LAX JANUARY 2016

PROJECT ID: 1661-05-78
WITH: 1661-05-80 & 1661-05-88

COUNTY: CRAWFORD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

PRAIRIE DU CHIEN BYPASS/S TOWN-STH 60

SOUTH TOWN LANE ELY TO STH 60

USH 18

CRAWFORD COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1661-05-78	WISC 2016002	1

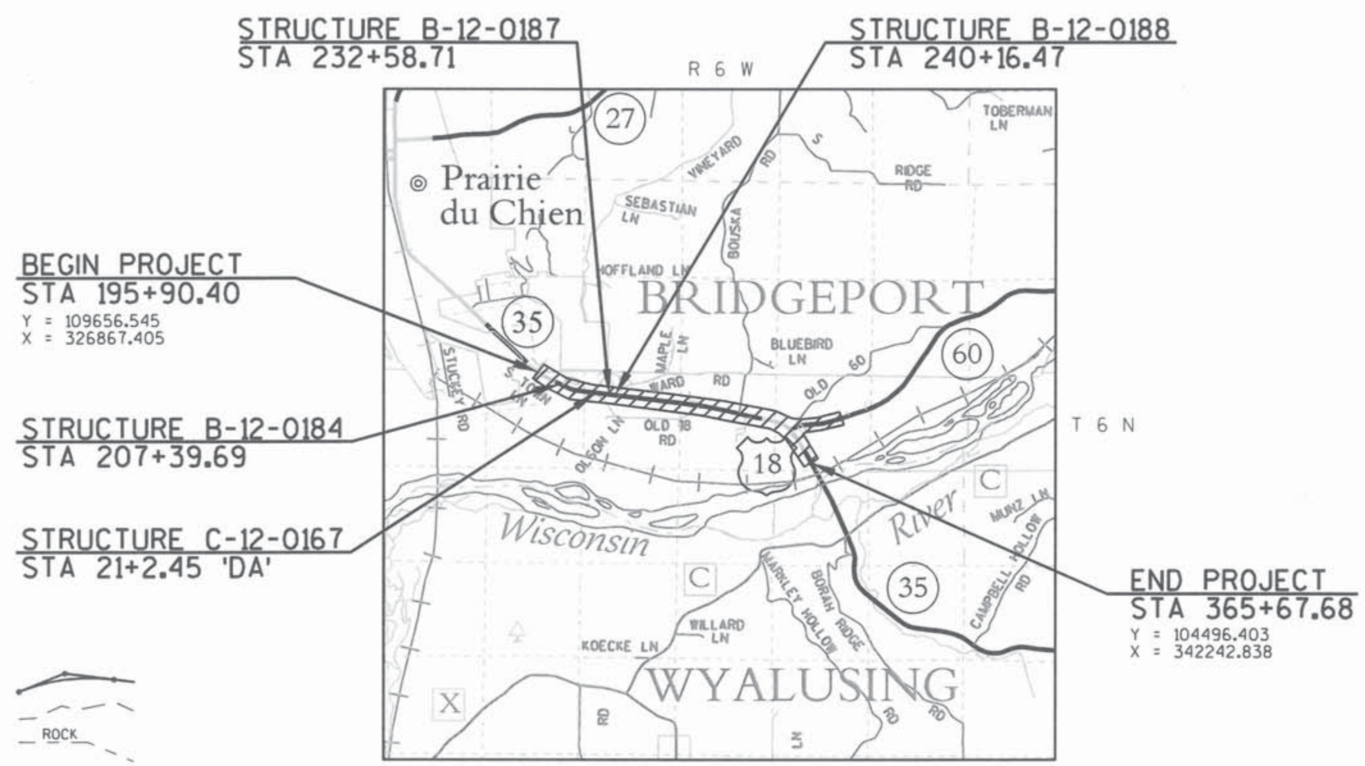
STATE PROJECT NUMBER
1661-05-78

ORDER OF SHEETS

TOTAL SHEETS = 754

04

N



DESIGN DESIGNATION

A.A.D.T. (2016)	=	8,500
A.A.D.T. (2036)	=	10,800
D.H.V. (2036)	=	1,242
D.D.	=	62/38
T.	=	10.6%
DESIGN SPEED	=	60 MPH
ESALS	=	2,730,200

CONVENTIONAL SYMBOLS

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

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

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

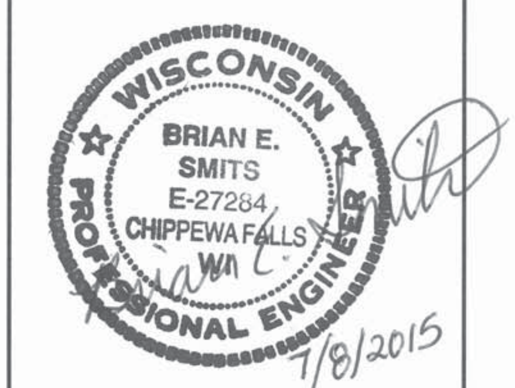
LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 3.215 MI.

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

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 NAVD 88 (2007).

ORIGINAL PLANS PREPARED BY:
CBS SQUARED INC.



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	CBS SQUARED INC.
Designer	CBS SQUARED INC.
Project Manager	JEREMY KRACHEY
Regional Examiner	JOHN VON RUDEN
Regional Supervisor	IAN WINGER

APPROVED FOR THE DEPARTMENT
DATE: 7-8-2015 (Signature)

GENERAL NOTES:

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

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

ANY TREES OR SHRUBS NOT MARKED FOR REMOVAL IN THE PLANS SHALL NOT BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

ALL CURB AND GUTTER RADII, PAVEMENT DIMENSIONS AND STATIONS ARE SHOWN TO THE EDGE OF PAVEMENT UNLESS NOTED OTHERWISE.

A VERTICAL SAWCUT SHALL BE MADE THROUGH EXISTING DRIVEWAYS AND PAVEMENTS AT REMOVAL LIMITS.

TOP OF CASTING ELEVATIONS SHOWN FOR CATCH BASINS REFER TO THE NORMAL CASTING FLOWLINE.

ALL STORM SEWER INVERT ELEVATIONS AND GRADES ARE COMPUTED OUTSIDE-TO-OUTSIDE OF STRUCTURE. STORM SEWER PIPE LENGTHS ARE COMPUTED CENTER-TO-CENTER OF STRUCTURE.

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

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY SHALL BE RESTORED AS DIRECTED BY THE ENGINEER.

SILT FENCE SHALL BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER AND IN PLACE PRIOR TO CONSTRUCTION.

THE EROSION CONTROL FREATURES AS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS. THE ENGINEER MAY MODIFY LOCATIONS AS NEEDED. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NEEDED.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE, BUT IS MEASURED AND PAID FOR AS EXCAVATION COMMON. THE LOCATION FOR EBS WILL BE DETERMINED BY THE ENGINEER.

ALL CONCRETE CULVERT PIPES SHALL HAVE JOINT TIES INSTALLED ON THE LAST THREE PIPE JOINTS AND THE ENDWALL JOINT AT BOTH THE INLET AND DISCHARGE ENDS. JOINT TIES ARE INCIDENTAL TO THE PIPE.

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

EXISTING TOPOGRAPHY AND BASEMAP ARE FLOWN AND MAY NOT BE CURRENT. AS SUCH ADJUSTMENTS TO THE PLAN MAY BE REQUIRED TO FIT FIELD CONDITIONS.

REMOVAL ITEMS REQUIRING RESTORATION OF CONCRETE OR ASPHALT SHALL BE REMOVED TO AN EXISTING JOINT OR SAWED AS DETERMINED BY THE ENGINEER.

EXPANSION JOINTS TO BE CONSTRUCTED AT ALL RADII POINTS IN THE CURB AND GUTTER OR AT LOCATIONS SHOWN ON THE PLAN.

PIPE ELEVATIONS, LENGTHS, AND LOCATIONS AS SHOWN ON THE PLANS, MAY BE ADJUSTED TO FIT EXISTING FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

CONTRACTOR IS RESPONSIBLE FOR RESHAPING AND FINISHING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY THEIR OPERATION OUTSIDE THE NORMAL CONSTRUCTION LIMITS.

THE EXACT LOCATION OF DRIVEWAYS IS TO BE DETERMINED IN THE FIELD BY THE ENGINEER. ALL DRIVEWAYS ARE TO BE REPLACED IN KIND.

THE CONTRACTOR'S HMA AND CONCRETE PAVING OPERATION SHALL BE CONSISTENT WITH THE TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, PASSING OR PARKING LANE.

HMA PAVEMENT SHALL BE CONSTRUCTED WITH THE FOLLOWING LAYER THICKNESSES:

PAVEMENT THICKNESS (INCH)	LOWER (INCH)	NOM AGG SIZE (mm)	LOWER ASPHALT BINDER	MIDDLE (INCH)	NOM AGG SIZE (mm)	MIDDLE ASPHALT BINDER	UPPER (INCH)	NOM AGG SIZE (mm)	UPPER ASPHALT BINDER
4	2.25	19.0	PG 58-28	-	-	-	1.75	12.5	PG 58-28
6	2.25	19.0	PG 58-28	2.00	19.0	PG 58-28	1.75	12.5	PG 58-28

ORDER OF TYPICAL SECTION AND DETAIL SHEETS

REFERENCE LINE CALL OUTS

'BR'	BOUSKA ROAD
'CH'	CABIN HILL LANE
'CC'	CABIN HILL LANE CONNECTION
'CE'	CHURCH ENTRANCE
'DA'	DRIVEWAY A
'DB'	DRIVEWAY B
'DC'	DRIVEWAY C
'DD'	DRIVEWAY D
'DE'	DRIVEWAY E
'DG'	DRIVEWAY G
'DH'	DRIVEWAY H
'FR'	FRONTAGE ROAD
'GV'	GOLF VIEW DRIVE (WEST - EAST)
'GC'	GOLF VIEW DRIVE CONNECTION
'GD'	GOLF VIEW DRIVE (SOUTH - NORTH)
'OE'	OLD HWY 18 (EAST)
'OW'	OLD HWY 18 (WEST)
'OS'	OLD HWY 60
'RA'	RAMP A
'HS'	STH 60
'ST'	SUGARLOAF TRAIL
'EB'	USH 18 EASTBOUND
'WB'	USH 18 WESTBOUND
'UB'	UPPER BRIDGEPORT ROAD (NORTH)
'UR'	UPPER BRIDGEPORT ROAD (SOUTH)
'UD'	UPPER BRIDGEPORT ROAD DRIVEWAY
'UE'	UTOPIA LANE
'UL'	UTOPIA LANE CONNECTION
'WR'	WARD ROAD
'BC'	DRIVEWAY B CHANNEL
'CR'	REALIGNMENT CHANNEL
'SR'	STREAM (UNDER BRIDGE B-12-0184)
'SC'	SUGARLOAF CHANNEL

UTILITY CONTACTS

JASON HOGAN
ALLIANT ENERGY - ELECTRICITY
SUITE 1000
4902 N BILTMORE LANE
MADISON, WI 53718
(608) 458-4871
JASONHOGAN@ALLIANTENERGY.COM

ALLIANT ENERGY CONSTRUCTION FIELD CONTACT:
DENNIS STEPHENSON
2200 E CAMPION BLVD
PRAIRIE DU CHIEN, WI 53821
(608) 326-9485
(608) 558-7780 (MOBILE)
DENNISSTEPHENSON@ALLIANTENERGY.COM

JOHN POOTS
BRIDGEPORT SANITARY DISTRICT - SEWER
60798 UTOPIA LN
PRAIRIE DU CHIEN, WI 53821
JPOOTS@CENTURYLINK.NET

BRIDGEPORT SANITARY DISTRICT CONSTRUCTION FIELD CONTACT:
DANIEL J. DREESSENS
875 SOUTH CHESTNUT STREET
PLATTEVILLE, WI 53818
(608) 348-5355
(608) 642-4697 (MOBILE)
DAN@DELTA3ENG.BIZ

STEVE BISHOP
CENTURYLINK - COMMUNICATION LINE
130 4TH STREET,
BARABOO, WI 53913
(608) 355-7501
STEVE.BISHOP@CENTURYLINK.COM

CENTURYLINK CONSTRUCTION FIELD CONTACT:
STEVE NELSON
333 N. FRONT STREET
LA CROSSE, WI 54601
(608) 796-7033
(608) 877-3942 (MOBILE)
STEVE.NELSON@CENTURYLINK.COM

TIM STATZ
MADISON GAS AND ELECTRIC COMPANY
GAS/PETROLEUM
P.O. BOX 1231
MADISON, WI 53701-1231
(608) 252-4727
TSTATZ@MGE.COM

ANDY KILCOYNE
SCENIC RIVERS ENERGY COOPERATIVE - ELECTRICITY
231 N SHERIDAN ST
LANCASTER, WI 53813-1342
(608) 723-2121
(608) 642-2720 (MOBILE)
AKILCOYNE@SREC.NET

JOHN M WICHERN
MADISON GAS AND ELECTRIC COMPANY
CONSTRUCTION FIELD CONTACT
133 S BLAIR ST
MADISON, WI 53788
(608) 252-1563
(608) 220-7242 (MOBILE)
JWICHERN@MGE.COM

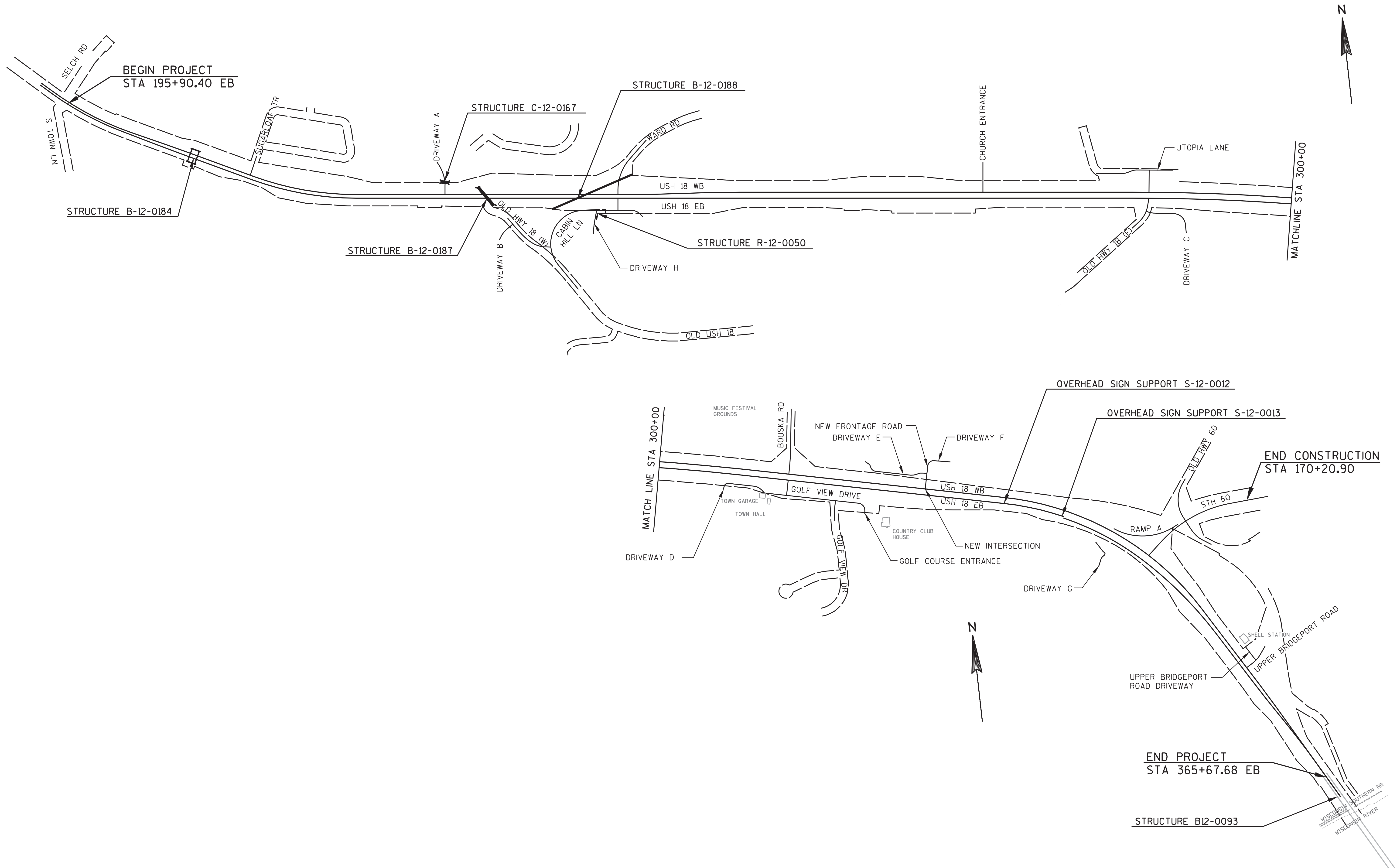
WDNR CONTACT

KAREN KALVELAGE
DNR SERVICE CENTER
3550 MORMON COULEE RD
LA CROSSE, WI 54601
(608) 785-9115
KAREN.KALVELAGE@WISCONSIN.GOV

DESIGN CONTACT

TIM MAEDKE, PE
WISDOT
3550 MORMON COULEE RD
LA CROSSE, WI 54601
(608) 789-6317
TIMOTHY.MAEDKE@DOT.WI.GOV

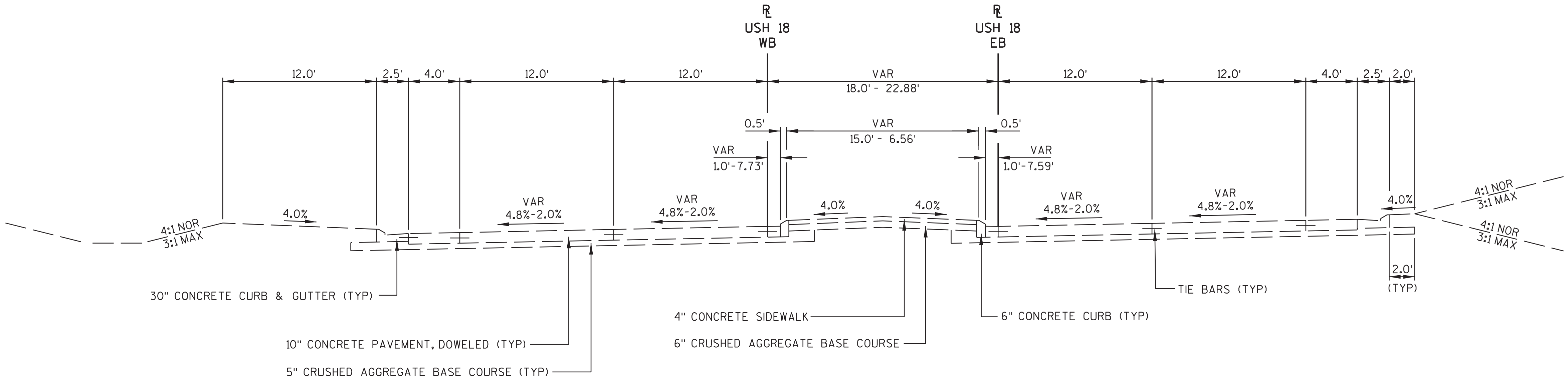
DIGGERS HOTLINE
Dial 811 or (800) 242-8511
www.DiggersHotline.com



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PROJECT OVERVIEW	SHEET 3	E

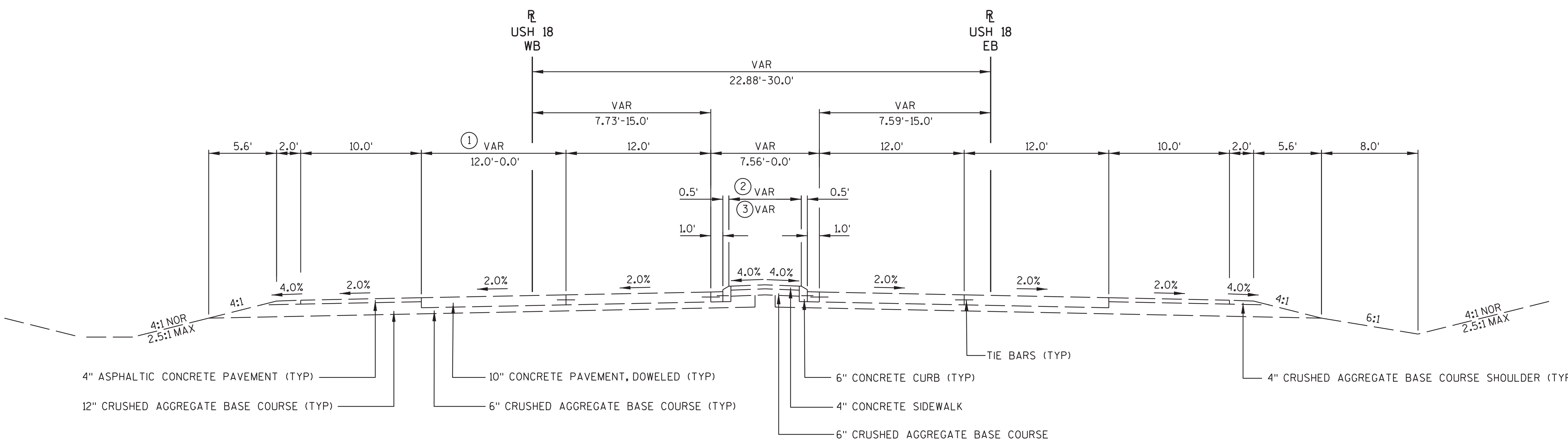
FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\POUSH18.DWG

SHEET NAME: 020201PO



TYPICAL EXISTING SECTION

USH 18
STA 200+15.4 EB TO STA 203+03.3 EB
STA 200+71.4 WB TO STA 202+98.7 WB



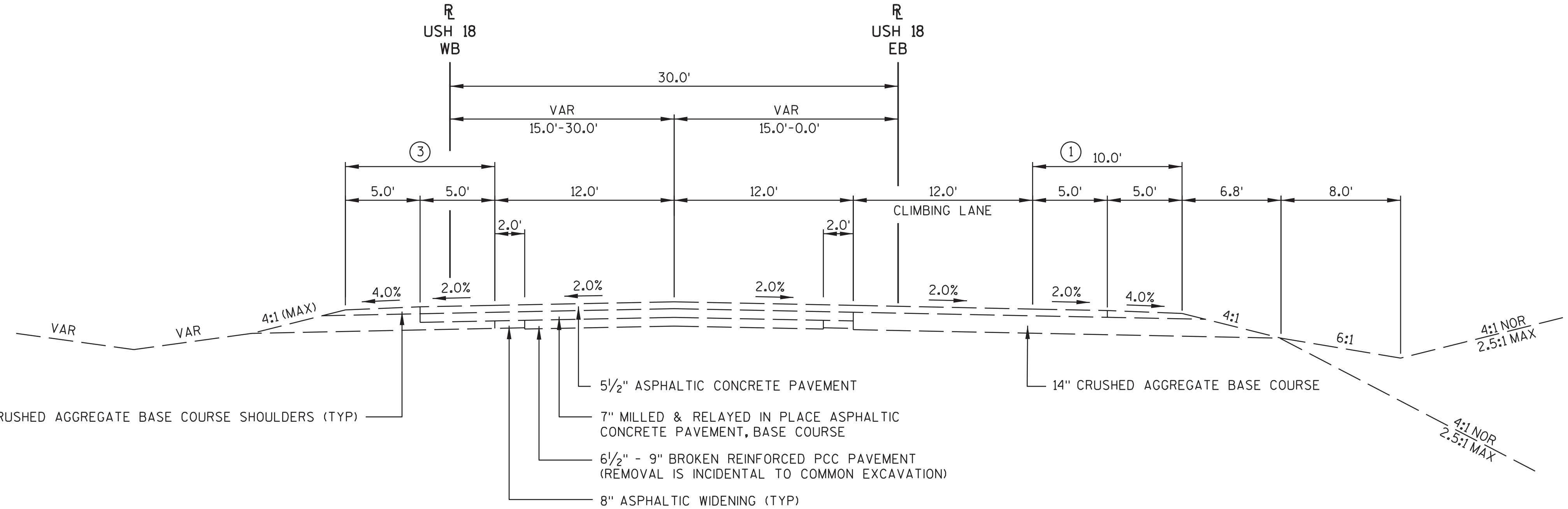
TYPICAL EXISTING SECTION

USH 18
STA 203+03.3 EB TO STA 207+37.0 EB
STA 202+98.7 WB TO STA 207+37.0 WB

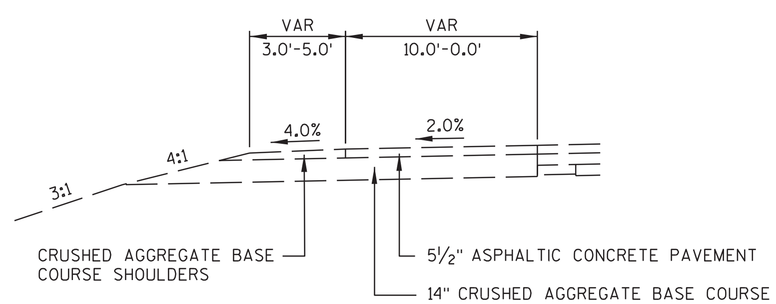
NOTES:

1. OUTSIDE WB DRIVING LANE ENDS AT STA 207+29.7 WB LT.
2. RAISED MEDIAN ENDS AT STA 203+93.6 EB LT. WIDTH VARIES 6.56' - 2.40'
3. CONCRETE CORRUGATED MEDIAN ENDS AT STA 204+66.2 LT. WIDTH VARIES 2.40' - 1.80'

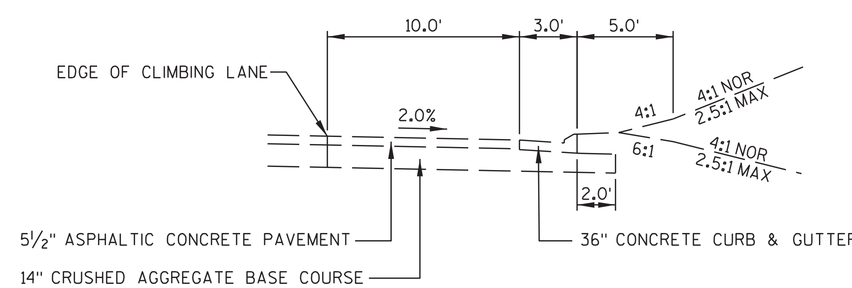
2



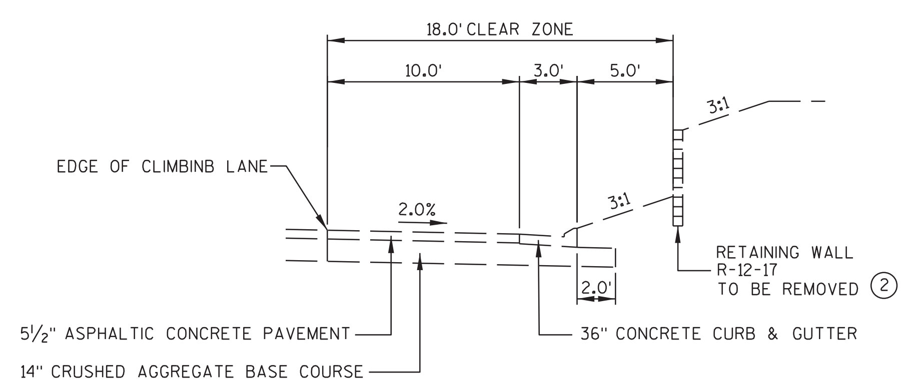
TYPICAL EXISTING SECTION
USH 18
STA 207+37.0 EB TO STA 250+42.0 EB
STA 207+37.0 WB TO STA 250+42.0 WB



TYPICAL EXISTING SECTION RIGHT TURN LANE
USH 18 WB
STA 210+51.2 WB TO STA 216+77.8 WB LT (SUGAR LOAF LANE)
STA 242+30.0 WB TO STA 246+14.0 WB LT (WARD ROAD)



TYPICAL EXISTING SECTION
USH 18 EB
STA 208+02.0 EB TO STA 213+01.9 EB RT
STA 222+49.4 EB TO STA 231+78.0 EB RT



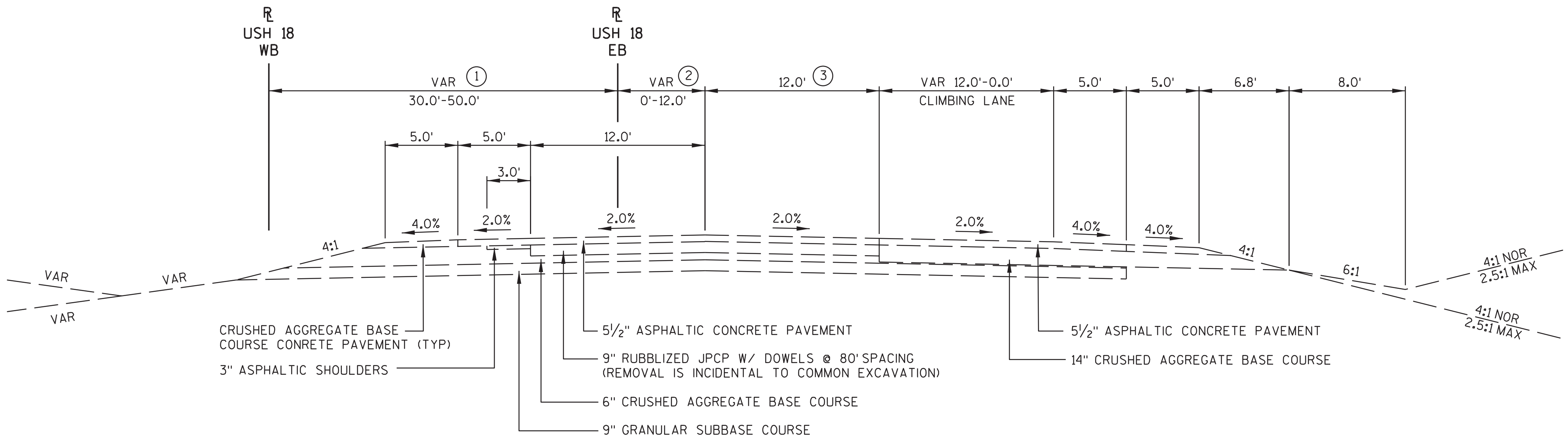
TYPICAL EXISTING SECTION
USH 18 EB
STA 244+86.8 EB TO STA 250+42 EB RT

NOTES:

1. SHOULDER IS PAVED 10.0' (FULL WIDTH) AT THE FOLLOWING LOCATIONS:
   STA 207+37.0 EB TO STA 208+02.0 EB RT
   STA 233+00.0 EB TO STA 242+91.0 EB RT
   STA 244+10.3 EB TO STA 244+86.8 EB RT
2. EXISTING RETAINING WALL TO BE REMOVED BETWEEN STA 245+06.9 EB AND STA 250+26.9 EB RT
3. SHOULDER PAVED WIDTH VARIES 10.0' - 5.0' BETWEEN STA 213+20.0 WB TO STA 216+40.0 WB LT

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TYPICAL SECTIONS	SHEET 5	E

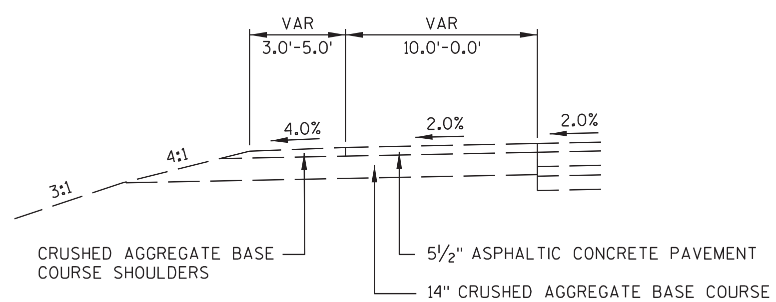
2



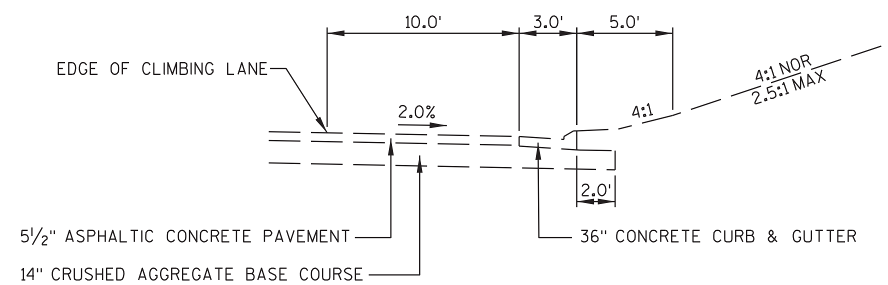
NOTES:

1. PROPOSED MEDIAN WIDTH VARIES FROM 30.0' - 50.0' FROM STA 251+18.33 WB TO STA 259+65.80 WB.
2. PROPOSED ℄ USH 18 EB VARIES FROM 0.0' - 12.0' BETWEEN STA 283+19.0 EB TO STA 307+86.8 EB.
3. CLIMBING LANE VARIES FROM 12.0' - 0.0' BETWEEN STA 289+46.6 EB TO STA 297+32.7 EB RT.

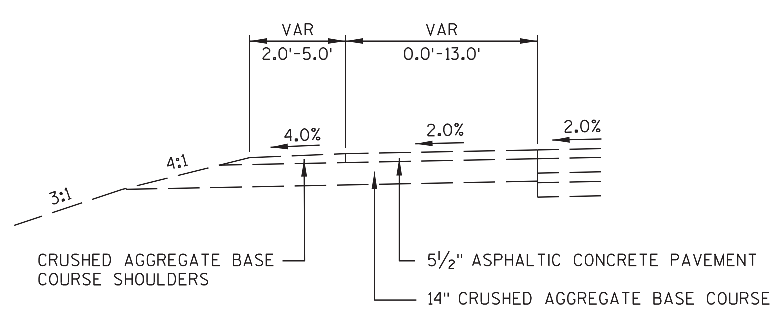
TYPICAL EXISTING SECTION
USH 18
STA 250+42.0 EB TO STA 318+40.2 EB
STA 250+42.0 WB TO STA 318+40.2 EB



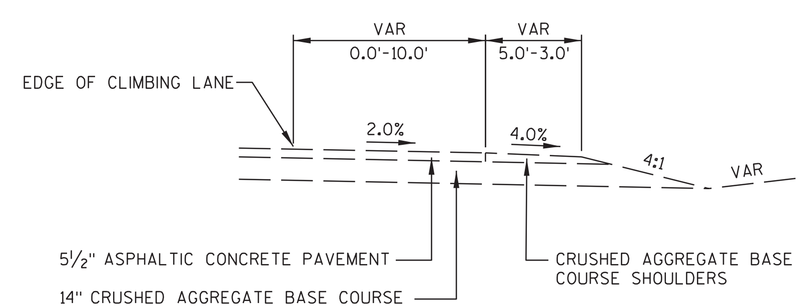
TYPICAL EXISTING SECTION RIGHT TURN LANE
USH 18 WB
STA 288+69.2 WB TO STA 290+26.8 WB LT (UTOPIA LN)
STA 309+58.1 WB TO STA 314+01.0 WB LT (BOUSKA RD)



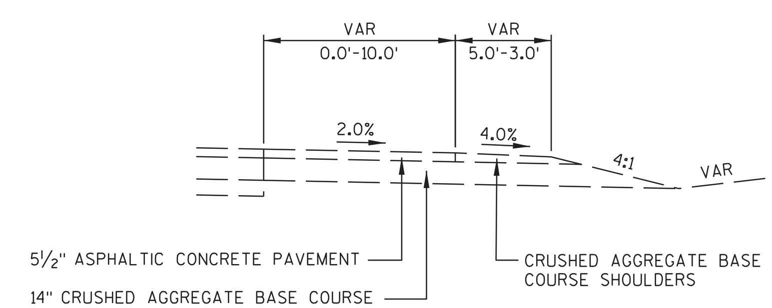
TYPICAL EXISTING SECTION
USH 18 EB
STA 250+42.0 EB TO STA 253+00.0 EB RT
STA 258+01.3 EB TO STA 260+02.6 EB RT
STA 288+62.3 EB TO STA 289+46.6 EB RT



TYPICAL EXISTING SECTION BYPASS LANE
USH 18 WB
STA 315+08.0 WB TO STA 321+78.0 WB



TYPICAL EXISTING SECTION RIGHT TURN LANE
USH 18 EB
STA 284+74.0 EB TO STA 288+62.3 EB RT (OLD HWY 18)

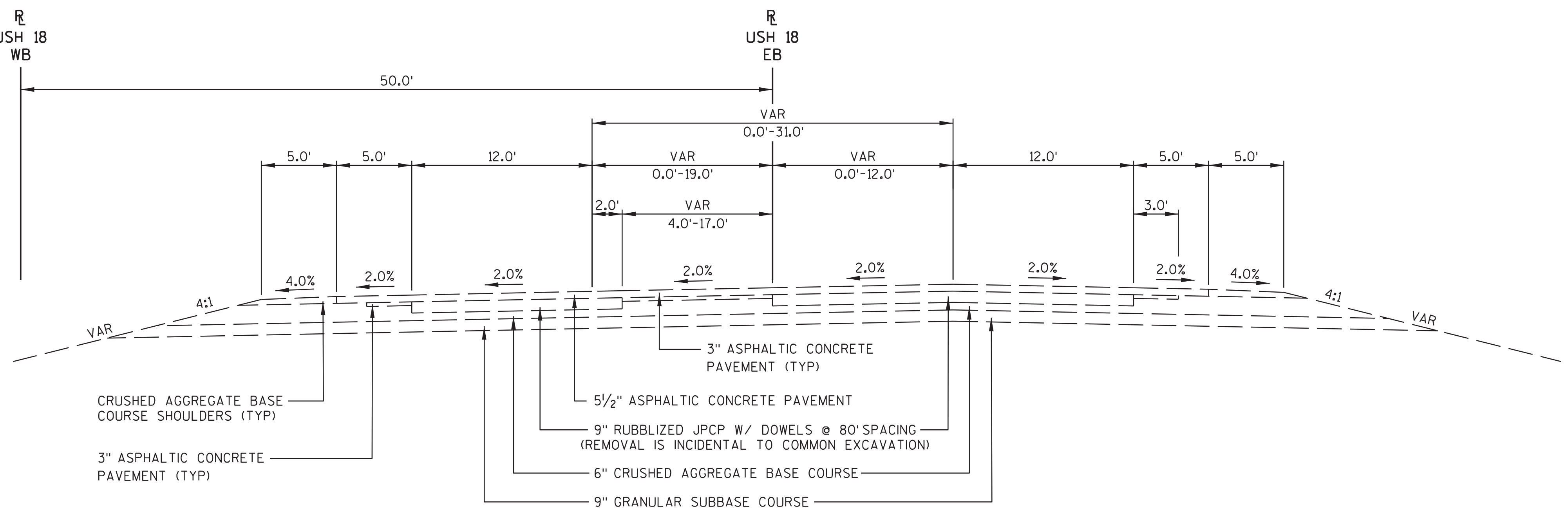


TYPICAL EXISTING SECTION RIGHT LANE
USH 18 EB
STA 308+29.8 EB TO STA 312+19.0 EB RT (OLD SCHOOL RD)

2

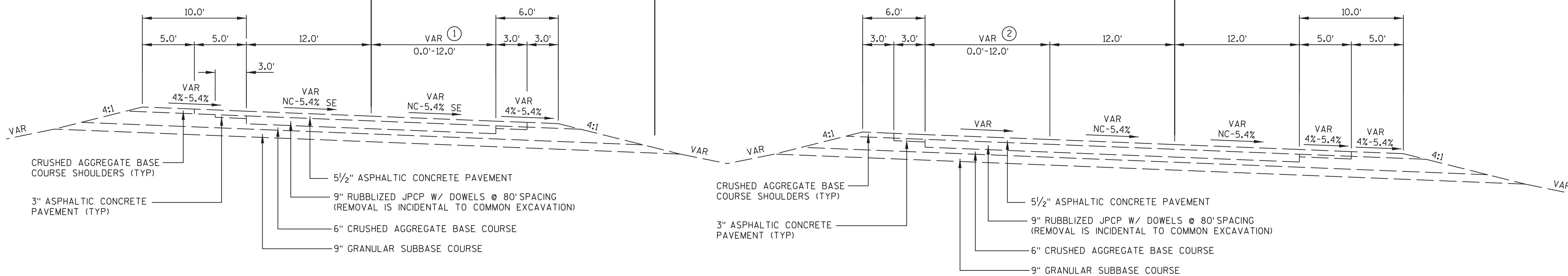
PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TYPICAL SECTIONS	SHEET 6	E

2

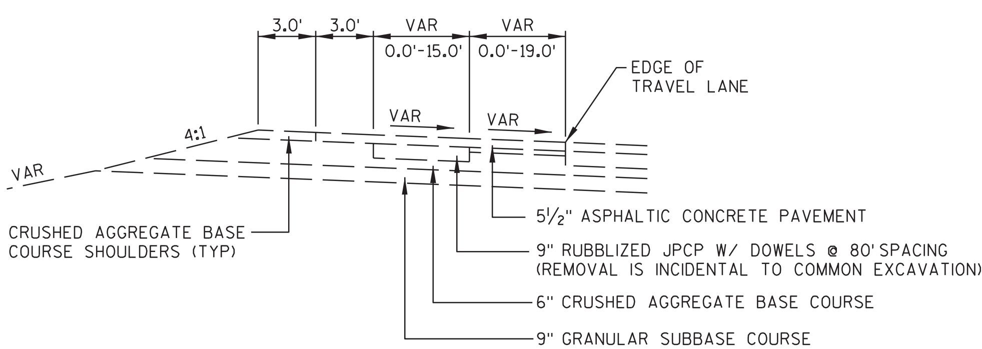


TYPICAL EXISTING SECTION 2 LANE TO 4 LANE TRANSITION

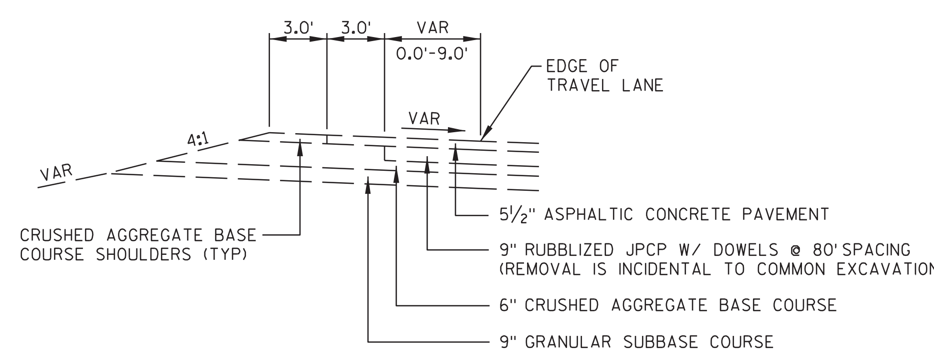
USH 18
STA 318+40.2 EB TO STA 324+50.5 EB
STA 318+40.2 WB TO STA 324+50.5 WB



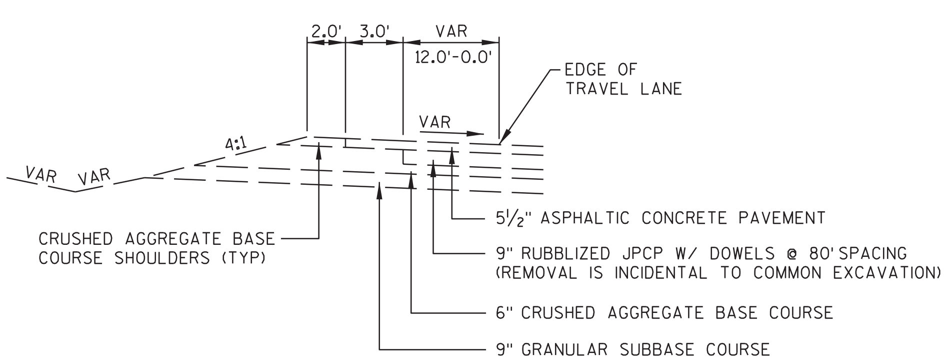
TYPICAL EXISTING SECTION - 4 LANE
USH 18
STA 324+50.5 EB TO STA 354+81.9 EB
STA 324+50.5 WB TO STA 346+50.1 WB



TYPICAL EXISTING SECTION - STH 60 ACCELERATION LANE
USH 18 WB
STA 332+80 WB TO STA 340+18.4 WB



TYPICAL EXISTING SECTION - LEFT TURN LANE
USH 18 EB
STA 350+93 EB TO STA 354+00 EB



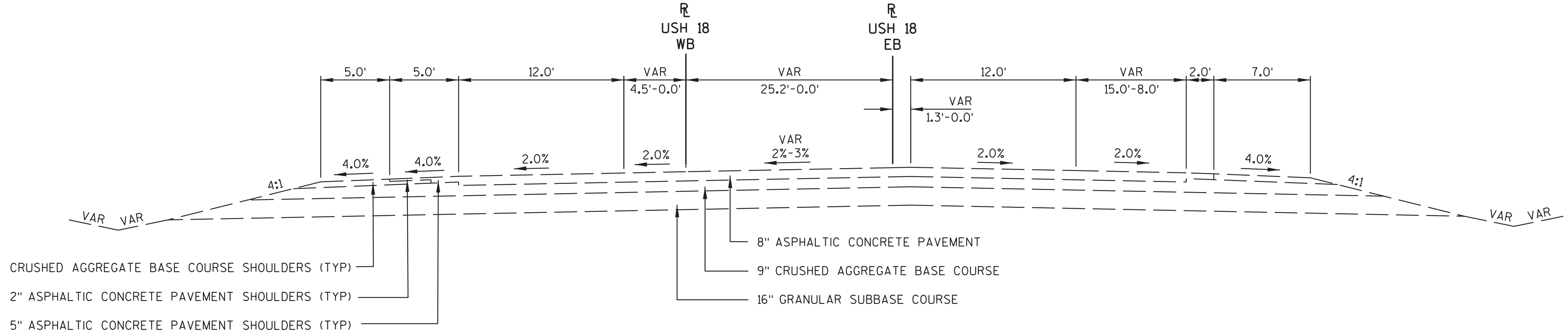
TYPICAL EXISTING SECTION - STH 60 DECELERATION LANE
USH 18 WB
STA 342+20 WB TO STA 346+05.6 WB

NOTES:

1. USH 18 WB INSIDE LANE (LANE DROP) VARIES FROM 0.0' TO 12.0' WIDE BETWEEN STA 325+30 WB TO STA 331+63 WB (ASBUILTS)
2. DECELERATION LANE / STH 60 CONNECTION VARIES 0.0' - 12.0' FROM STA 336+22 EB TO STA 341+57 EB LT.

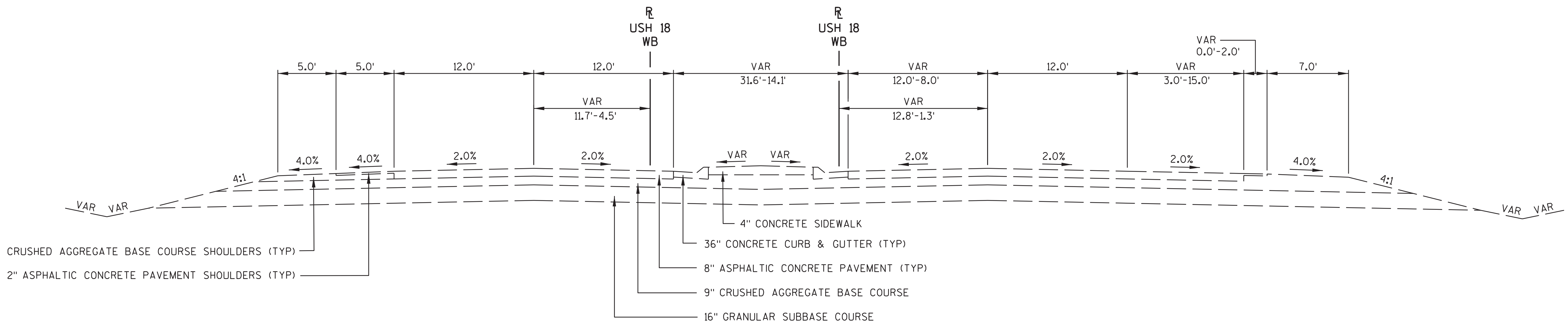
PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TYPICAL SECTIONS	SHEET 8	E

2



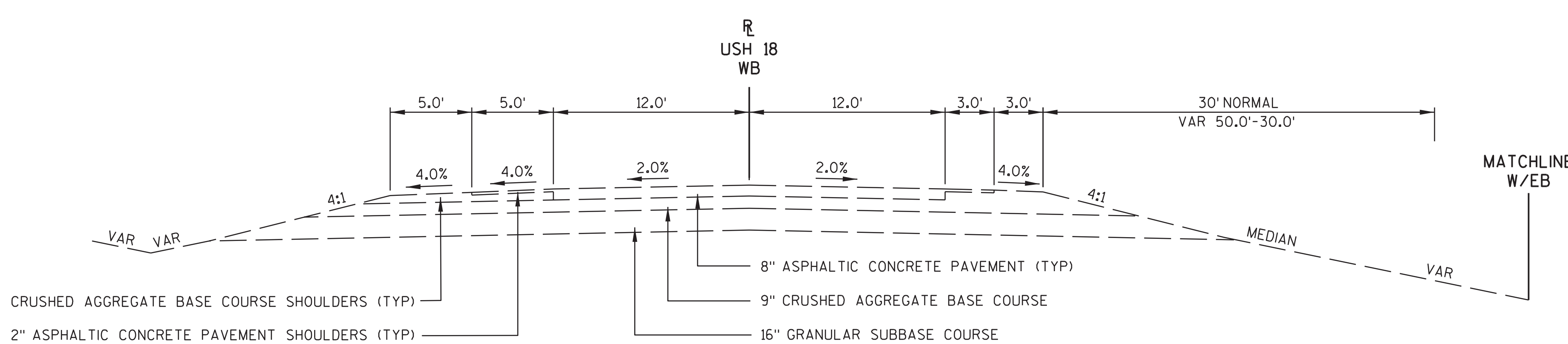
TYPICAL EXISTING SECTION

USH 18
STA 357+96 EB TO STA 365+67.8 EB
STA 358+37 WB TO STA 366+08.9 WB



TYPICAL EXISTING SECTION

USH 18
STA 354+81.9 EB TO STA 357+96 EB
STA 355+22.8 WB TO STA 358+37 WB



TYPICAL EXISTING SECTION

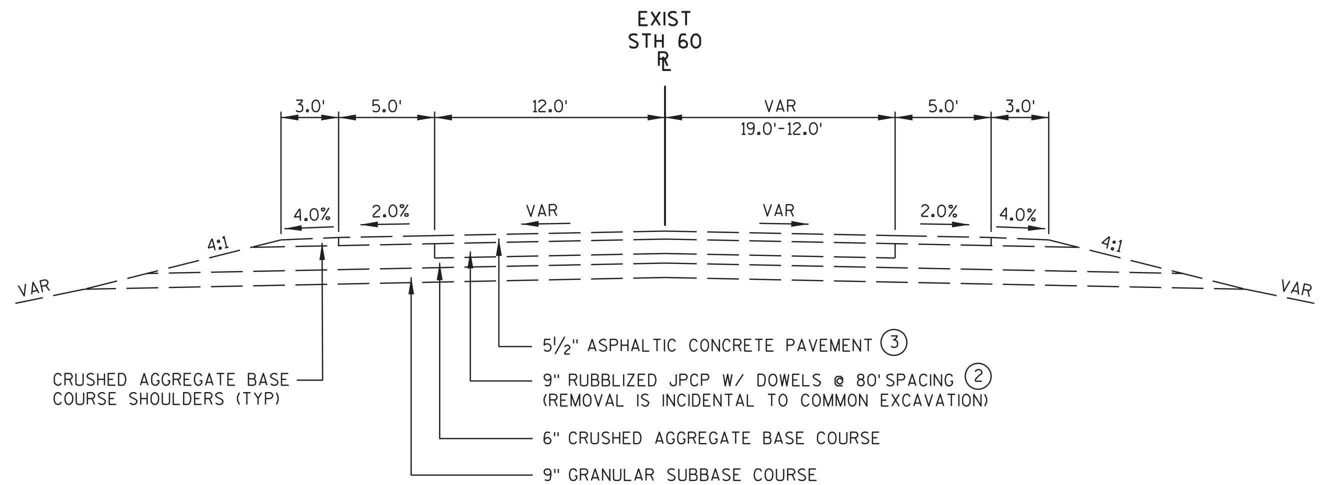
USH 18
STA 346+50.1 WB TO STA 355+22.8 WB

2

2

NOTES:

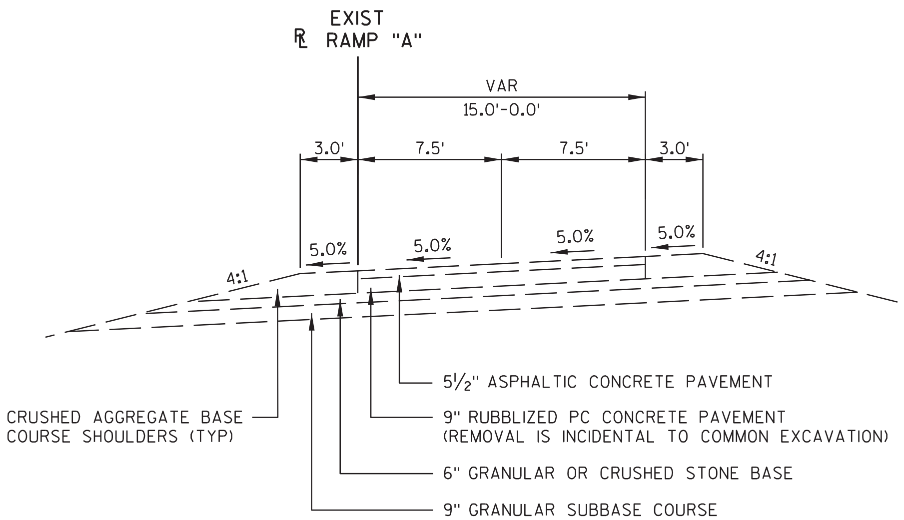
1. STATIONING LIMITS ALONG STH 60 WERE TAKEN FROM ASBUILT ALIGNMENTS.
2. 9" RUBBLIZED CONCRETE PAVEMENT ENDS AT STA 83+92.2
3. 5½" ASPHALTIC PAVEMENT CONTINUES TO STA 84+35.0



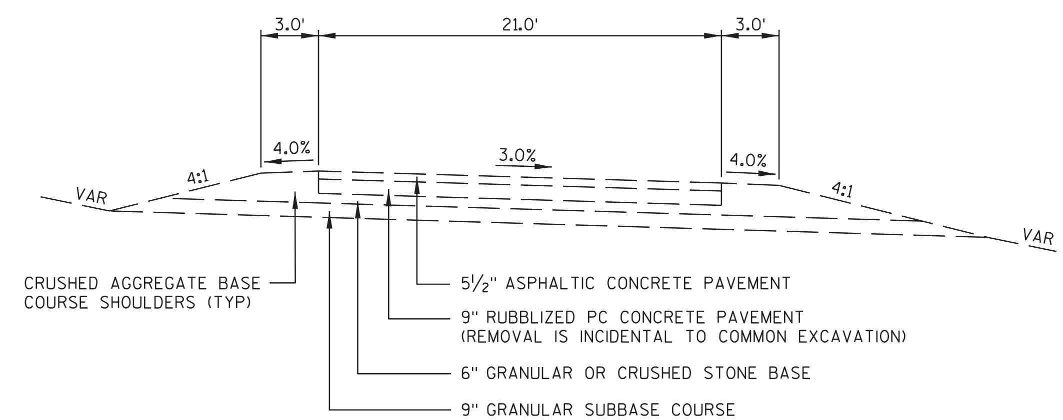
TYPICAL EXISTING SECTION

STH 60

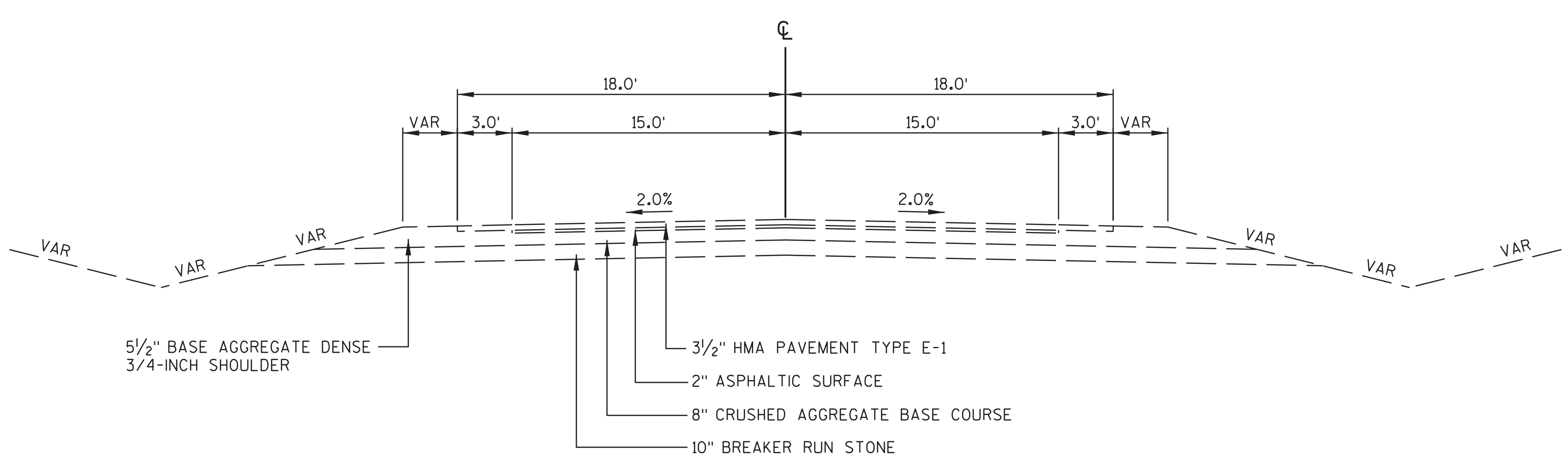
STA 80+12 TO STA 84+35.0 (1)



TYPICAL EXISTING "A" RAMP SECTION



TYPICAL EXISTING "B" RAMP SECTION



TYPICAL EXISTING SECTION

STH 60

STA 84+35.0 TO STA 89+50.0

NOTES:

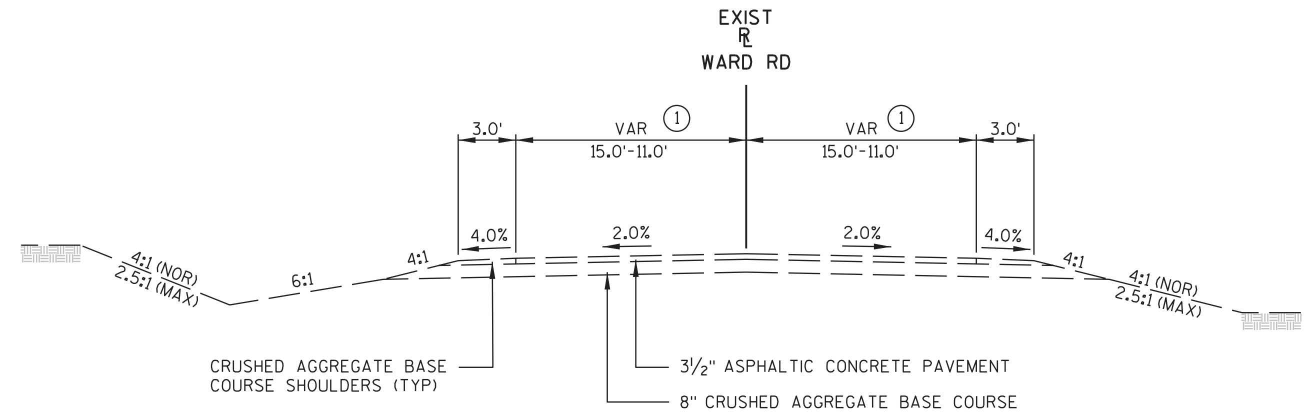
1. SIDE ROAD WIDTHS ARE MEASURED FROM THE EXISTING SIDE ROAD ALIGNMENTS UNLESS OTHERWISE NOTED.

   THE DISTANCE TO ALL CURB AND GUTTER RADII RETURNS ARE 15.0' FROM ℄ TO THE FLAG LINE OF CURB AND GUTTER.

2. WIDTH IS 19.0' ON UPPER BRIDGEPORT ROAD TO CURB AND GUTTER RADII RETURN.

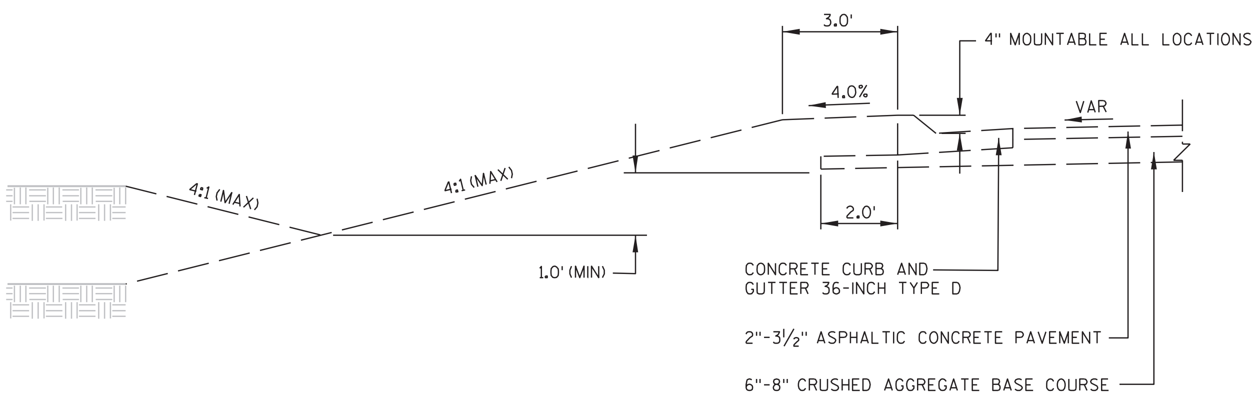
3. OLD STH 60 AND UPPER BRIDGE PORT ROAD WEST HAVE NO CURB AND GUTTER.

4. 1.0' SHOULDER PRESENT ON OLD 18 WEST.



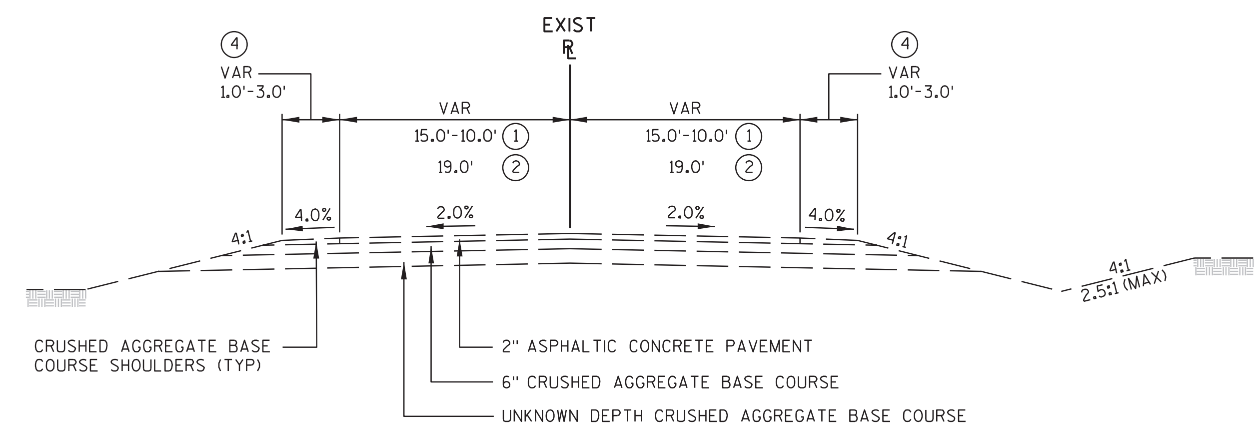
TYPICAL EXISTING SECTION

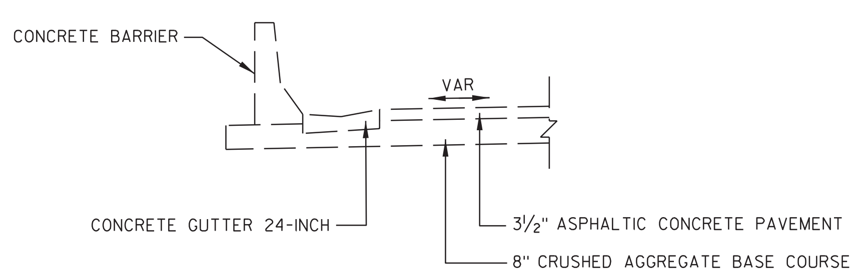
WARD ROAD



TYPICAL EXISTING PARTIAL SECTION

AT INTERSECTION RADII





TYPICAL EXISTING PARTIAL SECTION

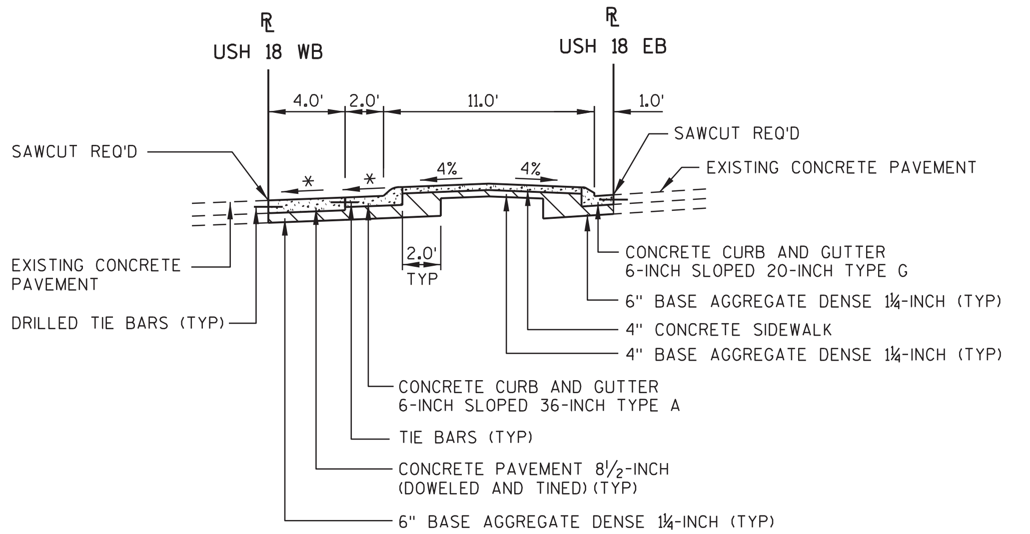
AT WARD ROAD BARRIER WALL

WARD ROAD

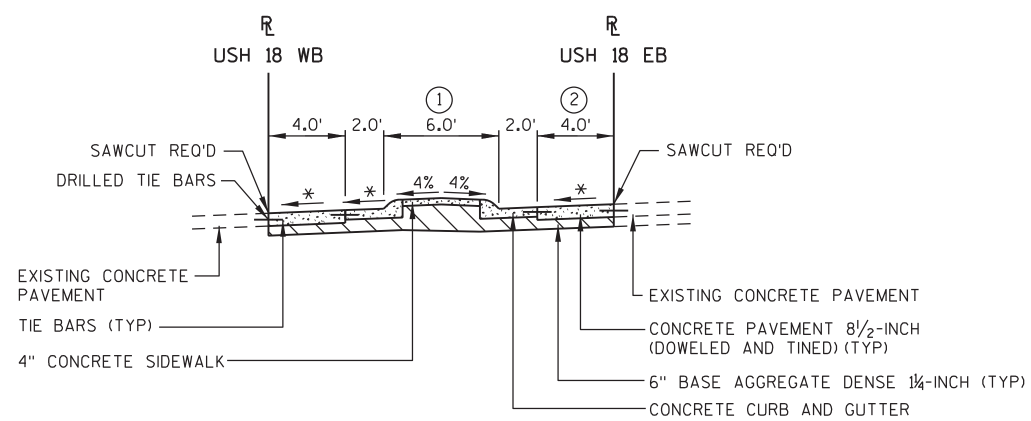
STA 53+17.88 TO STA 53+32.00

TYPICAL EXISTING SECTION

SUGARLOAF TRAIL (LT)
OLD USH 18 WEST (RT)
CABIN HILL LANE (RT)
UTOPIA LANE (LT)
OLD USH 18 EAST (RT)
BOUSKA ROAD (LT)
OLD SCHOOL LANE (RT)
GOLFVIEW DRIVE (RT)
UPPER BRIDGEPORT ROAD EAST (LT)
3 OLD STH 60 (LT)
3 UPPER BRIDGEPORT ROAD WEST (RT)



TYPICAL FINISHED SECTION
USH 18
STA 197+58 EB TO STA 199+50 EB



TYPICAL FINISHED SECTION
USH 18
STA 199+50.00 EB TO STA 200+12.33 EB & 200+71.38 WB

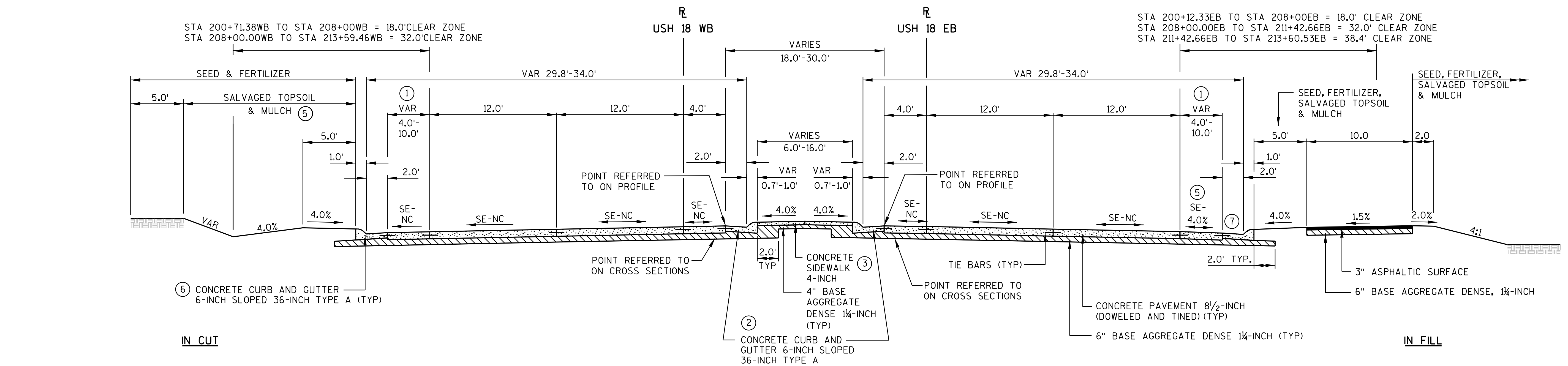
NOTES:

1 WIDTH VARIES FROM 11.0' TO 6.0' FROM STA 199+50.00 EB TO STA 200+10.00 EB.

2 WIDTH VARIES FROM 0' TO 4.0' FROM STA 199+50.00 EB TO STA 200+10.00 EB.

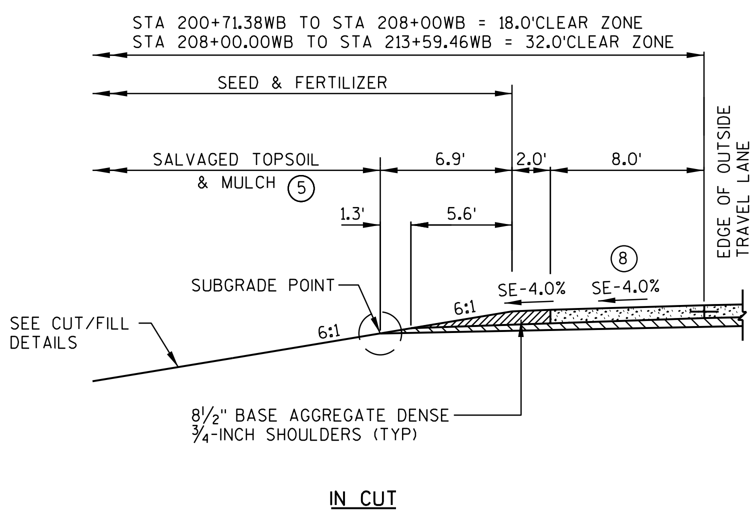
* SLOPE GUTTER AND PAVEMENT TO MATCH ADJACENT EXISTING PAVEMENT

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TYPICAL SECTIONS	SHEET 12	E



TYPICAL FINISHED SECTION - TRANSITION

USH 18
STA 200+12.33 EB TO STA 213+60.53 EB
STA 200+71.38 WB TO STA 213+59.46 WB (AHEAD)

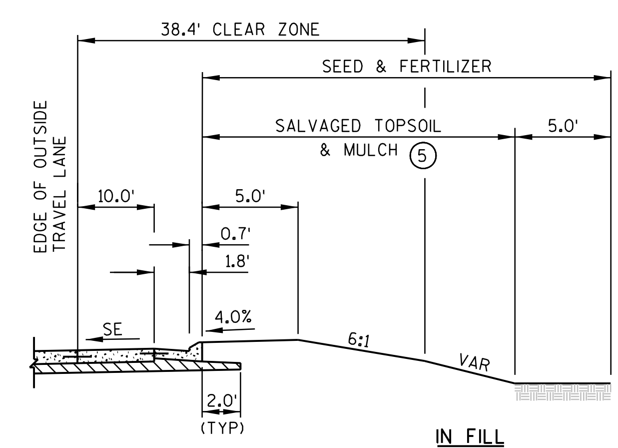


TYPICAL FINISHED SECTION - TRANSITION

USH 18
STA 206+81.31 WB (AHEAD) TO STA 213+59.46 WB

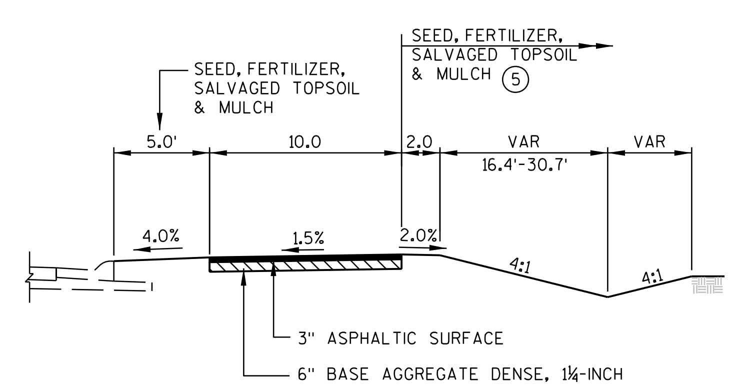
NOTES:

1. REFER TO PLAN AND PROFILES FOR WIDTHS AND TAPER LOCATIONS.
2. END CONCRETE CURB AND GUTTER 6-INCH SLOPED 20-INCH TYPE G AND BEGIN CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE A AT STA 199+29.94 EB AND STA 197+60.84 WB.
3. REFER TO PLAN AND PROFILE SHEETS FOR CONCRETE SIDEWALK 4-INCH LOCATIONS.
4. REFER TO THE CROSS SECTIONS FOR SLOPES AND WIDTHS.
5. EROSION MAT ON SLOPES STEEPER THAN 4:1. REFER TO EROSION CONTROL PLANS FOR TYPE & LOCATION OF EROSION CONTROL MATERIALS.
6. TRANSITION FROM EXISTING CURB AND GUTTER TYPE TO NEW CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE A IN 10'FROM SAWCUT.
7. CONCRETE CURB AND GUTTER 6-INCH SLOPED 30-INCH TYPE G FROM STA 200+12.30 EB TO STA 200+51.70 EB. TRANSITION TO CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE A IN 10'.
8. TRANSITION BETWEEN 2% AND 4% AT STA 211+40.00 WB LT TO STA 211+85.47 WB LT.



TYPICAL FINISHED SECTION - URBAN

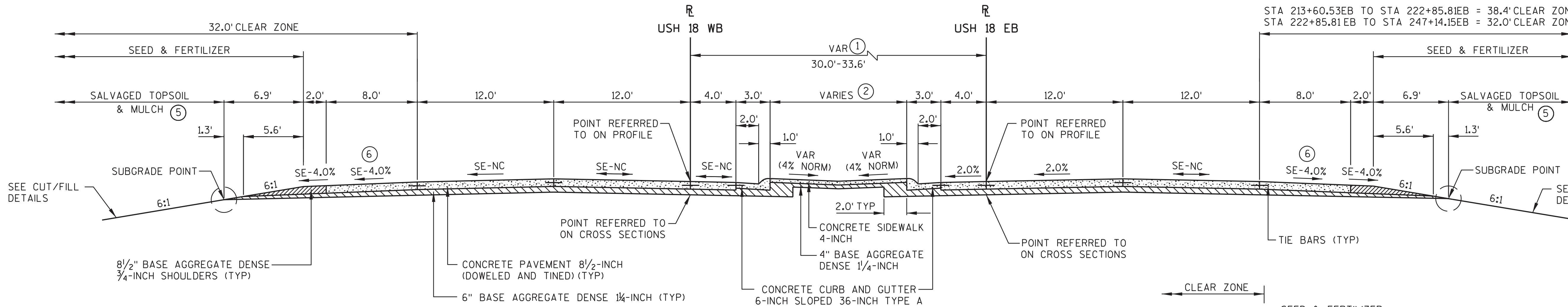
USH 18
STA 212+81.31 EB TO STA 213+60.53 EB



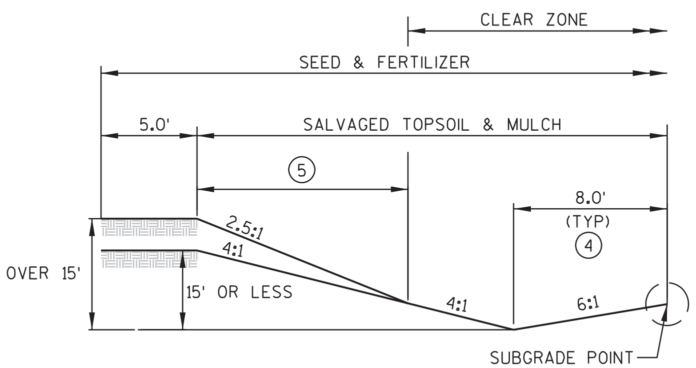
TYPICAL FINISHED SECTION - MULTI-USE PATH

USH 18
STA 195+94.73 EB TO STA 200+12.33 EB

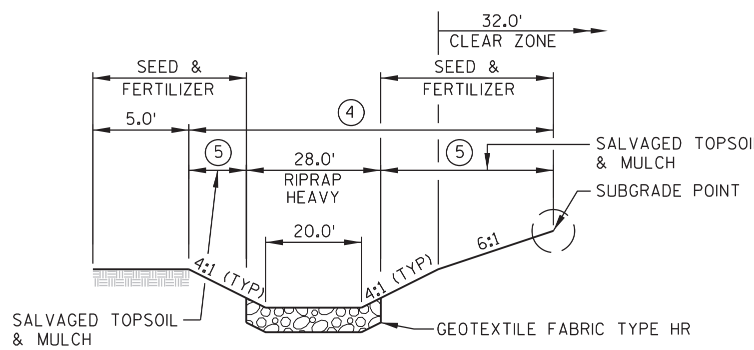
2



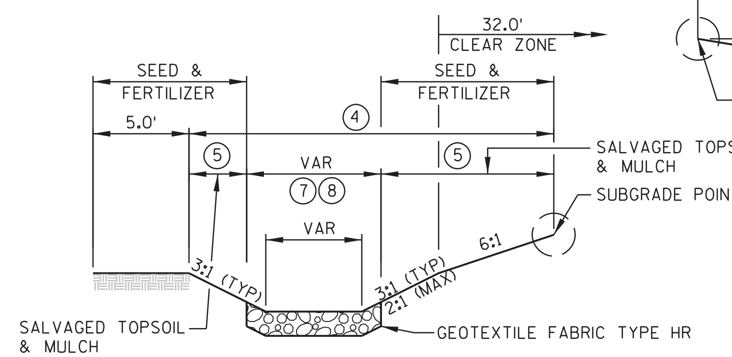
TYPICAL FINISHED SECTION
USH 18
STA 213+60.53 EB TO STA 247+14.15 EB
STA 213+59.46 WB (AHEAD) TO STA 247+14.18 WB



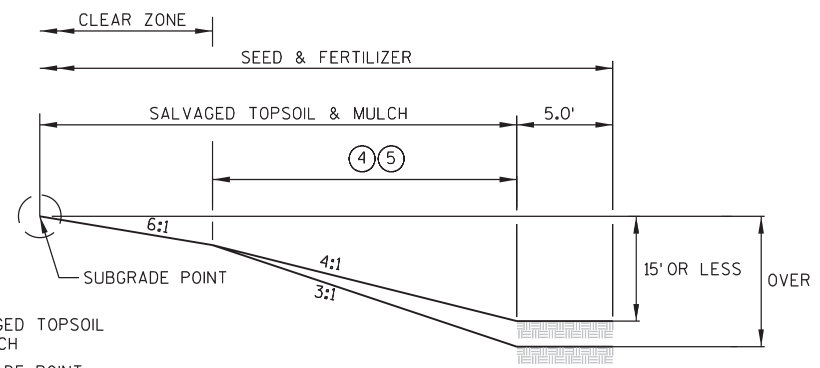
CUT DETAIL



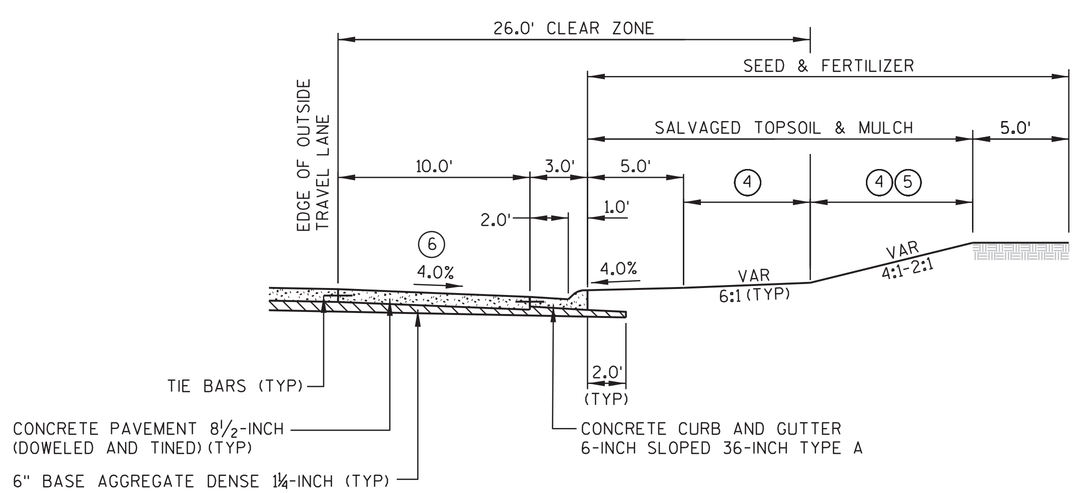
TYPICAL FINISHED SECTION - FLAT BOTTOM DITCH
USH 18
STA 212+55.94 WB TO STA 220+00.00 WB LT



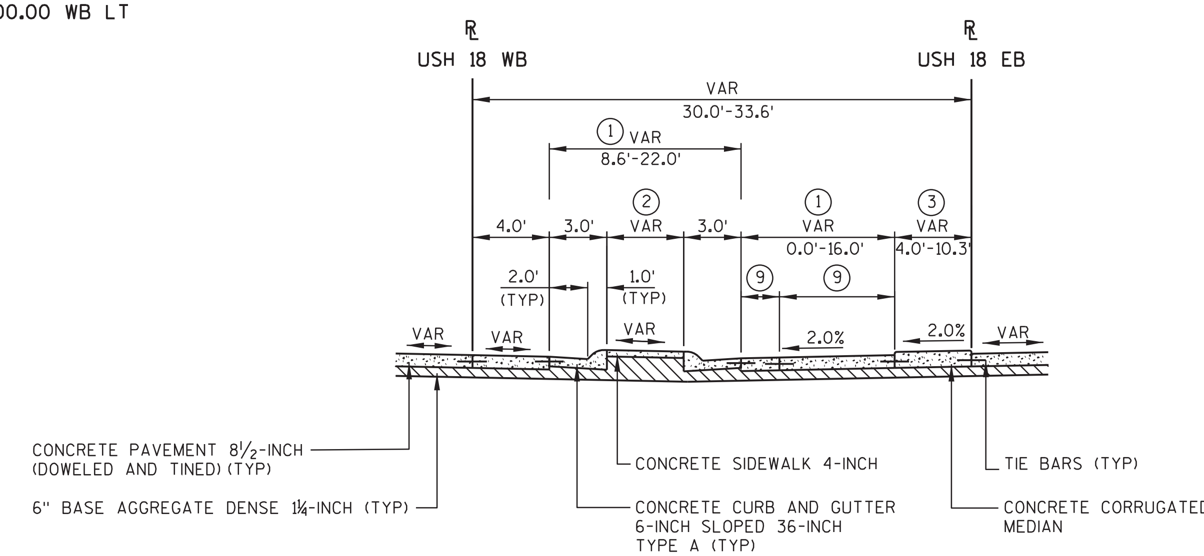
TYPICAL FINISHED SECTION - FLAT BOTTOM DITCH
USH 18
STA 227+15.95 WB TO STA 228+79.00 WB LT (7)
STA 229+27.50 WB TO STA 231+83.50 WB LT (8)



FILL DETAIL



TYPICAL FINISHED SECTION - URBAN SHOULDER
USH 18
STA 223+00.00 EB TO STA 229+00.00 EB RT
STA 244+24.54 EB TO STA 253+00.00 EB RT
STA 257+50.00 EB TO STA 260+75.00 EB RT
STA 302+75.00 EB TO STA 305+63.18 EB RT

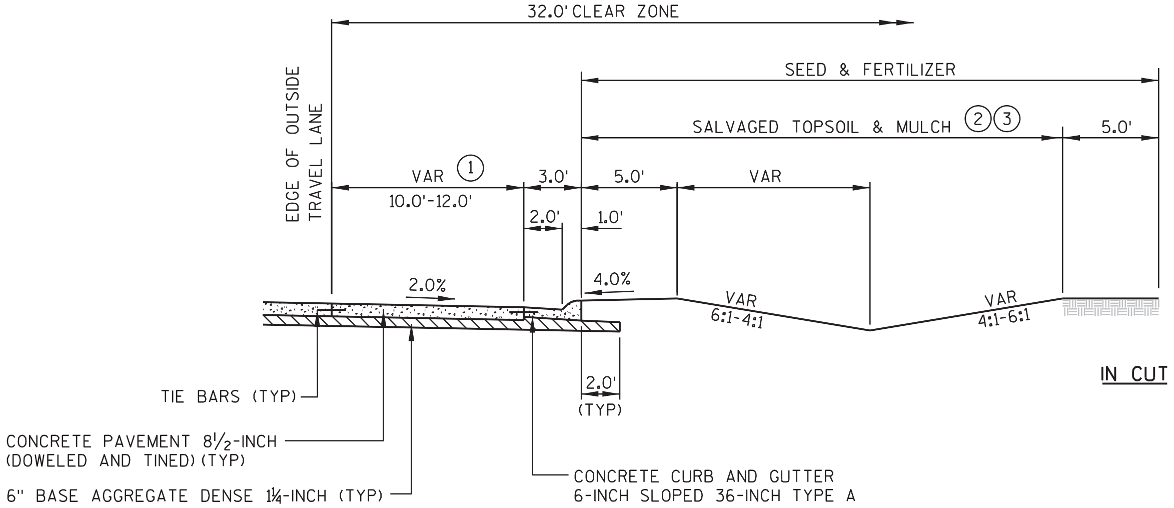


TYPICAL FINISHED SECTION - LEFT TURN LANE (URBAN)
USH 18
STA 206+90.91 EB TO STA 211+84.52 EB LT
STA 213+01.39 WB TO STA 217+93.19 WB RT
STA 238+03.78 EB TO STA 242+95.48 EB LT
STA 244+12.04 WB TO STA 247+14.18 WB RT

NOTES:

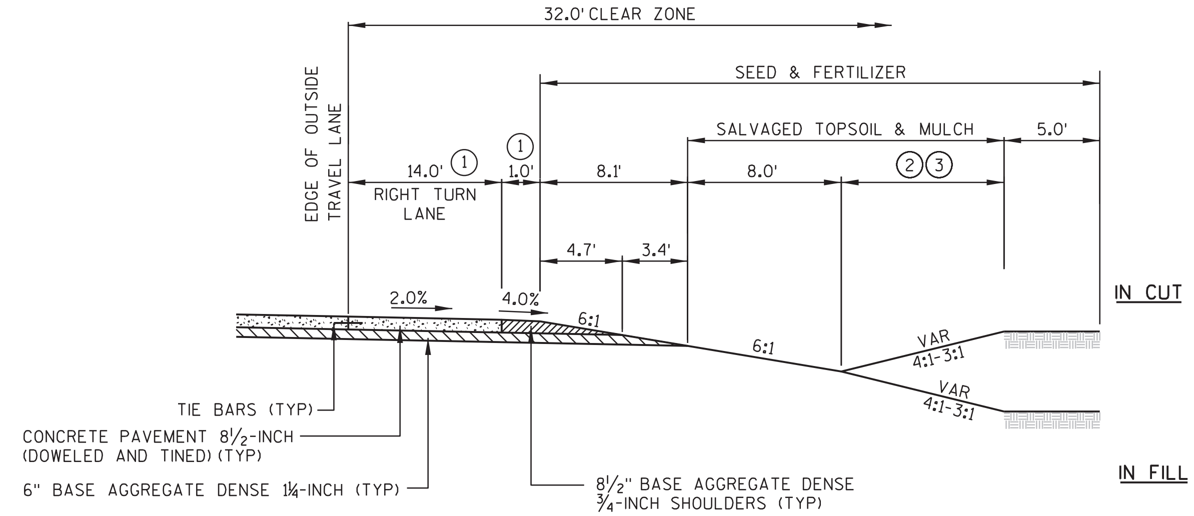
1. REFER TO PLAN AND PROFILES AND INTERSECTION DETAILS FOR WIDTHS AND TAPER LOCATIONS.
2. WHERE MEDIAN SIDEWALK WIDTH IS 16'.0', CONSTRUCT DEPRESSED MEDIAN.
3. REFER TO PLAN AND PROFILE FOR CONCRETE CORRUGATED MEDIAN LOCATIONS.
4. REFER TO THE CROSS SECTIONS FOR SLOPES AND WIDTHS.
5. EROSION MAT ON SLOPES STEEPER THAN 4:1. REFER TO EROSION CONTROL PLANS FOR TYPE & LOCATION OF EROSION CONTROL MATERIALS.
6. TRANSITION BETWEEN 2% AND 4% AT
   237+94.14 EB RT TO 238+42.14 EB RT
   241+51.21 WB LT TO 241+99.21 WB LT
   245+07.50 WB LT TO 245+55.50 WB LT
7. INSTALL RIPRAP HEAVY TO AN ELEVATION OF 658.00.
8. INSTALL RIPRAP TO AN ELEVATION OF 659.00. SEE EROSION CONTROL PLANS FOR RIPRAP TYPE.
9. MAXIMUM WIDTH BEFORE LONGITUDINAL JOINT IS REQUIRED IS 15.0' AND MINIMUM WIDTH IS 2.0'.

2



TYPICAL FINISHED SECTION - RIGHT TURN LANE (URBAN)

USH 18
STA 239+92.14 EB TO STA 244+24.54 EB RT
STA 305+63.18 EB TO STA 310+10.09 EB RT

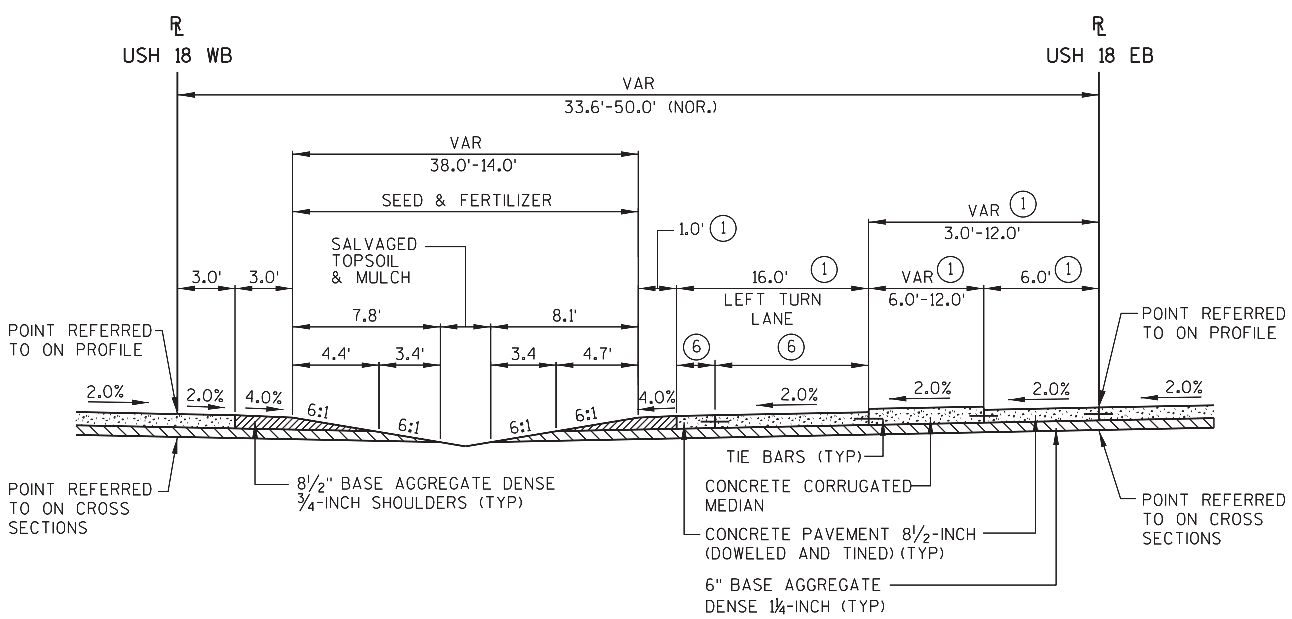


TYPICAL FINISHED SECTION - RIGHT TURN LANE (RURAL)

USH 18
STA 210+85.47 WB TO STA 217+72.52 WB LT
STA 241+99.21 WB TO STA 248+82.92 WB LT
STA 272+58.86 WB TO STA 279+38.86 WB LT
STA 282+57.02 EB TO STA 289+49.06 EB RT
STA 286+40.32 WB TO STA 293+26.54 WB LT
STA 309+17.17 WB TO STA 316+06.13 WB LT ⑤

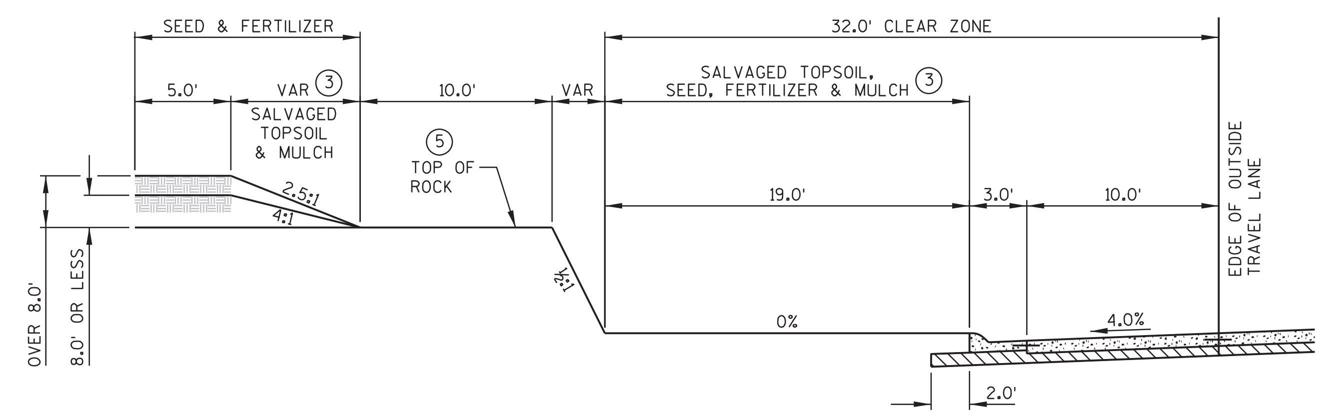
NOTES:

1. REFER TO PLAN AND PROFILES AND INTERSECTION DETAILS FOR WIDTHS AND TAPER LOCATIONS.
2. REFER TO THE CROSS SECTIONS FOR SLOPES AND WIDTHS.
3. EROSION MAT ON SLOPES STEEPER THAN 4:1. REFER TO EROSION CONTROL PLANS FOR TYPE & LOCATION OF EROSION CONTROL MATERIALS.
4. BEGIN 12" SELECT CRUSHED MATERIAL, GEOGRID AND PIPE UNDERDRAIN 6-INCH UNDER BASE AGGREGATE AT STA 315+31.21 WB.
5. DEPTH OF ROCK UNKNOWN
6. MAXIMUM WIDTH BEFORE LONGITUDINAL JOINT IS REQUIRED IS 15.0' AND MINIMUM WIDTH IS 2.0'.



TYPICAL FINISHED SECTION - LEFT TURN LANE (RURAL)

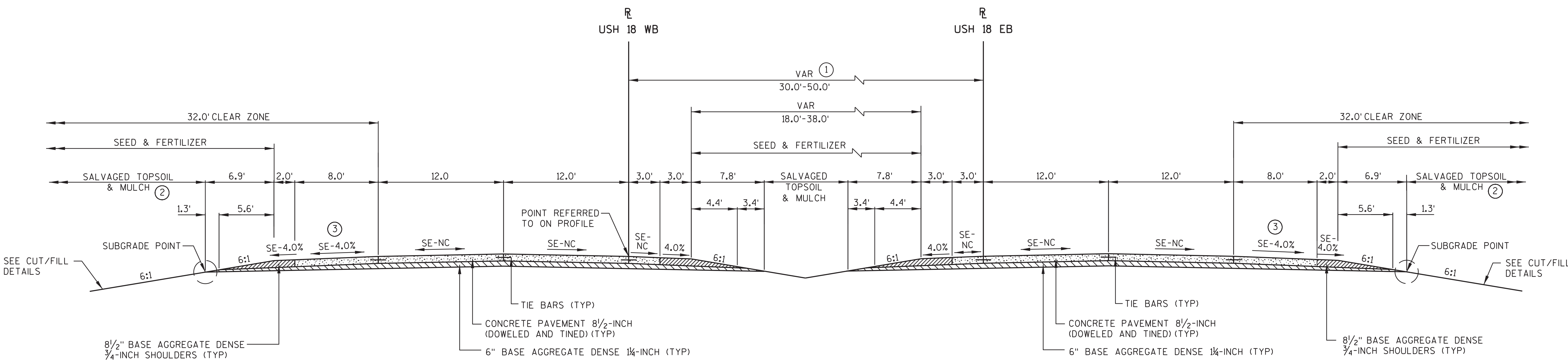
USH 18
STA 247+13.80 WB TO 249+03.57 WB RT
STA 266+08.86 EB TO STA 273+68.50 EB LT
STA 280+38.91 EB TO STA 284+34.99 EB LT
STA 291+68.02 WB TO STA 295+64.10 WB RT
STA 303+14.17 EB TO STA 307+10.25 EB RT
STA 311+34.51 WB TO STA 314+26.17 WB RT
STA 314+26.17 EB TO STA 315+31.21 EB LT
STA 314+52.09 WB TO STA 315+31.21 WB RT



TYPICAL FINISHED SECTION - ROCK CUT

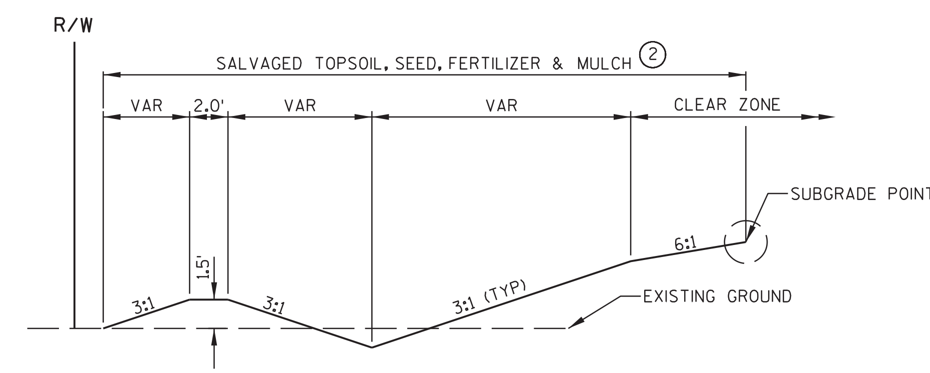
USH 18
STA 236+30.00 WB TO STA 239+25.00 WB LT

2



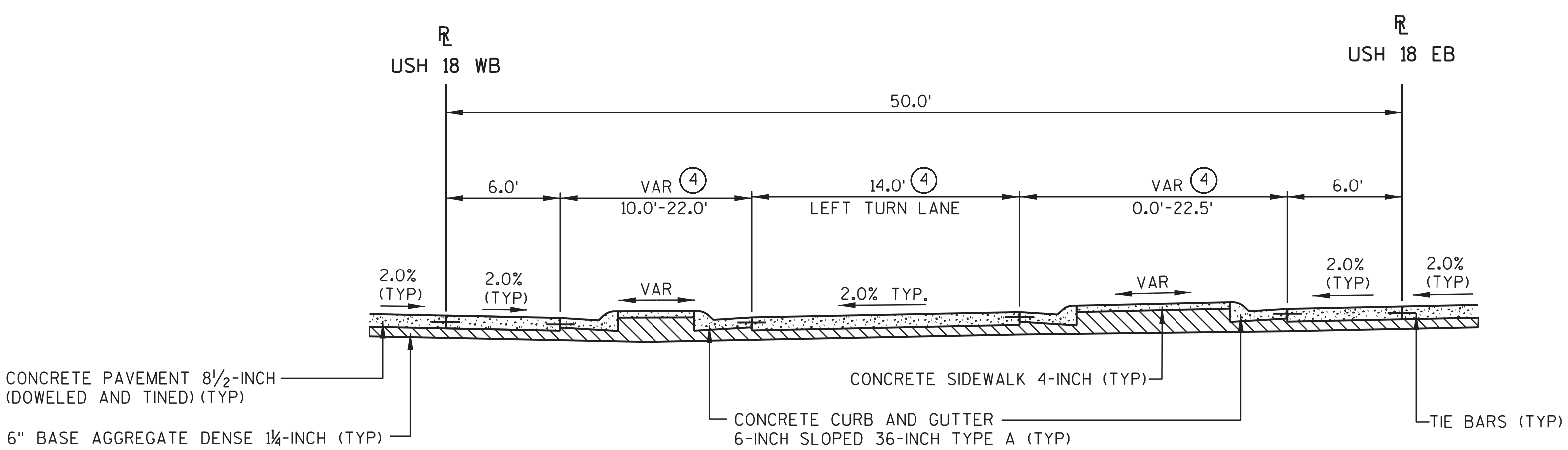
TYPICAL FINISHED SECTION

USH 18
STA 247+14.15 EB TO STA 315+31.21 EB
STA 247+13.92 WB TO STA 315+31.21 WB



TYPICAL FINISHED SECTION - DITCH BERM

USH 18
STA 250+75.00 TO STA 252+00.00 LT



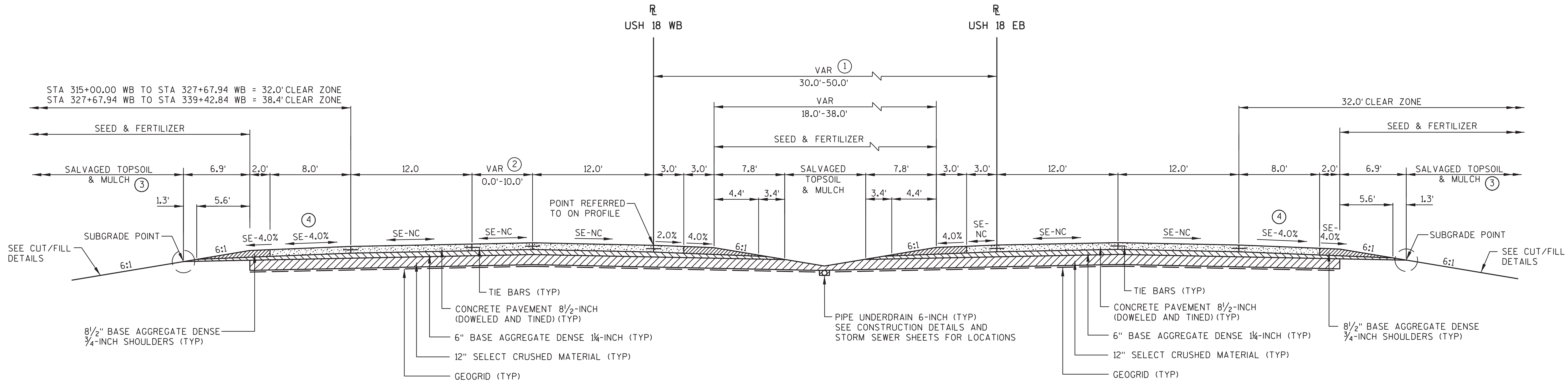
TYPICAL FINISHED SECTION - LEFT TURN LANE (URBAN)

USH 18
STA 284+34.99 EB TO STA 287+47.31 EB LT
STA 288+57.34 WB TO STA 291+68.02 WB RT
STA 307+10.25 EB TO STA 310+27.83 EB LT
STA 311+34.51 WB TO STA 314+52.09 WB RT

NOTES:

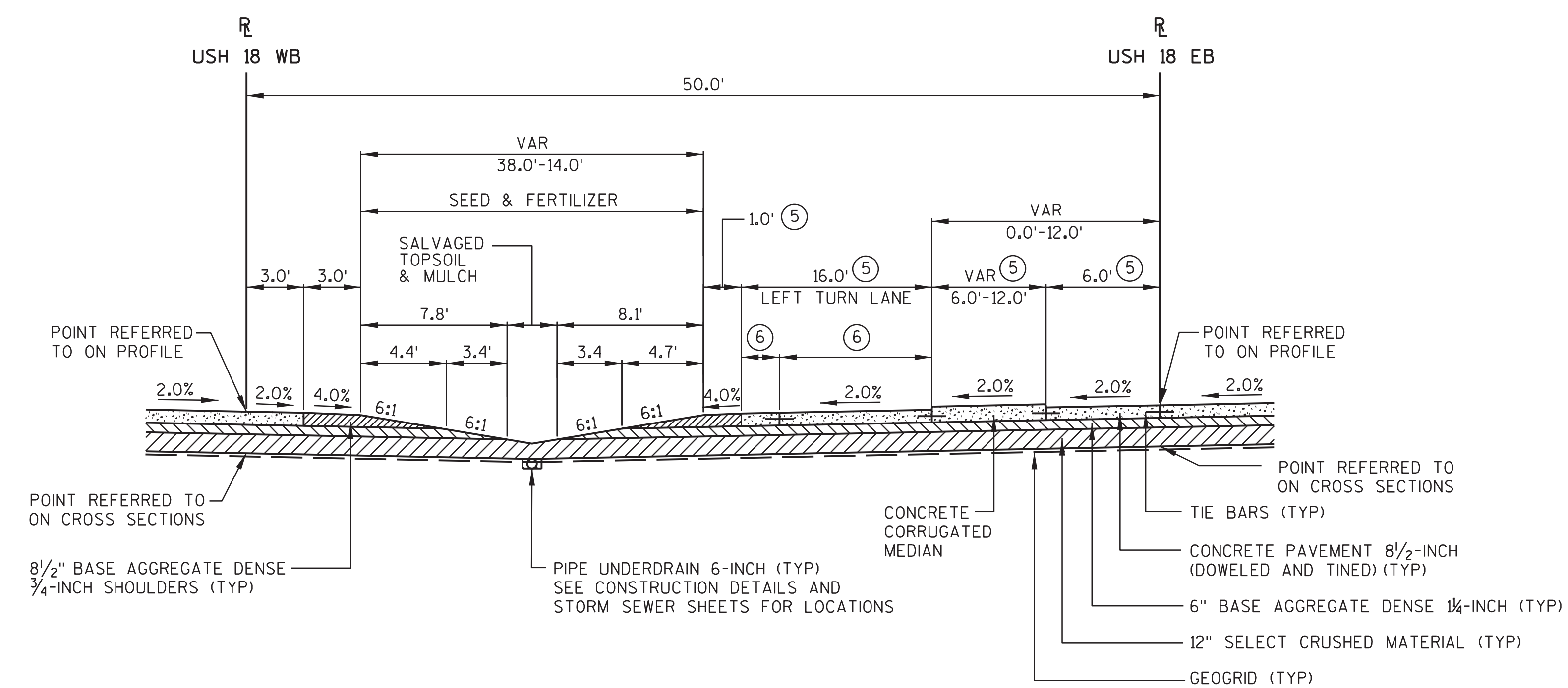
1. MEDIAN WIDTH VARIES FROM 30.0'-50.0' WIDE FROM THE FOLLOWING STATIONS:
   STA 244+31.62 EB TO STA 253+73.74 EB
   STA 244+31.62 WB TO STA 253+73.74 WB (AHEAD)
2. EROSION MAT ON SLOPES STEEPER THAN 4:1. REFER TO EROSION CONTROL PLANS FOR TYPE & LOCATION OF EROSION CONTROL MATERIALS.
3. TRANSITION BETWEEN 2% AND 4% AT
   248+82.92 EB RT TO 249+35.92 EB RT
   272+05.86 WB LT TO 272+58.86 WB LT
   279+38.86 WB LT TO 279+91.86 WB LT
   282+04.02 EB RT TO 282+57.02 EB RT
   285+87.32 WB LT TO 286+40.32 WB LT
   289+49.06 EB RT TO 290+02.06 EB RT
   293+24.77 WB LT TO 293+77.77 WB LT
   305+10.18 EB RT TO 305+63.18 EB RT
   308+64.17 WB LT TO 309+17.17 WB LT
   312+59.17 EB RT TO 313+12.17 EB RT
4. REFER TO PLAN AND PROFILES AND INTERSECTION DETAILS FOR WIDTHS AND TAPER LOCATIONS.

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TYPICAL SECTIONS	SHEET 16	E



TYPICAL FINISHED SECTION

USH 18
STA 315+31.21 EB TO STA 334+15.84 EB (AHEAD)
STA 315+31.21 WB TO STA 339+55.07 WB

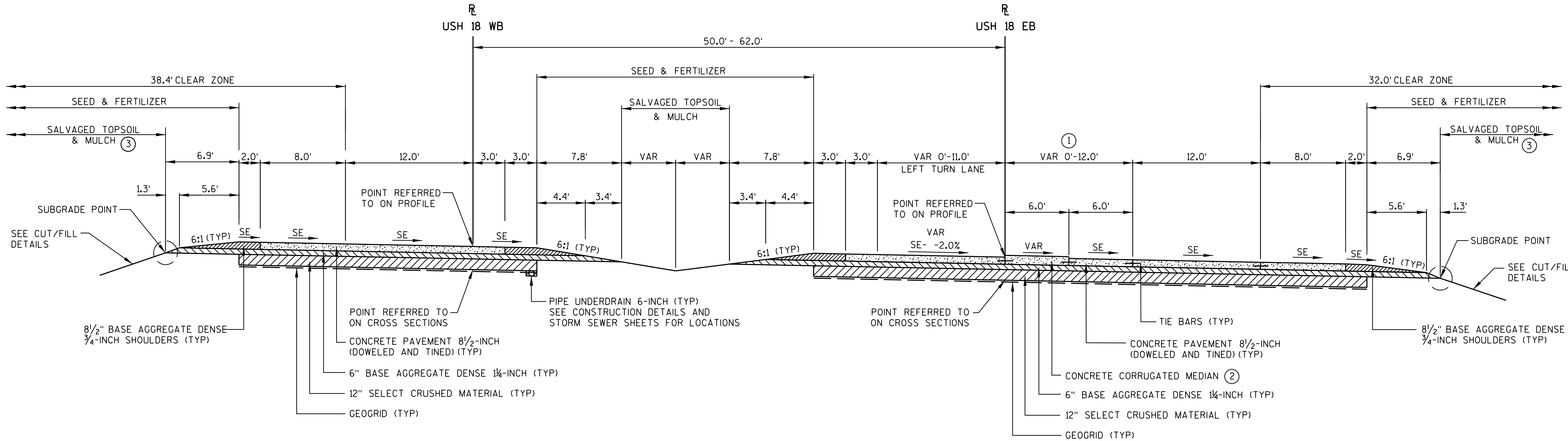


TYPICAL FINISHED SECTION - LEFT TURN LANE (RURAL)

USH 18
STA 322+77.32 WB TO STA 330+38.15 WB RT
STA 315+31.21 EB TO STA 321+85.81 EB LT
STA 315+31.21 WB TO STA 318+48.17 WB RT
STA 322+77.32 WB TO STA 330+02.10 WB

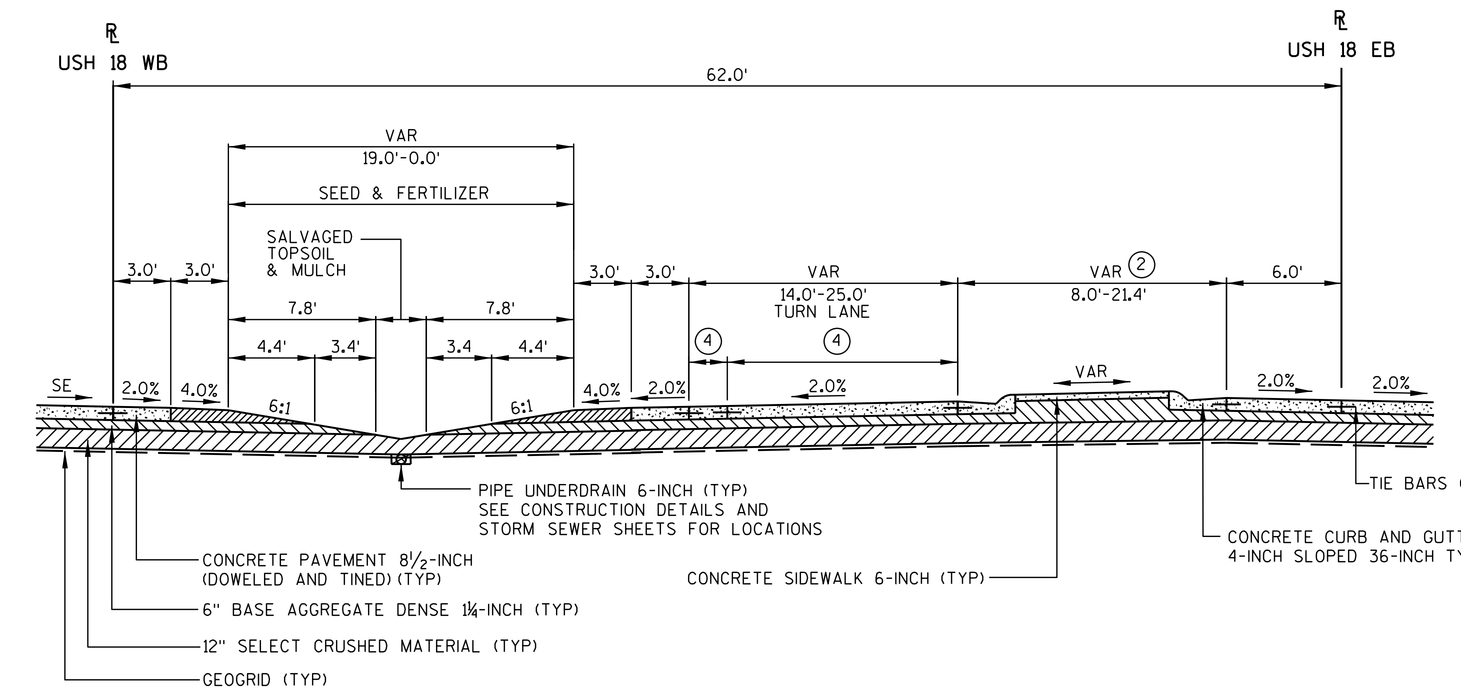
NOTES:

1. MEDIAN WIDTH VARIES FROM 30.0'-50.0' WIDE FROM THE FOLLOWING STATIONS:
   STA 244+31.62 EB TO STA 253+73.74 EB
   STA 244+31.62 WB TO STA 253+73.74 WB (AHEAD)
2. CONCRETE PAVEMENT VARIES FROM 0.0'-10.0' FROM STA 338+51.11 WB TO STA 339+42.48 WB. REFER TO STH 60 INTERSECTION DETAIL SHEET FOR LIMITS OF CONCRETE PAVEMENT.
3. EROSION MAT ON SLOPES STEEPER THAN 4:1 REFER TO EROSION CONTROL PLANS FOR TYPE & LOCATION OF EROSION CONTROL MATERIALS.
4. TRANSITION BETWEEN 2% AND 4% AT
   316+06.13 WB LT TO 316+59.13 WB LT
   327+56.17 EB RT TO 328+19.17 EB RT
   353+64.28 EB RT TO 353+17.28 EB RT
   359+96.27 EB RT TO 360+49.27 EB RT
   321+23.17 WB LT TO 321+76.17 WB LT
   322+96.17 WB LT TO 323+49.17 WB LT
5. REFER TO PLAN AND PROFILES AND INTERSECTION DETAILS FOR WIDTHS AND TAPER LOCATIONS.
6. MAXIMUM WIDTH BEFORE LONGITUDINAL JOINT IS REQUIRED IS 15.0' AND MINIMUM WIDTH IS 2.0'.



TYPICAL FINISHED SECTION

USH 18
STA 334+15.84 EB TO STA 341+86.45 EB
STA 339+55.07 WB TO STA 342+46.64 WB

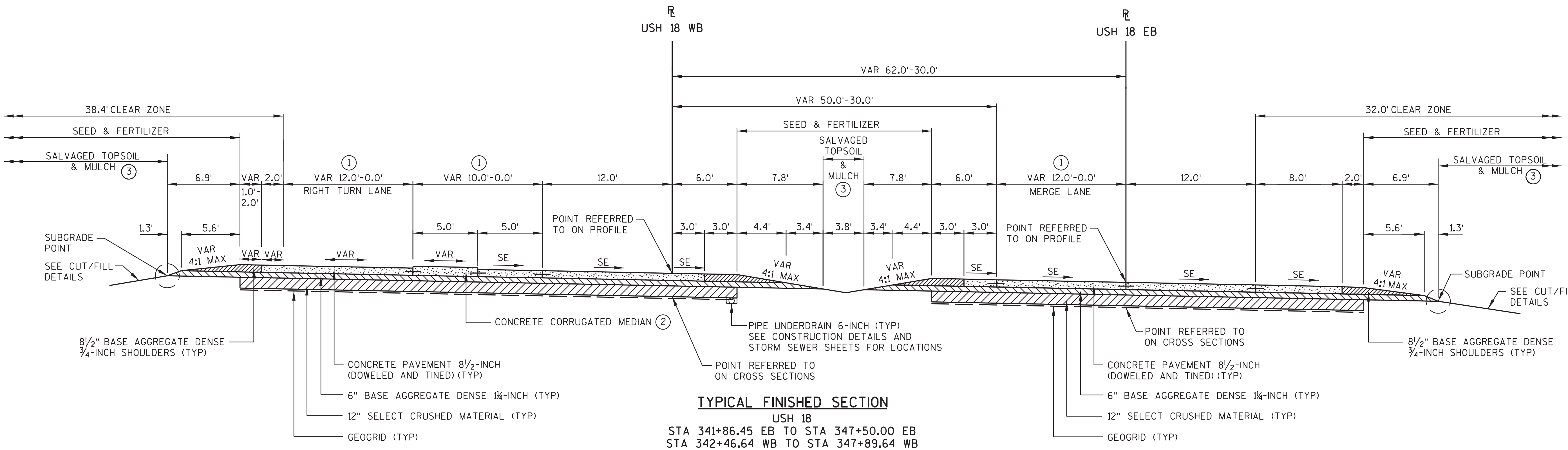


TYPICAL FINISHED SECTION - LEFT TURN LANE

USH 18
STA 340+47.03 EB TO STA 342+02.83 EB

NOTES:

1. REFER TO PLAN AND PROFILES AND INTERSECTION DETAIL SHEETS FOR CORRUGATED CONCRETE MEDIAN WIDTHS AND TAPER LOCATIONS.
2. REFER TO PLAN AND PROFILE AND INTERSECTION DETAIL SHEETS FOR RAISED MEDIAN LAYOUT AND LOCATION.
3. EROSION MAT ON SLOPES STEEPER THAN 4:1. REFER TO EROSION CONTROL PLANS FOR TYPE & LOCATION OF EROSION CONTROL MATERIALS.
4. MAXIMUM WIDTH BEFORE LONGITUDINAL JOINT IS REQUIRED IS 15.0' AND MINIMUM WIDTH IS 2.0'.



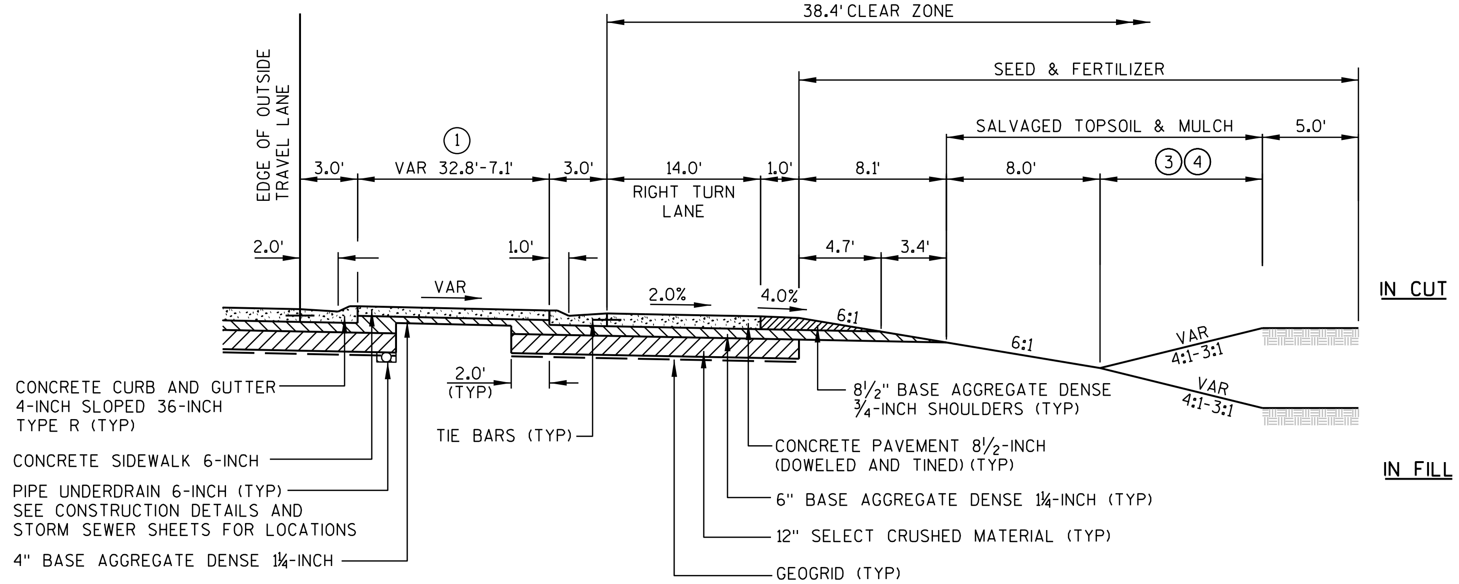
TYPICAL FINISHED SECTION

USH 18
STA 341+86.45 EB TO STA 347+50.00 EB
STA 342+46.64 WB TO STA 347+89.64 WB

NOTES:

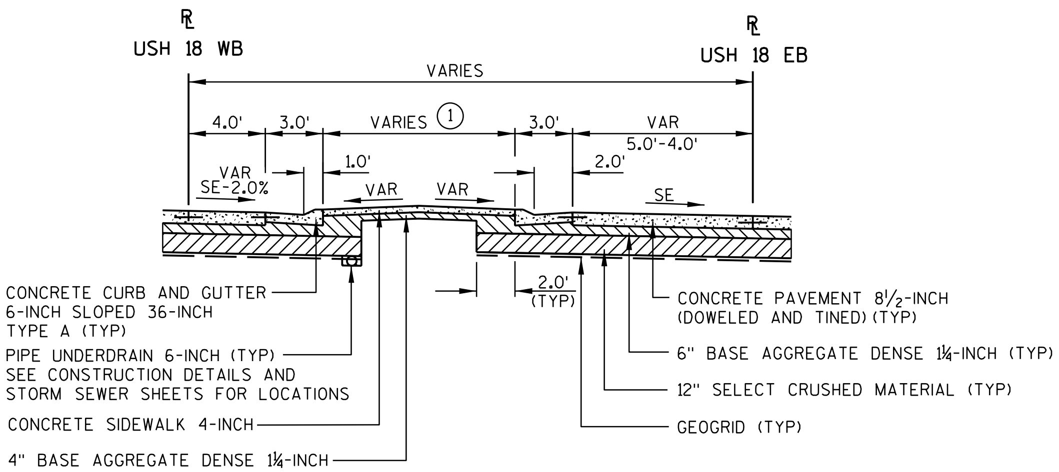
1. REFER TO PLAN AND PROFILES AND INTERSECTION DETAILS FOR WIDTHS AND TAPER LOCATIONS.
2. REFER TO INTERSECTION DETAIL SHEETS AND DETAILS FOR RAISED MEDIAN LAYOUT AND LOCATIONS.
3. EROSION MAT ON SLOPES STEEPER THAN 4:1. REFER TO EROSION CONTROL PLANS FOR TYPE & LOCATION OF EROSION CONTROL MATERIALS.

2



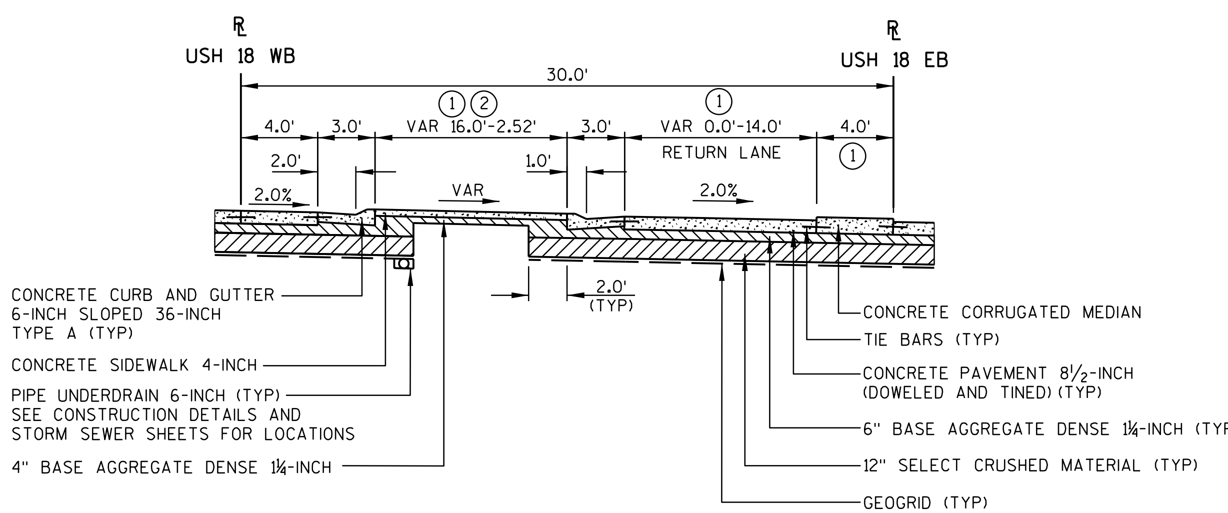
TYPICAL FINISHED SECTION - RIGHT TURN LANE TO STH 60

USH 18
STA 342+46.64 WB TO STA 343+37.69 WB



TYPICAL FINISHED SECTION-MEDIAN

USH 18
STA 347+50.00 EB TO STA 350+25.23 EB
STA 347+89.64 WB TO STA 350+66.16 WB

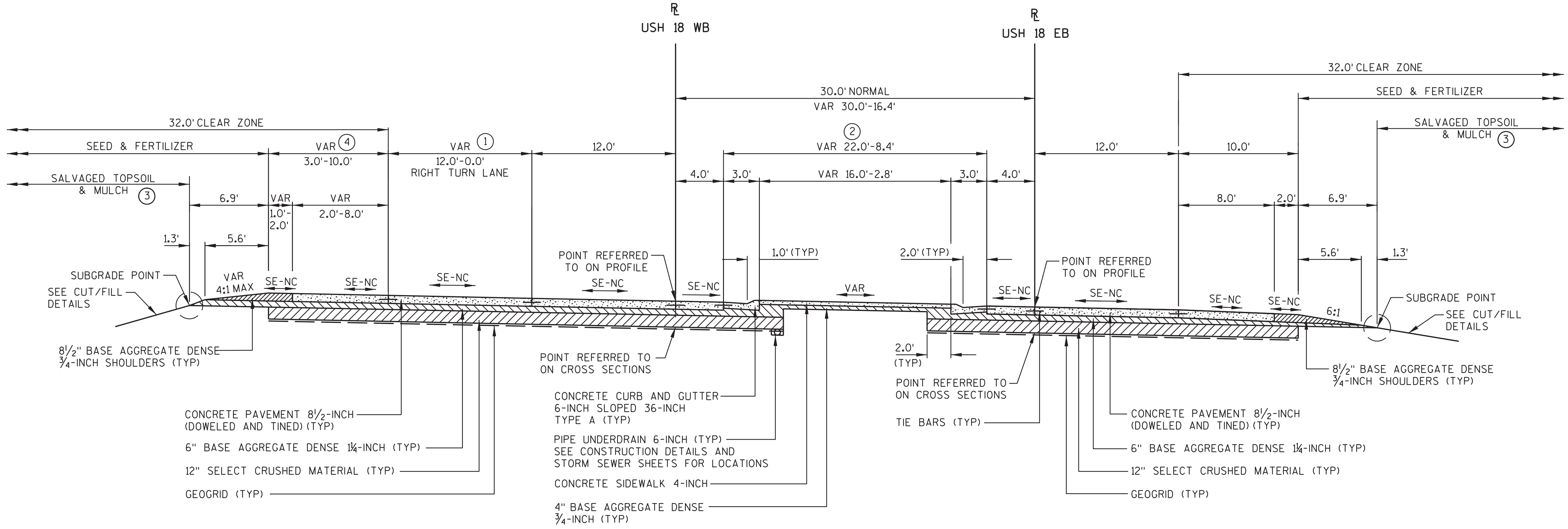


TYPICAL FINISHED SECTION-MEDIAN

USH 18
STA 350+25.23 EB TO STA 353+91.24 EB
STA 350+66.16 WB TO STA 354+32.18 WB

NOTES:

1. REFER TO PLAN AND PROFILES AND INTERSECTION DETAILS FOR WIDTHS AND TAPER LOCATIONS.
2. REFER TO INTERSECTION DETAIL SHEETS AND DETAILS FOR RAISED MEDIAN LAYOUT AND LOCATIONS.
3. REFER TO THE CROSS SECTIONS FOR SLOPES AND WIDTHS.
4. EROSION MAT ON SLOPES STEEPER THAN 4:1. REFER TO EROSION CONTROL PLANS FOR TYPE & LOCATION OF EROSION CONTROL MATERIALS.

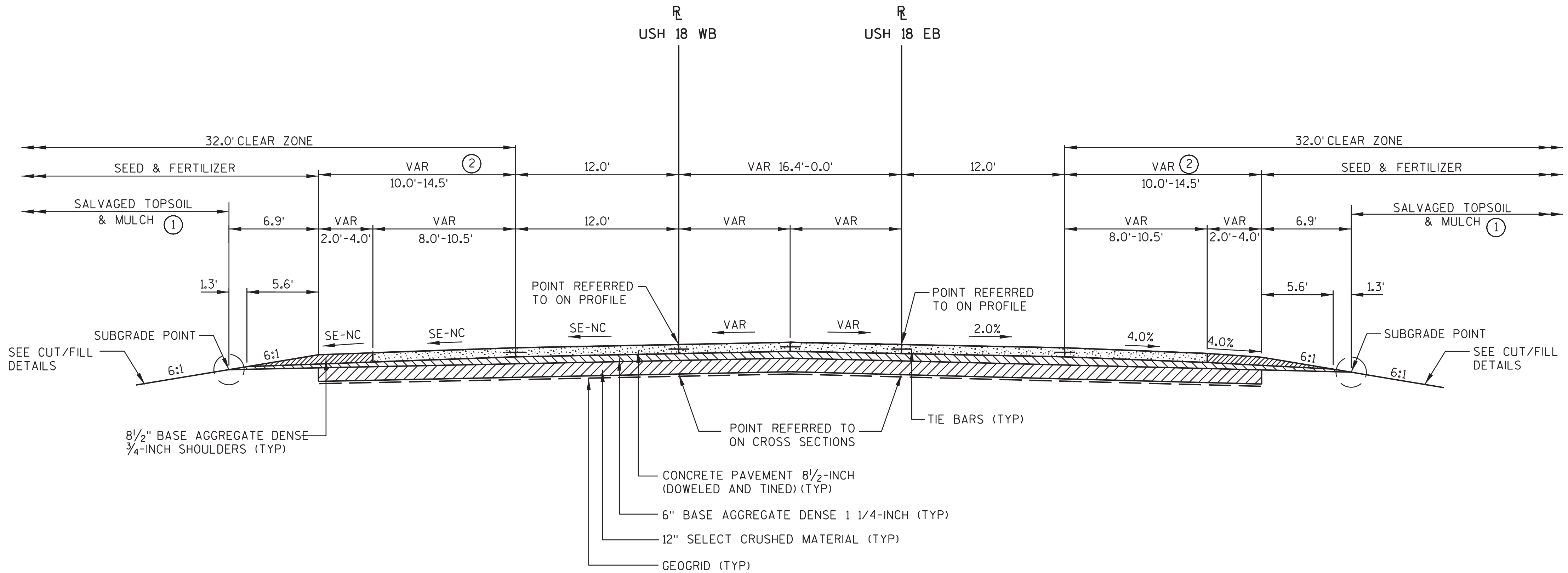


TYPICAL FINISHED SECTION - 2 LANE RAISED MEDIAN

USH 18
STA 347+50.00 EB TO STA 359+49.61 EB
STA 347+89.64 WB TO STA 359+21.35 WB

NOTES:

1. REFER TO PLAN AND PROFILES AND INTERSECTION DETAILS FOR WIDTHS AND TAPER LOCATIONS.
2. REFER TO PLAN AND PROFILES AND INTERSECTION DETAILS FOR RAISED CONCRETE MEDIAN LOCATIONS.
3. EROSION MAT ON SLOPES STEEPER THAN 4:1. REFER TO EROSION CONTROL PLANS FOR TYPE & LOCATION OF EROSION CONTROL MATERIALS.
4. REFER TO PLAN AND PROFILE FOR SHOULDER WIDTHS AND TAPER LOCATIONS



TYPICAL FINISHED SECTION - 2 LANE TRANSITION

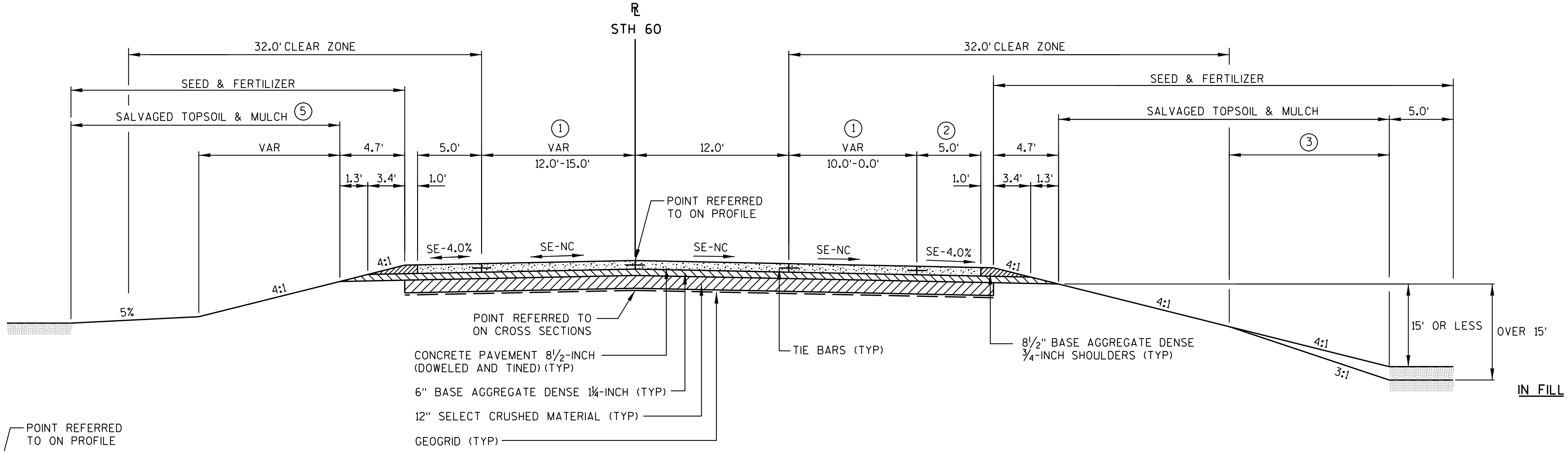
USH 18
STA 359+49.61 EB TO STA 365+52.69 EB
STA 359+21.35 WB TO STA 365+93.75 WB

NOTES:

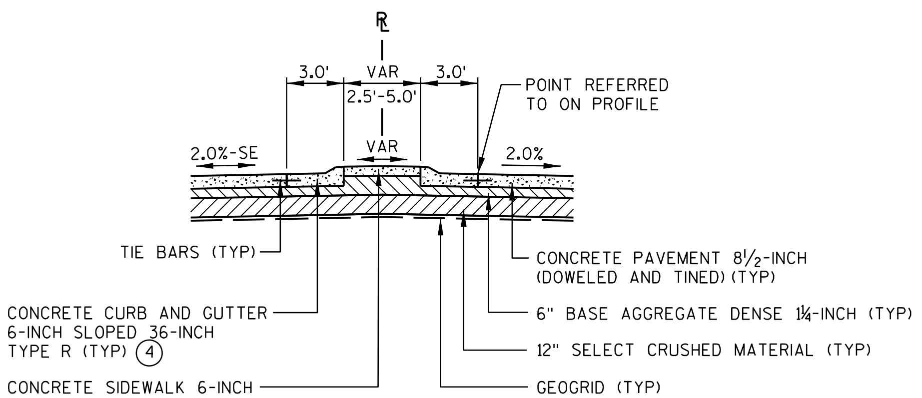
(1) EROSION MAT ON SLOPES STEEPER THAN 4:1. REFER TO EROSION CONTROL PLANS FOR TYPE & LOCATION OF EROSION CONTROL MATERIALS.

(2) REFER TO PLAN AND PROFILES FOR SHOULDER WIDTHS AND TAPER LOCATIONS.

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TYPICAL SECTIONS	SHEET 22	E



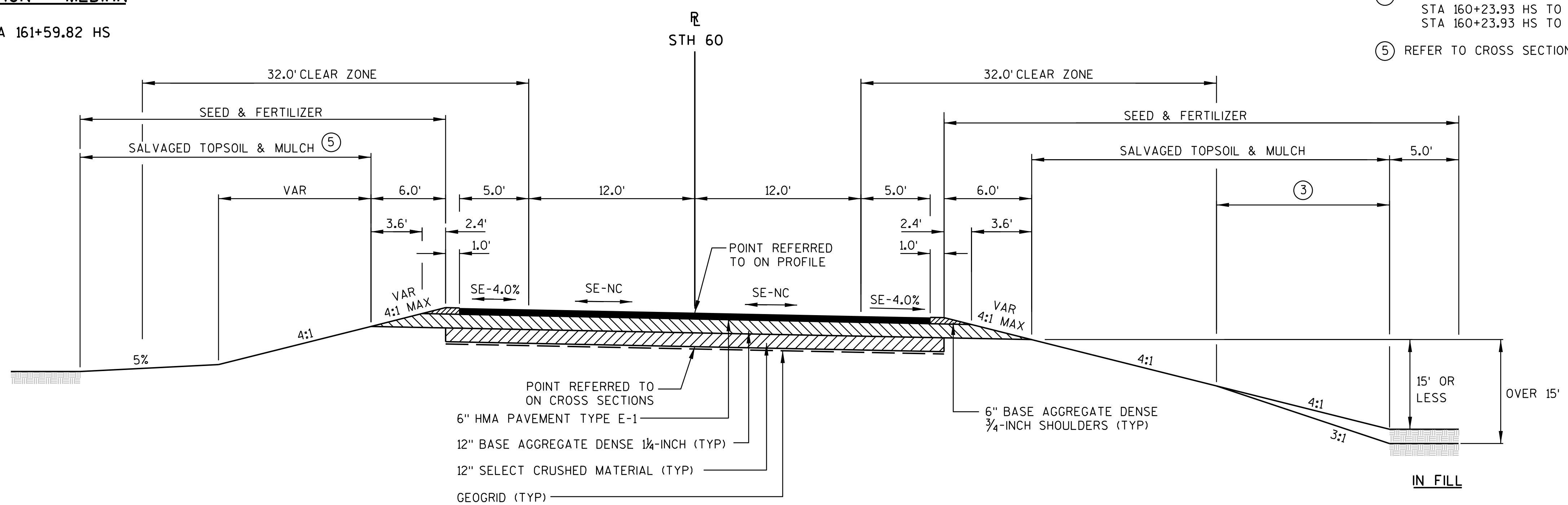
TYPICAL FINISHED SECTION
STH 60
STA 160+00.20 HS TO STA 163+28.35 HS



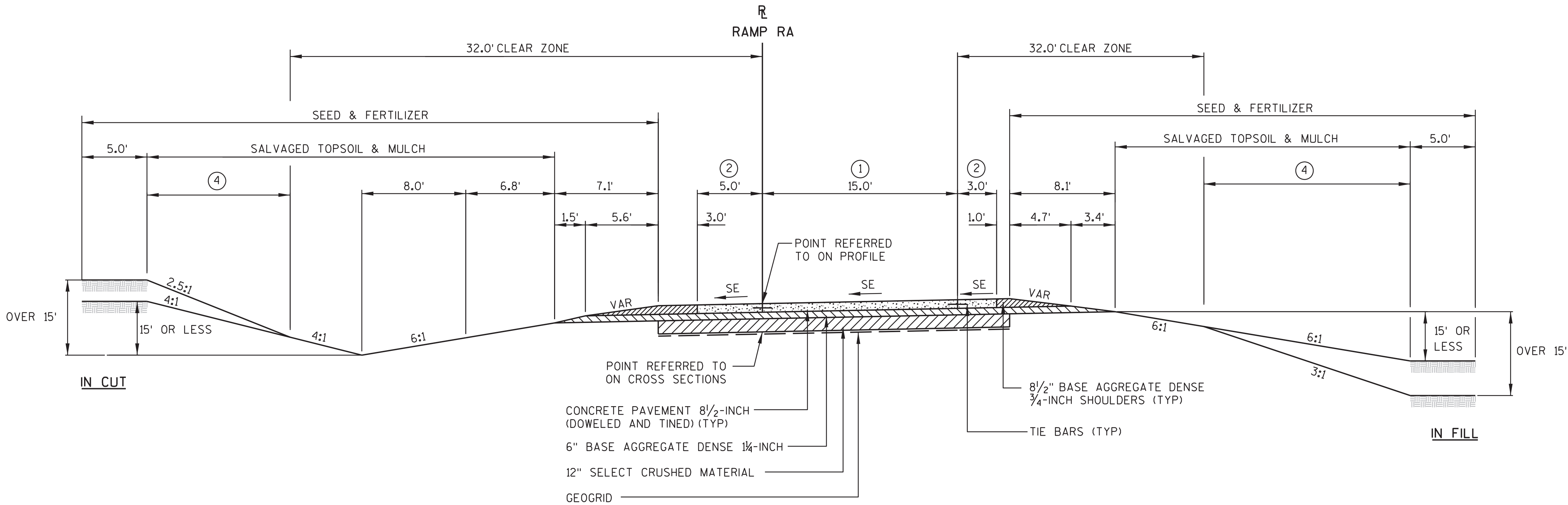
TYPICAL FINISHED SECTION - MEDIAN
STH 60
STA 160+23.93 HS TO STA 161+59.82 HS

NOTES:

1. REFER TO INTERSECTION DETAIL SHEETS FOR LANE WIDTHS AND MEDIAN ISLAND LOCATIONS.
2. REFER TO INTERSECTION DETAIL SHEETS FOR 5.5" HMA PAVEMENT TYPE E-1 SHOULDER LOCATIONS.
3. EROSION MAT ON SLOPES STEEPER THAN 4:1. REFER TO EROSION CONTROL PLANS FOR TYPE & LOCATION OF EROSION CONTROL MATERIALS.
4. REVERSE SLOPE GUTTER REQ'D:
   STA 160+23.93 HS TO STA 161+11.00 HS LT
   STA 160+23.93 HS TO STA 161+59.82 HS RT
5. REFER TO CROSS SECTIONS FOR SLOPES AND WIDTHS.



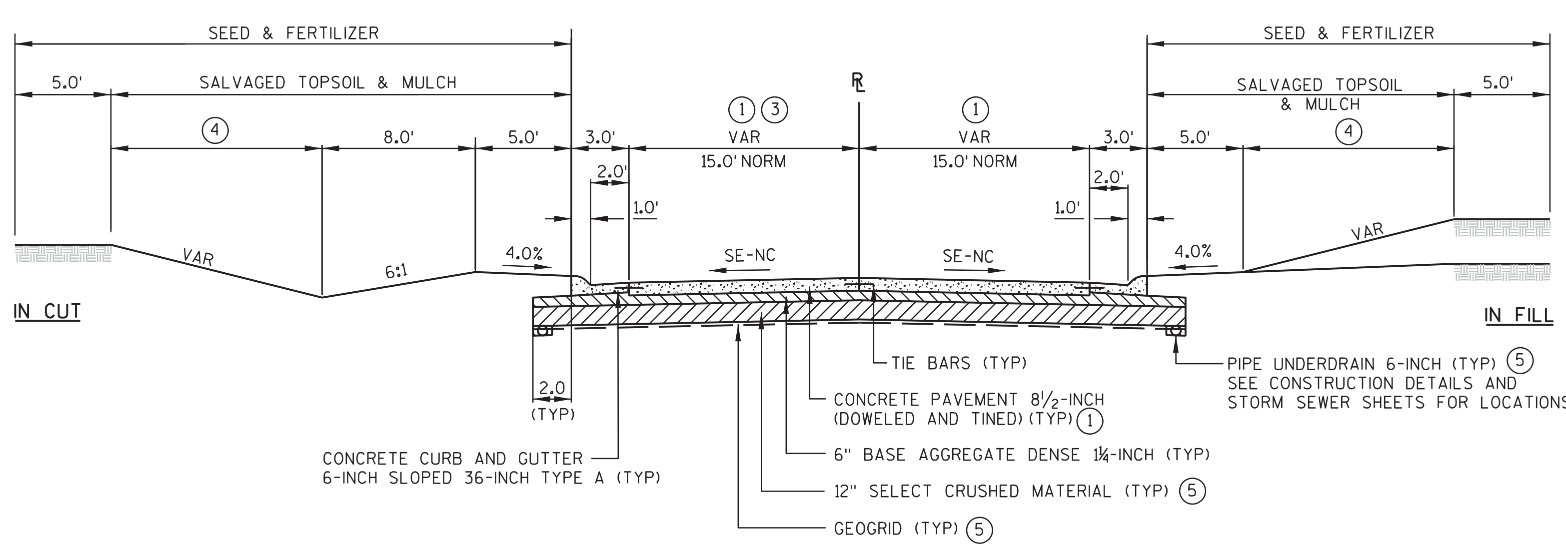
TYPICAL FINISHED SECTION
STH 60
STA 163+28.35 HS TO STA 169+70.90 HS



TYPICAL FINISHED SECTION
RAMP RA
STA 338+51.11 RA TO STA 344+21.85 RA

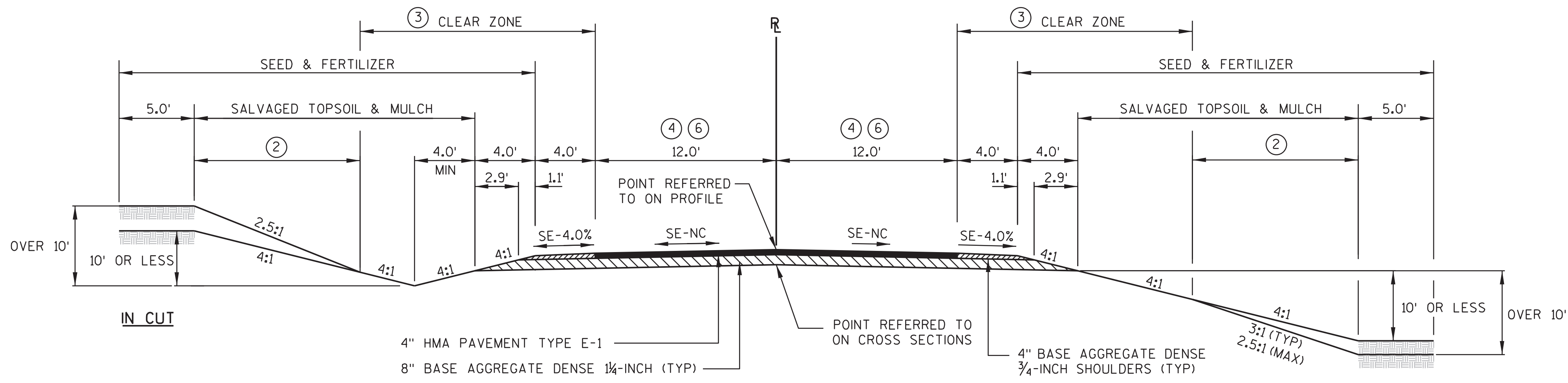
NOTES:

1. REFER TO INTERSECTION DETAIL SHEETS FOR LANE WIDTHS AND CONCRETE PAVEMENT 8-INCH LIMITS.
2. REFER TO INTERSECTION DETAIL SHEETS FOR 5.5" HMA PAVEMENT TYPE E-1 SHOULDER LOCATIONS.
3. REFER TO INTERSECTION DETAILS FOR LANE WIDTHS AT UTOPIA LANE AND BOUSKA ROAD FOR ADDED LEFT TURN LANE.
4. EROSION MAT ON SLOPES STEEPER THAN 4:1. REFER TO EROSION CONTROL PLANS FOR TYPE & LOCATION OF EROSION CONTROL MATERIALS.
5. SELECT CRUSHED MATERIAL WITH GEOGRID, AND PIPE UNDERDRAIN 6-INCH UNDER BASE AGGREGATE AT NEW FRONTAGE ROAD AND UPPER BRIDGEPORT ROAD.



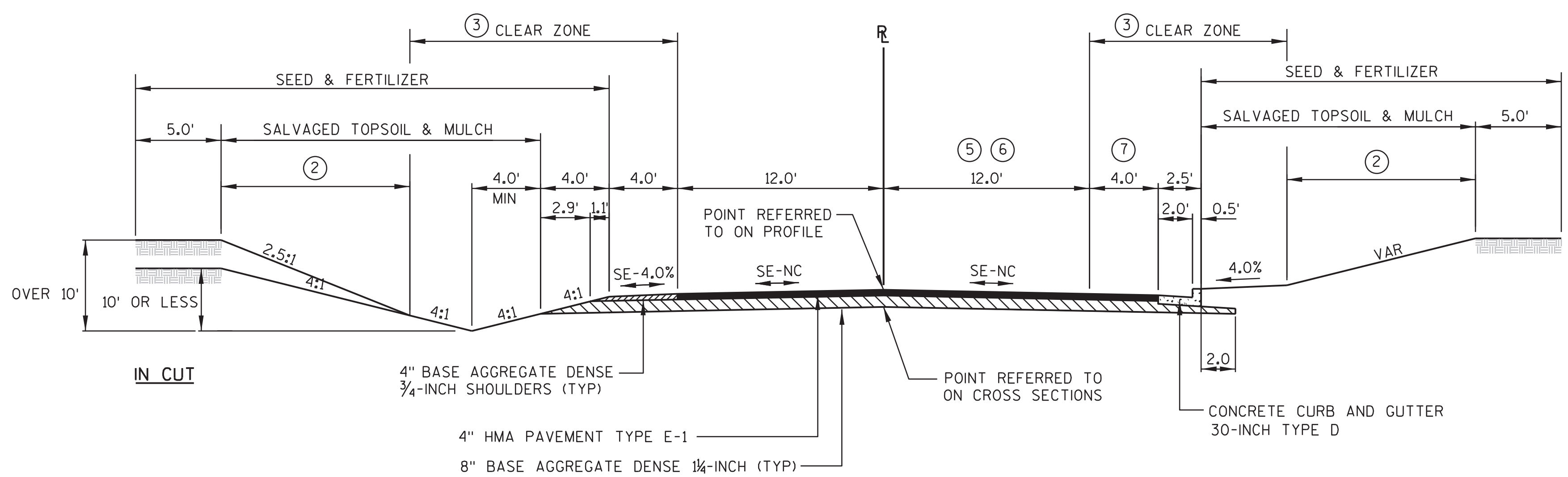
TYPICAL FINISHED SIDE ROAD SECTION - CONCRETE PAVEMENT
USH 18 - (ALL SIDE ROADS)

2



TYPICAL FINISHED SIDE ROAD SECTION - RURAL

SUGARLOAF TRAIL
OLD USH 18 WEST
CABIN HILL LANE CONNECTION
CABIN HILL LANE
38+13.74 CH TO 39+00.00 CH
43+50.00 CH TO 46+70.00 CH
WARD ROAD
UTOPIA CONNECTION
UTOPIA LANE
OLD USH 18 EAST
GOLF VIEW CONNECTION
GOLF VIEW DRIVE
121+75.00 GV TO 126+95.67 GV
NEW FRONTAGE ROAD
OLD STH 60
UPPER BRIDGEPORT ROAD (WEST)
UPPER BRIDGEPORT ROAD (EAST)



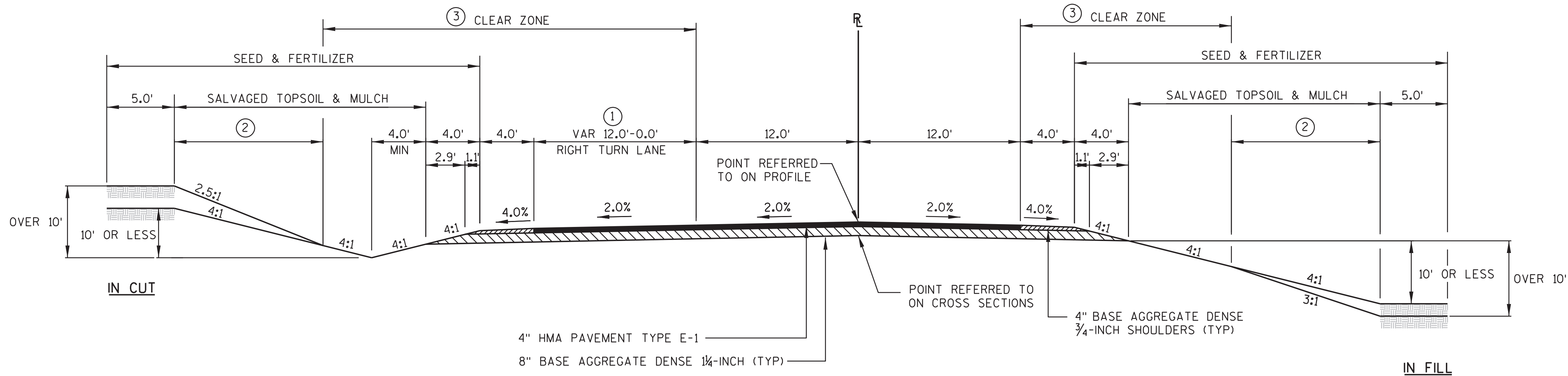
TYPICAL FINISHED SIDE ROAD SECTION

CABIN HILL LANE
STA 39+00.00 CH TO STA 43+50.00 CH
STA 46+70.00 CH TO STA 49+50.00 CH
GOLF VIEW DRIVE
STA 117+84.19 GV TO STA 121+75.00 GV
CHURCH ENTRANCE
STA 61+46.00 CE TO STA 62+14.42 CE

NOTES:

1. REFER TO PLAN AND PROFILE SHEETS FOR RIGHT TURN LANE WIDTHS AND TAPER LOCATIONS.
2. EROSION MAT ON SLOPES STEEPER THAN 4:1. REFER TO EROSION CONTROL PLANS FOR TYPE & LOCATION OF EROSION CONTROL MATERIALS.
3. CLEAR ZONES FOR SIDE ROADS ARE:
   SUGARLOAF TRAIL, 10.0'
   OLD USH 18 WEST, 14.0'
   CABIN HILL LANE, 10.0'
   WARD ROAD, 14.0'
   CHURCH ENTRANCE, 10.0'
   OLD USH 18 EAST, 14.0'
   UTOPIA LANE, 10.0'
   BOUSKA ROAD, 14.0'
   GOLF VIEW FRONTAGE ROAD, 10.0'
   PRIVATE ENTRANCE & FRONTAGE ROAD, 10.0'
   OLD STH 60, 14.0'
   UPPER BRIDGEPORT ROAD (WEST), 10.0'
   UPPER BRIDGEPORT ROAD (EAST), 10.0'
4. 30' AT CUL-DE-SAC SECTIONS FOR:
   UTOPIA LANE
   STA 81+15.63 UL, 18' RT
   STA 85+79.00 UL, 18' RT
   OLD 18 WEST
   STA 25+40.00 OW, 0' RT
   NEW FRONTAGE ROAD
   STA 141+30.65 FR, 0' RT
5. 26' AT CUL-DE-SAC SECTION FOR:
   GOLF VIEW DRIVE
   STA 118+13.93 GV, 0' RT
6. TRANSITION FROM 1% TO 2% AT:
   GOLF VIEW DRIVE
   STA 117+84.19 GV TO STA 118+52.45 GV
   NEW FRONTAGE ROAD
   STA 141+04.04 FR TO STA 141+30.69 FR
7. 3.0' FOR CHURCH ENTRANCE

2

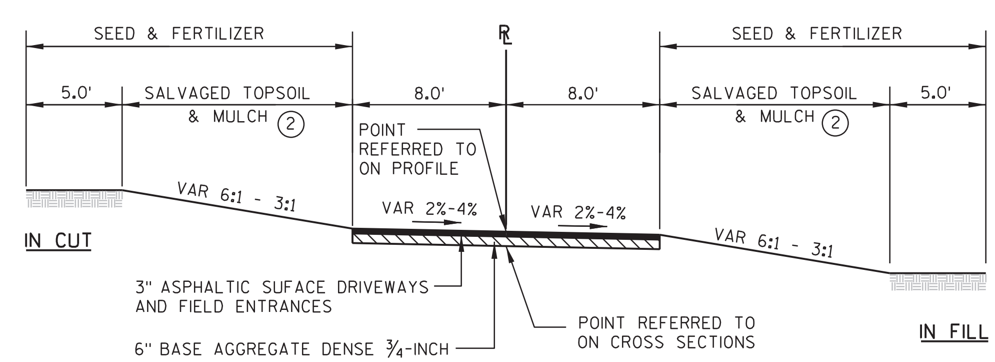


TYPICAL FINISHED SIDE ROAD SECTION

UTOPIA LANE CONNECTION
BOUSKA ROAD

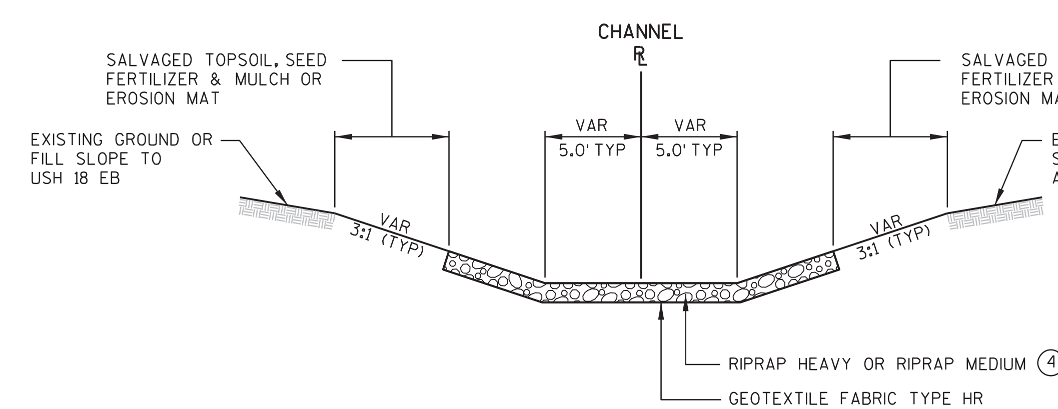
NOTES:

1. REFER TO PLAN AND PROFILE SHEETS FOR RIGHT TURN LANE WIDTHS AND TAPER LOCATIONS.
2. EROSION MAT ON SLOPES STEEPER THAN 4:1 REFER TO EROSION CONTROL PLANS FOR TYPE & LOCATION OF EROSION CONTROL MATERIALS.
3. CLEAR ZONES FOR SIDE ROADS ARE:
   - SUGARLOAF TRAIL, 10.0'
   - OLD USH 18 WEST, 14.0'
   - CABIN HILL LANE, 10.0'
   - WARD ROAD, 14.0'
   - CHURCH ENTRANCE, 10.0'
   - OLD USH 18 EAST, 14.0'
   - UTOPIA LANE, 10.0'
   - BOUSKA ROAD, 14.0'
   - GOLF VIEW FRONTAGE ROAD, 10.0'
   - PRIVATE ENTRANCE & FRONTAGE ROAD, 10.0'
   - OLD STH 60, 14.0'
   - UPPER BRIDGEPORT ROAD (WEST), 10.0'
   - UPPER BRIDGEPORT ROAD (EAST), 10.0'
4. REFER TO EROSION CONTROL PLANS AND RIPRAP LOCATION LAYOUT DETAIL FOR TYPE OF RIPRAP AND LOCATION.



TYPICAL FINISHED SECTION

DRIVEWAYS



TYPICAL FINISHED SECTION - CHANNEL CR

STA 22+65 CR TO STA 27+52 CR
STA 35+10 CR TO STA 36+30 CR

USH 18 WB - PI STA 197+96.61		
Station	Cross Slope (%)	Description
200+71.38	4.8	Begin WB Construction
201+09.56	4.8	End Full Super
202+21.56	2.0	Reverse Crown
203+01.56	0.0	Level Crown
203+81.56	2.0	Begin Normal Crown
204+64.56		Begin Normal Shoulder

USH 18 EB - PI STA 197+60.28		
Station	Cross Slope (%)	Description
200+12.53	4.8	Begin EB Construction
200+38.43	4.8	End Full Super
201+49.58	2.0	Reverse Crown
202+30.43	0.0	Level Crown
203+10.43	2.0	Begin Normal Crown
203+90.43		Begin Normal Shoulder

WARD ROAD - PI STA 51+84.93		
Station	Cross Slope (%)	Description
50+36.00	3.0	End Normal Crown
51+61.00	5.3	Begin Full Super
52+73.82	5.3	End Full Super
53+32.00	1.1	Begin Normal Crown

USH 18 WB - PI STA 217+13.51		
Station	Cross Slope (%)	Description
209+79.99		End Normal Shoulder
210+59.99	2.0	End Normal Crown
211+39.99	0.0	Level Crown
212+19.99	2.0	Reverse Crown
213+35.99	4.9	Begin Full Super
220+81.97	4.9	End Full Super
222+08.47	2.0	Reverse Crown
222+88.47	0.0	Level Crown
223+68.47	2.0	Begin Normal Crown
224+48.47		Begin Normal Shoulder

USH 18 EB - PI STA 217+18.82		
Station	Cross Slope (%)	Description
209+82.66		End Normal Shoulder
210+62.66	2.0	End Normal Crown
211+42.66	0.0	Level Crown
212+23.13	2.0	Reverse Crown
213+34.66	4.8	Begin Full Super
220+93.81	4.8	End Full Super
222+05.34	2.0	Reverse Crown
222+85.81	0.0	Level Crown
223+65.81	2.0	Begin Normal Crown
224+45.81		Begin Normal Shoulder

CABIN HILL LANE - PI STA 45+73.90		
Station	Cross Slope (%)	Description
38+60.35		End Normal Shoulder
38+96.85	2.0	End Normal Crown
39+33.35	0.0	Level Crown
39+69.85	2.0	Reverse Crown
40+06.35	4.0	Begin Full Super
45+89.88	4.0	End Full Super
46+26.38	2.0	Reverse Crown
46+62.88	0.0	Level Crown
46+99.38	2.0	Begin Full Super
48+75.00	2.0	End Full Super
49+11.50	0.0	Level Crown
49+48.00	2.0	Begin Normal Crown

USH 18 WB - PI STA 339+32.46		
Station	Cross Slope (%)	Description
326+07.94		End Normal Shoulder
326+87.94	2.0	End Normal Crown
327+67.94	0.0	Level Crown
328+47.94	2.0	Reverse Crown
329+67.94	5.0	Begin Full Super
348+04.83	5.0	End Full Super
348+84.63	2.0	Reverse Crown
349+37.83	0.0	Level Crown
349+90.83	2.0	Begin Normal Crown
350+43.83		Begin Normal Shoulder

USH 18 EB - PI STA 331+59.59 & PI STA 338+06.58		
Station	Cross Slope (%)	Description
327+09.41		End Normal Shoulder
327+59.41	2.0	End Normal Crown
328+12.61	0.0	Level Crown
328+65.81	2.0	Reverse Crown
329+45.61	5.0	Begin Full Super
341+82.43	5.0	End Full Super
342+10.21	4.1	Begin Full Super
350+12.24	4.1	End Full Super
350+68.24	2.0	Reverse Crown
351+21.24	0.0	Level Crown
351+74.24	2.0	Begin Normal Crown
352+27.24		Begin Normal Shoulder

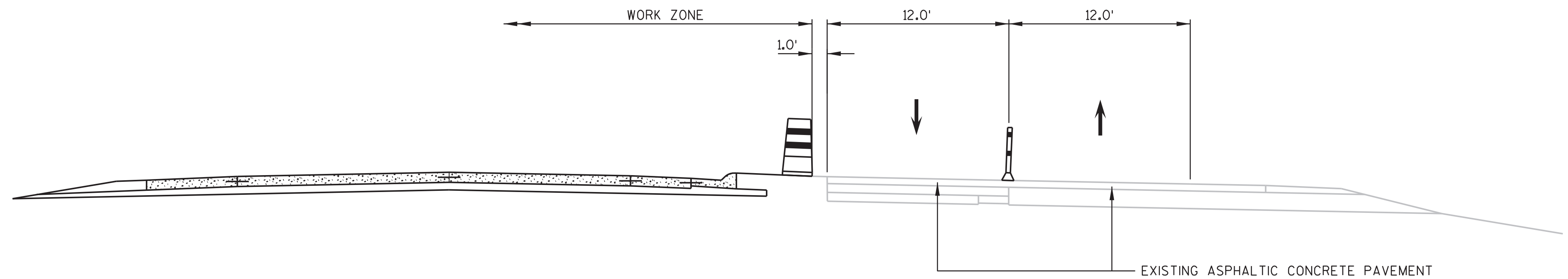
STH 60 - PI STA 165+07.03		
Station	Cross Slope (%)	Description
160+63.82	2.0	End Normal Crown
161+11.82	0.0	Level Crown
161+59.82	2.0	Reverse Crown
162+07.82	4.0	Begin Full Super
167+82.04	4.0	End Full Super
168+30.04	2.0	Reverse Crown
168+78.04	0.0	Level Crown
169+26.04	2.0	Begin Normal Crown
169+74.04		Begin Normal Shoulder

USH 18 WB - PI STA 357+84.92		
Station	Cross Slope (%)	Description
355+22.40		End Normal Shoulder
355+75.40	2.0	End Normal Crown
356+28.40	0.0	Level Crown
356+81.40	2.0	Begin Full Super
358+88.41	2.0	End Full Super
359+41.41	0.0	Level Crown
359+94.41	2.0	Begin Normal Crown
360+47.41		Begin Normal Shoulder

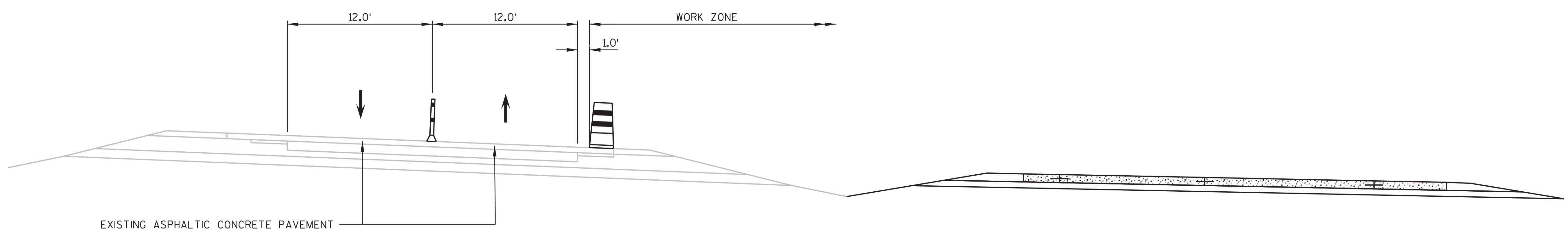
USH 18 EB - PI STA 346+20.04		
Station	Cross Slope (%)	Description
358+11.17		End Normal Shoulder
358+64.17	2.0	End Normal Crown
359+17.17	0.0	Level Crown
359+70.17	2.0	Begin Full Super
364+45.74	2.0	End Full Super
364+98.74	0.0	Level Crown
365+51.74	2.0	Begin Normal Crown
366+04.74		Begin Normal Shoulder

RAMP A - PI STA 341+72.12		
Station	Cross Slope (%)	Description
337+12.65	5.0	Begin Ramp A
338+58.40	0.0	Level Crown
339+75.00	4.0	Begin Full Super
342+47.33	4.0	End Full Super
343+23.66	0.0	Level Crown
344+00.00	4.0	Begin Full Super

2



TYPICAL SECTION - STAGE 1B
STA 200+71 TO STA 325+50

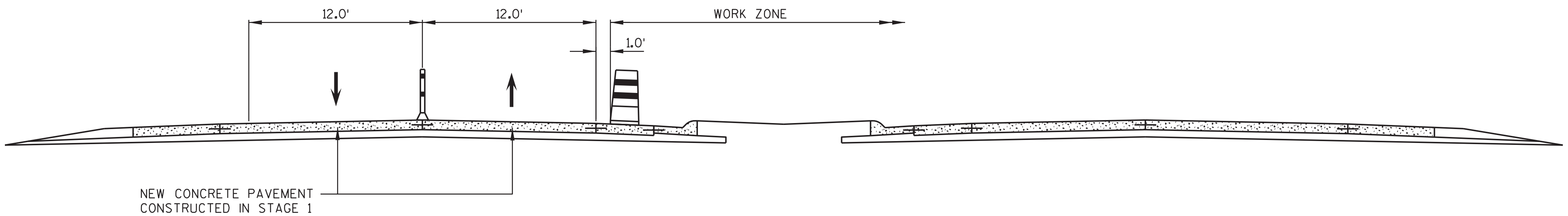


TYPICAL SECTION - STAGE 1B
STA 324+00 TO STA 360+00

LEGEND

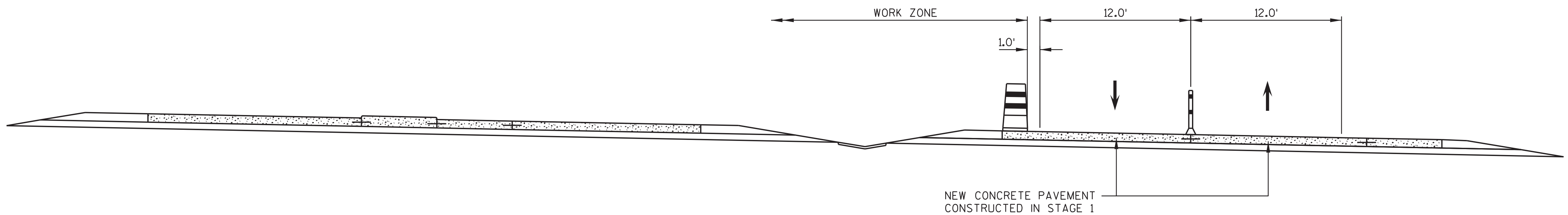
↓↑ DIRECTION OF TRAFFIC

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TYPICAL SECTIONS - TRAFFIC CONTROL	SHEET 28	E



TYPICAL SECTION - STAGE 2A/2B

STA 200+12 TO STA 325+00



TYPICAL SECTION - STAGE 2A/2B

STA 325+00 TO STA 357+50

LEGEND

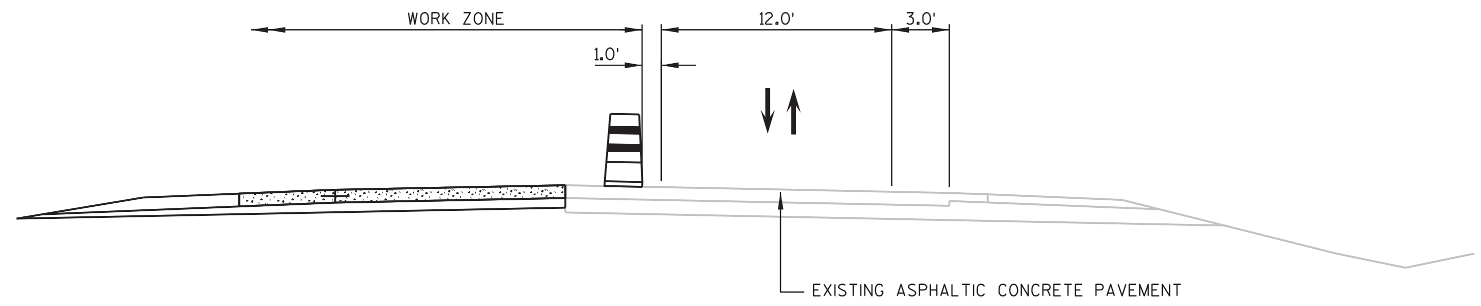
DIRECTION OF TRAFFIC

PROJECT NO:1661-05-78	HWY:USH 18	COUNTY:CRAWFORD	TYPICAL SECTIONS - TRAFFIC CONTROL	SHEET 29	E

LEGEND

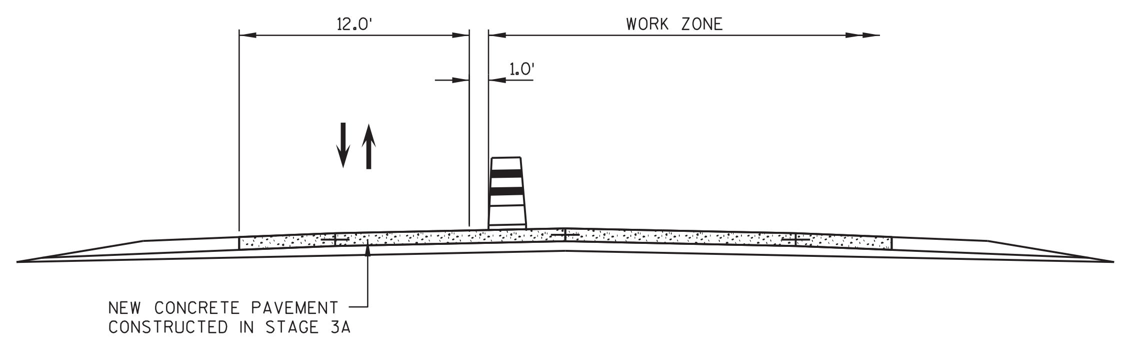
DIRECTION OF TRAFFIC

2



TYPICAL SECTION - STAGE 3A*

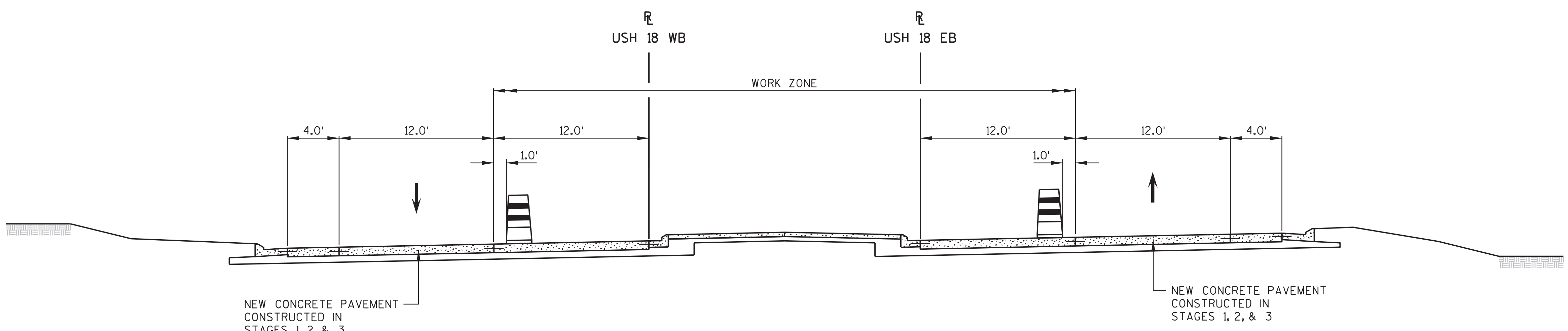
STA 359+75 TO STA 365+68



TYPICAL SECTION - STAGE 3B*

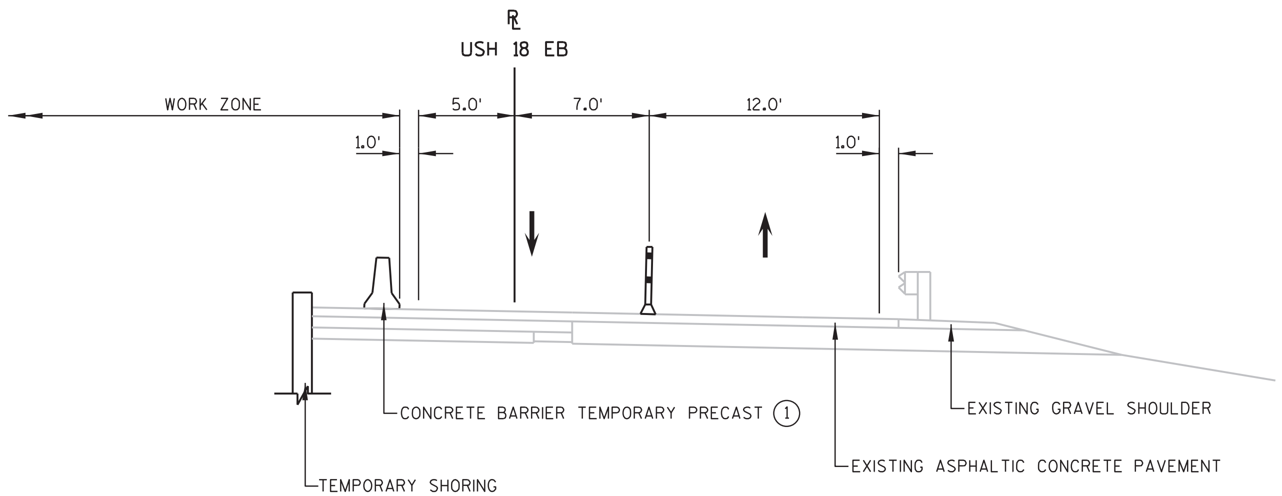
STA 359+75 TO STA 365+68

* STAGE 3 WILL BE COMPLETED WITH THE USE OF TEMPORARY SIGNALS.

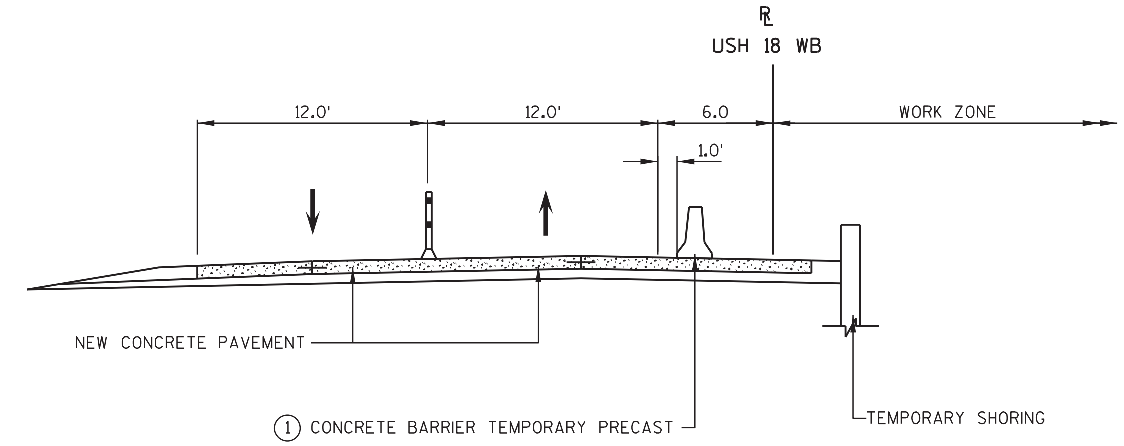


TYPICAL SECTION - STAGE 4

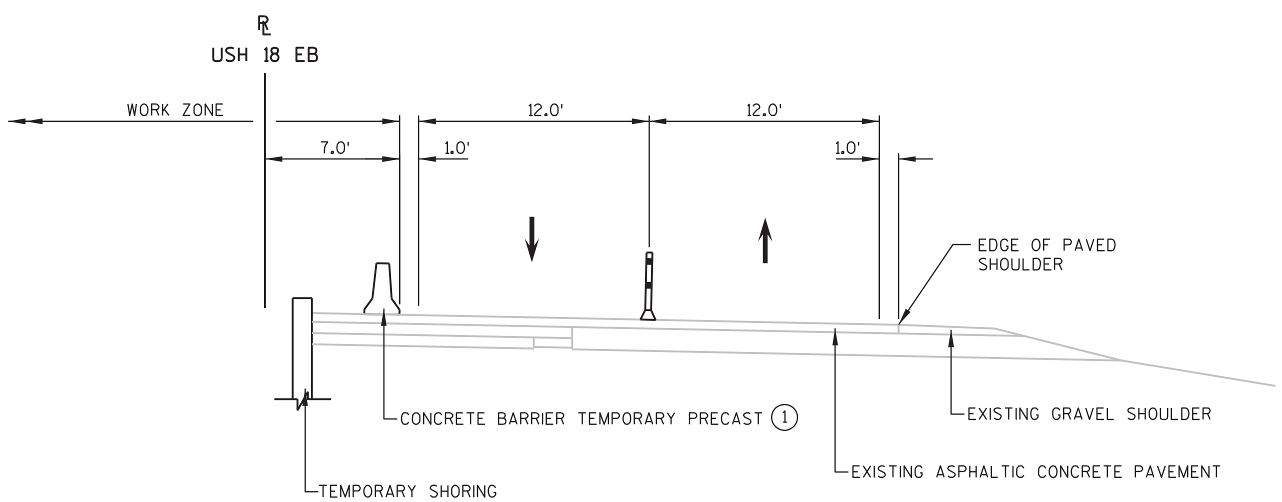
STA 200+12 TO STA 365+68



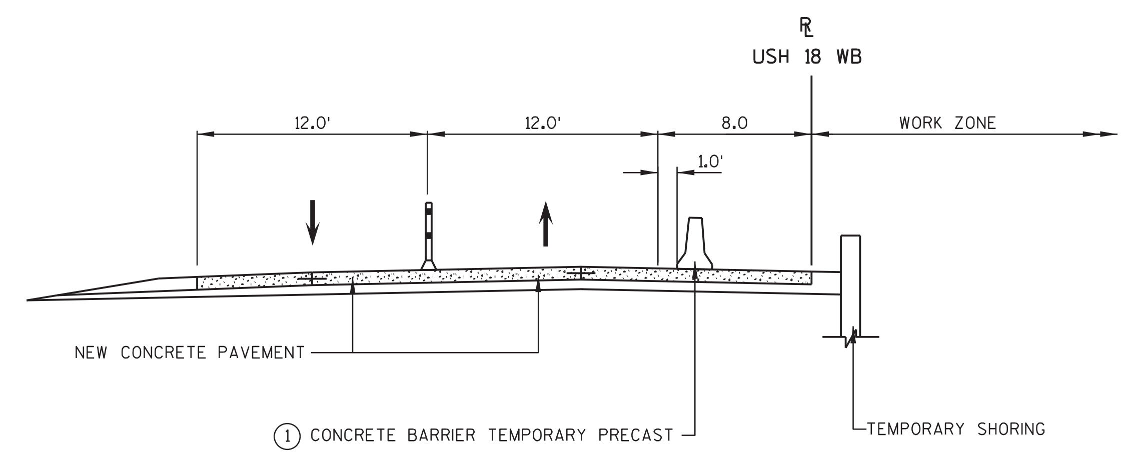
TYPICAL SECTION - ROADWAY STAGE 1B (STRUCTURE STAGE 1A & 1B)
STAGED CONSTRUCTION FOR B-12-0184



TYPICAL SECTION - ROADWAY STAGE 2 (STRUCTURE STAGE 2A & 2B)
STAGED CONSTRUCTION FOR B-12-0184



TYPICAL SECTION - ROADWAY STAGE 1B (STRUCTURE STAGE 1A & 1B)
STAGED CONSTRUCTION FOR B-12-0187 & B-12-0188



TYPICAL SECTION - ROADWAY STAGE 2 (STRUCTURE STAGE 2A & 2B)
STAGED CONSTRUCTION FOR B-12-0187 & B-12-0188

NOTE:

1 TAPER CONCRETE BARRIER AS NECESSARY FOR TEMPORARY CRASH CUSHION. MAINTAIN A MINIMUM OF 1.0' LATERAL CLEARANCE FROM EDGE OF TEMPORARY CRASH CUSHION AND EDGE OF TRAVELED WAY.

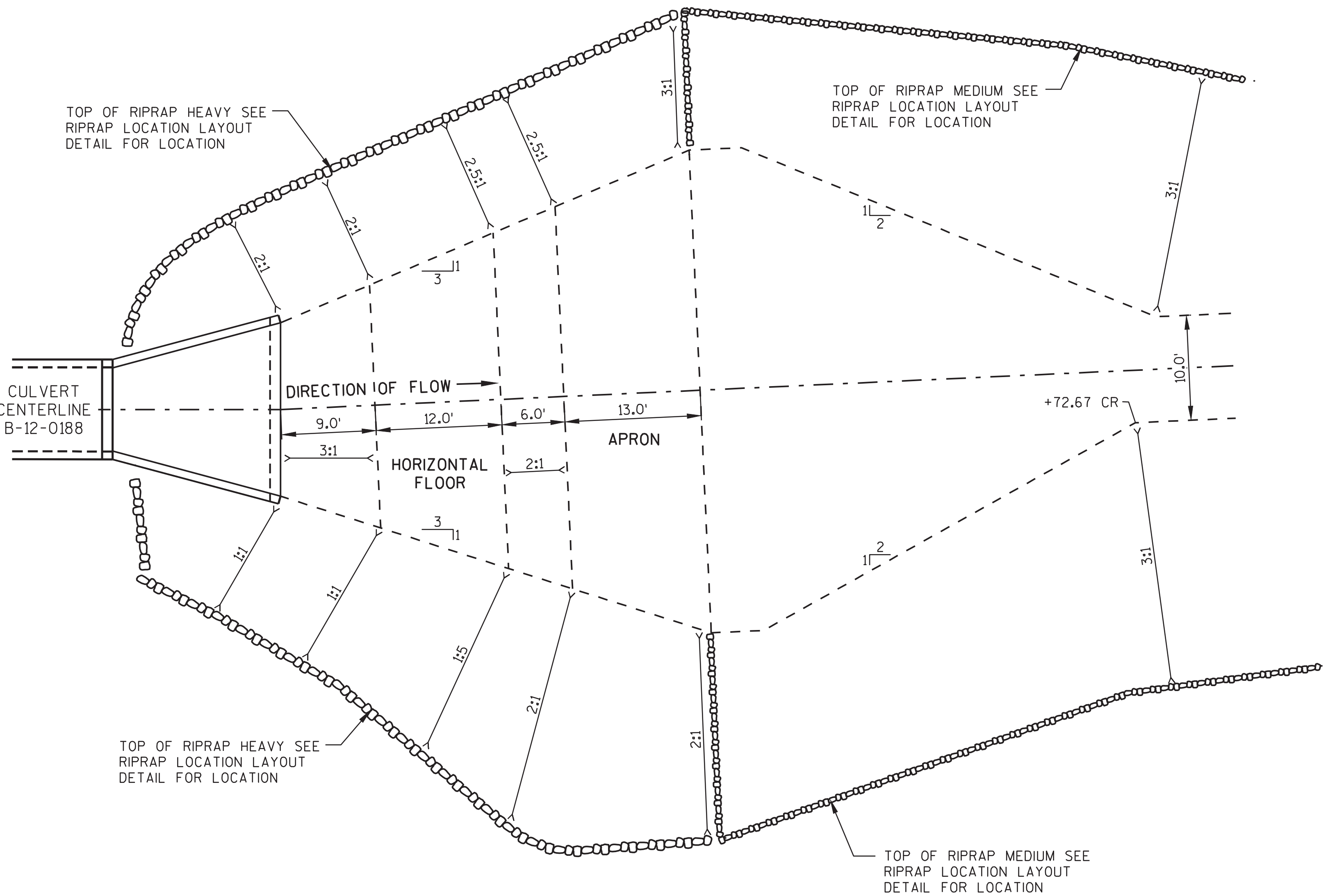
LEGEND

↓ ↑ DIRECTION OF TRAFFIC

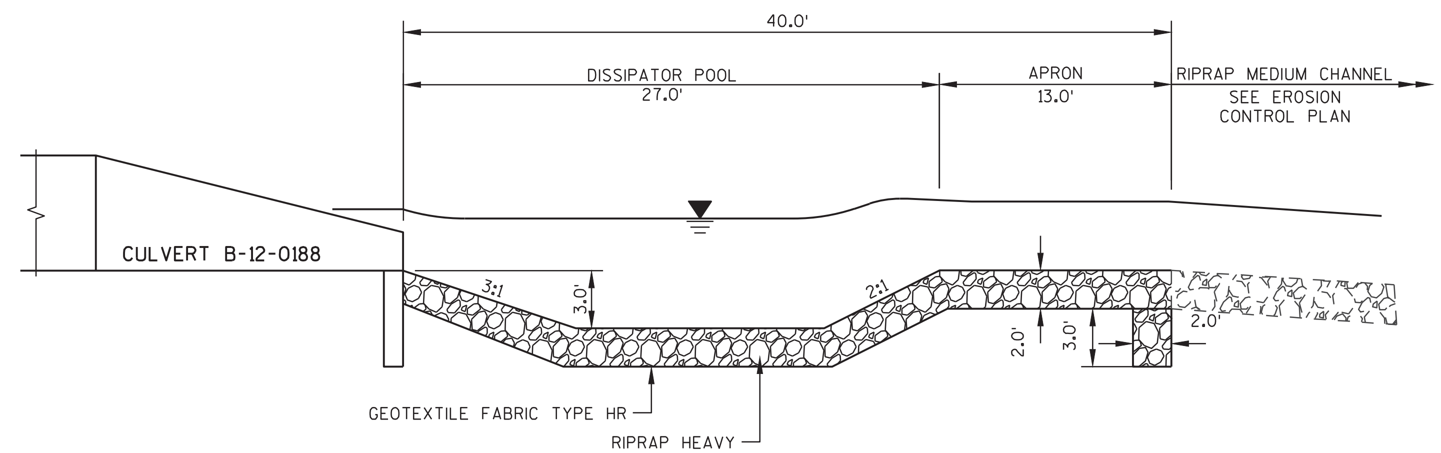
NOTE:

1 TAPER CONCRETE BARRIER AS NECESSARY FOR TEMPORARY CRASH CUSHION. MAINTAIN A MINIMUM OF 1.0' LATERAL CLEARANCE FROM EDGE OF TEMPORARY CRASH CUSHION AND EDGE OF TRAVELED WAY.

2



PLAN VIEW

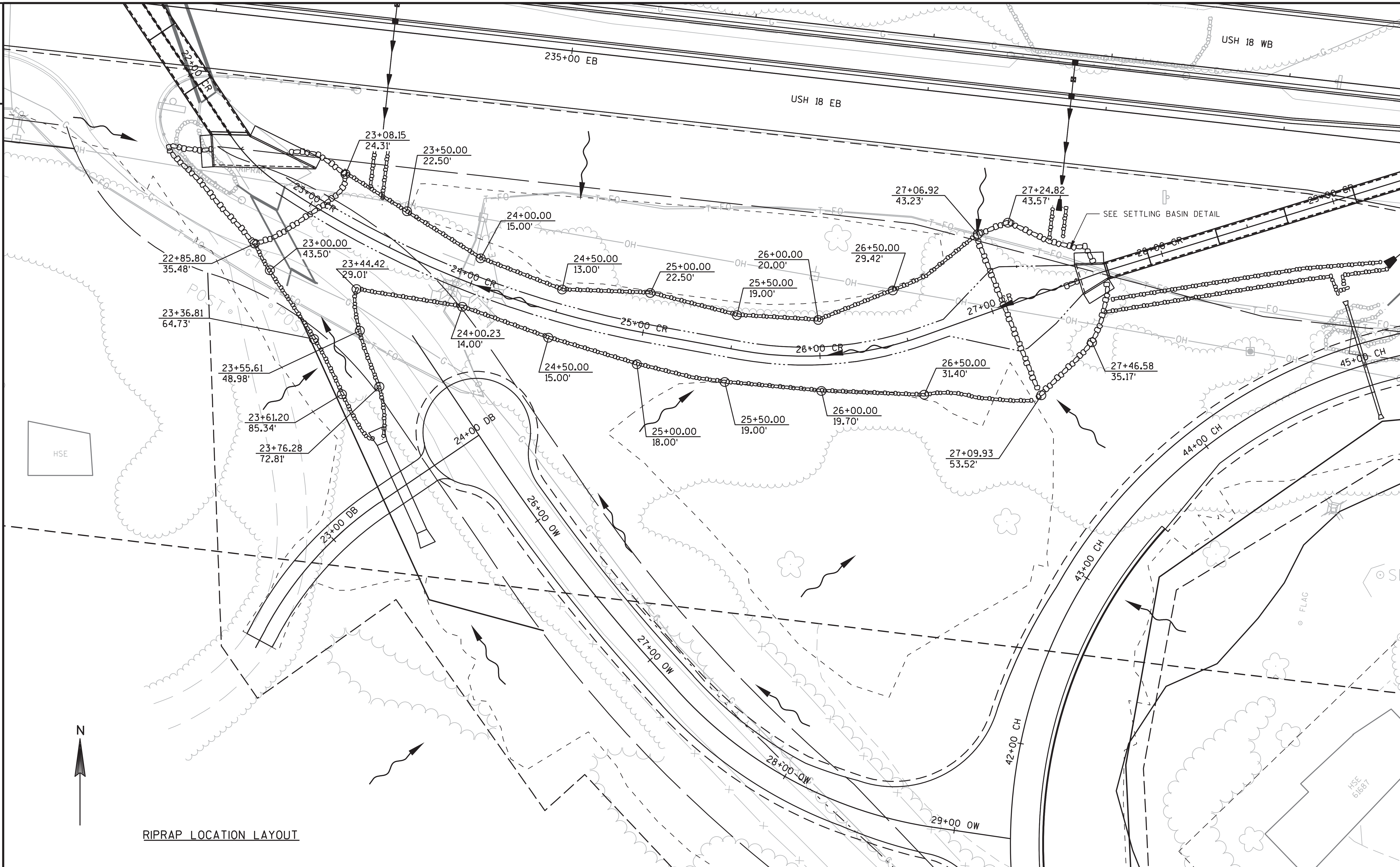


PROFILE VIEW

SETTLING BASIN

PROJECT NO: 1661-05-78	HWY: HWY 18	COUNTY: CRAWFORD	CONSTRUCTION DETAILS	SHEET 32	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\CDUSH18A.DWG SHEET NAME: CDUSH1801

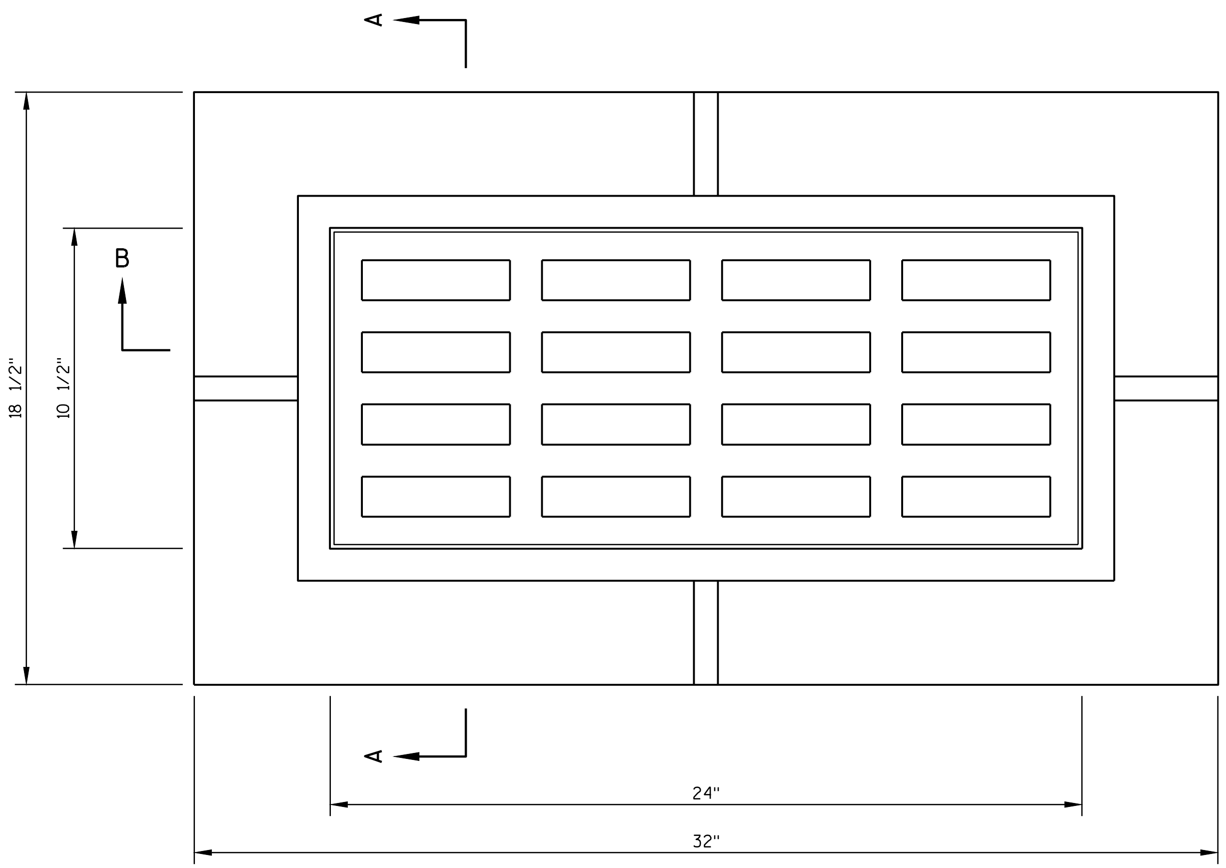


RIPRAP LOCATION LAYOUT

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CONSTRUCTION DETAILS	SHEET 33	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\CDUSH18C.DWG

SHEET NAME: CDUSH1814



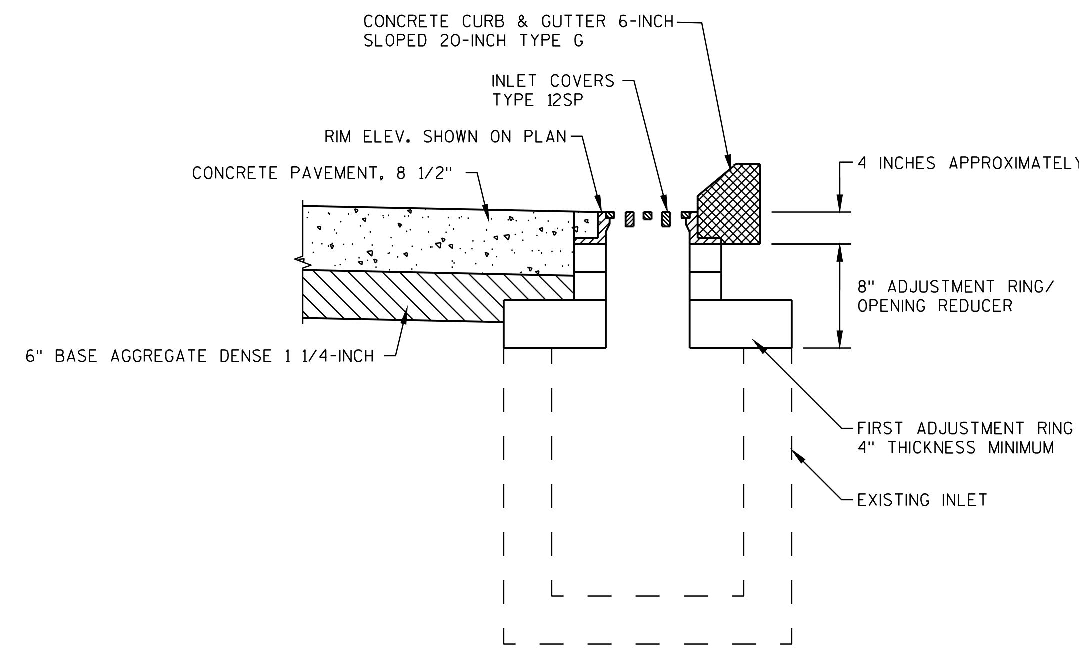
PLAN VIEW

NOTE: INLET COVERS, TYPE 12SP SHALL BE PLACED ON AN EXISTING INLET.

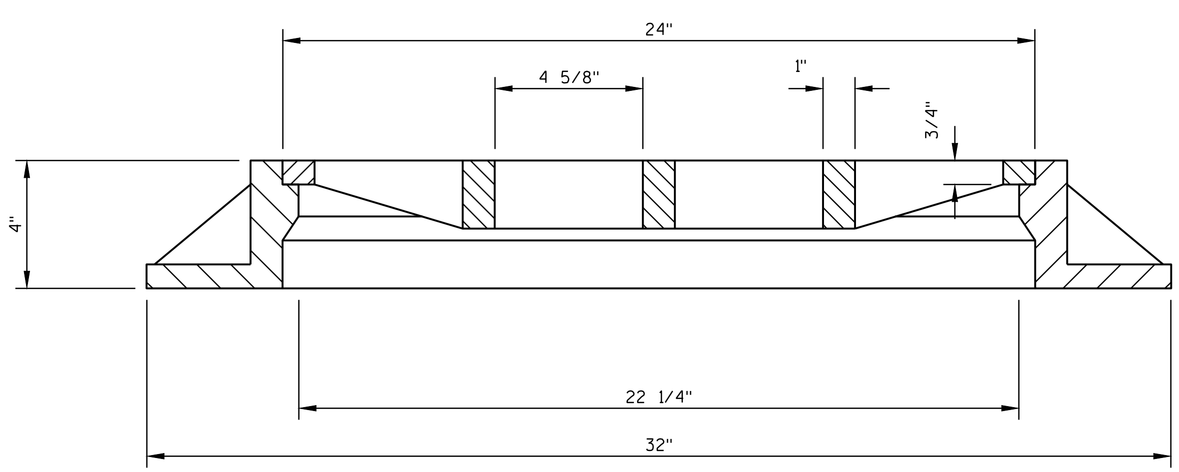
ADJUSTING RINGS WILL BE USED TO REDUCE TOP OF INLET OPENING TO 10 1/2" x 24", MATCHING THE OPENING OF THE TYPE 12SP INLET COVER.

FIRST ADJUSTMENT RING/ OPENING REDUCER SHALL BE 4" MINIMUM THICKNESS.

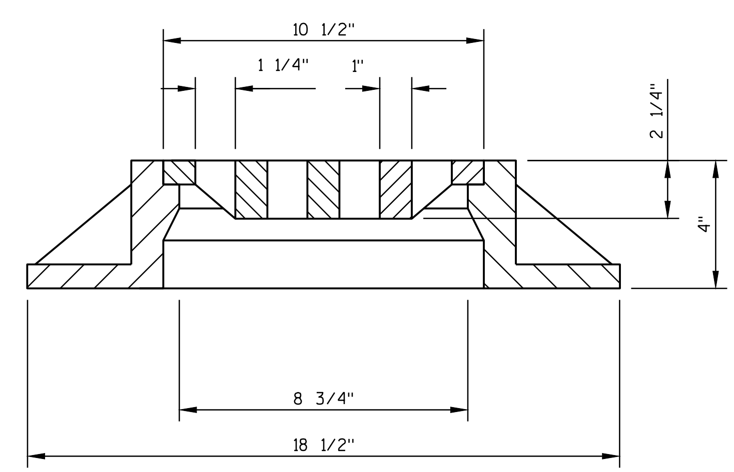
INLET COVERS TYPE 12SP DETAIL HAS THE EQUIVELENT DIMENSIONING AS THE NEENAH FOUNDRY R-3471.



TYPICAL INSTALLATION FOR INLET COVERS TYPE 12SP WITH EXISTING INLET ELEVATION VIEW

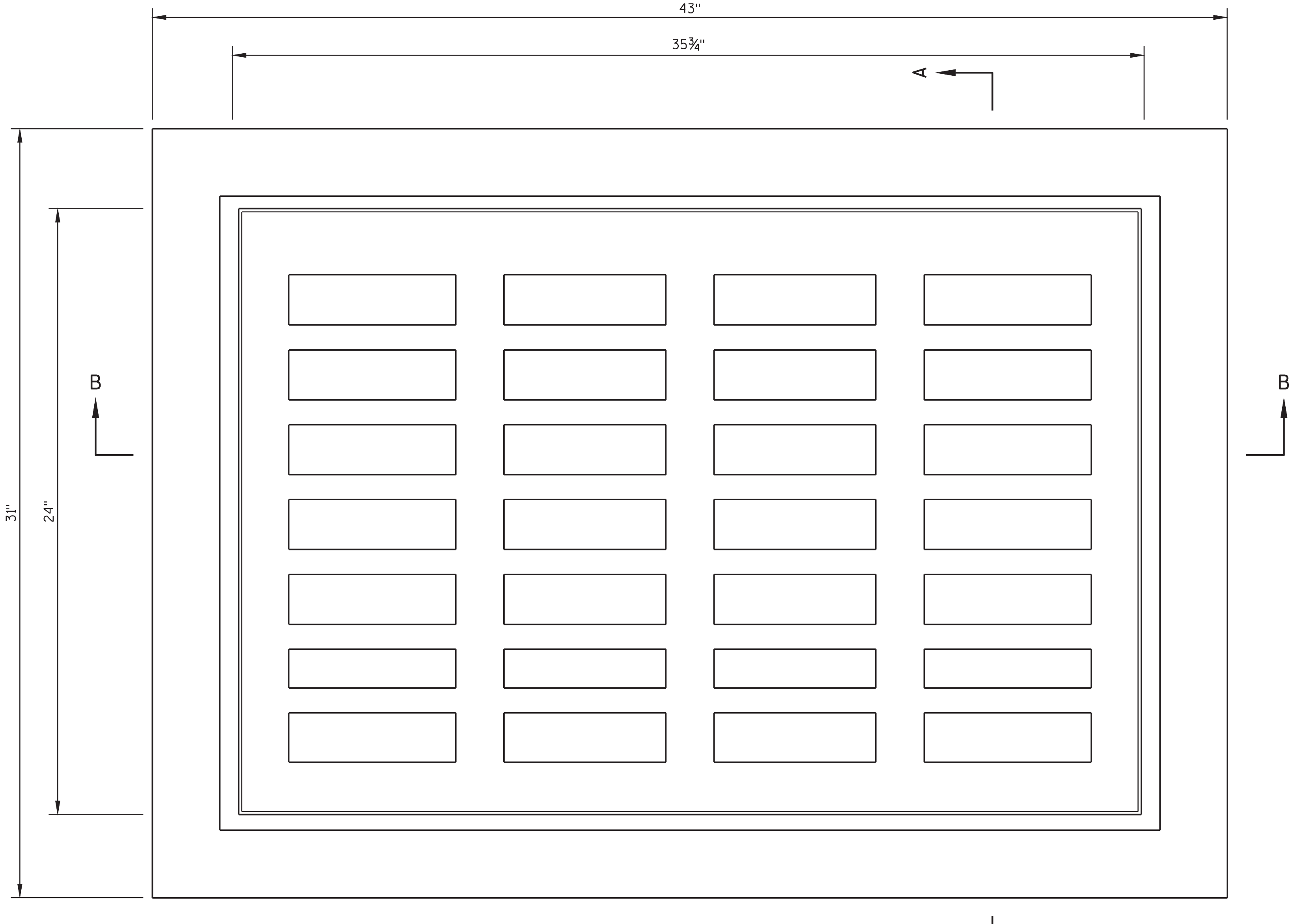


SECTION B-B



SECTION A-A

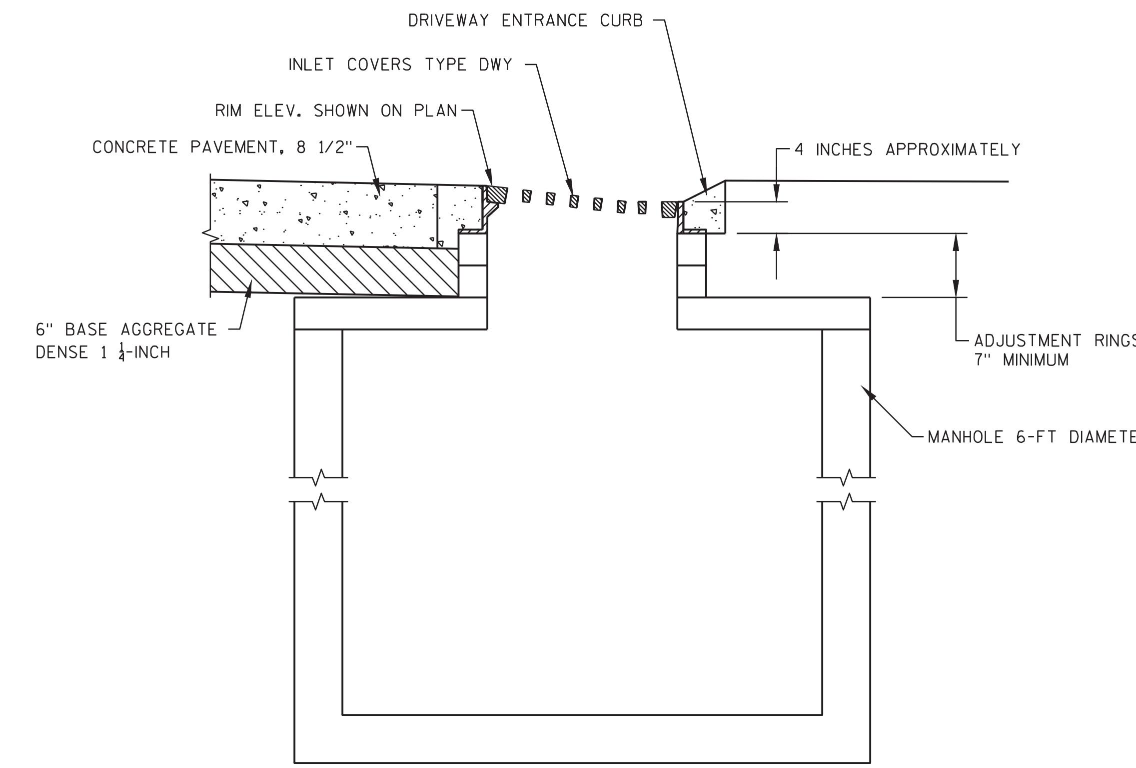
INLET COVERS TYPE 12SP



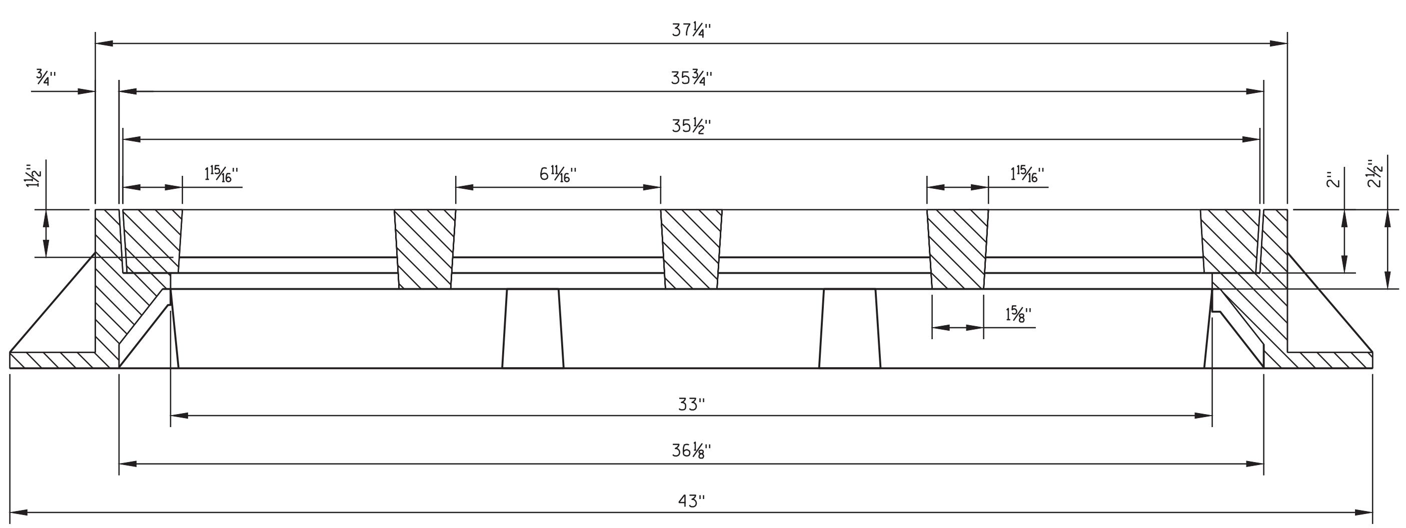
PLAN VIEW

NOTE: INLET COVERS, TYPE DWY SHALL BE PLACED ON A 6-FT DIAMETER MANHOLE.

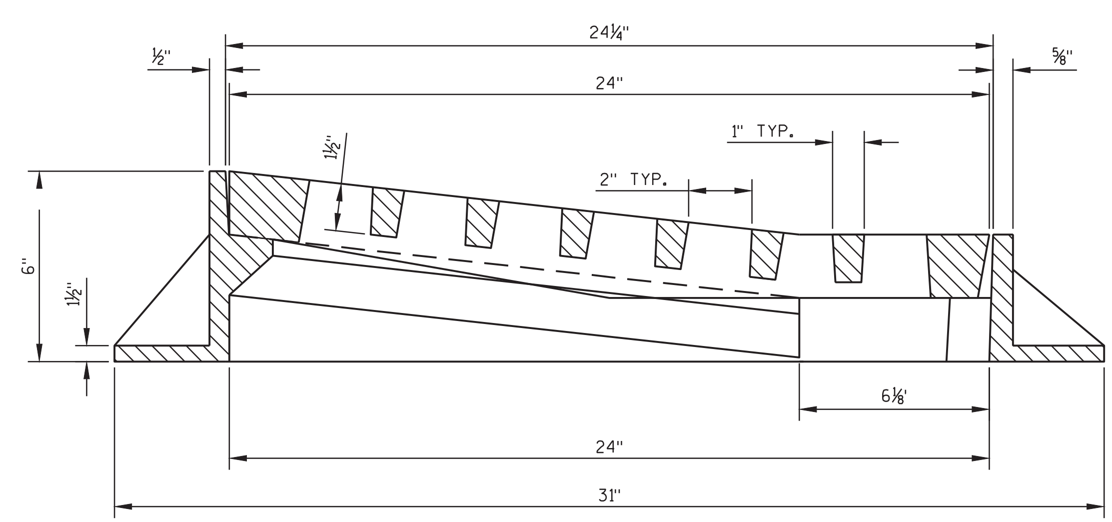
INLET COVERS TYPE DWY DETAIL HAS THE EQUIVELENT DIMENSIONING AS THE NEENAH FOUNDRY R-3290-A.



