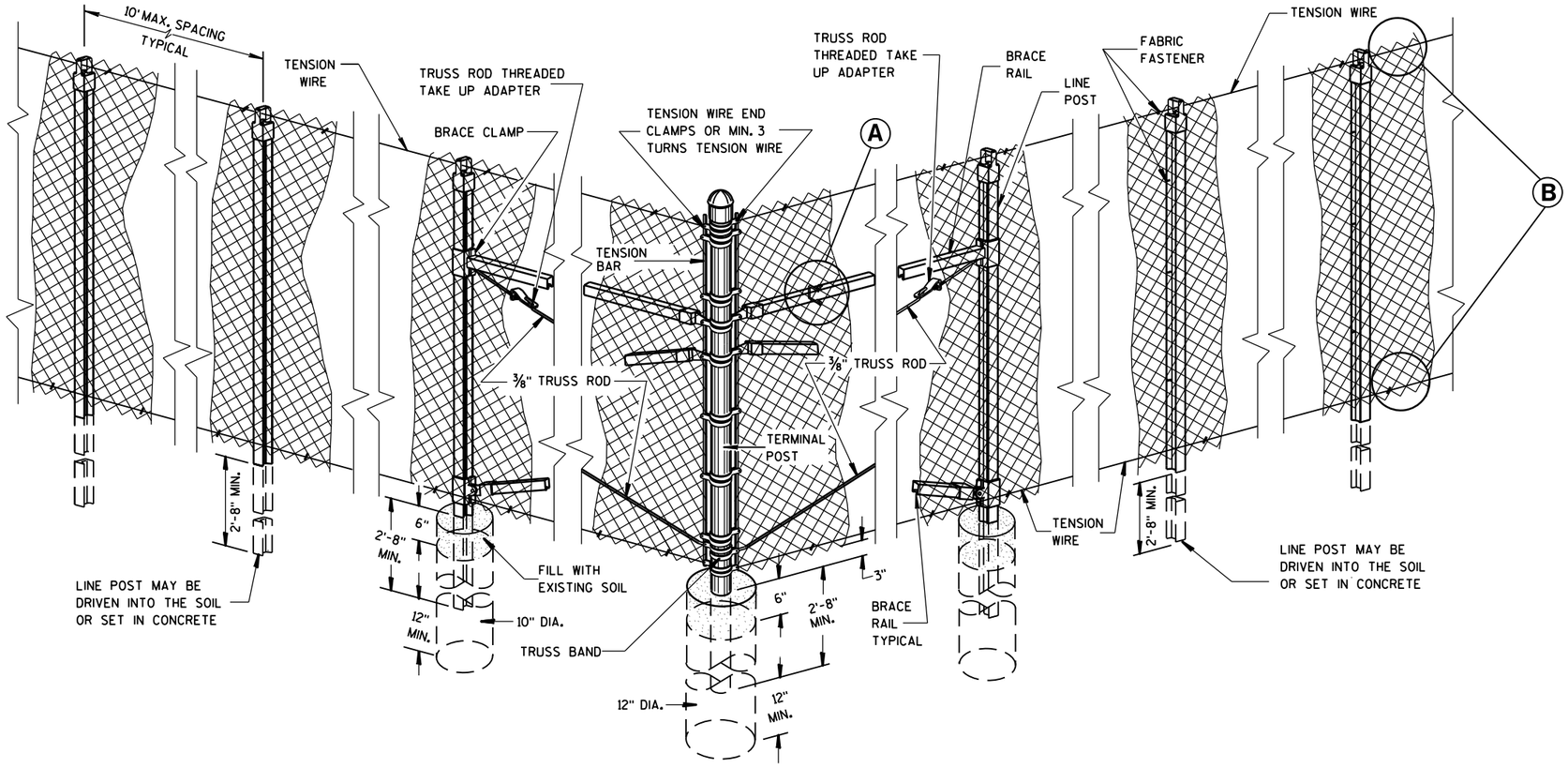
6

S.D.D. 15 B 3-15a

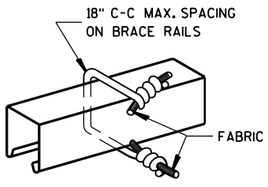


*IF "D" IS LESS THAN 2'-6", DRILL ROCK AND INSTALL GROUT

ROCK INSTALLATION OF LINE POST



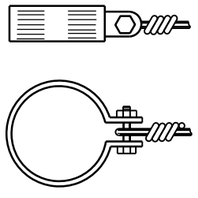
END, CORNER, ANGLE INTERSECTION & INTERMEDIATE BRACED POSTS



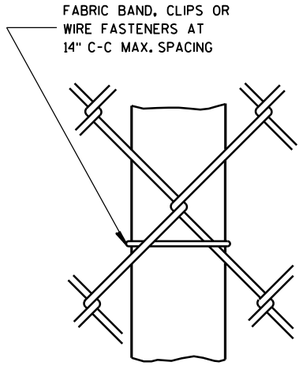
BRACE RAIL

FABRIC FASTENER

Ⓐ



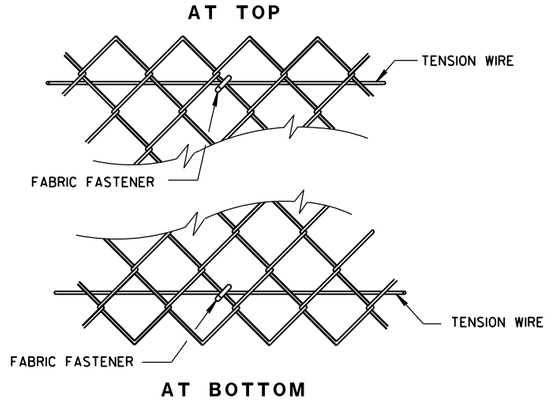
TENSION WIRE END CLAMP



LINE POST

FABRIC FASTENER

AT TOP



AT BOTTOM

SELVAGES

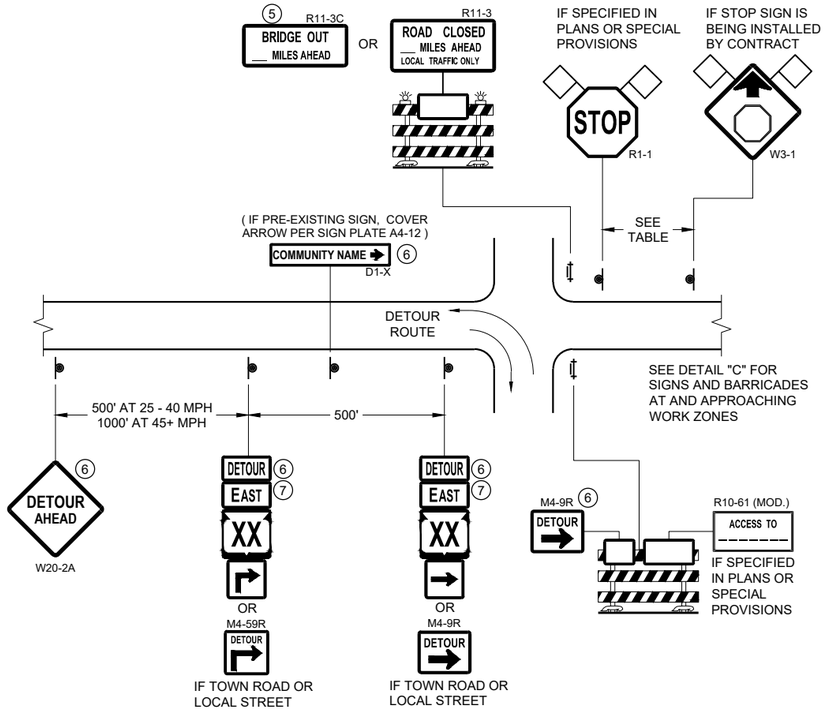
Ⓑ

FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

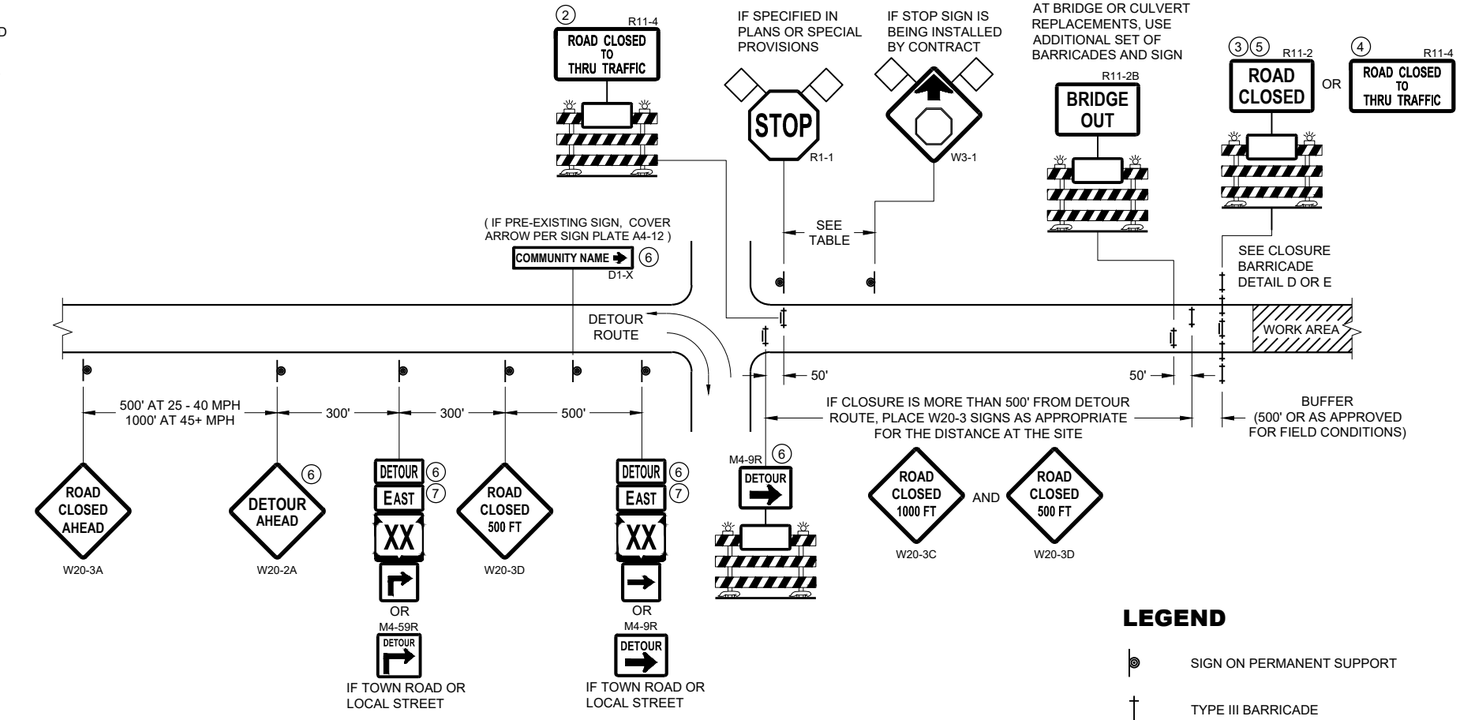
APPROVED
FEB. 2015 DATE
FHWA
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

6
S.D.D. 15 B 3-15b



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



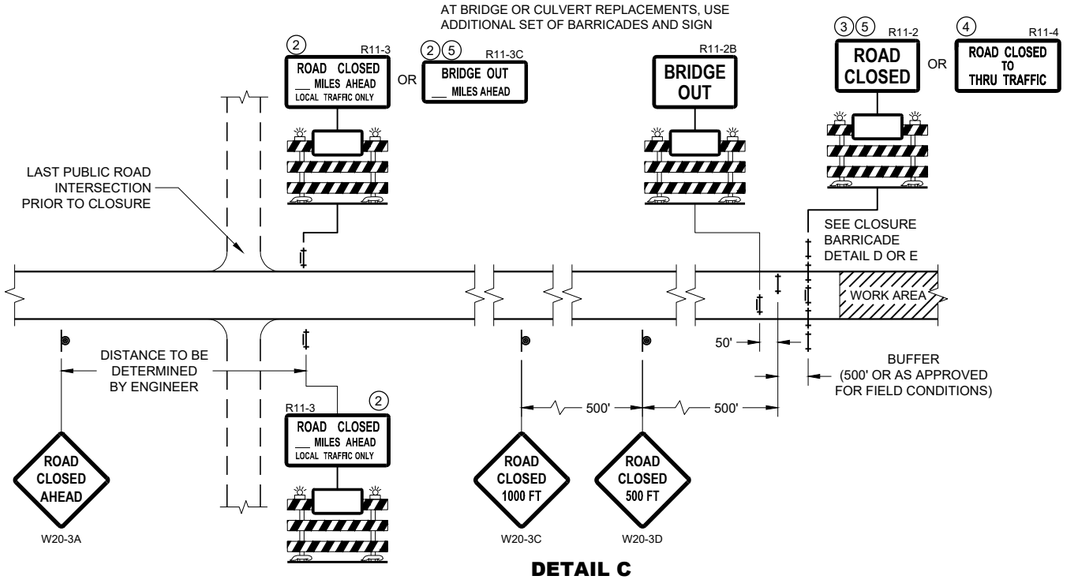
DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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

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



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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

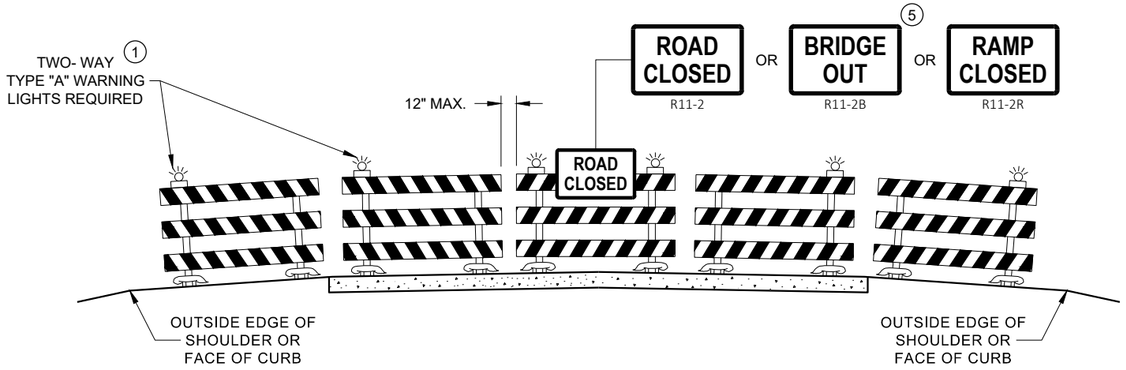
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

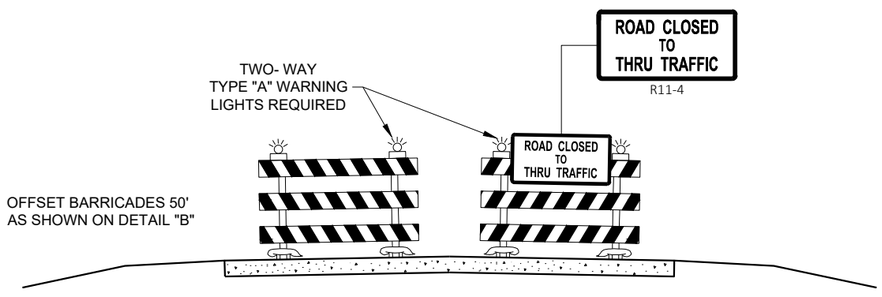
6

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 ENGINEER
FHWA

6

SDD 15C02 - 08b

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR — M4 - 8
- EAST — M3 - X
- XX — M1 - 4 OR XX — M1 - 6 OR COUNTY X — M1 - 5A
- M05 - 1 OR M06 - 1 OR M06 - 1

GENERAL NOTES

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

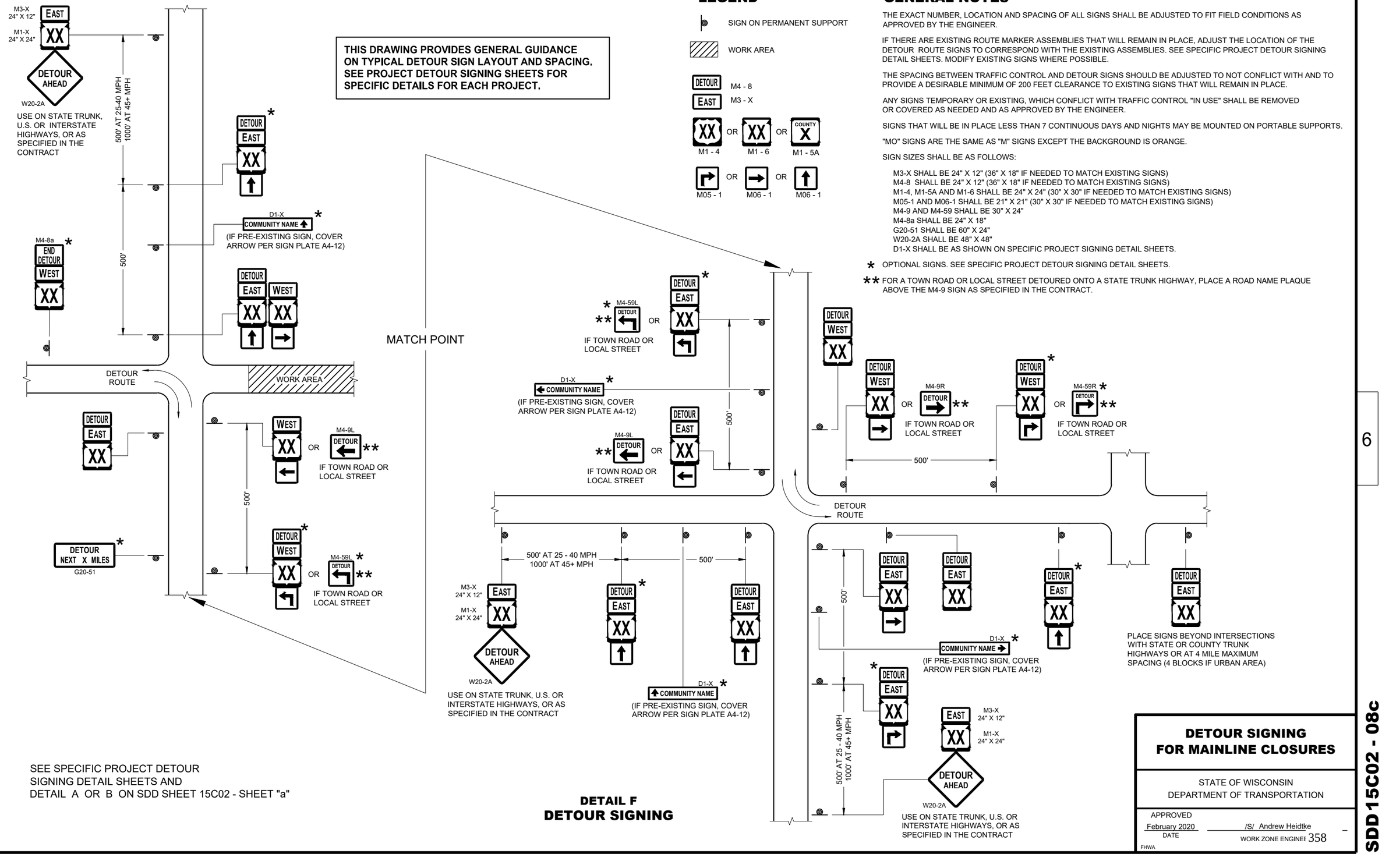
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

DETAIL F
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

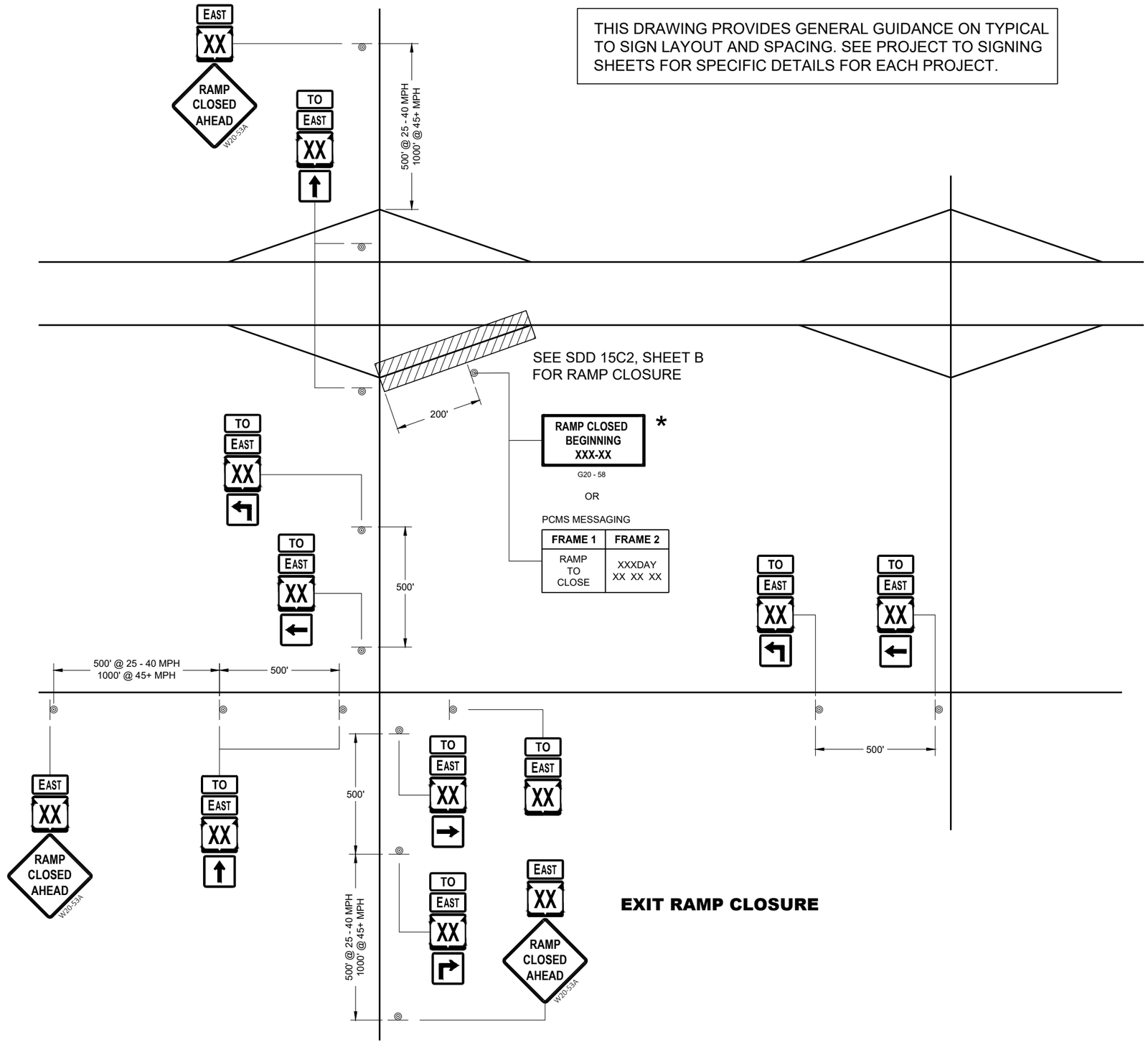
APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15C02 - 08c



EXIT RAMP CLOSURE

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL TO SIGN LAYOUT AND SPACING. SEE PROJECT TO SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

LEGEND

SIGN ON PERMANENT SUPPORT

TO EAST — MO4 - 5, M3 - X

XX M1 - 6 OR XX M1 - 4 OR INTERSTATE XX M1 - 1

M05 - 1 OR M06 - 1 OR M06 - 1

GENERAL NOTES

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

IF THERE ARE ANY ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE TO ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT TO SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

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

SIGN SIZES SHALL BE AS FOLLOW:
- M3 - X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
- MO4 - 5 SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
- M1 - 1, M1 - 4, AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS).
- MO5 - 1, MO5 - 2, AND MO6 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).
- W20 - 53A SHALL BE 48" X 48"

* PLACE "RAMP CLOSED BEGINNING" SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR LAYOUT.

ON RAMP LANE CLOSURE

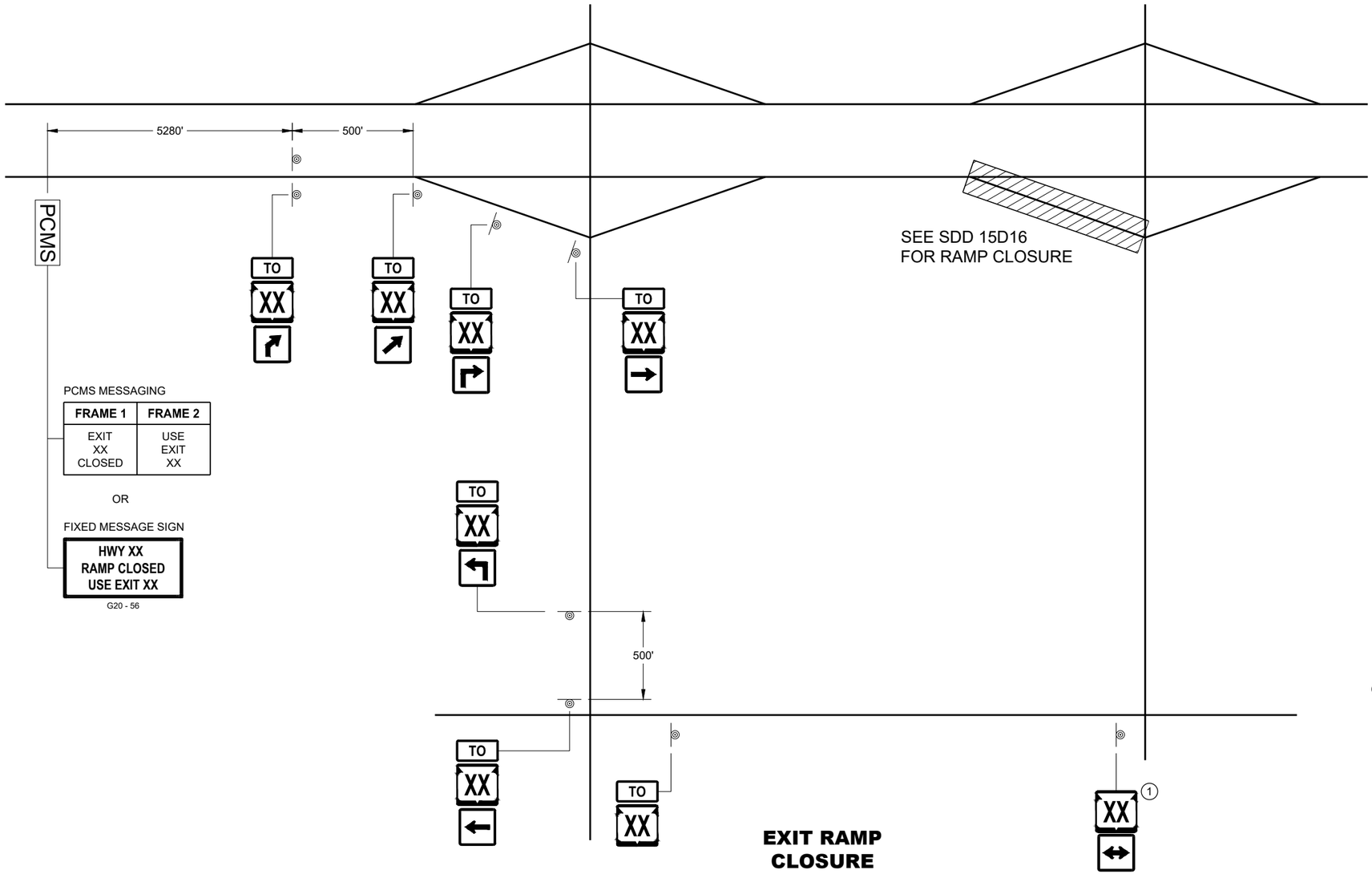
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

SDD 15C02 - 08d

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL "TO" MO-4 SIGN LAYOUT AND SPACING. SEE PROJECT TO SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.



PCMS MESSAGING

FRAME 1	FRAME 2
EXIT XX CLOSED	USE EXIT XX

OR

FIXED MESSAGE SIGN

HWY XX
RAMP CLOSED
USE EXIT XX

G20 - 56

EXIT RAMP CLOSURE

LEGEND

SIGN ON PERMANENT SUPPORT

PCMS PORTABLE CHANGEABLE MESSAGE SIGN

TO MO4 - 5

XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A

M05 - 1 OR M05 - 2 OR M06 - 1 OR M06 - 2 OR M06 - 4

GENERAL NOTES

SEE SDD 15D16 "TRAFFIC CONTROL, EXIT RAMP CLOSURE" DETAIL FOR TRAFFIC CONTROL AT EXIT RAMP CLOSURE.

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

IF THERE ARE ANY ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE "TO" MO-4 ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT TO SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

THE SPACING BETWEEN TRAFFIC CONTROL AND "TO" MO-4 SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

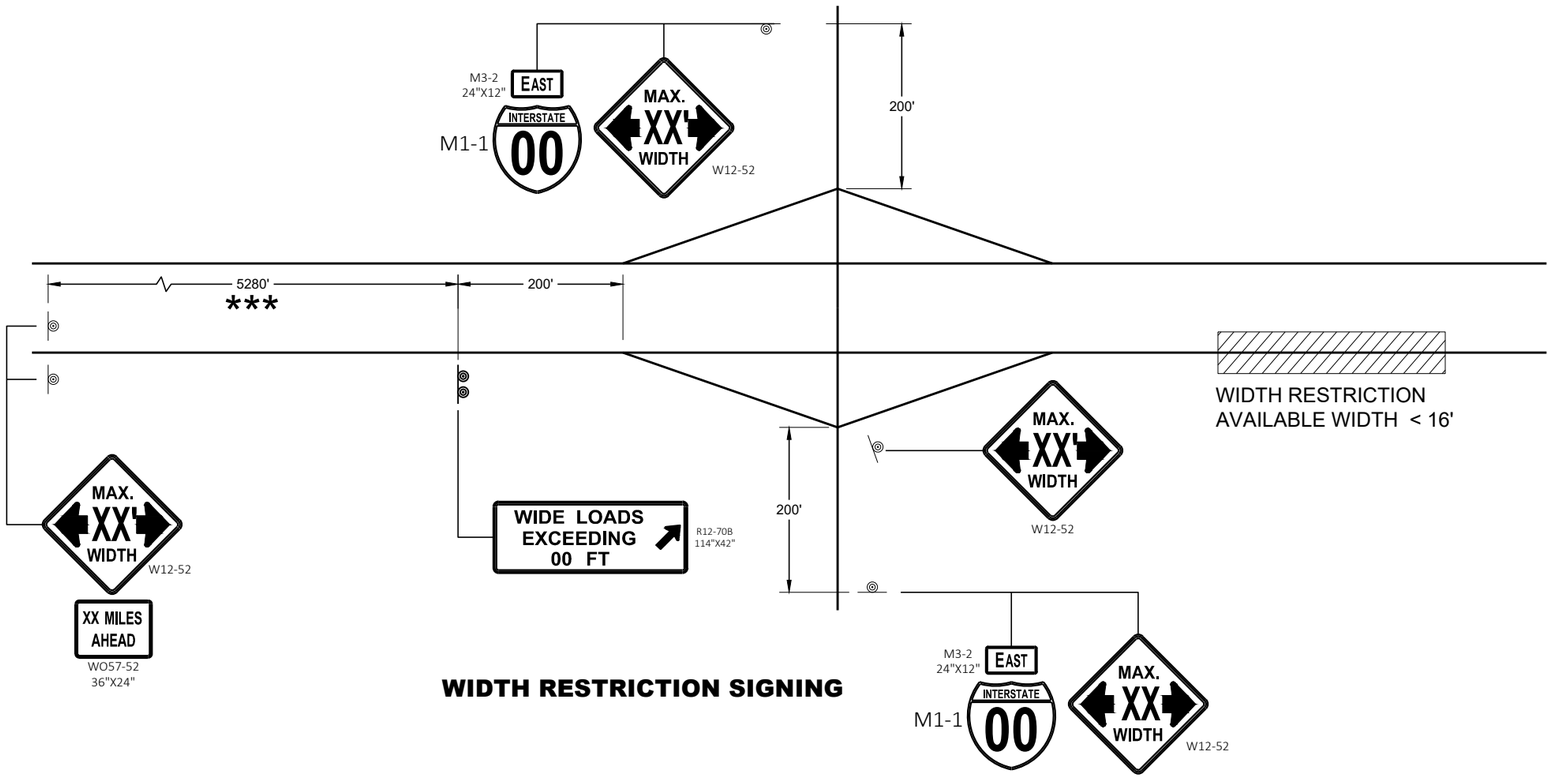
SIGN SIZES SHALL BE AS FOLLOW:
- MO4 - 5 SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
- M1 - 4, M1 - 5A, AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS).
- MO5 - 1, MO5 - 2, AND MO6 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).

(1) ONLY ADD IF THERE ARE NO EXISTING ROUTE MARKERS FOR THE INTERSECTING ROADWAY.

OFF RAMP LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
360
FHWA



WIDTH RESTRICTION SIGNING

LEGEND

SIGN ON PERMANENT SUPPORT

GENERAL NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS 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 DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

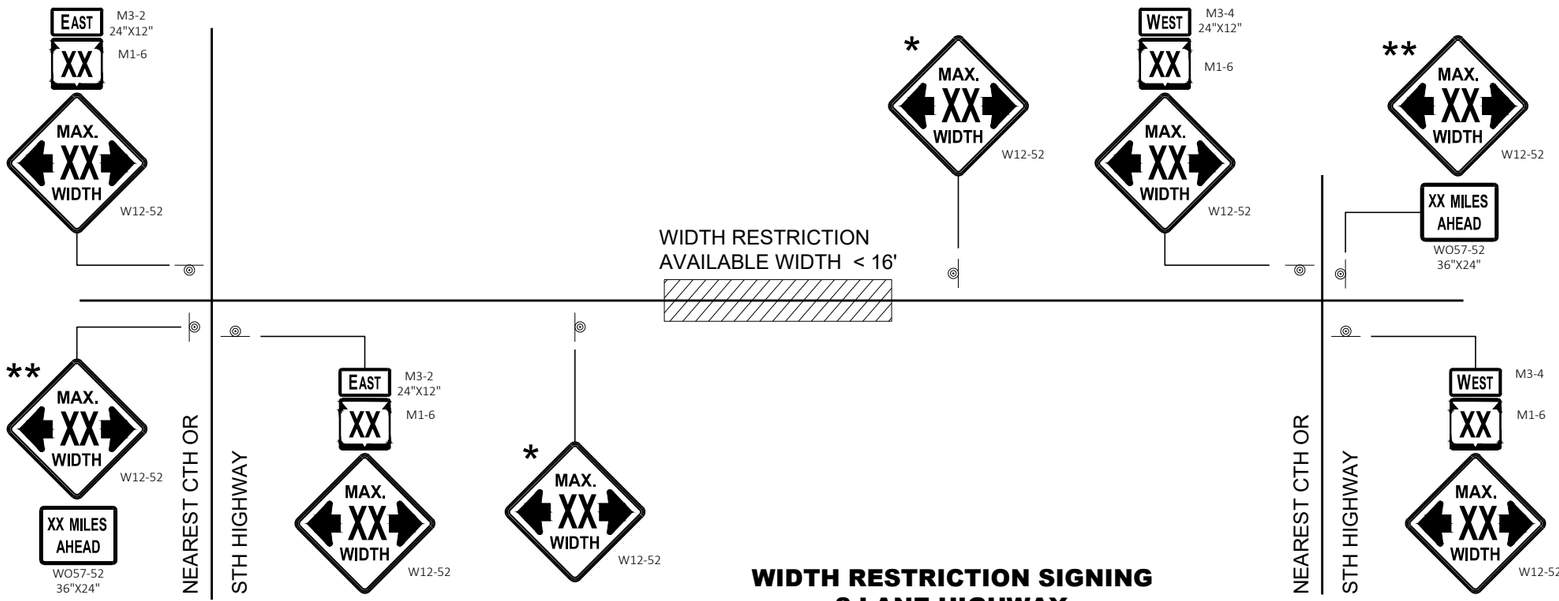
WIDTH ON SIGN TO BE APPROXIMATELY ONE FOOT LESS THAN AVAILABLE WIDTH.

* PLACE 500 FEET BEFORE THE W20 - 1A AND 500 FEET BEFORE ADDITIONAL SIGNS FOR ROADWAYS WITH A PRE - CONSTRUCTION SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350 FOOT TYPICAL SPACING. FOR 25-30 MPH, USE 200 FOOT TYPICAL SPACING.

** SIGN SHALL BE VISIBLE FROM ROADWAY.

*** ADDITIONAL SIGNS NEEDED IF THERE IS AN ON RAMP BETWEEN SIGNS.

WIDTH ON SIGN TO BE APPROX. 1 - FOOT LESS THAN AVAILABLE WIDTH



WIDTH RESTRICTION SIGNING
2 LANE HIGHWAY

ADVANCED WIDTH RESTRICTION SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15C02 - 08f

GENERAL NOTES

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

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

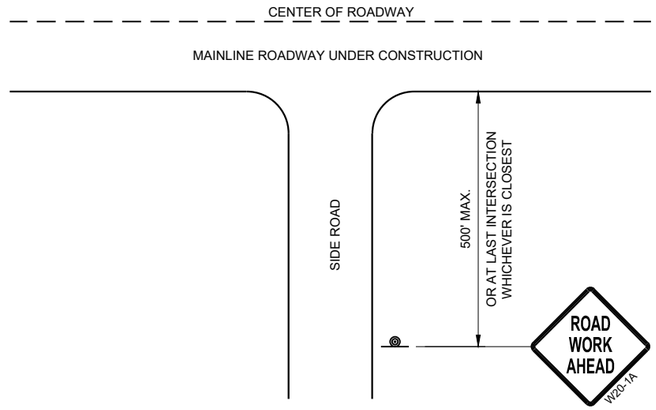
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS

** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



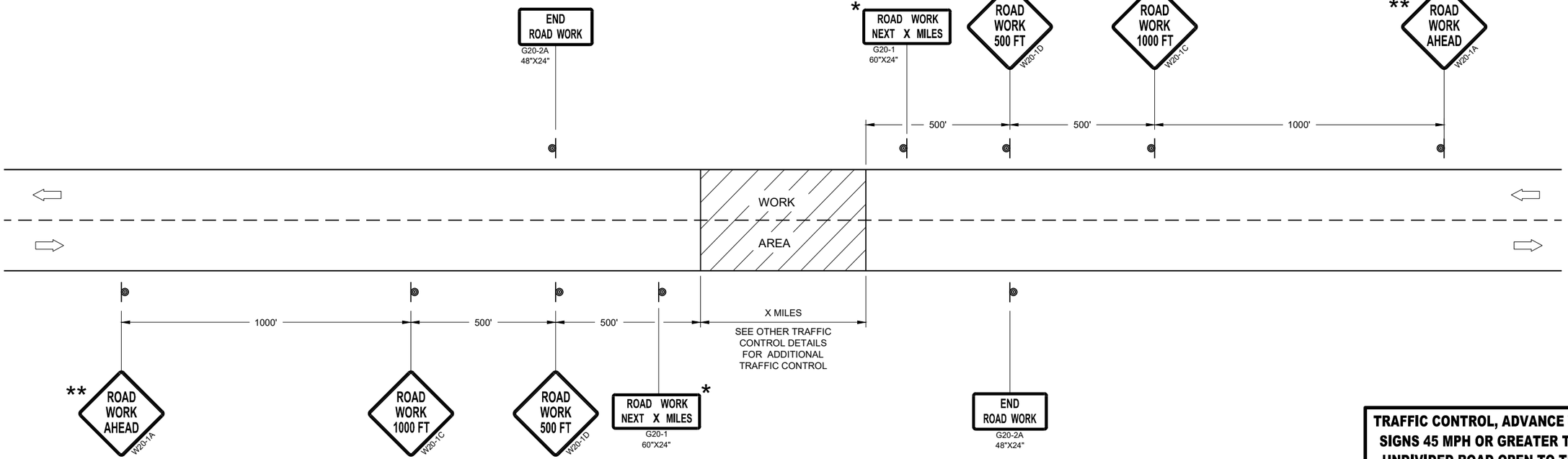
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFICE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

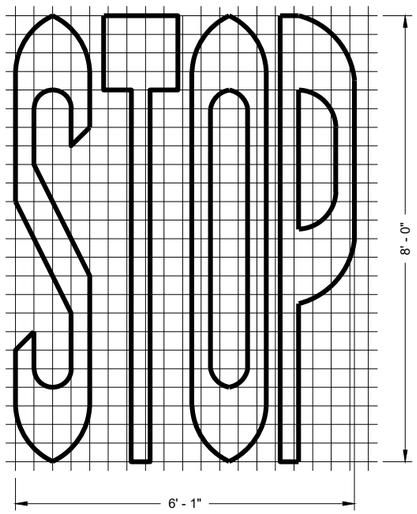
FHWA

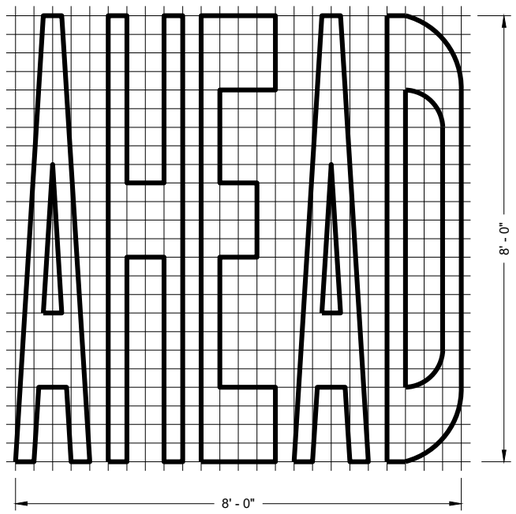
6

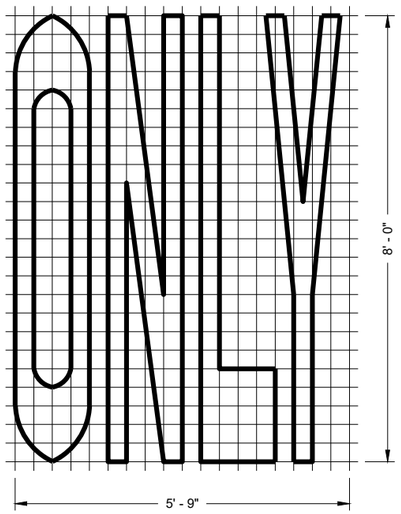
SDD 15C04 - 05

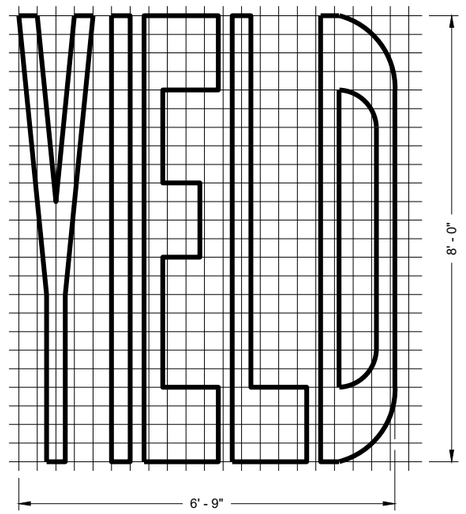
6

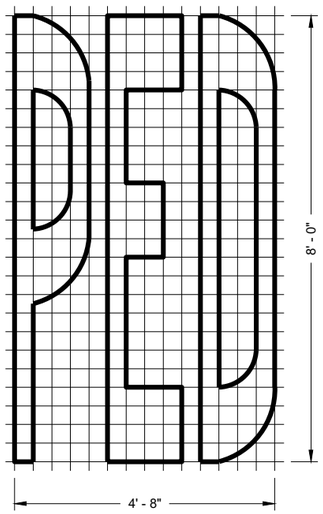
SDD 15C04 - 05

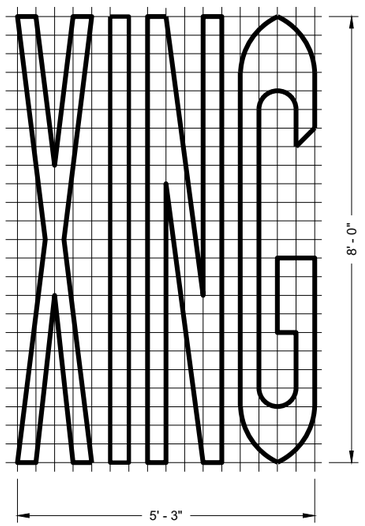


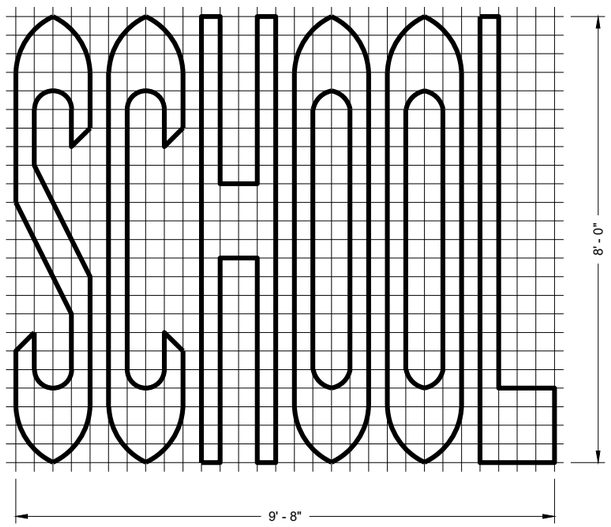




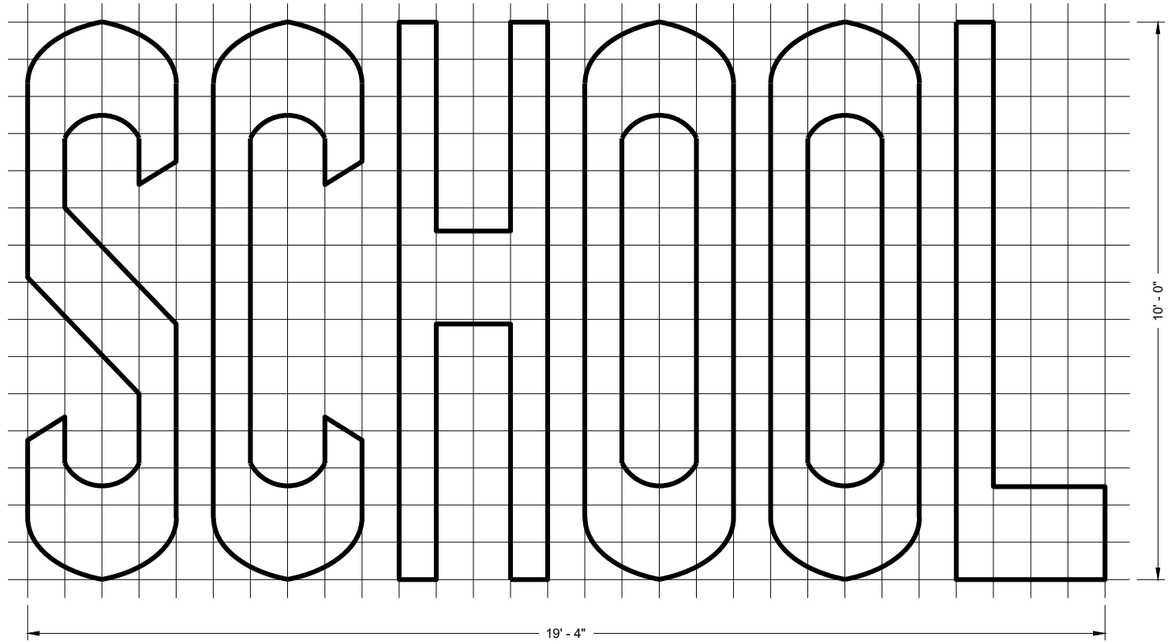








SINGLE LANE



TWO - LANE

GENERAL NOTES

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

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE

/S/ Matthew Rauch
STATE SIGNING AND MAF ENGINEER

FHWA

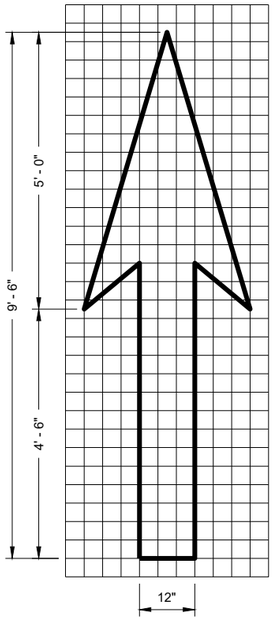
6

SDD 15C07 - 15b

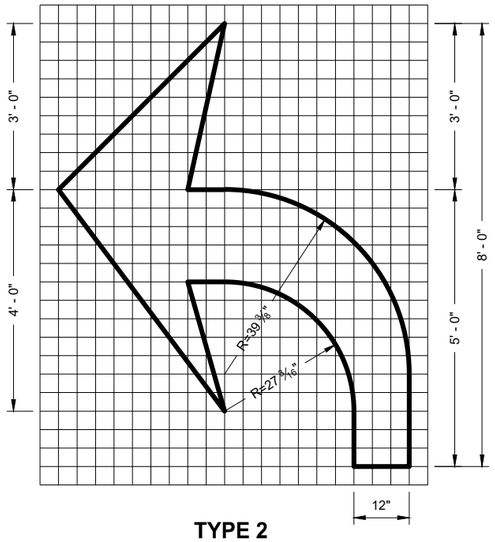
SDD 15C07 - 15b

GENERAL NOTES

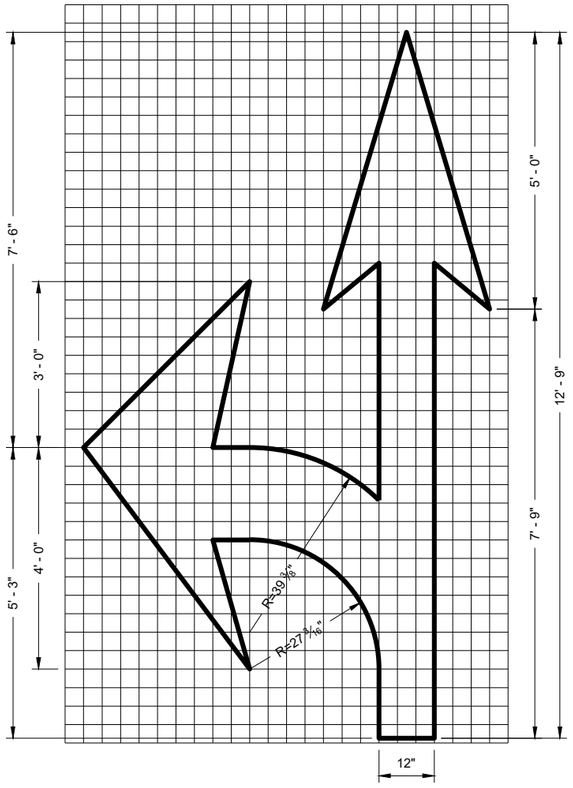
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



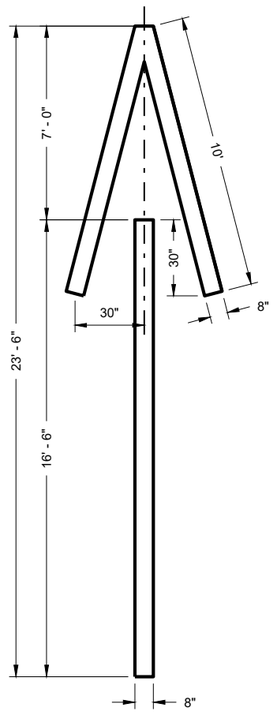
TYPE 1



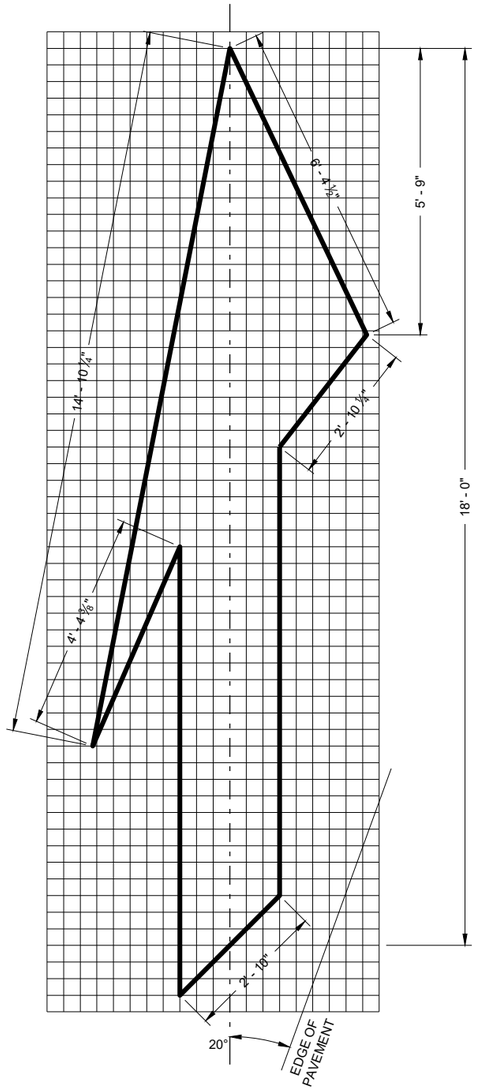
TYPE 2



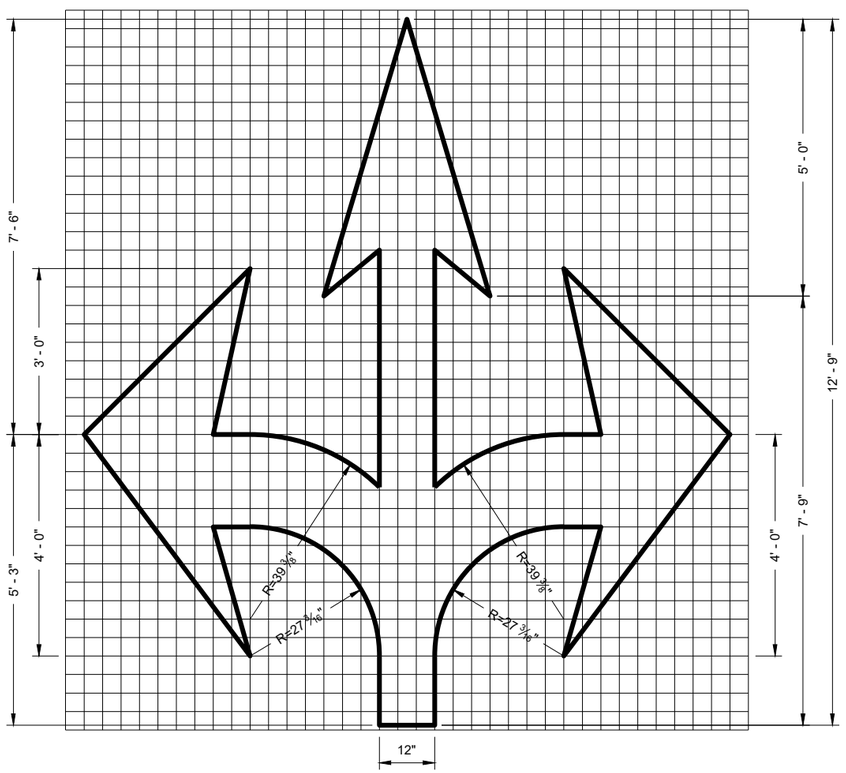
TYPE 3



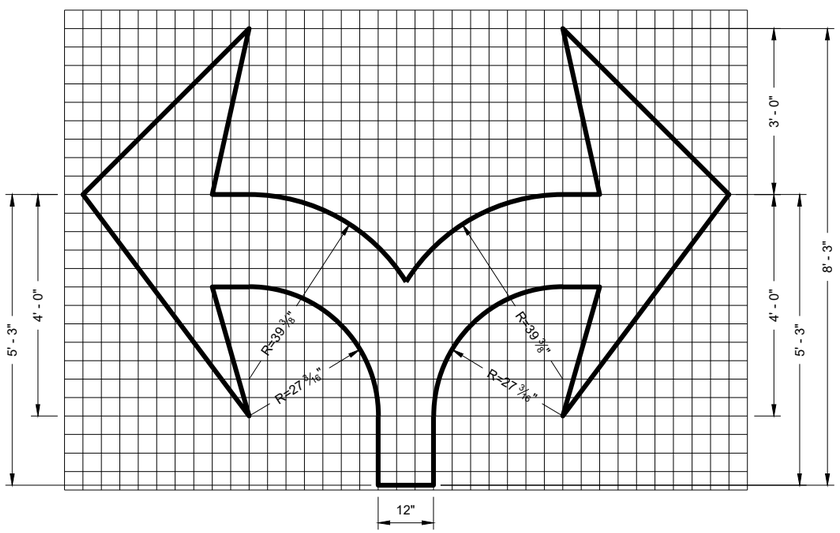
TYPE 4



TYPE 5 LANE DROP ARROW



TYPE 6



TYPE 7

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 — DATE
/S/ Matthew Rauch — STATE SIGNING AND MARKING ENGINEER

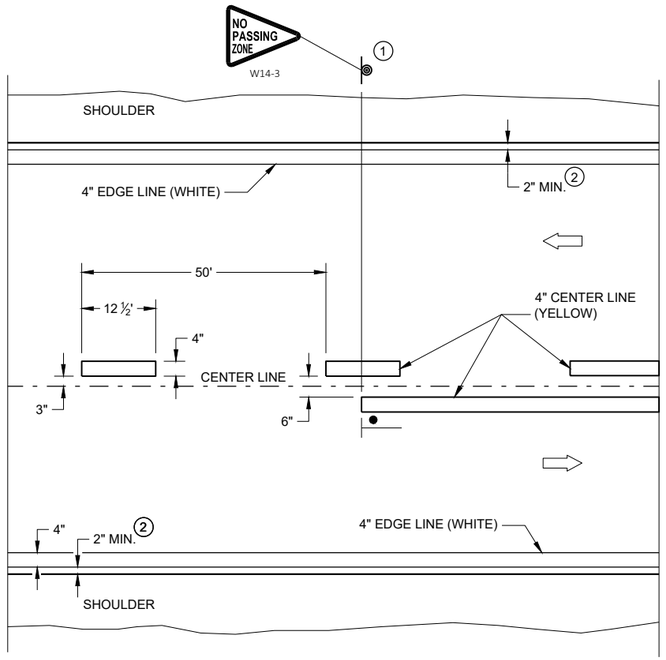
FHWA

6

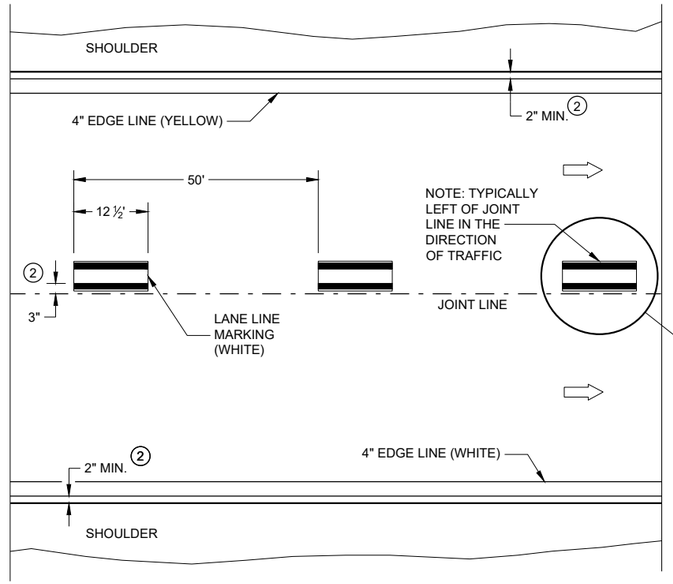
SDD 15C07 - 15c

6

SDD 15C07 - 15c

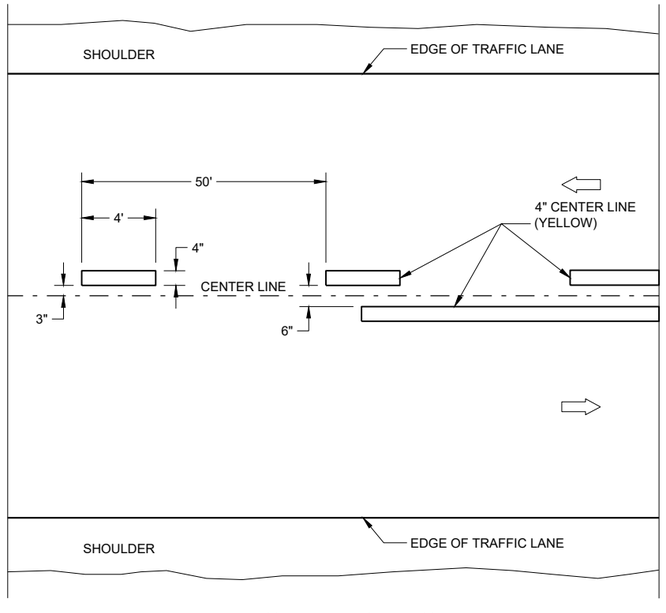


TWO WAY TRAFFIC

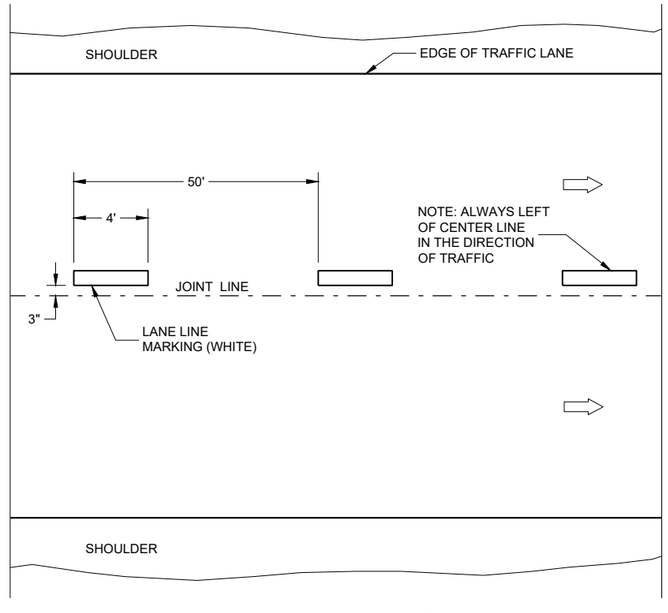


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

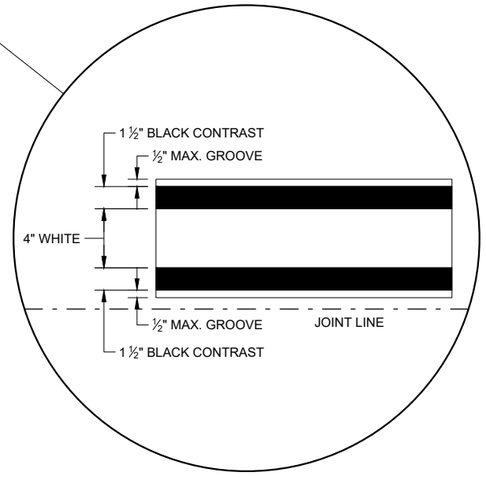
1. LOCATE THE NO PASSING ZONE W14-3 SIGN WITH 50 FEET OF THE "T" MARKING
2. MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



LONGITUDINAL MARKING (MAINLINE)

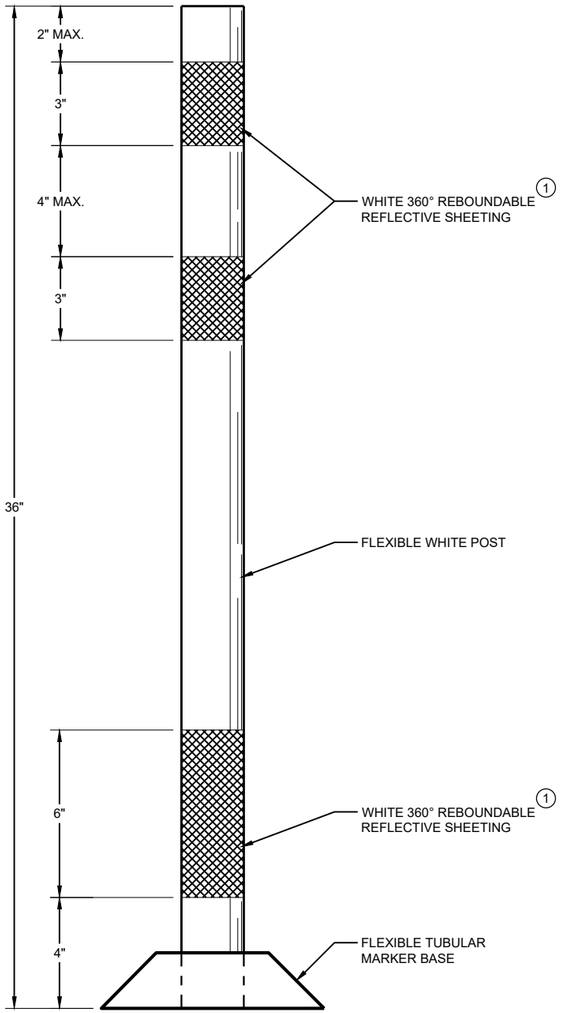
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

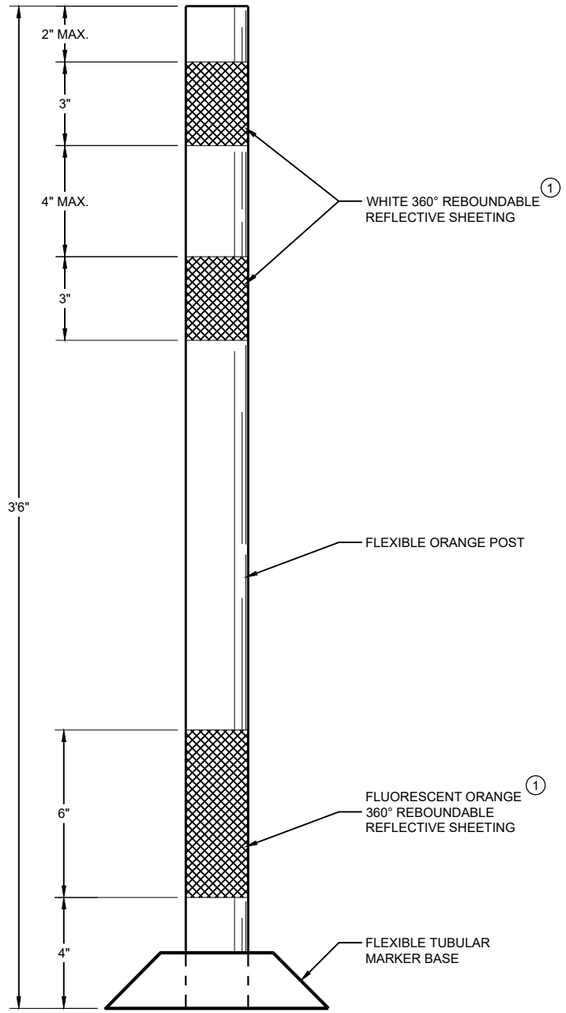
FHWA

SDD 15C08 - 20a

SDD 15C08 - 20a



FLEXIBLE TUBULAR MARKER POST PERMANENT CROSSOVER



FLEXIBLE TUBULAR MARKER POST WORK ZONE

GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, UNLESS DIRECTED BY THE ENGINEER TO USE BOLTS.

(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

6

SDD 15C11 - 07a

CHANNELIZING DEVICES
FLEXIBLE TUBULAR MARKER POST

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

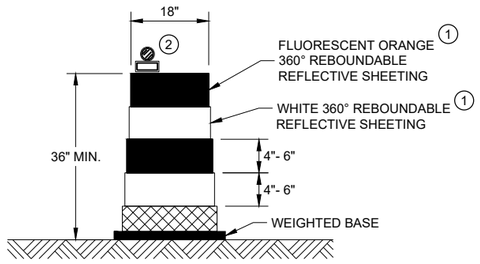
FHWA

6

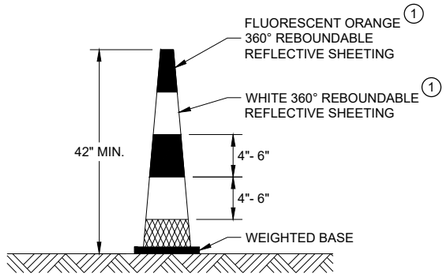
SDD 15C11 - 07a

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.

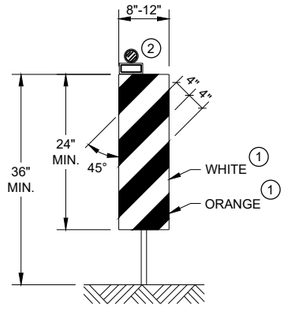


DRUM



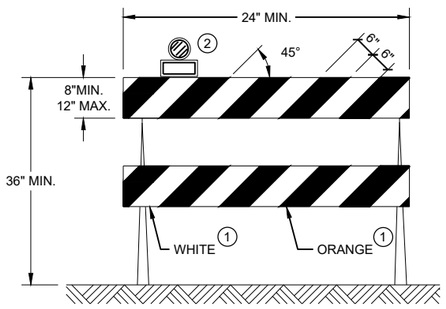
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



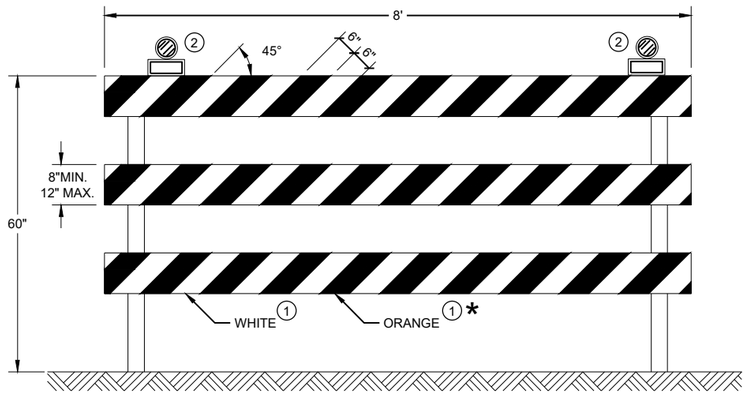
VERTICAL PANEL

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
June 2017
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C11 - 07b

6

SDD 15C11 - 07b

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

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

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR 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.

FLAGGING

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

(1) FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

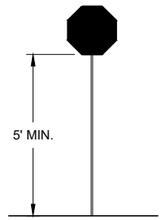
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FOR THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.



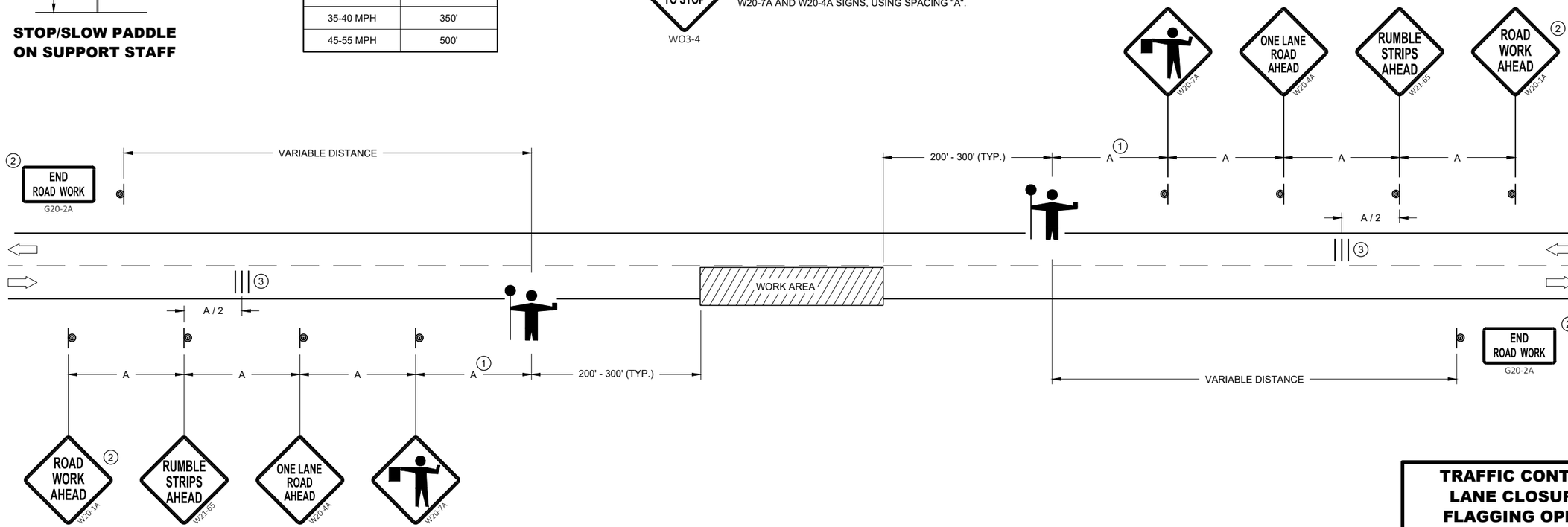
STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

WO3-4

USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15C12 - 07

LEGEND

V1 MARKING VEHICLE

V2 SHADOW VEHICLE

V3 TRAIL VEHICLE

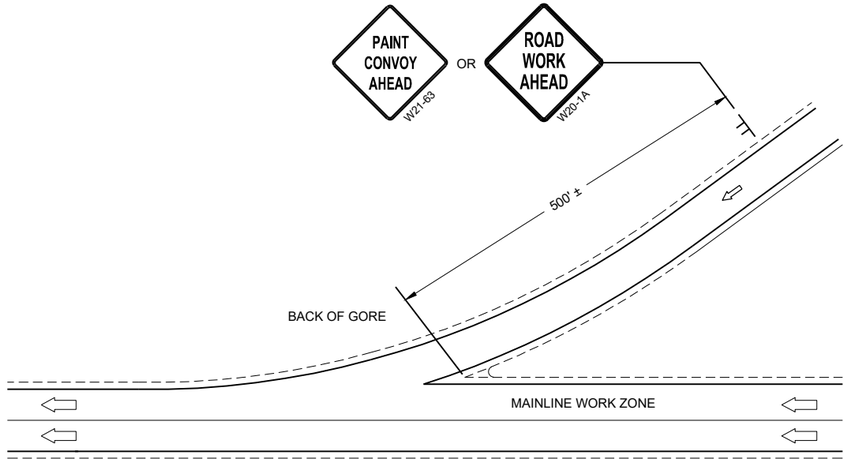
TRUCK MOUNTED ATTENUATOR (TMA)

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC

FLASHING ARROW PANEL (MERGE)

FLASHING ARROW PANEL (CAUTION)



GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

WHEN WORK ACTIVITY BLOCKS THE LEFT LANE, REVERSE TRAFFIC CONTROL.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

IF THE SHOULDER IS TOO NARROW TO ACCOMMODATE THE LAST TRAILING VEHICLE, THE VEHICLE SHOULD STRADDLE THE EDGE LINE.

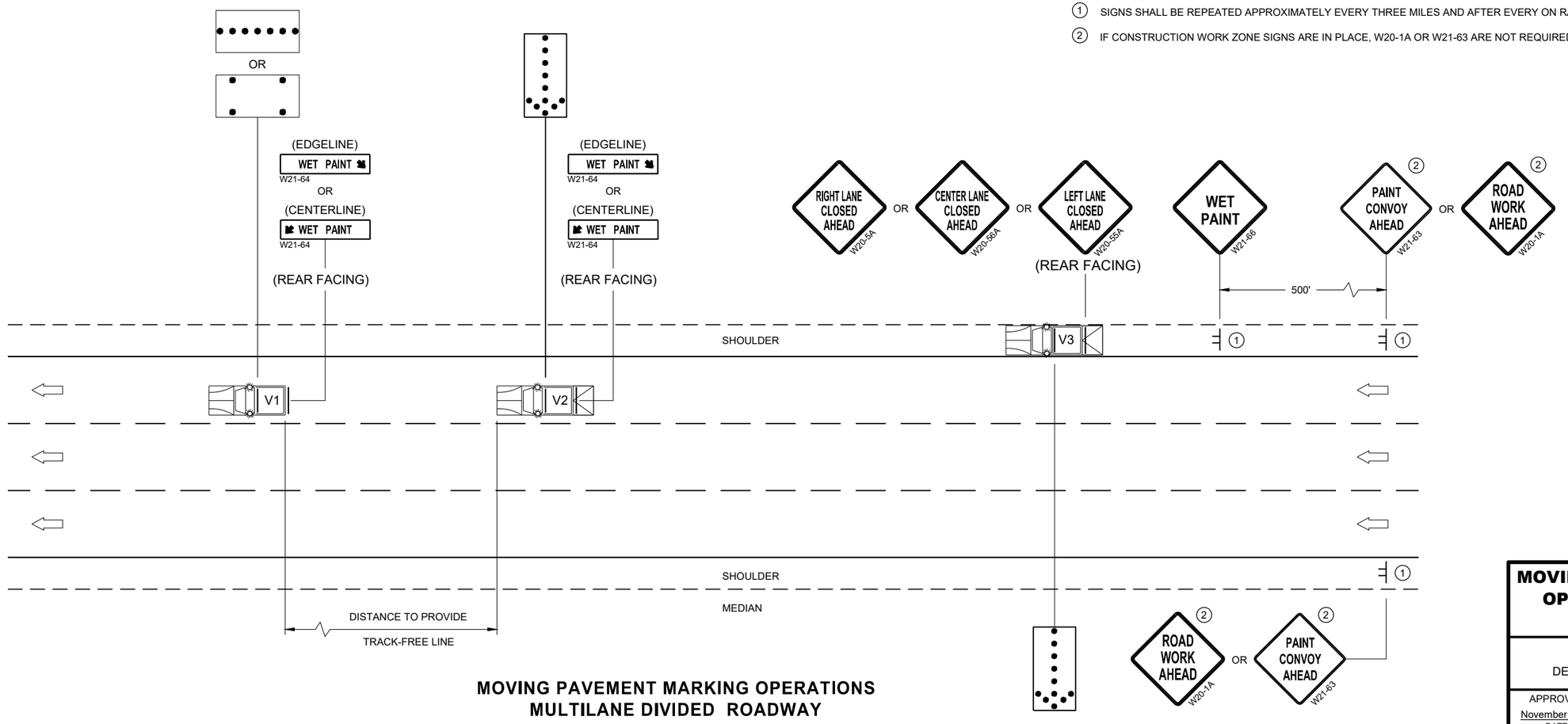
WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC

CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

CONES SHALL BE A MINIMUM HEIGHT OF 18" FOR WET PAVEMENT MARKINGS

(1) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES AND AFTER EVERY ON RAMP.

(2) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.



MOVING PAVEMENT MARKING OPERATIONS
MULTILANE DIVIDED ROADWAY

MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

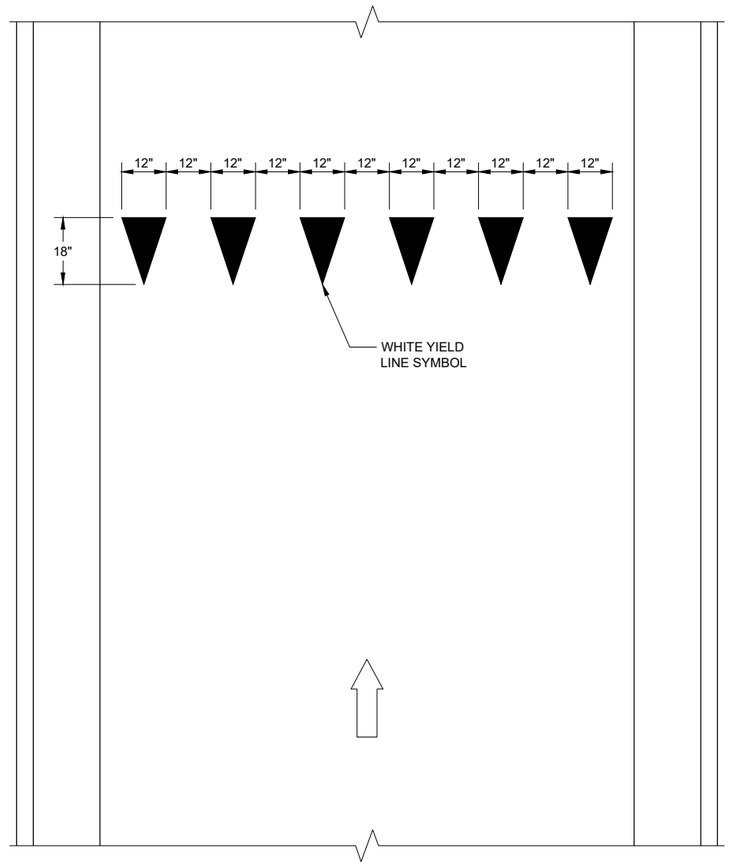
FHWA

6

SDD 15C19 - 06c

6

SDD 15C19 - 06c

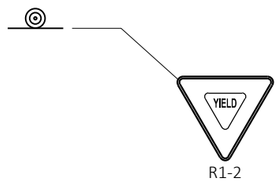


YIELD LINE

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAVEL



R1-2

YIELD MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4-81-2016
DATE

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

FHWA

6

SDD 15C20 - 02

SDD 15C20 - 02

GENERAL NOTES

ORIENT ANCHOR RODS IN FOOTING AND PROVIDE ANCHOR ROD STICK OUT ABOVE TOP OF CONCRETE FOOTING BASE PER FABRICATION DRAWING.

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

SIGN SUPPORTS SHALL BE LOCATED NORMAL TO ROADWAY.

THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

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

BAR CAGE TO BE ASSEMBLED USING TIE WIRES ONLY, NO WELDING.

BASES (SHAFT) SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, THE FORM SHALL BE REMOVED BEFORE BACK FILLING AROUND THE BASE. ANY REQUIRED BACKFILL SHALL BE WELL COMPACTED IN LAYERS OF 1 FOOT OR LESS. COMPACTION SHALL BE BY MECHANICAL MEANS. CARE SHALL BE TAKEN SO NO DAMAGE OCCURS TO THE CONCRETE BASE DURING COMPACTION.

EXCAVATION OF MATERIALS NOT OCCUPIED BY CONCRETE SHALL BE MINIMIZED TO REDUCE DISTURBANCE OF THE SURROUNDING SOILS.

THE BOTTOM OF THE DRILLED HOLE SHALL BE FIRM AND THOROUGHLY CLEANED SO NO LOOSE OR COMPRESSIBLE MATERIALS ARE PRESENT AT THE TIME OF THE CONCRETE PLACEMENT.

IF THE DRILLED HOLE CONTAINS STANDING WATER, THE CONCRETE SHALL BE PLACED USING A TREMIE TO DISPLACE THE WATER.

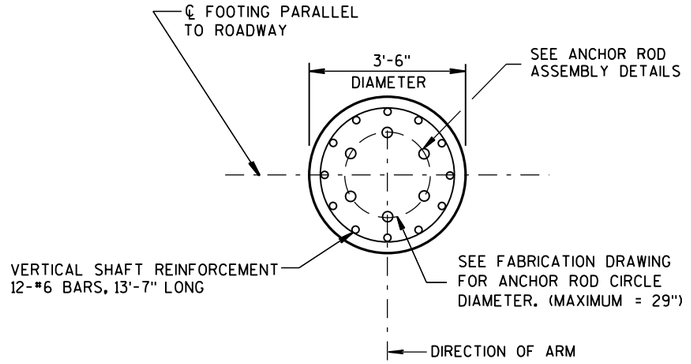
THE REINFORCEMENT AND ANCHOR RODS SHALL BE ADEQUATELY SUPPORTED IN THE PROPER POSITIONS SO NO MOVEMENT OCCURS DURING CONCRETE PLACEMENT.

FORM ALL EXPOSED CONCRETE CORNERS WITH ¾" CHAMFER ALL AROUND. TOP OF THE CONCRETE BASE SHALL BE TROWEL FINISHED AND LEVEL.

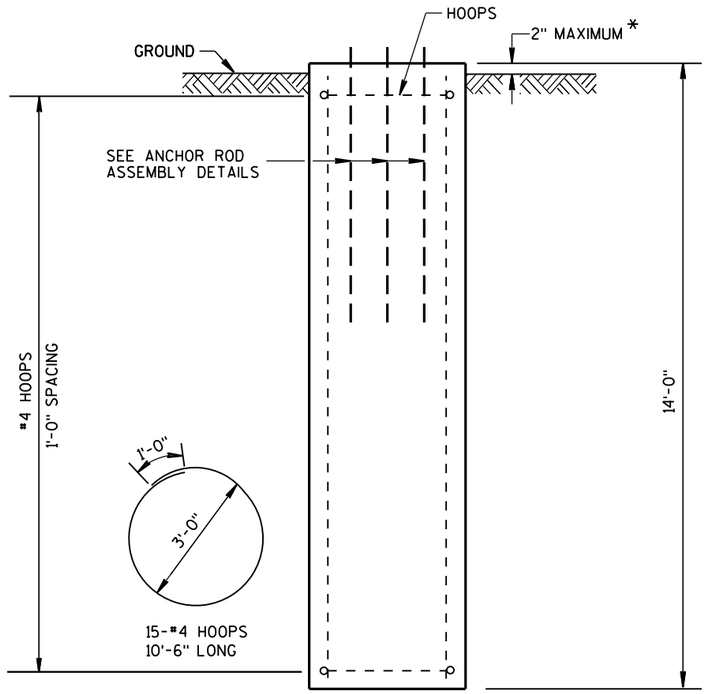
ANY DAMAGE TO THE CONCRETE BASE AND ANCHOR RODS DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED AT THE ENGINEER'S DIRECTION, AT THE EXPENSE OF THE CONTRACTOR.

CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, ASTM F1554, GRADE 55	fy=55,000 p.s.i.
ASTM A563A HEAVY HEX NUTS, AND ASTM F436 WASHERS.	
PLATES, ASTM A709, GRADE 36	fy=36,000 p.s.i.

THIS FOOTING HAS BEEN DESIGNED FOR SITES WHERE SOILS EXHIBIT A PHI-ANGLE GREATER THAN OR EQUAL TO 20 DEGREES (GRANULAR SOILS), OR A COHESION VALUE GREATER THAN OR EQUAL TO 350 PSF (COHESIVE SOILS).

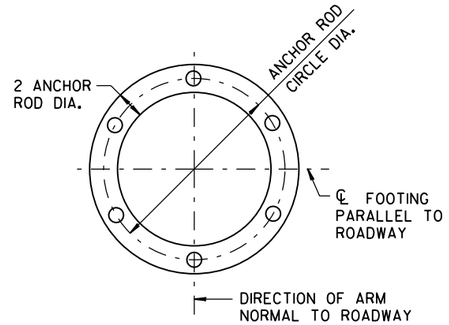


PLAN VIEW

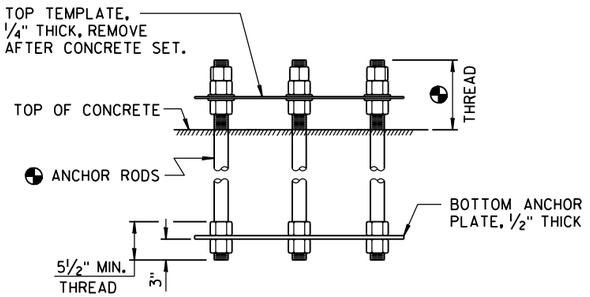


ELEVATION VIEW

* FOR OVERHEAD SIGN SUPPORTS THAT ARE INSTALLED ADJACENT TO SIDEWALKS, THE TOP OF THE BASE SHALL BE POURED FLUSH WITH THE GROUND.



TOP TEMPLATE AND BOTTOM ANCHOR PLATE



ANCHOR ROD ASSEMBLY DETAILS

⊕ MINIMUM OF 6 ANCHOR RODS, EXACT NUMBER, SIZE, DIMENSION AND ORIENTATION AS SHOWN ON FABRICATION DRAWING.

CONCRETE - 5.0 C.Y. PER FOOTING
H.S. REINFORCEMENT - 350 LBS. PER FOOTING

42" DIAMETER CANTILEVER OVERHEAD SIGN SUPPORT BASE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

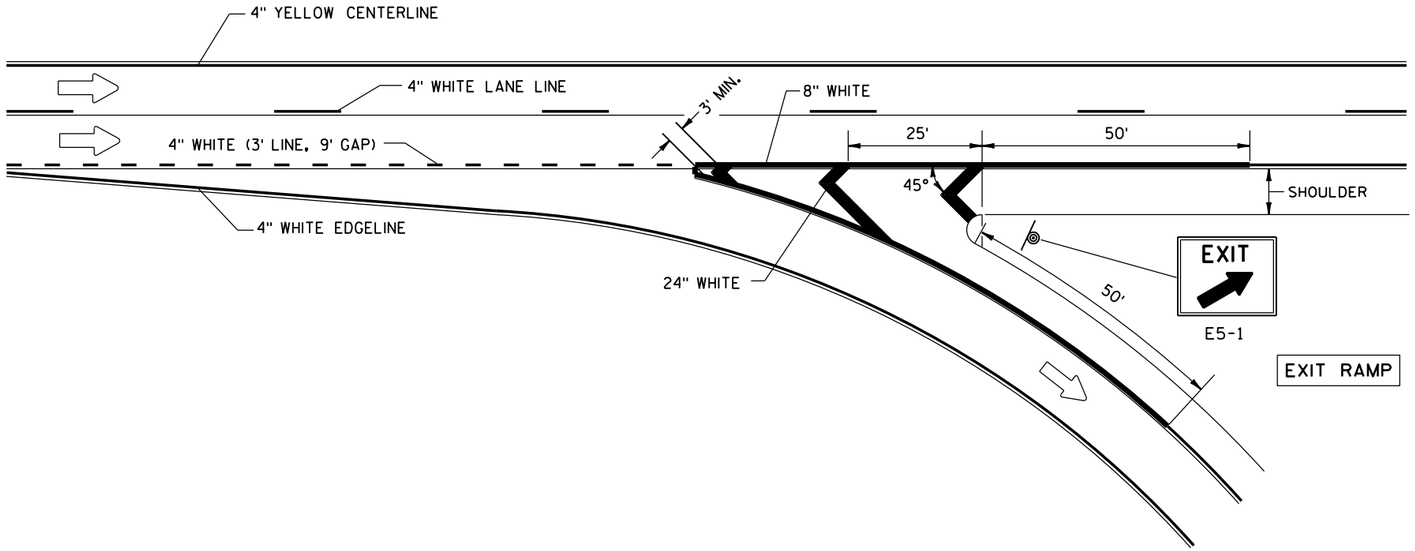
APPROVED
June 2016 — DATE
/S/ Vu Thao — WIND LOADED STR PROGRAM LEA
FHWA

6

S.D.D. 15 C 25-4

6

S.D.D. 15 C 25-4



PAVEMENT MARKING FOR EXIT RAMP

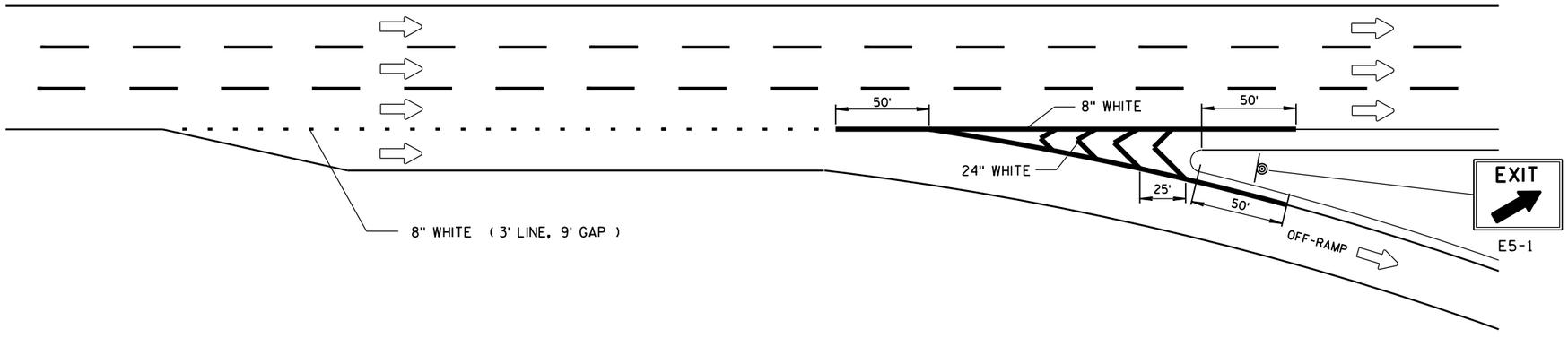
GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

LEGEND

DIRECTION OF TRAVEL

SIGN ON PERMANENT SUPPORT



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT-RAMP

6

S.D.D. 15 C 31-3a

PAVEMENT MARKING (RAMPS AND GORES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

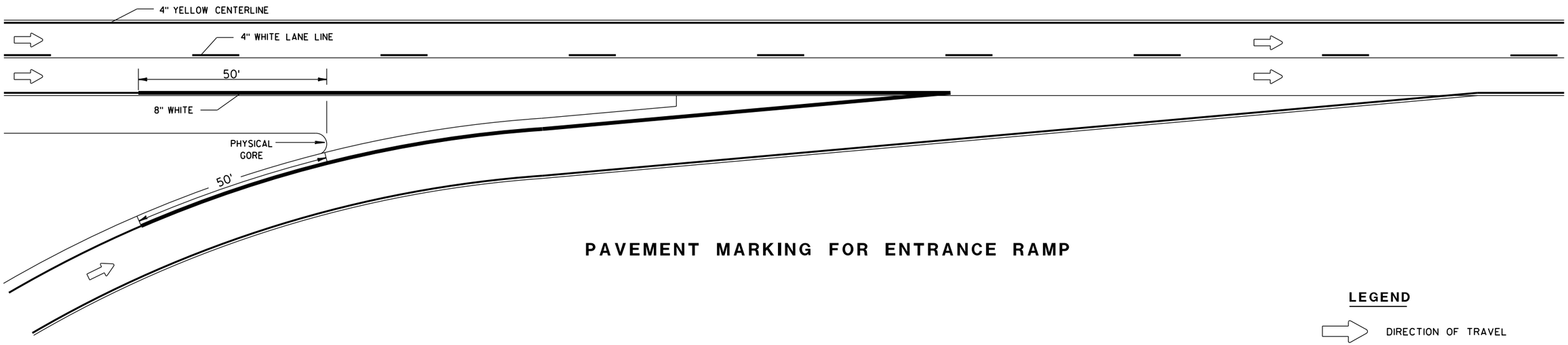
6

S.D.D. 15 C 31-3a

GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

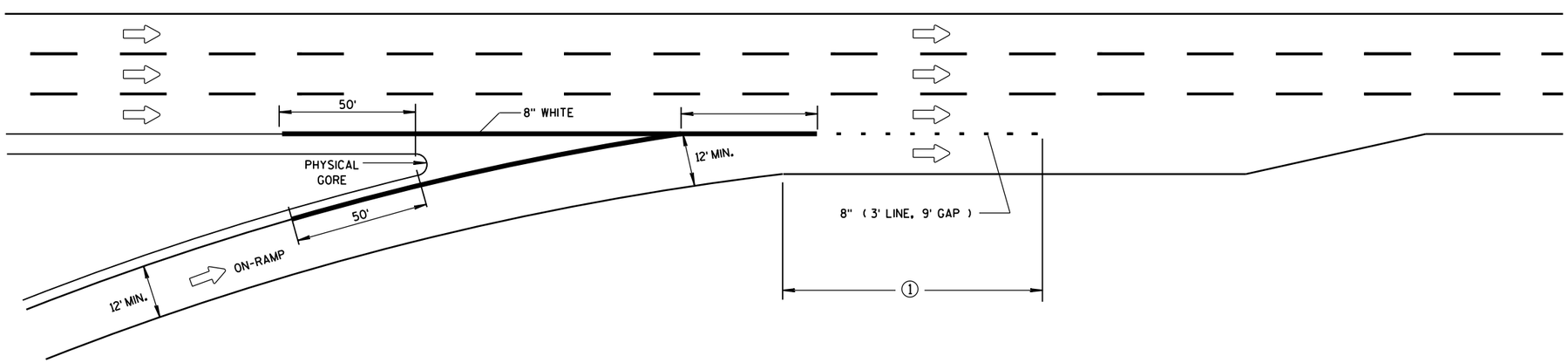
① ½ LENGTH OF FULL WIDTH ACCELERATION LANE.



PAVEMENT MARKING FOR ENTRANCE RAMP

LEGEND

DIRECTION OF TRAVEL



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ENTRANCE-RAMP

PAVEMENT MARKING FOR PARALLEL ON-RAMP AND PARALLEL OFF-RAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept., 2017
DATE

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

FHWA

6

S.D.D. 15 C 31-3c

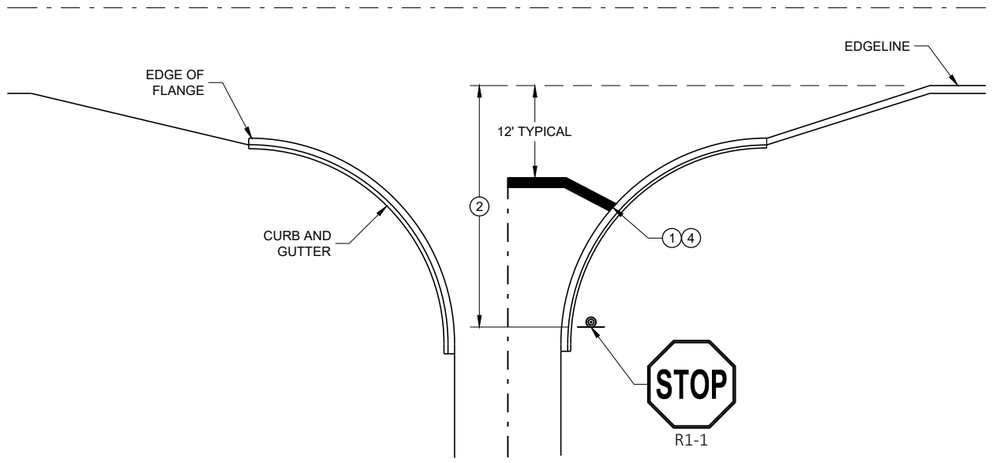
6

S.D.D. 15 C 31-3c

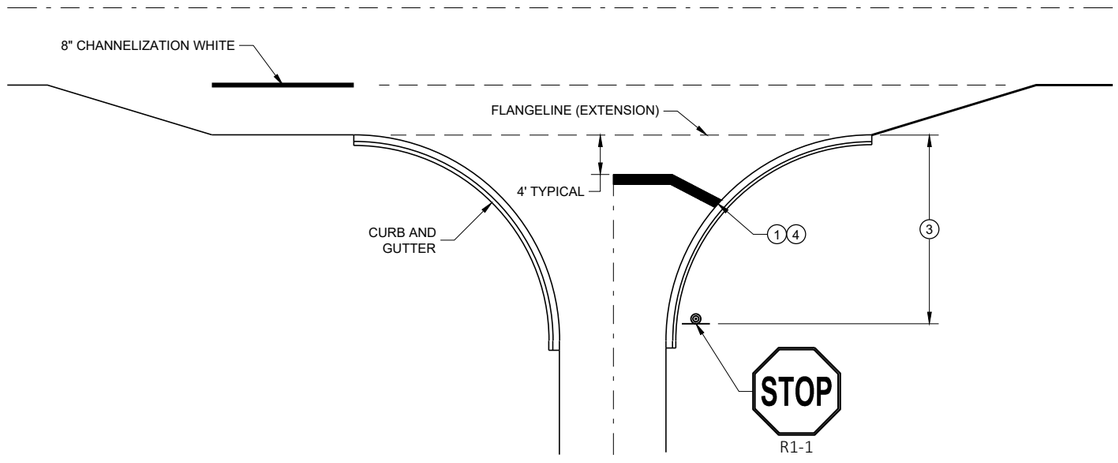
GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

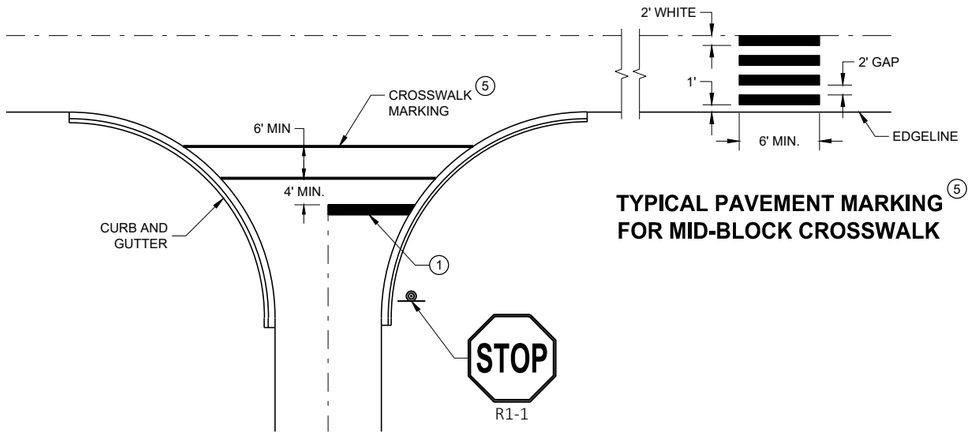
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION.
4. MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
5. LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES INSTEAD.



TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER

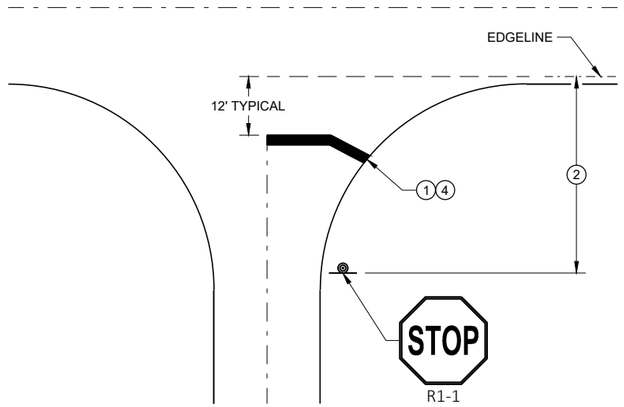


TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK 5

TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE

/S/ Matthew Rauch
STATE SIGNING AND MAF ENGINEER

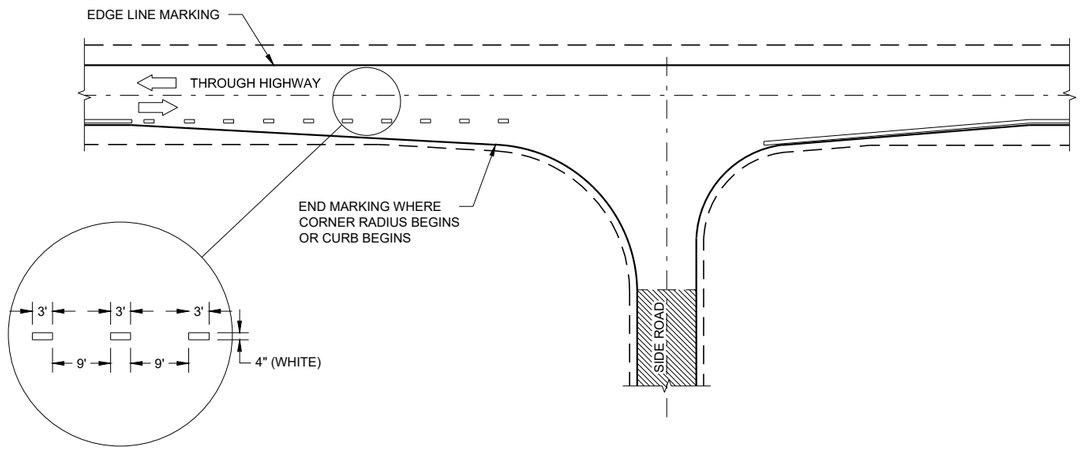
FHWA

6

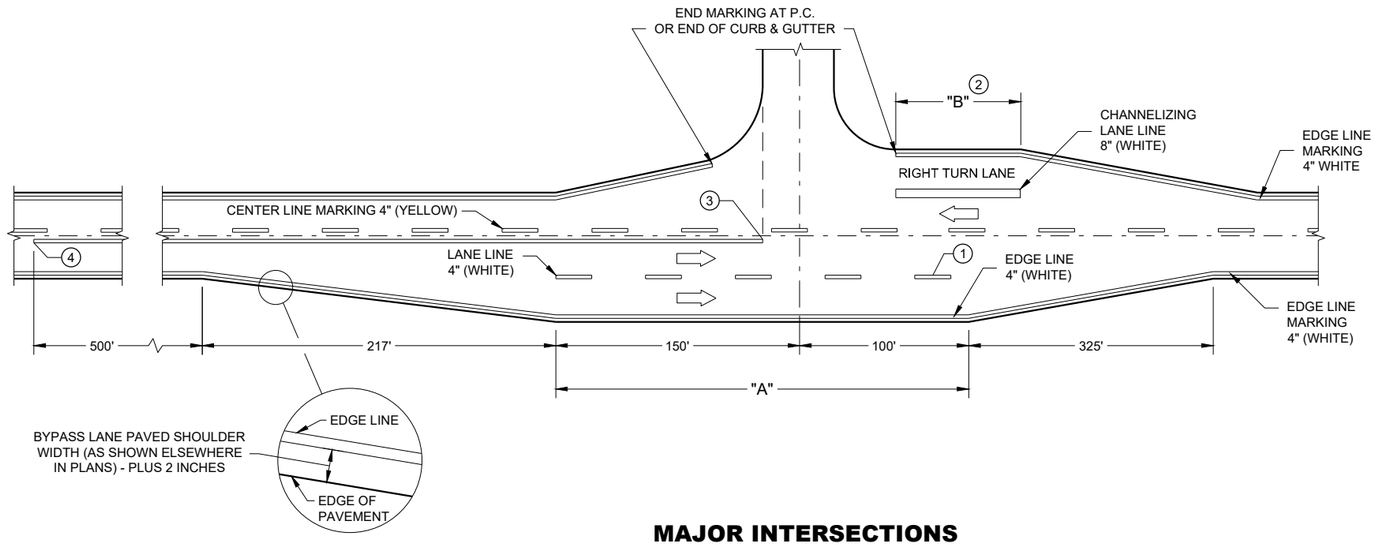
SDD 15C33 - 04

6

SDD 15C33 - 04



MINOR INTERSECTION



MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

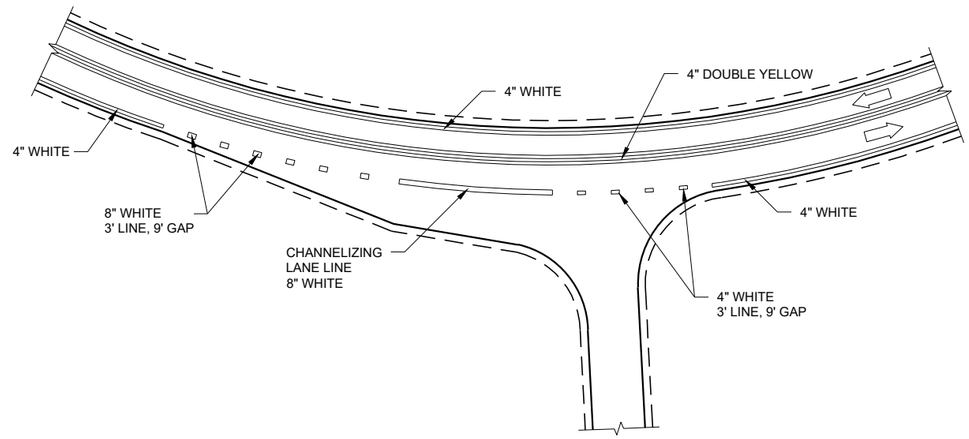
GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

1. WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
2. WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
3. BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
4. BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

LEGEND

DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING (INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 15C35 - 04a

SDD 15C35 - 04a

GENERAL NOTES

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

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

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

ALL SIGNS ARE 48" 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.

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.

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

(2) IF NEEDED. USE ONLY IF DESIGN SPEED IS 10 MPH LESS THAN POSTED SPEED.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- REMOVING PAVEMENT MARKING
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA

OR

R2-1
48"X60"

OR

R2-1
48"X60"

IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES.

LOCATED 400 FEET BEYOND THE W20- 5G SIGN.

SEE SDD 15D12b FOR SIGN PLACEMENT.

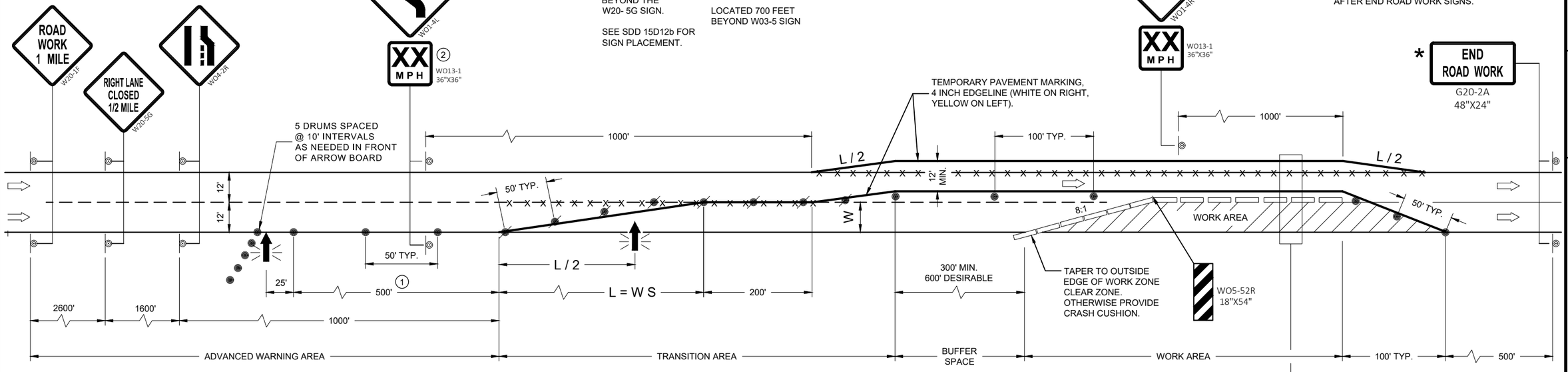
(BLACK AND WHITE)

LOCATED 700 FEET BEYOND W03-5 SIGN

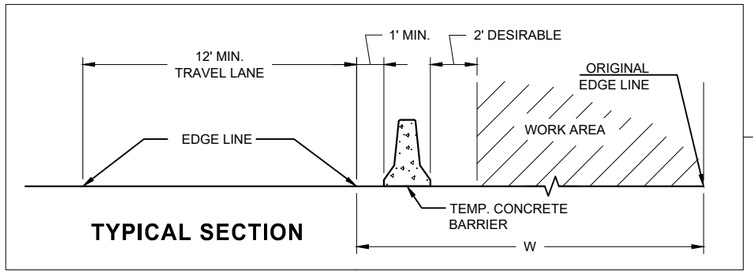
WO13-1
36"X36"

* INCLUDE RESUME SPEED LIMIT SIGN A MINIMUM OF 200 FEET (500 FEET DESIRABLE) AFTER END ROAD WORK SIGNS.

G20-2A
48"X24"



L, TAPER LENGTH (MPH)												
SPEED (MPH)	W, LATERAL OFFSET (FT)											
	1	2	3	4	5	6	7	8	9	10	11	12
45	45	90	135	180	225	270	315	360	405	450	495	540
50	50	100	150	200	250	300	350	400	450	500	550	600
55	55	110	165	220	275	330	385	440	495	550	605	660
60	60	120	180	240	300	360	420	480	540	600	660	720
65	65	130	195	260	325	390	455	520	585	650	715	780
70	70	140	210	280	350	420	490	560	630	700	770	840



TYPICAL SECTION

TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 MPH WITH BARRIER

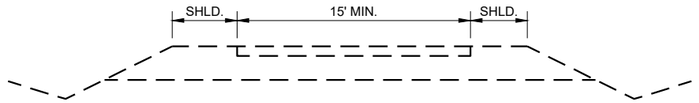
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINE

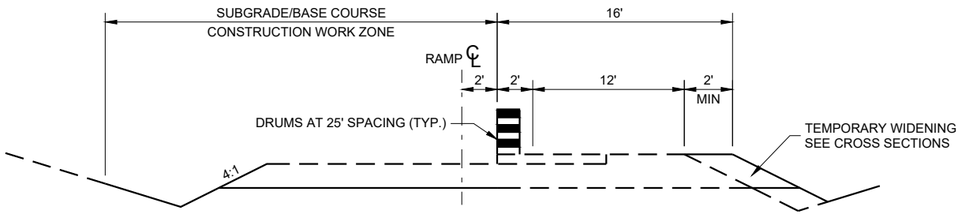
FHWA

SDD 15D03-05

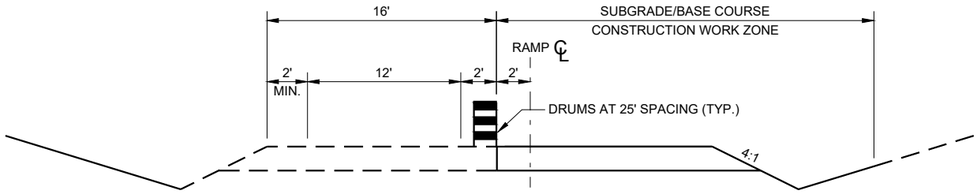
SDD 15D03-05



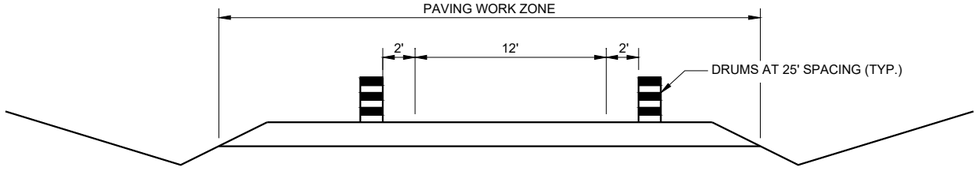
INITIAL RAMP - TYPICAL



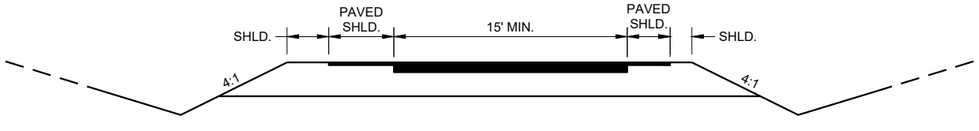
STAGE I - CONSTRUCTION TO SUBGRADE, LEFT



STAGE II - CONSTRUCTION TO SUBGRADE, RIGHT



STAGE III - TRAFFIC ON BASE COURSE



STAGE IV - PAVING

GENERAL NOTES

WORK SHALL BE SCHEDULED FOR ALL STAGES TO MINIMIZE INCONVENIENCE TO THE TRAFFIC USING THE RAMP WHILE IT IS ONLY BASE COURSE.

IN STATE III, A MINIMUM 12' LANE WIDTH SHALL BE DELINEATED WITH DRUMS ALONG BOTH EDGES AT ALL TIMES UNTIL PAVED AND PAVEMENT MARKINGS ARE PLACED.

6

TRAFFIC CONTROL, RAMP CONSTRUCTION STAGING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 1994
DATE

/S/ Chester J. Spano
DIRECTOR, OFFICE OF TR

377

FHWA

SDD 15D04 - 01

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- DELINEATOR, FLEXIBLE/TUBULAR MARKER
- TEMPORARY DELINEATOR (STEEL POST W/SINGLE DELINEATOR)
- PORTABLE CRASH CUSHION
- CONCRETE BARRIER TEMPORARY PRECAST
- REMOVE PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

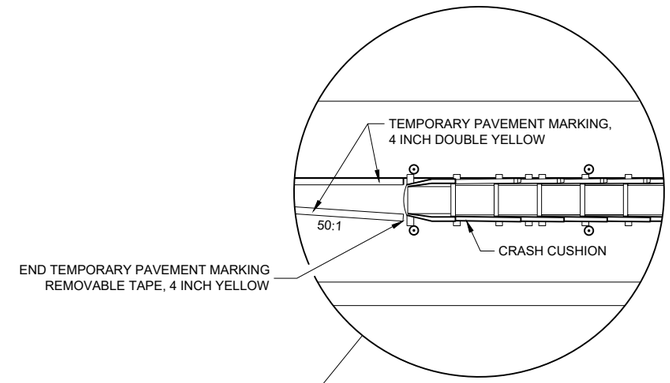
"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

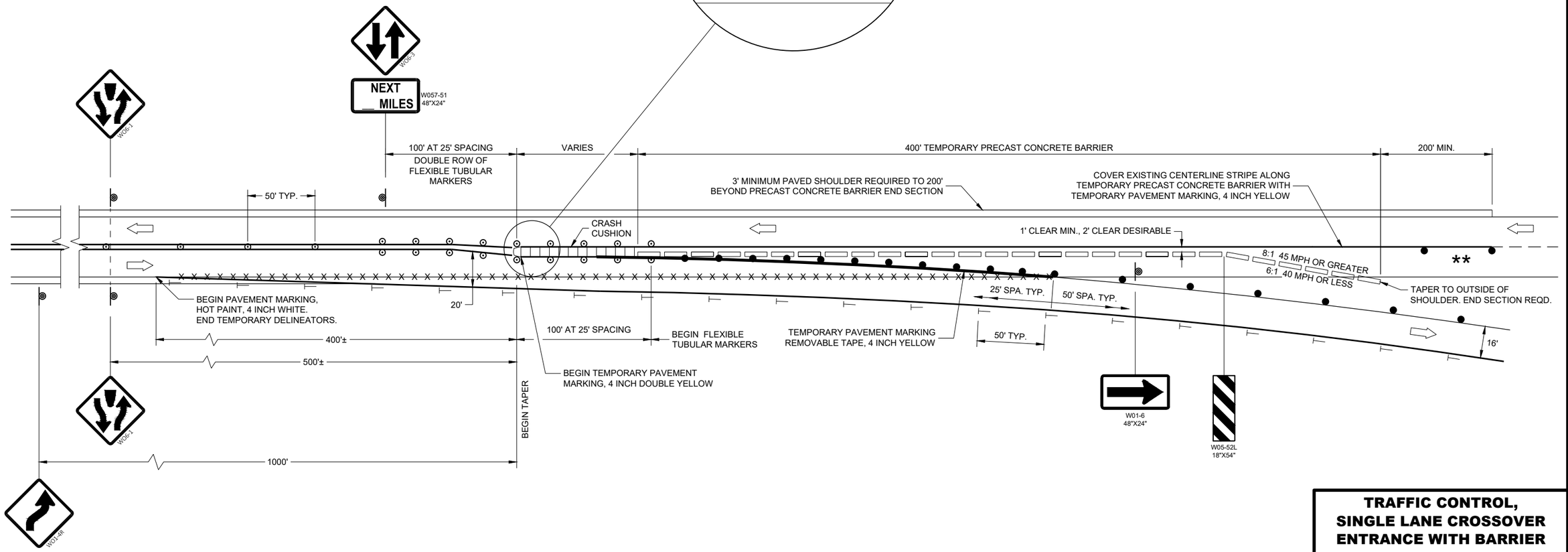
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS.

** SEE SDD 15D12 FOR LANE CLOSURE DETAILS.





TRAFFIC CONTROL, SINGLE LANE CROSSOVER ENTRANCE WITH BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2015 — DATE
/S/ Andrew Heidtke — STATEWIDE WORK ZONE T SAFETY ENGINEER
FHWA

SDD 15D05 - 04

SDD 15D05 - 04

LEGEND

SIGN ON PERMANENT SUPPORT

DELINEATOR, FLEXIBLE/TUBULAR MARKER

DIRECTION OF TRAFFIC

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS.

A SINGLE ROW OF FLEXIBLE TUBULAR MARKERS ON CENTERLINE EXTEND FOR THE ENTIRE LENGTH OF TWO-WAY TRAFFIC AT 50 FOOT SPACING.

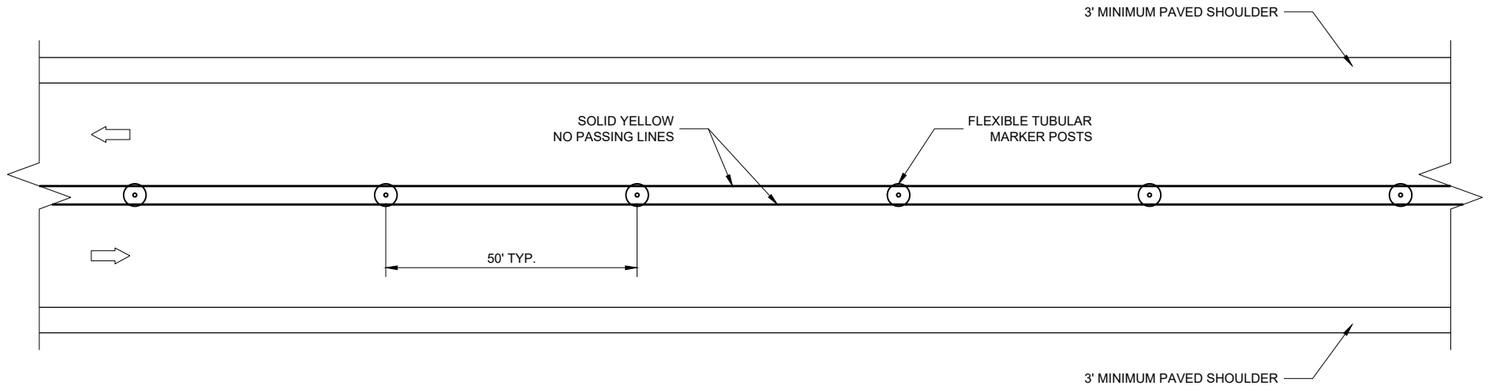
COVER EXISTING CENTERLINE STRIPE WITH TEMPORARY PAVEMENT MARKING, 4 INCH DOUBLE YELLOW.

(1)

(2)

(1) THE WO6-3 AND WO57-51 SHALL BE LOCATED 200 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP AND / OR 500 FEET BEYOND ANY SIDE ROAD. THE R4-1 SHALL BE LOCATED 1000 FEET BEYOND THE WO6-3 AND THE WO57-51 AND THE SIGNS SHALL BE ALTERNATED WITH ONE MILE INTERVALS BETWEEN THE SIGNS.

(2) CONVENTIONAL: 24" X 30"
FREEWAY AND EXPRESSWAY: 36" X 48"



TWO LANE, TWO WAY OPERATION

TRAFFIC CONTROL
TWO LANE TWO WAY
OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Andrew Heidtke
STATE TRAFFIC ENGINEER

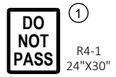
FHWA

6

SDD 15D06 - 04

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- DELINEATOR FLEXIBLE / TUBULAR MARKER
- TEMPORARY DELINEATOR (STEEL POST DELINEATOR) COLOR OF DELINEATOR SHALL MATCH THE RESPECTIVE EDGE LINE MARKING
- DIRECTION OF TRAFFIC
- REMOVE PAVEMENT MARKINGS



① R4-1 24"X30"

INSTALL THE R4-1 SIGN 1000 FEET BEYOND THE WO6-3 SIGN WITH THE WO57-51 AND ALTERNATE THE SEQUENCE OF THESE SIGNS EVERY 1 MILE.

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

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

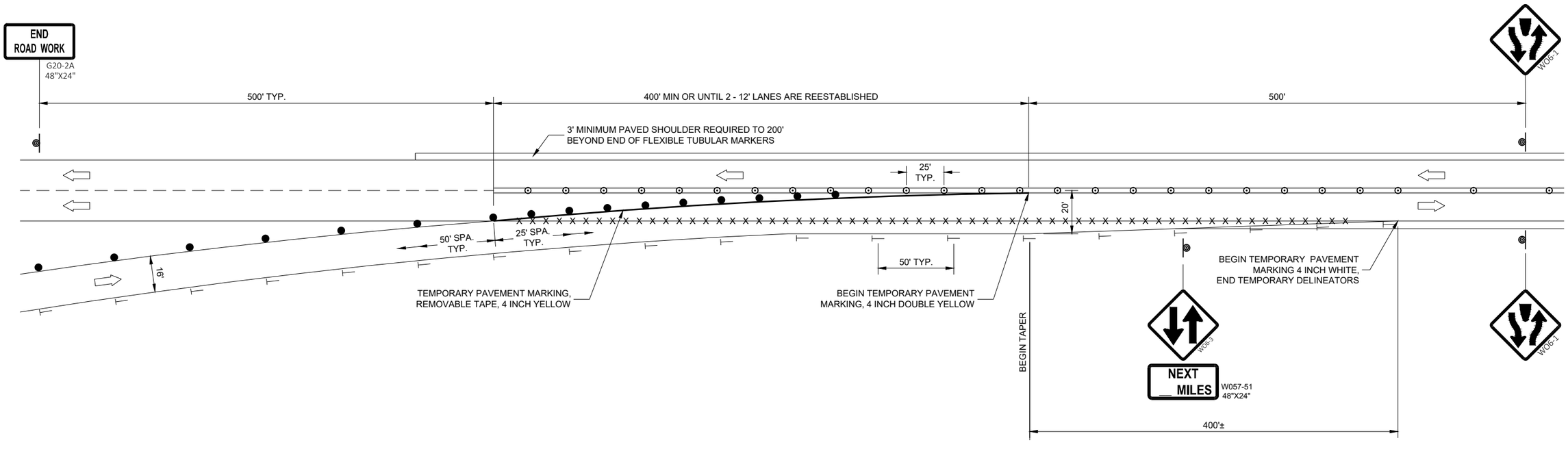
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS.

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE SHALL BE USED WHEN CROSSING PERMANENT ROADWAY SURFACES THAT WILL REMAIN AFTER USED OF CROSSOVER.

① CONVENTIONAL: 24" X 30"
FREEWAY AND EXPRESSWAY: 36" X 48"



TRAFFIC CONTROL, SINGLE LANE CROSSOVER EXIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

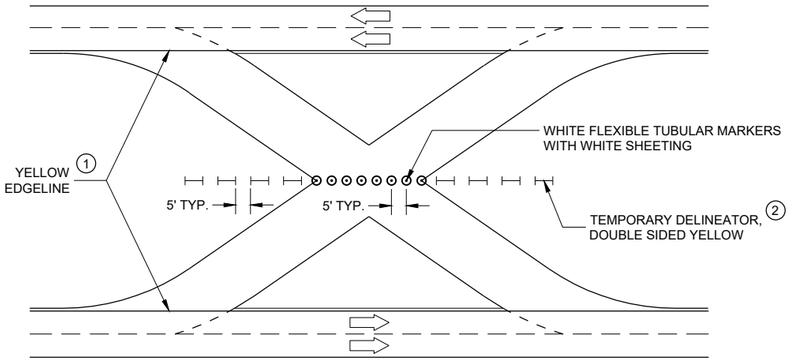
FHWA

SDD 15D09 - 05

SDD 15D09 - 05

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- DELINEATOR FLEXIBLE / TUBULAR MARKER
- TEMPORARY DELINEATOR (STEEL POST WITH SINGLE DELINEATOR) COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE RESPECTIVE EDGELINE MARKING
- TEMPORARY DELINEATOR (DOUBLE SIDED)
- TYPE "A" WARNING LIGHT (FLASHING)
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- REMOVE PAVEMENT MARKINGS
- WORK AREA



TRAFFIC CONTROL FOR CROSSOVER THAT IS NOT IN USE

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

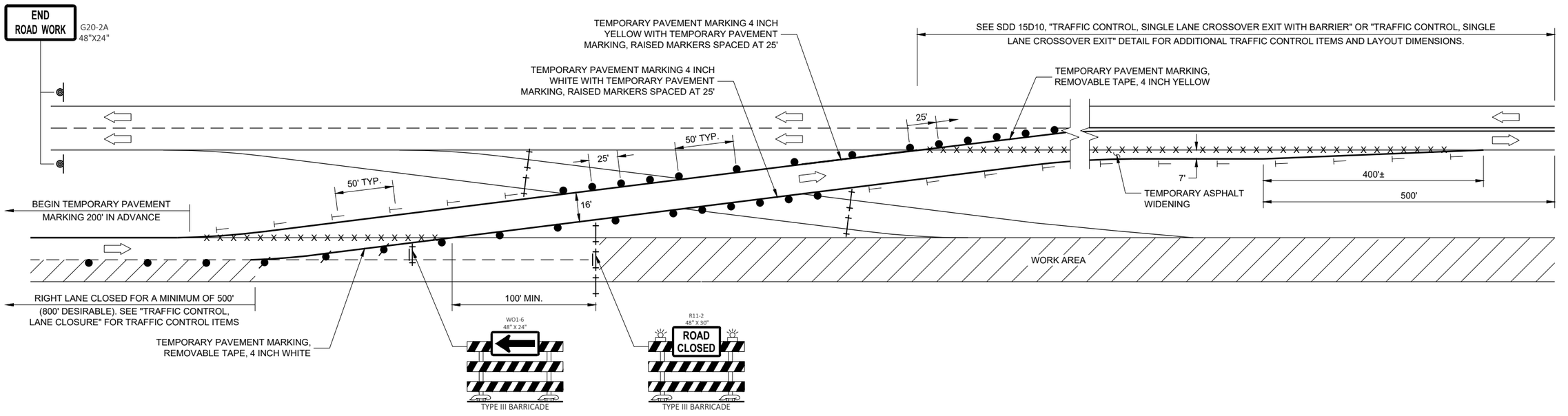
THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

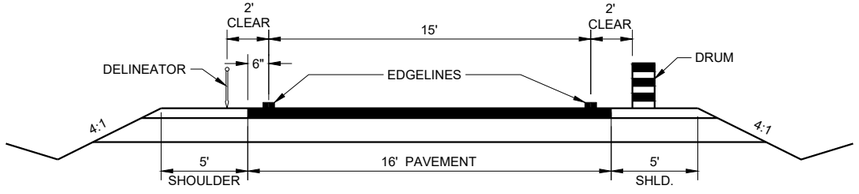
THE SPACING BETWEEN PROPOSED SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS.

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE SHALL BE USED WHEN CROSSING PERMANENT ROADWAY SURFACES THAT WILL REMAIN AFTER USED OF CROSSOVER AND TEMPORARY PAVEMENT MARKING WHERE USED.

REVERSE DEVICES WHEN OTHER LEG OF CROSSOVER IS IN USE.

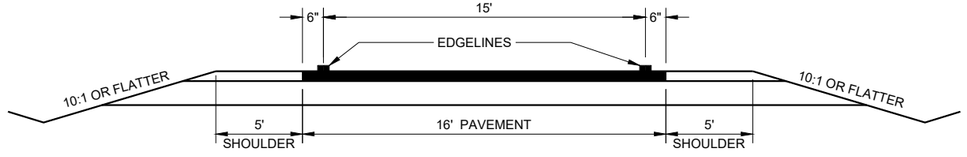
1. FOR PERMANENT CROSSOVER, PAVEMENT MARKING SHOULD CONFORM TO SECTION 646 OF THE STANDARD SPECIFICATIONS.
2. FOR PERMANENT CROSSOVER, INSTALL PERMANENT DELINEATORS ACCORDING TO SECTION 633 OF THE STANDARD SPECIFICATIONS.





TYPICAL TEMPORARY CROSSOVER ROADWAY DIMENSIONS

(SEE PLAN FOR ROADWAY DESIGN ELEMENTS)



TYPICAL CROSSOVER TO REMAIN IN PLACE ROADWAY DIMENSIONS

(SEE PLAN FOR ROADWAY DESIGN ELEMENTS)

TRAFFIC CONTROL, SINGLE LANE CROSSOVER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
September 2017
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

SDD 15D11 - 07

SDD 15D11 - 07

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.

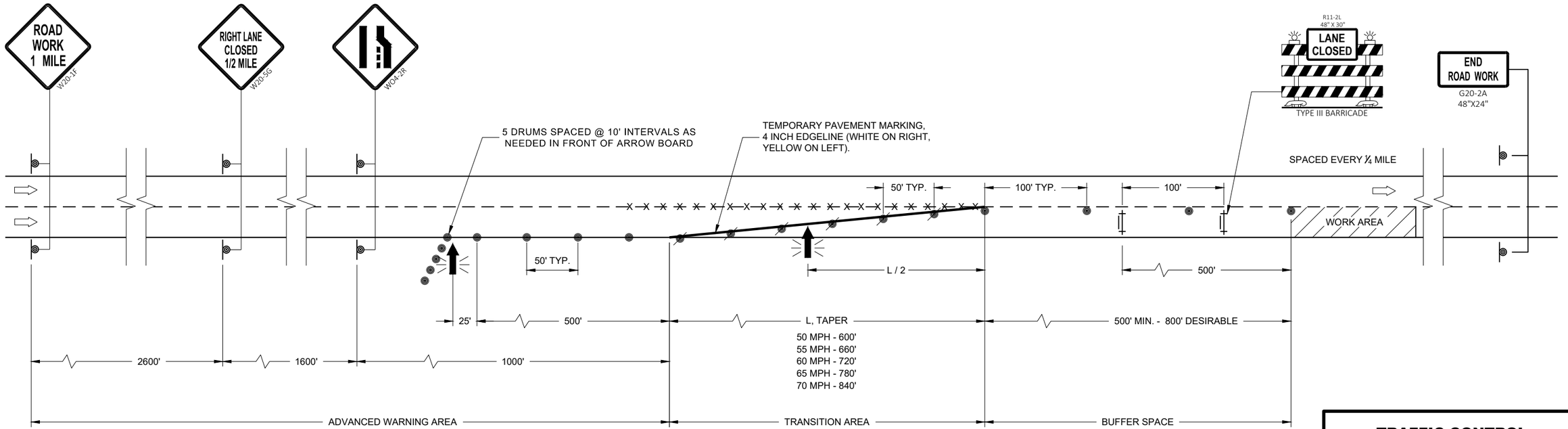
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15D12 - 08a

6

SDD 15D12 - 08a

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
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN
- FBS — FLASHING BEACON SIGNS

STOPPED OR SLOW TRAFFIC WHEN FLASHING
W8-76
60x36

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.

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

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

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

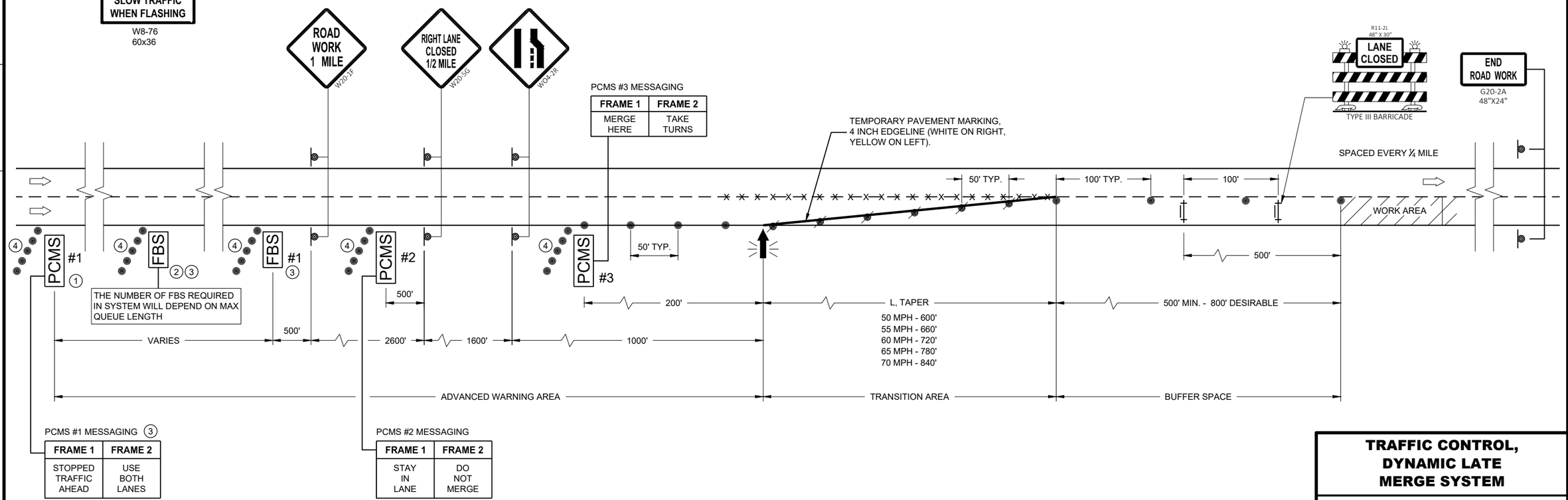
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

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.

1. PLACE PCMS #1 ONE MILE BEYOND ESTIMATED MAXIMUM QUEUE LENGTH. PLACE FLASHING BEACON SIGNS EVERY ONE MILE BETWEEN THE W20 - 1F AND PCMS #1 BEYOND ESTIMATED QUEUE.
2. PLACE FLASHING BEACON SIGNS EVERY ONE MILE BETWEEN PCMS #1 AND FBS #1. THE NUMBER OF FBS MAY BE MORE THAN SHOWN ON THIS DETAIL.
3. FOR THREE LANE CONFIGURATION, PLACE FBS ON BOTH SIDES OF ROADWAY. CHANGE PCMS #1 FRAME 2 MESSAGE TO "USE ALL LANES".
4. 5 DRUMS SPACED @ 10' INTERVALS AS NEEDED.



TRAFFIC CONTROL, DYNAMIC LATE MERGE SYSTEM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

SDD 15D12 - 08c

SDD 15D12 - 08c

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
- FBS — FLASHING BEACON SIGN

STOPPED OR SLOW TRAFFIC WHEN FLASHING
W8-76
60x36

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS, INCLUDING FBS 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" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED OR AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED SIGNS.

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.

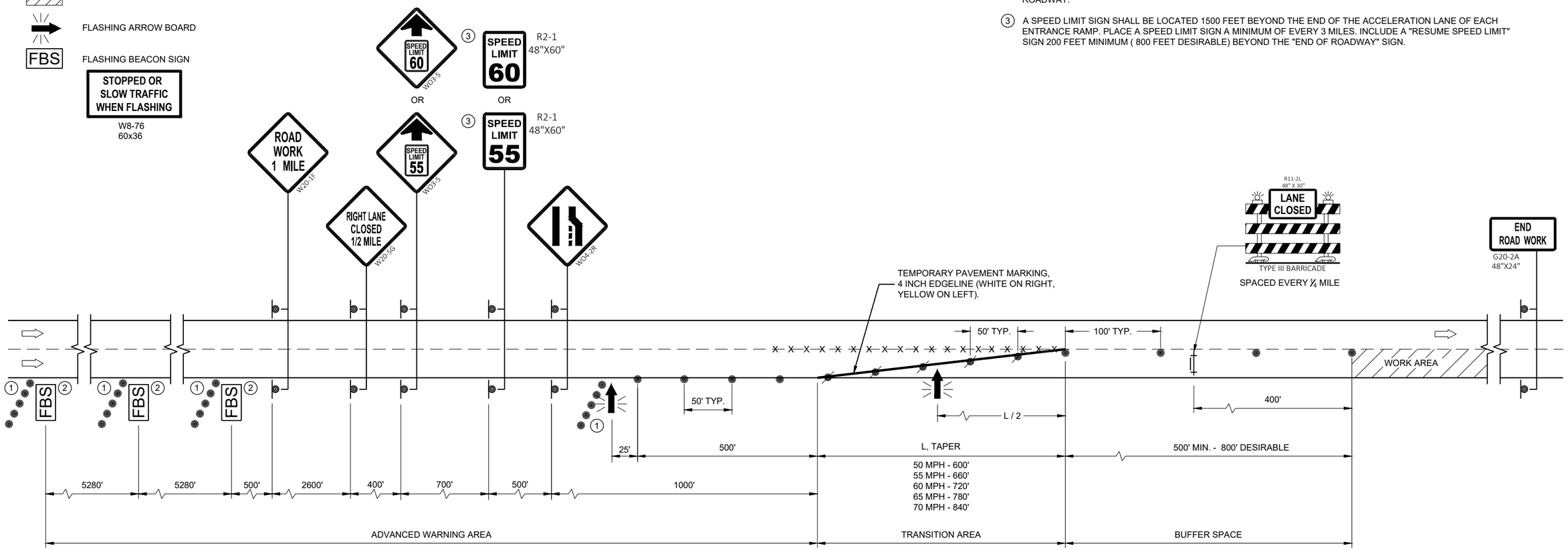
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP 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.

1. 5 DRUMS SPACED AT 10 FOOT INTERVALS AS NEEDED.
2. IF THERE ARE MORE THAN TWO LANES OR IF SPECIFIED IN THE PLANS, PLACE FBS ON BOTH SIDES OF THE ROADWAY.
3. A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A "RESUME SPEED LIMIT" SIGN 200 FEET MINIMUM (800 FEET DESIRABLE) BEYOND THE "END OF ROADWAY" SIGN.



TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

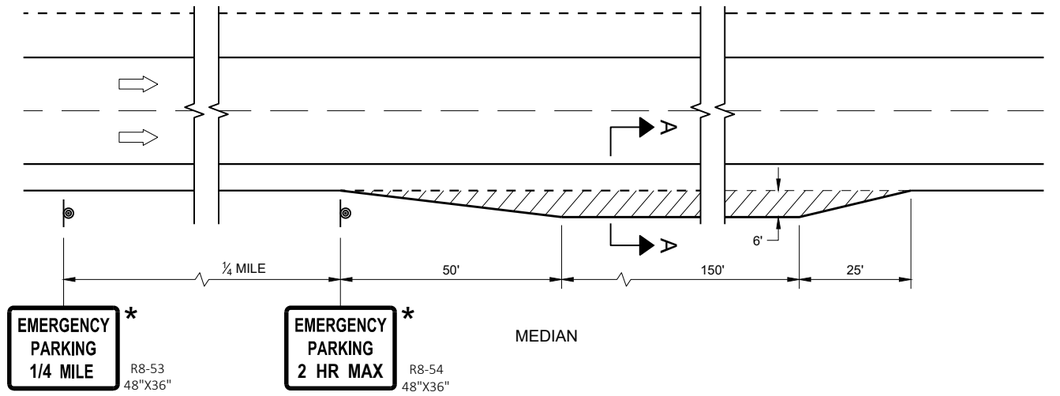
APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

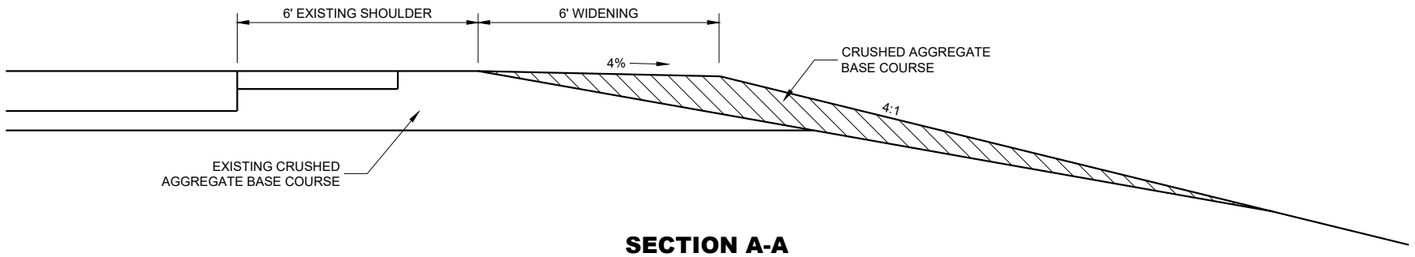
FHWA

SDD 15D12 - 08d

SDD 15D12 - 08d



TEMPORARY EMERGENCY PULLOUTS FOR DIVIDED HIGHWAYS



SECTION A-A

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIAL AND WORKMANSHIP NO SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, APPLICABLE SPECIAL PROVISIONS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

TEMPORARY EMERGENCY PULLOUTS AND SIGNS SHALL BE REMOVED AND THE ROADWAY RESTORED TO ITS ORIGINAL CROSS SECTION AND CONDITION PRIOR TO REOPENING THE ROADWAY TO ONE WAY TRAFFIC.

* SIGNS TO BE BLACK LETTERS ON WHITE REFLECTIVE BACKGROUND

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

TEMPORARY EMERGENCY PULLOUTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2013
DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER O

FHWA

6

SDD 15D13 - 02

6

SDD 15D13 - 02

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

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

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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

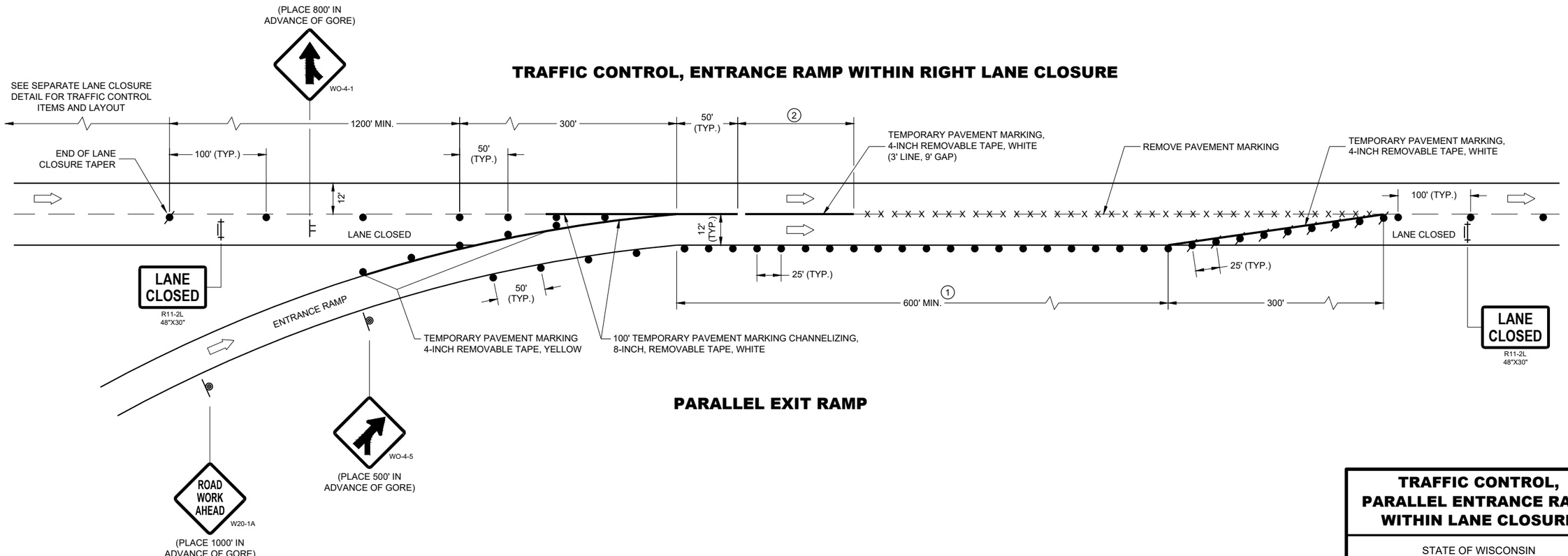
REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

(1) EXTEND THE LENGTH OF THE MERGE ARE IF THE ENTERING (DESIGN) SPEED IS LESS THAN 50MPH OR IF THE MAINLINE GRADE EXCEEDS ±2.2%.

(2) END TEMPORARY MARKING AT ½ THE LENGTH OF FULL WIDTH OF THE ACCELERATION LANE.

TRAFFIC CONTROL, ENTRANCE RAMP WITHIN RIGHT LANE CLOSURE



PARALLEL EXIT RAMP

TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

6

SDD 15D15 - 05a

6

SDD 15D15 - 05a

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

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

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS /OR DRUMS IN THE GORE BETWEEN THE EXIT RAMP AND MAINLINE TRAFFIC.

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

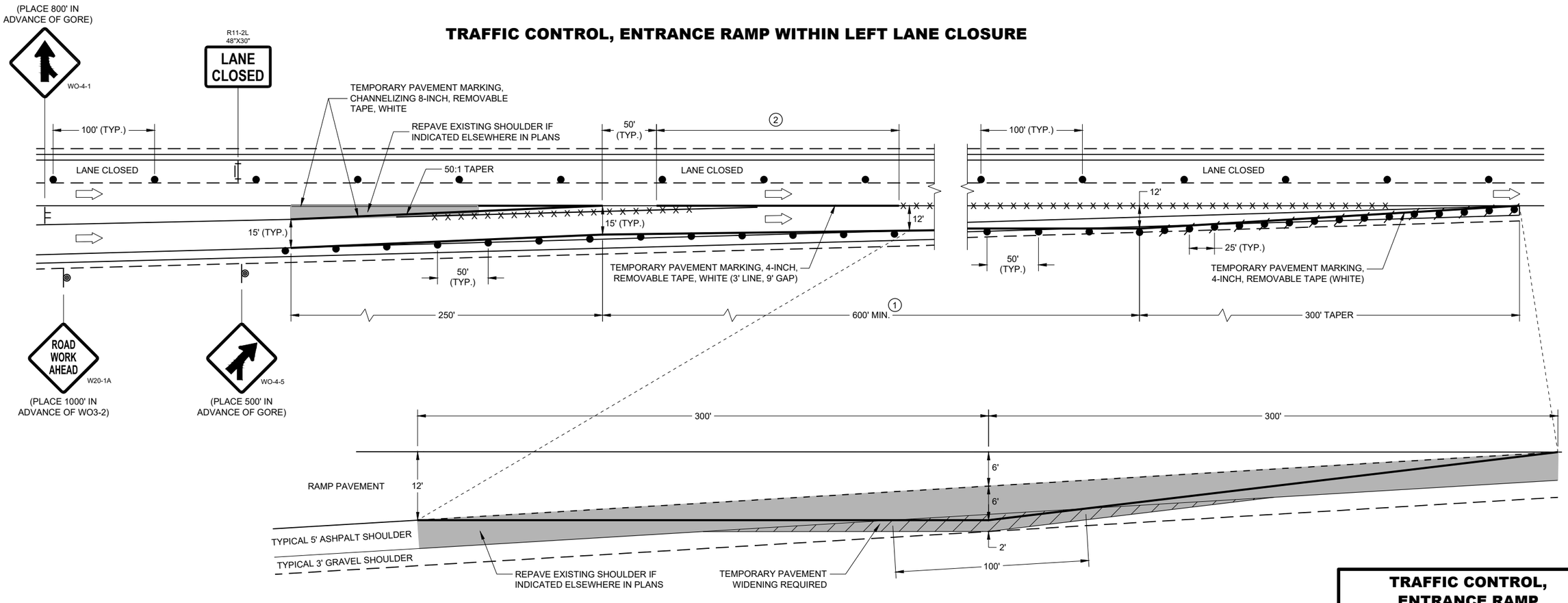
REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

(1) EXTEND THE LENGTH OF THE MERGE AREA IF THE ENTERING (DESIGN) SPEED OF THE RAMP IS LESS THAN 50 MPH OR IF THE MAINLINE GRADE EXCEEDS ±2.2%.

(2) END TEMPORARY MARKING AT ½ THE LENGTH OF FULL WIDTH OF THE ACCELERATION LANE.

TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LEFT LANE CLOSURE



TEMPORARY PAVEMENT DETAIL

(EXISTING RAMP DIMENSIONS MAY VARY, ADJUST TEMPORARY PAVEMENT ACCORDINGLY)

TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15D15 - 05b

6

SDD15D15 - 05b

LEGEND

SIGN ON PERMANENT SUPPORT

SIGN ON TEMPORARY SUPPORT

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)

TYPE III BARRICADE WITH ATTACHED SIGN

FLAGS, 16" X 16" MIN., ORANGE

DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

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

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

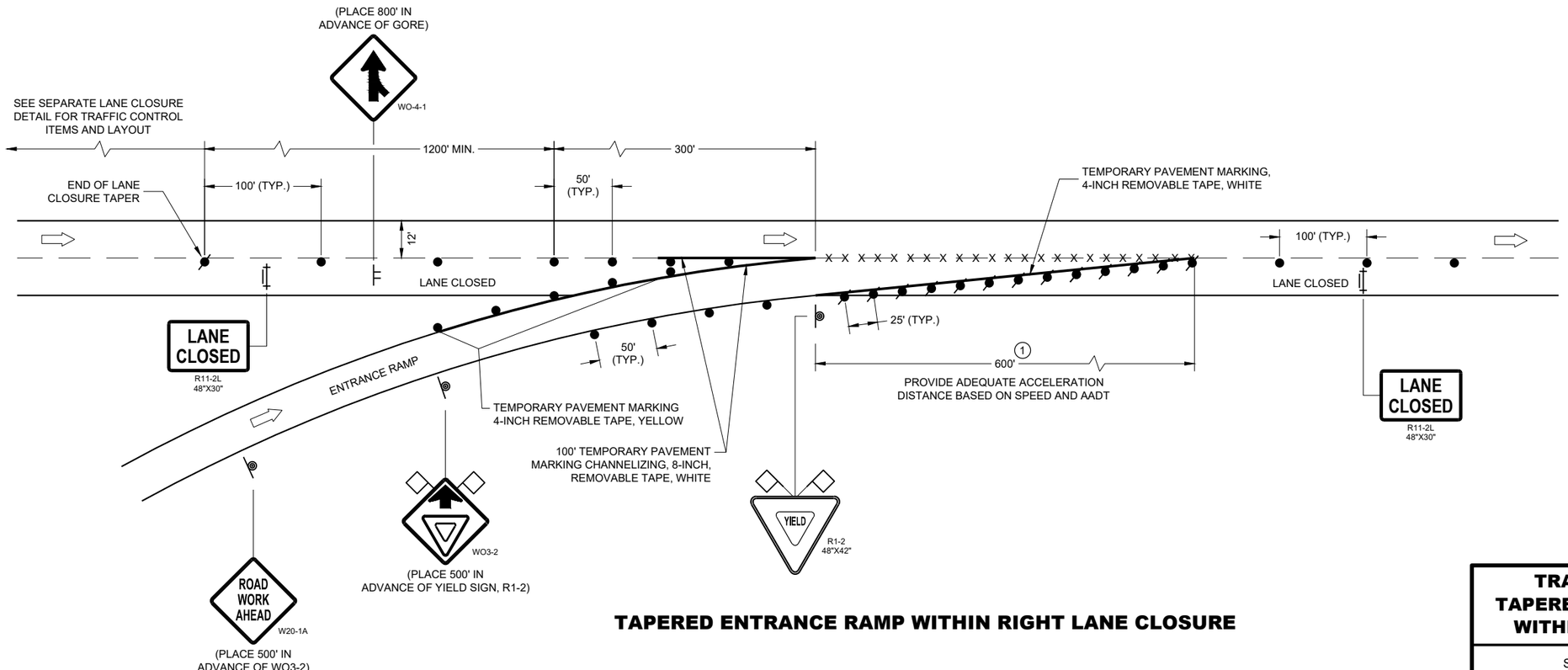
IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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

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

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

(1) CONSULT WITH REGIONAL WORK ZONE ENGINEER IF NEED TO REDUCE LENGTH EXISTS.



TAPERED ENTRANCE RAMP WITHIN RIGHT LANE CLOSURE

TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15D15 - 05c

LEGEND

SIGN ON PERMANENT SUPPORT

SIGN ON TEMPORARY SUPPORT

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

TYPE III BARRICADE WITH ATTACHED SIGN

FLAGS, 16" X 16" MIN., ORANGE

DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

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

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

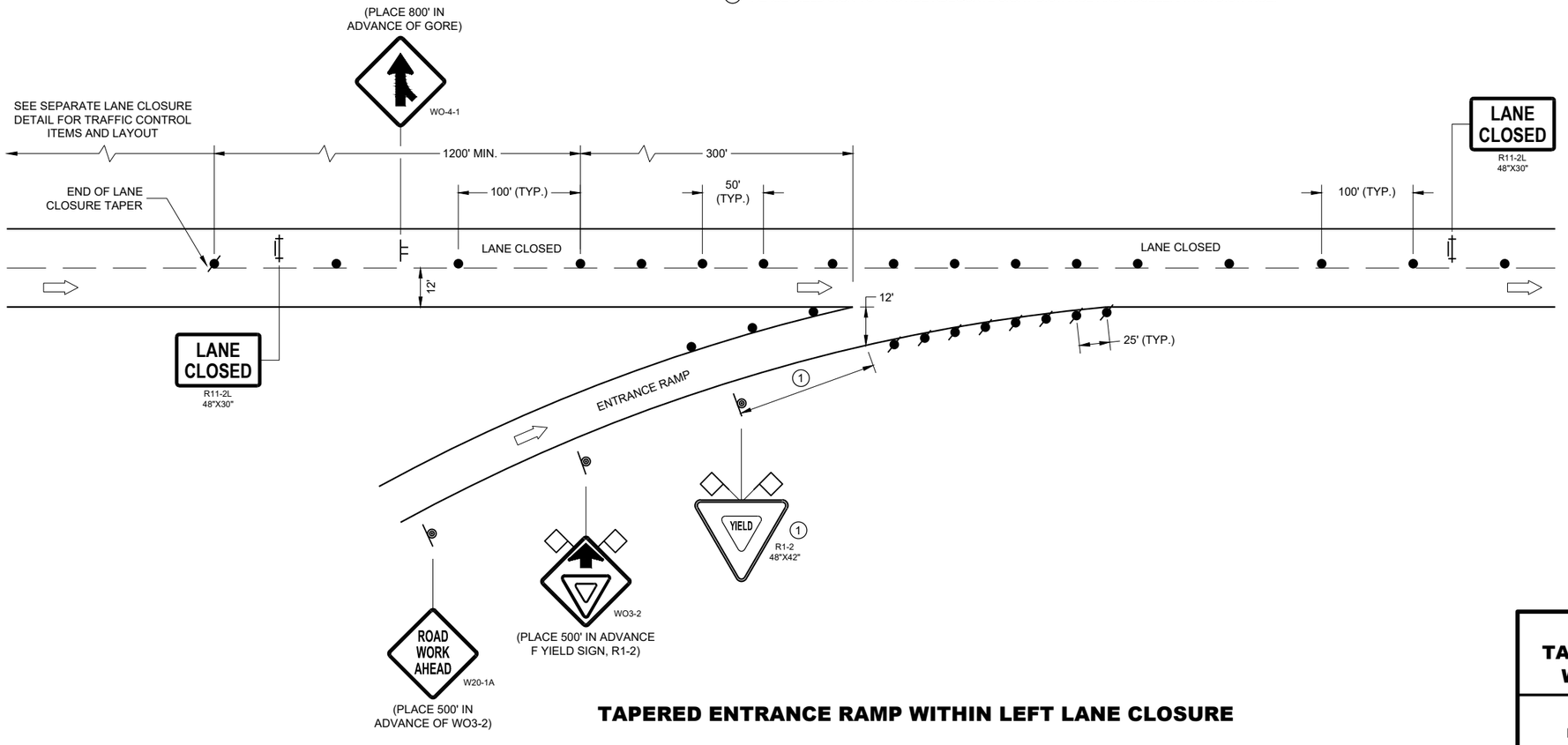
IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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

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

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

(1) PLACE YIELD SIGN TO PROVIDE ADEQUATE SIGHT DISTANCE AND ACCELERATION DISTANCE.



TAPERED ENTRANCE RAMP WITHIN LEFT LANE CLOSURE

TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15D15 - 05d

6

SDD15D15 - 05d

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

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

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

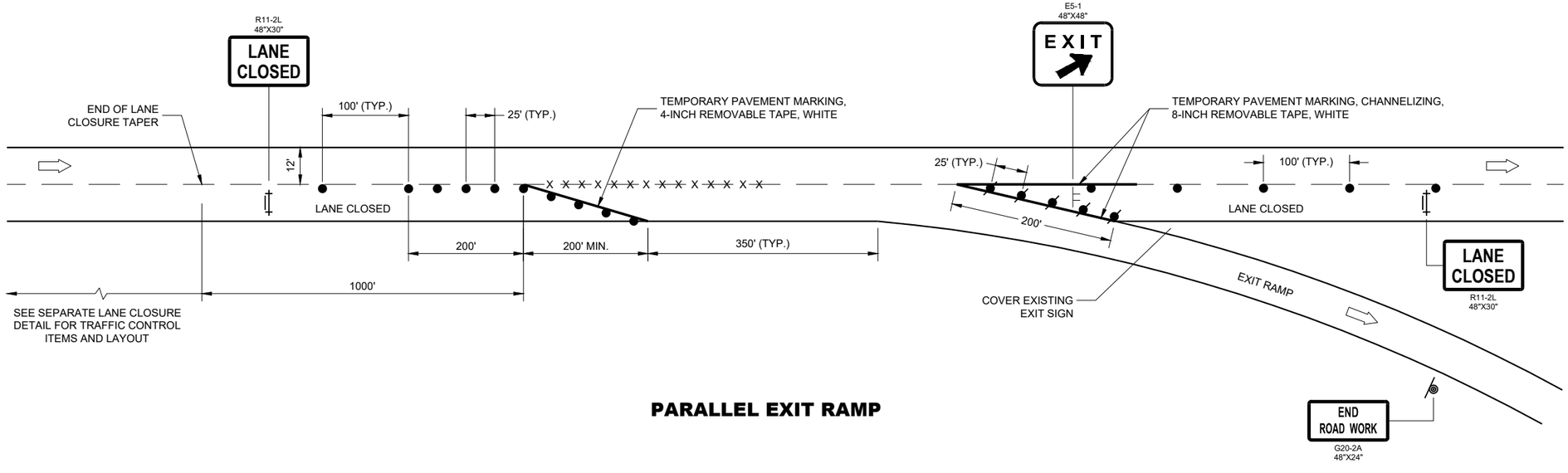
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE EXIT RAMP AND MAINLINE TRAFFIC.

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

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

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



PARALLEL EXIT RAMP

TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

6

SDD 15D15 - 05e

6

SDD 15D15 - 05e

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.

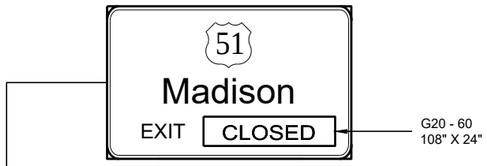
PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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.

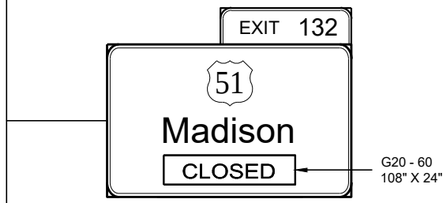
WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12 - HOUR DURATION.

* 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.



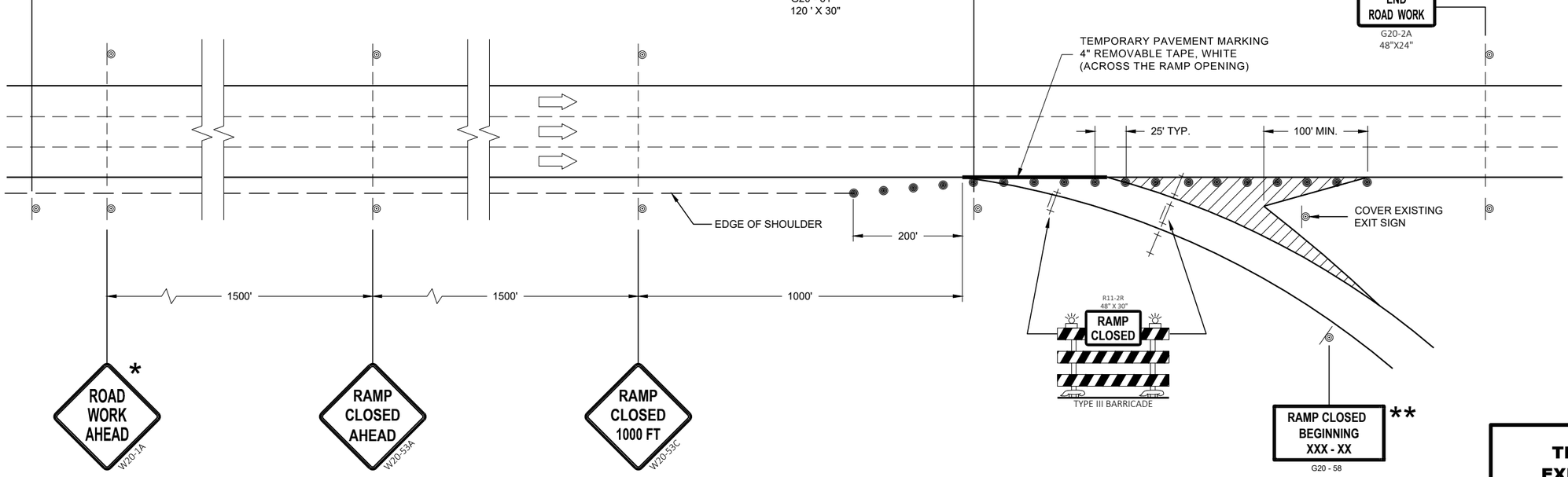
OR



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
WORK ZONE ENGINEER

FHWA

SDD 15D16 - 04

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.

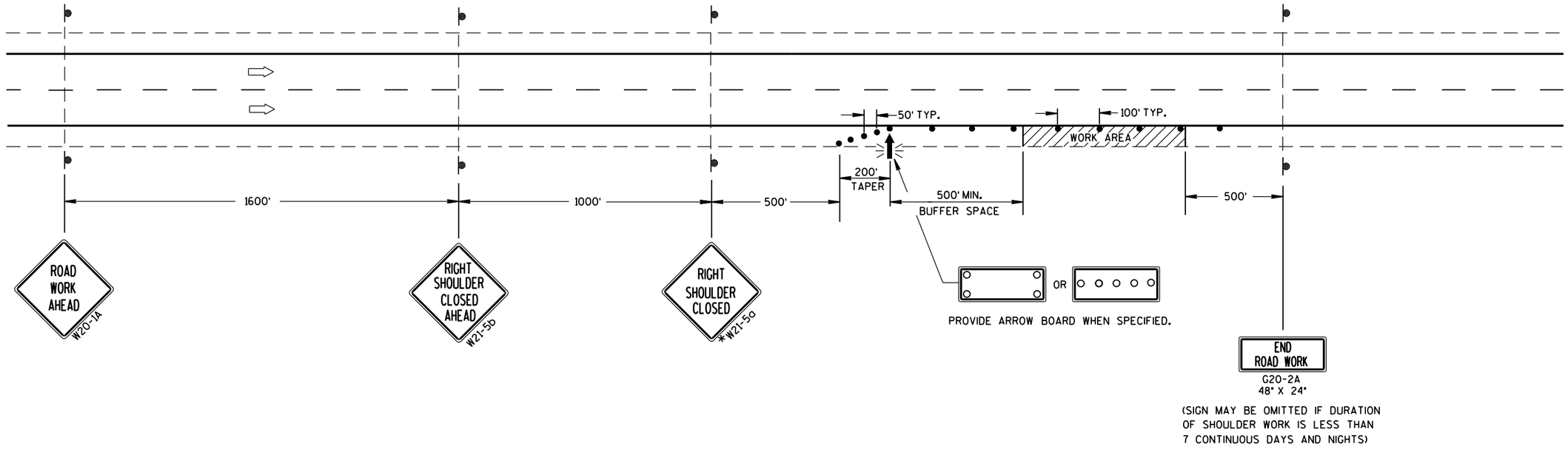
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

LEGEND

TYPE III BARRICADE WITH ATTACHED SIGN

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

TRAFFIC CONTROL DRUM

FLAGS, 16" X 16" MIN. (ORANGE)

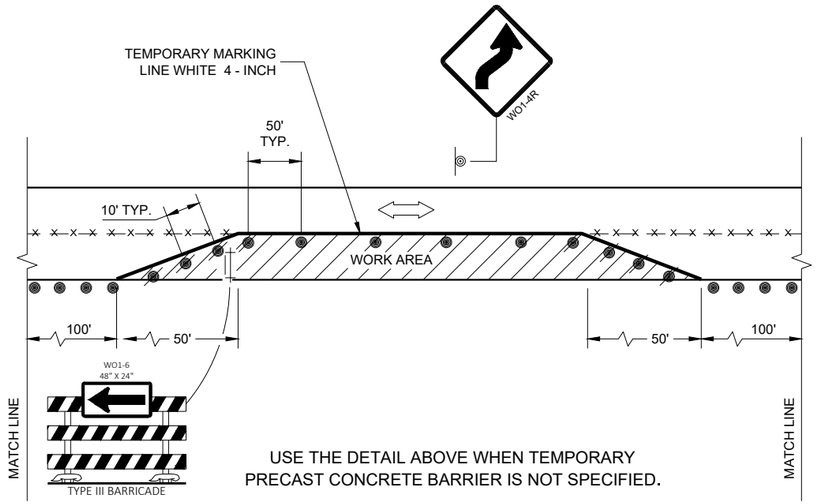
REMOVING PAVEMENT MARKING

DIRECTION OF TRAFFIC

ASPHALTIC PAVEMENT WIDENING

CONCRETE BARRIER TEMPORARY PRECAST

TEMPORARY SIGNAL. SEE SDD 09G02 FOR EXACT PLACEMENT



USE THE DETAIL ABOVE WHEN TEMPORARY PRECAST CONCRETE BARRIER IS NOT SPECIFIED.

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

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.

PLACE TEMPORARY PAVEMENT MARKING EDGELINE AND CENTERLINE AND REMOVE EXISTING PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS OR AS NOTED ON DETAIL.

(1) 500 FOOT SPACING SHOWN IS FOR ROADWAYS WITH A PRE-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35 - 40 MPH, USE 350 FOOT TYPICAL SPACING. FOR 25 - 30 MPH, USE 200 FOOT TYPICAL SPACING.

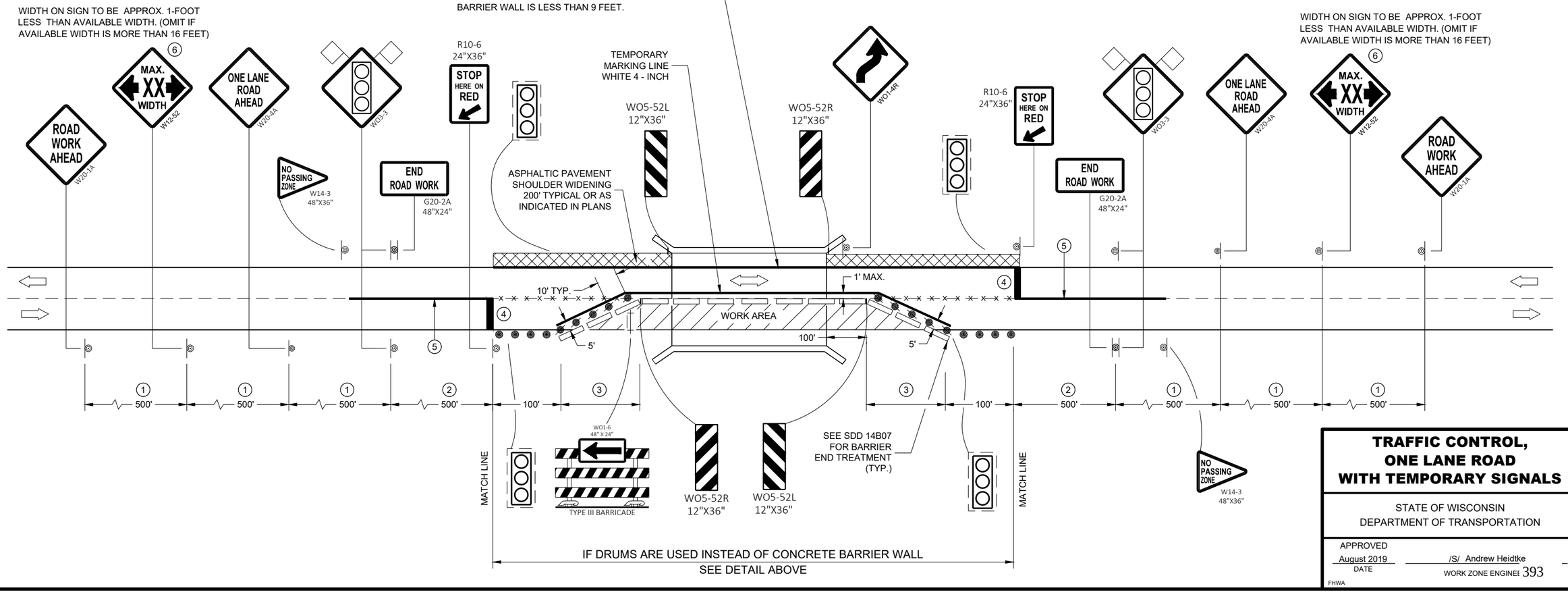
(2) USE 300 FOOT SPACING IF THE PRE - CONSTRUCTION REGULATORY SPEED IS 35 MPH OR LESS.

(3) DIMENSION DETERMINED BY CBTP TAPER FROM EDGE LINE TO TANGENT SECTION OF THE ROAD.

(4) TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18 - INCH.

(5) 700 FOOT TEMPORARY MARKING LINE, DOUBLE YELLOW 4 - INCH . WHEN THE DISTANCE FOR THE PRECEDING NO - PASSING ZONE IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES AS INDICATED IN THE SPECIFICATIONS, THE TWO ZONES SHALL BE CONNECTED.

(6) SEE SDD 15C02 - SHEET "F" FOR ADVANCED WIDTH RESTRICTION SIGNING.



TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

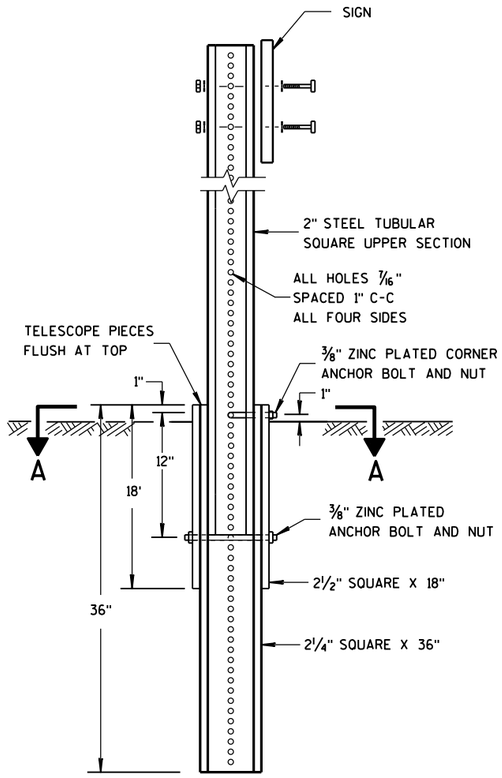
APPROVED
August 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

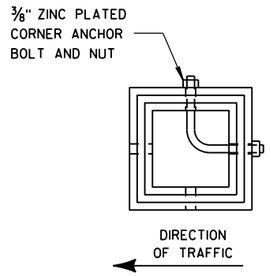
FHWA

SDD 15D33 - 06

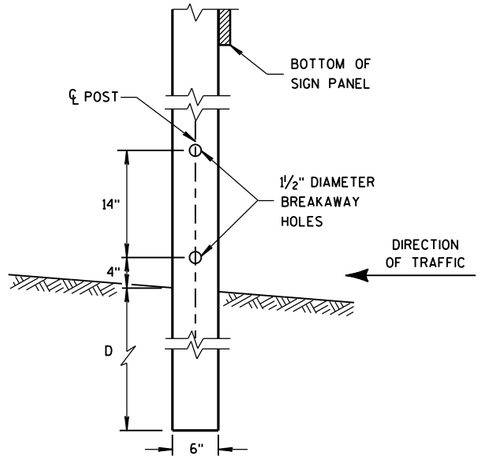
SDD 15D33 - 06



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



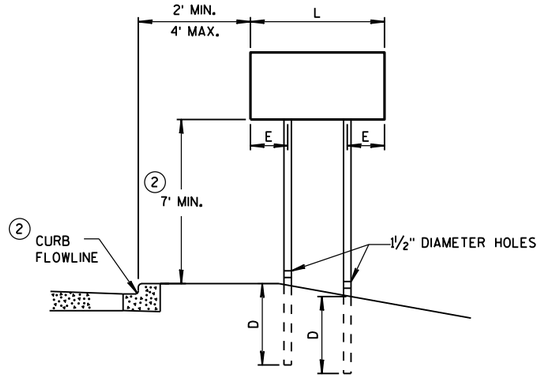
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

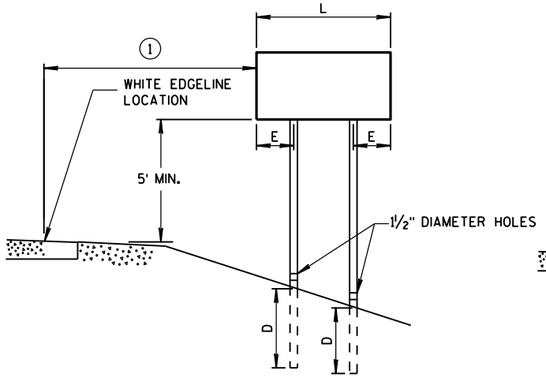
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

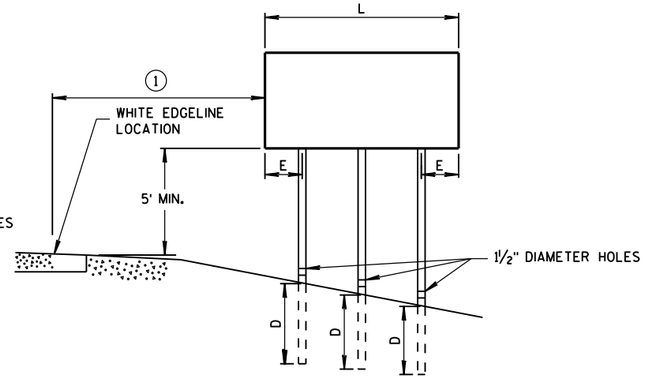
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

WOOD POST EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'

4" X 6" WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

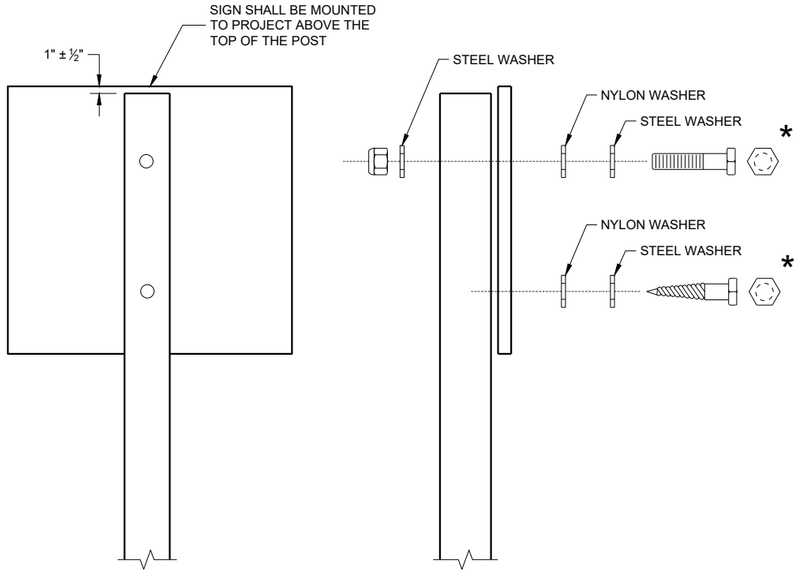
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 D 38-2a

6

S.D.D. 15 D 38-2a



NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3
B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

WOOD POST (4" x 6")
LAG SCREWS - ⅜" x 3"
MACHINE BOLTS - 5/16" x 6 ½" OR 7" LENGTH W/NUTS

SQUARE STEEL POST (2" x 2")
MACHINE BOLTS - ⅜" x 3 ¼" LENGTH W/NUTS
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE 0.720 - 0.765 INCH, GRIP RANGE 0.042 - 0.375 INCH

WASHERS (ALL POSTS) -
1 ¼" O.D. x ⅜" I.D. x 1/16" STEEL
1 ¼" O.D. x ⅜" I.D. x 0.080 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. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

6

6

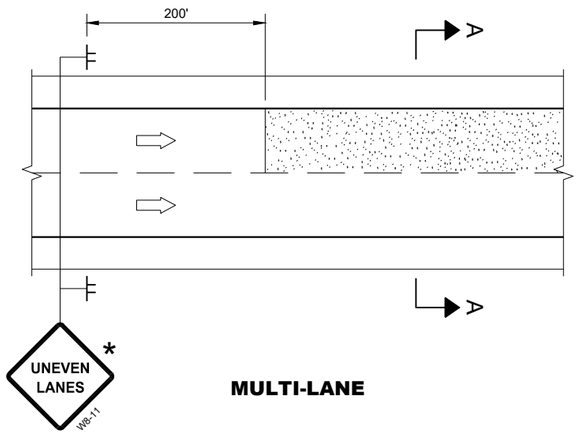
SDD 15D38 - 02b

SDD15D38 - 02b

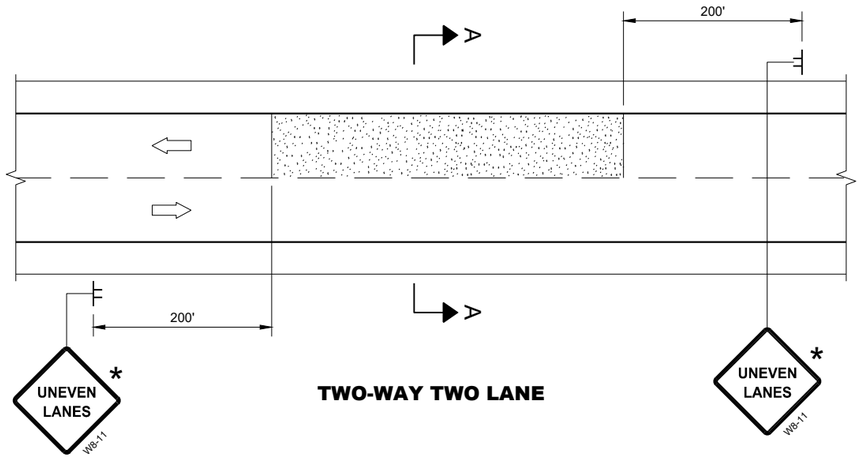
ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

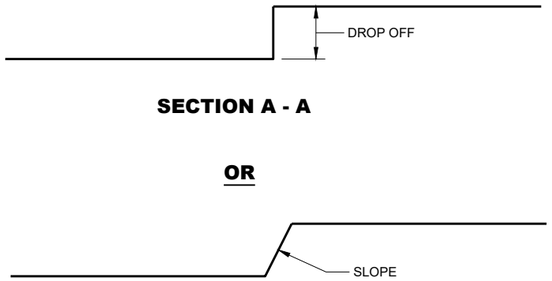
APPROVED
June 2017
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA



MULTI-LANE

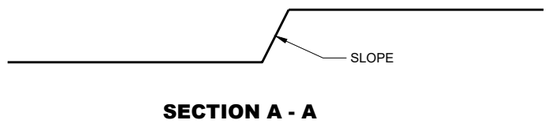


TWO-WAY TWO LANE

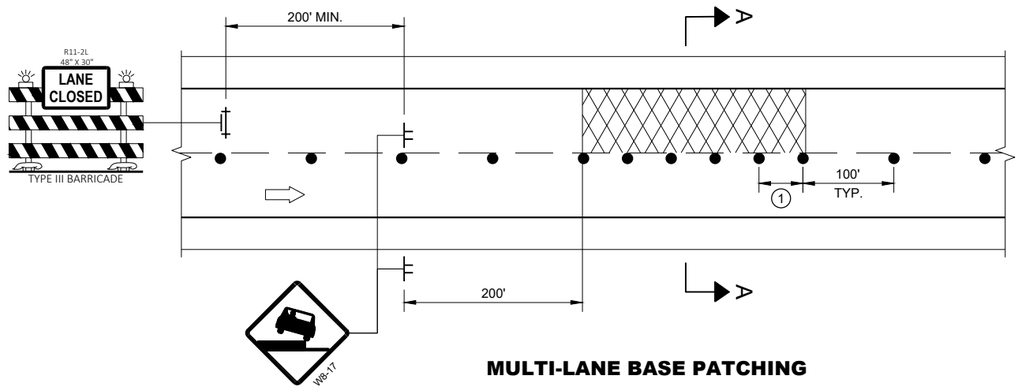


SECTION A - A

OR



SECTION A - A



MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

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

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

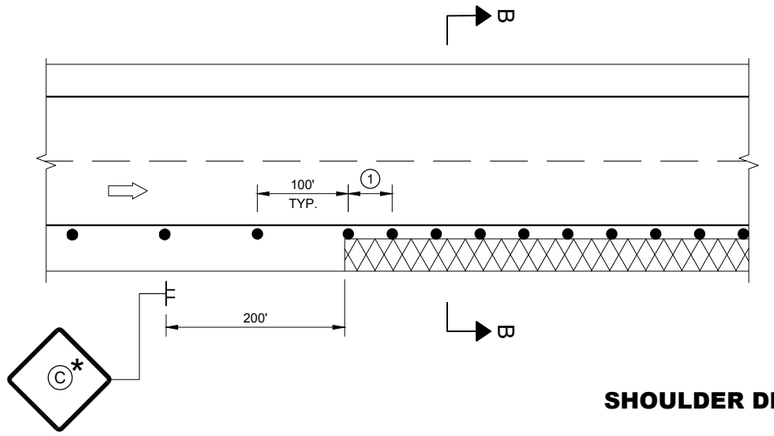
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.

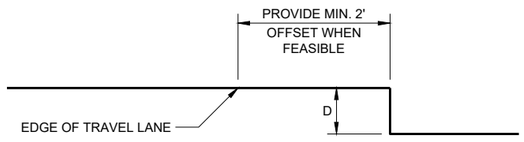
(1) USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE



SHOULDER DROP-OFFS



SECTION B - B

D	SIGN (C)
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER WO8-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	SHOULDER DROP - OFF W8-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT

TRAFFIC CONTROL, DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

SDD 15D39 - 02

6

SDD 15D39 - 02

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA
- FLASHING ARROW BOARD
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN

GENERAL NOTES

RIGHT CLOSURE SHOWN (LEFT LANE CLOSURE SIMILAR)

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

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

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

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

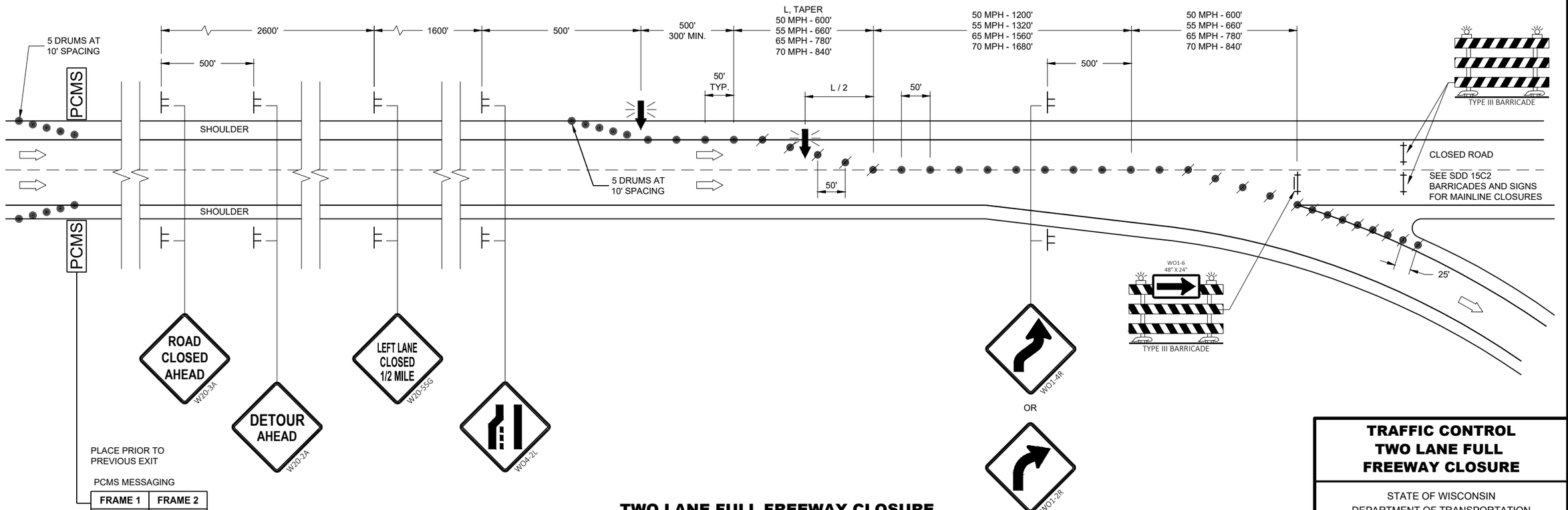
WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROL SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND / OR THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.

PLACE A TYPE III BARRICADE APPROXIMATELY EVERY 1000' ACROSS EACH CLOSED LANE TO HELP REINFORCE THE DRUM LINE.

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

REFER TO DETOUR ROUTES FOR TRAFFIC GUIDANCE SIGNING.

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. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.