TYPICAL INSTALLATION FOR INLET COVERS TYPE DWY WITH MANHOLE 6-FT DIA ELEVATION VIEW



SECTION B-B

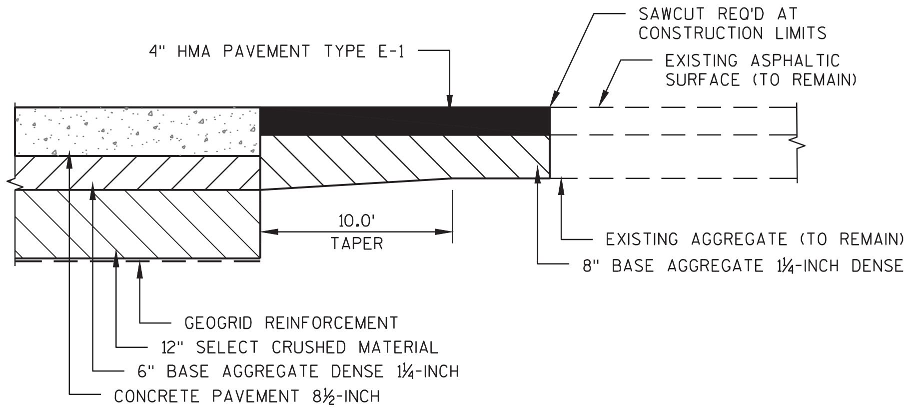


SECTION A-A

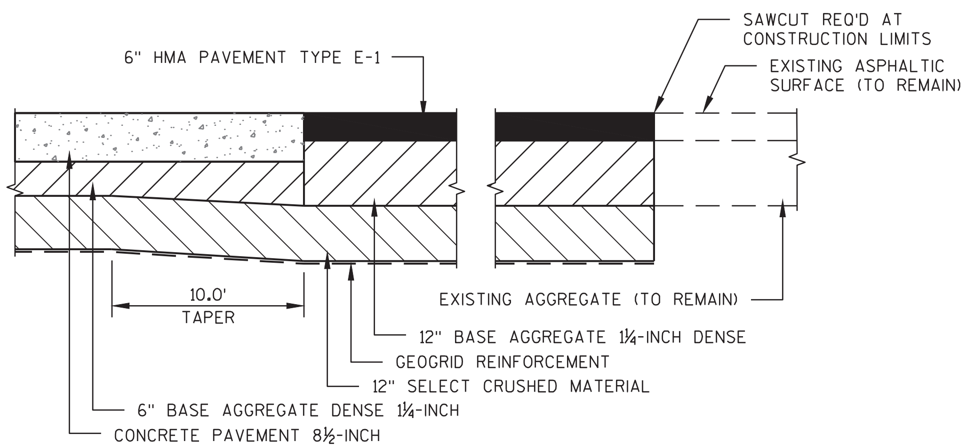
INLET COVERS TYPE DWY

PROJECT NO: 1661-05-78	HWY: HWY 18	COUNTY: CRAWFORD	CONSTRUCTION DETAILS	SHEET 35	E

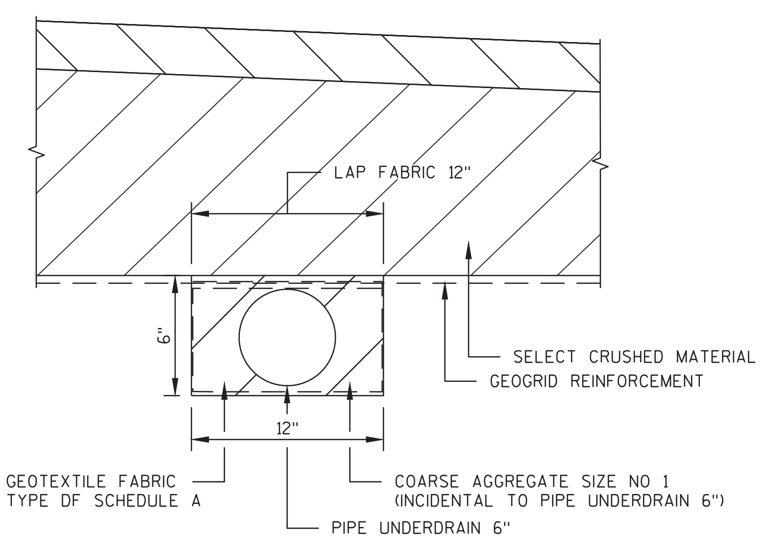
FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\CDUSH18A.DWG SHEET NAME: CDUSH1803



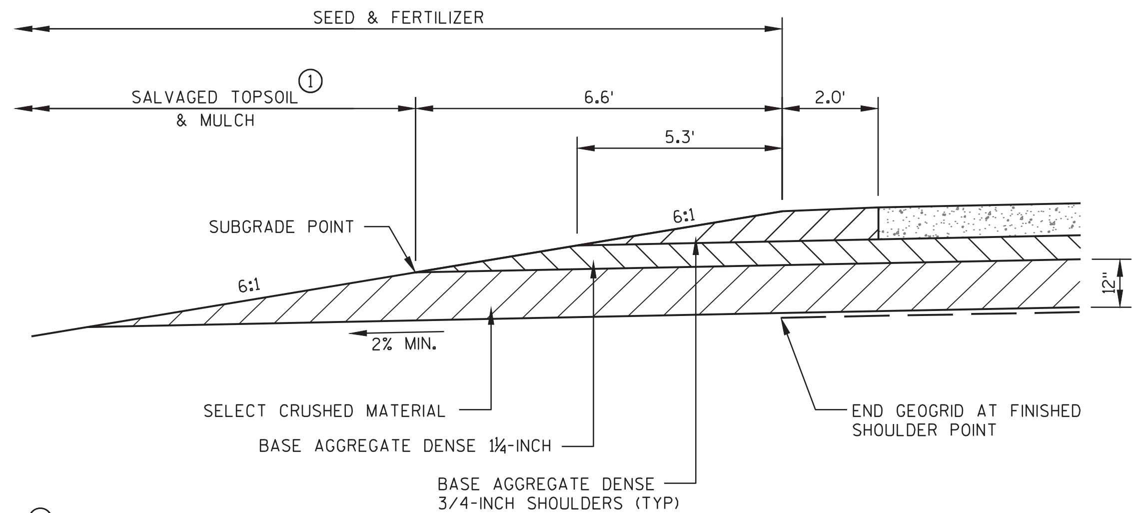
PAVEMENT TRANSITION AT SIDE ROADS



PAVEMENT TRANSITION AT STH 60

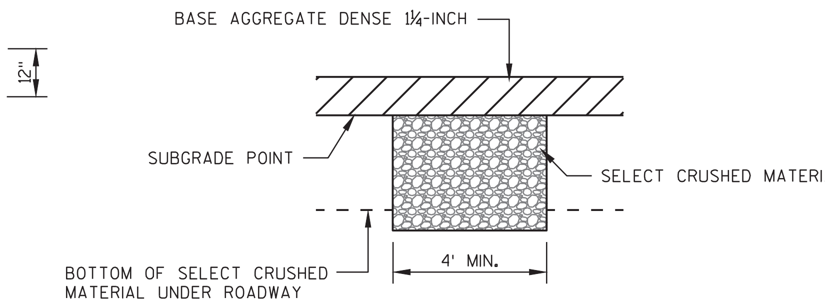


PIPE UNDERDRAIN

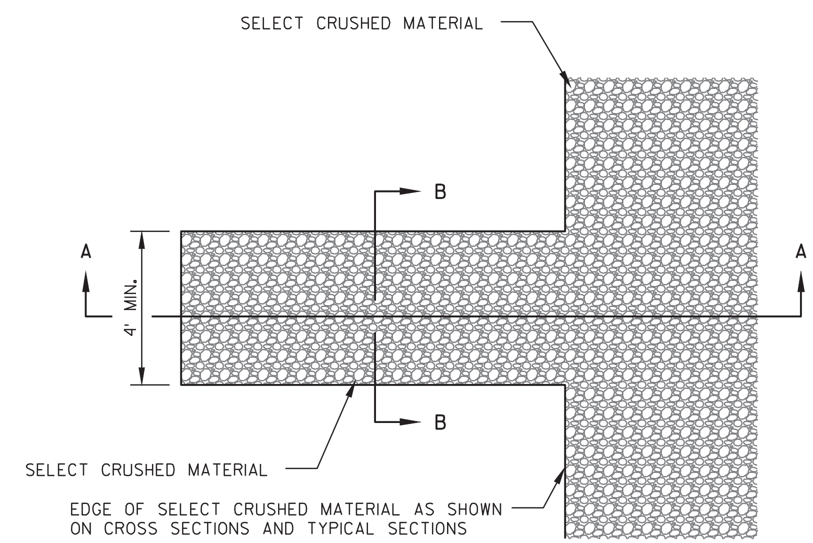


1 TOPSOIL OVER RELIEF TRENCH WHEN TRENCH IS LOCATED ADJACENT TO MAINTAINED YARD AND THIN TOPSOIL TO 2"

SECTION A-A



SECTION B-B



DRAINAGE RELIEF TRENCH

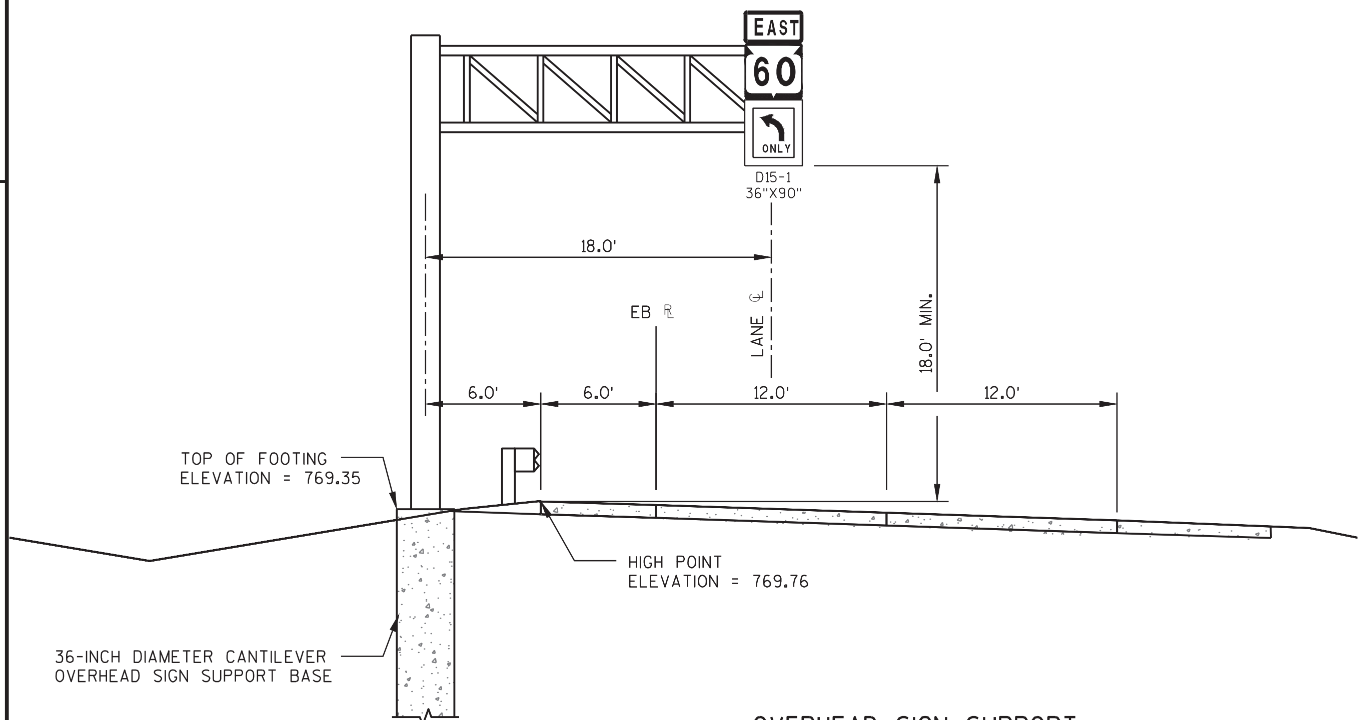
CONSTRUCT DRAINAGE RELIEF TRENCHES AT LEAST EVERY 250' AND AT EACH SAG VERTICAL IN THE PROFILE AT THE FOLLOWING LOCATIONS OR AS DETERMINED BY THE ENGINEER:

STA 315+31 EB TO STA 365+67 EB OUTSIDE EDGE OF EB ROADWAY
STA 327+50 EB TO STA 328+12 EB INSIDE EDGE OF EB ROADWAY
STA 315+31 WB TO STA 327+68 WB OUTSIDE EDGE OF WB ROADWAY
STA 342+50 WB TO STA 345+67 WB OUTSIDE EDGE OF WB ROADWAY
STA 327+50 WB TO STA 335+00 WB INSIDE EDGE OF WB ROADWAY
STA 349+38 WB TO STA 365+67 WB OUTSIDE EDGE OF WB ROADWAY
STA 338+58 RA TO STA 343+24 RA LEFT EDGE OF RAMP
STA 160+24 HS TO STA 169+12 HS RIGHT EDGE OF STH 60
STA 160+24 HS TO STA 161+12 HS LEFT EDGE OF STH 60
STA 168+78 HS TO STA 169+71 HS LEFT EDGE OF STH 60

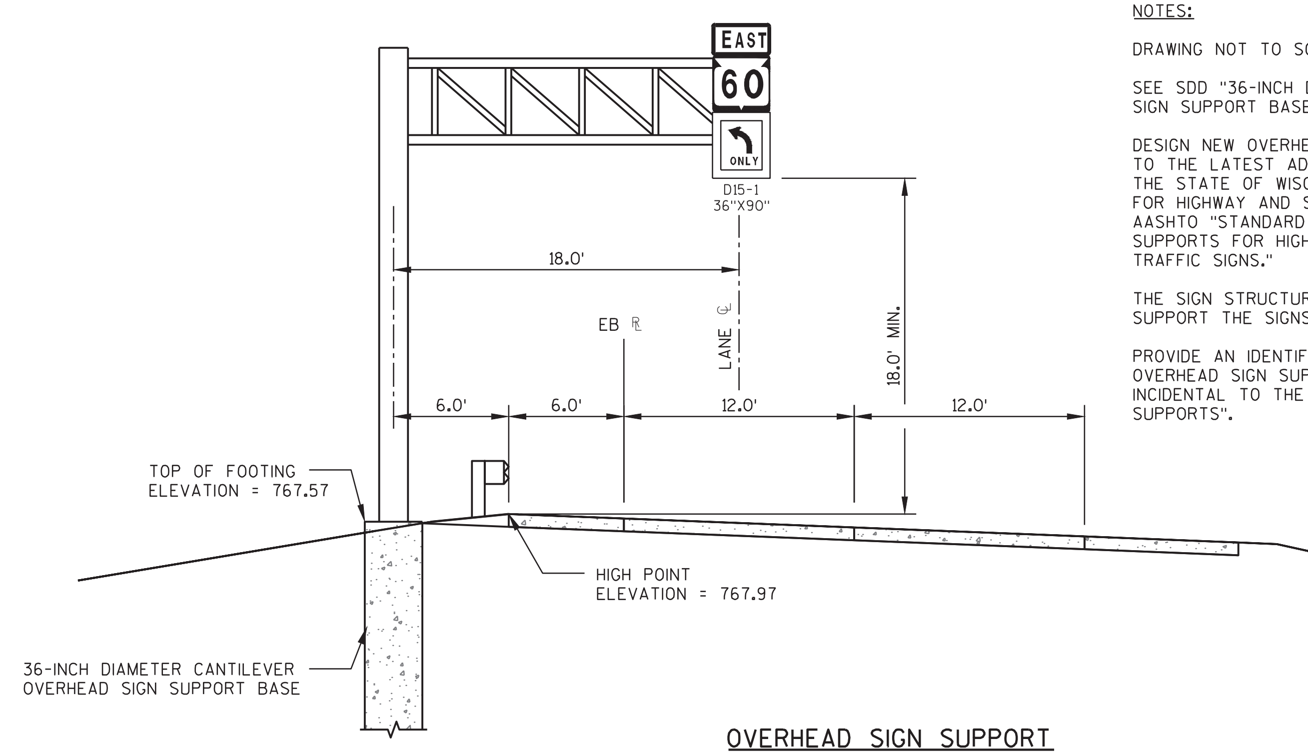
EXCAVATION REQUIRED TO CONSTRUCT DRAINAGE RELIEF TRENCH INCIDENTAL TO THE ITEM SELECT CRUSHED MATERIAL

2

2



OVERHEAD SIGN SUPPORT
(STRUCTURE S-12-0012)
STA 329+00 EB LT



OVERHEAD SIGN SUPPORT
(STRUCTURE S-12-0013)
STA 334+00 EB LT

NOTES:

DRAWING NOT TO SCALE

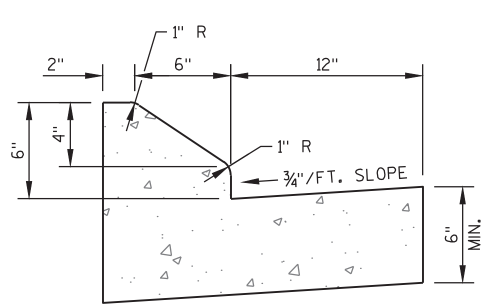
SEE SDD "36-INCH DIAMETER CANTILEVER OVERHEAD SIGN SUPPORT BASE" FOR ADDITIONAL INFORMATION.

DESIGN NEW OVERHEAD SIGN SUPPORTS ACCORDING TO THE LATEST ADDITION OF, AND SUPPLIMENTAL TO THE STATE OF WISCONSIN "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION" AND AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNS."

THE SIGN STRUCTURES SHALL BE DESIGNED TO SUPPORT THE SIGNS SHOWN.

PROVIDE AN IDENTIFICATION PLAQUE FOR ALL OVERHEAD SIGN SUPPORTS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "OVERHEAD SIGN SUPPORTS".

2



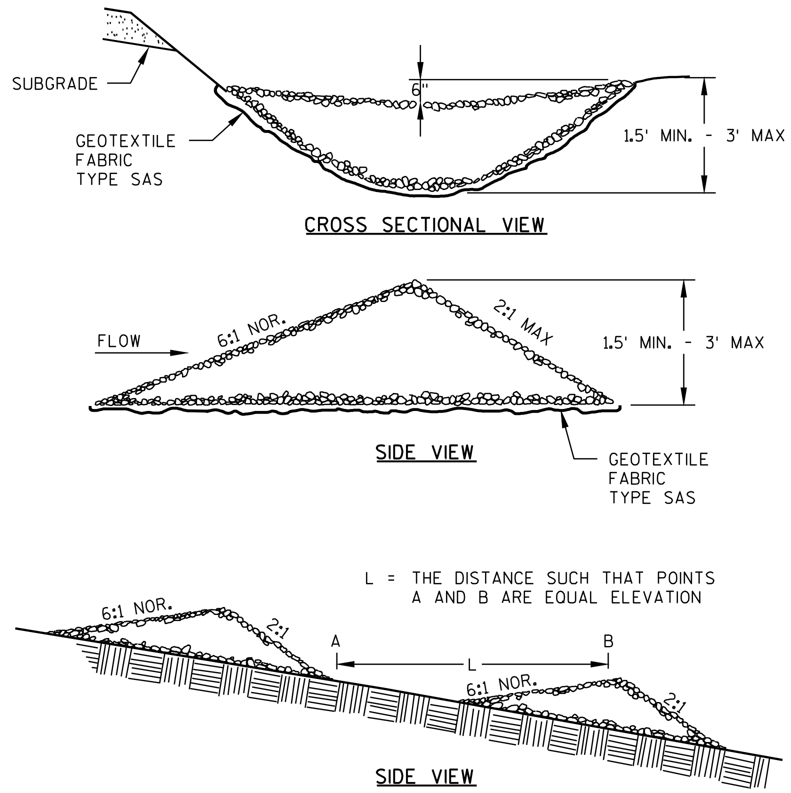
CONCRETE CURB & GUTTER 6-INCH SLOPED
20-INCH TYPE G

RUNOFF COEFFICIENT TABLE

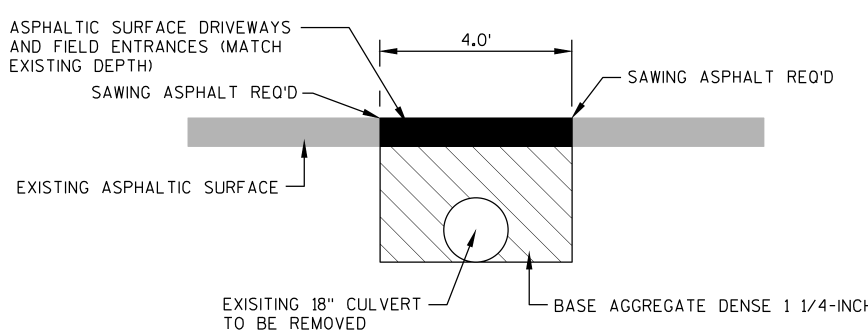
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33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

TOTAL PROJECT AREA = 94.77 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 44.89 ACRES

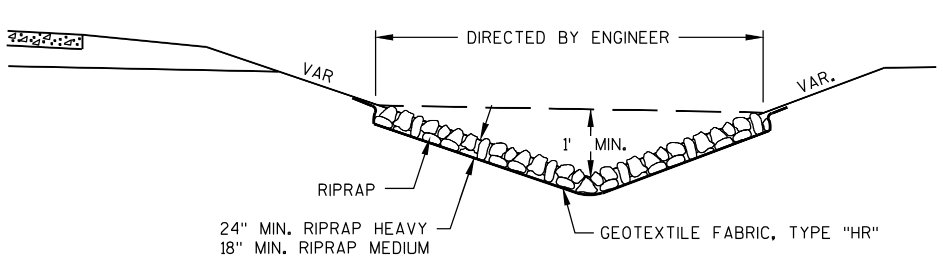
2



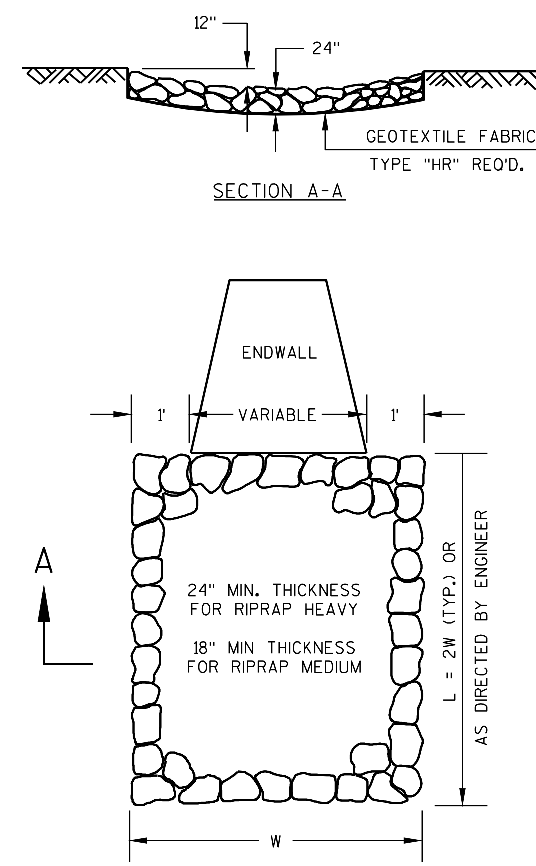
STONE OR ROCK DITCH CHECKS



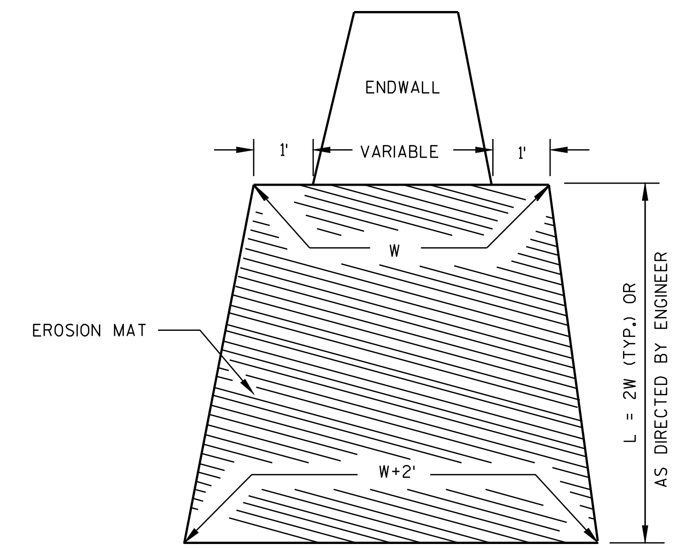
CULVERT REMOVAL
BOUSKA ROAD
STA 103+59 RT



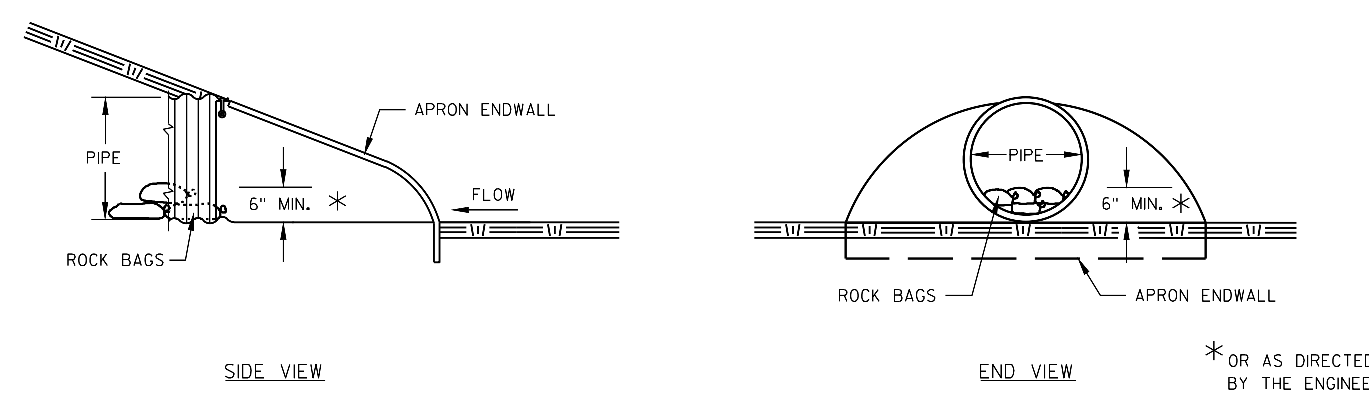
RIPRAP DITCH



RIPRAP TREATMENT AT CULVERTS



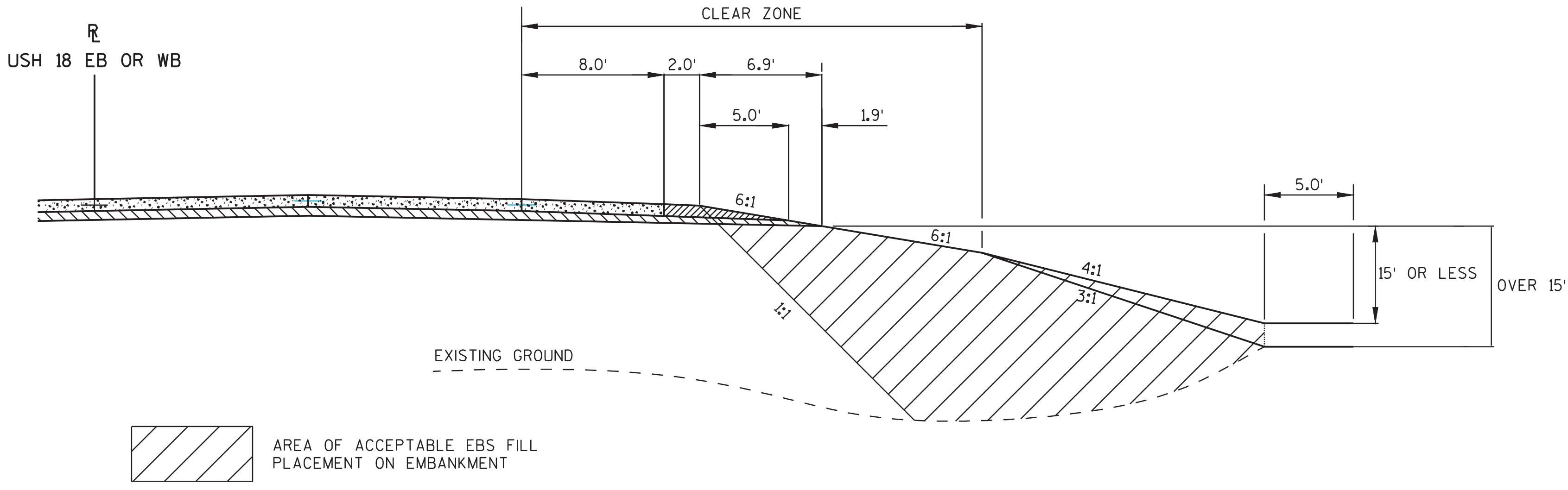
EROSION MAT TREATMENT AT CULVERTS



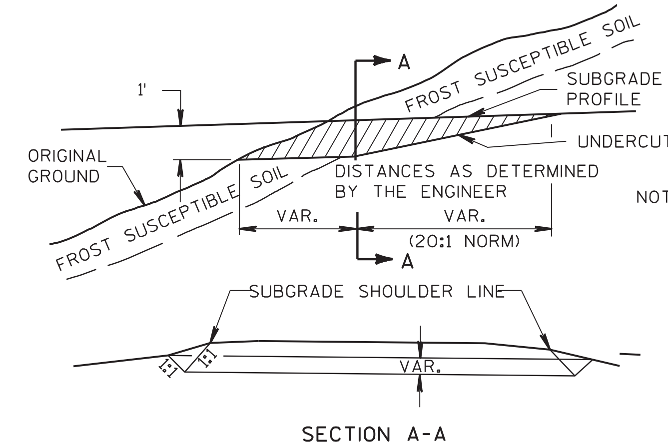
CULVERT PIPE CHECK

2

2



EBS FILL PLACEMENT
IN EMBANKMENT



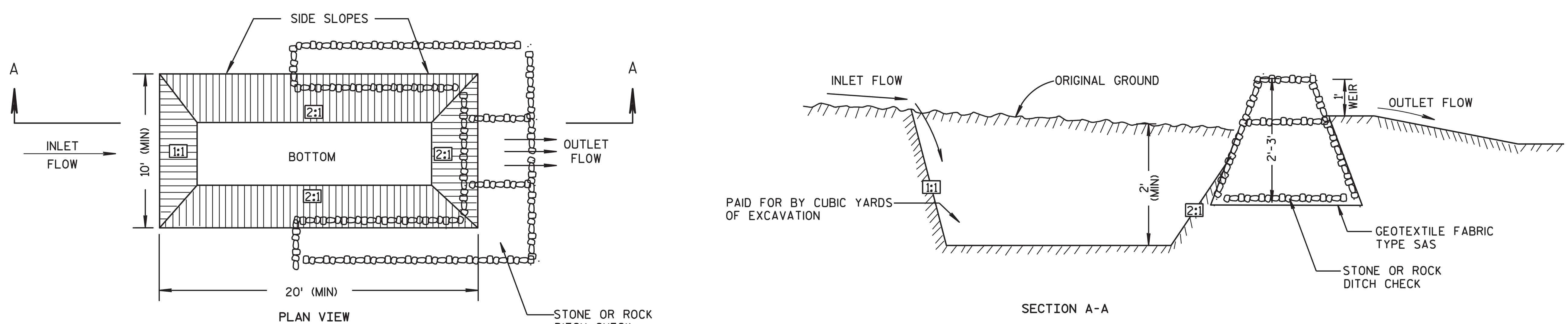
NOTE: EXACT LOCATIONS AND EXTENT OF E.B.S. SECTIONS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

E.B.S. AREA TO BE BACKFILLED WITH SELECT BORROW MATERIAL.

BACKFILL MUST BE HOMOGENEOUS WITH ADJOINING FILL MATERIAL.

THE FILL SECTION WITHIN 100' OF THE MOUTH OF THE CUT MUST BE KEPT 1' BELOW SUBGRADE UNTIL E.B.S. IS COMPLETED.

CROSS SECTION SHOWING UNDERCUT

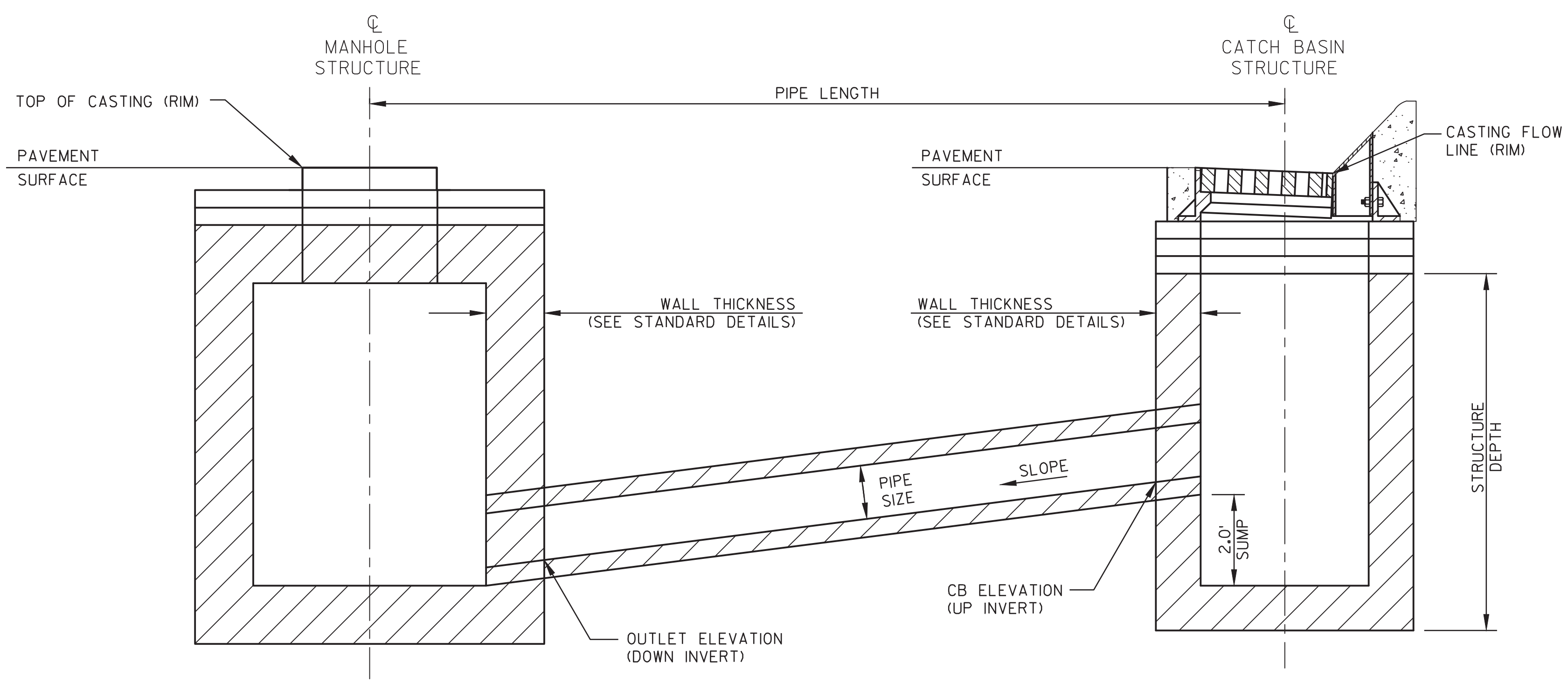


TEMPORARY SEDIMENT BASIN

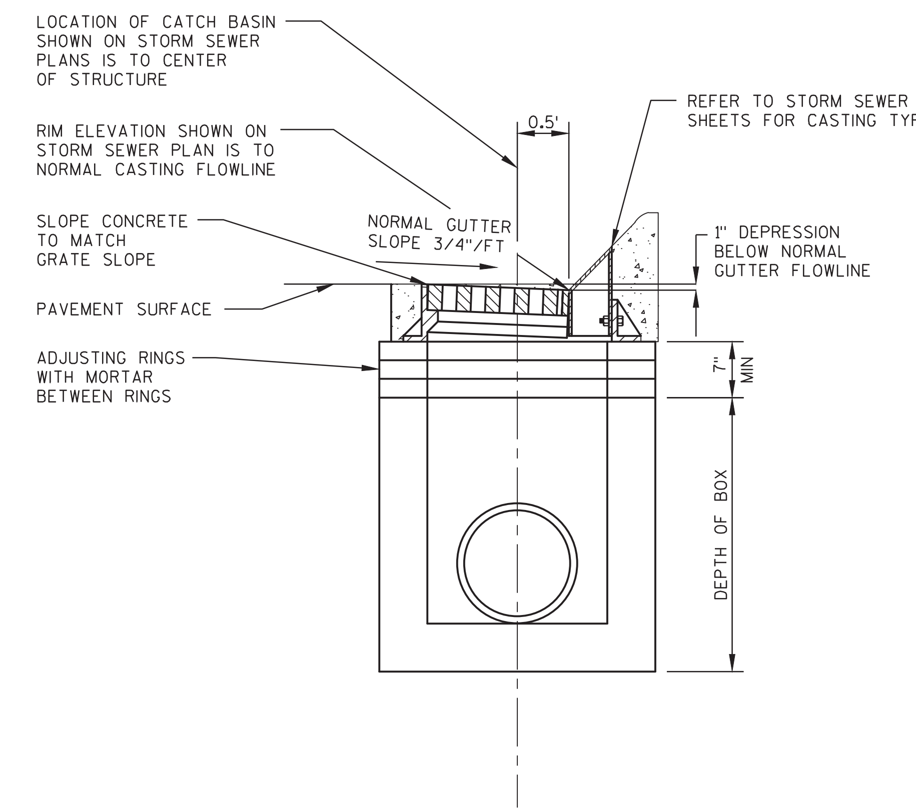
PROJECT NO: 1661-05-78	HWY: HWY 18	COUNTY: CRAWFORD	CONSTRUCTION DETAILS	SHEET 39	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\CDUSH18A.DWG

SHEET NAME: CDUSH1807



STORM SEWER MEASUREMENT



INLET WITH CASTING

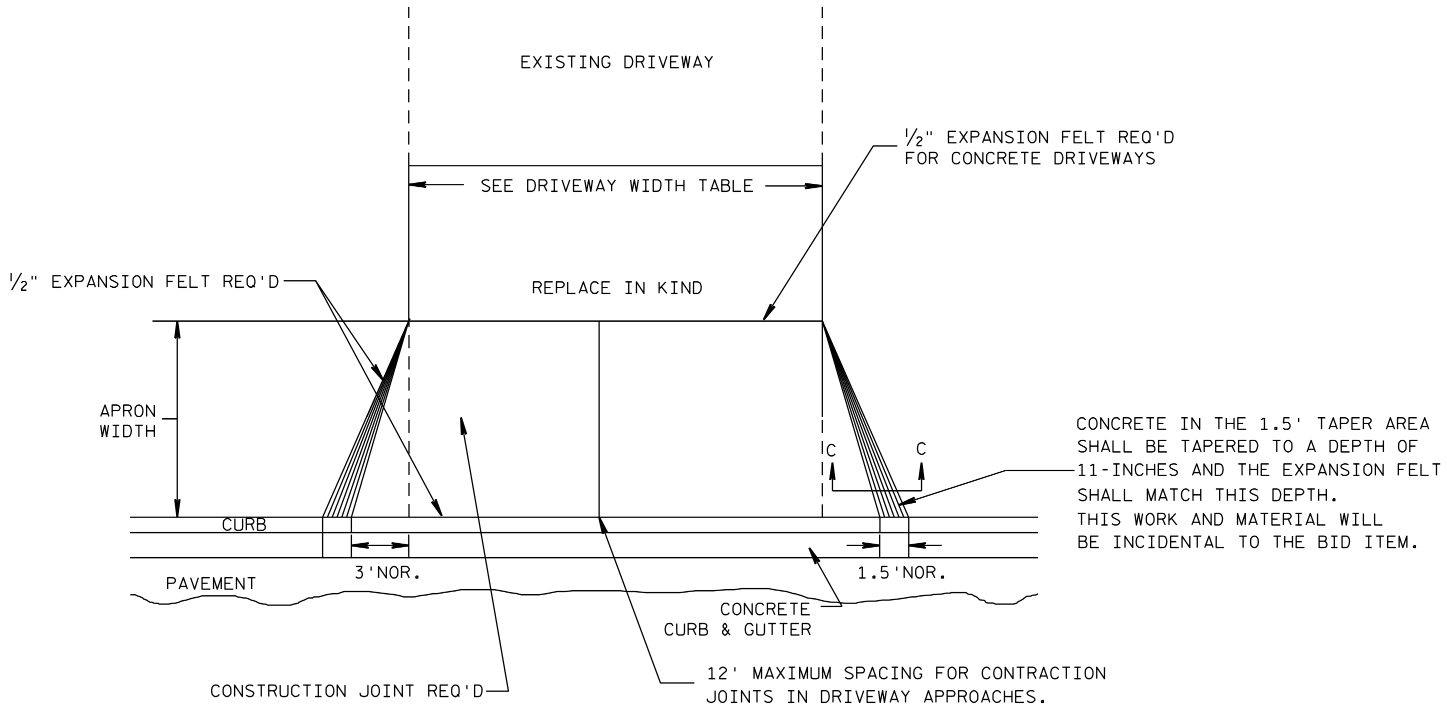
PROJECT NO: 1661-05-78	HWY: HWY 18	COUNTY: CRAWFORD	CONSTRUCTION DETAILS	SHEET 40	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\CDUSH18A.DWG

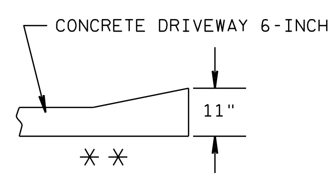
SHEET NAME: CDUSH1808

2

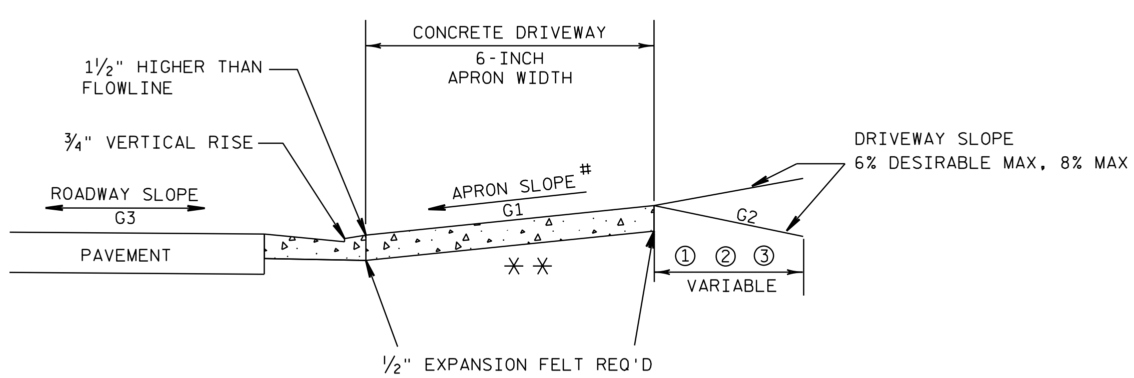
DRIVEWAY ENTRANCE DETAIL WITH CURB & GUTTER



PLAN VIEW



SECTION C-C



TYPICAL SIDEWALK SECTION

①—6" CONCRETE DRIVEWAY OR H.E.S. CONCRETE DRIVEWAY

②—6" BASE AGGREGATE DENSE 3/4-INCH

③—6" COMPACTED BASE AGGREGATE DENSE 3/4-INCH BASE WITH 3" ASPHALTIC SURFACE

✱✱ = 6" BASE AGGREGATE DENSE ¾-INCH REQ'D UNDER CONCRETE DRIVEWAY

#

TERRACE	APRON SLOPE (G1)		
WIDTH	MIN %	DESIRABLE %	MAX %
3 FT	5.0	6.0	8.0
4 FT	5.0	6.0	8.0
5 FT	4.0	6.0	8.0
6 FT	4.0	6.0	8.0
7 FT	3.5	6.0	8.0
8 FT	3.0	6.0	8.0

NOTE: ALGEBRAIC DIFFERENCE BETWEEN TANGENT GRADES G1 & G2 TO NOT EXCEED 15%

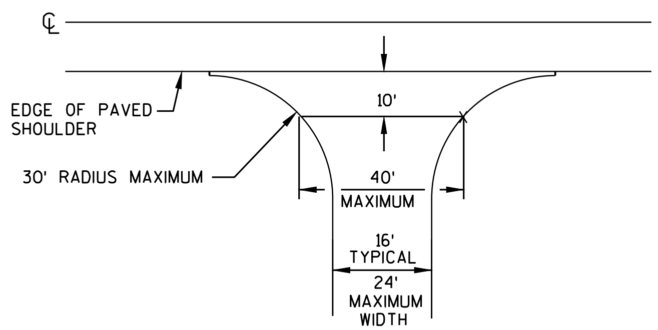
DRIVEWAY WIDTHS

STATION	LOCATION	TYPE	APRON WIDTH	DRIVE-WAY WIDTH	SURFACE	REMARKS
USH 18 EB						
200+32.6	RT	CE	5	24	BAD	
205+02.0	RT	PE	5	24	ASD&FE	
212+52.0	RT	PE	8	14	ASD&FE & CONC	10' WIDE CONCRETE SIDEWALK
223+16.2	RT	PE	8	20	ASD&FE	
252+64.0	RT	PE	8	20	ASD&FE	
260+34.7	RT	PE	5	30	ASD&FE	
332+07.0	RT	PE		16	ASD&FE	
354+44.9	RT	CE		36	CONC	
USH 18 WB						
205+59.0	LT	CE		35	TE	
229+04.6	LT	PE		16	ASD&FE	
329+10.8	LT	PE		16	ASD&FE	
332+69.0	LT	PE		16	ASD&FE	
335+02.7	LT	CE		32	ASD&FE	
351+42.4	LT	CE		26	ASD&FE	
CABIN HILL LANE						
47+18.8	RT	PE	8.5	16	ASD&FE	
CHURCH ENTRANCE						
61+74.8	LT	PE	5	16	BAD	
UTOPIA LANE						
80+92.1	RT	PE		16	ASD&FE	
82+53.4	LT	PE		10	ASD&FE	
84+45.8	LT	PE		12	ASD&FE	
85+78.9	LT	PE		12	ASD&FE	
OLD HWY 18 (EAST)						
68+03.1	LT	PE		20	ASD&FE	
68+88.0	RT	PE		16	ASD&FE	
GOLF VIEW DRIVE						
117+79.4	LT	PE		16	ASD&FE	
120+29.7	RT	PE	5	16	ASD&FE	
125+76.6	RT	PE		8	ASD&FE	
125+97.0	RT	PE		10	ASD&FE	
DRIVEWAY D						
115+82.7	RT	PE		24	ASD&FE	
FRONTAGE ROAD						
141+30.7	LT	PE		16	ASD&FE	
DRIVEWAY E						
143+31.6	LT	PE		14	ASD&FE	
144+58.9	LT	PE		21	ASD&FE	
UPPER BRIDGEPORT RD						
191+01.4	LT	PE		24	ASD&FE	
OLD HWY 18 (WEST)						
25+42.0	RT	PE		16	ASD&FE	

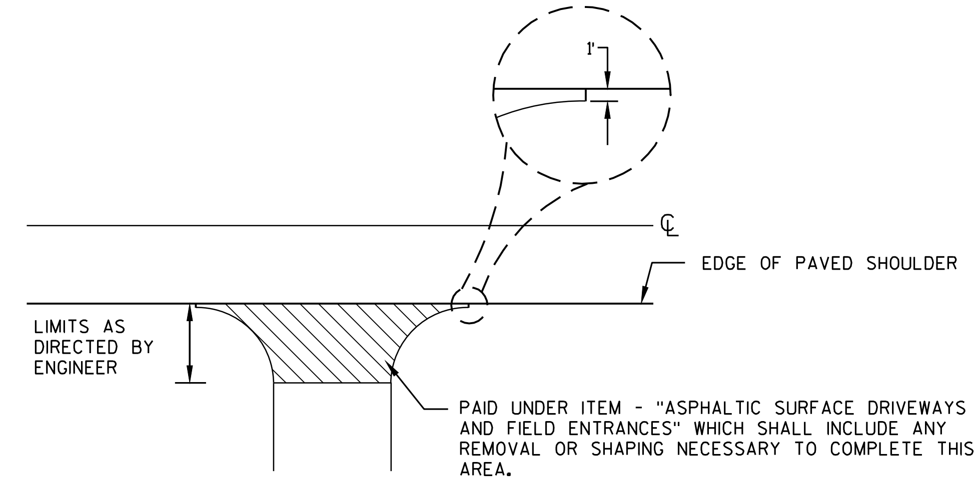
ASD&FE = ASPHALTIC SURFACE DRIVEWAY AND FIELD ENTRANCE
BAD = BASE AGGREGATE DENSE
CONC = CONRETE PAVEMENT
TE = TURF ESTABLISHMENT

2

2

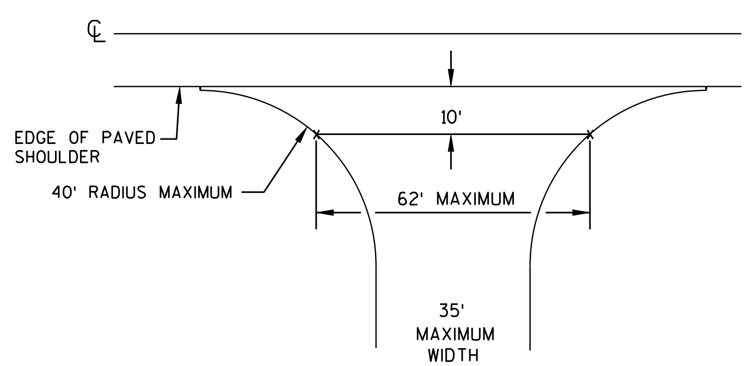


TYPICAL DRIVEWAY
NON-COMMERCIAL RURAL

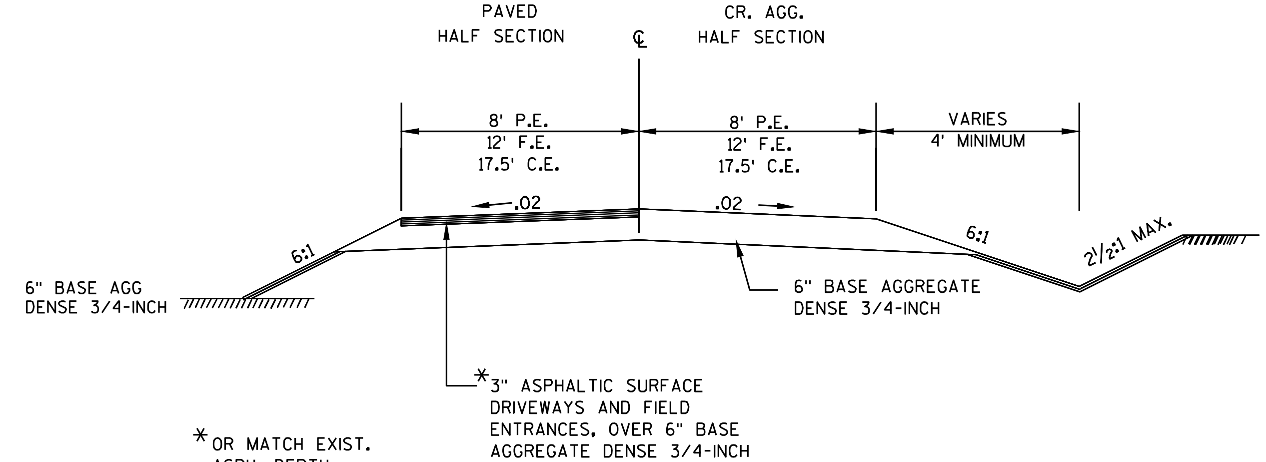


ANY ADDITIONAL BASE AGG. DENSE REQ'D. SHALL BE PAID UNDER ITEM - "BASE AGGREGATE DENSE 3/4-INCH"

RURAL DRIVEWAY - ASPHALT



TYPICAL DRIVEWAY
COMMERCIAL RURAL



*OR MATCH EXIST. ASPH. DEPTH

NOTE:

PLACE LOW POINT OF DRIVEWAY PROFILE OVER DITCH FLOW LINE.

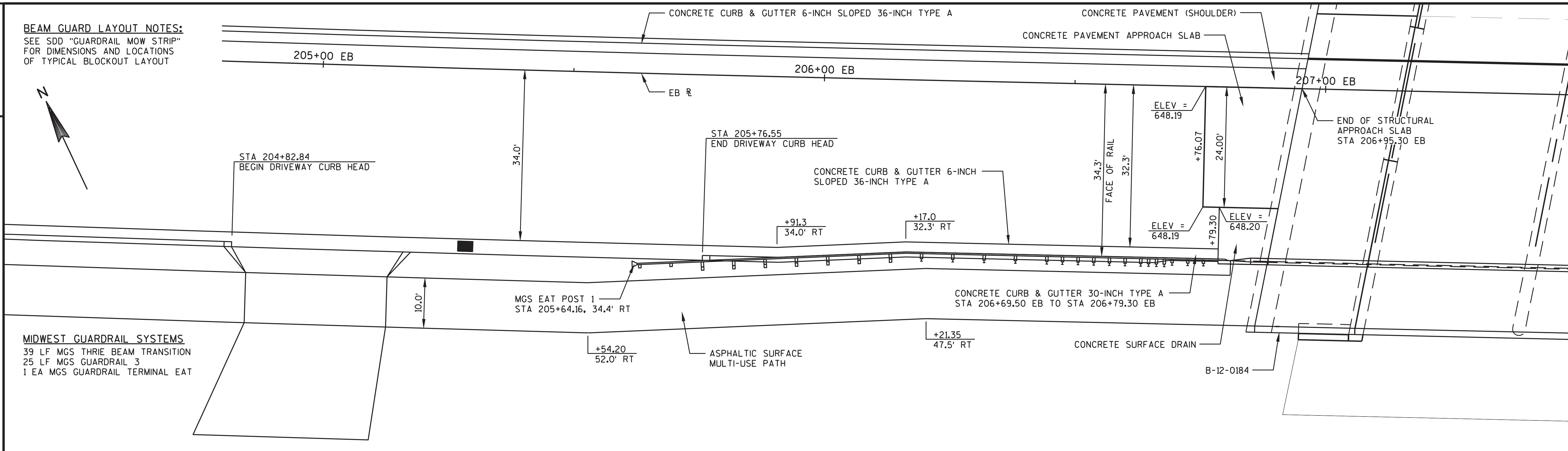
TYPICAL SECTION
FOR PRIVATE ENTRANCES

2

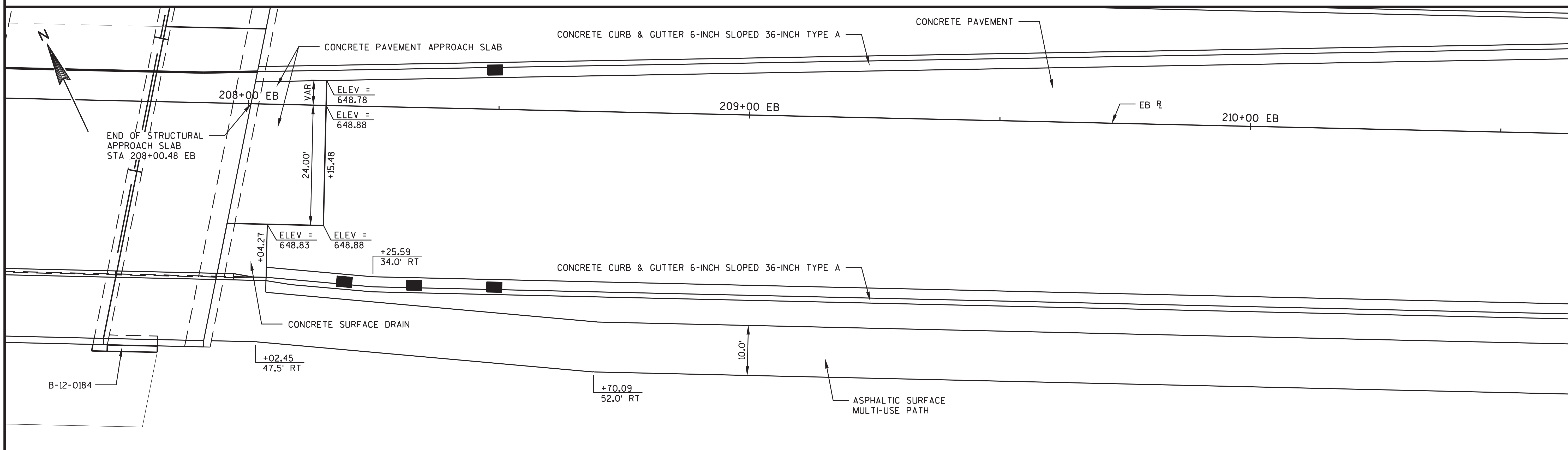
2

BEAM GUARD LAYOUT NOTES:
SEE SDD "GUARDRAIL MOW STRIP"
FOR DIMENSIONS AND LOCATIONS
OF TYPICAL BLOCKOUT LAYOUT

MIDWEST GUARDRAIL SYSTEMS
39 LF MGS THRIE BEAM TRANSITION
25 LF MGS GUARDRAIL 3
1 EA MGS GUARDRAIL TERMINAL EAT



BEAMGUARD LAYOUT/APPROACH SLAB (EB)



BEAMGUARD LAYOUT/APPROACH SLAB (EB)

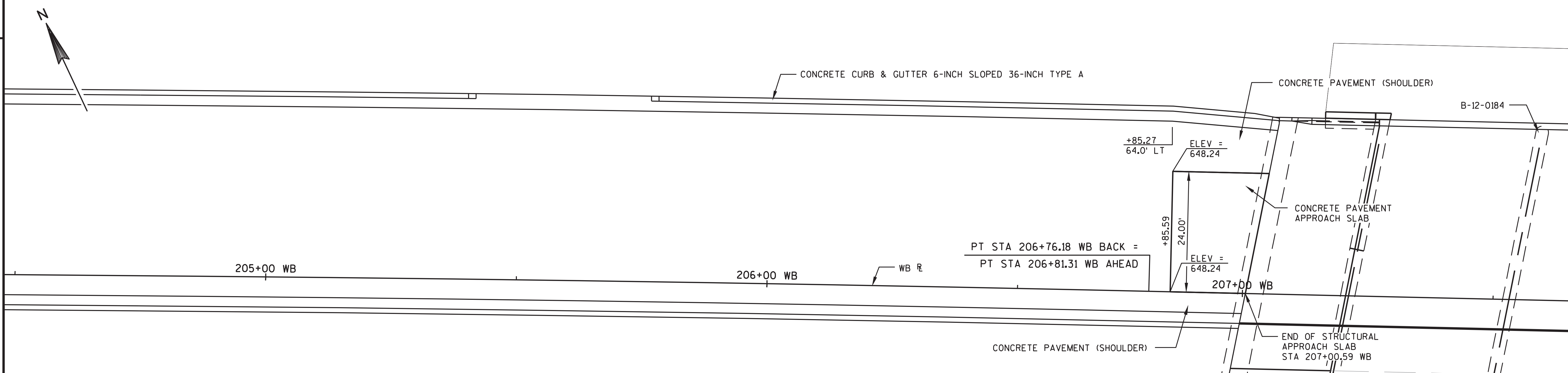
PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CONSTRUCTION DETAILS	SHEET 43	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\CDUSH18B.DWG   SHEET NAME: CDUSH1810

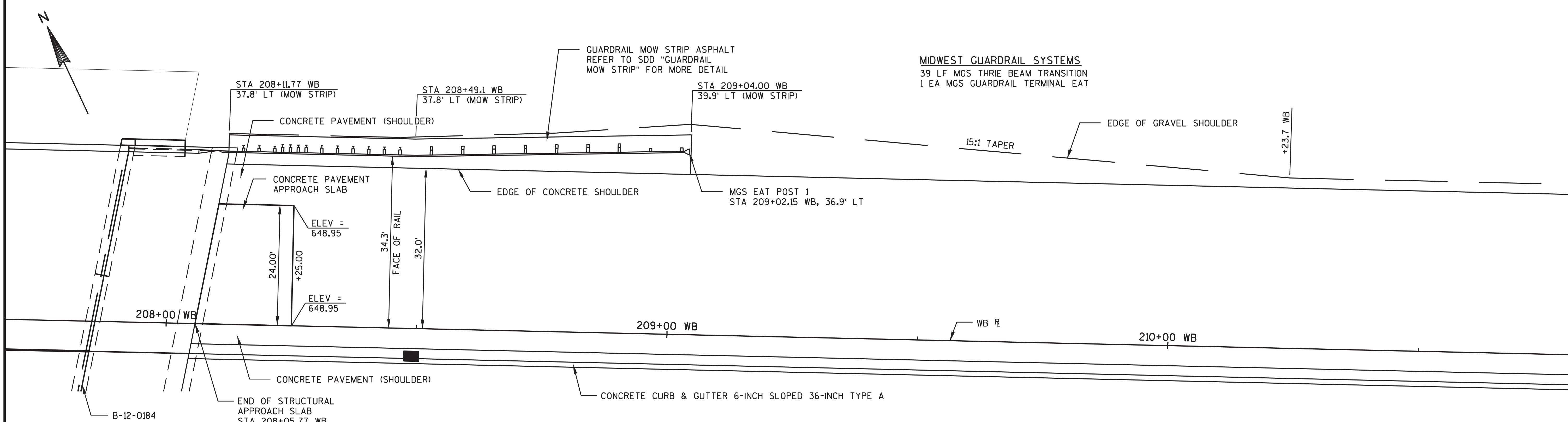
2

BEAM GUARD LAYOUT NOTES:
SEE SDD "GUARDRAIL MOW STRIP"
FOR DIMENSIONS AND LOCATIONS
OF TYPICAL BLOCKOUT LAYOUT

2



BEAMGUARD LAYOUT/APPROACH SLAB (WB)



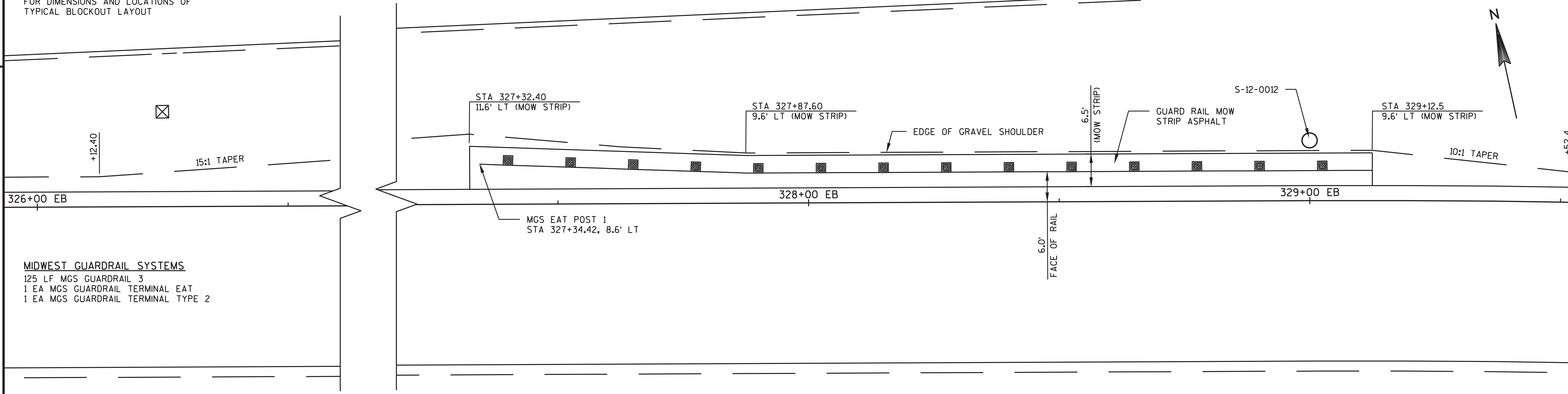
BEAMGUARD LAYOUT/APPROACH SLAB (WB)

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CONSTRUCTION DETAILS	SHEET 44	E

2

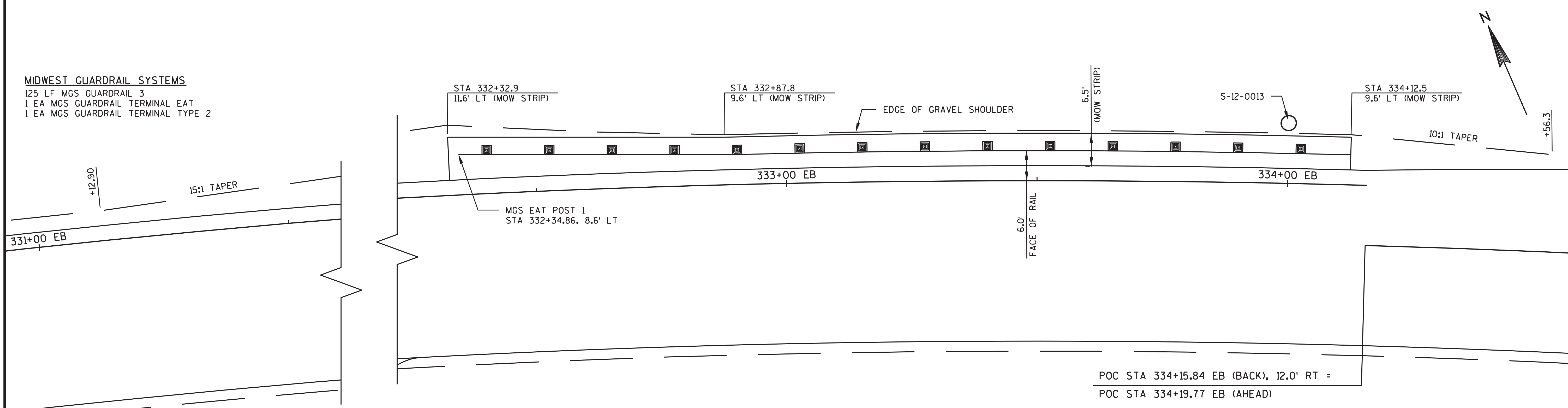
BEAM GUARD LAYOUT NOTES:
SEE SDD "GUARDRAIL MOW STRIP"
FOR DIMENSIONS AND LOCATIONS OF
TYPICAL BLOCKOUT LAYOUT

MIDWEST GUARDRAIL SYSTEMS
125 LF MGS GUARDRAIL 3
1 EA MGS GUARDRAIL TERMINAL EAT
1 EA MGS GUARDRAIL TERMINAL TYPE 2



BEAM GUARD LAYOUT

MIDWEST GUARDRAIL SYSTEMS
125 LF MGS GUARDRAIL 3
1 EA MGS GUARDRAIL TERMINAL EAT
1 EA MGS GUARDRAIL TERMINAL TYPE 2



BEAM GUARD LAYOUT

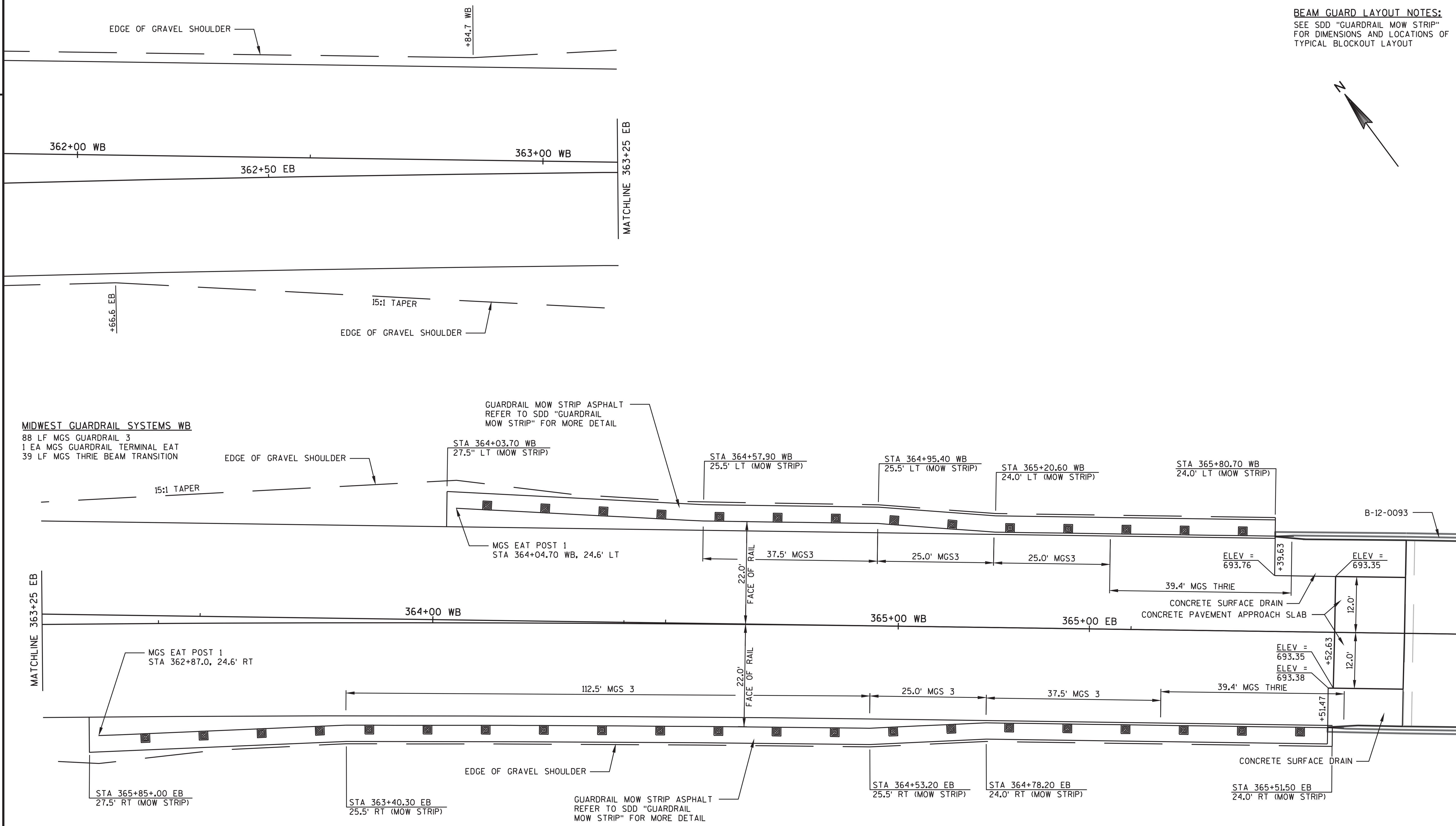
PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CONSTRUCTION DETAILS	SHEET 45	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\CDUSH18B.DWG
SHEET NAME: CDUSH1812

2

BEAM GUARD LAYOUT NOTES:
SEE SDD "GUARDRAIL MOW STRIP" FOR DIMENSIONS AND LOCATIONS OF TYPICAL BLOCKOUT LAYOUT

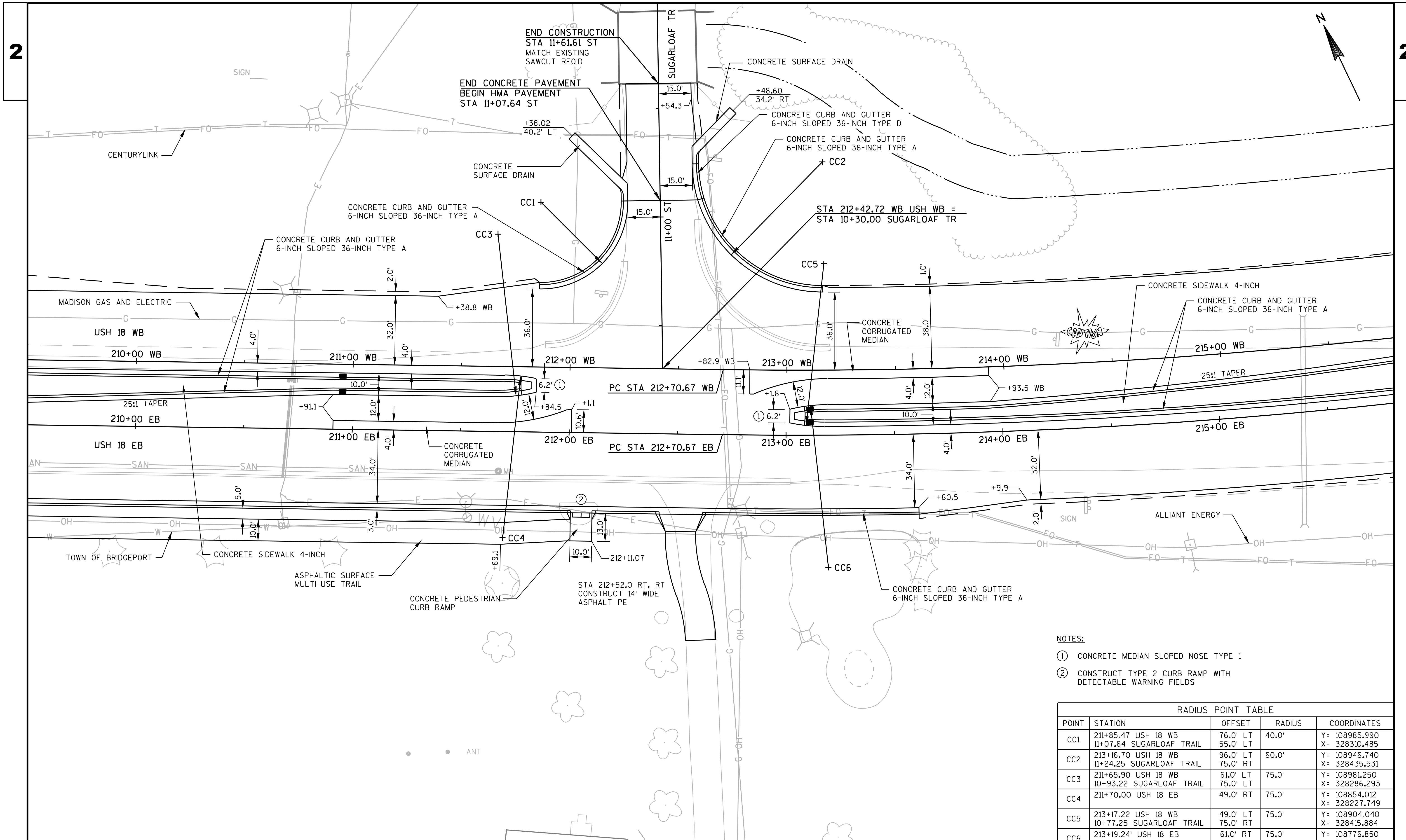
2



MIDWEST GUARDRAIL SYSTEMS EB
175 LF MGS GUARDRAIL 3
1 EA MGS GUARDRAIL TERMINAL EAT
39 LF MGS THRIE BEAM TRANSITION

BEAM GUARD LAYOUT/APPROACH SLAB

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CONSTRUCTION DETAILS	SHEET 46	E



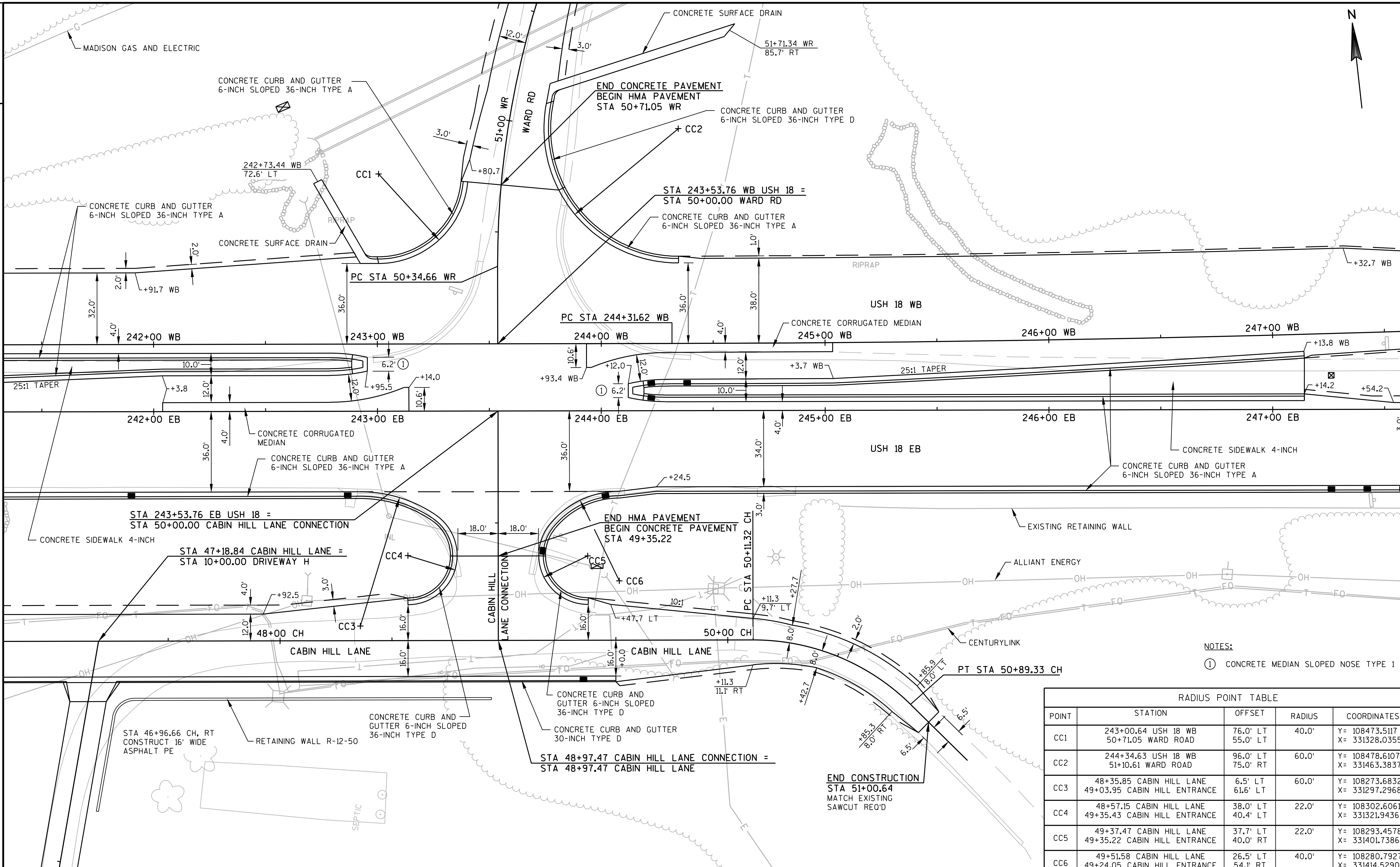
NOTES:

1. CONCRETE MEDIAN SLOPED NOSE TYPE 1
2. CONSTRUCT TYPE 2 CURB RAMP WITH DETECTABLE WARNING FIELDS

RADIUS POINT TABLE

POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	211+85.47 USH 18 WB 11+07.64 SUGARLOAF TRAIL	76.0' LT 55.0' LT	40.0'	Y= 108985.990 X= 328310.485
CC2	213+16.70 USH 18 WB 11+24.25 SUGARLOAF TRAIL	96.0' LT 75.0' RT	60.0'	Y= 108946.740 X= 328435.531
CC3	211+65.90 USH 18 WB 10+93.22 SUGARLOAF TRAIL	61.0' LT 75.0' LT	75.0'	Y= 108981.250 X= 328286.293
CC4	211+70.00 USH 18 EB	49.0' RT	75.0'	Y= 108854.012 X= 328227.749
CC5	213+17.22 USH 18 WB 10+77.25 SUGARLOAF TRAIL	49.0' LT 75.0' RT	75.0'	Y= 108904.040 X= 328415.884
CC6	213+19.24' USH 18 EB	61.0' RT	75.0'	Y= 108776.850 X= 328357.362

2

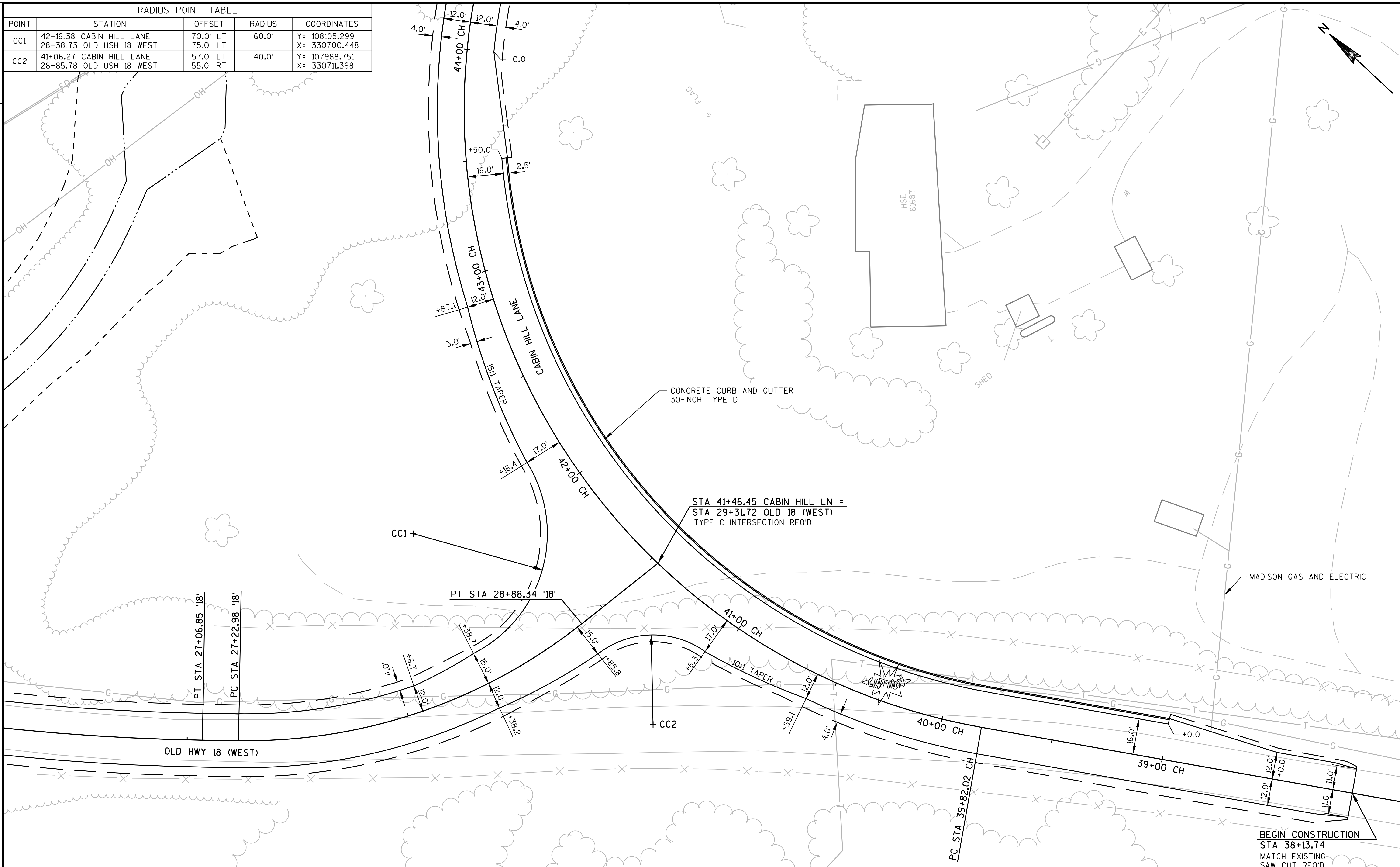


RADIUS POINT TABLE

POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	243+00.64 USH 18 WB 50+71.05 WARD ROAD	76.0' LT 55.0' LT	40.0'	Y= 108473.5117 X= 331328.0355
CC2	244+34.63 USH 18 WB 51+10.61 WARD ROAD	96.0' LT 75.0' RT	60.0'	Y= 108478.6107 X= 331463.3837
CC3	48+35.85 CABIN HILL LANE 49+03.95 CABIN HILL ENTRANCE	6.5' LT 61.6' LT	60.0'	Y= 108273.6832 X= 331297.2968
CC4	48+57.15 CABIN HILL LANE 49+35.43 CABIN HILL ENTRANCE	38.0' LT 40.4' LT	22.0'	Y= 108302.6061 X= 331321.9436
CC5	49+37.47 CABIN HILL LANE 49+35.22 CABIN HILL ENTRANCE	37.7' LT 40.0' RT	22.0'	Y= 108293.4578 X= 331401.7386
CC6	49+51.58 CABIN HILL LANE 49+24.05 CABIN HILL ENTRANCE	26.5' LT 54.1' RT	40.0'	Y= 108280.7927 X= 331414.5290

2

RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	42+16.38 CABIN HILL LANE 28+38.73 OLD USH 18 WEST	70.0' LT 75.0' LT	60.0'	Y= 108105.299 X= 330700.448
CC2	41+06.27 CABIN HILL LANE 28+85.78 OLD USH 18 WEST	57.0' LT 55.0' RT	40.0'	Y= 107968.751 X= 330711.368



2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	INTERSECTION LAYOUT DETAIL	SHEET	E

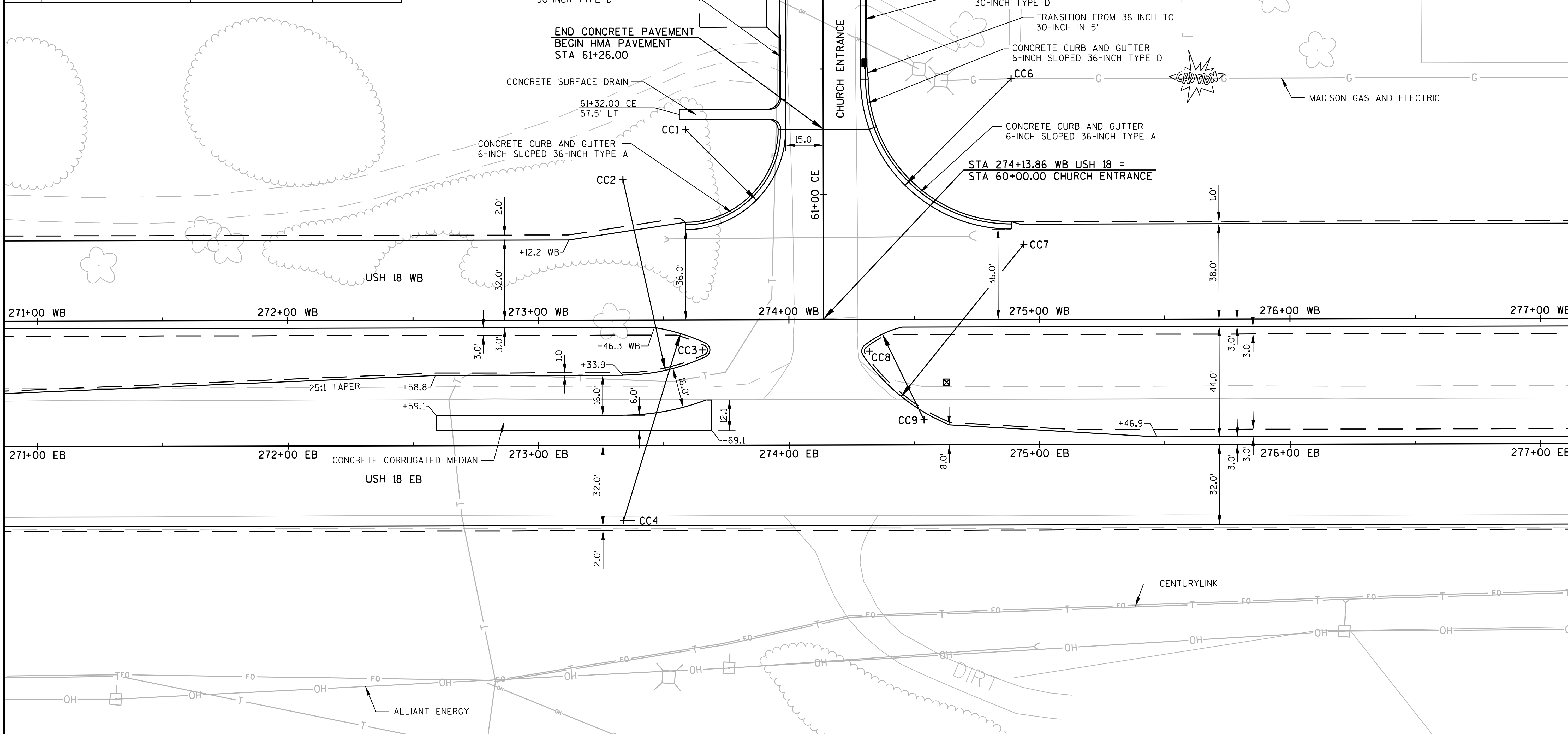
FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\IDUSH18.DWG

SHEET NAME: 021104ID

2

RADIUS POINT TABLE

POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	273+58.86 USH 18 WB 61+25.95 CHURCH ENTRANCE	76.0' LT 55.0' LT	40.0'	Y= 108155.937 X= 334369.784
CC2	273+33.86 USH 18 WB 61+06.00 CHURCH ENTRANCE	56.0' LT 80.0' LT	78.0'	Y= 108138.866 X= 334342.736
CC3	273+65.50 USH 18 WB	12.0' RT	3.0'	Y= 108067.791 X= 334366.679
CC4	273+33.86 USH 18 EB	30.0' RT	78.0'	Y= 108003.696 X= 334327.731
CC5	274+50.86 USH 18 WB 61+82.21 CHURCH ENTRANCE	132.2' LT 37.0' RT	22.0'	Y= 108201.701 X= 334467.429
CC6	274+88.86 USH 18 WB 61+46.00 CHURCH ENTRANCE	96.0' LT 75.0' RT	60.0'	Y= 108161.521 X= 334501.203
CC7	274+93.86 USH 18 WB 60+80.00 CHURCH ENTRANCE	30.0' LT 80.0' RT	78.0'	Y= 108095.373 X= 334498.891
CC8	274+32.11 USH 18 WB	12.6' RT	3.0'	Y= 108059.870 X= 334432.826
CC9	274+53.86 USH 18 EB	10.0' LT	38.0'	Y= 108030.213 X= 334451.412

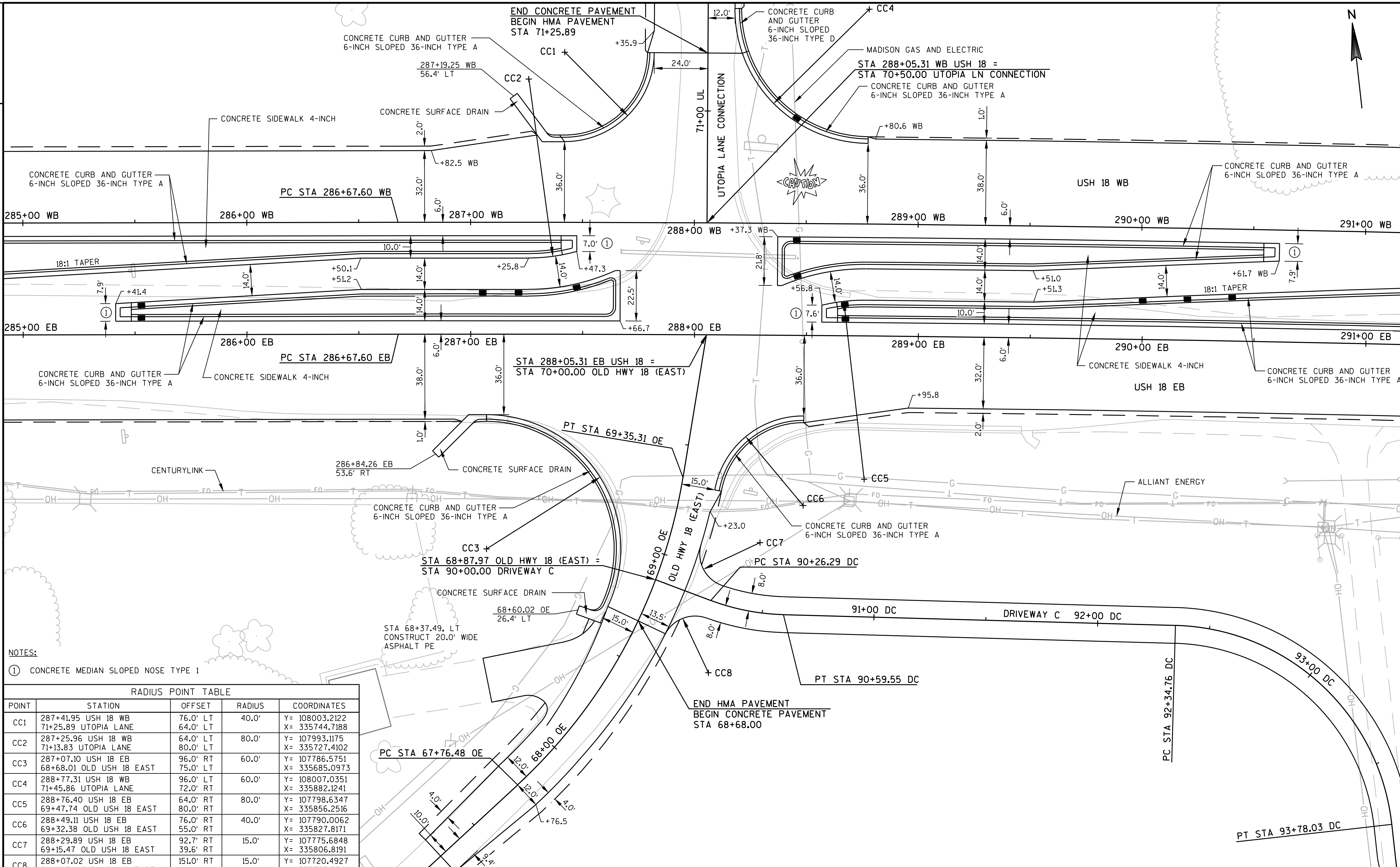


2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	INTERSECTION LAYOUT DETAIL	SHEET	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\IDUSH18.DWG

SHEET NAME: 021105ID



NOTES:

(1) CONCRETE MEDIAN SLOPED NOSE TYPE 1

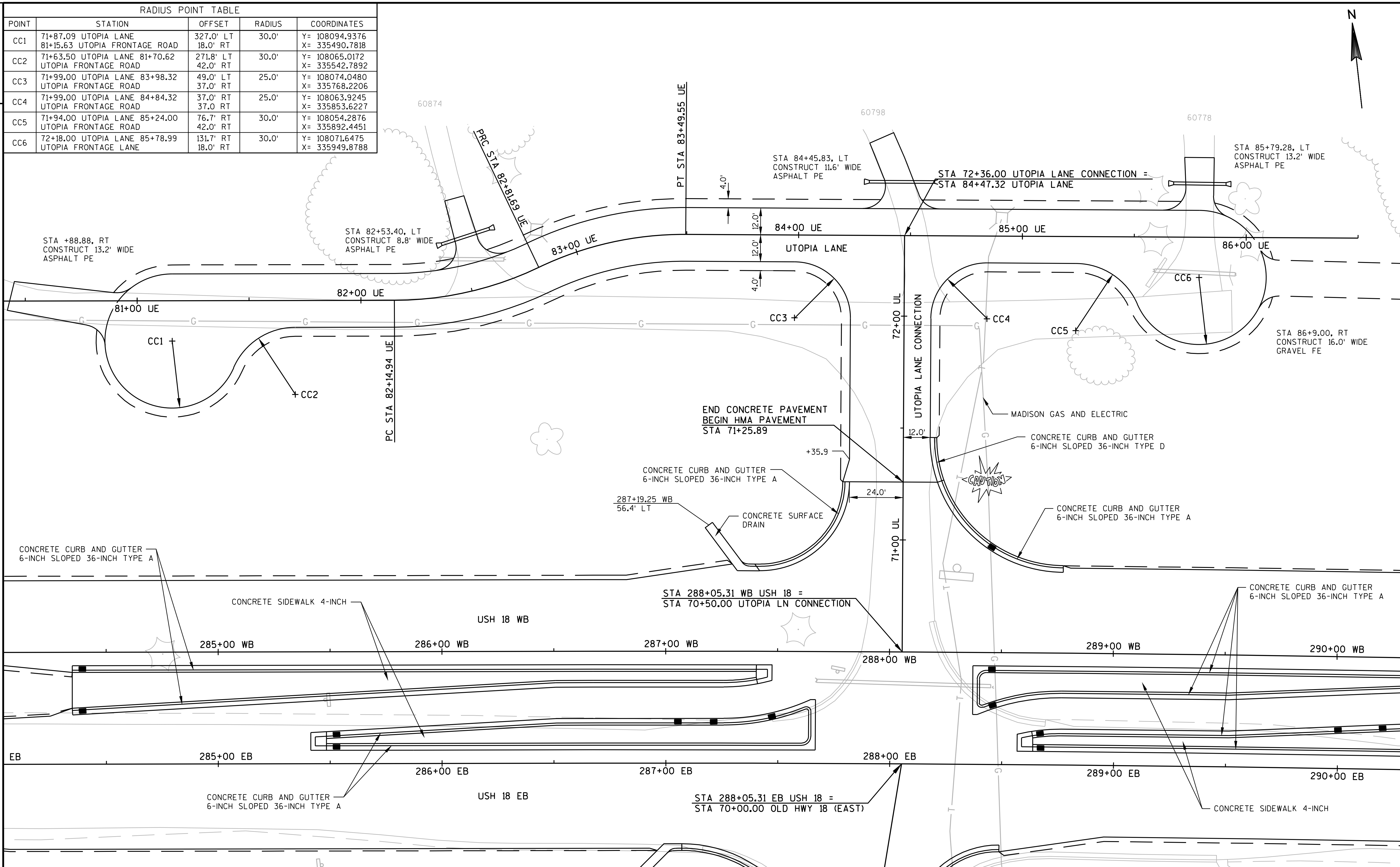
RADIUS POINT TABLE

POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	287+41.95 USH 18 WB 71+25.89 UTOPIA LANE	76.0' LT 64.0' LT	40.0'	Y= 108003.2122 X= 335744.7188
CC2	287+25.96 USH 18 WB 71+13.83 UTOPIA LANE	64.0' LT 80.0' LT	80.0'	Y= 107993.1175 X= 335727.4102
CC3	287+07.10 USH 18 EB 68+68.01 OLD USH 18 EAST	96.0' RT 75.0' LT	60.0'	Y= 107786.5751 X= 335685.0973
CC4	288+77.31 USH 18 WB 71+45.86 UTOPIA LANE	96.0' LT 72.0' RT	60.0'	Y= 108007.0351 X= 335882.1241
CC5	288+76.40 USH 18 EB 69+47.74 OLD USH 18 EAST	64.0' RT 80.0' RT	80.0'	Y= 107798.6347 X= 335856.2516
CC6	288+49.11 USH 18 EB 69+32.38 OLD USH 18 EAST	76.0' RT 55.0' RT	40.0'	Y= 107790.0062 X= 335827.8171
CC7	288+29.89 USH 18 EB 69+15.47 OLD USH 18 EAST	92.7' RT 39.6' RT	15.0'	Y= 107775.6848 X= 335806.8191
CC8	288+07.02 USH 18 EB 68+61.54 OLD USH 18 EAST	151.0' RT	15.0'	Y= 107720.4927 X= 335777.3568

2

RADIUS POINT TABLE

POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	71+87.09 UTOPIA LANE 81+15.63 UTOPIA FRONTAGE ROAD	327.0' LT 18.0' RT	30.0'	Y= 108094.9376 X= 335490.7818
CC2	71+63.50 UTOPIA LANE 81+70.62 UTOPIA FRONTAGE ROAD	271.8' LT 42.0' RT	30.0'	Y= 108065.0172 X= 335542.7892
CC3	71+99.00 UTOPIA LANE 83+98.32 UTOPIA FRONTAGE ROAD	49.0' LT 37.0' RT	25.0'	Y= 108074.0480 X= 335768.2206
CC4	71+99.00 UTOPIA LANE 84+84.32 UTOPIA FRONTAGE ROAD	37.0' RT 37.0 RT	25.0'	Y= 108063.9245 X= 335853.6227
CC5	71+94.00 UTOPIA LANE 85+24.00 UTOPIA FRONTAGE ROAD	76.7' RT 42.0' RT	30.0'	Y= 108054.2876 X= 335892.4451
CC6	72+18.00 UTOPIA LANE 85+78.99 UTOPIA FRONTAGE LANE	131.7' RT 18.0' RT	30.0'	Y= 108071.6475 X= 335949.8788



2

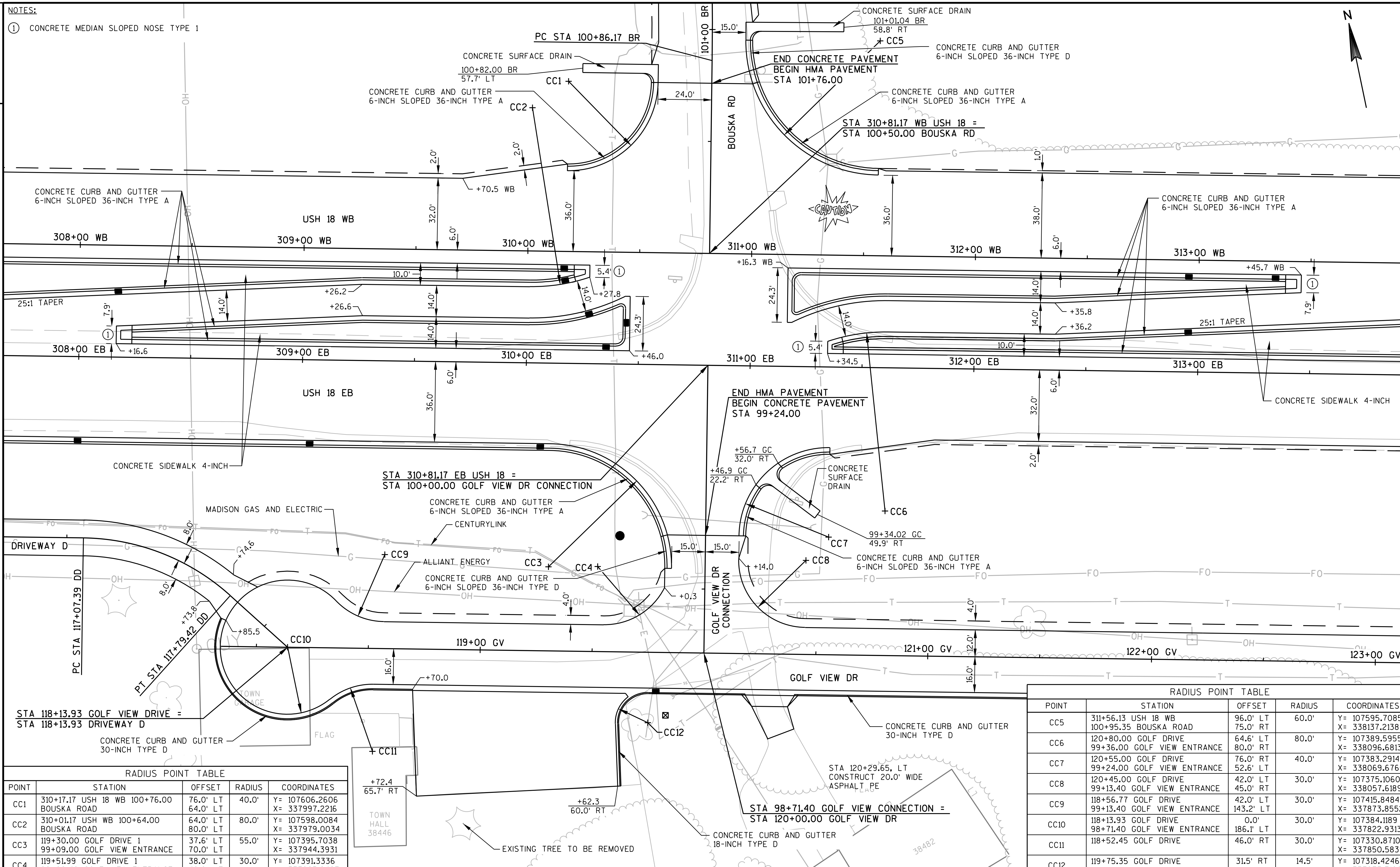
PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	INTERSECTION LAYOUT DETAIL	SHEET 52	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\IDUSH18.DWG

SHEET NAME: 021107ID

NOTES:

① CONCRETE MEDIAN SLOPED NOSE TYPE 1



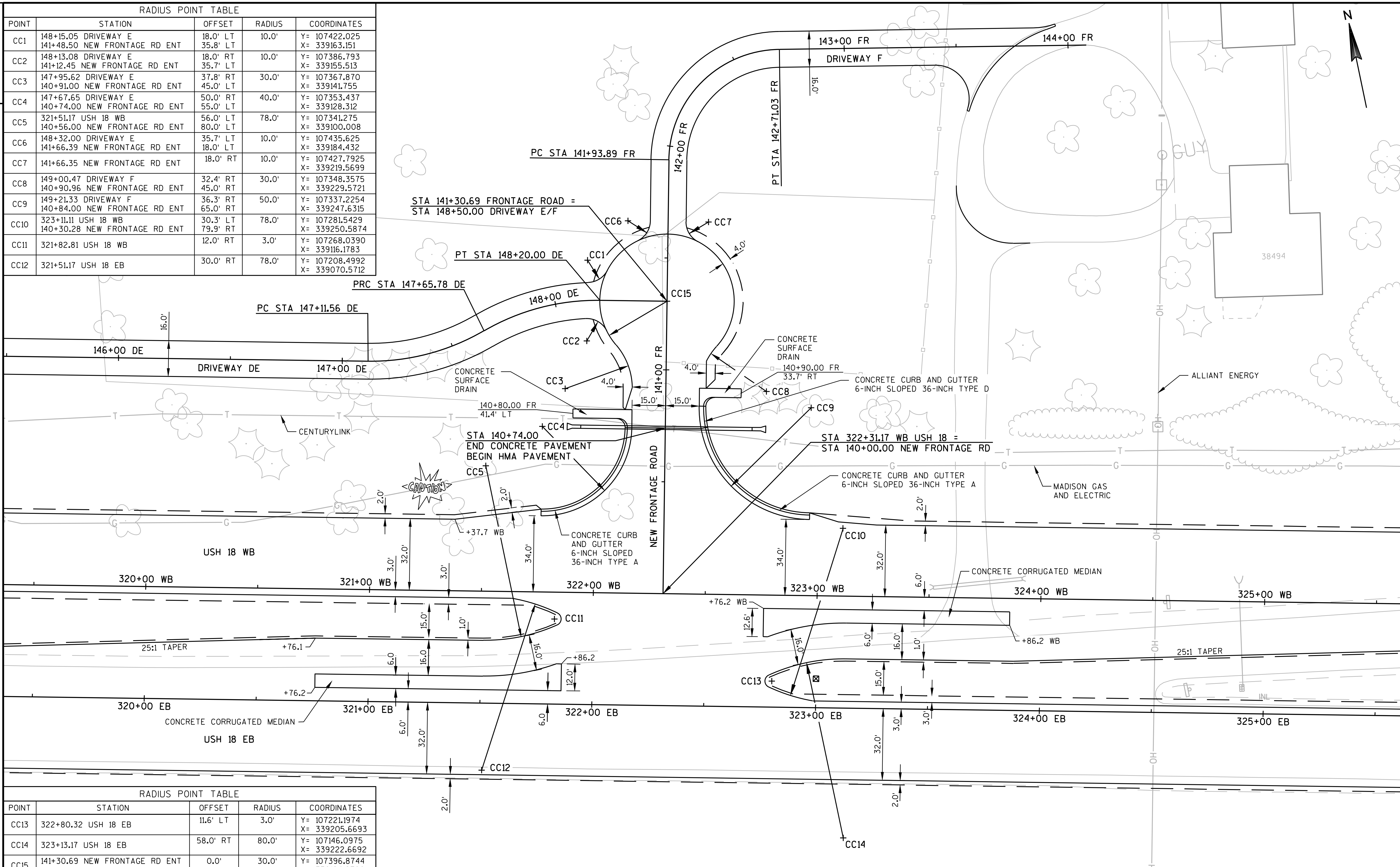
RADIUS POINT TABLE

POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	310+17.17 USH 18 WB 100+76.00 BOUSKA ROAD	76.0' LT 64.0' LT	40.0'	Y= 107606.2606 X= 337997.2216
CC2	310+01.17 USH WB 100+64.00 BOUSKA ROAD	64.0' LT 80.0' LT	80.0'	Y= 107598.0084 X= 337979.0034
CC3	119+30.00 GOLF DRIVE 1 99+09.00 GOLF VIEW ENTRANCE	37.6' LT 70.0' LT	55.0'	Y= 107395.7038 X= 337944.3931
CC4	119+51.99 GOLF DRIVE 1 99+09.40 GOLF VIEW ENTRANCE	38.0' LT 48.0' LT	30.0'	Y= 107391.3336 X= 337965.9467

RADIUS POINT TABLE

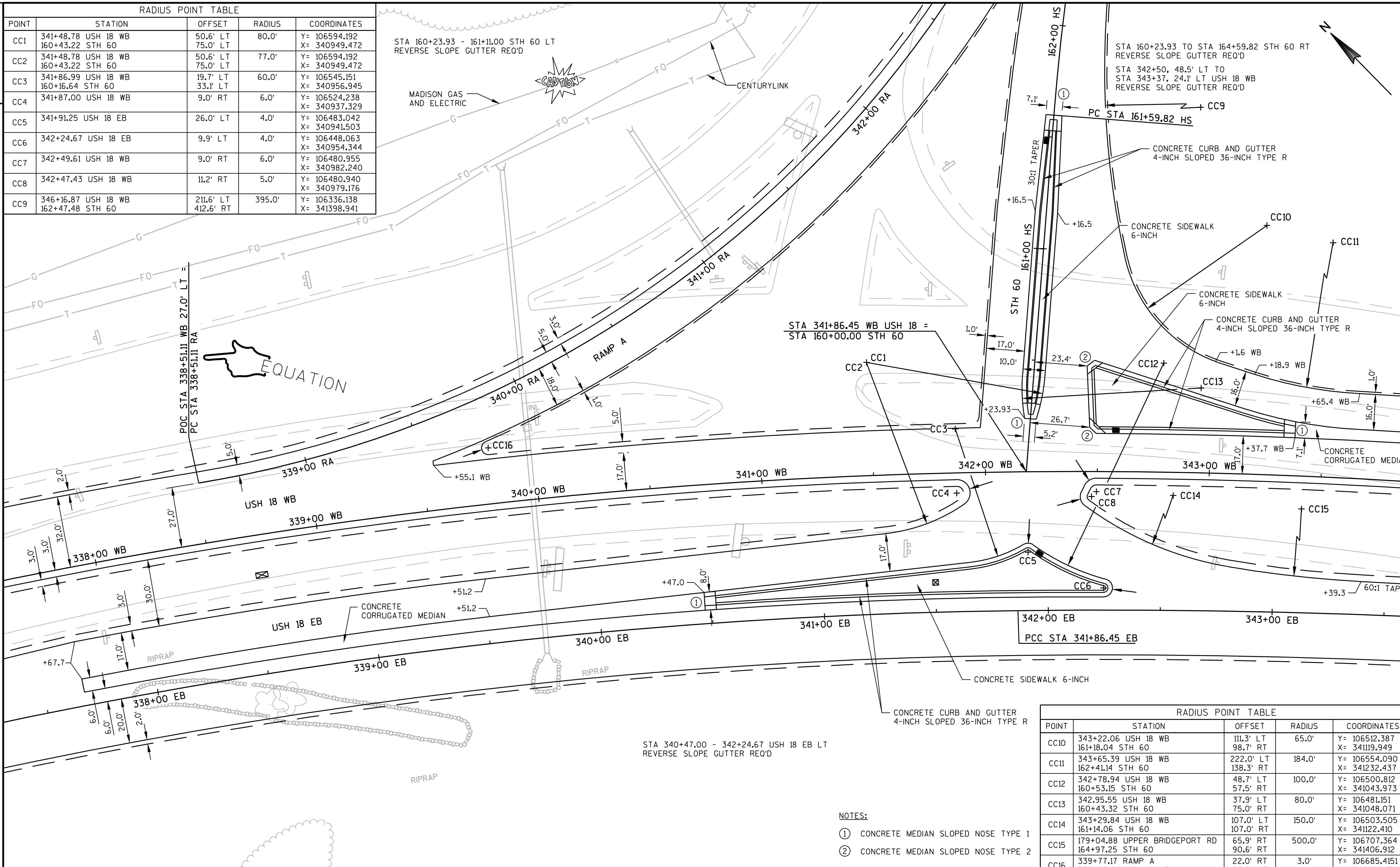
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC5	311+56.13 USH 18 WB 100+95.35 BOUSKA ROAD	96.0' LT 75.0' RT	60.0'	Y= 107595.7085 X= 338137.2138
CC6	120+80.00 GOLF DRIVE 99+36.00 GOLF VIEW ENTRANCE	64.6' LT 80.0' RT	80.0'	Y= 107389.5955 X= 338096.6813
CC7	120+55.00 GOLF DRIVE 99+24.00 GOLF VIEW ENTRANCE	76.0' RT 52.6' LT	40.0'	Y= 107383.2914 X= 338069.6765
CC8	120+45.00 GOLF DRIVE 99+13.40 GOLF VIEW ENTRANCE	42.0' LT 45.0' RT	30.0'	Y= 107375.1060 X= 338057.6189
CC9	118+56.77 GOLF DRIVE 99+13.40 GOLF VIEW ENTRANCE	42.0' LT 143.2' LT	30.0'	Y= 107415.8484 X= 337873.8552
CC10	118+13.93 GOLF DRIVE 98+71.40 GOLF VIEW ENTRANCE	0.0' 186.1' LT	30.0'	Y= 107384.1189 X= 337822.9313
CC11	118+52.45 GOLF DRIVE	46.0' RT	30.0'	Y= 107330.8710 X= 337850.5839
CC12	119+75.35 GOLF DRIVE	31.5' RT	14.5'	Y= 107318.4246 X= 337973.7106

RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	148+15.05 DRIVEWAY E 141+48.50 NEW FRONTAGE RD ENT	18.0' LT 35.8' LT	10.0'	Y= 107422.025 X= 339163.151
CC2	148+13.08 DRIVEWAY E 141+12.45 NEW FRONTAGE RD ENT	18.0' RT 35.7' LT	10.0'	Y= 107386.793 X= 339155.513
CC3	147+95.62 DRIVEWAY E 140+91.00 NEW FRONTAGE RD ENT	37.8' RT 45.0' LT	30.0'	Y= 107367.870 X= 339141.755
CC4	147+67.65 DRIVEWAY E 140+74.00 NEW FRONTAGE RD ENT	50.0' RT 55.0' LT	40.0'	Y= 107353.437 X= 339128.312
CC5	321+51.17 USH 18 WB 140+56.00 NEW FRONTAGE RD ENT	56.0' LT 80.0' LT	78.0'	Y= 107341.275 X= 339100.008
CC6	148+32.00 DRIVEWAY E 141+66.39 NEW FRONTAGE RD ENT	35.7' LT 18.0' LT	10.0'	Y= 107435.625 X= 339184.432
CC7	141+66.35 NEW FRONTAGE RD ENT	18.0' RT	10.0'	Y= 107427.7925 X= 339219.5699
CC8	149+00.47 DRIVEWAY F 140+90.96 NEW FRONTAGE RD ENT	32.4' RT 45.0' RT	30.0'	Y= 107348.3575 X= 339229.5721
CC9	149+21.33 DRIVEWAY F 140+84.00 NEW FRONTAGE RD ENT	36.3' RT 65.0' RT	50.0'	Y= 107337.2254 X= 339247.6315
CC10	323+11.11 USH 18 WB 140+30.28 NEW FRONTAGE RD ENT	30.3' LT 79.9' RT	78.0'	Y= 107281.5429 X= 339250.5874
CC11	321+82.81 USH 18 WB	12.0' RT	3.0'	Y= 107268.0390 X= 339116.1783
CC12	321+51.17 USH 18 EB	30.0' RT	78.0'	Y= 107208.4992 X= 339070.5712



RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC13	322+80.32 USH 18 EB	11.6' LT	3.0'	Y= 107221.1974 X= 339205.6693
CC14	323+13.17 USH 18 EB	58.0' RT	80.0'	Y= 107146.0975 X= 339222.6692
CC15	141+30.69 NEW FRONTAGE RD ENT	0.0'	30.0'	Y= 107396.8744 X= 339194.2780

RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	341+48.78 USH 18 WB 160+43.22 STH 60	50.6' LT 75.0' LT	80.0'	Y= 106594.192 X= 340949.472
CC2	341+48.78 USH 18 WB 160+43.22 STH 60	50.6' LT 75.0' LT	77.0'	Y= 106594.192 X= 340949.472
CC3	341+86.99 USH 18 WB 160+16.64 STH 60	19.7' LT 33.1' LT	60.0'	Y= 106545.151 X= 340956.945
CC4	341+87.00 USH 18 WB	9.0' RT	6.0'	Y= 106524.238 X= 340937.329
CC5	341+91.25 USH 18 EB	26.0' LT	4.0'	Y= 106483.042 X= 340941.503
CC6	342+24.67 USH 18 EB	9.9' LT	4.0'	Y= 106448.063 X= 340954.344
CC7	342+49.61 USH 18 WB	9.0' RT	6.0'	Y= 106480.955 X= 340982.240
CC8	342+47.43 USH 18 WB	11.2' RT	5.0'	Y= 106480.940 X= 340979.176
CC9	346+16.87 USH 18 WB 162+47.48 STH 60	211.6' LT 412.6' RT	395.0'	Y= 106336.138 X= 341398.941



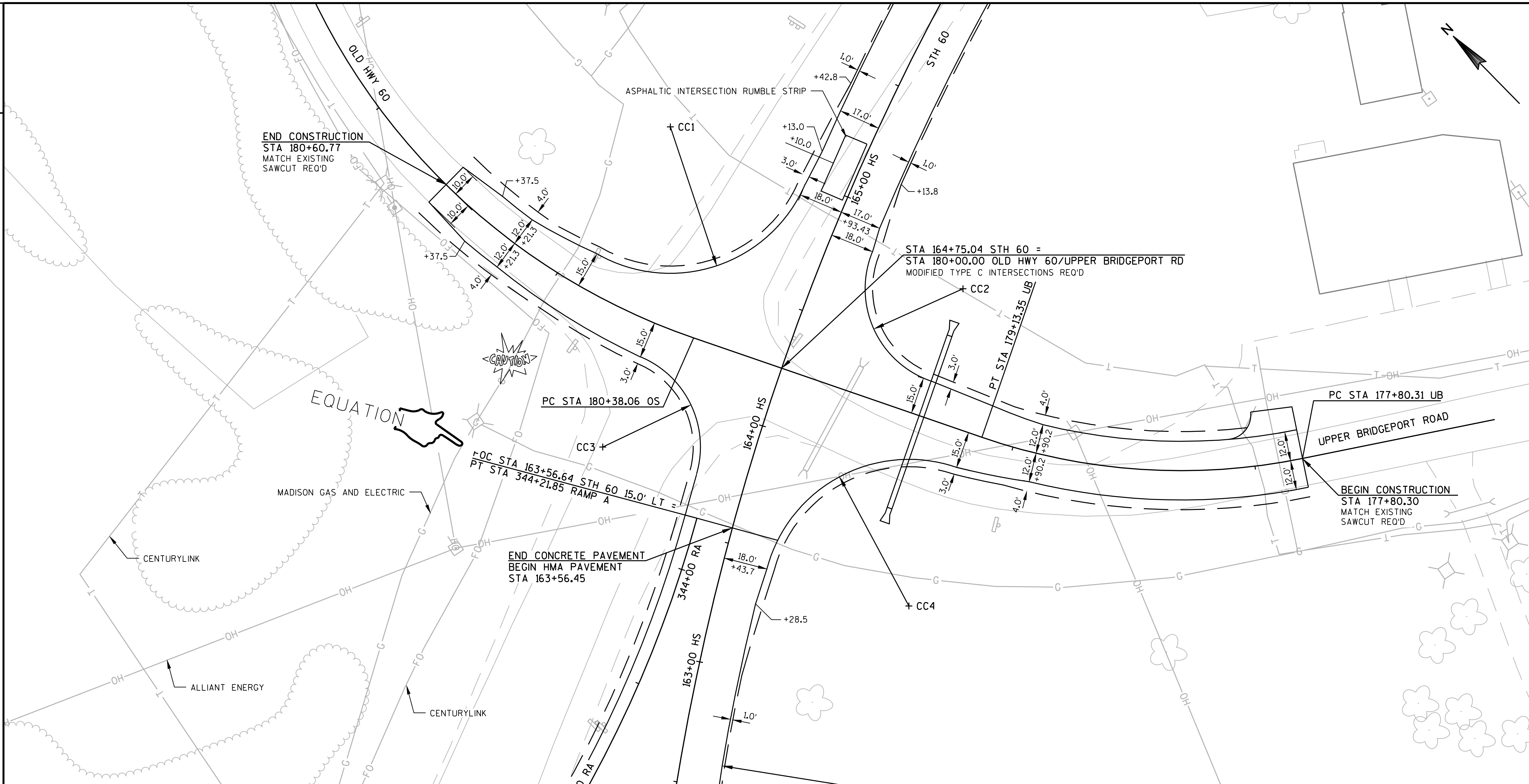
RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC10	343+22.06 USH 18 WB 161+18.04 STH 60	111.3' LT 98.7' RT	65.0'	Y= 106512.387 X= 341119.949
CC11	343+65.39 USH 18 WB 162+41.14 STH 60	222.0' LT 138.3' RT	184.0'	Y= 106554.090 X= 341232.437
CC12	342+78.94 USH 18 WB 160+53.15 STH 60	48.7' LT 57.5' RT	100.0'	Y= 106500.812 X= 341043.973
CC13	342.95.55 USH 18 WB 160+43.32 STH 60	37.9' LT 75.0' RT	80.0'	Y= 106481.151 X= 341048.071
CC14	343+29.84 USH 18 WB 161+14.06 STH 60	107.0' LT 107.0' RT	150.0'	Y= 106503.505 X= 341122.410
CC15	179+04.88 UPPER BRIDGEPORT RD 164+97.25 STH 60	65.9' RT 90.6' RT	500.0'	Y= 106707.364 X= 341406.912
CC16	339+77.17 RAMP A 339+80.04 USH 18 WB	22.0' RT 25.0' LT	3.0'	Y= 106685.4151 X= 340802.1714

NOTES:

1. CONCRETE MEDIAN SLOPED NOSE TYPE 1
2. CONCRETE MEDIAN SLOPED NOSE TYPE 2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	INTERSECTION LAYOUT DETAIL	SHEET 55	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\IDUSH18.DWG
SHEET NAME: 0211011ID



RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	164+98.00 STH 60 180+89.85 OLD STH 60	78.0' LT 75.0' RT	60.0'	Y= 106863.4598 X= 341343.2231
CC2	164+83.12 STH 60 179+40.46 UPPER BRIDGEPORT RD	58.0' RT 55.0' RT	40.0'	Y= 106732.2946 X= 341382.1633
CC3	163+73.44 STH 60 180+55.18 OLD STH 60	60.0' LT 55.0' LT	40.0'	Y= 106789.3951 X= 341231.6078
CC4	163+43.68 STH 60 179+19.07 UPPER BRIDGEPORT RD	78.0' RT 75.0' LT	60.0'	Y= 106655.2281 X= 341275.3076
CC5	342+82.95 RAMP A 162+15.92 STH 60	22.0' RT 22.7' LT	4.0'	Y= 106667.8102 X= 341115.9670
CC17	348+92.01 USH 18 WB 162+89.93 STH 60	240.0' LT 710.0' RT	693.0'	Y= 106103.956 X= 341585.745

PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | INTERSECTION LAYOUT DETAIL | SHEET 56 | E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\IDUSH18.DWG

SHEET NAME: 0211012ID

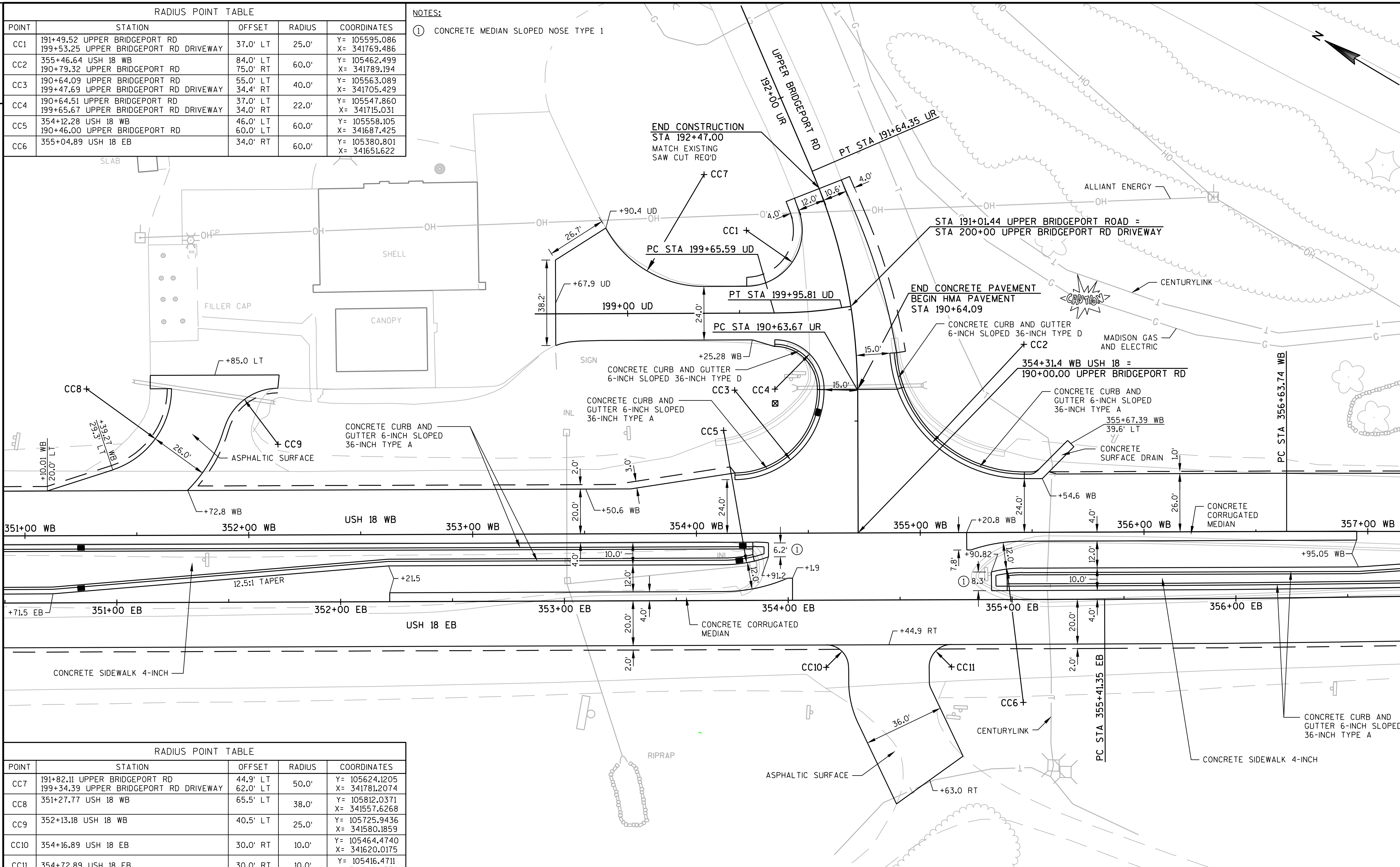
2

RADIUS POINT TABLE

POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	191+49.52 UPPER BRIDGEPORT RD 199+53.25 UPPER BRIDGEPORT RD DRIVEWAY	37.0' LT	25.0'	Y= 105595.086 X= 341769.486
CC2	355+46.64 USH 18 WB 190+79.32 UPPER BRIDGEPORT RD	84.0' LT 75.0' RT	60.0'	Y= 105462.499 X= 341789.194
CC3	190+64.09 UPPER BRIDGEPORT RD 199+47.69 UPPER BRIDGEPORT RD DRIVEWAY	55.0' LT 34.4' RT	40.0'	Y= 105563.089 X= 341705.429
CC4	190+64.51 UPPER BRIDGEPORT RD 199+65.67 UPPER BRIDGEPORT RD DRIVEWAY	37.0' LT 34.0' RT	22.0'	Y= 105547.860 X= 341715.031
CC5	354+12.28 USH 18 WB 190+46.00 UPPER BRIDGEPORT RD	46.0' LT 60.0' LT	60.0'	Y= 105558.105 X= 341687.425
CC6	355+04.89 USH 18 EB	34.0' RT	60.0'	Y= 105380.801 X= 341651.622

NOTES:

1. CONCRETE MEDIAN SLOPED NOSE TYPE 1



RADIUS POINT TABLE

POINT	STATION	OFFSET	RADIUS	COORDINATES
CC7	191+82.11 UPPER BRIDGEPORT RD 199+34.39 UPPER BRIDGEPORT RD DRIVEWAY	44.9' LT 62.0' LT	50.0'	Y= 105624.1205 X= 341781.2074
CC8	351+27.77 USH 18 WB	65.5' LT	38.0'	Y= 105812.0371 X= 341557.6268
CC9	352+13.18 USH 18 WB	40.5' LT	25.0'	Y= 105725.9436 X= 341580.1859
CC10	354+16.89 USH 18 EB	30.0' RT	10.0'	Y= 105464.4740 X= 341620.0175
CC11	354+72.89 USH 18 EB	30.0' RT	10.0'	Y= 105416.4711 X= 341648.8570

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	INTERSECTION LAYOUT DETAIL	SHEET 57	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\IDUSH18.DWG

SHEET NAME: 0211013ID

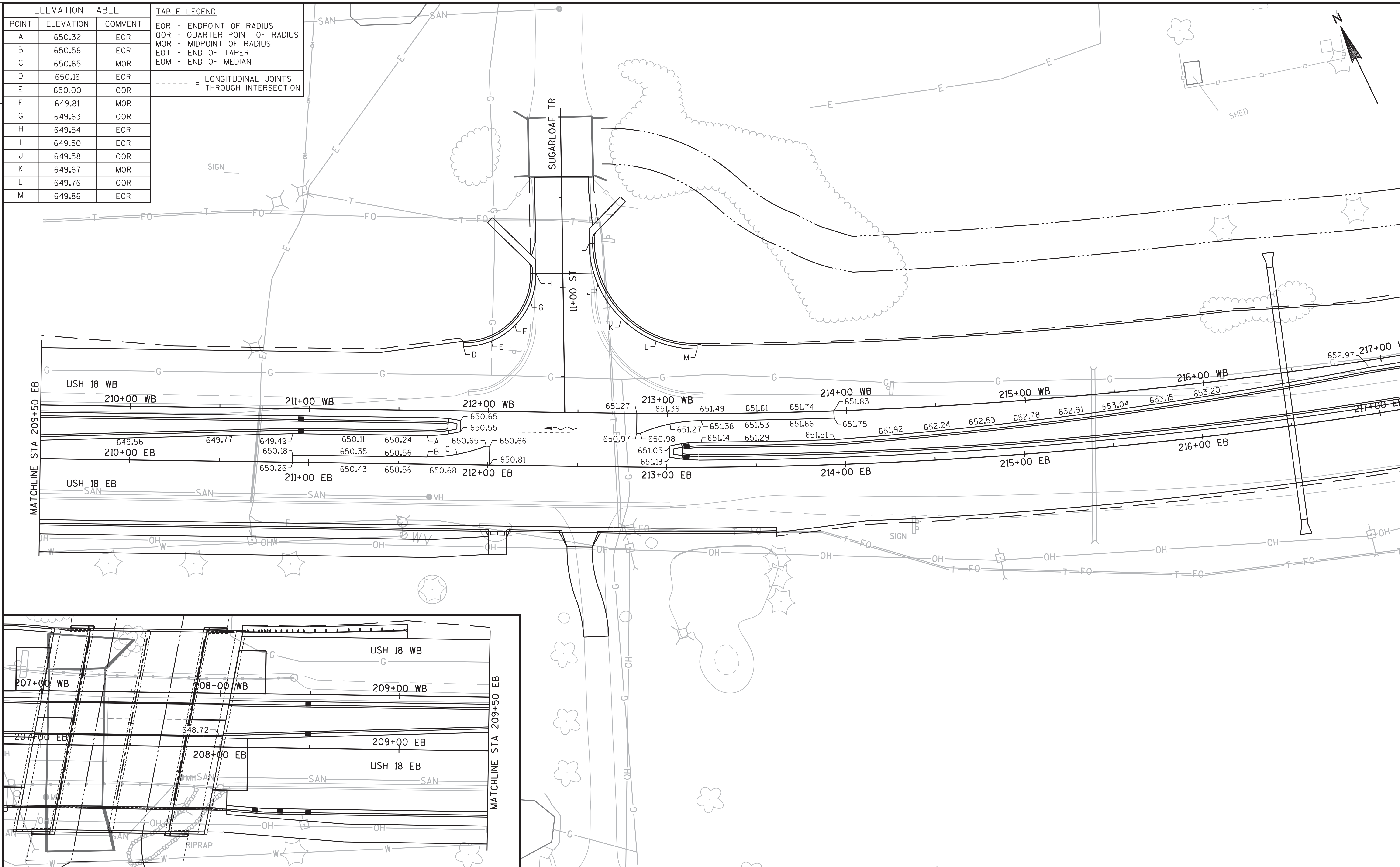
2

ELEVATION TABLE		
POINT	ELEVATION	COMMENT
A	650.32	EOR
B	650.56	EOR
C	650.65	MOR
D	650.16	EOR
E	650.00	QOR
F	649.81	MOR
G	649.63	QOR
H	649.54	EOR
I	649.50	EOR
J	649.58	QOR
K	649.67	MOR
L	649.76	QOR
M	649.86	EOR

TABLE LEGEND

EOR - ENDPOINT OF RADIUS
QOR - QUARTER POINT OF RADIUS
MOR - MIDPOINT OF RADIUS
EOT - END OF TAPER
EOM - END OF MEDIAN

- - - - - = LONGITUDINAL JOINTS THROUGH INTERSECTION



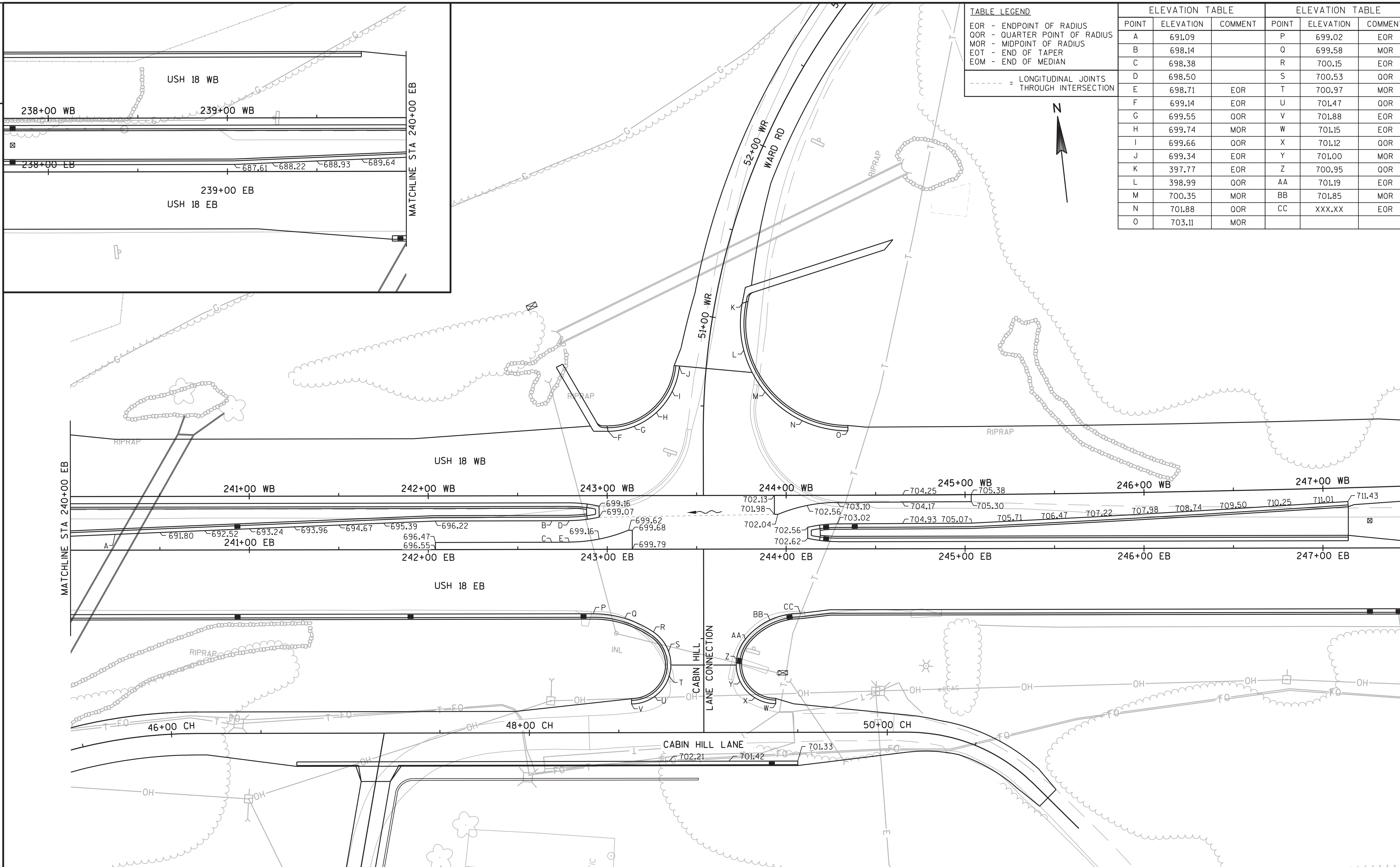
2

TABLE LEGEND

EOR - ENDPOINT OF RADIUS
QOR - QUARTER POINT OF RADIUS
MOR - MIDPOINT OF RADIUS
EOT - END OF TAPER
EOM - END OF MEDIAN

------ = LONGITUDINAL JOINTS THROUGH INTERSECTION

ELEVATION TABLE			ELEVATION TABLE		
POINT	ELEVATION	COMMENT	POINT	ELEVATION	COMMENT
A	691.09		P	699.02	EOR
B	698.14		Q	699.58	MOR
C	698.38		R	700.15	EOR
D	698.50		S	700.53	QOR
E	698.71	EOR	T	700.97	MOR
F	699.14	EOR	U	701.47	QOR
G	699.55	QOR	V	701.88	EOR
H	699.74	MOR	W	701.15	EOR
I	699.66	QOR	X	701.12	QOR
J	699.34	EOR	Y	701.00	MOR
K	397.77	EOR	Z	700.95	QOR
L	398.99	QOR	AA	701.19	EOR
M	700.35	MOR	BB	701.85	MOR
N	701.88	QOR	CC	XXX.XX	EOR
O	703.11	MOR			



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	INTERSECTION PAVING DETAIL	SHEET 59	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PDUSH18.DWG

SHEET NAME: 021103PD

2

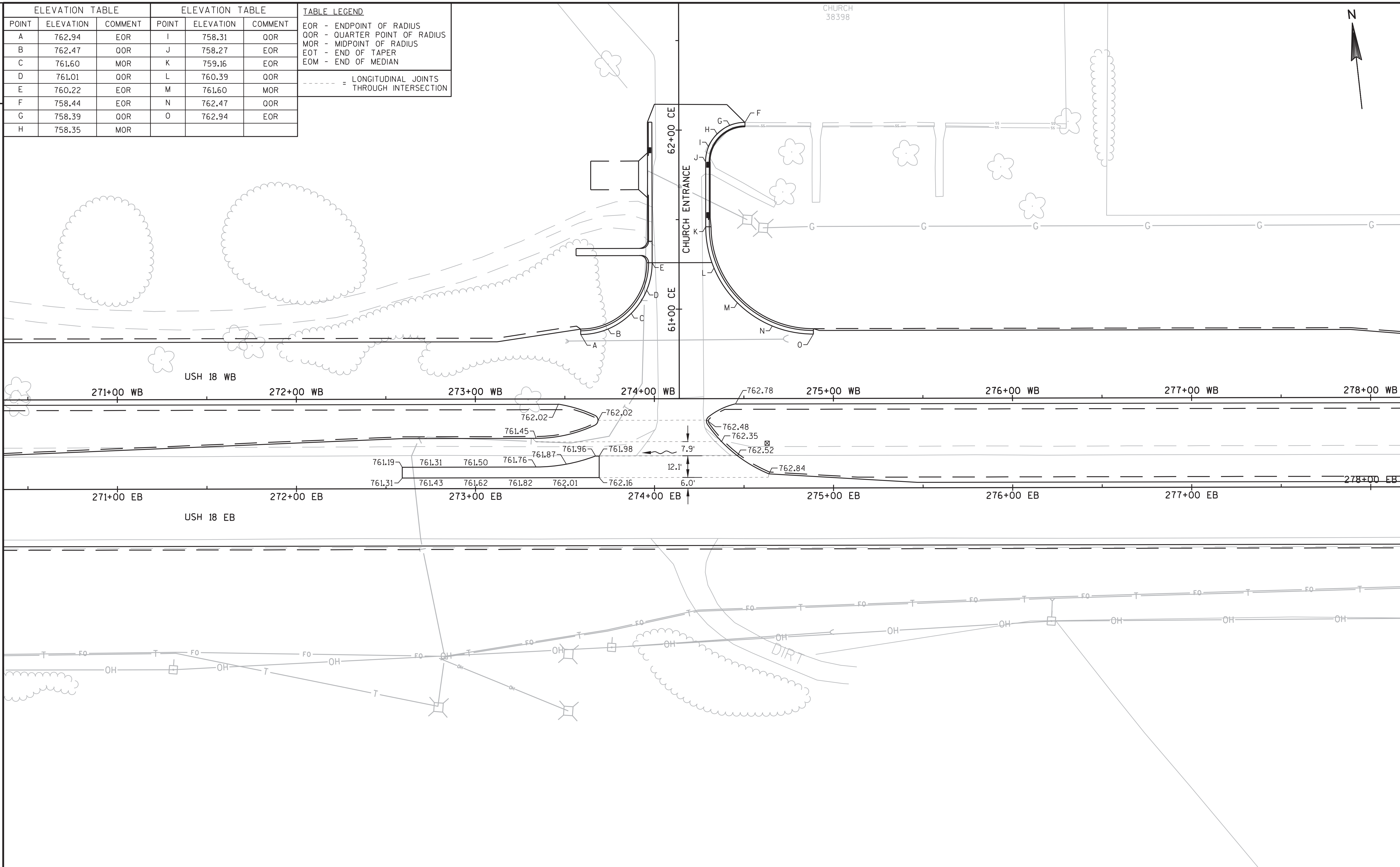
ELEVATION TABLE		
POINT	ELEVATION	COMMENT
A	762.94	EOR
B	762.47	QOR
C	761.60	MOR
D	761.01	QOR
E	760.22	EOR
F	758.44	EOR
G	758.39	QOR
H	758.35	MOR

ELEVATION TABLE		
POINT	ELEVATION	COMMENT
I	758.31	QOR
J	758.27	EOR
K	759.16	EOR
L	760.39	QOR
M	761.60	MOR
N	762.47	QOR
O	762.94	EOR

TABLE LEGEND

EOR - ENDPOINT OF RADIUS
QOR - QUARTER POINT OF RADIUS
MOR - MIDPOINT OF RADIUS
EOT - END OF TAPER
EOM - END OF MEDIAN

= LONGITUDINAL JOINTS THROUGH INTERSECTION



2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	INTERSECTION PAVING DETAIL	SHEET 60	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PDUSH18.DWG

SHEET NAME: 021105PD

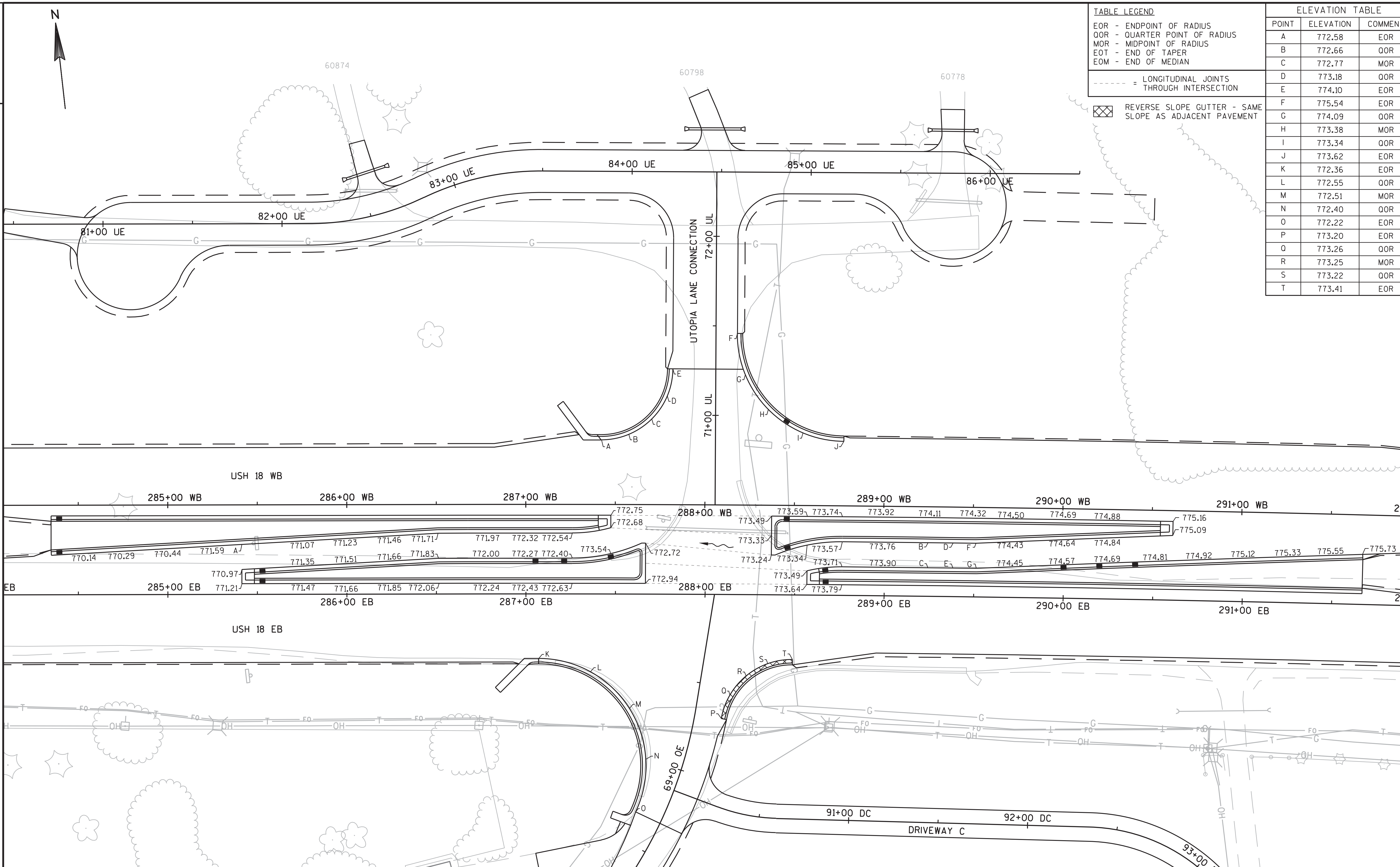


TABLE LEGEND

EOR - ENDPOINT OF RADIUS
QOR - QUARTER POINT OF RADIUS
MOR - MIDPOINT OF RADIUS
EOT - END OF TAPER
EOM - END OF MEDIAN

= LONGITUDINAL JOINTS THROUGH INTERSECTION

REVERSE SLOPE GUTTER - SAME SLOPE AS ADJACENT PAVEMENT

ELEVATION TABLE

POINT	ELEVATION	COMMENT
A	772.58	EOR
B	772.66	QOR
C	772.77	MOR
D	773.18	QOR
E	774.10	EOR
F	775.54	EOR
G	774.09	QOR
H	773.38	MOR
I	773.34	QOR
J	773.62	EOR
K	772.36	EOR
L	772.55	QOR
M	772.51	MOR
N	772.40	QOR
O	772.22	EOR
P	773.20	EOR
Q	773.26	QOR
R	773.25	MOR
S	773.22	QOR
T	773.41	EOR

2

2

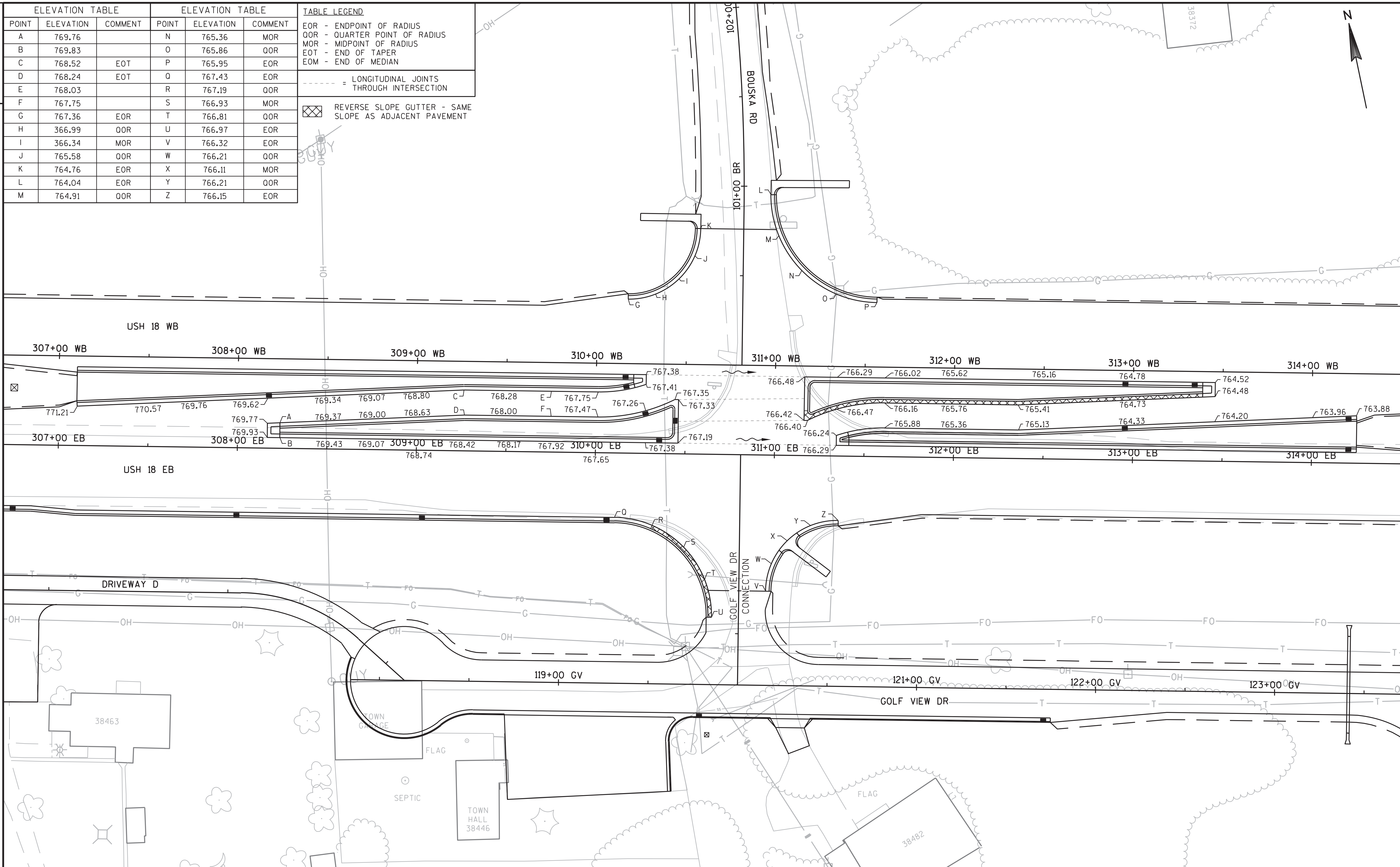
ELEVATION TABLE			ELEVATION TABLE		
POINT	ELEVATION	COMMENT	POINT	ELEVATION	COMMENT
A	769.76		N	765.36	MOR
B	769.83		O	765.86	QOR
C	768.52	EOT	P	765.95	EOR
D	768.24	EOT	Q	767.43	EOR
E	768.03		R	767.19	QOR
F	767.75		S	766.93	MOR
G	767.36	EOR	T	766.81	QOR
H	366.99	QOR	U	766.97	EOR
I	366.34	MOR	V	766.32	EOR
J	765.58	QOR	W	766.21	QOR
K	764.76	EOR	X	766.11	MOR
L	764.04	EOR	Y	766.21	QOR
M	764.91	QOR	Z	766.15	EOR

TABLE LEGEND

EOR - ENDPOINT OF RADIUS
QOR - QUARTER POINT OF RADIUS
MOR - MIDPOINT OF RADIUS
EOT - END OF TAPER
EOM - END OF MEDIAN

= LONGITUDINAL JOINTS THROUGH INTERSECTION

REVERSE SLOPE GUTTER - SAME SLOPE AS ADJACENT PAVEMENT

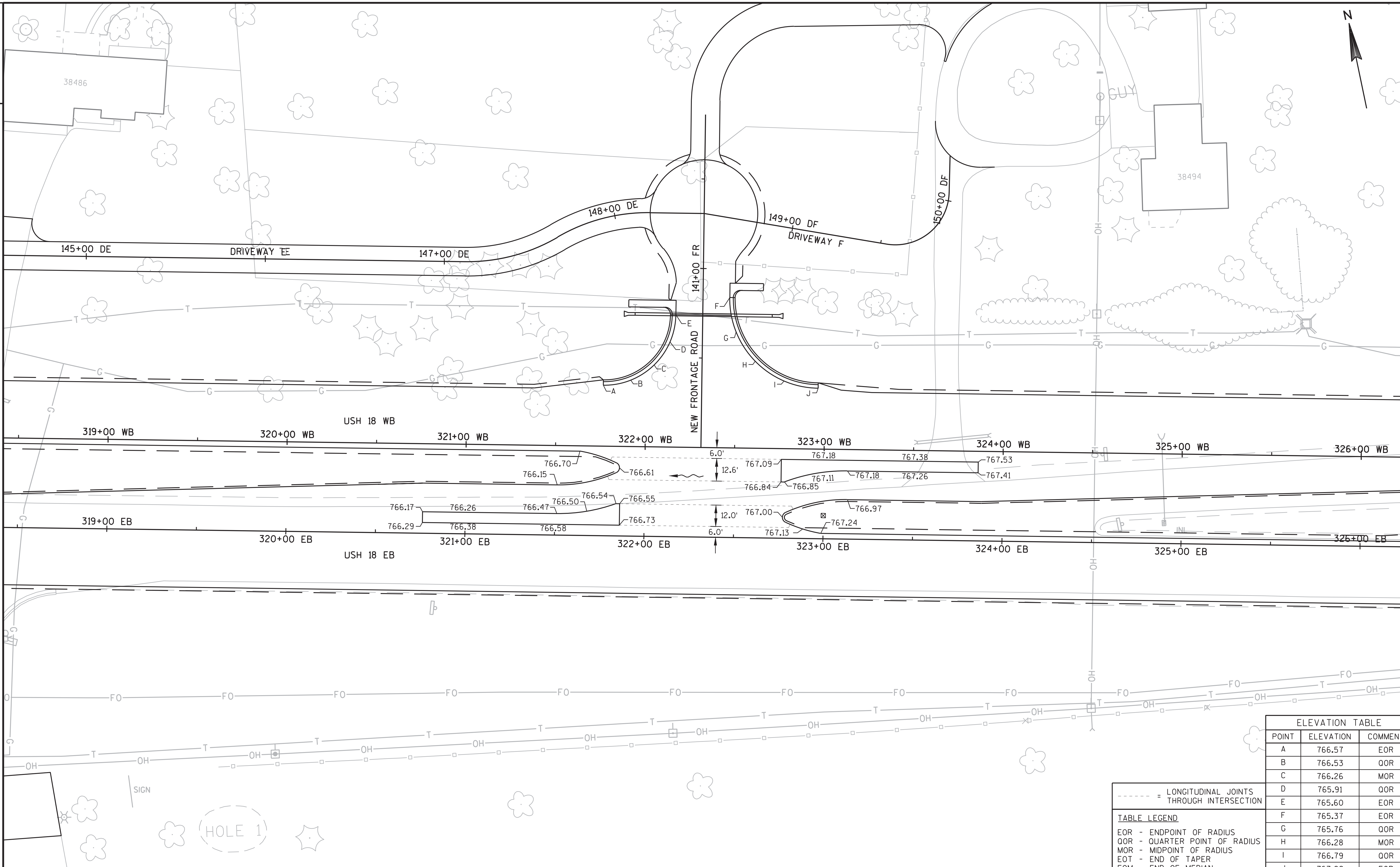


2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	INTERSECTION PAVING DETAIL	SHEET	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PDUSH18.DWG
SHEET NAME: 021108PD

2



2

POINT	ELEVATION	COMMENT
A	766.57	EOR
B	766.53	QOR
C	766.26	MOR
D	765.91	QOR
E	765.60	EOR
F	765.37	EOR
G	765.76	QOR
H	766.28	MOR
I	766.79	QOR
J	767.09	EOR

ELEVATION TABLE

------ = LONGITUDINAL JOINTS THROUGH INTERSECTION

TABLE LEGEND

EOR - ENDPOINT OF RADIUS
QOR - QUARTER POINT OF RADIUS
MOR - MIDPOINT OF RADIUS
EOT - END OF TAPER
EOM - END OF MEDIAN

PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | INTERSECTION PAVING DETAIL | SHEET E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PDUSH18.DWG

SHEET NAME: 021109PD

2

ELEVATION TABLE		
POINT	ELEVATION	COMMENT
A	767.13	EOS
B	767.55	341+00
C	767.78	341+50
D	767.98	EOR
E	768.10	MOR
F	767.87	EOR
G	767.85	EOR
H	768.05	MOR
I	768.37	EOR
J	766.79	
K	767.21	341+00
L	767.40	EOR
M	767.59	EOR
N	768.03	EOR
O	768.69	MOR

ELEVATION TABLE		
POINT	ELEVATION	COMMENT
P	768.83	EOR
Q	769.03	EOS
R	769.23	EOS
S	769.15	EOS
T	768.99	
U	769.03	
V	769.08	EOS
W	768.76	MOR
X	768.71	EOR
Y	768.62	EOR
Z	768.50	MOR
AA	768.03	EOR
BB	767.29	MOR
CC	766.28	EOR
DD	766.01	MOR
EE	765.77	EOR

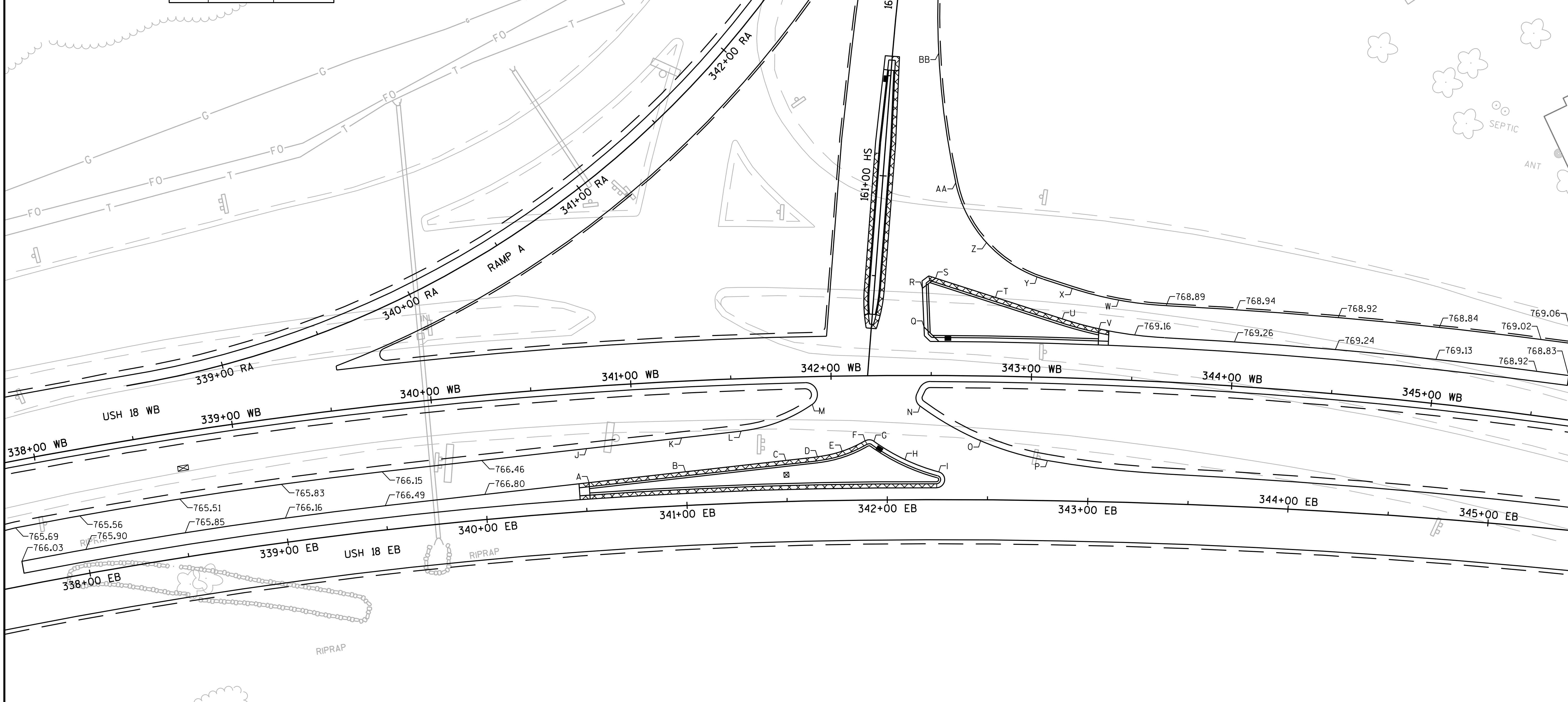
TABLE LEGEND

EOR - ENDPOINT OF RADIUS
QOR - QUARTER POINT OF RADIUS
MOR - MIDPOINT OF RADIUS
EOT - END OF TAPER
EOM - END OF MEDIAN
EOS - EDGE OF SLOPED NOSE

------ = LONGITUDINAL JOINTS THROUGH INTERSECTION

REVERSE SLOPE GUTTER - SAME SLOPE AS ADJACENT PAVEMENT

2

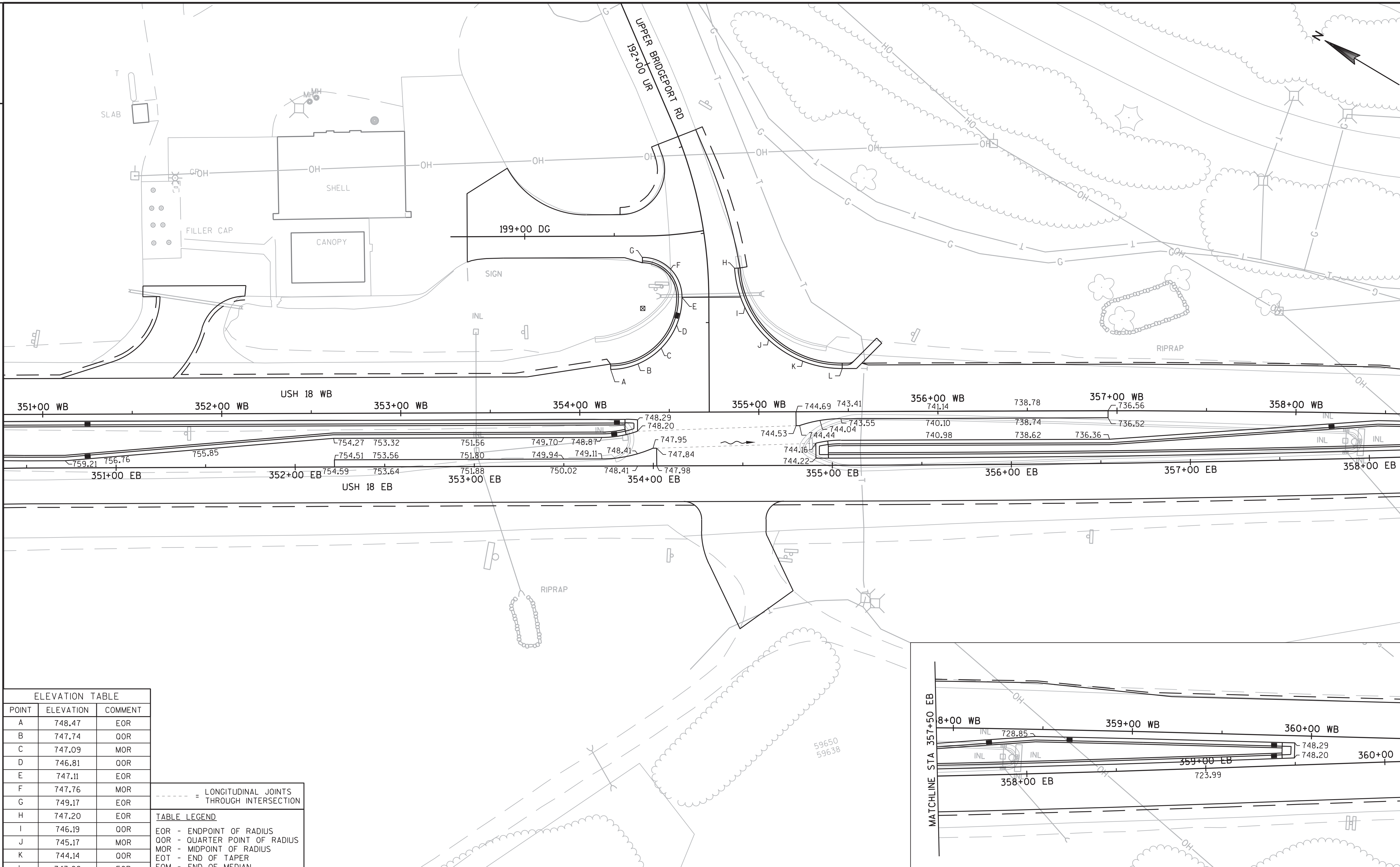


PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	INTERSECTION PAVING DETAIL	SHEET 64	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PDUSH18.DWG

SHEET NAME: 0211011PD

2



2

ELEVATION TABLE		
POINT	ELEVATION	COMMENT
A	748.47	EOR
B	747.74	QOR
C	747.09	MOR
D	746.81	QOR
E	747.11	EOR
F	747.76	MOR
G	749.17	EOR
H	747.20	EOR
I	746.19	QOR
J	745.17	MOR
K	744.14	QOR
L	743.08	EOR

------- = LONGITUDINAL JOINTS THROUGH INTERSECTION

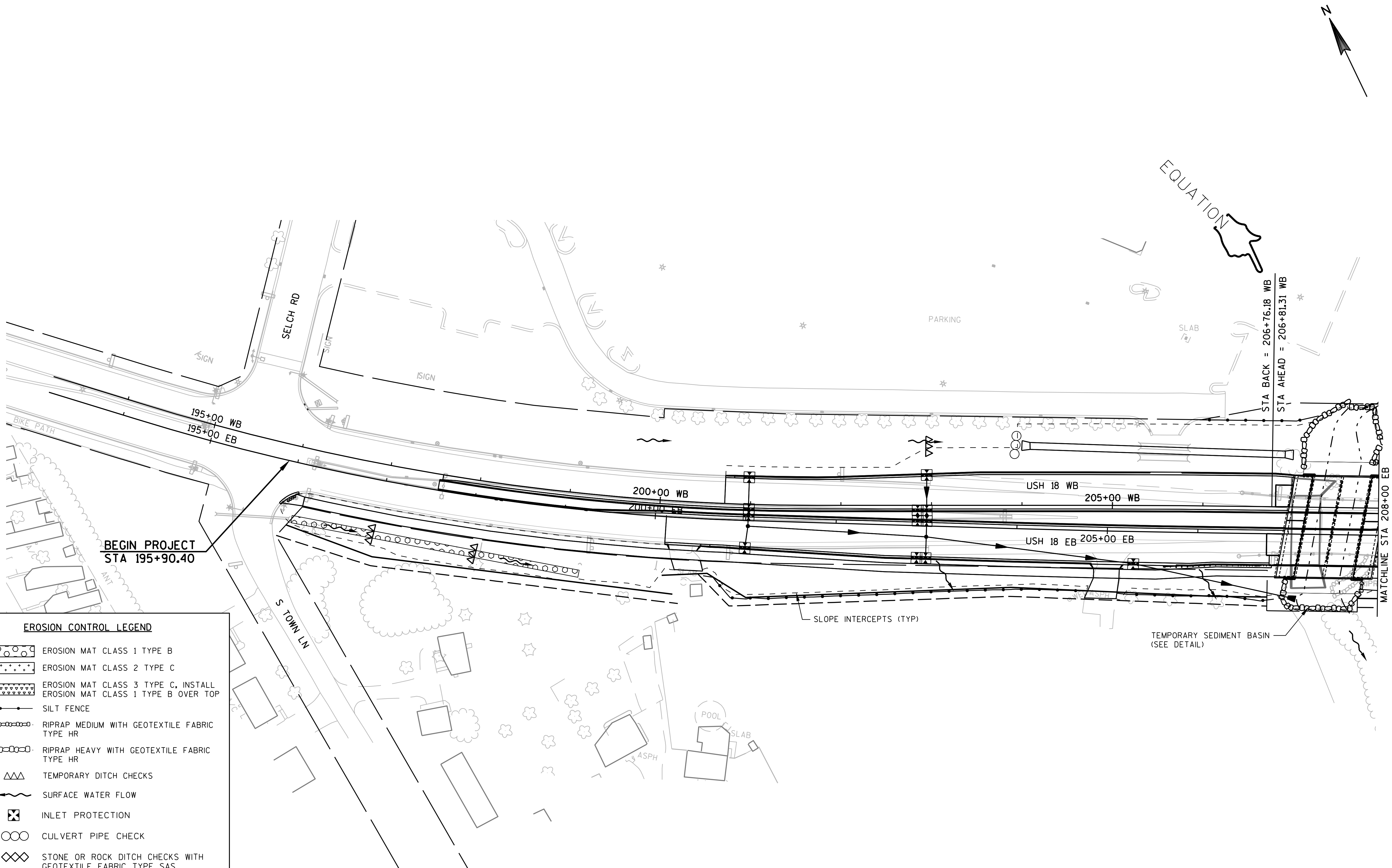
TABLE LEGEND

EOR - ENDPOINT OF RADIUS
QOR - QUARTER POINT OF RADIUS
MOR - MIDPOINT OF RADIUS
EOT - END OF TAPER
EOM - END OF MEDIAN

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	INTERSECTION PAVING DETAIL	SHEET 65	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PDUSH18.DWG
SHEET NAME: 0211013PD

2



EROSION CONTROL LEGEND

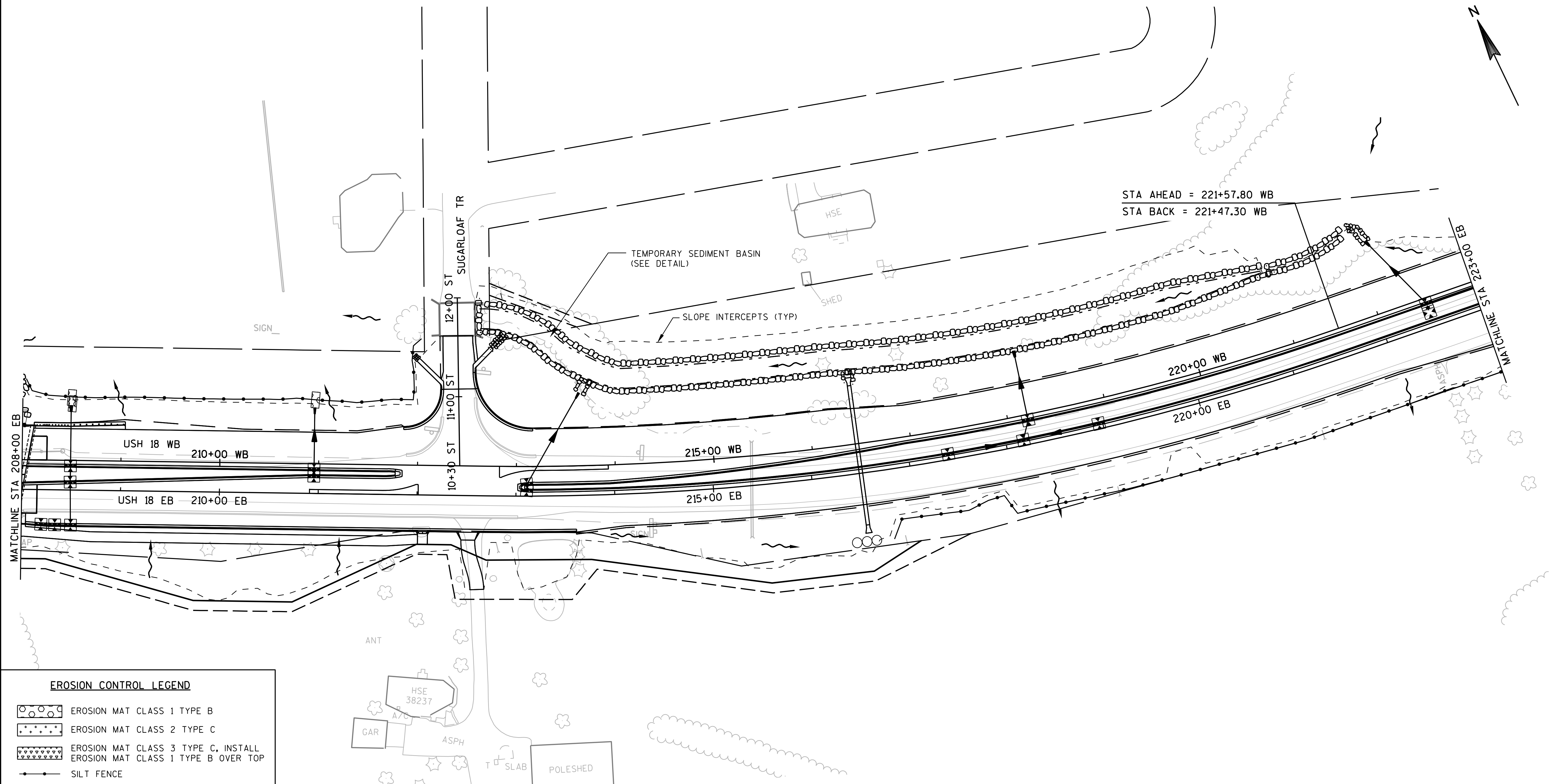
- EROSION MAT CLASS 1 TYPE B
- EROSION MAT CLASS 2 TYPE C
- EROSION MAT CLASS 3 TYPE C, INSTALL EROSION MAT CLASS 1 TYPE B OVER TOP
- SILT FENCE
- RIPRAP MEDIUM WITH GEOTEXTILE FABRIC TYPE HR
- RIPRAP HEAVY WITH GEOTEXTILE FABRIC TYPE HR
- TEMPORARY DITCH CHECKS
- SURFACE WATER FLOW
- INLET PROTECTION
- CULVERT PIPE CHECK
- STONE OR ROCK DITCH CHECKS WITH GEOTEXTILE FABRIC TYPE SAS

2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	EROSION CONTROL	SHEET 66	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\ECUSH18.DWG

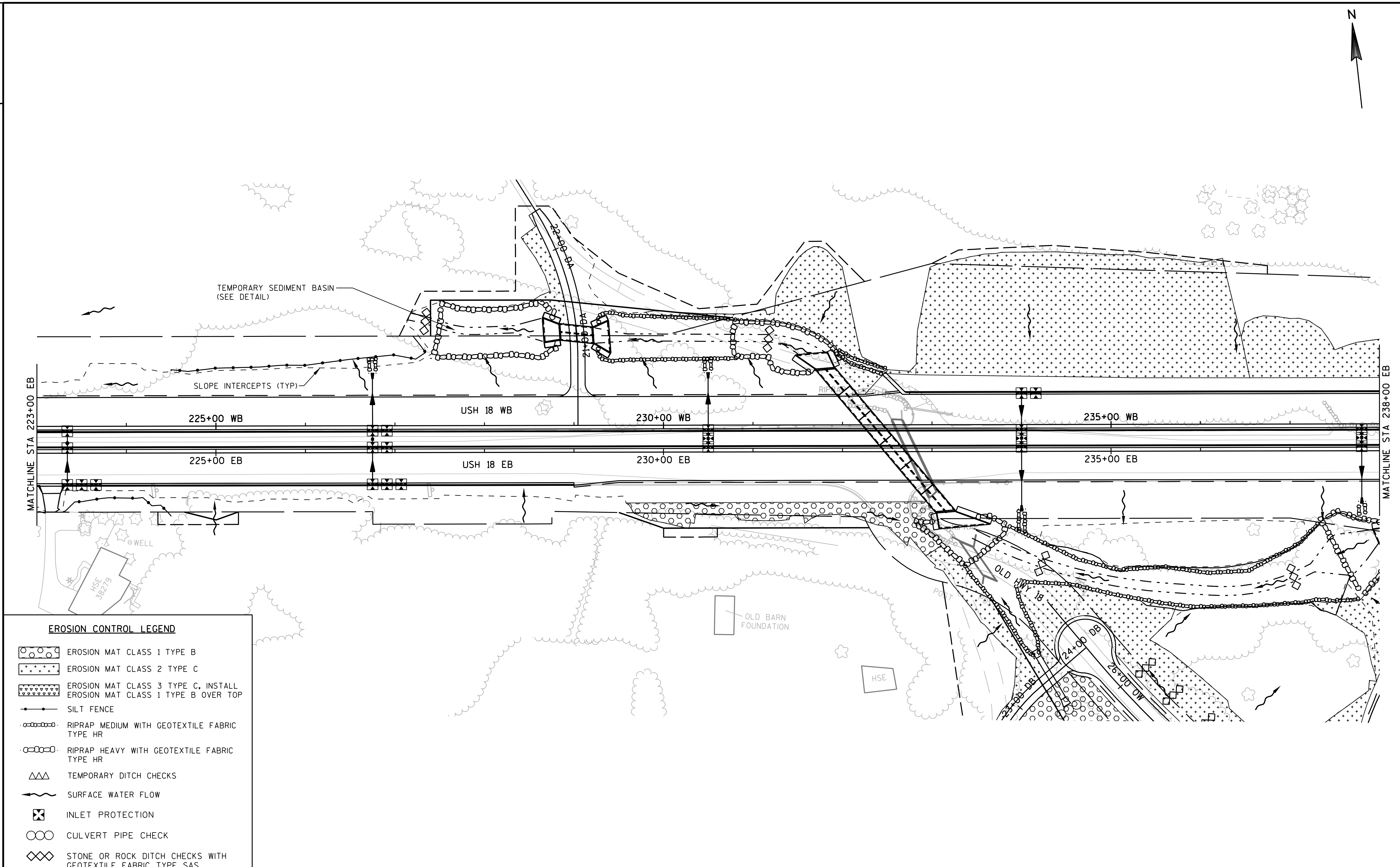
SHEET NAME: 024501EC



EROSION CONTROL LEGEND

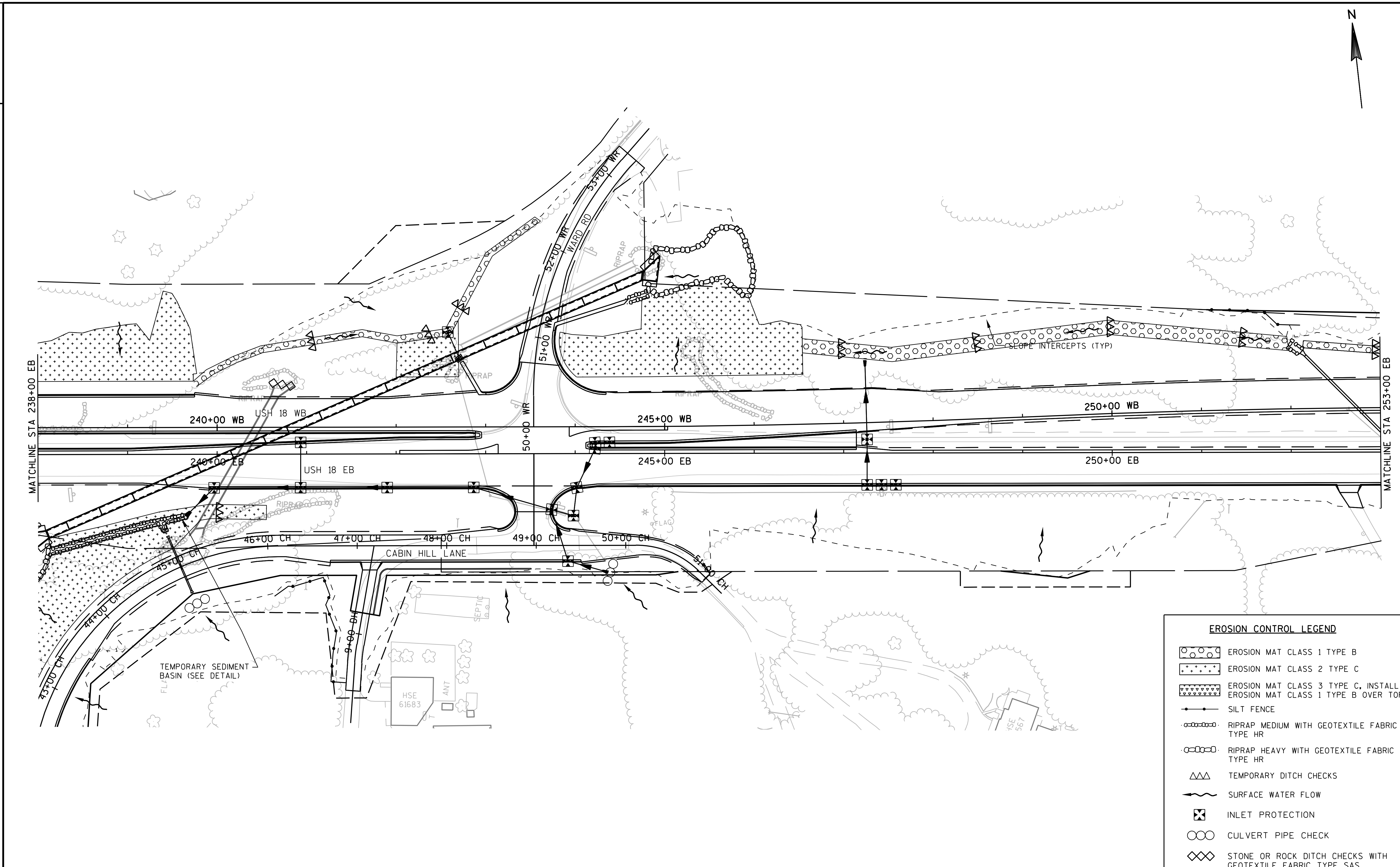
- EROSION MAT CLASS 1 TYPE B
- EROSION MAT CLASS 2 TYPE C
- EROSION MAT CLASS 3 TYPE C, INSTALL EROSION MAT CLASS 1 TYPE B OVER TOP
- SILT FENCE
- RIPRAP MEDIUM WITH GEOTEXTILE FABRIC TYPE HR
- RIPRAP HEAVY WITH GEOTEXTILE FABRIC TYPE HR
- TEMPORARY DITCH CHECKS
- SURFACE WATER FLOW
- INLET PROTECTION
- CULVERT PIPE CHECK
- STONE OR ROCK DITCH CHECKS WITH GEOTEXTILE FABRIC TYPE SAS

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	EROSION CONTROL	SHEET 67	E



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	EROSION CONTROL	SHEET 68	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\ECUSH18.DWG
SHEET NAME: 024503EC



EROSION CONTROL LEGEND

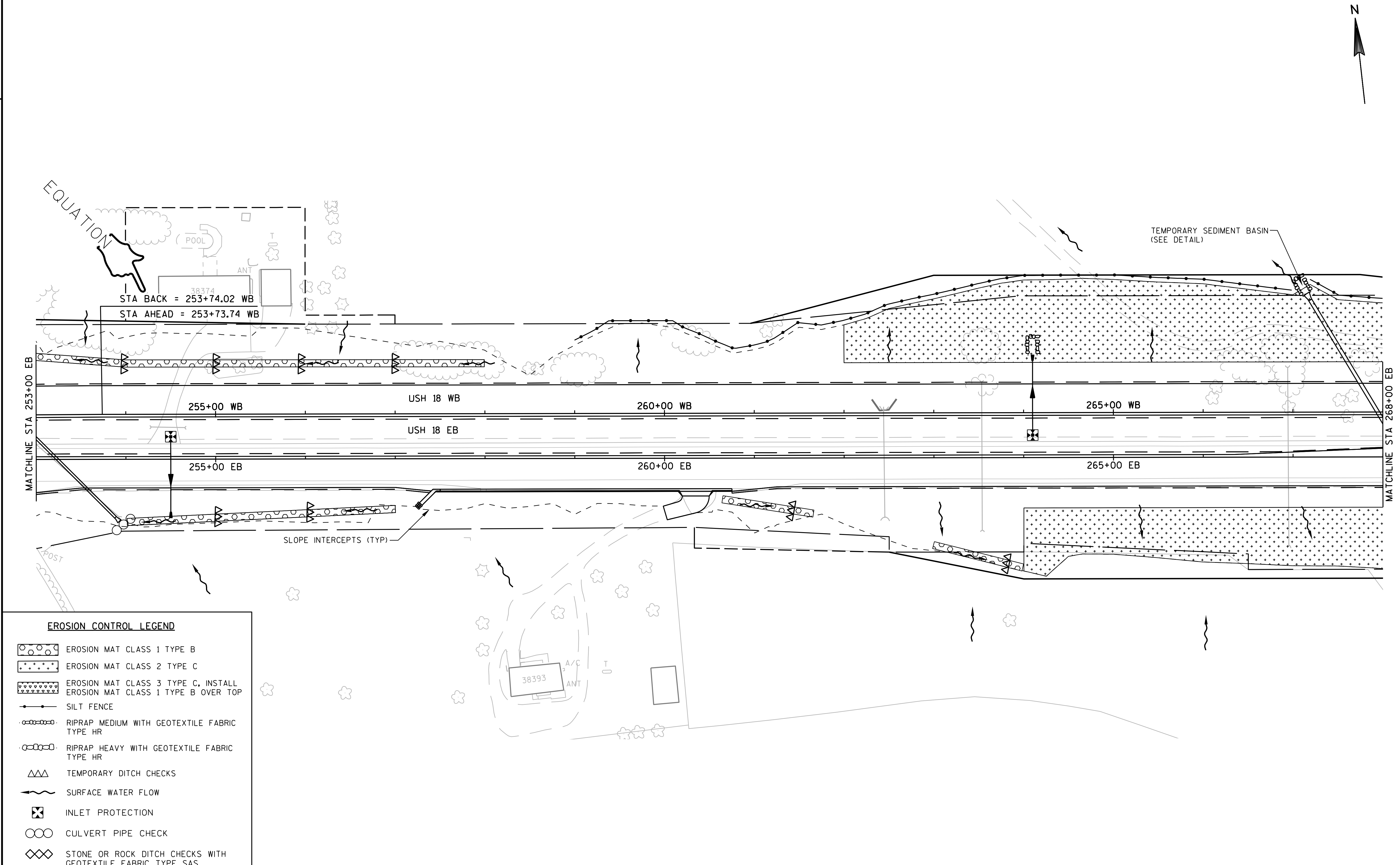
- EROSION MAT CLASS 1 TYPE B
- EROSION MAT CLASS 2 TYPE C
- EROSION MAT CLASS 3 TYPE C, INSTALL EROSION MAT CLASS 1 TYPE B OVER TOP
- SILT FENCE
- RIPRAP MEDIUM WITH GEOTEXTILE FABRIC TYPE HR
- RIPRAP HEAVY WITH GEOTEXTILE FABRIC TYPE HR
- TEMPORARY DITCH CHECKS
- SURFACE WATER FLOW
- INLET PROTECTION
- CULVERT PIPE CHECK
- STONE OR ROCK DITCH CHECKS WITH GEOTEXTILE FABRIC TYPE SAS

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	EROSION CONTROL	SHEET 69	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\ECUSH18.DWG

SHEET NAME: 024504EC

2

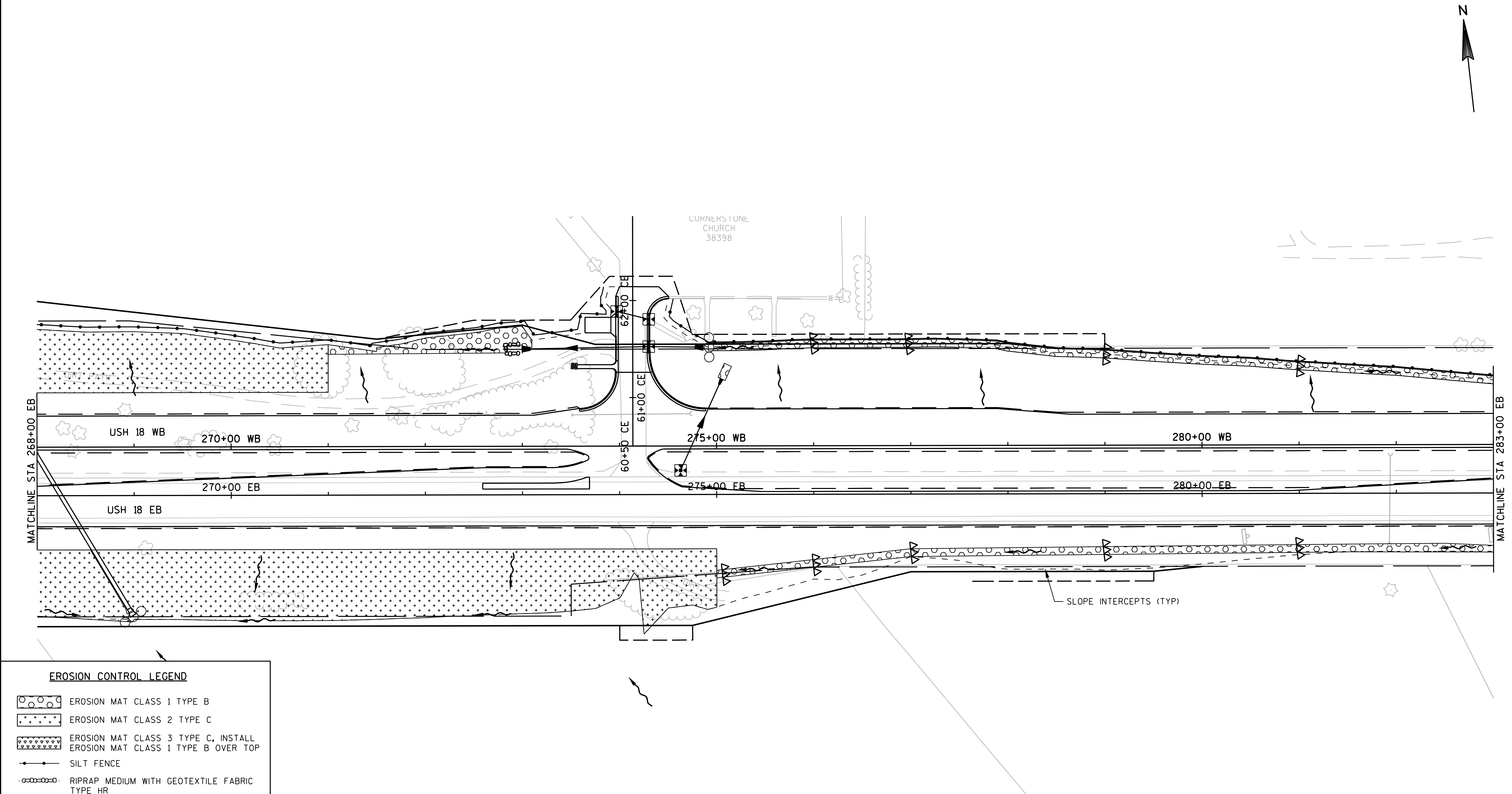


EROSION CONTROL LEGEND

- EROSION MAT CLASS 1 TYPE B
- EROSION MAT CLASS 2 TYPE C
- EROSION MAT CLASS 3 TYPE C, INSTALL EROSION MAT CLASS 1 TYPE B OVER TOP
- SILT FENCE
- RIPRAP MEDIUM WITH GEOTEXTILE FABRIC TYPE HR
- RIPRAP HEAVY WITH GEOTEXTILE FABRIC TYPE HR
- TEMPORARY DITCH CHECKS
- SURFACE WATER FLOW
- INLET PROTECTION
- CULVERT PIPE CHECK
- STONE OR ROCK DITCH CHECKS WITH GEOTEXTILE FABRIC TYPE SAS

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	EROSION CONTROL	SHEET 70	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\ECUSH18.DWG
SHEET NAME: 024505EC



EROSION CONTROL LEGEND

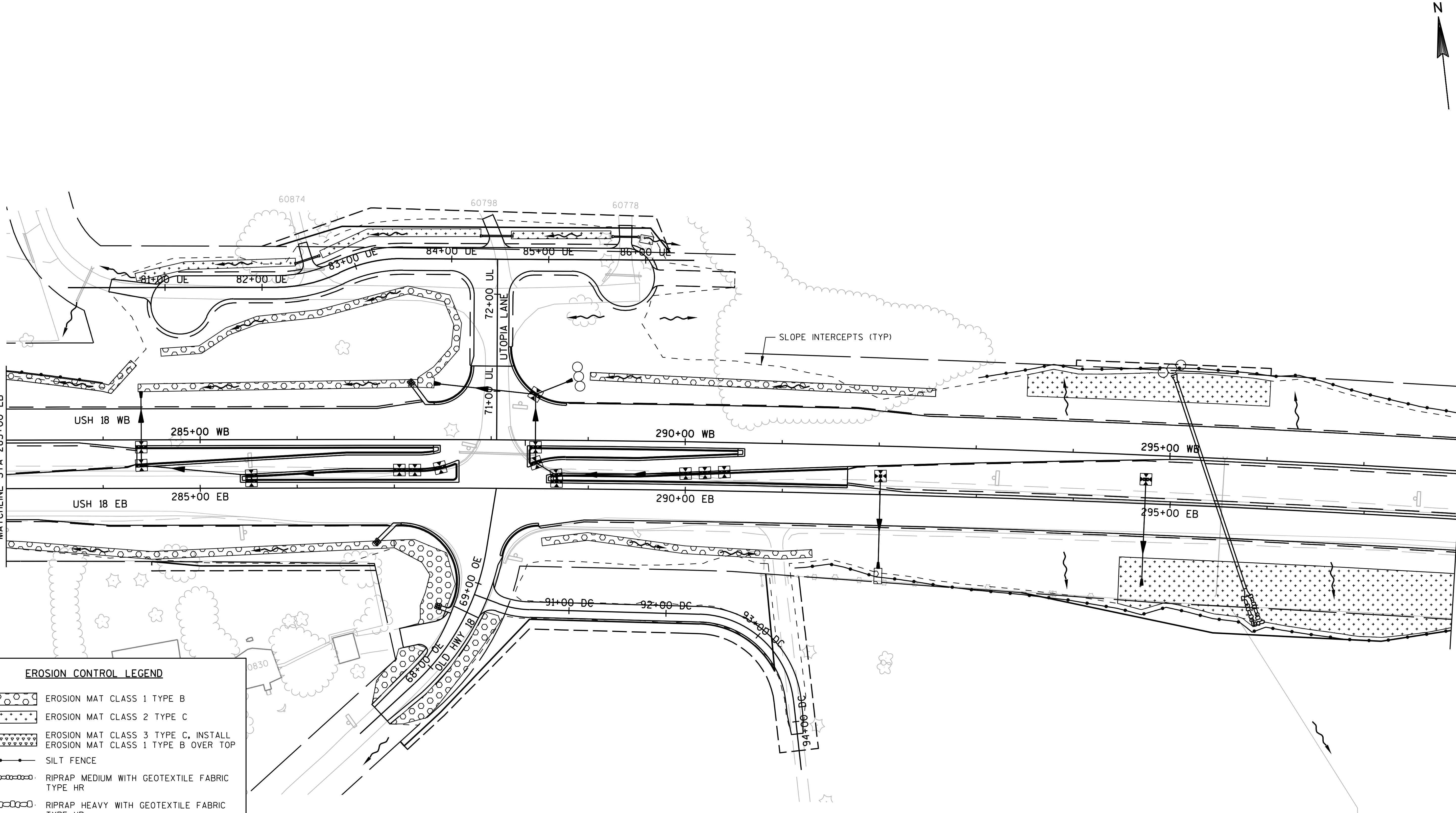
- EROSION MAT CLASS 1 TYPE B
- EROSION MAT CLASS 2 TYPE C
- EROSION MAT CLASS 3 TYPE C, INSTALL EROSION MAT CLASS 1 TYPE B OVER TOP
- SILT FENCE
- RIPRAP MEDIUM WITH GEOTEXTILE FABRIC TYPE HR
- RIPRAP HEAVY WITH GEOTEXTILE FABRIC TYPE HR
- TEMPORARY DITCH CHECKS
- SURFACE WATER FLOW
- INLET PROTECTION
- CULVERT PIPE CHECK
- STONE OR ROCK DITCH CHECKS WITH GEOTEXTILE FABRIC TYPE SAS

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	EROSION CONTROL	SHEET 71	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\ECUSH18.DWG

SHEET NAME: 024506EC

2



EROSION CONTROL LEGEND

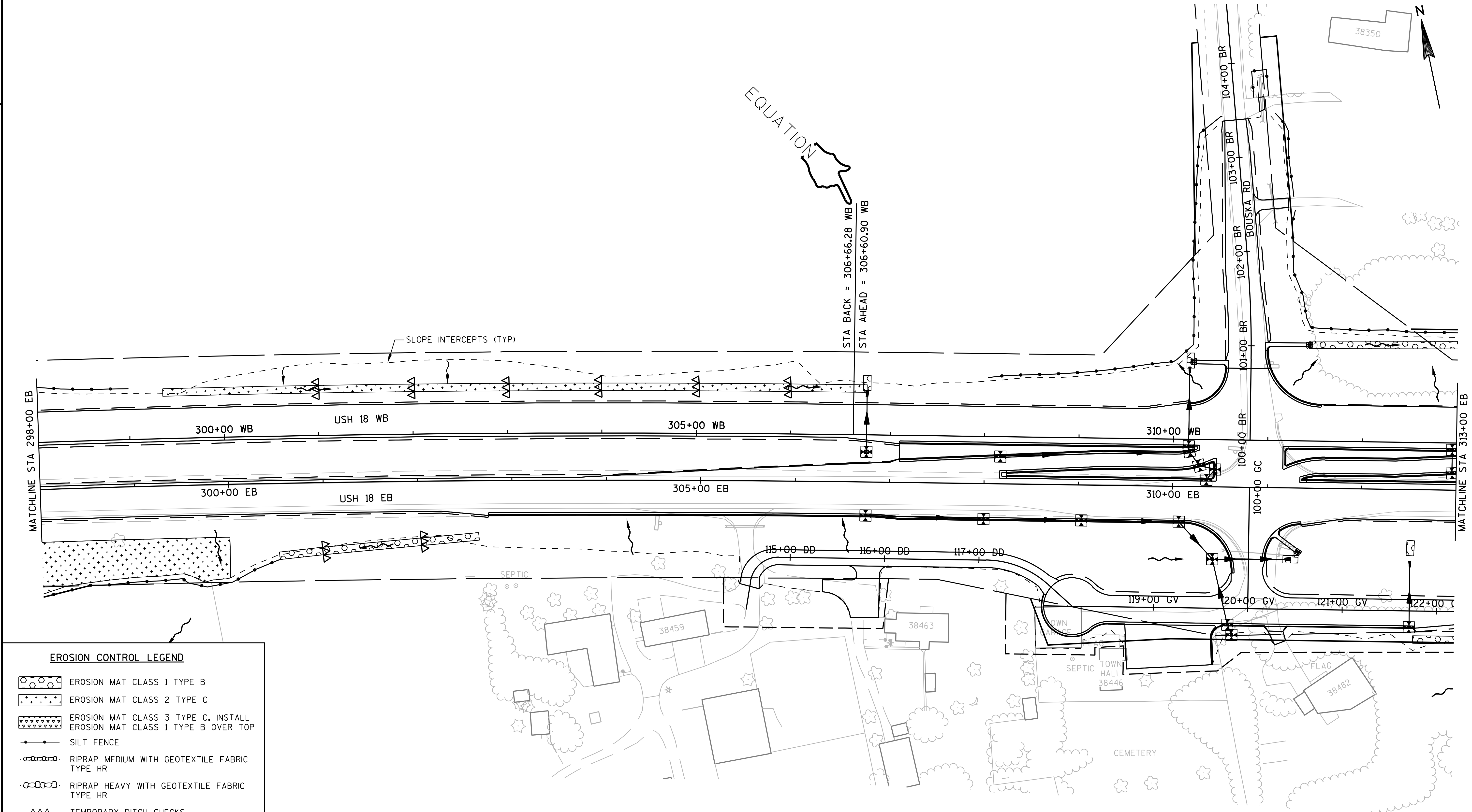
- EROSION MAT CLASS 1 TYPE B
- EROSION MAT CLASS 2 TYPE C
- EROSION MAT CLASS 3 TYPE C, INSTALL EROSION MAT CLASS 1 TYPE B OVER TOP
- SILT FENCE
- RIPRAP MEDIUM WITH GEOTEXTILE FABRIC TYPE HR
- RIPRAP HEAVY WITH GEOTEXTILE FABRIC TYPE HR
- TEMPORARY DITCH CHECKS
- SURFACE WATER FLOW
- INLET PROTECTION
- CULVERT PIPE CHECK
- STONE OR ROCK DITCH CHECKS WITH GEOTEXTILE FABRIC TYPE SAS

2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	EROSION CONTROL	SHEET 72	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\ECUSH18.DWG

SHEET NAME: 024507EC



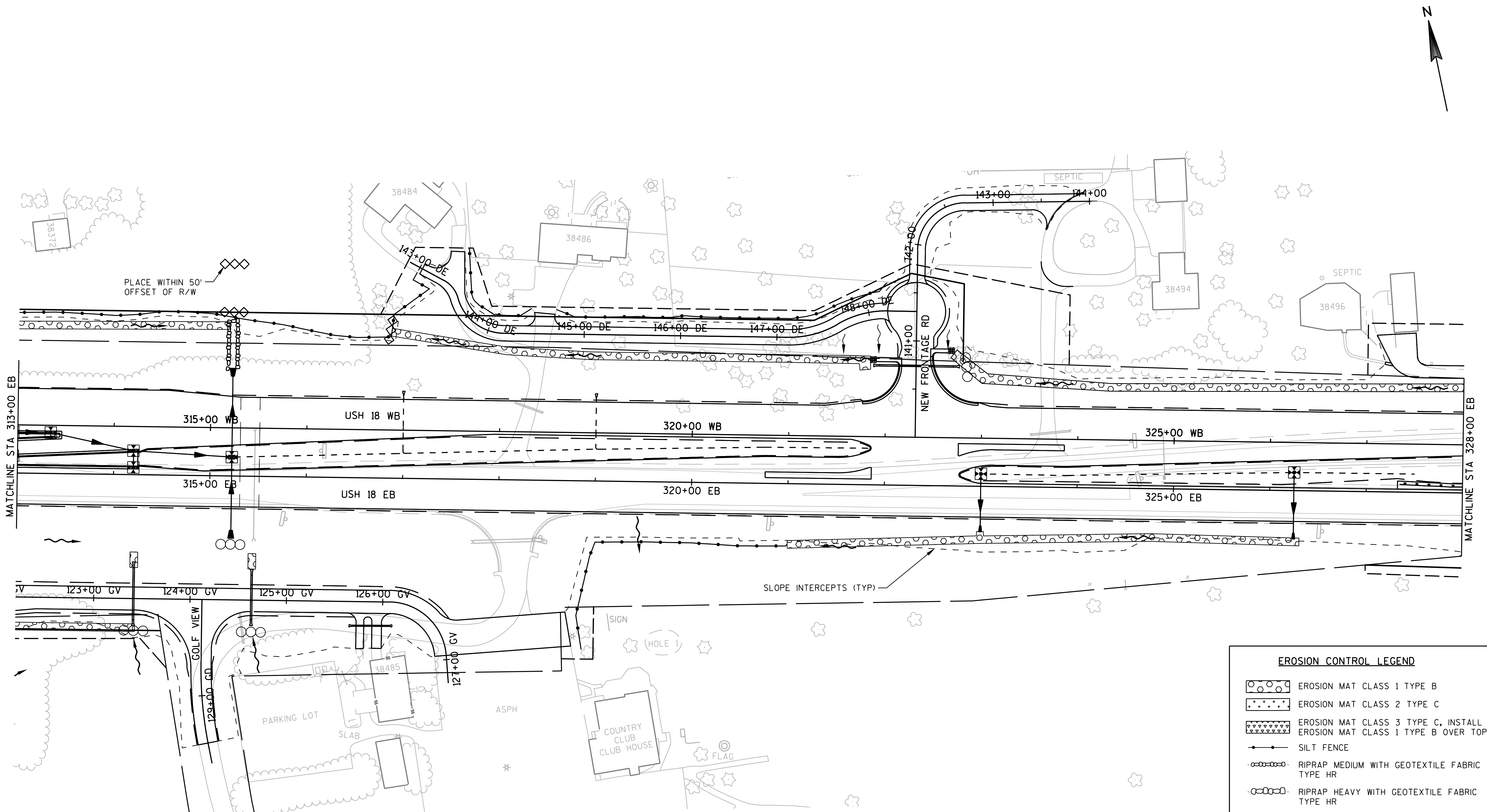
EROSION CONTROL LEGEND

- EROSION MAT CLASS 1 TYPE B
- EROSION MAT CLASS 2 TYPE C
- EROSION MAT CLASS 3 TYPE C, INSTALL EROSION MAT CLASS 1 TYPE B OVER TOP
- SILT FENCE
- RIPRAP MEDIUM WITH GEOTEXTILE FABRIC TYPE HR
- RIPRAP HEAVY WITH GEOTEXTILE FABRIC TYPE HR
- TEMPORARY DITCH CHECKS
- SURFACE WATER FLOW
- INLET PROTECTION
- CULVERT PIPE CHECK
- STONE OR ROCK DITCH CHECKS WITH GEOTEXTILE FABRIC TYPE SAS

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	EROSION CONTROL	SHEET 73	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\ECUSH18.DWG
SHEET NAME: 024508EC

2



EROSION CONTROL LEGEND

- EROSION MAT CLASS 1 TYPE B
- EROSION MAT CLASS 2 TYPE C
- EROSION MAT CLASS 3 TYPE C, INSTALL EROSION MAT CLASS 1 TYPE B OVER TOP
- SILT FENCE
- RIPRAP MEDIUM WITH GEOTEXTILE FABRIC TYPE HR
- RIPRAP HEAVY WITH GEOTEXTILE FABRIC TYPE HR
- TEMPORARY DITCH CHECKS
- SURFACE WATER FLOW
- INLET PROTECTION
- CULVERT PIPE CHECK
- STONE OR ROCK DITCH CHECKS WITH GEOTEXTILE FABRIC TYPE SAS

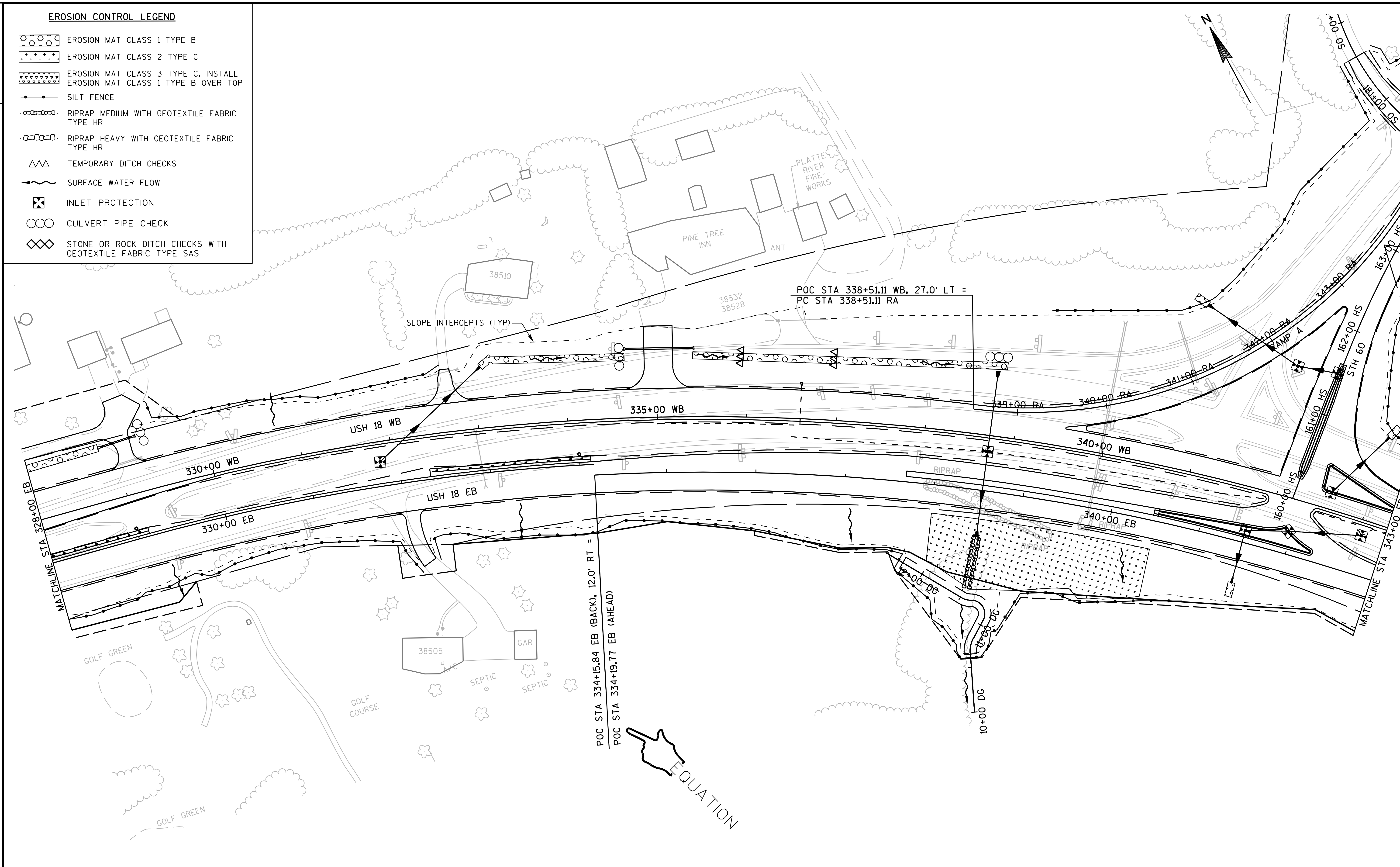
PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	EROSION CONTROL	SHEET 74	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\ECUSH18.DWG

SHEET NAME: 024509EC

EROSION CONTROL LEGEND

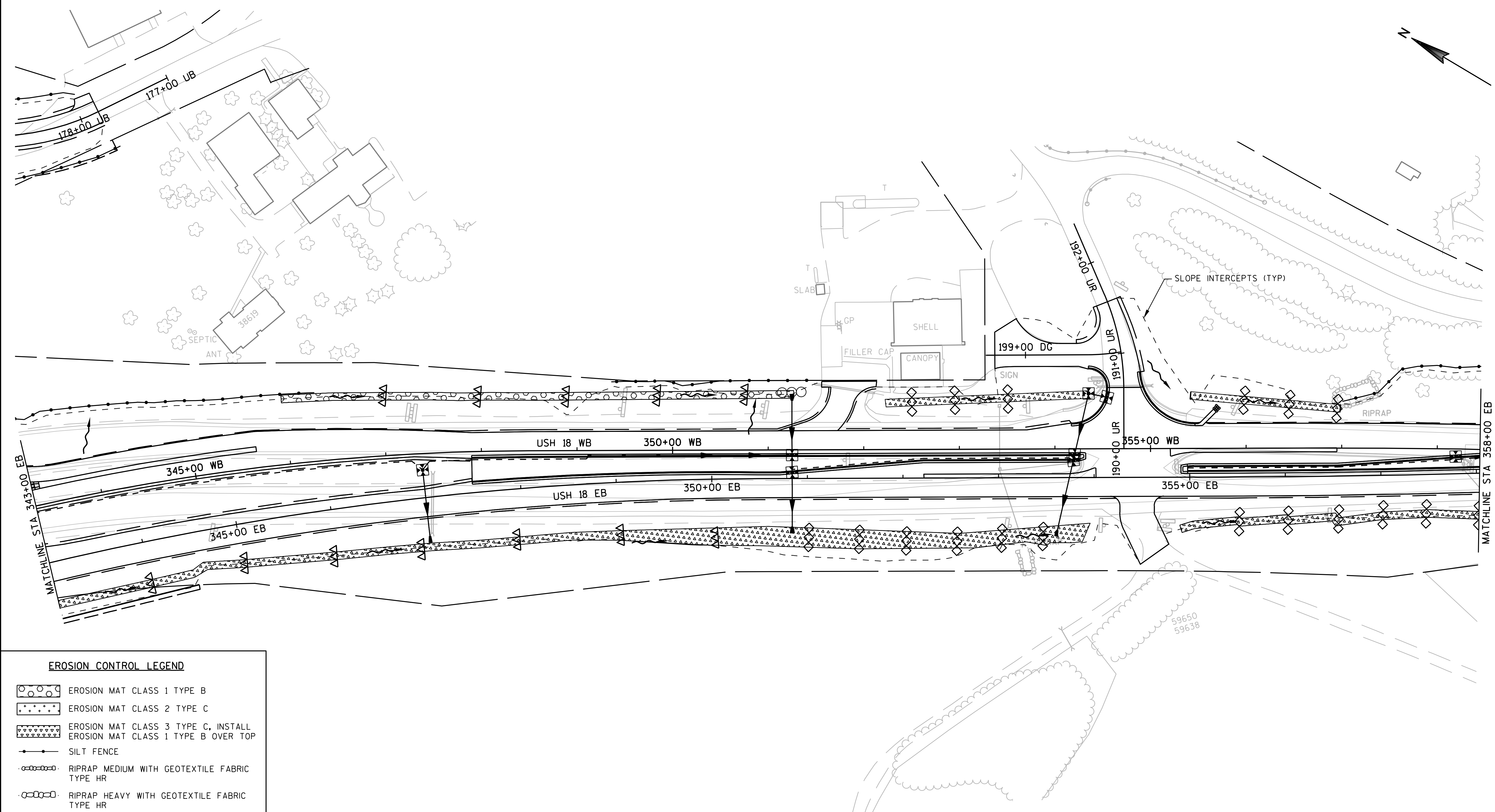
- EROSION MAT CLASS 1 TYPE B
- EROSION MAT CLASS 2 TYPE C
- EROSION MAT CLASS 3 TYPE C, INSTALL EROSION MAT CLASS 1 TYPE B OVER TOP
- SILT FENCE
- RIPRAP MEDIUM WITH GEOTEXTILE FABRIC TYPE HR
- RIPRAP HEAVY WITH GEOTEXTILE FABRIC TYPE HR
- TEMPORARY DITCH CHECKS
- SURFACE WATER FLOW
- INLET PROTECTION
- CULVERT PIPE CHECK
- STONE OR ROCK DITCH CHECKS WITH GEOTEXTILE FABRIC TYPE SAS



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	EROSION CONTROL	SHEET	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\ECUSH18.DWG SHEET NAME: 024510EC

2



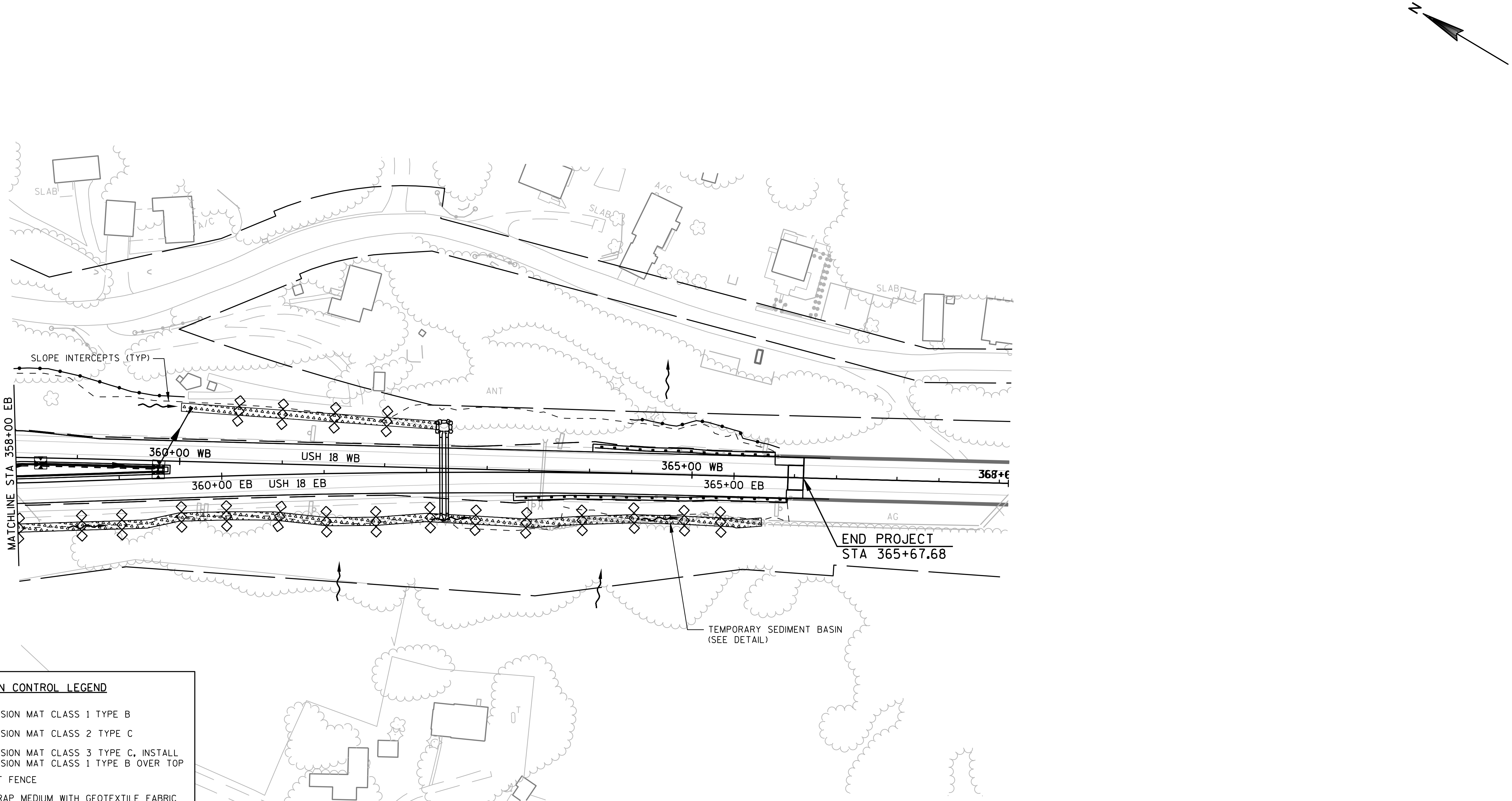
EROSION CONTROL LEGEND

- EROSION MAT CLASS 1 TYPE B
- EROSION MAT CLASS 2 TYPE C
- EROSION MAT CLASS 3 TYPE C, INSTALL EROSION MAT CLASS 1 TYPE B OVER TOP
- SILT FENCE
- RIPRAP MEDIUM WITH GEOTEXTILE FABRIC TYPE HR
- RIPRAP HEAVY WITH GEOTEXTILE FABRIC TYPE HR
- TEMPORARY DITCH CHECKS
- SURFACE WATER FLOW
- INLET PROTECTION
- CULVERT PIPE CHECK
- STONE OR ROCK DITCH CHECKS WITH GEOTEXTILE FABRIC TYPE SAS

2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	EROSION CONTROL	SHEET 76	E

2



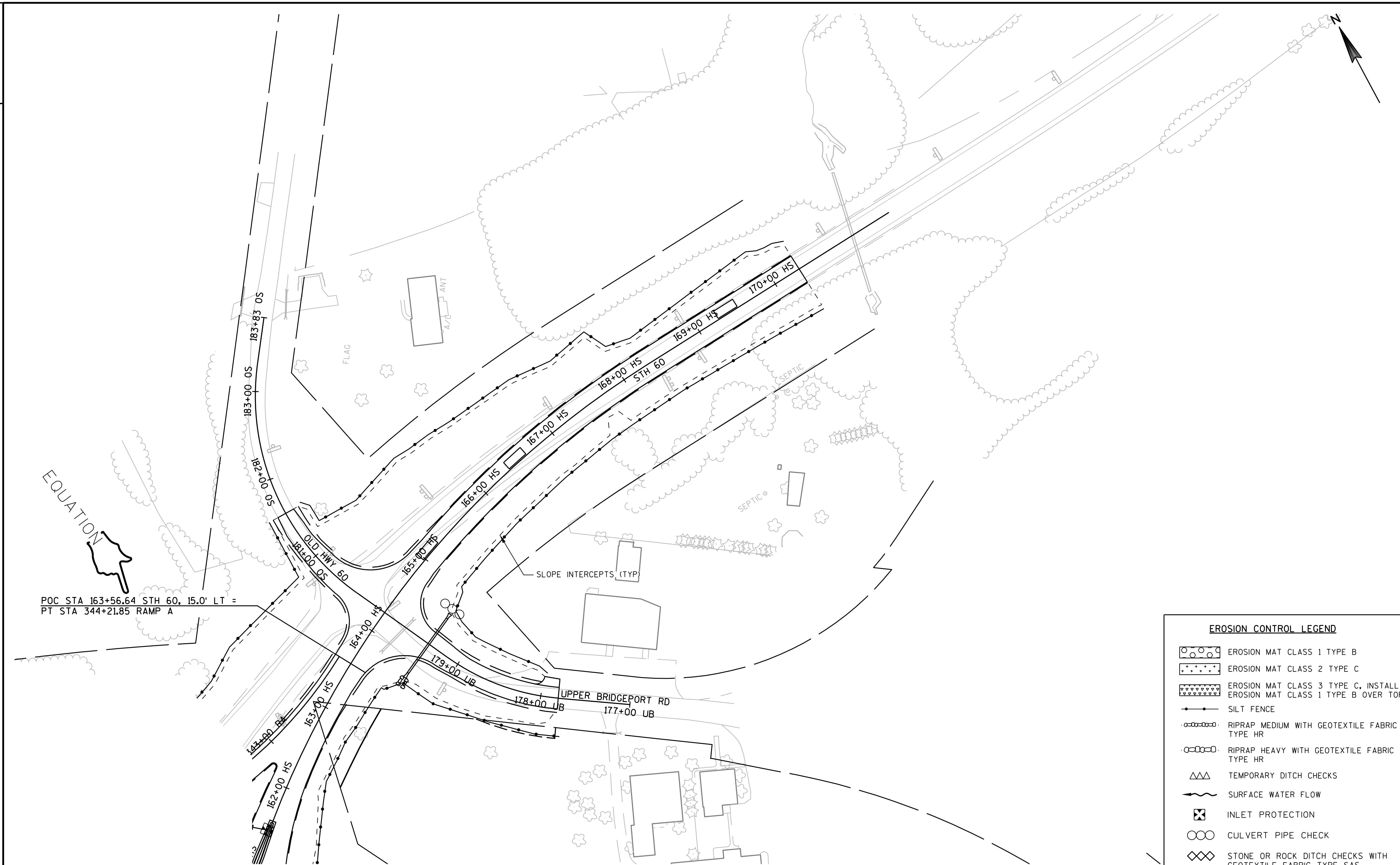
EROSION CONTROL LEGEND

- EROSION MAT CLASS 1 TYPE B
- EROSION MAT CLASS 2 TYPE C
- EROSION MAT CLASS 3 TYPE C, INSTALL EROSION MAT CLASS 1 TYPE B OVER TOP
- SILT FENCE
- RIPRAP MEDIUM WITH GEOTEXTILE FABRIC TYPE HR
- RIPRAP HEAVY WITH GEOTEXTILE FABRIC TYPE HR
- TEMPORARY DITCH CHECKS
- SURFACE WATER FLOW
- INLET PROTECTION
- CULVERT PIPE CHECK
- STONE OR ROCK DITCH CHECKS WITH GEOTEXTILE FABRIC TYPE SAS

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	EROSION CONTROL	SHEET 77	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\ECUSH18.DWG

SHEET NAME: 024512EC

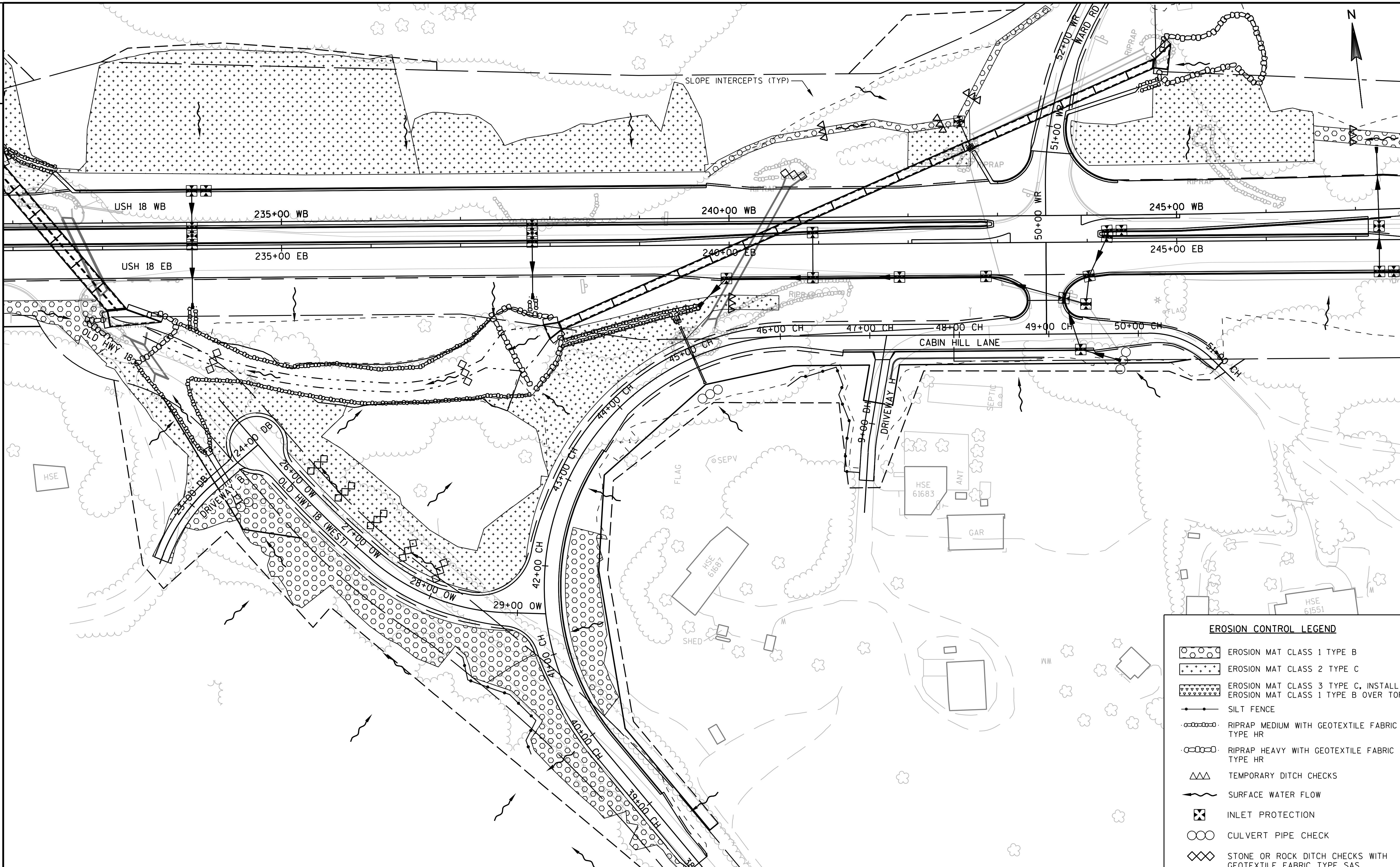


EROSION CONTROL LEGEND

- EROSION MAT CLASS 1 TYPE B
- EROSION MAT CLASS 2 TYPE C
- EROSION MAT CLASS 3 TYPE C, INSTALL EROSION MAT CLASS 1 TYPE B OVER TOP
- SILT FENCE
- RIPRAP MEDIUM WITH GEOTEXTILE FABRIC TYPE HR
- RIPRAP HEAVY WITH GEOTEXTILE FABRIC TYPE HR
- TEMPORARY DITCH CHECKS
- SURFACE WATER FLOW
- INLET PROTECTION
- CULVERT PIPE CHECK
- STONE OR ROCK DITCH CHECKS WITH GEOTEXTILE FABRIC TYPE SAS

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	EROSION CONTROL	SHEET 78	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\ECUSH18.DWG SHEET NAME: 024513EC



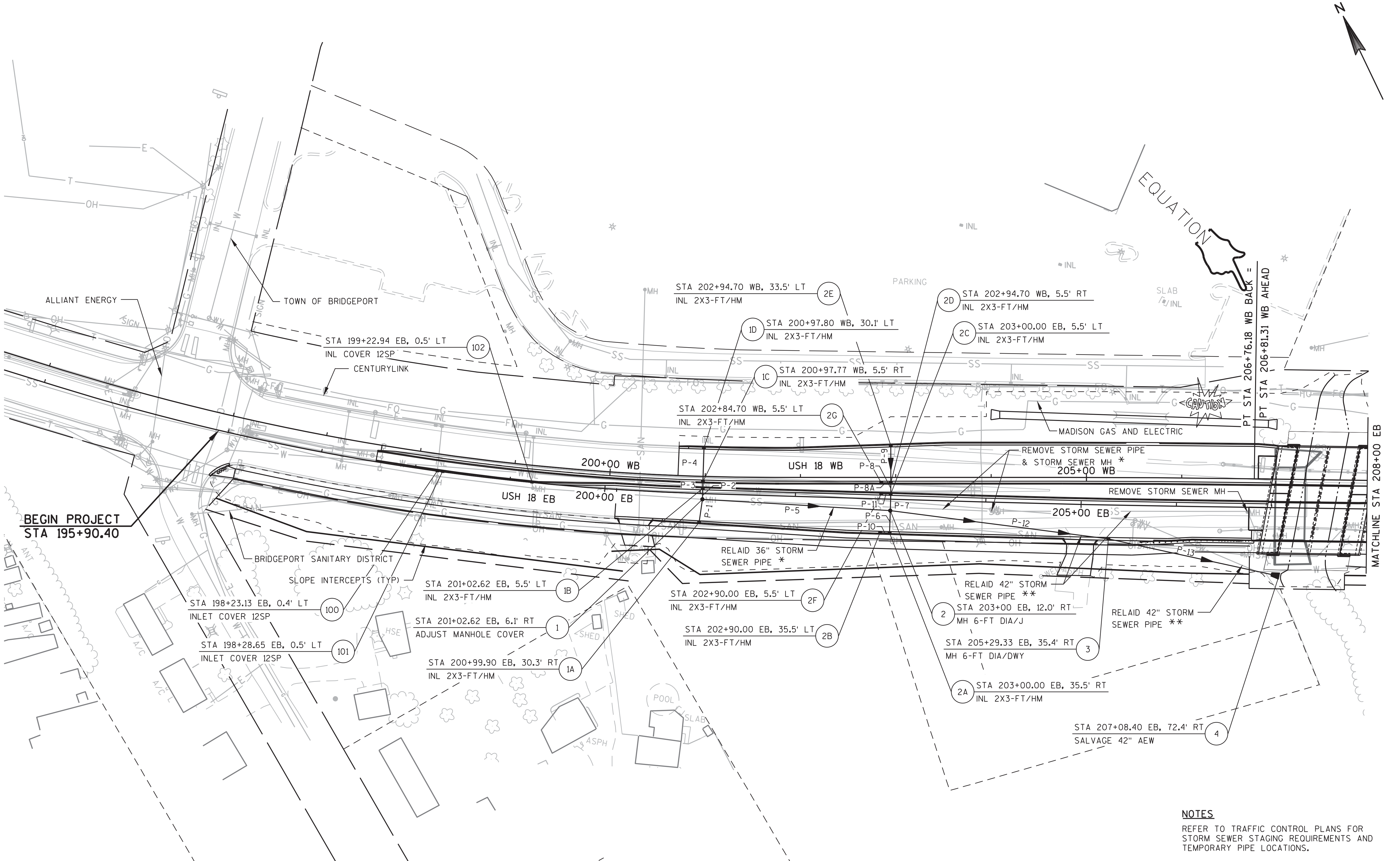
EROSION CONTROL LEGEND

- EROSION MAT CLASS 1 TYPE B
- EROSION MAT CLASS 2 TYPE C
- EROSION MAT CLASS 3 TYPE C, INSTALL EROSION MAT CLASS 1 TYPE B OVER TOP
- SILT FENCE
- RIPRAP MEDIUM WITH GEOTEXTILE FABRIC TYPE HR
- RIPRAP HEAVY WITH GEOTEXTILE FABRIC TYPE HR
- TEMPORARY DITCH CHECKS
- SURFACE WATER FLOW
- INLET PROTECTION
- CULVERT PIPE CHECK
- STONE OR ROCK DITCH CHECKS WITH GEOTEXTILE FABRIC TYPE SAS

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	EROSION CONTROL	SHEET 79	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\ECUSH18.DWG

SHEET NAME: 024514EC



NOTES

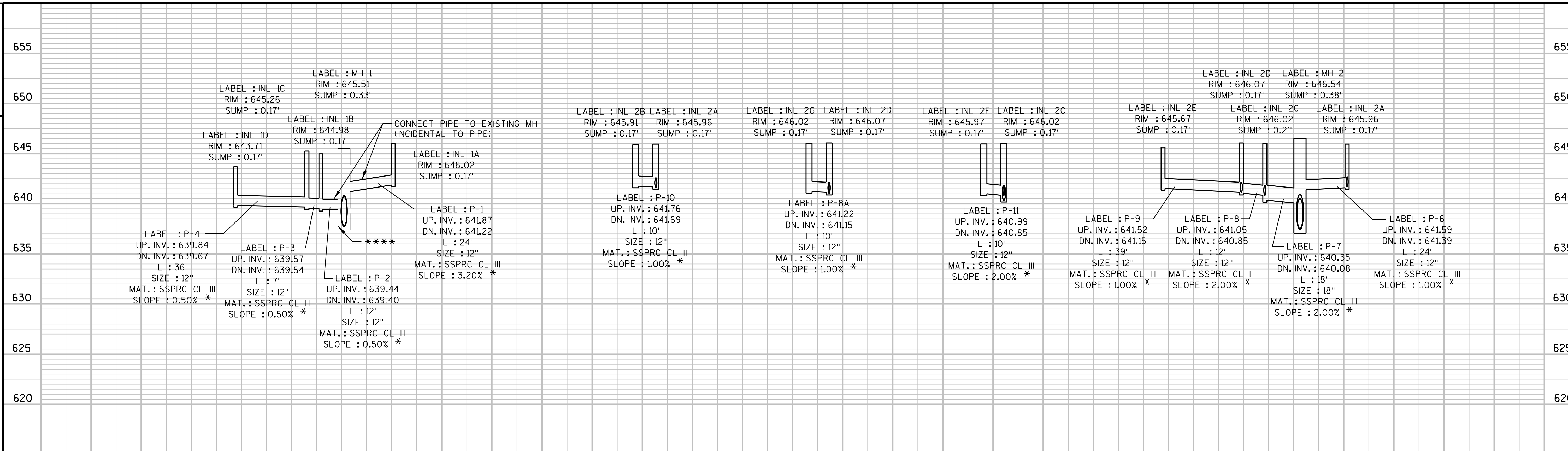
REFER TO TRAFFIC CONTROL PLANS FOR STORM SEWER STAGING REQUIREMENTS AND TEMPORARY PIPE LOCATIONS.

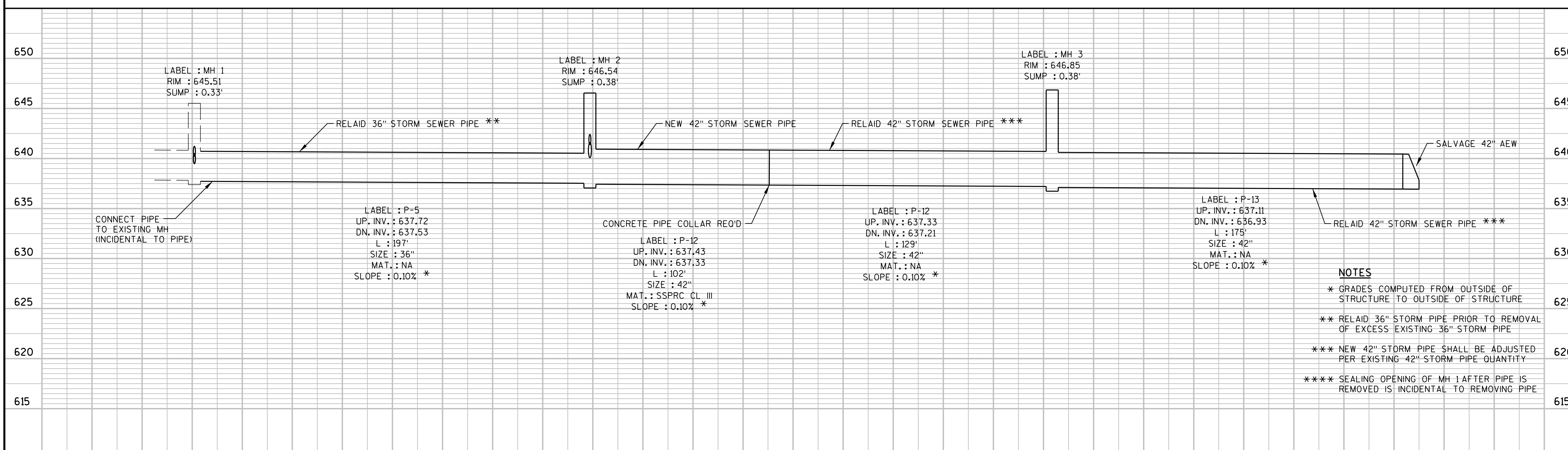
* RELAID 36" STORM PIPE PRIOR TO REMOVAL OF EXCESS EXISTING 36" STORM PIPE

** NEW 42" STORM PIPE SHALL BE ADJUSTED PER EXISTING 42" STORM PIPE QUANTITY

2

2





NOTES

* GRADES COMPUTED FROM OUTSIDE OF STRUCTURE TO OUTSIDE OF STRUCTURE

** RELAID 36" STORM PIPE PRIOR TO REMOVAL OF EXCESS EXISTING 36" STORM PIPE

*** NEW 42" STORM PIPE SHALL BE ADJUSTED PER EXISTING 42" STORM PIPE QUANTITY

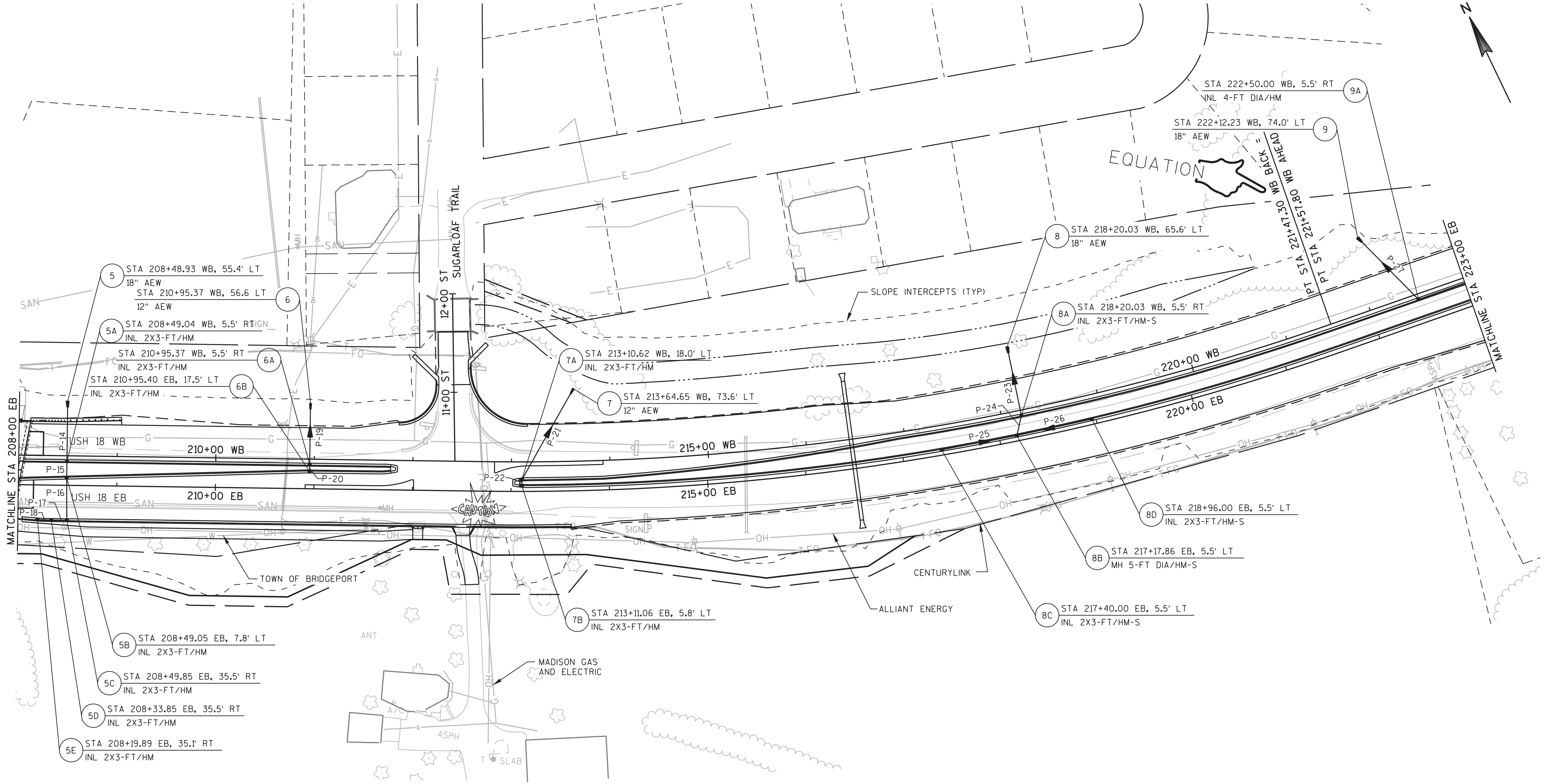
**** SEALING OPENING OF MH 1 AFTER PIPE IS REMOVED IS INCIDENTAL TO REMOVING PIPE

2

PROJECT NO:1661-05-78	HWY:USH 18	COUNTY:CRAWFORD	STORM SEWER PROFILES	SHEET 81	E

FILE NAME : P:\WIDOT\12005 - USH 18\CAD\SSUSH1801A.dgn PLOT DATE : 10/15/2015 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 41

2



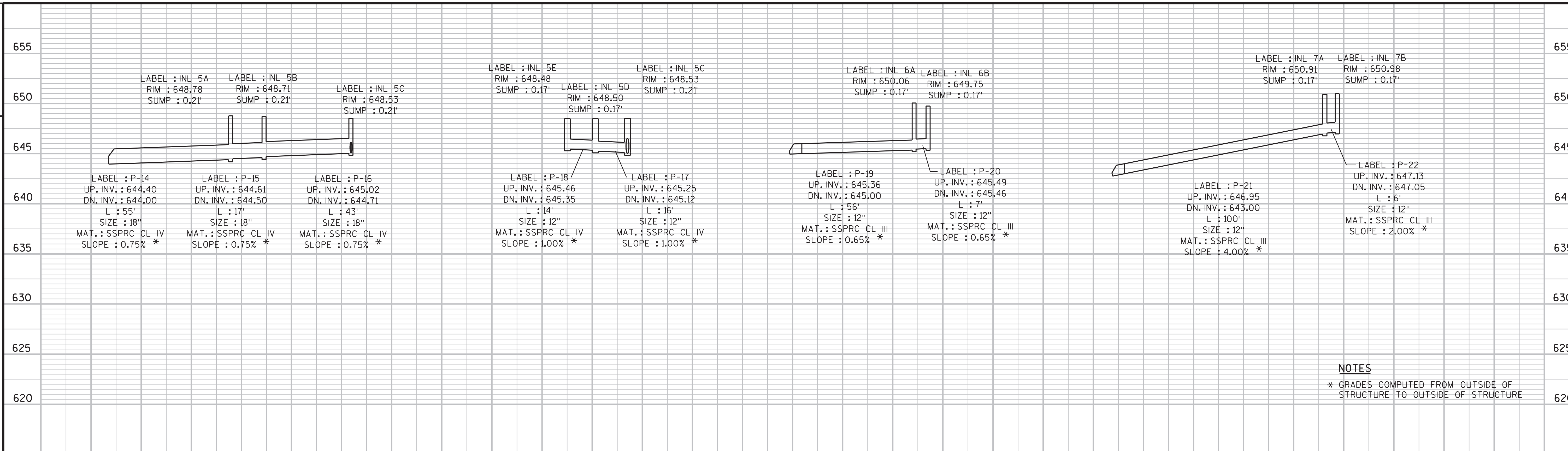
2

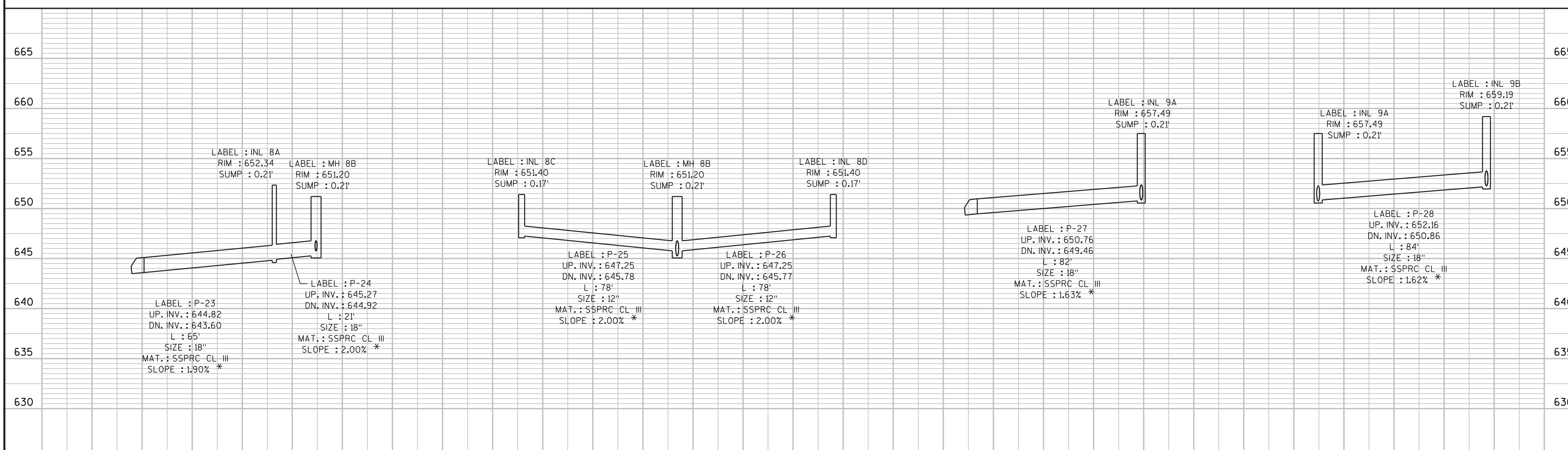
PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	STORM SEWER	SHEET 82	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SSUSH18.DWG

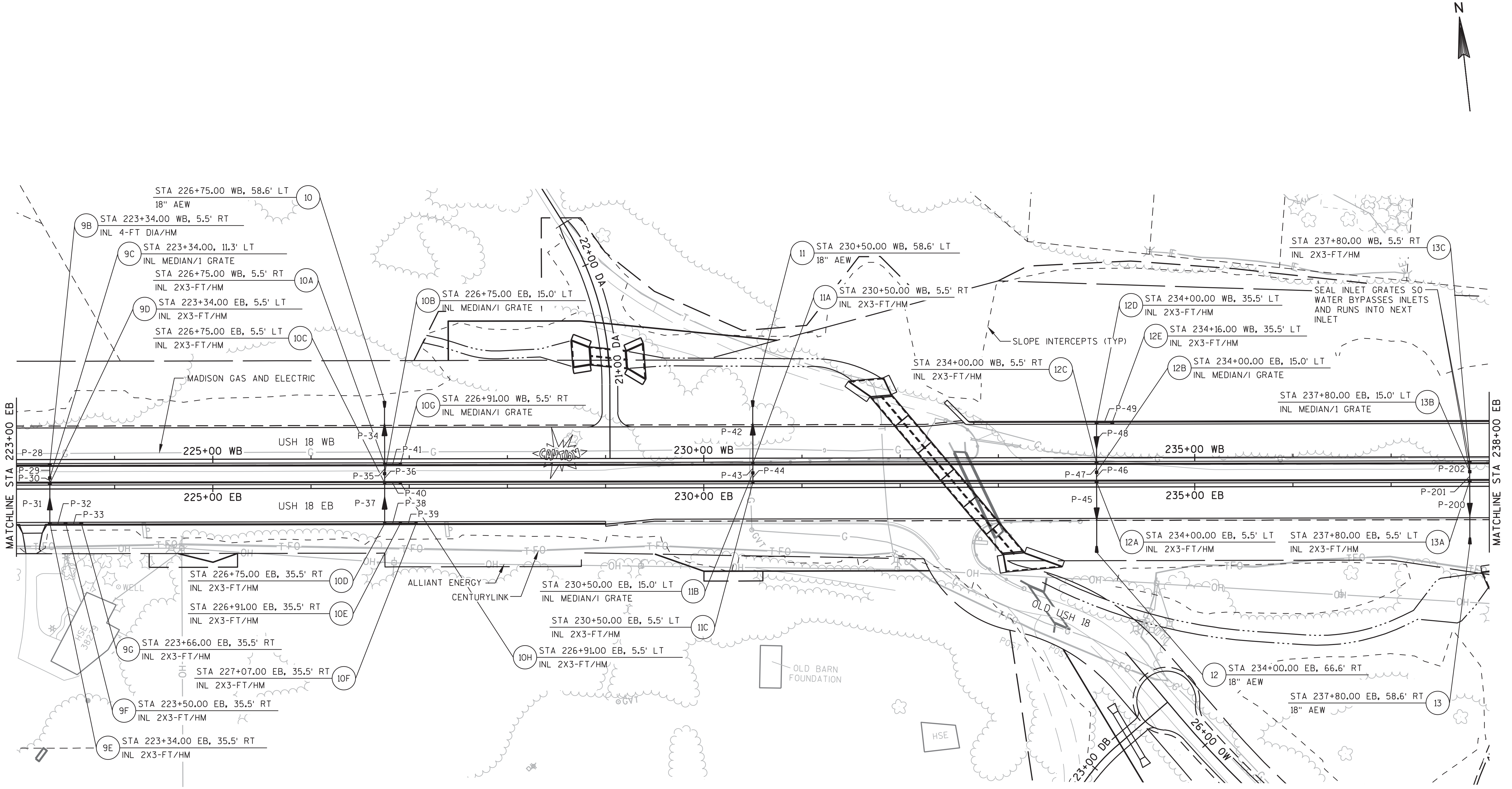
SHEET NAME: 024502SS

2

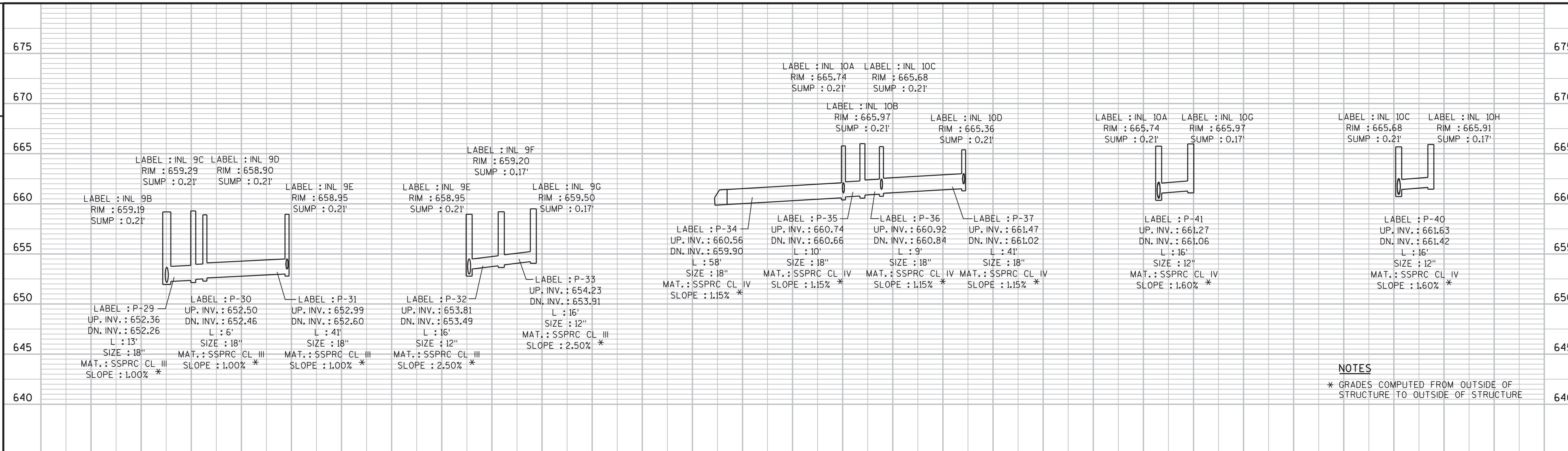




PROJECT NO:1661-05-78	HWY:USH 18	COUNTY:CRAWFORD	STORM SEWER PROFILES	SHEET 83	E

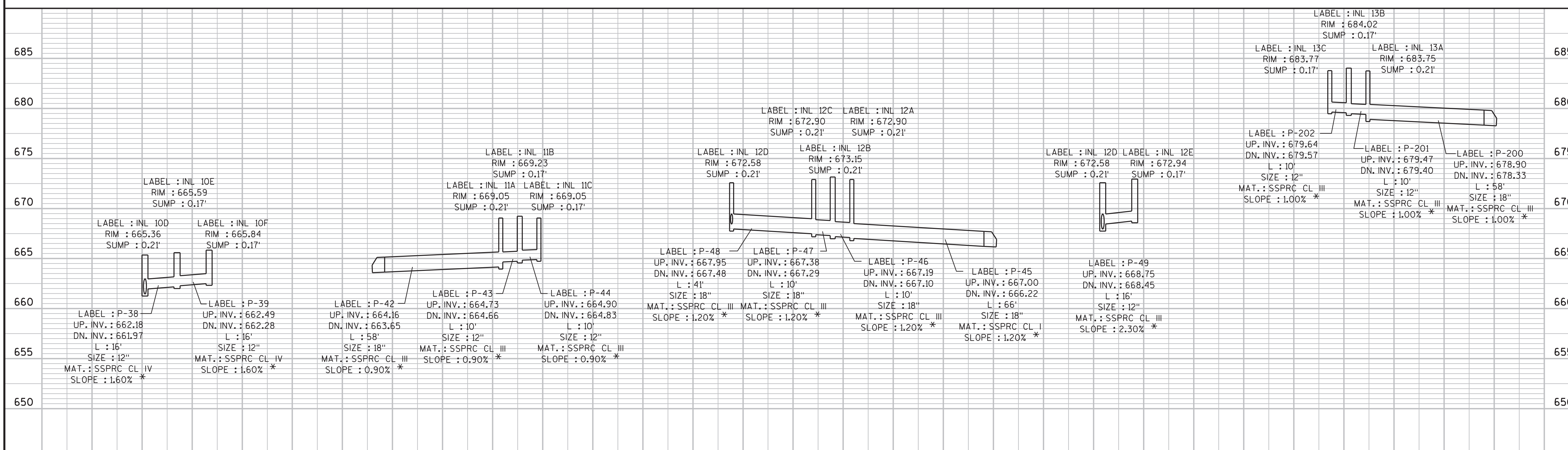


N
STA 226+75.00 WB, 58.6' LT
18" AEW
10
STA 223+34.00 WB, 5.5' RT
INL 4-FT DIA/HM
9B
STA 223+34.00, 11.3' LT
INL MEDIAN/I GRATE
9C
STA 226+75.00 WB, 5.5' RT
INL 2X3-FT/HM
10A
STA 223+34.00 EB, 5.5' LT
INL 2X3-FT/HM
9D
STA 226+75.00 EB, 5.5' LT
INL 2X3-FT/HM
10C
STA 226+75.00 EB, 15.0' LT
INL MEDIAN/I GRATE
10B
STA 226+91.00 WB, 5.5' RT
INL MEDIAN/I GRATE
10G
MADISON GAS AND ELECTRIC
22+00 DA
21+00 DA
STA 230+50.00 WB, 58.6' LT
18" AEW
11
STA 230+50.00 WB, 5.5' RT
INL 2X3-FT/HM
11A
SLOPE INTERCEPTS (TYP)
STA 234+00.00 WB, 5.5' RT
INL 2X3-FT/HM
12C
STA 234+00.00 WB, 35.5' LT
INL 2X3-FT/HM
12D
STA 234+16.00 WB, 35.5' LT
INL 2X3-FT/HM
12E
STA 234+00.00 EB, 15.0' LT
INL MEDIAN/I GRATE
12B
STA 237+80.00 WB, 5.5' RT
INL 2X3-FT/HM
13C
SEAL INLET GRATES SO WATER BYPASSES INLETS AND RUNS INTO NEXT INLET
STA 237+80.00 EB, 15.0' LT
INL MEDIAN/I GRATE
13B
MATCHLINE STA 223+00 EB
MATCHLINE STA 238+00 EB
225+00 WB
USH 18 WB
230+00 WB
235+00 WB
225+00 EB
USH 18 EB
230+00 EB
235+00 EB
CAUTION
P-28
P-29
P-30
P-31
P-32
P-33
P-34
P-35
P-36
P-37
P-38
P-39
P-40
P-41
P-42
P-43
P-44
P-45
P-46
P-47
P-48
P-49
P-200
P-201
P-202
STA 234+00.00 EB, 5.5' LT
INL 2X3-FT/HM
12A
STA 237+80.00 EB, 5.5' LT
INL 2X3-FT/HM
13A
STA 226+75.00 EB, 35.5' RT
INL 2X3-FT/HM
10D
ALLIANT ENERGY
CENTURYLINK
STA 230+50.00 EB, 15.0' LT
INL MEDIAN/I GRATE
11B
STA 226+91.00 EB, 35.5' RT
INL 2X3-FT/HM
10E
STA 230+50.00 EB, 5.5' LT
INL 2X3-FT/HM
11C
STA 223+66.00 EB, 35.5' RT
INL 2X3-FT/HM
9G
STA 227+07.00 EB, 35.5' RT
INL 2X3-FT/HM
10F
STA 226+91.00 EB, 5.5' LT
INL 2X3-FT/HM
10H
OLD BARN FOUNDATION
OLD USH 18
STA 234+00.00 EB, 66.6' RT
18" AEW
12
STA 237+80.00 EB, 58.6' RT
18" AEW
13
STA 223+50.00 EB, 35.5' RT
INL 2X3-FT/HM
9F
STA 223+34.00 EB, 35.5' RT
INL 2X3-FT/HM
9E
WELL
HSE
26+00 OW
23+00 DB



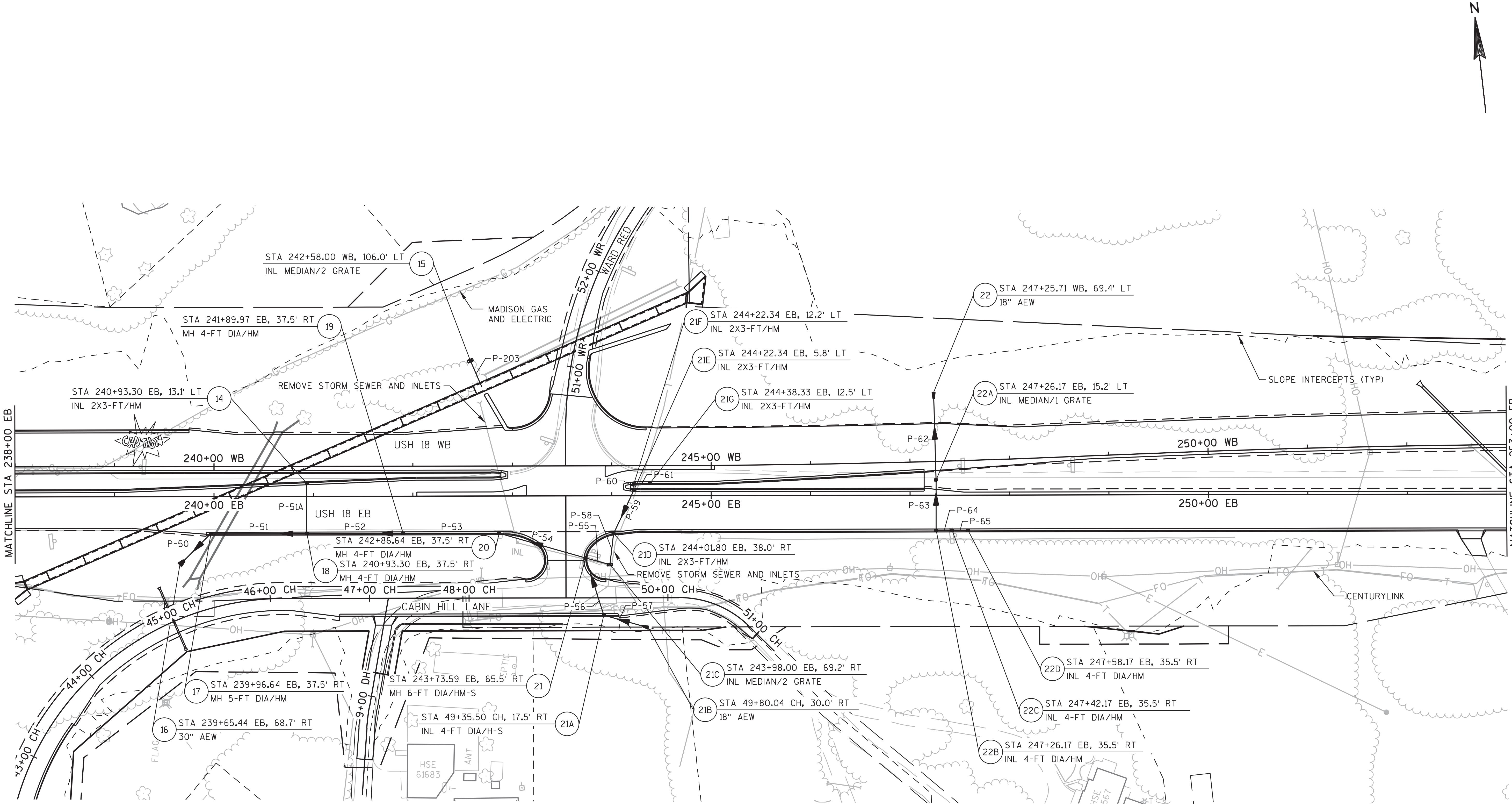
NOTES

* GRADES COMPUTED FROM OUTSIDE OF STRUCTURE TO OUTSIDE OF STRUCTURE

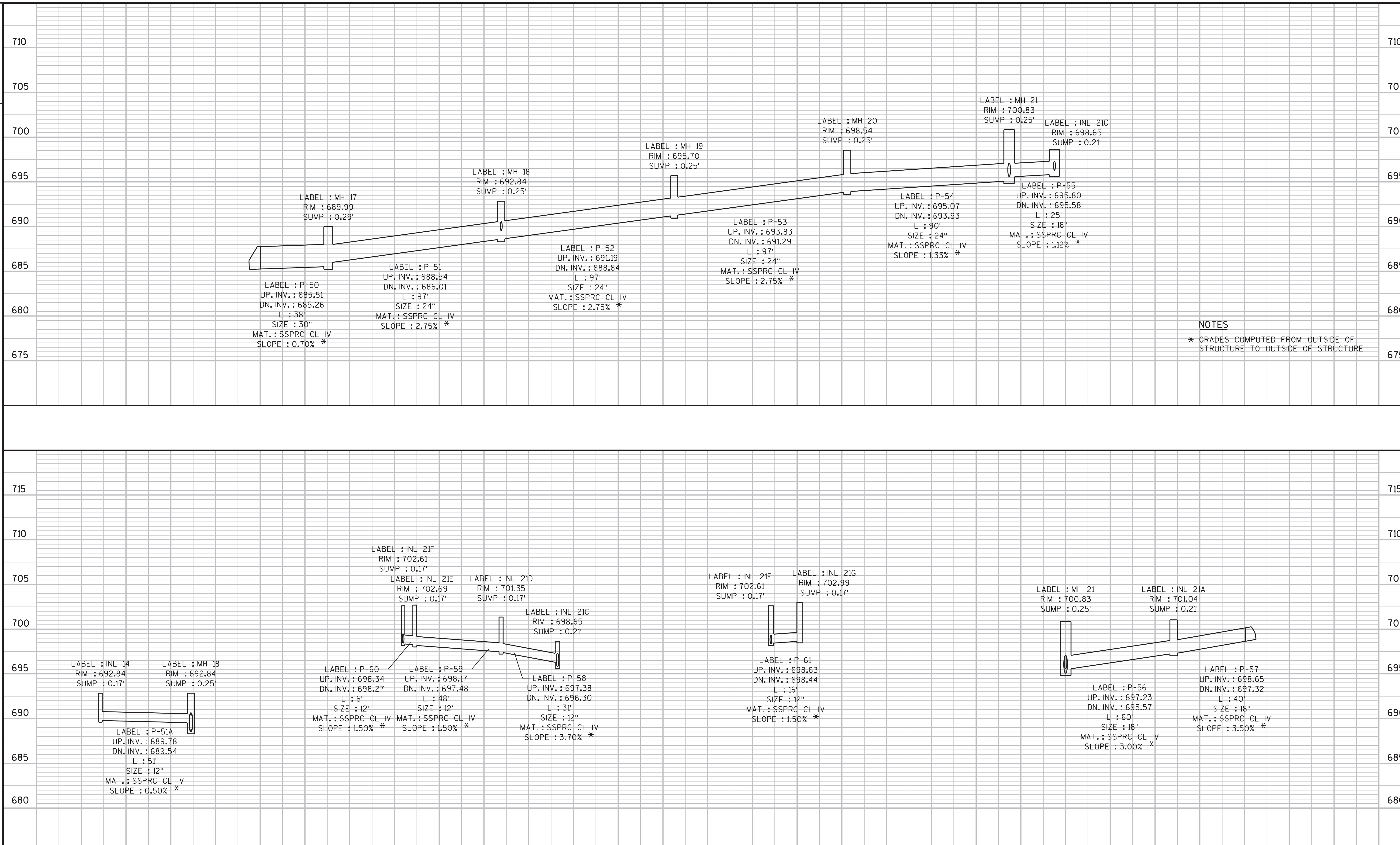


PROJECT NO:1661-05-78	HWY:USH 18	COUNTY:CRAWFORD	STORM SEWER PROFILES	SHEET 85	E

2

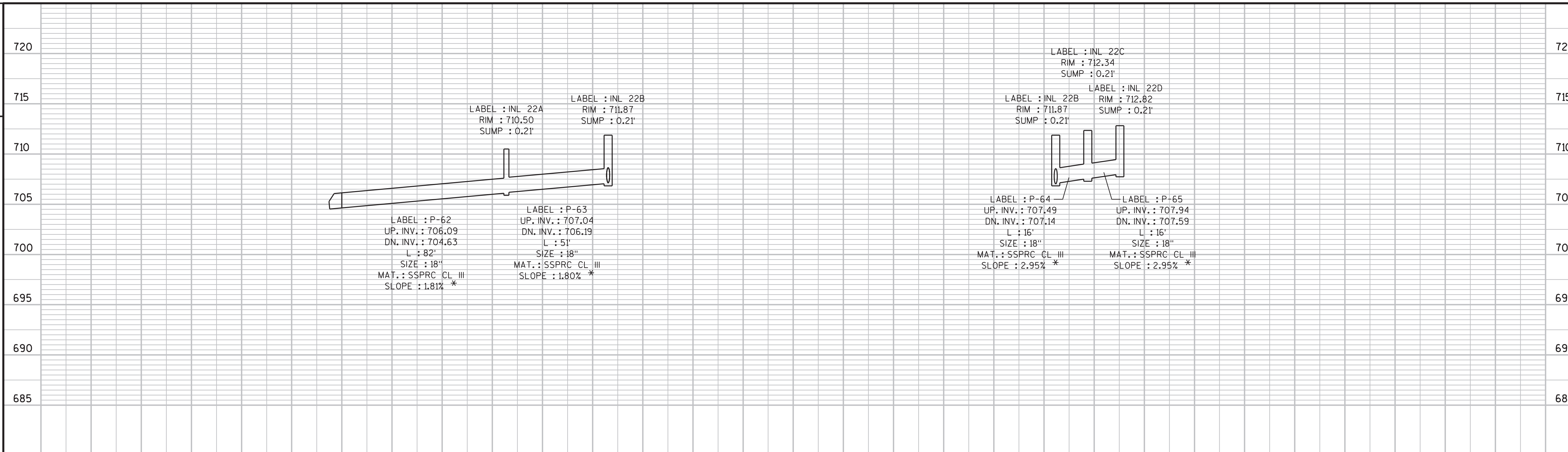


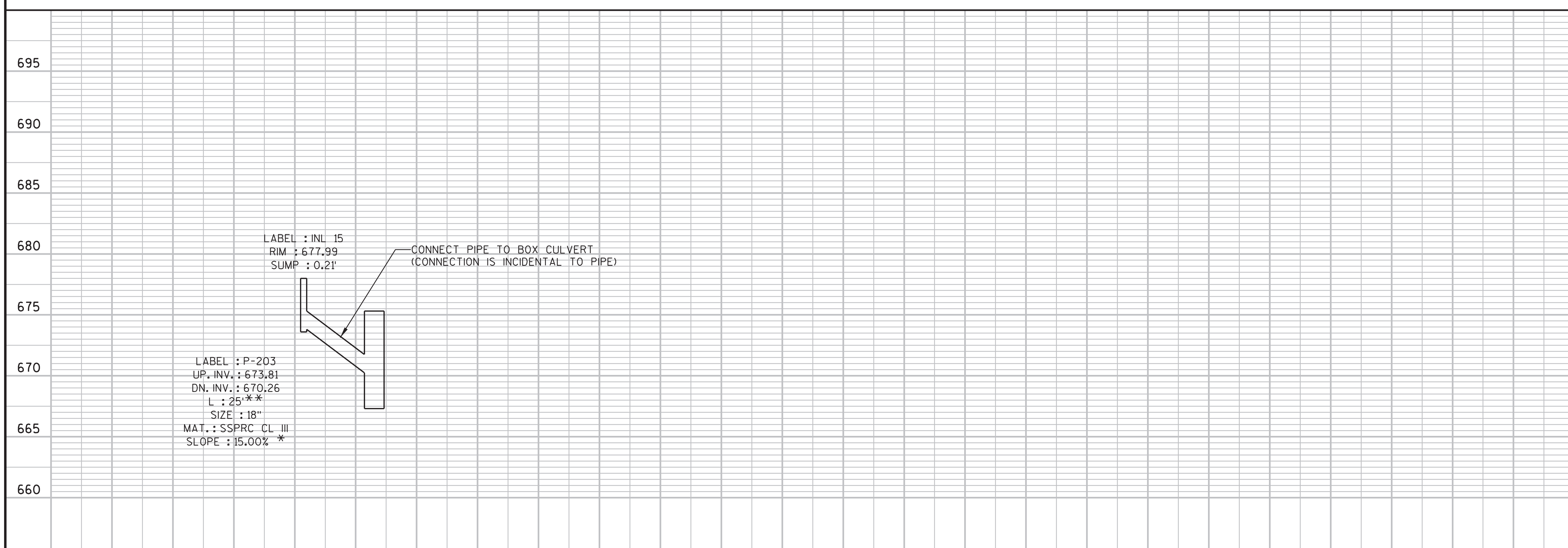
PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	STORM SEWER	SHEET 86	E



PROJECT NO:1661-05-78	HWY:USH 18	COUNTY:CRAWFORD	STORM SEWER PROFILES	SHEET 87	E

2





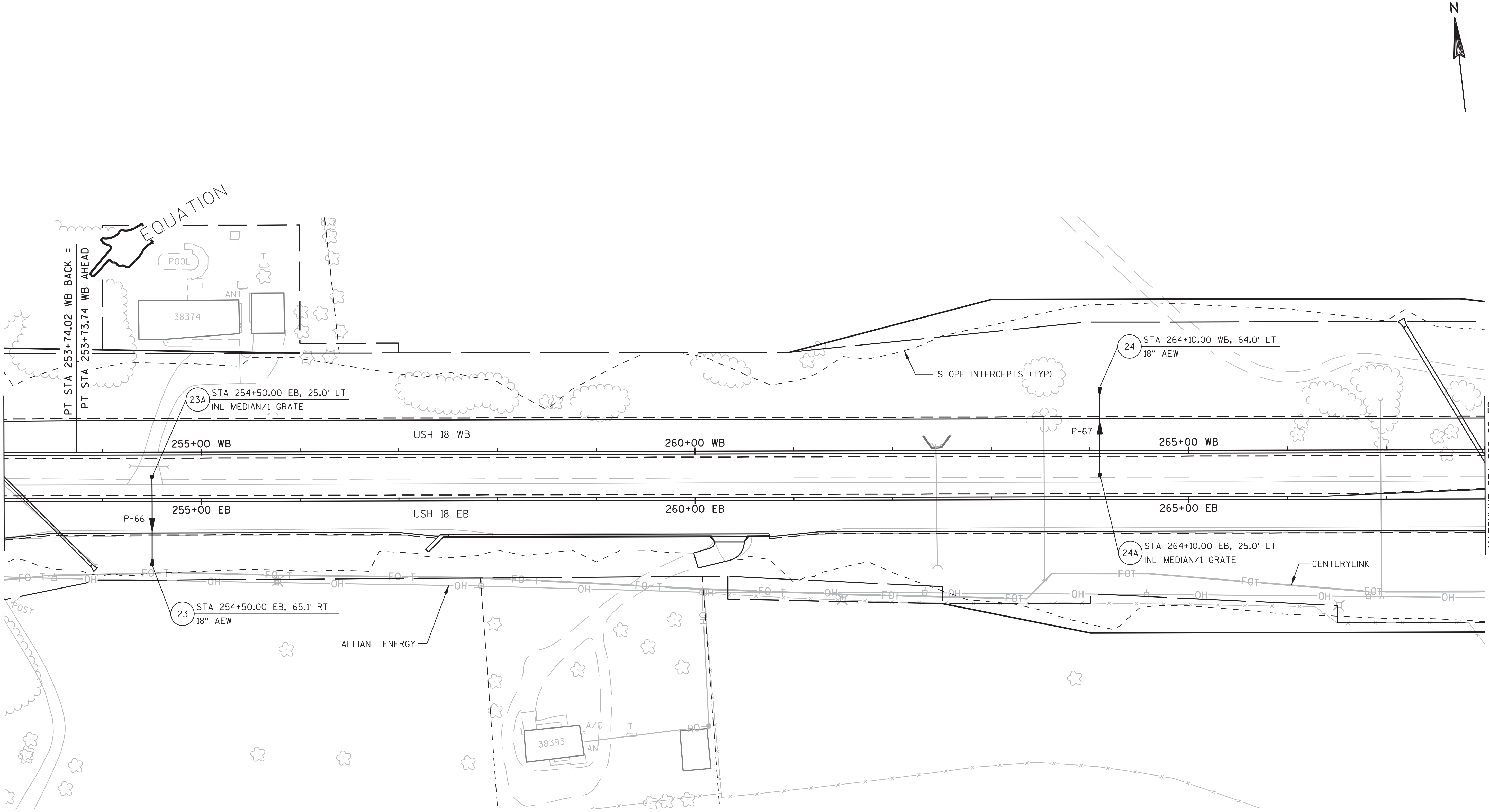
NOTES

* GRADES COMPUTED FROM OUTSIDE OF STRUCTURE TO OUTSIDE OF STRUCTURE

** PIPE QUANTITY IS MEASURED FROM CENTER OF INLET TO INSIDE WALL OF BOX CULVERT

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	STORM SEWER PROFILES	SHEET 88	E

2

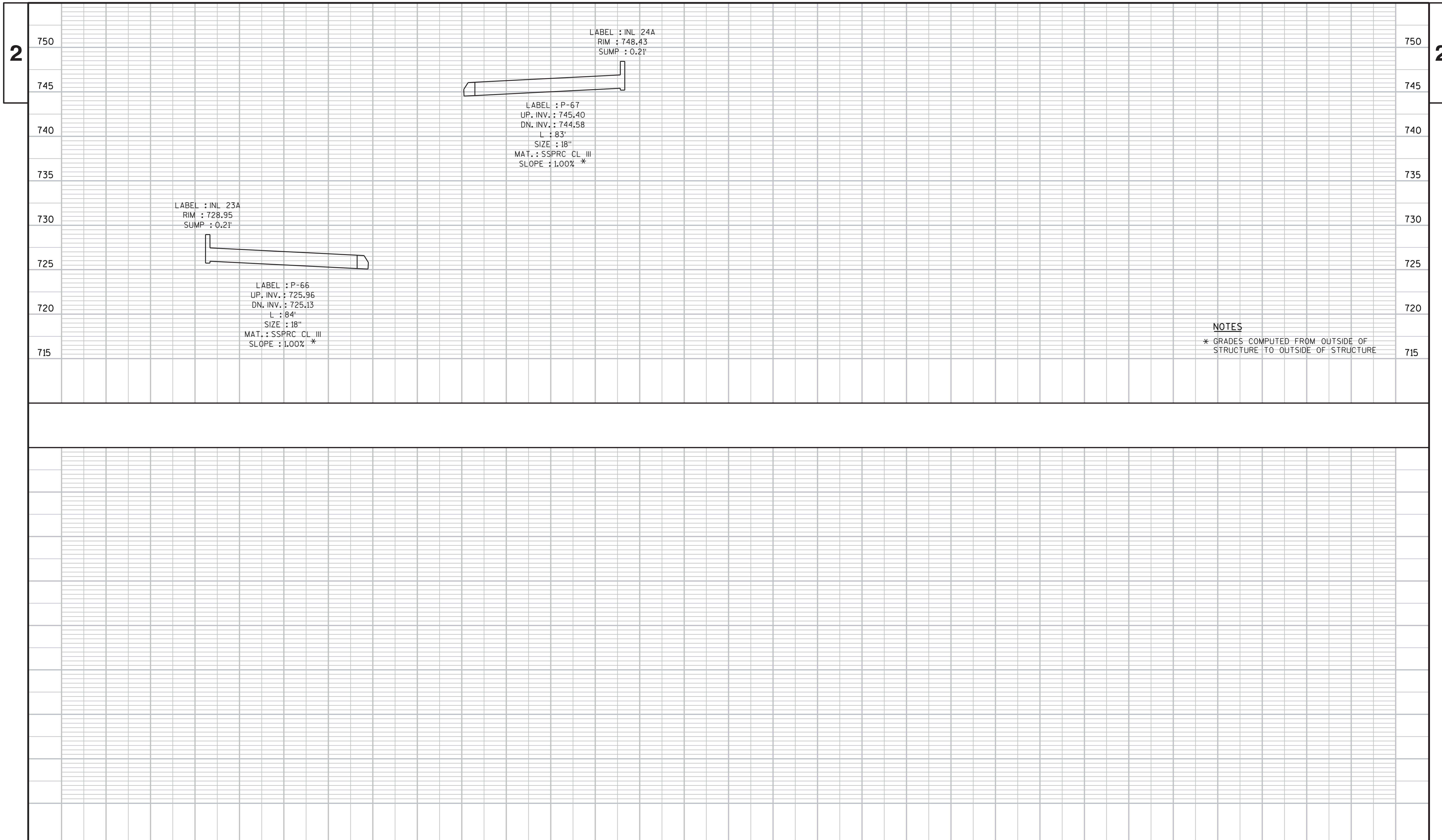


2

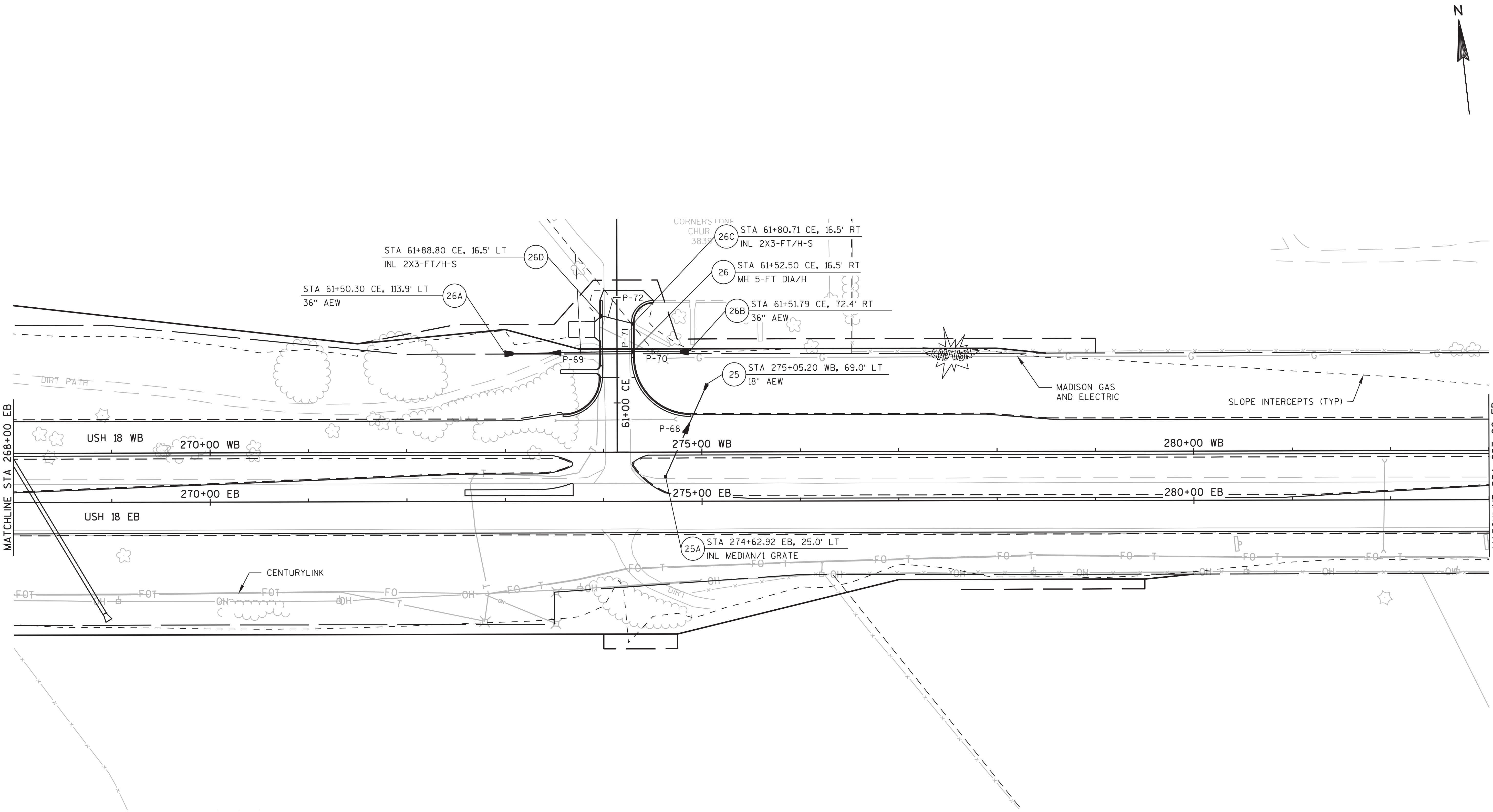
PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	STORM SEWER	SHEET 89	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SSUSH18.DWG

SHEET NAME: 024505SS

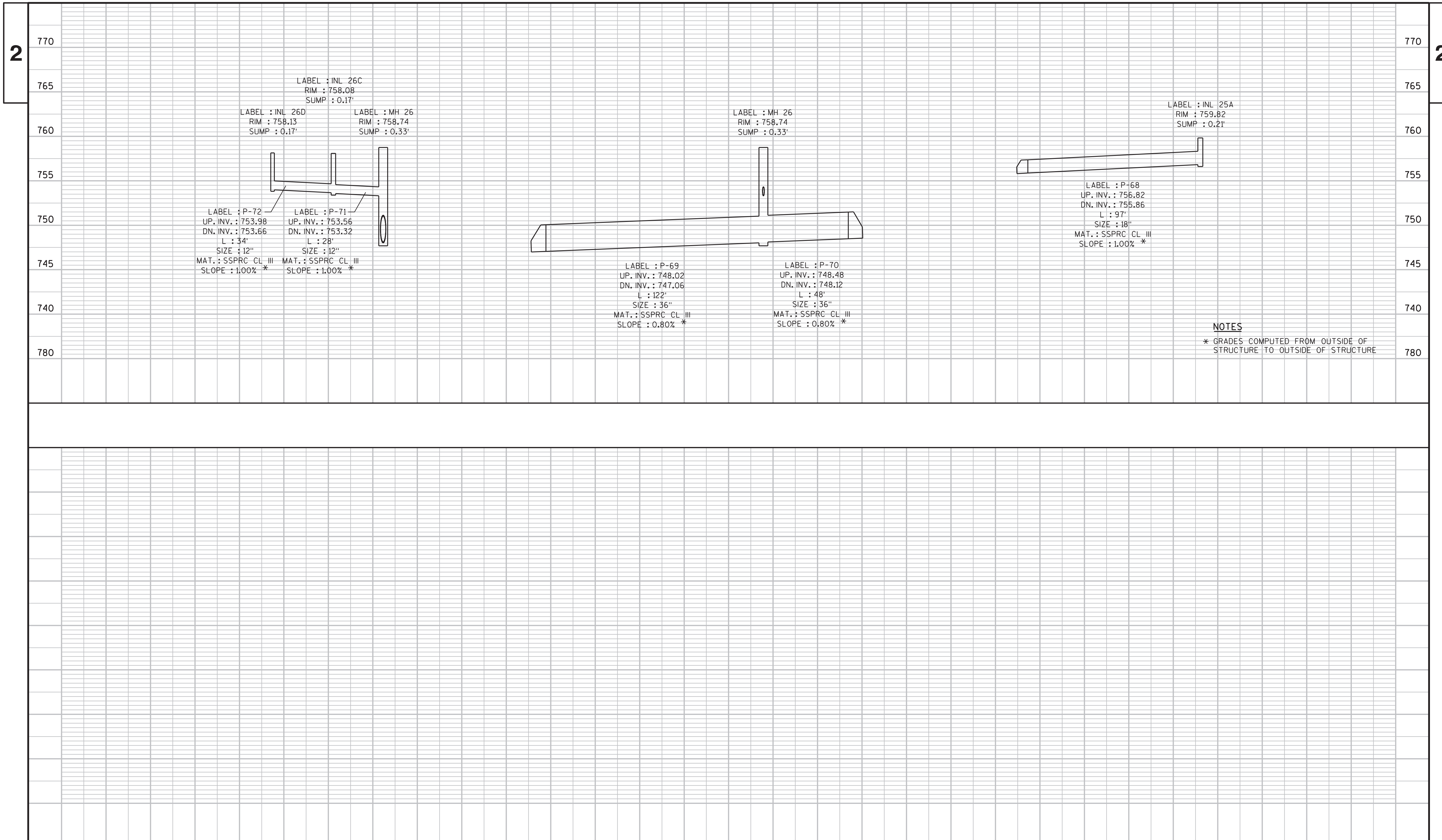


PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	STORM SEWER PROFILES	SHEET 90	E



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	STORM SEWER	SHEET 91	E

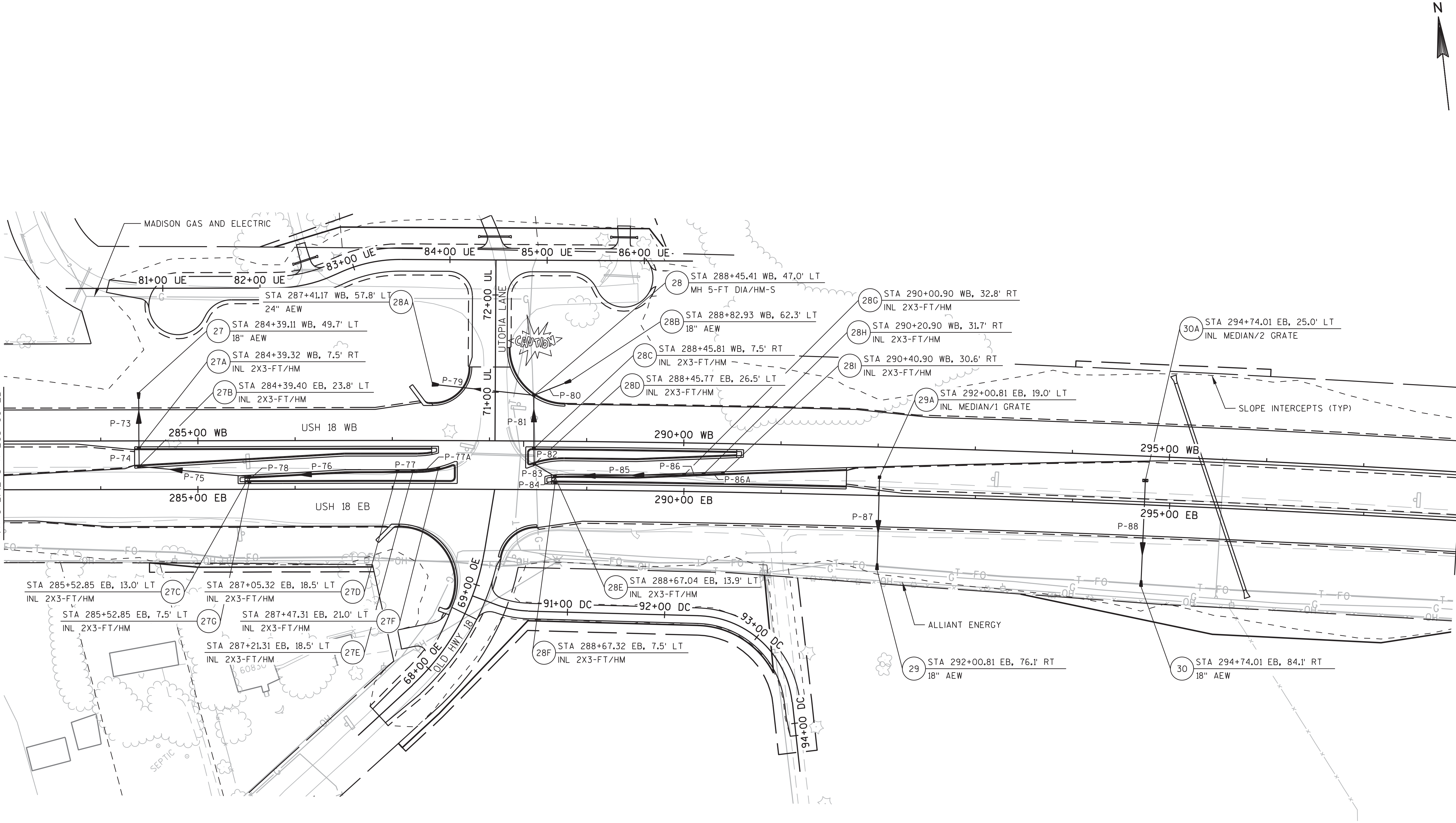
FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SSUSH18.DWG
SHEET NAME: 024506SS



PROJECT NO:1661-05-78	HWY:USH 18	COUNTY:CRAWFORD	STORM SEWER PROFILES	SHEET 92	E

FILE NAME : P:\WIDOT\12005 - USH 18\CAD\SSUSH1806A.dgn PLOT DATE : 7/2/2015 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 41

2



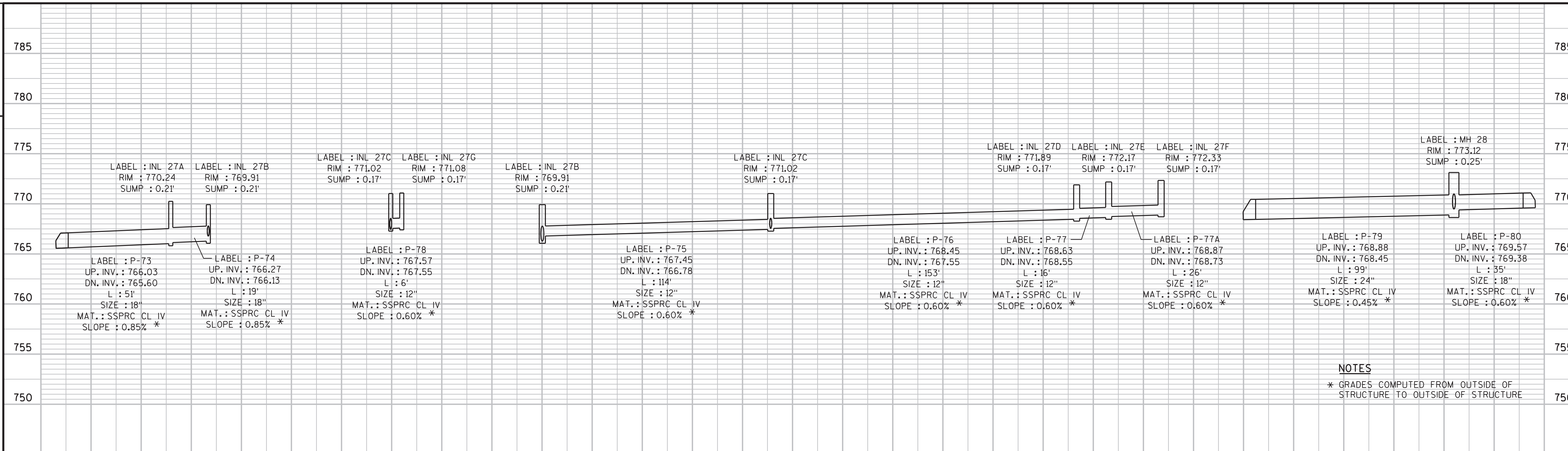
2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	STORM SEWER	SHEET 93	E

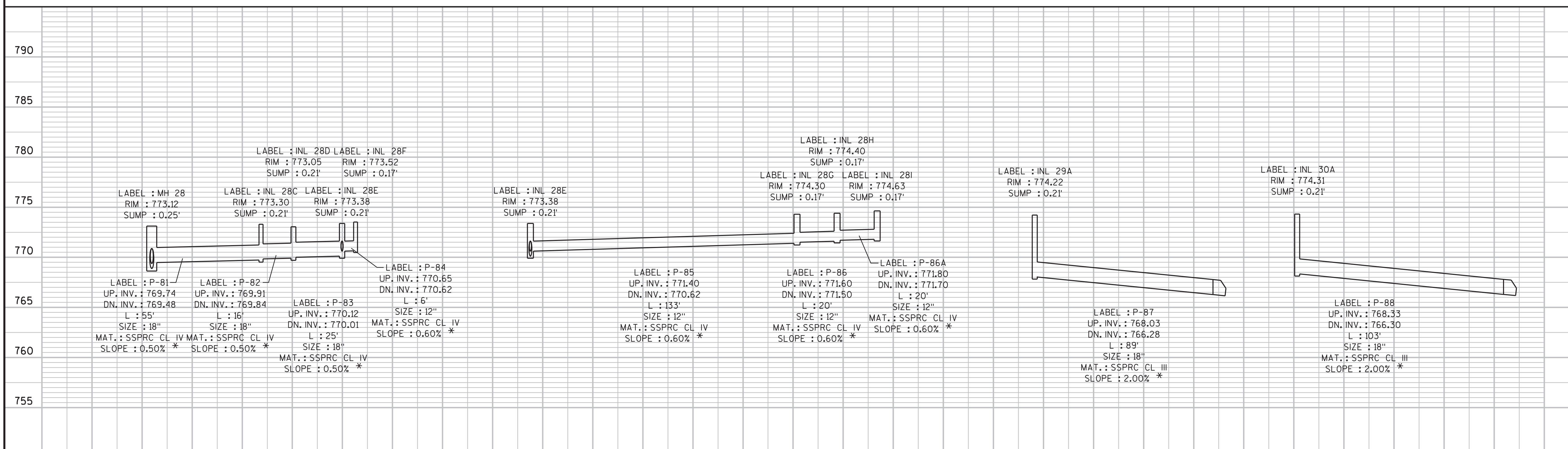
FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SSUSH18.DWG

SHEET NAME: 024507SS

2

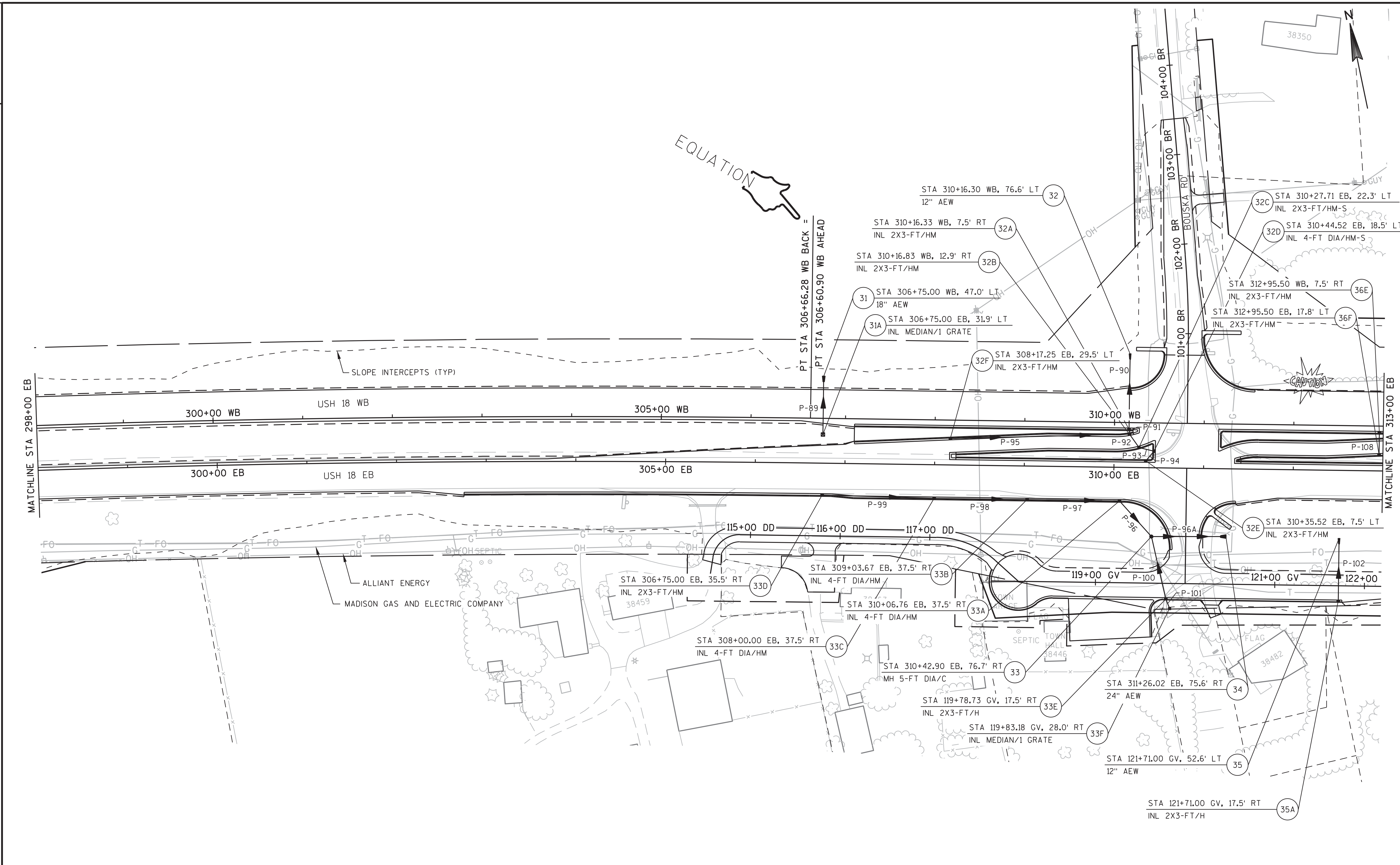


2



PROJECT NO:1661-05-78	HWY:USH 18	COUNTY:CRAWFORD	STORM SEWER PROFILES	SHEET 94	E

2

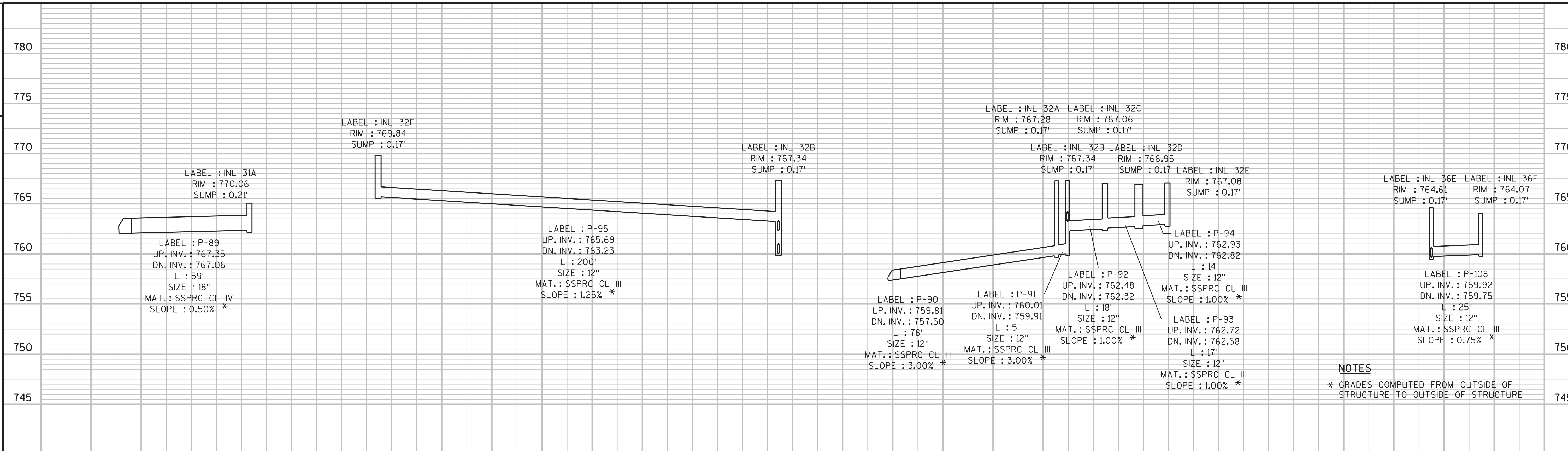


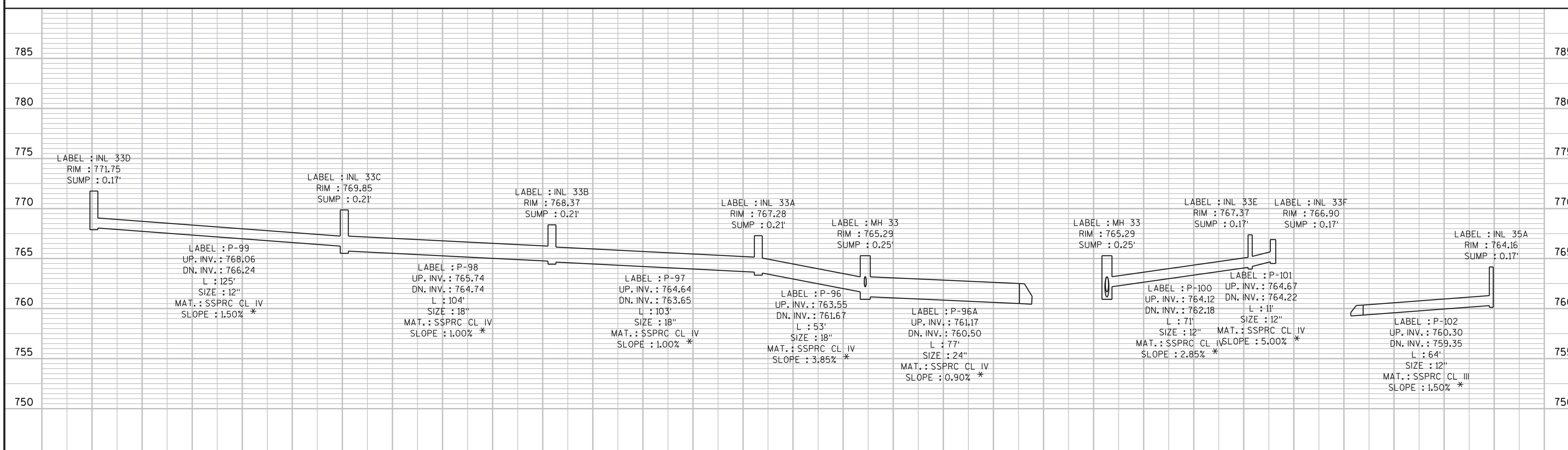
2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	STORM SEWER	SHEET 95	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SSUSH18.DWG
SHEET NAME: 024508SS

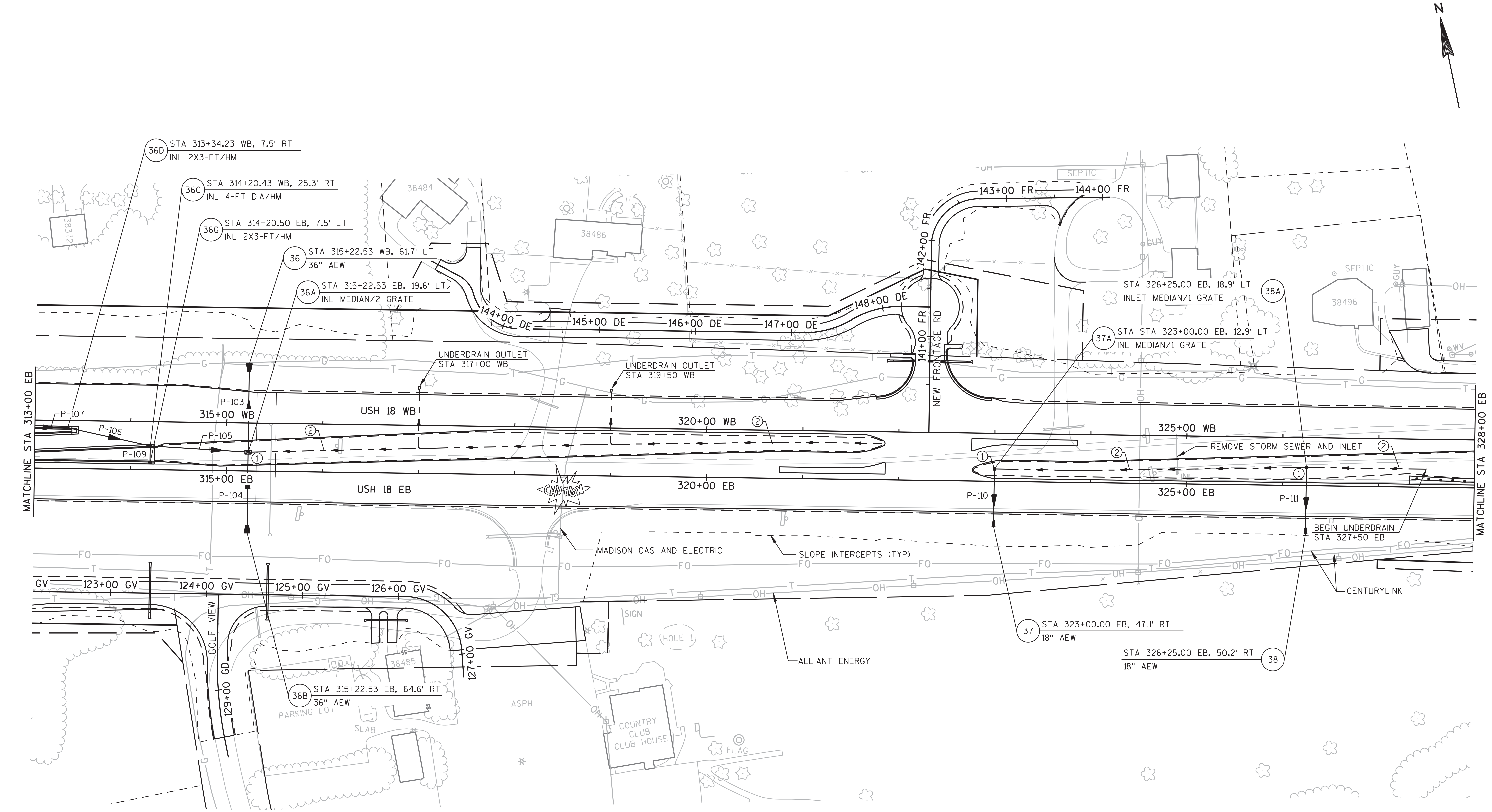
2





PROJECT NO:1661-05-78	HWY:USH 18	COUNTY:CRAWFORD	STORM SEWER PROFILES	SHEET 96	E

2



2

LEGEND

PIPE UNDERDRAIN

NOTES:

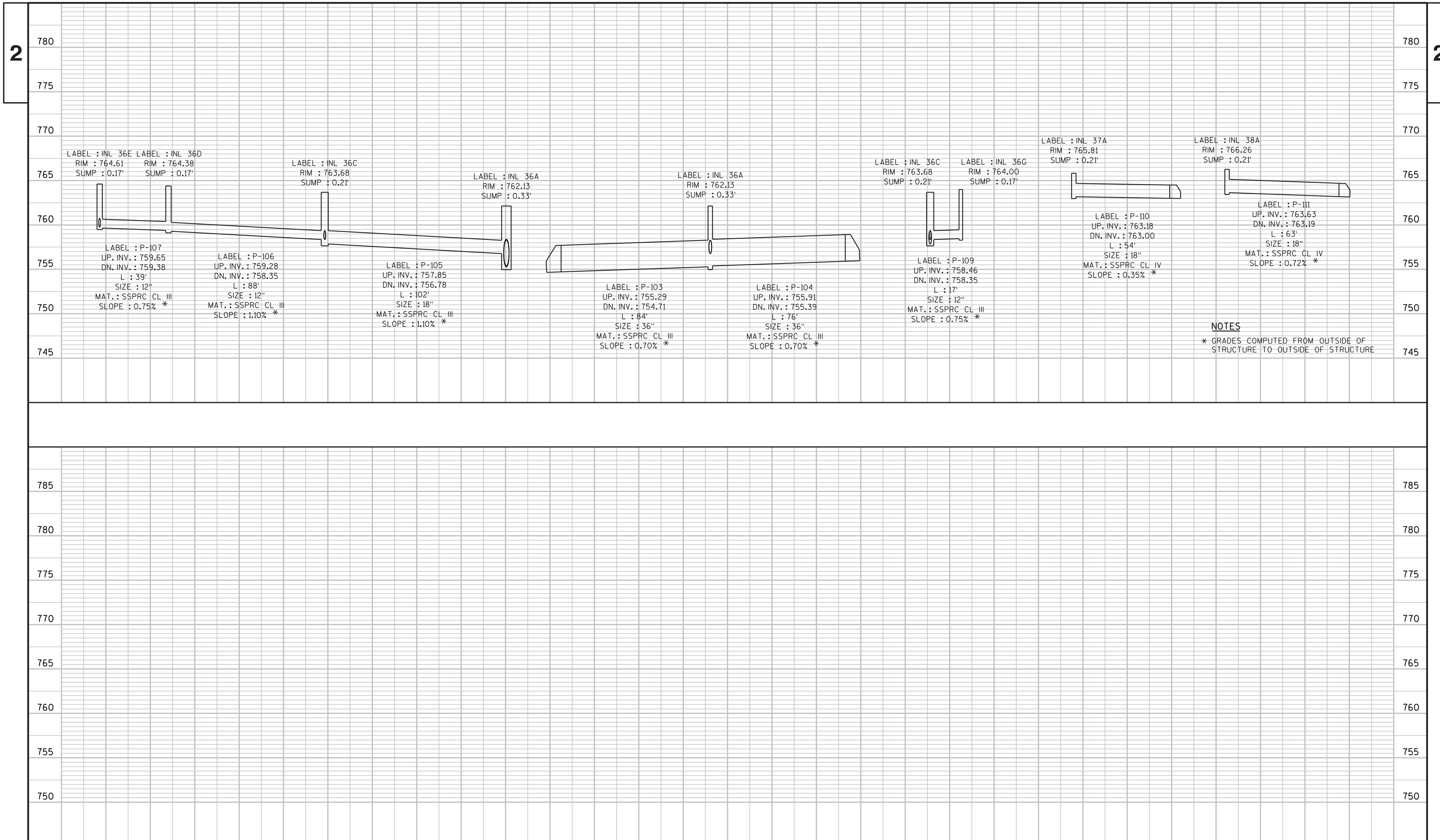
① CONNECT UNDERDRAIN(S) TO INLET

② UNDERDRAIN LOCATED UNDER CENTER OF MEDIAN

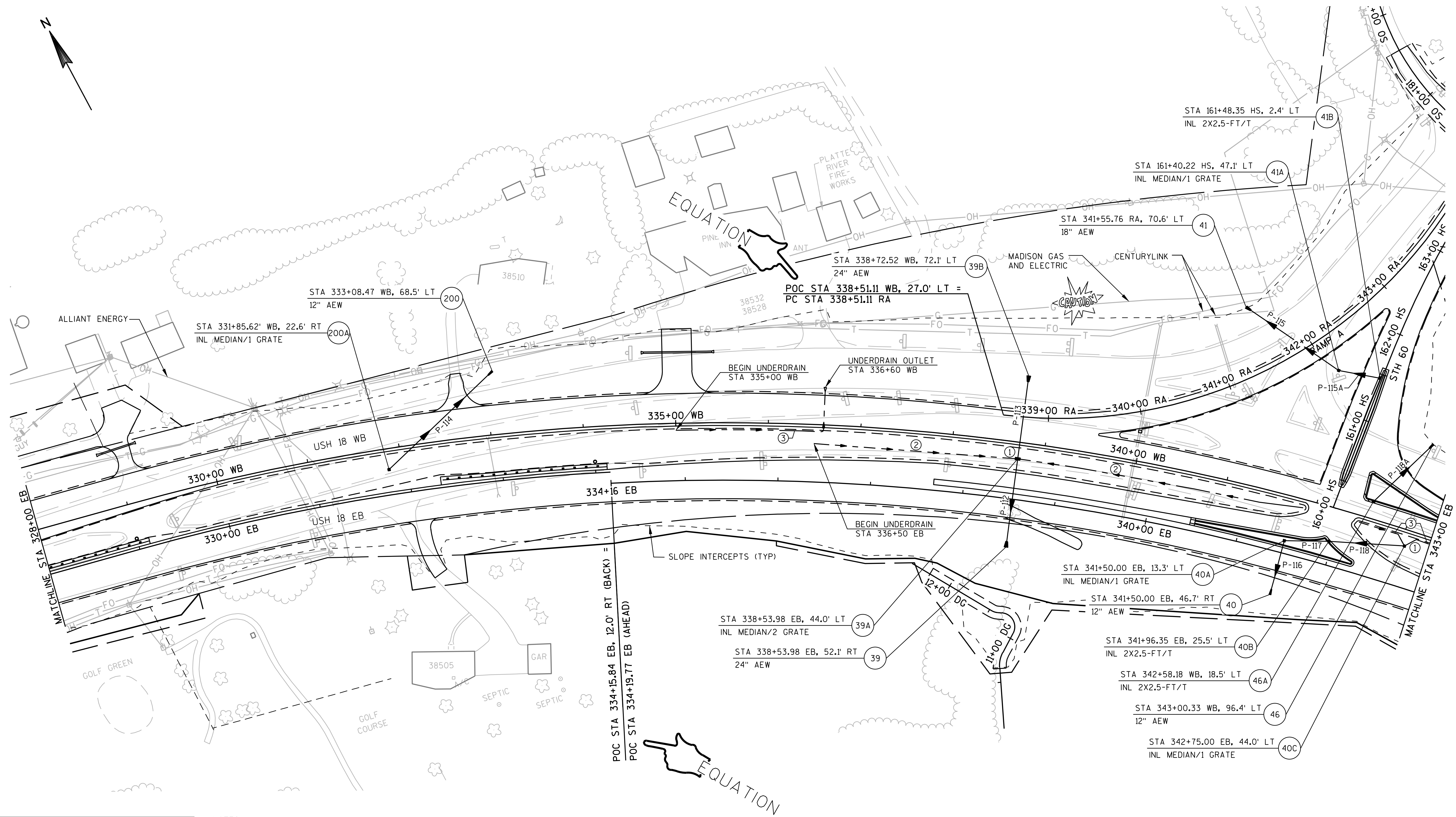
PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	STORM SEWER	SHEET 97	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SSUSH18.DWG

SHEET NAME: 024509SS



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	STORM SEWER PROFILES	SHEET 98	E



LEGEND

PIPE UNDERDRAIN

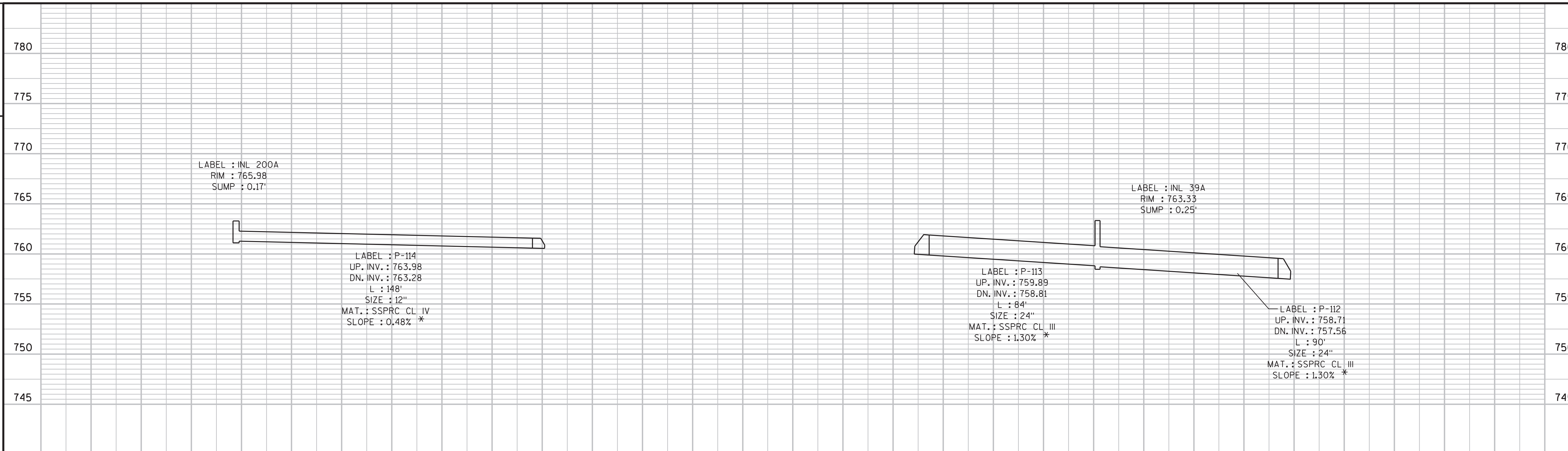
NOTES:

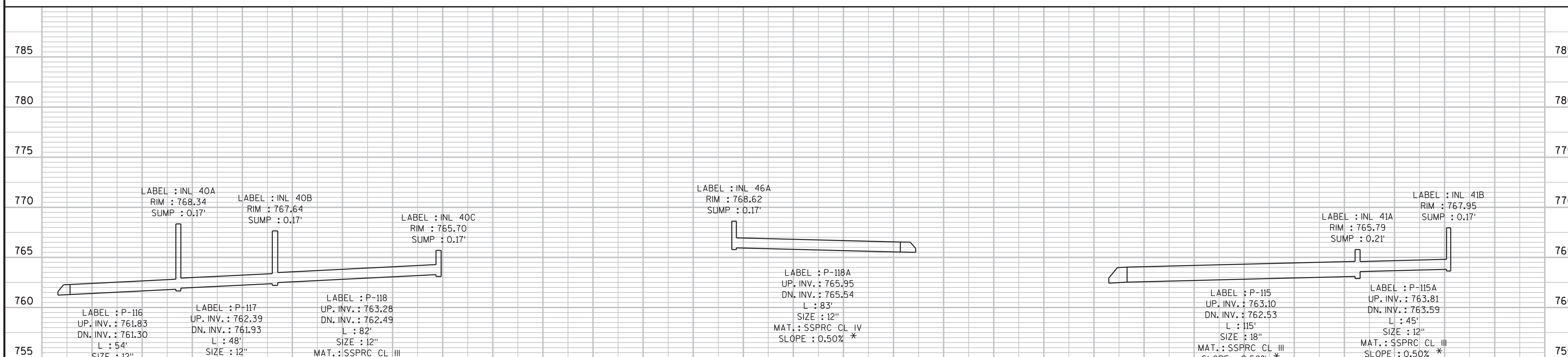
1. CONNECT UNDERDRAIN(S) TO INLET
2. UNDERDRAIN LOCATED UNDER CENTER OF MEDIAN
3. UNDERDRAIN LOCATED UNDER WB SHOULDER

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	STORM SEWER	SHEET 99	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SSUSH18.DWG

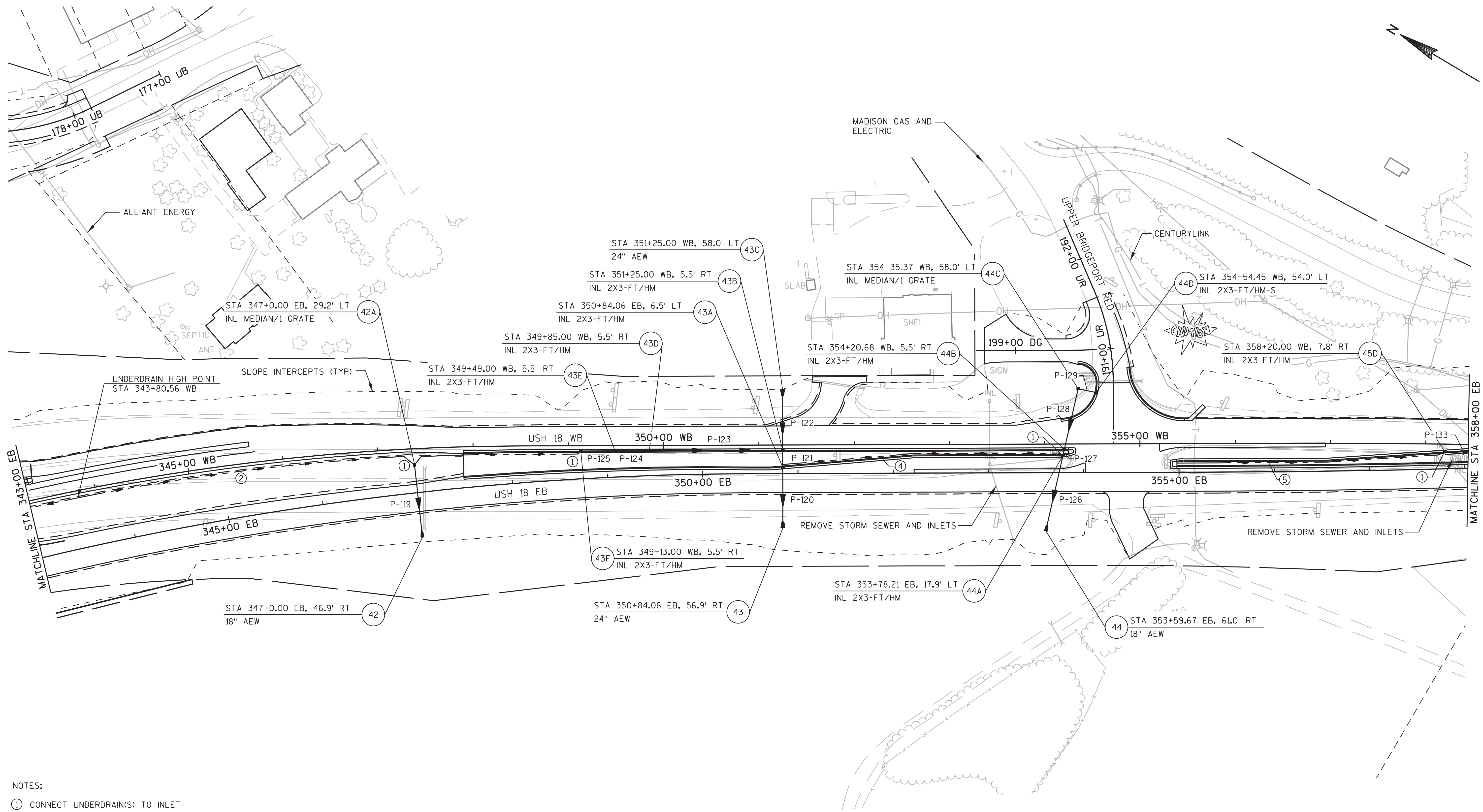
SHEET NAME: 024510SS





NOTES

* GRADES COMPUTED FROM OUTSIDE OF STRUCTURE TO OUTSIDE OF STRUCTURE



NOTES:

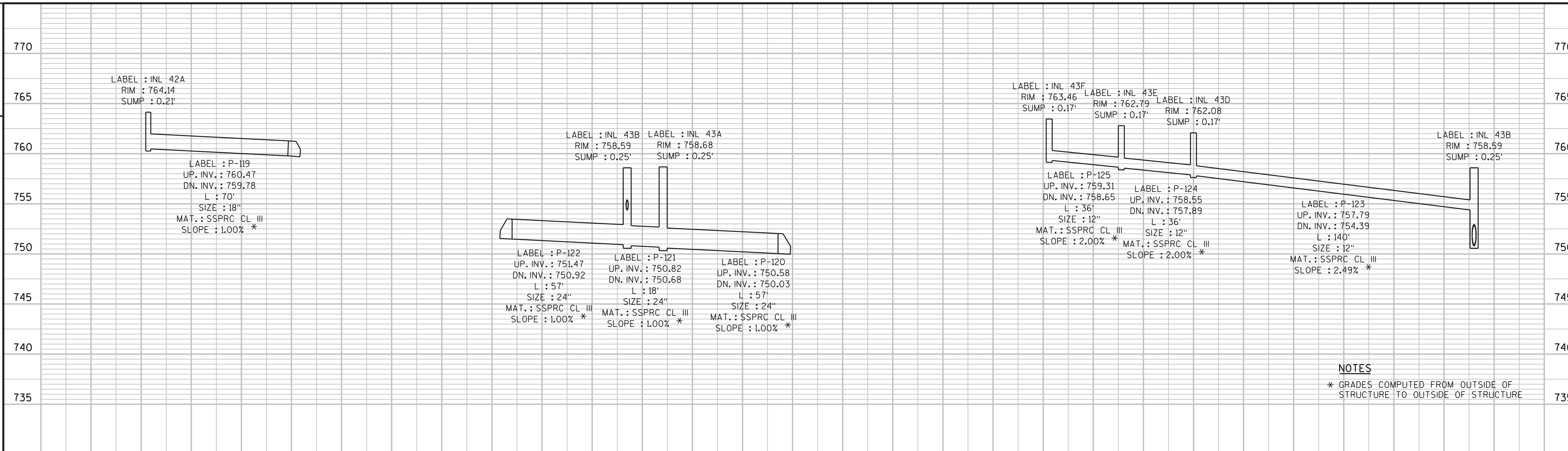
1. CONNECT UNDERDRAIN(S) TO INLET
2. UNDERDRAIN LOCATED UNDER WB SHOULDER
3. UNDERDRAIN LOCATED UNDER WB CURB & GUTTER
4. UNDERDRAIN LOCATED UNDER EB LEFT TURN LANE CURB & GUTTER
5. UNDERDRAIN LOCATED UNDER WB LEFT TURN LANE CURB & GUTTER

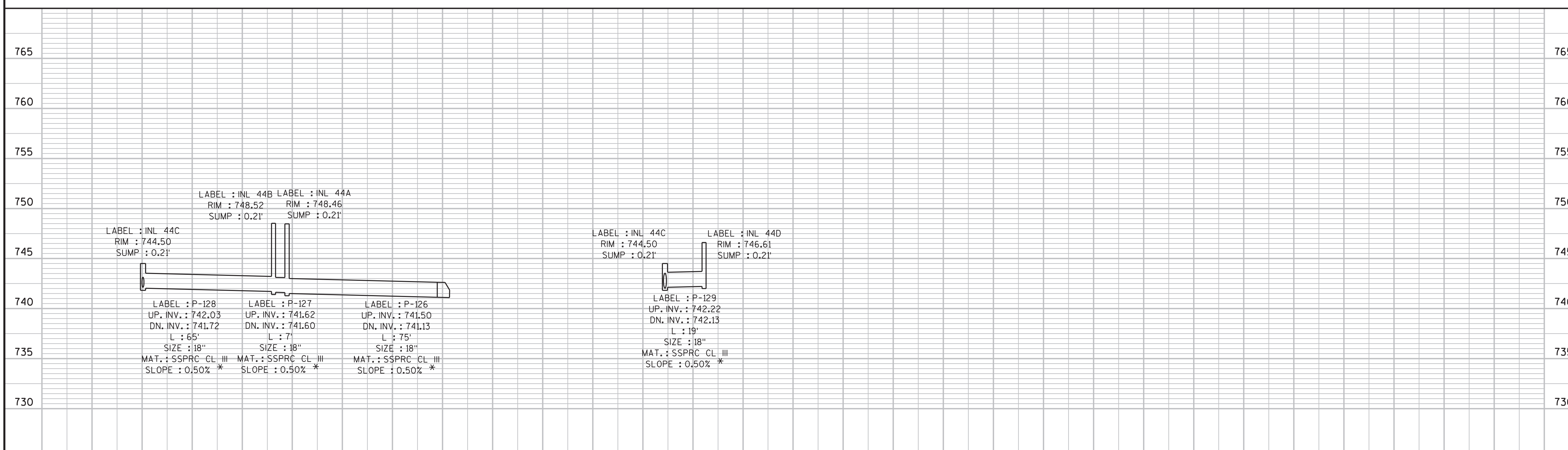
LEGEND	
— — ➤ — —	PIPE UNDERDRAIN

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	STORM SEWER	SHEET	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SSUSH18.DWG

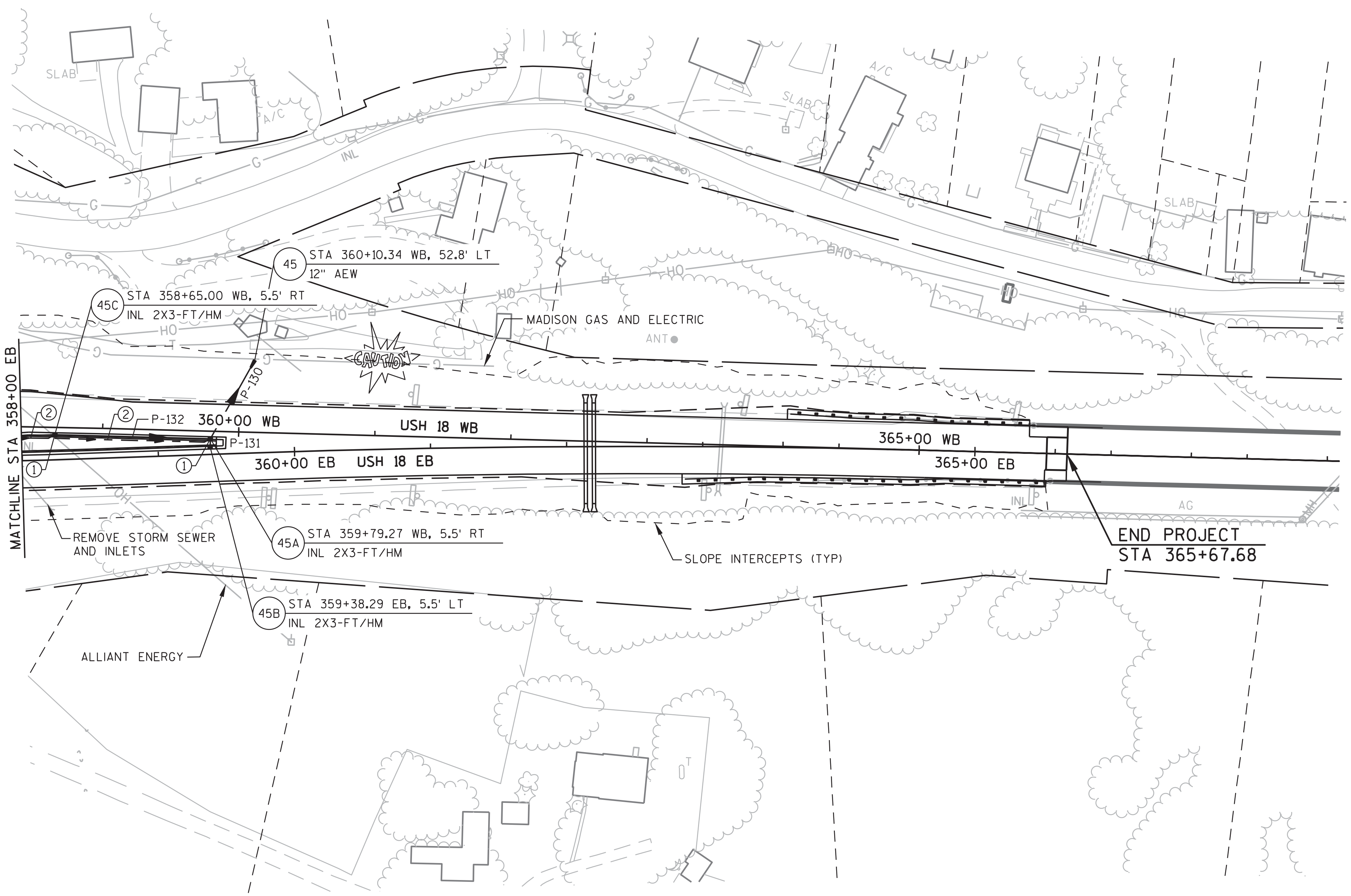
SHEET NAME: 024511SS





PROJECT NO:1661-05-78	HWY:USH 18	COUNTY:CRAWFORD	STORM SEWER PROFILES	SHEET 102	E

2



LEGEND

PIPE UNDERDRAIN

NOTES:

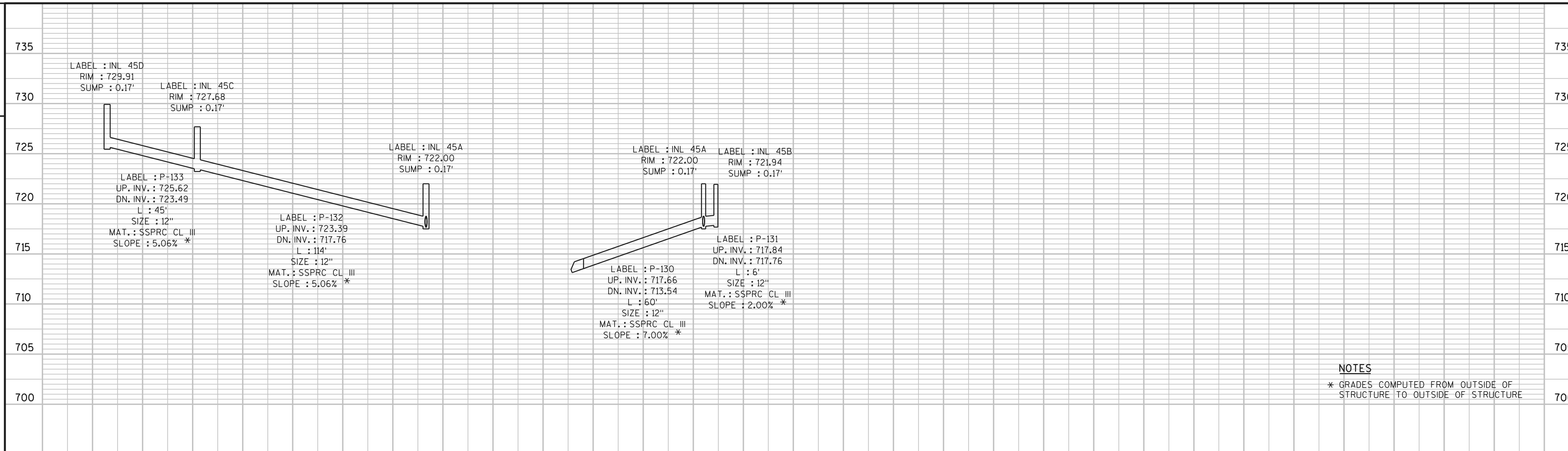
1. CONNECT UNDERDRAIN(S) TO INLET
2. UNDERDRAIN LOCATED UNDER WB CURB & GUTTER

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	STORM SEWER	SHEET 103	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SSUSH18.DWG

SHEET NAME: 024512SS

2

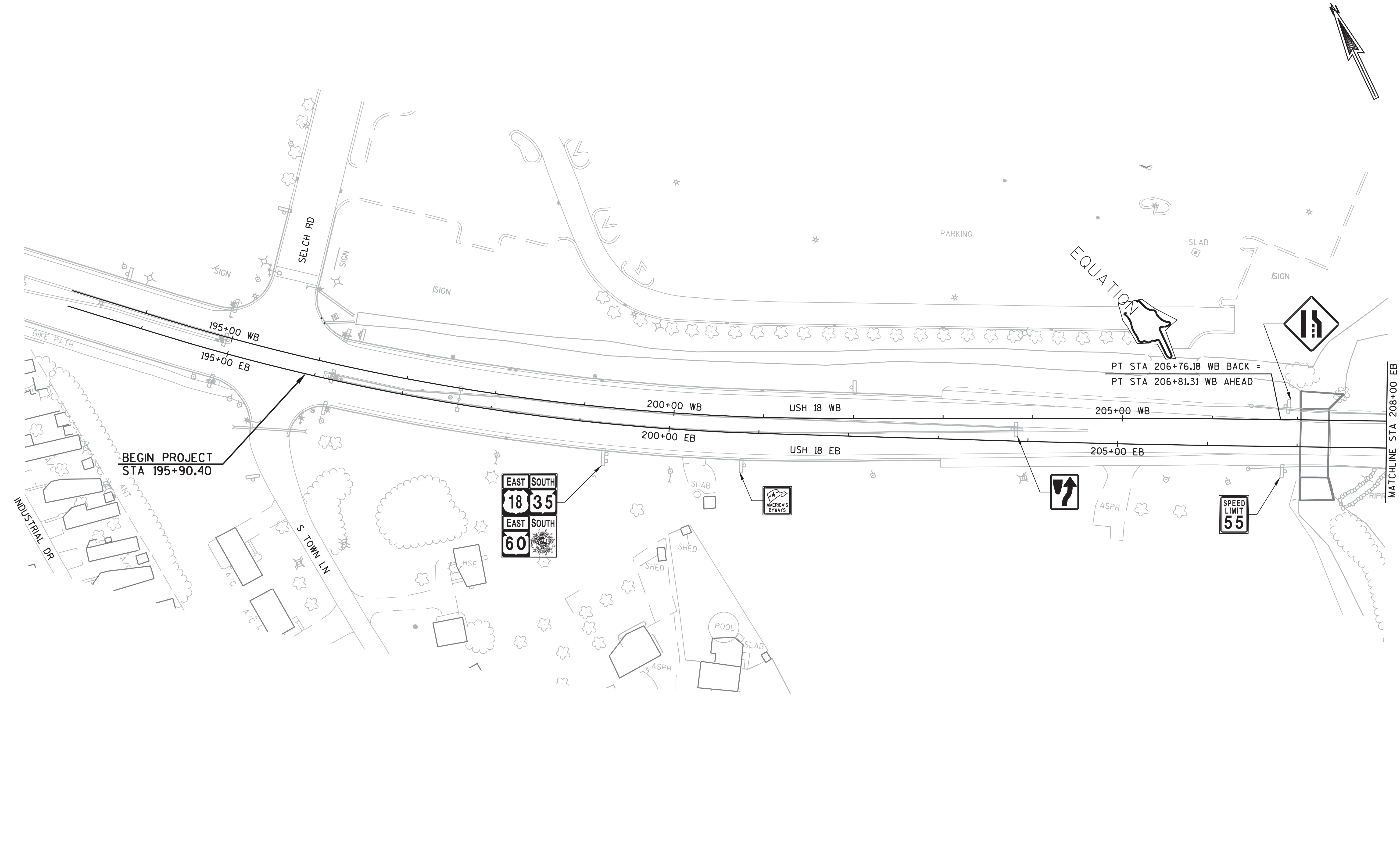


2

PROJECT NO:1661-05-78	HWY:USH 18	COUNTY:CRAWFORD	STORM SEWER PROFILES	SHEET 104	E

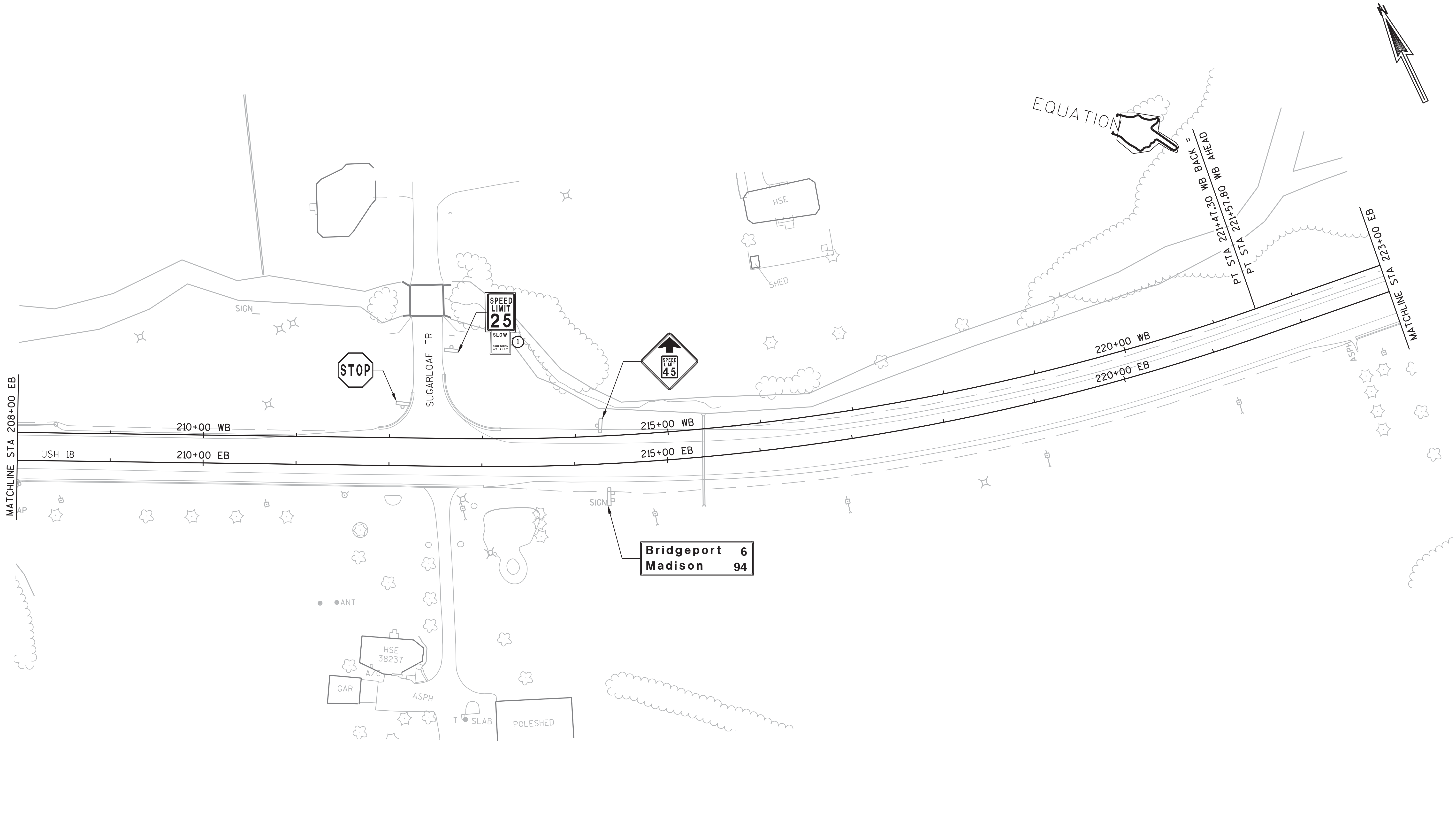
FILE NAME : P:\WIDOT\12005 - USH 18\CAD\SSUSH18012A.dgn PLOT DATE : 7/2/2015 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 41

2 2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	SIGNING REMOVALS	SHEET 105	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SMUSH18.DWG SHEET NAME: 023201SR



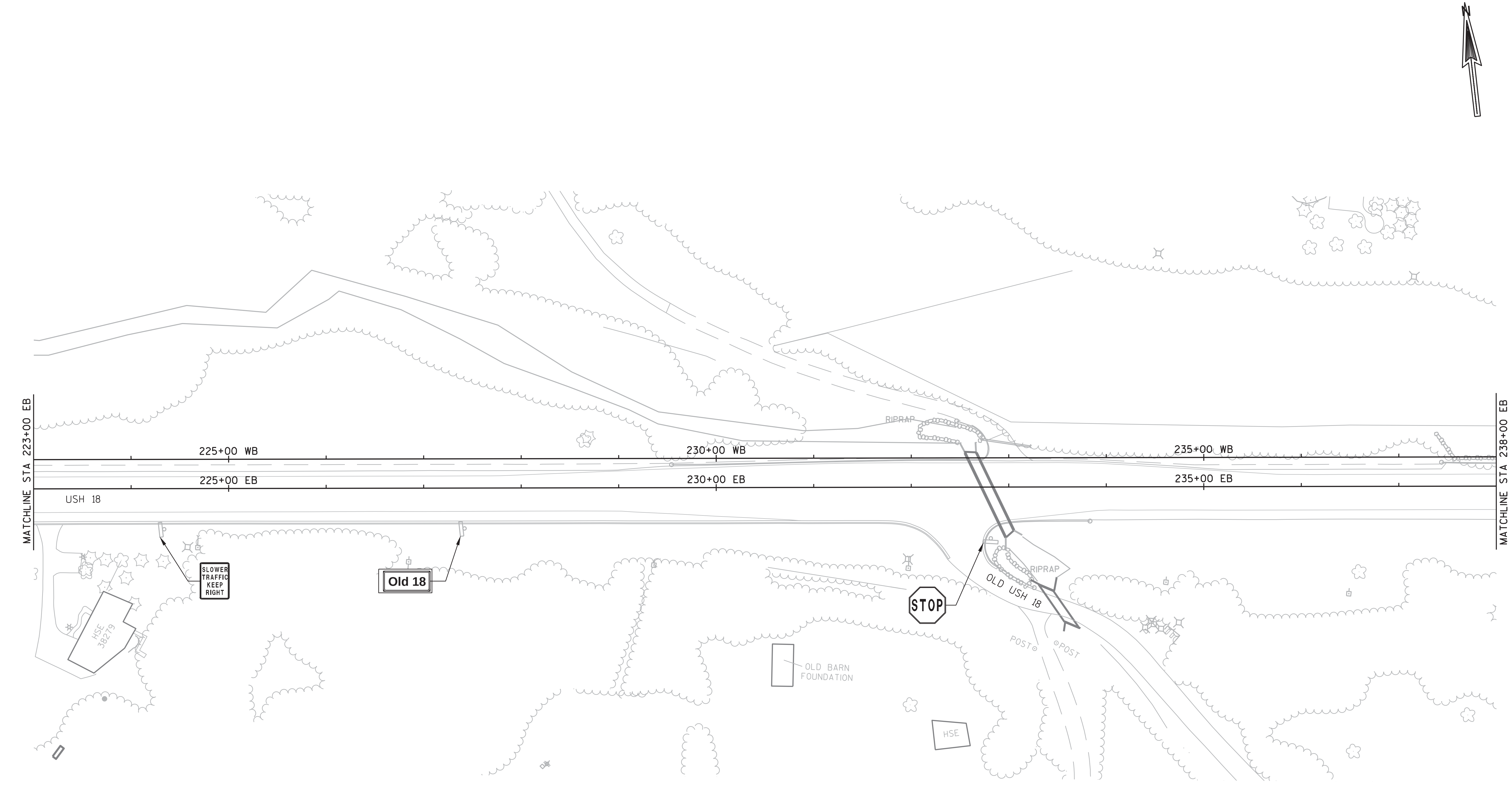
2

SIGN LEGEND

① FOR REFERENCE ONLY. TOWN OWNED SIGNS TO BE REMOVED AND INSTALLED BY TOWN PERSONNEL INCLUDING ANY TOWN OWNED SIGNS NOT SHOWN ON THIS PERMANENT SIGNING

2

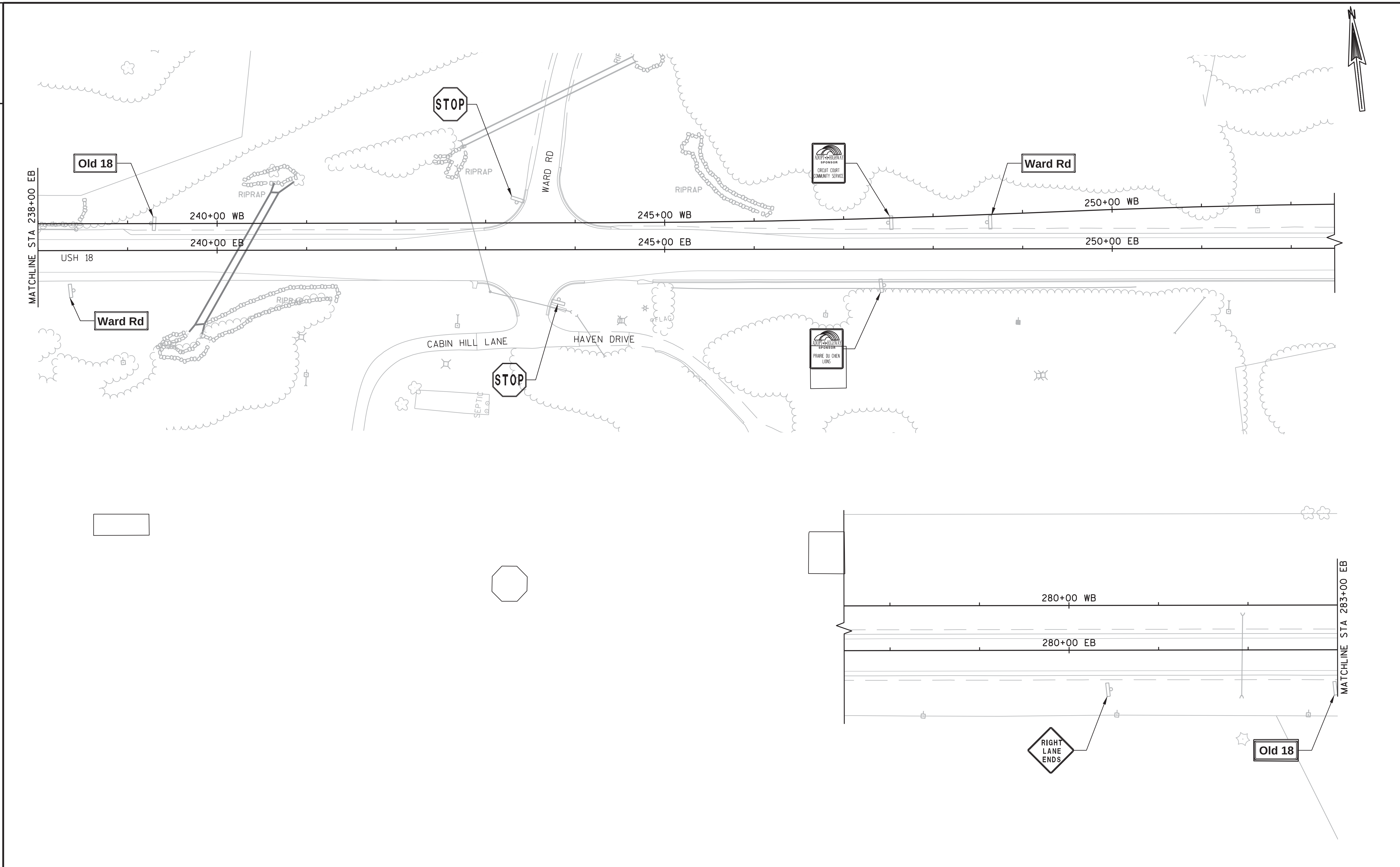
2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	SIGNING REMOVALS	SHEET 107	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SMUSH18.DWG

SHEET NAME: 023203SR

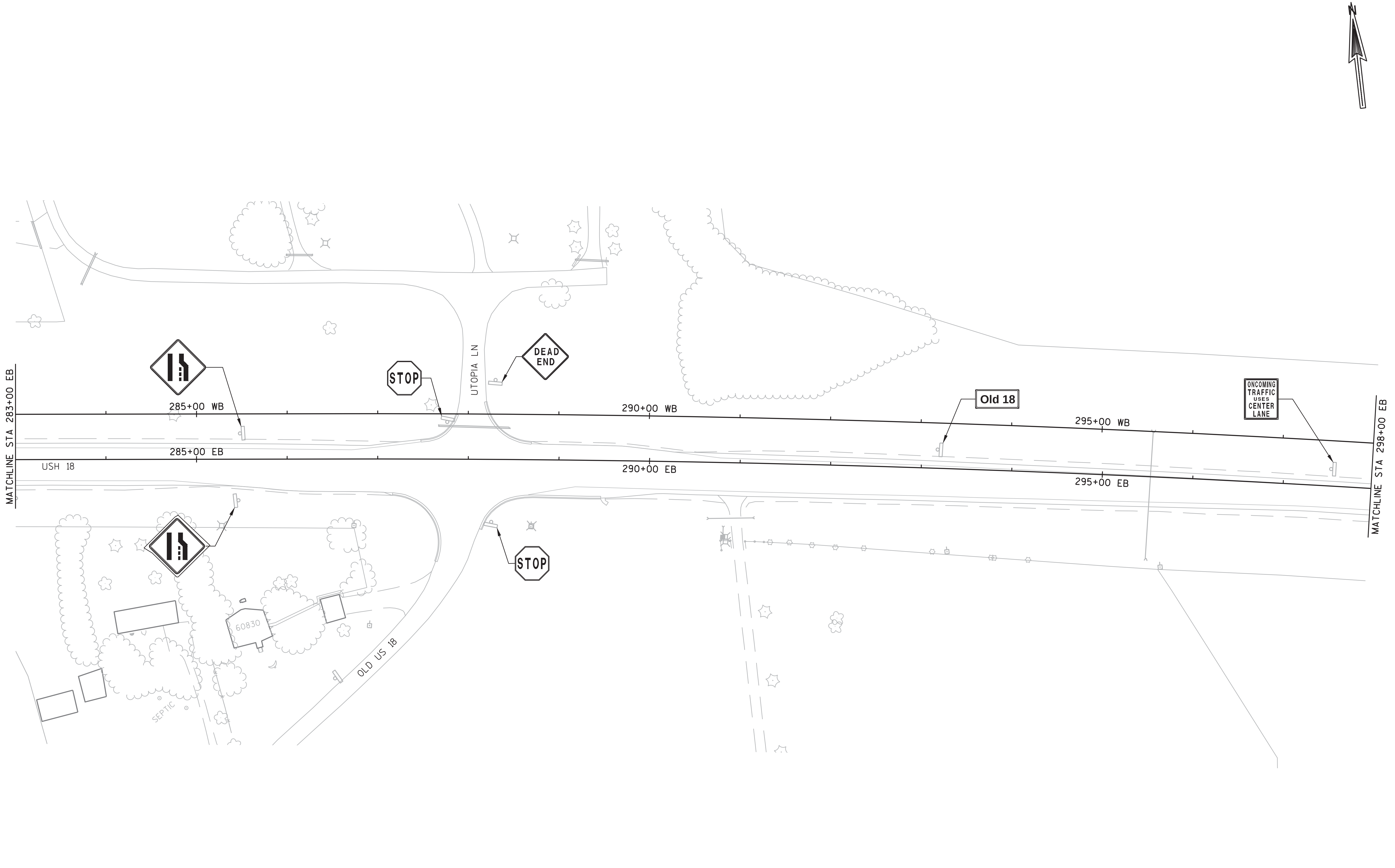


2

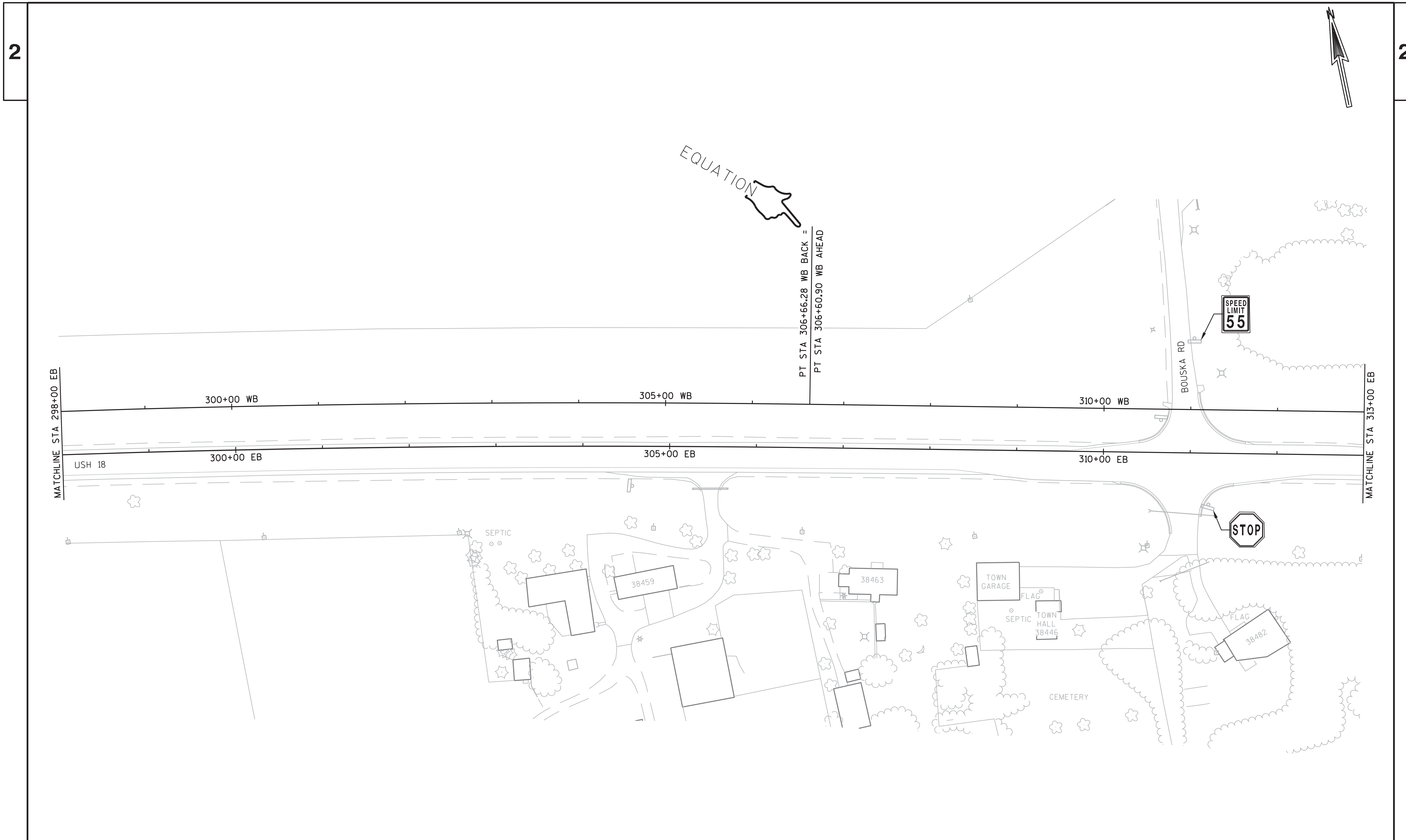
PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	SIGNING REMOVALS	SHEET 108	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SMUSH18.DWG

SHEET NAME: 023204SR



UTOPIA LN
DEAD END
STOP
Old 18
ONCOMING TRAFFIC USES CENTER LANE
285+00 WB
290+00 WB
295+00 WB
285+00 EB
290+00 EB
295+00 EB
USH 18
MATCHLINE STA 283+00 EB
MATCHLINE STA 298+00 EB
STOP
60830
OLD US 18
SEPTIC



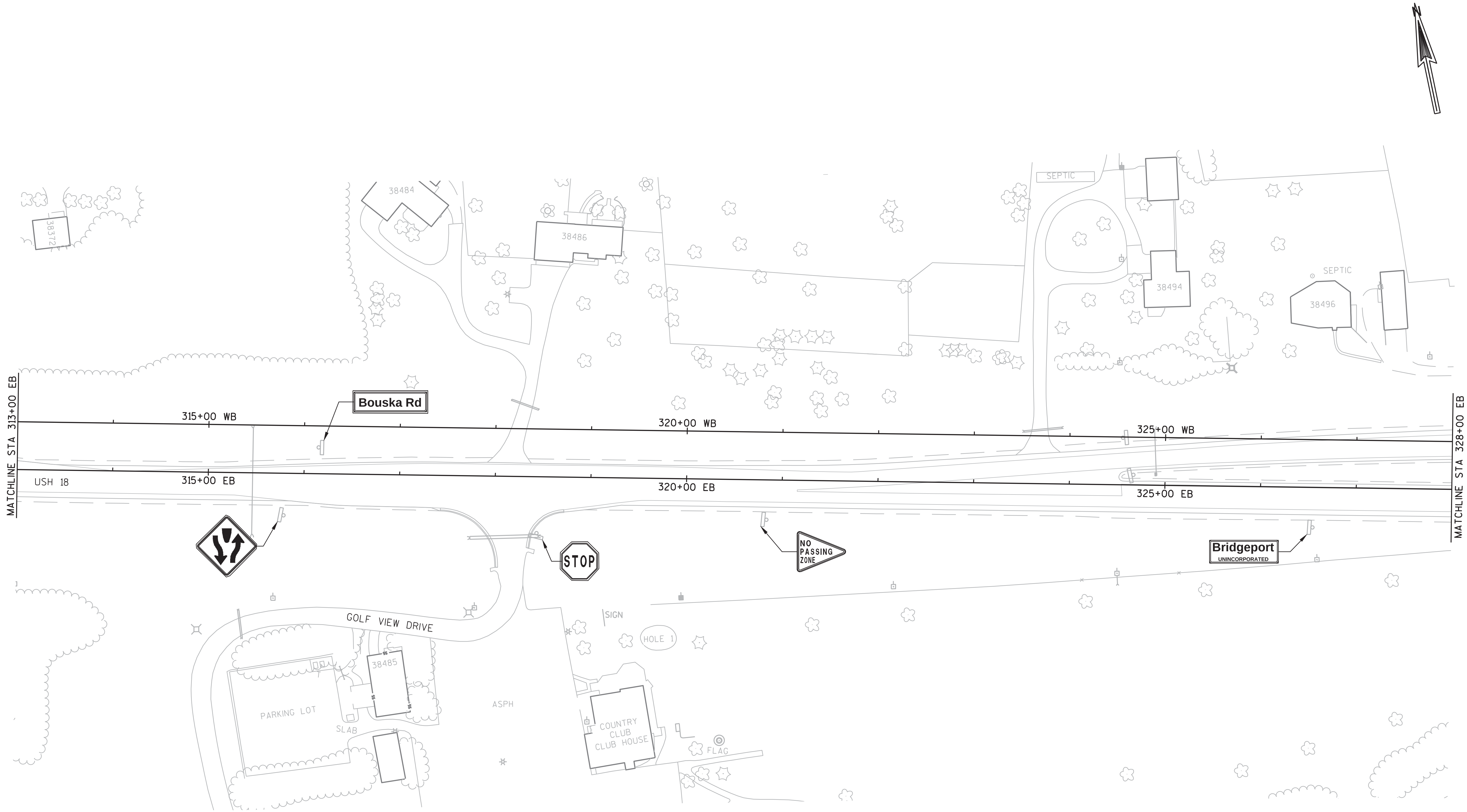
PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	SIGNING REMOVALS	SHEET 110	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SMUSH18.DWG

SHEET NAME: 023208SR

2

2

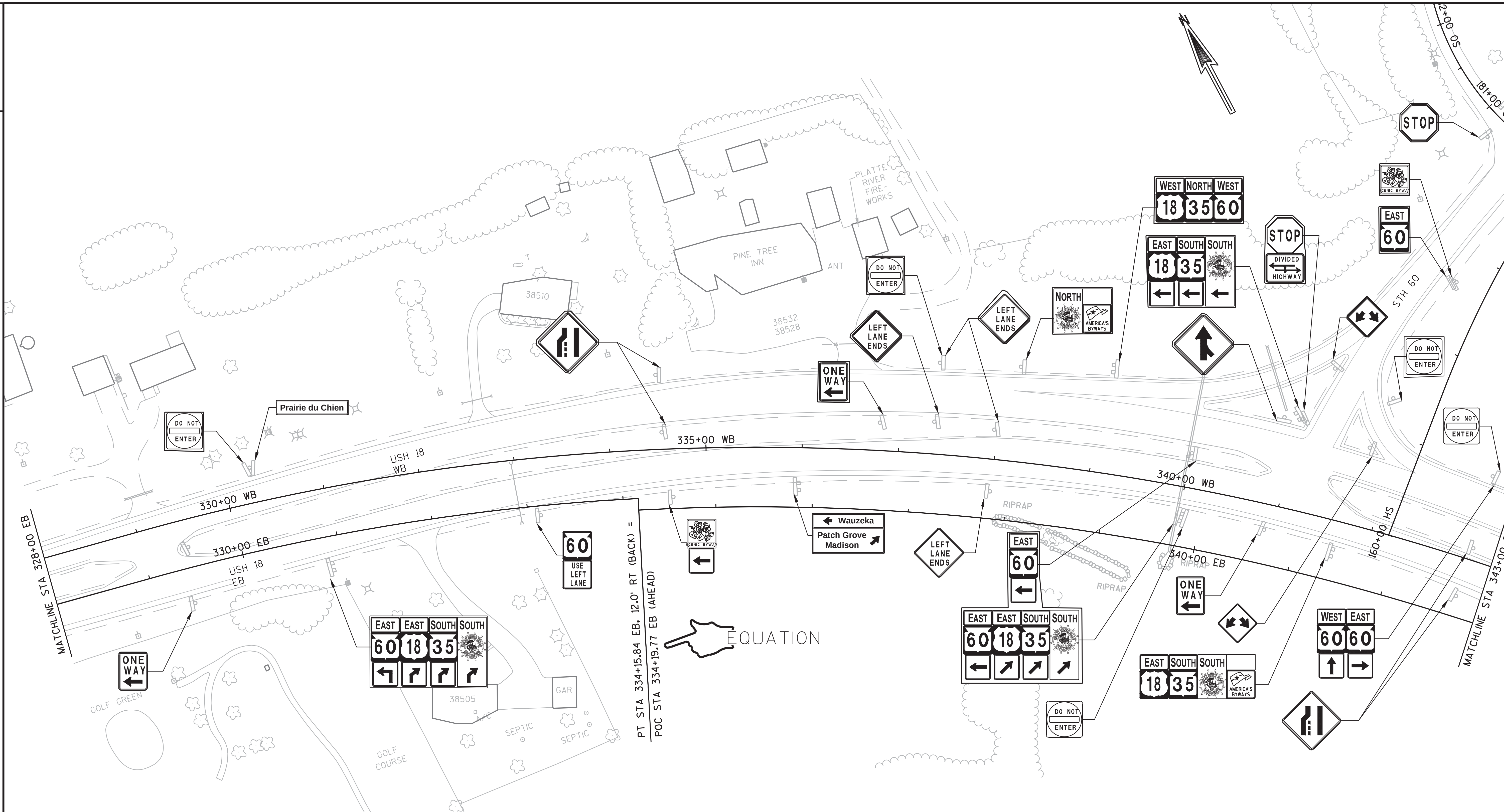


PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	SIGNING REMOVALS	SHEET 111	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SMUSH18.DWG

SHEET NAME: 023209SR

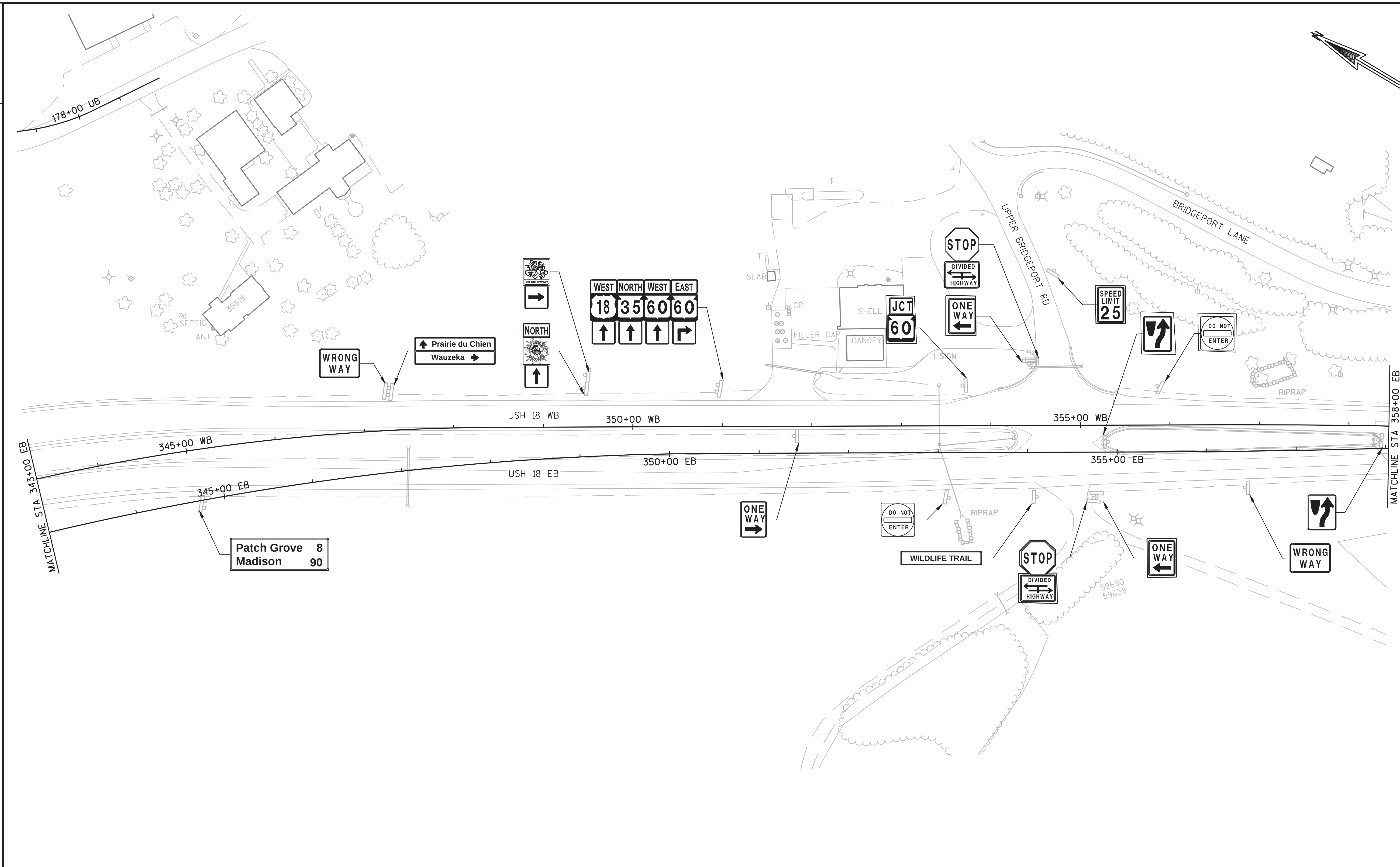
2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	SIGNING REMOVALS	SHEET 112	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SMUSH18.DWG

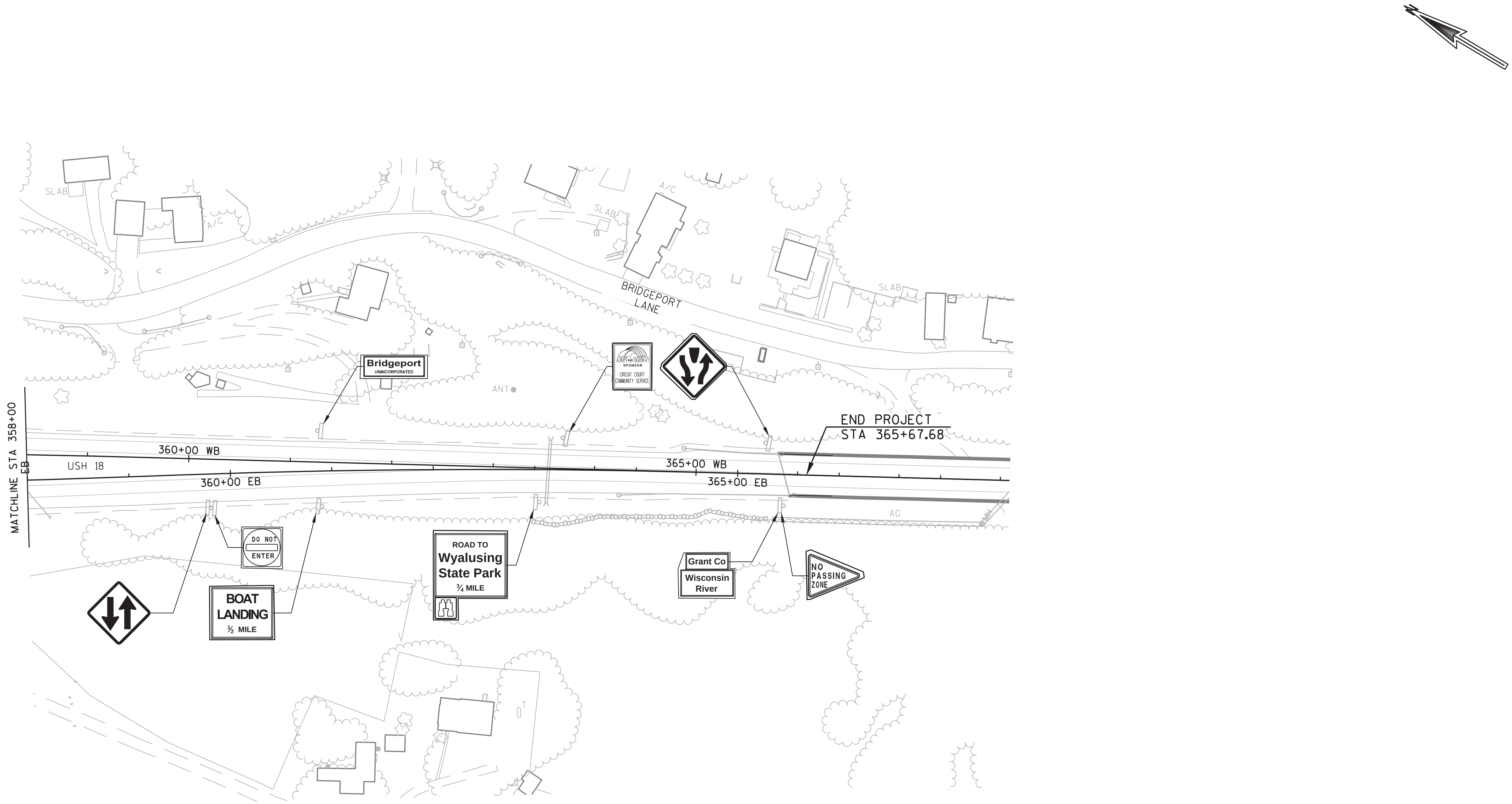
SHEET NAME: 023210ASR



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	SIGNING REMOVALS	SHEET 113	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SMUSH18.DWG

SHEET NAME: 023211SR

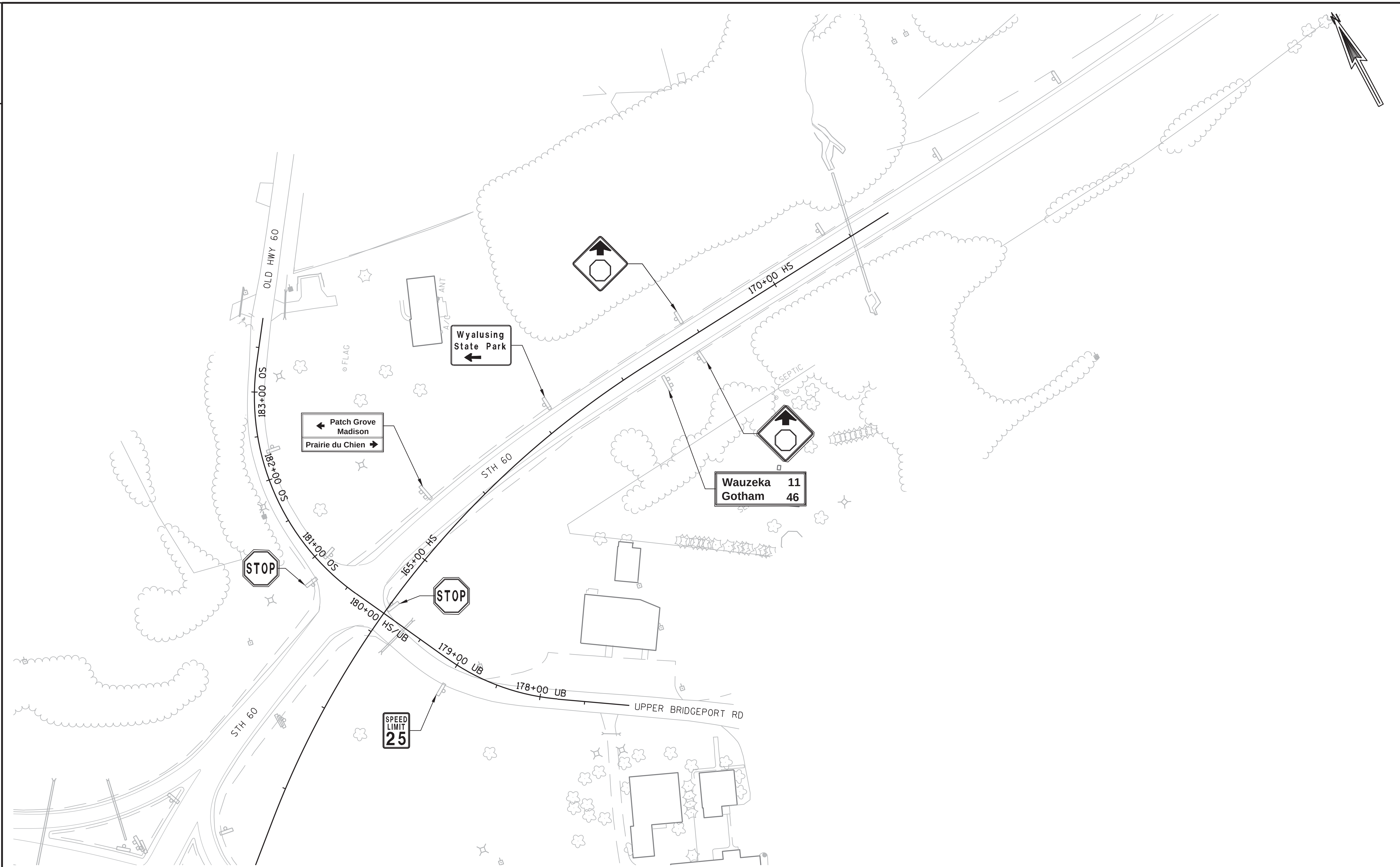


PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	SIGNING REMOVALS	SHEET 114	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SMUSH18.DWG

SHEET NAME: 023212SR

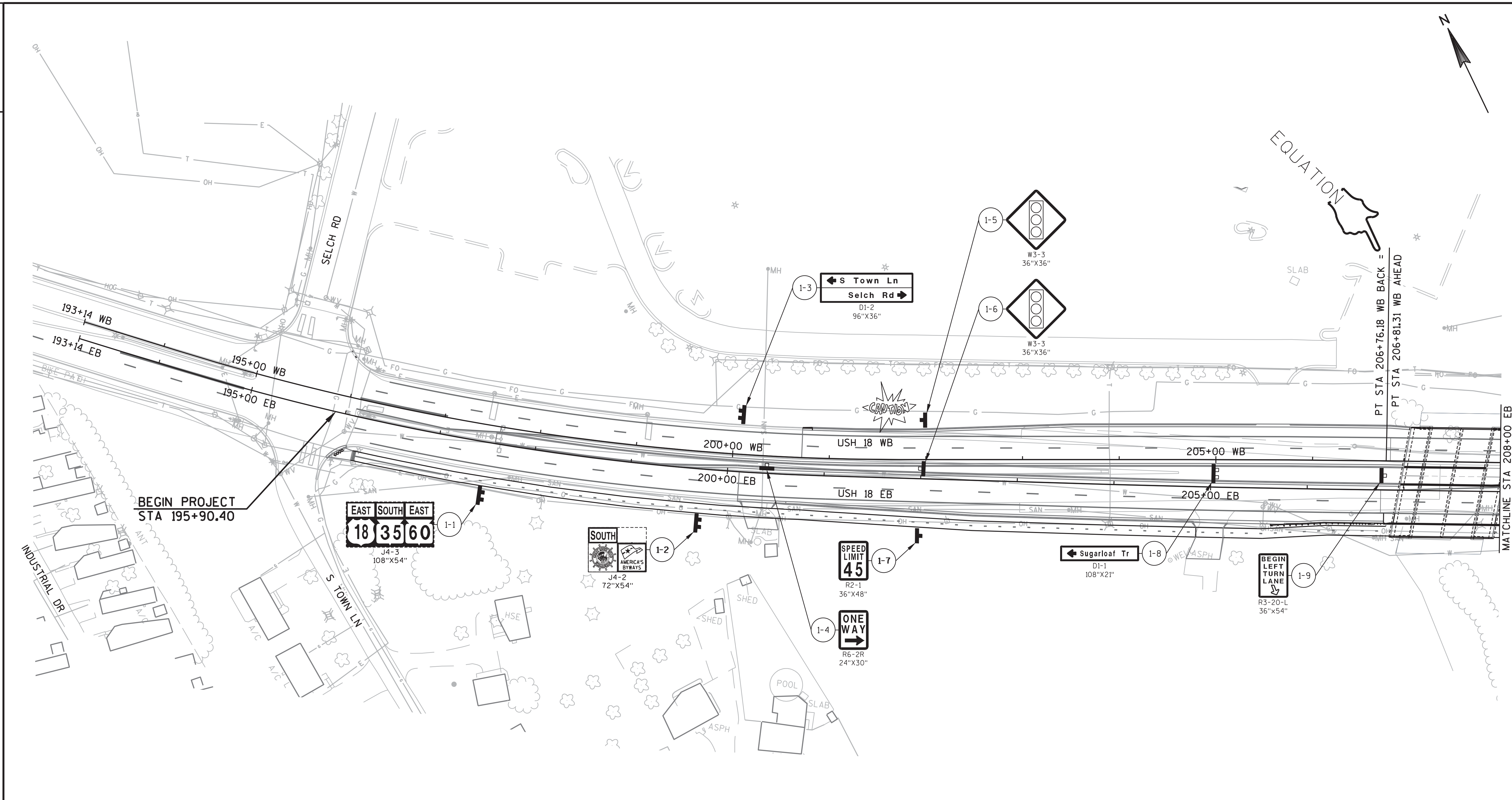
2



2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	SIGNING REMOVALS	SHEET 115	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SMUSH18.DWG SHEET NAME: 023210BSR



SIGN LEGEND

1-1	SIGN GROUP NUMBER
	SIGNS TYPE II REFLECTIVE H/F ON ONE/TWO/THREE POSTS WOOD
	SIGNS TYPE II REFLECTIVE H/F ON POSTS STEEL
	SIGN TYPE I REFLECTIVE H/F ON OVERHEAD SUPPORT
1	REMOVABLE POST

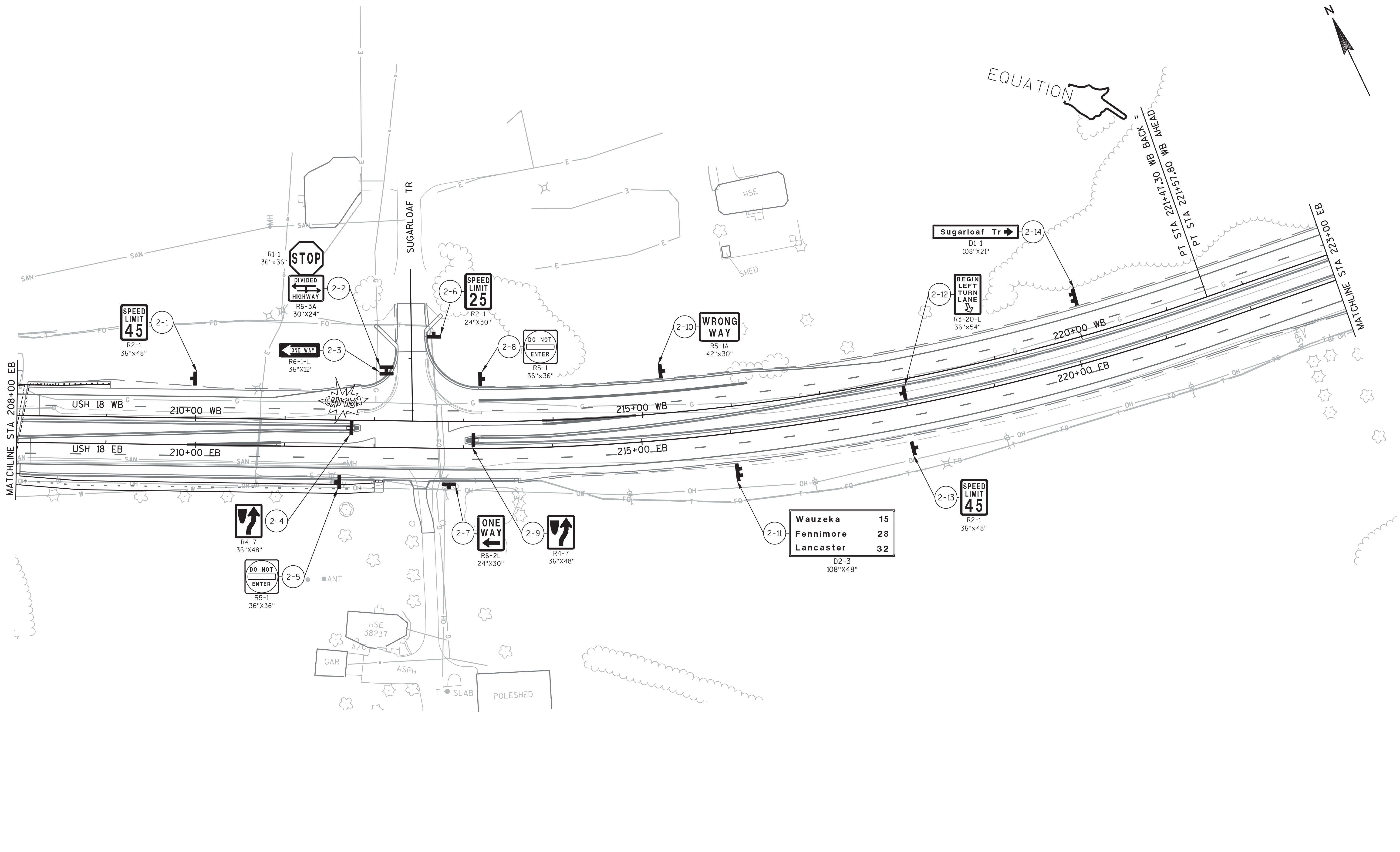
PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PERMANENT SIGNING	SHEET 116	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SNUSH18.DWG

SHEET NAME: 023201PS

2

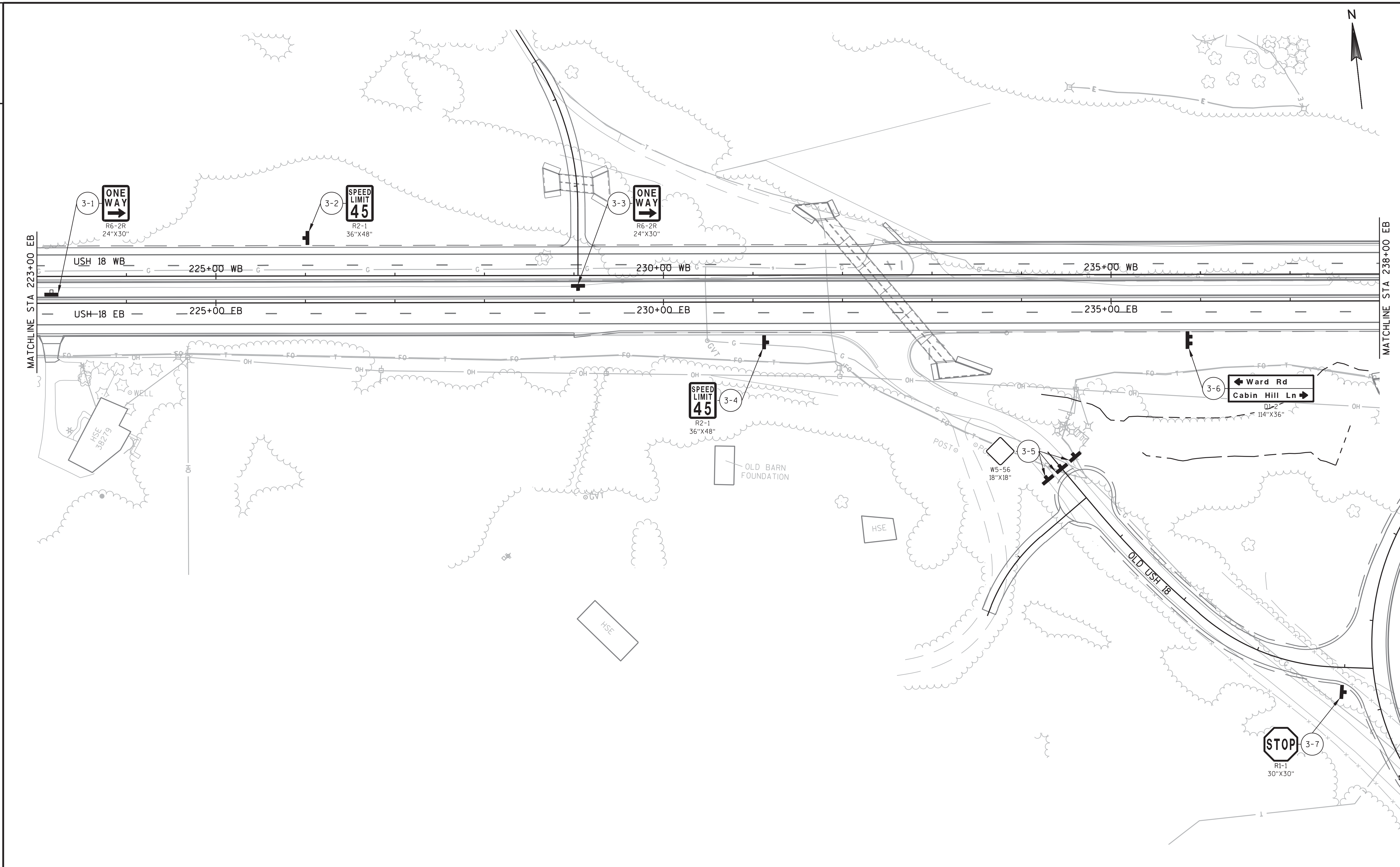
2



2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PERMANENT SIGNING	SHEET 117	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SNUSH18.DWG SHEET NAME: 023202PS

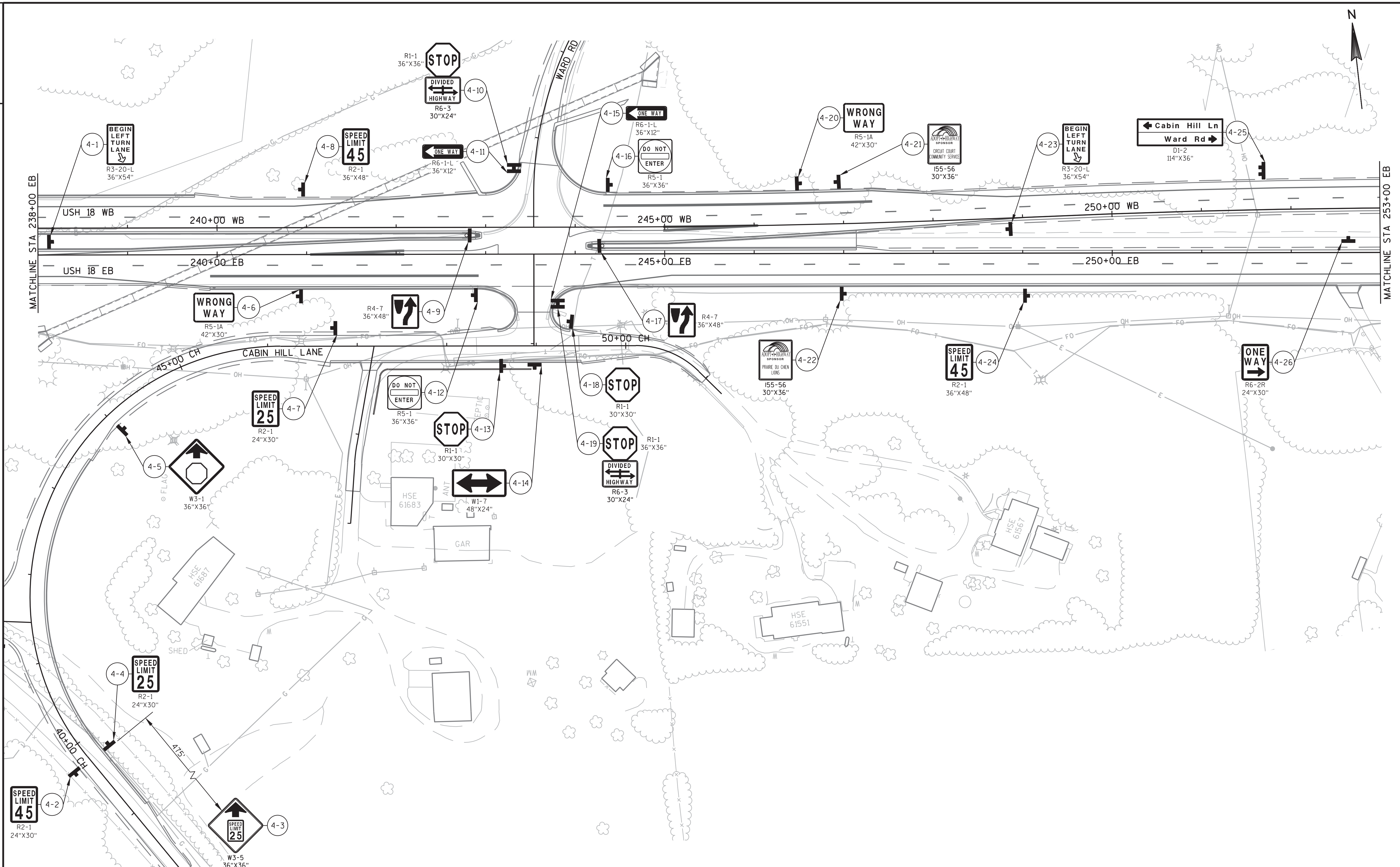


PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PERMANENT SIGNING	SHEET 118	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SNUSH18.DWG

SHEET NAME: 023203PS

2



2

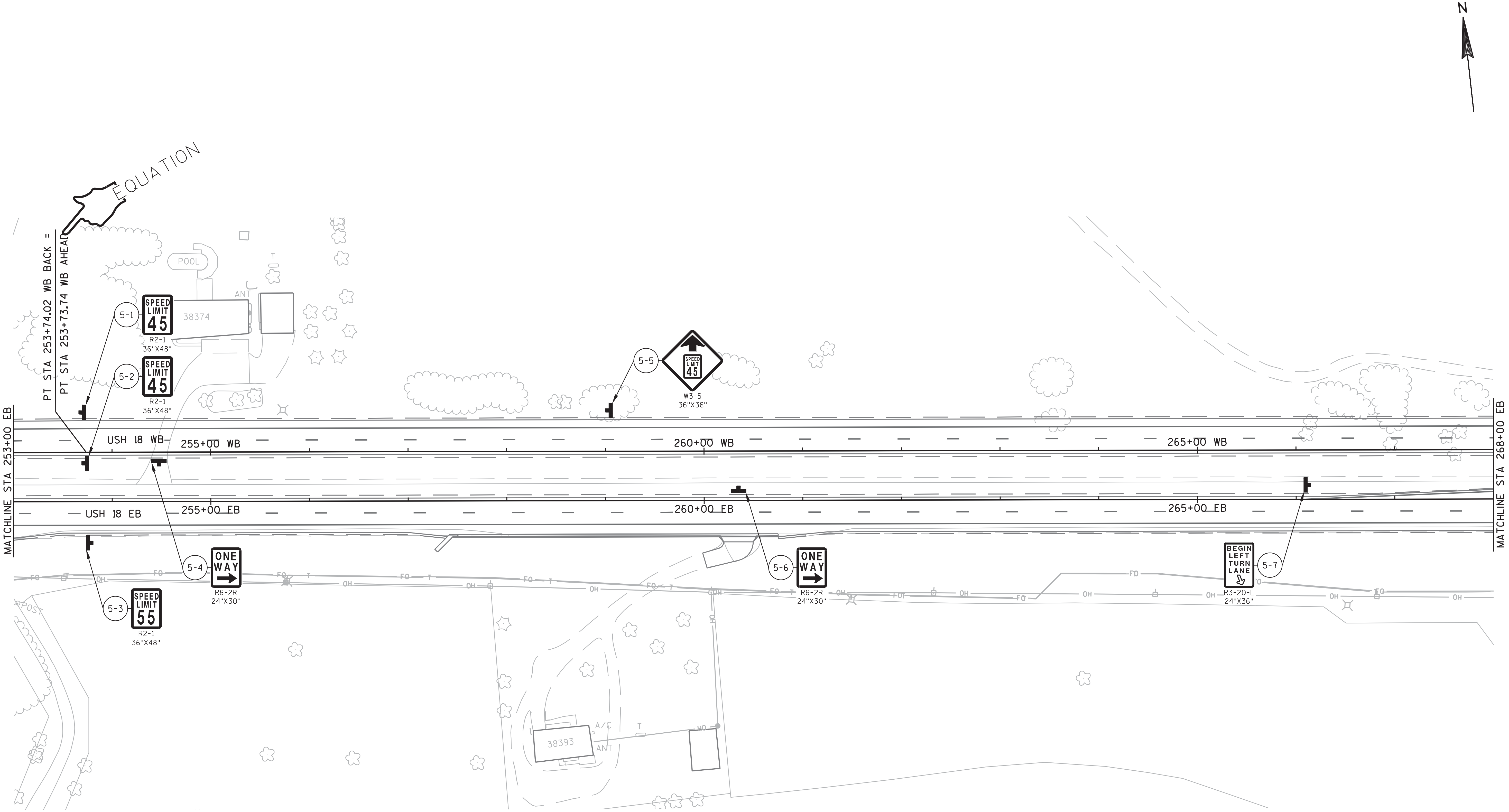
PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PERMANENT SIGNING	SHEET 119	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SNUSH18.DWG

SHEET NAME: 023204PS

2

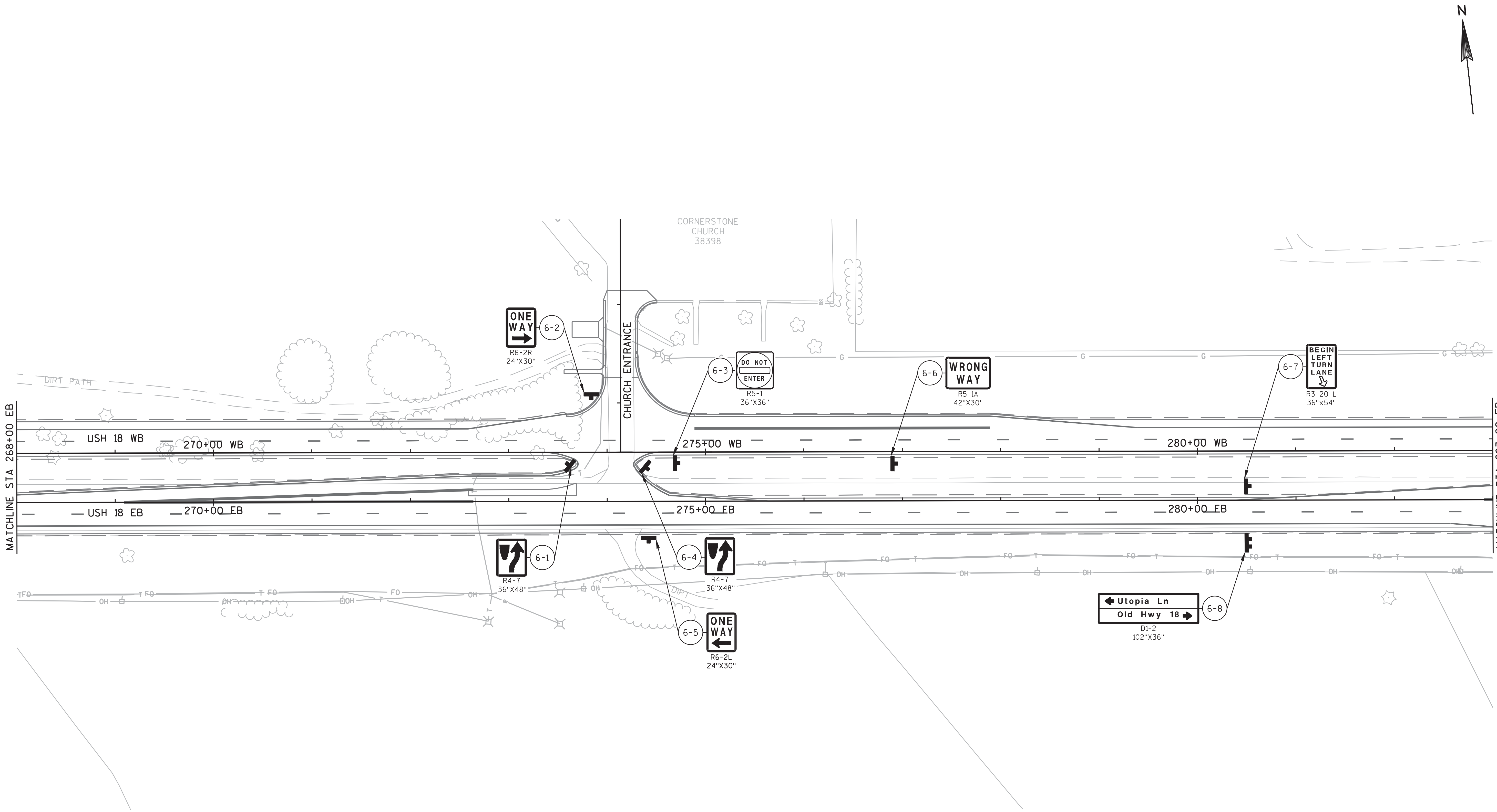
2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PERMANENT SIGNING	SHEET 120	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SNUSH18.DWG

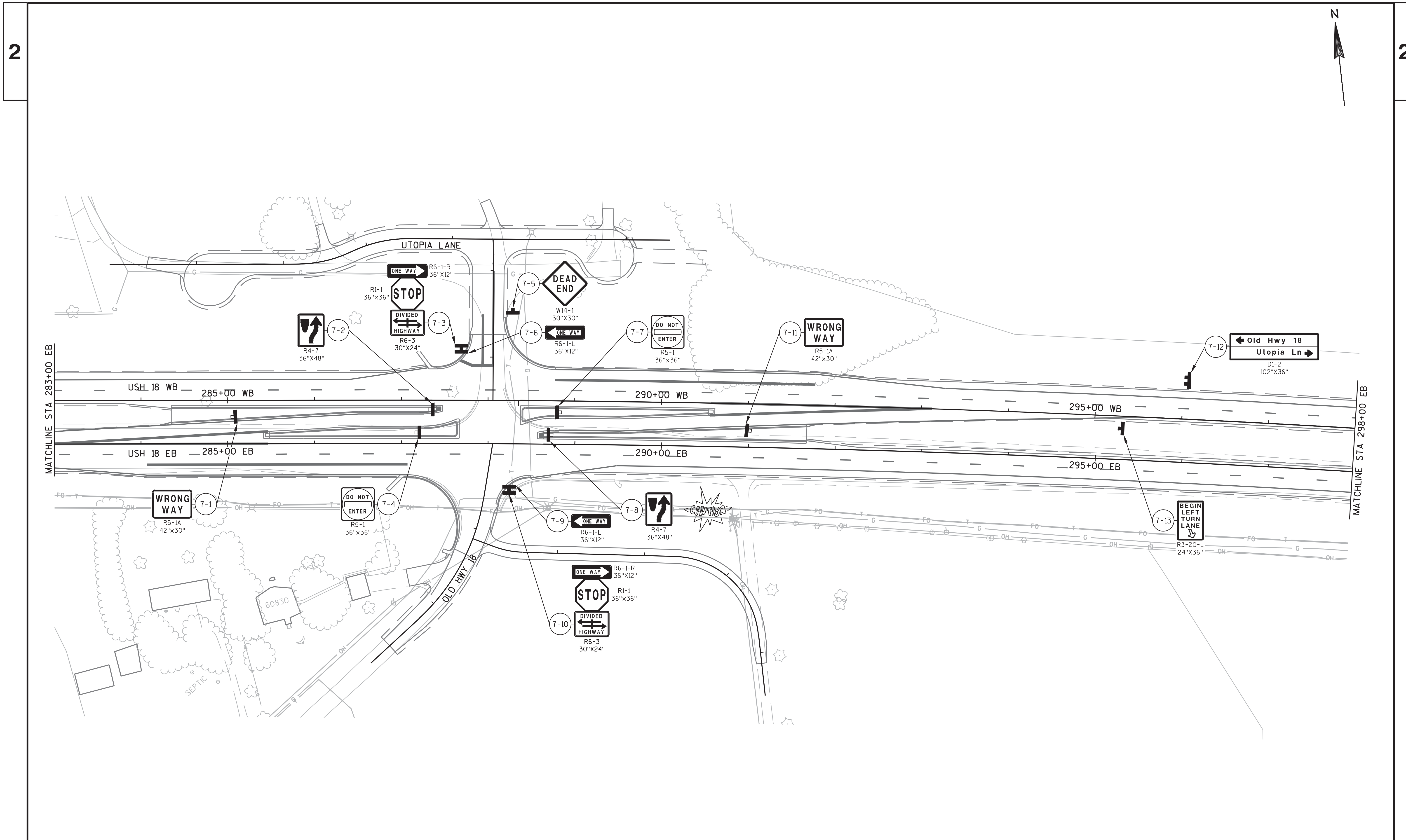
SHEET NAME: 023205PS



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PERMANENT SIGNING	SHEET 121	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SNUSH18.DWG

SHEET NAME: 023206PS

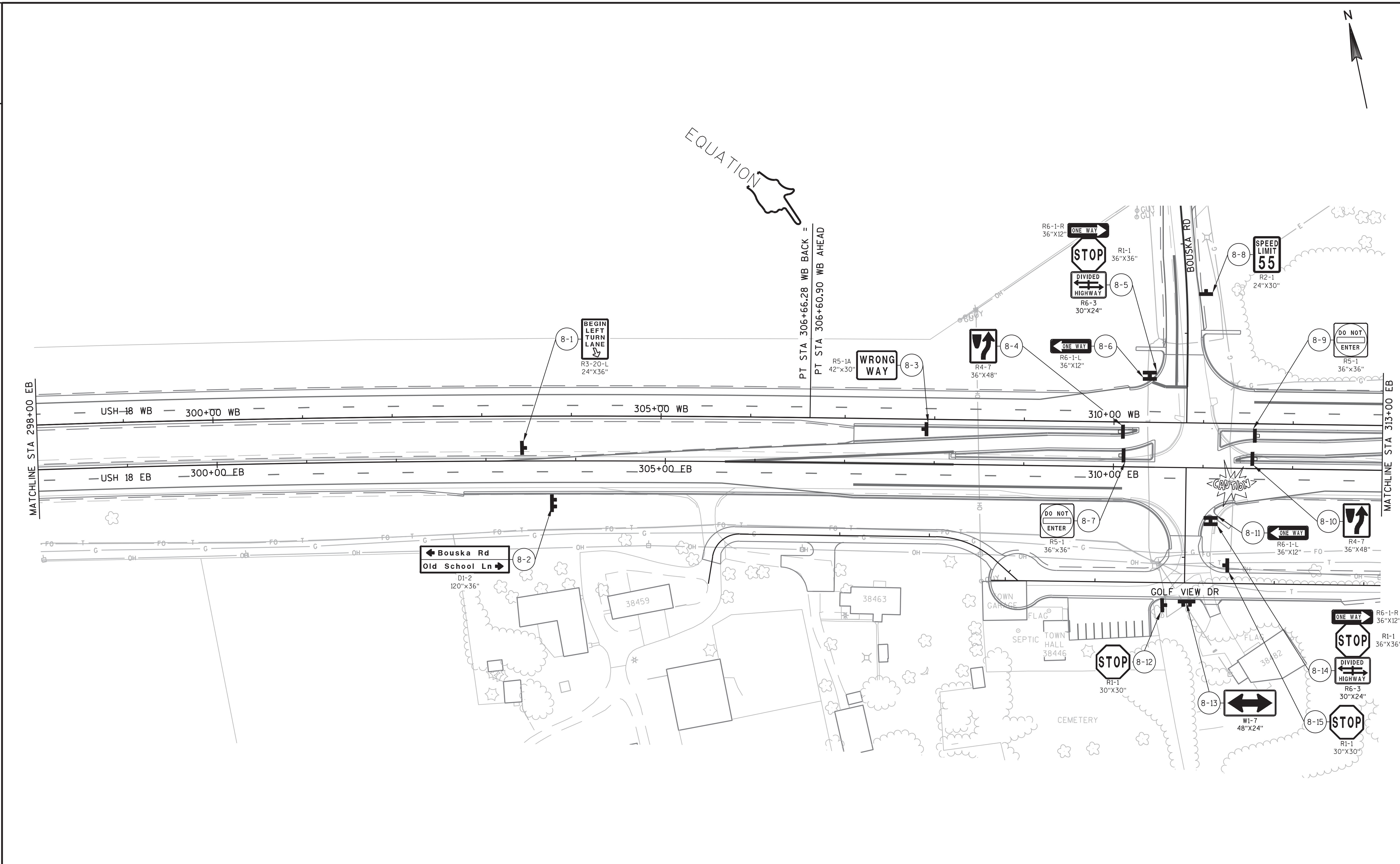


PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PERMANENT SIGNING	SHEET 122	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SNUSH18.DWG

SHEET NAME: 023207PS

2



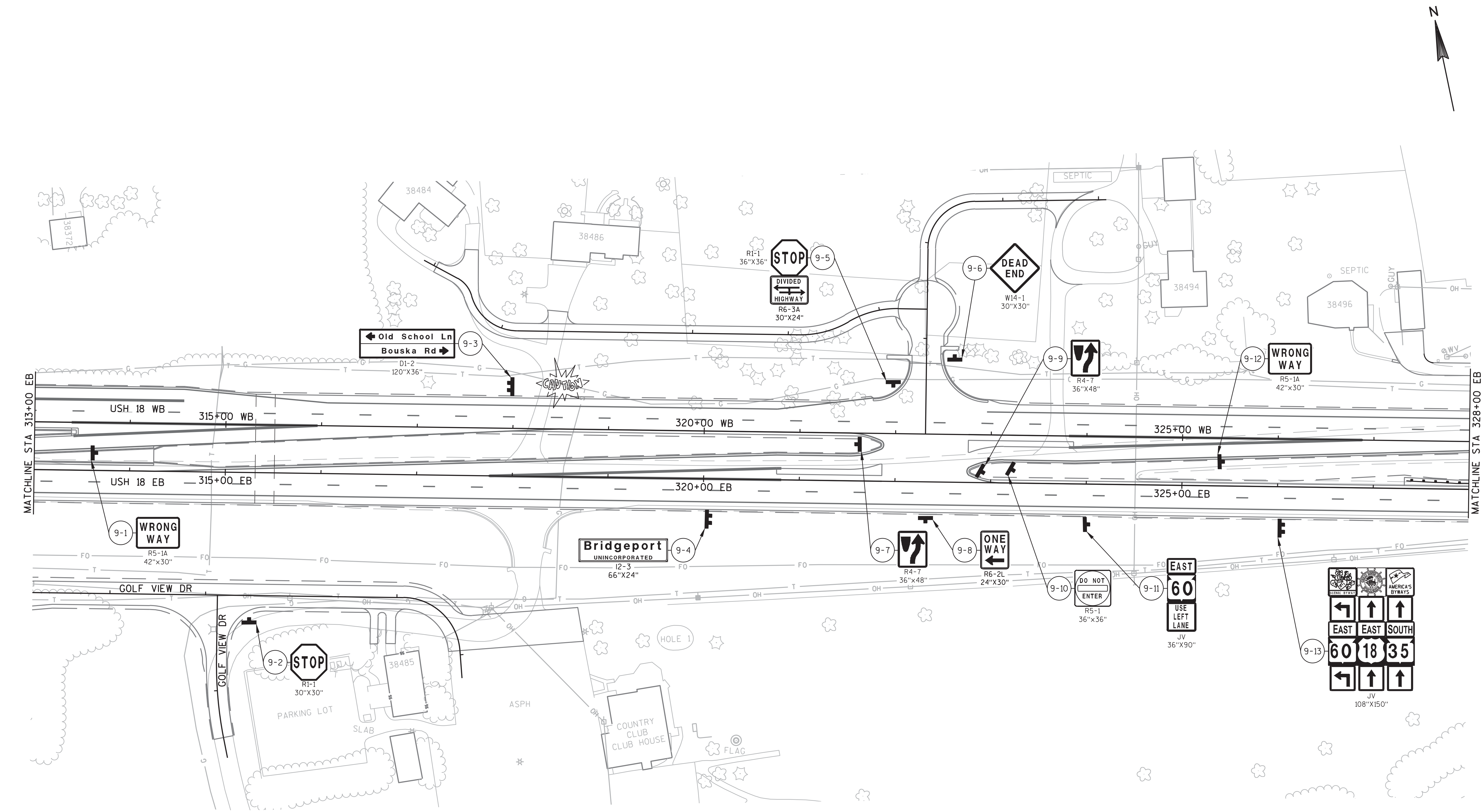
2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PERMANENT SIGNING	SHEET 123	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SNUSH18.DWG

SHEET NAME: 023208PS

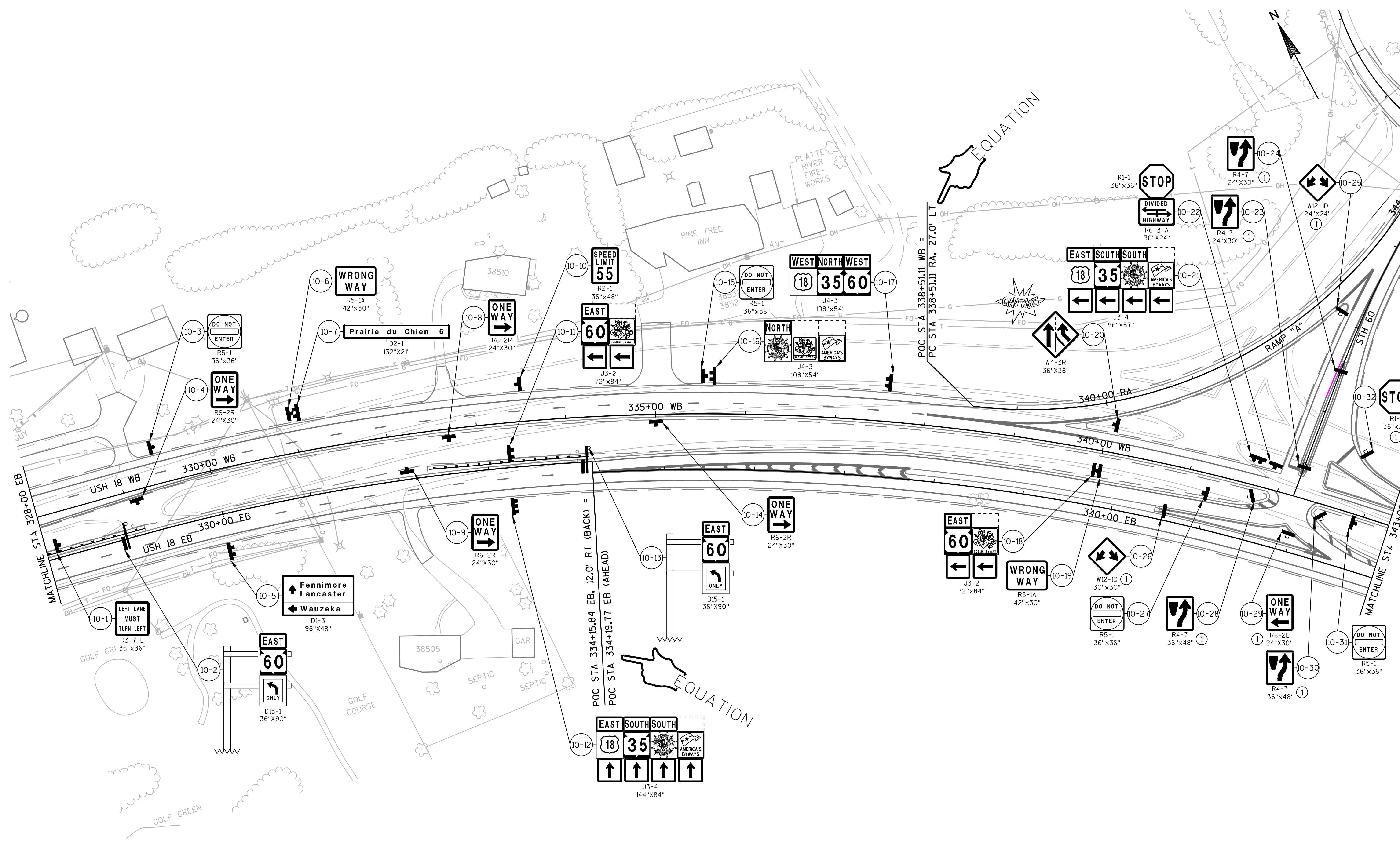
2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PERMANENT SIGNING	SHEET 124	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SNUSH18.DWG

SHEET NAME: 023209PS

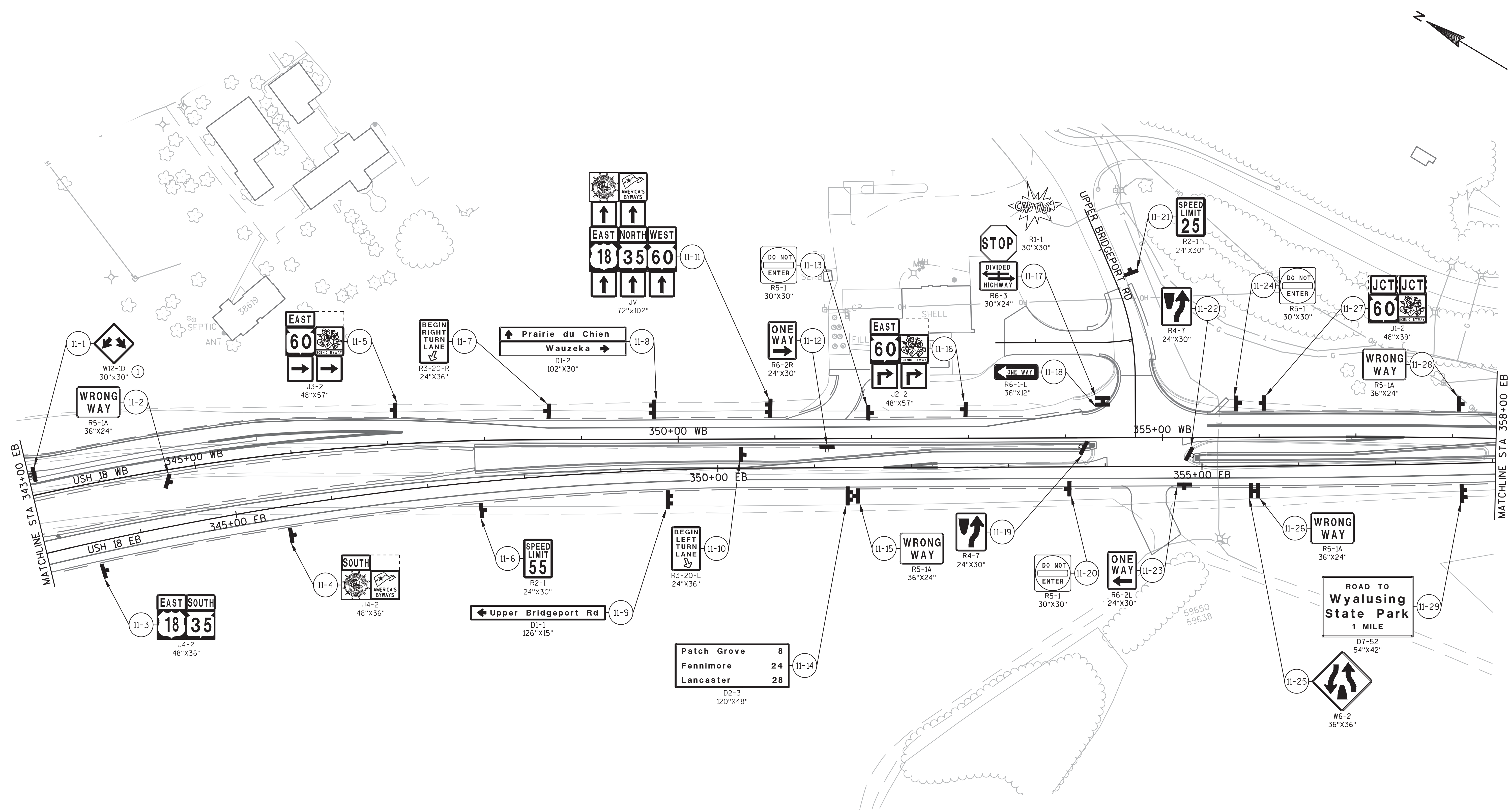


PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PERMANENT SIGNING	SHEET 125	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SNUSH18.DWG

SHEET NAME: 023210APS

2

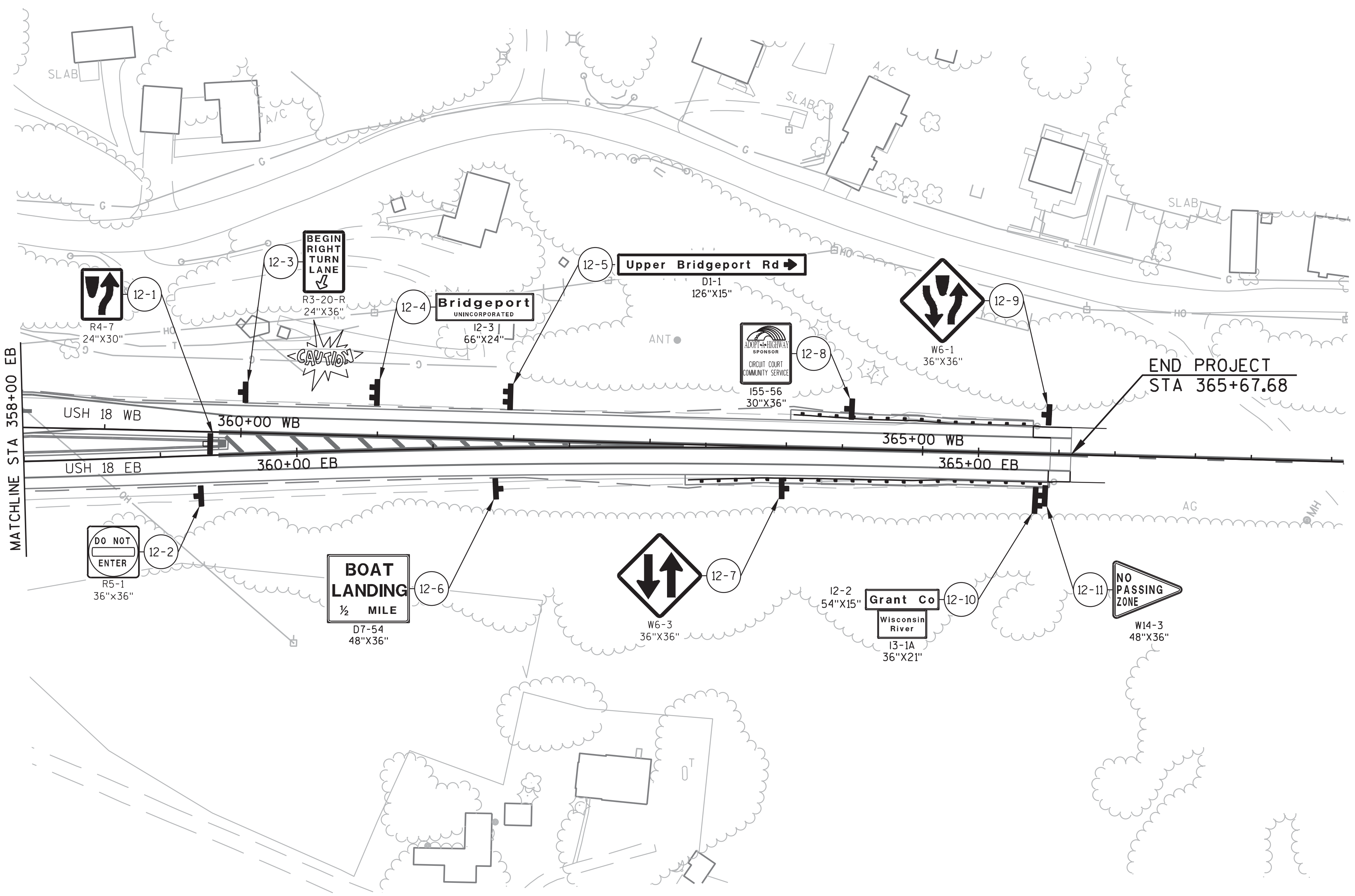


2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PERMANENT SIGNING	SHEET 126	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SNUSH18.DWG

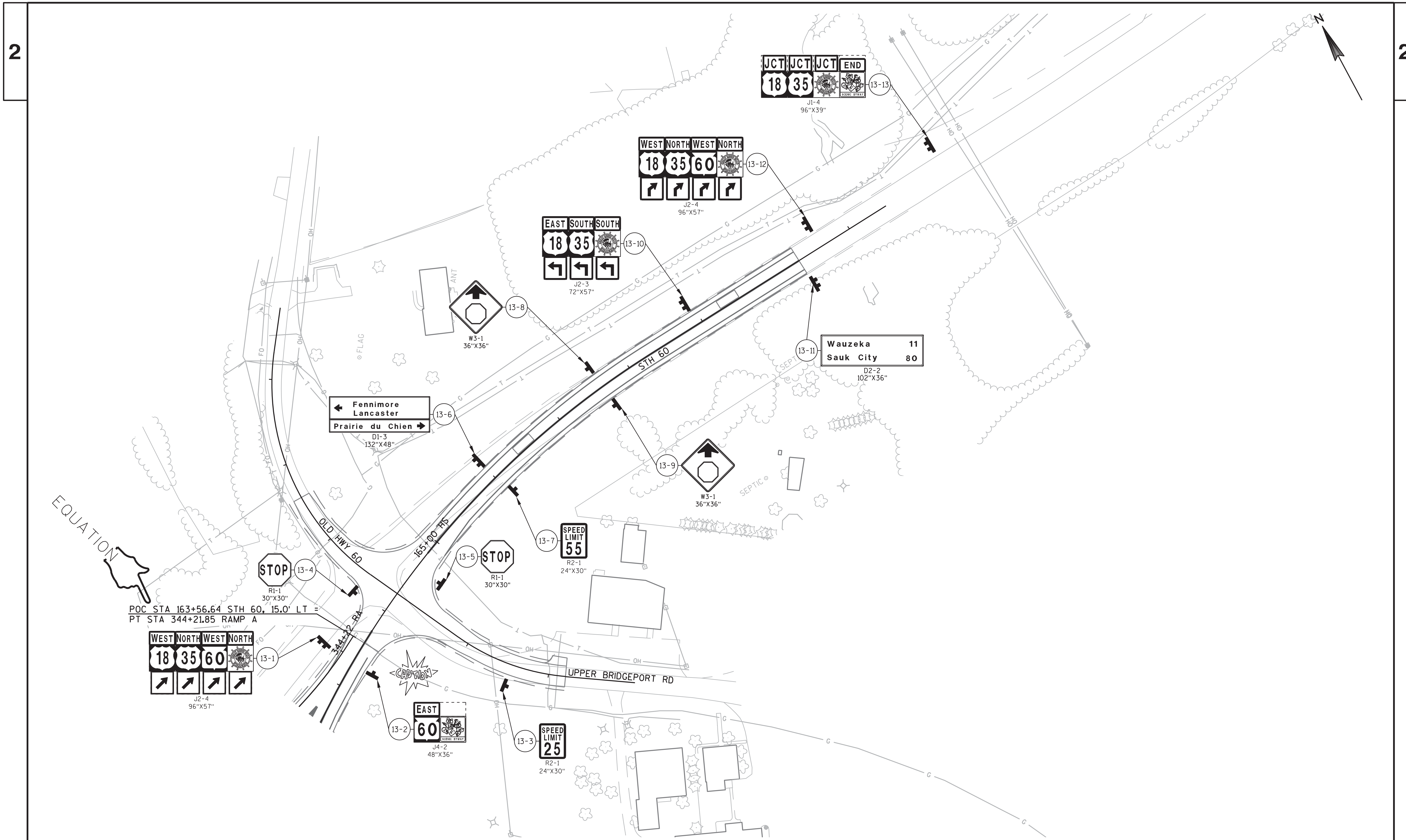
SHEET NAME: 02321IPS



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PERMANENT SIGNING	SHEET 127	E

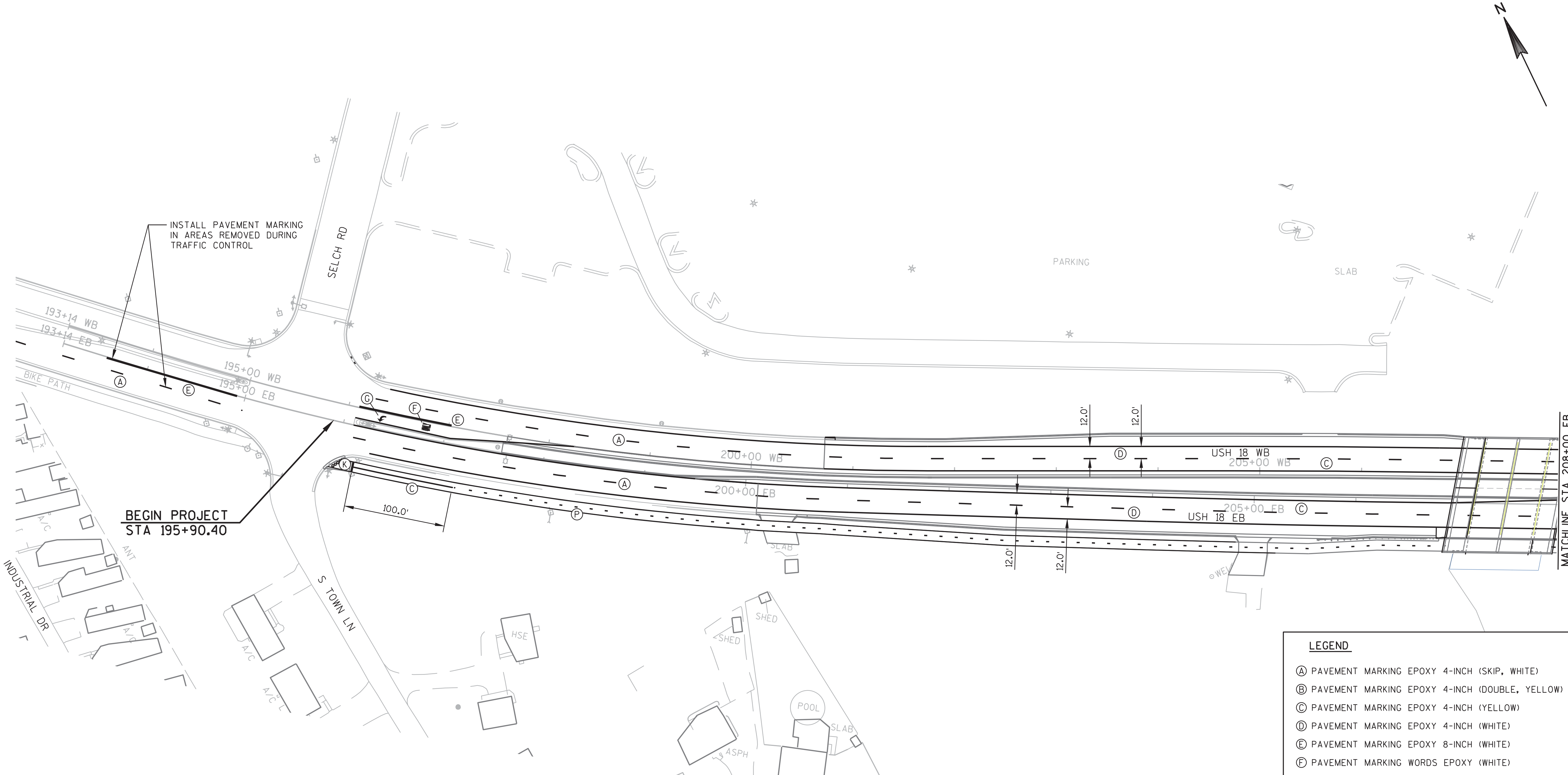
FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SNUSH18.DWG

SHEET NAME: 023212PS



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PERMANENT SIGNING	SHEET 128	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SNUSH18.DWG SHEET NAME: 023210BPS

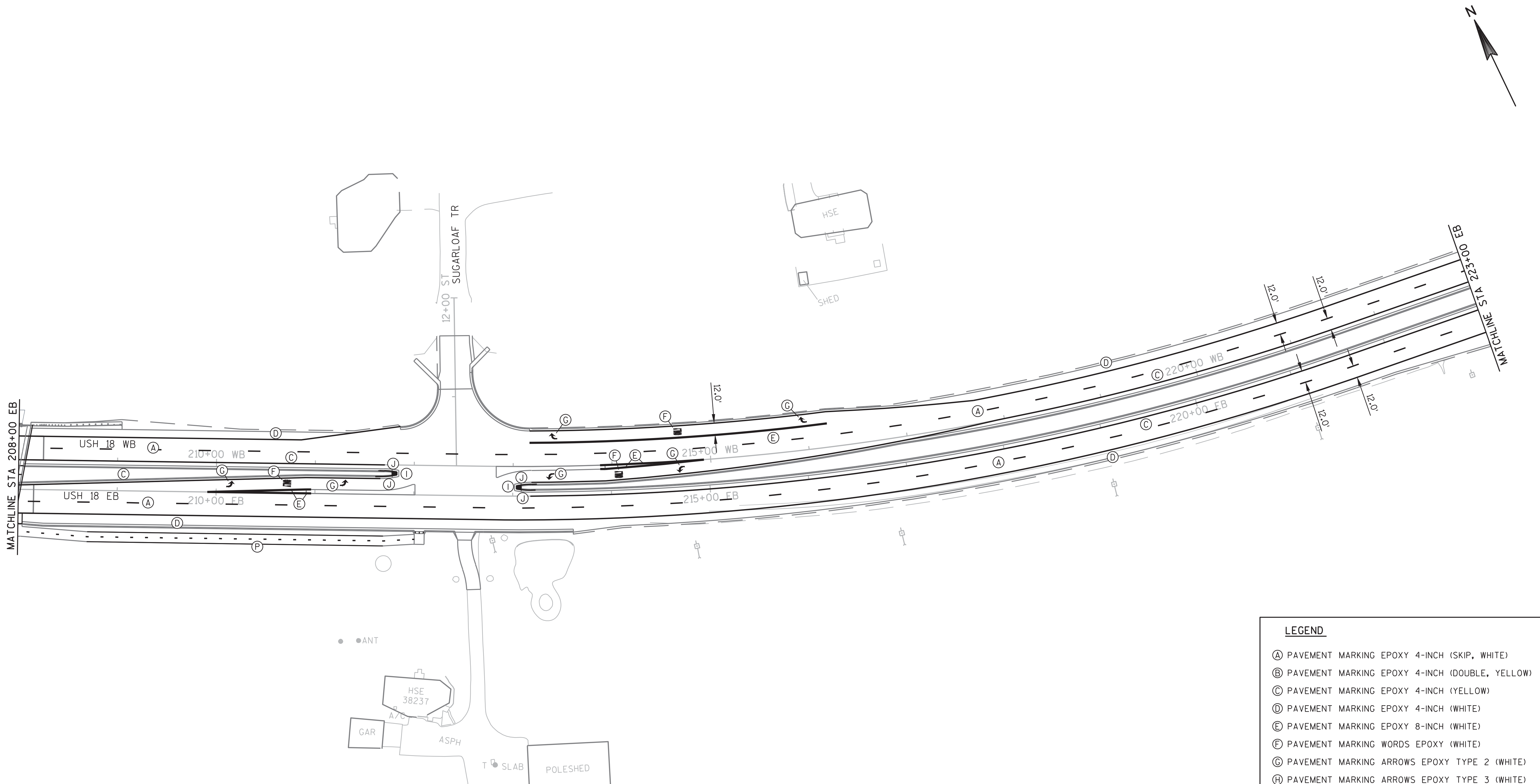


LEGEND

- (A) PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE)
- (B) PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)
- (C) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
- (D) PAVEMENT MARKING EPOXY 4-INCH (WHITE)
- (E) PAVEMENT MARKING EPOXY 8-INCH (WHITE)
- (F) PAVEMENT MARKING WORDS EPOXY (WHITE)
- (G) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)
- (H) PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)
- (I) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
- (J) PAVEMENT MARKING CURB EPOXY (YELLOW)
- (K) PAVEMENT MARKING STOP LINE EPOXY 12-INCH (WHITE)
- (L) PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
- (M) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
- (N) PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE, 3' SEGMENT 9' GAP)
- (O) PAVEMENT MARKING PARKING STALL EPOXY (WHITE)
- (P) PAVEMENT MARKING EPOXY 4-INCH (SKIP, YELLOW, 3' SEGMENT 9' GAP)

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PAVEMENT MARKING	SHEET 129	E

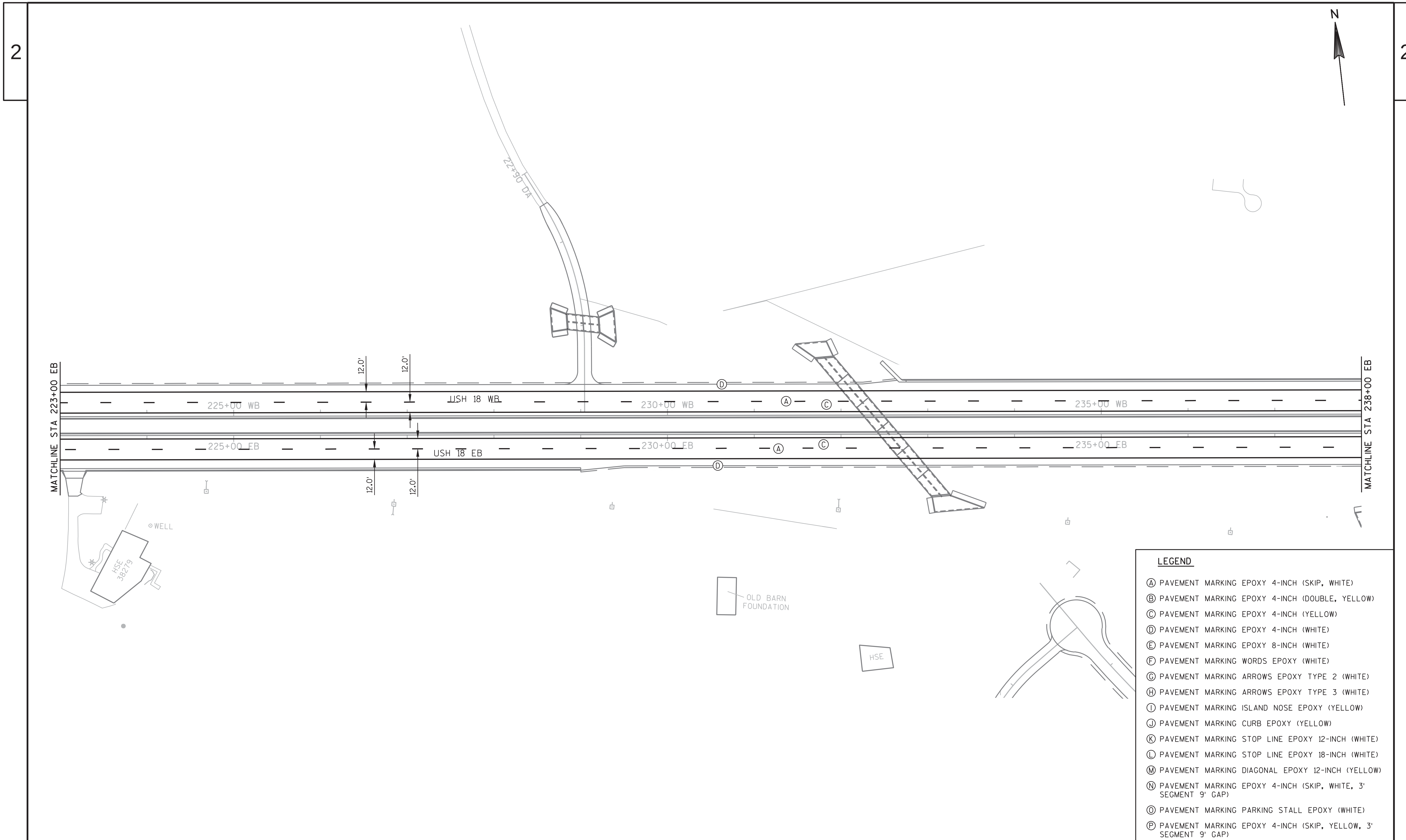
2



LEGEND

Ⓐ PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE)
Ⓑ PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)
Ⓒ PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
Ⓓ PAVEMENT MARKING EPOXY 4-INCH (WHITE)
Ⓔ PAVEMENT MARKING EPOXY 8-INCH (WHITE)
Ⓕ PAVEMENT MARKING WORDS EPOXY (WHITE)
Ⓖ PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)
Ⓗ PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)
Ⓘ PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
Ⓙ PAVEMENT MARKING CURB EPOXY (YELLOW)
Ⓚ PAVEMENT MARKING STOP LINE EPOXY 12-INCH (WHITE)
Ⓛ PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
Ⓜ PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
Ⓝ PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE, 3' SEGMENT 9' GAP)
Ⓞ PAVEMENT MARKING PARKING STALL EPOXY (WHITE)
Ⓟ PAVEMENT MARKING EPOXY 4-INCH (SKIP, YELLOW, 3' SEGMENT 9' GAP)

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PAVEMENT MARKING	SHEET 130	E



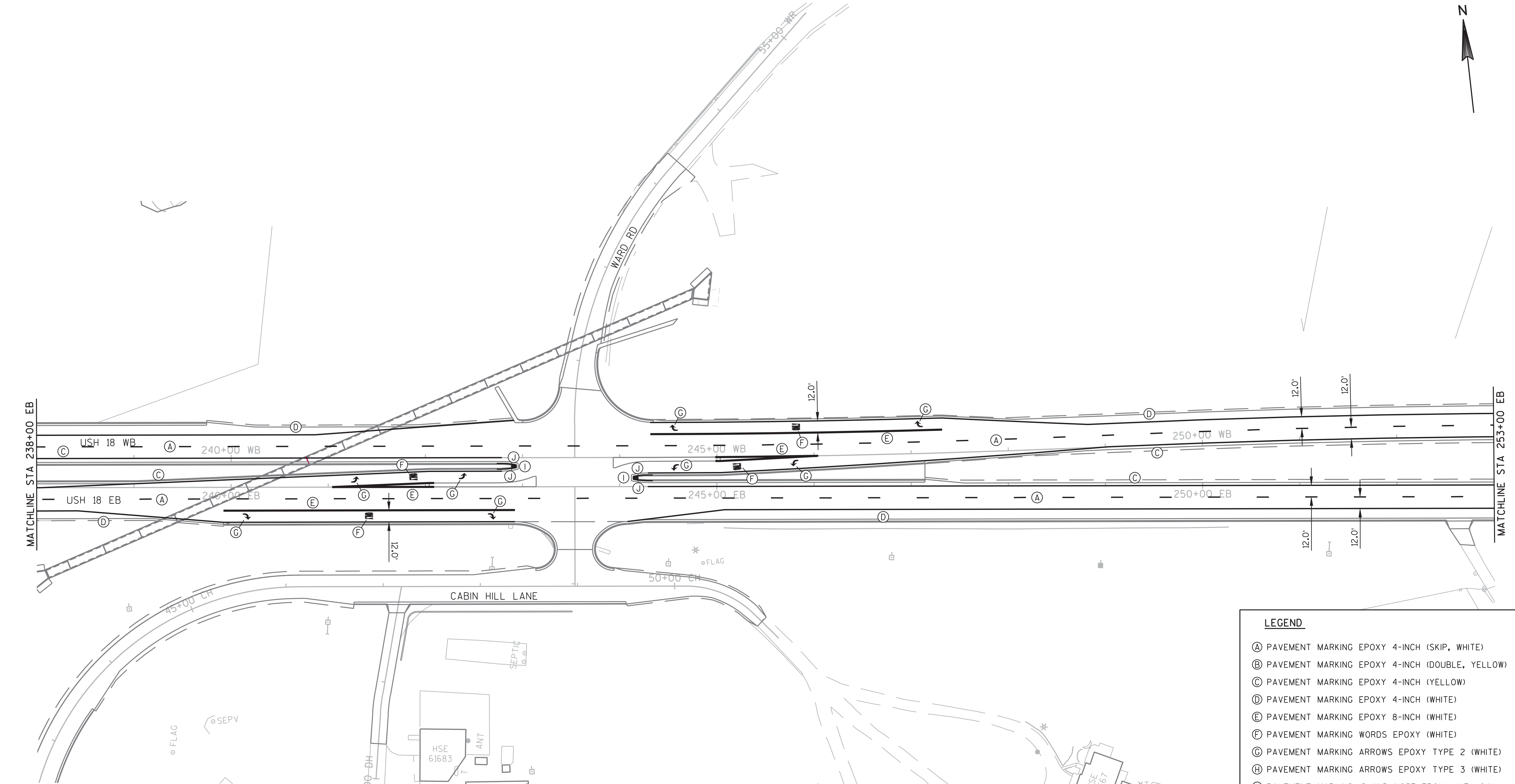
LEGEND

- (A) PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE)
- (B) PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)
- (C) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
- (D) PAVEMENT MARKING EPOXY 4-INCH (WHITE)
- (E) PAVEMENT MARKING EPOXY 8-INCH (WHITE)
- (F) PAVEMENT MARKING WORDS EPOXY (WHITE)
- (G) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)
- (H) PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)
- (I) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
- (J) PAVEMENT MARKING CURB EPOXY (YELLOW)
- (K) PAVEMENT MARKING STOP LINE EPOXY 12-INCH (WHITE)
- (L) PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
- (M) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
- (N) PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE, 3' SEGMENT 9' GAP)
- (O) PAVEMENT MARKING PARKING STALL EPOXY (WHITE)
- (P) PAVEMENT MARKING EPOXY 4-INCH (SKIP, YELLOW, 3' SEGMENT 9' GAP)

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PAVEMENT MARKING	SHEET 131	E

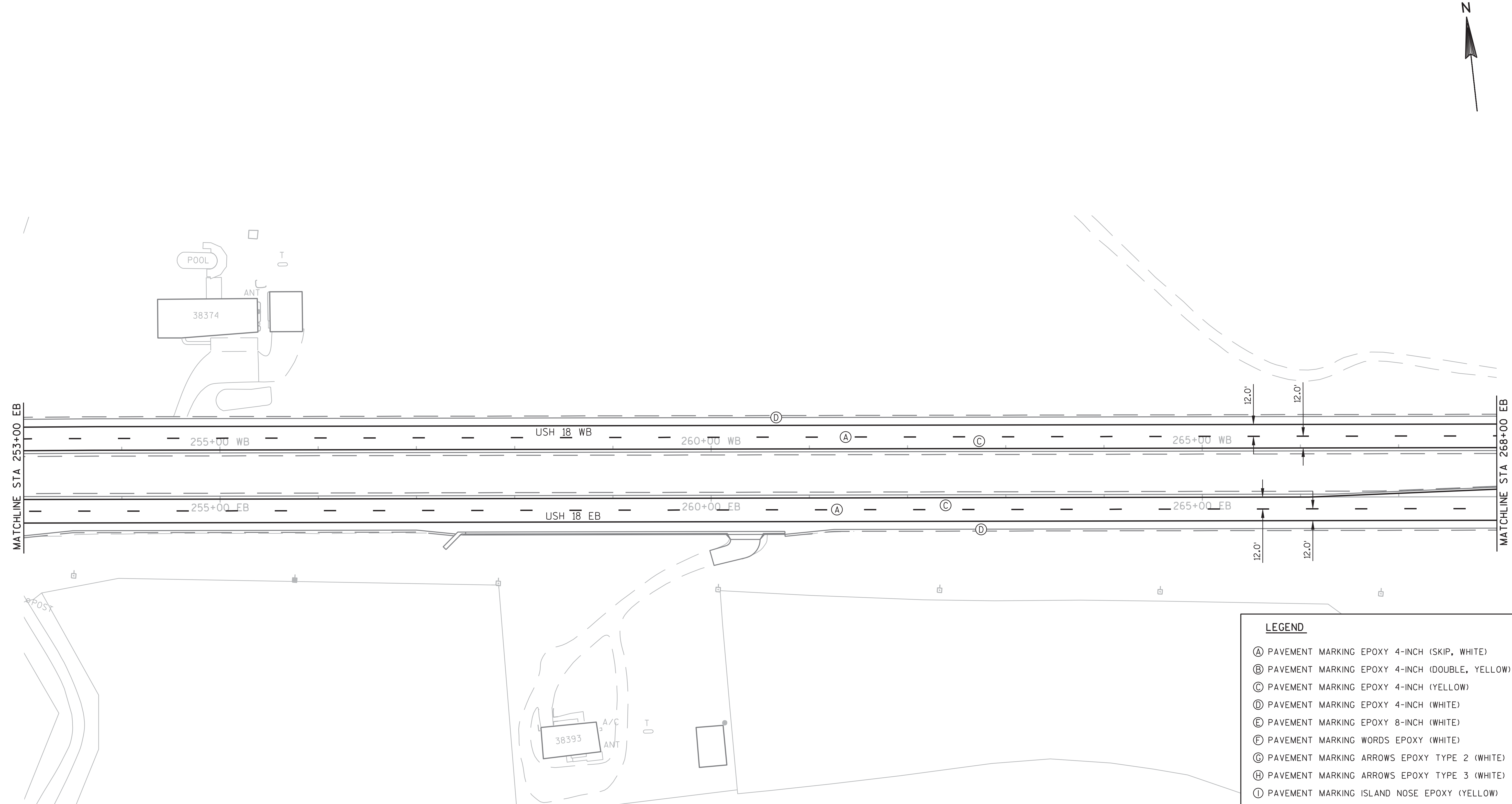
FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PMUSH18.DWG

SHEET NAME: 024503PM



LEGEND

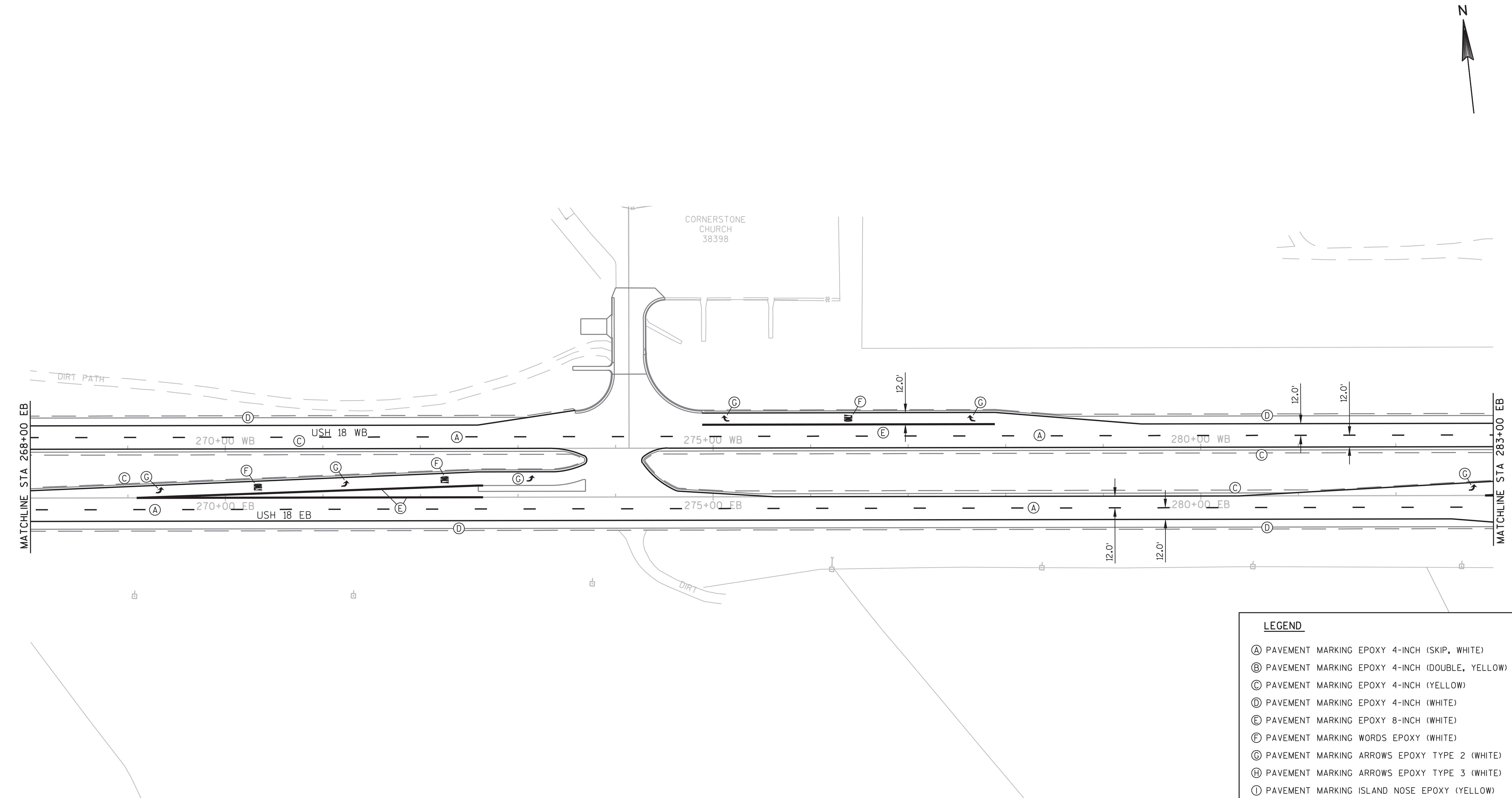
- (A) PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE)
- (B) PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)
- (C) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
- (D) PAVEMENT MARKING EPOXY 4-INCH (WHITE)
- (E) PAVEMENT MARKING EPOXY 8-INCH (WHITE)
- (F) PAVEMENT MARKING WORDS EPOXY (WHITE)
- (G) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)
- (H) PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)
- (I) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
- (J) PAVEMENT MARKING CURB EPOXY (YELLOW)
- (K) PAVEMENT MARKING STOP LINE EPOXY 12-INCH (WHITE)
- (L) PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
- (M) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
- (N) PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE, 3' SEGMENT 9' GAP)
- (O) PAVEMENT MARKING PARKING STALL EPOXY (WHITE)
- (P) PAVEMENT MARKING EPOXY 4-INCH (SKIP, YELLOW, 3' SEGMENT 9' GAP)



LEGEND

- Ⓐ PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE)
- Ⓑ PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)
- Ⓒ PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
- Ⓓ PAVEMENT MARKING EPOXY 4-INCH (WHITE)
- Ⓔ PAVEMENT MARKING EPOXY 8-INCH (WHITE)
- Ⓕ PAVEMENT MARKING WORDS EPOXY (WHITE)
- Ⓖ PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)
- Ⓗ PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)
- Ⓘ PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
- Ⓙ PAVEMENT MARKING CURB EPOXY (YELLOW)
- Ⓚ PAVEMENT MARKING STOP LINE EPOXY 12-INCH (WHITE)
- Ⓛ PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
- Ⓜ PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
- Ⓝ PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE, 3' SEGMENT 9' GAP)
- Ⓞ PAVEMENT MARKING PARKING STALL EPOXY (WHITE)
- Ⓟ PAVEMENT MARKING EPOXY 4-INCH (SKIP, YELLOW, 3' SEGMENT 9' GAP)

2



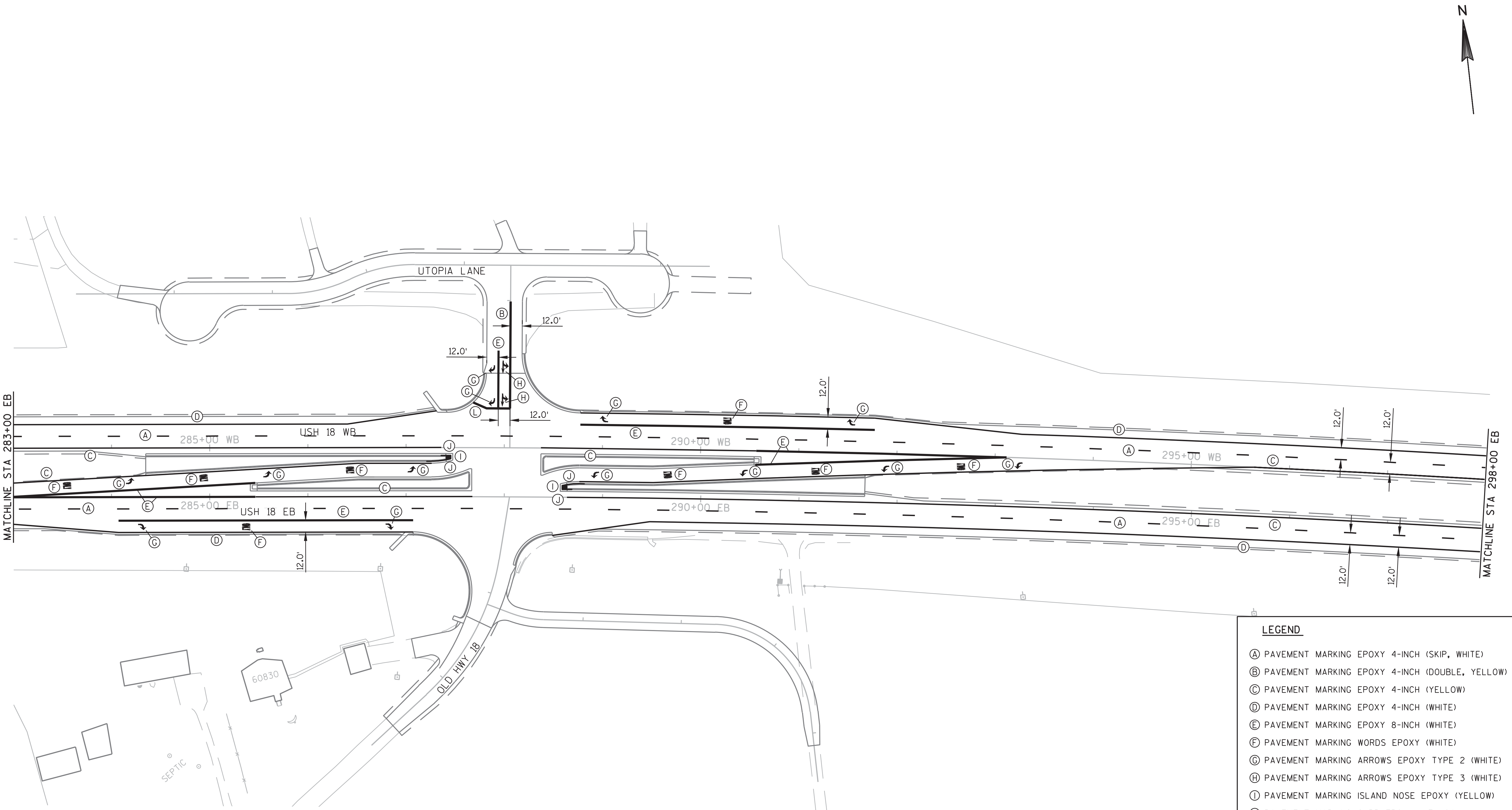
LEGEND

- Ⓐ PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE)
- Ⓑ PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)
- Ⓒ PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
- Ⓓ PAVEMENT MARKING EPOXY 4-INCH (WHITE)
- Ⓔ PAVEMENT MARKING EPOXY 8-INCH (WHITE)
- Ⓕ PAVEMENT MARKING WORDS EPOXY (WHITE)
- Ⓖ PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)
- Ⓗ PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)
- Ⓘ PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
- Ⓙ PAVEMENT MARKING CURB EPOXY (YELLOW)
- Ⓚ PAVEMENT MARKING STOP LINE EPOXY 12-INCH (WHITE)
- Ⓛ PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
- Ⓜ PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
- Ⓝ PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE, 3' SEGMENT 9' GAP)
- Ⓞ PAVEMENT MARKING PARKING STALL EPOXY (WHITE)
- Ⓟ PAVEMENT MARKING EPOXY 4-INCH (SKIP, YELLOW, 3' SEGMENT 9' GAP)

2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PAVEMENT MARKING	SHEET 134	E

2



2

LEGEND

- (A) PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE)
- (B) PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)
- (C) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
- (D) PAVEMENT MARKING EPOXY 4-INCH (WHITE)
- (E) PAVEMENT MARKING EPOXY 8-INCH (WHITE)
- (F) PAVEMENT MARKING WORDS EPOXY (WHITE)
- (G) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)
- (H) PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)
- (I) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
- (J) PAVEMENT MARKING CURB EPOXY (YELLOW)
- (K) PAVEMENT MARKING STOP LINE EPOXY 12-INCH (WHITE)
- (L) PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
- (M) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
- (N) PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE, 3' SEGMENT 9' GAP)
- (O) PAVEMENT MARKING PARKING STALL EPOXY (WHITE)
- (P) PAVEMENT MARKING EPOXY 4-INCH (SKIP, YELLOW, 3' SEGMENT 9' GAP)

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PAVEMENT MARKING	SHEET 135	E

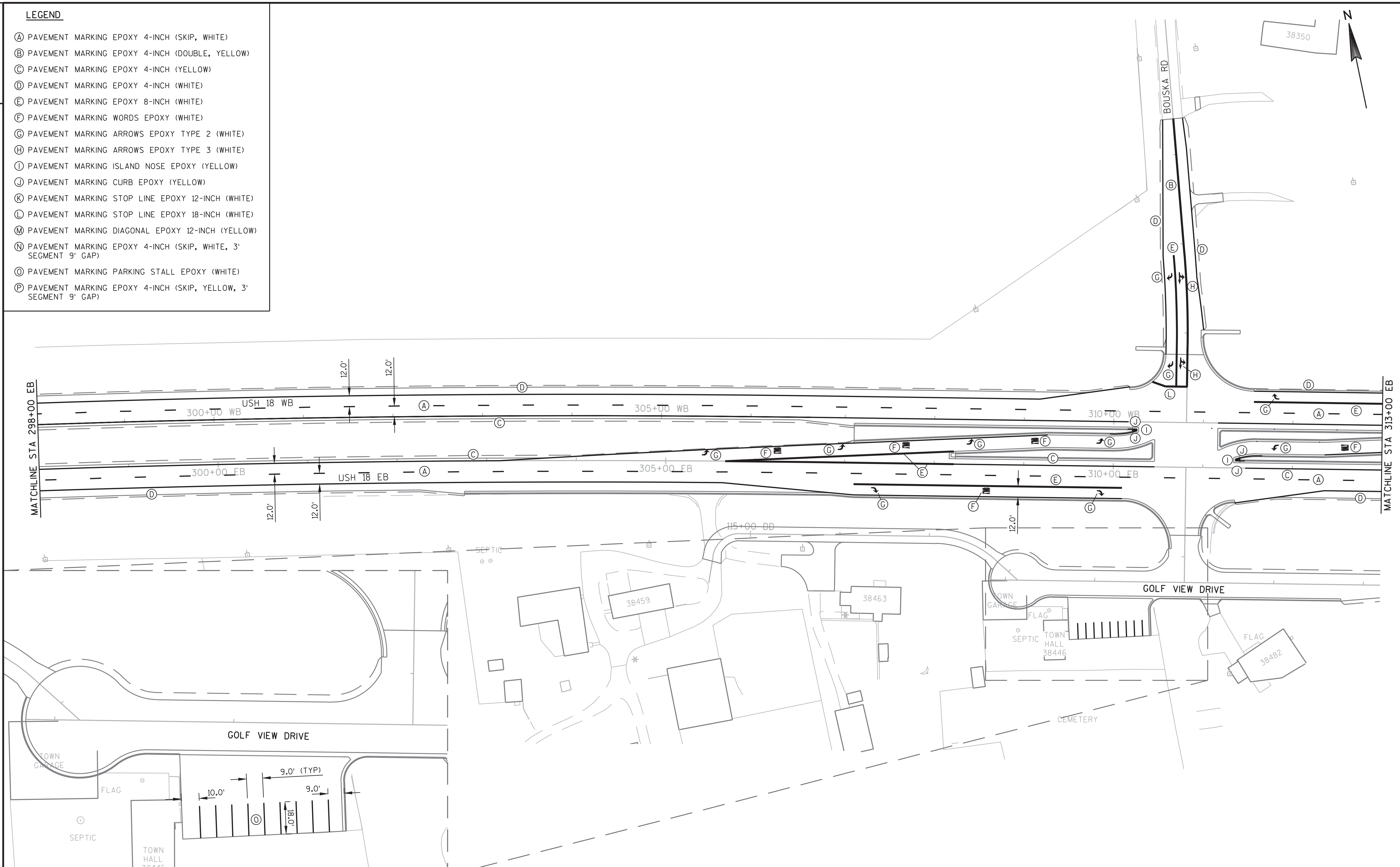
FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PMUSH18.DWG SHEET NAME: 024507PM

2

LEGEND

- (A) PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE)
- (B) PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)
- (C) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
- (D) PAVEMENT MARKING EPOXY 4-INCH (WHITE)
- (E) PAVEMENT MARKING EPOXY 8-INCH (WHITE)
- (F) PAVEMENT MARKING WORDS EPOXY (WHITE)
- (G) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)
- (H) PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)
- (I) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
- (J) PAVEMENT MARKING CURB EPOXY (YELLOW)
- (K) PAVEMENT MARKING STOP LINE EPOXY 12-INCH (WHITE)
- (L) PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
- (M) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
- (N) PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE, 3' SEGMENT 9' GAP)
- (O) PAVEMENT MARKING PARKING STALL EPOXY (WHITE)
- (P) PAVEMENT MARKING EPOXY 4-INCH (SKIP, YELLOW, 3' SEGMENT 9' GAP)

2

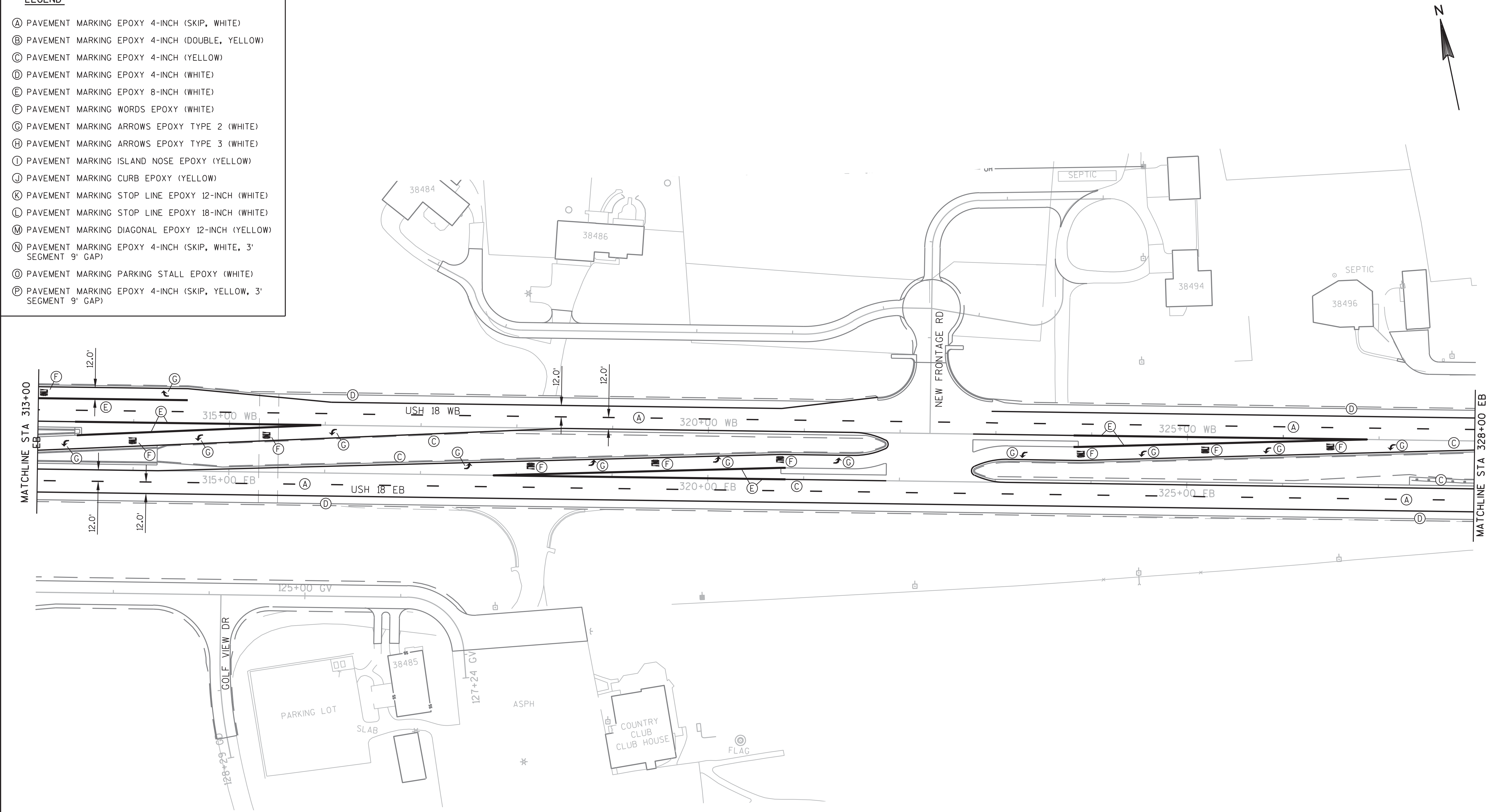


2

LEGEND

Ⓐ PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE)
Ⓑ PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)
Ⓒ PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
Ⓓ PAVEMENT MARKING EPOXY 4-INCH (WHITE)
Ⓔ PAVEMENT MARKING EPOXY 8-INCH (WHITE)
Ⓕ PAVEMENT MARKING WORDS EPOXY (WHITE)
Ⓖ PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)
Ⓗ PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)
Ⓘ PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
Ⓙ PAVEMENT MARKING CURB EPOXY (YELLOW)
Ⓚ PAVEMENT MARKING STOP LINE EPOXY 12-INCH (WHITE)
Ⓛ PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
Ⓜ PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
Ⓝ PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE, 3' SEGMENT 9' GAP)
Ⓞ PAVEMENT MARKING PARKING STALL EPOXY (WHITE)
Ⓟ PAVEMENT MARKING EPOXY 4-INCH (SKIP, YELLOW, 3' SEGMENT 9' GAP)

2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PAVEMENT MARKING	SHEET 137	E

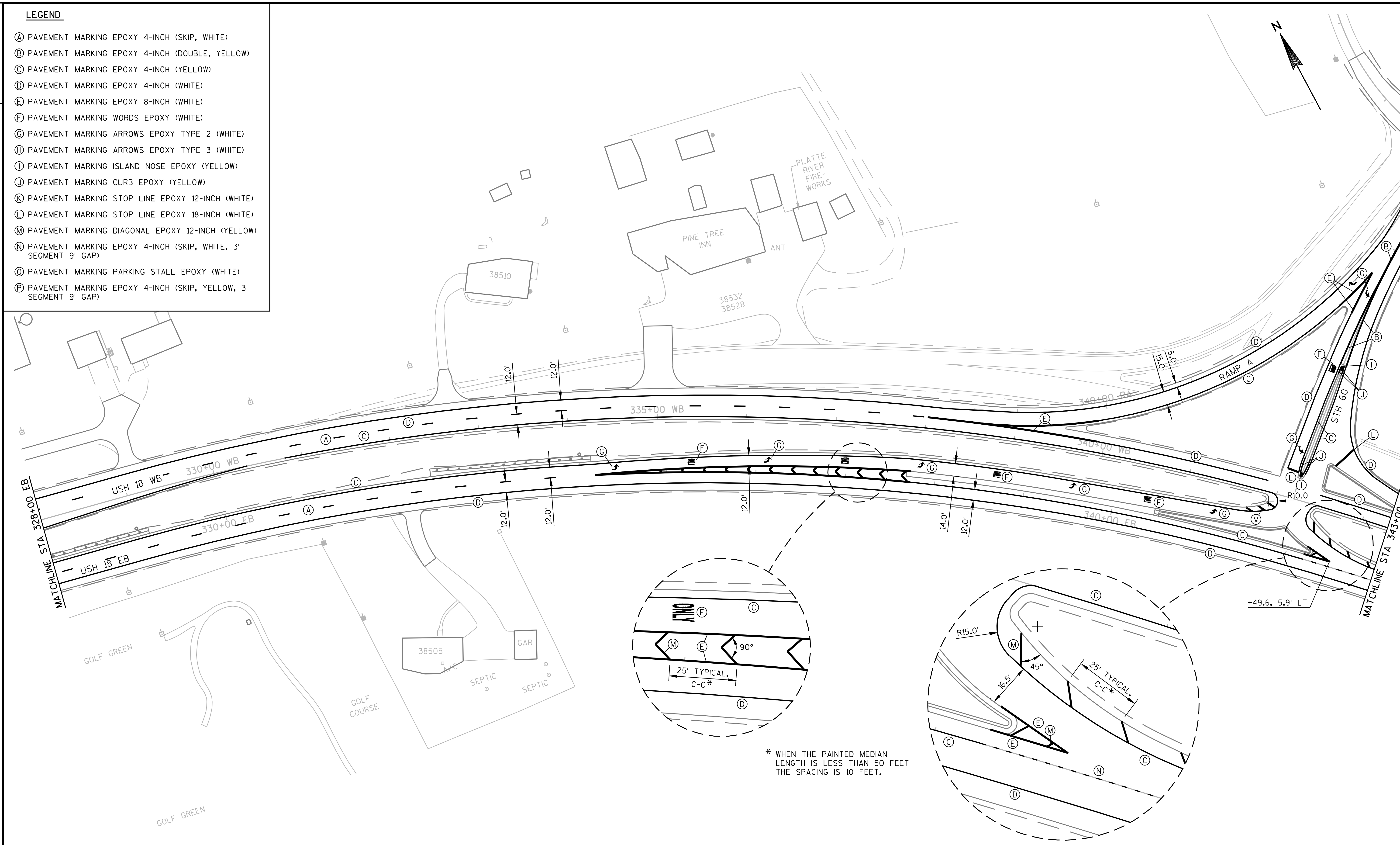
FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PMUSH18.DWG

SHEET NAME: 024509PM

2

LEGEND

- (A) PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE)
- (B) PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)
- (C) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
- (D) PAVEMENT MARKING EPOXY 4-INCH (WHITE)
- (E) PAVEMENT MARKING EPOXY 8-INCH (WHITE)
- (F) PAVEMENT MARKING WORDS EPOXY (WHITE)
- (G) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)
- (H) PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)
- (I) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
- (J) PAVEMENT MARKING CURB EPOXY (YELLOW)
- (K) PAVEMENT MARKING STOP LINE EPOXY 12-INCH (WHITE)
- (L) PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
- (M) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
- (N) PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE, 3' SEGMENT 9' GAP)
- (O) PAVEMENT MARKING PARKING STALL EPOXY (WHITE)
- (P) PAVEMENT MARKING EPOXY 4-INCH (SKIP, YELLOW, 3' SEGMENT 9' GAP)



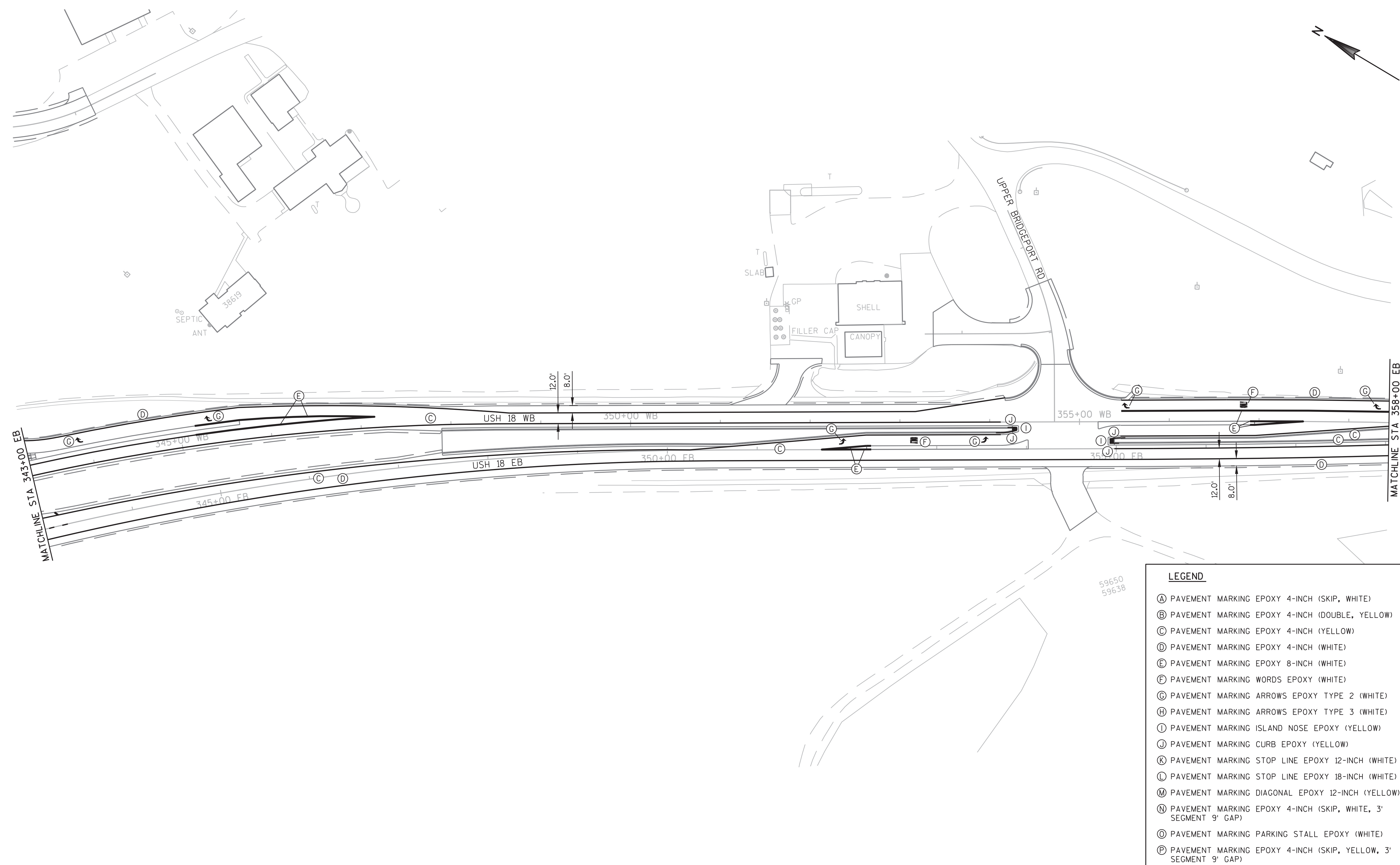
* WHEN THE PAINTED MEDIAN LENGTH IS LESS THAN 50 FEET THE SPACING IS 10 FEET.