PLACE PRIOR TO PREVIOUS EXIT

PCMS MESSAGING

FRAME 1	FRAME 2
FREEWAY CLOSED	EXIT AHEAD

TWO LANE FULL FREEWAY CLOSURE

TRAFFIC CONTROL TWO LANE FULL FREEWAY CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

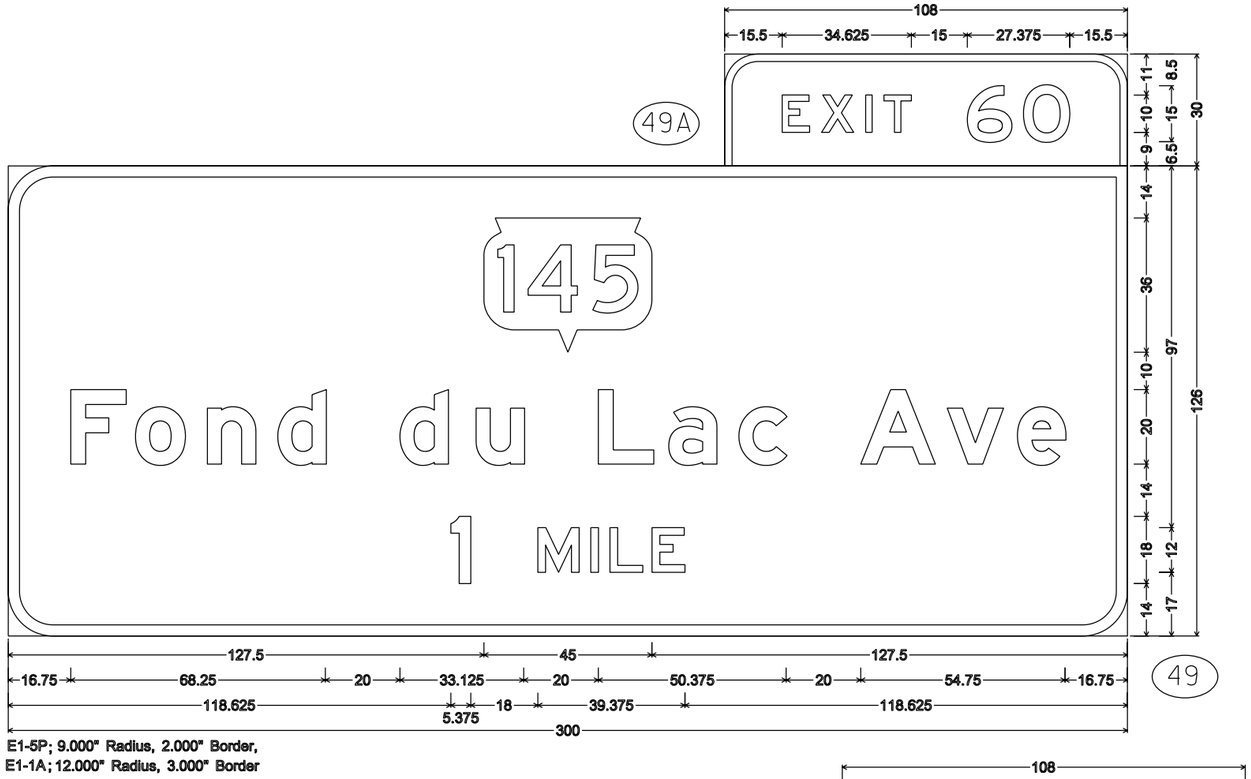
FHWA

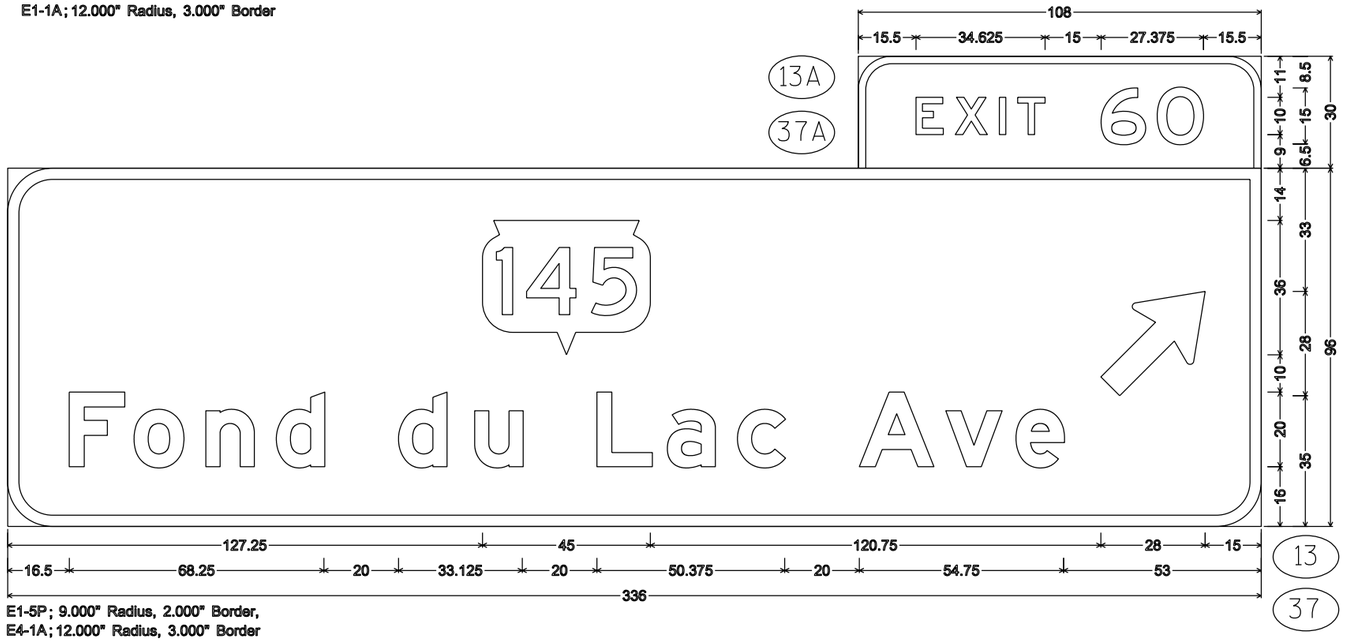
6

SDD 15D42 - 01

6

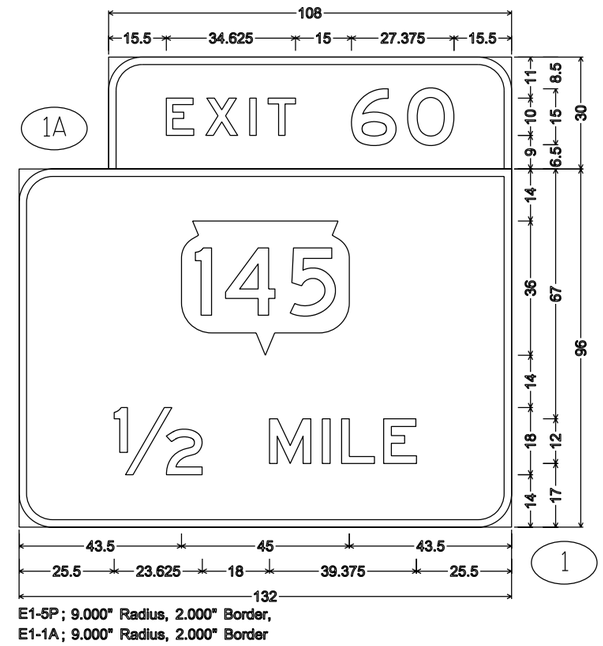
SDD 15D42 - 01

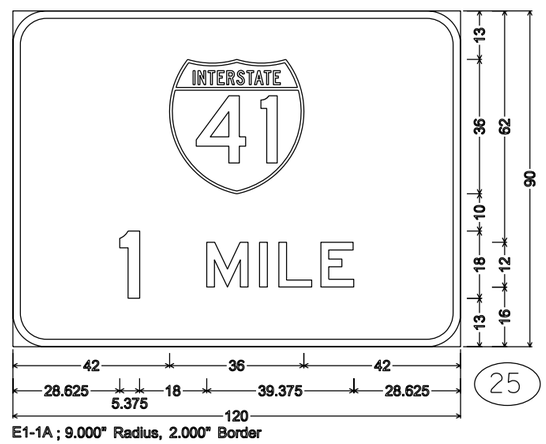




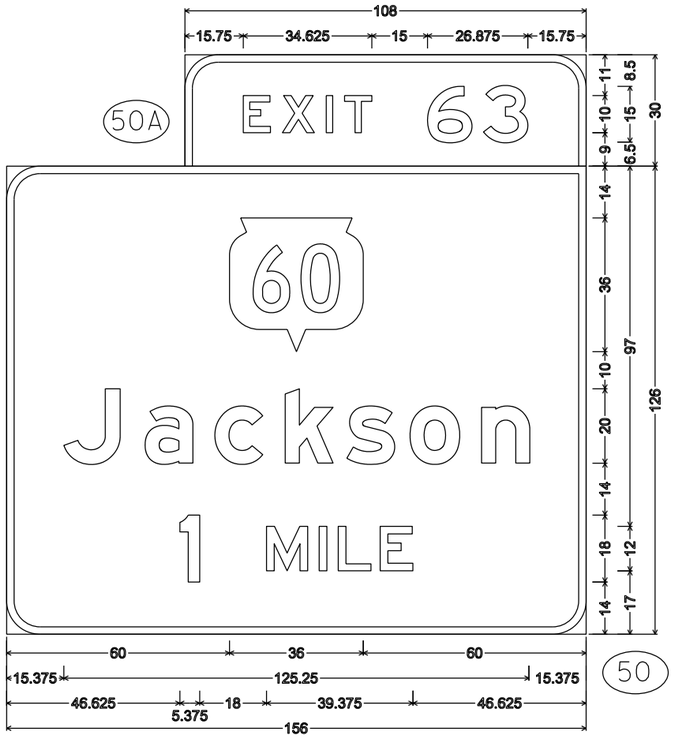
NOTES

1. Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all Cap Words Series E





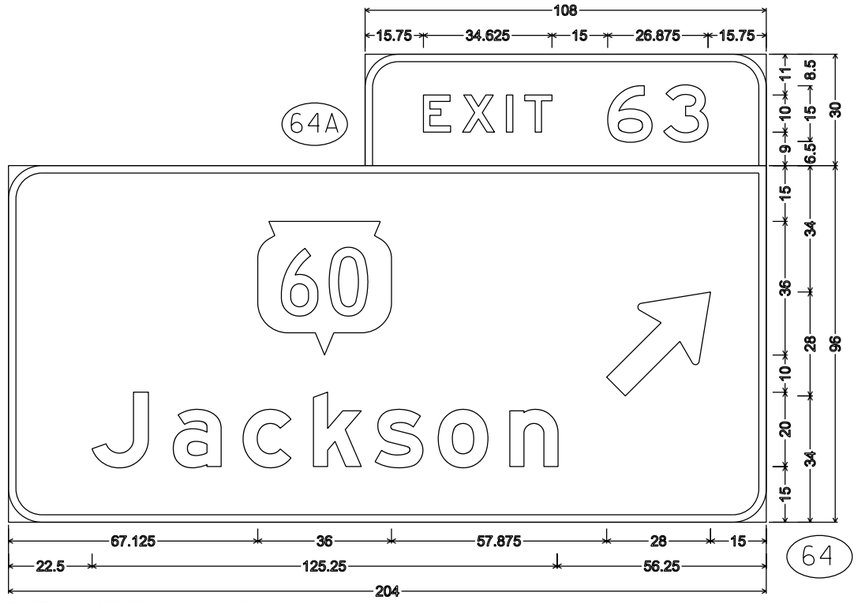
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET NO: 398	E



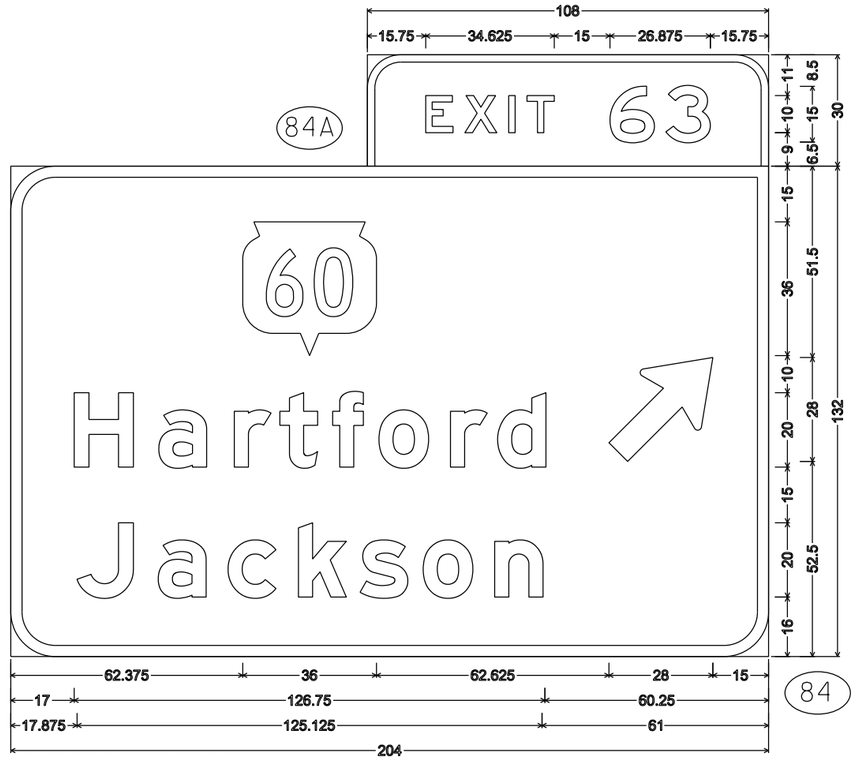
E1-5P; 9.000" Radius, 2.000" Border,
E1-1A; 9.000" Radius, 2.000" Border

NOTES

1. Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all Cap Words Series E



E1-5P; 9.000" Radius, 2.000" Border,
E4-1A; 9.000" Radius, 2.000" Border



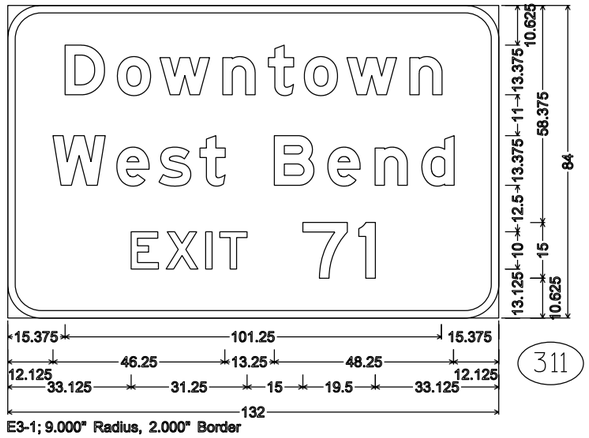
E1-5P; 9.000" Radius, 2.000" Border,
E4-1A; 12.000" Radius, 3.000" Border

7

7

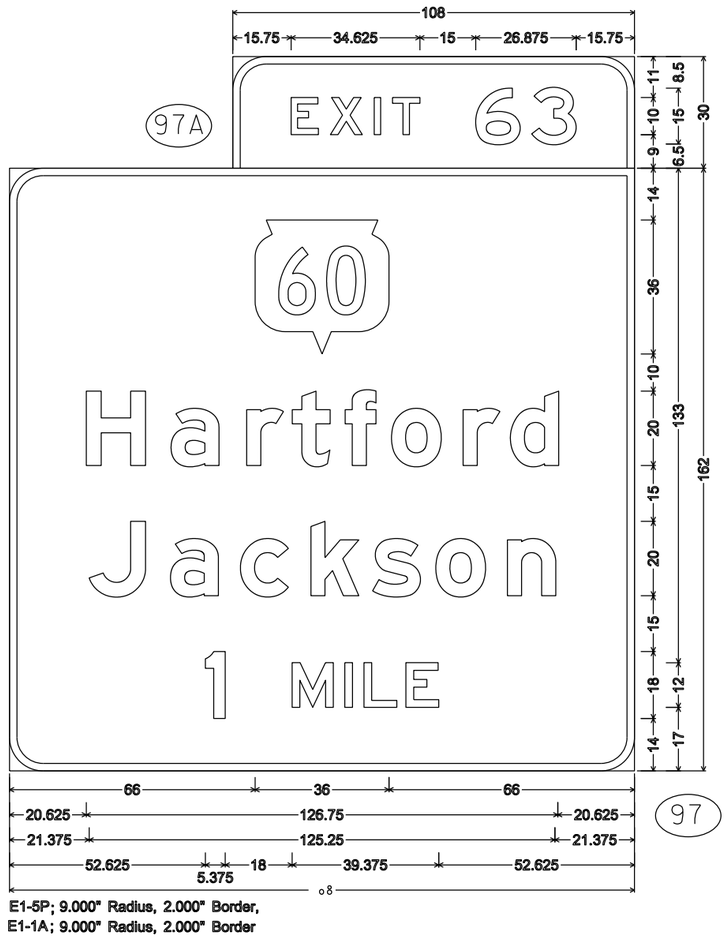
NOTES

1. Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all Cap Words Series E



E3-1; 9.000" Radius, 2.000" Border

E3-1; 9.000" Radius, 2.000" Border



E1-5P; 9.000" Radius, 2.000" Border,
E1-1A; 9.000" Radius, 2.000" Border

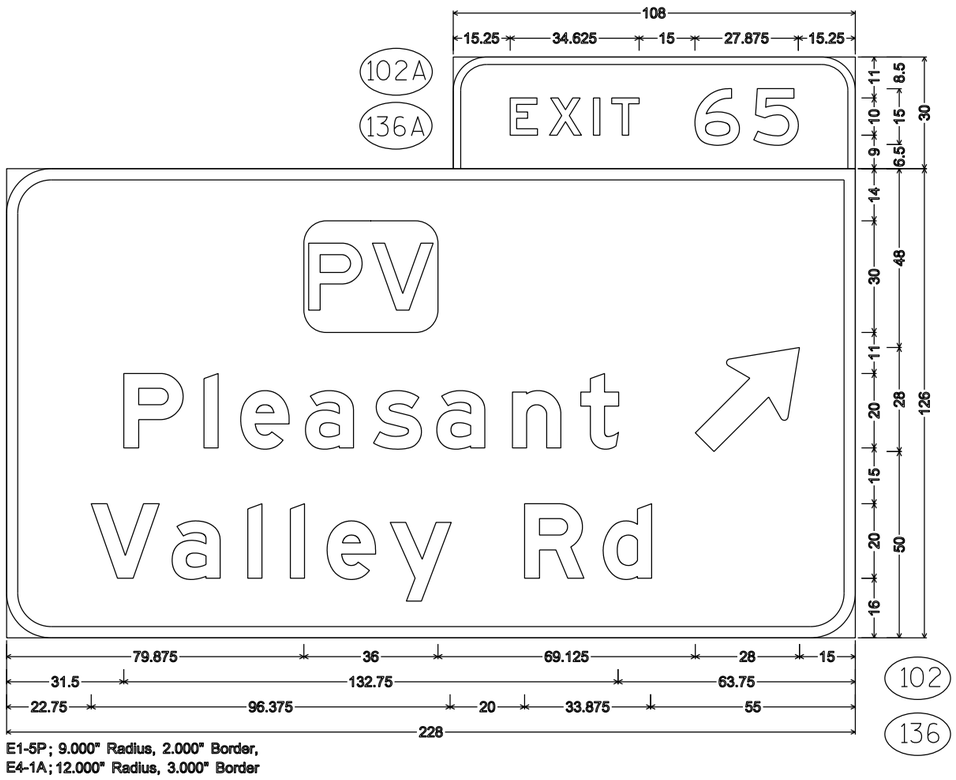
7

7

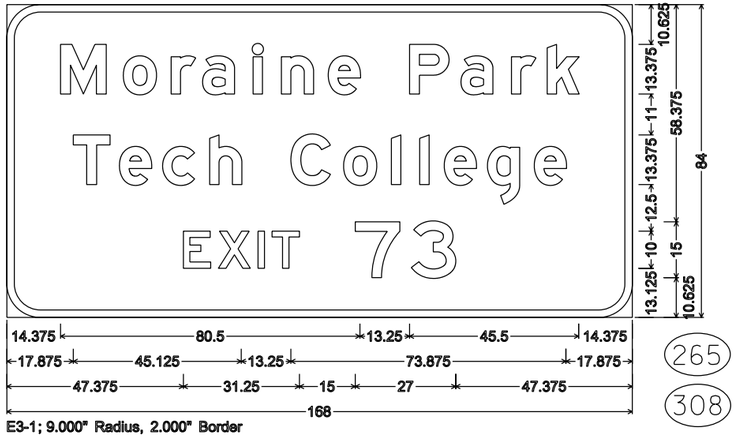
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET NO: 400	E

NOTES

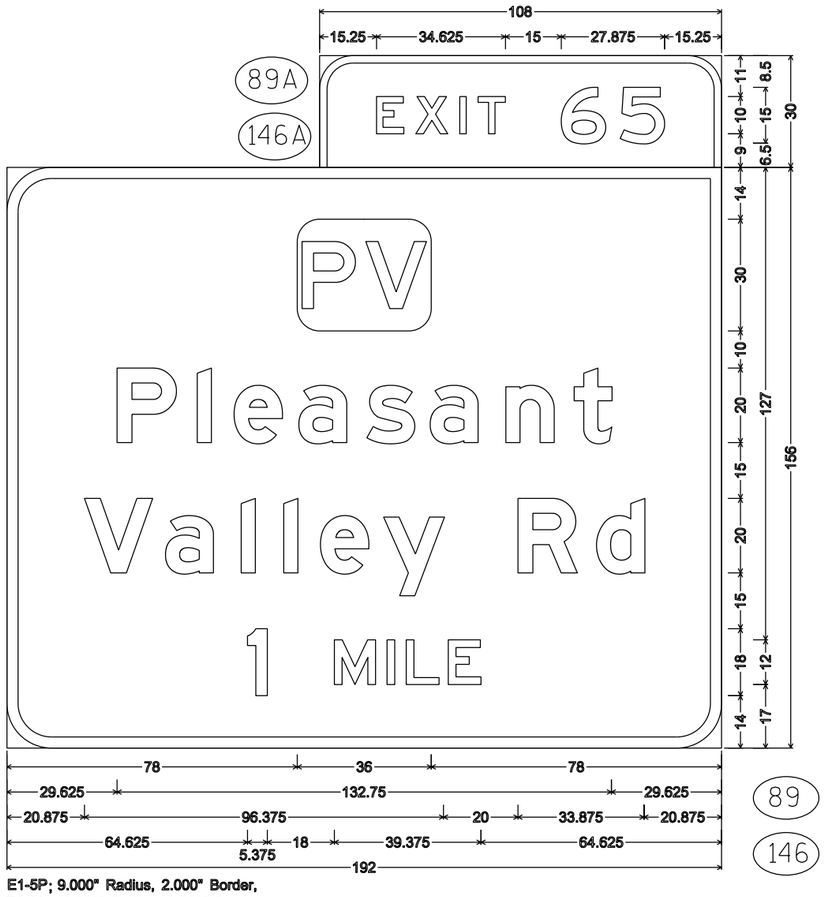
1. Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all Cap Words Series E



E1-5P; 9.000" Radius, 2.000" Border,
E4-1A; 12.000" Radius, 3.000" Border



E3-1; 9.000" Radius, 2.000" Border



E1-5P; 9.000" Radius, 2.000" Border,
E1-1A; 12.000" Radius, 3.000" Border

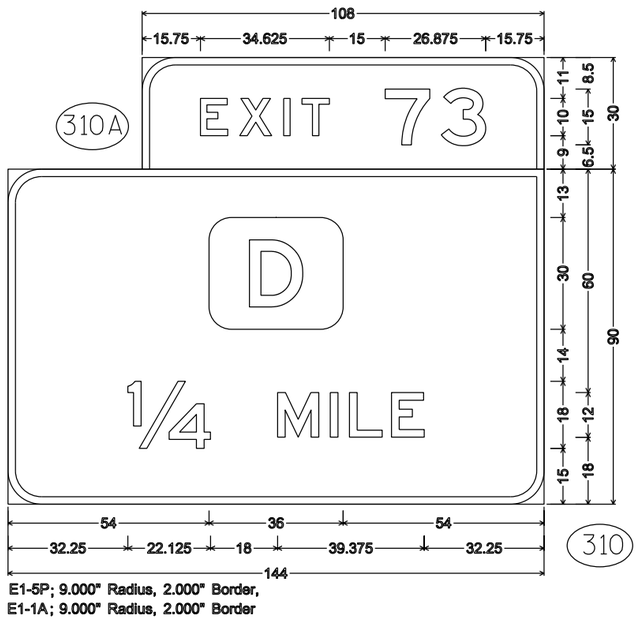
7

7

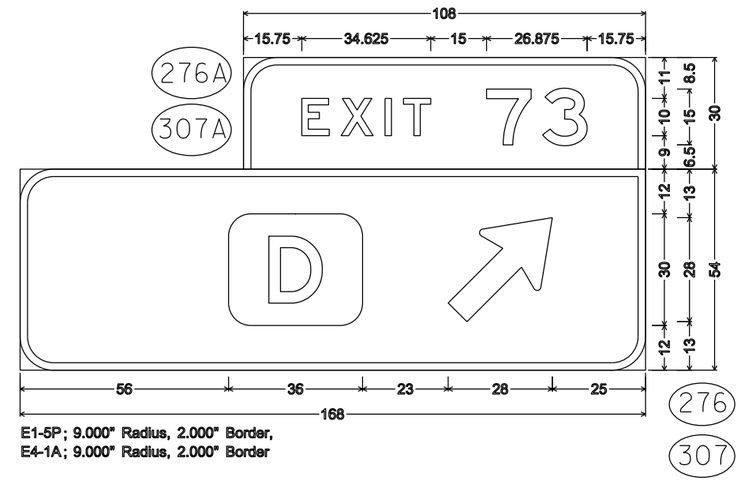
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET NO: 401	E

NOTES

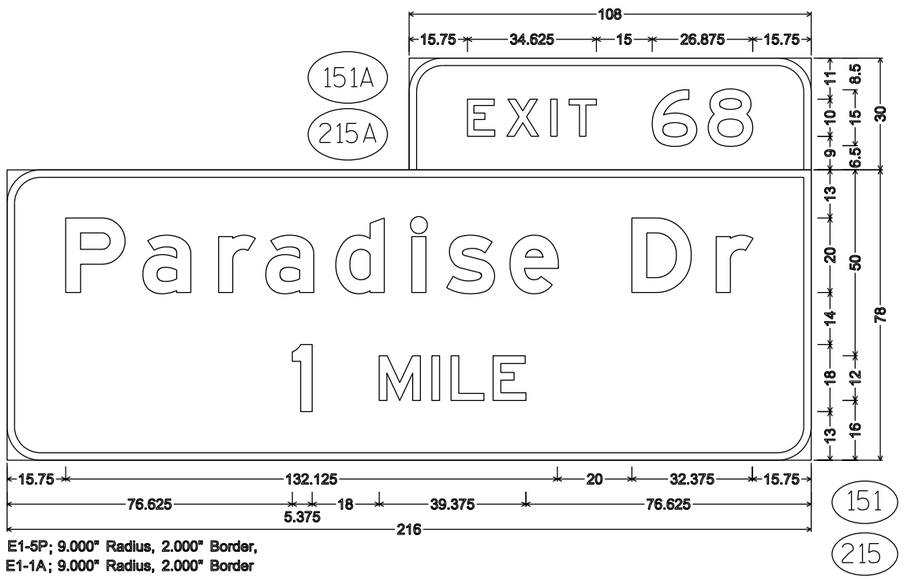
1. Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all Cap Words Series E



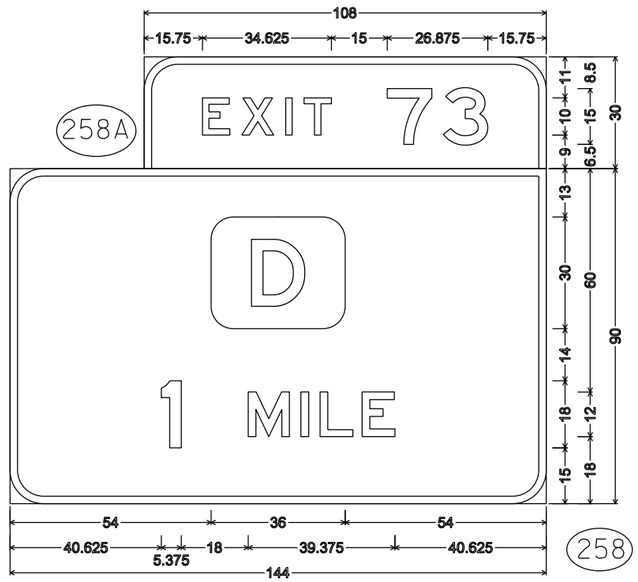
E1-5P; 9.000" Radius, 2.000" Border,
E1-1A; 9.000" Radius, 2.000" Border



E1-5P; 9.000" Radius, 2.000" Border,
E4-1A; 9.000" Radius, 2.000" Border



E1-5P; 9.000" Radius, 2.000" Border,
E1-1A; 9.000" Radius, 2.000" Border



E1-5P; 9.000" Radius, 2.000" Border,
E1-1A; 9.000" Radius, 2.000" Border

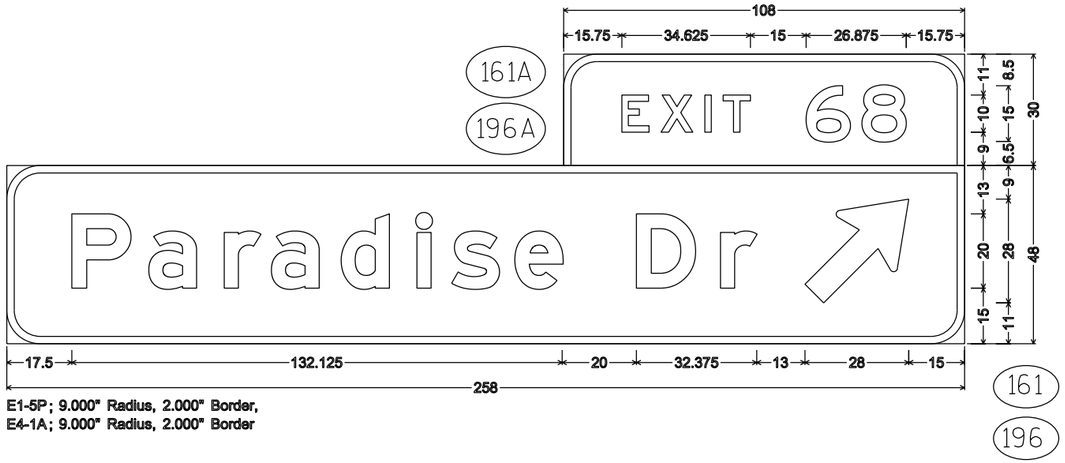
7

7

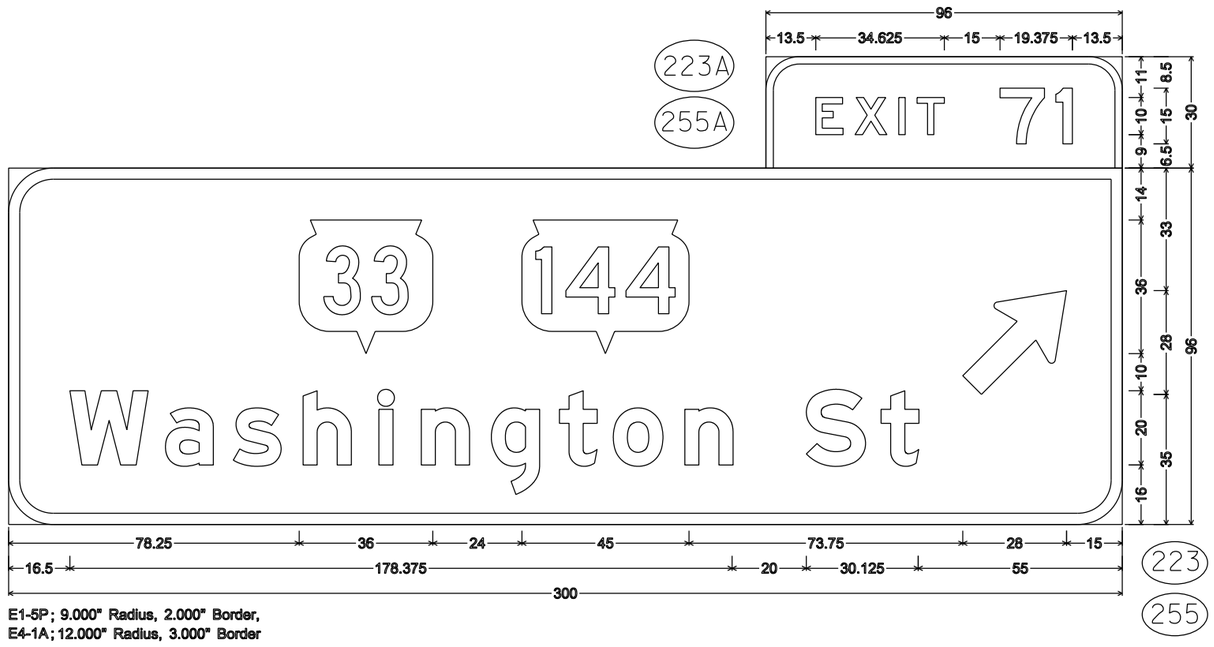
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING	SHEET NO: 402	E

NOTES

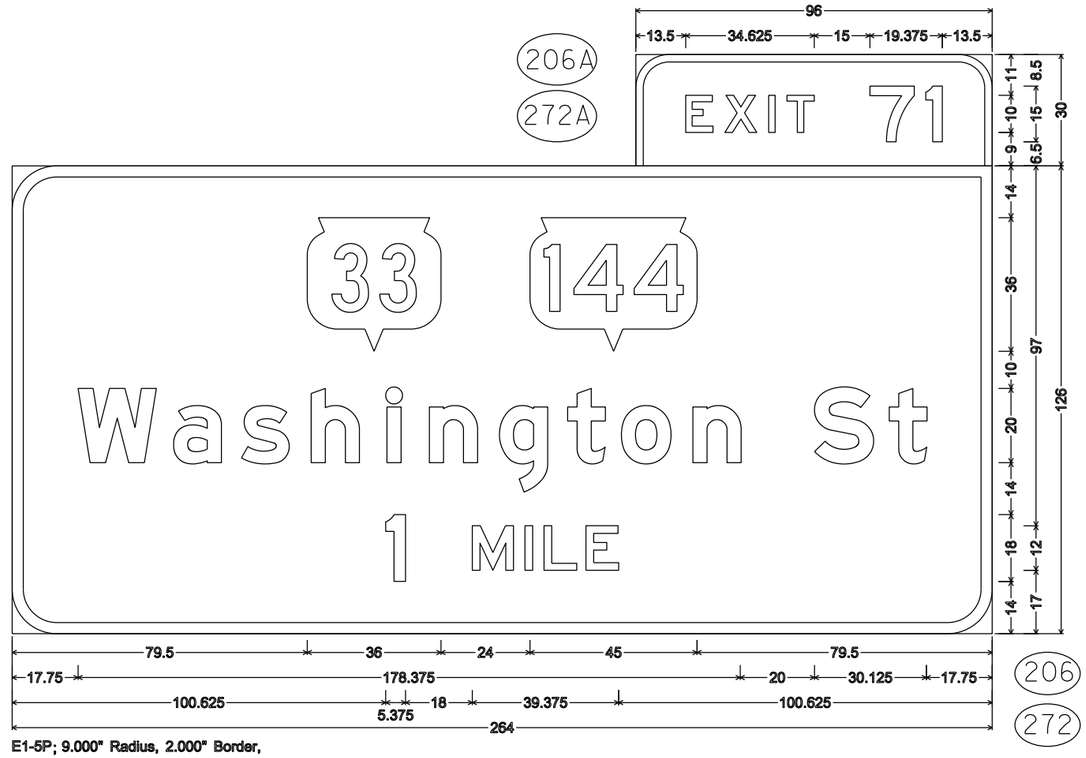
1. Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all Cap Words Series E



E1-5P; 9.000" Radius, 2.000" Border,
E4-1A; 9.000" Radius, 2.000" Border



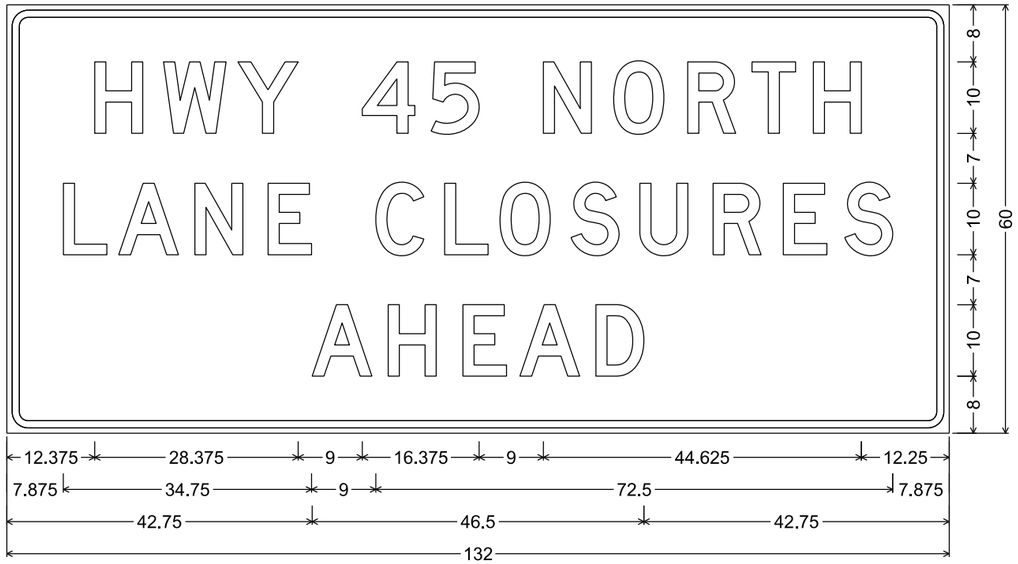
E1-5P; 9.000" Radius, 2.000" Border,
E4-1A; 12.000" Radius, 3.000" Border



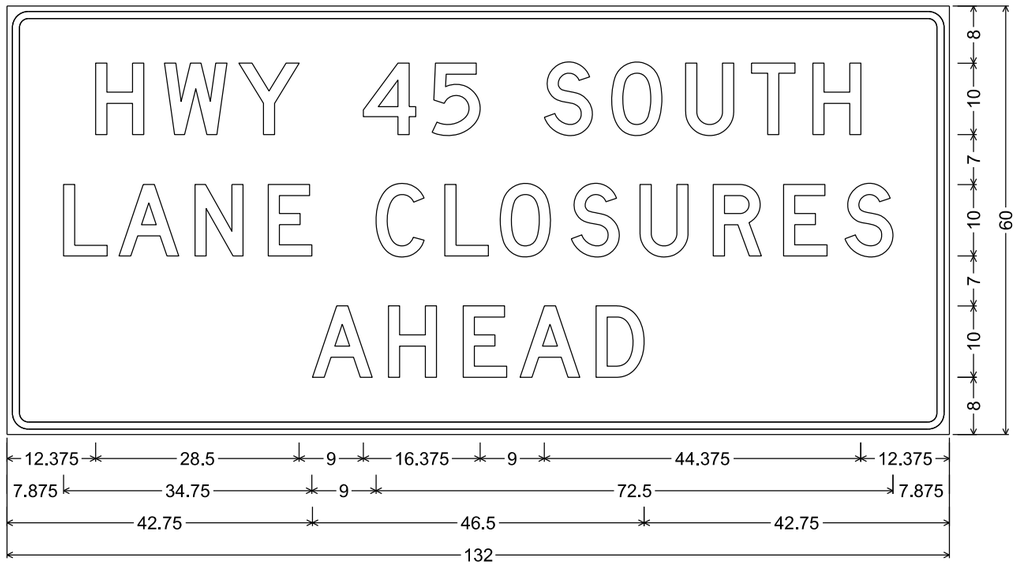
E1-5P; 9.000" Radius, 2.000" Border,
E1-1A; 12.000" Radius, 3.000" Border

7

7



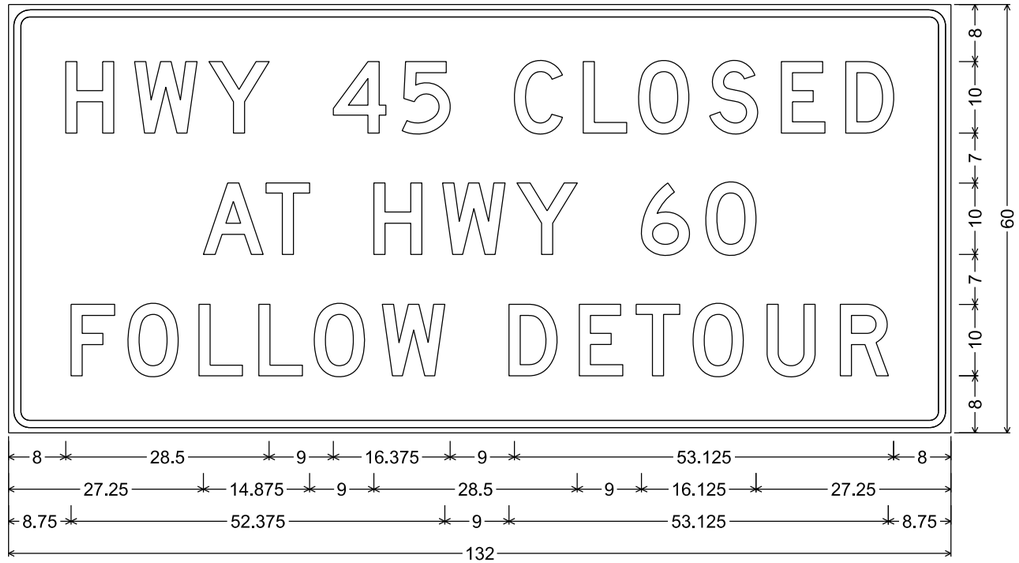
3.000" Radius, 1.000" Border, 0.750" Indent



3.000" Radius, 1.000" Border, 0.750" Indent

NOTES

1. All Signs Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D

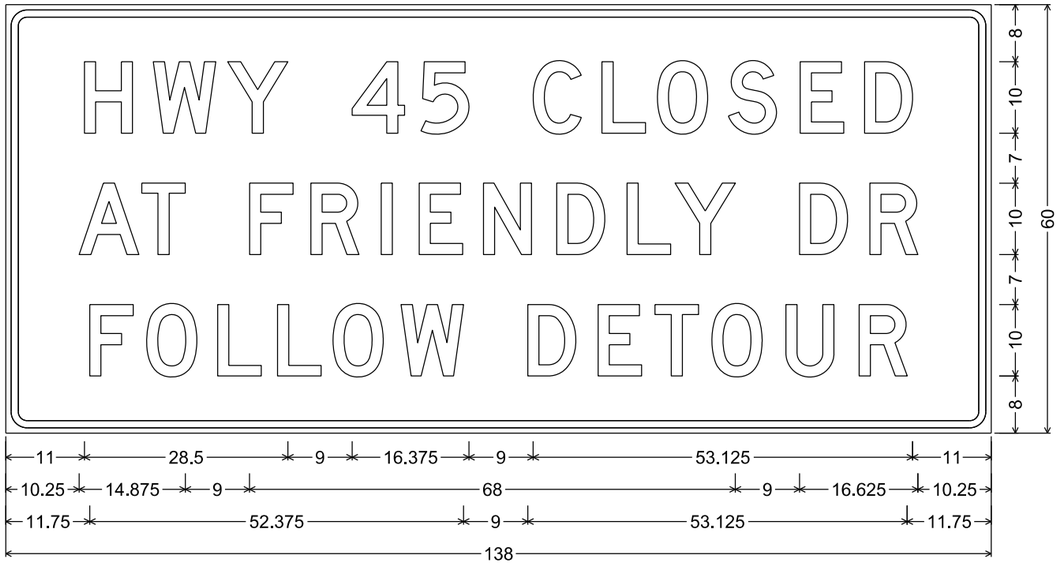


3.000" Radius, 1.000" Border, 0.750" Indent

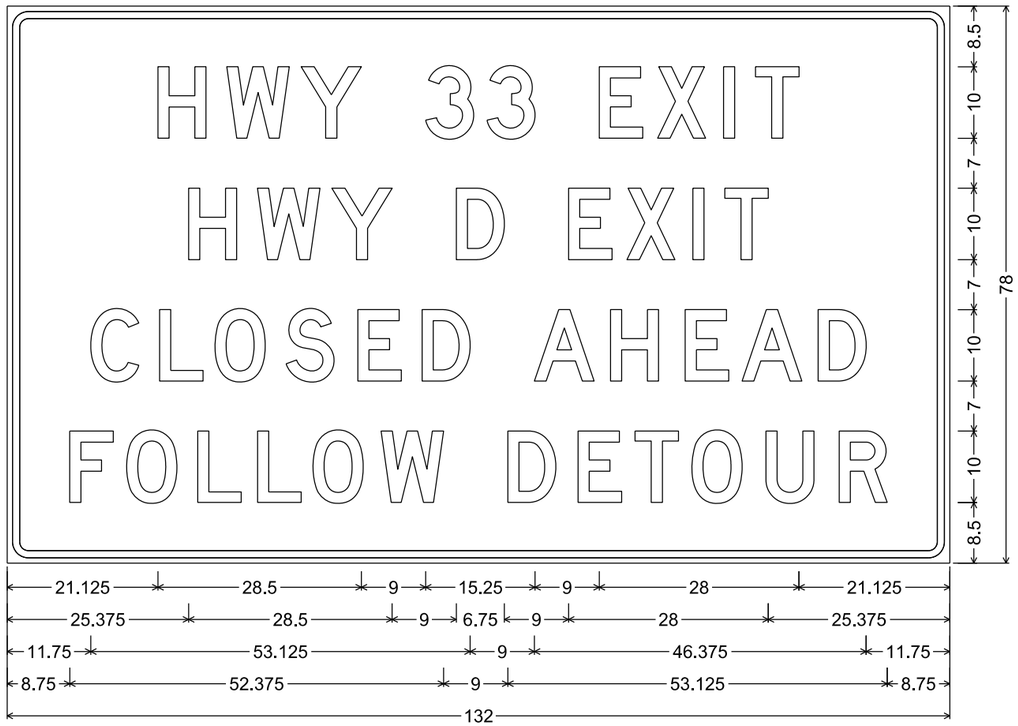
7

7

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TEMPORARY SIGNING	SHEET NO: 404	E



3.000" Radius, 1.000" Border, 0.750" Indent



3.000" Radius, 1.000" Border, 0.750" Indent

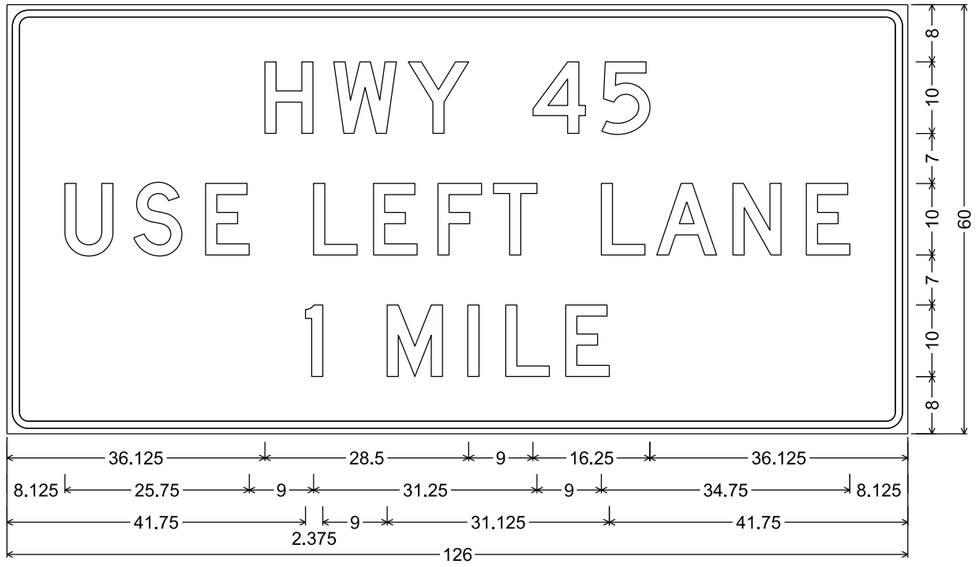
NOTES

1. All Signs Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D

7

7

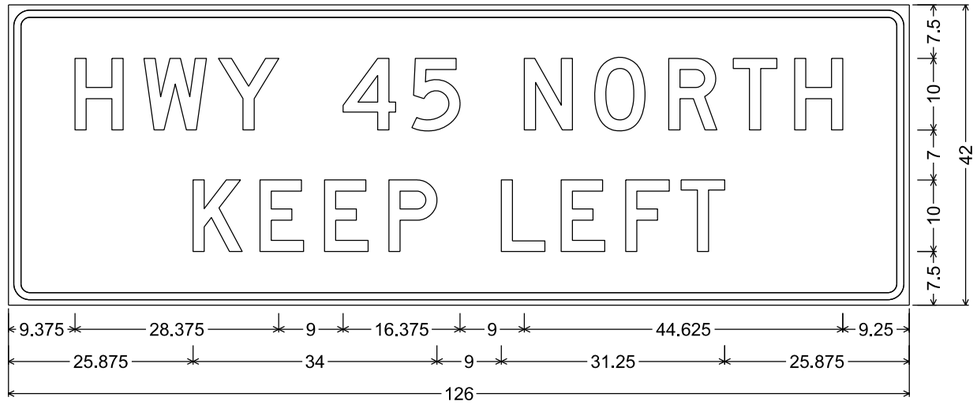
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TEMPORARY SIGNING	SHEET NO: 405	E



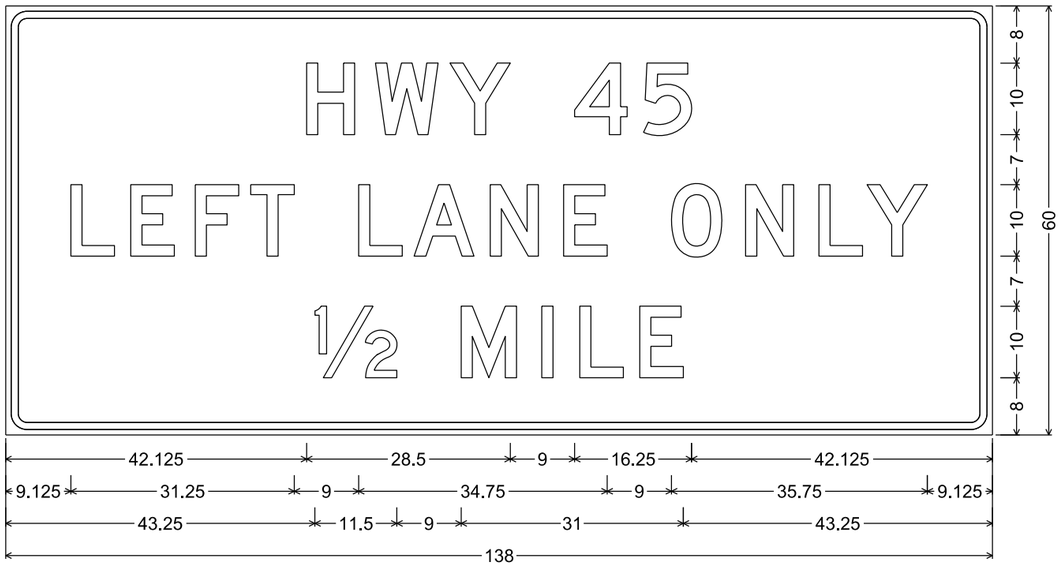
3.000" Radius, 1.000" Border, 0.750" Indent

NOTES

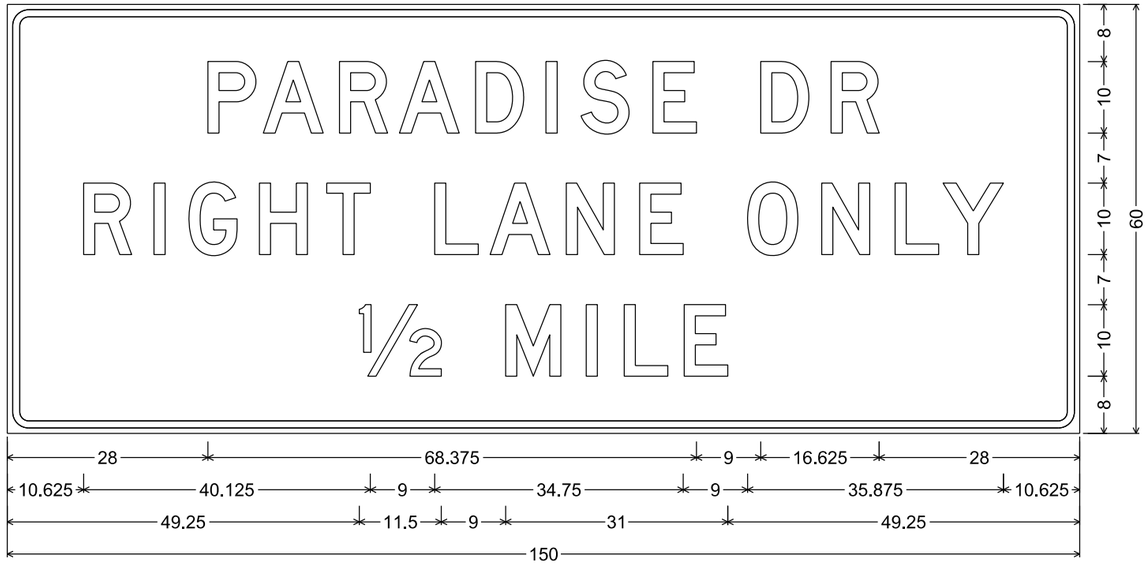
1. All Signs Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D



3.000" Radius, 1.000" Border, 0.750" Indent



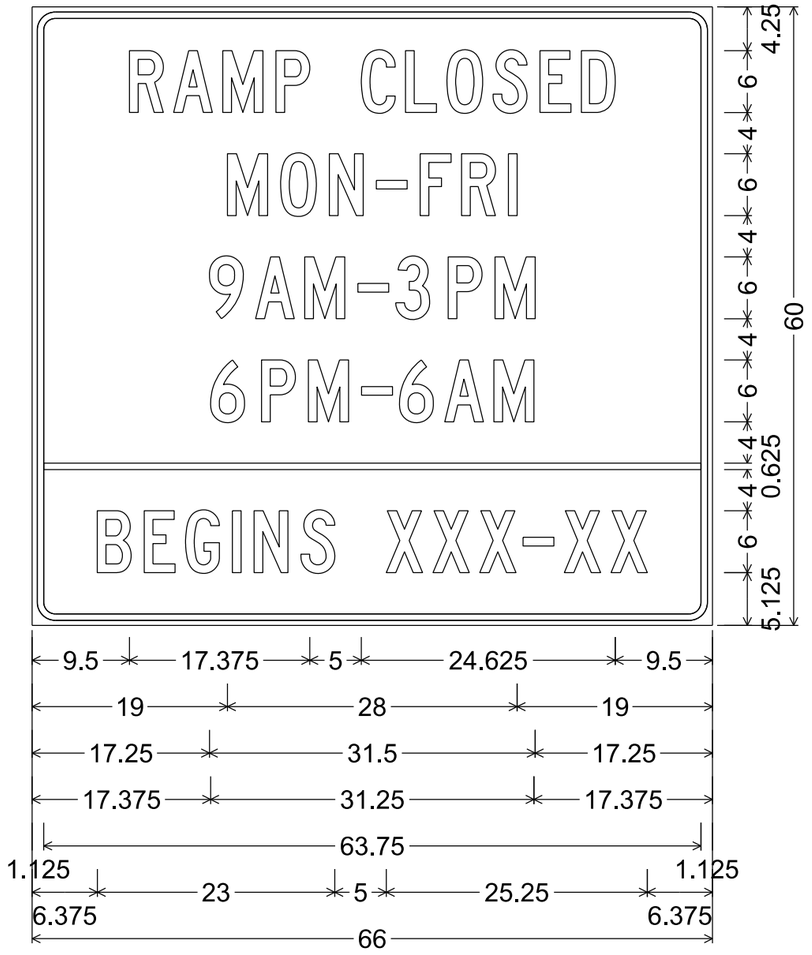
3.000" Radius, 1.000" Border, 0.750" Indent



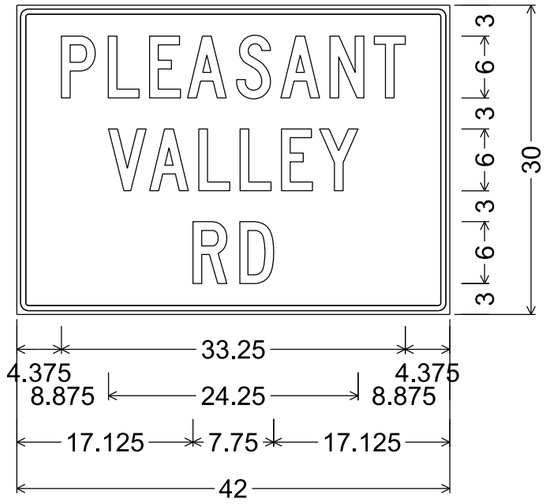
3.000" Radius, 1.000" Border, 0.750" Indent

NOTES

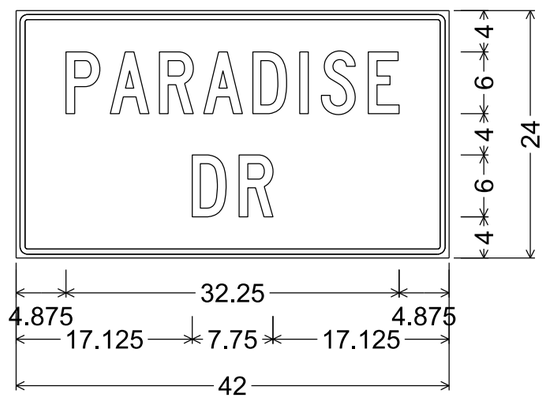
1. All Signs Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C



2.250" Radius, 0.625" Border, 0.500" Indent



1.125" Radius, 0.500" Border, 0.375" Indent



1.125" Radius, 0.500" Border, 0.375" Indent

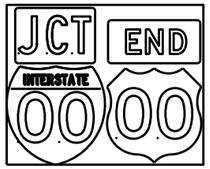
7

7

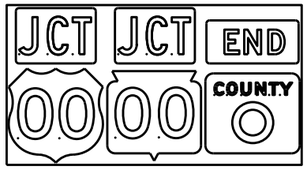
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	TEMPORARY SIGNING	SHEET NO: 407	E

TYPICAL ASSEMBLIES

J1-1

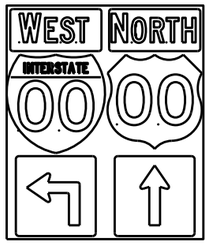


J1-2

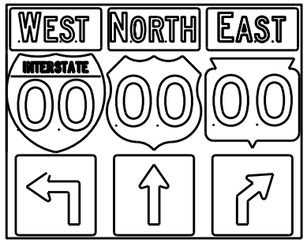


J1-3

J2-1



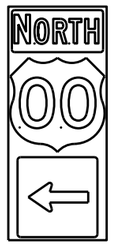
J2-2



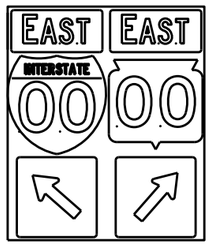
J2-3

JV

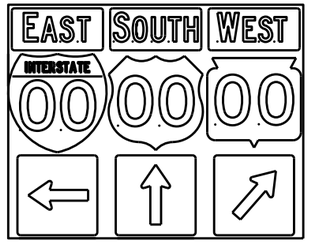
(Typical Vertical J-Assembly
See Note 10 and 11)



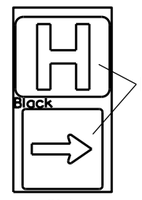
J3-1



J3-2



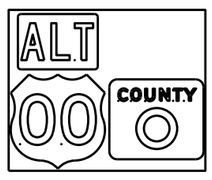
J3-3



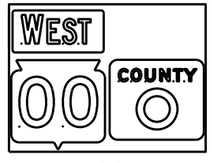
Blue Background

JH-1

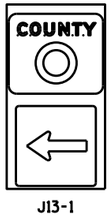
J4-1



J4-2



J4-2



J13-1

J12-1

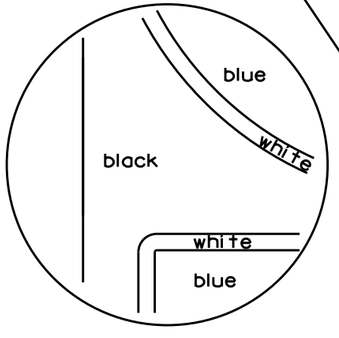
J32-1

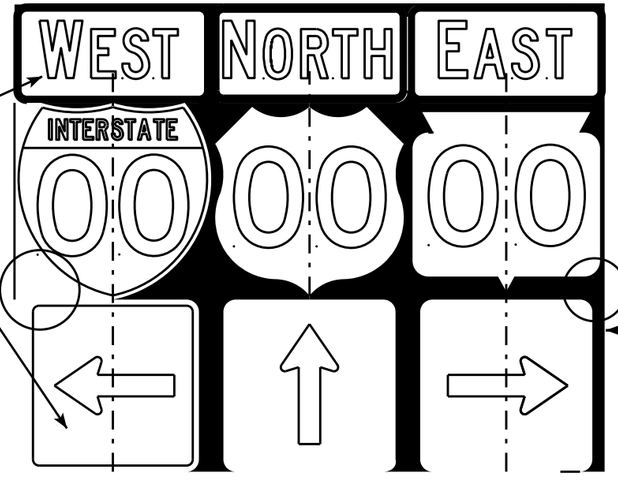
J33-1

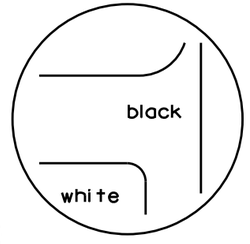
J23-1

J22-1

blue background
with interstate







black background

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Black Non-reflective
   Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inchs (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

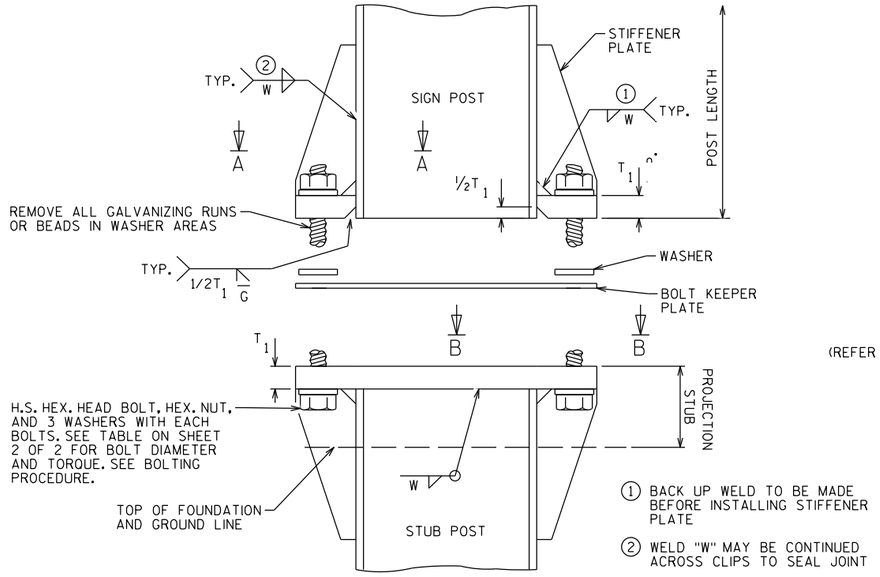
DATE 2/06/14 PL... A2-1S.8

PROJECT NO:

SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A21S.DGN PLOT DATE : 06-FEB-2014 14:10 PLOT BY : mscsja PLOT NAME :

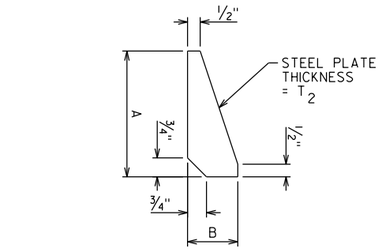
WISDOT/CADDS SHEET 42



① BACK UP WELD TO BE MADE BEFORE INSTALLING STIFFENER PLATE

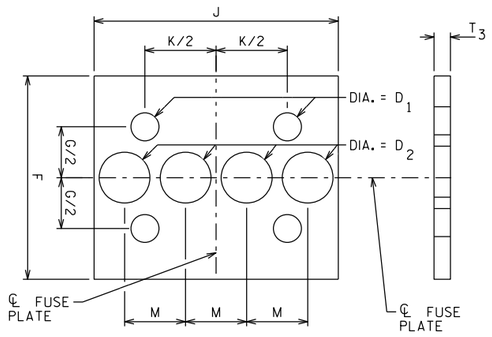
② WELD "W" MAY BE CONTINUED ACROSS CLIPS TO SEAL JOINT

SIGN POST & STUB POST ELEVATION



STIFFENER PLATE DETAIL

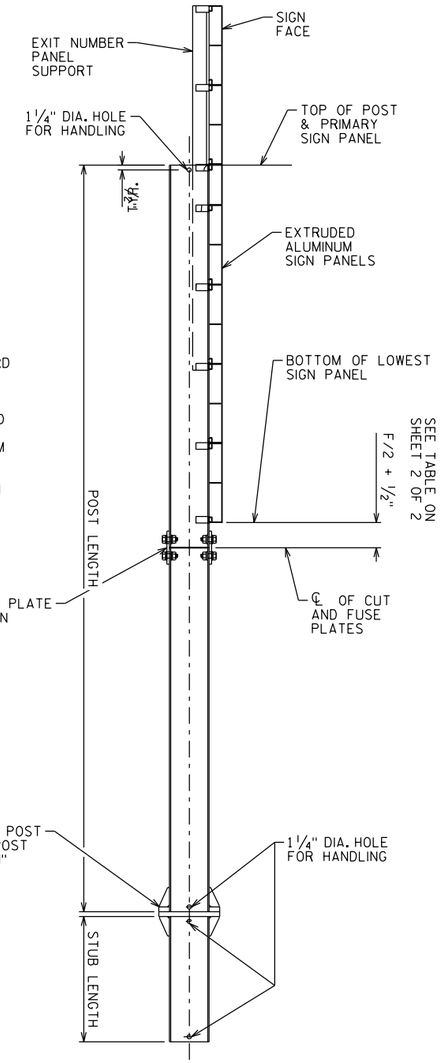
(REFER TO TABLE ON SHEET 2 OF 2 FOR DIMENSIONS)



PERFORATED FUSE PLATE DETAIL

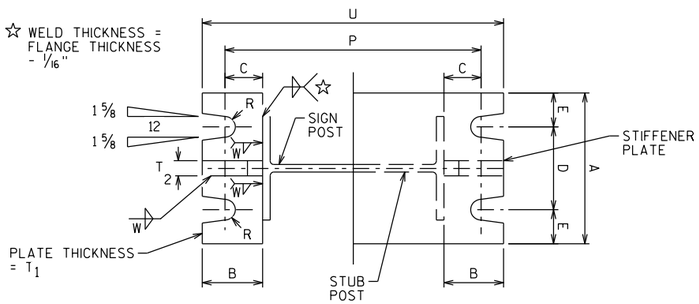
USE H.S. HEX HEAD BOLTS, HEX HEAD NUT AND FLAT WASHER UNDER NUT. INSTALL BOLTS PER THE WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION SECTION 506.3.12.3.

ALL HOLES SHALL BE DRILLED, SUB-PUNCHED AND REAMED. ALL PLATE CUTS SHALL PREFERABLY BE SAW CUTS. HOWEVER, FLAME CUTTING WILL BE PERMITTED PROVIDED ALL EDGES ARE GROUND. METAL PROJECTING BEYOND THE PLANE OF THE PLATE FACE WILL NOT BE PERMITTED. STEEL FUSE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36. ASTM A572 GRADE 50 OR ASTM A588 MAY BE SUBSTITUTED FOR A36 AT THE OPTION OF THE FABRICATOR. MILL TEST REPORTS SHALL BE SUBMITTED FOR FUSE PLATES. STEEL USED SHALL HAVE AN ULTIMATE TENSILE STRENGTH NOT TO EXCEED 80 KSI.



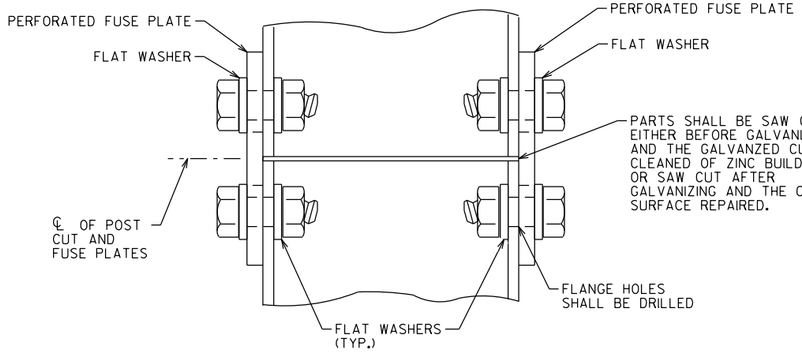
POST DETAIL

☆ WELD THICKNESS = FLANGE THICKNESS - 1/16"

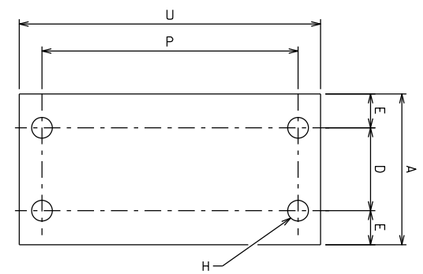


SECTION A-A

SECTION B-B



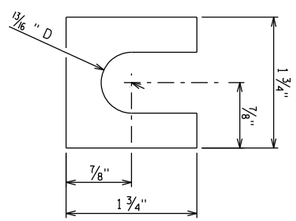
FUSE PLATE CONNECTION DETAIL



H = BOLT DIA. + 1/8"

BOLT KEEPER PLATE DETAIL

30 GA GALVANIZED SHEET STEEL



SHIM DETAIL

FURNISH TWO .012"± THICK AND TWO .032"± THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO ASTM B36.

BOLTING PROCEDURE FOR BASE CONNECTION

1. ASSEMBLE SIGN POST, BOLT KEEPER PLATE, AND STUB POST WITH BOLTS AND THREE FLAT WASHERS PER BOLT AS SHOWN.
2. SHIM AS REQUIRED TO PLUMB POST.
3. PRIOR TO BOLT TIGHTENING, LUBRICATE BASE CONNECTION BOLTS WITH BEESWAX OR OTHER HIGH-WAX LUBRICANT.
4. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE WITH A 12" OR 15" WRENCH TO BED WASHERS & SHIMS AND TO CLEAN BOLT THREADS.
5. LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PERSCRIBED TORQUE. (SEE TABLE FOR PERSCRIBED TORQUE). DO NOT OVER-TIGHTEN.
6. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE BTO TYPE I SIGNS

DRAWN BY	PLANS CK'D.

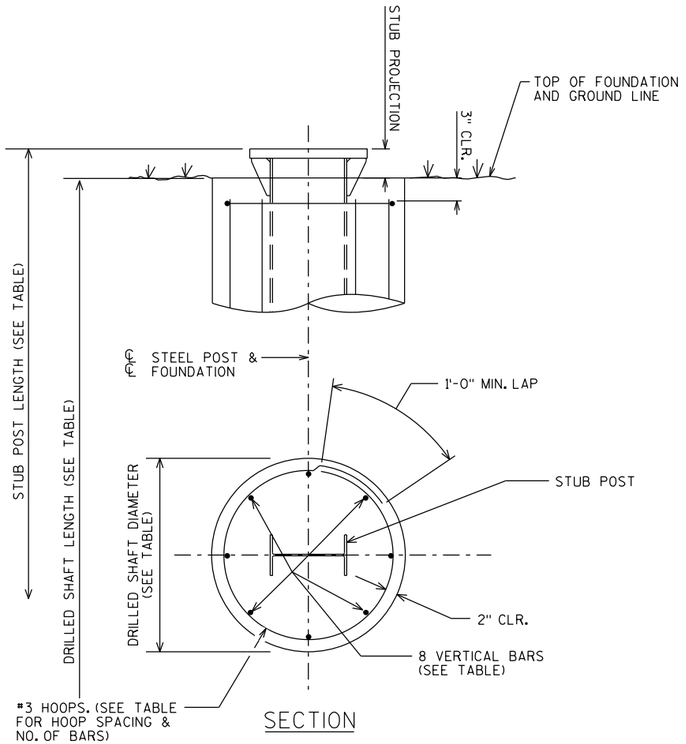
CONNECTION & FOUNDATION DETAILS 1 OF 2

SHEET A3-1.20

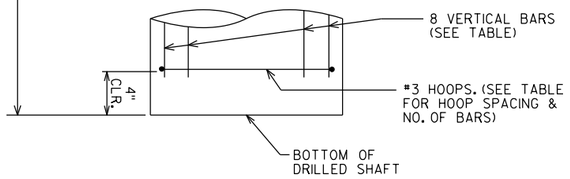
409

7

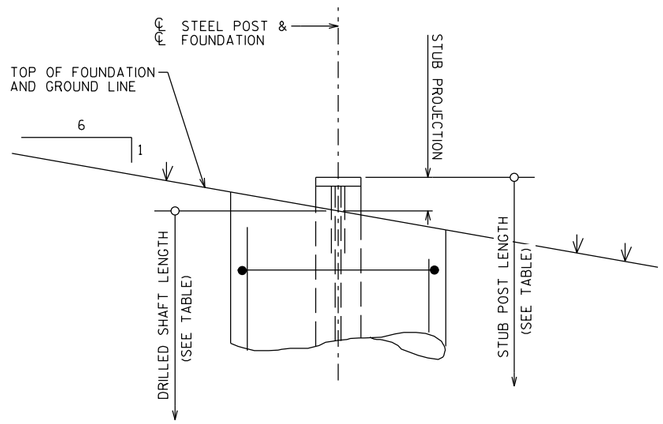
7



SECTION



FOUNDATION DETAIL



SHAFT PLACEMENT

FOUNDATION DATA TABLE

POST SHAPE	STUB LENGTH	STUB PROJECTION	DRILLED SHAFT DIAMETER	DRILLED SHAFT LENGTH	VERTICAL BARS		HOOPS		CONCRETE VOLUME ◆	TOTAL REINF. WEIGHT ◆
					SIZE	LENGTH	MAX SPA.	NO.		
W6X15	2'-6"	3"	24"	6'-6"	#5	5'-11"	10"	9	0.8 CY	71 LB
W8X18	2'-6"	3"	24"	7'-6"	#6	6'-11"	12"	8	0.9 CY	102 LB
W8X21	3'-0"	2½"	24"	8'-0"	#6	7'-5"	12"	9	1.0 CY	110 LB
W10X22	3'-0"	2½"	24"	8'-6"	#7	7'-11"	12"	9	1.0 CY	151 LB
W12X26	3'-0"	2½"	24"	10'-0"	#7	9'-5"	12"	11	1.2 CY	180 LB

◆ QUANTITIES SHOWN ARE FOR ONE DRILLED SHAFT

BASE CONNECTION & FUSE PLATE DATA TABLE

POST SHAPE	WEIGHT PER FOOT	BASE CONNECTION DATA: BOLT SIZE & TORQUE	A	B	C	D	E	T1	T2	W	R	BOLT KEEPER PLATE DATA: P	U	PERFORATED FUSE PLATE DATA: F	G	J	K	M	D1	D2	T3	BOLT DIA.	WGT. EA. LBS	BOLT LENGTH	V ◪
W6X15	15 LB	⅝" DIA. X 4" 36 TO 38 FT-LB	5"	2"	1¼"	2¾"	1⅛"	1¼"	½"	¼"	11/32"	8½"	10"	5"	2½"	6"	3½"	1½"	11/16"	1¼"	⅜"	⅝"	2.4	2	73.0 LB
W8X18	18 LB											10⅝"	12⅛"	5"	2½"	5¼"	2¾"	1¼"	11/16"	1 1/16"	⅜"	⅝"	2.0	2	83.0 LB
W8X21	21 LB	¾" DIA. X 4¾" 62 TO 63 FT-LB	6"	2¼"	1⅜"	3½"	1¼"	1½"	¾"	5/16"	13/32"	11"	12¾"	5½"	2½"	5¼"	2¾"	1¼"	13/16"	1"	½"	¾"	3.1	2¼"	124.0 LB
W10X22	22 LB											12⅞"	14⅝"	6"	3"	5¾"	2¾"	1⅜"	13/16"	1⅛"	½"	¾"	3.9	2¼"	134.0 LB
W12X26	26 LB											15"	16¾"	6"	3"	6½"	3½"	1⅝"	13/16"	1 5/16"	½"	¾"	4.5	2¼"	152.0 LB

◪ TOTAL STRUCTURAL CARBON STEEL WEIGHT FOR ONE POST = V + (POST LENGTH X POST WEIGHT PER FOOT)

"V" INCLUDES STUB POST, BASE PLATES, STIFFENER PLATES, PERFORATED FUSE PLATES, BOLTS, NUTS, AND WASHERS.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED

MATERIALS SHALL CONFORM TO THE WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SECTION 506, UNLESS NOTED OTHERWISE.

FABRICATION SHALL CONFORM TO THE WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SECTION 506.

ALL POST, POST STUBS & ATTACHMENTS SHALL BE ASTM A709 GRADE 50, GALVANIZED IN ACCORDANCE WITH ASTM A123.

THE POST, BASE PLATES, UPPER SIX INCHES OF STUB POST, FLANGE SPLICE PLATE AND FUSE PLATE SHALL BE GALVANIZED AFTER FABRICATION.

H.S. BOLTS, WASHERS, & NUTS SHALL BE A325 GALVANIZED.

FOUNDATION MATERIAL PROPERTIES

CONCRETE MASONRY	F'C = 3,500 P.S.I.
BAR STEEL REINFORCEMENT (UNCOATED), GRADE 60	FY = 60,000 P.S.I.

DESIGN DATA

DESIGN CONFORMS TO AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS 1ST EDITION 2015 (WITH 2017 & 2018 INTERIM REVISIONS).

DEAD LOADS (DL):

- STEEL POST SELF WEIGHT
- SIGN PANEL WEIGHT = 3 PSF

WIND LOADS (WL):

WIND LOADS WERE APPLIED TO THE PROJECTED AREAS OF THE SIGN PANELS AND THE STEEL SIGN POSTS.

- BASIC WIND SPEED = 76 MPH
- MEAN RECURRANCE INTERVAL (MRI) = 10 YEARS
- HEIGHT & EXPOSURE FACTOR = 1.00
- DIRECTIONALITY FACTOR = 0.85
- GUST EFFECT FACTOR = 1.14

WIND LOAD CASES:

- WL CASE 1: 1.0 X NORMAL WIND
- WL CASE 2: 1.0 X TRANSVERSE WIND
- WL CASE 3: 0.75 X NORMAL WIND + 0.75 X TRANSVERSE WIND

LOAD COMBINATIONS:

LOAD COMBINATION	TYPE	DL FACTOR	WL FACTOR
STRENGTH I	GRAVITY	1.25	-
EXTREME I	WIND	1.10	1.0
		0.9	1.0
SERVICE I	DEFLECTION	1.0	1.0

FOUNDATION DESIGN DATA

THE FOUNDATION DESIGN ASSUMED COHESIONLESS SOILS (LOOSE SAND) ABOVE THE WATER TABLE WITH THE FOLLOWING PROPERTIES:

- SOIL UNIT WEIGHT = 115 PCF
- ANGLE OF INTERNAL FRICTION = 24 DEGREES
- SOIL MODULUS PARAMETER = 25 LB/IN3

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE BTO TYPE I SIGNS

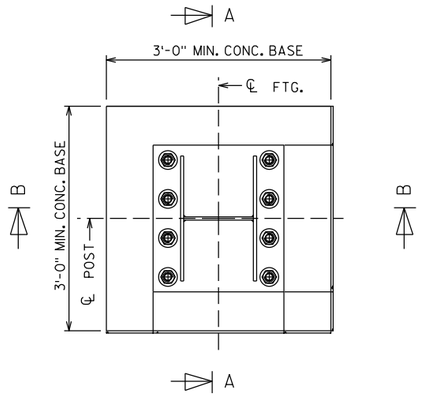
DRAWN BY | PLANS CK'D.

CONNECTION & FOUNDATION DETAILS 2 OF 2

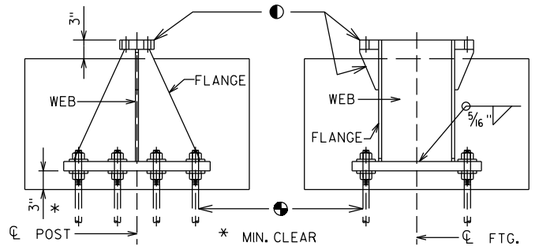
SHEET A3-1.20

410

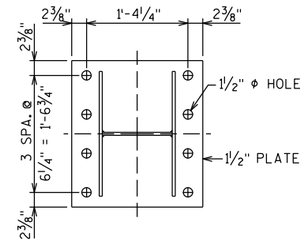
STUB AND ADHESIVE ANCHOR DETAILS



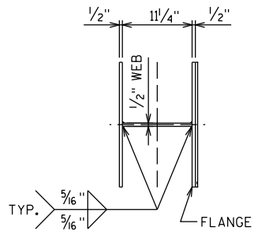
STUB SECTION



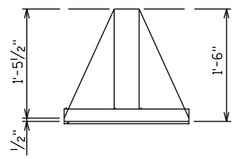
SECTION A-A SECTION B-B



BASE PLATE



STUB



FLANGE

◐ SEE BASE CONNECTION DETAILS ON "CONNECTIONS & FOUNDATION DETAILS" SHEETS.

◔ ADHESIVE ANCHORS 1¼-INCHES. ALLOWABLE PULL OUT CAPACITY = 15 KIPS. EMBED 1'-3" INTO ROCK.

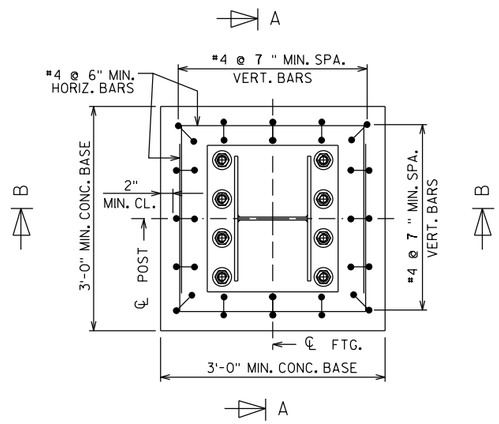
GENERAL NOTES:

QUANTITIES PER BASE:
REINFORCING STEEL = 62 LB
CONCRETE = 0.6 CY
STRUCTURAL STEEL = 335 LB

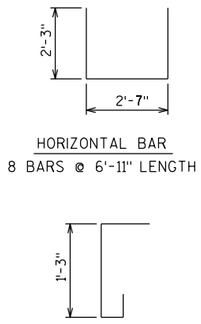
ALL MATERIALS, EXCEPT FOR ANCHOR ROD, NUTS, AND WASHERS, SHALL BE ASTM A709 GRADE 50. ALL MATERIALS TO BE GALVANIZED AFTER FABRICATION.

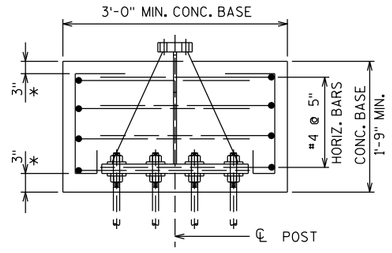
IF ROCK IS ENCOUNTERED PRIOR TO REACHING THE MINIMUM DRILLED SHAFT EMBEDMENT DEPTH DEFINED ON THE FOUNDATION DATA TABLE OF THE "CONNECTIONS & FOUNDATION DETAILS 2 OF 2" SHEET, THE CONTRACTOR SHALL INSTALL A TEST ADHESIVE ANCHOR AND DETERMINE THE PULL-OUT CAPACITY. IF THE FIELD TEST RESULTS IN A PULL-OUT CAPACITY GREATER THAN OR EQUAL TO 15 KIPS, THE CONTRACTOR MAY INSTALL THE ALTERNATE CONCRETE BASE AND BREAK-WAY STUB PER THE DETAILS ON THIS SHEET.

CONCRETE BASE DETAILS

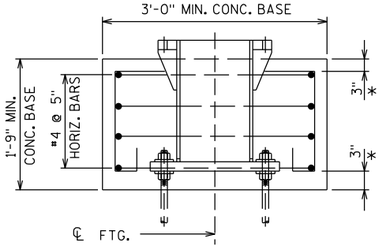


CONCRETE BASE PLAN





SECTION A-A



SECTION B-B

* MIN. CLEAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

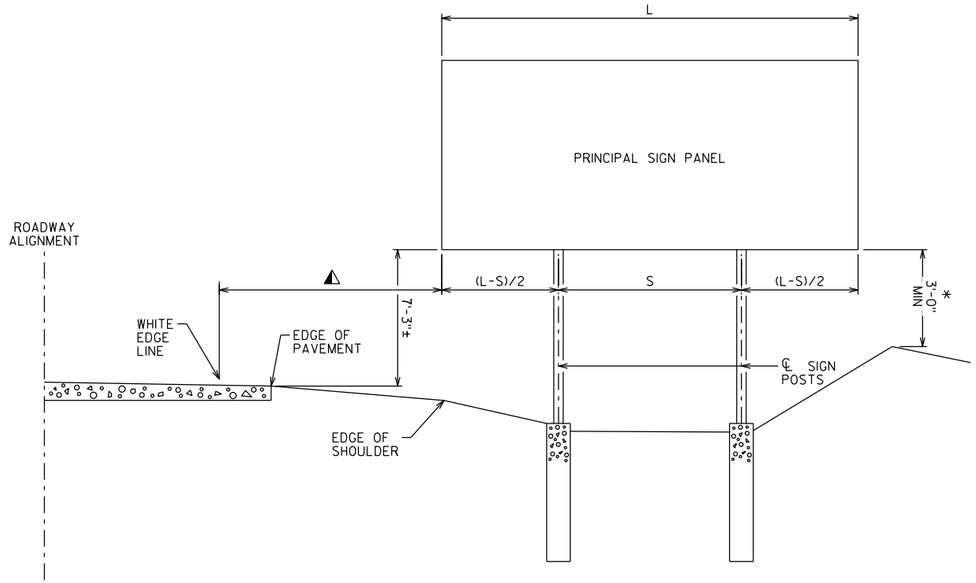
STRUCTURE BTO TYPE I SIGNS

DRAWN BY	PLANS CK'D.

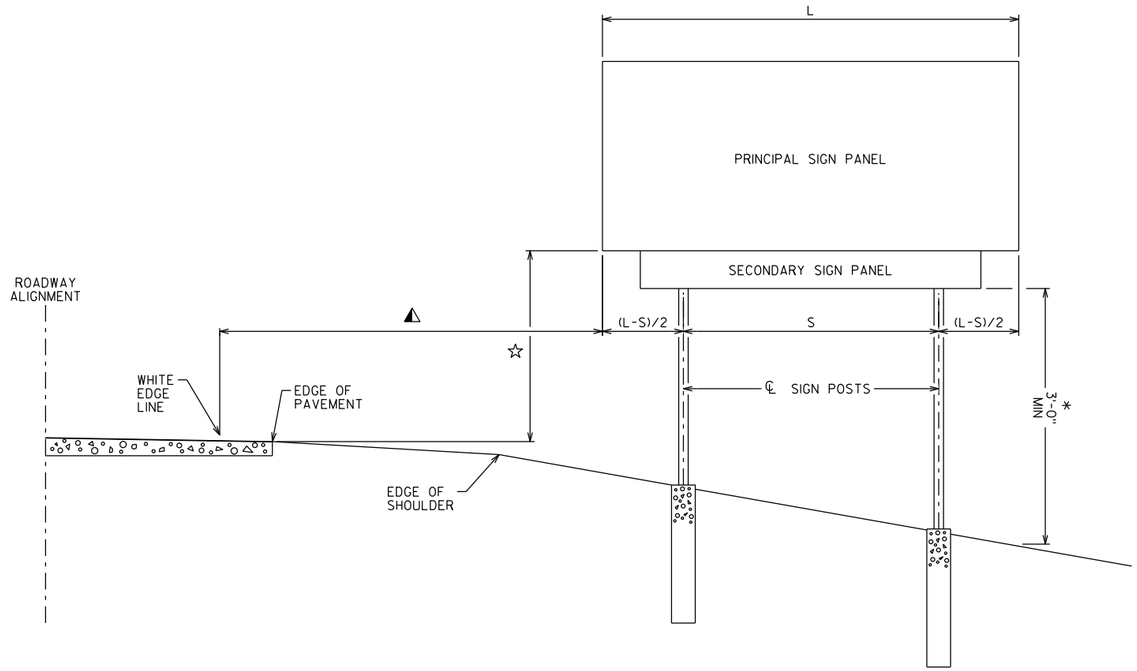
ALTERNATE BREAK-AWAY BASE ON ROCK

SHEET A3-1M.2

411



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

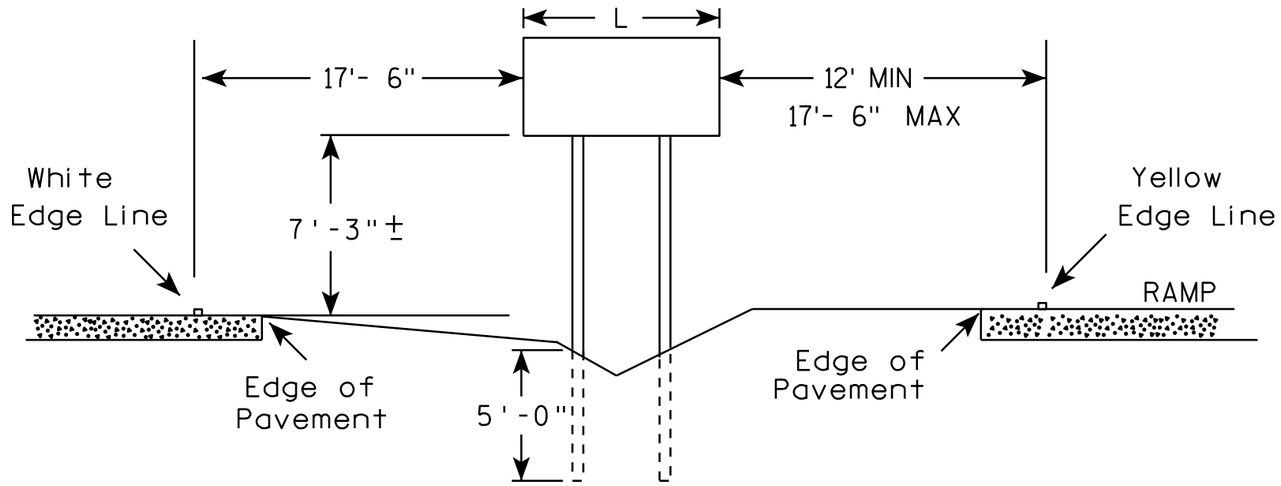
STRUCTURE BTO TYPE I SIGNS

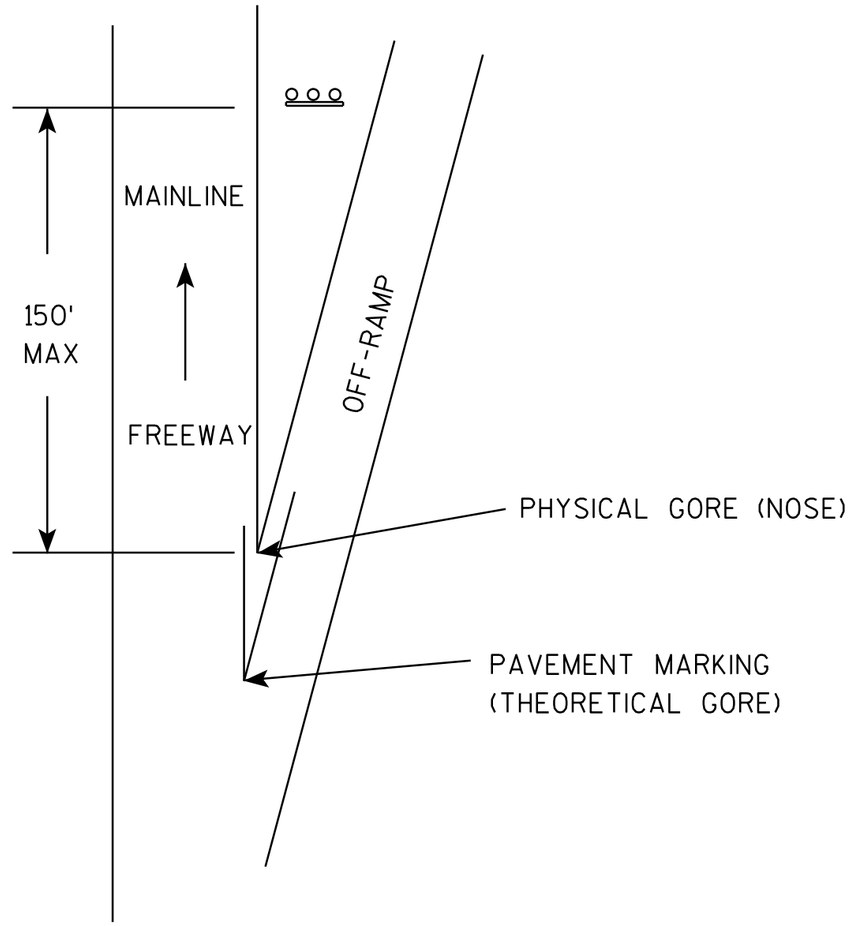
DRAWN BY | PLANS CK'D.

TYPICAL TYPE I SIGN INSTALLATION

SHEET A4-1.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 412 | E





GENERAL NOTES

1. The 150 foot distance from the physical gore (where pavement ends) will normally provide the offsets as shown.
2. If roadway geometrics permit, the sign may be closer than the 150 foot distance as long as the offsets are maintained.
3. At no time shall the location be greater than 150 feet. If the normal offsets cannot be maintained, they can be reduced to 6 feet from the edge of the paved shoulder (both freeway and ramp).
4. The offset from edge of sign to the yellow edge line on the ramp is shown as a minimum of 12 feet and a maximum of 17 feet, 6 inches. Preference is adhering to the maximum rather than the minimum dimension.
5. When L is equal to or exceeds 10 feet, use 3 posts as per A4-4.
6. The (∓) tolerance for the mounting height is 3 inches.

7

7

TYPICAL INSTALLATION
OF TYPE II SIGNS ON
WOOD POSTS IN GORE

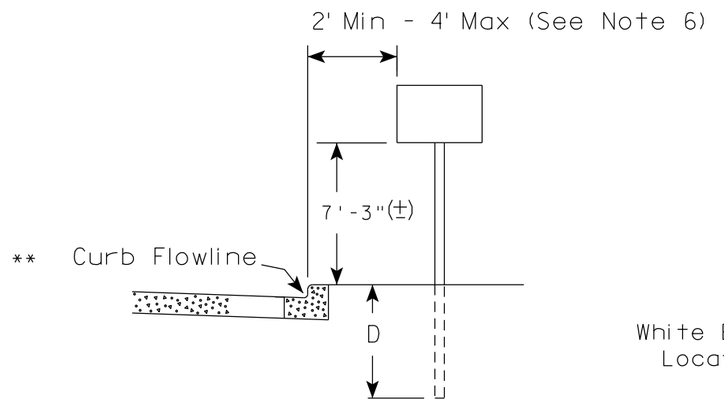
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

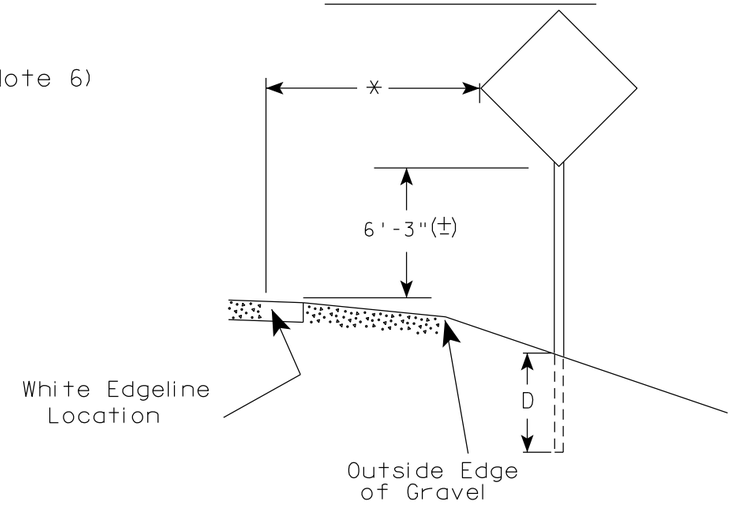
DATE 2/06/14 PLA 413 A4-2.3

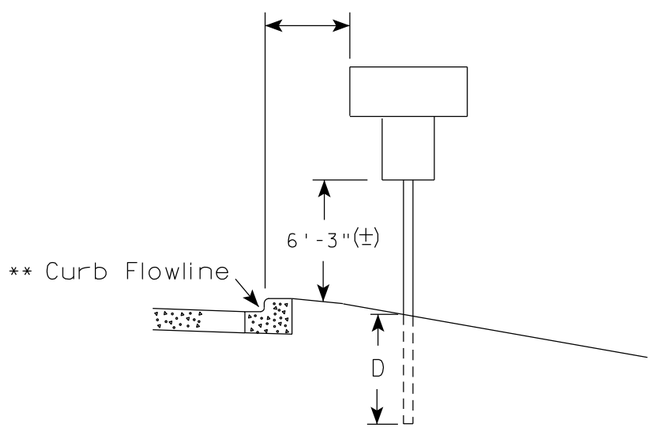
PROJECT NO: | SHEET NO: E

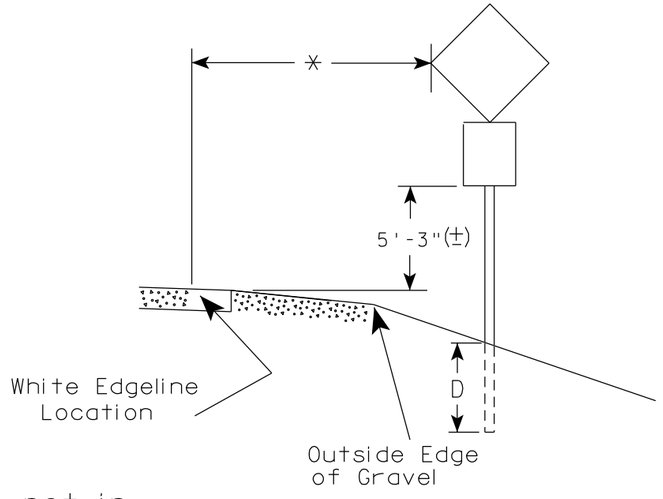
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on 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.

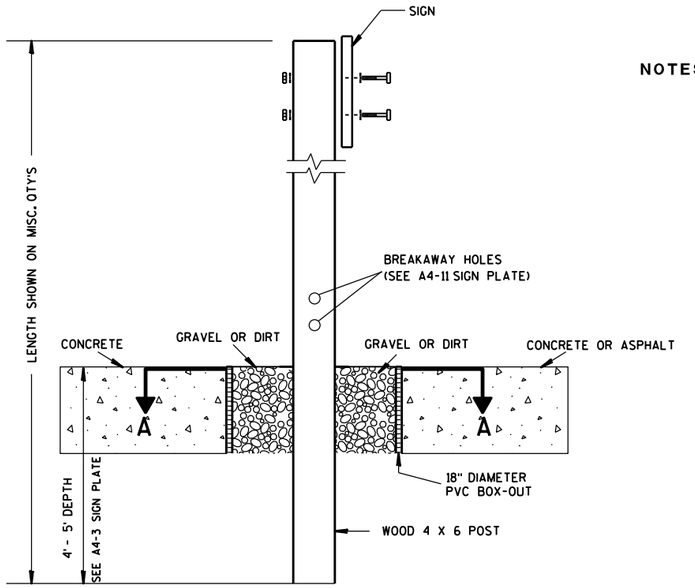
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

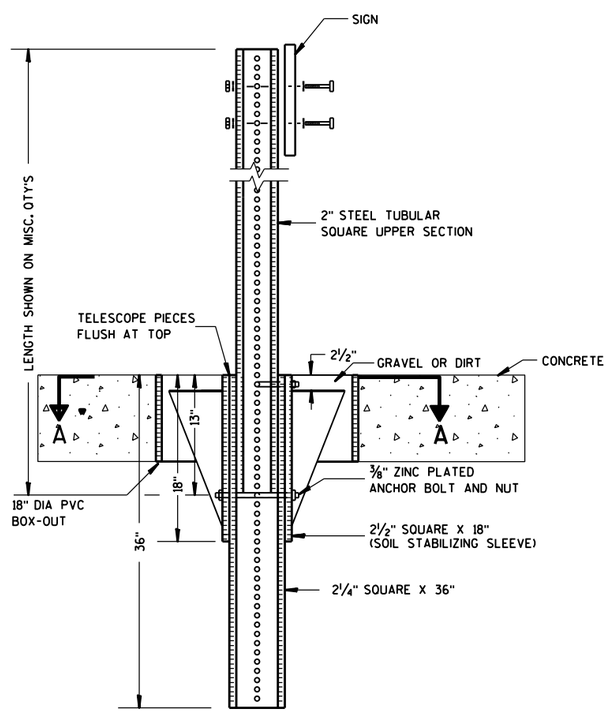
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 414	E



ELEVATION VIEW

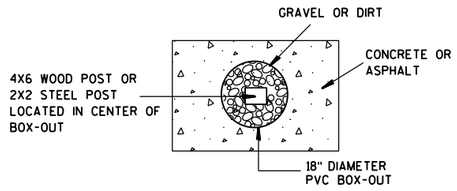
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

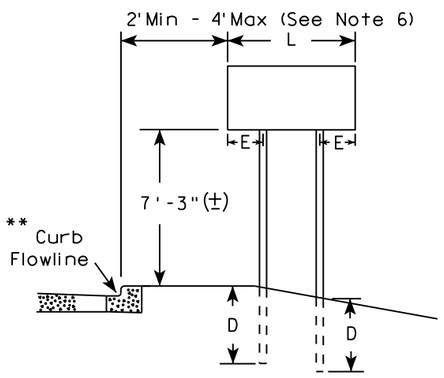
APPROVED Matthew R Rauch
for State Traffic Engineer

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

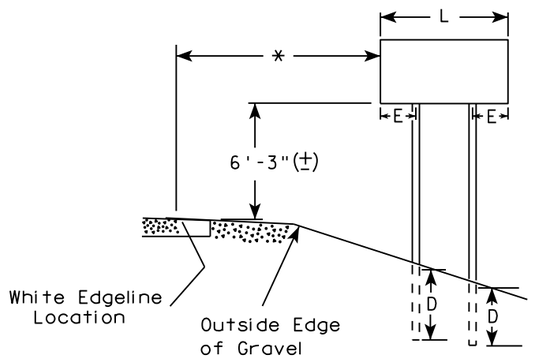
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

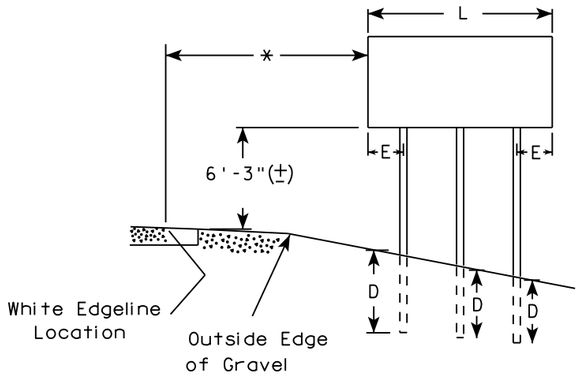
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

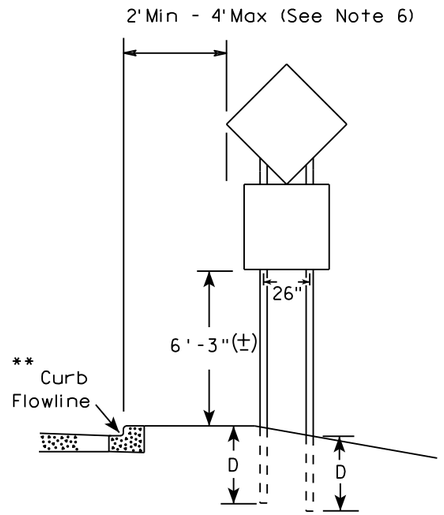
URBAN AREA



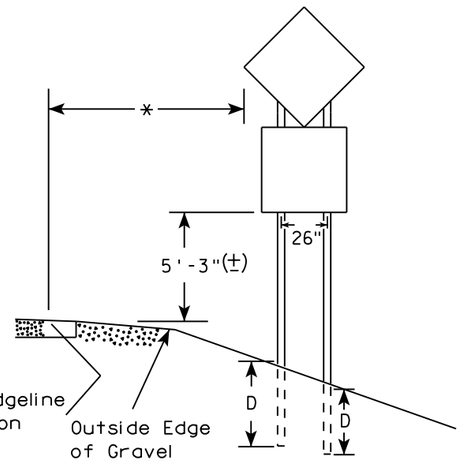
RURAL AREA (See Note 3)







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

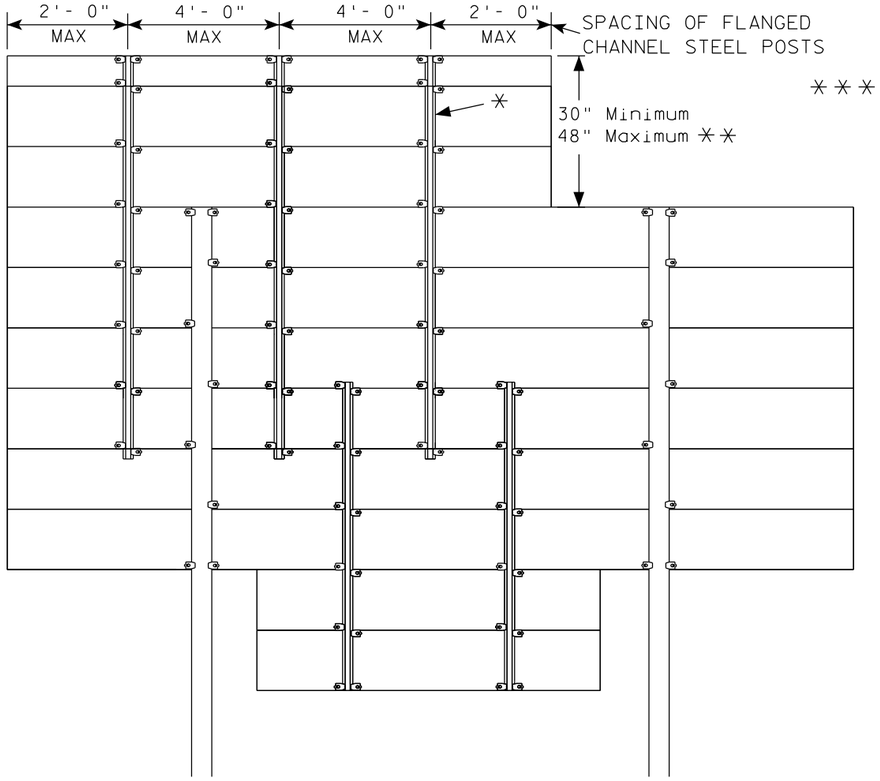
DATE 8/21/17 PLATE NO. A4-4.15

7

7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 416	E

GROUND MOUNTED SIGN



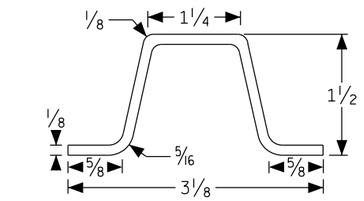
✳=2.00 lb/ft AND 4.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

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

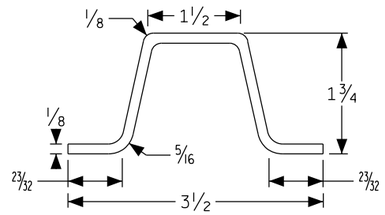
✳✳✳ THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 15 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 15 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

FLANGE CHANNEL DETAILS

NOT TO SCALE

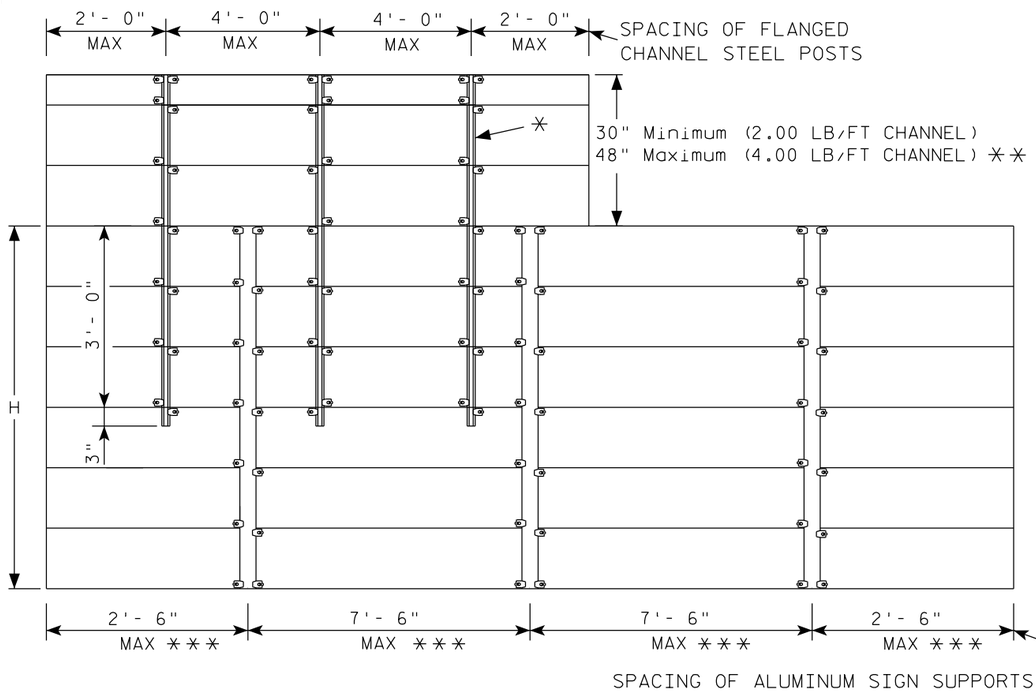


2.00 LB/FT CHANNEL



4.00 LB/FT CHANNEL

SIGN BRIDGE MOUNTED SIGN



SPACING OF ALUMINUM SIGN SUPPORTS 5" X 3.5" X 3.7 LBS./ft.

GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:

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

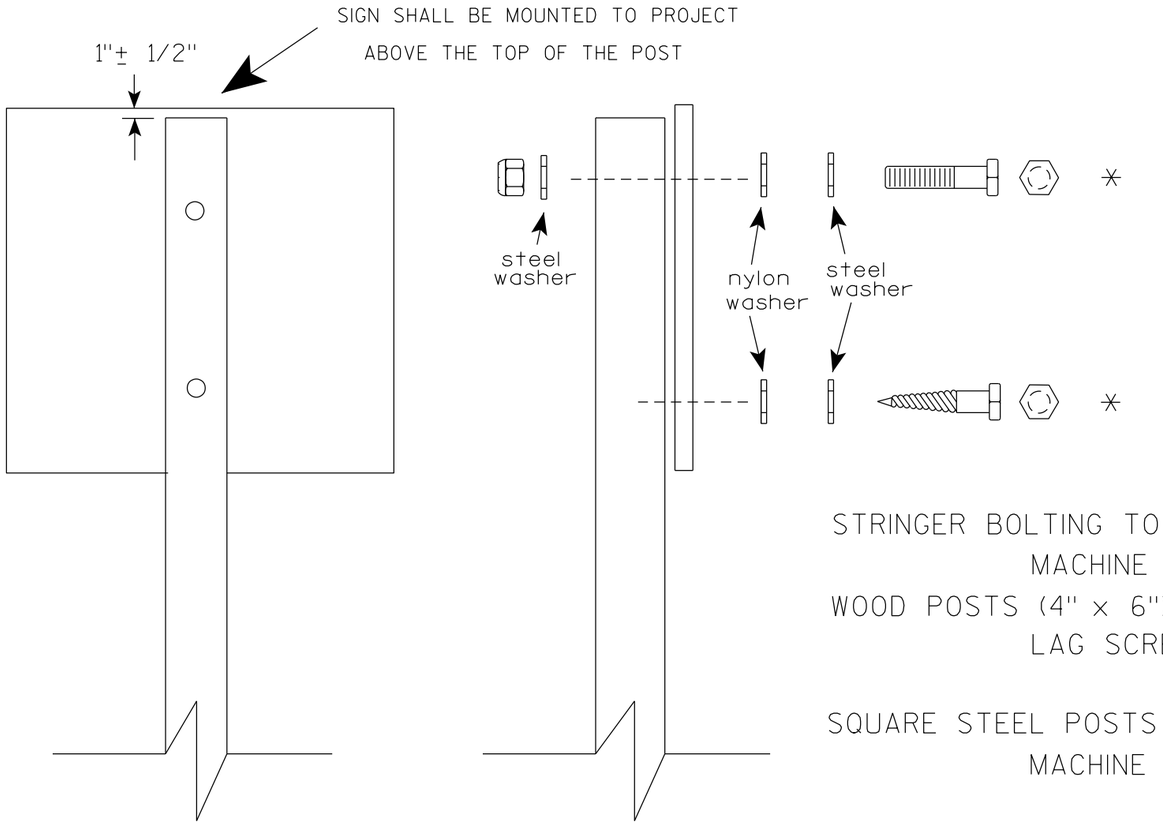
   If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.
3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)
6. Structural steel sign supports shall extend to the top of the main signs, as shown on the above details.

ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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



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

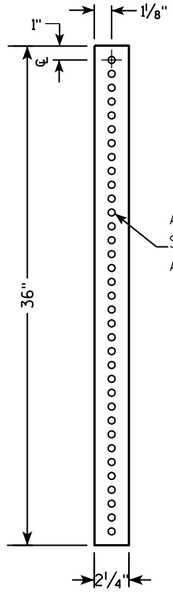
DATE 4/1/2020 PLATE NO. A4-8.9

PROJECT NO:

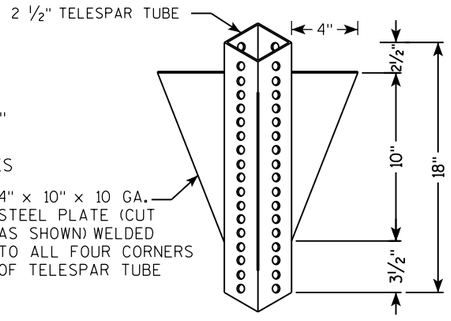
SHEET NO: 418 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

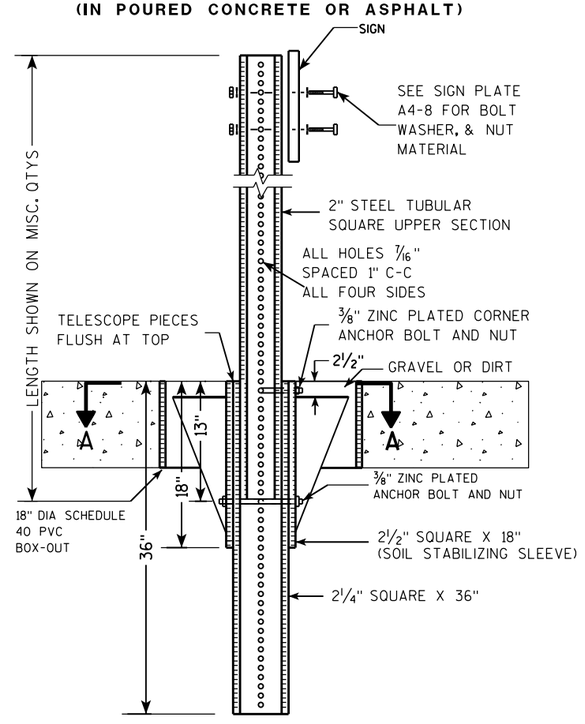
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



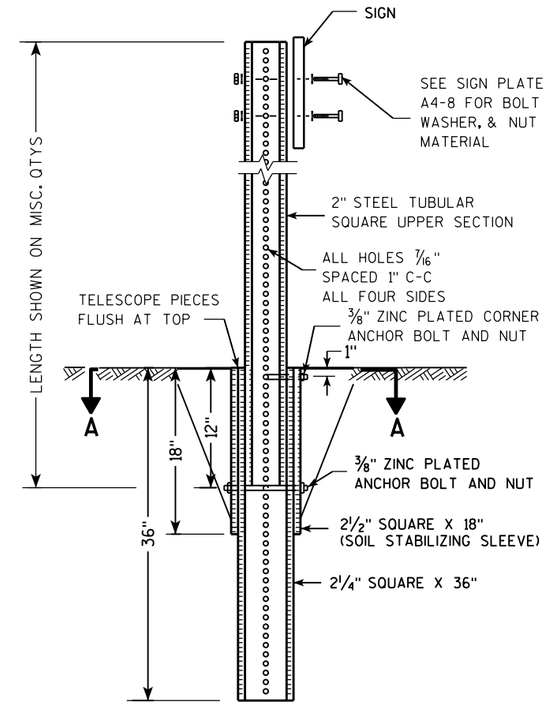
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

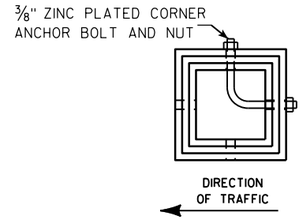


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

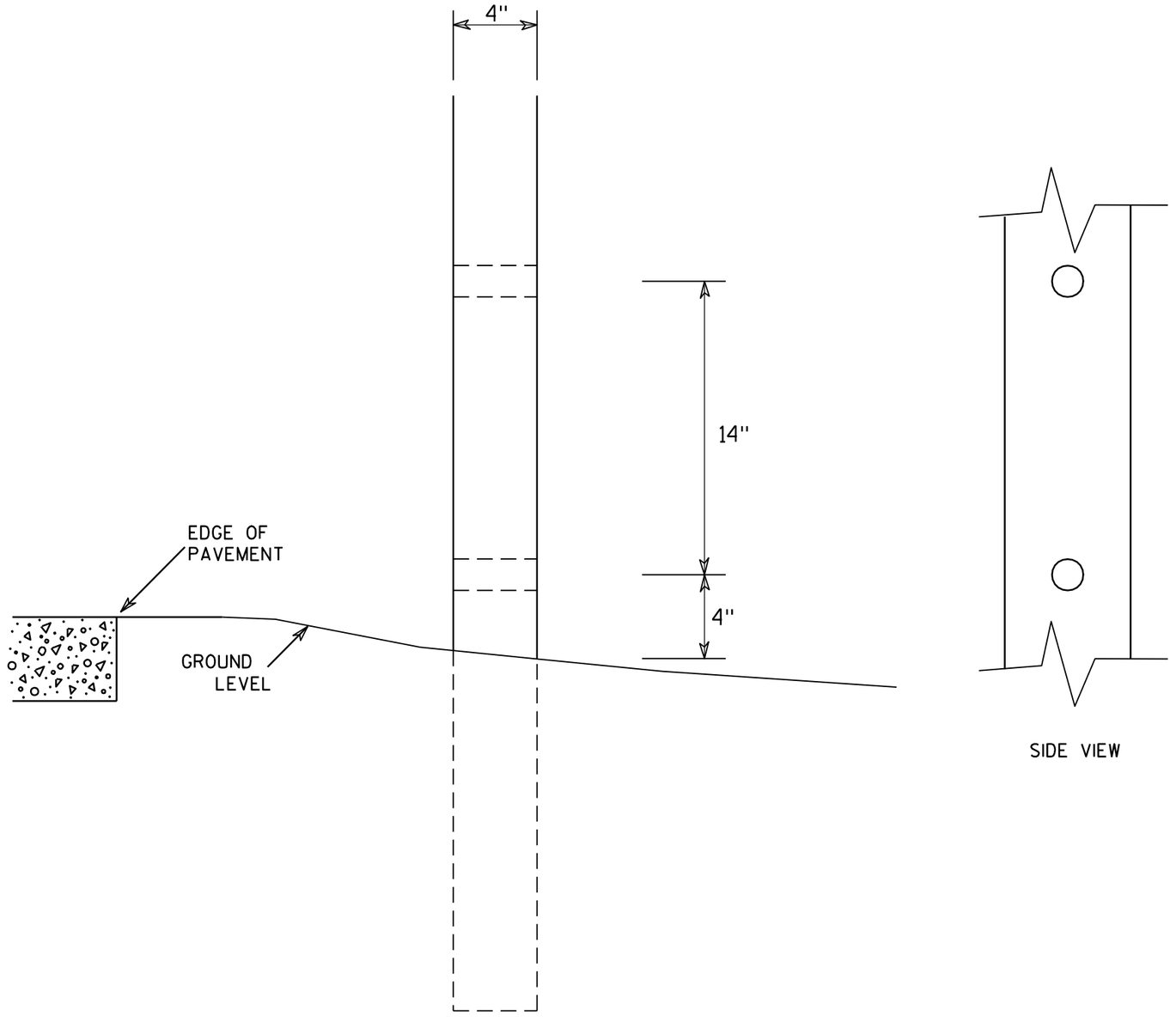
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 419 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000

WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

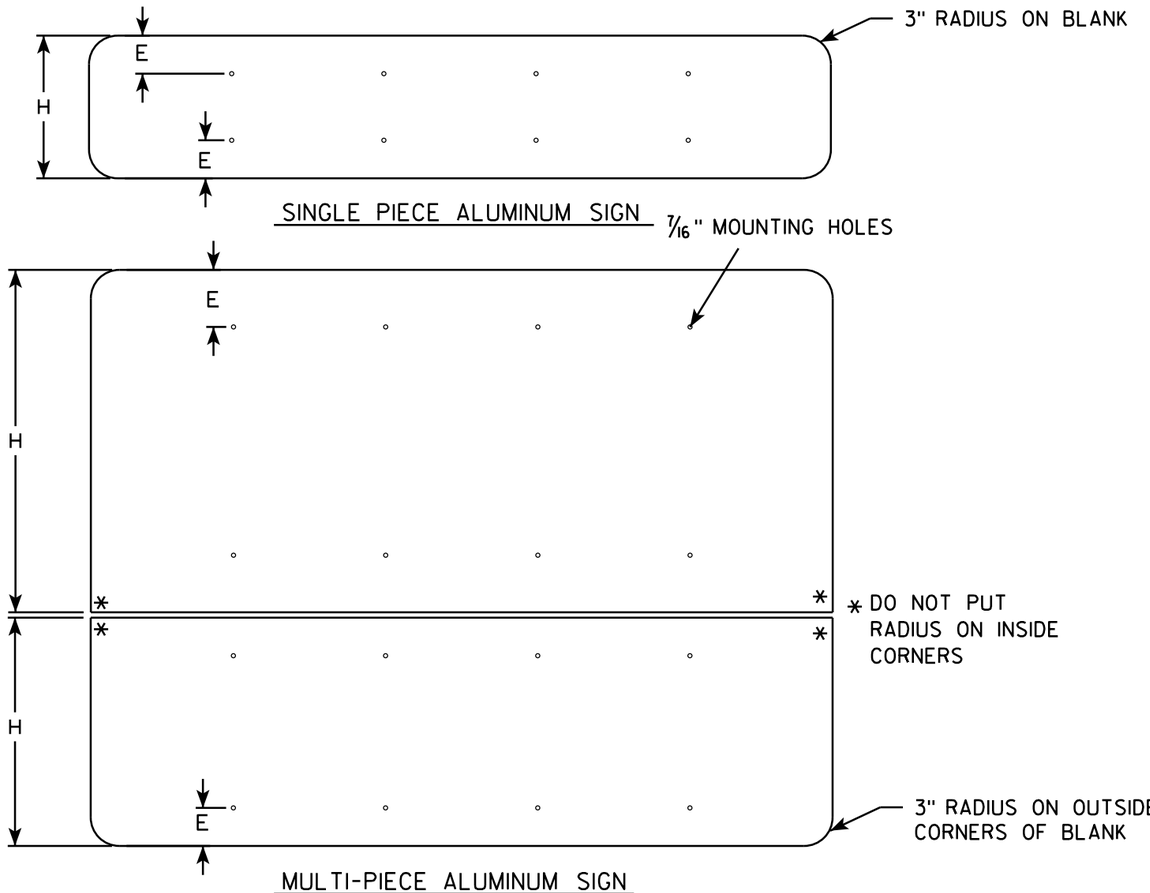
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

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

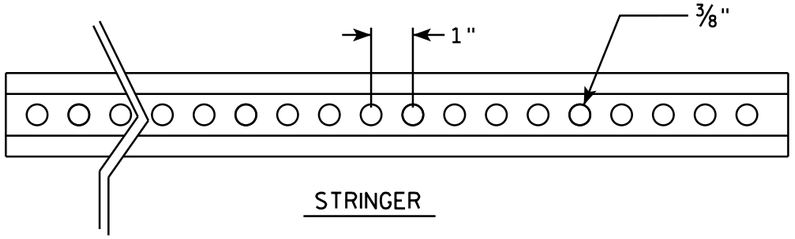
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 420	E



GENERAL NOTES

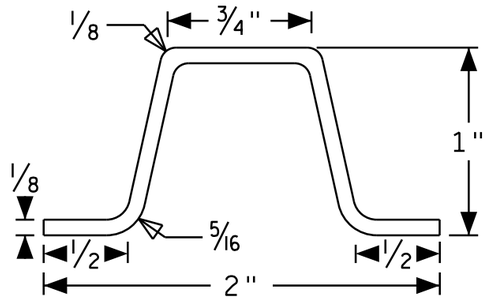
- ALL SIGNS OVER 60" IN WIDTH SHALL HAVE A 3" RADIUS ON THE OUTSIDE CORNERS OF THE ALUMINUM BLANK.
- MOUNTING HOLES SHALL BE 7/16" DIAMETER.
- SEE CHART FOR HOLE SPACING REQUIREMENTS
- FOR SIGN PANELS WITH DIMENSION (H) 36" AND OVER, DIMENSION E SHALL BE 6"
- FOR SIGN PANELS WITH DIMENSION (H) UNDER 36", DIMENSION E SHALL BE 4"
- SIGN STRINGER MATERIAL SHALL CONSIST OF STEEL CHANNEL POST SECTIONS, WEIGHING 1.12 LBS/FT IN ACCORDANCE WITH SECTION 633.2.1 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
- SEE SIGN PLATE A4-8 FOR SIGN STRINGER BOLTING REQUIREMENTS.

SIGN WIDTH	STRINGER WIDTH	POSTS	HOLE SPACING	MOUNTING HOLES
78"	72"	2	16"	15" 31" 47" 63"
84"	72"	2	17"	16½" 33½" 50½" 67½"
90"	72"	2	18"	18" 36" 54" 72"
96"	90"	2	19"	19½" 38½" 57½" 76½"
102"	90"	2	20"	21" 41" 61" 81"
108"	90"	2	21"	22½" 43½" 64½" 85½"
114"	108"	3	15"	12" 27" 42" 57" 72" 87" 102"
120"	108"	3	16"	12" 28" 44" 60" 76" 92" 108"
126"	108"	3	17"	12" 29" 46" 63" 80" 97" 114"
132"	126"	3	18"	12" 30" 48" 66" 84" 102" 120"
138"	126"	3	19"	12" 31" 50" 69" 88" 107" 126"
144"	126"	3	20"	12" 32" 52" 72" 92" 112" 132"

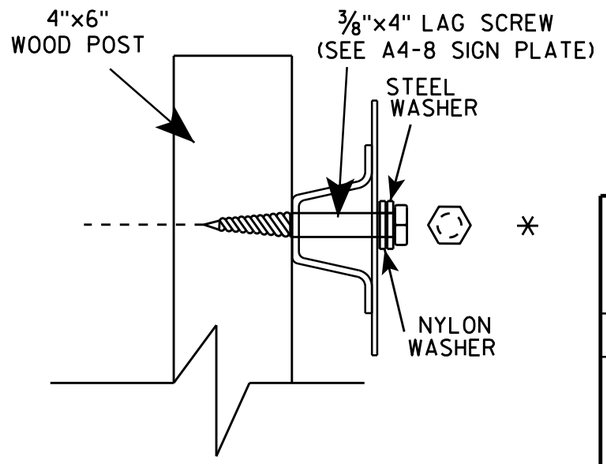


STRINGER

CROSS SECTION VIEW OF CHANNEL



POST MOUNTING



SIGN STRINGER MOUNTING REQUIREMENTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

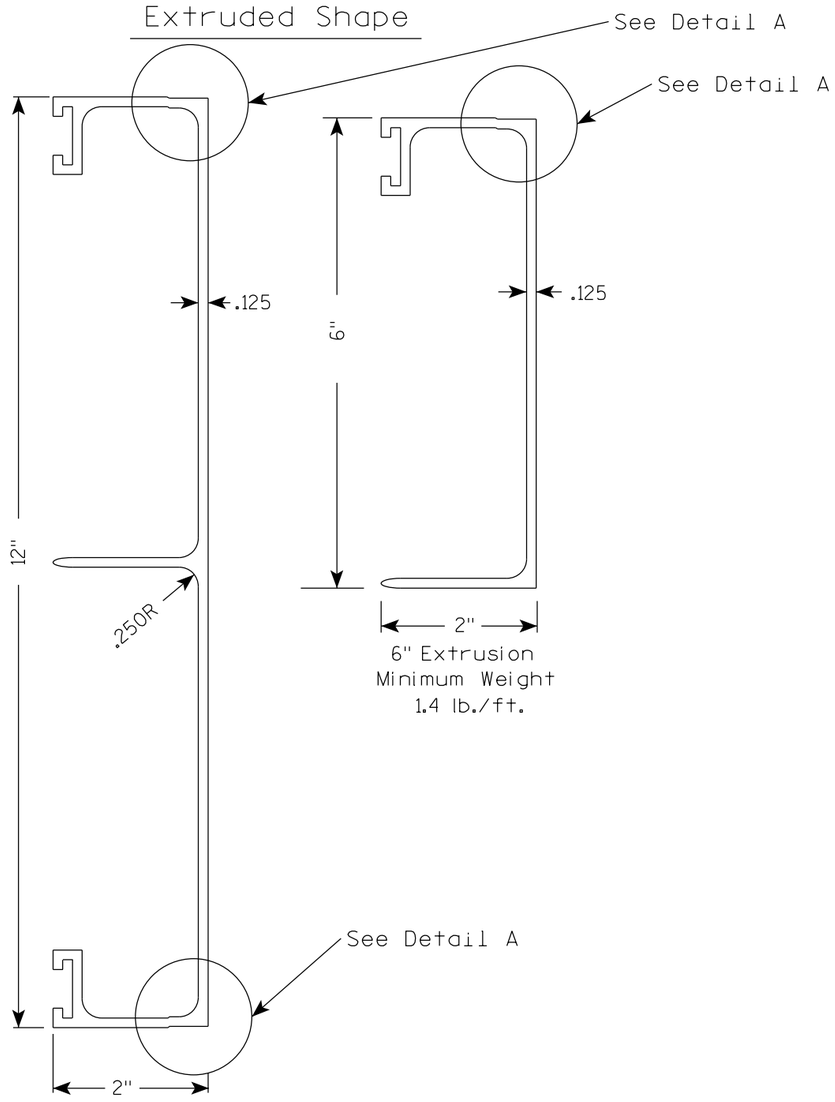
for State Traffic Engineer

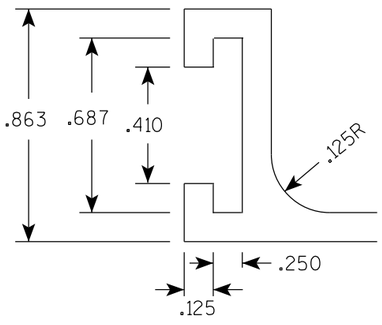
DATE 4/26/16 PLATE NO A4-18.1

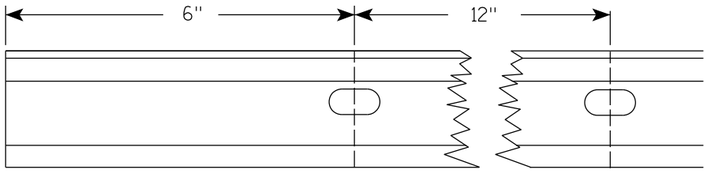
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A418.dgn PLOT DATE : 27-APR-2016 13:56 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 41.805205:1.000000 WISDOT/CADDS SHEET 42

Extruded Shape







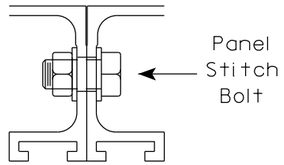
Punch 7/16" x 7/8" oval holes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.

Hardware

STITCH BOLT, WASHER & NUT

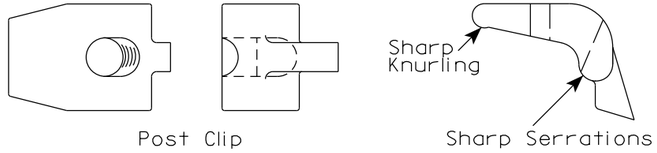
The hardware includes:

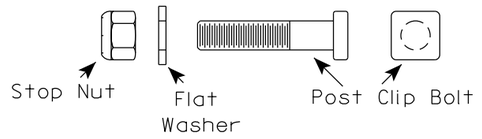
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy



POST CLIP, POST CLIP BOLT, WASHER & NUT

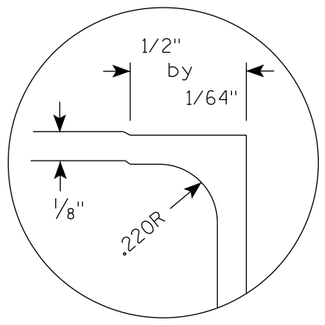
Post Clip shall be Alum. Alloy 356-T6
Post Clip Bolt shall be Stainless Steel.
Flat washer shall be 3/8" X .091, Stainless Steel.
Stop nut shall be stainless steel.





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

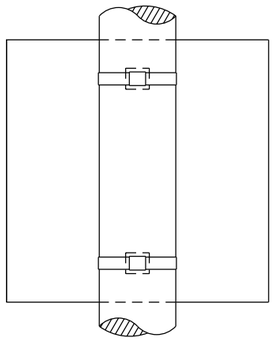
DATE 1/07/20 PLATE NO. A5-2.10

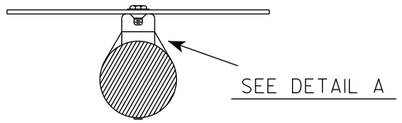
PROJECT NO:

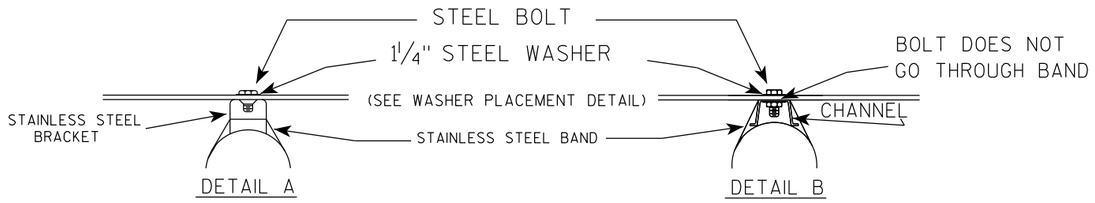
SHEET NO: 422 E

BANDING

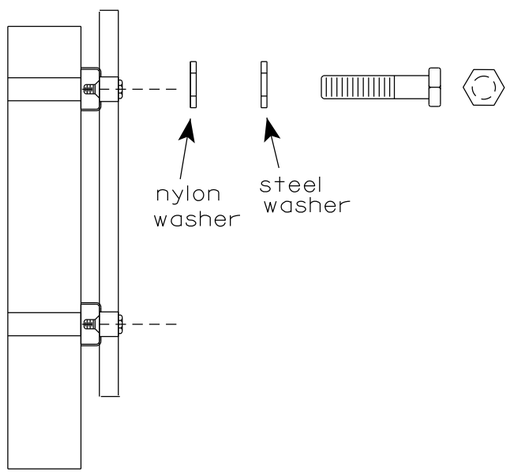
SINGLE SIGN







WASHER PLACEMENT

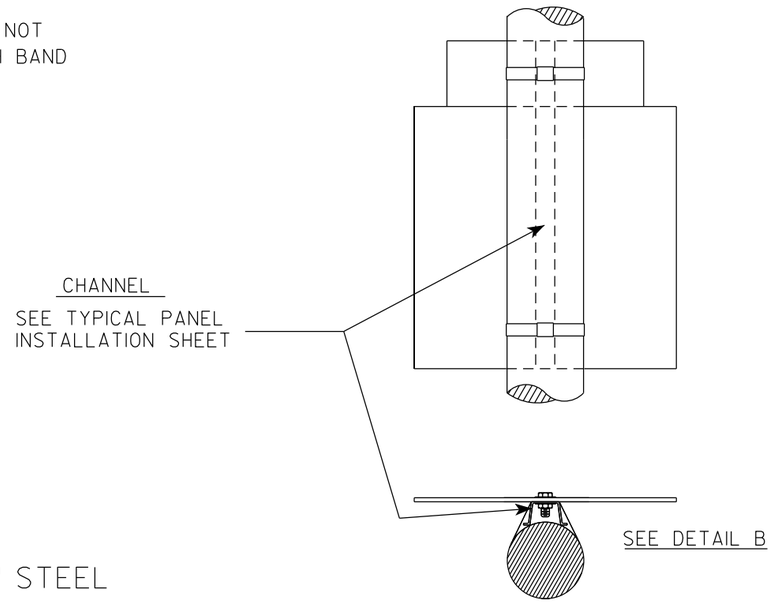


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
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



STANDARD SIGN
SIGN BANDING DETAILS

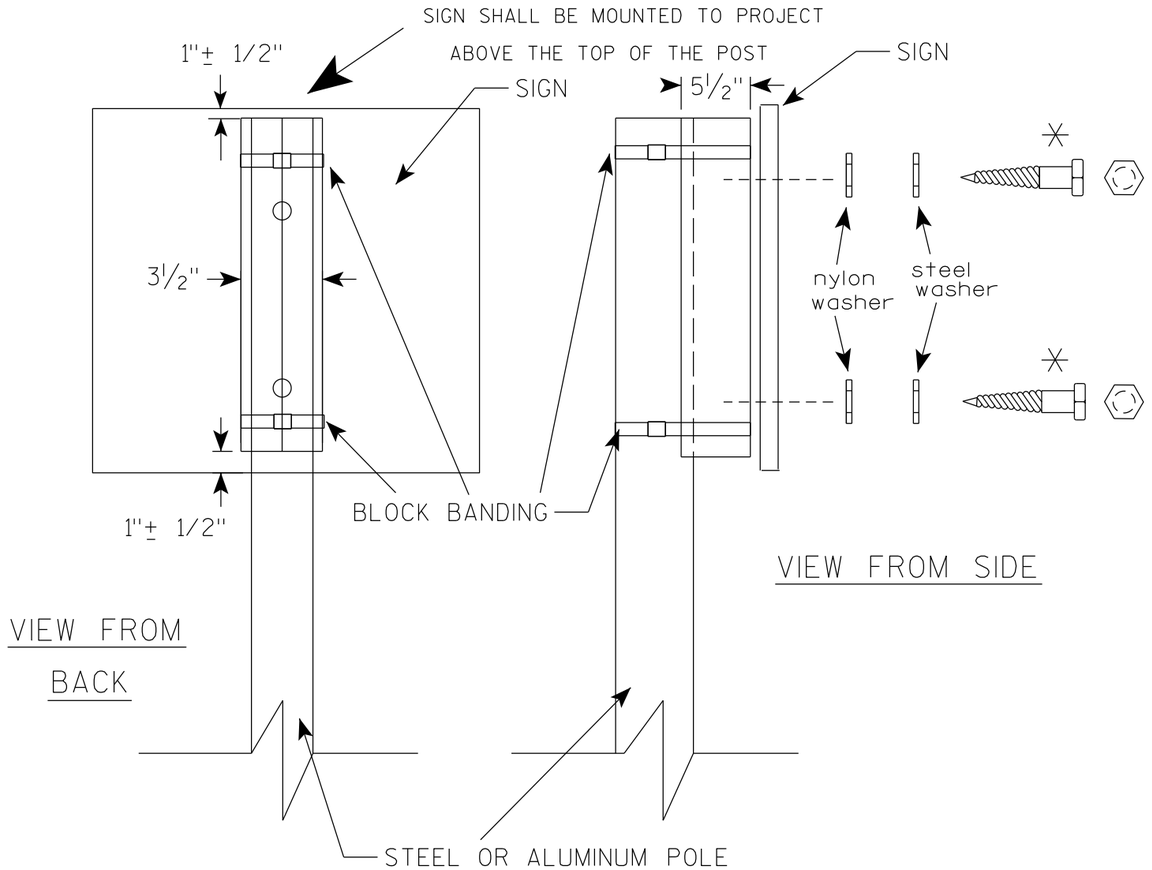
WISCONSIN DEPT OF TRANSPORTATION

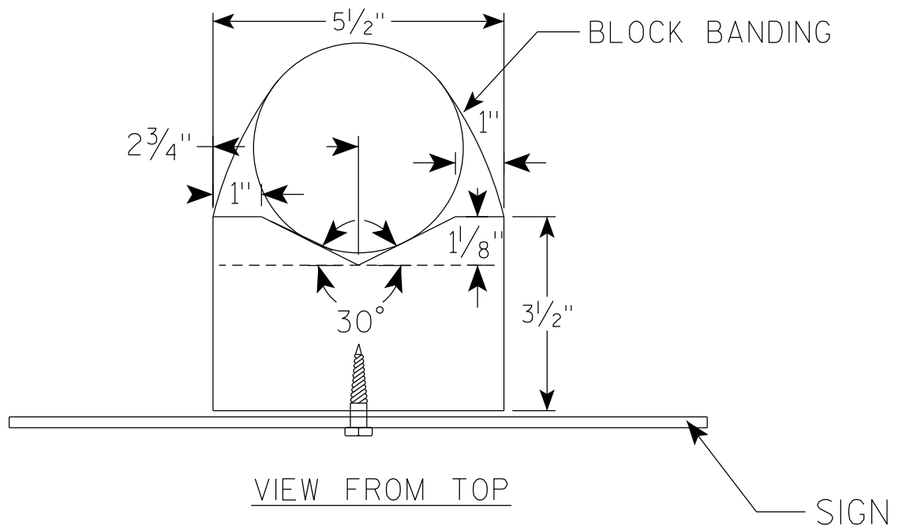
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 423	E

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





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"

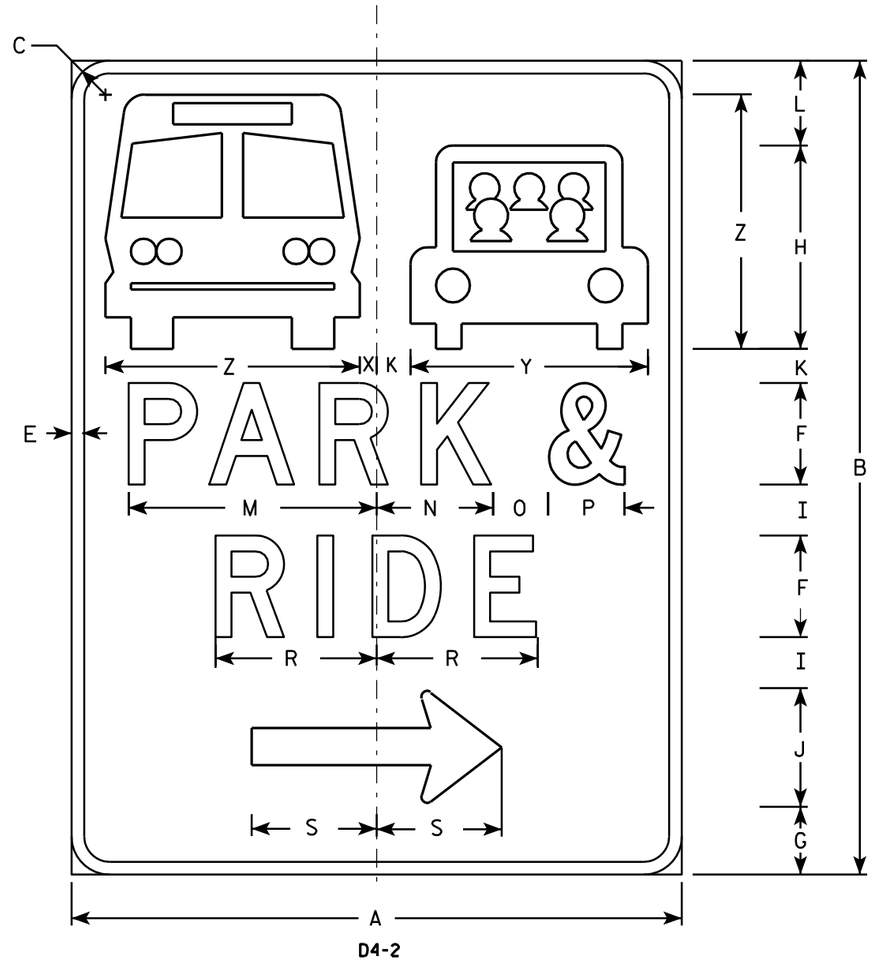
BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

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

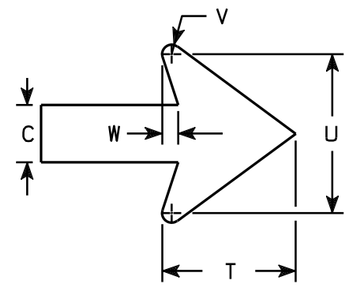
PROJECT NO: | SHEET NO: 424 | E



D4-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White - Type H Reflective
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. The D4-2L is the same as a D4-2R except the arrow is reversed.
6. The D4-2 sign may have either symbol or both symbols at the same time.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	30	1 1/8		1/2	4	1 5/8	7 1/2	1 1/2	4 5/8	1 3/8	3 7/8	9 3/4	4	2 3/4	3		6 3/8	4 7/8	3 1/2	4 1/8	1/4	3/8	5/8	9 3/8	10	5.0
2	30	36	1 3/8		5/8	5	2	9	1 5/8	5 1/2	1 5/8	4 5/8	12 1/4	5 1/8	3 3/8	3 3/4		8	6 1/8	4 3/8	5 1/4	3/8	1/2	7/8	11 3/4	12 1/2	7.50
3	36	48	2 1/4		3/4	6	4	12	3	7	2	5	14 5/8	6 7/8	3 1/4	4 1/2		9 1/2	7 1/2	5 1/4	6 1/4	3/8	5/8	1	14	15	12.0
4																											
5																											

STANDARD SIGN
D4-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/20/10 PLATE NO. D4-2.5

PROJECT NO:

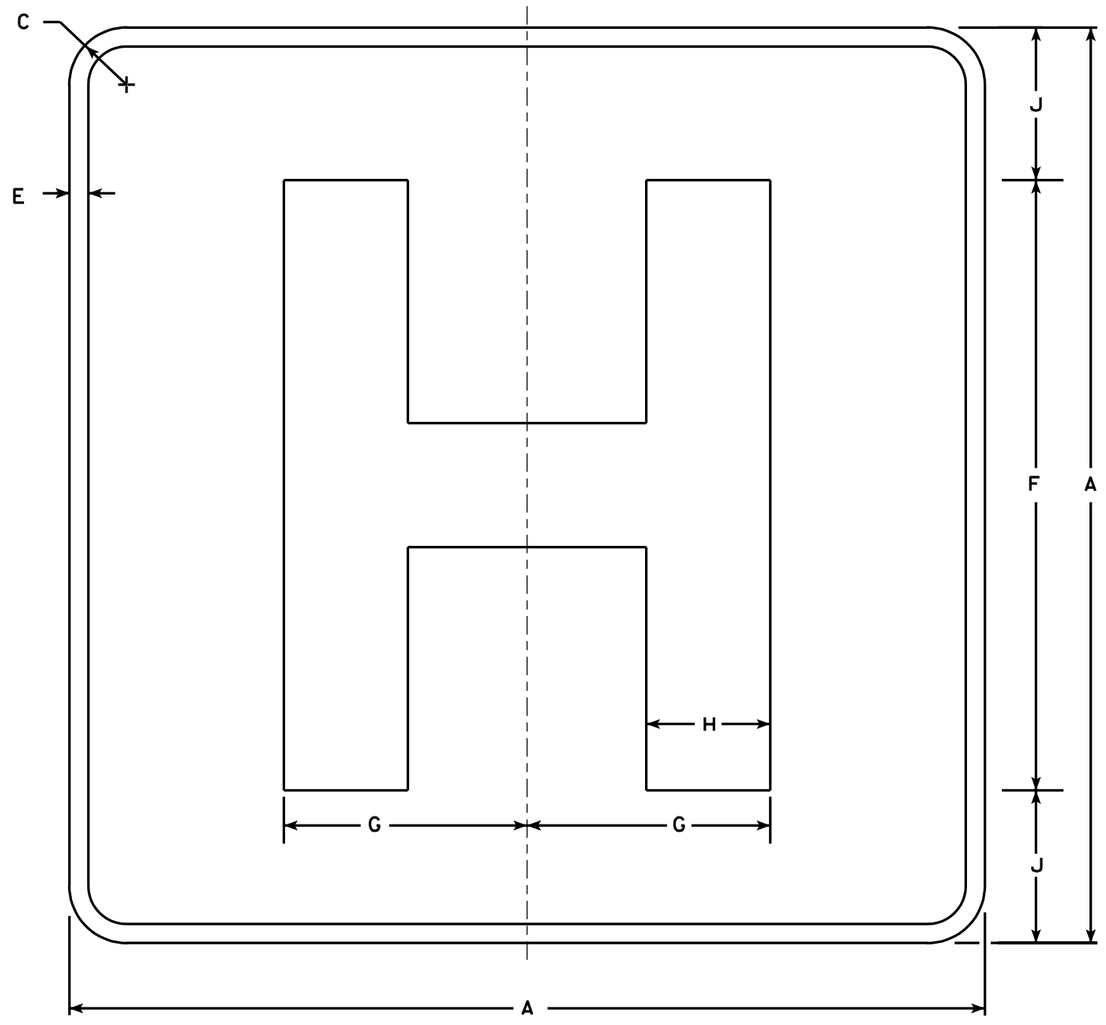
SHEET NO: 425 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\D42.dgn PLOT DATE : 10-FEB-2011 14:21 PLOT BY : mscsja

WISDOT/CADDS SHEET 42

7

7



D9-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Blue
   Message - White - Type H Reflective
3. Message Series - E Modified
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	450 mmX 450 mm
2	600 mmX 600 mm
3	900 mmX 900 mm
4	X
5	X

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		1 1/8		1/2	12	4 3/4	2 3/8		3																	4.0
2	24		1 1/2		1/2	16	6 3/8	3 1/4		4																	4.0
3	36		2 1/4		3/4	24	9 1/2	4 7/8		6																	9.0
4																											
5																											

STANDARD SIGN
D9-2

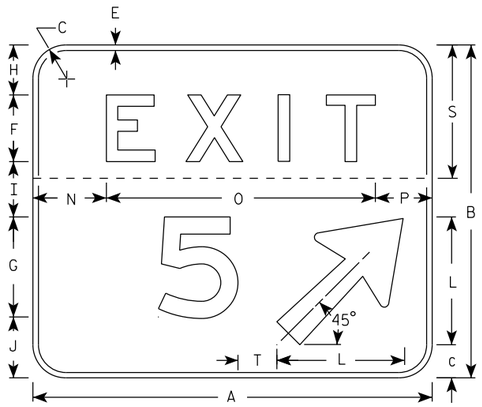
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spong
for State Traffic Engineer

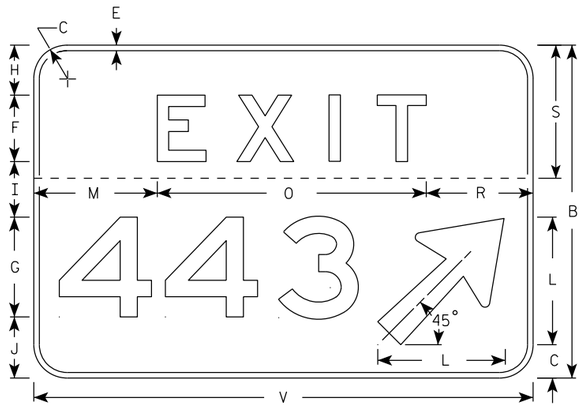
DATE 1/15/02 PLATE NO. D9-2.4

PROJECT NO:

SHEET NO: 426 E

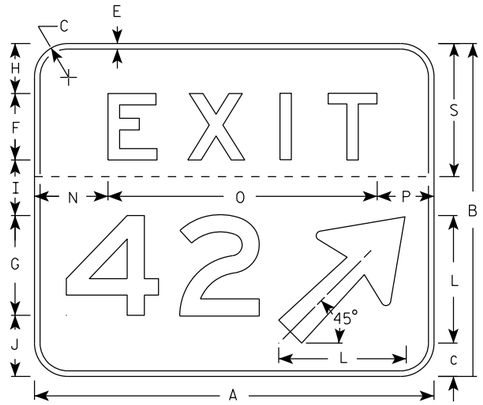


NOTE: T diminision shall be measured from the back of the number to the front of the arrow

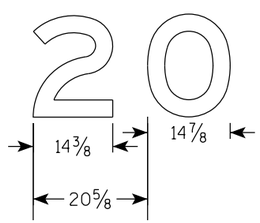


NOTES

1. Sign is Type II - Type H reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E
4. Corners may be square or rounded but the corners shall be rounded when base material is metal.
5. Sign shall be split into two seperate pieces as shown on each detail by the dashed line (_ _ _ _ _ _ _ _ _ _).
6. Arrow is Type "A" from sign plate A1-1.
7. Substitute appropriate message, space per the table and adjust placement on sign to achieve proper balance.
8. As per the Standard Spec's, these signs shall not have a vertical joint.



EXAMPLE FOR USING SPACING CHART



SPACING CHART FOR 18" NUMERALS

NUMBERS	WIDTH	0	1	2	3	4	5	6	7	8	9	A	B	C
0	14 7/8	21 5/8	21 5/8	21 1/4	20 3/8	21 1/4	21 1/4	21 5/8	19 7/8	22 1/8	21 5/8			
1	5 7/8	14	14	14	13 1/8	12 1/8	14	14	12 1/4	14	14			
2	14 3/8	20 5/8	21 1/8	20 5/8	19 3/4	20 1/4	20 5/8	20 5/8	18 7/8	21 1/8	20 5/8			
3	14 3/8	20 3/4	21 1/8	20 3/4	20 1/4	19 3/4	20 3/4	20 3/4	19 3/8	21 1/8	20 3/4			
4	16 5/8	22 7/8	22	22 1/2	21 5/8	21 5/8	22 7/8	22 7/8	20 5/8	23 3/8	22 7/8			
5	14 1/4	20 5/8	20 5/8	20 1/8	18 3/4	18 3/4	20 5/8	20 5/8	18 3/8	20 5/8	20 5/8			
6	14 1/2	21 1/4	20 3/4	20 3/4	19 7/8	19 1/2	20 3/8	20 3/4	19	20 3/4	20 3/8			
7	14 3/8	19 3/4	19 3/4	20 1/4	19 3/4	17	19 3/4	20 5/8	18 7/8	20 5/8	19 3/4			
8	14 1/4	21 1/2	21 1/2	20 5/8	19 1/4	19 3/4	20 5/8	21 1/2	19 5/8	21 1/2	20 5/8			
9	14 1/2	21 1/4	21 1/4	20 7/8	20	20 7/8	20 7/8	21 1/4	19 1/2	21 3/4	21 1/4			
A	18	19 3/4	19 3/4	20 1/4	19 3/4	17	19 3/4	20 5/8	18 7/8	20 5/8	19 3/4	21 5/8	23 7/8	23
B	14 1/4	21 1/2	21 1/2	20 5/8	19 1/4	19 3/4	20 5/8	21 1/2	19 5/8	21 1/2	20 5/8	19 1/2	22 3/8	21 1/2
C	14 1/4	21 1/4	21 1/4	20 7/8	20	20 7/8	20 7/8	21 1/4	19 1/2	21 3/4	21 1/4	18 3/8	21	19 3/4

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
2																										
3																										
4																										
5	72	60	6		1	12	18	9	10	11	8 7/8	23	22 1/4	13 1/4	48 1/2	10 1/4		19 1/4	24	7		90		96	7 1/2	

1-2 Digit Bid Area	3 Digit Bid Area
Sq. Ft.	
30	37.5

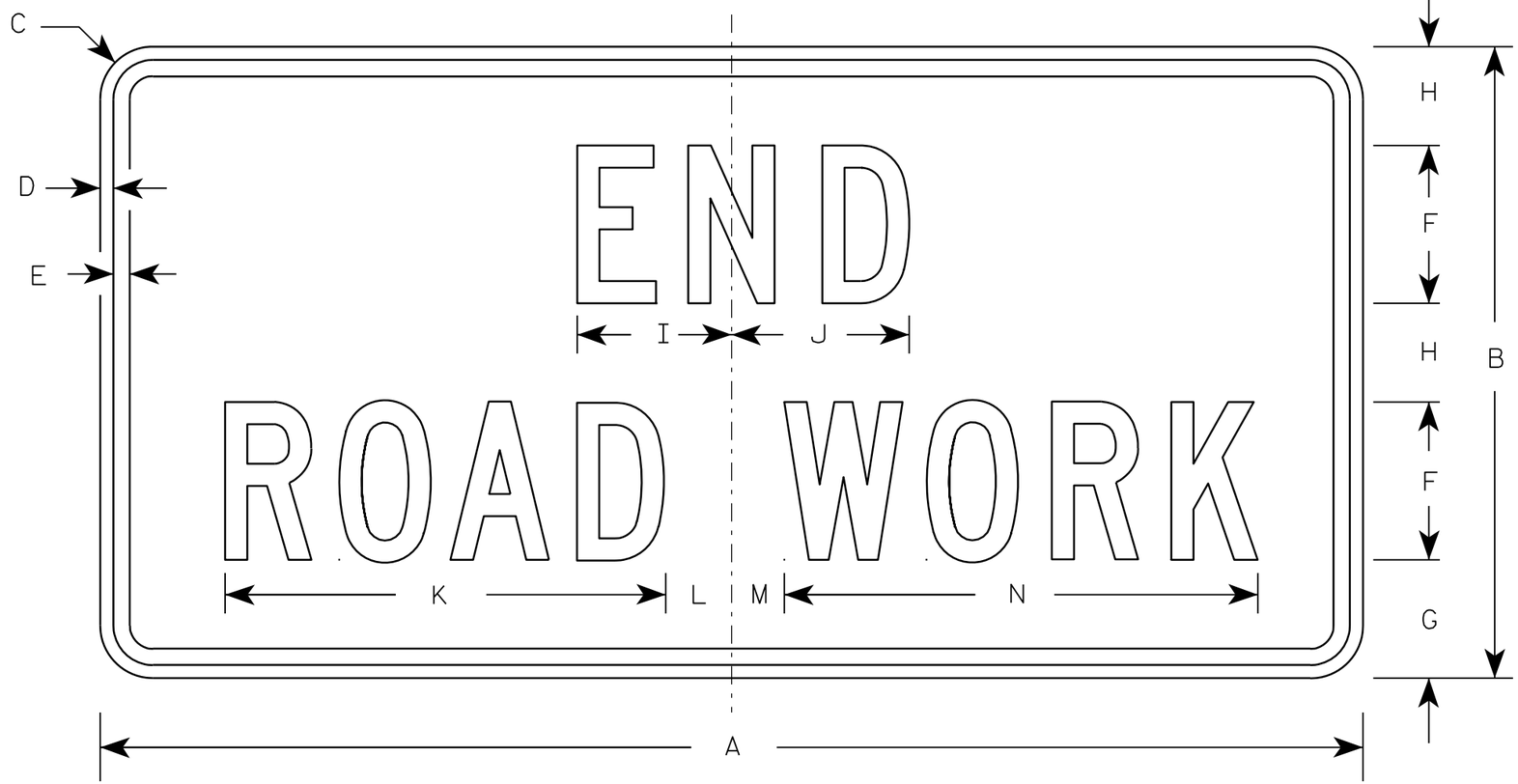
STANDARD SIGN E5-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/21/19 PLATE NO. E5-1A.13

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 427	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

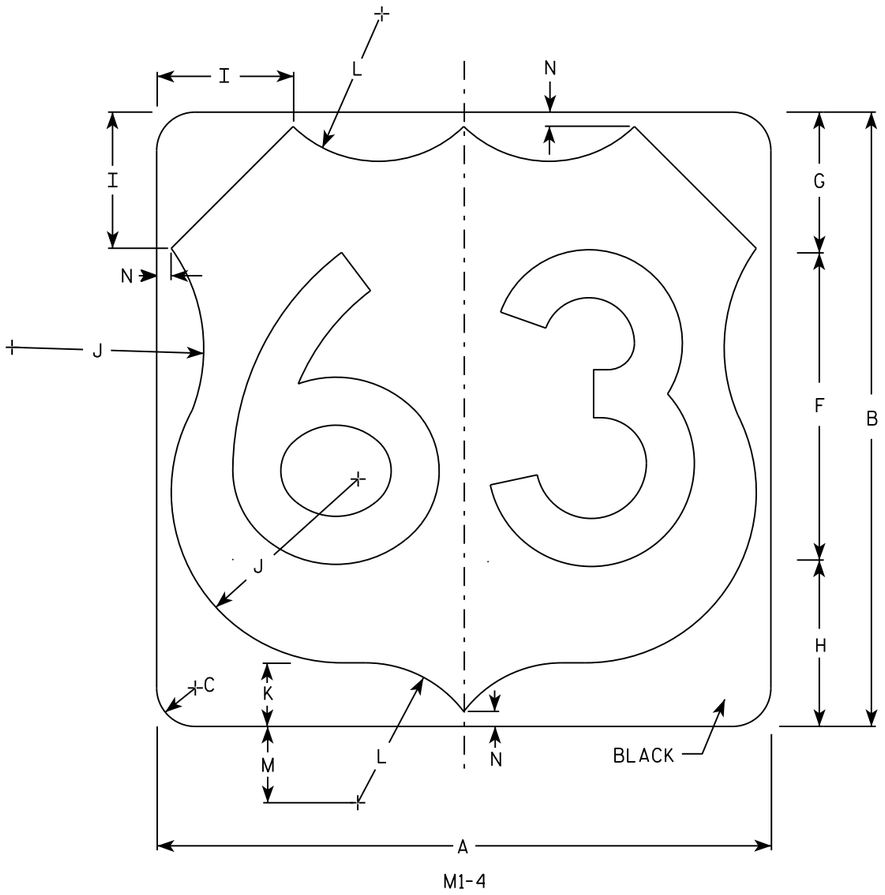
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

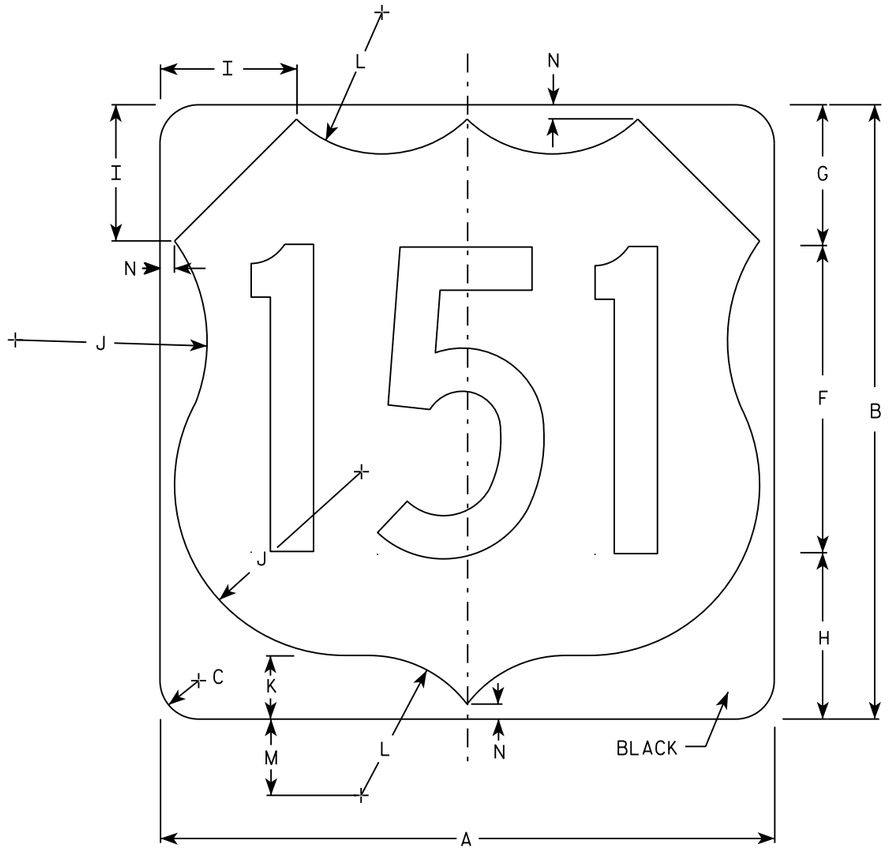
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 428	E

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D except 3 number signs 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.



M1-4



M1-4

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area Sq. ft.
1																											
2	24	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0
3	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0
4	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0
5	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0

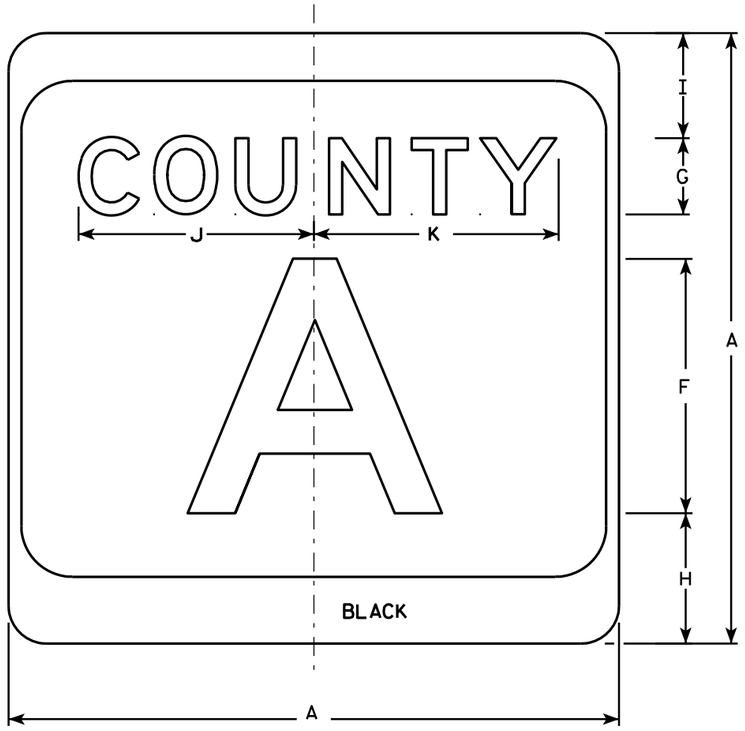
USH MARKER
M1-4 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

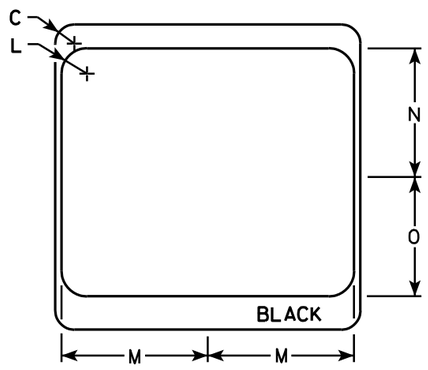
APPROVED Matthew R Rauch
for State Traffic Engineer

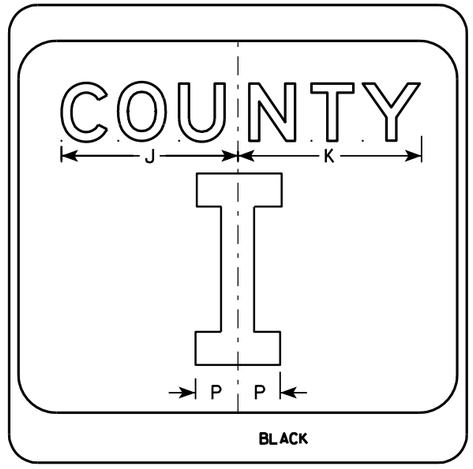
DATE 3/16/18 PLATE NO. M1-4.10

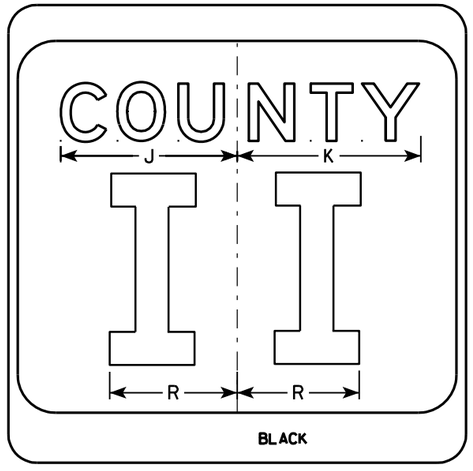
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 429	E



M1-5A







NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 7
   Message - Black
3. Message Series - see Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Message Series E for 1 letter.
   Message Series D for 2 letters unless message is too big then Series C.
   Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

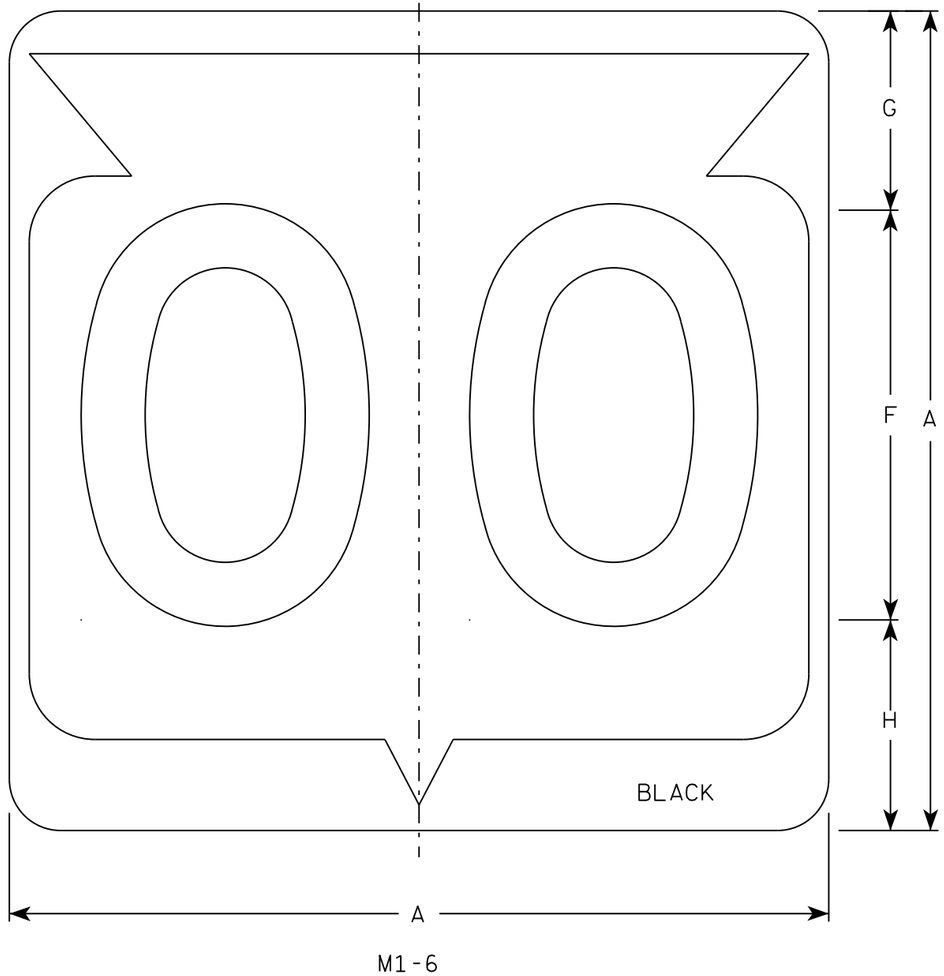
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/27/11 PLATE NO. M1-5A.8

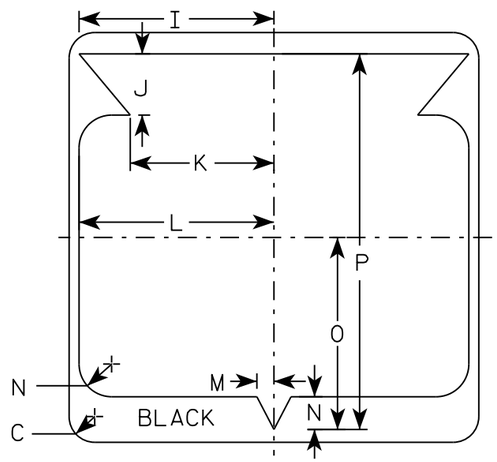
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 430 | E



M1-6

NOTES

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



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0

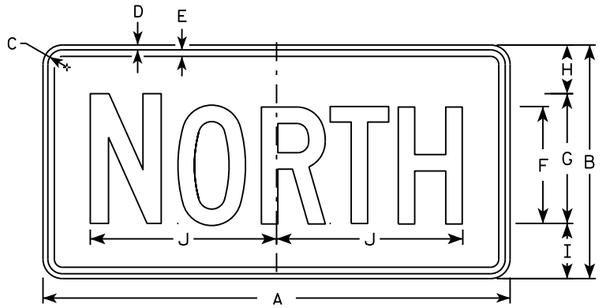
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

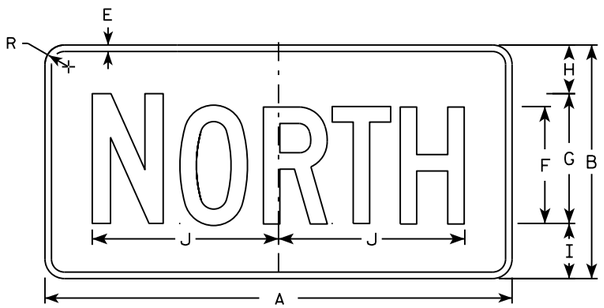
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/18 PLATE NO. M1-6.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 431 E



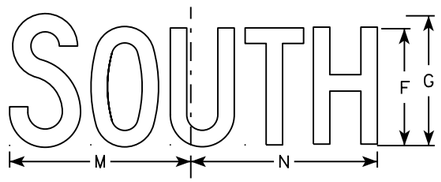
M3-1
MM3-1
MP3-1



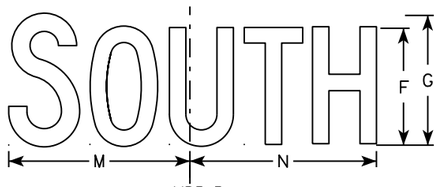
MB3-1
MK3-1
MN3-1

M3-2
MM3-2
MP3-2

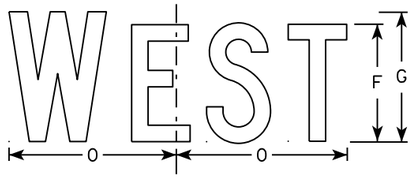
MB3-2
MK3-2
MN3-2



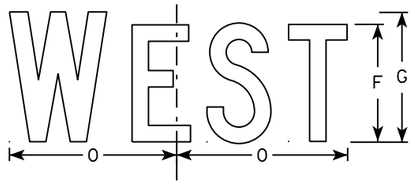
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
   MP3-1 thru MP3-4 Background - White
   Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thur M3-4
SERIES

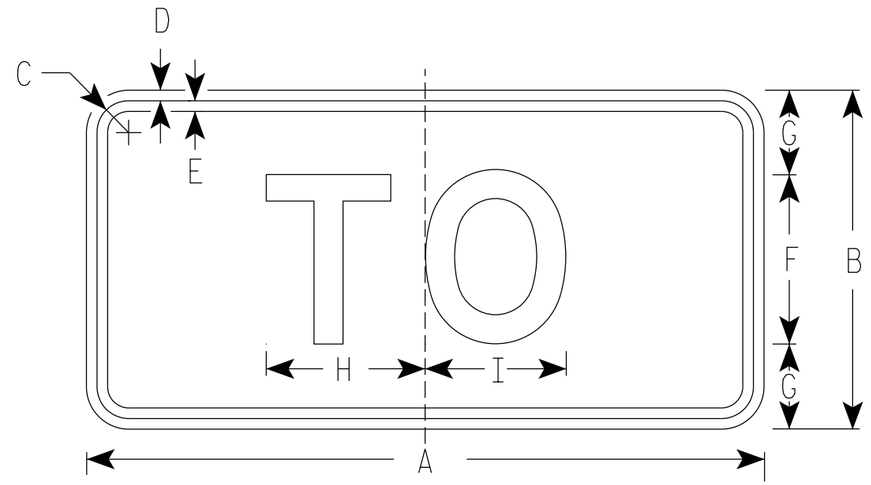
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

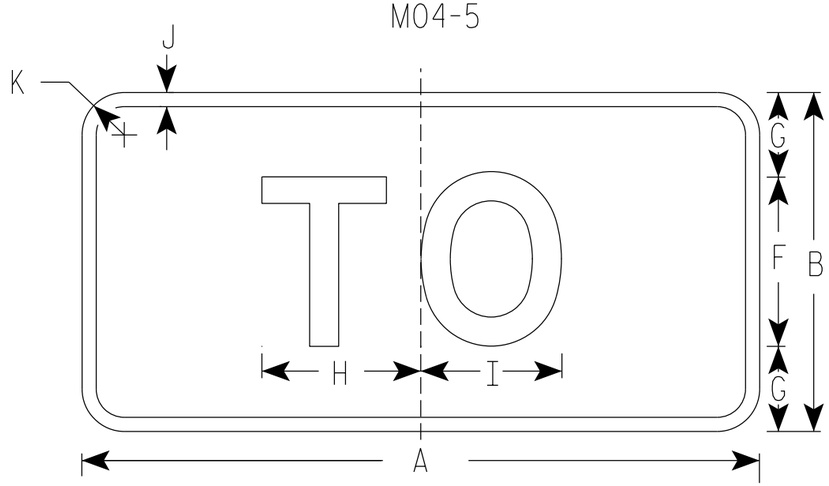
DATE 10/15/15 PLATE NO M3-1.14

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



M4-5
MM4-5
MP4-5
MO4-5



MB4-5
MK4-5
MN4-5

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-5 Background - White
   Message - Black

   MB4-5 Background - Blue
   Message - White

   MK4-5 Background - Green
   Message - White

   MM4-5 Background - White
   Message - Green

   MN4-5 Background - Brown
   Message - White

   MP4-5 Background - White
   Message - Blue

   MO4-5 Background - Orange Type F Reflective
   Message - Black

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	5 3/8	5 1/4	1/2	1 1/2																2.00
3	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
4	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
5	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5

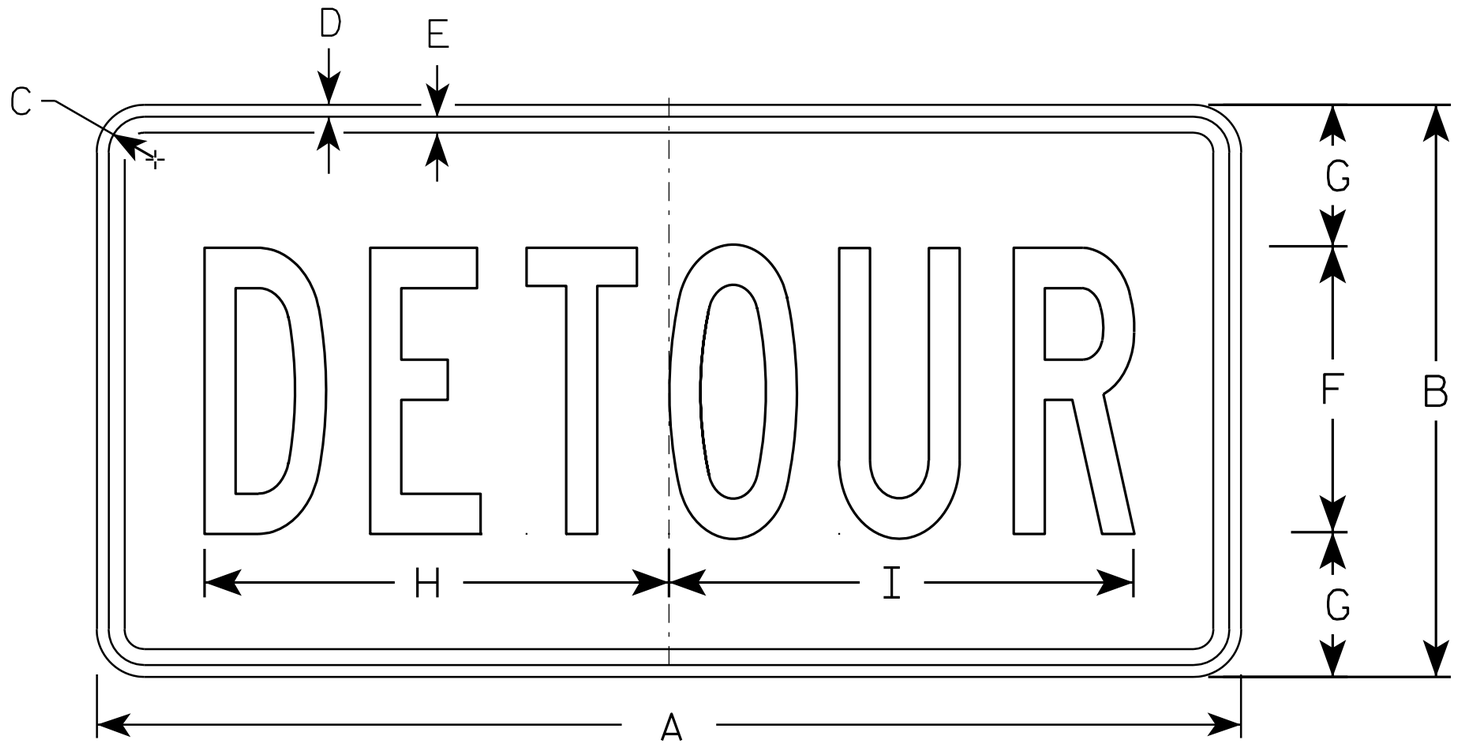
STANDARD SIGN
M4-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/7/19 PLATE NO. M4-5.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 433 | E



M4-8

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

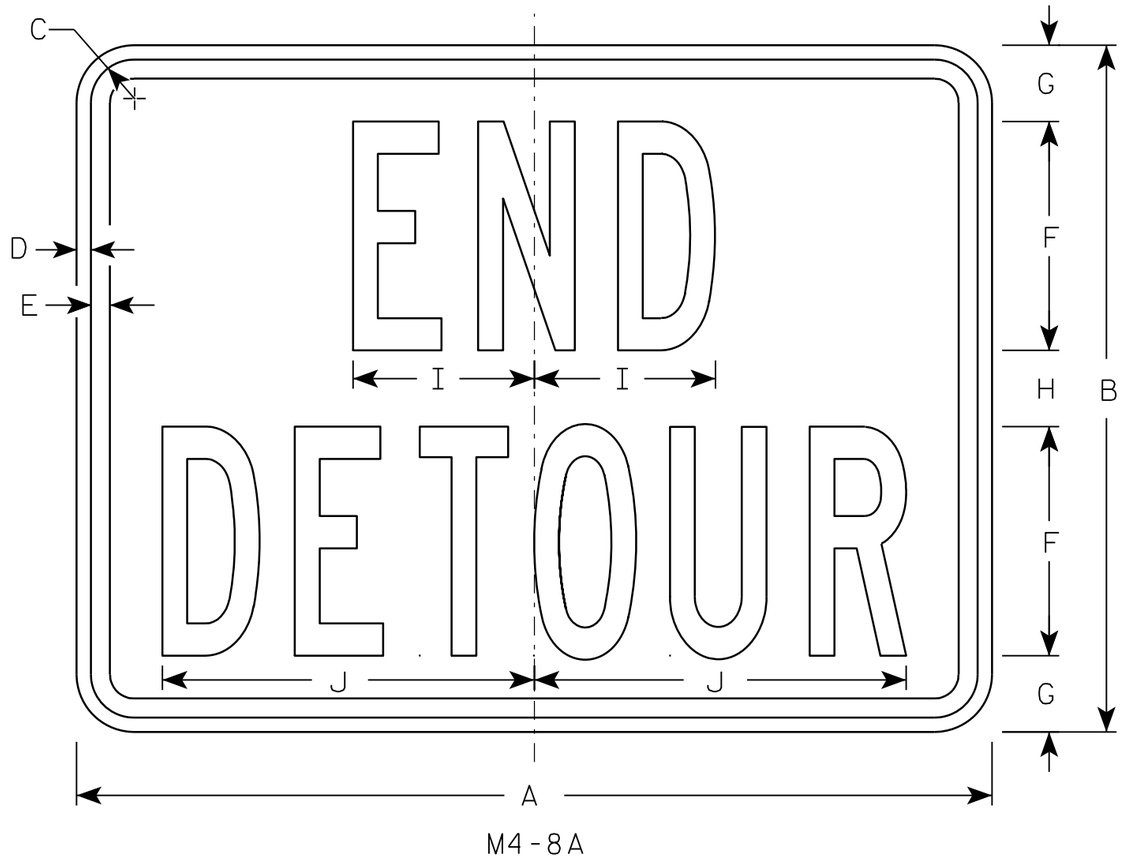
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 434	E



M4-8A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

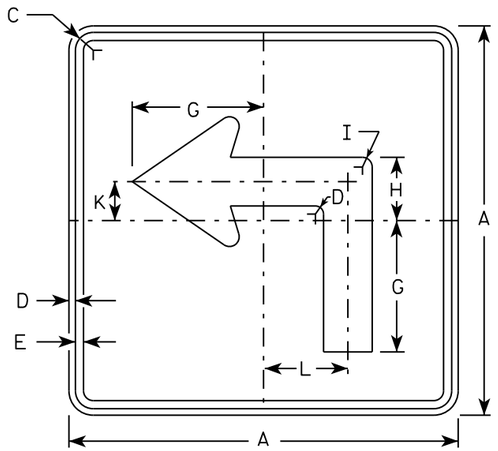
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

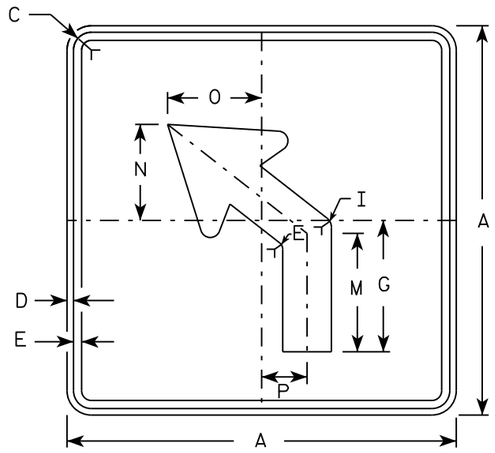
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2

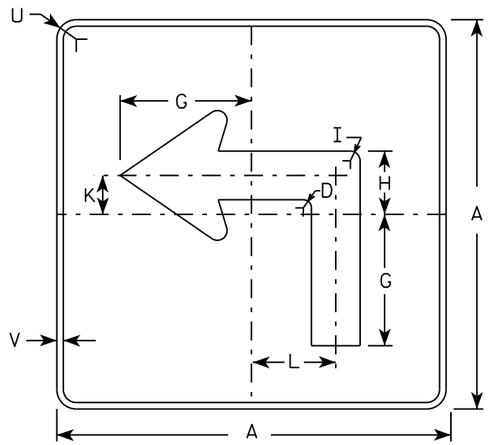
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 435	E



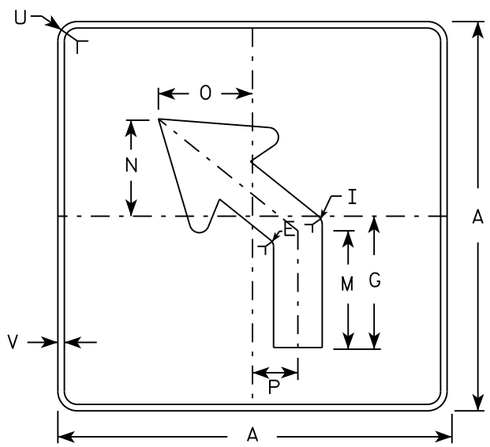
M5-1L
MM5-1L
MO5-1L
MP5-1L



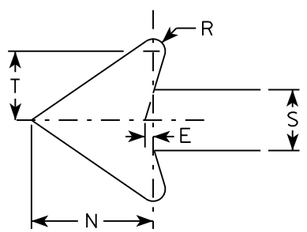
M5-2L
MM5-2L
MO5-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L



MB5-2L
MK5-2L
MN5-2L
MR5-2L



NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

STANDARD SIGN
M5-1 & M5-2

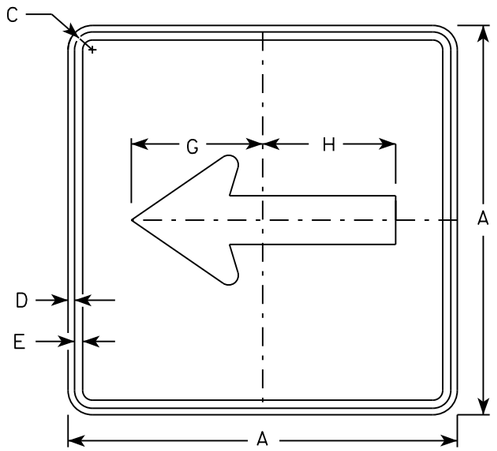
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

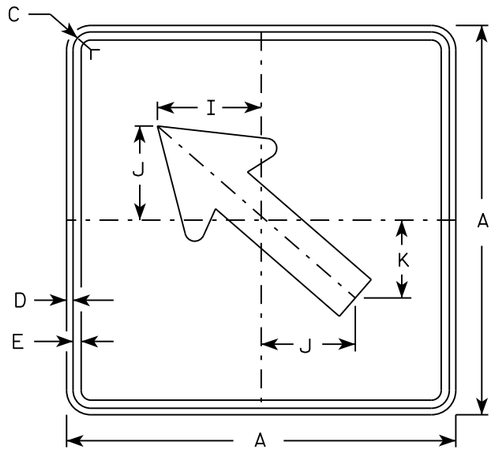
DATE 10/15/15 PLATE NO. M5-1.13

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



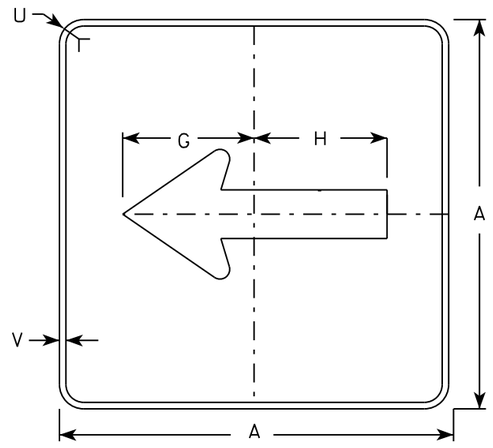
M6-1
MM6-1
MO6-1
MP6-1



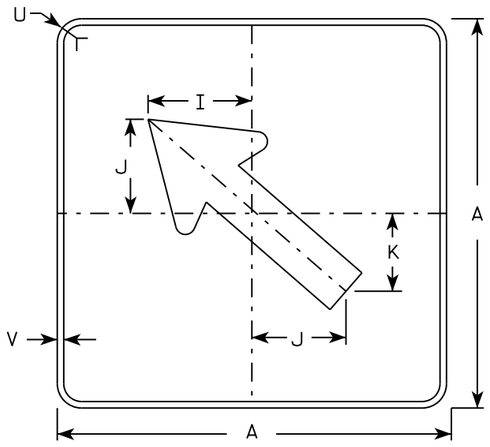
M6-2
MM6-2
MO6-2
MP6-2

NOTES

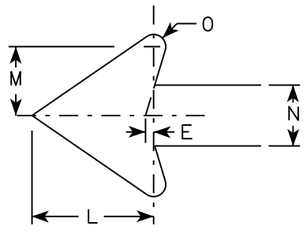
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow



MB6-1
MK6-1
MN6-1
MR6-1



MB6-2
MK6-2
MN6-2
MR6-2



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2						3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25

STANDARD SIGN
M6-1 & M6-2
SERIES

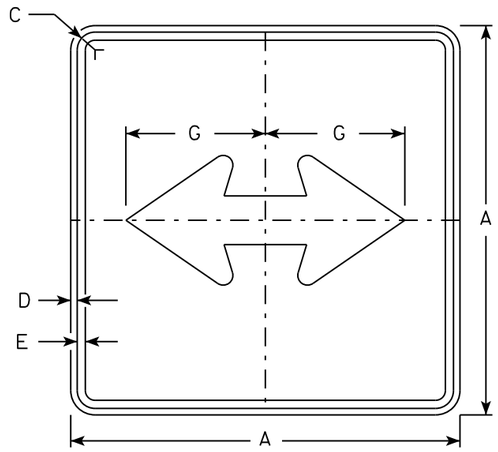
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

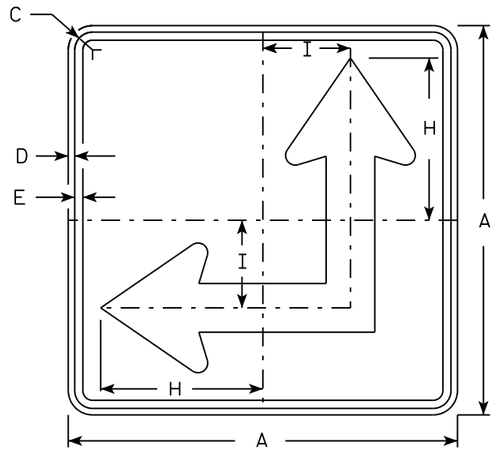
DATE 10/15/15 PLATE 437 M6-1.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 01-DEC-2015 17:57 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



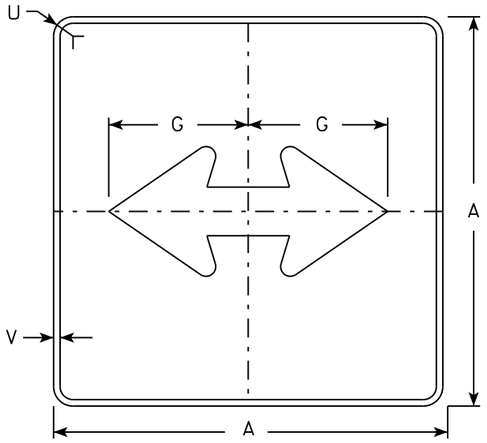
M6-4
MM6-4
MO6-4
MP6-4



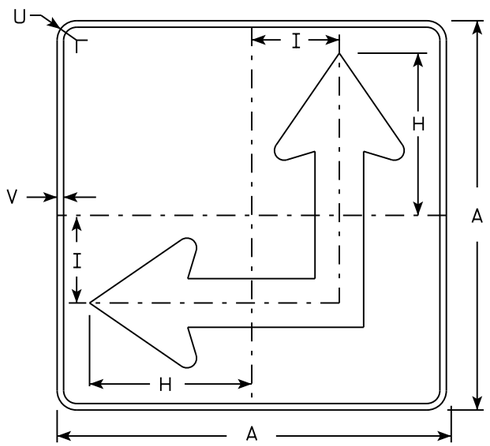
M6-6
MM6-6
MO6-6
MP6-6

NOTES

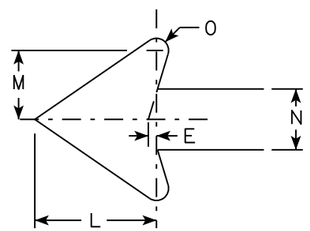
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See Note 4
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-4 and M6-6 Background - White
   Message - Black
   MB6-4 and MB6-6 Background - Blue
   Message - White
   MK6-4 and MK6-6 Background - Green
   Message - White
   MM6-4 and MM6-6 Background - White
   Message - Green
   MN6-4 and MN6-6 Background - Brown
   Message - White
   MO6-4 and MO6-6 Background - Orange - Type F Reflective
   Message - Black
   MP6-4 and MP6-6 Background - White
   Message - Blue
   MR6-4 and MR6-6 Background - Brown
   Message - Yellow
5. M6-6R same as M6-6L except arrow points ahead and right.



MB6-4
MK6-4
MN6-4
MR6-4



MB6-6
MK6-6
MN6-6
MR6-6



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	8 3/4	4 1/4			5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

STANDARD SIGN
M6-4 & M6-6
SERIES

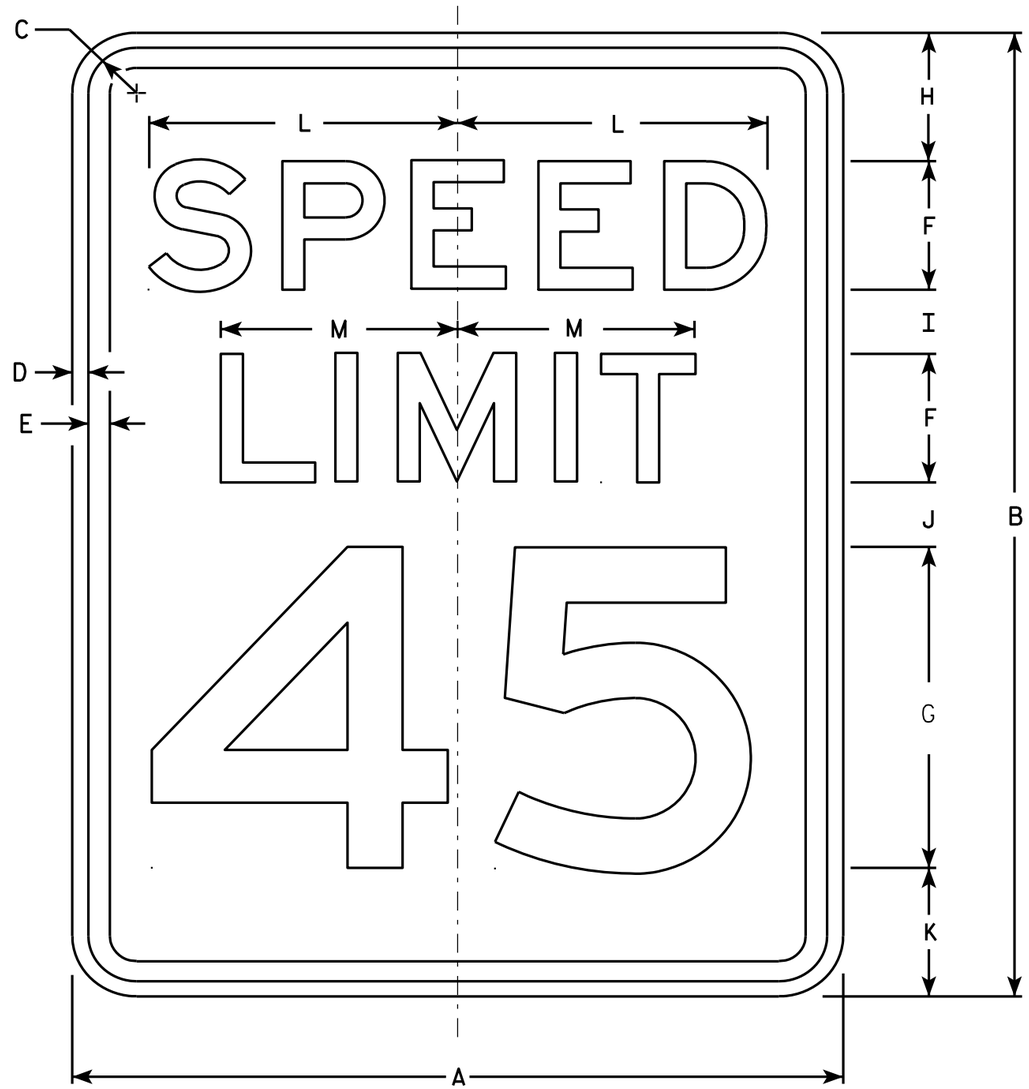
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 438 M6-4.10

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M64.DGN PLOT DATE : 01-DEC-2015 17:58 PLOT BY : $$ platuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

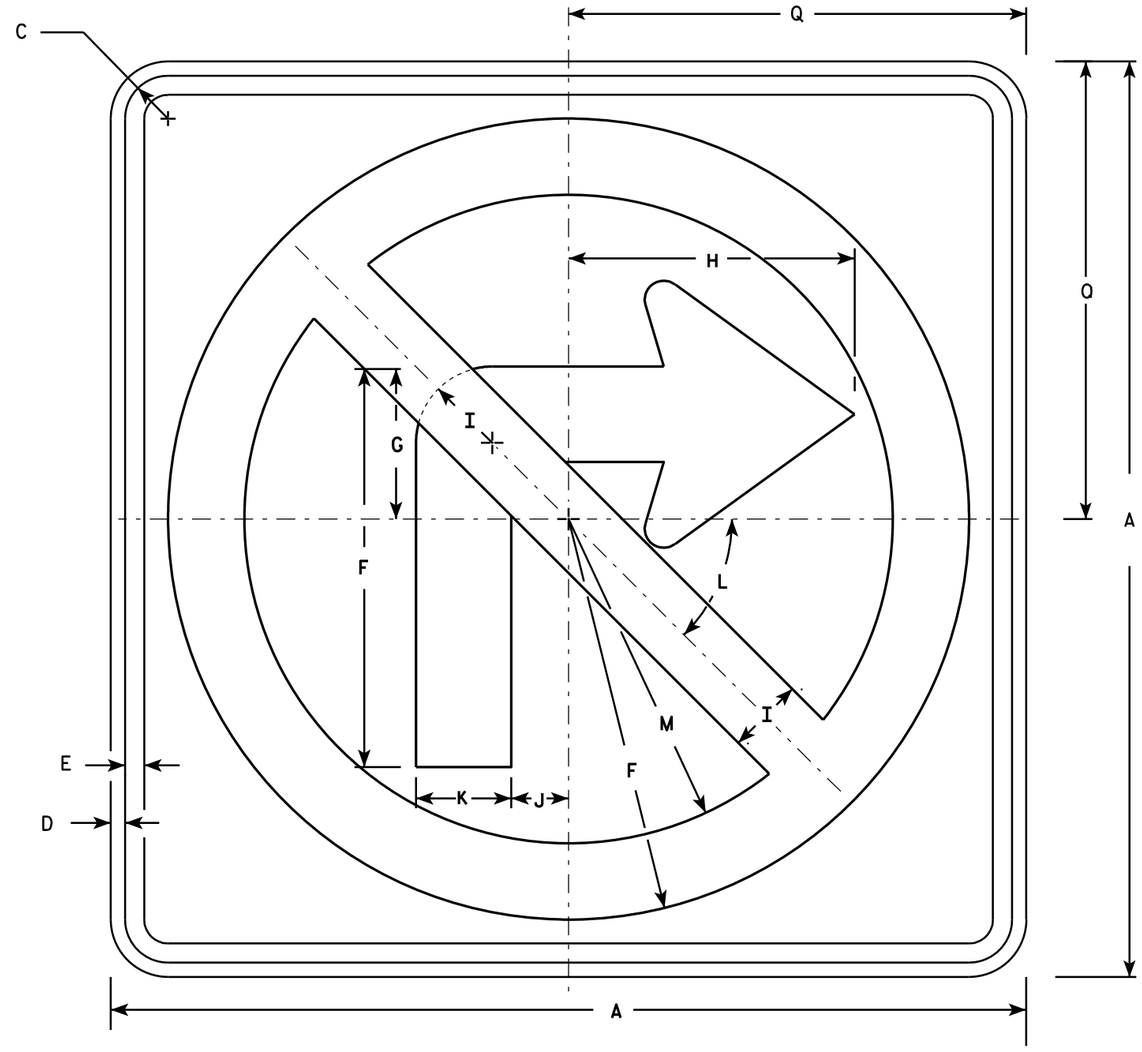
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

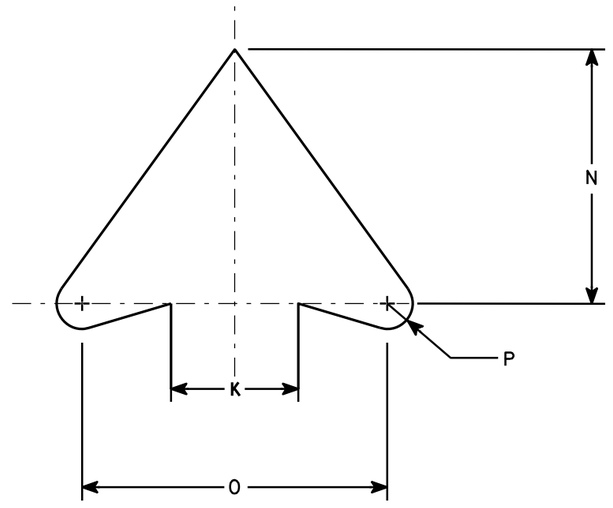
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 439	E



R3-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45	8 1/2	5	6	1/2	12										4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2	12										4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4	18										9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1	24										16.0

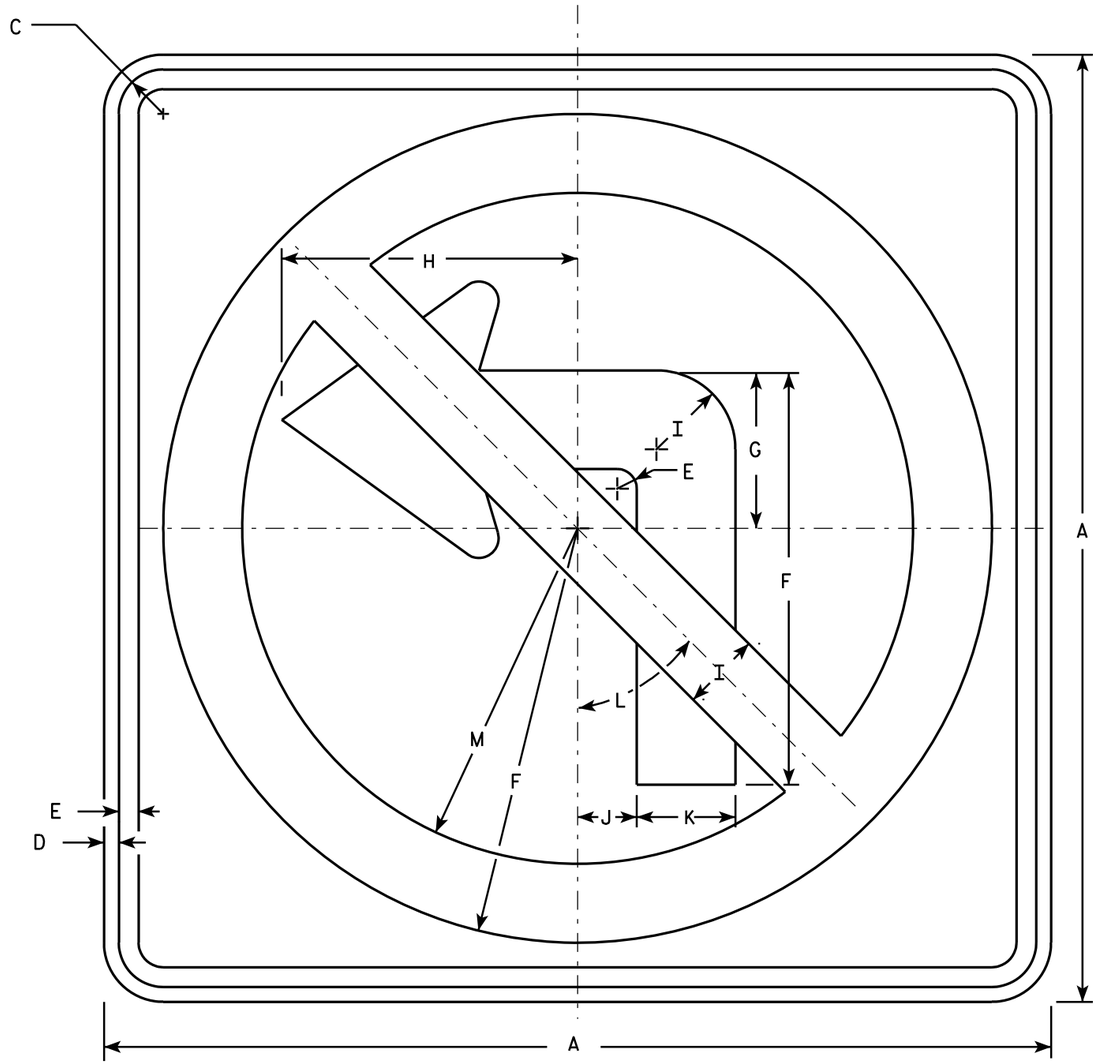
STANDARD SIGN
R3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-1.5

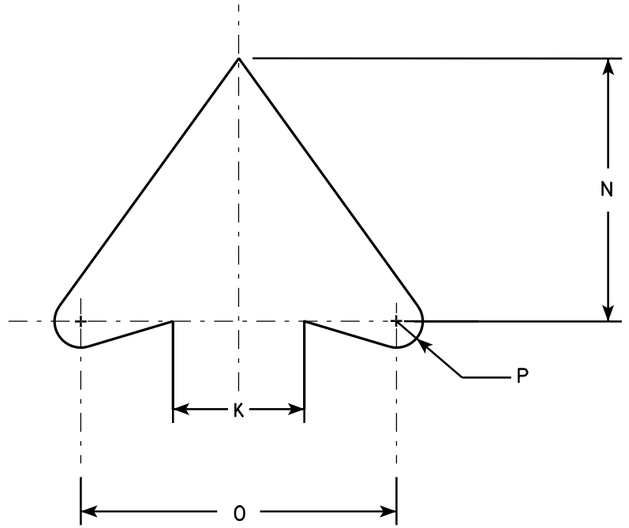
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 440 | E



R3-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

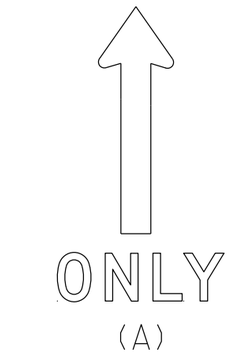
STANDARD SIGN
R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

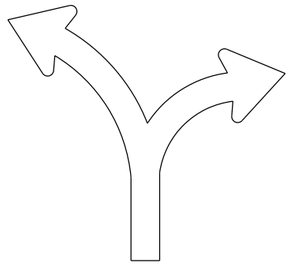
DATE 12/08/10 PLATE NO. R3-2.10

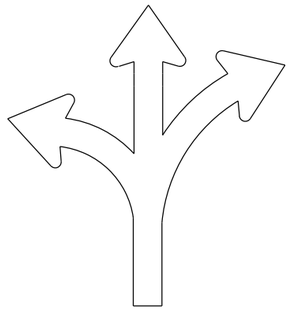
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 441	E

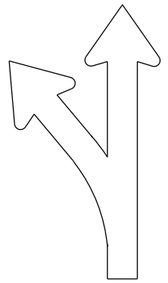


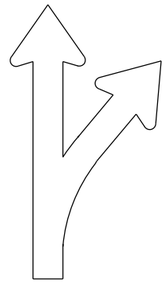
(A)

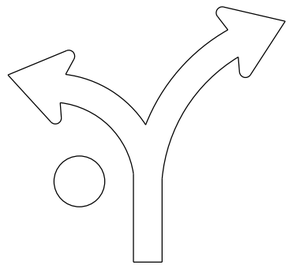
(B)

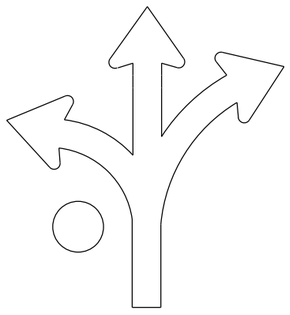

(C)

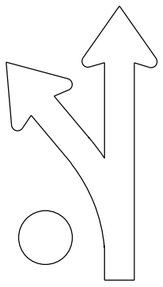

(D)


(E)

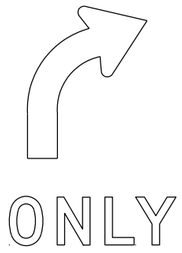

(F)


(G)

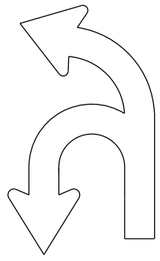

(H)


(I)

(L)



(R)


(U)

NOTES

1. Sigs are Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Use appropriate Letter for Sign Code
   Each letter added makes sign wider. Example R3-8EAR
5. Square footage of sign varies by letters

1	Letter =	3.75 sq ft for Size 2
		6.0 sq ft for Size 3
		10.0 sq ft for Size 4 or 5
2	Letters =	7.5 sq ft for Size 2
		12.0 sq ft for Size 3
		20.0 sq ft for Size 4 or 5
3	Letters =	11.25 sq ft for Size 2
		18.0 sq ft for Size 3
		30.0 sq ft for Size 4 or 5
4	Letters =	15.0 sq ft for Size 2
		24.0 sq ft for Size 3
		40.0 sq ft for Size 4 or 5
5	Letters =	18.75 sq ft for Size 2
		30.0 sq ft for Size 3
		50.0 sq ft for Size 4 or 5
6	Letters =	22.5 sq ft for Size 2
		36.0 sq ft for Size 3
		60.0 sq ft for Size 4 or 5

6. When letters C,D,G,H are used on the Left or Right end of the sign the Sq. Ft. changes.
   Add the amounts when these letters are used:
   1.25 sq ft for Size 2
   1.5 sq ft for Size 3
   2.0 sq ft for Size 4 or 5

STANDARD SIGN
R3-8 Series

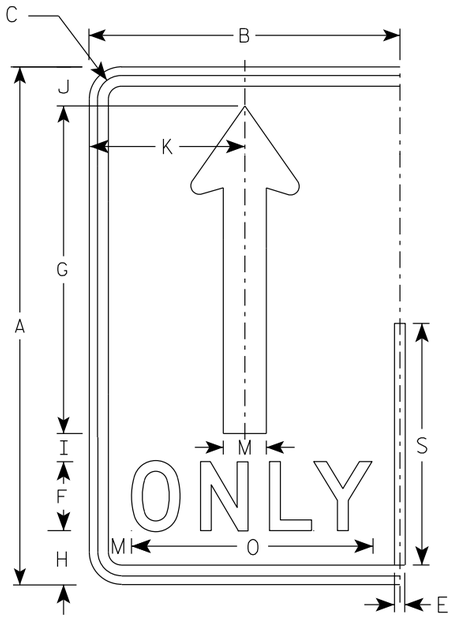
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

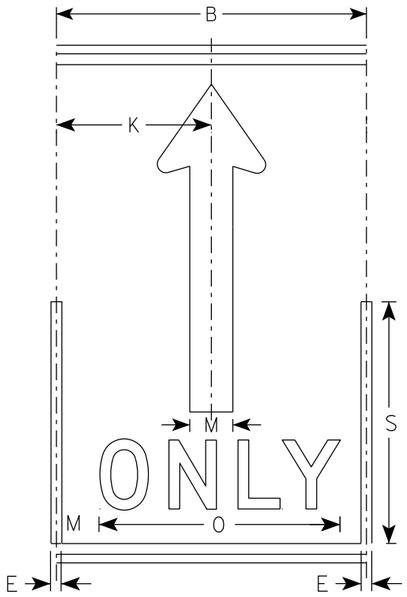
DATE 5/21/19 PLATE NO. R3-8.1

NOTES

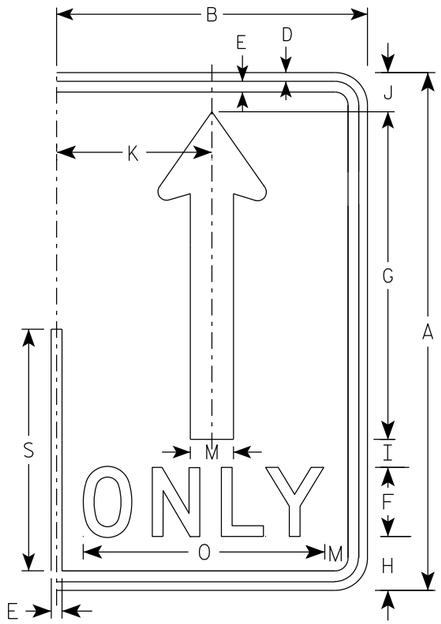
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D



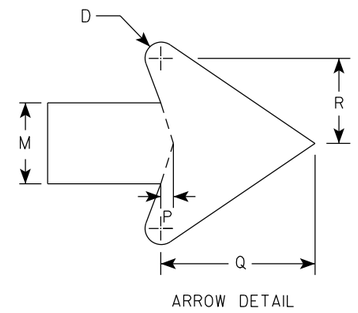
(A)



(A)



(A)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8	4	19	3 1/8	1 5/8	2 1/4	9		2 1/2		14	3/8	4 3/4	2 5/8	14								3.75
2M	30	18	1 3/8	1/2	5/8	4	19	3 1/8	1 5/8	2 1/4	9		2 1/2		14	3/8	4 3/4	2 5/8	14								3.75
3	36	24	1 3/8	1/2	5/8	5	22 3/4	3 3/4	1 3/4	2 3/4	12		3		17 5/8	1/2	5 3/4	3 1/8	16 3/4								6.0
4	48	30	2 1/4	3/4	1	6	30 3/8	5 1/8	2 7/8	3 5/8	15		4		21 3/4	5/8	7 5/8	4 1/4	22 3/8								10.0
5	48	30	2 1/4	3/4	1	6	30 3/8	5 1/8	2 7/8	3 5/8	15		4		21 3/4	5/8	7 5/8	4 1/4	22 3/8								10.0

STANDARD SIGN
R3-8 (A) Arrow

WISCONSIN DEPT OF TRANSPORTATION

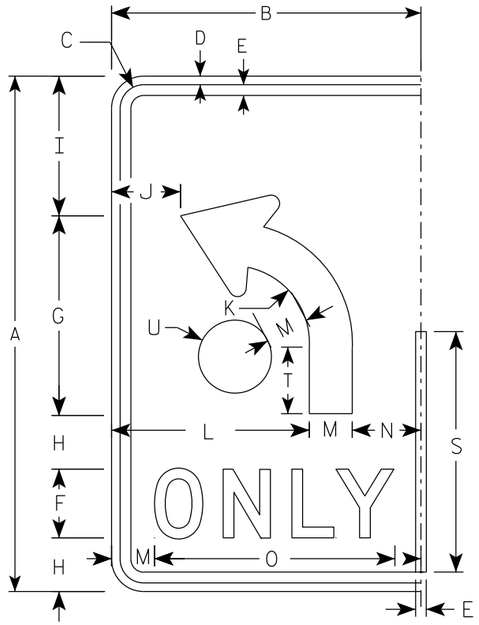
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

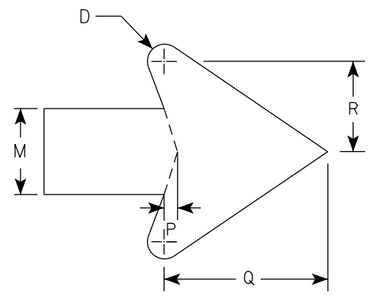
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 443 | E

NOTES

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



(B)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8	2 1/8						3.75
2M	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8	2 1/8						3.75
3	36	24	1 3/8	1/2	5/8	5	14	3 1/2	9 3/4	6	5 3/8	15	3	6	17 5/8	1/2	5 3/4	3 1/8	16 3/4	4 5/8	2 1/2						6.0
4	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4	3 3/8						10.0
5	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4	3 3/8						10.0

STANDARD SIGN

R3-8 (B) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

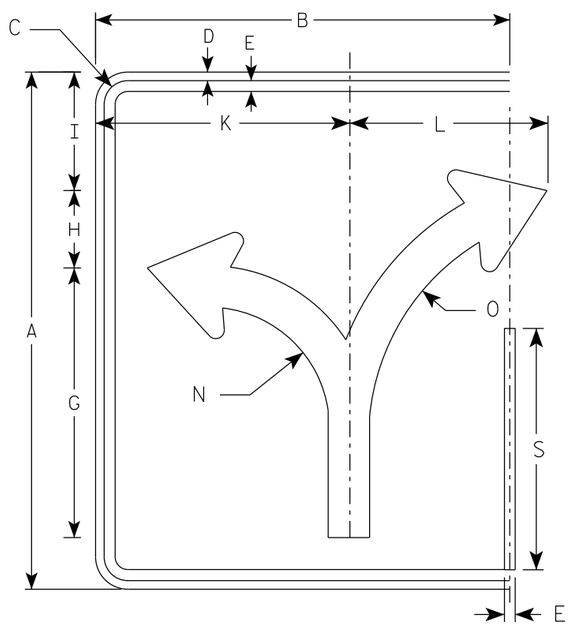
DATE 5/21/19 PLATE NO. R3-8.1

PROJECT NO:

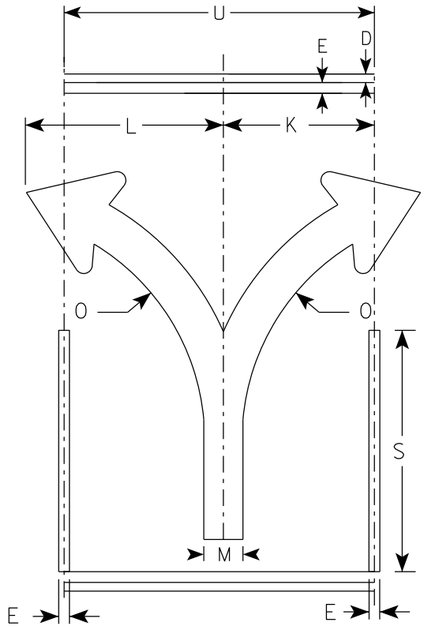
SHEET NO: 444 E

NOTES

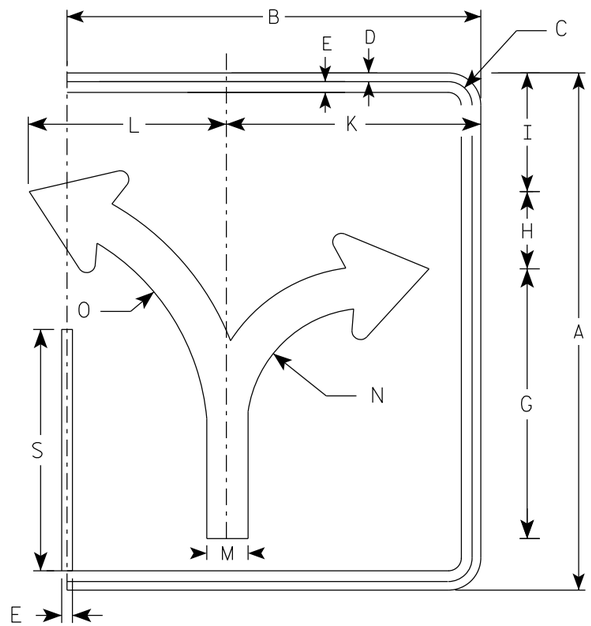
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - None



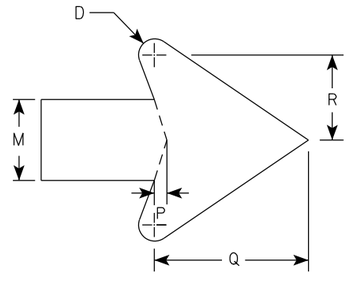
(C)



(C)



(C)



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	ENDS Area sq. ft.	MIDDLE Area sq. ft.
1																												
2S	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	6 7/8		14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18						5.0	3.75
2M	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	6 7/8		14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18						5.0	3.75
3	36	30	1 3/8	1/2	5/8		18 3/4	5 1/2	8 1/4		17 1/4	17 1/4	2 7/8	8 3/8	16	1/2	5 1/2	3	16 3/4		24						7.5	6.0
4	48	36	2 1/4	3/4	1		24 7/8	7 1/4	11		23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30						12.0	10.0
5	48	36	2 1/4	3/4	1		24 7/8	7 1/4	11		23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30						12.0	10.0

STANDARD SIGN
R3-8 (C) Arrow

WISCONSIN DEPT OF TRANSPORTATION

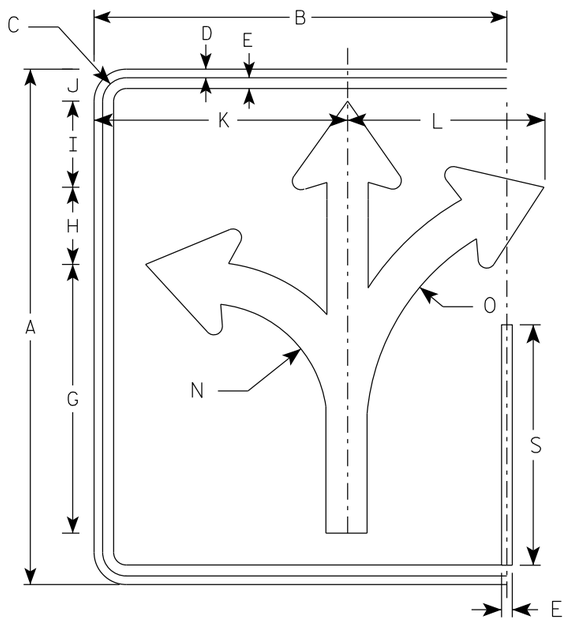
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

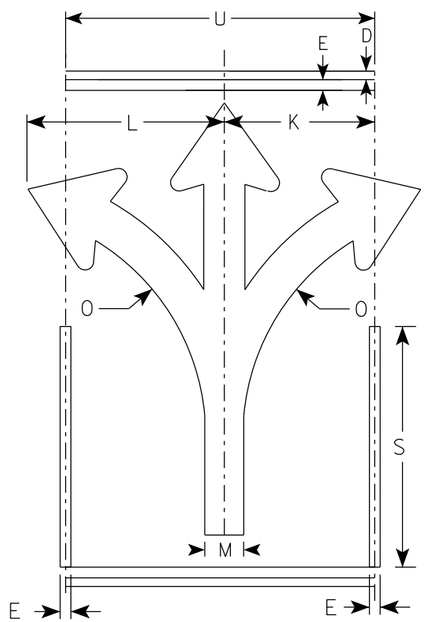
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 445 | E

NOTES

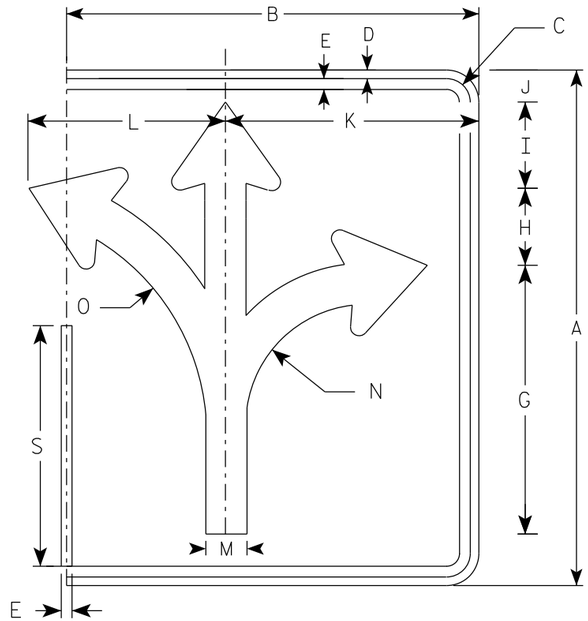
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - None



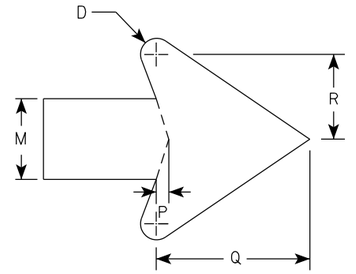
(D)



(D)



(D)



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	ENDS Area sq. ft.	MIDDLE Area sq. ft.
1																												
2S	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	5	1 7/8	14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18						5.0	3.75
2M	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	5	1 7/8	14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18						5.0	3.75
3	36	30	1 3/8	1/2	5/8		18 3/4	5 1/2	6	2 1/4	17 1/4	17 1/4	2 7/8	8 3/8	16	1/2	5 1/2	3	16 3/4		24						7.5	6.0
4	48	36	2 1/4	3/4	1		24 7/8	7 1/4	7 7/8	3 1/8	23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30						12.0	10.0
5	48	36	2 1/4	3/4	1		24 7/8	7 1/4	7 7/8	3 1/8	23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30						12.0	10.0

STANDARD SIGN
R3-8 (D) Arrow

WISCONSIN DEPT OF TRANSPORTATION

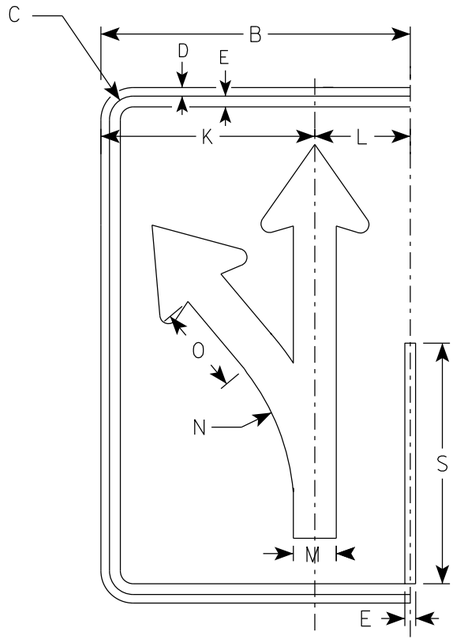
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