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PAVEMENT MARKING	SHEET 138	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PMUSH18.DWG

SHEET NAME: 024510APM

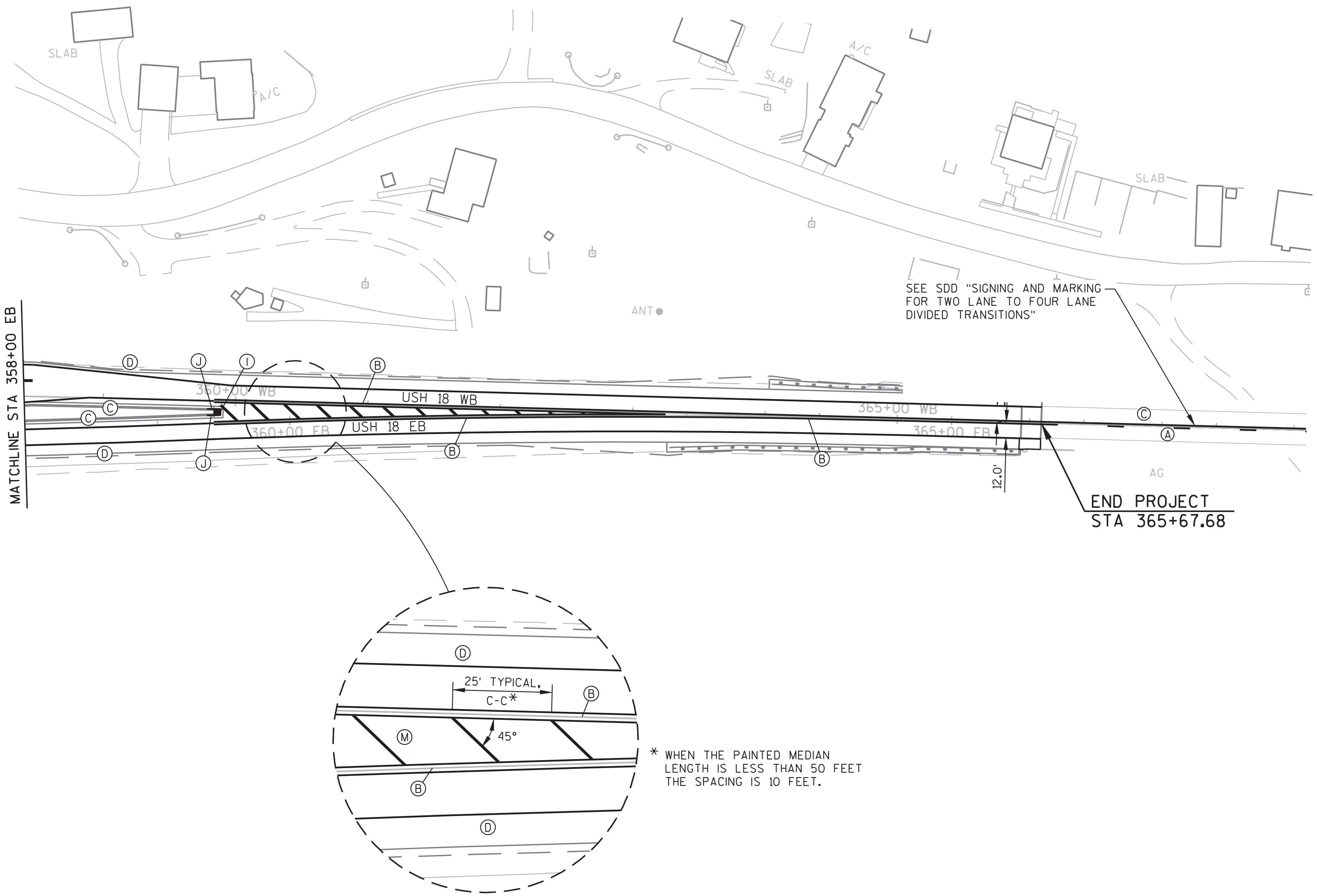
2



LEGEND

- Ⓐ PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE)
- Ⓑ PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)
- Ⓒ PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
- Ⓓ PAVEMENT MARKING EPOXY 4-INCH (WHITE)
- Ⓔ PAVEMENT MARKING EPOXY 8-INCH (WHITE)
- Ⓕ PAVEMENT MARKING WORDS EPOXY (WHITE)
- Ⓖ PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)
- Ⓗ PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)
- Ⓘ PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
- Ⓙ PAVEMENT MARKING CURB EPOXY (YELLOW)
- Ⓚ PAVEMENT MARKING STOP LINE EPOXY 12-INCH (WHITE)
- Ⓛ PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
- Ⓜ PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
- Ⓝ PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE, 3' SEGMENT 9' GAP)
- Ⓞ PAVEMENT MARKING PARKING STALL EPOXY (WHITE)
- Ⓟ PAVEMENT MARKING EPOXY 4-INCH (SKIP, YELLOW, 3' SEGMENT 9' GAP)

2



* WHEN THE PAINTED MEDIAN LENGTH IS LESS THAN 50 FEET THE SPACING IS 10 FEET.

LEGEND

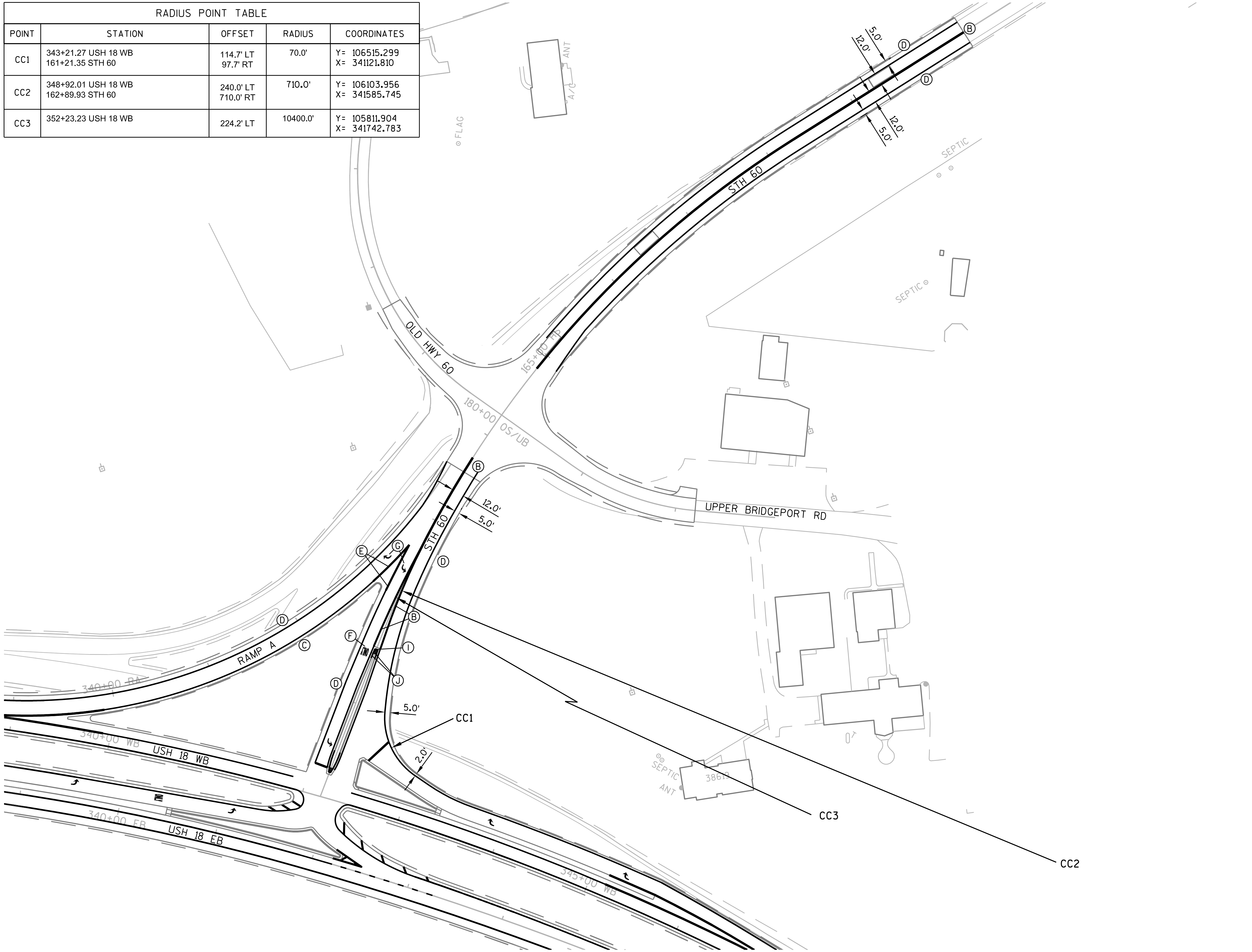
Ⓐ PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE)
Ⓑ PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)
Ⓒ PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
Ⓓ PAVEMENT MARKING EPOXY 4-INCH (WHITE)
Ⓔ PAVEMENT MARKING EPOXY 8-INCH (WHITE)
Ⓕ PAVEMENT MARKING WORDS EPOXY (WHITE)
Ⓖ PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)
Ⓗ PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)
Ⓘ PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
Ⓙ PAVEMENT MARKING CURB EPOXY (YELLOW)
Ⓚ PAVEMENT MARKING STOP LINE EPOXY 12-INCH (WHITE)
Ⓛ PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
Ⓜ PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
Ⓝ PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE, 3' SEGMENT 9' GAP)
Ⓞ PAVEMENT MARKING PARKING STALL EPOXY (WHITE)
Ⓟ PAVEMENT MARKING EPOXY 4-INCH (SKIP, YELLOW, 3' SEGMENT 9' GAP)

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PAVEMENT MARKING	SHEET 140	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PMUSH18.DWG

SHEET NAME: 024512PM

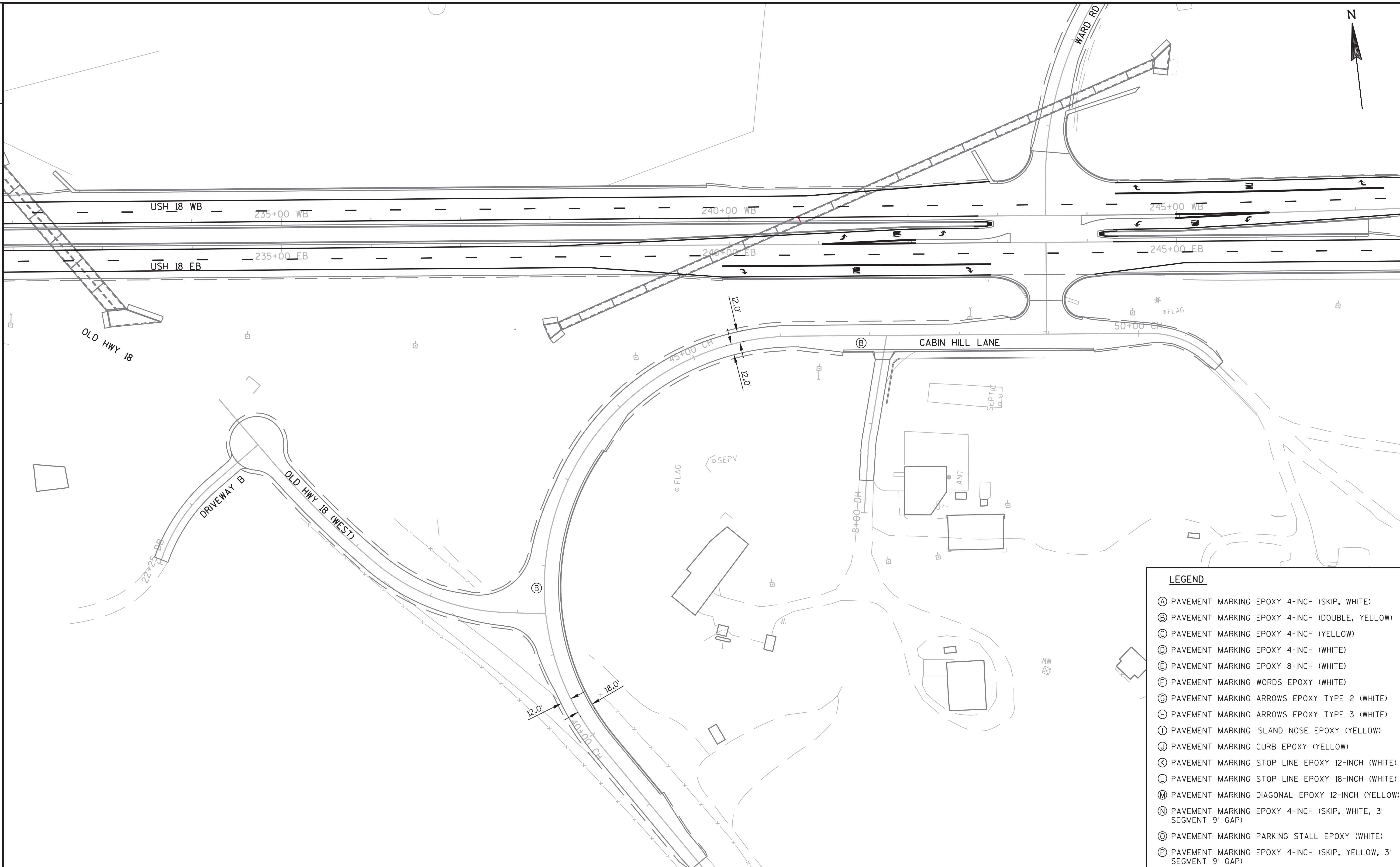
RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	343+21.27 USH 18 WB 161+21.35 STH 60	114.7' LT 97.7' RT	70.0'	Y= 106515.299 X= 341121.810
CC2	348+92.01 USH 18 WB 162+89.93 STH 60	240.0' LT 710.0' RT	710.0'	Y= 106103.956 X= 341585.745
CC3	352+23.23 USH 18 WB	224.2' LT	10400.0'	Y= 105811.904 X= 341742.783



LEGEND

- (A) PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE)
- (B) PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)
- (C) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
- (D) PAVEMENT MARKING EPOXY 4-INCH (WHITE)
- (E) PAVEMENT MARKING EPOXY 8-INCH (WHITE)
- (F) PAVEMENT MARKING WORDS EPOXY (WHITE)
- (G) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)
- (H) PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)
- (I) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
- (J) PAVEMENT MARKING CURB EPOXY (YELLOW)
- (K) PAVEMENT MARKING STOP LINE EPOXY 12-INCH (WHITE)
- (L) PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
- (M) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
- (N) PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE, 3' SEGMENT 9' GAP)
- (O) PAVEMENT MARKING PARKING STALL EPOXY (WHITE)
- (P) PAVEMENT MARKING EPOXY 4-INCH (SKIP, YELLOW, 3' SEGMENT 9' GAP)

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PAVEMENT MARKING	SHEET 141	E



LEGEND

- Ⓐ PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE)
- Ⓑ PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)
- Ⓒ PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
- Ⓓ PAVEMENT MARKING EPOXY 4-INCH (WHITE)
- Ⓔ PAVEMENT MARKING EPOXY 8-INCH (WHITE)
- Ⓕ PAVEMENT MARKING WORDS EPOXY (WHITE)
- Ⓖ PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)
- Ⓗ PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)
- Ⓘ PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
- Ⓙ PAVEMENT MARKING CURB EPOXY (YELLOW)
- Ⓚ PAVEMENT MARKING STOP LINE EPOXY 12-INCH (WHITE)
- Ⓛ PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
- Ⓜ PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
- Ⓝ PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE, 3' SEGMENT 9' GAP)
- Ⓞ PAVEMENT MARKING PARKING STALL EPOXY (WHITE)
- Ⓟ PAVEMENT MARKING EPOXY 4-INCH (SKIP, YELLOW, 3' SEGMENT 9' GAP)

2

GENERAL TRAFFIC CONTROL NOTES:

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS ARE APPROXIMATE AND SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

DURING HOURS OF DARKNESS ALL BARRICADES USED TO SHIELD A HAZARD SHALL BE EQUIPPED WITH WARNING LIGHTS TYPE A AND ALL DRUMS IN A TAPER SHALL HAVE A TYPE C WARNING LIGHTS.

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

ALL SIGNS OR PAVEMENT MARKING, TEMPORARY OR EXISTING, WHICH MAY CONFLICT WITH THE CONSTRUCTION TRAFFIC PATTERN SHALL BE REMOVED OR COVERED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE "WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (WMUTCD), A SUPPLEMENT TO THE FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".

OBTAIN PRIOR APPROVAL FROM THE ENGINEER FOR THE LOCATION OF EGRESS AND INGRESS FOR CONSTRUCTION VEHICLES TO PROSECUTE THE WORK.

A FLAGGER MAY BE REQUIRED WHERE CONSTRUCTION VEHICLES ENTER OR LEAVE WORK AREAS IF WARRANTED BY CONDITIONS OR AS DIRECTED BY THE ENGINEER. SEE SDD "TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD".

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND COLOR IS ORANGE

ALL TYPE III BARRICADES SHALL BE 8-FOOT WIDE, UNLESS OTHERWISE NOTED, AND EQUIPPED WITH TWO TYPE A LIGHTS.

SPACE DRUMS @ 100' UNLESS OTHERWISE NOTED.

TRAFFIC CONTROL DRUM SPACING SHALL BE REDUCED TO 10' WHEN NEXT TO OPEN UTILITY TRENCH EXCAVATION.

THE TURNING OF TRAFFIC CONTROL DEVICES WHEN NOT IN USE TO OBSCURE THE MESSAGE WILL NOT BE ALLOWED.

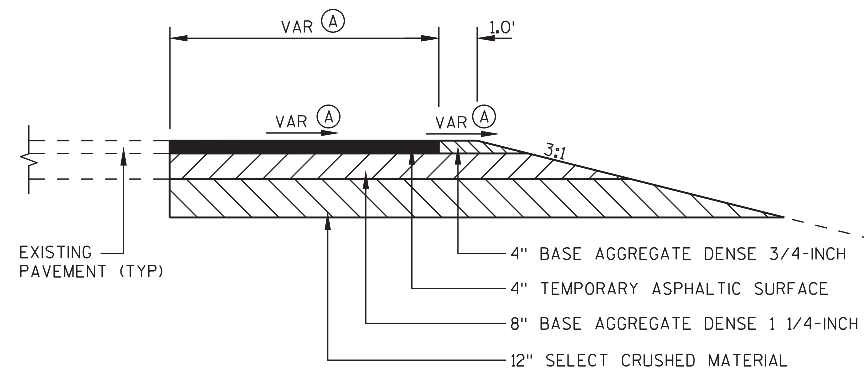
PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE INSTALLED WITHIN 1000' OF THE PROJECT LIMITS. AT THE LOCATIONS DETERMINED BY THE ENGINEER (ONE AT EACH END OF THE PROJECT ON USH 18 AND ONE ON STH 60) 2 WEEKS PRIOR TO CONSTRUCTION.
THE SIGNS SHALL BE PROGRAMMED WITH THE FOLLOWING MESSAGE:

PHASE 1 (3 SEC)	PHASE 2 (3 SEC)
"HWY 18 WORK STARTS"	"MARCH XX EXPECT DELAYS"

THE PCMS SIGNS SHALL BE RE-PROGRAMMED WITH DIFFERENT MESSAGES DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER.

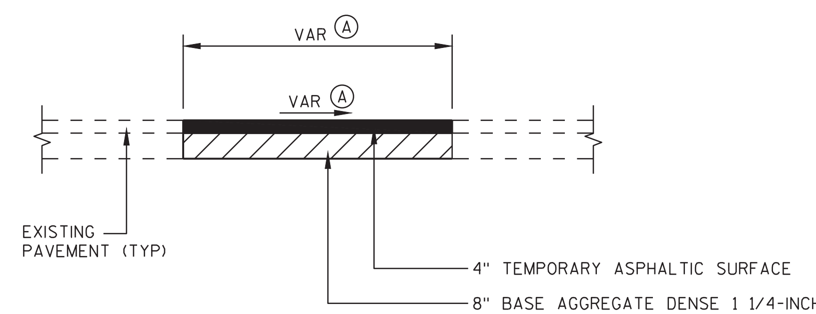
SEE SDD "TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS" FOR TRAFFIC CONTROL WHERE FLAGGING IS REQUIRED ON USH 18 OR STH 60.

PAVEMENT MARKING DESIGNATED FOR REMOVAL SHALL BE REMOVED BY BLASTING. GRINDING OF PAVEMENT MARKINGS IS NOT ALLOWED.



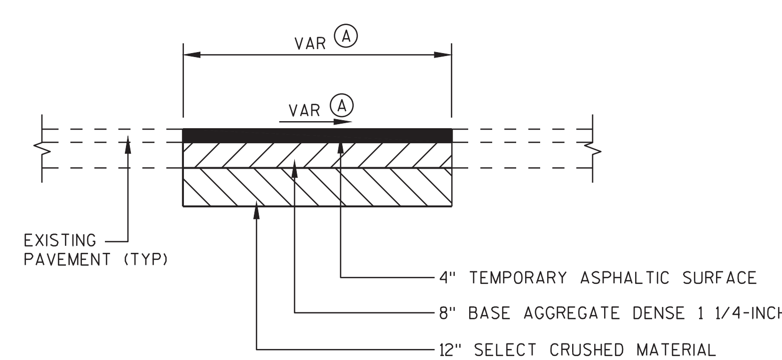
TEMPORARY ASPHALTIC SURFACE TYPICAL SECTION

TEMPORARY WIDENING
USH 18
STA 324+51 TO STA 328+57 EB
STA 337+47 TO STA 344+51 EB
STA 354+83 TO STA 359+50 EB
STH 60
STA 160+67 TO STA 161+51



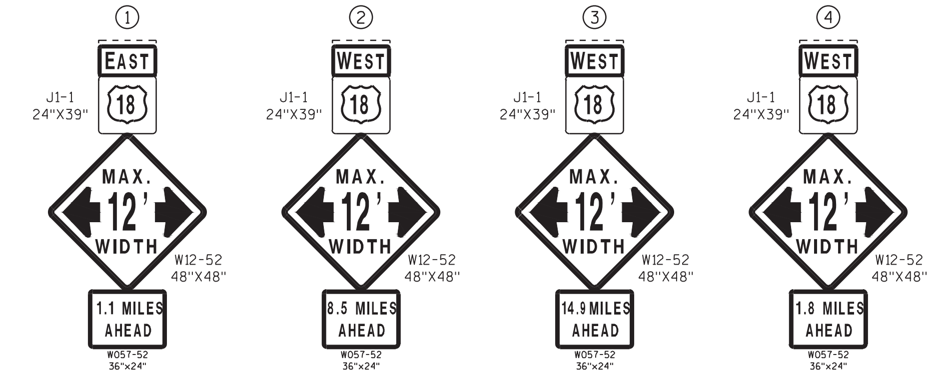
TEMPORARY ASPHALTIC SURFACE TYPICAL SECTION

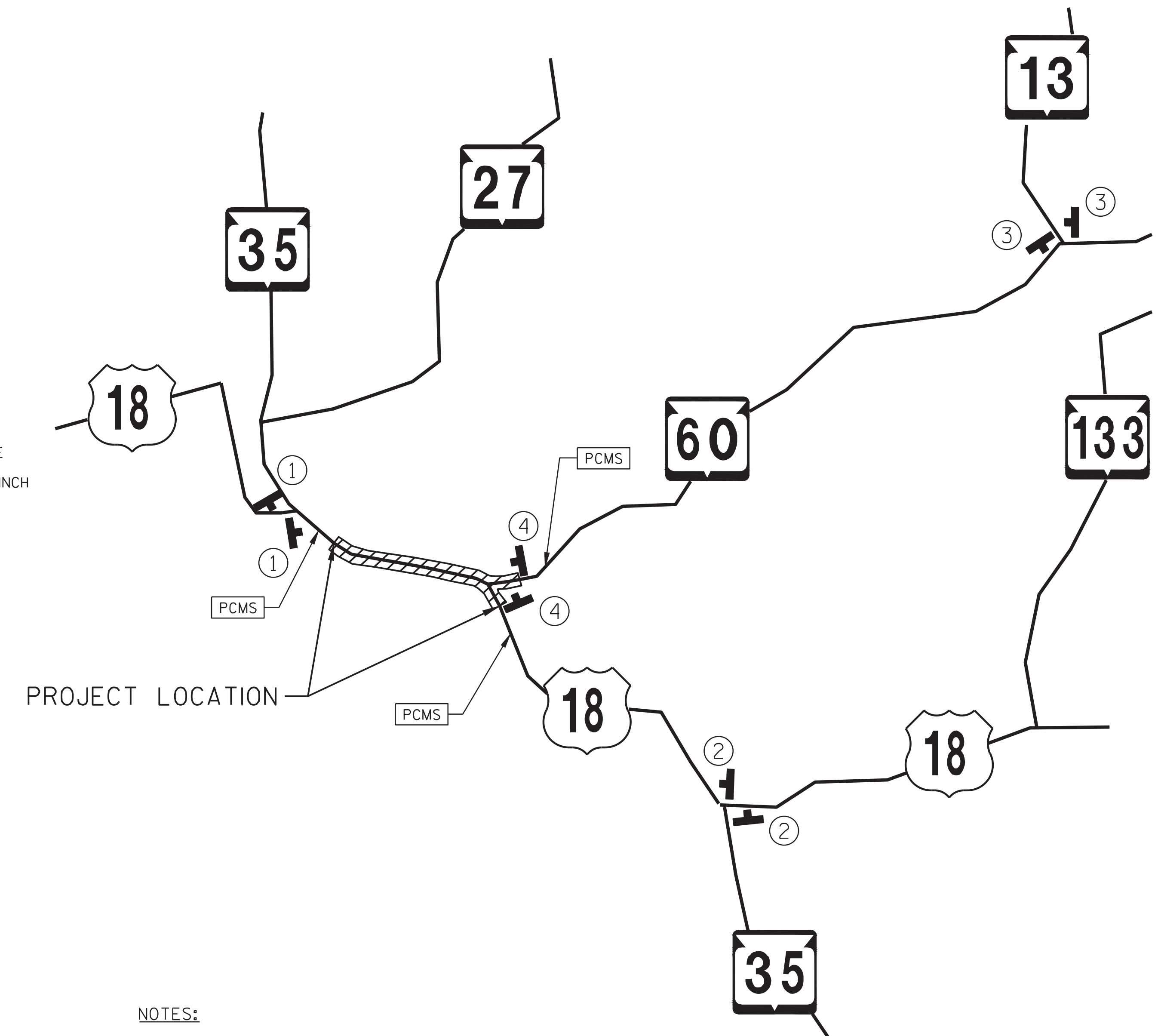
TEMPORARY CROSSOVERS
STA 197+59 TO STA 203+00 EB
STA 318+15 TO STA 334+27 EB



TEMPORARY ASPHALTIC SURFACE TYPICAL SECTION

TEMPORARY CROSSOVERS
STA 359+75 TO STA 360+00 EB & WB





NOTES:

Ⓐ REFER TO CROSS SECTIONS AND TRAFFIC CONTROL SHEETS FOR TEMPORARY ASPHALTIC SURFACE LOCATIONS, WIDTHS AND CROSS SLOPES.

PCMS PORTABLE CHANGEABLE MESSAGE SIGN

WIDTH RESTRICTION SIGNING FOR 2016 CONSTRUCTION

2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL NOTES	SHEET 143	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 1A.DWG
SHEET NAME: STAGE1A00

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY

STAGE 1A NOTES:

TRAFFIC WILL UTILIZE EXISTING OUTSIDE LANES ON USH 18. CONSTRUCT TWO TEMPORARY CROSSOVERS LOCATED APPROXIMATELY 200 FEET EAST OF THE USH 18 AND SOUTH TOWN LANE INTERSECTION AND APPROXIMATELY 1300 FEET WEST OF THE USH 18 AND STH 60 INTERSECTION. TEMPORARY WIDENING CONSTRUCTION WILL ALSO TAKE PLACE AROUND THE STH 60 INTERSECTION. TEMPORARY LANE CLOSURES WILL BE USED DURING THE CONSTRUCTION OF THE WEST CROSSOVER AND A SHOULDER CLOSURE WILL BE USED DURING THE CONSTRUCTION OF THE EAST CROSSOVER. ALL SIDE ROADS SHALL REMAIN OPEN TO TRAFFIC. LANE WIDTHS SHALL BE A MINIMUM OF 12 FEET DURING THIS STAGE.

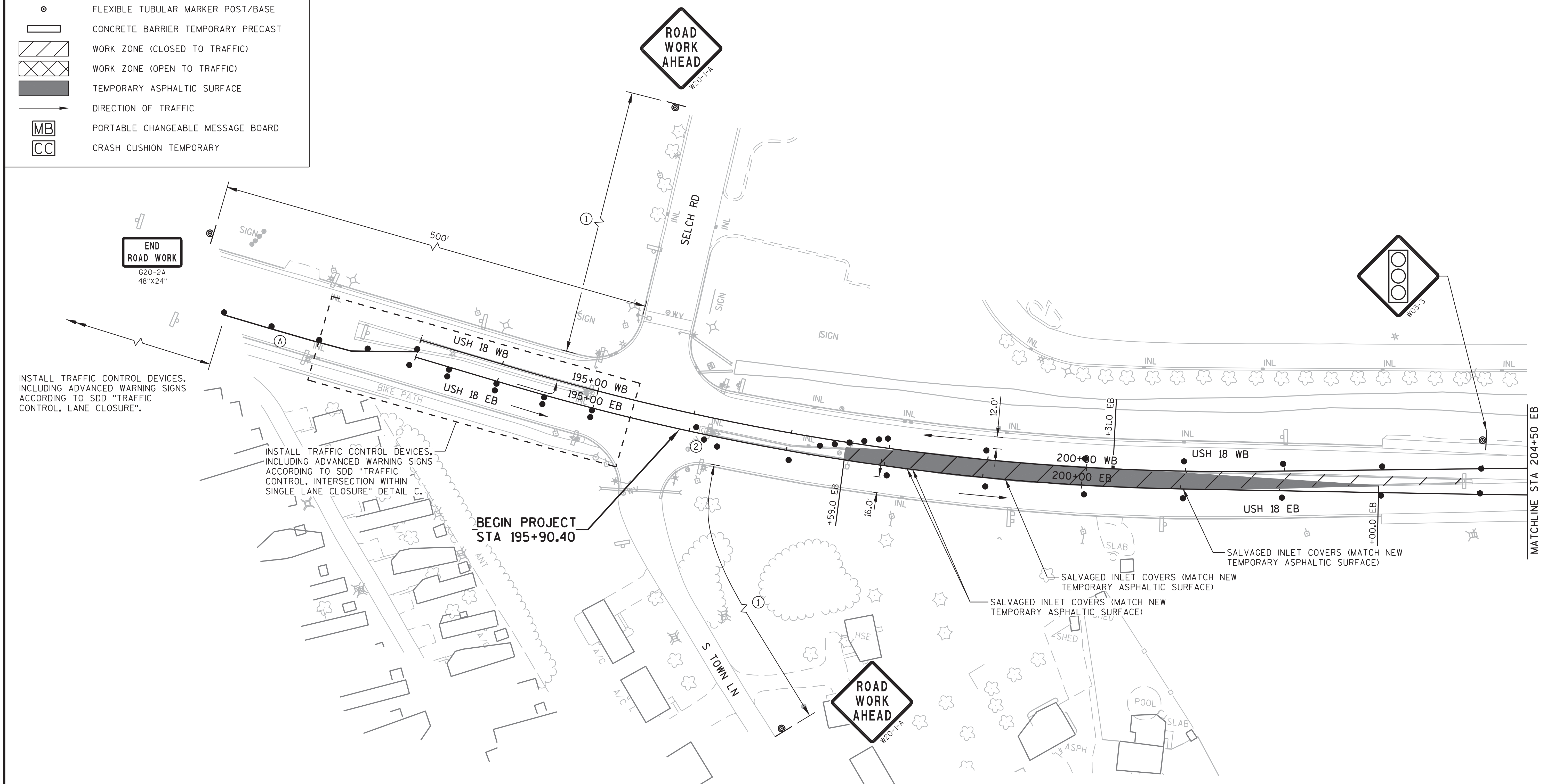
NOTES:

1. 500' MAX OR AT LAST INTERSECTION; WHICHEVER IS CLOSER.
2. 15' DRUM SPACING AROUND RADIUS (TYPICAL) AND IN FRONT OF ARROW BOARD

PAVEMENT MARKING LEGEND:

(A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

2

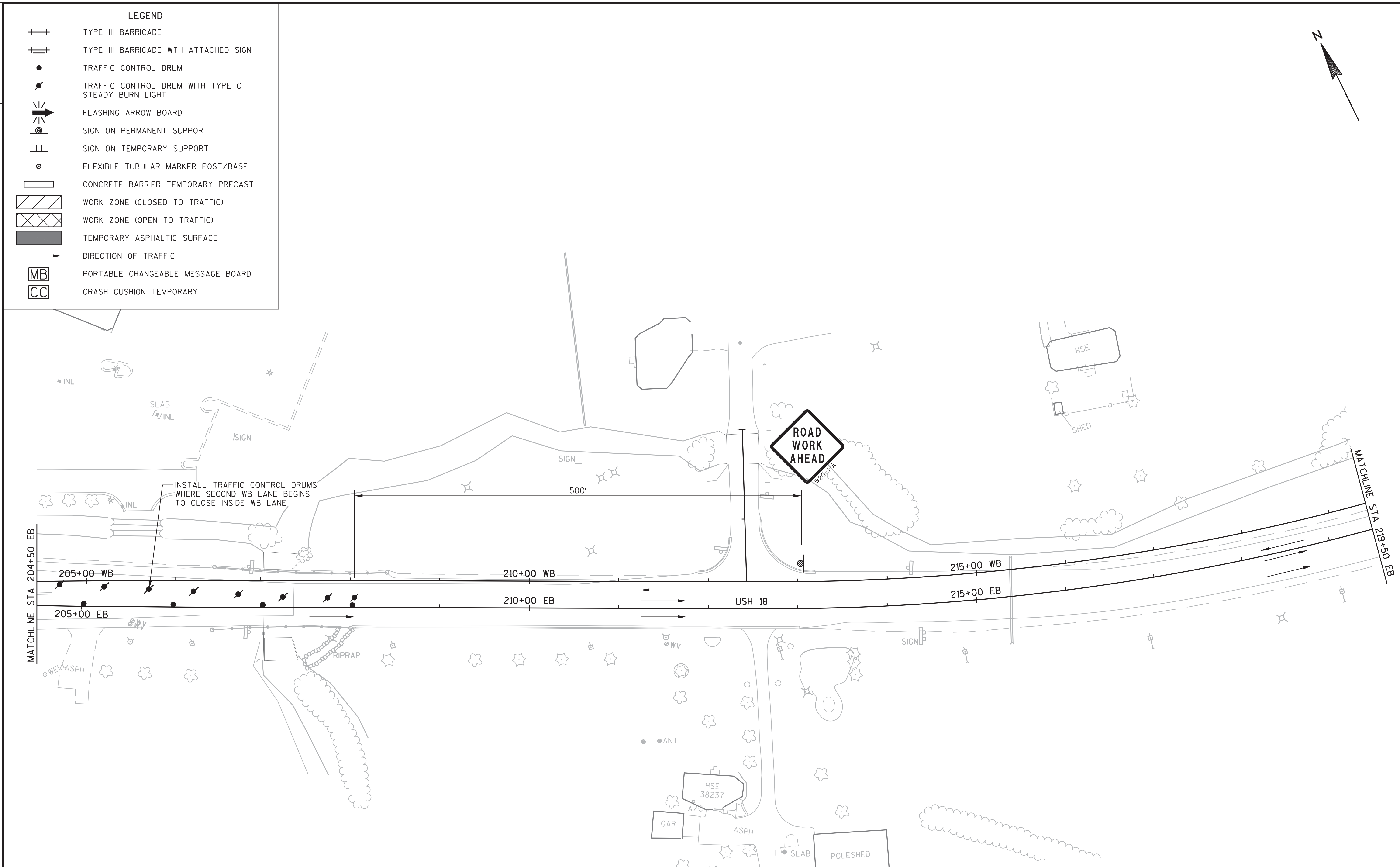


PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 1A	SHEET 144	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 1A.DWG

SHEET NAME: STAGE1A01

2



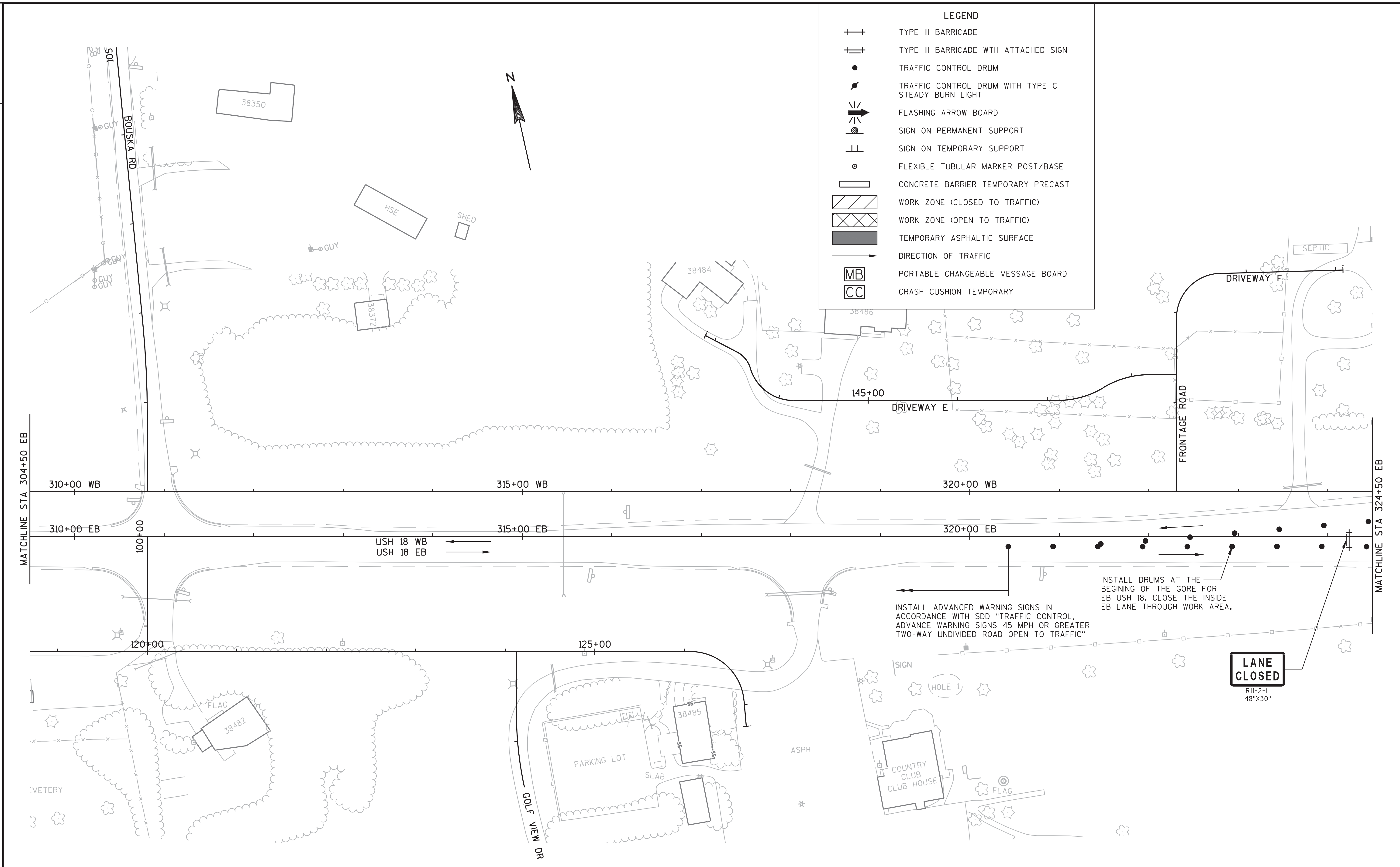
2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 1A	SHEET 145	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 1A.DWG

SHEET NAME: STAGE1A02

2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 1A	SHEET 146	E

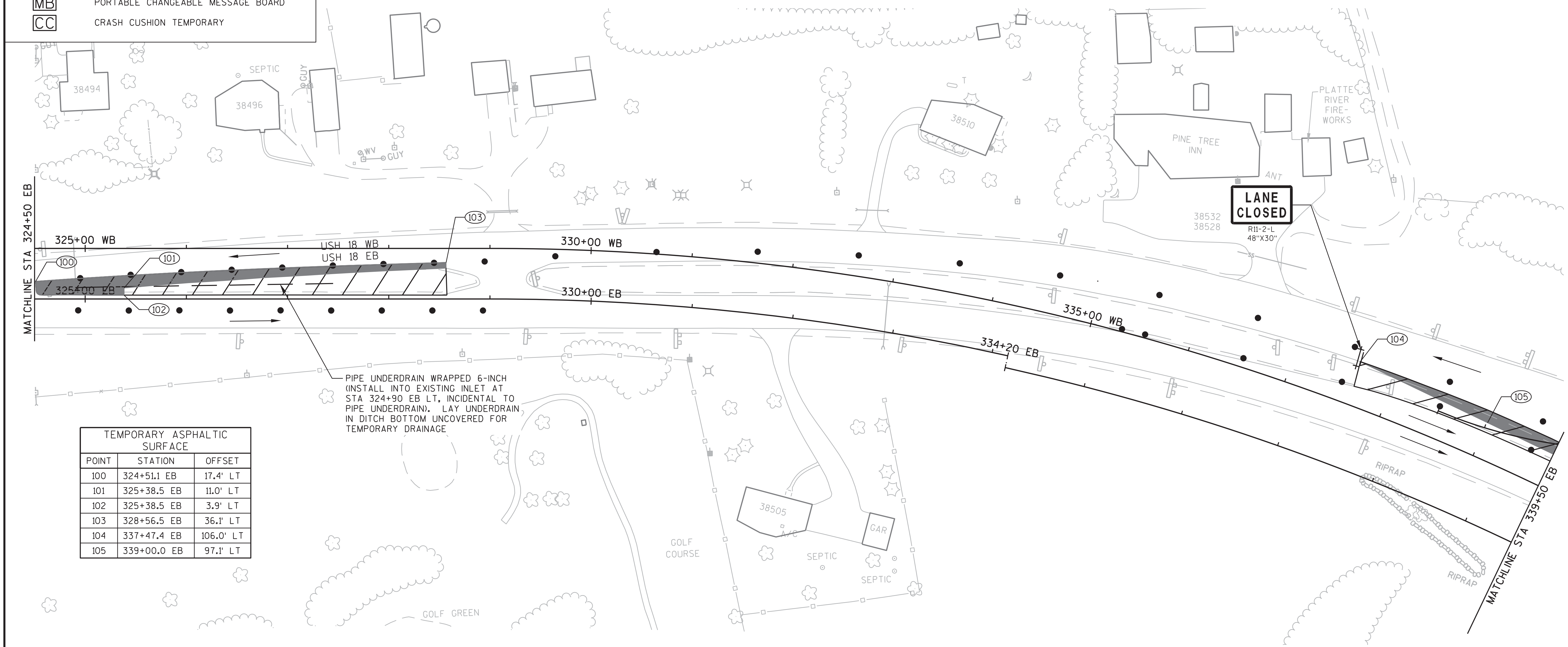
FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 1A.DWG

SHEET NAME: STAGE1A09

2

LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	FLEXIBLE TUBULAR MARKER POST/BASE
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK ZONE (CLOSED TO TRAFFIC)
	WORK ZONE (OPEN TO TRAFFIC)
	TEMPORARY ASPHALTIC SURFACE
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
CC	CRASH CUSHION TEMPORARY



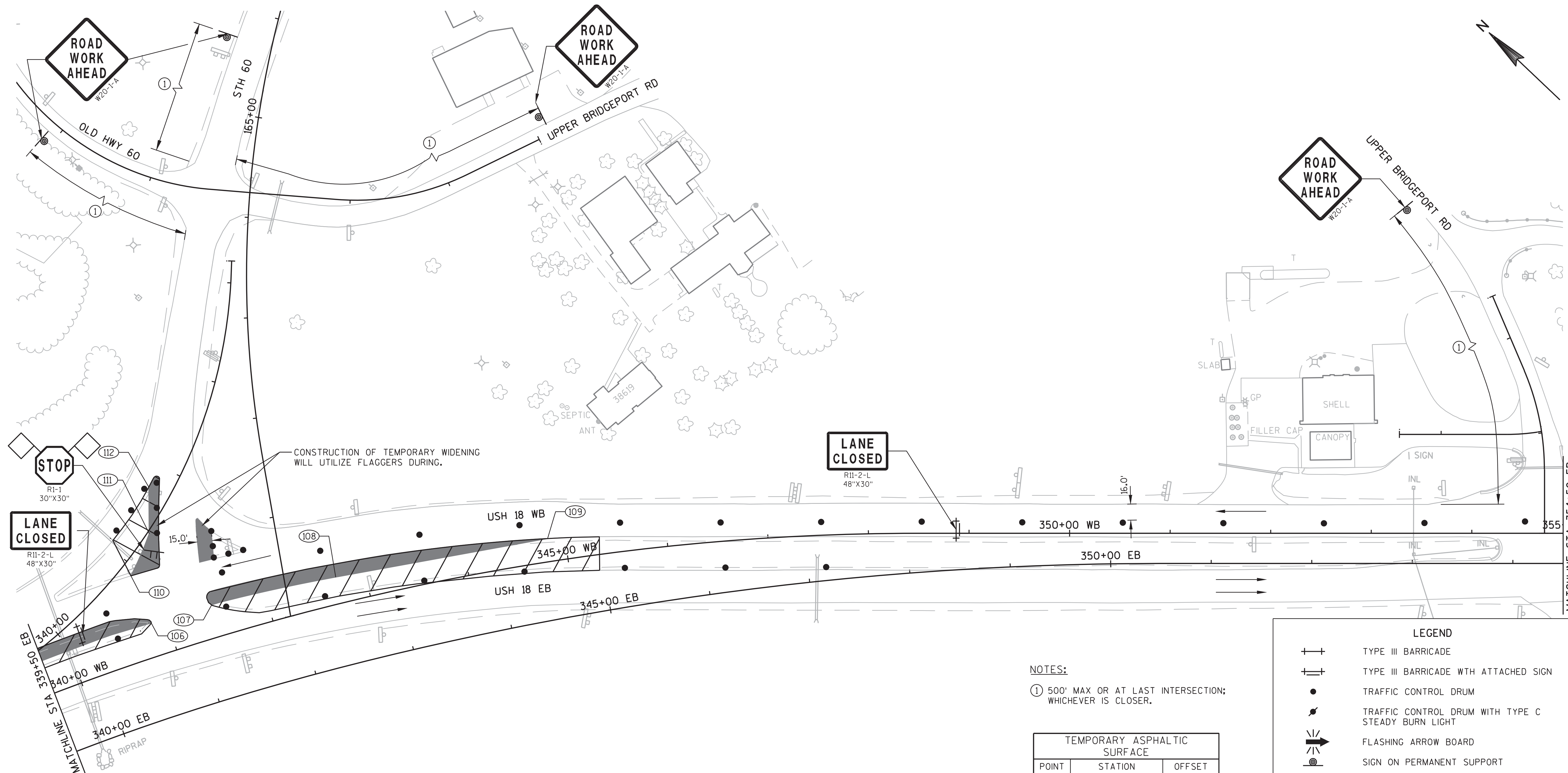
TEMPORARY ASPHALTIC SURFACE		
POINT	STATION	OFFSET
100	324+51.1 EB	17.4' LT
101	325+38.5 EB	11.0' LT
102	325+38.5 EB	3.9' LT
103	328+56.5 EB	36.1' LT
104	337+47.4 EB	106.0' LT
105	339+00.0 EB	97.1' LT

2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 1A	SHEET	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 1A.DWG

SHEET NAME: STAGE1A10



NOTES:

① 500' MAX OR AT LAST INTERSECTION; WHICHEVER IS CLOSER.

TEMPORARY ASPHALTIC SURFACE		
POINT	STATION	OFFSET
106	340+60.2 EB	95.4' LT
107	341+20.5 EB	94.5' LT
108	343+00.0 EB	85.0' LT
109	344+50.6 EB	80.8' LT
110	160+67.3 STH 60	149.5' LT
111	161+00.0 STH 60	125.5' LT
112	161+51.0 STH 60	116.5' LT

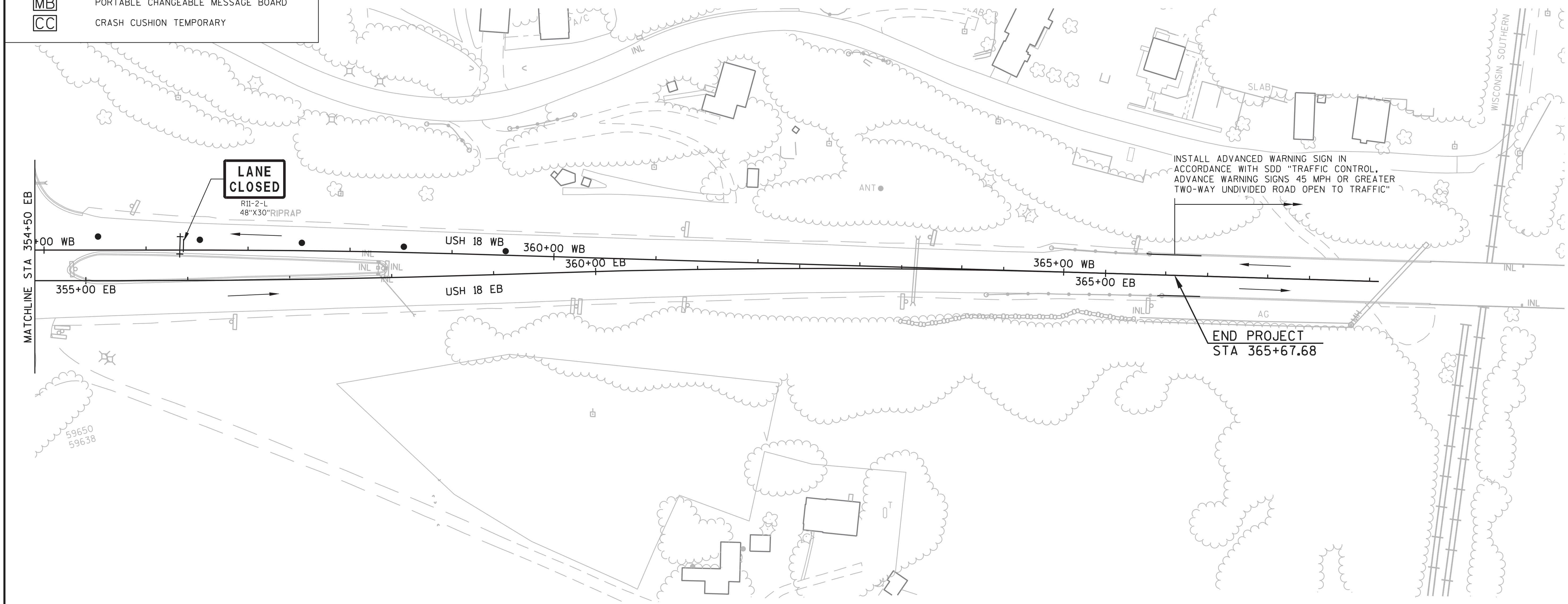
LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY
- FLAGS, 16"X16" MIN. (ORANGE)

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY



2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 1A	SHEET 149	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 1A.DWG

SHEET NAME: STAGE1A12

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY
- FLAGS, 16"X16" MIN. (ORANGE)

STAGE 1 NOTES:

EB TRAFFIC WILL BE MERGED DOWN TO A SINGLE LANE WEST OF THE SOUTH TOWN LANE INTERSECTION. WB TRAFFIC WILL MAINTAIN A SINGLE LANE OF TRAFFIC BEGINNING AT THE WISCONSIN RIVER BRIDGE. TRAFFIC WILL UTILIZE A 2-LANE 2-WAY OPERATION AND WILL OPERATE ON THE EXISTING USH 18 ROADWAY. TRAFFIC WILL BE SHIFTED ONTO THE EXISTING WESTBOUND LANES OF USH 18 APPROXIMATELY 1500 FEET WEST OF STH 60. STH 60 WILL REMAIN OPEN TO TRAFFIC AT ALL TIMES DURING CONSTRUCTION. LANE WIDTHS WILL BE 12 FEET MINIMUM DURING THIS STAGE.

THE WESTBOUND LANES OF USH 18 ARE BEING CONSTRUCTED BEGINNING APPROXIMATELY 500 FEET EAST OF SOUTH TOWN LANE TO APPROXIMATELY 1400 FEET EAST OF BOUSKA ROAD. THE EASTBOUND LANES OF USH 18 WILL BE CONSTRUCTED BEGINNING APPROXIMATELY 1300 FEET EAST OF BOUSKA ROAD TO APPROXIMATELY 600 FEET SOUTH OF UPPER BRIDGEPORT ROAD.

THE BRIDGE AND TWO BOX CULVERTS ON USH 18 WILL BE CONSTRUCTED HALF AT A TIME UTILIZING TEMPORARY SHORING. REFER TO STRUCTURE PLANS

BOUSKA AND WARD ROAD WILL BE CONSTRUCTED ON AN OPEN/CLOSE ALTERNATING BASIS. ALL REMAINING SIDE ROADS WILL BE OPEN TO TRAFFIC AND CONSTRUCTED HALF AT A TIME.

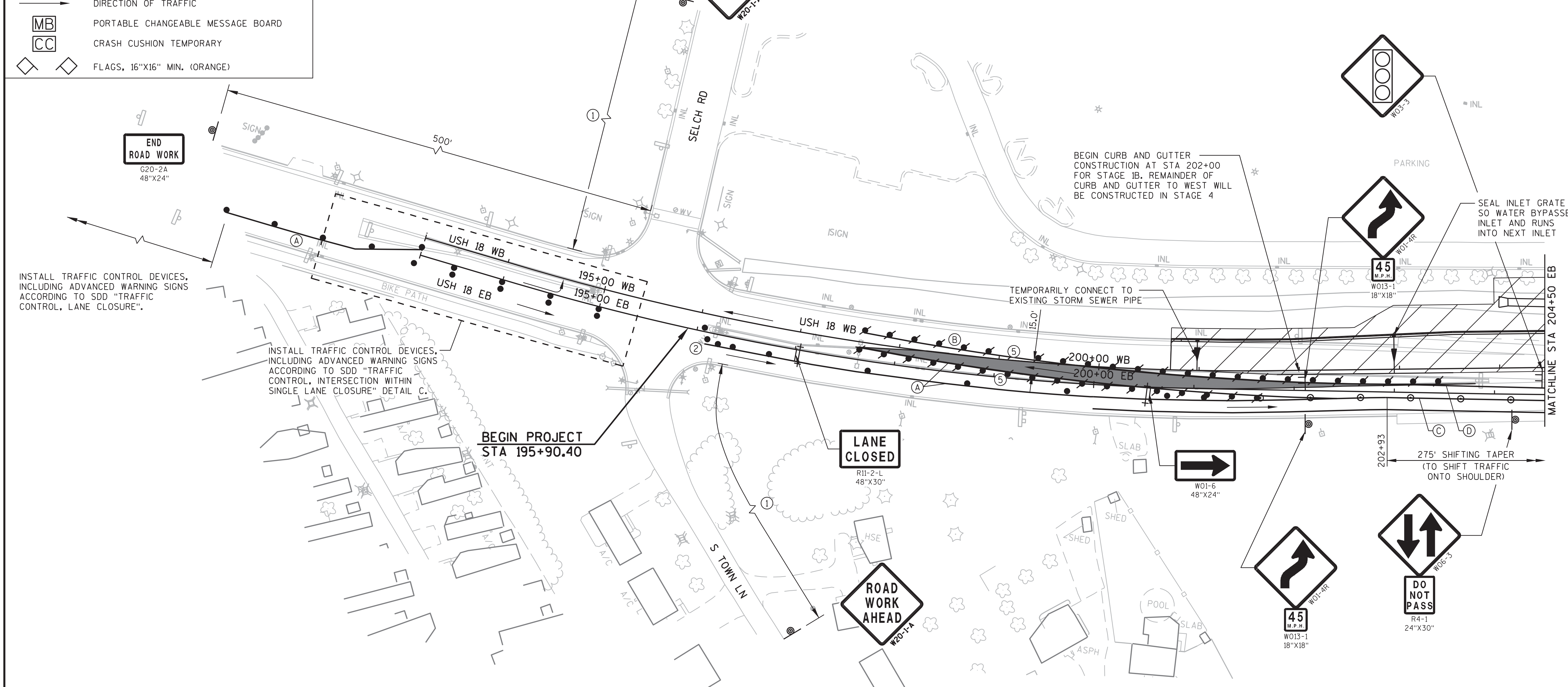
INSTALL PERMANENT SIGNS FROM STA 201+00 WB TO STA 325+00 WB AND STA 324+00 EB TO STA 360+00 EB INCLUDING SIDEROADS PRIOR TO STAGE 2A.

NOTES:

1. 500' MAX OR AT LAST INTERSECTION; WHICHEVER IS CLOSER.
2. 15' DRUM SPACING AROUND RADIUS (TYPICAL) AND IN FRONT OF ARROW BOARD
5. 25' DRUM SPACING

PAVEMENT MARKING LEGEND:

- (A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- (B) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
- (C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)
- (D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 1B	SHEET 150	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 1B.DWG

SHEET NAME: STAGE1B01

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY
- FLAGS, 16"X16" MIN. (ORANGE)

NOTES:

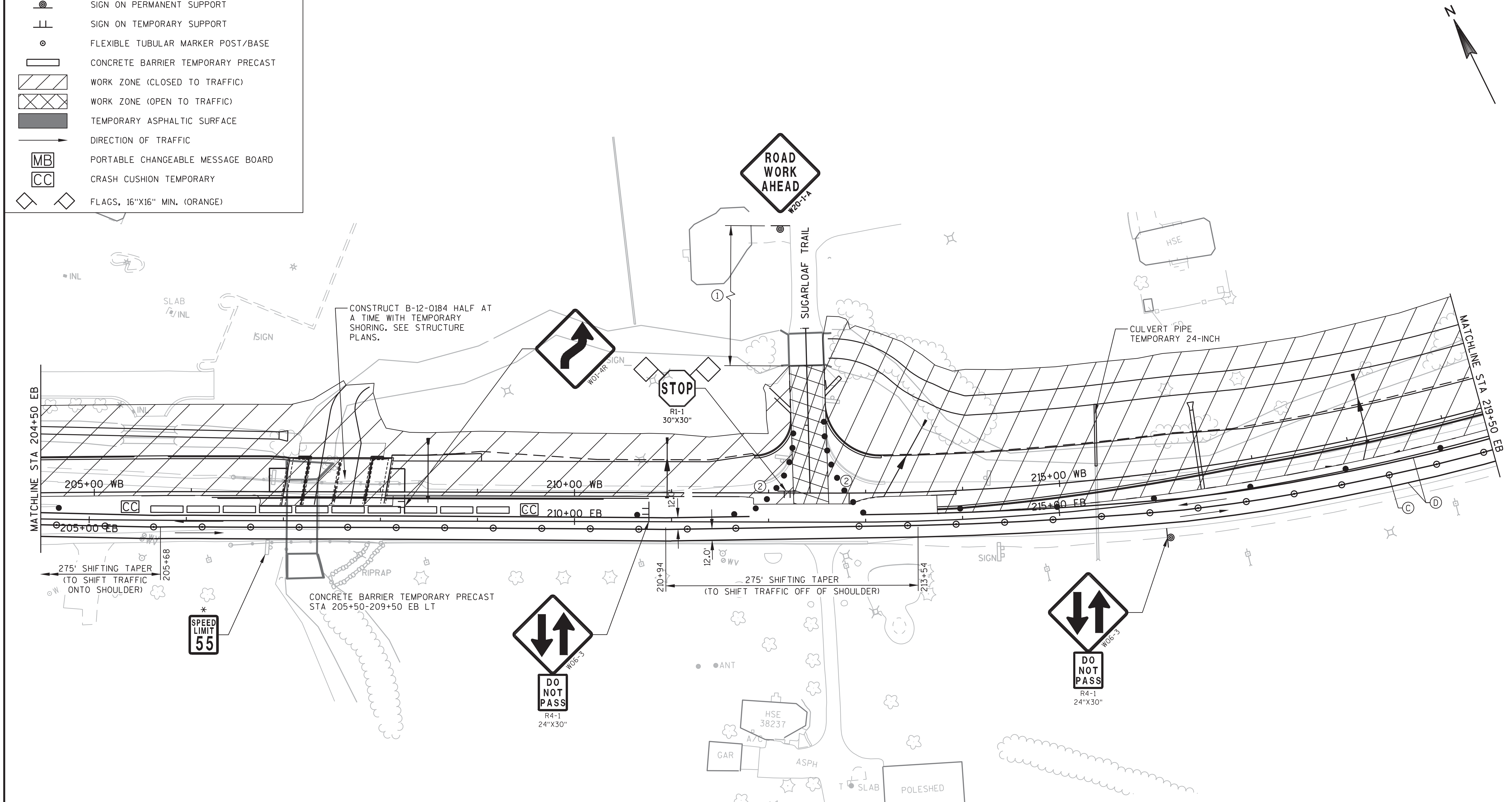
1. 500' MAX OR AT LAST INTERSECTION; WHICHEVER IS CLOSER.
2. 15' DRUM SPACING AROUND RADIUS (TYPICAL) AND IN FRONT OF ARROW BOARD

* EXISTING SIGN TO REMAIN

PAVEMENT MARKING LEGEND:

- (A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- (B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
- (C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)
- (D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)

2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 1B	SHEET 151	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 1B.DWG

SHEET NAME: STAGE1B02

2

LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	FLEXIBLE TUBULAR MARKER POST/BASE
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK ZONE (CLOSED TO TRAFFIC)
	WORK ZONE (OPEN TO TRAFFIC)
	TEMPORARY ASPHALTIC SURFACE
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
CC	CRASH CUSHION TEMPORARY
	FLAGS, 16"X16" MIN. (ORANGE)

PAVEMENT MARKING LEGEND:

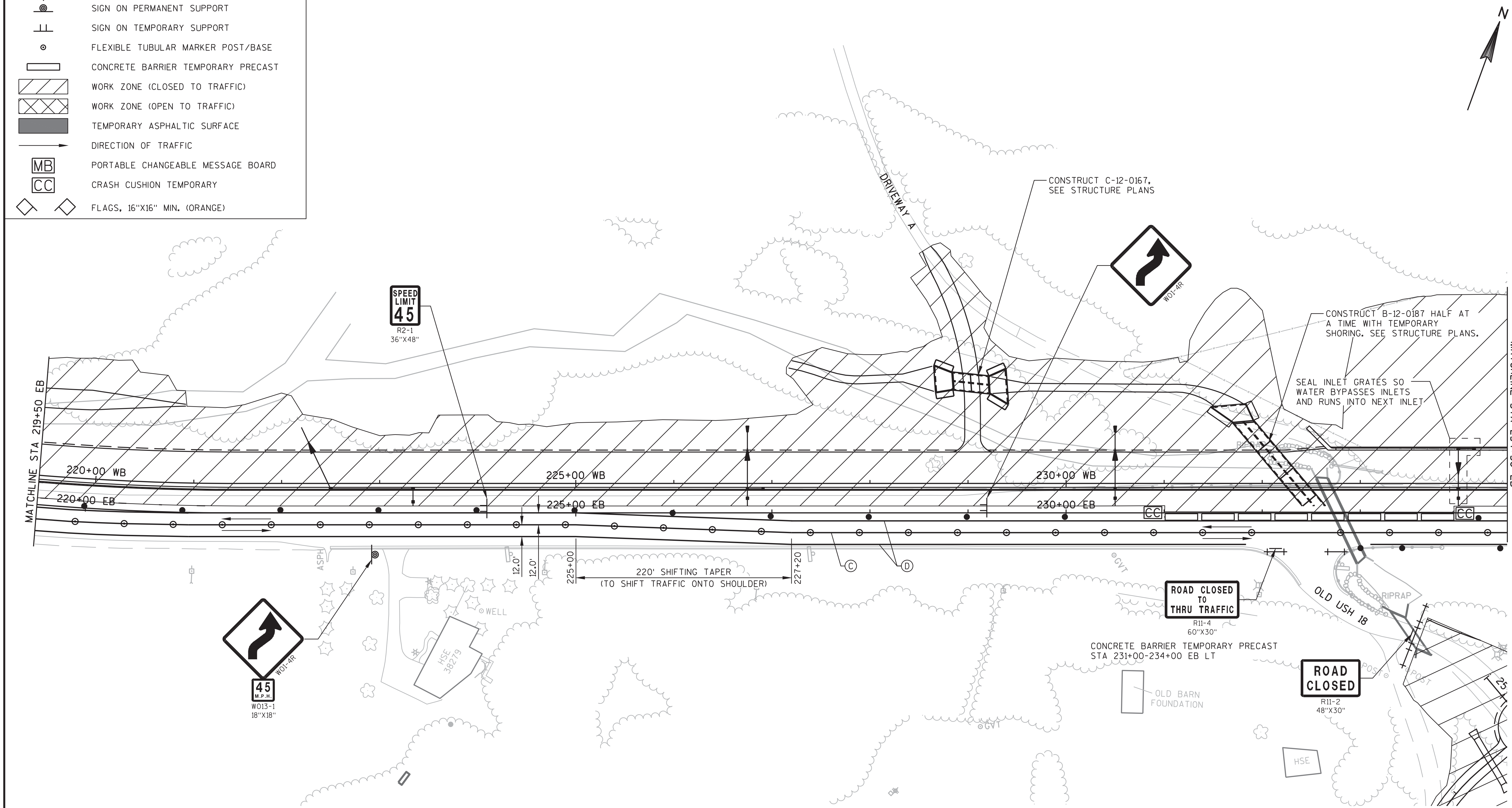
Ⓐ TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

Ⓑ TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)

Ⓒ TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)

Ⓓ TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)

2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 1B	SHEET 152	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 1B.DWG

SHEET NAME: STAGE1B03

2

LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	FLEXIBLE TUBULAR MARKER POST/BASE
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK ZONE (CLOSED TO TRAFFIC)
	WORK ZONE (OPEN TO TRAFFIC)
	TEMPORARY ASPHALTIC SURFACE
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
CC	CRASH CUSHION TEMPORARY
	FLAGS, 16"X16" MIN. (ORANGE)

NOTES:

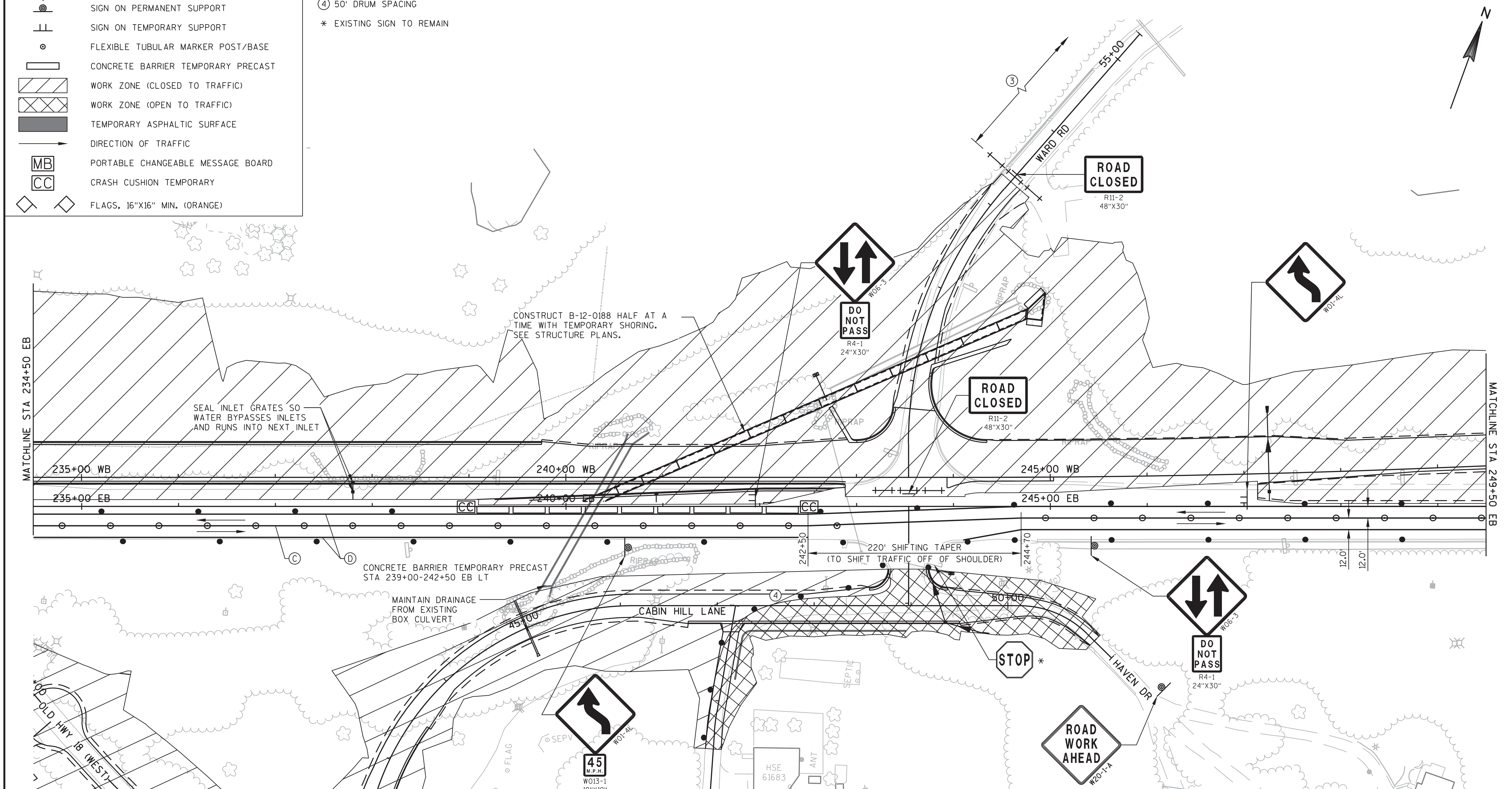
2. 15' DRUM SPACING AROUND RADIUS (TYPICAL) AND IN FRONT OF ARROW BOARD
3. FOR BARRICADE PLACEMENT AND ADVANCE WARNING SIGNING FOLLOW SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" DETAIL 1 WHEN INTERSECTION IS CLOSED AND DETAIL 2 WHEN INTERSECTION IS OPEN TO TRAFFIC.
4. 50' DRUM SPACING

* EXISTING SIGN TO REMAIN

PAVEMENT MARKING LEGEND:

- (A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- (B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
- (C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)
- (D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)

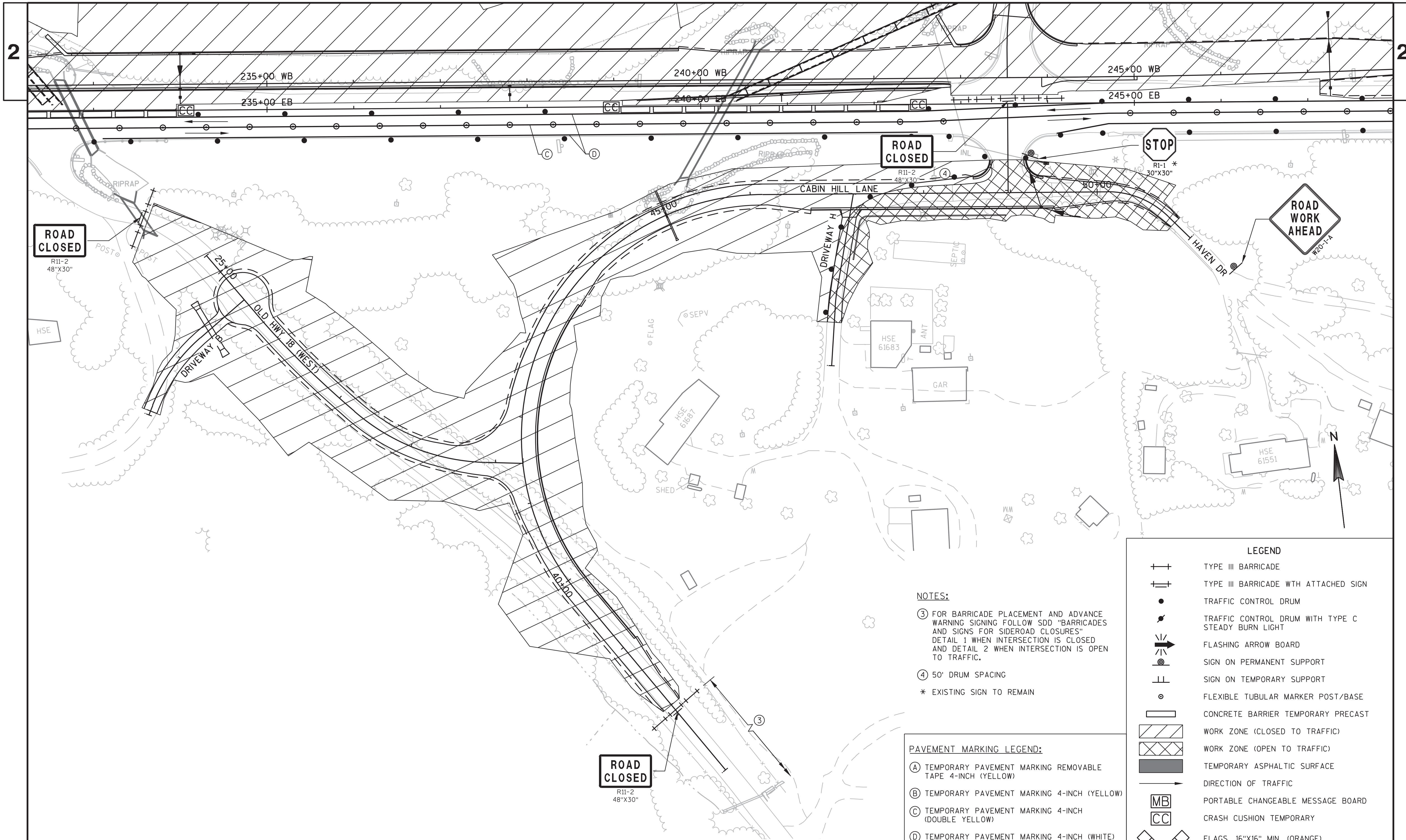
2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 1B (WARD CLOSED) (BOUSKA OPEN)	SHEET 153	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 1B.DWG

SHEET NAME: STAGE1B04



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 1B	SHEET 154	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 1B.DWG

SHEET NAME: STAGE1B13

2

LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	FLEXIBLE TUBULAR MARKER POST/BASE
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK ZONE (CLOSED TO TRAFFIC)
	WORK ZONE (OPEN TO TRAFFIC)
	TEMPORARY ASPHALTIC SURFACE
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
CC	CRASH CUSHION TEMPORARY
	FLAGS, 16"X16" MIN. (ORANGE)

NOTES:

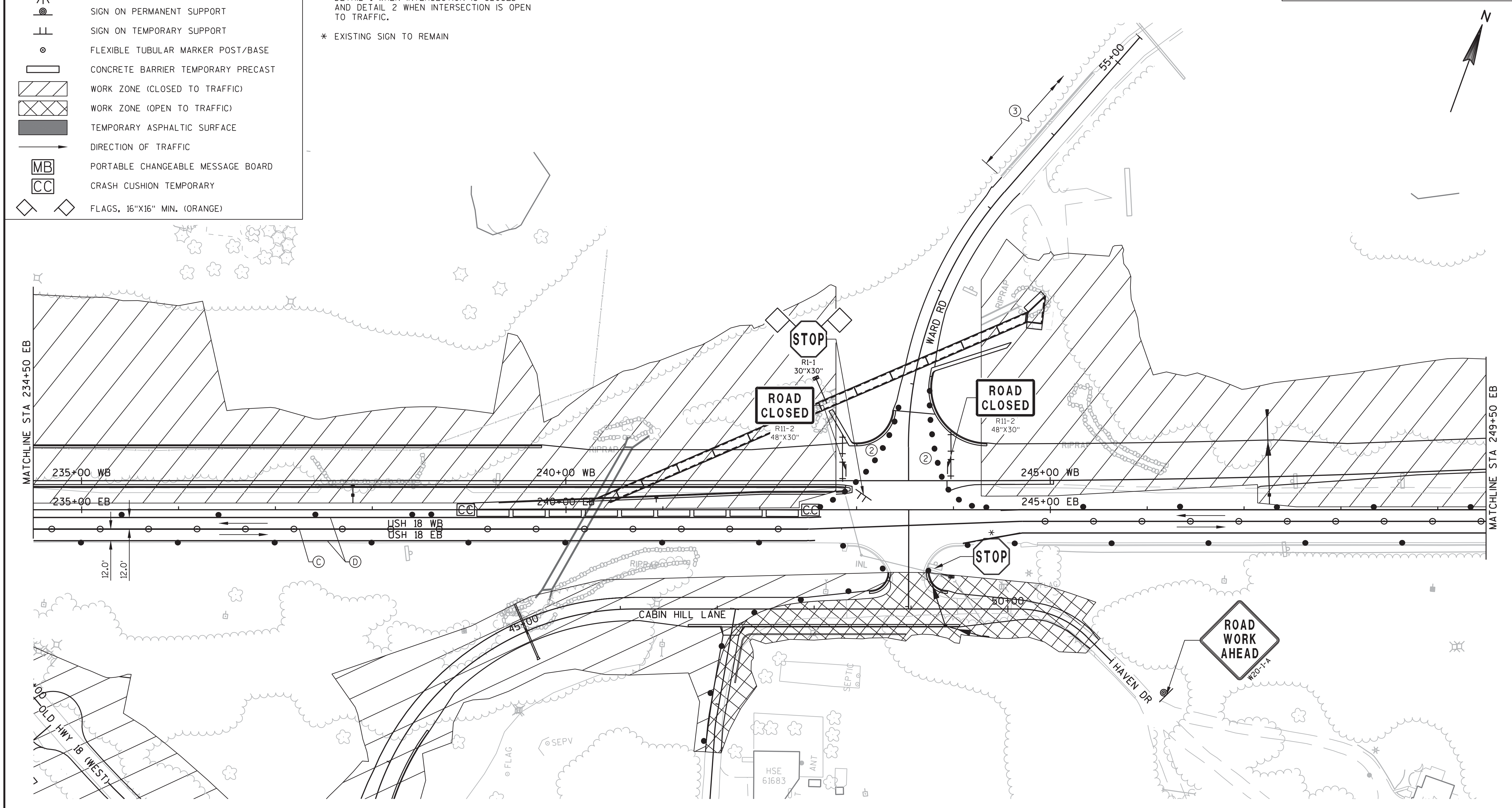
1. 500' MAX OR AT LAST INTERSECTION; WHICHEVER IS CLOSER.
2. 15' DRUM SPACING AROUND RADIUS (TYPICAL) AND IN FRONT OF ARROW BOARD
3. FOR BARRICADE PLACEMENT AND ADVANCE WARNING SIGNING FOLLOW SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" DETAIL 1 WHEN INTERSECTION IS CLOSED AND DETAIL 2 WHEN INTERSECTION IS OPEN TO TRAFFIC.

* EXISTING SIGN TO REMAIN

PAVEMENT MARKING LEGEND:

- (A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- (B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
- (C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)
- (D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)

2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 1B (WARD OPEN / BOUSKA CLOSED)	SHEET	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 1B ALT.DWG

SHEET NAME: STAGE1C04

2

LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	FLEXIBLE TUBULAR MARKER POST/BASE
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK ZONE (CLOSED TO TRAFFIC)
	WORK ZONE (OPEN TO TRAFFIC)
	TEMPORARY ASPHALTIC SURFACE
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
CC	CRASH CUSHION TEMPORARY
	FLAGS, 16"X16" MIN. (ORANGE)

PAVEMENT MARKING LEGEND:

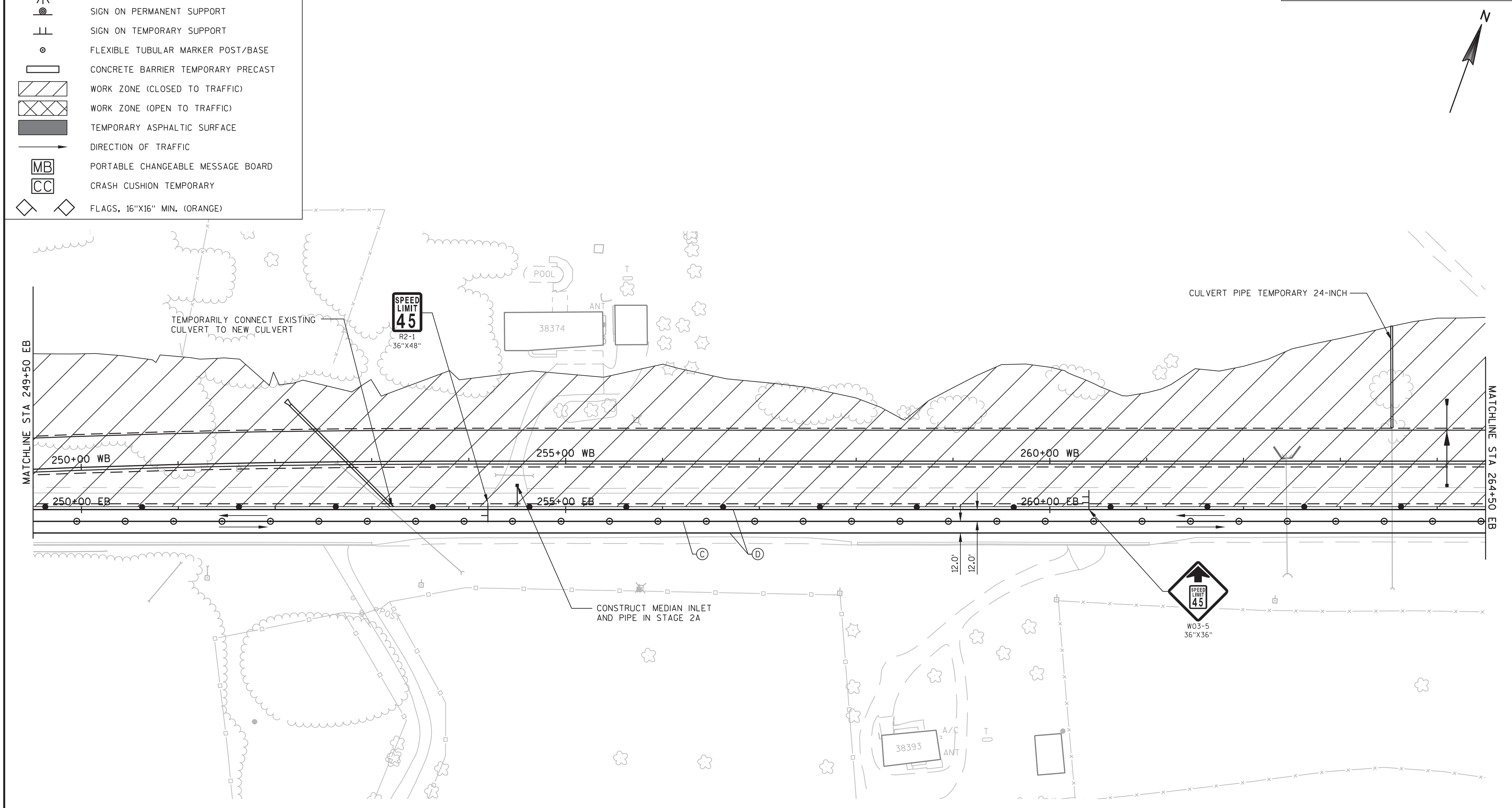
(A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

(B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)

(C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)

(D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)

2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 1B	SHEET 156	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 1B.DWG

SHEET NAME: STAGE1B05

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY
- FLAGS, 16"X16" MIN. (ORANGE)

NOTES:

(2) 15' DRUM SPACING AROUND RADIUS (TYPICAL) AND IN FRONT OF ARROW BOARD

PAVEMENT MARKING LEGEND:

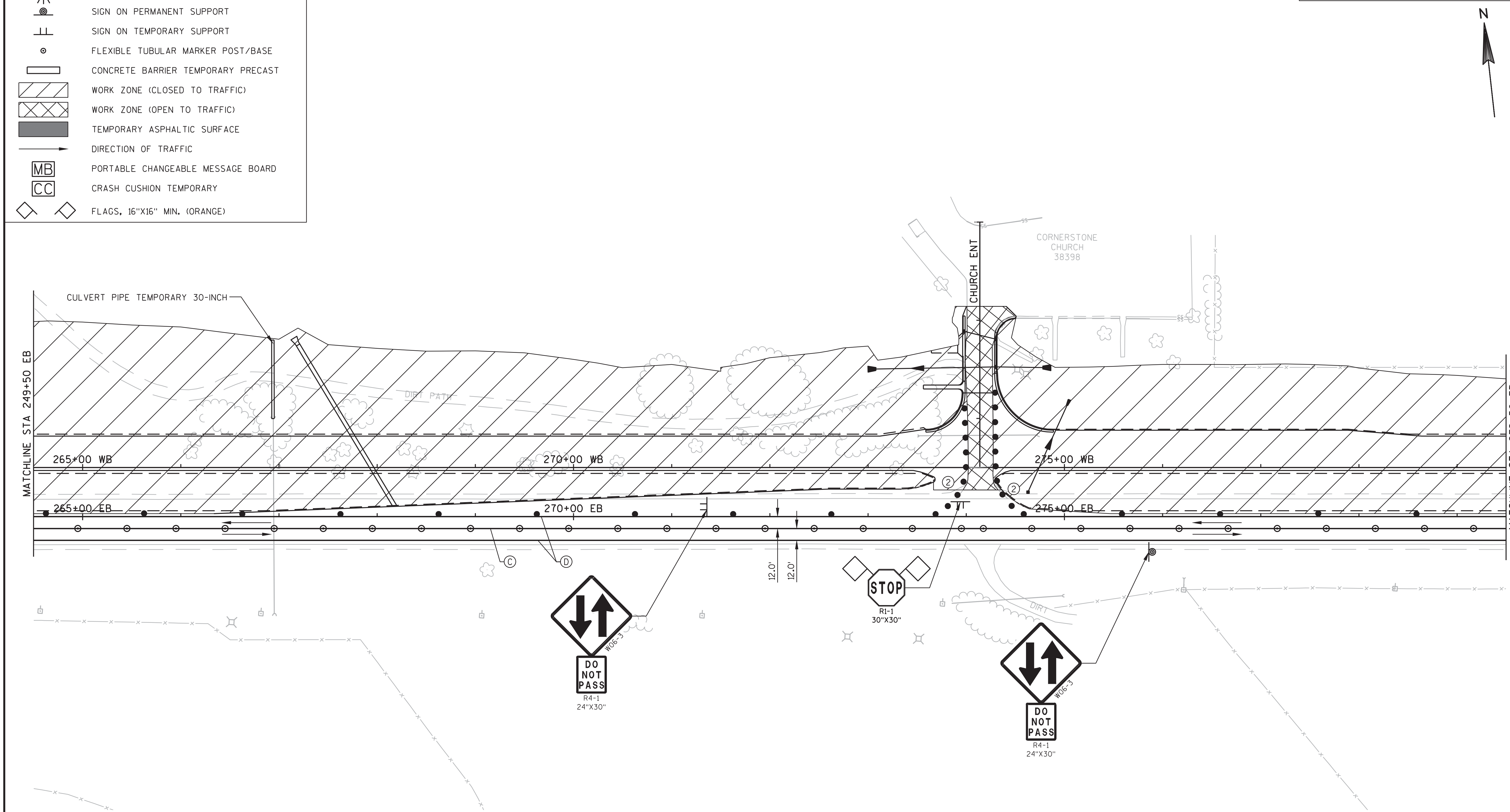
(A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

(B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)

(C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)

(D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)

2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 1B	SHEET 157	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 1B.DWG

SHEET NAME: STAGE1B06

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY
- FLAGS, 16"X16" MIN. (ORANGE)

NOTES:

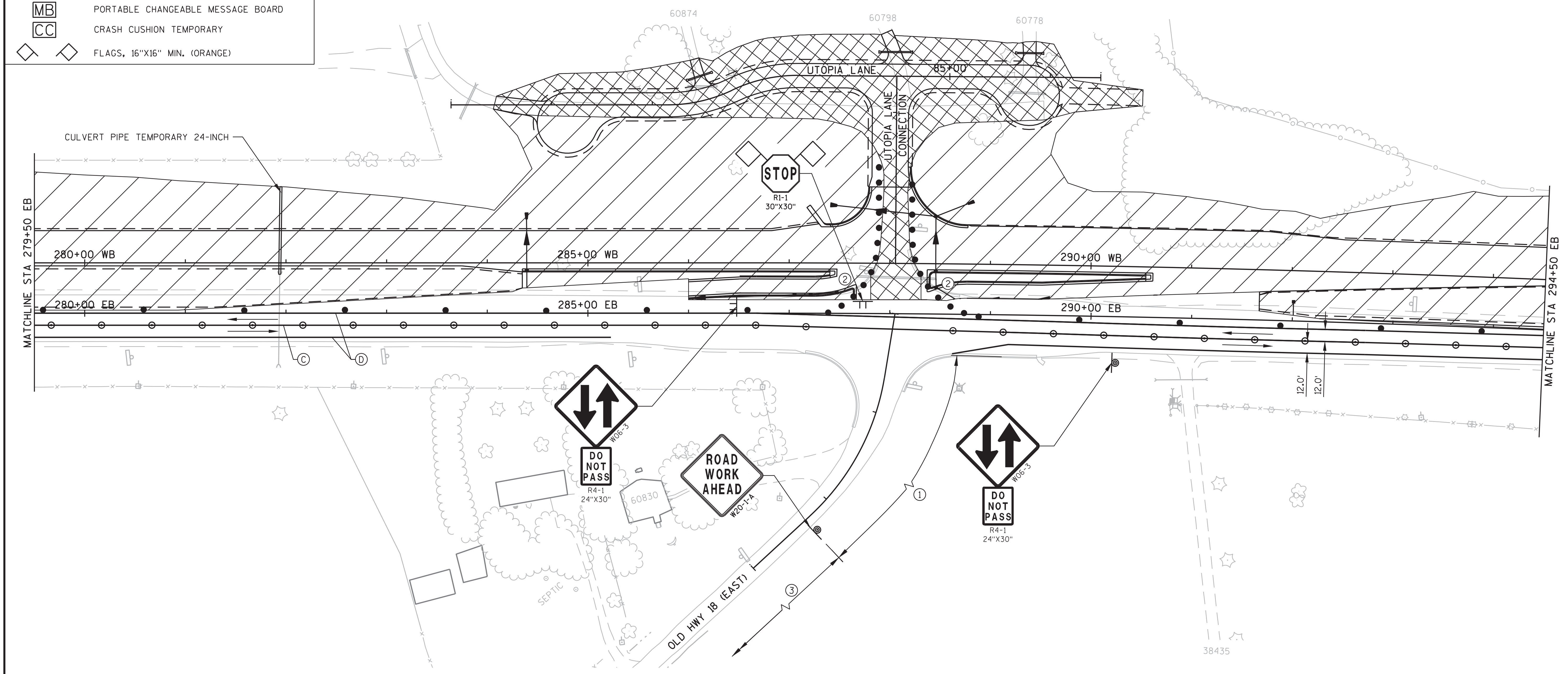
1. 500' MAX OR AT LAST INTERSECTION; WHICHEVER IS CLOSER.
2. 15' DRUM SPACING AROUND RADIUS (TYPICAL) AND IN FRONT OF ARROW BOARD
3. FOR BARRICADE PLACEMENT AND ADVANCE WARNING SIGNING FOLLOW SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" DETAIL 1 WHEN INTERSECTION IS CLOSED AND DETAIL 2 WHEN INTERSECTION IS OPEN TO TRAFFIC.

PAVEMENT MARKING LEGEND:

- (A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- (B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
- (C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)
- (D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)

2

N



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 1B	SHEET	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 1B.DWG

SHEET NAME: STAGE1B07

2

LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	FLEXIBLE TUBULAR MARKER POST/BASE
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK ZONE (CLOSED TO TRAFFIC)
	WORK ZONE (OPEN TO TRAFFIC)
	TEMPORARY ASPHALTIC SURFACE
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
CC	CRASH CUSHION TEMPORARY
	FLAGS, 16"X16" MIN. (ORANGE)

NOTES:

(2) 15' DRUM SPACING AROUND RADIUS (TYPICAL) AND IN FRONT OF ARROW BOARD

PAVEMENT MARKING LEGEND:

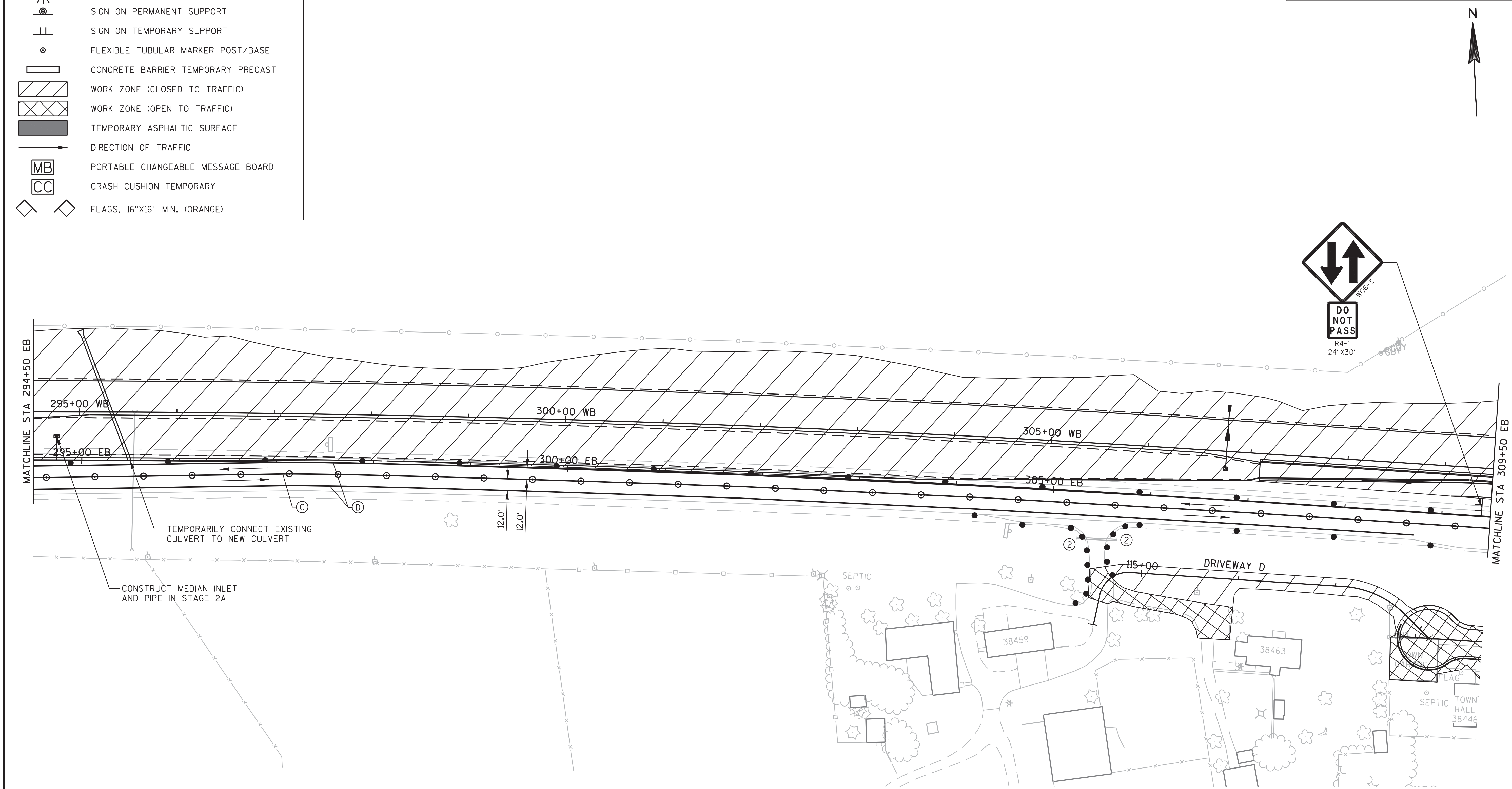
(A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

(B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)

(C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)

(D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)

2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 1B	SHEET 159	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 1B.DWG

SHEET NAME: STAGE1B08

2

PAVEMENT MARKING LEGEND:

- (A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- (B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
- (C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)
- (D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
- (E) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)
- (F) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE ARROWS (WHITE)
- (G) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE (WHITE, SHORT SKIP)

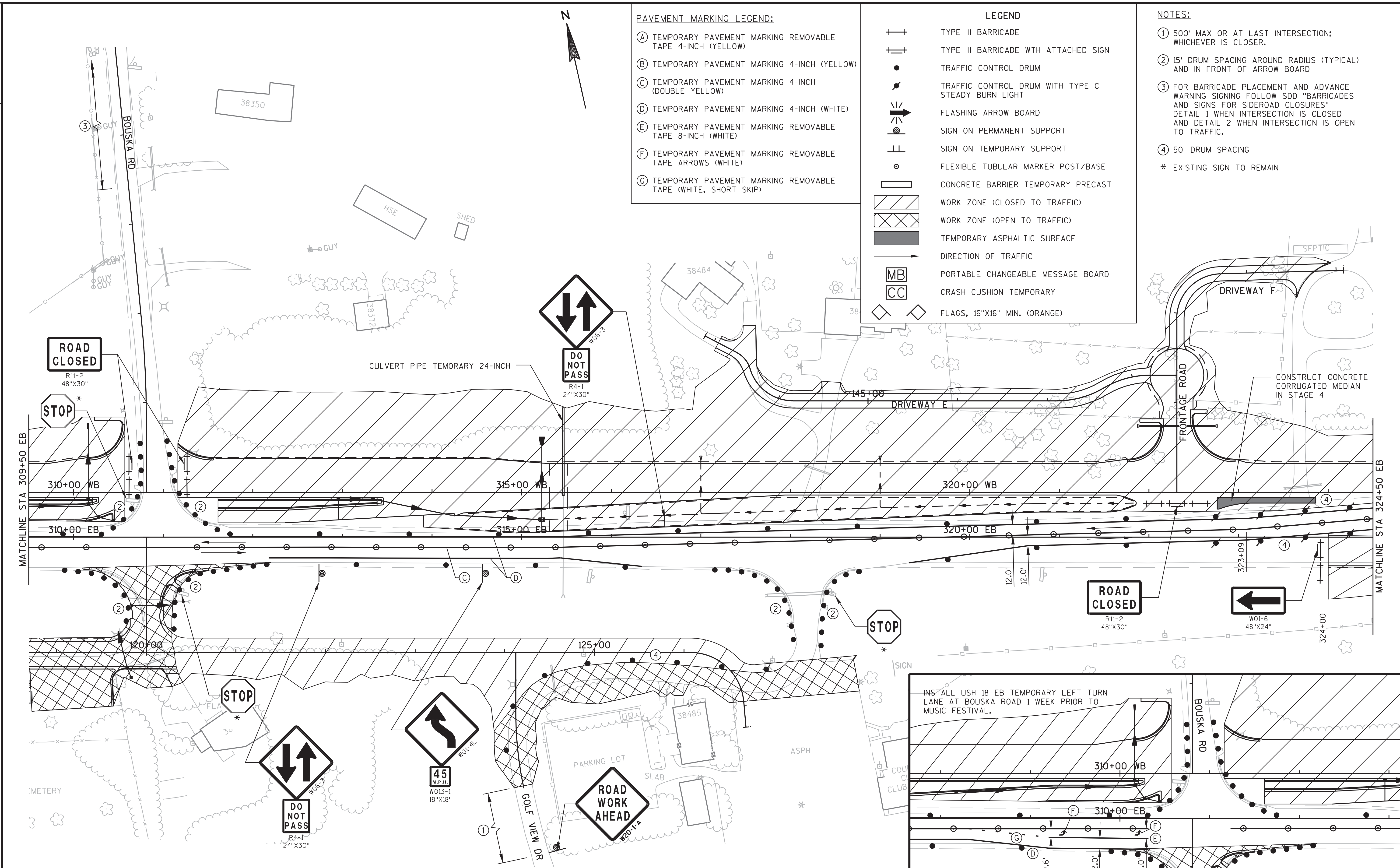
LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY
- FLAGS, 16"X16" MIN. (ORANGE)

NOTES:

1. 500' MAX OR AT LAST INTERSECTION; WHICHEVER IS CLOSER.
2. 15' DRUM SPACING AROUND RADIUS (TYPICAL) AND IN FRONT OF ARROW BOARD
3. FOR BARRICADE PLACEMENT AND ADVANCE WARNING SIGNING FOLLOW SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" DETAIL 1 WHEN INTERSECTION IS CLOSED AND DETAIL 2 WHEN INTERSECTION IS OPEN TO TRAFFIC.
4. 50' DRUM SPACING

* EXISTING SIGN TO REMAIN



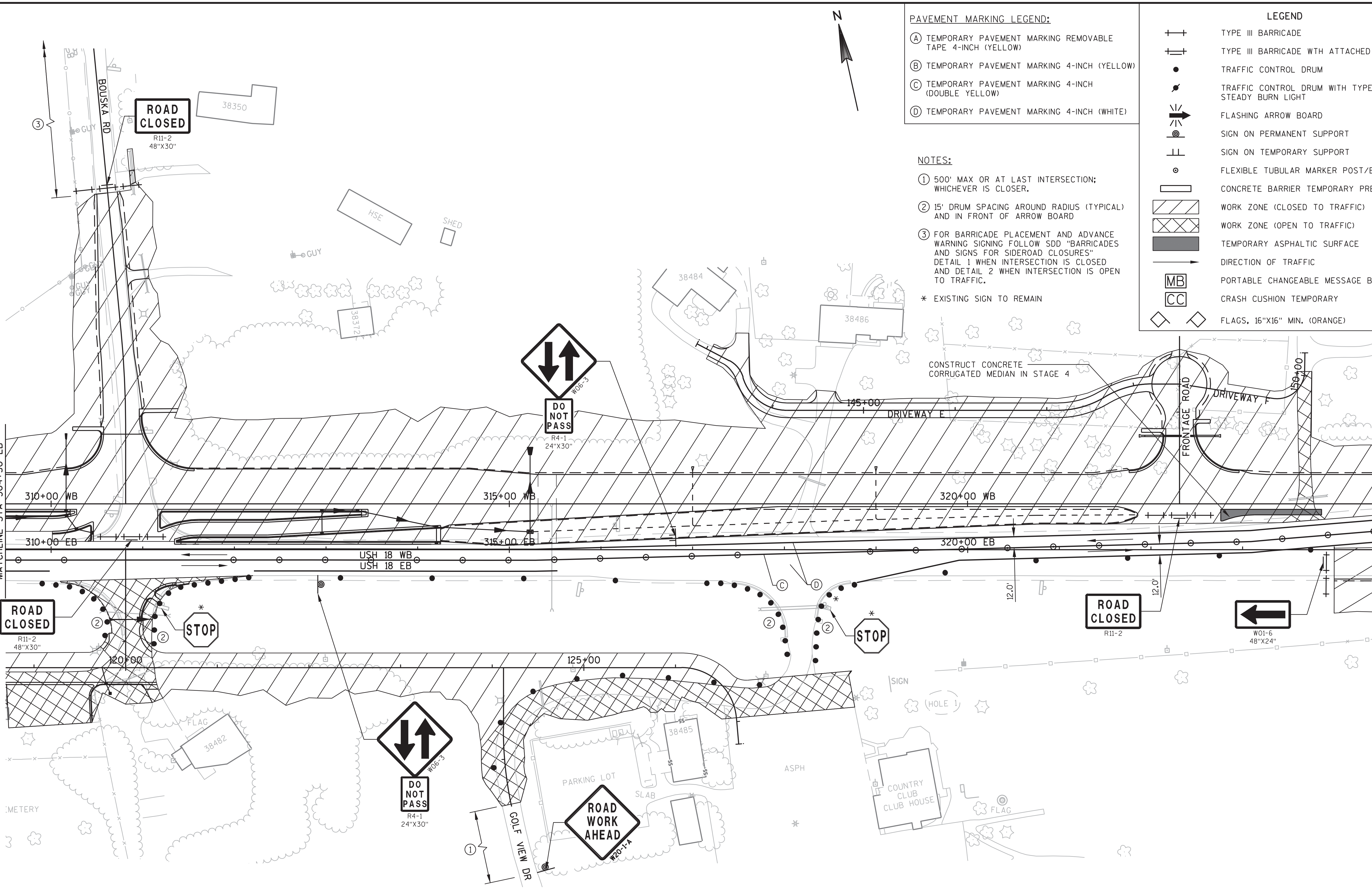
2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 1B (BOUSKA OPEN / WARD CLOSED)	SHEET	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 1B.DWG

SHEET NAME: STAGE1B9

2



PAVEMENT MARKING LEGEND:

(A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

(B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)

(C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)

(D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)

NOTES:

1. 500' MAX OR AT LAST INTERSECTION; WHICHEVER IS CLOSER.
2. 15' DRUM SPACING AROUND RADIUS (TYPICAL) AND IN FRONT OF ARROW BOARD
3. FOR BARRICADE PLACEMENT AND ADVANCE WARNING SIGNING FOLLOW SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" DETAIL 1 WHEN INTERSECTION IS CLOSED AND DETAIL 2 WHEN INTERSECTION IS OPEN TO TRAFFIC.

* EXISTING SIGN TO REMAIN

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY
- FLAGS, 16"X16" MIN. (ORANGE)

2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 1B (BOUSKA CLOSED / WARD OPEN)	SHEET 161	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 1B ALT.DWG

SHEET NAME: STAGE1C09

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY
- FLAGS, 16"X16" MIN. (ORANGE)

NOTES:

(4) 50' DRUM SPACING

PAVEMENT MARKING LEGEND:

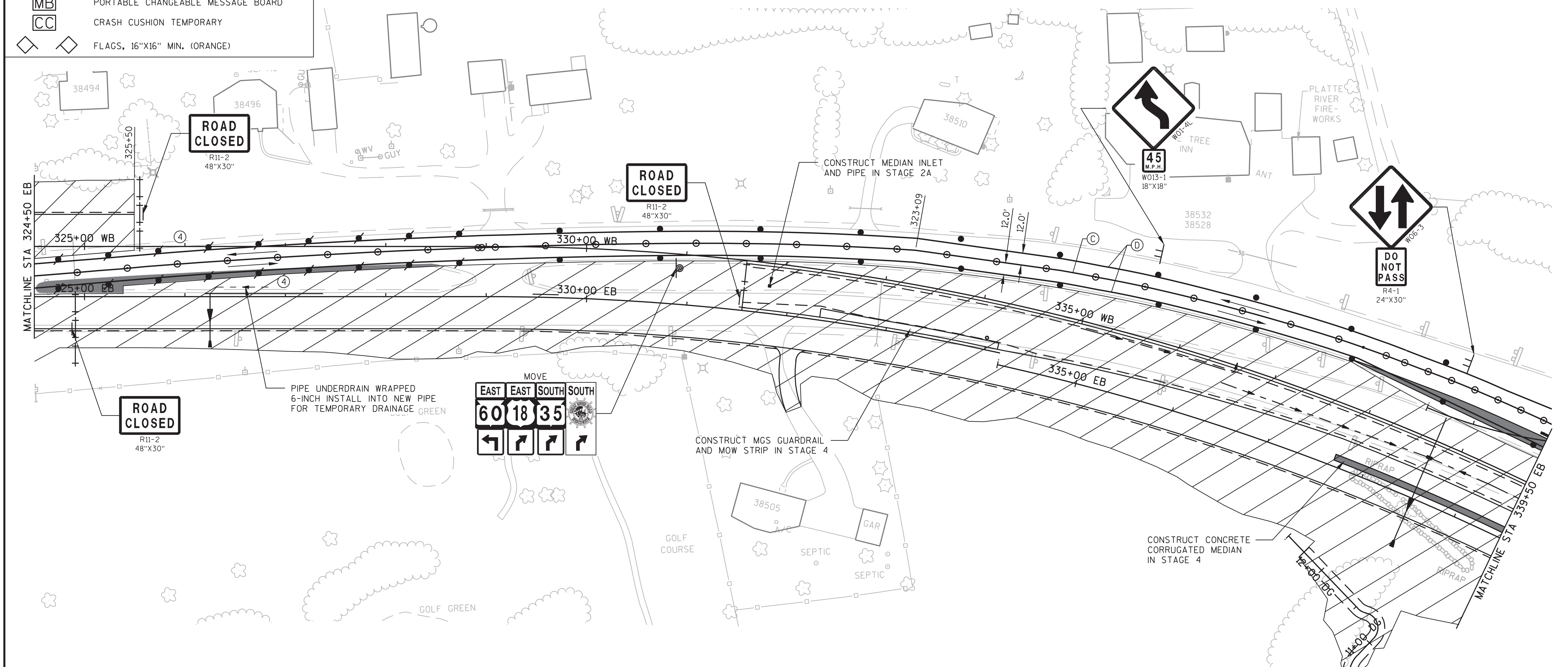
(A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

(B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)

(C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)

(D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)

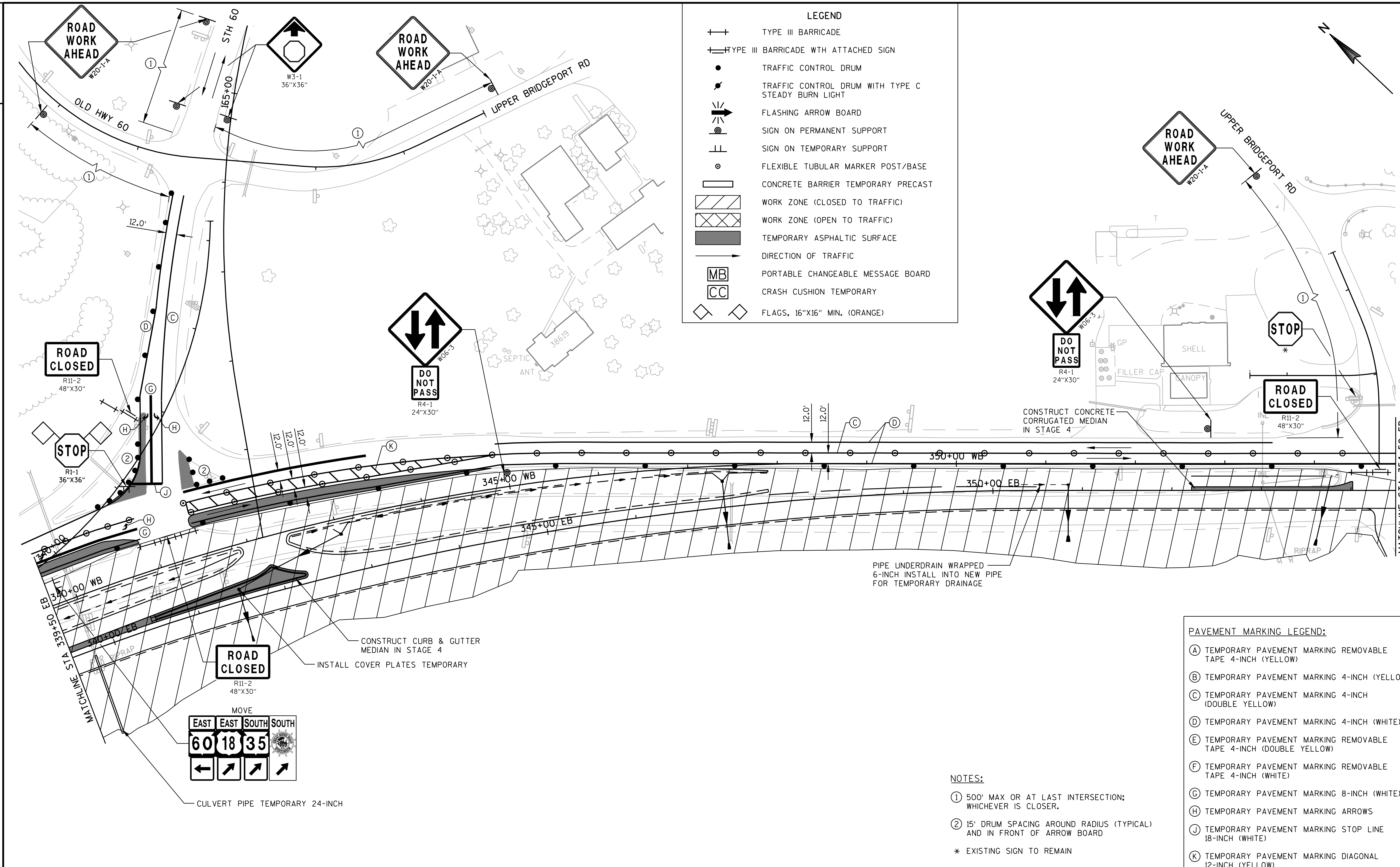
2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 1B	SHEET 162	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 1B.DWG

SHEET NAME: STAGE1B10



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY
- FLAGS, 16"X16" MIN. (ORANGE)

NOTES:

1. 500' MAX OR AT LAST INTERSECTION; WHICHEVER IS CLOSER.
2. 15' DRUM SPACING AROUND RADIUS (TYPICAL) AND IN FRONT OF ARROW BOARD

* EXISTING SIGN TO REMAIN

PAVEMENT MARKING LEGEND:

- A TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- B TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
- C TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)
- D TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
- E TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
- F TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
- G TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)
- H TEMPORARY PAVEMENT MARKING ARROWS
- J TEMPORARY PAVEMENT MARKING STOP LINE 18-INCH (WHITE)
- K TEMPORARY PAVEMENT MARKING DIAGONAL 12-INCH (YELLOW)

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 1B	SHEET 163	E

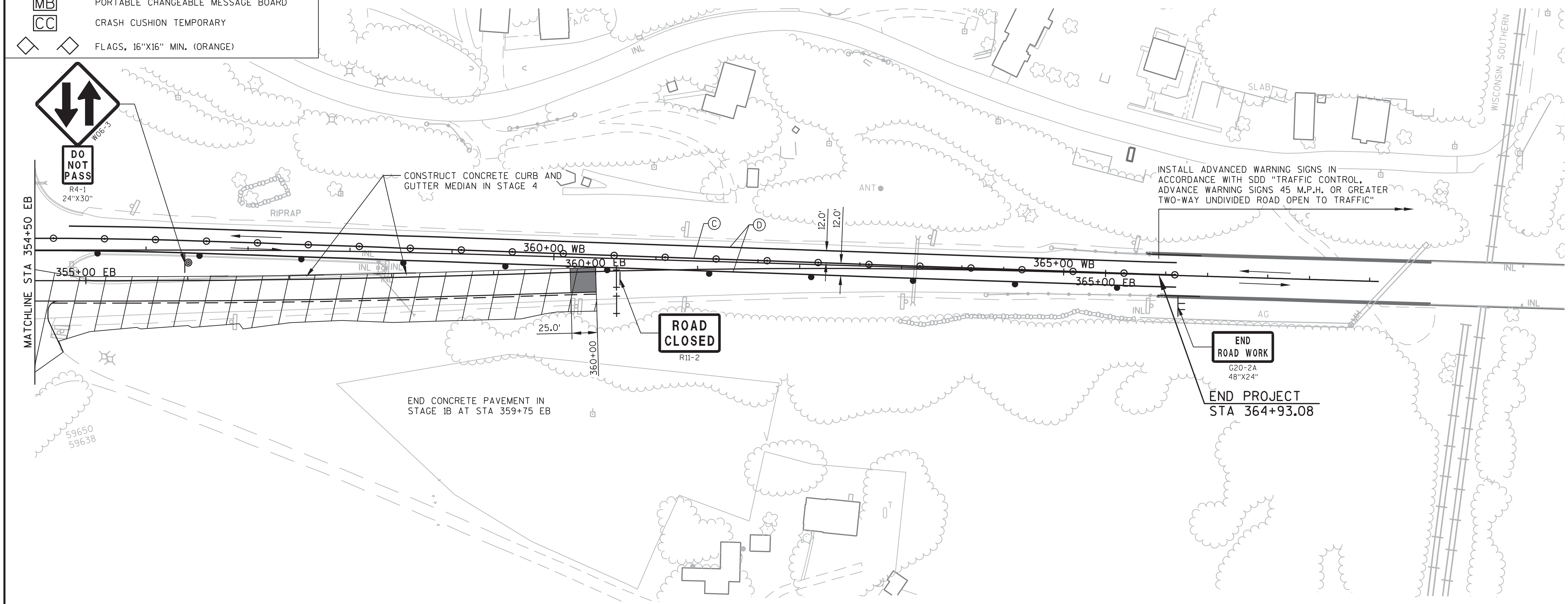
FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 1B.DWG SHEET NAME: STAGE1B11

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY
- FLAGS, 16"X16" MIN. (ORANGE)

PAVEMENT MARKING LEGEND:

- (A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- (B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
- (C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)
- (D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 1B	SHEET 164	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 1B.DWG

SHEET NAME: STAGE1B12

2

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY
- FLAGS, 16"X16" MIN. (ORANGE)

NOTES:

1. 500' MAX OR AT LAST INTERSECTION; WHICHEVER IS CLOSER.
2. 15' DRUM SPACING AROUND RADIUS (TYPICAL) AND IN FRONT OF ARROW BOARD
3. 50' DRUM SPACING

STAGE 2A NOTES:

EB TRAFFIC WILL BE MERGED DOWN TO A SINGLE LANE WEST OF THE SOUTH TOWN ROAD INTERSECTION. WB TRAFFIC WILL MAINTAIN A SINGLE LANE OF TRAFFIC BEGINNING AT THE WISCONSIN RIVER BRIDGE. TRAFFIC WILL UTILIZE A 2-LANE 2-WAY OPERATION AND WILL OPERATE ON THE NEWLY CONSTRUCTED WESTBOUND USH 18 ROADWAY. TRAFFIC WILL BE SHIFTED ONTO THE NEWLY CONSTRUCTED EASTBOUND LANES APPROXIMATELY 1500 FEET WEST OF STH 60.

TEMPORARY ASPHALTIC SURFACE SHOWN IN THIS STAGE WILL BE CONSTRUCTED AT THE END OF STAGE 1B.

STH 60 WILL REMAIN OPEN TO TRAFFIC AT ALL TIMES DURING CONSTRUCTION.

UPPER BRIDGEPORT ROAD AND OLD HWY 60 WILL REMAIN OPEN TO TRAFFIC AT ALL TIMES.

DURING STAGE 2A, CABIN HILL LANE AND OLD HWY 18 ROAD WILL CONSTRUCTED ON AN OPEN/CLOSE ALTERNATING BASIS. ALSO DURING STAGE 2A, THE TWO ACCESS POINTS FOR UPPER BRIDGEPORT ROAD WILL BE CONSTRUCTED ON AN OPEN/CLOSE ALTERNATING BASIS.

DURING STAGE 2B, STH 60 TRAFFIC WILL UTILIZE THE NEWLY CONSTRUCTED LANES AND OLD STH 60 WILL BE CLOSED TO TRAFFIC.

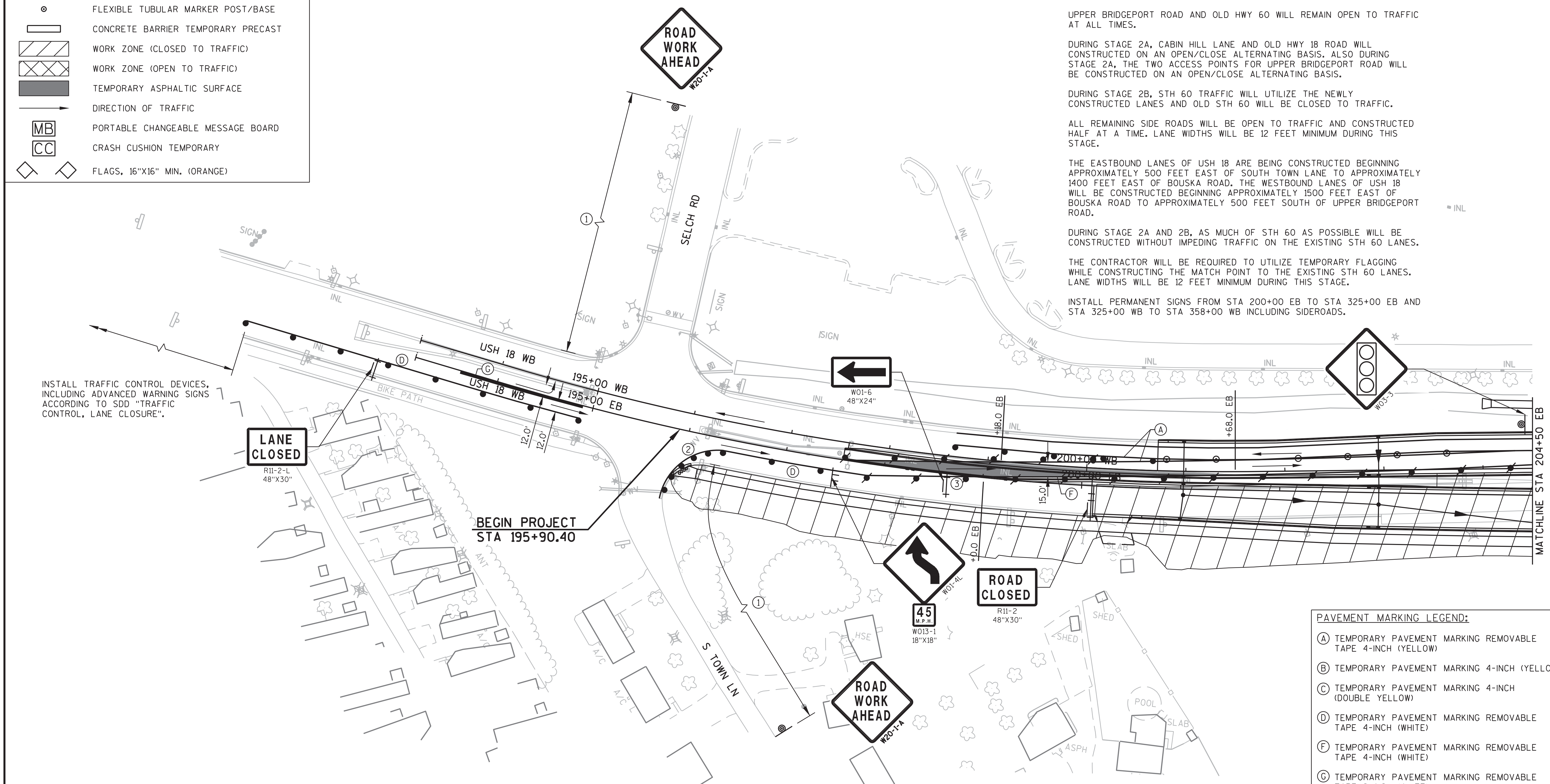
ALL REMAINING SIDE ROADS WILL BE OPEN TO TRAFFIC AND CONSTRUCTED HALF AT A TIME. LANE WIDTHS WILL BE 12 FEET MINIMUM DURING THIS STAGE.

THE EASTBOUND LANES OF USH 18 ARE BEING CONSTRUCTED BEGINNING APPROXIMATELY 500 FEET EAST OF SOUTH TOWN LANE TO APPROXIMATELY 1400 FEET EAST OF BOUSKA ROAD. THE WESTBOUND LANES OF USH 18 WILL BE CONSTRUCTED BEGINNING APPROXIMATELY 1500 FEET EAST OF BOUSKA ROAD TO APPROXIMATELY 500 FEET SOUTH OF UPPER BRIDGEPORT ROAD.

DURING STAGE 2A AND 2B, AS MUCH OF STH 60 AS POSSIBLE WILL BE CONSTRUCTED WITHOUT IMPEDING TRAFFIC ON THE EXISTING STH 60 LANES.

THE CONTRACTOR WILL BE REQUIRED TO UTILIZE TEMPORARY FLAGGING WHILE CONSTRUCTING THE MATCH POINT TO THE EXISTING STH 60 LANES. LANE WIDTHS WILL BE 12 FEET MINIMUM DURING THIS STAGE.

INSTALL PERMANENT SIGNS FROM STA 200+00 EB TO STA 325+00 EB AND STA 325+00 WB TO STA 358+00 WB INCLUDING SIDEROADS.



PAVEMENT MARKING LEGEND:

- (A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- (B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
- (C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)
- (D) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
- (F) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
- (G) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)

2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 2A	SHEET 165	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 2A.DWG

SHEET NAME: STAGE2A01

LEGEND

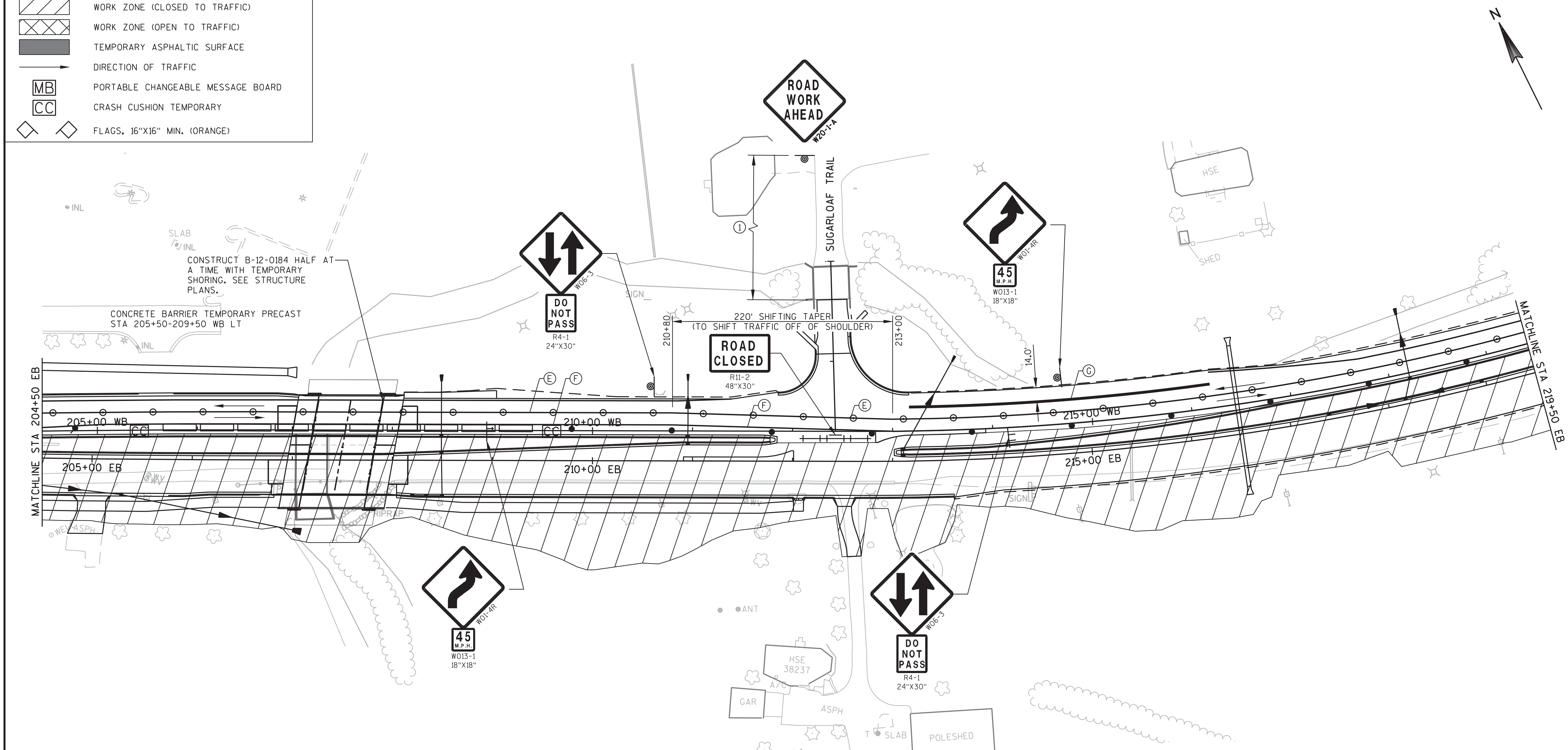
- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY
- FLAGS, 16"X16" MIN. (ORANGE)

NOTES:

(1) 500' MAX OR AT LAST INTERSECTION; WHICHEVER IS CLOSER.

PAVEMENT MARKING LEGEND:

- (A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- (B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
- (C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)
- (D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
- (E) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
- (F) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
- (G) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 2A	SHEET 166	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 2A.DWG

SHEET NAME: STAGE2A02

2

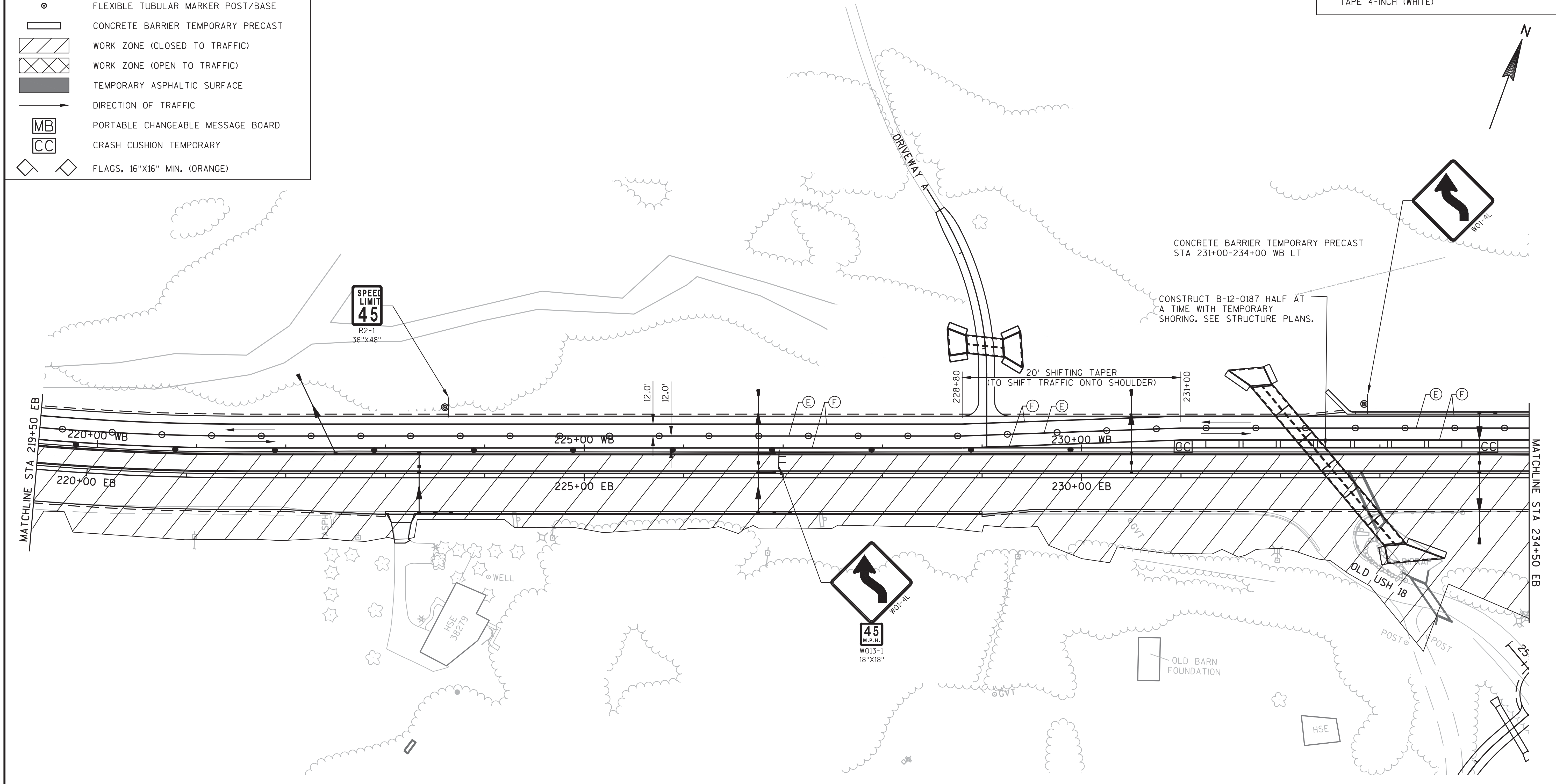
LEGEND

⊢—⊣	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
●	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
⊙	FLEXIBLE TUBULAR MARKER POST/BASE
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK ZONE (CLOSED TO TRAFFIC)
	WORK ZONE (OPEN TO TRAFFIC)
	TEMPORARY ASPHALTIC SURFACE
⟶	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
CC	CRASH CUSHION TEMPORARY
◇ ◇	FLAGS, 16"X16" MIN. (ORANGE)

PAVEMENT MARKING LEGEND:

- (A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- (B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
- (C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)
- (D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
- (E) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
- (F) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)

2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 2A	SHEET 167	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 2A.DWG

SHEET NAME: STAGE2A03

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY
- FLAGS, 16"X16" MIN. (ORANGE)

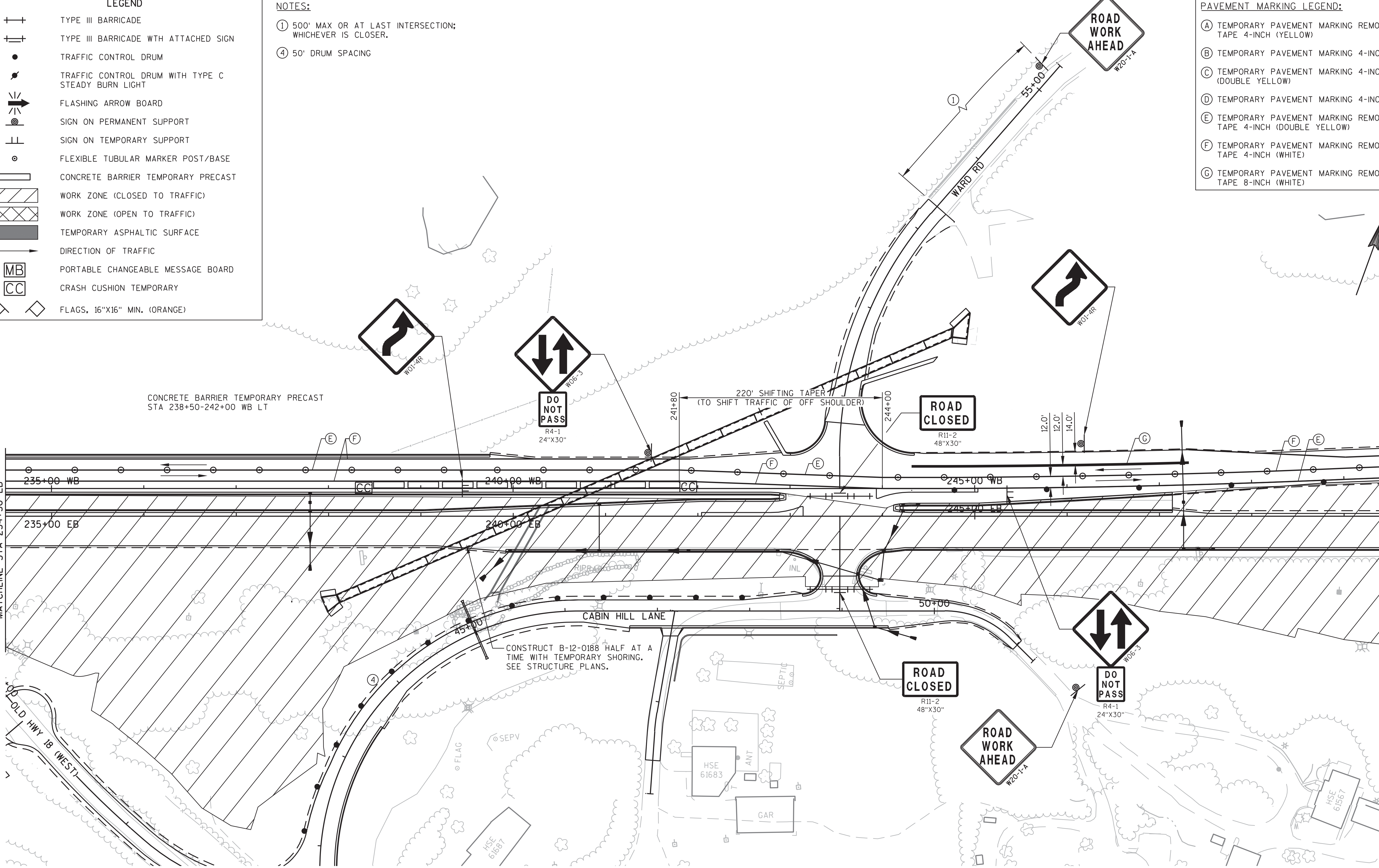
NOTES:

1. 500' MAX OR AT LAST INTERSECTION; WHICHEVER IS CLOSER.
4. 50' DRUM SPACING

PAVEMENT MARKING LEGEND:

- (A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- (B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
- (C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)
- (D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
- (E) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
- (F) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
- (G) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)

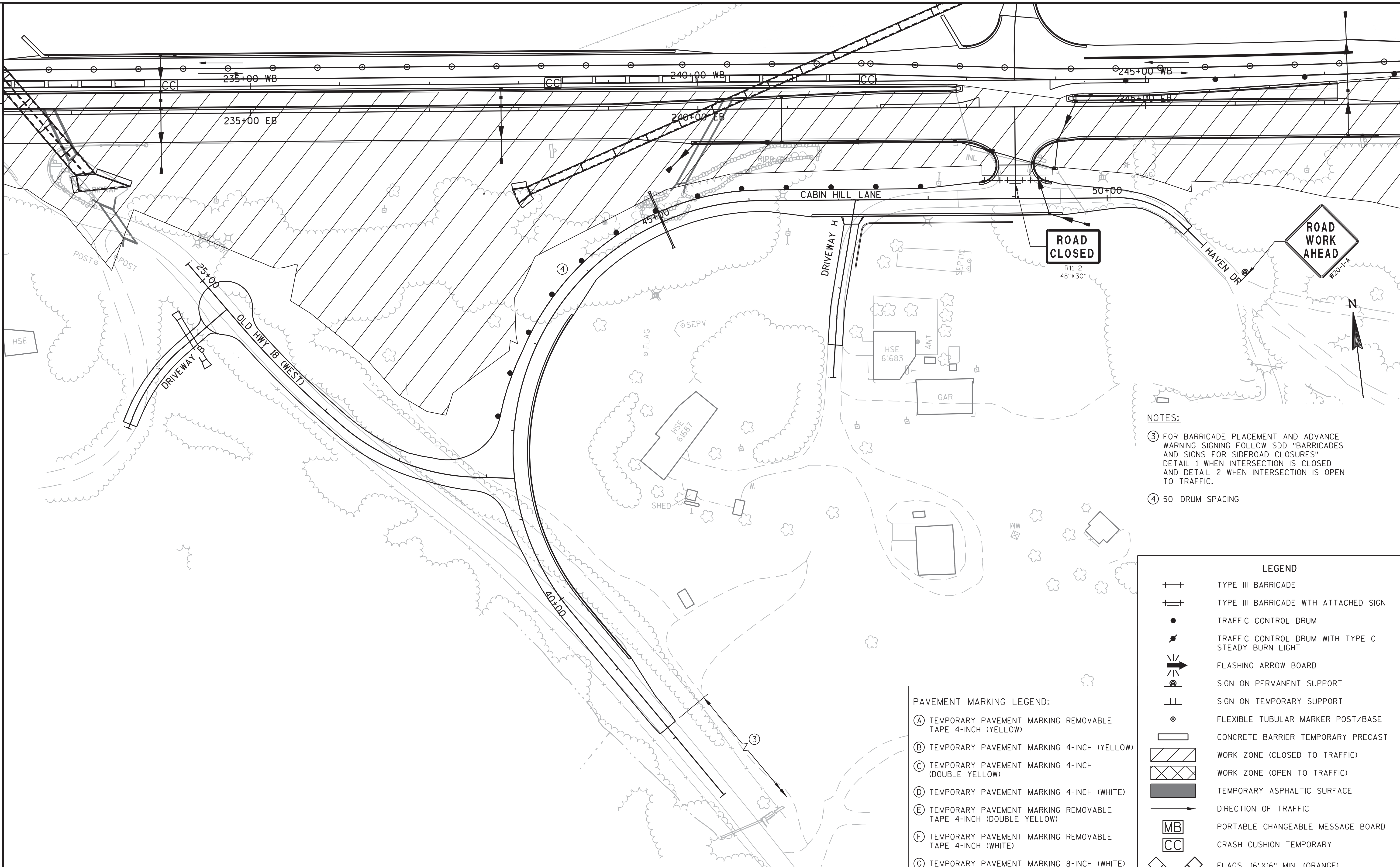
2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL-STAGE 2A(CABIN HILL CLOSED/OLD HWY 18 OPEN)	SHEET 168	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 2A.DWG

SHEET NAME: STAGE2A04



NOTES:

③ FOR BARRICADE PLACEMENT AND ADVANCE WARNING SIGNING FOLLOW SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" DETAIL 1 WHEN INTERSECTION IS CLOSED AND DETAIL 2 WHEN INTERSECTION IS OPEN TO TRAFFIC.

④ 50' DRUM SPACING

PAVEMENT MARKING LEGEND:

Ⓐ TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

Ⓑ TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)

Ⓒ TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)

Ⓓ TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)

Ⓔ TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)

Ⓕ TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)

Ⓖ TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY
- FLAGS, 16"X16" MIN. (ORANGE)

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 2A	SHEET 169	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 2A.DWG

SHEET NAME: STAGE2A13

2

LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	FLEXIBLE TUBULAR MARKER POST/BASE
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK ZONE (CLOSED TO TRAFFIC)
	WORK ZONE (OPEN TO TRAFFIC)
	TEMPORARY ASPHALTIC SURFACE
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
CC	CRASH CUSHION TEMPORARY
	FLAGS, 16"X16" MIN. (ORANGE)

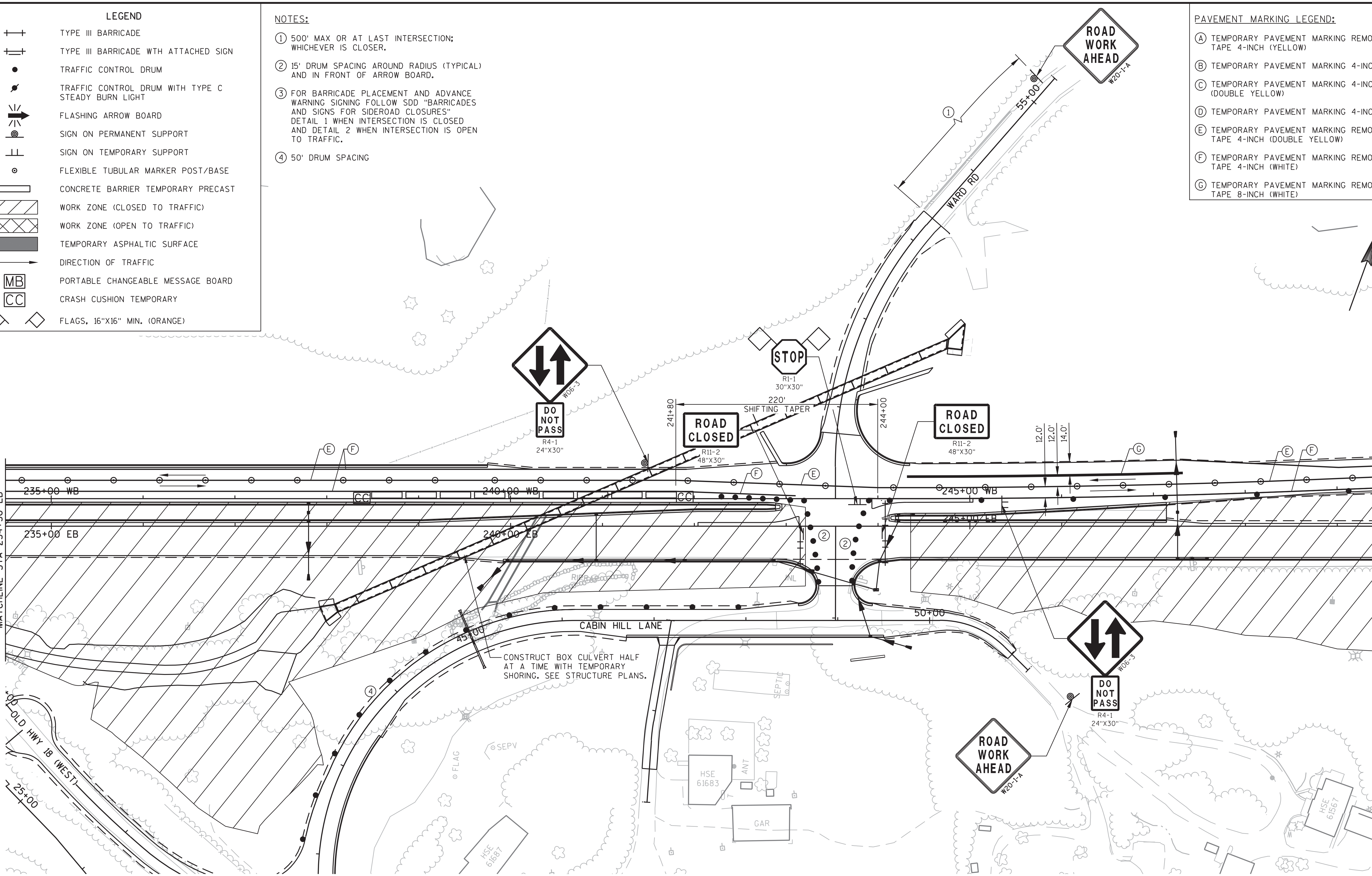
NOTES:

1. 500' MAX OR AT LAST INTERSECTION; WHICHEVER IS CLOSER.
2. 15' DRUM SPACING AROUND RADIUS (TYPICAL) AND IN FRONT OF ARROW BOARD.
3. FOR BARRICADE PLACEMENT AND ADVANCE WARNING SIGNING FOLLOW SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" DETAIL 1 WHEN INTERSECTION IS CLOSED AND DETAIL 2 WHEN INTERSECTION IS OPEN TO TRAFFIC.
4. 50' DRUM SPACING

PAVEMENT MARKING LEGEND:

- (A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- (B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
- (C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)
- (D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
- (E) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
- (F) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
- (G) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)

2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL-STAGE 2A(CABIN HILL OPEN/OLD HWY 18 CLOSED)	SHEET 170	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 2A ALT.DWG

SHEET NAME: STAGE2A-ALT04

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY
- FLAGS, 16"X16" MIN. (ORANGE)

PAVEMENT MARKING LEGEND:

(A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

(B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)

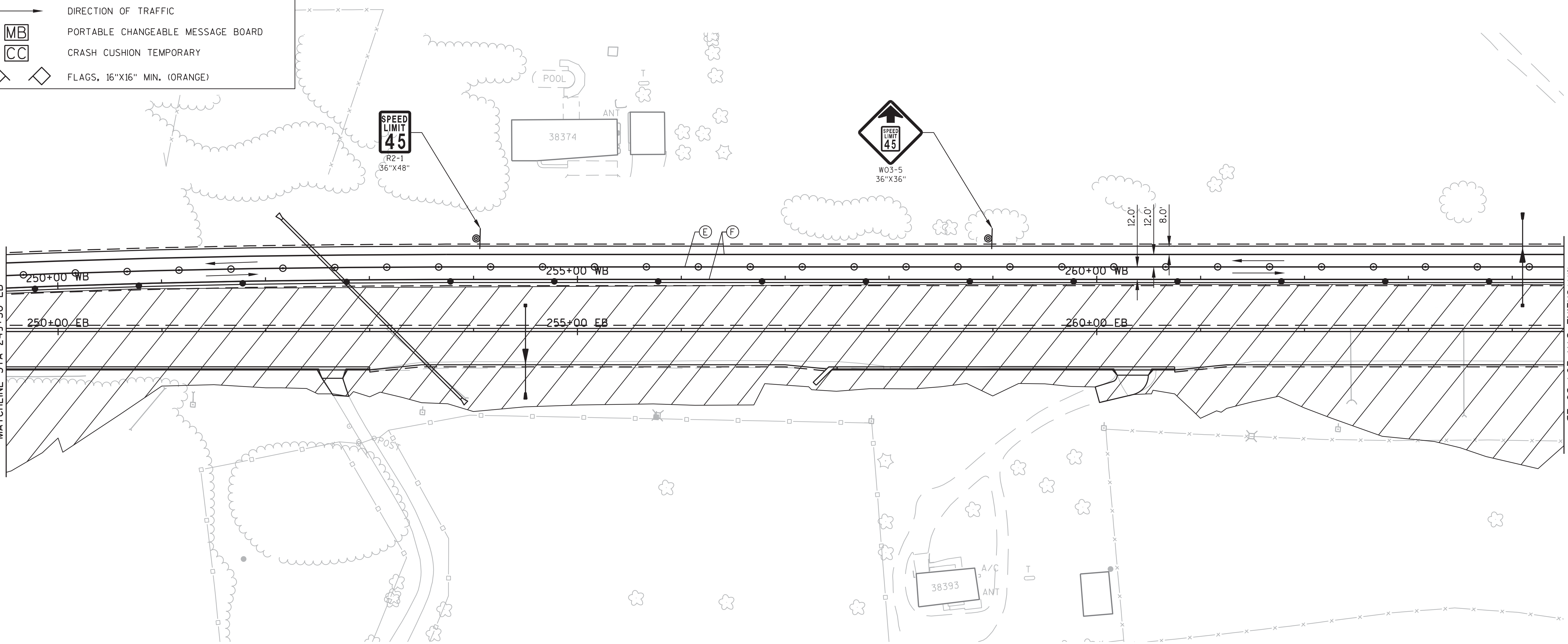
(C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)

(D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)

(E) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)

(F) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)

2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 2A	SHEET	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 2A.DWG

SHEET NAME: STAGE2A05

2

LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	FLEXIBLE TUBULAR MARKER POST/BASE
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK ZONE (CLOSED TO TRAFFIC)
	WORK ZONE (OPEN TO TRAFFIC)
	TEMPORARY ASPHALTIC SURFACE
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
CC	CRASH CUSHION TEMPORARY
	FLAGS, 16"X16" MIN. (ORANGE)

PAVEMENT MARKING LEGEND:

(A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

(B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)

(C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)

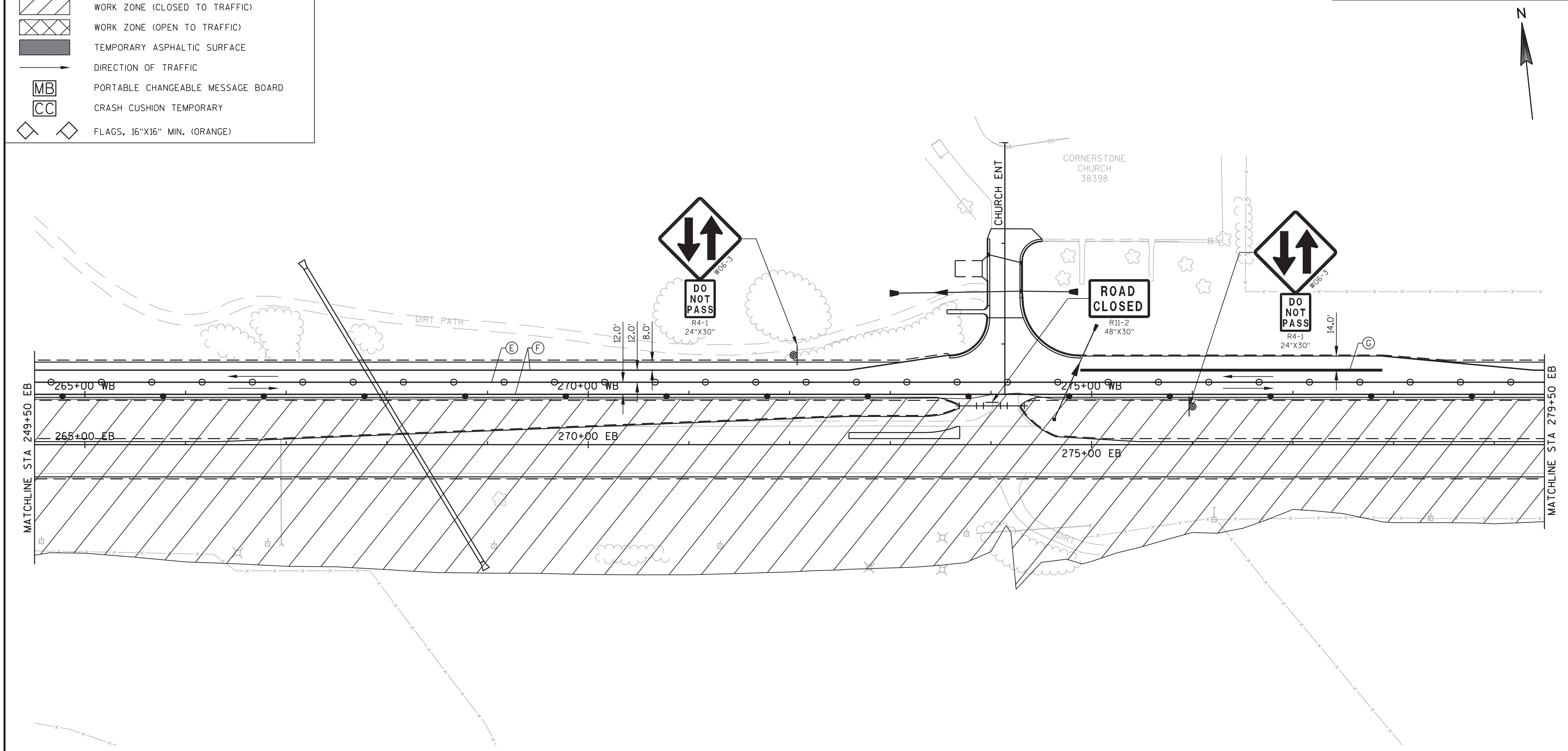
(D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)

(E) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)

(F) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)

(G) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)

2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 2A	SHEET 172	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 2A.DWG

SHEET NAME: STAGE2A06

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY
- FLAGS, 16"X16" MIN. (ORANGE)

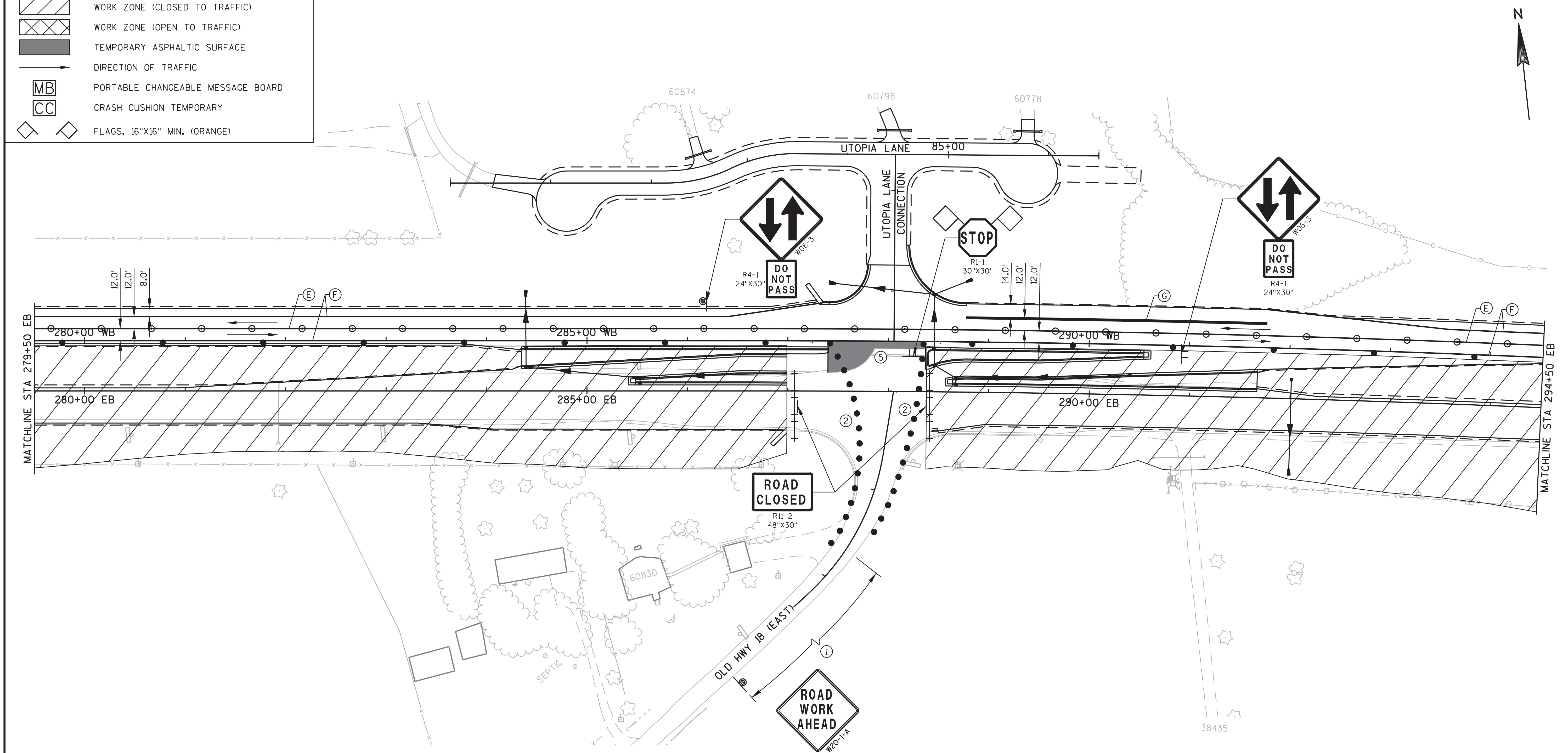
NOTES:

1. 500' MAX OR AT LAST INTERSECTION; WHICHEVER IS CLOSER.
2. 15' DRUM SPACING AROUND RADIUS (TYPICAL) AND IN FRONT OF ARROW BOARD
5. INSTALL TEMPORARY ASPHALTIC SURFACE BETWEEN NEWLY CONSTRUCTED CONCRETE PAVEMENT IN STAGE 1B AND REMAINING EXISTING PAVEMENT.

PAVEMENT MARKING LEGEND:

- (A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- (B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
- (C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)
- (D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
- (E) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
- (F) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
- (G) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)

2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL-STAGE 2A(OLD HWY 18 OPEN/CABIN HILL CLOSED)	SHEET 173	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 2A.DWG

SHEET NAME: STAGE2A07

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY
- FLAGS, 16"X16" MIN. (ORANGE)

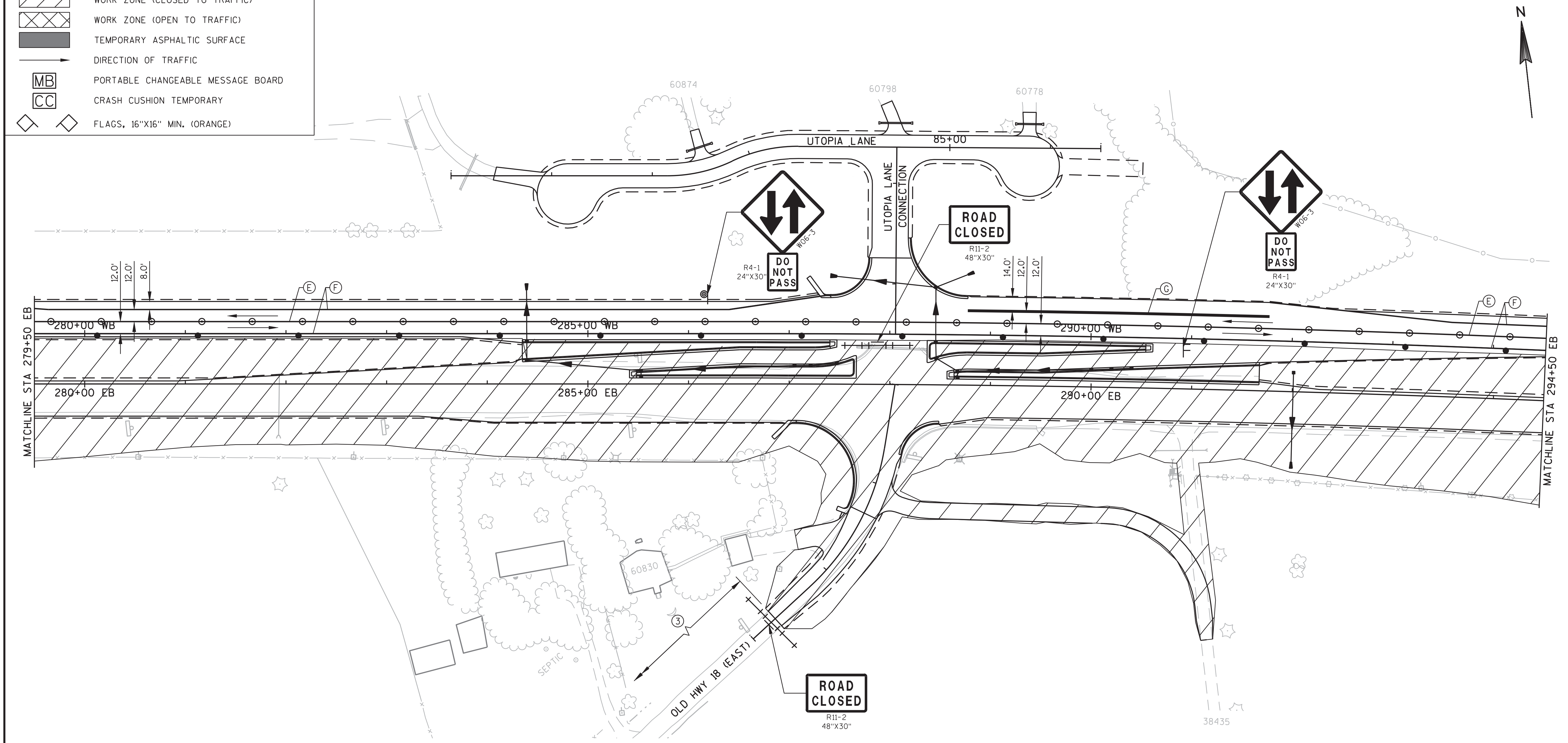
NOTES:

3 FOR BARRICADE PLACEMENT AND ADVANCE WARNING SIGNING FOLLOW SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" DETAIL 1 WHEN INTERSECTION IS CLOSED AND DETAIL 2 WHEN INTERSECTION IS OPEN TO TRAFFIC.

PAVEMENT MARKING LEGEND:

- A TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- B TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
- C TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)
- D TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
- E TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
- F TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
- G TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)

2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL-STAGE 2A(OLD HWY 18 CLOSED/CABIN HILL OPEN)	SHEET 174	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 2A ALT.DWG

SHEET NAME: STAGE2A-ALT07

2

LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	FLEXIBLE TUBULAR MARKER POST/BASE
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK ZONE (CLOSED TO TRAFFIC)
	WORK ZONE (OPEN TO TRAFFIC)
	TEMPORARY ASPHALTIC SURFACE
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
CC	CRASH CUSHION TEMPORARY
	FLAGS, 16"X16" MIN. (ORANGE)

N

PAVEMENT MARKING LEGEND:

(A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

(B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)

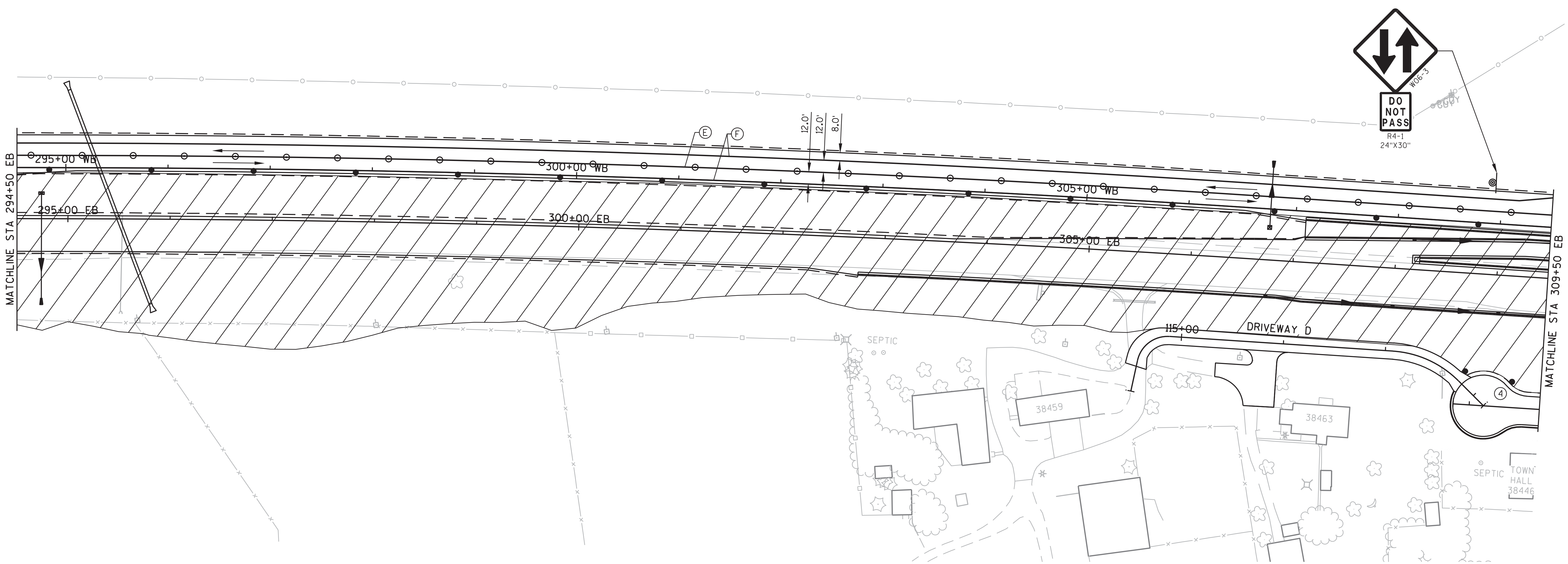
(C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)

(D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)

(E) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)

(F) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)

2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 2A	SHEET 175	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 2A.DWG

SHEET NAME: STAGE2A08

NOTES:

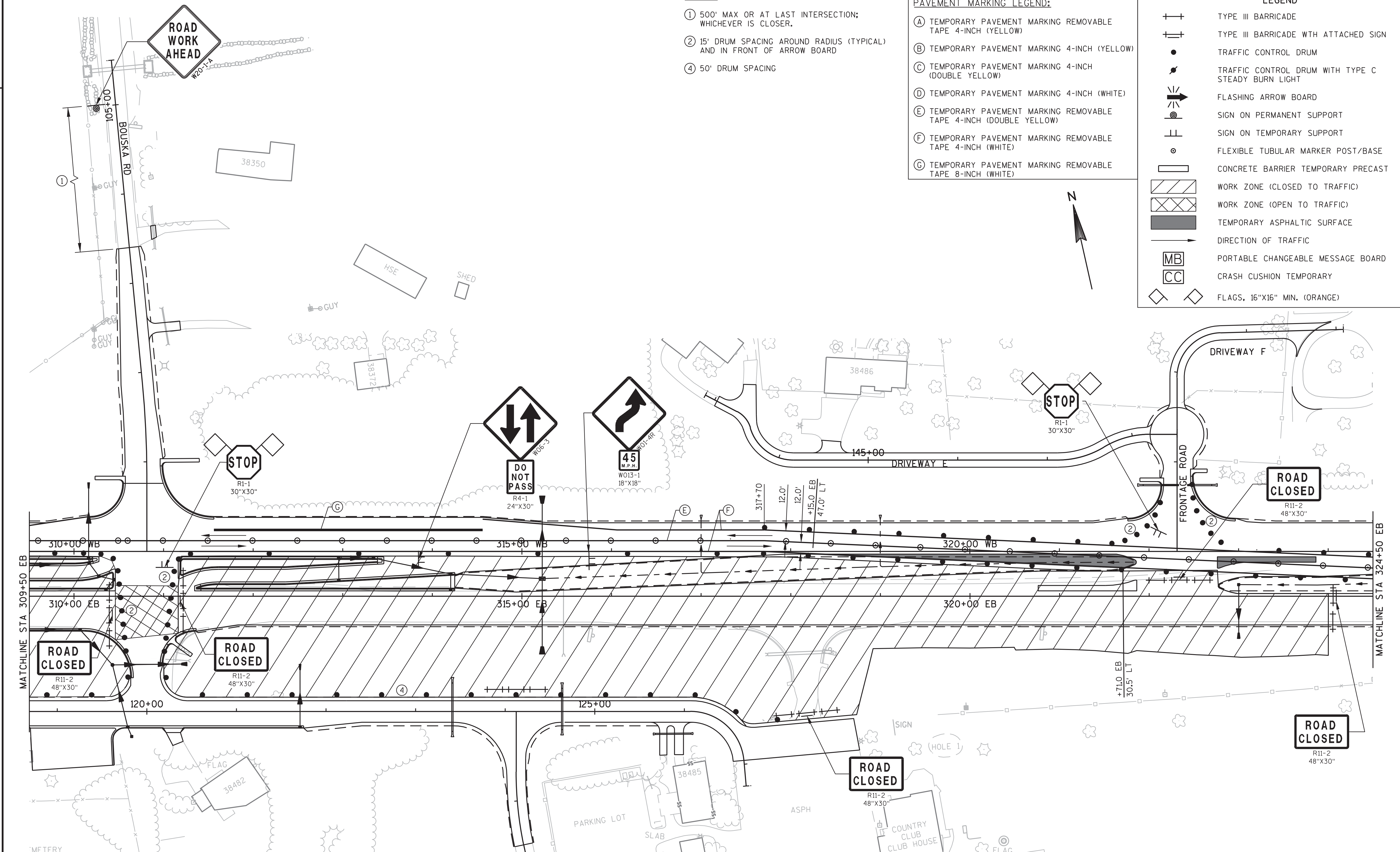
1. 500' MAX OR AT LAST INTERSECTION; WHICHEVER IS CLOSER.
2. 15' DRUM SPACING AROUND RADIUS (TYPICAL) AND IN FRONT OF ARROW BOARD
4. 50' DRUM SPACING

PAVEMENT MARKING LEGEND:

- (A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- (B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
- (C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)
- (D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
- (E) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
- (F) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
- (G) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY
- FLAGS, 16"X16" MIN. (ORANGE)



LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	FLEXIBLE TUBULAR MARKER POST/BASE
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK ZONE (CLOSED TO TRAFFIC)
	WORK ZONE (OPEN TO TRAFFIC)
	TEMPORARY ASPHALTIC SURFACE
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
CC	CRASH CUSHION TEMPORARY
	FLAGS, 16"X16" MIN. (ORANGE)

NOTES:

(4) 50' DRUM SPACING

PAVEMENT MARKING LEGEND:

(A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

(B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)

(C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)

(D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)

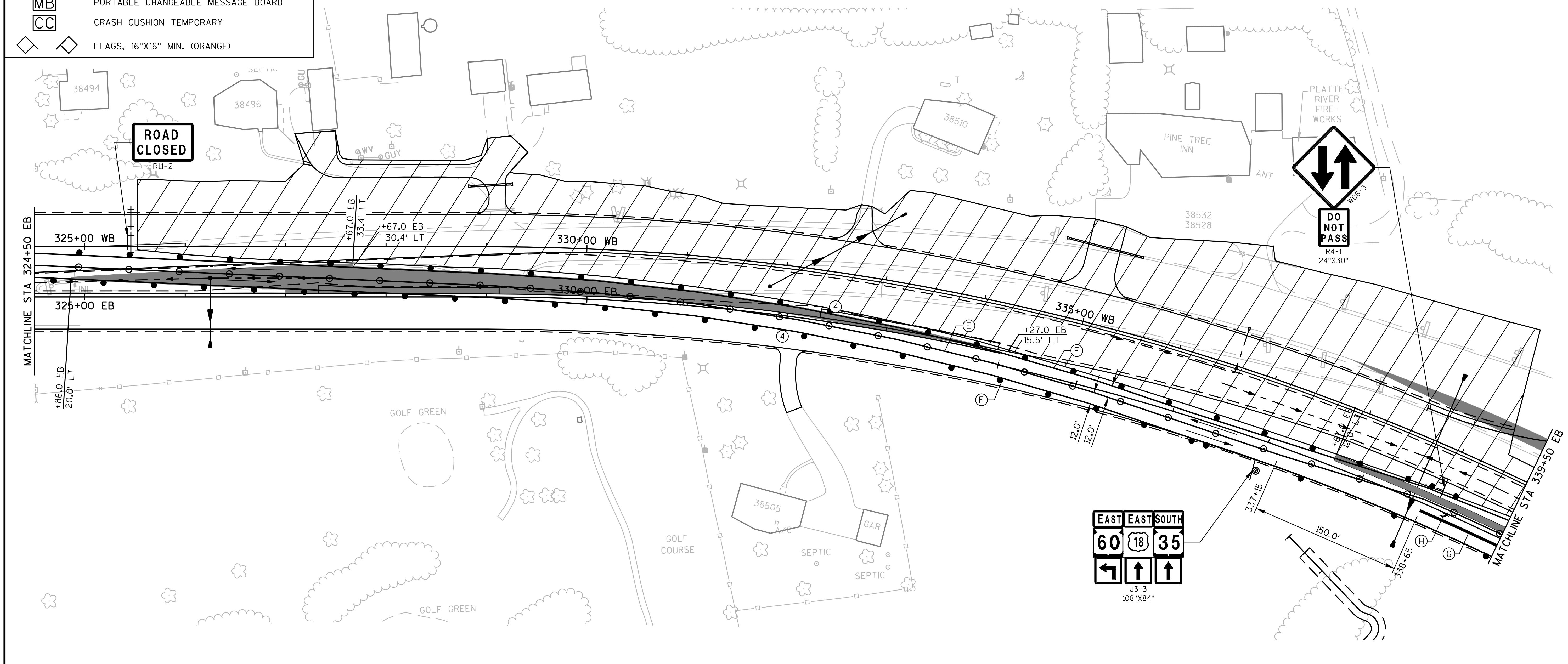
(E) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)

(F) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)

(G) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)

(H) TEMPORARY PAVEMENT MARKING ARROWS REMOVABLE TAPE (WHITE)

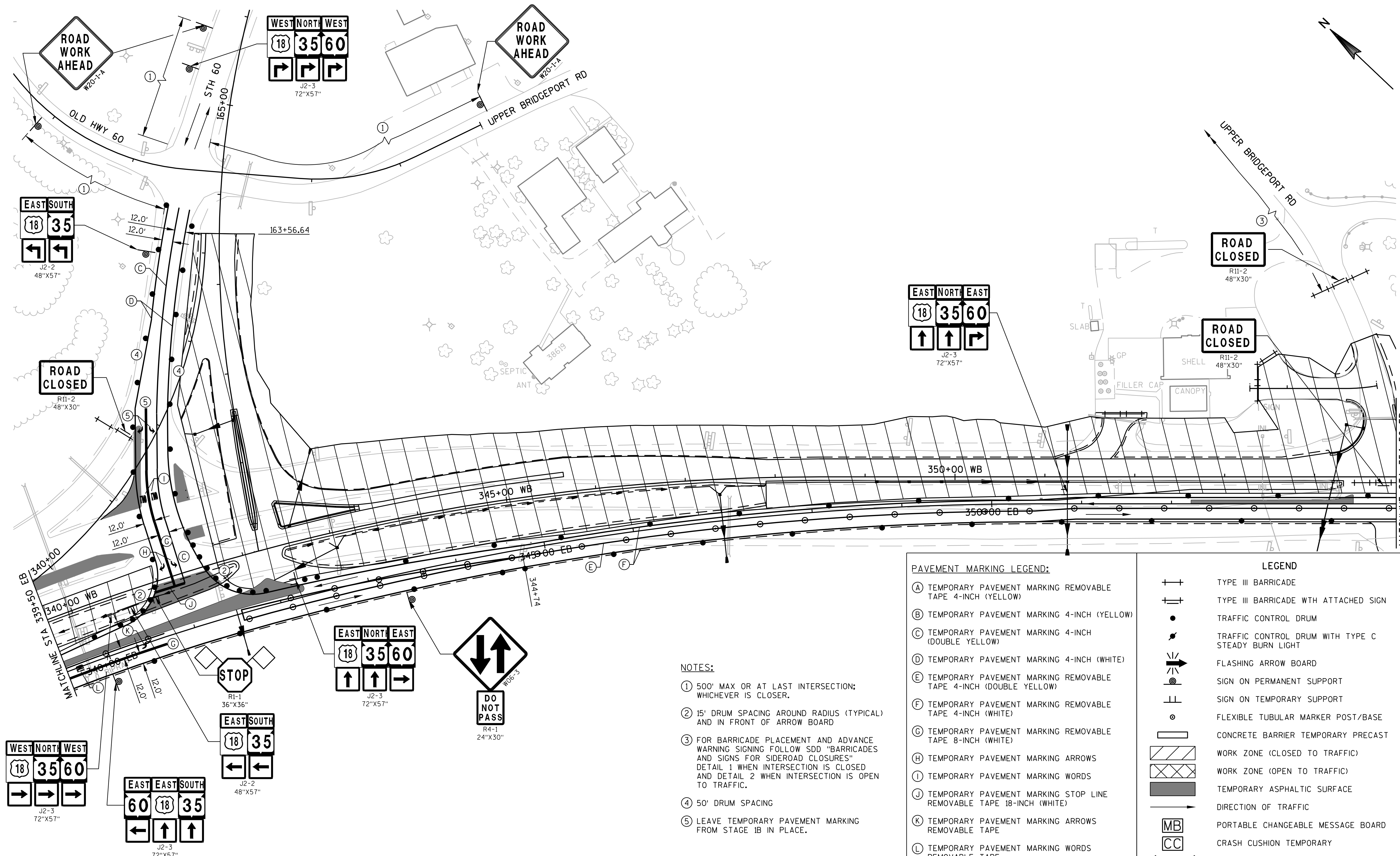
2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 2A	SHEET 177	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 2A.DWG

SHEET NAME: STAGE2A10



NOTES:

1. 500' MAX OR AT LAST INTERSECTION; WHICHEVER IS CLOSER.
2. 15' DRUM SPACING AROUND RADIUS (TYPICAL) AND IN FRONT OF ARROW BOARD
3. FOR BARRICADE PLACEMENT AND ADVANCE WARNING SIGNING FOLLOW SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" DETAIL 1 WHEN INTERSECTION IS CLOSED AND DETAIL 2 WHEN INTERSECTION IS OPEN TO TRAFFIC.
4. 50' DRUM SPACING
5. LEAVE TEMPORARY PAVEMENT MARKING FROM STAGE 1B IN PLACE.

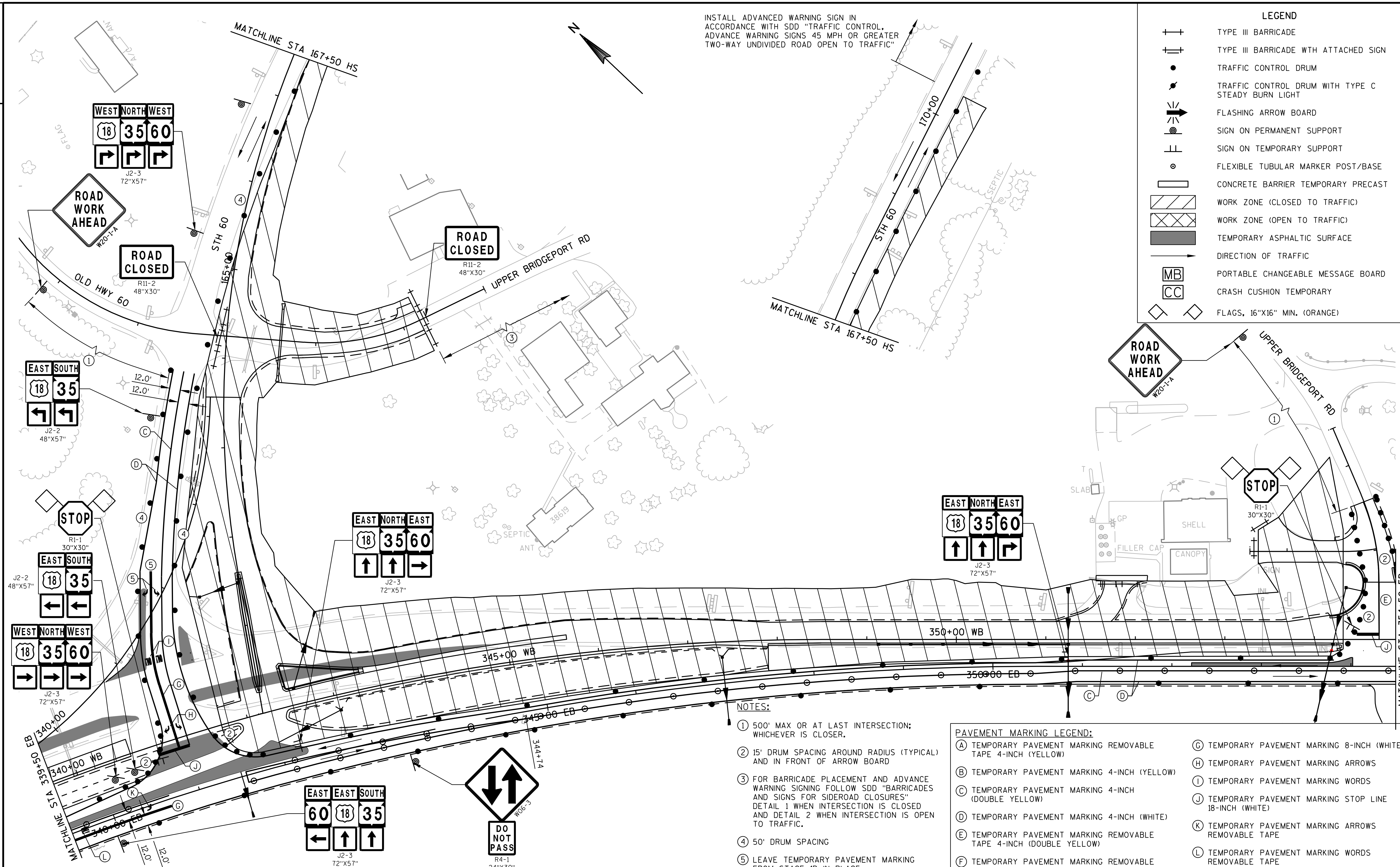
PAVEMENT MARKING LEGEND:

- (A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- (B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
- (C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)
- (D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
- (E) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
- (F) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
- (G) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)
- (H) TEMPORARY PAVEMENT MARKING ARROWS
- (I) TEMPORARY PAVEMENT MARKING WORDS
- (J) TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 18-INCH (WHITE)
- (K) TEMPORARY PAVEMENT MARKING ARROWS REMOVABLE TAPE
- (L) TEMPORARY PAVEMENT MARKING WORDS REMOVABLE TAPE

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY
- FLAGS, 16"X16" MIN. (ORANGE)

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 2A	SHEET 178	E



NOTES:

1. 500' MAX OR AT LAST INTERSECTION; WHICHEVER IS CLOSER.
2. 15' DRUM SPACING AROUND RADIUS (TYPICAL) AND IN FRONT OF ARROW BOARD
3. FOR BARRICADE PLACEMENT AND ADVANCE WARNING SIGNING FOLLOW SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" DETAIL 1 WHEN INTERSECTION IS CLOSED AND DETAIL 2 WHEN INTERSECTION IS OPEN TO TRAFFIC.
4. 50' DRUM SPACING
5. LEAVE TEMPORARY PAVEMENT MARKING FROM STAGE 1B IN PLACE

PAVEMENT MARKING LEGEND:

- (A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- (B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
- (C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)
- (D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
- (E) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
- (F) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
- (G) TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)
- (H) TEMPORARY PAVEMENT MARKING ARROWS
- (I) TEMPORARY PAVEMENT MARKING WORDS
- (J) TEMPORARY PAVEMENT MARKING STOP LINE 18-INCH (WHITE)
- (K) TEMPORARY PAVEMENT MARKING ARROWS REMOVABLE TAPE
- (L) TEMPORARY PAVEMENT MARKING WORDS REMOVABLE TAPE

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 2A	SHEET	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 2A ALT.DWG SHEET NAME: STAGE2A-ALT11

2

LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	FLEXIBLE TUBULAR MARKER POST/BASE
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK ZONE (CLOSED TO TRAFFIC)
	WORK ZONE (OPEN TO TRAFFIC)
	TEMPORARY ASPHALTIC SURFACE
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
CC	CRASH CUSHION TEMPORARY
	FLAGS, 16"X16" MIN. (ORANGE)

PAVEMENT MARKING LEGEND:

(A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

(B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)

(C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)

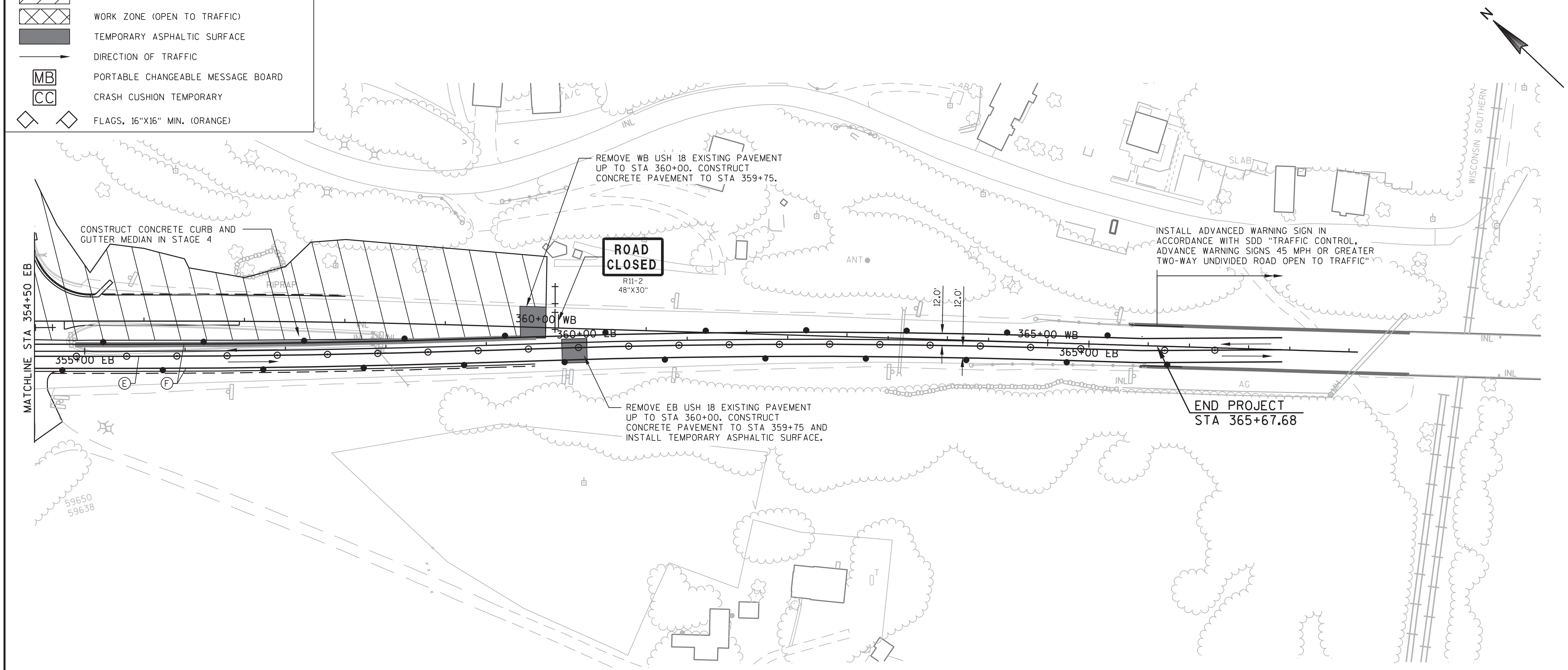
(D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)

(E) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)

(F) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)

(G) TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)

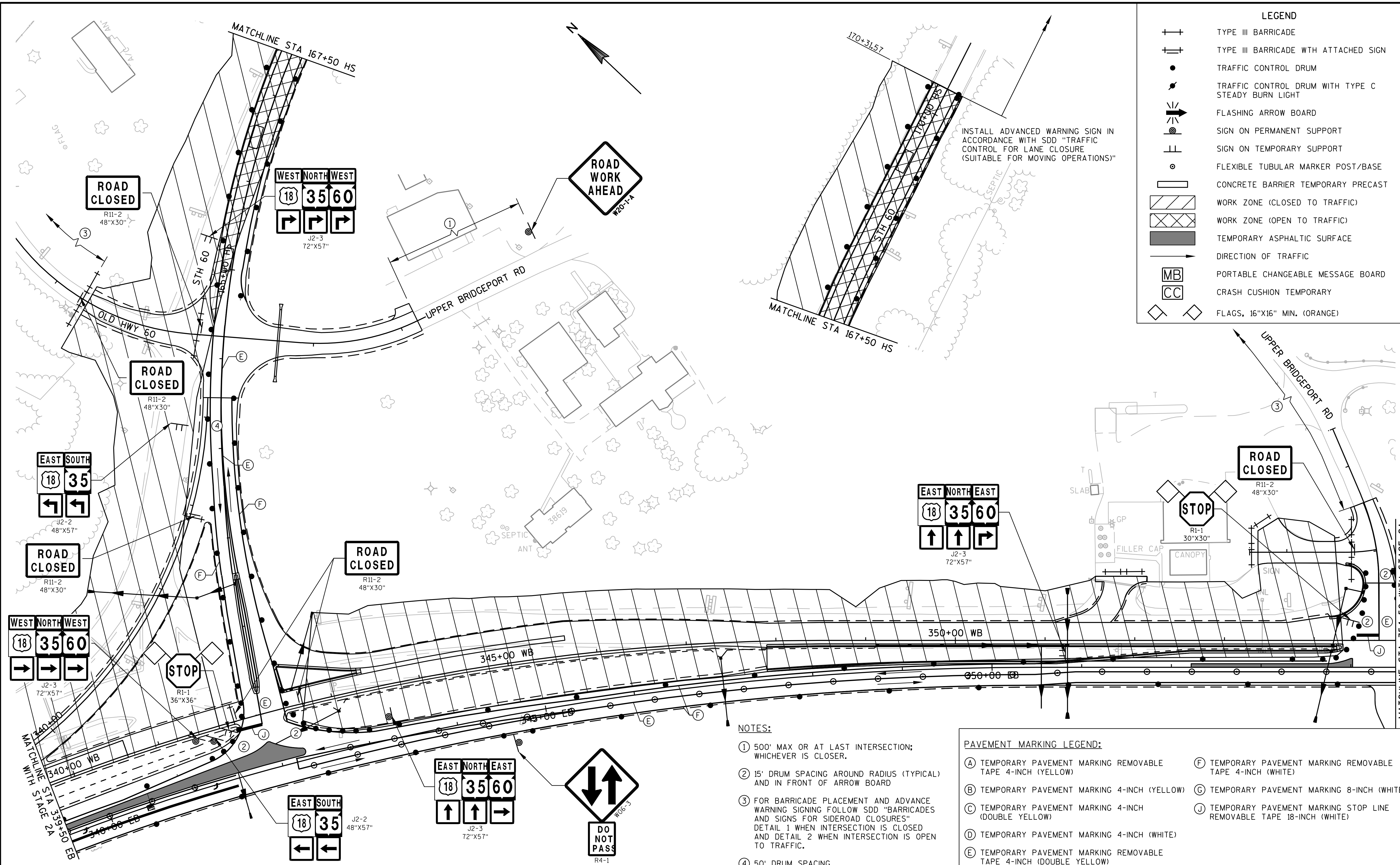
2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 2A	SHEET 180	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 2A.DWG

SHEET NAME: STAGE2A12



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY
- FLAGS, 16"X16" MIN. (ORANGE)

NOTES:

1. 500' MAX OR AT LAST INTERSECTION; WHICHEVER IS CLOSER.
2. 15' DRUM SPACING AROUND RADIUS (TYPICAL) AND IN FRONT OF ARROW BOARD
3. FOR BARRICADE PLACEMENT AND ADVANCE WARNING SIGNING FOLLOW SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" DETAIL 1 WHEN INTERSECTION IS CLOSED AND DETAIL 2 WHEN INTERSECTION IS OPEN TO TRAFFIC.
4. 50' DRUM SPACING

PAVEMENT MARKING LEGEND:

- (A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- (B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
- (C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)
- (D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
- (E) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
- (F) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
- (G) TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)
- (J) TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 18-INCH (WHITE)

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 2B	SHEET 181	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 2B.DWG SHEET NAME: STAGE2B11

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL VERTICAL PANELS

STAGE 2C NOTES:

INSTALL PERMENANT PAVEMENT MARKING FROM STA 195+90 TO STA 359+75.

TRAFFIC WILL UTILIZE THE NEWLY CONSTRUCTED LANES IN EACH DIRECTION ON USH 18 TO STA 360+00. TRAFFIC WILL UTILIZE THE EXISTING LANES IN EACH DIRECTION FROM STA 360+00 TO STA 365+68.

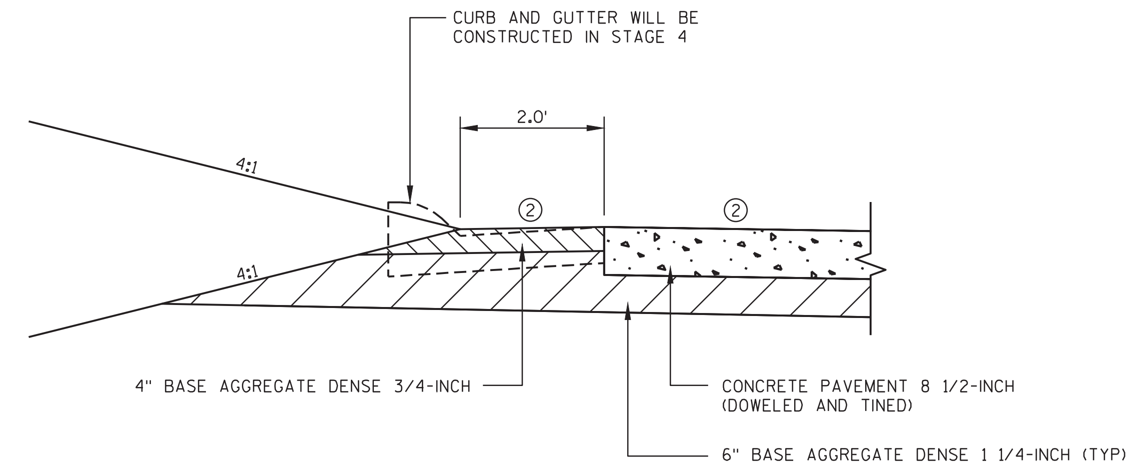
INSTALL TRAFFIC CONTROL VERTICAL PANELS ON ALL TEMPORARY ASPHALT SURFACES AS SHOWN IN THE PLAN.

INSTALL 2' WIDE BASE AGGREGATE DENSE 3/4-INCH SHOULDERS IN ANY MEDIAN AREA NOT CONSTRUCTED WITH CURB AND GUTTER OR TEMPORARY ASPHALTIC PAVEMENT.

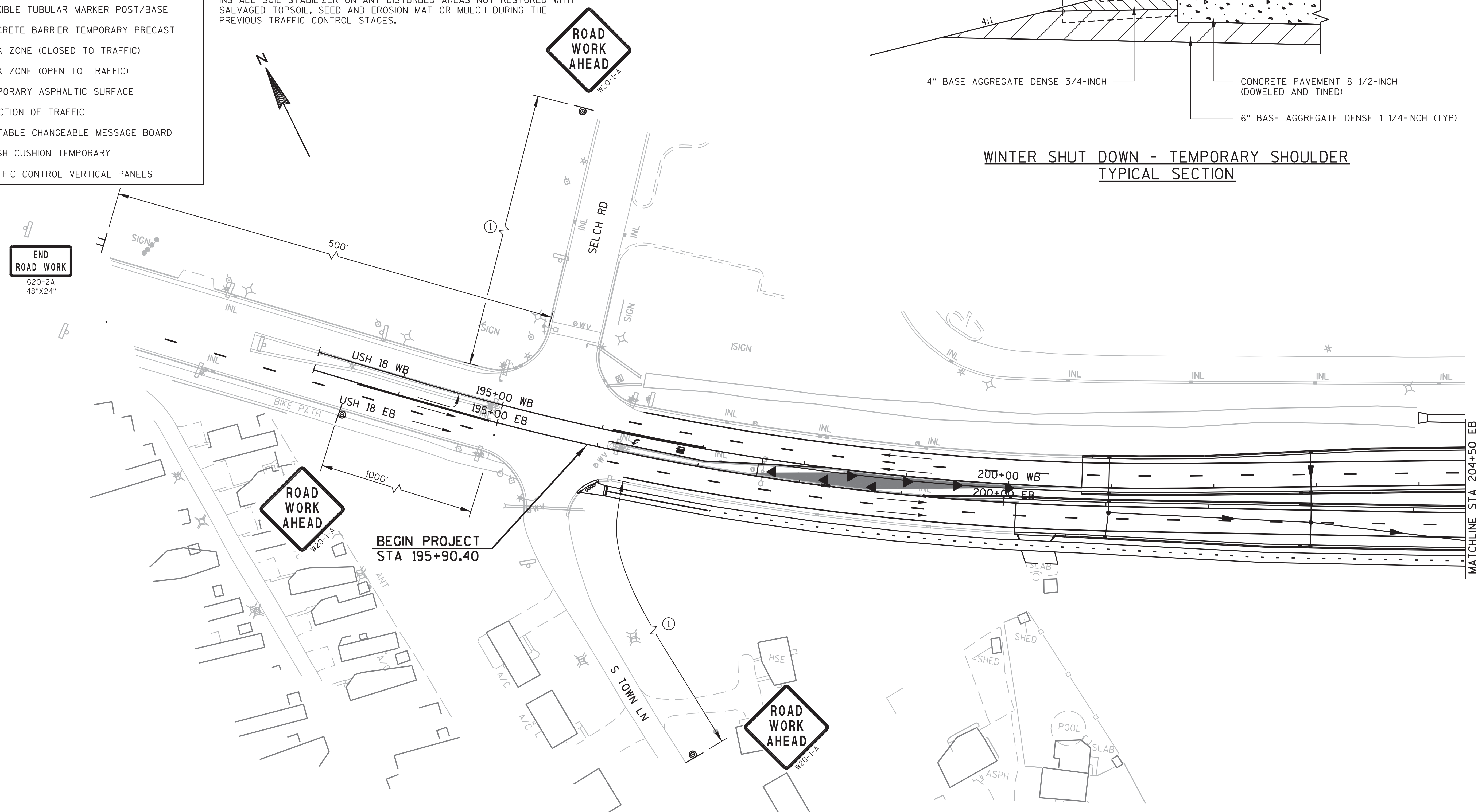
INSTALL SOIL STABILIZER ON ANY DISTURBED AREAS NOT RESTORED WITH SALVAGED TOPSOIL, SEED AND EROSION MAT OR MULCH DURING THE PREVIOUS TRAFFIC CONTROL STAGES.

NOTES:

1. 500' MAX OR AT LAST INTERSECTION; WHICHEVER IS CLOSER.
2. MATCH ADJACENT CROSS SLOPE.