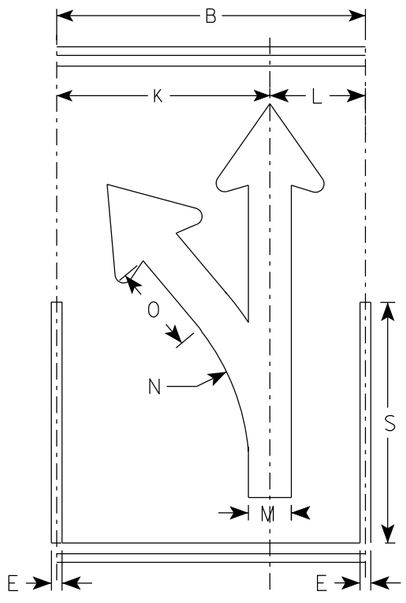
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 446 | E

NOTES

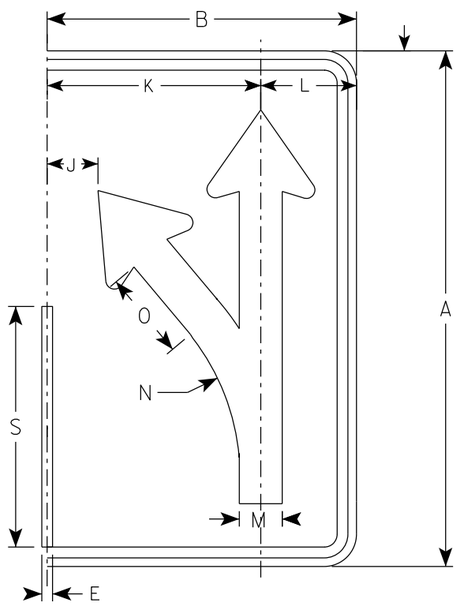
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - None



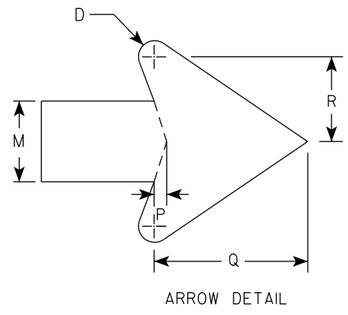
(E)



(E)



(E)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14								3.75
2M	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14								3.75
3	36	24	1 3/8	1/2	5/8		21 7/8	5 5/8	4	4 7/8	16 1/8	7 3/4	3	15 7/8	6 1/8	1/2	5 3/4	3 1/8	16 3/4								6.0
4	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8								10.0
5	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8								10.0

STANDARD SIGN
R3-8 (E) Arrow

WISCONSIN DEPT OF TRANSPORTATION

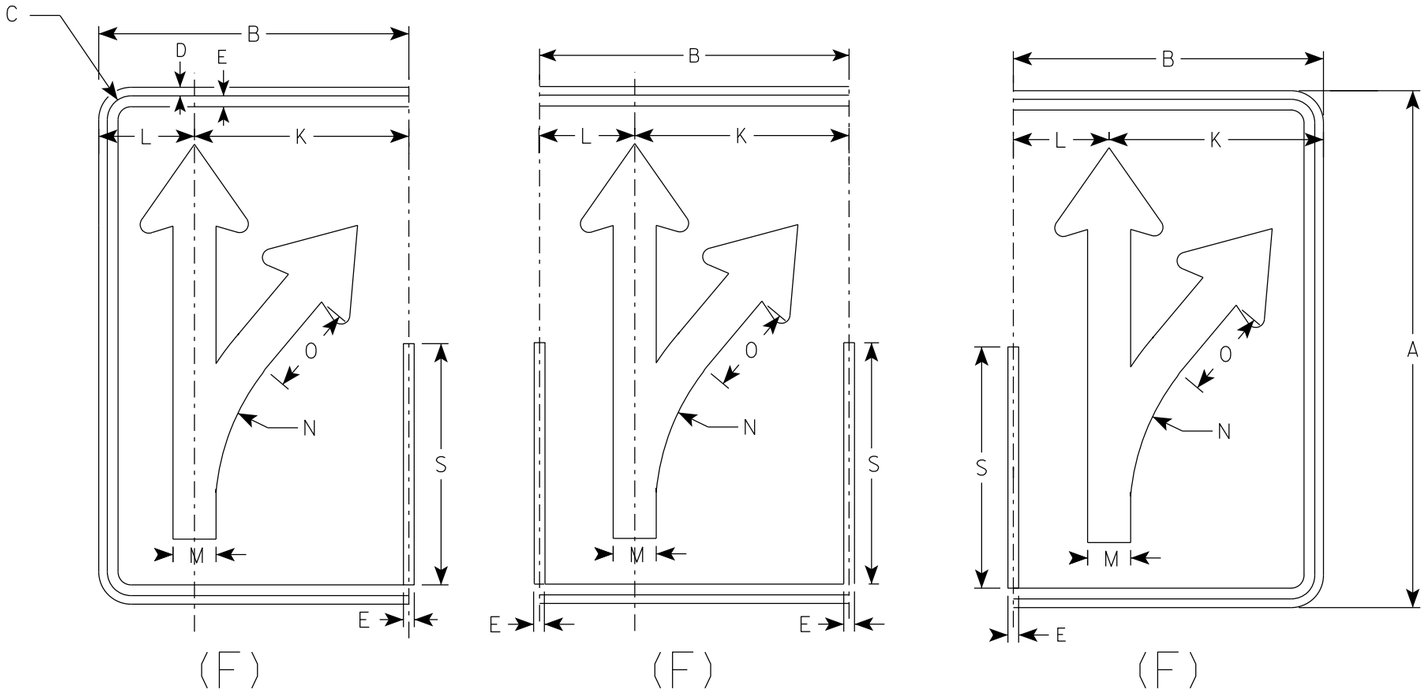
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

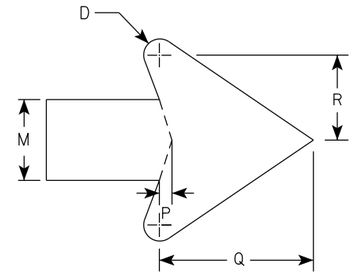
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 447 | E

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - None



(F) (F) (F)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14								3.75
2M	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14								3.75
3	36	24	1 3/8	1/2	5/8		21 7/8	5 5/8	4	4 7/8	16 1/8	7 3/4	3	15 7/8	6 1/8	1/2	5 3/4	3 1/8	16 3/4								6.0
4	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8								10.0
5	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8								10.0

STANDARD SIGN
R3-8 (F) Arrow

WISCONSIN DEPT OF TRANSPORTATION

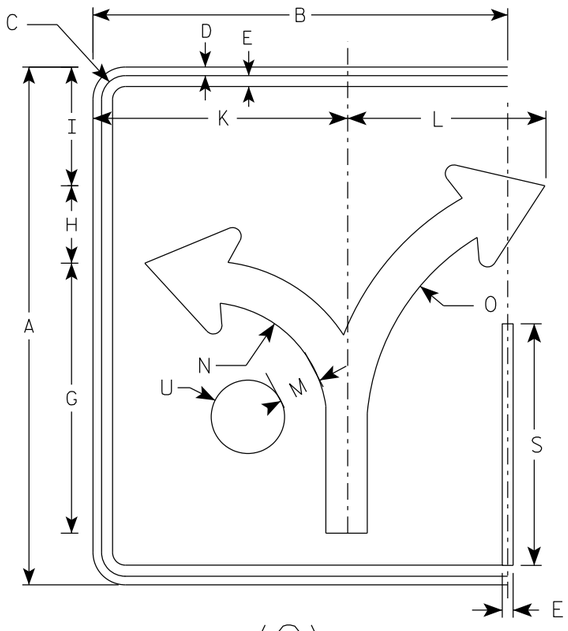
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

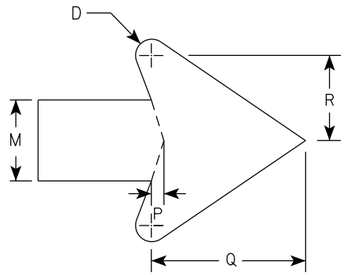
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 448 | E

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - None



(G)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	6 7/8		14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		2 1/8						5.0
2M	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	6 7/8		14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		2 1/8						5.0
3	36	30	1 3/8	1/2	5/8		18 3/4	5 1/2	8 1/4		17 1/4	17 1/4	2 7/8	8 3/8	16	1/2	5 1/2	3	16 3/4		2 1/2						7.5
4	48	36	2 1/4	3/4	1		24 7/8	7 1/4	11		23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		3 3/8						12.0
5	48	36	2 1/4	3/4	1		24 7/8	7 1/4	11		23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		3 3/8						12.0

STANDARD SIGN
R3-8 (G) Arrow

WISCONSIN DEPT OF TRANSPORTATION

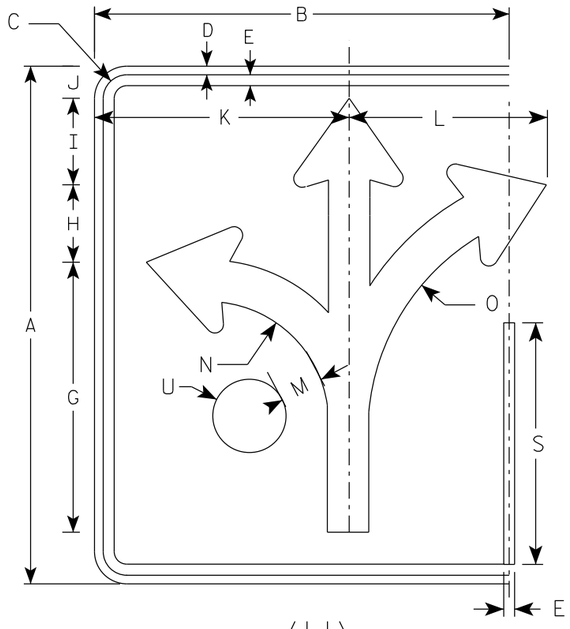
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

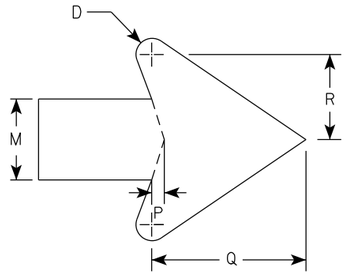
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 449 | E

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - None



(H)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	5	1 7/8	14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		2 1/8						5.0
2M	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	5	1 7/8	14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		2 1/8						5.0
3	36	30	1 3/8	1/2	5/8		18 3/4	5 1/2	6	3 1/8	17 1/4	17 1/4	2 7/8	8 3/8	16	1/2	5 1/2	3	16 3/4		2 1/2						7.5
4	48	36	2 1/4	3/4	1		24 7/8	7 1/4	7 7/8	3 1/8	23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		3 3/8						12.0
5	48	36	2 1/4	3/4	1		24 7/8	7 1/4	7 7/8	3 1/8	23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		3 3/8						12.0

STANDARD SIGN
R3-8 (H) Arrow

WISCONSIN DEPT OF TRANSPORTATION

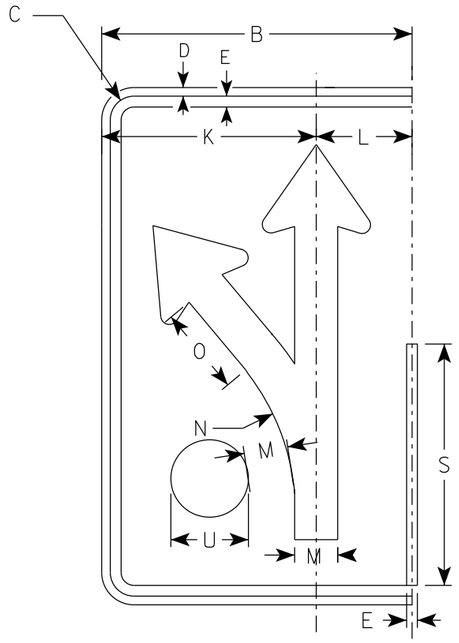
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

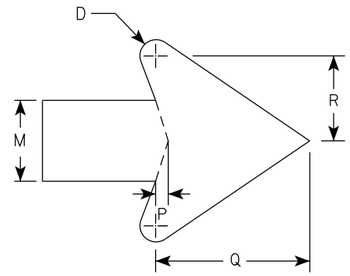
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 450	E

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - None



(I)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14		2 1/8						3.75
2M	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14		2 1/8						3.75
3	36	24	1 3/8	1/2	5/8		21 7/8	5 5/8	4	4 7/8	16 1/8	7 3/4	3	15 7/8	6 1/8	1/2	5 3/4	3 1/8	16 3/4		2 1/2						6.0
4	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8		3 3/8						10.0
5	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8		3 3/8						10.0

STANDARD SIGN
R3-8 (I) Arrow

WISCONSIN DEPT OF TRANSPORTATION

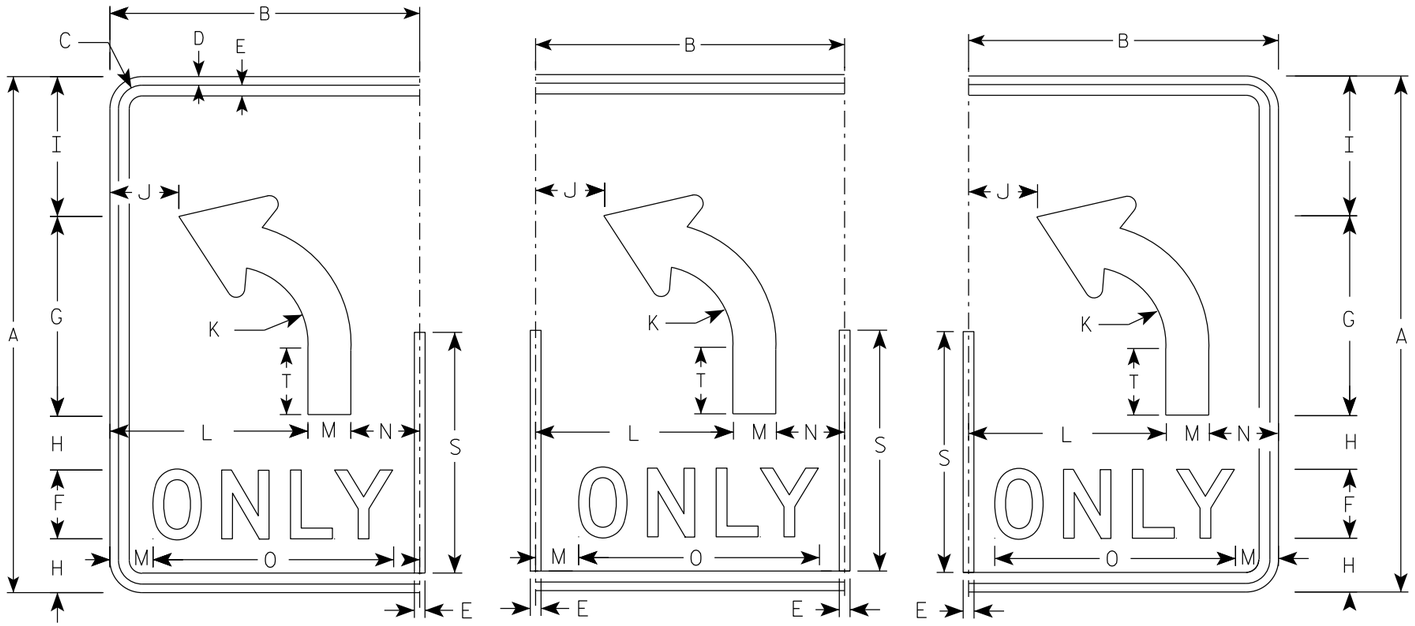
APPROVED Matthew R Rauch
For State Traffic Engineer

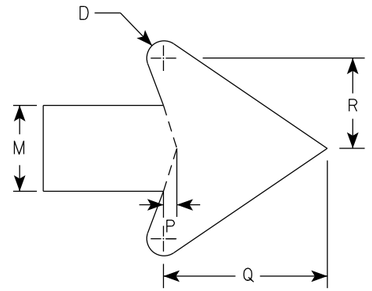
DATE 5/21/19 PLATE NO. R3-8.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 451 | E

NOTES

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





ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
2M	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
3	36	24	1 3/8	1/2	5/8	5	14	3 1/2	9 3/4		5 3/8	15	3	6	17 5/8	1/2	5 3/4	3 1/8	16 3/4	4 5/8							6.0
4	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0
5	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0

STANDARD SIGN

R3-8 (L) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

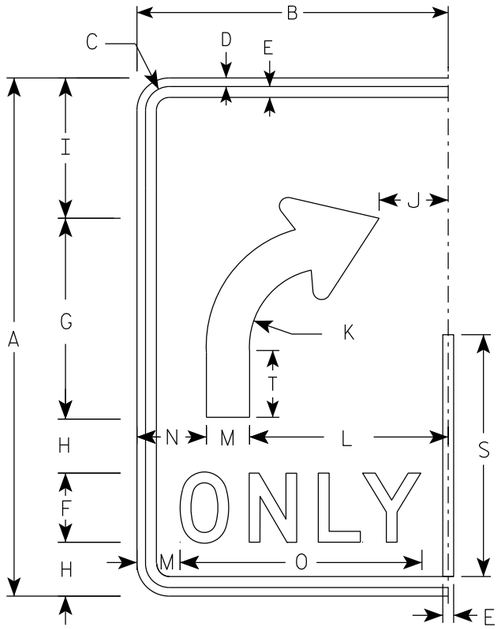
DATE 5/21/19 PLATE NO. R3-8.1

PROJECT NO:

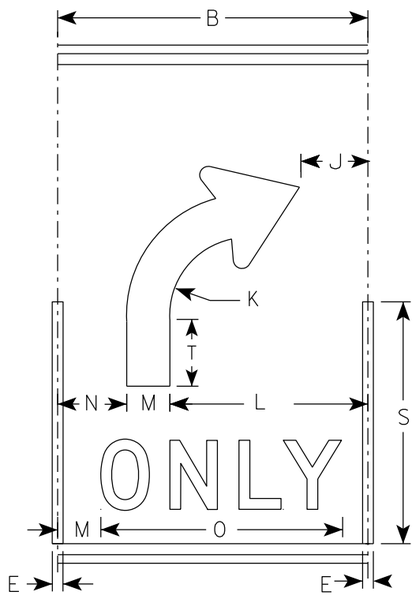
SHEET NO: 452 E

NOTES

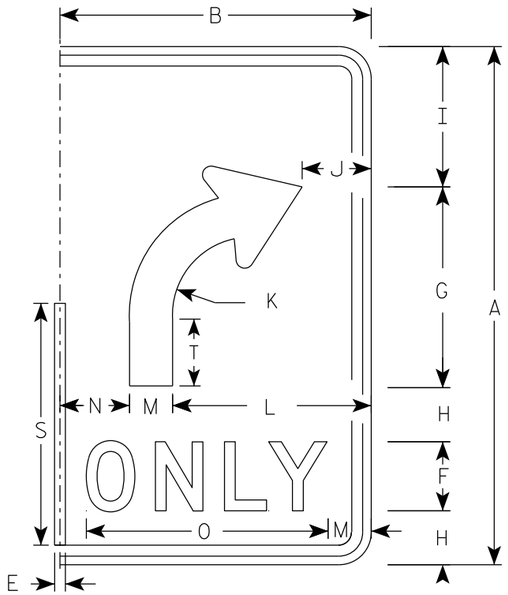
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D



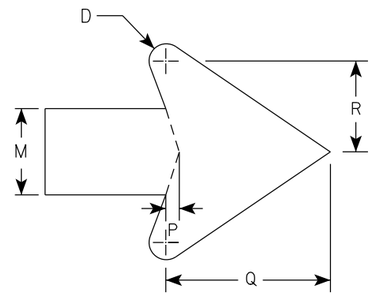
(R)



(R)



(R)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
2M	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
3	36	24	1 3/8	1/2	5/8	5	14	3 1/2	9 3/4	6	5 3/8	15	3	6	17 5/8	1/2	5 3/4	3 1/8	16 3/4	4 5/8							6.0
4	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0
5	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0

STANDARD SIGN
R3-8 (R) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

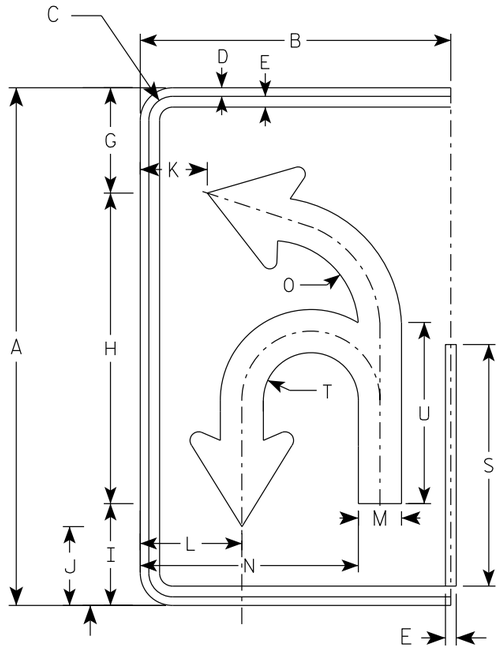
DATE 5/21/19 PLATE NO. R3-8.1

PROJECT NO:

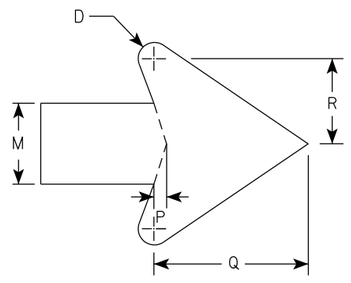
SHEET NO: 453 E

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - None



(U)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8		6 1/8	18	5 7/8	4 5/8	3 7/8	5 7/8	2 1/2	12 5/8	5 1/8	3/8	4 3/4	2 5/8	14	2 3/4	10 1/2						3.75
2M	30	18	1 3/8	1/2	5/8		6 1/8	18	5 7/8	4 5/8	3 7/8	5 7/8	2 1/2	12 5/8	5 1/8	3/8	4 3/4	2 5/8	14	2 3/4	10 1/2						3.75
3	36	24	1 3/8	1/2	5/8		21 7/8	21 5/8	7 1/8	5 1/2	5 7/8	8 1/4	3	16 3/8	6 1/8	1/2	5 3/4	3 1/8	16 3/4	3 1/4	12 5/8						6.0
4	48	30	2 1/4	3/4	1		29 1/8	28 3/4	9 3/8	7 1/4	6 7/8	10	4	20 7/8	8 1/8	5/8	7 5/8	4 1/4	22 3/8	4 3/8	16 3/4						10.0
5	48	30	2 1/4	3/4	1		29 1/8	28 3/4	9 3/8	7 1/4	6 7/8	10	4	20 7/8	8 1/8	5/8	7 5/8	4 1/4	22 3/8	4 3/8	16 3/4						10.0

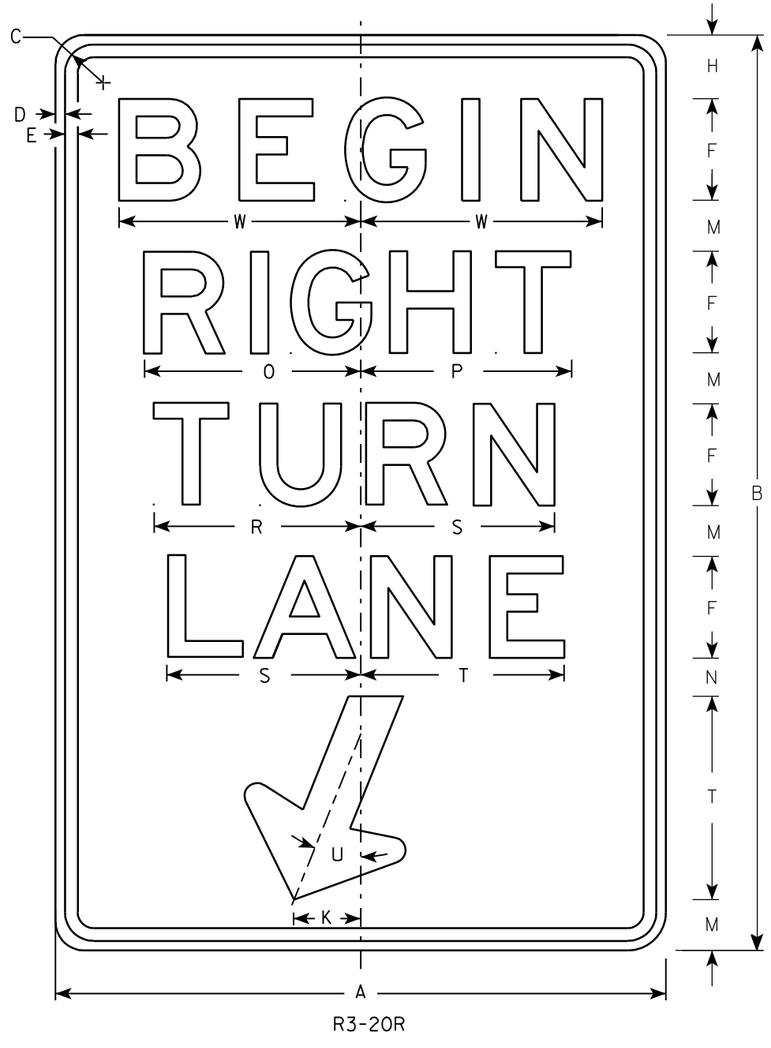
STANDARD SIGN
R3-8 (U) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

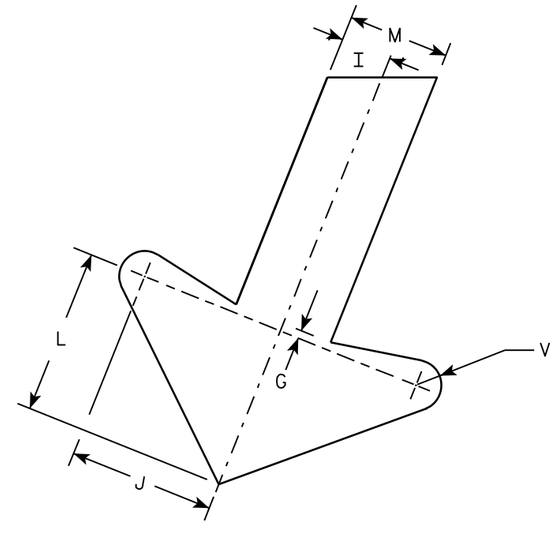
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 454 | E



R3-20R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	12 3/4	12 1/2		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

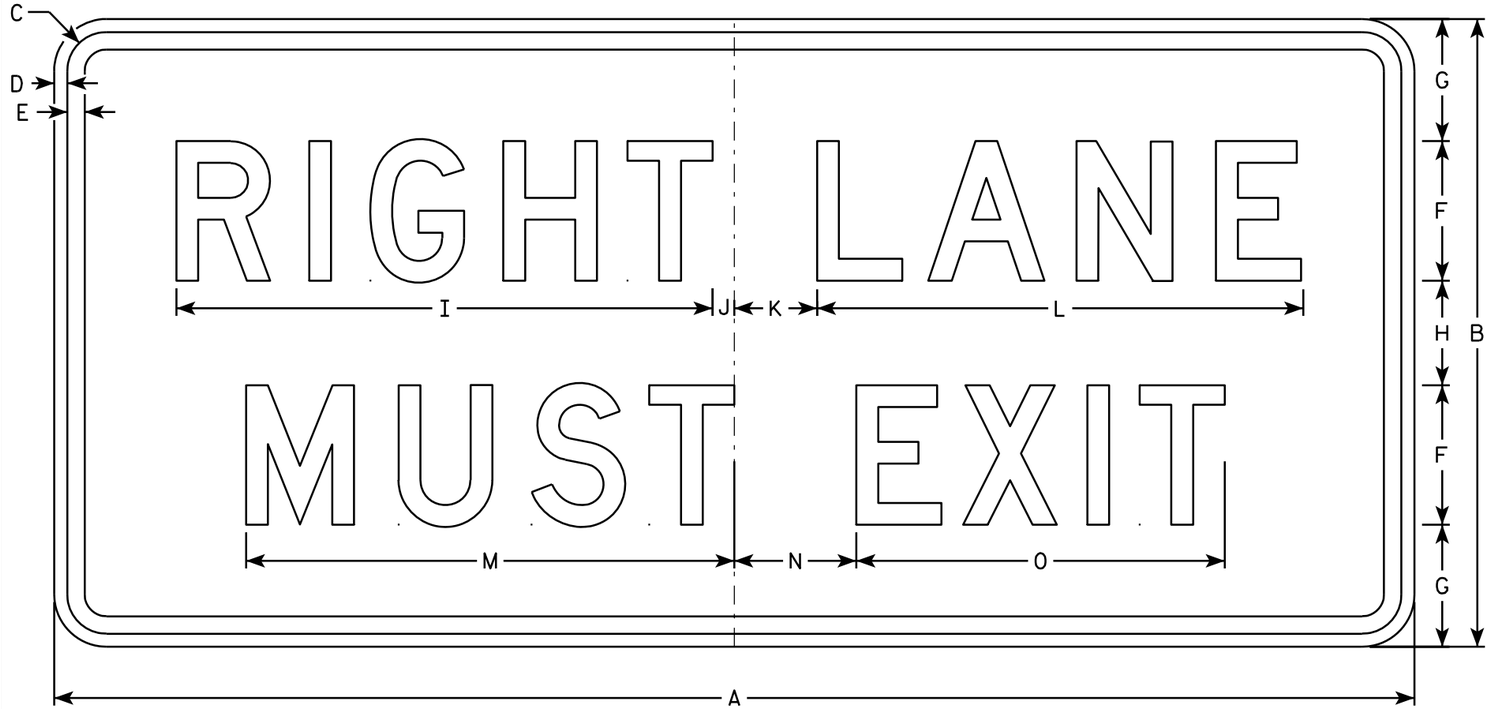
STANDARD SIGN
R3-20R

WISCONSIN DEPT OF TRANSPORTATION

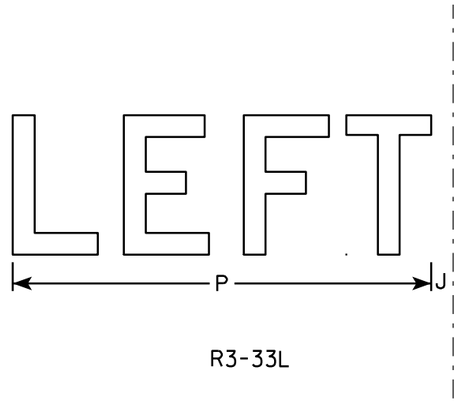
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20R.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 455 | E



R3-33R



R3-33L

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																											
2M																											
3																											
4	78	36	2 1/4	3/4	1	8	7	6	30 3/4	1 1/4	4 3/4	27 7/8	28	7	21 1/8	24											19.5
5	78	36	2 1/4	3/4	1	8	7	6	30 3/4	1 1/4	4 3/4	27 7/8	28	7	21 1/8	24											19.5

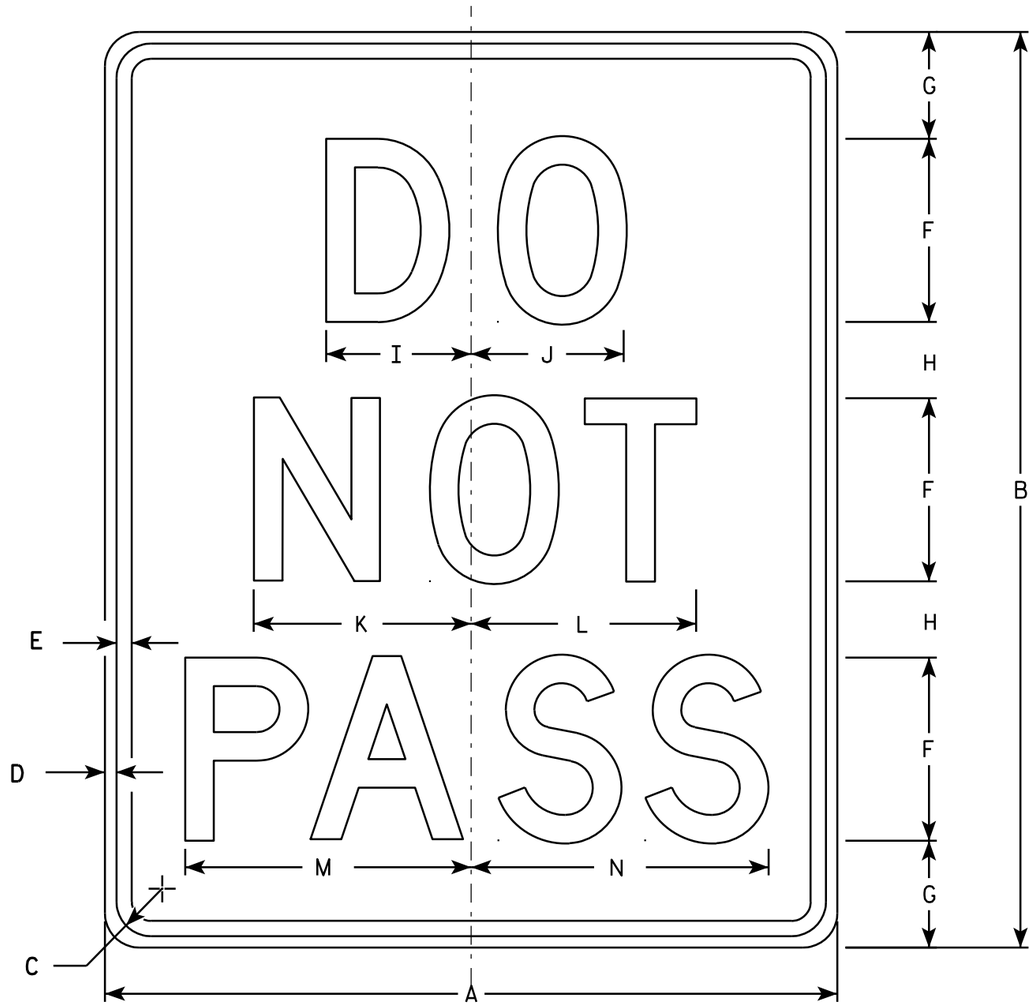
STANDARD SIGN
R3-33

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/7/10 PLATE NO. R3-33.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 456 | E



R4-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - 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	18	24	1 1/8	3/8	1/2	4	3 1/2	2 1/2	3 1/8	3 1/4	4 3/4	4 7/8	6 1/4	6 1/2													3.0
2S	24	30	1 1/8	3/8	1/2	6	3 1/2	2 1/2	4 3/4	5	7 1/8	7 3/8	9 3/8	9 3/4													5.0
2M	24	30	1 1/8	3/8	1/2	6	3 1/2	2 1/2	4 3/4	5	7 1/8	7 3/8	9 3/8	9 3/4													5.0
3																											
4	36	48	1 5/8	5/8	3/4	8	7	5	6 1/4	6 5/8	9 1/2	9 3/4	12 1/2	13													12.0
5	48	60	2 1/4	3/4	1	10	8	7	7 3/4	8 3/8	11 7/8	12 1/4	15 5/8	16 1/4													20.0

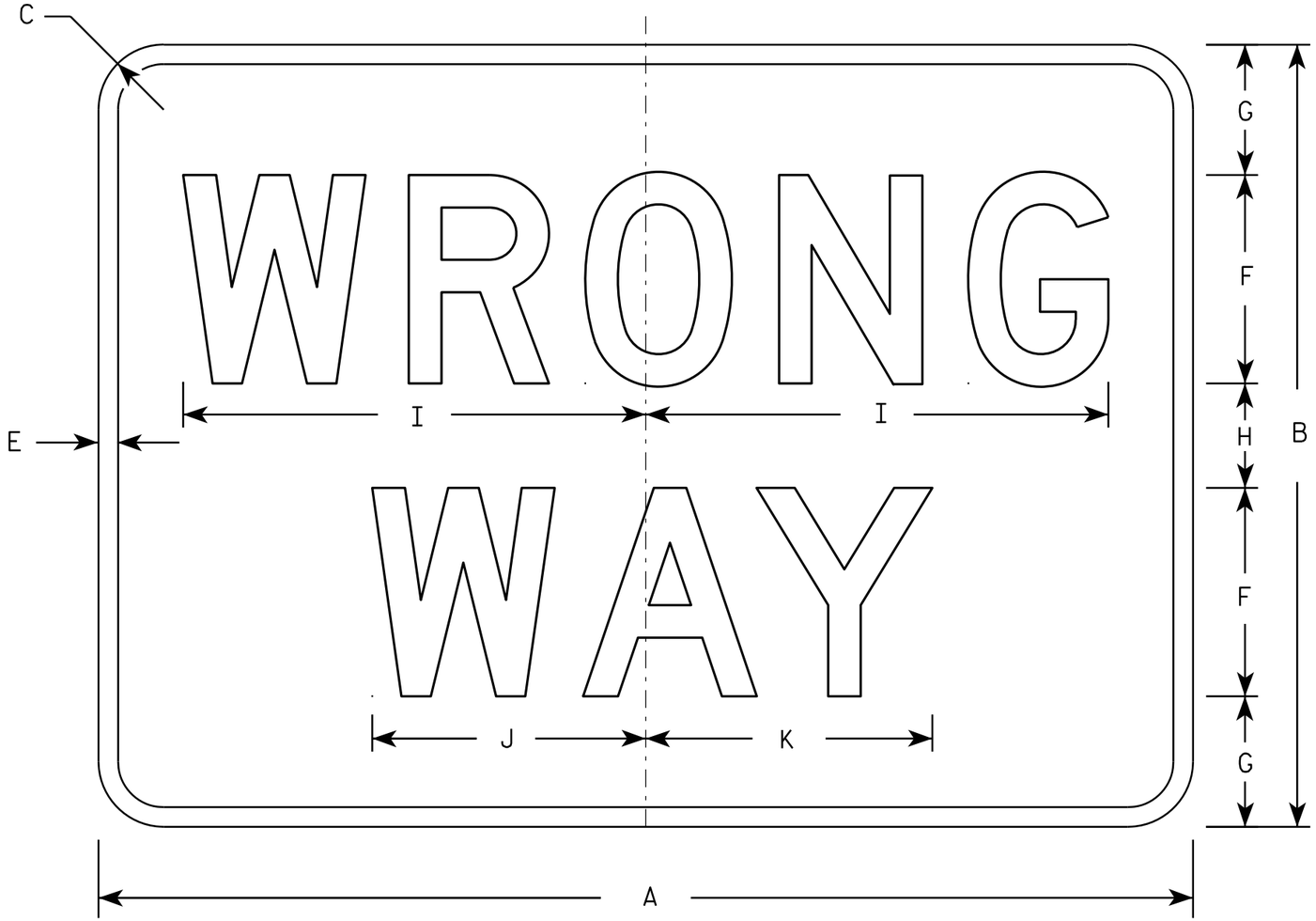
STANDARD SIGN
R4-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-1.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 457 | E



R5-1A

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	1 1/2		1/2	5	3	2	11	6 1/2	6 7/8																3.75
2S	36	24	2		5/8	6	4 1/2	3	13 1/4	7 7/8	8 1/4																6.00
2M	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
3	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
4	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
5	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75

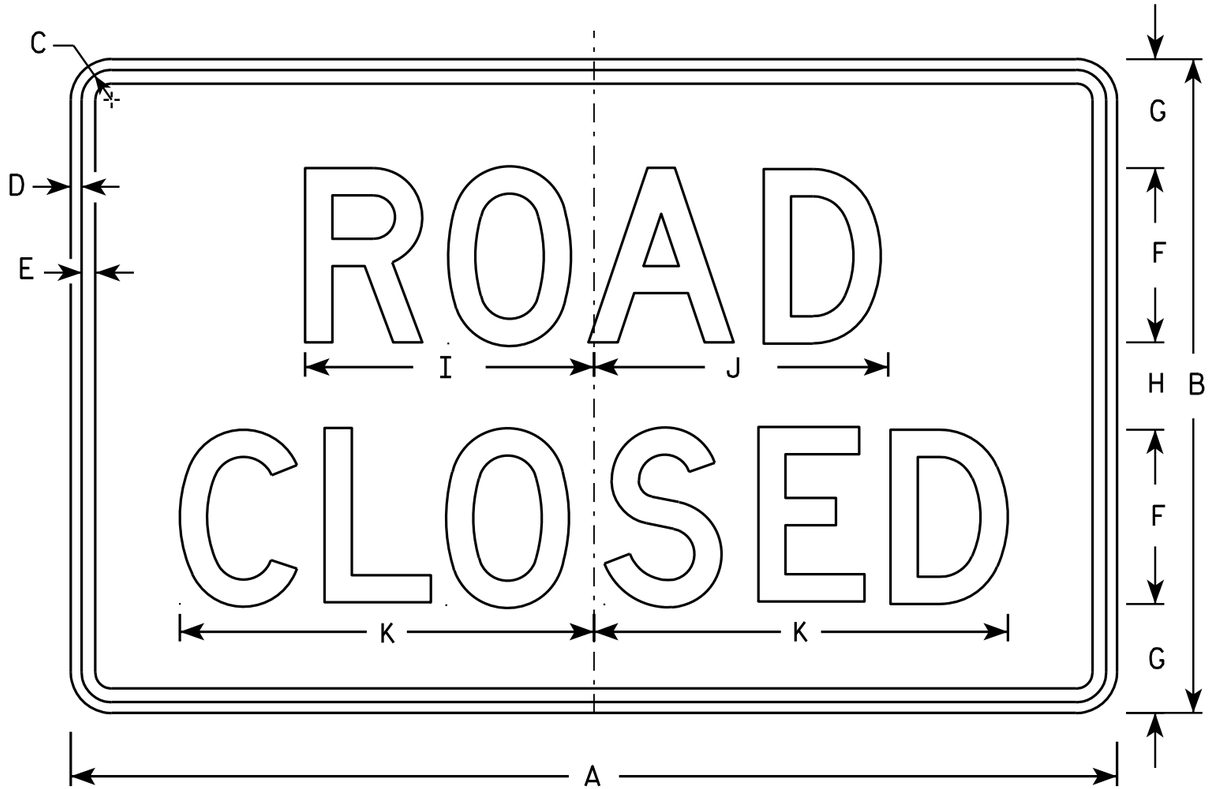
STANDARD SIGN
R5-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1A.2

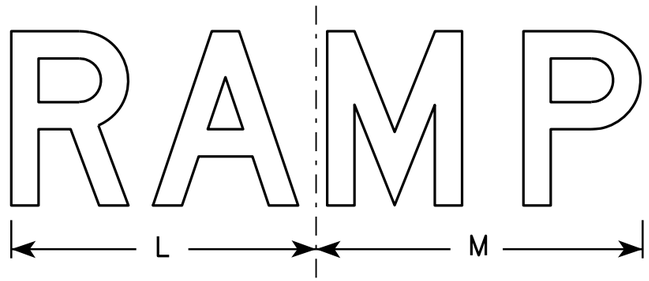
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 458 | E



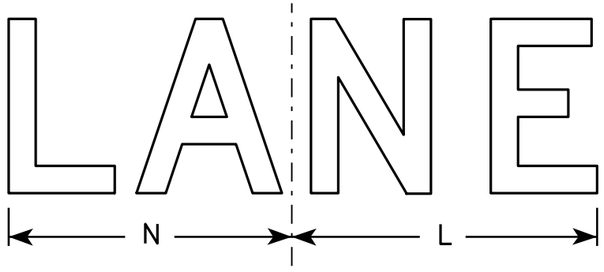
R11-2

NOTES

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



R11-2R



R11-2L

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

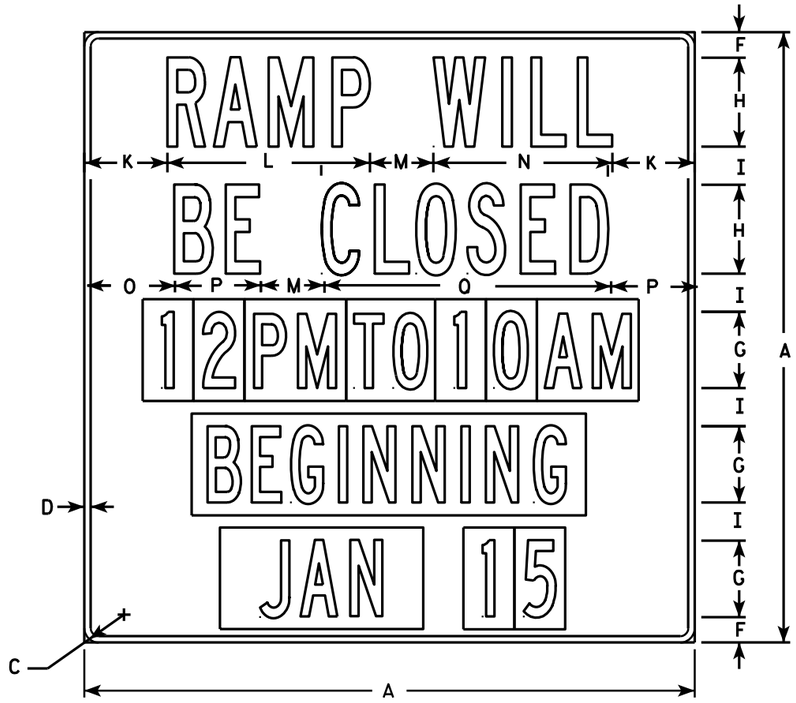
STANDARD SIGN
R11-2

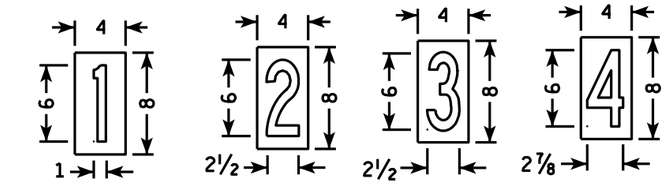
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

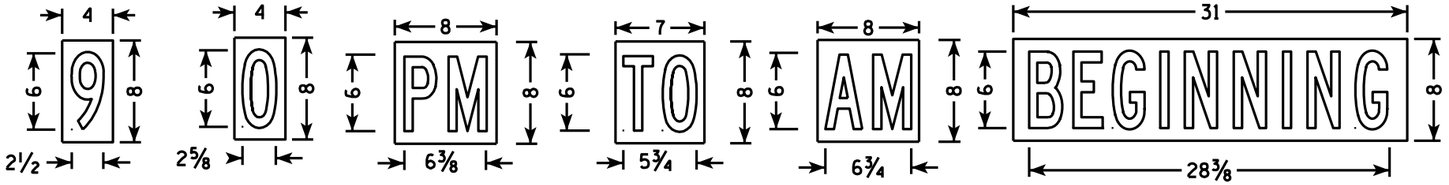
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 459	E

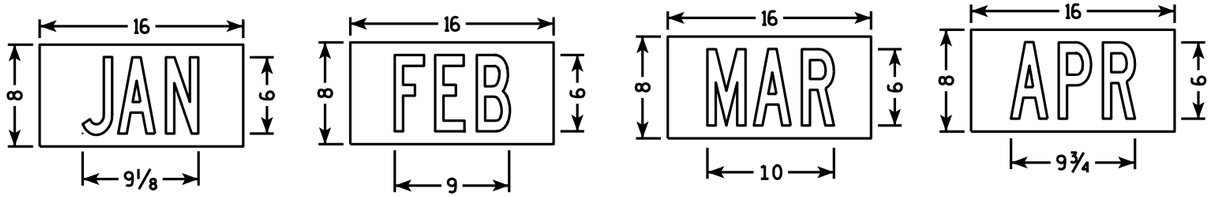


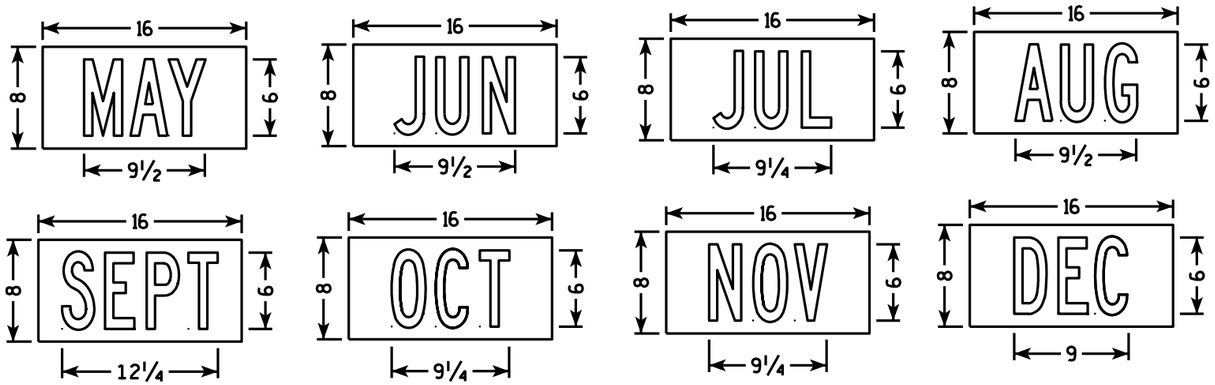


NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - B
4. Message plaques consist of Type H Reflective sheeting with the appropriate non-reflective black message applied to .040 aluminum and screwed to the base sign.







SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48		2 1/4	1/2		2	6	7	3		6 1/2	15 7/8	5	14 1/8	6 7/8	6 3/4	22 1/2										16.0
2M	48		2 1/4	1/2		2	6	7	3		6 1/2	15 7/8	5	14 1/8	6 7/8	6 3/4	22 1/2										16.0
3																											
4																											
5																											

STANDARD SIGN
R11-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-51.4

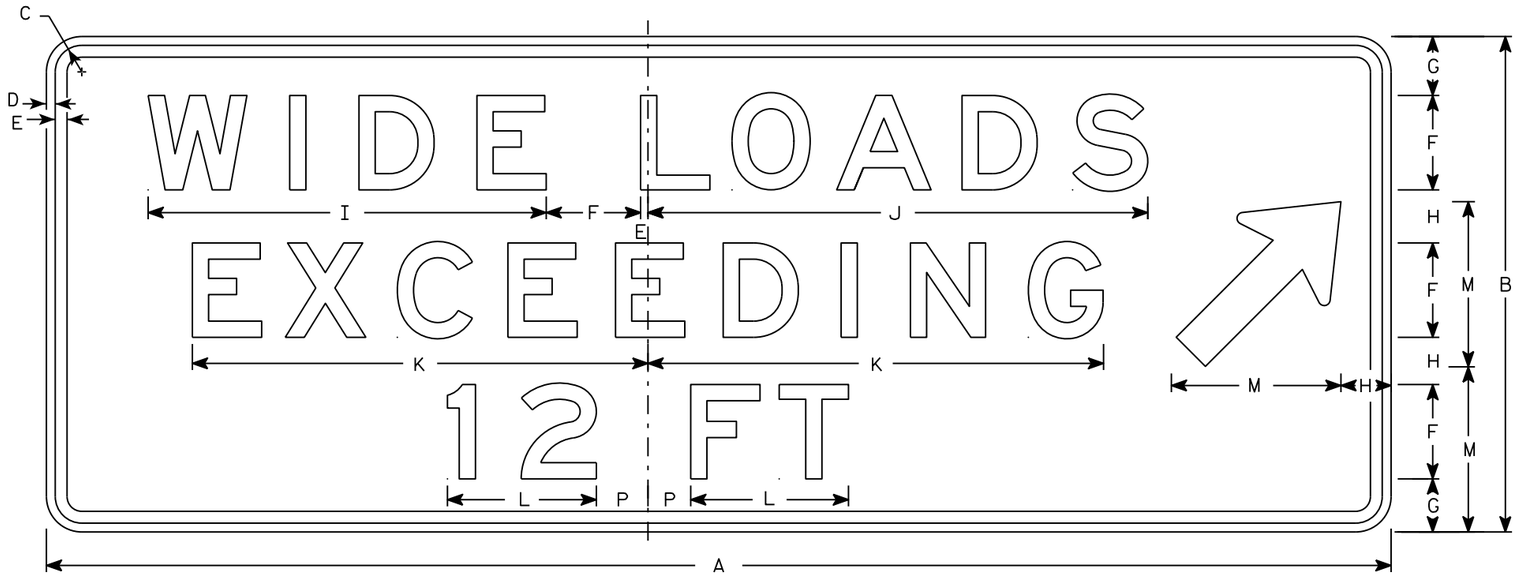
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 460	E

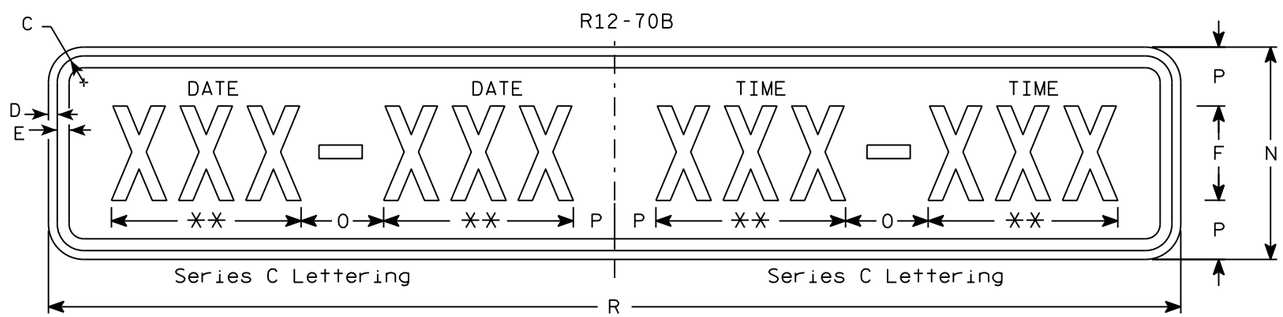
FILE NAME : C:\Users\PROJECTS\tr_stdplate\R1151.DGN PLOT DATE : 01-APR-2011 14:07 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.918087:1.000000

WISDOT/CADDS SHEET 42

7

7





R12-70C

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	R12-70 Area sq. ft.	R12-70C Area sq. ft.
1																												
2S	90	36	2 1/4	1/2	5/8	6	4	5	20 7/8	28 3/8	24 5/8	8 1/8	12	12	6	3		66									22.5	5.5
2M	90	36	2 1/4	1/2	5/8	6	4	5	20 7/8	28 3/8	24 5/8	8 1/8	12	12	6	3		66									22.5	5.5
3																												
4	114	42	2 1/4	3/4	1	8	5	4	34	42	39	13	14	18	7	3 1/2		96									36.75	12.0
5	114	42	2 1/4	3/4	1	8	5	4	34	42	39	13	14	18	7	3 1/2		96									36.75	12.0

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E except as noted
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.

** Substitute appropriate message, optically center message

TYPICAL SIGN
R12-70B

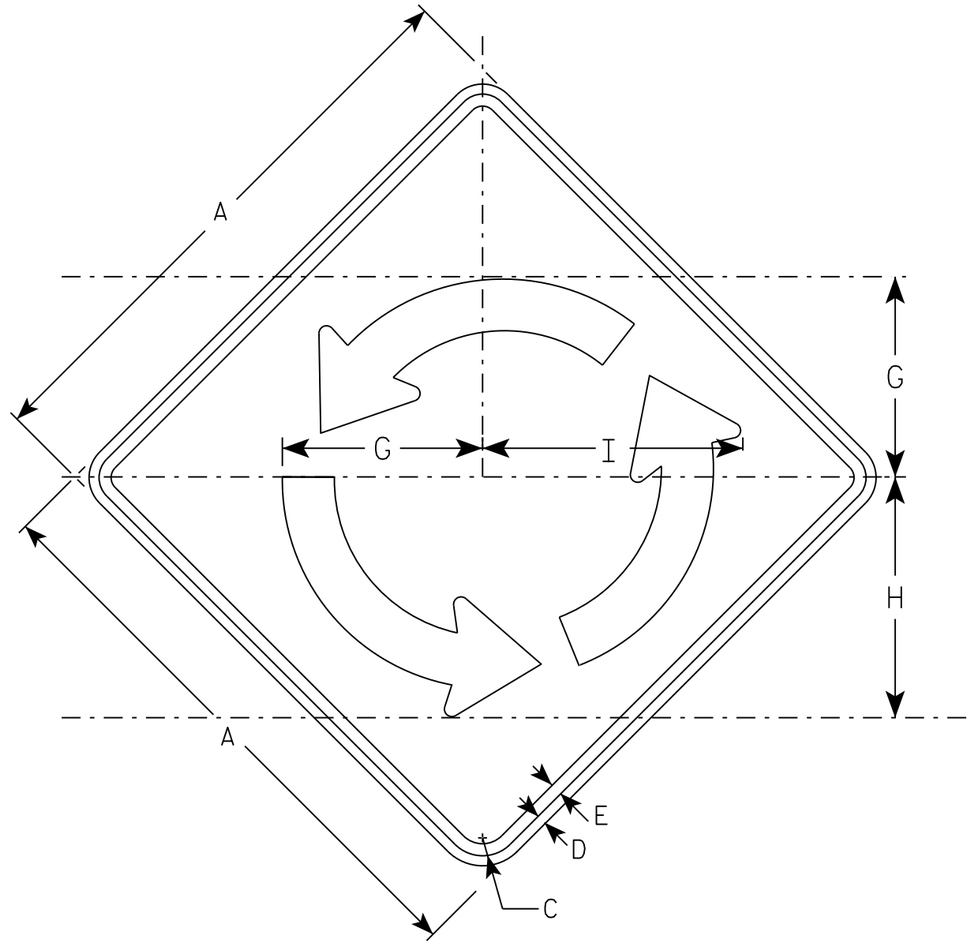
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/15 PLATE NO R12-70B.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R1270B.DGN PLOT DATE : 01-DEC-2015 18:10 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 12.842555:1.000000



W2-6

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - YELLOW
   Message - BLACK

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Area sq. ft.
1																									
2S	30		1 3/8	1/2	5/8		10 3/8	12 1/2	13 1/2																6.25
2M	30		1 3/8	1/2	5/8		10 3/8	12 1/2	13 1/2																6.25
3	36		1 5/8	5/8	3/4		12 1/2	15	16 1/4																9.00
4	48		2 1/4	3/4	1		16 5/8	20	16 1/4																16.0
5																									

STANDARD SIGN
W2-6

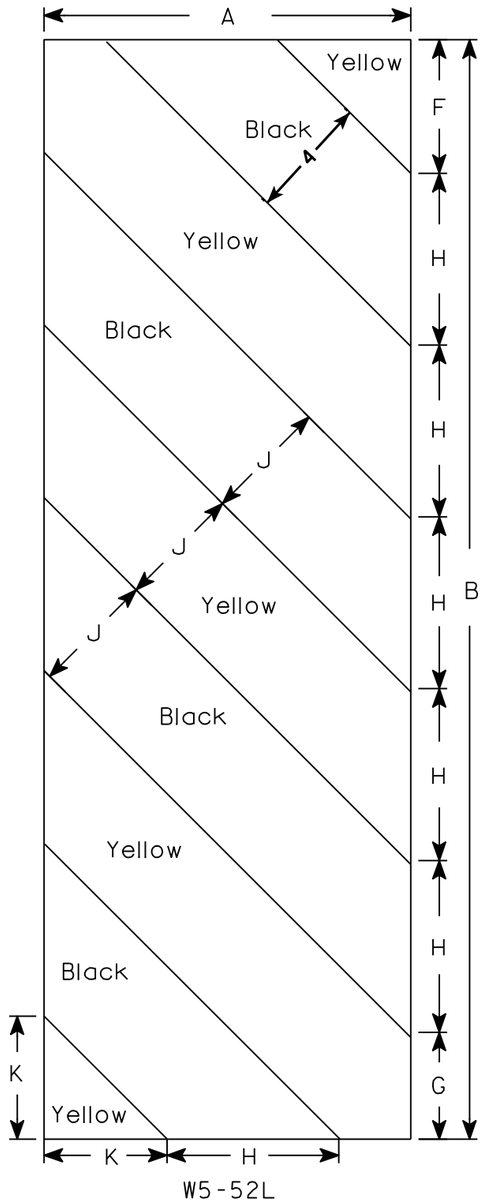
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

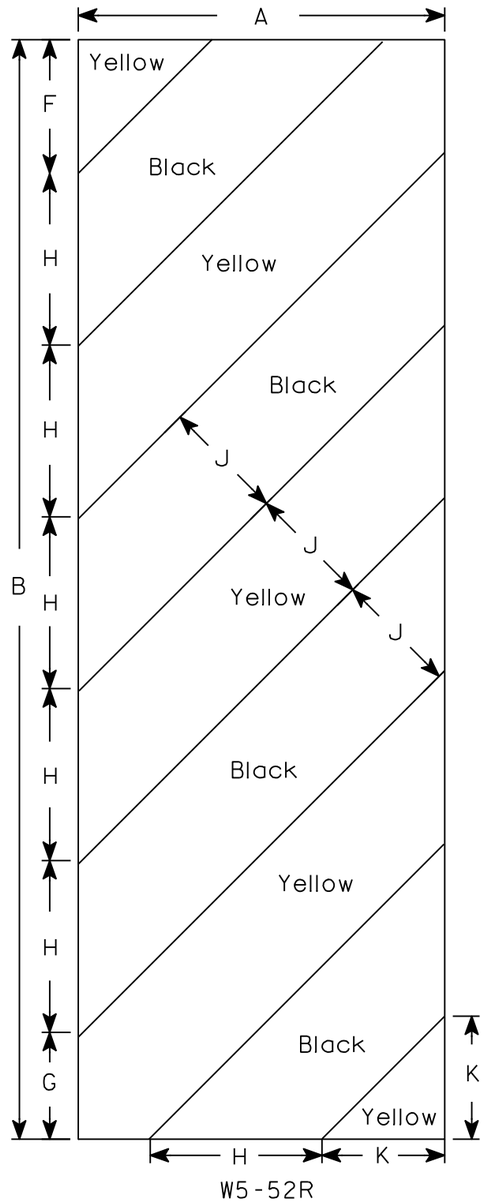
DATE 3/15/18 PLATE NO. W2-6.6

PROJECT NO:

SHEET NO: 462 E



W5-52L



W5-52R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Alternate colors of stripes as shown.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

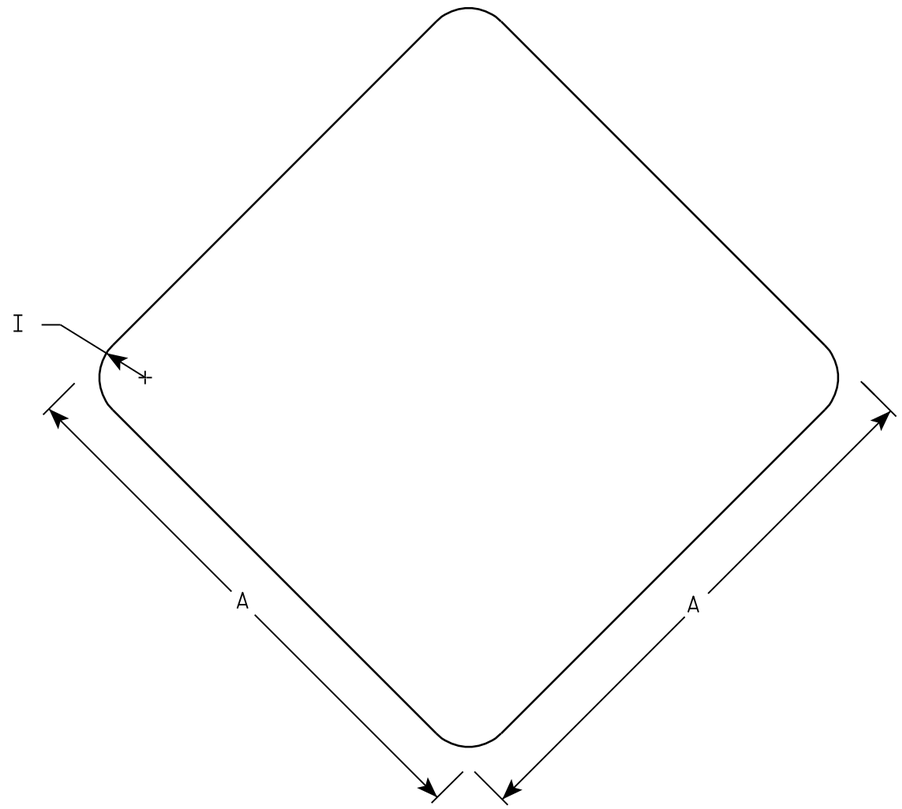
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 463 | E



W5-54

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
3. Corners may be square or rounded when base material is plywood. When base material is metal the corners 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	12								1																		1.0
2S	18								1 ½																		2.25
2M	18								1 ½																		2.25
3																											
4																											
5																											

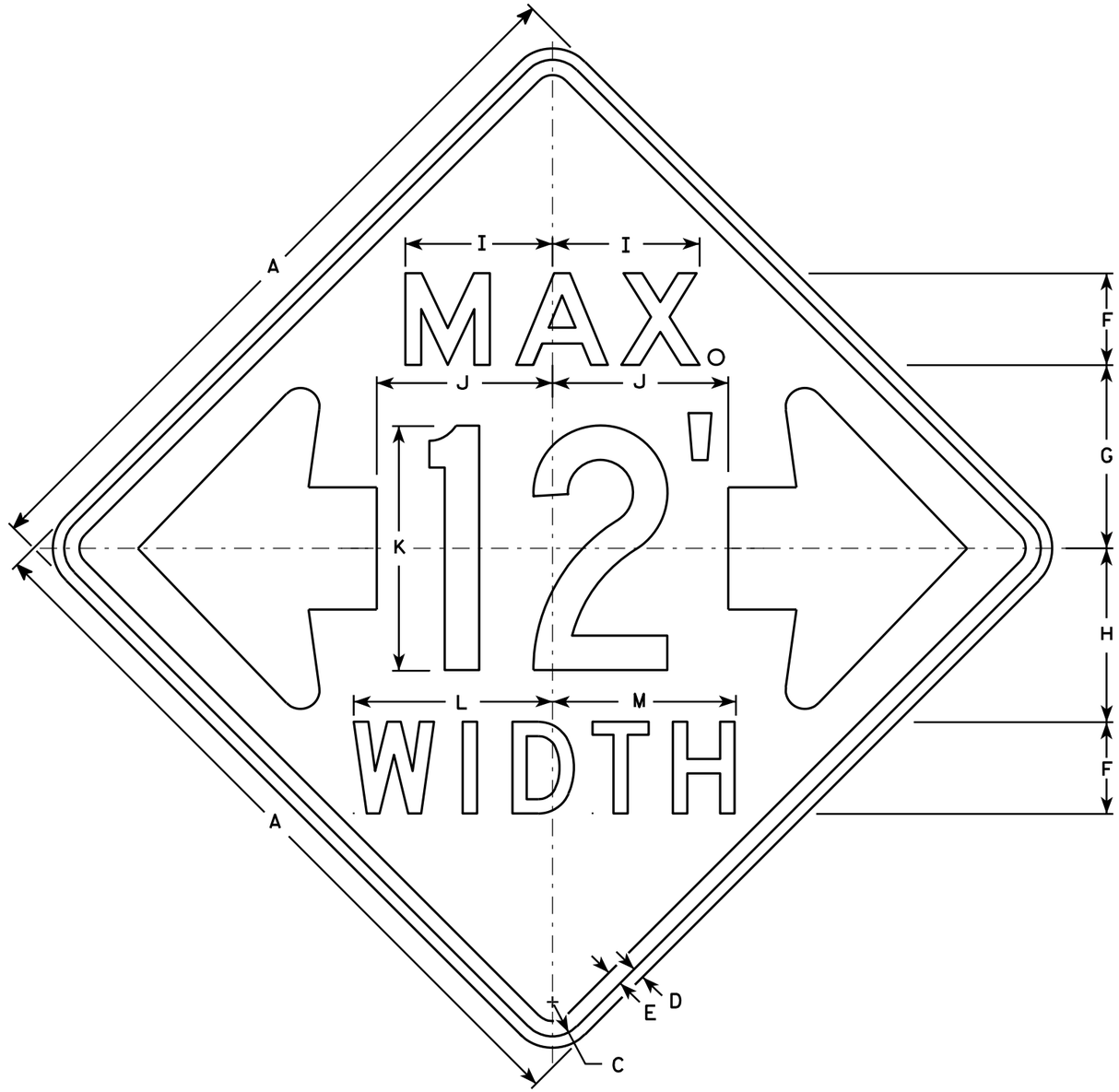
STANDARD SIGN
W5-54

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/3/10 PLATE NO. W5-54.8

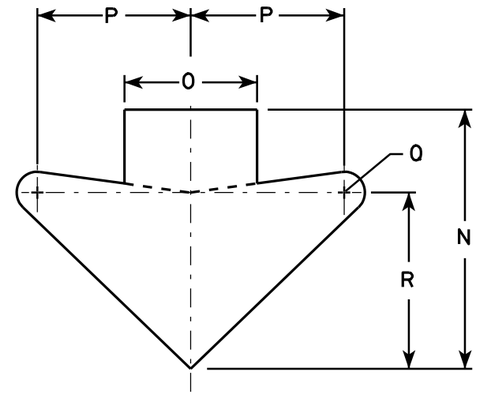
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 464 | E



W12-52

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The top line is series E, the numerals are series C, and the bottom line is series D.
6. Substitute appropriate numerals and adjust spacing as required.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48		2 1/4	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
2M	48		2 1/4	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
3																											
4																											
5																											

STANDARD SIGN
W12-52

WISCONSIN DEPT OF TRANSPORTATION

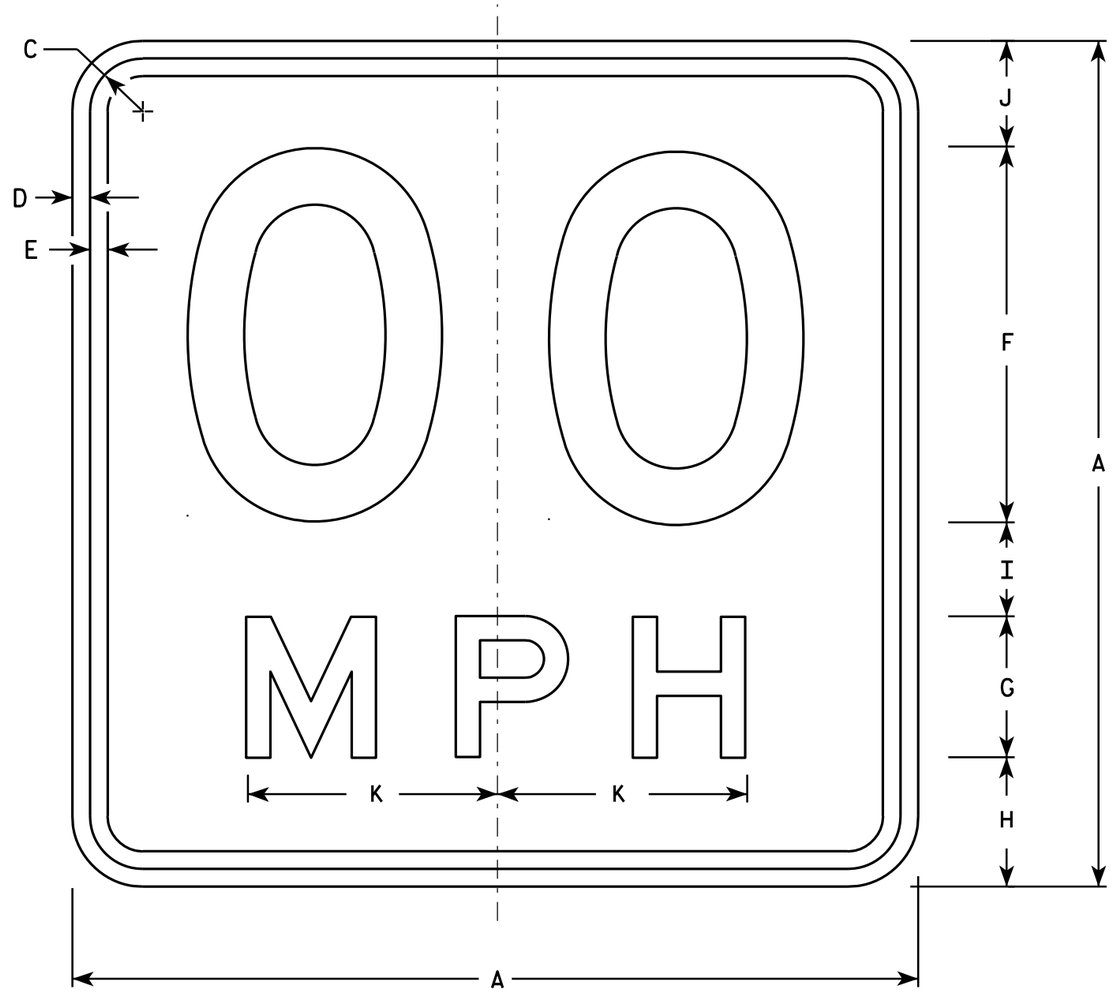
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/11 PLATE NO. W12-52.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 465 | E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W1252.DGN PLOT DATE : 16-MAR-2011 14:45 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.137199:1.000000



W13-1

* For 30" x 30" Warning Signs, use 18" x 18" W13-1 signs.
For 36" x 36" Warning Signs, use 24" x 24" W13-1 signs.

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - See Note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
6. Line 1 is Series D
   Line 2 is Series E

	SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
	1	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
*	2S	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
*	2M	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
	3	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	6 5/8																4.00
	4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
	5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

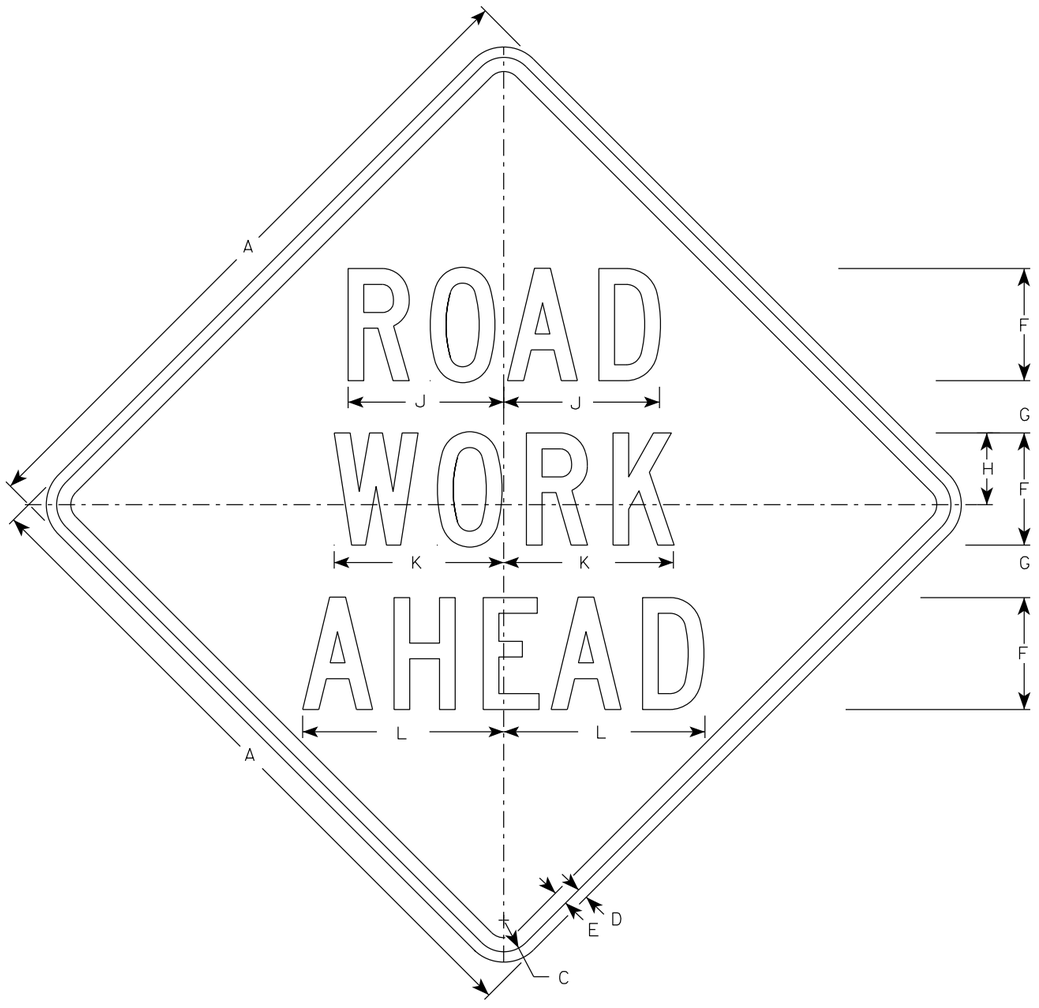
STANDARD SIGN
W13-1

WISCONSIN DEPT OF TRANSPORTATION

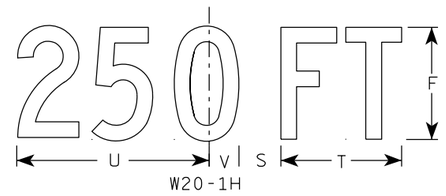
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-1.16

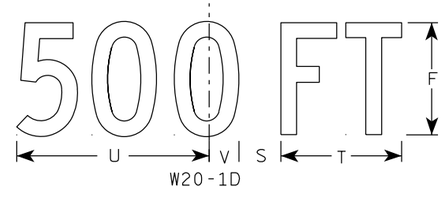
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 466 | E



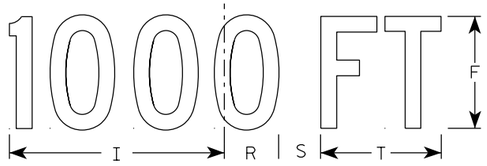
W20-1A



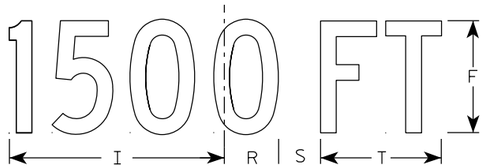
W20-1H



W20-1D



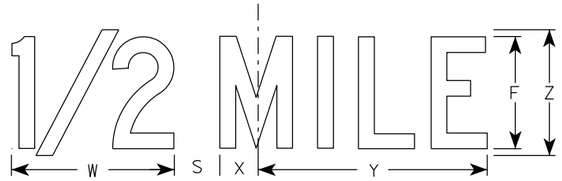
W20-1C



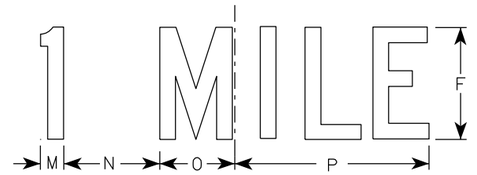
W20-1B

NOTES

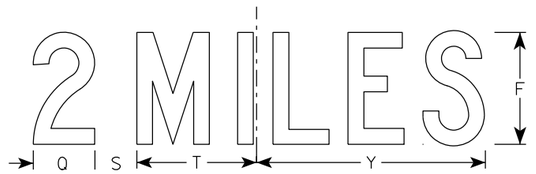
1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



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:

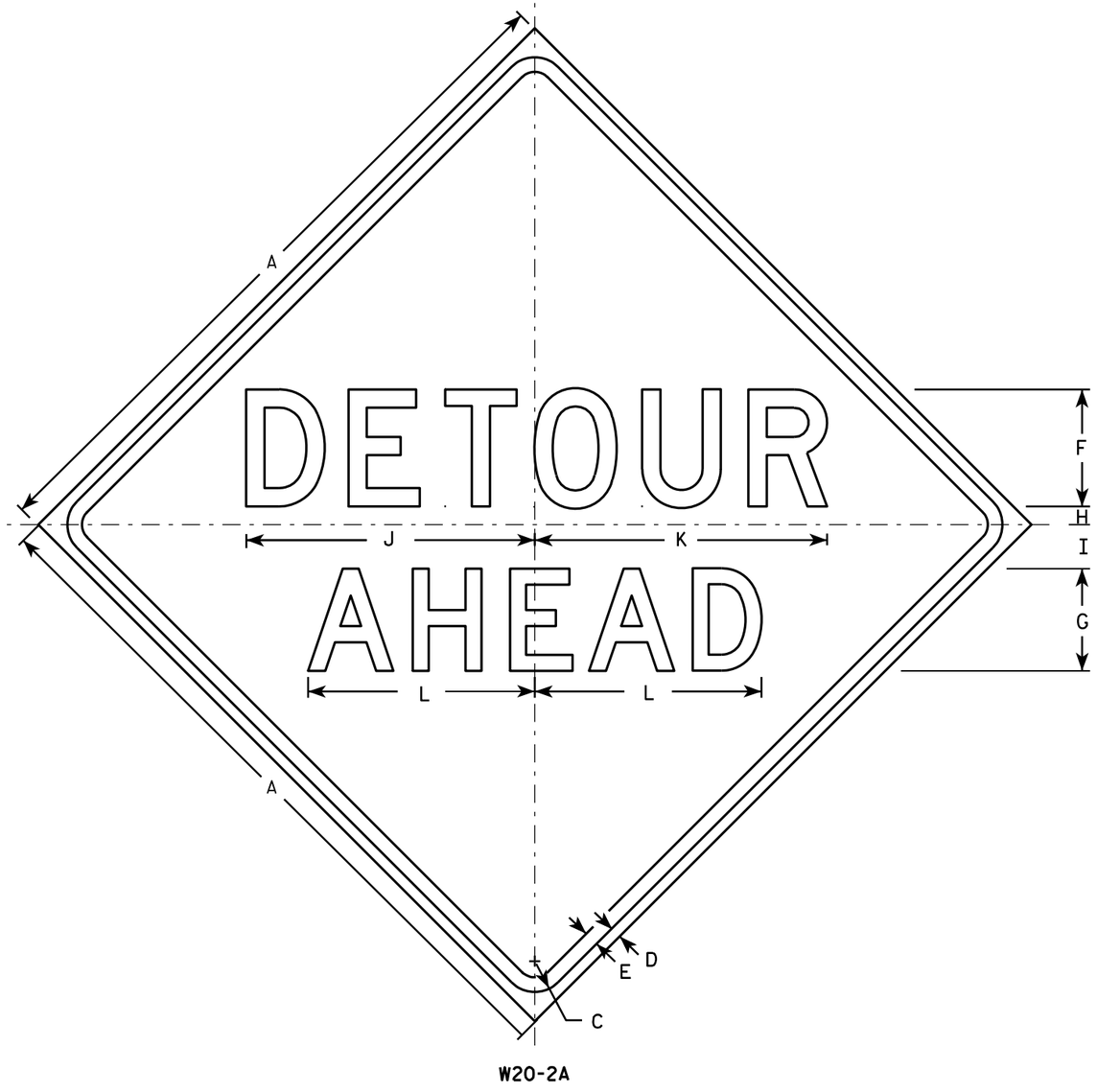
SHEET NO: E

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

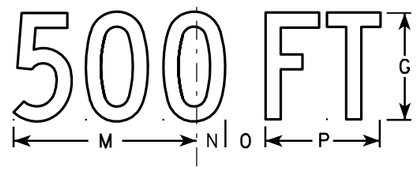
WISDOT/CADDS SHEET 42

7

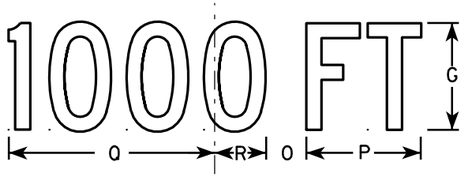
7



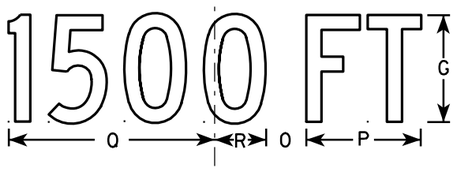
W20-2A



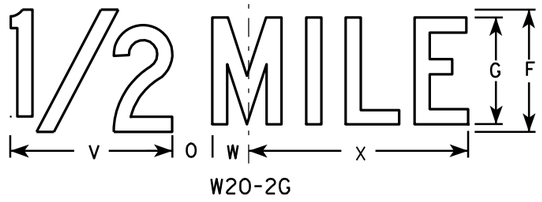
W20-2D



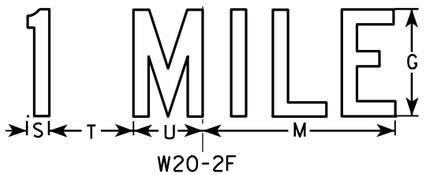
W20-2C



W20-2B



W20-2G



W20-2F

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN
W20-2A,B,C,D,F & G

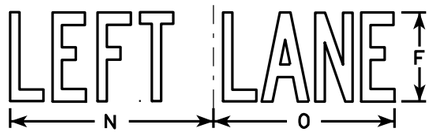
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

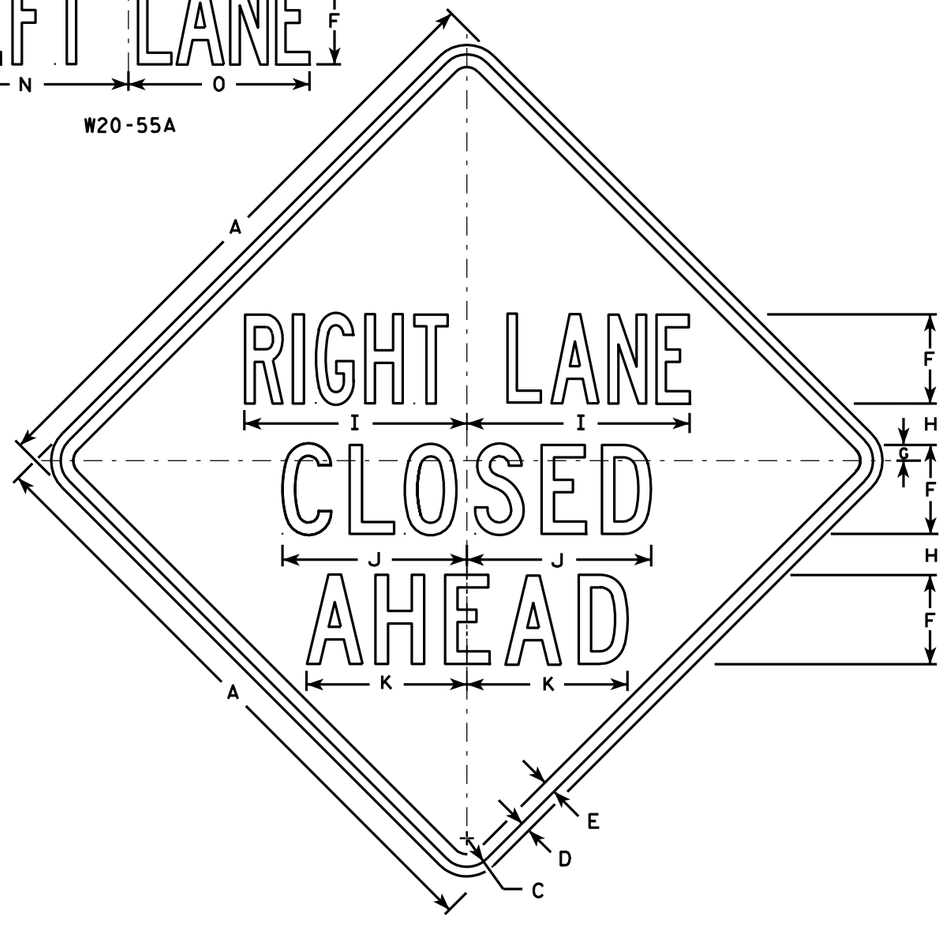
DATE 3/18/11 PLATE NO. W20-2.6

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 468	E

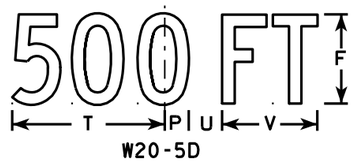
W20-56A



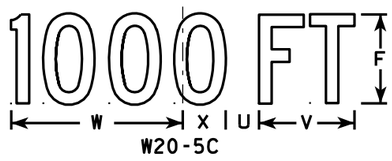
W20-55A



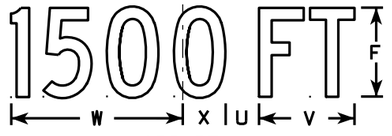
W20-5A



W20-5D



W20-5C



W20-5B

W20-5G

W20-5F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. " _____ LANE" is Series B.
   All other copy is Series C.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	6	1 5/8	5/8	3/4	5	1/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 1/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

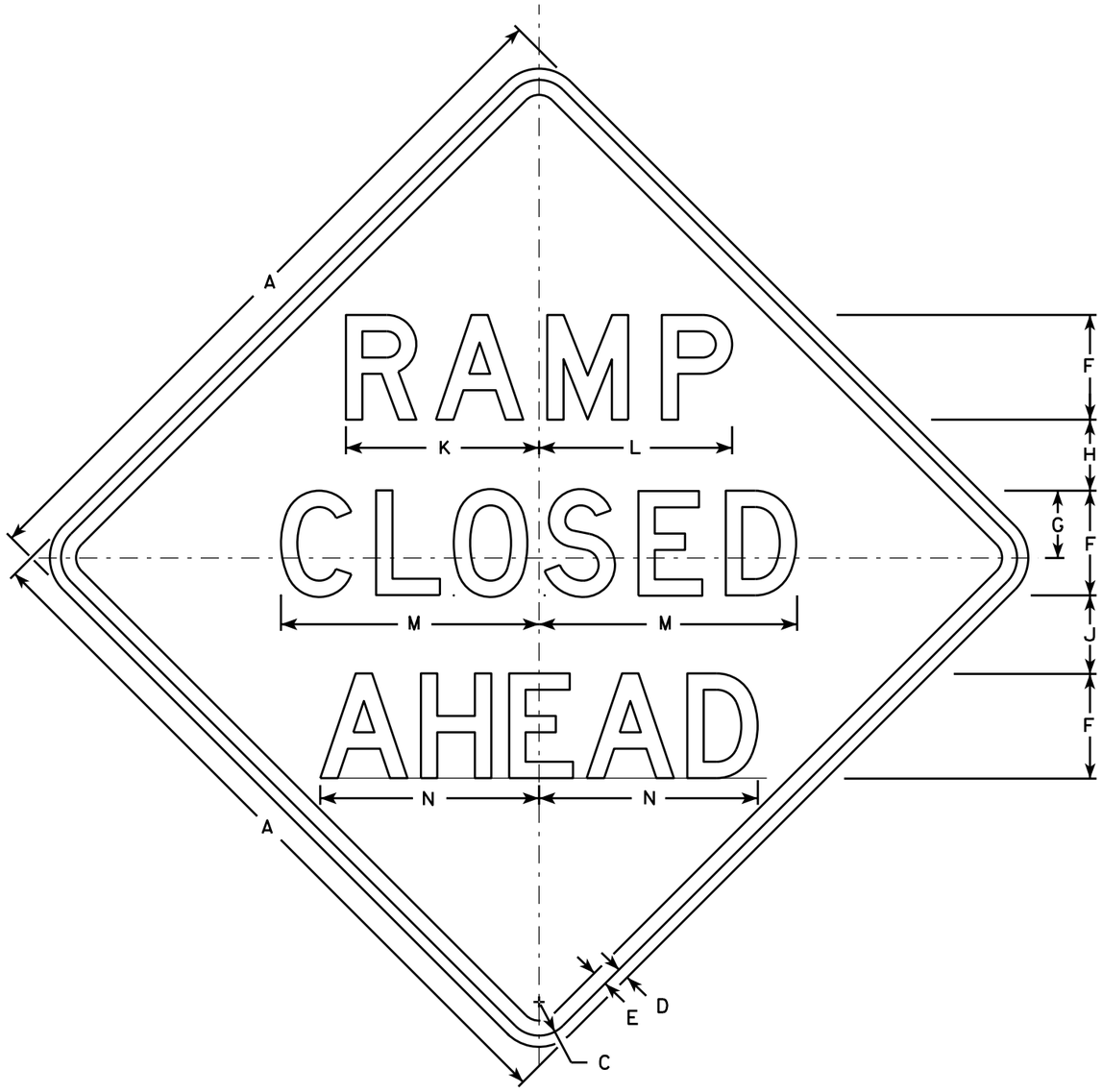
STANDARD SIGN
W20-5A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

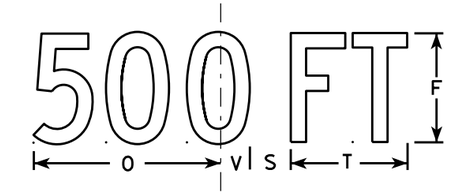
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-5.11

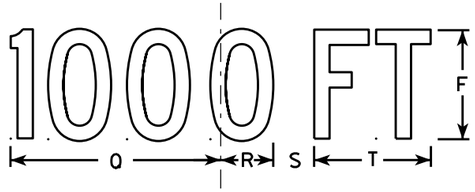
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 469	E



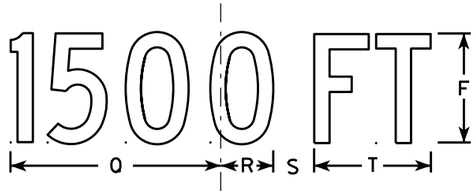
W20-53A



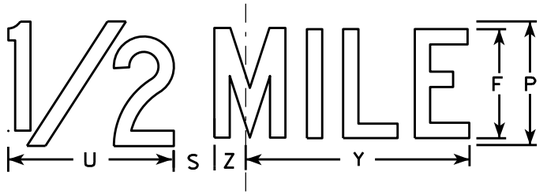
W20-53D



W20-53C



W20-53B



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.
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	9 1/4	9 1/4	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	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

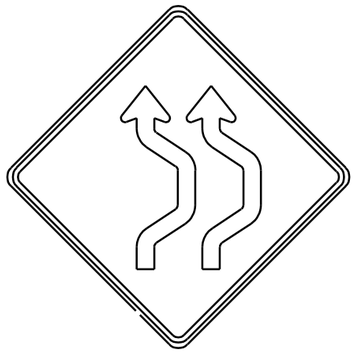
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

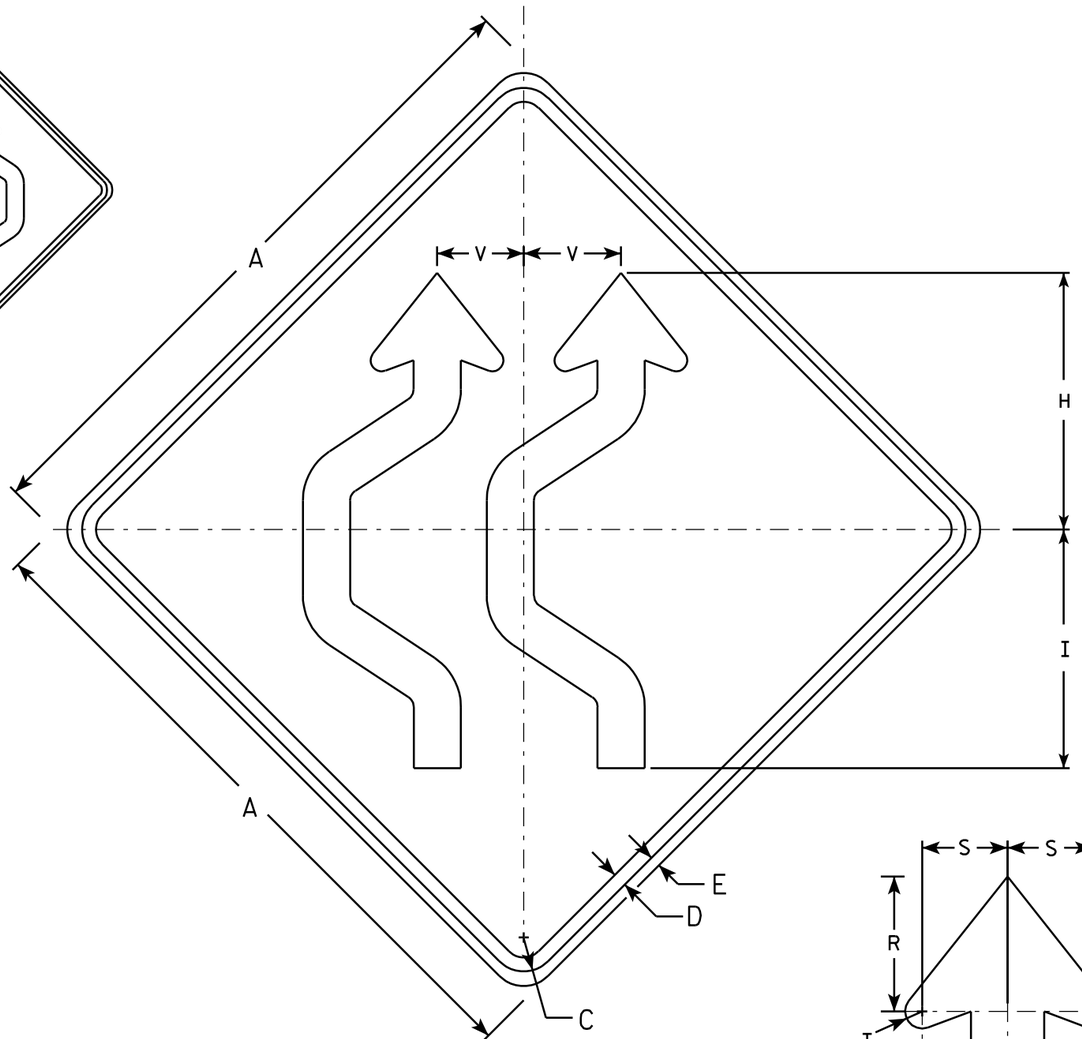
DATE 5/27/15 PLATE NO. W20-53.1

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

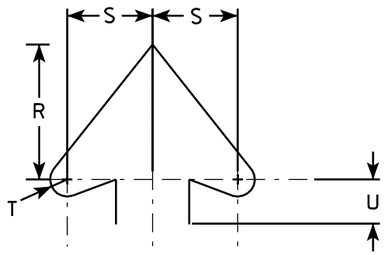
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W2053.DGN PLOT DATE : 27-MAY-2015 19:40 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.729210:1.000000
WISDOT/CADDS SHEET 42



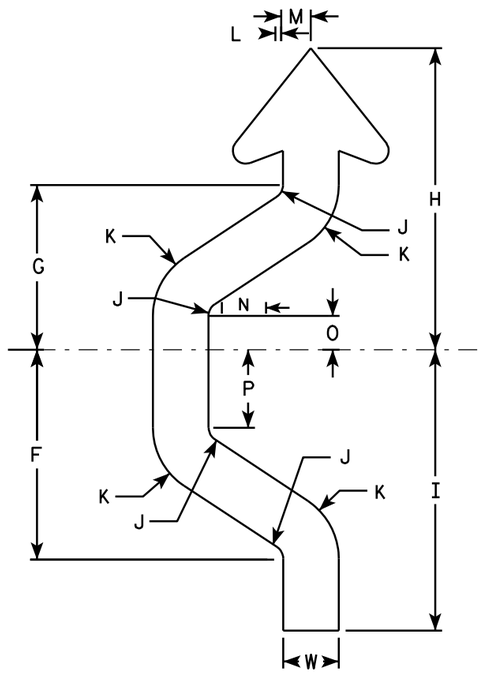
W24-1AR



W24-1AL



Arrowhead Detail



Arrow Detail

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W24-1R is the same as W24-1L except reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	5/8	1/2	9 1/2	7 1/2	13 3/4	12 3/4	5/8	3 1/8	3/8	1 5/8	2 3/8	1 1/2	3 1/2		4 5/8	3	5/8	1 1/2	4 3/4	2 1/2				9
2S	48		2 1/4	1	3/4	12 7/8	10 1/8	18 1/2	17 1/4	7/8	4 1/4	3/8	2 1/8	3 1/4	2	4 3/4		6 1/4	4	3/4	2 1/8	6 1/4	3 3/8				16
2M	48		2 1/4	1	3/4	12 7/8	10 1/8	18 1/2	17 1/4	7/8	4 1/4	3/8	2 1/8	3 1/4	2	4 3/4		6 1/4	4	3/4	2 1/8	6 1/4	3 3/8				16
3	48		2 1/4	1	3/4	12 7/8	10 1/8	18 1/2	17 1/4	7/8	4 1/4	3/8	2 1/8	3 1/4	2	4 3/4		6 1/4	4	3/4	2 1/8	6 1/4	3 3/8				16
4	48		2 1/4	1	3/4	12 7/8	10 1/8	18 1/2	17 1/4	7/8	4 1/4	3/8	2 1/8	3 1/4	2	4 3/4		6 1/4	4	3/4	2 1/8	6 1/4	3 3/8				16
5	48		2 1/4	1	3/4	12 7/8	10 1/8	18 1/2	17 1/4	7/8	4 1/4	3/8	2 1/8	3 1/4	2	4 3/4		6 1/4	4	3/4	2 1/8	6 1/4	3 3/8				16

STANDARD SIGN
W24-1AL

WISCONSIN DEPT OF TRANSPORTATION

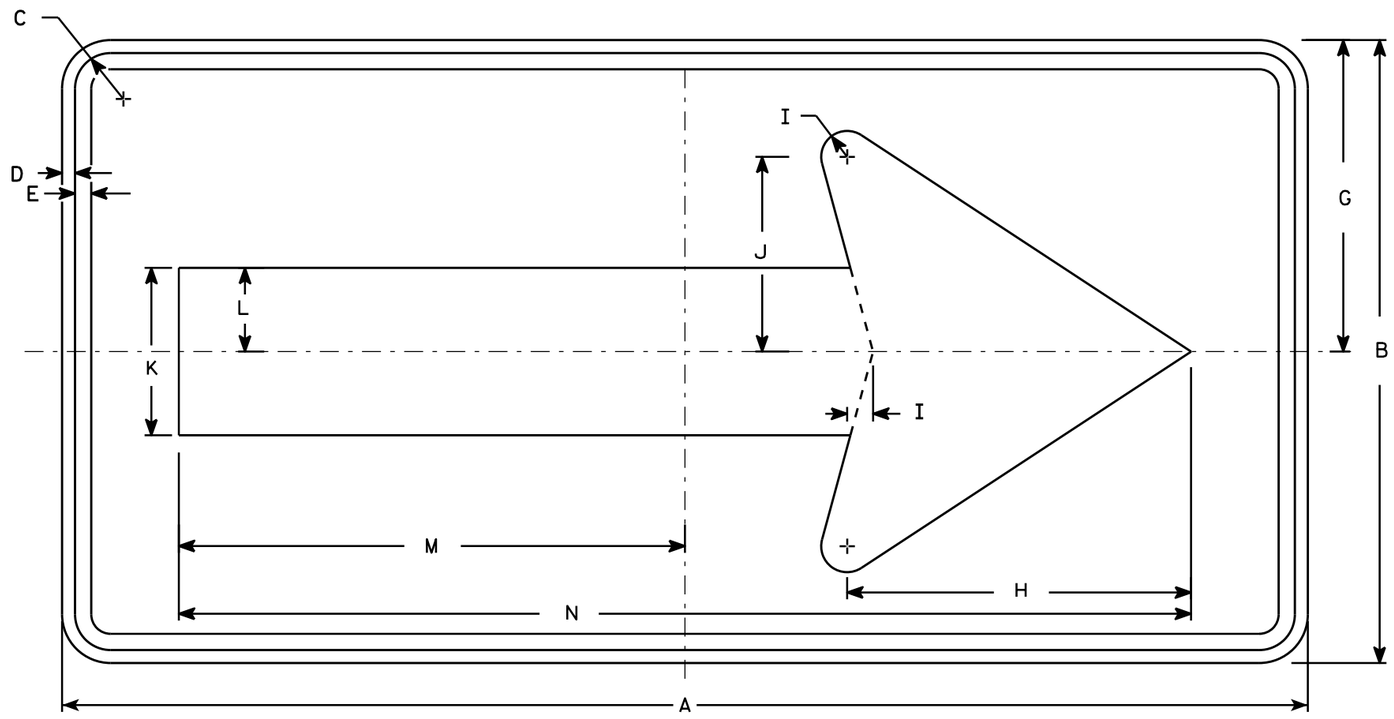
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W24-1AL.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 471 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W241AL.DGN PLOT DATE : 21-MAR-2011 13:22 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 10.924915:1.000000

WISDOT/CADDS SHEET 42



W01-6

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

STANDARD SIGN
W01-6

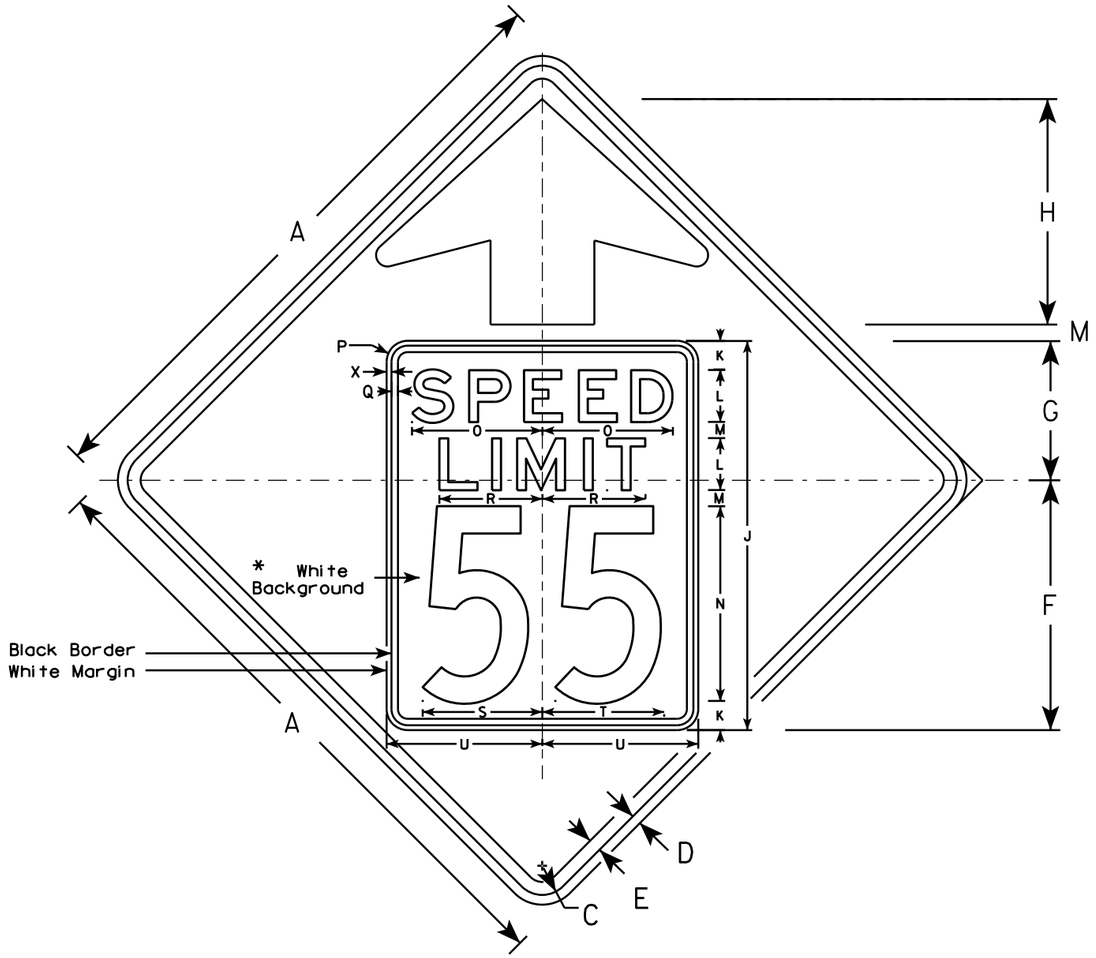
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE W01-6.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W016.DGN PLOT DATE : 28-FEB-2014 11:37 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 5.837526:1.000000 WISDOT/CADDS SHEET 42

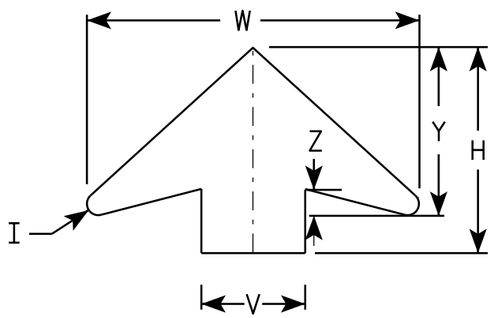


W03-5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color: *
   Background - ORANGE*
   Message - BLACK
3. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2S	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
2M	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
3	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
4	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

STANDARD SIGN
W03-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

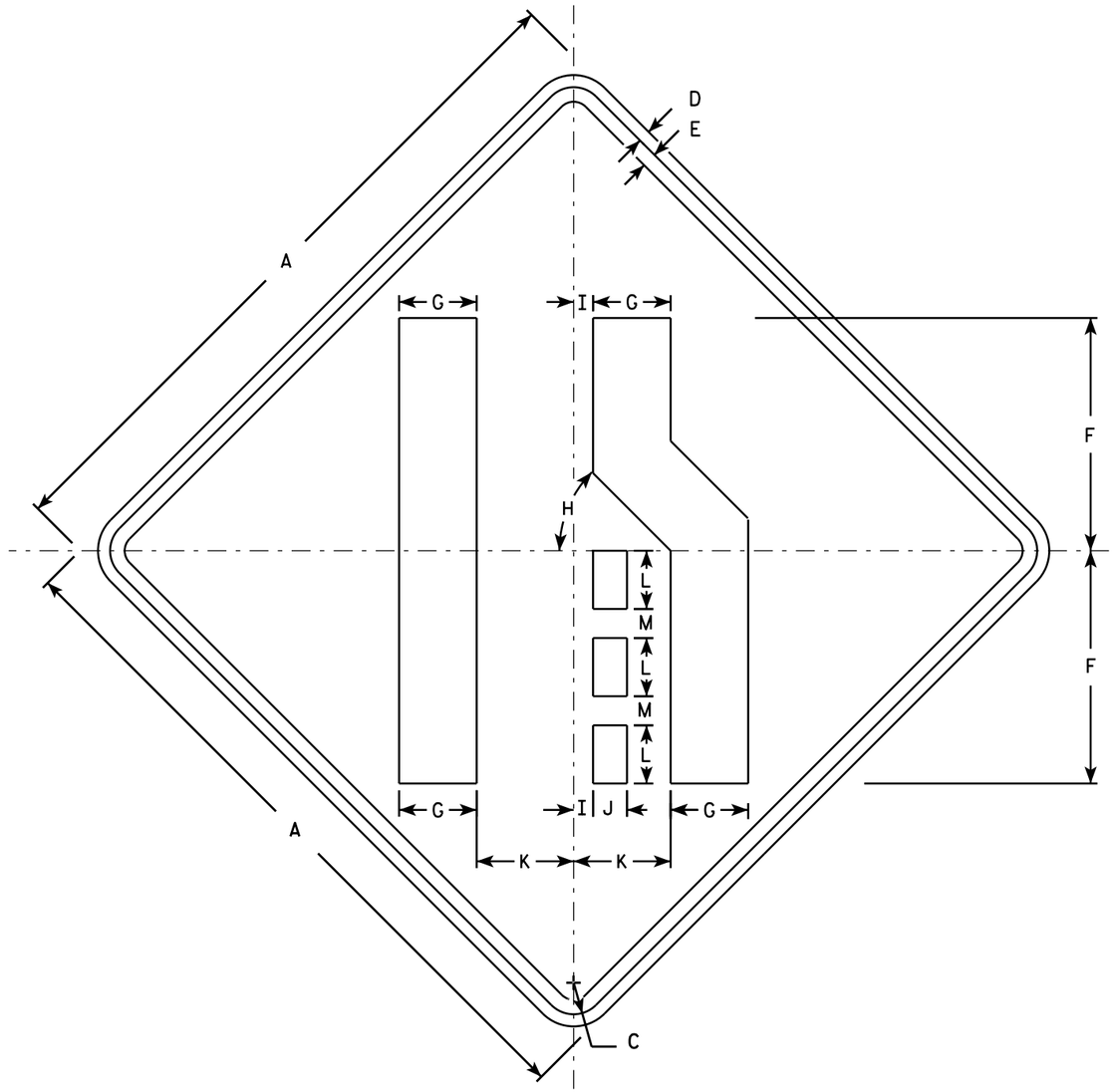
DATE 11/20/13 PLATE W03-5.1

PROJECT NO: SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W035.DGN PLOT DATE : 20-NOV-2013 11:32 PLOT BY : mscsja

WISDOT/CADDS SHEET 42

7 7



W04-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

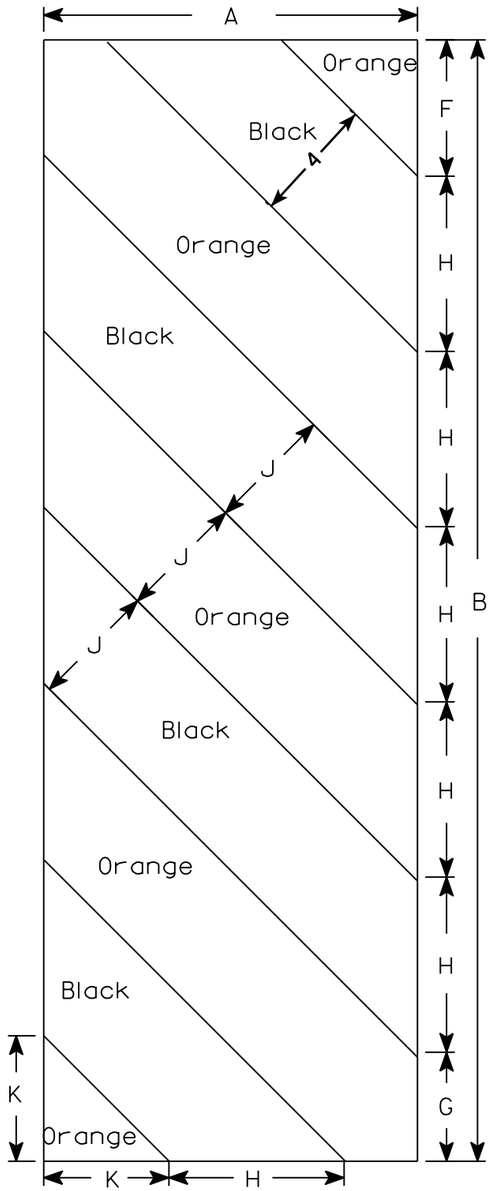
STANDARD SIGN
W04-2

WISCONSIN DEPT OF TRANSPORTATION

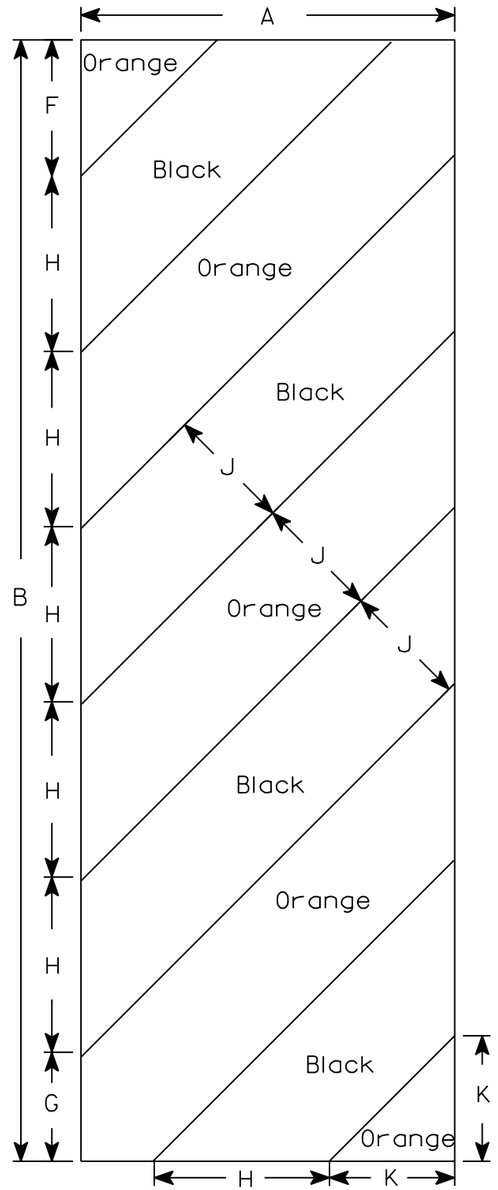
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 474 W04-2.1

PROJECT NO: | SHEET NO: E



W05-52L



W05-52R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Alternate colors of stripes as shown.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

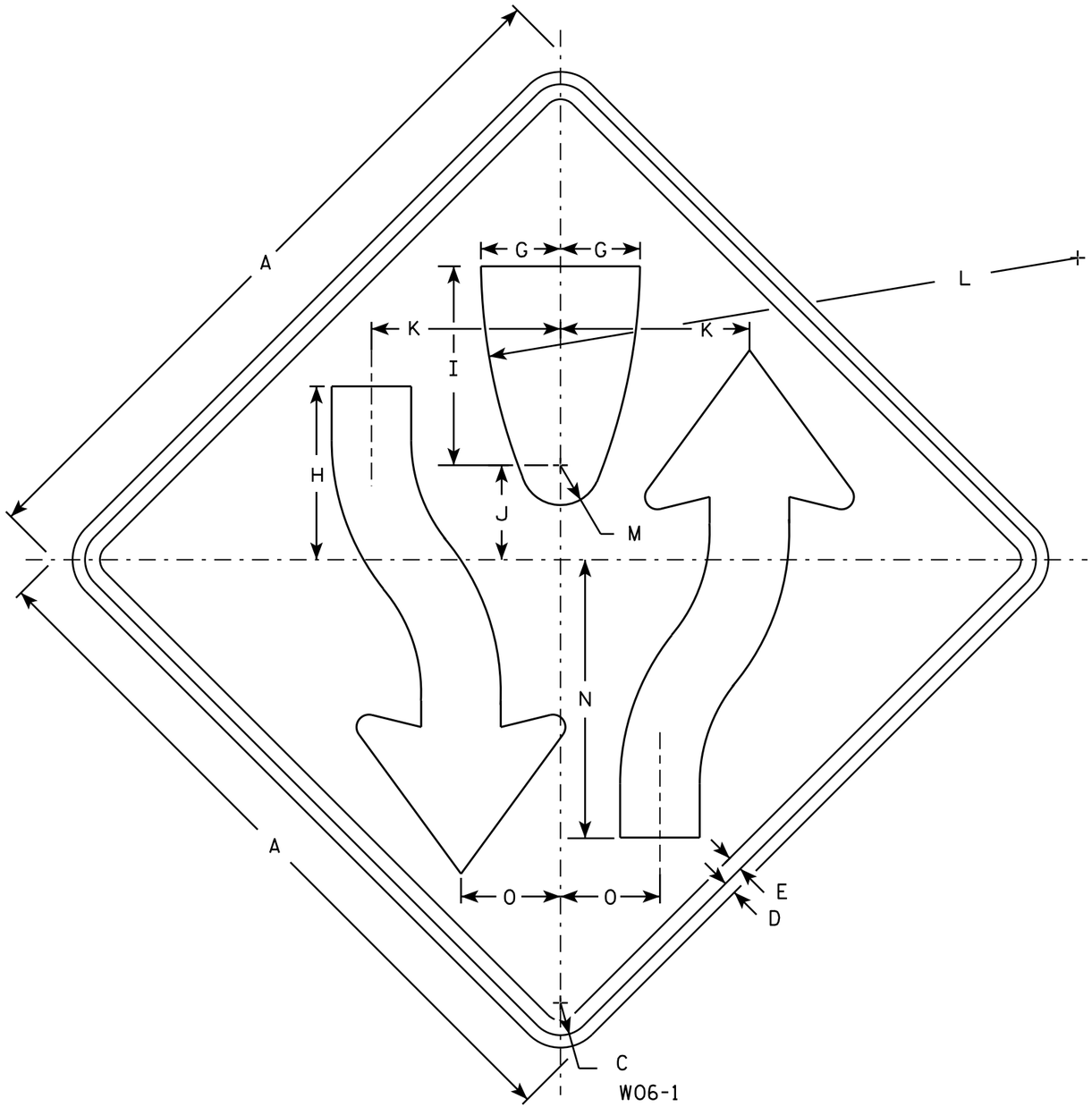
W05-52L & W05-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE No. W05-52.1

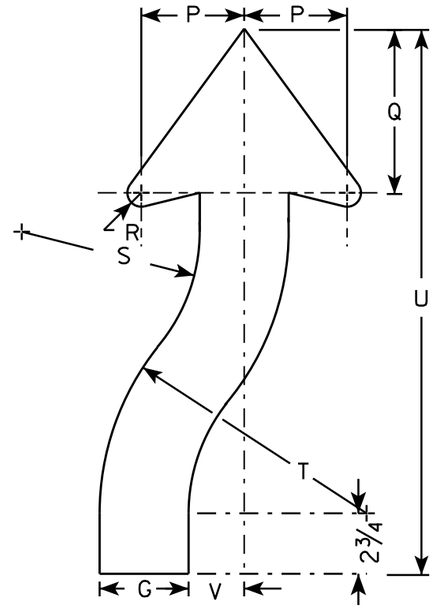
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



W06-1

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W06-2 same as W06-1 but is rotated 180° when mounted.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4		4	8 3/4	10	4 3/4	9 1/2	30	2	14	5	4 5/8	7 3/8	7/8	8	12	24 1/2	2 1/2					9.0
2S	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0
2M	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0
3	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0
4	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0
5	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0

STANDARD SIGN
W06-1 & W06-2

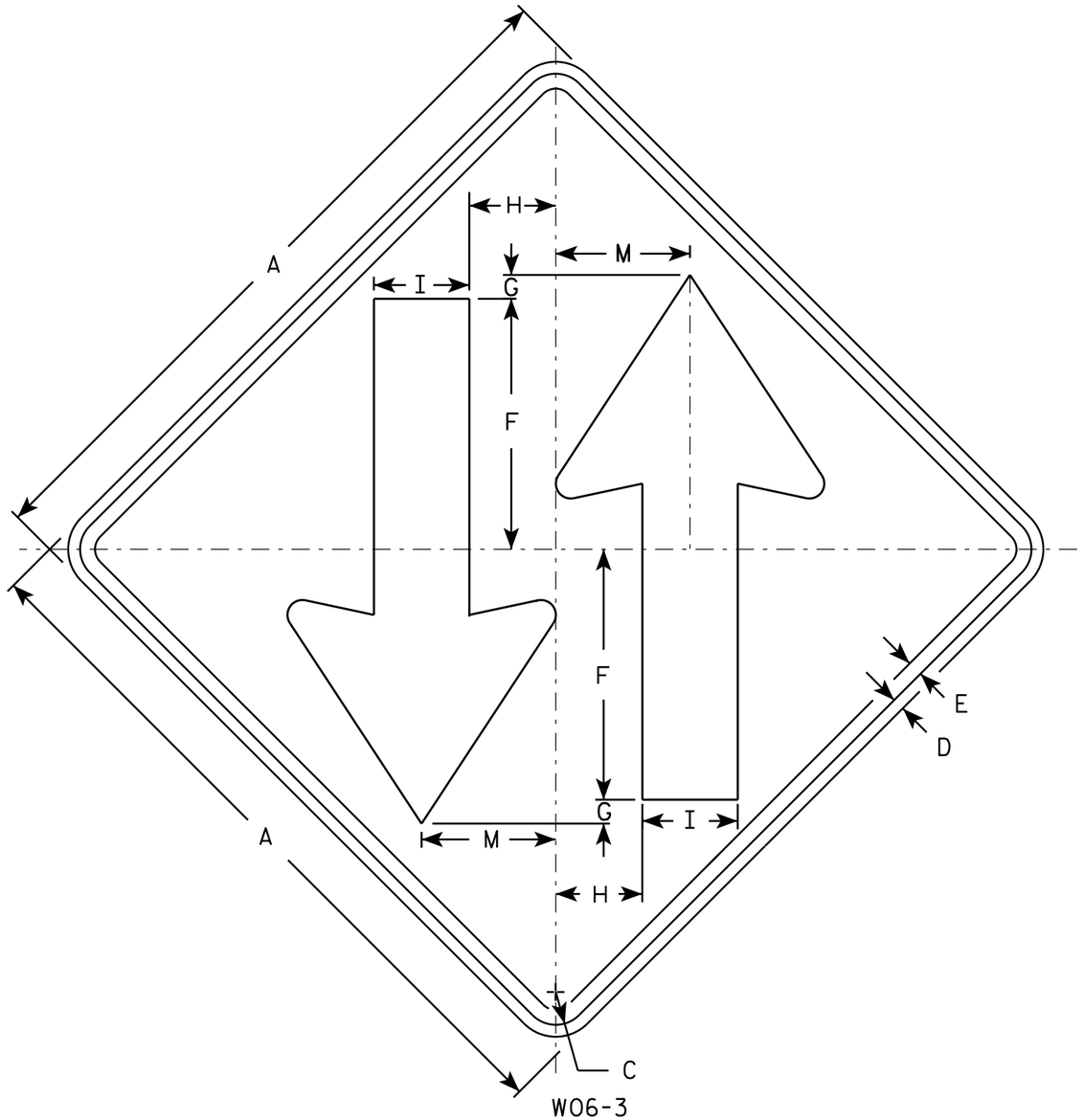
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE NO W06-1.1

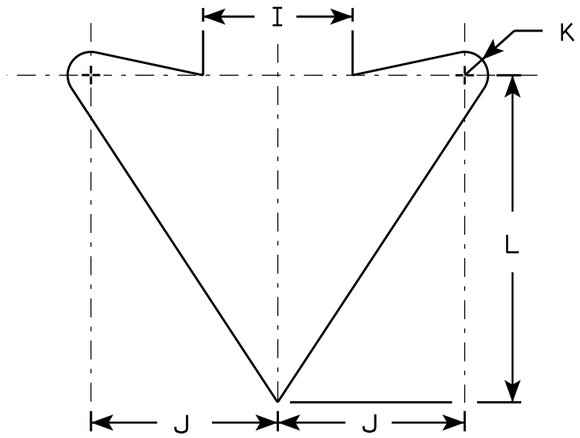
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W061.DGN PLOT DATE : 20-NOV-2013 12:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 6.810449:1.000000
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 - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	12	1	4 1/4	5	6	3/4	10 1/2	6 3/4														9.0
2S	48		2 1/4	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0
2M	48		2 1/4	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0
3	48		2 1/4	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0
4	48		2 1/4	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0
5	48		2 1/4	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0

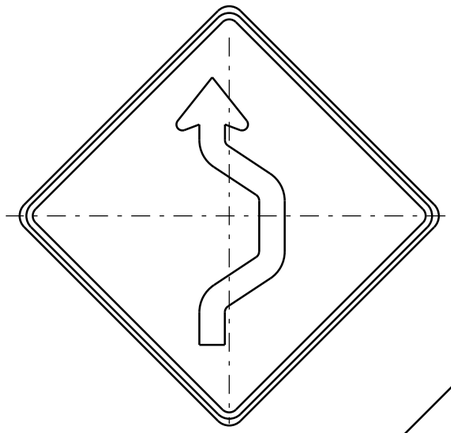
STANDARD SIGN
W06-3

WISCONSIN DEPT OF TRANSPORTATION

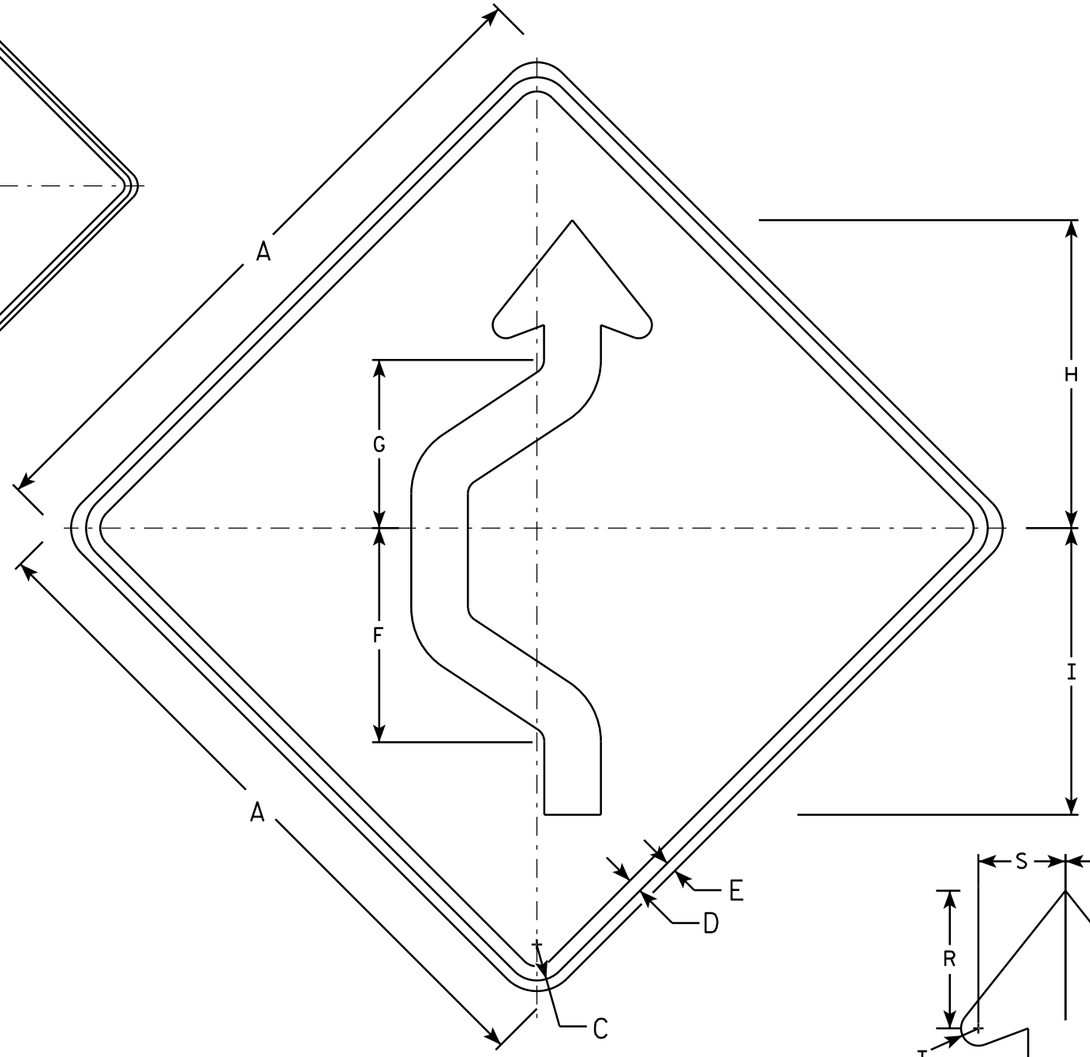
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 477 W06-3.1

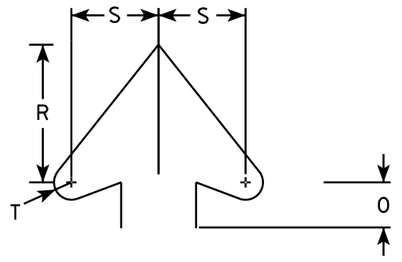
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



W024-1R



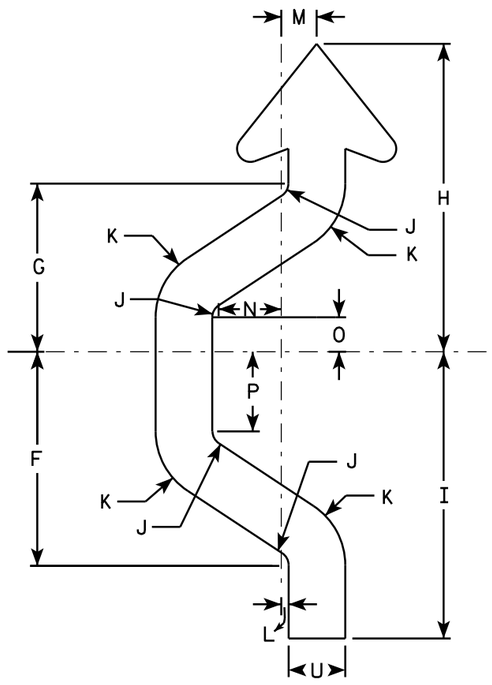
W024-1L



Arrowhead Detail

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W024-1R is the same as W024-1L except reversed along the vertical centerline.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	5/8	1/2	11 3/8	8 7/8	16 3/8	15 1/4	3/4	3 3/4	3/8	2	3 3/8	1 7/8	4 1/4		5 1/2	3 1/2	5/8	3						9
2S	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16
2M	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16
3	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16
4	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16
5	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16

STANDARD SIGN
W024-1 L & R

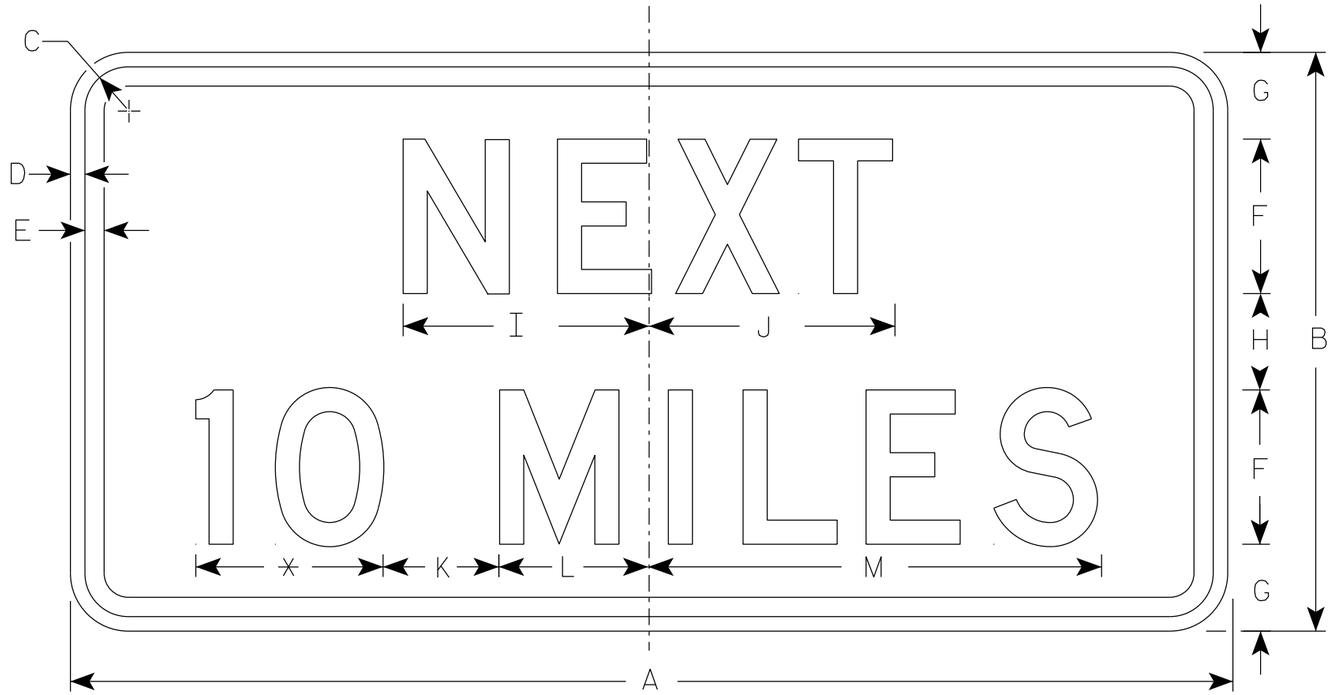
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/25/2013 PLATE NO. W024-1.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W0241.DGN PLOT DATE : 25-SEP-2013 13:08 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 10.702132:1.000000 WISDOT/CADDS SHEET 42



W057-51

* See note 5

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Round distance to the nearest whole Mile and substitute appropriate numerals and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/8	3/8	1/2	5	2 3/4	2 1/2	7 7/8	8	5	4 1/8	15 3/8														4.5
2S	48	24	1 3/8	1/2	5/8	6	4	4	10	10 1/8	6	5 5/8	19														8.0
2M	48	24	1 3/8	1/2	5/8	6	4	4	10	10 1/8	6	5 5/8	19														8.0
3	48	24	1 3/8	1/2	5/8	6	4	4	10	10 1/8	6	5 5/8	19														8.0
4	48	24	1 3/8	1/2	5/8	6	4	4	10	10 1/8	6	5 5/8	19														8.0
5	48	24	1 3/8	1/2	5/8	6	4	4	10	10 1/8	6	5 5/8	19														8.0

STANDARD SIGN
W057-51

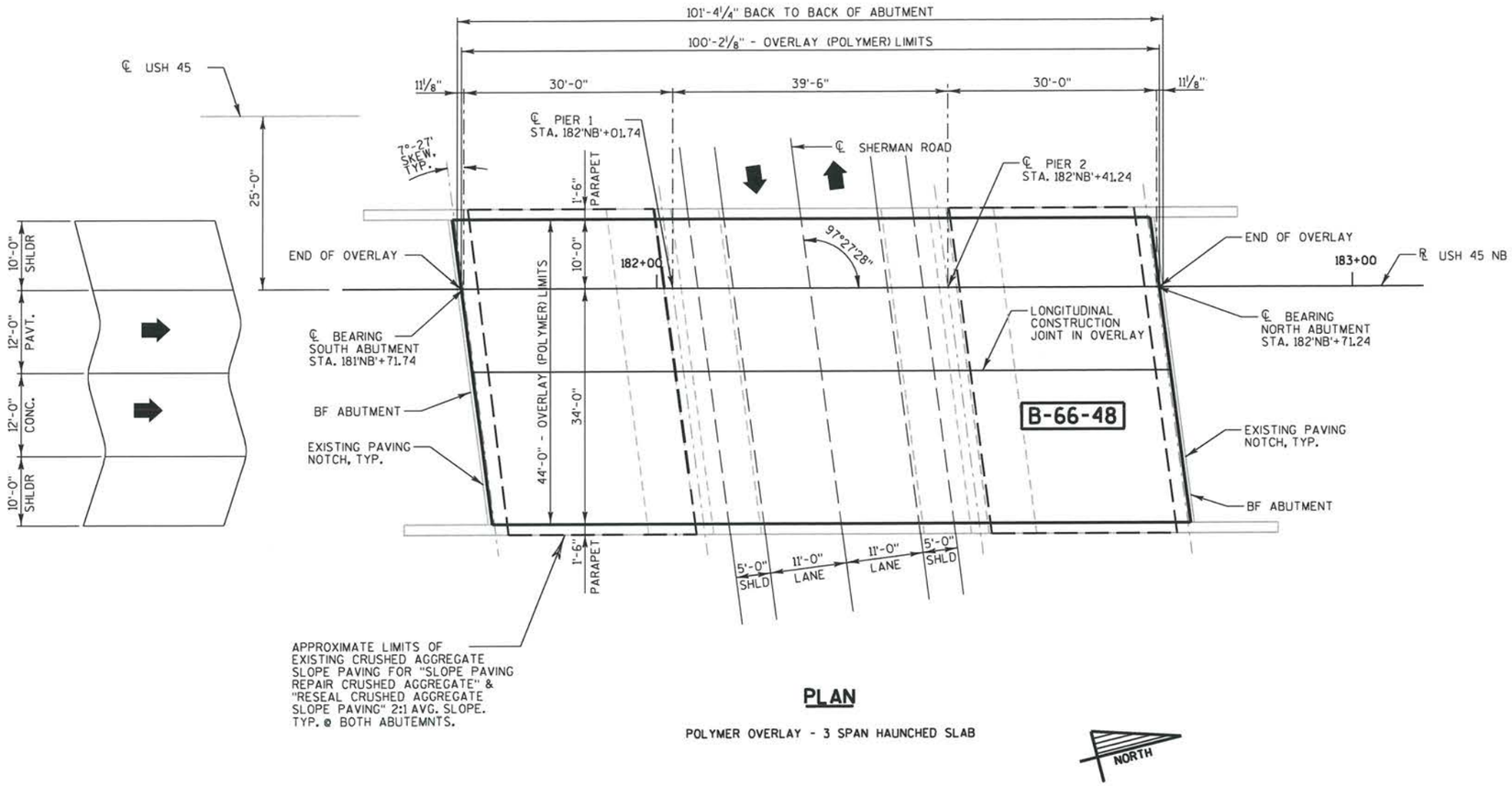
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/1/19 PLATE NO. W057-51.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 479	E

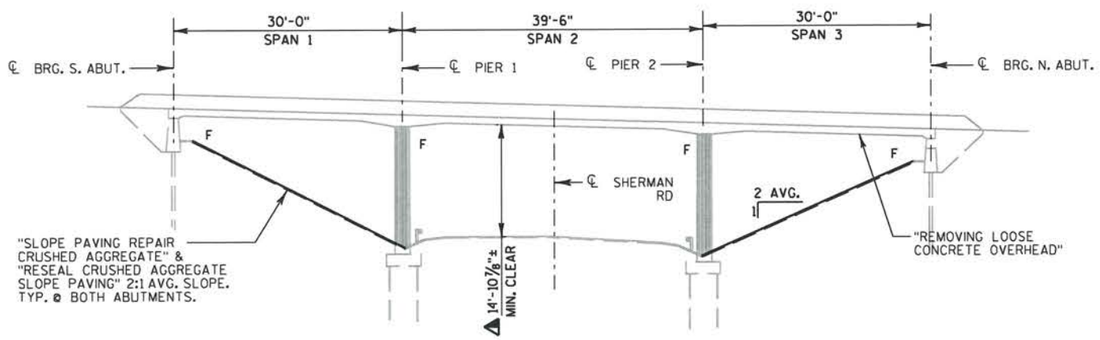
STATE PROJECT NUMBER
2220-02-70



PLAN

POLYMER OVERLAY - 3 SPAN HAUNCHED SLAB

NORTH



LEGEND

▲ PER HSI (DIMENSION DATED 08-23-18)

ELEVATION

LOOKING WEST NORMAL TO SUBSTRUCTURE UNITS

DESIGN DATA

LIVE LOAD:
DESIGN LOADING: HS-20
INVENTORY RATING: HS-23
OPERATING RATING: HS-38
WIS. STD. PERMIT VEHICLE LOAD 170 KIPS

MATERIAL PROPERTIES:
RAPID SET DECK REPAIR..... f'c = 4000 PSI

TRAFFIC DATA

USH 45
A.D.T (2019) = 30,500
A.D.T. (2039) = 34,900
R.D.S. = 70 MPH

SHERMAN ROAD
A.D.T. (2019) = 3,400
R.D.S. = 50 MPH

SCOPE OF WORK B-66-48

1. CLEAN AND PREPARE DECK AS DIRECTED BY THE FIELD ENGINEER.
2. PLACE POLYMER OVERLAY ON DECK.
3. REPAIR CONCRETE SURFACE AT ABUTMENTS AND PIERS AS DIRECTED BY THE FIELD ENGINEER.
4. REMOVE LOOSE CONCRETE OVERHEAD.
5. REPLACE PARAPET JOINT SEALANT.
6. REPAIR AND RESEAL SLOPE PAVING.

LIST OF DRAWINGS

1. POLYMER OVERLAY
2. QUANTITIES AND GENERAL NOTES
3. CONSTRUCTION STAGING
4. SLOPE REPAIR DETAILS

WISCONSIN
KEVIN G. WOOD
E-32070
MILWAUKEE, WI
PROFESSIONAL ENGINEER
12-3-2019

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489
CONSULTANT CONTACT:
KEVIN WOOD (414) 259-1500

NO.	DATE	REVISION	BY

GRAEF
One Honey Creek Corporate Center
125 South 84th Street,
Suite 401
Milwaukee, WI 53214-1470
414 / 259 1570
414 / 259 7037 fax
www.graef-usa.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 12/04/19
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-66-48

USH 45 NB OVER SHERMAN ROAD

COUNTY	TOWN/~~CITY/VILLAGE~~
WASHINGTON	POLK

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
WAR	KGW	WAR	KWG

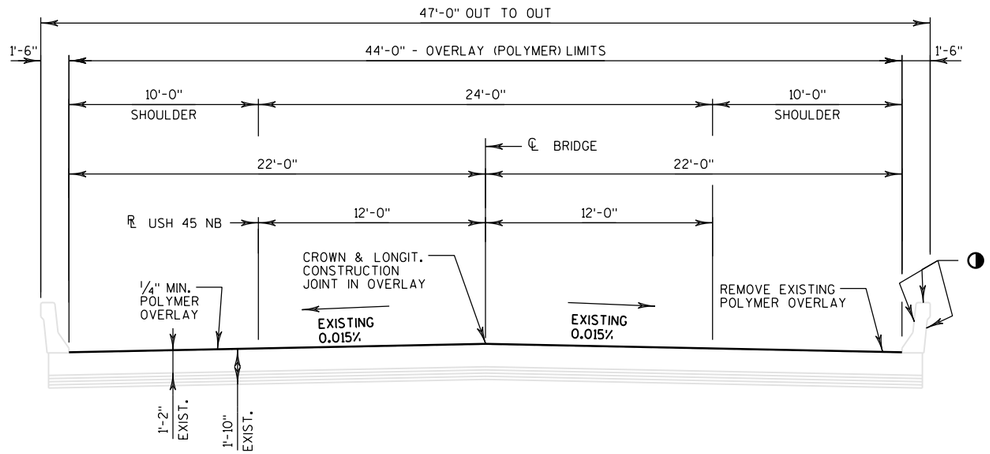
POLYMER OVERLAY

SHEET 1 OF 4

480

8

8



TYPICAL SECTION
(LOOKING NORTH)

STATE PROJECT NUMBER

2220-02-70

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES. ALL STATIONS AND ELEVATIONS ARE IN FEET.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

DECK SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "POLYMER OVERLAY".

AREAS OF "PREPARATION DECKS TYPE 1" SHALL BE DEFINED BY A SAW CUT.

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, AND FULL-DEPTH DECK REPAIR AREAS ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIRS SHALL BE FILLED WITH "RAPID SET DECK REPAIR".

TRAFFIC WILL BE MAINTAINED ON THE BRIDGE DURING CONSTRUCTION.

THE EXISTING STRUCTURE, B-66-48, IS A 3-SPAN HAUNCHED SLAB BRIDGE WITH AN OVERALL WIDTH OF 47'-0" AND AN OVERALL LENGTH OF 101'-4 1/4" BACK TO BACK OF ABUTMENTS.

LOCATIONS "CONCRETE SURFACE REPAIR" WILL BE DESIGNATED BY THE FIELD ENGINEER. QUANTITIES SHOWN ON THE PLANS ARE APPROXIMATE.

SLOPE PAVING REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

BID ITEM "CONCRETE SURFACE REPAIR" WILL NOT BE PERFORMED ON OVERHEAD SURFACES. DELAMINATED CONCRETE ON OVERHEAD SURFACES SHALL BE REMOVED AS DIRECTED BY THE ENGINEER IN THE FIELD AND ACCORDING TO THE SPECIAL PROVISION FOR "REMOVING LOOSE CONCRETE OVERHEAD".

ALL CONCRETE REMOVAL SHALL BE DEFINED WITH A 1" DEEP SAW CUT.

THE EXISTING POLYMER OVERLAY SHALL BE REMOVED FROM THE ENTIRE BRIDGE SLAB UNDER THE BID ITEM "REMOVING POLYER OVERLAY"

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID - ITEM	UNIT	S ABUT	PIER 1	PIER 2	N ABUT	SUPER	TOTAL
509.0301	PREPARATION DECKS TYPE 1	SY	-	-	-	-	2	2
509.0302	PREPARATION DECKS TYPE 2	SY	-	-	-	-	1	1
509.0310.S	SAWING PAVEMENT DECK PREPARATION AREAS	LF	-	-	-	-	20	20
509.1500	CONCRETE SURFACE REPAIR	SF	-	-	-	1	-	1
509.2000	FULL-DEPTH DECK REPAIR	SY	-	-	-	-	1	1
509.5100.S	POLYMER OVERLAY	SY	-	-	-	-	495	495
509.9015.S	REMOVING POLYMER OVERLAY	SY	-	-	-	-	495	495
604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	9	-	-	9	-	18
604.9015.S	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	187	-	-	187	-	374
SPV.0035.01	RAPID SET DECK REPAIR	CY	-	-	-	-	1	1
SPV.0060.02	JOINT SEALANT PARAPET	EACH	-	-	-	-	8	8
SPV.0165.01	REMOVING LOOSE CONCRETE OVERHEAD	SF	-	-	-	-	60	60

ALL ITEMS ARE CATEGORY 0020

LEGEND

◑ REMOVE EXISTING SEALANT AND FILL WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER AT ALL EXISTING PARAPET JOINTS. WORK IS PAID FOR UNDER BID ITEM "JOINT SEALANT PARAPET".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-66-48

DRAWN BY WAR | PLANS CK'D. KGW

QUANTITIES & GENERAL NOTES

SHEET 2 OF 4
481

8

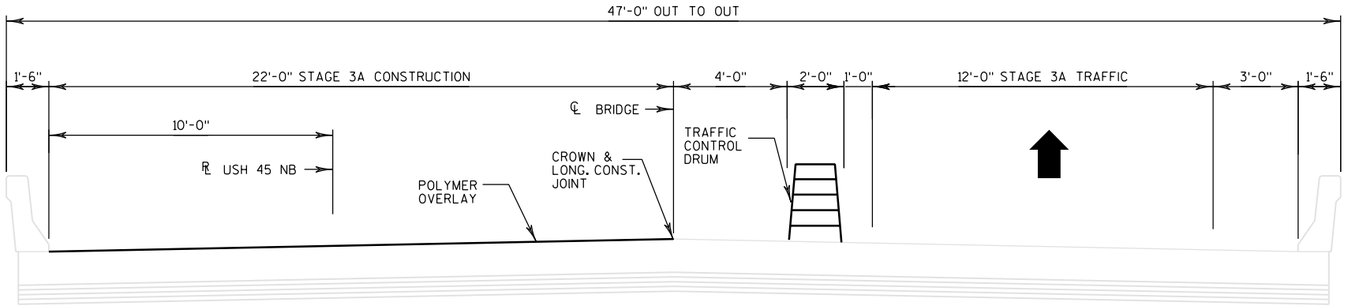
8

L:±JOBS2010±20100347±CAD±STRUCTURAL±DGN±00±48±B_66_48_S02.DGN 12/3/2019 8:28:37 AM

FILE=
SCALE =

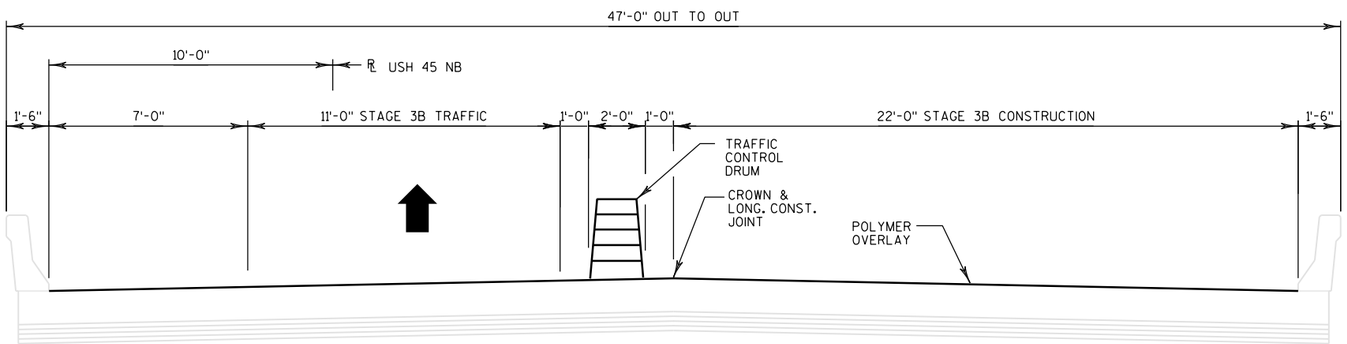
STATE PROJECT NUMBER

2220-02-70



STAGE 3A CONSTRUCTION

(LOOKING NORTH)



STAGE 3B CONSTRUCTION

(LOOKING NORTH)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-66-48

DRAWN BY WAR | PLANS CK'D. KGW

CONSTRUCTION STAGING

SHEET 3 OF 4

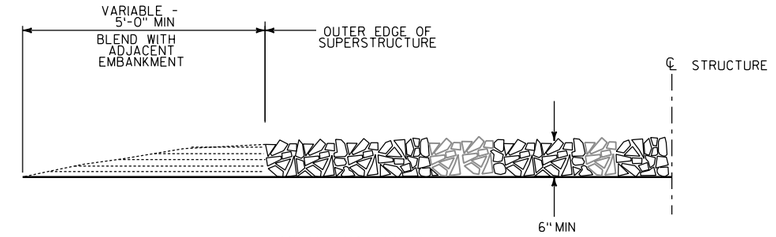
482

FILE=

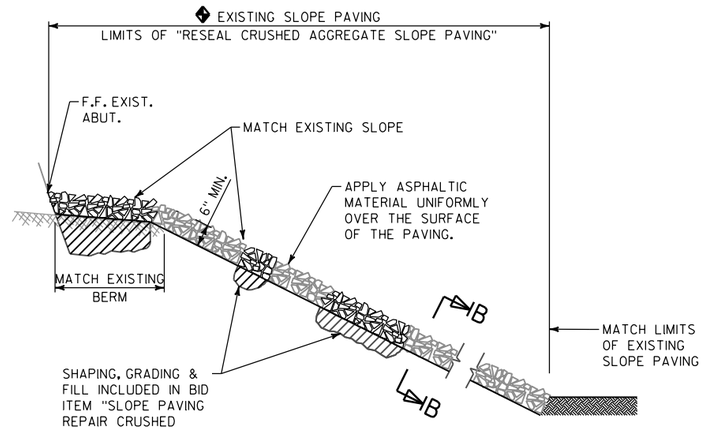
SCALE =

L:±JOBS2010±20100347±CAD±STRUCTURAL±DGN±00±48±B_66_48_S03.DGN 12/3/2019 8:28:37 AM

STATE PROJECT NUMBER
2220-02-70



SECTION B-B



ABUTMENT SLOPE PAVING TYPICAL SECTION

ROUND STONE WILL NOT BE ACCEPTED

LEGEND

◆ ENTIRE LIMITS OF EXISTING SLOPE PAVING CRUSHED AGGREGATE SHOWN. EXISTING SLOPE PAVING HAS SETTLED OR WASHED AWAY IN SEVERAL SPOTS. ONLY EXISTING DETERIORATED AREAS TO BE REPAIRED. REPAIR LIMITS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

ADD NEW (AS REQ'D) AND RESTORE EXISTING SLOPE PAVING TO THE ELEVATIONS AND SLOPES INDICATED. TO BE COMPLETED PRIOR TO SEALING/RESEALING ALL THE NEW/EXISTING SLOPE PAVING CRUSHED AGGREGATE.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-66-48

DRAWN BY WAR | PLANS CK'D. KGW

SLOPE REPAIR DETAILS

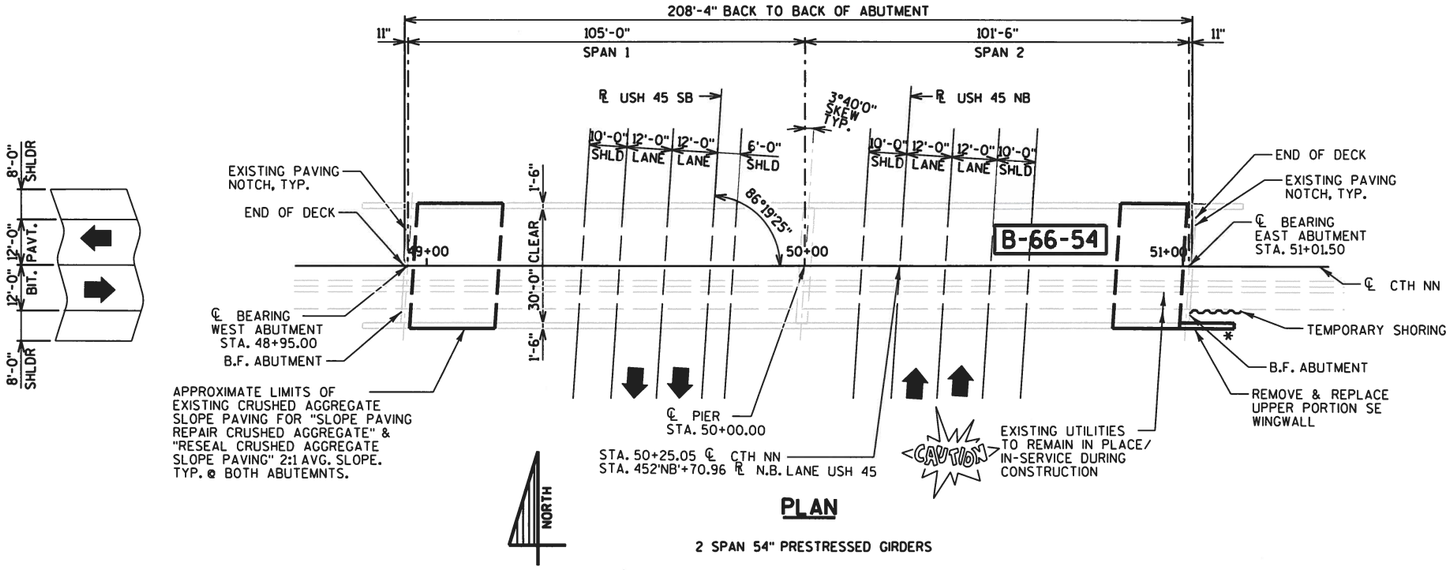
SHEET 4 OF 4
483

FILE=
SCALE =

L:±JOBS2010±20100347±CAD±STRUCTURAL±DGN±00±48±B_66_48_S04.DGN 12/3/2019 8:28:38 AM

* PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT

STATE PROJECT NUMBER
2220-02-70



PLAN

2 SPAN 54" PRESTRESSED GIRDERS

DESIGN DATA

LIVE LOAD:
TAKEN FROM HSI, 05/16/2019
DESIGN LOADING:.....HS-20
INVENTING RATING:.....HS-21
OPERATING RATING:.....HS-43
WIS. STD. PERMIT VEHICLE:...250 KIPS

MATERIAL PROPERTIES:
CONCRETE MASONRY:
SUPERSTRUCTURE & PARAPET..... f'c = 4,000 PSI
ALL OTHERS..... f'c = 3,500 PSI
HIGH STRENGTH BAR STEEL
REINFORCEMENT (GRADE 60)..... fy = 60,000 PSI

TRAFFIC DATA

CTH NN
A.D.T (2019) = 2,700
R.D.S. = 50 MPH

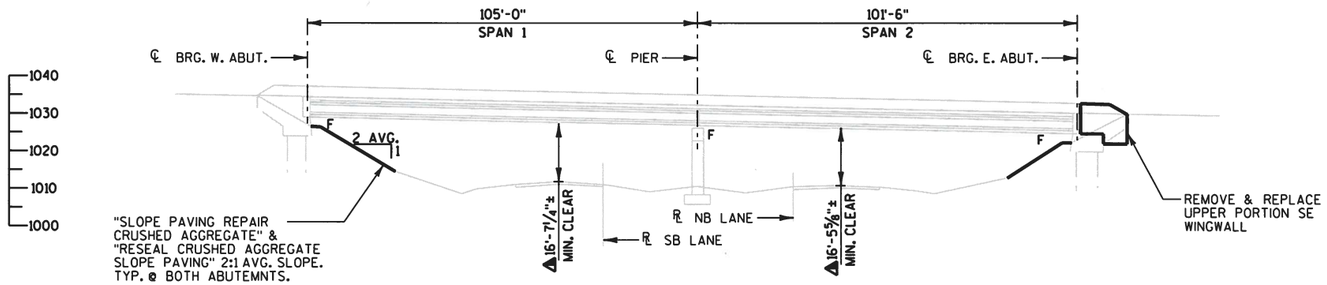
USH 45
A.D.T. (2019) = 32,800
A.D.T. (2039) = 39,500
R.D.S = 70 MPH

SCOPE OF WORK B-66-54

1. REPAIR CONCRETE SURFACE AT ABUTMENTS, PIERS, PARAPETS, AND OTHER LOCATIONS AS DIRCTED BY THE ENGINEER
2. REMOVE & REPLACE UPPER PORTION SE WINGWALL
3. REPLACE PARAPET JOINT SEALANT
4. REPAIR AND RESEAL SLOPE PAVING

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. CROSS SECTION & QUANTITIES
3. SLOPE REPAIR DETAILS
4. WINGWALL DETAILS I
5. WINGWALL DETAILS II & ABUT. BILL OF BARS
6. SLOPED FACE PARAPET "B"



ELEVATION

LOOKING NORTH NORMAL TO SUBSTRUCTURE UNITS

LEGEND

▲ PER HSI (DIMENSION DATED 08-07-18)

WISCONSIN
KEVIN G. WOOD
E-32070
MILWAUKEE, WI
PROFESSIONAL ENGINEER
April 29, 2020

STRUCTURE DESIGN CONTACTS:
BUREAU OF STRUCTURES:
AARON BONK (608) 261-0261
CONSULTANT:
KEVIN WOOD (414) 266-9144

NO.	DATE	REVISION	BY

GRAEF
One Honey Creek Corporate Center
125 South 84th Street,
Suite 401
Milwaukee, WI 53214-1470
414 / 259 1570
414 / 259 7037 fax
www.graef-usa.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 05/01/20
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-66-54

CTH NN OVER USH 45

COUNTY	TOWN/~~CITY/VILLAGE~~
WASHINGTON	WEST BEND

DESIGN SPEC.	
REHABILITATION	N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
WAR	KGW	WAR	KGW

GENERAL PLAN & ELEVATION

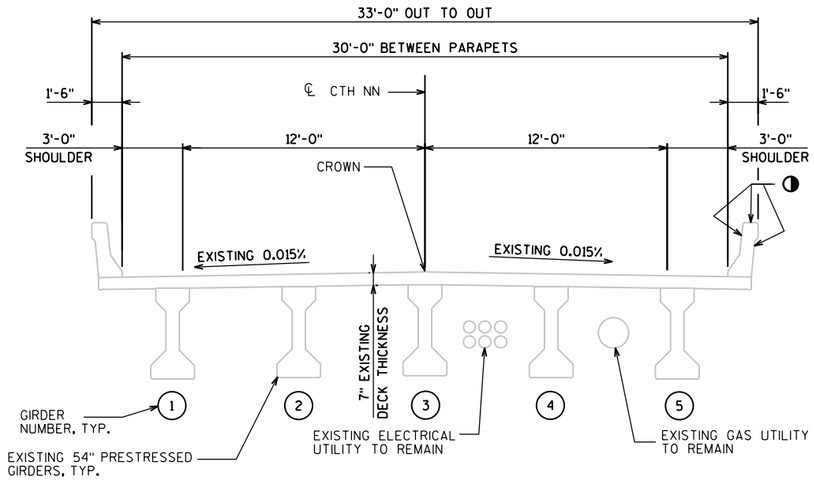
SHEET 1 OF 6
484

8

8

STATE PROJECT NUMBER

2220-02-70



CROSS SECTION THRU B-66-54
(LOOKING EAST)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES. ALL STATIONS AND ELEVATIONS ARE IN FEET.

DIMENSIONS AND STATIONING SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

EXISTING UTILITIES ATTACHED TO THE BRIDGE ARE TO REMAIN IN PLACE AND IN-SERVICE. SEE PROJECT SPECIFICATIONS.

TRAFFIC WILL BE MAINTAINED ON THE BRIDGE DURING CONSTRUCTION. SEE ROADWAY DRAWINGS FOR TRAFFIC STAGING PLAN.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1-INCH DEEP SAW CUT.

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

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

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

"PIGMENTED SURFACE SEALER" SHALL BE APPLIED TO THE TOP AND INSIDE FACE OF PARAPETS OVER WINGWALL REPLACEMENT.

SLOPE PAVING REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

THE EXISTING ROADWAY SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

AT THE BACKFACE OF WINGWALL ALL VOLUME WHICH CANNOT BE PLACED BEFORE THE WINGWALL CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH "BACKFILL STRUCTURE TYPE A".

LOCATIONS OF "CONCRETE SURFACE REPAIR" WILL BE DESIGNATED BY THE FIELD ENGINEER. QUANTITIES SHOWN ON THE PLAN ARE APPROXIMATE.

THE EXISTING STRUCTURE, B-66-54, IS A 2-SPAN PRESTRESSED CONCRETE BRIDGE WITH A BACK-TO-BACK OF ABUTMENT LENGTH OF 208'-4".

"REMOVING OLD STRUCTURE STA. 50+00" INCLUDES REMOVAL OF THE UPPER PORTION OF THE SE WINGWALL.

BID ITEM "CONCRETE SURFACE REPAIR" WILL NOT BE PERFORMED ON OVERHEAD SURFACES. DELAMINATED CONCRETE ON OVERHEAD SURFACES SHALL BE REMOVED AS DIRECTED BY THE ENGINEER IN THE FIELD AND ACCORDING TO THE SPECIAL PROVISION FOR "REMOVING LOOSE CONCRETE OVERHEAD".

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID - ITEM	UNIT	W ABUT	PIER	E ABUT	SUPER	TOTAL
203.0200	REMOVING OLD STRUCTURE STA. 50+00	LS	-	-	-	-	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-66-54	LS	-	-	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	-	-	27	-	27
502.0100	CONCRETE MASONRY BRIDGES	CY	-	-	6	-	6
502.3210	PIGMENTED SURFACE SEALER	SY	-	-	6	-	6
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	-	-	22	-	22
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	-	-	940	-	940
509.1500	CONCRETE SURFACE REPAIR	SF	3	-	3	15	21
511.1200	TEMPORARY SHORING B-66-54	SF	-	-	104	-	104
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	-	-	6	-	6
604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	3	-	3	-	6
604.9015.S	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	107	-	93	-	200
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	-	-	1	-	1
SPV.0060.02	JOINT SEALANT PARAPET	EACH	-	-	-	18	18
SPV.0165.01	REMOVING LOOSE CONCRETE OVERHEAD	SF	-	-	-	10	10
	NON-BID ITEMS						
	PREFORMED JOINT FILLER	SIZE					1/2"

ALL ITEMS ARE CATEGORY 0030

LEGEND

◑ REMOVE EXISTING SEALANT AND FILL WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALANT AT ALL EXISTING PARAPET JOINTS. WORK IS PAID FOR UNDER BID ITEM "JOINT SEALANT PARAPET".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-66-54

DRAWN BY WAR | PLANS CK'D. KGW

CROSS SECTION & QUANTITIES

SHEET 2 OF 6
485

8

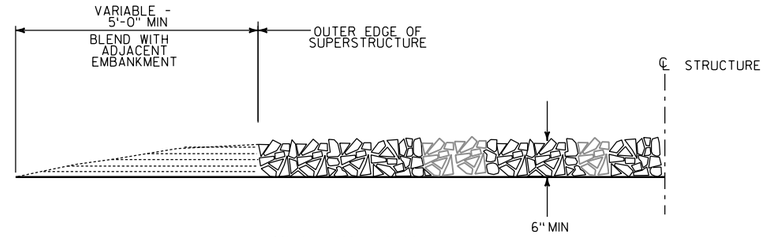
8

FILE=
SCALE =

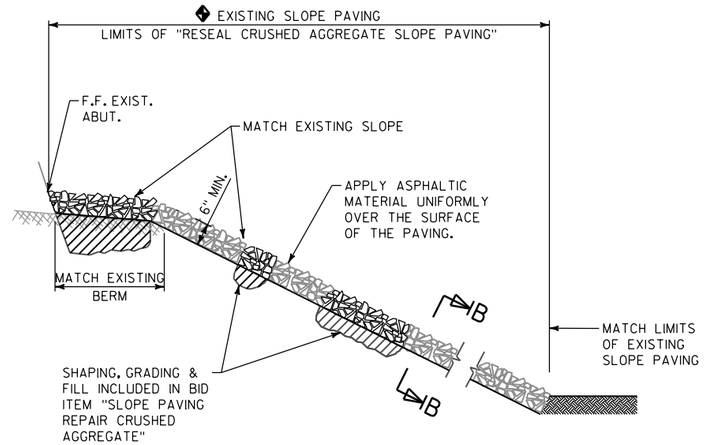
L:±JOBS2010±20100347±CAD±STRUCTURAL±DGN±00±54±B_66_54_S02.DGN 4/29/2020 10:28:59 AM

STATE PROJECT NUMBER

2220-02-70



SECTION B-B



ABUTMENT SLOPE PAVING
TYPICAL SECTION

ROUND STONE WILL NOT BE ACCEPTED

LEGEND

◆ ENTIRE LIMITS OF EXISTING SLOPE PAVING CRUSHED AGGREGATE SHOWN. EXISTING SLOPE PAVING HAS SETTLED OR WASHED AWAY IN SEVERAL SPOTS. ONLY EXISTING DETERIORATED AREAS TO BE REPAIRED. REPAIR LIMITS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

ADD NEW (AS REQ'D) AND RESTORE EXISTING SLOPE PAVING TO THE ELEVATIONS AND SLOPES INDICATED. TO BE COMPLETED PRIOR TO SEALING/RESEALING ALL THE NEW/EXISTING SLOPE PAVING CRUSHED AGGREGATE.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-66-54

DRAWN BY WAR | PLANS CK'D. KGW

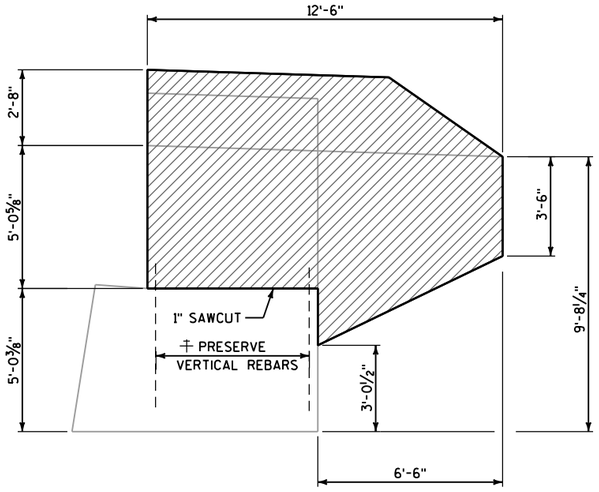
SLOPE REPAIR DETAILS

SHEET 3 OF 6
486

FILE= SCALE =

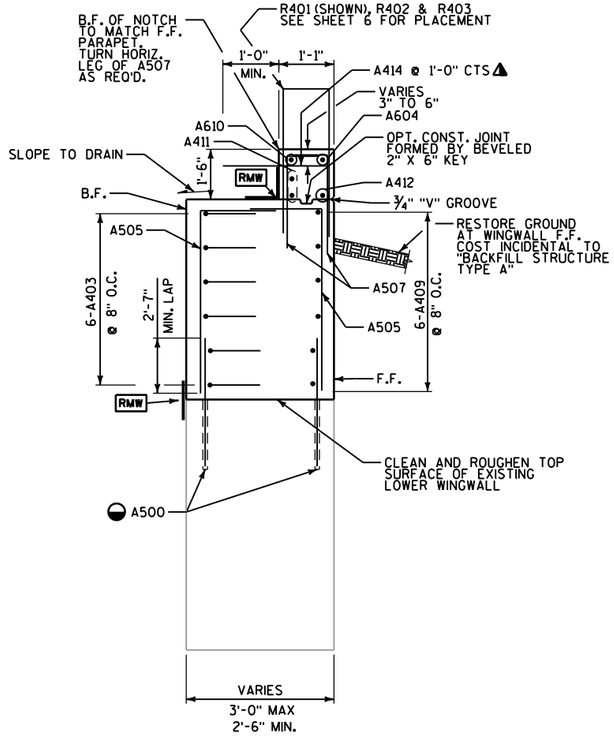
L:±JOBS2010±20100347±CAD±STRUCTURAL±DGN±00±54±B_66_54_S03.DGN 4/29/2020 10:29:00 AM

STATE PROJECT NUMBER
2220-02-70

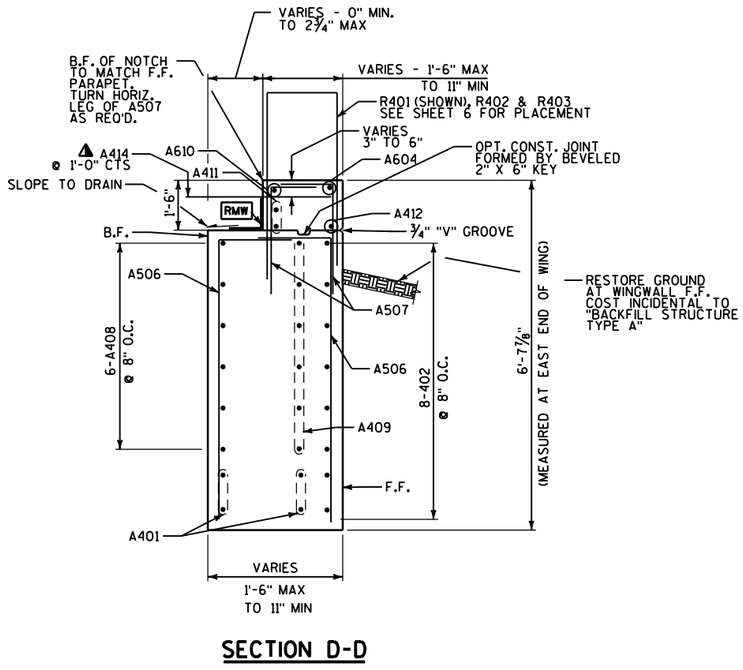


SE WINGWALL REMOVAL

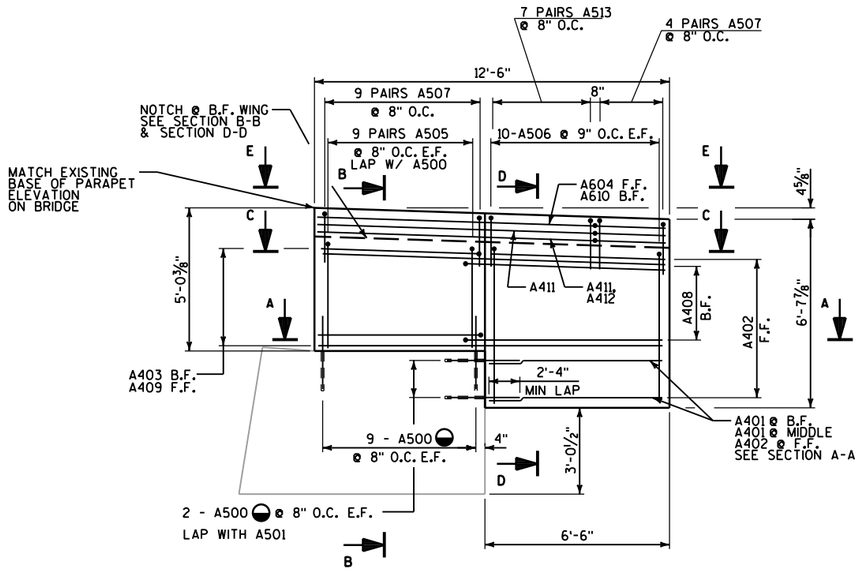
(LOOKING AT F.F. OF WING)



SECTION B-B



SECTION D-D



SE WINGWALL REPLACEMENT

(LOOKING AT F.F. OF WING)
PARAPET NOT SHOWN FOR CLARITY

NOTES

FOR SECTIONS A-A, C-C & E-E SEE SHEET 5

LEGEND

▨ = REMOVAL LIMITS

⫩ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE AS MUCH REBAR AS PRACTICAL.

◒ ADHESIVE ANCHORS NO. 5 BAR. EMBED. 10" IN CONCRETE.

▲ PROJECT 1'-0" MIN. FROM WING B.F. PLACE 3" TO 6" BELOW TOP OF WING.

RMW 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS OF NEW WORK ON BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-66-54

DRAWN BY WAR | PLANS CK'D. KGW

WINGWALL DETAILS 1

SHEET 4 OF 6
487

8

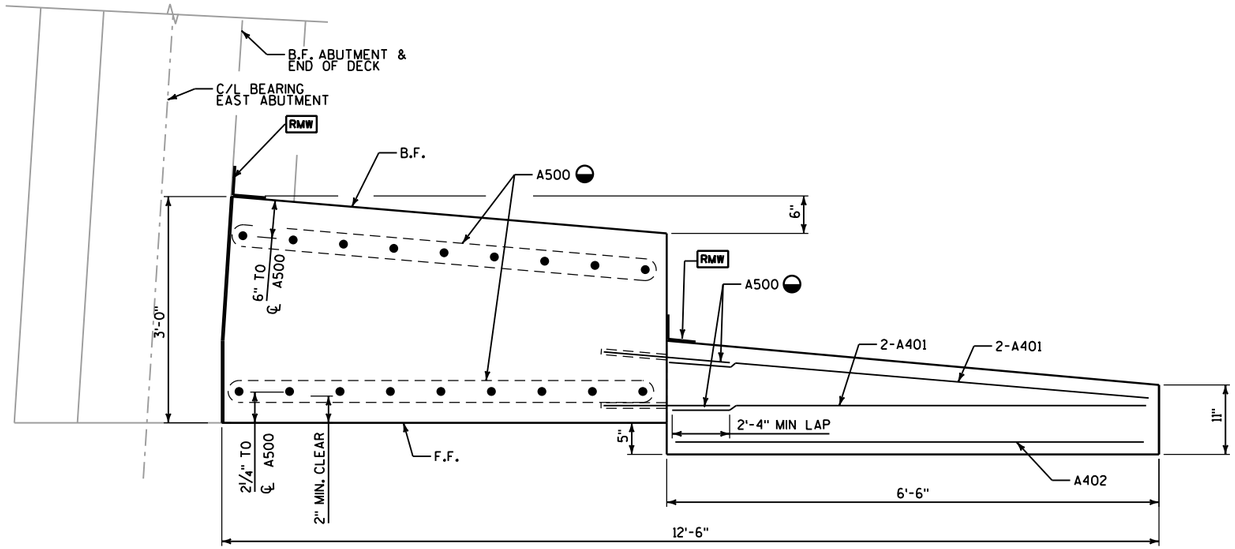
8

L:±JOBS2010±20100347±CAD±STRUCTURAL±DGN±00±54±B_66_54_S04.DGN 4/29/2020 10:29:01 AM

FILE=
SCALE =

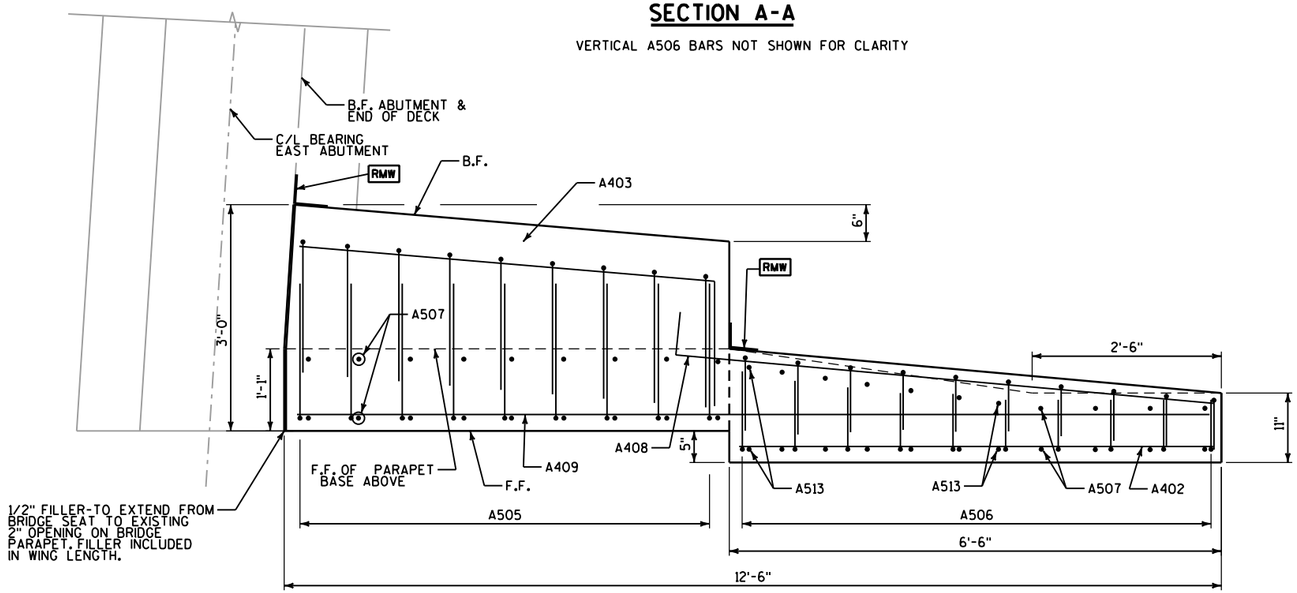
STATE PROJECT NUMBER

2220-02-70

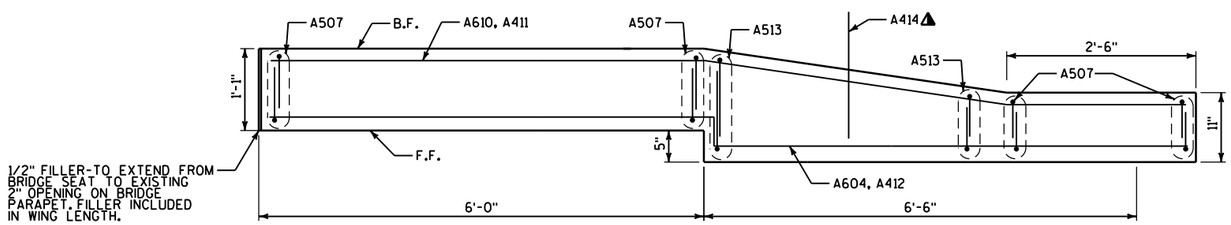


SECTION A-A

VERTICAL A506 BARS NOT SHOWN FOR CLARITY



SECTION C-C



SECTION E-E

R401, R402, AND R403 BARS NOT SHOWN FOR CLARITY

BILL OF BARS

	MARK	COATED	NO. REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
◒	A500	X	22	3'-9"			WINGWALL DOWELS
	A401	X	4	6'-4"			WINGWALL HORIZ - DOWEL LAP
	A402	X	8	6'-2"			WINGWALL HORIZ - F.F.
	A403	X	6	7'-9"		X	WINGWALL HORIZ. B.F.
	A604	X	1	12'-3"		X	WINGWALL HORIZ. TOP
	A505	X	18	4'-11"		X	WINGWALL VERTICAL
	A506	X	20	5'-6"	☒	X	WINGWALL VERTICAL
	A507	X	26	4'-0"		X	WINGWALL NOTCH DOWEL
	A408	X	6	7'-8"		X	WINGWALL HORIZ. B.F.
	A409	X	6	12'-2"			WINGWALL HORIZ. F.F.
	A610	X	1	12'-2"		X	WINGWALL HORIZ. TOP
	A411	X	2	12'-2"		X	WINGWALL HORIZ. B.F.
	A412	X	1	12'-5"		X	WINGWALL HORIZ. F.F.
	A513	X	14	4'-4"	☒	X	WINGWALL NOTCH DOWEL
	A414	X	13	2'-0"			WINGWALL SURFACE DRAIN DOWELS

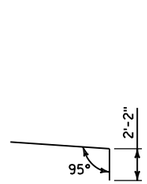
ALL DIMENSIONS IN THE BAR BENDS ARE OUT TO OUT.

☒ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR QUANTITY CALCULATION. SEE BAR SERIES TABLE.

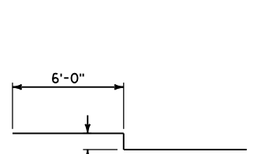
BAR SERIES TABLE

MARK	NO REQ'D	LENGTH
A506	2 SERIES OF 10	5'-2" TO 5'-10"
A513	2 SERIES OF 7	4'-1" TO 4'-7"

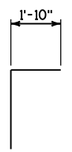
BUNDLE AND TAG EACH SERIES SEPARATELY.



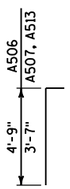
A403



A604, A412

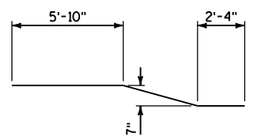


A505



A506
A507
A513

A408



A610, A411

LEGEND

◒ ADHESIVE ANCHORS NO. 5 BAR. EMBED. 10" IN CONCRETE.

▲ PROJECT 1'-0" MIN. FROM WING B.F. PLACE 3" TO 6" FROM TOP OF WING.

RMW 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS OF NEW WORK ON BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-66-54

DRAWN BY WAR | PLANS CK'D. KGW

WINGWALL DETAILS II & ABUT. BILL OF BARS

SHEET 5 OF 6
488

FILE=
SCALE =

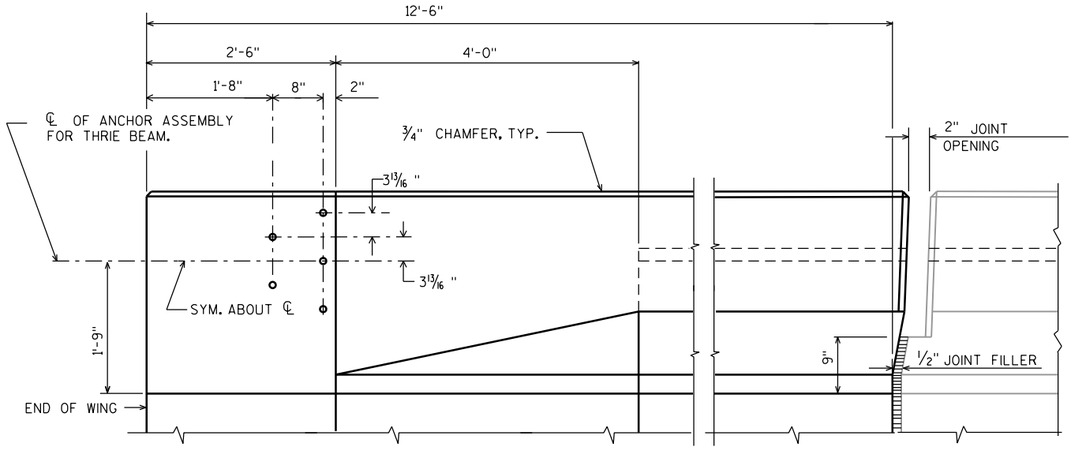
8

8

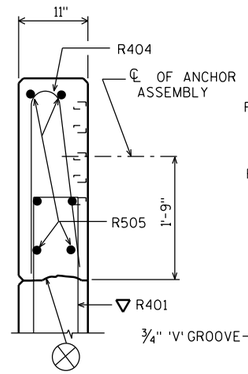
L:±JOBS2010±20100347±CAD±STRUCTURAL±DGN±00±54±B_66_54_S05.DGN 4/29/2020 10:29:02 AM

STATE PROJECT NUMBER

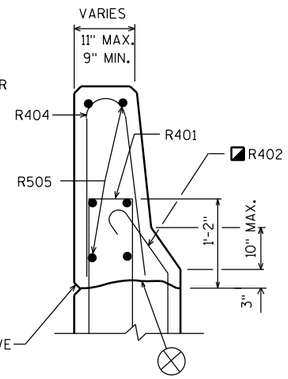
2220-02-70



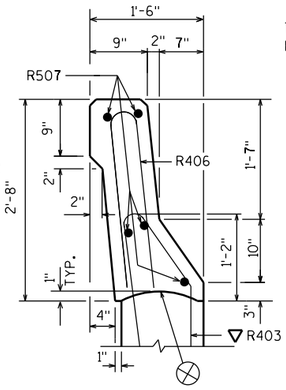
INSIDE ELEVATION



SECTION A



SECTION B



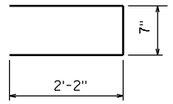
SECTION C

BILL OF BARS

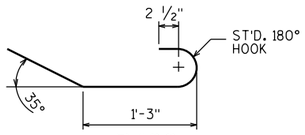
FOR ABUTMENT PARAPET

THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.
EPOXY COAT ALL PARAPET REINF.

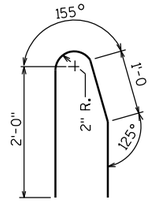
BAR MARK	ABUT.	LENGTH	BENT	LOCATION
R401	15	4-9	X	WINGS STIRRUPS
R402	4	3-1	X	WINGS
R403	8	4-9	X	WINGS STIRRUPS
R404	15	4-9	X	WINGS
R505	6	6-2		WINGS
R406	8	4-10	X	WINGS
R507	5	8'-0"		WINGS



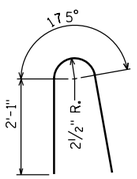
R401



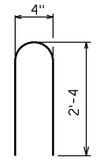
R402



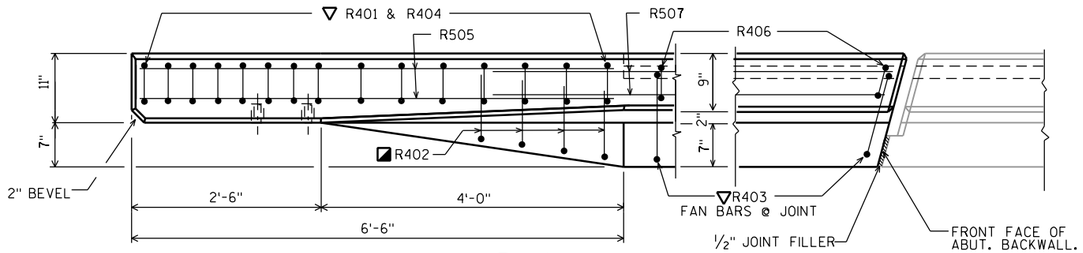
R403



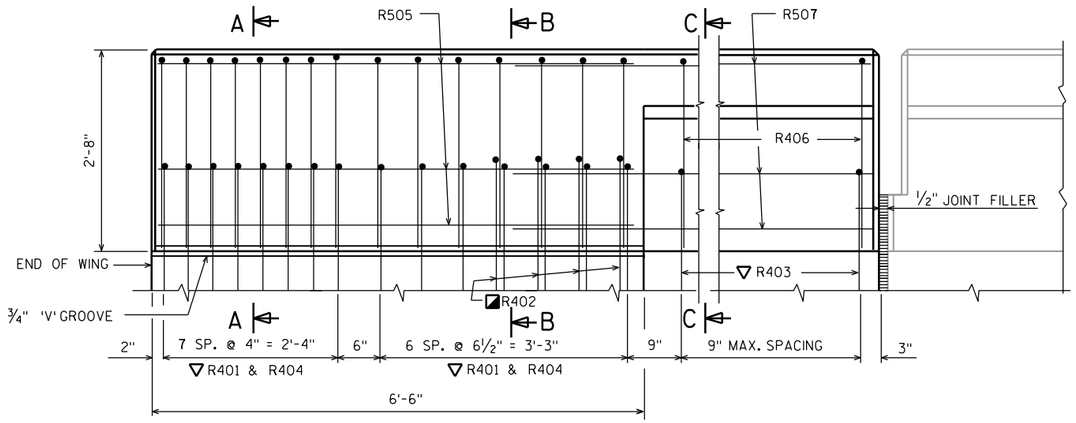
R404



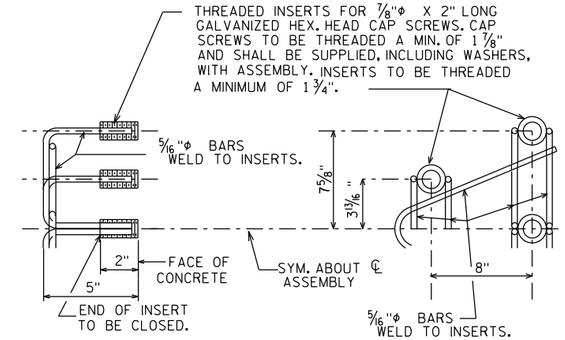
R406



PLAN



OUTSIDE ELEVATION



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX. HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C. ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

⊗ CONST. JOINT - STRIKE OFF AS SHOWN.

◪ R402 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R402 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ R401 AND R403 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-66-54

DRAWN BY WAR | PLANS CK'D. KGW

SLOPED FACE PARAPET "B"

SHEET 6 OF 6
489

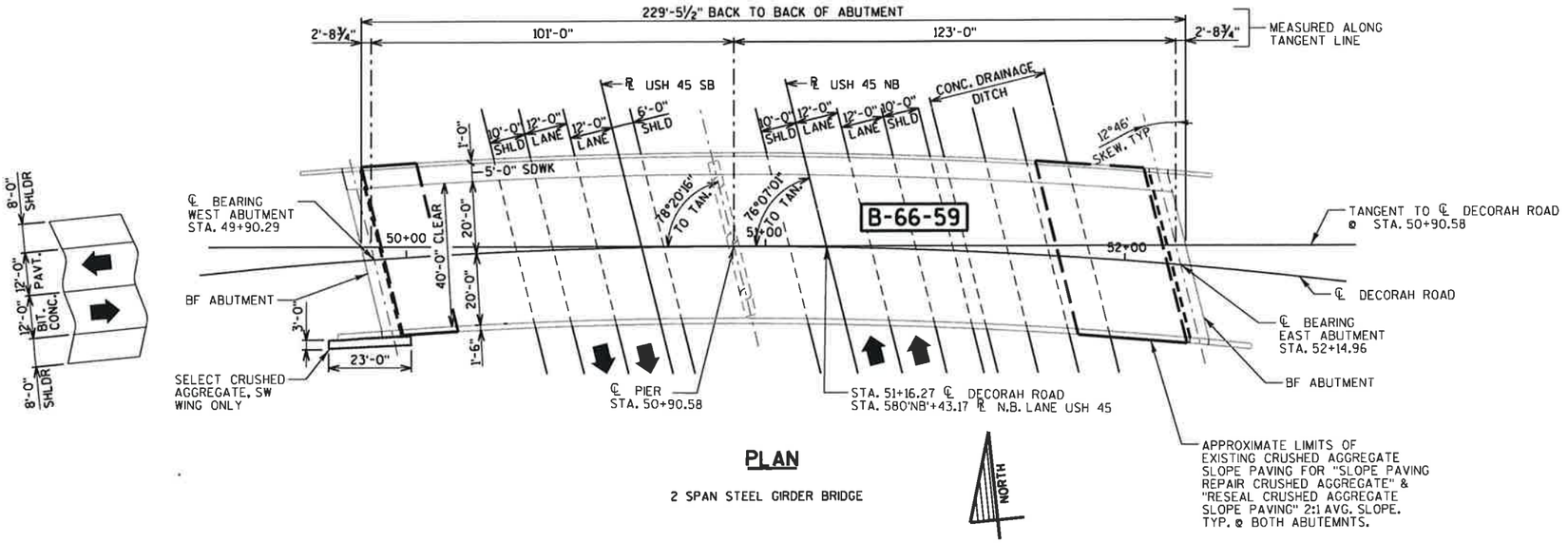
FILE=
SCALE =

8

8

L:±JOBS2010±20100347±CAD±STRUCTURAL±DGN±00±54±B_66_54_S06.DGN 4/29/2020 10:29:04 AM

STATE PROJECT NUMBER
2220-02-70



PLAN

2 SPAN STEEL GIRDER BRIDGE

DESIGN DATA

LIVE LOAD:
TAKEN FROM HSI, 10/17/2019
DESIGN LOADING: HS-20
INVENTORY RATING: HS-21
OPERATING RATING: HS-35
WIS. STD. PERMIT VEHICLE LOAD 240 KIPS

TRAFFIC DATA

DECORAH ROAD
A.D.T (2019) = 1,500
R.D.S. = 40 MPH

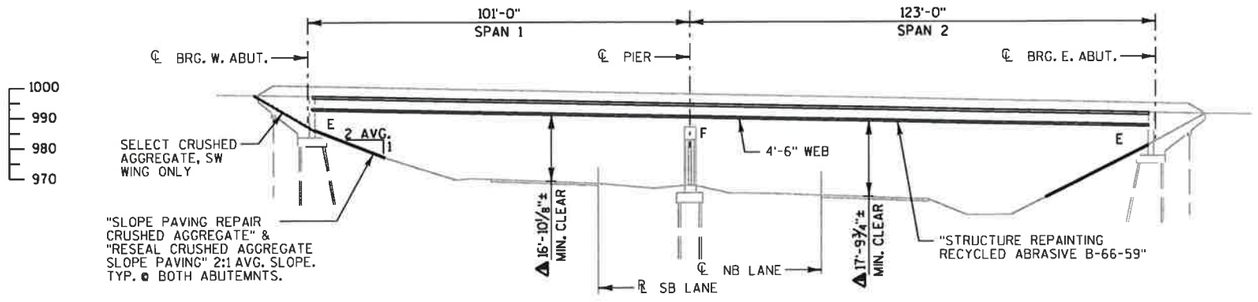
USH 45
A.D.T (2019) = 31,600
A.D.T. (2039) = 37,400
R.D.S. = 70 MPH

SCOPE OF WORK B-66-59

1. REPAIR CONCRETE SURFACE AT ABUTMENTS AND PIER AS DIRECTED BY THE FIELD ENGINEER.
2. CLEAN AND PAINT ALL BEARINGS AT THE ABUTMENTS AND PIER.
3. PAINT GIRDERS & DIAPHRAGMS.
4. REPLACE PARAPET JOINT SEALANT.
5. REPAIR AND RESEAL SLOPE PAVING.

LIST OF DRAWINGS

1. GENERAL PLAN
2. QUANTITIES & GENERAL NOTES
3. SLOPE REPAIR DETAILS



ELEVATION

NORMAL TO USH 45

LEGEND

▲ PER HSI (DIMENSION DATED 08-14-2018 & 08-25-2018)

WISCONSIN
KEVIN G. WOOD
E-32070
MILWAUKEE, WI
PROFESSIONAL ENGINEER
October 30, 2019

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489
CONSULTANT CONTACT:
KEVIN WOOD (414) 259-1500

NO.	DATE	REVISION	BY

GRAEF
One Honey Creek Corporate Center
125 South 84th Street,
Suite 401
Milwaukee, WI 53214-1470
414 / 259 1570
414 / 259 7037 fax
www.graef-usa.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 11/26/19
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-66-59

DECORAH ROAD OVER USH 45

COUNTY	TOWN/~~CITY/VILLAGE~~
WASHINGTON	WEST BEND

DESIGN SPEC.			
REHABILITATION	N/A		

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
WAR	KGW	WAR	KGW

GENERAL PLAN

SHEET 1 OF 3
490

8

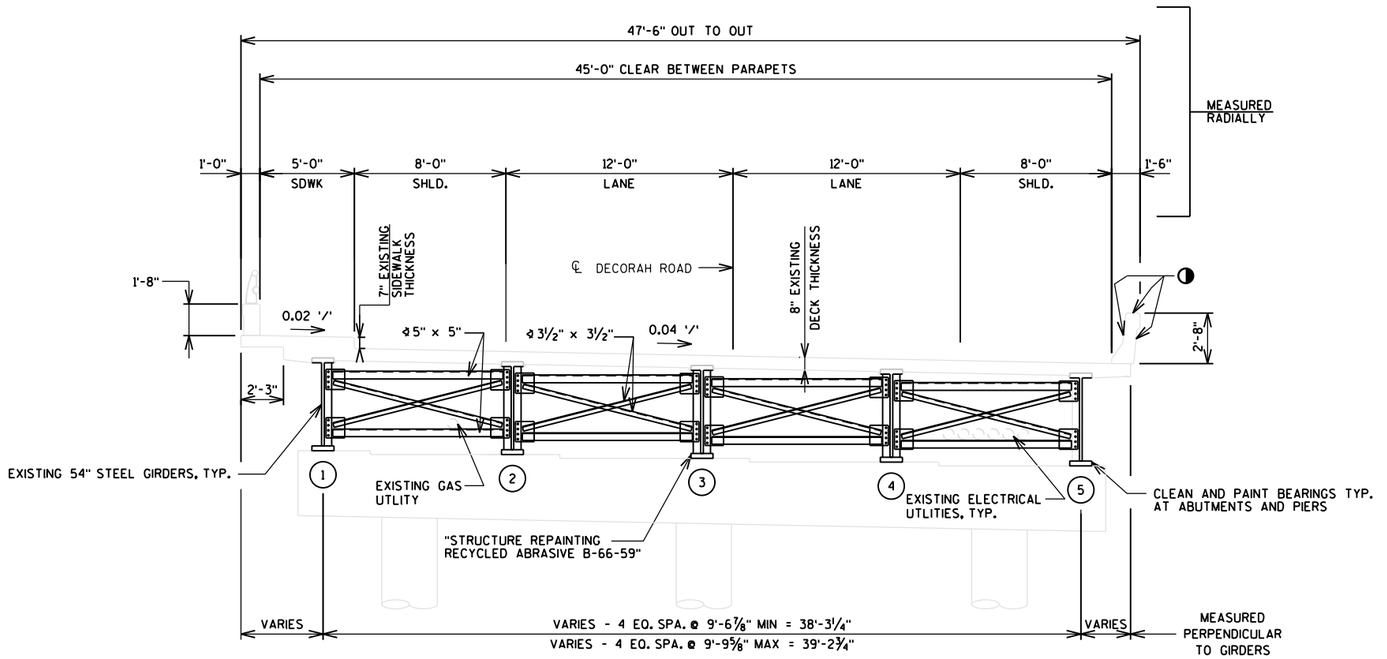
8

STATE PROJECT NUMBER
2220-02-70

TOTAL ESTIMATED QUANTITIES

	BID ITEM NUMBER	BID - ITEM	UNIT	E ABUT	W ABUT	PIER	SUPER	TOTAL
	509.1500	CONCRETE SURFACE REPAIR	SF	-	-	-	3	3
*	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE B-66-59	LS	-	-	-	-	1
	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-66-59	LS	-	-	-	-	1
	517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	-	-	-	-	1
	604.0600	SLOPE PAVING SELECT CRUSHED MATERIAL	SY	-	9	-	-	9
	604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	10	9	-	-	19
	604.9015.S	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	229	132	-	-	361
	SPV.0060.02	JOINT SEALANT PARAPET	EACH	-	-	-	20	20

*FOR INFORMATIONAL PURPOSES ONLY: APPROXIMATELY 18,356 SF OF STRUCTURAL STEEL.
ALL ITEMS ARE CATEGORY 0040



CROSS SECTION THRU B-66-59
(LOOKING EAST)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES. ALL STATIONS AND ELEVATIONS ARE IN FEET.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

EXISTING UTILITIES ATTACHED TO THE BRIDGE ARE TO REMAIN IN PLACE AND IN-SERVICE. SEE PROJECT SPECIFICATIONS.

TRAFFIC WILL BE MAINTAINED ON THE BRIDGE DURING CONSTRUCTION. SEE ROADWAY DRAWINGS FOR TRAFFIC STAGING PLAN.

THE EXISTING STRUCTURE, B-66-59, IS A 2-SPAN STEEL GIRDER BRIDGE WITH AN OVERALL WIDTH OF 47'-6" AND AN OVERALL BACK TO BACK OF ABUTMET LENGTH OF 229'-5½".

LOCATIONS OF "CONCRETE SURFACE REPAIR" WILL BE DESIGNATED BY THE ENGINEER. QUANTITIES SHOWN ON THE PLAN ARE APPROXIMATE.

SLOPE PAVING REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

PAINT COLOR SHALL BE AMS #25240 (MEDIUM SKY BLUE TONE) STANDARD COLOR

ALL EXPOSED STEEL SURFACES UNDERNEATH THE BRIDGE ARE TO BE CLEANED AND PAINTED. THE SURFACES INCLUDE GIRDERS, DIAPHRAGMS, STIFFENERS, BEARINGS, AND CONNECTIONS. SEE HIGHWAY STRUCTURE INFORMATION SYSTEM FOR ADDITIONAL DETAIL.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1" SAW CUT.

LEGEND

◑ REMOVE EXISTING SEALANT AND FILL WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER AT ALL EXISTING PARAPET JOINT. WORK IS PAID FOR UNDER BID ITEM "JOINT SEALANT PARAPET". REMOVING AND RESEALING SIDEWALK JOINT OVER PIER IS CONSIDERED INCIDENTAL TO "JOINT SEALANT PARAPET".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-66-59

DRAWN BY WAR | PLANS CK'D. KGW

QUANTITIES & GENERAL NOTES

SHEET 2 OF 3
491

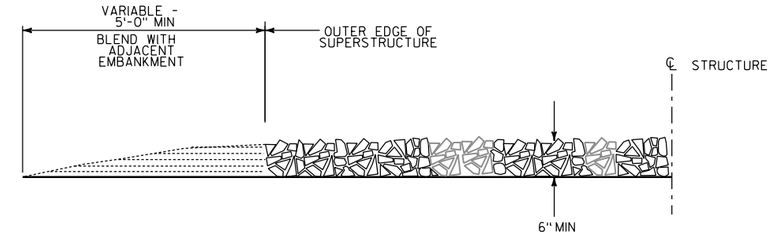
FILE=
SCALE =

8

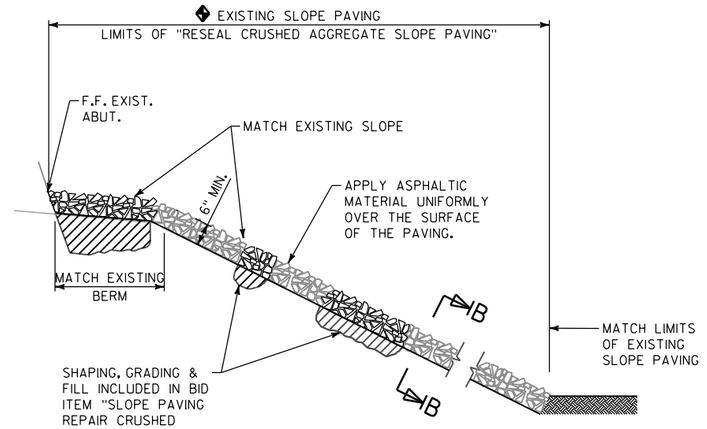
8

L:±JOBS2010±20100347±CAD±STRUCTURAL±DGN±00±59±B_66_59_S02.DGN 10/30/2019 4:25:21 PM

STATE PROJECT NUMBER
2220-02-70



SECTION B-B



ABUTMENT SLOPE PAVING
TYPICAL SECTION

ROUND STONE WILL NOT BE ACCEPTED

LEGEND

◆ ENTIRE LIMITS OF EXISTING SLOPE PAVING CRUSHED AGGREGATE SHOWN. EXISTING SLOPE PAVING HAS SETTLED OR WASHED AWAY IN SEVERAL SPOTS. ONLY EXISTING DETERIORATED AREAS TO BE REPAIRED. REPAIR LIMITS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

ADD NEW (AS REQ'D) AND RESTORE EXISTING SLOPE PAVING TO THE ELEVATIONS AND SLOPES INDICATED. TO BE COMPLETED PRIOR TO SEALING/RESEALING ALL THE NEW/EXISTING SLOPE PAVING CRUSHED AGGREGATE.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-66-59

DRAWN BY WAR | PLANS CK'D. KGW

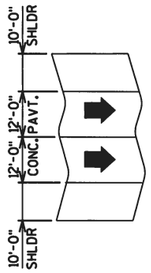
SLOPE REPAIR DETAILS

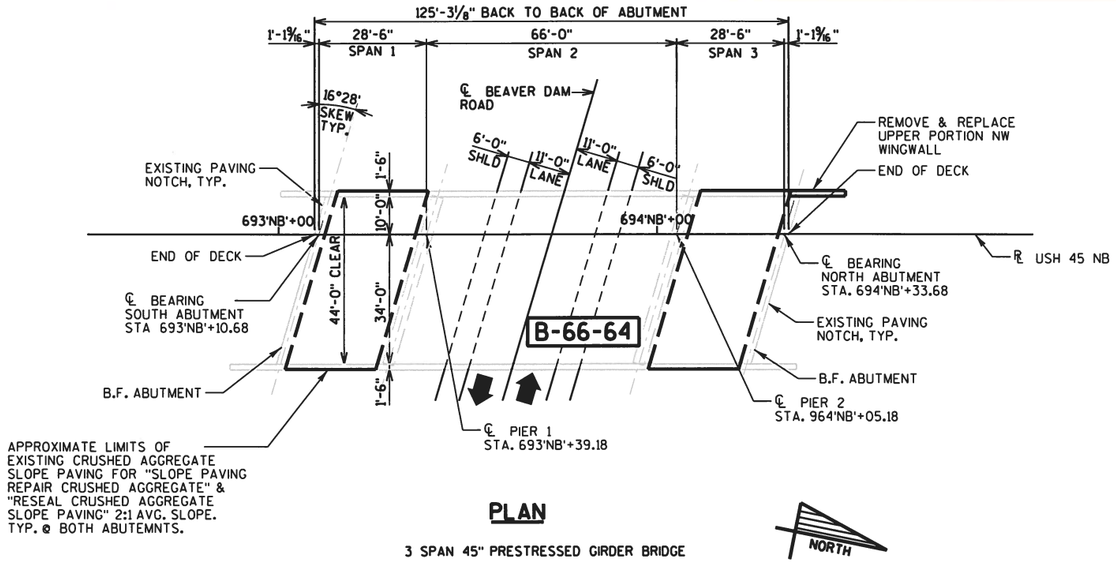
SHEET 3 OF 3
492

FILE=
SCALE =

L:±JOBS2010±20100347±CAD±STRUCTURAL±DGN±00±59±B_66_59_S03.DGN 10/30/2019 4:25:22 PM

STATE PROJECT NUMBER
2220-02-70





PLAN

3 SPAN 45" PRESTRESSED GIRDER BRIDGE

DESIGN DATA

LIVE LOAD:
TAKEN FROM HSI, 05/17/2019
DESIGN LOADING:.....HS-20
INVENTORY RATING:.....HS-24
OPERATING RATING:.....HS-39
WIS. STD. PERMIT VEHICLE:...250 KIPS

MATERIAL PROPERTIES:
CONCRETE MASONRY
SUPERSTRUCTURE & PARAPET..... f'c = 4,000 PSI
ALL OTHERS..... f'c = 3,500 PSI
HIGH STRENGTH BAR STEEL
REINFORCEMENT (GRADE 60)..... fy = 60,000 PSI

TRAFFIC DATA

USH 45
A.D.T. (2019) = 19,027
A.D.T. (2039) = 20,902
R.D.S = 70 MPH

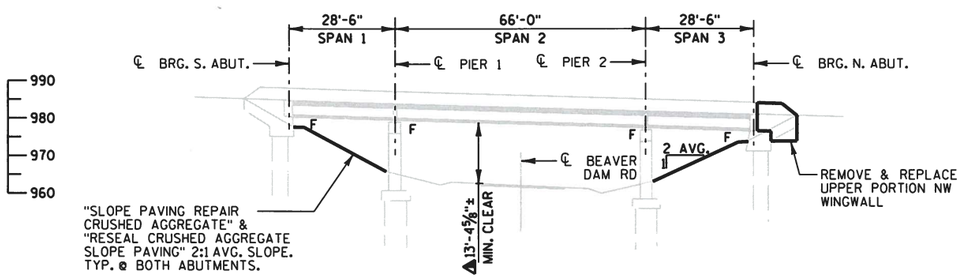
BEAVER DAM ROAD
A.D.T. (2019) = 570
R.D.S. = 50 MPH

SCOPE OF WORK B-66-64

1. REPAIR CONCRETE SURFACE AT ABUTMENTS, PIERS, PARAPETS, AND OTHER LOCATIONS AS DIRCTED BY THE ENGINEER
2. REMOVE AND REPLACE UPPER PORTION NW WINGWALL
3. REPLACE PARAPET JOINT SEALANT
4. REPAIR AND RESEAL SLOPE PAVING

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. CROSS SECTION & QUANTITIES
3. SLOPE REPAIR DETAILS
4. WINGWALL DETAILS I
5. WINGWALL DETAILS II & BILL OF BARS
6. SLOPED FACE PARAPET "B"



ELEVATION

LOOKING WEST NORMAL TO SUBSTRUCTURE UNITS

LEGEND

▲ PER HSI (DIMENSION DATED 07-12-16)

WISCONSIN
KEVIN G. WOOD
E-32070
MILWAUKEE, WI
PROFESSIONAL ENGINEER
April 29, 2020

STRUCTURE DESIGN CONTACTS:
BUREAU OF STRUCTURES:
AARON BONK (608) 261-0261
CONSULTANT:
KEVIN WOOD (414) 266-9144

NO.	DATE	REVISION	BY

GRAEF
One Honey Creek Corporate Center
125 South 84th Street,
Suite 401
Milwaukee, WI 53214-1470
414 / 259 1570
414 / 259 7037 fax
www.graef-usa.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 05/01/20
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-66-64

USH 45 NB OVER BEAVER DAM ROAD

COUNTY	TOWN/~~CITY/VILLAGE~~
WASHINGTON	BARTON

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
WAR	KGW	WAR	KGW

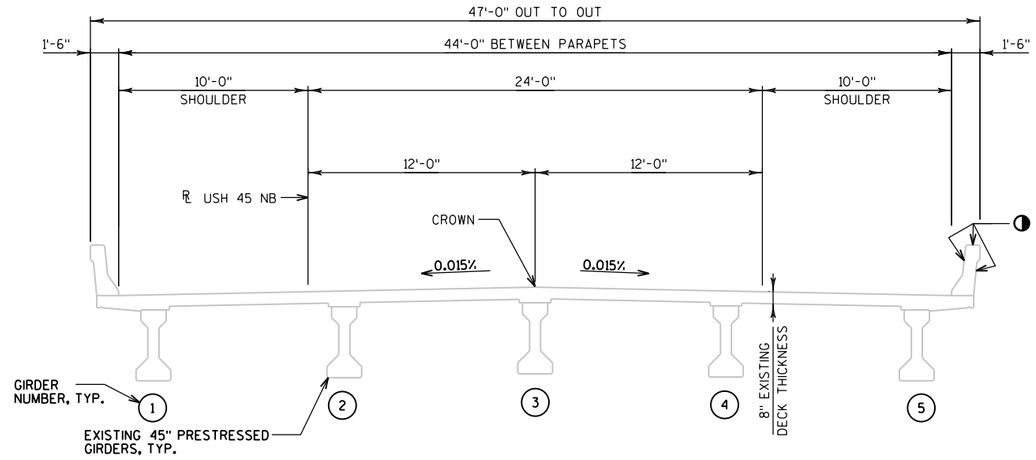
GENERAL PLAN & ELEVATION

SHEET 493 OF 6

8

8

L:±JOBS2010±20100347±CAD±STRUCTURAL±DGN±00±64±B_66_64_S01.DGN 4/29/2020 10:29:05 AM



CROSS SECTION THRU B-66-64
(LOOKING NORTH)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES. ALL STATIONS AND ELEVATIONS ARE IN FEET.

DIMENSIONS AND STATIONING SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

BRIDGE WILL BE CLOSED TO TRAFFIC DURING CONSTRUCTION. SEE ROADWAY DRAWINGS FOR TRAFFIC STAGING PLAN.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1-INCH DEEP SAW CUT.

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

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

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

"PIGMENTED SURFACE SEALER" SHALL BE APPLIED TO THE TOP AND INSIDE FACE OF PARAPETS OVER WINGWALL REPLACEMENT.

SLOPE PAVING REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

THE EXISTING ROADWAY SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

AT THE BACKFACE OF WINGWALL ALL VOLUME WHICH CANNOT BE PLACED BEFORE THE WINGWALL CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH "BACKFILL STRUCTURE TYPE A".

LOCATIONS OF "CONCRETE SURFACE REPAIR" WILL BE DESIGNATED BY THE FIELD ENGINEER. QUANTITIES SHOWN ON THE PLAN ARE APPROXIMATE.

THE EXISTING STRUCTURE, B-66-64, IS A 3-SPAN PRESTRESSED GIRDER BRIDGE WITH A BACK-TO-BACK OF ABUTMENT LENGTH OF 125'-3 1/8".

"REMOVING OLD STRUCTURE STA. 693+72.18" INCLUDES REMOVAL OF THE UPPER PORTION OF THE NW WINGWALL.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID - ITEM	UNIT	S ABUT	PIER 1	PIER 2	N ABUT	SUPER	TOTAL
203.0200	REMOVING OLD STRUCTURE STA. 693+72.18	LS	-	-	-	-	-	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-66-64	LS	-	-	-	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	-	-	-	33	-	33
502.0100	CONCRETE MASONRY BRIDGES	CY	-	-	-	5	-	5
502.3210	PIGMENTED SURFACE SEALER	SY	-	-	-	5	-	5
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	-	-	-	18	-	18
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	-	-	-	820	-	820
509.1500	CONCRETE SURFACE REPAIR	SF	-	-	-	1	-	1
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	-	-	-	5	-	5
604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	6	-	-	6	-	12
604.9015.S	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	241	-	-	241	-	482
SPV.0060.02	JOINT SEALANT PARAPET	EACH	-	-	-	-	12	12
	NON-BID ITEMS							
	PREFORMED JOINT FILLER	SIZE						1/2"

ALL ITEMS ARE CATEGORY 0050

LEGEND

◑ REMOVE EXISTING SEALANT AND FILL WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER AT ALL EXISTING PARAPET JOINT. WORK IS PAID FOR UNDER BID ITEM "JOINT SEALANT PARAPET".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-66-64

DRAWN BY WAR | PLANS CK'D. KGW

CROSS SECTION & QUANTITIES

SHEET 2 OF 6
494

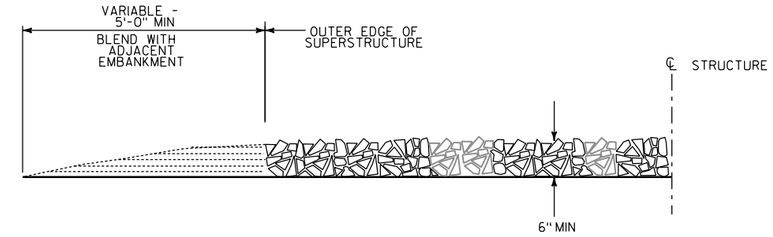
8

8

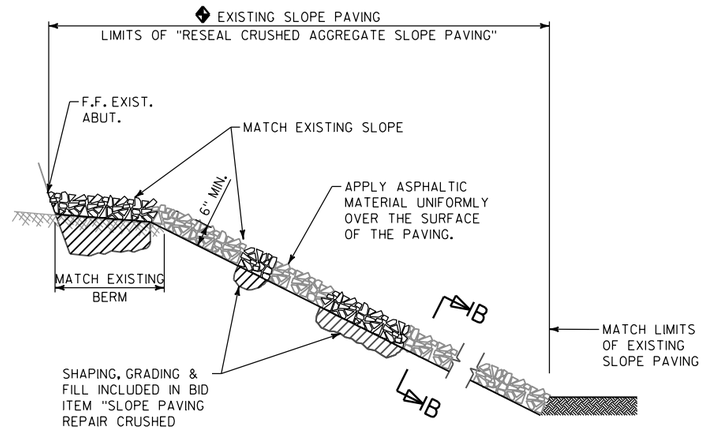
FILE=
SCALE =

L:±JOBS2010±20100347±CAD±STRUCTURAL±DGN±00±64±B_66_64_S02.DGN 4/29/2020 10:29:05 AM

STATE PROJECT NUMBER
2220-02-70



SECTION B-B



ABUTMENT SLOPE PAVING
TYPICAL SECTION

ROUND STONE WILL NOT BE ACCEPTED

LEGEND

◆ ENTIRE LIMITS OF EXISTING SLOPE PAVING CRUSHED AGGREGATE SHOWN. EXISTING SLOPE PAVING HAS SETTLED OR WASHED AWAY IN SEVERAL SPOTS. ONLY EXISTING DETERIORATED AREAS TO BE REPAIRED. REPAIR LIMITS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

ADD NEW (AS REQ'D) AND RESTORE EXISTING SLOPE PAVING TO THE ELEVATIONS AND SLOPES INDICATED. TO BE COMPLETED PRIOR TO SEALING/RESEALING ALL THE NEW/EXISTING SLOPE PAVING CRUSHED AGGREGATE.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-66-64

DRAWN BY WAR | PLANS CK'D. KGW

SLOPE REPAIR DETAILS

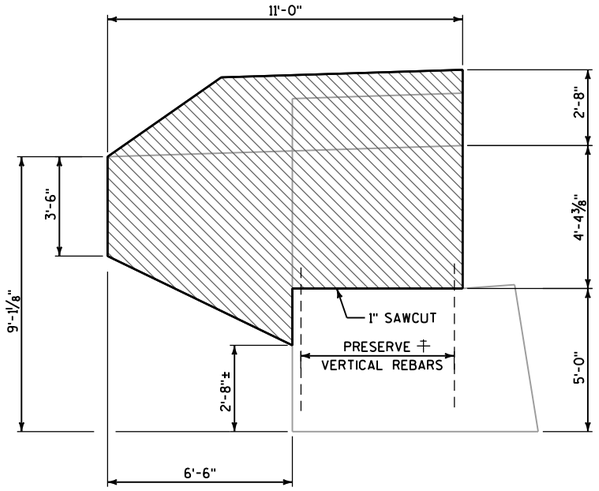
SHEET 3 OF 6
495

FILE=
SCALE =

L:±JOBS2010±20100347±CAD±STRUCTURAL±DGN±00±64±B_66_64_S03.DGN 4/29/2020 10:29:06 AM

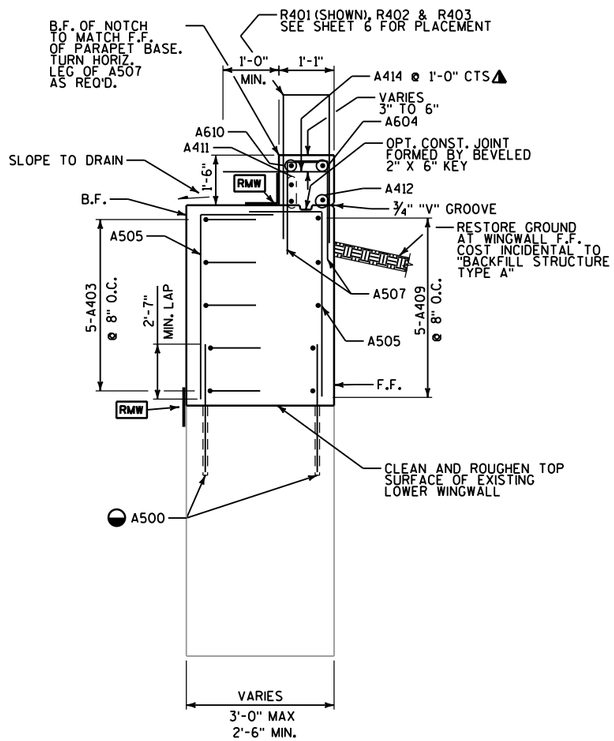
STATE PROJECT NUMBER

2220-02-70

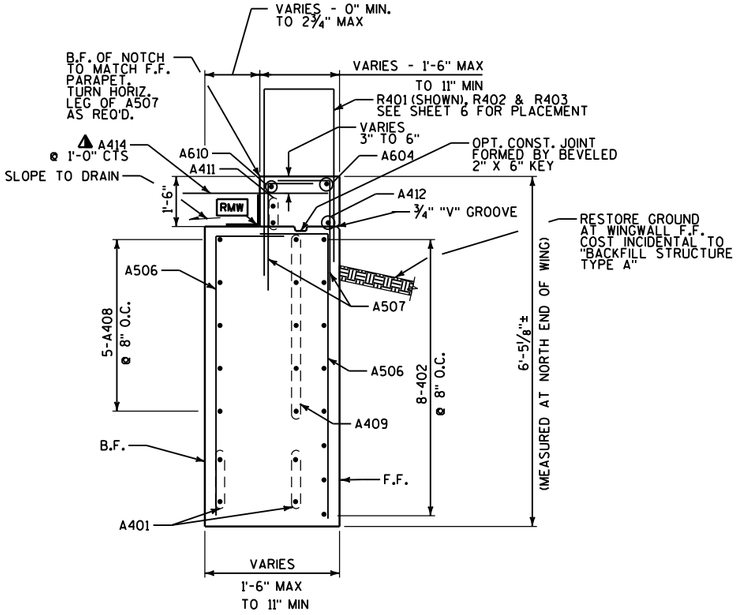


NW WINGWALL REMOVAL

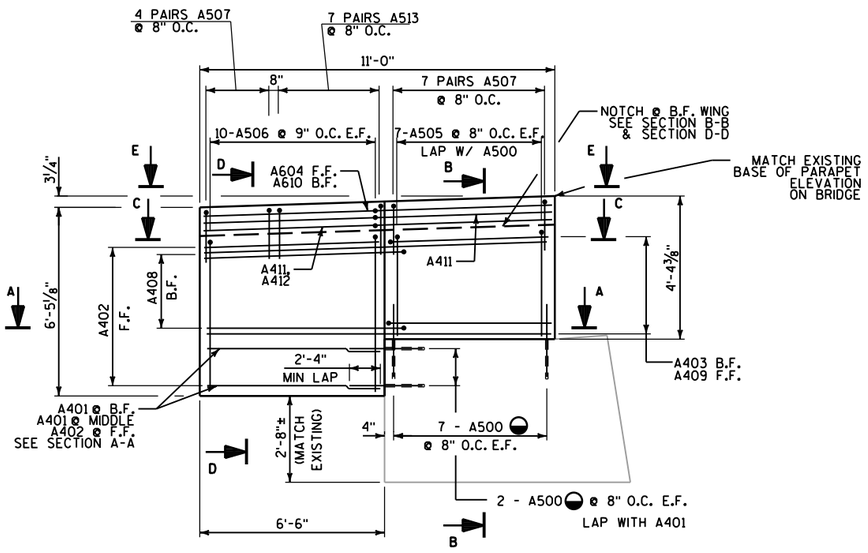
(LOOKING AT F.F. OF WING)



SECTION B-B

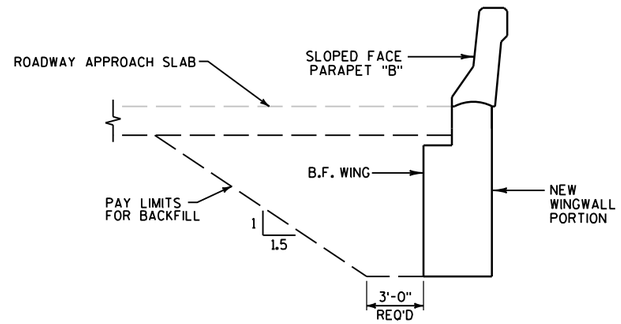


SECTION D-D



NW WINGWALL REPLACEMENT

(LOOKING AT F.F. OF WING)
PARAPET NOT SHOWN FOR CLARITY



TYPICAL SECTION THRU WING

NOTES

FOR SECTIONS A-A, C-C & E-E SEE SHEET 5

LEGEND

▨ = REMOVAL LIMITS

⊣ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE AS MUCH REBAR AS PRACTICAL.

◒ ADHESIVE ANCHORS NO. 5 BAR. EMBED. 10" IN CONCRETE.

▲ PROJECT 1'-0" MIN. FROM WING B.F. PLACE 3" TO 6" BELOW TOP OF WING.

RMW 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS OF NEW WORK ON BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-66-64

DRAWN BY WAR | PLANS CK'D. KGW

WINGWALL DETAILS 1

SHEET 4 OF 6
496

8

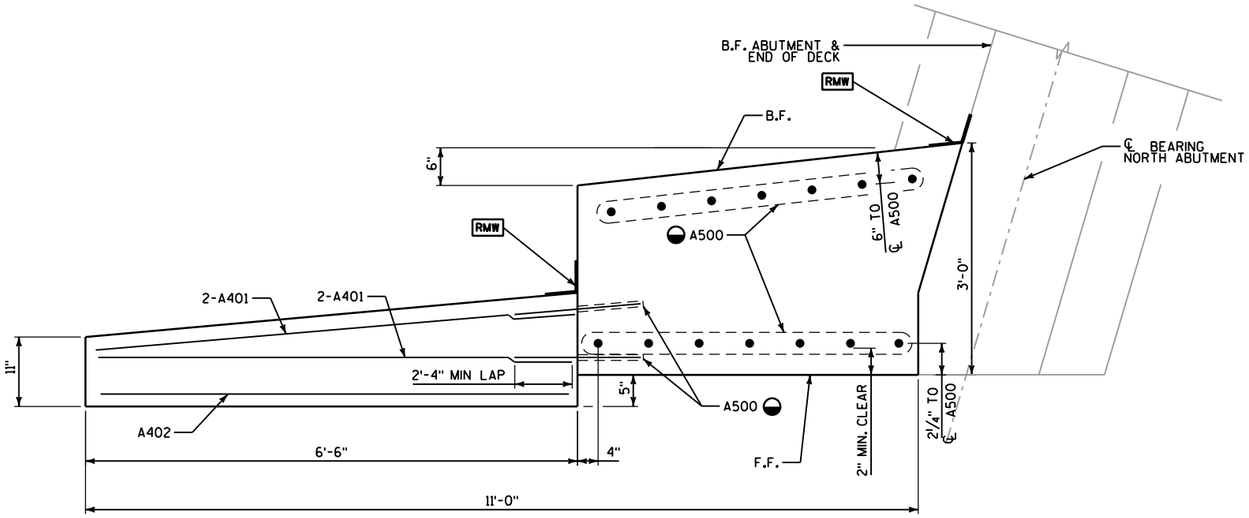
8

FILE=
SCALE =

L:±JOBS2010±20100347±CAD±STRUCTURAL±DGN±00±64±B_66_64_S04.DGN 4/29/2020 10:29:07 AM

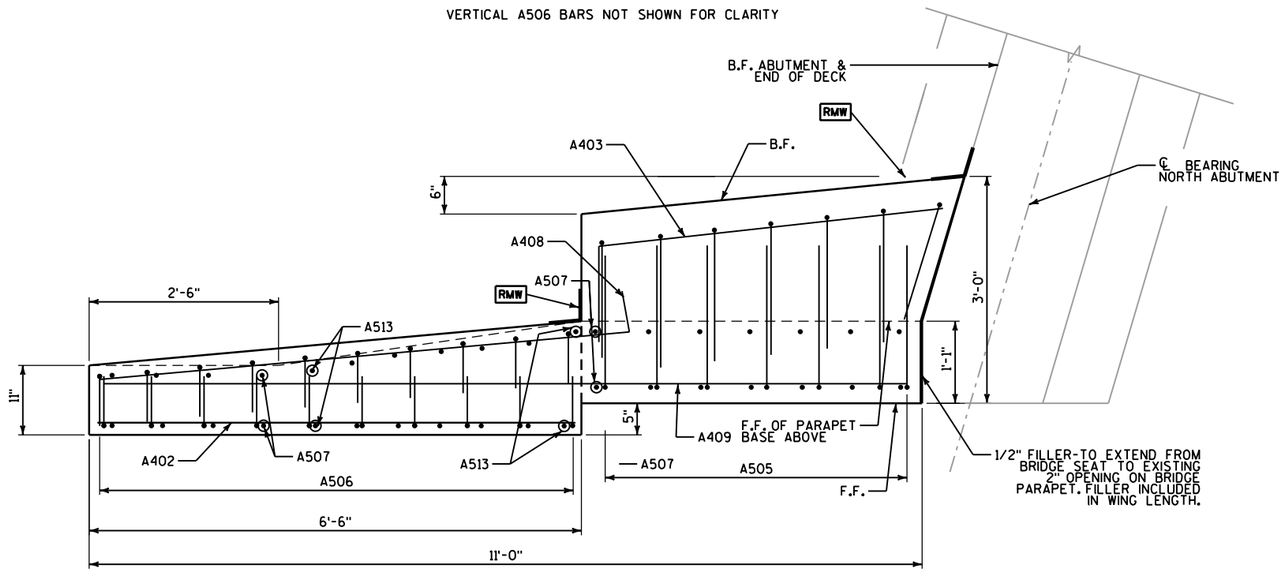
STATE PROJECT NUMBER

2220-02-70

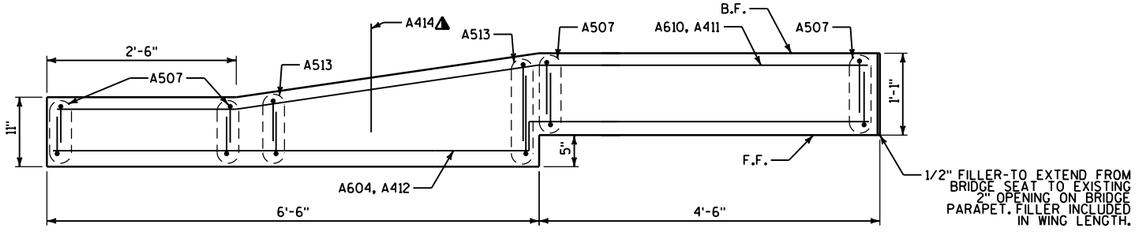


SECTION A-A

VERTICAL A506 BARS NOT SHOWN FOR CLARITY



SECTION C-C



SECTION E-E

R401, R402, AND R403 BARS NOT SHOWN FOR CLARITY

BILL OF BARS

MARK	COATED	NO. REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
◒ A500	X	18	3'-9"			WINGWALL DOWELS
A401	X	4	6'-4"			WINGWALL HORIZ. - DOWEL LAP
A402	X	8	6'-2"			WINGWALL HORIZ. - F.F.
A403	X	5	6'-3"		X	WINGWALL HORIZ. B.F.
A604	X	1	10'-9"		X	WINGWALL HORIZ. TOP
A505	X	14	4'-3"		X	WINGWALL VERTICAL
A506	X	20	5'-3"	▣	X	WINGWALL VERTICAL
A507	X	22	4'-0"		X	WINGWALL NOTCH DOWEL
A408	X	5	7'-8"		X	WINGWALL HORIZ. B.F.
A409	X	5	10'-8"			WINGWALL HORIZ. F.F.
A610	X	1	10'-8"		X	WINGWALL HORIZ. TOP
A411	X	2	10'-8"		X	WINGWALL HORIZ. B.F.
A412	X	1	10'-11"		X	WINGWALL HORIZ. F.F.
A513	X	14	4'-4"	▣	X	WINGWALL NOTCH DOWEL
A414	X	12	2'-0"			WINGWALL SURFACE DRAIN DOWELS

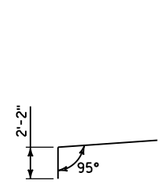
ALL DIMENSIONS IN THE BAR BENDS ARE OUT TO OUT.

▣ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR QUANTITY CALCULATION. SEE BAR SERIES TABLE.

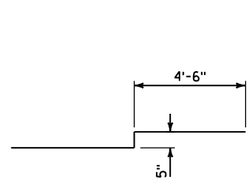
BAR SERIES TABLE

MARK	NO REQ'D	LENGTH
A506	2 SERIES OF 10	4'-11" TO 5'-7"
A513	2 SERIES OF 7	4'-1" TO 4'-7"

BUNDLE AND TAG EACH SERIES SEPARATELY.

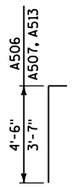


A403



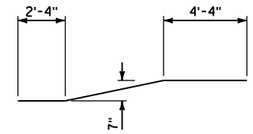
A604, A412

A505



A506
A507
A513

A408



A610, A411

LEGEND

◒ ADHESIVE ANCHORS NO. 5 BAR. EMBED. 10" IN CONCRETE.

▲ PROJECT 1'-0" MIN. FROM WING B.F. PLACE 3" TO 6" BELOW TOP OF WING.

RMW 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS OF NEW WORK ON BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-66-64

DRAWN BY WAR | PLANS CK'D. KGW

WINGWALL DETAILS II & BILL OF BARS

SHEET 5 OF 6
497

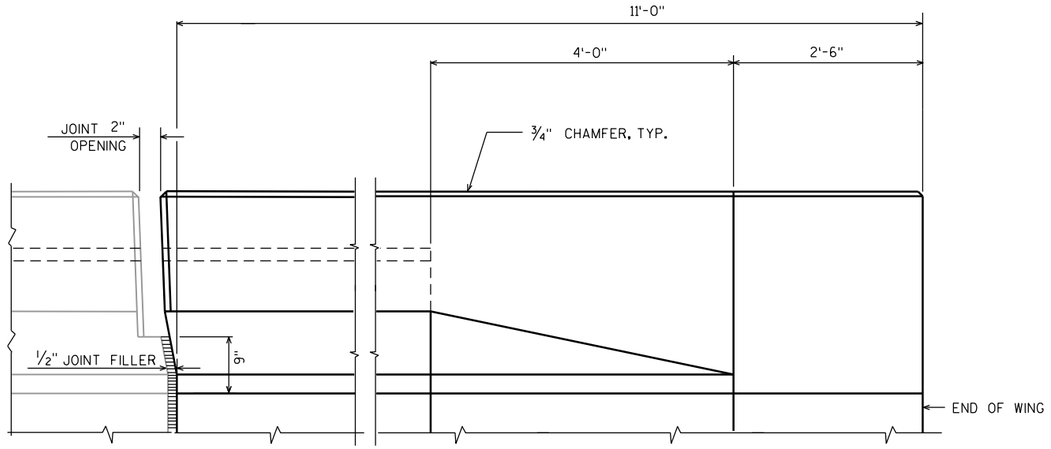
8

8

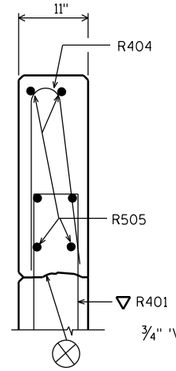
FILE=
SCALE =

L:±JOBS2010±20100347±CAD±STRUCTURAL±DGN±00±64±B_66_64_S05.DGN 4/29/2020 10:29:08 AM

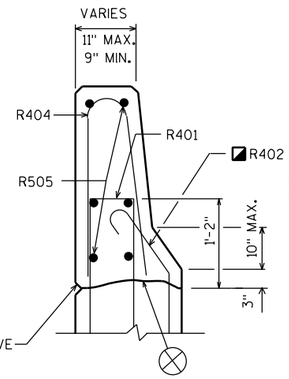
STATE PROJECT NUMBER
2220-02-70



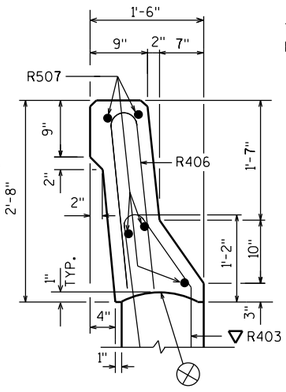
INSIDE ELEVATION



SECTION A



SECTION B



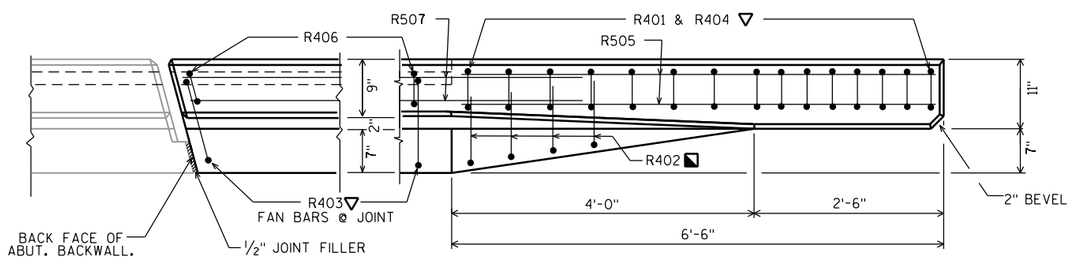
SECTION C

BILL OF BARS

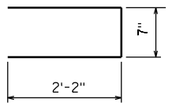
FOR ABUTMENT PARAPET

THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.
EPOXY COAT ALL PARAPET REINF.

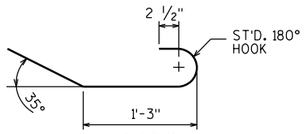
BAR MARK	ABUT.	LENGTH	BENT	LOCATION
R401	15	4-9	X	WINGS STIRRUPS
R402	4	3-1	X	WINGS
R403	6	4-9	X	WINGS STIRRUPS
R404	15	4-9	X	WINGS
R505	6	6-2		WINGS
R406	6	4-10	X	WINGS
R507	5	6'-6"		WINGS



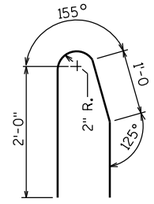
PLAN



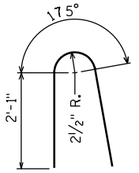
R401



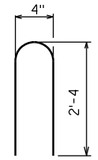
R402



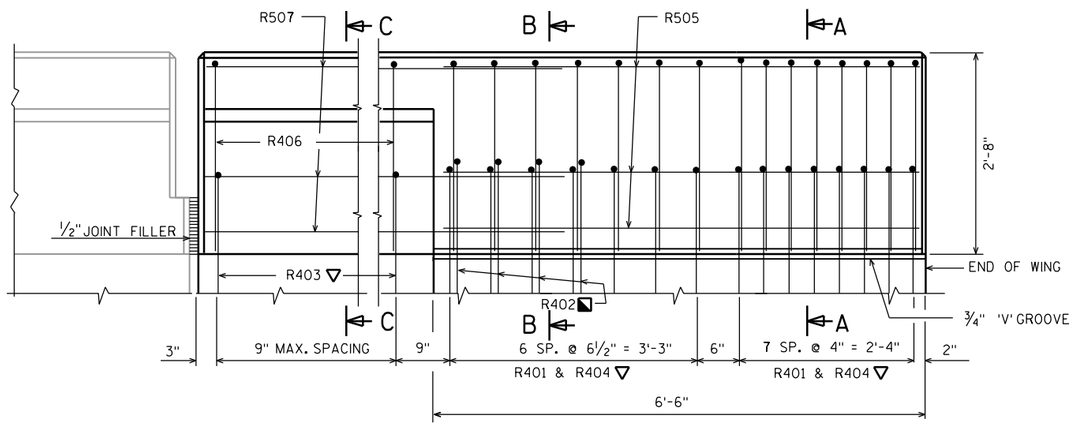
R403



R404



R406



OUTSIDE ELEVATION

⊗ CONST. JOINT - STRIKE OFF AS SHOWN.

◪ R402 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R402 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ R401 AND R403 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-66-64

DRAWN BY WAR | PLANS CK'D. KGW

SLOPED FACE PARAPET "B"

SHEET 6 OF 6
498

8

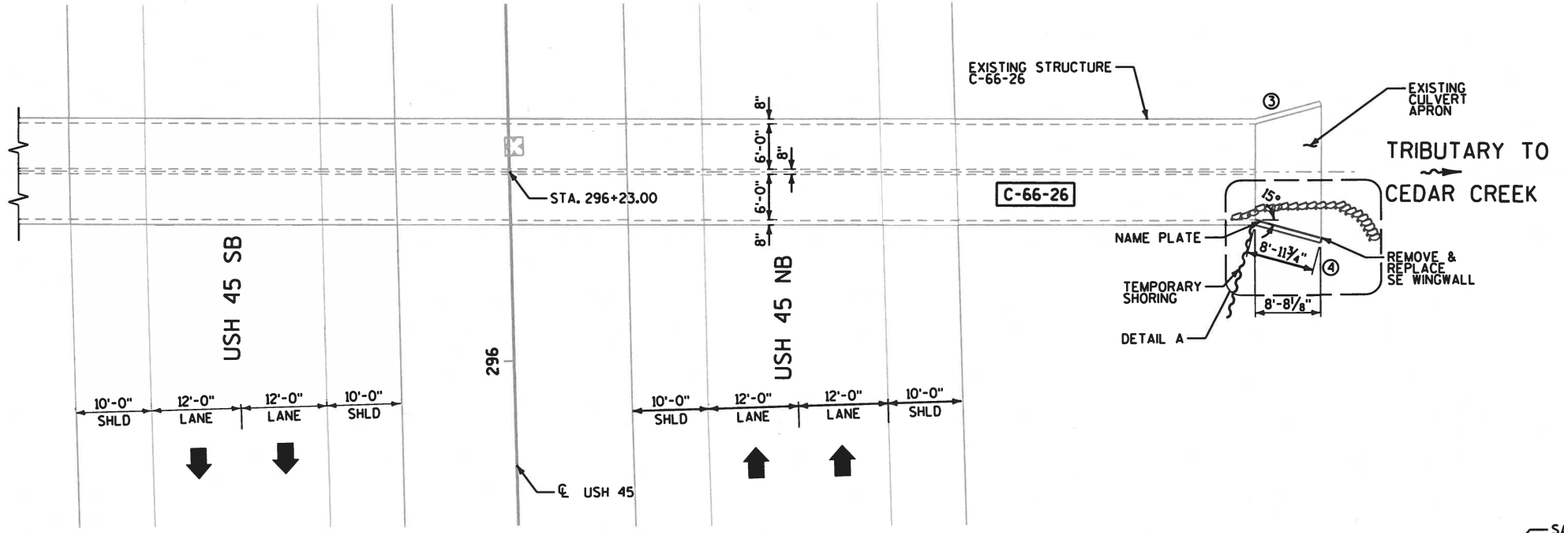
8

FILE=
SCALE =

L:±JOBS2010±20100347±CAD±STRUCTURAL±DGN±00±64±B_66_64_S06.DGN 4/29/2020 10:29:09 AM

STATE PROJECT NUMBER
2220-02-70

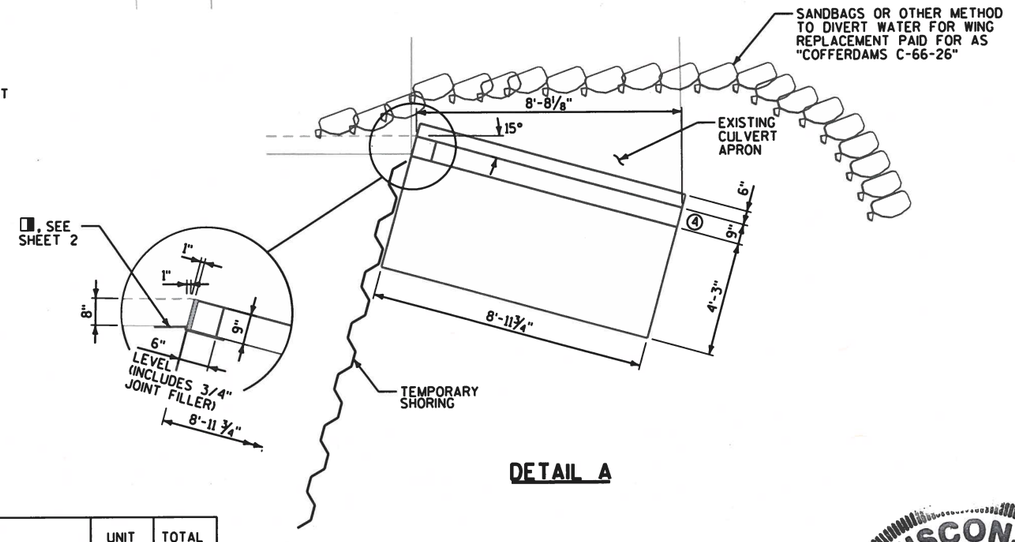
Ⓢ DENOTES WINGWALL NUMBER



N

PLAN

TWO CELL REINFORCED CONCRETE BOX CULVERT



DETAIL A

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID - ITEM	UNIT	TOTAL
203.0200	REMOVING OLD STRUCTURE STA. 296+23 SOUTHEAST WING	LS	1
206.2000	EXCAVATION FOR STRUCTURES CULVERTS C-66-26	LS	1
206.5000	COFFERDAMS C-66-26	LS	1
210.2500	BACKFILL STRUCTURE TYPE B	TON	35
311.0110	BREAKER RUN	TON	6
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	10
504.0100	CONCRETE MASONRY CULVERTS	CY	4
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	150
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	140
511.1200	TEMPORARY SHORING C-66-26	SF	96
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	3
645.0105	GEOTEXTILE TYPE C	SY	9
	NON-BID ITEMS		
	PREFORMED JOINT FILLER	SIZE	¾"
	NAME PLATE	EACH	1
	NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER		

ALL ITEMS ARE CATEGORY 0060

DESIGN DATA

MATERIAL PROPERTIES:
CONCRETE MASONRY..... f'c = 3,500 PSI
HIGH STRENGTH BAR STEEL
REINFORCEMENT (GRADE 60)..... fy = 60,000 PSI

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES. ALL STATIONS AND ELEVATIONS ARE IN FEET.

DIMENSIONS AND STATIONING SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1-INCH DEEP SAW CUT.

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

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

BEVEL EXPOSED EDGES OF

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS B-66-26" SHALL BE THE EXISTING GROUND LINE.

AT THE BACKFACE OF THE WINGWALL ALL VOLUME WHICH CANNOT BE PLACED BEFORE THE WINGWALL CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH "BACKFILL STRUCTURE TYPE B".

"REMOVING OLD STRUCTURE STA. 296+23 SOUTHEAST WING" INCLUDES REMOVAL OF THE SE WINGWALL.

THE CONTRACTOR SHALL PROVIDE 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 (1984).

GEOTECHNICAL

WINGWALL FOUNDED ON SOIL WITH A MINIMUM BEARING RESISTANCE OF 2.0 KSF. CONTRACTOR TO DETERMINE SUITABILITY OF EXISTING SOIL PRIOR TO CONSTRUCTING THE WALL.

TRAFFIC DATA

USH 45
A.D.T. (2019) = 34,000
A.D.T. (2039) = 40,500
R.D.S = 70 MPH

LIST OF DRAWINGS

1. GENERAL PLAN
2. DETAILS AND BILL OF BARS

SCOPE OF WORK C-66-26

1. REMOVE AND REPLACE SE WINGWALL

WISCONSIN
KEVIN G. WOOD
E-32070
MILWAUKEE, WI
PROFESSIONAL ENGINEER
2-27-2020

STRUCTURE DESIGN CONTACTS:
BUREAU OF STRUCTURES:
AARON BONK (608) 261-0261
CONSULTANT:
KEVIN WOOD (414) 266-9144

NO.	DATE	REVISION	BY

GRAEF
One Honey Creek Corporate Center
125 South 84th Street,
Suite 401
Milwaukee, WI 53214-1470
414 / 259 1570
414 / 259 7037 fax
www.graef-usa.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED _____ SDR 05/05/20
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE C-66-26

USH 45 OVER CEDAR CREEK TRIBUTARY

COUNTY	TOWN/~~CITY/VILLAGE~~
WASHINGTON	POLK

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
WAR	KGW	WAR	KWG

GENERAL PLAN

SHEET 1 OF 2
499

8

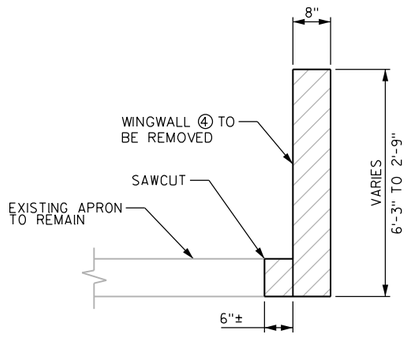
8

L:±JOBS2010±20100347±CAD±STRUCTURAL±DGN±00±C-66-26±C-66-26_PLN.DGN 2/27/2020 4:47:27 PM

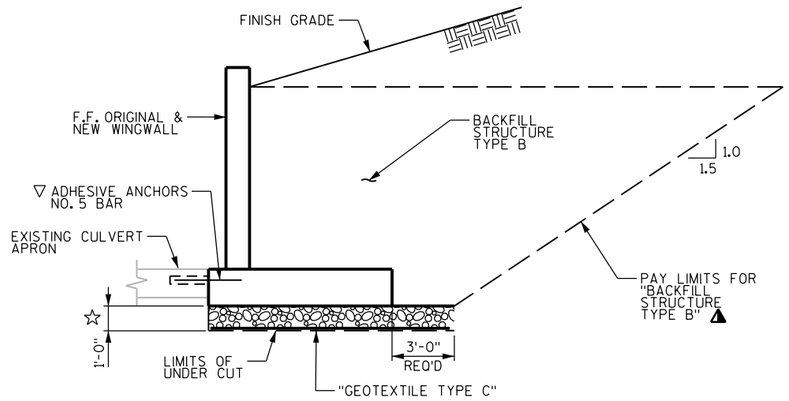
I.D. DATE:

STATE PROJECT NUMBER

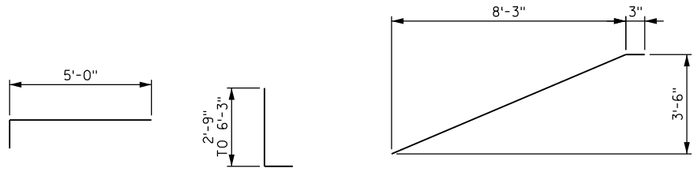
2220-02-70



WINGWALL REMOVAL



TYPICAL SECTION THRU RETAINING WALL



C400, C401 C404, C405 C511

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

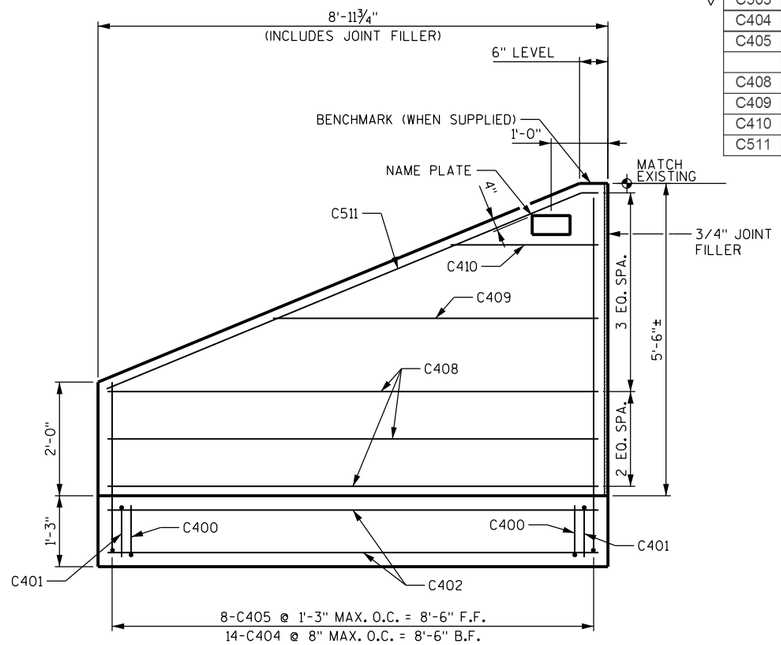
- BILL OF BARS						
MARK	COATED	NO. REQ'D	LENGTH	BAR SERIES **	BENT	LOCATION
C400		7	5'-7"		X	FOOTING TRANSVERSE BOTTOM
C401		10	5'-7"		X	FOOTING TRANSVERSE TOP
C402		12	8'-5"			FOOTING LONGITUDINAL BOTTOM & TOP
▽ C503		10	1'-9"			FOOTING APRON DOWEL
C404	X	14	5'-1"	X	X	FOOTING & STEM DOWEL B.F.
C405	X	8	5'-1"	X	X	FOOTING & STEM DOWEL F.F.
C408	X	6	8'-7"			STEM HORIZONTAL
C409	X	2	5'-10"			STEM HORIZONTAL
C410	X	2	3'-0"			STEM HORIZONTAL
C511	X	2	9'-3"		X	STEM HORIZONTAL TOP

ALL DIMENSIONS OF THE BAR BENDS ARE OUT TO OUT.

** LENGTH SHOWN FOR BAR SERIES IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

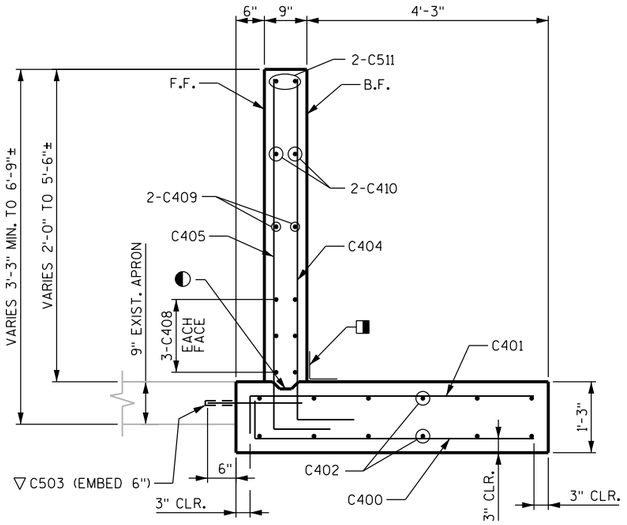
BAR SERIES TABLE		
MARK	NO REQ'D	LENGTH
C404	1 OF SERIES 14	3'-4" TO 6'-10"
C405	1 OF SERIES 8	3'-4" TO 6'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY

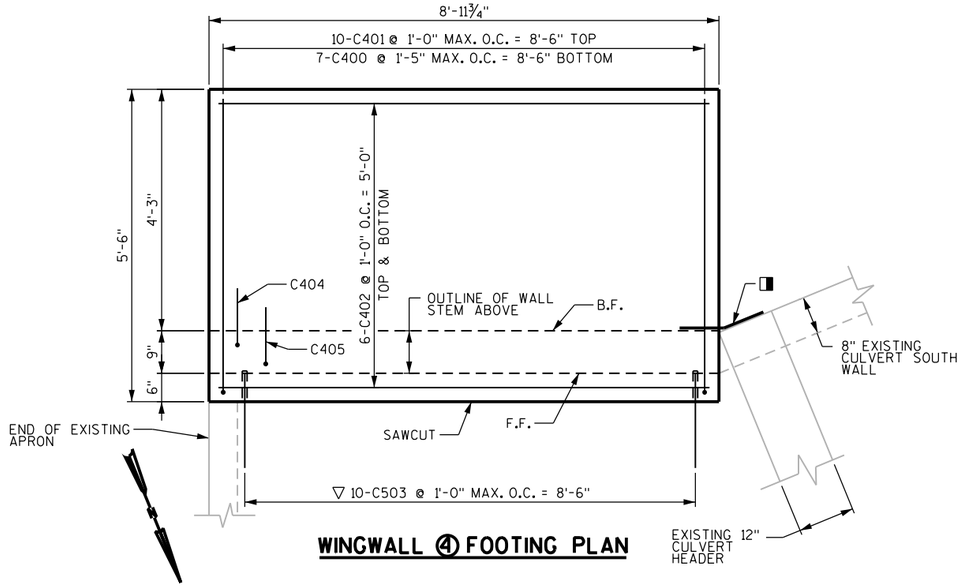


WINGWALL ④ ELEVATION

LOOKING AT THE FRONT FACE



WINGWALL ④ SECTION



WINGWALL ④ FOOTING PLAN

NOTES

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

LEGEND

F.F. DENOTES FRONT FACE

B.F. DENOTES BACK FACE

◨ 18" RUBBERIZED MEMBRANE WATERPROOFING

◐ CONSTRUCTION JOINT FORMED BY BEVELED 2"×6" KEYWAY WITH 18" RUBBERIZED MEMBRANE WATERPROOFING AT BACK OF WALL.

☆ UNDERCUT 1'-0". EXCAVATION FOR UNDER CUT TO BE INCLUDED IN EXCAVATION FOR STRUCTURES. PLACE "GEOTEXTILE FABRIC TYPE C' AND BACKFILL WITH "BREAKER RUN".

▽ ADHESIVE ANCHOR NO. 5 BAR EMBED 6" INTO EXISTING APRON (CONCRETE).

▲ THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE B" REQUIRED BEHIND APRON WING FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION OF STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-66-26

DRAWN BY WAR | PLANS CK'D. KGW

DETAILS AND BILL OF BARS

SHEET 2 OF 2

500

8

8

L:±JOBS2010±20100347±CAD±STRUCTURAL±DGN±00±C-66-26±C-66-26_DTL.DGN 2/27/2020 4:47:28 PM

FILE= SCALE =

EARTHWORK USH 45 1699+50 - 1703+50 SB LT

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		
		CUT	FILL	CUT	FILL	CUT 1.0	FILL 1.2	MASS ORDINATE
1699+50		17.1	2.5	0	0	0	0	0
1700+00	50	14.5	2.8	29	5	29	6	23
1700+50	50	15.4	1.7	28	4	57	11	46
1701+00	50	14.4	1.7	28	3	85	15	70
1701+50	50	15	1.3	27	3	112	19	93
1702+00	50	20.2	0	33	1	145	20	125
1702+50	50	17.4	0.2	35	0	180	20	160
1703+00	50	16.3	0.2	31	0	211	20	191
1703+50	50	17.3	0.4	31	1	242	21	221
TOTALS				**242**	**17**			

EARTHWORK USH 45 1700+25 - 1702+80 SB RT

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		
		CUT	FILL	CUT	FILL	CUT 1.0	FILL 1.2	MASS ORDINATE
1700+25		16.1	2	0	2	0	0	0
1700+50	25	16.1	0	15	1	15	1	14
1701+00	50	16.5	0	30	0	45	1	44
1701+50	50	17.8	0	32	0	77	1	76
1702+00	50	20.2	0	35	0	112	1	111
1702+50	50	18.1	0	35	0	147	1	146
1702+80	30	13.9	72.9	18	41	165	50	115
TOTALS				**165**	**44**			

EARTHWORK USH 45 1708+65 - 1716+50 SB LT

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		
		CUT	FILL	CUT	FILL	CUT 1.0	FILL 1.2	MASS ORDINATE
1708+65		18.7	0.8	0	0	0	0	0
1709+00	35	20.3	0	25	1	25	1	24
1709+50	50	19.7	0	37	0	62	1	61
1710+00	50	20	0	37	0	99	1	98
1710+50	50	18.6	0	36	0	135	1	134
1711+00	50	18.8	0	35	0	170	1	169
1711+50	50	19.7	0	36	0	206	1	205
1712+00	50	22.3	0.1	39	0	245	1	244
1712+50	50	21.9	0	41	0	286	1	285
1712+65	15	21.3	0	12	0	298	1	297
1713+00	35	18.2	0	26	0	324	1	323
1716+50	350	18.2	0	236	0	560	1	559
TOTALS				**560**	**1**			

EARTHWORK USH 45 1708+00 - 1715+75 SB RT

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		
		CUT	FILL	CUT	FILL	CUT 1.0	FILL 1.2	MASS ORDINATE
1708+00		16.6	0	0	0	0	0	0
1708+50	50	19.2	0	33	0	33	0	33
1709+00	50	15.8	0	32	0	65	0	65
1709+50	50	15.9	0	29	0	94	0	94
1710+00	50	17.1	0	31	0	125	0	125
1710+50	50	16.5	0	31	0	156	0	156
1711+00	50	15.6	3.3	30	3	186	4	182
1711+50	50	18.9	0	32	3	218	8	210
1712+00	50	12.5	0	29	0	247	8	239
1715+75	375	12.5	0	174	0	421	8	413
TOTALS				**421**	**6**			

EARTHWORK USH 45 171+75 - 186+25 NB RT

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		
		CUT	FILL	CUT	FILL	CUT 1.0	FILL 1.2	MASS ORDINATE
171+75		18.2	0	0	0	0	0	0
177+50	575	18.2	0	388	0	388	0	388
177+93	43	24.3	0	34	0	422	0	422
178+00	7	24.1	0	6	0	428	0	428
178+50	50	23.4	0	44	0	472	0	472
179+00	50	23.4	5.1	43	5	515	6	509
179+50	50	23.7	0.9	44	6	559	7	552
180+00	50	23.4	0.5	44	1	603	1	602
180+50	50	22.2	0	42	0	645	0	645
181+00	50	21.7	0.1	41	0	686	0	686
181+50	50	26.9	0	45	0	731	0	731
181+56	6	26.8	0	6	0	737	0	737
182+82		18.2	0	0	0	737	0	737
186+25	343	18.2	0	231	0	968	0	968
TOTALS				**968**	**12**			

EARTHWORK USH 45 175+25 - 185+25 NB LT

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		
		CUT	FILL	CUT	FILL	CUT 1.0	FILL 1.2	MASS ORDINATE
175+25		12.5	0	0	0	0	0	0
177+00	175	12.5	0	81	0	81	0	81
177+50	50	19.9	0	30	0	111	0	111
178+00	50	19.6	1	37	1	148	1	147
178+50	50	18.7	2.8	35	4	183	6	177
179+00	50	19.1	0.9	35	3	218	10	208
179+50	50	20.4	0	37	1	255	11	244
180+00	50	19.7	0.8	37	1	292	12	280
180+50	50	19.3	0	36	1	328	13	315
181+00	50	19.1	2.3	36	2	364	15	349
181+50	50	23.6	0	40	2	404	17	387
182+76		12.5	0	0	0	404	17	387
185+25	249	12.5	0	115	0	519	17	502
TOTALS				**519**	**15**			

EARTHWORK CTH PV NB OFF RAMP

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		
		CUT	FILL	CUT	FILL	CUT 1.0	FILL 1.2	MASS ORDINATE
1320+57		13.8	0	0	0	0	0	0
1321+00	43	14	0.5	22	0	22	0	22
1321+50	50	17.5	5	29	5	51	6	45
1322+00	50	18.3	6.2	33	10	84	18	66
1322+50	50	19.5	5.4	35	11	119	31	88
1323+00	50	17.8	3.6	35	8	154	41	113
1323+50	50	19.1	6.4	34	9	188	52	136
1324+00	50	18.6	10.5	35	16	223	71	152
1324+50	50	17.9	11.8	34	21	257	96	161
1325+00	50	18.4	12.6	34	23	291	124	167
1325+50	50	19.8	10.9	35	22	326	150	176
1326+00	50	20.1	9.8	37	19	363	173	190
1326+50	50	22	6.9	39	15	402	191	211
1327+00	50	22.6	4.6	41	11	443	204	239
1327+50	50	26.3	0.9	45	5	488	210	278
1328+00	50	32.1	0	54	1	542	211	331
1328+50	50	34.8	1.4	62	1	604	212	392
1329+00	50	33.5	8.4	63	9	667	223	444
1329+50	50	32.5	12.1	61	19	728	246	482
1330+00	50	31.6	8.6	59	19	787	269	518
1330+50	50	1.9	8.3	31	16	818	288	530
1331+00	50	0	14.9	2	21	820	313	507
1331+50	50	0	13.2	0	26	820	344	476
1332+00	50	0	6.8	0	19	820	367	453
1332+13	13	0	4.9	0	3	820	371	449
TOTALS				**820**	**309**			

9

9

EARTHWORK CTH PV SB ON RAMP

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		
		CUT	FILL	CUT	FILL	CUT 1.0	FILL 1.2	MASS ORDINATE
1321+27		15	0	0	0	0	0	0
1321+50	23	15.5	0	13	0	13	0	13
1322+00	50	17.6	0	31	0	44	0	44
1322+50	50	18.8	0	34	0	78	0	78
1323+00	50	20.3	0	36	0	114	0	114
1323+50	50	20.4	0	38	0	152	0	152
1324+00	50	22.2	0.4	39	0	191	0	191
1324+50	50	22.8	0.5	42	1	233	1	232
1325+00	50	24.3	0.3	44	1	277	2	275
1325+50	50	24.4	1.2	45	1	322	3	319
1326+00	50	26	0.1	47	1	369	4	365
1326+50	50	27.4	0	49	0	418	4	414
1327+00	50	28.1	0	51	0	469	4	465
1327+50	50	30.1	0	54	0	523	4	519
1328+00	50	32.2	0	58	0	581	4	577
1328+50	50	34	0	61	0	642	4	638
1329+00	50	35.5	0.2	64	0	706	4	702
1329+50	50	37.6	0	68	0	774	4	770
1330+00	50	45.1	0	77	0	851	4	847
1330+50	50	50.6	0	89	0	940	4	936
1331+00	50	53.9	6.4	97	6	1037	11	1026
1331+50	50	55.5	0	101	6	1138	18	1120
1332+00	50	56.7	0	104	0	1242	18	1224
1332+50	50	44.6	0	94	0	1336	18	1318
1333+00	50	40.9	0.1	79	0	1415	18	1397
1333+50	50	34.6	0.8	70	1	1485	19	1466
1334+00	50	31.8	0.3	61	1	1546	20	1526
1334+50	50	33.6	0.3	61	1	1607	21	1586
1335+00	50	35.3	0.5	64	1	1671	22	1649
1335+50	50	35.4	0.1	65	1	1736	23	1713
1336+00	50	33.8	0	64	0	1800	23	1777
1336+50	50	34.4	0.8	63	1	1863	24	1839
1337+00	50	36.8	0	66	1	1929	25	1904
1337+32	32	38.1	0	44	0	1973	25	1948
TOTALS				**1973**	**23**			

EARTHWORK USH 45 NB LEFT TURN LANE AT FRIENDLY DRIVE

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		
		CUT	FILL	CUT	FILL	CUT 1.0	FILL 1.2	MASS ORDINATE
784+09		4.1	9.8	0	0	0	0	0
784+50	41	6.8	12.1	8	17	8	20	-12
785+00	50	8.8	11.3	14	22	22	46	-24
785+50	50	9.6	7.2	17	17	39	66	-27
786+00	50	12.3	1.3	20	8	59	76	-17
786+50	50	8.4	0	19	1	78	77	1
TOTALS				**78**	**65**			

DIVISION -- USH 45 RL (1)

STATION	REAL STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
			CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
							1.00	1.25	
					NOTE 1	NOTE 2	NOTE 1	NOTE 3	NOTE 4
118+71.89	11871.89	0.00	0.92	9.27	0	0	0	0	0
119+00	11900.00	28.11	0.40	10.27	1	10	1	13	-12
120+00	12000.00	100.00	0.96	4.21	3	27	4	46	-42
121+00	12100.00	100.00	0.92	4.87	3	17	7	68	-61
122+00	12200.00	100.00	0.64	7.12	3	22	10	95	-85
123+00	12300.00	100.00	0.99	8.38	3	29	13	131	-118
124+00	12400.00	100.00	1.15	6.80	4	28	17	166	-149
125+00	12500.00	100.00	0.97	2.57	4	17	21	188	-167
126+00	12600.00	100.00	0.97	1.09	4	7	25	196	-171
127+00	12700.00	100.00	0.71	4.17	3	10	28	209	-181
127+75	12775.00	75.00	1.53	4.55	3	12	31	224	-193
130+25	13025.00	250.00	0.18	5.16	8	45	39	280	-241
131+00	13100.00	75.00	1.11	5.42	2	15	41	299	-258
132+00	13200.00	100.00	0.61	5.39	3	20	44	324	-280
133+00	13300.00	100.00	0.89	3.51	3	16	47	344	-297
134+00	13400.00	100.00	1.39	6.24	4	18	51	366	-315
134+50	13450.00	50.00	0.73	9.94	2	15	53	385	-332
140+76.2	14076.20	626.20	0.00	2.14	8	140	61	560	-499
141+00	14100.00	23.80	0.00	3.00	0	2	61	563	-502
142+00	14200.00	100.00	0.00	0.90	0	7	61	571	-510
143+00	14300.00	100.00	0.00	1.92	0	5	61	578	-517
144+00	14400.00	100.00	0.00	1.18	0	6	61	585	-524
145+00	14500.00	100.00	0.00	1.95	0	6	61	593	-532
146+00	14600.00	100.00	0.12	2.20	0	8	61	603	-542
147+00	14700.00	100.00	0.00	2.45	0	9	61	614	-553
148+00	14800.00	100.00	0.00	2.59	0	9	61	625	-564
149+00	14900.00	100.00	0.00	2.35	0	9	61	636	-575
150+00	15000.00	100.00	0.00	2.74	0	9	61	648	-587
151+00	15100.00	100.00	0.00	2.77	0	10	61	660	-599
152+00	15200.00	100.00	0.00	2.47	0	10	61	673	-612
168+11.953	16811.95	1611.95	5.67	0.12	169	78	230	770	-540
168+82.071	16882.07	70.12	1.78	6.83	10	9	240	781	-541
169+00	16900.00	17.93	1.31	5.56	1	4	241	786	-545
170+00	17000.00	100.00	0.34	7.13	3	24	244	816	-572
171+00	17100.00	100.00	0.95	9.16	2	30	246	854	-608
172+00	17200.00	100.00	1.27	10.86	4	37	250	900	-650
173+00	17300.00	100.00	1.68	9.08	5	37	255	946	-691
174+00	17400.00	100.00	1.39	10.39	6	36	261	991	-730
175+00	17500.00	100.00	1.70	3.02	6	25	267	1,023	-756
176+00	17600.00	100.00	1.16	6.64	5	18	272	1,045	-773
177+00	17700.00	100.00	1.89	0.38	6	13	278	1,061	-783

DIVISION -- USH 45 RL (1)

STATION	REAL STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
			CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
							1.00	1.25	
					NOTE 1	NOTE 2	NOTE 1	NOTE 3	NOTE 4
178+00	17800.00	100.00	1.00	1.01	5	3	283	1,065	-782
179+00	17900.00	100.00	4.11	0.50	9	3	292	1,069	-777
180+00	18000.00	100.00	3.04	2.34	13	5	305	1,075	-770
181+00	18100.00	100.00	3.42	10.27	12	23	317	1,104	-787
181+25	18125.00	25.00	4.24	11.30	4	10	321	1,116	-795
183+59.316	18359.32	234.32	0.61	7.84	21	83	342	1,220	-878
184+00	18400.00	40.68	0.09	8.79	1	13	343	1,236	-893
185+00	18500.00	100.00	2.70	0.07	5	16	348	1,256	-908
209+05.139	20905.14	2405.14	0.00	0.00	120	3	468	1,260	-792
238+71.177	23871.18	2966.04	4.04	0.73	222	40	690	1,310	-620
239+00	23900.00	28.82	2.51	2.48	3	2	693	1,313	-620
240+00	24000.00	100.00	1.59	3.00	8	10	701	1,325	-624
241+00	24100.00	100.00	1.39	2.33	6	10	707	1,338	-631
242+00	24200.00	100.00	1.21	4.34	5	12	712	1,353	-641
243+00	24300.00	100.00	0.75	5.75	4	19	716	1,376	-660
244+00	24400.00	100.00	0.57	9.09	2	27	718	1,410	-692
245+00	24500.00	100.00	1.49	6.59	4	29	722	1,446	-724
246+00	24600.00	100.00	0.89	6.05	4	23	726	1,475	-749
247+00	24700.00	100.00	0.50	9.03	3	28	729	1,510	-781
248+00	24800.00	100.00	0.81	3.67	2	24	731	1,540	-809
249+00	24900.00	100.00	0.89	5.97	3	18	734	1,563	-829
250+00	25000.00	100.00	2.29	0.03	6	11	740	1,576	-836
251+00	25100.00	100.00	1.15	0.38	6	1	746	1,578	-832
252+00	25200.00	100.00	0.96	1.10	4	3	750	1,581	-831
253+00	25300.00	100.00	0.15	9.08	2	19	752	1,605	-853
254+00	25400.00	100.00	0.03	5.67	0	27	752	1,639	-887
255+00	25500.00	100.00	0.57	0.58	1	12	753	1,654	-901
256+00	25600.00	100.00	1.67	0.06	4	1	757	1,655	-898
257+00	25700.00	100.00	1.79	0.11	6	0	763	1,655	-892
258+00	25800.00	100.00	0.77	2.53	5	5	768	1,661	-893
259+00	25900.00	100.00	0.71	4.18	3	12	771	1,676	-905
260+00	26000.00	100.00	1.23	0.54	4	9	775	1,688	-913
261+00	26100.00	100.00	0.90	1.30	4	3	779	1,691	-912
262+00	26200.00	100.00	1.09	0.63	4	4	783	1,696	-913
263+00	26300.00	100.00	1.62	0.00	5	1	788	1,698	-910
264+00	26400.00	100.00	0.49	0.25	4	0	792	1,698	-906
265+00	26500.00	100.00	1.10	0.00	3	0	795	1,698	-903
266+00	26600.00	100.00	1.08	0.00	4	0	799	1,698	-899
267+00	26700.00	100.00	0.32	0.16	3	0	802	1,698	-896
268+00	26800.00	100.00	0.66	0.12	2	1	804	1,699	-895
		COLUME TOTALS =			804	1,359			

NOTES:

1 - CUT	CUT DOES NOT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATED VOLUME
3-EXPANDED FILL	EXPANDED FILL = UNEXPANDED FILL * EXPANDED FILL FACTOR.
4-MASS ORDINATE	[CUT - (FILL * FILL FACTOR)]. PLUS QUANTIY INDICATATES AN EXCESS OF MATERIAL WITHIN THE DEVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

DIVISION -- USH 45 RL

STATION	REAL STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
			CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
							1.00	1.25	
					NOTE 1	NOTE 2	NOTE 1	NOTE 3	NOTE 4
275+00	27500.00	0.00	1.42	6.51	0	0	0	0	0
276+00	27600.00	100.00	0.64	7.94	4	27	4	34	-30
277+00	27700.00	100.00	0.60	8.67	2	31	6	73	-67
278+00	27800.00	100.00	1.07	7.36	3	30	9	110	-101
279+00	27900.00	100.00	1.29	5.83	4	24	13	140	-127
280+00	28000.00	100.00	1.47	6.01	5	22	18	168	-150
281+00	28100.00	100.00	0.83	8.70	4	27	22	201	-179
282+00	28200.00	100.00	0.49	7.62	2	30	24	239	-215
283+50	28350.00	150.00	0.74	3.99	3	32	27	279	-252
295+00	29500.00	1150.00	0.83	4.48	34	180	61	504	-443
296+00	29600.00	100.00	0.83	4.53	3	17	64	525	-461
296+30.002	29630.00	30.00	1.74	2.54	1	4	65	530	-465
297+00	29700.00	70.00	1.18	7.01	4	12	69	545	-476
298+00	29800.00	100.00	0.70	9.67	3	31	72	584	-512
299+00	29900.00	100.00	1.34	4.61	4	26	76	616	-540
300+00	30000.00	100.00	0.85	7.78	4	23	80	645	-565
301+00	30100.00	100.00	0.86	5.30	3	24	83	675	-592
302+00	30200.00	100.00	0.33	8.83	2	26	85	708	-623
303+00	30300.00	100.00	0.98	18.48	2	51	87	771	-684
304+00	30400.00	100.00	0.61	6.54	3	46	90	829	-739
305+00	30500.00	100.00	1.00	8.60	3	28	93	864	-771
306+00	30600.00	100.00	0.88	9.54	3	34	96	906	-810
307+00	30700.00	100.00	0.62	11.94	3	40	99	956	-857
308+00	30800.00	100.00	0.30	8.89	2	39	101	1,005	-904
309+00	30900.00	100.00	1.07	4.08	3	24	104	1,035	-931
330+50	33050.00	2150.00	0.90	0.77	78	193	182	1,276	-1,094
331+16.008	33116.01	66.01	1.20	13.53	3	17	185	1,298	-1,113
332+00	33200.00	83.99	1.27	1.13	4	23	189	1,326	-1,137
361+00	36100.00	2900.00	0.26	2.75	82	208	271	1,586	-1,315
362+00	36200.00	100.00	0.64	4.46	2	13	273	1,603	-1,330
363+00	36300.00	100.00	0.39	3.58	2	15	275	1,621	-1,346
364+00	36400.00	100.00	0.56	5.63	2	17	277	1,643	-1,366
365+00	36500.00	100.00	0.55	9.42	2	28	279	1,678	-1,399
366+00	36600.00	100.00	0.25	7.85	1	32	280	1,718	-1,438
367+00	36700.00	100.00	0.26	4.92	1	24	281	1,748	-1,467
368+00	36800.00	100.00	0.25	6.07	1	20	282	1,773	-1,491
369+00	36900.00	100.00	0.73	4.95	2	20	284	1,798	-1,514
370+00	37000.00	100.00	0.44	4.46	2	17	286	1,819	-1,533
371+00	37100.00	100.00	0.25	4.50	1	17	287	1,840	-1,553
372+00	37200.00	100.00	0.71	1.91	2	12	289	1,855	-1,566
373+35.573	37335.57	135.57	0.54	8.42	3	26	292	1,888	-1,596
374+00	37400.00	64.43	1.36	5.19	2	16	294	1,908	-1,614
375+00	37500.00	100.00	1.92	2.59	6	14	300	1,925	-1,625
376+00	37600.00	100.00	1.81	2.05	7	9	307	1,936	-1,629
377+00	37700.00	100.00	1.36	6.37	6	16	313	1,956	-1,643
378+00	37800.00	100.00	1.61	3.37	6	18	319	1,979	-1,660
379+00	37900.00	100.00	1.21	5.96	5	17	324	2,000	-1,676
379+65.52	37965.52	65.52	2.12	2.54	4	10	328	2,013	-1,685
380+00	38000.00	34.48	6.10	0.48	5	2	333	2,015	-1,682

DIVISION -- USH 45 RL

STATION	REAL STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
			CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
							1.00	1.25	
					NOTE 1	NOTE 2	NOTE 1	NOTE 3	NOTE 4
381+00	38100.00	100.00	0.94	5.00	13	10	346	2,028	-1,682
382+00	38200.00	100.00	1.59	5.69	5	20	351	2,053	-1,702
383+00	38300.00	100.00	0.95	5.48	5	21	356	2,079	-1,723
384+00	38400.00	100.00	0.82	4.64	3	19	359	2,103	-1,744
385+00	38500.00	100.00	2.21	5.09	6	18	365	2,125	-1,760
386+00	38600.00	100.00	2.71	1.43	9	12	374	2,140	-1,766
387+00	38700.00	100.00	1.92	5.34	9	13	383	2,156	-1,773
388+00	38800.00	100.00	1.25	5.18	6	19	389	2,180	-1,791
389+00	38900.00	100.00	3.20	0.87	8	11	397	2,194	-1,797
390+00	39000.00	100.00	2.31	0.38	10	2	407	2,196	-1,789
391+00	39100.00	100.00	2.72	2.79	9	6	416	2,204	-1,788
392+00	39200.00	100.00	1.99	10.36	9	24	425	2,234	-1,809
393+00	39300.00	100.00	0.99	11.46	6	40	431	2,284	-1,853
394+00	39400.00	100.00	1.35	9.46	4	39	435	2,333	-1,898
395+00	39500.00	100.00	0.94	12.10	4	40	439	2,383	-1,944
396+00	39600.00	100.00	2.74	6.52	7	34	446	2,425	-1,979
397+00	39700.00	100.00	2.15	9.61	9	30	455	2,463	-2,008
398+00	39800.00	100.00	0.85	18.70	6	52	461	2,528	-2,067
399+00	39900.00	100.00	2.32	5.68	6	45	467	2,584	-2,117
400+00	40000.00	100.00	3.81	1.69	11	14	478	2,601	-2,123
401+00	40100.00	100.00	3.22	0.83	13	5	491	2,608	-2,117
402+00	40200.00	100.00	2.86	2.55	11	6	502	2,615	-2,113
403+00	40300.00	100.00	1.43	8.24	8	20	510	2,640	-2,130
404+00	40400.00	100.00	1.51	12.78	5	39	515	2,689	-2,174
404+85.287	40485.29	85.29	0.83	20.30	4	52	519	2,754	-2,235
405+00	40500.00	14.71	1.11	16.76	1	10	520	2,766	-2,246
406+00	40600.00	100.00	2.41	10.54	7	51	527	2,830	-2,303
407+00	40700.00	100.00	2.61	4.88	9	29	536	2,866	-2,330
408+00	40800.00	100.00	1.69	2.71	8	14	544	2,884	-2,340
409+00	40900.00	100.00	1.65	6.78	6	18	550	2,906	-2,356
410+00	41000.00	100.00	2.15	5.06	7	22	557	2,934	-2,377
410+50	41050.00	50.00	2.47	11.50	4	15	561	2,953	-2,392
411+00	41100.00	50.00	1.28	9.88	3	20	564	2,978	-2,414
412+00	41200.00	100.00	2.59	8.87	7	35	571	3,021	-2,450
413+00	41300.00	100.00	1.82	11.49	8	38	579	3,069	-2,490
414+00	41400.00	100.00	1.47	5.74	6	32	585	3,109	-2,524
415+00	41500.00	100.00	0.95	12.35	4	34	589	3,151	-2,562
416+00	41600.00	100.00	0.88	15.18	3	51	592	3,215	-2,623
417+00	41700.00	100.00	1.38	11.07	4	49	596	3,276	-2,680
418+00	41800.00	100.00	1.33	7.90	5	35	601	3,320	-2,719
419+00	41900.00	100.00	1.19	10.63	5	34	606	3,363	-2,757
420+00	42000.00	100.00	1.73	12.16	5	42	611	3,415	-2,804
421+00	42100.00	100.00	0.66	19.42	4	58	615	3,488	-2,873
421+75	42175.00	75.00	0.69	32.72	2	72	617	3,578	-2,961
422+00	42200.00	25.00	0.56	26.64	1	27	618	3,611	-2,993
423+00	42300.00	100.00	1.07	9.36	3	67	621	3,695	-3,074
424+00	42400.00	100.00	1.33	9.51	4	35	625	3,739	-3,114
425+00	42500.00	100.00	0.77	7.98	4	32	629	3,779	-3,150
			COLUME TOTALS =		629	3,023			

NOTES:

1 - CUT	CUT DOES NOT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATED VOLUME
3-EXPANDED FILL	EXPANDED FILL = UNEXPANDED FILL * EXPANDED FILL FACTOR.
4-MASS ORDINATE	[CUT - (FILL * FILL FACTOR)]. PLUS QUANTIY INDICATATES AN EXCESS OF MATERIAL WITHIN THE DEVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

DIVISION -- USH 45 RL

STATION	REAL STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
			CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
							1.00	1.25	
					NOTE 1	NOTE 2	NOTE 1	NOTE 3	NOTE 4
437+00	43700.00	0.00	0.72	5.66	0	0	0	0	0
438+00	43800.00	100.00	1.18	6.51	4	23	4	29	-25
439+00	43900.00	100.00	0.72	9.59	4	30	8	66	-58
440+00	44000.00	100.00	0.23	11.30	2	39	10	115	-105
441+00	44100.00	100.00	0.48	8.03	1	36	11	160	-149
442+00	44200.00	100.00	0.00	10.40	1	34	12	203	-191
443+08.414	44308.41	108.41	0.48	1.71	1	24	13	233	-220
444+00	44400.00	91.59	0.71	5.84	2	13	15	249	-234
445+00	44500.00	100.00	0.31	9.19	2	28	17	284	-267
446+00	44600.00	100.00	1.08	2.97	3	23	20	313	-293
447+00	44700.00	100.00	0.39	7.80	3	20	23	338	-315
448+00	44800.00	100.00	0.86	5.05	2	24	25	368	-343
449+00	44900.00	100.00	0.80	5.27	3	19	28	391	-363
450+00	45000.00	100.00	0.52	1.95	2	13	30	408	-378
454+00	45400.00	400.00	1.65	0.44	16	18	46	430	-384
455+00	45500.00	100.00	1.12	0.47	5	2	51	433	-382
456+00	45600.00	100.00	0.45	1.13	3	3	54	436	-382
457+00	45700.00	100.00	1.02	6.16	3	14	57	454	-397
458+00	45800.00	100.00	0.68	2.98	3	17	60	475	-415
459+00	45900.00	100.00	0.90	1.73	3	9	63	486	-423
460+00	46000.00	100.00	0.79	1.80	3	7	66	495	-429
461+00	46100.00	100.00	0.49	3.00	2	9	68	506	-438
462+00	46200.00	100.00	1.14	1.00	3	7	71	515	-444
463+00	46300.00	100.00	0.75	0.42	3	3	74	519	-445
464+00	46400.00	100.00	1.05	0.24	3	1	77	520	-443
465+00	46500.00	100.00	1.20	2.08	4	4	81	525	-444
466+00	46600.00	100.00	1.88	0.36	6	5	87	531	-444
467+00	46700.00	100.00	0.85	1.72	5	4	92	536	-444
468+00	46800.00	100.00	0.86	0.25	3	4	95	541	-446
469+00	46900.00	100.00	0.71	1.01	3	2	98	544	-446
470+00	47000.00	100.00	0.98	1.23	3	4	101	549	-448
471+00	47100.00	100.00	1.16	0.70	4	4	105	554	-449
472+00	47200.00	100.00	0.98	5.21	4	11	109	568	-459
473+00	47300.00	100.00	1.05	3.33	4	16	113	588	-475
474+00	47400.00	100.00	0.62	3.24	3	12	116	603	-487
475+00	47500.00	100.00	1.10	3.01	3	12	119	618	-499
476+00	47600.00	100.00	1.17	0.23	4	6	123	625	-502
476+72.791	47672.79	72.79	0.27	1.35	2	2	125	628	-503
484+00	48400.00	727.21	0.55	7.69	11	122	136	780	-644
485+00	48500.00	100.00	1.07	4.24	3	22	139	808	-669
486+00	48600.00	100.00	1.08	3.83	4	15	143	826	-683
487+00	48700.00	100.00	0.74	3.60	3	14	146	844	-698
488+00	48800.00	100.00	1.34	3.12	4	12	150	859	-709
489+00	48900.00	100.00	0.83	5.07	4	15	154	878	-724
508+25	50825.00	1925.00	0.00	21.11	0	0	154	878	-724
508+64.738	50864.74	39.74	0.00	22.54	0	32	154	918	-764
509+00	50900.00	35.26	0.46	11.98	0	23	154	946	-792
				COLUME TOTALS =	154	757			

NOTES:

1 - CUT	CUT DOES NOT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATED VOLUME
3-EXPANDED FILL	EXPANDED FILL = UNEXPANDED FILL * EXPANDED FILL FACTOR.
4-MASS ORDINATE	[CUT - (FILL * FILL FACTOR)]. PLUS QUANTIY INDICATATES AN EXCESS OF MATERIAL WITHIN THE DEVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

DIVISION -- USH 45 RL

STATION	REAL STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
			CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
							1.00	1.25	
					NOTE 1	NOTE 2	NOTE 1	NOTE 3	NOTE 4
554+75	55475.00	0.00	0.00	9.77	0	0	0	0	0
555+00	55500.00	25.00	0.00	16.28	0	12	0	15	-15
556+00	55600.00	100.00	0.00	20.42	0	68	0	100	-100
556+50	55650.00	50.00	0.44	6.73	0	25	0	131	-131
557+00	55700.00	50.00	0.84	10.90	1	16	1	151	-150
558+00	55800.00	100.00	0.61	7.11	3	33	4	193	-189
559+00	55900.00	100.00	0.79	7.46	3	27	7	226	-219
560+00	56000.00	100.00	0.73	8.58	3	30	10	264	-254
561+00	56100.00	100.00	0.62	7.37	3	30	13	301	-288
562+00	56200.00	100.00	0.73	13.43	3	39	16	350	-334
563+00	56300.00	100.00	0.44	8.32	2	40	18	400	-382
564+00	56400.00	100.00	0.58	2.56	2	20	20	425	-405
565+00	56500.00	100.00	0.59	1.20	2	7	22	434	-412
566+00	56600.00	100.00	0.77	4.01	3	10	25	446	-421
567+00	56700.00	100.00	1.11	2.75	3	13	28	463	-435
568+00	56800.00	100.00	0.54	1.43	3	8	31	473	-442
569+00	56900.00	100.00	0.43	4.49	2	11	33	486	-453
570+00	57000.00	100.00	0.94	3.19	3	14	36	504	-468
571+00	57100.00	100.00	0.70	4.99	3	15	39	523	-484
572+00	57200.00	100.00	0.80	2.80	3	14	42	540	-498
572+57.78	57257.78	57.78	0.75	0.46	2	3	44	544	-500
575+16.96	57516.96	259.18	0.57	1.71	6	10	50	556	-506
576+00	57600.00	83.04	0.56	3.88	2	9	52	568	-516
577+00	57700.00	100.00	0.35	4.82	2	16	54	588	-534
578+00	57800.00	100.00	0.12	5.46	1	19	55	611	-556
579+00	57900.00	100.00	0.75	5.26	2	20	57	636	-579
580+00	58000.00	100.00	0.65	2.06	3	14	60	654	-594
581+00	58100.00	100.00	0.38	4.87	2	13	62	670	-608
582+00	58200.00	100.00	0.70	4.20	2	17	64	691	-627
583+00	58300.00	100.00	0.52	9.12	2	25	66	723	-657
584+00	58400.00	100.00	1.23	4.92	3	26	69	755	-686
585+00	58500.00	100.00	1.39	4.30	5	17	74	776	-702
586+00	58600.00	100.00	5.58	0.85	13	10	87	789	-702
587+00	58700.00	100.00	0.76	5.98	12	13	99	805	-706
588+00	58800.00	100.00	0.99	6.56	3	23	102	834	-732
589+00	58900.00	100.00	0.41	10.77	3	32	105	874	-769
590+00	59000.00	100.00	1.12	6.85	3	33	108	915	-807
591+00	59100.00	100.00	0.61	5.95	3	24	111	945	-834
591+99.967	59199.97	99.97	0.60	8.40	2	27	113	979	-866
593+00	59300.00	100.03	0.74	8.09	2	31	115	1,018	-903
594+00	59400.00	100.00	0.22	8.88	2	31	117	1,056	-939
595+00	59500.00	100.00	0.25	9.34	1	34	118	1,099	-981
595+35.987	59535.99	35.99	0.72	7.82	1	11	119	1,113	-994
596+00	59600.00	64.01	0.73	6.08	2	16	121	1,133	-1,012
597+00	59700.00	100.00	0.60	6.23	2	23	123	1,161	-1,038
597+15.05	59715.05	15.05	0.75	6.55	0	4	123	1,166	-1,043
598+00	59800.00	84.95	0.58	8.32	2	23	125	1,195	-1,070

DIVISION -- USH 45 RL

STATION	REAL STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
			CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
							1.00	1.25	
					NOTE 1	NOTE 2	NOTE 1	NOTE 3	NOTE 4
599+12.593	59912.59	112.59	0.02	14.44	1	47	126	1,254	-1,128
600+00	60000.00	87.41	0.84	10.60	1	41	127	1,305	-1,178
600+16.16	60016.16	16.16	0.63	7.05	0	5	127	1,311	-1,184
601+00	60100.00	83.84	0.38	5.61	2	20	129	1,336	-1,207
602+00	60200.00	100.00	0.61	2.68	2	15	131	1,355	-1,224
602+50	60250.00	50.00	0.49	4.22	1	6	132	1,363	-1,231
606+00	60600.00	350.00	1.13	5.41	11	62	143	1,440	-1,297
607+00	60700.00	100.00	0.95	1.81	4	13	147	1,456	-1,309
608+00	60800.00	100.00	0.45	6.36	3	15	150	1,475	-1,325
609+00	60900.00	100.00	0.43	4.64	2	20	152	1,500	-1,348
610+00	61000.00	100.00	2.29	0.00	5	9	157	1,511	-1,354
611+04.784	61104.78	104.78	0.59	3.77	6	7	163	1,520	-1,357
612+00	61200.00	95.22	11.11	0.61	21	8	184	1,530	-1,346
613+00	61300.00	100.00	0.97	7.61	22	15	206	1,549	-1,343
630+44.552	63044.55	1744.55	0.00	18.65	0	0	206	1,549	-1,343
631+00	63100.00	55.45	0.00	22.36	0	42	206	1,601	-1,395
632+00	63200.00	100.00	1.08	10.46	2	61	208	1,678	-1,470
633+00	63300.00	100.00	0.83	4.19	4	27	212	1,711	-1,499
634+00	63400.00	100.00	2.90	2.85	7	13	219	1,728	-1,509
635+00	63500.00	100.00	0.75	3.37	7	12	226	1,743	-1,517
636+00	63600.00	100.00	1.40	6.44	4	18	230	1,765	-1,535
637+00	63700.00	100.00	1.95	2.17	6	16	236	1,785	-1,549
637+25.041	63725.04	25.04	1.32	2.14	2	2	238	1,788	-1,550
640+25	64025.00	299.96	1.66	0.18	17	13	255	1,804	-1,549
641+00	64100.00	75.00	1.33	1.91	4	3	259	1,808	-1,549
642+00	64200.00	100.00	1.03	4.13	4	11	263	1,821	-1,558
643+00	64300.00	100.00	1.03	3.58	4	14	267	1,839	-1,572
644+00	64400.00	100.00	0.87	9.21	4	24	271	1,869	-1,598
644+96.263	64496.26	96.26	0.56	11.69	3	37	274	1,915	-1,641
648+00	64800.00	303.74	1.18	4.10	10	89	284	2,026	-1,742
649+00	64900.00	100.00	0.97	5.20	4	17	288	2,048	-1,760
650+00	65000.00	100.00	1.06	5.61	4	20	292	2,073	-1,781
651+00	65100.00	100.00	0.65	7.69	3	25	295	2,104	-1,809
652+00	65200.00	100.00	2.41	0.63	6	15	301	2,123	-1,822
653+00	65300.00	100.00	0.63	4.71	6	10	307	2,135	-1,828
654+00	65400.00	100.00	0.74	1.52	3	12	310	2,150	-1,840
655+00	65500.00	100.00	2.43	0.03	6	3	316	2,154	-1,838
656+00	65600.00	100.00	3.08	0.00	10	0	326	2,154	-1,828
657+00.15	65700.15	100.15	1.02	1.52	8	3	334	2,158	-1,824
658+00	65800.00	99.85	0.85	1.76	3	6	337	2,165	-1,828
659+00	65900.00	100.00	1.55	0.13	4	4	341	2,170	-1,829
660+00	66000.00	100.00	0.91	1.85	5	4	346	2,175	-1,829
661+00	66100.00	100.00	0.70	12.48	3	27	349	2,209	-1,860
661+30.85	66130.85	30.85	0.82	15.67	1	16	350	2,229	-1,879
662+00	66200.00	69.15	1.85	17.99	3	43	353	2,283	-1,930
		COLUME TOTALS =			353	1,826			

NOTES:

1 - CUT — CUT DOES NOT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL

2 - FILL — DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATED VOLUME

3-EXPANDED FILL — EXPANDED FILL = UNEXPANDED FILL * EXPANDED FILL FACTOR.

4-MASS ORDINATE — [CUT - (FILL * FILL FACTOR)]. PLUS QUANTIY INDICATATES AN EXCESS OF MATERIAL WITHIN THE DEVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

SOUTH CROSSOVER CONSTRUCTION

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.00	EXPANDED FILL 1.20	MASS ORDINATE
85+00		22	0	0	0	0	0	0	0	0
85+50	50	22	0	0	41	0	0	41	0	41
86+00	50	23	0	0	42	0	0	82	0	82
86+50	50	22	0	0	42	0	0	124	0	124
87+00	50	23	0	0	42	0	0	166	0	166
87+50	50	24	0	0	44	0	0	209	0	209
88+00	50	26	0	0	46	0	0	256	0	256
88+50	50	27	0	0	49	0	0	305	0	305
89+00	50	31	0	1	54	0	1	358	1	357
89+50	50	34	0	1	60	0	2	419	3	415
90+00	50	35	0	2	64	0	3	482	7	476
90+50	50	36	0	2	66	0	4	548	11	537
91+00	50	28	0	1	59	0	3	607	14	593
91+50	50	31	0	0	55	0	1	662	16	646
92+00	50	36	0	1	62	0	1	724	17	707
92+50	50	32	0	2	63	0	3	787	20	767
93+00	50	39	0	0	66	0	2	853	22	831
93+50	50	40	0	0	73	0	0	926	22	904
94+00	50	30	0	1	65	0	1	991	23	968
94+50	50	24	0	0	50	0	1	1041	24	1016
95+00	50	26	0	1	46	0	1	1087	25	1062
95+50	50	35	0	3	56	0	4	1144	30	1114
96+00	50	31	0	4	61	0	6	1205	38	1167
96+50	50	29	0	4	56	0	7	1260	47	1214
97+00	50	28	0	1	53	0	5	1313	52	1261
97+50	50	28	0	0	52	0	1	1365	53	1312
98+00	50	27	0	0	51	0	0	1416	53	1363
98+50	50	26	0	0	49	0	0	1465	53	1412
99+00	50	25	0	0	47	0	0	1512	53	1459
99+50	50	25	0	0	46	0	0	1558	53	1505
100+00	50	23	0	0	44	0	0	1603	53	1550
					1603	0	44			

NORTH CROSSOVER CONSTRUCTION

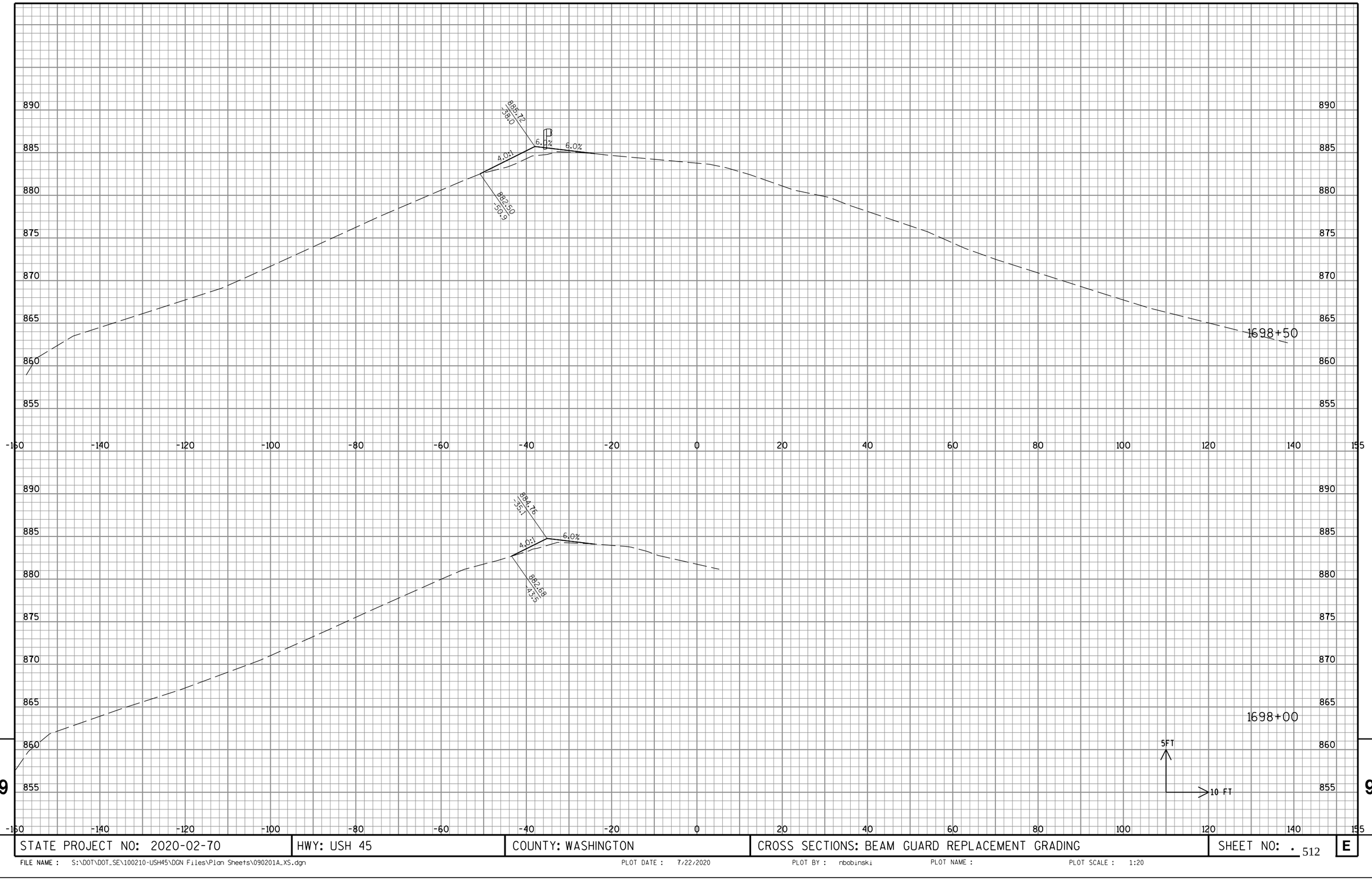
STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.00	EXPANDED FILL 1.20	MASS ORDINATE
59+00		26.0	0.0	0.0	0	0	0	0	0	0
59+50	50	27.0	0.0	0.0	49	0	0	49	0	49
60+00	50	27.0	0.0	0.0	50	0	0	99	0	99
60+50	50	27.0	0.0	1.0	50	0	1	149	1	148
61+00	50	28.0	0.0	4.0	51	0	5	200	7	193
61+50	50	30.0	0.0	4.0	54	0	7	254	16	238
62+00	50	29.0	0.0	9.0	55	0	12	308	30	278
62+50	50	27.0	0.0	11.0	52	0	19	360	52	308
63+00	50	27.0	0.0	14.0	50	0	23	410	80	330
63+50	50	26.0	0.0	10.0	49	0	22	459	107	353
64+00	50	28.0	0.0	4.0	50	0	13	509	122	387
64+50	50	37.0	0.0	1.0	60	0	5	569	128	442
65+00	50	40.0	0.0	0.0	71	0	1	641	129	512
65+50	50	37.0	0.0	0.0	71	0	0	712	129	583
66+00	50	39.0	0.0	0.0	70	0	0	782	129	654
66+50	50	37.0	0.0	0.0	70	0	0	853	129	724
67+00	50	40.0	0.0	0.0	71	0	0	924	129	795
67+50	50	35.0	0.0	0.0	69	0	0	994	129	865
68+00	50	48.0	0.0	0.0	77	0	0	1070	129	941
68+50	50	43.0	0.0	0.0	84	0	0	1155	129	1026
69+00	50	37.0	0.0	1.0	74	0	1	1229	130	1099
69+50	50	32.0	0.0	2.0	64	0	3	1293	133	1159
70+00	50	30.0	0.0	0.0	57	0	2	1350	136	1214
70+50	50	28.0	0.0	0.0	54	0	0	1404	136	1268
71+00	50	25.0	0.0	0.0	49	0	0	1453	136	1317
71+50	50	25.0	0.0	0.0	46	0	0	1499	136	1364
72+00	50	25.0	0.0	0.0	46	0	0	1545	136	1410
72+50	50	24.0	0.0	0.0	45	0	0	1591	136	1455
73+00	50	21.0	0.0	0.0	42	0	0	1632	136	1497
					1632	0	113			

SOUTH CROSSOVER REMOVAL

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.00	EXPANDED FILL 1.20	MASS ORDINATE
88+00		3.0	0.0	1.0	0	0	0	0	0	0
88+50	50	5.0	0.0	0.0	7	0	1	7	1	6
89+00	50	9.0	0.0	0.0	13	0	0	20	1	19
89+50	50	13.0	0.0	0.0	20	0	0	41	1	40
90+00	50	19.0	0.0	0.0	30	0	0	70	1	69
90+50	50	25.0	0.0	0.0	41	0	0	111	1	110
91+00	50	29.0	0.0	0.0	50	0	0	161	1	160
91+50	50	30.0	0.0	0.0	55	0	0	216	1	215
92+00	50	29.0	0.0	0.0	55	0	0	270	1	269
92+50	50	34.0	0.0	0.0	58	0	0	329	1	328
93+00	50	31.0	0.0	0.0	60	0	0	389	1	388
93+50	50	27.0	0.0	0.0	54	0	0	443	1	441
94+00	50	28.0	0.0	0.0	51	0	0	494	1	492
94+50	50	27.0	0.0	0.0	51	0	0	544	1	543
95+00	50	28.0	0.0	0.0	51	0	0	595	1	594
95+50	50	28.0	0.0	0.0	52	0	0	647	1	646
96+00	50	24.0	0.0	0.0	48	0	0	695	1	694
96+50	50	19.0	0.0	0.0	40	0	0	735	1	734
97+00	50	13.0	0.0	0.0	30	0	0	765	1	764
97+50	50	9.0	0.0	0.0	20	0	0	785	1	784
98+00	50	7.0	0.0	0.0	15	0	0	800	1	799
98+50	50	1.0	0.0	0.0	7	0	0	807	1	806
99+00	50	0.0	0.0	0.0	1	0	0	808	1	807
99+50	50	0.0	0.0	0.0	0	0	0	808	1	807
100+00	50	0.0	0.0	0.0	0	0	0	808	1	807
					808	0	1			

NORTH CROSSOVER REMOVAL

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.00	EXPANDED FILL 1.20	MASS ORDINATE
60+00		3.0	0.0	0.0	0	0	0	0	0	0
60+50	50	5.0	0.0	0.0	7	0	0	7	0	7
61+00	50	7.0	0.0	0.0	11	0	0	19	0	19
61+50	50	10.0	0.0	0.0	16	0	0	34	0	34
62+00	50	13.0	0.0	0.0	21	0	0	56	0	56
62+50	50	19.0	0.0	0.0	30	0	0	85	0	85
63+00	50	36.0	0.0	0.0	51	0	0	136	0	136
63+50	50	29.0	0.0	0.0	60	0	0	196	0	196
64+00	50	32.0	0.0	0.0	56	0	0	253	0	253
64+50	50	32.0	0.0	0.0	59	0	0	312	0	312
65+00	50	31.0	0.0	0.0	58	0	0	370	0	370
65+50	50	35.0	0.0	0.0	61	0	0	431	0	431
66+00	50	37.0	0.0	0.0	67	0	0	498	0	498
66+50	50	32.0	0.0	0.0	64	0	0	562	0	562
67+00	50	24.0	0.0	0.0	52	0	0	614	0	614
67+50	50	21.0	0.0	0.0	42	0	0	656	0	656
68+00	50	20.0	0.0	0.0	38	0	0	694	0	694
68+50	50	18.0	0.0	0.0	35	0	0	729	0	729
69+00	50	16.0	0.0	1.0	31	0	1	760	1	759
69+50	50	13.0	0.0	1.0	27	0	2	787	3	784
70+00	50	10.0	0.0	0.0	21	0	1	808	4	804
70+50	50	3.0	0.0	0.0	12	0	0	820	4	816
71+00	50	1.0	0.0	0.0	4	0	0	824	4	820
					824	0	4			

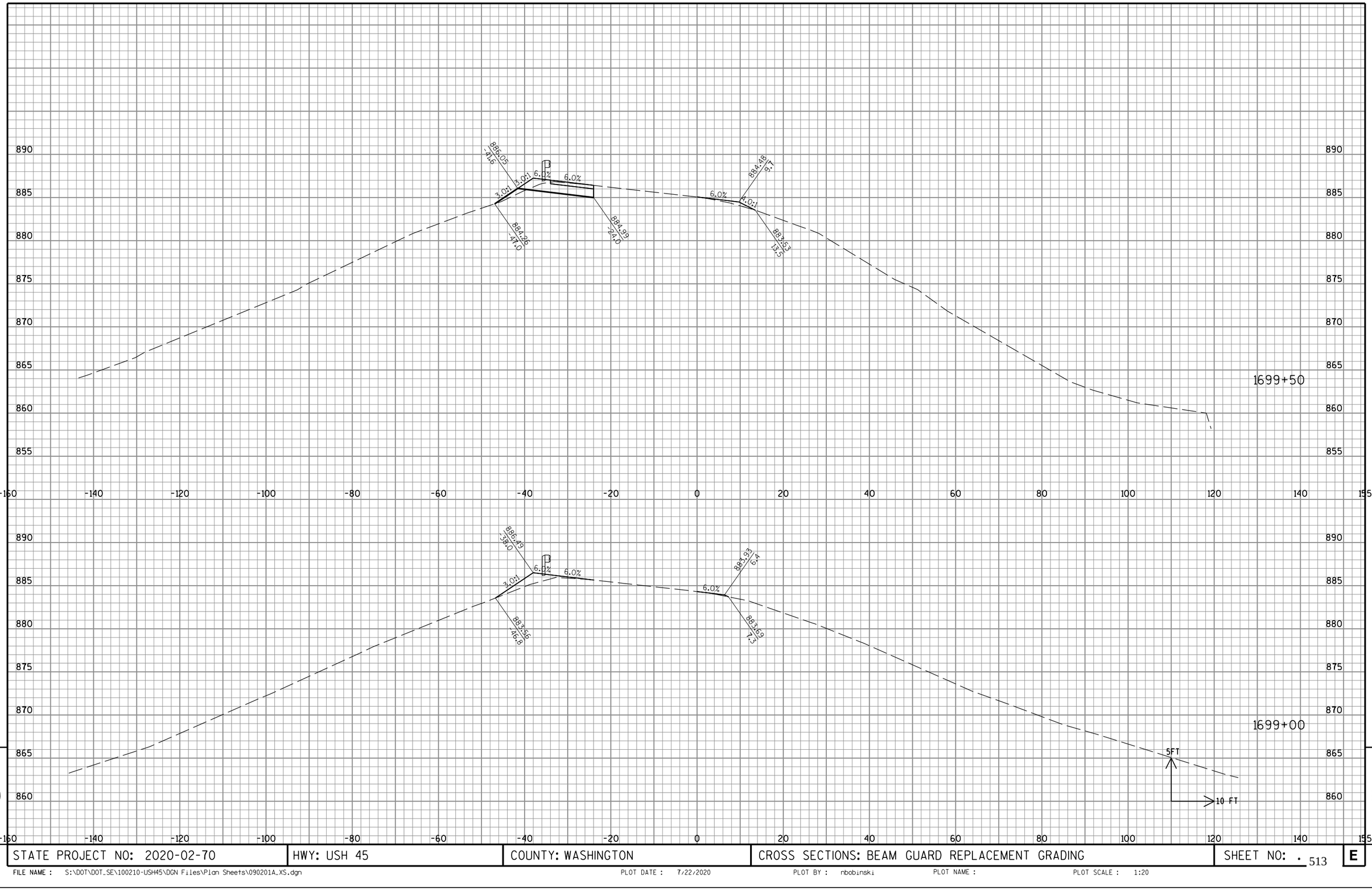


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 512	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090201A_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

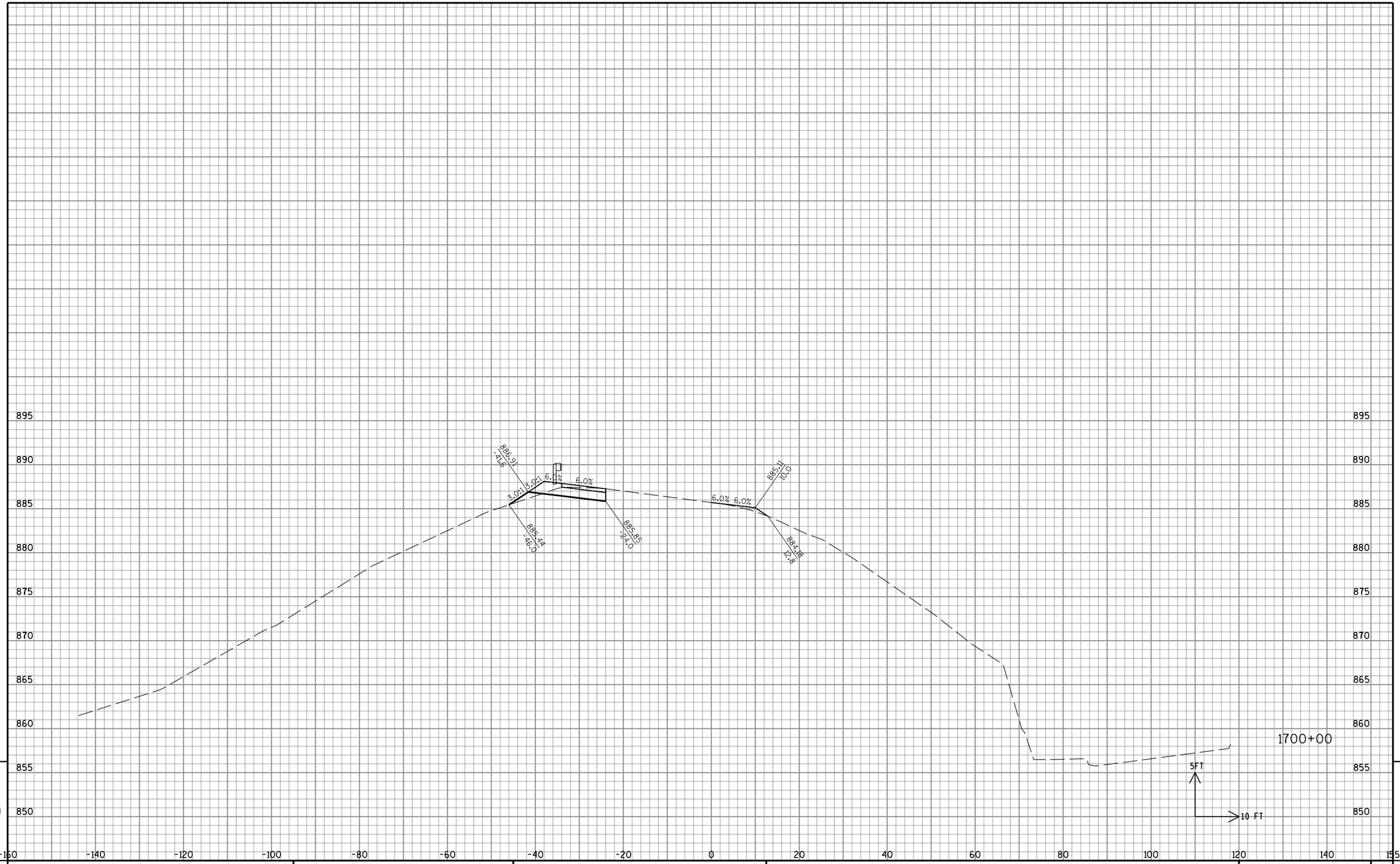


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 513	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090201A_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

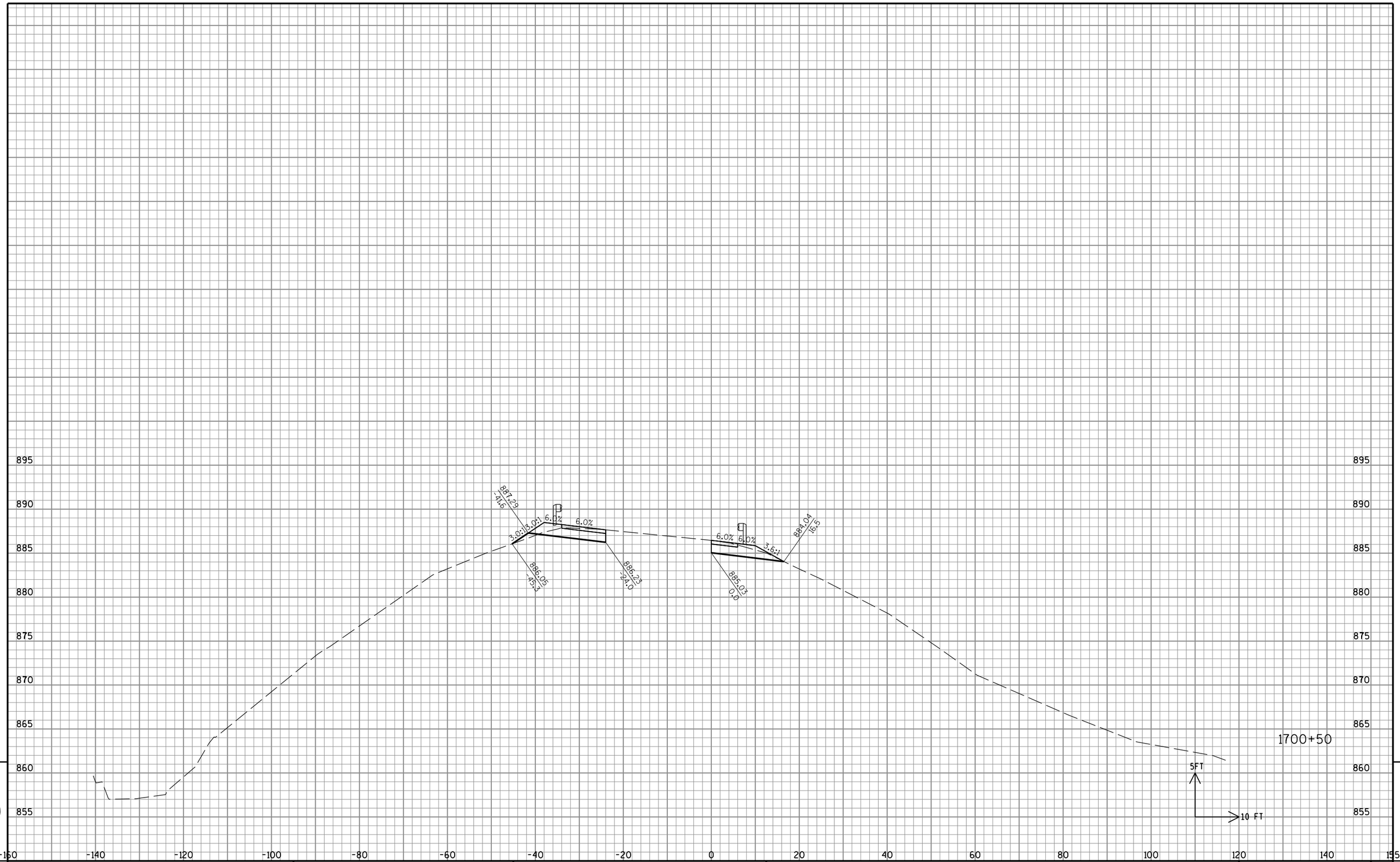


9

9

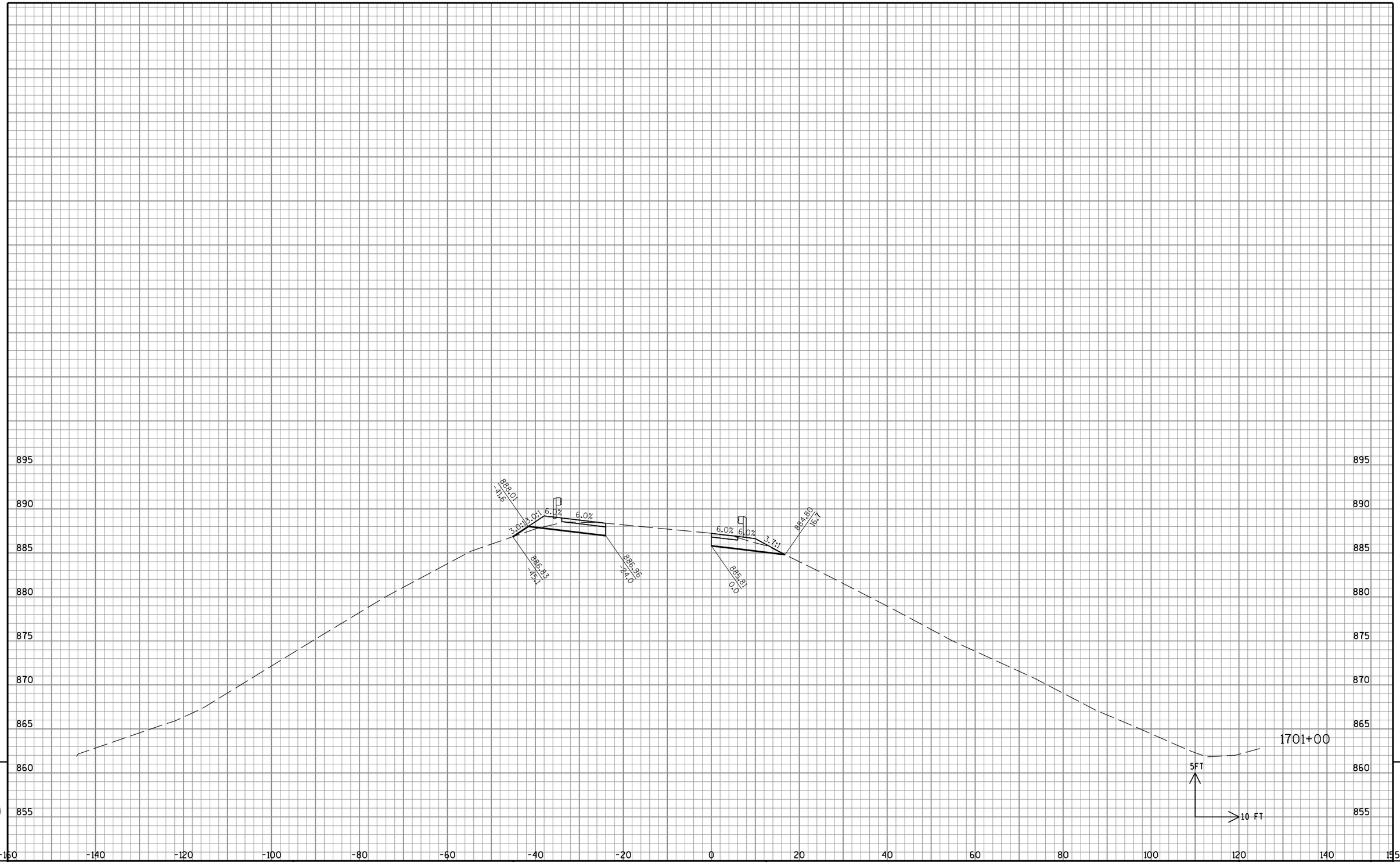
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 514	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090201A_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 515	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090201A_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

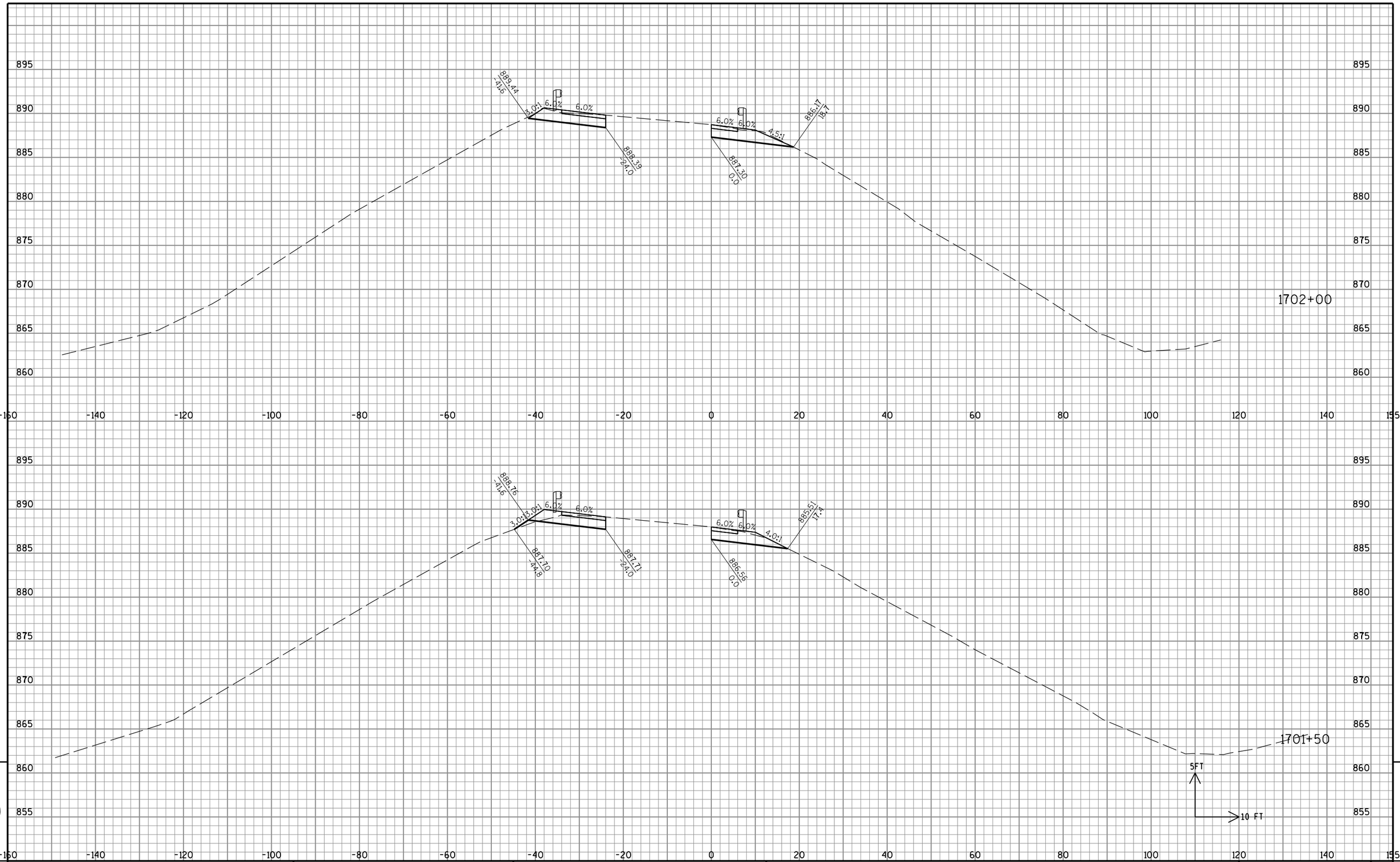


9

9

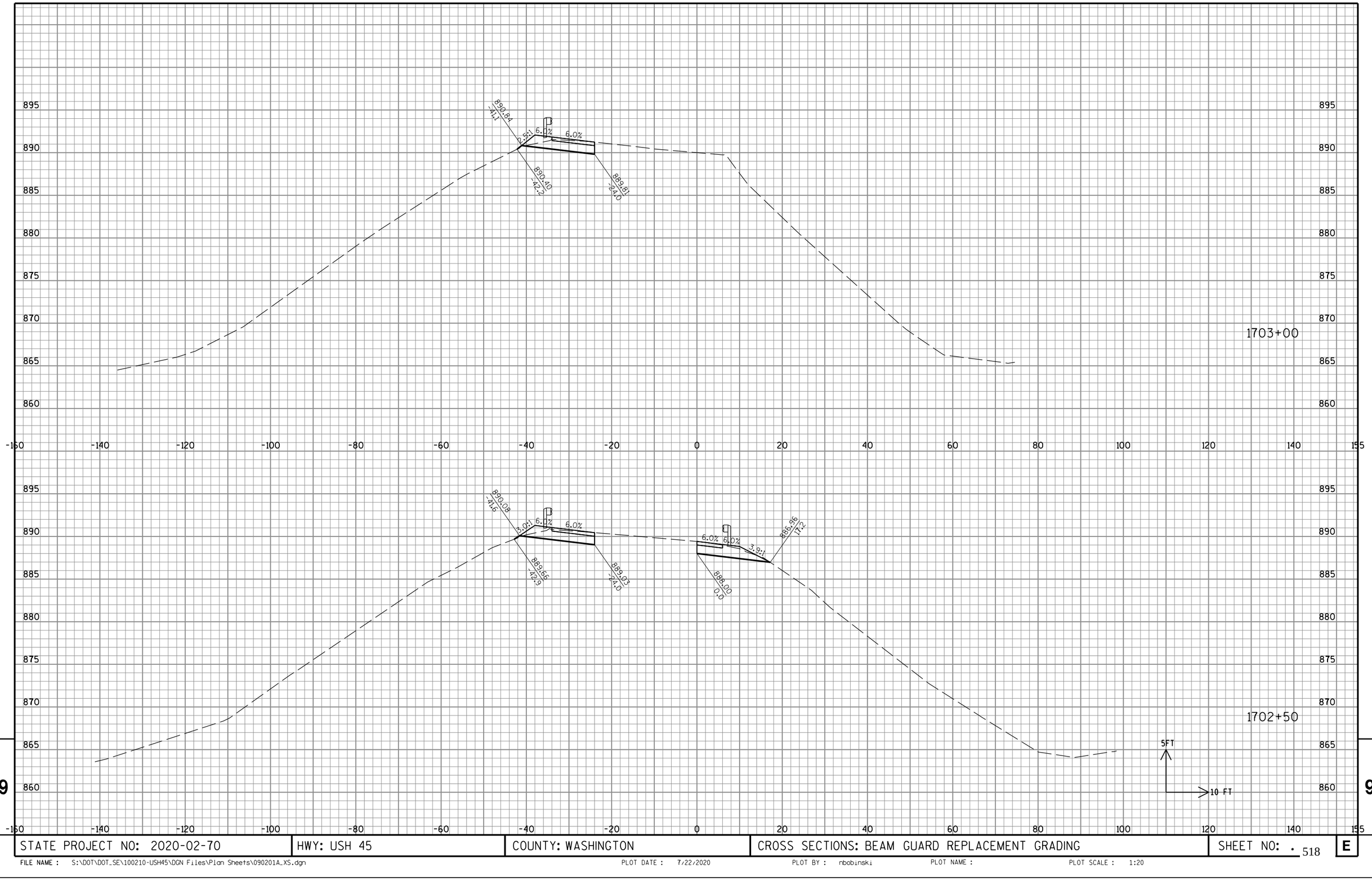
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 516	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090201A_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



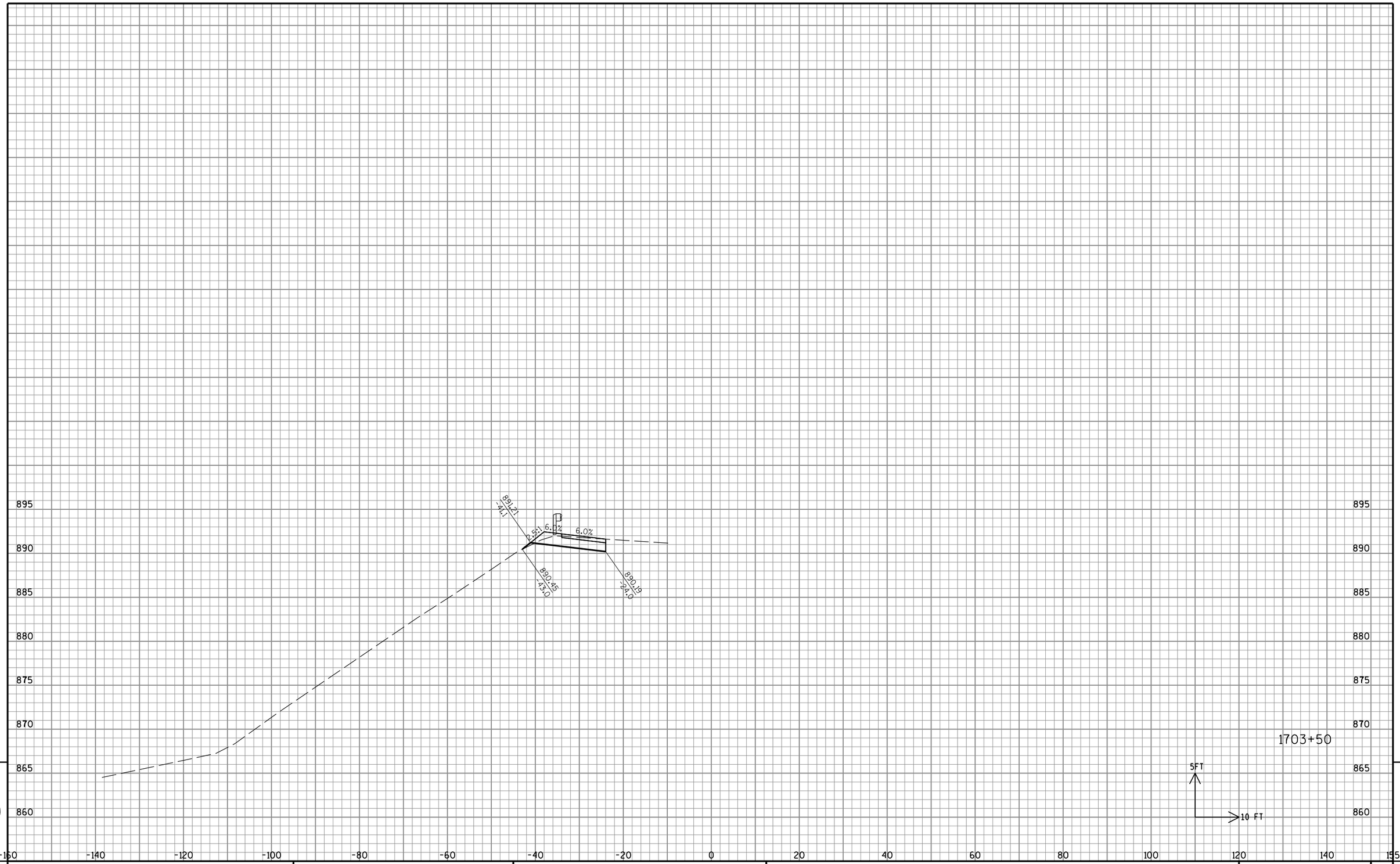
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 517 E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090201A_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 518	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090201A_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

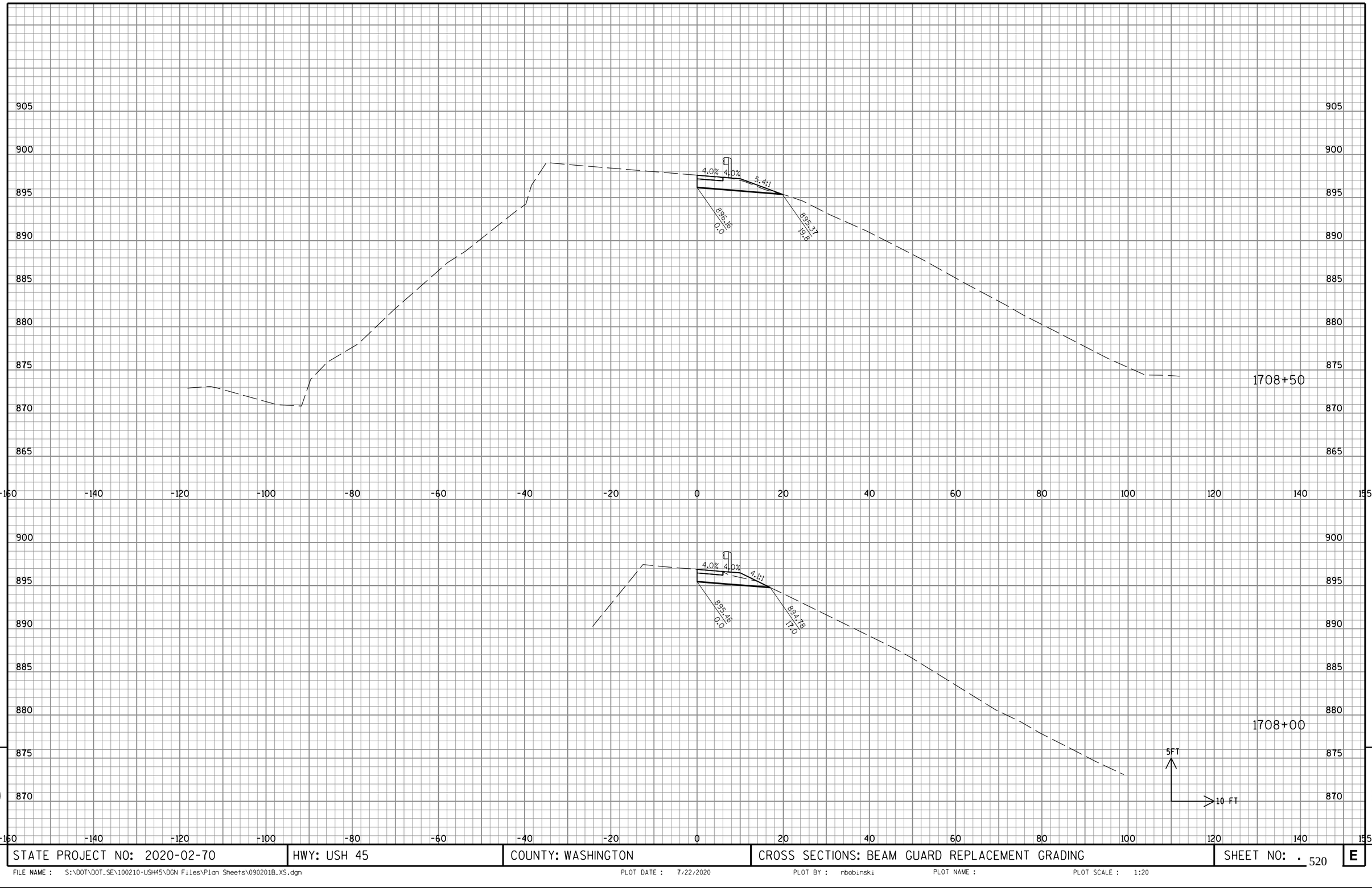


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 519	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090201A_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

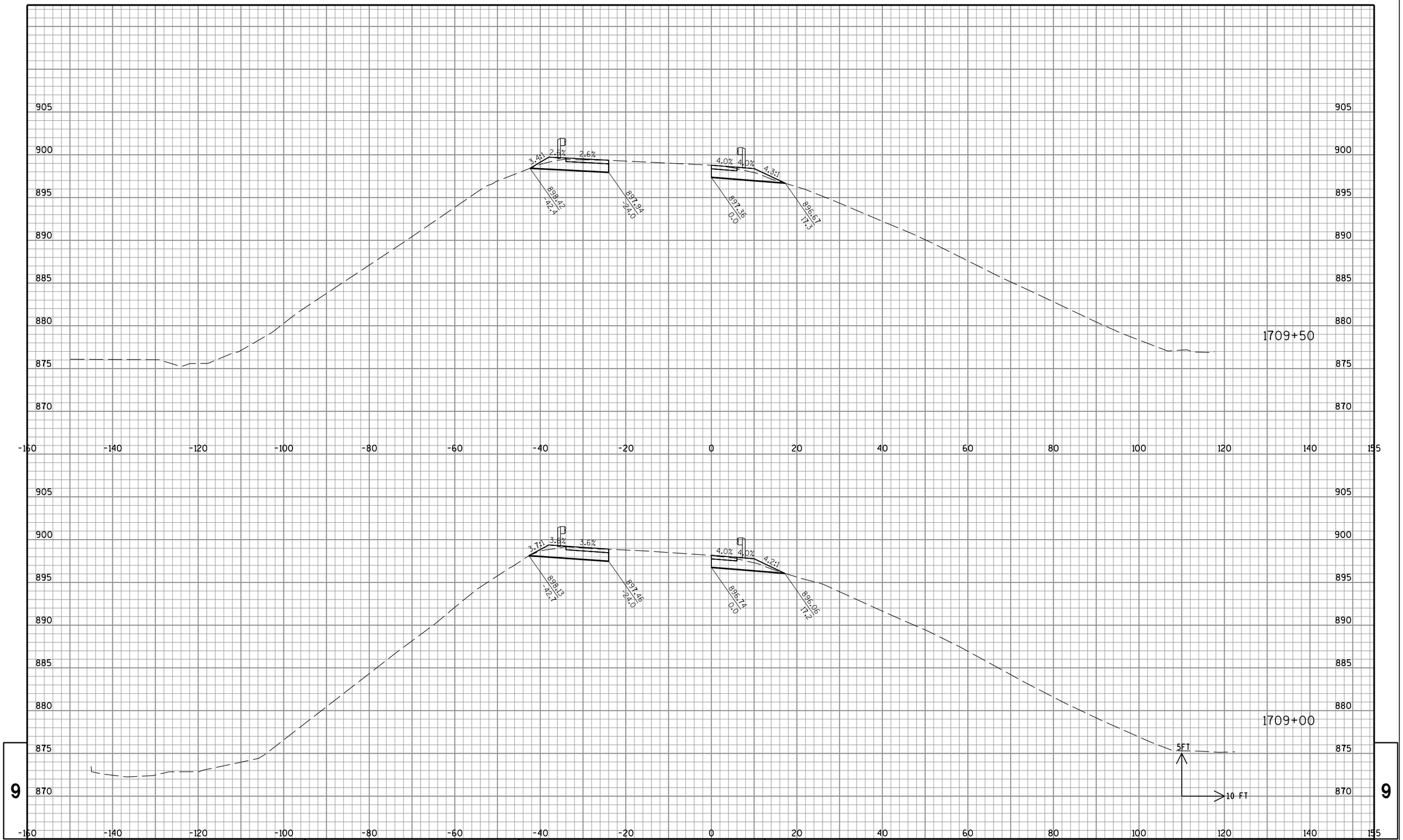


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 520	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090201B_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

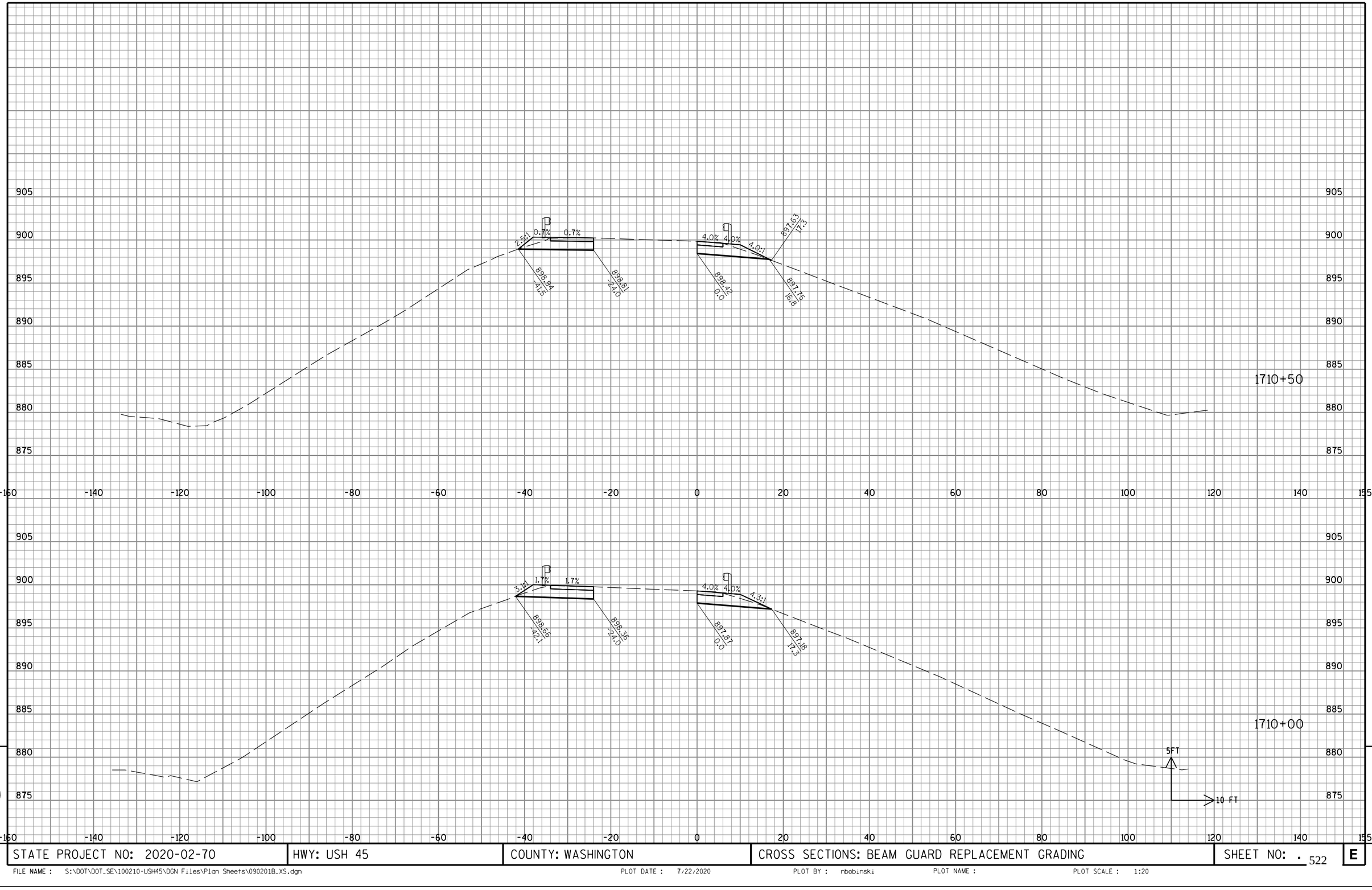


9

9

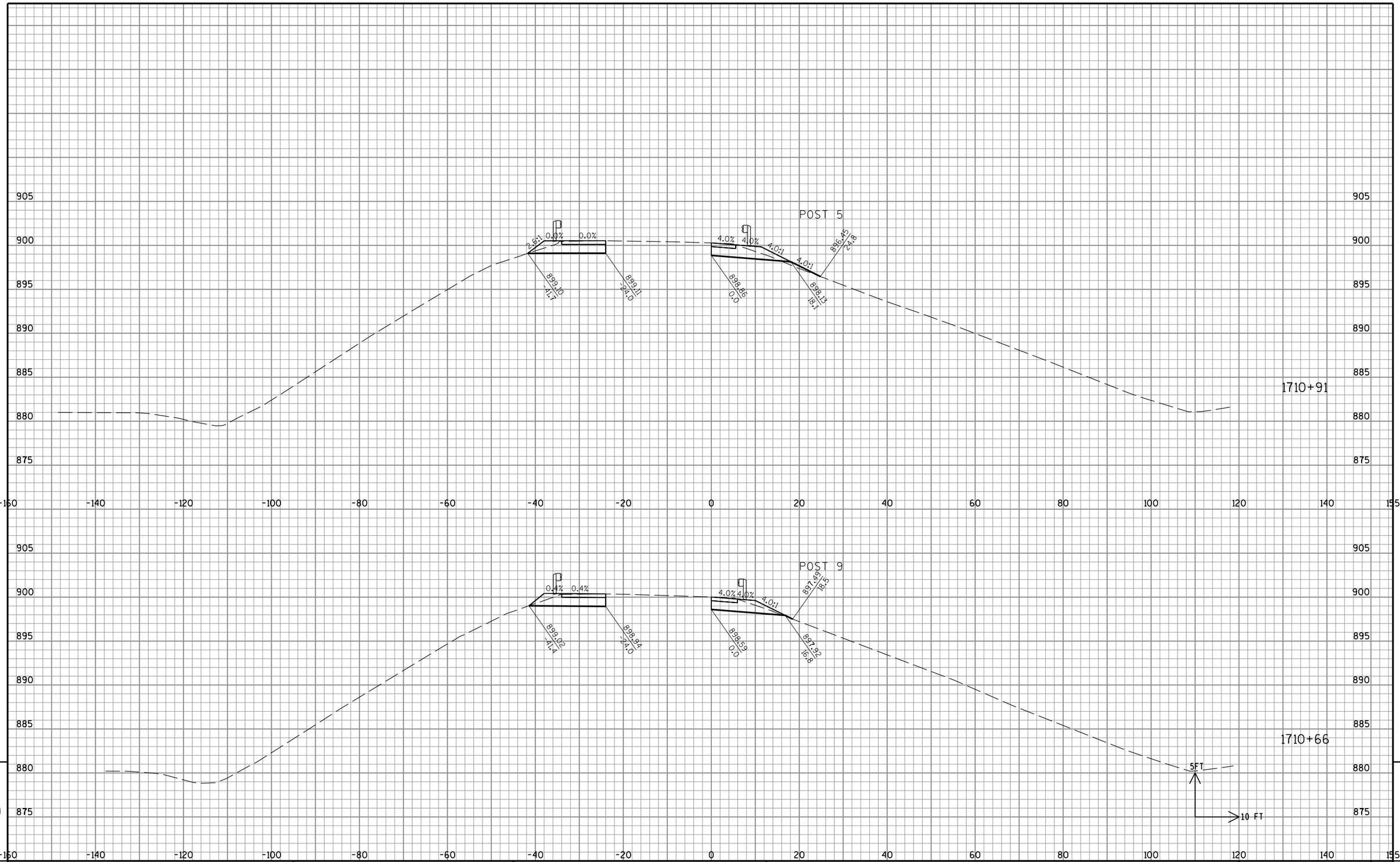
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 521	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090201B_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



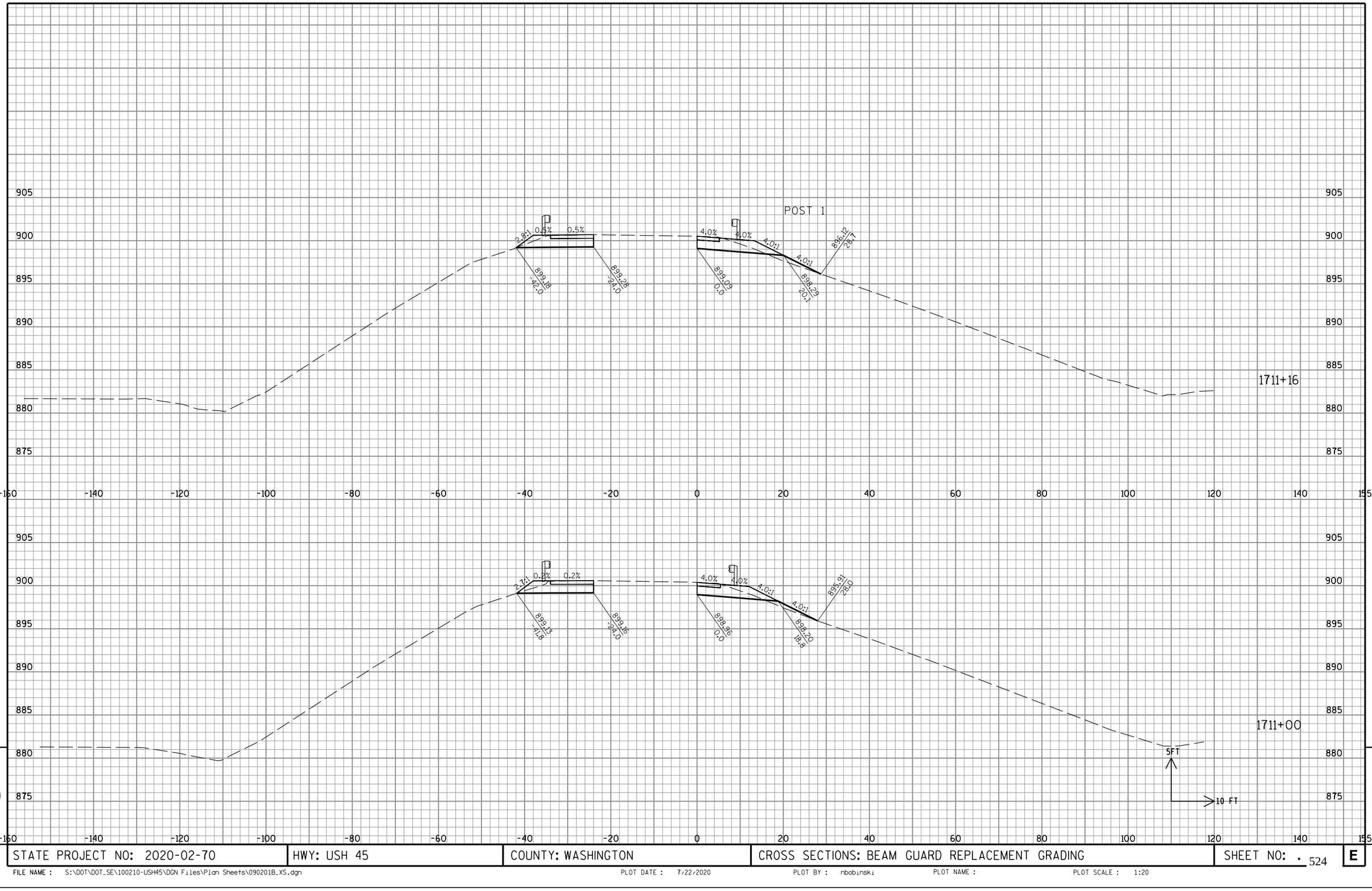
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 522	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090201B_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



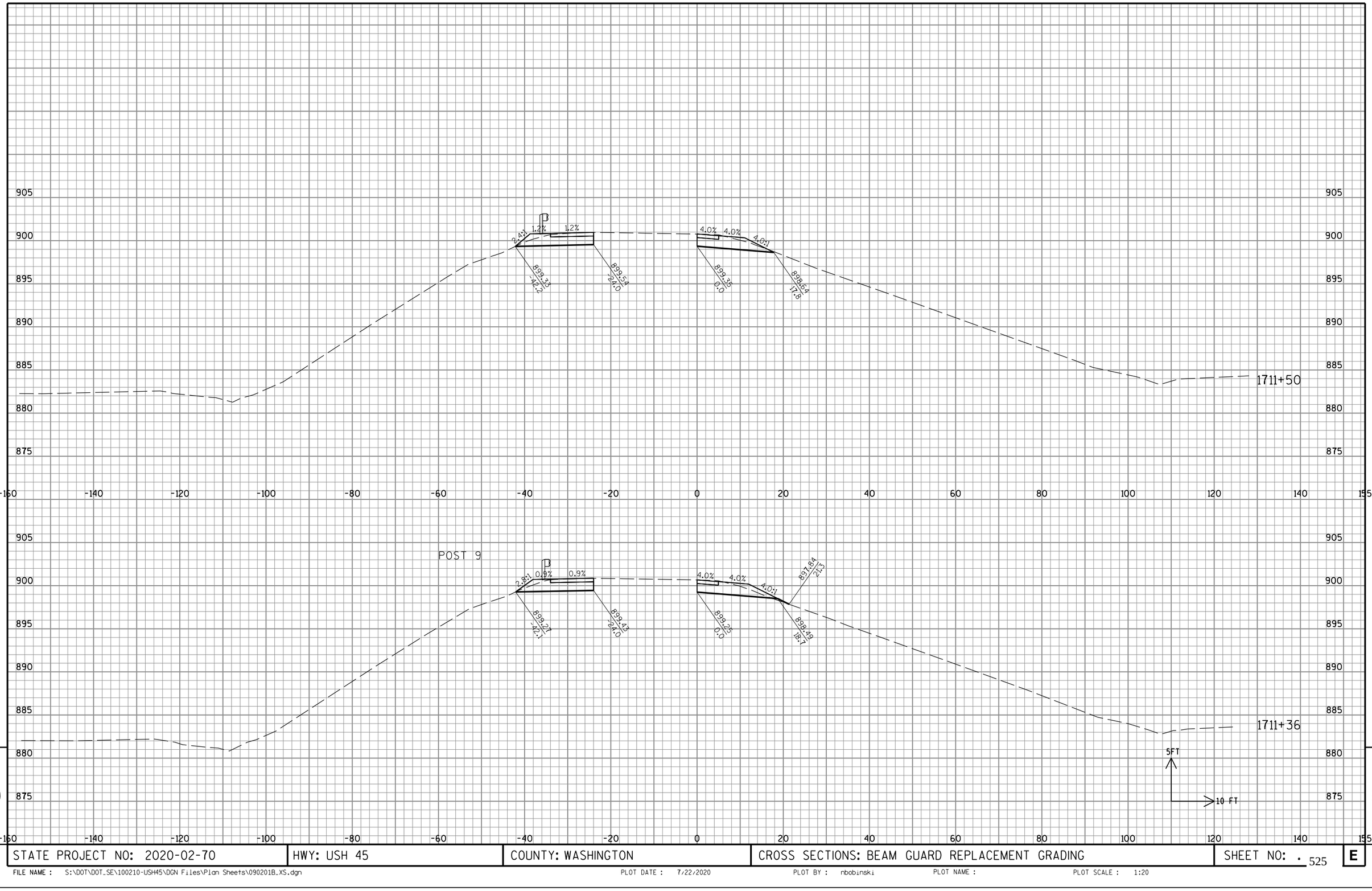
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 523	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090201B_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



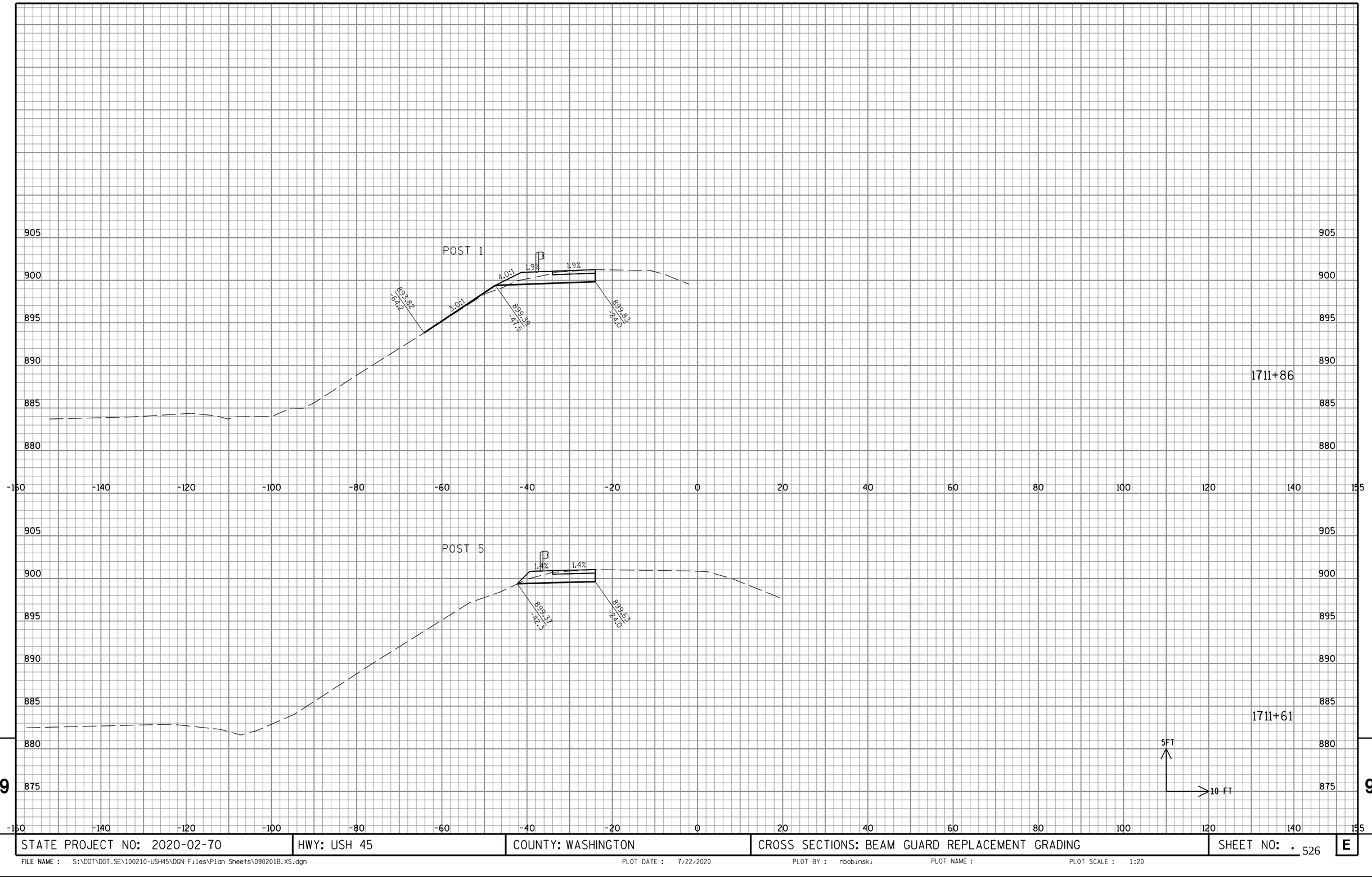
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 524 E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090201B_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 525	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090201B_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

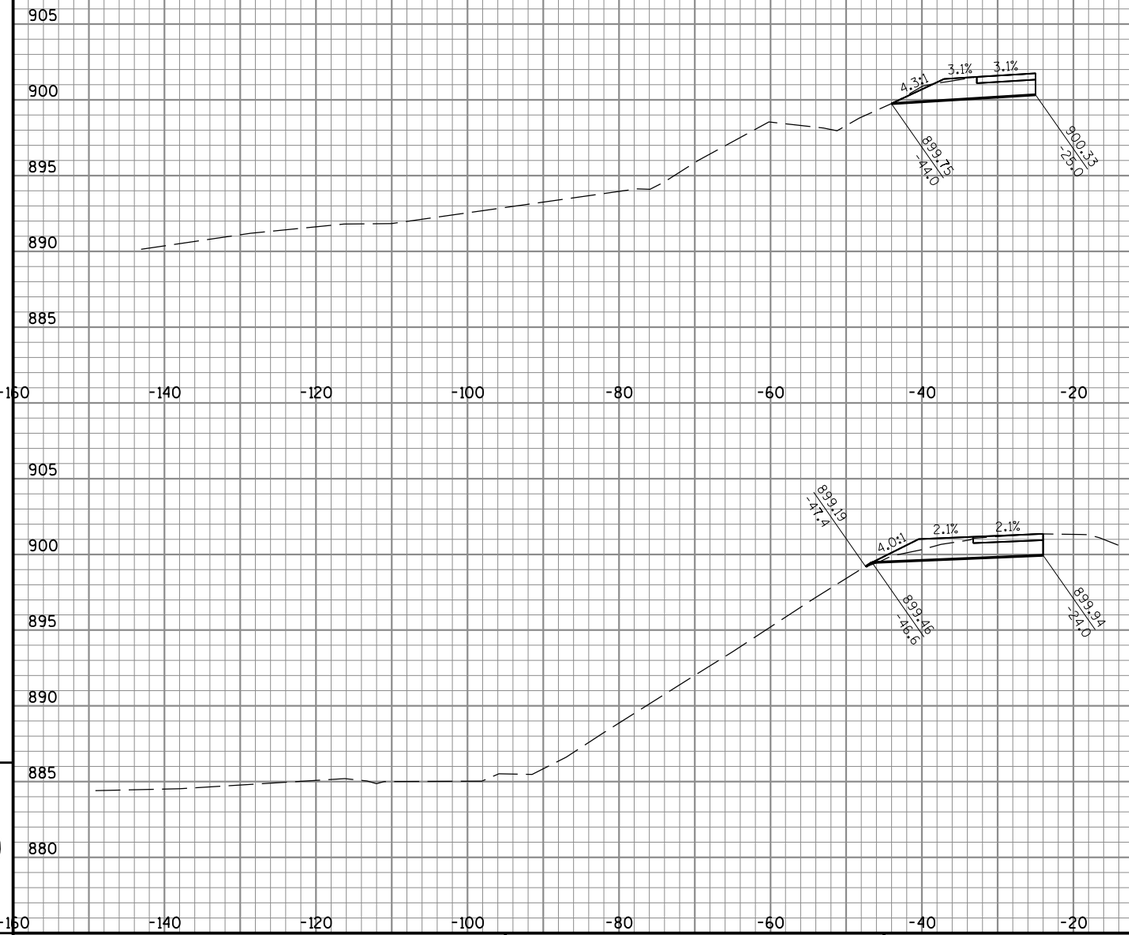


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 526	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090201B_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

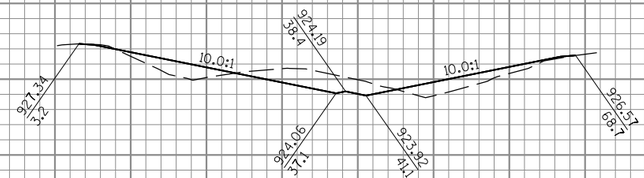


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 527	E

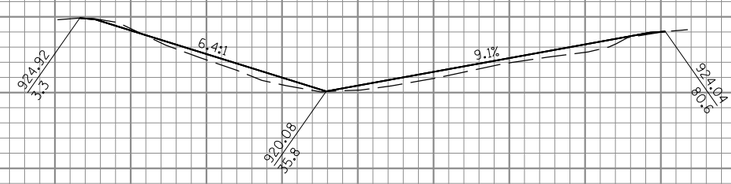
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090201B_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



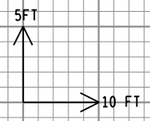
1740+00

1739+50

1739+00



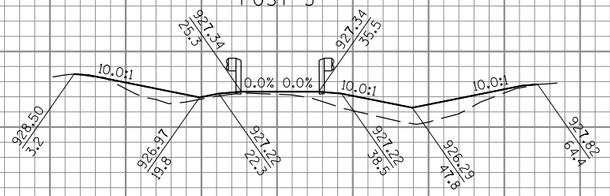
1738+50



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 528	E

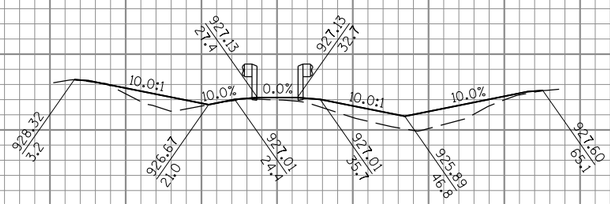
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090201C_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

POST 5

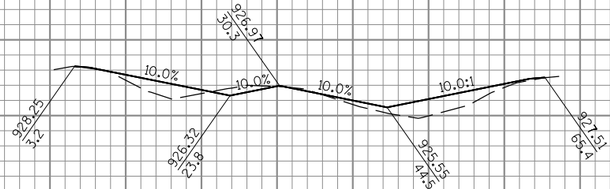


1740+67

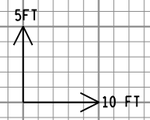
POST 1



1740+55

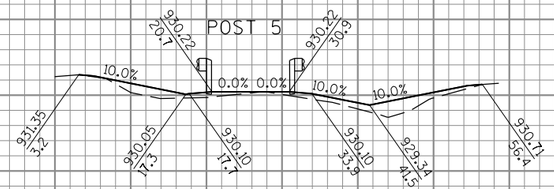


1740+50

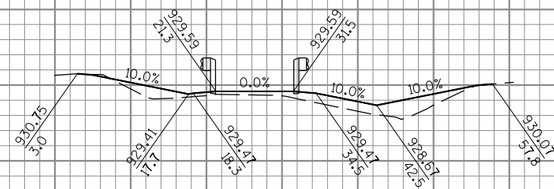


STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 529	E

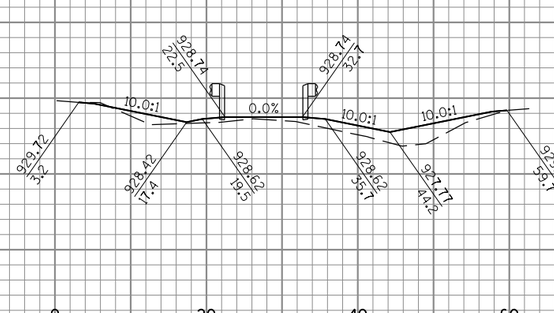
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090201C_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



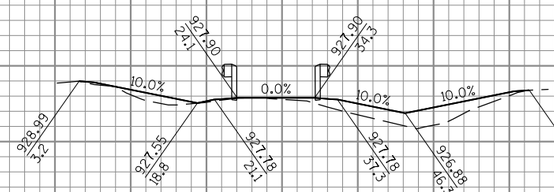
1742+37



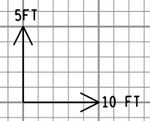
1742+00



1741+50



1741+00

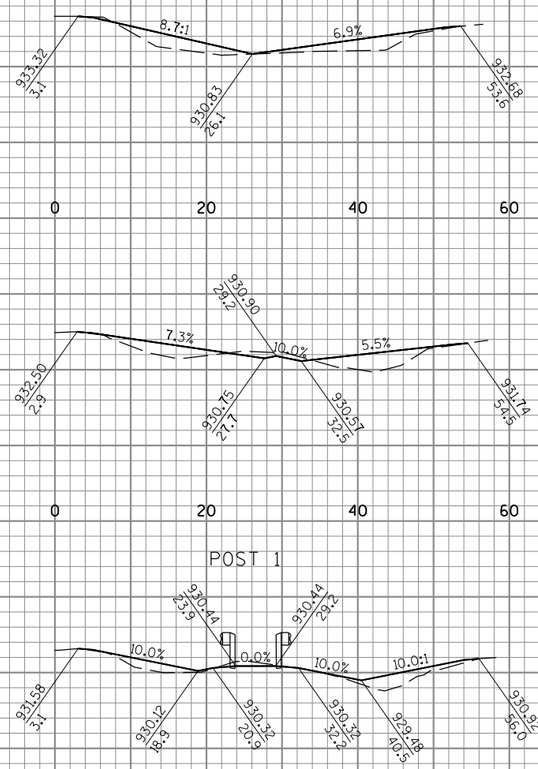


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 530	E

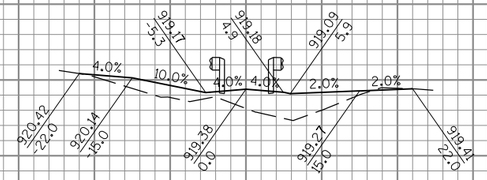
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090201C_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



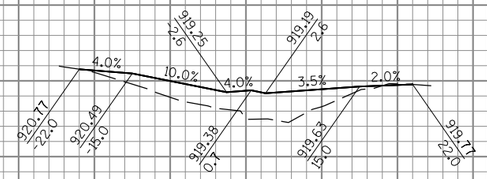
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 531	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090201C_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

POST 1

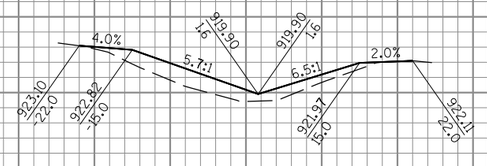


128+15

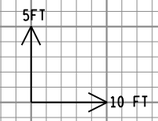


128+00

127+50



127+00

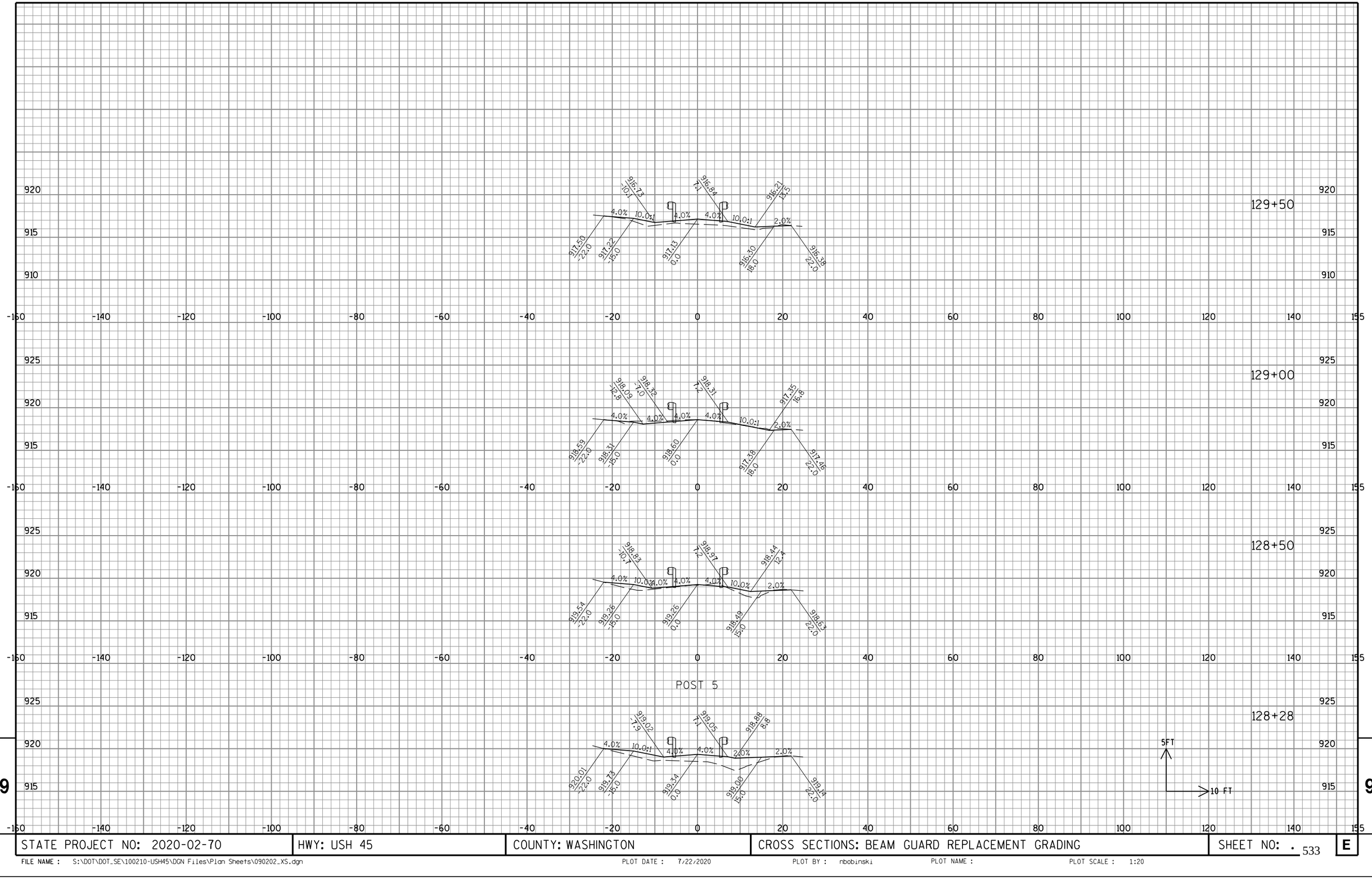


9

9

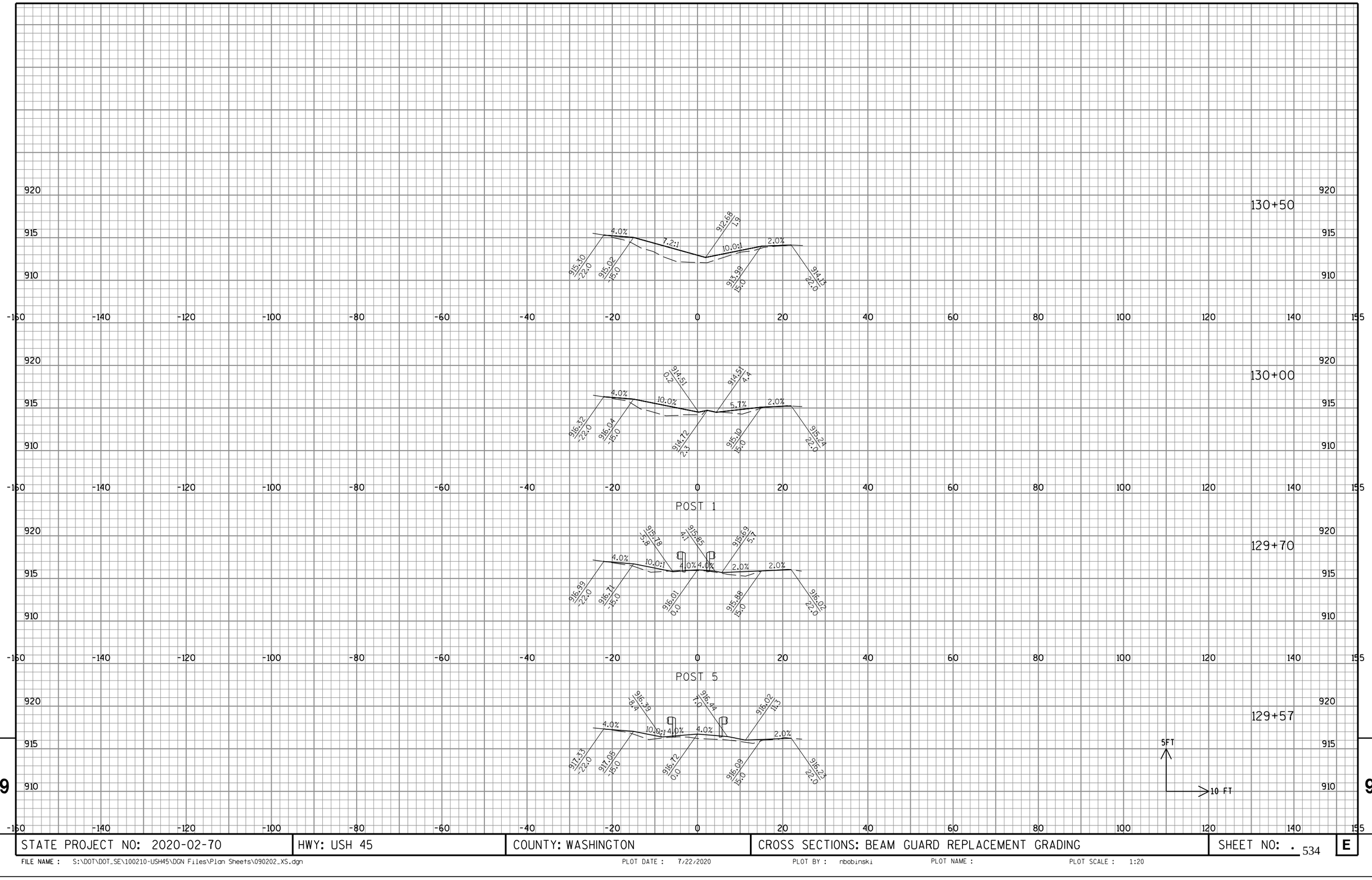
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 532	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090202_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 533	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090202_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

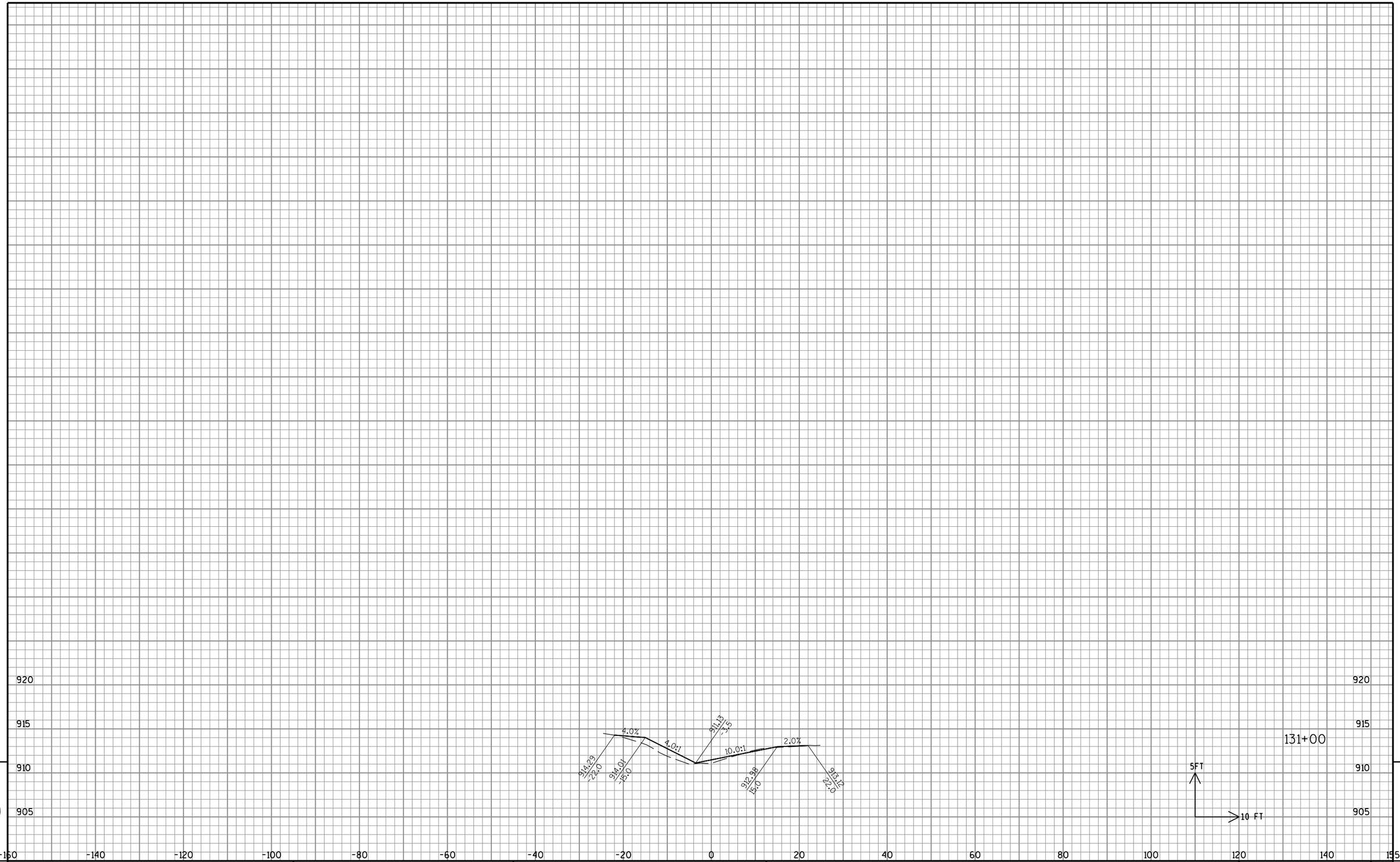


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 534	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090202_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

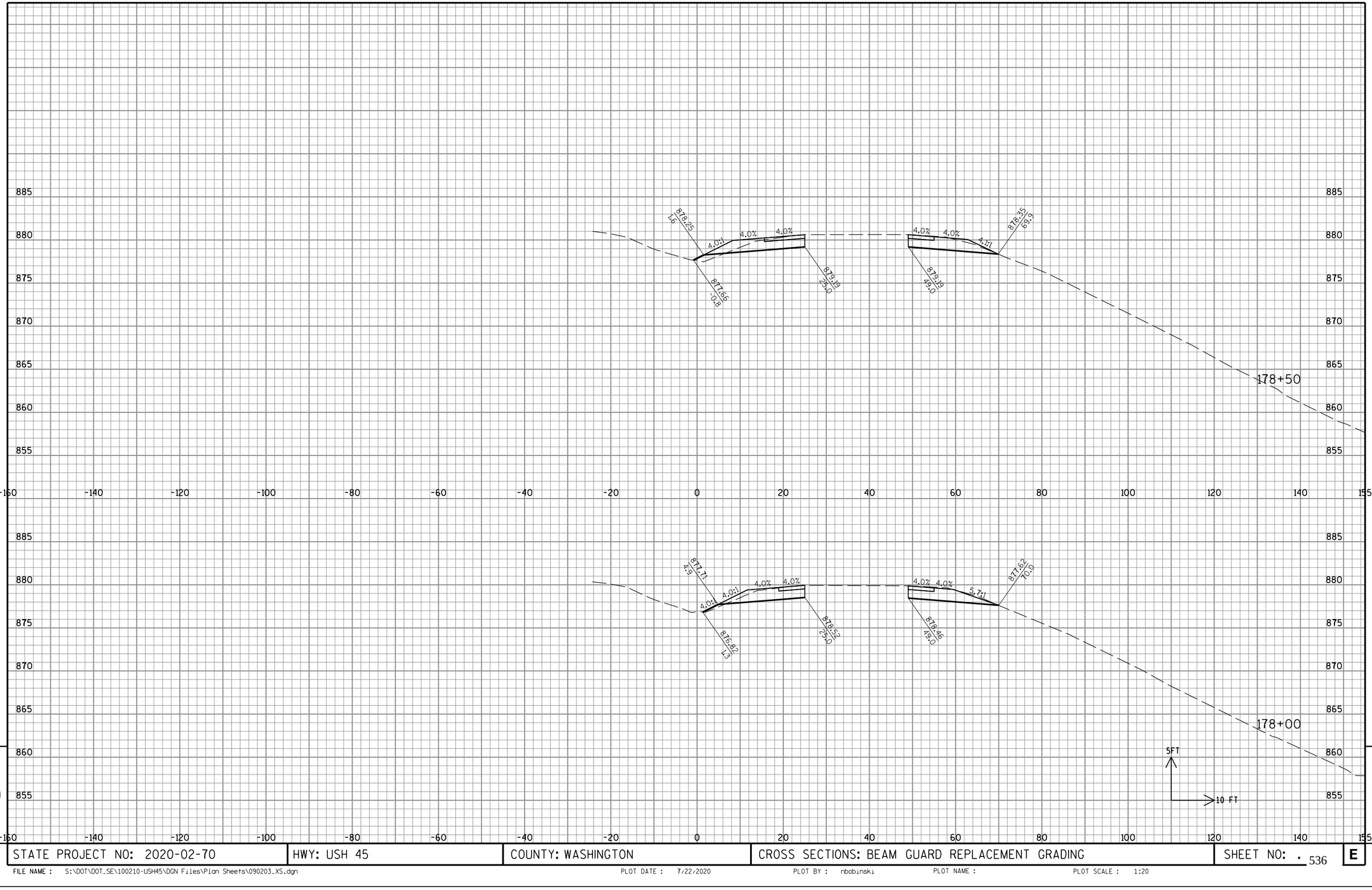


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 535	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090202_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

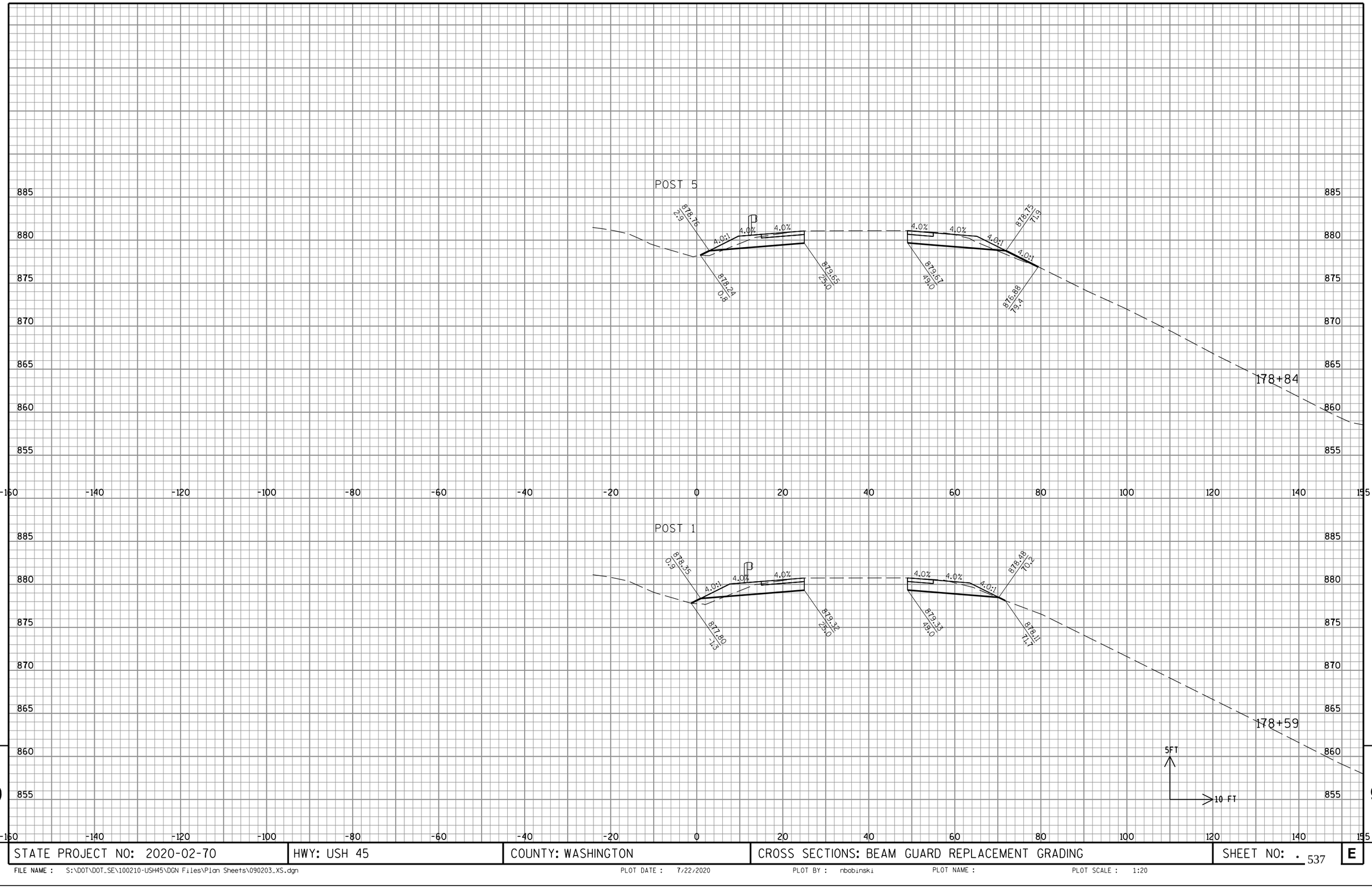


9

9

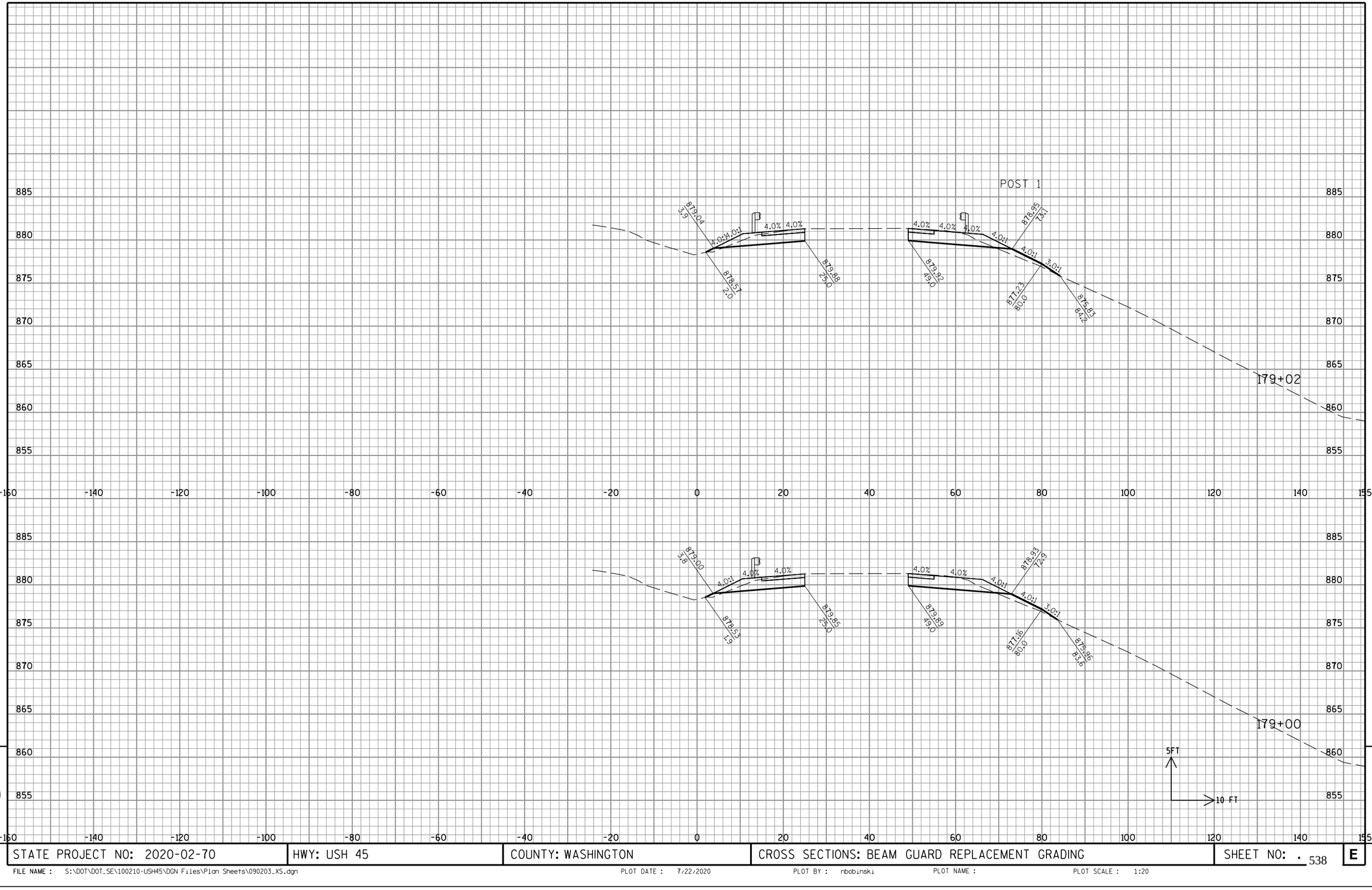
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 536	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090203_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



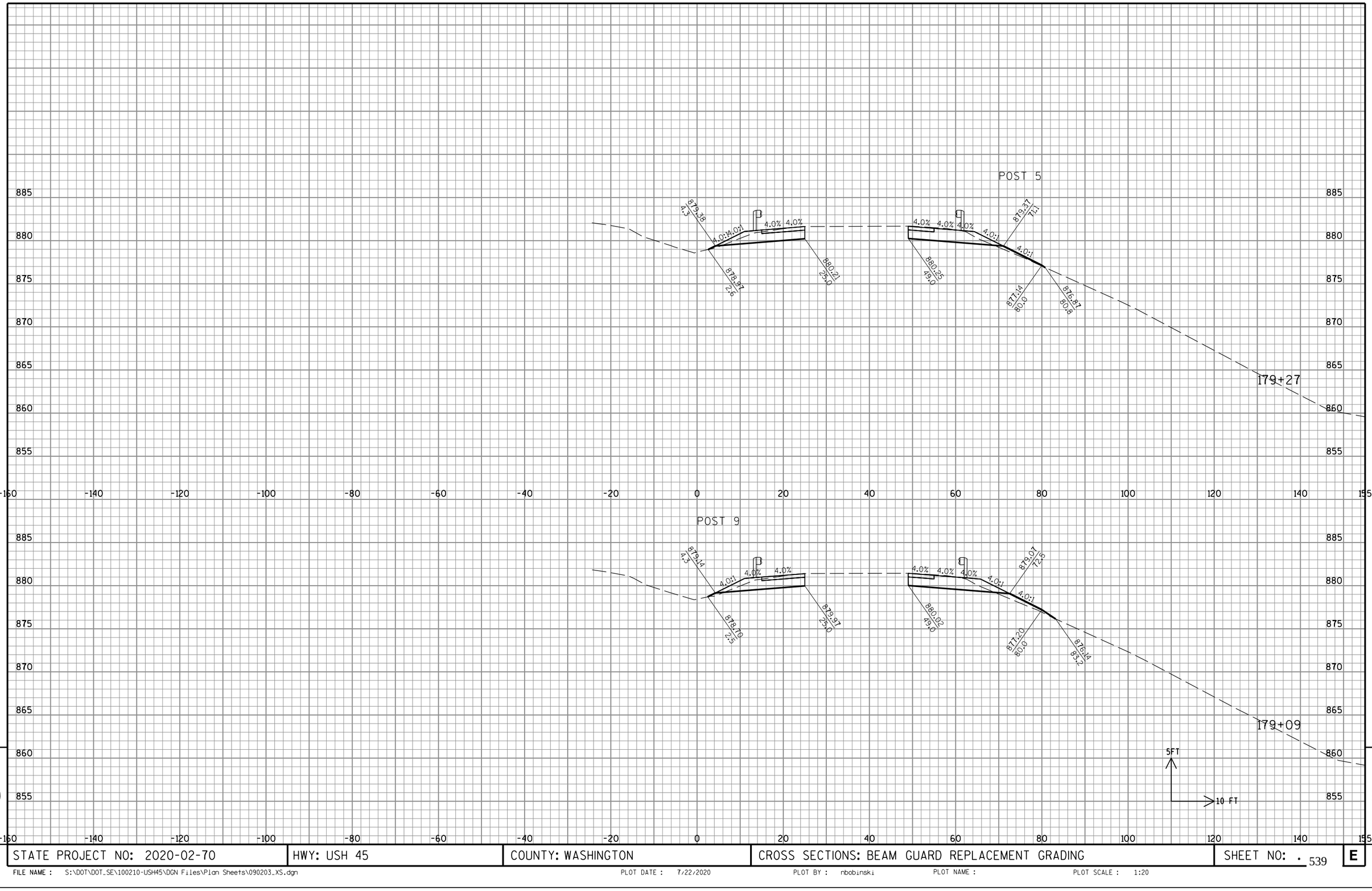
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 537 E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090203_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



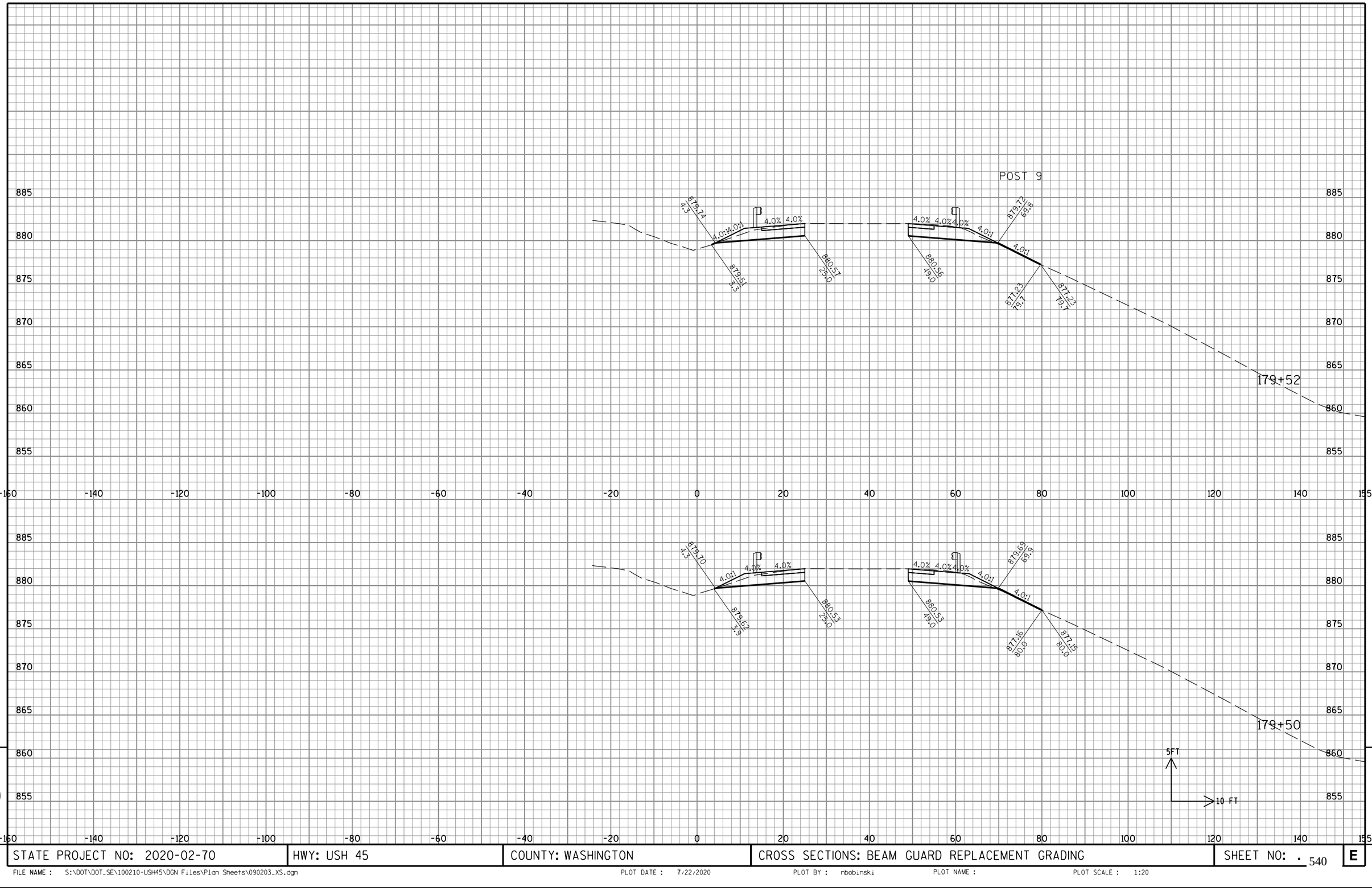
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 538	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090203_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



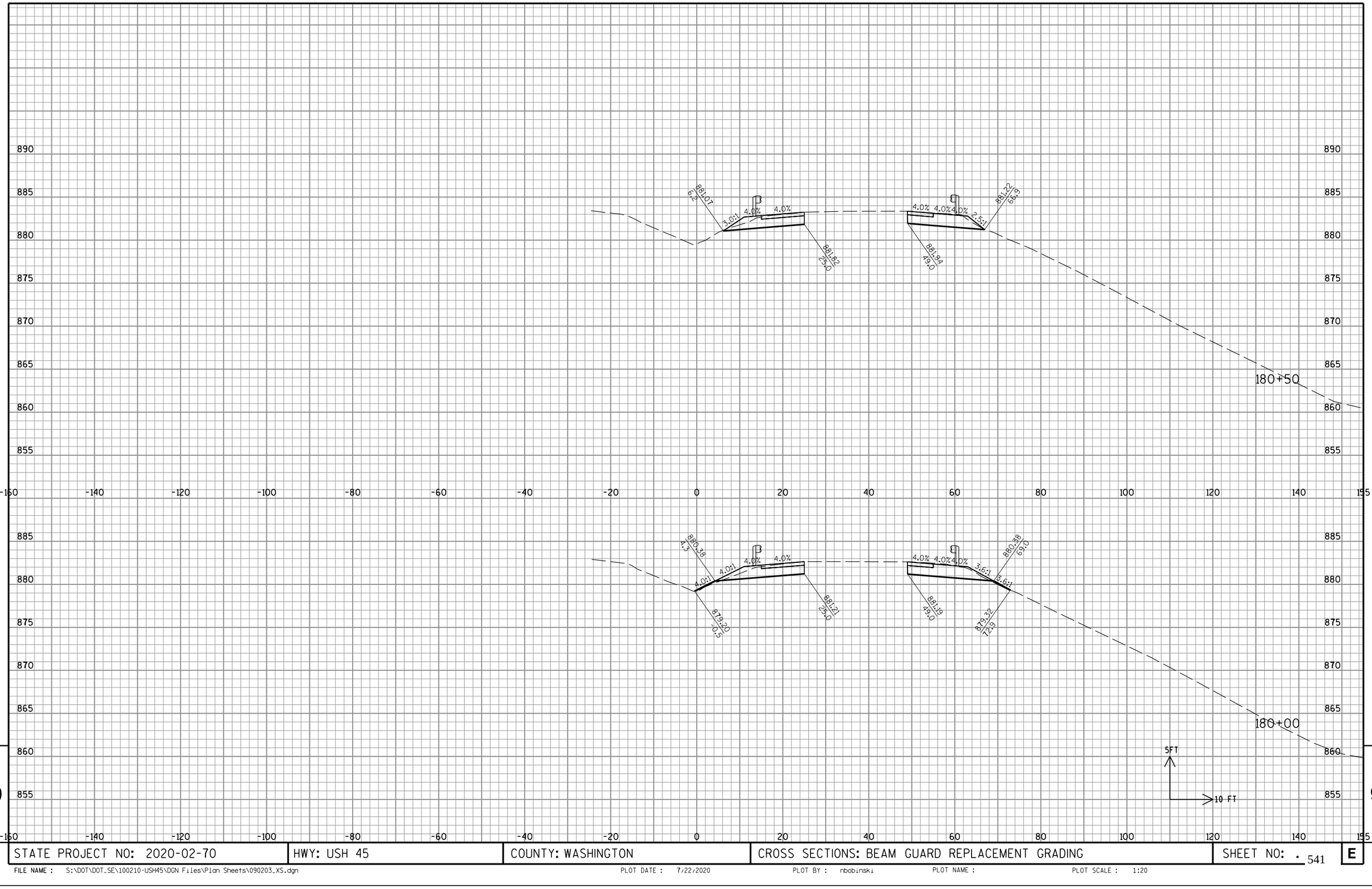
9	STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 539 E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090203_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



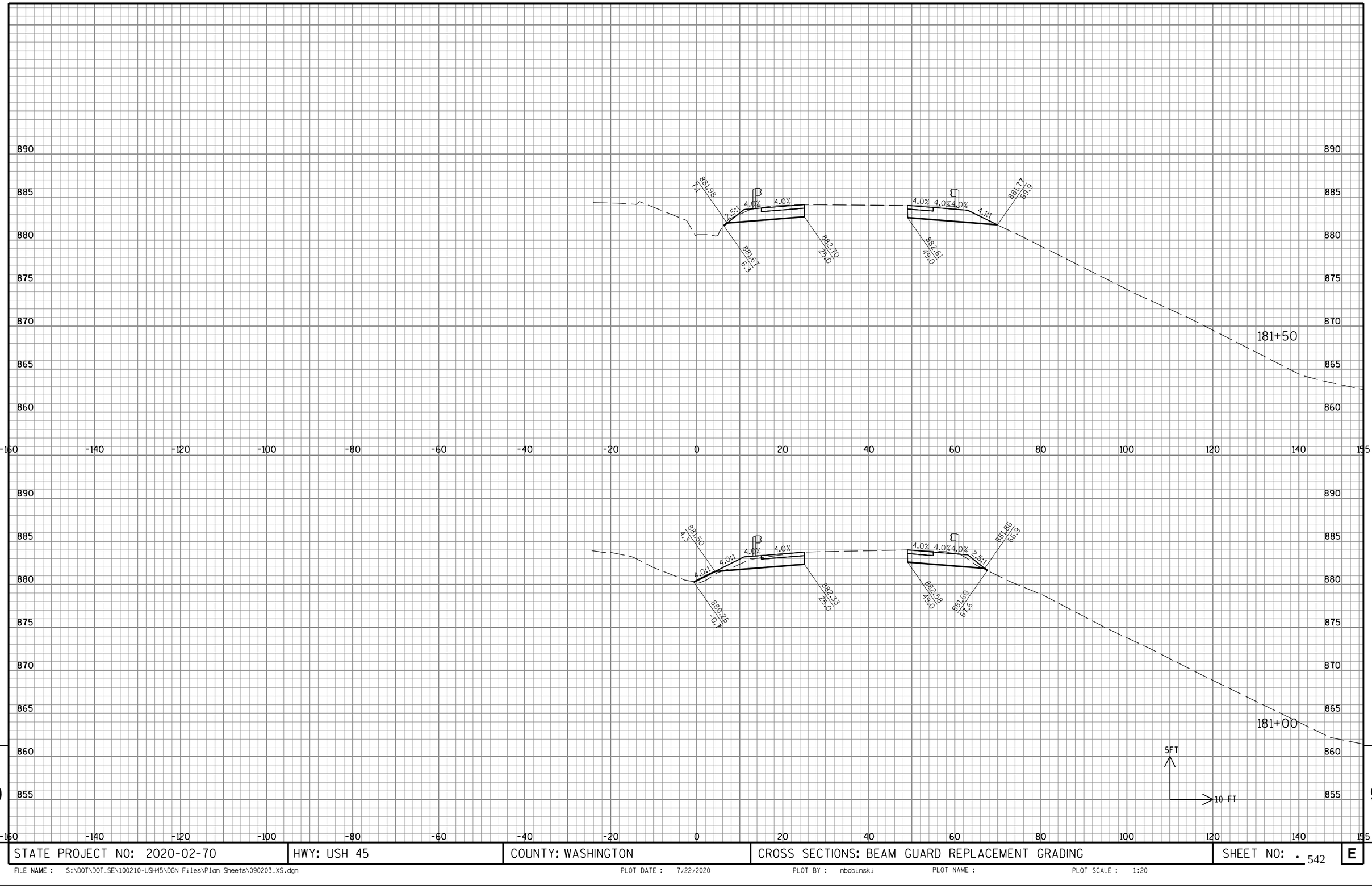
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 540 E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090203_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 541	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090203_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

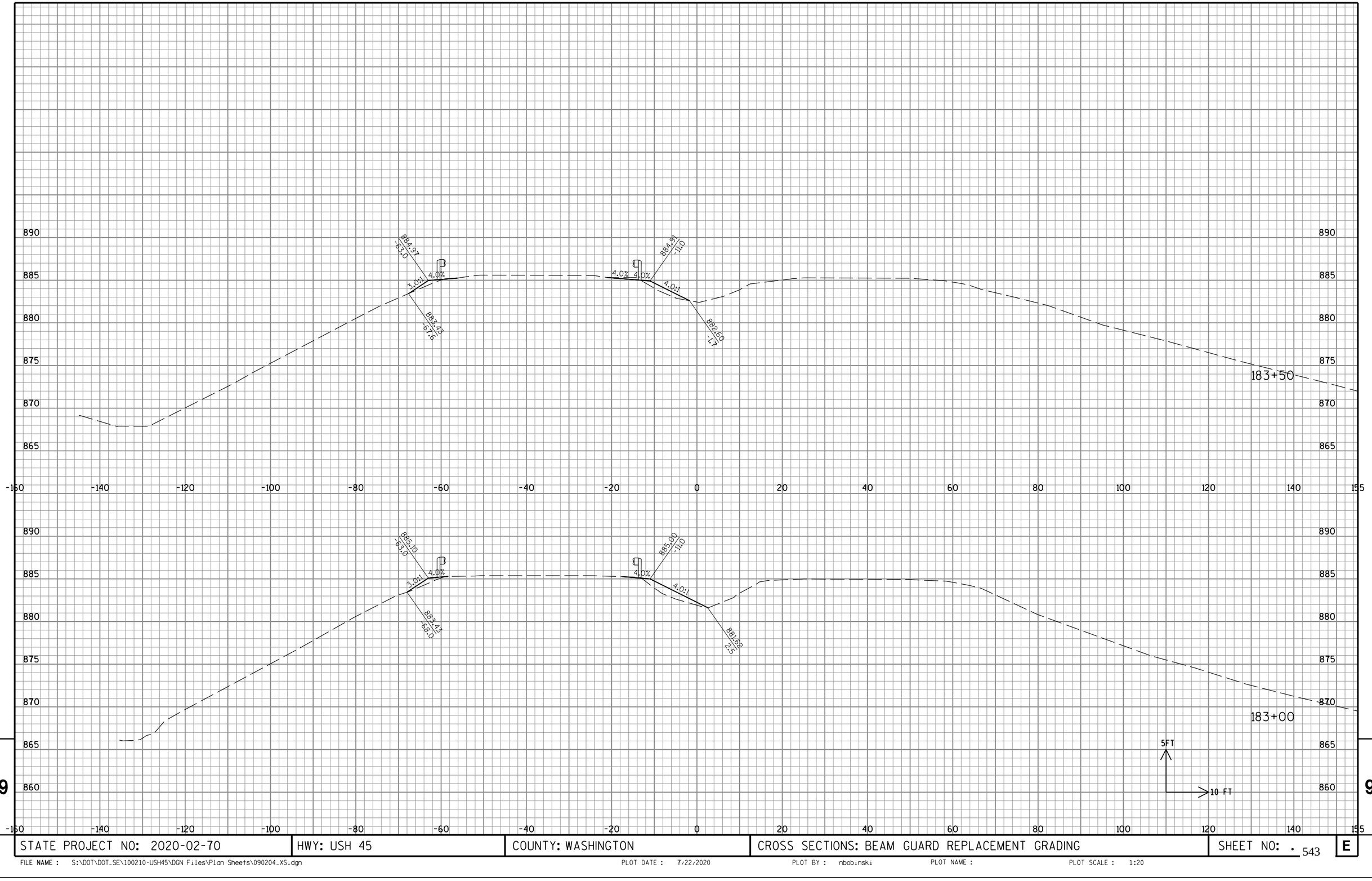


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 542	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090203_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

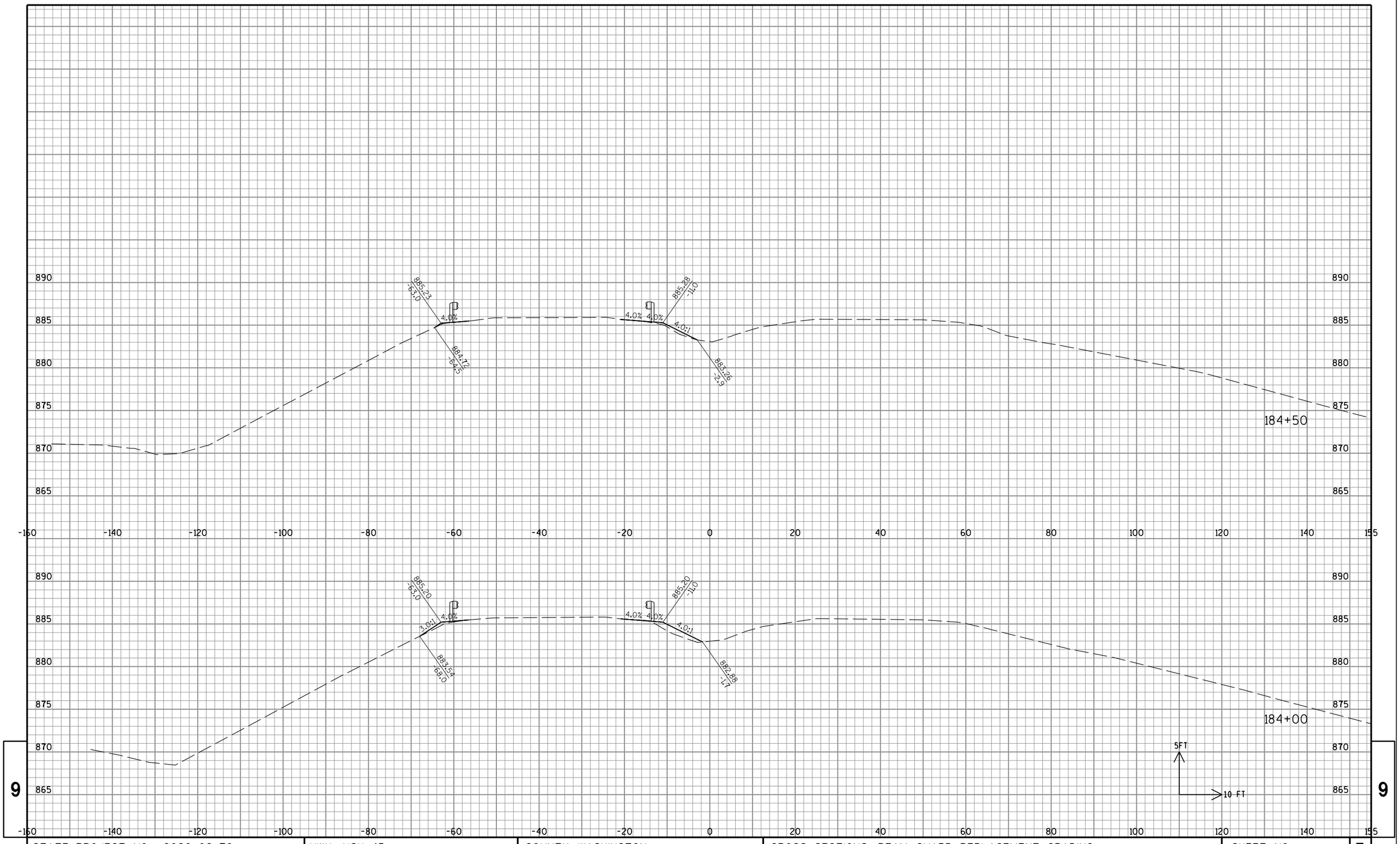


9

9

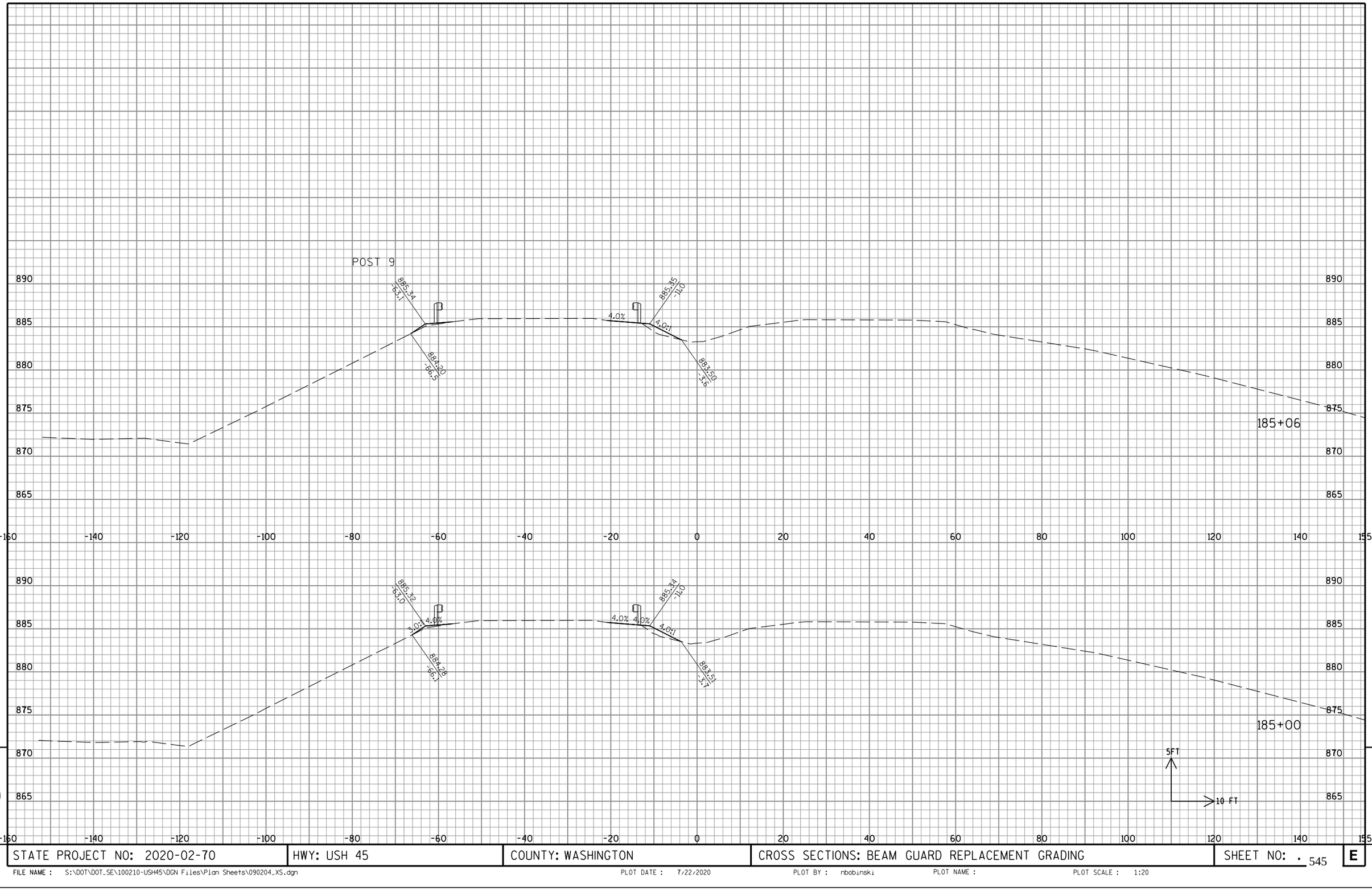
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 543	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090204_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