WINTER SHUT DOWN - TEMPORARY SHOULDER TYPICAL SECTION

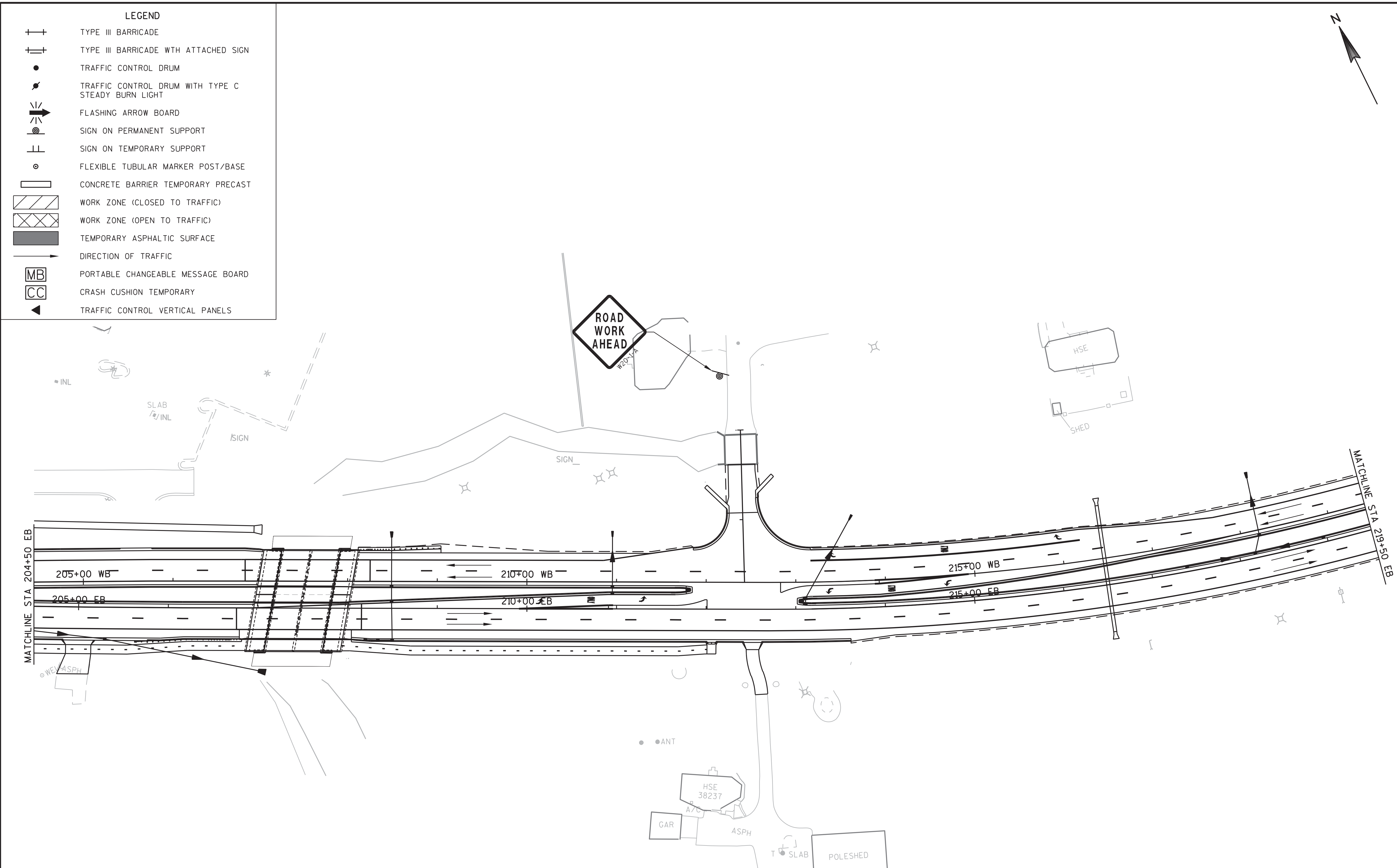


PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 2C WINTER SHUT DOWN	SHEET 182	E

2

LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	FLEXIBLE TUBULAR MARKER POST/BASE
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK ZONE (CLOSED TO TRAFFIC)
	WORK ZONE (OPEN TO TRAFFIC)
	TEMPORARY ASPHALTIC SURFACE
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
CC	CRASH CUSHION TEMPORARY
	TRAFFIC CONTROL VERTICAL PANELS



2

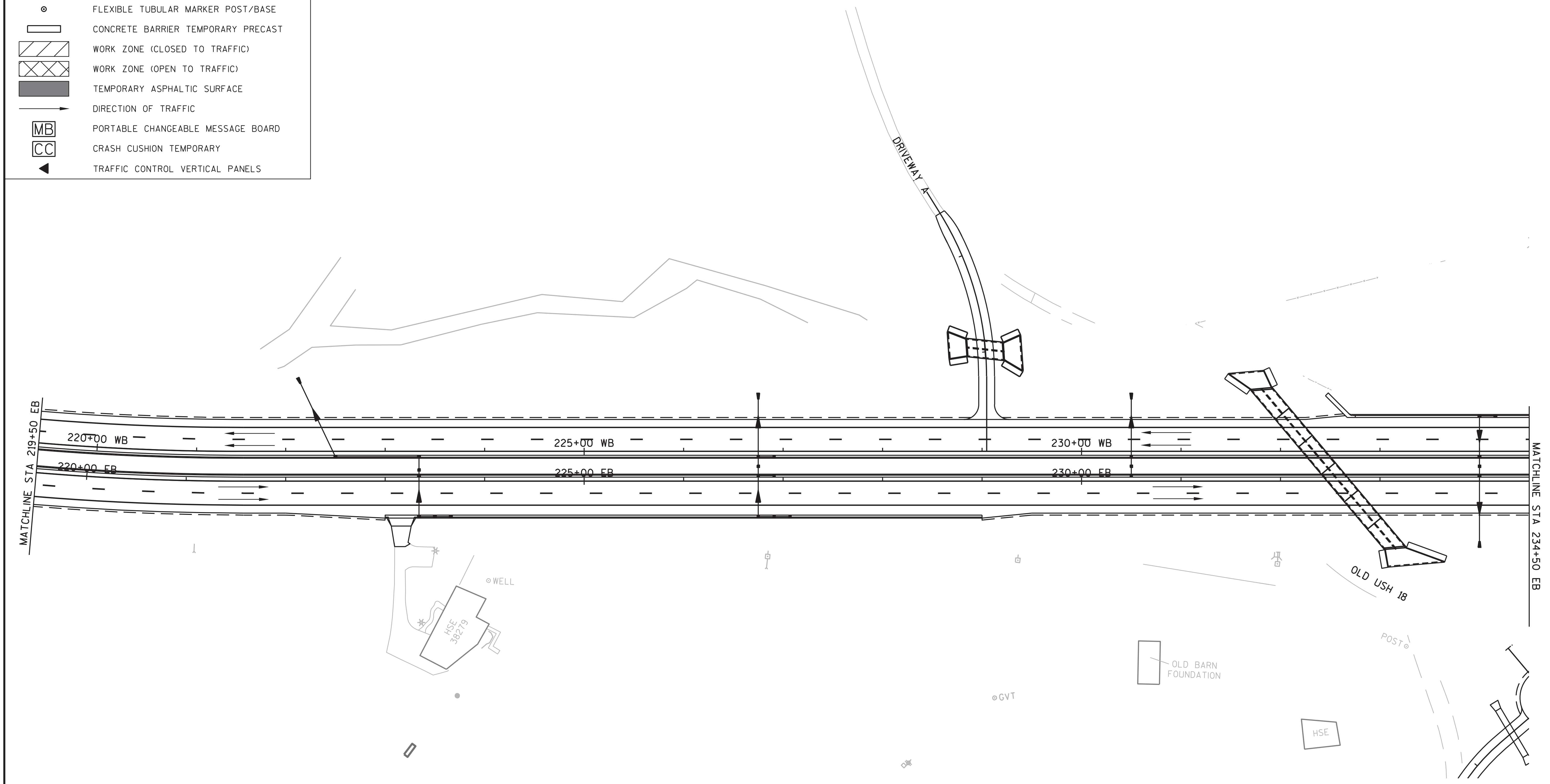
PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 2C WINTER SHUT DOWN	SHEET 183	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 2C.DWG

SHEET NAME: STAGE2C02

LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	FLEXIBLE TUBULAR MARKER POST/BASE
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK ZONE (CLOSED TO TRAFFIC)
	WORK ZONE (OPEN TO TRAFFIC)
	TEMPORARY ASPHALTIC SURFACE
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
CC	CRASH CUSHION TEMPORARY
	TRAFFIC CONTROL VERTICAL PANELS



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 2C WINTER SHUT DOWN	SHEET 184	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 2C.DWG

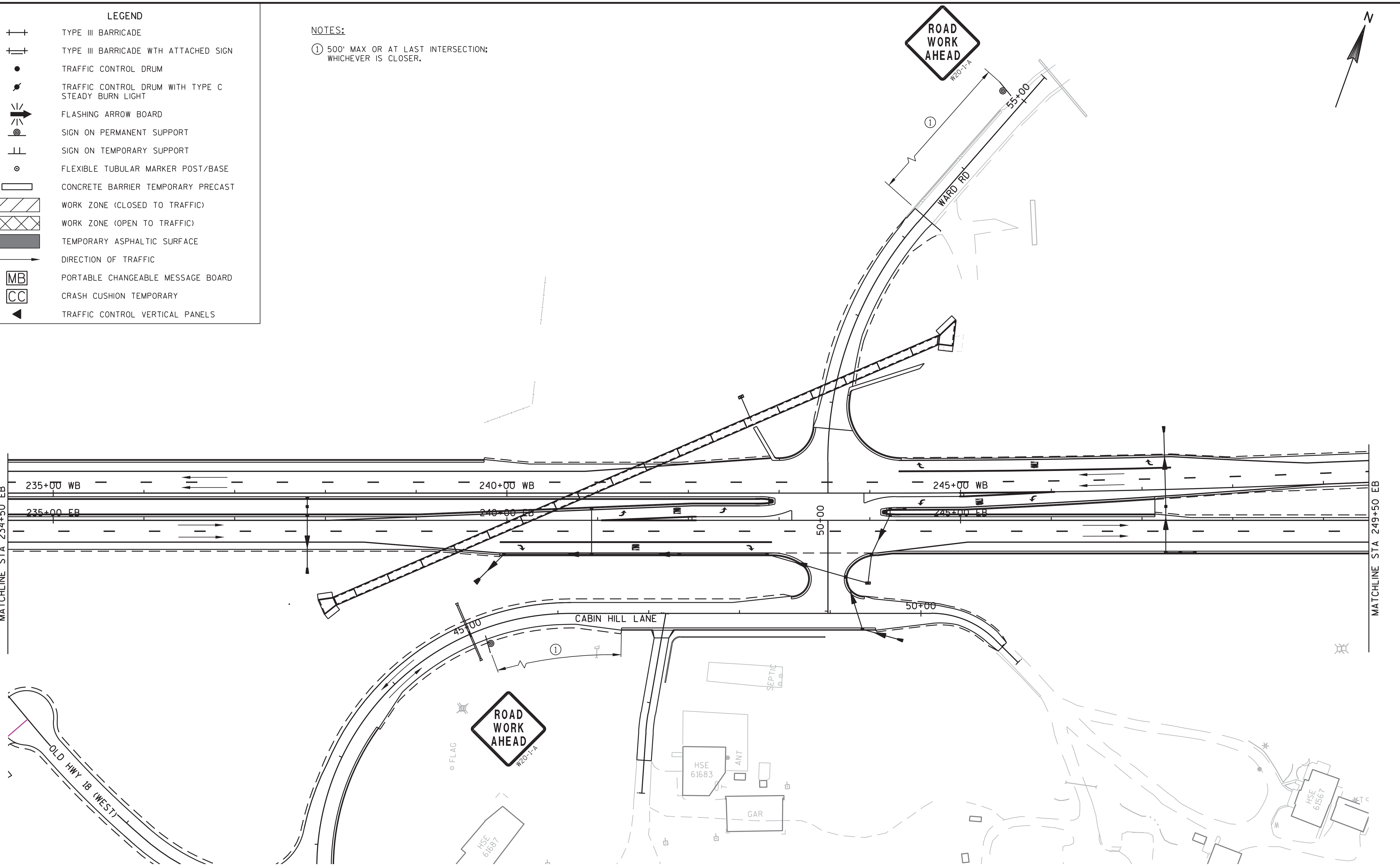
SHEET NAME: STAGE2C03

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL VERTICAL PANELS

NOTES:

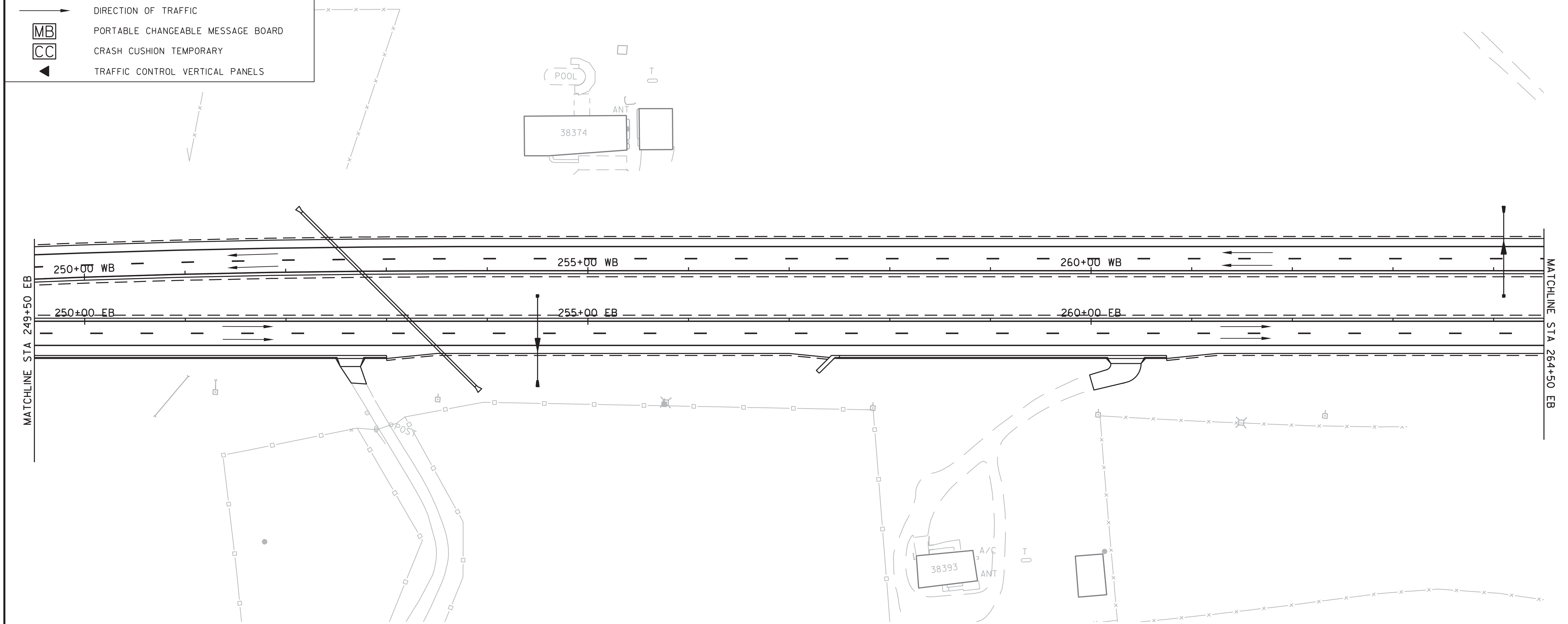
1. 500' MAX OR AT LAST INTERSECTION; WHICHEVER IS CLOSER.



2

LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	FLEXIBLE TUBULAR MARKER POST/BASE
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK ZONE (CLOSED TO TRAFFIC)
	WORK ZONE (OPEN TO TRAFFIC)
	TEMPORARY ASPHALTIC SURFACE
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
CC	CRASH CUSHION TEMPORARY
	TRAFFIC CONTROL VERTICAL PANELS



2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 2C WINTER SHUT DOWN	SHEET 186	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 2C.DWG

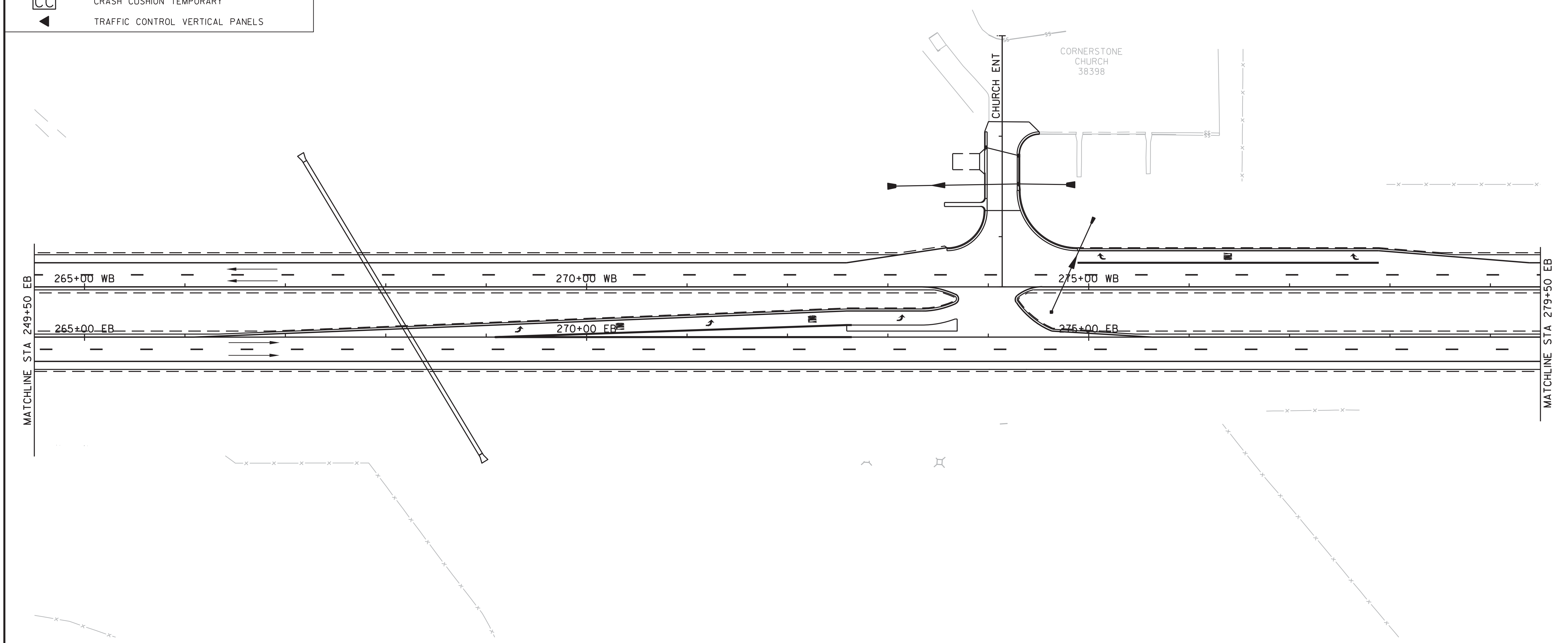
SHEET NAME: STAGE2C05

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL VERTICAL PANELS

2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 2C WINTER SHUT DOWN	SHEET 187	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 2C.DWG

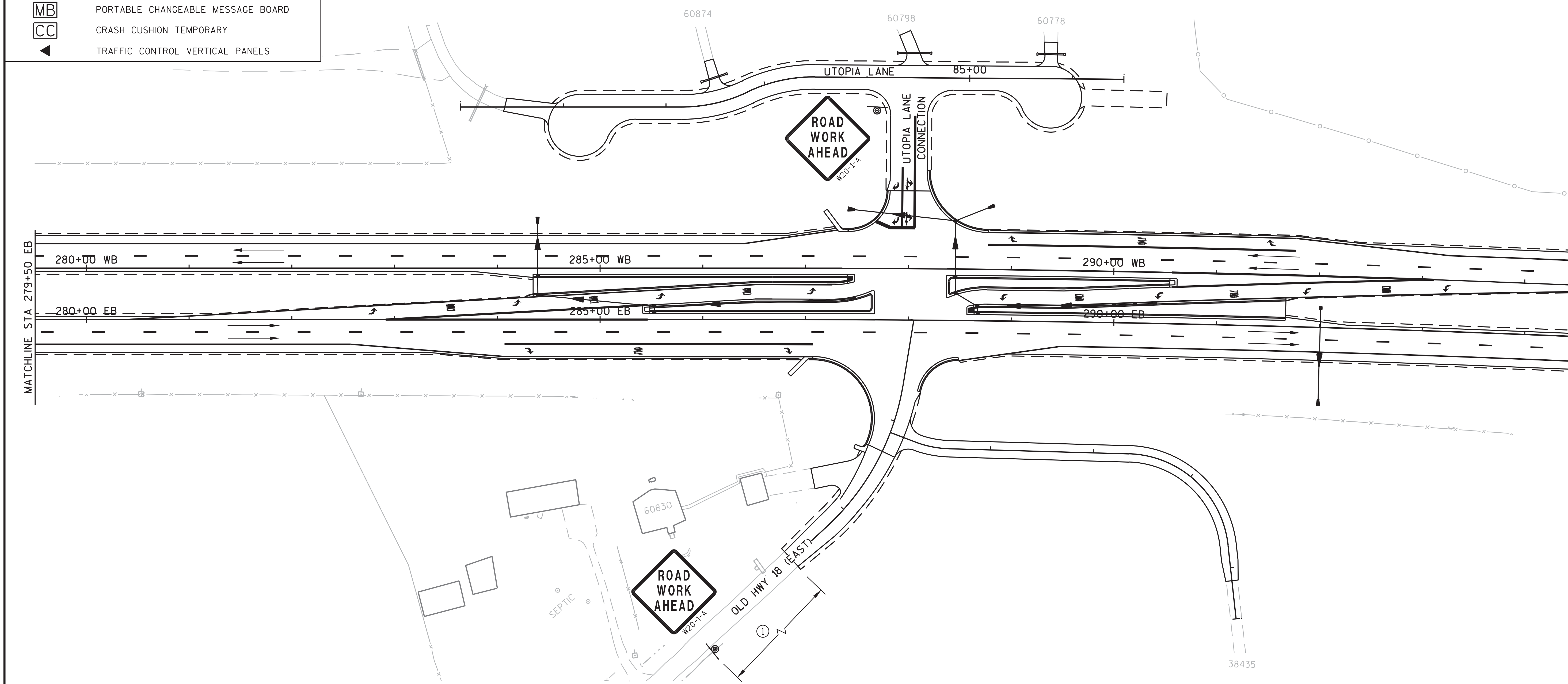
SHEET NAME: STAGE2C06

LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	FLEXIBLE TUBULAR MARKER POST/BASE
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK ZONE (CLOSED TO TRAFFIC)
	WORK ZONE (OPEN TO TRAFFIC)
	TEMPORARY ASPHALTIC SURFACE
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
CC	CRASH CUSHION TEMPORARY
	TRAFFIC CONTROL VERTICAL PANELS

NOTES:

1. 500' MAX OR AT LAST INTERSECTION; WHICHEVER IS CLOSER.



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 2C WINTER SHUT DOWN	SHEET 188	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 2C.DWG

SHEET NAME: STAGE2C07

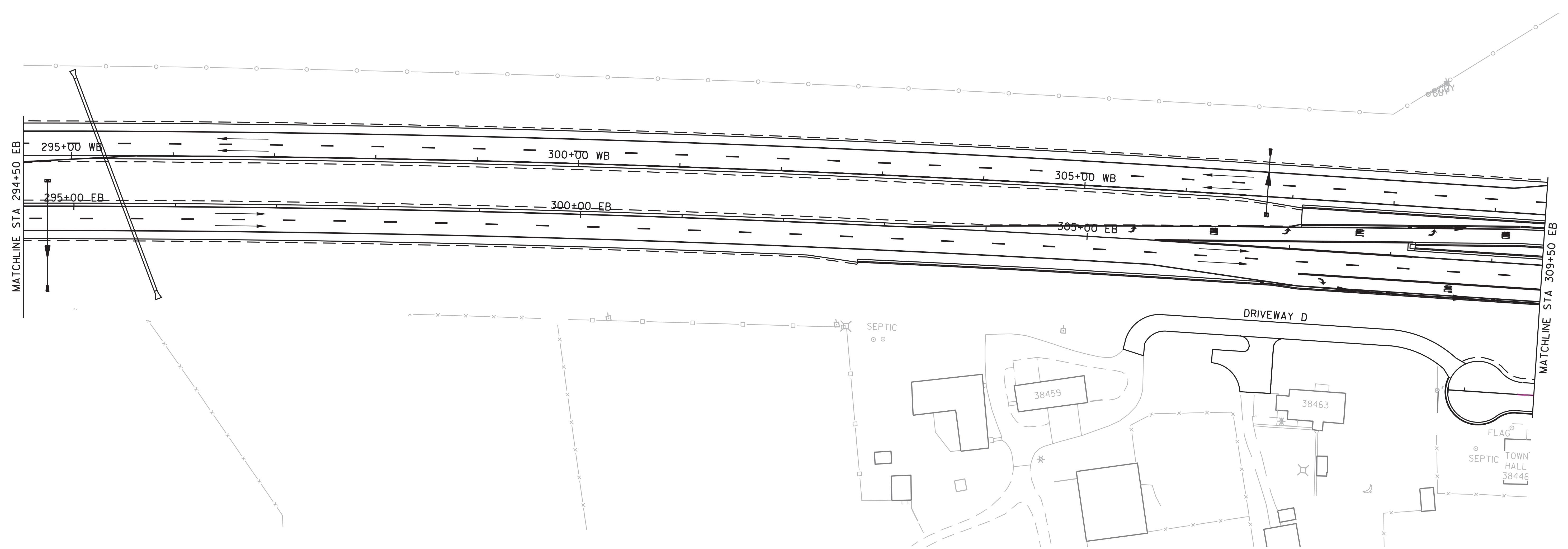
2

LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	FLEXIBLE TUBULAR MARKER POST/BASE
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK ZONE (CLOSED TO TRAFFIC)
	WORK ZONE (OPEN TO TRAFFIC)
	TEMPORARY ASPHALTIC SURFACE
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
CC	CRASH CUSHION TEMPORARY
	TRAFFIC CONTROL VERTICAL PANELS

N

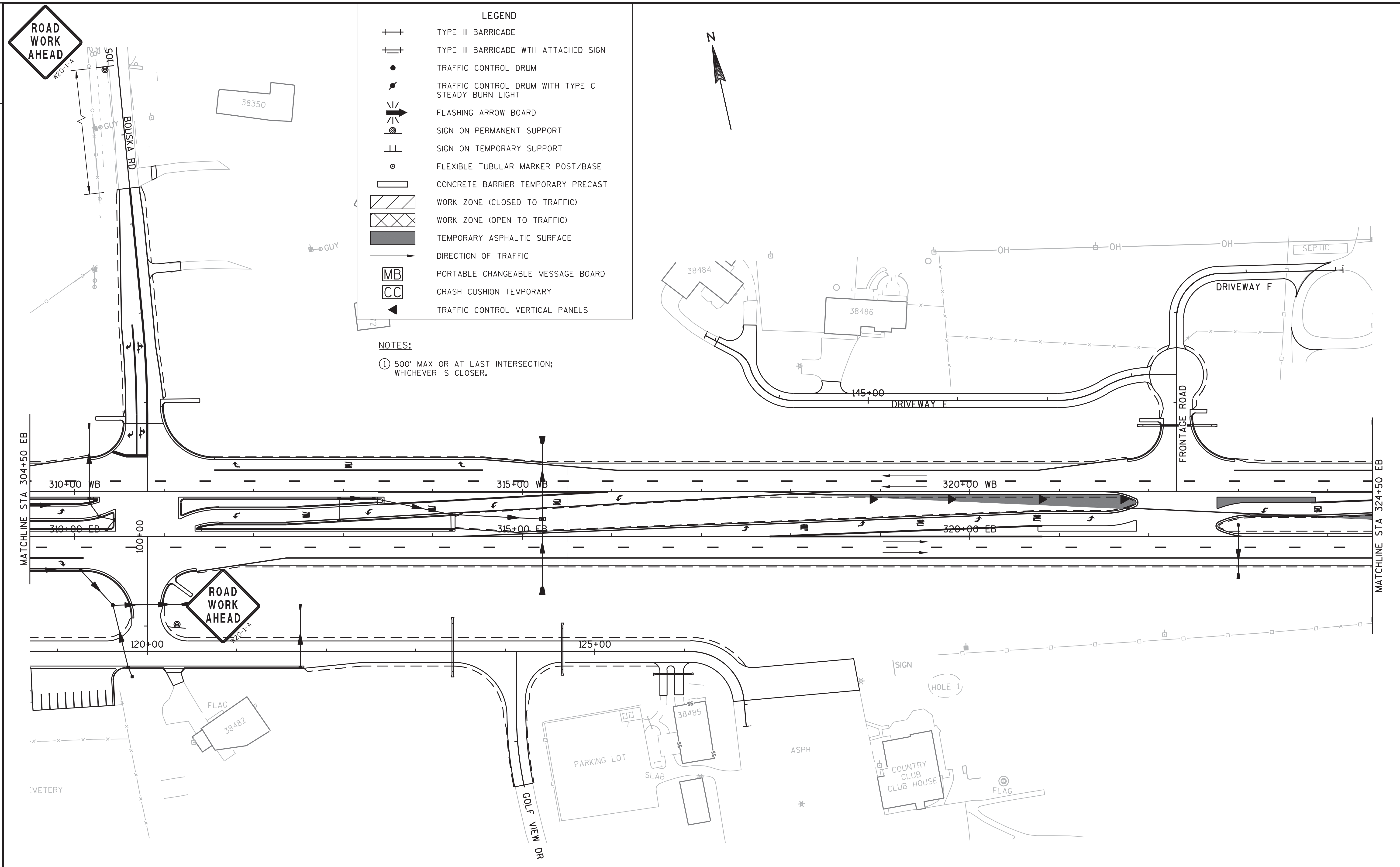
2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 2C WINTER SHUT DOWN	SHEET 189	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 2C.DWG

SHEET NAME: STAGE2C08



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 2C WINTER SHUT DOWN	SHEET 190	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 2C.DWG

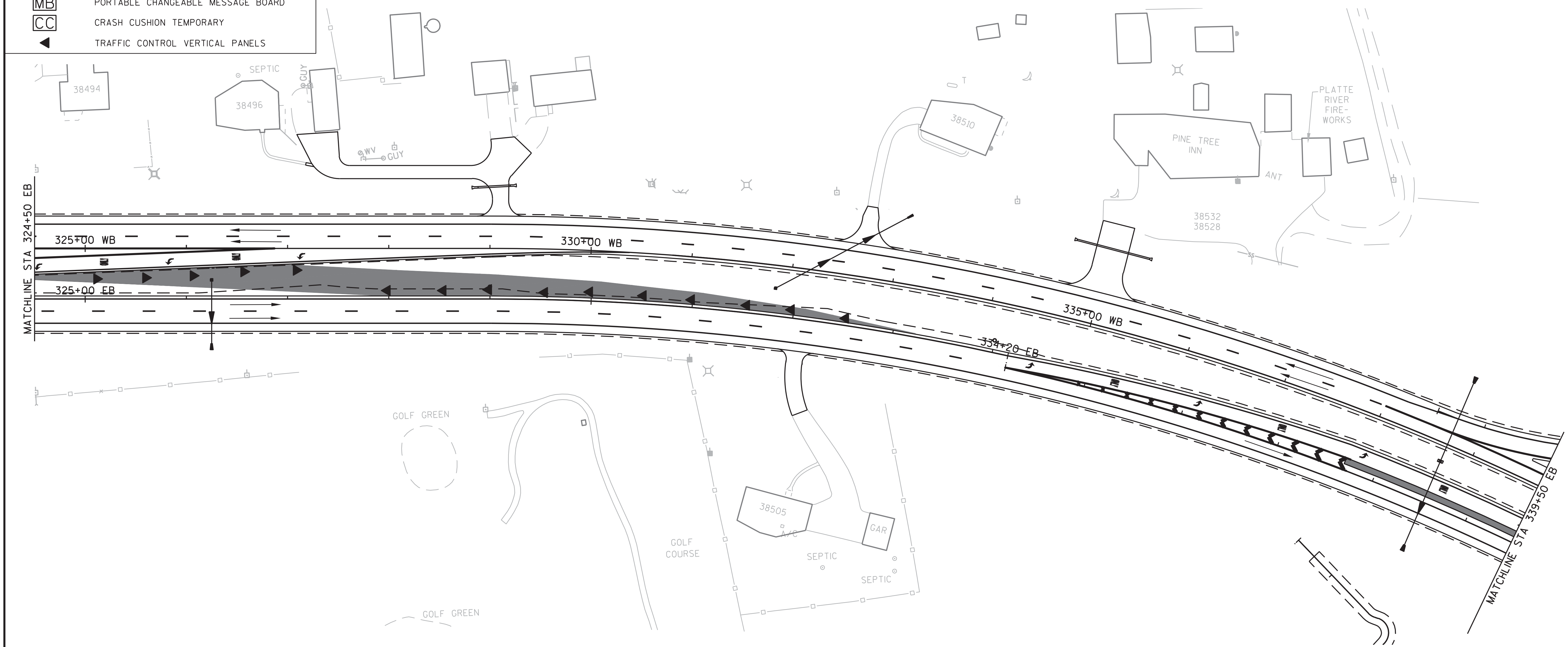
SHEET NAME: STAGE2C09

2

LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	FLEXIBLE TUBULAR MARKER POST/BASE
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK ZONE (CLOSED TO TRAFFIC)
	WORK ZONE (OPEN TO TRAFFIC)
	TEMPORARY ASPHALTIC SURFACE
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
CC	CRASH CUSHION TEMPORARY
	TRAFFIC CONTROL VERTICAL PANELS

N

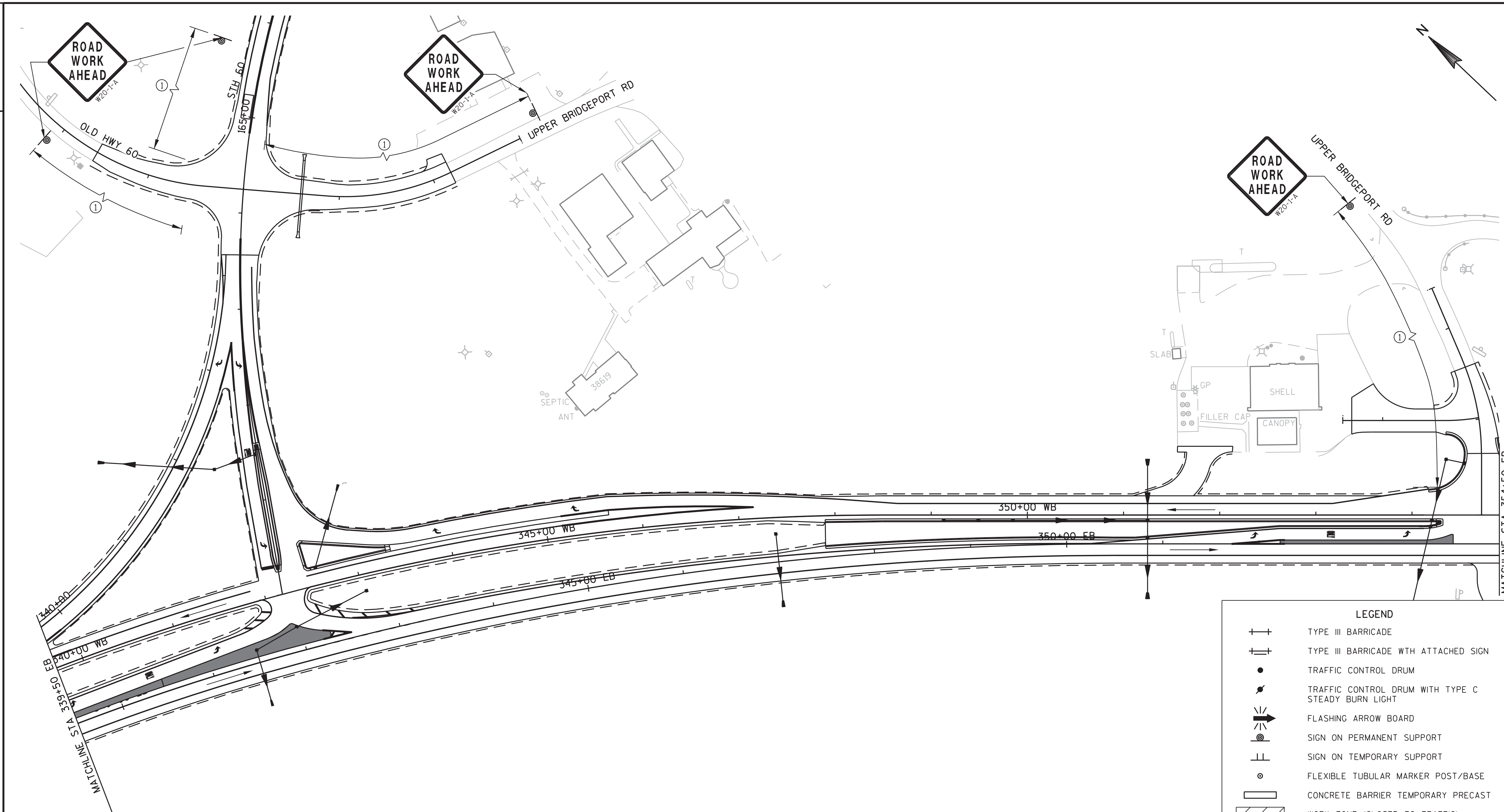


2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 2C WINTER SHUT DOWN	SHEET 191	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 2C.DWG

SHEET NAME: STAGE2C10



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL VERTICAL PANELS

NOTES:

1. 500' MAX OR AT LAST INTERSECTION; WHICHEVER IS CLOSER.

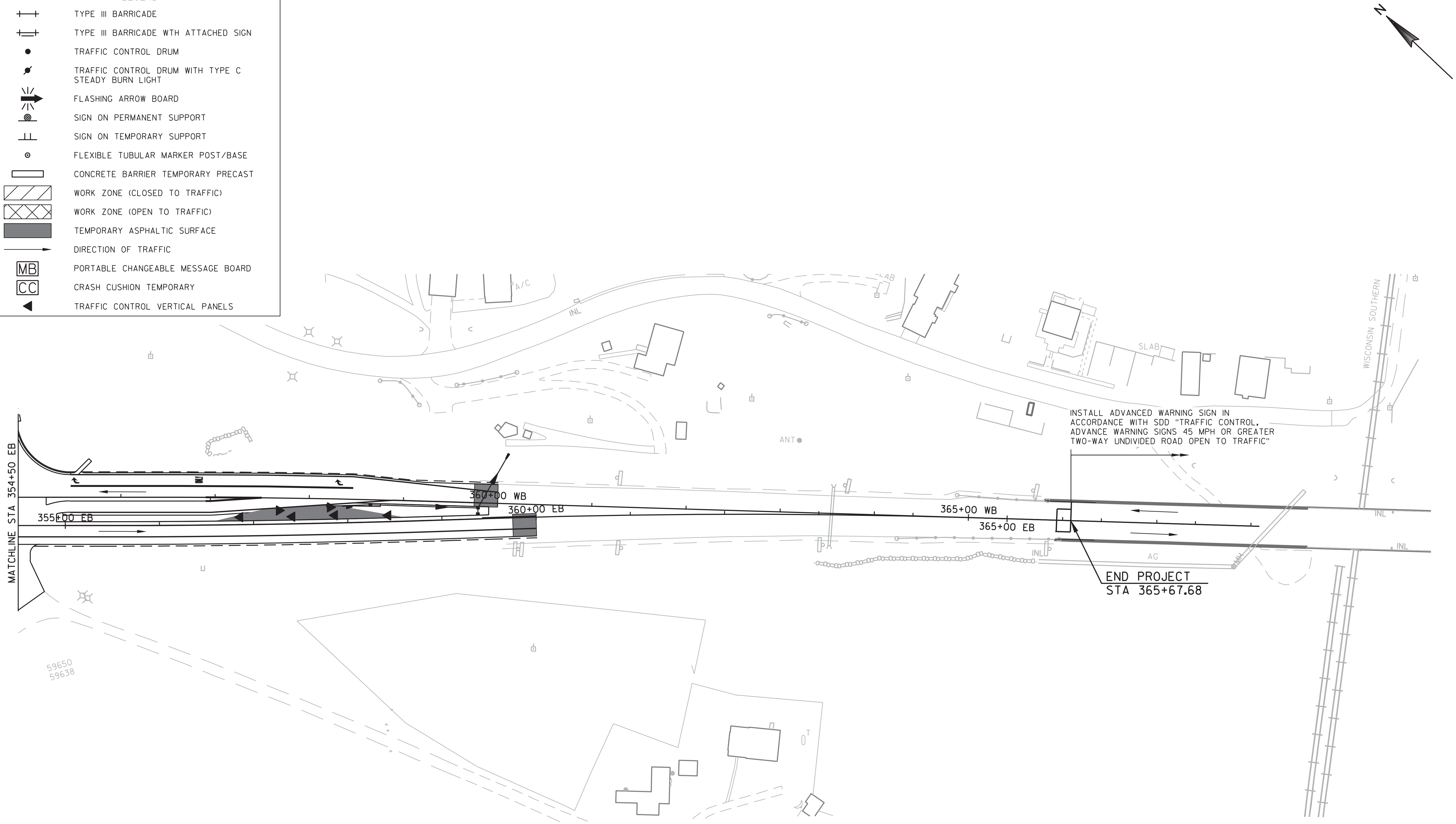
PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 2C WINTER SHUT DOWN	SHEET 192	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 2C.DWG SHEET NAME: STAGE2C11

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL VERTICAL PANELS



2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 2C WINTER SHUT DOWN	SHEET 193	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 2C.DWG

SHEET NAME: STAGE2C12

SEQUENCE OF OPERATION

RING 1

	HEAD NUMBERS	01 R/W	01 CLEAR TO 02		02 R/W	02 CLEAR TO **		03 R/W	03 CLEAR TO **		04 (NOT USED) R/W	04 CLEAR TO **	FLASH
01	1	G	Y	R	R	R	R	R	R	R			R
02	2	R	R	R	G	Y	R	R	R	R			R
03	3	R	R	R	R	R	R	G	Y	R			R
04													
05													
06													
07													
08													

RING 2

	HEAD NUMBERS	05 (NOT USED) R/W	05 CLEAR TO **	06 (NOT USED) R/W	06 CLEAR TO **	07 (NOT USED) R/W	07 CLEAR TO **	08 (NOT USED) R/W	08 CLEAR TO **
01									
02									
03									
04									
05									
06									
07									
08									

BARRIER

** CLEARANCE TO A PHASE IN CONFLICT WITH THIS PHASE ON (SEE CHART 1)

DETECTOR LOGIC

DETECTOR NUMBER	DETECTOR INPUT	DETECTOR OPERATION: CALLS AND EXTENDS	CALLS ONLY	EXTENDS ONLY	PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
11	1	X			1,2	1					
21	2	X			1,2	2					
31	3	X			3	3					

CONTROLLER LOGIC

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

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

TYPE OF PRE-EMPT	
NONE	X
RAILROAD	
EMERGENCY VEHICLE	
3M	
TOMAR	
HARDWIRE	
OTHER (GPS)	
LIFT BRIDGE	
QUEUE DETECTOR	

TYPE OF INTERCONNECT COMMUNICATION	
NONE	X
TBC	
CLOSED LOOP TWISTED PAIR*	
CLOSED LOOP FIBER OPTIC*	
RADIO	
*LOCATION OF MASTER CONTROLLER NO:	
SIGNAL SYSTEM #:	

CHART 1

PHASE ON	NONCONFLICTING PHASE ALLOWED TO TIME CONCURRENTLY	PHASES IN CONFLICT WITH PHASE ON
1		2,3
2		1,3
3		1,2
4		
5		
6		
7		
8		

TRAFIC SIGNAL TIMING PLAN

PHASE	DURATION (SEC) MIN GREEN	MAX GREEN	PASSAGE	Y	R	RECALL
1	10	100.0	3.0	5.0	2.0	*,**
2	7	12.0	3.0	3.5	50.0	
3	10	100.0	3.0	5.0	47.5	

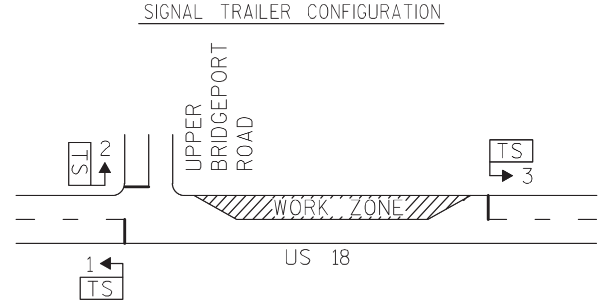
* INTERSECTION TO OPERATE IN REST IN RED MODE. SPECIFIED ALL RED INTERVALS SHALL STILL TIME FOR THEIR FULL DURATION BEFORE ANOTHER PHASE MAY TIME.

** ANY TIME THAT PHASE 1 TIMES, PHASE 2 SHALL TIME IMMEDIATELY AFTER.

GENERAL NOTES:

1. ANY ACTUATED PHASE FOR WHICH THERE IS NO CALL SHALL BE SKIPPED, EXCEPT THAT:
2. PHASE 1 SHALL ALWAYS BE FOLLOWED BY PHASE 2. PHASE 3 SHALL NEVER FOLLOW PHASE 1.
3. IN THE EVENT OF ANY CHANGES TO STAGING PLAN ELEMENTS, INCLUDING BUT NOT LIMITED TO STOP BAR LOCATIONS, POSTED REGULATORY SPEED LIMITS, OR POSTED ADVISORY SPEED LIMITS WITHIN THE SINGLE LANE WORKZONE, CONTINUED USE OF SIGNAL TIMINGS PROVIDED SHALL BE APPROVED BY THE ENGINEER.
4. TIMINGS BASED ON 20 MPH AVERAGE WORKZONE TRAVEL SPEED. THE ENGINEER SHALL MODIFY TIMINGS IF SLOWER AVERAGE SPEEDS ARE OBSERVED WITHIN THE SINGLE LANE WORKZONE.

SIGNAL TRAILER CONFIGURATION



LEGEND

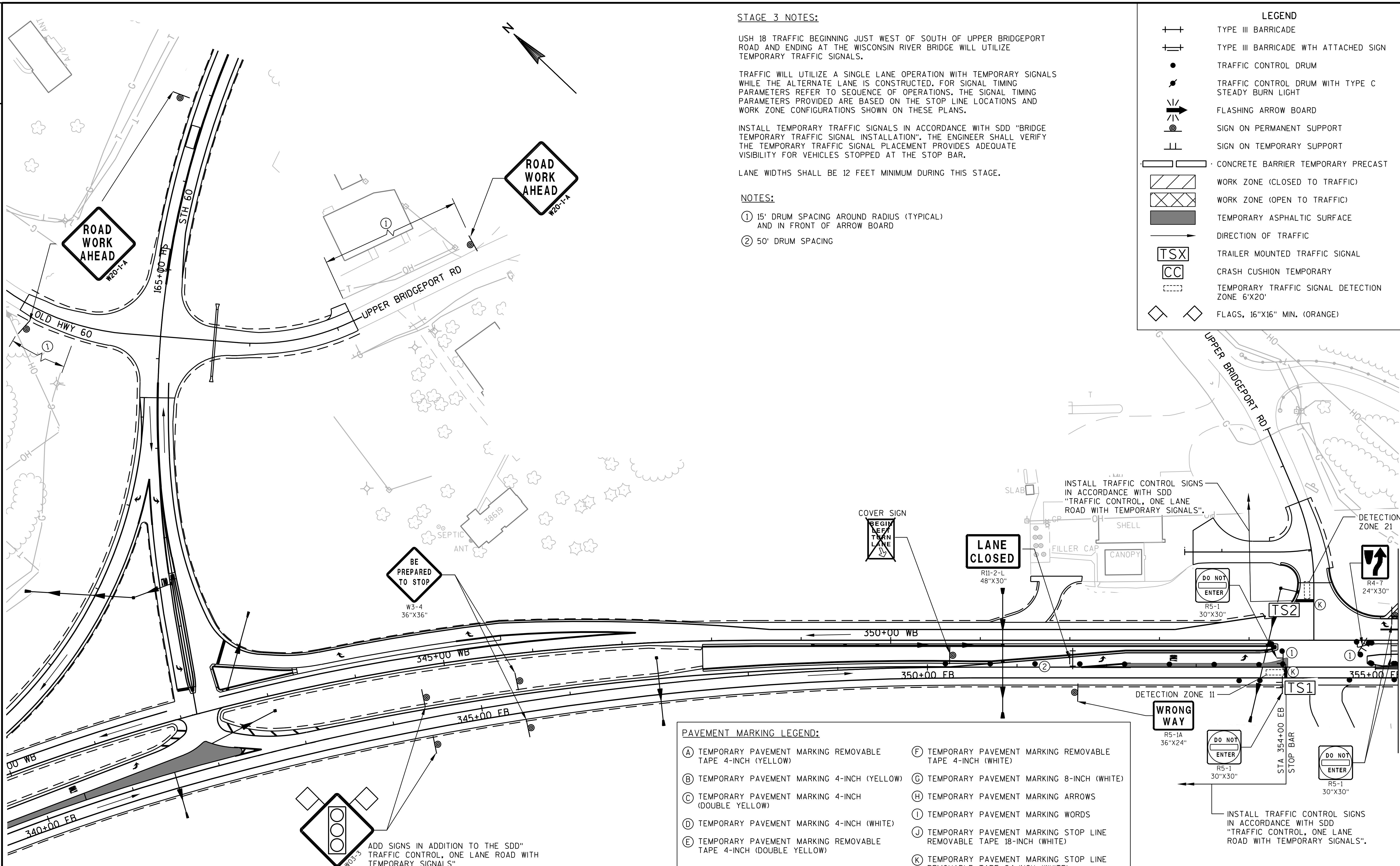
X TS — TRAILER MOUNTED TEMPORARY BRIDGE SIGNAL WITH HEAD(S) X

N

TRAFFIC CONTROL SIGNAL
US 18 SINGLE LANE STAGING WORK ZONE
CRAWFORD COUNTY

SIGNAL NO. N/A
CONTROLLER TYPE: TEMP
Date JULY 2015

2



STAGE 3 NOTES:

USH 18 TRAFFIC BEGINNING JUST WEST OF SOUTH OF UPPER BRIDGEPORT ROAD AND ENDING AT THE WISCONSIN RIVER BRIDGE WILL UTILIZE TEMPORARY TRAFFIC SIGNALS.

TRAFFIC WILL UTILIZE A SINGLE LANE OPERATION WITH TEMPORARY SIGNALS WHILE THE ALTERNATE LANE IS CONSTRUCTED. FOR SIGNAL TIMING PARAMETERS REFER TO SEQUENCE OF OPERATIONS. THE SIGNAL TIMING PARAMETERS PROVIDED ARE BASED ON THE STOP LINE LOCATIONS AND WORK ZONE CONFIGURATIONS SHOWN ON THESE PLANS.

INSTALL TEMPORARY TRAFFIC SIGNALS IN ACCORDANCE WITH SDD "BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION". THE ENGINEER SHALL VERIFY THE TEMPORARY TRAFFIC SIGNAL PLACEMENT PROVIDES ADEQUATE VISIBILITY FOR VEHICLES STOPPED AT THE STOP BAR.

LANE WIDTHS SHALL BE 12 FEET MINIMUM DURING THIS STAGE.

NOTES:

1. 15' DRUM SPACING AROUND RADIUS (TYPICAL) AND IN FRONT OF ARROW BOARD
2. 50' DRUM SPACING

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- TSX TRAILER MOUNTED TRAFFIC SIGNAL
- CC CRASH CUSHION TEMPORARY
- TEMPORARY TRAFFIC SIGNAL DETECTION ZONE 6'X20'
- FLAGS, 16"X16" MIN. (ORANGE)

PAVEMENT MARKING LEGEND:

- (A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- (B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
- (C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)
- (D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
- (E) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
- (F) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
- (G) TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)
- (H) TEMPORARY PAVEMENT MARKING ARROWS
- (I) TEMPORARY PAVEMENT MARKING WORDS
- (J) TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 18-INCH (WHITE)
- (K) TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 24-INCH (WHITE)

2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 3A	SHEET	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 3A.DWG   SHEET NAME: STAGE3A11

2

LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK ZONE (CLOSED TO TRAFFIC)
	WORK ZONE (OPEN TO TRAFFIC)
	TEMPORARY ASPHALTIC SURFACE
	DIRECTION OF TRAFFIC
TSX	TRAILER MOUNTED TRAFFIC SIGNAL
CC	CRASH CUSHION TEMPORARY
	TEMPORARY TRAFFIC SIGNAL DETECTION ZONE 6'X20'
	FLAGS, 16"X16" MIN. (ORANGE)

TEMPORARY ASPHALTIC SURFACE

POINT	STATION	OFFSET
301	356+58.3 EB	4.0' LT
302	357+13.0 EB	16.5' LT
303	357+81.0 EB	19.7' LT
304	358+61.0 EB	4.0' LT

NOTES:

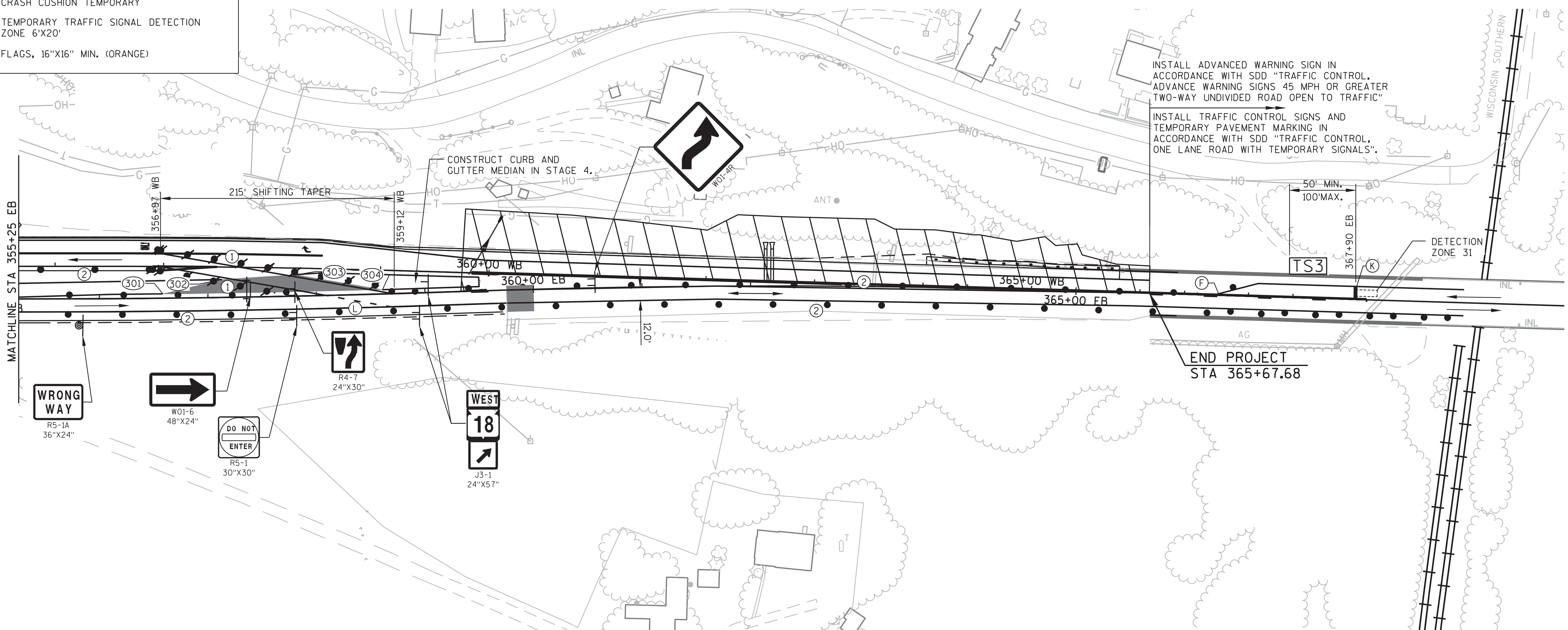
1. 25' DRUM SPACING
2. 50' DRUM SPACING

PAVEMENT MARKING LEGEND:

- (A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- (B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
- (C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)
- (D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
- (E) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
- (F) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
- (G) TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)
- (H) TEMPORARY PAVEMENT MARKING ARROWS
- (I) TEMPORARY PAVEMENT MARKING WORDS
- (J) TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 18-INCH (WHITE)
- (K) TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 24-INCH (WHITE)
- (L) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH YELLOW (SKIP, 3' SEGMENT, 9' GAP)

2

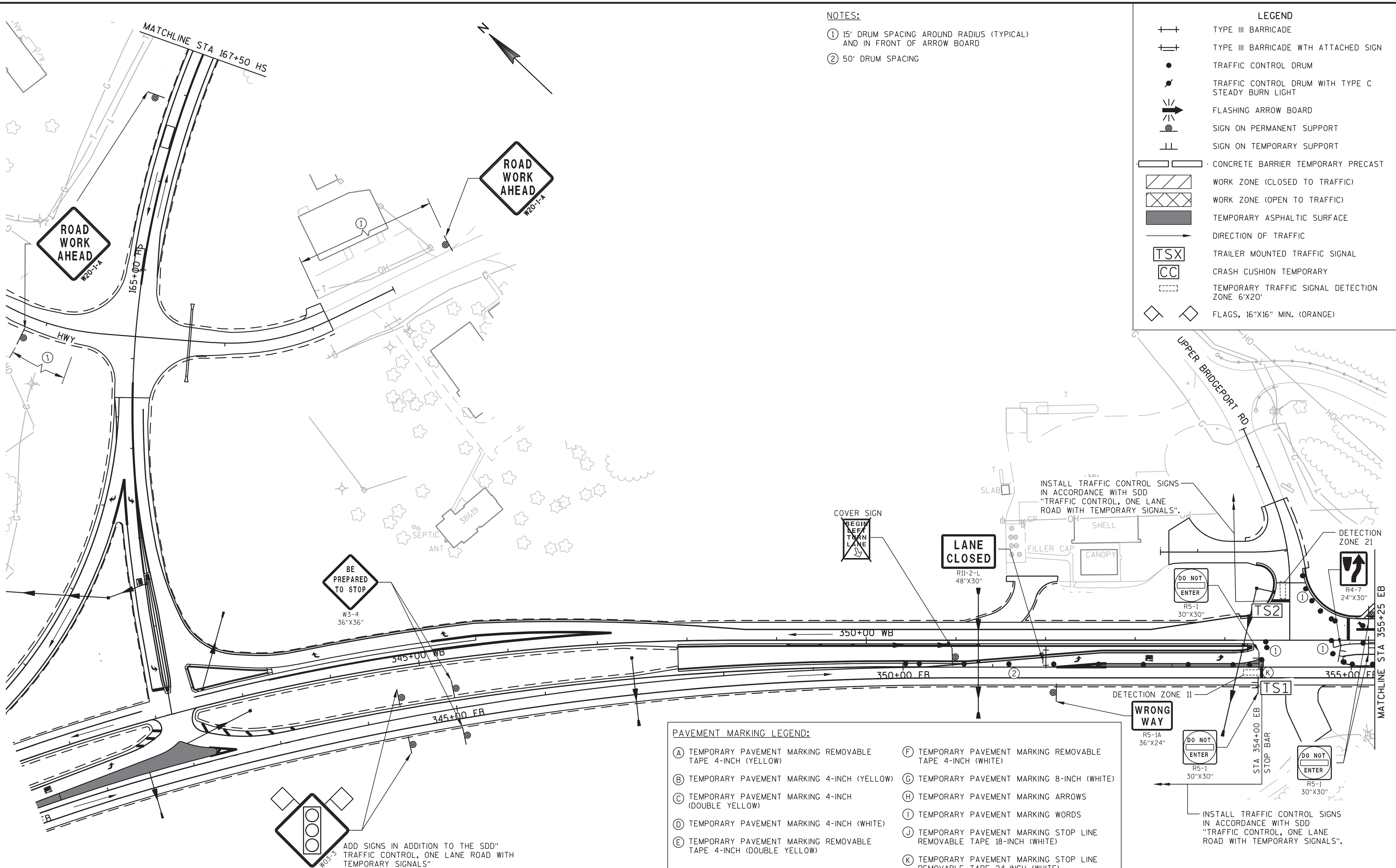
N



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 3A	SHEET	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 3A.DWG

SHEET NAME: STAGE3A12



NOTES:

1. 15' DRUM SPACING AROUND RADIUS (TYPICAL) AND IN FRONT OF ARROW BOARD
2. 50' DRUM SPACING

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- TSX TRAILER MOUNTED TRAFFIC SIGNAL
- CC CRASH CUSHION TEMPORARY
- TEMPORARY TRAFFIC SIGNAL DETECTION ZONE 6'X20'
- FLAGS, 16"X16" MIN. (ORANGE)

PAVEMENT MARKING LEGEND:

- (A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- (B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
- (C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)
- (D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
- (E) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
- (F) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
- (G) TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)
- (H) TEMPORARY PAVEMENT MARKING ARROWS
- (I) TEMPORARY PAVEMENT MARKING WORDS
- (J) TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 18-INCH (WHITE)
- (K) TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 24-INCH (WHITE)

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 3B	SHEET 197	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 3B.DWG   SHEET NAME: STAGE3B11

2

LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK ZONE (CLOSED TO TRAFFIC)
	WORK ZONE (OPEN TO TRAFFIC)
	TEMPORARY ASPHALTIC SURFACE
	DIRECTION OF TRAFFIC
TSX	TRAILER MOUNTED TRAFFIC SIGNAL
CC	CRASH CUSHION TEMPORARY
	TEMPORARY TRAFFIC SIGNAL DETECTION ZONE 6'X20'
	FLAGS, 16"X16" MIN. (ORANGE)

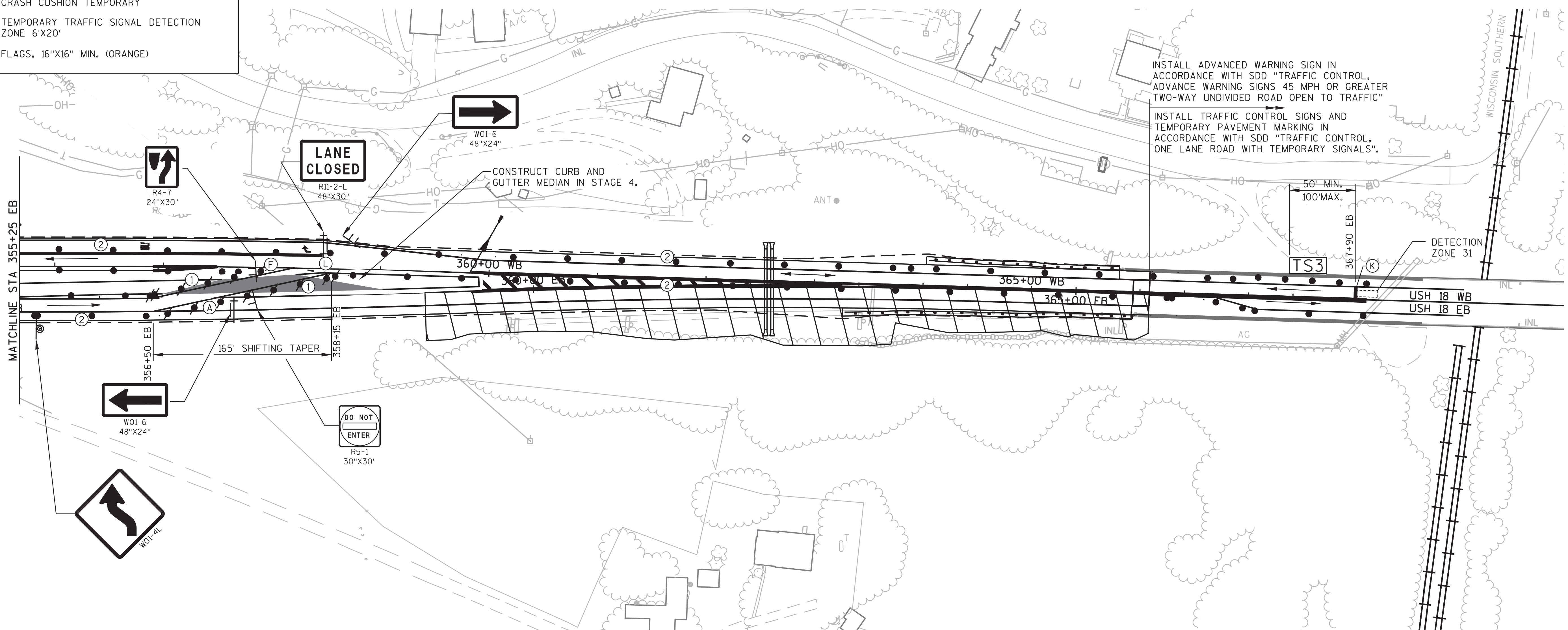
NOTES:

1. 25' DRUM SPACING
2. 50' DRUM SPACING

PAVEMENT MARKING LEGEND:

- (A) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- (B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
- (C) TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)
- (D) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
- (E) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
- (F) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
- (G) TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)
- (H) TEMPORARY PAVEMENT MARKING ARROWS
- (I) TEMPORARY PAVEMENT MARKING WORDS
- (J) TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 18-INCH (WHITE)
- (K) TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 24-INCH (WHITE)
- (L) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH YELLOW (SKIP, 3' SEGMENT, 9' GAP)

2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 3B	SHEET 198	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 3B.DWG

SHEET NAME: STAGE3B12

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY

STAGE 4 NOTES:

TRAFFIC WILL BE DIRECTED TO THE OUTSIDE LANES IN EACH DIRECTION ON USH 18. THE CONSTRUCTION OF CENTER MEDIANS THROUGHOUT THE PROJECT WILL BE FINISHED.

TEMPORARY FLAGGING OPERATIONS WILL BE REQUIRED SOUTH OF THE STH 60 INTERSECTION DURING THIS STAGE TO COMPLETE SELECT AREAS OF CONCRETE MEDIANS ON USH 18.

INSTALL PERMANENT PAVEMENT MARKINGS IN THIS STAGE FROM STA 359+75 TO STA 365+68.

SEAL ALL EXISTING AND TEMPORARY PIPES USED FOR TEMPORARY DRAINAGE FOR STAGING.

LANE WIDTHS WILL BE 12 FEET MINIMUM DURING THIS STAGE.

NOTES:

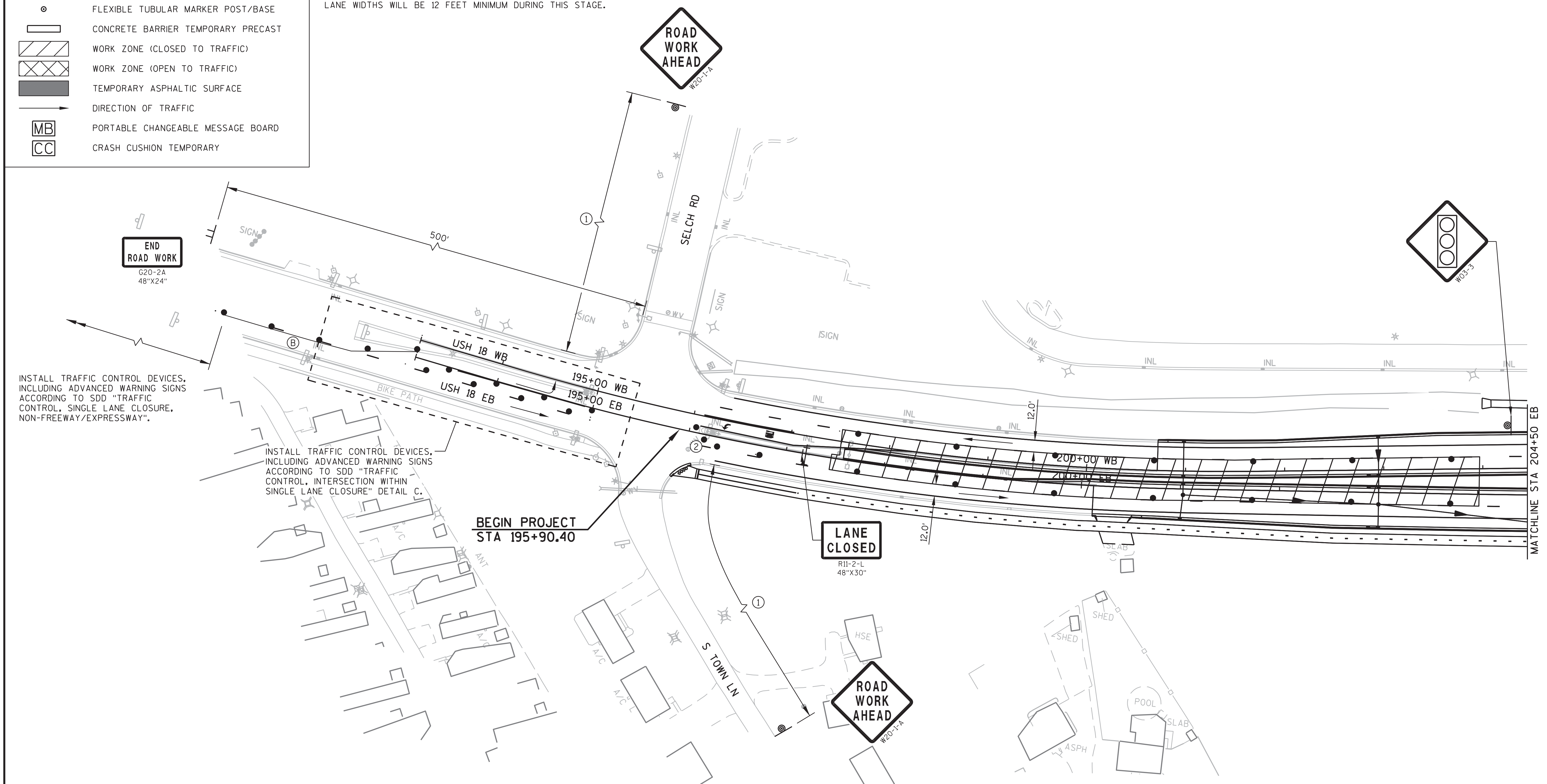
1. 500' MAX OR AT LAST INTERSECTION; WHICHEVER IS CLOSER.
2. 15' DRUM SPACING AROUND RADIUS (TYPICAL) AND IN FRONT OF ARROW BOARD

PAVEMENT MARKING LEGEND:

(A) TEMPORARY PAVEMENT MARKING REMOVEABLE TAPE 4-INCH (YELLOW)

(B) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)

2



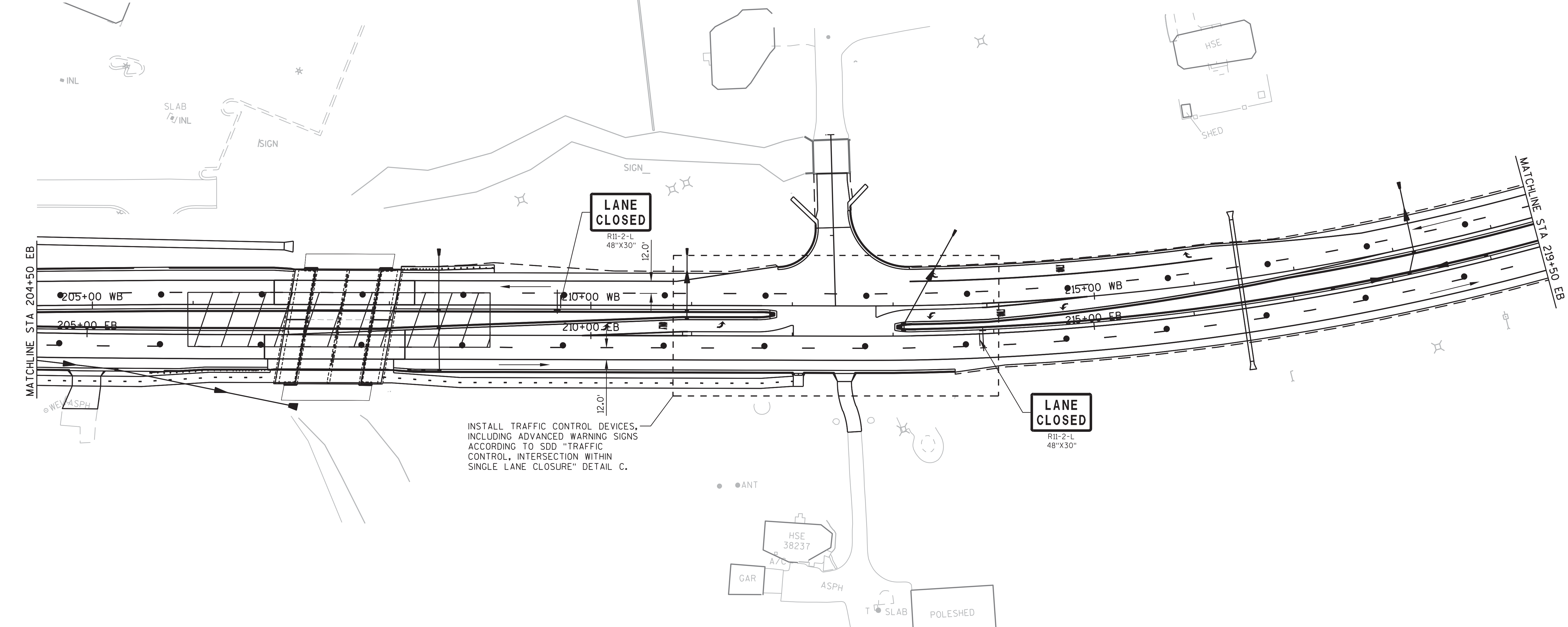
PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 4	SHEET 199	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 4.DWG

SHEET NAME: STAGE4A01

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 4	SHEET 200	E

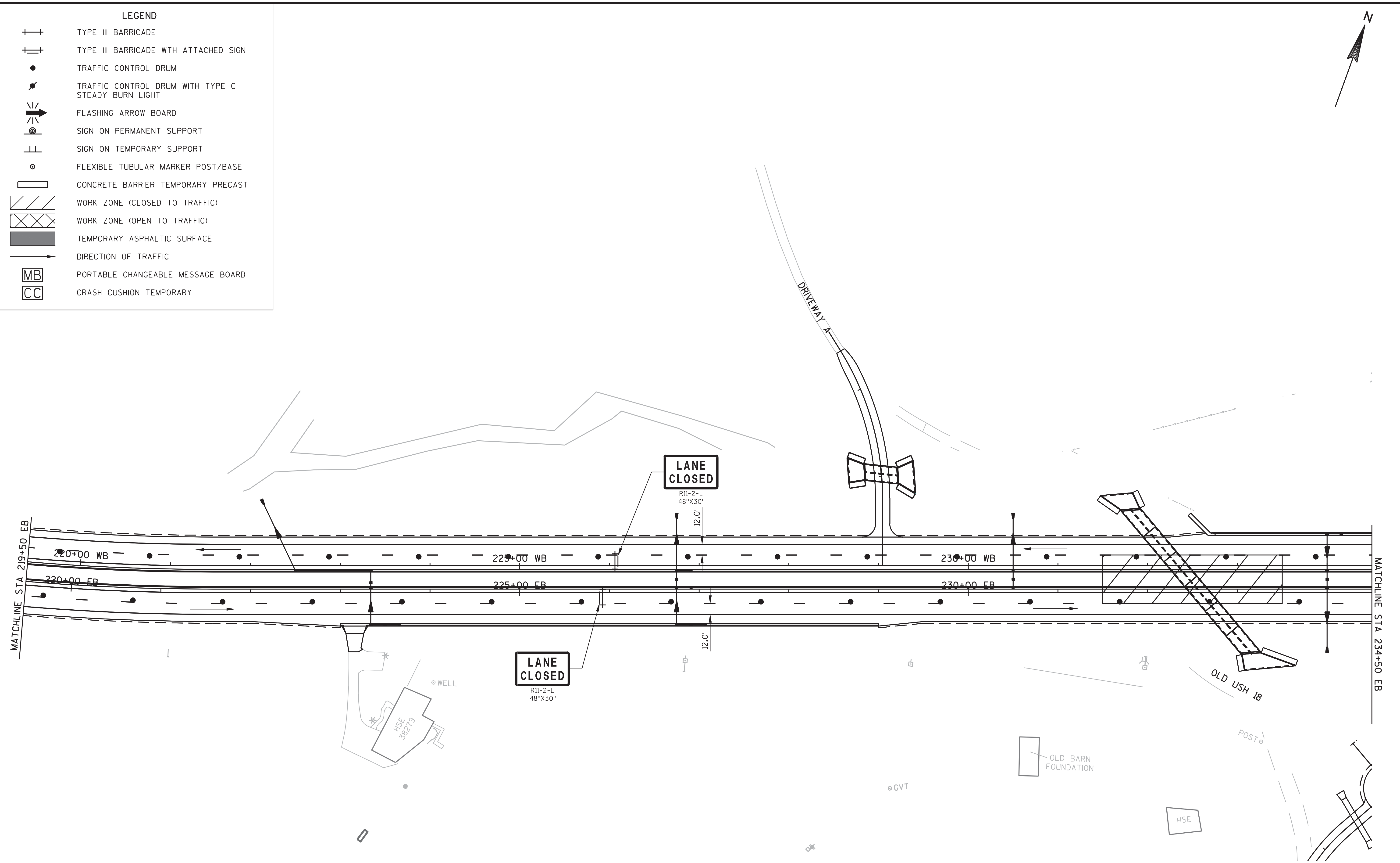
FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 4.DWG

SHEET NAME: STAGE4A02

2

LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	FLEXIBLE TUBULAR MARKER POST/BASE
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK ZONE (CLOSED TO TRAFFIC)
	WORK ZONE (OPEN TO TRAFFIC)
	TEMPORARY ASPHALTIC SURFACE
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
CC	CRASH CUSHION TEMPORARY



2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 4	SHEET 201	E

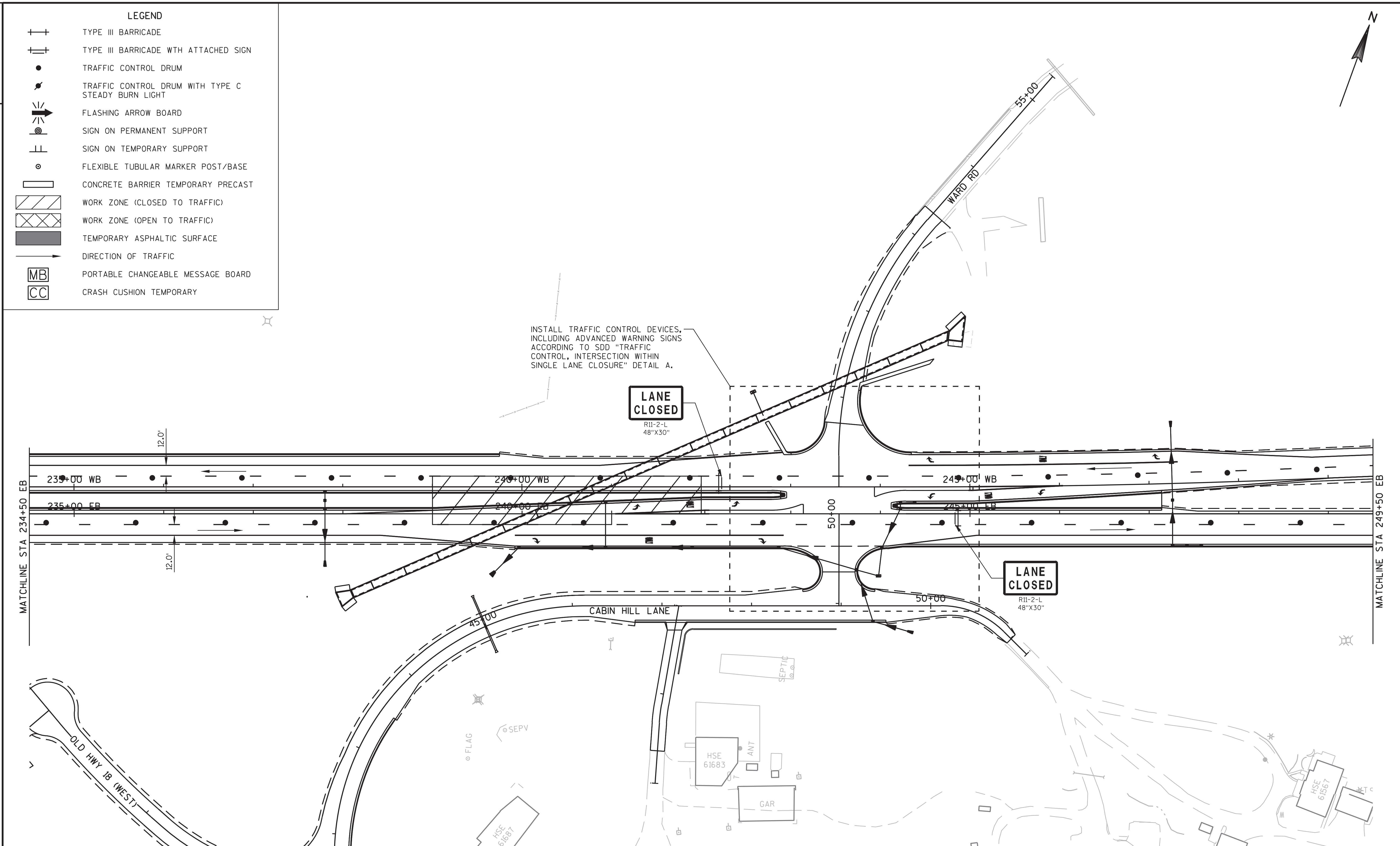
FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 4.DWG

SHEET NAME: STAGE4A03

2

LEGEND

⊢—⊣	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
●	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
⊙	FLEXIBLE TUBULAR MARKER POST/BASE
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK ZONE (CLOSED TO TRAFFIC)
	WORK ZONE (OPEN TO TRAFFIC)
	TEMPORARY ASPHALTIC SURFACE
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
CC	CRASH CUSHION TEMPORARY



2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 4	SHEET 202	E

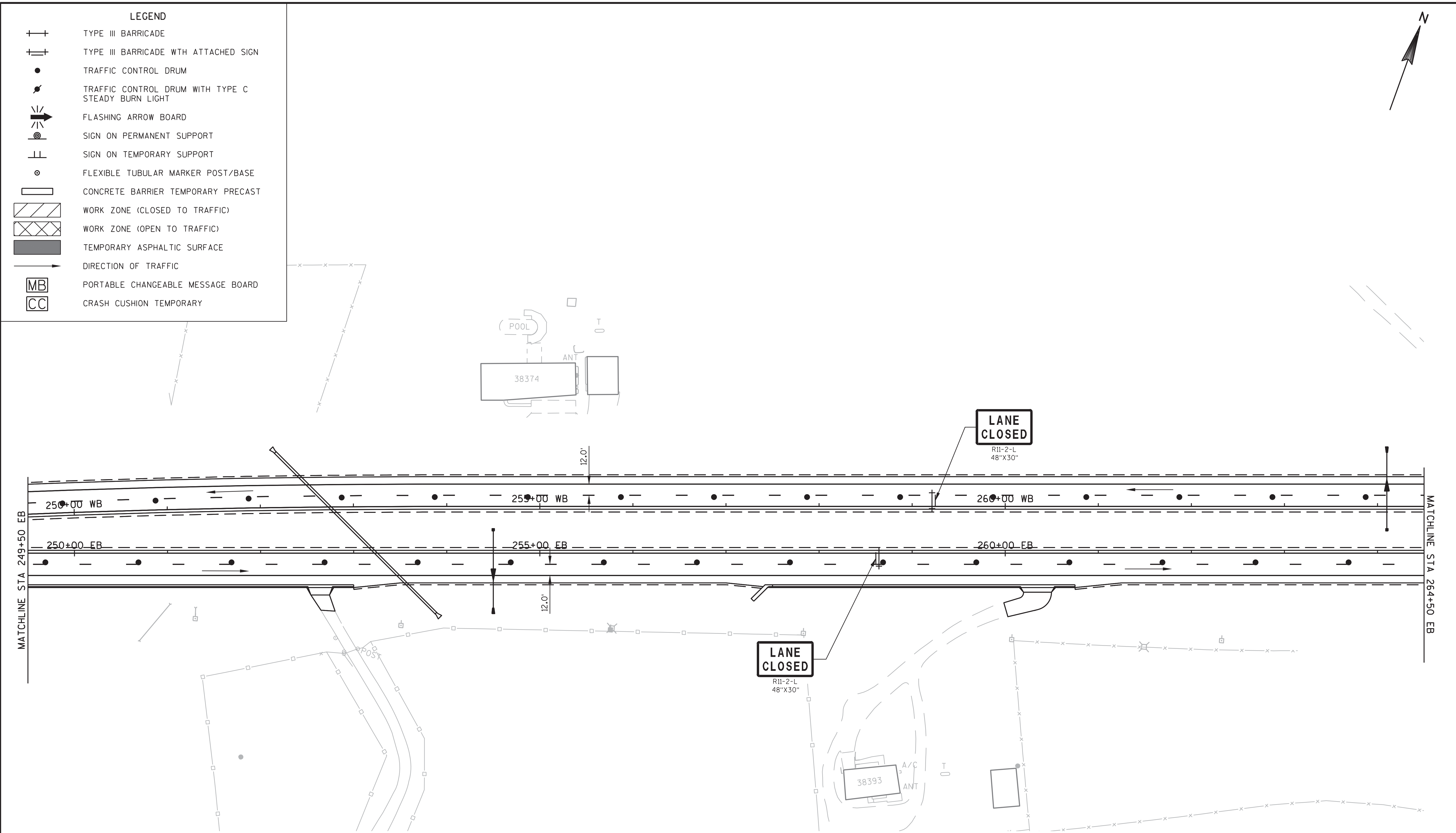
FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 4.DWG

SHEET NAME: STAGE4A04

2

LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	FLEXIBLE TUBULAR MARKER POST/BASE
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK ZONE (CLOSED TO TRAFFIC)
	WORK ZONE (OPEN TO TRAFFIC)
	TEMPORARY ASPHALTIC SURFACE
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
CC	CRASH CUSHION TEMPORARY



2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 4	SHEET 203	E

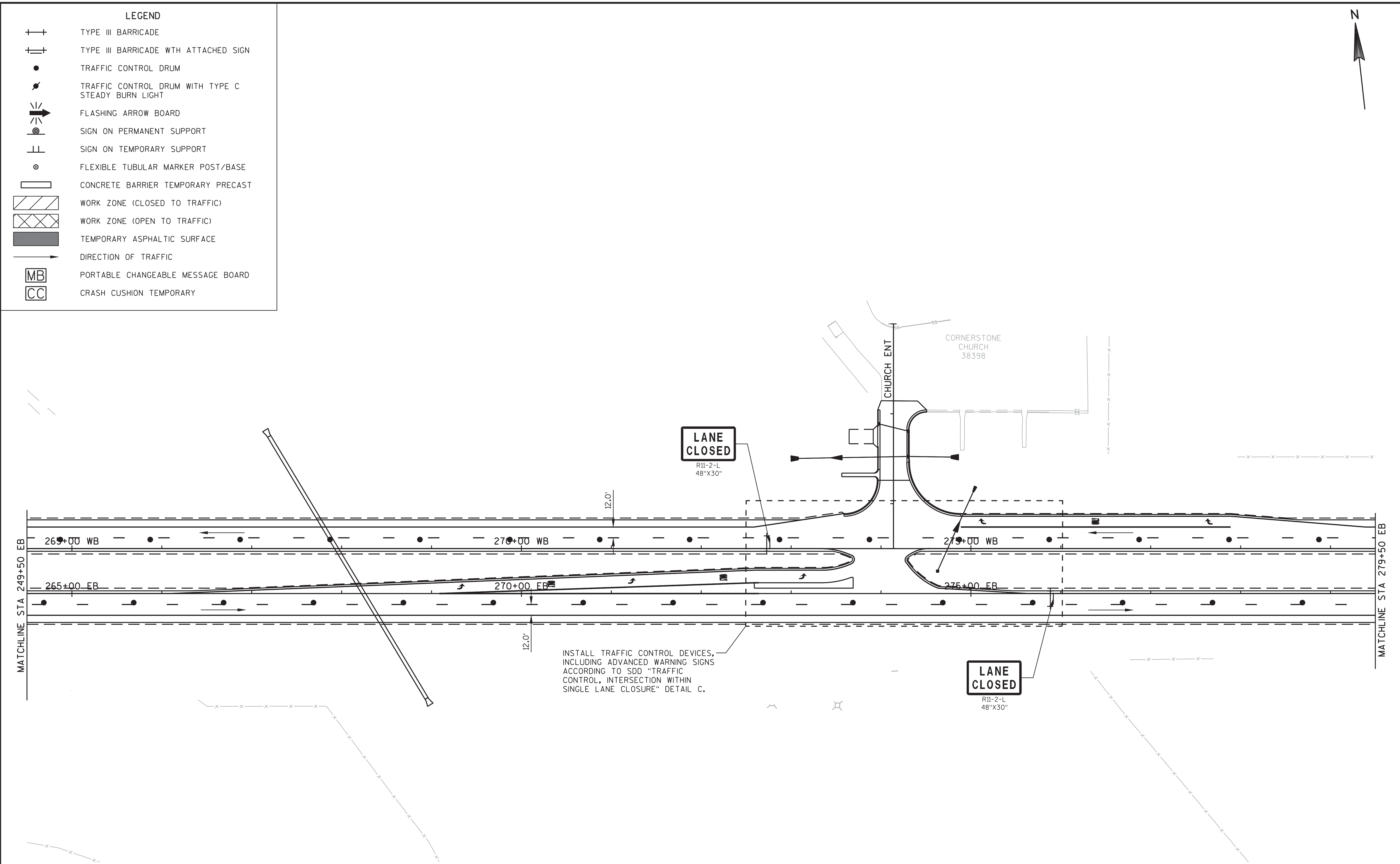
FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 4.DWG

SHEET NAME: STAGE4A05

2

LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	FLEXIBLE TUBULAR MARKER POST/BASE
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK ZONE (CLOSED TO TRAFFIC)
	WORK ZONE (OPEN TO TRAFFIC)
	TEMPORARY ASPHALTIC SURFACE
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
CC	CRASH CUSHION TEMPORARY



2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 4	SHEET 204	E

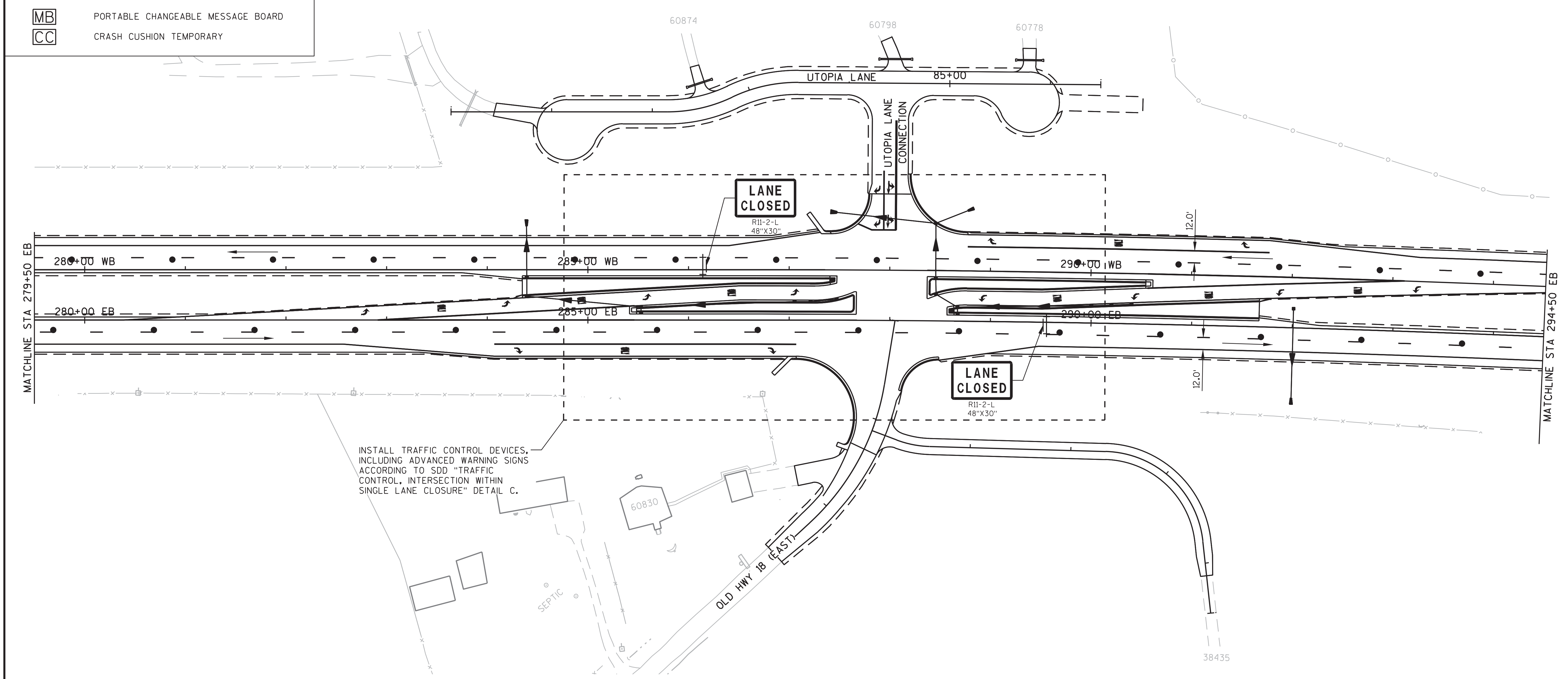
FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 4.DWG

SHEET NAME: STAGE4A06

2

LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	FLEXIBLE TUBULAR MARKER POST/BASE
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK ZONE (CLOSED TO TRAFFIC)
	WORK ZONE (OPEN TO TRAFFIC)
	TEMPORARY ASPHALTIC SURFACE
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
CC	CRASH CUSHION TEMPORARY



2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 4	SHEET 205	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 4.DWG

SHEET NAME: STAGE4A07

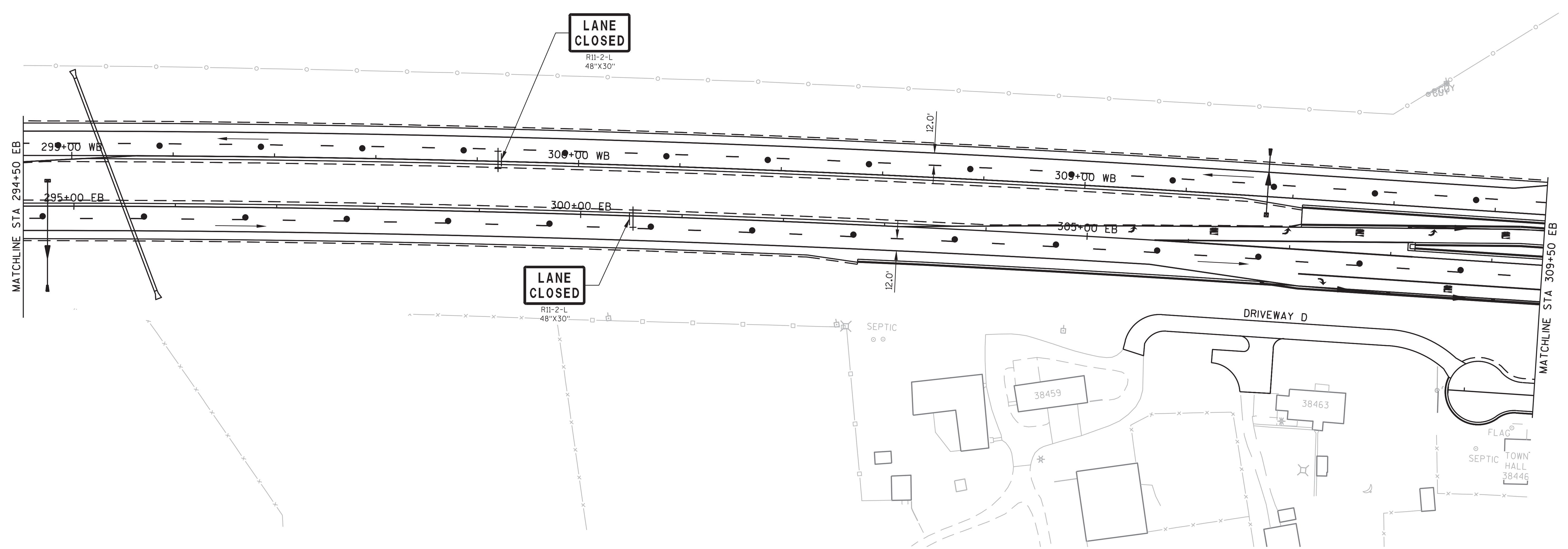
2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY

N

2



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 4	SHEET 206	E

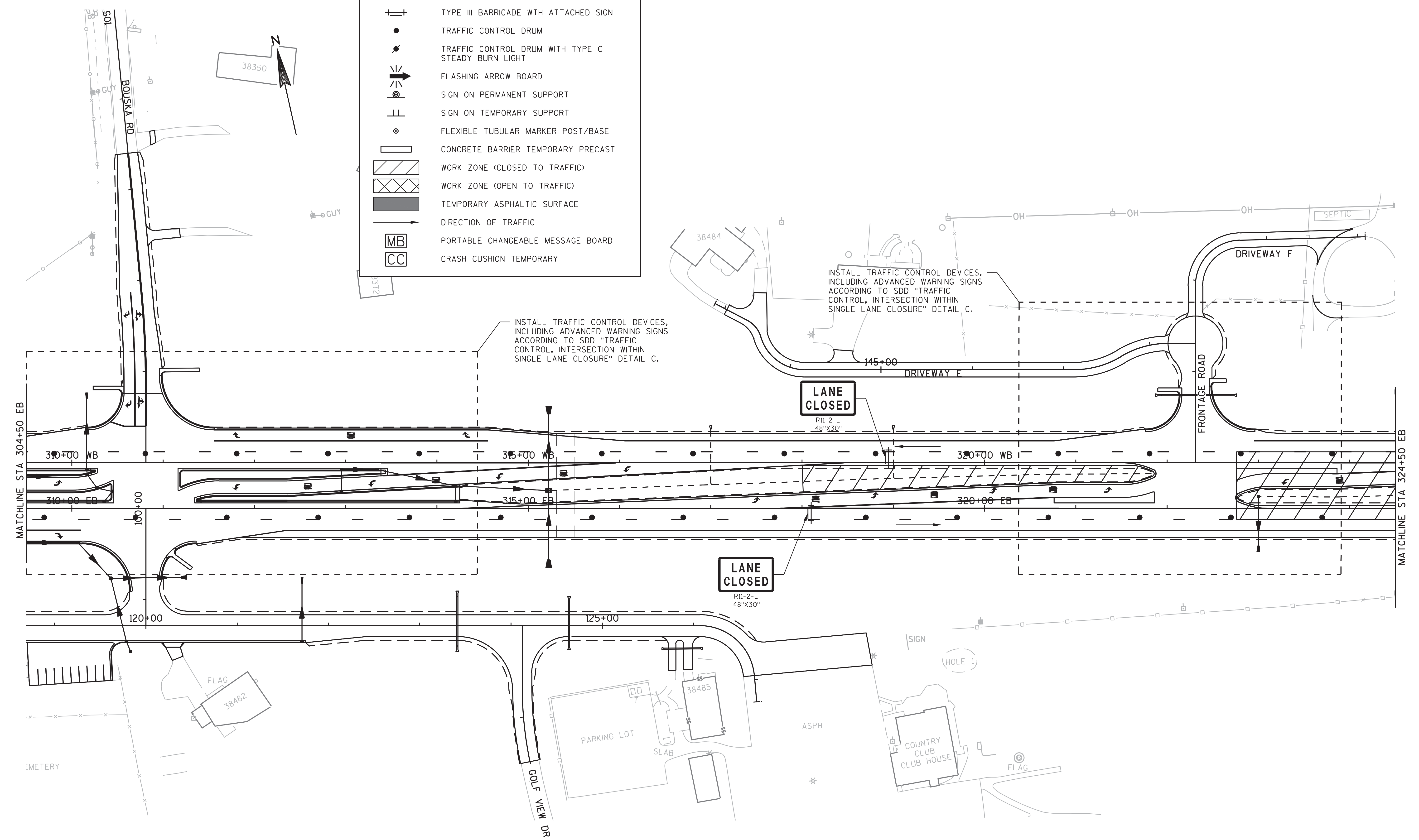
FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 4.DWG

SHEET NAME: STAGE4A08

2

LEGEND

┼──┼	TYPE III BARRICADE
╪══╪	TYPE III BARRICADE WTH ATTACHED SIGN
●	TRAFFIC CONTROL DRUM
⌀	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
➔	FLASHING ARROW BOARD
◎	SIGN ON PERMANENT SUPPORT
┴┴	SIGN ON TEMPORARY SUPPORT
⊙	FLEXIBLE TUBULAR MARKER POST/BASE
▭	CONCRETE BARRIER TEMPORARY PRECAST
▨	WORK ZONE (CLOSED TO TRAFFIC)
▩	WORK ZONE (OPEN TO TRAFFIC)
■	TEMPORARY ASPHALTIC SURFACE
→	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
CC	CRASH CUSHION TEMPORARY



2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 4	SHEET 207	E

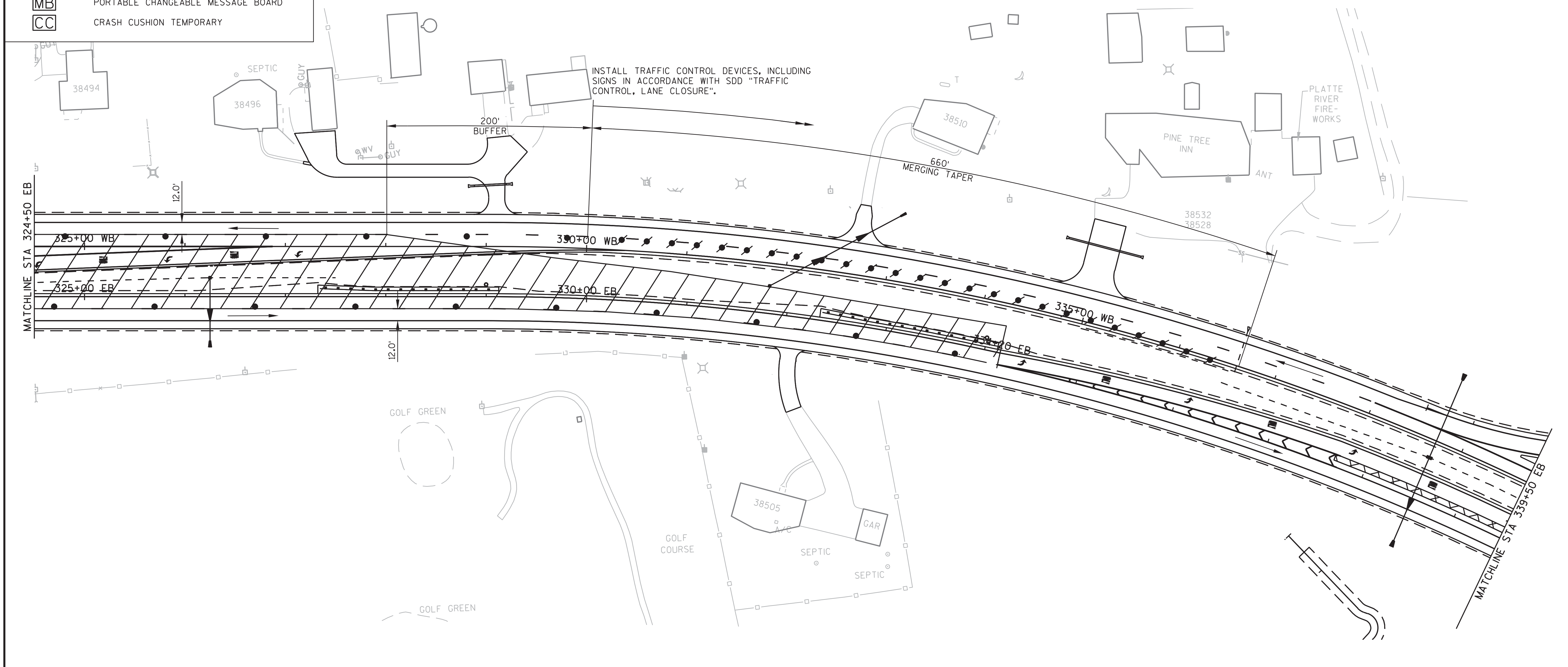
FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 4.DWG

SHEET NAME: STAGE4A09

2

LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	FLEXIBLE TUBULAR MARKER POST/BASE
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK ZONE (CLOSED TO TRAFFIC)
	WORK ZONE (OPEN TO TRAFFIC)
	TEMPORARY ASPHALTIC SURFACE
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
CC	CRASH CUSHION TEMPORARY



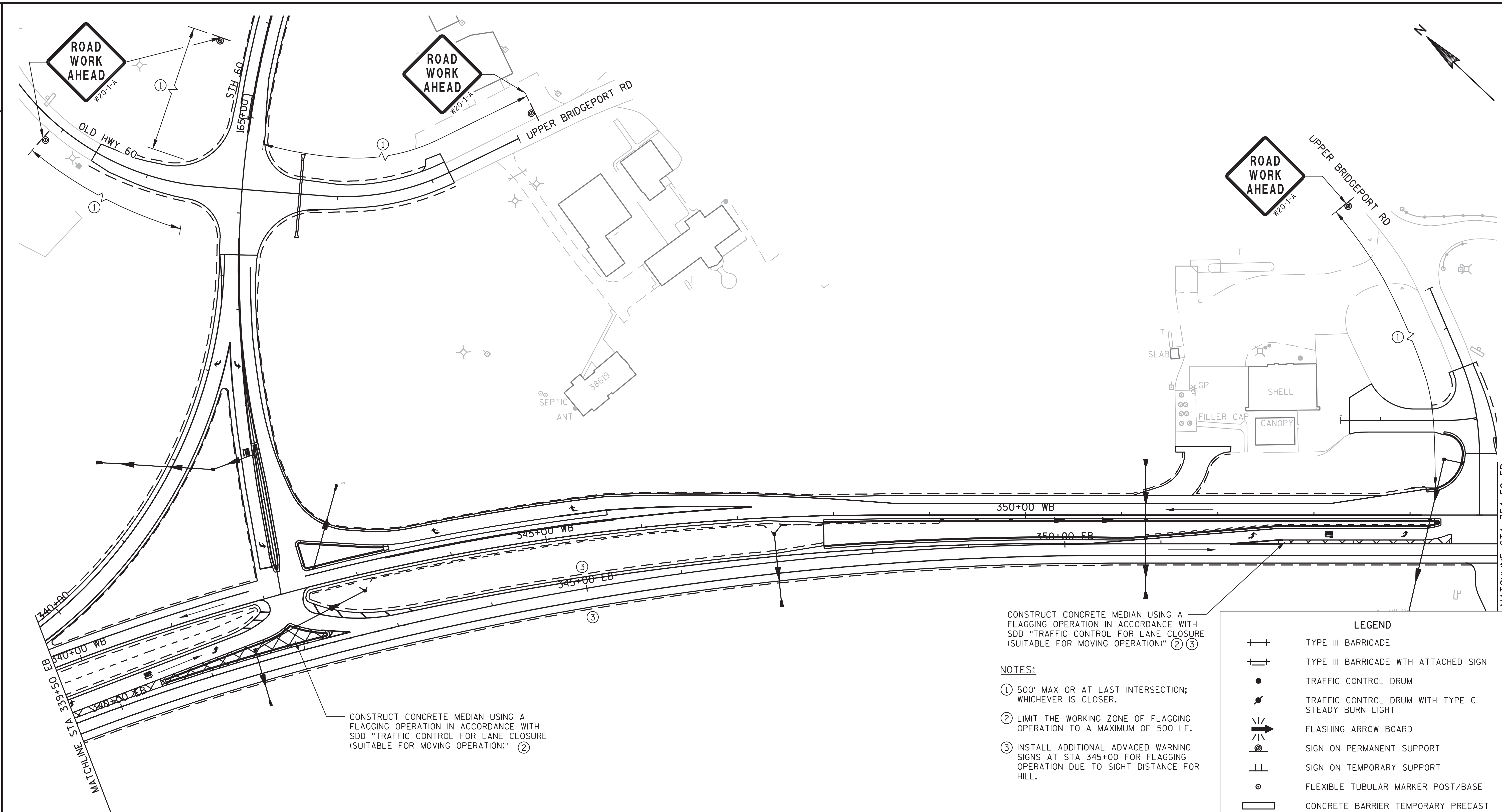
2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 4	SHEET 208	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 4.DWG

SHEET NAME: STAGE4A10

2



NOTES:

1. 500' MAX OR AT LAST INTERSECTION; WHICHEVER IS CLOSER.
2. LIMIT THE WORKING ZONE OF FLAGGING OPERATION TO A MAXIMUM OF 500 LF.
3. INSTALL ADDITIONAL ADVACED WARNING SIGNS AT STA 345+00 FOR FLAGGING OPERATION DUE TO SIGHT DISTANCE FOR HILL.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 4	SHEET 209	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 4.DWG

SHEET NAME: STAGE4A11

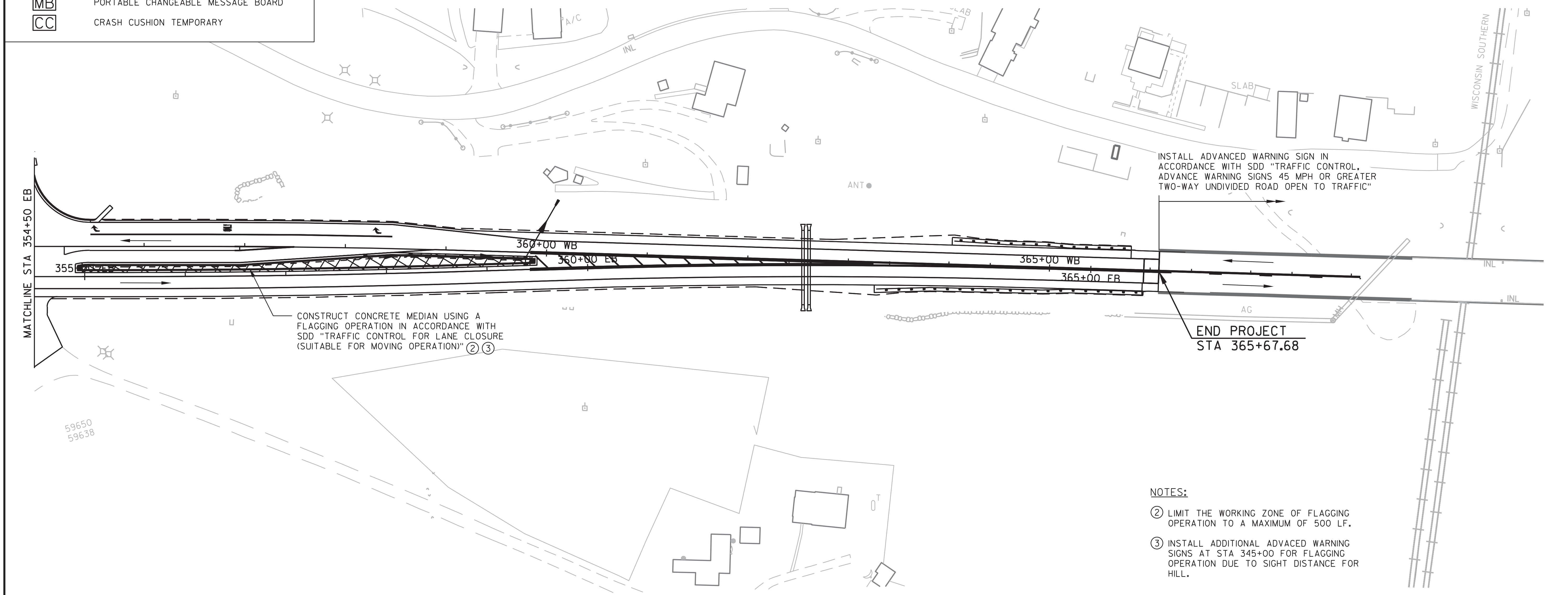
2

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FLEXIBLE TUBULAR MARKER POST/BASE
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK ZONE (CLOSED TO TRAFFIC)
- WORK ZONE (OPEN TO TRAFFIC)
- TEMPORARY ASPHALTIC SURFACE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMPORARY

2



NOTES:

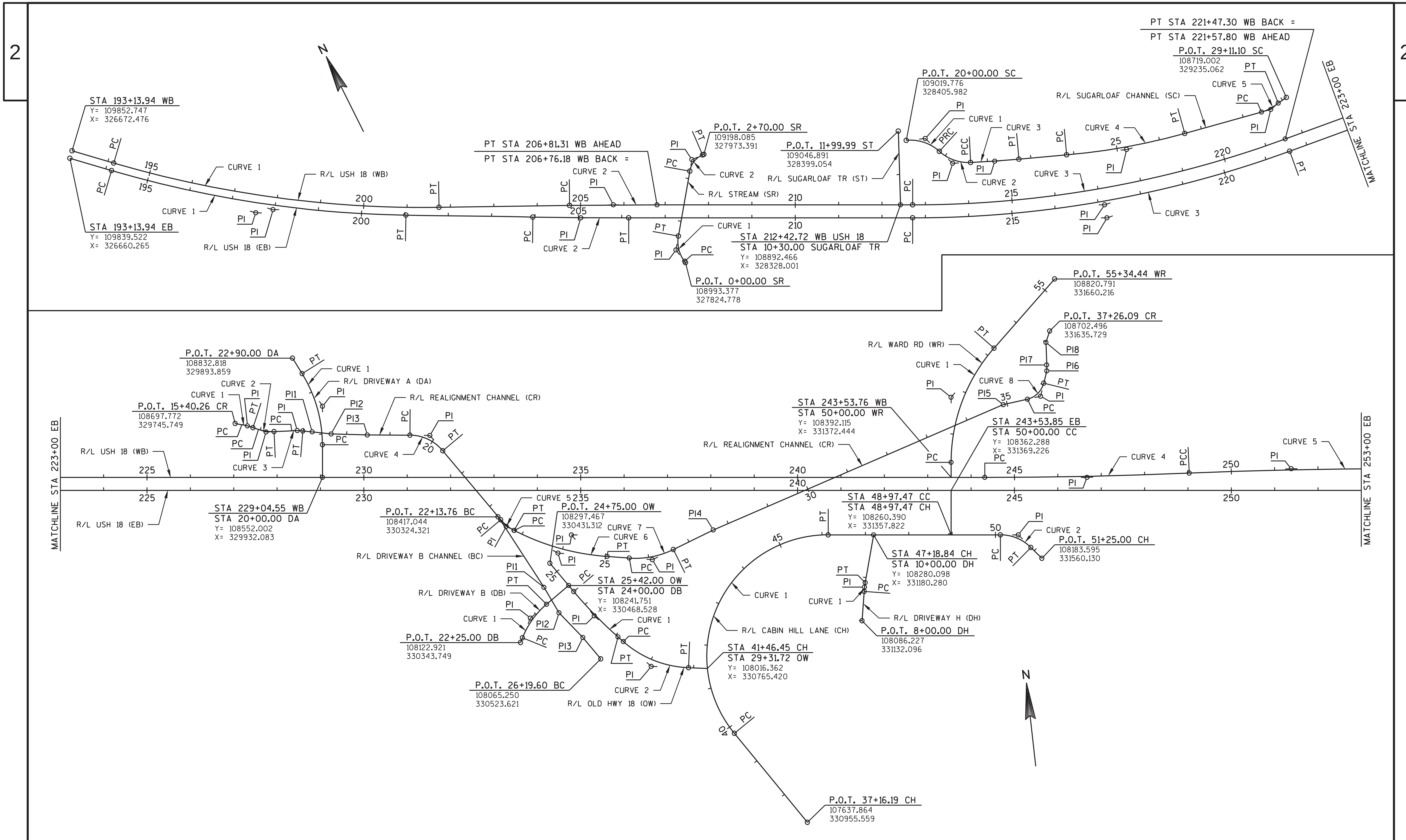
2 LIMIT THE WORKING ZONE OF FLAGGING OPERATION TO A MAXIMUM OF 500 LF.

3 INSTALL ADDITIONAL ADVACED WARNING SIGNS AT STA 345+00 FOR FLAGGING OPERATION DUE TO SIGHT DISTANCE FOR HILL.

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 4	SHEET 210	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PR_TCUSH18_STAGE 4.DWG

SHEET NAME: STAGE4A12



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	ALIGNMENT PLAN	SHEET 211	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\ADUSH18.DWG   SHEET NAME: 027201AD

R/L USH 18 (WB)

CURVE 1	CURVE 2	CURVE 3	CURVE 4	CURVE 5
PI STA 197+96.61 WB	PI STA 205+75.47 WB	PI STA 217+13.51 WB	PI STA 246+67.25 WB	PI STA 251+38.46 WB
Y = 109525.307	Y = 109186.712	Y = 108683.247	Y = 108357.529	Y = 108325.459
X = 327027.090	X = 327734.855	X = 328749.749	X = 331684.024	X = 332154.206
DELTA = 17°09'07"	DELTA = 0°49'06"	DELTA = 20°03'03"	DELTA = 2°25'56"	DELTA = 2°25'56"
T = 382.67	T = 100.71	T = 442.84	T = 235.64	T = 235.64
L = 759.61	L = 201.41	L = 876.63	L = 471.20	L = 471.20
R = 2537.48	R = 14100.00	R = 2505.00	R = 11100.00	R = 11099.97
PC STA 194+13.94 WB	PC STA 204+74.76 WB	PC STA 212+70.67 WB	PC STA 244+31.62 WB	PC STA 249+02.82 WB
Y = 109784.907	Y = 109230.174	Y = 108880.046	Y = 108383.526	Y = 108341.494
X = 326745.945	X = 327644.006	X = 328353.036	X = 331449.825	X = 331919.116
PT STA 201+73.55 WB	PT STA 206+81.31 WB	PT STA 221+57.80 WB	PT STA 249+02.82 WB	PT STA 253+73.74 WB
Y = 109360.164	Y = 109141.957	Y = 108634.389	Y = 108341.494	Y = 108299.462
X = 327372.290	X = 327825.073	X = 329189.889	X = 331919.115	X = 332388.405
BK : S47°16'54"E	BK : S64°26'01"E	BK : S63°36'54"E	BK : S83°39'57"E	BK : S86°05'53"E
AH : S64°26'01"E	AH : S63°36'54"E	AH : S83°39'57"E	AH : S86°05'53"E	AH : S83°39'57"E

R/L USH 18 (EB)

CURVE 1	CURVE 2	CURVE 3
PI STA 197+60.28 EB	PI STA 205+05.62 EB	PI STA 217+18.82 EB
Y = 109536.729	Y = 109193.163	Y = 108654.015
X = 326988.188	X = 327654.345	X = 328741.168
DELTA = 15°26'11"	DELTA = 0°53'50"	DELTA = 20°03'03"
T = 346.34	T = 110.40	T = 448.15
L = 688.48	L = 220.79	L = 887.13
R = 2555.48	R = 14100.00	R = 2535.00
PC STA 194+13.94 EB	PC STA 203+95.22 EB	PC STA 212+70.67 EB
Y = 109771.683	Y = 109243.765	Y = 108853.172
X = 326733.734	X = 327556.229	X = 328339.704
PT STA 201+02.42 EB	PT STA 206+16.01 EB	PT STA 221+57.80 EB
Y = 109377.977	Y = 109144.103	Y = 108604.572
X = 327295.999	X = 327753.241	X = 329186.579
BK : S47°16'54"E	BK : S62°43'04"E	BK : S63°36'54"E
AH : S62°43'04"E	AH : S63°36'54"E	AH : S83°39'57"E

R/L STREAM (SR)

CURVE 1	CURVE 2
PI STA 2+44.50 SR	PI STA 0+36.59 SR
Y = 109199.714	Y = 109029.308
X = 327943.450	X = 327817.884
DELTA = 56°43'42"	DELTA = 47°14'45"
T = 26.99	T = 32.79
L = 49.50	L = 61.82
R = 50.00	R = 74.97
PC STA 2+17.50 SR	PC STA 0+03.80 SR
Y = 109177.982	Y = 108997.105
X = 327927.436	X = 327824.063
PT STA 2+67.01 SR	PT STA 0+65.62 SR
Y = 109198.248	Y = 109055.705
X = 327970.404	X = 327837.336
BK : N36°23'06"E	BK : N10°51'39"W
AH : S86°53'12"E	AH : N36°23'06"E

R/L DRIVEWAY H (DH)

CURVE 1
PI STA 8+78.00 DH
Y = 108162.956
X = 331146.118
DELTA = 5°54'09"
T = 10.31
L = 20.60
R = 200.00
PC STA 8+67.69 DH
Y = 108152.813
X = 331144.264
PT STA 8+88.29 DH
Y = 108172.855
X = 331149.004
BK : N10°21'21"E
AH : N16°15'30"E

R/L SUGARLOAF CHANNEL (SC)

CURVE 1	CURVE 2	CURVE 3	CURVE 4	CURVE 5
PI STA 20+43.93 SC	PI STA 21+24.00 SC	PI STA 22+16.80 SC	PI STA 25+22.14 SC	PI STA 28+66.34 SC
Y = 109004.046	Y = 108924.876	Y = 108886.005	Y = 108774.954	Y = 108710.103
X = 328446.996	X = 328478.325	X = 328567.251	X = 328851.695	X = 329190.517
DELTA = 47°25'43"	DELTA = 44°47'59"	DELTA = 2°17'05"	DELTA = 10°29'27"	DELTA = 25°21'30"
T = 43.93	T = 41.22	T = 55.83	T = 139.09	T = 22.50
L = 82.78	L = 78.19	L = 111.65	L = 277.40	L = 44.26
R = 100.00	R = 100.00	R = 2800.00	R = 1515.00	R = 100.00
PC STA 20+00.00 SC	PC STA 20+82.78 SC	PC STA 21+60.97 SC	PC STA 23+83.05 SC	PC STA 28+43.84 SC
Y = 109019.776	Y = 108963.201	Y = 108908.368	Y = 108825.537	Y = 108714.332
X = 328405.982	X = 328463.159	X = 328516.091	X = 328722.131	X = 329168.420
PT STA 20+82.78 SC	PT STA 21+60.97 SC	PT STA 22+72.62 SC	PT STA 26+60.45 SC	PT STA 28+88.10 SC
Y = 108963.201	Y = 108908.368	Y = 108865.699	Y = 108748.807	Y = 108715.744
X = 328463.159	X = 328516.091	X = 328619.262	X = 328988.303	X = 329212.296
BK : S69°01'05"E	BK : S21°35'21"E	BK : S66°23'20"E	BK : S68°40'25"E	BK : S79°09'52"E
AH : S21°35'21"E	AH : S66°23'20"E	AH : S68°40'25"E	AH : S79°09'52"E	AH : N75°28'38"E

R/L DRIVEWAY A (DA)

CURVE 1
PI STA 21+64.23 DA
Y = 108715.230
X = 329950.200
DELTA = 31°56'04"
T = 88.70
L = 172.78
R = 310.00
PC STA 20+75.53 DA
Y = 108627.072
X = 329940.415
PT STA 22+48.31 DA
Y = 108795.221
X = 329911.873
BK : N6°20'00"E
AH : N25°36'04"W

R/L DRIVEWAY B (DB)

CURVE 1
PI STA 22+85.97 DB
Y = 108176.603
X = 330372.652
DELTA = 27°30'23"
T = 48.95
L = 96.02
R = 200.00
PC STA 22+37.02 DB
Y = 108133.502
X = 330349.446
PT STA 23+33.04 DB
Y = 108204.115
X = 330413.140
BK : N28°17'52"E
AH : N55°48'15"E

R/L WARD RD (WR)

CURVE 1
PI STA 51+84.93 WR
Y = 108575.917
X = 331392.847
DELTA = 41°10'49"
T = 150.27
L = 287.49
R = 400.00
PC STA 50+34.66 WR
Y = 108426.563
X = 331376.268
PT STA 53+22.15 WR
Y = 108677.411
X = 331503.665
BK : N6°20'03"E
AH : N47°30'52"E

R/L DRIVEWAY B CHANNEL (CB)

PI1	PI2	PI3
PI STA 24+07.71 BC	PI STA 24+76.16 BC	PI STA 25+55.15 BC
Y = 108243.817	Y = 108181.378	Y = 108118.939
X = 330411.532	X = 330439.588	X = 330487.962
DELTA = 2°25'01"	DELTA = 13°34'14"	DELTA = 4°10'32"
BK : S26°36'47"E	BK : S24°11'45"E	BK : S37°46'00"E
AH : S24°11'45"E	AH : S37°46'00"E	AH : S33°35'28"E

R/L REALIGNMENT CHANNEL (CR)

CURVE 1	CURVE 2	CURVE 3	CURVE 4	CURVE 5	CURVE 6	CURVE 7	CURVE 8
PI STA 15+69.04 CR	PI STA 16+14.02 CR	PI STA 16+85.74 CR	PI STA 19+92.05 CR	PI STA 22+60.10 CR	PI STA 23+93.73 CR	PI STA 26+08.94 CR	PI STA 35+79.06 CR
Y = 108689.309	Y = 108670.554	Y = 108665.830	Y = 108620.945	Y = 108392.996	Y = 108318.666	Y = 108279.510	Y = 108555.435
X = 329773.259	X = 329814.179	X = 329886.157	X = 330188.962	X = 330340.789	X = 330452.471	X = 330667.276	X = 331598.171
DELTA = 7°31'22"	DELTA = 20°52'07"	DELTA = 7°22'54"	DELTA = 49°34'10"	DELTA = 22°41'19"	DELTA = 23°18'53"	DELTA = 30°01'36"	DELTA = 63°36'36"
T = 13.15	T = 18.42	T = 12.90	T = 46.17	T = 20.06	T = 113.47	T = 53.64	T = 31.01
L = 26.26	L = 36.42	L = 25.77	L = 86.51	L = 39.60	L = 223.81	L = 104.81	L = 55.51
R = 200.00	R = 100.00	R = 200.00	R = 100.00	R = 100.00	R = 550.00	R = 200.00	R = 50.00
PC STA 15+55.89 CR	PC STA 15+95.60 CR	PC STA 16+72.84 CR	PC STA 19+45.88 CR	PC STA 22+40.04 CR	PC STA 22+80.26 CR	PC STA 25+55.30 CR	PC STA 35+48.06 CR
Y = 108693.175	Y = 108678.227	Y = 108666.675	Y = 108626.384	Y = 108409.693	Y = 108381.536	Y = 108289.129	Y = 108552.029
X = 329760.692	X = 329797.438	X = 329873.283	X = 330143.109	X = 330329.667	X = 330358.007	X = 330614.505	X = 331567.352
PT STA 15+82.15 CR	PT STA 16+32.02 CR	PT STA 16+98.61 CR	PT STA 20+32.39 CR	PT STA 22+79.64 CR	PT STA 25+04.06 CR	PT STA 26+60.11 CR	PT STA 36+03.57 CR
Y = 108683.831	Y = 108669.348	Y = 108663.339	Y = 108582.515	Y = 108381.880	Y = 108298.317	Y = 108297.588	Y = 108584.557
X = 329785.212	X = 329832.554	X = 329898.815	X = 330214.558	X = 330357.490	X = 330564.105	X = 330717.777	X = 331608.819
BK : S72°53'57"E	BK : S65°22'36"E	BK : S86°14'43"E	BK : S83°14'07"E	BK : S33°39'57"E	BK : S56°21'16"E	BK : S79°40'09"E	BK : N83°41'34"E
AH : S65°22'36"E	AH : S86°14'43"E	AH : S78°51'49"E	AH : S33°39'57"E	AH : S56°21'16"E	AH : S79°40'09"E	AH : N70°18'15"E	AH : N20°04'59"E

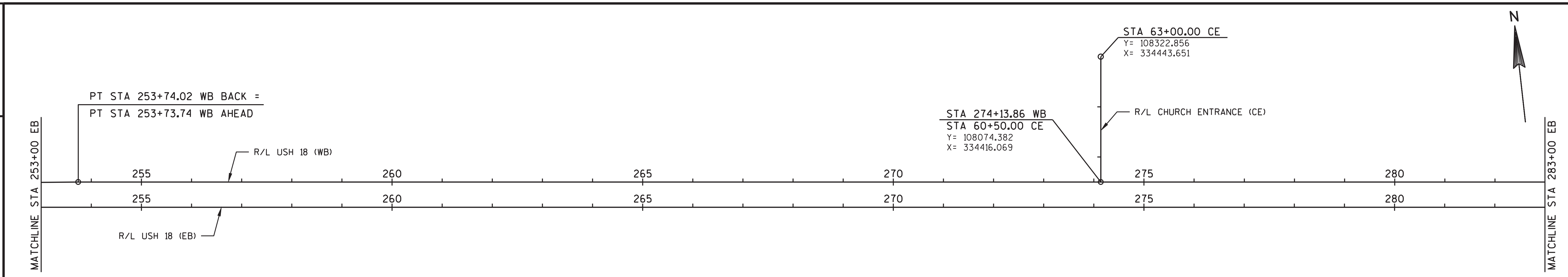
PI1	PI2	PI3	PI4	PI5	PI6	PI7	PI8
PI STA 17+20.14 CR	PI STA 17+64.12 CR	PI STA 18+47.63 CR	PI STA 27+62.64 CR	PI STA 34+90.96 CR	PI STA 36+32.82 CR	PI STA 36+46.62 CR	PI STA 36+98.69 CR
Y = 108659.179	Y = 108649.421	Y = 108637.958	Y = 108332.144	Y = 108545.756	Y = 108612.032	Y = 108625.758	Y = 108677.682
X = 329919.945	X = 329962.829	X = 330045.543	X = 330814.311	X = 331510.602	X = 331618.864	X = 331620.333	X = 331624.105
DELTA = 1°40'58"	DELTA = 4°55'43"	DELTA = 1°07'32"	DELTA = 2°38'26"	DELTA = 10°44'53"	DELTA = 13°58'20"	DELTA = 1°57'22"	DELTA = 20°56'45"
BK : S78°51'49"E	BK : S77°10'51"E	BK : S82°06'34"E	BK : N70°18'15"E	BK : N72°56'41"E	BK : N20°04'59"E	BK : N6°06'39"E	BK : N4°09'17"E
AH : S77°10'51"E	AH : S82°06'34"E	AH : S83°14'07"E	AH : N72°56'41"E	AH : N83°41'34"E	AH : N6°06'39"E	AH : N4°09'17"E	AH : N25°06'02"E

R/L OLD HWY 18 (OW)

CURVE 1	CURVE 2
PI STA 26+33.71 OW	PI STA 28+09.09 OW
Y = 108165.492	Y = 108035.243
X = 330519.465	X = 330637.309
DELTA = 8°23'47"	DELTA = 39°28'43"
T = 73.40	T = 86.12
L = 146.55	L = 165.37
R = 1000.00	R = 240.00
PC STA 25+60.30 OW	PC STA 27+22.98 OW
Y = 108226.532	Y = 108099.102
X = 330478.693	X = 330579.532
PT STA 27+06.85 OW	PT STA 28+88.34 OW
Y = 108111.060	Y = 108022.686
X = 330568.713	X = 330722.507
BK : S33°44'28"E	BK : S42°08'15"E
AH : S42°08'15"E	AH : S81°36'58"E

R/L CABIN HILL LANE (CH)

CURVE 1	CURVE 2
PI STA 45+73.90 CH	PI STA 50+52.43 CH
Y = 108356.941	Y = 108243.294
X = 330488.026	X = 331511.837
DELTA = 129°21'56"	DELTA = 44°41'40"
T = 591.88	T = 41.11
L = 632.20	L = 78.01
R = 280.00	R = 100.00
PC STA 39+82.02 CH	PC STA 50+11.32 CH
Y = 107860.723	Y = 108247.829
X = 330810.660	X = 331470.978
PT STA 46+14.21 CH	PT STA 50+89.33 CH
Y = 108291.641	Y = 108211.333
X = 331076.296	X = 331537.692
BK : N33°01'53"W	BK : S83°39'57"E
AH : S83°39'57"E	AH : S38°58'17"E



R/L USH 18 (WB)

CURVE 6
PI STA 296+67.90 WB
Y = 107825.700
X = 336656.353
DELTA = 6°10'00"
T = 1000.31
L = 1998.68
R = 18570.00
PC STA 286+67.60 WB
Y = 107936.061
X = 335662.153
PT STA 306+60.90 WB
Y = 107609.179
X = 337632.945
BK : S83°39'57"E
AH : S77°29'57"E

R/L USH 18 (EB)

CURVE 4
PI STA 296+65.21 EB
Y = 107776.302
X = 336648.160
DELTA = 6°10'00"
T = 997.61
L = 1993.30
R = 18520.00
PC STA 286+67.60 EB
Y = 107886.366
X = 335656.637
PT STA 306+60.90 EB
Y = 107560.364
X = 337622.123
BK : S83°39'57"E
AH : S77°29'57"E

R/L UTOPIA LANE (UE)

CURVE 1
PI STA 82+48.88 UE
Y = 108098.127
X = 335625.203
DELTA = 25°29'41"
T = 33.93
L = 66.75
R = 150.00
PC STA 82+14.94 UE
Y = 108101.871
X = 335591.475
PT STA 82+81.69 UE
Y = 108109.265
X = 335657.257
BK : S83°39'57"E
AH : N70°50'22"E

CURVE 2
PI STA 83+16.21 UE
Y = 108120.595
X = 335689.866
DELTA = 25°55'15"
T = 34.52
L = 67.86
R = 150.00
PC STA 82+81.69 UE
Y = 108109.265
X = 335657.257
PT STA 83+49.55 UE
Y = 108116.531
X = 335724.147
BK : N70°50'22"E
AH : S83°14'23"E

R/L OLD USH 18 EAST (OE)

CURVE 1
PI STA 68+58.92 OE
Y = 107729.058
X = 335753.491
DELTA = 37°54'58"
T = 82.44
L = 158.82
R = 240.00
PC STA 67+76.48 OE
Y = 107680.224
X = 335687.068
PT STA 69+35.31 OE
Y = 107808.401
X = 335775.883
BK : N53°40'35"E
AH : N15°45'37"E

R/L DRIVEWAY C (DC)

CURVE 1
PI STA 90+43.07 DC
Y = 107744.811
X = 335796.993
DELTA = 19°03'38"
T = 16.79
L = 33.27
R = 100.00
PC STA 90+26.29 DC
Y = 107752.449
X = 335782.042
PT STA 90+59.55 DC
Y = 107742.475
X = 335813.618
BK : S62°56'25"E
AH : S82°00'02"E

CURVE 2
PI STA 93+21.82 DC
Y = 107705.978
X = 336073.333
DELTA = 82°05'10"
T = 87.06
L = 143.27
R = 100.00
PC STA 92+34.76 DC
Y = 107718.093
X = 335987.120
PT STA 93+78.03 DC
Y = 107618.917
X = 336073.203
BK : S82°00'02"E
AH : S0°05'07"W

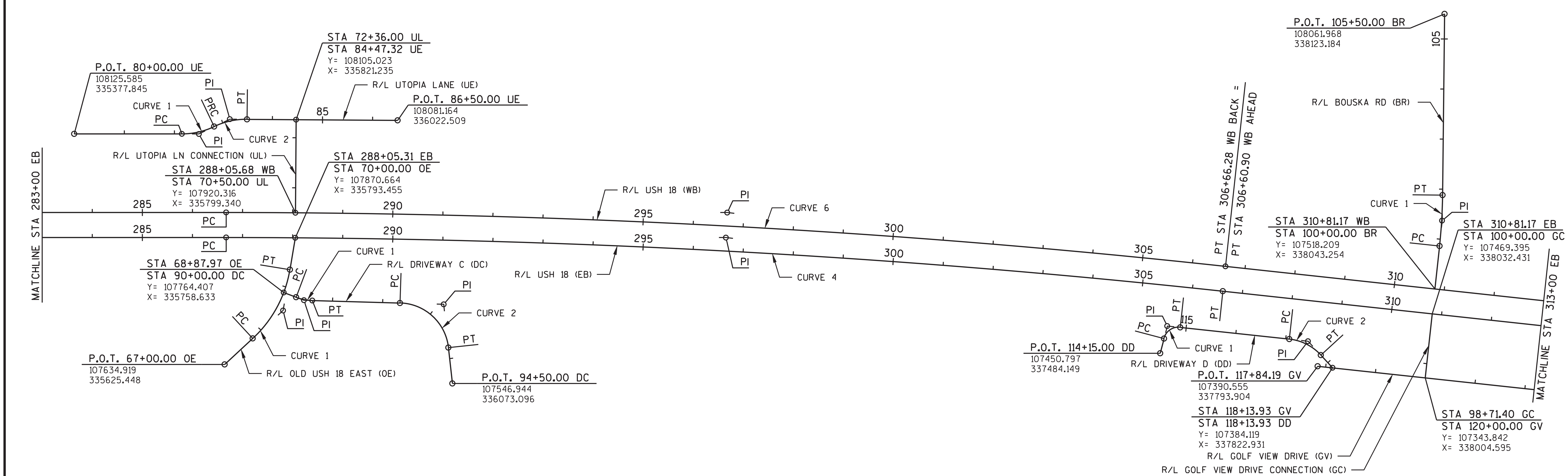
R/L DRIVEWAY D (DD)

CURVE 1
PI STA 114+71.45 DD
Y = 107503.511
X = 337504.341
DELTA = 81°32'27"
T = 25.87
L = 42.69
R = 30.00
PC STA 114+45.58 DD
Y = 107479.354
X = 337495.088
PT STA 114+88.28 DD
Y = 107497.912
X = 337529.596
BK : N20°57'36"E
AH : S77°29'57"E

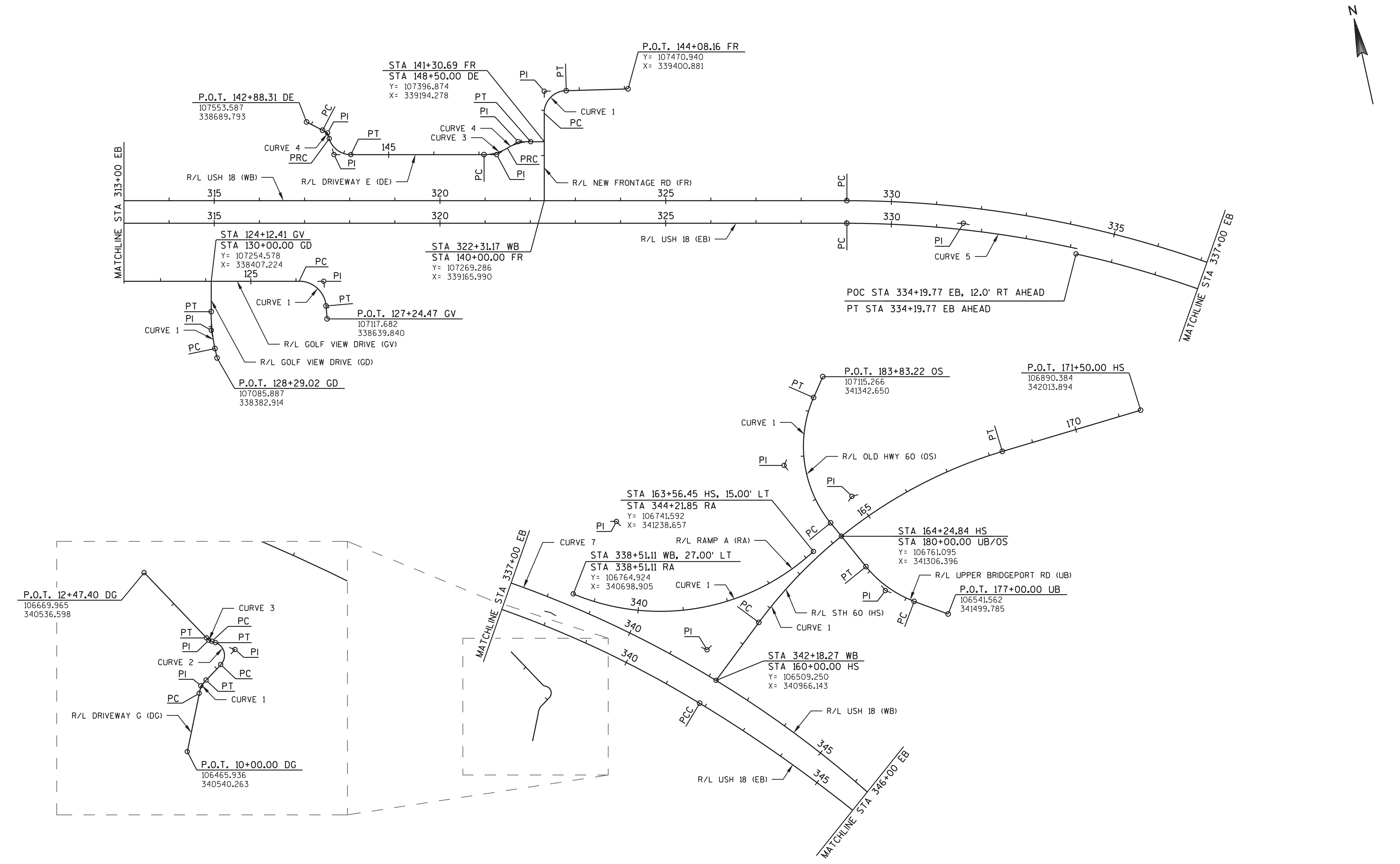
CURVE 2
PI STA 117+45.05 DD
Y = 107442.333
X = 337780.278
DELTA = 41°16'08"
T = 37.66
L = 72.03
R = 100.00
PC STA 117+07.39 DD
Y = 107450.484
X = 337743.515
PT STA 117+79.42 DD
Y = 107411.957
X = 337802.534
BK : S77°29'57"E
AH : S36°13'49"E

R/L BOUSKA RD (BR)

CURVE 1
PI STA 101+37.20 BR
Y = 107652.160
X = 338072.952
DELTA = 5°30'46"
T = 51.03
L = 101.99
R = 1060.00
PC STA 100+86.17 BR
Y = 107602.337
X = 338061.906
PT STA 101+88.16 BR
Y = 107702.814
X = 338079.161
BK : N12°30'03"E
AH : N6°59'17"E



2



2

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	ALIGNMENT PLAN	SHEET 214	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\ADUSH18.DWG
SHEET NAME: 027203AD

2

R/L USH 18 (WB)

CURVE 7
PI STA 339+32.46 WB
Y = 106901.035
X = 340826.945
DELTA = 46°30'08"
T = 1031.18
L = 1947.88
R = 2400.00
PC STA 329+01.28 WB
Y = 107124.237
X = 339820.216
PT STA 348+49.16 WB
Y = 106017.117
X = 341357.992
BK : S77°29'57"E
AH : S30°59'49"E

R/L USH 18 (EB)

CURVE 5
PI STA 331+59.59 EB
Y = 107019.510
X = 340061.582
DELTA = 12°32'44"
T = 258.31
L = 514.56
R = 2350.00
PC STA 329+01.28 EB
Y = 107075.423
X = 339809.393
PT STA 334+19.77 EB
Y = 106910.153
X = 340295.603
BK : S77°29'57"E
AH : S64°57'13"E

R/L DRIVEWAY E (DE)

CURVE 1
PI STA 143+40.96 DE
Y = 107519.683
X = 338730.073
DELTA = 46°00'50"
T = 12.74
L = 24.09
R = 30.00
PC STA 143+28.22 DE
Y = 107527.886
X = 338720.327
PT STA 143+52.32 DE
Y = 107506.974
X = 338730.939
BK : S49°54'44"E
AH : S3°53'54"E

CURVE 2
PI STA 143+89.72 DE
Y = 107469.655
X = 338733.482
DELTA = 73°36'02"
T = 37.41
L = 64.23
R = 50.00
PC STA 143+52.32 DE
Y = 107506.974
X = 338730.939
PT STA 144+16.54 DE
Y = 107461.558
X = 338770.001
BK : S3°53'54"E
AH : S77°29'57"E

CURVE 3
PI STA 147+39.35 DE
Y = 107391.685
X = 339085.156
DELTA = 31°04'00"
T = 27.79
L = 54.22
R = 100.00
PC STA 147+11.56 DE
Y = 107397.701
X = 339058.020
PT STA 147+65.78 DE
Y = 107400.535
X = 339111.505
BK : S77°29'57"E
AH : N71°26'04"E

CURVE 4
PI STA 147+93.57 DE
Y = 107409.384
X = 339137.853
DELTA = 31°04'00"
T = 27.79
L = 54.22
R = 100.00
PC STA 147+65.78 DE
Y = 107400.535
X = 339111.505
PT STA 148+20.00 DE
Y = 107403.368
X = 339164.989
BK : N71°26'04"E
AH : S77°29'57"E

R/L NEW FRONTAGE RD (FR)

CURVE 1
PI STA 142+42.50 FR
Y = 107506.042
X = 339218.482
DELTA = 88°23'32"
T = 48.62
L = 77.14
R = 50.00
PC STA 141+93.89 FR
Y = 107458.578
X = 339207.958
PT STA 142+71.03 FR
Y = 107496.855
X = 339266.222
BK : N12°30'03"E
AH : S79°06'25"E

R/L GOLF VIEW DRIVE (GV)

CURVE 1
PI STA 126+61.69 GV
Y = 107200.615
X = 338650.603
DELTA = 84°53'35"
T = 54.88
L = 88.90
R = 60.00
PC STA 126+06.82 GV
Y = 107212.494
X = 338597.027
PT STA 126+95.72 GV
Y = 107146.195
X = 338643.541
BK : S77°29'57"E
AH : S7°23'38"W

R/L GOLF VIEW DRIVE (GD)

CURVE 1
PI STA 128+91.71 GD
Y = 107148.574
X = 338383.722
DELTA = 11°45'45"
T = 41.20
L = 82.12
R = 400.00
PC STA 128+50.51 GD
Y = 107107.374
X = 338383.191
PT STA 129+32.63 GD
Y = 107188.801
X = 338392.641
BK : N0°44'18"E
AH : N12°30'03"E

R/L DRIVEWAY G (DG)

CURVE 1
PI STA 10+74.55 DG
Y = 106534.011
X = 340570.653
DELTA = 31°50'21"
T = 8.56
L = 16.67
R = 30.00
PC STA 10+65.99 DG
Y = 106526.198
X = 340567.165
PT STA 10+82.67 DG
Y = 106538.809
X = 340577.738
BK : N24°03'25"E
AH : N55°53'46"E

CURVE 2
PI STA 11+29.41 DG
Y = 106565.018
X = 340616.443
DELTA = 113°59'28"
T = 23.09
L = 29.84
R = 15.00
PC STA 11+06.31 DG
Y = 106552.069
X = 340597.321
PT STA 11+36.16 DG
Y = 106577.223
X = 340596.838
BK : N55°53'46"E
AH : N58°05'42"W

CURVE 3
PI STA 11+43.94 DG
Y = 106581.339
X = 340590.228
DELTA = 26°54'57"
T = 3.59
L = 7.05
R = 15.00
PC STA 11+40.36 DG
Y = 106579.442
X = 340593.275
PT STA 11+47.40 DG
Y = 106584.410
X = 340588.369
BK : N58°05'42"W
AH : N31°10'45"W

R/L RAMP A (RA)

CURVE 1
PI STA 341+72.12 RA
Y = 106579.994
X = 340961.292
DELTA = 65°24'08"
T = 321.01
L = 570.74
R = 500.00
PC STA 338+51.11 RA
Y = 106764.924
X = 340698.905
PT STA 344+21.85 RA
Y = 106741.592
X = 341238.657
BK : S54°49'25"E
AH : N59°46'27"E

R/L OLD HWY 60 (OS)

CURVE 1
PI STA 182+01.93 OS
Y = 106941.878
X = 341216.427
DELTA = 62°30'41"
T = 163.88
L = 294.58
R = 270.00
PC STA 180+38.06 OS
Y = 106795.165
X = 341289.441
PT STA 183+32.63 OS
Y = 107074.367
X = 341312.876
BK : N26°27'28"W
AH : N36°03'13"E

R/L USH 60 (HS)

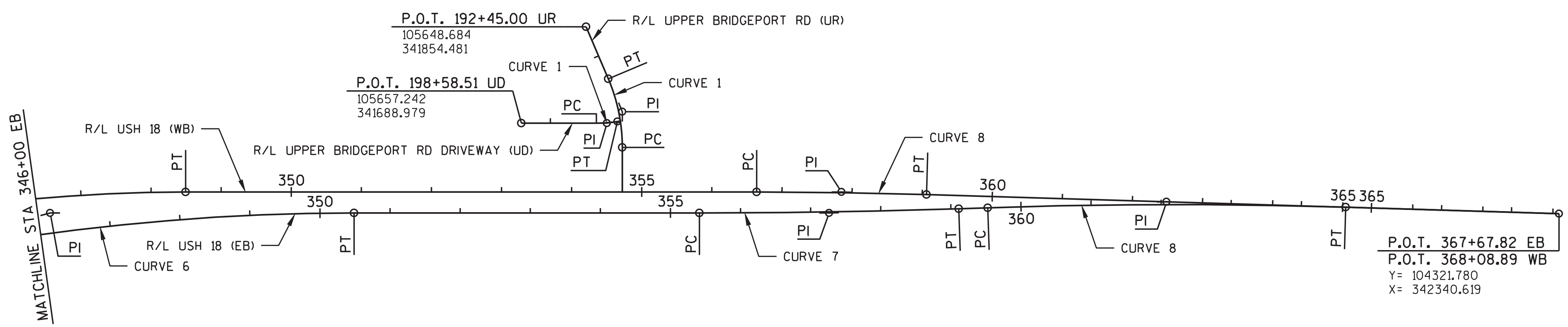
CURVE 1
PI STA 165+07.03 HS
Y = 106842.280
X = 341348.463
DELTA = 36°55'25"
T = 347.21
L = 670.22
R = 1040.00
PC STA 161+59.82 HS
Y = 106614.223
X = 341086.653
PT STA 168+30.04 HS
Y = 106867.314
X = 341694.768
BK : N48°56'30"E
AH : N85°51'55"E

R/L UPPER BRIDGEPORT RD (UB)

CURVE 1
PI STA 178+48.44 UB
Y = 106622.520
X = 341375.359
DELTA = 30°29'31"
T = 68.14
L = 133.05
R = 250.00
PC STA 177+80.31 UB
Y = 106585.359
X = 341432.473
PT STA 179+13.35 UB
Y = 106683.523
X = 341345.001
BK : N56°56'59"W
AH : N26°27'28"W

2

R/L USH 18 (EB)			R/L USH 18 (WB)	R/L UPPER BRIDGEPORT RD (UR)	R/L UPPER BRIDGEPORT RD DRIVEWAY (UD)
CURVE 6	CURVE 7	CURVE 8	CURVE 8	CURVE 1	CURVE 1
PI STA 346+20.04 EB	PI STA 357+26.29 EB	PI STA 362+08.04 EB	PI STA 357+84.92 WB	PI STA 191+14.70 UR	PI STA 199+80.73 UD
Y = 106167.324	Y = 105214.705	Y = 104810.223	Y = 105214.994	Y = 105542.052	Y = 105552.474
X = 341232.751	X = 341805.074	X = 342066.806	X = 341839.898	X = 341777.212	X = 341751.923
DELTA = 15°10'05"	DELTA = 1°54'33"	DELTA = 3°37'55"	DELTA = 1°43'22"	DELTA = 23°04'29"	DELTA = 8°39'27"
T = 433.59	T = 184.95	T = 255.54	T = 121.18	T = 51.03	T = 15.14
L = 862.12	L = 369.86	L = 510.90	L = 242.33	L = 100.68	L = 30.22
R = 3256.54	R = 11100.00	R = 8060.00	R = 8060.00	R = 250.00	R = 200.00
PC STA 341+86.45 EB	PC STA 355+41.35 EB	PC STA 359+52.50 EB	PC STA 356+63.74 WB	PC STA 190+63.67 UR	PC STA 199+65.59 UD
Y = 106467.624	Y = 105373.242	Y = 105024.761	Y = 105318.866	Y = 105515.770	Y = 105565.451
X = 340919.983	X = 341709.826	X = 341927.983	X = 341777.493	X = 341733.467	X = 341744.126
PT STA 350+48.57 EB	PT STA 359+11.21 EB	PT STA 364+63.40 EB	PT STA 359+06.07 WB	PT STA 191+64.35 UR	PT STA 199+95.81 UD
Y = 105795.650	Y = 105059.429	Y = 104587.321	Y = 105109.294	Y = 105583.376	Y = 105540.819
X = 341456.049	X = 341905.549	X = 342191.761	X = 341899.152	X = 341807.156	X = 341761.584
BK : S46°09'54"E	BK : S30°59'49"E	BK : S32°54'22"E	BK : S30°59'49"E	BK : N59°00'11"E	BK : S30°59'49"E
AH : S30°59'49"E	AH : S32°54'22"E	AH : S29°16'27"E	AH : S29°16'27"E	AH : N35°55'42"E	AH : S39°39'16"E



2

2

USH 18 EB

Point Number	Type	Material	Station	Point Offset	Northing	Easting	Elevation
102	TGT		*	*	110329.193	326659.123	643.778
26	CP	NAIL	*	*	109884.568	326515.273	648.43
101	TGT		*	*	109643.167	325544.952	634.724
27	CP	NAIL	194+83.77	403.88'	109420.911'	326519.902'	652.892'
103	TGT		196+60.48	1007.37'	108810.923'	326313.723'	651.157'
106	TGT		211+08.92	13.68'	108912.797'	328188.728'	649.712'
105	TGT		220+22.75	400.11'	108228.288'	328987.559'	652.982'
104	TGT		220+46.35	-1012.04'	109619.283'	329231.874'	659.049'
23	CP	NAIL	225+98.82	-248.09'	108802.488'	329652.277'	667.501'
28	CP	NAIL	227+09.36	-24.49'	108568.058'	329737.479'	663.812'
25	CP	NAIL	227+45.35	-267.97'	108806.086'	329800.103'	667.07'
21	CP	NAIL	232+05.32	-75.36'	108563.9'	330236.018'	661.511'
20	CP	NAIL	234+35.45	39.29'	108424.566'	330452.092'	670.184'
19	CP	NAIL	236+55.97	43.15'	108396.392'	330670.847'	675.301'
18	CP	NAIL	238+32.72	43.73'	108376.316'	330846.446'	680.959'
108	TGT		239+57.1	-1141.11'	109540.208'	331100.796'	697.055'
17	CP	NAIL	239+70.03	-44.63'	108448.996'	330992.667'	684.365'
12	CP	NAIL	246+19.75	-482.74'	108812.746'	331686.76'	689.646'
109	TGT		247+48.82	28.29'	108290.595'	331758.664'	710.885'
36	CP	PK	252+77.5	-15.9'	108276.193'	332288.99'	726.507'
35	CP	MON104 CAPPED	252+96.1	-150.01'	108407.423'	332322.267'	732.59'
110	TGT		257+20.76	-916.14'	109122.028'	332828.868'	717.313'
114	TGT		274+90.6	-14.79'	108030.916'	334488.457'	762.982'
113	TGT		282+32.88	952.05'	106988.09'	335119.541'	745.225'
112	TGT		283+98	-583.85'	108496.398'	335453.1'	787.616'
34	CP	NAIL	290+23.83	-91.44'	107934.335'	336022.127'	776.376'
117	TGT		302+51.17	-1.8'	107646.39'	337221.509'	775.723'
48	CP	NAIL	308+93.06	74.44'	107437.436'	337832.668'	769.577'
116	TGT		311+58.2	915.32'	106559.101'	337909.515'	759.74'
47	CP	NAIL	315+30.62	71.82'	107301.997'	338455.678'	757.91'
146	TGT		329+26.66	-18.52'	107087.831'	339838.342'	768.773'
145	TGT		335+37.5	-668.75'	107437.617'	340709.14'	749.257'
120	TGT		337+68.61	-148.33'	106852.169'	340676.467'	770.219'
131	TGT		338+29.49	525.08'	106264.612'	340342.834'	720.195'
147	TGT		343+57.63	626.24'	105917.557'	340583.428'	744.642'
127	TGT		346+78.01	-3485.53'	108224.403'	344012.223'	737.471'
53	CP	NAIL	347+18.16	-1649.99'	107058.374'	342592.858'	755.176'
121	TGT		347+71.04	-1541.47'	106930.599'	342552.139'	735.897'
123	TGT		347+80.26	-560.4'	106346.845'	341763.555'	767.554'
55	CP	NAIL	348+81.04	-1926.74'	107012.837'	342964.5'	716.341'
54	CP	NAIL	348+85.47	-1547.17'	106795.466'	342653.27'	736.418'
128	TGT		349+46.3	-2413.06'	107189.507'	343430.443'	691.095'
56	CP	NAIL	349+60.09	-2357.93'	107139.629'	343396.934'	693.665'
144	TGT		349+82.42	732.94'	105461.862'	340800.937'	748.218'
122	TGT		350+73.34	397.48'	105569.712'	341128.093'	750.966'
119	TGT		351+18.36	35.72'	105717.425'	341461.373'	758.857'
129	TGT		352+73.97	-4130.91'	107729.821'	345113.128'	652.694'
125	TGT		352+86.32	-975.9'	106094.431'	342415.02'	764.547'
49	CP	NAIL	354+21.17	71.7'	105439.332'	341586.472'	746.79'
134	TGT		358+78.27	-6.92'	105090.848'	341893.516'	725.274'
126	TGT		359+60.9	-3070.57'	106683.158'	344512.213'	721.96'
132	TGT		*	*	104560.213	343105.058	636.003
133	TGT		*	*	103909.761	341644.747	633.814
135	TGT		*	*	103472.689	342749.374	622.791
143	TGT		*	*	103533.116	342868.189	623.22
140	TGT		*	*	102684.51	343127.147	632.148
142	TGT		*	*	102777.159	343217.598	641.66
139	TGT		*	*	101897.21	343624.251	633.859
136	TGT		*	*	101430.654	344901.066	629.675
138	TGT		*	*	101045.42	344007.605	629.446
141	TGT		*	*	100397.858	343530.358	631.237
137	TGT		*	*	100161.857	344377.093	637.042

* = Outside of Alignment Limits

DRIVEWAY A

Point Number	Type	Material	Station	Point Offset	Northing	Easting	Elevation
22	CP	NAIL	21+29.49	96.39'	108687.071'	330037.873'	660.055'
24	CP	NAIL	22+30.42	14.72'	108784.451'	329932.753'	670.025'
1	CP	NAIL	22+62.42	-5.74'	108805.466'	329900.597'	674.898'
2	CP	NAIL	*	*	108987.356'	329843.283'	692.763'

* = Outside of Alignment Limits

WARD ROAD

Point Number	Type	Material	Station	Point Offset	Northing	Easting	Elevation
16	CP	NAIL	50+98.8	-154.17'	108530.725'	331239.866'	674.047'
8	CP	NAIL	52+38.62	17.89'	108604.594'	331462.938'	692.287'
10	CP	NAIL	53+54.72	16.22'	108687.446'	331538.638'	690.359'
11	CP	NAIL	54+55.24	14.96'	108756.266'	331611.91'	689.804'

CABIN HILL LANE

Point Number	Type	Material	Station	Point Offset	Northing	Easting	Elevation
31	CP	NAIL	*	*	107291.25'	332010.15'	718.371'
32	CP	NAIL	*	*	107356.695'	331723.625'	727.803'
30	CP	NAIL	*	*	107185.38'	331476.196'	693.198'
29	CP	NAIL	*	*	107424.764'	331082.661'	684.515'
46	CP	NAIL	38+09.33	-10.82'	107710.055'	330895.718'	680.359'
45	CP	NAIL	39+48.41	-13.23'	107825.335'	330817.887'	679.828'
107	TGT		40+24.87	-14.19'	107892.458'	330777.196'	679.693'
9	CP	NAIL	47+15.85	14.96'	108265.557'	331175.661'	707.633'
37	CP	NAIL	50+26.25	-13.7'	108258.324'	331489.16'	704.712'
57	CP	NAIL	*	*	107911.239'	331901.333'	734.024'
58	CP	NAIL	*	*	107956.805'	331934.647'	738.26'
111	TGT		*	*	107462.405'	332527.618'	739.796'

* = Outside of Alignment Limits

OLD 18 WEST

Point Number	Type	Material	Station	Point Offset	Northing	Easting	Elevation
3	CP	NAIL	*	*	108304.353'	330408.404'	667.851'
7	CP	NAIL	25+69.11	275.08'	108064.435'	330256.224'	690.876'
4	CP	PK	26+10.61	8.37'	108180.428'	330500.96'	673.238'
5	CP	PK	26+81	9.26'	108124.415'	330544.595'	675.653'
6	CP	PK	27+64.56	12.32'	108061.12'	330602.383'	677.76'

* = Outside of Alignment Limits

UTOPIA FRONTAGE ROAD

Point Number	Type	Material	Station	Point Offset	Northing	Easting	Elevation
33	CP	NAIL	82+50.01	16.5'	108085.719'	335628.495'	777.366'

BOUSKA ROAD

Point Number	Type	Material	Station	Point Offset	Northing	Easting	Elevation
15	CP	NAIL	102+83.15	-11.98'	107798.56'	338078.826'	751.445'
14	CP	NAIL	103+99.22	-11.98'	107913.762'	338092.945'	744.098'
13	CP	NAIL	104+78.42	11.63'	107989.507'	338126.015'	740.609'
115	TGT		105+04.04	0.23'	108016.324'	338117.825'	740.883'

STH 60

Point Number	Type	Material	Station	Point Offset	Northing	Easting	Elevation
118	TGT		167+04.59	-464.88'	107307.028'	341481.432'	740.591'
123	TGT		168+61.12	524.07'	106346.845'	341763.555'	767.554'
124	TGT		168+85.11	-435.51'	107305.663'	341718.298'	737.618'
134	TGT		169+00.18	1786.17'	105090.848'	341893.516'	725.274'
130	TGT		169+03.26	-14.45'	106887.011'	341766.755'	759.75'
50	CP	PK	169+03.27	-14.39'	106886.943'	341766.779'	759.899'
52	CP	NAIL	170+36.7	18.17'	106864.092'	341902.205'	756.432'
51	CP	NAIL	171+22.94	-17.52'	106905.909'	341985.647'	754.174'
53	CP	NAIL	*	*	107058.374	342592.858	755.176
54	CP	NAIL	*	*	106795.466	342653.27	736.418
121	TGT		*	*	106930.599	342552.139	735.897
55	CP	NAIL	*	*	107012.837	342964.5	716.341
56	CP	NAIL	*	*	107139.629	343396.934	693.665
128	TGT		*	*	107189.507	343430.443	691.095
127	TGT		*	*	108224.403	344012.223	737.471
126	TGT		*	*	106683.158	344512.213	721.96
129	TGT		*	*	107729.821	345113.128	652.694

* = Outside of Alignment Limits

2

3

3

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1661-05-78 QUANTITY
0010	201.0105	Clearing	STA	147.000	147.000
0020	201.0205	Grubbing	STA	147.000	147.000
0030	203.0100	Removing Small Pipe Culverts	EACH	28.000	28.000
0040	203.0200	Removing Old Structure (station) 01. 205+56 WB (2 66-Inch CPRC)	LS	1.000	1.000
0050	203.0200	Removing Old Structure (station) 02. 232+78 EB	LS	1.000	1.000
0060	203.0200	Removing Old Structure (station) 03. 233+51 EB (Box Culvert Unknown ID)	LS	1.000	1.000
0070	203.0200	Removing Old Structure (station) 04. 240+27 EB	LS	1.000	1.000
0080	203.0200	Removing Old Structure (station) 05. 51+35	LS	1.000	1.000
0090	203.0200	Removing Old Structure (station) 06. 262+45 EB (C-12-154)	LS	1.000	1.000
0100	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 207+19	LS	1.000	1.000
0110	204.0100	Removing Pavement	SY	3,976.000	3,976.000
0120	204.0150	Removing Curb & Gutter	LF	5,691.000	5,691.000
0130	204.0155	Removing Concrete Sidewalk	SY	816.000	816.000
0140	204.0165	Removing Guardrail	LF	1,283.000	1,283.000
0150	204.0210	Removing Manholes	EACH	2.000	2.000
0160	204.0215	Removing Catch Basins	EACH	4.000	4.000
0170	204.0220	Removing Inlets	EACH	9.000	9.000
0180	204.0225	Removing Septic Tanks	EACH	1.000	1.000
0190	204.0230	Removing Building (station) 01. 118+14 GV	LS	1.000	1.000
0200	204.0235	Removing Buildings (parcel) 01. 21	LS	1.000	1.000
0210	204.0240	Site Clearance (parcel) 01. 21	LS	1.000	1.000
0220	204.0240	Site Clearance (parcel) 02. 50	LS	1.000	1.000
0230	204.0245	Removing Storm Sewer (size) 01. 12-Inch	LF	54.000	54.000
0240	204.0245	Removing Storm Sewer (size) 02. 18-Inch	LF	309.000	309.000
0250	204.0245	Removing Storm Sewer (size) 03. 24-Inch	LF	291.000	291.000
0260	204.0245	Removing Storm Sewer (size) 04. 36-Inch	LF	106.000	106.000
0270	204.0265	Abandoning Wells	EACH	1.000	1.000
0280	204.0270	Abandoning Culvert Pipes	EACH	7.000	7.000
0290	204.9165.S	Removing (item description) 01. Modular Block Retaining Wall	SF	2,650.000	2,650.000
0300	205.0100	Excavation Common	CY	193,058.000	193,058.000
0310	205.0200	Excavation Rock	CY	11,872.000	11,872.000
0320	206.1000	Excavation for Structures Bridges (structure) 01. B-12-0184	LS	1.000	1.000
0330	206.1000	Excavation for Structures Bridges (structure) 02. B-12-93	LS	1.000	1.000
0340	206.2000	Excavation for Structures Culverts (structure) 01. B-12-0187	LS	1.000	1.000
0350	206.2000	Excavation for Structures Culverts (structure) 02. B-12-0188	LS	1.000	1.000
0360	206.2000	Excavation for Structures Culverts (structure) 03. C-12-0167	LS	1.000	1.000
0370	208.0100	Borrow	CY	224,693.000	224,693.000
0380	208.1100	Select Borrow	CY	6,028.000	6,028.000
0390	209.0200.S	Backfill Controlled Low Strength	CY	202.000	202.000
0400	210.0100	Backfill Structure	CY	9,750.000	9,750.000
0410	213.0100	Finishing Roadway (project) 01. 1661-05-78	EACH	1.000	1.000

3

DATE 23NOV15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1661-05-78 QUANTITY
0420	305.0110	Base Aggregate Dense 3/4-Inch	TON	14,103.000	14,103.000
0430	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	103,011.000	103,011.000
0440	311.0115	Breaker Run	CY	920.000	920.000
0450	312.0110	Select Crushed Material	TON	33,916.000	33,916.000
0460	415.0085	Concrete Pavement 8 1/2-Inch	SY	144,866.000	144,866.000
0470	415.0210	Concrete Pavement Gaps	EACH	6.000	6.000
0480	415.0410	Concrete Pavement Approach Slab	SY	451.000	451.000
0490	416.0160	Concrete Driveway 6-Inch	SY	160.000	160.000
0500	416.0260	Concrete Driveway HES 6-Inch	SY	132.000	132.000
0510	416.0610	Drilled Tie Bars	EACH	304.000	304.000
0520	416.0620	Drilled Dowel Bars	EACH	43.000	43.000
0530	416.1010	Concrete Surface Drains	CY	40.200	40.200
0540	440.4410	Incentive IRI Ride	DOL	22,894.000	22,894.000
0550	455.0105	Asphaltic Material PG58-28	TON	252.000	252.000
0560	455.0605	Tack Coat	GAL	1,303.000	1,303.000
0570	460.1101	HMA Pavement Type E-1	TON	4,575.000	4,575.000
0580	460.2000	Incentive Density HMA Pavement	DOL	2,930.000	2,930.000
0590	465.0105	Asphaltic Surface	TON	372.000	372.000
0600	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	1,052.000	1,052.000
0610	465.0125	Asphaltic Surface Temporary	TON	1,345.000	1,345.000
0620	465.0450	Asphaltic Intersection Rumble Strips	SY	81.000	81.000
0630	502.0100	Concrete Masonry Bridges	CY	1,140.500	1,140.500
0640	502.3200	Protective Surface Treatment	SY	1,365.000	1,365.000
0650	502.3210	Pigmented Surface Sealer	SY	210.000	210.000
0660	502.5010	Masonry Anchors Type L No. 6 Bars	EACH	108.000	108.000
0670	504.0100	Concrete Masonry Culverts	CY	1,657.000	1,657.000
0680	505.0400	Bar Steel Reinforcement HS Structures	LB	205,900.000	205,900.000
0690	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	153,930.000	153,930.000
0700	505.0800.S	Bar Steel Reinforcement HS Stainless Structures	LB	3,880.000	3,880.000
0710	505.0906	Bar Couplers No. 6	EACH	2.000	2.000
0720	511.1200	Temporary Shoring (structure) 01. B-12-0184	SF	670.000	670.000
0730	511.1200	Temporary Shoring (structure) 02. B-12-0187	SF	1,225.000	1,225.000
0740	511.1200	Temporary Shoring (structure) 03. B-12-0188	SF	5,530.000	5,530.000
0750	511.2200	Temporary Shoring Left in Place (structure) 01. B-12-0184	SF	180.000	180.000
0760	516.0500	Rubberized Membrane Waterproofing	SY	306.000	306.000
0770	520.1015	Apron Endwalls for Culvert Pipe 15-Inch	EACH	8.000	8.000
0780	520.1018	Apron Endwalls for Culvert Pipe 18-Inch	EACH	6.000	6.000
0790	520.3315	Culvert Pipe Class III-A 15-Inch	LF	116.000	116.000
0800	520.3318	Culvert Pipe Class III-A 18-Inch	LF	178.000	178.000
0810	520.4024	Culvert Pipe Temporary 24-Inch	LF	446.000	446.000
0820	520.4030	Culvert Pipe Temporary 30-Inch	LF	80.000	80.000
0830	520.4036	Culvert Pipe Temporary 36-Inch	LF	12.000	12.000
0840	520.8000	Concrete Collars for Pipe	EACH	1.000	1.000
0850	522.0118	Culvert Pipe Reinforced Concrete Class III 18-Inch	LF	76.000	76.000
0860	522.0124	Culvert Pipe Reinforced Concrete Class III 24-Inch	LF	76.000	76.000

3

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1661-05-78 QUANTITY
0870	522.0130	Culvert Pipe Reinforced Concrete Class III 30-Inch	LF	244.000	244.000
0880	522.0136	Culvert Pipe Reinforced Concrete Class III 36-Inch	LF	224.000	224.000
0890	522.0142	Culvert Pipe Reinforced Concrete Class III 42-Inch	LF	142.000	142.000
0900	522.0172	Culvert Pipe Reinforced Concrete Class III 72-Inch	LF	54.000	54.000
0910	522.0318	Culvert Pipe Reinforced Concrete Class IV 18-Inch	LF	100.000	100.000
0920	522.0348	Culvert Pipe Reinforced Concrete Class IV 48-Inch	LF	340.000	340.000
0930	522.1012	Apron Endwalls for Culvert Pipe Reinforced Concrete 12-Inch	EACH	8.000	8.000
0940	522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	EACH	27.000	27.000
0950	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	8.000	8.000
0960	522.1030	Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	EACH	3.000	3.000
0970	522.1036	Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch	EACH	6.000	6.000
0980	522.1042	Apron Endwalls for Culvert Pipe Reinforced Concrete 42-Inch	EACH	2.000	2.000
0990	522.1048	Apron Endwalls for Culvert Pipe Reinforced Concrete 48-Inch	EACH	2.000	2.000
1000	522.1072	Apron Endwalls for Culvert Pipe Reinforced Concrete 72-Inch	EACH	2.000	2.000
1010	523.0158	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 58x91-Inch	LF	282.000	282.000
1020	523.0419	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 19x30-Inch	LF	148.000	148.000
1030	523.0519	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 19x30-Inch	EACH	4.000	4.000
1040	523.0558	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 58x91-Inch	EACH	2.000	2.000
1050	524.0642	Apron Endwalls for Culvert Pipe Salvaged 42-Inch	EACH	1.000	1.000
1060	550.2104	Piling CIP Concrete 10 3/4 X 0.25-Inch	LF	2,240.000	2,240.000
1070	550.2124	Piling CIP Concrete 12 3/4 X 0.25-Inch	LF	1,385.000	1,385.000
1080	601.0407	Concrete Curb & Gutter 18-Inch Type D	LF	42.000	42.000
1090	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	10.000	10.000
1100	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	1,242.000	1,242.000
1110	601.0413	Concrete Curb & Gutter 6-Inch Sloped 30-Inch Type G	LF	65.000	65.000
1120	601.0555	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type A	LF	19,765.000	19,765.000
1130	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	140.000	140.000
1140	601.0580	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type R	LF	775.000	775.000
1150	602.0405	Concrete Sidewalk 4-Inch	SF	75,261.000	75,261.000
1160	602.0415	Concrete Sidewalk 6-Inch	SF	3,251.000	3,251.000

3

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1661-05-78 QUANTITY
1170	602.0505	Curb Ramp Detectable Warning Field Yellow	SF	32.000	32.000
1180	603.8000	Concrete Barrier Temporary Precast Delivered	LF	2,100.000	2,100.000
1190	603.8125	Concrete Barrier Temporary Precast Installed	LF	2,100.000	2,100.000
1200	606.0200	Riprap Medium	CY	2,078.000	2,078.000
1210	606.0300	Riprap Heavy	CY	5,196.000	5,196.000
1220	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	1,890.000	1,890.000
1230	608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	LF	1,672.000	1,672.000
1240	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	306.000	306.000
1250	608.0336	Storm Sewer Pipe Reinforced Concrete Class III 36-Inch	LF	330.000	330.000
1260	608.0342	Storm Sewer Pipe Reinforced Concrete Class III 42-Inch	LF	102.000	102.000
1270	608.0412	Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	LF	1,178.000	1,178.000
1280	608.0418	Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch	LF	995.000	995.000
1290	608.0424	Storm Sewer Pipe Reinforced Concrete Class IV 24-Inch	LF	557.000	557.000
1300	608.0430	Storm Sewer Pipe Reinforced Concrete Class IV 30-Inch	LF	38.000	38.000
1310	609.0136	Relaid Storm Sewer 36-Inch	LF	197.000	197.000
1320	609.0142	Relaid Storm Sewer 42-Inch	LF	304.000	304.000
1330	611.0530	Manhole Covers Type J	EACH	1.000	1.000
1340	611.0612	Inlet Covers Type C	EACH	1.000	1.000
1350	611.0624	Inlet Covers Type H	EACH	3.000	3.000
1360	611.0627	Inlet Covers Type HM	EACH	91.000	91.000
1370	611.0636	Inlet Covers Type HM-S	EACH	9.000	9.000
1380	611.0639	Inlet Covers Type H-S	EACH	3.000	3.000
1390	611.0642	Inlet Covers Type MS	EACH	30.000	30.000
1400	611.0652	Inlet Covers Type T	EACH	3.000	3.000
1410	611.2004	Manholes 4-FT Diameter	EACH	3.000	3.000
1420	611.2005	Manholes 5-FT Diameter	EACH	5.000	5.000
1430	611.2006	Manholes 6-FT Diameter	EACH	3.000	3.000
1440	611.3004	Inlets 4-FT Diameter	EACH	11.000	11.000
1450	611.3225	Inlets 2x2.5-FT	EACH	3.000	3.000
1460	611.3230	Inlets 2x3-FT	EACH	87.000	87.000
1470	611.3901	Inlets Median 1 Grate	EACH	20.000	20.000
1480	611.3902	Inlets Median 2 Grate	EACH	5.000	5.000
1490	611.8110	Adjusting Manhole Covers	EACH	1.000	1.000
1500	611.8120.S	Cover Plates Temporary	EACH	2.000	2.000
1510	611.9710	Salvaged Inlet Covers	EACH	4.000	4.000
1520	612.0106	Pipe Underdrain 6-Inch	LF	3,257.000	3,257.000
1530	612.0206	Pipe Underdrain Unperforated 6-Inch	LF	180.000	180.000
1540	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	980.000	980.000
1550	612.0806	Apron Endwalls for Underdrain Reinforced Concrete 6-Inch	EACH	4.000	4.000
1570	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
1580	614.0396	Guardrail Mow Strip Asphalt	SY	600.000	600.000
1590	614.0905	Crash Cushions Temporary	EACH	12.000	12.000

3

3

DATE 23NOV15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1661-05-78 QUANTITY
1600	614.2300	MGS Guardrail 3	LF	538.000	538.000
1610	614.2500	MGS Thrie Beam Transition	LF	156.000	156.000
1620	614.2610	MGS Guardrail Terminal EAT	EACH	6.000	6.000
1630	614.2620	MGS Guardrail Terminal Type 2	EACH	2.000	2.000
1640	616.0205	Fence Chain Link 5-FT	LF	150.000	150.000
1650	616.0700.S	Fence Safety	LF	201.000	201.000
1660	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1661-05-78	EACH	1.000	1.000
1670	619.1000	Mobilization	EACH	0.930	0.930
1680	620.0100	Concrete Corrugated Median	SF	8,764.000	8,764.000
1690	620.0300	Concrete Median Sloped Nose	SF	1,061.000	1,061.000
1700	624.0100	Water	MGAL	3,779.000	3,779.000
1710	625.0500	Salvaged Topsoil	SY	199,478.000	199,478.000
1720	627.0200	Mulching	SY	172,322.000	172,322.000
1730	628.1504	Silt Fence	LF	20,127.000	20,127.000
1740	628.1520	Silt Fence Maintenance	LF	40,254.000	40,254.000
1750	628.1905	Mobilizations Erosion Control	EACH	8.000	8.000
1760	628.1910	Mobilizations Emergency Erosion Control	EACH	16.000	16.000
1770	628.1920	Cleaning Sediment Basins	CY	28.000	28.000
1780	628.2004	Erosion Mat Class I Type B	SY	21,609.000	21,609.000
1790	628.2008	Erosion Mat Urban Class I Type B	SY	45,883.000	45,883.000
1800	628.2027	Erosion Mat Class II Type C	SY	39,950.000	39,950.000
1810	628.2037	Erosion Mat Class III Type C	SY	3,109.000	3,109.000
1820	628.6510	Soil Stabilizer Type B	ACRE	2.000	2.000
1830	628.7005	Inlet Protection Type A	EACH	124.000	124.000
1840	628.7010	Inlet Protection Type B	EACH	18.000	18.000
1850	628.7015	Inlet Protection Type C	EACH	106.000	106.000
1860	628.7504	Temporary Ditch Checks	LF	1,224.000	1,224.000
1870	628.7555	Culvert Pipe Checks	EACH	17.000	17.000
1880	628.7560	Tracking Pads	EACH	8.000	8.000
1890	628.7560.S	Stone or Rock Ditch Checks	CY	240.000	240.000
1900	629.0210	Fertilizer Type B	CWT	183.900	183.900
1910	630.0120	Seeding Mixture No. 20	LB	4,005.000	4,005.000
1920	630.0130	Seeding Mixture No. 30	LB	1,776.000	1,776.000
1930	630.0140	Seeding Mixture No. 40	LB	828.000	828.000
1940	630.0200	Seeding Temporary	LB	8,517.000	8,517.000
1950	630.0300	Seeding Borrow Pit	LB	700.000	700.000
1980	633.5100	Markers Row	EACH	199.000	199.000
1990	633.5200	Markers Culvert End	EACH	79.000	79.000
2000	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	3.000	3.000
2010	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	59.000	59.000
2020	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	81.000	81.000
2030	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	43.000	43.000
2040	634.0620	Posts Wood 4x6-Inch X 20-FT	EACH	9.000	9.000
2050	634.0622	Posts Wood 4x6-Inch X 22-FT	EACH	2.000	2.000
2060	634.0624	Posts Wood 4x6-Inch X 24-FT	EACH	2.000	2.000
2070	634.0805	Posts Tubular Steel 2x2-Inch X 5-FT	EACH	3.000	3.000
2080	634.0811	Posts Tubular Steel 2x2-Inch X 11-FT	EACH	12.000	12.000
2090	634.0814	Posts Tubular Steel 2x2-Inch X 14-FT	EACH	12.000	12.000
2100	637.1220	Signs Type I Reflective SH	SF	45.000	45.000
2110	637.2210	Signs Type II Reflective H	SF	2,362.390	2,362.390
2120	637.2220	Signs Type II Reflective SH	SF	6.750	6.750
2130	637.2230	Signs Type II Reflective F	SF	147.750	147.750

3

3

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1661-05-78 QUANTITY
2140	638.2102	Moving Signs Type II	EACH	24.000	24.000
2150	638.2602	Removing Signs Type II	EACH	96.000	96.000
2160	638.3000	Removing Small Sign Supports	EACH	108.000	108.000
2170	638.4000	Moving Small Sign Supports	EACH	4.000	4.000
2180	641.8100	Overhead Sign Support (structure) 01. (S-12-0012)	LS	1.000	1.000
2190	641.8100	Overhead Sign Support (structure) 02. (S-12-0013)	LS	1.000	1.000
2200	642.5201	Field Office Type C	EACH	1.000	1.000
2210	643.0100	Traffic Control (project) 01. 1661-01-78	EACH	1.000	1.000
2220	643.0300	Traffic Control Drums	DAY	120,745.000	120,745.000
2230	643.0420	Traffic Control Barricades Type III	DAY	17,512.000	17,512.000
2240	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	760.000	760.000
2250	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	760.000	760.000
2260	643.0705	Traffic Control Warning Lights Type A	DAY	22,918.000	22,918.000
2270	643.0715	Traffic Control Warning Lights Type C	DAY	10,998.000	10,998.000
2280	643.0800	Traffic Control Arrow Boards	DAY	263.000	263.000
2290	643.0900	Traffic Control Signs	DAY	30,050.000	30,050.000
2300	643.1050	Traffic Control Signs PCMS	DAY	729.000	729.000
2310	645.0105	Geotextile Fabric Type C	SY	2,335.000	2,335.000
2320	645.0111	Geotextile Fabric Type DF Schedule A	SY	1,447.000	1,447.000
2330	645.0120	Geotextile Fabric Type HR	SY	14,053.000	14,053.000
2340	645.0140	Geotextile Fabric Type SAS	SY	1,456.000	1,456.000
2350	646.0106	Pavement Marking Epoxy 4-Inch	LF	80,496.000	80,496.000
2360	646.0126	Pavement Marking Epoxy 8-Inch	LF	9,733.000	9,733.000
2370	646.0600	Removing Pavement Markings	LF	7,593.000	7,593.000
2380	646.0805.S	Pavement Marking Outfall	EACH	4.000	4.000
2390	647.0166	Pavement Marking Arrows Epoxy Type 2	EACH	70.000	70.000
2400	647.0176	Pavement Marking Arrows Epoxy Type 3	EACH	4.000	4.000
2410	647.0356	Pavement Marking Words Epoxy	EACH	40.000	40.000
2420	647.0456	Pavement Marking Curb Epoxy	LF	324.000	324.000
2430	647.0556	Pavement Marking Stop Line Epoxy 12-Inch	LF	10.000	10.000
2440	647.0566	Pavement Marking Stop Line Epoxy 18-Inch	LF	121.000	121.000
2450	647.0606	Pavement Marking Island Nose Epoxy	EACH	13.000	13.000
2460	647.0656	Pavement Marking Parking Stall Epoxy	LF	162.000	162.000
2470	647.0726	Pavement Marking Diagonal Epoxy 12-Inch	LF	412.000	412.000
2480	649.0100	Temporary Pavement Marking 4-Inch	LF	71,500.000	71,500.000
2490	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	83,100.000	83,100.000
2500	649.0701	Temporary Pavement Marking 8-Inch	LF	345.000	345.000
2510	649.0801	Temporary Pavement Marking Removable Tape 8-Inch	LF	2,200.000	2,200.000
2520	649.1100	Temporary Pavement Marking Stop Line 18-Inch	LF	36.000	36.000
2530	649.1200	Temporary Pavement Marking Stop Line Removable Tape 18-Inch	LF	74.000	74.000
2540	649.1400	Temporary Pavement Marking Stop Line Removable Tape 24-Inch	LF	24.000	24.000
2550	649.1500	Temporary Pavement Marking Diagonal 12-Inch	LF	200.000	200.000
2560	649.1700	Temporary Pavement Marking Arrows	EACH	6.000	6.000
2570	649.1800	Temporary Pavement Marking Arrows Removable Tape	EACH	2.000	2.000
2580	649.1900	Temporary Pavement Marking Words	EACH	2.000	2.000

3

3

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1661-05-78 QUANTITY
2590	649.2000	Temporary Pavement Marking Words Removable Tape	EACH	1.000	1.000
2600	650.4000	Construction Staking Storm Sewer	EACH	136.000	136.000
2610	650.4500	Construction Staking Subgrade	LF	43,267.000	43,267.000
2620	650.5000	Construction Staking Base	LF	9,787.000	9,787.000
2630	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	1,524.000	1,524.000
2640	650.6000	Construction Staking Pipe Culverts	EACH	67.000	67.000
2650	650.6500	Construction Staking Structure Layout (structure) 01. B-12-0184	LS	1.000	1.000
2660	650.6500	Construction Staking Structure Layout (structure) 02. B-12-0187	LS	1.000	1.000
2670	650.6500	Construction Staking Structure Layout (structure) 03. B-12-0188	LS	1.000	1.000
2680	650.6500	Construction Staking Structure Layout (structure) 04. C-12-0167	LS	1.000	1.000
2690	650.6500	Construction Staking Structure Layout (structure) 05. R-12-50	LS	1.000	1.000
2700	650.6500	Construction Staking Structure Layout (structure) 06. (S-12-0012)	LS	1.000	1.000
2710	650.6500	Construction Staking Structure Layout (structure) 07. (S-12-0013)	LS	1.000	1.000
2720	650.7000	Construction Staking Concrete Pavement	LF	33,480.000	33,480.000
2730	650.9910	Construction Staking Supplemental Control (project) 01. 1661-05-78	LS	1.000	1.000
2740	650.9920	Construction Staking Slope Stakes	LF	41,757.000	41,757.000
2750	661.0100	Temporary Traffic Signals for Bridges (structure) 01. B-12-093	LS	1.000	1.000
2760	661.0300	Generators	DAY	42.000	42.000
2770	690.0150	Sawing Asphalt	LF	3,269.000	3,269.000
2780	690.0250	Sawing Concrete	LF	1,408.000	1,408.000
2790	715.0415	Incentive Strength Concrete Pavement	DOL	43,460.000	43,460.000
2800	715.0502	Incentive Strength Concrete Structures	DOL	16,776.000	16,776.000
2810	ASP.1T0A	On-the-Job Training Apprentice at $5. 00/HR	HRS	2,100.000	2,100.000
2820	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	6,480.000	6,480.000
2830	SPV.0035	Special 01. Temporary Sediment Basin	CY	56.000	56.000
2840	SPV.0060	Special 01. Inlet Covers Type Dwy	EACH	1.000	1.000
2850	SPV.0060	Special 02. Inlet Covers Type 12SP	EACH	3.000	3.000
2860	SPV.0060	Special 03. Traffic Control Vertical Panel	EACH	32.000	32.000
2870	SPV.0060	Special 04. Utility Line Opening	EACH	5.000	5.000
2980	SPV.0090	Special 01. Concrete Curb & Gutter 6-Inch Sloped 20-Inch Type G	LF	177.000	177.000
2990	SPV.0090	Special 02. Concrete Curb & Gutter HES 6-Inch Sloped 36-Inch Type A	LF	145.000	145.000
3000	SPV.0090	Special 03. Concrete Curb & Gutter HES 30-Inch Type D	LF	73.000	73.000
3080	SPV.0105	Special 02. Concrete Pavement Joint Layout	LS	1.000	1.000
3090	SPV.0165	Special 01. Wall Modular Block Mechanically Stabilized Earth LRFD **P**	SF	940.000	940.000
3100	SPV.0180	Special 01. Geogrid Reinforcement	SY	41,061.000	41,061.000

3

3

CLEARING AND GRUBBING ITEMS

STATION - STATION	LOCATION	201.0105 CLEARING STA	201.01205 GRUBBING STA
STAGE 1B			
USH 18 EB			
329+00 - 331+00	RT	2	2
USH 18 WB			
207+00 - 208+00	LT	1	1
213+00 - 215+00	LT	2	2
216+00 - 225+00	LT	9	9
227+00 - 243+00	LT	16	16
245+00 - 252+00	LT	7	7
253+00 - 256+00	LT	3	3
257+00 - 261+00	LT	4	4
263+00 - 264+00	LT	1	1
266+00 - 274+00	LT	8	8
284+00 - 285+00	LT	1	1
287+00 - 288+00	LT	1	1
290+00 - 293+00	LT	3	3
311+00 - 317+00	LT	6	6
319+00 - 326+00	LT	7	7
SUGARLOAF TRAIL			
11+00 - 12+00	RT	1	1
DRIVEWAY A			
20+00 - 22+00	LT & RT	2	2
WARD ROAD			
52+00 - 53+00	LT & RT	1	1
CABIN HILL LANE			
39+00 - 42+00	LT & RT	3	3
43+00 - 46+00	LT & RT	3	3
48+00 - 51+00	LT & RT	3	3
OLD HWY 18 (WEST)			
25+00 - 29+00	LT & RT	4	4
DRIVEWAY B			
22+00 - 24+00	LT & RT	2	2
UTOPIA LANE			
81+00 - 83+00	LT & RT	2	2
85+00 - 86+00	LT & RT	1	1
BOUSKA ROAD			
100+00 - 102+00	RT	2	2
GOLF VIEW DRIVE			
120+00 - 123+00	LT & RT	3	3
NEW FRONTAGE ROAD			
140+00 - 142+00	LT & RT	2	2
DRIVEWAY E			
145+00 - 148+00	LT & RT	3	3
DRIVEWAY F			
149+00 - 150+00	LT & RT	1	1
DRIVEWAY G			
10+00 - 12+00	LT & RT	2	2
STAGE 2A			
USH 18 EB			
196+00 - 199+00	RT	3	3
208+00 - 211+00	RT	3	3
213+00 - 214+00	RT	1	1
224+00 - 227+00	RT	3	3
230+00 - 231+00	RT	1	1
233+00 - 238+00	RT	5	5
240+00 - 242+00	RT	2	2
245+00 - 251+00	RT	6	6
269+00 - 271+00	RT	2	2
274+00 - 275+00	RT	1	1
283+00 - 287+00	RT	4	4
USH 18 WB		1	1
330+00 - 331+00	LT	1	1
358+00 - 359+00	LT	1	1

CLEARING AND GRUBBING ITEMS (CONTINUED)

STATION - STATION	LOCATION	201.0105 CLEARING STA	201.01205 GRUBBING STA
STAGE 2B			
STH 60			
169+00 - 171+00	RT	2	2
STAGE 3A			
USH 18 WB			
362+00 - 364+00	LT	2	2
STAGE 3B			
USH 18 EB			
361+00 - 364+00	RT	3	3
ITEM TOTALS		147	147

REMOVING OLD STRUCTURE

STATION - STATION	LOCATION	203.0200.01 STA 205+56 LS	203.0200.03 STA 233+51 LS	203.0200.06 STA 262+45 LS	REMARKS
STAGE 1B					
USH 18 EB					
233+51	RT		1		46.3' X 8.8' WIDE BOX CULVERT
262+45	LT & RT			1	123.7' X 66" WIDE CONCRETE CATTLE PASS C-12-154
USH 18 WB					
205+56	LT	1			2 - 66" CPRC, INCLUDES REMOVAL OF APRON ENDWALLS
ITEM TOTAL		1	1	1	

3

REMOVING SMALL PIPE CULVERTS

STATION - STATION	LOCATION	203.0100 EACH	REMARKS
STAGE 1B			
USH 18 EB			
253+20	LT & RT	1	24" CPRC, INCLUDES REMOVAL OF APRON ENDWALLS
254+47	LT	1	24" CPCS, INCLUDES REMOVAL OF APRON ENDWALLS
288+03	LT	1	15" CPCS, INCLUDES REMOVAL OF APRON ENDWALLS
290+91	RT	1	18" CPCS, INCLUDES REMOVAL OF APRON ENDWALLS
295+53	LT & RT	1	24" CPCS, INCLUDES REMOVAL OF APRON ENDWALLS
347+07	LT & RT	1	24" CPCS, INCLUDES REMOVAL OF APRON ENDWALLS
USH 18 WB			
232+97	RT	1	18" CPCS, INCLUDES REMOVAL OF APRON ENDWALLS
318+30	LT	1	18" CPCS, INCLUDES REMOVAL OF APRON ENDWALLS
323+71	LT	1	18" CPCS, INCLUDES REMOVAL OF APRON ENDWALLS
323+80	LT	1	18" CPRC, INCLUDES REMVAL OF APRON ENDWALLS
332+92	LT	1	24" CPCS, INCLUDES REMOVAL OF APRON ENDWALLS
336+51	LT	1	15" CPCS, INCLUDES REMOVAL OF APRON ENDWALLS
CABIN HILL LANE			
49+65	LT & RT	1	24" CPCS, INCLUDES REMOVAL OF APRON ENDWALLS
CHURCH ENTRANCE			
60+82	LT & RT	1	24" CPCS, INCLUDES REMOVAL OF APRON ENDWALLS
UTOPIA LANE			
82+54	LT	1	18" CPCS, INCLUDES REMOVAL OF APRON ENDWALLS
85+77	RT	1	18" CPCS, INCLUDES REMOVAL OF APRON ENDWALLS
BOUSKA ROAD			
102+49	RT	1	12" CPCS, INCLUDES REMOVAL OF APRON ENDWALLS
103+59	RT	1	18" CPCS, INCLUDES REMOVAL OF APRON ENDWALLS
GOLF VIEW CONNECTION			
99+31	LT & RT	1	18" CPCS, INCLUDES REMOVAL OF APRON ENDWALLS
GOLF VIEW DRIVE			
120+34	LT & RT	1	15" CPCS, INCLUDES REMOVAL OF APRON ENDWALLS
124+54	RT	1	18" CPCS, INCLUDES REMOVAL OF APRON ENDWALLS
RAMP A			
341+08	LT	1	24" CPCS, INCLUDES REMOVAL OF APRON ENDWALLS
STAGE 2A			
USH 18 EB			
305+47	RT	1	18" CPCS, INCLUDES REMOVAL OF APRON ENDWALLS
318+10	RT	1	36" CPCS, INCLUDES REMOVAL OF APRON ENDWALLS
USH 18 WB			
329+12	LT & RT	1	18" CPCS, INCLUDES REMOVAL OF APRON ENDWALLS
332+69	LT	1	18" CPCS, INCLUDES REMOVAL OF APRON ENDWALLS
UPPER BRIDGEPORT ROAD			
190+64	LT & RT	1	18" CPCS, INCLUDES REMOVAL OF APRON ENDWALLS
STAGE 2B			
USH 18 WB			
351+80	LT	1	18" CPCS, INCLUDES REMOVAL OF APRON ENDWALLS
ITEM TOTAL		28	

REMOVING PAVEMENT

STATION - STATION	LOCATION	204.0100 SY	REMARKS
STAGE 1B			
USH 18 WB			
200+71.5 - 207+37.3	LT & RT	1805	MAINLINE PAVEMENT
STAGE 2A			
USH 18 EB			
200+15 - 207+37	LT & RT	2170	MAINLINE PAVEMENT
ITEM TOTAL		3976	

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

3

REMOVING CURB & GUTTER

STATION - STATION	LOCATION	204.0150 LF
STAGE 1A		
USH 18 EB		
199+97 - 203+94	LT	397
USH 18 WB		
197+57 - 203+89	LT	632
STAGE 1B		
USH 18 EB		
212+19	LT	58
212+84	LT	95
243+35	LT	70
243+89	LT	102
310+66	LT	56
311+23	LT	86
310+61	RT	58
311+18	RT	90
353+85	LT	25
354+80 - 357+94	LT	325
STAGE 2A		
USH 18 EB		
208+02 - 213+02	RT	500
222+49 - 232+40	RT	1003
232+73 - 233+00	RT	67
242+90 - 243+37	RT	64
243+37 - 244+11	RT	62
244+87 - 253+00	RT	813
257+05 - 261+03	RT	301
317+43 - 318+04	RT	93
318+33 - 318+72	RT	59
354+09 - 354+53	LT	73
354+87 - 355+38	LT	77
355+27 - 358+33	LT	310
STAGE 2B		
USH 18 EB		
288+12 - 289+46	RT	148
287+16 - 287+66	RT	103
195+89 - 196+08	RT	24
ITEM TOTAL		5691

REMOVING CONCRETE SIDEWALK

STATION - STATION	LOCATION	204.0155 SY
STAGE 1A		
USH 18 EB		
197+58 - 203+88	LT	816
ITEM TOTAL		816

REMOVING GUARDRAIL

STATION - STATION	LOCATION	204.0165 LF
STAGE 1B		
USH 18 WB		
206+43 - 208+41	LT	193
229+54 - 232+79	LT & RT	378
237+43 - 238+42	RT	99
STAGE 2A		
USH 18 EB		
206+45 - 208+00	RT	155
232+75 - 233+83	RT	190
STAGE 3A		
USH 18 WB		
364+87 - 365+84	LT	96
STAGE 3B		
USH 18 EB		
363+83 - 365+56	RT	172
ITEM TOTAL		1283

REMOVING MANHOLES

STATION	LOCATION	204.0210 EACH
STAGE 2B		
USH 18 WB		
204+06	9.5' RT	1
206+74	5' RT	1
ITEM TOTAL		2

REMOVING CATCH BASINS

STATION	LOCATION	204.0215 EACH
STAGE 2B		
USH 18 WB		
243+05	47' RT	1
353+01	9' LT	1
353+01	75' LT	1
357+87	9.6' LT	1
ITEM TOTAL		4

REMOVING INLETS

STATION	LOCATION	204.0220 EACH
STAGE 1A		
USH 18 EB		
200+98	LT	1
STAGE 1B		
USH 18 EB		
200+98	LT	1
324+91	LT	1
353+01	RT	1
353+84	RT	1
357+87	RT	1
357+94	LT	2
STAGE 2B		
USH 18 WB		
339+97	LT	1
ITEM TOTAL		9

BUILDING REMOVALS

STATION - STATION	LOCATION	204.0225 REMOVING SEPTIC TANKS EACH	204.0230.01 REMOVING BUILDINGS STA 118+14 GV LS	204.0235.01 REMOVING BUILDINGS PARCEL 21 LS	204.0240.01 SITE CLEARANCE PARCEL 21 LS	204.0240.02 SITE CLEARANCE PARCEL 50 LS	204.0265 TYPE C ABANDONING WELLS EACH	REMARKS
USH 18								
PARCEL 21	LT	1		1	1		1	
GOLF VIEW DRIVE								
118+14	LT		1			1		TOWN GARAGE ONLY
ITEM TOTAL		1	1	1	1	1	1	

3

REMOVING STORM SEWER

STATION - STATION	LOCATION	204.0245.01 12-INCH LF	204.0245.02 18-INCH LF	204.0245.03 24-INCH LF	204.0245.04 36-INCH LF
STAGE 1B					
USH 18 EB					
353+01	LT		234		
357+87	RT		75		
USH 18 WB					
242+87	RT	54		147	
STAGE 2A					
USH 18 WB					
243+50	RT			94	
324+91	LT			50	
STAGE 2B					
USH 18 EB					
203+00 - 204+06	RT				106
ITEM TOTAL		54	309	291	106

BACKFILL CONTROLLED LOW STRENGTH

STATION - STATION	LOCATION	209.0200.S CY
STAGE 1B		
USH 18 EB		
215+39	LT	19
263+53	LT	32
266+95	LT	51
281+93	LT	21
315+46	LT	24
339+98	RT	36
STAGE 3A		
USH 18 EB		
363+14	LT	19
ITEM TOTAL		202

ABANDONING CULVERT PIPES

STATION - STATION	LOCATION	204.0270 EACH
STAGE 1B		
USH 18 EB		
215+39	LT	1
263+53	LT	1
266+95	LT	1
281+93	LT	1
315+46	LT	1
339+98	RT	1
STAGE 3A		
USH 18 EB		
363+14	LT	1
ITEM TOTAL		7

REMOVING MODULAR BLOCK RETAINING WALL

STATION	LOCATION	204.9165.S.01 SF
STAGE 2A		
USH 18 EB		
245+06.83 - 250+26.86	RT	2650
ITEM TOTAL		2650

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

3

3

EARTHWORK SUMMARY

Division	From/To Station	Location	Common Excavation (1) Cut (2)	(item # 205.0100) EBS Excavation (3)	Salvaged/Unusable Pavement Material (4)	Available Material (5)	Rock Excavation (6) (item #205.0200)	Reduced EBS in Fill (7) Factor 0.80	Expanded EBS Backfill (8) Factor 1.30	Expanded Rock (9) Factor 1.10	Unexpanded Fill	Expanded Fill (10) Factor 1.30	Mass Ordinate +/- (11)	Waste	Borrow (item #208.0100)	Comment:
DIVISION 1																
(STAGE 1A)	197+59 - 203+00	USH 18 (TEMP CROSSOVER)	271	0	0	271	0	0	0	0	0	0	271			
	324+51 - 328+58	USH 18 (TEMP CROSSOVER)	126	0	0	126	0	0	0	0	0	0	126			
	337+47 - 338+00	USH 18 (TEMP CROSSOVER)	102	0	0	102	0	0	0	0	201	261	-159			
(STAGE 1B)	195+90 - 360+00	USH 18	99197	3268	501	98696	11872	2614	4248	13059	224278	271186	-169222			
	10+67 - 11+61	SUGARLOAF TRAIL	136	0	0	136	0	0	0	0	94	123	13			
	20+25 - 21+00	SUGARLOAF CHANNEL	182	0	0	182	0	0	0	0	15	20	162			
	20+60 - 22+48	DRIVEWAY A	461	0	0	461	0	0	0	0	1051	1366	-906			
	25+02 - 29+15	OLD HWY 18 (WEST)	3966	0	0	3966	0	0	0	0	2759	3586	380			
	22+30 - 23+63	DRIVEWAY B	17	0	0	17	0	0	0	0	607	789	-772			
	38+14 - 51+00	CABIN HILL LANE	5326	0	0	5326	0	0	0	0	17814	23158	-17832			
	8+36 - 9+70	DRIVEWAY H	235	0	0	235	0	0	0	0	3	4	231			
	50+50 - 53+32	WARD ROAD	356	0	0	356	0	0	0	0	2184	2839	-2483			
	61+00 - 62+14	CHURCH ENTRNACE	57	0	0	57	0	0	0	0	335	436	-379			
	70+95 - 72+21	UTOPIA LANE CONNECTION	696	0	0	696	0	0	0	0	4	6	691			
	80+92 - 96+92	UTOPIA LANE	1046	0	0	1046	0	0	0	0	279	363	684			
	117+84 - 126+50	GOLF VIEW DRIVE (GV)	1485	0	0	1485	0	0	0	0	1588	2065	-579			
	128+51 - 129+59	GOLF VIEW DRIVE (GD)	156	0	0	156	0	0	0	0	3	4	152			
	114+43 - 117+72	DRIVEWAY D	128	0	0	128	0	0	0	0	26	34	94			
	140+85 - 143+49	NEW FRONTAGE ROAD	228	0	0	228	0	0	0	0	52	68	161			
	143+03 - 148+20	DRIVEWAY E	531	0	0	531	0	0	0	0	249	324	208			
DIVISION 1 SUBTOTAL			114704	3268	501	114203	11872	2614	4248	13059	251543	306630	-189159	0	189159	
DIVISION 2																
(STAGE 2A)	195+90 - 200+12	USH 18 (CATEGORY 0080)	165	0	0	165	0	0	0	0	929	1208	-1043			SHARED USE PATH
	318+15 - 321+86	USH 18 (TEMP CROSSOVER)	0	0	0	0	0	0	0	0	50	64	-64			
	324+86 - 334+27	USH 18 (TEMP CROSSOVER)	40	0	0	40	0	0	0	0	161	209	-169			
	354+91 - 359+50	USH 18 (TEMP CROSSOVER)	120	0	0	120	0	0	0	0	0	0	120			
	195+90 - 360+00	USH 18	48571	1369	603	47968	0	1095	1780	0	77387	99180	-49842			
	22+60 - 27+51	CHANNEL	5054	0	0	5054	0	0	0	0	360	468	4586			
	35+15 - 36+30	CHANNEL	1048	0	0	1048	0	0	0	0	10	13	1035			
	160+17 - 170+32	STH 60	2400	0	0	2400	0	0	0	0	2503	3254	-854			
	177+80 - 179+80	UPPER BRIDGEPORT ROAD	611	0	0	611	0	0	0	0	203	263	347			
	190+35 - 191+56	UPPER BRIDGEPORT ROAD	387	0	0	387	0	0	0	0	0	0	387			
(STAGE 2B)	338+51 - 334+22	RAMP A	8322	0	0	8322	0	0	0	0	429	558	7764			
	163+57 - 170+32	STH 60	1914	0	0	1914	0	0	0	0	395	513	1401			
	180+25 - 181+61	OLD HWY 60	926	0	0	926	0	0	0	0	97	126	800			
DIVISION 2 SUBTOTAL			69557	1369	603	68954	0	1095	1780	0	82523	105857	-35533	0	35533	

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

3

EARTHWORK SUMMARY (CONTINUED)

Division	From/To Station	Location	Common Excavation (1)	(item # 205.0100)	Salvaged/Unusable Pavement Material (4)	Available Material (5)	Rock Excavation (6)	Reduced EBS in Fill (7)	Expanded EBS Backfill (8)	Expanded Rock (9)	Unexpanded Fill	Expanded Fill (10)	Mass Ordinate +/- (11)	Waste	Borrow	Comment:
			Cut (2)	EBS Excavation (3)			(item #205.0200)	Factor 0.80	Factor 1.30	Factor 1.10		Factor 1.30			(item #208.0100)	
DIVISION 3 (STAGE 3A)	360+00 - 365+68	USH 18	1559	0	0	1559	0	0	0	0	168	219	1340			
(STAGE 3B)	360+00 - 365+68	USH 18	1559	0	0	1559	0	0	0	0	57	74	1486			
DIVISION 3 SUBTOTAL			3118	0	0	3118	0	0	0	0	225	293	2826	2826	0	
DIVISION 4 (STAGE 4)	197+55 - 200+12	USH 18 (MEDIAN)	250	0	0	250	0	0	0	0	0	0	250			
	318+15 - 321+86	USH 18 (TEMP CROSSOVER)	126	0	0	126	0	0	0	0	0	0	126			
	324+86 - 334+27	USH 18 (TEMP CROSSOVER)	563	0	0	563	0	0	0	0	0	0	563			
	354+91 - 359+50	USH 18 (TEMP CROSSOVER)	102	0	0	102	0	0	0	0	0	0	102			
DIVISION 4 SUBTOTAL			1042	0	0	792	0	0	0	0	0	0	1042	1042	0	
			ITEM 205.0100				**ITEM 205.0200**		**ITEM 208.1100**						**ITEM 208.0100**	
TOTAL	CAT 0010		188256	4637	1104	187067	**11872**	3710	**6028**	13059	334291	412779	-220825	2826	**223650**	
		Total Common Excavation	**192893**													
TOTAL	CAT 0080		165	0	0	165	0	0	0	0	929	1208	-1043	0	**1043**	
		Total Common Excavation	**165**													

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Removal of existing broken-up/rubblized concrete pavement is incidental to Common Excavation. Item number 205.0100
2) Salvaged/Unsuable Pavement Material is included in Cut.
3) EBS Excavation to be backfilled with Select Borrow material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well.
4) Salvaged/Unusable Pavement Material
5) Available Material = Cut - Salvaged/Unusuable Pavement Material
6) Rock Excavation item number 205.0200
7) Reduced EBS in Fill - Excavated EBS material is usuable in Fills outside the 1:1 slope. EBS in Fill Reduction factor = 0.8
8) Expanded EBS Backfill - This is to be filled with Select Borrow material. EBS Backfill Factor = 1.3. Item number 208.1100
9) Expanded Rock - Factor = 1.1.
10) Expanded Fill. Factor = 1.30 Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced EBS) * Fill Factor
11) 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.