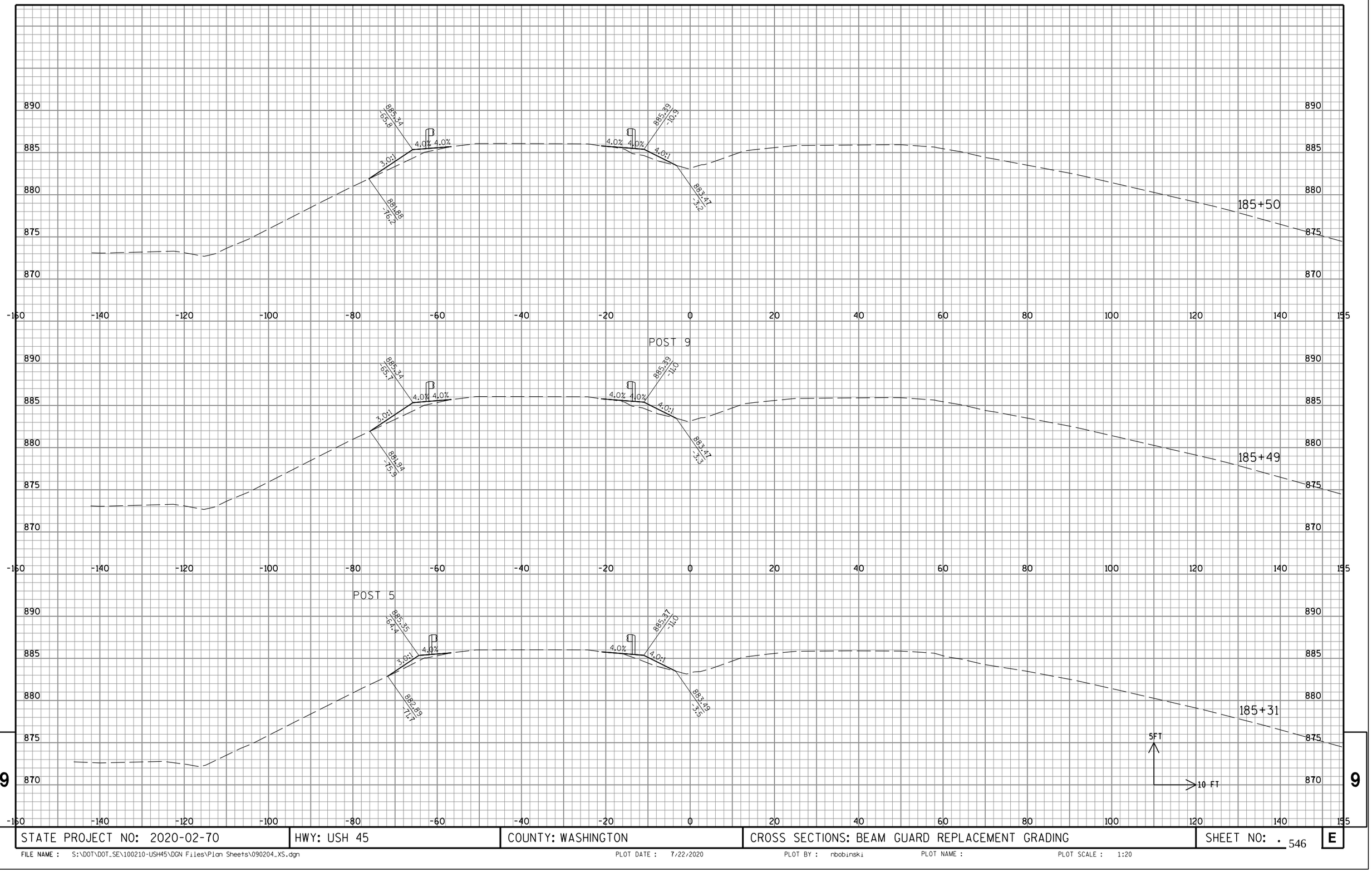
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 544	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090204_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 545	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090204_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

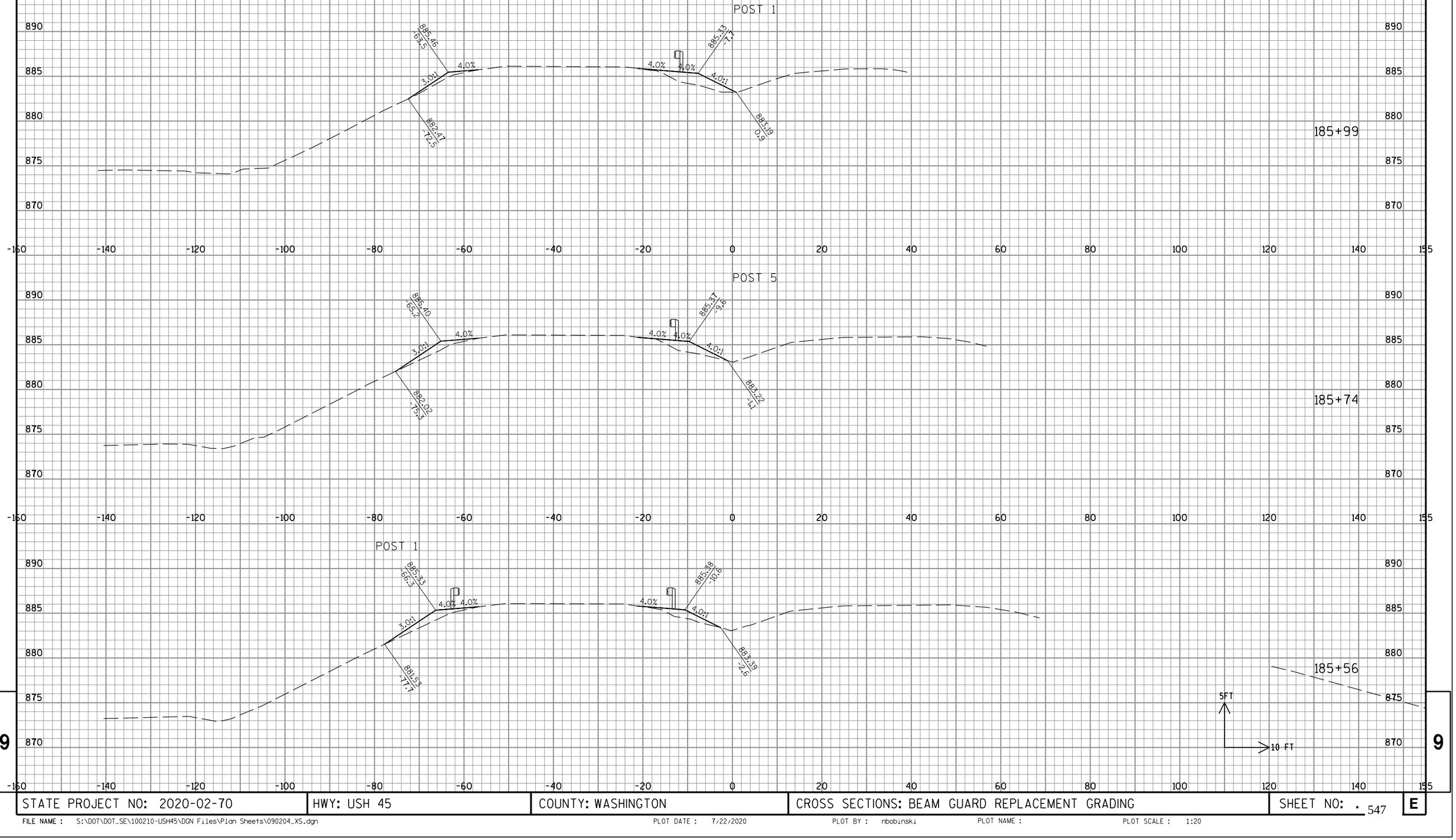


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 546	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090204_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

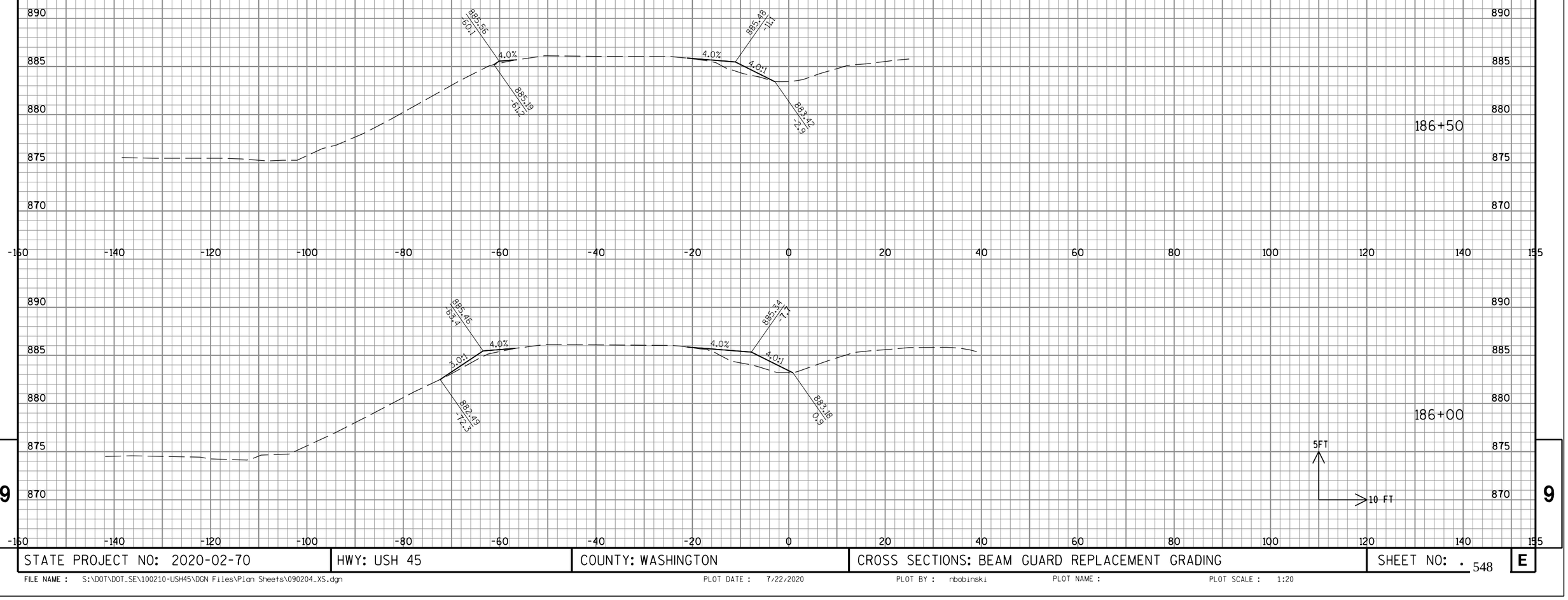


9

9

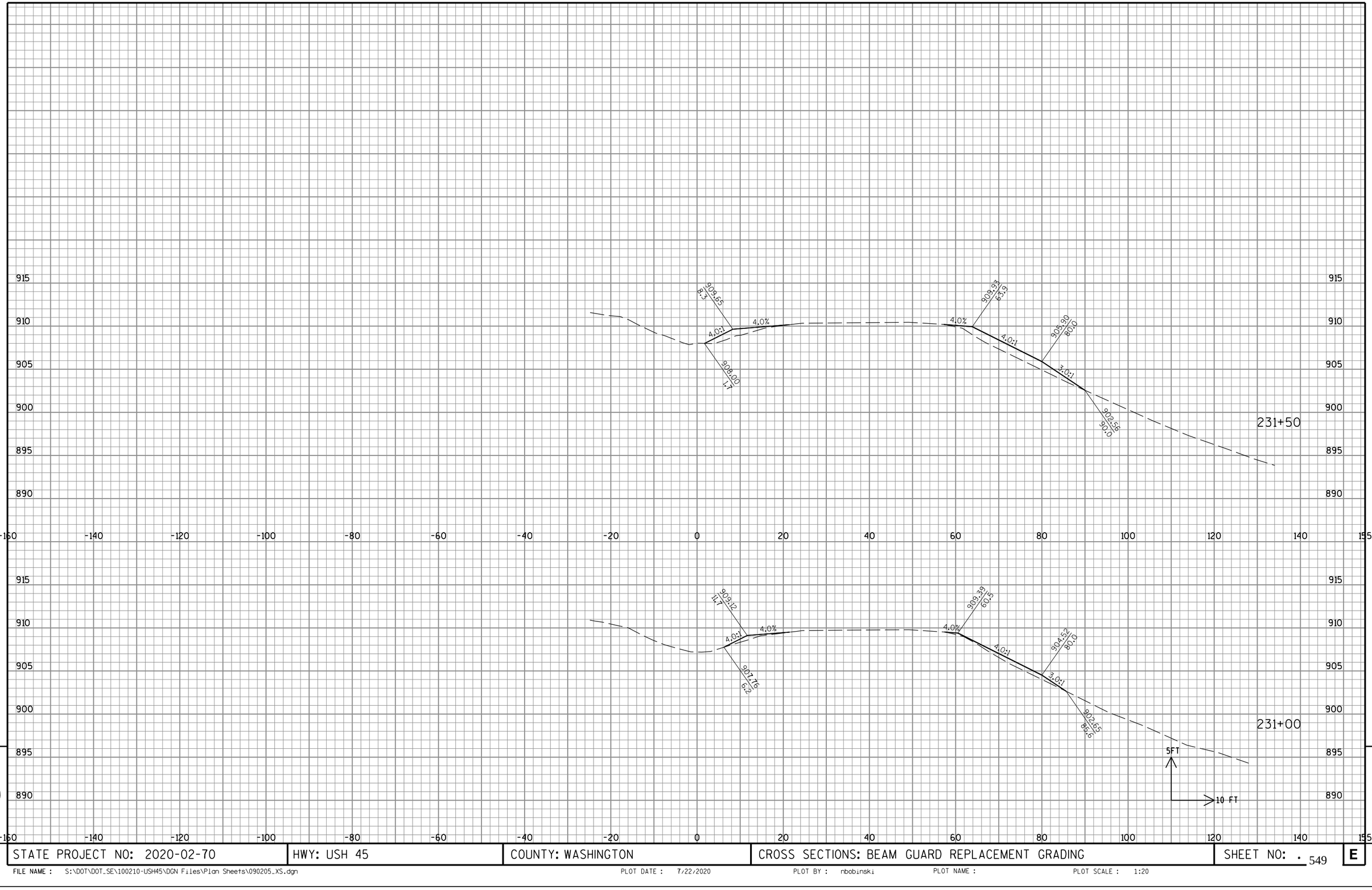
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 547	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090204_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



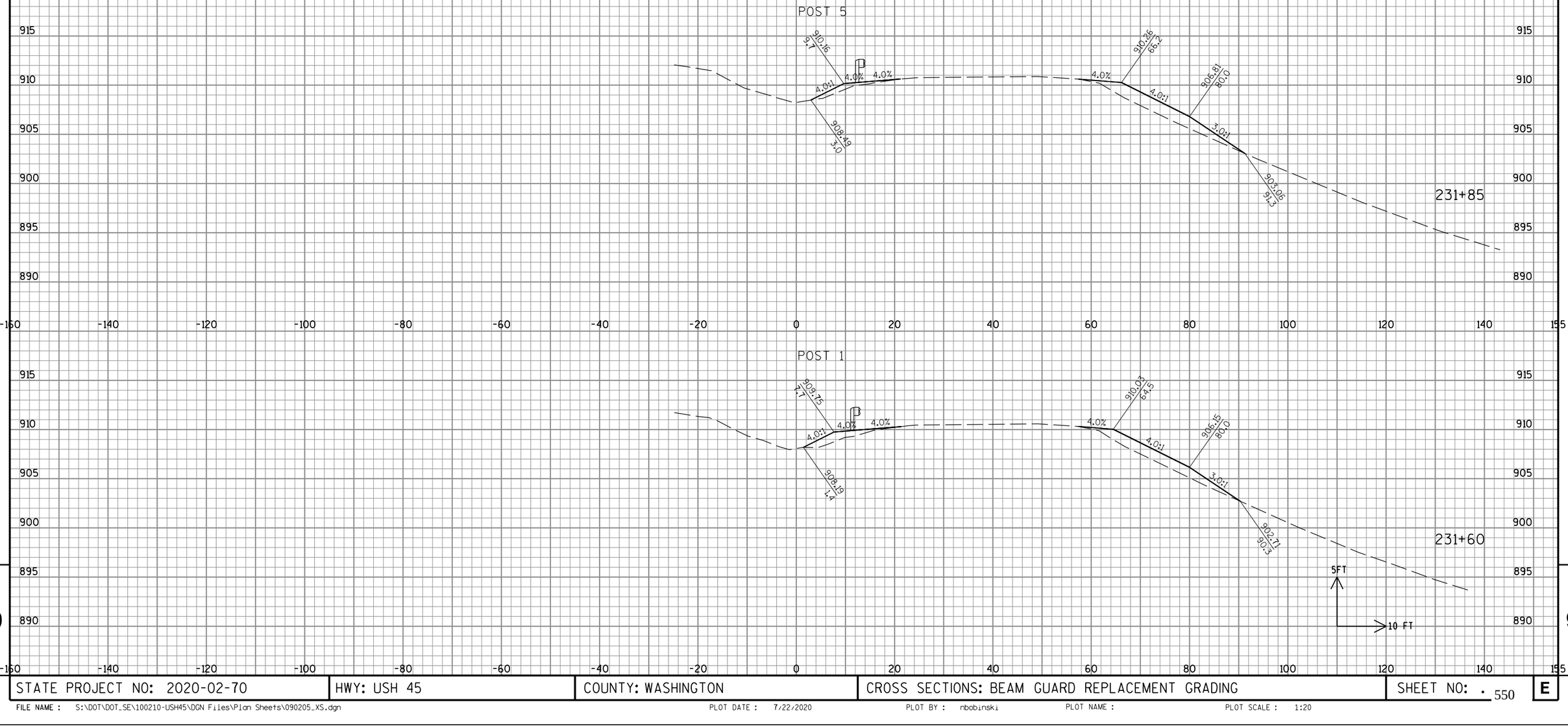
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 548	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090204_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 549	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090205_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

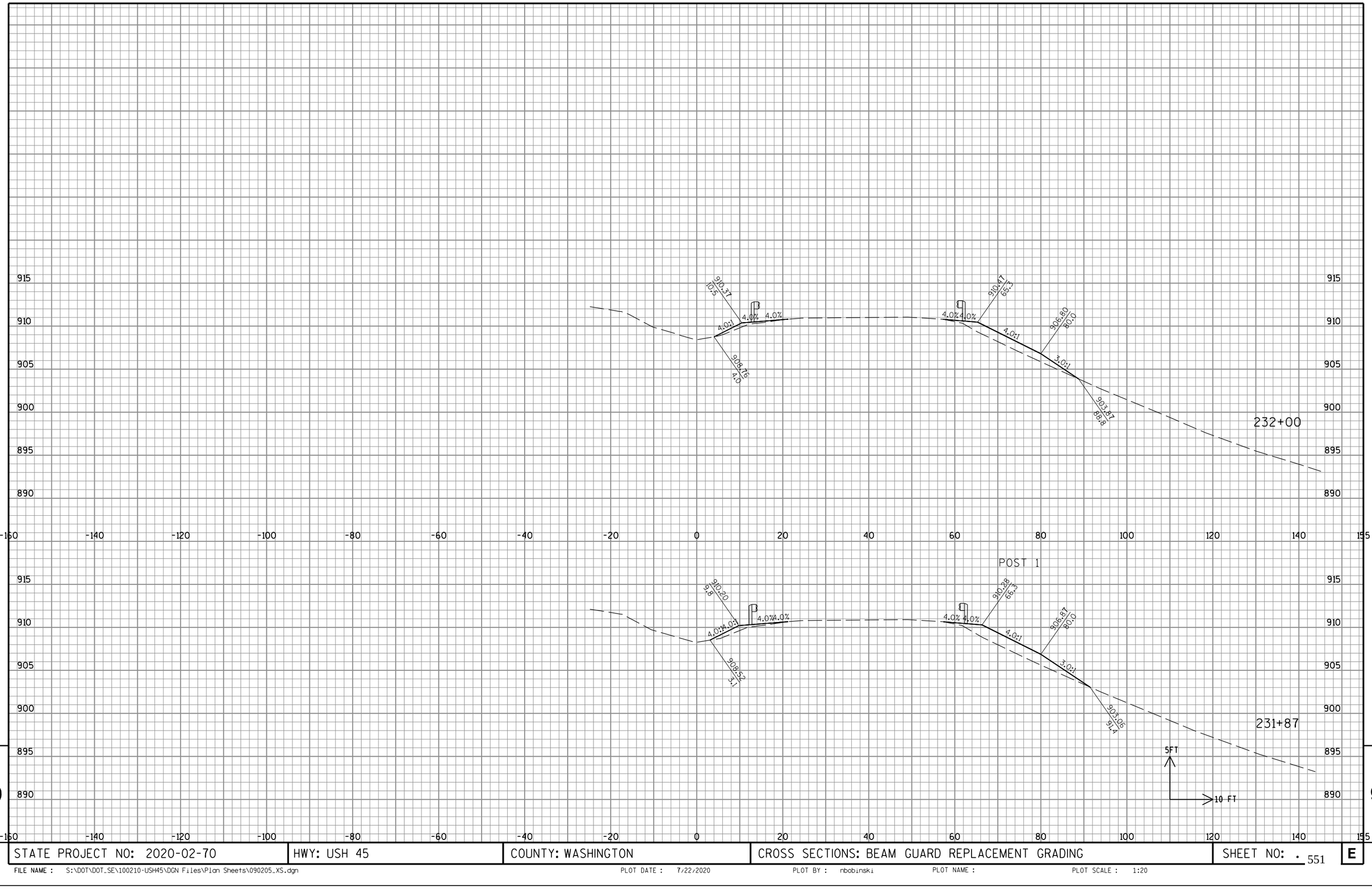


9

9

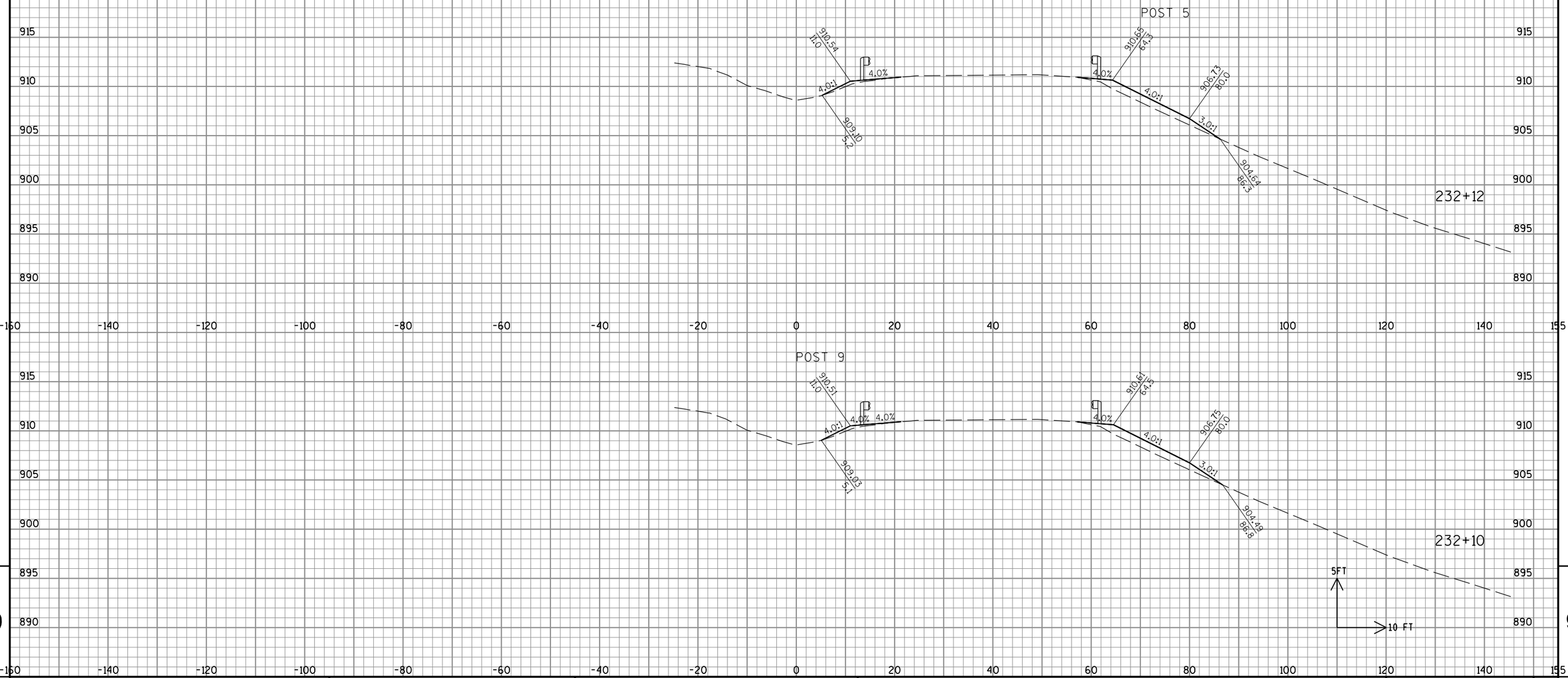
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 550	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090205_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



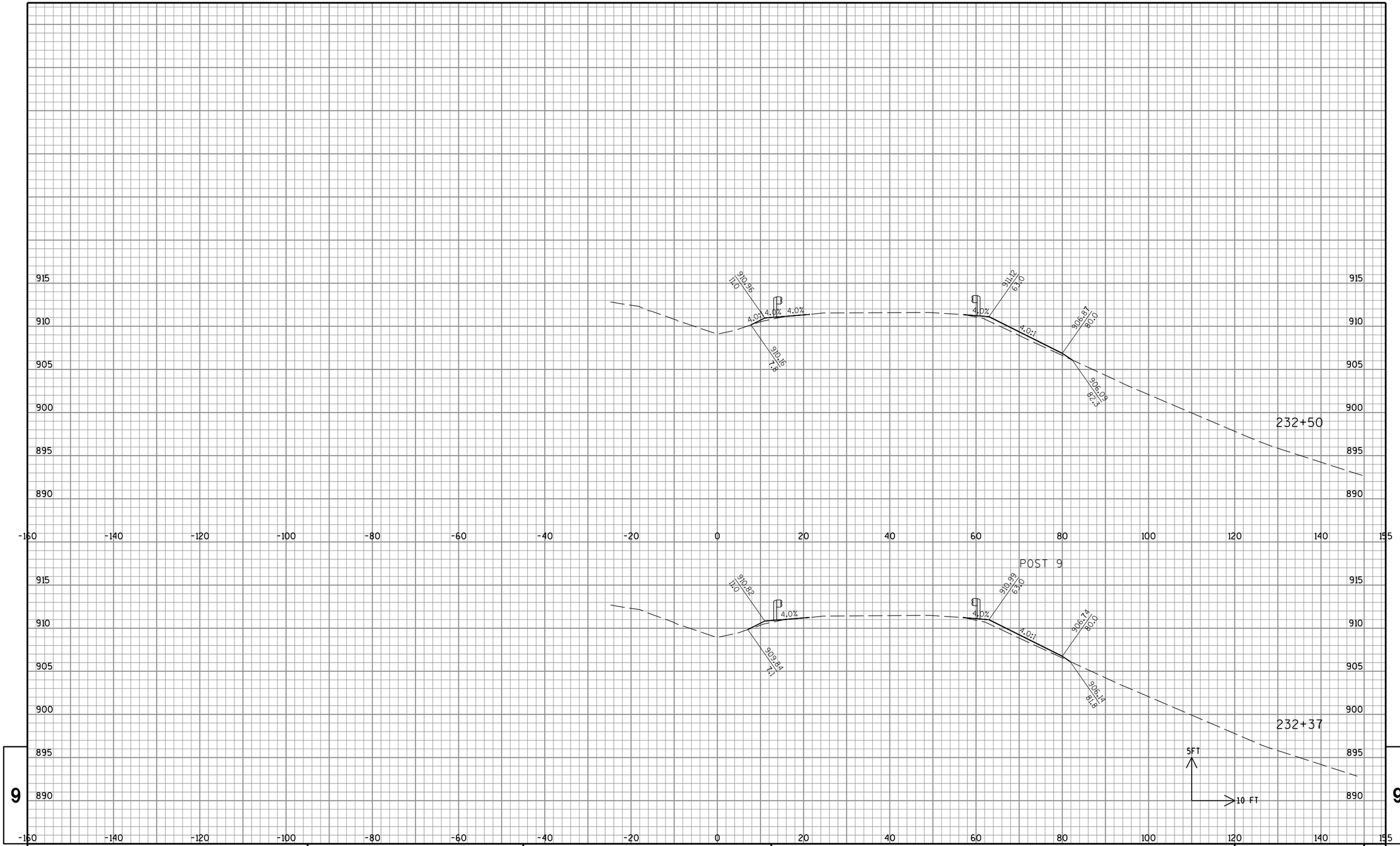
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 551 E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090205_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



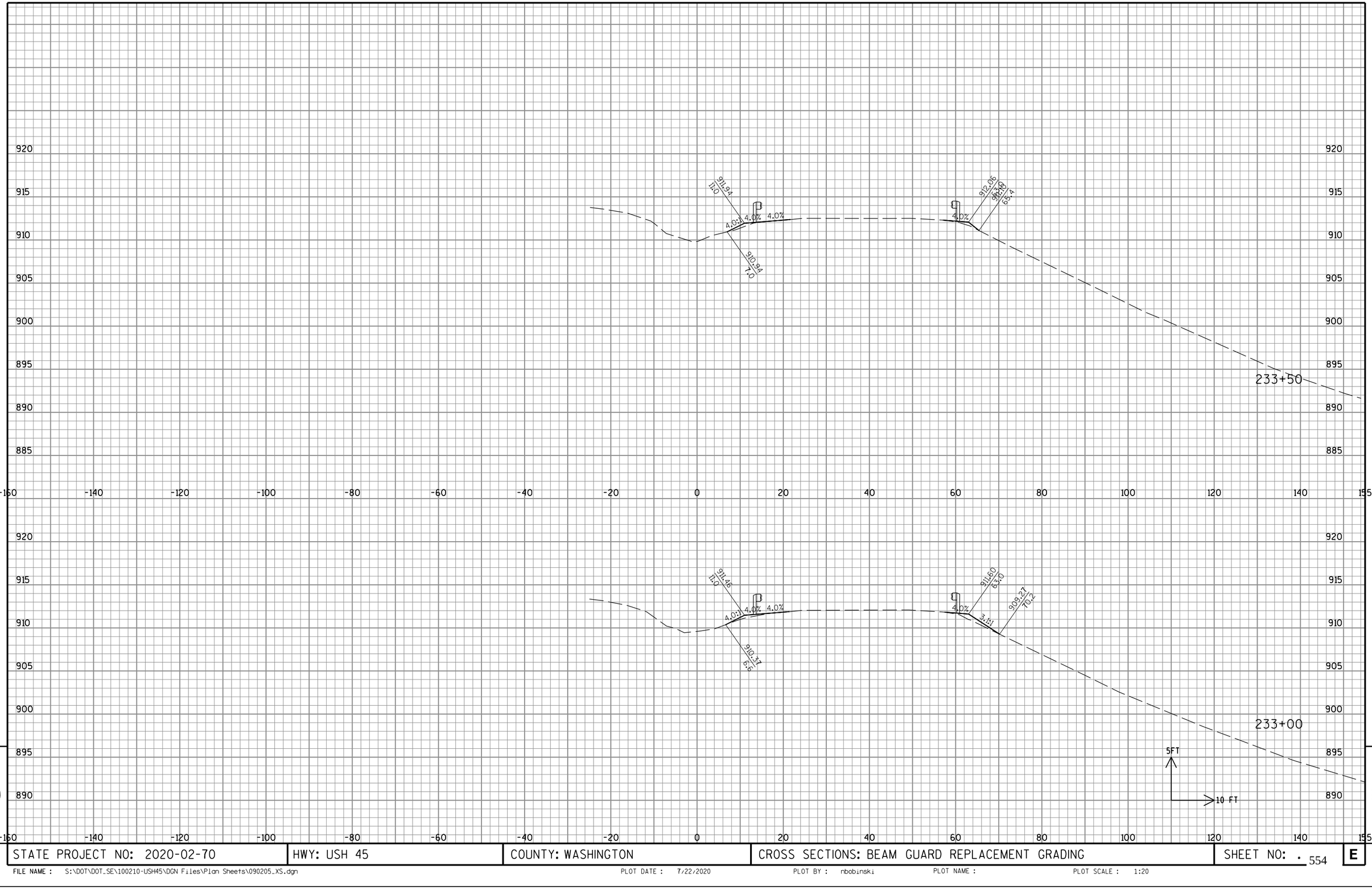
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 552	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090205_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 553

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090205_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

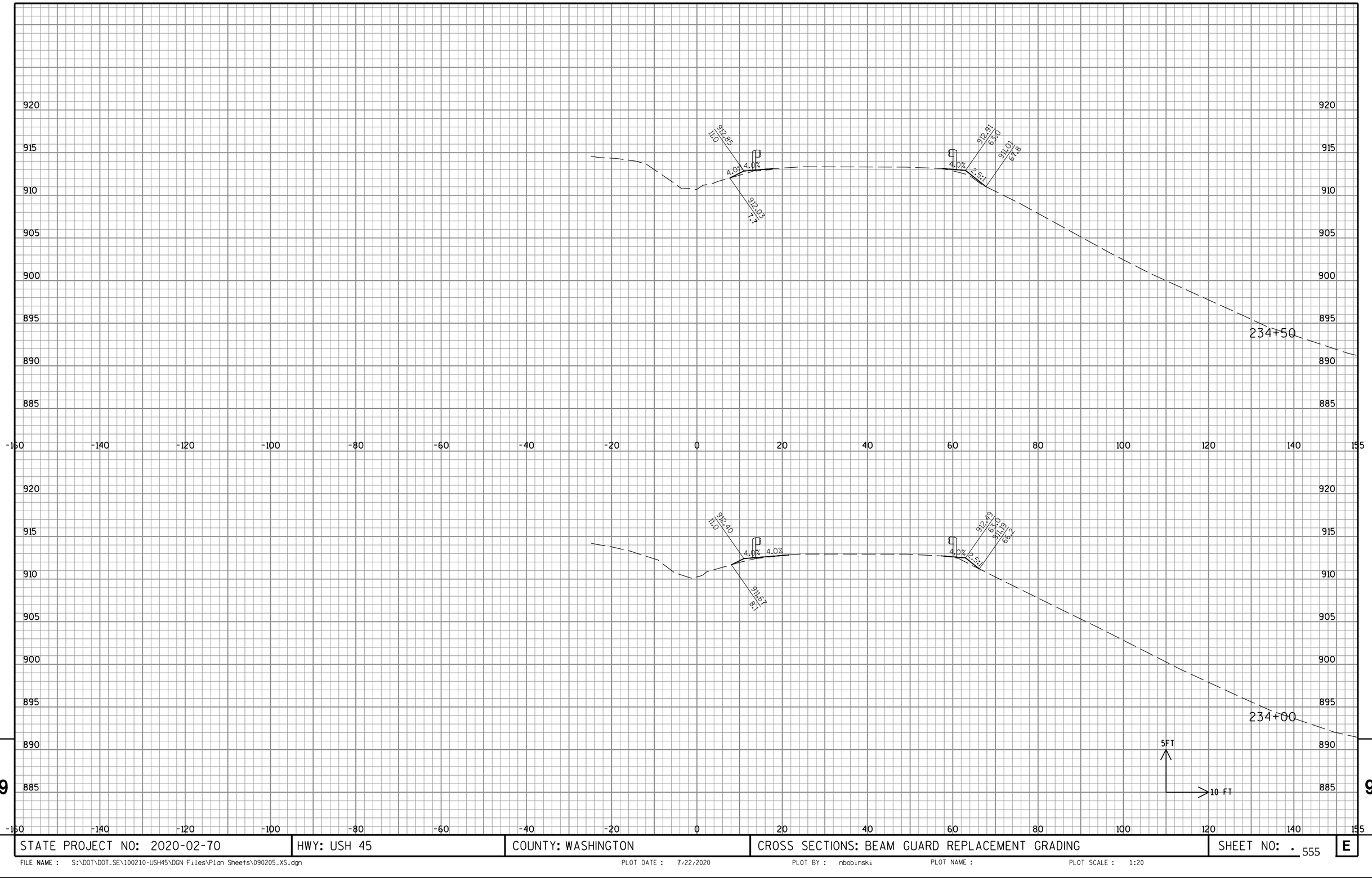


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 554	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090205_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

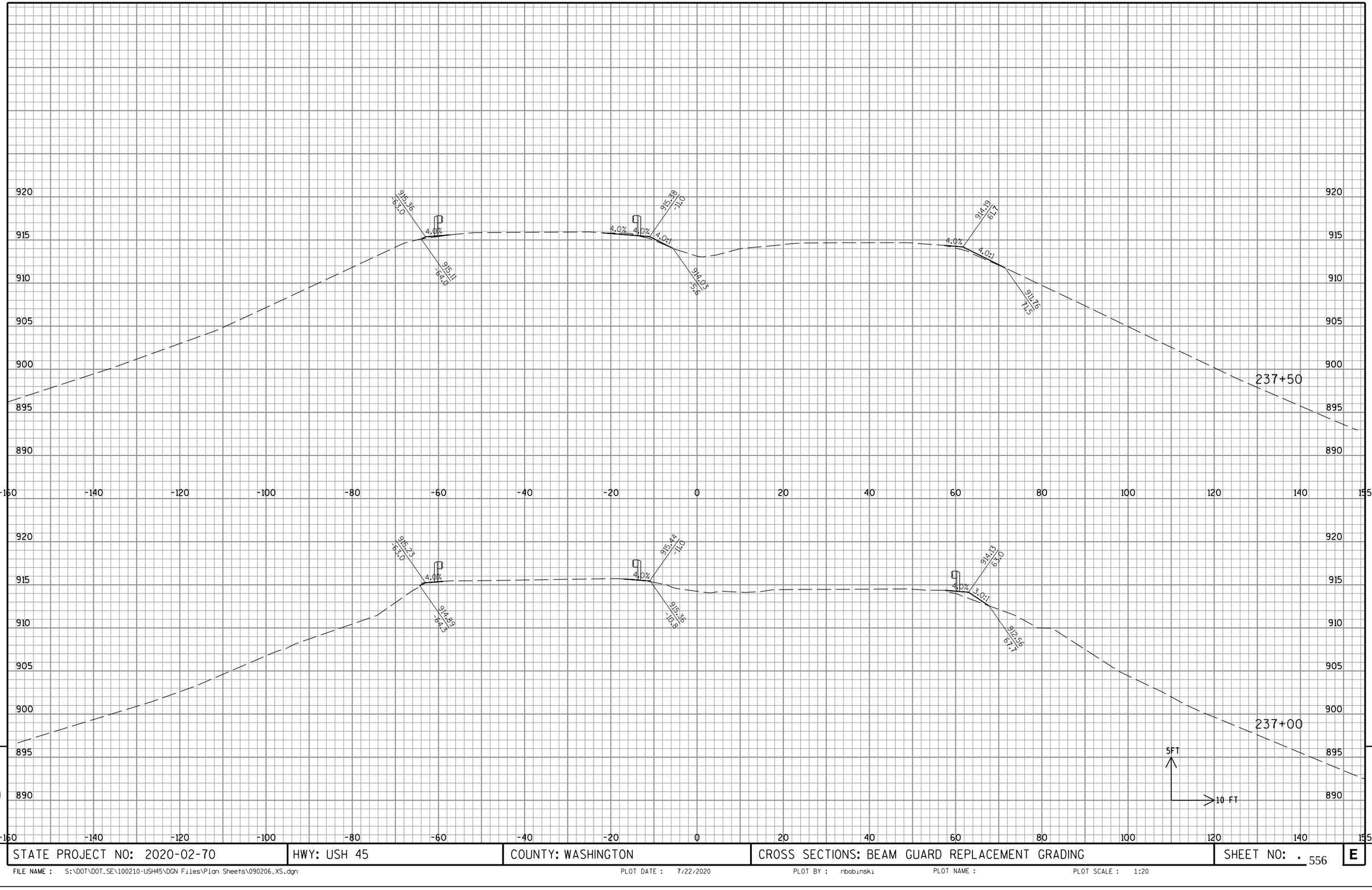


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 555	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090205_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

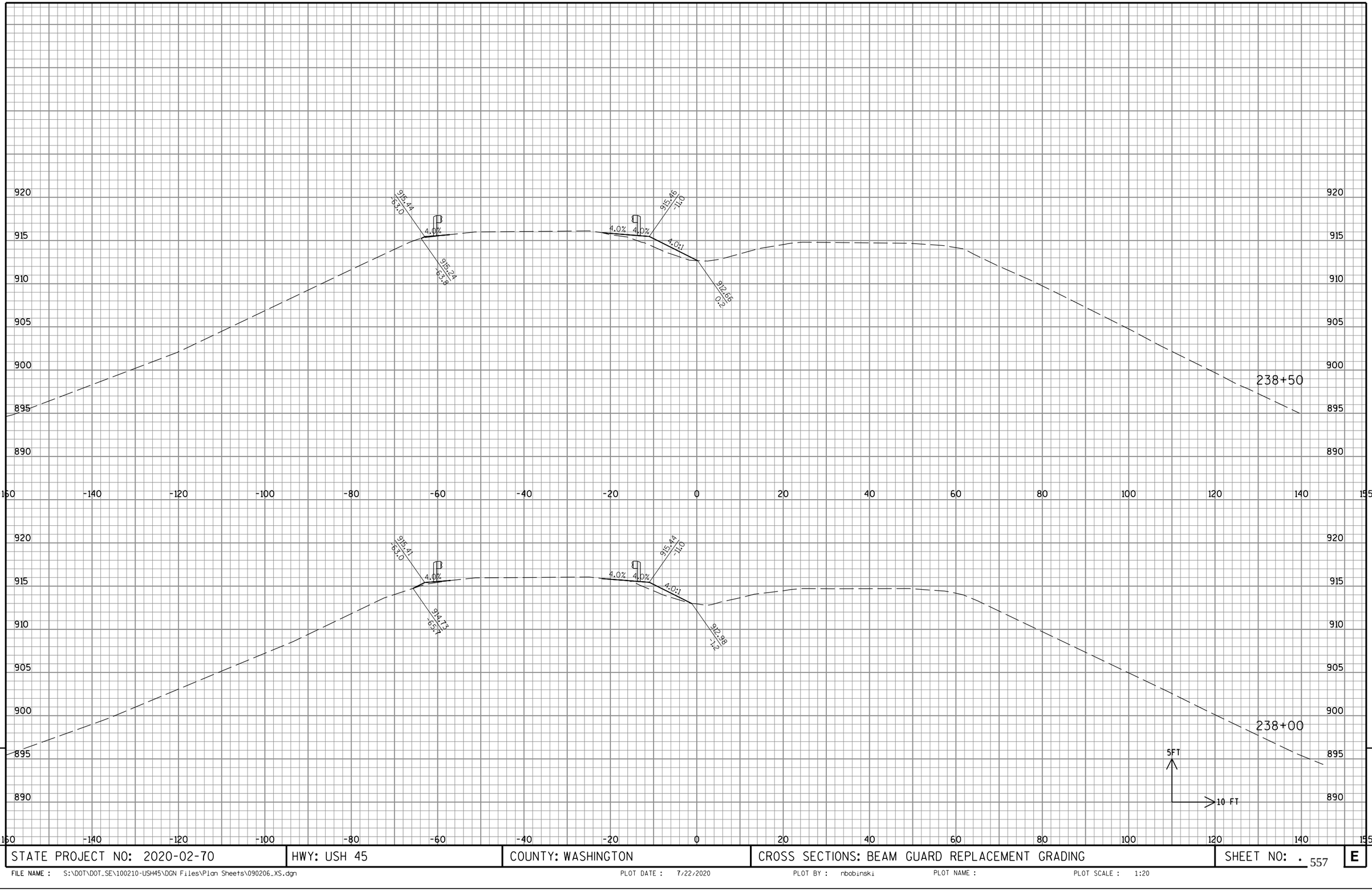


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 556	E

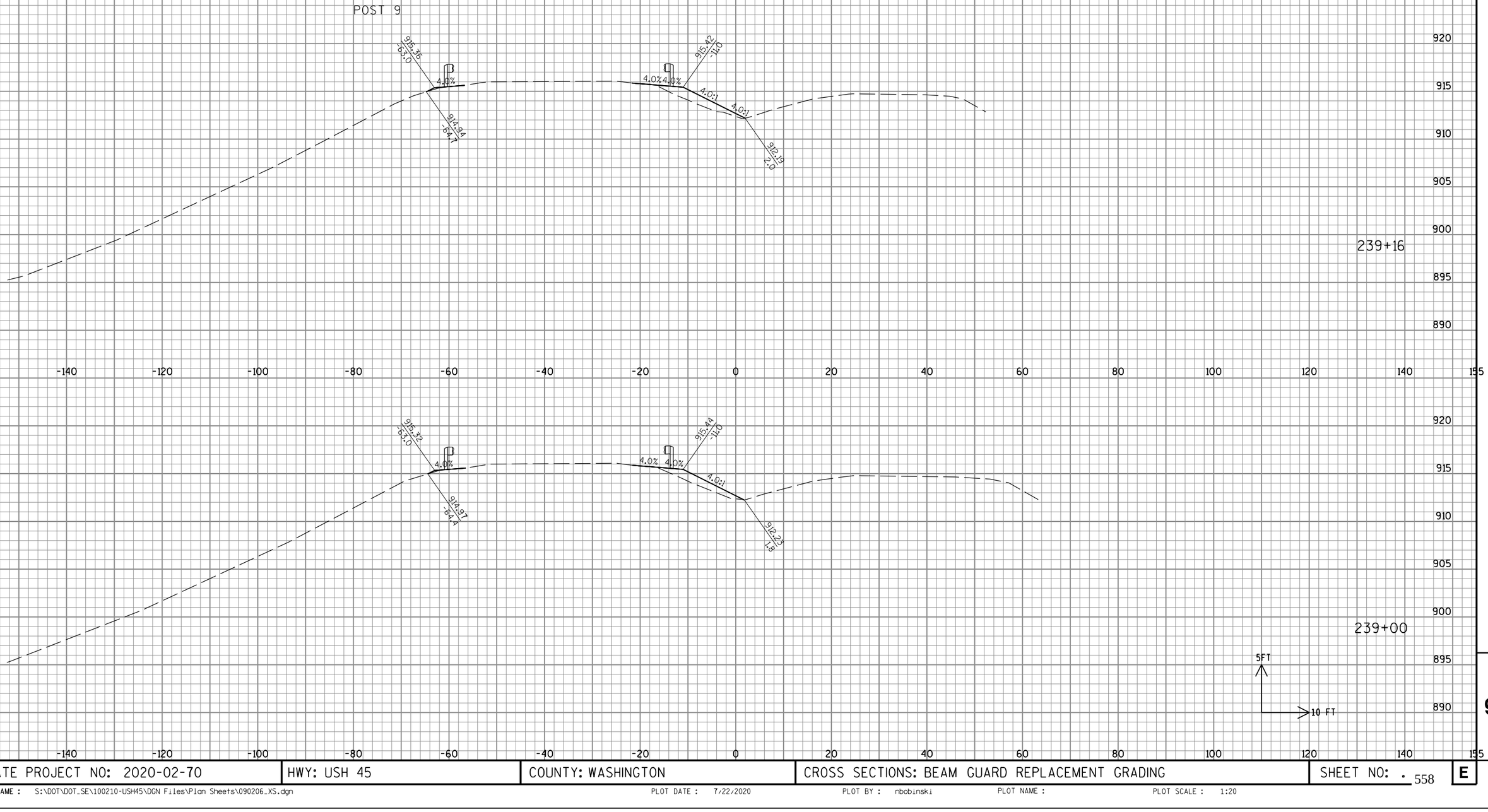
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090206_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 557	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090206_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

POST 9



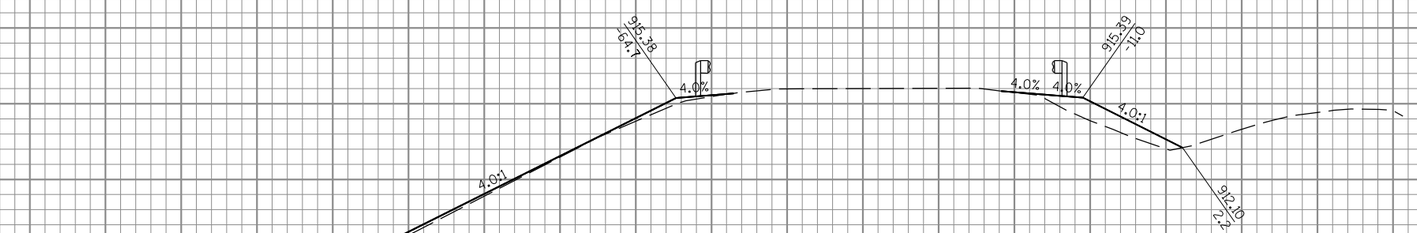
9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 558	E

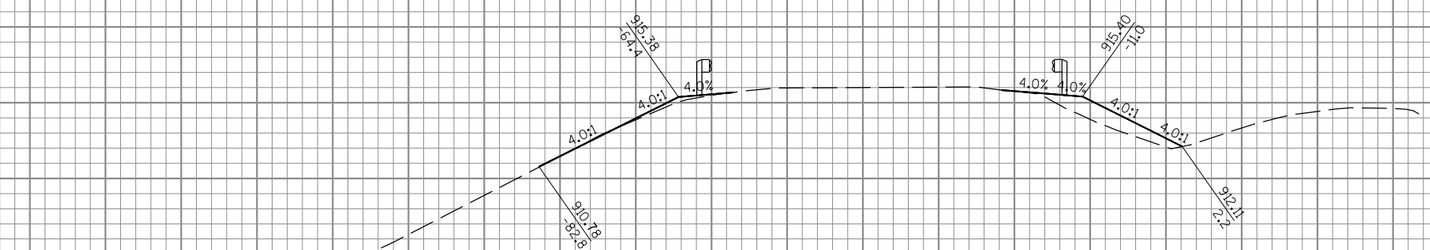
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090206_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

POST 9



239+45

POST 5



239+41

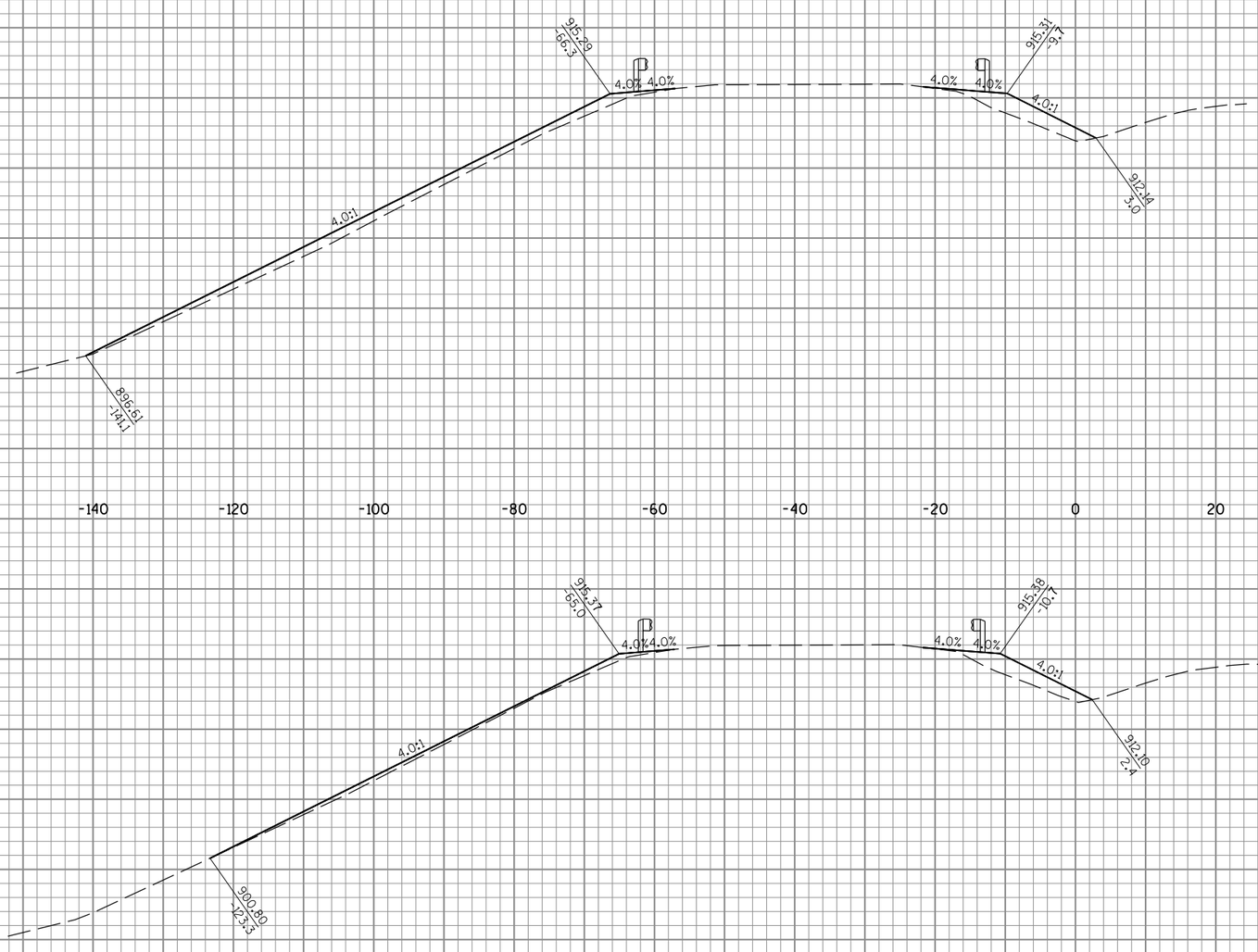
5FT
10 FT

9 9

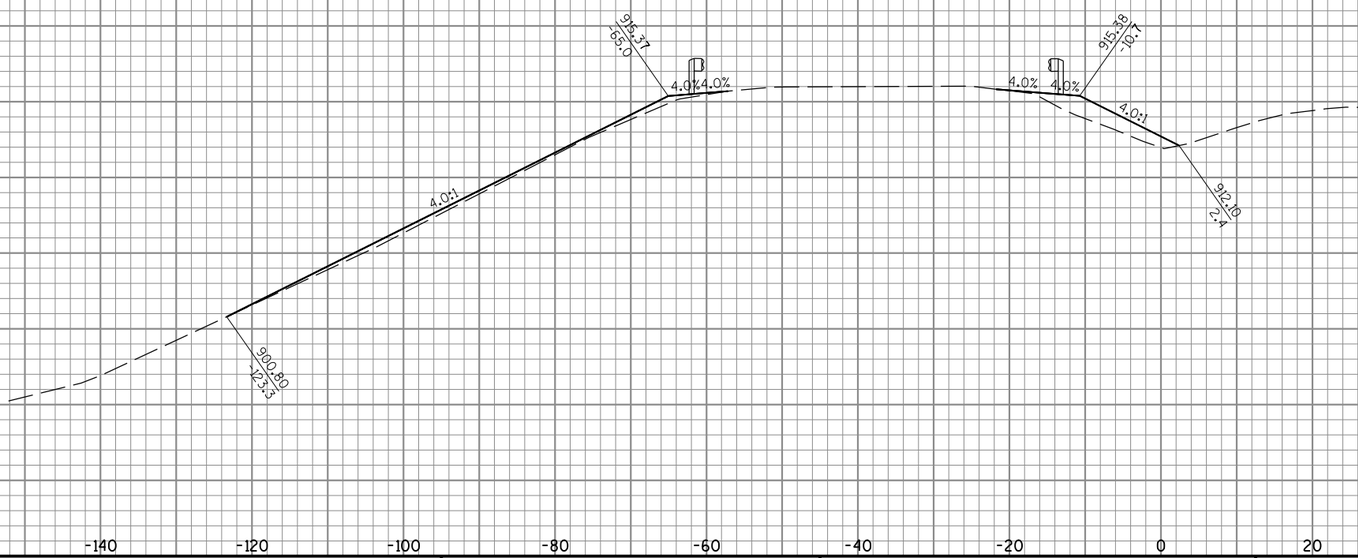
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 559	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090206_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

POST 1



239+66



239+50

5FT

10 FT

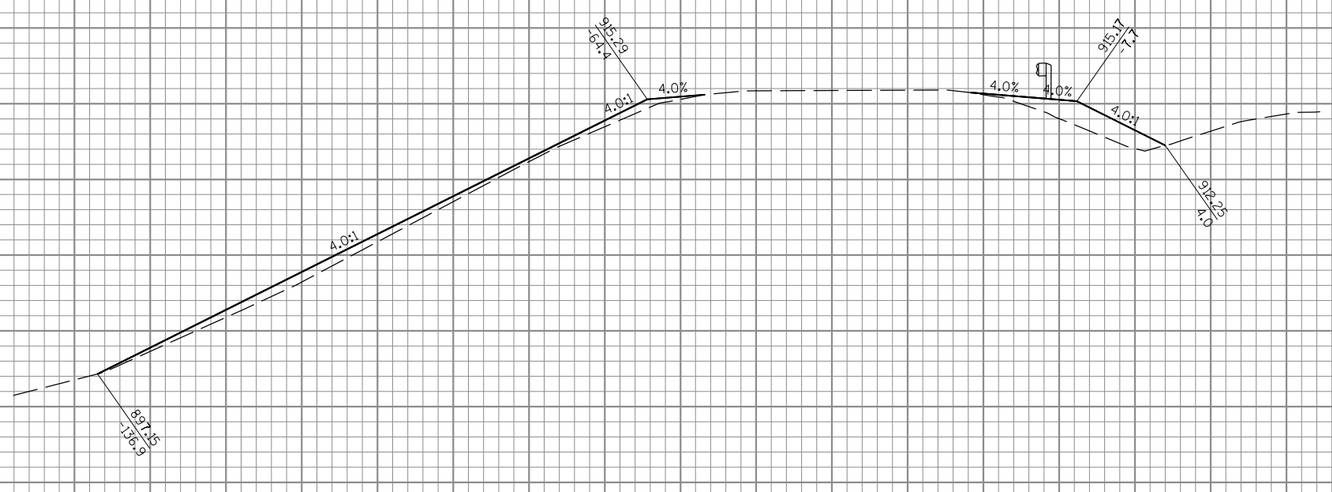
9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 560	E

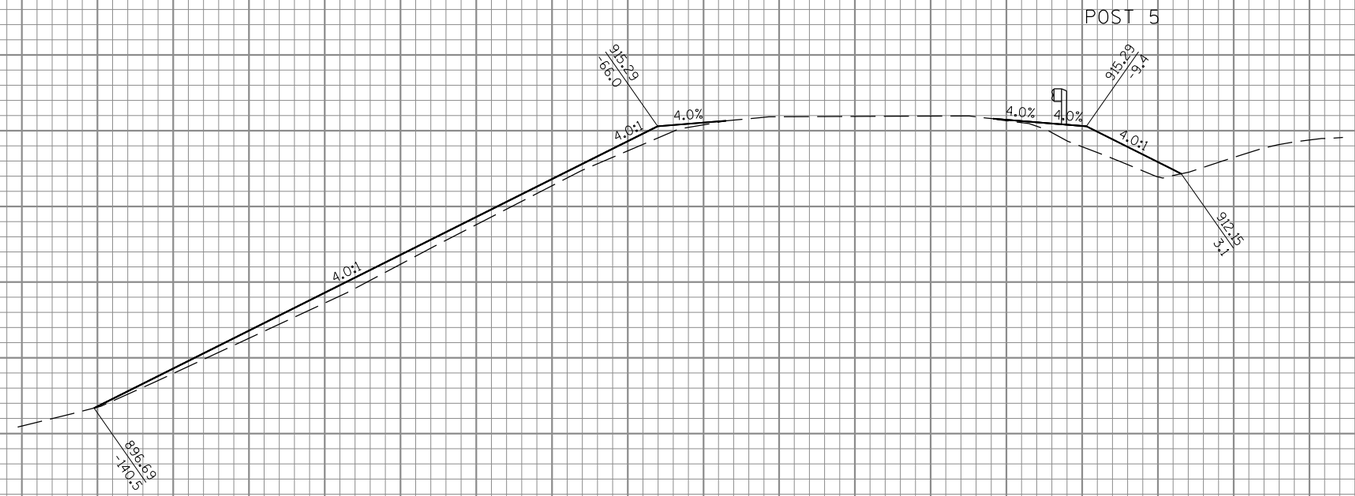
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090206_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

POST 1

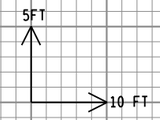


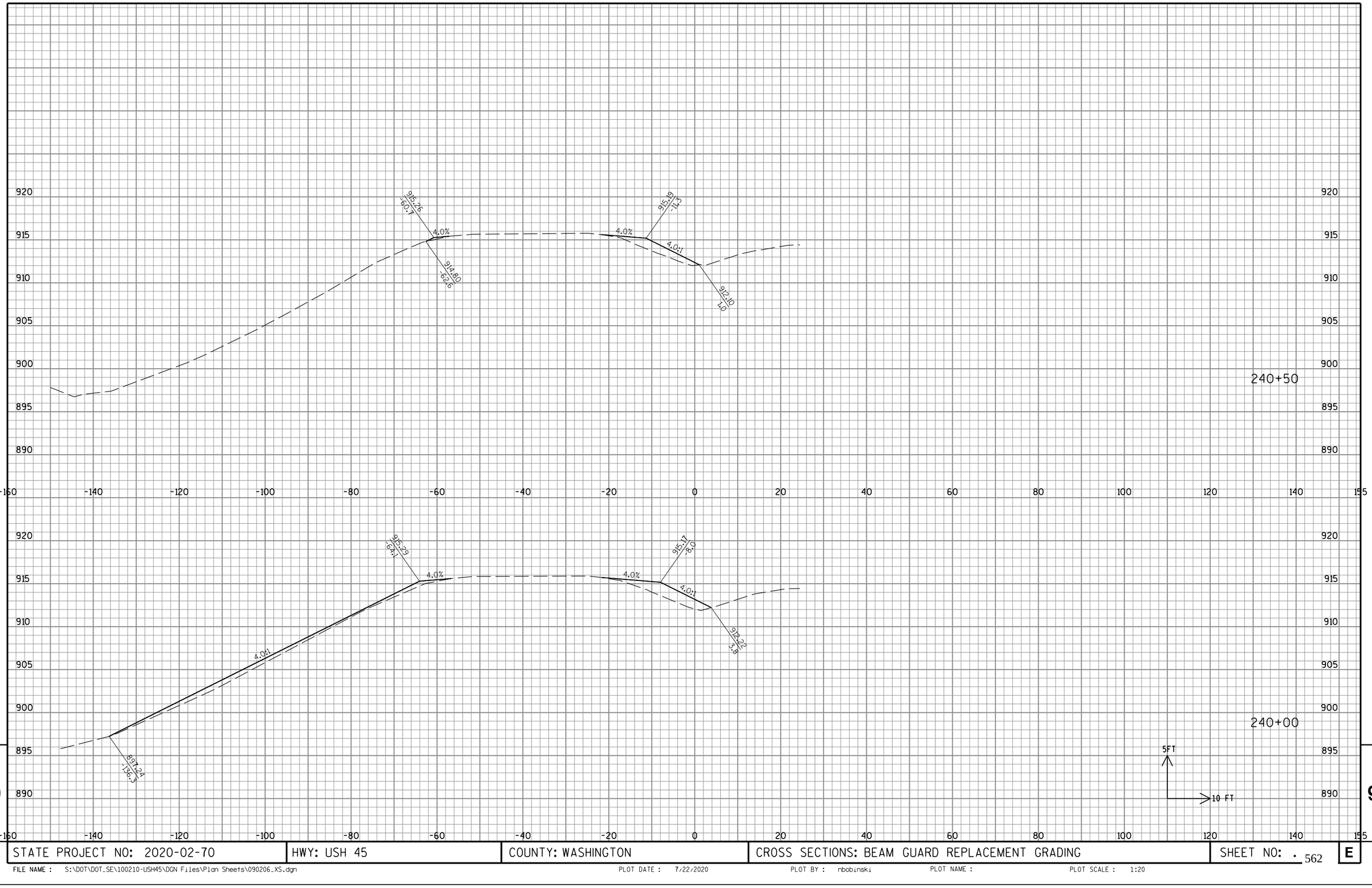
239+95

POST 5



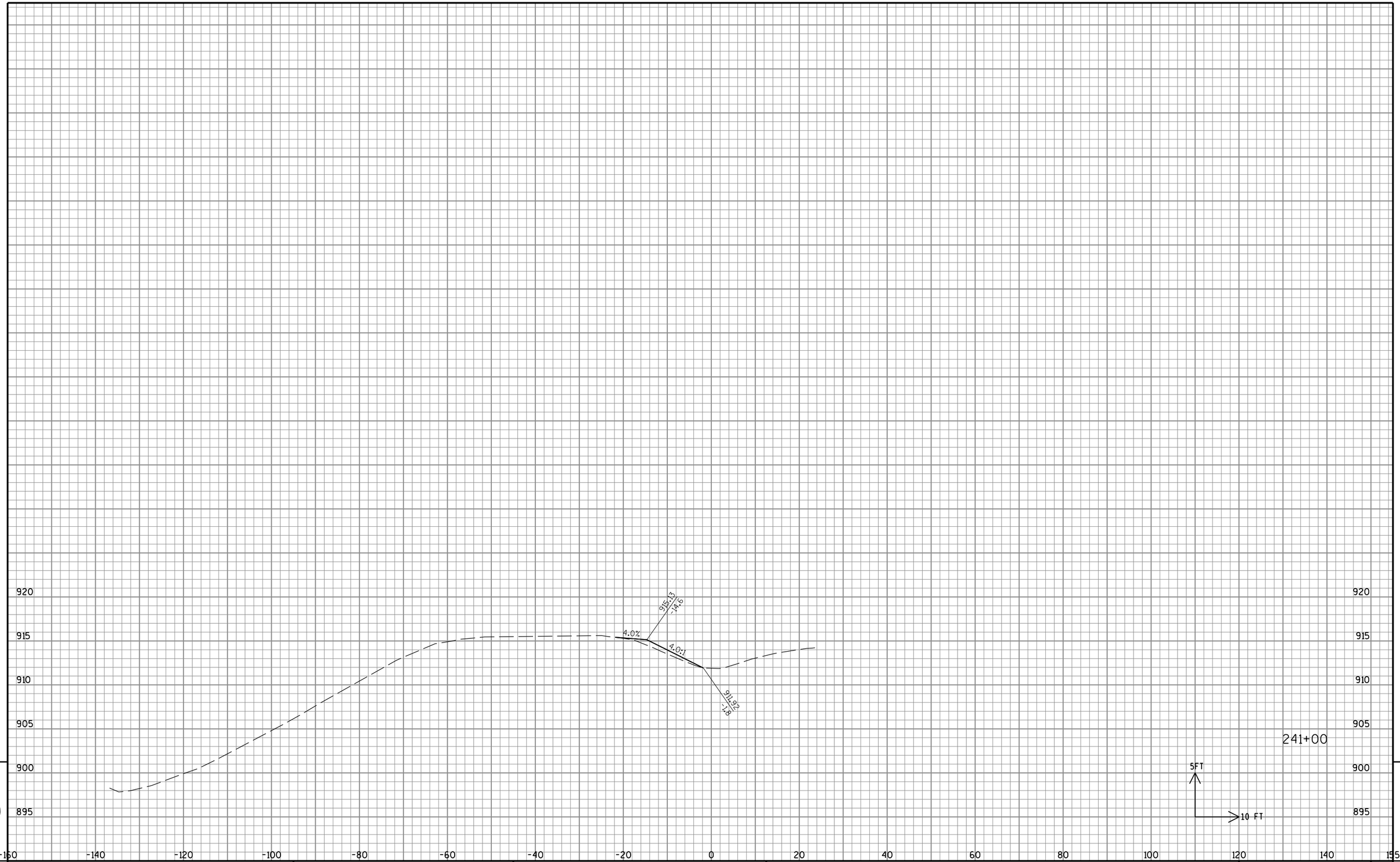
239+70





STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 562	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090206_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



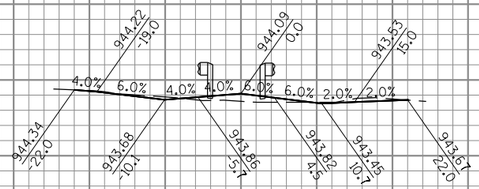
9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 563	E

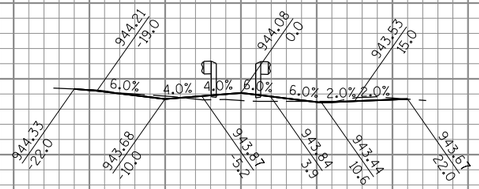
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090206_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

289+00

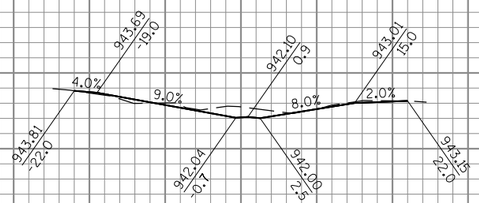


POST 1

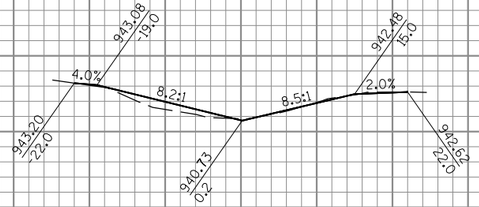
288+99

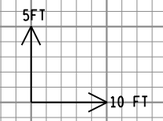


288+50



288+00





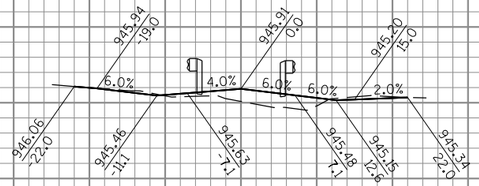
9

9

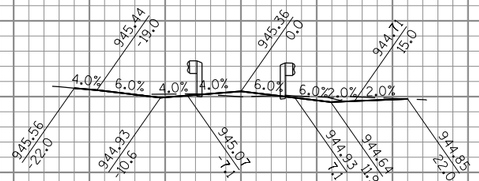
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 564	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090207_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

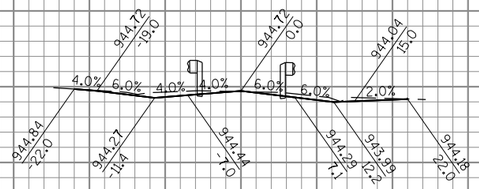
POST 5



290+44

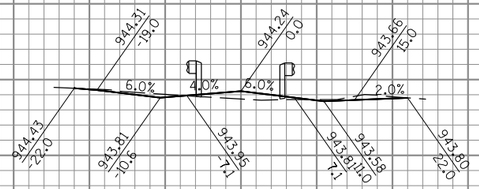


290+00

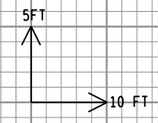


289+50

POST 5



289+12

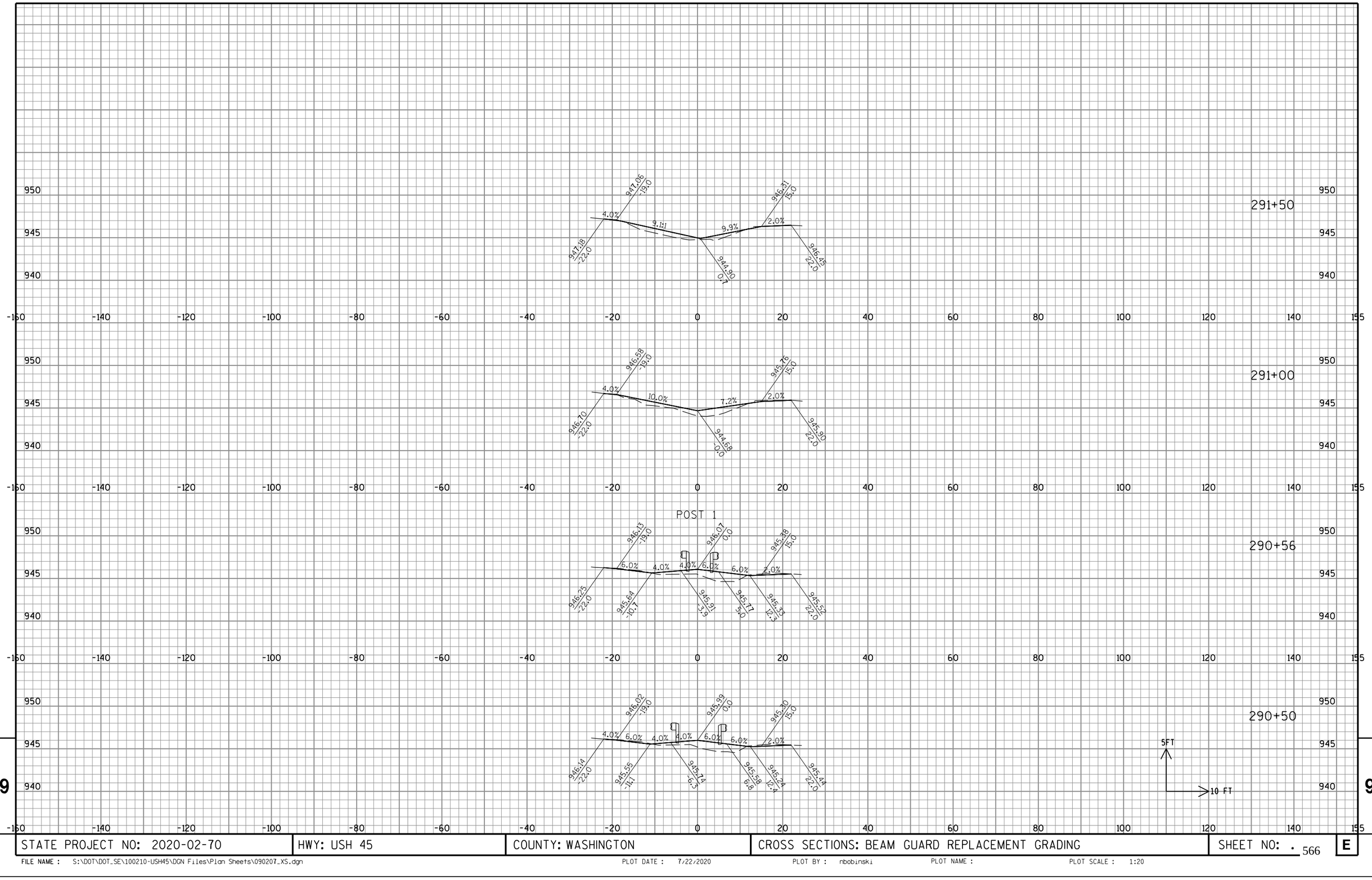


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 565	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090207_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

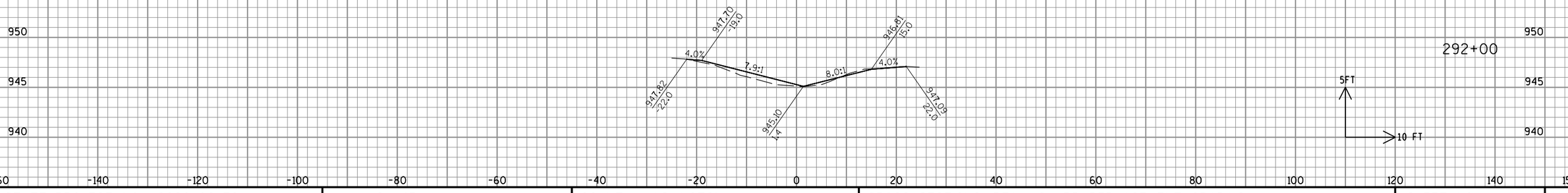


9

9

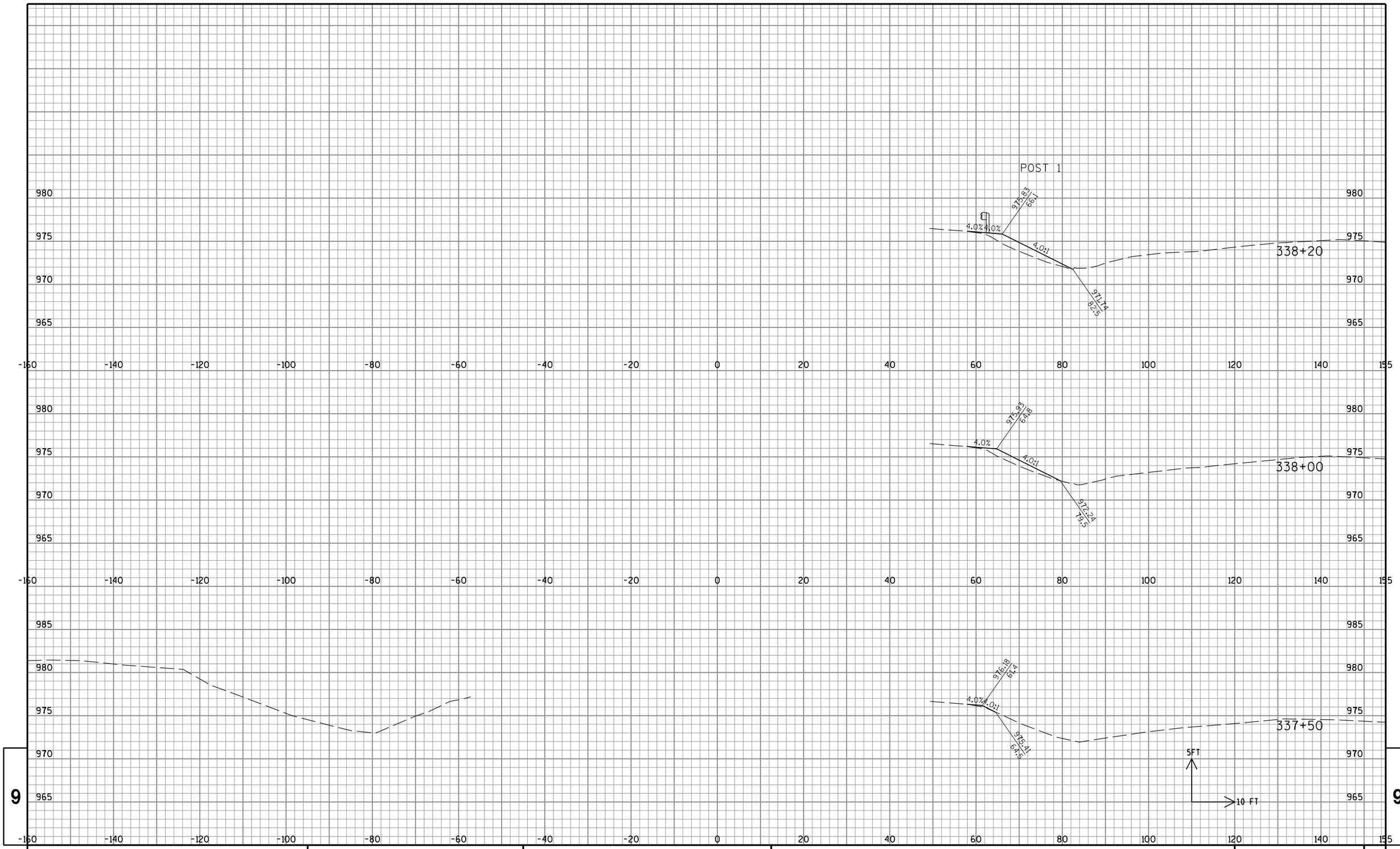
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 566	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090207_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 567	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090207_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

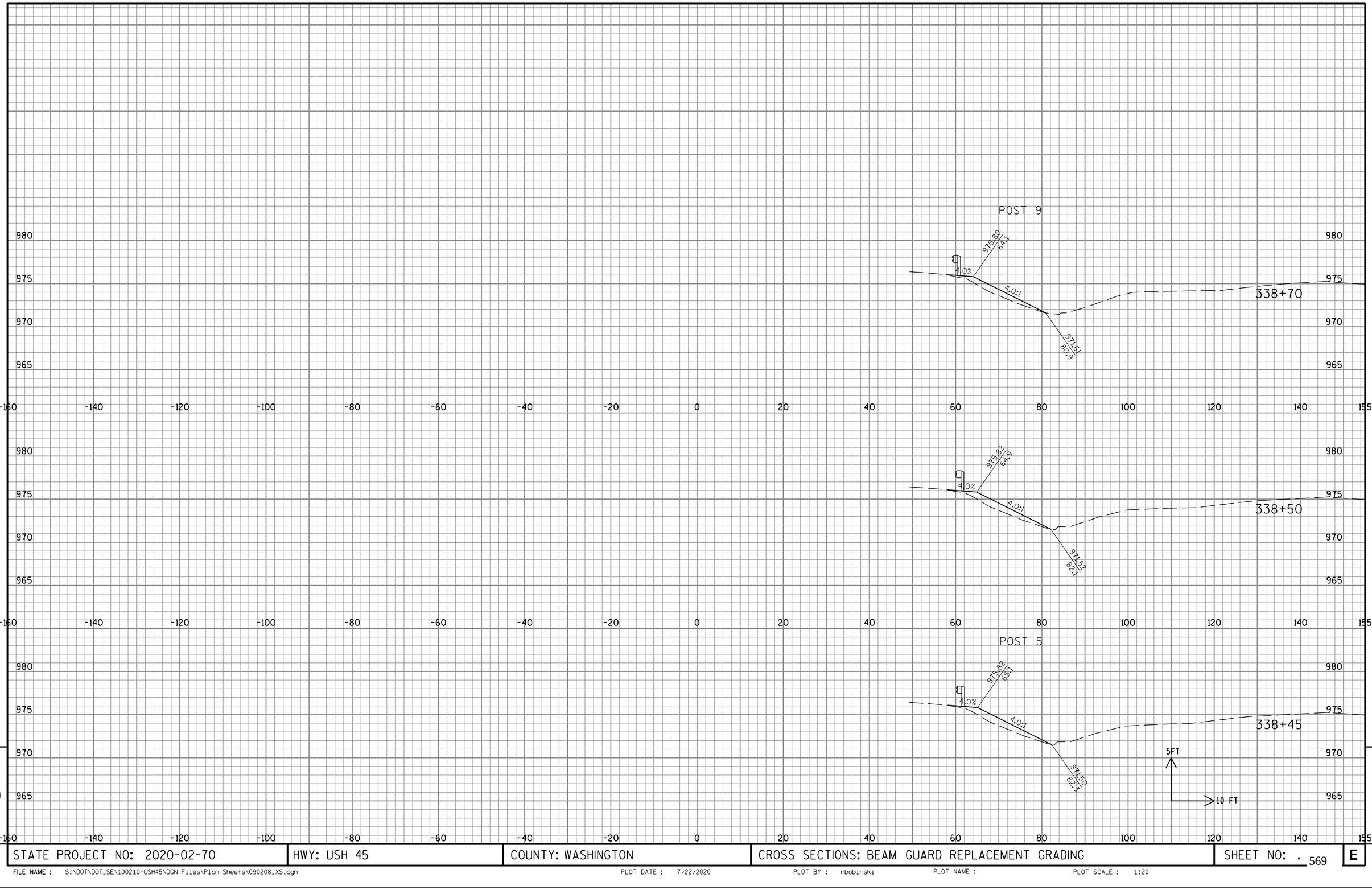


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 568	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090208_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

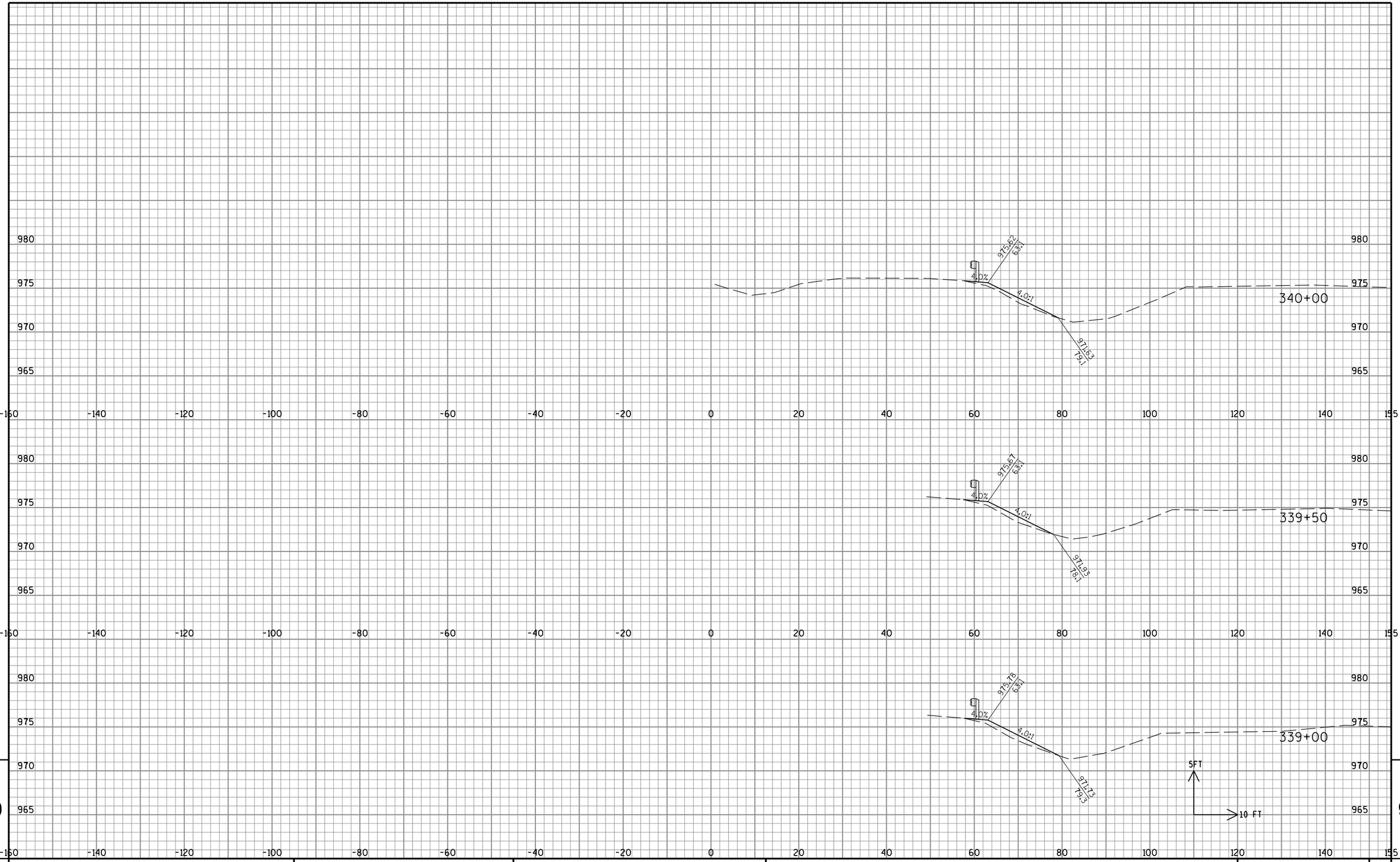


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 569	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090208_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 570	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090208_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

995
990
985
980
975
970
965
-160 -140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140 155

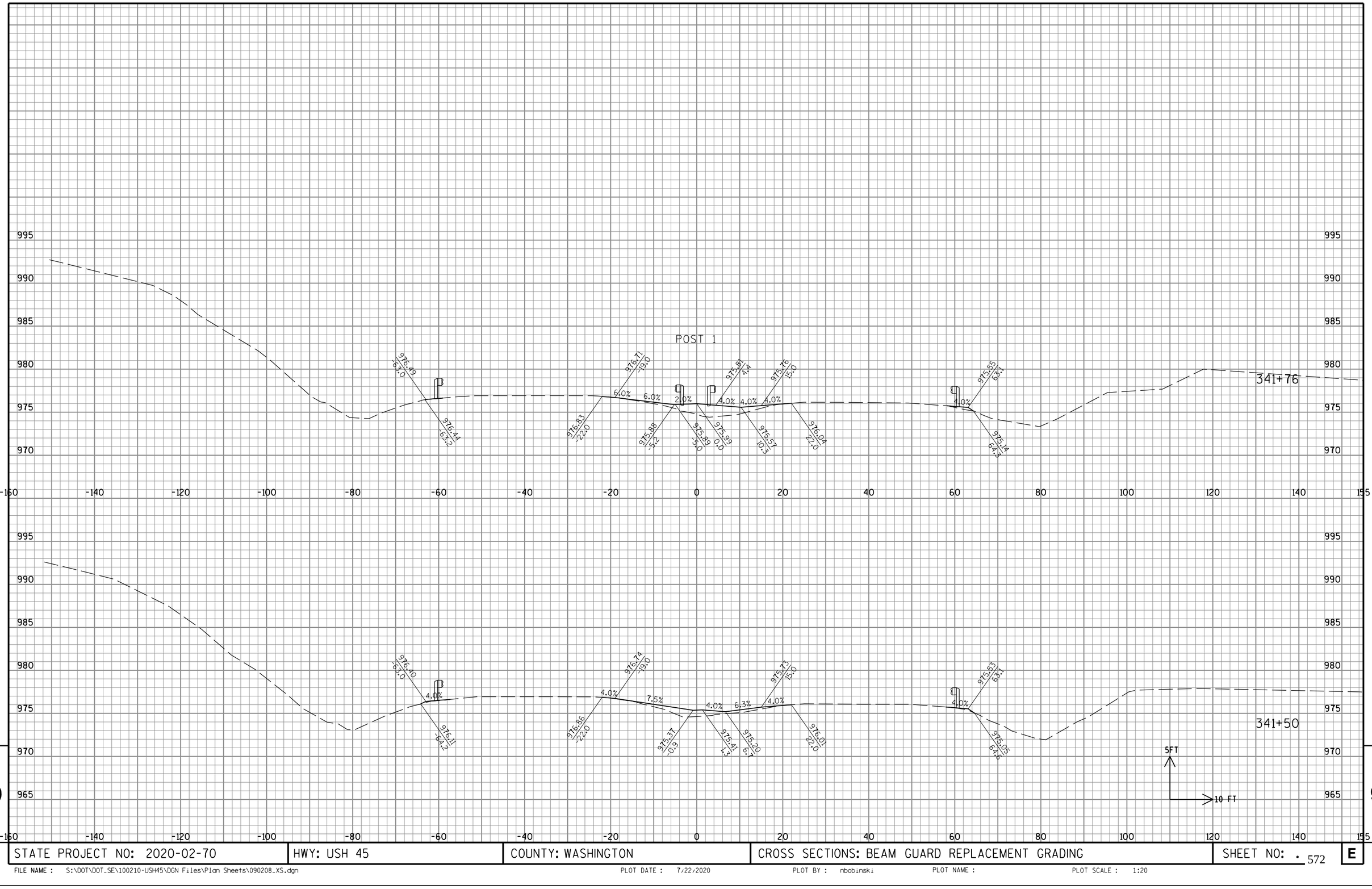
976.41
6:1.0
4.0%
976.73
6:1.0
976.87
22.0
4.0%
976.73
19.0
6:1:1
973.57
0.3
973.57
0.3
7.0:1
4.0%
975.65
15.0
975.93
22.0
4.0%
3.0:1
975.51
63.1
974.17
67.1
341+00
4.0%
3.0:1
975.65
63.1
974.225
67.0
340+50
5FT
10 FT

9

9

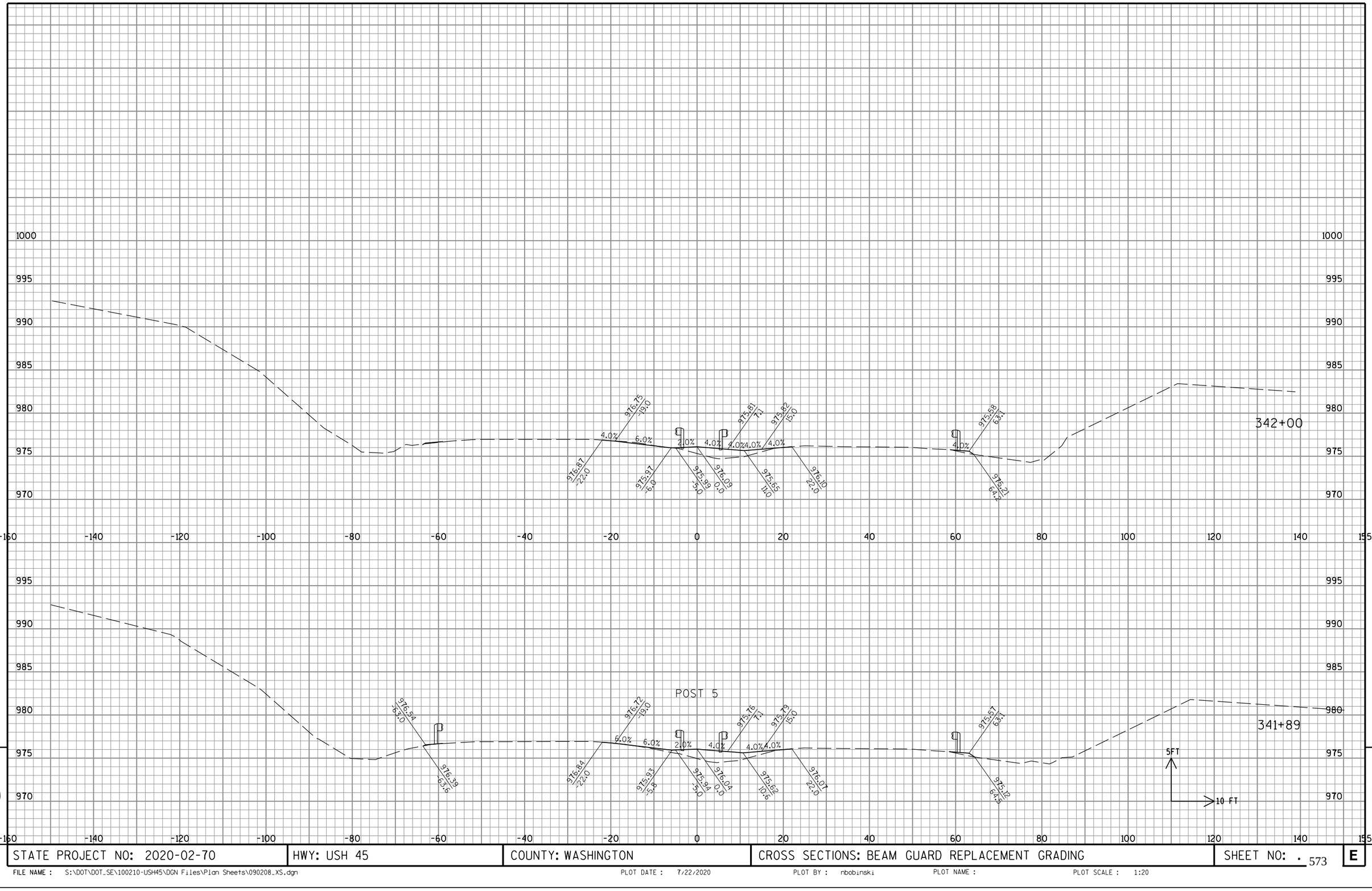
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 571	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090208_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



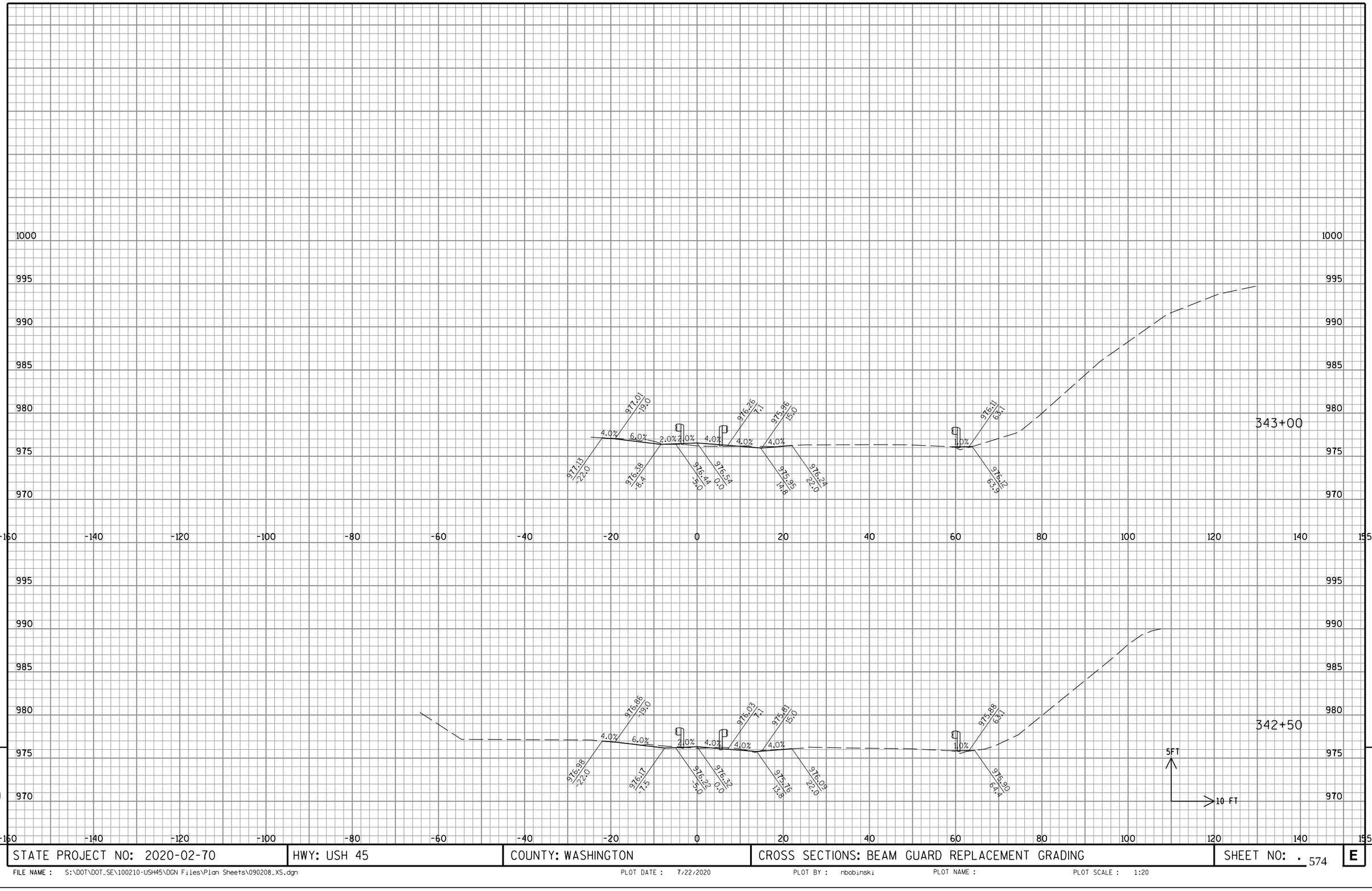
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 572	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090208_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



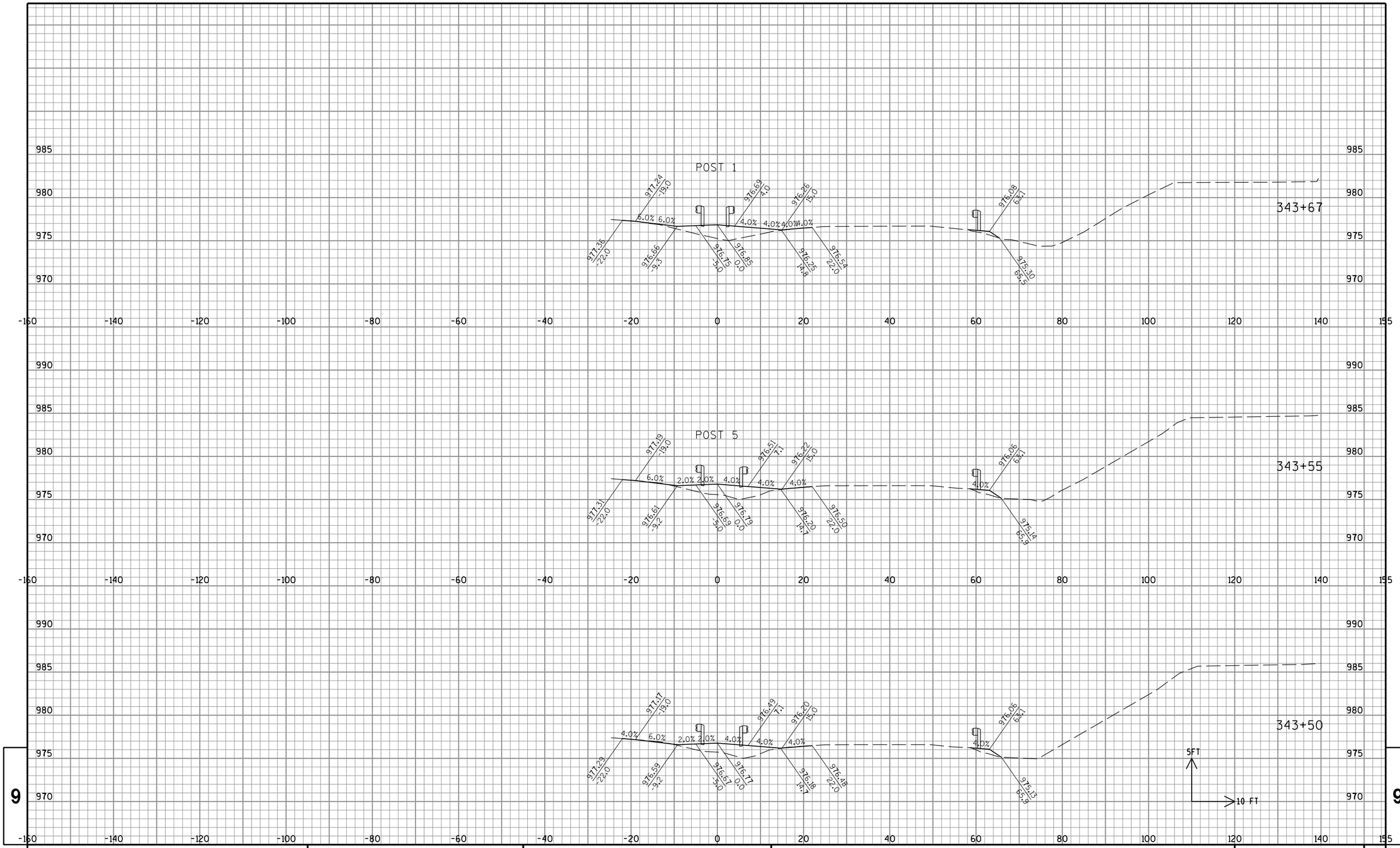
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 573	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090208_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 574	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090208_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 575	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090208_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

345+00

977.49
65.0
4.0%
977.15
64.3
976.99
63.10
4.0%
3.0:1
975.01
68.9

344+50

977.25
65.0
4.0%
976.57
65.1
977.44
-19.0
4.0%
8.0:1
977.56
-22.0
975.00
0.6
8.3:1
975.00
0.6
976.74
15.0
4.0%
977.02
22.0
976.67
68.1
4.0%
3.0:1
974.32
70.2

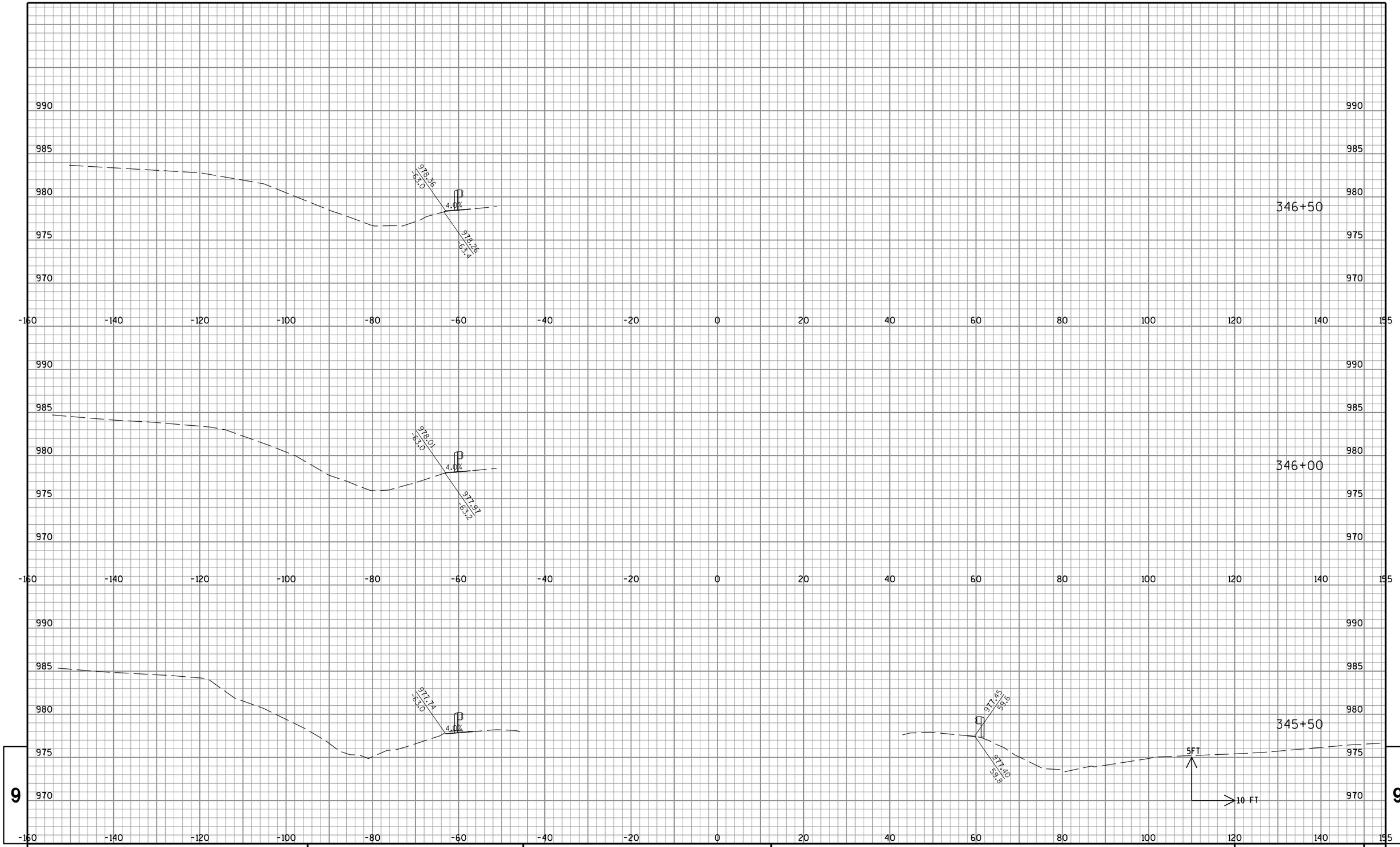
344+00

977.33
-19.0
4.0%
8.0%
977.45
-22.0
976.01
-2.5
2.0%
0.0%
976.08
1.0
7.0%
976.08
10.6
976.79
15.0
4.0%
976.67
22.0
976.32
68.1
4.0%
975.37
66.0

5FT
10 FT

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: 576	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090208_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 577	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090208_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

POST 5

978.99
-65.0

4.0%

4.0:1

977.14
-72.4

347+24

978.81
-64.1

4.0%

978.08
-67.0

347+00

POST 9

978.80
-64.0

4.0%

978.99
-66.8

346+99

5FT

10 FT

9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 578	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090208_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

348+00

979.78
62.6
4.0%
4.0:1
978.46
67.9

347+50

979.20
65.9
4.0%
4.0:1
977.11
74.3

POST 1

347+49

979.18
66.0
4.0%
4.0:1
977.06
74.5

5FT
10 FT

990
985
980
975
970

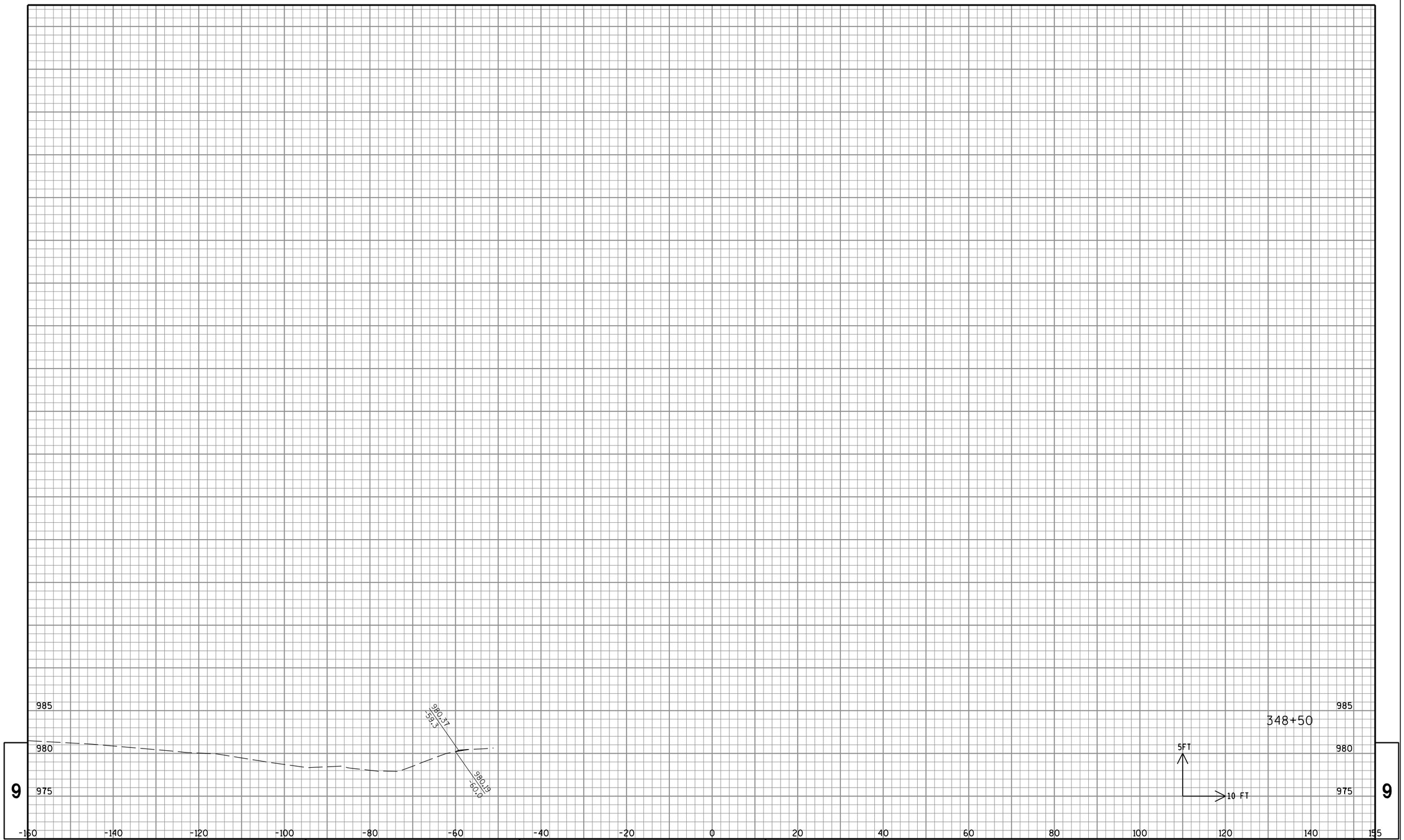
-160 -140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140 155

9

9

STATE PROJECT NO: 2020-02-70 | HWY: USH 45 | COUNTY: WASHINGTON | CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING | SHEET NO: . 579 | E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090208_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

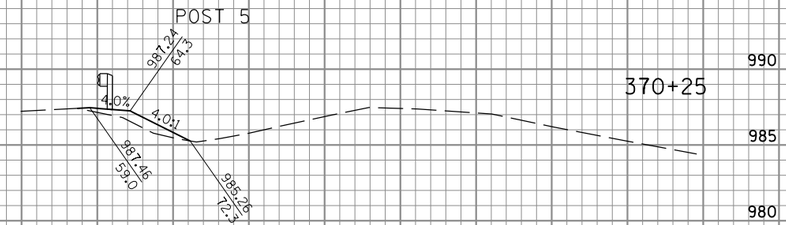


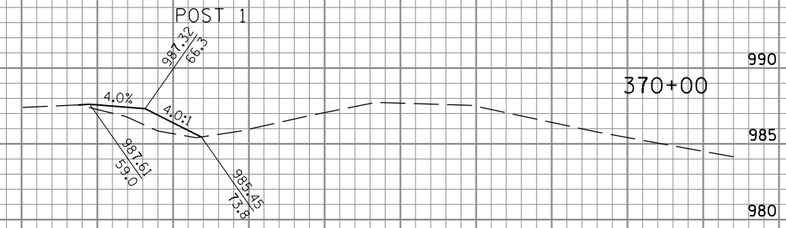
9

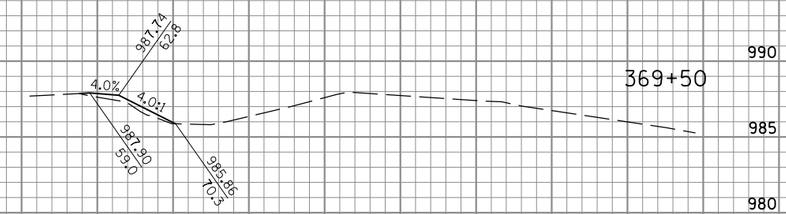
9

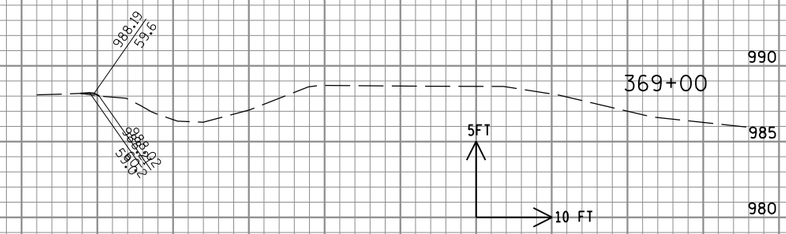
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 580	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090208_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20







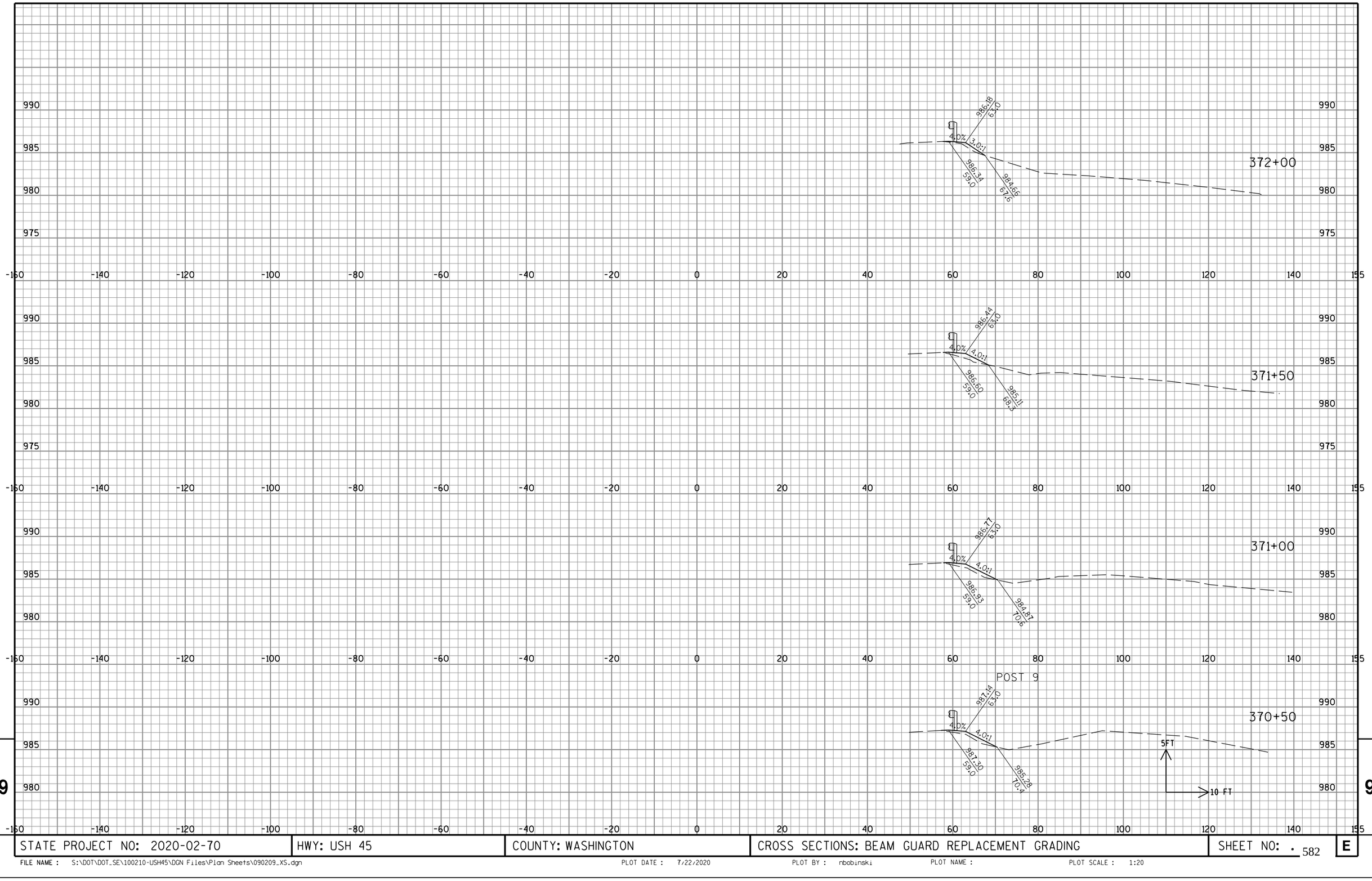


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 581	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090209_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

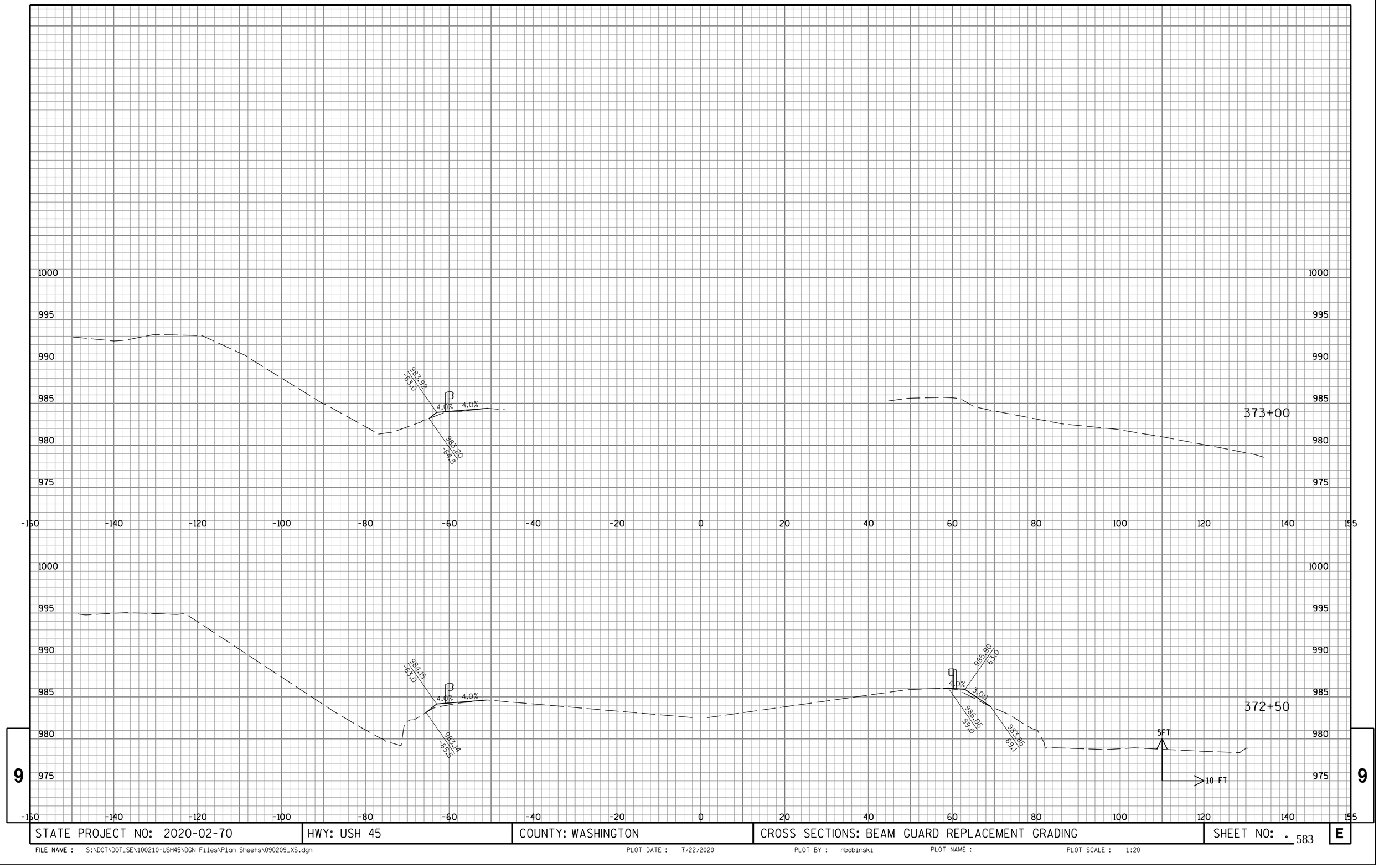


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 582	E

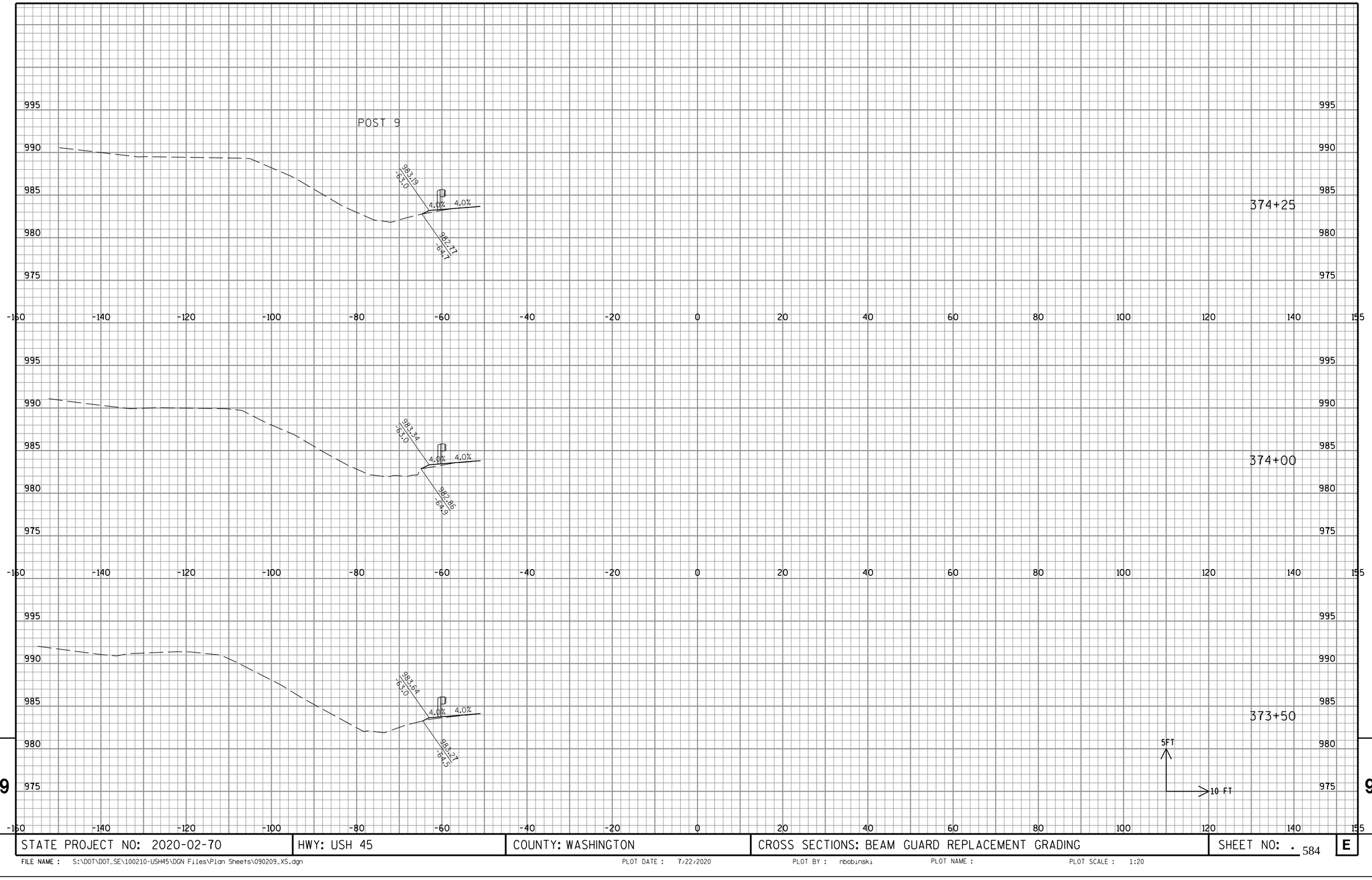
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090209_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 583	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090209_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

POST 9



9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 584	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090209_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

375+00

995
990
985
980
975

-160 -140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140 155

982.77
64.8
4.0%
4.0%
981.65
69.3

POST 1

374+75

995
990
985
980
975

-160 -140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140 155

982.80
66.3
4.0%
4.0%
4.0%
981.27
72.5

POST 5

374+50

995
990
985
980
975

-160 -140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140 155

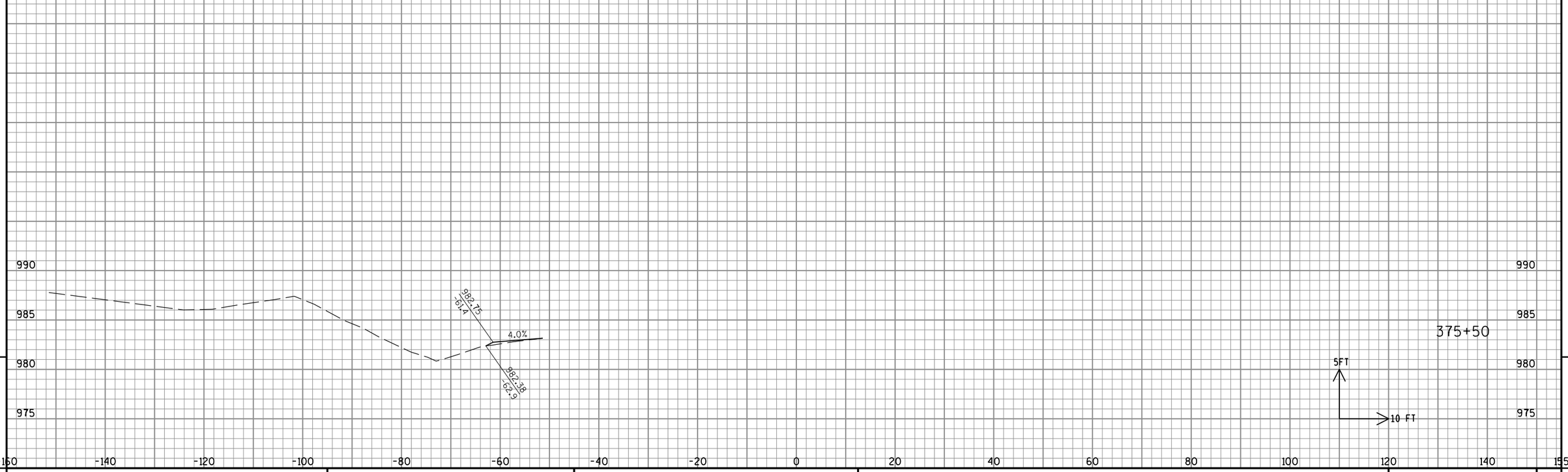
983.01
64.3
4.0%
4.0%
982.30
67.2

5FT
10 FT

9 9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 585	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090209_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

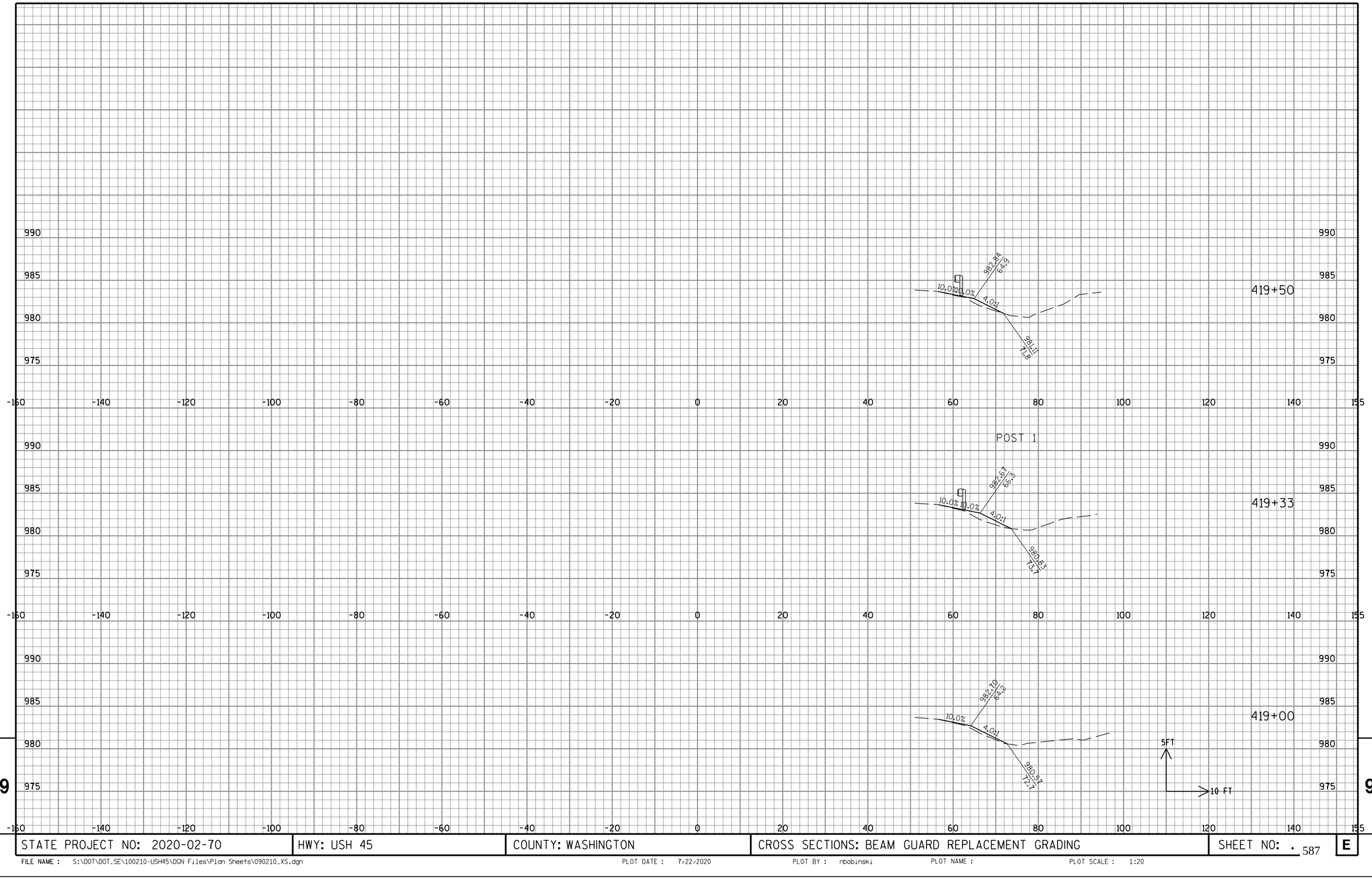


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 586	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090209_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

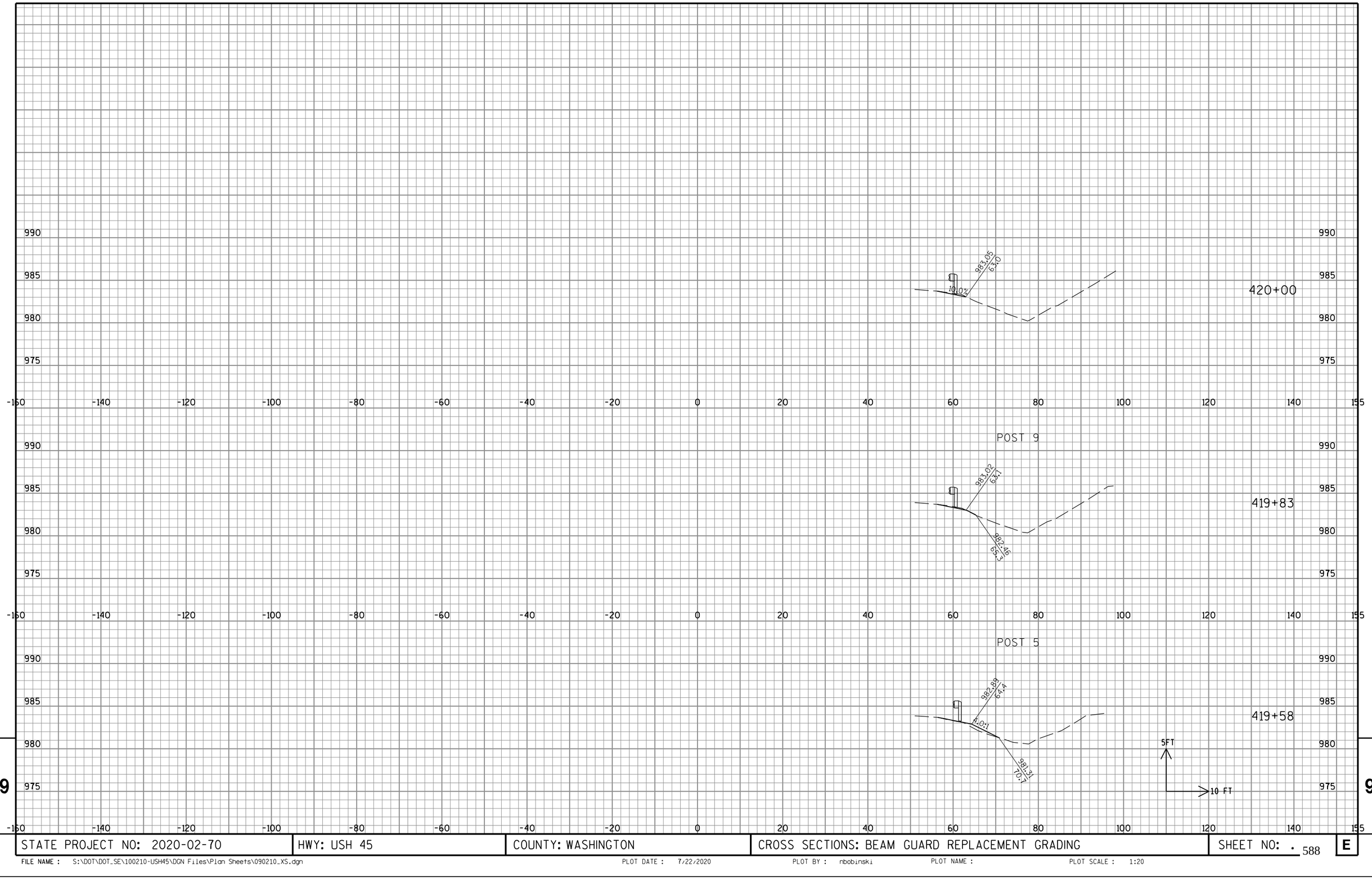


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 587	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090210_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

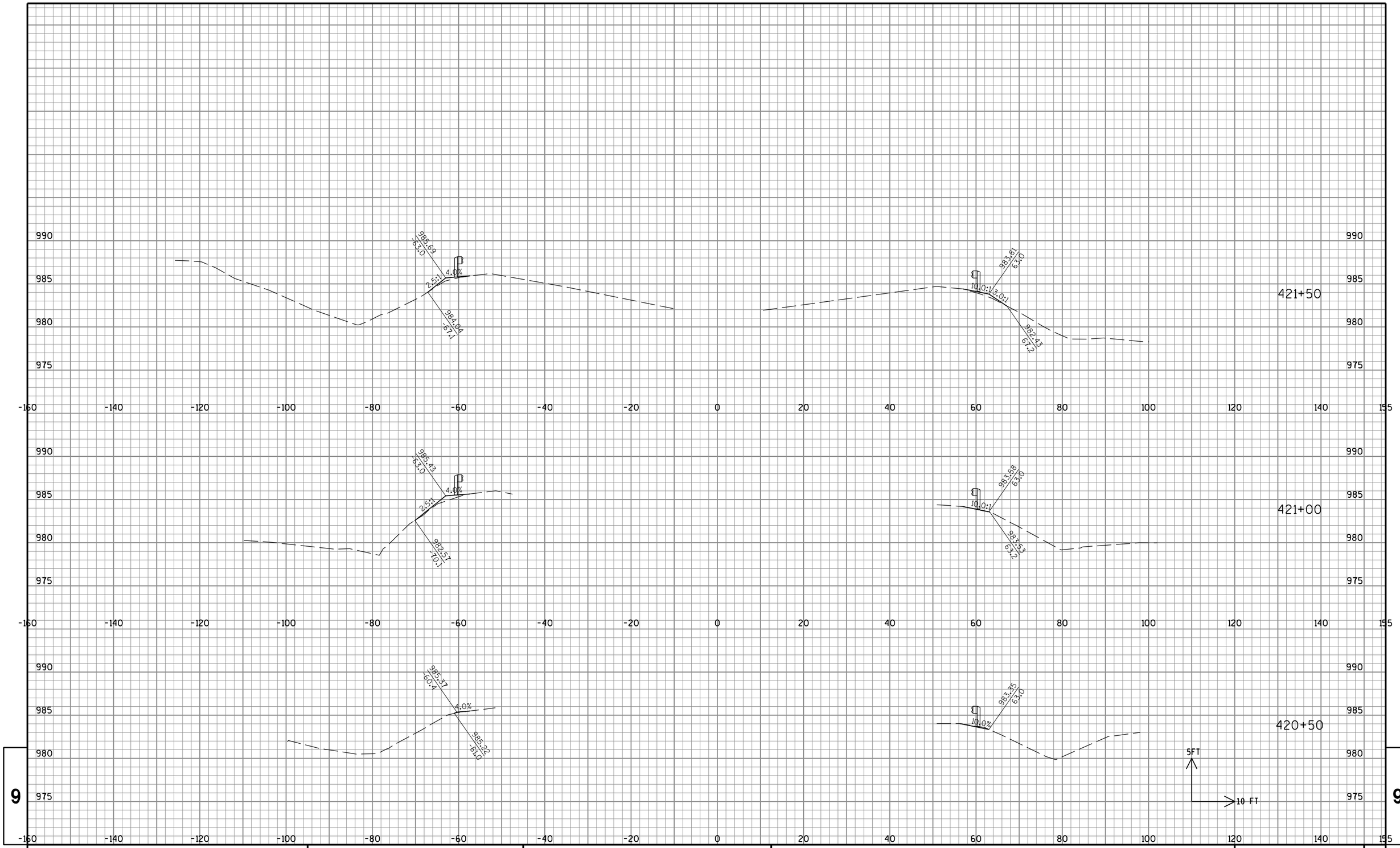


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 588	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090210_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

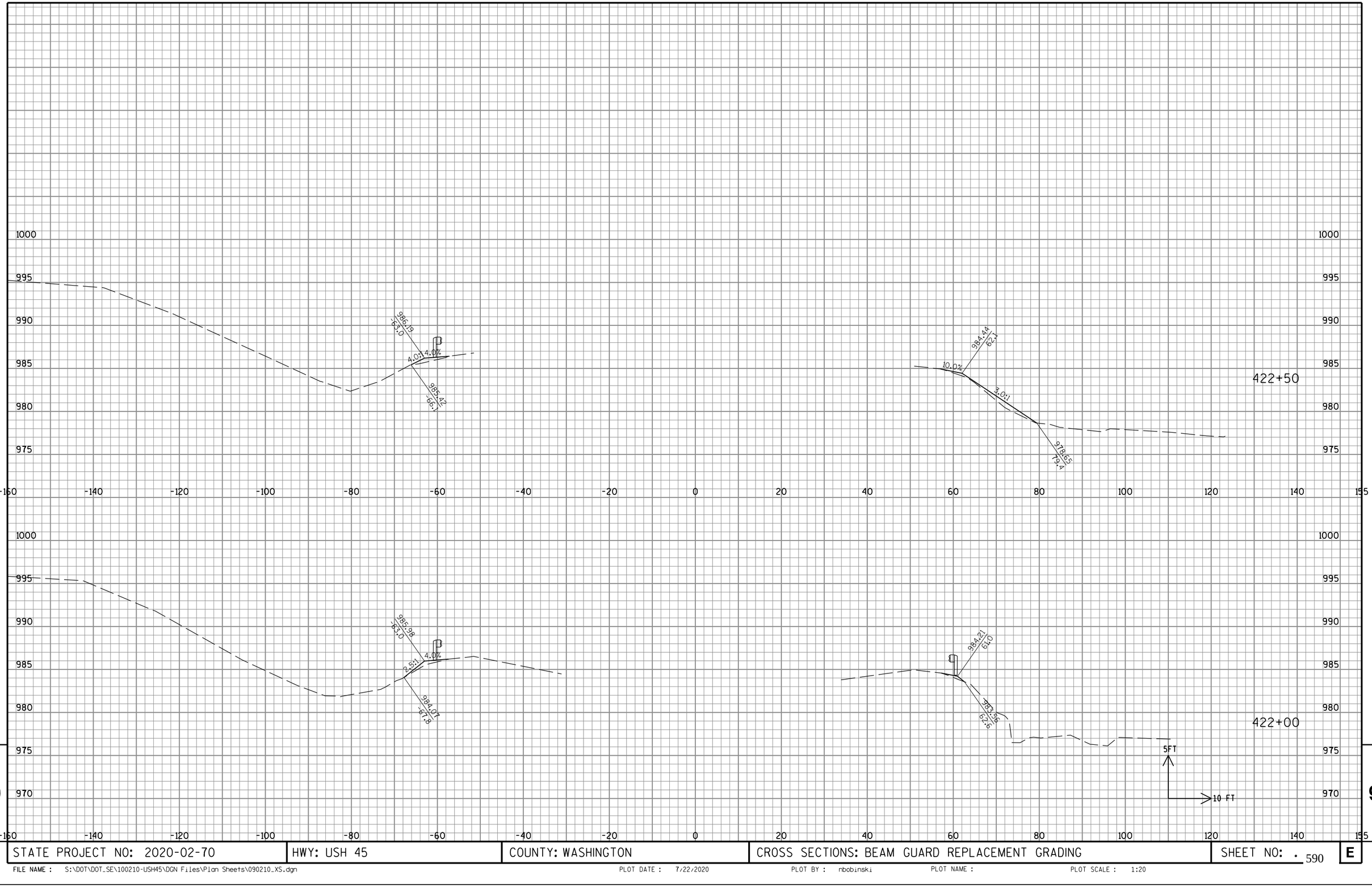


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 589	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090210_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 590	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090210_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

423+50

986.87
-153.4
4.0:1
4.0%
984.80
71.7

POST 9

423+42

986.85
-53.0
4.0:1
4.0%
985.04
70.2

423+00

986.80
-5.0
4.0:1
4.0%
985.03
-69.3

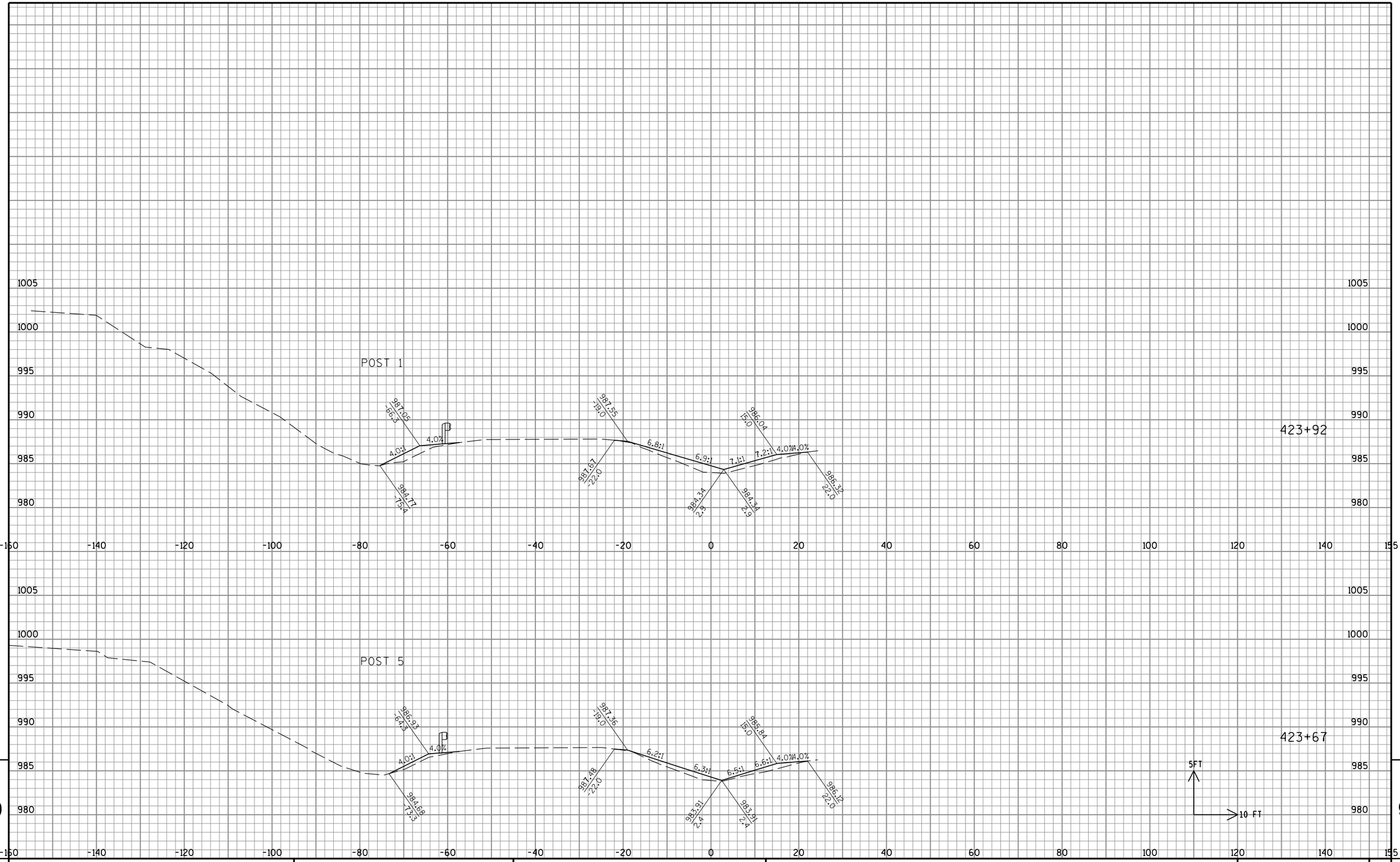
5FT
10 FT

9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 591	E

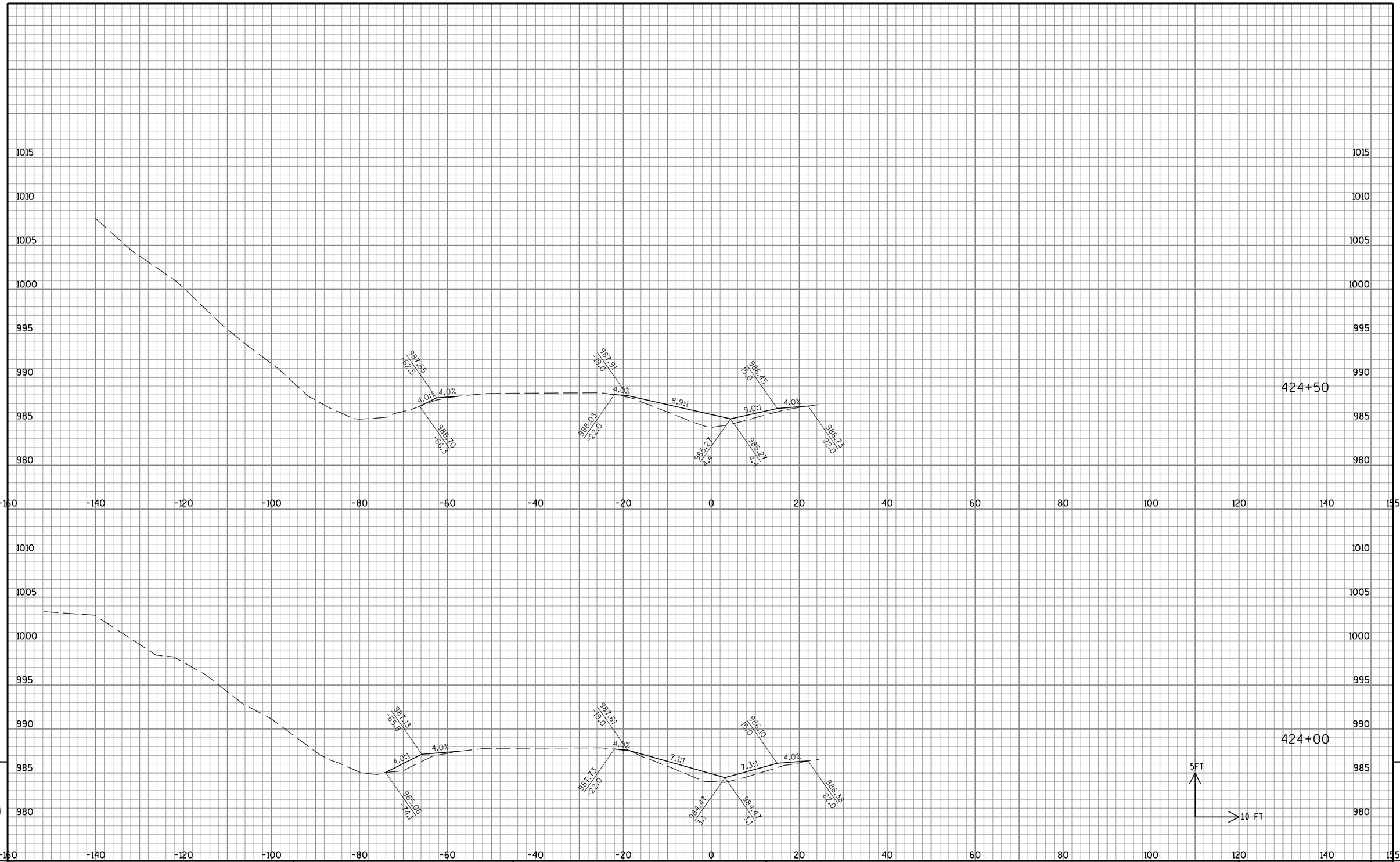
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090210_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 592

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090210_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

9 E 9



9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 593	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090210_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

POST 1

425+36

988.70 -19.0
987.79 0.0
987.21 15.0
988.82 -22.0
987.62 -8.2
987.71 -5.9
987.48 5.1
987.09 11.7
987.49 22.0
10.0%
2.0%
6.0%
6.0%
4.0%

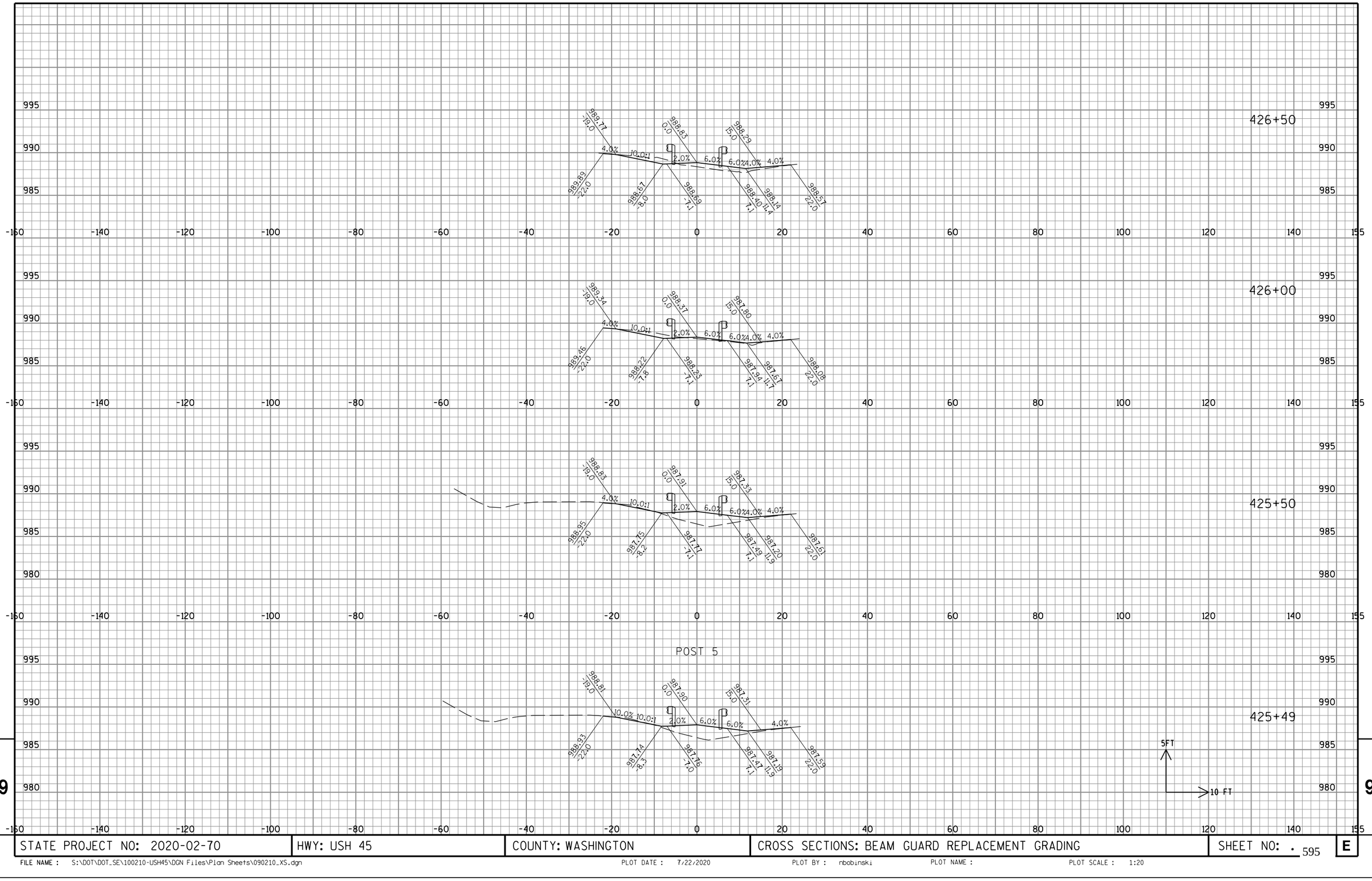
425+00

988.20 -55.1
988.37 -19.0
986.63 2.9
986.84 15.0
988.49 -22.0
986.55 -0.8
986.33 7.9
987.12 22.0
4.0%
10.0:1
2.0%
6.0%
7.2%
4.0%

5FT
10 FT

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 594	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090210_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

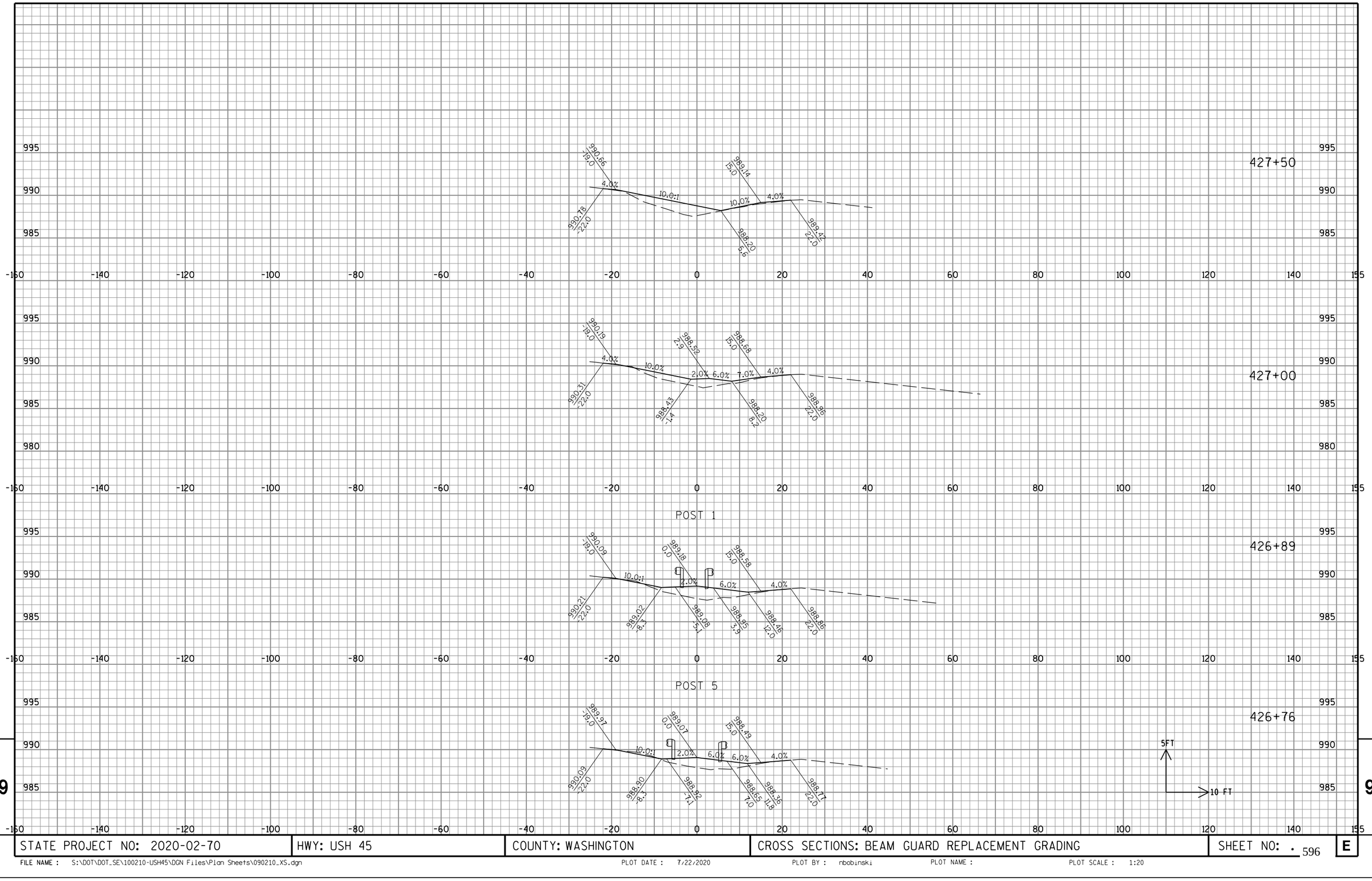


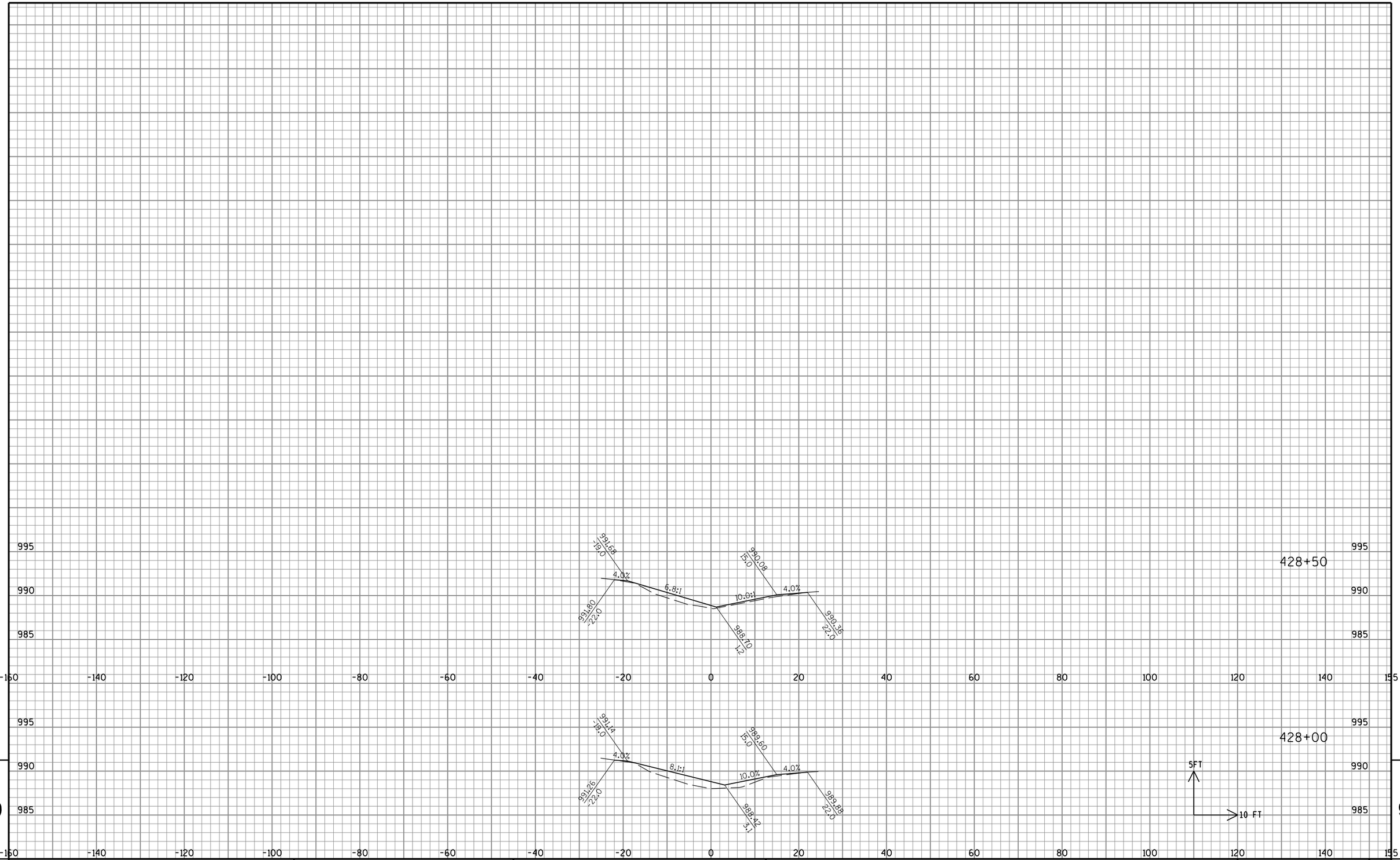
9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 595	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090210_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20


427+50
990.86
-19.0
4.0%
10.0:1
990.78
-22.0
989.14
15.0
10.0%
4.0%
988.20
5.6
989.42
22.0
427+00
990.19
-19.0
4.0%
10.0%
990.31
-22.0
988.52
2.9
2.0%
6.0%
988.68
15.0
7.0%
4.0%
988.43
-1.4
988.20
8.2
988.96
22.0
POST 1
426+89
990.09
-19.0
10.0:1
990.21
-22.0
989.18
0.0
2.0%
6.0%
988.58
15.0
4.0%
989.02
-8.1
989.08
5.1
988.85
3.9
988.46
12.0
988.86
22.0
POST 5
426+76
989.97
-19.0
10.0:1
990.09
-22.0
989.07
0.0
2.0%
6.0%
988.43
15.0
6.0%
4.0%
988.30
-8.1
988.92
7.1
988.65
7.0
988.36
10.9
988.77
22.0
5FT
10 FT
9
9
STATE PROJECT NO: 2020-02-70
HWY: USH 45
COUNTY: WASHINGTON
CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING
SHEET NO: . 596
E
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090210_XS.dgn
PLOT DATE : 7/22/2020
PLOT BY : nbobinski
PLOT NAME :
PLOT SCALE : 1:20



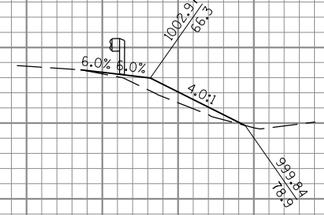
9

9

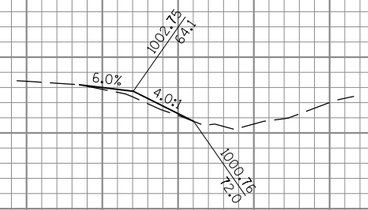
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 597	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090210_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

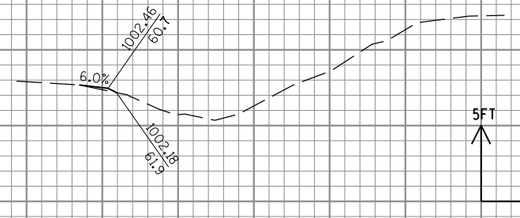
POST 1



442+34



442+00

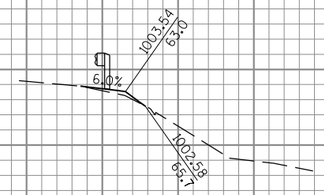


441+50

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 598	E

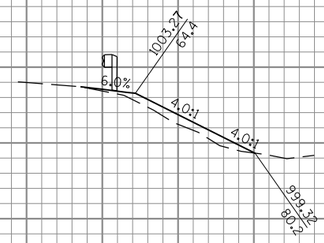
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090211_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

POST 9

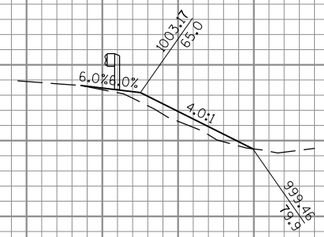


442+84

POST 5



442+59



442+50

5FT

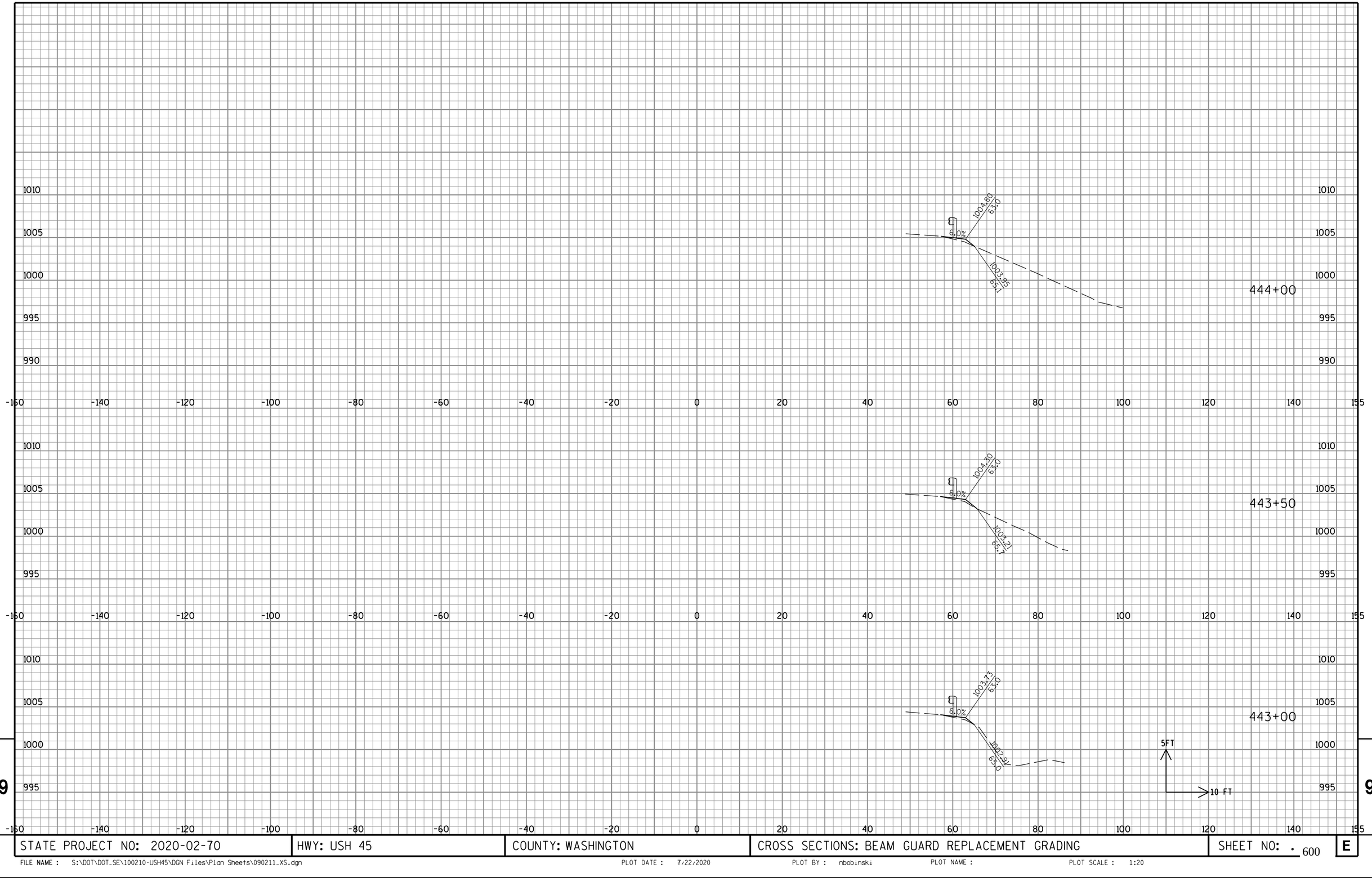
10 FT

9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 599	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090211_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

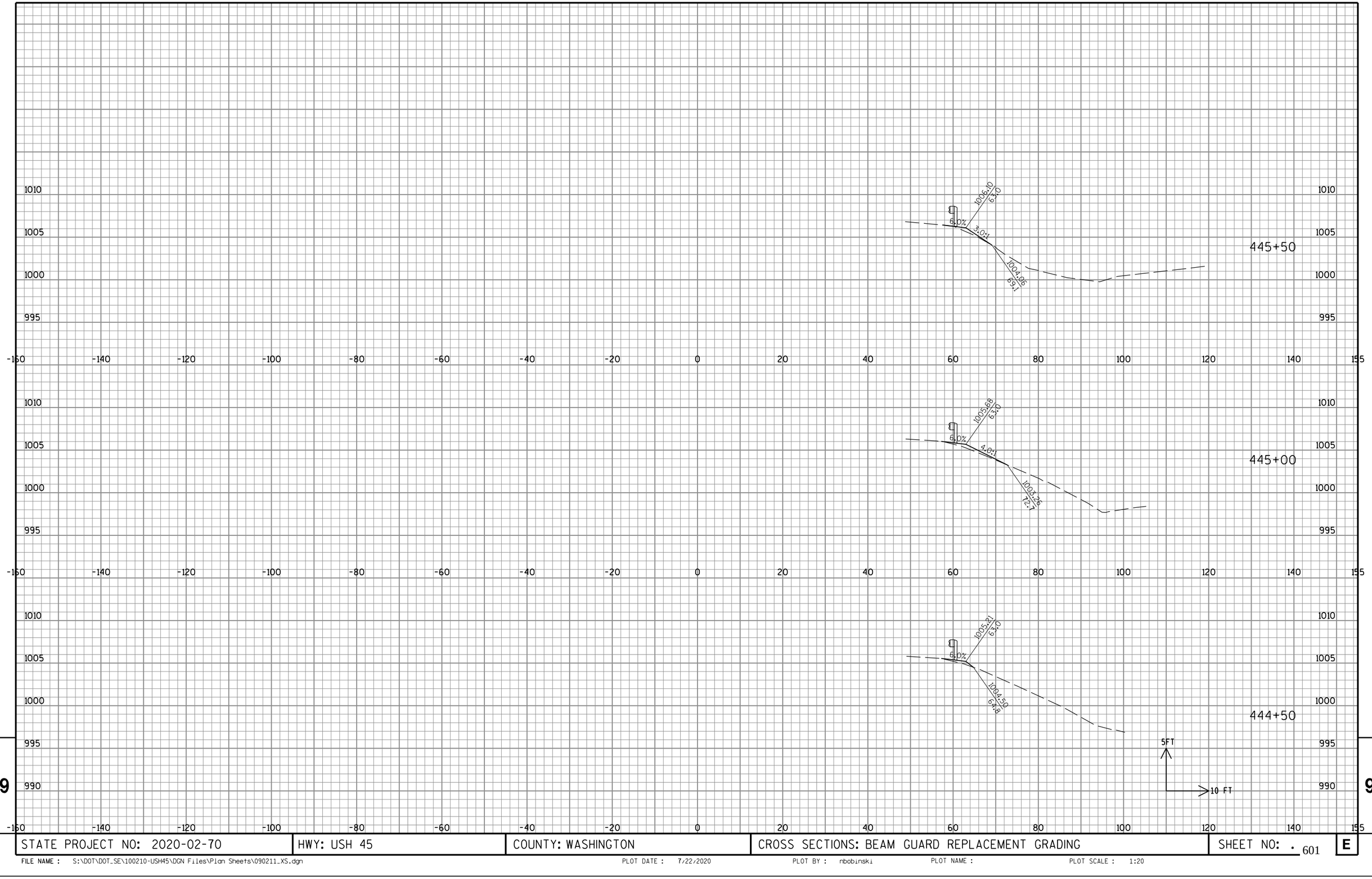


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 600	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090211_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

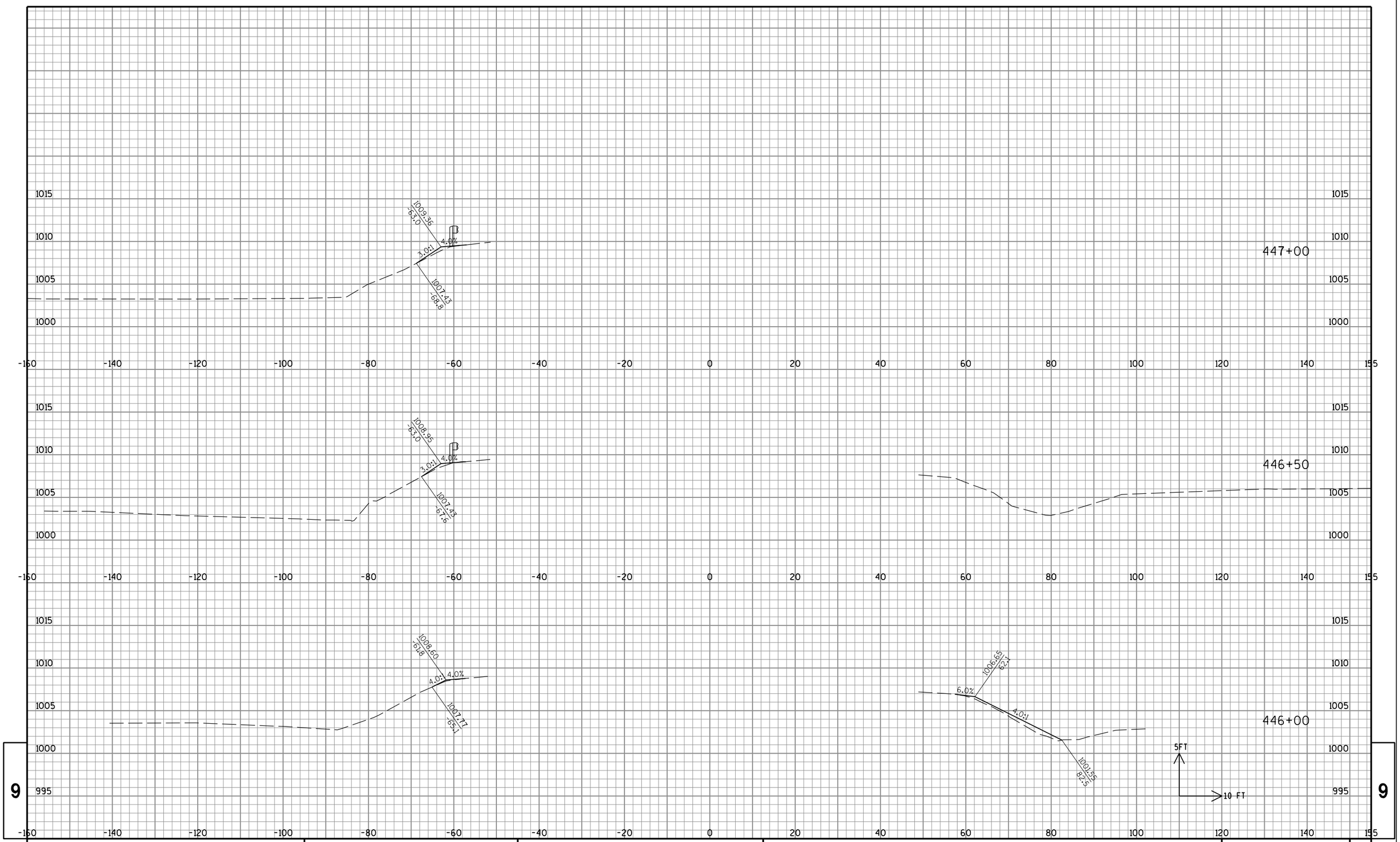


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 601	E

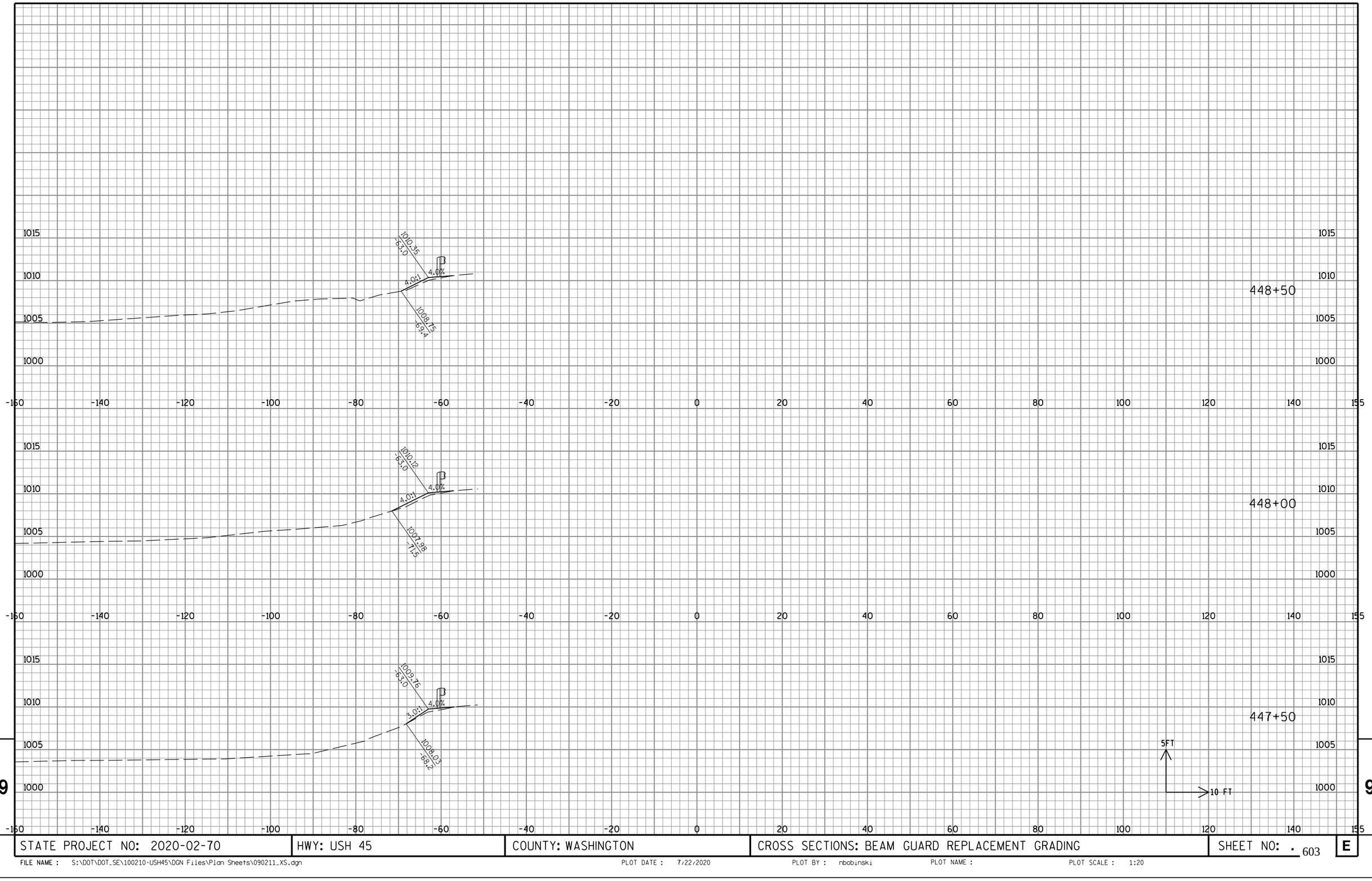
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090211_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 602	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090211_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



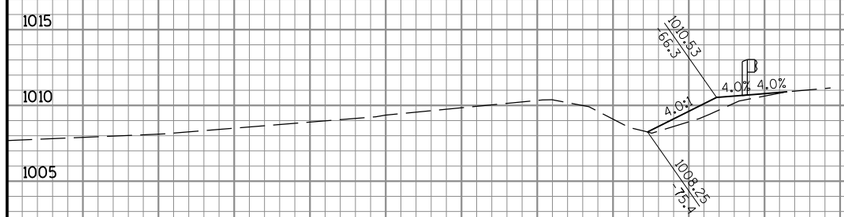
9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 603	E

9

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090211_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

POST 1

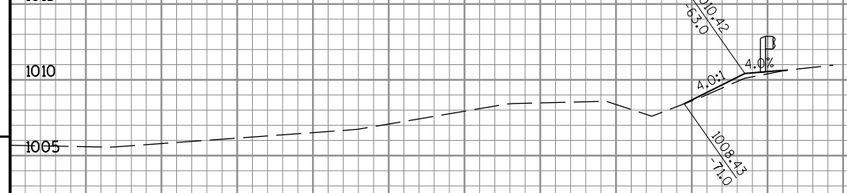


449+21

POST 5

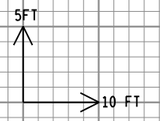
448+96

POST 9



448+71

449+00

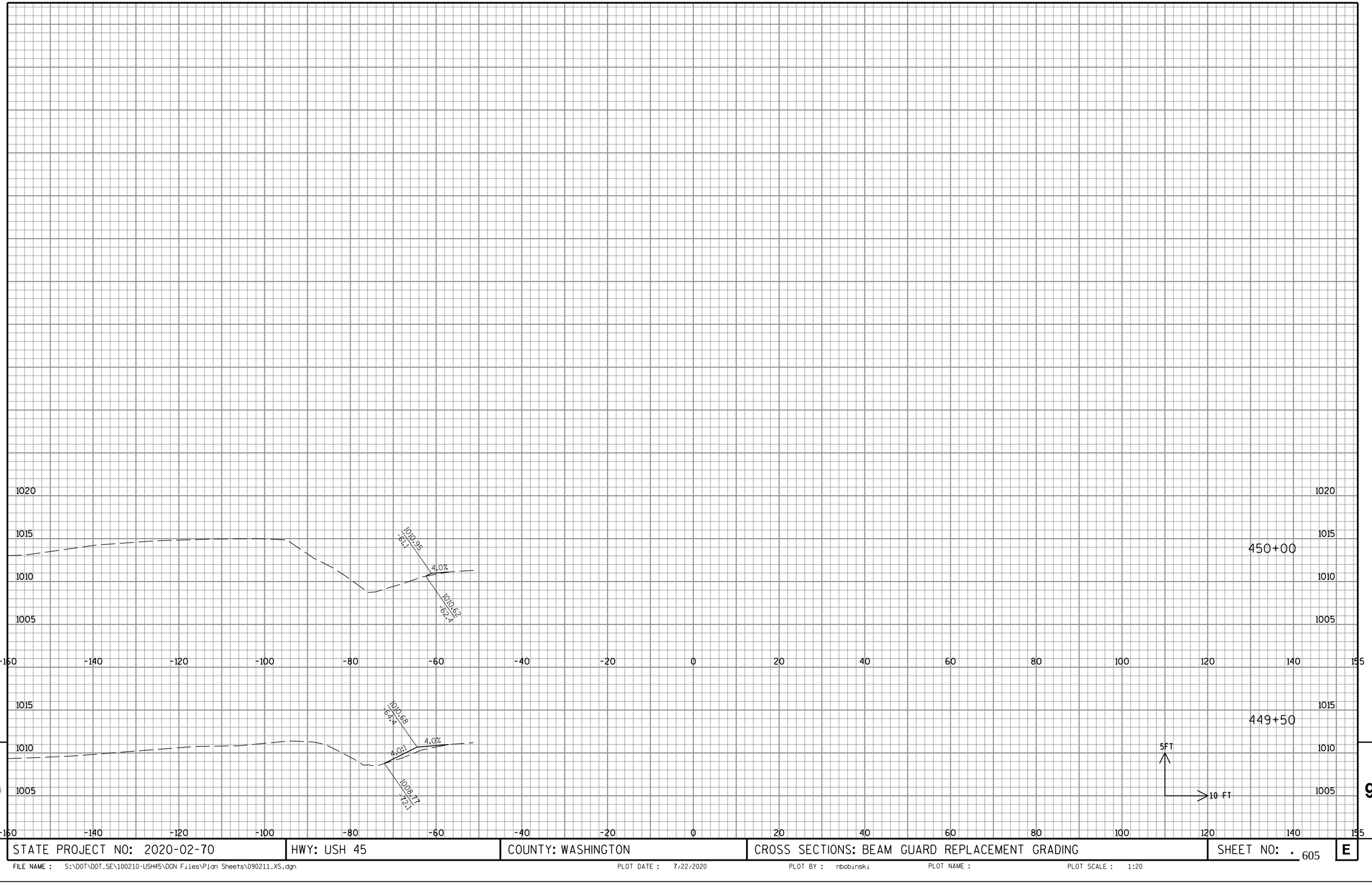


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 604	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090211_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

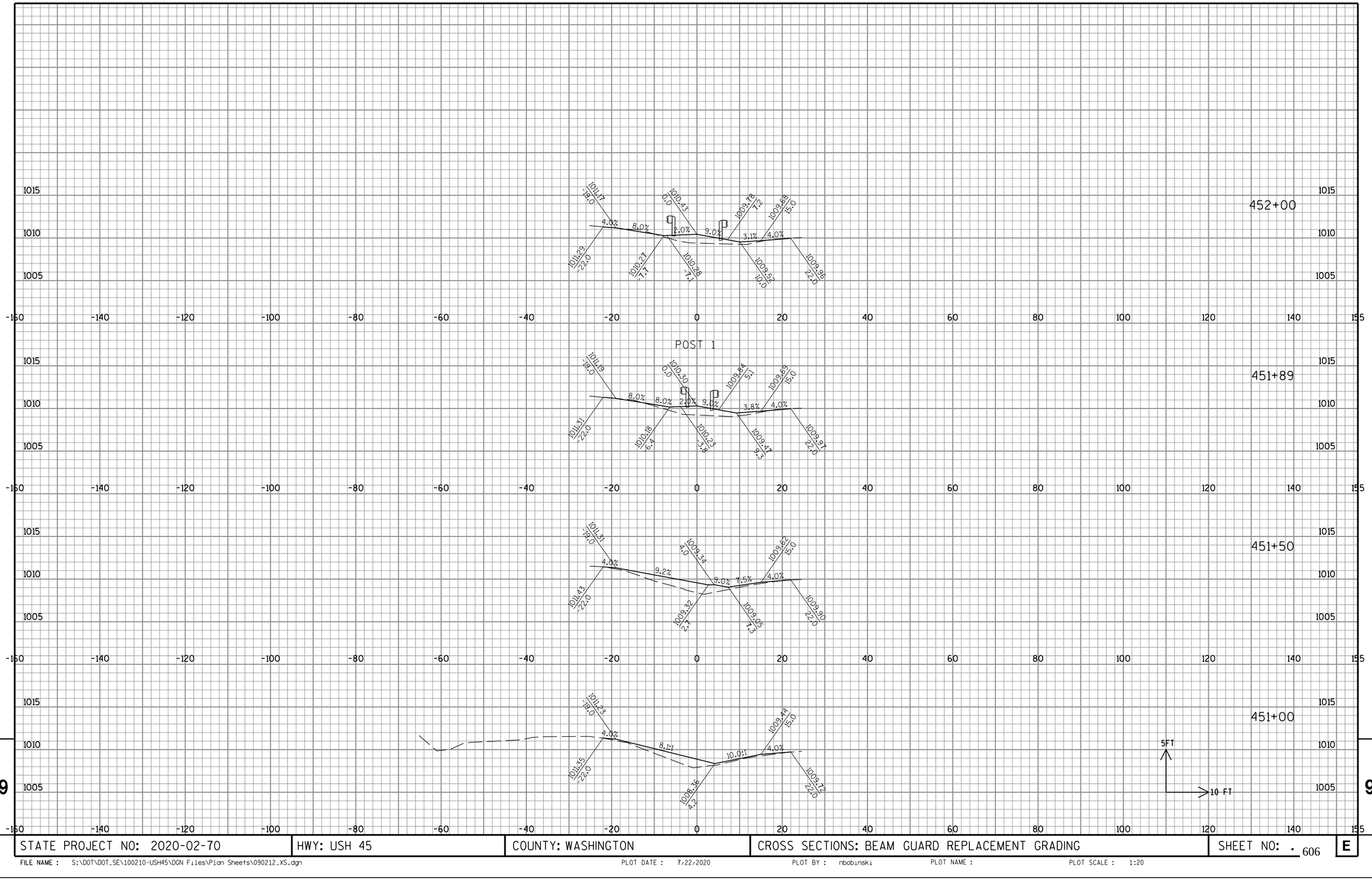


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 605	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090211_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



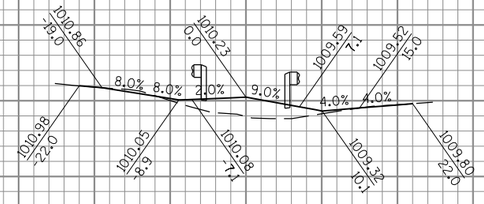
9

9

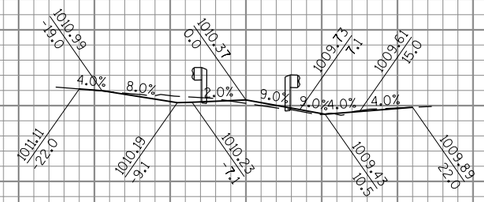
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 606	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090212_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

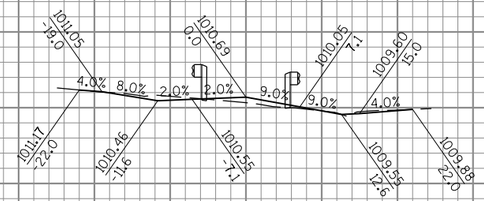
POST 5



453+33

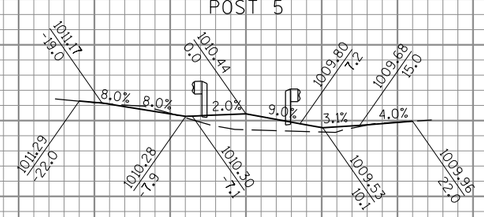


453+00

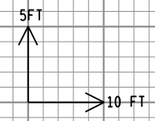


452+50

POST 5



452+02

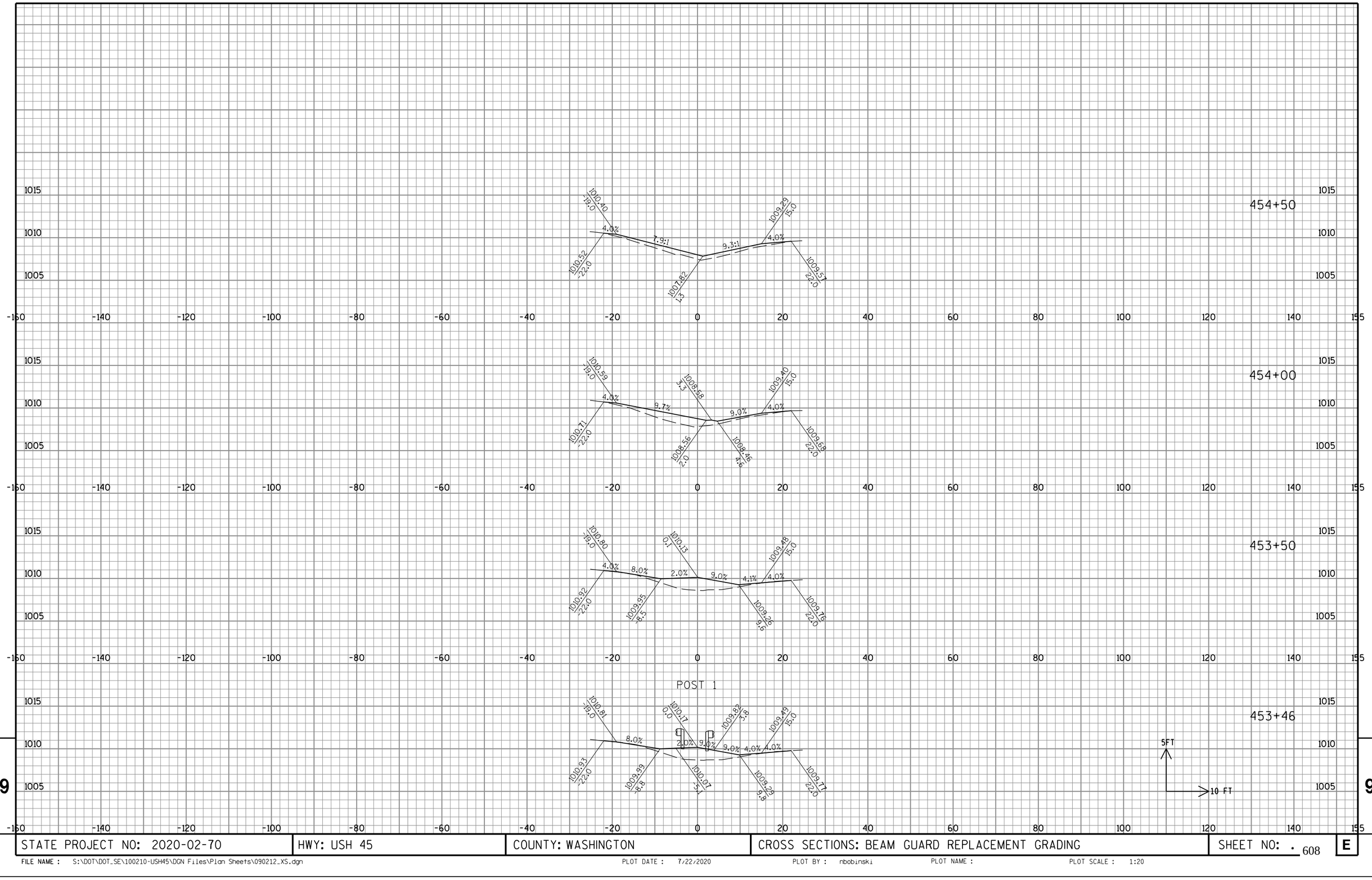


9

9

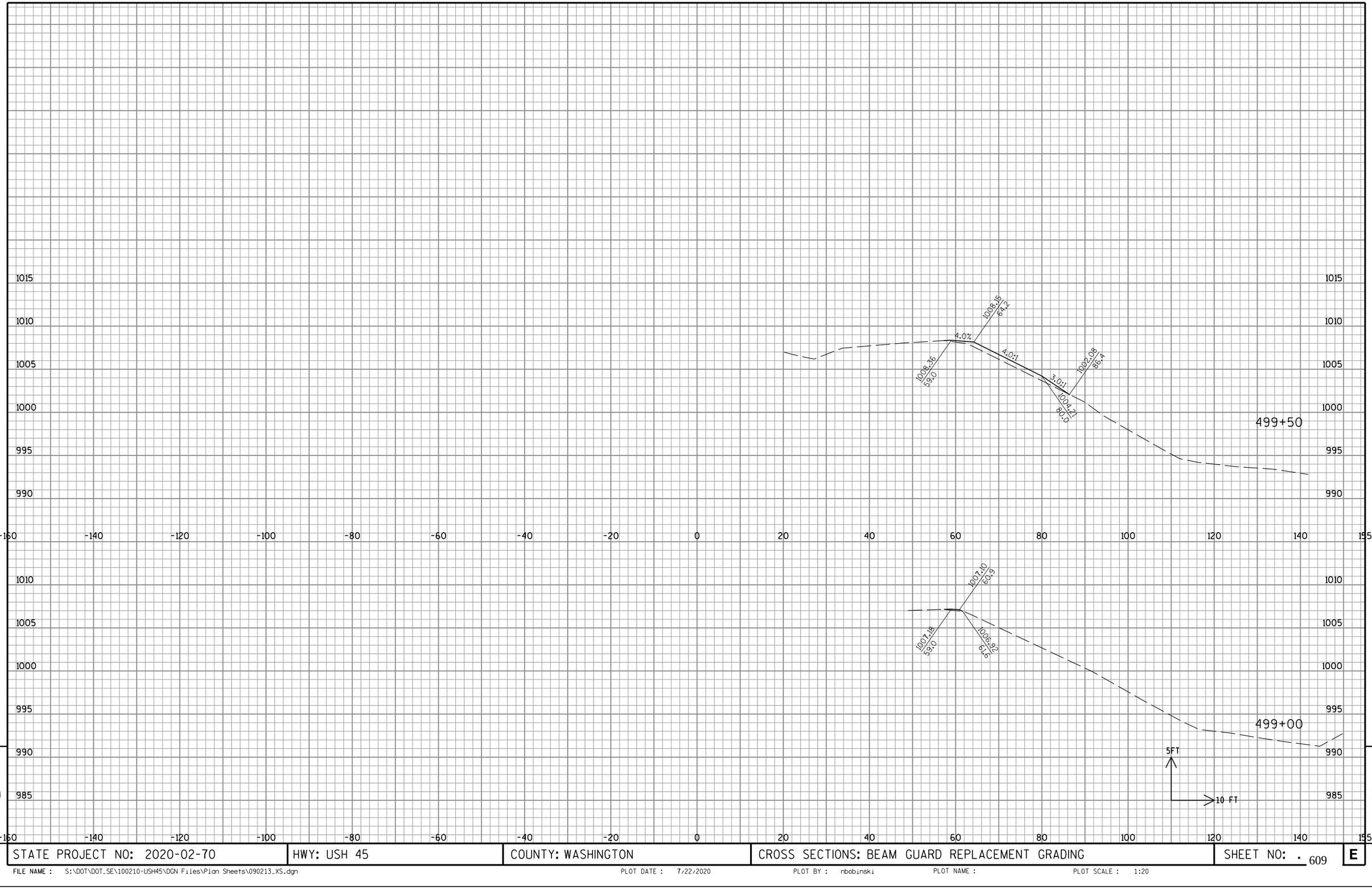
STATE PROJECT NO: 2020-02-70 | HWY: USH 45 | COUNTY: WASHINGTON | CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING | SHEET NO: . 607 | E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090212_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 608	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090212_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

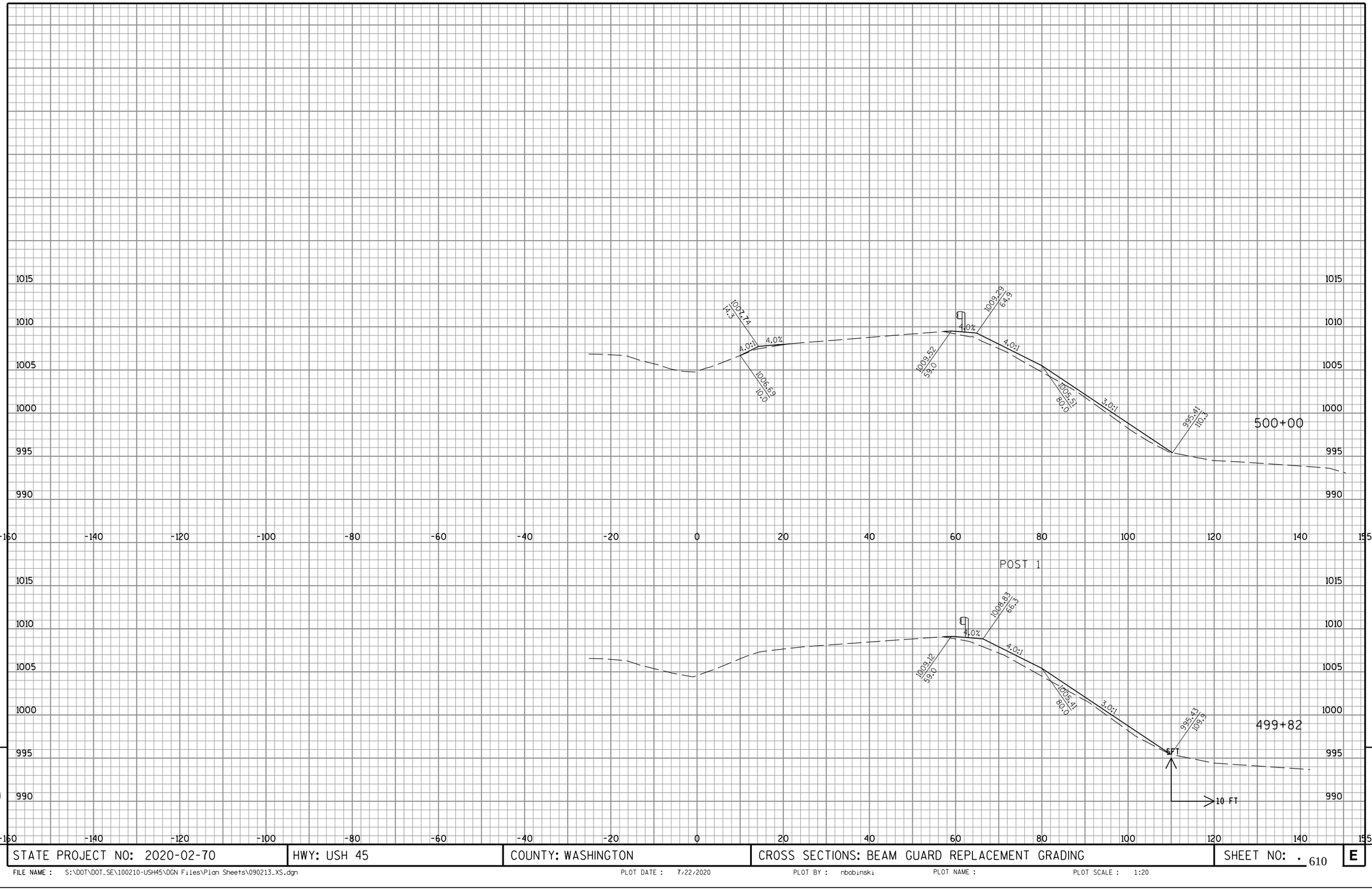


9

9

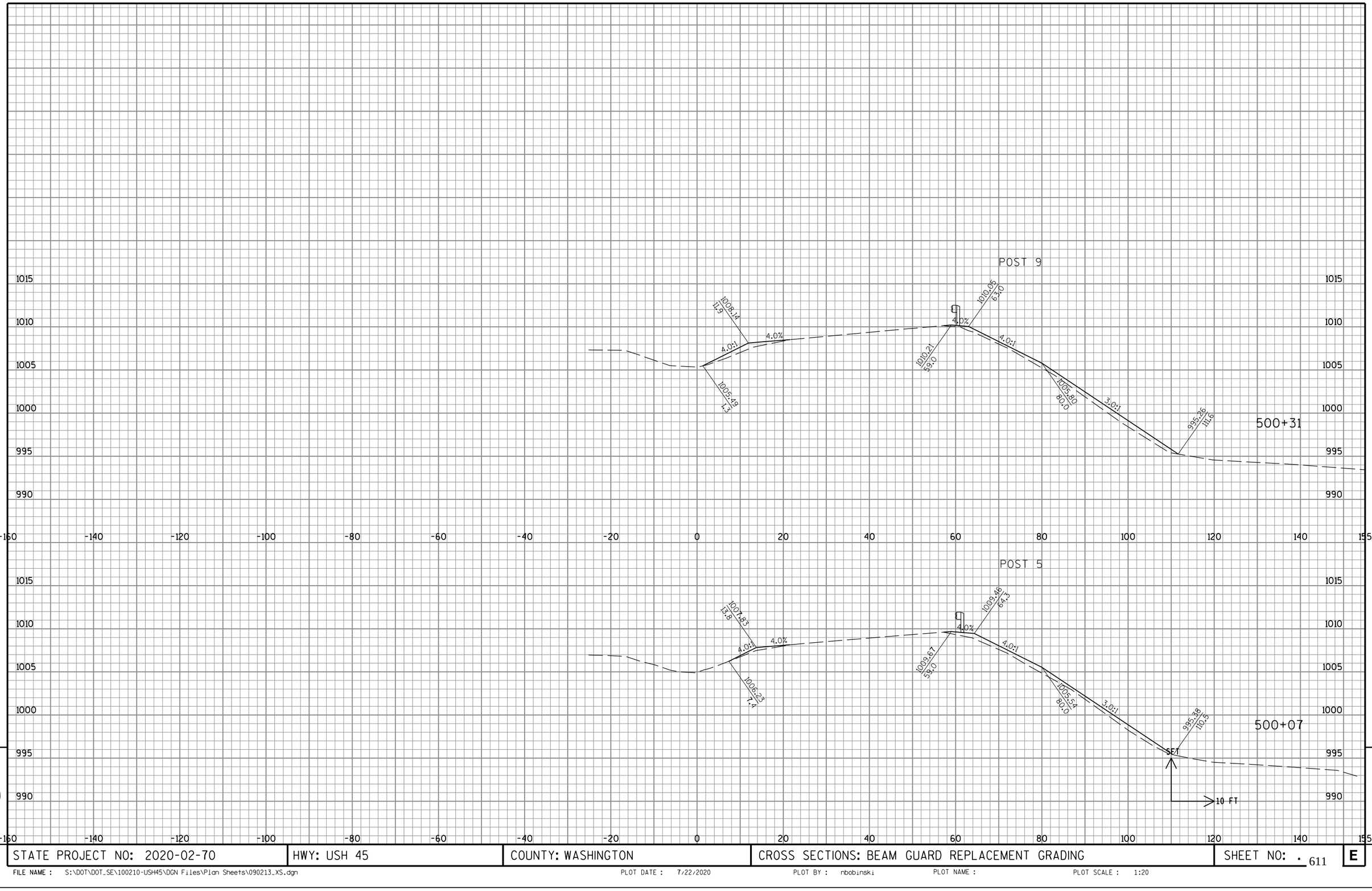
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 609	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090213_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 610 E