3

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

3

BASE COURSE ITEMS

STATION - STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	312.0110 SELECT CRUSHED MATERIAL TON
CATEGORY 0010				
STAGE 1A				
USH 18 EB				
197+58.01 - 203+81.44	LT	16	425	-
324+51.80 - 328+56.35	LT	17	225	-
USH 18 WB				
337+63.07 - 344+84.03	RT	34	499	-
STH 60				
160+70.94 - 161+60.40	LT	4	75	-
STAGE 1B				
USH 18 EB				
325+00.00 - 347+00.00	LT & RT	987	5717	7228
347+00.00 - 360+00.00	LT & RT	324	2278	2852
USH 18 WB				
200+71.40 - 230+00.00	LT & RT	509	6824	-
230+00.00 - 248+00.00	LT & RT	357	4458	-
248+00.00 - 279+00.00	LT & RT	2095	7965	-
279+00.00 - 325+50.00	LT & RT	2162	13075	3630
SUGARLOAF TRAIL				
11+07.66 - 11+61.53		6	142	-
DRIVEWAY A				
20+32.00 - 22+50.00		-	130	-
CABIN HILL LANE				
38+13.74 - 51+00.64		162	2489	-
DRIVEWAY H				
8+36.26 - 9+79.32		-	81	-
OLD HWY 18 WEST				
25+42.00 - 29+31.72		74	885	-
DRIVEWAY B				
22+28.46 - 24+00.00		-	84	-
WARD ROAD				
50+71.05 - 53+32.00		42	523	-
CHURCH ENTRANCE				
61+26.00 - 62+14.42		-	220	-
UTOPIA LANE CONNECTION				
71+25.89 - 72+36.00		9	260	-
UTOPIA LANE				
80+85.70 - 86+14.56		97	1288	-
BOUSKA ROAD				
101+26.00 - 103+40.00		36	613	-
GOLF VIEW CONNECTION				
99+24.00 - 99+68.22		150	769	-
GOLF VIEW DRIVE				
118+13.93 - 126+95.72		150	2445	-
DRIVEWAY D				
114+41.00 - 117+83.93		-	292	-
FRONTAGE ROAD				
141+26.00 - 141+30.69		16	279	-
DRIVEWAY E				
143+00.00 - 148+20.00		-	337	-
DRIVEWAY F		-	136	-
DRIVEWAY G		-	83	-
STAGE 2A				
USH 18 EB				
200+12.33 - 230+00.00	LT & RT	312	7441	-
230+00.00 - 248+00.00	LT & RT	78	4696	-
248+00.00 - 279+00.00	LT & RT	1519	7971	-
279+00.00 - 325+00.00	LT & RT	1689	12738	3723
USH 18 WB				
325+50.00 - 347+00.00	LT	931	5168	6060
347+00.00 - 358+00.00	LT	281	2000	2630
OLD HWY 18 EAST				
67+29.63 - 68+68.00		26	291	-
DRIVEWAY C				
90+14+.01 - 94.12.68		-	239	-
STH 60				
160+00.00 - 163+56.64	LT & RT	350	1154	1524
RAMP A				
342+50.00 - 344+21.85	RT	57	68	80
UPPER BRIDGEPORT ROAD				
177+80.31 - 180+00.00		24	414	-

BASE COURSE ITEMS (CONTINUED)

STATION - STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	312.0110 SELECT CRUSHED MATERIAL TON
STAGE 2B				
USH 18 WB				
339+25.00 - 341+87.00	LT	99	427	510
STH 60				
163+56.64 - 170+31.57	LT & RT	194	1960	1914
RAMP A				
338+51.11 - 342+50.00	LT & RT	185	677	914
OLD STH 60				
180+00.00 - 180+60.77		20	318	-
STAGE 2C				
195+90.40 - 365+67	LT & RT	200		
STAGE 3A				
USH 18 WB				
358+00.00 - 366+08.84	LT & RT	206	1050	1347
STAGE 3B				
USH 18 EB				
360+00.00 - 365+67.68	RT	158	637	792
STAGE 4				
USH 18 EB				
197+58.00 - 206+98.00	MEDIAN	-	363	-
208+03.00 - 209+00.00	MEDIAN	-	20	-
232+00.00 - 233+50.00	MEDIAN	-	51	-
239+00.00 - 242+00.00	MEDIAN	-	102	-
318+00.00 - 332+50.00	MEDIAN	307	491	393
340+00.00 - 342+25.00	LT	-	31	-
355+00.00 - 359+90.00	MEDIAN	-	66	-
USH 18 WB				
322+76.17 - 329+50.00	RT	207	284	319
CATEGORY 0010 SUBTOTALS		14103	101746	33916
CATEGORY 0080				
STAGE 2A				
USH 18 EB				
196+15.60 - 212+00.00	TRAIL	-	565	-
CATEGORY 0080 SUBTOTALS		0	565	0
ITEM TOTALS		14103	102311	33916

3

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

3

CONCRETE PAVEMENT ITEMS

STATION - STATION	LOCATION	415.0085 CONCRETE PAVEMENT 8 1/2-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY
STAGE 1B			
USH 18 EB			
324+00 - 331+00	USH18 EB	2723	
331+00 - 347+00	USH18 EB	6966	
347+00 - 360+00	USH18 EB	3600	
USH 18 WB			
200+71 - 207+03	USH18 WB	2486	99
208+00 - 230+00	USH18 WB	9523	99
230+00 - 248+00	USH18 WB	8451	
248+00 - 279+00	USH18 WB	12778	
279+00 - 303+00	USH18 WB	11629	
303+00 - 310+57	USH18 WB	3574	
311+16 - 325+50	USH18 WB	7927	
GOLF VIEW CONNECTION			
99+24 - 99+67	GOLF VIEW	320	
STAGE 2A			
USH 18 EB			
200+15 - 230+00	USH18 EB	12453	217
230+00 - 248+00	USH18 EB	8072	
248+00 - 279+00	USH18 EB	13708	
279+00 - 303+00	USH18 EB	11378	
310+45 - 311+16	USH18 EB & WB	1077	
303+00 - 324+00	USH18 EB	10457	
USH 18 WB			
325+00 - 331+00	USH18 WB	2623	
331+00 - 347+36	USH18 WB	5781	
347+36 - 358+00	USH18 WB	3561	
STH 60			
160+18 - 163+56	STH 60	1491	
STAGE 2B			
USH 18 WB			
340+70 - 341+70	USH18 WB	224	
RAMP A			
339+40 - 343+33	RAMP A	1025	
STAGE 3A			
USH 18 WB			
357+59 - 365+53	USH18 WB	1935	18
STAGE 3B			
USH 18 EB			
360+00 - 365+53	USH18 EB	1104	18
ITEM TOTAL		144866	451

CONCRETE PAVEMENT GAPS

STATION - STATION	LOCATION	415.0210 EACH
STAGE 1B		
USH 18 WB		
212+25 - 212+75	SUGARLOAF TRAIL	1
273+75 - 274+50	CHURCH ENTRANCE	1
287+75 - 288+50	UTOPIA LANE	1
310+50 - 311+50	BOUSKA ROAD	1
STAGE 2A		
USH 18 EB		
287+50 - 288+50	OLD HWY 18 (EAST)	1
USH 18 WB		
340+50 - 341+75	STH 60	1
ITEM TOTAL		6

DRIVEWAY ITEMS

STATION	LOCATION	416.0160 CONCRETE DRIVEWAY 6-INCH SY	416.0260 CONCRETE DRIVEWAY HES 6-INCH SY
STAGE 1B			
CABIN HILL LANE			
47+14 (CH)	RT	16	
CHURCH ENTRANCE			
61+25 (CE)	LT	12	
STAGE 2A			
USH 18 EB			
200+35 (EB)	RT	20	20
205+00 (EB)	RT	19	19
212+52 (EB)	RT	17	17
223+16 (EB)	RT	22	22
252+64 (EB)	RT	22	22
260+35 (EB)	RT	20	20
GOLF VIEW DRIVE			
120+30 (GV)	RT	12	12
ITEM TOTAL		160	132

DRILLED TIE BARS

STATION	LOCATION	416.0610 EACH
CATEGORY 0010		
STAGE 1B		
USH 18 WB		
200+71.4	LT	3
CHURCH ENTRANCE		
62+14.42	RT	3
STAGE 2A		
USH 18 EB		
200+12.33	RT	3
STAGE 3A		
USH 18 WB		
365+80.69 - 366+08.84	LT	28
STAGE 3B		
USH 18 EB		
365+92.54 - 366+08.56	RT	16
STAGE 4		
USH 18 EB		
197+58.02 - 200+12.33		105
USH 18 WB		
197+58.02 - 200+70.40		128
CATEGORY 0010 SUBTOTAL		286
CATEGORY 0080		
STAGE 2A		
USH 18 EB		
195+96.94	RT	18
CATEGORY 0080 SUBTOTAL		18
ITEM TOTAL		304

3

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

3

DRILLED DOWEL BARS

STATION	LOCATION	416.0620 EACH
STAGE 1B		
USH 18 WB		
200+71.4		20
STAGE 2A		
USH 18 EB		
200+12.33		20
STAGE 4		
USH 18 WB		
197+58.02	RT	3
ITEM TOTAL		43

CONCRETE SURFACE DRAINS

STATION	LOCATION	416.1010 CY
STAGE 1B		
SUGARLOAF TRAIL		
11+15	LT	1.8
11+25	RT	1.5
WARD ROAD		
50+38	LT	2.2
51+16	RT	4.3
CHURCH ENTRANCE		
61+35	LT	2.4
UTOPIA LANE CONNECTION		
70+87	LT	1.4
BOUSKA ROAD		
100+82	LT	1.8
101+00	RT	2.3
NEW FRONTAGE ROAD		
140+80	LT	1.5
140+89	RT	1.1
STAGE 2A		
USH 18 EB		
206+79.30 - 207+11.07	RT	2.9
207+94.49 - 208+04.27	RT	2.4
287+00	RT	1.4
USH 18 WB		
355+50	LT	1.2
OLD HWY 18 EAST		
68+61	LT	0.8
BOUSKA ROAD		
99+50	RT	1.9
STAGE 3A		
USH 18 WB		
365+80.69 - 366+08.81	LT	5.9
STAGE 3B		
USH 18 EB		
365+51.47 - 365+67.57	RT	3.4
ITEM TOTAL		40.2

ASPHALTIC SURFACE TEMPORARY

STATION - STATION	LOCATION	465.0125 TONS
STAGE 1A		
USH 18 EB		
197+59 - 203+00	MEDIAN	195
324+51 - 328+56	MEDIAN	105
USH 18 WB		
337+63 - 344+82	MEDIAN	80
STH 60		
160+70 - 161+60	ISLANDS	55
STAGE 2A		
USH 18 EB		
197+59 - 201+68	MEDIAN	60
287+40 - 288+37	MEDIAN	40
318+15 - 334+27	MEDIAN	475
337+67 - 342+29	ISLAND	105
340+45 - 341+43	MEDIAN	40
352+22 - 354+02	ISLAND	20
354+90 - 359+50	MEDIAN	60
356+58 - 358+61	LT & RT	60
359+75 - 360+00	LT & RT	25
STAGE 2B		
USH 18 WB		
359+75 - 360+00	LT & RT	25
ITEM TOTAL		1345

ASPHALTIC INTERSECTION RUMBLE STRIP

STATION	LOCATION	465.0450 SY
STAGE 2B		
STH 60		
165+10	LT	27
166+50	LT	27
169+38	LT	27
ITEM TOTAL		81

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

3

3

ASPHALTIC CONCRETE PAVEMENT ITEMS

STATION - STATION	LOCATION	455.0105 ASPHALTIC MATERIAL PG58-28 TON	455.0605 TACK COAT GAL	460.1101 HMA PAVEMENT TYPE E-1 TON	465.0105 ASPHALTIC SURFACE TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON
CATEGORY 0010						
STAGE 1B						
USH 18 EB						
332+07 RT	PE					19
354+45 RT	PE					46
SUGARLOAF TRAIL						
11+07.6 - 11+61.5	SUGARLOAF TRAIL	2	11	42		
DRIVEWAY A						
20+32 - 22+48	DRIVEWAY A					65
OLD HWY 18 WEST						
26+90 - 29+49.4	OLD HWY 18	17	84	314		
DRIVEWAY B						
22+30 - 23+70	DRIVEWAY B					42
CABIN HILL LANE						
38+13.7 - 51+00.6	CABIN HILL LANE	50	242	903		
DRIVEWAY H						
8+36.3 - 9+72.6	DRIVEWAY H					41
WARD ROAD						
50+71.5 - 53+32	WARD ROAD	9	46	170		
CHURCH ENTRANCE						
61+26 - 62+14.4	CHURCH ENTRANCE	4	20	73		
UTOPIA LANE CONNECTION						
71+26.3 - 72+24	UTOPIA CONNECTION	5	26	96		
UTOPIA LANE						
80+85 - 86+09	UTOPIA LANE	22	106	396		
80+50 LT	PE					13
82+54 LT	PE					6
84+51 LT	PE				9	9
85+79 LT	PE					6
DRIVEWAY D						
114+40 - 117+83	DRIVEWAY D					106
115+83 RT	PE					41
GOLF VIEW CONNECTION						
99+24 - 998+83.4	GOLF CONNECTION	2	11	41		
GOLF VIEW DRIVE						
117+84 - 126+95.3	GOLF VIEW DRIVE	40	194	726		
119+25 RT	PE				75	
120+29 RT	PE					5
125+85 RT	PE					14
128+50.5 - 129+87	GOLF VIEW DRIVE	5	27	100		
BOUSKA ROAD						
100+75.8 - 103+40	BOUSKA ROAD	12	59	220		
103+57 RT	DRIVEWAY PATCH					1
102+48 RT	PE					5
NEW FRONTAGE ROAD						
141+60.6 - 140+73	FRONTAGE ROAD	5	25	93		
DRIVEWAY E						
143+03 - 148+20	DRIVEWAY E					168
DRIVEWAY F						
141+61 143+76	DRIVEWAY F					69
STAGE 2A						
USH 18 EB						
205+00 RT	PE					13
212+52 RT	PE					13
223+15 RT	PE					5
252+64 RT	PE					6
260+35 RT	PE					16
USH 18 WB						
329+11 LT	PE					100
332+68 LT	PE					16
335+03 LT	PE					47
OLD HWY 18 EAST						
67+29.63 - 68+68	OLD HWY 18 EAST	5	22	82		
68+52	PE					19
DRIVEWAY C						
90+31 - 94+12.7	DRIVEWAY C					120

ASPHALTIC CONCRETE PAVEMENT ITEMS (CONTINUED)

STATION - STATION	LOCATION	455.0105 ASPHALTIC MATERIAL PG58-28 TON	455.0605 TACK COAT GAL	460.1101 HMA PAVEMENT TYPE E-1 TON	465.0105 ASPHALTIC SURFACE TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON
STAGE 2B						
USH 18 WB						
351+47 LT	UPPER BRDGPRT DWY (GAS STATION)					41
STH 60						
163+56.4 - 170+31.4	STH 60	48	311	871		
OLD HWY 60						
180+18.7 - 181+58.2	OLD HWY 60	7	33	124		
UPPER BRIDGEPORT ROAD						
179+82 - 178+19.7	UPPER BRIDGEPORT	9	43	162		
190+94 - 191+56.24	UPPER BRIDGEPORT	9	44	162		
CATEGORY 0010 SUBTOTALS		252	1303	4575	83	1052
CATEGORY 0080						
STAGE 2A						
USH 18 EB						
196+15.6 - 206+90	TRAIL				203	
207+91.1 - 212+00	TRAIL				86	
CATEGORY 0080 SUBTOTALS		0	0	0	289	
ITEM TOTALS		252	1303	4575	372	1052

3

CULVERT PIPE ITEMS

STATION	LOCATION	520.3315 CULVERT PIPE CLASS III-A 15-INCH LF	520.3318 CULVERT PIPE CLASS III-A 18-INCH LF	520.1015 APRON ENDWALLS FOR CULVERT PIPE 15-INCH EACH	520.1018 APRON ENDWALLS FOR CULVERT PIPE 18-INCH EACH	633.5200 CULVERT MARKERS END EACH*	R.C.C.P. CLASS	THICKNESS STEEL	THICKNESS ALUMINUM	INVERT ELEV.** UP	INVERT ELEV.** DOWN
USH 18 WB											
329+03	LT		40		2	2	III	0.064"	0.060"	766.39 (E)	766.24 (W)
335+03	LT		74		2	2	III	0.064"	0.060"	762.19 (W)	761.83 (E)
CABIN HILL LANE											
45+00	LT & RT		64		2	2	III	0.064"	0.060"	688.36 (S)	687.69 (N)
UTOPIA LANE											
82+53	LT	22		2		2	III	0.064"	0.060"	776.51 (E)	776.25 (W)
84+44	LT	30		2		2	III	0.064"	0.060"	777.68 (E)	777.51 (W)
85+79	LT	24		2		2	III	0.064"	0.060"	778.20 (W)	778.01 (E)
GOLF VIEW DRIVE											
125+88	RT	40		2		2	III	0.064"	0.060"	761.00 (E)	760.50 (W)
ITEM TOTAL		116	178	8	6	14					

* ADDITIONAL QUANTITIES LISTED ELSEWI

** ELEVATION LOCATED AT END OF APRON ENDWALL

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

3

CULVERT PIPE TEMPORARY

STATION - STATION	LOCATION	520.4024 24-INCH LF	520.4030 30-INCH LF	520.4036 36-INCH LF
STAGE 1B				
USH 18 EB				
215+39	LT	64		
263+53	LT	105		
266+95	LT		80	
281+93	LT	87		
315+46	LT	98		
339+98	RT	92		
STAGE 3A				
USH 18 EB				
363+14	LT			12
ITEM TOTAL		446	80	12

CONCRETE COLLARS FOR PIPE

STATION	LOCATION	520.8000 EACH
USH 18		
204+02 EB	RT	1
ITEM TOTAL		1

3

CULVERT PIPE REINFORCED CONCRETE

		522.0118	522.0124	522.0130	522.0136	522.0142	522.0172	522.0318	522.0348	523.0158	523.0419
										HORIZONTAL ELLIPTICAL	
		CLASS III						CLASS IV		CLASS HE-III	CLASS HE-IV
		18-INCH	24-INCH	30-INCH	36-INCH	42-INCH	72-INCH	18-INCH	48-INCH	58x91-INCH	19x30-INCH
STATION	LOCATION	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF
USH 18 EB											
216+50	LT & RT					142					
253+25	LT & RT			244							
268+24	LT & RT								340		
295+49	LT & RT				224						
362+14	LT & RT										74
362+20	LT & RT										74
USH 18 WB											
205+50	LT									282	
DRIVEWAY B											
23+51	LT & RT						54				
GOLF VIEW DRIVE											
123+41	LT & RT							54			
124+64	LT & RT							46			
FRONTAGE ROAD											
140+74	LT & RT	76									
UPPER BRIDGEPORT ROAD											
179+39	LT & RT		76								
ITEM TOTAL		76	76	244	224	142	54	100	340	282	148

* ELEVATION LOCATED AT END OF APRON ENDWALL

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

3

APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE

STATION	LOCATION	522.1012 12-INCH EACH	522.1018 18-INCH EACH	522.1024 24-INCH EACH	522.1030 30-INCH EACH	522.1036 36-INCH EACH	522.1042 42-INCH EACH	522.1048 48-INCH EACH	522.1072 72-INCH EACH	523.0519 HORIZONTAL 19x30-INCH EACH	523.0558 ELLIPTICAL 58x91-INCH EACH	633.5200 CULVERT MARKERS END EACH*
USH 18 EB												
216+50	LT & RT						2					2
234+00	RT		1									1
239+65	RT				1							1
253+25	LT & RT				2							2
254+50	RT		1									1
268+24	LT & RT							2				2
295+49	LT & RT					2						2
311+26	RT			1								1
315+23	LT & RT					2						2
323+00	RT		1									1
326+25	RT		1									1
338+54	RT			1								1
341+50	RT	1										1
347+00	RT		1									1
350+84	RT			1								1
353+56	RT		1									1
362+14	LT & RT									2		2
362+20	LT & RT									2		2
USH 18 WB												
205+50	LT										2	2
208+49	LT		1									1
210+95	LT	1										1
213+65	LT	1										1
218+20	LT		1									1
222+12	LT		1									1
226+75	LT		1									1
230+50	LT		1									1
247+26	LT		1									1
264+10	LT		1									1
275+05	RT		1									1
284+39	LT		1									1
287+41	LT			1								1
288+83	LT		1									1
292+01	RT		1									1
294+74	RT		1									1
306+75	LT		1									1
310+16	LT	1										1
333+08	LT	1										1
338+73	LT			1								1
343+00	LT	1										1
351+25	LT			1								1
360+10	LT	1										1
DRIVEWAY B												
23+51	LT & RT								2			2
CABIN HILL LANE												
49+80	RT		1									1
CHURCH ENTRANCE												
61+50	LT					1						1
61+52	RT					1						1
GOLF VIEW DRIVE												
121+71	LT	1										1
123+41	LT & RT		2									2
124+64	LT & RT		2									2
NEW FRONTAGE ROAD												
140+74	LT & RT		2									2
RAMP A												
341+56	LT		1									1
UPPER BRIDGEPORT ROAD												
179+39	LT & RT			2								2
ITEM TOTAL		8	27	8	3	6	2	2	2	4	2	64

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

APRON ENDWALLS SALVAGED ITEMS

STATION	LOCATION	524.0642 APRON ENDWALLS FOR CULVERT PIPE SALVAGED 42-INCH EACH	633.5200 CULVERT MARKERS END EACH*
USH 18			
207+08 EB	RT	1	1
ITEM TOTAL		1	1

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

3

3

CONCRETE CURB & GUTTER ITEMS

STATION - STATION	LOCATION	601.0407 CONCRETE CURB & GUTTER 18-INCH TYPE D LF	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A LF	601.0413 CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G LF	601.0555 CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A LF	601.0557 CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D LF	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D LF	601.0580 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R LF	SPV.0090.01 CONCRETE CURB & GUTTER 6-INCH SLOPED 20-INCH TYPE G LF	SPV.0090.02 CONCRETE CURB & GUTTER HES 6-INCH SLOPED 36-INCH TYPE A LF	SPV.0090.03 CONCRETE CURB & GUTTER HES 30-INCH TYPE D LF
CATEGORY 0010											
STAGE 1B											
USH 18 EB											
201+82.42 - 206+96.5	LT				514						
307+10 - 310+21	LT				312						
311+17 - 313+38.7	LT				454						
311+41 - 314+25	LT				567						
347+50 - 353+85	LT				635						
354+97.8 - 359+42.8	LT				445						
USH 18 WB											
200+71 - 201+77.5	LT				107						
201+77.5 - 207+06.5	LT				529						
201+77.57 - 207+00	RT				523						
208+04 - 211+77.9	RT				374						
213+08 - 230+00	RT				1692						
230+00 - 242+89	RT				1289						
284+34.8 - 287+40.5	RT				612						
288+37 - 290+55	RT				446						
307+10 - 310+21	RT				312						
SUGARLOAF TRAIL											
10+67 - 11+07	LT				61						
10+64 - 11+07	RT				74						
11+07 - 11+24.2	RT					17					
CABIN HILL LANE											
46+70 - 49+50	RT						232				48
39+00 - 43+50	RT						450				
WARD ROAD											
50+35.8 - 50+71.05	LT				51						
50+36.3 - 50+71.05	RT				63						
50+71.05 - 51+12.3	RT					27					
CHURCH ENTRANCE											
60+86 - 61+26	LT				29					25	
60+86 - 61+26	RT				74						
61+26 - 61+46	RT					21					
61+38 - 62+04.5	LT						67				
61+46 - 62+04.5	RT						68				
UTOPIA LANE CONNECTION											
70+85 - 71+25.9	LT				54						
70+85 - 71+25.9	RT				71						
71+25.9 - 71+45.8	RT					21					
GOLF VIEW CONNECTION											
99+24 - 99+64	RT				46						
GOLF VIEW DRIVE											
117+84 - 121+75	RT	42					411				25
BOUSKA ROAD											
100+36 - 100+76	LT				60						
100+36 - 100+76	RT				66						
100+76 - 100+95.4	RT						15				
NEW FRONTAGE ROAD											
140+34 - 140+73	LT				60						
140+34 - 140+73	RT				65						
140+73 - 140+84	RT					10					

3

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

CONCRETE CURB & GUTTER ITEMS (CONTINUED)

STATION - STATION	LOCATION	601.0407 CONCRETE CURB & GUTTER 18-INCH TYPE D LF	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A LF	601.0413 CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G LF	601.0555 CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A LF	601.0557 CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D LF	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D LF	601.0580 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R LF	SPV.0090.01 CONCRETE CURB & GUTTER 6-INCH SLOPED 20-INCH TYPE G LF	SPV.0090.02 CONCRETE CURB & GUTTER HES 6-INCH SLOPED 36-INCH TYPE A LF	SPV.0090.03 CONCRETE CURB & GUTTER HES 30-INCH TYPE D LF
STAGE 2A											
USH 18 EB											
200+12.3 - 200+51.70	RT			40							
200+51.7 - 206+79.3	RT		10		618						
208+01 - 211+78	LT				377						
207+94 - 213+60.5	RT				544					23	
213+08 - 230+00	LT				1663					29	
230+00 - 242+90	LT				1289						
243+72 - 253+00	RT				911					29	
244+18.5 - 247+14.5	LT				296						
257+50 - 260+75	RT				286					39	
284+49 - 287+66	LT				448						
287+07	RT				98						
288+63 - 291+66.9	LT				304						
288+09 - 288+49	RT				54						
302+75 - 310+64	RT				818						
340+52 - 342+28.6	LT							359			
USH 18 WB											
244+18.5 - 247+14.5	RT				296						
288+63.9 - 291+68	RT				304						
342+46.5 - 343+33	LT							196			
355+38.4 - 359+83.8	RT				445						
STH 60											
160+30.7 - 161+52.9	CENTERLINE							220			
UPPER BRIDGEPORT ROAD											
190+24 - 190+64	LT				60						
190+24 - 190+64	RT				67						
190+64 - 190+79	RT					13					
190+64 - 190+91	LT					32					
STAGE 2B											
USH 18 WB											
347+89.6 - 354+25.7	RT				636						
STAGE 4											
USH 18 EB											
197+58 - 201+82.42	LT				253				172		
USH 18 WB											
197+58 - 201+77.57	RT				418				5		
CATEGORY 0010 SUBTOTALS		42	10	40	19765	140	1242	775	177	145	73
CATEGORY 0080											
STAGE 2A											
USH 18 EB											
196+00	RT			25							
CATEGORY 0080 SUBTOTALS		0	0	25	0	0	0	0	0	0	0
ITEM TOTALS		42	10	65	19765	140	1242	775	177	145	73

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

CONCRETE SIDEWALK

STATION - STATION	LOCATION	602.0405 4-INCH SF	602.0415 6-INCH SF
CATEGORY 0010			
USH 18 EB			
197+58 - 206+98	LT	9015	
208+03 - 211+77.5	LT	3148	
213+08 - 230+00	LT	24155	
230+00 - 242+88.5	LT	17792	
244+19 - 247+14	LT	2399	
285+48 - 287+63.7	LT	1504	
288+63 - 291+66.8	LT	2500	
308+23.6 - 310+43	LT	1587	
311+19 - 313+38.7	RT	1587	
311+41.5 314+25	LT	2107	
340+52 - 342+28.6	LT		1270
354+97 - 359+43	LT	2628	
USH 18 WB			
284+34.5 - 287+40.5	RT	2511	
288+40 290+54.6	RT	1504	
307+10 - 310+21	RT	2500	
342+46.5 - 343+33	LT		1140
STH 60			
160+30.7 - 161+52.8	CENTER		558
CATEGORY 0010 SUBTOTALS		74937	2968
CATEGORY 0080			
USH 18 EB			
196+00	RT	189	
204+85 - 205+14	RT		283
212+06	RT	135	
CATEGORY 0080 SUBTOTALS		324	283
ITEM TOTAL		75261	3251

CURB RAMP DETECABLE WARNING FIELD YELLOW

STATION - STATION	LOCATION	602.0505 SF
CATEGORY 0080		
USH 18 EB		
196+00	RT	16
212+06	RT	16
ITEM TOTAL		32

EROSION CONTROL ITEMS

STATION - STATION	LOCATION	606.0200 RIPRAP MEDIUM CY	606.0300 RIPRAP HEAVY CY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.1920 CLEANING SEDIMENT BASINS CY	628.7560.S STONE OR ROCK DITCH CHECKS CY	628.2004 EROSION MAT CLASS 1 TYPE B SY	628.2008 EROSION MAT URBAN CLASS 1 TYPE B SY	628.2027 EROSION MAT CLASS 2 TYPE C SY	628.2037 EROSION MAT CLASS 3 TYPE C SY	628.6510 SOIL STABILIZER TYPE B ACRE	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	645.0120 GEOTEXTILE FABRIC TYPE HR SY	645.0140 GEOTEXTILE FABRIC TYPE SAS SY	SPV .0035.01 TEMPORARY SEDIMENT BASIN CY
STAGE 1B																			
HWY 18 EB																			
324+00 - 345+70	RT			1434	2868					364	2173	1820	364		48				
345+70 - 365+67	RT								104	2139	1250		2139		36			728	
HWY 18 WB																			
195+90.40 - 230+00	LT	53	2627	1037	2074			12	30		5312	205			12	1	5284	112	24
230+00 - 248+00	LT	529	836					4	8.5	923		11599			96		2619	28	8
248+00 - 279+00	LT	55		2301	4602			8	37	2227	3683	7563			152	1	170	196	16
279+00 - 324+00	LT	48		2864	5728			4	20.5	1221	25631	1462			120	2	138	112	8
OLD HWY 18 WEST																			
26+00 - 29+00	LT & RT			504	1008					3315		3363							
CABIN HILL LANE																			
38+00 - 51+00	LT & RT			594	1188					1120		2108				2			
UTOPIA LANE																			
81+00 - 86+00	LT & RT									337		393							
STAGE 2A																			
HWY 18 WB																			
324+00 - 345+70	LT			1652	3304					1087	2567				44	3			
345+70 - 365+67	LT	8		789	1578				40	921			606		48	2	33	280	
HWY 18 EB																			
195+90.40 - 230+00	RT			1285	2570					287	1722				24	1			
230+00 - 248+00	RT	1349	573							874							3898		
248+00 - 279+00	RT	2								606	3545	8003			108	2	8		
279+00 - 324+00	RT	27		1334	2668					1188		3434			36	2	82		
STH 60																			
160+00 - 170+00	LT			670	1340											1			
STAGE 2C																			
195+90.40 - 365+67	LT & RT													2					
STAGE 3A																			
STH 60																			
160+00 - 170+00	LT	7		663	1326												21		
BORROW PIT				5000	10000					5000					500				
UNDISTRIBUTED						8	16												
ITEM TOTAL		2078	4036	20127	40254	8	16	28	240	21609	45883	39950	3109	2	1224	17	12253	1456	56

CONCRETE BARRIER TEMPORARY PRECAST

STATION - STATION	LOCATION	603.8000 DELIVERED LF	603.8125 INSTALLED LF
STAGE 1B			
USH 18 EB			
205+50 - 209+50	LT	400	400
231+00 - 234+00	RT	300	300
239+00 - 242+50	RT	350	350
STAGE 2A			
USH 18 WB			
205+50 - 209+50	LT	400	400
231+00 - 234+00	LT	300	300
238+50 - 242+00	LT	350	350
ITEM TOTAL		2100	2100

COVER PLATES TEMPORARY

STATION - STATION	LOCATION	611.8120.S EACH
STAGE 1B		
USH 18 EB		
341+50	LT	1
STAGE 3A		
USH 18 EB		
359+38	LT	1
ITEM TOTAL		2

SALVAGED INLET COVERS

STATION - STATION	LOCATION	611.9710 EACH
STAGE 1A		
USH 18 EB		
198+23	LT	1
198+29	LT	1
199+23	LT	1
201+03	LT	1
ITEM TOTAL		4

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

3

PIPE UNDERDRAIN

STATION - STATION	LOCATION	612.0106 6-INCH LF	612.0206 UNPERFORATED 6-INCH LF	612.0406 WRAPPED 6-INCH LF	612.0806 APRON ENDWALLS 6-INCH EACH	645.0111 GEOTEXTILE FABRIC TYPE DF SCHEDULE A SY	646.0805.S PAVEMENT MARKING OUTFALL EACH
STAGE 1A							
USH 18 EB							
324+90 - 327+40	LT (MEDIAN)			250			
STAGE 1B							
USH 18 EB							
315+22.53 - 321+82.82	MEDIAN	661	109		2	294	2
336+37.21 - 341+60.34	MEDIAN	534	-		-	237	-
USH 18 WB							
335+00.00 - 336+57.78	RT	158	41		1	70	1
326+25.00 - 327+00.00	LT (MEDIAN)			100			
342+49.60 - 347+90.00	RT	540	-		-	240	-
350+00.00 - 350+75.00	LT (MEDIAN)			100			
STAGE 2A							
USH 18 EB							
323+00.00 - 327+50.00	MEDIAN	450	-		-	200	-
350+83.95 - 353+76.06	LT	295	-		-	131	-
USH 18 WB							
347+90.00 - 349+48.00	RT	176	30		1	78	1
355+38.76 - 359+77.77	RT	443	-		-	197	-
UNDISTRIBUTED				150			
ITEM TOTAL		3257	180	600	4	1447	4

MIDWEST GUARDRAIL SYSTEM

STATION - STATION	LOCATION	614.0396 GUARDRAIL MOW STRIP ASPHALT SY	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EACH
STAGE 4						
USH 18 EB						
205+60 - 206+77	RT		25	39	1	
327+32 - 329+13	LT	138	125		1	1
332+33 - 334+13	LT	138	125		1	1
365+85 - 365+55	RT	154	175	39	1	
USH 18 WB						
208+13 - 209+05	LT	66		39	1	
364+03 - 365+85	LT	104	88	39	1	
ITEM TOTAL		600	538	156	6	2

CRASH CUSHIONS TEMPORARY

STATION - STATION	LOCATION	614.0905 EACH
STAGE 1B		
USH 18 EB		
205+50 - 209+50	LT	2
231+00 - 234+00	RT	2
239+00 - 242+50	RT	2
STAGE 2A		
USH 18 WB		
205+50 - 209+50	LT	2
231+00 - 234+00	LT	2
238+50 - 242+00	LT	2
ITEM TOTAL		12

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

STORM SEWER PIPE ITEMS

STRUCTURE NO.	TO STRUCT.	PIPE NO.	INLET ELEV.	OUTLET ELEV.	608.0312 SSPRC-CLASS III 12-INCH LF	608.0318 SSPRC-CLASS III 18-INCH LF	608.0324 SSPRC-CLASS III 24-INCH LF	608.0336 SSPRC-CLASS III 36-INCH LF	608.0342 SSPRC-CLASS III 42-INCH LF	608.0412 SSPRC-CLASS IV 12-INCH LF	608.0418 SSPRC-CLASS IV 18-INCH LF	608.0424 SSPRC-CLASS IV 24-INCH LF	608.0430 SSPRC-CLASS IV 30-INCH LF	609.0136 RELAID STORM SEWER 36-INCH LF	609.0142 RELAID STORM SEWER 42-INCH LF	* JOINT TIES REQ' D EACH	REMARKS
1	2	P-5	637.72	637.53										197			RELAID 36" STORM PIPE PRIOR TO REMOVAL OF EXCESS EXISTING 36" STORM PIPE
1A	1	P-1	641.87	641.22	24												
1B	1	P-2	639.44	639.40	12												CONNECT PIPE TO EXISTING MH (INCIDENTAL TO PIPE)
1C	1B	P-3	639.57	639.54	7												
1D	1C	P-4	639.84	639.67	36												
2	3	P-12	637.43	637.21					102						129		NEW 42" STORM PIPE SHALL BE ADJUSTED PER EXISTING 42" STORM PIPE QUANTITY
2A	2	P-6	641.59	641.39	24												
2B	2A	P-10	641.76	641.69	10												
2C	2	P-7	640.35	640.08		18											
2D	2C	P-8	641.05	640.85	12												
2E	2D	P-9	641.52	641.05	39												
2F	2C	P-11	640.99	640.85	10												
2G	2D	P-8A	641.22	641.15	10												
3	4	P-13	637.11	636.93											175	6	
5A	5	P-14	644.40	644.00							55					6	
5B	5A	P-15	644.61	644.50							17						
5C	5B	P-16	645.02	644.71							43						
5D	5C	P-17	645.25	645.12						16							
5E	5D	P-18	645.46	645.35						14							
6A	6	P-19	645.36	645.00	56											6	
6B	6A	P-20	645.49	645.46	7												
7A	7	P-21	646.95	643.00	100											6	
7B	7A	P-22	647.13	647.05	6												
8A	8	P-23	644.82	643.60		65										6	
8B	8A	P-24	645.27	644.92		21											
8C	8B	P-25	647.25	645.78	78												
8D	8B	P-26	647.25	654.77	78												
9A	9	P-27	650.76	649.46		82										6	
9B	9A	P-28	652.16	650.86		84											
9C	9B	P-29	652.36	652.26		13											
9D	9C	P-30	652.50	652.34		6											
9E	9D	P-31	652.99	652.60		41											
9F	9E	P-32	653.81	653.49	16												
9G	9F	P-33	654.23	653.91	16												
10A	10	P-34	660.56	659.90							58					6	
10B	10A	P-35	660.74	660.66							10						
10C	10B	P-36	660.92	660.84							9						
10D	10C	P-37	661.47	661.02							41						
10E	10D	P-38	662.18	661.97						16							
10F	10E	P-39	662.49	662.28						16							
10G	10A	P-41	661.27	661.06						16							
10H	10C	P-40	661.63	661.42						16							
11A	11	P-42	664.16	663.65		58										6	
11B	11A	P-43	664.73	664.66	10												
11C	11B	P-44	664.90	664.83	10												
12A	12	P-45	667.00	666.22		66										6	
12B	12A	P-46	667.19	667.10		10											
12C	12B	P-47	667.38	667.29		10											
12D	12C	P-48	667.95	667.48		41											
12E	12D	P-49	668.78	668.45	16												
13A	13	P-200	678.90	678.33		58										6	
13B	13A	P-201	679.47	679.40	10												
13C	13B	P-202	679.64	679.54	10												
14	18	P-51A	689.78	689.54						51							
15	B-12-184	P-203	673.81	670.26		25										2	ALL PIPE JOINTS TO BE TIED
17	16	P-50	685.51	685.26									38			6	
18	17	P-51	688.54	686.01								97					
19	18	P-52	691.19	688.64								97					
20	19	P-53	693.83	691.29								97					
21	20	P-54	695.07	693.93								90					
21A	21	P-56	697.23	695.57							60						
21B	21A	P-57	698.65	697.32							40					6	
21C	21	P-55	695.80	695.58							25						
21D	21C	P-58	697.38	696.30						31							
21E	21D	P-59	698.17	697.48						48							

* NON-BID ITEM (FOR INFORMATION ONLY)

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

STORM SEWER PIPE ITEMS (CONTINUED)

STRUCTURE NO.	TO STRUCT.	PIPE NO.	INLET ELEV.	OUTLET ELEV.	608.0312 SSPRC-CLASS III 12-INCH LF	608.0318 SSPRC-CLASS III 18-INCH LF	608.0324 SSPRC-CLASS III 24-INCH LF	608.0336 SSPRC-CLASS III 36-INCH LF	608.0342 SSPRC-CLASS III 42-INCH LF	608.0412 SSPRC-CLASS IV 12-INCH LF	608.0418 SSPRC-CLASS IV 18-INCH LF	608.0424 SSPRC-CLASS IV 24-INCH LF	608.0430 SSPRC-CLASS IV 30-INCH LF	609.0136 RELAID STORM SEWER 36-INCH LF	609.0142 RELAID STORM SEWER 42-INCH LF	* JOINT TIES REQ' D EACH	REMARKS
21F	21E	P-60	698.34	698.27						6							
21G	21F	P-61	698.63	698.44						16							
22A	22	P-62	706.09	704.63		82										6	
22B	22A	P-63	707.04	706.19		51											
22C	22B	P-64	707.49	707.14		16											
22D	22C	P-65	707.94	707.59		16											
23A	23	P-66	725.96	725.13		84										6	
24A	24	P-67	745.40	744.58		83										6	
25A	25	P-68	756.82	755.86		97										6	
26	26A	P-69	748.02	747.06				122								6	
26B	26	P-70	748.48	748.12				48								6	
26C	26	P-71	753.56	753.32	28												
26D	26C	P-72	753.98	753.66	34												
27A	27	P-73	766.03	765.60							51					6	
27B	27A	P-74	766.27	766.13							19						
27C	27B	P-75	767.45	766.78						114							
27D	27C	P-76	768.45	767.55						153							
27E	27D	P-77	768.63	768.55						16							
27F	27E	P-77A	768.87	768.73						26							
27G	27C	P-78	767.57	767.55						6							
28	28A	P-79	768.88	768.45								99				6	
28B	28	P-80	769.57	769.38							35					6	
28C	28	P-81	769.74	769.48							55						
28D	28C	P-82	769.91	769.84							16						
28E	28D	P-83	770.12	770.01							25						
28F	28E	P-84	770.65	770.62						6							
28G	28E	P-85	771.40	770.62						133							
28H	28G	P-86	771.60	771.50						20							
28I	28H	P-86A	771.80	771.70						20							
29A	29	P-87	768.03	766.28		89										6	
30A	30	P-88	768.33	766.30		103										6	
31A	31	P-89	767.35	767.06							59					6	
32A	32	P-90	759.81	757.50	78											6	
32B	32A	P-91	760.01	759.91	5												
32C	32B	P-92	762.48	762.32	18												
32D	32C	P-93	762.72	762.58	17												
32E	32D	P-94	762.93	762.82	14												
32F	32B	P-95	765.69	763.23	200												
33	34	P-96A	761.17	760.50								77				6	
33A	33	P-96	763.55	761.67							53						
33B	33A	P-97	764.64	763.65							103						
33C	33B	P-98	765.74	764.74							104						
33D	33C	P-99	768.06	766.24						125							
33E	33	P-100	764.12	762.18						71							
33F	33E	P-101	764.67	764.22						11							
35A	35	P-102	760.30	759.35	64											6	
36A	36	P-103	755.29	754.71				84								6	
36B	36A	P-104	755.91	755.39				76								6	
36C	36A	P-105	757.85	756.78		102											
36D	36C	P-106	759.28	758.35	88												
36E	36D	P-107	759.65	759.38	39												
36F	36E	P-108	759.92	759.75	25												
36G	36C	P-109	758.46	758.35	17												
37A	37	P-110	763.18	763.00							54					6	
38A	38	P-111	763.63	763.19							63					6	
39A	39	P-112	758.71	757.56			90									6	
39B	39A	P-113	759.89	758.81			84									6	
40A	40	P-116	761.83	761.30	54											6	
40B	40A	P-117	762.39	761.93	48												
40C	40B	P-118	763.28	762.49	82												

* NON-BID ITEM (FOR INFORMATION ONLY)

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

STORM SEWER PIPE ITEMS (CONTINUED)

STRUCTURE NO.	TO STRUCT.	PIPE NO.	INLET ELEV.	OUTLET ELEV.	608.0312 SSPRC-CLASS III 12-INCH LF	608.0318 SSPRC-CLASS III 18-INCH LF	608.0324 SSPRC-CLASS III 24-INCH LF	608.0336 SSPRC-CLASS III 36-INCH LF	608.0342 SSPRC-CLASS III 42-INCH LF	608.0412 SSPRC-CLASS IV 12-INCH LF	608.0418 SSPRC-CLASS IV 18-INCH LF	608.0424 SSPRC-CLASS IV 24-INCH LF	608.0430 SSPRC-CLASS IV 30-INCH LF	609.0136 RELAID STORM SEWER 36-INCH LF	609.0142 RELAID STORM SEWER 42-INCH LF	* JOINT TIES REQ' D EACH	REMARKS
41A	41	P-115	763.10	762.53		115										6	
41B	41A	P-115A	763.81	763.59	45												
42A	42	P-119	760.47	759.78		70										6	
43A	43	P-120	750.58	750.03			57									6	
43B	43A	P-121	750.82	750.68			18										
43C	43B	P-122	751.47	750.92			57									6	
43D	43B	P-123	757.79	754.39	140												
43E	43D	P-124	758.55	757.89	36												
43F	43E	P-125	759.31	758.65	36												
44A	44	P-126	741.50	741.13		75										6	
44B	44A	P-127	741.62	741.60		7											
44C	44B	P-128	742.03	741.72		65											
44D	44C	P-129	742.22	742.13		19											
45A	45	P-130	717.66	713.54	60											6	
45B	45A	P-131	717.84	717.76	6												
45C	45A	P-132	723.39	717.76	114												
45D	45C	P-133	725.62	723.49	45												
46A	46	P-118A	765.95	765.54						83						6	
200A	200	P-114	763.98	763.28						148						6	
				ITEM TOTAL	1890	1672	306	330	102	1178	995	557	38	197	304	254	

* NON-BID ITEM (FOR INFORMATION ONLY)

STORM SEWER STRUCTURE ITEMS

STRUCTURE NO.	LOCATION	OFFSET	ALIGNMENT	611.0530 MANHOLE COVERS TYPE J EACH	611.8110 ADJUSTING MANHOLE COVERS EACH	SPV.0060.01 INLET COVERS TYPE DWY EACH	SPV.0060.02 INLET COVERS TYPE 12SP EACH	611.0612 INLET COVERS TYPE C EACH	611.0624 INLET COVERS TYPE H EACH	611.0627 INLET COVERS TYPE HM EACH	611.0636 INLET COVERS TYPE HM-S EACH	611.0639 INLET COVERS TYPE H-S EACH	611.0642 INLET COVERS TYPE MS EACH	611.0652 INLET COVERS TYPE T EACH	611.2004 MANHOLES 4-FT DIA. EACH	611.2005 MANHOLES 5-FT DIA. EACH	611.2006 MANHOLES 6-FT DIA. EACH	611.3004 INLETS 4-FT DIA. EACH	611.3230 INLETS 2X3-FT EACH	611.3225 INLETS 2X2.5-FT EACH	611.3901 INLETS MEDIAN 1 GRATE EACH	611.3902 INLETS MEDIAN 2 GRATE EACH	FLOW LINE/ RIM ELEV.	TOP OF STRUCT. ELEV.	STRUCT. DEPTH FEET	TO STRUCT.	INLET ELEV.	OUTLET ELEV.
1	201+02.62	6.1' RT	USH 18 EB		1																		645.51	EXIST	EXIST	2	637.72	637.53
1A	200+99.90	30.3' RT	USH 18 EB							1									1				646.02	645.10	3.40	1	641.87	641.22
1B	201+02.62	5.5' LT	USH 18 EB							1									1				644.98	644.06	4.79	1	639.44	639.40
1C	200+97.77	5.5' RT	USH 18 WB							1									1				645.26	644.34	4.94	1B	639.57	639.54
1D	200+97.80	30.1' LT	USH 18 WB							1									1				643.71	642.79	3.12	1C	639.84	639.67
2	203+00.00	12.0' RT	USH 18 EB	1													1						646.54	645.21	8.16	3	637.43	637.21
2A	203+00.00	35.5' RT	USH 18 EB							1									1				645.96	645.04	3.62	2	641.59	641.39
2B	202+90.00	35.5' RT	USH 18 EB							1									1				645.91	644.99	3.40	2A	641.76	641.69
2C	203+00.00	5.5' LT	USH 18 EB							1									1				646.02	645.10	4.96	2	640.35	640.08
2D	202+94.70	5.5' RT	USH 18 WB							1									1				646.07	645.15	4.27	2C	641.05	640.85
2E	202+94.70	33.5' LT	USH 18 WB							1									1				645.67	644.75	3.40	2D	641.52	641.05
2F	202+90.00	5.5' LT	USH 18 EB							1									1				645.97	645.05	4.23	2C	640.99	640.85
2G	202+84.70	5.5' LT	USH 18 WB							1									1				646.02	645.10	4.05	2D	641.22	641.15
3	205+29.33	35.4' RT	USH 18 EB			1											1						646.85	645.93	9.20	4	637.11	636.93
5A	208+49.04	5.5' RT	USH 18 WB							1									1				648.78	647.86	3.67	5	644.40	644.00
5B	208+49.05	7.8' LT	USH 18 EB							1									1				648.71	647.79	3.39	5A	644.61	644.50
5C	208+49.85	35.5' RT	USH 18 EB							1									1				648.53	647.61	2.80	5B	645.02	644.71
5D	208+33.85	35.5' RT	USH 18 EB							1									1				648.50	647.58	2.50	5C	645.25	645.12
5E	208+19.89	35.1' RT	USH 18 EB							1									1				648.48	647.56	2.27	5D	645.46	645.35
6A	210+95.37	5.5' RT	USH 18 WB							1									1				650.06	649.14	3.95	6	645.36	645.00
6B	210+95.40	17.5' LT	USH 18 EB							1									1				649.75	648.83	3.51	6A	645.49	645.46
7A	213+10.62	18.0' LT	USH 18 WB							1									1				650.91	649.99	3.21	7	646.95	643.00
7B	213+11.06	5.8' LT	USH 18 EB							1									1				650.98	650.06	3.10	7A	647.13	647.05
8A	218+20.03	5.5' RT	USH 18 WB								1								1				652.34	651.42	6.81	8	644.82	643.60
8B	217+17.86	5.5' LT	USH 18 EB								1					1							651.20	650.28	5.22	8A	645.27	644.92
8C	217+40.00	5.5' LT	USH 18 EB								1								1				651.40	650.48	3.40	8B	647.25	645.78
8D	218+96.00	5.5' LT	USH 18 EB								1								1				651.40	650.48	3.40	8B	647.25	654.77
9A	222+50.00	5.5' RT	USH 18 WB							1								1					657.49	656.57	6.02	9	650.76	649.46
9B	223+34.00	5.5' RT	USH 18 WB							1								1					659.19	658.27	6.32	9A	652.16	650.86
9C	223+34.00	11.3' LT	USH 18 EB										1								1		659.29	659.29	7.14	9B	652.36	652.26

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

STORM SEWER STRUCTURE ITEMS (CONTINUED)

STRUCTURE NO.	LOCATION	OFFSET	ALIGNMENT	611.0530 MANHOLE COVERS TYPE J EACH	611.8110 ADJUSTING MANHOLE COVERS EACH	SPV.0060.01 INLET COVERS TYPE DWY EACH	SPV.0060.02 INLET COVERS TYPE 12SP EACH	611.0612 INLET COVERS TYPE C EACH	611.0624 INLET COVERS TYPE H EACH	611.0627 INLET COVERS TYPE HM EACH	611.0636 INLET COVERS TYPE HM-S EACH	611.0639 INLET COVERS TYPE H-S EACH	611.0642 INLET COVERS TYPE MS EACH	611.0652 INLET COVERS TYPE T EACH	611.2004 MANHOLES 4-FT DIA. EACH	611.2005 MANHOLES 5-FT DIA. EACH	611.2006 MANHOLES 6-FT DIA. EACH	611.3004 INLETS 4-FT DIA. EACH	611.3230 INLETS 2X3-FT EACH	611.3225 INLETS 2X2.5-FT EACH	611.3901 INLETS MEDIAN 1 GRATE EACH	611.3902 INLETS MEDIAN 2 GRATE EACH	FLOW LINE/ RIM ELEV.	TOP OF STRUCT. ELEV.	STRUCT. DEPTH FEET	TO STRUCT.	INLET ELEV.	OUTLET ELEV.
9D	223+34.00	5.5' LT	USH 18 EB							1									1				658.90	657.98	5.69	9C	652.50	652.34
9E	223+34.00	35.5' RT	USH 18 EB							1									1				658.94	658.02	5.24	9D	652.99	652.60
9F	223+50.00	35.5' RT	USH 18 EB							1									1				659.20	658.28	4.64	9E	653.81	653.49
9G	223+66.00	35.5' RT	USH 18 EB							1									1				659.50	658.58	4.52	9F	654.23	653.91
10A	226+75.00	5.5' RT	USH 18 WB							1									1				665.74	664.82	4.47	10	660.56	659.90
10B	226+75.00	15.0' LT	USH 18 EB										1								1		665.97	665.97	5.44	10A	660.74	660.66
10C	226+75.00	5.5' LT	USH 18 EB							1									1				665.68	664.76	4.05	10B	660.92	660.84
10D	226+75.00	35.5' RT	USH 18 EB							1									1				665.36	664.44	3.18	10C	661.47	661.02
10E	226+91.00	35.5' RT	USH 18 EB							1									1				665.59	664.67	2.66	10D	662.18	661.97
10F	227+07.00	35.5' RT	USH 18 EB							1									1				665.84	664.92	2.60	10E	662.49	662.28
10G	226+91.00	5.5' RT	USH 18 WB							1									1				665.97	665.05	3.95	10A	661.27	661.06
10H	226+91.00	5.5' LT	USH 18 EB							1									1				665.91	664.99	3.53	10C	661.63	661.42
11A	230+50.00	5.5' RT	USH 18 WB							1									1				669.05	668.13	4.18	11	664.16	663.65
11B	230+50.00	15.0' LT	USH 18 EB										1								1		669.23	669.23	4.67	11A	664.73	664.66
11C	230+50.00	5.5' LT	USH 18 EB							1									1				669.05	668.13	3.40	11B	664.90	664.83
12A	234+00.00	5.5' LT	USH 18 EB							1									1				672.90	671.98	5.19	12	667.00	666.22
12B	234+00.00	15.0' LT	USH 18 EB										1								1		673.15	673.15	6.17	12A	667.19	667.10
12C	234+00.00	5.5' RT	USH 18 WB							1									1				672.90	671.98	4.81	12B	667.38	667.29
12D	234+00.00	35.5' LT	USH 18 WB							1									1				672.58	671.66	3.92	12C	667.95	667.48
12E	234+16.00	35.5' LT	USH 18 WB							1									1				672.94	672.02	3.41	12D	668.78	668.45
13A	237+80.00	5.5' LT	USH 18 EB							1									1				683.75	682.83	4.14	13	678.90	678.33
13B	237+80.00	15.0' LT	USH 18 EB										1								1		684.02	684.02	4.72	13A	679.47	679.40
13C	237+80.00	5.5' RT	USH 18 WB							1									1				683.77	682.85	3.38	13B	679.64	679.54
14	240+93.30	13.1' LT	USH 18 EB							1									1				692.84	691.92	2.31	18	689.78	689.54
15	242+58.00	106.0' LT	USH 18 WB										2									1	677.99	677.99	4.35	B-12-184	673.81	670.26
17	239+96.64	37.5' RT	USH 18 EB							1						1							689.99	689.32	4.10	16	685.51	685.26
18	240+93.30	37.5' RT	USH 18 EB							1					1								692.84	692.17	3.88	17	688.54	686.01
19	241+89.97	37.5' RT	USH 18 EB							1					1								695.70	695.03	4.09	18	691.19	688.64
20	242+86.64	37.5' RT	USH 18 EB							1					1								698.54	697.62	4.04	19	693.83	691.29
21	243+73.59	65.5' RT	USH 18 EB								1						1						700.83	699.91	5.09	20	695.07	693.93
21A	49+35.50	17.5' RT	CABIN HILL LN									1						1					701.04	700.12	3.10	21	697.23	695.57
21C	243+98.00	69.2' RT	USH 18 EB										2									1	698.65	698.65	3.06	21	695.80	695.58
21D	244+01.80	38.0' RT	USH 18 EB							1									1				701.35	700.43	3.22	21C	697.38	696.30
21E	244+22.34	5.8' LT	USH 18 EB							1									1				702.69	701.77	3.77	21D	698.17	697.48
21F	244+22.34	12.2' LT	USH 18 EB							1									1				702.61	701.69	3.52	21E	698.34	698.27
21G	244+38.33	12.5' LT	USH 18 EB							1									1				702.99	702.07	3.61	21F	698.63	698.44
22A	247+26.17	15.2' LT	USH 18 EB										1								1		710.50	710.5	4.62	22	706.09	704.63
22B	247+26.17	35.5' RT	USH 18 EB							1								1					711.87	710.95	4.12	22A	707.04	706.19
22C	247+42.17	35.5' RT	USH 18 EB							1								1					712.34	711.42	4.14	22B	707.49	707.14
22D	247+58.17	35.5' RT	USH 18 EB							1								1					712.82	711.9	4.17	22C	707.94	707.59
23A	254+50.00	25.0' LT	USH 18 EB										1								1		728.95	728.95	3.20	23	725.96	725.13
24A	264+10.00	25.0' LT	USH 18 EB										1								1		748.43	748.43	3.24	24	745.40	744.58
25A	274+62.92	25.0' LT	USH 18 EB										1								1		759.82	759.82	3.21	25	756.82	755.86
26	61+52.50	16.5' RT	CHURCH ENT						1							1							758.74	757.82	10.13	26A	748.02	747.06
26C	61+80.71	16.5' RT	CHURCH ENT									1							1				758.08	757.16	3.77	26	753.56	753.32
26D	61+88.80	16.5' LT	CHURCH ENT									1							1				758.13	757.21	3.40	26C	753.98	753.66
27A	284+39.32	7.5' RT	USH 18 WB							1									1				770.24	769.32	3.50	27	766.03	765.60
27B	284+39.40	23.8' LT	USH 18 EB							1									1				769.91	768.99	2.93	27A	766.27	766.13
27C	285+52.85	13.0' LT	USH 18 EB							1									1				771.02	770.10	2.82	27B	767.45	766.78
27D	287+05.32	18.5' LT	USH 18 EB							1									1				771.89	770.97	2.69	27C	768.45	767.55
27E	287+21.31	18.5' LT	USH 18 EB							1									1				772.17	771.25	2.79	27D	768.63	768.55
27F	287+47.31	21.0' LT	USH 18 EB							1									1				772.33	771.41	2.71	27E	768.87	768.73
27G	285+52.85	7.5' LT	USH 18 EB							1									1				771.08	770.16	2.76	27C	767.57	767.55
28	288+45.41	47.0' LT	USH 18 WB								1					1							773.12	772.20	3.57	28A	768.88	768.45
28C	288+45.81	7.5' RT	USH 18 WB							1									1				773.30	772.38	2.85	28	769.74	769.48
28D	288+45.77	26.5' LT	USH 18 EB							1									1				773.05	772.13	2.43	28C	769.91	769.84
28E	288+67.04	13.9' LT	USH 18 EB							1									1				773.38	772.46	2.55	28D	770.12	770.01
28F	288+67.32	7.5' LT	USH 18 EB							1									1				773.52	772.60	2.12	28E	770.65	770.62
28G	290+00.90	32.8' RT	USH 18 WB							1									1				774.30	773.38	2.15	28E	771.40	770.62
28H	290.20.90	31.7' RT	USH 18 WB							1									1				774.40	773.48	2.05	28G	771.60	771.50
28I	290+40.90	30.6' RT	USH 18 WB							1									1				774.63	773.71	2.08	28H	771.80	771.70
29A	292+00.81	19.0' LT	USH 18 EB										1								1		774.22	774.22	6.40	29	768.03	766.28
30A	294+74.01	25.0' LT	USH 18 EB										2									1	774.31	774.31	6.19	30	768.33	766.30
31A	306+75.00	31.9' LT	USH 18 EB										1								1		770.06	770.06	2.92	31	767.35	767.06
32A	310+16.33	7.5' RT	USH 18 WB							1									1				767.28	766.36	6.72	32	759.81	757.50

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

3

3

STORM SEWER STRUCTURE ITEMS (CONTINUED)

STRUCTURE NO.	LOCATION	OFFSET	ALIGNMENT	611.0530 MANHOLE COVERS TYPE J EACH	611.8110 ADJUSTING MANHOLE COVERS EACH	SPV.0060.01 INLET COVERS TYPE DWY EACH	SPV.0060.02 INLET COVERS TYPE 12SP EACH	611.0612 INLET COVERS TYPE C EACH	611.0624 INLET COVERS TYPE H EACH	611.0627 INLET COVERS TYPE HM EACH	611.0636 INLET COVERS TYPE HM-S EACH	611.0639 INLET COVERS TYPE H-S EACH	611.0642 INLET COVERS TYPE MS EACH	611.0652 INLET COVERS TYPE T EACH	611.2004 MANHOLES 4-FT DIA. EACH	611.2005 MANHOLES 5-FT DIA. EACH	611.2006 MANHOLES 6-FT DIA. EACH	611.3004 INLETS 4-FT DIA. EACH	611.3230 INLETS 2X3-FT EACH	611.3225 INLETS 2X2.5-FT EACH	611.3901 INLETS MEDIAN 1 GRATE EACH	611.3902 INLETS MEDIAN 2 GRATE EACH	FLOW LINE/ RIM ELEV.	TOP OF STRUCT. ELEV.	STRUCT. DEPTH FEET	TO STRUCT.	INLET ELEV.	OUTLET ELEV.
32B	310+16.83	12.9' RT	USH 18 WB							1									1				767.34	766.42	6.58	32A	760.01	759.91
32C	310+27.71	22.3' LT	USH 18 EB								1								1				767.06	766.14	3.83	32B	762.48	762.32
32D	310+44.52	18.5' LT	USH 18 EB								1							1					766.95	766.03	3.48	32C	762.72	762.58
32E	310+35.52	7.5' LT	USH 18 EB							1									1				767.08	766.16	3.40	32D	762.93	762.82
32F	308+17.25	29.5' LT	USH 18 EB							1									1				769.84	768.92	3.40	32B	765.69	763.23
33	310+42.90	76.7' RT	USH 18 EB					1								1							765.29	764.37	3.45	34	761.17	760.50
33A	310+06.76	37.5' RT	USH 18 EB							1								1					767.28	766.36	3.02	33	763.55	761.67
33B	309+03.67	37.5' RT	USH 18 EB							1								1					768.37	767.45	3.02	33A	764.64	763.65
33C	308+00.00	37.5' RT	USH 18 EB							1								1					769.85	768.93	3.40	33B	765.74	764.74
33D	306+75.00	35.5' RT	USH 18 EB							1									1				771.75	770.83	2.94	33C	768.06	766.24
33E	119+78.73	17.5' RT	GOLF VIEW DR						1										1				767.37	766.45	2.50	33	764.12	762.18
33F	119+83.18	28.0' RT	GOLF VIEW DR										1								1		766.90	766.90	2.40	33E	764.67	764.22
35A	121+71.00	17.5' RT	GOLF VIEW DR						1										1				764.16	763.24	3.11	35	760.30	759.35
36A	315+22.53	19.6' LT	USH 18 EB										2									1	762.13	762.13	7.17	36	755.29	754.71
36C	314+20.43	25.3' RT	USH 18 WB							1								1					763.68	762.76	5.12	36A	757.85	756.78
36D	313+34.23	7.5' RT	USH 18 WB							1									1				764.38	763.46	4.35	36C	759.28	758.35
36E	312+95.50	7.5' RT	USH 18 WB							1									1				764.61	763.69	4.21	36D	759.65	759.38
36F	312+95.50	17.8' RT	USH 18 EB							1									1				764.07	763.15	3.40	36E	759.92	759.75
36G	314+20.50	7.5' LT	USH 18 EB							1									1				764.00	763.08	4.79	36C	758.46	758.35
37A	323+00.00	12.9' LT	USH 18 EB										1								1		765.81	765.81	2.84	37	763.18	763.00
38A	326+25.00	18.9' LT	USH 18 EB										1								1		766.26	766.26	2.84	38	763.63	763.19
39A	338+53.98	44.0' LT	USH 18 EB										2									1	763.33	763.33	4.87	39	758.71	757.56
40A	341+50.00	13.3' LT	USH 18 EB										1								1		768.34	768.34	6.68	40	761.83	761.30
40B	341+96.35	25.5' LT	USH 18 EB											1						1			767.34	766.42	4.20	40A	762.39	761.93
40C	342+75.00	44.0' LT	USH 18 EB										1								1		765.70	765.70	2.59	40B	763.28	762.49
41A	161+40.22	47.1' LT	STH 60										1								1		765.79	765.79	2.90	41	763.10	762.53
41B	161+48.35	2.4' LT	STH 60											1						1			767.95	767.03	3.39	41A	763.81	763.59
42A	347+00.00	29.2' LT	USH 18 EB										1								1		764.14	764.14	3.88	42	760.47	759.78
43A	350+84.06	6.5' LT	USH 18 EB							1									1				758.68	757.76	7.43	43	750.58	750.03
43B	351+25.00	5.5' RT	USH 18 WB							1									1				758.29	757.37	6.80	43A	750.82	750.68
43D	349+85.00	5.5' RT	USH 18 WB							1									1				762.08	761.16	3.54	43B	757.79	754.39
43E	349+49.00	5.5' RT	USH 18 WB							1									1				762.79	761.87	3.49	43D	758.55	757.89
43F	349+13.00	5.5' RT	USH 18 WB							1									1				763.46	762.54	3.40	43E	759.31	758.65
44A	353+78.21	17.9' LT	USH 18 EB							1									1				748.46	747.54	6.25	44	741.50	741.05
44B	354+20.68	5.5' RT	USH 18 WB							1									1				748.52	747.60	6.19	44A	741.62	741.60
44C	354+35.37	58.0' LT	USH 18 WB										1								1		744.50	744.50	2.68	44B	742.03	741.72
44D	354+54.45	54.0' LT	USH 18 WB								1								1				746.61	745.69	3.68	44C	742.22	742.13
45A	359+79.27	5.5' RT	USH 18 WB							1									1				722.00	721.08	3.59	45	717.66	713.54
45B	359+38.29	5.5' LT	USH 18 EB							1									1				721.94	721.02	3.35	45A	717.84	717.76
45C	358+65.00	5.5' RT	USH 18 WB							1									1				727.68	726.76	3.54	45A	723.39	717.76
45D	358+20.00	7.8' RT	USH 18 WB							1									1				729.91	728.99	3.54	45C	725.62	723.49
46A	342+58.18	18.5' LT	USH 18 WB											1						1			768.62	767.95	2.17	46	765.95	765.54
100	198+23.13	0.4' LT	USH 18 EB				1																EXIST	EXIST	EXIST	EXIST	EXIST	EXIST
101	198+28.65	0.5' LT	USH 18 EB				1																EXIST	EXIST	EXIST	EXIST	EXIST	EXIST
102	199+22.94	0.5' LT	USH 18 EB				1																EXIST	EXIST	EXIST	EXIST	EXIST	EXIST
200A	331+85.62	22.6' RT	USH 18 WB										1								1		765.98	765.98	2.17	200	763.98	763.28
			ITEM TOTAL	1	1	1	3	1	3	91	9	3	30	3	3	5	3	11	87	3	20	5						

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

3

FENCE SAFETY

STATION - STATION	LOCATION	616.0700.S LF	REMARKS
USH 18 EB			
348+09	RT	76	FOR GEODETIC BPS
CABIN HILL LANE			
47+64 - 48+48	RT	125	FOR SEPTIC FIELD
ITEM TOTAL		201	

CONCRETE CORRUGATED MEDIAN

STATION - STATION	LOCATION	620.0100 SF
STAGE 1B		
USH 18 WB		
212+83 - 213+94	USH18 WB	525
243+93 - 245+03	USH18 WB	525
STAGE 2A		
USH 18 EB		
210+91 - 212+01	USH18 EB	525
242+04 - 243+14	USH18 EB	525
272+59 - 273+69	USH18 EB	738
320+76 - 321+86	USH18 EB	738
USH 18 WB		
355+21 - 356+96	USH18 WB	734
STAGE 2B		
USH 18 WB		
343+08 - 345+33	USH18 WB	1170
STAGE 4		
USH 18 EB		
337+68 - 340+47	USH18 EB	1746
352+22 - 354+02	USH18 EB	788
USH 18 WB		
322+76 - 323+86	USH18 WB	750
ITEM TOTAL		8764

CONCRETE MEDIAN SLOPED NOSE

STATION - STATION	LOCATION	620.0300 SF	TYPE
STAGE 1B			
USH 18 EB			
288+60	LT	58	1
USH 18 WB			
287+44	LT	54	1
290+58	LT	57	1
310+24	LT	44	1
313+42	LT	57	1
STAGE 2A			
USH 18 EB			
211+80	LT	52	1
213+05	LT	52	1
242+91	LT	52	1
244+16	LT	52	1
285+45	LT	57	1
311+38	LT	45	1
340+50	LT	40	1
USH 18 WB			
308+20	LT	57	1
342+49	LT	22	2
342+49	LT	19	2
STH 60			
160+27		46	1
161+56		51	1
STAGE 2B			
USH 18 WB			
343+36	LT	38	1
353+87	LT	52	1
STAGE 3A			
USH 18 EB			
354+95	LT	63	1
359+46	LT	60	1
USH 18 WB			
343+36	LT	38	1
ITEM TOTAL		1061	

WATER

STATION - STATION	LOCATION	624.0100 MGAL
CATEGORY 0010		
STAGE 1A		
USH 18 EB		
197+58.01 - 203+81.44	LT	7
324+51.80 - 328+56.35	LT	4
USH 18 WB		
337+63.07 - 344+84.03	RT	8
STH 60		
160+70.94 - 161+60.40	LT	2
STAGE 1B		
USH 18 EB		
325+00.00 - 347+00.00	LT & RT	209
347+00.00 - 360+00.00	LT & RT	82
USH 18 WB		
200+71.40 - 230+00.00	LT & RT	110
230+00.00 - 248+00.00	LT & RT	73
248+00.00 - 279+00.00	LT & RT	151
279+00.00 - 325+50.00	LT & RT	284
SUGARLOAF TRAIL		
11+07.66 - 11+61.53		3
DRIVEWAY A		
20+32.00 - 22+50.00		2
CABIN HILL LANE		
38+13.74 - 51+00.64		40
DRIVEWAY H		
8+36.26 - 9+79.32		2
OLD HWY 18 WEST		
25+42.00 - 29+31.72		15
DRIVEWAY B		
22+28.46 - 24+00.00		2
WARD ROAD		
50+71.05 - 53+32.00		9
CHURCH ENTRANCE		
61+26.00 - 62+14.42		4
UTOPIA LANE CONNECTION		
71+25.89 - 72+36.00		5
UTOPIA LANE		
80+85.70 - 86+14.56		21
BOUSKA ROAD		
101+26.00 - 103+40.00		10
GOLF VIEW CONNECTION		
99+24.00 - 99+68.22		14
GOLF VIEW DRIVE		
118+13.93 - 126+95.72		39
DRIVEWAY D		
114+41.00 - 117+83.93		5
FRONTAGE ROAD		
141+26.00 - 141+30.69		5
DRIVEWAY E		
143+00.00 - 148+20.00		6
DRIVEWAY F		3
DRIVEWAY G		2
STAGE 2A		
USH 18 EB		
200+12.33 - 230+00.00	LT & RT	117
230+00.00 - 248+00.00	LT & RT	72
248+00.00 - 279+00.00	LT & RT	143
279+00.00 - 325+00.00	LT & RT	273
USH 18 WB		
325+50.00 - 347+00.00	LT	183
347+00.00 - 358+00.00	LT	74
OLD HWY 18 EAST		
67+29.63 - 68+68.00		5
DRIVEWAY C		
90+14+.01 - 94.12.68		4
STH 60		
160+00.00 - 163+56.64	LT & RT	45
RAMP A		
342+50.00 - 344+21.85	RT	4
UPPER BRIDGEPORT ROAD		
177+80.31 - 180+00.00		7
190+94.00 - 191+56.24		8

WATER (CONTINUED)

STATION - STATION	LOCATION	624.0100 MGAL
STAGE 2B		
USH 18 WB		
339+25.00 - 341+87.00	LT	16
STH 60		
163+56.64 - 170+31.57	LT & RT	62
RAMP A		
338+51.11 - 342+50.00	LT & RT	27
OLD STH 60		
180+00.00 - 180+60.77		6
STAGE 3A		
USH 18 WB		
358+00.00 - 366+08.84	LT & RT	40
STAGE 3B		
USH 18 EB		
360+00.00 - 365+67.68	RT	24
STAGE 4		
USH 18 EB		
197+58.00 - 206+98.00	MEDIAN	6
208+03.00 - 209+00.00	MEDIAN	1
232+00.00 - 233+50.00	MEDIAN	1
239+00.00 - 242+00.00	MEDIAN	2
318+00.00 - 332+50.00	MEDIAN	18
340+00.00 - 342+25.00	LT	1
355+00.00 - 359+90.00	MEDIAN	1
USH 18 WB		
322+76.17 - 329+50.00	RT	13
DUST CONTROL		1500
CATEGORY 0010 SUBTOTALS		3770
CATEGORY 0080		
STAGE 2A		
USH 18 EB		
196+15.60 - 212+00.00	TRAIL	9
CATEGORY 0080 SUBTOTALS		9
ITEM TOTALS		3779

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

3

3

TURF ESTABLISHMENT ITEMS

STATION - STATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0130 SEEDING MIXTURE NO. 30 LB	630.0140 SEEDING MIXTURE NO. 40 LB	630.0200 SEEDING TEMPORARY LB	630.0300 SEEDING BORROW PIT LB
CATEGORY 0010								
STAGE 1A								
USH 18 WB								
337+63.07 - 344+84.03	400	400	0.3		11		11	
STAGE 1B								
USH 18 EB								
325+00.00 - 347+00.00	9742	6746	9.4	143	133	40	402	
347+00.00 - 360+00.00	4263	3065	3.7	89	29	23	158	
USH 18 WB								
200+71.40 - 230+00.00	11163	0	9.5	189	88	96	406	
230+00.00 - 248+00.00	16797	6009	12	437	34		516	
248+00.00 - 279+00.00	28194	19204	22.7	497	249	67	970	
279+00.00 - 325+50.00	22636	19040	20	133	153	462	856	
Sugarloaf Trail								
11+07.66 - 11+61.53	474	474	0.4	10	5		17	
Driveway A								
20+32.00 - 22+50.00	482	482	0.5	8	9		21	
Cabin Hill Lane								
38+13.74 - 51+00.64	5603	2375	4.7	118	56		201	
Driveway H								
8+36.26 - 9+79.32	369	369	0.4	6	6		15	
Old Hwy 18 West								
25+42.00 - 29+31.72	3823	3823	2.9	91	20		122	
Driveway B								
22+28.46 - 24+00.00	358	358	0.4	5	8		17	
Ward Road								
50+71.05 - 53+32.00	1981	1981	1.5	46	12		64	
Church Entrance								
61+26.00 - 62+14.42	229	229	0.2	4	4		10	
Utopia Lane Connection								
71+25.89 - 72+36.00	226	226	0.2	4	5		10	
Utopia Lane								
80+85.70 - 86+14.56	899	899	1.2	7	29		50	
Bouska Road								
101+26.00 - 103+40.00	1124	790	1	23	13		42	
Golf View Connection								
99+24.00 - 99+68.22								
Golf View Drive								
118+13.93 - 126+95.72	4296	4105	3.9	82	56		167	
Driveway D								
114+41.00 - 117+83.93	406	406	0.6		18		27	
Frontage Road								
141+26.00 - 141+30.69	334	334	0.5	2	12		20	
Driveway E								
143+00.00 - 148+20.00	1357	1357	1.5	21	27		61	
Driveway F								
Driveway G								
STAGE 2A								
USH 18 EB								
196+50 - 230+00.00	5048	4381	7.7	111	60	31	327	
230+00.00 - 248+00.00	8897	7699	6.7	209	53		288	
248+00.00 - 279+00.00	18069	9079	13.9	389	73	64	595	
279+00.00 - 325+00.00	16155	11361	14	394	137		599	
USH 18 WB								
325+50.00 - 347+00.00	7643	7044	6.5	150	39	46	278	
347+00.00 - 358+00.00	3909	3310	3.3	96	30		141	
Old Hwy 18 East								
67+29.63 - 68+68.00	605	605	0.6	10	10		26	
Driveway C								
90+14+.01 - 94.12.68	100	100	0.6		18		27	
STH 60								
160+00.00 - 163+56.64	2079	2079	1.5	24	27		64	
Ramp A								
342+50.00 - 344+21.85								
Upper Bridgeport Road								
177+80.31 - 180+00.00	521	521	0.6	8	10		23	
190+94.00 - 191+56.24	101	101	0.2		4		7	
STAGE 2B								
USH 18 WB								
339+25.00 - 341+87.00								

TURF ESTABLISHMENT ITEMS (CONTINUED)

STATION - STATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0130 SEEDING MIXTURE NO. 30 LB	630.0140 SEEDING MIXTURE NO. 40 LB	630.0200 SEEDING TEMPORARY LB	630.0300 SEEDING BORROW PIT LB
STH 60								
163+56.64 - 170+31.57	2079	2079	1.5	24	27		64	
Ramp A								
338+51.11 - 342+50.00	7702	7702	5	138	51		214	
Old STH 60								
180+00.00 - 180+60.77	615	615	0.5	13	7		1	
STAGE 3A								
USH 18 WB								
358+00.00 - 366+08.84	2092	2092	1.8	51	18		78	
STAGE 3B								
USH 18 EB								
360+00.00 - 365+67.68	770	770	0.8	17	12		35	
STAGE 4								
USH 18 EB								
197+58.00 - 206+98.00								
208+03.00 - 209+00.00								
232+00.00 - 233+50.00								
239+00.00 - 242+00.00								
318+00.00 - 332+50.00	1719	1719	2.2		62		93	
340+00.00 - 342+25.00								
355+00.00 - 359+90.00								
USH 18 WB								
322+76.17 - 329+50.00								
BARROW PIT		25000					700	700
UNDISTRIBUTED	1975	13393	17	364	161		702	
CATEGORY 0010 SUBTOTALS	195235	172322	181.9	3913	1776	828	8425	700
CATEGORY 0080								
STAGE 2A								
USH 18 EB								
196+50 - 230+00.00	4243	0	2	92	0	0	92	
CATEGORY 0080 SUBTOTALS	4243	0	2	92	0	0	92	
ITEM TOTAL	199478	172322	183.9	4005	1776	828	8517	700

INLET PROTECTION

STATION - STATION	LOCATION	628.7005 TYPE A EACH	628.7010 TYPE B EACH	628.7015 TYPE C EACH
USH 18				
195+90.40 - 230+00	LT & RT	39		39
230+00 - 248+00	LT & RT	26	4	22
248+00 - 279+00	LT & RT	6	3	3
279+00 - 347+00	LT & RT	42	10	32
347+00 - 365+67.68	LT & RT	8		8
CABIN HILL LANE				
38+00 'CH' - 51+00 'CH'	LT & RT			
OLD HWY 18 (WEST)				
26+00 'OW' - 29+00 'OW'	LT & RT			
UTOPIA LANE				
81+00 'DE' - 86+00 'DE'	LT & RT			
BOUSKA ROAD				
101+00 'BR' - 104+00 'BR'	LT & RT			
GOLF VIEW				
115+00 'GV' - 127+00 'GV'	LT & RT	3	1	2
STH 60				
160+00 'HS' - 170+00 'HS'				
ITEM TOTAL		124	18	106

TRACKING PADS

STATION - STATION	LOCATION	628.7560 EACH
USH 18		
UNDISTRIBUTED	LT & RT	8
ITEM TOTAL		8

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

3

3

MARKERS ROW

STATION	LOCATION	633.5100 EACH	POINT NO.
198+51.36'EB'	108.93 LT	1	100
200+01.89'EB'	108.94 LT	1	101
200+01.89'EB'	118.94 LT	1	102
201+40.40'EB'	119.24 LT	1	103
206+02.31'EB'	124.94 LT	1	104
207+02.43'EB'	144.95 LT	1	105
212+05.40'EB'	144.95 LT	1	106
212+04.16'EB'	201.56 LT	1	107
212+70.15'EB'	203.00 LT	1	108
214+35.70'EB'	179.96 LT	1	109
220+83.91'EB'	179.01 LT	1	110
223+00.11'EB'	130.01 LT	1	111
224+42.62'EB'	130.01 LT	1	112
200+60.00'EB'	60.00 RT	1	113
201+02.42'EB'	85.00 RT	1	114
203+95.22'EB'	65.00 RT	1	115
206+77.43'EB'	70.00 RT	1	116
210+75.00'EB'	110.00 RT	1	118
212+00.00'EB'	50.00 RT	1	119
212+35.00'EB'	50.00 RT	1	120
215+50.00'EB'	100.00 RT	1	121
216+50.00'EB'	100.00 RT	1	122
220+90.89'EB'	66.90 RT	1	123
224+64.57'EB'	65.99 RT	1	124
227+40.00'EB'	130.01 LT	1	125
227+40.00'EB'	170.00 LT	1	126
228+75.00'EB'	170.00 LT	1	127
233+00.11'EB'	210.01 LT	1	129
239+00.11'EB'	190.00 LT	1	130
241+70.43'EB'	190.00 LT	1	131
242+60.48'EB'	228.93 LT	1	132
244+28.98'EB'	347.64 LT	1	133
244+77.23'EB'	302.40 LT	1	134
244+78.39'EB'	190.00 LT	1	135
251+05.49'EB'	159.33 LT	1	136
213+65.00'EB'	170.68 LT	1	138
233+11.43'EB'	145.65 RT	1	140
28+16.63'OW'	49.72 RT	1	141
38+34.23'CH'	34.13 RT	1	143
38+34.23'CH'	33.00 RT	1	144
38+82.02'CH'	33.00 RT	1	145
42+00.00'CH'	60.00 RT	1	146
43+25.00'CH'	33.00 RT	1	147
45+00.00'CH'	33.00 RT	1	148
46+14.21'CH'	33.00 RT	1	149
244+90.00'EB'	135.53 RT	1	150
245+15.00'EB'	132.00 RT	1	151
225+00.00'EB'	75.00 RT	1	152
251+36.52'EB'	132.00 RT	1	153
225+25.00'EB'	65.99 RT	1	154
248+75.00'EB'	132.00 RT	1	155
249+50.00'EB'	140.00 RT	1	156
249+75.00'EB'	132.00 RT	1	157
229+50.00'EB'	67.46 RT	1	158
230+00.00'EB'	85.00 RT	1	159
260+96.00'EB'	150.00 LT	1	162
263+00.00'EB'	203.00 LT	1	163
283+18.81'EB'	149.99 LT	1	167
232+29.80'EB'	85.00 RT	1	168
253+96.11'EB'	80.00 RT	1	169
260+33.04'EB'	77.04 RT	1	170
262+50.00'EB'	87.83 RT	1	171
262+50.00'EB'	105.00 RT	1	172
277+41.38'EB'	155.00 LT	1	181
277+62.21'EB'	80.00 RT	1	182
283+90.33'EB'	149.88 LT	1	183
80+33.68'UF'	43.11 LT	1	184
290+47.28'EB'	243.93 LT	1	185
290+58.70'EB'	142.19 LT	1	186
217+49.26'EB'	77.49 RT	1	190
226+75.11'EB'	65.99 RT	1	191
226+75.11'EB'	79.99 RT	1	192
228+75.11'EB'	79.99 RT	1	193
228+75.11'EB'	65.99 RT	1	194
306+61.09'EB'	137.63 LT	1	198

MARKERS ROW (CONTINUED)

STATION	LOCATION	633.5100 EACH	POINT NO.
309+22.73'EB'	137.97 LT	1	199
102+50.98'BR'	55.00 LT	1	201
104+75.00'BR'	40.00 LT	1	202
283+18.81'EB'	75.01 RT	1	204
67+79.25'ON'	31.38 LT	1	206
67+76.48'ON'	45.00 RT	1	207
90+59.55'DC'	20.00 RT	1	208
92+34.76'DC'	20.00 RT	1	209
93+41.96'DC'	10.00 RT	1	210
290+84.61'EB'	84.60 RT	1	212
267+75.00'EB'	203.00 LT	1	213
293+50.00'EB'	96.63 RT	1	214
297+25.00'EB'	130.00 RT	1	216
298+50.00'EB'	103.40 RT	1	217
306+60.90'EB'	102.37 RT	1	218
104+75.00'BR'	50.00 RT	1	220
102+56.79'BR'	50.00 RT	1	221
312+50.21'EB'	170.00 LT	1	223
321+25.00'EB'	170.00 LT	1	224
322+25.00'EB'	220.00 LT	1	225
322+80.00'EB'	210.00 LT	1	226
322+80.00'EB'	129.45 LT	1	227
307+51.35'EB'	102.05 RT	1	235
308+50.96'EB'	120.85 RT	1	236
308+70.00'EB'	170.00 RT	1	237
310+00.00'EB'	161.60 RT	1	238
314+50.96'EB'	161.60 RT	1	239
315+25.76'EB'	207.66 RT	1	240
322+92.75'EB'	119.03 RT	1	241
327+00.00'EB'	76.08 RT	1	242
330+98.69'EB'	55.21 RT	1	243
329+50.00'EB'	62.67 RT	1	244
329+25.00'EB'	80.00 RT	1	245
330+49.36'EB'	118.81 LT	1	248
334+33.02'EB'	181.09 LT	1	250
163+29.79'HS'	55.00 RT	1	253
162+25.09'HS'	55.00 RT	1	254
342+95.87'EB'	224.32 RT	1	255
344+81.24'EB'	173.44 RT	1	256
349+21.30'EB'	105.24 RT	1	257
352+86.26'EB'	102.49 LT	1	258
336+00.00'EB'	65.00 RT	1	262
341+86.45'EB'	65.00 RT	1	264
347+04.37'EB'	114.69 RT	1	265
350+16.16'EB'	97.22 RT	1	266
357+05.07'EB'	106.69 RT	1	267
359+03.56'EB'	85.05 RT	1	268
363+06.52'EB'	120.37 RT	1	269
365+10.38'EB'	90.63 RT	1	271
334+19.77'EB'	65.00 RT	1	272
359+63.46'EB'	144.56 LT	1	275
362+06.18'EB'	65.60 LT	1	276
366+93.94'EB'	60.34 LT	1	277
365+99.16'EB'	94.59 RT	1	278
365+99.62'EB'	84.1 RT	1	279
366+14.53'EB'	84.76 RT	1	280
354+12.24'EB'	97.57 RT	1	282
345+45.98'EB'	163.52 RT	1	283
346+63.62'EB'	146.56 LT	1	284
82+14.94'UF'	42.18 LT	1	285
83+00.00'UF'	43.55 LT	1	286
86+05.00'UF'	33.00 LT	1	287
86+25.00'UF'	7.73 LT	1	288
298+50.00'EB'	136.6 LT	1	291
206+16.01'EB'	70.00 RT	1	292
217+00.00'EB'	76.26 RT	1	293
212+70.67'EB'	65.00 RT	1	294
207+77.43'EB'	70.00 RT	1	295
208+25.00'EB'	70.00 RT	1	296
209+75.00'EB'	110.00 RT	1	297

MARKERS ROW (CONTINUED)

STATION	LOCATION	633.5100 EACH	POINT NO.
233+65.59'EB'	165.00 RT	1	298
26+00.00'OW'	313.56 RT	1	299
26+50.00'OW'	34.72 RT	1	300
67+25.00'ON'	31.87 LT	1	302
286+80.03'EB'	80.00 RT	1	303
67+25.00'ON'	45.00 RT	1	304
212+71.22'EB'	155.37 LT	1	305
271+50.00'EB'	160.65 LT	1	307
273+00.00'EB'	175.00 LT	1	308
264+00.00'EB'	135.00 RT	1	310
274+75.00'EB'	135.00 RT	1	311
277+00.00'EB'	80.00 RT	1	312
256+00.00'EB'	150.00 LT	1	313
364+14.33'EB'	60.50 LT	1	314
273+75.00'EB'	155.00 LT	1	315
278+50.01'EB'	149.99 LT	1	316
278+00.00'EB'	155.00 LT	1	317
279+50.00'EB'	80.00 RT	1	318
280+00.00'EB'	75.01 RT	1	319
295+50.00'EB'	130.00 RT	1	320
285+00.00'EB'	80.00 RT	1	321
284+50.00'EB'	75.40 RT	1	322
303+79.02'EB'	136.50 LT	1	323
304+24.98'EB'	103.38 RT	1	324
46+99.36'CH'	33.00 RT	1	325
46+92.44'CH'	72.54 RT	1	326
47+24.95'CH'	78.22 RT	1	327
47+32.86'CH'	33.00 RT	1	328
213+75.00'EB'	65.00 RT	1	329
200+11.21'EB'	65.00 RT	1	330
200+24.11'EB'	85.00 RT	1	331
197+00.00'EB'	85.00 RT	1	332
196+02.44'EB'	70.00 RT	1	333
230+75.00'EB'	149.98 LT	1	334
337+00.00'EB'	80.00 RT	1	335
337+55.00'EB'	75.00 RT	1	336
338+25.00'EB'	95.00 RT	1	337
339+15.00'EB'	105.00 RT	1	338
337+80.00'EB'	78.00 RT	1	339
335+00.00'EB'	55.00 RT	1	340
342+50.00'EB'	50.00 RT	1	341
343+00.00'EB'	60.00 RT	1	342
344+50.00'EB'	55.11 RT	1	877
198+87.39'EB'	109.70 RT	1	904
195+99.45'EB'	108.91 RT	1	905
306+86.61'EB'	137.97 LT	1	925
332+48.19'EB'	75.12 RT	1	930
346+00.00'EB'	89.36 RT	1	932
206+77.43'EB'	85.05 RT	1	934
207+77.43'EB'	85.05 RT	1	933
283+80.68'EB'	183.59 RT	1	1217
318+67.61'EB'	197.55 RT	1	1264
318+65.48'EB'	118.81 RT	1	1265
162+94.50'HS'	161.56 RT	1	1512
ITEM TOTALS		199	

3

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

3

PERMANENT SIGNING ITEMS

SIGN NO.	SIGN CODE	SIGN MESSAGE	SIZE	637.1220 SIGNS TYPE I REFLECTIVE SH SF	637.2210 SIGNS TYPE II REFLECTIVE H SF	637.2220 SIGNS TYPE II REFLECTIVE SH SF	637.2230 SIGNS TYPE II REFLECTIVE F SF	634.0612 POSTS WOOD 4" X 6" 12-FT EACH	634.0614 POSTS WOOD 4" X 6" 14-FT EACH	634.0616 POSTS WOOD 4" X 6" 16-FT EACH	634.0618 POSTS WOOD 4" X 6" 18-FT EACH	634.0620 POSTS WOOD 4" X 6" 20-FT EACH	634.06 POSTS WOOD 4" X 6" 22-FT EACH	634.0624 POSTS WOOD 4" X 6" 24-FT EACH	634.0805 POSTS TUBULAR STEEL 2" X 2" 5-FT EACH	634.0811 POSTS TUBULAR STEEL 2" X 2" 11-FT EACH	634.0814 POSTS TUBULAR STEEL 2" X 2" 14-FT EACH	REMARKS
1-1	J4-3	USH 18 EAST/STH 35 SOUTH/STH 60 EAST	108 X 54		40.50						2							
1-2	J4-2	SOUTH GRT RVR RD/AMERICA'S BYWAYS	72 X 54		27.00						2							
1-3	D1-2	S TOWN LN/SELCH RD	96 X 36		24.00						2							
1-4	R6-2R	ONE WAY	24 X 30		5.00				1									
1-5	W3-3	SIGNAL AHEAD	36 X 36				9.00			1								
1-6	W3-3	SIGNAL AHEAD	36 X 36				9.00			1								
1-7	R2-1	SPEED LIMIT 45	36 X 48		12.00					1								
1-8	D1-1	SUGARLOAF TRAIL	108 X 21		15.75											2		
1-9	R3-20L	BEGIN LEFT TURN LANE	36 X 54		13.5					1								
2-1	R2-1	SPEED LIMIT 45	36 X 48		12.00					1								
2-2	R1-1	STOP	36 X 36		7.46						1							
	R6-3A	DIVIDED HIGHWAY	30 X 24		5.00													
2-3	R6-1-L	ONE WAY	36 X 12		3.00													
2-4	R4-7	KEEP RIGHT	36 X 48		12.00												1	
2-5	R5-1	DO NOT ENTER	36 X 36		9.00					1								
2-6	R2-1	SPEED LIMIT 25	24 X 30		5.00				1									
2-7	R6-2L	ONE WAY	24 X 30		5.00				1									
2-8	R5-1	DO NOT ENTER	36 X 36		9.00					1								
2-9	R4-7	KEEP RIGHT	36 X 48		12.00												1	
2-10	R5-1A	WRONG WAY	42 X 30		8.75				1									
2-11	D2-3	WAUZEKA/FENNIMORE/LANCASTER	108 X 48		36.00						2							
2-12	R3-20L	BEGIN LEFT TURN LANE	36 X 54		13.50					1								
2-13	R2-1	SPEED LIMIT 45	36 X 48		12.00					1								
2-14	D1-1	SUGARLOAF TRAIL	108 X 21		15.75				2									
3-1	R6-2R	ONE WAY	24 X 30		5.00				1									
3-2	R2-1	SPEED LIMIT 45	36 X 48		12.00					1								
3-3	R6-2R	ONE WAY	24 X 30		5.00				1									
3-4	R2-1	SPEED LIMIT 45	36 X 48		12.00					1								
3-5	W5-56	END OF ROADWAY MARKER	18 X 18			2.25		1										
	W5-56	END OF ROADWAY MARKER	18 X 18			2.25		1										
	W5-56	END OF ROADWAY MARKER	18 X 18			2.25		1										
3-6	D1-2	WARD RD/CABIN HILL LN	114 X 36		28.50					1	1							
4-1	R3-20L	BEGIN LEFT TURN LANE	36 X 54		13.50					1								
4-2	R2-1	SPEED LIMIT 45	24 X 30		5.00				1									
4-3	W3-5	REDUCED SPEED LIMIT AHEAD	36 X 36				9.00			1								
4-4	R2-1	SPEED LIMIT 25	24 X 30		5.00				1									
4-5	W3-1	STOP AHEAD	36 X 36				9.00			1								
4-6	R5-1A	WRONG WAY	42 X 30		8.75				1									
4-7	R2-1	SPEED LIMIT 25	24 X 30		5.00				1									
4-8	R2-1	SPEED LIMIT 45	36 X 48		12.00					1								
4-9	R4-7	KEEP RIGHT	36 X 48		12.00												1	
4-10	R1-1	STOP	36 X 36		7.46					1								
	R6-3	DIVIDED HIGHWAY	30 X 24		5.00													
4-11	R6-1L	ONE WAY	36 X 12		3.00													MOUNT WITH SIGN NO. 4-10
4-12	R5-1	DO NOT ENTER	36 X 36		9.00					1								
4-13	R1-1	STOP	30 X 30		5.18				1									
4-14	W1-7	TWO DIRECTION LARGE ARROW	48 X 24				8.00		1									
4-15	R6-1L	ONE WAY	36 X 12		3.00													MOUNT WITH SIGN NO. 4-19
4-16	R5-1	DO NOT ENTER	36 X 36		9.00					1								
4-17	R4-7	KEEP RIGHT	36 X 48		12.00												1	
4-18	R1-1	STOP	30 X 30		5.18				1									
4-19	R1-1	STOP	30 X 30		5.18					1								
	R6-3	DIVIDED HIGHWAY	30 X 24		5.00													
4-20	R5-1A	WRONG WAY	42 X 30		8.75				1									
4-21	I55-56	ADOPT A HIGHWAY	30 X 36		7.50					1								
4-22	I55-56	ADOPT A HIGHWAY	30 X 36		7.50					1								
4-23	R3-20L	BEGIN LEFT TURN LANE	36 X 54		13.50					1								
4-24	R2-1	SPEED LIMIT 45	36 X 48		12.00					1								
4-25	D1-2	CABIN HILL LN/WARD RD	114 X 36		28.50					1	1							
4-26	R6-2R	ONE WAY	24 X 30		5.00				1									

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

PERMANENT SIGNING ITEMS (CONTINUED)

				637.1220	637.2210	637.2220	637.2230	634.0612	634.0614	634.0616	634.0618	634.0620	634.06	634.0624	634.0805	634.0811	634.0814	
				SIGNS TYPE I REFLECTIVE SH	SIGNS TYPE II REFLECTIVE H	SIGNS TYPE II REFLECTIVE SH	SIGNS TYPE II REFLECTIVE F	POSTS WOOD 4" X 6"							POSTS TUBULAR STEEL 2" X 2"			
SIGN NO.	SIGN CODE	SIGN MESSAGE	SIZE	SF	SF	SF	SF	12-FT EACH	14-FT EACH	16-FT EACH	18-FT EACH	20-FT EACH	22-FT EACH	24-FT EACH	5-FT EACH	11-FT EACH	14-FT EACH	REMARKS
5-1	R2-1	SPEED LIMIT 45	36 X 48		12.00					1								
5-2	R2-1	SPEED LIMIT 45	36 X 48		12.00					1								
5-3	R2-1	SPEED LIMIT 55	36 X 48		12.00					1								
5-4	R6-2R	ONE WAY	24 X 30		5.00				1									
5-5	W3-5	REDUCED SPEED LIMIT AHEAD	36 X 36				9.00			1								
5-6	R6-2R	ONE WAY	24 X 30		5.00				1									
5-7	R3-20L	BEGIN LEFT TURN LANE	36 X 54		13.50					1								
6-1	R4-7	KEEP RIGHT	36 X 48		12.00					1								
6-2	R6-2R	ONE WAY	24 X 30		5.00				1									
6-3	R5-1	DO NOT ENTER	36 X 36		9.00					1								
6-4	R4-7	KEEP RIGHT	36 X 48		12.00					1								
6-5	R6-2L	ONE WAY	24 X 30		5.00				1									
6-6	R5-1A	WRONG WAY	42 X 30		8.75				1									
6-7	R3-20L	BEGIN LEFT TURN LANE	36 X 54		13.50					1								
6-8	D1-2	UTOPIA LN/OLD HWY 18	102 X 36		25.50					1	1							
7-1	R5-1A	WRONG WAY	42 X 30		8.75											1		
7-2	R4-7	KEEP RIGHT	36 X 48		12.00												1	
7-3	R6-1R	ONE WAY	36 X 12		3.00						1							
	R1-1	STOP	36 X 36		7.46													
	R6-3	DIVIDED HIGHWAY	30 X 24		5.00													
7-4	R5-1	DO NOT ENTER	36 X 36		9.00											1		
7-5	W14-1	DEAD END	30 X 30				6.25			1								
7-6	R6-1L	ONE WAY	36 X 12		3.00													MOUNT WITH SIGN NO. 7-3
7-7	R5-1	DO NOT ENTER	36 X 36		9.00											1		
7-8	R4-7	KEEP RIGHT	36 X 48		12.00												1	
7-9	R6-1L	ONE WAY	36 X 12		3.00						1							MOUNT WITH SIGN NO. 7-10
7-10	R6-1R	ONE WAY	36 X 12		3.00													
	R1-1	STOP	36 X 36		7.46													
	R6-3	DIVIDED HIGHWAY	30 X 24		5.00													
7-11	R5-1A	WRONG WAY	42 X 30		8.75											1		
7-12	D1-2	OLD HWY 18/UTOPIA LN	102 X 36		25.50					1	1							
7-13	R3-20L	BEGIN LEFT TURN LANE	36 X 54		13.50					1								
8-1	R3-20L	BEGIN LEFT TURN LANE	36 X 54		13.50					1								
8-2	D1-2	BOUSKA RD/OLD SCHOOL LN	120 X 36		30.00					2								
8-3	R5-1A	WRONG WAY	42 X 30		8.75				1									
8-4	R4-7	KEEP RIGHT	36 X 48		12.00												1	
8-5	R6-1R	ONE WAY	36 X 12		3.00						1							
	R1-1	STOP	36 X 36		7.46													
	R6-3	DIVIDED HIGHWAY	30 X 24		5.00													
8-6	R6-1L	ONE WAY	36 X 12		3.00													MOUNT WITH SIGN NO. 8-5
8-7	R5-1	DO NOT ENTER	36 X 36		9.00												1	
8-8	R2-1	SPEED LIMIT 55	24 X 30		5.00				1									
8-9	R5-1	DO NOT ENTER	36 X 36		9.00												1	
8-10	R4-7	KEEP RIGHT	36 X 48		12.00												1	
8-11	R6-1L	ONE WAY	36 X 12		3.00													MOUNT WITH SIGN NO. 8-14
8-12	R1-1	STOP	30 X 30		5.18				1									
8-13	W1-7	TWO DIRECTION LARGE ARROW	48 X 24				8.00		2									
8-14	R6-1R	ONE WAY	36 X 12		3.00						1							
	R1-1	STOP	36 X 36		7.46													
	R6-3	DIVIDED HIGHWAY	30 X 24		5.00													
8-15	R1-1	STOP	30 X 30		5.18				1									
9-1	R5-1A	WRONG WAY	42 X 30		8.75				1									
9-2	R1-1	STOP	30 X 30		5.18				1									
9-3	D1-2	OLD SCHOOL LN/BOUSKA RD	120 X 36		30.00					1	1							
9-4	I2-3	BRIDGEPORT	66 X 24		11.00				2									
9-5	R1-1	STOP	36 X 36		7.46					1								
	R6-3	DIVIDED HIGHWAY	30 X 24		5.00													
9-6	W14-1	DEAD END	30 X 30				6.25			1								
9-7	R4-7	KEEP RIGHT	36 X 48		12.00					1								
9-8	R6-2L	ONE WAY	24 X 30		5.00				1									
9-9	R4-7	KEEP RIGHT	36 X 48		12.00					1								
9-10	R5-1	DO NOT ENTER	36 X 36		9.00					1								
9-11	JV	EAST STH 60 USE LEFT LANE	36 X 90		22.50							2						
9-12	R5-1A	WRONG WAY	42 X 30		8.75				1									
9-13	JV	EAST STH 60/EAST USH 18/SOUTH STH 35	108 X 150		112.50									2				

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

PERMANENT SIGNING ITEMS (CONTINUED)

SIGN NO.	SIGN CODE	SIGN MESSAGE	SIZE	637.1220 SIGNS TYPE I REFLECTIVE SH SF	637.2210 SIGNS TYPE II REFLECTIVE H SF	637.2220 SIGNS TYPE II REFLECTIVE SH SF	637.2230 SIGNS TYPE II REFLECTIVE F SF	634.0612 POSTS WOOD 4" X 6" 12-FT EACH	634.0614 14-FT EACH	634.0616 16-FT EACH	634.0618 18-FT EACH	634.0620 20-FT EACH	634.06 22-FT EACH	634.0624 24-FT EACH	634.0805 POSTS TUBULAR STEEL 2" X 2" 5-FT EACH	634.0811 11-FT EACH	634.0814 14-FT EACH	REMARKS
10-1	R3-7L	LEFT LANE MUST TURN LEFT	36 X 36		9.00					1								
10-2	D15-1	EAST STH 60	36 X 90	22.50														
10-3	R5-1	DO NOT ENTER	36 X 36		9.00					1								
10-4	R6-2R	ONE WAY	24 X 30		5.00				1									
10-5	D1-3	FENNIMORE/LANCASTER/WAUZEKA	96 X 48		32.00						2							
10-6	R5-1A	WRONG WAY	42 X 30		8.75													MOUNT WITH SIGN NO. 10-7
10-7	D2-1	PRAIRIE DU CHIEN	132 X 21		19.25				1	2								
10-8	R6-2R	ONE WAY	24 X 30		5.00				1									
10-9	R6-2R	ONE WAY	24 X 30		5.00				1									
10-10	R2-1	SPEED LIMIT 55	36 X 48		12.00					1								
10-11	J3-2	EAST STH 60/SCENIC BYWAY	72 X 84		42.00							2						
10-12	J3-4	EAST USH 18/SOUTH STH 35/STH GRT RVR RD	144 X 84		84.00							3						
10-13	D15-1	EAST STH 60	36 X 90	22.50														
10-14	R6-2R	ONE WAY	24 X 30		5.00				1									
10-15	R5-1	DO NOT ENTER	36 X 36		9.00					1								
10-16	J4-3	NORTH GRT RVR RD/SCENIC BYWAY	108 X 54		40.50						2							
10-17	J4-3	WEST USH 18/NORTH STH 35/WEST STH 60	108 X 54		40.50						2							
10-18	J3-2	EAST STH 60/SCENIC BYWAY	72 X 84		42.00							2						
10-19	R5-1A	WRONG WAY	42 X 30		8.75				1									
10-20	W4-3R	ADDED LANE	36 X 36				9.00			1								
10-21	J3-4	EAST USH 18/SOUTH STH 35/STH GRT RVR RD	96 X 57		38.00						2							
10-22	R1-1	STOP	36 X 36		7.46						1							
	R6-3	DIVIDED HIGHWAY	30 X 24		5.00													
10-23	R4-7	KEEP RIGHT	24 X 30		5.00											1		REMOVABLE POST
10-24	R4-7	KEEP RIGHT	24 X 30		5.00											1		REMOVABLE POST
10-25	W12-1D	DOUBLE DOWN ARROWS	24 X 24				4.00								1			REMOVABLE POST
10-26	W12-1D	DOUBLE DOWN ARROWS	30 X 30				6.25								1			REMOVABLE POST
10-27	R5-1	DO NOT ENTER	36 X 36		9.00					1								
10-28	R4-7	KEEP RIGHT	36 X 48		12.00											1		REMOVABLE POST
10-29	R6-2L	ONE WAY	24 X 30		5.00											1		REMOVABLE POST
10-30	R4-7	KEEP RIGHT	36 X 48		0.00												1	REMOVABLE POST
10-31	R5-1	DO NOT ENTER	36 X 36		9.00					1								
10-32	R1-1	STOP	36 X 36		7.46												1	REMOVABLE PSOT
11-1	W12-1D	DOUBLE DOWN ARROWS	24 X 24				4.00								1			REMOVABLE PSOT
11-2	R5-1A	WRONG WAY	36 X 24		6.00				1									
11-3	J4-2	EAST USH 18/SOUTH STH 35	48 X 36		12.00					1								
11-4	J4-2	SOUTH GRT RVR RD/AMERICA'S BYWAYS	48 X 36		12.00					1								
11-5	J3-2	EAST STH 60/SCENIC BYWAY	48 X 57		19.00						1							
11-6	R2-1	SPEED LIMIT 55	24 X 30		5.00				1									
11-7	R3-20R	BEGIN RIGHT TURN LANE	24 X 36		6.00					1								
11-8	D1-2	PRAIRIE DU CHIEN/WAUZEKA	102 X 30		21.25					2								
11-9	D1-1	UPPER BRIDGEPORT RD	126 X 15		13.13					2								
11-10	R3-20L	BEGIN LEFT TURN LANE	24 X 36		6.00					1								
11-11	JV	EAST USH 18/NORTH STH 35/WEST STH 60/NRTH GRT RVR F	72 X 102		51.00								2					
11-12	R6-2R	ONE WAY	24 X 30		5.00				1									
11-13	R5-1	DO NOT ENTER	30 X 30		6.25				1									
11-14	D2-3	PATCH GROVE/FENNIMORE/LANCASTER	120 X 48		40.00						2							
11-15	R5-1A	WRONG WAY	36 X 24		6.00													MOUNT WITH SIGN NO. 11-14
11-16	J2-2	EAST STH 60	48 X 57		19.00						2							
11-17	R1-1	STOP	30 X 30		5.18					1								
	R6-3	DIVIDED HIGHWAY	30 X 24		5.00													
11-18	R6-1L	ONE WAY	36 X 12		3.00													MOUNT WITH SIGN NO. 11-17
11-19	R4-7	KEEP RIGHT	24 X 30		5.00											1		
11-20	R5-1	DO NOT ENTER	30 X 30		6.25				1									
11-21	R2-1	SPEED LIMIT 25	24 X 30		5.00				1									
11-22	R4-7	KEEP RIGHT	24 X 30		5.00				1									
11-23	R6-2L	ONE WAY	24 X 30		5.00											1		
11-24	R5-1	DO NOT ENTER	30 X 30		6.25				1									
11-25	W6-2	END DIVIDED HIGHWAY	36 X 36				9.00			1								
11-26	R5-1A	WRONG WAY	36 X 24		6.00													MOUNT WITH SIGN NO. 11-25

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

3

PERMANENT SIGNING ITEMS (CONTINUED)

SIGN NO.	SIGN CODE	SIGN MESSAGE	SIZE	637.1220 SIGNS TYPE I REFLECTIVE SH SF	637.2210 SIGNS TYPE II REFLECTIVE H SF	637.2220 SIGNS TYPE II REFLECTIVE SH SF	637.2230 SIGNS TYPE II REFLECTIVE F SF	634.0612 POSTS WOOD 4" X 6" 12-FT EACH	634.0614 POSTS WOOD 4" X 6" 14-FT EACH	634.0616 POSTS WOOD 4" X 6" 16-FT EACH	634.0618 POSTS WOOD 4" X 6" 18-FT EACH	634.0620 POSTS WOOD 4" X 6" 20-FT EACH	634.06 POSTS WOOD 4" X 6" 22-FT EACH	634.0624 POSTS WOOD 4" X 6" 24-FT EACH	634.0805 POSTS TUBULAR STEEL 2" X 2" 5-FT EACH	634.0811 POSTS TUBULAR STEEL 2" X 2" 11-FT EACH	634.0814 POSTS TUBULAR STEEL 2" X 2" 14-FT EACH	REMARKS
11-27	J1-2	JCT STH 60	48 X 39		13.00					2								
11-28	R5-1A	WRONG WAY	36 X 24		6.00				1									
11-29	D7-52	WYALUSING STATE PARK	54 X 42		15.75					2								
12-1	R4-7	KEEP RIGHT	24 X 30		5.00				1									
12-2	R5-1	DO NOT ENTER	30 X 30		6.25				1									
12-3	R3-20R	BEGIN RIGHT TURN LANE	24 X 36		6.00					1								
12-4	I2-3	BRIDGEPORT	66 X 24		11.00				2									
12-5	D1-1	UPPER BRIDGEPORT RD	126 X 15		13.13				2									
12-6	D7-54	BOAT LANDING	48 X 36		12.00					1								
12-7	W6-3	TWO WAY TRAFFIC	36 X 36				9.00			1								
12-8	I55-56	ADOPT A HIGHWAY	30 X 36		7.50					1								
12-9	W6-1	BEGIN DIVIDED HIGHWAY	36 X 36				9.00			1								
12-10	I2-2	GRANT CO	54 X 15		5.63					2								
	I3-1A	WISCONSIN RIVER	36 X 21		5.25													
12-11	W14-3	NO PASSING ZONE	48 X 36				6.00											MOUNT WITH SIGN NO. 12-10
13-1	J2-4	WEST USH 18/NORTH STH 35/WEST STH 60	96 X 57		38.00						2							
13-2	J4-2	EAST STH 60/SCENIC BYWAY	48 X 36		12.00					1								
13-3	R2-1	SPEED LIMIT 25	24 X 30		5.00				1									
13-4	R1-1	STOP	30 X 30		5.18				1									
13-5	R1-1	STOP	30 X 30		5.18				1									
13-6	D1-3	FENNIMORE/LANCASTER/PRAIRIE DU CHIEN	132 X 48		44.00						2							
13-7	R2-1	SPEED LIMIT 55	24 X 30		5.00				1									
13-8	W3-1	STOP AHEAD	36 X 36				9.00			1								
13-9	W3-1	STOP AHEAD	36 X 36				9.00			1								
13-10	J2-3	EAST USH 18/SOUTH STH 35/STH GRT RVR RD	72 X 57		28.50						2							
13-11	D2-2	WAUZEKA/SAUK CITY	102 X 36		30.00					1	1							
13-12	J2-4	WEST USH 18/NORTH STH 35/WEST STH 60	96 X 57		38.00						2							
13-13	J1-4	JCT USH 18/STH 35/GRT RVR RD/END SCENIC BYWAY	96 X 39		26.00						2							
ITEM TOTAL				45.00	2362.39	6.75	147.75	3	59	81	43	9	2	2	3	12	12	

3

MOVING SIGN ITEMS

STATION - STATION	LOCATION	638.2102 MOVING SIGNS TYPE II EACH	638.4000 MOVING SMALL SIGN SUPPORTS EACH	REMARKS
STAGE 1B				
USH 18 EB				
331+00	LT	12	2	EXISTING SIGNS TO BE MOVED PRIOR TO TRAFFIC CONTROL STAGE
339+90	LT	12	2	EXISTING SIGNS TO BE MOVED PRIOR TO TRAFFIC CONTROL STAGE
ITEM TOTAL		24	4	

SIGNING REMOVAL ITEMS

STATION - STATION	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
USH 18		
195+90.40 - 230+00.00	11	13
230+00.00 - 248+00.00	7	7
248+00.00 - 279+00.00	1	1
279+00.00 - 347+00.00	41	48
347+00.00 - 365+67.68	25	26
STH 60		
160+00.00 - 170+31.57	11	13
ITEM TOTALS	96	108

OVERHEAD SIGN SUPPORT

STATION - STATION	LOCATION	641.8100.01 (S-12-0012) LS	641.8100.02 (S-12-0013) LS
CATEGORY 0090			
STAGE 4			
USH 18 EB			
329+00	LT	1	
CATEGORY 0090 SUBTOTAL		1	
CATEGORY 0100			
334+00	LT		1
CATEGORY 0100 SUBTOTAL			1

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

TRAFFIC CONTROL

STATION - STATION	643.1050 SIGNS PCMS DAY	643.0300 DRUMS DAY	643.0420 BARRICADES TYPE III DAY	643.0500 FLEXIBLE TUBULAR MARKER POSTS EACH	643.0600 FLEXIBLE TUBULAR MARKER BASES EACH	643.0705 WARNING LIGHTS TYPE A DAY	643.0715 WARNING LIGHTS TYPE C DAY	643.0800 ARROW BOARDS DAY	643.0900 SIGNS DAY
STAGE 1A									
USH 18									
195+90 - 365+68	21	1246	49			98	140	7	189
STAGE 1B									
USH 18									
195+90 - 365+68	399	63441	9310	315	315	11837	6650	133	14098
STAGE 2A									
USH 18									
195+90 - 365+68	279	37758	6603	338	338	8463	2976	93	8835
STAGE 2B									
USH 18									
195+90 - 365+68	30	4460	790			1000	320	10	980
STAGE 2C									
USH 18									
195+90 - 365+68									2360
STAGE 3A									
USH 18									
195+90 - 365+68		2160	48			96	336		936
STAGE 3B									
USH 18									
195+90 - 365+68		2400	72			144	336		912
STAGE 4									
USH 18									
195+90 - 365+68		9280	640			1280	240	20	1740
UNDISTRIBUTED				107	107				
ITEM TOTAL	729	120745	17512	760	760	22918	10998	263	30050

PAVEMENT MARKING ITEMS

STATION - STATION	LOCATION	646.0106 EPOXY 4-INCH (YELLOW) LF	646.0106 EPOXY 4-INCH (WHITE) LF	646.0126 EPOXY 8-INCH (WHITE) LF	647.0166 ARROWS EPOXY TYPE 2 EACH	647.0176 ARROWS EPOXY TYPE 3 EACH	647.0356 WORDS EPOXY "ONLY" EACH	647.0456 CURB EPOXY LF	647.0556 STOP LINE EPOXY 12-INCH LF	647.0566 STOP LINE EPOXY 18-INCH LF	647.0606 ISLAND NOSE EPOXY EACH	647.0656 PARKING STALL EPOXY (WHITE) LF	647.0726 DIAGONAL EPOXY 12-INCH (YELLOW) LF	REMARKS
CATEGORY 0010														
USH 18 EB														
195+90.4 - 230+00	LT & RT	6819	8361	962	7		4	60			2			EB, WB, AND MARKING FOR TRAFFIC CONTROL
230+00 - 248+00	LT & RT	3298	4245	1021	8		4	60			2			INCLUDES BOTH EB AND WB
248+00 - 279+00	LT & RT	6113	7622	1010	5		3							INCLUDES BOTH EB AND WB
279+00 - 347+00	LT & RT	16485	15254	6078	44	2	27	153		121	6	162	332	INCLUDES BOTH EB AND WB
347+00 - 365+67.7	LT & RT	4839	3614	528	4		2	51			3		80	EB, WB, AND MARKING FOR TRAFFIC CONTROL
UTOPIA LANE CONNECTION														
71+25 - 71+99	LT & RT	146		23	1	1								
BOUSKA ROAD														
100+76 - 103+40	LT & RT	528	489	111	1	1								
STH 60														
163+56.4 - 170+31.4	LT & RT	1131	1057											
CATEGORY 0010 SUBTOTAL		39359	40642	9733	70	4	40	324	0	121	13	162	412	
CATEGORY 0010 TOTAL		80001												
CATEGORY 0080														
USH 18 EB														
195+90.4 - 212+01.1	LT & RT	495							10					MULTI-USE TRAIL
CATEGORY 0080 SUBTOTAL		495	0	0	0	0	0	0	10	0	0	0	0	
CATEGORY 0080 TOTAL		495												
SUBTOTAL		39854	40642	9733	70	4	40	324	10	121	13	162	412	
ITEM TOTAL		80496		9733	70	4	40	324	10	121	13	162	412	

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

TEMPORARY PAVEMENT MARKING

STATION - STATION	LOCATION	649.0100 4-INCH (YELLOW) LF	649.0100 4-INCH (WHITE) LF	649.0400 REMOVABLE TAPE 4-INCH (YELLOW) LF	649.0400 REMOVABLE TAPE 4-INCH (WHITE) LF	649.0701 8-INCH (WHITE) LF	649.0801 REMOVABLE TAPE 8-INCH (WHITE) LF	649.1100 STOP LINE 18-INCH (WHITE) LF	649.1200 STOP LINE REMOVABLE TAPE 18-INCH (WHITE) LF	649.1400 STOP LINE REMOVABLE TAPE 24-INCH (WHITE) LF	649.1500 DIAGONAL 12-INCH (WHITE) LF	649.1700 ARROWS (WHITE) EACH	649.1800 ARROWS REMOVABLE TAPE (WHITE) EACH	649.1900 WORDS (WHITE) EACH	649.2000 WORDS REMOVABLE TAPE (WHITE) EACH	646.0600 REMOVING PAVEMENT MARKING LF
STAGE 1A																
USH 18 EB																
185+00 - 195+90	RT			1550												150
STAGE 1B																
USH 18 EB																
195+90 - 230+00	LT & RT	7310	5810	440	440											2249
230+00 - 248+00	RT	2720	2720	880	880											1622
248+00 - 279+00	RT	6200	6200													
279+00 - 347+00	LT & RT	14810	14485			345		36			200	4				2285
347+00 - 364+93	LT & RT	3586	3586													528
STAGE 2A																
USH 18 WB																
185+00 - 195+90	RT			1550			95									
195+90 - 230+00	LT & RT			6365	5890		300									251
230+00 - 248+00	LT			3600	1460		300									
248+00 - 279+00	LT			6200	5768		300									
279+00 - 347+36	LT & RT			15017	13179		1005		24			2	2	2	1	508
347+36 - 364+93	LT & RT			3866	3866											
UPPER BRIDGEPORT ROAD																
190+06 - 191+56	LT			600					25							
STAGE 2B																
USH 18 EB																
340+65 - 341+84	LT & RT	240	419	120												
STH 60																
160+00 - 170+32	LT & RT			1870	1852				25							
STAGE 3A																
USH 18 EB																
353+75 - 369+00	LT & RT			700	2200					24						
STAGE 3B																
USH 18 EB																
353+75 - 369+00	LT & RT				850											
UNDISTRIBUTED		1707	1707	1979	1978		200									
ITEM TOTAL		71500		83100		345	2200	36	74	24	200	6	2	2	1	7593

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

3

CONSTRUCTION STAKING STORM SEWER

STRUCTURE NO.	LOCATION	OFFSET	ALIGNMENT	650.4000 EACH
1A	200+99.90	30.3' RT	USH 18 EB	1
1B	201+02.62	5.5' LT	USH 18 EB	1
1C	200+97.77	5.5' RT	USH 18 WB	1
1D	200+97.80	30.1' LT	USH 18 WB	1
2	203+00.00	12.0' RT	USH 18 EB	1
2A	203+00.00	35.5' RT	USH 18 EB	1
2B	202+90.00	35.5' RT	USH 18 EB	1
2C	203+00.00	5.5' LT	USH 18 EB	1
2D	202+94.70	5.5' RT	USH 18 WB	1
2E	202+94.70	33.5' LT	USH 18 WB	1
2F	202+90.00	5.5' LT	USH 18 EB	1
2G	202+84.70	5.5' LT	USH 18 WB	1
3	205+29.33	35.4' RT	USH 18 EB	1
5A	208+49.04	5.5' RT	USH 18 WB	1
5B	208+49.05	7.8' LT	USH 18 EB	1
5C	208+49.85	35.5' RT	USH 18 EB	1
5D	208+33.85	35.5' RT	USH 18 EB	1
5E	208+19.89	35.1' RT	USH 18 EB	1
6A	210+95.37	5.5' RT	USH 18 WB	1
6B	210+95.40	17.5' LT	USH 18 EB	1
7A	213+10.62	18.0' LT	USH 18 WB	1
7B	213+11.06	5.8' LT	USH 18 EB	1
8A	218+20.03	5.5' RT	USH 18 WB	1
8B	217+17.86	5.5' LT	USH 18 EB	1
8C	217+40.00	5.5' LT	USH 18 EB	1
8D	218+96.00	5.5' LT	USH 18 EB	1
9A	222+50.00	5.5' RT	USH 18 WB	1
9B	223+34.00	5.5' RT	USH 18 WB	1
9C	223+34.00	11.3' LT	USH 18 EB	1
9D	223+34.00	5.5' LT	USH 18 EB	1
9E	223+34.00	35.5' RT	USH 18 EB	1
9F	223+50.00	35.5' RT	USH 18 EB	1
9G	223+66.00	35.5' RT	USH 18 EB	1
10A	226+75.00	5.5' RT	USH 18 WB	1
10B	226+75.00	15.0' LT	USH 18 EB	1
10C	226+75.00	5.5' LT	USH 18 EB	1
10D	226+75.00	35.5' RT	USH 18 EB	1
10E	226+91.00	35.5' RT	USH 18 EB	1
10F	227+07.00	35.5' RT	USH 18 EB	1
10G	226+91.00	5.5' RT	USH 18 WB	1
10H	226+91.00	5.5' LT	USH 18 EB	1
11A	230+50.00	5.5' RT	USH 18 WB	1
11B	230+50.00	15.0' LT	USH 18 EB	1
11C	230+50.00	5.5' LT	USH 18 EB	1
12A	234+00.00	5.5' LT	USH 18 EB	1
12B	234+00.00	15.0' LT	USH 18 EB	1
12C	234+00.00	5.5' RT	USH 18 WB	1
12D	234+00.00	35.5' LT	USH 18 WB	1
12E	234+16.00	35.5' LT	USH 18 WB	1
13A	237+80.00	5.5' LT	USH 18 EB	1
13B	237+80.00	15.0' LT	USH 18 EB	1
13C	237+80.00	5.5' RT	USH 18 WB	1
14	240+93.30	13.1' LT	USH 18 EB	1
15	242+61.91	96.9' LT	USH 18 WB	1
17	239+96.64	37.5' RT	USH 18 EB	1
18	240+93.30	37.5' RT	USH 18 EB	1
19	241+89.97	37.5' RT	USH 18 EB	1
20	242+86.64	37.5' RT	USH 18 EB	1
21	243+73.59	65.5' RT	USH 18 EB	1
21A	49+35.50	17.5' RT	CABIN HILL LN	1
21C	243+98.00	69.2' RT	USH 18 EB	1
21D	244+01.80	38.0' RT	USH 18 EB	1
21E	244+22.34	5.8' LT	USH 18 EB	1
21F	244+22.34	12.2' LT	USH 18 EB	1
21G	244+38.33	12.5' LT	USH 18 EB	1
22A	247+26.17	15.2' LT	USH 18 EB	1
22B	247+26.17	35.5' RT	USH 18 EB	1
22C	247+42.17	35.5' RT	USH 18 EB	1
22D	247+58.17	35.5' RT	USH 18 EB	1
23A	254+50.00	25.0' LT	USH 18 EB	1
24A	264+10.00	25.0' LT	USH 18 EB	1
25A	274+62.92	25.0' LT	USH 18 EB	1
26	61+52.50	16.5' RT	CHURCH ENT	1
26C	61+80.71	16.5' RT	CHURCH ENT	1
26D	61+88.80	16.5' LT	CHURCH ENT	1

CONSTRUCTION STAKING STORM SEWER (CONTINUED)

STRUCTURE NO.	LOCATION	OFFSET	ALIGNMENT	650.4000 EACH
27A	284+39.32	7.5' RT	USH 18 WB	1
27B	284+39.40	23.8' LT	USH 18 EB	1
27C	285+52.85	13.0' LT	USH 18 EB	1
27D	287+05.32	18.5' LT	USH 18 EB	1
27E	287+21.31	18.5' LT	USH 18 EB	1
27F	287+47.31	21.0' LT	USH 18 EB	1
27G	285+52.85	7.5' LT	USH 18 EB	1
28	288+45.41	47.0' LT	USH 18 WB	1
28C	288+45.81	7.5' RT	USH 18 WB	1
28D	288+45.77	26.5' LT	USH 18 EB	1
28E	288+67.04	13.9' LT	USH 18 EB	1
28F	288+67.32	7.5' LT	USH 18 EB	1
28G	290+00.90	32.8' RT	USH 18 WB	1
28H	290.20.90	31.7' RT	USH 18 WB	1
28I	290+40.90	30.6' RT	USH 18 WB	1
29A	292+00.81	19.0' LT	USH 18 EB	1
30A	294+74.01	25.0' LT	USH 18 EB	1
31A	306+75.00	31.9' LT	USH 18 EB	1
32A	310+16.33	7.5' RT	USH 18 WB	1
32B	310+16.83	12.9' RT	USH 18 WB	1
32C	310+27.71	22.3' LT	USH 18 EB	1
32D	310+44.52	18.5' LT	USH 18 EB	1
32E	310+35.52	7.5' LT	USH 18 EB	1
32F	308+17.25	29.5' LT	USH 18 EB	1
33A	310+06.76	37.5' RT	USH 18 EB	1
33B	309+03.67	37.5' RT	USH 18 EB	1
33C	308+00.00	37.5' RT	USH 18 EB	1
33D	306+75.00	35.5' RT	USH 18 EB	1
34A	119+78.73	17.5' RT	GOLF VIEW DR	1
34B	119+83.18	28.0' RT	GOLF VIEW DR	1
35A	121+71.00	17.5' RT	GOLF VIEW DR	1
36A	315+22.53	19.6' LT	USH 18 EB	1
36C	314+20.43	25.3' RT	USH 18 WB	1
36D	313+34.23	7.5' RT	USH 18 WB	1
36E	312+95.50	7.5' RT	USH 18 WB	1
36F	312+95.50	17.8' RT	USH 18 EB	1
36G	314+20.50	7.5' LT	USH 18 EB	1
37A	323+00.00	12.9' LT	USH 18 EB	1
38A	326+25.00	18.9' LT	USH 18 EB	1
39A	338+53.98	44.0' LT	USH 18 EB	1
40A	341+50.00	13.3' LT	USH 18 EB	1
40B	341+96.35	25.5' LT	USH 18 EB	1
40C	342+75.00	44.0' LT	USH 18 EB	1
41A	161+40.22	47.1' LT	STH 60	1
41B	161+48.35	2.4' LT	STH 60	1
42A	347+00.00	29.2' LT	USH 18 EB	1
43A	350+84.06	6.5' LT	USH 18 EB	1
43B	351+25.00	5.5' RT	USH 18 WB	1
43D	349+85.00	5.5' RT	USH 18 WB	1
43E	349+49.00	5.5' RT	USH 18 WB	1
43F	349+13.00	5.5' RT	USH 18 WB	1
44A	353+78.21	17.9' LT	USH 18 EB	1
44B	354+20.68	5.5' RT	USH 18 WB	1
44C	354+35.37	58.0' LT	USH 18 WB	1
44D	354+54.45	54.0' LT	USH 18 WB	1
45A	359+79.27	5.5' RT	USH 18 WB	1
45B	359+38.29	5.5' LT	USH 18 EB	1
45C	358+65.00	5.5' RT	USH 18 WB	1
45D	358+20.00	7.8' RT	USH 18 WB	1
46A	342+58.18	18.5' LT	USH 18 WB	1
200A	331+85.62	22.6' RT	USH 18 WB	1
			ITEM TOTAL	136

CONSTRUCTION STAKING

STATION - STATION	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.7000 CONCRETE PAVEMENT LF	650.9920 SLOPE STAKES LF
CATEGORY 0010					
USH 18 EB					
200+12.33 - 365+67.68	RT	16556		16556	16556
USH 18 WB					
200+71 - 360+00	LT	15929		15929	15929
SUGARLOAF TRAIL					
11.07.66 - 11+61.53	LT	54	54		54
DRIVEWAY A					
20+32 - 22+50	LT	218	218		218
OLD HWY 18 WEST					
25+42 - 29+31.72	RT	390	390		390
DRIVEWAY B					
22+28.46 - 24+00	RT	172	172		172
CABIN HILL LANE					
38+13.74 - 51+00.64	RT	2187	2187		2187
WARD ROAD					
50+71.05 - 53+22.15	LT	251	251		251
CHURCH ENTRANCE					
61+26 - 62+14.42	LT	89	89		89
OLD HWY 18 EAST					
67+29.63 - 68+68	RT	138	138		138
68+68 - 69+35.31	RT	67		67	67
DRIVEWAY C					
90+12 - 94+12.68	RT	413	413		413
UTOPIA LANE CONNECTION					
71+25.89 - 72+36	LT	110	110		110
UTOPIA LANE					
80+64 - 86+07	LT	543	543		543
DRIVEWAY D					
114+45.58 - 118+13.93	RT	368	368		368
GOLF VIEW DRIVE					
118+13.93 - 126+95.72	RT	882	882		882
128+50.51 - 130+00	RT	149	149		149
BOUSKA ROAD					
101+26 - 103+40	LT	214	214		214
NEW FRONTAGE ROAD					
140+74 - 141+61	LT	87	87		87
DRIVEWAY E					
142+97 - 148+50	LT	553	553		553
DRIVEWAY F					
141+61 - 143+70	LT	209	209		209
STH 60					
160+00 - 163+56.64	LT	357		357	357
163+56.64 - 170+31.57	LT	675	675		675
OLD HWY 60					
177+80.31 - 181+60.77	LT	381	381		381
UPPER BRIDGEPORT RD					
190+94 - 191+56.24	LT	62	62		62
RAMP A					
338+51.11 - 344+21.85	LT	571		571	571
UPPER BRIDGEPORT RD DRIVEWAY					
198+68 - 200+00	LT	132	132		132
CATEGORY 0010 SUBTOTAL		41757	8277	33480	41757
CATEGORY 0080					
USH 18 EB					
196+15.60 - 212+00.00		1510	1510		
CATEGORY 0080 SUBTOTAL		1510	1510		
ITEM TOTALS		43267	9787	33480	41757

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

3

3

CONSTRUCTION STAKING PIPE CULVERTS

STATION	LOCATION	650.6000 EACH
USH 18 EB		
216+50	LT & RT	2
234+00	RT	1
239+65	RT	1
253+25	LT & RT	2
254+50	RT	1
268+24	LT & RT	2
295+49	LT & RT	2
310+20	RT	1
315+23	LT & RT	2
323+00	RT	1
326+25	RT	1
338+54	RT	1
341+50	RT	1
347+00	RT	1
350+84	RT	1
353+56	RT	1
362+14	LT & RT	2
362+20	LT & RT	2
USH 18 WB		
205+50	LT	2
208+49	LT	1
210+95	LT	1
213+65	LT	1
218+20	LT	1
222+12	LT	1
226+75	LT	1
230+50	LT	1
247+26	LT	1
264+10	LT	1
275+05	RT	1
284+39	LT	1
287+41	LT	1
288+83	LT	1
292+01	RT	1
294+74	RT	1
306+75	LT	1
310+16	LT	1
333+08	LT	1
338+73	LT	1
343+00	LT	1
351+25	LT	1
360+10	LT	1
DRIVEWAY B		
23+51	LT & RT	2
CABIN HILL LANE		
49+80	RT	1
CHURCH ENTRANCE		
61+50	LT	1
61+52	RT	1
GOLF VIEW DR CONNECTION		
99+24	LT & RT	2
GOLF VIEW DRIVE		
119+44	LT	1
121+71	LT	1
123+41	LT & RT	2
124+64	LT & RT	2
NEW FRONTAGE ROAD		
140+74	LT & RT	2
RAMP A		
341+56	LT	1
UPPER BRIDGEPORT ROAD		
179+39	LT & RT	2
ITEM TOTAL		67

CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER

STATION - STATION	LOCATION	650.5500 LF
CATEGORY 0010		
SUGARLOAF TRAIL		
11+07 - 11+24.2	RT	17
CABIN HILL LANE		
46+70 - 49+50	RT	280
39+00 - 43+50	RT	450
WARD ROAD		
50+71.05 - 51+12.3	RT	27
CHURCH ENTRANCE		
61+26 - 61+46	RT	21
61+38 - 62+04.5	LT	67
61+46 - 62+04.5	RT	68
UTOPIA LANE CONNECTION		
71+25.9 - 71+45.8	RT	21
GOLF VIEW DRIVE		
117+84 - 121+75	RT	478
BOUSKA ROAD		
100+76 - 100+95.4	RT	15
NEW FRONTAGE ROAD		
140+73 - 140+84	RT	10
UPPER BRIDGEPORT ROAD		
190+64 - 190+79	RT	13
190+64 - 190+91	LT	32
CATEGORY 0010 SUBTOTALS		1499
CATEGORY 0080		
USH 18 EB		
196+00	RT	25
CATEGORY 0080 SUBTOTALS		25
ITEM TOTAL		1524

3

TEMPORARY TRAFFIC SIGNAL

LOCATION	661.0100.001 TEMPORARY TRAFFIC SIGNALS FOR BRIDGES LS
US 18 SINGLE LANE WORK ZONE	1
ITEM TOTAL	1

GENERATORS

LOCATION	GENERATORS	DAYS	661.0300 GENERATORS DAY
US 18 SINGLE LANE WORK ZONE	1	42	42
ITEM TOTAL			42

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

3

SAWING

STATION - STATION	LOCATION	690.0150 ASPHALT LF	690.0250 CONCRETE LF	COMMENTS
CATEGORY 0010				
STAGE 1A				
USH 18EB				
197+59.07 - 203+94.00	LT	-	638	CURB & GUTTER
324+51 - 328+56	LT	512		
USH 18WB				
197+56.81 - 203+89.00	RT	-	636	CURB & GUTTER
337+56 - 344+81	LT	668		
STAGE 1B				
USH 18 EB				
206+10 - 208+85	LT	275		
211+85 - 212+85	LT	100		
231+00 - 234+00	LT	300		
239+00 - 242+00	LT	300		
273+95 - 274+35	LT	40		
287+60 - 288+52	LT	92		
310+10 - 312+20	RT	110		
332+26.31	RT	16		
USH 18 WB				
200+71.4			31	PROJECT LIMITS
DRIVEWAY A				
22+50.00		10		
WARD ROAD				
53+32.00		25		
CABIN HILL LANE				
38+13.74		22		
DRIVEWAY H				
8+36.26		16		
CHURCH ENTRANCE				
62+14.42		55	3	
UTOPIA LANE				
80+43.52		13		
82+52.70	LT	9		
84+36.88	LT	12		
85+78.90	LT	13		
BOUSKA ROAD				
102+47.91	RT	10		
103+40.00		22		
103+55.37	RT	28		
DRIVEWAY D				
114+39.95		21		
GOLF VIEW DRIVE				
126+95.72		142		GOLF COURSE PARKING LOT
128+50.51		20		
DRIVEWAY E				
143+02.88		12		
143+26.77	LT	14		
144+59.90	LT	22		
DRIVEWAY F		40		DRIVEWAY REMOVAL
STAGE 2A				
USH 18 EB				
200+12.33			31	PROJECT LIMITS
204+93.79	RT	31		
212+61.98	RT	14		
223+14.89	RT	17		
252+72.40	RT	15		
USH 18 WB				
327+29.44	LT		3	
332+69.25	LT	10		
335+01.49	LT	32		
336+38.75	LT	39		DRIVEWAY REMOVAL
351+85.01	LT	54		
UPPER BRIDGEPORT ROAD				
177+80.31			14	
191+56.24			22	
UPPER BRIDGEPORT DVWY		65		
OLD HWY 18 EAST				
67+29.63		19		

SAWING (CONTINUED)

STATION - STATION	LOCATION	690.0150 ASPHALT LF	690.0250 CONCRETE LF	COMMENTS
STAGE 2B				
STH 60				
170+31.57		34		
OLD STH 60				
180+60.77		20		
CATEGORY 0010 SUBTOTALS		3269	1378	
CATEGORY 0080				
STAGE 2A				
USH 18 EB				
195+96.94	RT		30	CURB & GUTTER
CATEGORY 0080 SUBTOTALS			30	
ITEM TOTALS		3269	1408	

TRAFFIC CONTROL VERTICAL PANEL

STATION - STATION	LOCATION	SPV.0060.03 EACH
STAGE 2C		
USH 18		
195+90 - 365+67	LT & RT	32
ITEM TOTAL		32

UTILITY LINE OPENING

STATION - STATION	LOCATION	SPV.0060.04 EACH
USH 18		
UNDISTRIBUTED	LT & RT	5
ITEM TOTAL		5

GEOGRID REINFORCEMENT

STATION - STATION	LOCATION	SPV.0180.01 SY
STAGE 1B		
USH 18 EB		
325+00.00 - 347+00.00	LT	10430
347+00.00 - 360+00.00	LT	4200
USH 18 WB		
315+31.21 - 325+50.00	LT & RT	6573
STAGE 2A		
USH 18 EB		
315+31.21 - 325+00.00	LT & RT	7216
USH 18 WB		
325+50.00 - 347+00.00	LT	2175
347+00.00 - 358+00.00	LT	1049
STH 60		
160+00.00 - 163+56.64	LT & RT	1689
STAGE 2B		
USH 18 WB		
339+25.00 - 341+87.00	LT	707
STH 60		
163+56.64 - 170+31.57	LT & RT	2594
RAMP A		
338+51.11 - 342+50.00	LT & RT	1025
STAGE 3A		
USH 18 WB		
358+00.00 - 366+08.84	LT & RT	1935
STAGE 3B		
USH 18 EB		
360+00.00 - 365+67.68	RT	1104
STAGE 4		
USH 18 EB		
318+00.00 - 332+50.00	MEDIAN	282
USH 18 WB		
322+76.17 - 329+50.00	RT	83
ITEM TOTAL		41061

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL USH 18 STATIONING BASED OFF USH 18 EB ALIGNMENT UNLESS OTHERWISE SPECIFIED.

3

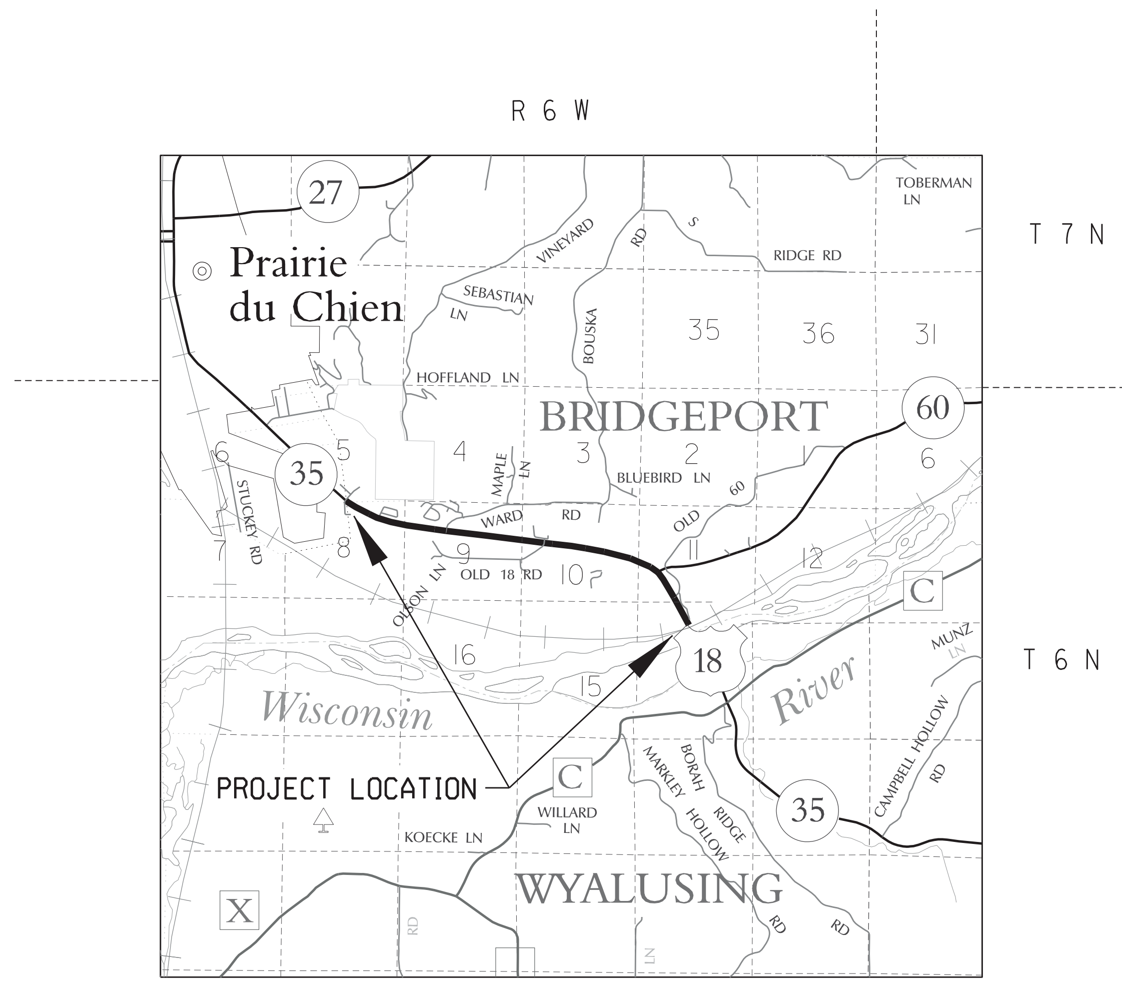
RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1661-05-28 - 4.02
SHEET 2 OF 2

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

TRANSPORTATION PROJECT PLAT TITLE SHEET

PROJECT NO. 1661-05-28
PRAIRIE DU CHIEN BYPASS/SO TOWN LN-STH 60
(SOUTH TOWN LANE ELY TO STH 60)
USH 18
CRAWFORD COUNTY

4



N

LAYOUT
SCALE 0 1 MI.

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, CRAWFORD COUNTY, NAD 83, 2007, IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD".

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. EXCLUDING RIGHT-OF-WAY LINES, THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE:
EXISTING HIGHWAY RIGHT-OF-WAY FOR USH 18, STH 60 AND STH 35 ESTABLISHED FROM PREVIOUS PROJECTS T 0196(3), T 017-1(25), 1661-03-21, 1661-07-21 AND 1661-09-21.
EXISTING HIGHWAY RIGHT-OF-WAY FOR SIDE ROADS ESTABLISHED FROM PLATS OR CENTERLINE OF EXISTING PAVEMENTS
EXISTING ACCESS CONTROL ALONG USH 18, STH 60 AND STH 35 ESTABLISHED FROM PREVIOUS PROJECTS T 0196(3), T 017-1(25), 1661-03-21, 1661-07-21 AND 1661-09-21.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 (TYPICALLY 3/4"x24" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

DISTANCES SHOWN TO BUILDINGS ARE APPROXIMATE.

A **TEMPORARY LIMITED EASEMENT** (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. ALL TLES EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

A **PERMANENT LIMITED EASEMENT** (PLE) IS A RIGHT FOR CONSTRUCTION AND MAINTENANCE PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHT TO MAKE OR CONSTRUCT IMPROVEMENT ON SAID LANDS OR TO FLATTEN THE SLOPES, PROVIDING SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

A **HIGHWAY EASEMENT** (HE) IS AN EASEMENT FOR HIGHWAY PURPOSES, AS LONG AS SO USED, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

DISTANCES SHOWN TO BUILDINGS ARE APPROXIMATE.

CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP	REFERENCE LINE	R/L
ACCESS RIGHTS	AR	RELEASE OF RIGHTS	ROR
ACRES	AC.	REMAINING	REM.
AND OTHERS	ET.AL.	RIGHT-OF-WAY	R/W
CENTERLINE	C/L	SECTION	SEC.
CERTIFIED SURVEY MAP	CSM	STATION	STA.
CORNER	COR.	TEMPORARY LIMITED EASEMENT	TLE
DOCUMENT	DOC.	VOLUME	V.
EASEMENT	EASE.		
HIGHWAY EASEMENT	H.E.		
LAND CONTRACT	LC		
MONUMENT	MON.		
PAGE	P.		
PERMANENT LIMITED EASEMENT	PLE		
PROPERTY LINE	PL		
RECORDED AS	(100')		

CURVE DATA

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE OR DELTA	DELTA
LENGTH OF CURVE	L
TANGENT	TAN
POINT OF REVERSE CURVE	PRC

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN	I.P. (1" UNLESS NOTED)	PROPOSED R/W LINE	
		EXISTING H.E. LINE	
R/W MONUMENT	(SET)	PROPERTY LINE	
R/W STANDARD	(SET)	LOT & TIE LINES	
SIGN	SIGN	SLOPE INTERCEPTS	
SECTION CORNER MONUMENT		CORPORATE LIMITS	
SECTION CORNER SYMBOL		NO ACCESS (BY PREVIOUS ACQUISITION/CONTROL)	
FEE (HATCH VARIES)		NO ACCESS (BY ACQUISTION)	
TEMPORARY LIMITED EASEMENT		NO ACCESS (BY STATUTORY AUTHORITY)	
PERMANENT LIMITED EASEMENT		SECTION LINE	
R/W BOUNDARY POINT	RWB20	QUARTER LINE	
PARCEL NUMBER	102	SIXTEENTH LINE	
		EXISTING CENTERLINE	
UTILITY PARCEL NUMBER	92	BUILDING TO BE REMOVED	
SIGN NUMBER (OFF PREMISE)	21-1	PROPOSED REFERENCE LINE	
BUILDING		PARALLEL OFFSET	

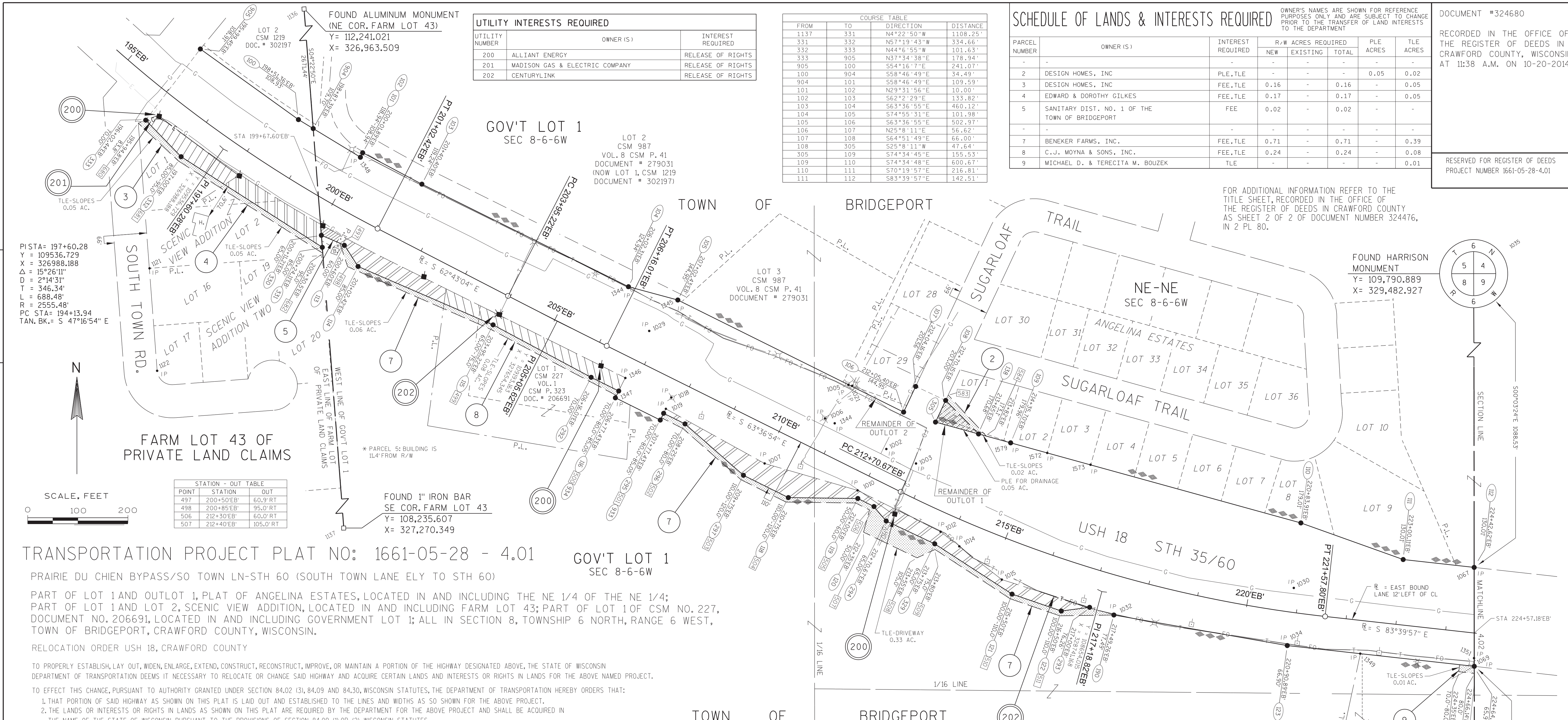
CONVENTIONAL UTILITY SYMBOLS

WATER	W	
GAS	G	
TELEPHONE	T	
OVERHEAD TRANSMISSION LINES	OH	
ELECTRIC	E	
CABLE TELEVISION	TV	
FIBER OPTIC	FO	
SANITARY SEWER	SAN	
STORM SEWER	SS	
	NON COMPENSABLE	COMPENSABLE
POWER POLE		
TELEPHONE POLE		
TELEPHONE PEDESTAL		
ELECTRIC TOWER		

cbs²
770 TECHNOLOGY WAY
CH WI 54729

TITLE

TRANSPORTATION PROJECT PLAT NO: 1661-05-28 - 4.01



UTILITY INTERESTS REQUIRED		
UTILITY NUMBER	OWNER (S)	INTEREST REQUIRED
200	ALLIANT ENERGY	RELEASE OF RIGHTS
201	MADISON GAS & ELECTRIC COMPANY	RELEASE OF RIGHTS
202	CENTURYLINK	RELEASE OF RIGHTS

COURSE TABLE

FROM	TO	DIRECTION	DISTANCE
1137	331	N4°22'50"W	1108.25'
331	332	N57°19'43"W	334.66'
332	333	N44°6'55"W	101.63'
333	905	N37°34'38"E	178.94'
905	100	S54°16'7"E	241.07'
100	904	S58°46'49"E	34.49'
904	101	S58°46'49"E	109.59'
101	102	N29°31'56"E	10.00'
102	103	S62°2'29"E	133.82'
103	104	S63°36'55"E	460.12'
104	105	S74°55'31"E	101.98'
105	106	S63°36'55"E	502.97'
106	107	N25°8'11"E	56.62'
107	108	S64°51'49"E	66.00'
108	305	S25°8'11"W	47.64'
305	109	S74°34'45"E	155.53'
109	110	S74°34'48"E	600.67'
110	111	S70°19'57"E	216.81'
111	112	S83°39'57"E	142.51'

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT

PARCEL NUMBER	OWNER (S)	INTEREST REQUIRED	R/W ACRES REQUIRED			PLE ACRES	TLE ACRES
			NEW	EXISTING	TOTAL		
-	-	-	-	-	-	-	-
2	DESIGN HOMES, INC	PLE,TLE	-	-	-	0.05	0.02
3	DESIGN HOMES, INC	FEE,TLE	0.16	-	0.16	-	0.05
4	EDWARD & DOROTHY GILKES	FEE,TLE	0.17	-	0.17	-	0.05
5	SANITARY DIST. NO. 1 OF THE TOWN OF BRIDGEPORT	FEE	0.02	-	0.02	-	-
-	-	-	-	-	-	-	-
7	BENEKER FARMS, INC.	FEE,TLE	0.71	-	0.71	-	0.39
8	C.J. MOYNA & SONS, INC.	FEE,TLE	0.24	-	0.24	-	0.08
9	MICHAEL D. & TERECITA M. BOUZEK	TLE	-	-	-	-	0.01

DOCUMENT #324680

RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS IN CRAWFORD COUNTY, WISCONSIN AT 11:38 A.M. ON 10-20-2014

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1661-05-28-4.01

FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS IN CRAWFORD COUNTY AS SHEET 2 OF 2 OF DOCUMENT NUMBER 324476, IN 2 PL 80.

STATION - OUT TABLE

POINT	STATION	OUT
497	200+50'EB'	60.9' RT
498	200+85'EB'	95.0' RT
506	212+30'EB'	60.0' RT
507	212+40'EB'	105.0' RT

TRANSPORTATION PROJECT PLAT NO: 1661-05-28 - 4.01

PRAIRIE DU CHIEN BYPASS/SO TOWN LN-STH 60 (SOUTH TOWN LANE ELY TO STH 60)

PART OF LOT 1 AND OUTLOT 1, PLAT OF ANGELINA ESTATES, LOCATED IN AND INCLUDING THE NE 1/4 OF THE NE 1/4; PART OF LOT 1 AND LOT 2, SCENIC VIEW ADDITION, LOCATED IN AND INCLUDING FARM LOT 43; PART OF LOT 1 OF CSM NO. 227, DOCUMENT NO. 206691, LOCATED IN AND INCLUDING GOVERNMENT LOT 1; ALL IN SECTION 8, TOWNSHIP 6 NORTH, RANGE 6 WEST, TOWN OF BRIDGEPORT, CRAWFORD COUNTY, WISCONSIN.

RELOCATION ORDER USH 18, CRAWFORD COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

EASEMENT TABLE

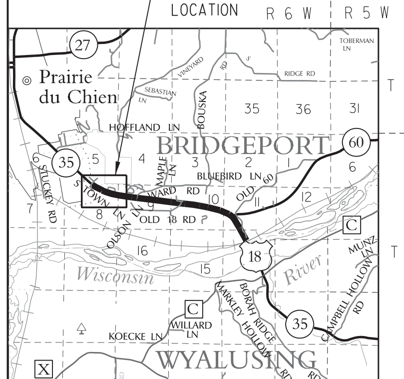
OWNER	RECORDING INFORMATION	PARCEL
SCENIC RIVERS ENERGY COOPERATIVE	DOC. #282849	6
WIPOWER AND LIGHT COMPANY	DOC. # 159538	2,5,7,8,9
MADISON GAS AND POWER COMPANY	DOC. #273179	7
WINATURAL GAS COMPANY	DOC. #246459	7
GENERAL TELELPHONE COMPANY OF WI	DOC. #179917	4

EXISTING ACCESS CONTROL ALONG USH 18 ACQUIRED BY PROJECT T017-1(25)
SCENIC EASEMENT ACQUIRED BY PROJECT T017-1(32)

ROAD NAME	BASIS OF EXISTING R/W	YEAR
USH 18 STH 35/60	WISDOT PROJECT T017-1(25)	1966
USH 18 STH 35/60	WISDOT PROJECT 1661-09-21	2000
USH 18 STH 35/60	WISDOT PROJECT 1661-07-21	2000

LOCATION SKETCH

NOT TO SCALE



RECOVERED MONUMENTS

POINT	Y	X	DESCRIPTION	POINT	Y	X	DESCRIPTION
1002	108938.43	328311.11	1-1/4" REBAR	1067	108702.38	329484.09	5/8" REBAR W/ YELLOW CAP
1003	108909.56	328370.33	1-1/4" REBAR HIT	1069	108505.27	329484.44	5/8" REBAR W/ YELLOW CAP
1005	109066.67	328235.44	5/8" REBAR W/ YELLOW CAP	1121	109298.75	326841.02	1" IRON PIPE
1006	108999.52	328188.62	3/4" REBAR	1122	109094.43	326856.19	2" IRON PIPE
1007	108909.67	328068.26	3/4" W/ YELLOW CAP	1344	109261.90	327796.61	3/4" REBAR
1010	108855.95	328253.74	5/8" REBAR W/ YELLOW CAP	1345	109235.43	327895.03	3/4" REBAR
1012	108773.57	328419.36	5/8" REBAR W/ YELLOW CAP	1346	109080.06	327790.35	5/8" REBAR
1015	108678.13	328541.40	5/8" REBAR	1347	109040.70	327770.17	5/8" REBAR HIT
1018	109041.07	327882.25	5/8" REBAR W/ YELLOW CAP	1348	109520.35	327261.73	3/4" REBAR HIT
1019	109018.64	327871.11	5/8" REBAR W/ YELLOW CAP	1349	108530.44	329256.64	3/4" REBAR
1021	109064.39	328242.76	1-1/4" REBAR	1350	108330.49	329260.13	3/4" REBAR
1029	109173.61	327837.94	1-1/4" IRON PIPE	1351	108521.47	329483.70	5/8" REBAR
1030	108661.43	329124.13	1" IRON PIPE	1572	108930.66	328632.17	3/4" REBAR
1032	108607.51	328765.05	5/8" REBAR W/ YELLOW CAP	1573	108907.11	328718.53	3/4" REBAR
1034	108546.55	329110.90	5/8" REBAR	1579	108950.69	328558.93	3/4" REBAR W/ YELLOW CAP

COURSE TABLE

FROM	TO	DIRECTION	DISTANCE
112	124	S0°3'24"E	197.23'
124	123	N83°39'57"W	375.43'
123	190	N80°0'59"W	351.26'
190	293	N72°29'20"W	50.77'
293	122	S82°35'53"W	56.92'
122	121	N71°3'31"W	103.94'
121	329	N56°59'34"W	184.01'
329	294	N64°47'39"W	107.00'
294	120	N40°48'27"W	38.70'
120	119	N63°36'54"W	35.00'
119	118	N89°15'22"W	138.65'
118	297	N63°36'54"W	100.00'
297	296	N48°41'1"W	155.24'
296	295	N63°36'54"W	47.57'
295	933	S26°23'5"W	15.05'
933	934	N63°36'55"W	100.00'
934	116	N26°23'5"E	15.05'
116	292	N63°36'54"W	61.42'
292	115	N61°52'31"W	221.90'
115	114	N66°37'32"W	293.48'
114	113	N32°25'37"W	50.28'
113	330	N66°55'58"W	50.23'
330	331	S4°22'50"E	24.00'

PISTA= 205+05.62'EB'
Y = 109193.163
X = 327654.345
Δ = 0°53'50"
D = 0°24'23"
T = 110.40'
L = 220.79'
R = 14100.00'

PISTA= 217+18.82'EB'
Y = 108654.015
X = 328741.168
Δ = 20°03'03"
D = 2°15'37"
T = 448.15'
L = 887.13'
R = 2535.00'

FOUND HARRISON MONUMENT
Y= 107,104.644
X= 329,485.579

cbs²
770 TECHNOLOGY WAY
CHIPPEWA FALLS, WI 54729

I HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENT OF SECTION 84.095, WISCONSIN STATUTES. THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF

NEIL C. BOWE	Neil C. Bowe	10-7-14
PRINTED NAME	SIGNATURE	DATE

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

CORY SCHLAGEL	Cory Schlagel	10/10/2014
PRINTED NAME	SIGNATURE	DATE

WISCONSIN NEIL C. BOWE S-2827 CHIPPEWA FALLS WI LAND SURVEYOR

FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS IN CRAWFORD COUNTY AS SHEET 2 OF 2 OF DOCUMENT NUMBER 324476, IN 2 PL 80.

EASEMENT TABLE		
OWNER	RECORDING INFORMATION	PARCEL
SCENIC RIVERS ENERGY COOPERATIVE	DOC. #282849	6,15
MADISON GAS & ELECTRIC COMPANY	DOC. #308803	16
GENERAL TELEPHONE COMPANY OF WISCONSIN	DOC. #173946 VOL. 430, PG. 296-297	16,17
GTE NORTH INC.	DOC. #249953	16
TELEPHONE USA OF WI	DOC. #267999	16,17

COURSE TABLE			
FROM	TO	DIRECTION	DISTANCE
112	125	S83°39'57"E	297.38'
125	126	N06°20'03"E	39.99'
126	127	S83°39'57"E	135.00'
127	334	S77°56'56"E	201.00'
334	129	N81°24'10"E	232.97'
129	130	S81°45'24"E	600.33'
130	131	S83°39'57"E	270.32'
131	132	N72°57'27"E	98.10'
133	134	S40°30'31"E	66.14'
134	135	S05°44'35"W	112.41'
135	136	S80°51'55"E	627.86'

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	OWNER (S)	INTEREST REQUIRED
200	ALLIANT ENERGY	RELEASE OF RIGHTS
202	CENTURYLINK	RELEASE OF RIGHTS

EXISTING ACCESS CONTROL ALONG USH 18 ACQUIRED BY PROJECT T017-1(25)
SCENIC EASEMENT ACQUIRED BY PROJECT T017-1(32)

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT

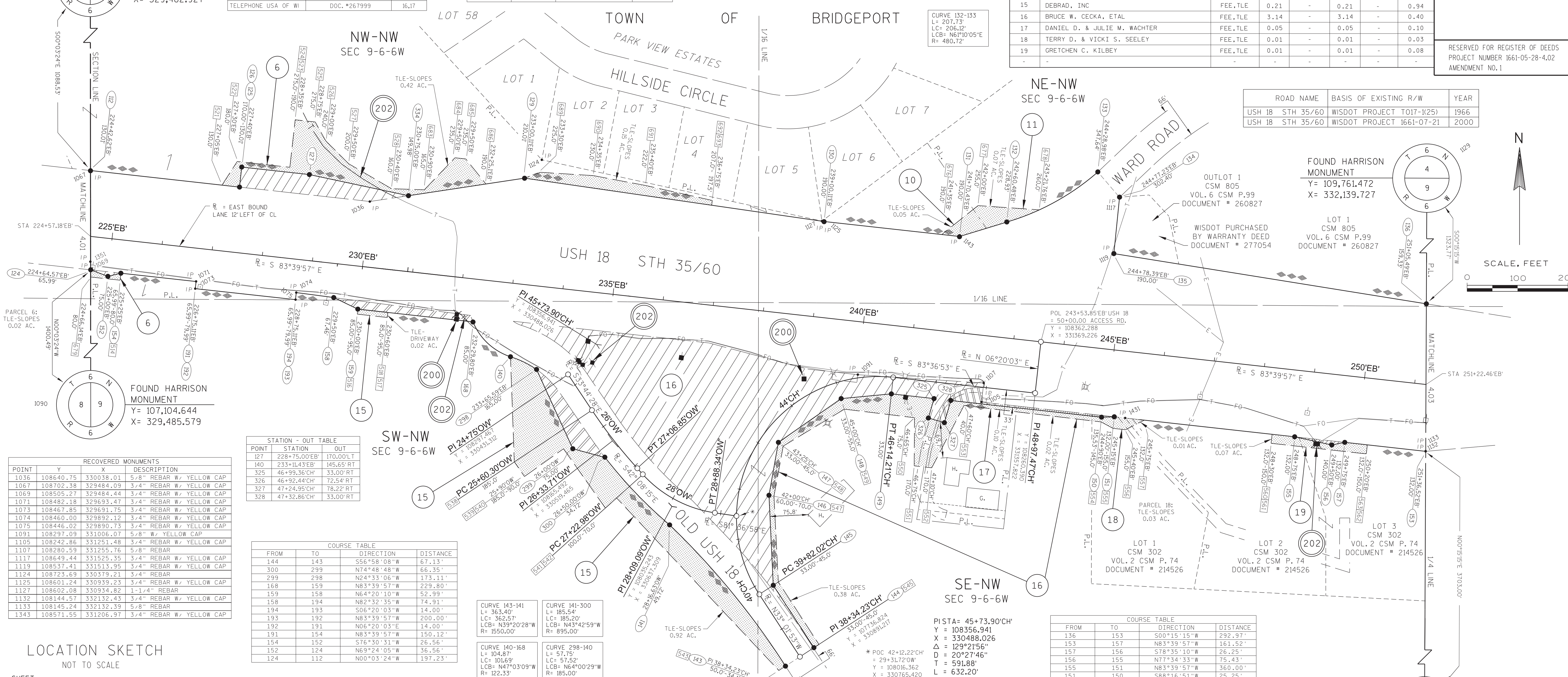
PARCEL NUMBER	OWNER (S)	INTEREST REQUIRED	R/W ACRES REQUIRED			PLE ACRES	TLE ACRES
			NEW	EXISTING	TOTAL		
6	ROBERT L. STANDORF, ETAL	FEE, TLE	0.24	-	0.24	-	0.57
-	-	-	-	-	-	-	-
10	LOWELL AHRENS	TLE	-	-	-	-	0.05
11	ANTHONY BEDTKA	TLE	-	-	-	-	0.07
-	-	-	-	-	-	-	-
15	DEBRAD, INC	FEE, TLE	0.21	-	0.21	-	0.94
16	BRUCE W. CECKA, ETAL	FEE, TLE	3.14	-	3.14	-	0.40
17	DANIEL D. & JULIE M. WACHTER	FEE, TLE	0.05	-	0.05	-	0.10
18	TERRY D. & VICKI S. SEELEY	FEE, TLE	0.01	-	0.01	-	0.03
19	GRETCHEN C. KILBEY	FEE, TLE	0.01	-	0.01	-	0.08
-	-	-	-	-	-	-	-

DOCUMENT #325170

RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS IN CRAWFORD COUNTY, WISCONSIN AT 8:29 A.M. ON 10-28-2014.

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1661-05-28-4.02
AMENDMENT NO. 1

ROAD NAME	BASIS OF EXISTING R/W	YEAR
USH 18 STH 35/60	WISDOT PROJECT T017-1(25)	1966
USH 18 STH 35/60	WISDOT PROJECT 1661-07-21	2000



STATION - OUT TABLE		
POINT	STATION	OUT
127	228+75.00'EB'	170.00'LT
140	233+11.43'EB'	145.65' RT
325	46+99.36'CH'	33.00' RT
326	46+92.44'CH'	72.54' RT
327	47+24.95'CH'	78.22' RT
328	47+32.86'CH'	33.00' RT

RECOVERED MONUMENTS			
POINT	Y	X	DESCRIPTION
1036	108640.75	330038.01	5/8" REBAR W/ YELLOW CAP
1067	108702.38	329484.09	3/4" REBAR W/ YELLOW CAP
1069	108505.27	329484.44	3/4" REBAR W/ YELLOW CAP
1071	108482.18	329693.47	3/4" REBAR W/ YELLOW CAP
1073	108467.85	329691.75	3/4" REBAR W/ YELLOW CAP
1074	108460.00	329892.12	3/4" REBAR W/ YELLOW CAP
1075	108446.02	329890.73	3/4" REBAR W/ YELLOW CAP
1091	108297.09	331006.07	5/8" W/ YELLOW CAP
1105	108242.86	331251.48	3/4" REBAR W/ YELLOW CAP
1107	108280.59	331255.76	5/8" REBAR
1117	108649.44	331525.35	3/4" REBAR W/ YELLOW CAP
1119	108537.41	331513.95	3/4" REBAR W/ YELLOW CAP
1124	108723.69	330379.21	3/4" REBAR
1125	108601.24	330939.23	3/4" REBAR W/ YELLOW CAP
1127	108602.08	330934.82	1-1/4" REBAR
1132	108144.57	332132.43	3/4" REBAR W/ YELLOW CAP
1133	108145.24	332132.39	5/8" REBAR
1343	108571.55	331206.97	3/4" REBAR W/ YELLOW CAP

COURSE TABLE			
FROM	TO	DIRECTION	DISTANCE
144	143	S56°58'08"W	67.13'
300	299	N74°48'48"W	66.35'
299	298	N24°33'06"W	173.11'
168	159	N83°39'57"W	229.80'
159	158	N64°20'10"W	52.99'
158	194	N82°32'35"W	74.91'
194	193	S06°20'03"W	14.00'
193	192	N83°39'57"W	200.00'
192	191	N06°20'03"E	14.00'
191	154	N83°39'57"W	150.12'
154	152	S76°30'31"W	26.56'
152	124	N69°24'05"W	36.56'
124	112	N00°03'24"W	197.23'

CURVE 143-141
L= 363.40'
LC= 362.57'
LCB= N39°20'28"W
R= 1550.00'

CURVE 141-300
L= 185.54'
LC= 185.20'
LCB= N43°42'59"W
R= 895.00'

CURVE 140-168
L= 104.87'
LC= 101.69'
LCB= N47°03'09"W
R= 122.33'

CURVE 298-140
L= 57.75'
LC= 57.52'
LCB= N64°00'29"W
R= 185.00'

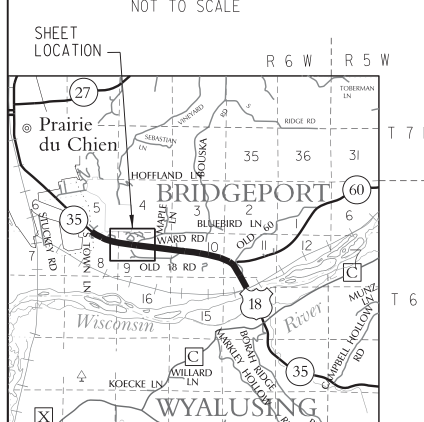
PISTA= 45+73.90'CH'
Y = 108356.941
X = 330488.026
Δ = 129°21'56"
D = 20°27'46"
T = 591.88'
L = 632.20'
R = 280.00'

PISTA= 28+09.09'OW'
Y = 108035.243
X = 330637.309
Δ = 39°28'43" (LT)
D = 23°52'24"
T = 86.12'
L = 165.37'
R = 240.00'

PISTA= 26+33.71'OW'
Y = 108165.492
X = 330519.465
Δ = 8°23'47" (LT)
D = 5°43'46"
T = 73.41'
L = 146.55'
R = 1000.00'

COURSE TABLE			
FROM	TO	DIRECTION	DISTANCE
136	153	S00°15'15"W	292.97'
153	157	N83°39'57"W	161.52'
157	156	S78°35'10"W	26.25'
156	155	N77°34'33"W	75.43'
155	151	N83°39'57"W	360.00'
151	150	S88°16'51"W	25.25'
150	328	N83°39'57"W	300.85'
328	327	S16°15'30"W	45.91'
327	326	N73°44'30"W	33.00'
326	325	N16°15'30"E	40.14'
325	149	N83°39'57"W	85.14'
149	148	S84°38'55"W	100.06'
148	147	S55°03'28"W	151.87'
147	146	S10°04'28"W	106.68'
146	145	S02°42'20"E	178.98'
145	144	S33°01'53"E	147.79'

LOCATION SKETCH
NOT TO SCALE



TRANSPORTATION PROJECT PLAT NO: 1661-05-28 - 4.02 AMENDMENT NO. 1

AMENDS PARCEL 6 OF TRANSPORTATION PROJECT PLAT 1661-05-28-4.02, WHICH WAS FILED IN THE OFFICE OF THE REGISTER OF DEEDS IN CRAWFORD COUNTY AND RECORDED AS DOCUMENT #324476.

PART OF THE NW 1/4 OF THE NW 1/4, THE NE 1/4 OF THE NW 1/4, THE SW 1/4 OF THE NW 1/4 AND PART OF LOT 1, LOT 2 AND LOT 3 OF CSM NO. 302, DOCUMENT NO. 214526, LOCATED IN AND INCLUDING THE SE 1/4 OF THE NW 1/4; ALL IN SECTION 9, TOWNSHIP 6 NORTH, RANGE 6 WEST, TOWN OF BRIDGEPORT, CRAWFORD COUNTY, WISCONSIN.

RELOCATION ORDER USH 18, CRAWFORD COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

cbs²
770 TECHNOLOGY WAY
CHIPPEWA FALLS, WI 54729

I HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENT OF SECTION 84.095, WISCONSIN STATUTES. THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF

NEIL C. BOWE	Neil C. Bowe	12-12-14
PRINTED NAME	SIGNATURE	DATE

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

CORY SCHLAGEL	Cory Schlagel	12/16/14
PRINTED NAME	SIGNATURE	DATE

WISCONSIN ★ NEIL C. BOWE S-2827 CHIPPEWA FALLS WI ★ LAND SURVEYOR

FOUND HARRISON MONUMENT
Y= 109,761.472
X= 332,139.727

FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS IN CRAWFORD COUNTY AS SHEET 2 OF 2 OF DOCUMENT NUMBER 324476, IN 2 PL 80.

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	OWNER (S)	INTEREST REQUIRED
200	ALLIANT ENERGY	RELEASE OF RIGHTS
202	CENTURYLINK	RELEASE OF RIGHTS

COURSE TABLE

FROM	TO	DIRECTION	DISTANCE
136	313	S82°35'08"E	494.60'
313	162	S83°39'57"E	496.00'
162	163	N81°46'14"E	210.77'
163	213	S83°39'57"E	475.00'
213	307	S77°13'20"E	377.38'
307	308	S89°07'54"E	150.69'
308	315	S68°44'04"E	77.62'
315	181	S83°39'57"E	366.38'

SCHEDULE OF LANDS & INTERESTS REQUIRED

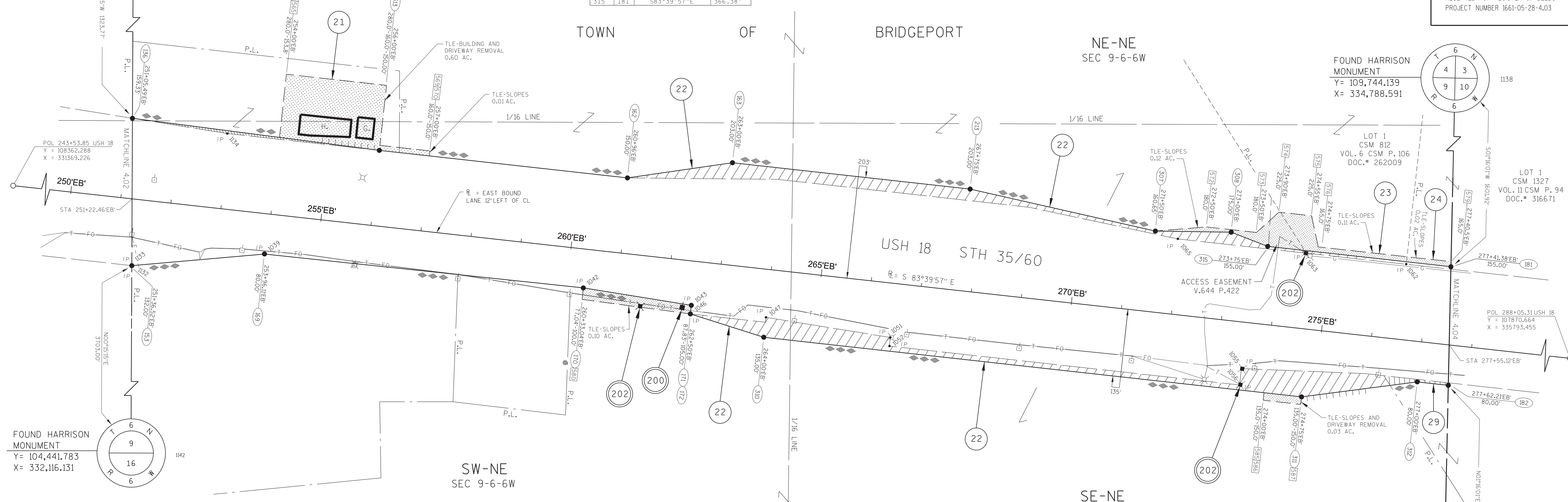
OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT

PARCEL NUMBER	OWNER (S)	INTEREST REQUIRED	R/W ACRES REQUIRED			PLE ACRES	TLE ACRES
			NEW	EXISTING	TOTAL		
21	VON J. AND JEAN C. DENLINGER	FEE, AR, TLE	0.03	-	0.03	-	0.60
22	JAMES A. & JEAN M. MORET	FEE, AR, TLE	1.20	-	1.20	-	0.26
23	INTERNATIONAL CHURCH OF THE FOURSQUARE GOSPEL	FEE, TLE	0.02	-	0.02	-	0.11
24	BRIDGEPORT ACREAGE LLC	FEE, TLE	0.01	-	0.01	-	0.02
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
29	COLLEEN C. WILLARD-HOLT	FEE	0.02	-	0.02	-	-

DOCUMENT #324681

RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS IN CRAWFORD COUNTY, WISCONSIN AT 11:38 A.M. ON 10-20-2014

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1661-05-28-4.03



RECOVERED MONUMENTS

POINT	Y	X	DESCRIPTION
1039	108168.35	332396.86	3/4" REBAR HIT
1042	108100.46	333029.58	3/4" REBAR W/ YELLOW CAP
1043	108065.87	333244.27	3/4" REBAR W/ YELLOW CAP
1046	108048.87	333242.34	3/4" REBAR W/ YELLOW CAP
1047	108042.02	333392.44	3/4" REBAR W/ YELLOW CAP
1051	108001.99	333639.53	3/4" REBAR W/ YELLOW CAP
1052	107985.00	333637.82	3/4" REBAR W/ YELLOW CAP
1055	107940.18	334336.91	3/4" REBAR W/ YELLOW CAP
1056	107907.66	334333.36	5/8" REBAR
1062	108147.70	334664.36	3/4" REBAR
1063	108169.61	334465.99	3/4" REBAR W/ YELLOW CAP
1065	108197.99	334210.65	3/4" REBAR W/ YELLOW CAP
1132	108144.57	332132.43	3/4" REBAR W/ YELLOW CAP
1133	108145.24	332132.39	5/8" REBAR
1134	108407.41	332322.23	3/4" REBAR W/ YELLOW CAP

COURSE TABLE

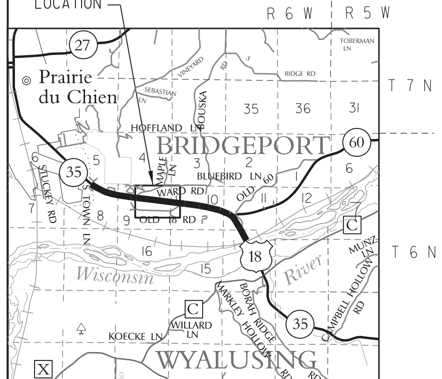
FROM	TO	DIRECTION	DISTANCE
181	182	S01°16'01"W	235.92'
182	312	N83°39'57"W	62.21'
312	311	S82°35'52"W	231.62'
311	310	N83°39'57"W	1075.00'
310	172	N72°21'21"W	152.97'
172	171	N06°20'03"E	17.17'
171	170	N80°49'07"W	217.23'
170	169	N83°55'55"W	636.94'
169	153	S85°00'24"W	264.74'
153	136	N00°15'15"E	292.97'

ROAD NAME	BASIS OF EXISTING R/W	YEAR
USH 18 STH 35/60	WISDOT PROJECT T017-1(25)	1966
USH 18 STH 35/60	WISDOT PROJECT 1661-07-21	2000

EXISTING ACCESS CONTROL ALONG USH 18 ACQUIRED BY PROJECT T017-1(25)
SCENIC EASEMENT ACQUIRED BY PROJECT T017-1(32)

FOUND HARRISON MONUMENT
Y= 109,103.250
X= 334,730.184

LOCATION SKETCH
NOT TO SCALE



SCALE, FEET
0 100 200

TRANSPORTATION PROJECT PLAT NO: 1661-05-28 - 4.03

PRAIRIE DU CHIEN BYPASS/SO TOWN LN-STH 60 (SOUTH TOWN LANE ELY TO STH 60)

PART OF THE NW 1/4 OF THE NE 1/4, THE SW 1/4 OF THE NE 1/4, AND PART OF LOT 1 OF CSM NO. 812, DOCUMENT NO. 262009, AND PART OF LOT 1 OF CSM NO. 1327, DOCUMENT NO. 316671, LOCATED IN AND INCLUDING THE SE 1/4 OF THE NE 1/4; ALL IN SECTION 9, TOWNSHIP 6 NORTH, RANGE 6 WEST, TOWN OF BRIDGEPORT, CRAWFORD COUNTY, WISCONSIN.

RELOCATION ORDER USH 18, CRAWFORD COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

cbs²
770 TECHNOLOGY WAY
CHIPPEWA FALLS, WI 54729

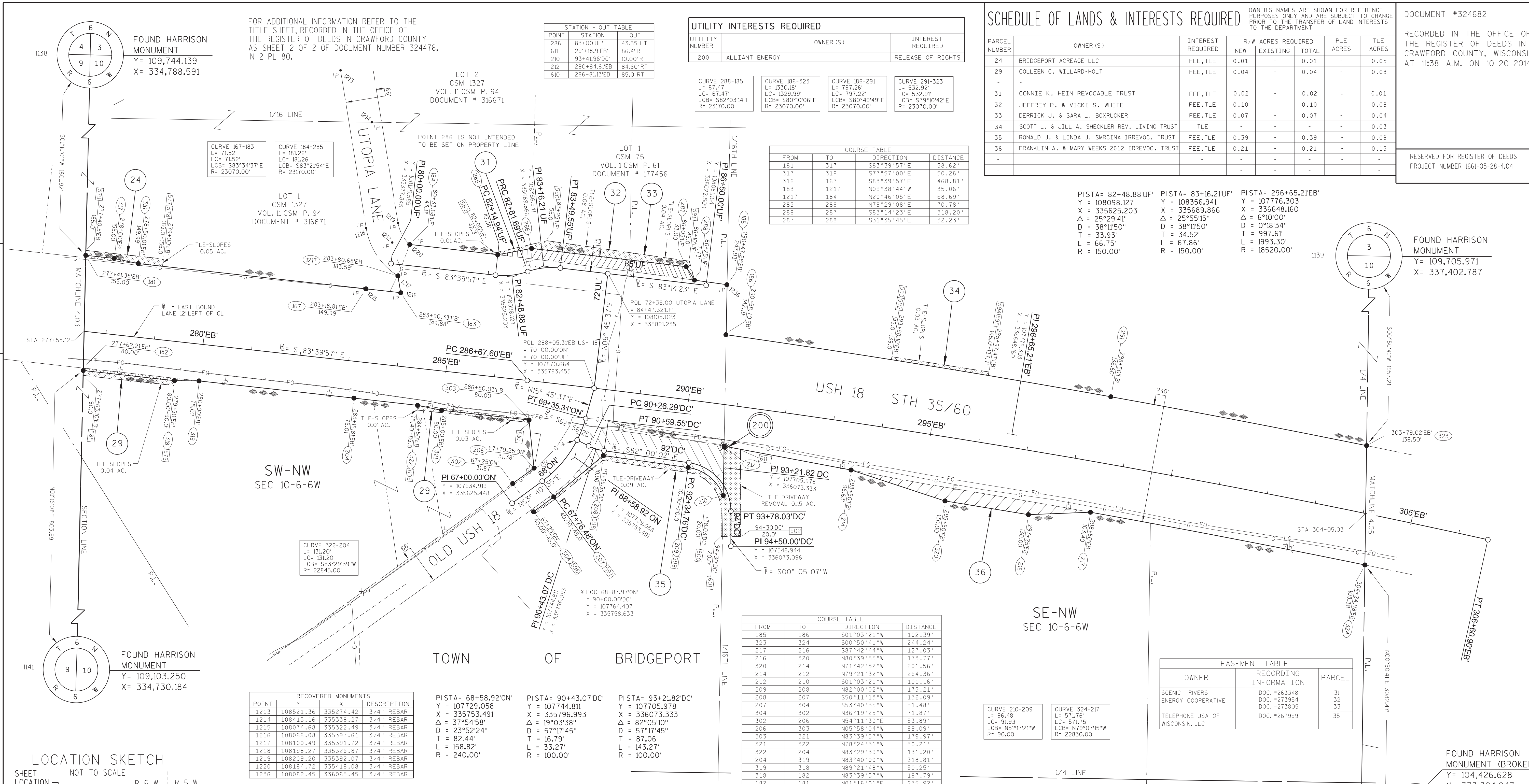
I HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENT OF SECTION 84.095, WISCONSIN STATUTES. THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF

NEIL C. BOWE	Neil C. Bowe	10-7-14
PRINTED NAME	SIGNATURE	DATE

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

CORY SCHLAGEL	Cory Schlagel	10/10/2014
PRINTED NAME	SIGNATURE	DATE

WISCONSIN
NEIL C. BOWE
S-2827
CHIPPEWA FALLS, WI
LAND SURVEYOR



STATION - OUT TABLE		
POINT	STATION	OUT
286	83+00'UF'	43.55' LT
611	291+18.9'EB'	86.4' RT
210	93+41.96'DC'	10.00' RT
212	290+84.61'EB'	84.60' RT
610	286+81.13'EB'	85.0' RT

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	OWNER (S)	INTEREST REQUIRED
200	ALLIANT ENERGY	RELEASE OF RIGHTS

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT

PARCEL NUMBER	OWNER (S)	INTEREST REQUIRED	R/W ACRES REQUIRED NEW	EXISTING	TOTAL	PLE ACRES	TLE ACRES
24	BRIDGEPORT ACREAGE LLC	FEE, TLE	0.01	-	0.01	-	0.05
29	COLLEEN C. WILLARD-HOLT	FEE, TLE	0.04	-	0.04	-	0.08
-	-	-	-	-	-	-	-
31	CONNIE K. HEIN REVOCABLE TRUST	FEE, TLE	0.02	-	0.02	-	0.01
32	JEFFREY P. & VICKI S. WHITE	FEE, TLE	0.10	-	0.10	-	0.08
33	DERRICK J. & SARA L. BOXRUCKER	FEE, TLE	0.07	-	0.07	-	0.04
34	SCOTT L. & JILL A. SHECKLER REV. LIVING TRUST	TLE	-	-	-	-	0.03
35	RONALD J. & LINDA J. SMRCINA IRREVOC. TRUST	FEE, TLE	0.39	-	0.39	-	0.09
36	FRANKLIN A. & MARY WEEKS 2012 IRREVOC. TRUST	FEE, TLE	0.21	-	0.21	-	0.15
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

DOCUMENT #324682

RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS IN CRAWFORD COUNTY, WISCONSIN AT 11:38 A.M. ON 10-20-2014

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1661-05-28-4.04

COURSE TABLE			
FROM	TO	DIRECTION	DISTANCE
181	317	S83°39'57"E	58.62'
317	316	S77°57'00"E	50.26'
316	167	S83°39'57"E	468.81'
183	1217	N09°38'44"W	35.06'
1217	184	N20°46'05"E	68.69'
285	286	N79°29'08"E	70.78'
286	287	S83°14'23"E	318.20'
287	288	S31°35'45"E	32.23'

COURSE TABLE			
FROM	TO	DIRECTION	DISTANCE
185	186	S01°03'21"W	102.39'
323	324	S00°50'41"W	244.24'
217	216	S87°42'44"W	127.03'
216	320	N80°39'55"W	173.77'
320	214	N71°42'52"W	201.56'
214	212	N79°21'32"W	264.36'
212	210	S01°03'21"W	101.16'
209	208	N82°00'02"W	175.21'
208	207	S50°11'13"W	132.09'
207	304	S53°40'35"W	51.48'
304	302	N36°19'25"W	71.87'
302	206	N54°11'30"E	53.89'
206	303	N05°58'04"W	99.09'
303	321	N83°39'57"W	179.97'
321	322	N78°24'31"W	50.21'
322	204	N83°29'39"W	131.20'
204	319	N83°40'00"W	318.81'
319	318	N89°21'48"W	50.25'
318	182	N83°39'57"W	187.79'
182	181	N01°16'01"E	235.92'

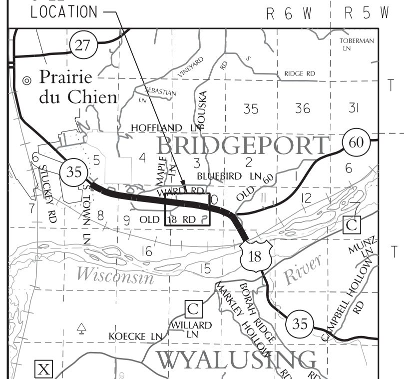
RECOVERED MONUMENTS			
POINT	Y	X	DESCRIPTION
1213	108521.36	335274.42	3/4" REBAR
1214	108415.16	335338.27	3/4" REBAR
1215	108074.68	335322.49	3/4" REBAR
1216	108066.08	335397.61	3/4" REBAR
1217	108100.49	335391.72	3/4" REBAR
1218	108198.27	335326.87	3/4" REBAR
1219	108209.20	335392.07	3/4" REBAR
1220	108164.72	335416.08	3/4" REBAR
1236	108082.45	336065.45	3/4" REBAR

EASEMENT TABLE		
OWNER	RECORDING INFORMATION	PARCEL
SCENIC RIVERS ENERGY COOPERATIVE	DOC. #263348 DOC. #273954 DOC. #273805	31 32 33
TELEPHONE USA OF WISCONSIN, LLC	DOC. #267999	35

ROAD NAME	BASIS OF EXISTING R/W	YEAR
USH 18 STH 35/60	WISDOT PROJECT T017-1(25)	1966

EXISTING ACCESS CONTROL ALONG USH 18 ACQUIRED BY PROJECT T017-1(25)
SCENIC EASEMENT ACQUIRED BY PROJECT T017-1(32)

LOCATION SKETCH
NOT TO SCALE



TRANSPORTATION PROJECT PLAT NO: 1661-05-28 - 4.04

PRAIRIE DU CHIEN BYPASS/SO TOWN LN-STH 60 (SOUTH TOWN LANE ELY TO STH 60)

PART OF LOT 1 AND LOT 2 OF CSM NO. 1327, DOCUMENT NO. 316671 AND PART OF LOT 1 OF CSM NO. 75, DOCUMENT NO. 177456, LOCATED IN THE SW 1/4 OF THE NW 1/4 AND PART OF THE SE 1/4 OF THE NW 1/4 ALL IN SECTION 10, TOWNSHIP 6 NORTH, RANGE 6 WEST, TOWN OF BRIDGEPORT, CRAWFORD COUNTY, WISCONSIN.

RELOCATION ORDER USH 18, CRAWFORD COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

cbs²
770 TECHNOLOGY WAY
CHIPPEWA FALLS, WI 54729

I HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENT OF SECTION 84.095, WISCONSIN STATUTES. THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF

NEIL C. BOWE	Neil C. Bowe	10-7-14
PRINTED NAME	SIGNATURE	DATE

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

CORY SCHLAGEL	Cory Schlagel	10/10/2014
PRINTED NAME	SIGNATURE	DATE

WISCONSIN ★ NEIL C. BOWE S-2827 CHIPPEWA FALLS WI ★ LAND SURVEYOR

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT

PARCEL NUMBER	OWNER (S)	INTEREST REQUIRED	R/W ACRES REQUIRED NEW	EXISTING	TOTAL	PLE ACRES	TLE ACRES
34	SCOTT L. & JILL A. SHECKLER REV. LIVING TRUST	FEE	0.07	-	0.07	-	-
	-	-	-	-	-	-	-
37	RONALD J. & KAREN R. WHITE	TLE	-	-	-	-	0.05
38	GLEN & NATALIE FREYMILLER	FEE	0.06	-	0.06	-	-
40	EDGAR F. & VIRGINIA EICHMANN	FEE	0.31	-	0.31	-	-
41	CHERYL L. COOLEY	FEE,TLE	0.10	-	0.10	-	0.12
42	STEVEN J. & JULIE M. SCHWAGER	FEE,TLE	0.13	-	0.13	-	0.06
43	THOMAS G. & KAREN J. STEINER	FEE,TLE	0.37	-	0.37	-	0.28
44	MCGUIRE FARMS	TLE	-	-	-	-	0.21
45	RICHARD C. JOHLL ETAL LIFE EST. TO C & J JOHLL	TLE	-	-	-	-	0.08
	-	-	-	-	-	-	-
47	TROY A. MARTIN	TLE	-	-	-	-	0.04
	-	-	-	-	-	-	-
49	MICHAEL D.& JASON D. PETTIT LIFE EST. TO DALE W. PETTIT	TLE	-	-	-	-	0.20
50	TOWN OF BRIDGEPORT	FEE,TLE	0.11	-	0.11	-	0.11
	-	-	-	-	-	-	-
52	LESTER L. & SARAH L. OLSON	FEE,TLE	0.03	-	0.03	-	0.06
53	JEFFREY & CHRISTINE PANKA	FEE,TLE	0.07	-	0.07	-	0.05
	-	-	-	-	-	-	-
55	PRAIRIE DU CHIEN COUNTRY CLUB, INC	FEE.TLE	0.06	-	0.06	-	0.10

DOCUMENT #324731

RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS IN CRAWFORD COUNTY, WISCONSIN AT 8:29 A.M. ON 10-28-2014

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1661-05-28-4.05

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	OWNER (S)	INTEREST REQUIRED
200	ALLIANT ENERGY	RELEASE OF RIGHTS
202	CENTURYLINK	RELEASE OF RIGHTS

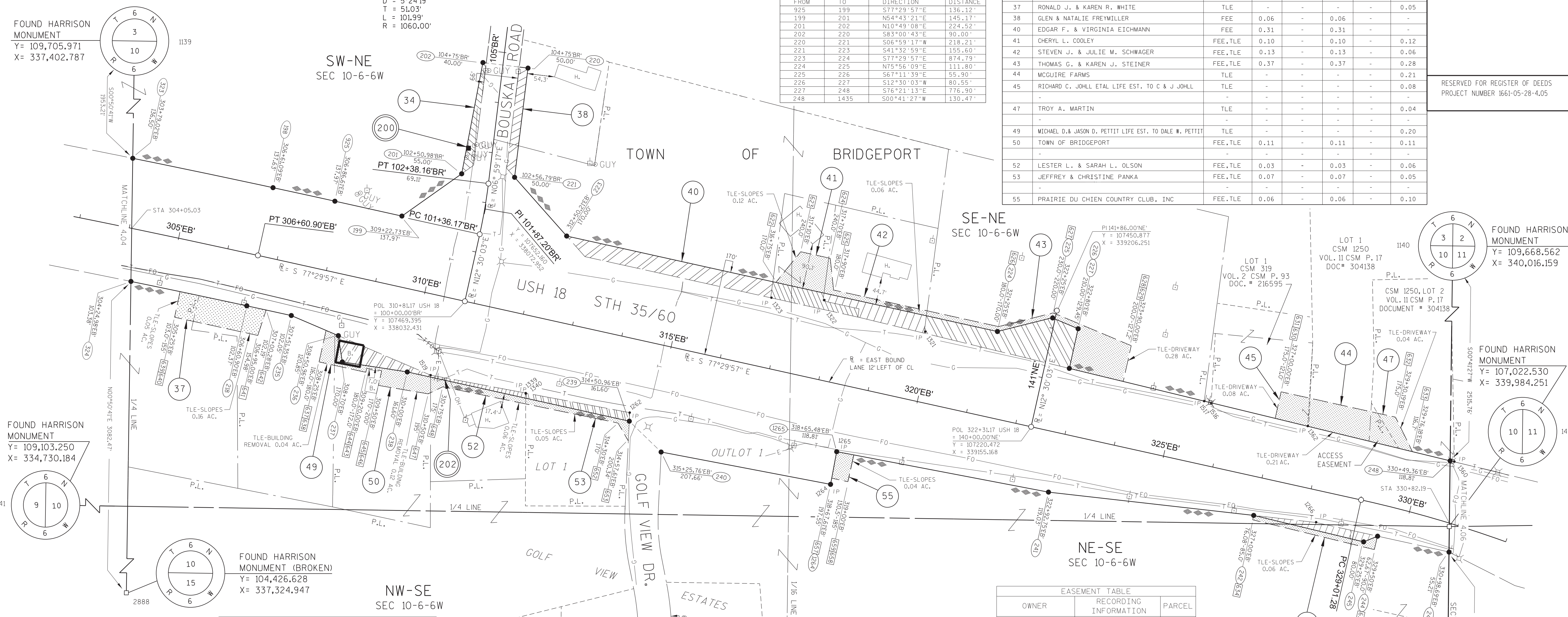
COURSE TABLE

FROM	TO	DIRECTION	DISTANCE
925	199	S77°29'57"E	136.12'
199	201	N54°43'21"E	145.17'
201	202	N10°49'08"E	224.52'
202	220	S83°00'43"E	90.00'
220	221	S06°59'17"W	218.21'
221	223	S41°32'59"E	155.60'
223	224	S77°29'57"E	874.79'
224	225	N75°56'09"E	111.80'
225	226	S67°11'39"E	55.90'
226	227	S12°30'03"W	80.55'
227	248	S76°21'13"E	776.90'
248	1435	S00°41'27"W	130.47'

FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS IN CRAWFORD COUNTY AS SHEET 2 OF 2 OF DOCUMENT NUMBER 324476, IN 2 PL 80.

CURVE 323-925 L= 409.68' LC= 409.67' LCB= S78°00'28"E R= 23070.00'	CURVE 323-198 L= 284.16' LC= 284.15' LCB= N78°09'50"E R= 23070.00'	CURVE 198-925 L= 125.52' LC= 125.52' LCB= S77°39'18"E R= 23070.00'

PI STA= 101+87.20'BR'
Y = 107652.160
X = 338072.952
△ = 5°30'46"
D = 5°24'19"
T = 51.03'
L = 101.99'
R = 1060.00'



RECOVERED MONUMENTS

POINT	Y	X	DESCRIPTION
1262	107248.61	338359.30	1-1/4" REBAR
1264	107106.30	338757.47	1-1/4" REBAR
1265	107171.13	338769.66	1-1/4" REBAR
1266	107031.37	339720.20	3/4" REBAR
1321	107409.16	338945.41	1"REBAR
1322	107471.86	338745.20	1" SQUARE BAR
1323	107476.53	338640.27	1-1/4" IRON PIPE
1339	107287.30	338153.17	1-1/4" REBAR
1340	107286.22	338153.26	1-1/4"IRON PIPE
1360	107151.51	339994.31	3/4" REBAR W/ RED CAP
1362	107221.93	339703.56	3/4" REBAR
1516	107267.61	339511.91	5/8" REBAR
1517	107271.40	339498.24	5/8" REBAR
1519	107322.85	337964.54	3/4" REBAR BENT

CURVE 235-324 L= 325.06' LC= 325.06' LCB= N77°59'44"W R= 22830.00'	CURVE 235-218 L= 90.45' LC= 90.45' LCB= N77°42'04"W R= 22830.00'	CURVE 218-324 L= 234.61' LC= 234.61' LCB= N78°06'33"W R= 22830.00'

ROAD NAME	BASIS OF EXISTING R/W	YEAR
USH 18 STH 35/60	WISDOT PROJECT T017-1(25)	1966

EXISTING ACCESS CONTROL ALONG USH 18 ACQUIRED BY PROJECT T017-1(25)
SCENIC EASEMENT ACQUIRED BY PROJECT T017-1(32)

PI STA= 296+65.21'EB'
Y = 107776.303
X = 336648.160
△ = 6°10'00"
D = 0°18'34"
T = 997.61'
L = 1993.30'
R = 18520.00'
PC STA= 286+67.60
TAN. BK.= S 83°39'57" E

PI STA= 335+60.38'EB'
Y = 106932.759
X = 340452.863
△ = 31°20'03"
D = 2°26'17"
T = 659.10'
L = 1285.17'
R = 2350.00'
PT STA= 341+86.45
TAN. AHD.= S 46°09'54" E

EASEMENT TABLE

OWNER	RECORDING INFORMATION	PARCEL
TELEPHONE USA OF WISCONSIN, LLC	DOC. #267999	43, 44, 45, 47
GENERAL TELEPHONE COMPANY OF WISCONSIN	DOC. #199644	43, 44, 45, 47

COURSE TABLE

FROM	TO	DIRECTION	DISTANCE
1435	243	S00°39'39"W	50.59'
243	244	N77°26'27"W	145.13'
244	245	S67°48'59"W	29.80'
245	242	N76°28'05"W	224.23'
242	241	N83°31'09"W	409.50'
241	1265	N79°11'14"W	427.46'
1265	1264	S10°38'54"W	65.96'
1264	240	N79°11'34"W	342.00'
240	239	N45°52'33"W	87.84'
239	238	N77°29'57"W	450.96'
238	237	N81°11'44"W	130.27'
237	236	N08°40'25"W	52.71'
236	235	N66°48'51"W	101.37'
324	323	N00°50'41"E	244.24'

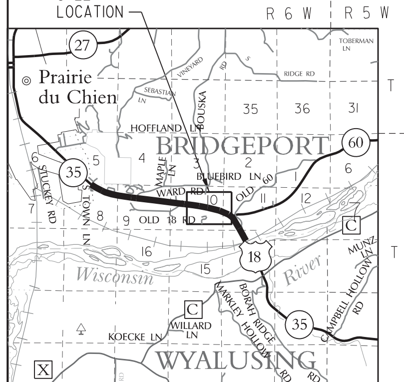
N

SCALE, FEET
0 100 200

FOUND HARRISON MONUMENT
Y= 104,391.272
X= 339,953.897

LOCATION SKETCH

SHEET LOCATION
NOT TO SCALE



TRANSPORTATION PROJECT PLAT NO: 1661-05-28 - 4.05

PRAIRIE DU CHIEN BYPASS/SO TOWN LN-STH 60 (SOUTH TOWN LANE ELY TO STH 60)

PARTS OF LOT 1 OF CSM 319, V. 2, P. 93, DOC. 216595 AND LOTS 1 AND 2 OF CSM 1250, V. 11, P. 17, DOC. 304138, IN AND INCLUDING PART OF THE SE 1/4 OF THE NE 1/4; PART OF THE NE 1/4 OF THE SE 1/4; PART OF LOT 1 OF GOLF VIEW ESTATES, IN AND INCLUDING PART OF THE SW 1/4 OF THE NE 1/4; ALL IN SECTION 10, TOWNSHIP 6 NORTH, RANGE 6 WEST, TOWN OF BRIDGEPORT, CRAWFORD COUNTY, WISCONSIN.

RELOCATION ORDER USH 18, CRAWFORD COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

770 TECHNOLOGY WAY
CHIPPEWA FALLS, WI 54729

I HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENT OF SECTION 84.095, WISCONSIN STATUTES. THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF

NEIL C. BOWE	Neil C. Bowe	10-16-14
PRINTED NAME	SIGNATURE	DATE

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

CORY SCHLAGEL	Cory Schlagel	10/16/14
PRINTED NAME	SIGNATURE	DATE

WISCONSIN
NEIL C. BOWE
S-2827
CHIPPEWA FALLS WI
LAND SURVEYOR

TRANSPORTATION PROJECT PLAT NO: 1661-05-28 - 4.06 AMENDMENT NO. 1

AMENDS PARCEL 66 OF TRANSPORTATION PROJECT PLAT 1661-05-28-4.06 WHICH WAS FILED IN THE OFFICE OF THE REGISTER OF DEEDS IN CRAWFORD COUNTY AND RECORDED AS DOCUMENT #324732.

PRAIRIE DU CHIEN BYPASS/SO TOWN LN-STH 60 (SOUTH TOWN LANE ELY TO STH 60)

PARTS OF THE NE 1/4 OF THE SW 1/4 AND THE NW 1/4 OF THE SW 1/4; ALL IN SECTION 11, TOWNSHIP 6 NORTH, RANGE 6 WEST, TOWN OF BRIDGEPORT, CRAWFORD COUNTY, WISCONSIN.

RELOCATION ORDER USH 18, CRAWFORD COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT

PARCEL NUMBER	OWNER (S)	INTEREST REQUIRED	R/W ACRES REQUIRED			PLE ACRES	TLE ACRES
			NEW	EXISTING	TOTAL		
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
65	KAREN FRITSCHE	FEE, TLE	0.08	-	0.08	-	0.02
66	GERALD P. MEZERA	FEE, TLE	0.97	-	0.97	-	0.28
-	-	-	-	-	-	-	-
68	LORI WACHTER ETAL LIFE EST. TO DONOVAN A. DAENTL	FEE, TLE	0.01	-	0.01	-	0.05

DOCUMENT #325284

RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS IN CRAWFORD COUNTY, WISCONSIN AT 2:39 P.M. ON 1-9-2015

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1661-05-28-4.06
AMENDMENT NO. 1

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	OWNER (S)	INTEREST REQUIRED
201	MADISON GAS & ELECTRIC COMPANY	RELEASE OF RIGHTS
202	CENTURYLINK	RELEASE OF RIGHTS

FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS IN CRAWFORD COUNTY AS SHEET 2 OF 2 OF DOCUMENT NUMBER 324476, IN 2 PL 80.

EXISTING ACCESS CONTROL ALONG USH 18 ACQUIRED BY PROJECT T017-1(25)
EXISTING ACCESS CONTROL ALONG STH 60 ACQUIRED BY PROJECT T 0196(3)
SCENIC EASEMENT ACQUIRED BY PROJECT T017-1(32)

PI STA= 335+60.38'EB'
Y = 106932.759
X = 340452.863
Δ = 31°20'03"
D = 2°26'17"
T = 659.10'
L = 1285.17'
R = 2350.00'
PC STA= 329+01.28
TAN. BK.= S 77°29'57" E

PI STA= 346+20.04'EB'
Y = 106167.324
X = 341232.751
Δ = 15°10'05"
D = 1°45'34"
T = 433.59'
L = 862.12'
R = 3256.54'

PI STA= 165+07.03'HS'
Y = 106842.280
X = 341348.463
Δ = 36°55'25"
D = 5°30'33"
T = 347.21'
L = 670.22'
R = 1040.00'

PI STA= 178+48.44'US'
Y = 106622.520
X = 341375.359
Δ = 30°29'31"
D = 22°55'06"
T = 68.14'
L = 133.05'
R = 250.00'

PI STA= 182+01.93'US'
Y = 106941.878
X = 341216.427
Δ = 62°30'41"
D = 21°13'14"
T = 163.88'
L = 294.58'
R = 270.00'

COURSE TABLE			
FROM	TO	DIRECTION	DISTANCE
1435	248	N00°41'27"E	130.47'
248	250	S76°21'13"E	405.73'
1512	253	S42°23'22"E	219.68'
254	255	S10°44'48"W	66.00'
255	256	S28°06'41"E	203.13'
283	284	S30°58'08"E	124.40'
284	257	S26°43'57"E	270.74'
257	258	S30°58'08"E	369.04'
258	282	S26°48'15"W	236.42'
282	266	N30°58'08"W	395.12'
266	265	N37°37'24"W	302.03'

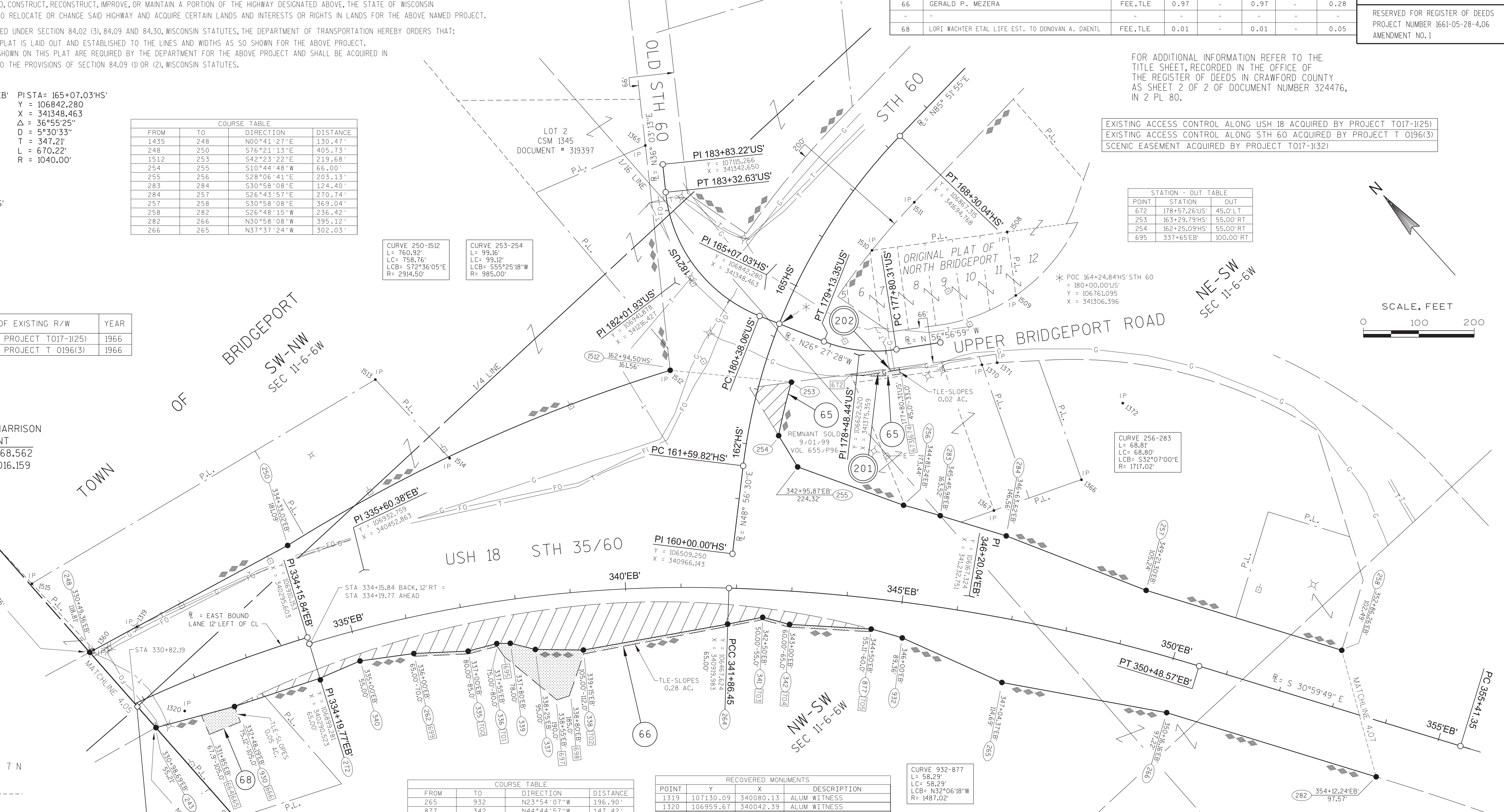
CURVE 250-1512
L= 760.92'
LC= 758.76'
LCB= S72°36'05"E
R= 2914.50'

CURVE 253-254
L= 99.16'
LC= 99.12'
LCB= S55°25'18"W
R= 985.00'

ROAD NAME	BASIS OF EXISTING R/W	YEAR
USH 18 STH 35	WISDOT PROJECT T017-1(25)	1966
STH 60	WISDOT PROJECT T 0196(3)	1966

STATION - OUT TABLE		
POINT	STATION	OUT
672	178+57.26'US'	45.0' LT
253	163+29.79'HS'	55.00' RT
254	162+25.09'HS'	55.00' RT
695	337+65'EB'	100.00' RT

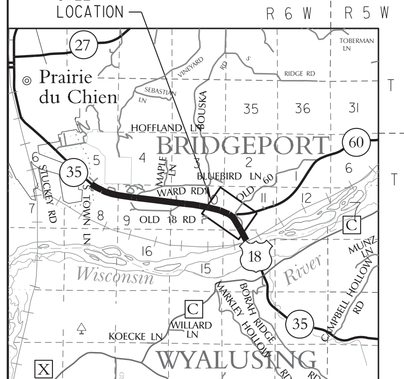
CURVE 256-283
L= 68.81'
LC= 68.80'
LCB= S32°07'00"E
R= 1717.02'



CURVE 932-877
L= 58.29'
LC= 58.29'
LCB= N32°06'18"W
R= 1487.02'

LOCATION SKETCH

NOT TO SCALE



COURSE TABLE			
FROM	TO	DIRECTION	DISTANCE
265	932	N23°54'07"W	196.90'
877	342	N44°44'57"W	147.42'
342	341	N33°06'30"W	50.16'
341	264	N59°06'58"W	64.20'
264	338	N58°10'33"W	264.47'
338	337	N47°18'00"W	86.72'
337	339	N34°09'19"W	46.55'
339	336	N49°21'36"W	24.37'
336	335	N62°47'01"W	53.41'
335	262	N50°30'48"W	98.05'
262	340	N55°54'11"W	97.94'
340	272	N71°15'35"W	78.80'
272	930	N66°19'58"W	162.20'
930	243	N63°04'08"W	146.69'
243	1435	N00°39'39"E	50.59'

RECOVERED MONUMENTS			
POINT	Y	X	DESCRIPTION
1319	107130.09	340080.13	ALUM WITNESS
1320	106959.67	340042.39	ALUM WITNESS
1360	107151.51	339994.31	3/4" REBAR W/ RED CAP
1365	107161.58	341342.03	3/4" REBAR
1366	106187.35	341523.20	1" IRON PIPE
1367	106251.76	341368.68	1" IRON PIPE
1370	106461.47	341528.54	3/4" REBAR
1371	106445.91	341551.56	3/4" REBAR
1372	106240.11	341672.03	1" IRON PIPE
1508	106609.10	341722.67	5/8" REBAR
1509	106513.66	341657.62	5/8" REBAR
1510	106747.61	341519.23	5/8" REBAR
1511	106761.01	341634.00	5/8" REBAR
1512	106830.38	341104.15	5/8" REBAR
1513	107173.74	340697.76	1-1/2" IRON PIPE
1514	106979.70	340702.41	3/4" REBAR
1515	107315.08	339991.20	1-1/2" IRON PIPE

cbs²
770 TECHNOLOGY WAY
CHIPPEWA FALLS, WI 54729

I HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENT OF SECTION 84.095, WISCONSIN STATUTES. THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF

NEIL C. BOWE	Neil C. Bowe	12-31-14
PRINTED NAME	SIGNATURE	DATE

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

CORY SCHLAGEL	Cory Schlagel	1/5/15
PRINTED NAME	SIGNATURE	DATE

WISCONSIN NEIL C. BOWE S-2827 CHIPPEWA FALLS WI LAND SURVEYOR

TRANSPORTATION PROJECT PLAT NO: 1661-05-28 - 4.07

PRAIRIE DU CHIEN BYPASS/SO TOWN LN-STH 60 (SOUTH TOWN LANE ELY TO STH 60)

LOCATED IN THE SE 1/4 OF THE SW 1/4, SECTION 11, TOWNSHIP 6 NORTH, RANGE 6 WEST, TOWN OF BRIDGEPORT, CRAWFORD COUNTY, WISCONSIN.

USH 18, CRAWFORD COUNTY

THE STATE OF WISCONSIN HAS DEEMED IT NECESSARY TO MONUMENT RIGHT-OF-WAY INTERESTS PREVIOUSLY ACQUIRED UNDER SECTIONS 82.01, 82.31(1), 82.31(2), AND 84.09 OF THE WISCONSIN STATE STATUTES AND DOES HEREBY CERTIFY THE DEPARTMENT OF TRANSPORTATION HAS SURVEYED THE HIGHWAY RIGHT-OF-WAY; THAT THIS PLAT IS A TRUE AND CORRECT REPRESENTATION OF THE EXTERIOR BOUNDARIES OF THE LAND SURVEYED AND SHOWS ACCURATE MEASUREMENTS THEREOF.

DOCUMENT #324733

RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS IN CRAWFORD COUNTY, WISCONSIN AT 8:29 A.M. ON 10-28-2014

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1661-05-28-4.07

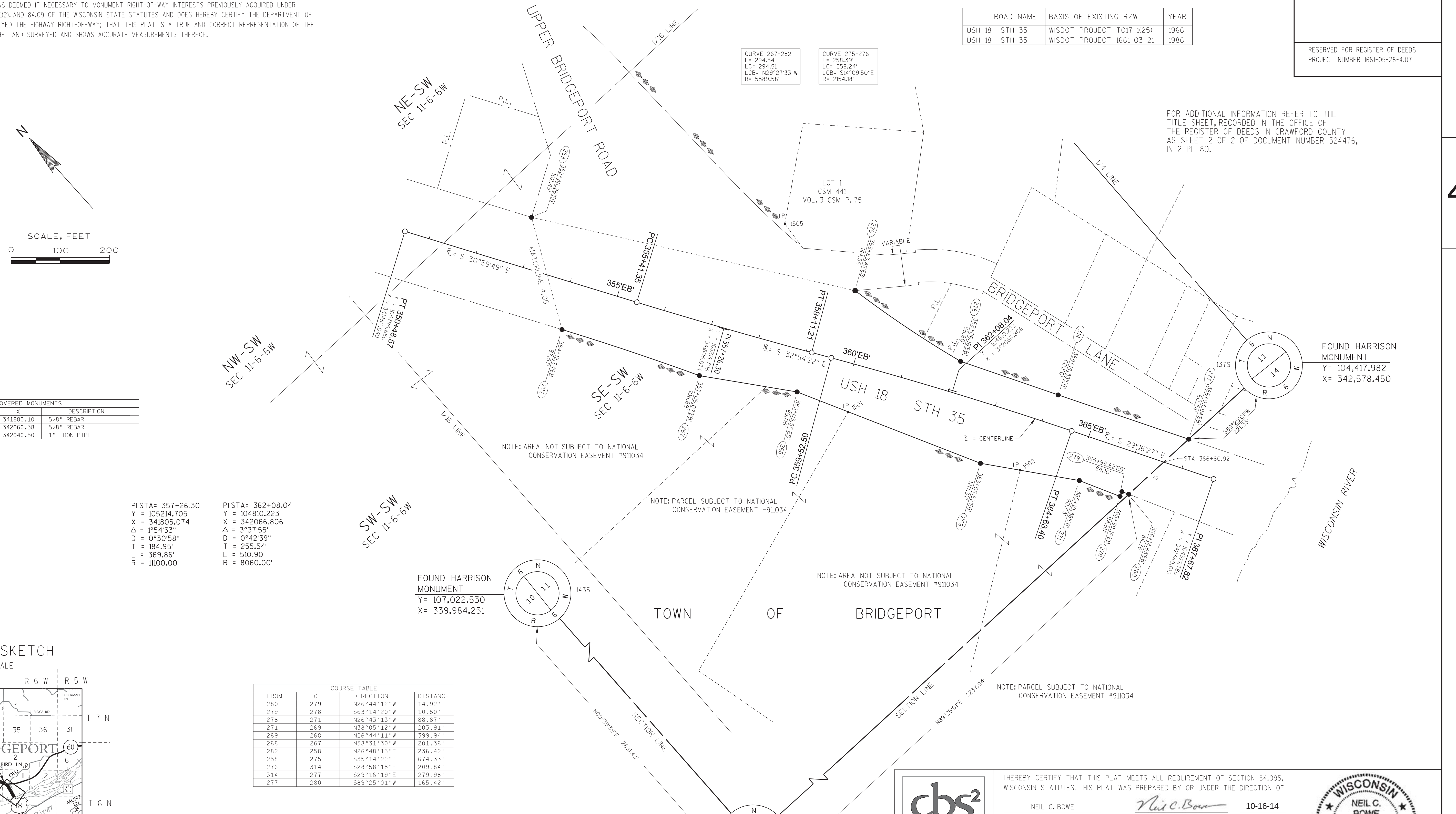
EXISTING ACCESS CONTROL ALONG USH 18 ACQUIRED BY PROJECT T017-1(25)
EXISTING ACCESS CONTROL ALONG USH 18 ACQUIRED BY PROJECT 1661-03-21
SCENIC EASEMENT ACQUIRED BY PROJECT T017-1(32)

ROAD NAME	BASIS OF EXISTING R/W	YEAR
USH 18 STH 35	WISDOT PROJECT T017-1(25)	1966
USH 18 STH 35	WISDOT PROJECT 1661-03-21	1986

CURVE 267-282
L= 294.54'
LC= 294.51'
LCB= N29°27'33"W
R= 5589.58'

CURVE 275-276
L= 258.39'
LC= 258.24'
LCB= S14°09'50"E
R= 2154.18'

FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS IN CRAWFORD COUNTY AS SHEET 2 OF 2 OF DOCUMENT NUMBER 324476, IN 2 PL 80.



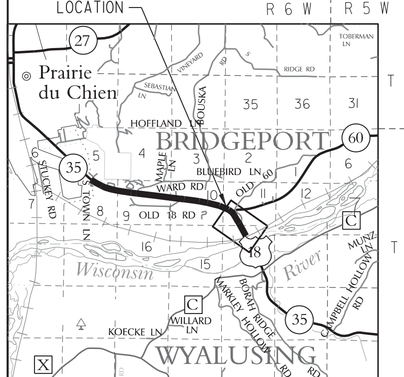
RECOVERED MONUMENTS			
POINT	Y	X	DESCRIPTION
1501	104920.18	341880.10	5/8" REBAR
1502	104598.10	342060.38	5/8" REBAR
1505	105290.53	342040.50	1" IRON PIPE

PISTA= 357+26.30
Y = 105214.705
X = 341805.074
Δ = 1°54'33"
D = 0°30'58"
T = 184.95'
L = 369.86'
R = 11100.00'

PISTA= 362+08.04
Y = 104810.223
X = 342066.806
Δ = 3°37'55"
D = 0°42'39"
T = 255.54'
L = 510.90'
R = 8060.00'

LOCATION SKETCH

NOT TO SCALE



COURSE TABLE			
FROM	TO	DIRECTION	DISTANCE
280	279	N26°44'12"W	14.92'
279	278	S63°14'20"W	10.50'
278	271	N26°43'13"W	88.87'
271	269	N38°05'12"W	203.91'
269	268	N26°44'11"W	399.94'
268	267	N38°31'30"W	201.36'
282	258	N26°48'15"E	236.42'
258	275	S35°14'22"E	674.33'
276	314	S28°58'15"E	209.84'
314	277	S29°16'19"E	279.98'
277	280	S89°25'01"W	165.42'

cbs²
770 TECHNOLOGY WAY
CHIPPEWA FALLS, WI 54729

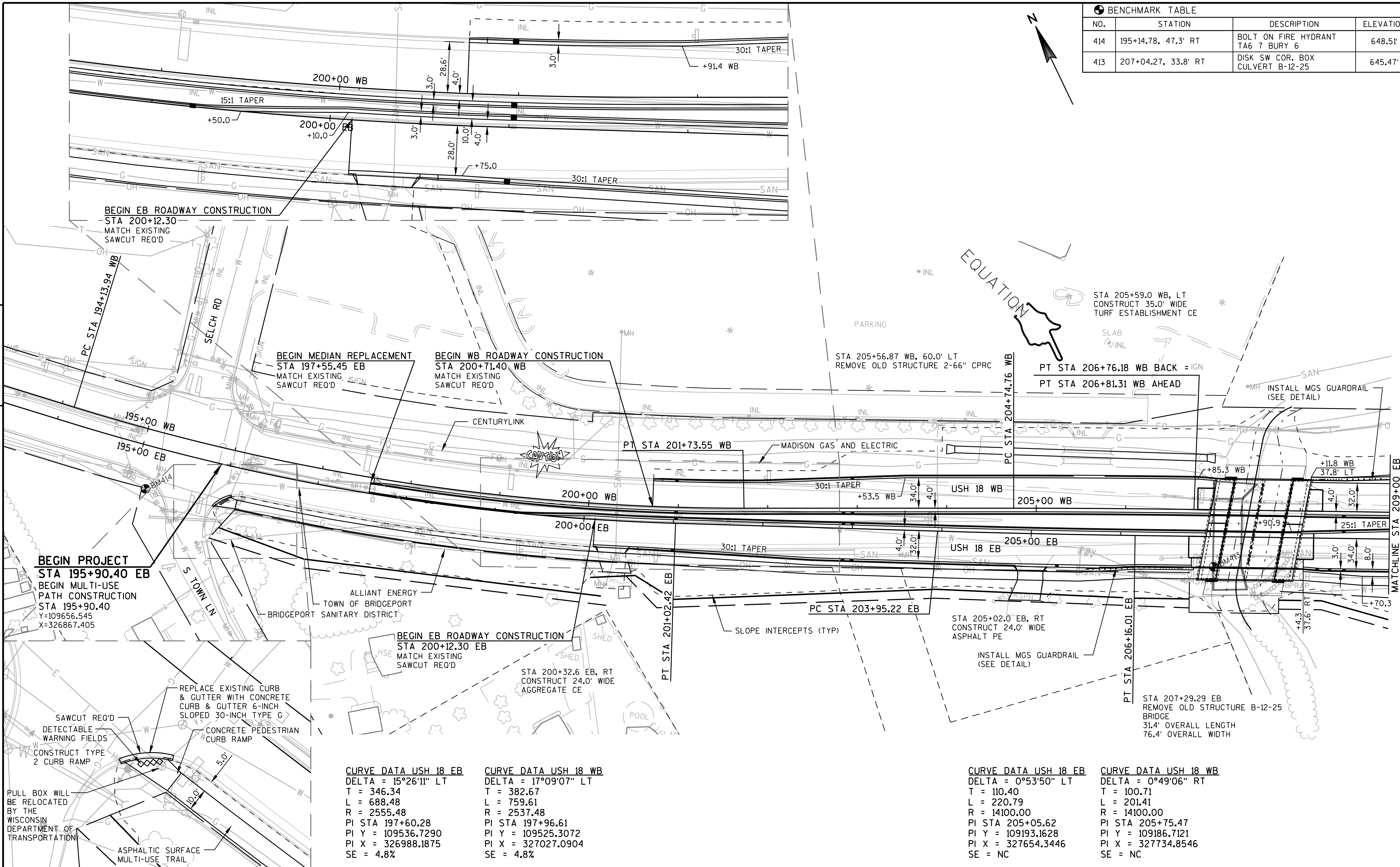
I HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENT OF SECTION 84.095, WISCONSIN STATUTES. THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF

NEIL C. BOWE	Neil C. Bowe	10-16-14
PRINTED NAME	SIGNATURE	DATE

THIS PLAT IS APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

CORY SCHLAGEL	Cory Schlagel	10/16/14
PRINTED NAME	SIGNATURE	DATE

WISCONSIN
NEIL C. BOWE
S-2827
CHIPPEWA FALLS WI
LAND SURVEYOR



BENCHMARK TABLE

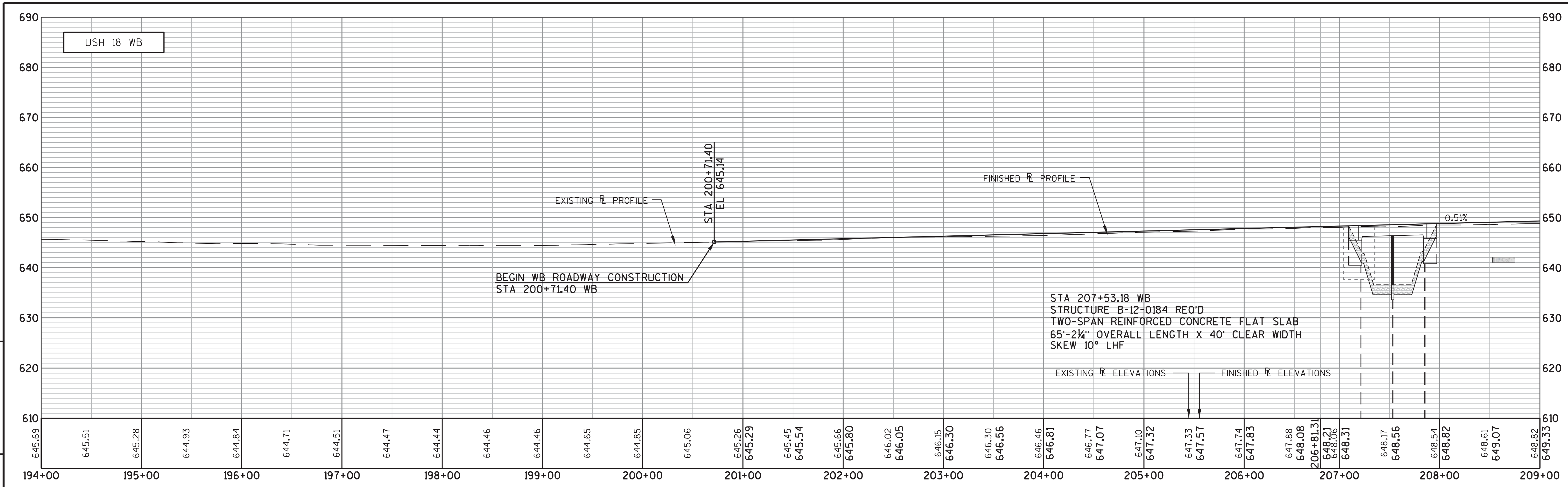
NO.	STATION	DESCRIPTION	ELEVATION
414	195+14.78, 47.3' RT	BOLT ON FIRE HYDRANT TAG 7 BURY 6	648.51'
413	207+04.27, 33.8' RT	DISK SW COR. BOX CULVERT B-12-25	645.47'

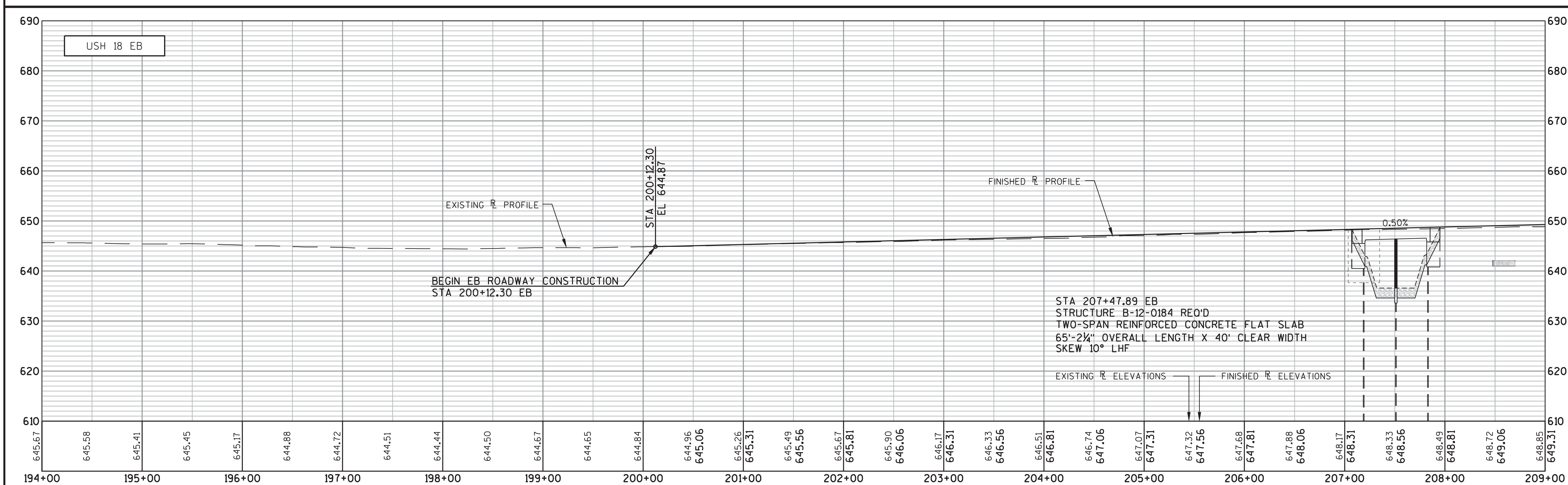
CURVE DATA USH 18 EB
DELTA = 15°26'11" LT
T = 346.34
L = 688.48
R = 2555.48
PI STA 197+60.28
PI Y = 109536.7290
PI X = 326988.1875
SE = 4.8%

CURVE DATA USH 18 WB
DELTA = 17°09'07" LT
T = 382.67
L = 759.61
R = 2537.48
PI STA 197+96.61
PI Y = 109525.3072
PI X = 327027.0904
SE = 4.8%

CURVE DATA USH 18 EB
DELTA = 0°53'50" LT
T = 110.40
L = 220.79
R = 14100.00
PI STA 205+05.62
PI Y = 109193.1628
PI X = 327654.3446
SE = NC

CURVE DATA USH 18 WB
DELTA = 0°49'06" RT
T = 100.71
L = 201.41
R = 14100.00
PI STA 205+75.47
PI Y = 109186.7121
PI X = 327734.8546
SE = NC





PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PROFILE	SHEET 265	E

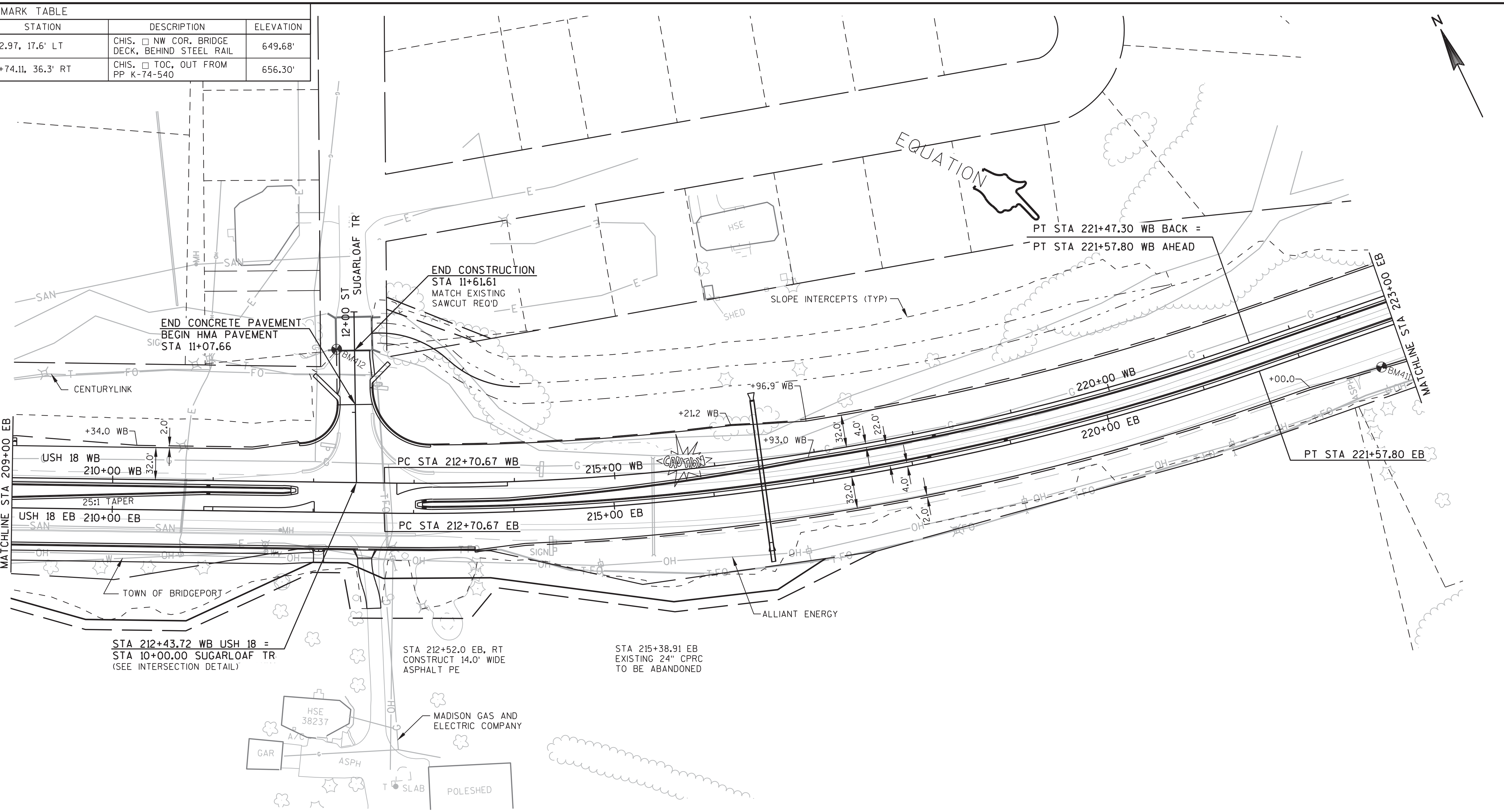
FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PPUSH18.DWG

SHEET NAME: 050301PR

BENCHMARK TABLE

NO.	STATION	DESCRIPTION	ELEVATION
412	11+62.97, 17.6' LT	CHIS. □ NW COR. BRIDGE DECK, BEHIND STEEL RAIL	649.68'
411	222+74.11, 36.3' RT	CHIS. □ TOC, OUT FROM PP K-74-540	656.30'

5



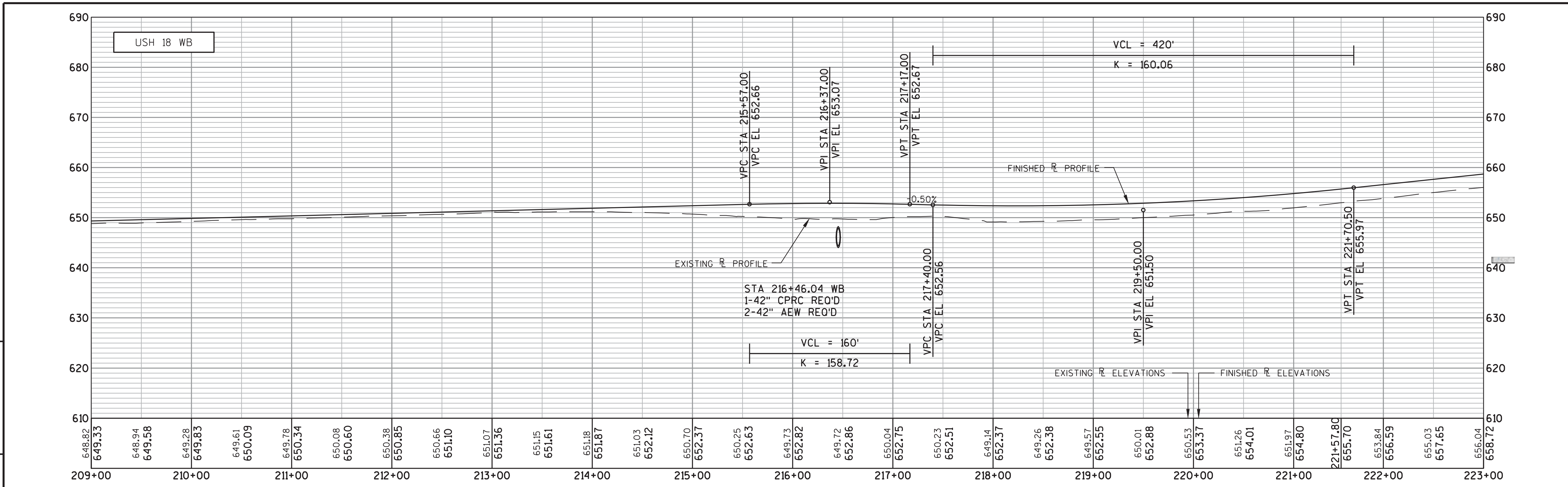
5

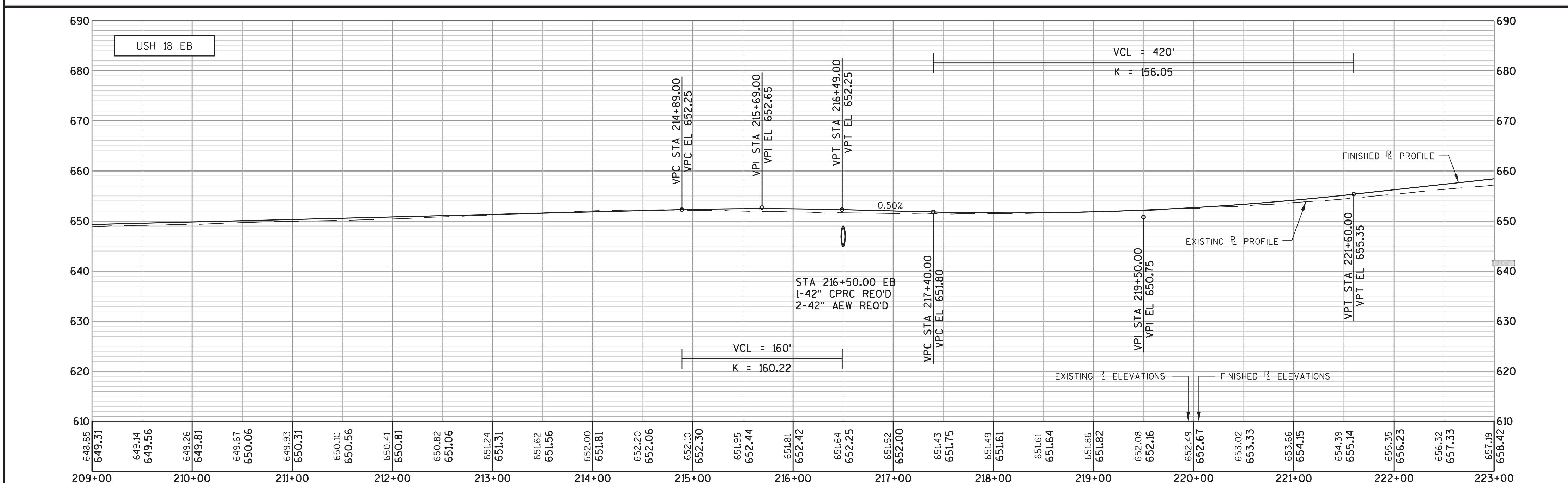
CURVE DATA USH 18 EB
DELTA = 20°03'03" LT
T = 448.15
L = 887.13
R = 2535.00
PI STA 217+18.82
PI Y = 108654.0149
PI X = 328741.1676
SE = 4.8%

CURVE DATA USH 18 WB
DELTA = 20°03'03" LT
T = 442.84
L = 876.63
R = 2505.00
PI STA 217+13.51
PI Y = 108683.2466
PI X = 328749.7485
SE = 4.9%

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PLAN	SHEET	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PPUSH18.DWG
SHEET NAME: 050202PN





PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PROFILE	SHEET 267	E

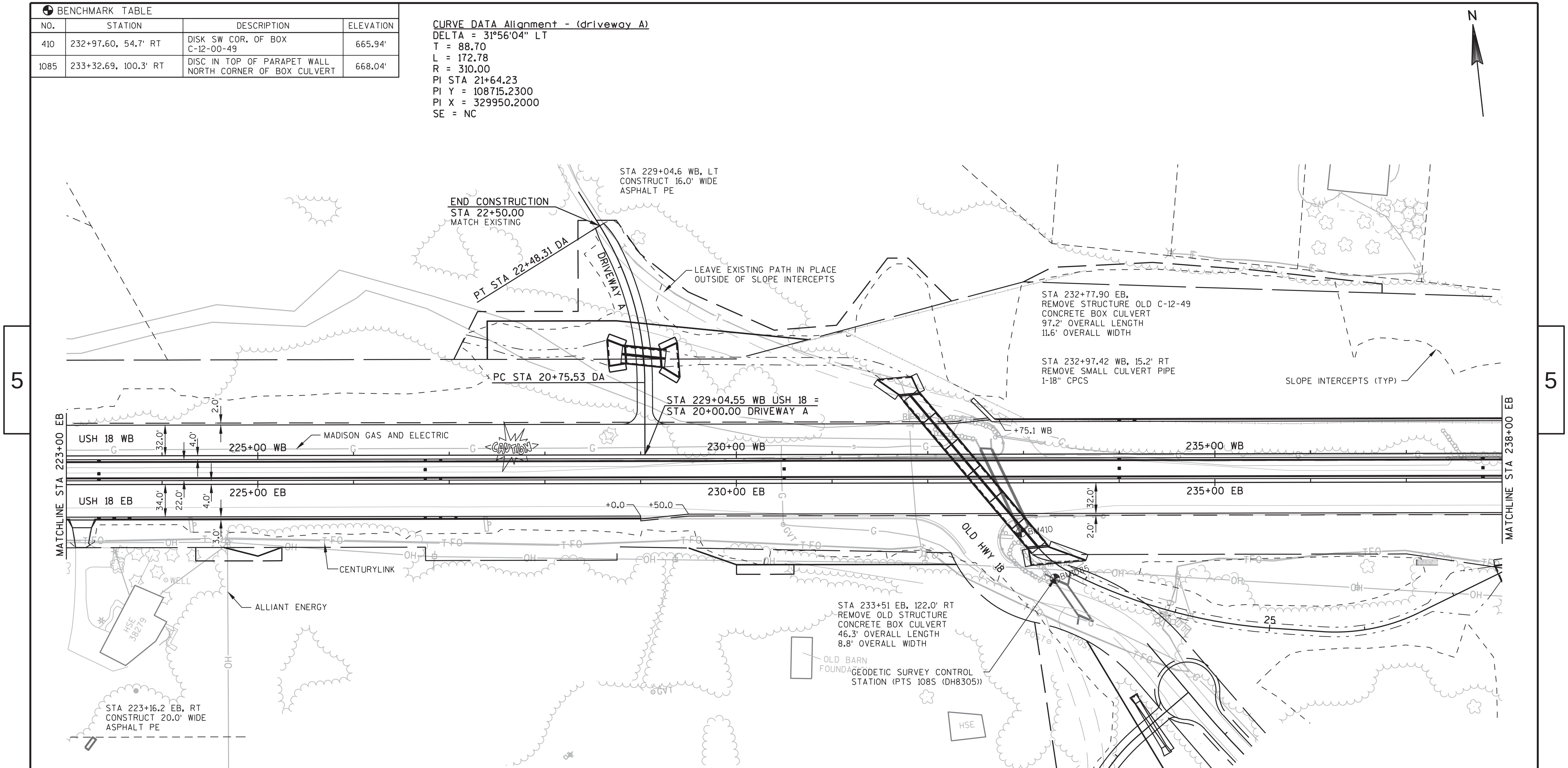
FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PPUSH18.DWG

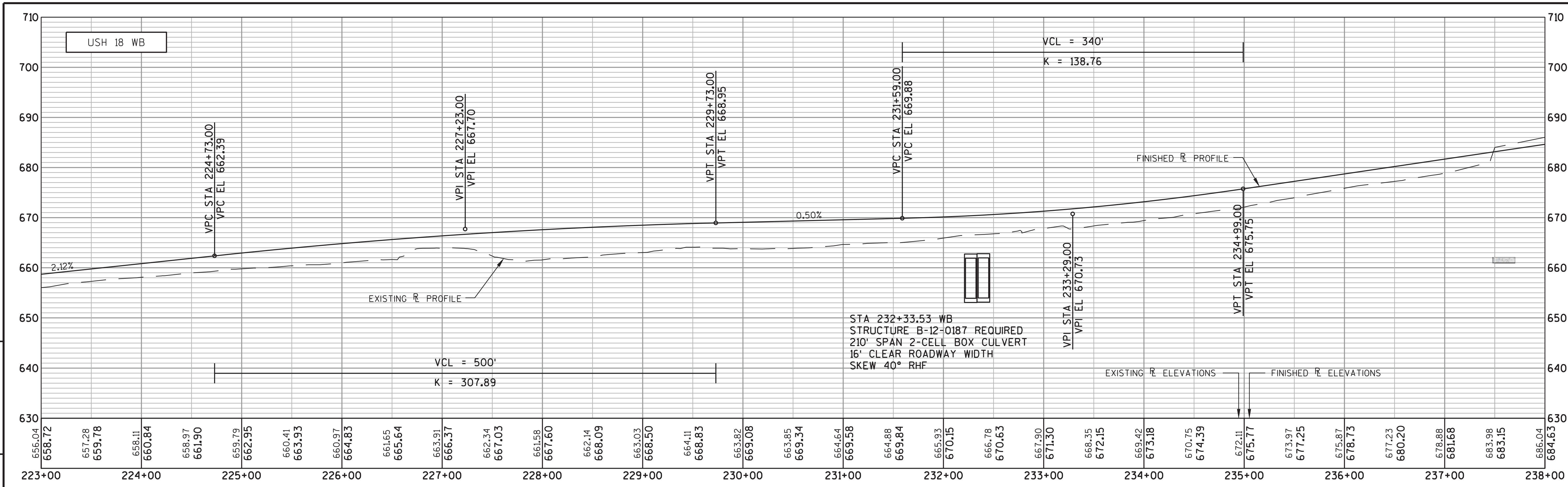
SHEET NAME: 050302PR

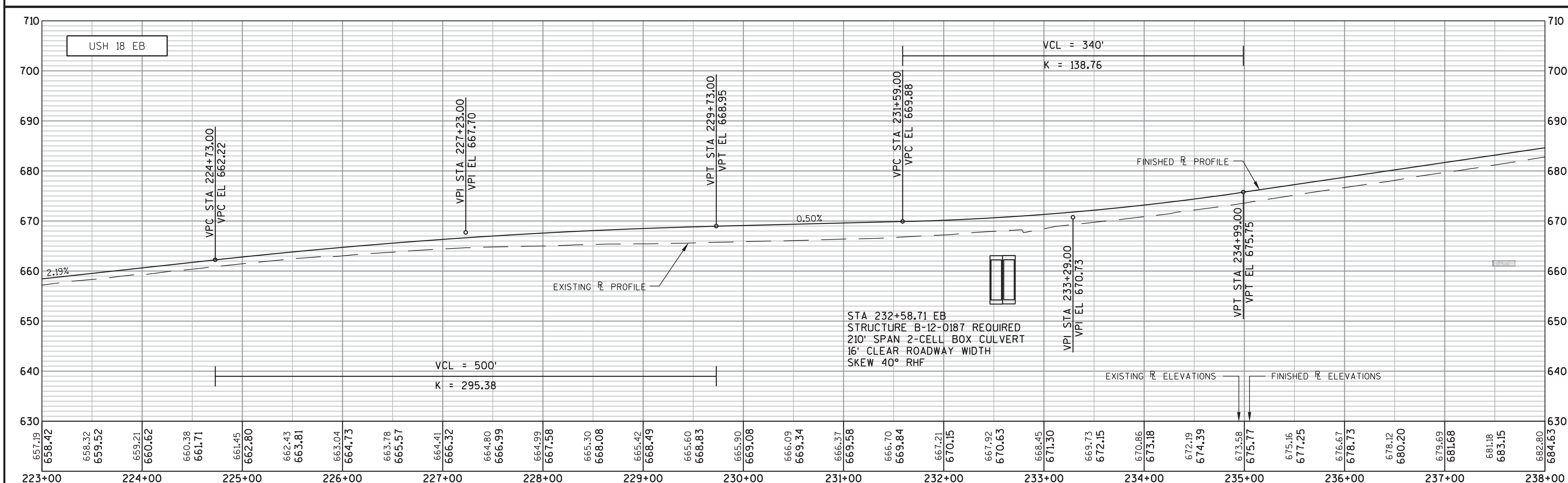
BENCHMARK TABLE

NO.	STATION	DESCRIPTION	ELEVATION
410	232+97.60, 54.7' RT	DISK SW COR. OF BOX C-12-00-49	665.94'
1085	233+32.69, 100.3' RT	DISC IN TOP OF PARAPET WALL NORTH CORNER OF BOX CULVERT	668.04'

CURVE DATA Alignment - (driveway A)
DELTA = 31°56'04" LT
T = 88.70
L = 172.78
R = 310.00
PI STA 21+64.23
PI Y = 108715.2300
PI X = 329950.2000
SE = NC







PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PROFILE	SHEET 269	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PPUSH18.DWG

SHEET NAME: 050303PR

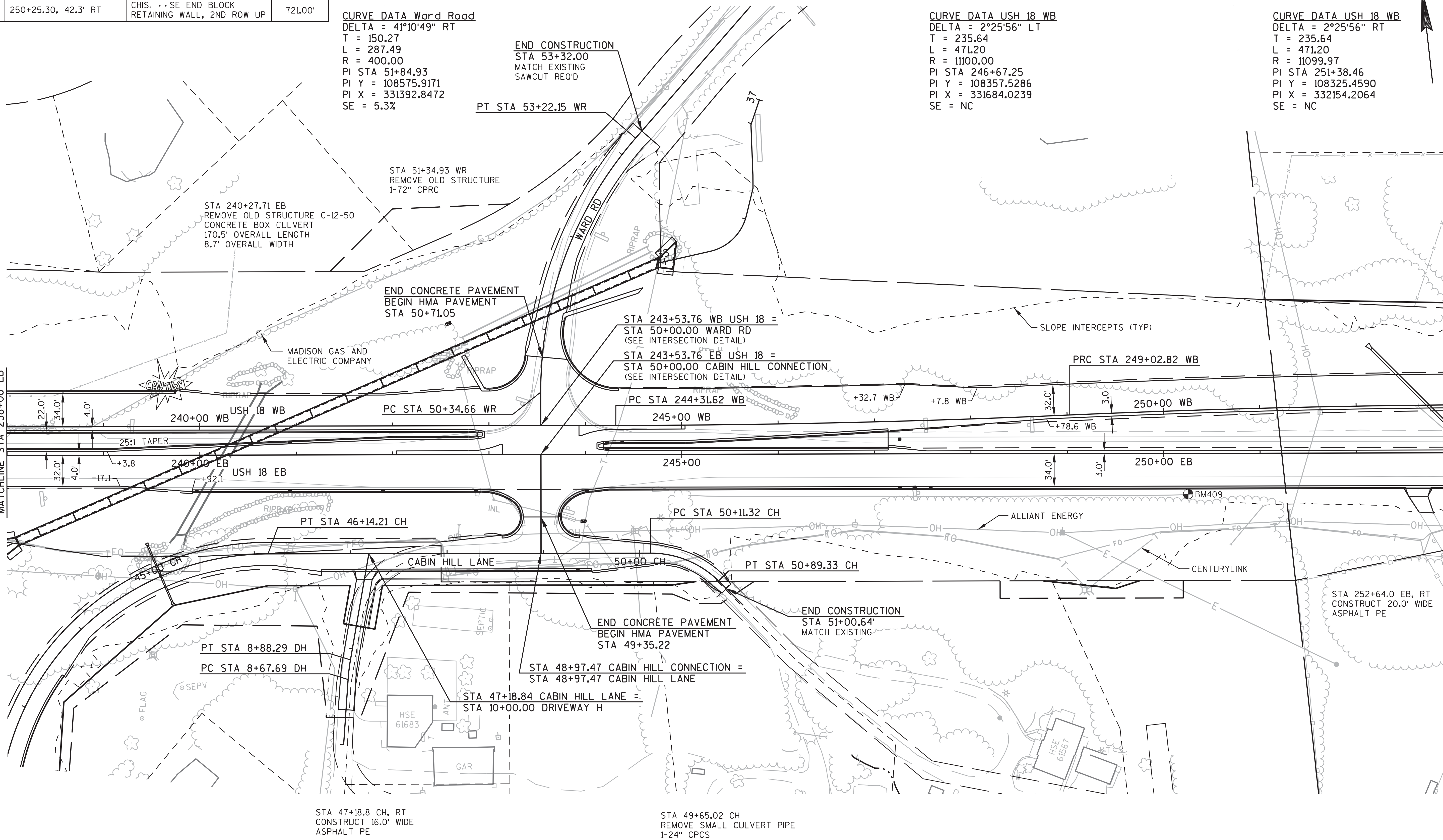
BENCHMARK TABLE

NO.	STATION	DESCRIPTION	ELEVATION
409	250+25.30, 42.3' RT	CHIS. ··SE END BLOCK RETAINING WALL, 2ND ROW UP	721.00'

CURVE DATA Ward Road
DELTA = 41°10'49" RT
T = 150.27
L = 287.49
R = 400.00
PI STA 51+84.93
PI Y = 108575.9171
PI X = 331392.8472
SE = 5.3%

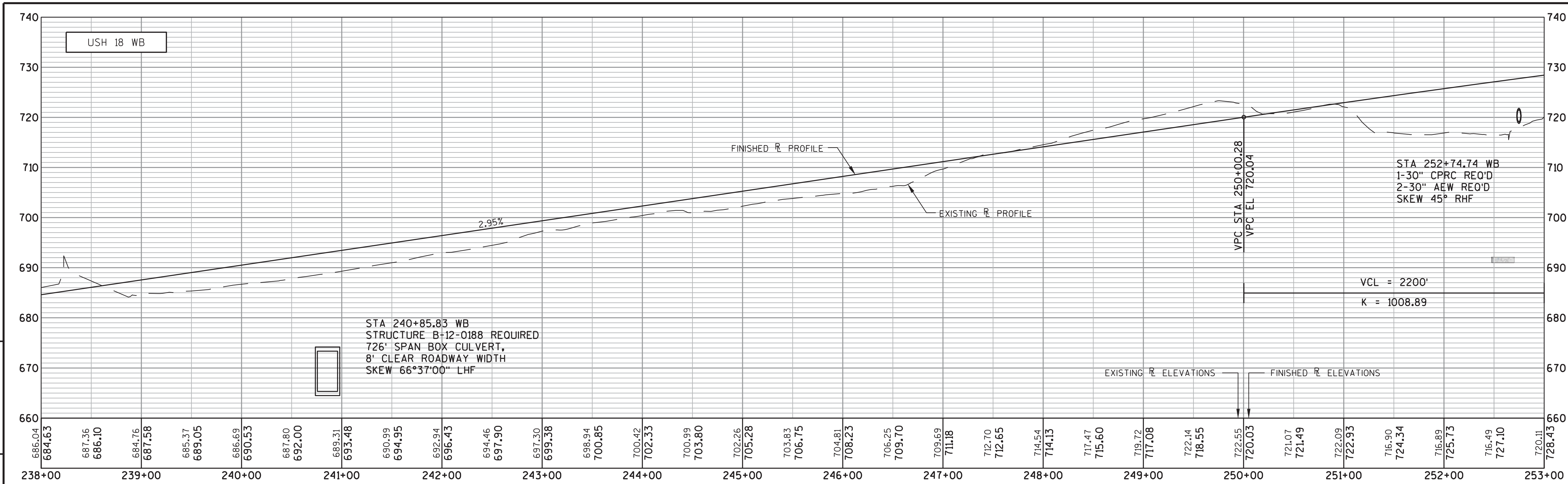
CURVE DATA USH 18 WB
DELTA = 2°25'56" LT
T = 235.64
L = 471.20
R = 11100.00
PI STA 246+67.25
PI Y = 108357.5286
PI X = 331684.0239
SE = NC

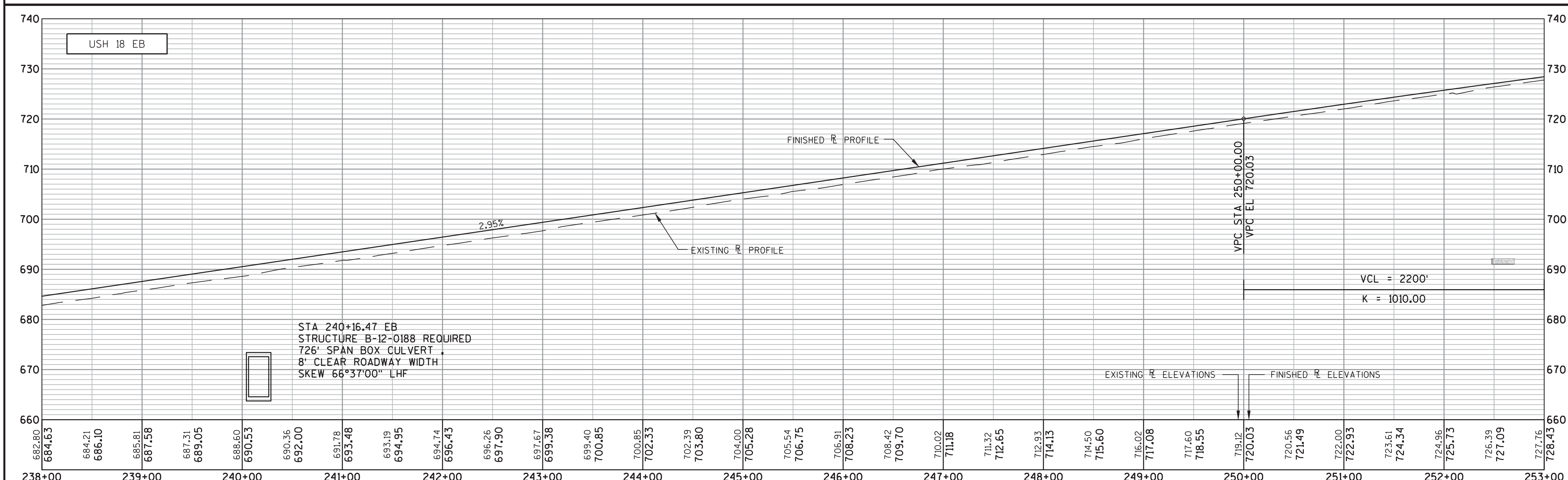
CURVE DATA USH 18 WB
DELTA = 2°25'56" RT
T = 235.64
L = 471.20
R = 11099.97
PI STA 251+38.46
PI Y = 108325.4590
PI X = 332154.2064
SE = NC



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PLAN	SHEET 270	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PPUSH18.DWG
SHEET NAME: 050204PN





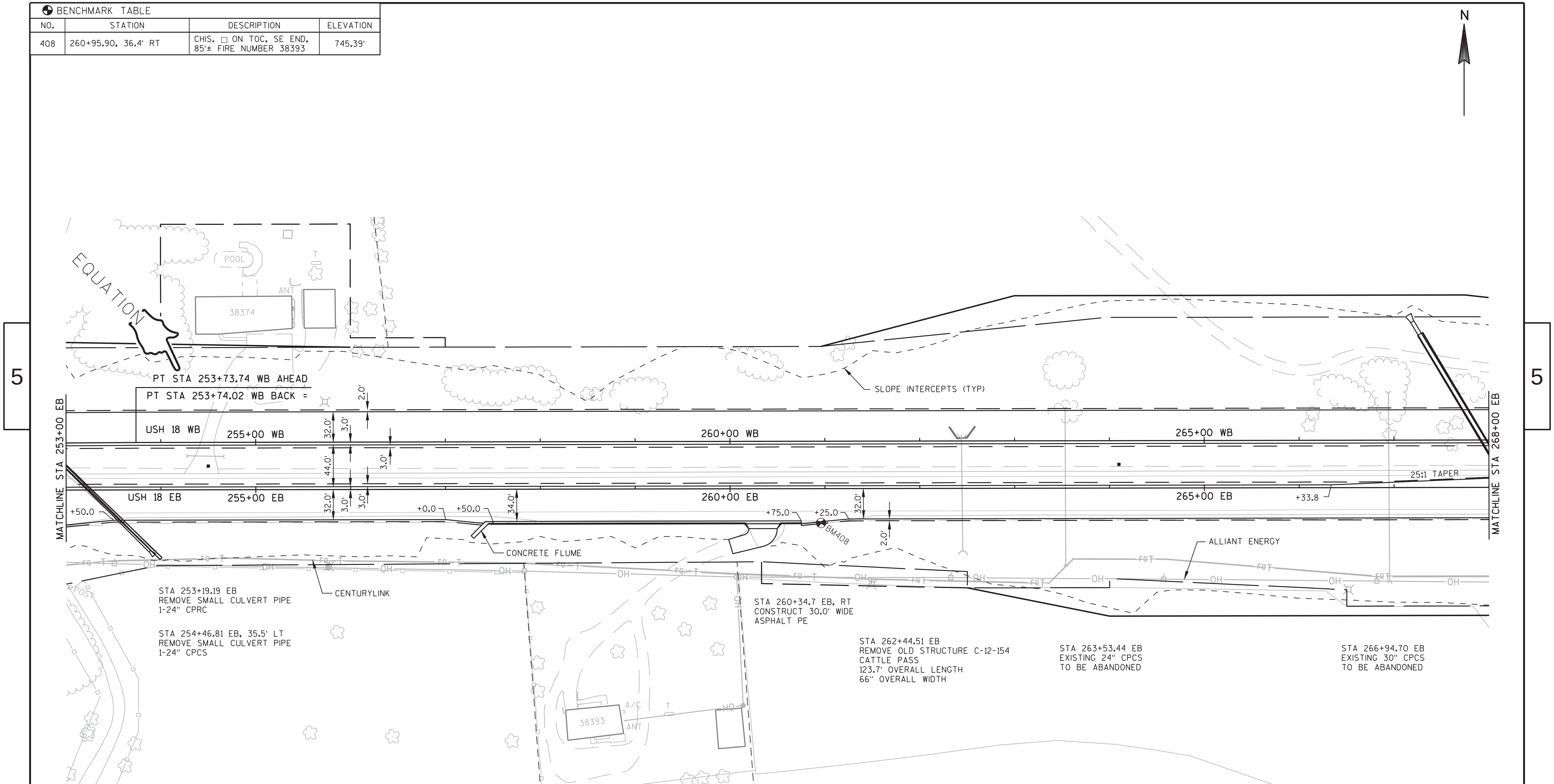
PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PROFILE	SHEET 271	E

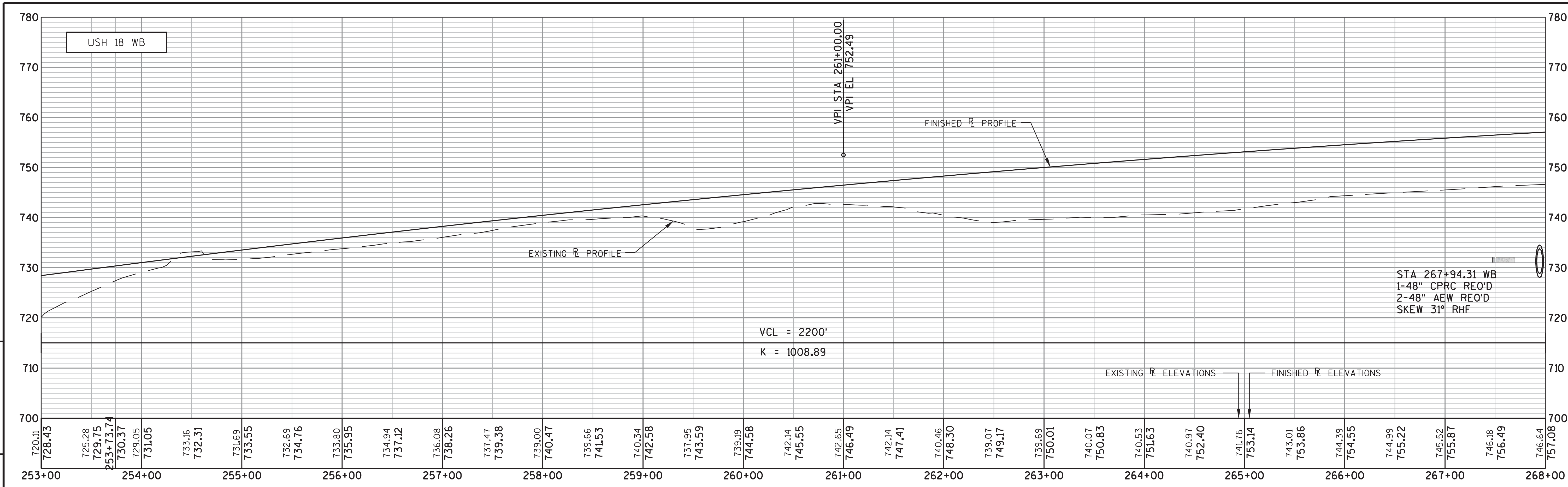
FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PPUSH18.DWG

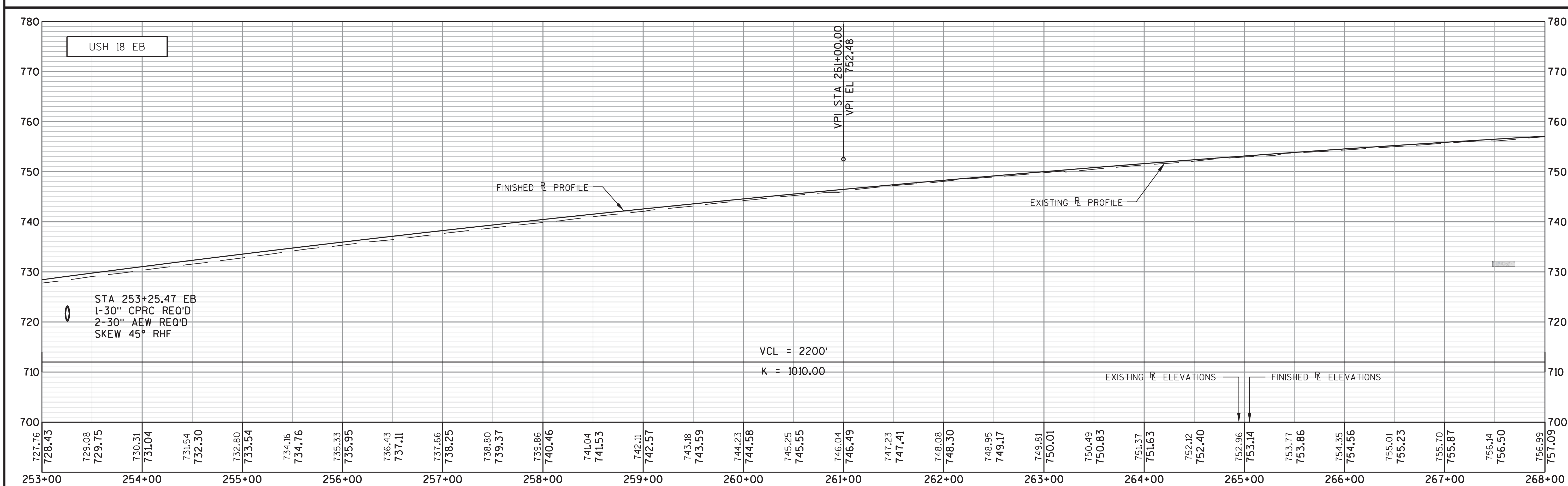
SHEET NAME: 050304PR

BENCHMARK TABLE

NO.	STATION	DESCRIPTION	ELEVATION
408	260+95.90, 36.4' RT	CHIS. □ ON TOC, SE END. 85'± FIRE NUMBER 38393	745.39'







5

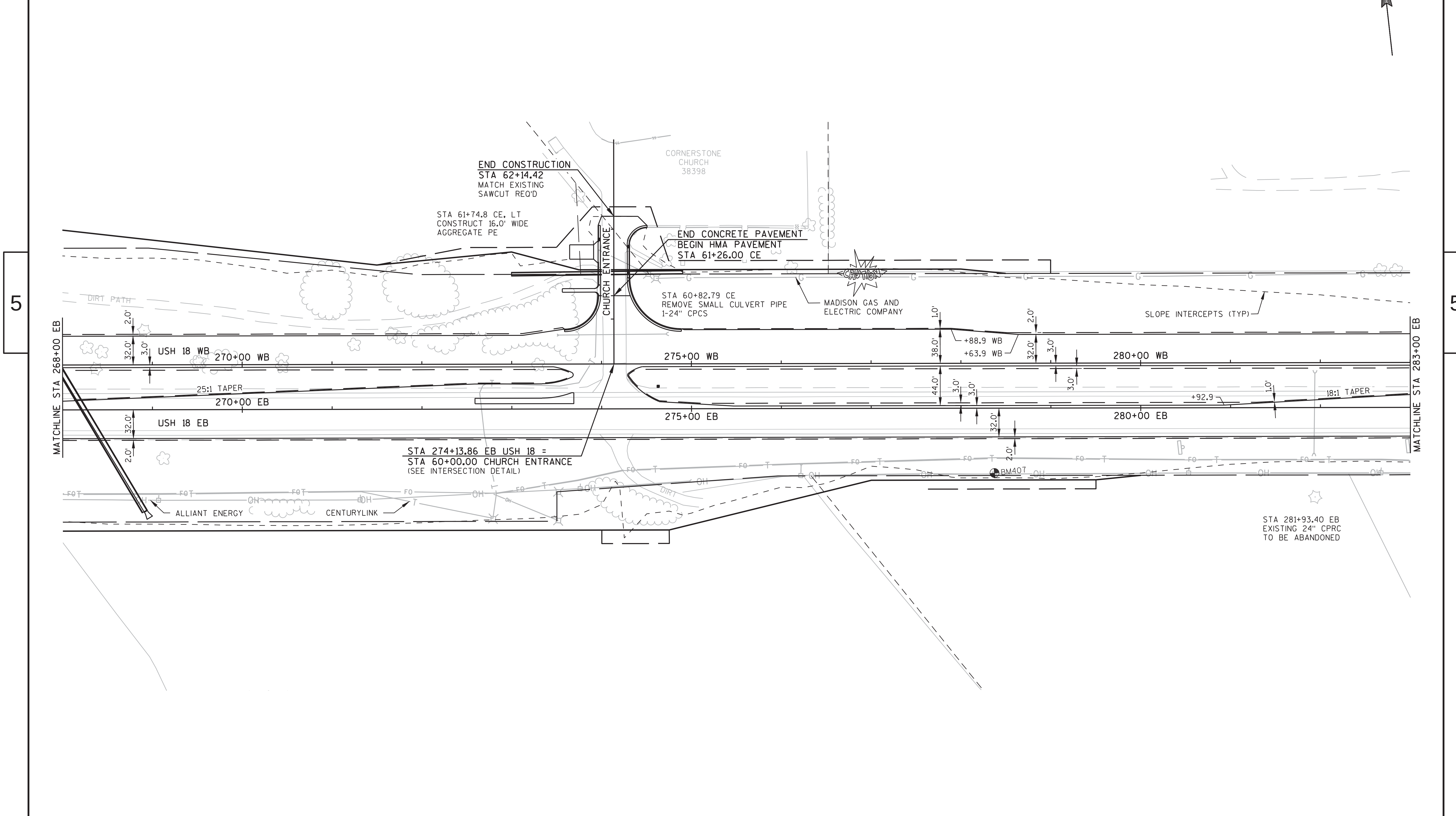
5

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PROFILE	SHEET 273	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PPUSH18.DWG

SHEET NAME: 050305PR

BENCHMARK TABLE			
NO.	STATION	DESCRIPTION	ELEVATION
407	278+37.17, 72.3' RT	RR SPIKE IN PP #OM/34 0.2 MI± NW OF UTOPIA LN.	764.88'

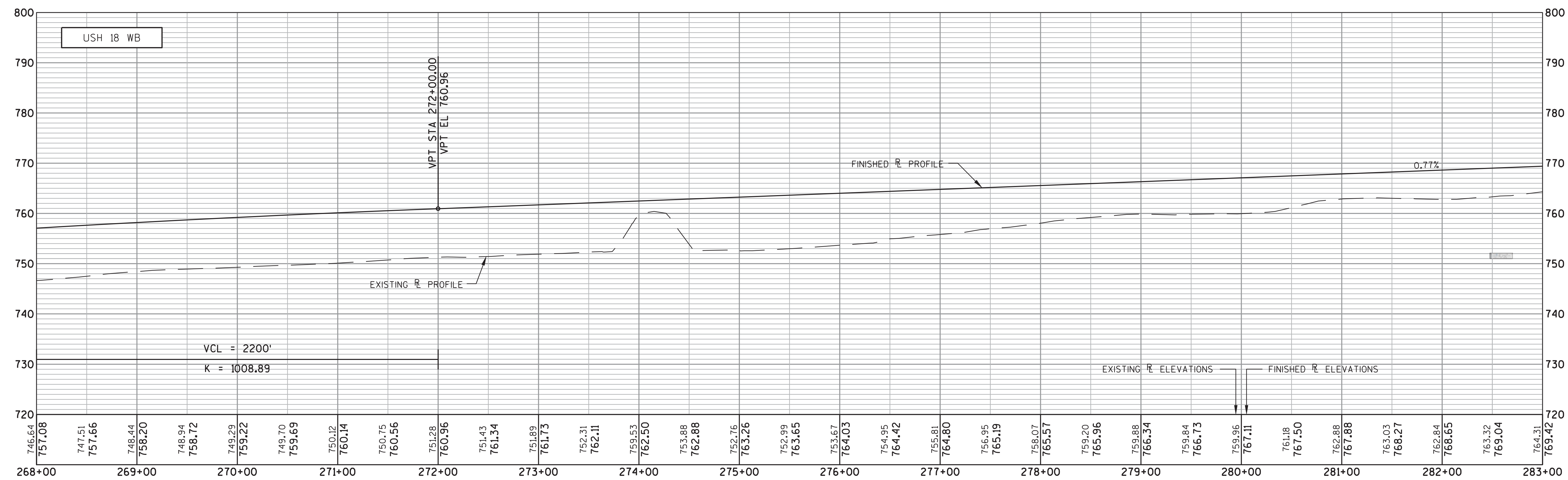


PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PLAN	SHEET 274	E

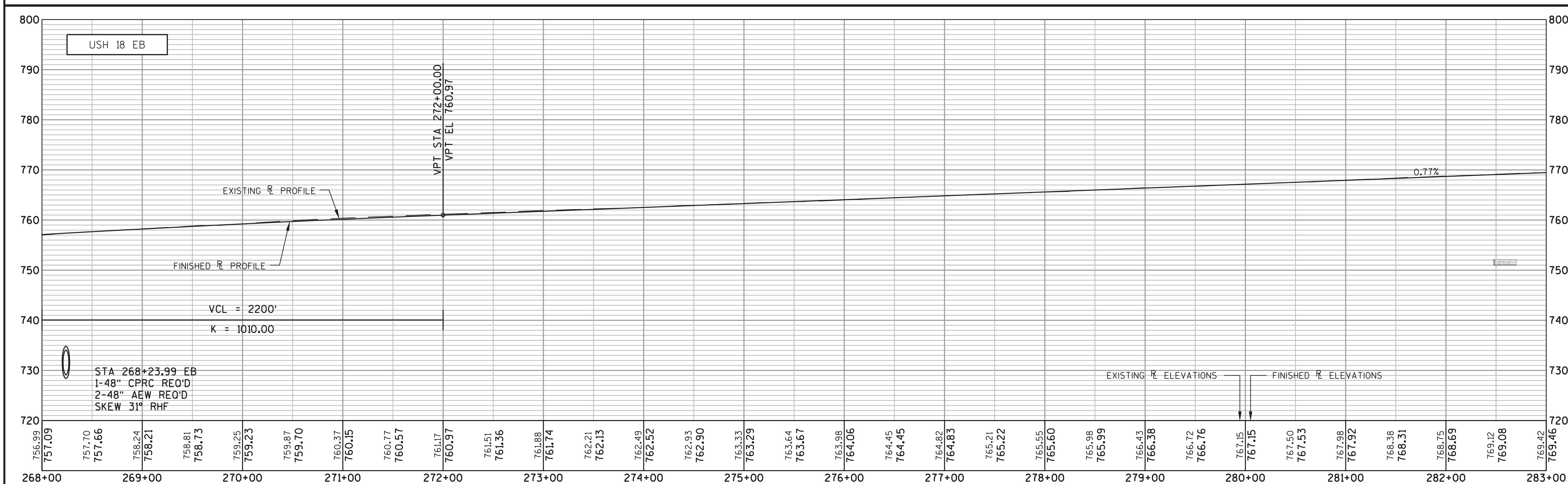
FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PPUSH18.DWG

SHEET NAME: 050206PN

5



5



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PROFILE	SHEET	E

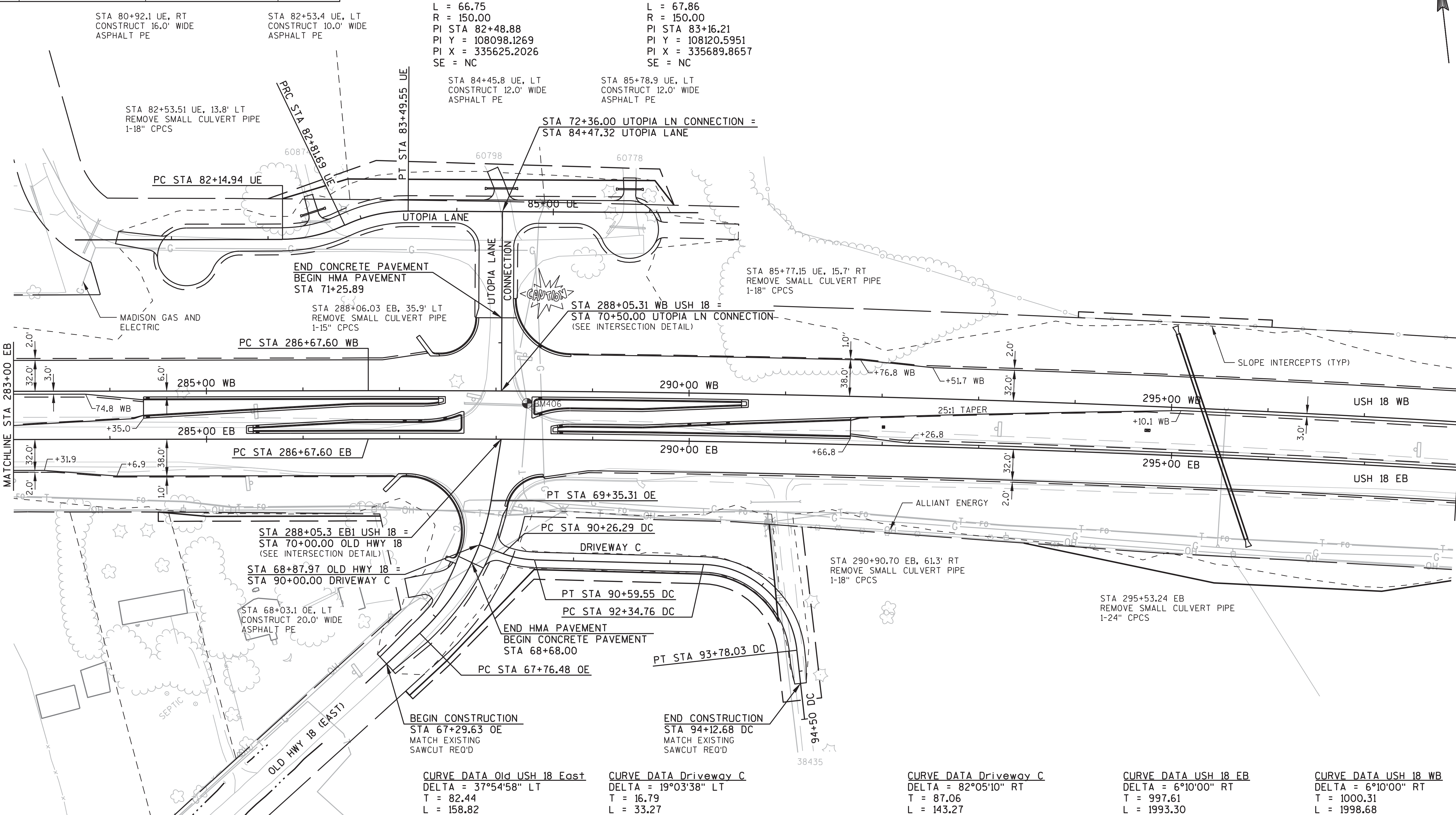
FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PPUSH18.DWG
SHEET NAME: 050306PR

BENCHMARK TABLE

NO.	STATION	DESCRIPTION	ELEVATION
406	288+32.47, 12.7' RT	CHIS. □ ON TOP OF CURB, MIDPOINT OF RADIUS	773.35'

CURVE DATA Utopia Frontage Road
DELTA = 25°29'41" LT
T = 33.93
L = 66.75
R = 150.00
PI STA 82+48.88
PI Y = 108098.1269
PI X = 335625.2026
SE = NC

CURVE DATA Utopia Frontage Road
DELTA = 25°55'15" RT
T = 34.52
L = 67.86
R = 150.00
PI STA 83+16.21
PI Y = 108120.5951
PI X = 335689.8657
SE = NC



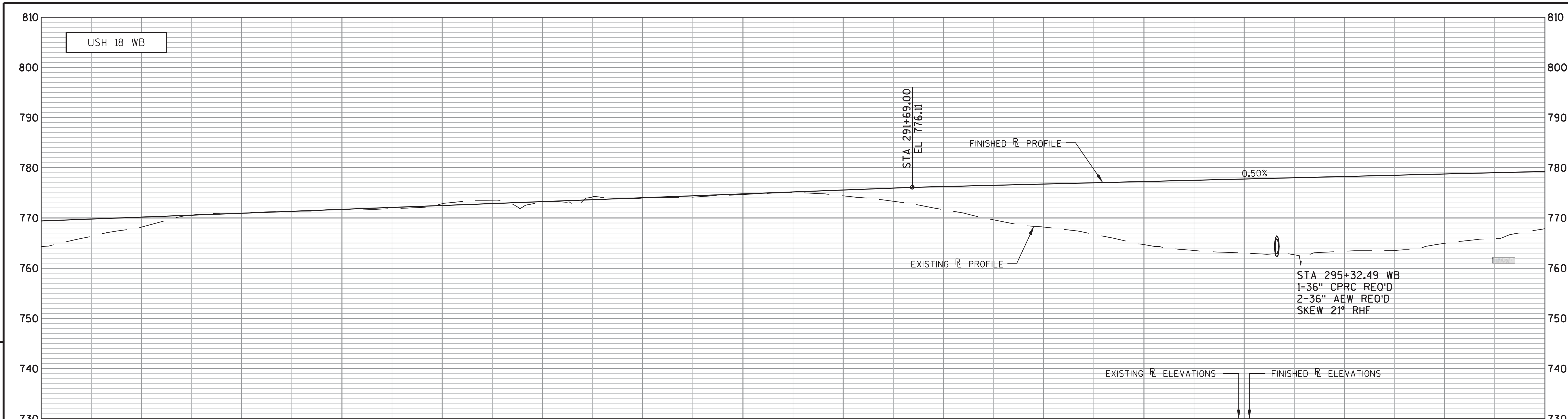
CURVE DATA Old USH 18 East
DELTA = 37°54'58" LT
T = 82.44
L = 158.82
R = 240.00
PI STA 68+58.92
PI Y = 107729.0578
PI X = 335753.4906
SE = RC

CURVE DATA Driveway C
DELTA = 19°03'38" LT
T = 16.79
L = 33.27
R = 100.00
PI STA 90+43.07
PI Y = 107744.8113
PI X = 335796.9927
SE = NC

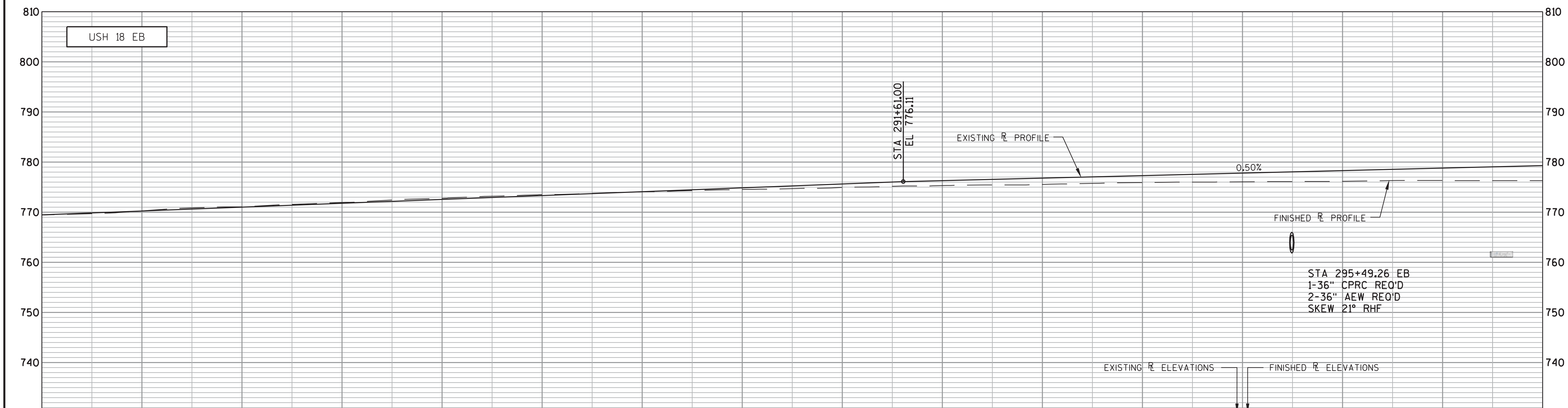
CURVE DATA Driveway C
DELTA = 82°05'10" RT
T = 87.06
L = 143.27
R = 100.00
PI STA 93+21.82
PI Y = 107705.9776
PI X = 336073.3331
SE = NC

CURVE DATA USH 18 EB
DELTA = 6°10'00" RT
T = 997.61
L = 1993.30
R = 18520.00
PI STA 296+65.21
PI Y = 107776.3025
PI X = 336648.1601
SE = NC

CURVE DATA USH 18 WB
DELTA = 6°10'00" RT
T = 1000.31
L = 1998.68
R = 18570.00
PI STA 296+67.90
PI Y = 107825.7001
PI X = 336656.3534
SE = NC



Station	Existing ℄ Elevation	Finished ℄ Elevation
283+00	764.31	769.42
	766.33	769.81
284+00	768.18	770.19
	770.60	770.58
285+00	771.01	770.96
	771.34	771.35
286+00	771.65	771.73
	771.87	772.12
287+00	772.84	772.50
	773.42	772.89
288+00	773.22	773.27
	774.21	773.65
289+00	773.94	774.04
	774.14	774.42
290+00	774.69	774.81
	775.04	775.19
291+00	774.41	775.58
	773.34	775.96
292+00	771.68	776.27
	769.64	776.52
293+00	768.20	776.77
	766.75	777.02
294+00	764.70	777.27
	763.53	777.52
295+00	763.01	777.77
	762.68	778.02
296+00	763.38	778.27
	763.54	778.52
297+00	764.96	778.77
	765.88	779.02
298+00	767.87	779.27



Station	Existing ℄ Elevation	Finished ℄ Elevation
283+00	769.42	769.46
	769.71	769.85
284+00	770.26	770.24
	770.84	770.62
285+00	771.07	771.01
	771.56	771.39
286+00	771.92	771.78
	772.42	772.17
287+00	772.77	772.55
	773.19	772.94
288+00	773.49	773.32
	773.75	773.71
289+00	774.05	774.10
	774.28	774.48
290+00	774.52	774.87
	774.69	775.25
291+00	774.92	775.64
	775.16	776.03
292+00	775.29	776.30
	775.44	776.55
293+00	775.54	776.80
	775.73	777.05
294+00	775.91	777.30
	775.99	777.54
295+00	776.04	777.79
	776.10	778.04
296+00	776.18	778.29
	776.30	778.54
297+00	776.31	778.78
	776.30	779.03
298+00	776.31	779.28

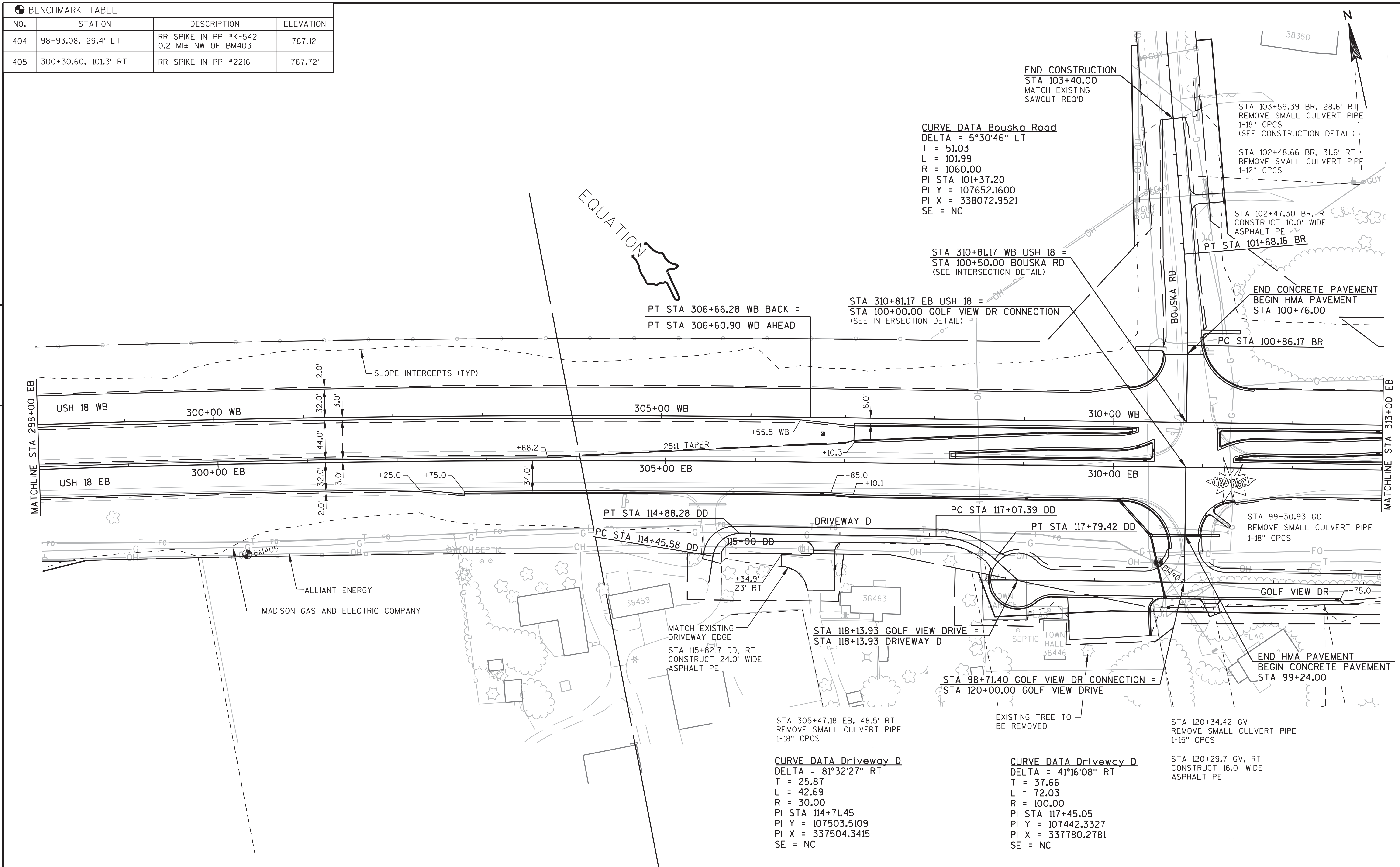
5

PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | PROFILE | SHEET 277 | E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PPUSH18.DWG

SHEET NAME: 050307PR

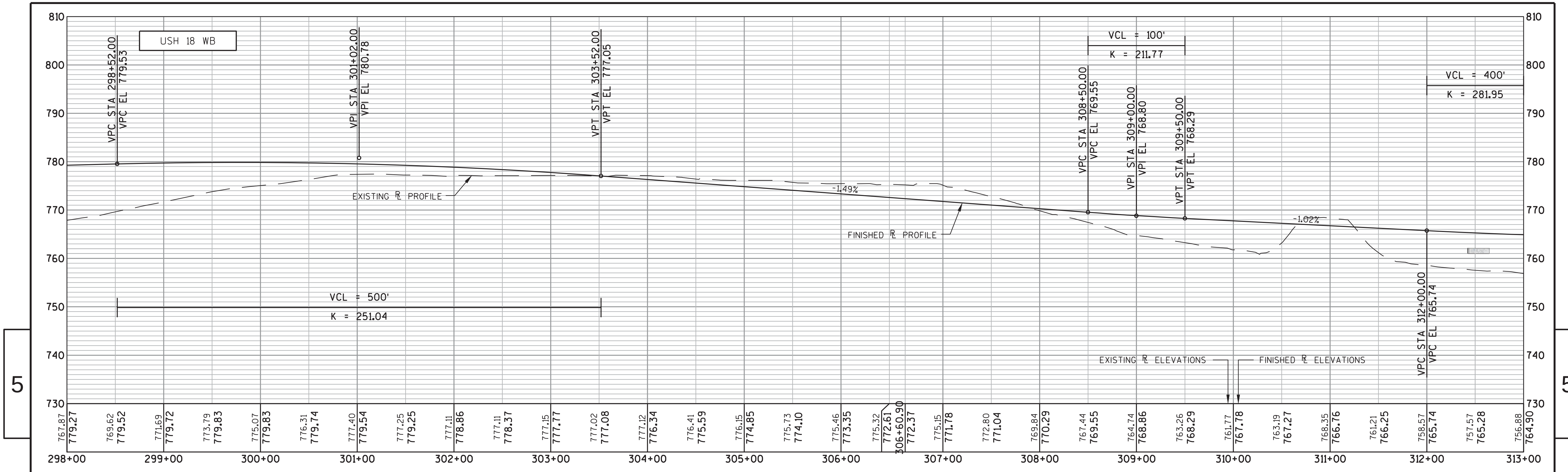
BENCHMARK TABLE			
NO.	STATION	DESCRIPTION	ELEVATION
404	98+93.08, 29.4' LT	RR SPIKE IN PP #K-542 0.2 MI± NW OF BM403	767.12'
405	300+30.60, 101.3' RT	RR SPIKE IN PP #2216	767.72'

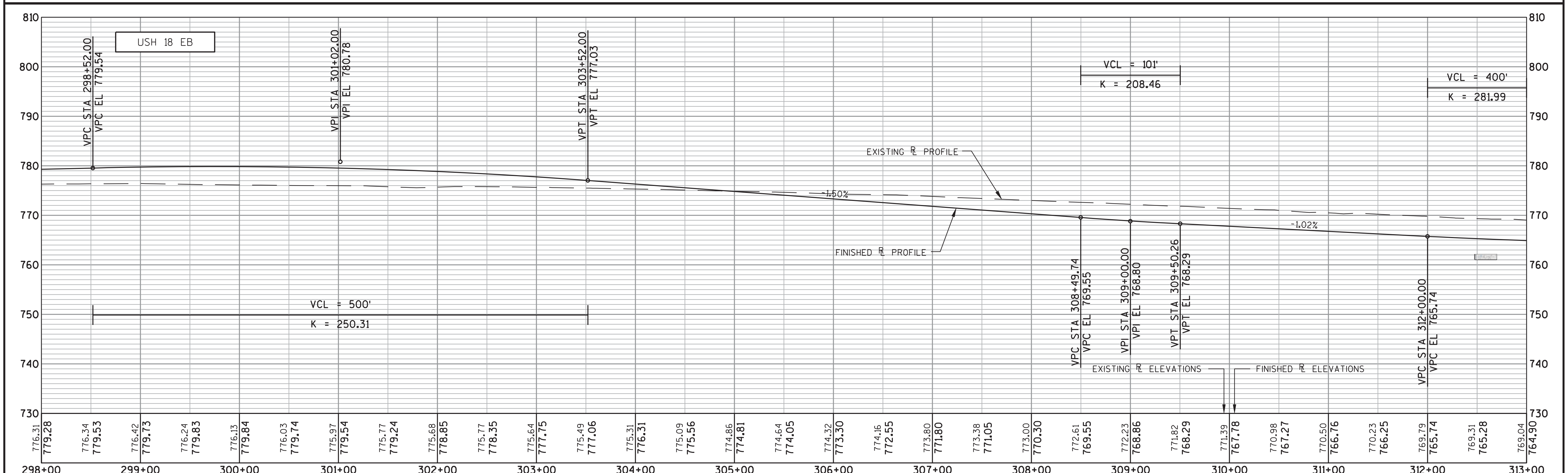


PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PLAN	SHEET 278	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PPUSH18.DWG

SHEET NAME: 050208PN





PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PROFILE	SHEET 279	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PPUSH18.DWG

SHEET NAME: 050308PR

BENCHMARK TABLE			
NO.	STATION	DESCRIPTION	ELEVATION
403	322+17.93, 108.9' RT	RR SPIKE IN PP #42-28 0.2 MI± NW OF BM402	767.65'

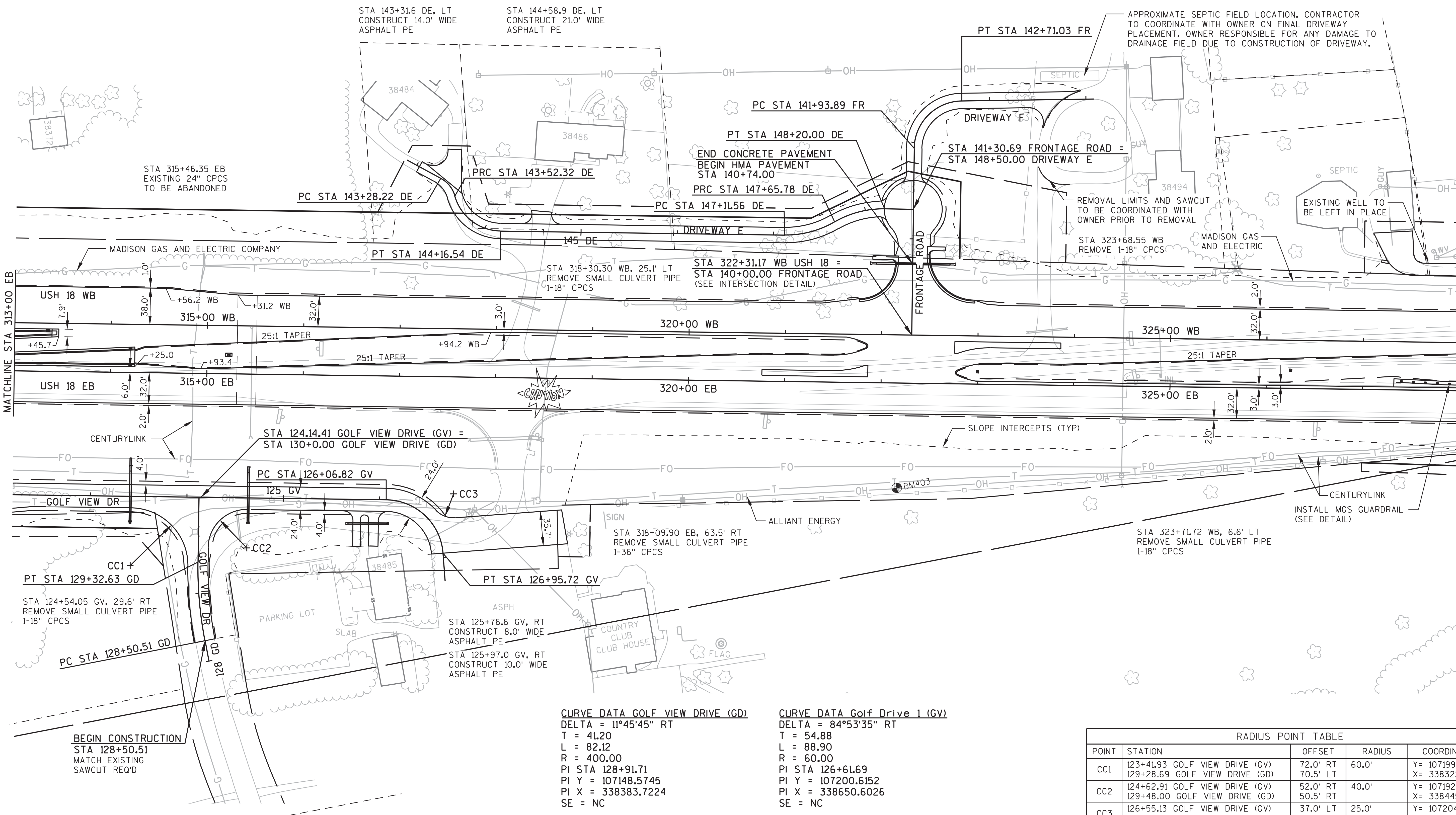
CURVE DATA Driveway E
DELTA = 46°00'50" RT
T = 12.74
L = 24.09
R = 30.00
PI STA 143+40.96
PI Y = 107519.6827
PI X = 338730.0732
SE = NC

CURVE DATA Driveway E
DELTA = 73°36'02" LT
T = 37.41
L = 64.23
R = 50.00
PI STA 143+89.72
PI Y = 107469.6549
PI X = 338733.4824
SE = NC

CURVE DATA Driveway E
DELTA = 31°04'00" LT
T = 27.79
L = 54.22
R = 100.00
PI STA 147+39.35
PI Y = 107391.6851
PI X = 339085.1561
SE = NC

CURVE DATA Driveway E
DELTA = 31°04'00" RT
T = 27.79
L = 54.22
R = 100.00
PI STA 147+93.57
PI Y = 107409.3844
PI X = 339137.8531
SE = NC

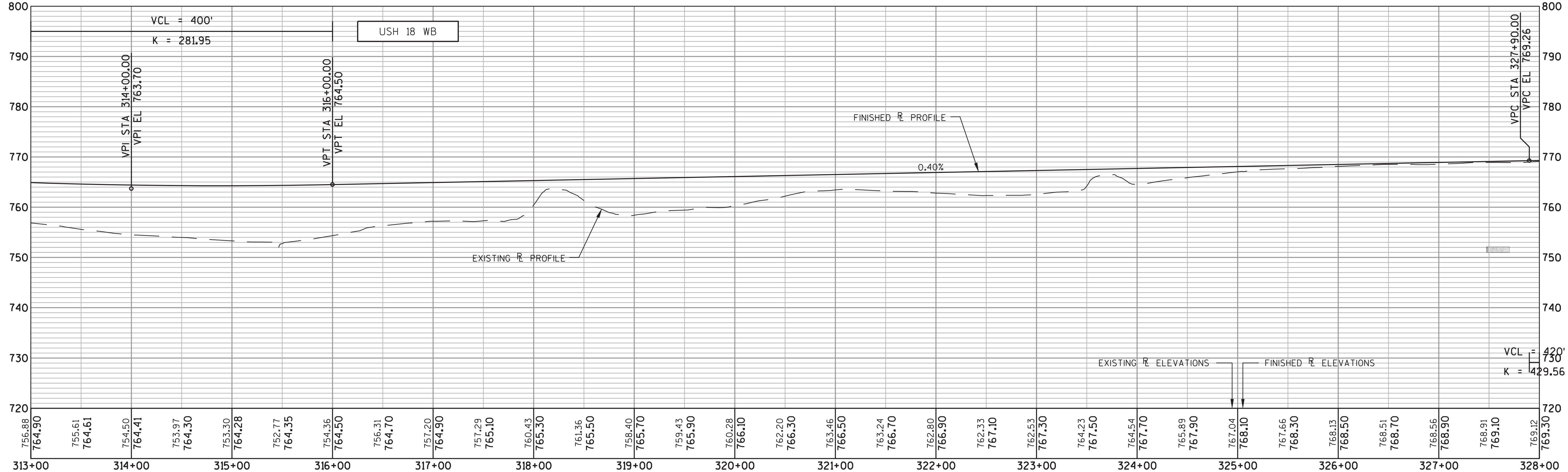
CURVE DATA DRIVEWAY F
DELTA = 88°23'32"
T = 48.62
L = 77.14
R = 50.00
PI STA 142+42.50
PI Y = 107506.0421
PI X = 339218.4816
SE =



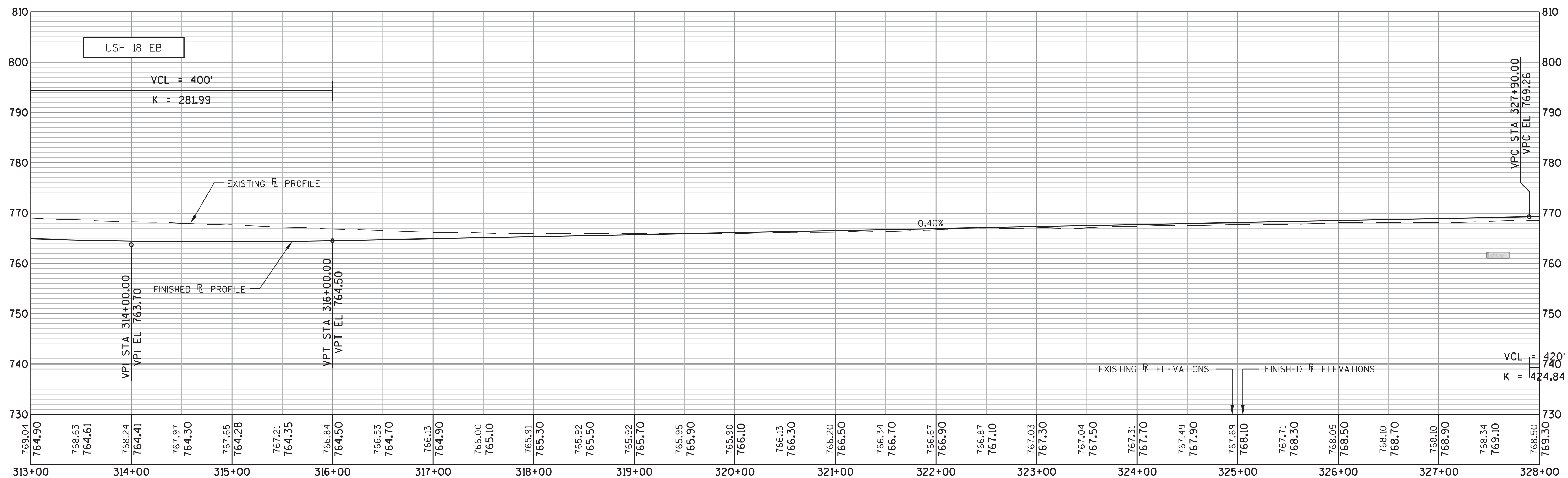
CURVE DATA GOLF VIEW DRIVE (GD)
DELTA = 11°45'45" RT
T = 41.20
L = 82.12
R = 400.00
PI STA 128+91.71
PI Y = 107148.5745
PI X = 338383.7224
SE = NC

CURVE DATA Golf Drive 1 (GV)
DELTA = 84°53'35" RT
T = 54.88
L = 88.90
R = 60.00
PI STA 126+61.69
PI Y = 107200.6152
PI X = 338650.6026
SE = NC

RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	123+41.93 GOLF VIEW DRIVE (GV) 129+28.69 GOLF VIEW DRIVE (GD)	72.0' RT 70.5' LT	60.0'	Y= 107199.537 X= 338322.833
CC2	124+62.91 GOLF VIEW DRIVE (GV) 129+48.00 GOLF VIEW DRIVE (GD)	52.0' RT 50.5' RT	40.0'	Y= 107192.877 X= 338445.271
CC3	126+55.13 GOLF VIEW DRIVE (GV) 317+57.93 USH 18 EB	37.0' LT 121.4' RT	25.0'	Y= 107204.396 X= 338666.869



5



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PROFILE	SHEET 281	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PPUSH18.DWG

SHEET NAME: 050309PR

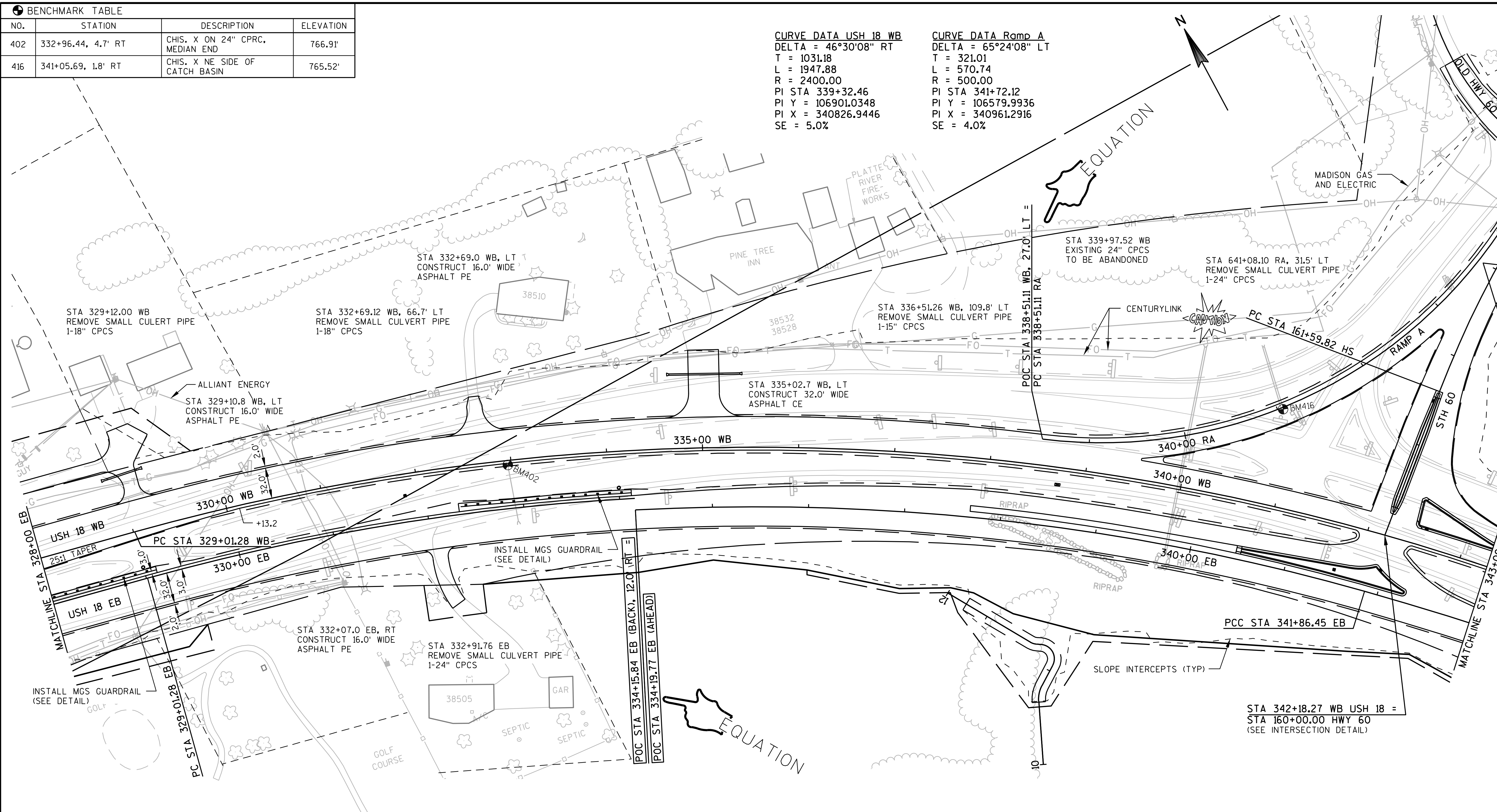
5

BENCHMARK TABLE

NO.	STATION	DESCRIPTION	ELEVATION
402	332+96.44, 4.7' RT	CHIS. X ON 24" CPRC, MEDIAN END	766.91'
416	341+05.69, 1.8' RT	CHIS. X NE SIDE OF CATCH BASIN	765.52'

CURVE DATA USH 18 WB
DELTA = 46°30'08" RT
T = 1031.18
L = 1947.88
R = 2400.00
PI STA 339+32.46
PI Y = 106901.0348
PI X = 340826.9446
SE = 5.0%

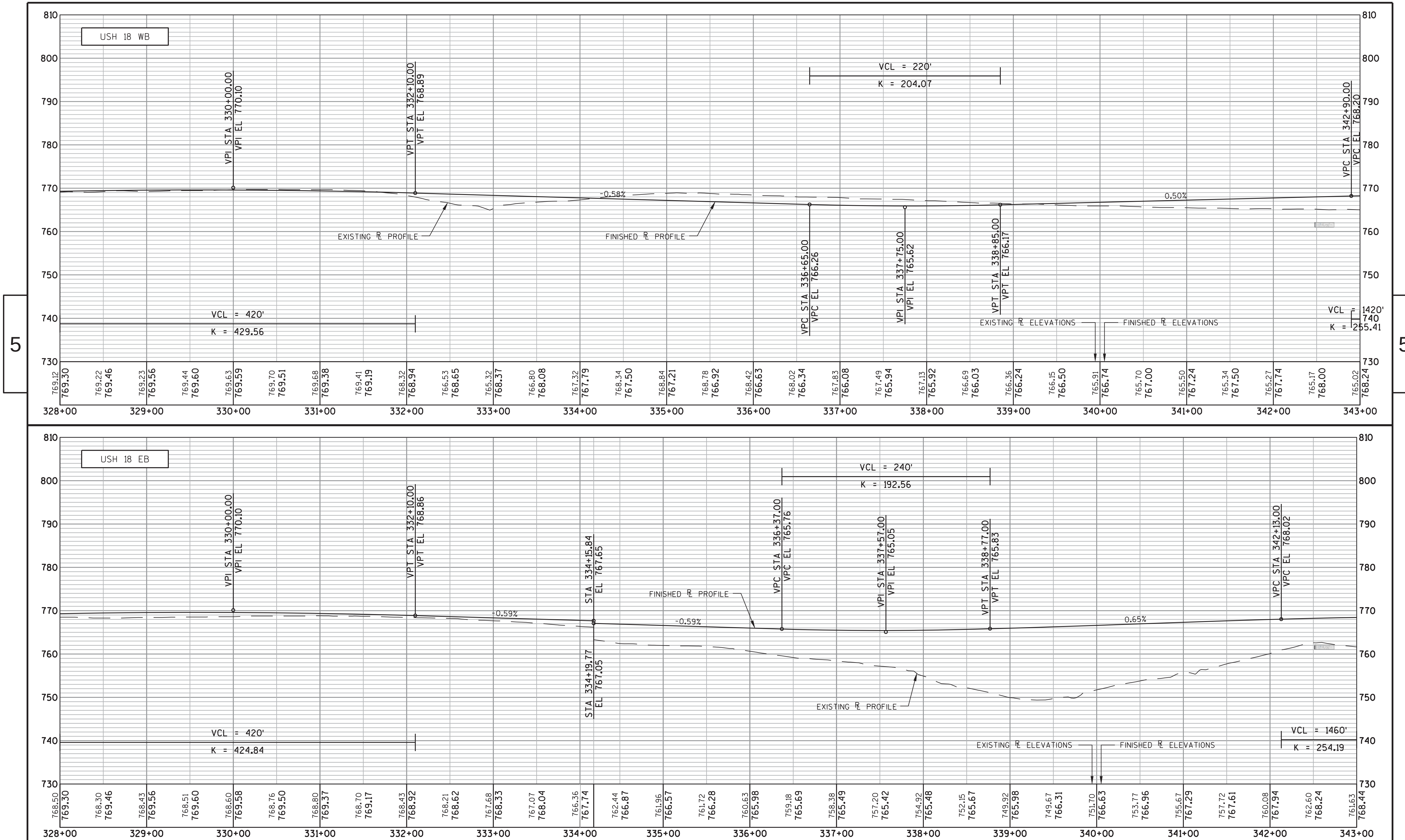
CURVE DATA Ramp A
DELTA = 65°24'08" LT
T = 321.01
L = 570.74
R = 500.00
PI STA 341+72.12
PI Y = 106579.9936
PI X = 340961.2916
SE = 4.0%



CURVE DATA USH 18 EB
DELTA = 12°32'44" RT
T = 258.31
L = 514.56
R = 2350.00
PI STA 331+59.59
PI Y = 107019.5099
PI X = 340061.5815
SE = 5.0%

CURVE DATA USH 18 EB
DELTA = 18°47'19" RT
T = 386.81
L = 766.68
R = 2338.00
PI STA 338+06.58
PI Y = 106735.5233
PI X = 340640.9612
SE = 5.0%

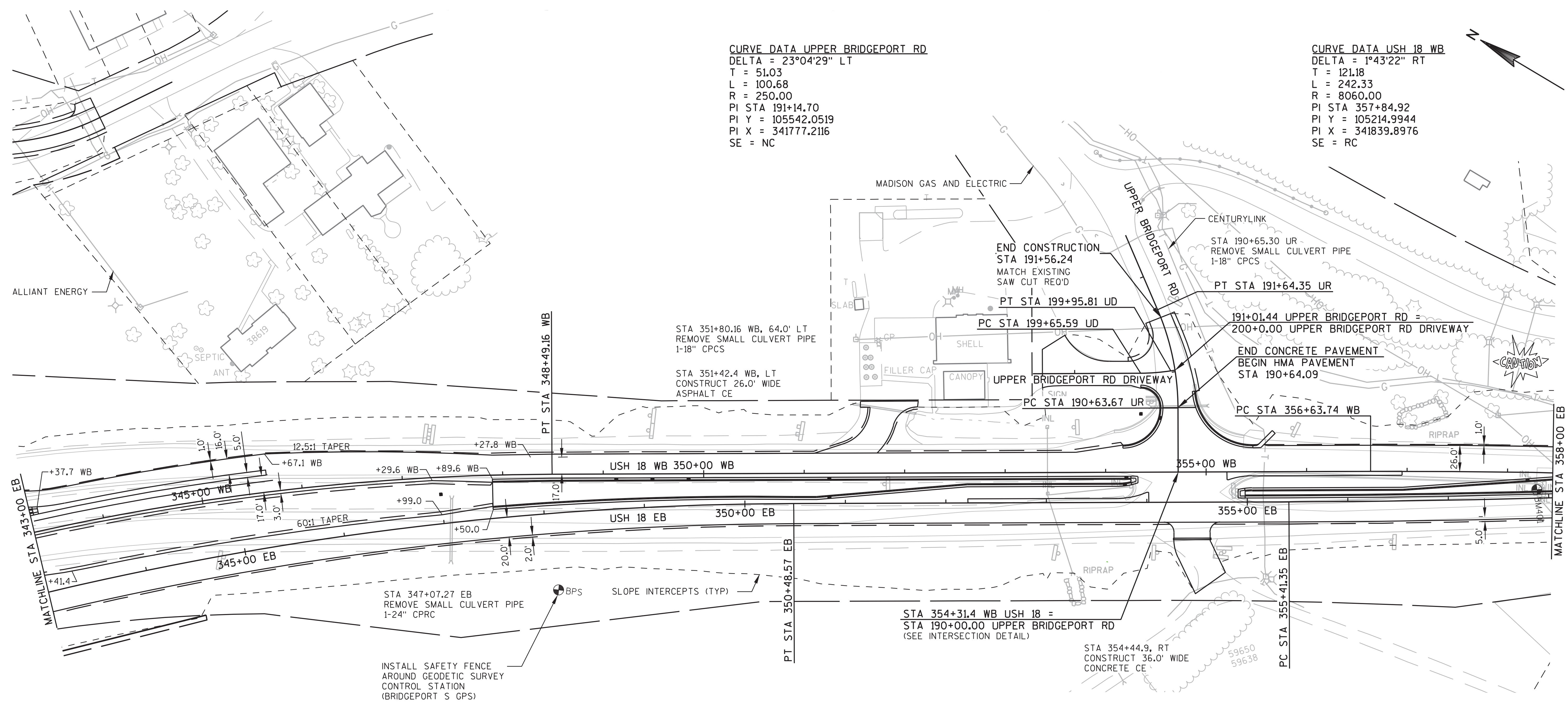
5



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PROFILE	SHEET 283	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PPUSH18.DWG

SHEET NAME: 050310PR



CURVE DATA UPPER BRIDGEPORT RD
DELTA = 23°04'29" LT
T = 51.03
L = 100.68
R = 250.00
PI STA 191+14.70
PI Y = 105542.0519
PI X = 341777.2116
SE = NC

CURVE DATA USH 18 WB
DELTA = 1°43'22" RT
T = 121.18
L = 242.33
R = 8060.00
PI STA 357+84.92
PI Y = 105214.9944
PI X = 341839.8976
SE = RC

CURVE DATA USH 18 EB
DELTA = 15°10'05" RT
T = 433.59
L = 862.12
R = 3256.54
PI STA 346+20.04
PI Y = 106167.3244
PI X = 341232.7512
SE = RC

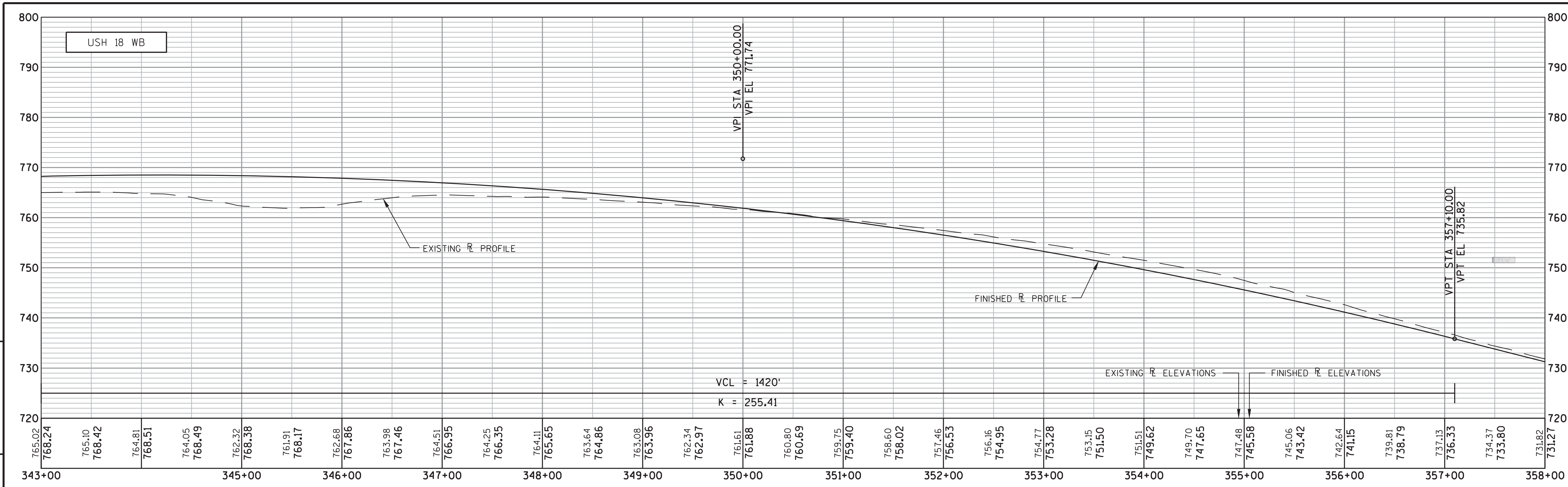
BENCHMARK TABLE

NO.	STATION	DESCRIPTION	ELEVATION
401	357+88.41, 8.5' LT	CHIS. □ SW COR. INLET	729.36'
BPS	348+08.57, 76.6' RT	DISC IN CONCRTE CYLINDER "BRIDGEPORT S GPS"	762.76'

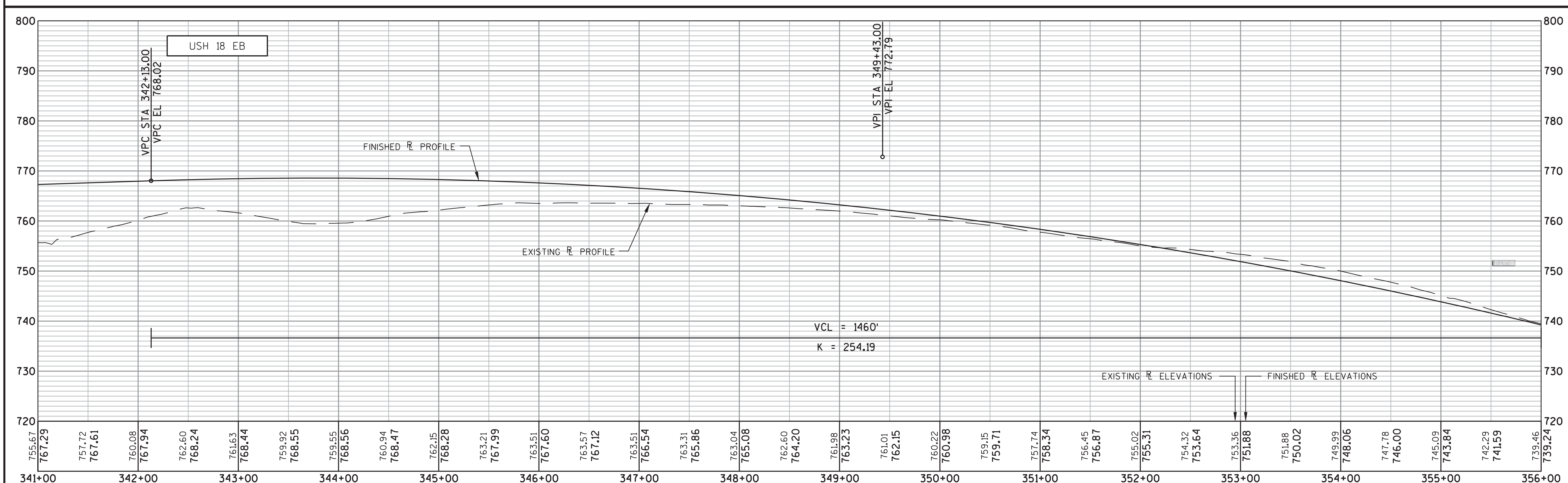
PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PLAN	SHEET 284	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PPUSH18.DWG   SHEET NAME: 050211PN

5



5



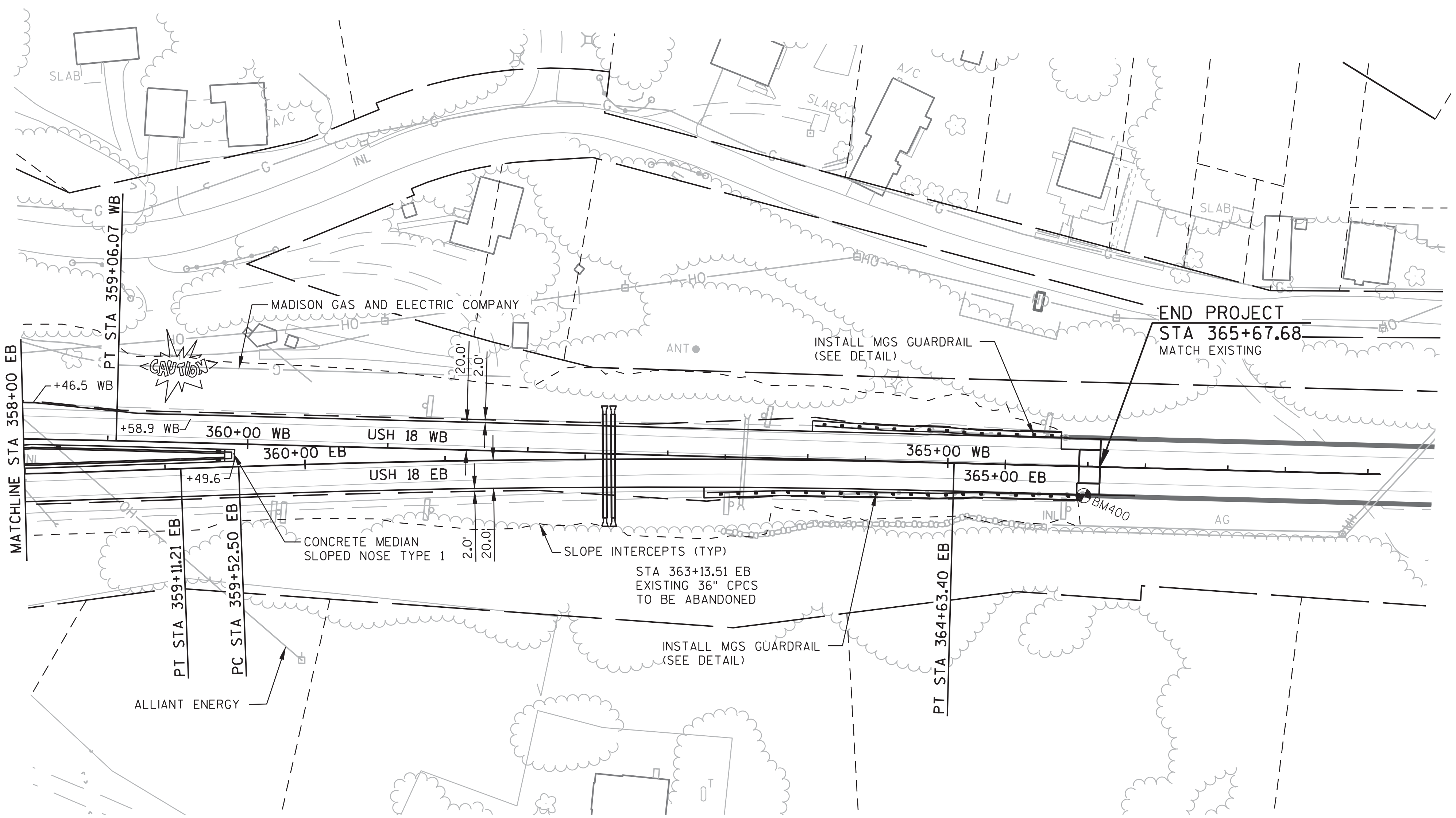
PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PROFILE	SHEET 285	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PPUSH18.DWG

SHEET NAME: 050311PR

BENCHMARK TABLE			
NO.	STATION	DESCRIPTION	ELEVATION
400	365+97.84, 20.9' RT	DISK NW COR. BRIDGE 12/22 -93-89 ON PARAPET WALL	696.32'

5

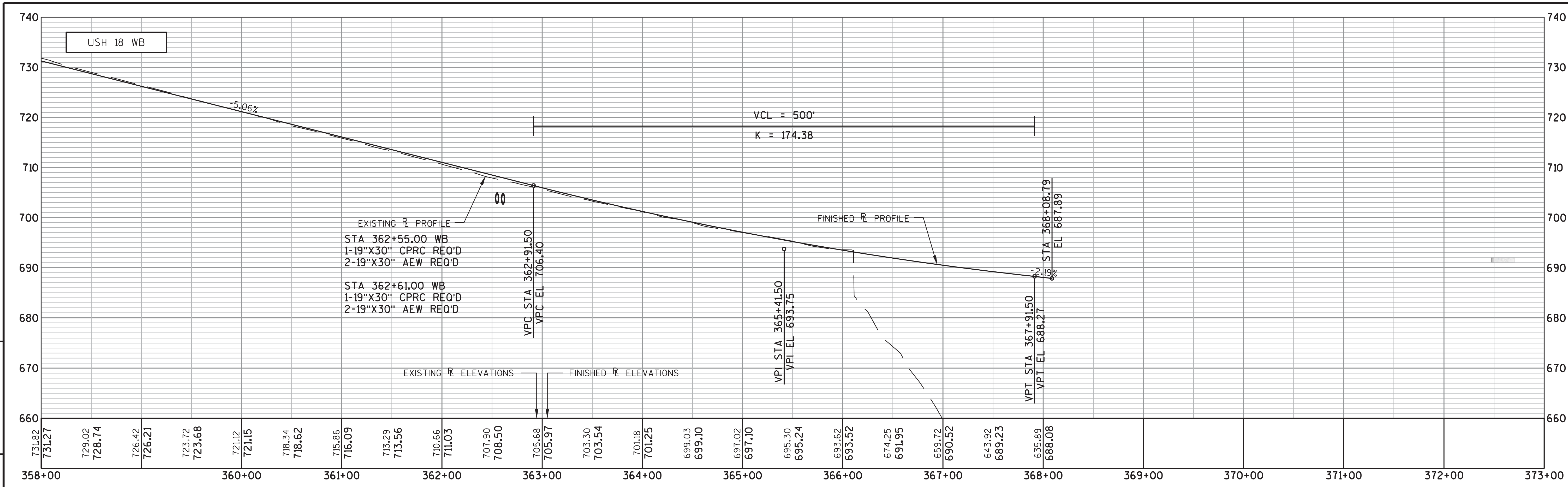


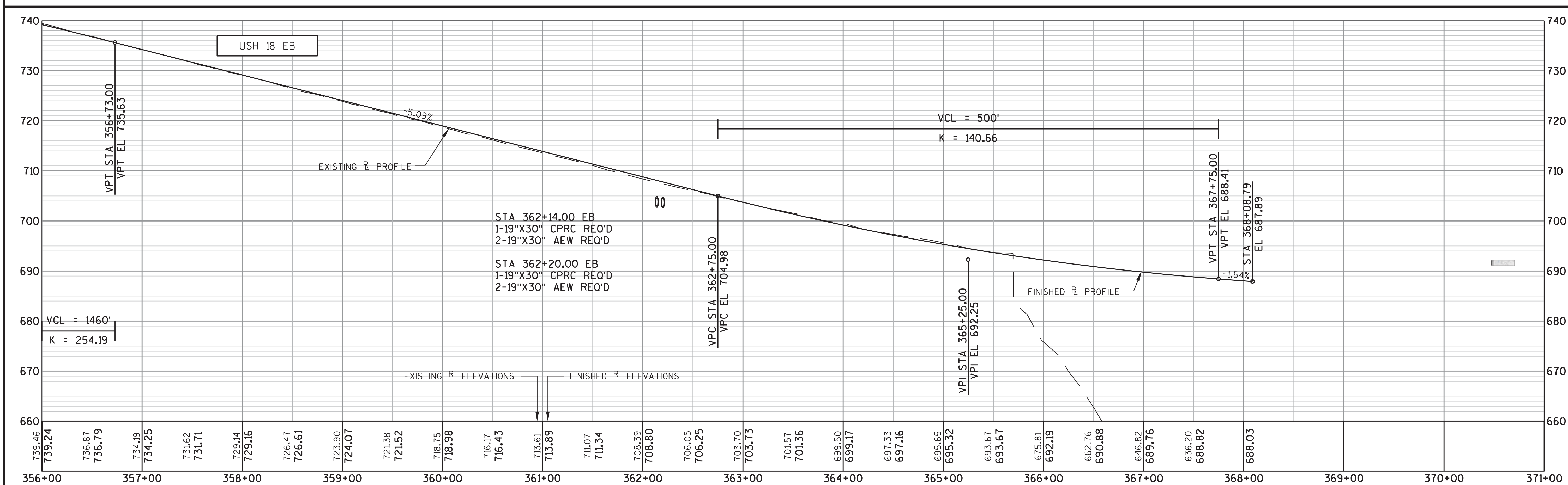
5

CURVE DATA USH 18 EB
DELTA = 1°54'33" RT
T = 184.95
L = 369.86
R = 11100.00
PI STA 357+26.29
PI Y = 105214.7051
PI X = 341805.0735
SE = NC

CURVE DATA USH 18 EB
DELTA = 3°37'55" RT
T = 255.54
L = 510.90
R = 8060.00
PI STA 362+08.04
PI Y = 104810.2227
PI X = 342066.8060
SE = NC

5



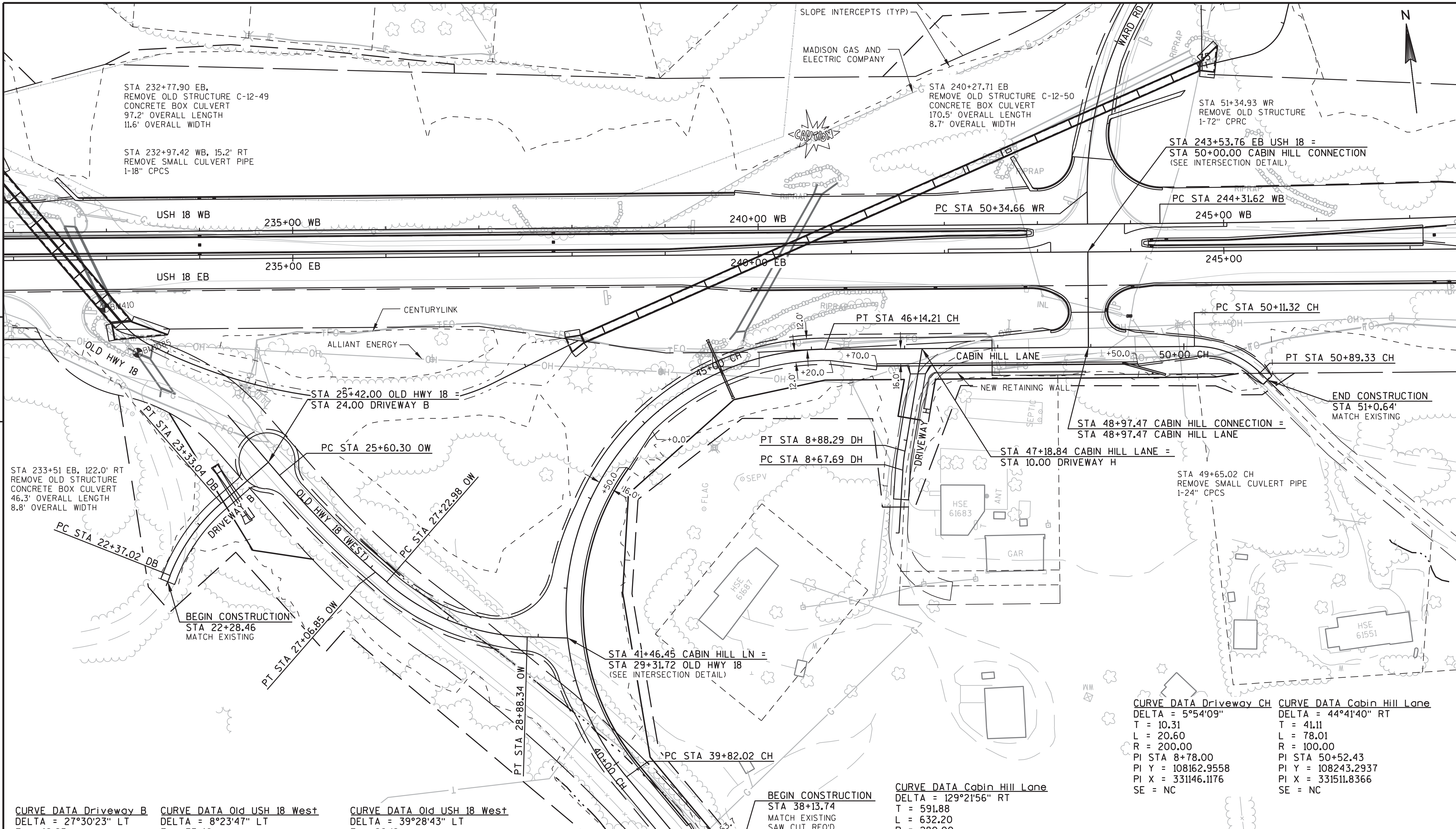


5

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PROFILE	SHEET 287	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PPUSH18.DWG

SHEET NAME: 050312PR



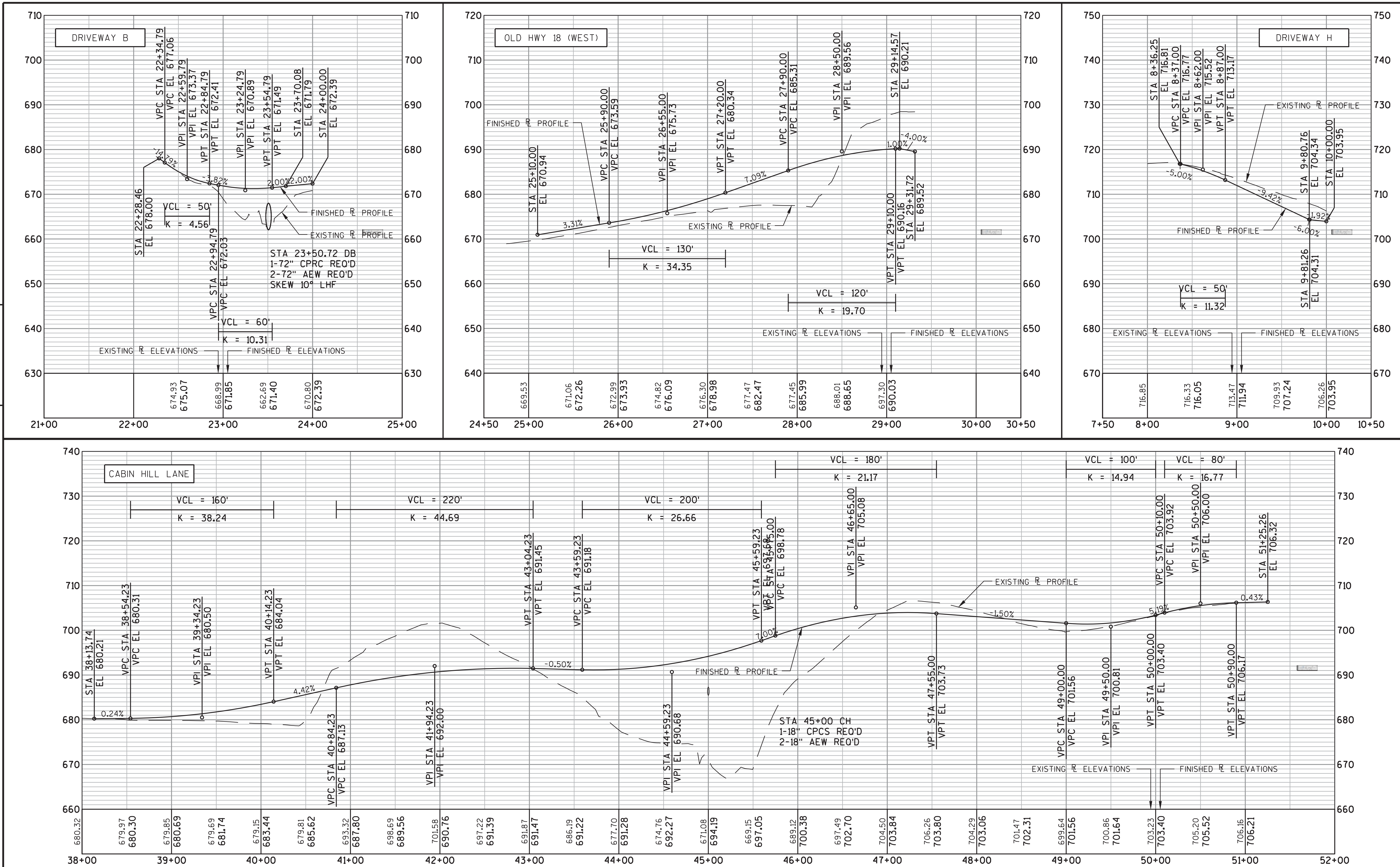
BENCHMARK TABLE

NO.	STATION	DESCRIPTION	ELEVATION
410	232+97.60, 54.7' RT	DISK SW COR. OF BOX C-12-00-49	665.94'
1085	233+32.69, 100.3' RT	DISC IN TOP OF PARAPET WALL NORTH CORENER OF BOX CULVERT	668.04'

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PLAN	SHEET 288	E

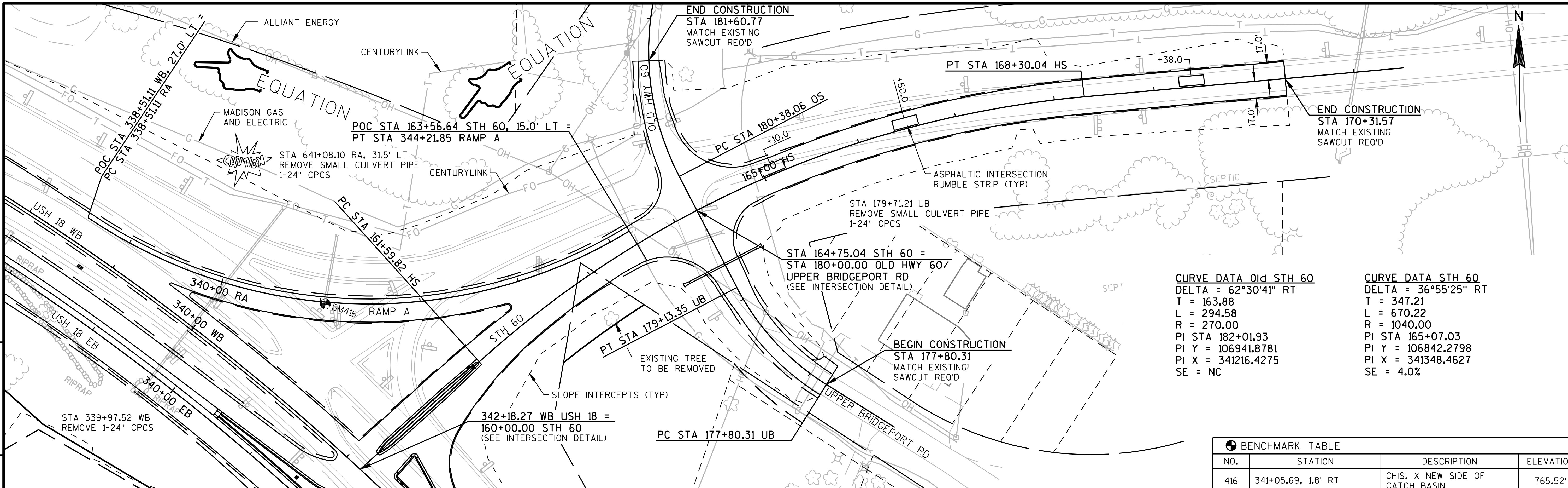
FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PPUSH18.DWG

SHEET NAME: 050213PN



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PLAN	SHEET	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PPUSH18.DWG SHEET NAME: 050313PR



CURVE DATA Old STH 60
DELTA = 62°30'41" RT
T = 163.88
L = 294.58
R = 270.00
PI STA 182+01.93
PI Y = 106941.8781
PI X = 341216.4275
SE = NC

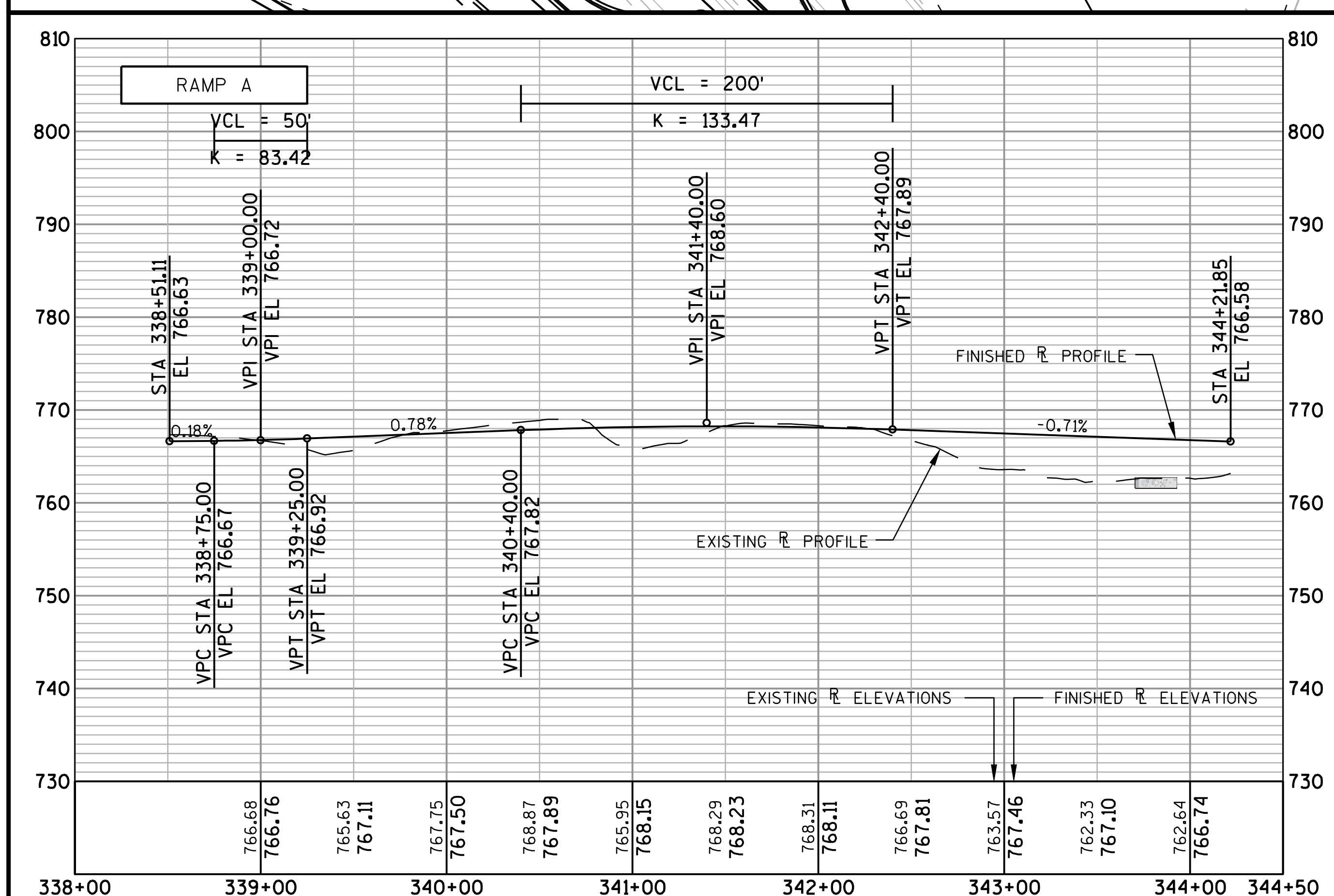
CURVE DATA STH 60
DELTA = 36°55'25" RT
T = 347.21
L = 670.22
R = 1040.00
PI STA 165+07.03
PI Y = 106842.2798
PI X = 341348.4627
SE = 4.0%

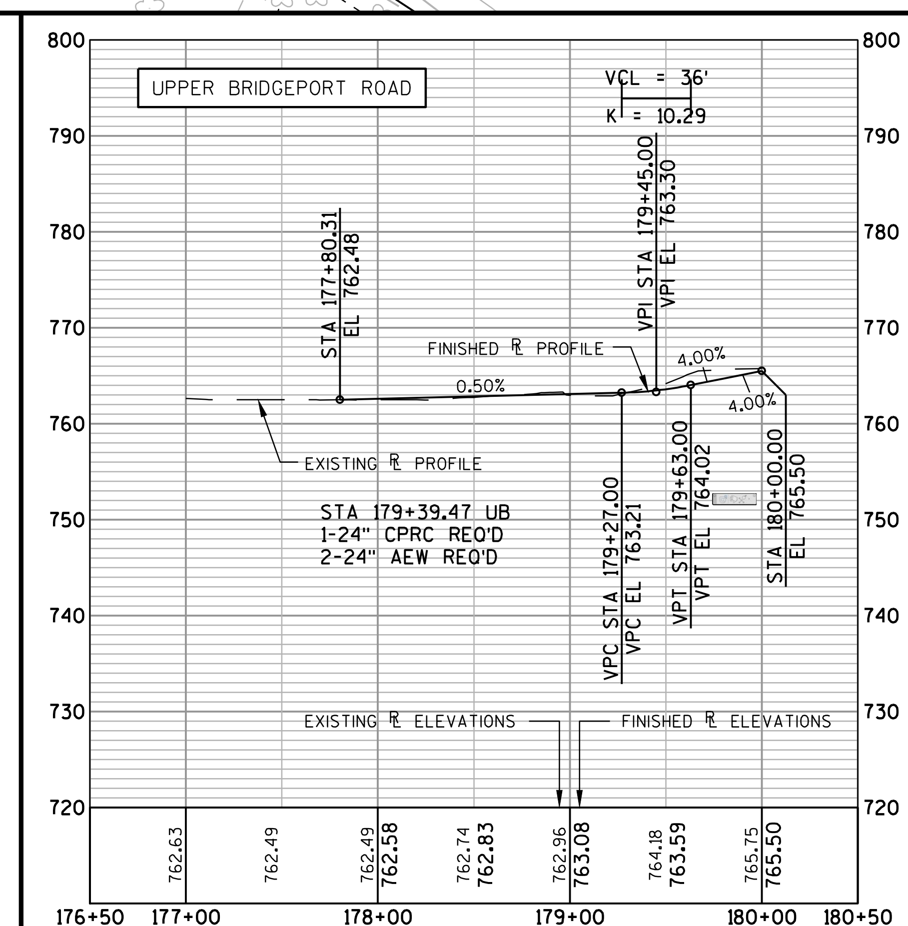
BENCHMARK TABLE

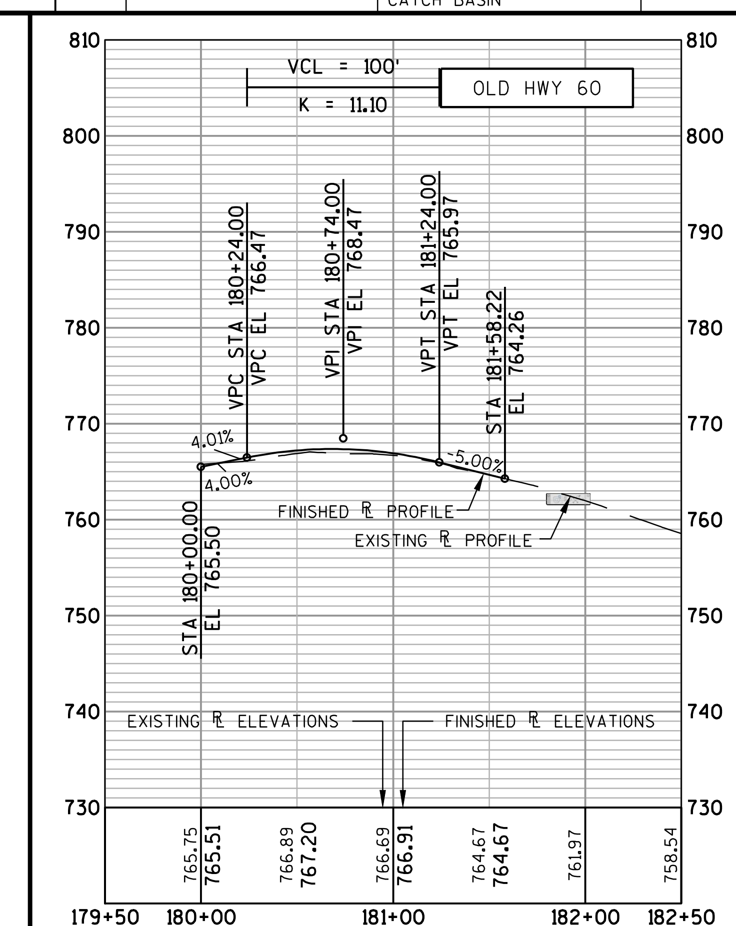
NO.	STATION	DESCRIPTION	ELEVATION
416	341+05.69, 1.8' RT	CHIS. X NEW SIDE OF CATCH BASIN	765.52'

5

5



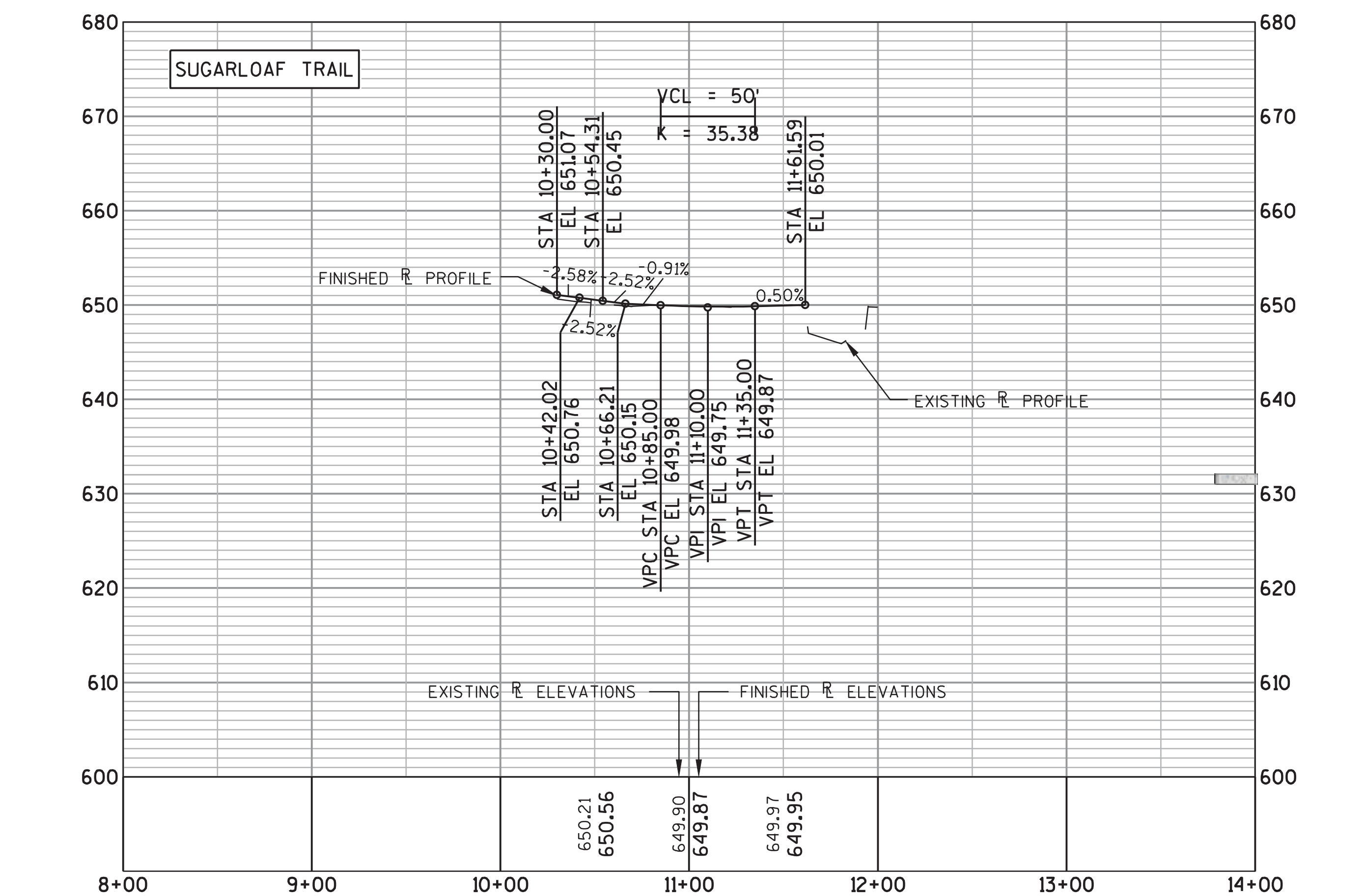


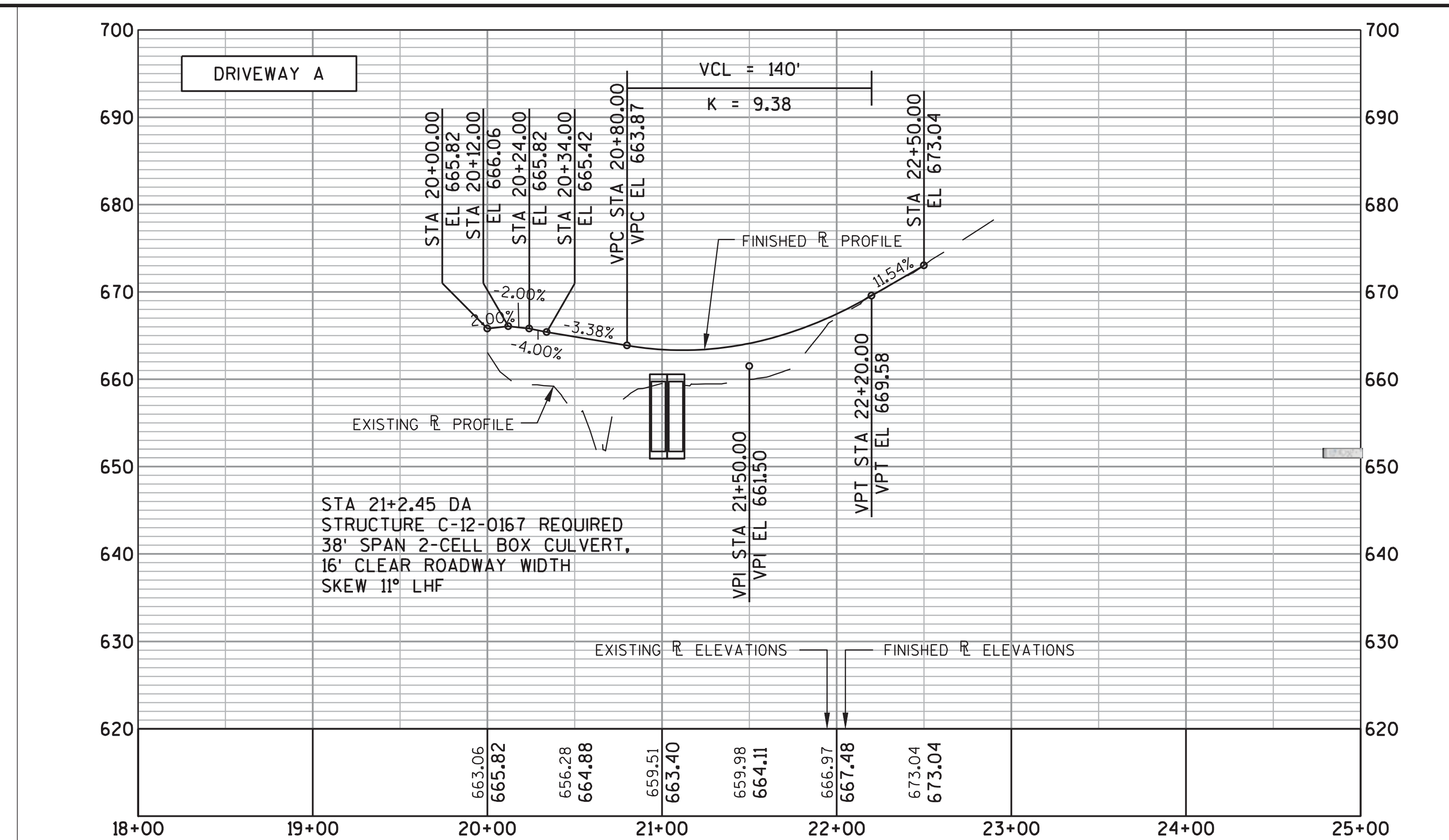


PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PLAN AND PROFILE	SHEET	E

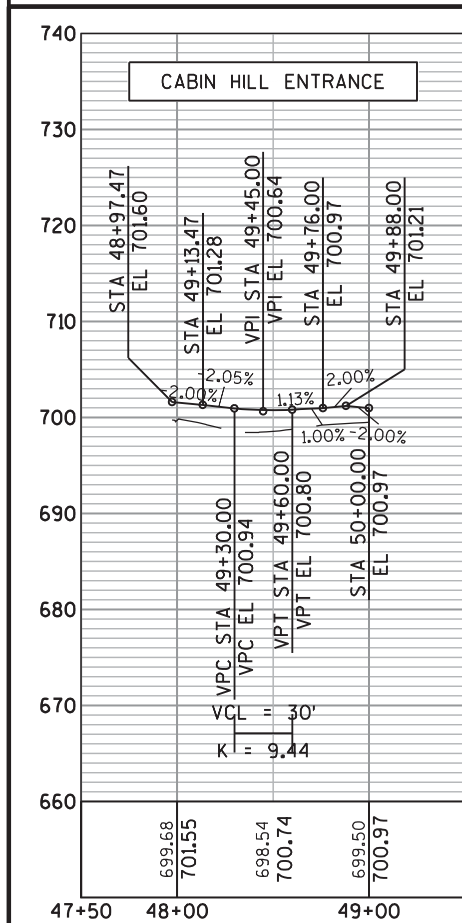
FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PPUSH18.DWG
SHEET NAME: 050214PP

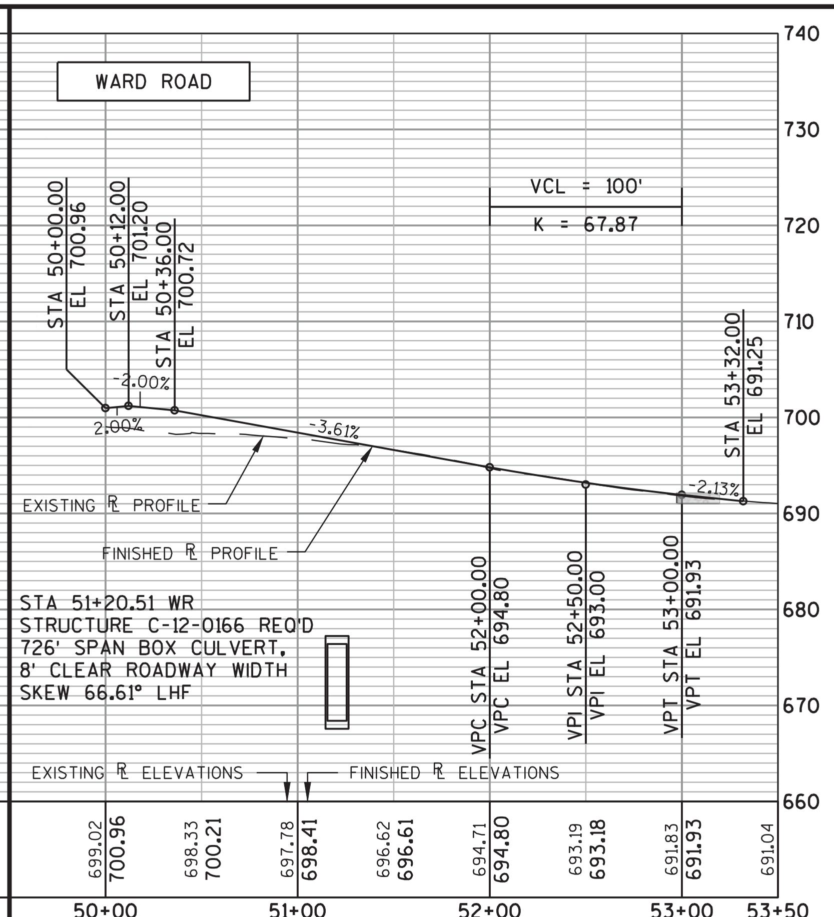
5

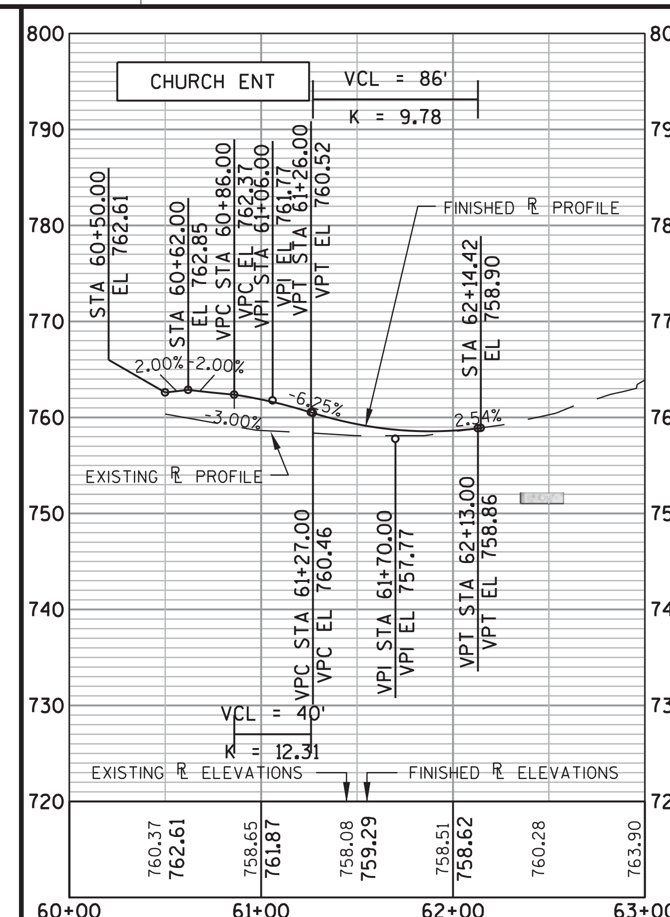


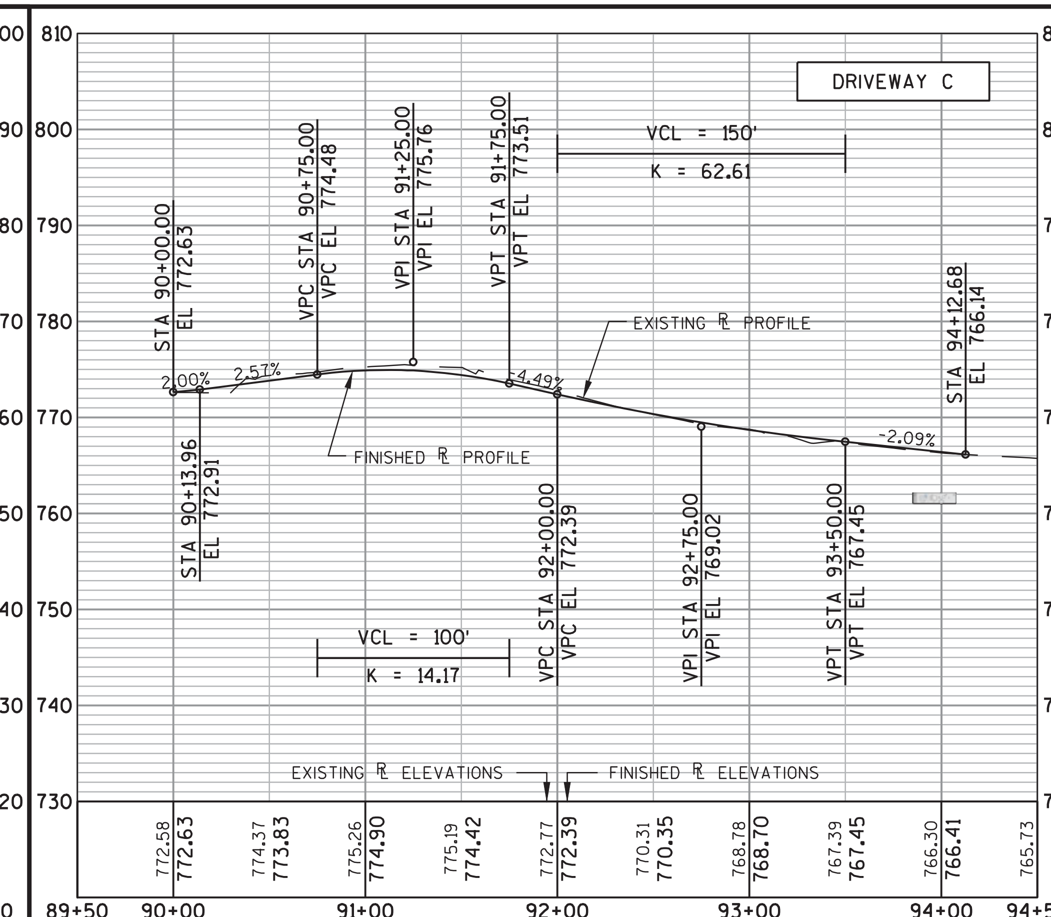


5





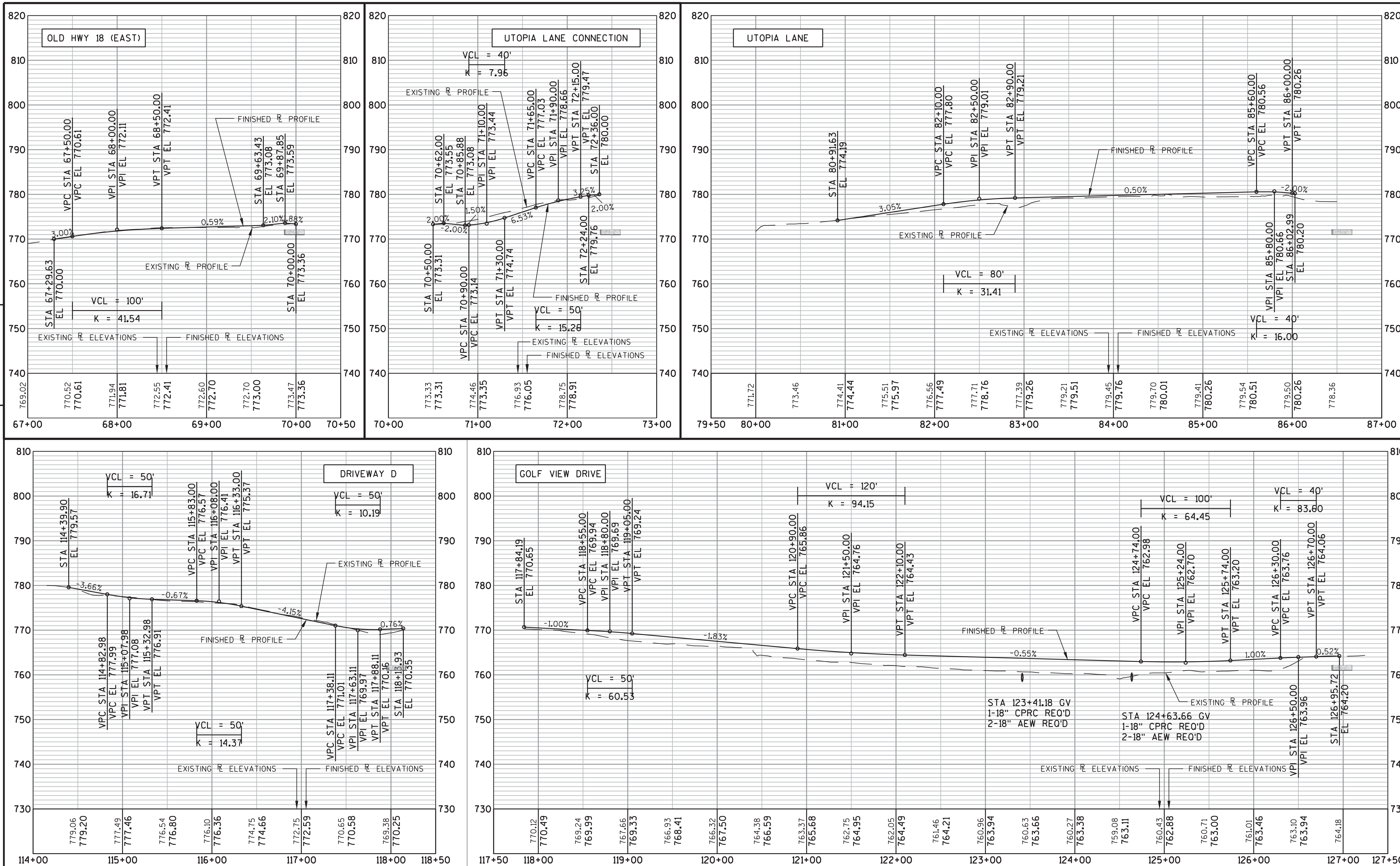




PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PLAN	SHEET 291	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PPUSH18.DWG

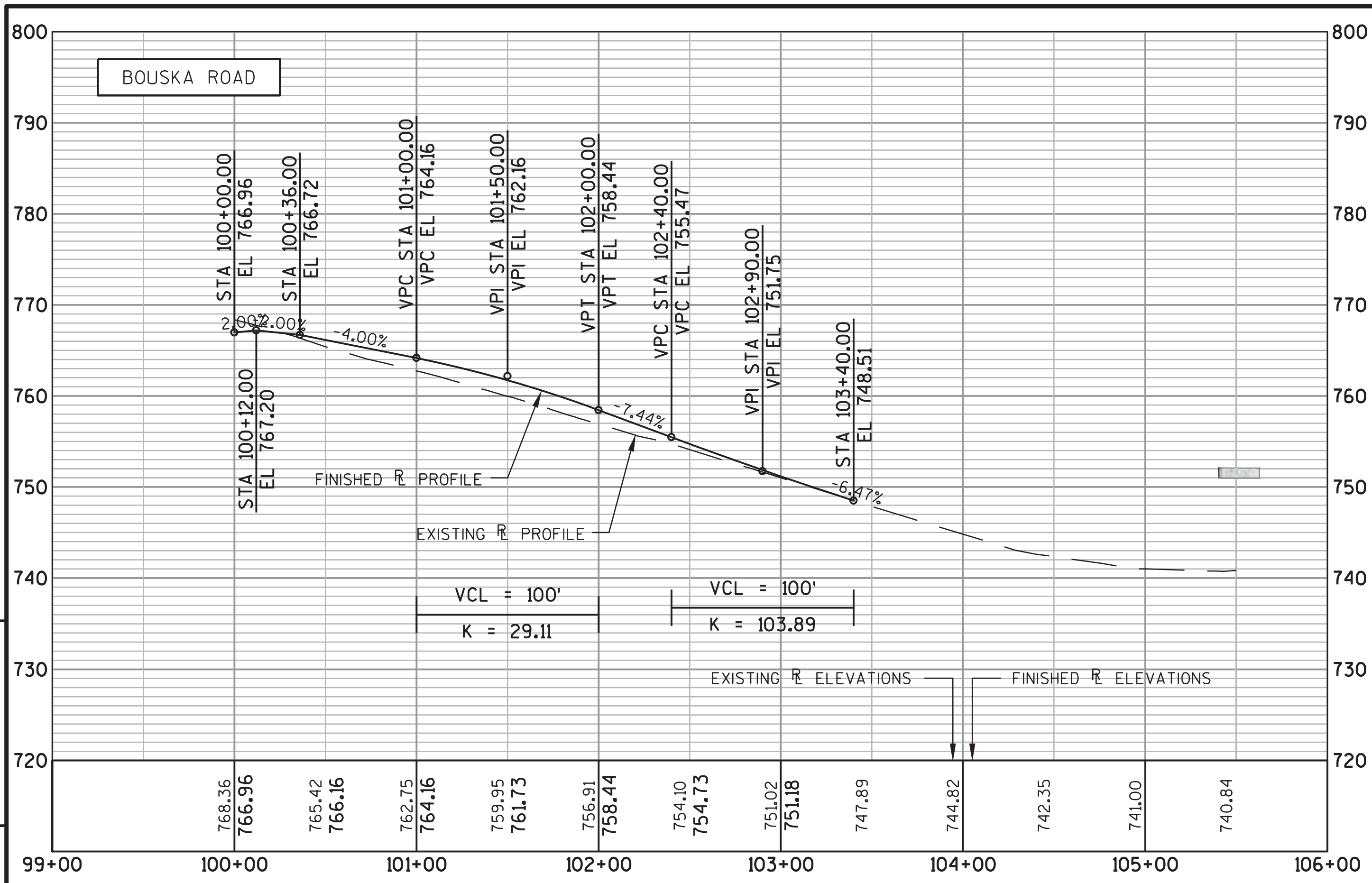
SHEET NAME: 050315PR

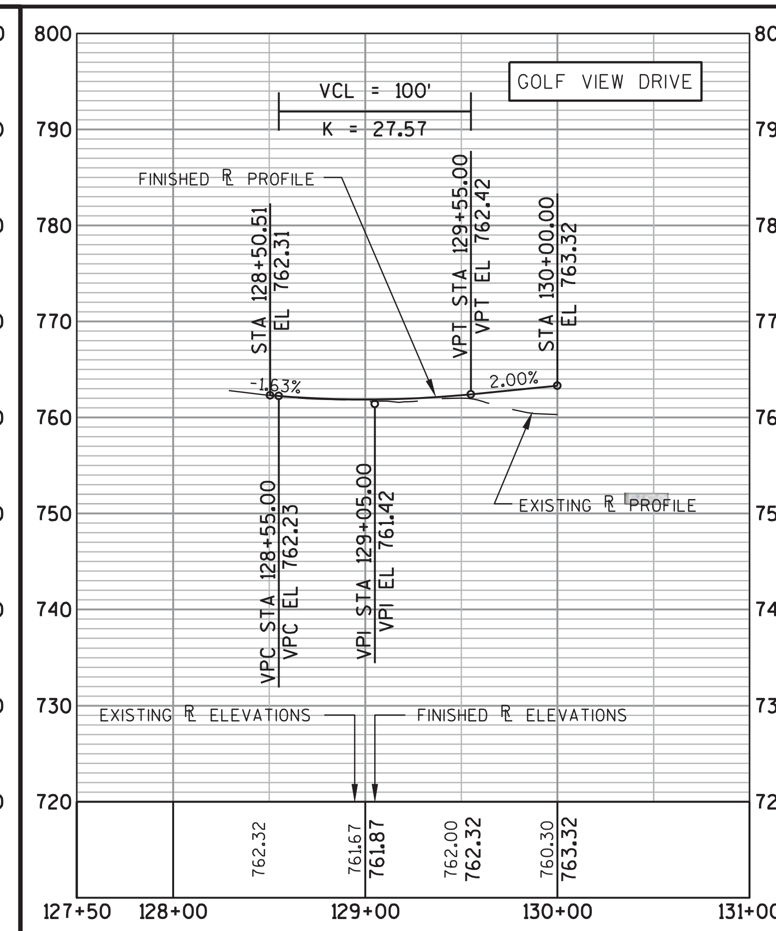


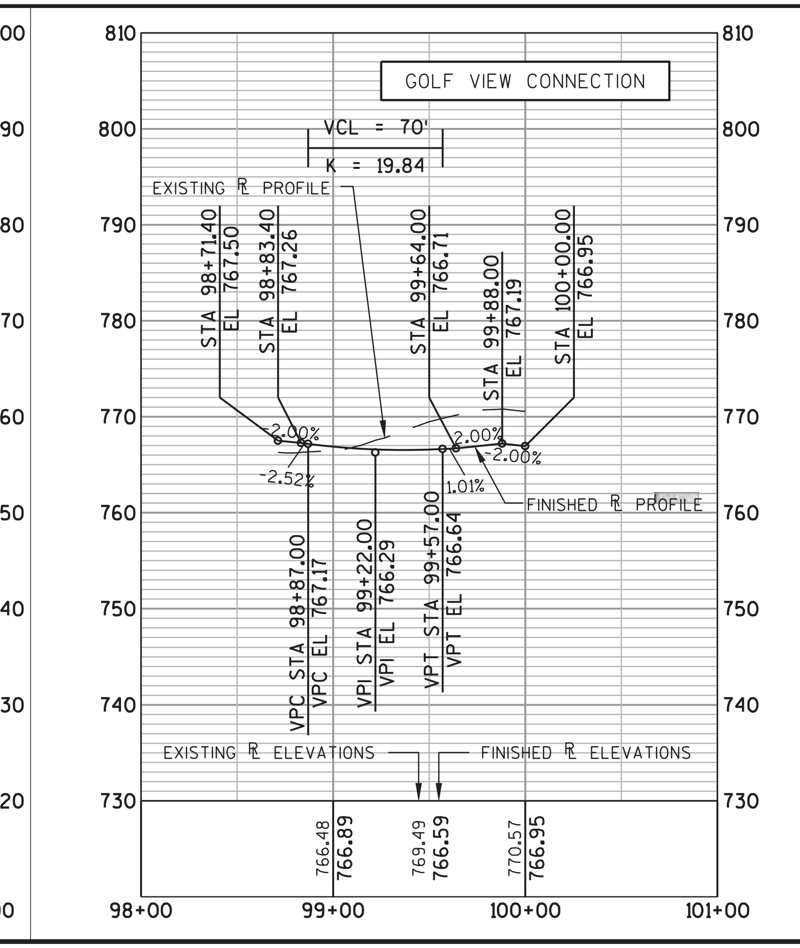
PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PLAN AND PROFILE	SHEET 292	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PPUSH18.DWG SHEET NAME: 050316PR

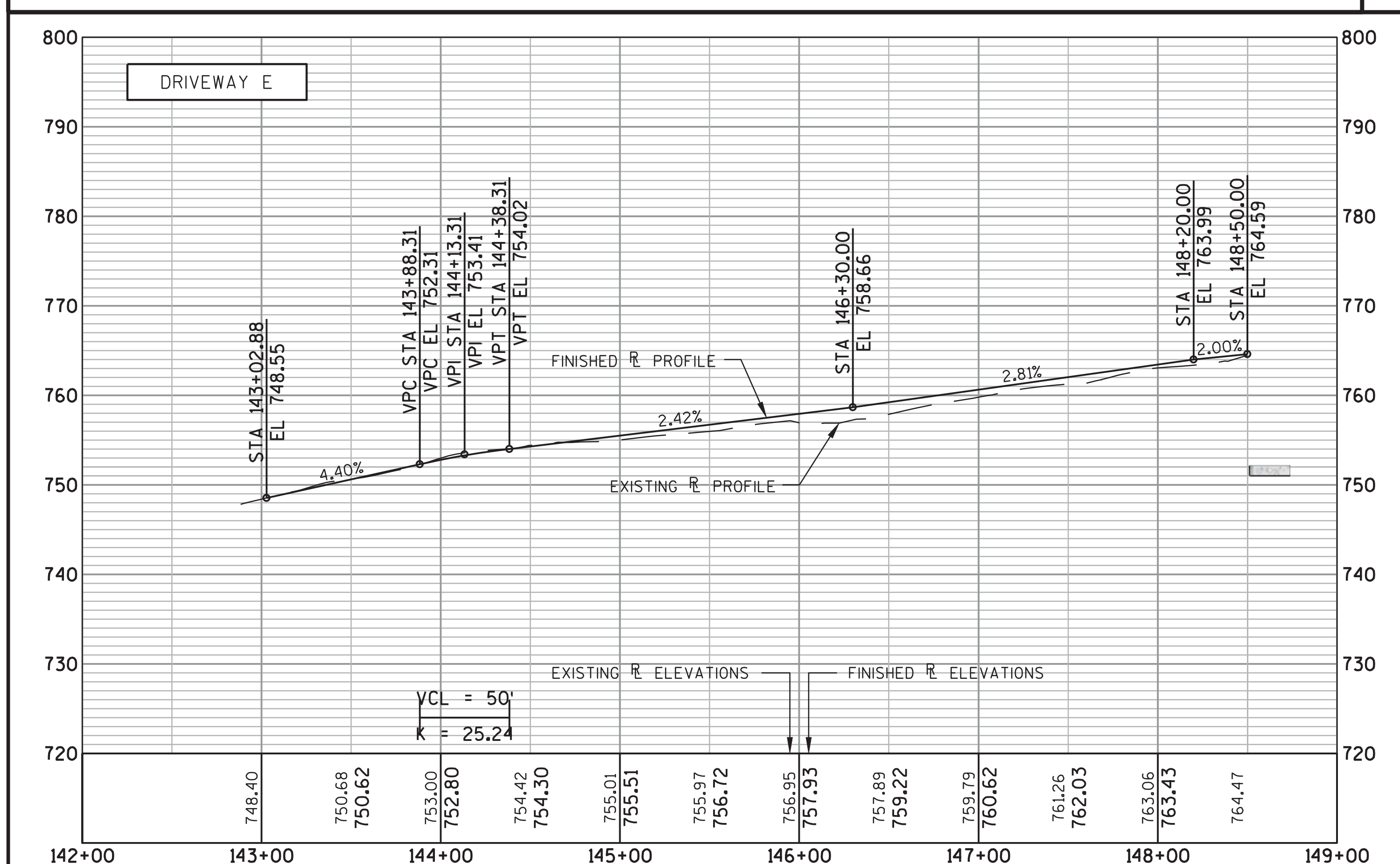
5

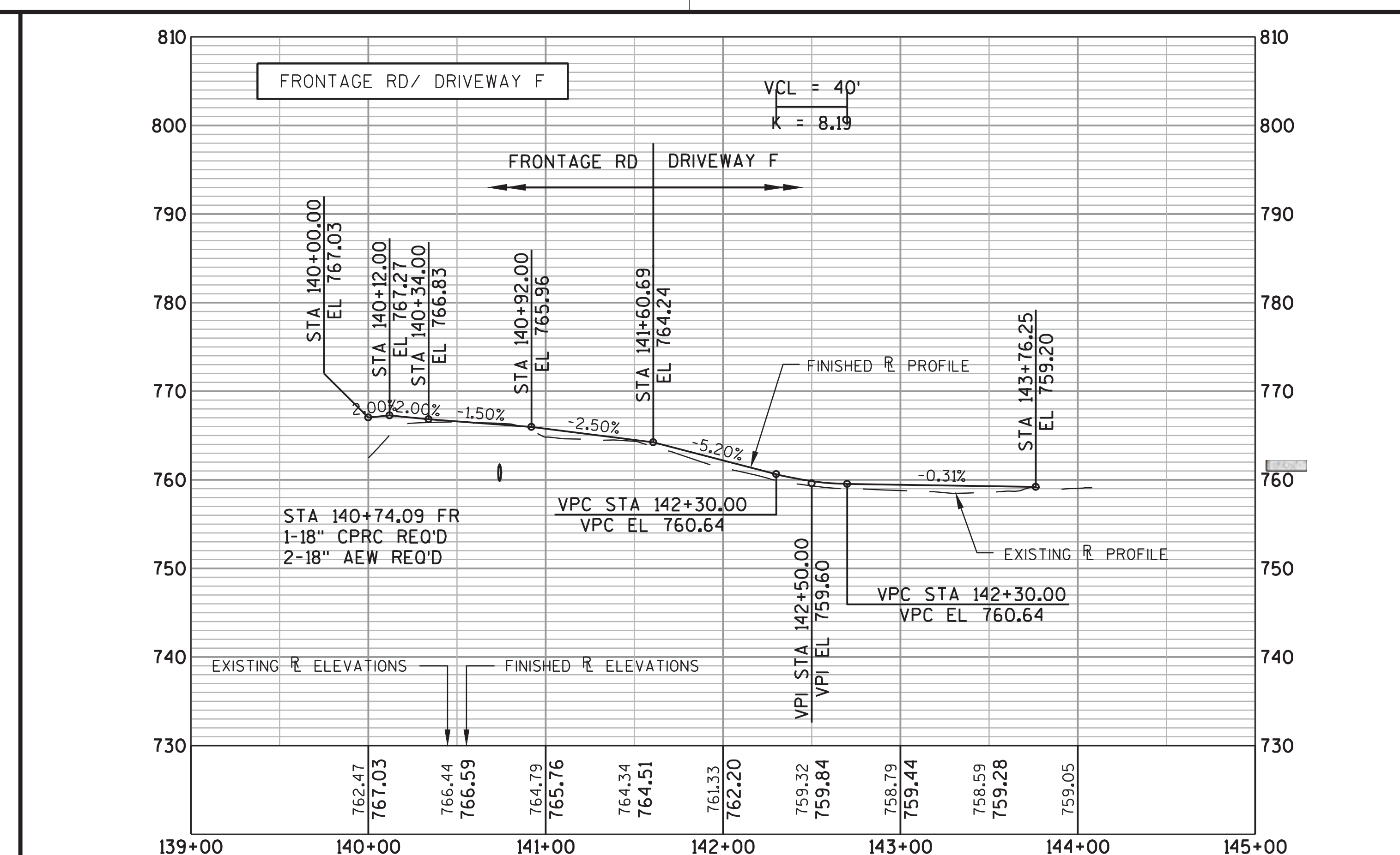






5



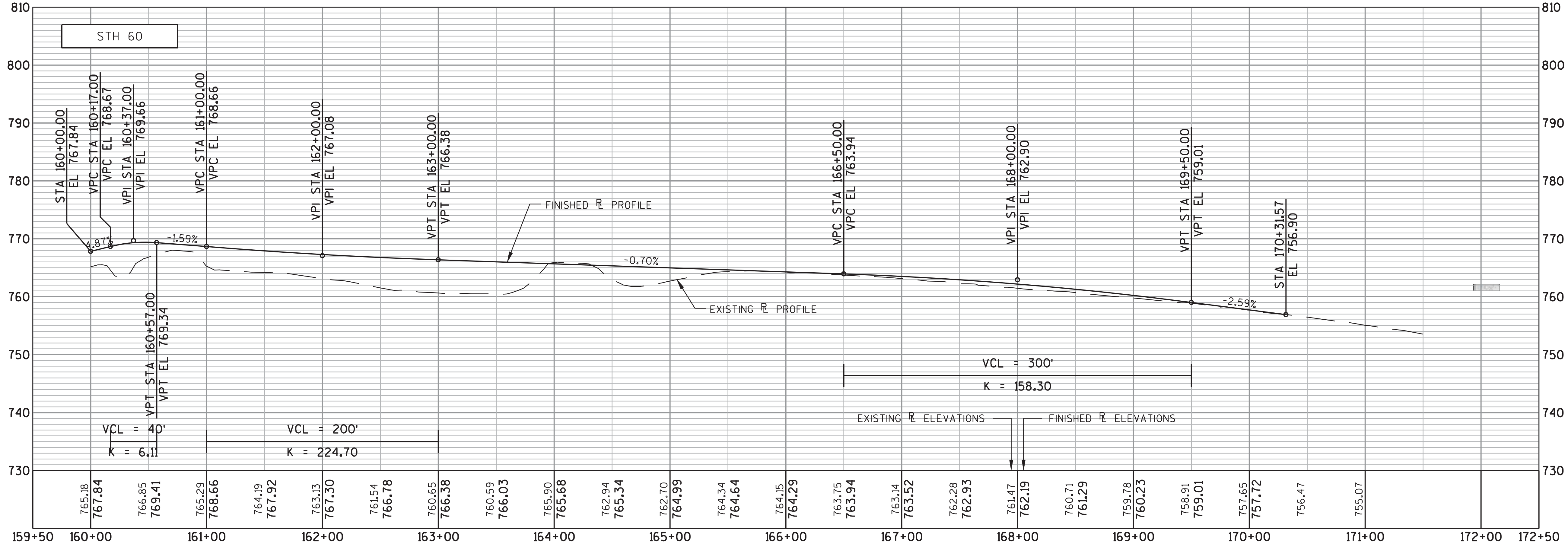


PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PLAN AND PROFILE	SHEET 293	E

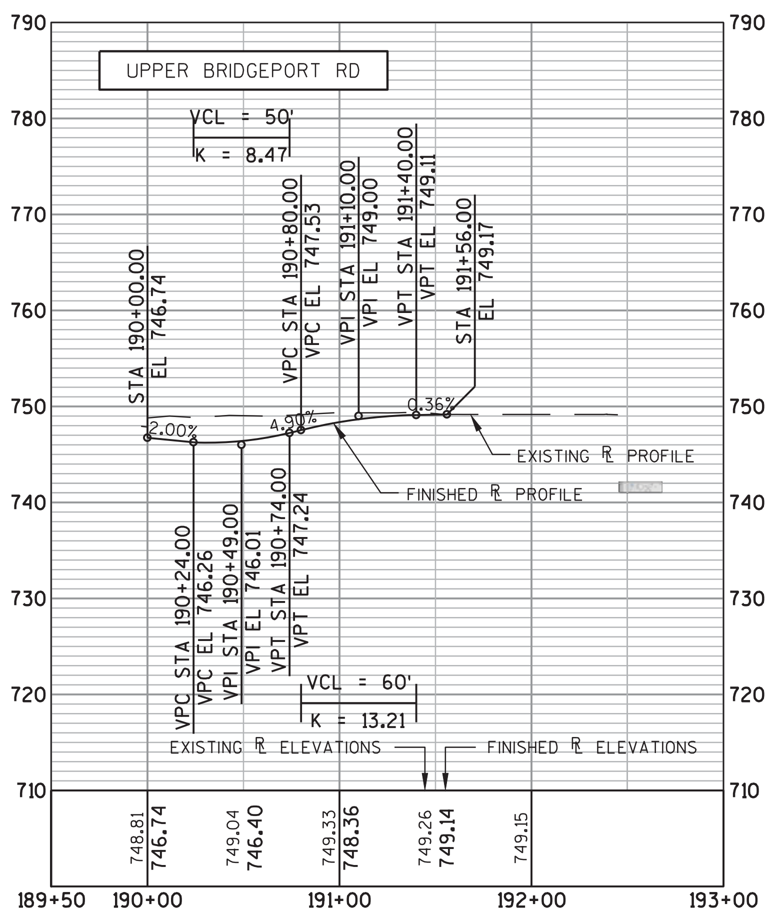
FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PPUSH18.DWG

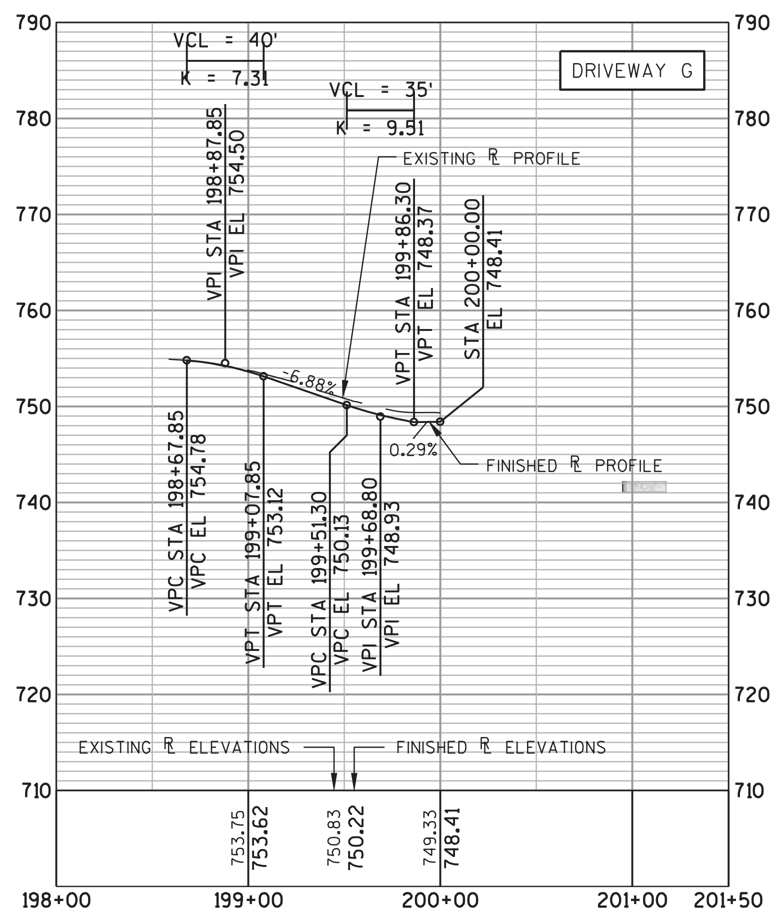
SHEET NAME: 050317PR

5



5





PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PLAN AND PROFILE	SHEET 294	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\PPUSH18.DWG

SHEET NAME: 050318PR

Standard Detail Drawing List

08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C06-01	INLETS 3-FT AND 4-FT DIAMETER
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08C08-01	INLETS MEDIAN 1 AND 2 GRATE
08D01-18	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D02-06	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D05-16A	CURB RAMPS TYPES 1 AND 1-A
08D05-16B	CURB RAMPS TYPES 2 AND 3
08D05-16C	CURB RAMPS TYPES 4A AND 4A1
08D05-16D	CURB RAMPS TYPE 4B AND 4B1
08D05-16E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D15-04A	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
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F06-04	REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
09A01-13B	AT-GRADE SIDE ROAD INTERSECTION, TYPE "A1" & "A2"
09G02-03A	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-03B	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-03C	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
11B01-05	CONCRETE CORRUGATED MEDIAN
11B02-02	CONCRETE MEDIAN NOSE
12A03-10	NAME PLATE (STRUCTURES)
12A04-03	STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES & OVERHEAD SIGN SUPPORTS & TRAFFIC SIGNALS
13A03-06	CONCRETE PAVEMENT SHOULDERS
13A08-01	ASPHALTIC RUMBLE STRIPS AT INTERSECTION
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
13B02-08B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
13C01-18	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C11-11A	RURAL DOWELED CONCRETE PAVEMENT
13C11-11B	RURAL DOWELED CONCRETE PAVEMENT
13C13-08	URBAN DOWELED CONCRETE PAVEMENT
13C16-02A	DETAIL FOR RIGHT TURN LANE/TEE INTERSECTION BYPASS LANE ON A CONRETE ROADWAY
13C16-02B	DETAIL FOR RIGHT TURN LANE/TEE INTERSECTION BYPASS LANE ON A CONRETE ROADWAY
13C18-03A	CONCRETE PAVEMENT JOINTING
13C18-03B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-03C	CONCRETE PAVEMENT JOINT TIES
13C18-03D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B28-03	GUARDRAIL MOW STRIP
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

6

Standard Detail Drawing List

14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04L	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
15A01-12A	MARKER POST FOR RIGHT-OF-WAY
15A01-12B	FLEXIBLE MARKER POST FOR RIGHT-OF-WAY
15A02-08	DELINEATOR POST, DELINEATOR, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15B03-15A	FENCE CHAIN LINK
15B03-15B	FENCE CHAIN LINK
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C03-02	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C08-16E	PAVEMENT MARKING (LEFT TURN LANE)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C11-05	FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C18-03	MEDIAN ISLAND MARKING
15C21-06	SIGNING AND MARKING FOR TWO LANE TO FOUR LANE DIVIDED TRANSITIONS
15C24-02	36" DIAMETER CANTILEVER OVERHEAD SIGN SUPPORT BASE
15C26-02	END-OF-ROADWAY SIGNING
15C27-01	DOUBLE ARROW WARNING SIGN PLACEMENT
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D06-03	TRAFFIC CONTROL, TWO LANE TWO WAY OPERATION
15D12-05A	TRAFFIC CONTROL, LANE CLOSURE
15D21-03	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D29-03	TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD
15D33-03	TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS
15D38-01A	TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS
15D38-01B	ATTACHMENT OF SIGNS TO POSTS

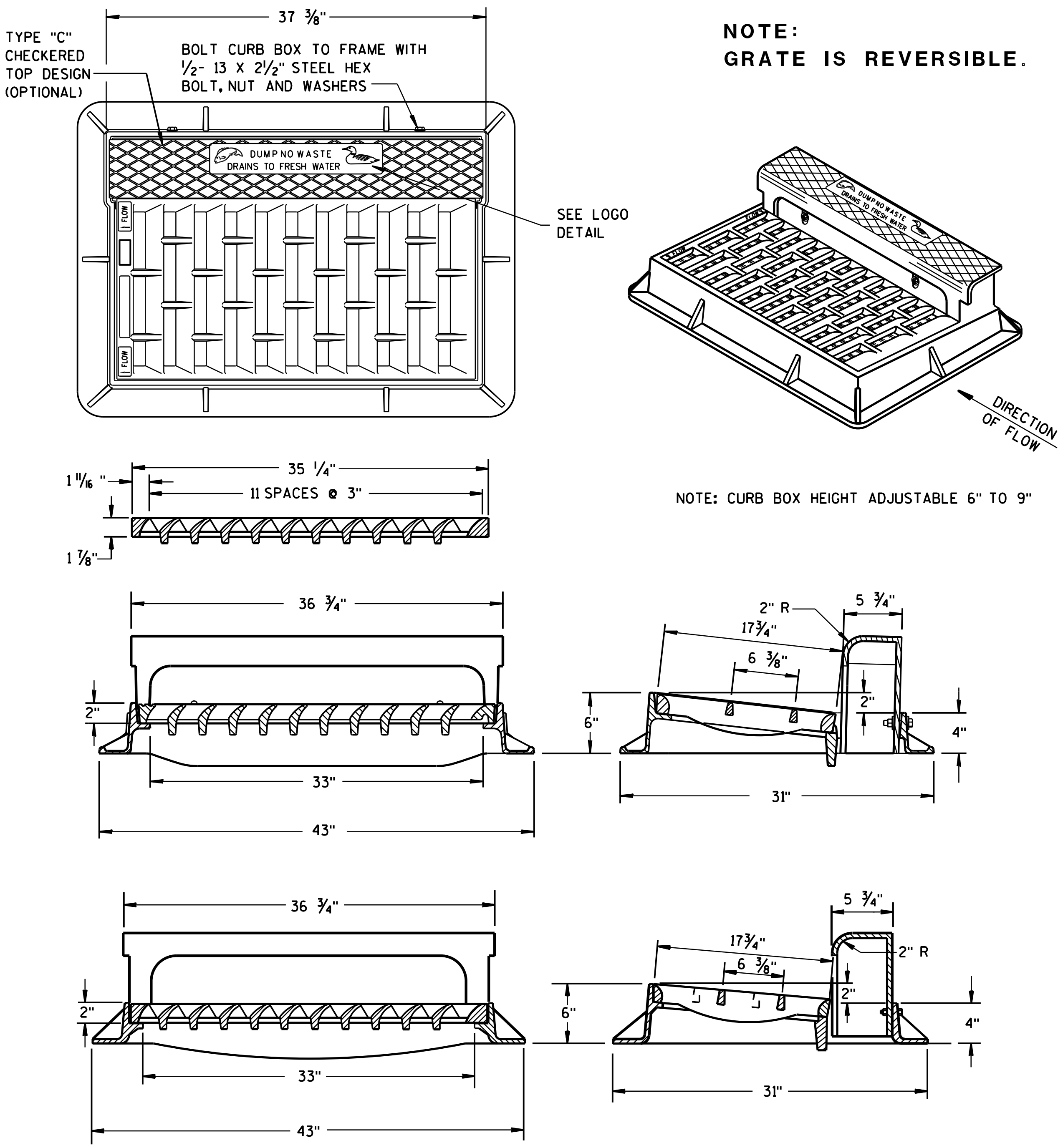
6

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.

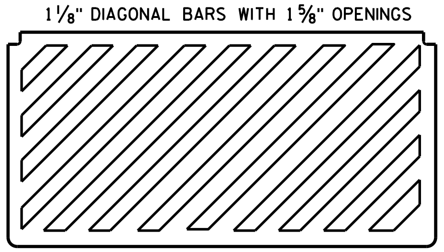
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



TYPE "H"

NOTE: EITHER CASTING IS ACCEPTABLE

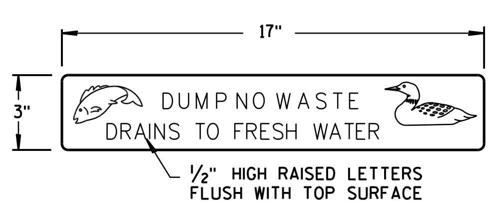
1 1/8" DIAGONAL BARS WITH 1 5/8" OPENINGS



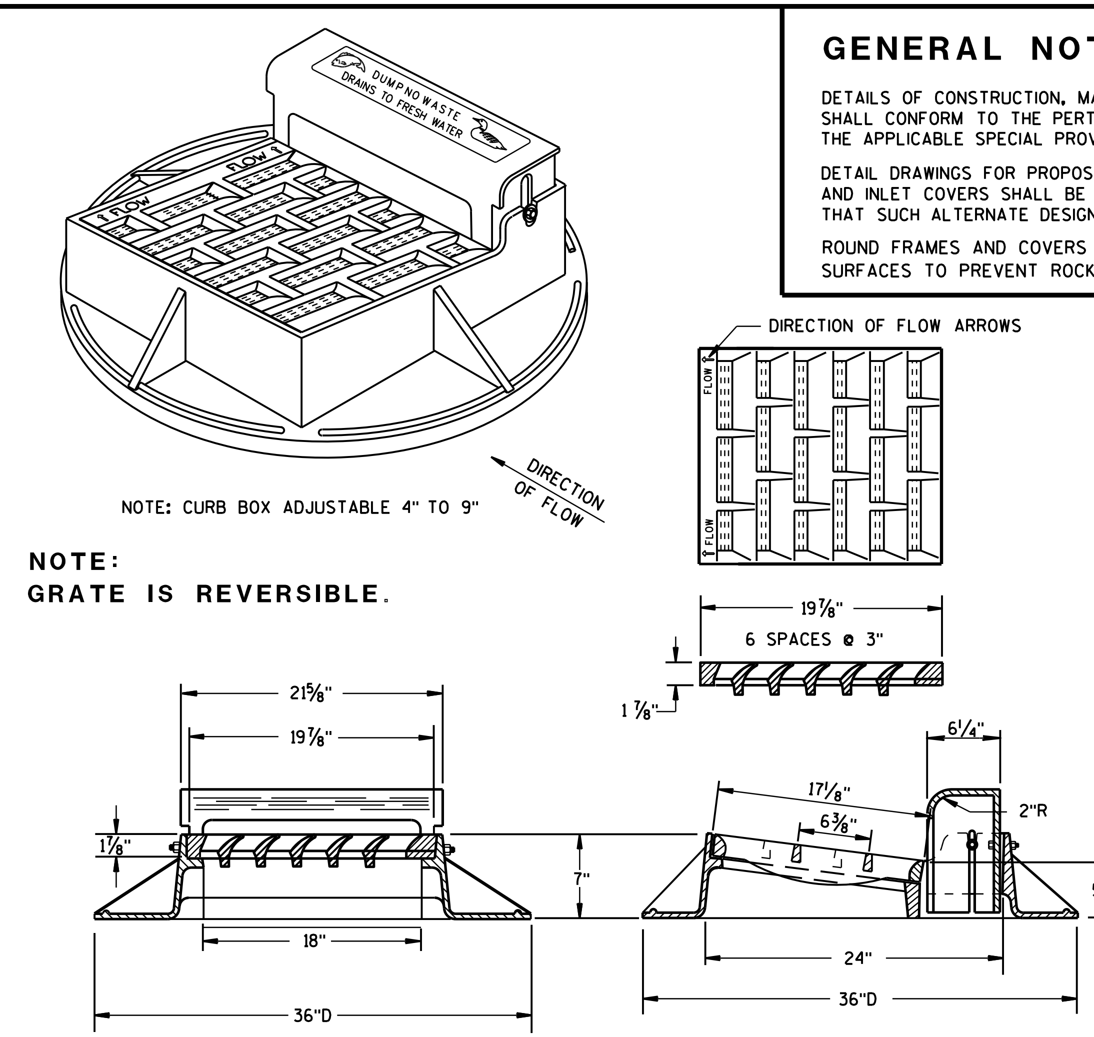
SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35 1/4" X 17 3/4" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

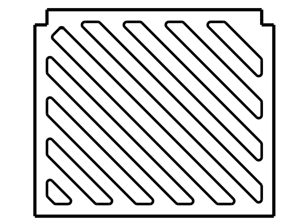


LOGO DETAIL



TYPE "A"

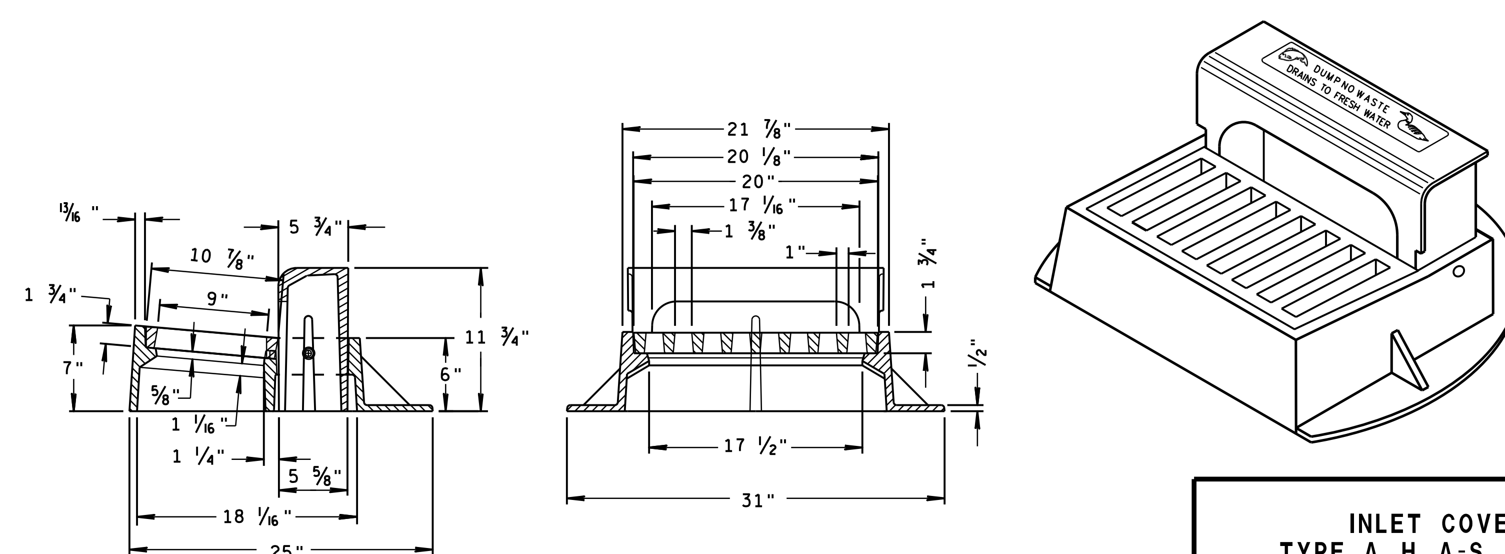
1" DIAGONAL BARS WITH 1 1/2" OPENINGS



SPECIAL GRATE FOR TYPE "A" COVER

(MEASURES 19 3/4" X 17" X 1 7/8")

(NOTED AS TYPE A-S ON DRAINAGE TABLE)



TYPE "Z"

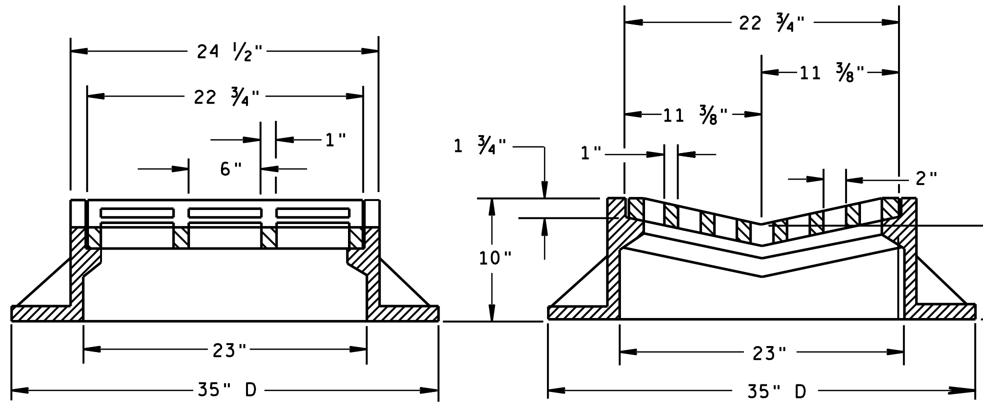
INLET COVERS
TYPE A, H, A-S, H-S & Z

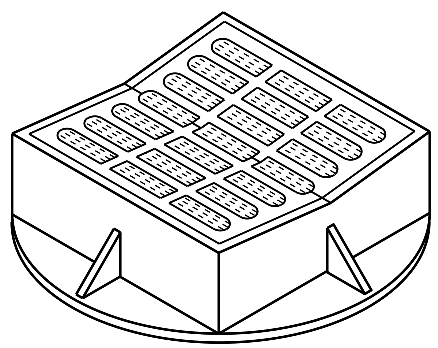
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED	
11-27-13	/S/ Jerry H. Zogg
DATE	ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

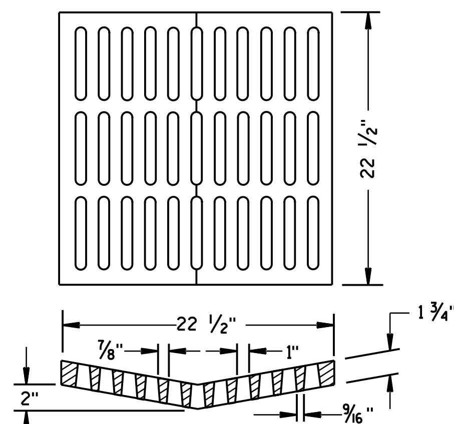
6

S.D.D. 8 A 5-19a





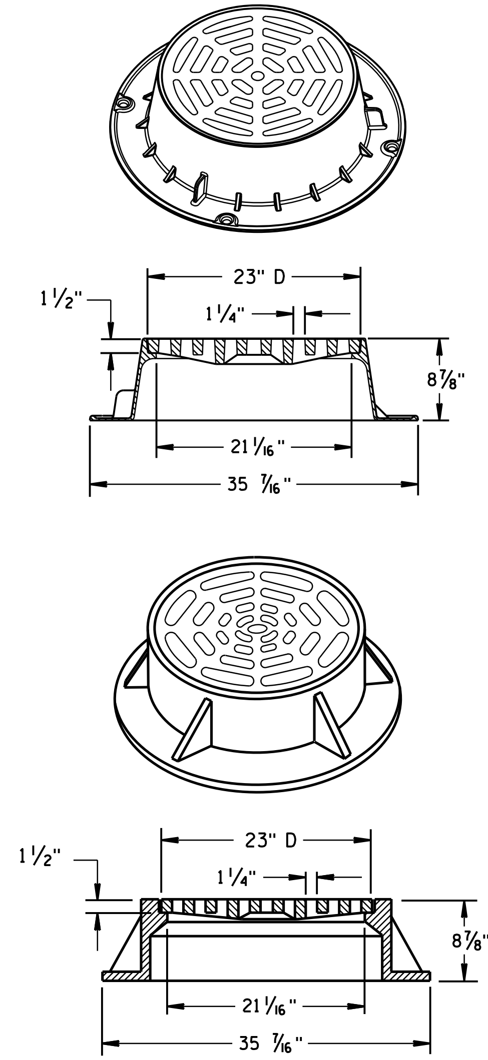
TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.

NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

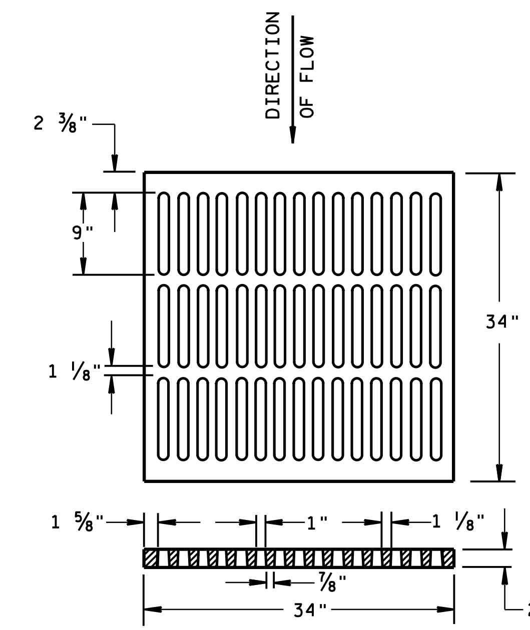
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

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

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

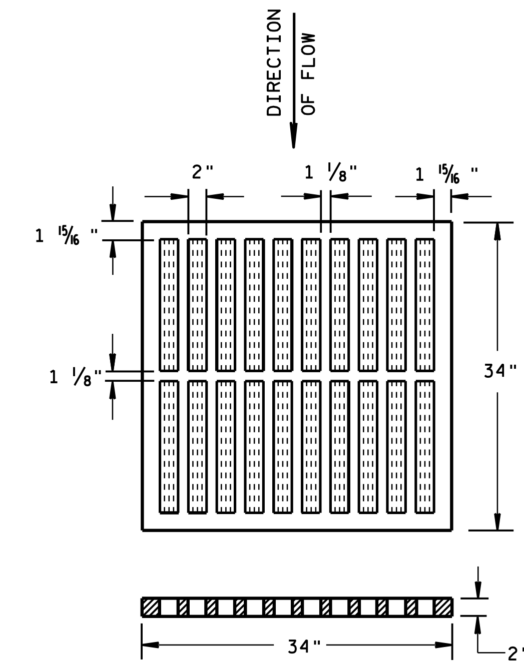
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED

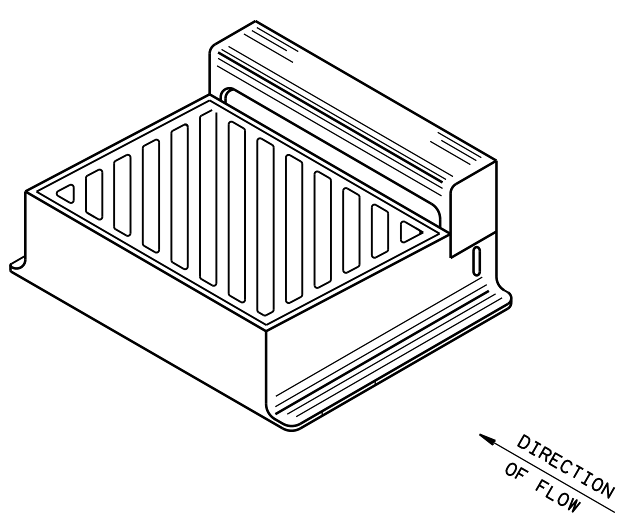
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE



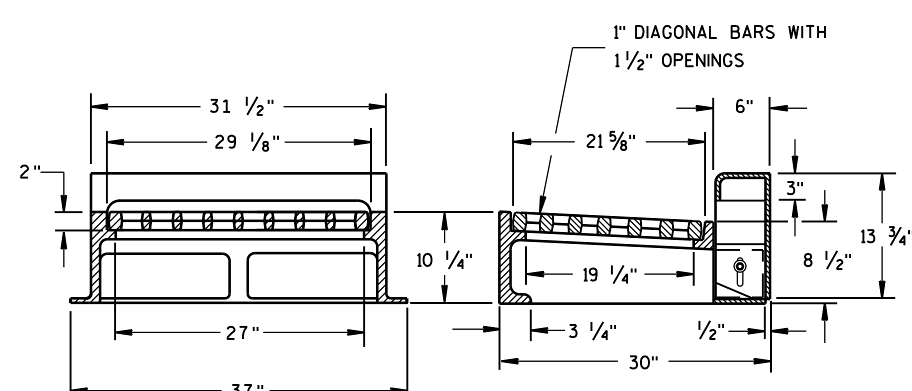
TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS

NOTED AS TYPE MS ON DRAINAGE TABLE



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



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

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

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED

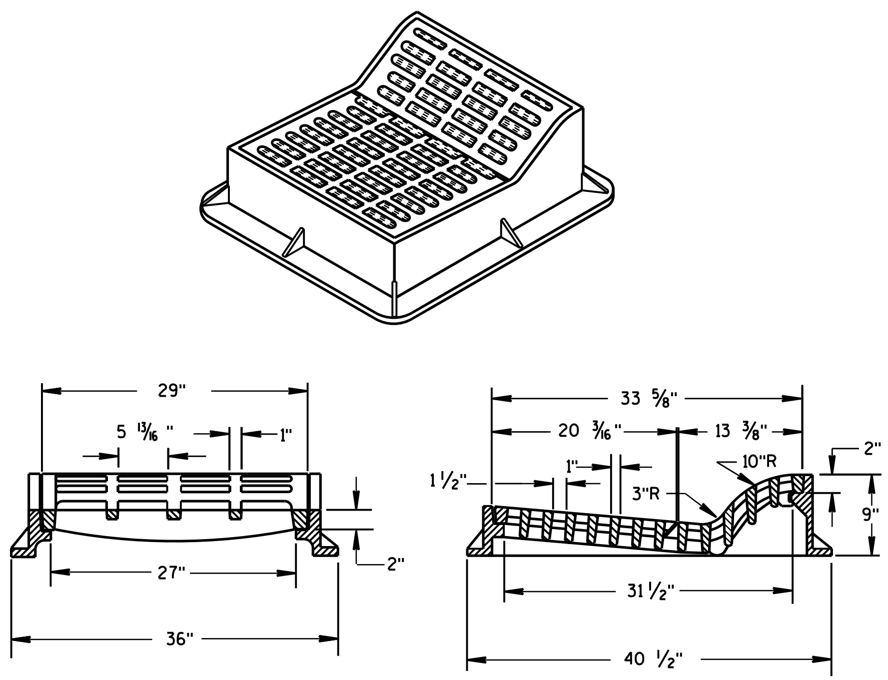
11/27/2013	/S/ Jerry H. Zogg
DATE	ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

GENERAL NOTES

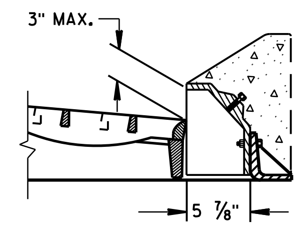
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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 "F"

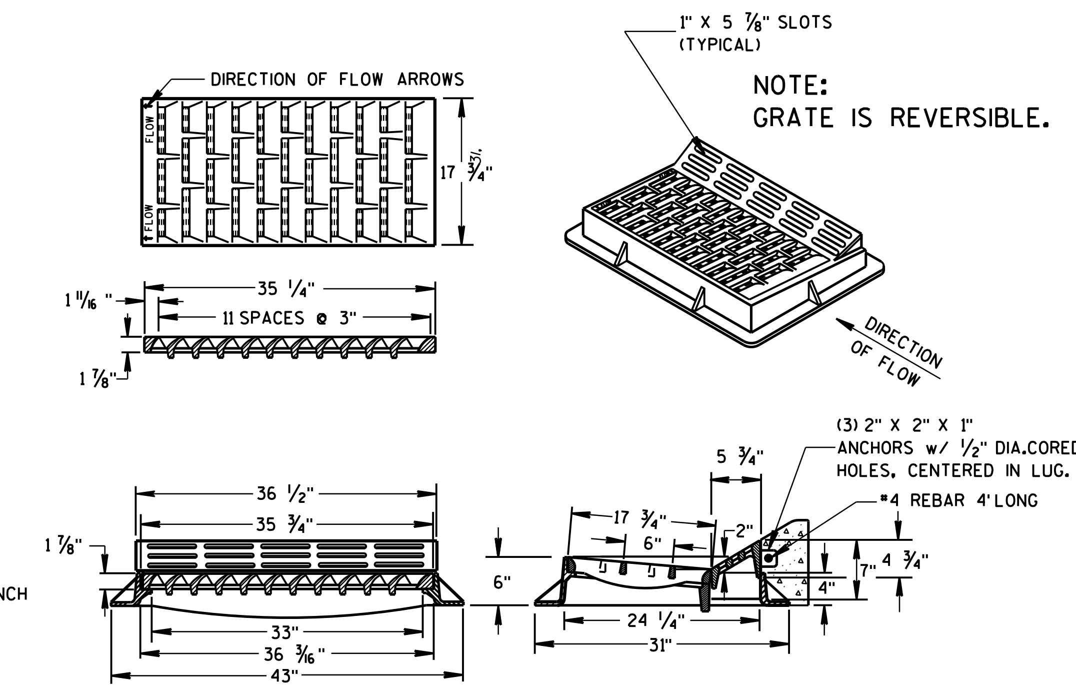
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.



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

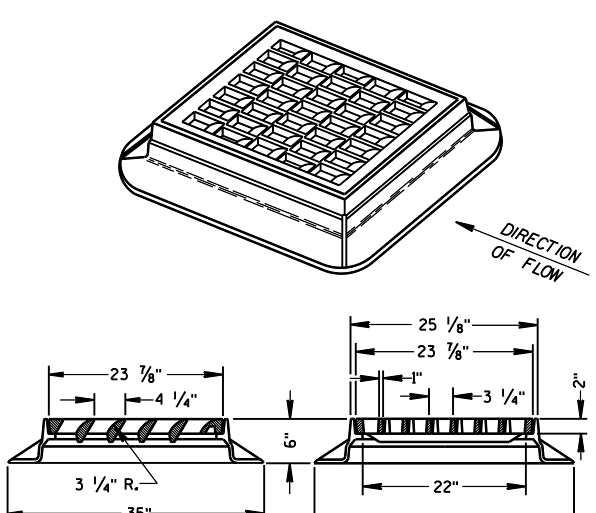
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE



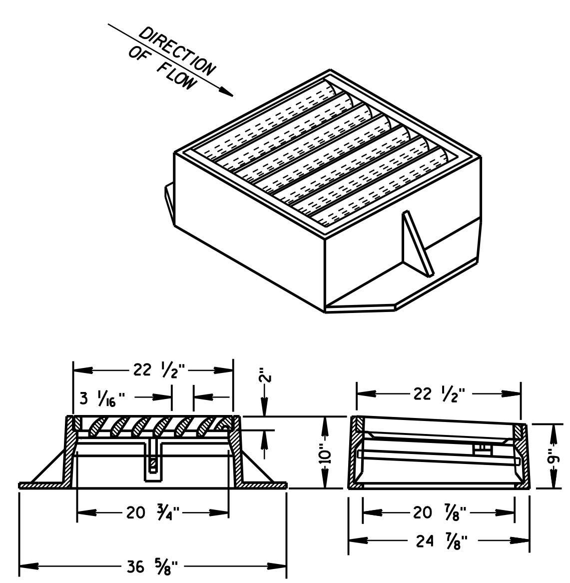
TYPE "HM"

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

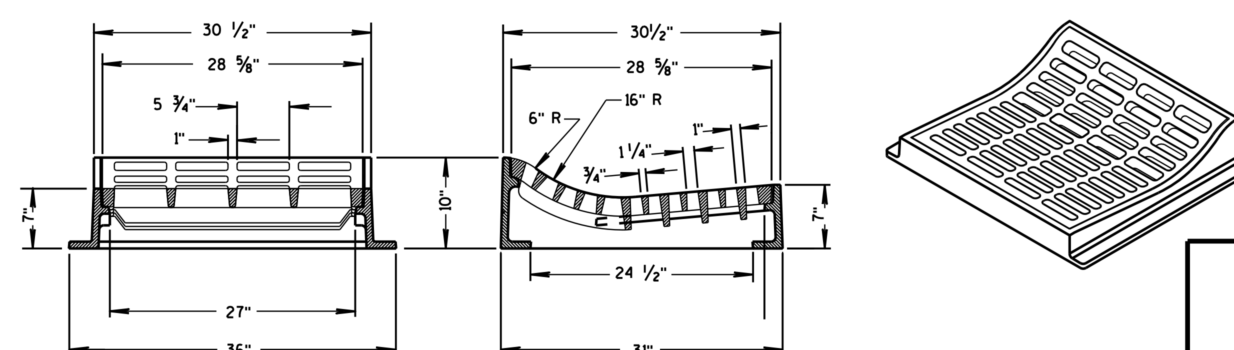
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



TYPE "S"



TYPE "V"



TYPE "T"

USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.

6

6

S.D.D. 8 A 5-19c

S.D.D. 8 A 5-19c

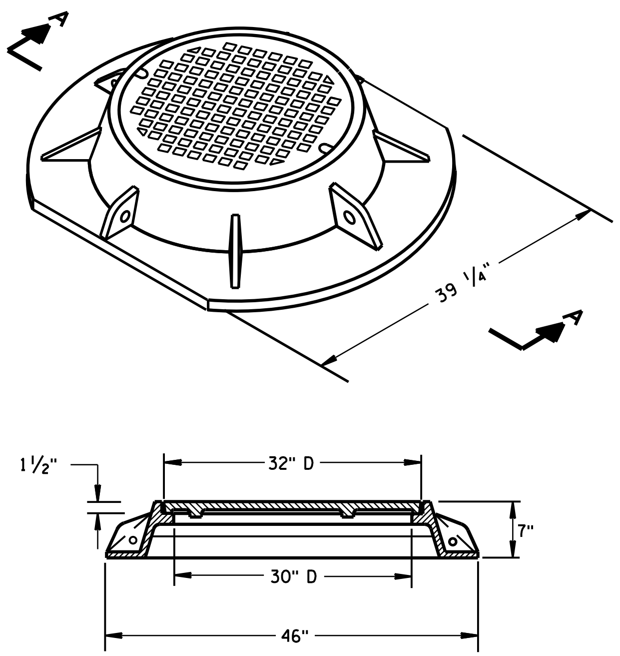
INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 11/27/2013 DATE — /S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER — FHWA

GENERAL NOTES

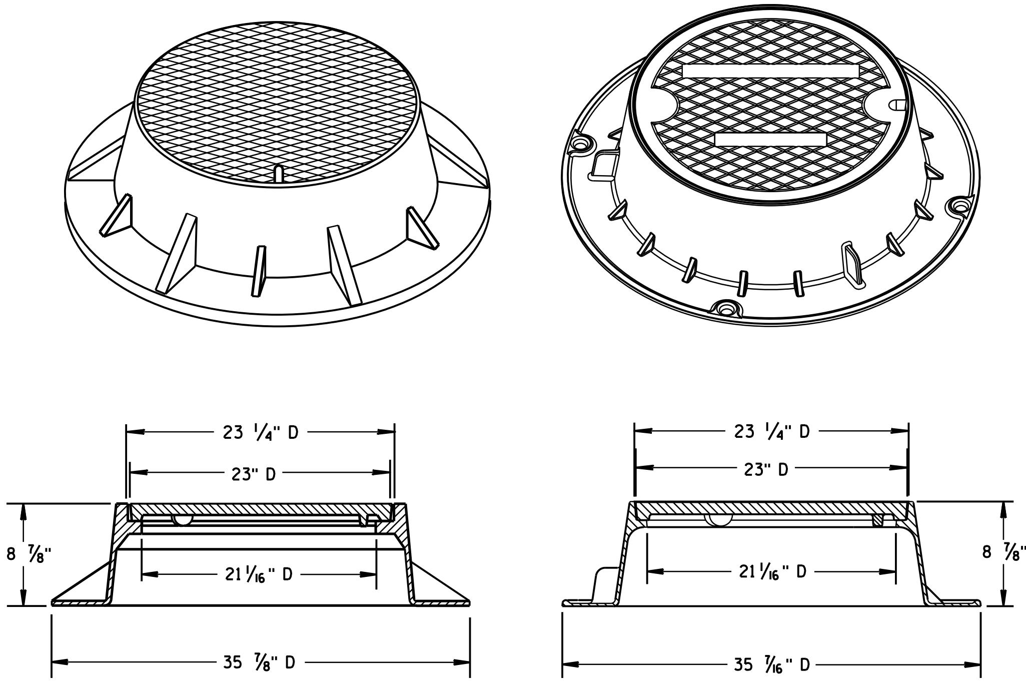
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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.

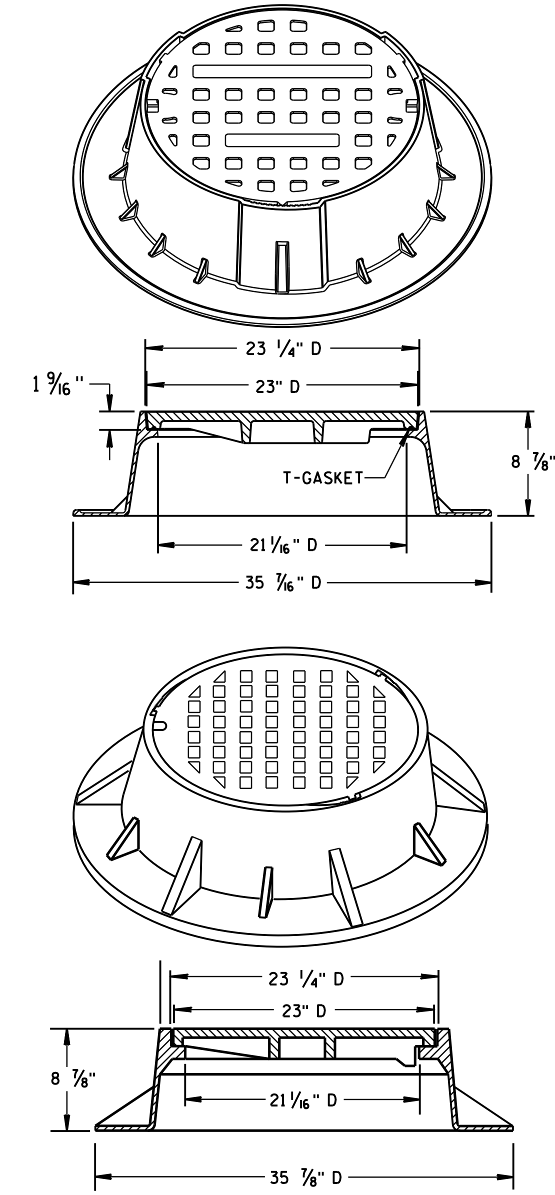
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



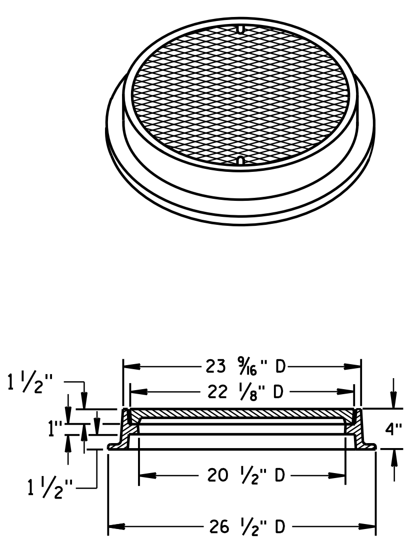
SECTION A-A
TYPE "K"



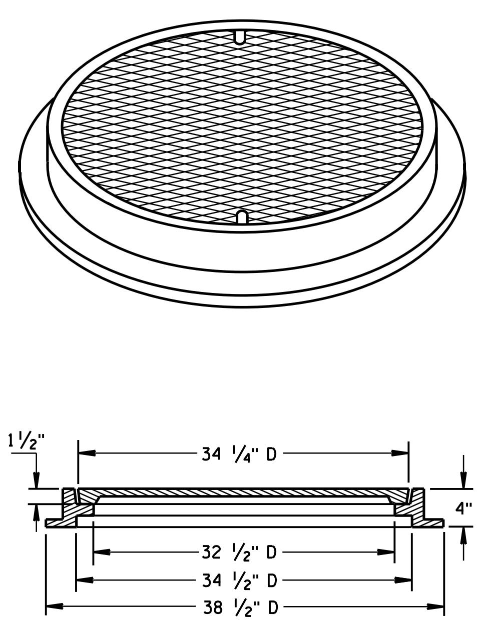
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE



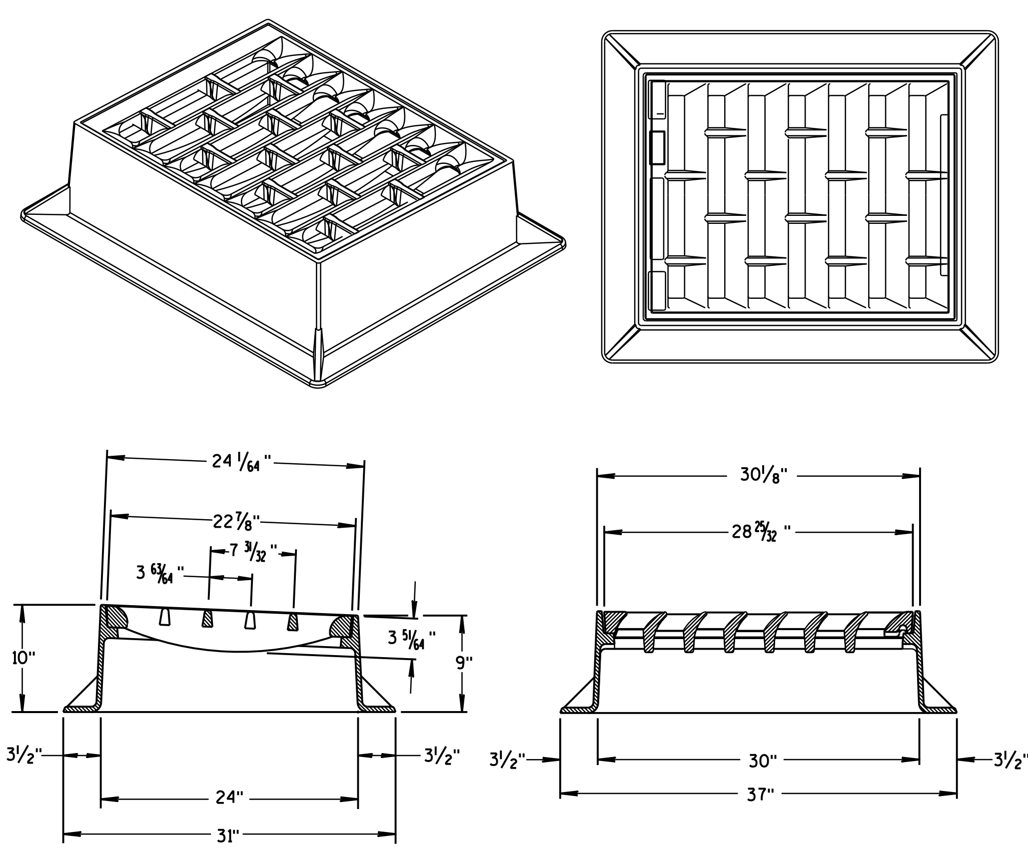
TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE



TYPE "L"



TYPE "M"



INLEE COVER TYPE "BW"

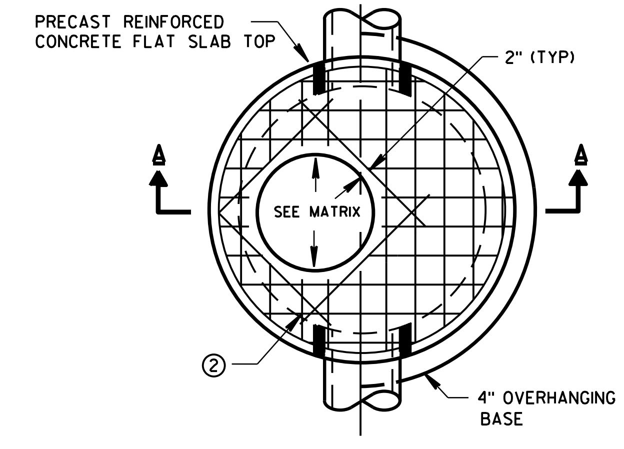
6

6

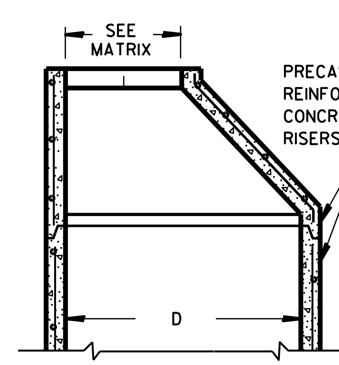
S.D.D. 8 A 5-19d

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 D 300 NT ENGINEER FHWA

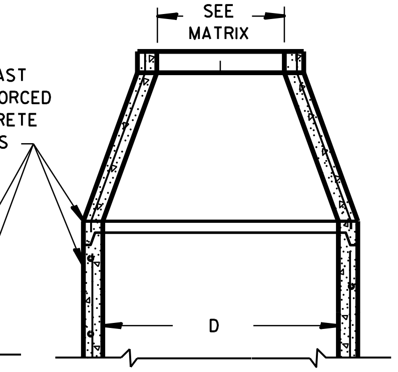
S.D.D. 8 A 5-19d



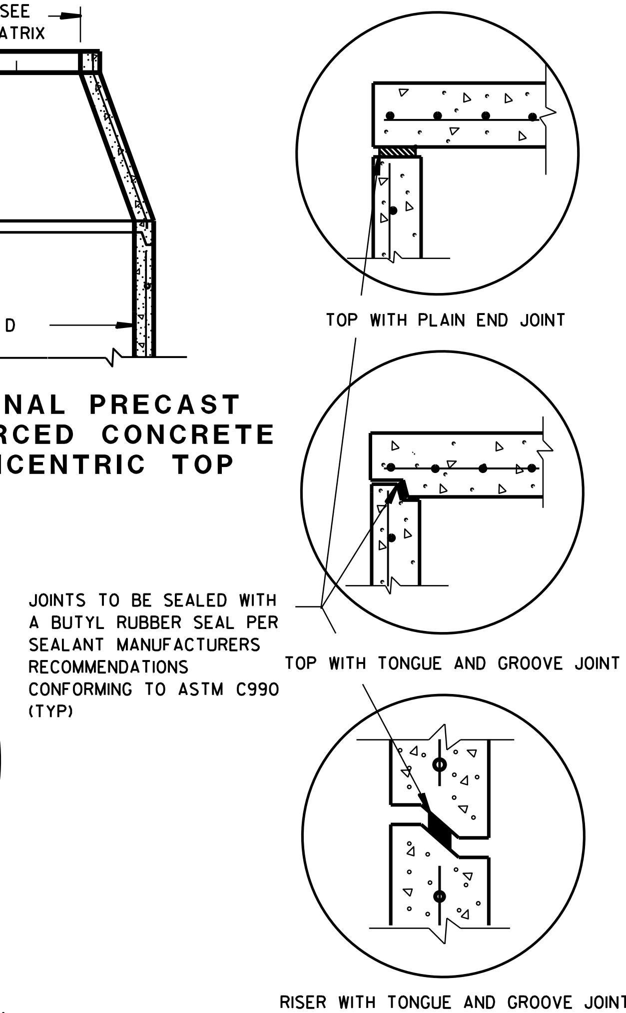
PLAN VIEW CIRCULAR OPENING



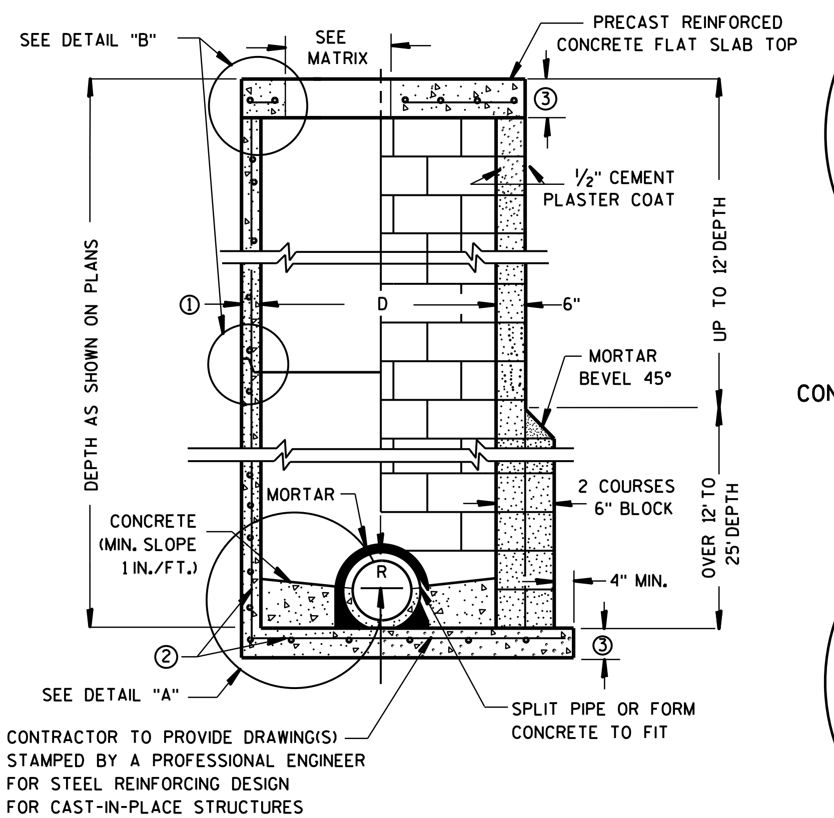
OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP



OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

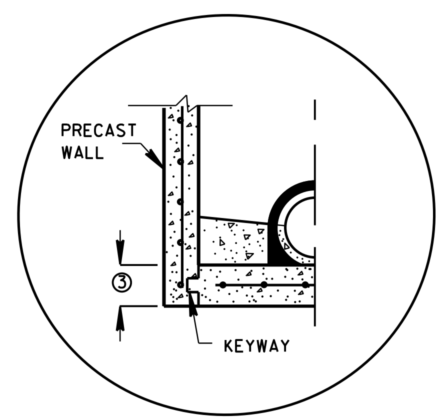


DETAIL "B"

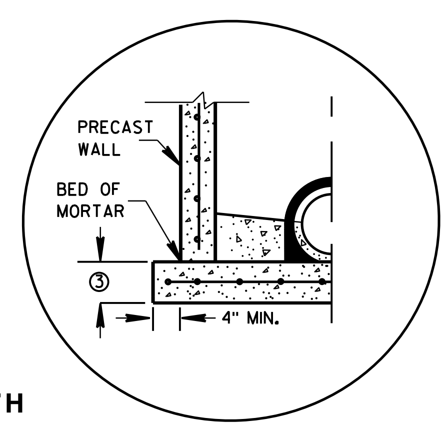


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

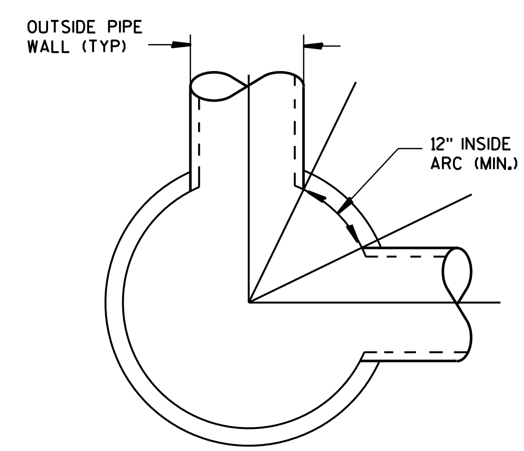


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"

GENERAL NOTES

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

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST MANHOLE UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE CONE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½" AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

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

CONCRETE BLOCK WILL NOT BE PERMITED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

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

① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.

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

③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE	C	ALL J'S	K	L	M
OPENING SIZE (FT)					
2 DIA.	X	X		X	
3 DIA.			X		X

PIPE MATRIX

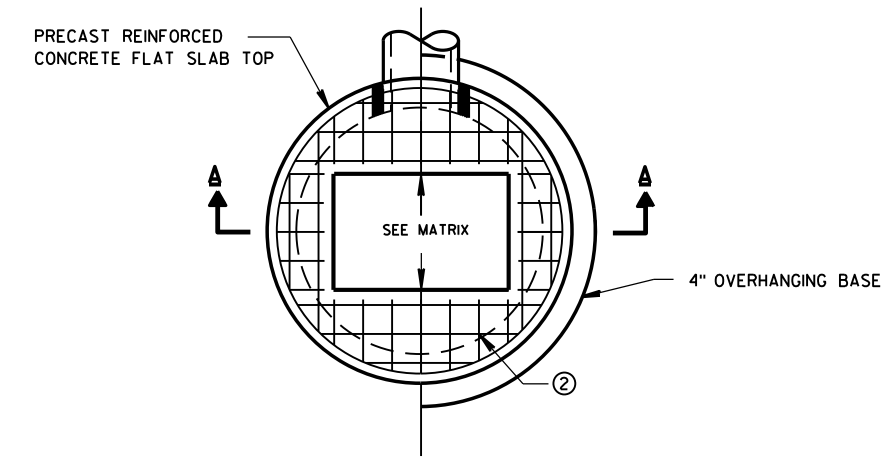
MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

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

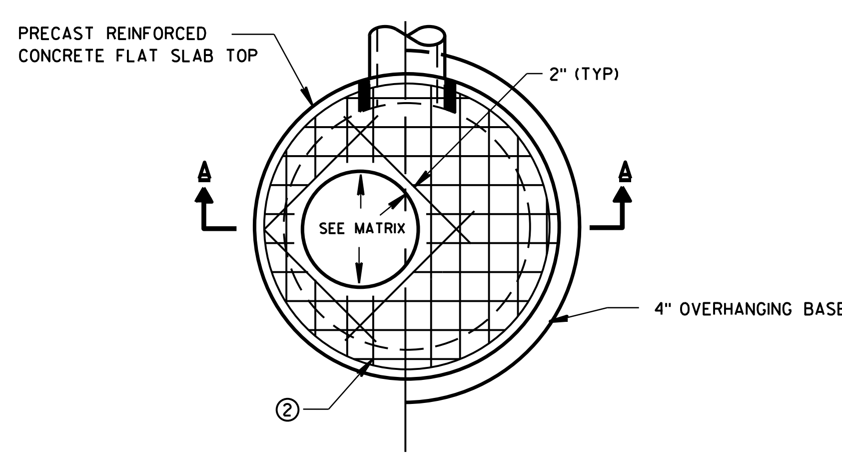
MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

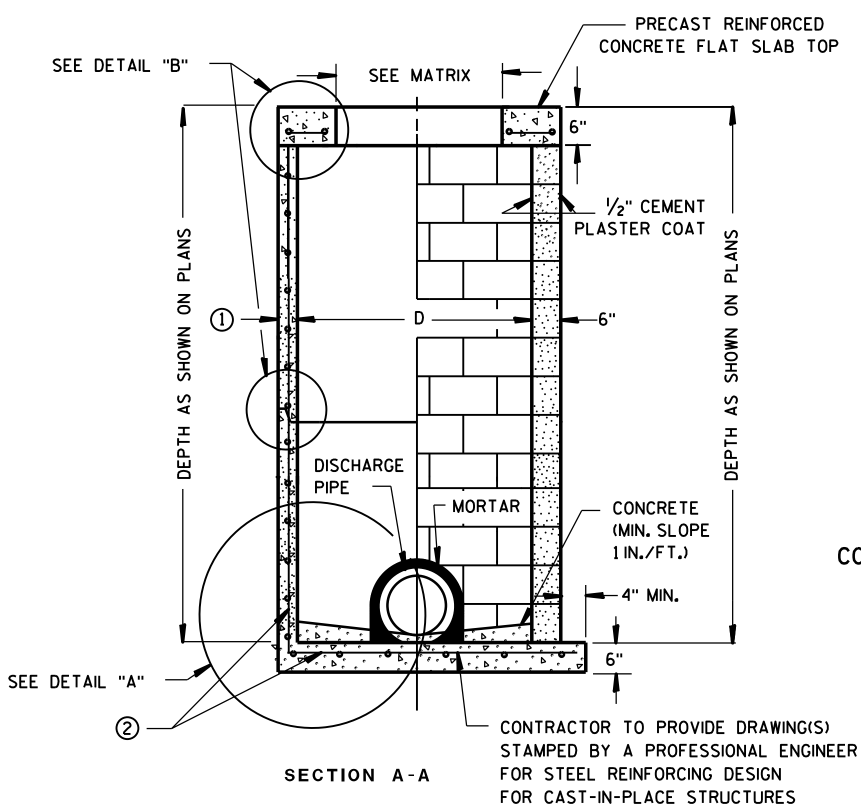
APPROVED
6/5/2012
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA



PLAN VIEW RECTANGULAR OPENING



PLAN VIEW CIRCULAR OPENING

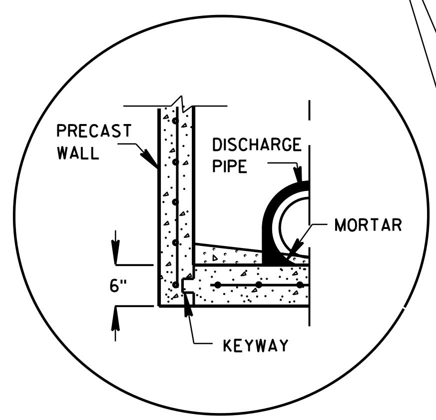


SECTION A-A

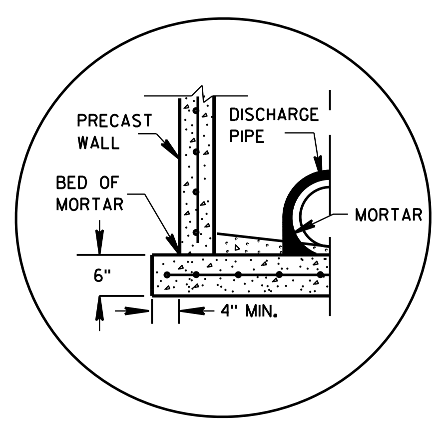
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

CIRCULAR INLETS W/ FLAT TOP



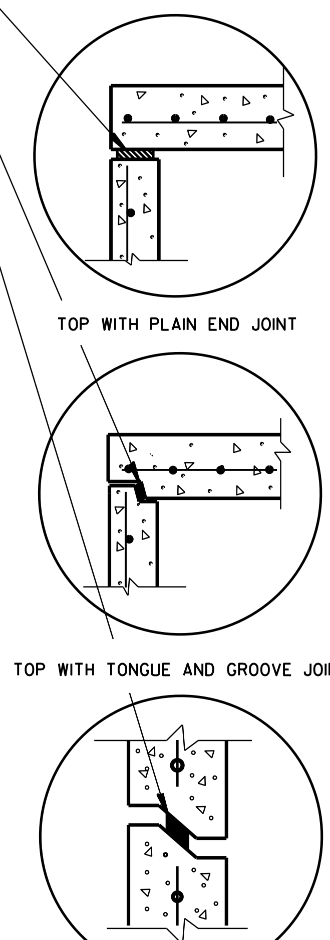
PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"

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



TOP WITH PLAIN END JOINT

TOP WITH TONGUE AND GROOVE JOINT

RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

GENERAL NOTES

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

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

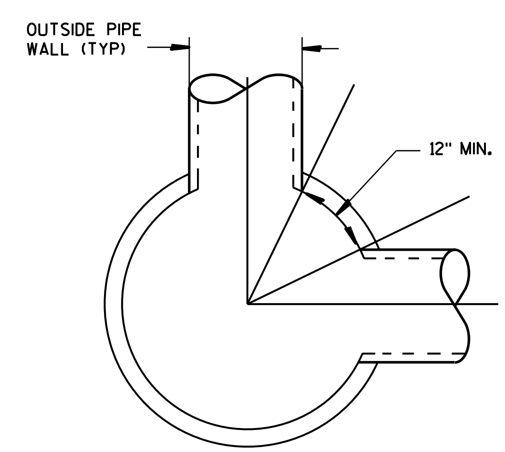
FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

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

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

INLET COVER OPENING MATRIX

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



DETAIL "C"

PIPE MATRIX

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

INLETS 3-FT AND 4-FT DIAMETER

INLETS 3-FT AND 4-FT DIAMETER

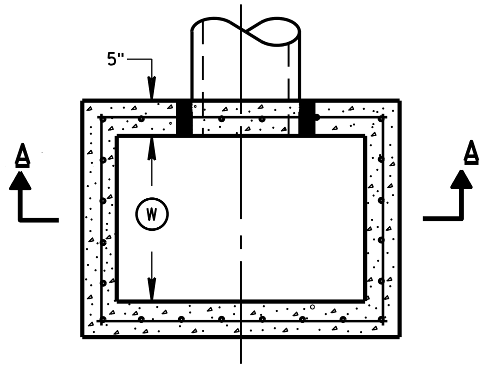
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED

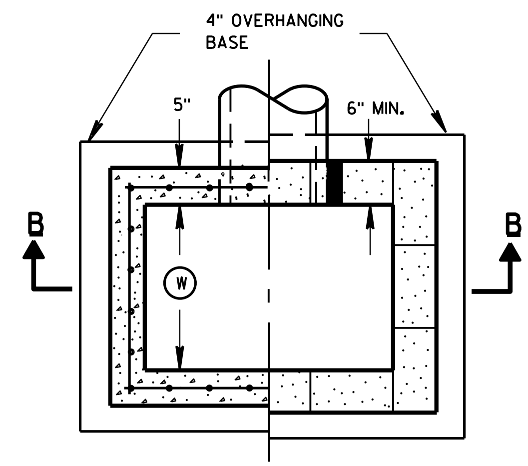
6/5/2012 /S/ Jerry H. Zogg

DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER

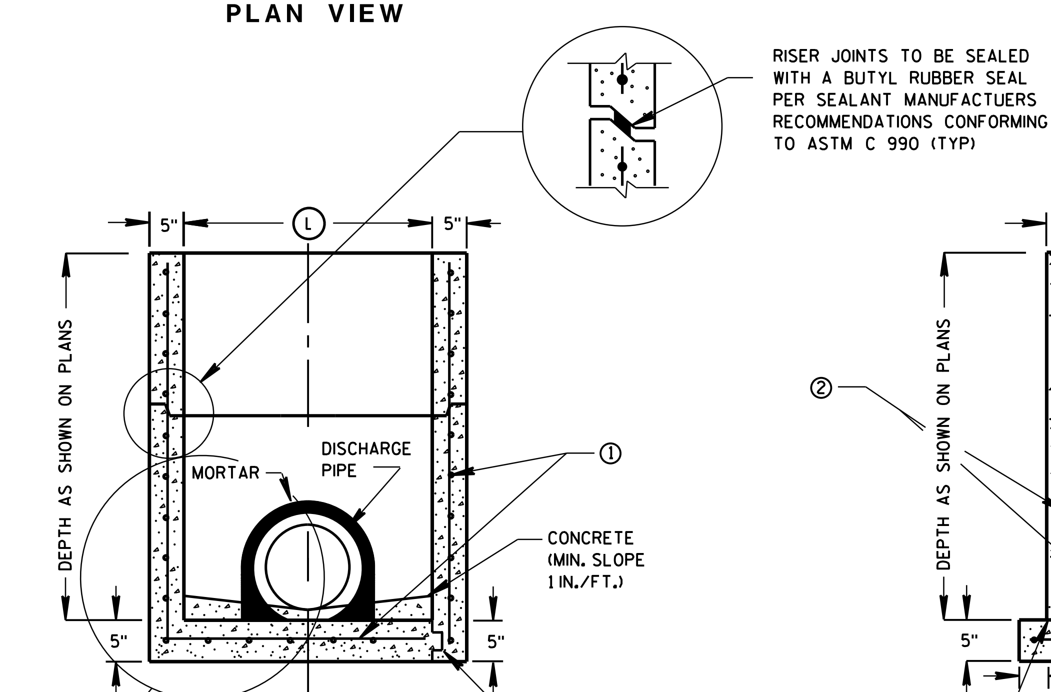
FHWA



PLAN VIEW



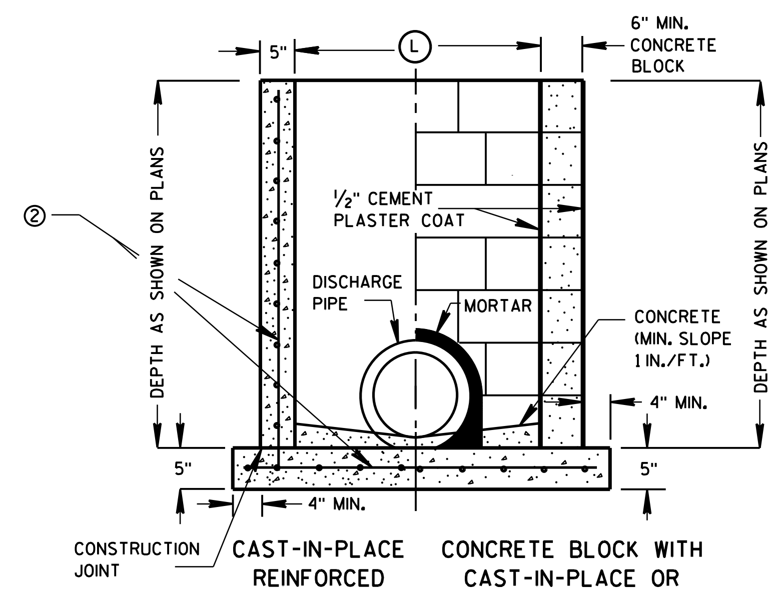
PLAN VIEW



PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE

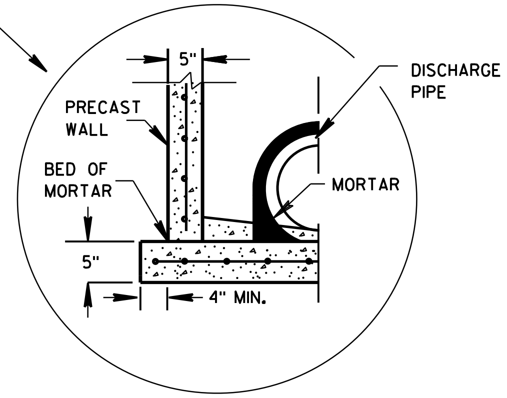
SECTION A-A



CAST-IN-PLACE REINFORCED CONCRETE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ①

SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

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

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED.
OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

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

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

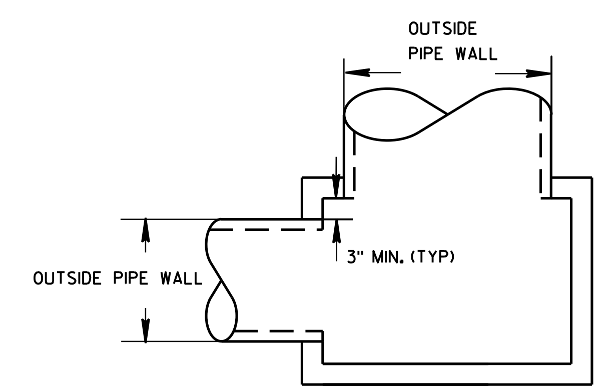
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 6/5/2012 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

GENERAL NOTES

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

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, 1G-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

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

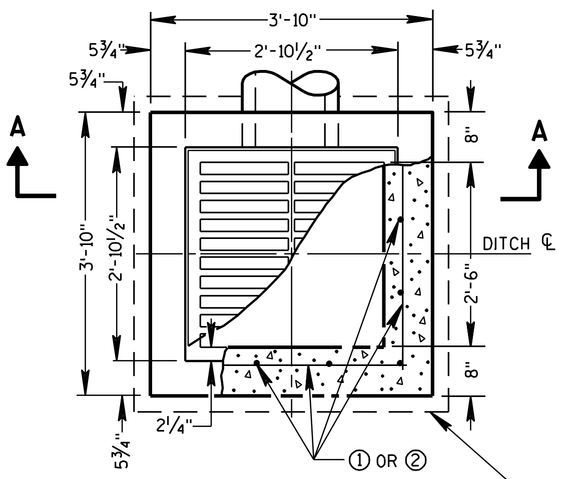
PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

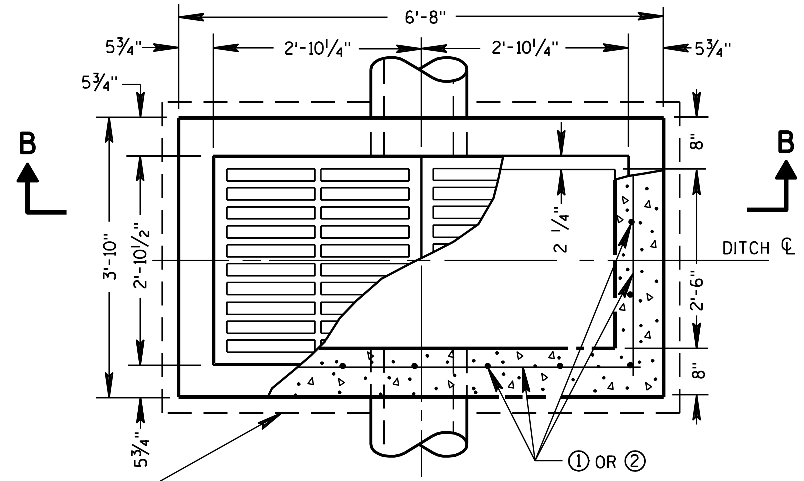
MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

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

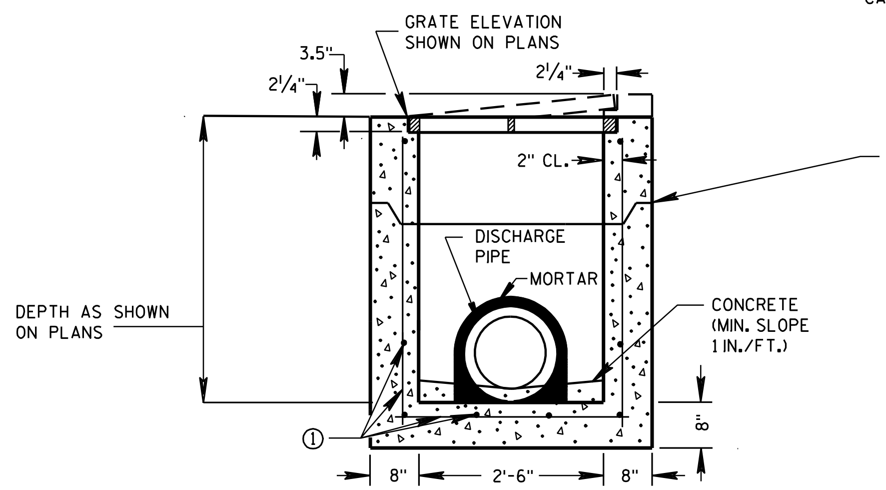


PLAN VIEW

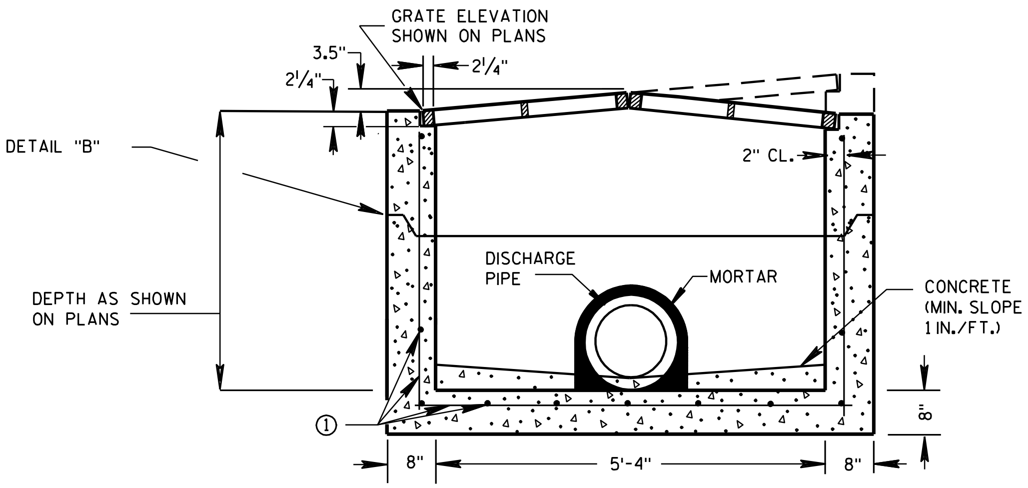


PLAN VIEW

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



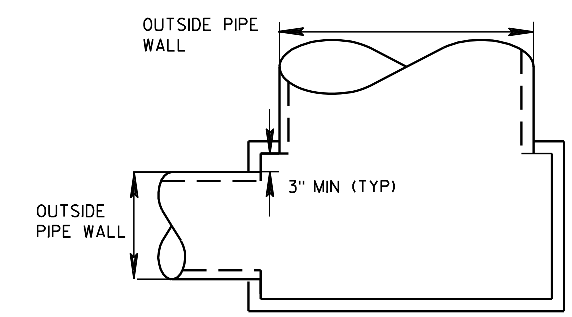
PRECAST REINFORCED CONCRETE SECTION A-A



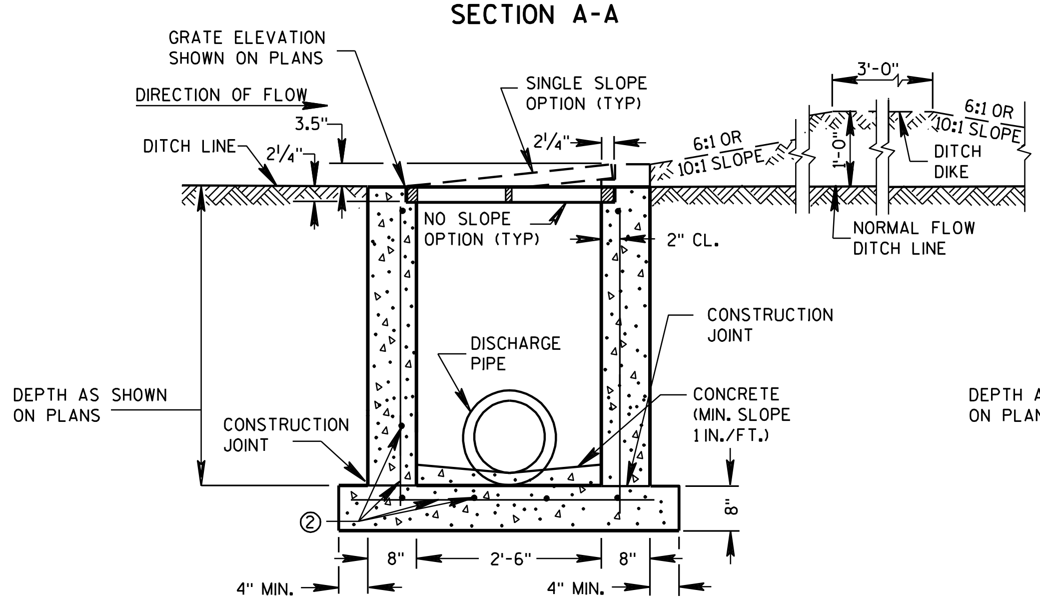
PRECAST REINFORCED CONCRETE SECTION B-B

PIPE MATRIX

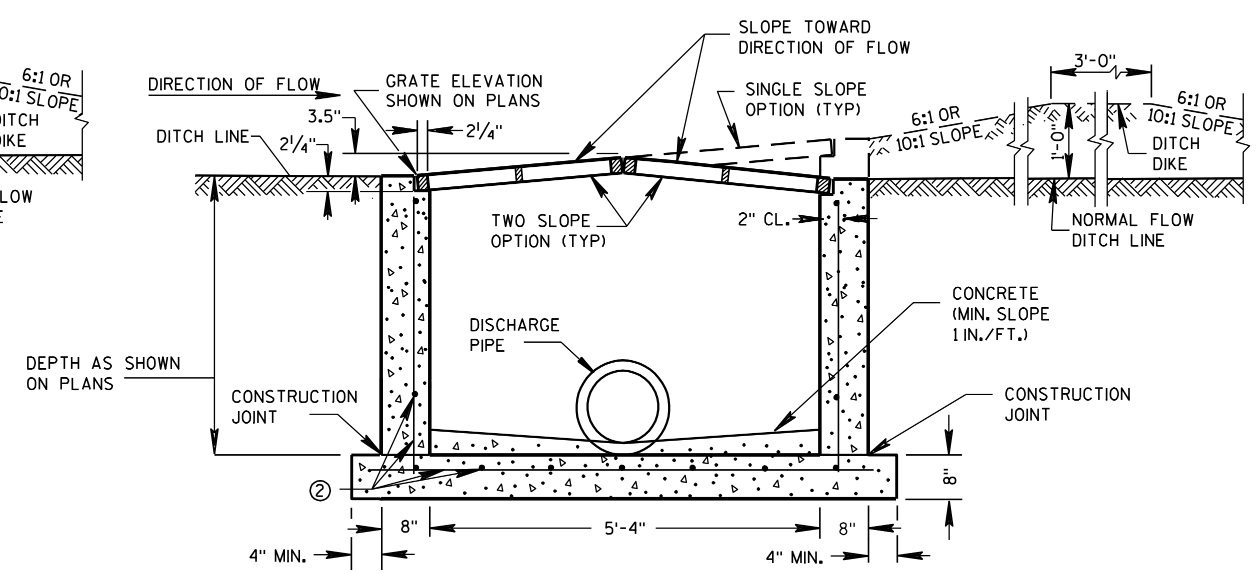
INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42



DETAIL "A"

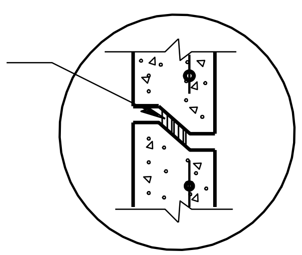


REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



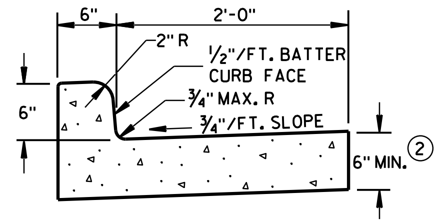
DETAIL "B"

INLETS MEDIAN 1 GRATE

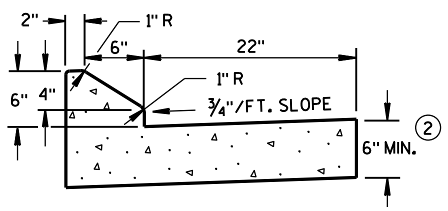
INLETS MEDIAN 2 GRATE

6

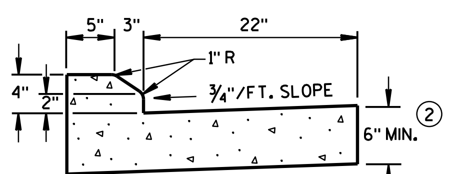
INLETS MEDIAN 1 AND 2 GRATE
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 6/5/2012 DATE — /S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER — FHWA



TYPES A & D (1)

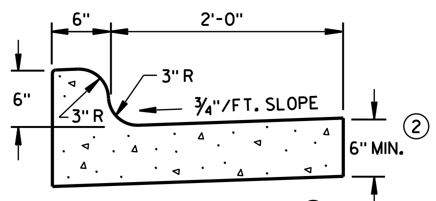


6" SLOPED CURB TYPES G & J (1)

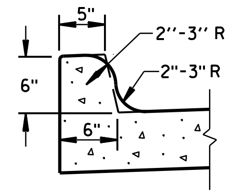


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

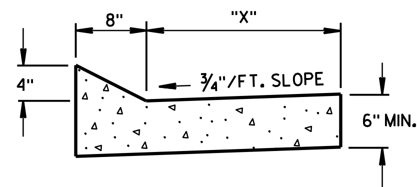


TYPES K & L (1)



OPTIONAL CURB SHAPE FOR TYPES K & L (1)

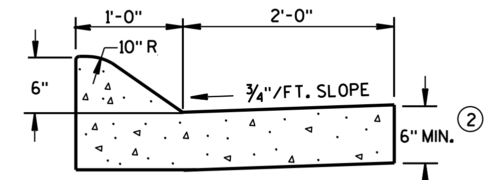
CONCRETE CURB & GUTTER 30"



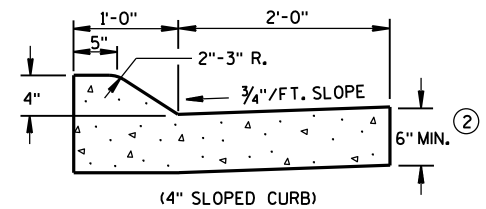
TYPES TBT & TBTT (1)

CONCRETE CURB & GUTTER

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

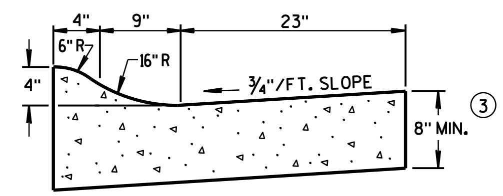


(6" SLOPED CURB)



(4" SLOPED CURB)

TYPES A & D (1)



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

CONCRETE CURB & GUTTER 36"

GENERAL NOTES

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

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

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

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

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

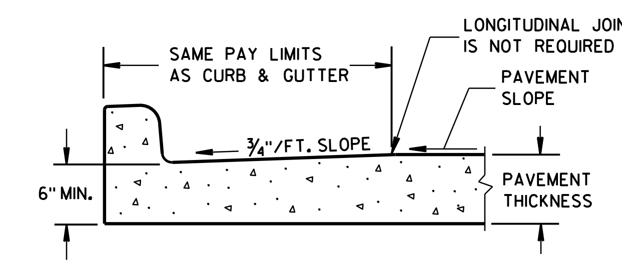
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.