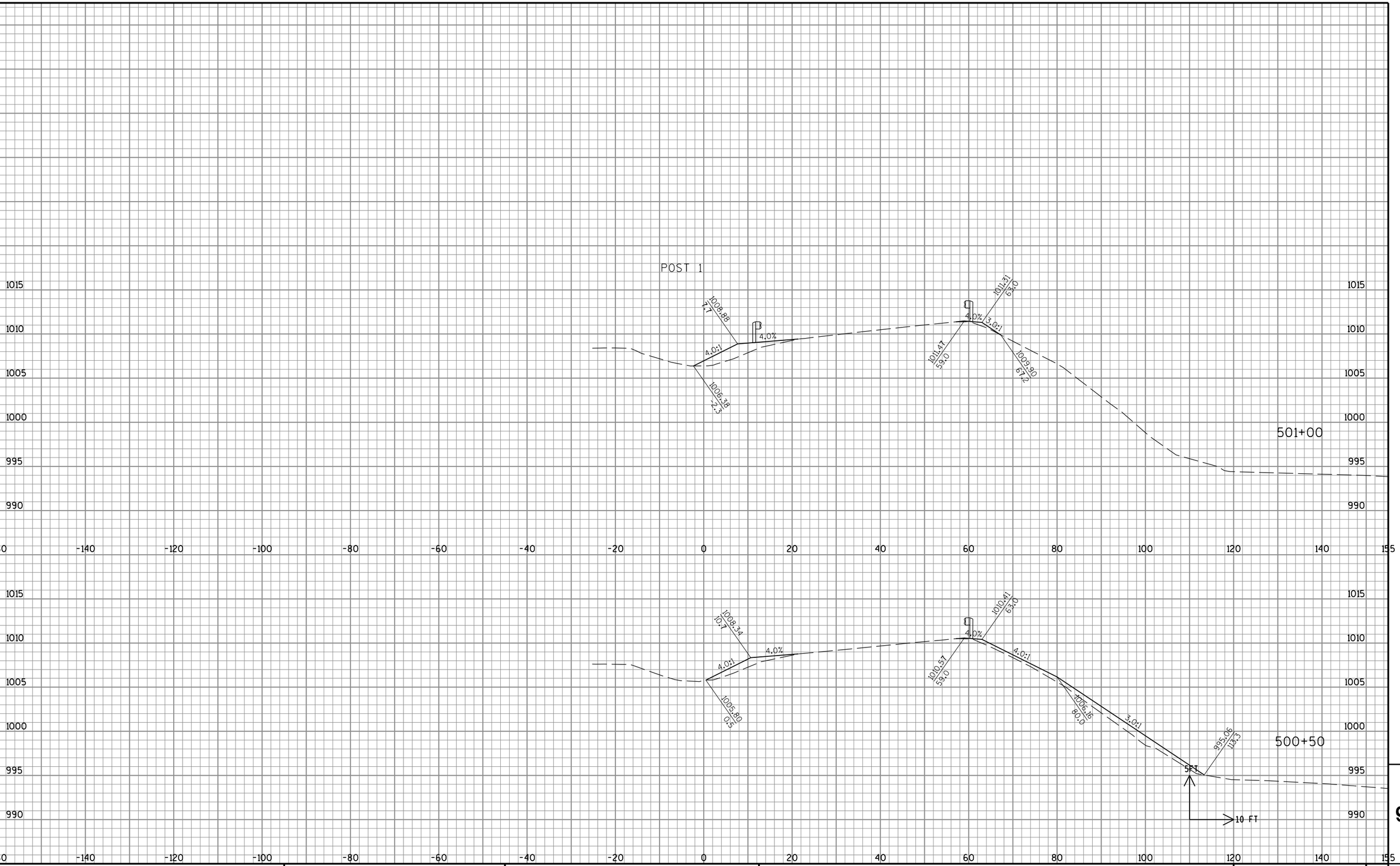
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090213_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



9

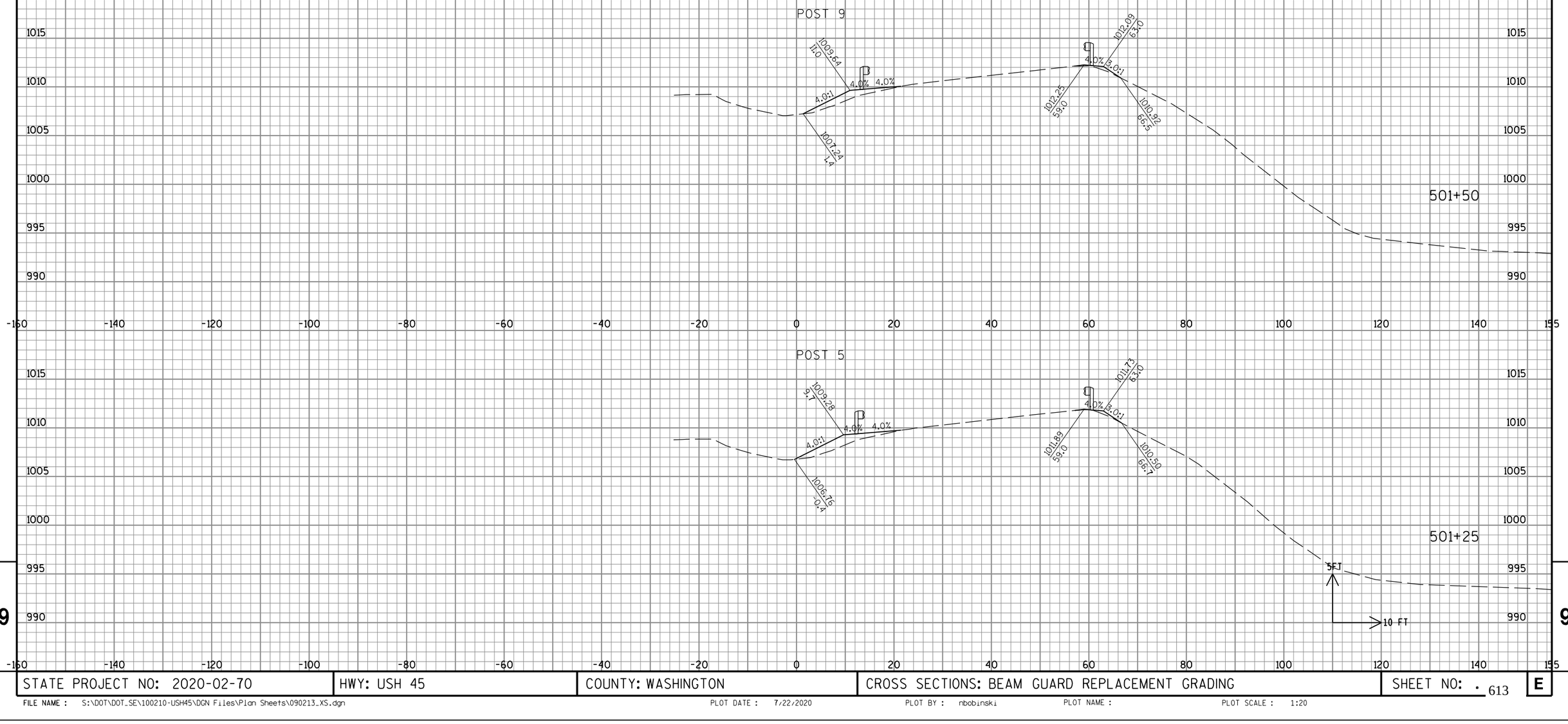
9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 611	E



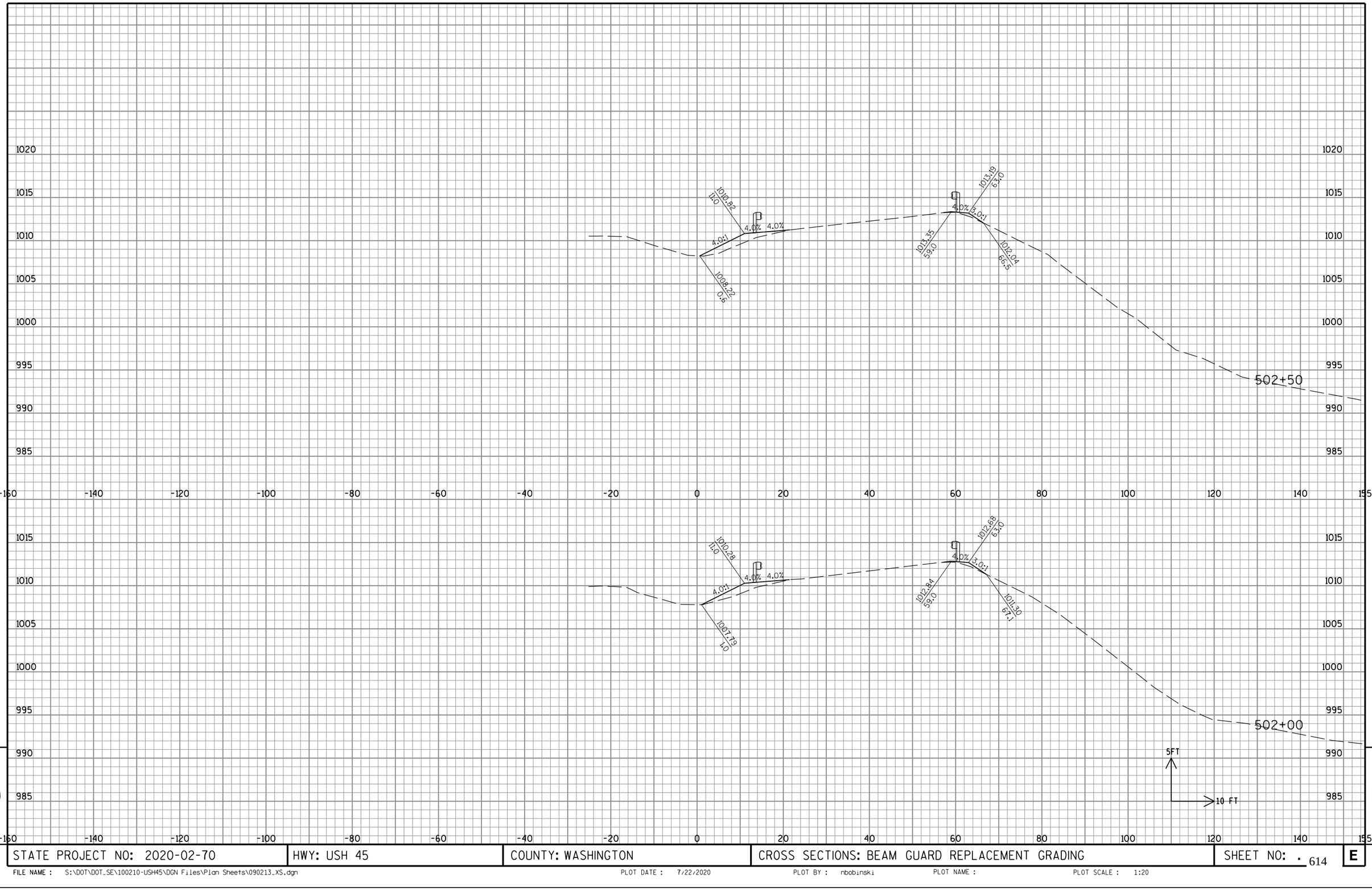
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 612

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090213_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



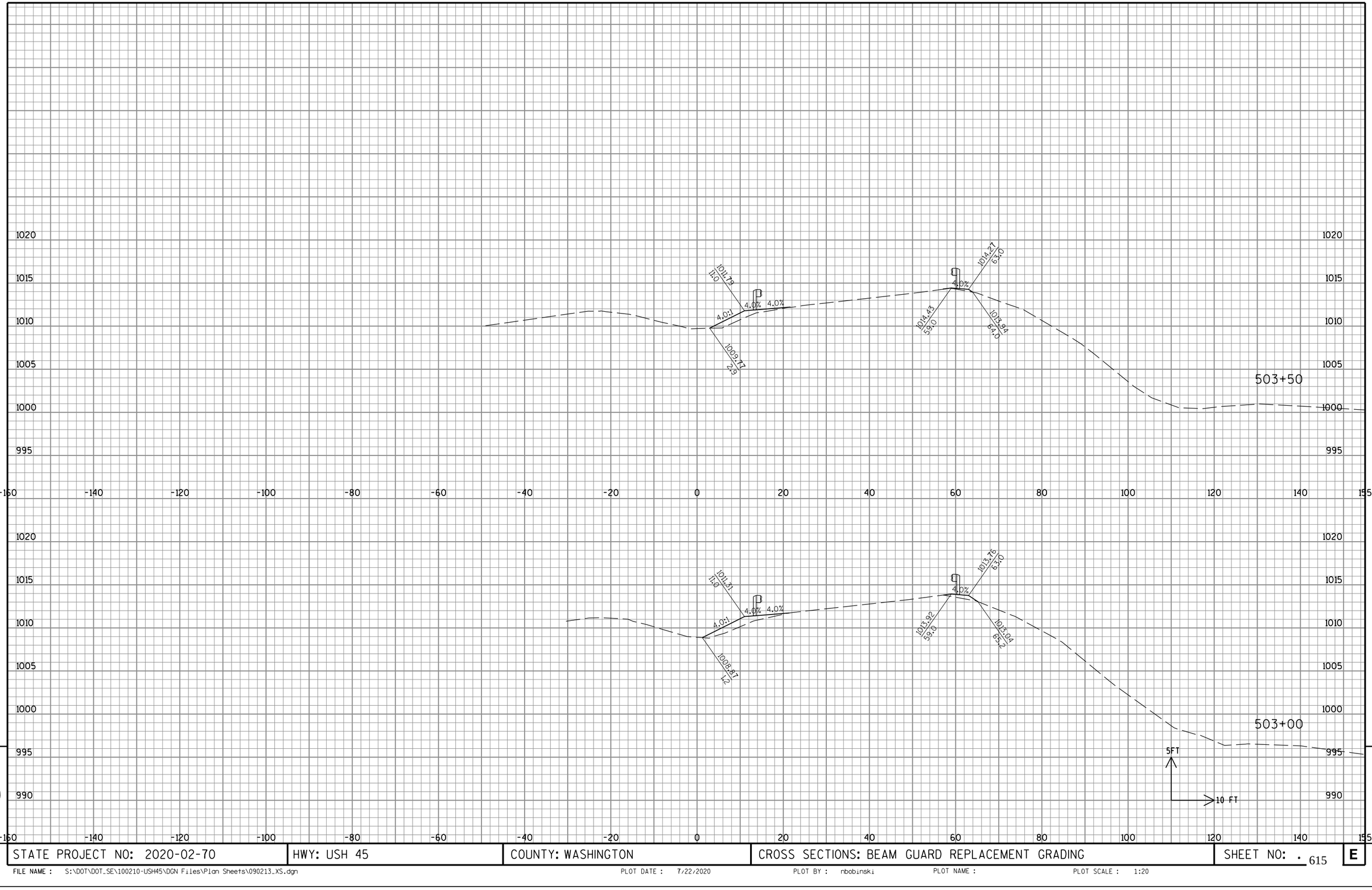
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 613 E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090213_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 614	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090213_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

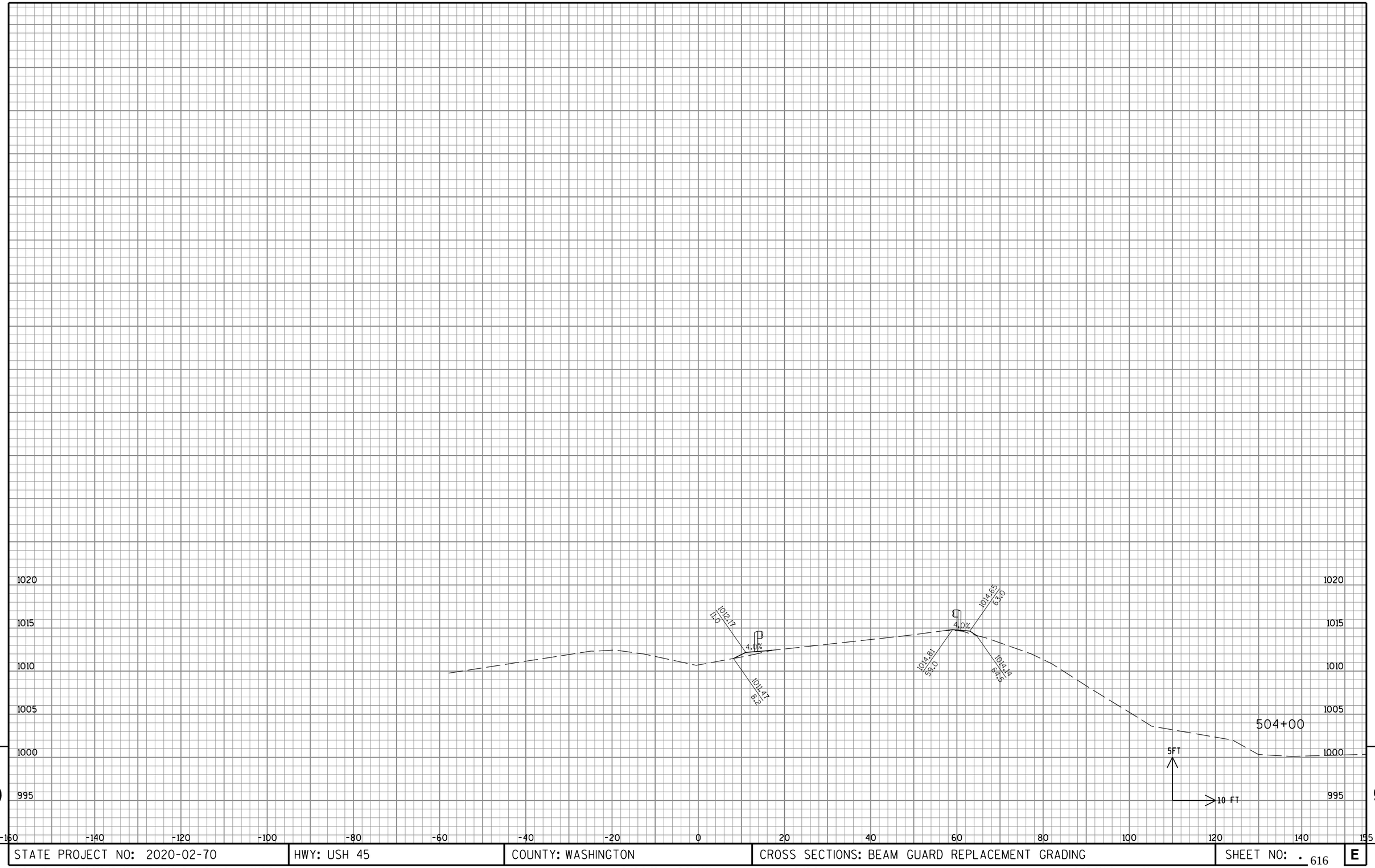


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 615	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090213_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

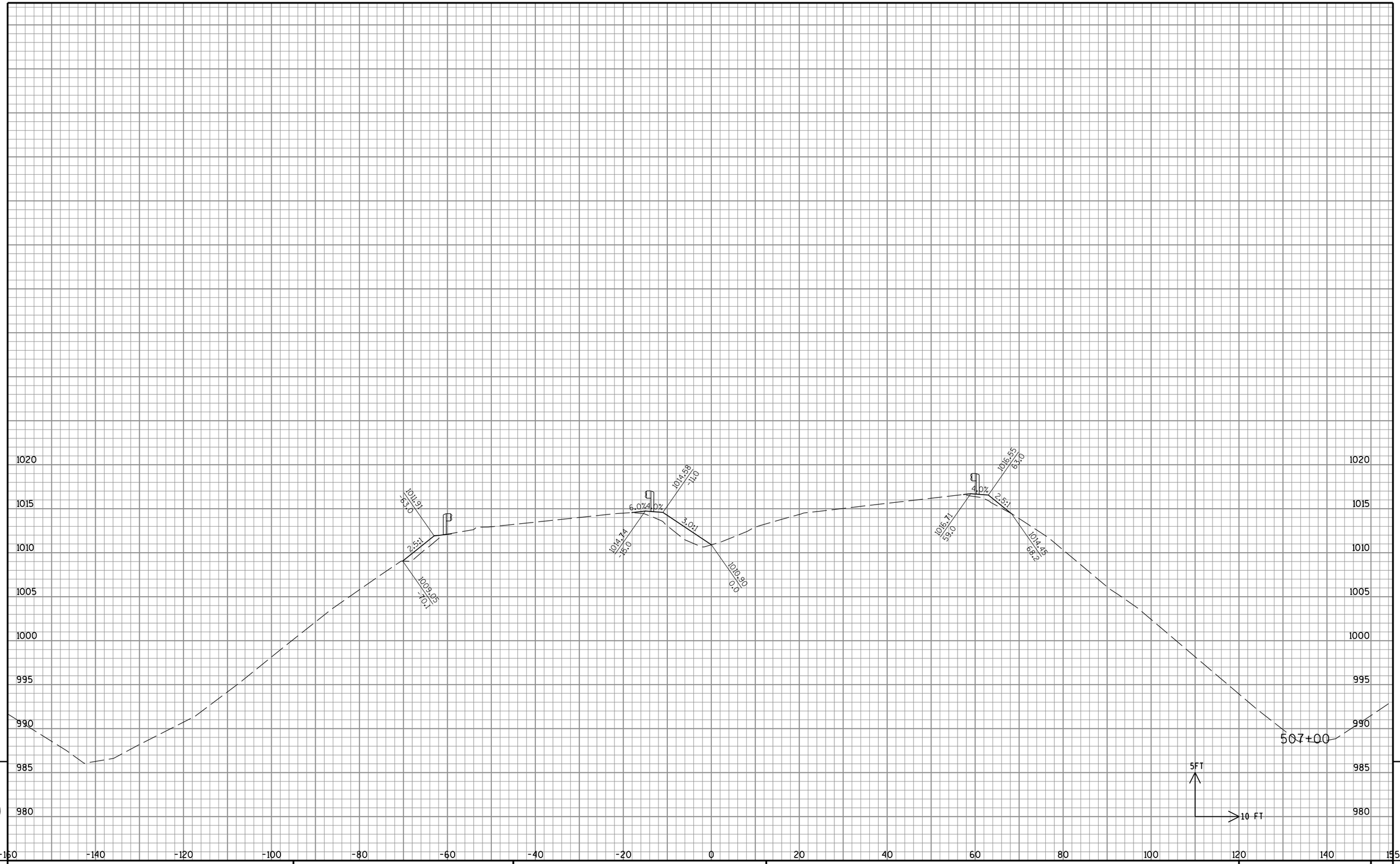


9

9

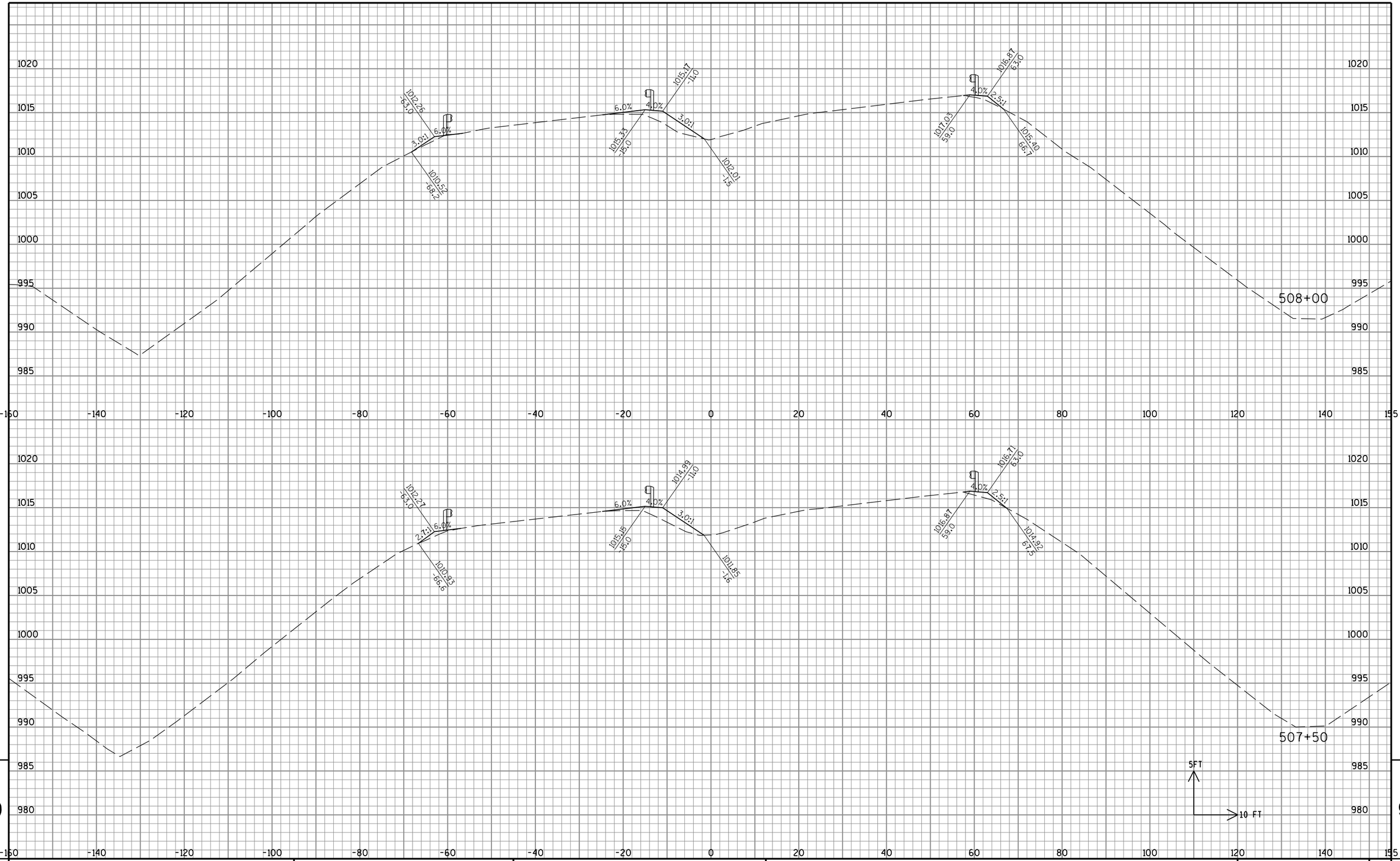
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 616	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090213_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 617	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090214_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 618

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090214_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

POST 9

1012.44
-63.0
6.0%
3.0:1
1010.03
-70.3
1015.42
-14.0
2.0%
6.0%
4.0:1
1015.50
-15.0
1012.42
2.2
1017.01
62.3
3.2:1
1017.21
59.0
1015.10
66.6
508+61

1012.42
-63.0
6.0%
3.0:1
1010.09
-70.0
1015.40
-14.0
2.0%
6.0%
4.0:1
1015.46
-15.0
1012.14
2.0
1017.02
62.0
4.0%
3.0:1
1017.18
59.0
1014.87
69.4
508+50

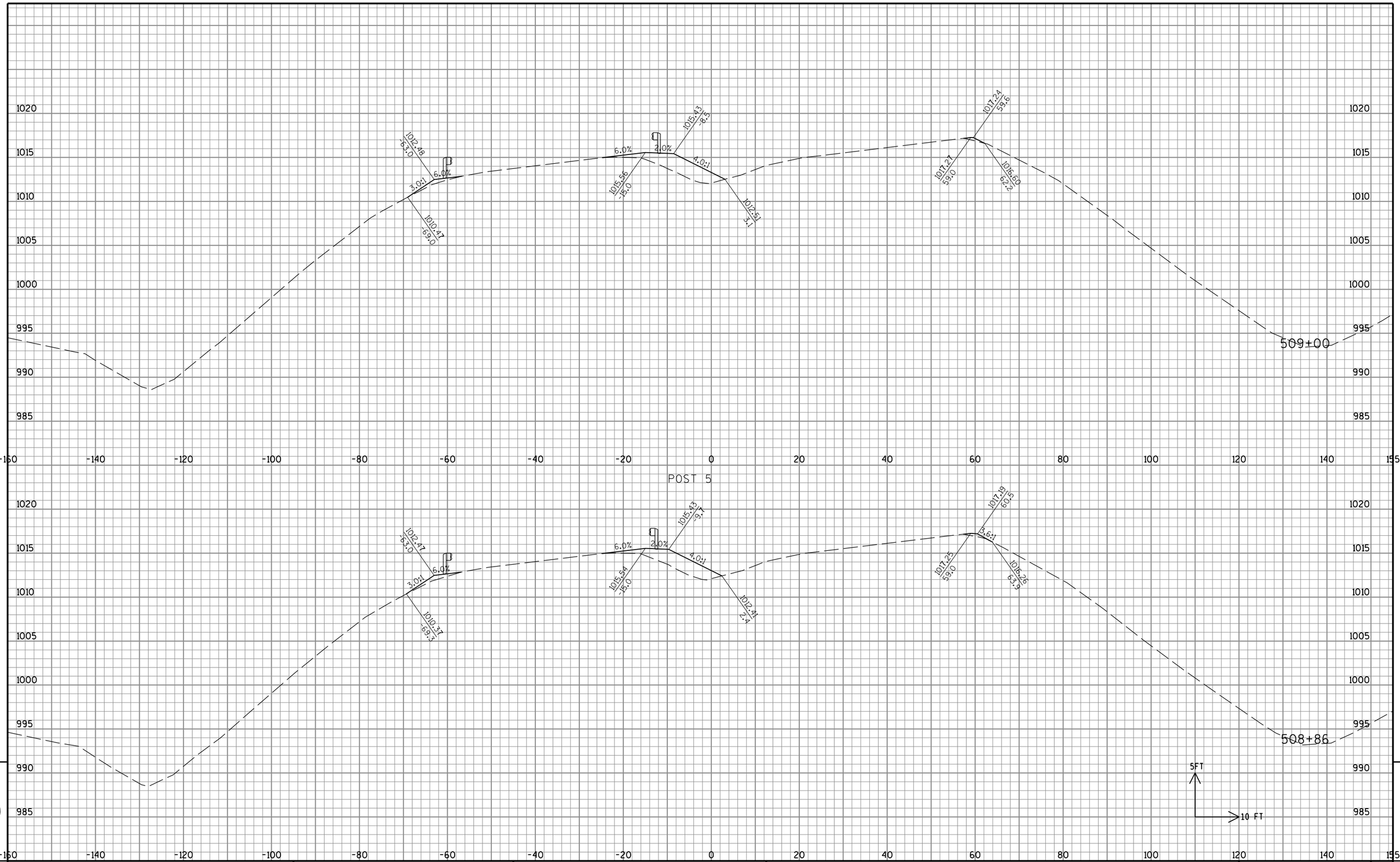
5FT
10 FT

9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 619	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090214_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

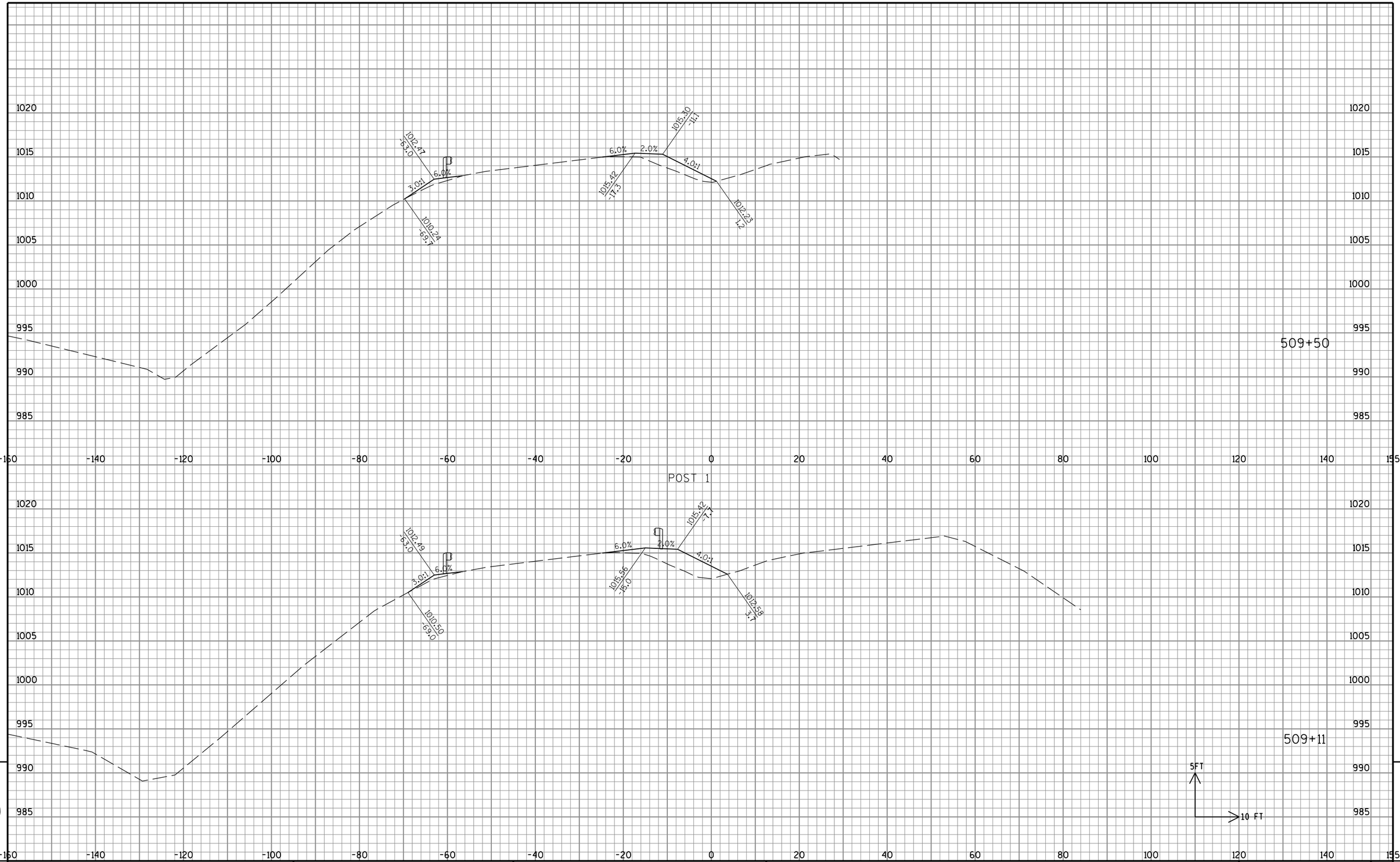


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 620	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090214_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



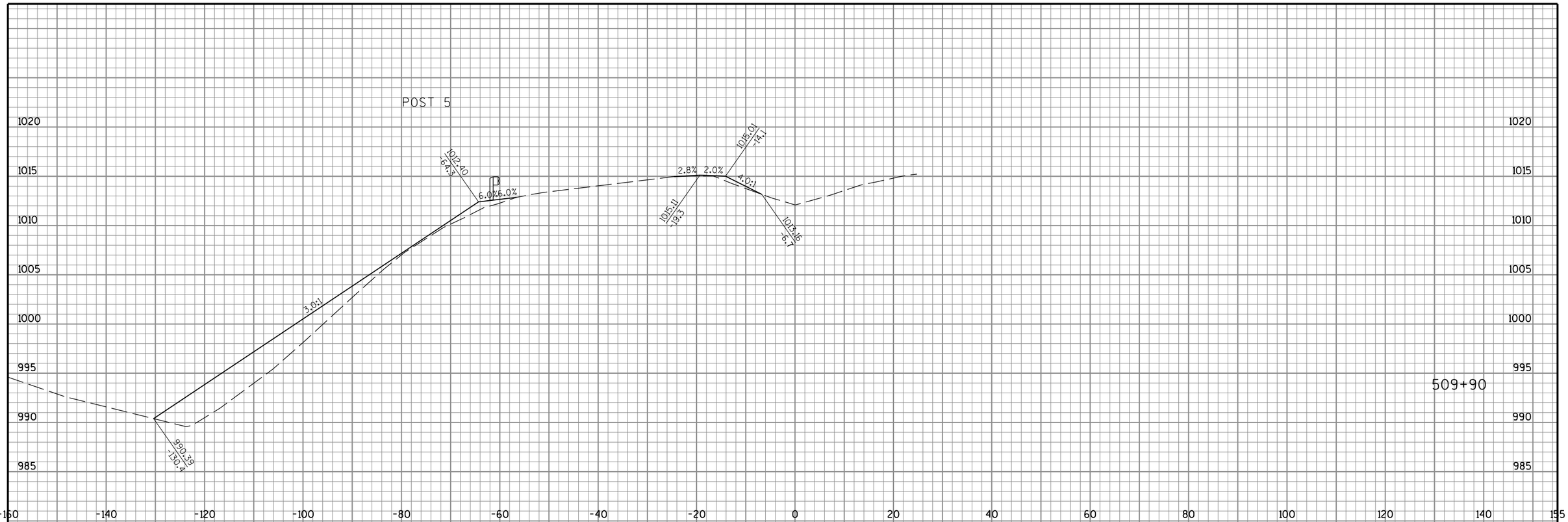
9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 621	E

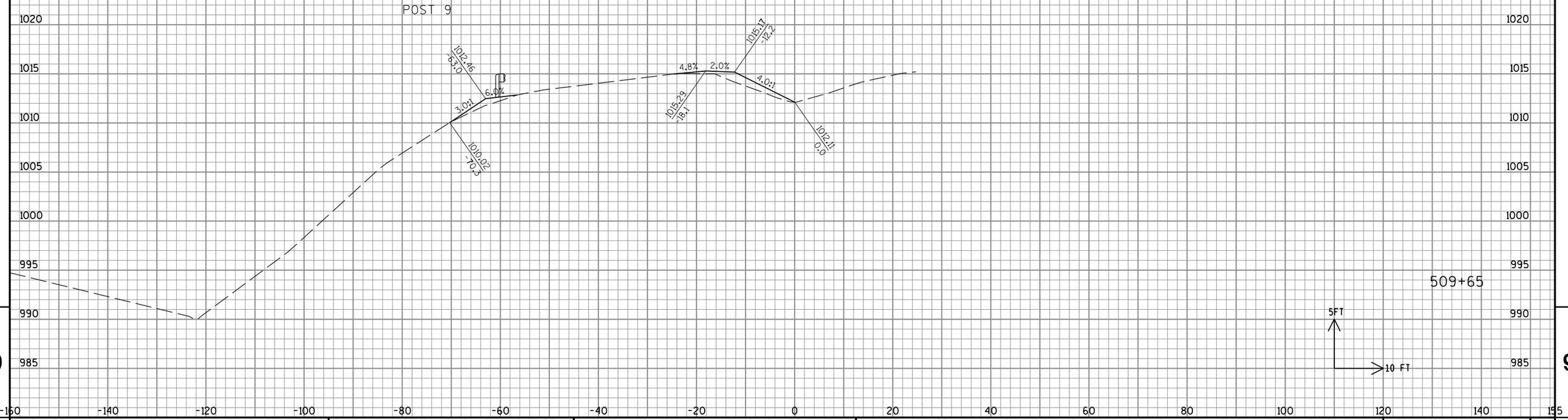
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090214_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

POST 5



509+90

POST 9

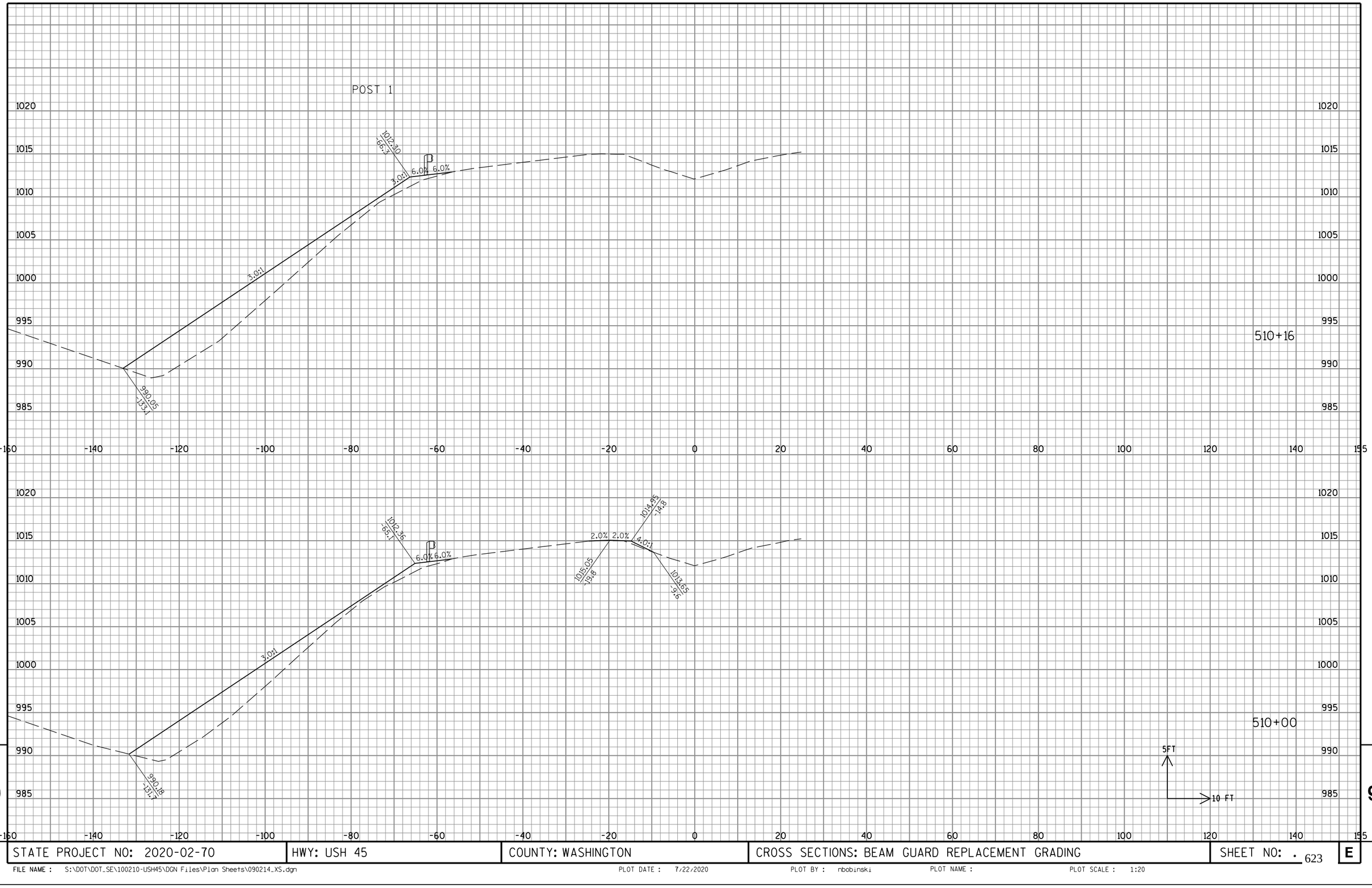


509+65

9 9

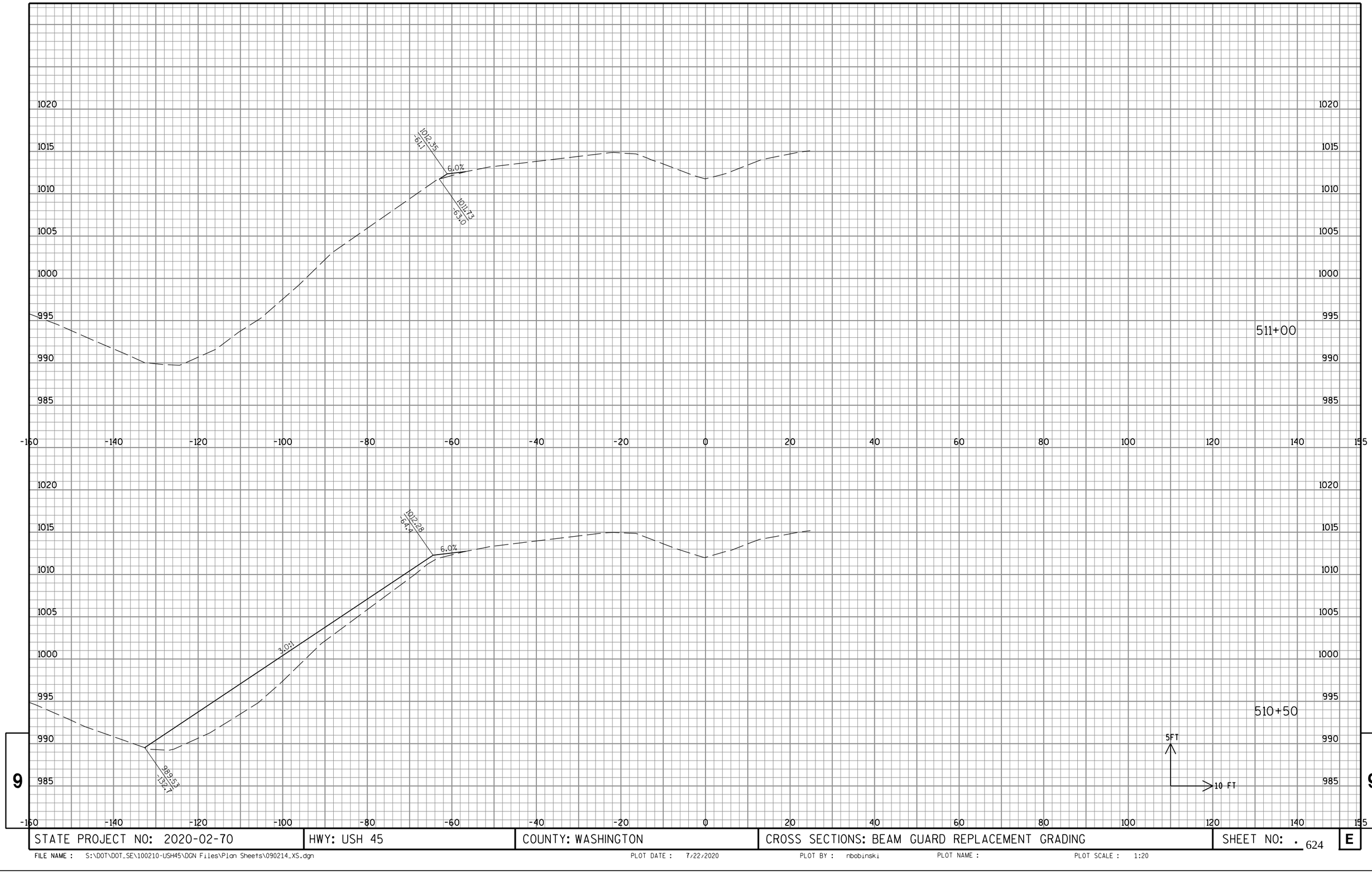
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 622	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090214_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 623	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090214_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

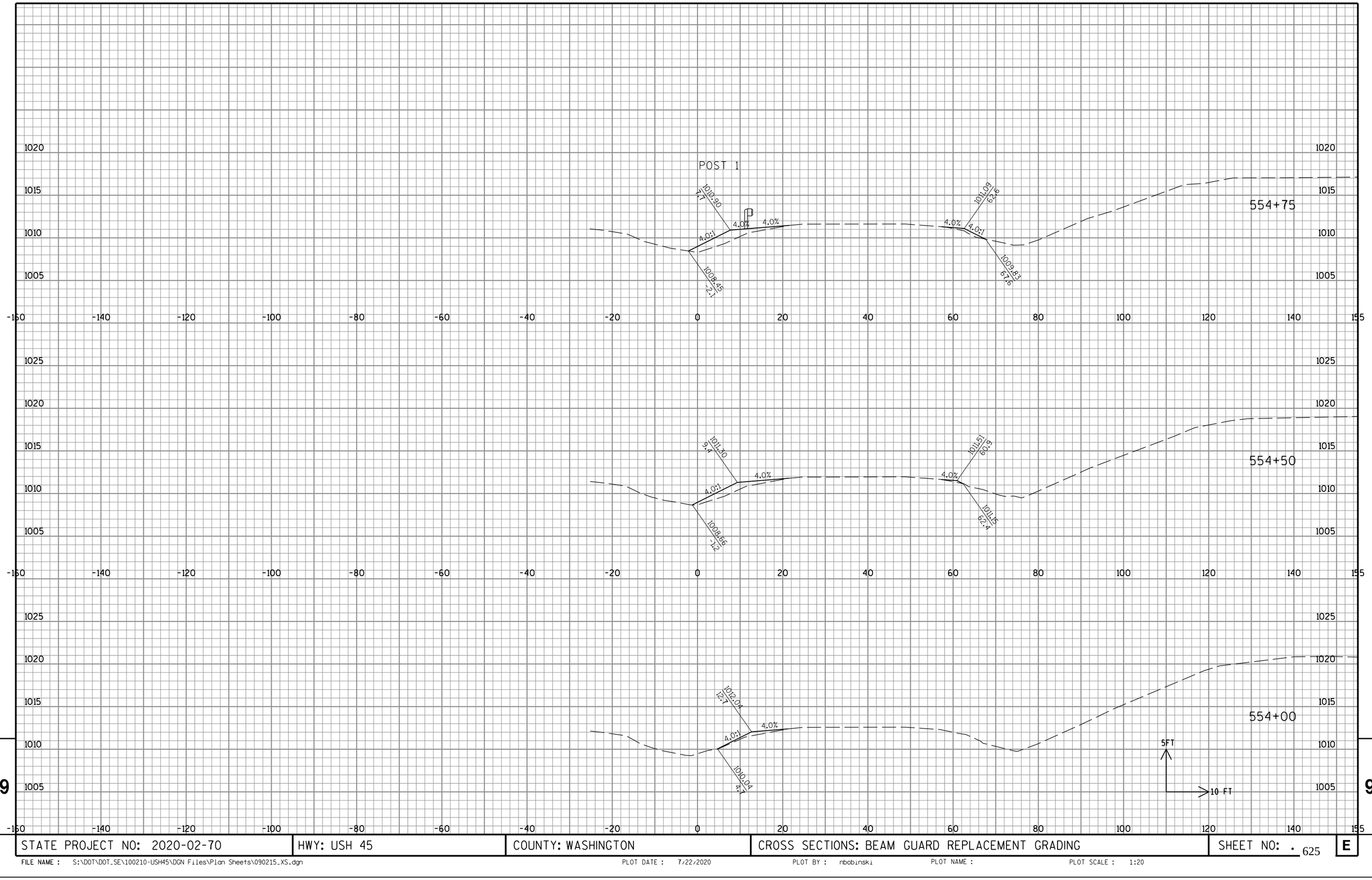


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 624	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090214_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

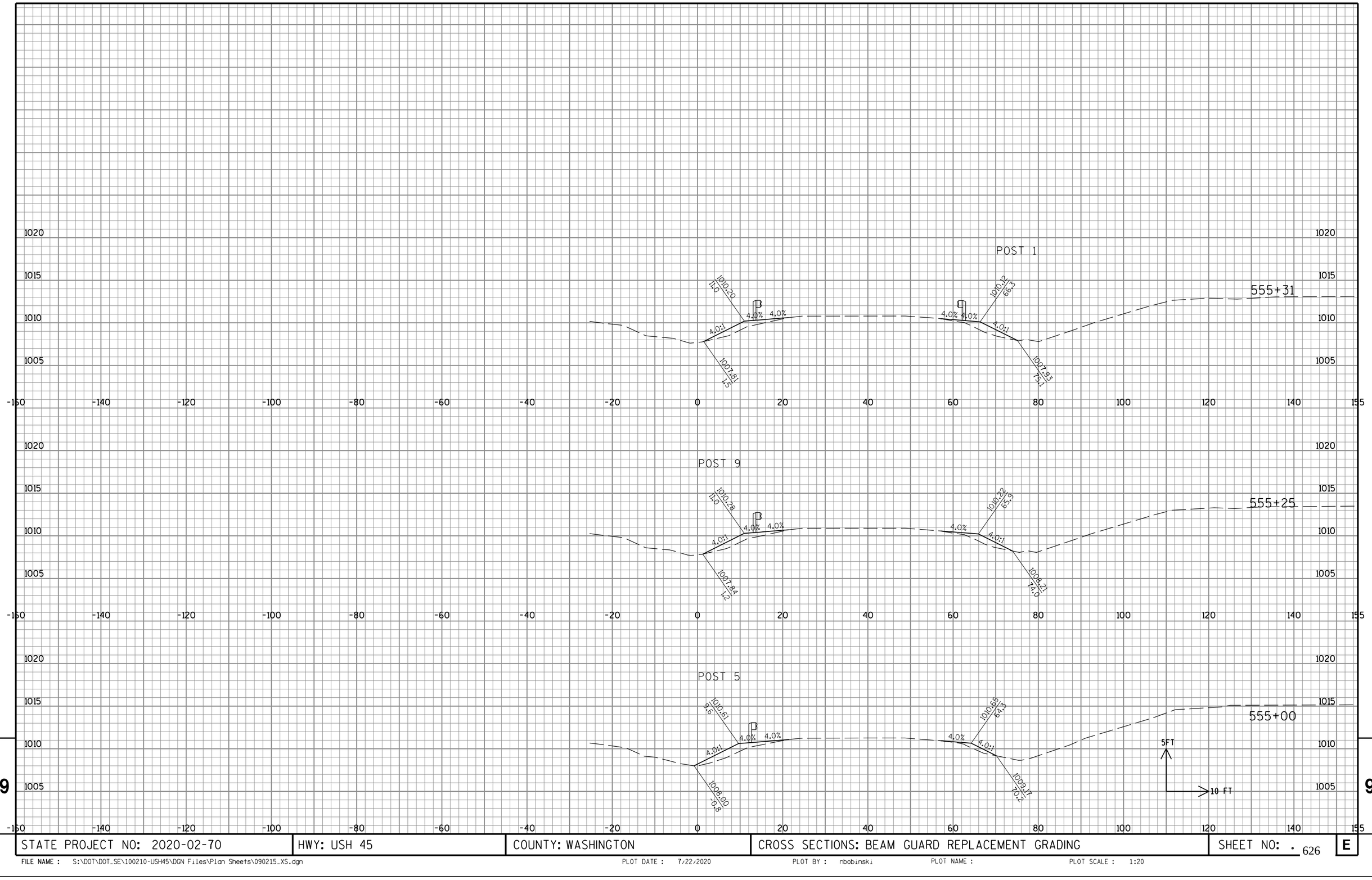


9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 625	E

9

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090215_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



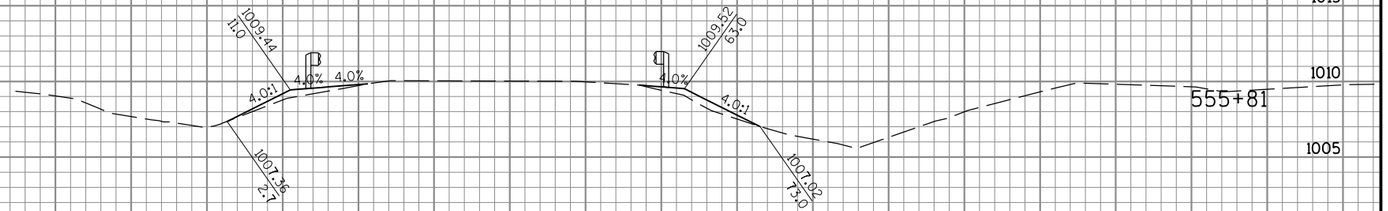
9

9

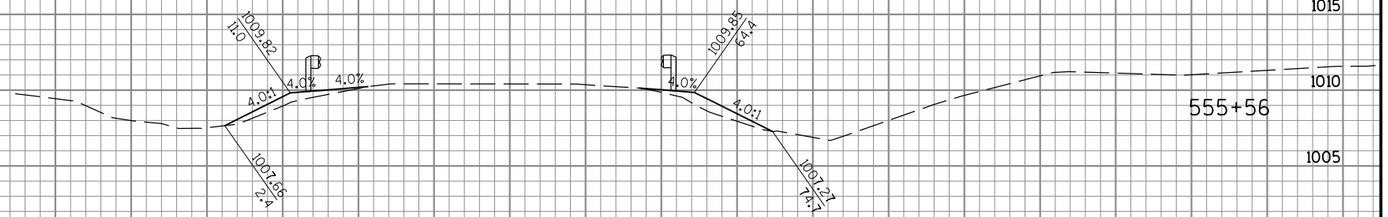
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 626	E

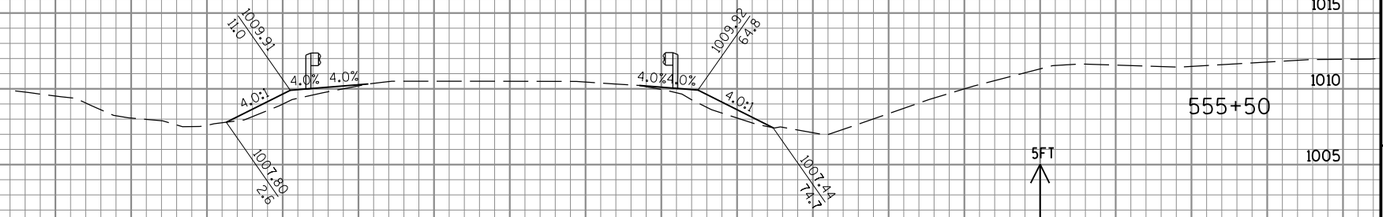
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090215_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

POST 9



POST 5



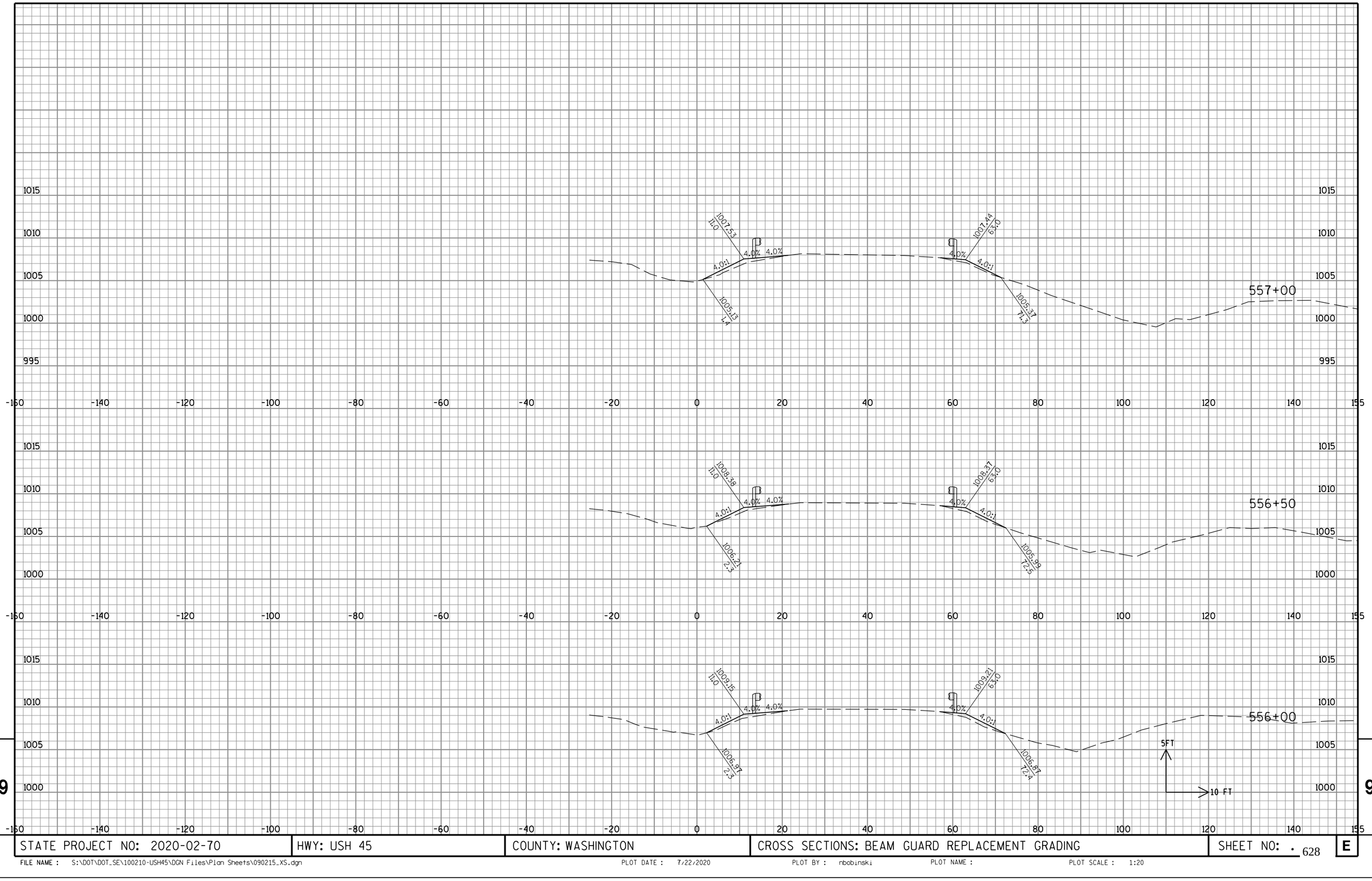


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 627	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090215_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

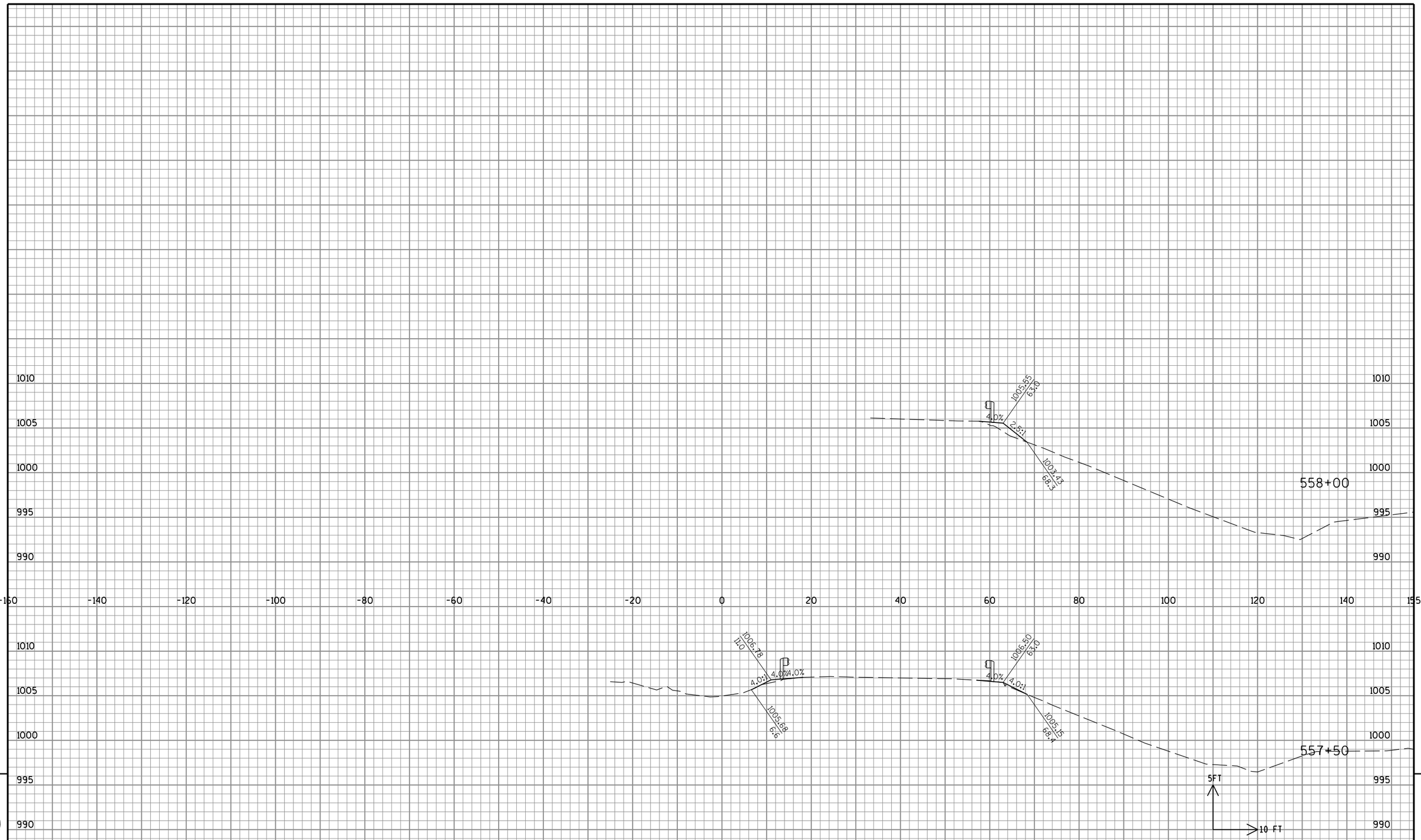


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 628	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090215_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

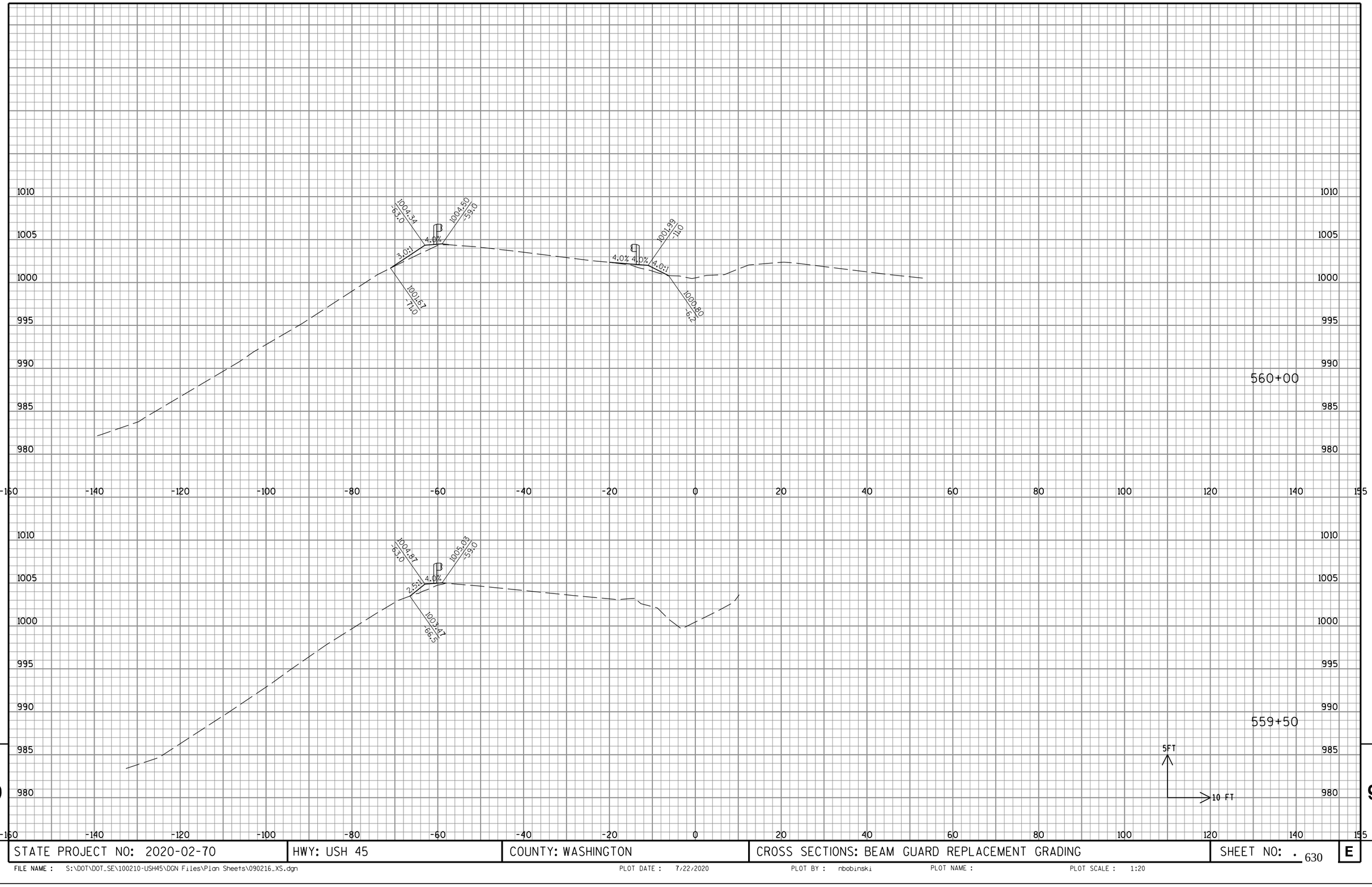


9

9

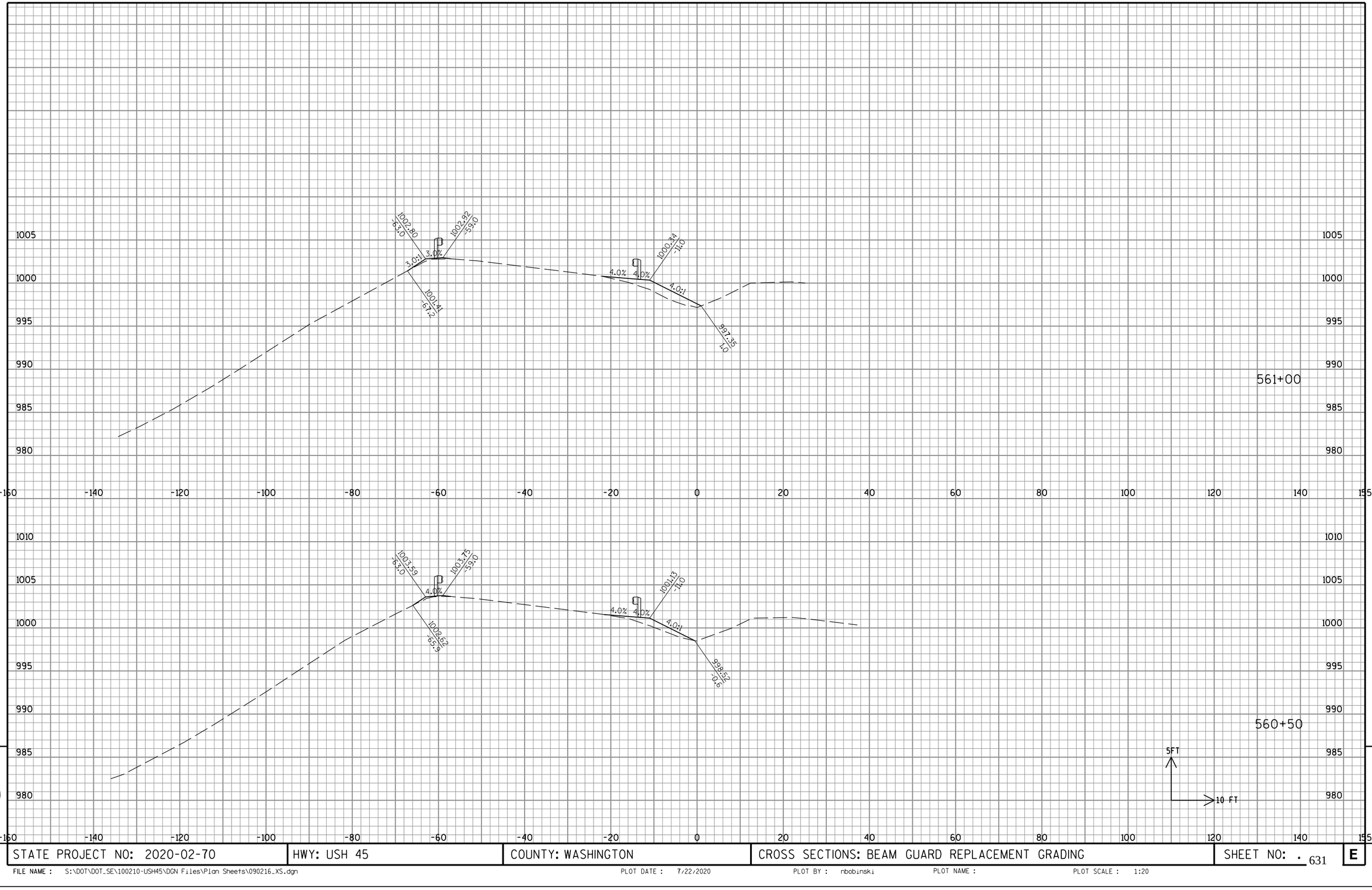
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 629	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090215_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



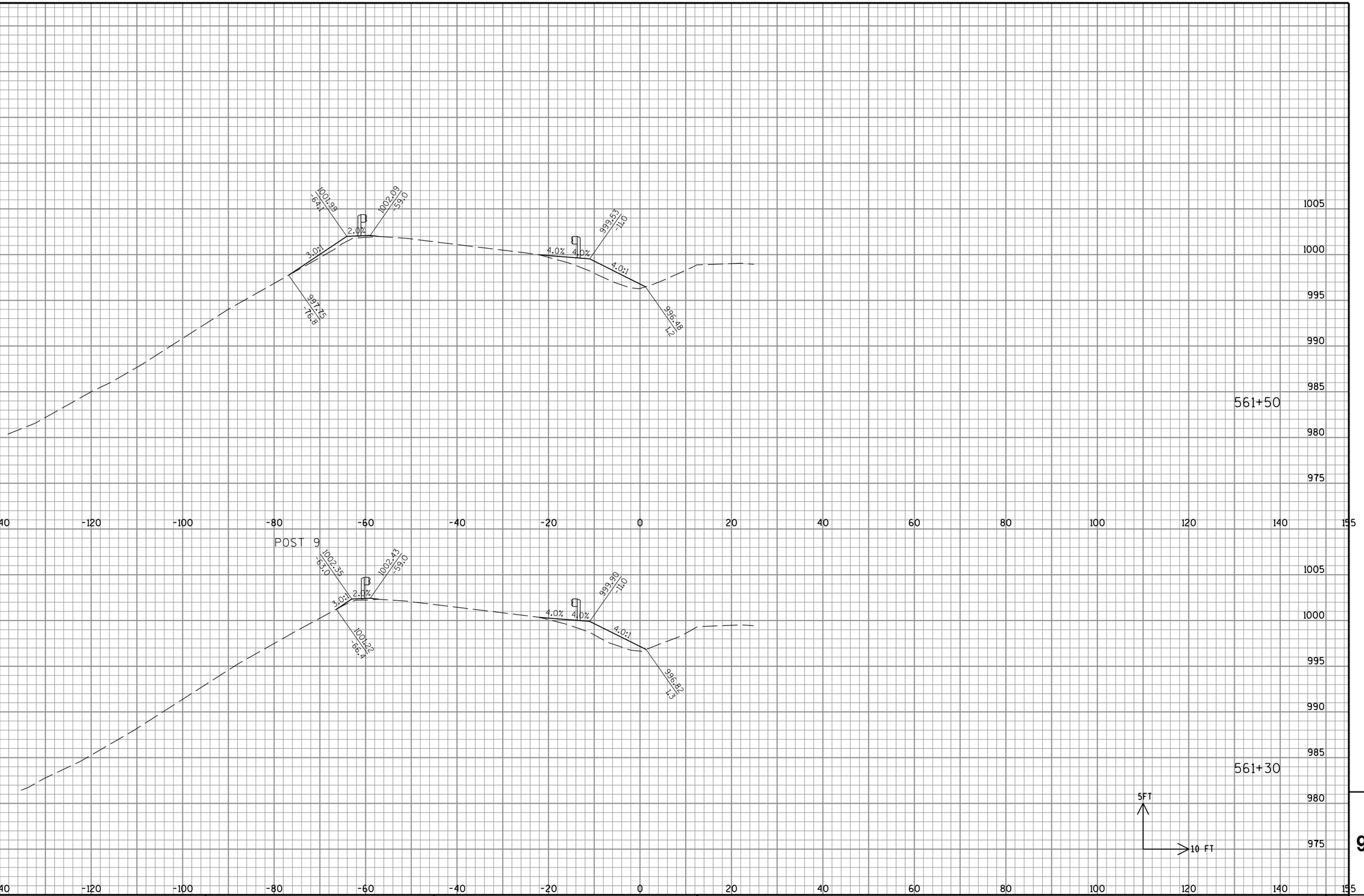
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 630 E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090216_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 631

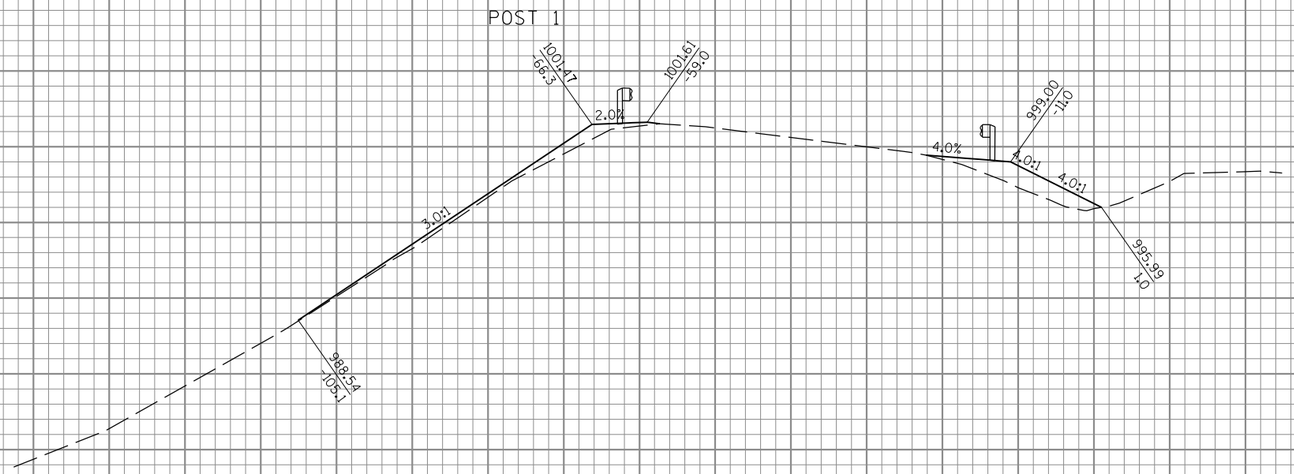
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090216_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 632 E

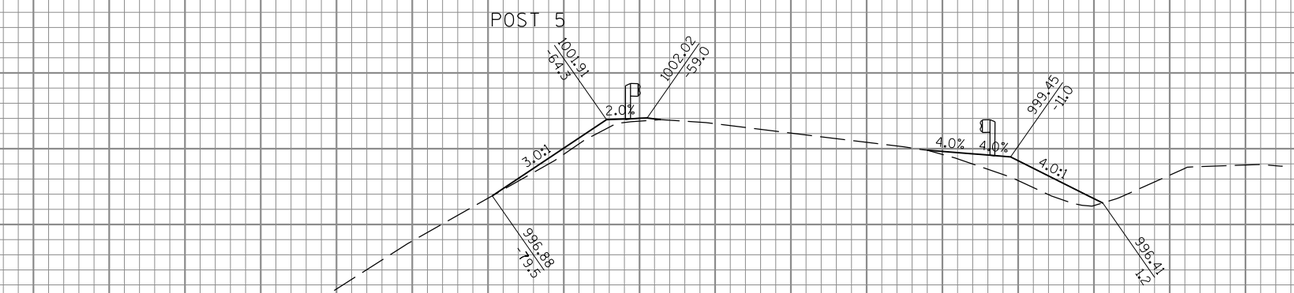
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090216_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

POST 1

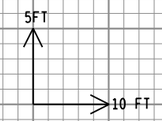


561+79

POST 5



561+54



-160 -140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140 155

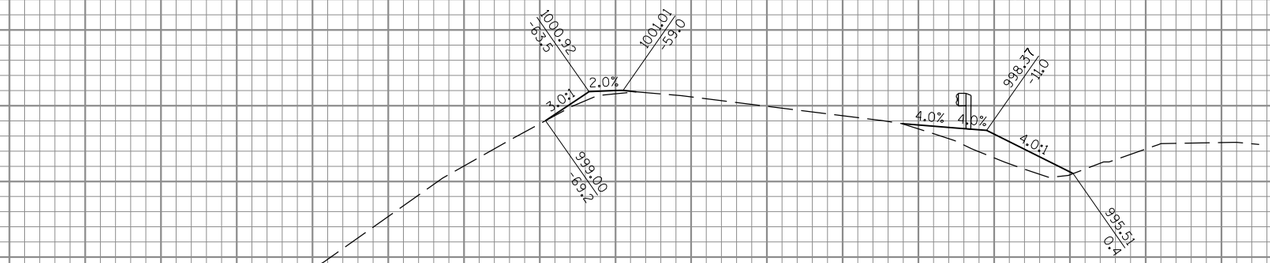
9

9

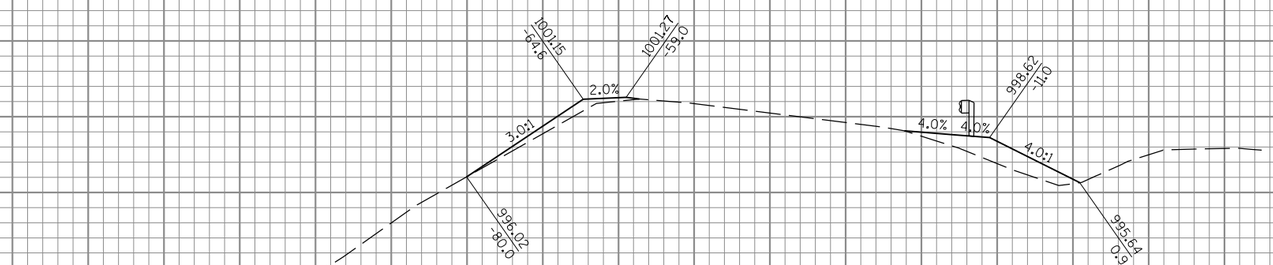
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 633	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090216_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

POST 9



562+16



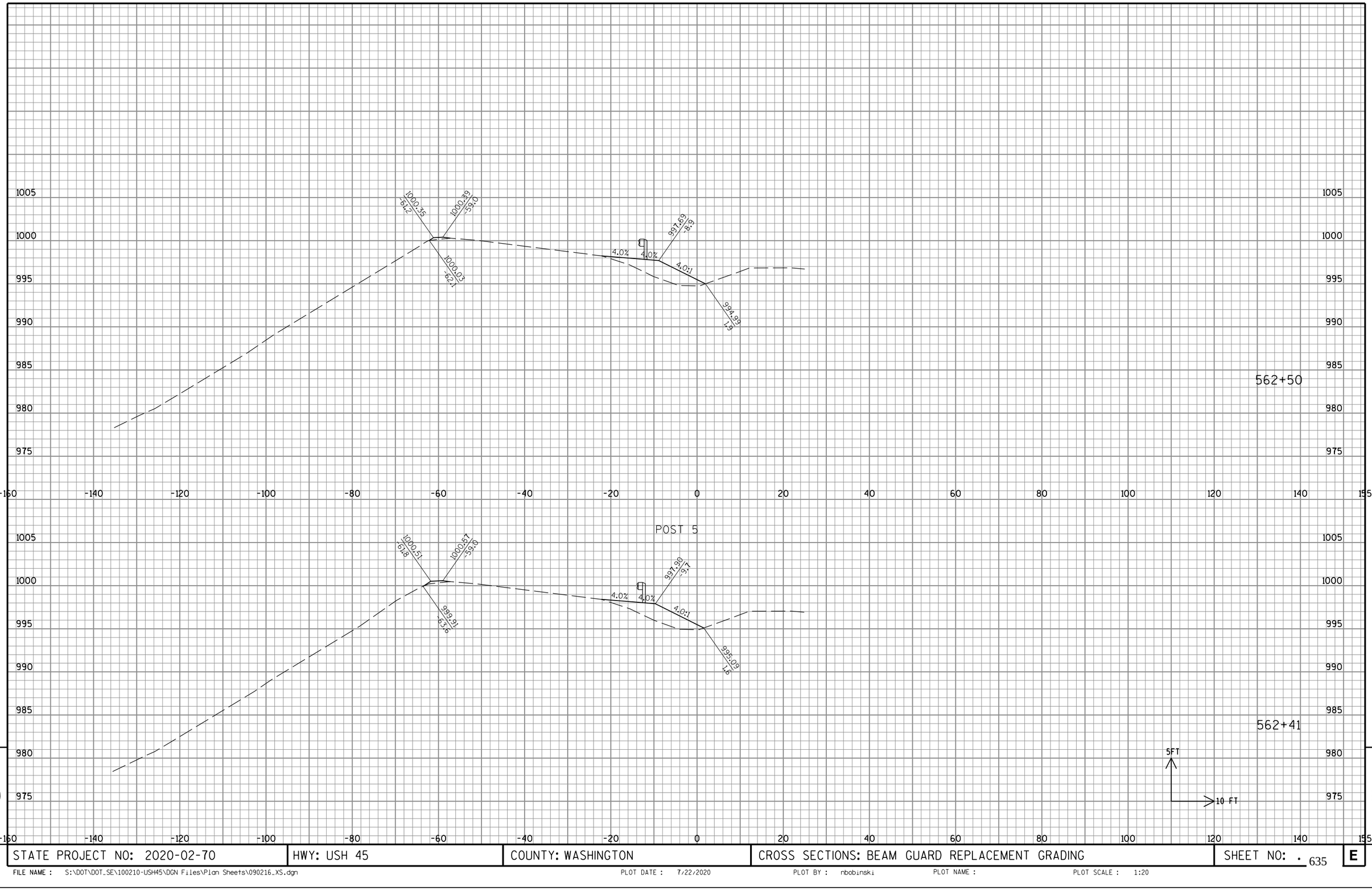
562+00

5FT
10 FT

9 9

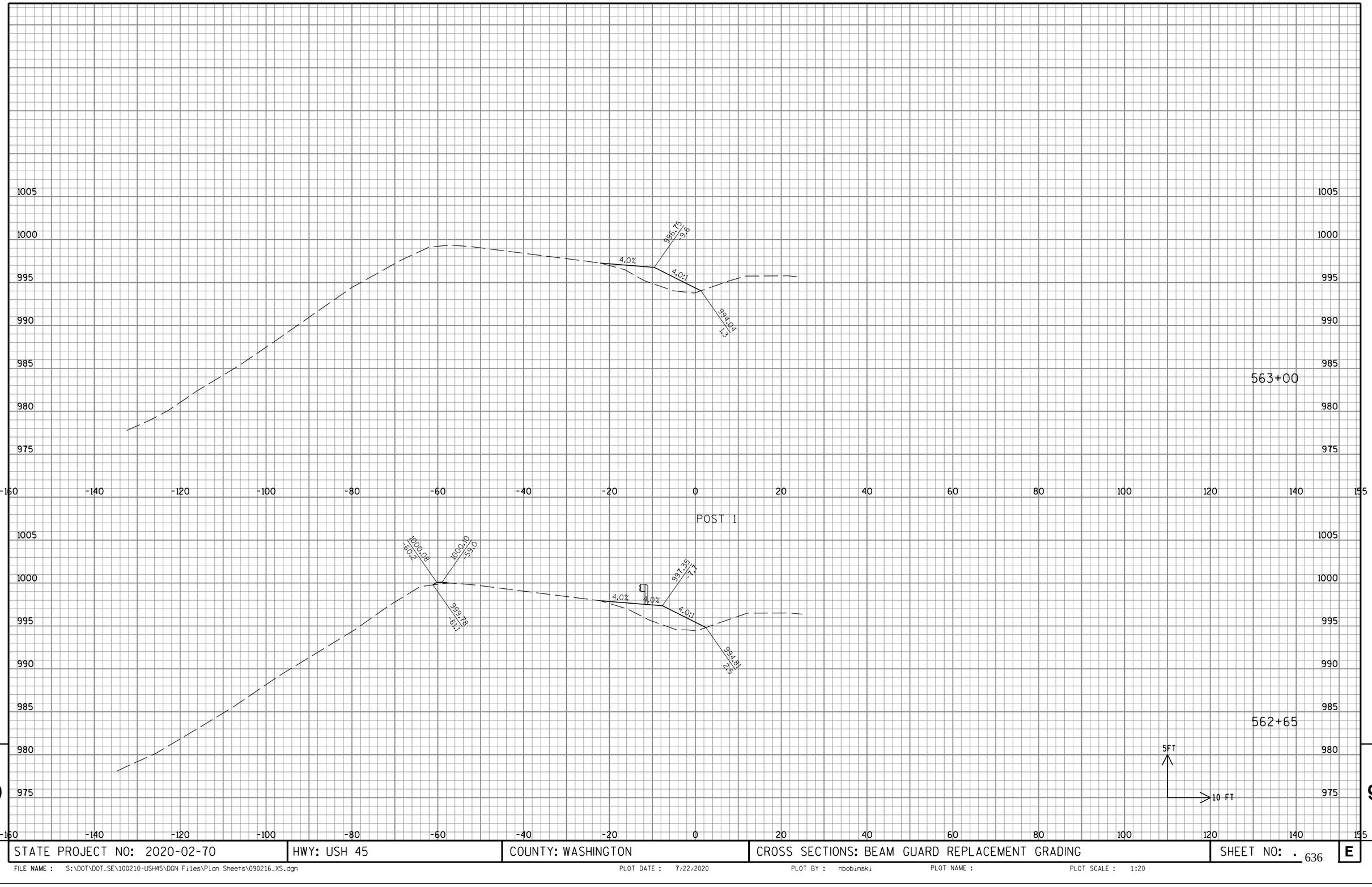
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 634	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090216_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 635 E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090216_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

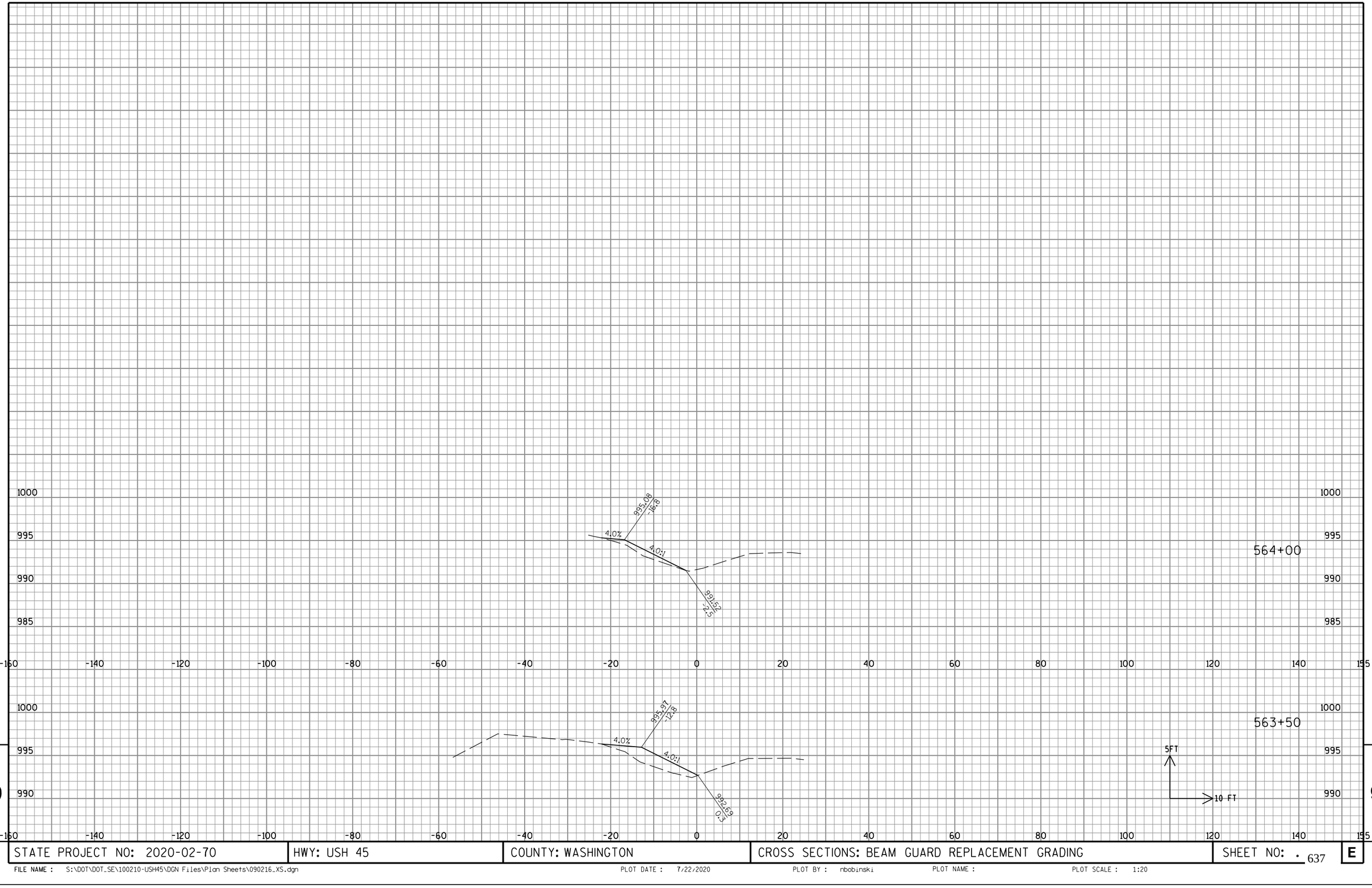


9

9

STATE PROJECT NO: 2020-02-70 | HWY: USH 45 | COUNTY: WASHINGTON | CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING | SHEET NO: . 636 | E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090216_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

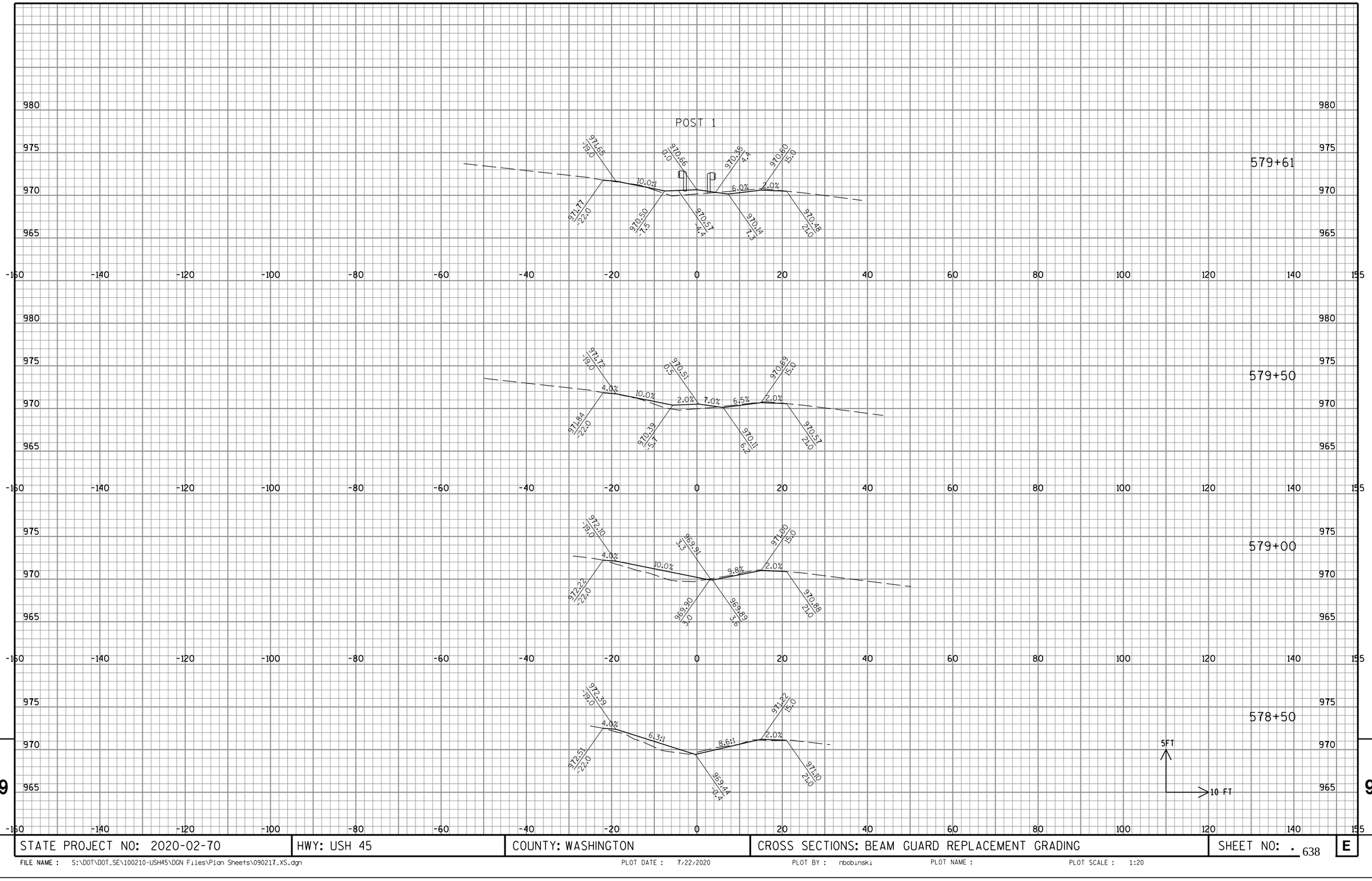


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 637	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090216_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

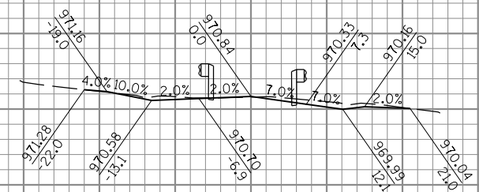


9

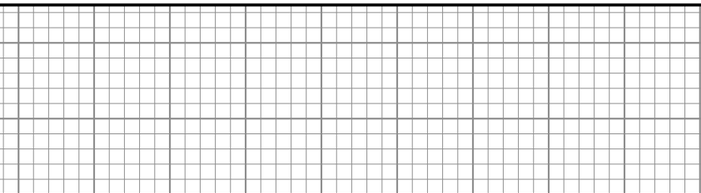
9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 638	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090217_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

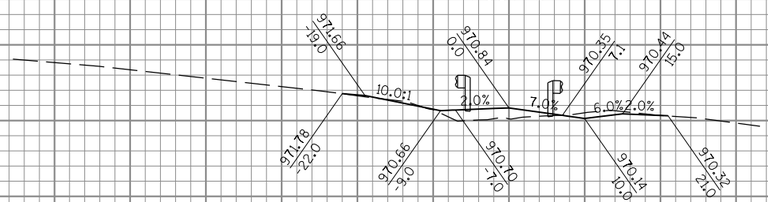


580+50

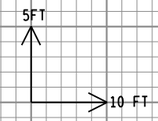


580+00

POST 5



579+74



9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 639	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090217_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

995
990
985
980
975
970
965

-160 -140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140 155

POST 5

970.73
-19.0
970.85
-22.0
969.61
-9.8
-7.1
969.76
0.0
969.62
-7.2
969.27
7.0
969.21
7.0
969.75
15.0
969.63
24.0
10.0%
10.0:1
2.0%
7.0%
6.0%
2.0%

581+22

1000
995
990
985
980
975
970
965

-160 -140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140 155

970.90
-19.0
971.02
-22.0
968.93
-9.3
970.42
0.0
969.98
-7.0
969.62
7.2
969.50
8.8
969.87
15.0
969.75
24.0
4.0%
10.0:1
2.0%
7.0%
5.0%
2.0%

581+00

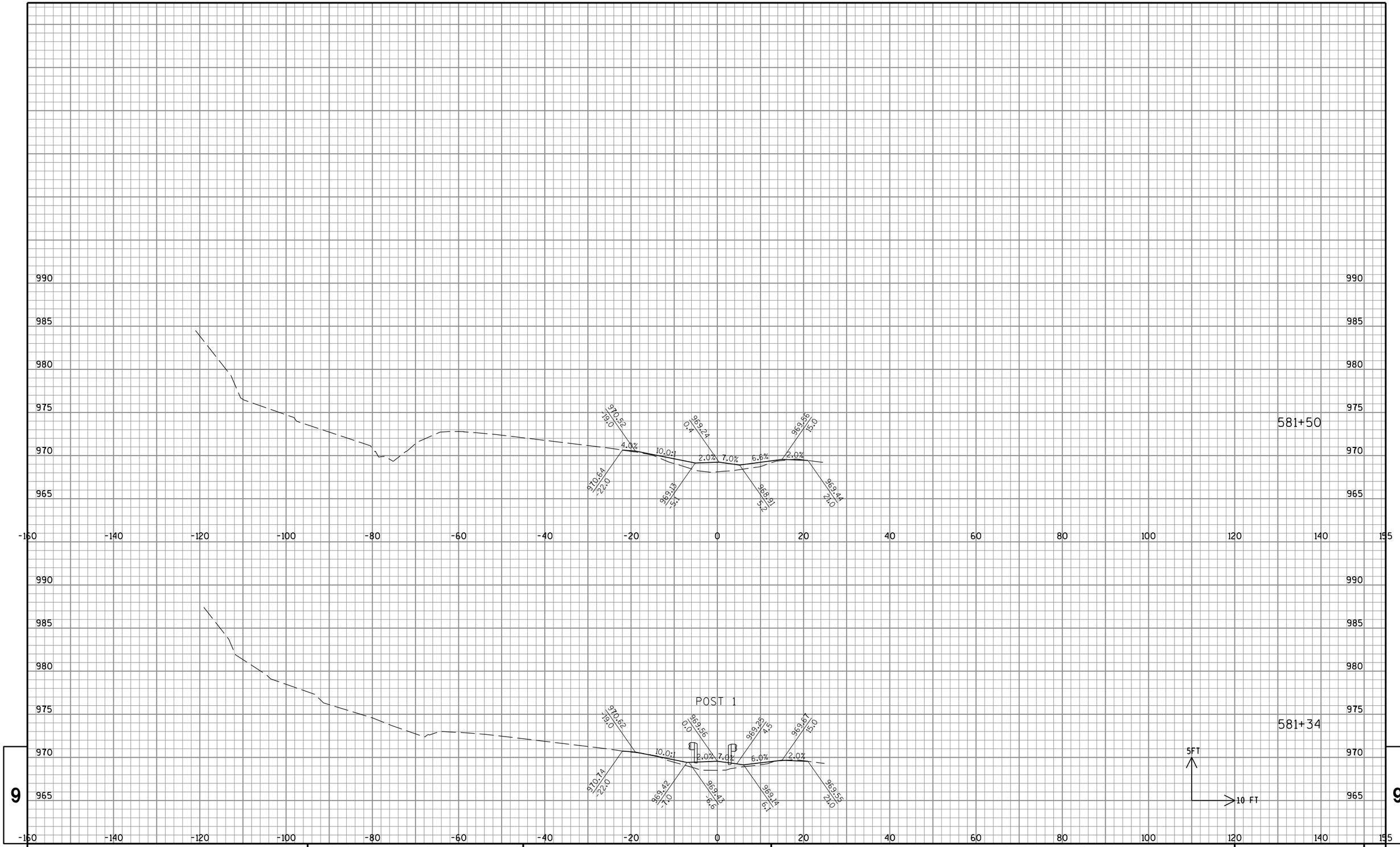
5FT
10 FT

9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 640	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090217_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



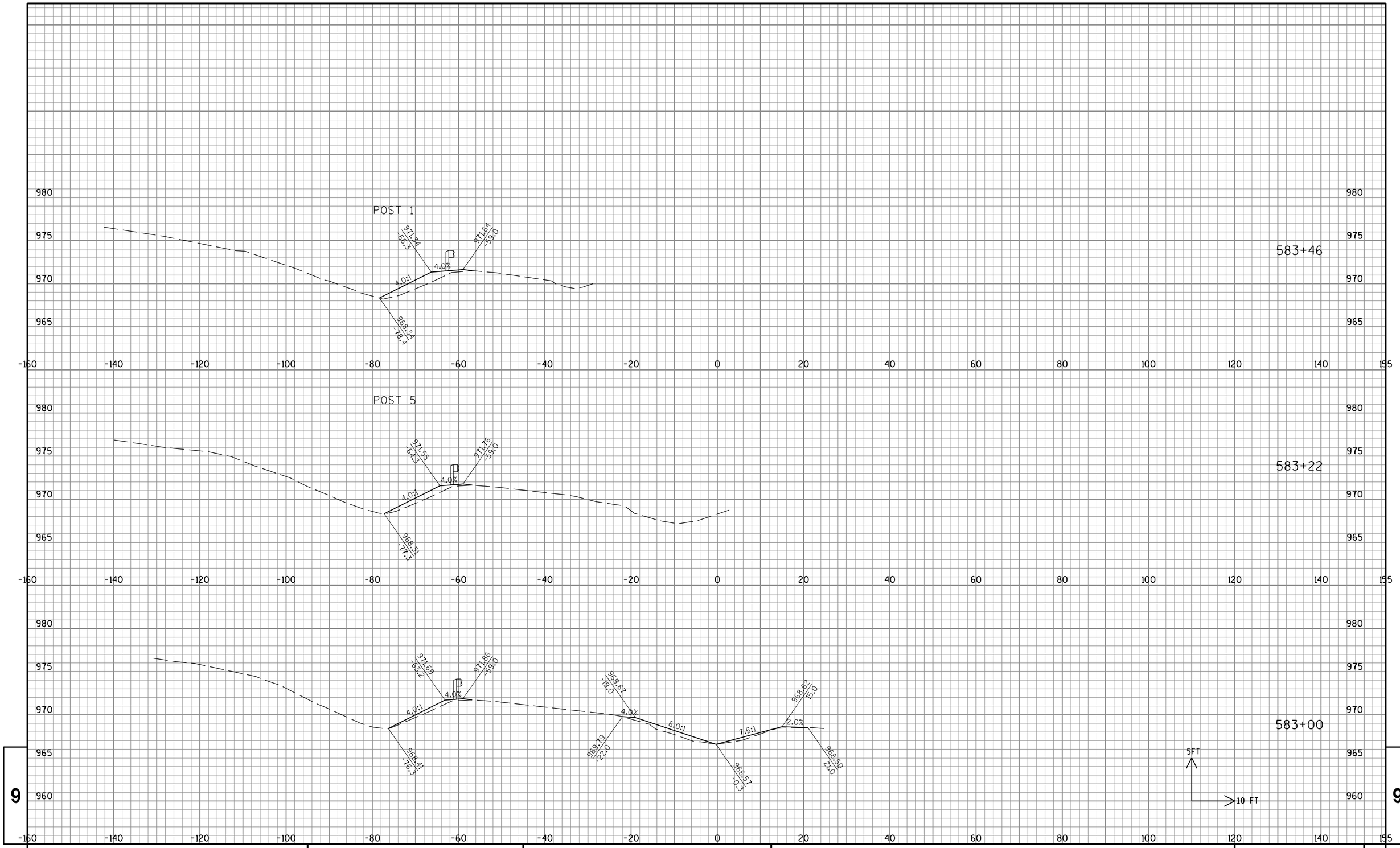
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 641	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090217_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: 642

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090217_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

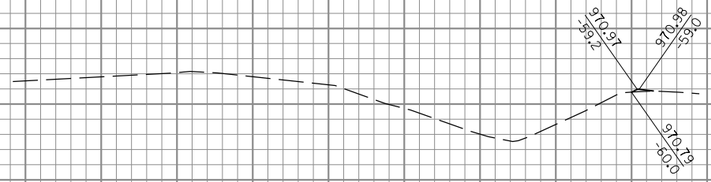
9 E



9

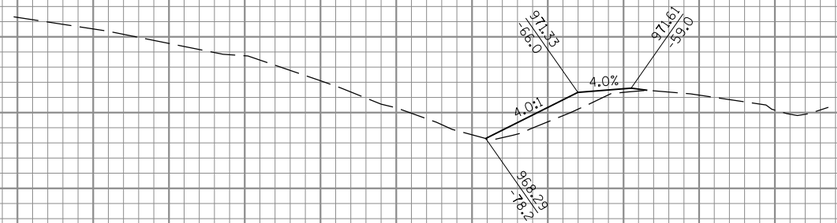
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 643	E

584+50



584+00

583+50

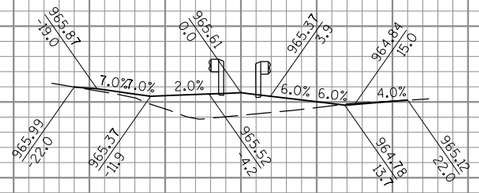


5FT

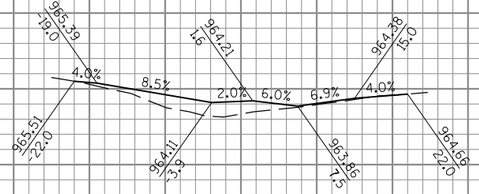
10 FT

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 644	E

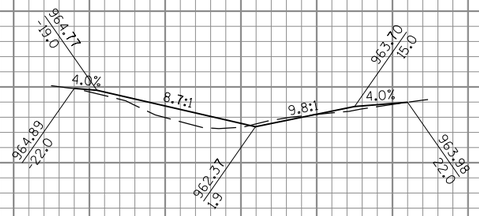
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090217_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



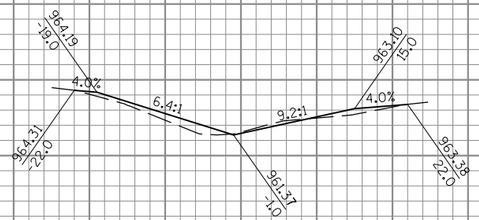
610+32



610+00



609+50



609+00

5FT

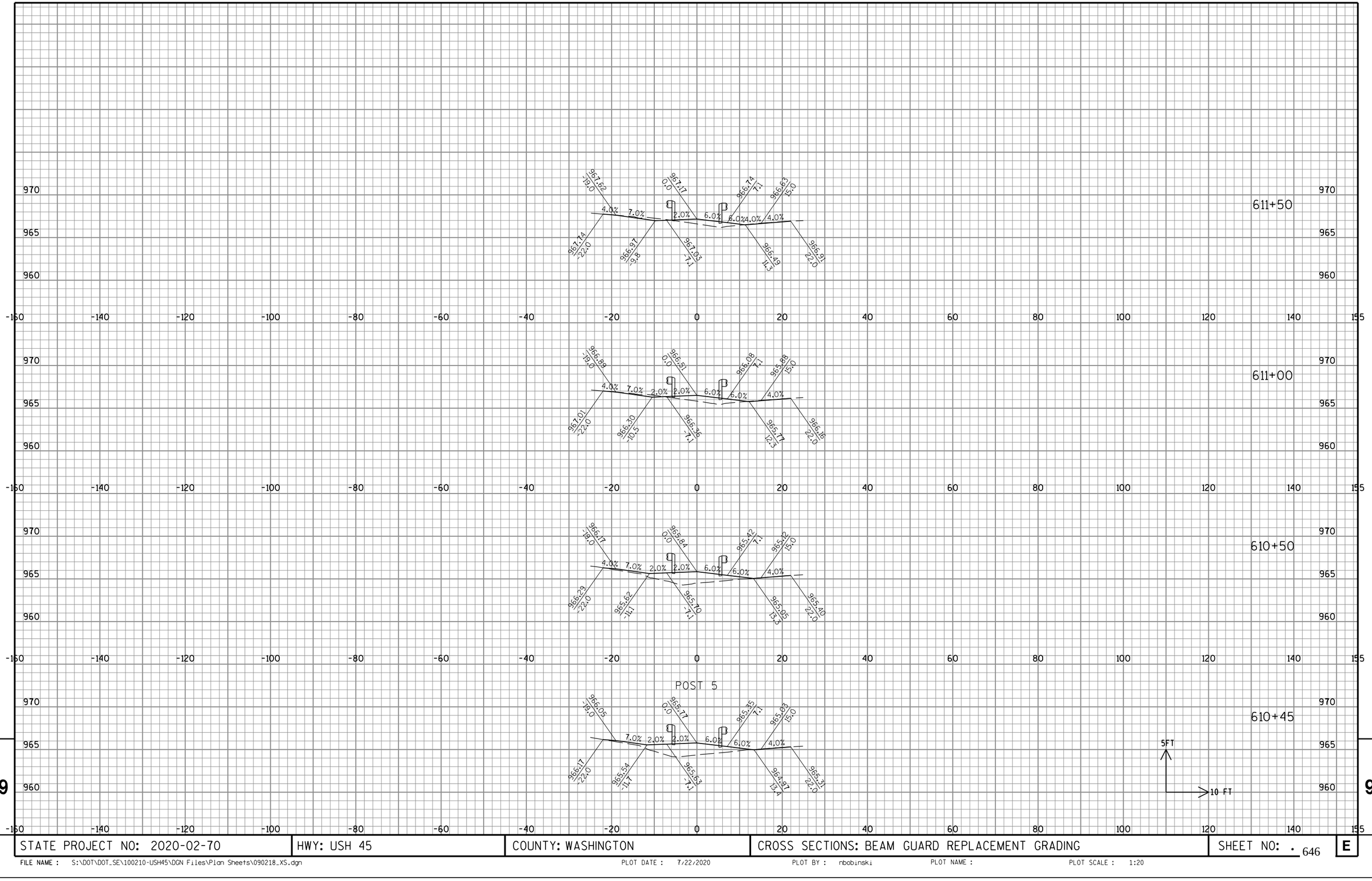
10 FT

9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 645	E

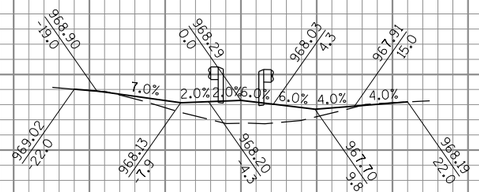
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090218_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 646	E

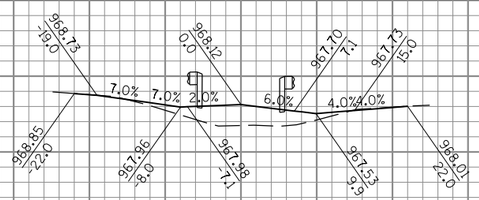
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090218_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

POST 1

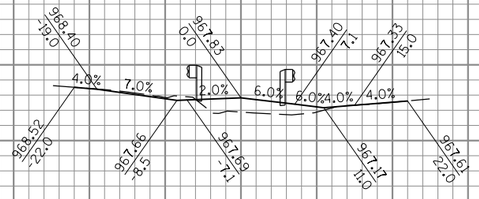


612+34

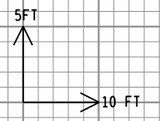
POST 5



612+22

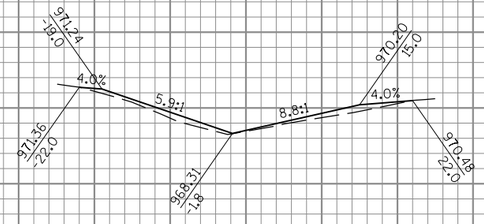


612+00

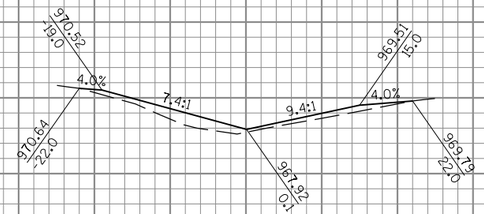


STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 647	E

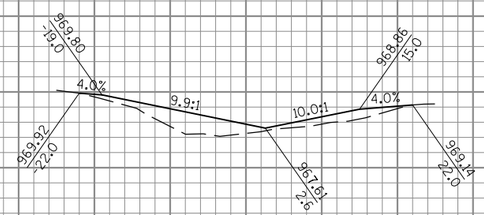
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090218_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



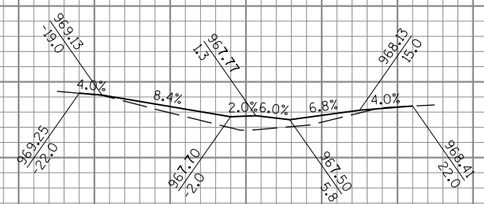
614+00



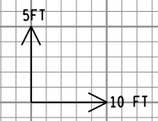
613+50



613+00



612+50

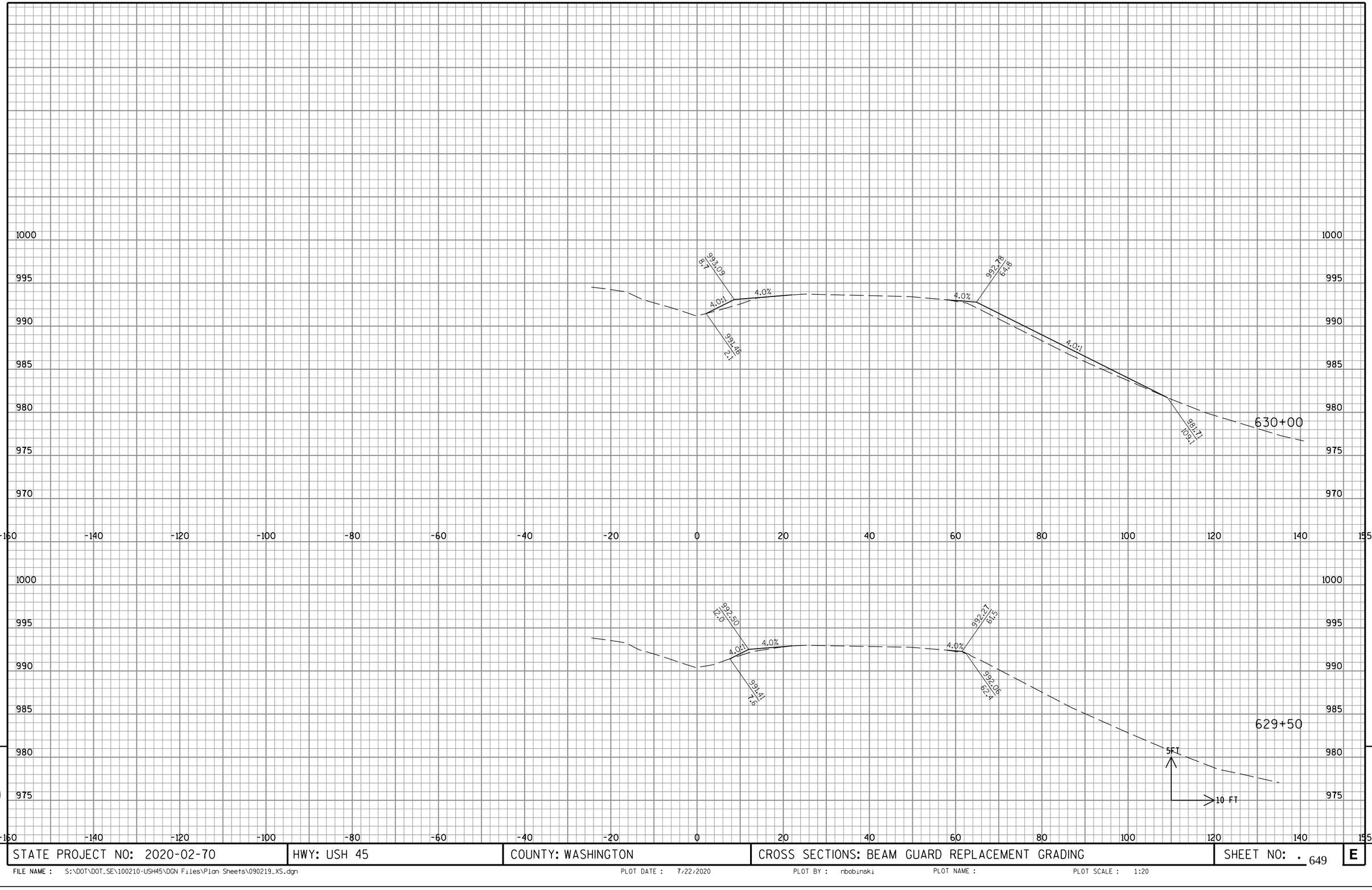


9

9

STATE PROJECT NO: 2020-02-70 | HWY: USH 45 | COUNTY: WASHINGTON | CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING | SHEET NO: . 648 | E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090218_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

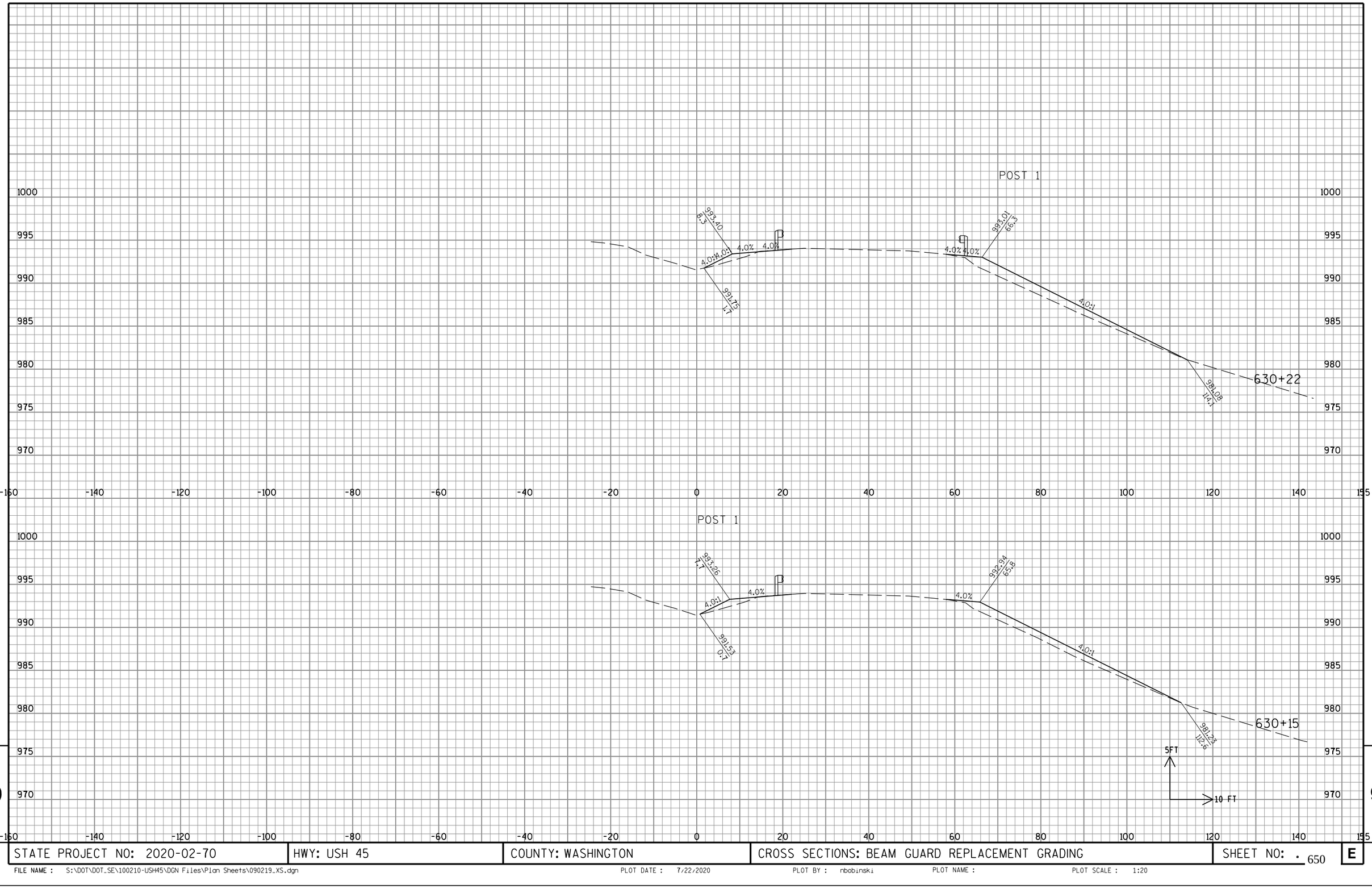


9

9

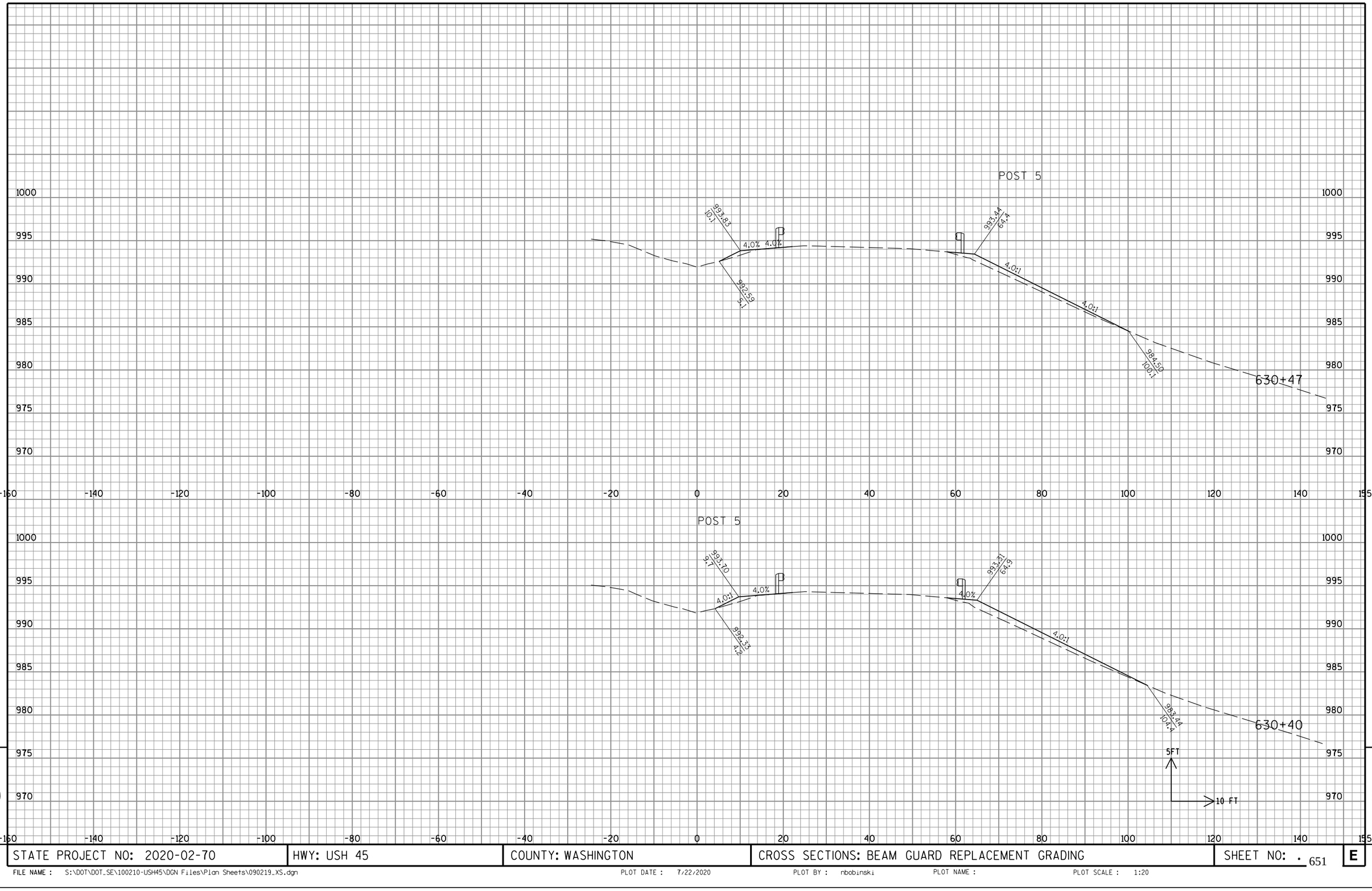
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 649	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090219_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 650	E

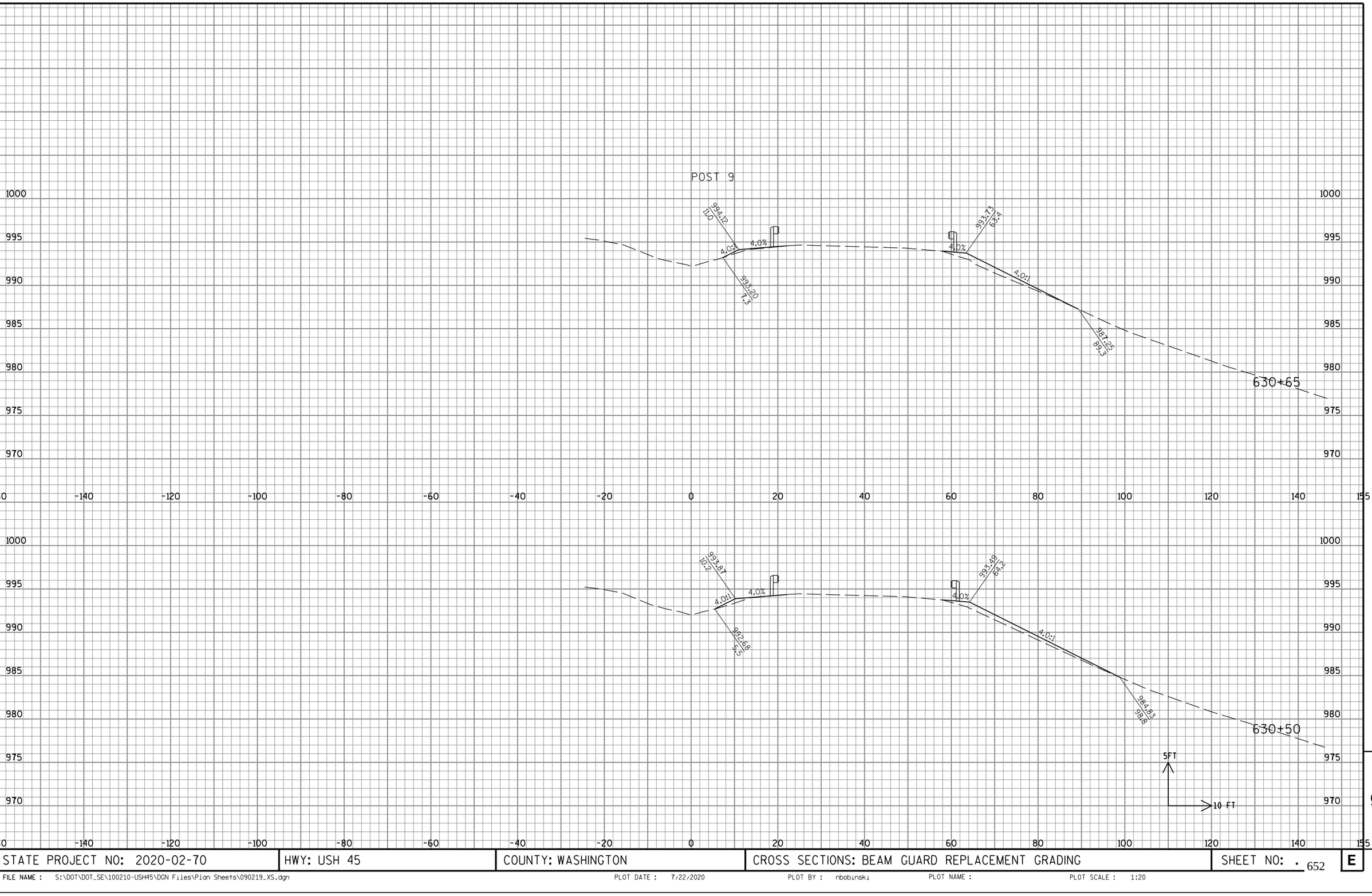
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090219_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 651	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090219_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

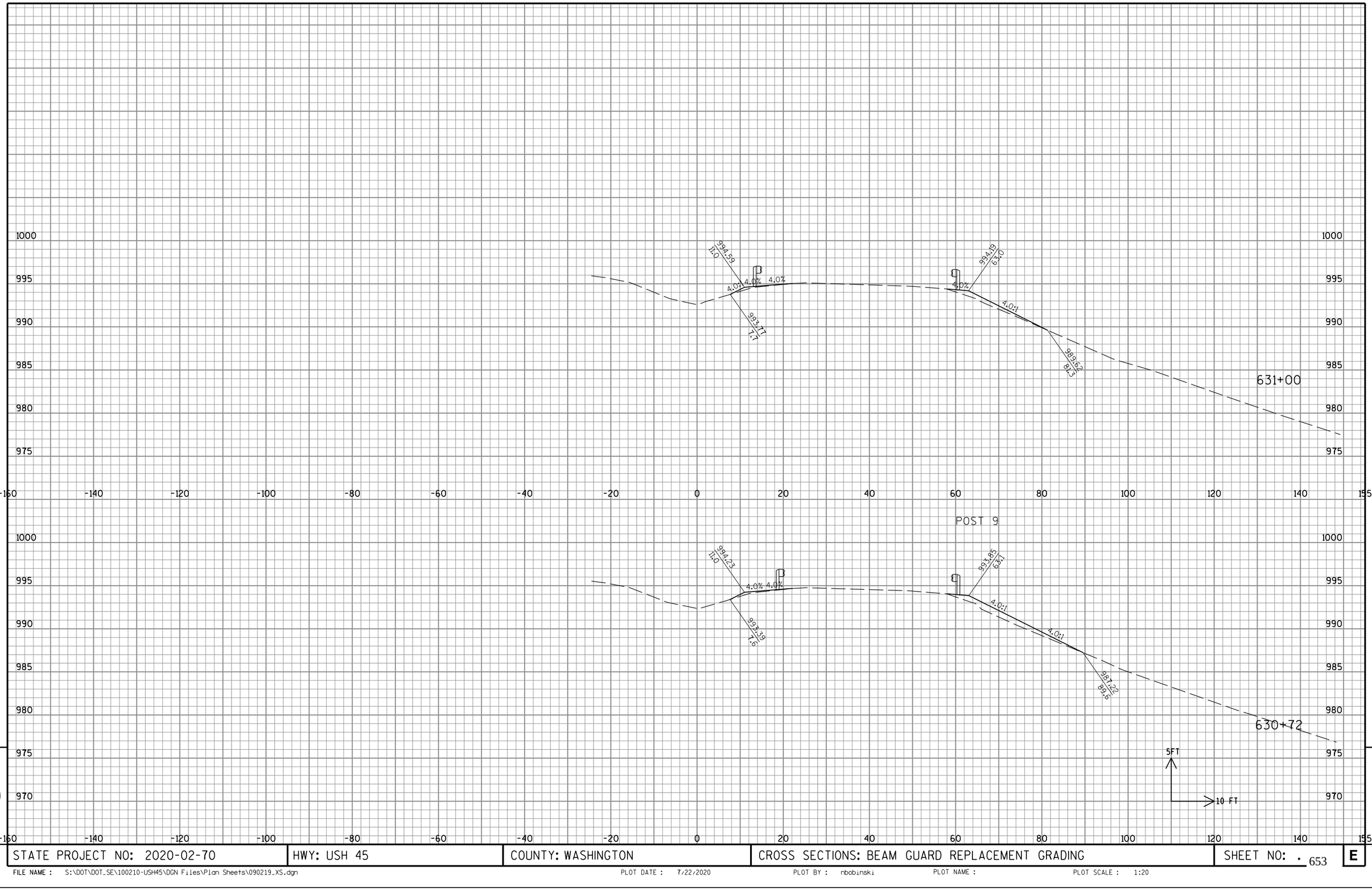
POST 9



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 652

9 E 9

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090219_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

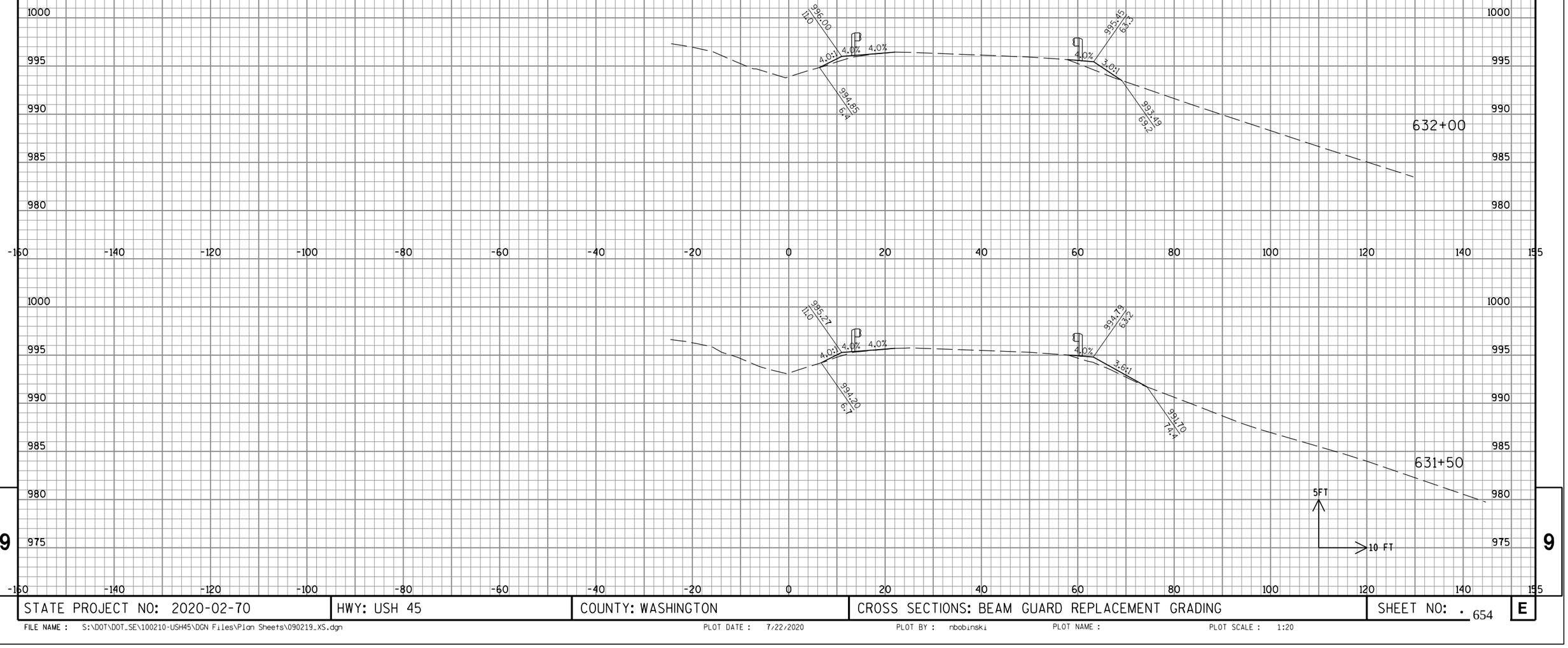


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 653	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090219_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

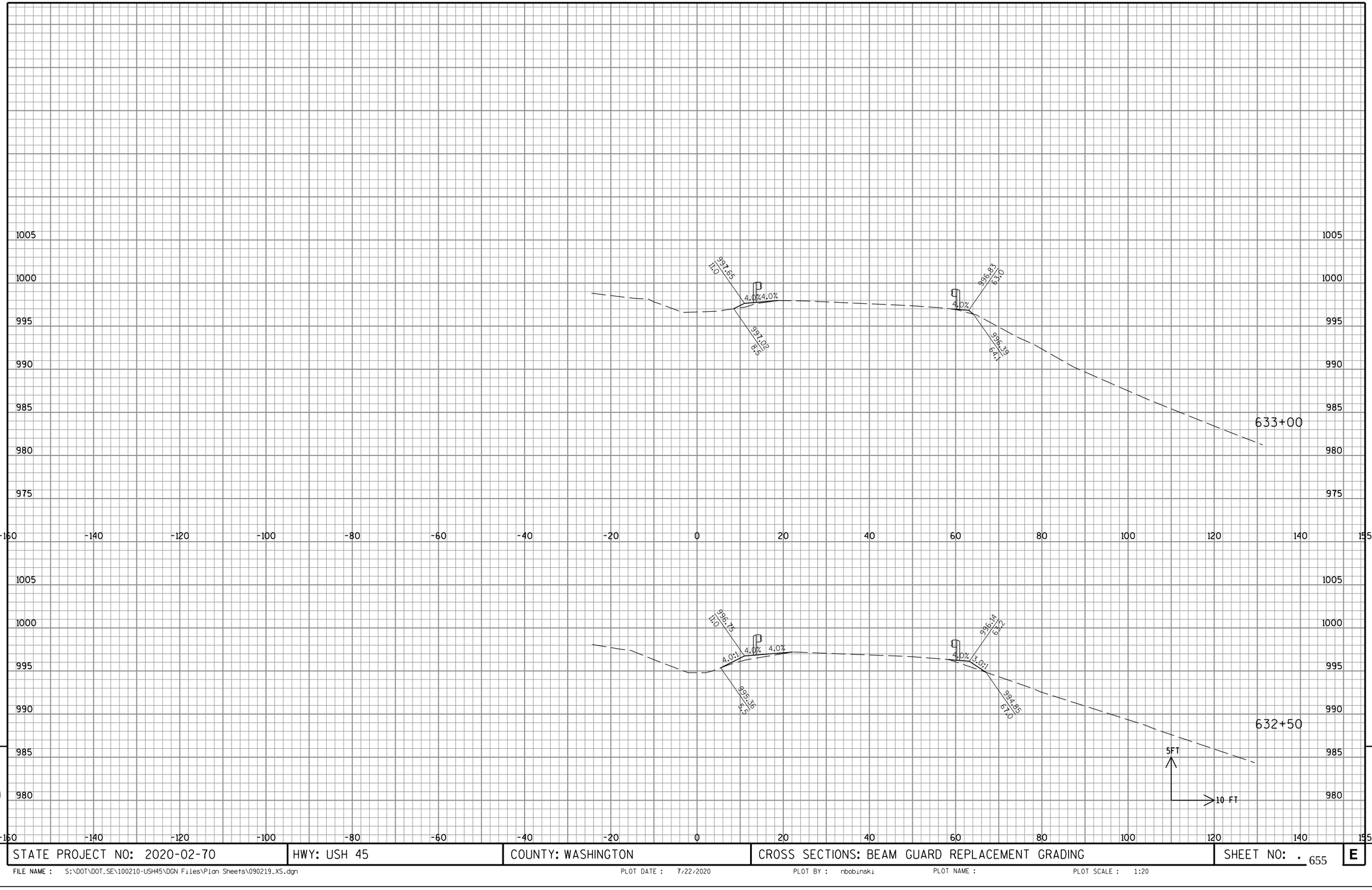


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 654	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090219_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

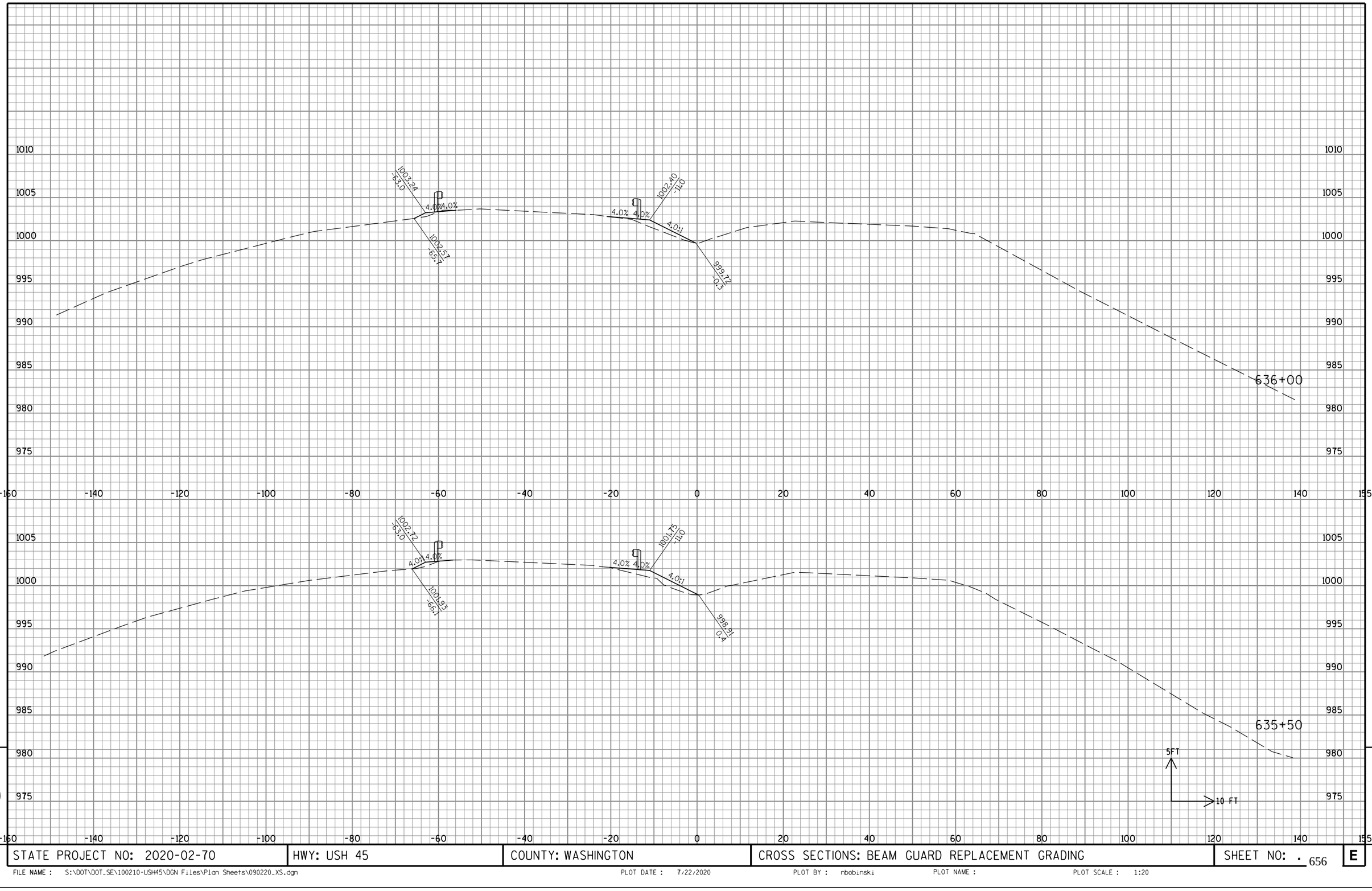


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 655	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090219_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

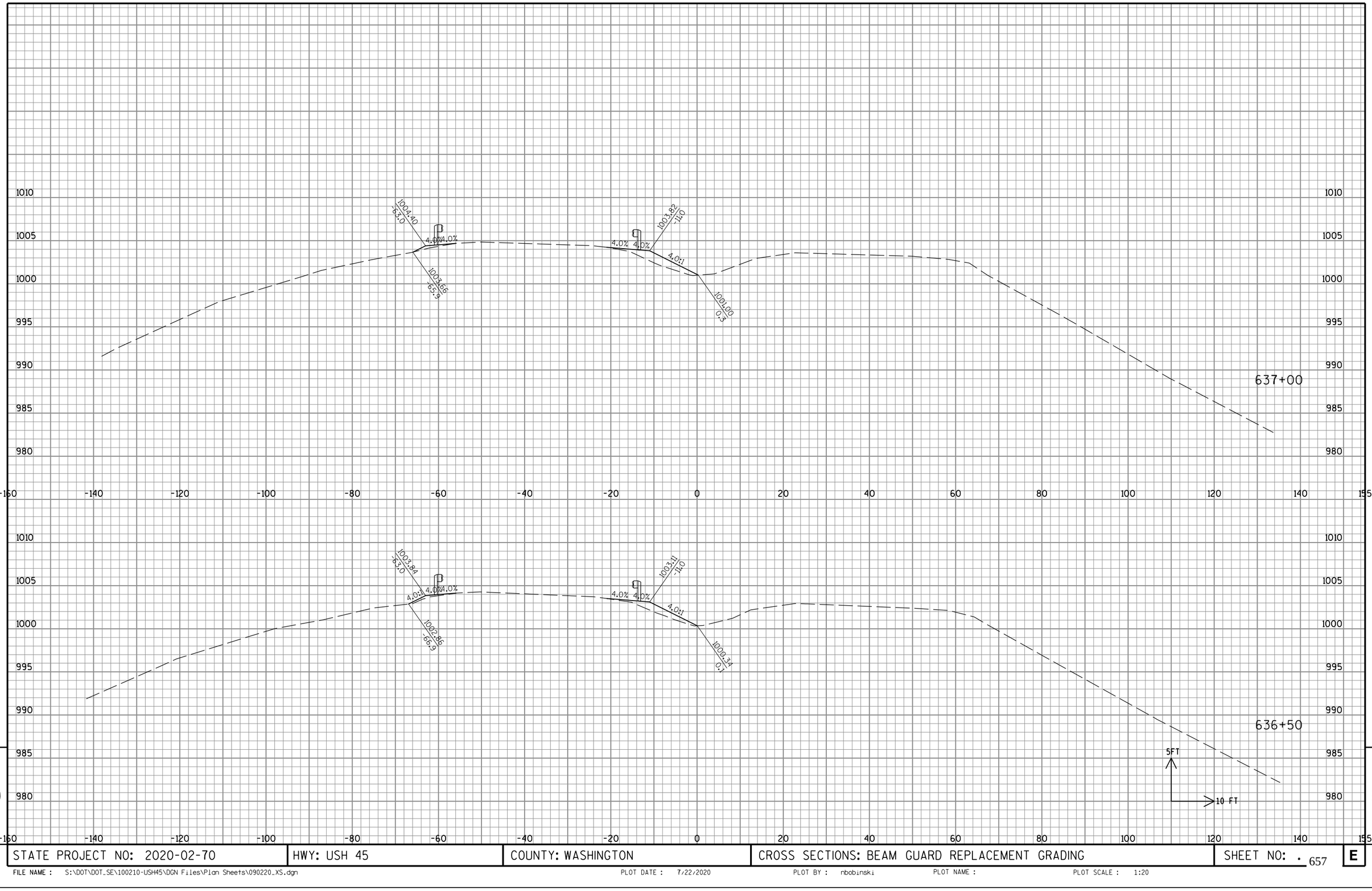


9

9

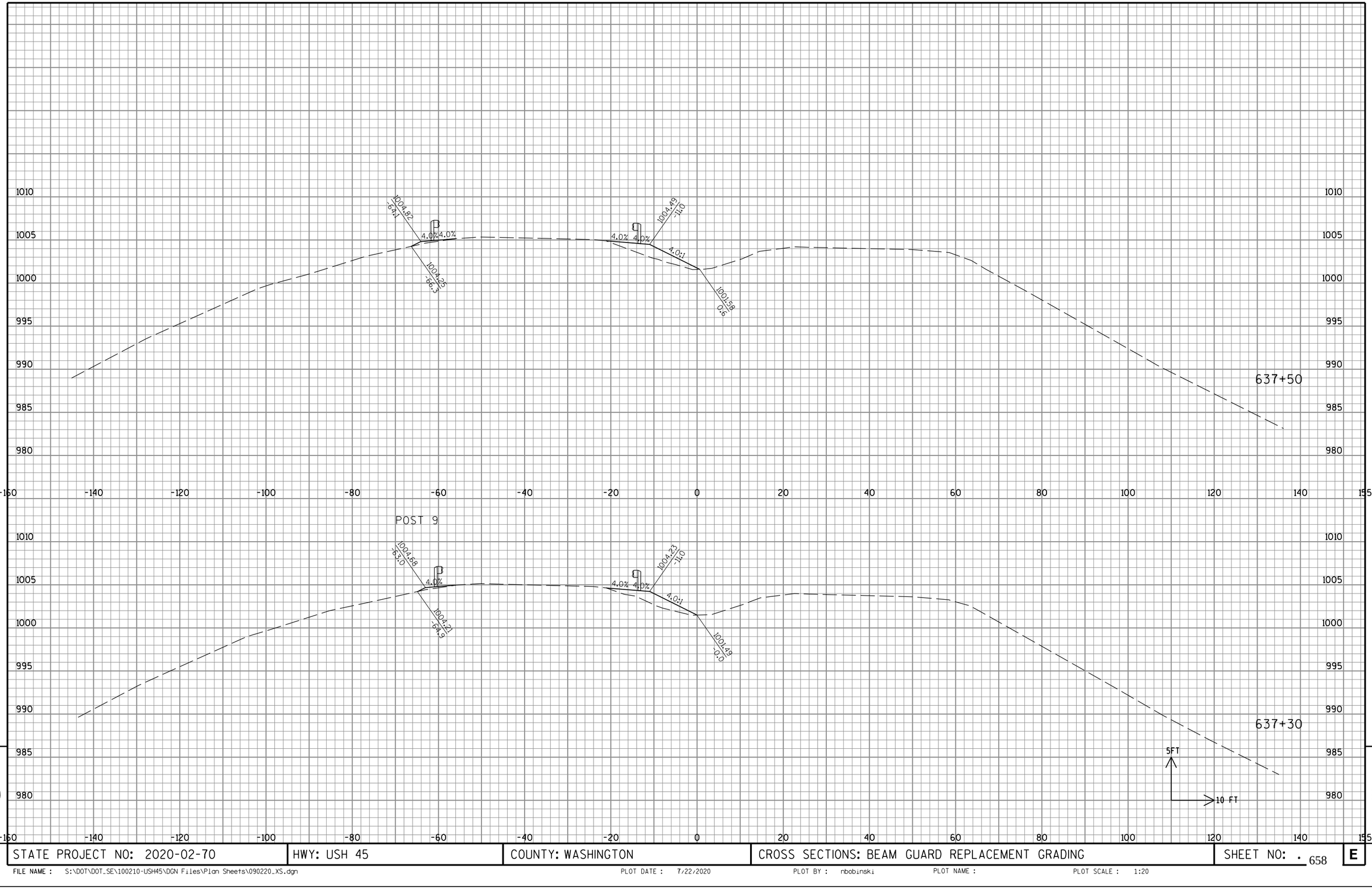
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 656	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090220_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



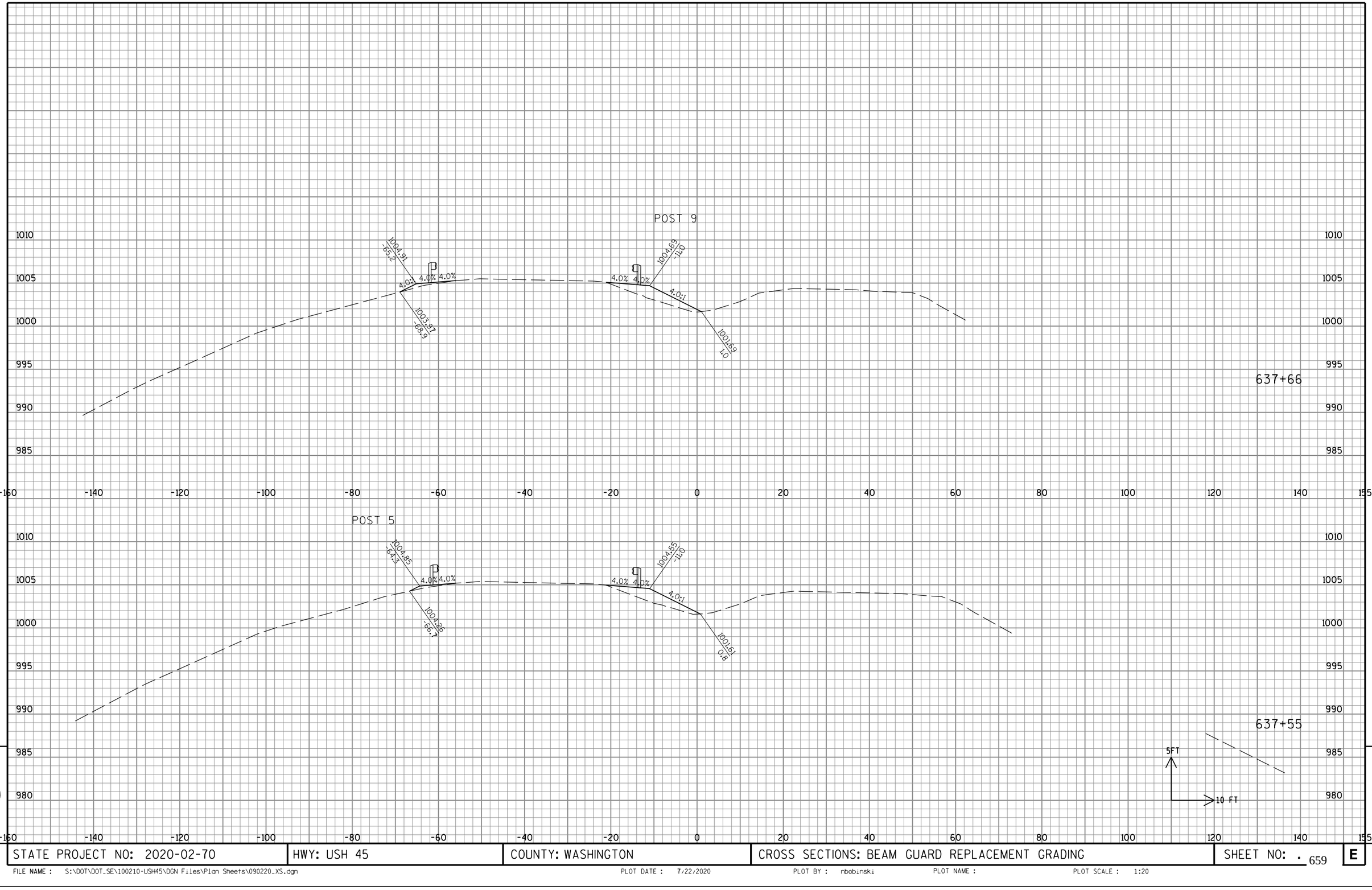
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 657 E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090220_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 658

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090220_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

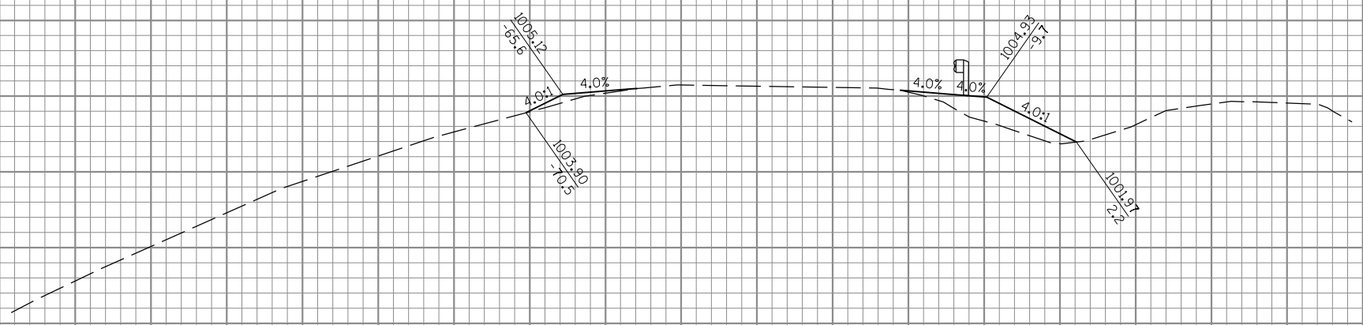


STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 659

9 9 E

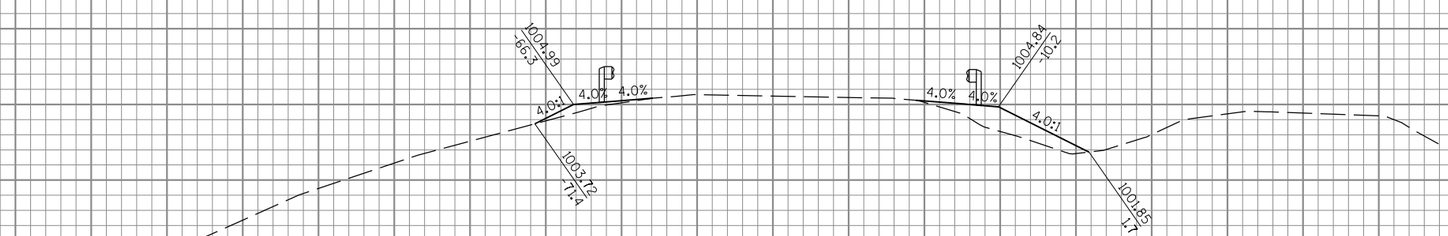
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090220_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

POST 5

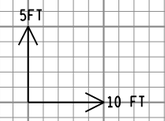


637+91

POST 1



637+80



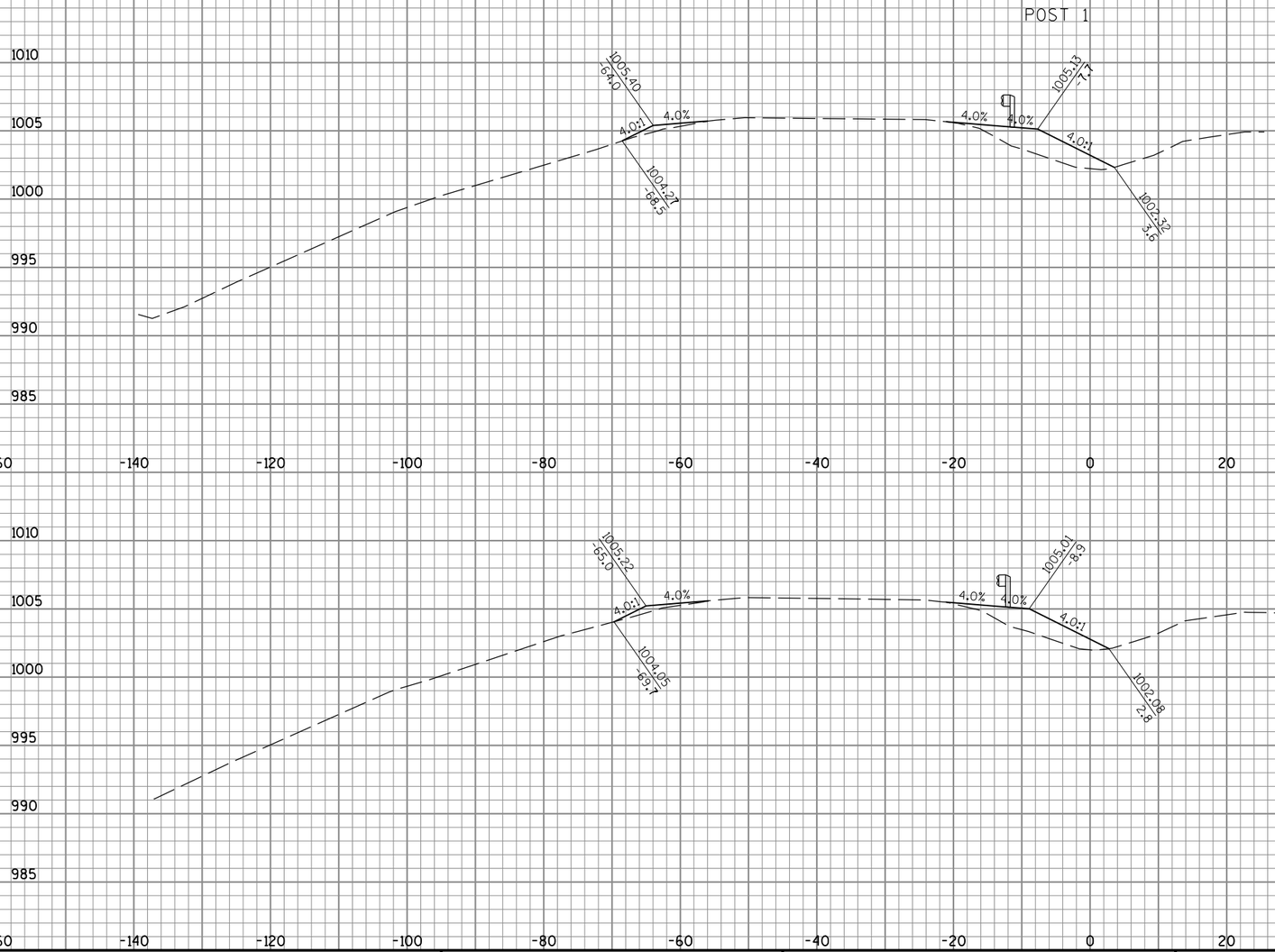
-160 -140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140 155

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 660	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090220_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

POST 1

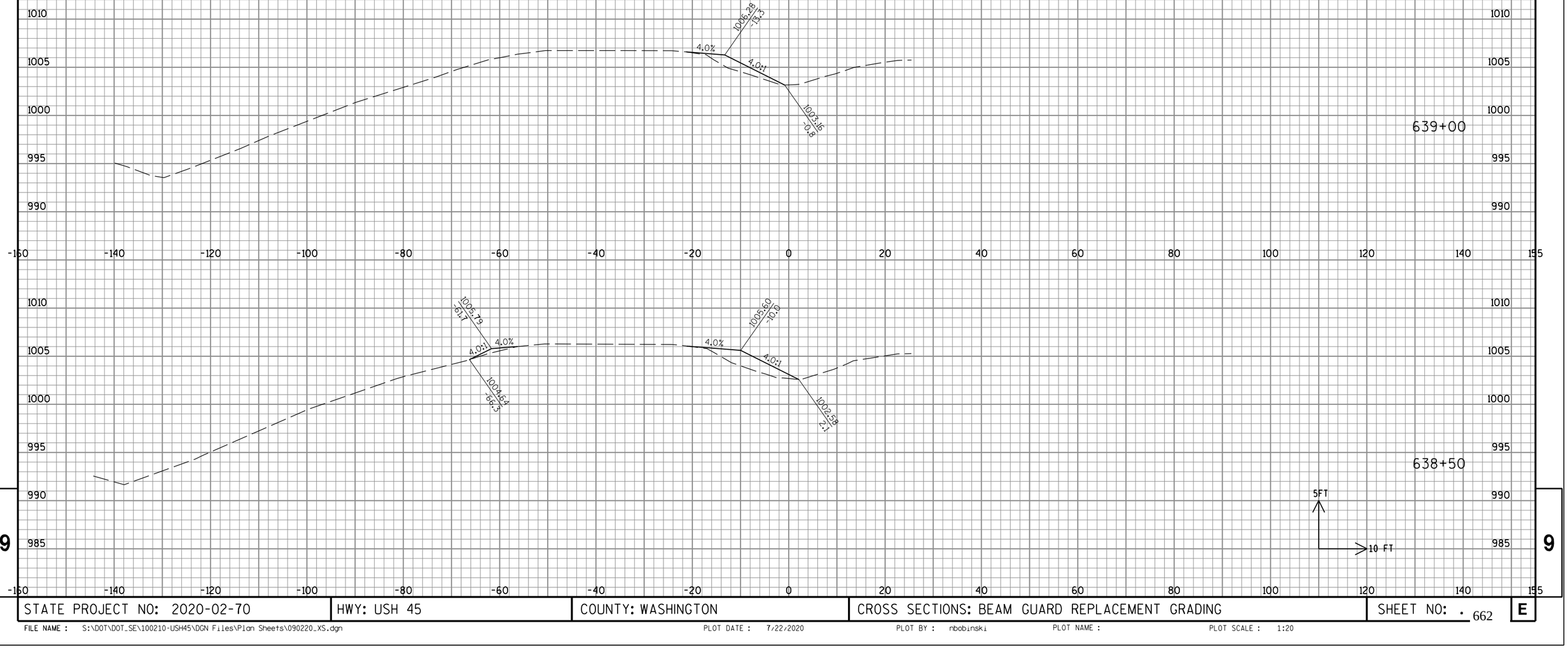


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 661	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090220_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



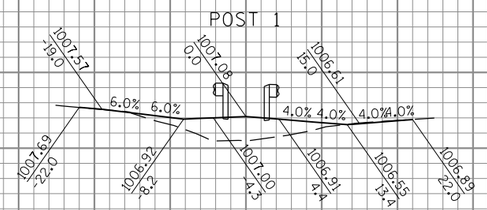
9

9

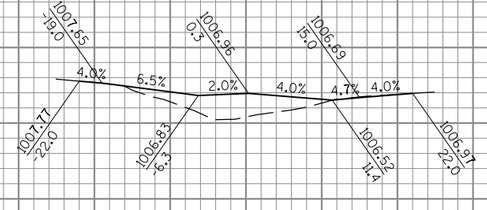
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 662	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090220_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

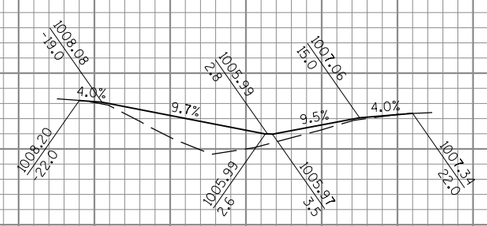
POST 1



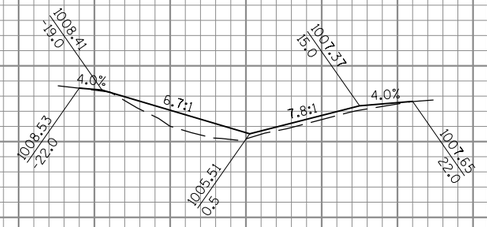
652+09



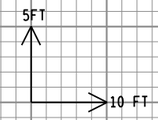
652+00



651+50



651+00

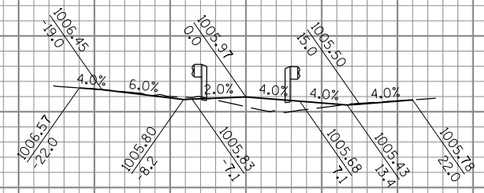


9

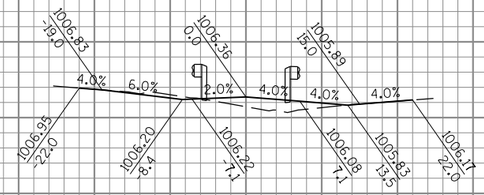
9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 663	E

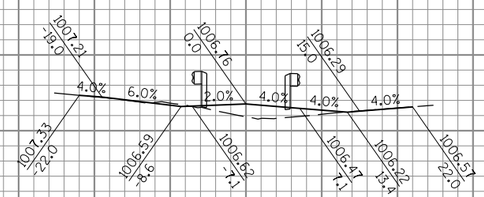
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090221_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



653+50

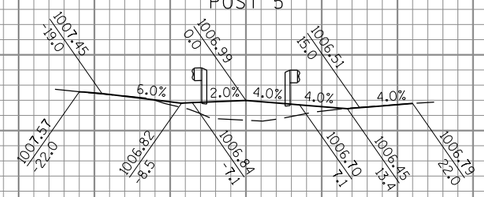


653+00



652+50

POST 5



652+21

5FT

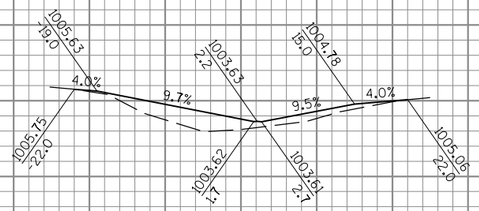
10 FT

9

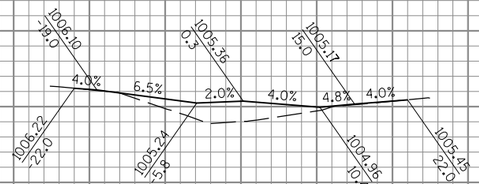
9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 664	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090221_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

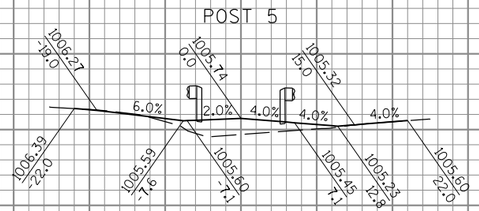


654+50



654+00

653+92



653+79

5FT

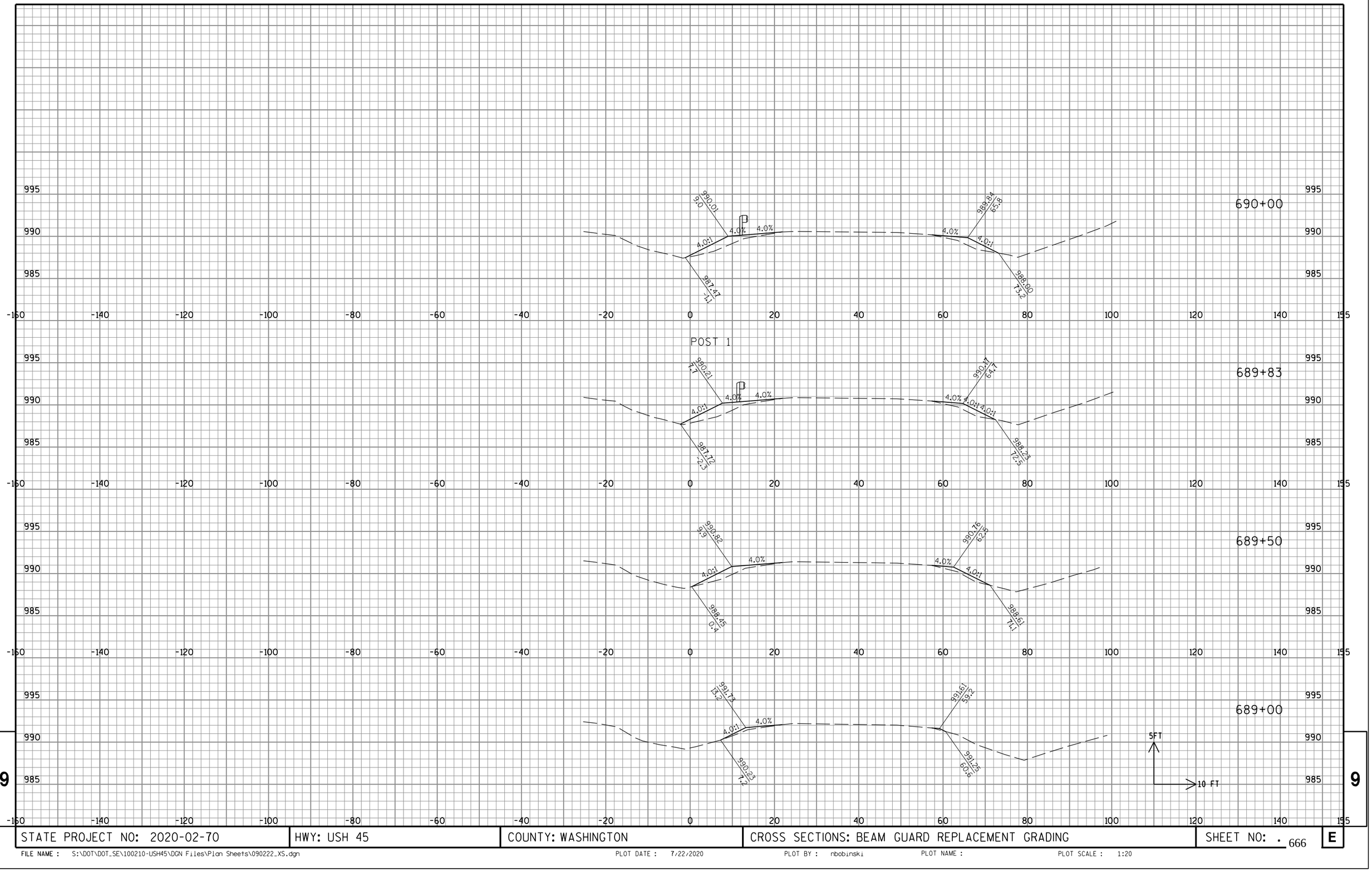
10 FT

9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 665	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090221_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

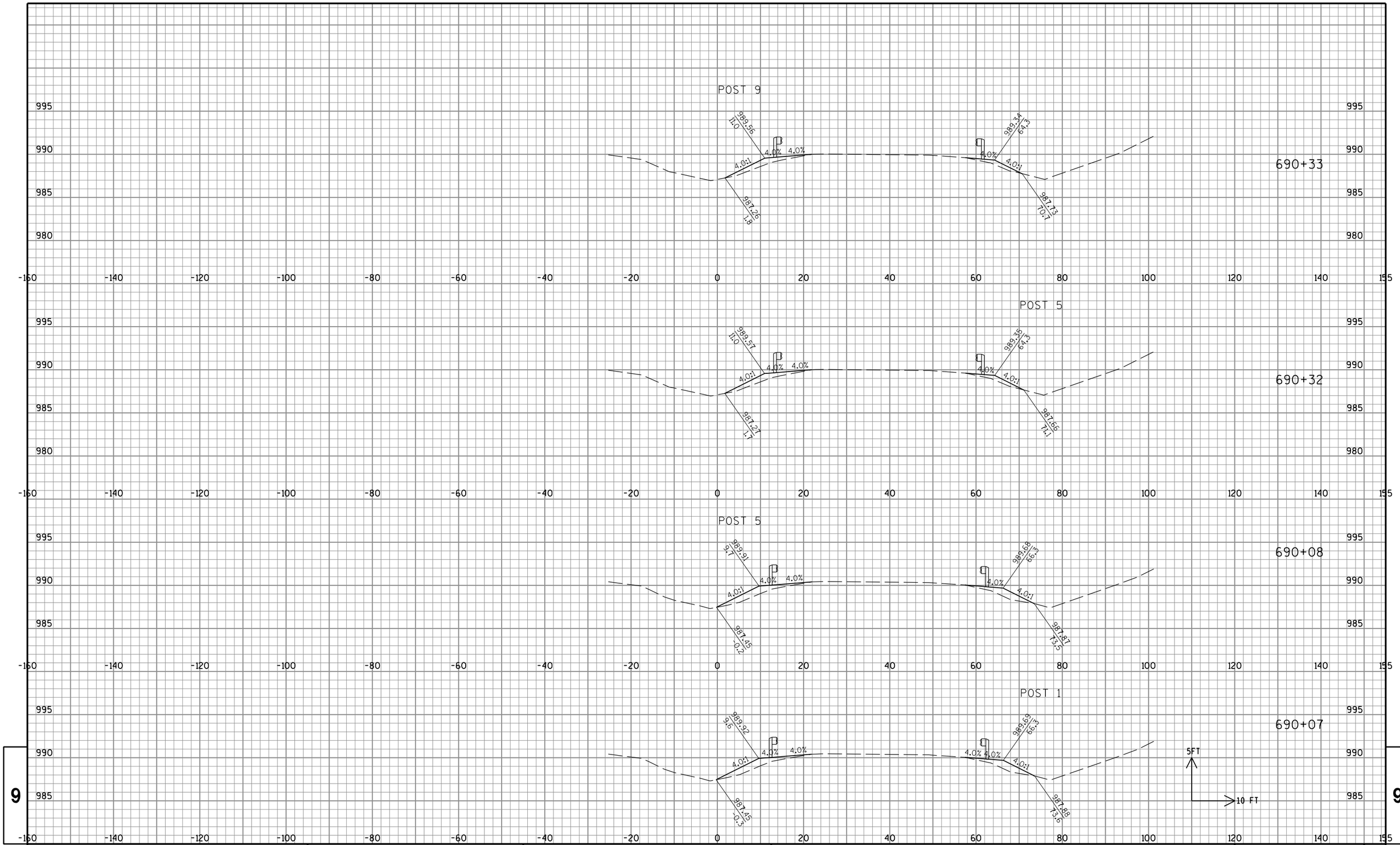


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 666	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090222_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

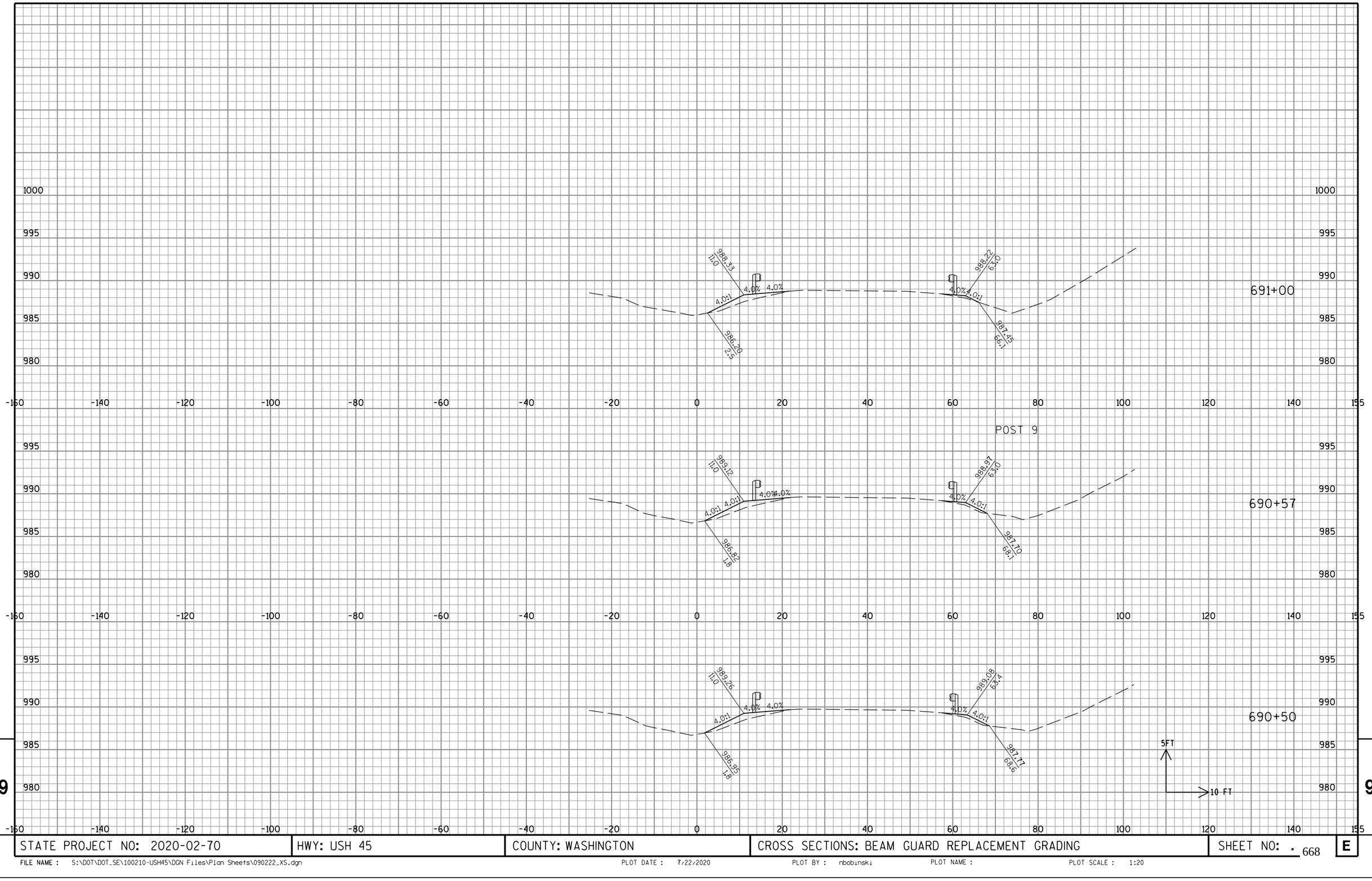


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 667	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090222_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

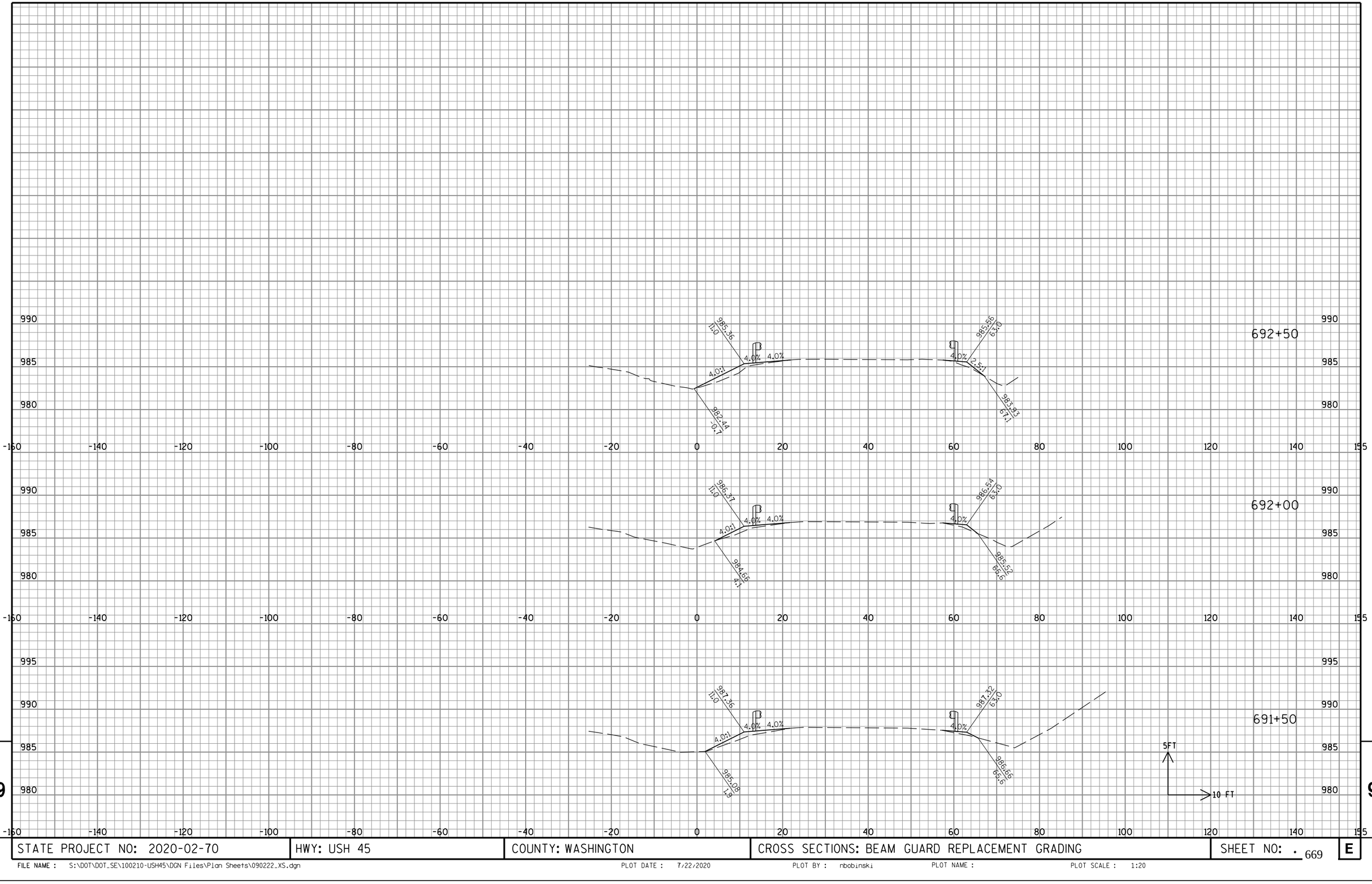


9

9

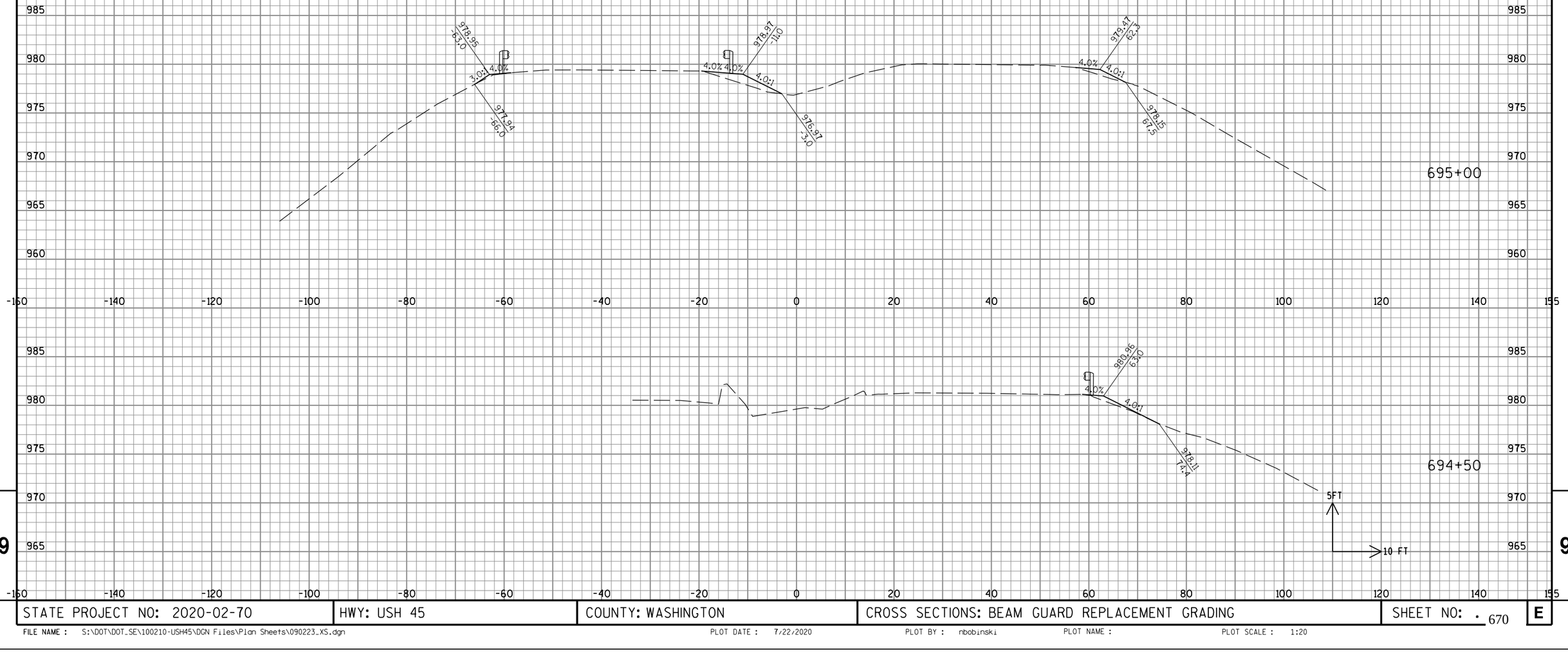
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 668	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090222_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 669	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090222_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

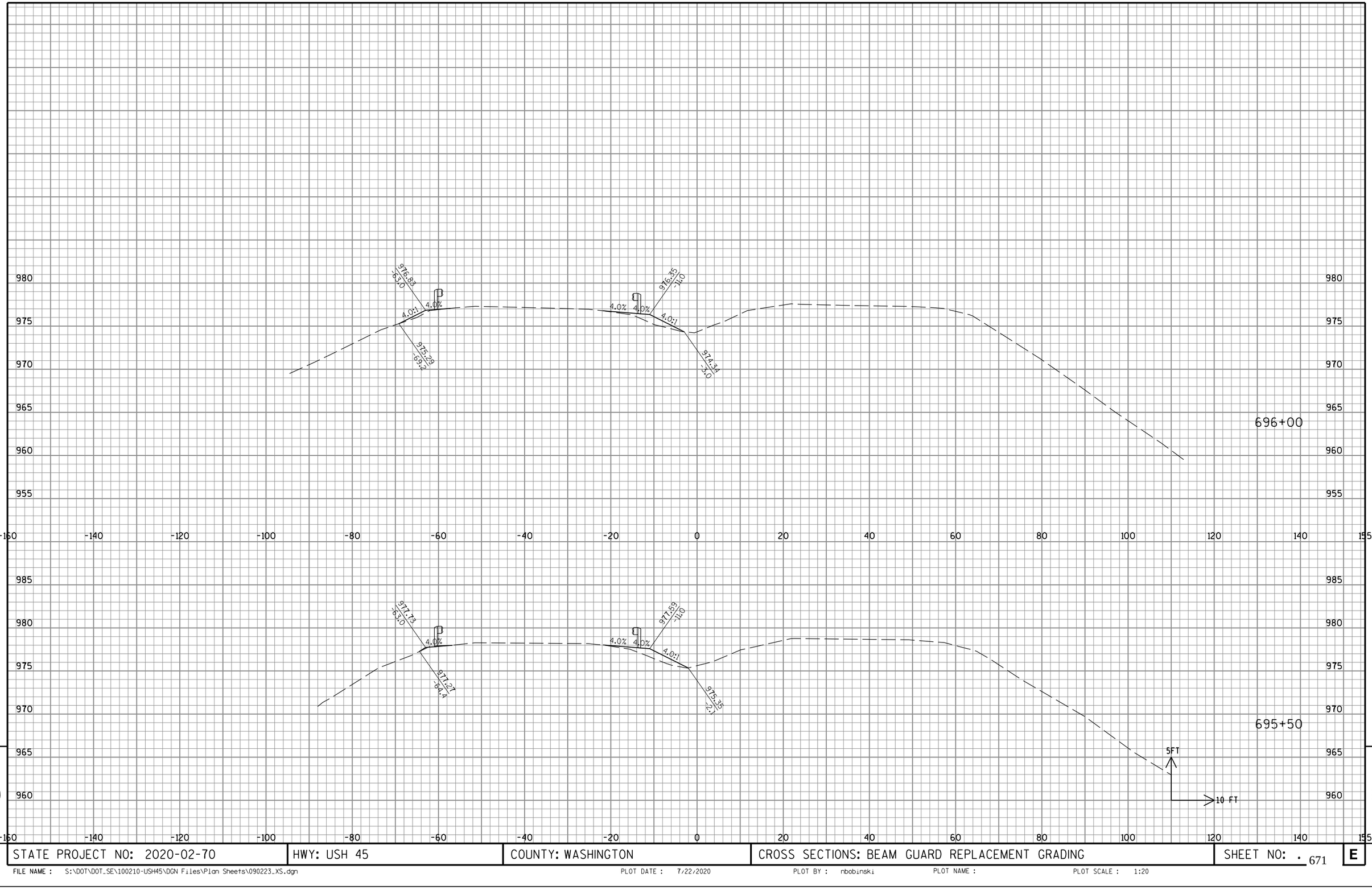


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 670	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090223_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

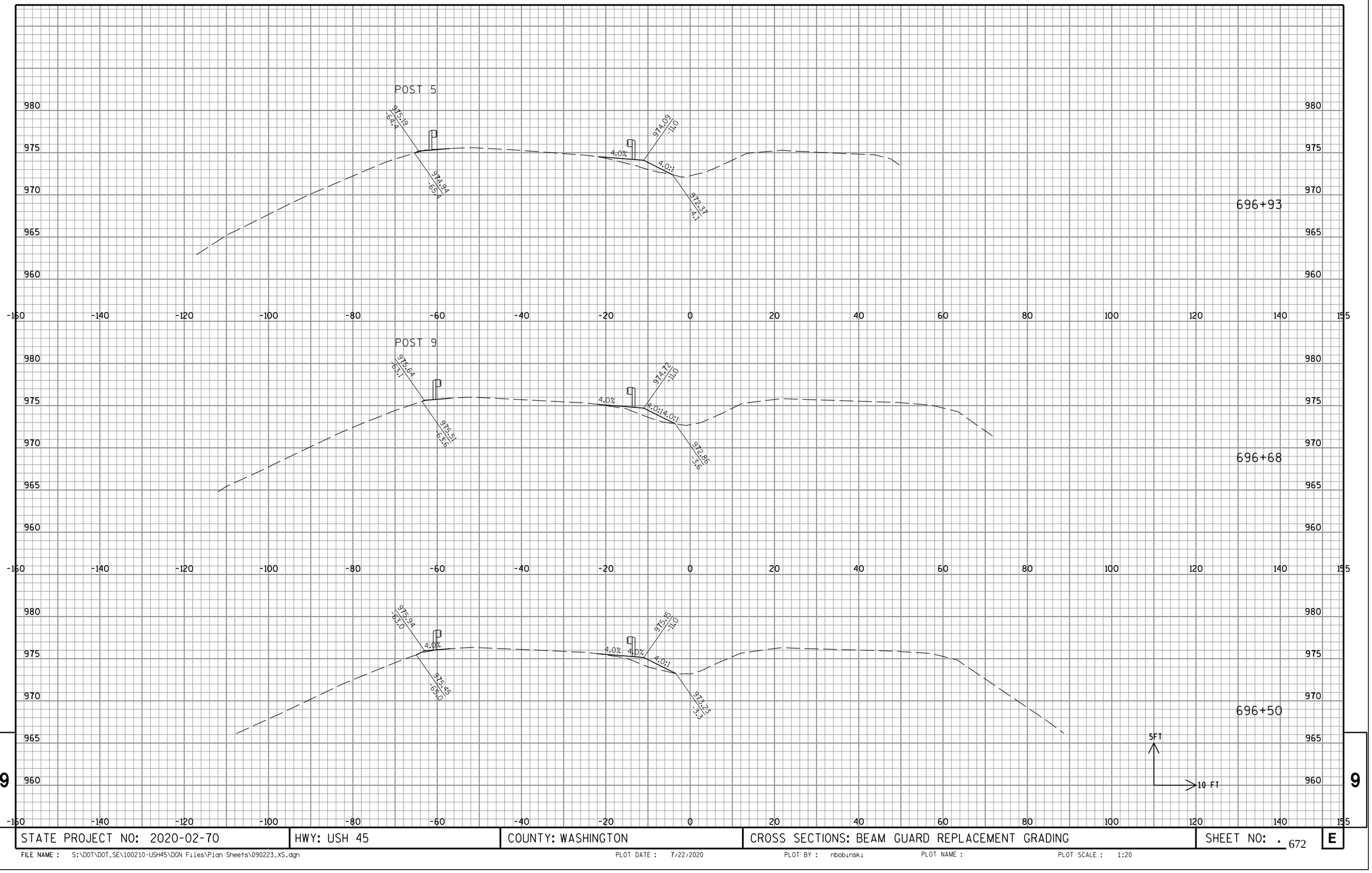


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 671	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090223_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

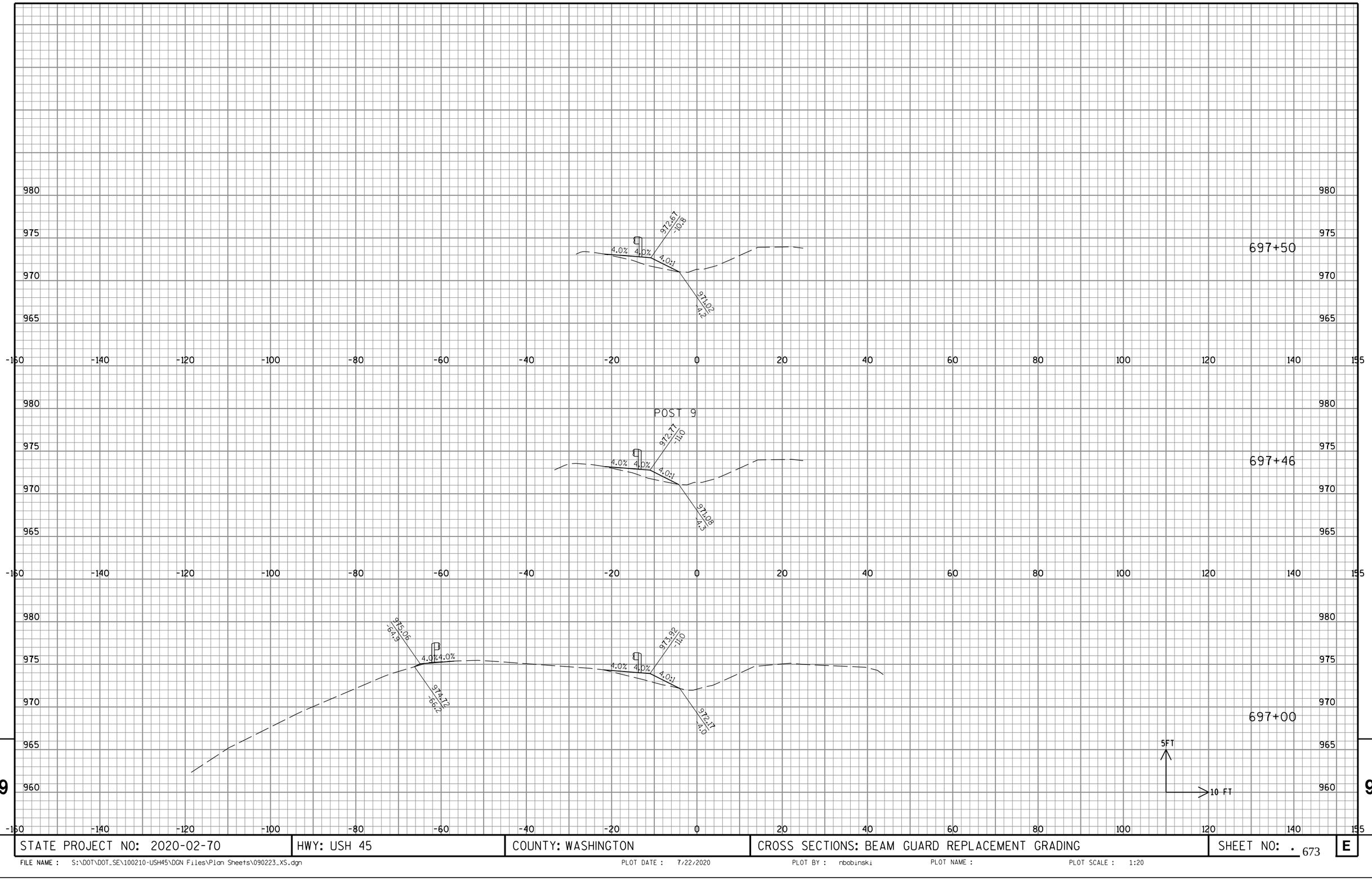


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 672	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090223_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



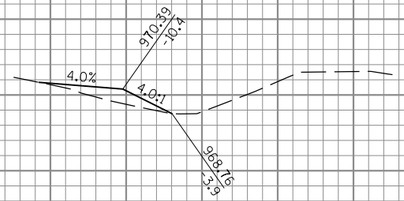
9

9

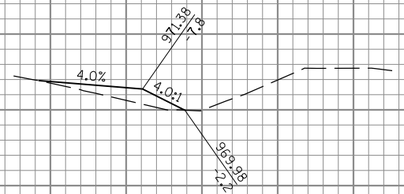
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 673	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090223_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

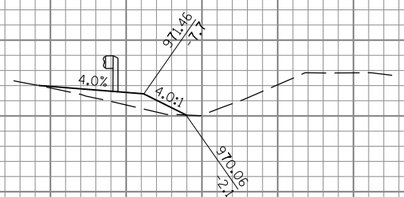
698+50



698+00

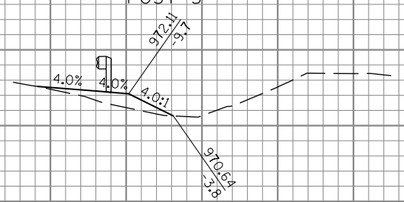


POST 1



697+96

POST 5



697+71

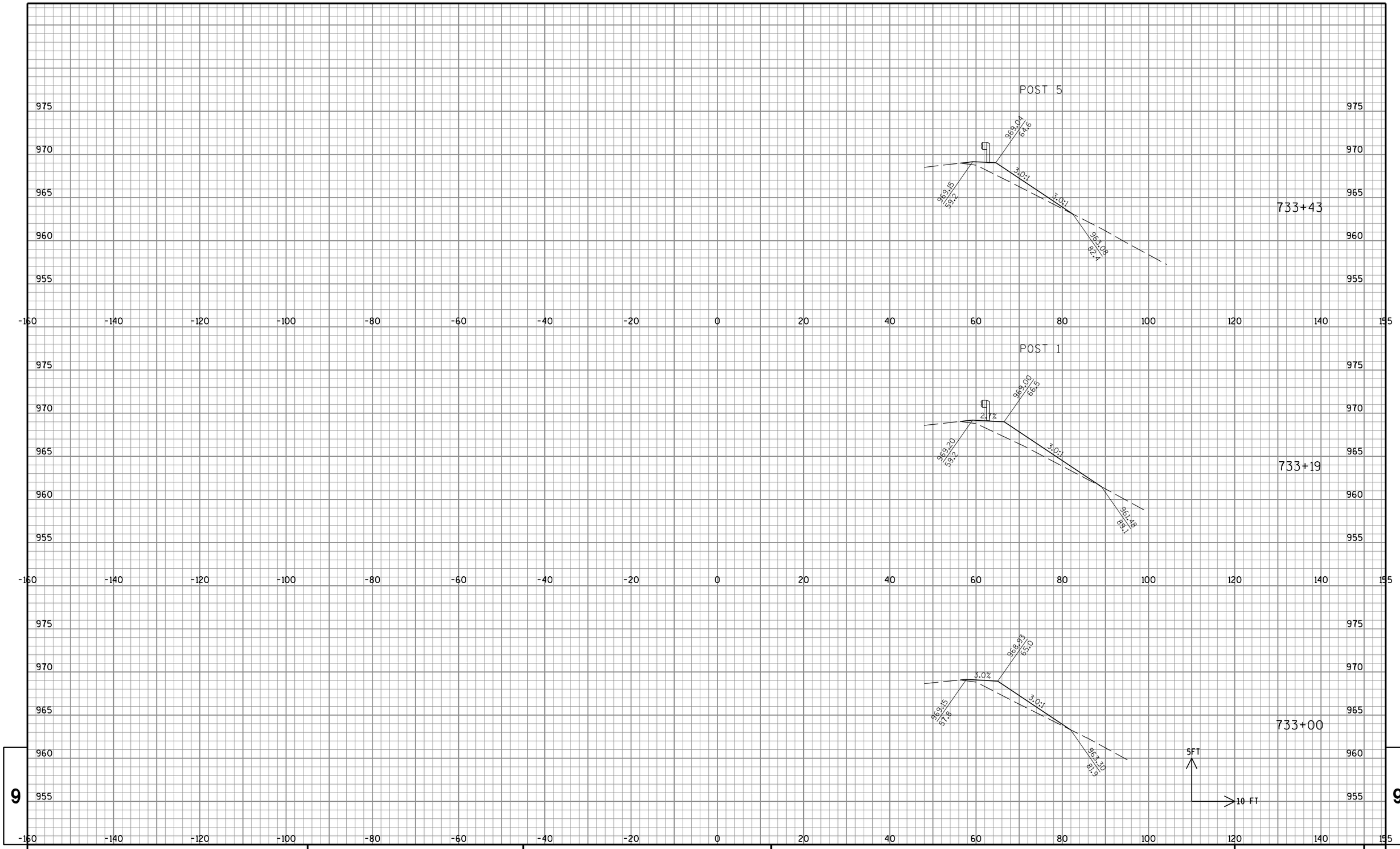
5FT
10 FT

9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 674	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090223_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

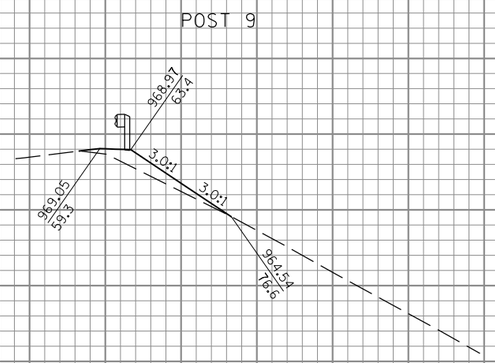


9

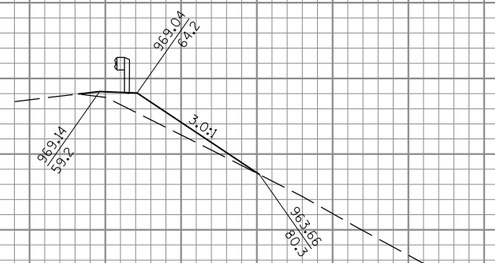
9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 675	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090224_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



733+68



733+50

5FT

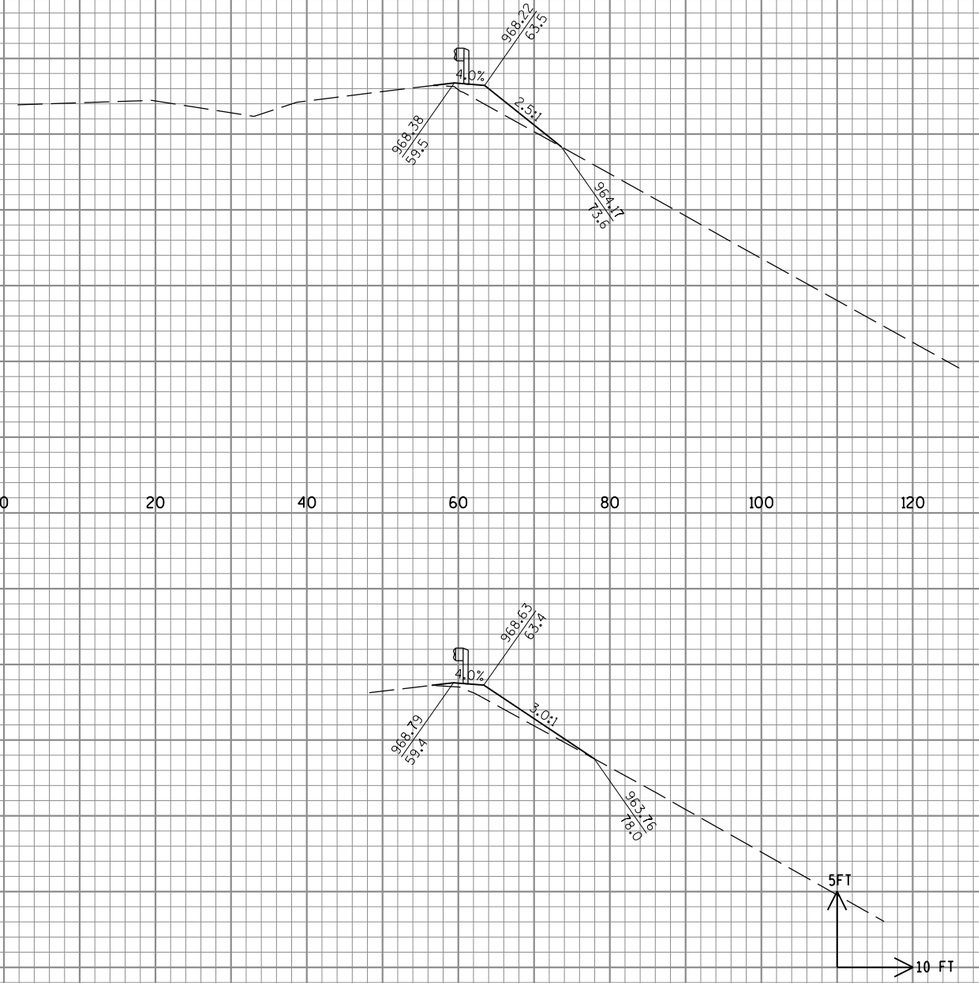
10 FT

9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 676	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090224_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