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

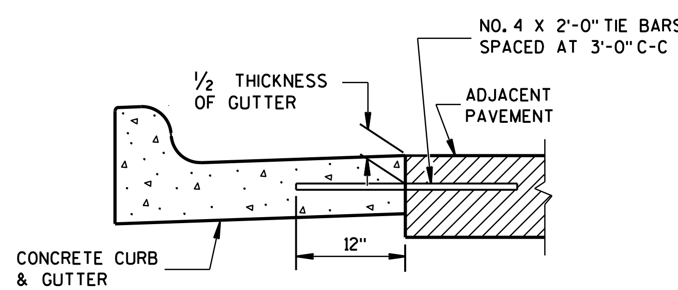
(3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

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

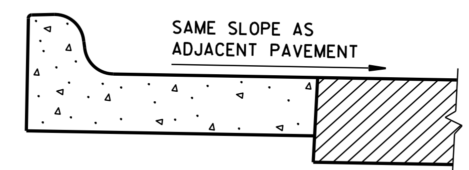
(5) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



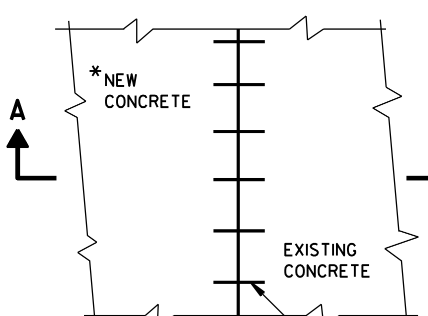
TYPICAL TIE BAR LOCATION (1)



(5)

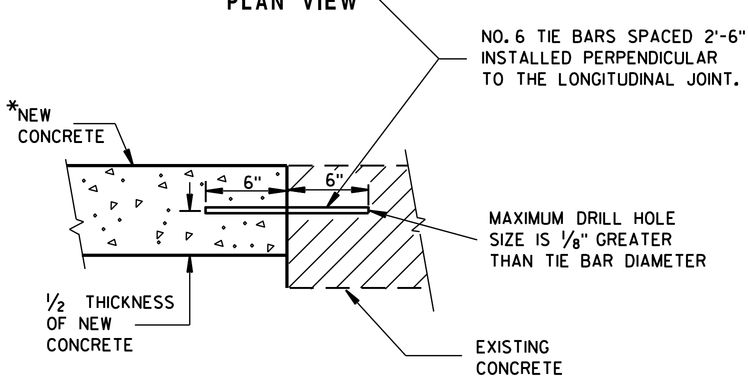
REVERSE SLOPE GUTTER

(TYPICAL FOR ALL CURB & GUTTER TYPES)



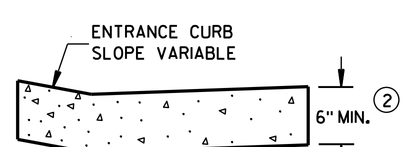
PLAN VIEW

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



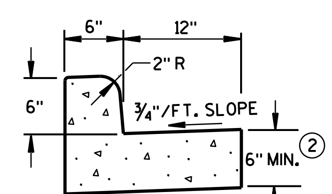
SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT



DRIVEWAY ENTRANCE CURB

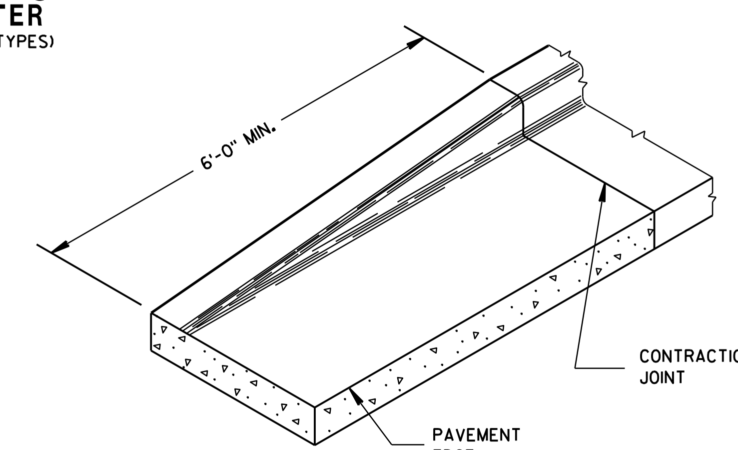
(WHEN DIRECTED BY THE ENGINEER)



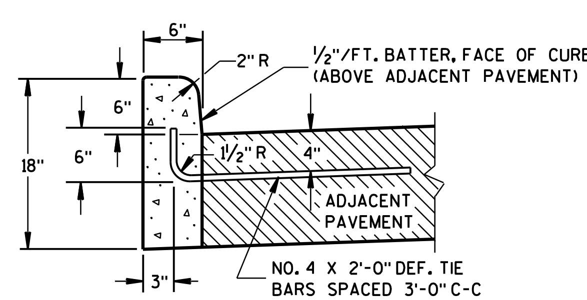
(1)

TYPES A & D

CONCRETE CURB & GUTTER 18"

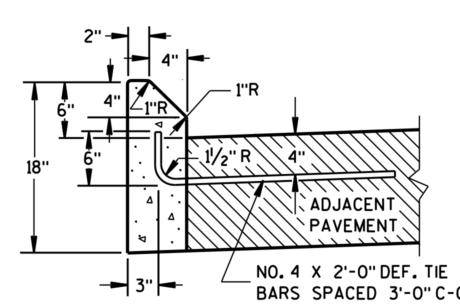


END SECTION CURB & GUTTER



(1)

TYPES A & D

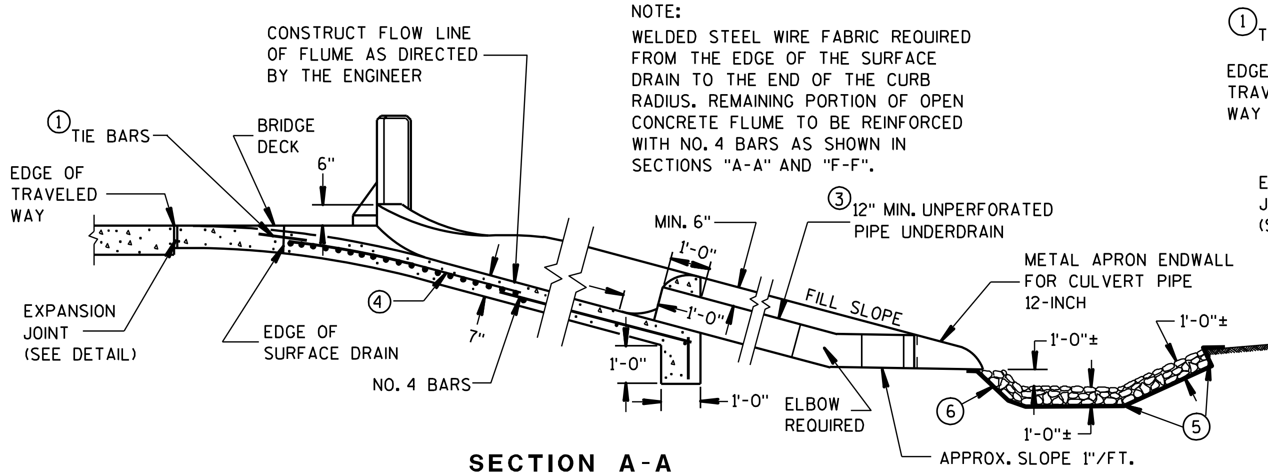


(1)

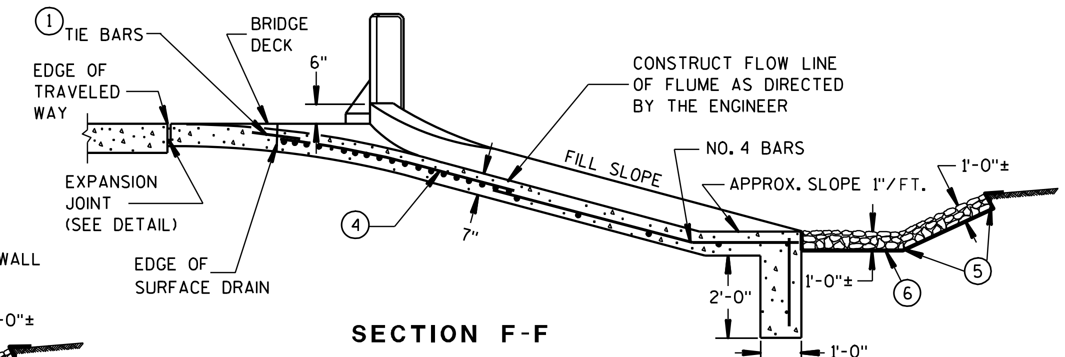
TYPES G & J

CONCRETE CURB

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED June, 2015 DATE — /S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER — FHWA



SECTION A-A



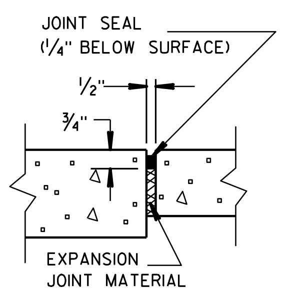
SECTION F-F

GENERAL NOTES

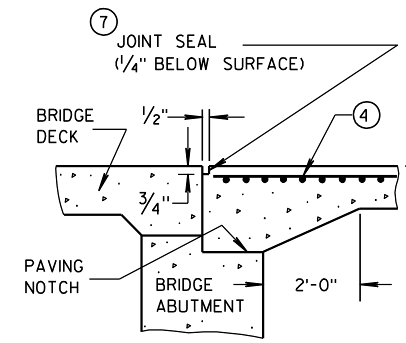
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

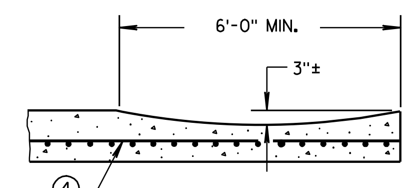
1. NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.
2. NO. 4 X 2'-0" TIE BARS SPACED AT 12" CENTERS TO BE PLACED BY BRIDGE CONTRACTOR, OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
3. PIPE UNDERDRAIN MAY BE ANY OF THE MATERIALS LISTED IN SECTION 612.2 OF THE STANDARD SPECIFICATIONS EXCEPT DRAIN TILE.
4. MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.
5. LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.
6. GEOTEXTILE FABRIC, TYPE 'R'
7. HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.
8. THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1½".



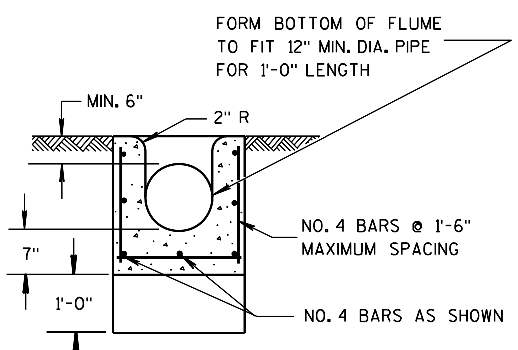
EXPANSION JOINT DETAIL



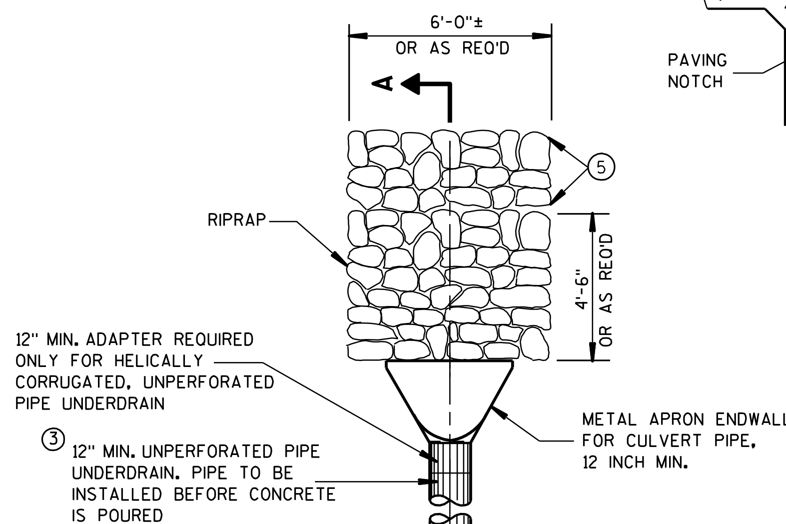
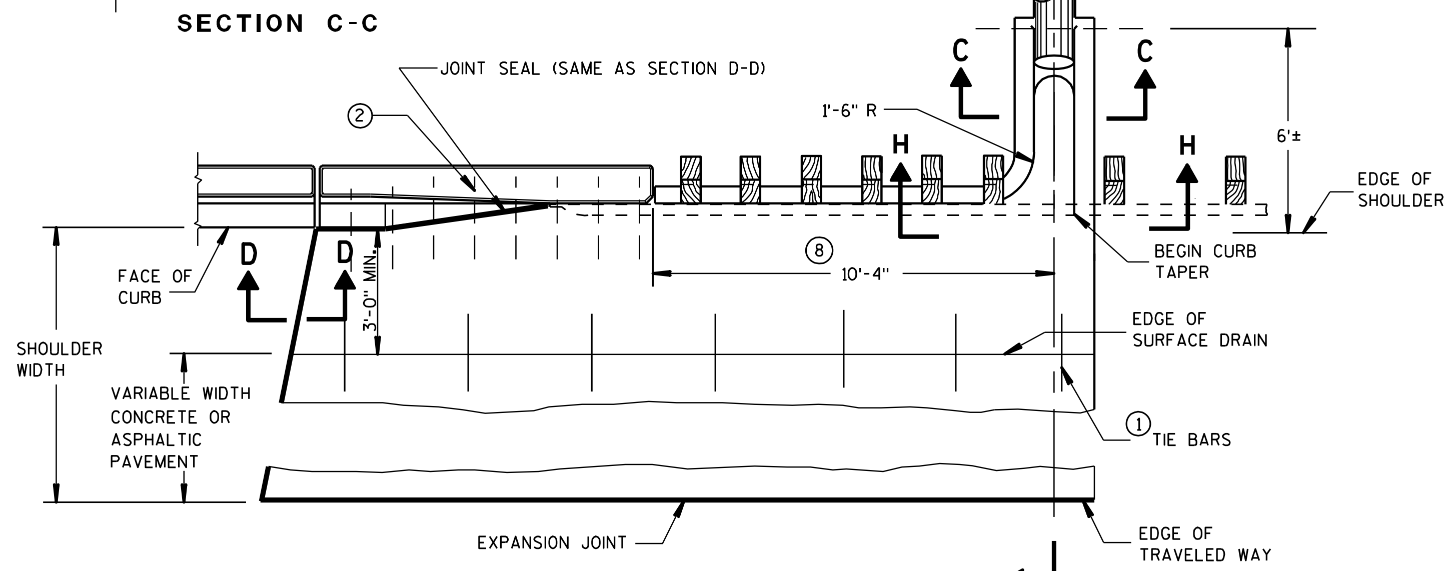
SECTION D-D



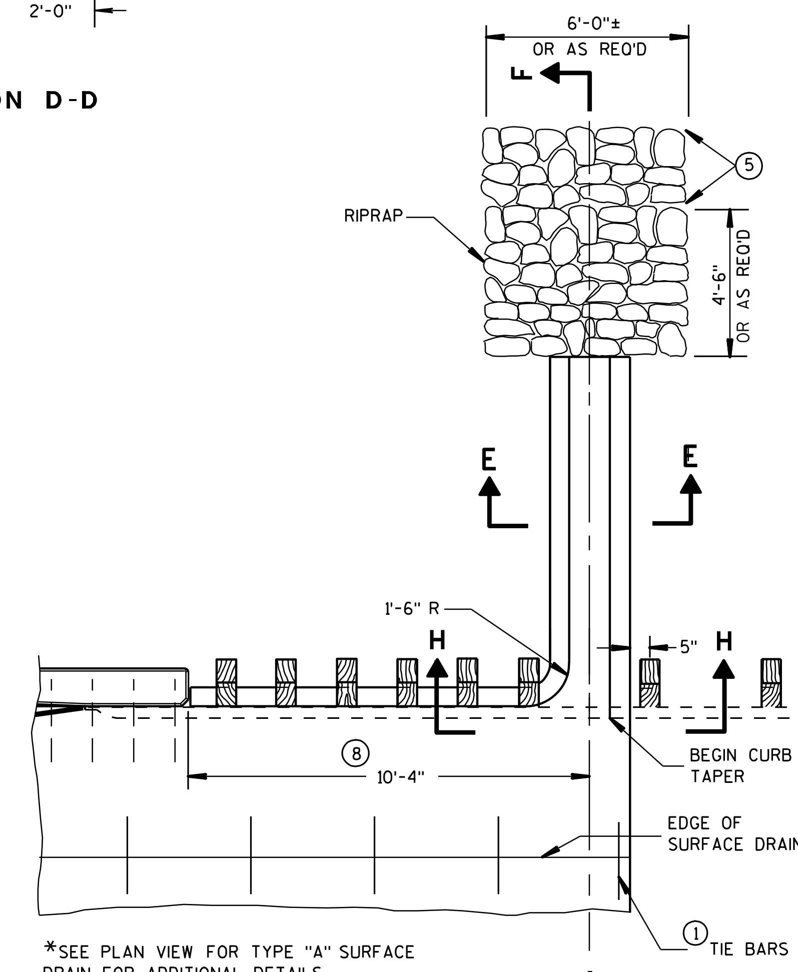
SECTION H-H



SECTION C-C

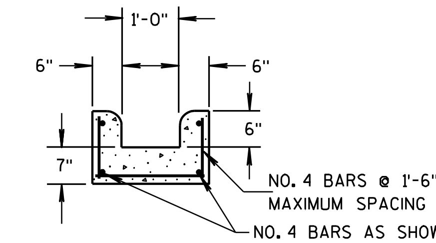



PLAN VIEW
SURFACE DRAIN WITH PIPE
TYPE "A"

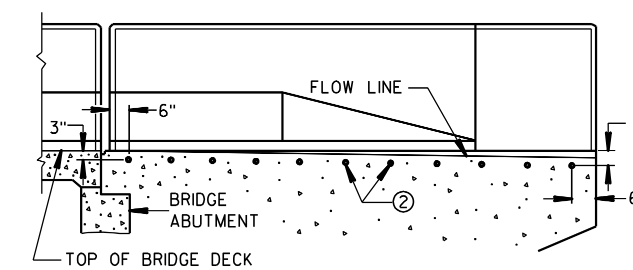


*SEE PLAN VIEW FOR TYPE "A" SURFACE DRAIN FOR ADDITIONAL DETAILS

*PARTIAL PLAN VIEW
SURFACE DRAIN WITHOUT PIPE
TYPE "B"



SECTION E-E



LOCATION OF
TIE BARS IN WINGWALL

6

6

CONCRETE SURFACE DRAINS
FLUME TYPE
AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

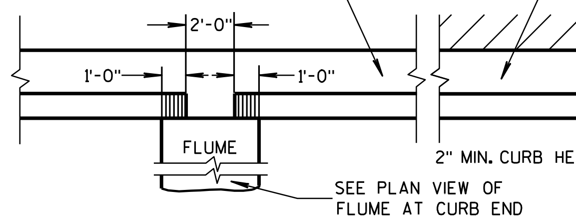
APPROVED
9/4/08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

S.D.D. 8 D 2-6

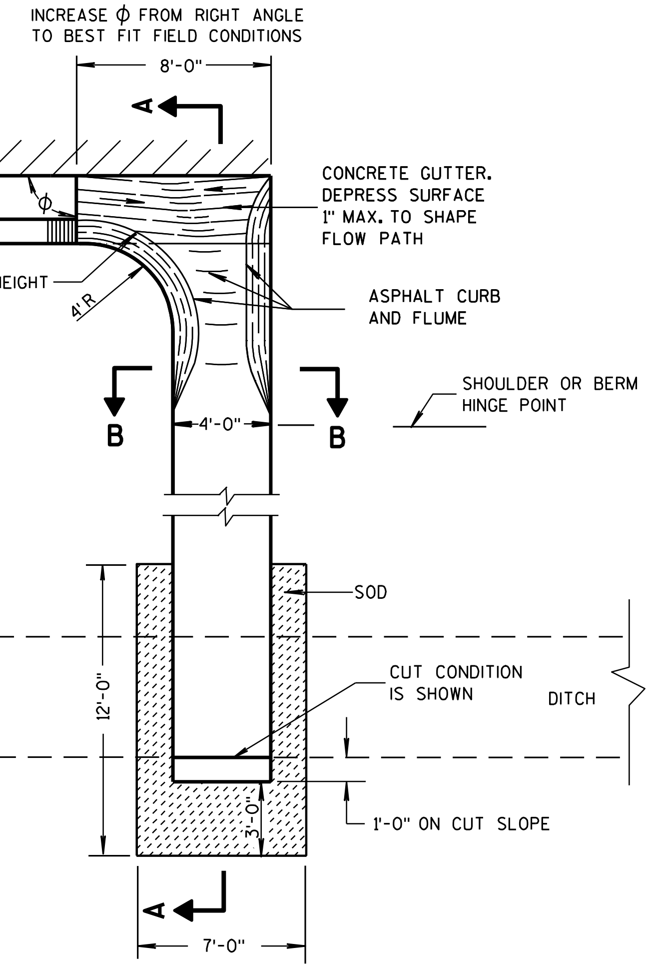
S.D.D. 8 D 2-6

ASPHALTIC FLUME

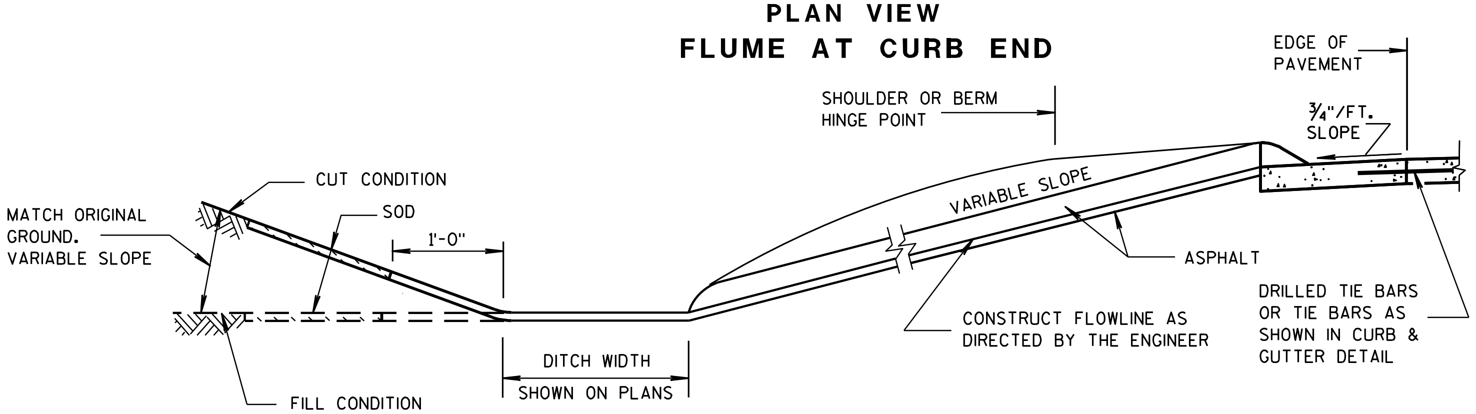
NOTE: TAPER CURB ENDS
TO GUTTER IN 1'-0"



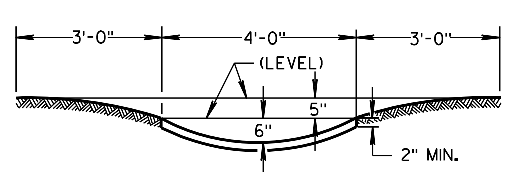
PLAN VIEW
CURB OPENING FOR FLUME



PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

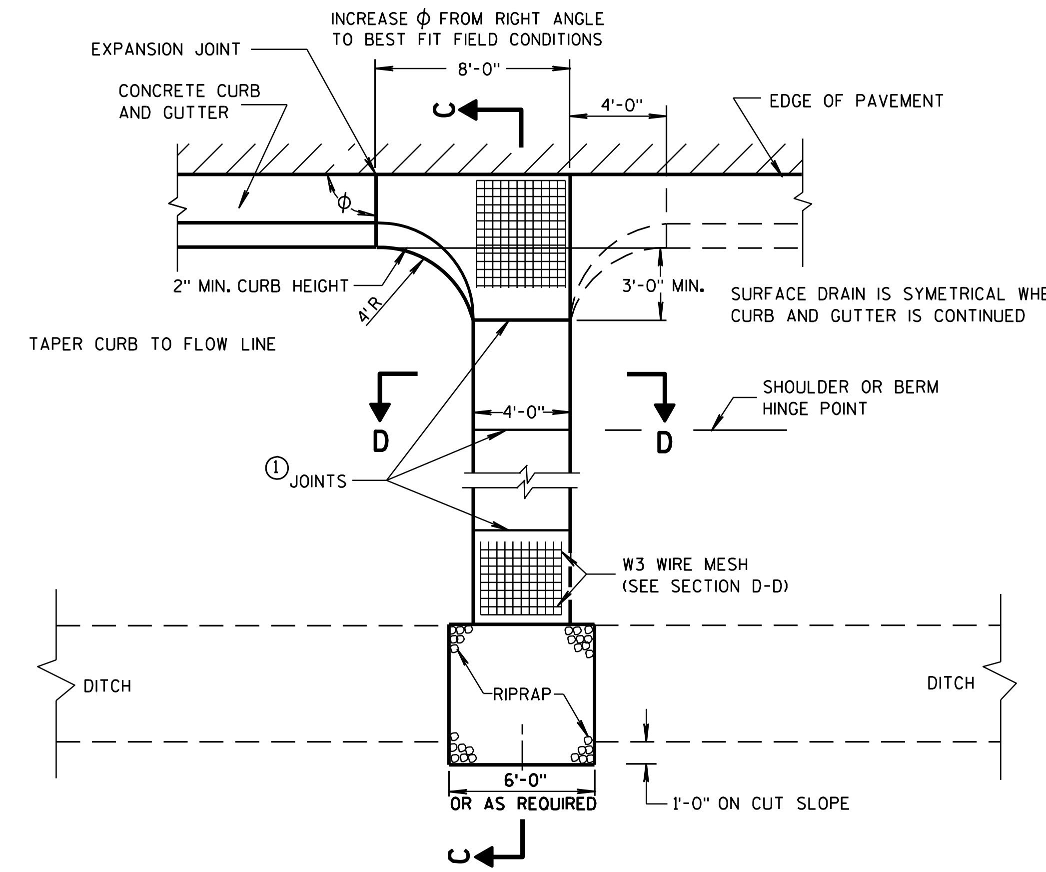
GENERAL NOTES

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

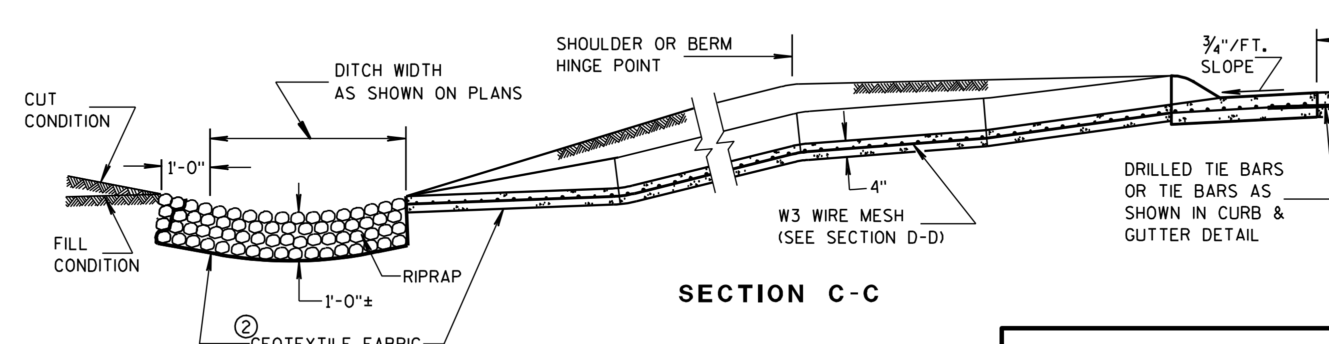
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

1. JOINTS SHALL BE 1/8 TO 1/4 INCH WIDE BY 1 1/2 INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
2. GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
3. CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

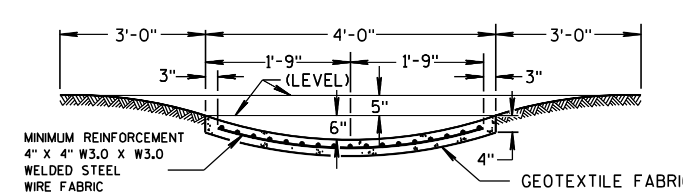
(3) CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C

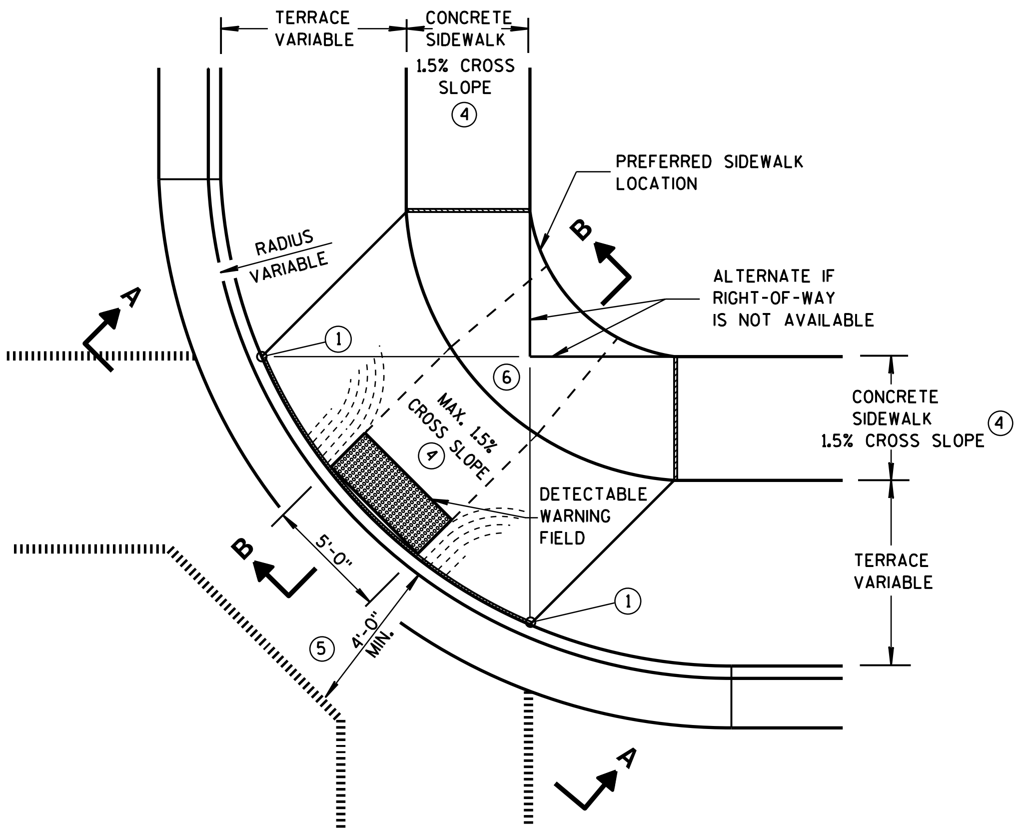


SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

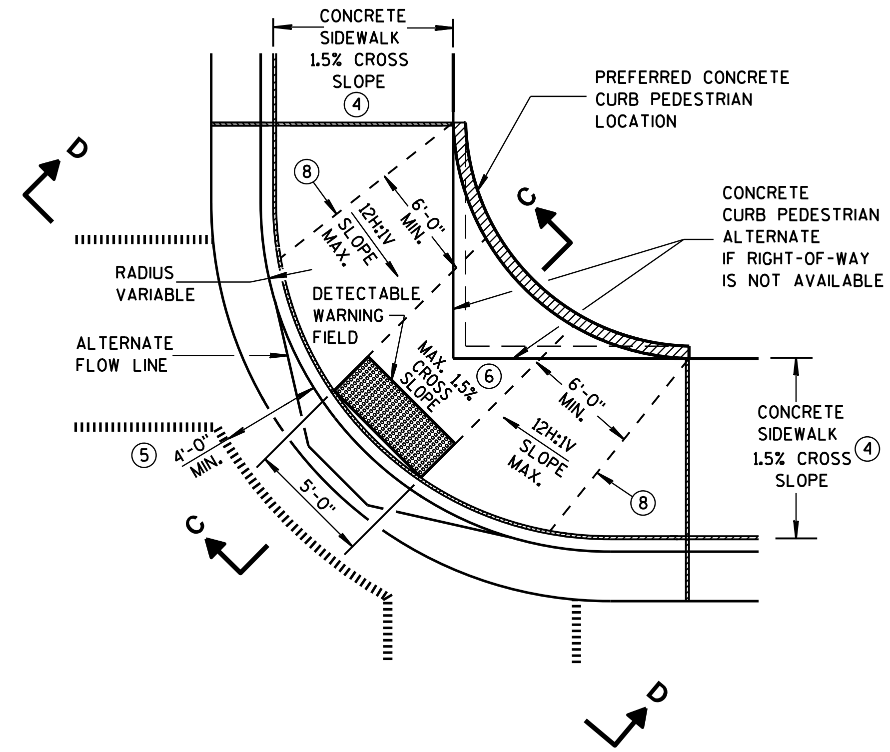
APPROVED
9-4-08
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA



PLAN VIEW

TYPE 1 RAMP

(CENTER OF CORNER RADIUS)



PLAN VIEW

TYPE 1-A RAMP

(NO TERRACE)

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.

WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

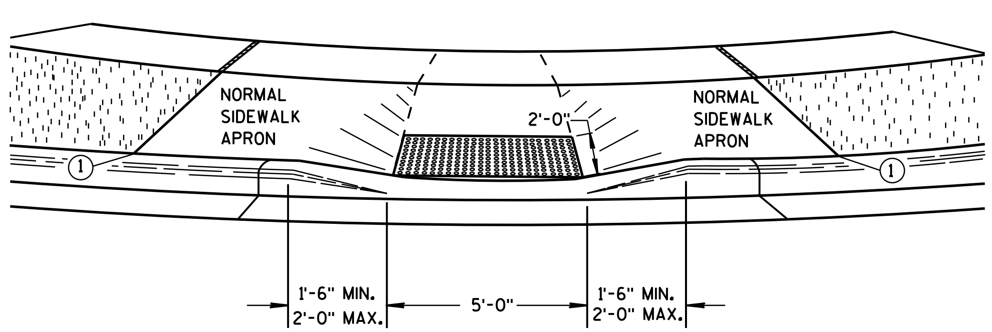
DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

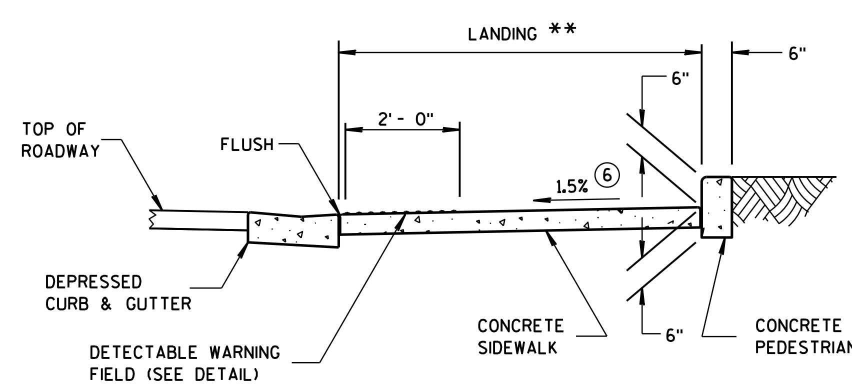
SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

1. THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.
2. GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED.
3. ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
4. ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
5. PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA. (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA.
6. PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET (MINIMUM 4 FEET X 4 FEET).
8. PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.



VIEW A-A

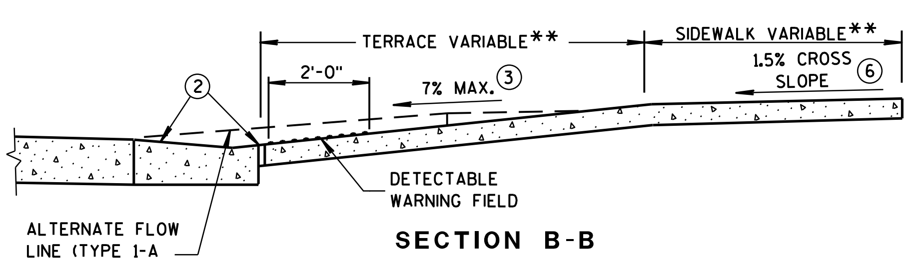
** WIDTH SHOWN ELSEWHERE IN THE PLANS



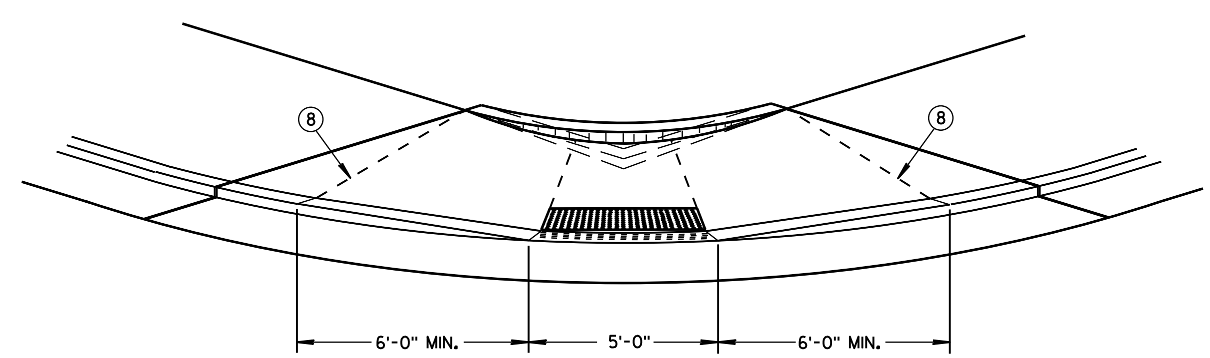
SECTION C-C

LEGEND

(symbol)	1/2" EXPANSION JOINT-SIDEWALK
- - - -	CONTRACTION JOINT FIELD LOCATED
(symbol)	PAVEMENT MARKING CROSSWALK (WHITE)
———	ALTERNATIVE LAYOUT



SECTION B-B

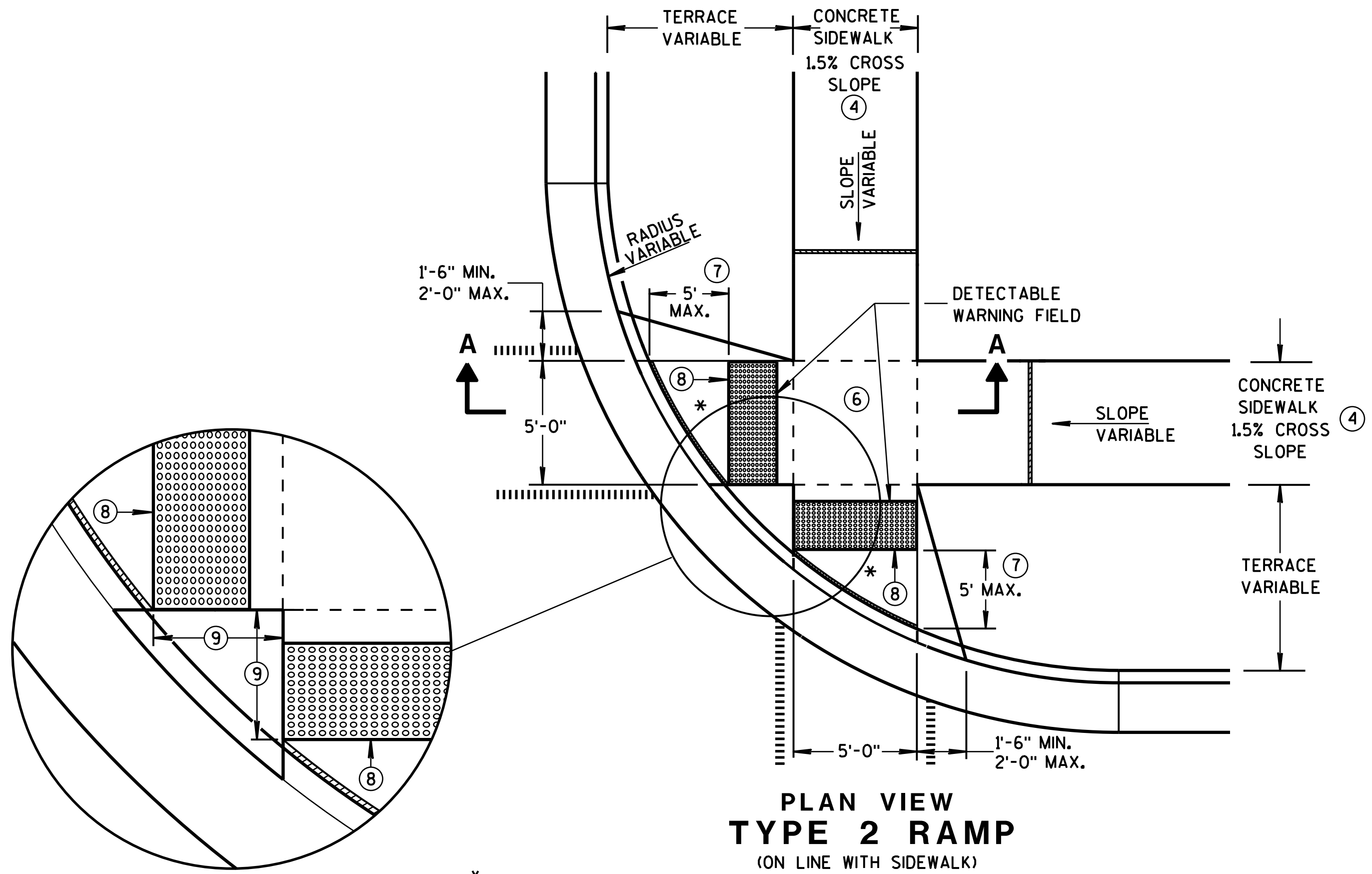


VIEW D-D

CURB RAMPS
TYPES 1 AND 1-A

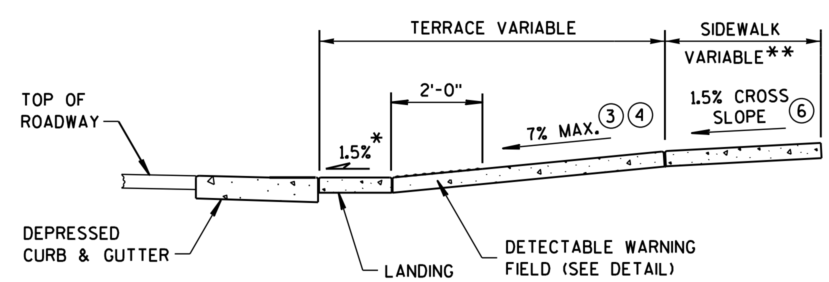
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

S.D.D. 8 D 5-16a



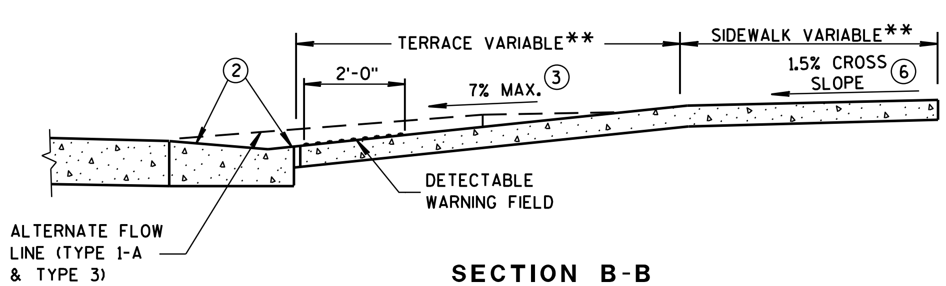
PLAN VIEW
TYPE 2 RAMP
(ON LINE WITH SIDEWALK)

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK



SECTION A-A

** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B-B

GENERAL NOTES

USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET (MINIMUM 4 FEET X 4 FEET).

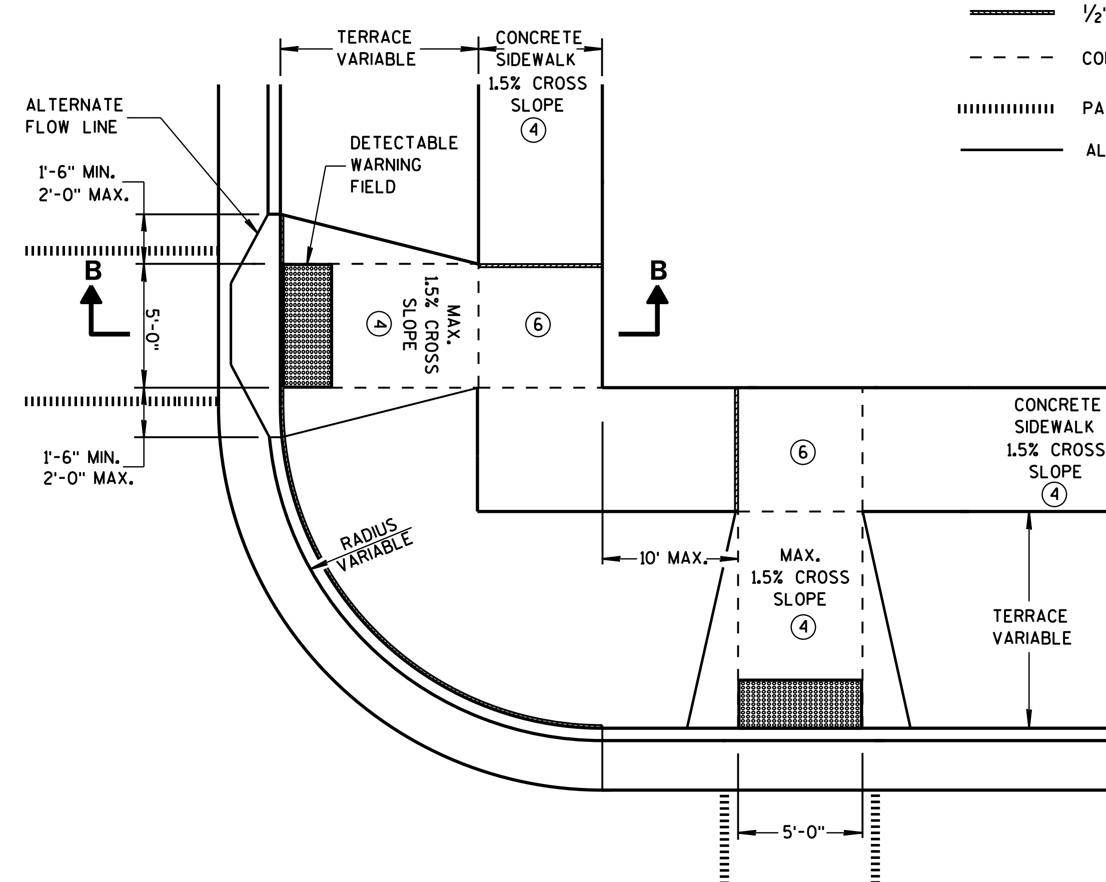
(7) WHEN THIS DISTANCE EXCEEDS 5 FEET, USE MULTIPLE DETECTABLE WARNING PANELS ACROSS THE RAMP AND STAGGER ADDITIONAL DETECTABLE WARNING PANEL(S) FORWARD TO REDUCE THIS DISTANCE.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(9) WHEN THIS DISTANCE IS LESS THAN 6'-0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. 2" MINIMUM CURB HEIGHT.

LEGEND

▬▬▬	1/2" EXPANSION JOINT-SIDEWALK
– – – –	CONTRACTION JOINT FIELD LOCATED
IIIIIIIIIII	PAVEMENT MARKING CROSSWALK (WHITE)
———	ALTERNATIVE LAYOUT



PLAN VIEW
TYPE 3 RAMP
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS
TYPES 2 AND 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET (MINIMUM 4 FEET X 4 FEET).

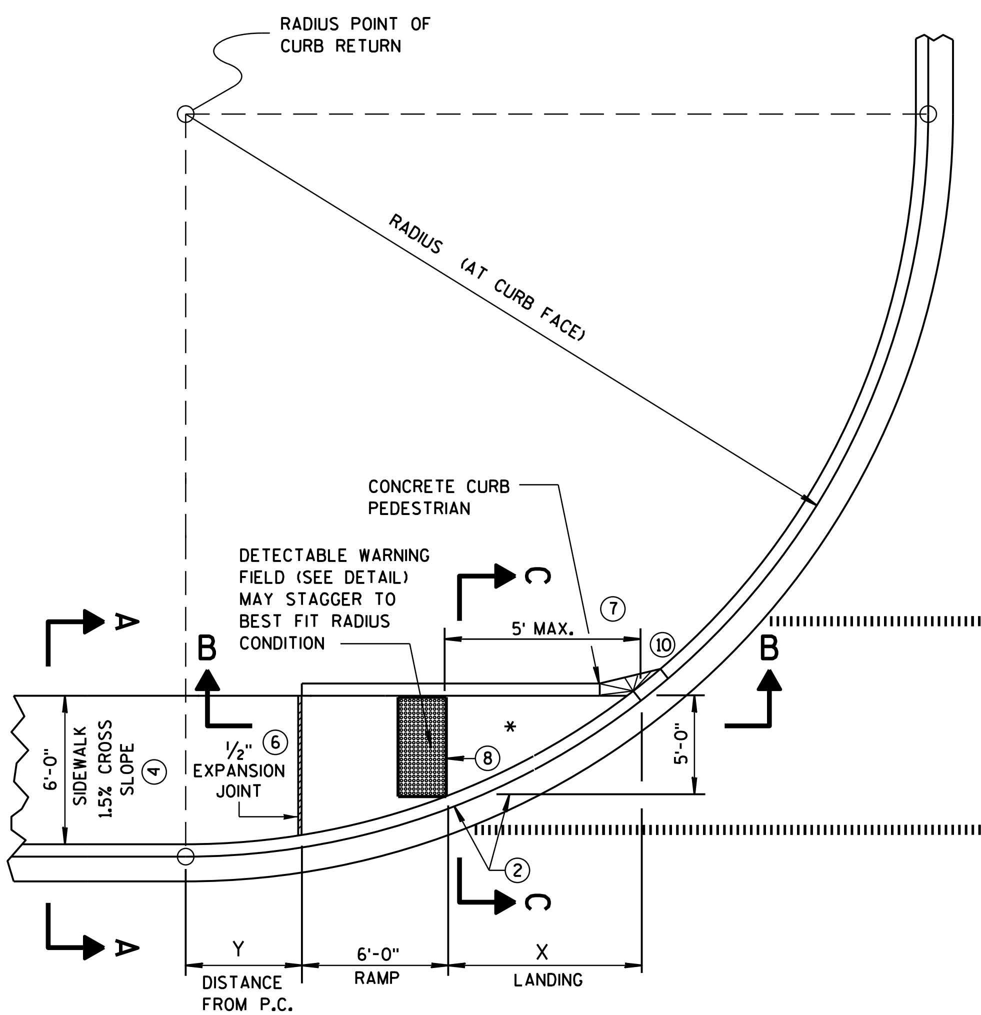
(7) WHEN THIS DISTANCE EXCEEDS 5 FEET, USE MULTIPLE DETECTABLE WARNING PANELS ACROSS THE RAMP AND STAGGER ADDITIONAL DETECTABLE WARNING PANEL(S) FORWARD TO REDUCE THIS DISTANCE.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

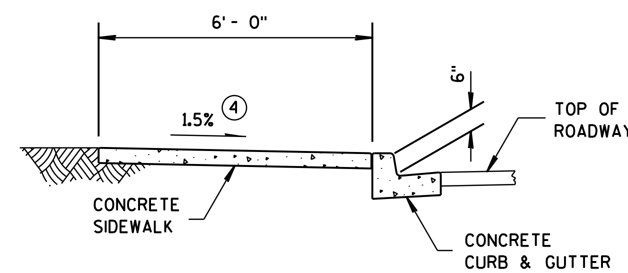
RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-1 3/4"	2'-7 1/4"
30 FEET	7'-11 3/4"	4'-8 1/4"
40 FEET	9'-5 1/4"	6'-5"
50 FEET	10'-8 3/4"	7'-11 1/4"
60 FEET	11'-10 1/4"	9'-3 1/2"

INTERMEDIATE RADII CAN BE INTERPOLATED

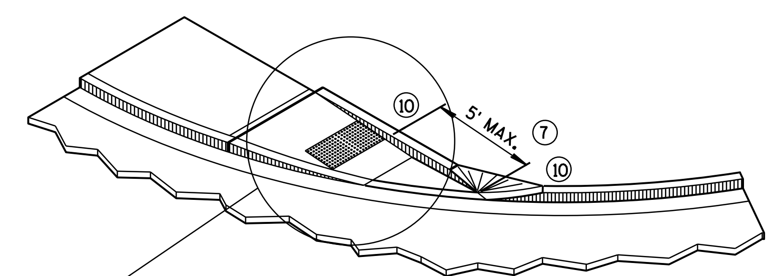


CURB RAMP TYPE 4A

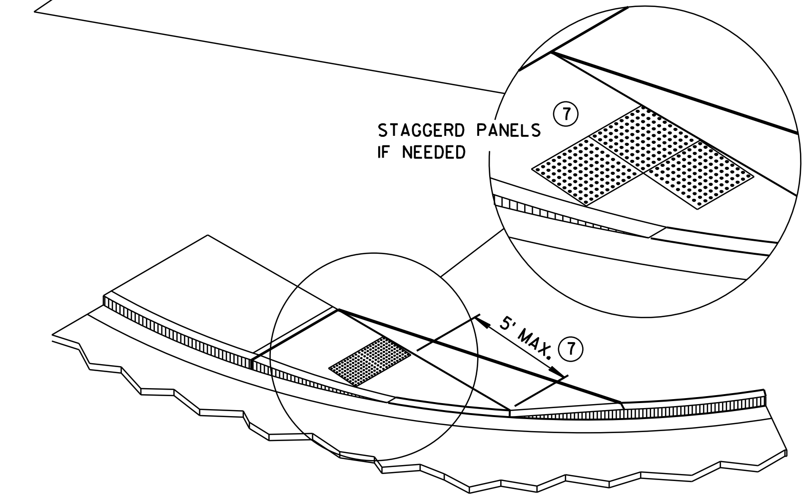
PLAN VIEW



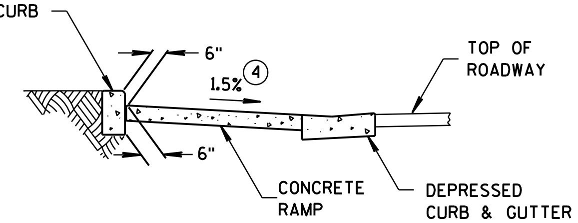
SECTION A-A FOR TYPE 4A



ISOMETRIC VIEW FOR TYPE 4A

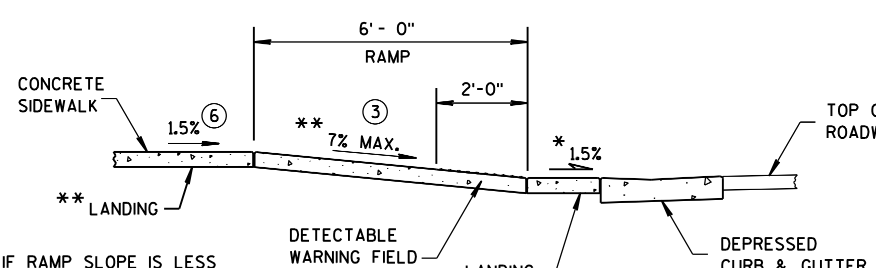


ISOMETRIC VIEW FOR TYPE 4A1



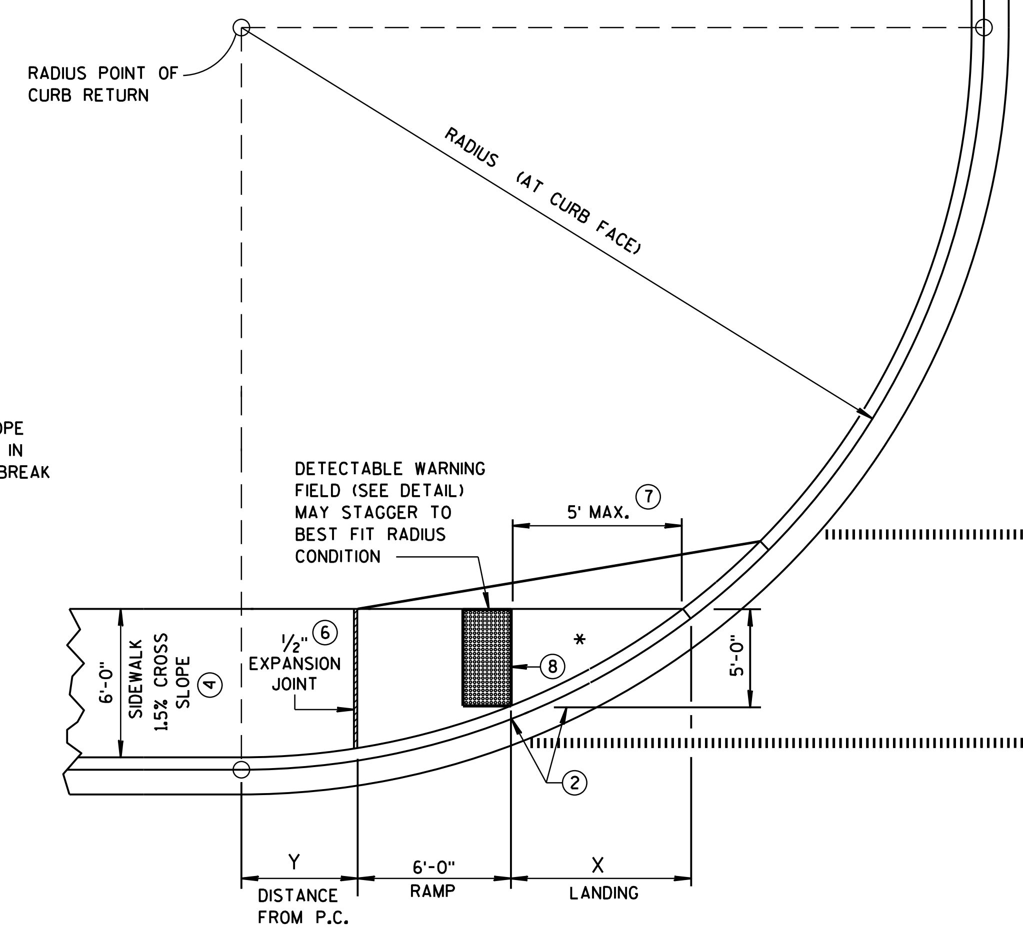
SECTION C-C FOR TYPE 4A

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK



** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

SECTION B-B FOR TYPE 4A



CURB RAMP TYPE 4A1

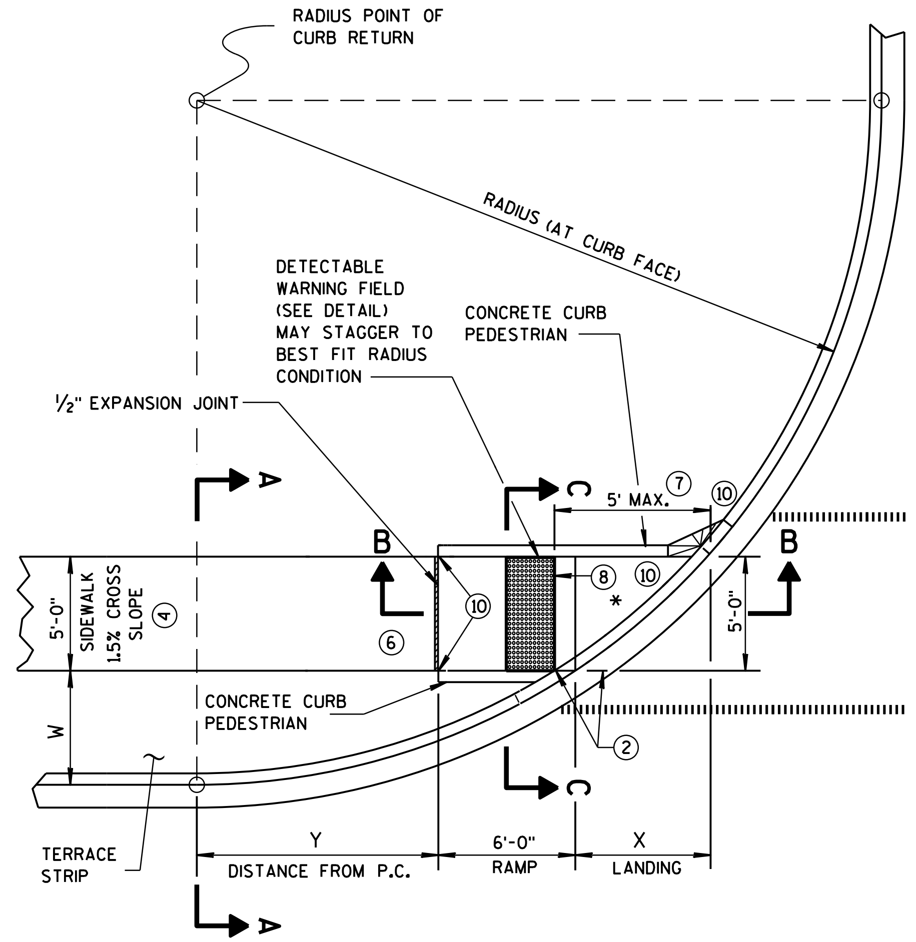
PLAN VIEW

LEGEND

- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 4A AND 4A1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



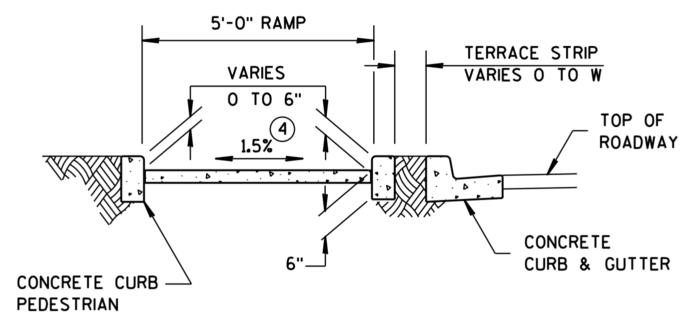
CURB RAMP TYPE 4B
PLAN VIEW

LEGEND

1/2" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

PAVEMENT MARKING CROSSWALK (WHITE)



SECTION C-C FOR TYPE 4B

RADIUS (AT CURB FACE)	W = 3′ - 0"		W = 4′ - 0"		W = 5′ - 0"		W = 6′ - 0"		W = 7′ - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5 1/2"	4'-6 1/2"	4'-8 1/2"	6'-0"	4'-1"	7'-2 3/4"	3'-7"	8'-3 1/2"	3'-1 1/2"	9'-2 1/2"
30 FEET	7'-3 3/4"	7'-1"	6'-5 1/2"	8'-11 1/2"	5'-9 1/4"	10'-7"	5'-2 1/2"	12'-0"	4'-8 3/4"	13'-3 1/4"
40 FEET	8'-9 1/2"	9'-2 1/2"	7'-10"	11'-5 1/4"	7'-1"	13'-4 1/2"	6'-5 3/4"	15'-3/4"	5'-11 1/2"	16'-7 1/4"
50 FEET	10'-3/4"	11'-3/4"	9'-1/4"	13'-7 1/4"	8'-2 1/2"	15'-9 1/2"	7'-6 1/2"	17'-9"	6'-11 3/4"	19'-6 1/4"
60 FEET	11'-2 1/2"	12'-8 3/4"	10'-3/4"	15'-6 1/2"	9'-2 1/4"	17'-11 3/4"	8'-5 3/4"	20'-1 3/4"	7'-10 1/2"	22'-1 1/2"

INTERMEDIATE RADII CAN BE INTERPOLATED

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

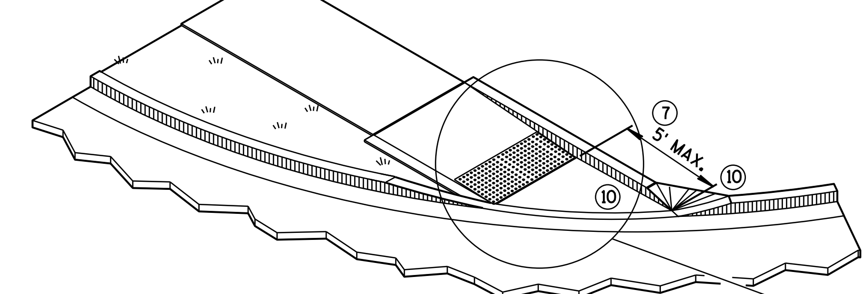
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET (MINIMUM 4 FEET X 4 FEET).

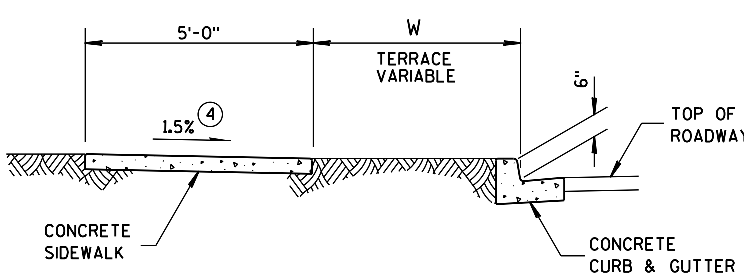
(7) WHEN THIS DISTANCE EXCEEDS 5 FEET, USE MULTIPLE DETECTABLE WARNING PANELS ACROSS THE RAMP AND STAGGER ADDITIONAL DETECTABLE WARNING PANEL(S) FORWARD TO REDUCE THIS DISTANCE.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

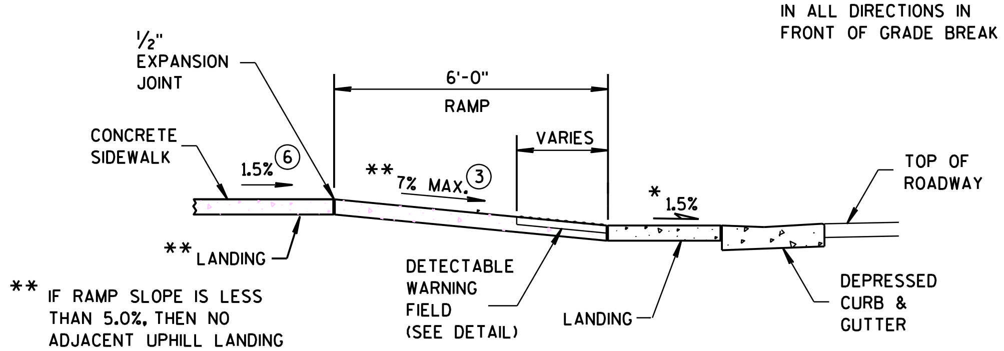


ISOMETRIC VIEW FOR TYPE 4B



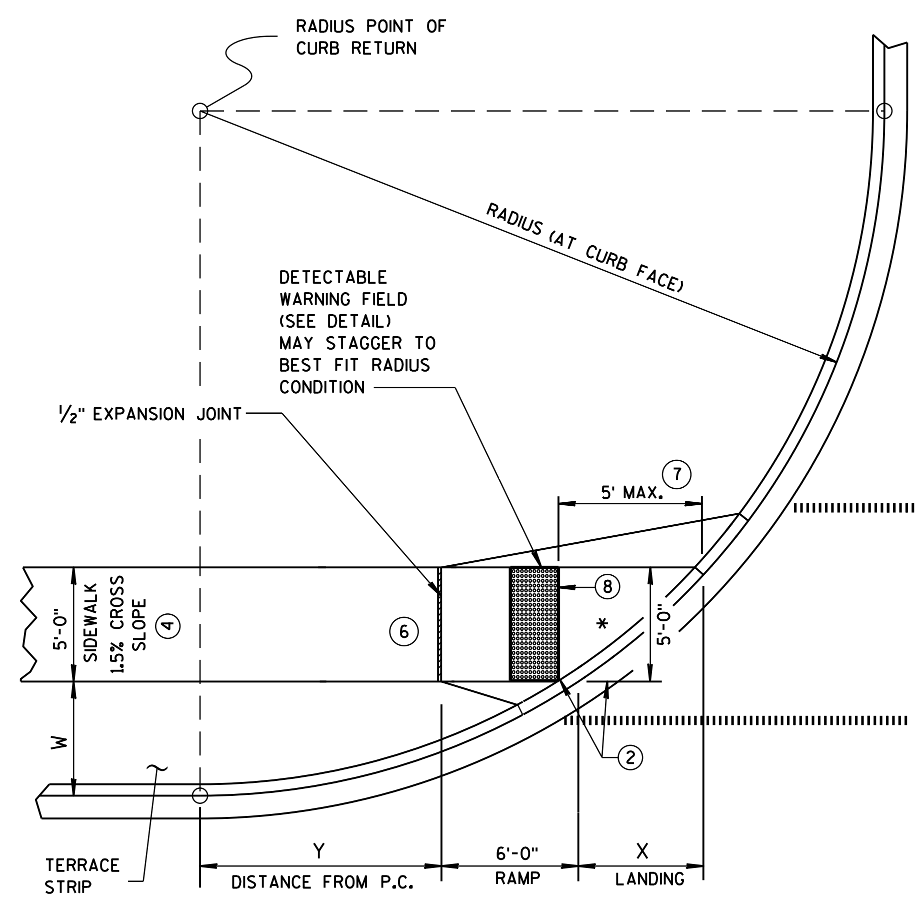
SECTION A-A FOR TYPE 4B

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

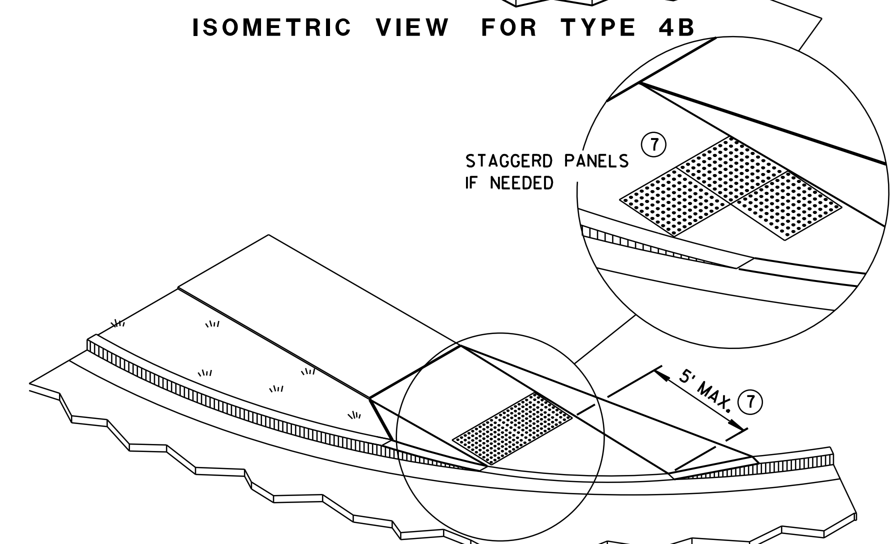


** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

SECTION B-B FOR TYPE 4B



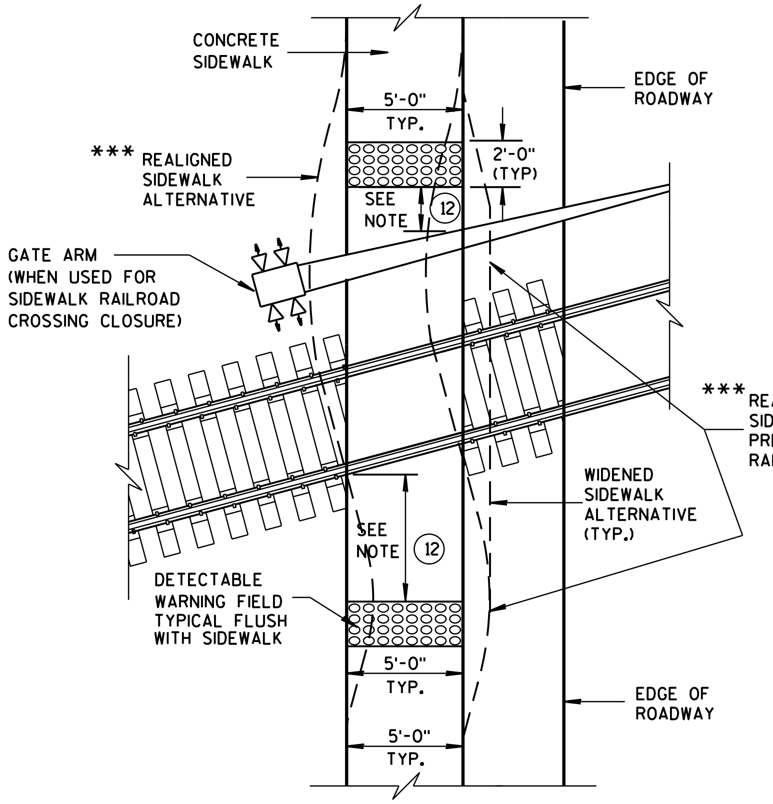
CURB RAMP TYPE 4B1
PLAN VIEW



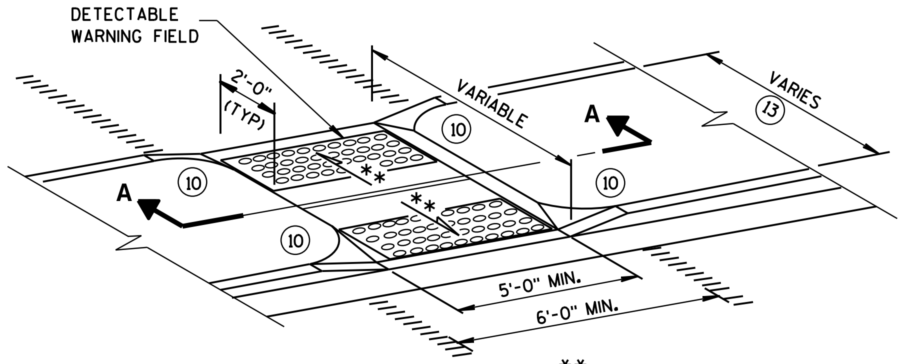
ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS
TYPE 4B AND 4B1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR



TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



** 1% MIN. (PROVIDE DRAINAGE)

MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5

*** DETAILS TO BE DETERMINED BY DESIGNER

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

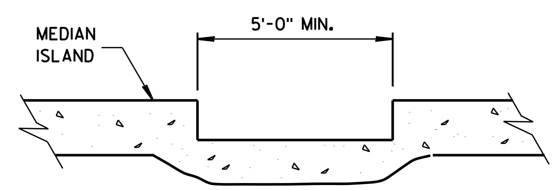
(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET (MINIMUM 4 FEET X 4 FEET).

(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

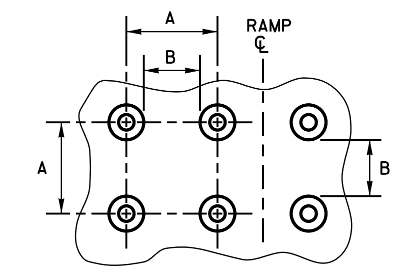
(11) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

(12) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.

(13) DO NOT INSTALL DETECTABLE WARNING FIELDS IF MEDIAN WIDTH BETWEEN BACK OF CURBS IS LESS THAN 6 FEET.



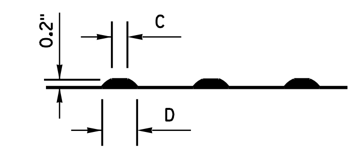
SECTION A-A



PLAN VIEW

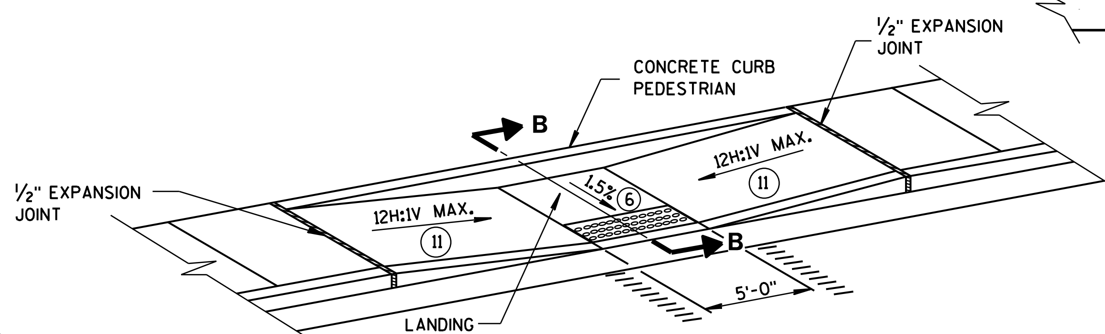
	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



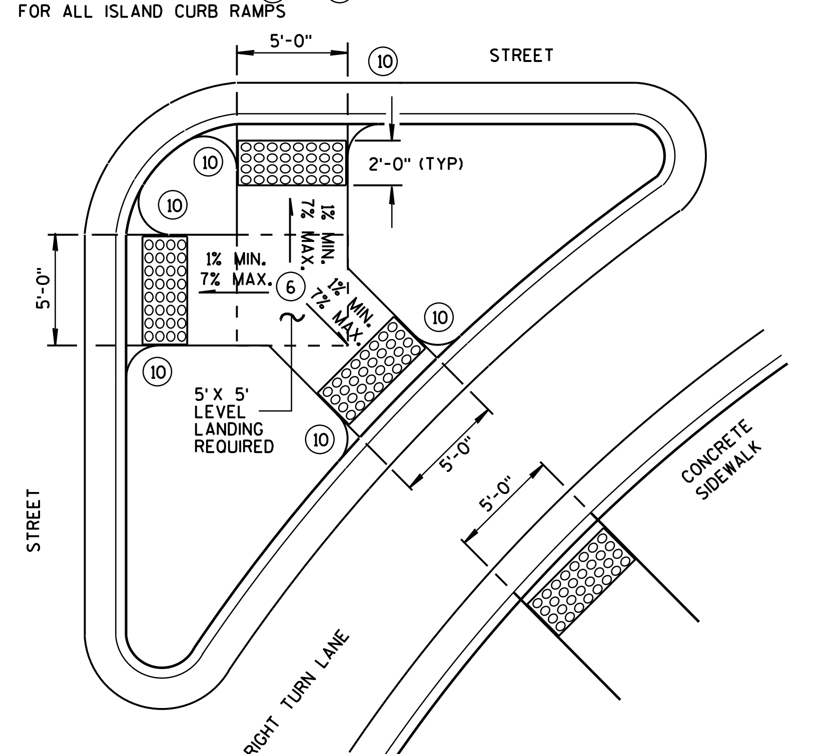
ELEVATION VIEW

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

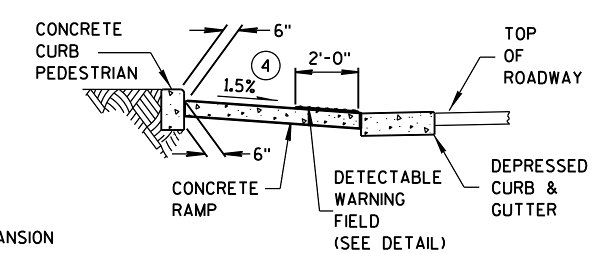


MID-BLOCK CROSSING
TYPE 7A

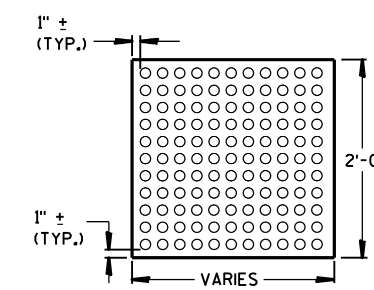
REFER TO GENERAL NOTES (2) AND (3) FOR ALL ISLAND CURB RAMPS



TYPE 6
DETECTABLE WARNING AT ISLANDS

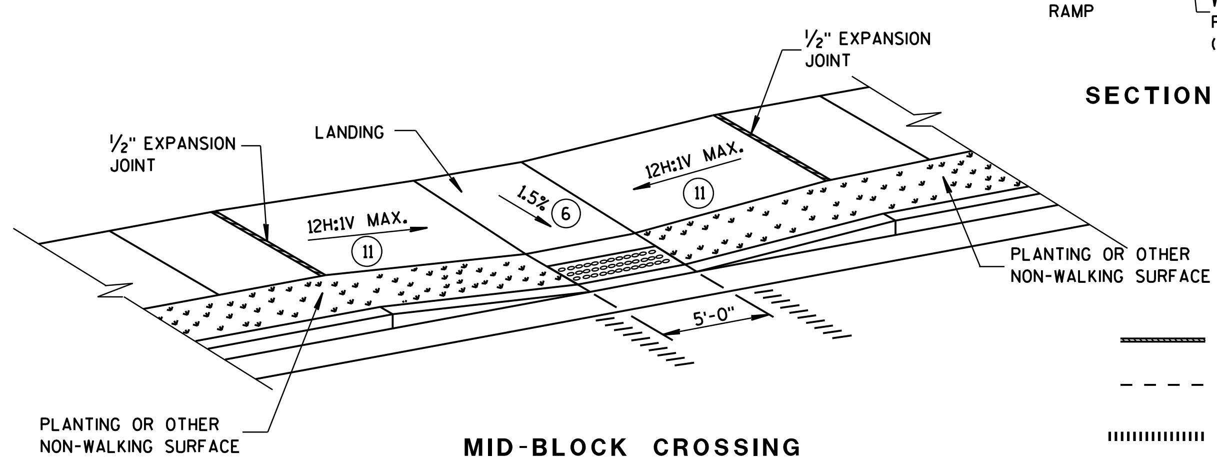


SECTION B-B



PLAN VIEW

DETECTABLE WARNING FIELD (TYPICAL)



MID-BLOCK CROSSING
TYPE 7B

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

LEGEND

- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

6

S.D.D. 8 D 5-16e

S.D.D. 8 D 5-16e

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:

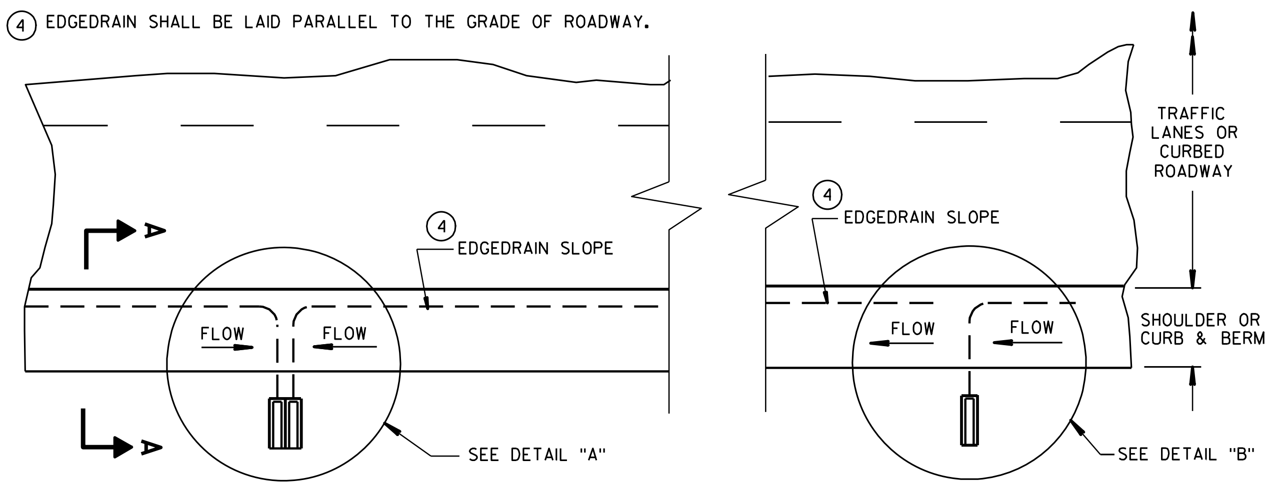
POLYVINYL CHLORIDE (PVC) PLASTIC DRAIN, WASTE, AND VENT PIPE AND FITTINGS, ASTM D 2665, SCHEDULE 40 PVC.

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.

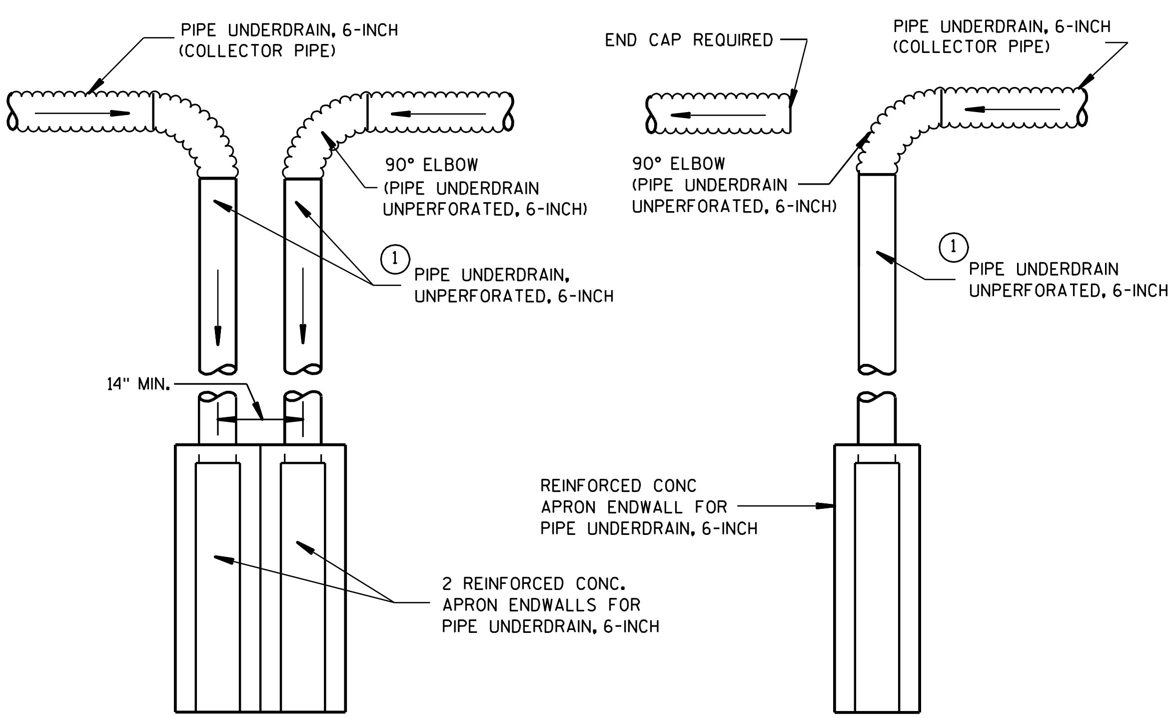
(4) EDGEDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF ROADWAY.



PLAN VIEW

ROADWAY WITH SHOULDERS OR CURBS

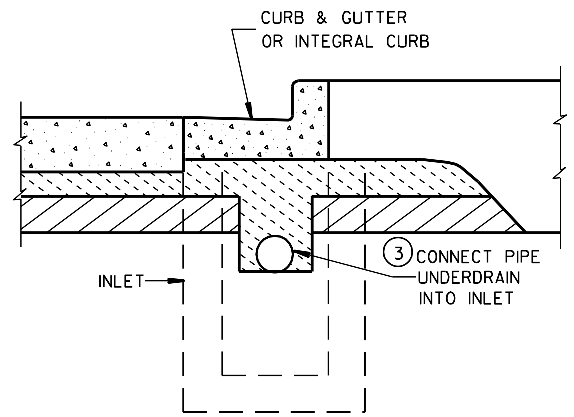
(EDGEDRAIN OUTLETS TO ROADSIDE) (2)



DETAIL "A"
TO BE USED AT LOW POINT LOCATIONS

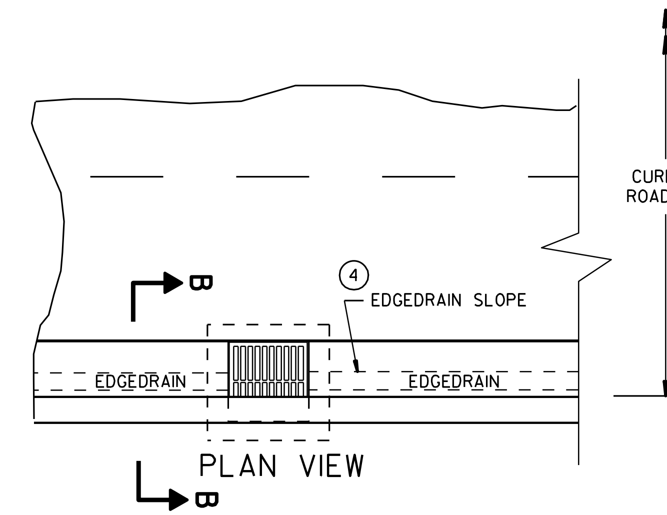
DETAIL "B"
TO BE USED AT INTERMEDIATE LOCATIONS

TYPICAL DRAIN OUT DETAILS



SECTION B-B

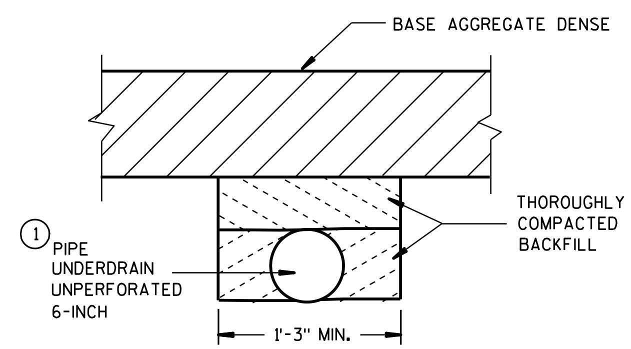
URBAN CROSS SECTION



PLAN VIEW

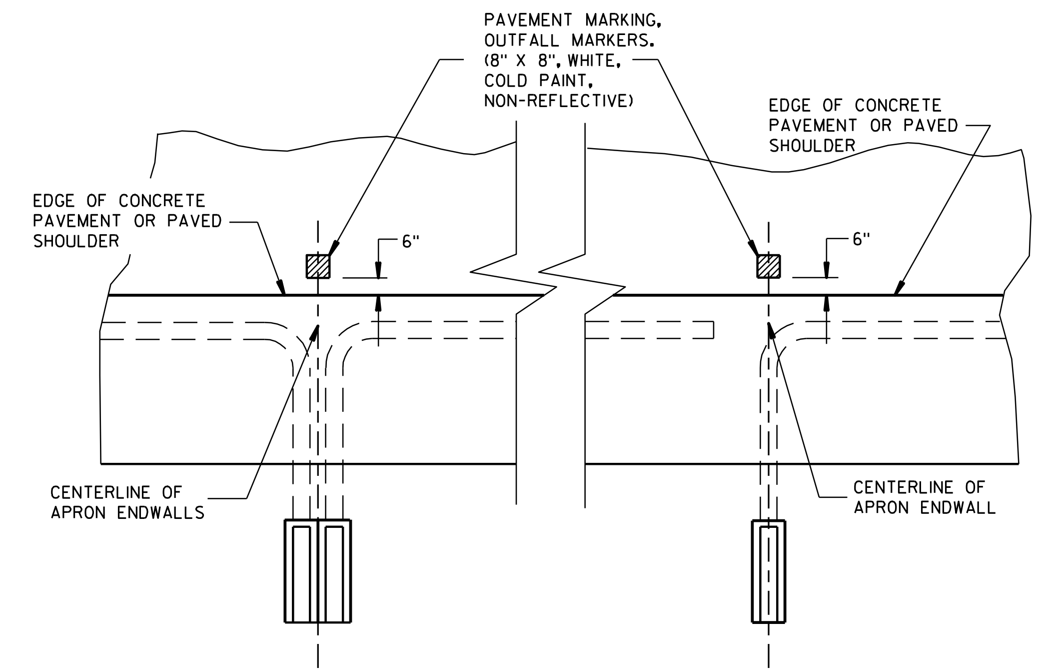
ROADWAY WITH CURBS

(EDGEDRAIN CONNECTS INTO INLET STRUCTURE)



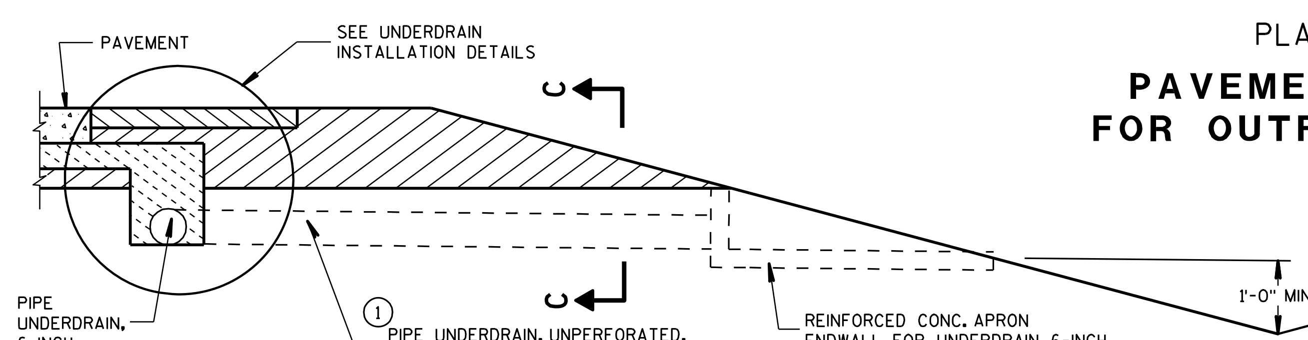
SECTION C-C

(TRENCH FOR OUTFALL PIPE)



PLAN VIEW

PAVEMENT MARKING FOR OUTFALL MARKERS



SECTION A-A

RURAL CROSS SECTION

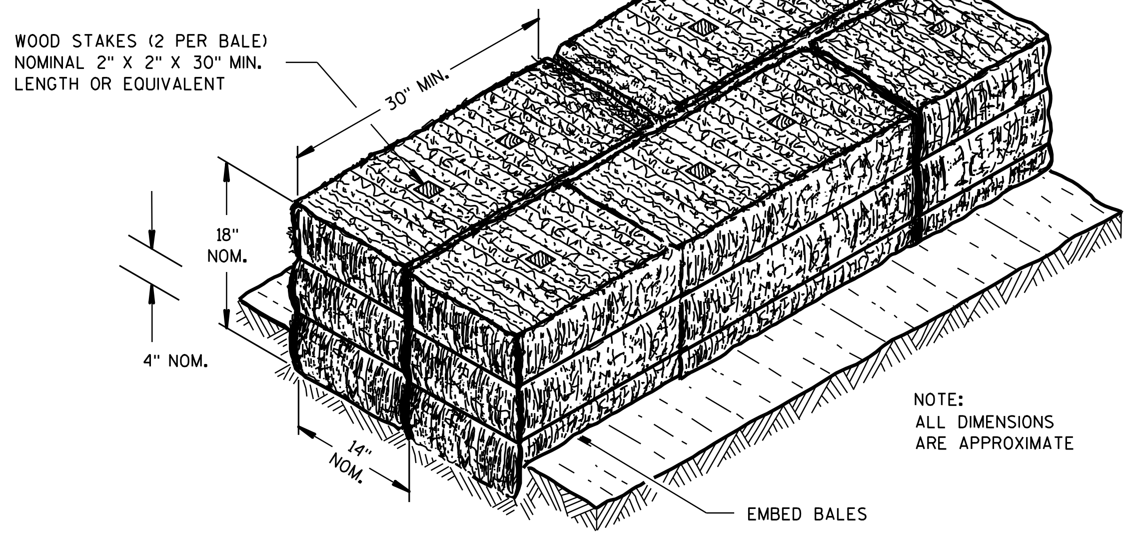
EDGEDRAIN OUTLET AND OUTFALL MARKERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

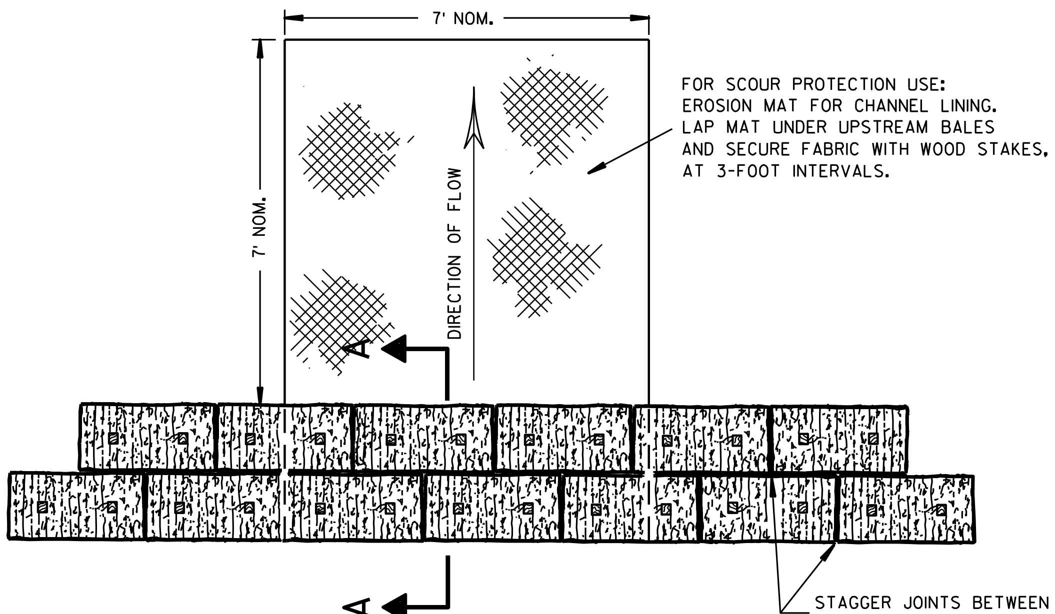
GENERAL NOTES

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.

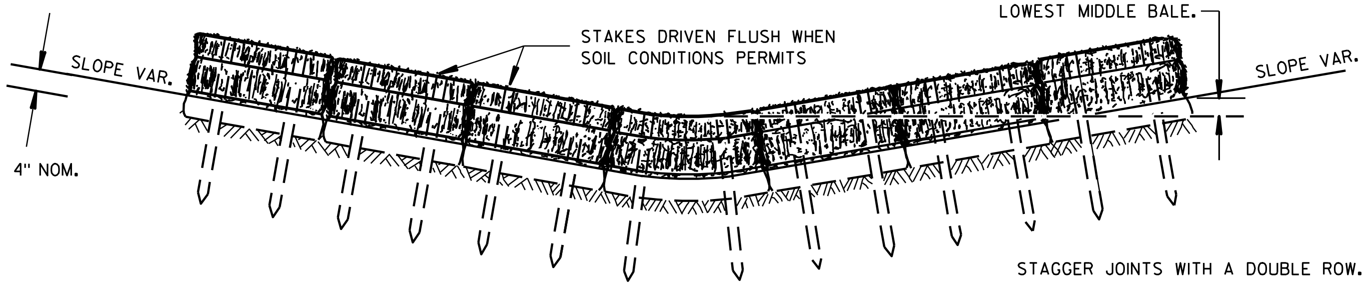
(1) TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.



SECTION A-A

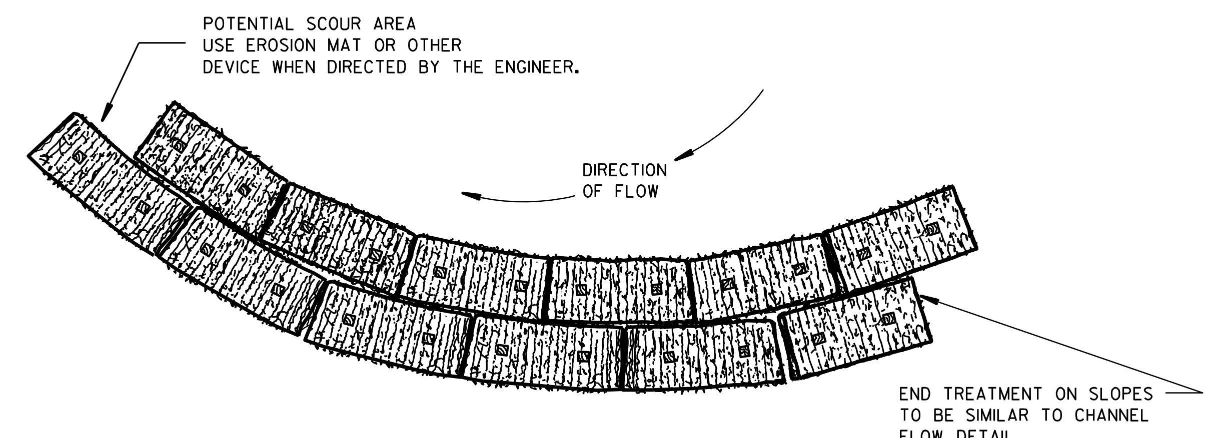


PLAN VIEW



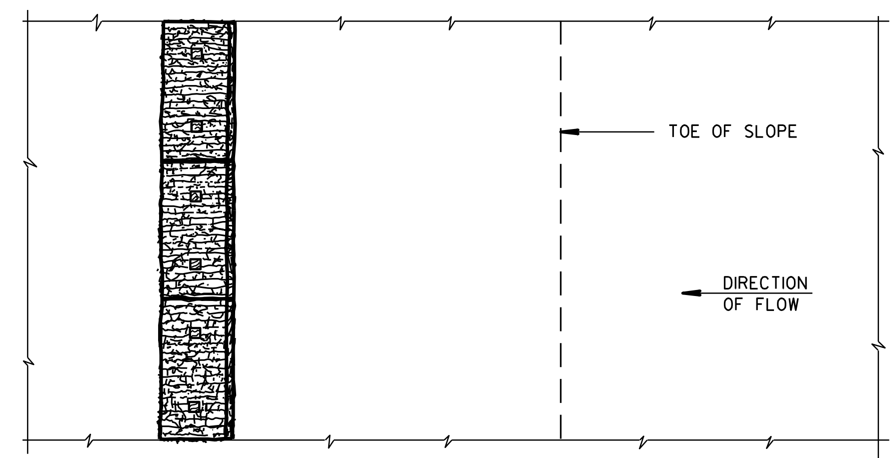
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

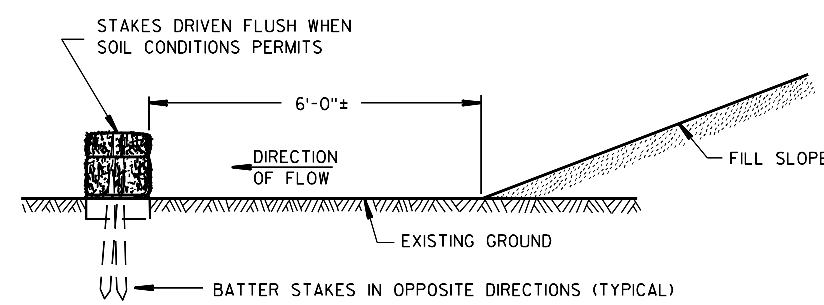


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

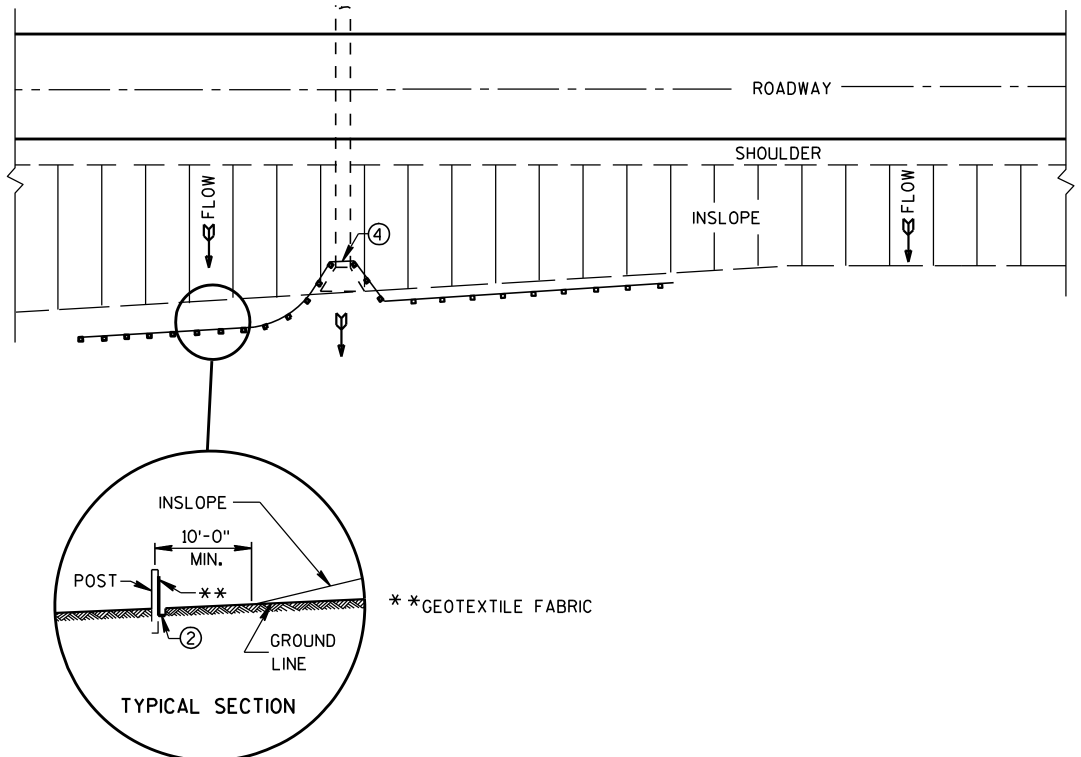
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

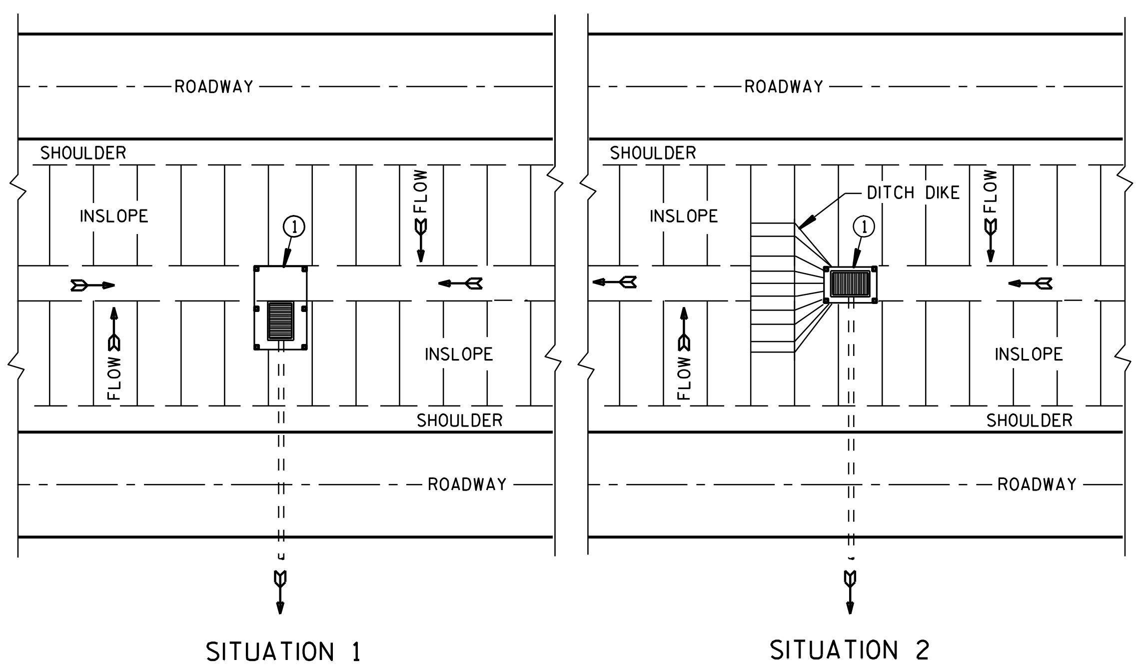
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/04/02 DATE
/S/ Beth Cann
CHIEF ROADWAY DEVELOP ... INEER
FHWA



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



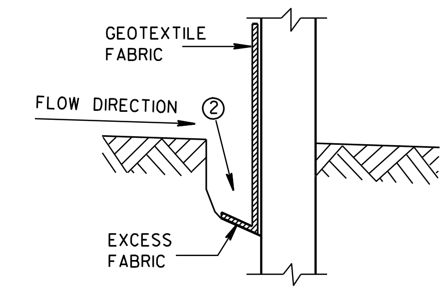
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

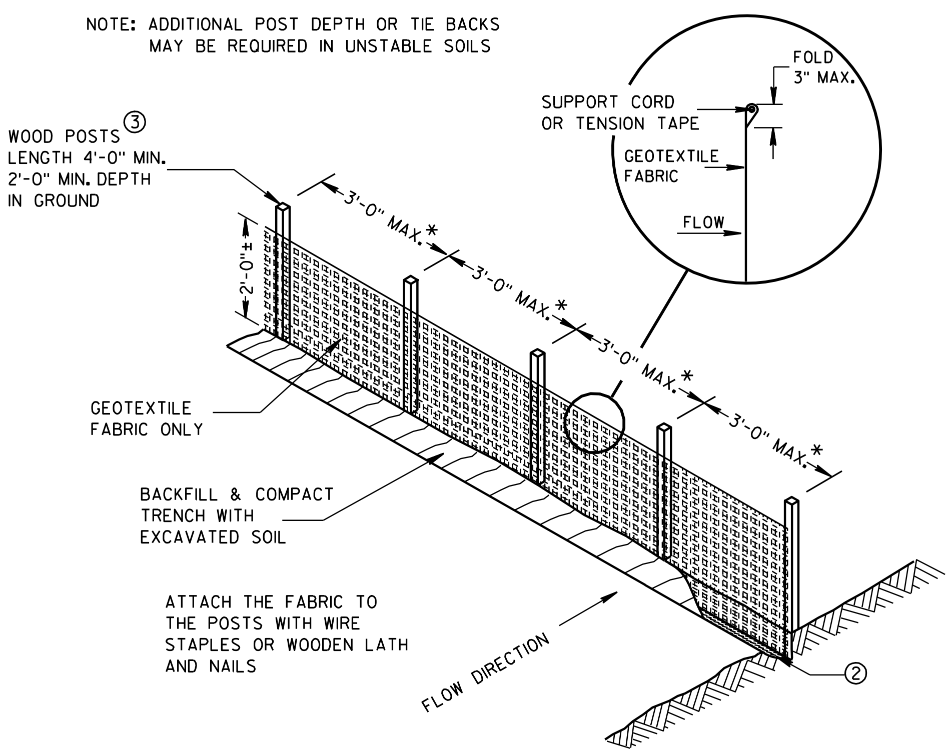
GENERAL NOTES

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.

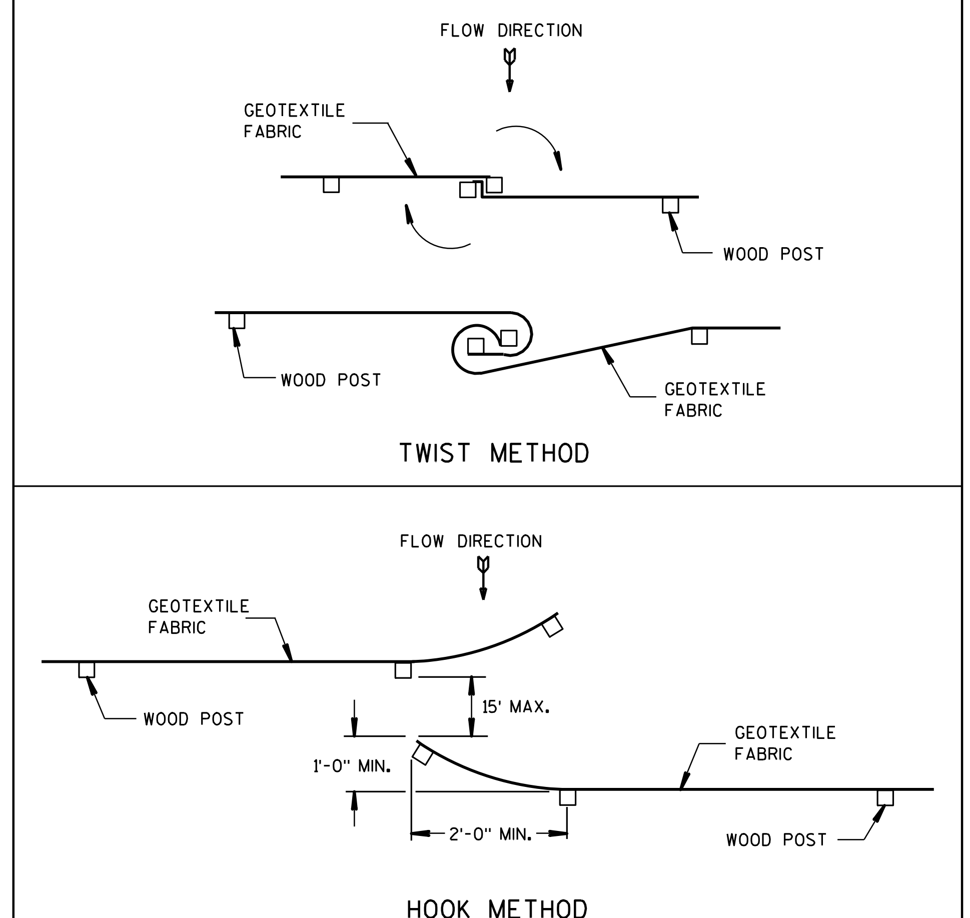


TRENCH DETAIL

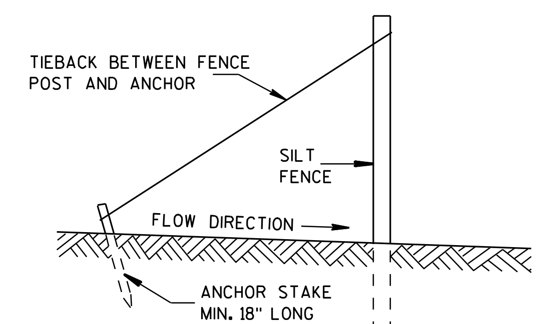


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE



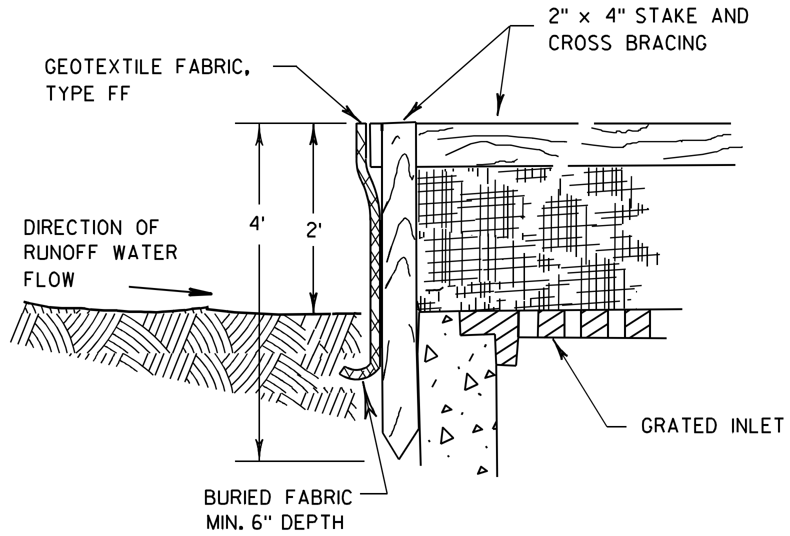
JOINING TWO LENGTHS OF SILT FENCE 5

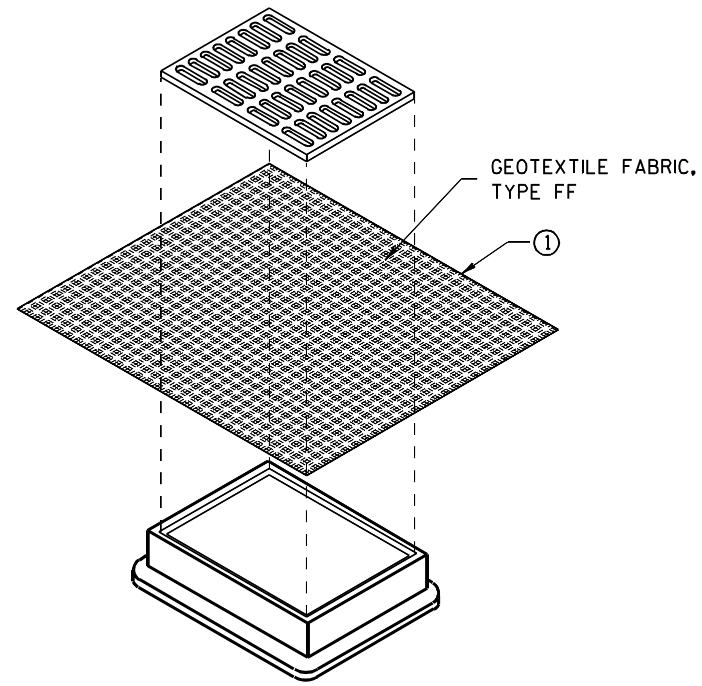


SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

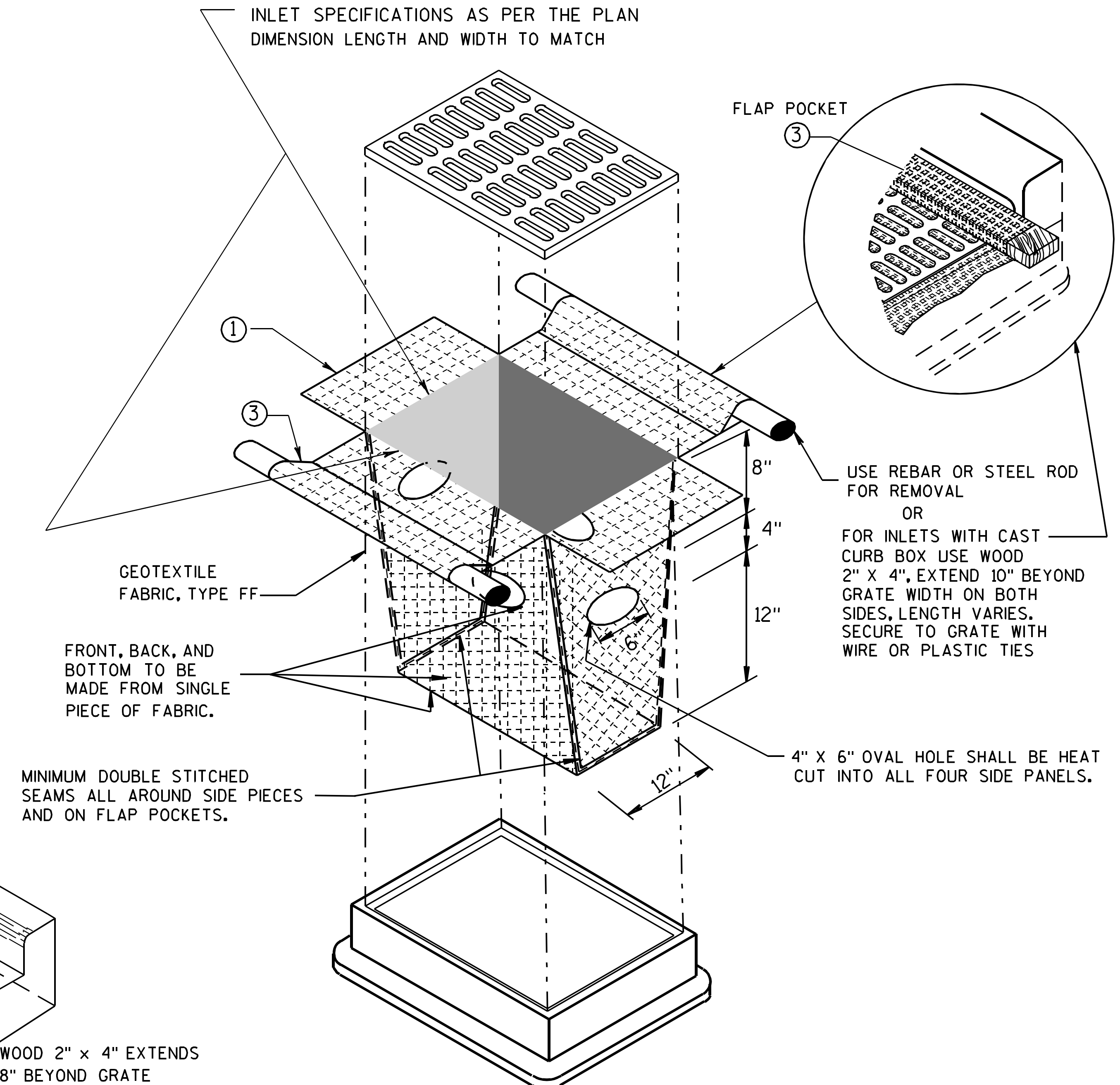
SILT FENCE
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 4-29-05 DATE /S/ Beth Cann... CHIEF ROADWAY DEVELOP... ENGINEER FHWA

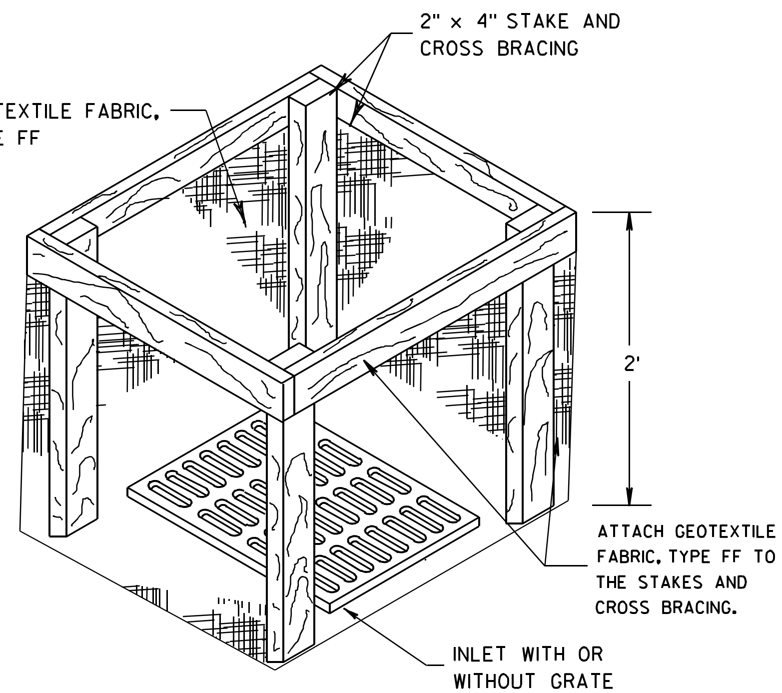




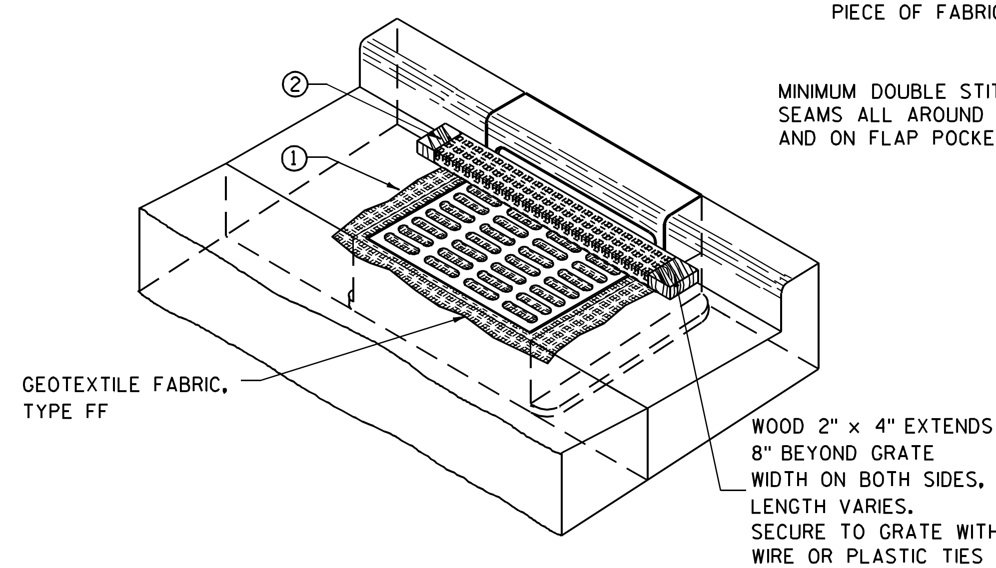
INLET PROTECTION, TYPE B (WITHOUT CURB BOX)

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





INLET PROTECTION, TYPE A



INLET PROTECTION, TYPE C (WITH CURB BOX)

INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION TYPE A, B, C, AND D
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 10/16/02 /S/ Beth Cannestra DATE CHIEF ROADWAY DEVELOPMENT ENGINEER FHWA

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.

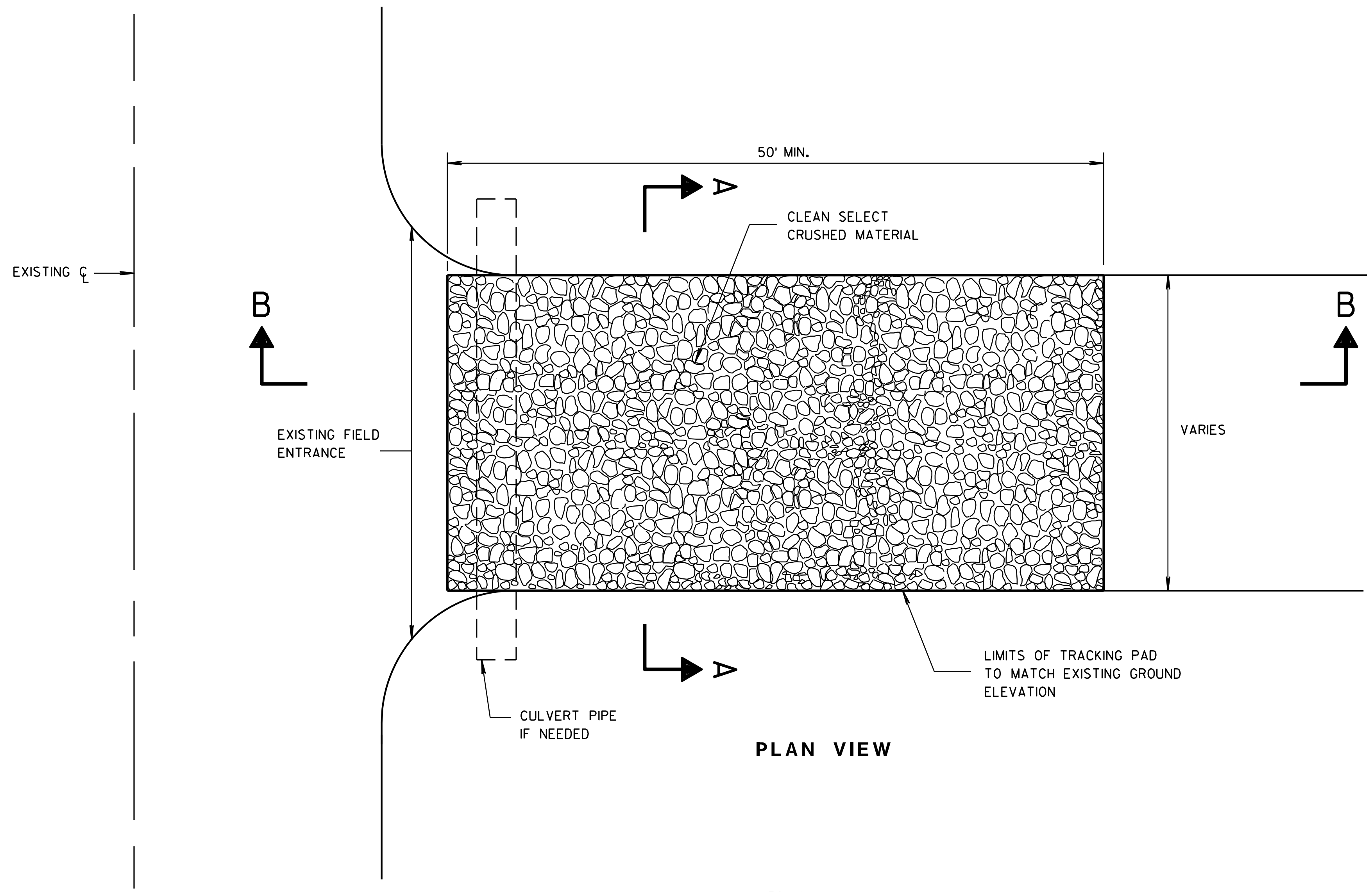
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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

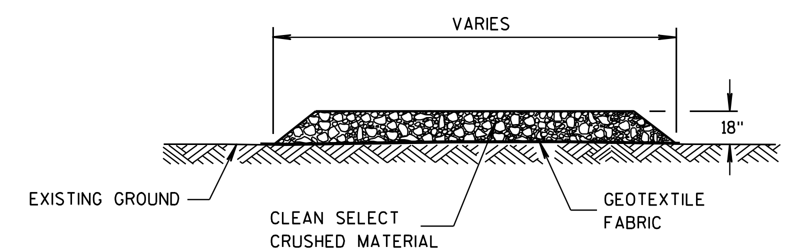
SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

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.

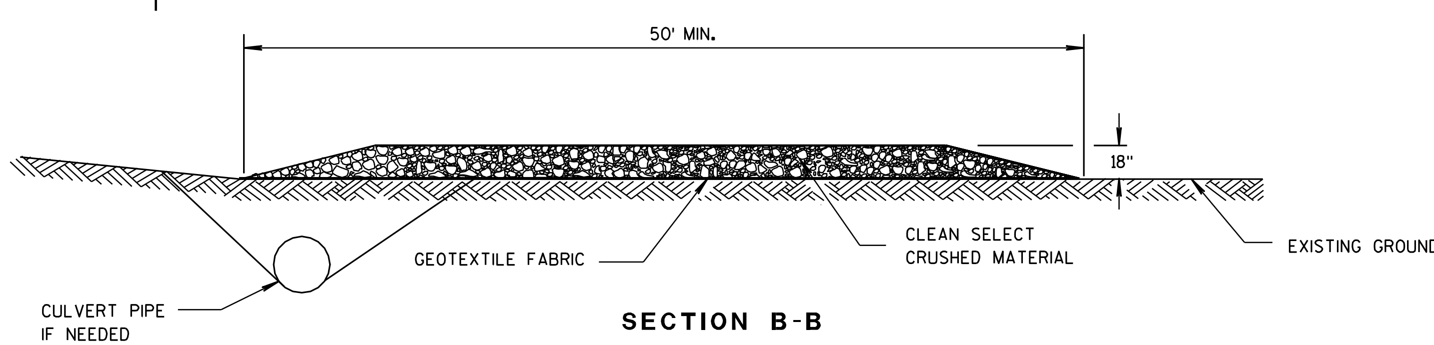
THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



PLAN VIEW



SECTION A-A



SECTION B-B

TRACKING PAD

TRACKING PAD		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
APPROVED 3/24/2011 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER	FHWA

6

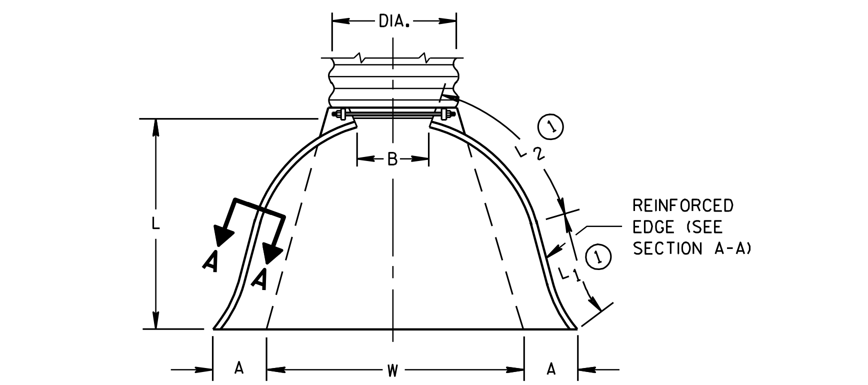
6

METAL APRON ENDWALLS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L_1 ①	L_2 ①	W (±2")		
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.

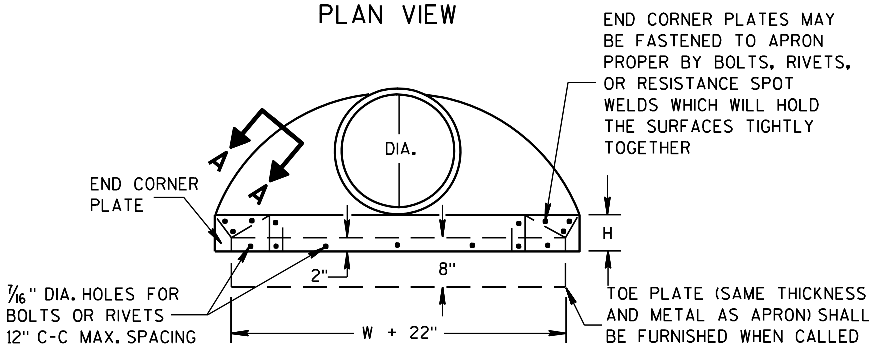
× EXCEPT CENTER PANEL
SEE GENERAL NOTES

REINFORCED CONCRETE APRON ENDWALLS								
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE
	T	A	B	C	D	E	G	
12	2	4	24	48 7/8	72 7/8	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

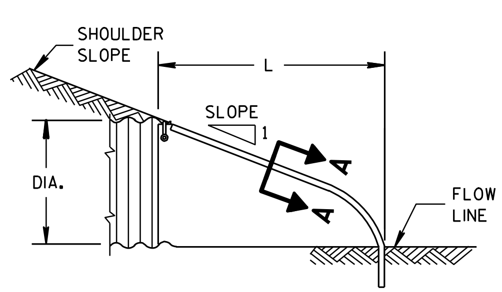
*MINIMUM
**MAXIMUM



PLAN VIEW

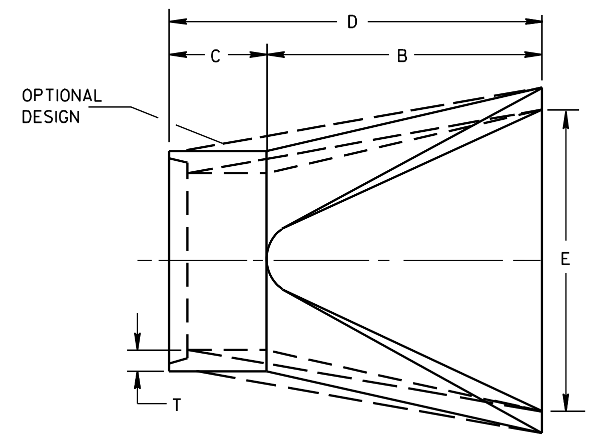


END VIEW

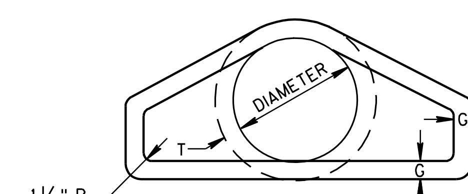


SIDE ELEVATION

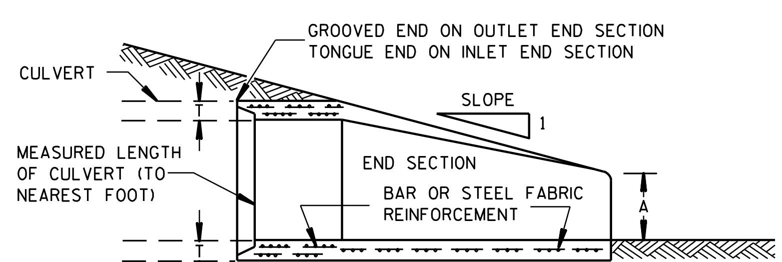
METAL ENDWALLS



PLAN

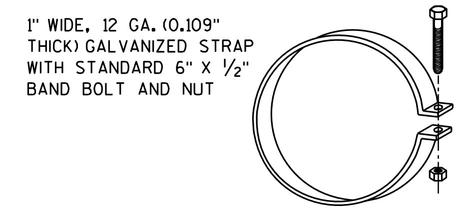


END VIEW



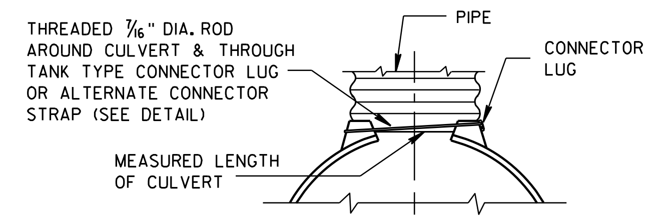
LONGITUDINAL SECTION

CONCRETE ENDWALLS

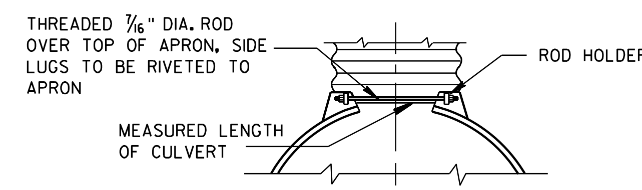


ALTERNATE FOR TYPE 1 CONNECTION

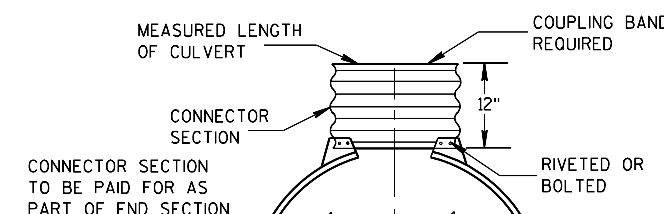
END SECTION CONNECTOR STRAP



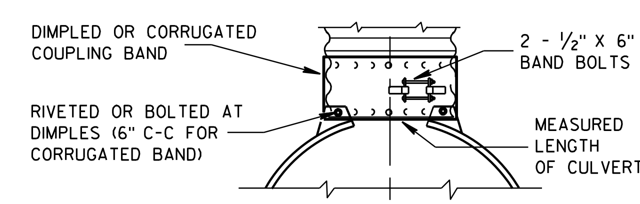
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

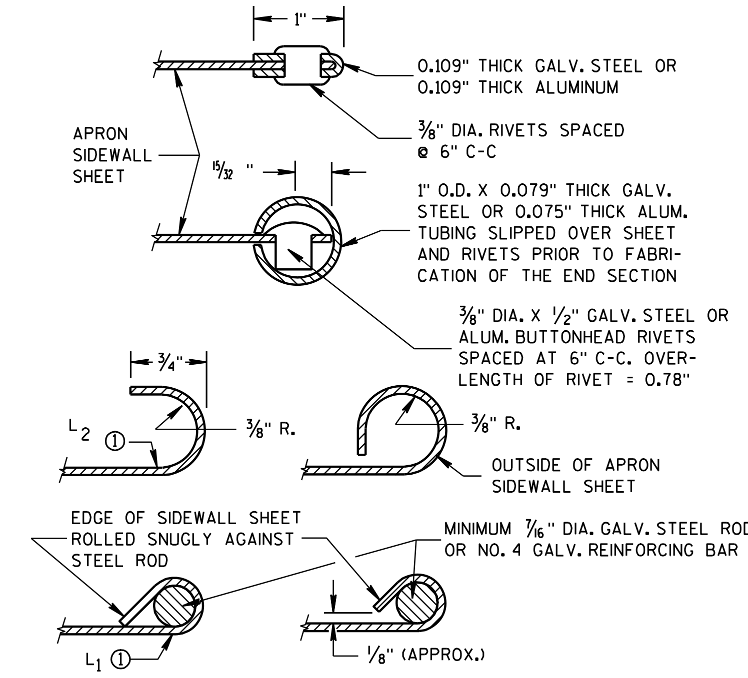
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

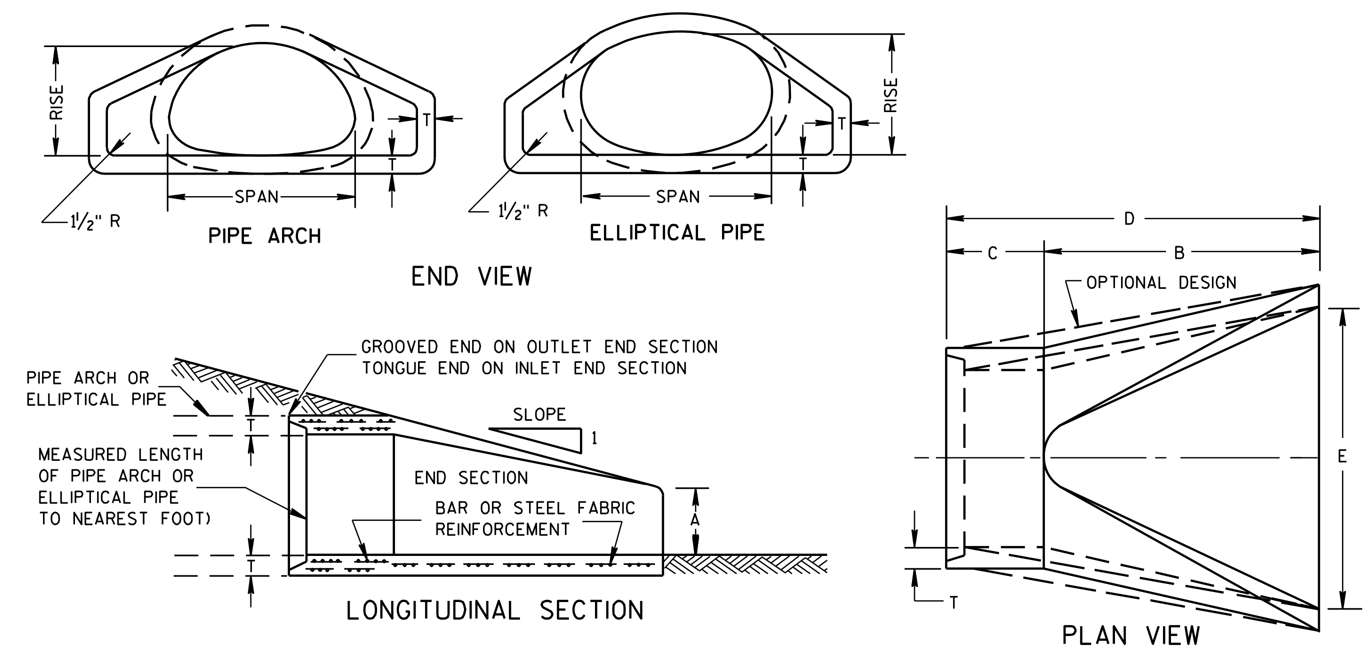
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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 /S/ Rory L. Rhinesmith
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



CONCRETE ENDWALLS

2- ⅔" X ½" CORRUGATIONS													
EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1½")	L1 ①	L2 ①	W (±2")		
15	17	13	.064	.060	7	9	6	19	14	16	30	2½ to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19⅜	36	2½ to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21¾	42	2½ to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27½	48	2½ to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37⅝	60	2½ to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45⅜	75	2½ to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54¾	85	2½ to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2½ to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72¾	102	2¼ to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82¼	114	2¼ to 1	3 Pc.
66	77	52	.109*	.105*	18	36	12	77	—	—	126	2 to 1	3 Pc.
72	83	57	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.

3" X 1" CORRUGATIONS													
EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1½")	L1 ①	L2 ①	W (±2")		
48	53	41	.109	.105	18	26	12	63	24	72¾	90	2½ to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82¼	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1½ to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1½ to 1	3 Pc.
72	81	59	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.
78	87	63	.109*	.105*	22	38	12	77	—	—	148	1½ to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1½ to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1½ to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1½ to 1	3 Pc.

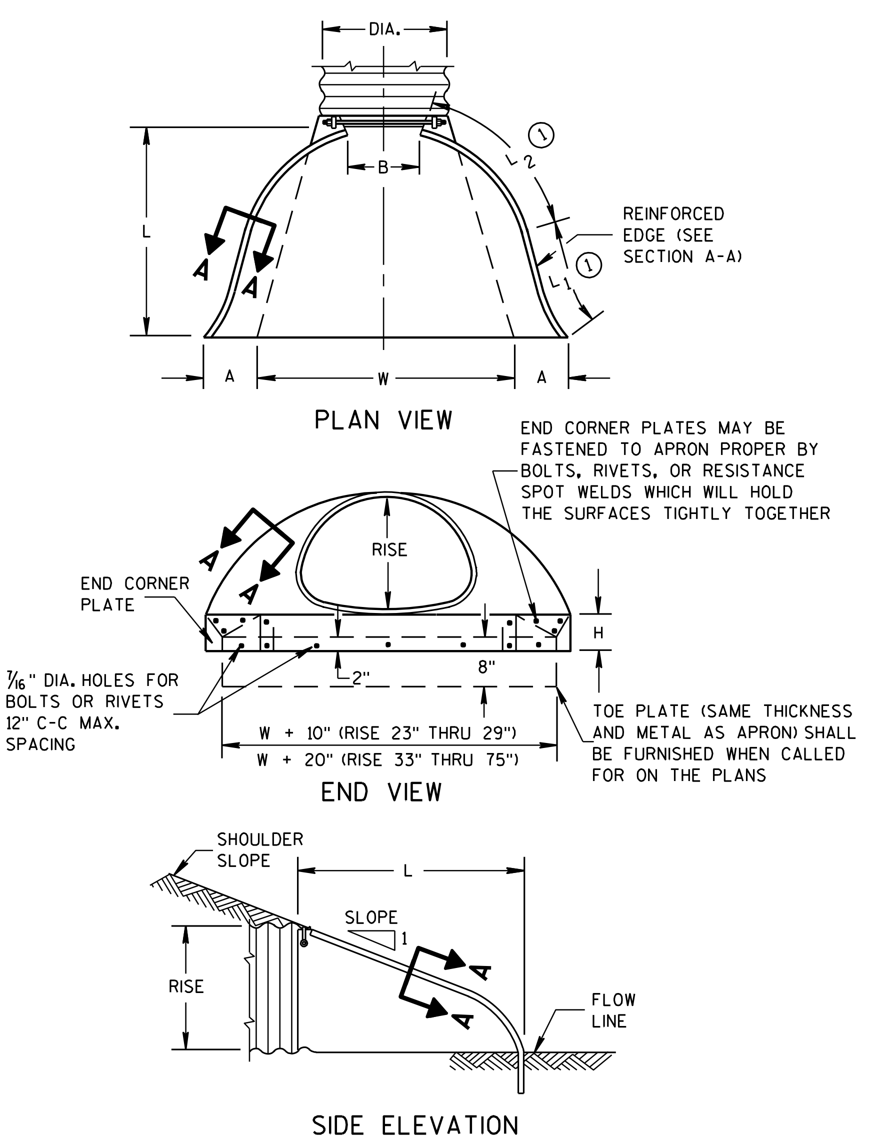
NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL SEE GENERAL NOTES

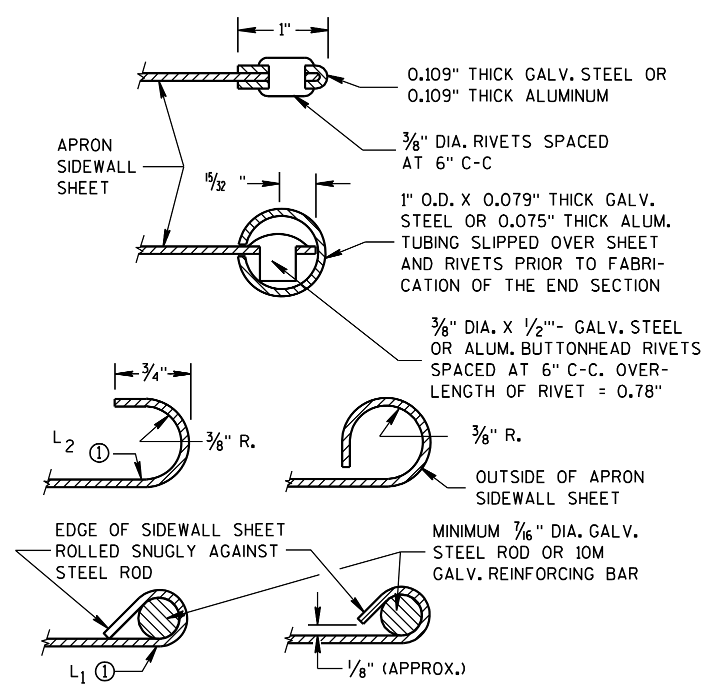
REINFORCED CONCRETE PIPE ARCH									
EQUIV. DIA. (Inches)	DIMENSIONS (Inches)								APPROX. SLOPE
	** SPAN	** RISE	T	A	B	C	D	E	
24	29	18	3	8½	39	33	72	48	3 to 1
30	36	22	3½	9½	50	46	96	60	3 to 1
36	44	27	4	11⅛	60	36	96	72	3 to 1
42	51	31	4½	15 13/16	60	36	96	78	3 to 1
48	58	36	5	21	60	36	96	84	3 to 1
54	65	40	5½	25½	60	36	96	90	3 to 1
60	73	45	6	31	60	36	96	96	3 to 1
72	88	54	7	31	60	39	99	120	2 to 1
84	102	62	8	28½	83	19	102	144	2 to 1

REINFORCED CONCRETE ELLIPTICAL PIPE									
EQUIV. DIA. (Inches)	DIMENSIONS (Inches)								APPROX. SLOPE
	** SPAN	** RISE	T	A	B	C	D	E	
24	30	19	3¼	8½	39	33	72	48	3 to 1
30	38	24	3¾	9½	54	18	72	60	3 to 1
36	45	29	4½	11⅛	60	24	84	72	2½ to 1
42	53	34	5	15¾	60	36	96	78	2½ to 1
48	60	38	5½	21	60	36	96	84	2½ to 1
54	68	43	6	25½	60	36	96	90	2½ to 1
60	76	48	6½	30	60	36	96	96	2½ to 1

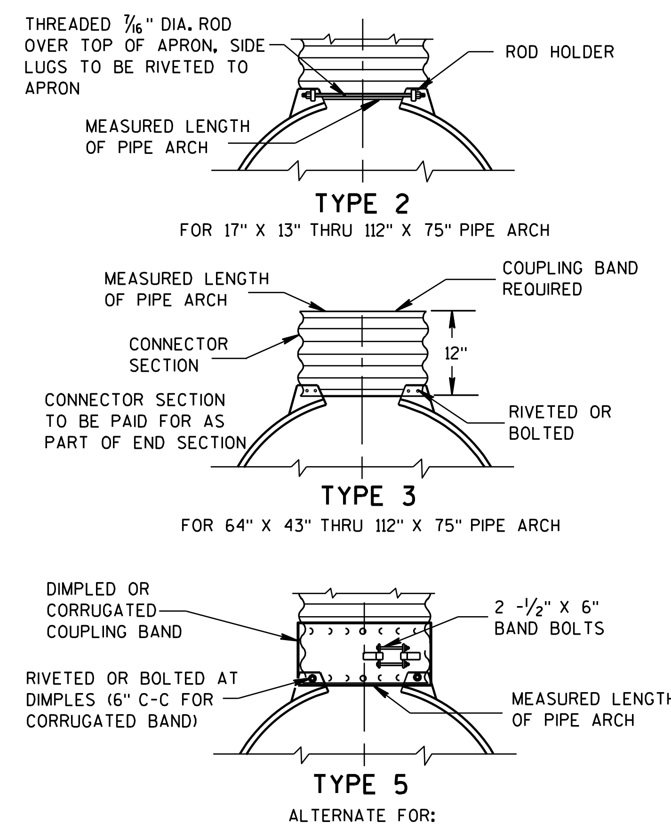
** NOMINAL SIZE



METAL ENDWALLS



SECTION A-A



NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL.

CONNECTION DETAILS

GENERAL NOTES

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

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

ALL THREE PIECE STEEL APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE ARCH PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 77" X 52" THROUGH 112" X 75" APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

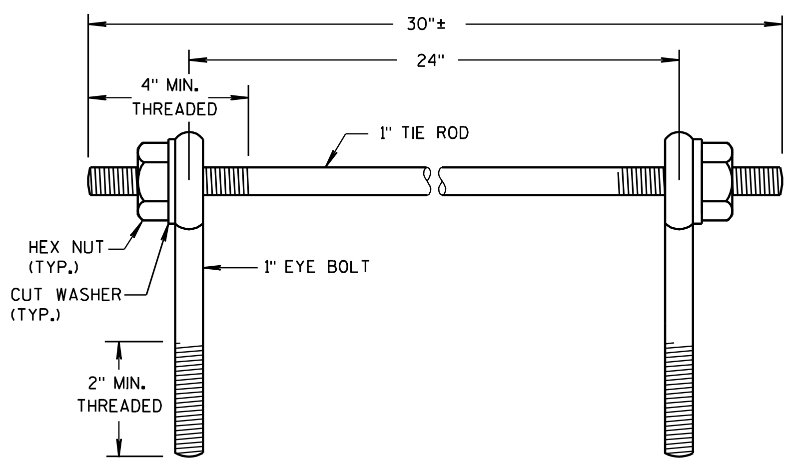
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

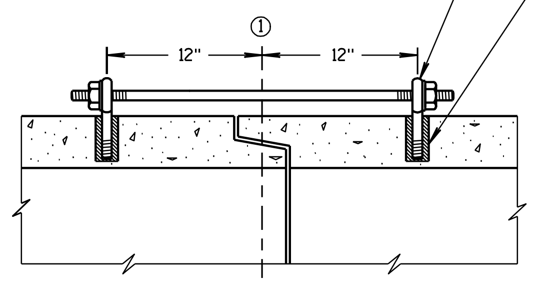
APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE

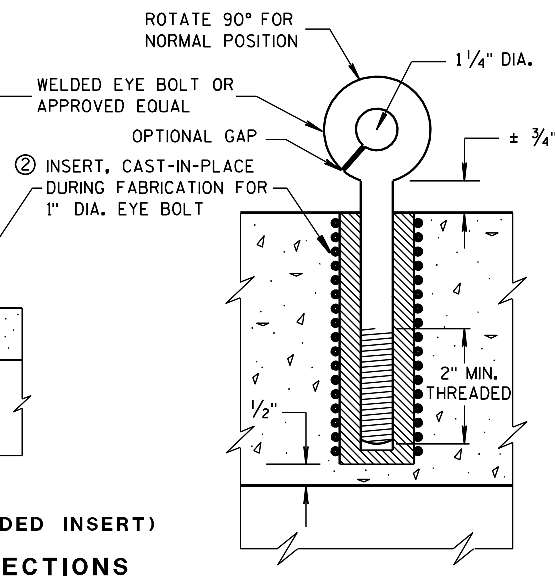
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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.

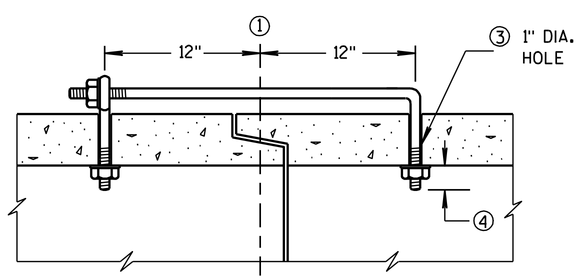
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

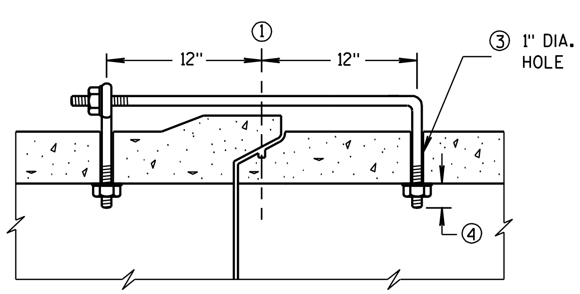
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN $\frac{1}{2}$ INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

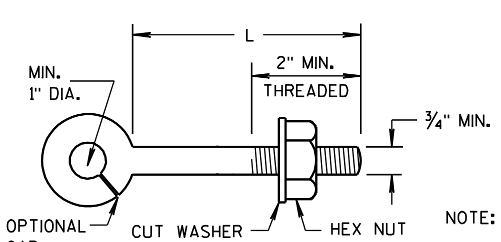


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

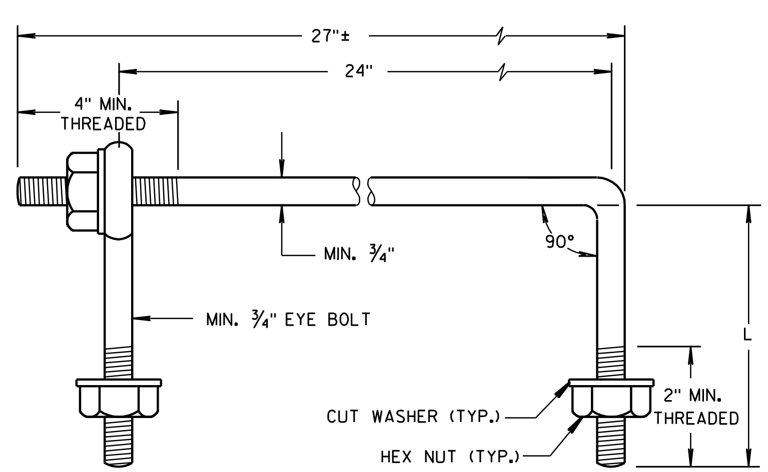
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 $\frac{1}{2}$"	6 $\frac{1}{4}$"
30"	5"	7"
36"	5 $\frac{1}{2}$"	7"
42"	6"	
48"	6 $\frac{1}{2}$"	
60"	7 $\frac{1}{2}$"	
66"	8"	



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

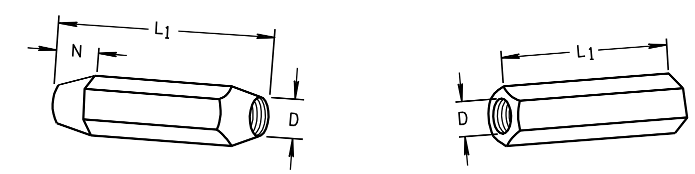
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	$\frac{5}{8}$	$\frac{5}{8}$	5	$\frac{1}{2}$
66-84	$\frac{3}{4}$	$\frac{3}{4}$	5	$\frac{1}{2}$
90-108	1	1	7	$1\frac{7}{16}$

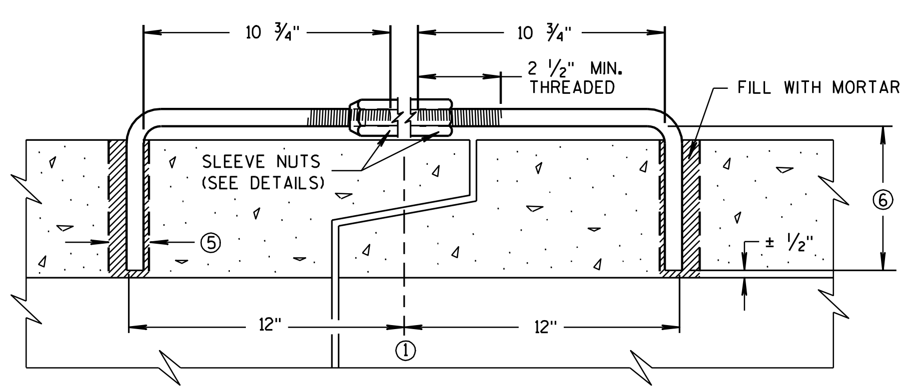
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

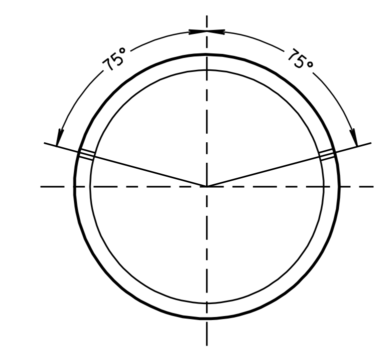
SLEEVE NUTS



LONGITUDINAL SECTION

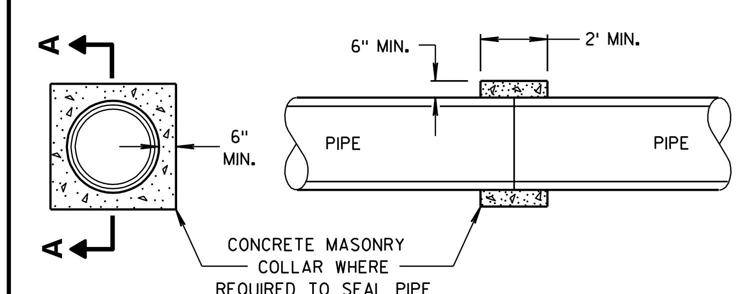
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

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

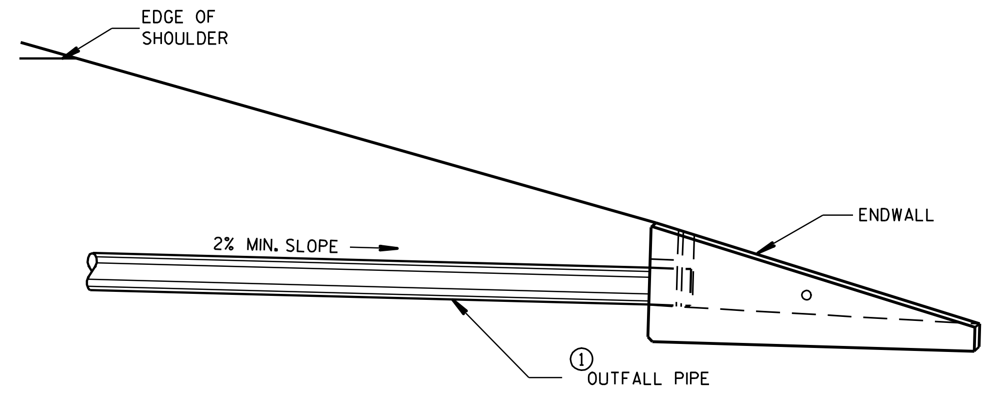
JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

DIMENSIONS IN INCHES											
PIPE DIA.	A	B	C	D	E	F	G	H	J	L	Z
**4	6	12	5 1/4	9	8	32	36	11	2 3/8	6 1/2	4
6	8	14	7 1/4	11	10	42	44	13	3 5/8	8 1/2	6

**APRON ENDWALL FOR 6 INCH DIAMETER PIPE MAY BE SUBSTITUTED FOR THIS SIZE PROVIDED THE HOLE IN THE HEADWALL IS SIZED AND LOCATED TO CONFORM TO THE 4 INCH DIAMETER PIPE DIMENSIONS (C & J)



INSTALLATION DETAIL

GENERAL NOTES

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

ALTERNATIVE DESIGNS WHICH PROVIDE EQUIVALENT CAPACITY AND STRENGTH MAY BE USED WHEN APPROVED BY THE ENGINEER. ENDWALL MAY BE EITHER PRECAST OR CAST-IN-PLACE CONCRETE.

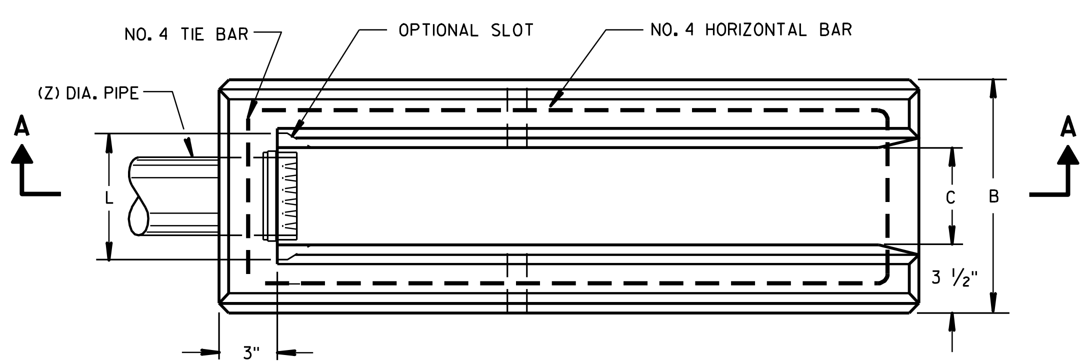
THE UNDERDRAIN PIPE SHALL BE FULLY INSERTED AND SEALED INTO THE ENDWALL WITH CEMENT MORTAR PRIOR TO BACKFILLING AROUND THE STRUCTURE.

THE UPPERMOST POINT OF THE ENDWALL SHALL BE PLACED FLUSH WITH THE ROADWAY SLOPE. ADJACENT EMBANKMENT SLOPES SHALL BE SHAPED TO FIT THE SIDES AND TOE OF THE ENDWALL. EXACT PLACEMENT OF THE OUTFALL PIPE AND ENDWALL SHALL BE DETERMINED BY THE ENGINEER TO MATCH THE ELEVATIONS AND FLOW DIRECTION OF THE ROADSIDE DITCH.

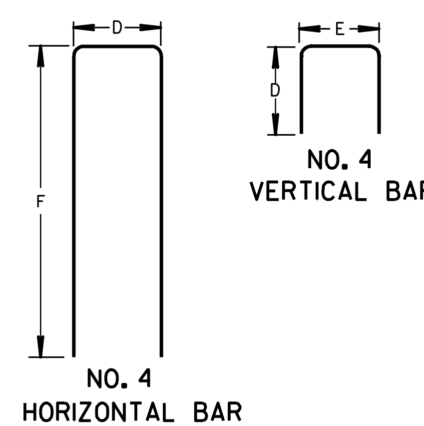
① THE OUTFALL PIPE UNDERDRAIN AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION FOR POLY (VINYL CHORIDE) (PVC) PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM DESIGNATION: D 2665, SCHEDULE 40 PVC OR THE STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHORIDE) (PVC) SEWER PIPE AND FITTINGS, ASTM DESIGNATION: D 3034, TYPE PSM SDR 23.5 PVC SEWER PIPE, ALL JOINTS SHALL BE SOLVENT WELDED.

THE OUTFALL PIPE INCLUDING ALL FITTINGS AND THE RODENT SHIELD SHALL BE MEASURED AND PAID FOR AS PIPE UNDERDRAIN UNPERFORATED.

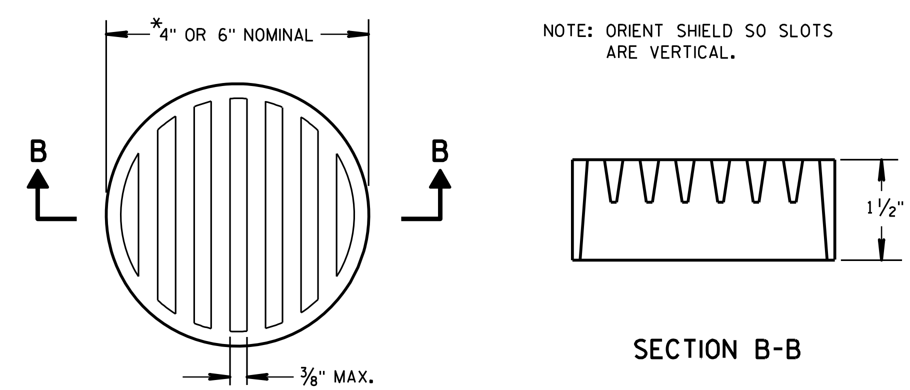
② THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



PLAN VIEW

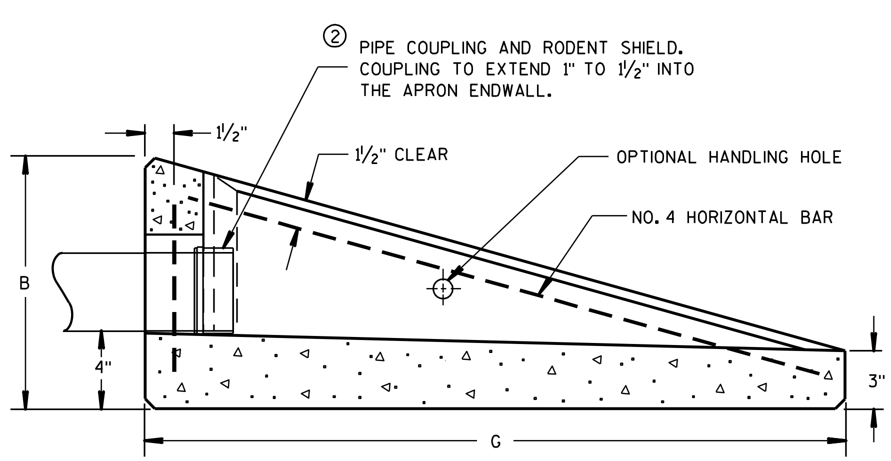


BAR STEEL REINFORCEMENT DETAILS

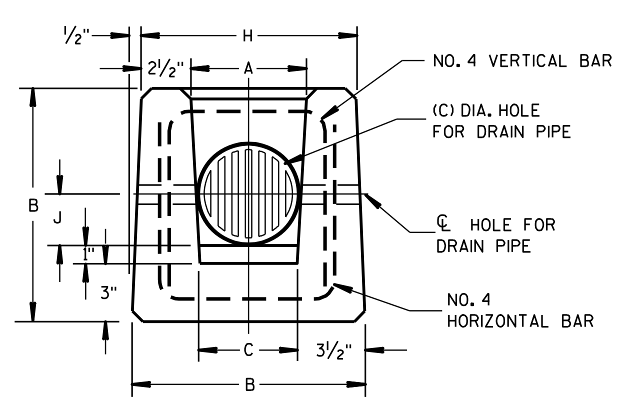


② RODENT SHIELD

*NOTE: DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.



SECTION A-A



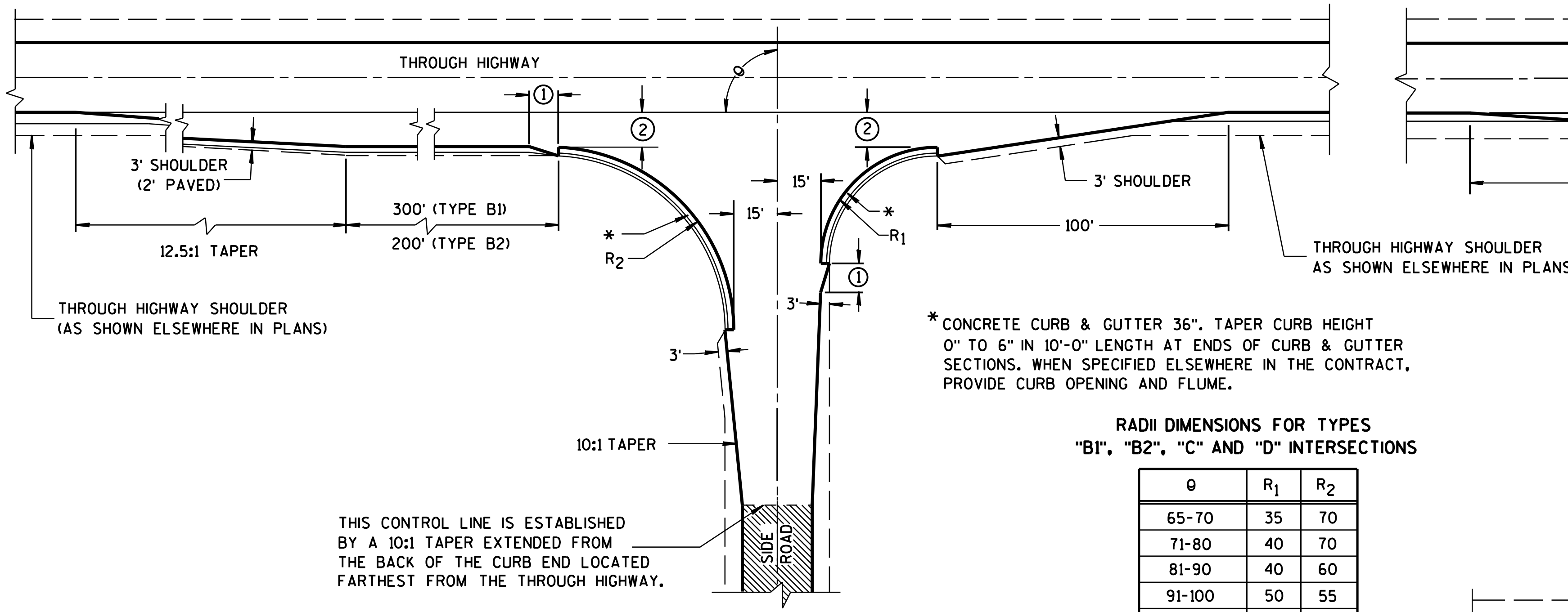
END VIEW

CONCRETE APRON ENDWALL FOR UNDERDRAIN

REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/10/98 /S/ Rory L. Rhi[illegible]
DATE CHIEF ROADWAY DEVELOP[illegible]NEER
FHWA

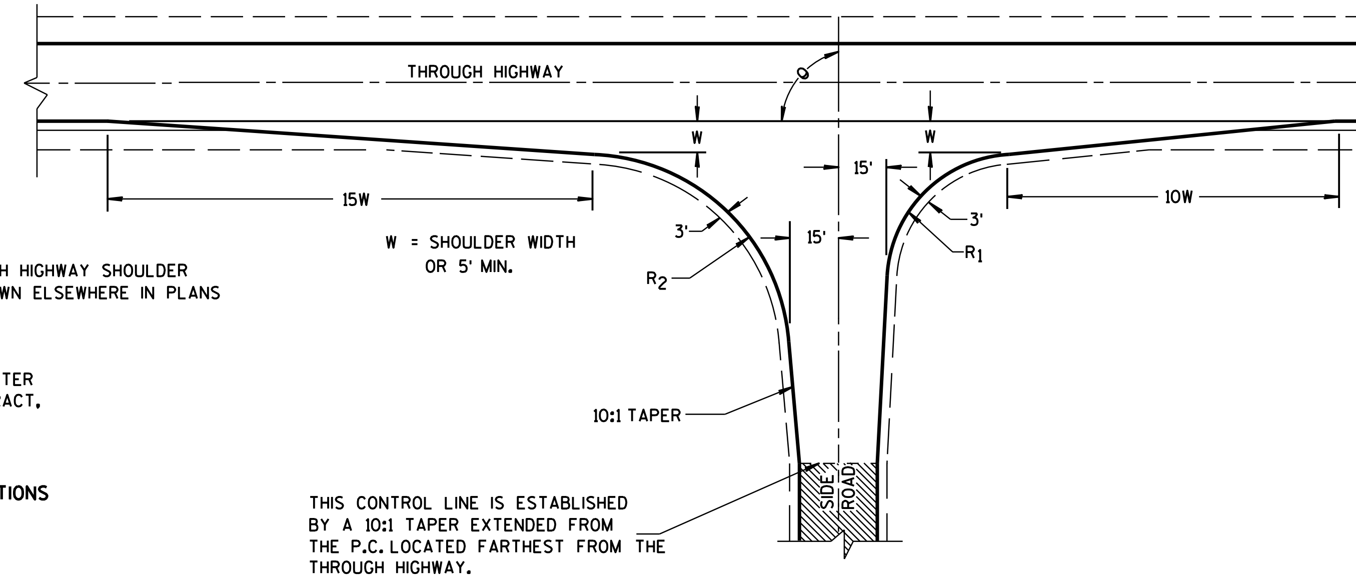


TYPE "B1" AND "B2"

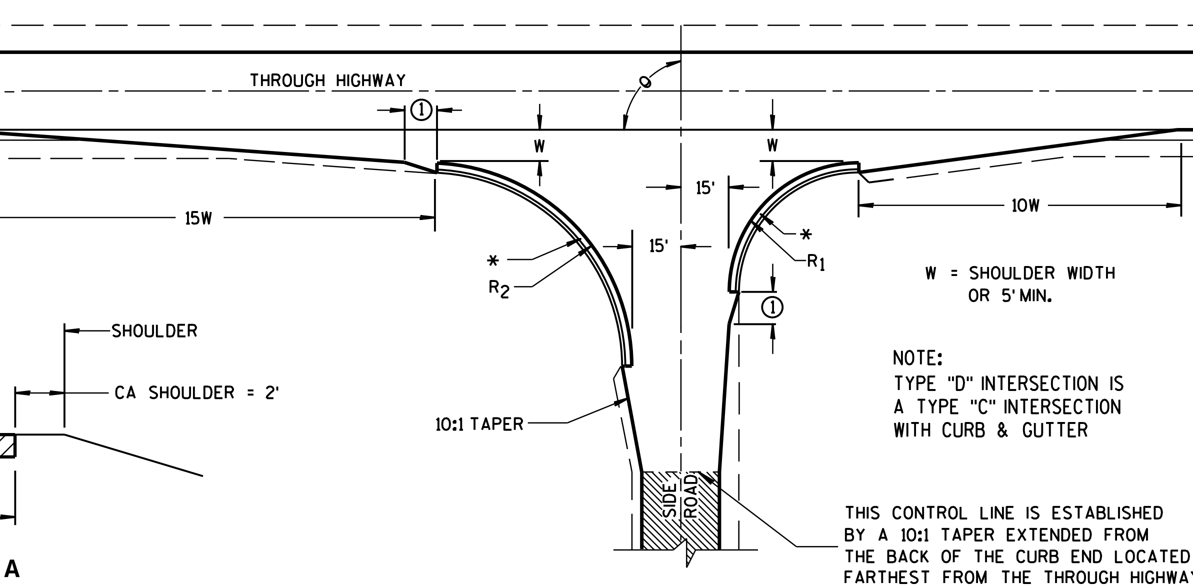
*CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

RADII DIMENSIONS FOR TYPES "B1", "B2", "C" AND "D" INTERSECTIONS

θ	R_1	R_2
65-70	35	70
71-80	40	70
81-90	40	60
91-100	50	55
101-110	60	45



TYPE "C"



TYPE "D"

GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

<u>SIDE ROAD SURFACING NOTE</u>

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

EXISTING PAVED SURFACE

BYPASS LANE

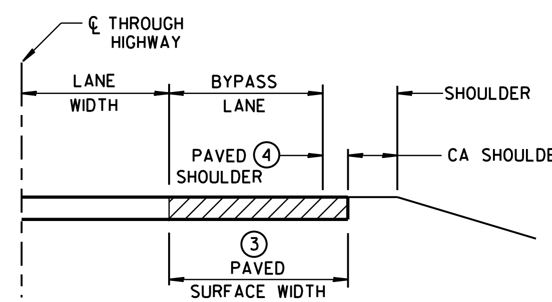
① 10-FT TYPICAL.

② 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.

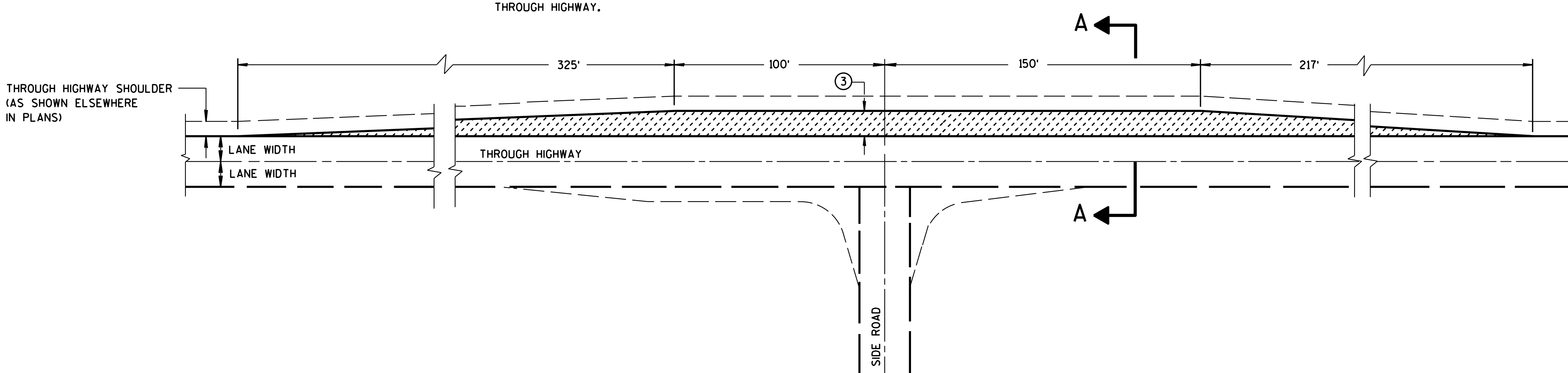
**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.

③ BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.

④ BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



SECTION A-A
(SHOWING BYPASS LANE AND SHOULDER)



TEE INTERSECTION BYPASS LANE DETAIL

6

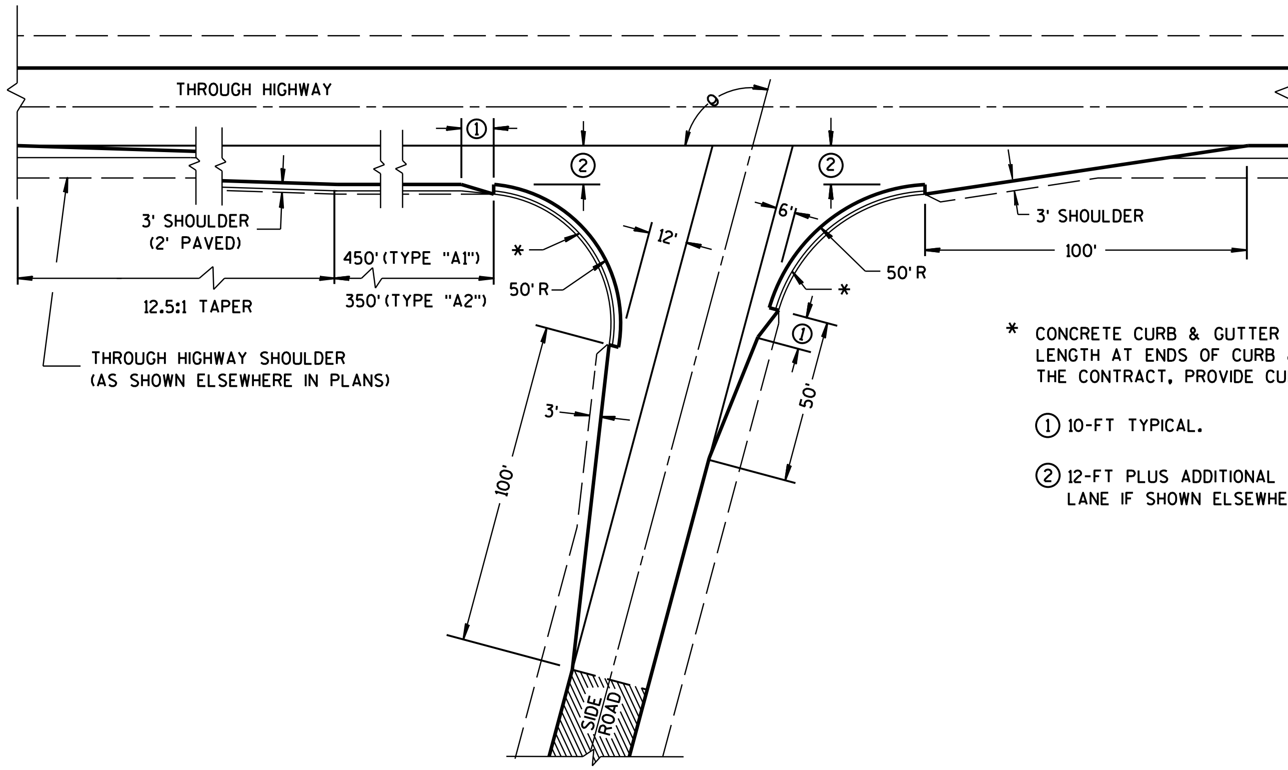
6

S.D.D. 9 A 1-13a

S.D.D. 9 A 1-13a

AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND "D" AND TEE INTERSECTION BYPASS LANE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO



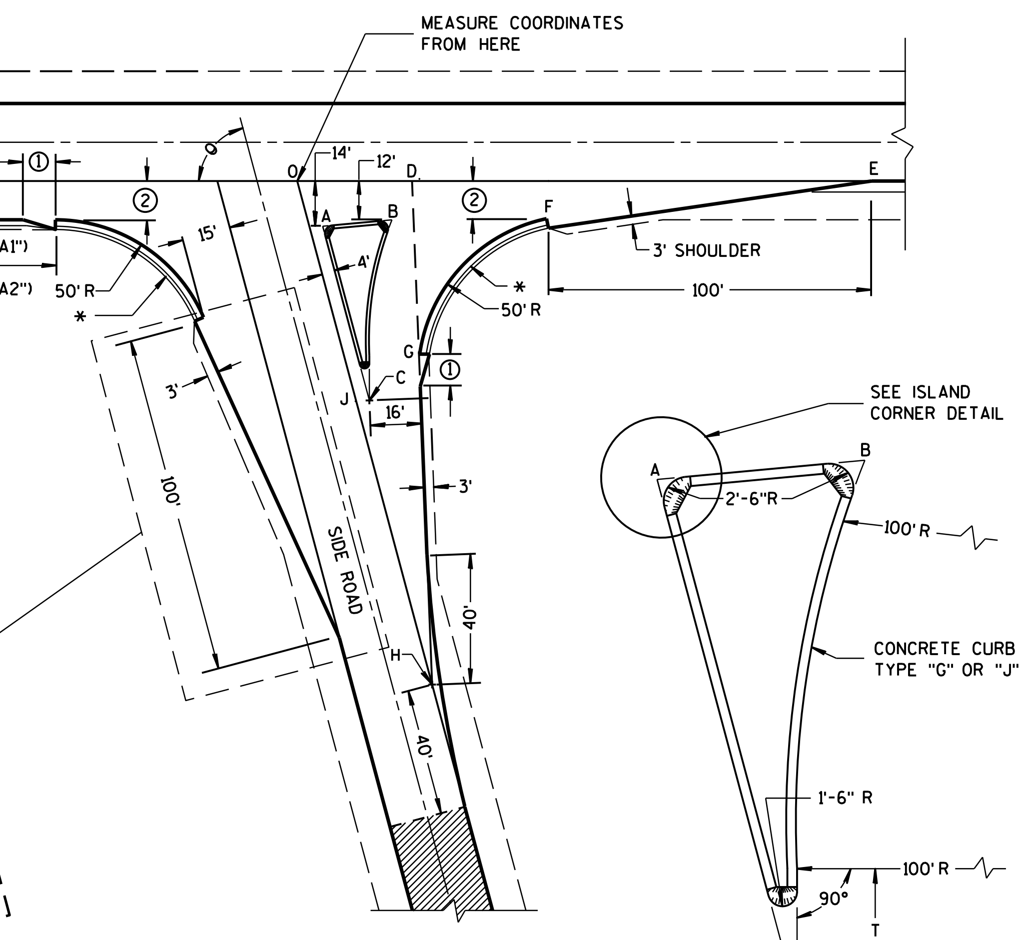
Θ = MORE THAN 80°

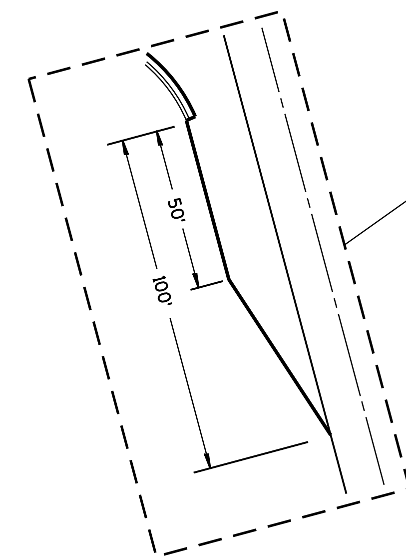
EXISTING PAVED SURFACE

* CONCRETE CURB & GUTTER 36", TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

(1) 10-FT TYPICAL.

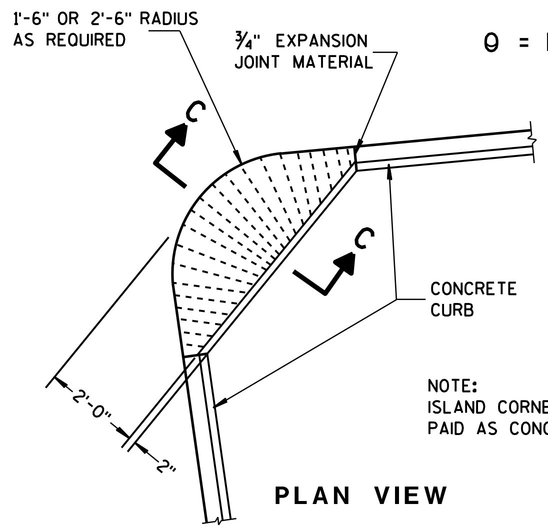
(2) 12-FT PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLANS.





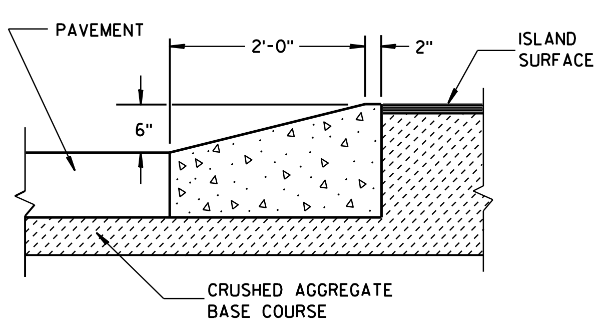
Θ = ACUTE ANGLES 80° OR LESS

SIDE ROAD WIDENING AND TAPER REQUIRED WHERE THE THROUGH HIGHWAY CARRIES TWO-WAY TRAFFIC
Θ = ACUTE ANGLES 70° OR LESS



NOTE:
ISLAND CORNER WILL BE PAID AS CONCRETE CURB.

PLAN VIEW



SECTION C-C

ISLAND CORNER DETAIL
(TO BE CONSTRUCTED AT ALL ISLAND CORNERS)

TABLE OF DIMENSIONS FOR
VARIABLE SIDE ROAD INTERSECTION ANGLES
(INTERPOLATE VALUES FOR ANGLES NOT SHOWN)

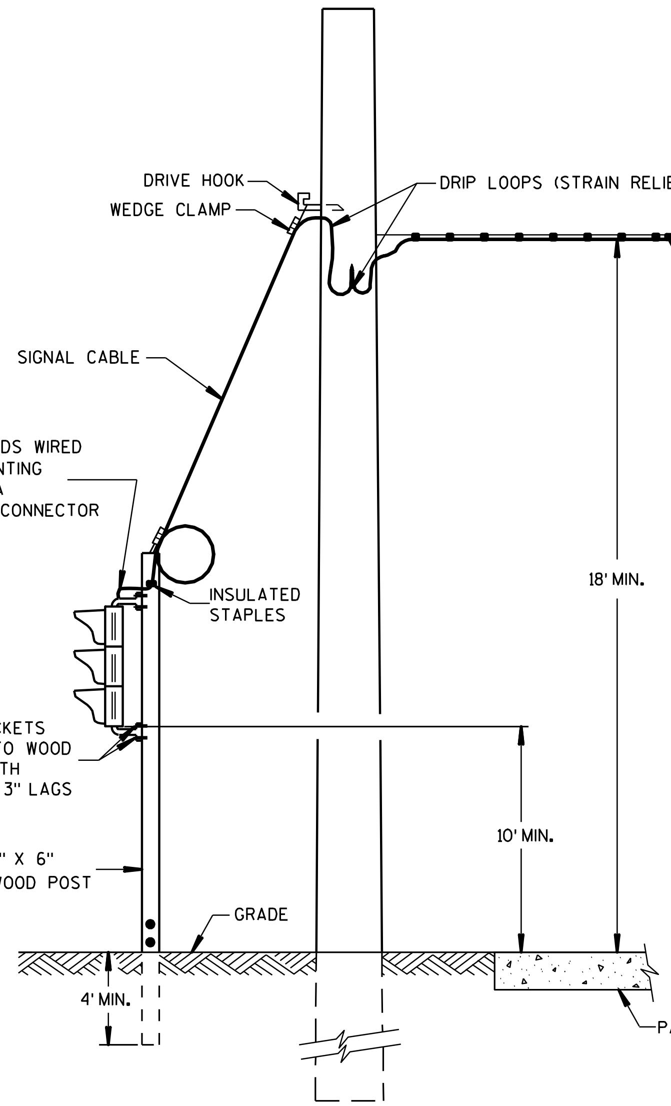
ANGLE Θ DEGREES	COORDINATES IN FEET (MEASURED FROM POINT "O") X/Y								LENGTH IN FEET				
	A	B	C	D	E	F	G	H	AB	AC	T	OJ	OH
60	12.7 / -14.0	44.9 / -12.0	46.4 / -72.4	41.9 / 0.0	205.0 / 0.0	104.6 / -12.0	64.0 / -75.5	85.0 / -147.1	32.3	67.4	4.9	85.9	169.9
65	10.9 / -14.0	39.0 / -12.0	37.8 / -71.6	39.4 / 0.0	196.1 / 0.0	95.7 / -12.0	54.1 / -71.5	70.5 / -151.3	28.2	63.6	8.5	80.9	166.9
70	9.4 / -14.0	33.9 / -12.0	29.8 / -70.1	37.4 / 0.0	188.3 / 0.0	87.8 / -12.0	45.6 / -67.5	56.1 / -154.2	24.6	59.7	11.5	76.1	164.1
75	7.9 / -14.0	29.3 / -12.0	22.3 / -67.9	35.7 / 0.0	181.2 / 0.0	80.7 / -12.0	38.2 / -63.4	41.8 / -155.9	21.5	55.8	13.8	71.4	161.4
80	6.5 / -14.0	25.4 / -12.0	15.6 / -65.2	34.4 / 0.0	174.8 / 0.0	74.4 / -12.0	31.8 / -59.3	27.6 / -156.5	18.9	52.0	15.6	66.9	158.9

TYPE "A1" & "A2" SIDE ROAD INTERSECTION DETAILS

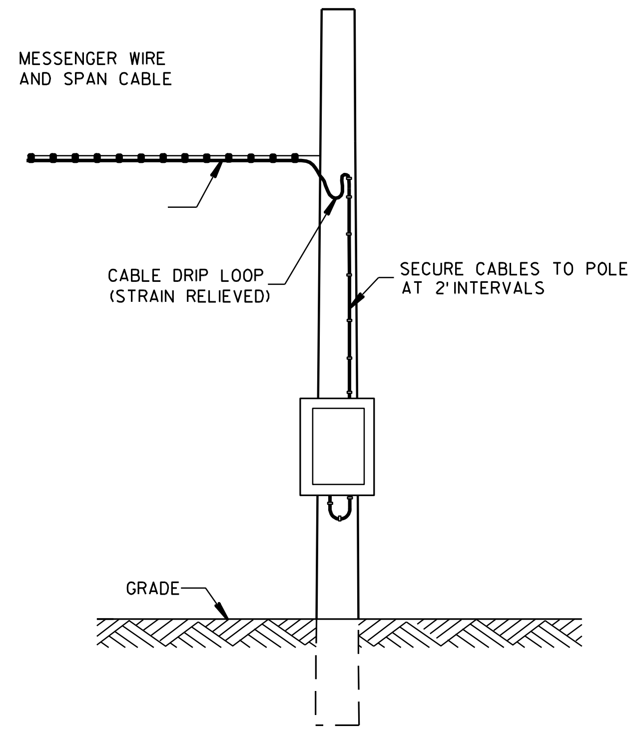
AT-GRADE SIDE ROAD INTERSECTION, TYPE "A1" & "A2"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/18/12 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA



TYPICAL DROP
TO TRAFFIC SIGNAL FACE



POLE MOUNT
CABINET INSTALLATION

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 MAYBE MOUNTED ON THE SERVICE POLE IF THE ELECTRICAL UTILITY ALLOWS THE INSTALLATION.

WHEN UTILITY PLOLES 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.

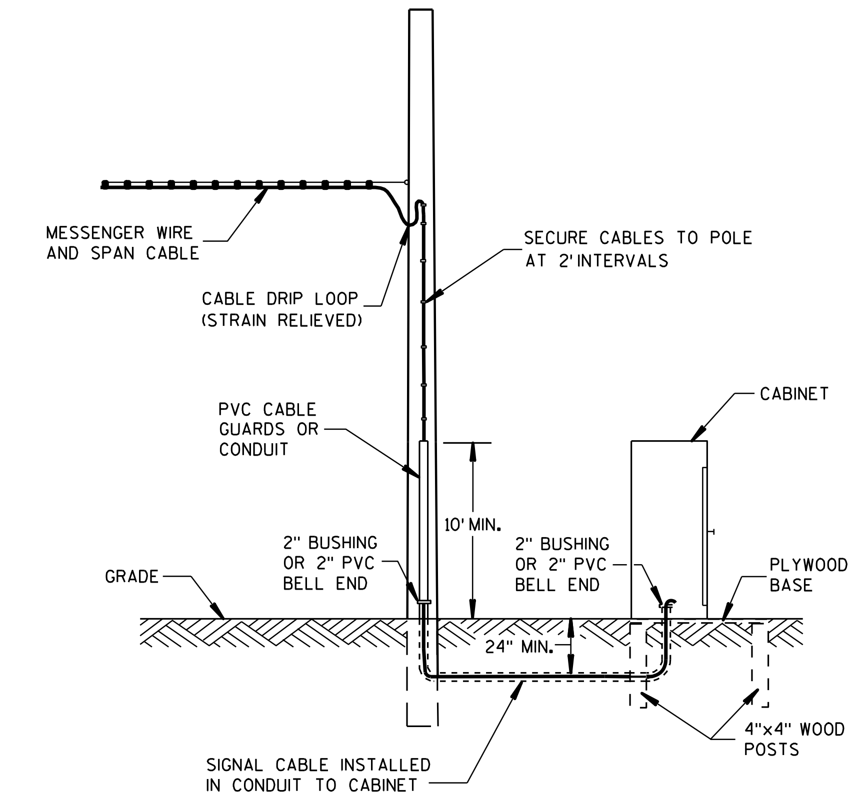
WOOD POLES (NONBREAKAWAY) SHALL BE NO CLOSER TO EDGE OF PAVEMENT THAN OFFSET DISTANCE CHART ALLOWS OR 4 FEET BEHIND PROTECTIVE BARRIER (BEAMGUARD, ETC.).

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.

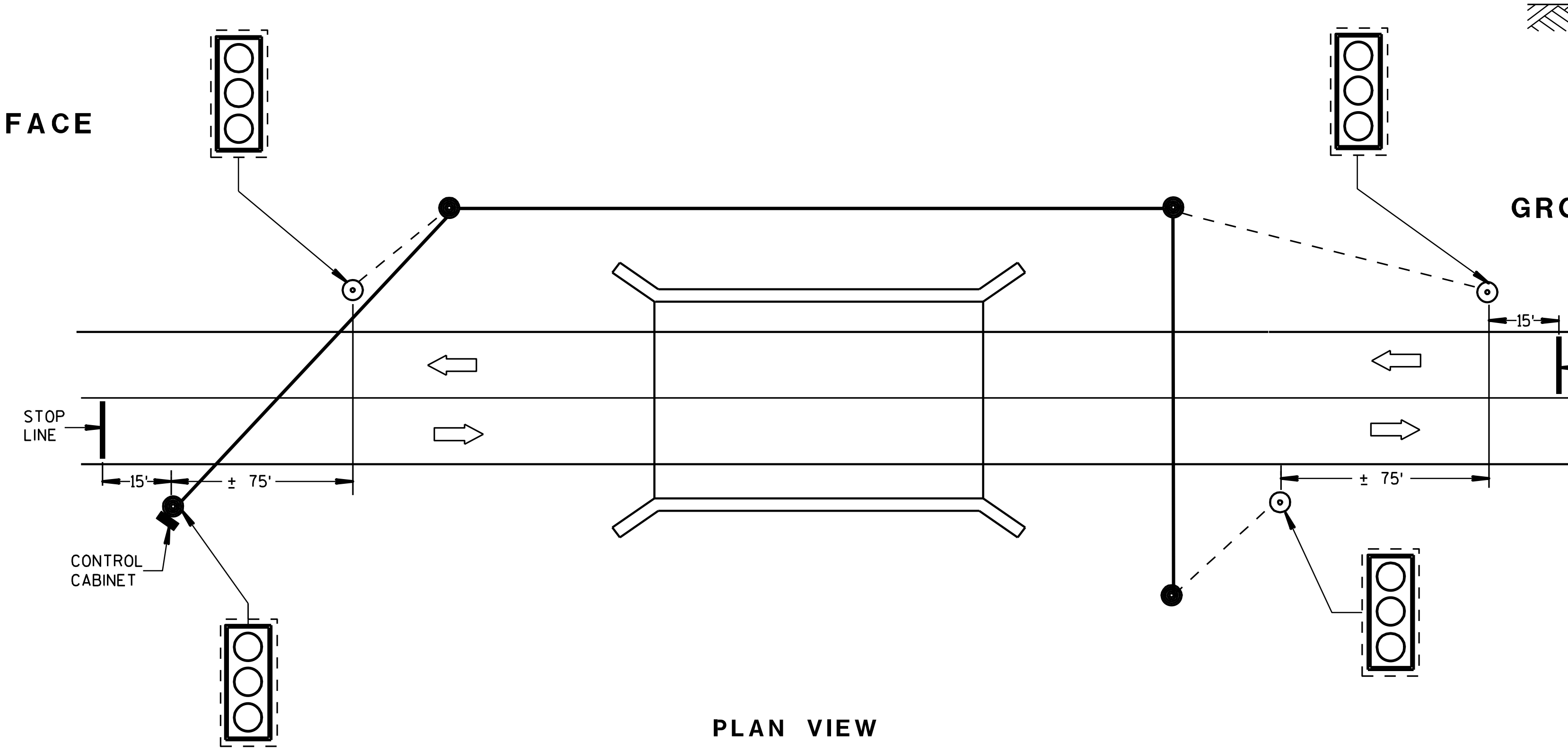
EACH TRAFFIC SIGNAL FACE SHALL HAVE A BACKPLATE.



GROUND MOUNT CABINET INSTALLATION

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.



PLAN VIEW
TYPICAL BRIDGE TEMPORARY TRAFFIC SIGNAL LOCATION

LEGEND

WOOD POLE (NONBREAKAWAY)
WOOD POST (BREAKAWAY)
SIGNAL CABLE
SIGNAL CABLE W/MESSENGER
LED TRAFFIC SIGNAL FACE WITH BACKPLATE
3-12"
DIRECTION OF TRAFFIC

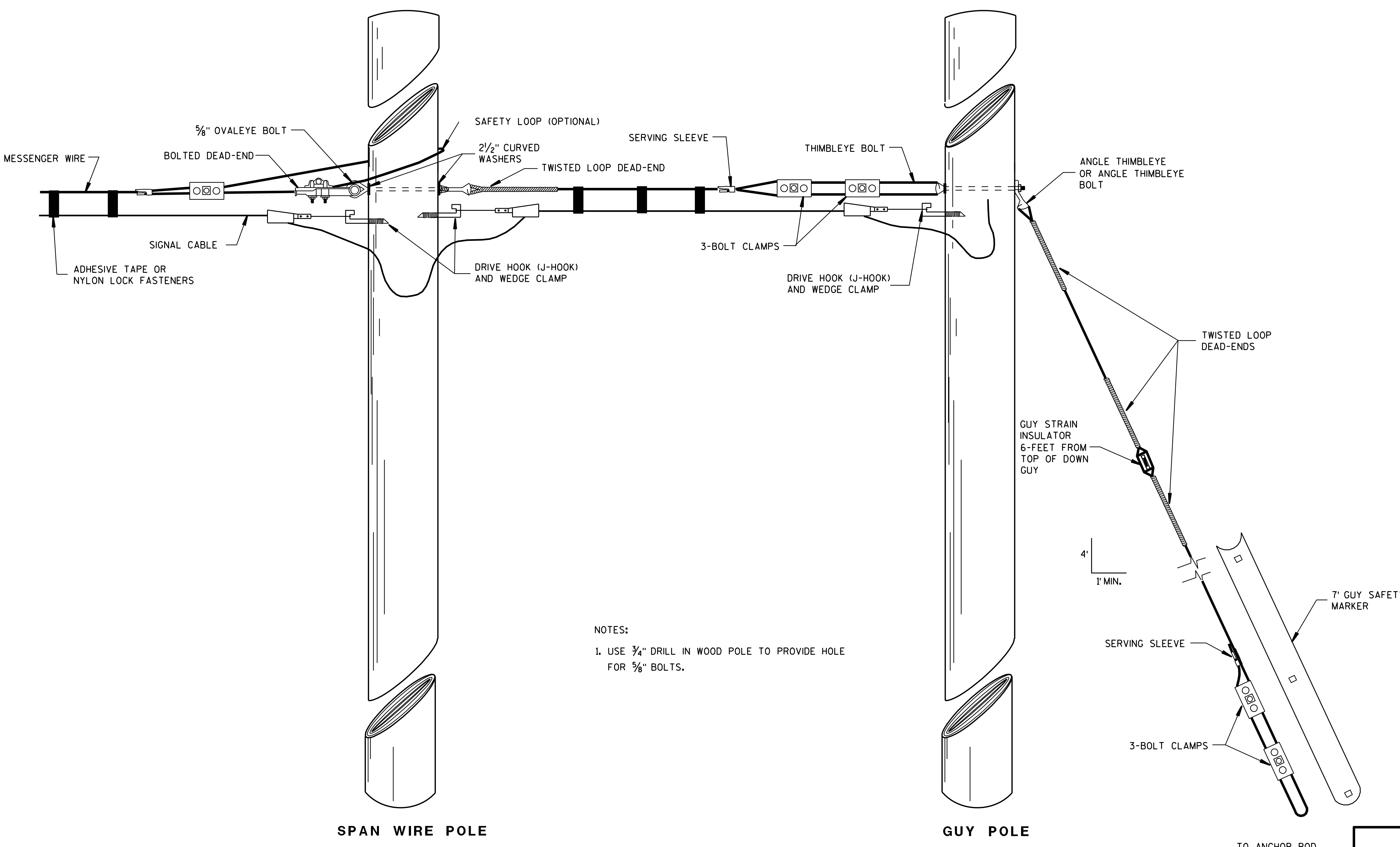
MINIMUM POLE LENGHTS	CLASS	MINIMUM BURIAL DEPTHS
25 FEET	V	5 FEET
30 FEET	V	6 FEET
35 FEET	IV	7 FEET
40 FEET	IV	8 FEET
45 FEET	IV	9 FEET

BRIDGE TEMPORARY
TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/2/2011 DATE
/S/ Thomas J. Gearing STATE ELECTRICAL ENGI 324 HWYS
FHWA

S.D.D. 9 G 2-3a



NOTES:

1. USE 3/4" DRILL IN WOOD POLE TO PROVIDE HOLE FOR 5/8" BOLTS.

TYPICAL DEAD-ENDINGS OR GUYING

6

6

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011 — DATE

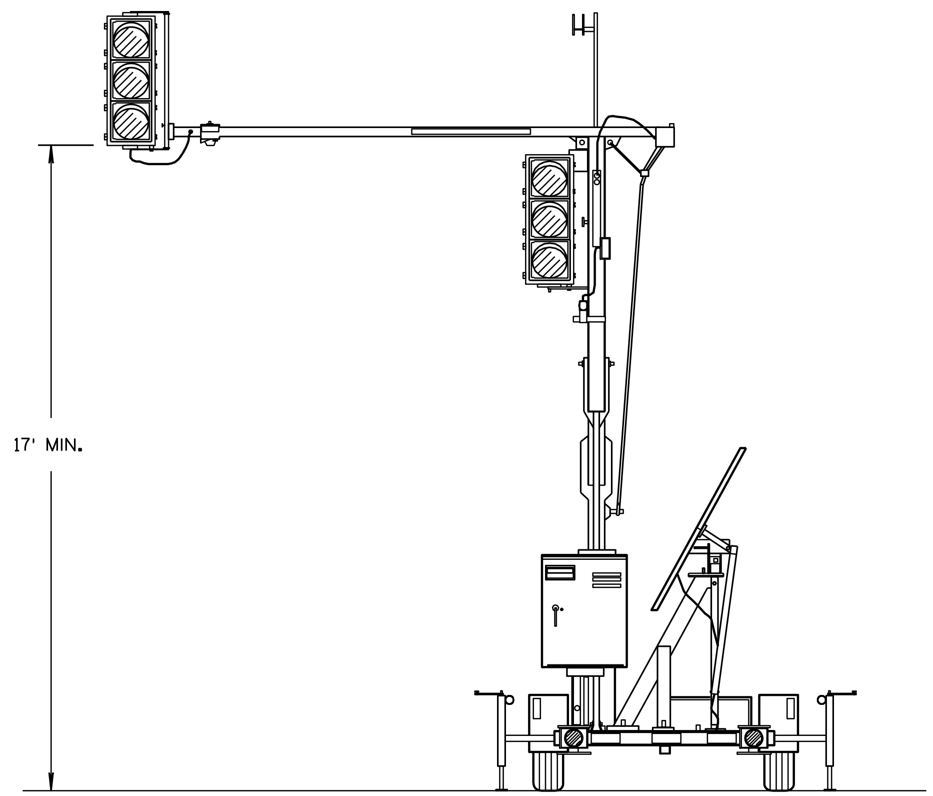
/S/ Thomas J. G — STATE ELECTRICAL ENGI

HWYS

FHWA

S.D.D. 9 G 2-3b

S.D.D. 9 G 2-3b