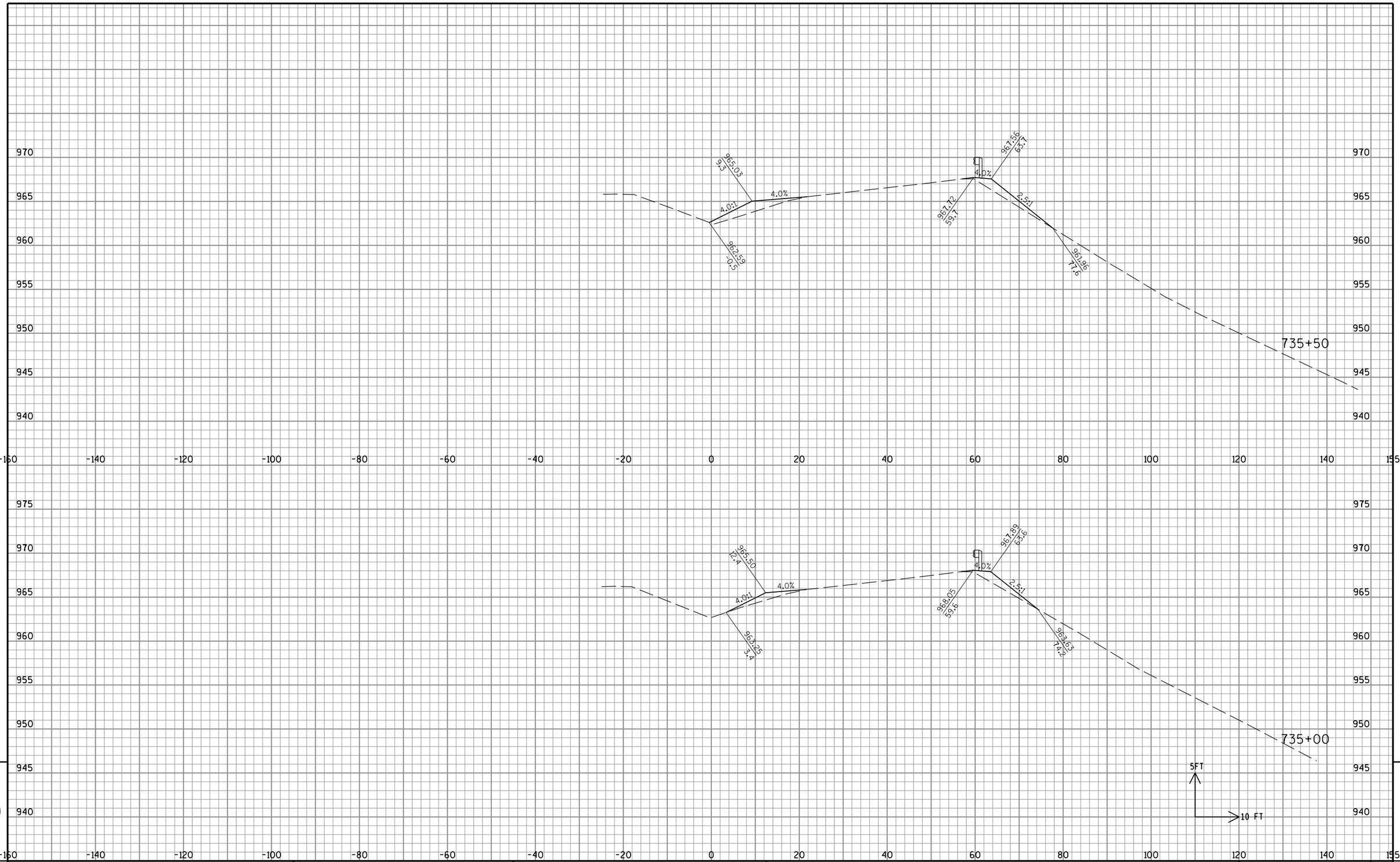
975 970 965 960 955 950 945

-160 -140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140 155

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 677	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090224_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

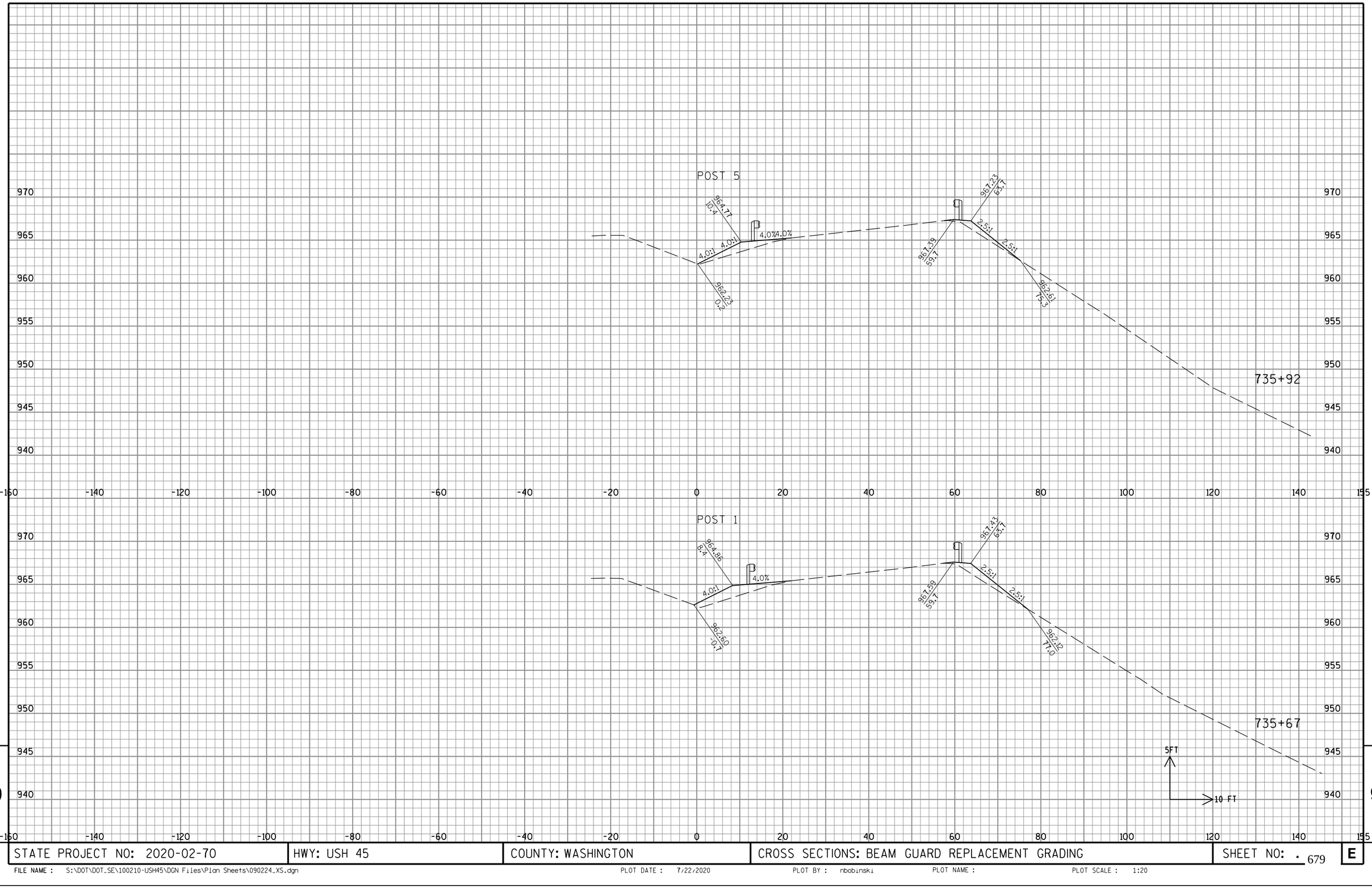


9

9

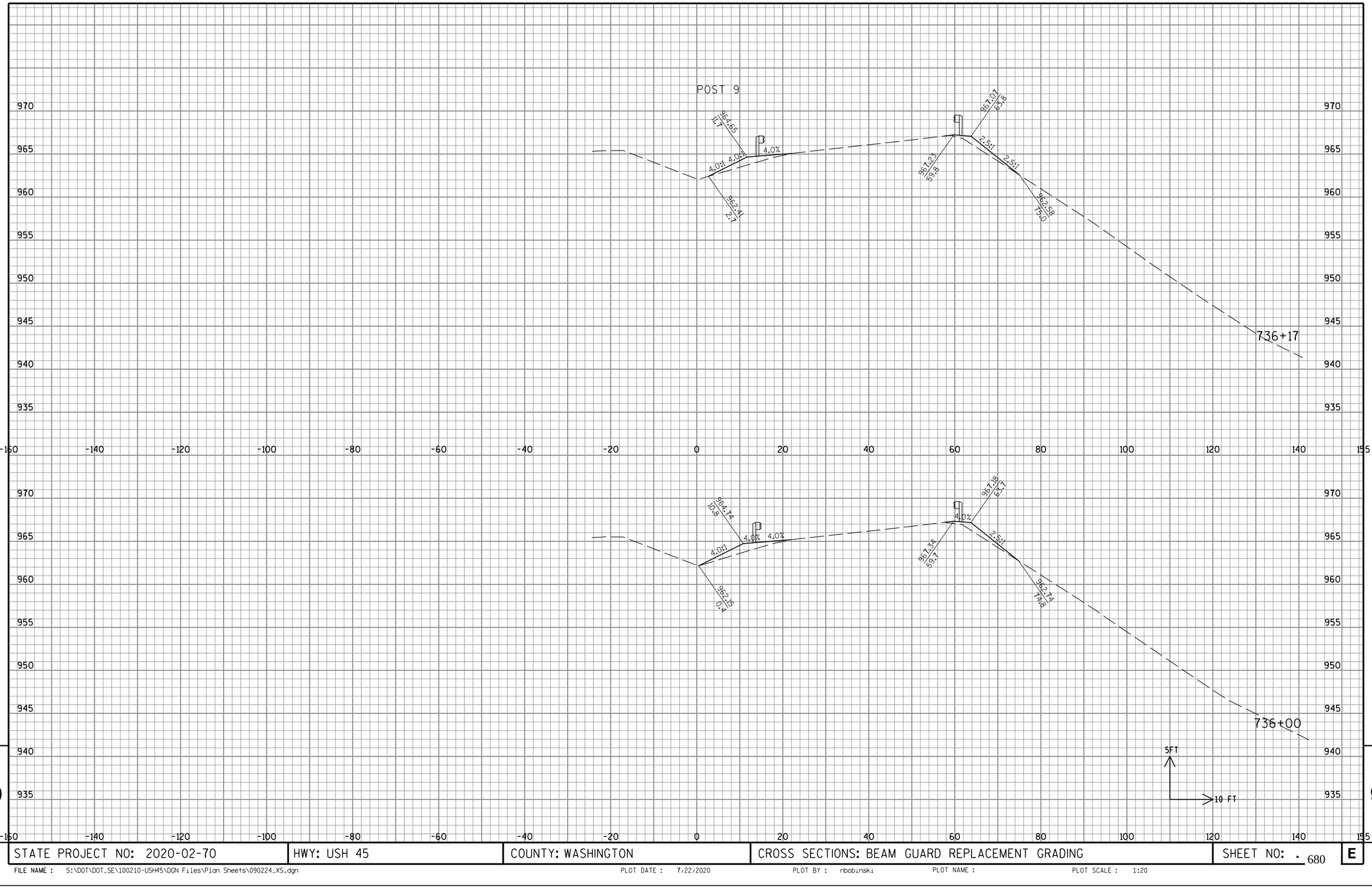
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 678	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090224_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



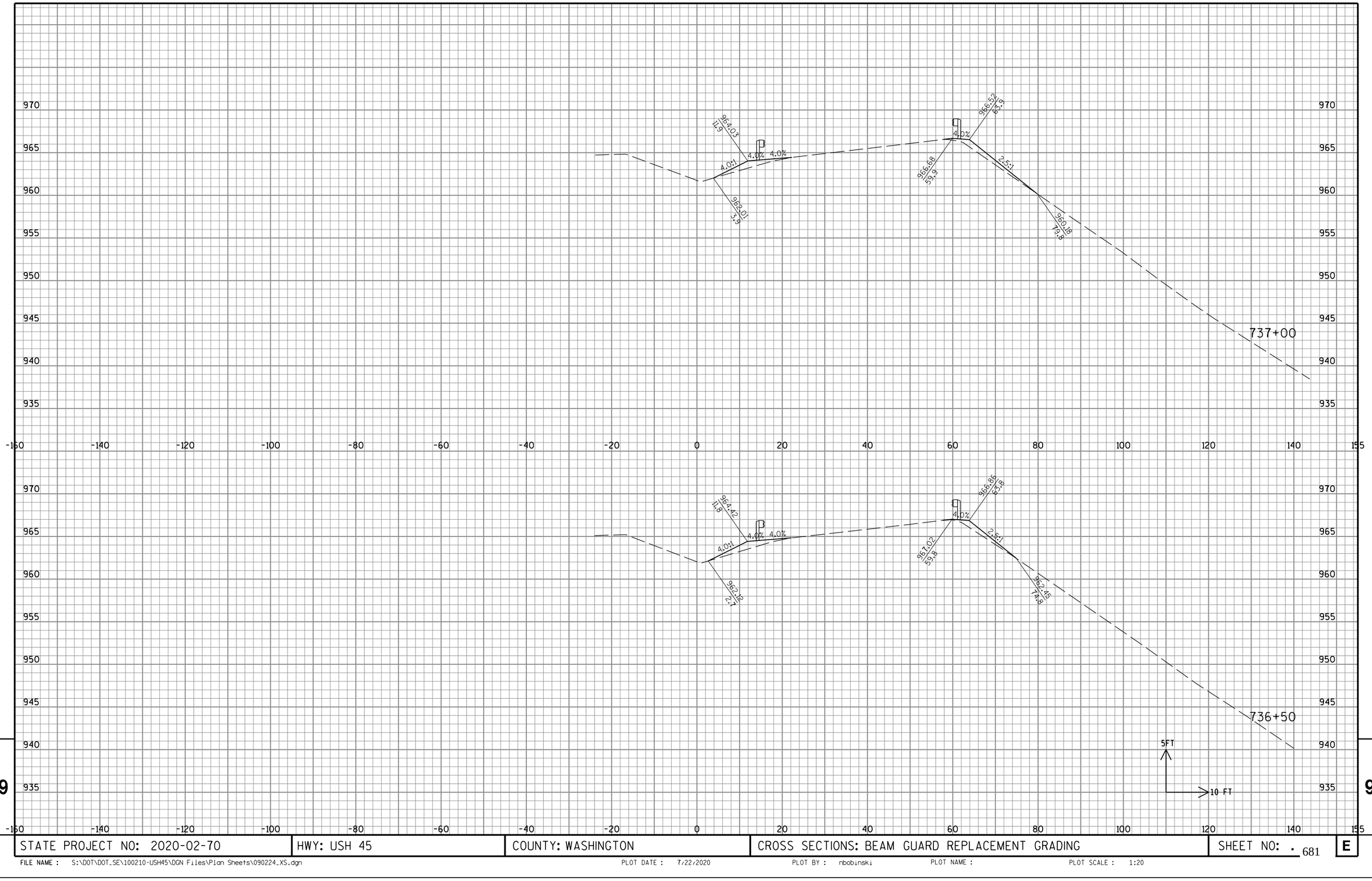
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 679	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090224_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



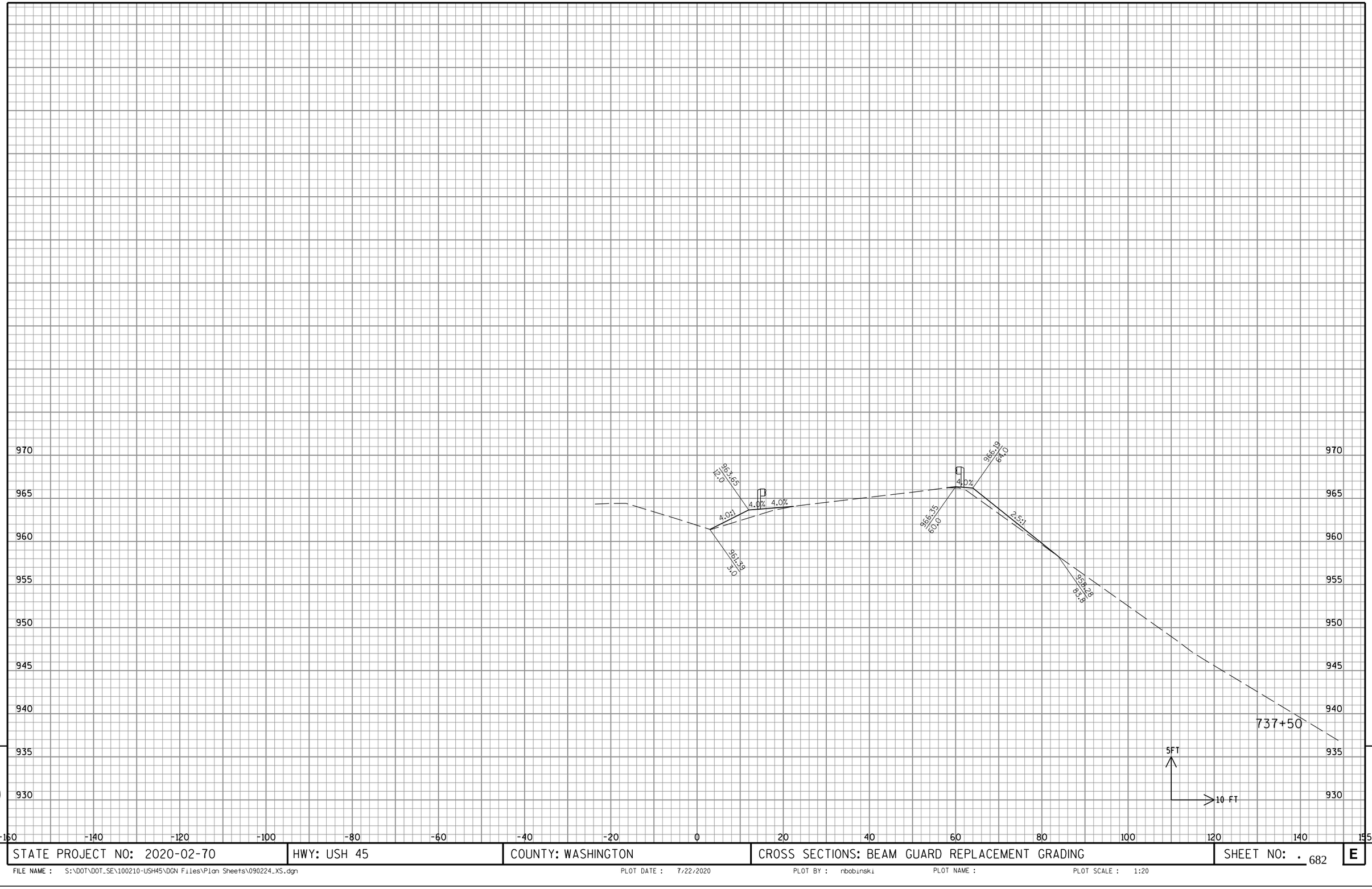
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 680	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090224_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 681 E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090224_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

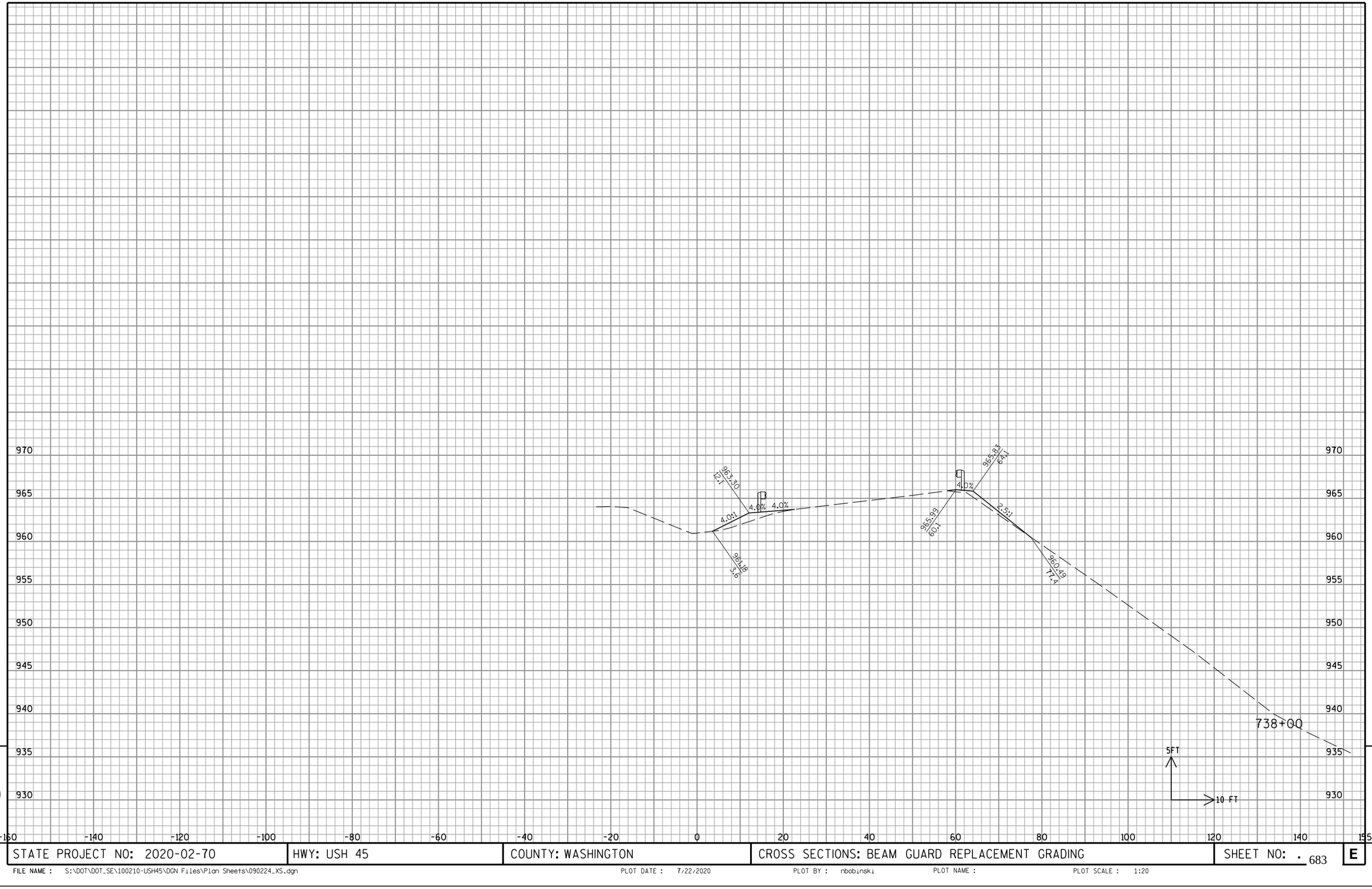


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 682	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090224_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

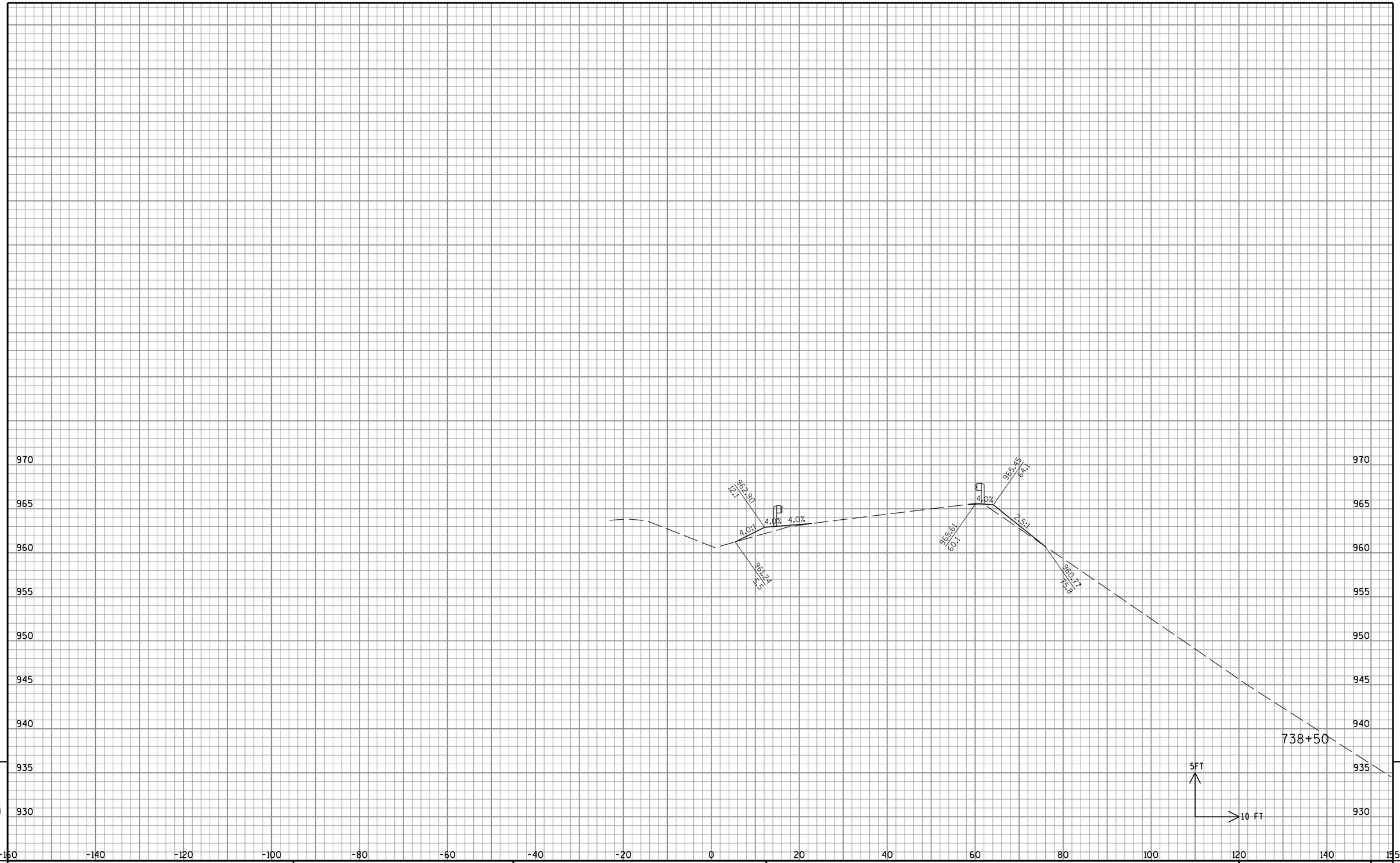


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 683	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090224_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

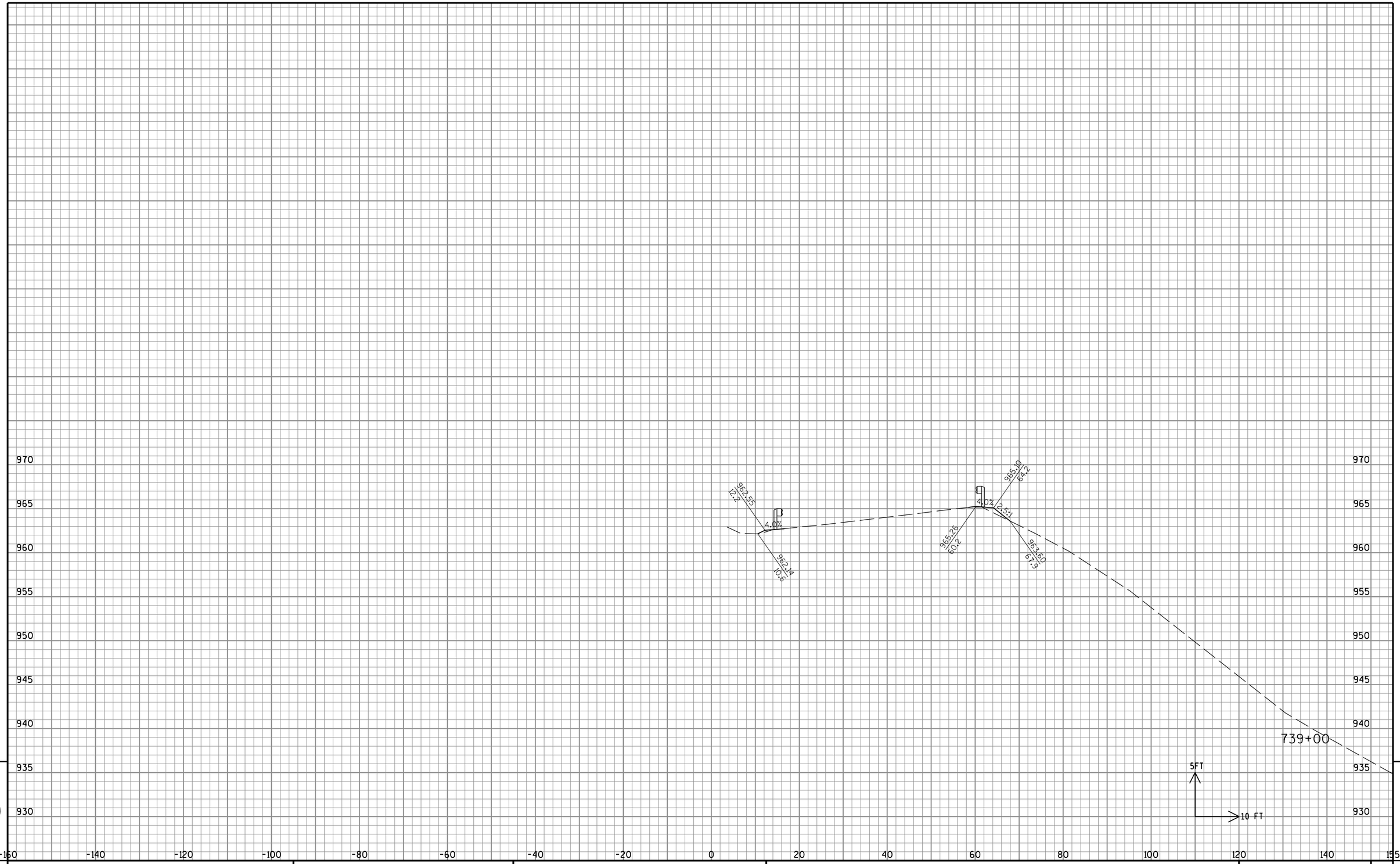


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 684	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090224_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

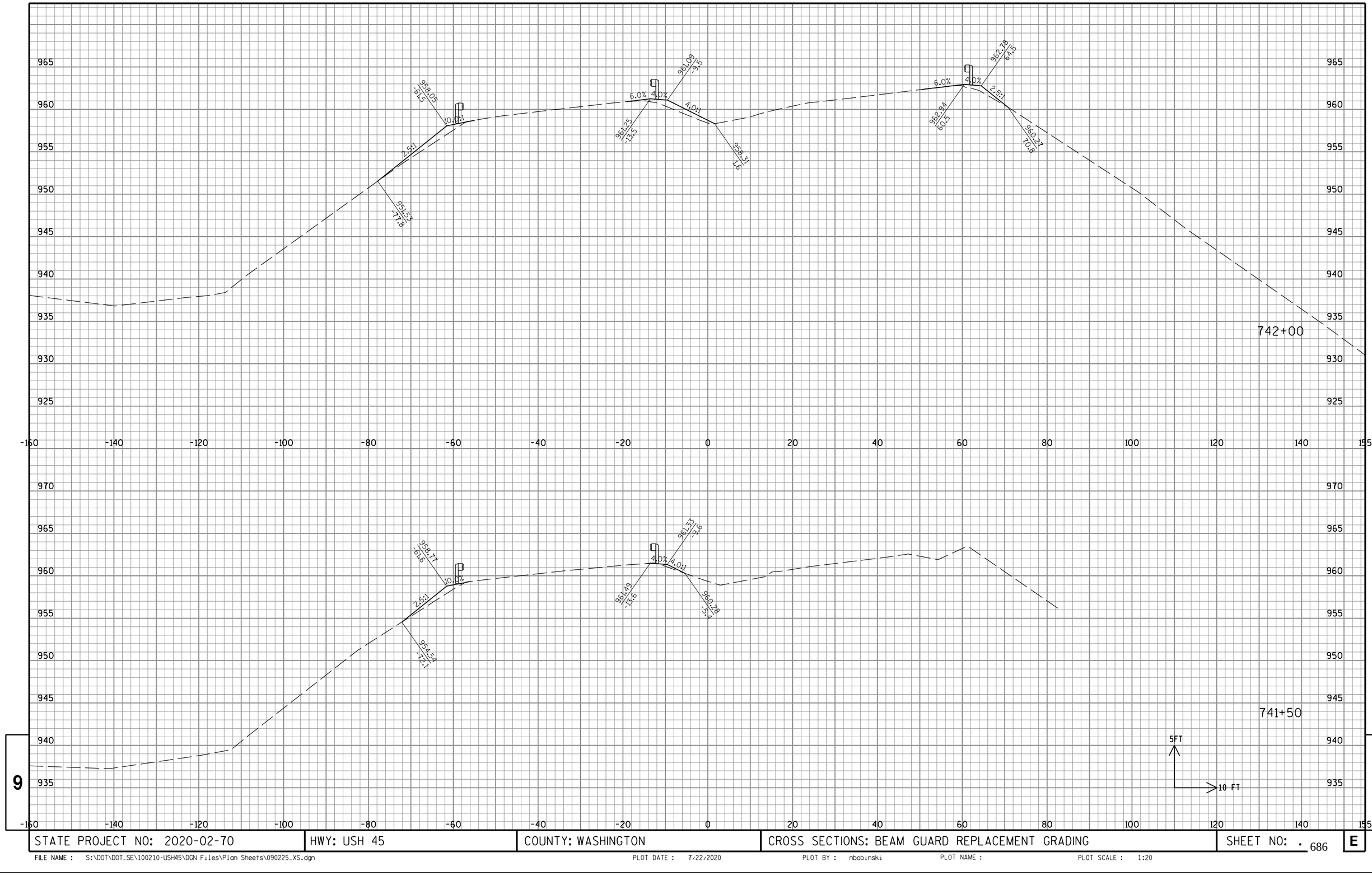


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 685	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090224_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

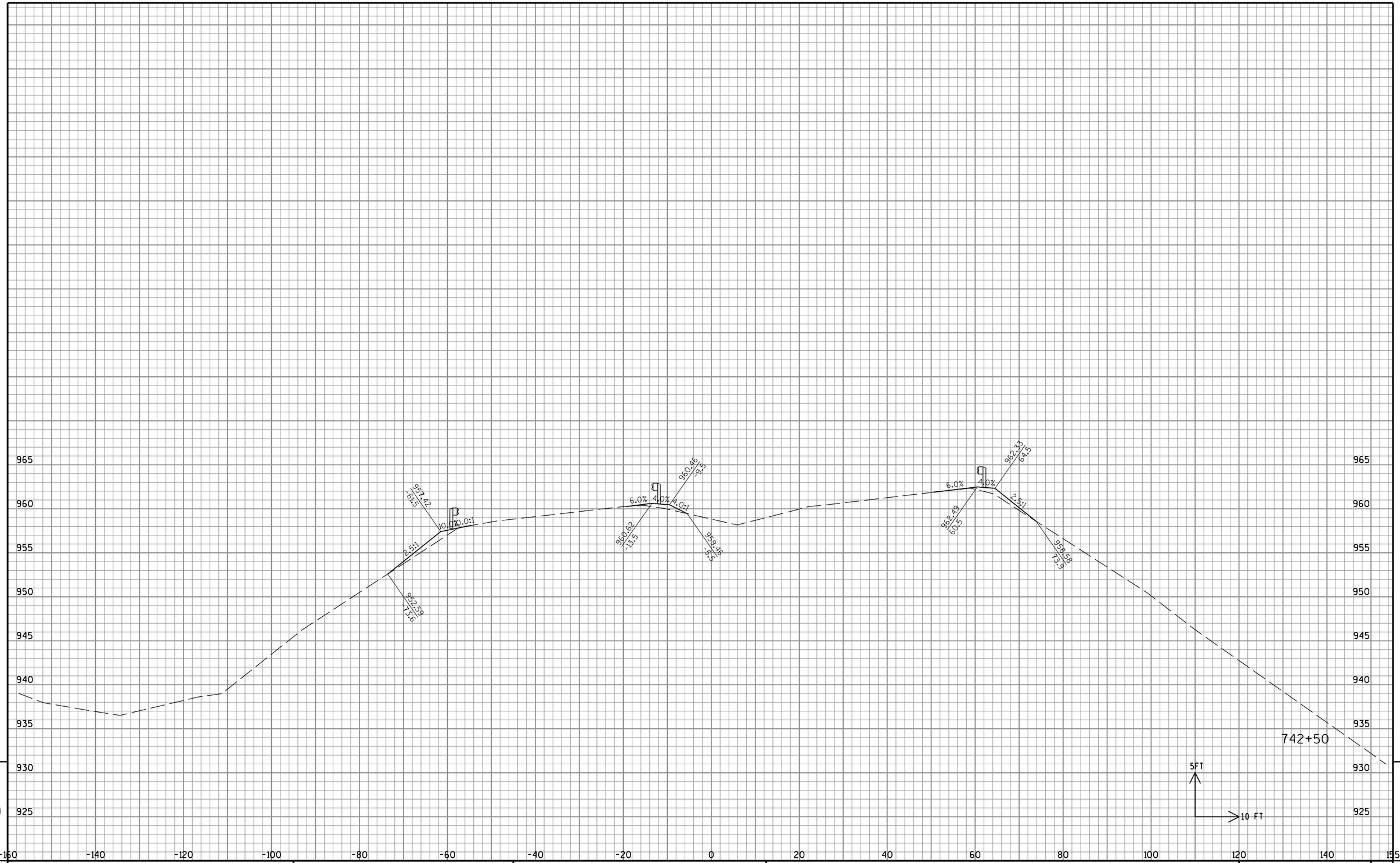


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 686	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090225_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

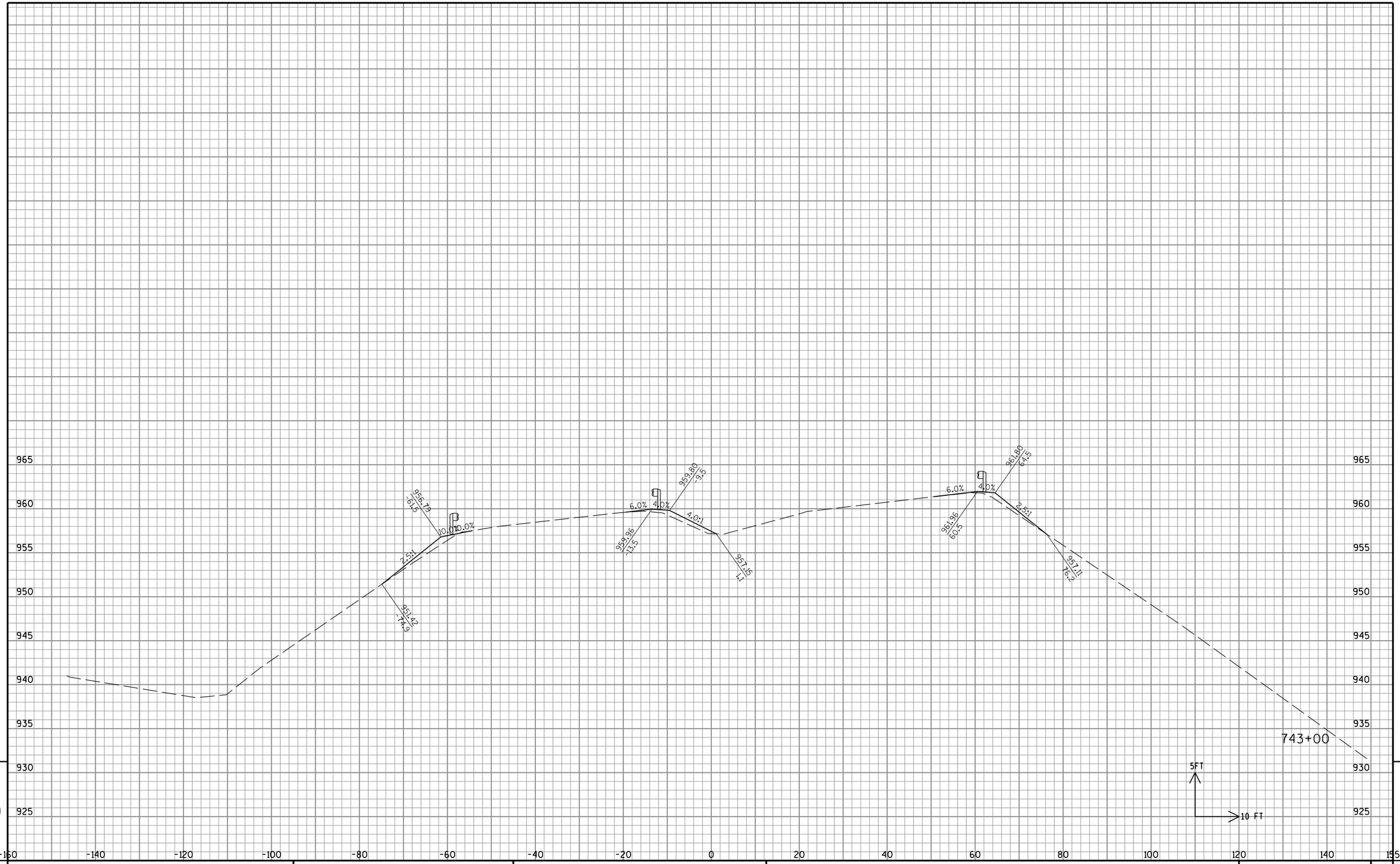


9

9

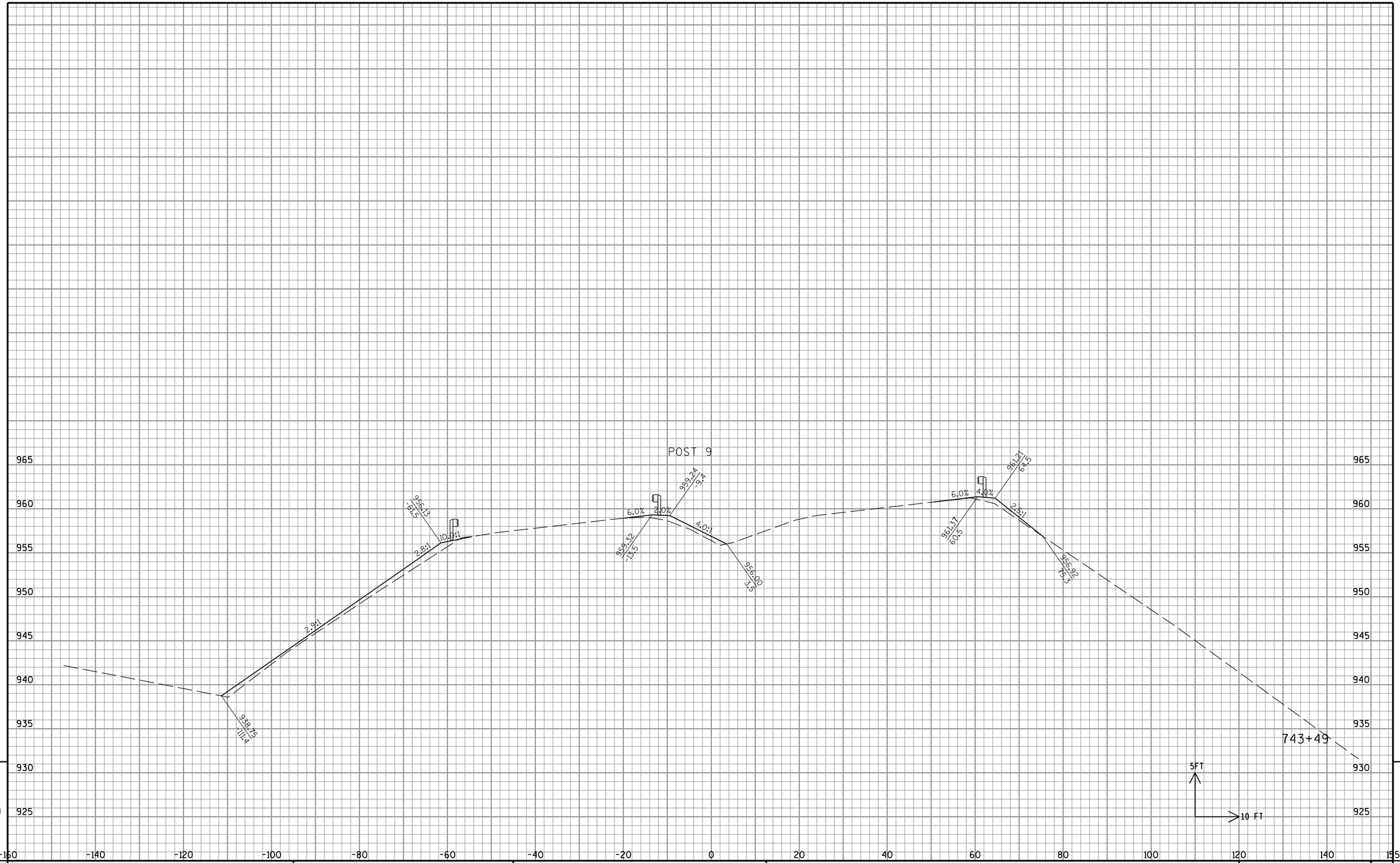
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 687	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090225_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 688	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090225_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

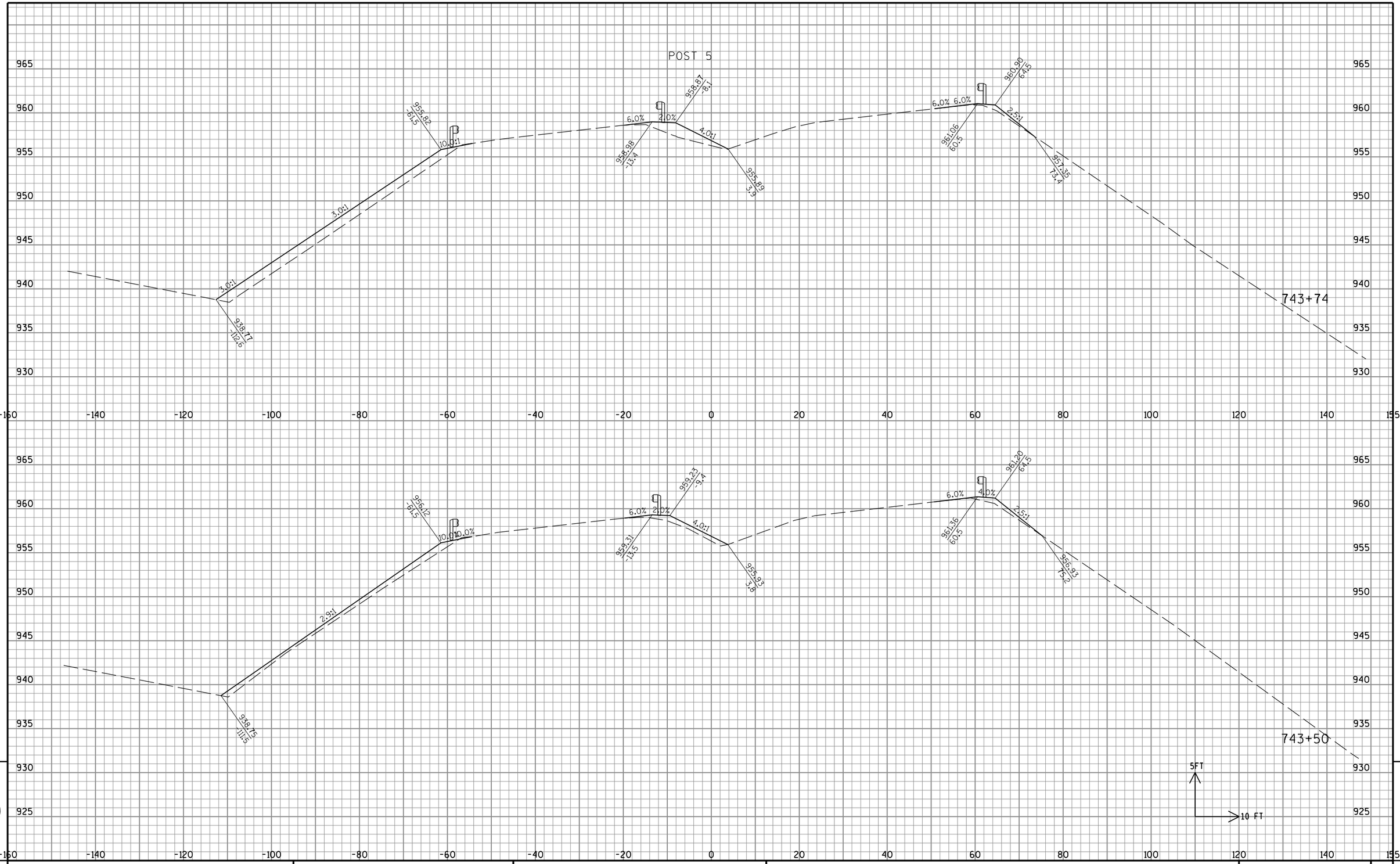


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 689	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090225_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

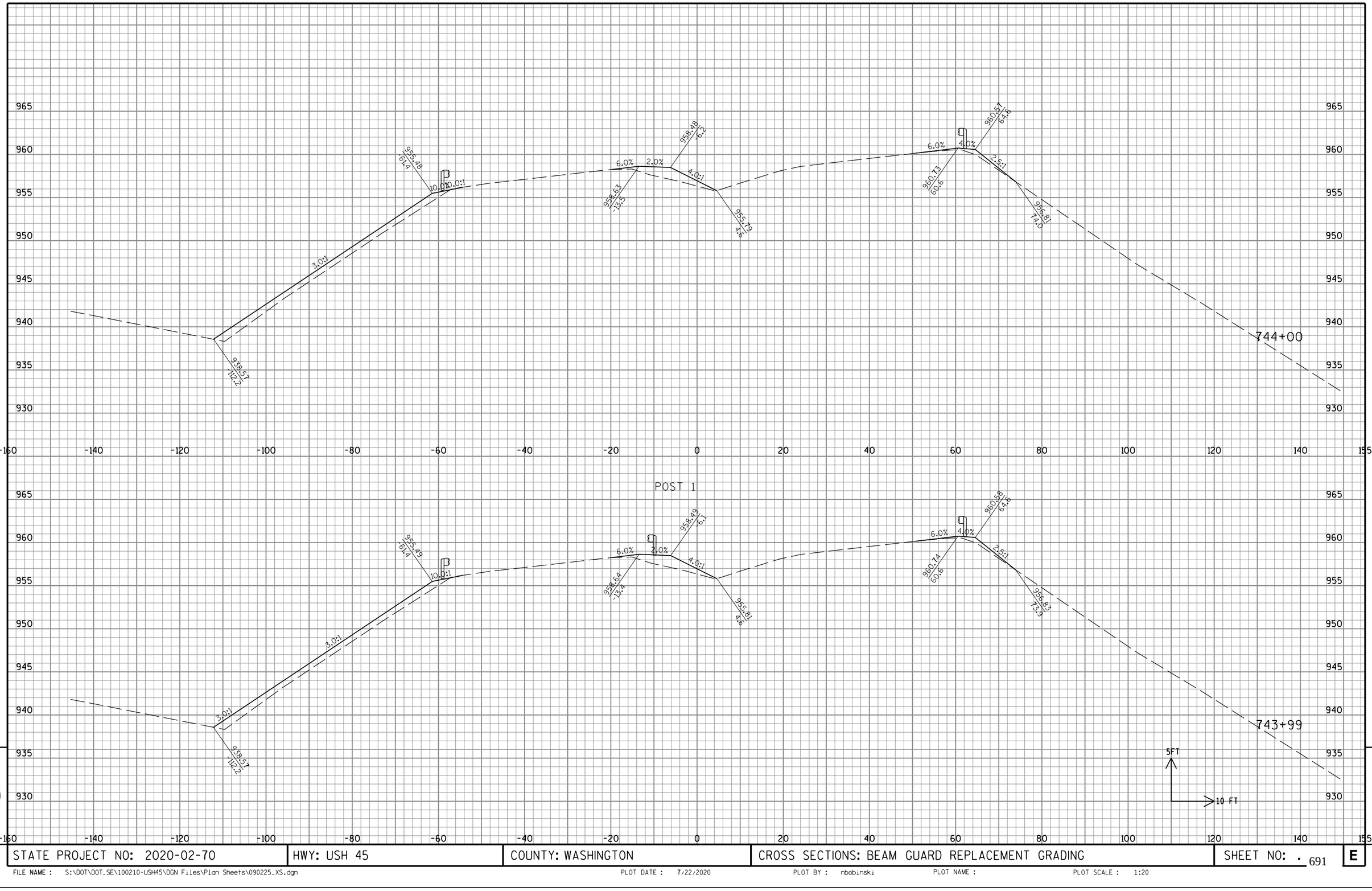


9

9

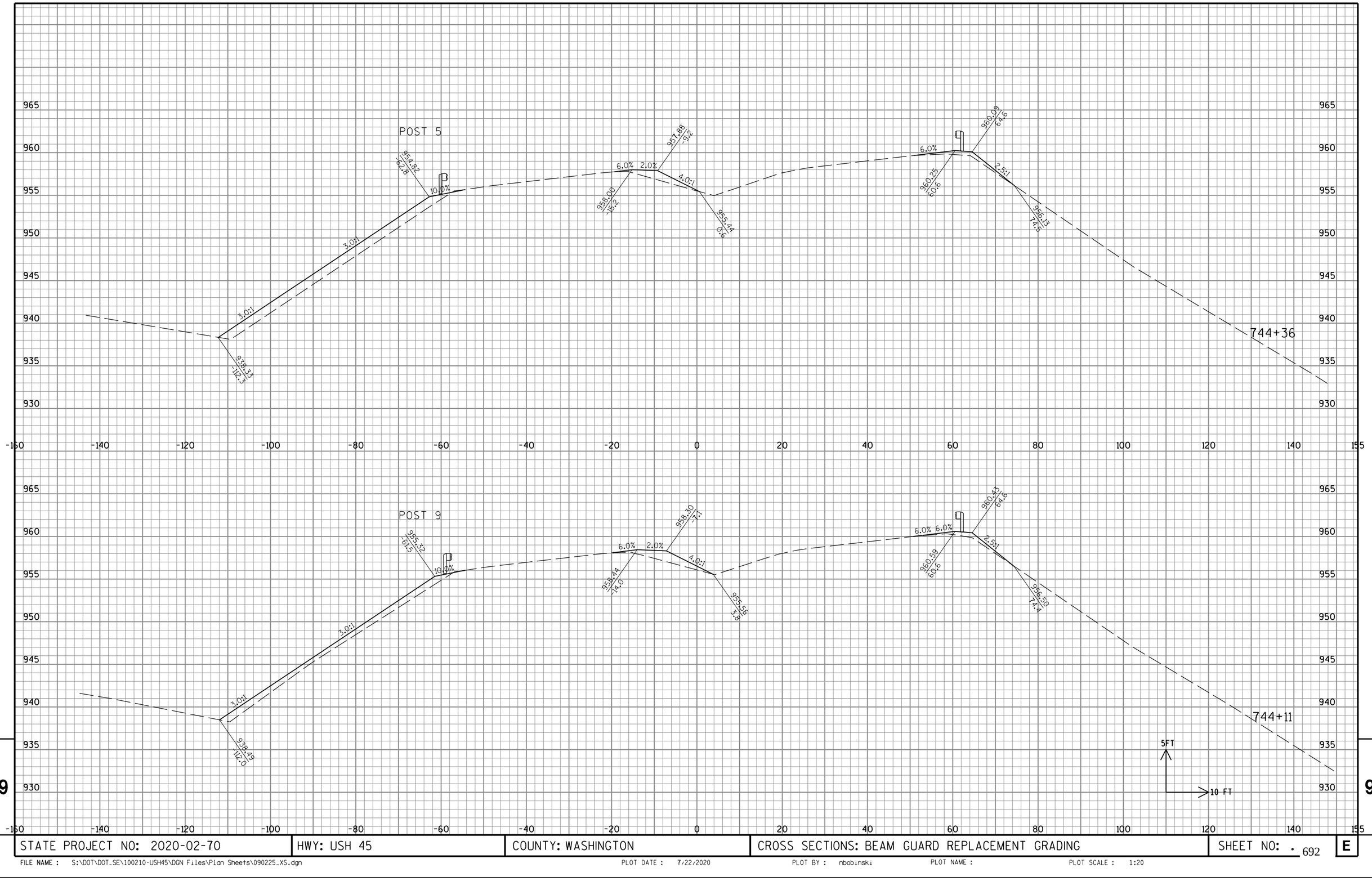
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 690	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090225_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



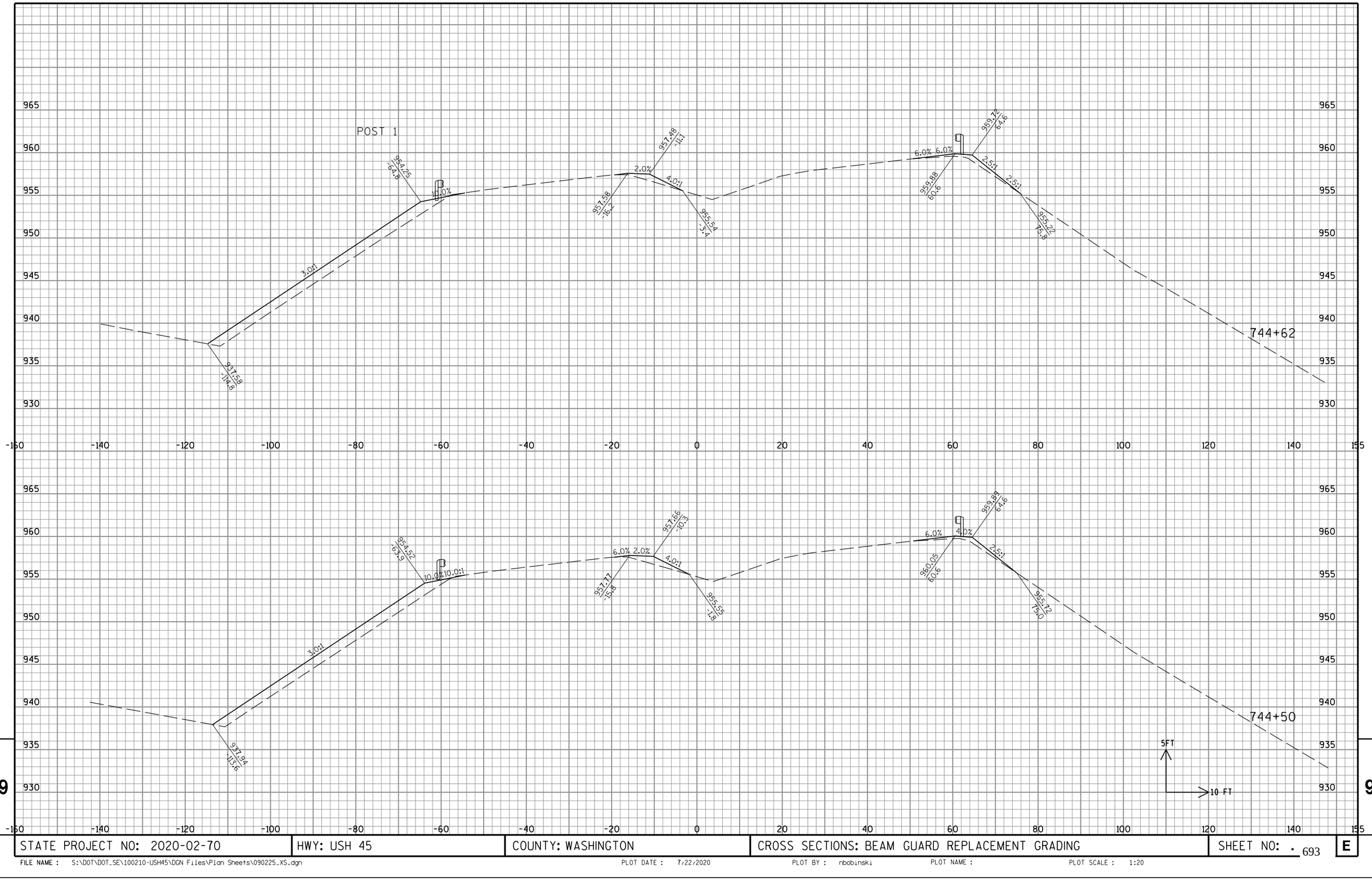
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 691	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090225_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



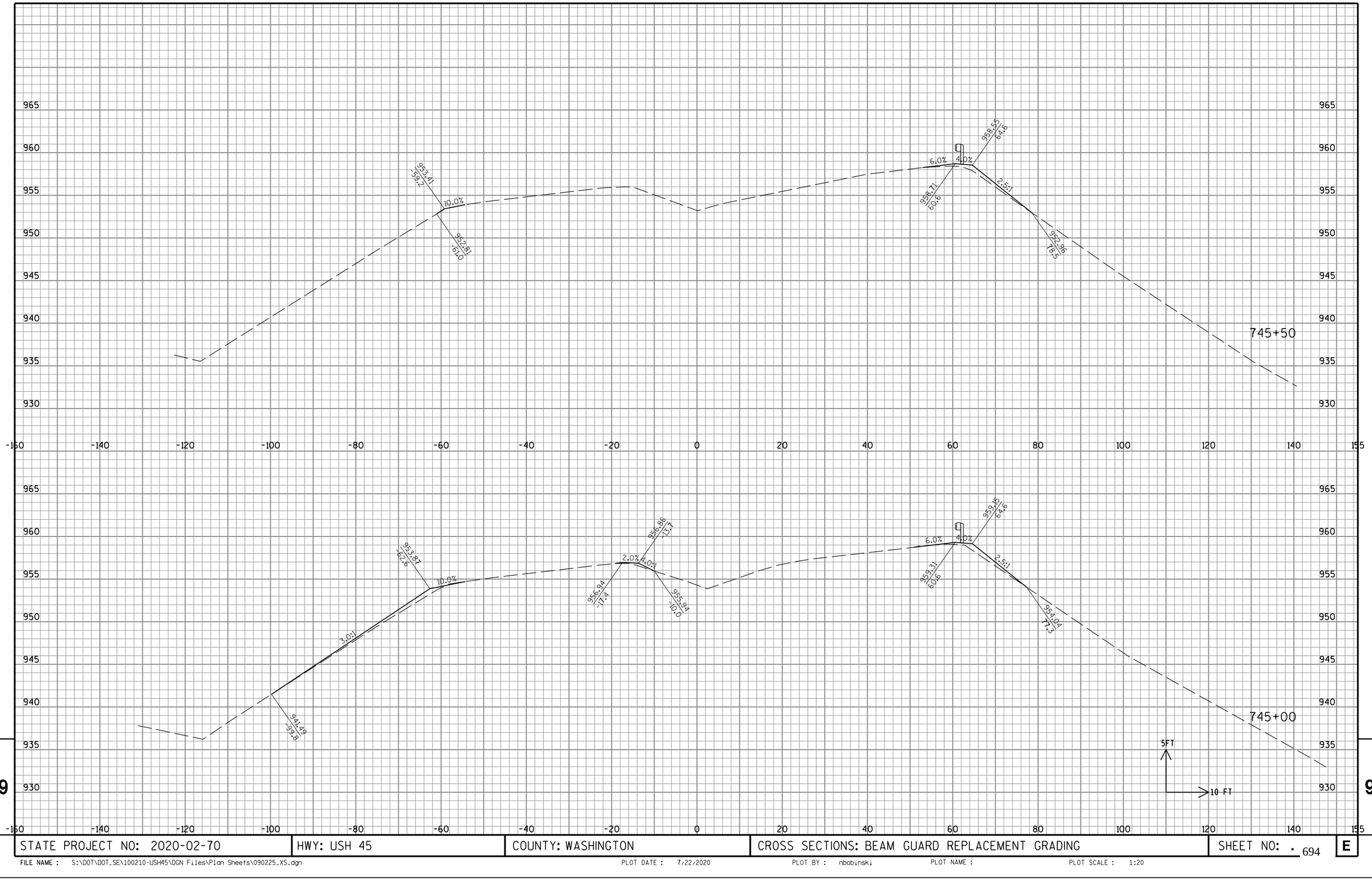
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 692	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090225_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



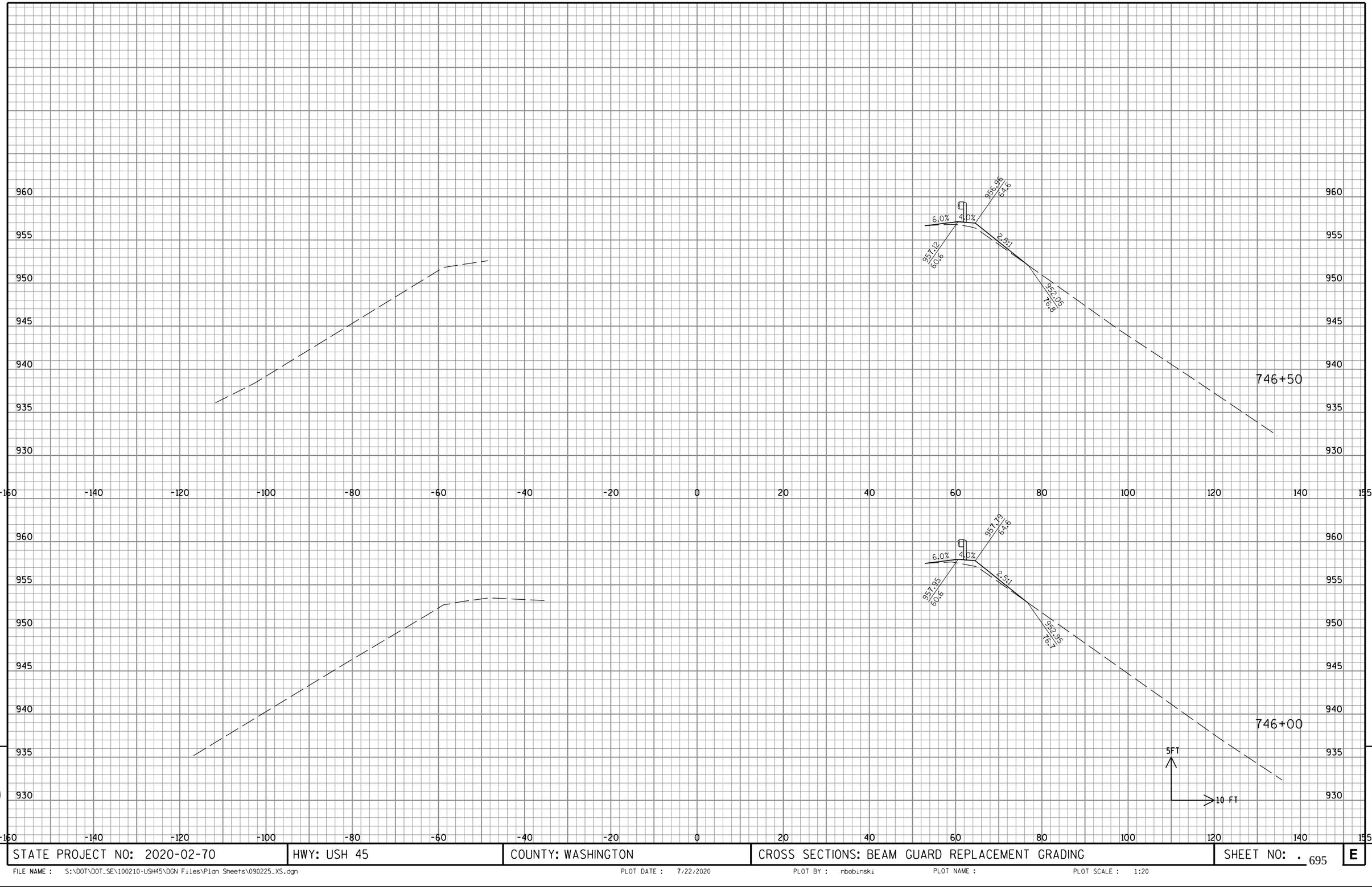
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 693	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090225_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 694	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090225_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

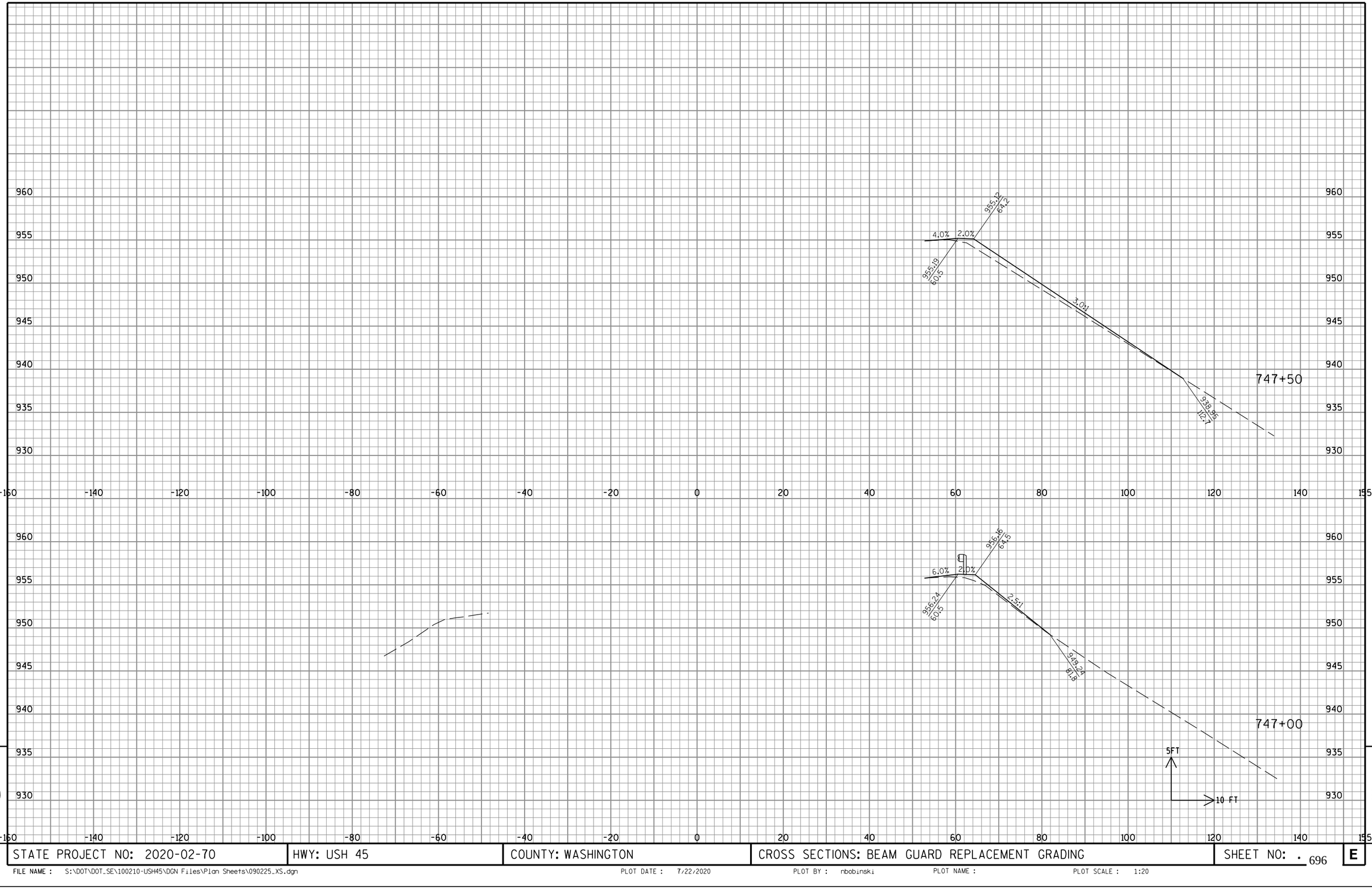


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 695	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090225_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

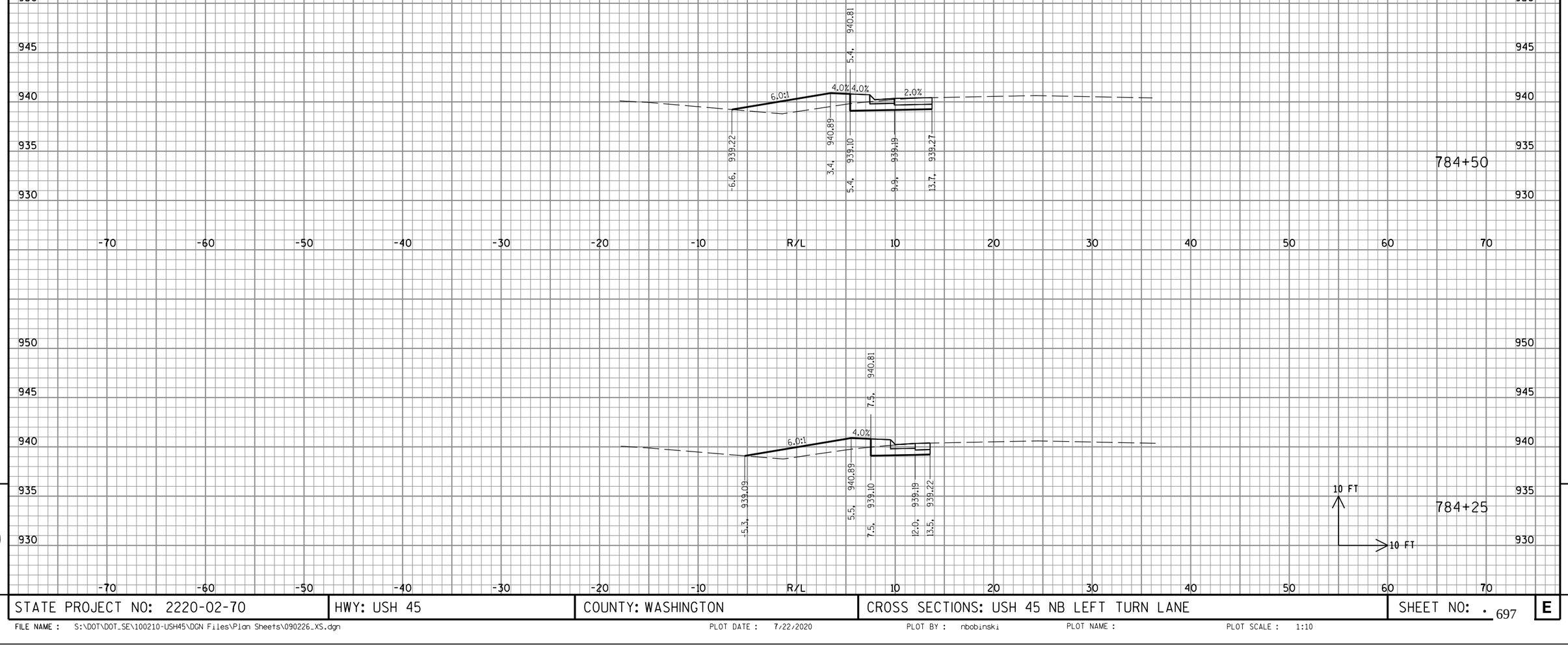


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: BEAM GUARD REPLACEMENT GRADING	SHEET NO: . 696	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090225_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

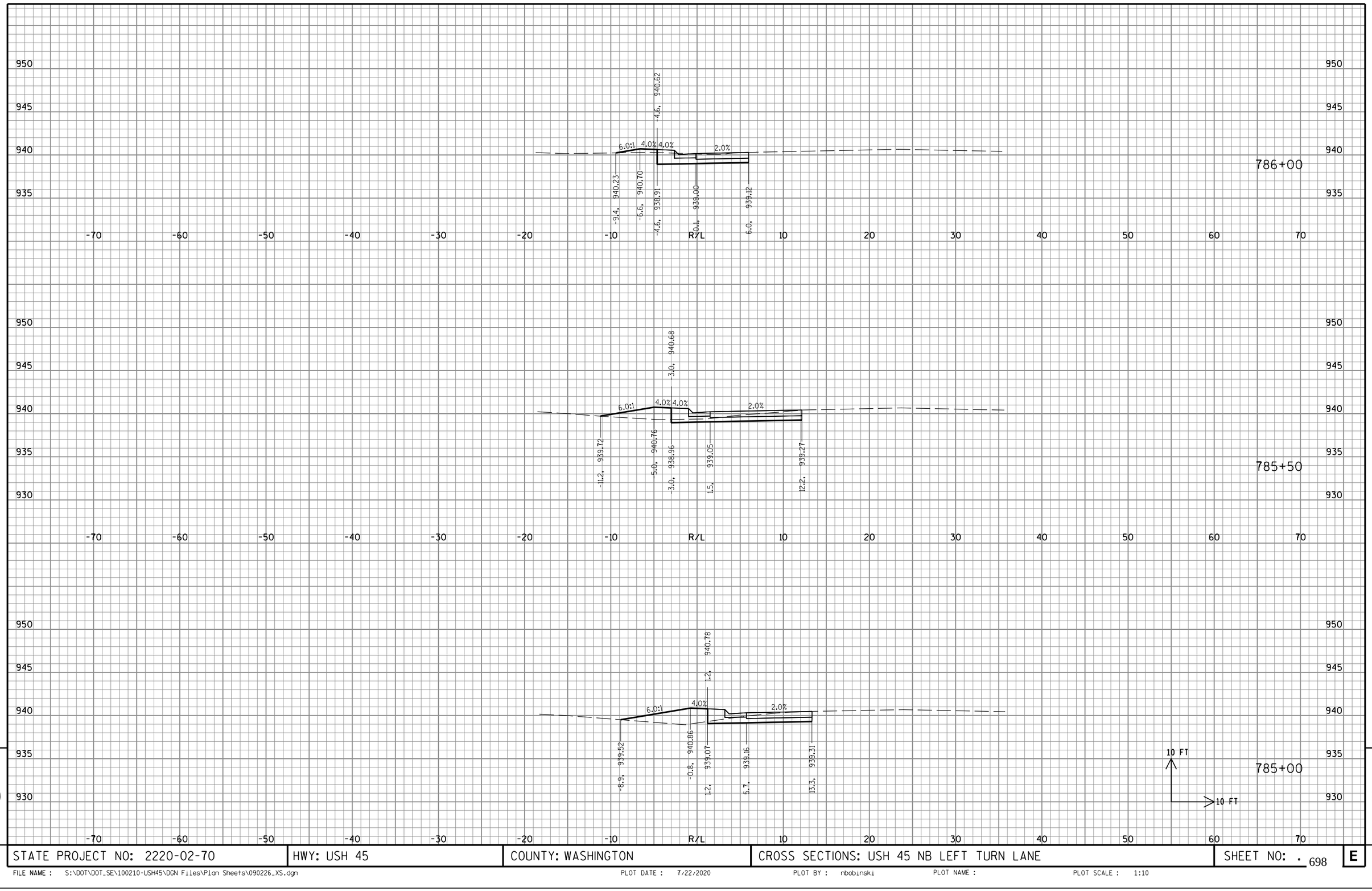


9

9

STATE PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 NB LEFT TURN LANE	SHEET NO: . 697	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090226_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:10

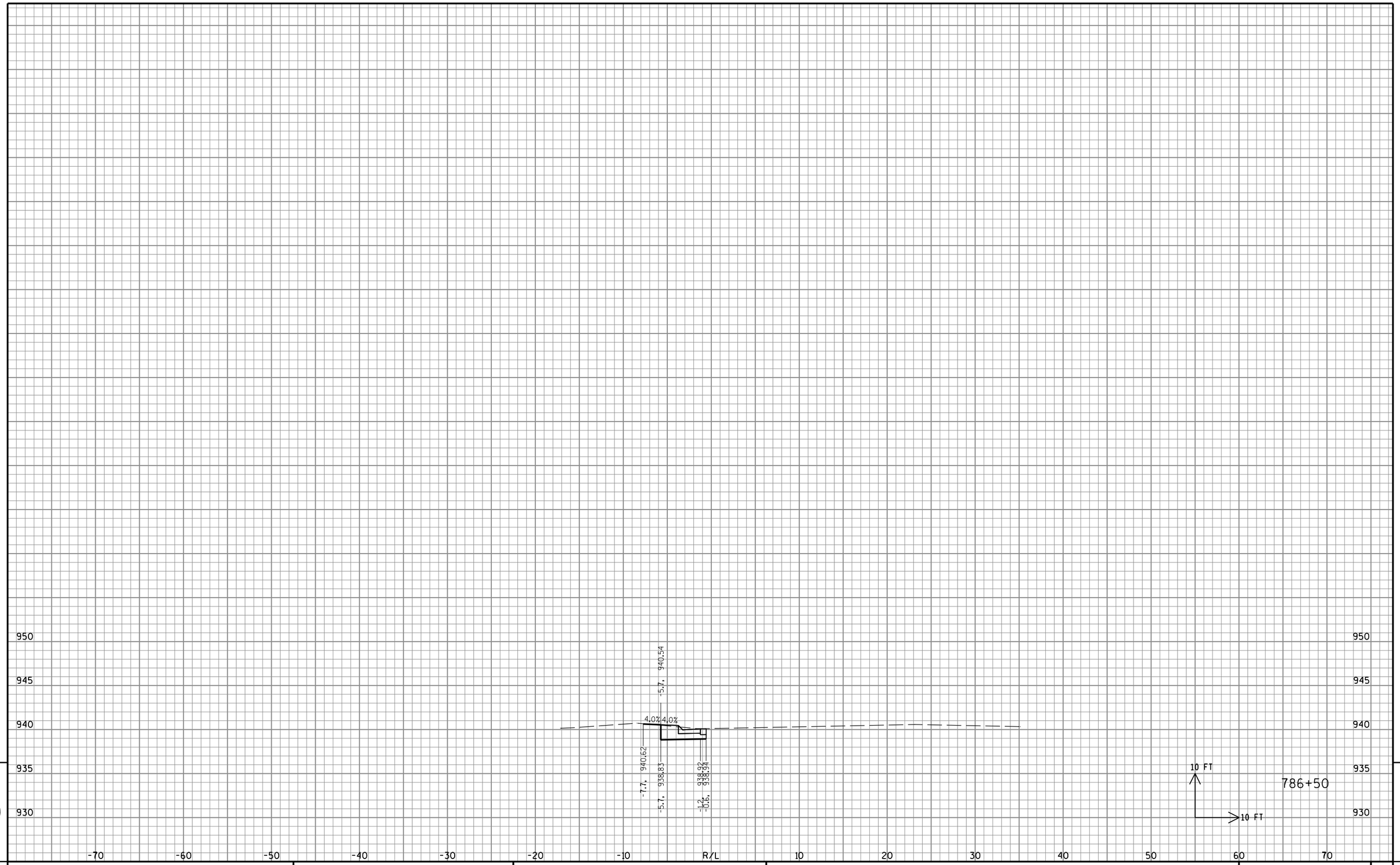


9

9

STATE PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 NB LEFT TURN LANE	SHEET NO: . 698	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090226_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:10

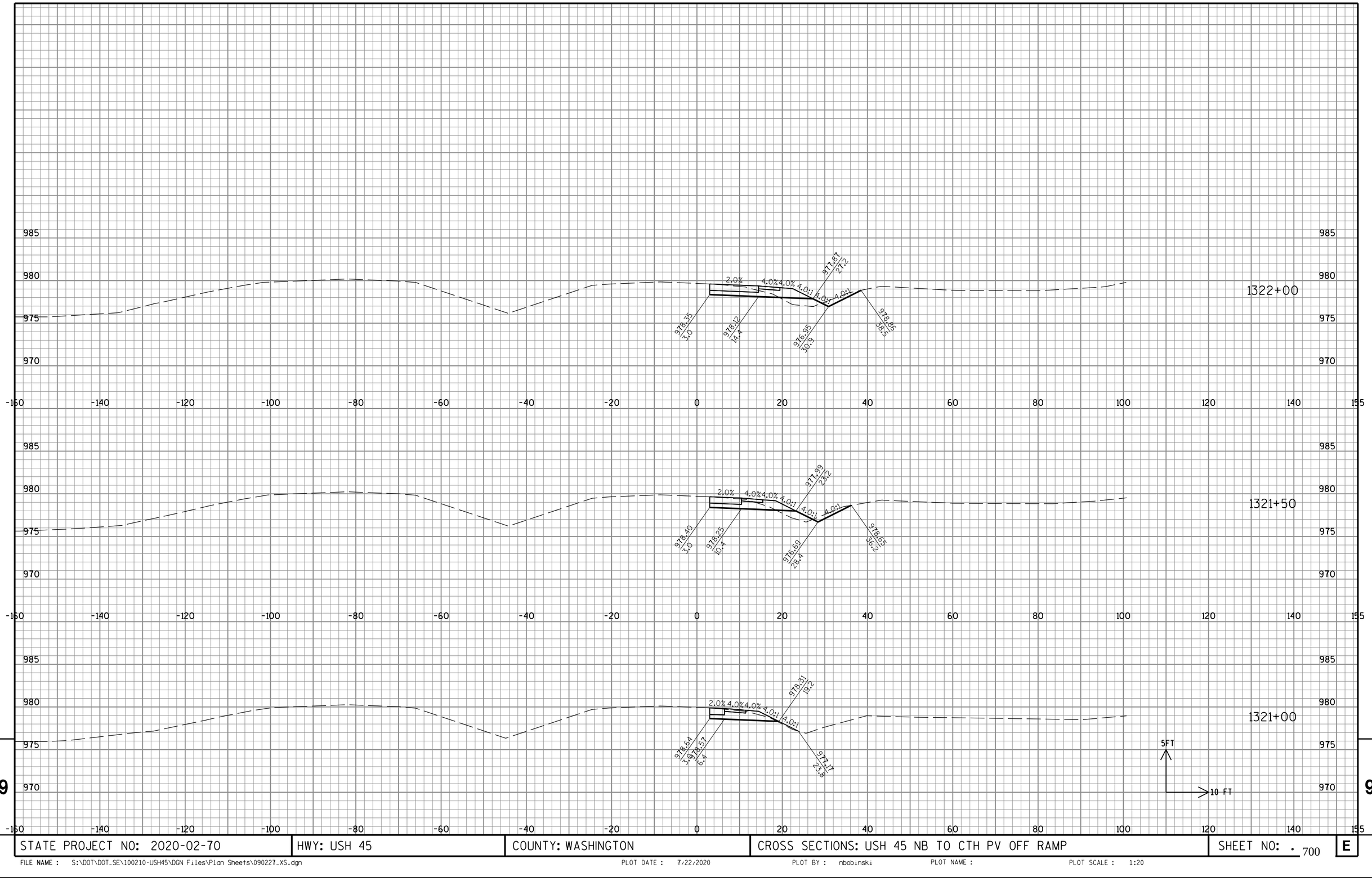


9

9

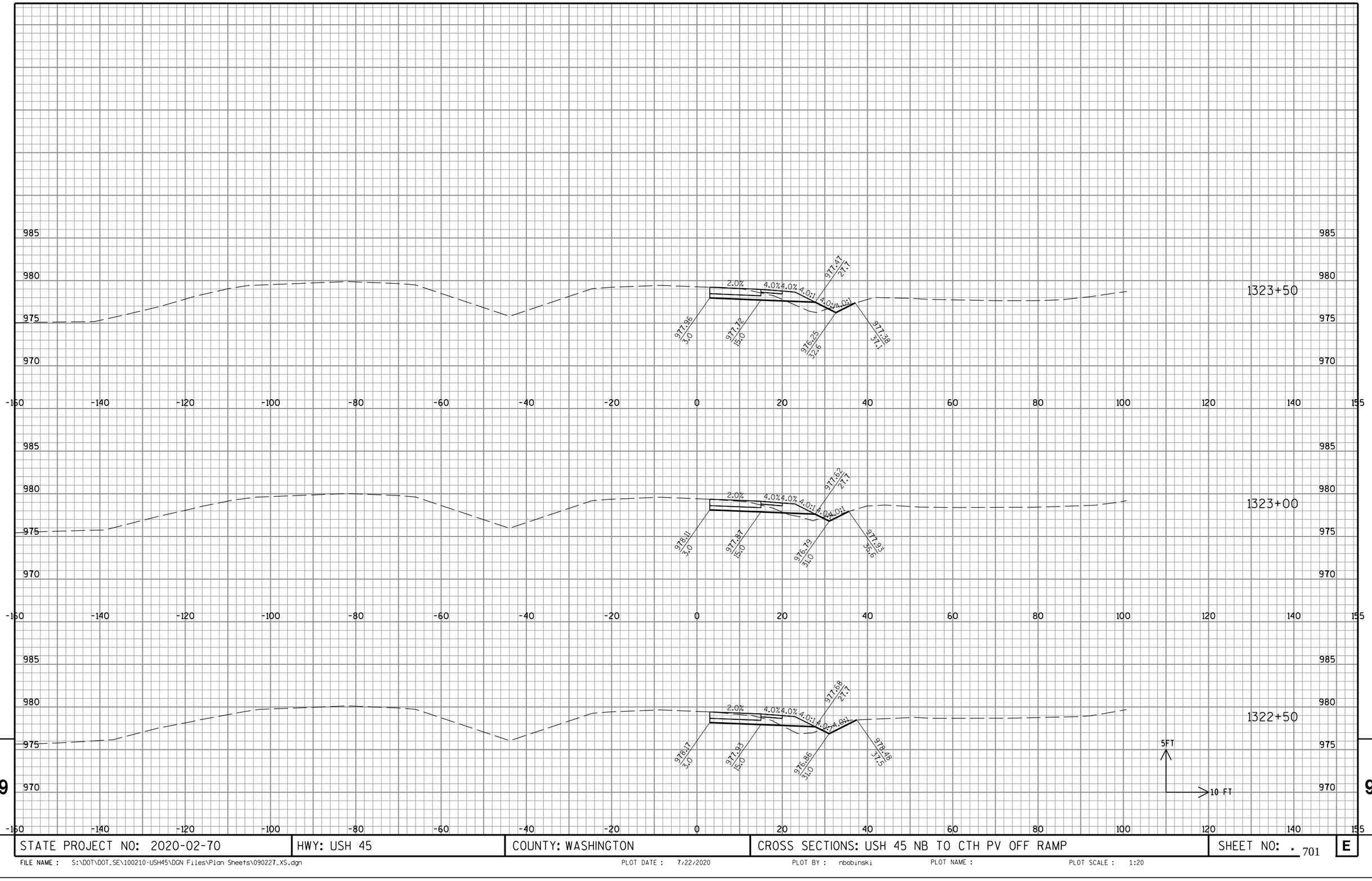
STATE PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 NB LEFT TURN LANE	SHEET NO: . 699	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090226_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:10



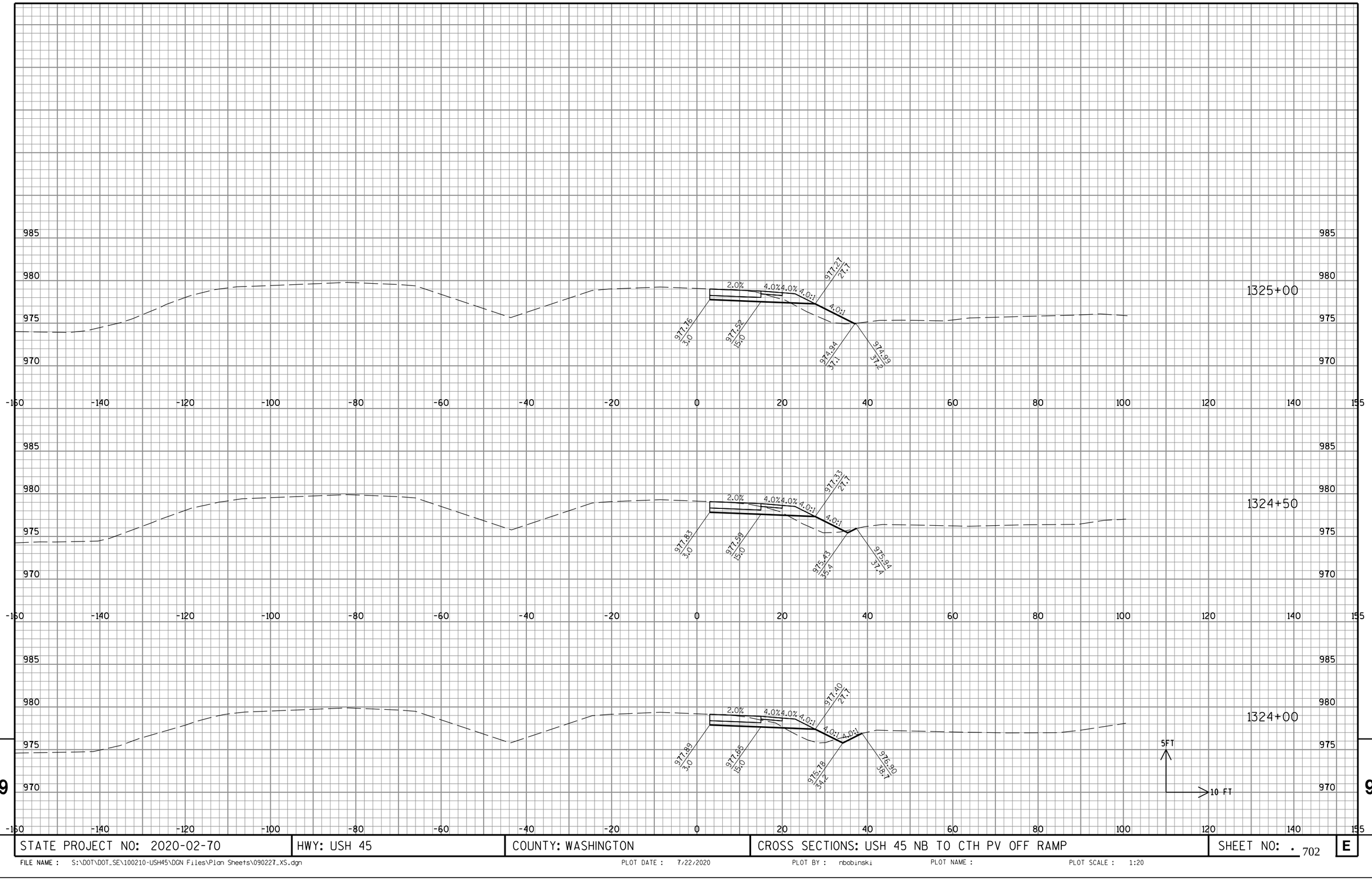
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 NB TO CTH PV OFF RAMP	SHEET NO: . 700	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090227_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 NB TO CTH PV OFF RAMP	SHEET NO: . 701	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090227_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

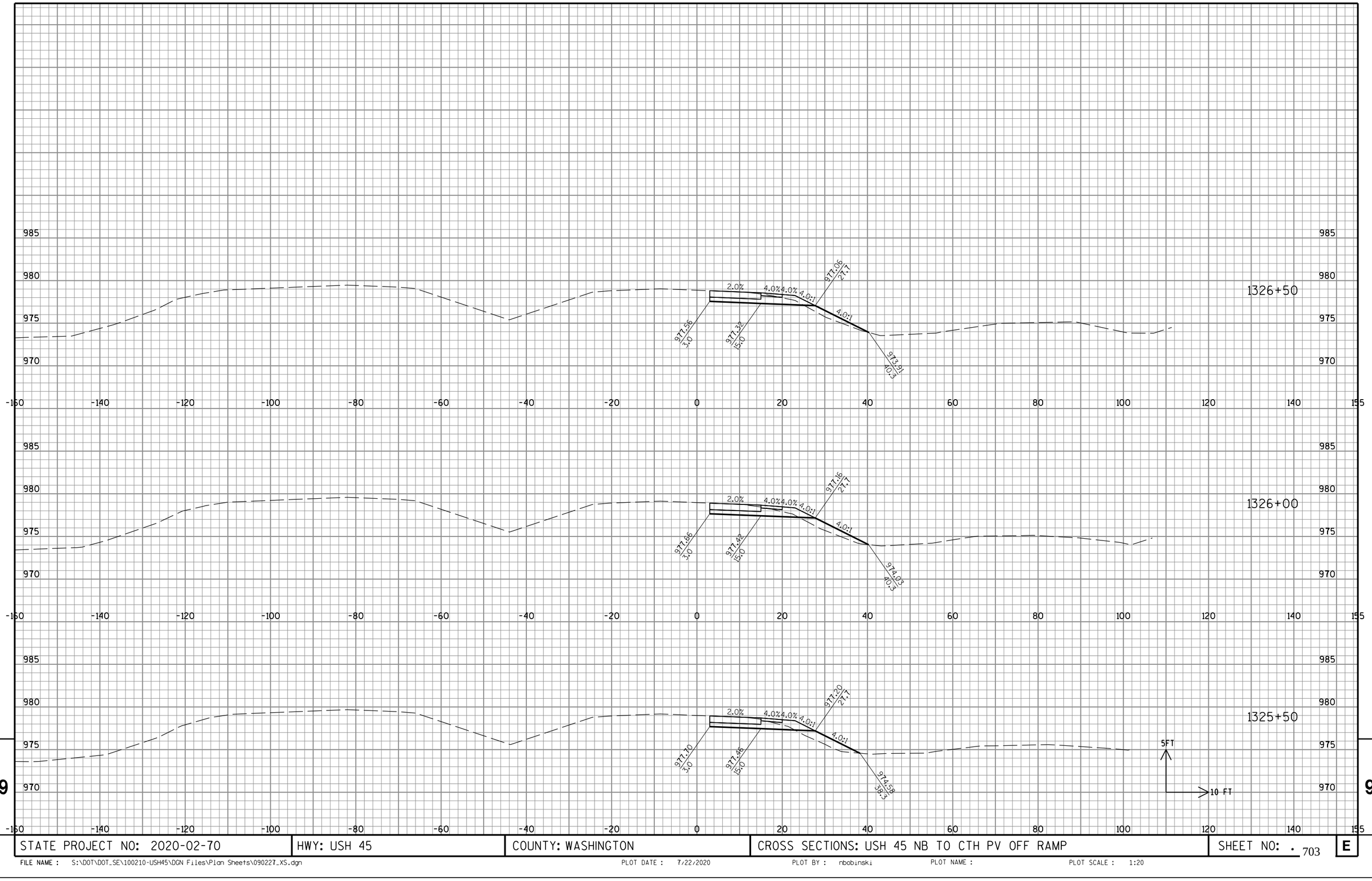


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 NB TO CTH PV OFF RAMP	SHEET NO: . 702	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090227_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

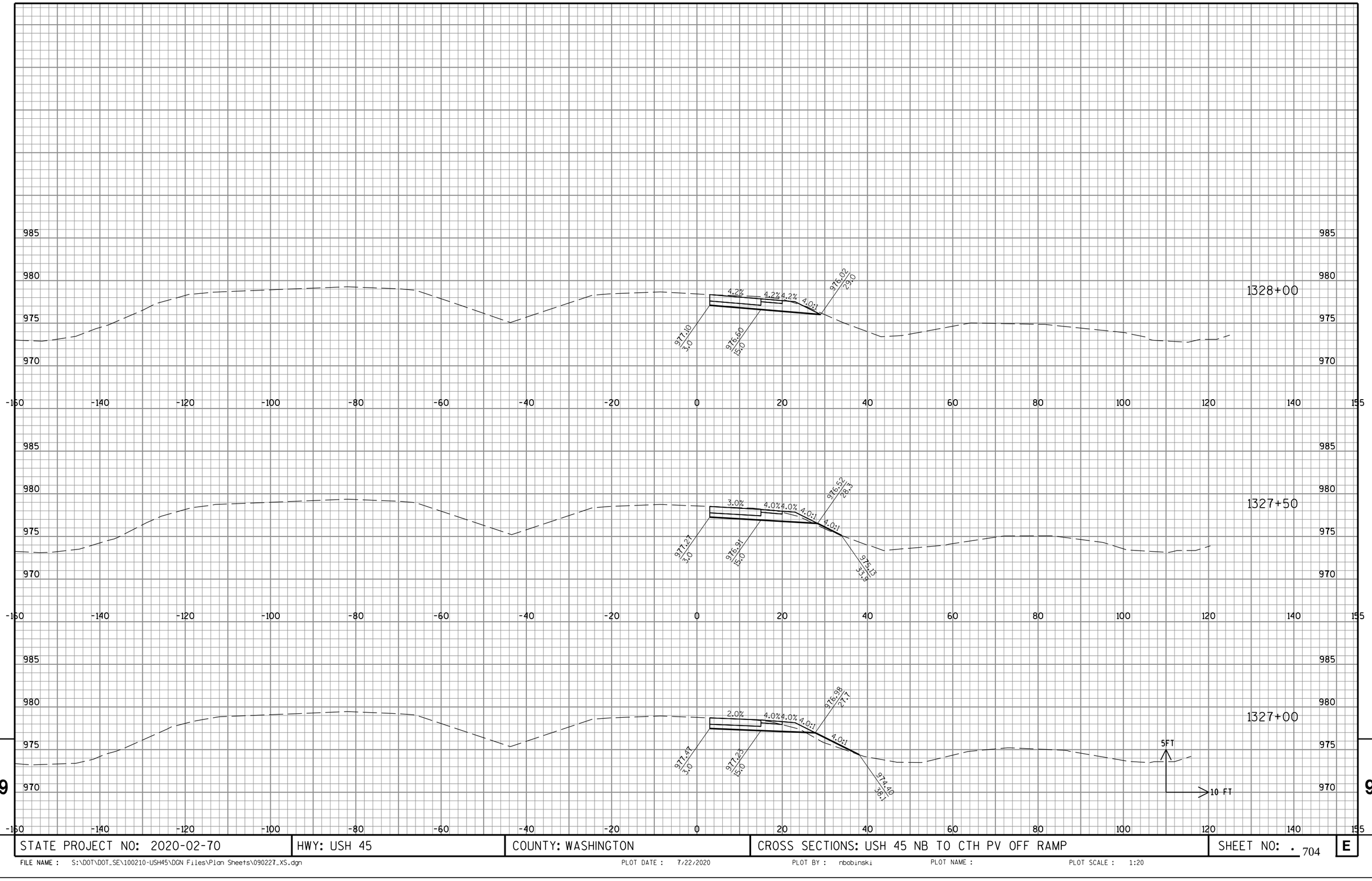


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 NB TO CTH PV OFF RAMP	SHEET NO: . 703	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090227_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

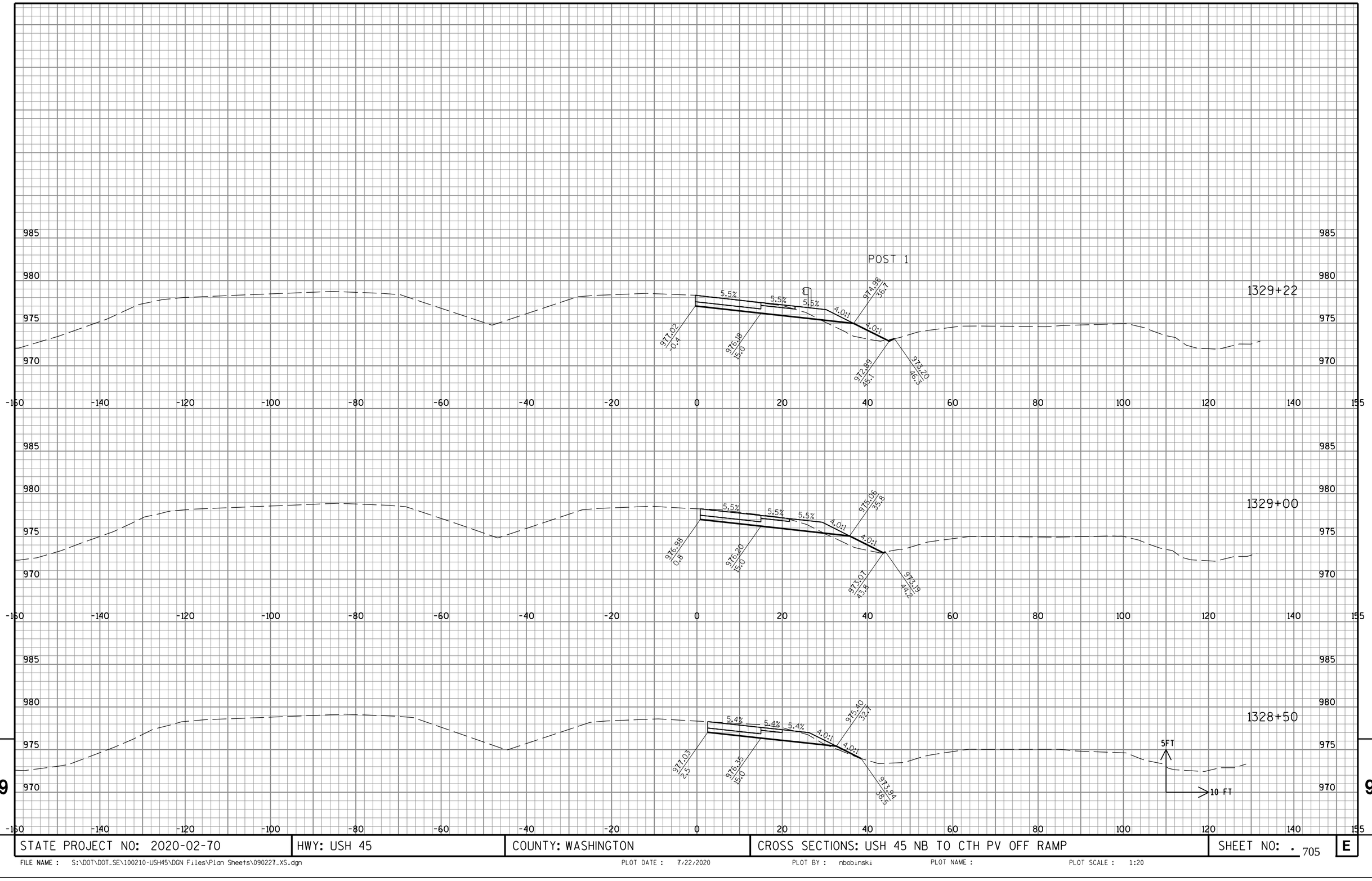


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 NB TO CTH PV OFF RAMP	SHEET NO: . 704	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090227_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

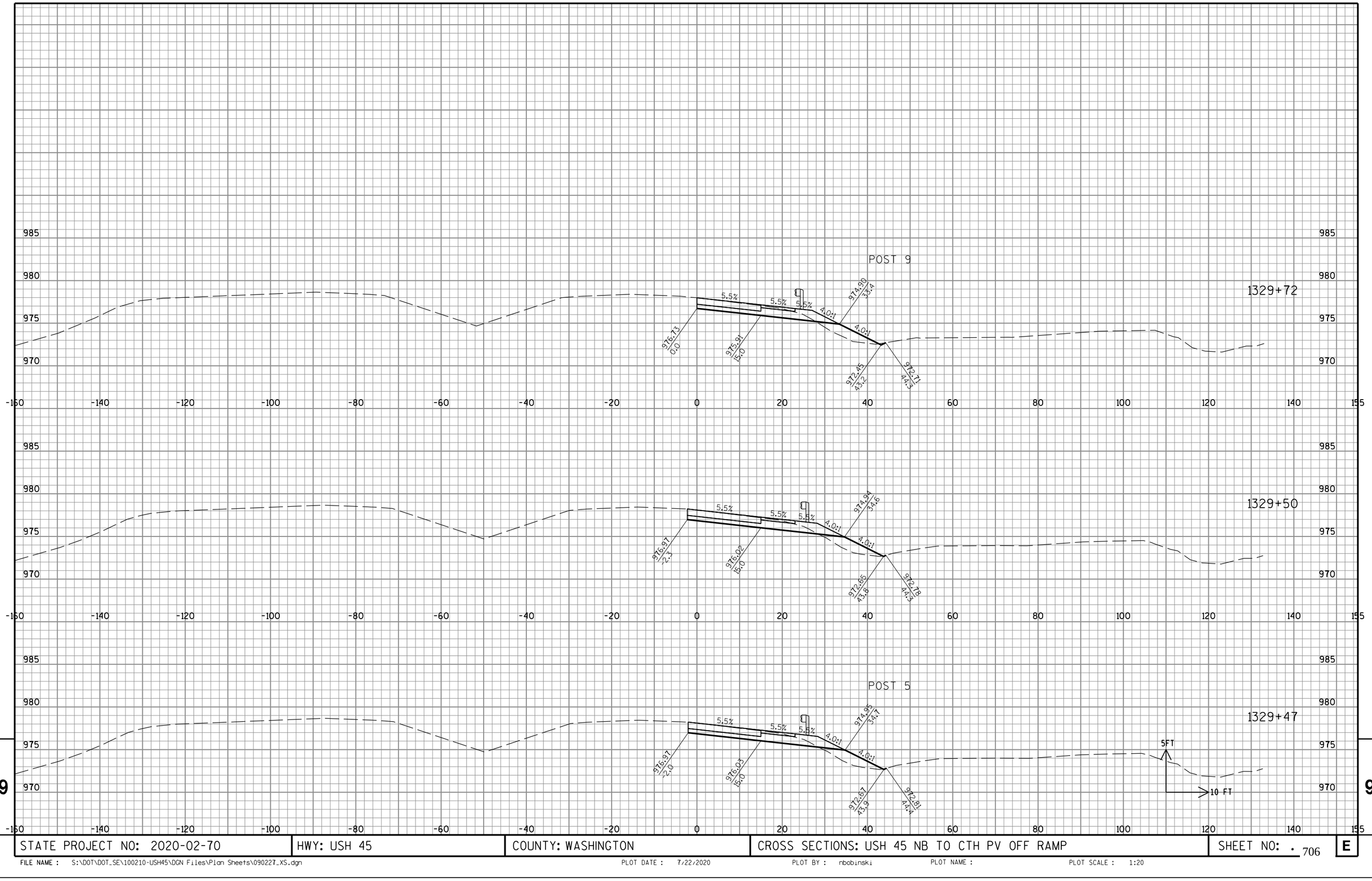


9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 NB TO CTH PV OFF RAMP	SHEET NO: . 705	E

9

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090227_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

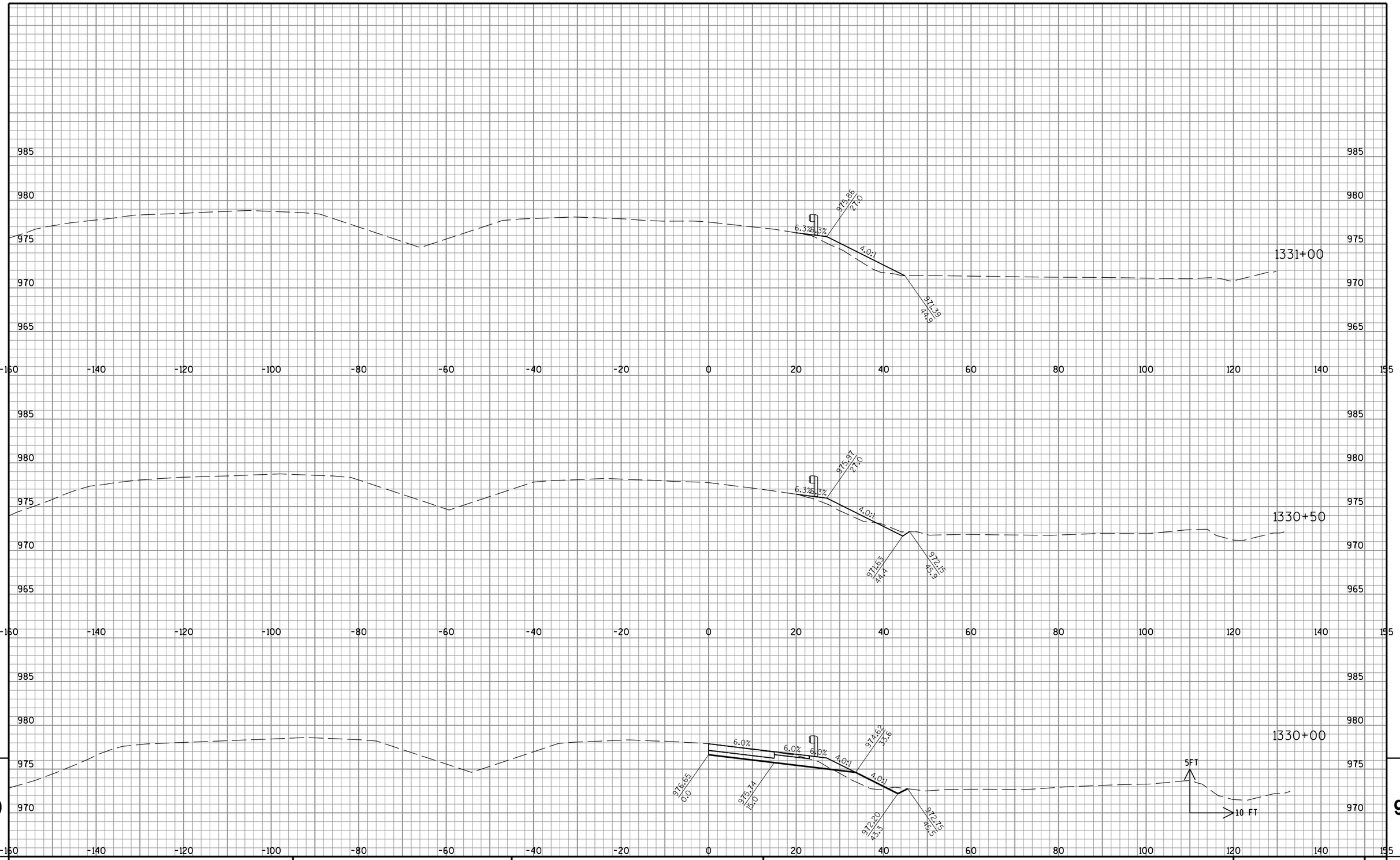


9

9

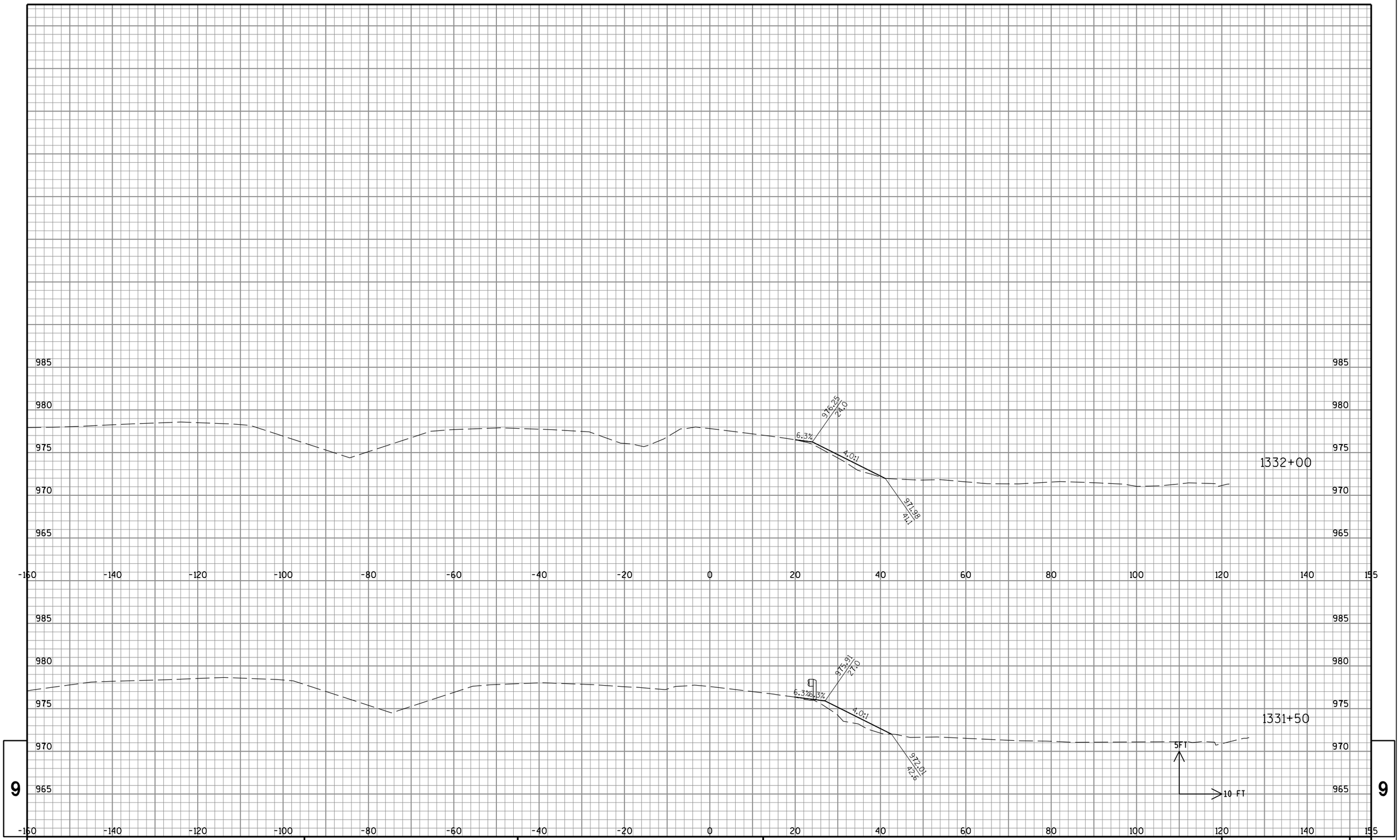
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 NB TO CTH PV OFF RAMP	SHEET NO: . 706	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090227_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



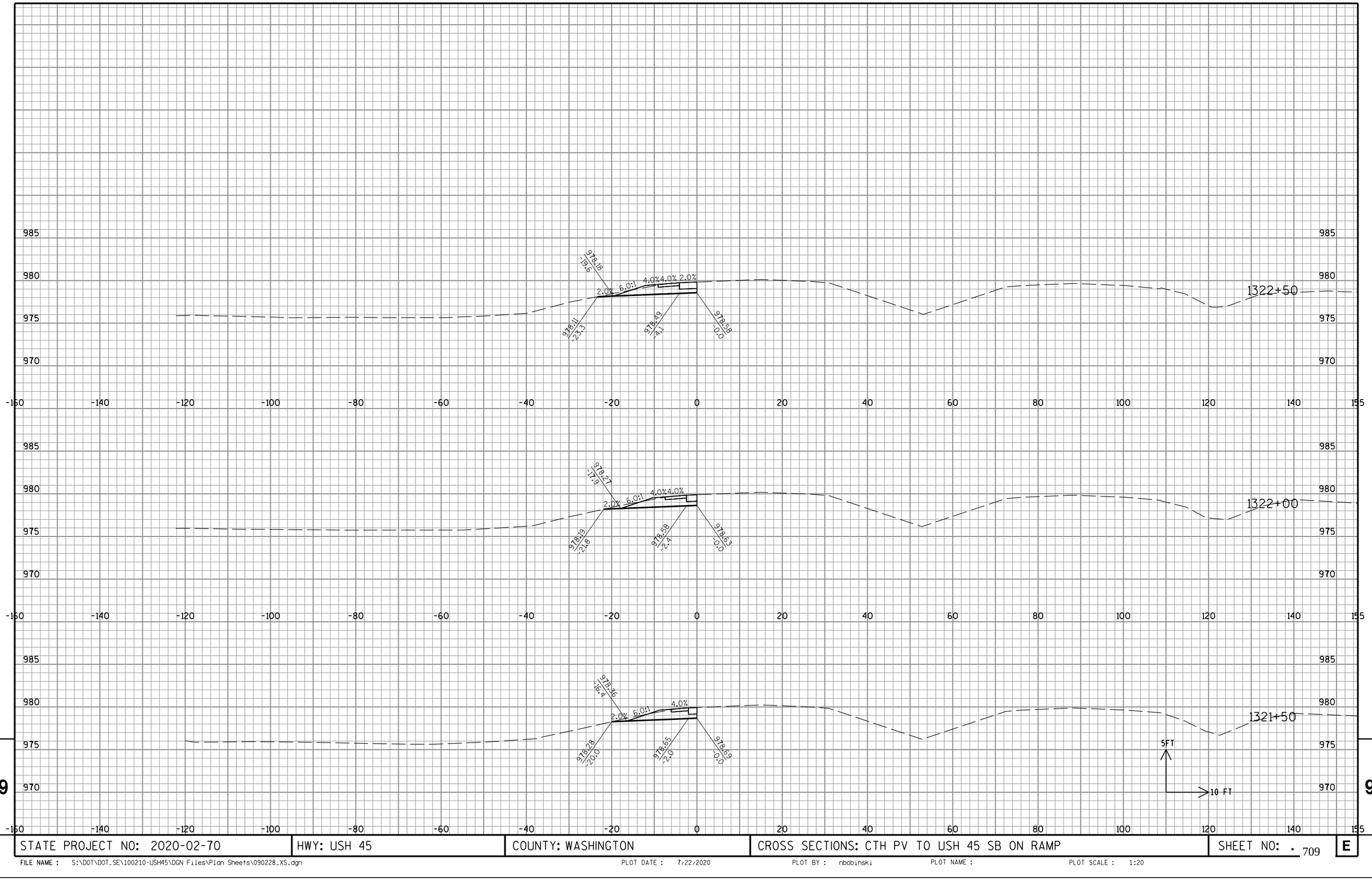
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 NB TO CTH PV OFF RAMP	SHEET NO: . 707	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090227_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 NB TO CTH PV OFF RAMP	SHEET NO: . 708

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090227_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

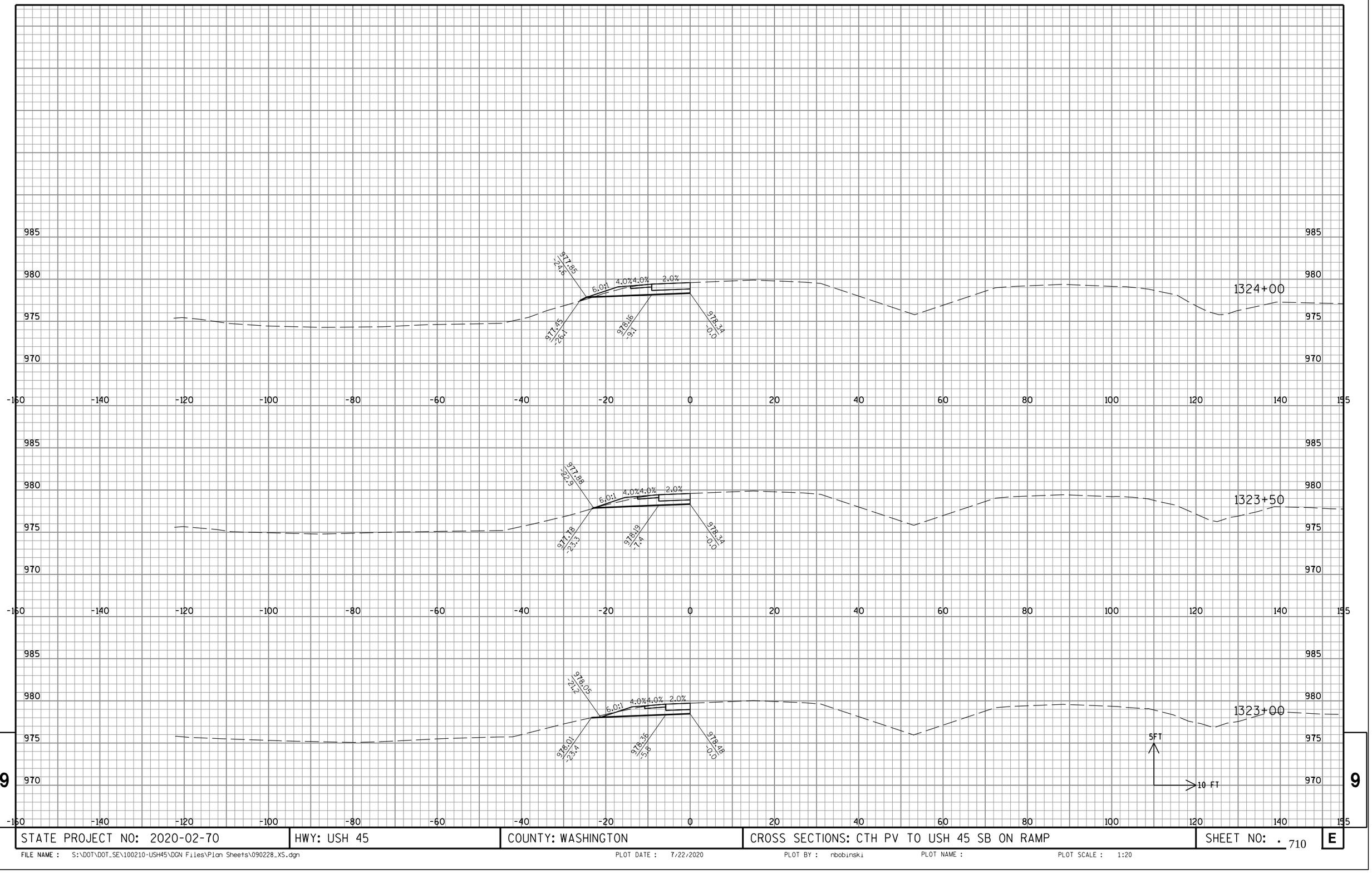


9

9

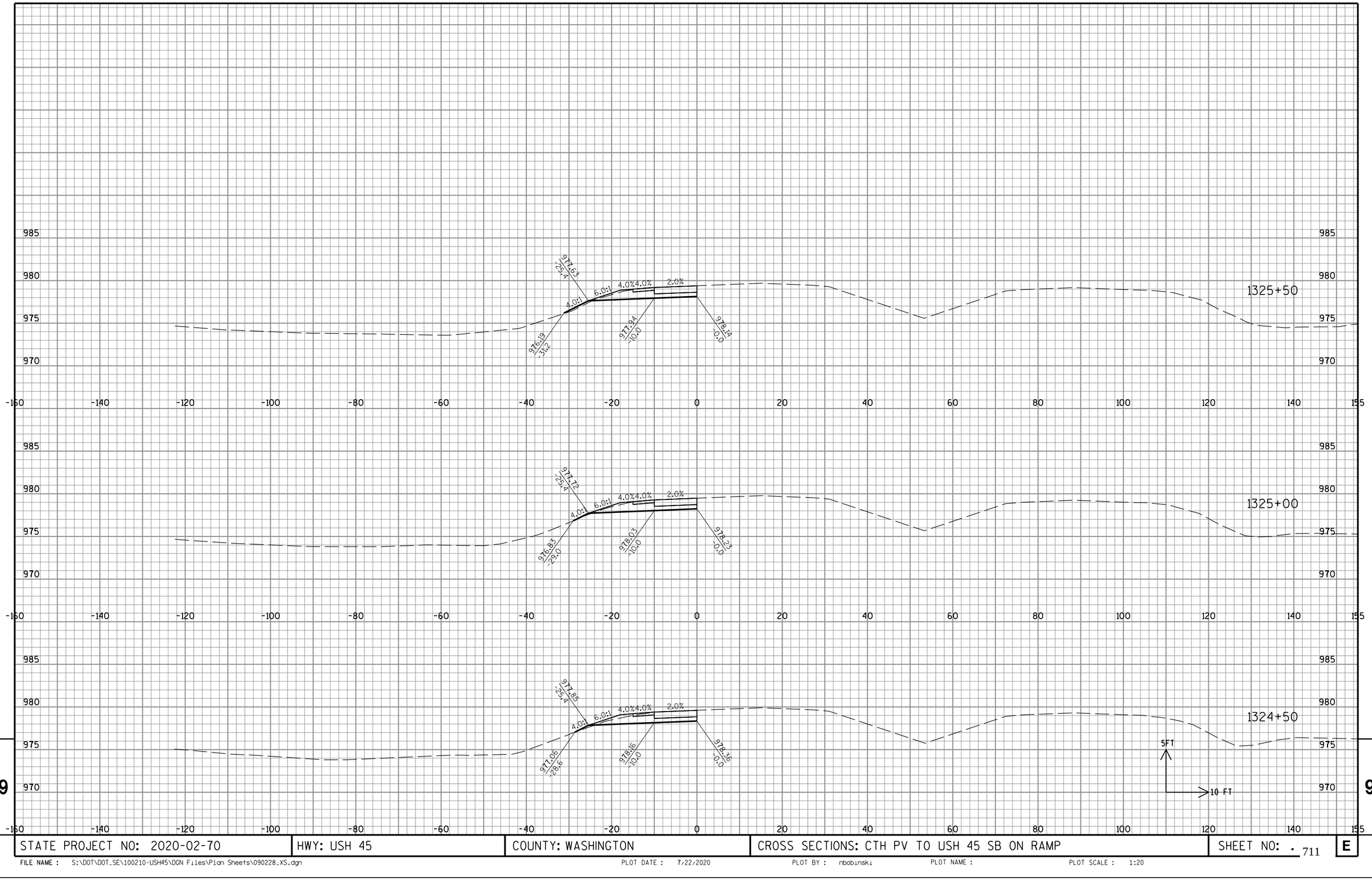
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: CTH PV TO USH 45 SB ON RAMP	SHEET NO: . 709	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090228_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



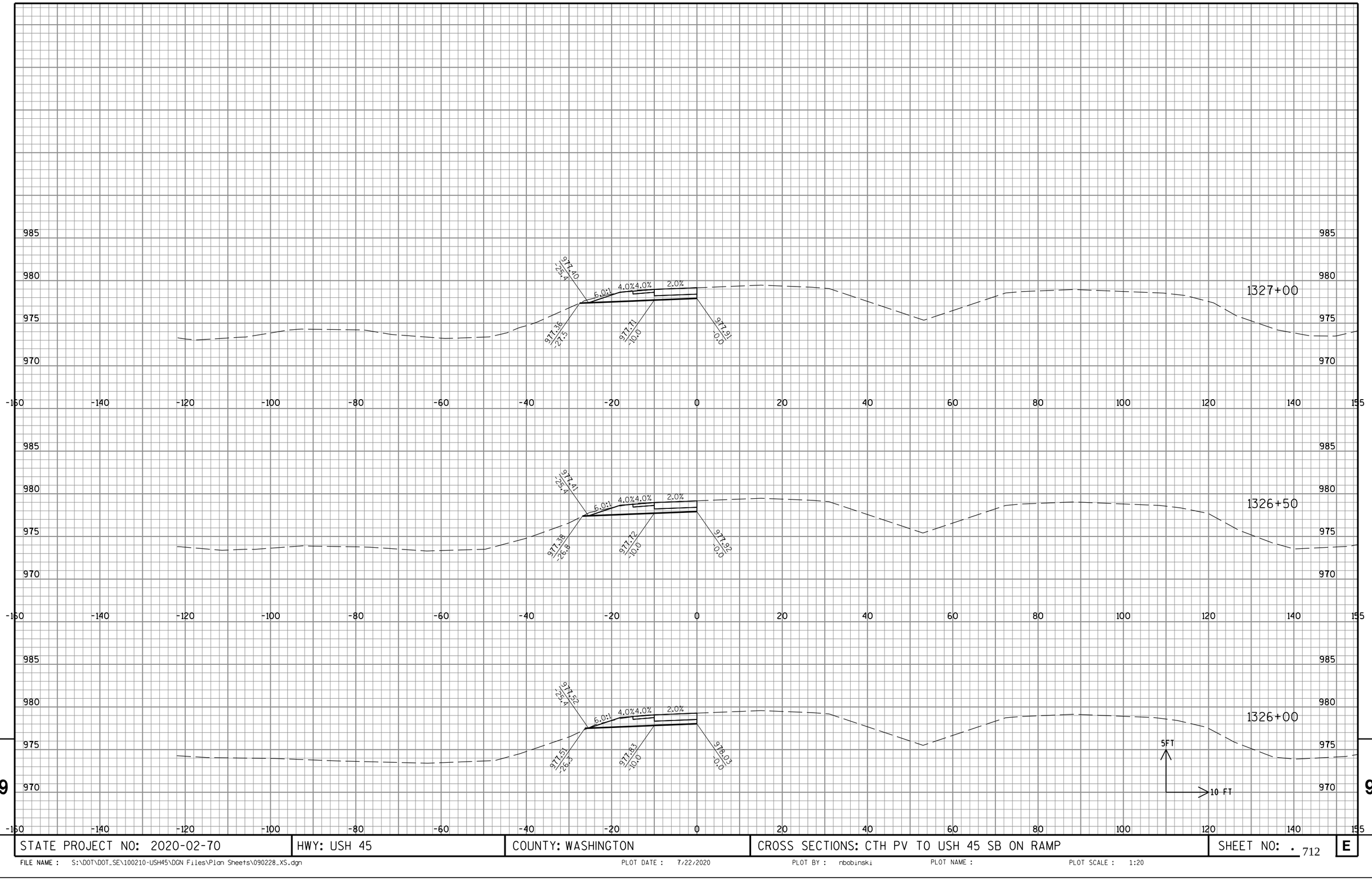
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: CTH PV TO USH 45 SB ON RAMP	SHEET NO: . 710	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090228_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



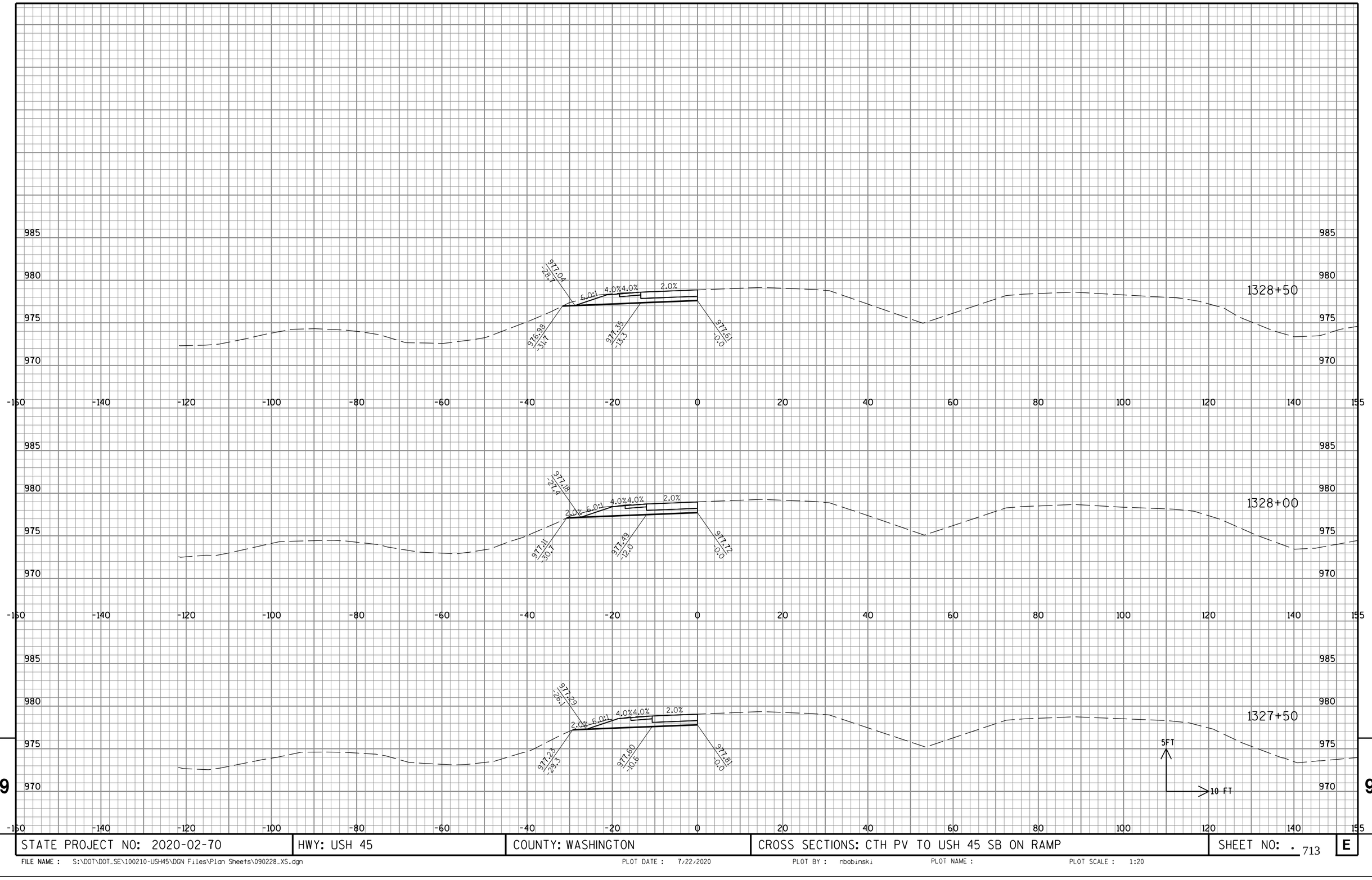
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: CTH PV TO USH 45 SB ON RAMP	SHEET NO: . 711 E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090228_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: CTH PV TO USH 45 SB ON RAMP	SHEET NO: . 712	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090228_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

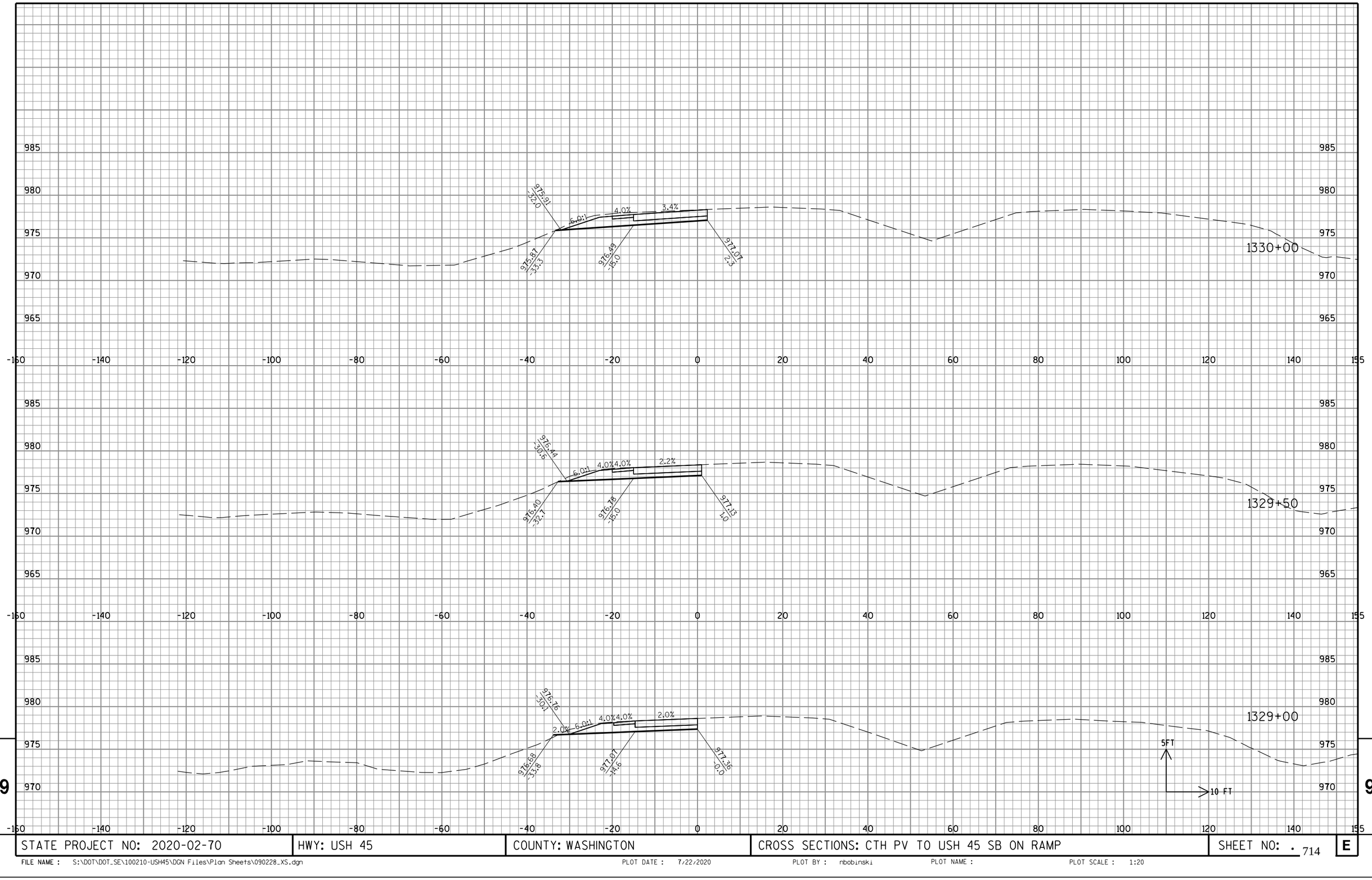


9

9

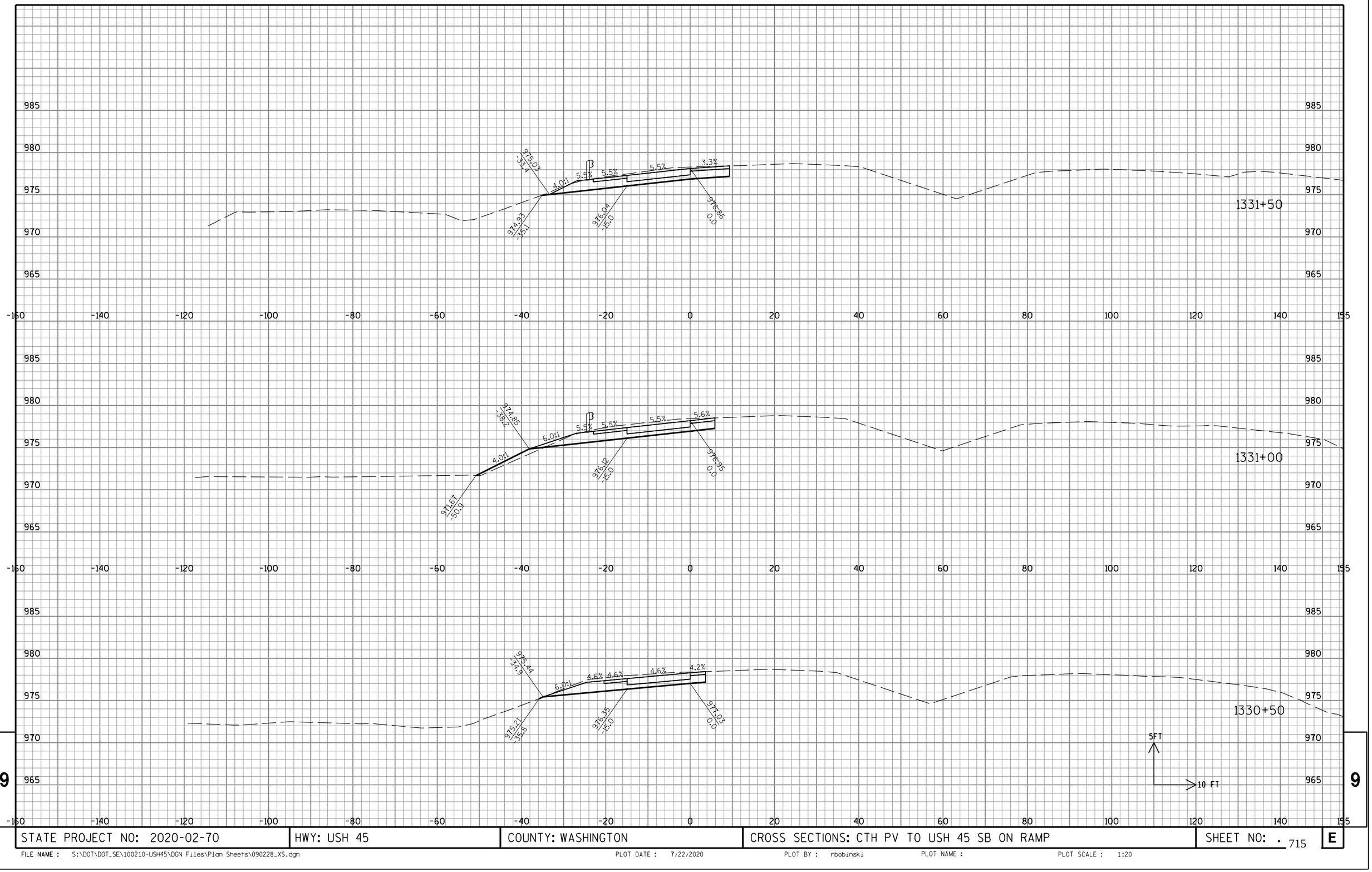
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: CTH PV TO USH 45 SB ON RAMP	SHEET NO: . 713	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090228_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: CTH PV TO USH 45 SB ON RAMP	SHEET NO: 714

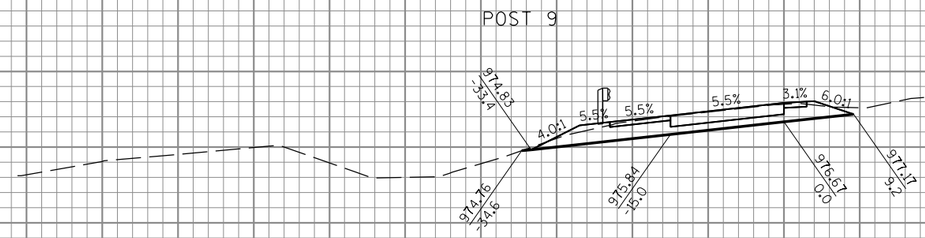
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090228_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



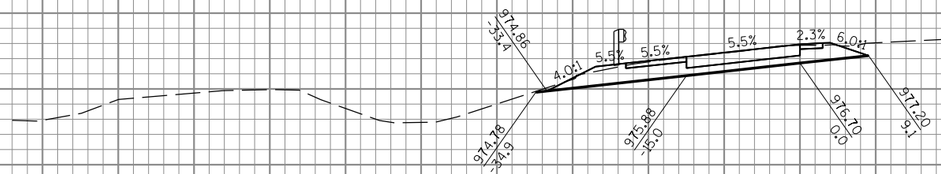
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: CTH PV TO USH 45 SB ON RAMP	SHEET NO: . 715

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090228_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

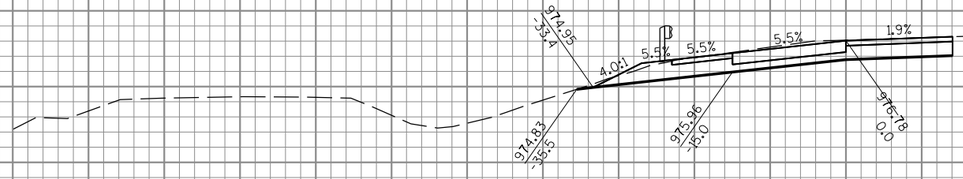
POST 9



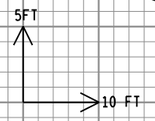
1332+70



1332+50



1332+00



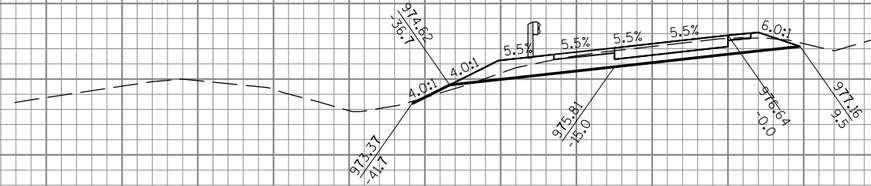
9

9

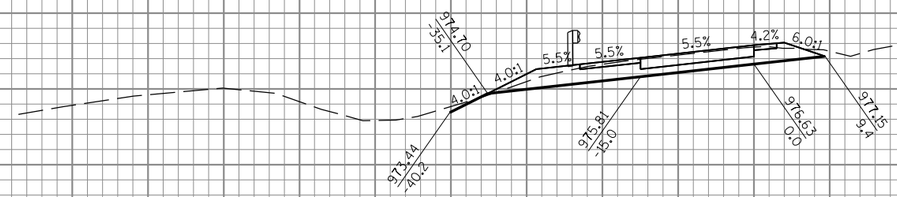
STATE PROJECT NO: 2020-02-70 | HWY: USH 45 | COUNTY: WASHINGTON | CROSS SECTIONS: CTH PV TO USH 45 SB ON RAMP | SHEET NO: . 716 | E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090228_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

POST 1

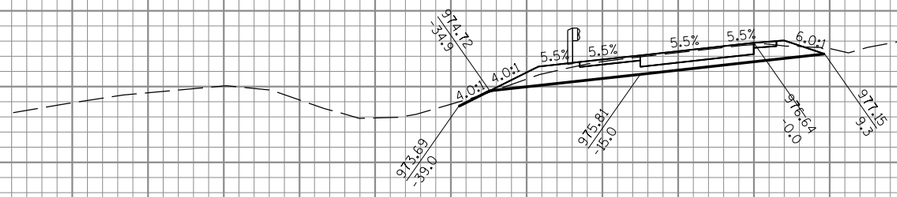


1333+20

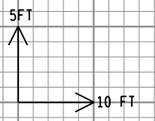


1333+00

POST 5



1332+95



-160 -140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140 155

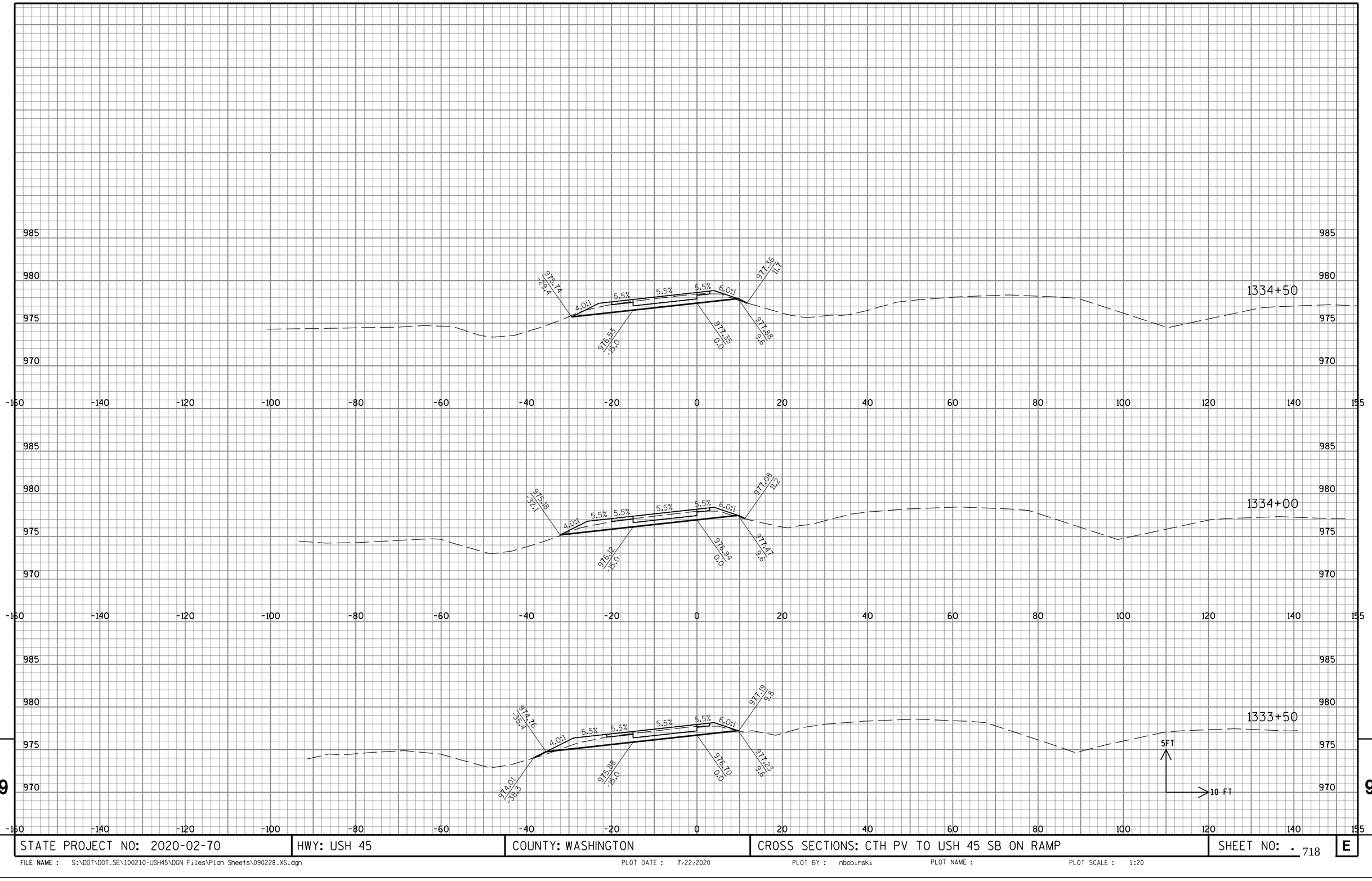
985 980 975 970

9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: CTH PV TO USH 45 SB ON RAMP	SHEET NO: . 717	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090228_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

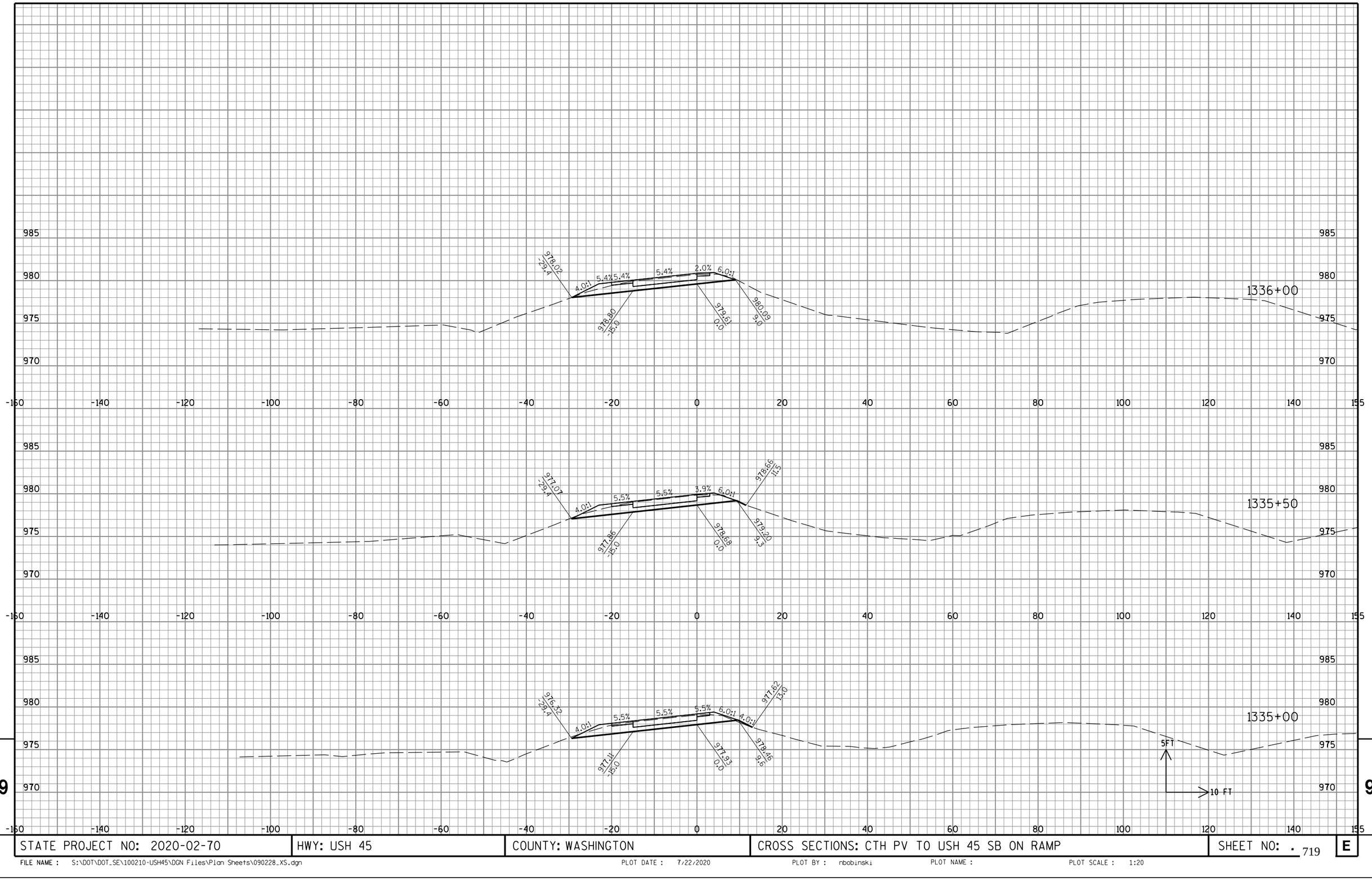


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: CTH PV TO USH 45 SB ON RAMP	SHEET NO: . 718	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090228_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

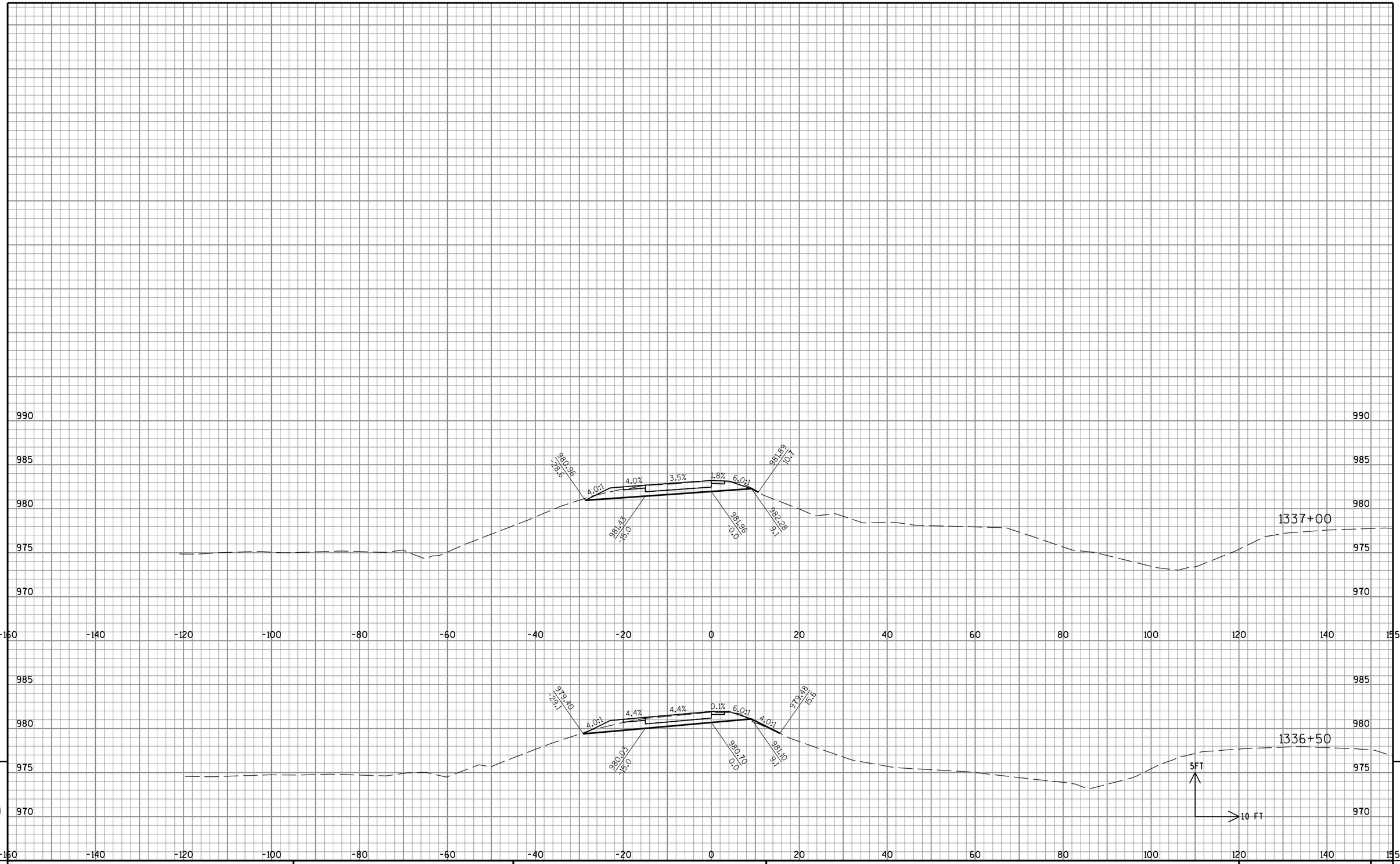


9

9

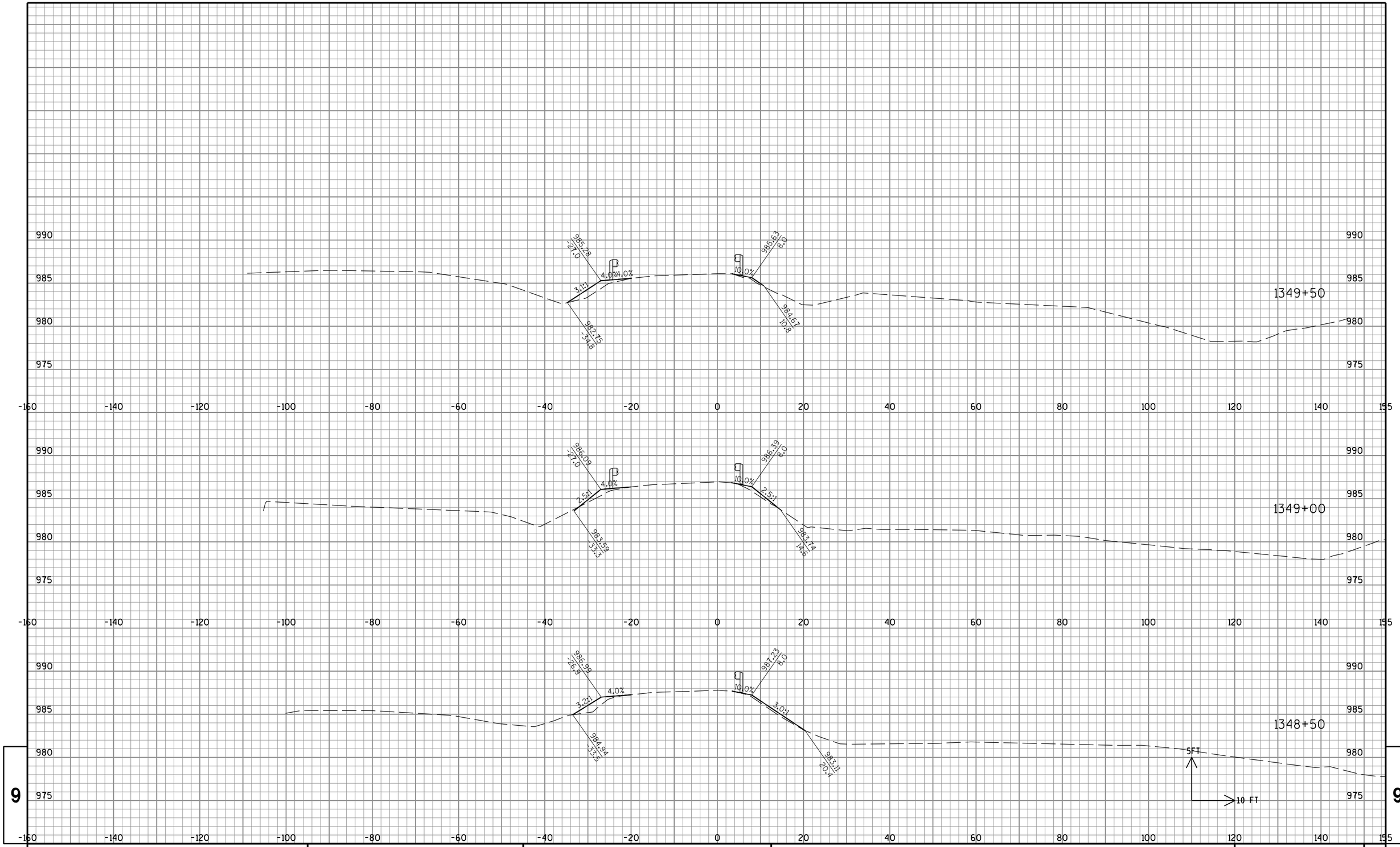
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: CTH PV TO USH 45 SB ON RAMP	SHEET NO: . 719	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090228_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



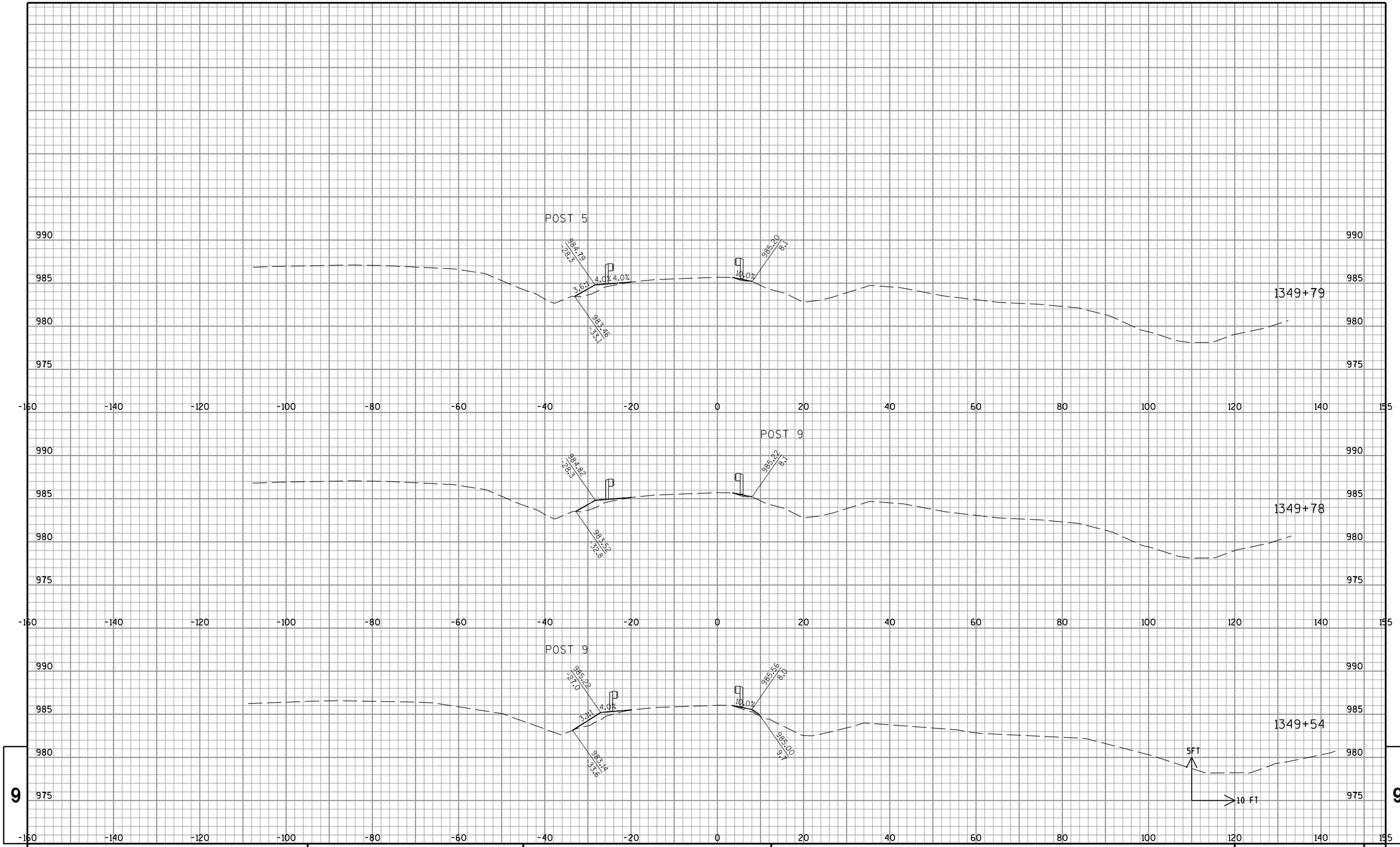
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: CTH PV TO USH 45 SB ON RAMP	SHEET NO: . 720	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090228_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 SB TO CTH PV OFF RAMP	SHEET NO: . 721	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090229_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

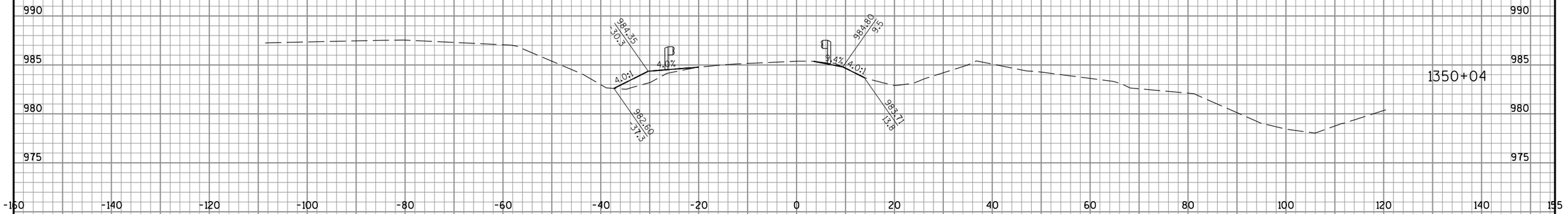


9

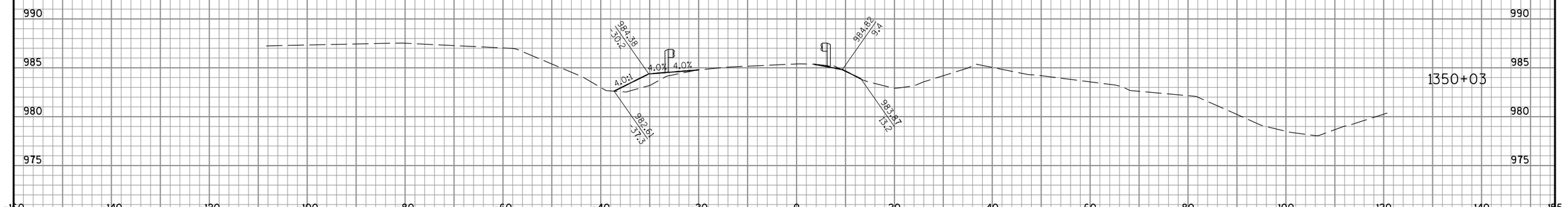
STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 SB TO CTH PV OFF RAMP	SHEET NO: . 722	E

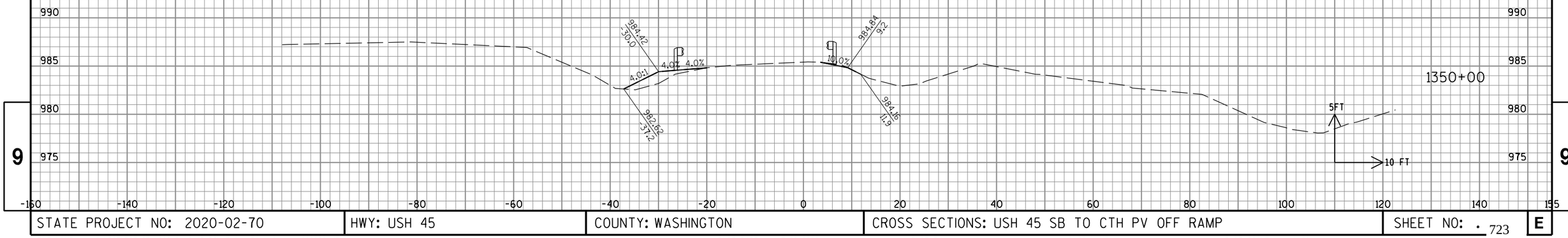
FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090229_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

POST 1



POST 5



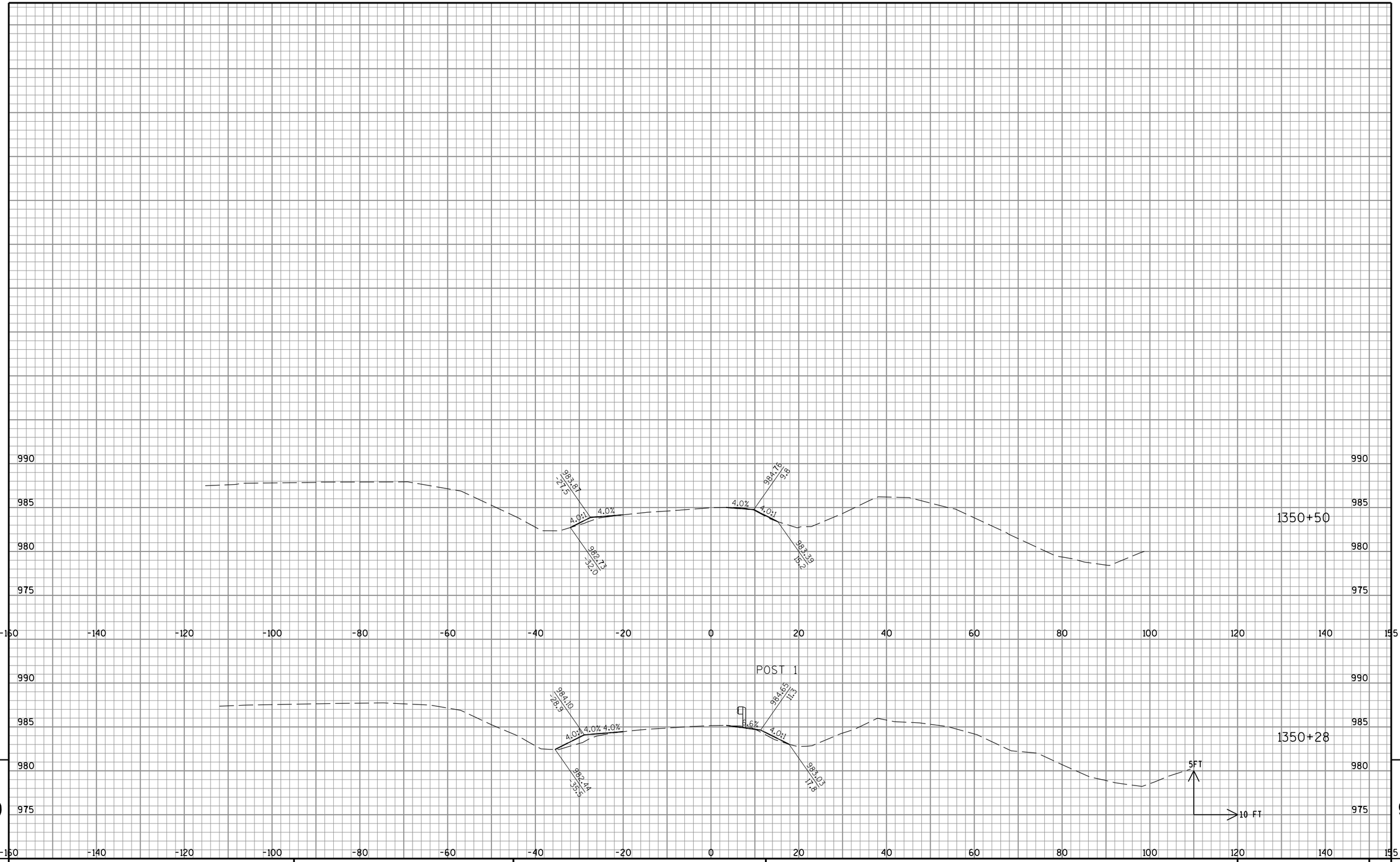


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 SB TO CTH PV OFF RAMP	SHEET NO: . 723	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090229_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20

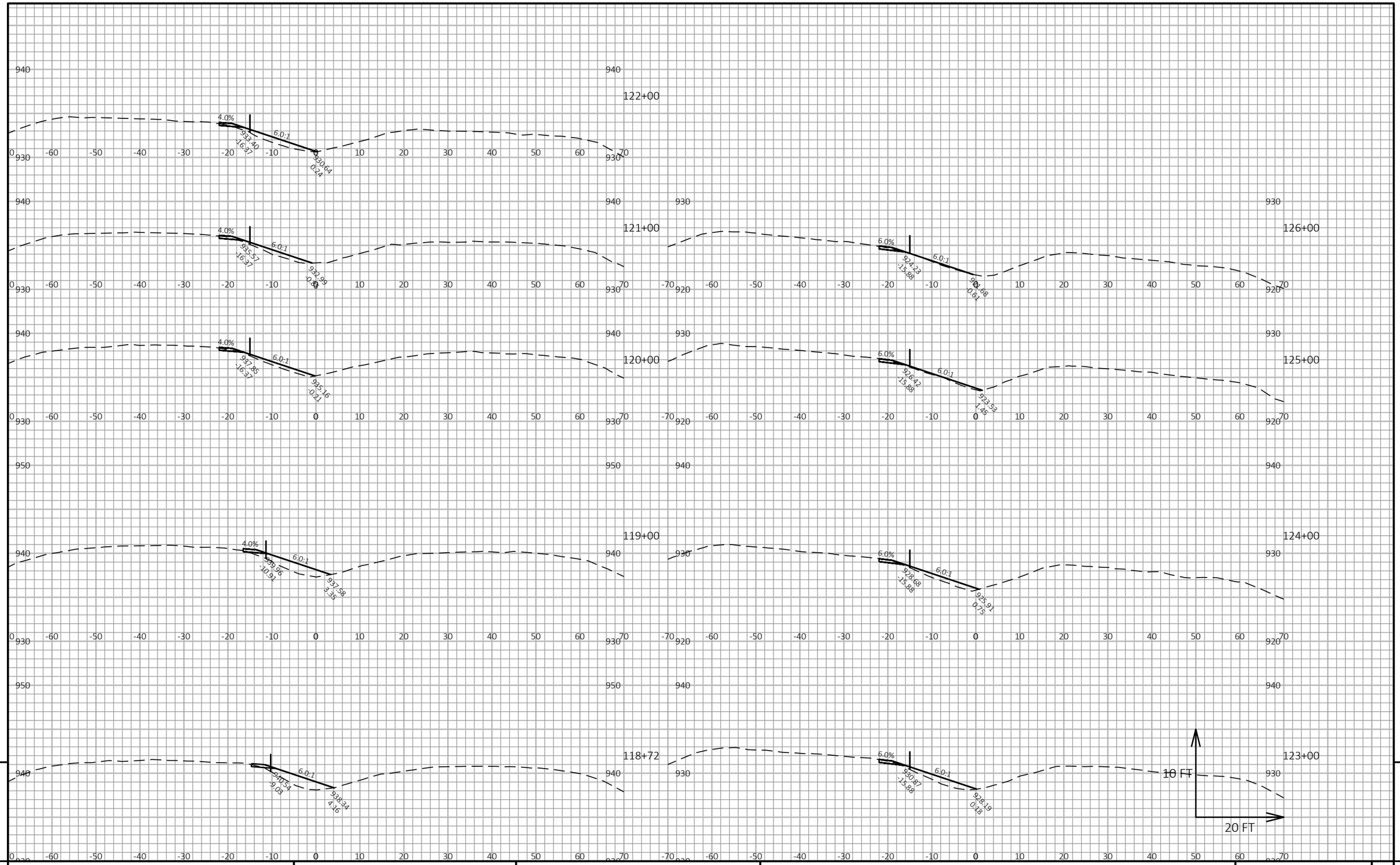


9

9

STATE PROJECT NO: 2020-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 SB TO CTH PV OFF RAMP	SHEET NO: . 724	E

FILE NAME : S:\DOT\DOT_SE\100210-USH45\DGN Files\Plan Sheets\090229_XS.dgn PLOT DATE : 7/22/2020 PLOT BY : nbobinski PLOT NAME : PLOT SCALE : 1:20



9

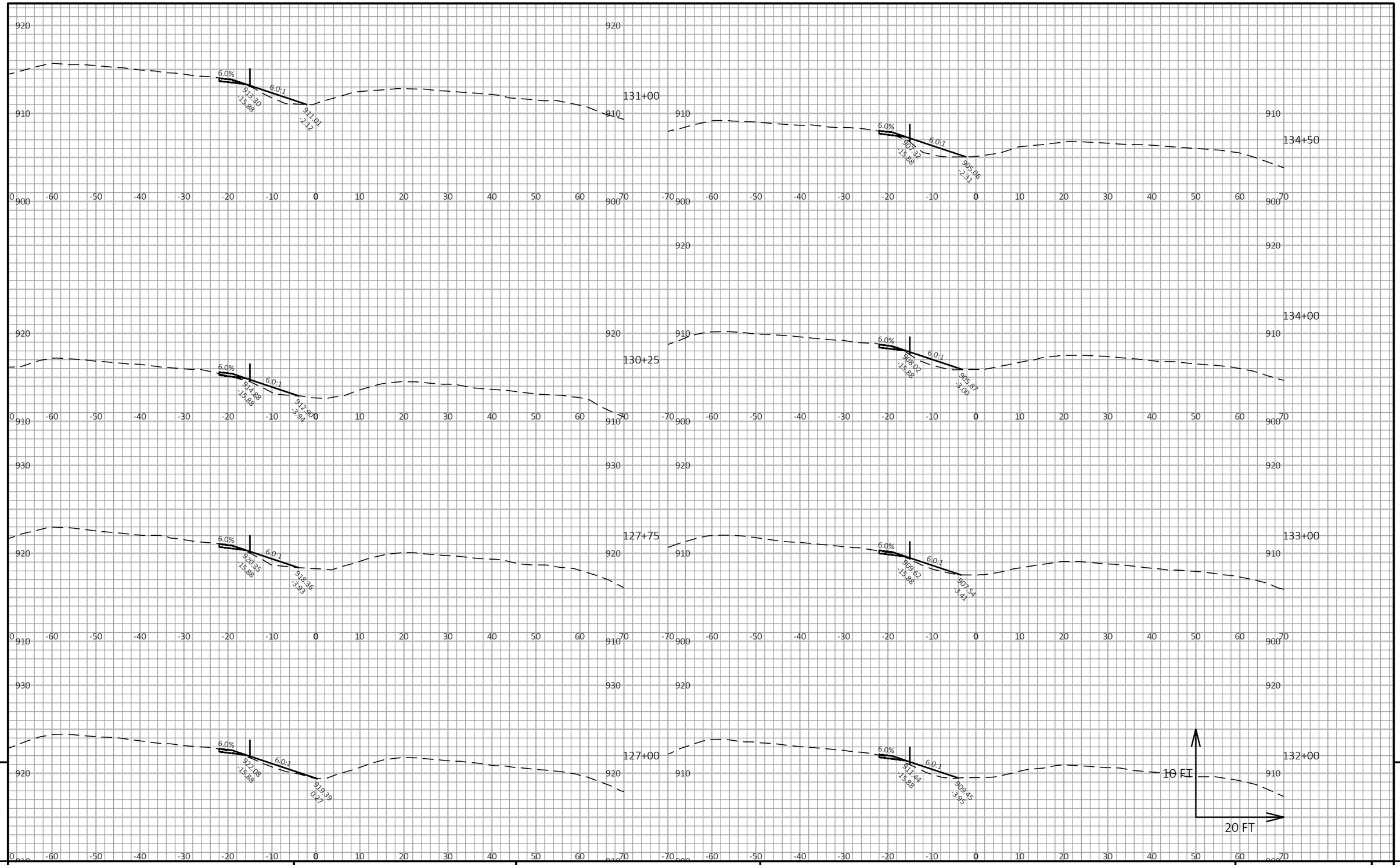
9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 1ST QUARTER	SHEET 725	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 1 OF 4.DWG
LAYOUT NAME - 1-1

PLOT DATE : 3/23/2020 2:42 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

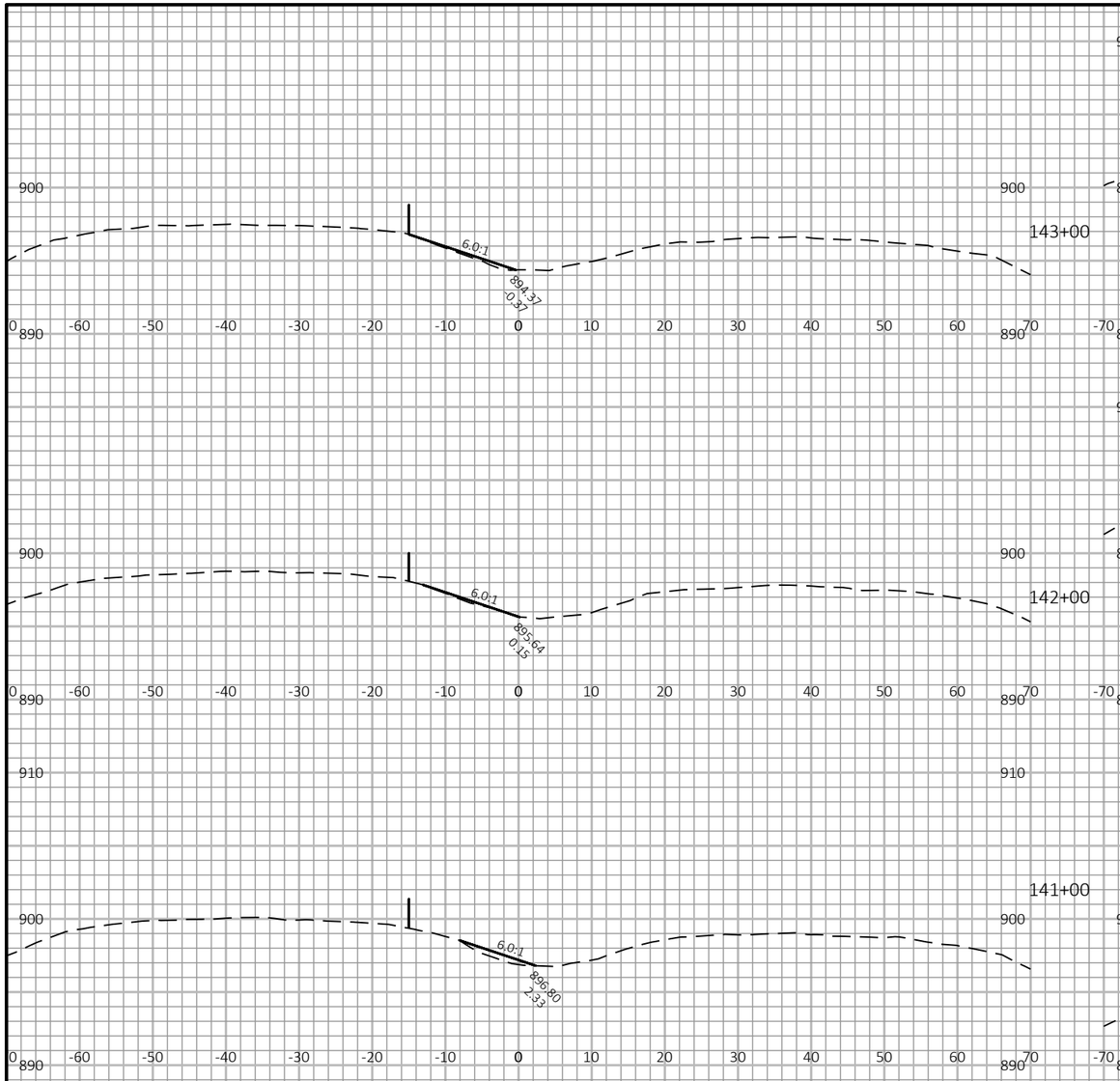
9

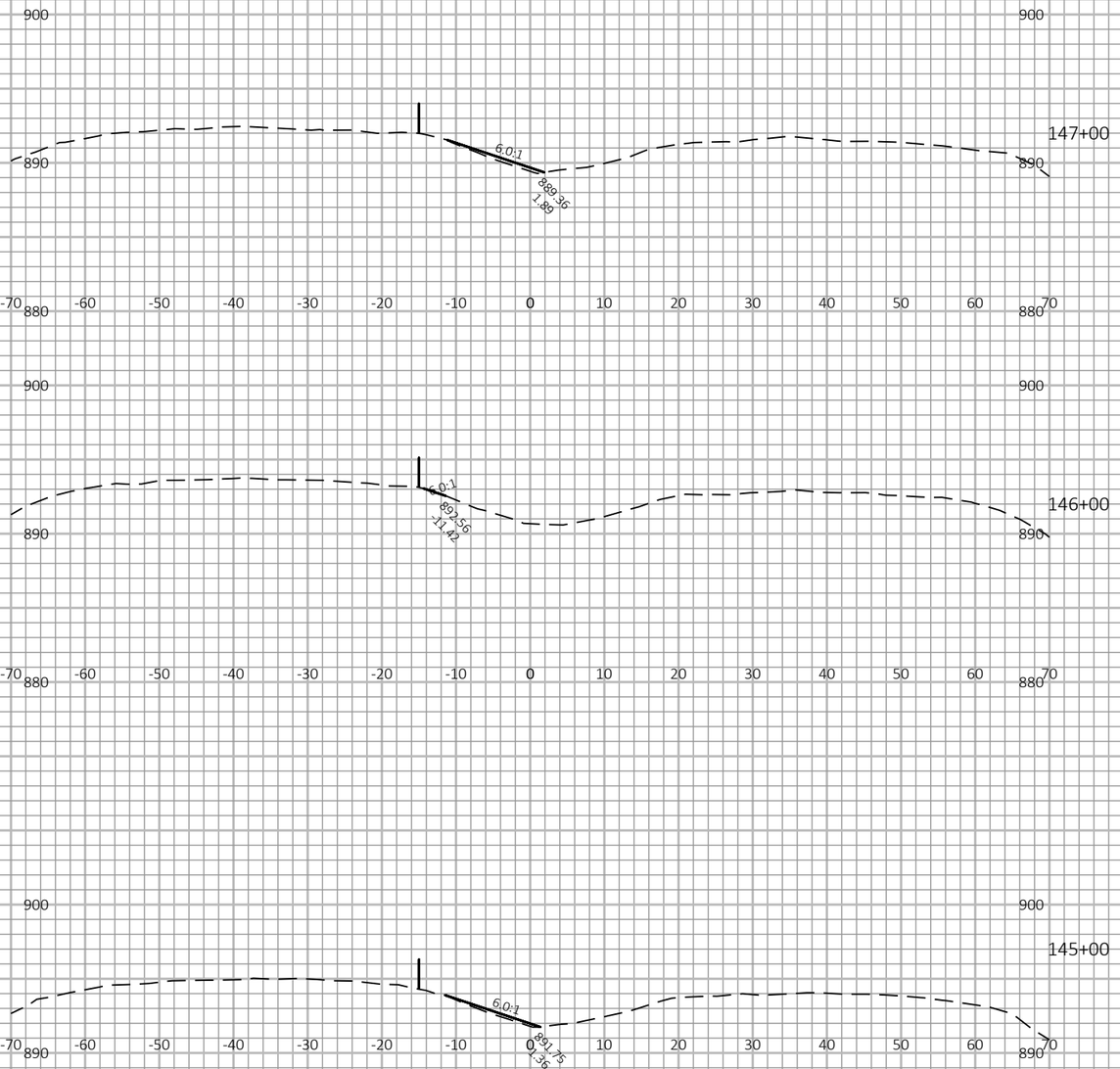
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 1ST QUARTER	SHEET 726	E

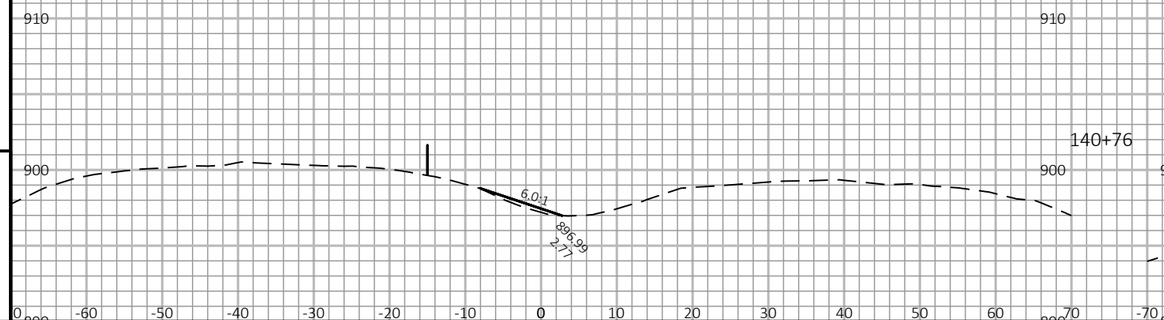
FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 1 OF 4.DWG
LAYOUT NAME - 1-2

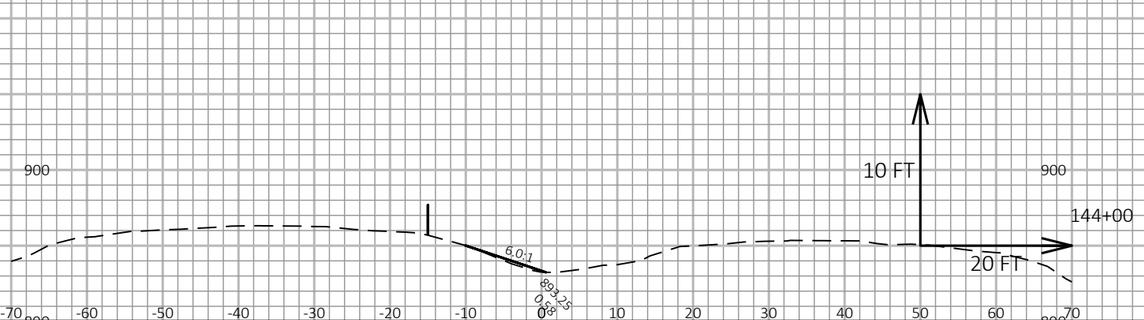
PLOT DATE : 3/23/2020 2:43 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49









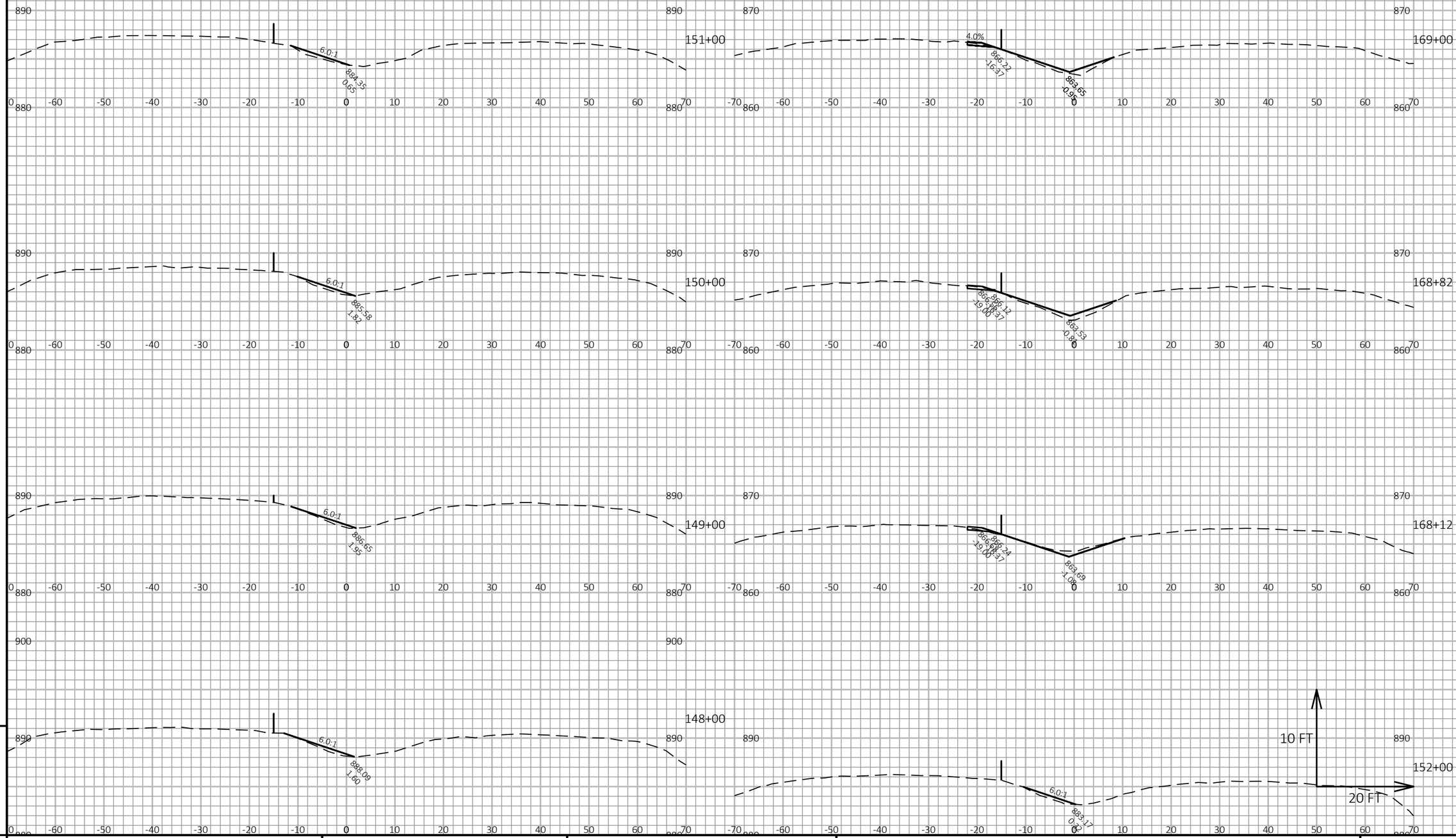
9

9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 1ST QUARTER	SHEET 727	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 1 OF 4.DWG
LAYOUT NAME - 1-3

PLOT DATE : 3/23/2020 2:44 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



9

9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 1ST QUARTER	SHEET 728	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 1 OF 4.DWG
LAYOUT NAME - 1-4

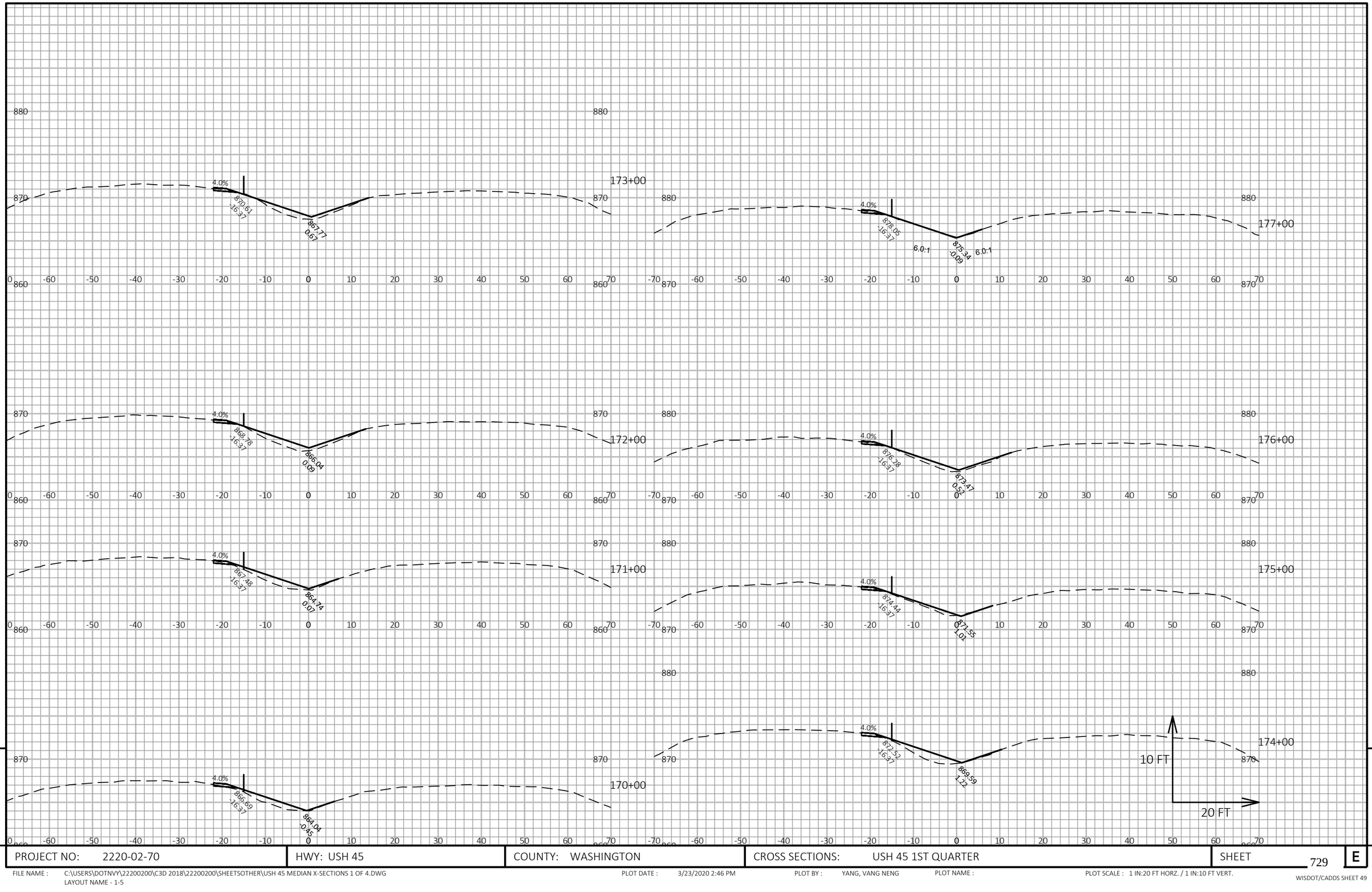
PLOT DATE : 3/23/2020 2:45 PM

PLOT BY : YANG, VANG NENG

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

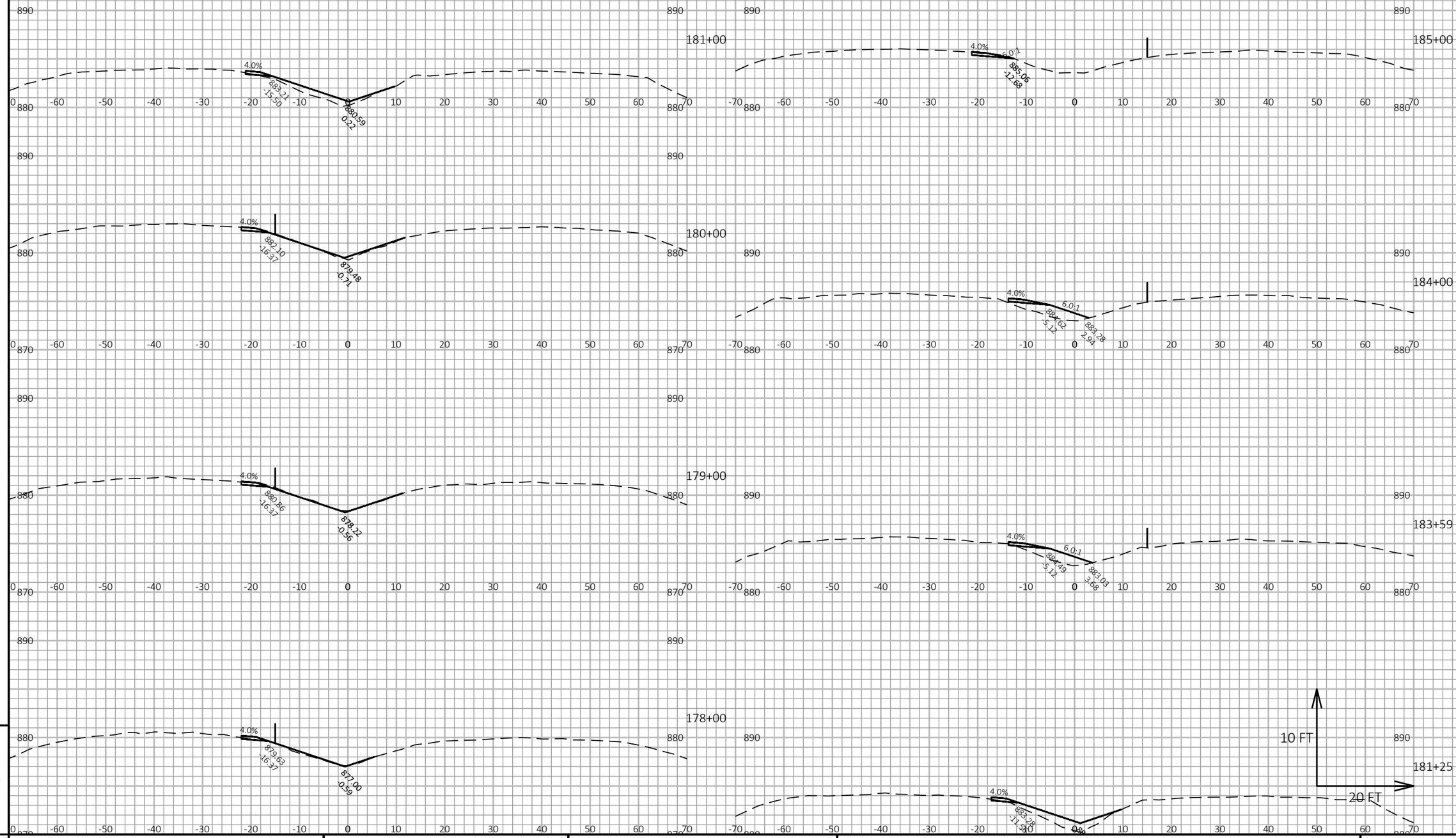


PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 1ST QUARTER	SHEET 729	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 1 OF 4.DWG
LAYOUT NAME - 1-5

PLOT DATE : 3/23/2020 2:46 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

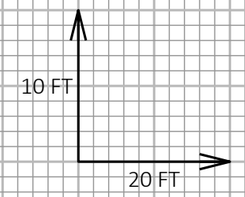
9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 1ST QUARTER	SHEET 730	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 1 OF 4.DWG
LAYOUT NAME - 1-6

PLOT DATE : 3/23/2020 2:47 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



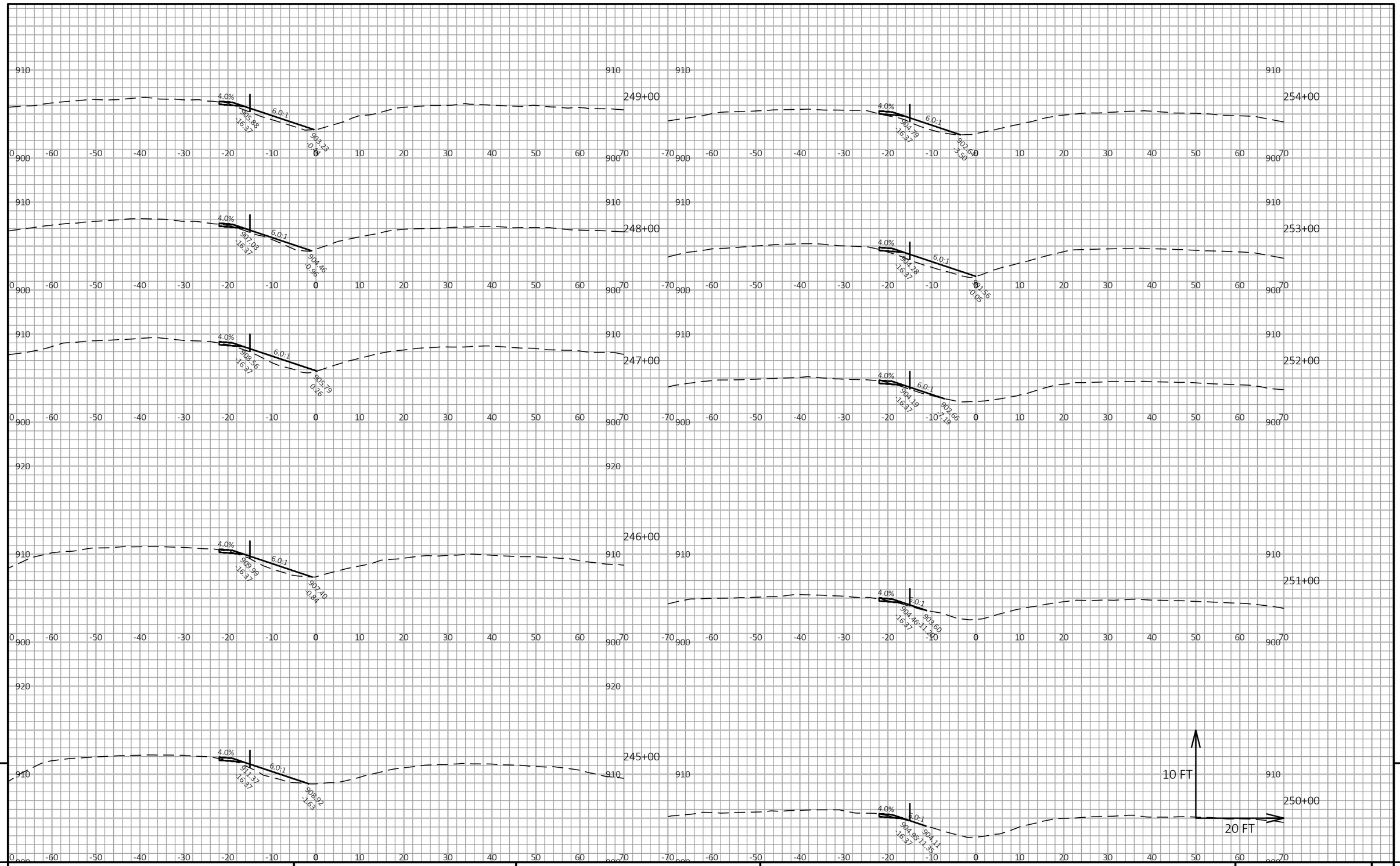
9

9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 1ST QUARTER	SHEET 731	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 1 OF 4.DWG
LAYOUT NAME - 1-7

PLOT DATE : 3/23/2020 2:48 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



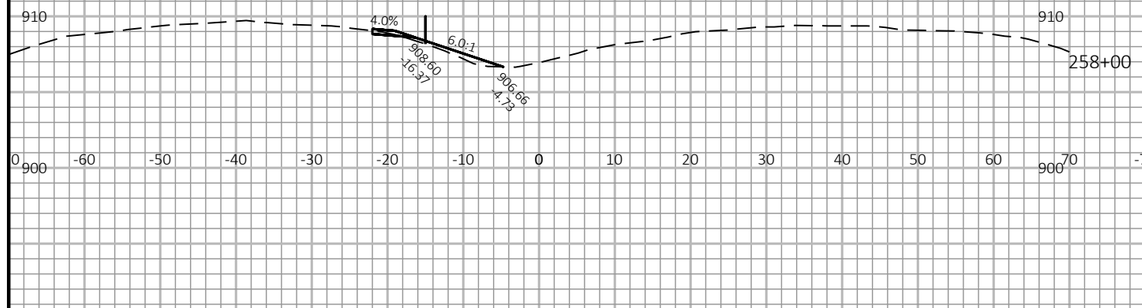
9

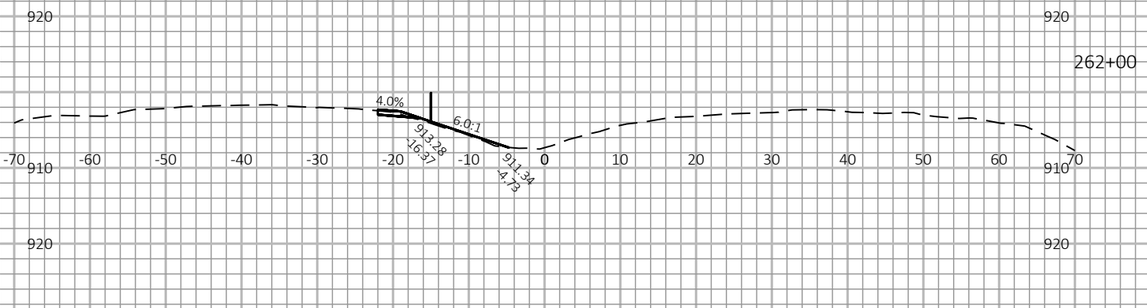
9

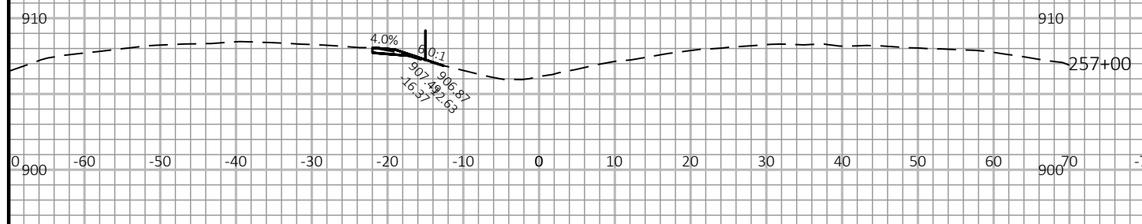
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 1ST QUARTER	SHEET 732	E

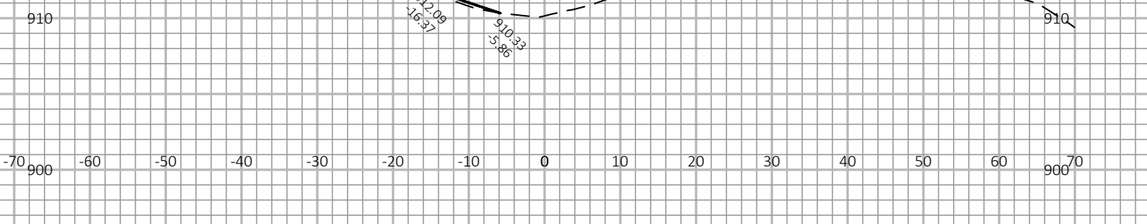
FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 1 OF 4.DWG
LAYOUT NAME - 1-8

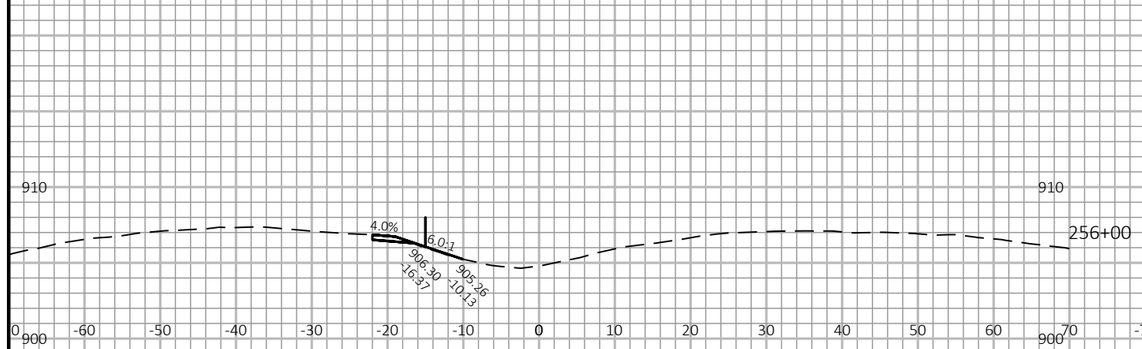
PLOT DATE : 3/23/2020 2:49 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

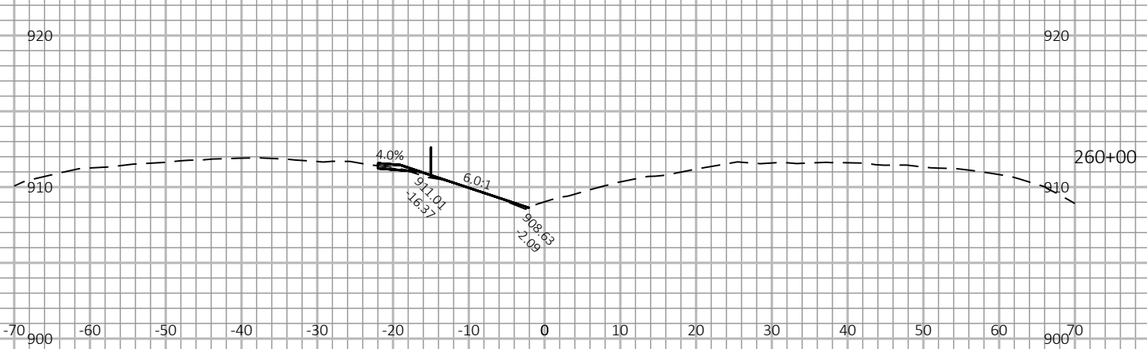


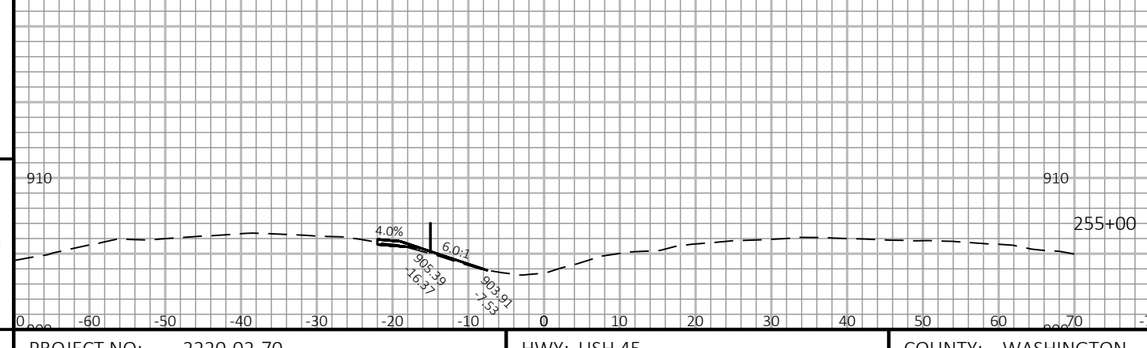


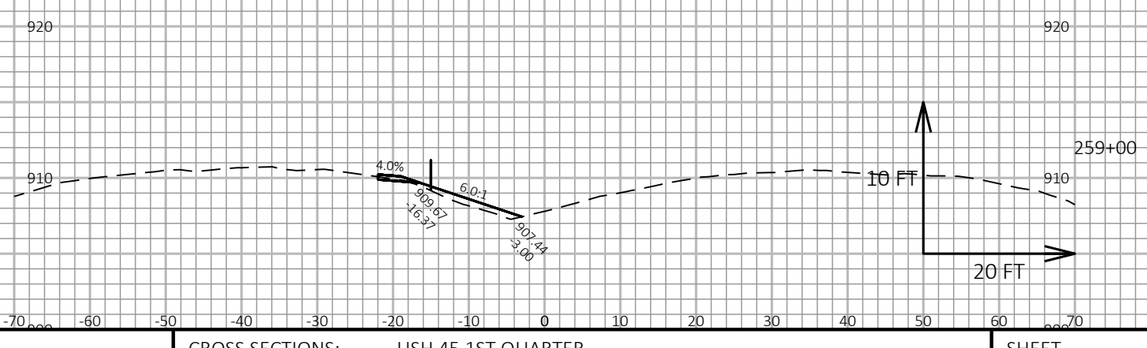












9

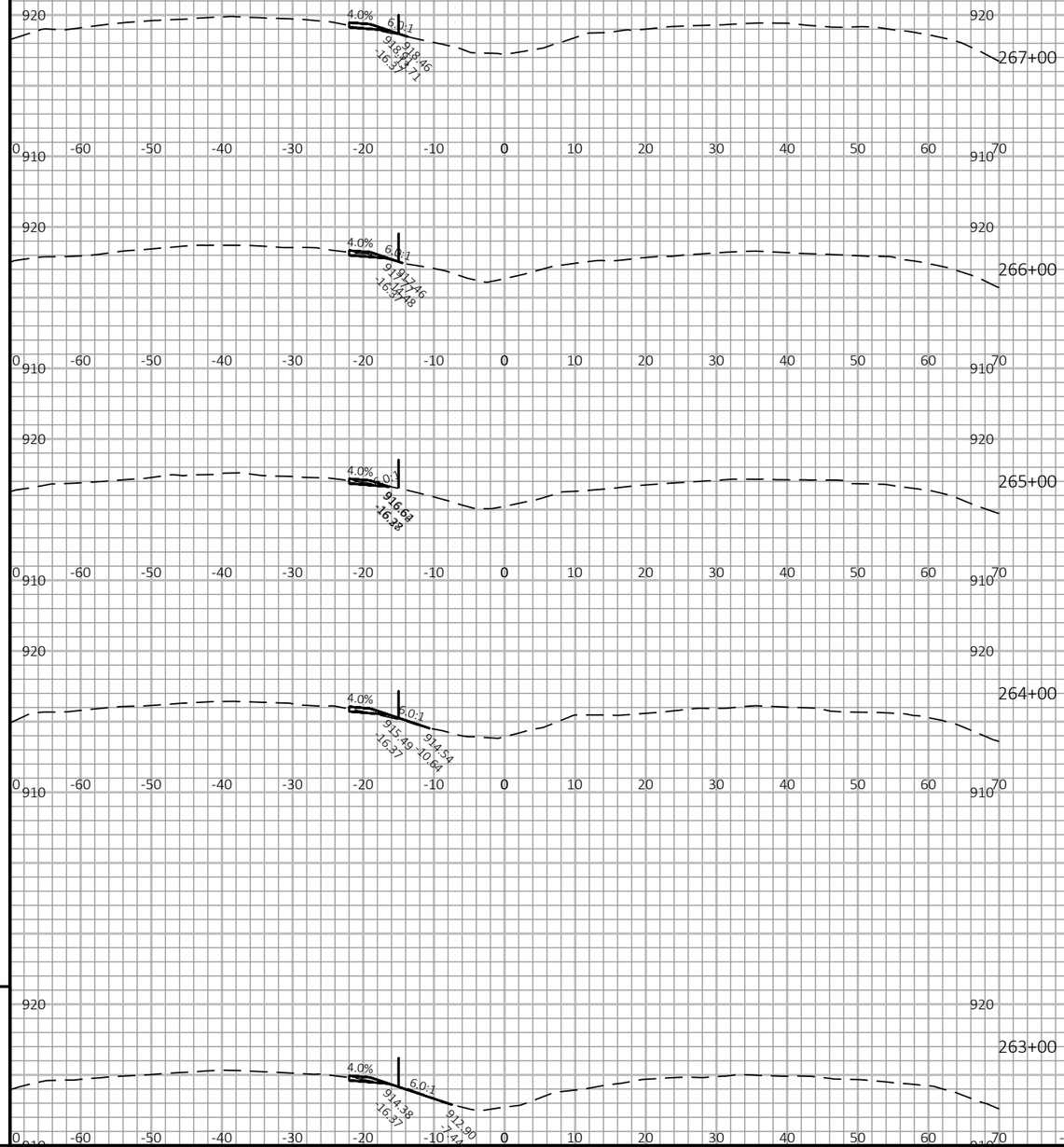
9

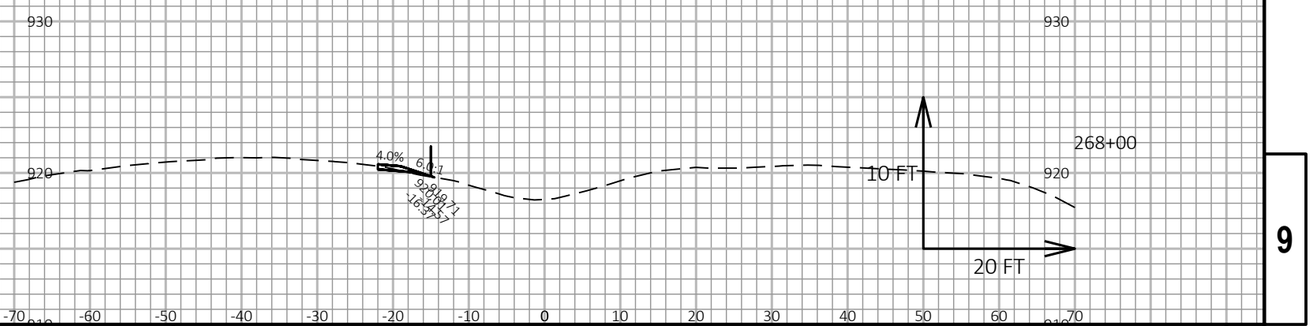
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 1ST QUARTER	SHEET 733	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 1 OF 4.DWG
LAYOUT NAME - 1-9

PLOT DATE : 3/23/2020 2:49 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49





9

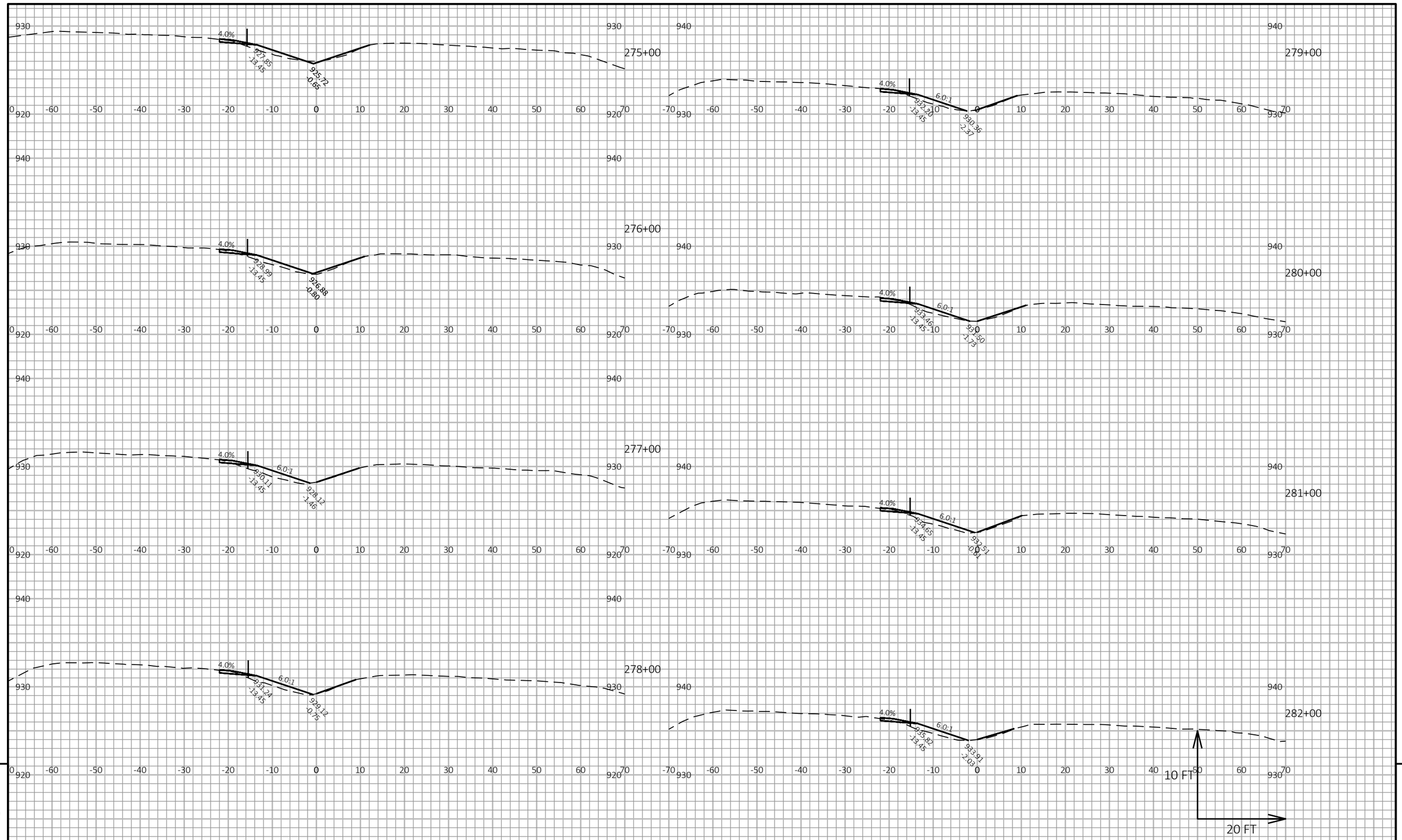
9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 1ST QUARTER	SHEET 734	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 1 OF 4.DWG
LAYOUT NAME - 1-10

PLOT DATE : 3/23/2020 2:50 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

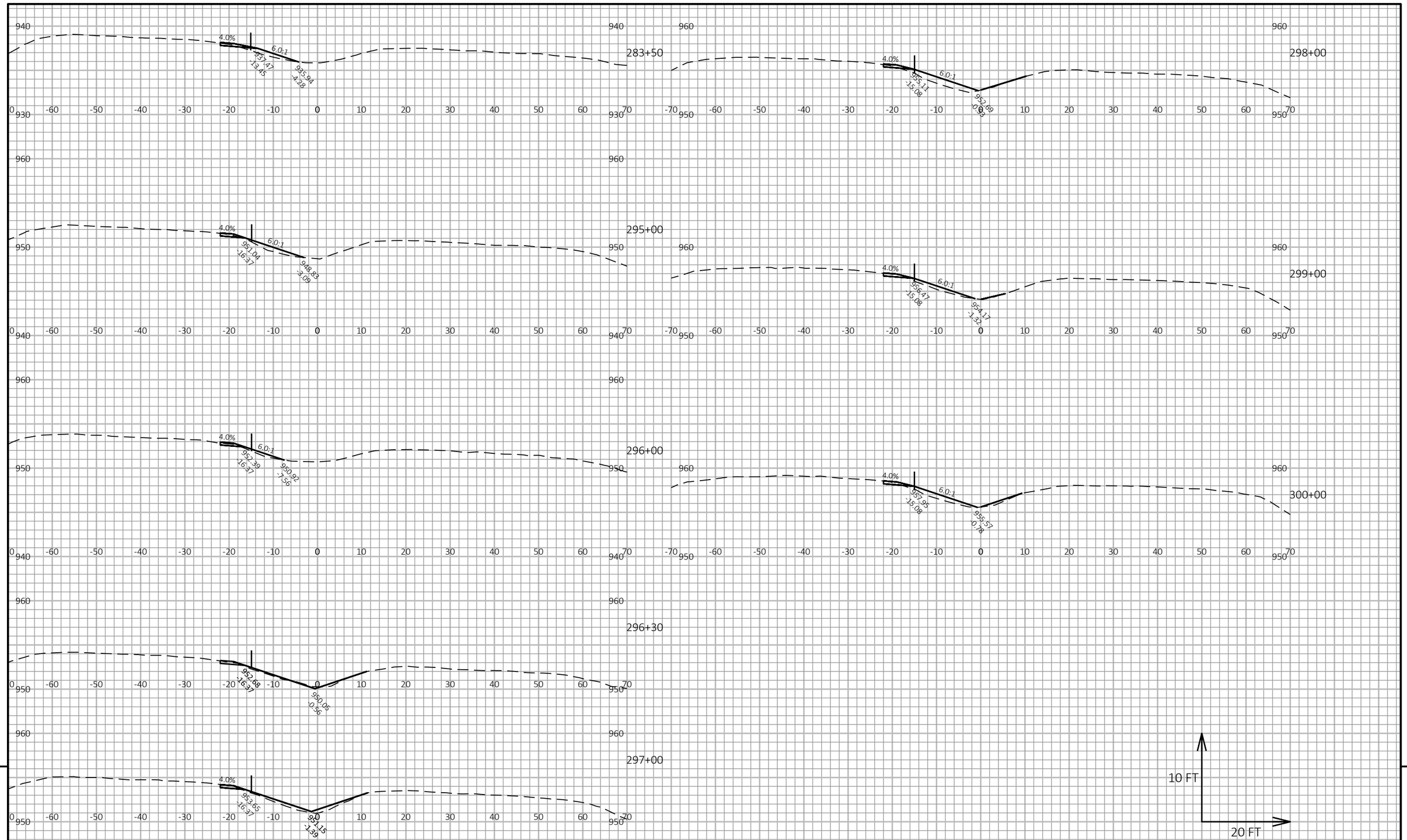
9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 2ND QUARTER	SHEET 735	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 2 OF 4.DWG
LAYOUT NAME - 2 1

PLOT DATE : 3/23/2020 2:52 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

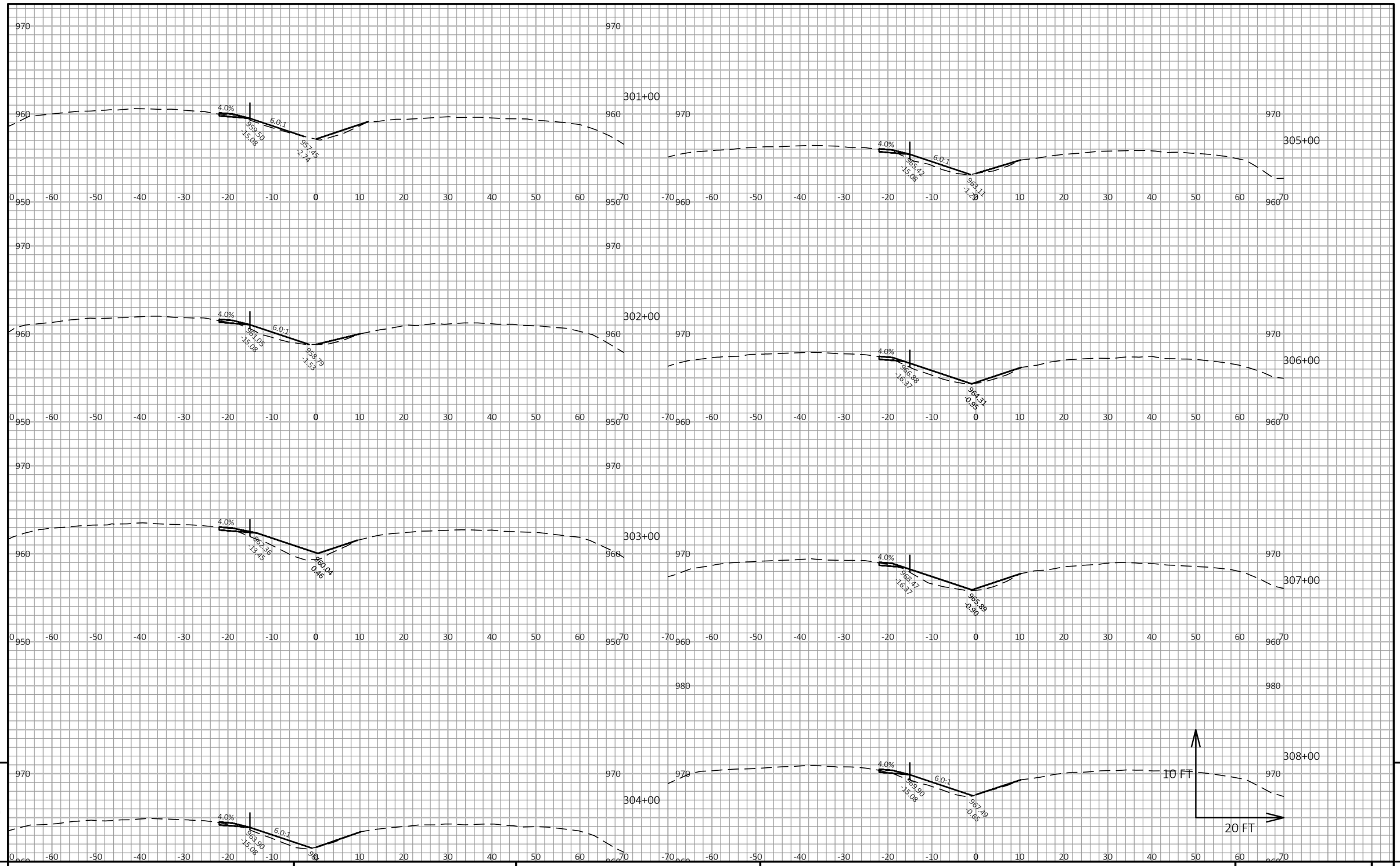
9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 2ND QUARTER	SHEET 736	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 2 OF 4.DWG
LAYOUT NAME - 2 2

PLOT DATE : 3/23/2020 2:53 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

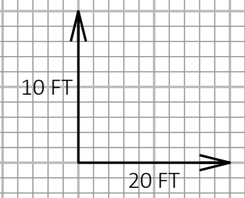
9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 2ND QUARTER	SHEET 737	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 2 OF 4.DWG
LAYOUT NAME - 2 3

PLOT DATE : 3/23/2020 2:54 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



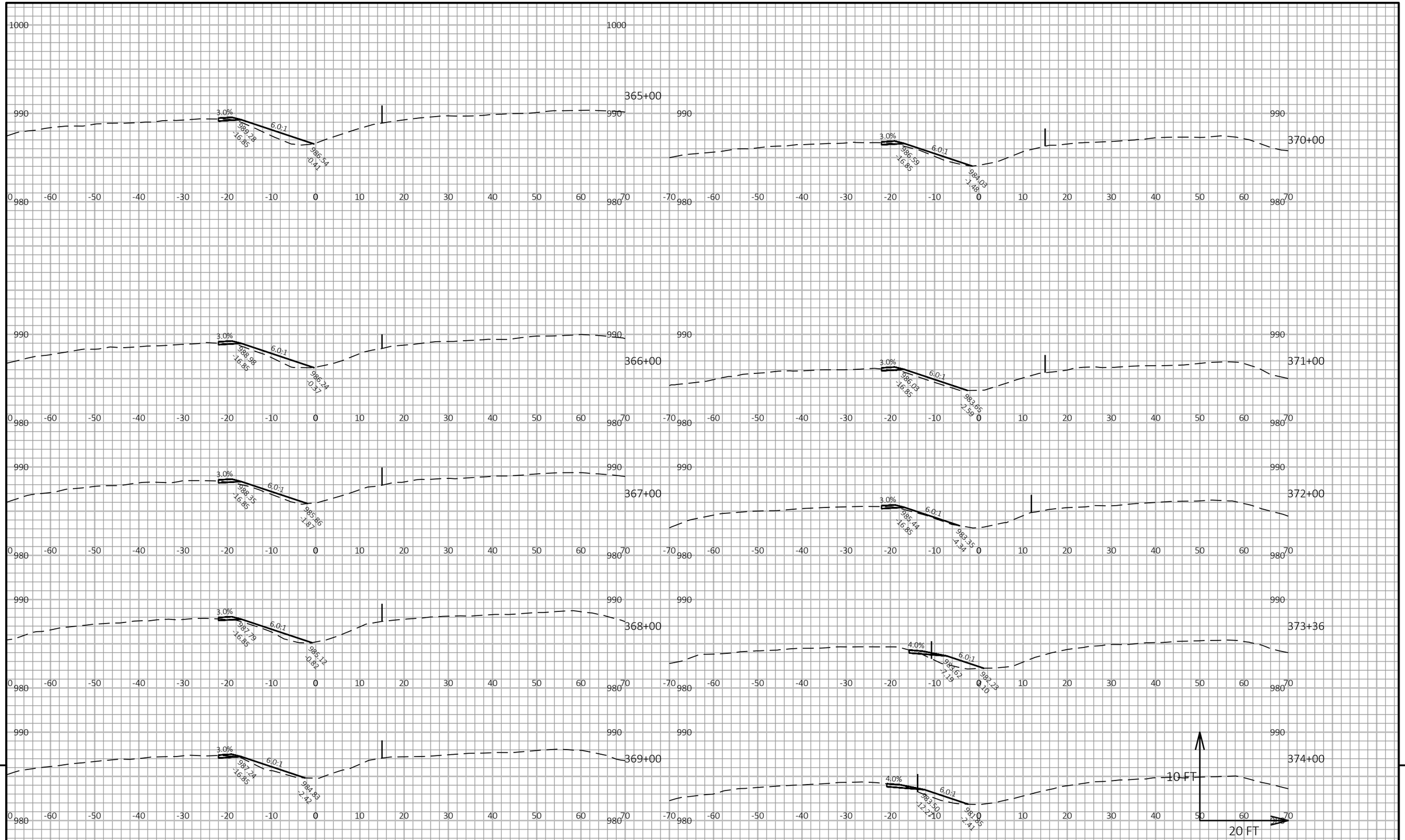
9

9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 2ND QUARTER	SHEET 738	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 2 OF 4.DWG
LAYOUT NAME - 2 4

PLOT DATE : 3/23/2020 2:54 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

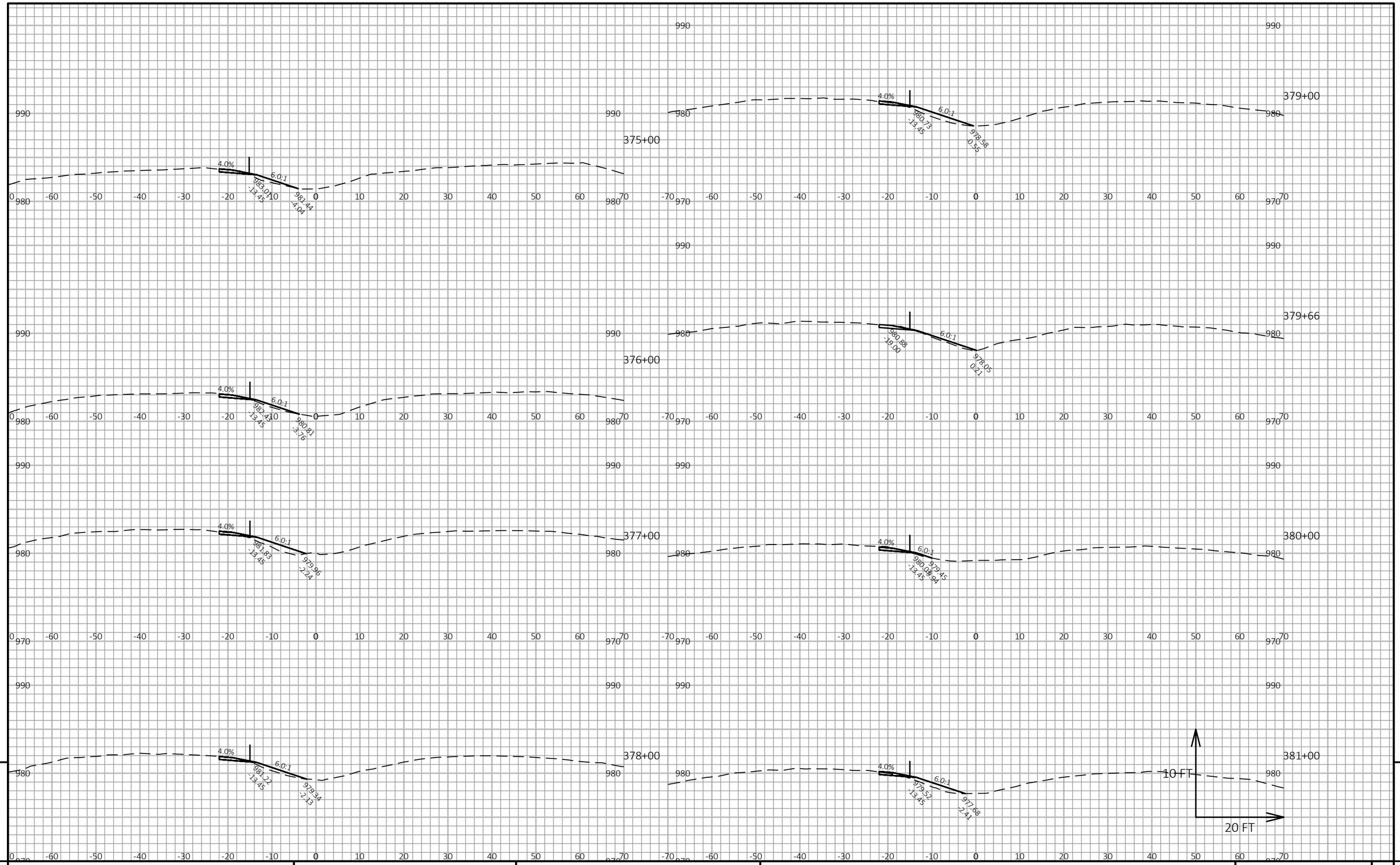


PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 2ND QUARTER	SHEET 739 E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 2 OF 4.DWG
LAYOUT NAME - 2 5

PLOT DATE : 3/23/2020 2:55 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

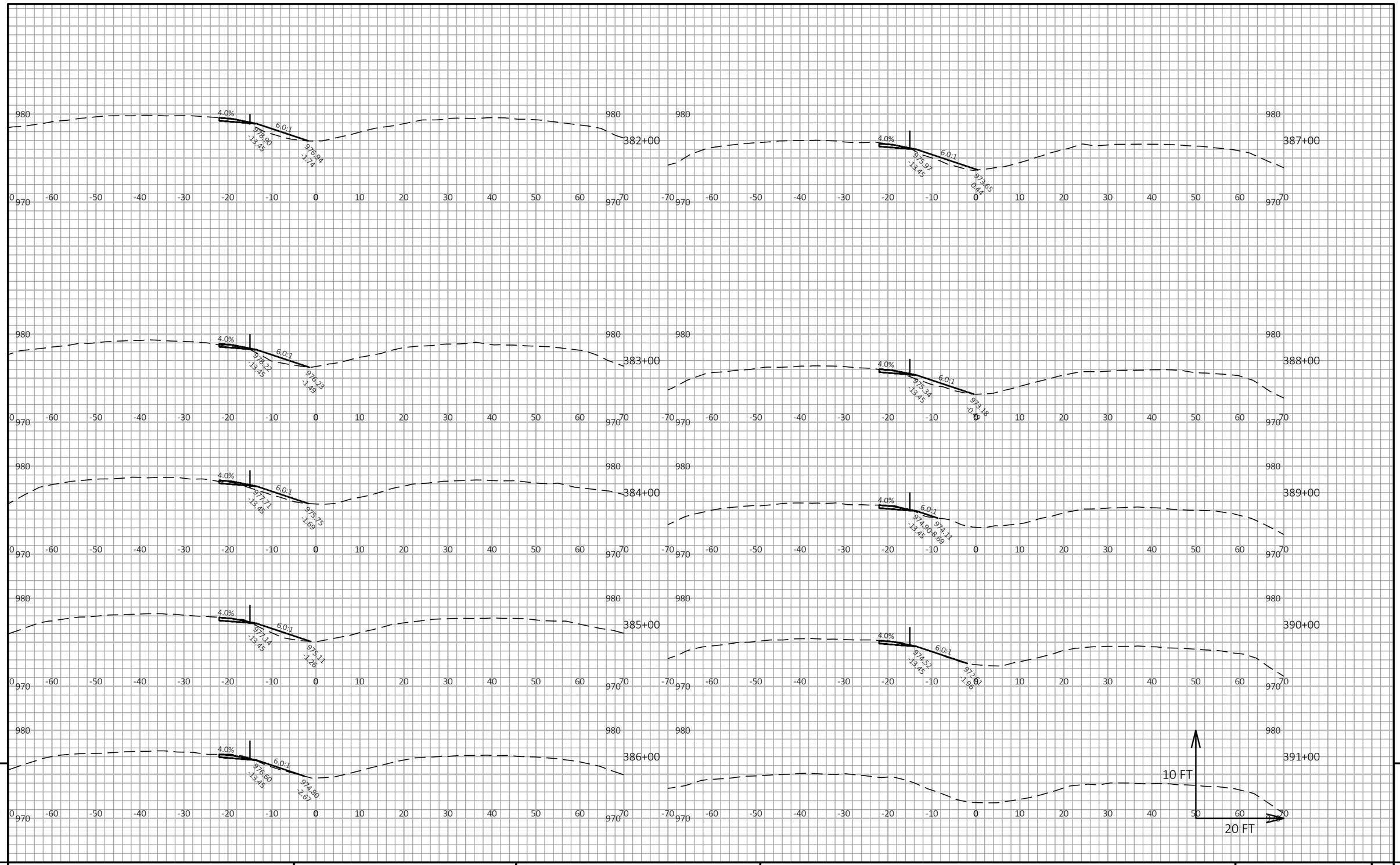
9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 2ND QUARTER	SHEET 740	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 2 OF 4.DWG
LAYOUT NAME - 2 6

PLOT DATE : 3/23/2020 2:56 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

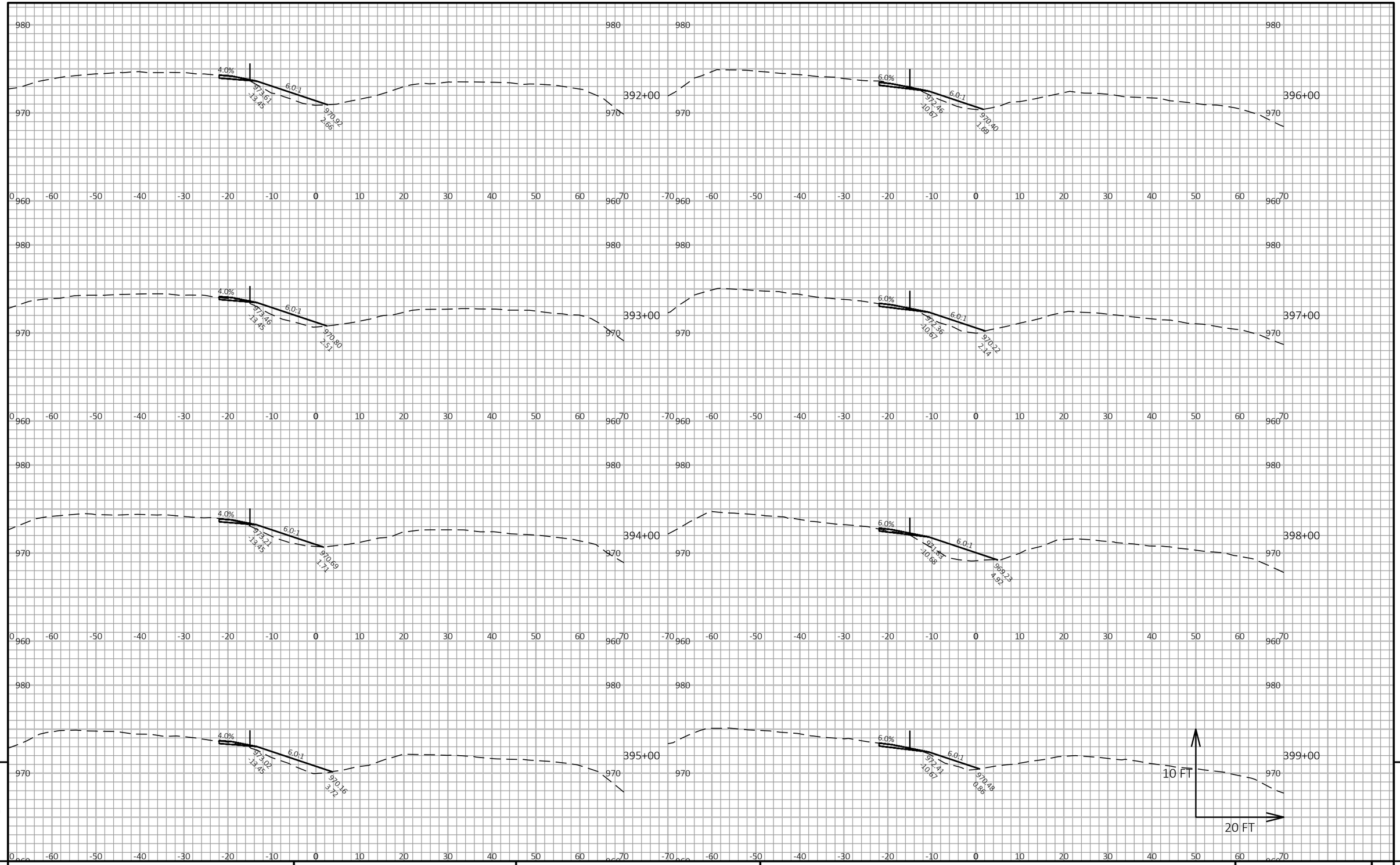
9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 2ND QUARTER	SHEET 741	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 2 OF 4.DWG
LAYOUT NAME - 2 7

PLOT DATE : 3/23/2020 2:57 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

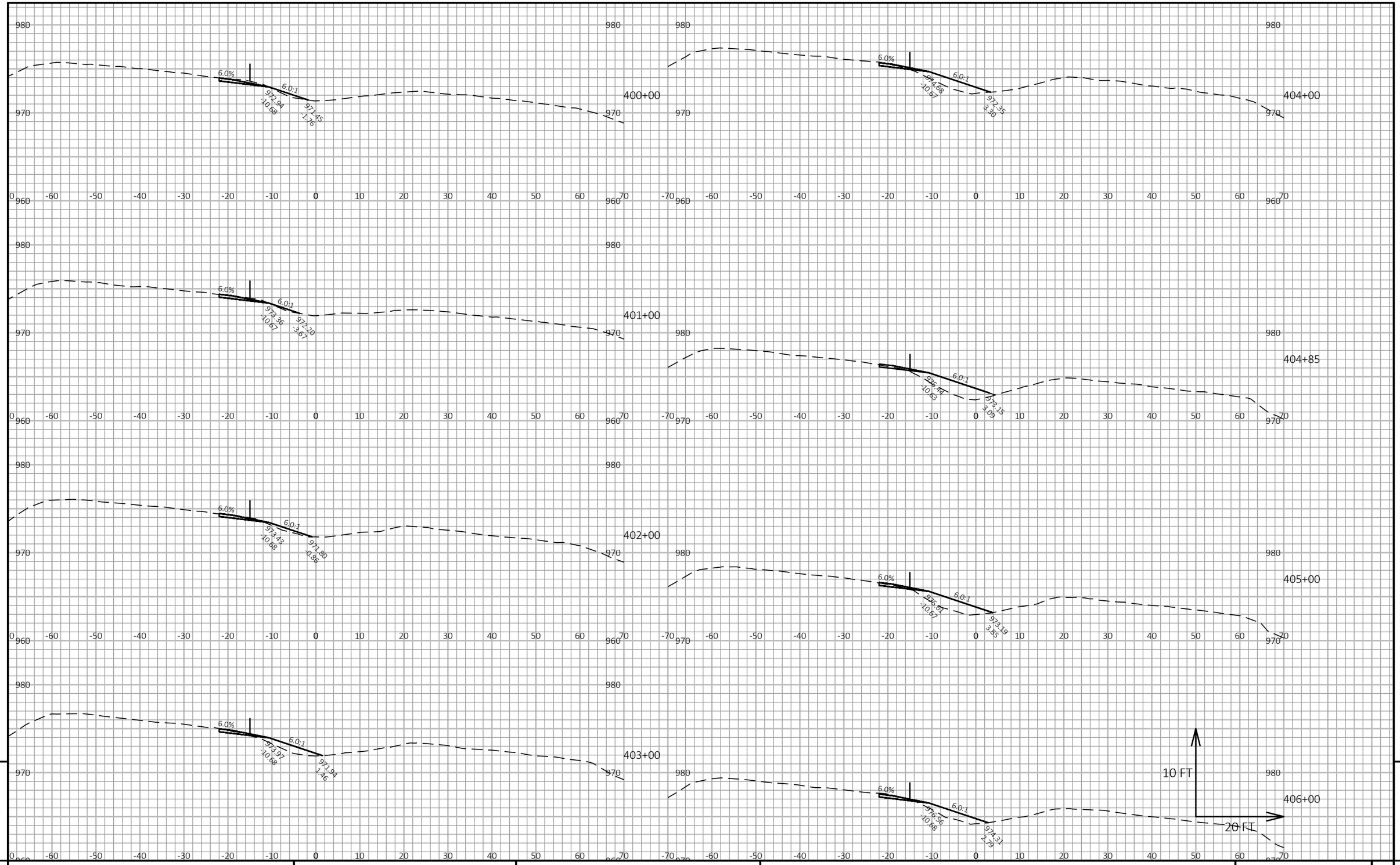
9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 2ND QUARTER	SHEET 742	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 2 OF 4.DWG
LAYOUT NAME - 2 8

PLOT DATE : 3/23/2020 2:58 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

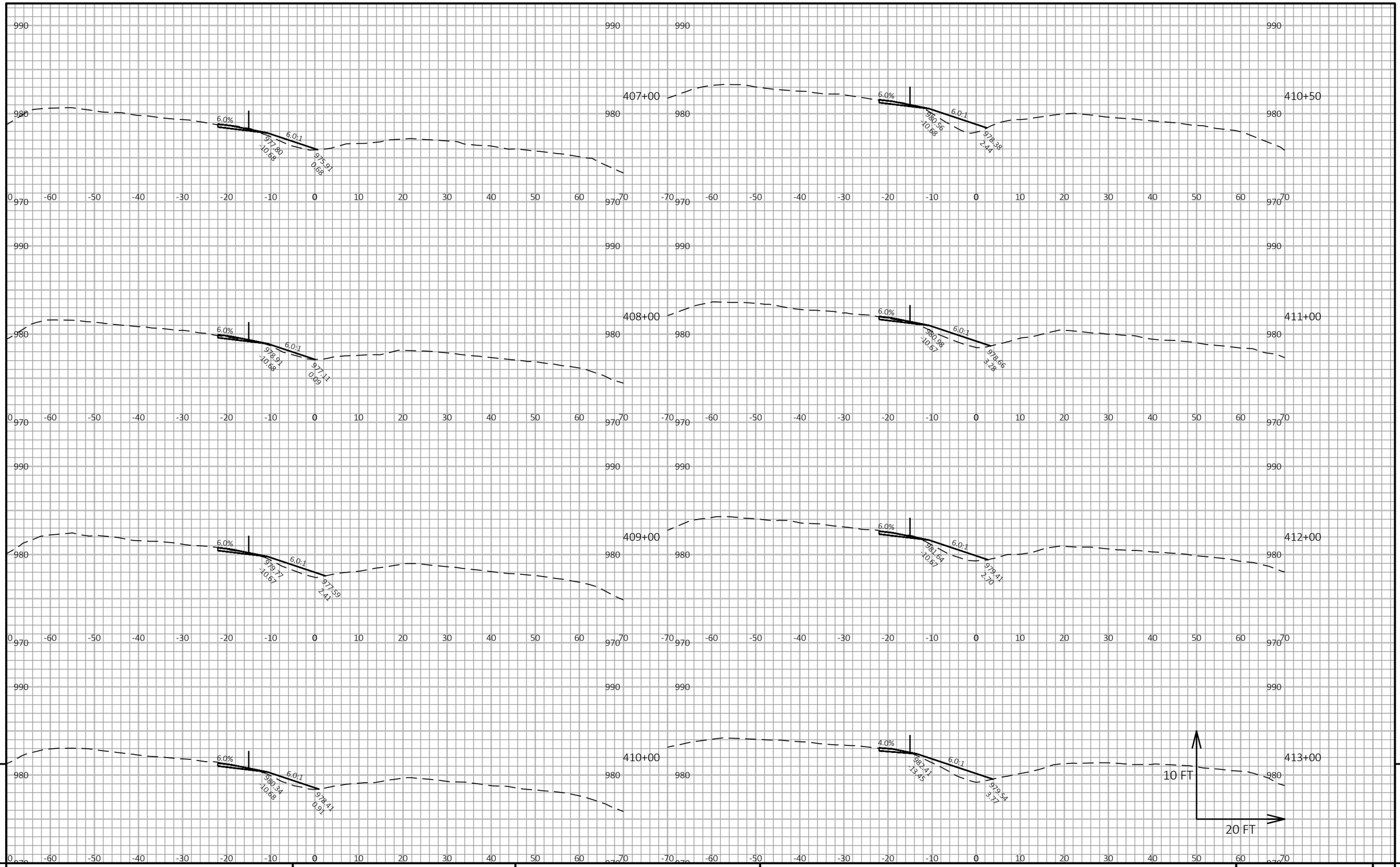
9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 2ND QUARTER	SHEET 743	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 2 OF 4.DWG
LAYOUT NAME - 2 9

PLOT DATE : 3/23/2020 2:59 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

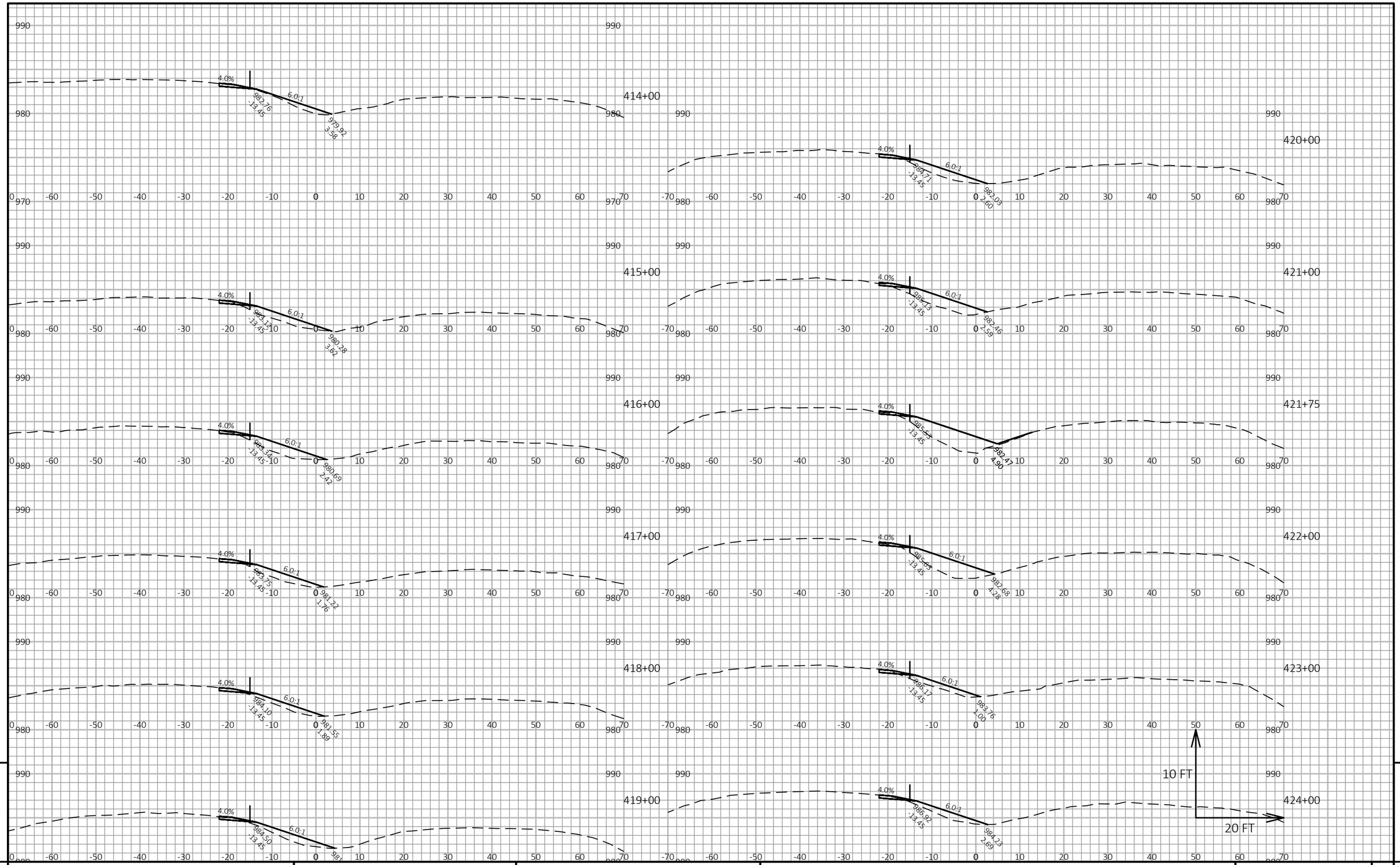
9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 2ND QUARTER	SHEET 744	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 2 OF 4.DWG
LAYOUT NAME - 2 10

PLOT DATE : 3/23/2020 3:00 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

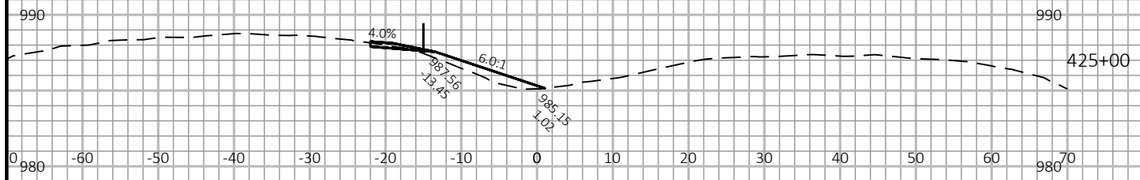
9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 2ND QUARTER	SHEET 745	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 2 OF 4.DWG
LAYOUT NAME - 2 11

PLOT DATE : 3/23/2020 3:01 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

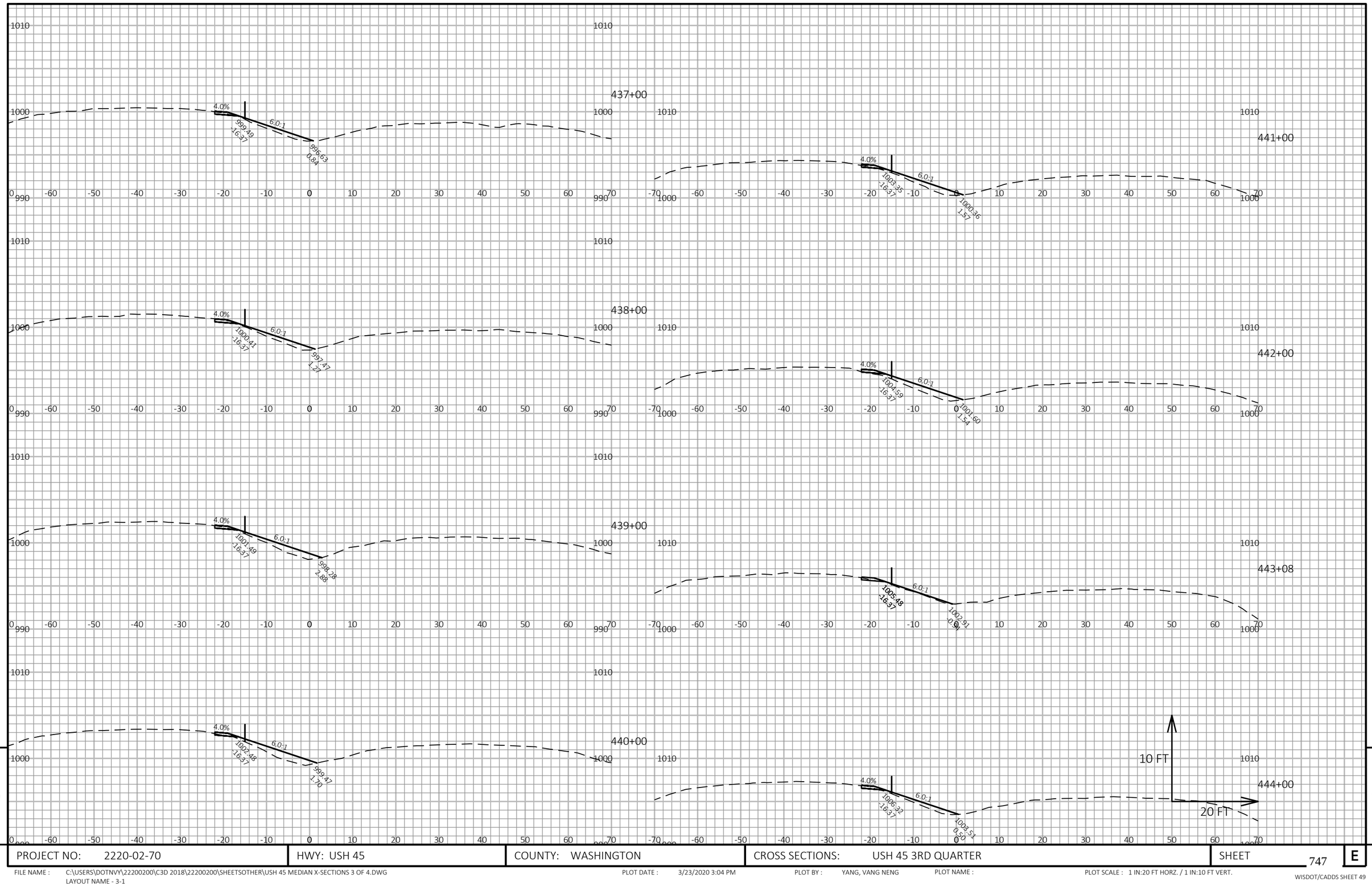
10 FT

20 FT

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 2ND QUARTER	SHEET 746	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 2 OF 4.DWG
LAYOUT NAME - 2 12

PLOT DATE : 3/23/2020 3:02 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



9

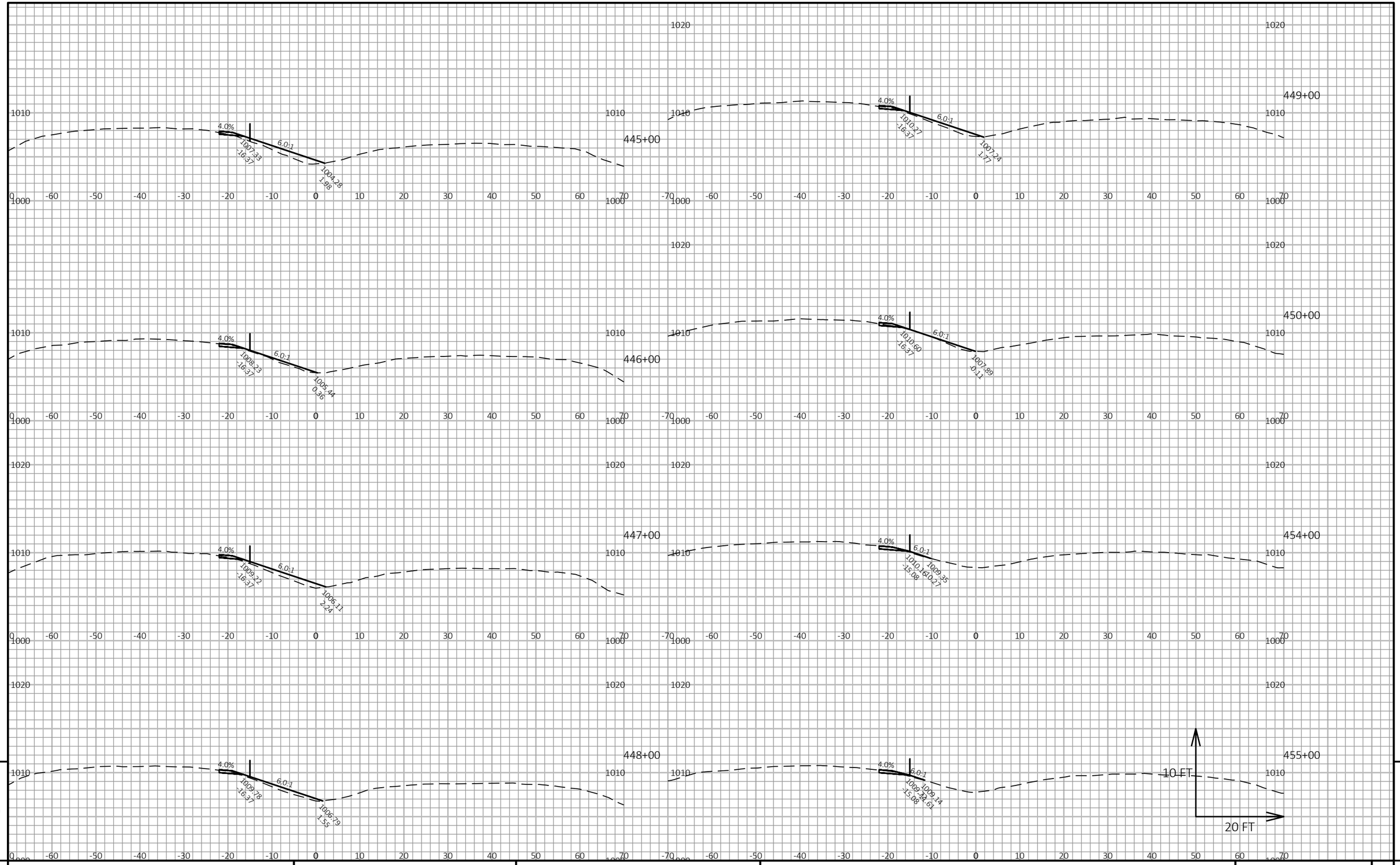
9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 3RD QUARTER	SHEET 747	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 3 OF 4.DWG
LAYOUT NAME - 3-1

PLOT DATE : 3/23/2020 3:04 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

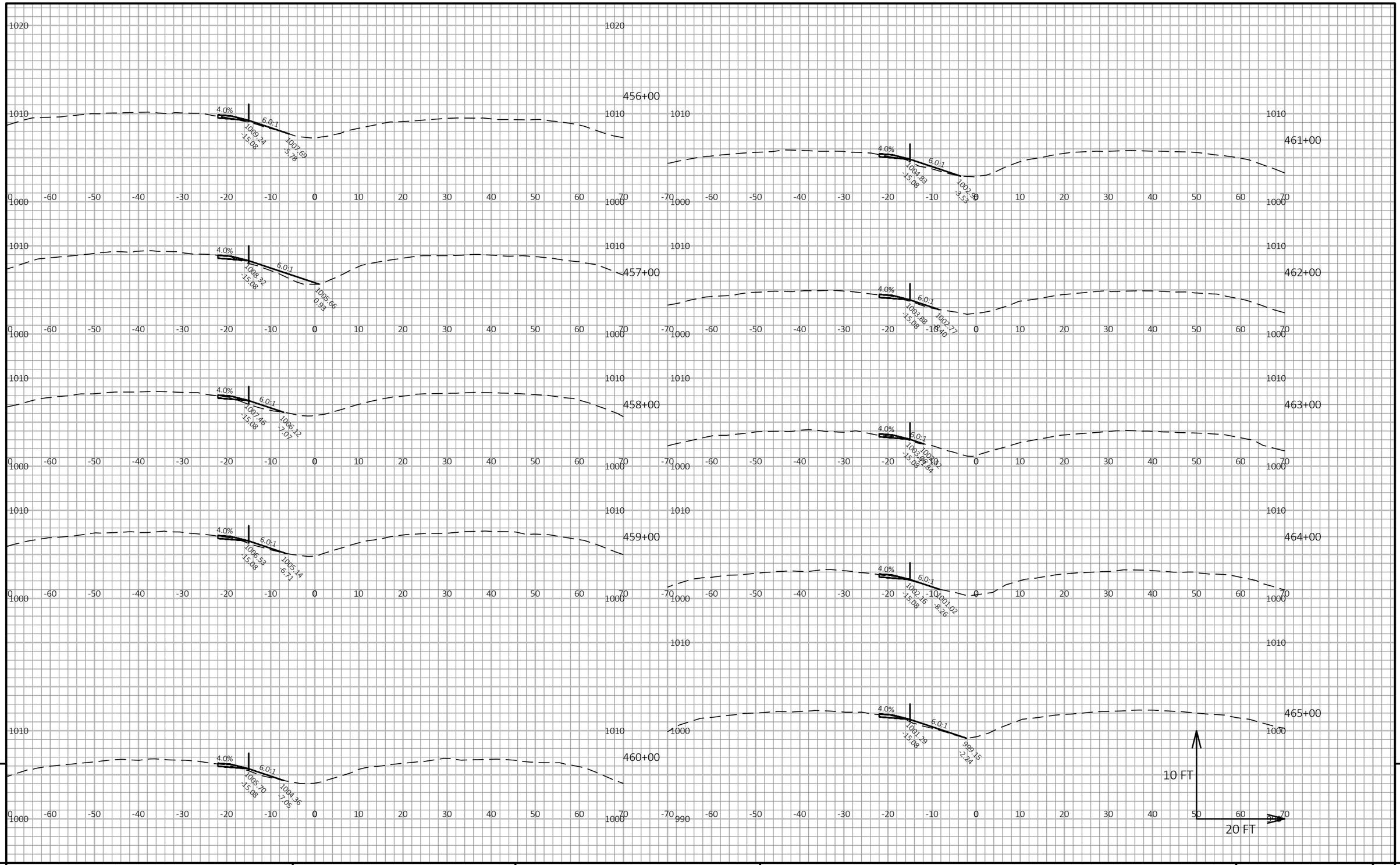
9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 3RD QUARTER	SHEET 748	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 3 OF 4.DWG
LAYOUT NAME - 3-2

PLOT DATE : 3/23/2020 3:05 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

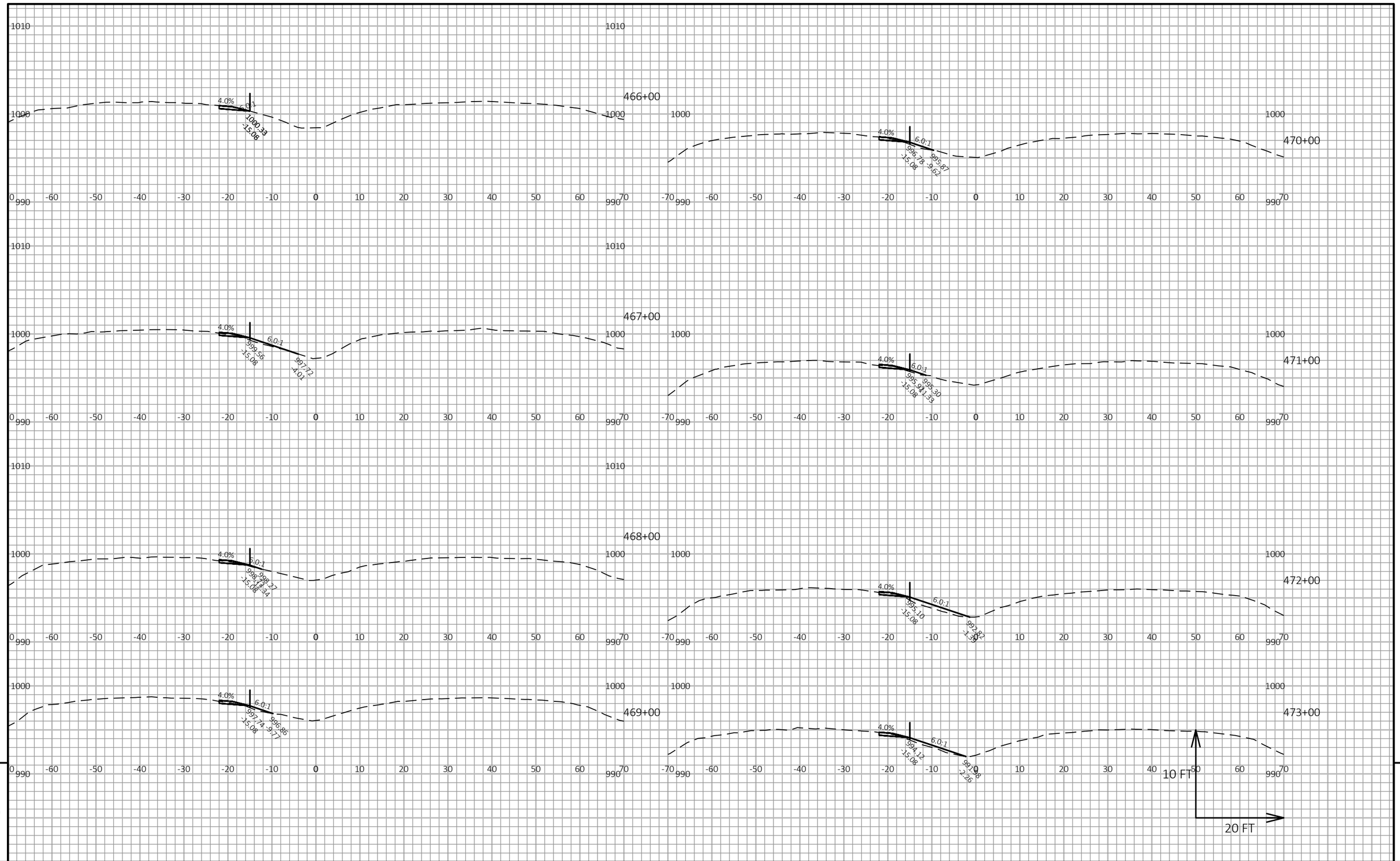
9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 3RD QUARTER	SHEET 749	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 3 OF 4.DWG
LAYOUT NAME - 3-3

PLOT DATE : 3/23/2020 3:06 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

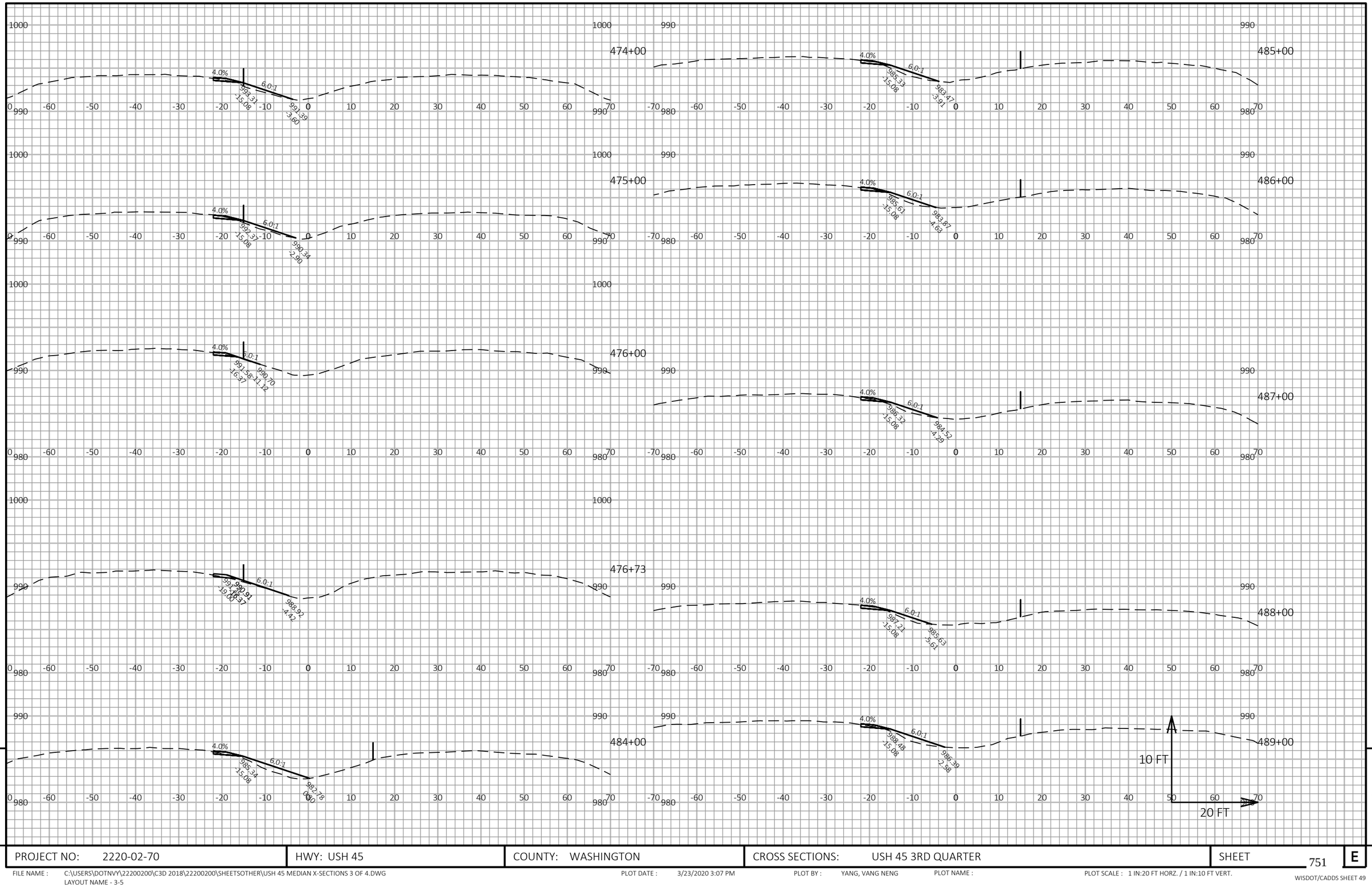
9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 3RD QUARTER	SHEET 750	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 3 OF 4.DWG
LAYOUT NAME - 3-4

PLOT DATE : 3/23/2020 3:06 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

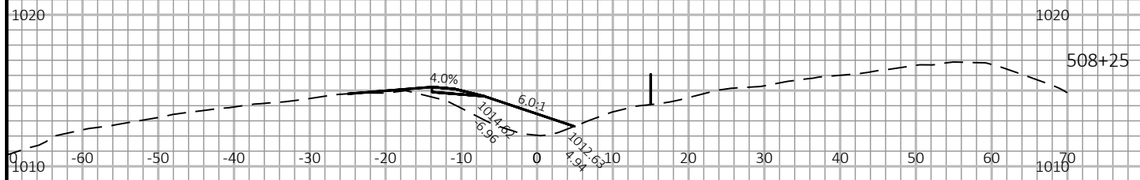
9

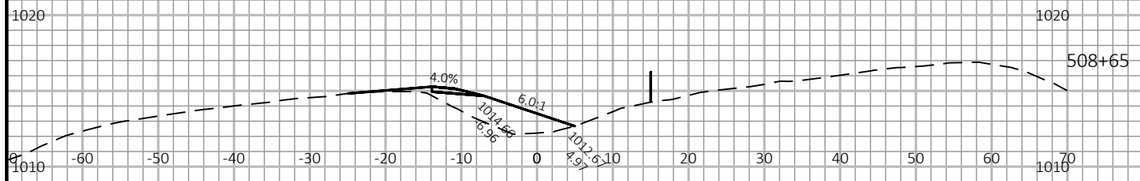
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 3RD QUARTER	SHEET 751	E

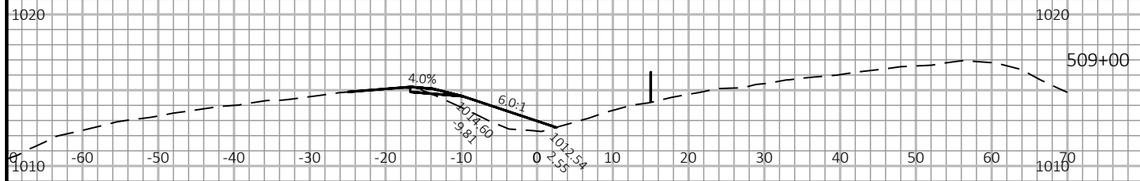
FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 3 OF 4.DWG
LAYOUT NAME - 3-5

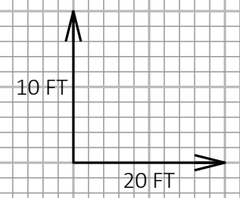
PLOT DATE : 3/23/2020 3:07 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49









9

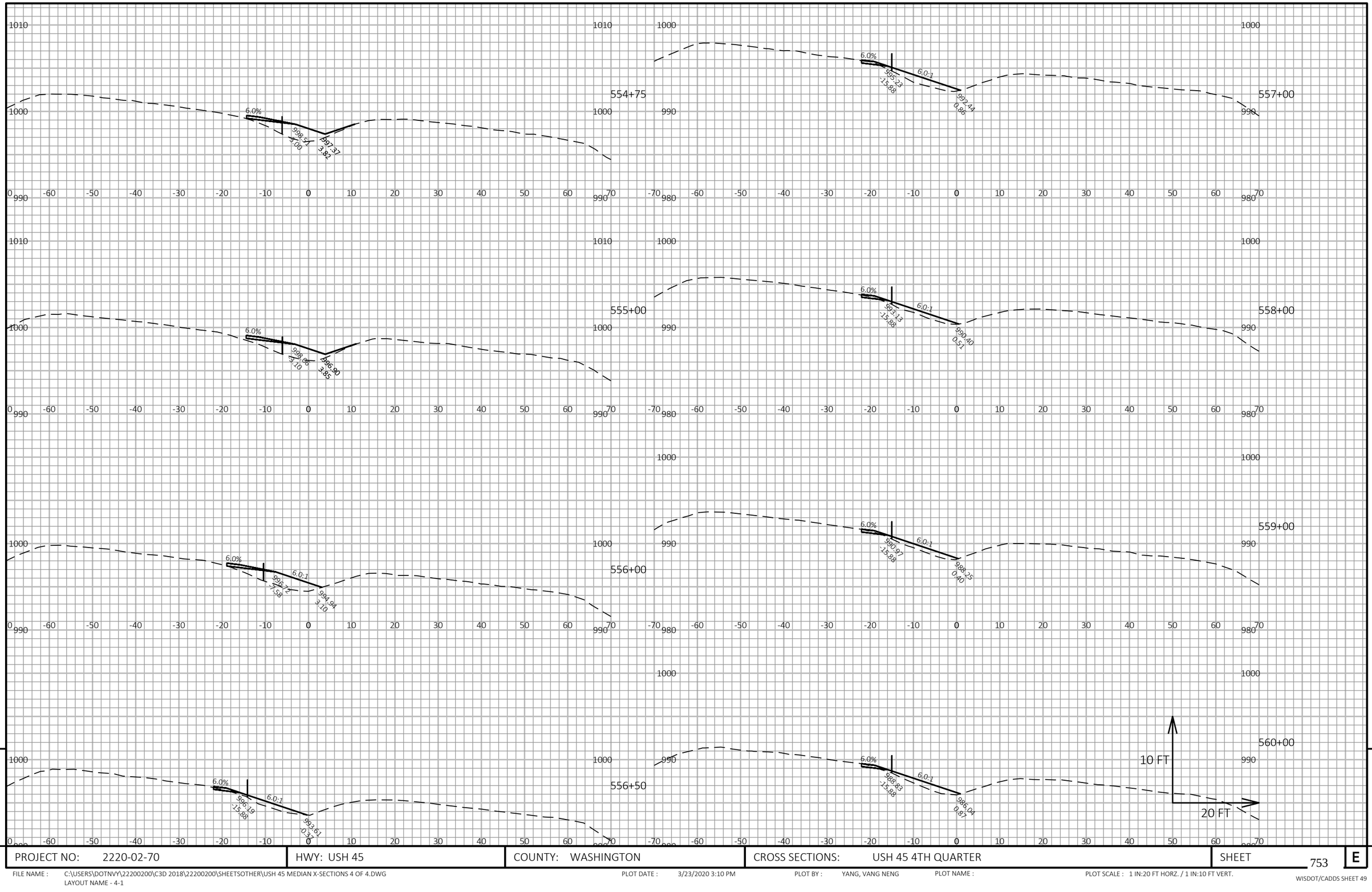
9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 3RD QUARTER	SHEET 752	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 3 OF 4.DWG
LAYOUT NAME - 3-6

PLOT DATE : 3/23/2020 3:08 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



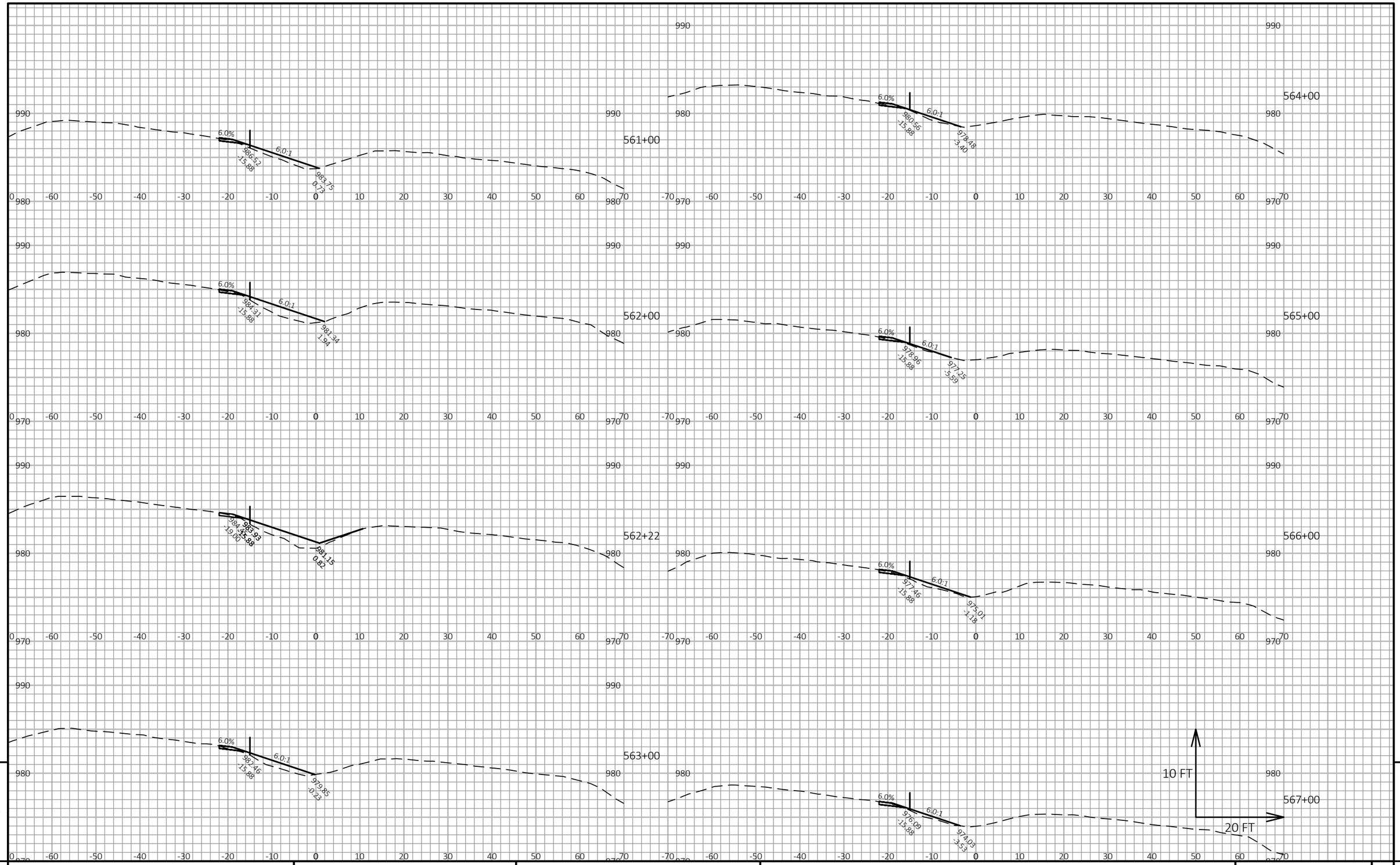
9

9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 4TH QUARTER	SHEET 753	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 4 OF 4.DWG
LAYOUT NAME - 4-1

PLOT DATE : 3/23/2020 3:10 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



9

9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 4TH QUARTER	SHEET 754	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 4 OF 4.DWG
LAYOUT NAME - 4-2

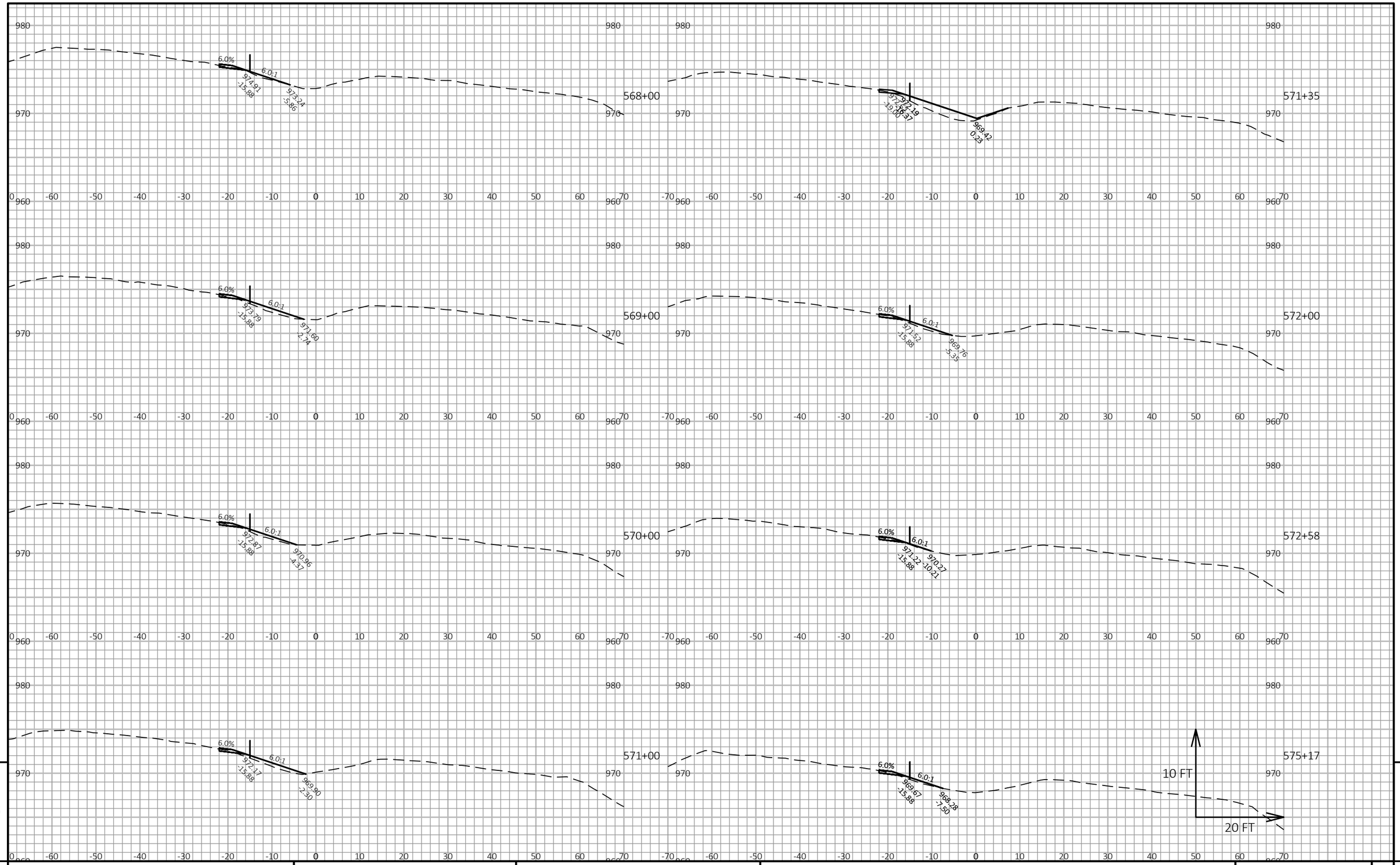
PLOT DATE : 3/23/2020 3:11 PM

PLOT BY : YANG, VANG NENG

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 4TH QUARTER	SHEET 755	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 4 OF 4.DWG
LAYOUT NAME - 4-3

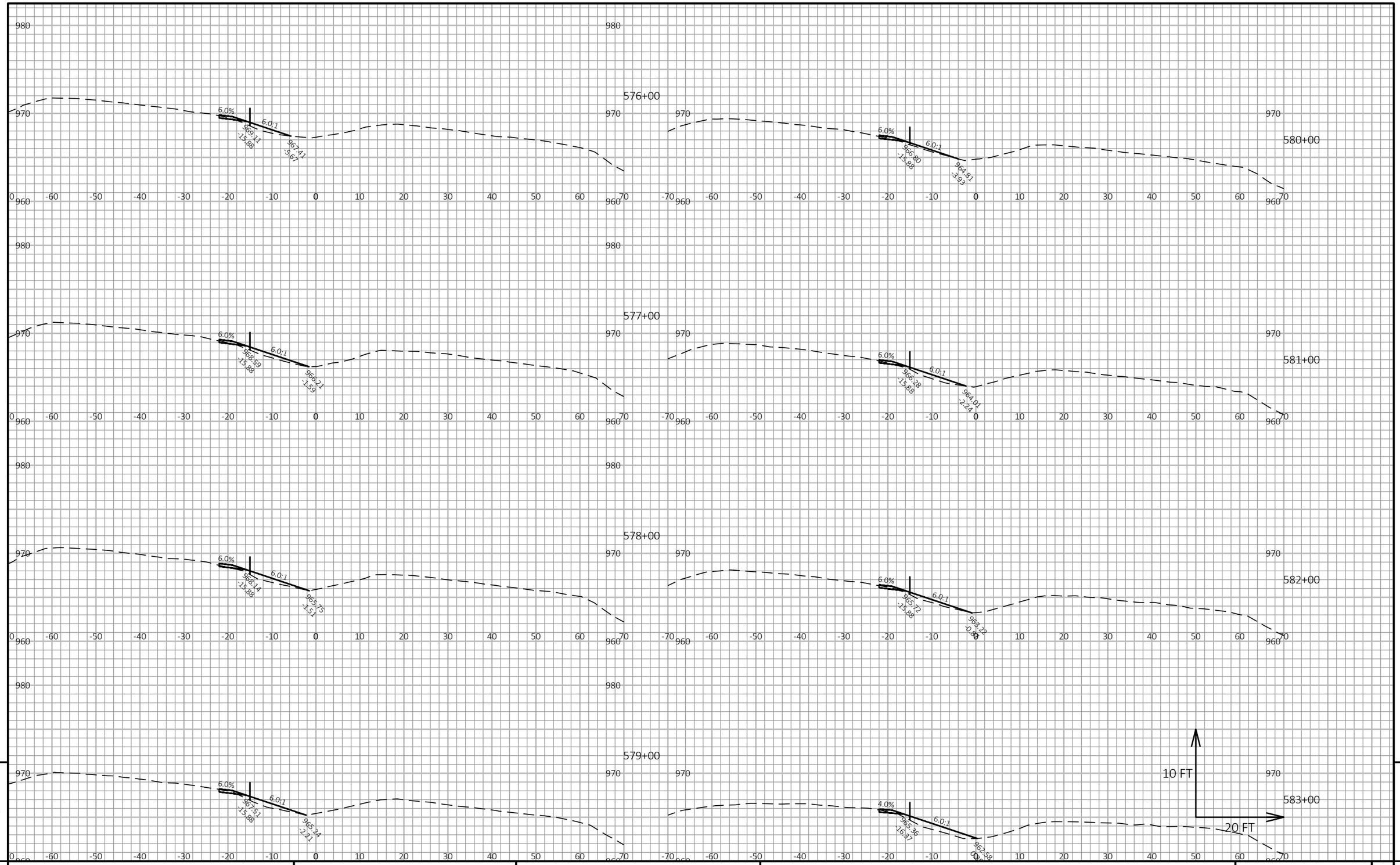
PLOT DATE : 3/23/2020 3:12 PM

PLOT BY : YANG, VANG NENG

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



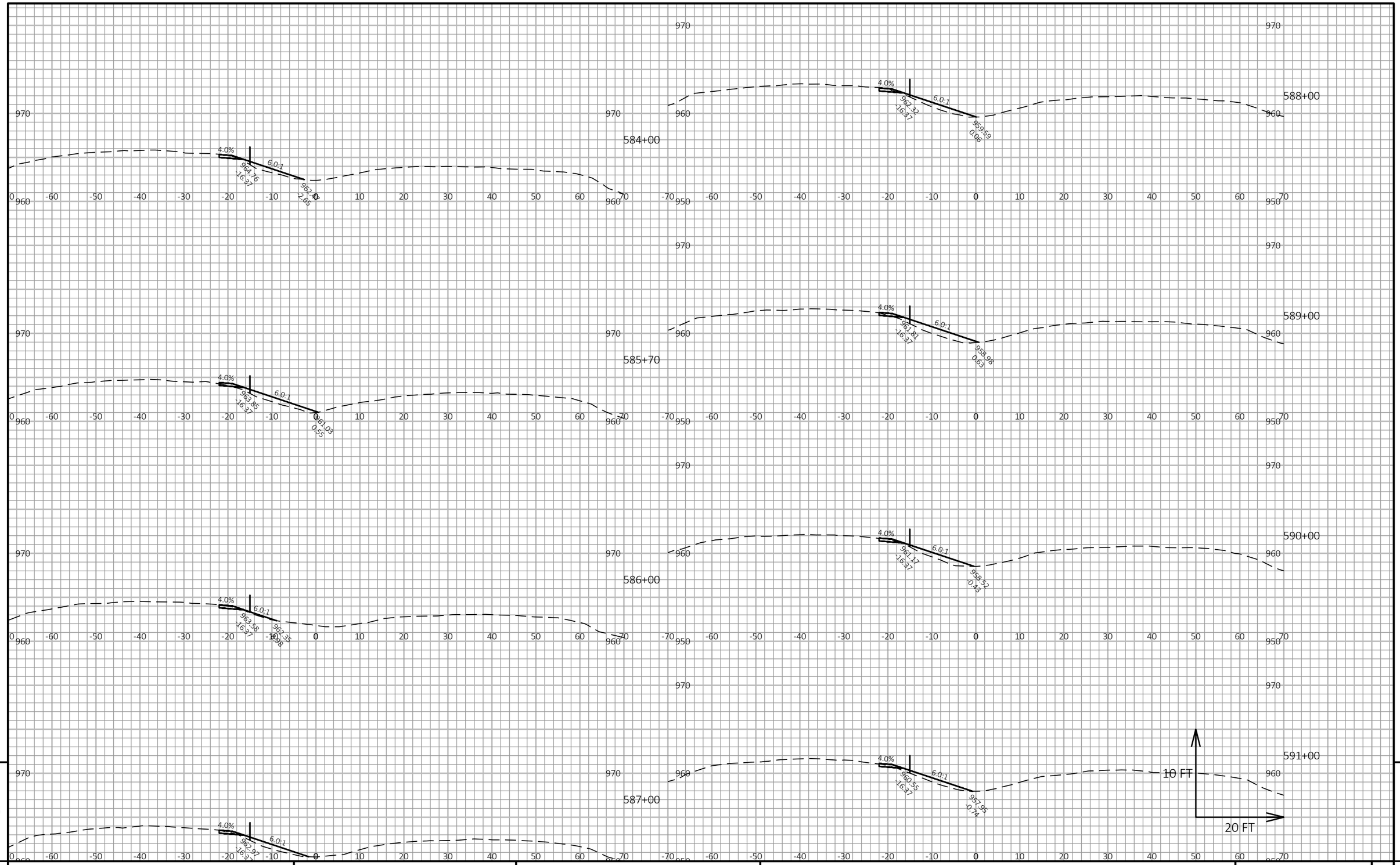
9

9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 4TH QUARTER	SHEET 756	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 4 OF 4.DWG
LAYOUT NAME - 4-4

PLOT DATE : 3/23/2020 3:13 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



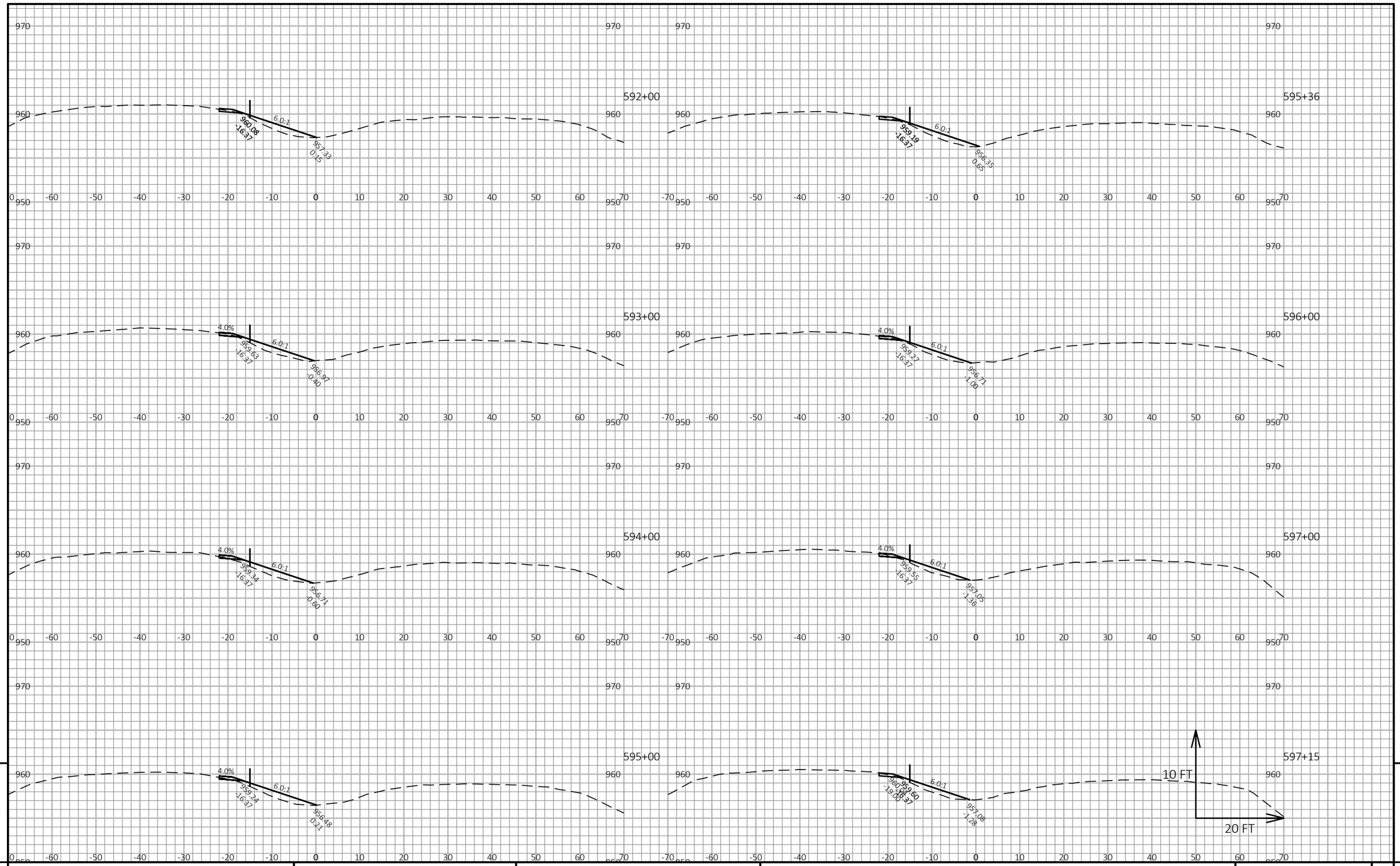
9

9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 4TH QUARTER	SHEET 757	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 4 OF 4.DWG
LAYOUT NAME - 4-5

PLOT DATE : 3/23/2020 3:14 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



9

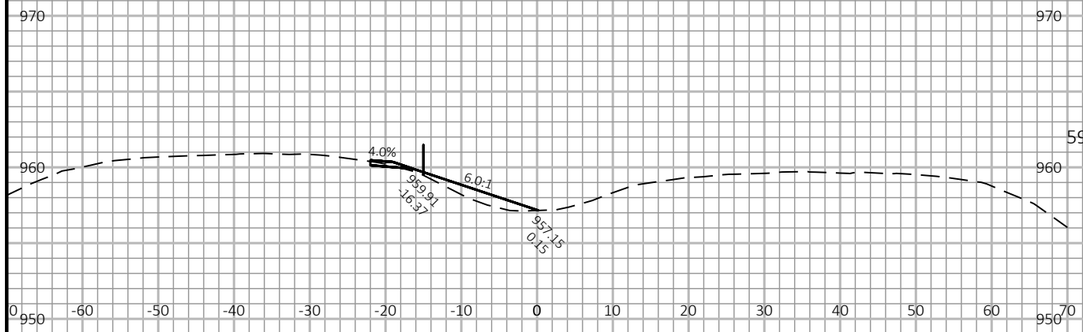
9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 4TH QUARTER	SHEET 758	E

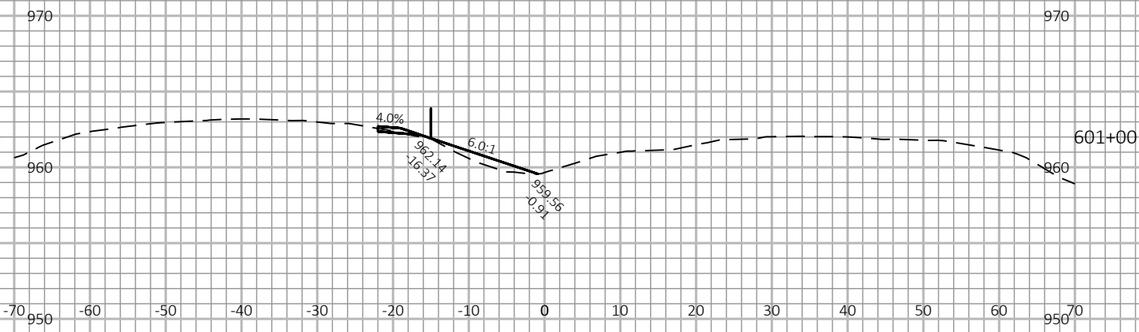
FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 4 OF 4.DWG
LAYOUT NAME - 4-6

PLOT DATE : 3/23/2020 3:15 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

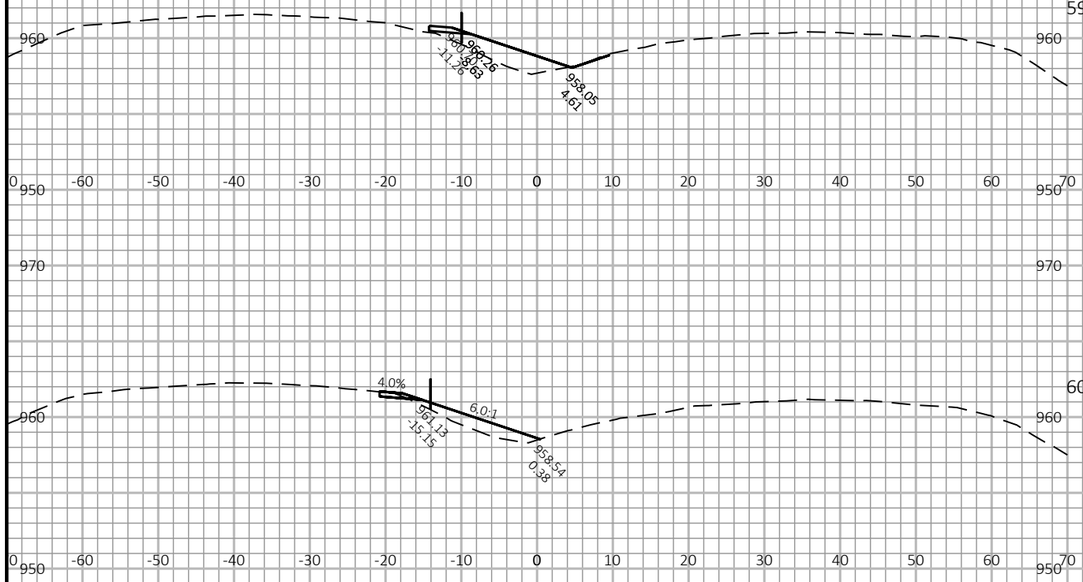
598+00



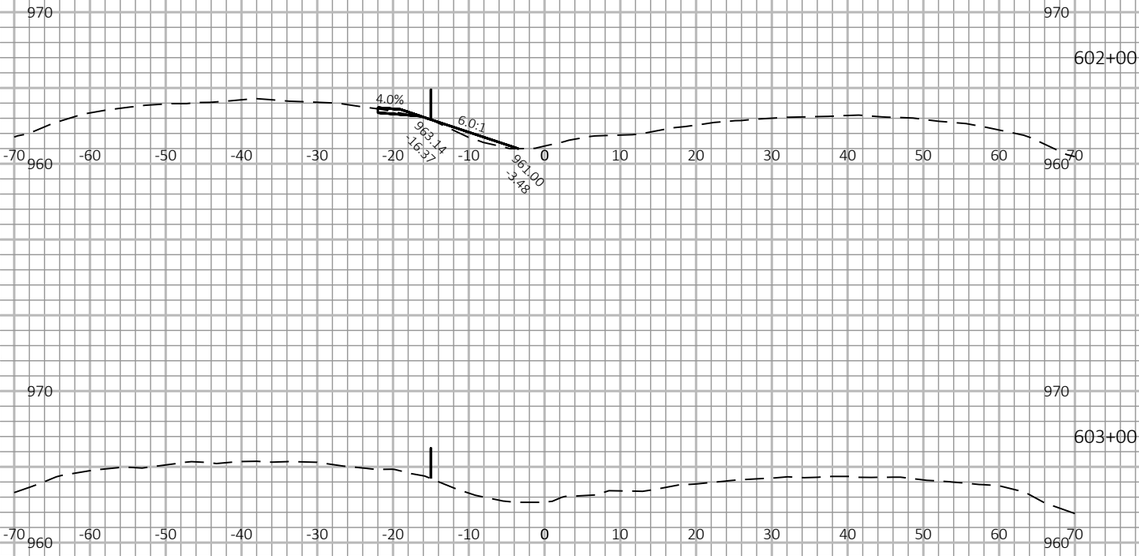
601+00



599+13



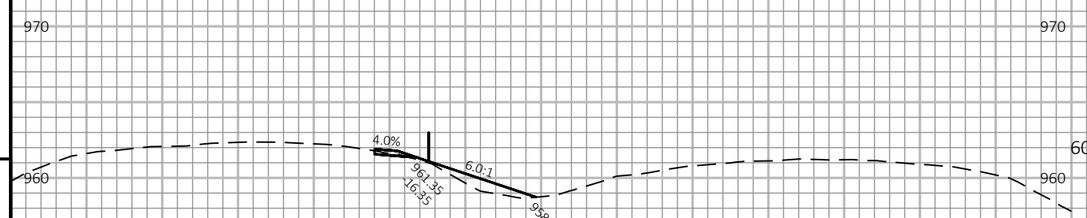
602+00



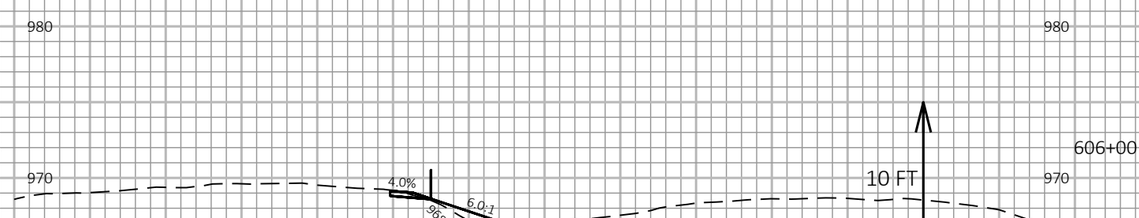
600+00

603+00

600+16



606+00



9

9

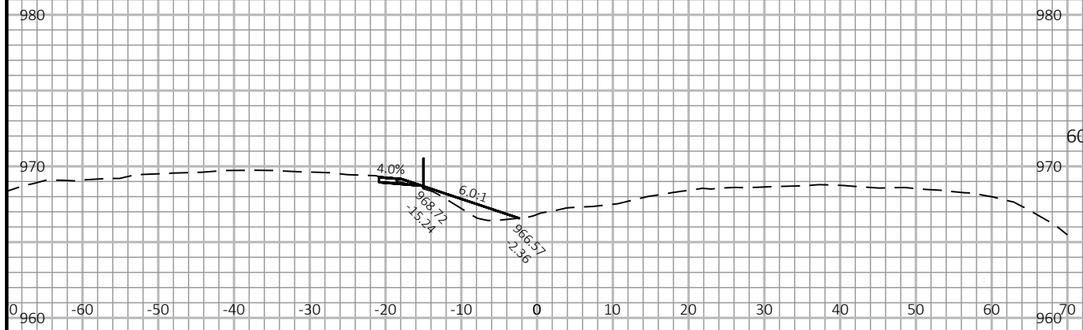
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 4TH QUARTER	SHEET 759	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 4 OF 4.DWG
LAYOUT NAME - 4-7

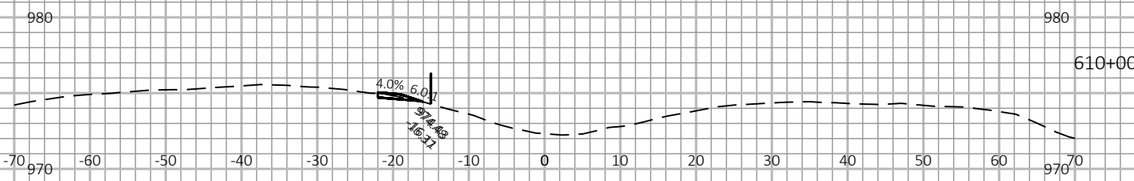
PLOT DATE : 3/23/2020 3:16 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

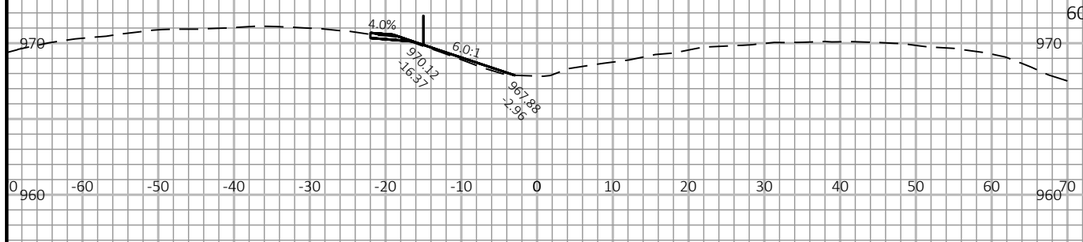
606+05



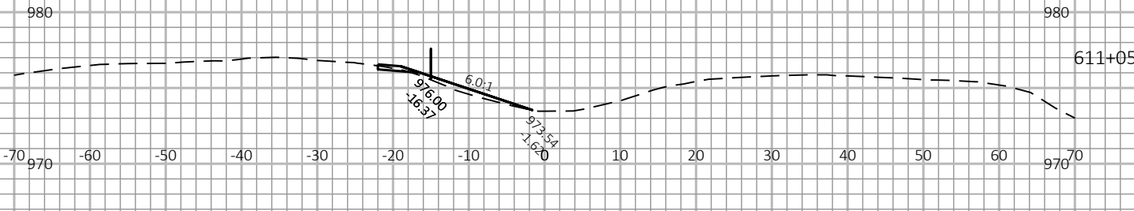
610+00



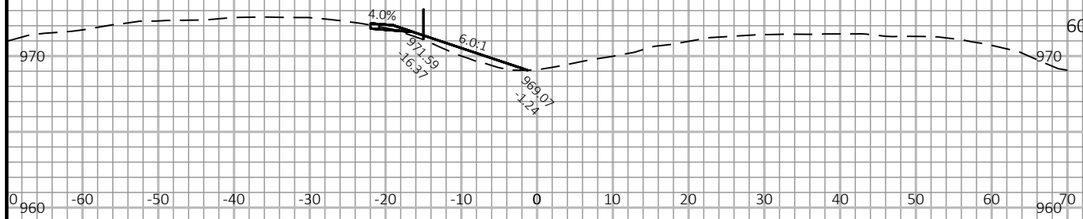
607+00



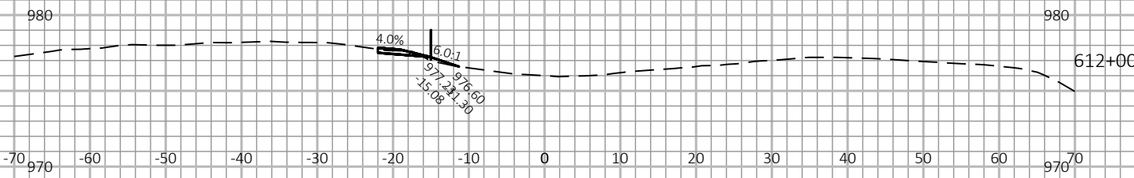
611+05



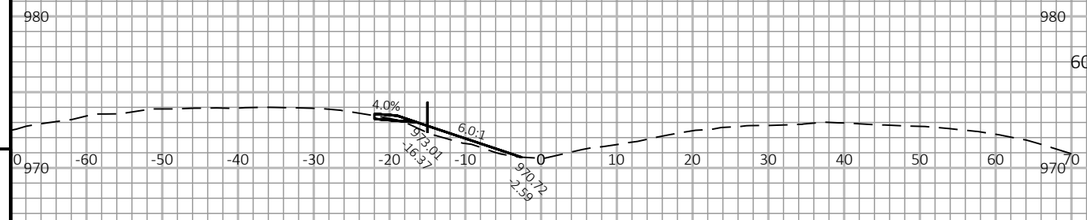
608+00



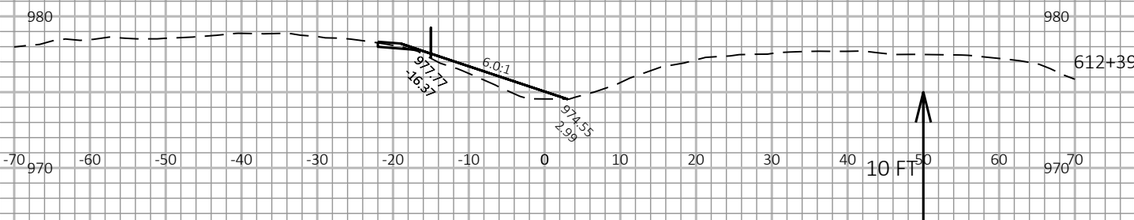
612+00



609+00



612+39



10 FT

20 FT

9

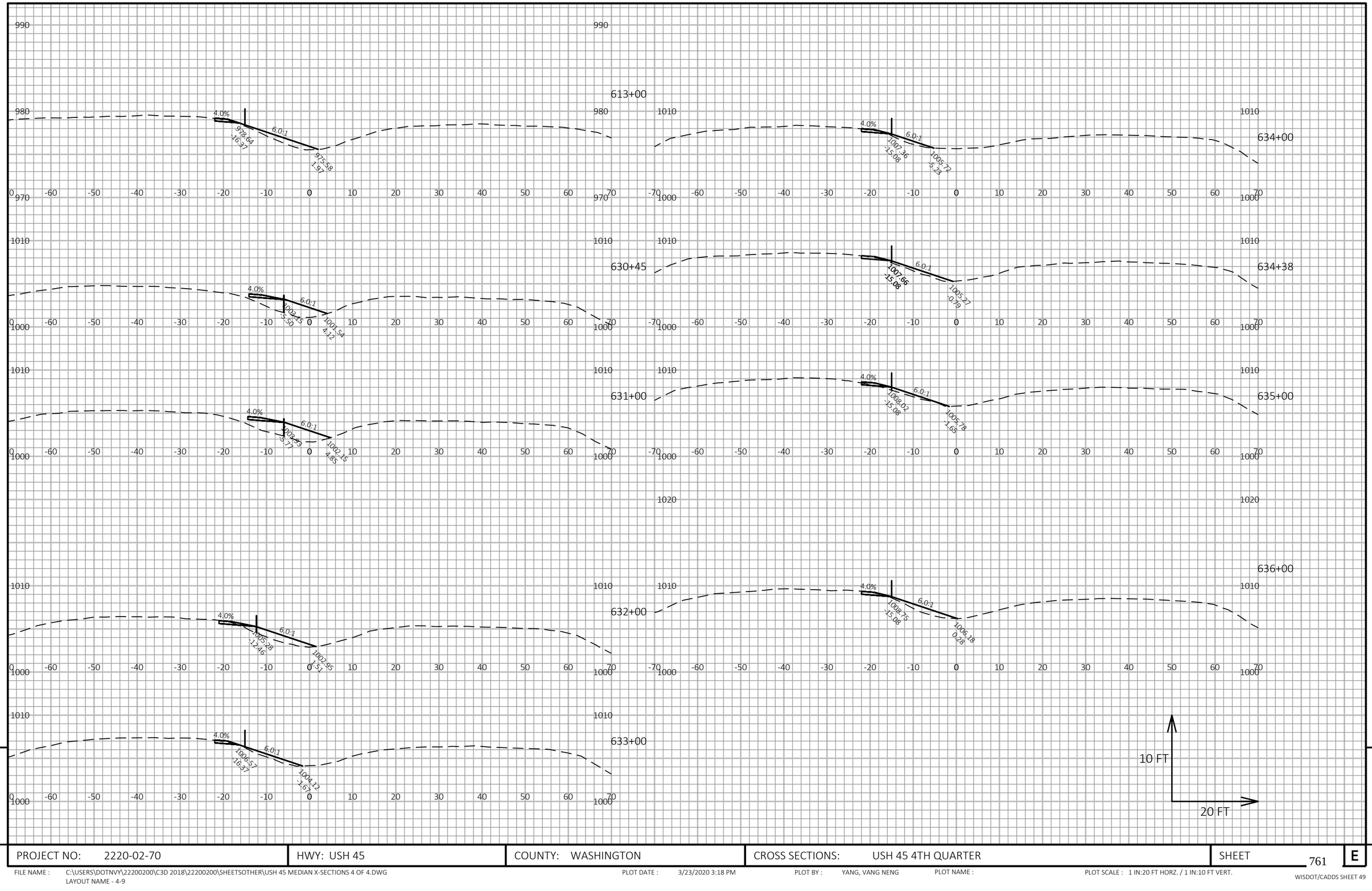
9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 4TH QUARTER	SHEET 760	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 4 OF 4.DWG
LAYOUT NAME - 4-8

PLOT DATE : 3/23/2020 3:17 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

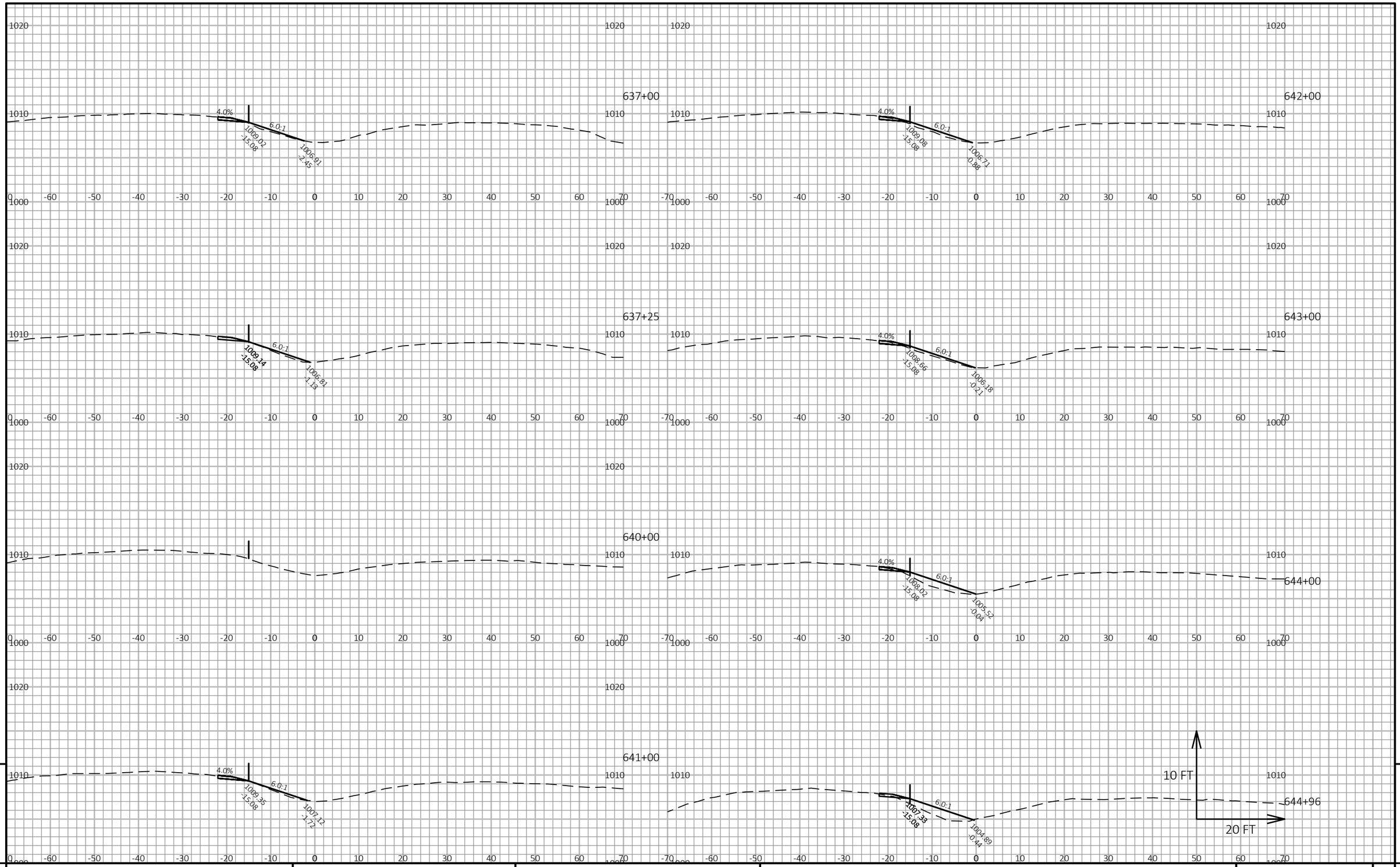


PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 4TH QUARTER	SHEET 761	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 4 OF 4.DWG
LAYOUT NAME - 4-9

PLOT DATE : 3/23/2020 3:18 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 4TH QUARTER	SHEET 762	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 4 OF 4.DWG
LAYOUT NAME - 4-10

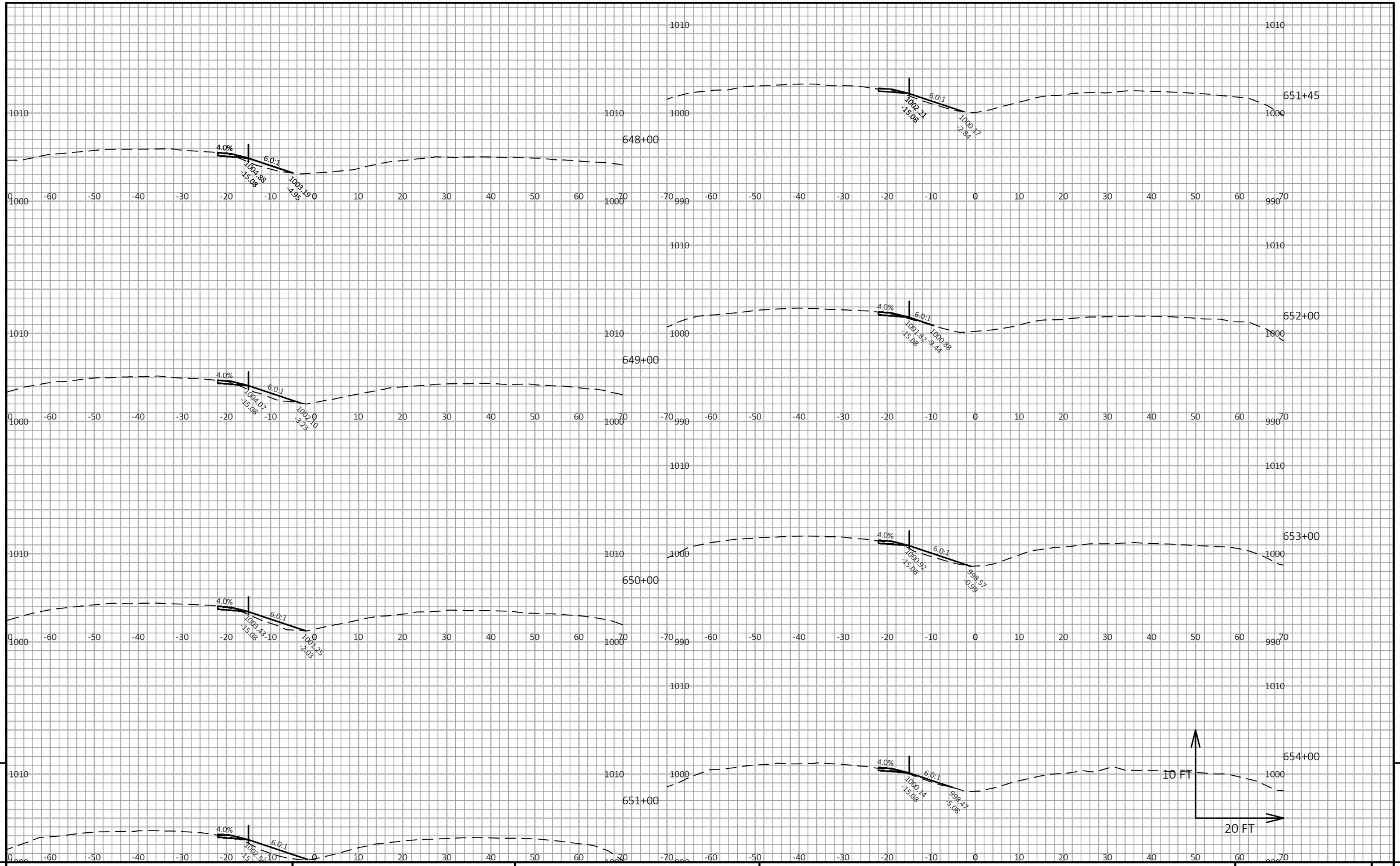
PLOT DATE : 3/23/2020 3:19 PM

PLOT BY : YANG, VANG NENG

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

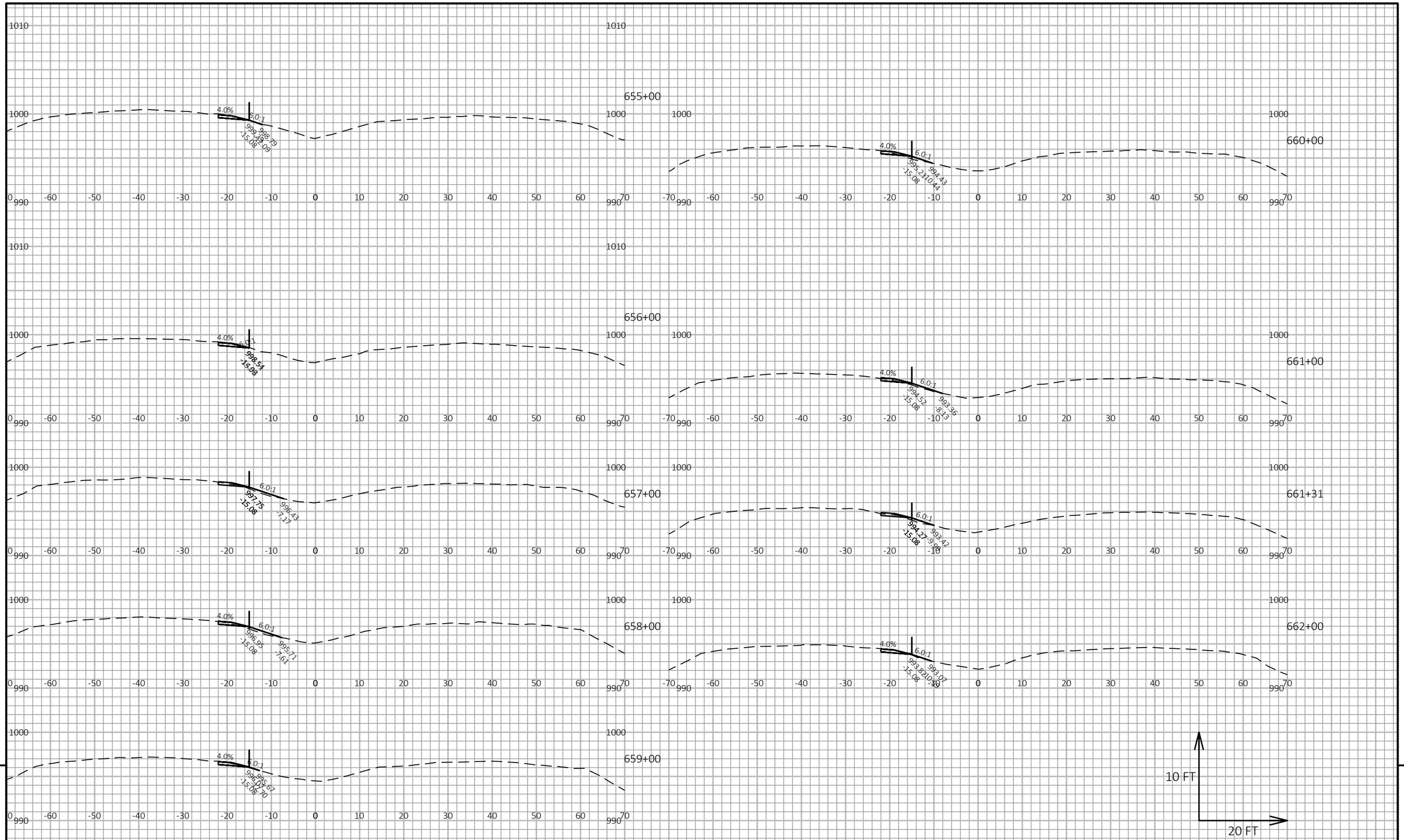
9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 4TH QUARTER	SHEET 763	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 4 OF 4.DWG
LAYOUT NAME - 4-11

PLOT DATE : 3/23/2020 3:20 PM PLOT BY : YANG, VANG NENG PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: USH 45 4TH QUARTER	SHEET 764	E

FILE NAME : C:\USERS\DOTNVY\22200200\C3D 2018\22200200\SHEETSOTHER\USH 45 MEDIAN X-SECTIONS 4 OF 4.DWG
LAYOUT NAME - 4-12

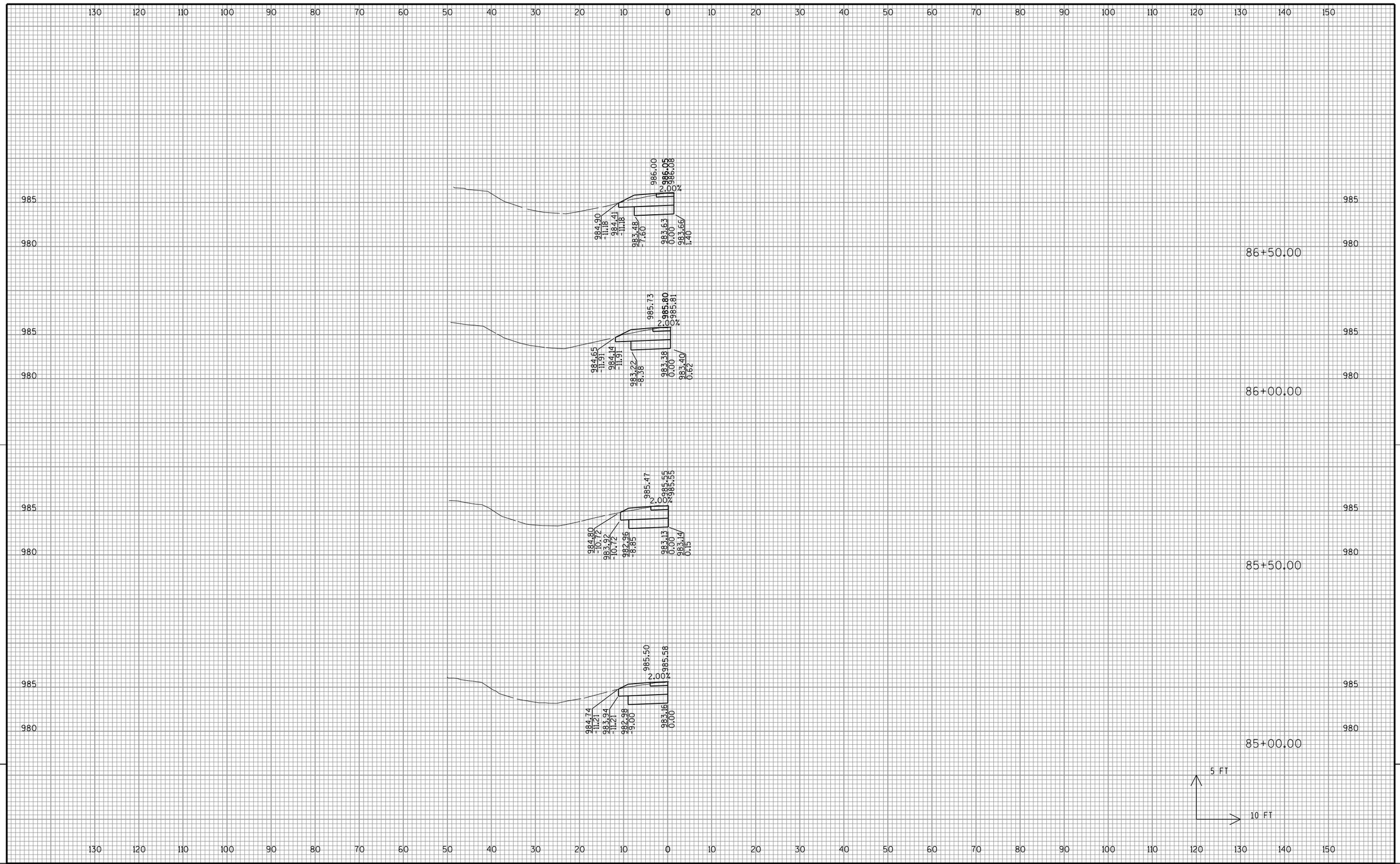
PLOT DATE : 3/23/2020 3:21 PM

PLOT BY : YANG, VANG NENG

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: SOUTH CROSSOVER	SHEET 765	E

130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

990
985

988.19
988.20
2.00%
988.40
986.27
-12.39
986.56
-11.23
985.68
-5.50
985.79
0.00
985.99
9.94

89+00.00

990
985

987.57
987.58
2.00%
987.73
985.69
-12.22
985.93
-11.23
985.05
-5.50
985.16
0.00
985.31
7.61

88+50.00

990
985

987.04
987.05
2.00%
987.16
985.55
-10.65
985.42
-10.65
984.52
-5.50
984.63
0.00
984.74
5.59

88+00.00

990
985

986.61
986.62
2.00%
986.70
985.56
-8.90
985.03
-8.90
984.10
-5.50
984.21
0.00
984.28
3.88

87+50.00

990
985
980

986.27
986.30
2.00%
986.35
985.08
-10.47
984.67
-10.47
983.75
-6.52
983.88
0.00
983.93
2.48

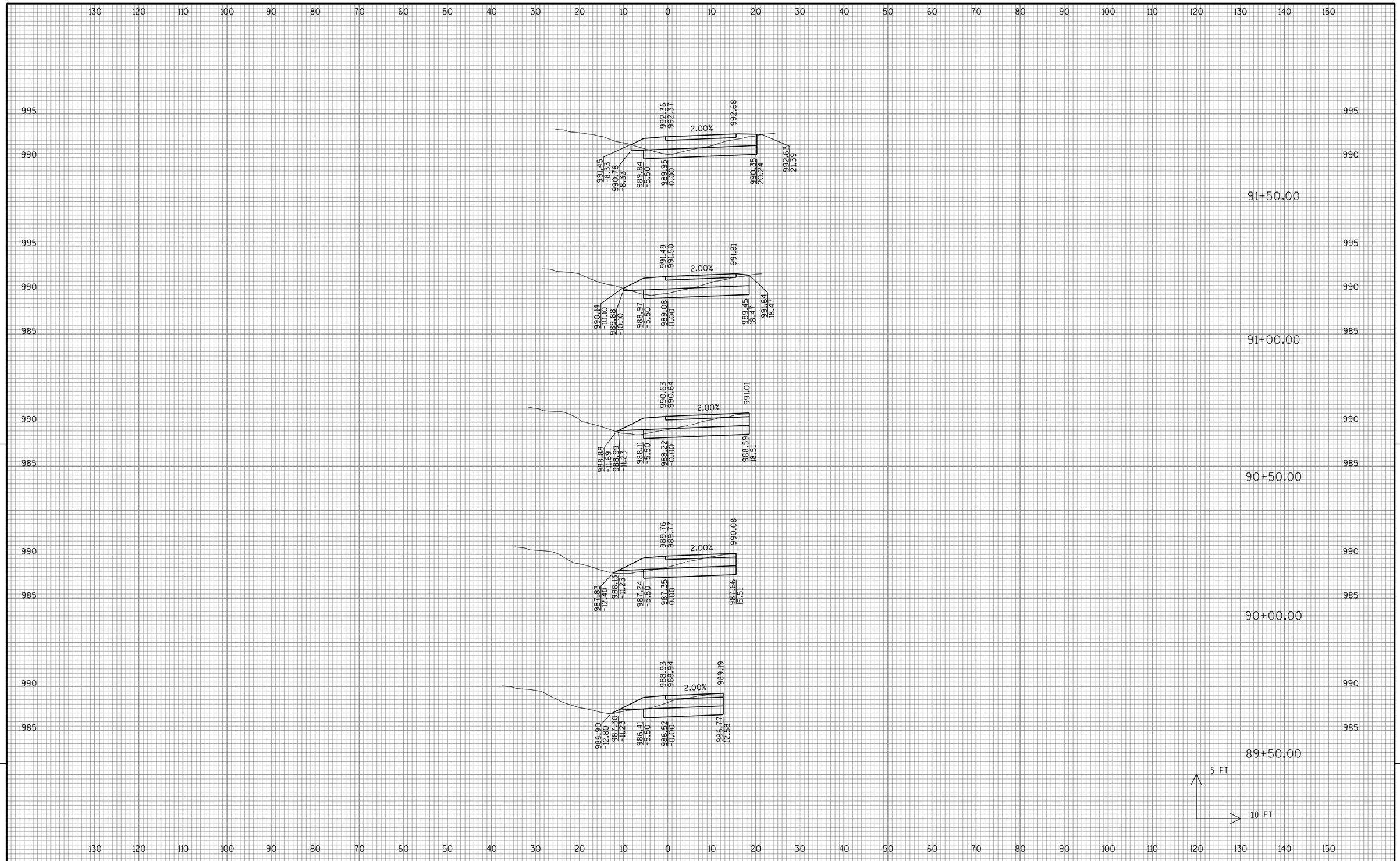
87+00.00

5 FT
10 FT

130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

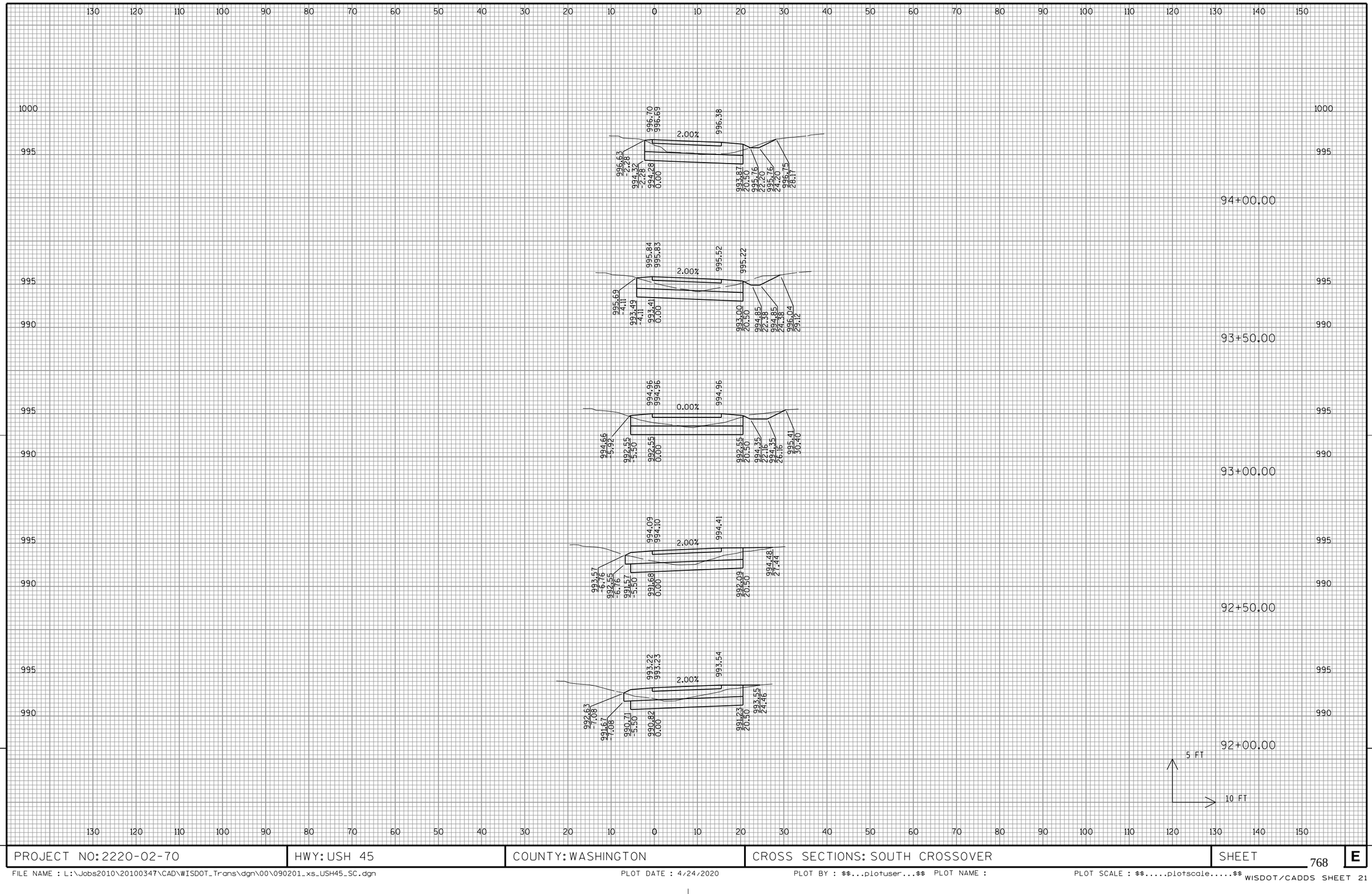
9 9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: SOUTH CROSSOVER	SHEET 766	E



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: SOUTH CROSSOVER	SHEET 767	E

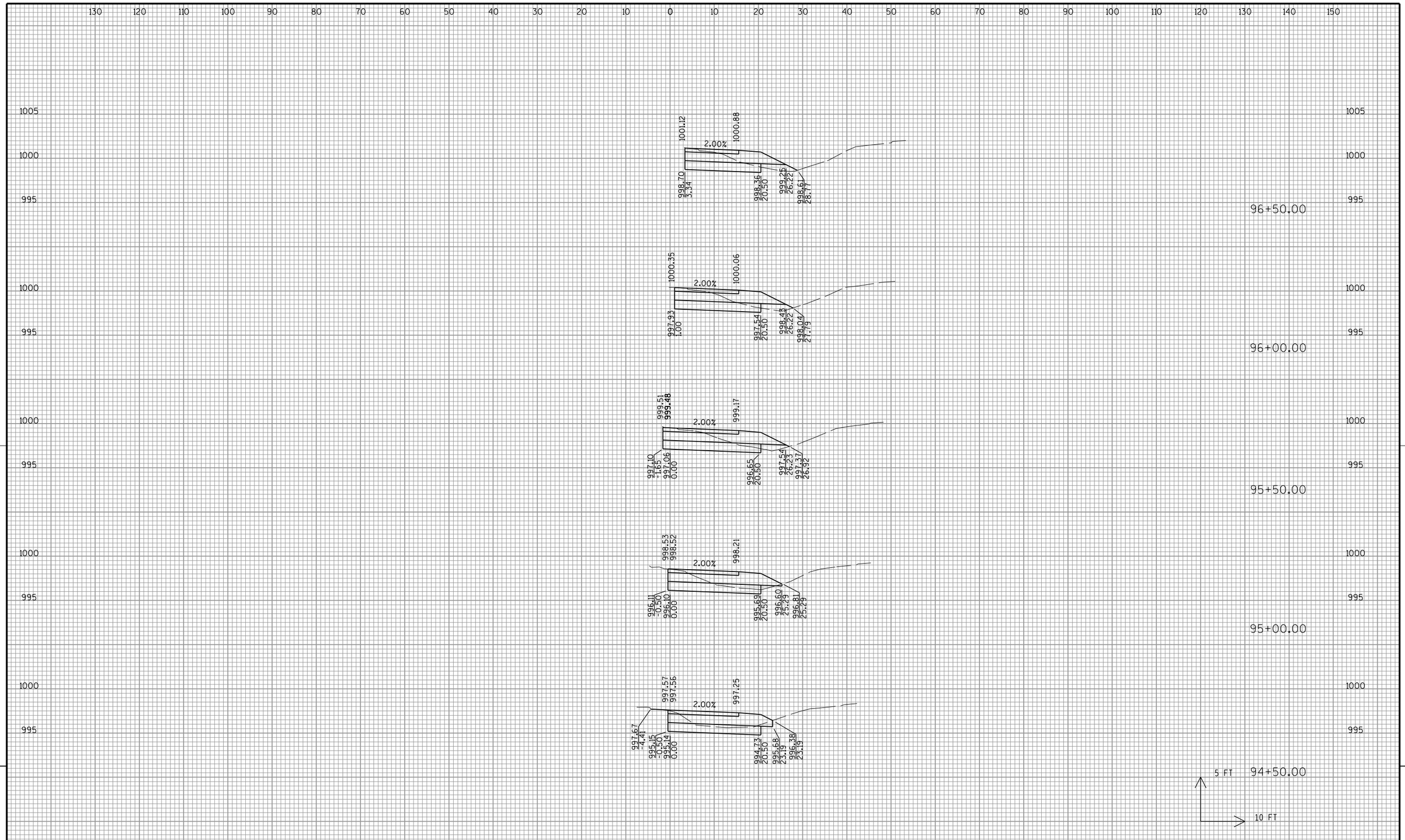
FILE NAME : L:\Jobs2010\20100347\CAD\WISDOT_Trans\dgn\00\090201_xs_USH45_SC.dgn PLOT DATE : 4/24/2020 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 21



9

9

PROJECT NO:2220-02-70	HWY:USH 45	COUNTY:WASHINGTON	CROSS SECTIONS:SOUTH CROSSOVER	SHEET 768	E



9

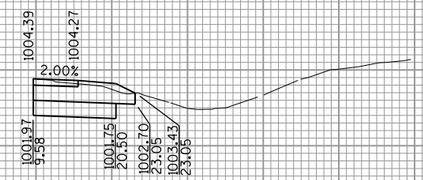
9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: SOUTH CROSSOVER	SHEET 769	E

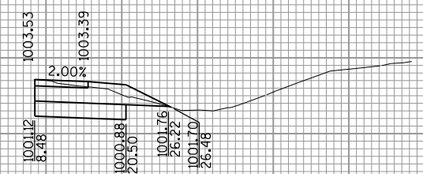
FILE NAME : L:\Jobs2010\20100347\CAD\WISDOT_Trans\dgn\00\090201_xs_USH45_SC.dgn PLOT DATE : 4/24/2020 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 21

130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

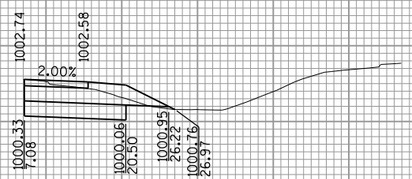
1005
1000



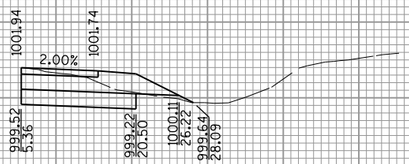
98+50.00



98+00.00



97+50.00

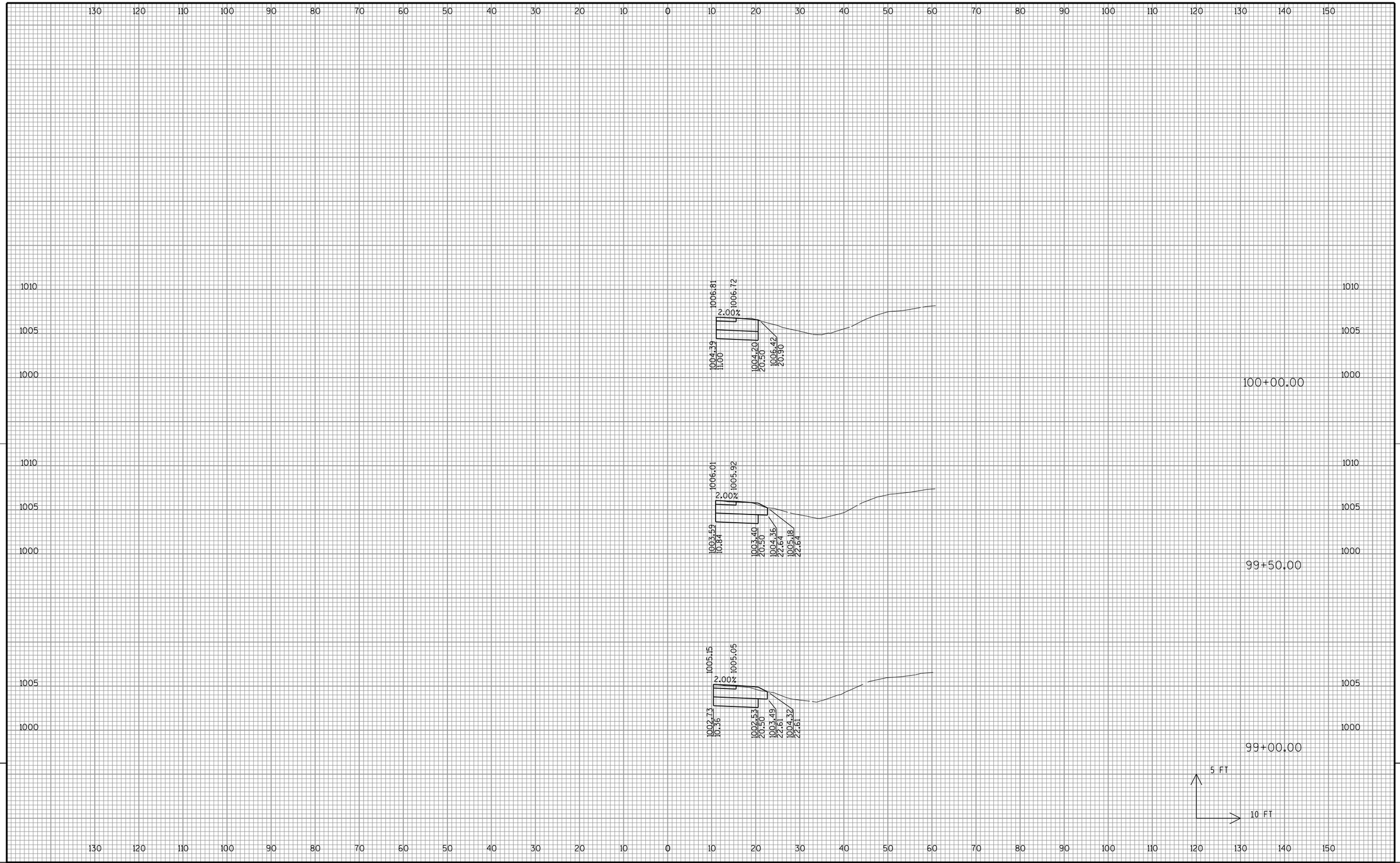


97+00.00

5 FT
10 FT

9 9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: SOUTH CROSSOVER	SHEET 770	E



9

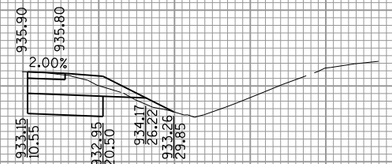
9

PROJECT NO:2220-02-70	HWY:USH 45	COUNTY:WASHINGTON	CROSS SECTIONS:SOUTH CROSSOVER	SHEET 771	E

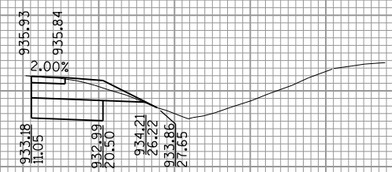
FILE NAME : L:\Jobs2010\20100347\CAD\WISDOT_Trans\dgn\00\090201_xs_USH45_SC.dgn PLOT DATE : 4/24/2020 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 21

130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

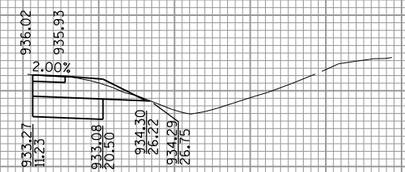
940
935
930



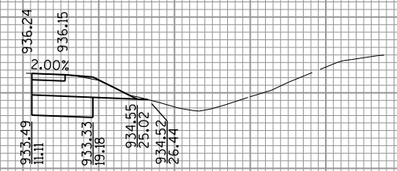
60+50.00



60+00.00



59+50.00



59+00.00

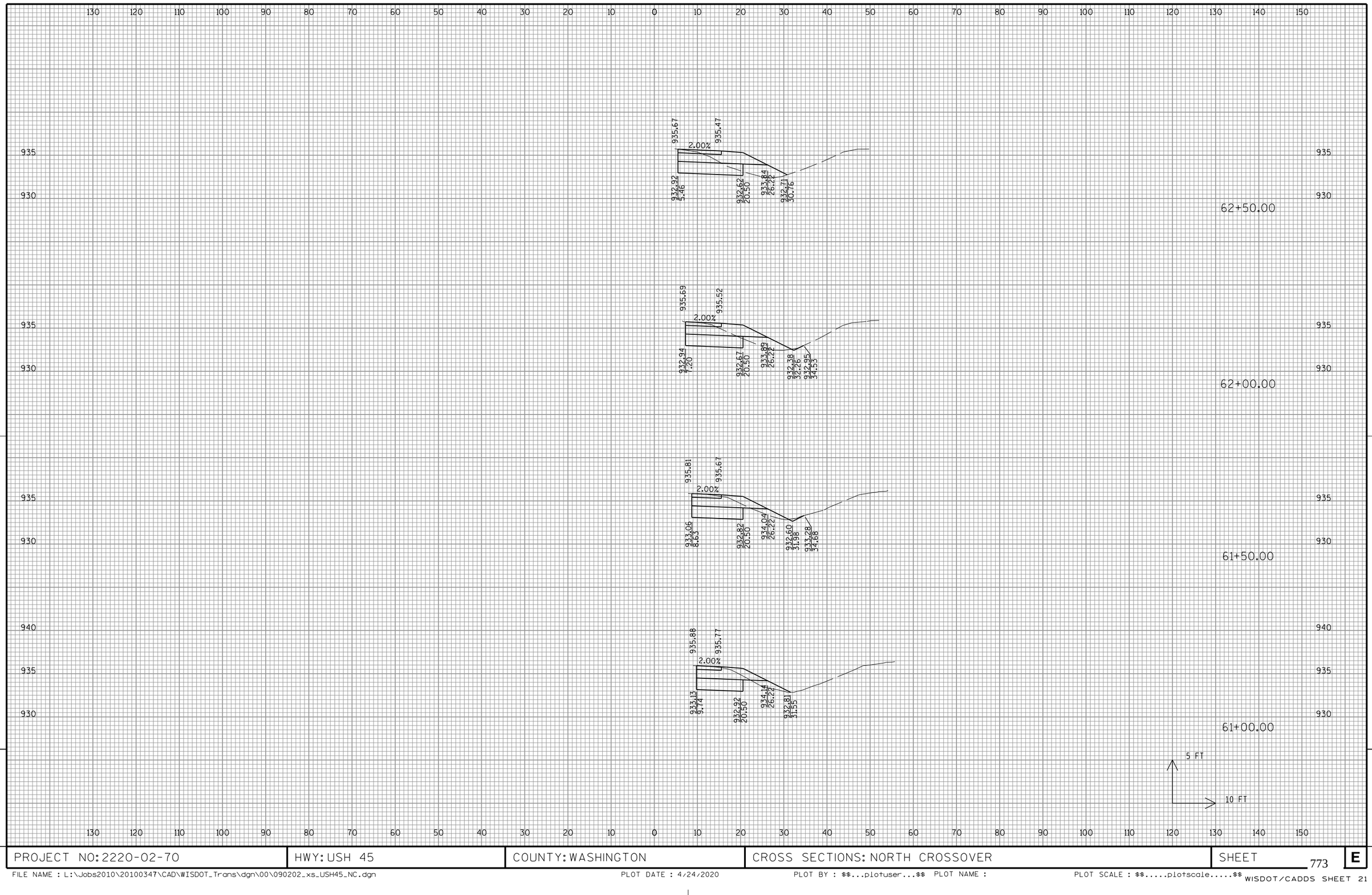
5 FT
10 FT

9

9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: NORTH CROSSOVER	SHEET 772	E

FILE NAME : L:\Jobs2010\20100347\CAD\WISDOT_Trans\dgn\00\090202_xs_USH45_NC.dgn PLOT DATE : 4/24/2020 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 21

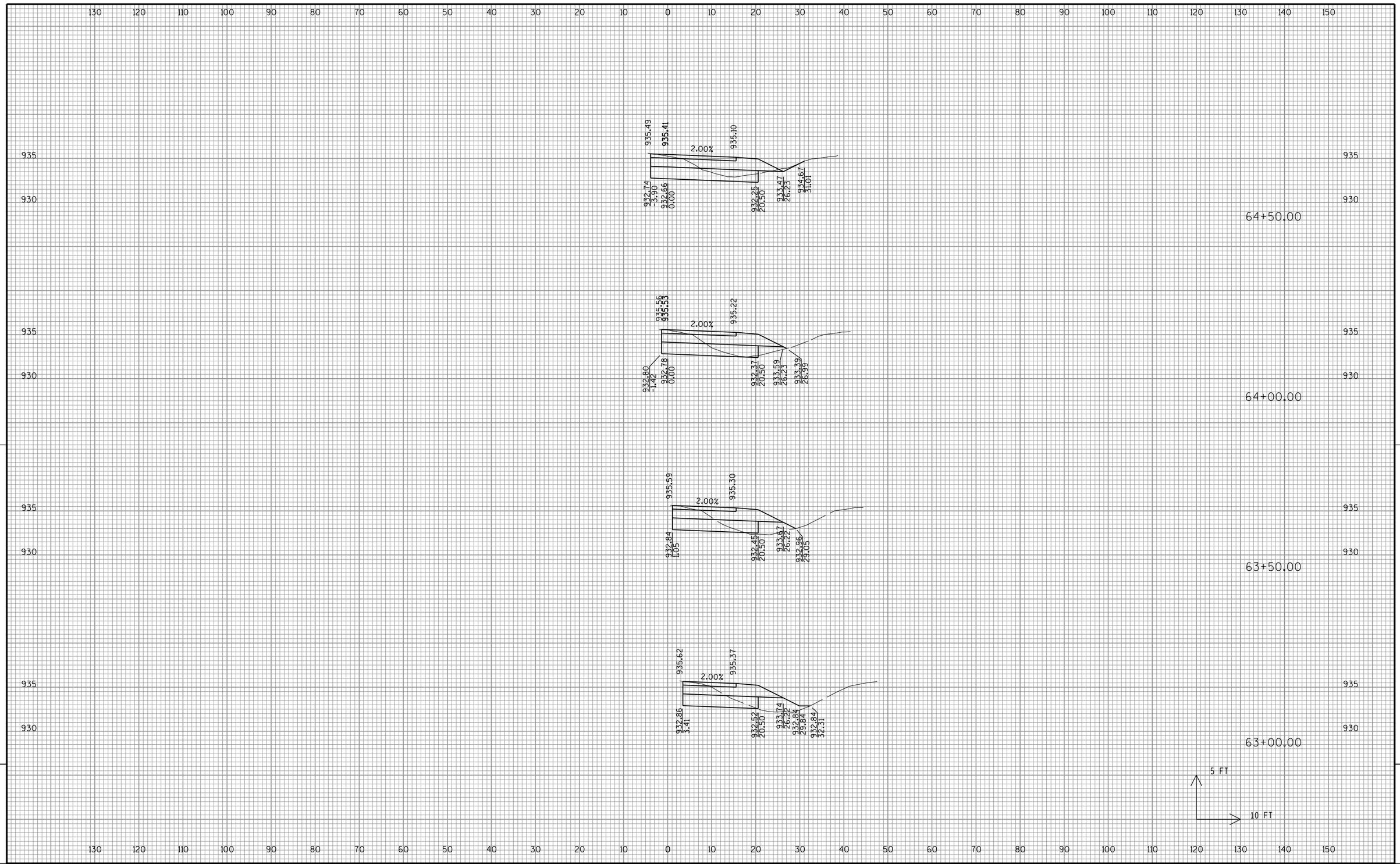


9

9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: NORTH CROSSOVER	SHEET 773	E

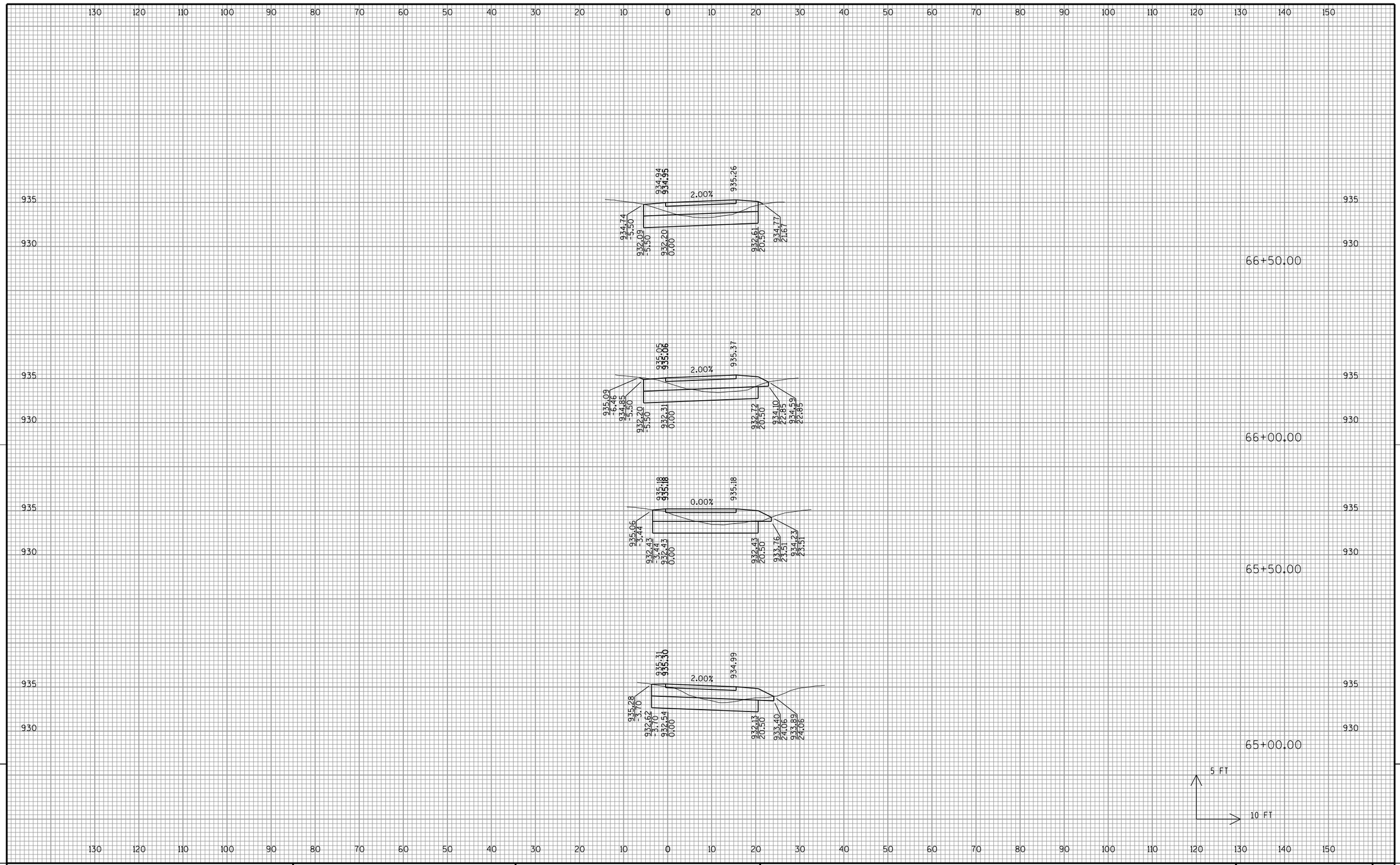
FILE NAME : L:\Jobs2010\20100347\CAD\WISDOT_Trans\dgn\00\090202_xs_USH45_NC.dgn PLOT DATE : 4/24/2020 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 21



9

9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: NORTH CROSSOVER	SHEET 774	E

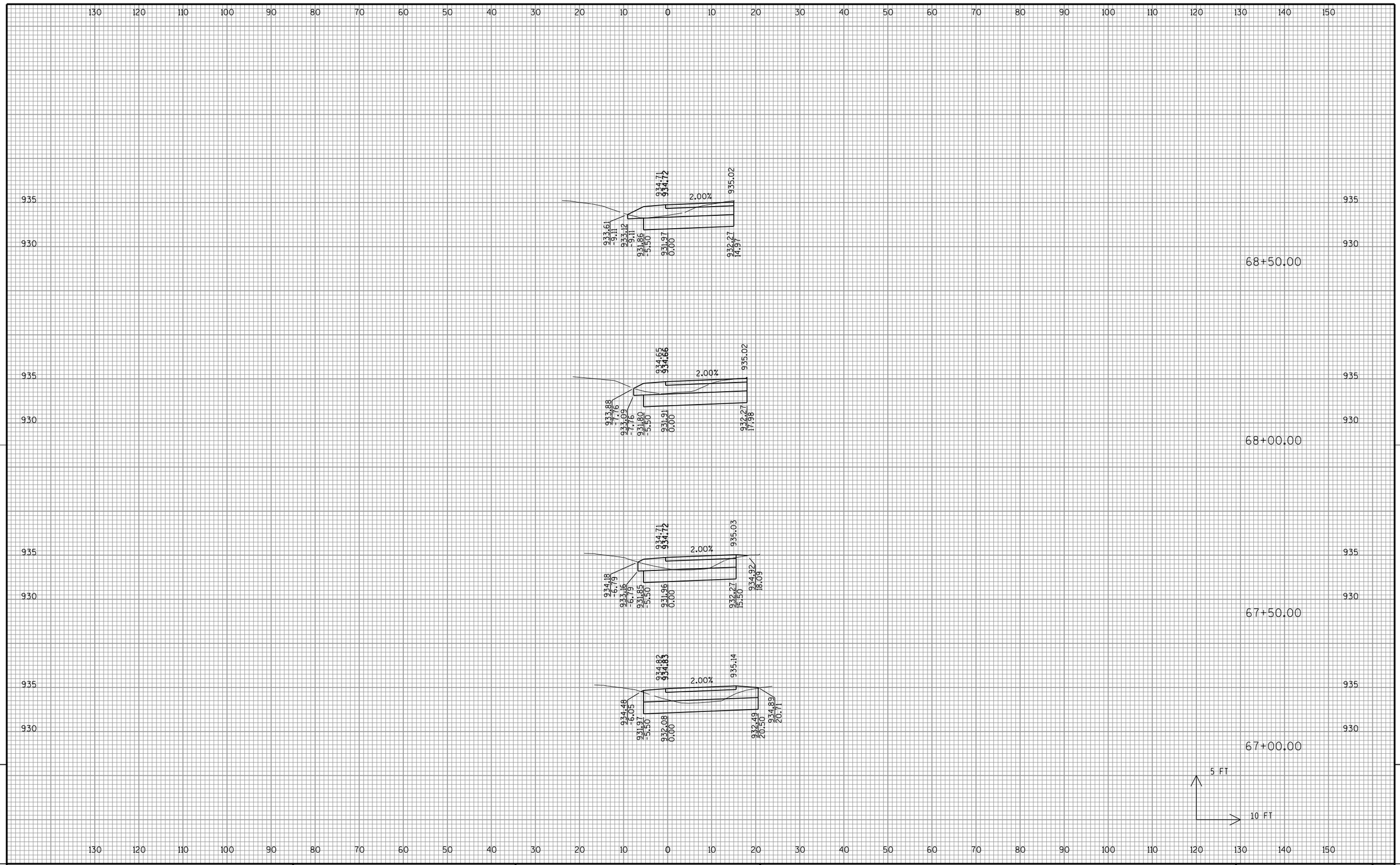


9

9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: NORTH CROSSOVER	SHEET 775	E

FILE NAME : L:\Jobs2010\20100347\CAD\WISDOT_Trans\dgn\00\090202_xs_USH45_NC.dgn PLOT DATE : 4/24/2020 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 21

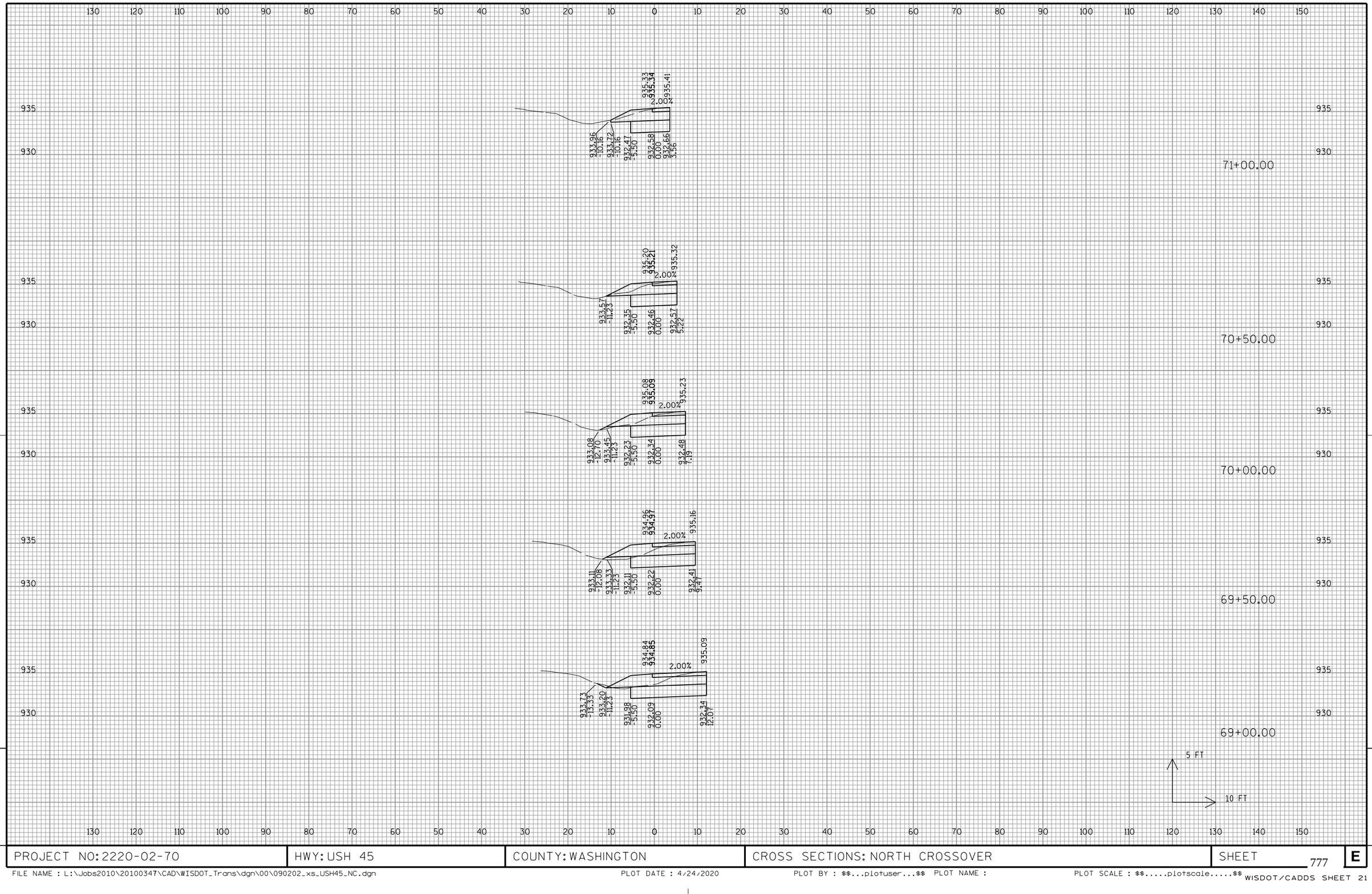


9

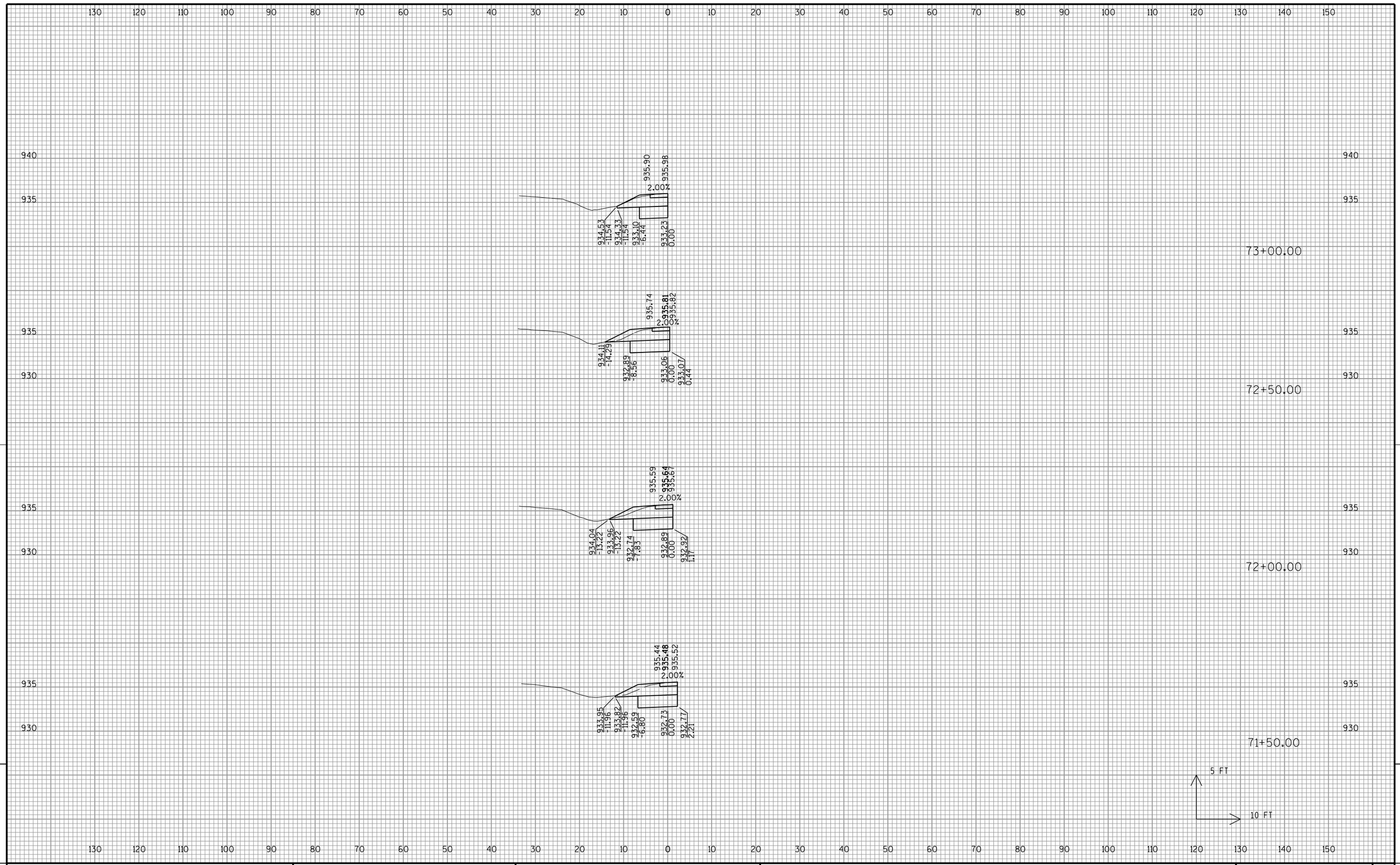
9

PROJECT NO:2220-02-70	HWY:USH 45	COUNTY:WASHINGTON	CROSS SECTIONS:NORTH CROSSOVER	SHEET 776	E

FILE NAME : L:\Jobs2010\20100347\CAD\WISDOT_Trans\dgn\00\090202_xs_USH45_NC.dgn PLOT DATE : 4/24/2020 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 21



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: NORTH CROSSOVER	SHEET 777	E



9

9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: NORTH CROSSOVER	SHEET 778	E

130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

985

985.45
12.73

7.9:1

986.50
6.44

986.66
1.59

88+00.00

87+50.00

87+00.00

86+50.00

86+00.00

85+50.00

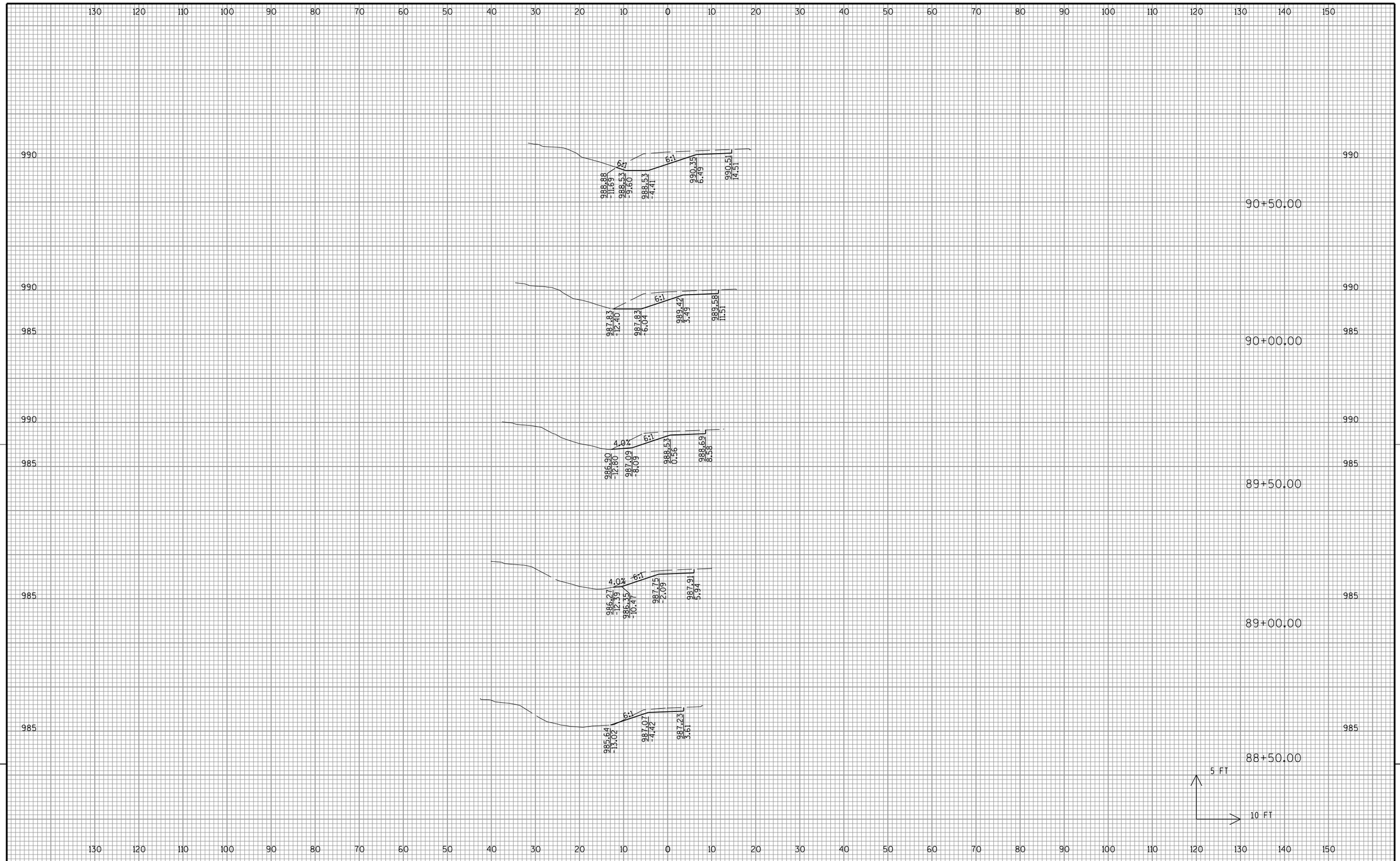
85+00.00

5 FT

10 FT

PROJECT NO:2220-02-70	HWY:USH 45	COUNTY:WASHINGTON	CROSS SECTIONS:SOUTH CROSSOVER REMOVAL	SHEET 779	E

FILE NAME : L:\Jobs2010\20100347\CAD\WISDOT_Trans\dgn\00\090203_xs_USH45_SC_REM.dgn PLOT DATE : 4/24/2020 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 21

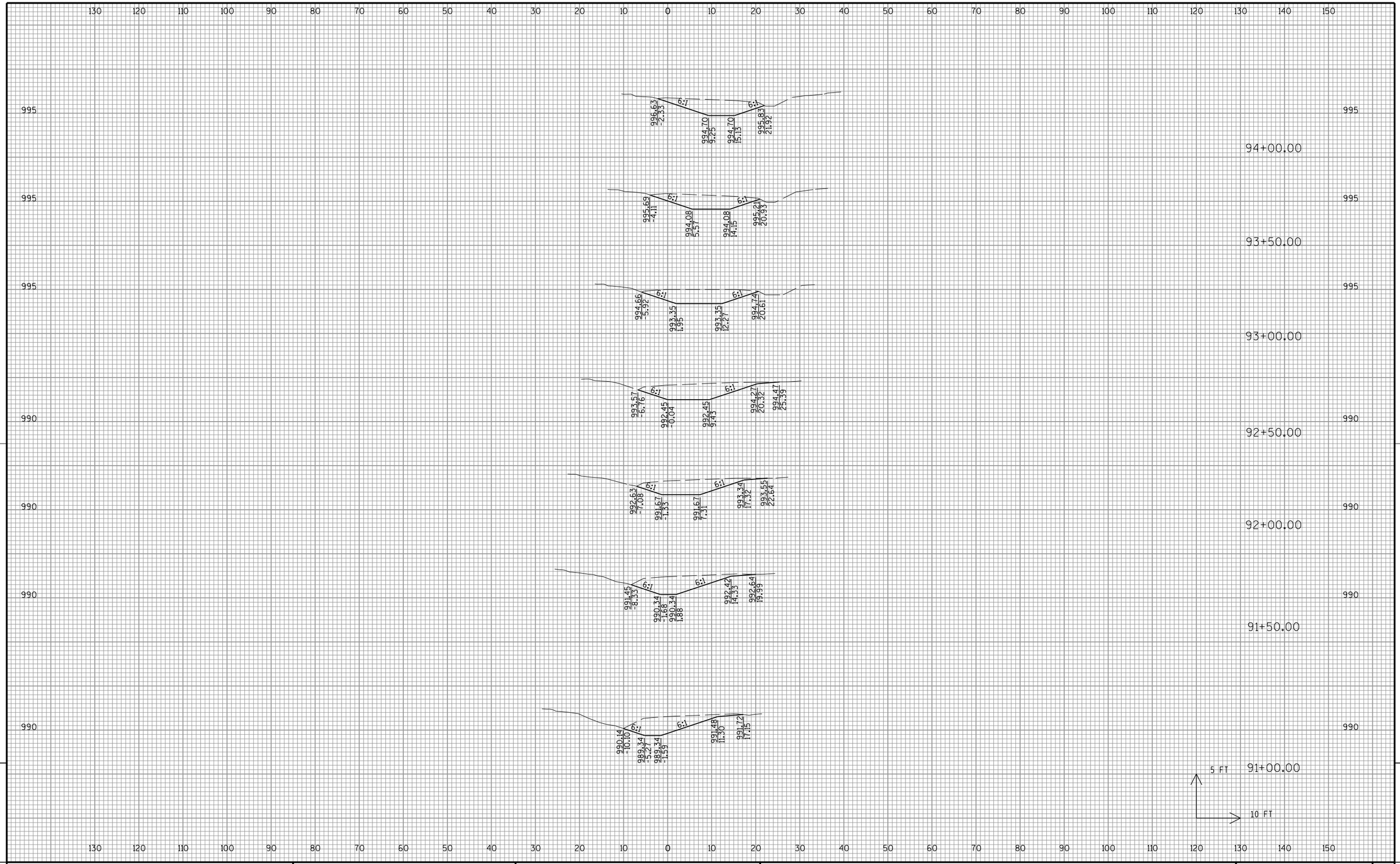


9

9

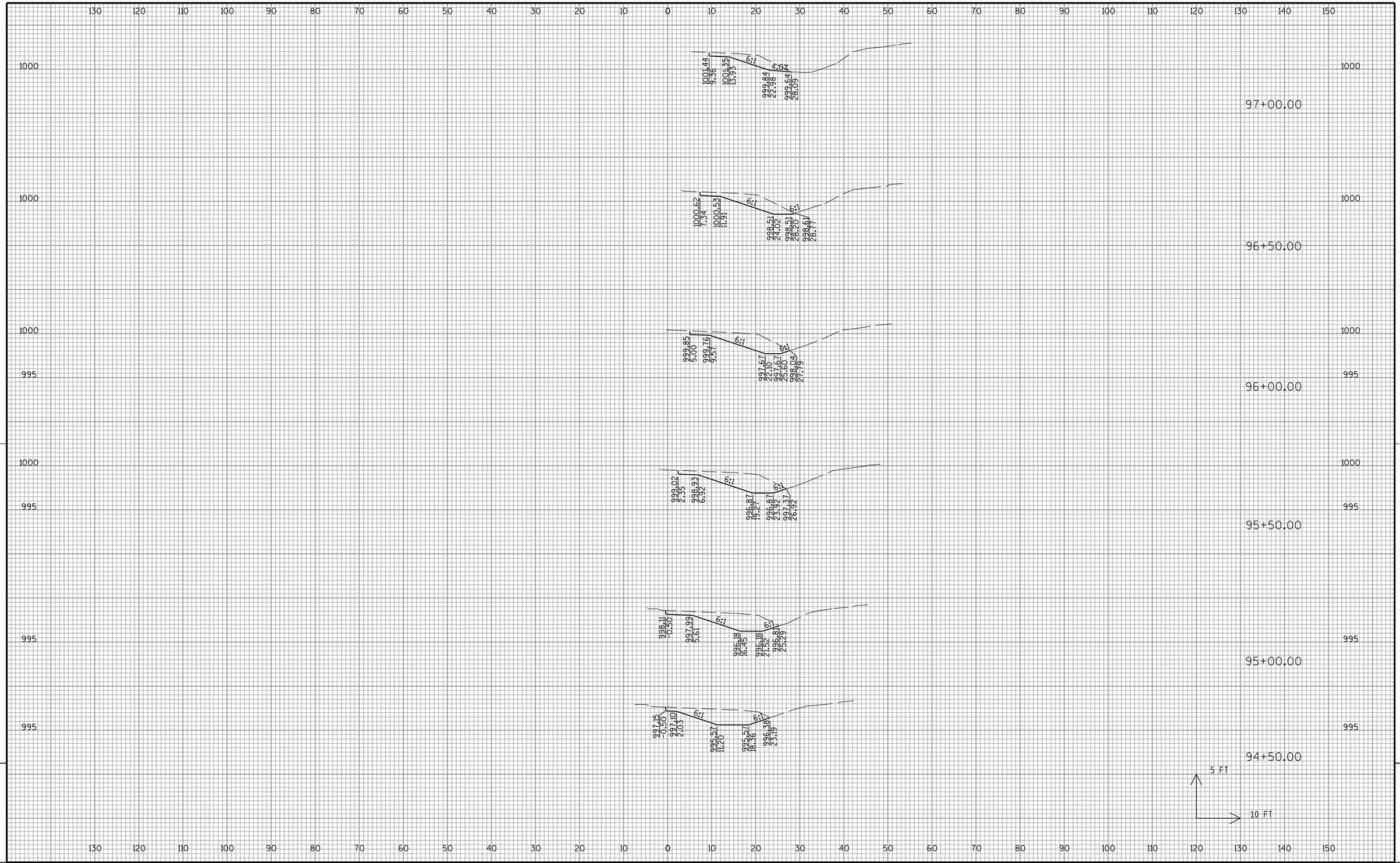
PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: SOUTH CROSSOVER REMOVAL	SHEET 780	E

FILE NAME : L:\Jobs2010\20100347\CAD\WISDOT_Trans\dgn\00\090203_xs_USH45_SC_REM.dgn PLOT DATE : 4/24/2020 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 21



PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: SOUTH CROSSOVER REMOVAL	SHEET 781	E

FILE NAME : L:\Jobs2010\20100347\CAD\WISDOT_Trans\dgn\00\090203_xs_USH45_SC_REM.dgn PLOT DATE : 4/24/2020 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 21


97+00.00
1001.44
9.36
1001.35
15.95
999.84
22.98
999.64
28.09
6:1
4.0%
96+50.00
1000.62
7.34
1000.53
11.91
998.51
24.02
998.51
28.20
998.61
28.71
6:1
96+00.00
999.85
5.00
999.76
9.57
997.67
22.10
997.67
25.60
998.04
27.79
6:1
95+50.00
999.02
2.35
998.93
6.92
996.87
19.27
996.87
23.92
997.37
26.92
6:1
95+00.00
998.11
-0.50
997.99
5.61
996.18
16.45
996.18
21.52
996.61
25.29
6:1
94+50.00
997.15
-0.50
997.10
2.03
995.57
11.20
995.57
18.36
996.38
23.19
6:1
5 FT
10 FT

130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

1005

1006.31
15.00
1006.30
15.50

100+00.00

1005

1005.51
14.84
1005.50
15.50

99+50.00

1005

1004.65
14.36
1004.63
15.50

99+00.00

1005

1003.89
13.58
1003.85
15.50

98+50.00

1000

1003.04
12.48
1002.95
17.05
6:1
4:1
1001.80
23.91
1001.70
26.48

98+00.00

1000

1002.25
11.08
1002.16
15.85
6:1
4:1
1000.91
23.11
1000.76
26.97

97+50.00

5 FT

10 FT

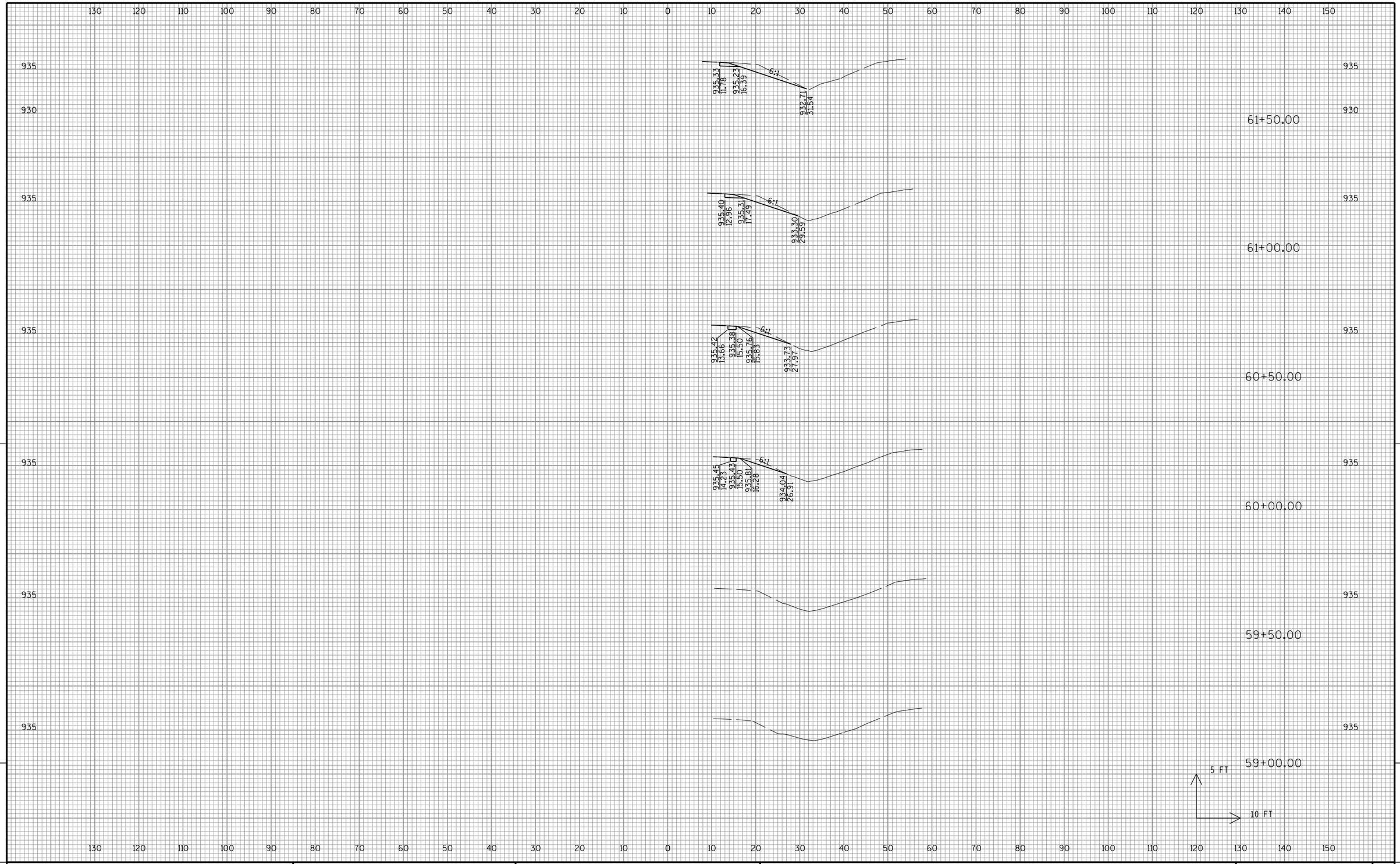
130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

9

9

PROJECT NO:2220-02-70	HWY:USH 45	COUNTY:WASHINGTON	CROSS SECTIONS:SOUTH CROSSOVER REMOVAL	SHEET 783	E

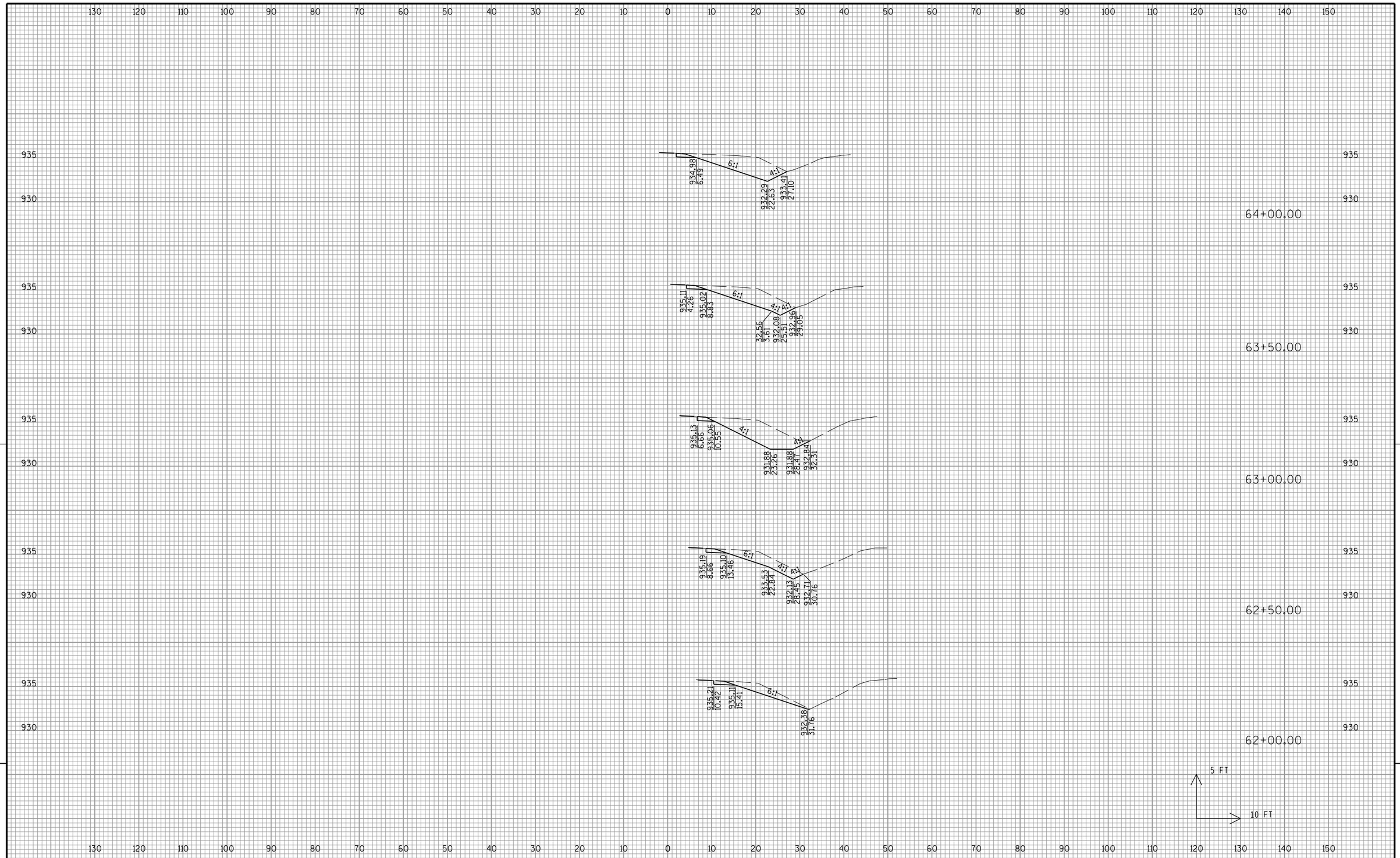
FILE NAME : L:\Jobs2010\20100347\CAD\WISDOT_Trans\dgn\00\090203_xs_USH45_SC_REM.dgn PLOT DATE : 4/24/2020 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 21



9

9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: NORTH CROSSOVER REMOVAL	SHEET 784	E

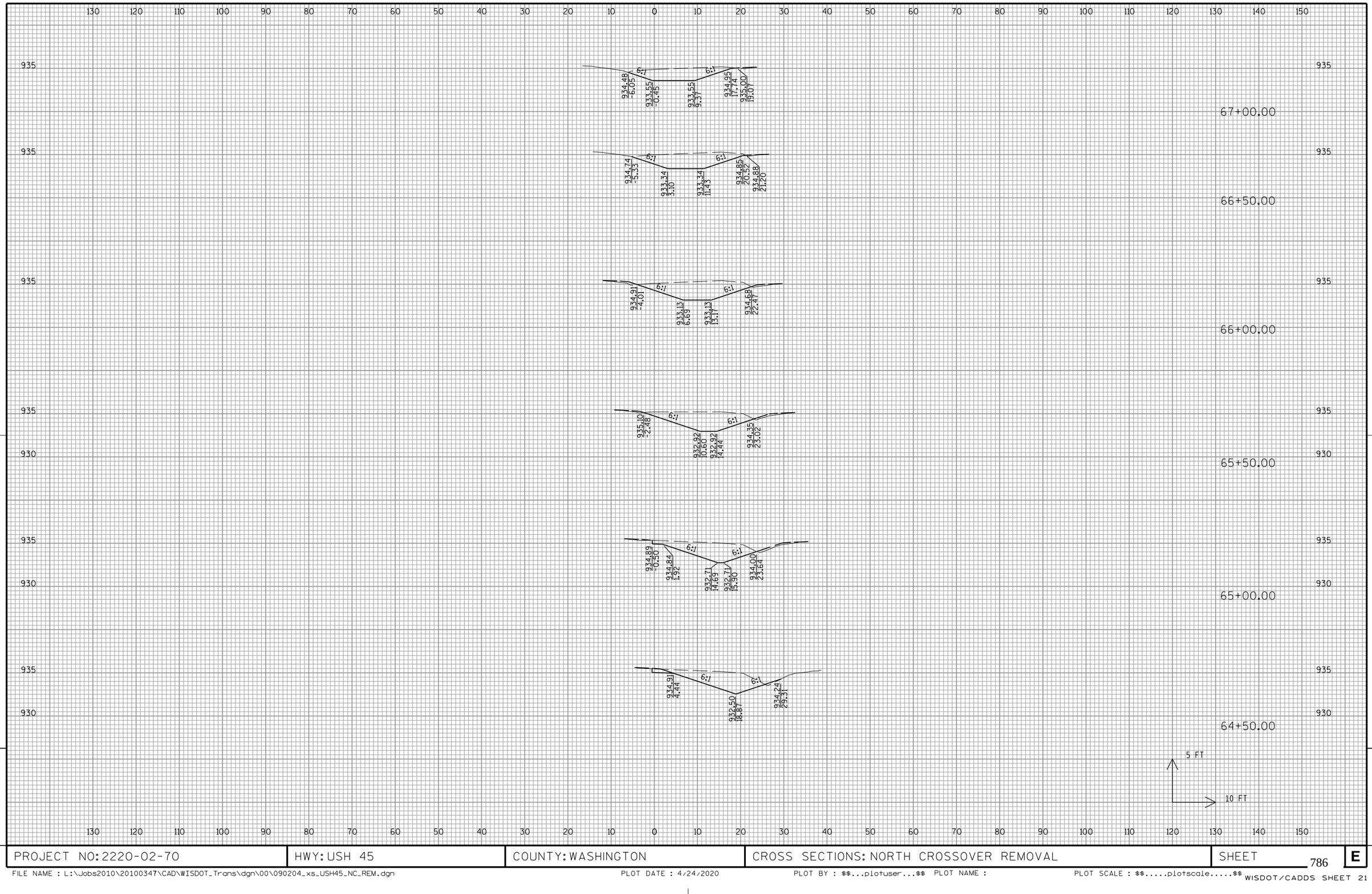


9

9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: NORTH CROSSOVER REMOVAL	SHEET 785	E

FILE NAME : L:\Jobs2010\20100347\CAD\WISDOT_Trans\dgn\00\090204_xs_USH45_NC_REM.dgn PLOT DATE : 4/24/2020 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 21

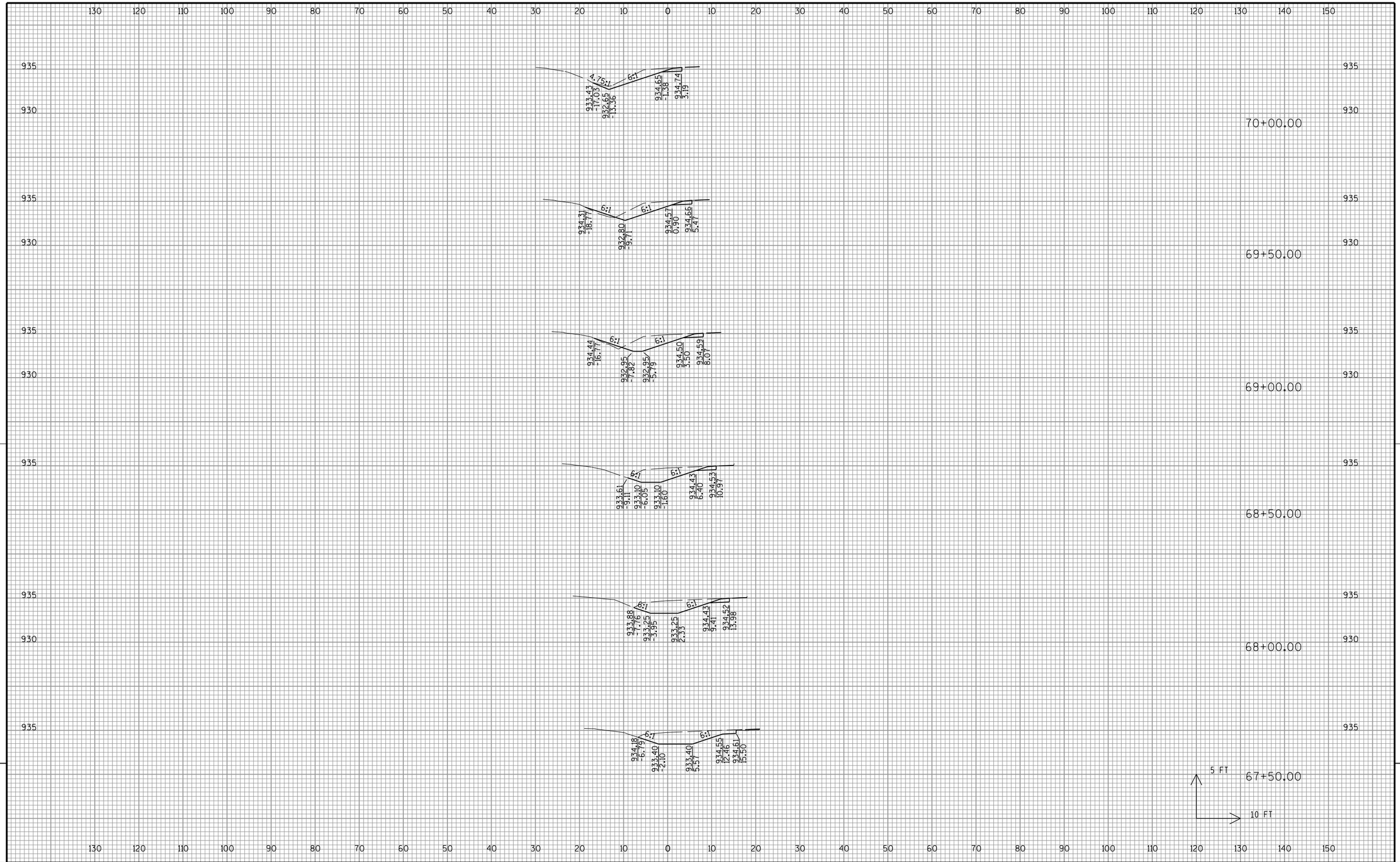


9

9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: NORTH CROSSOVER REMOVAL	SHEET 786	E

FILE NAME : L:\Jobs2010\20100347\CAD\WISDOT_Trans\dgn\00\090204_xs_USH45_NC_REM.dgn PLOT DATE : 4/24/2020 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 21



9

9

PROJECT NO: 2220-02-70	HWY: USH 45	COUNTY: WASHINGTON	CROSS SECTIONS: NORTH CROSSOVER REMOVAL	SHEET 787	E

FILE NAME : L:\Jobs2010\20100347\CAD\WISDOT_Trans\dgn\00\090204_xs_USH45_NC_REM.dgn PLOT DATE : 4/24/2020 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 21

130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

935 935

73+00.00

935 935

72+50.00

935 935

72+00.00

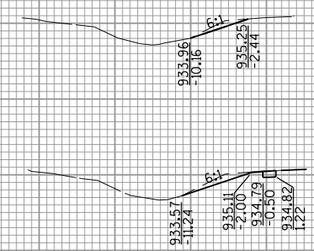
935 935

71+50.00

935 935

71+00.00

935 935



70+50.00

5 FT
10 FT

130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

9 9

PROJECT NO:2220-02-70	HWY:USH 45	COUNTY:WASHINGTON	CROSS SECTIONS:NORTH CROSSOVER REMOVAL	SHEET 788	E

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov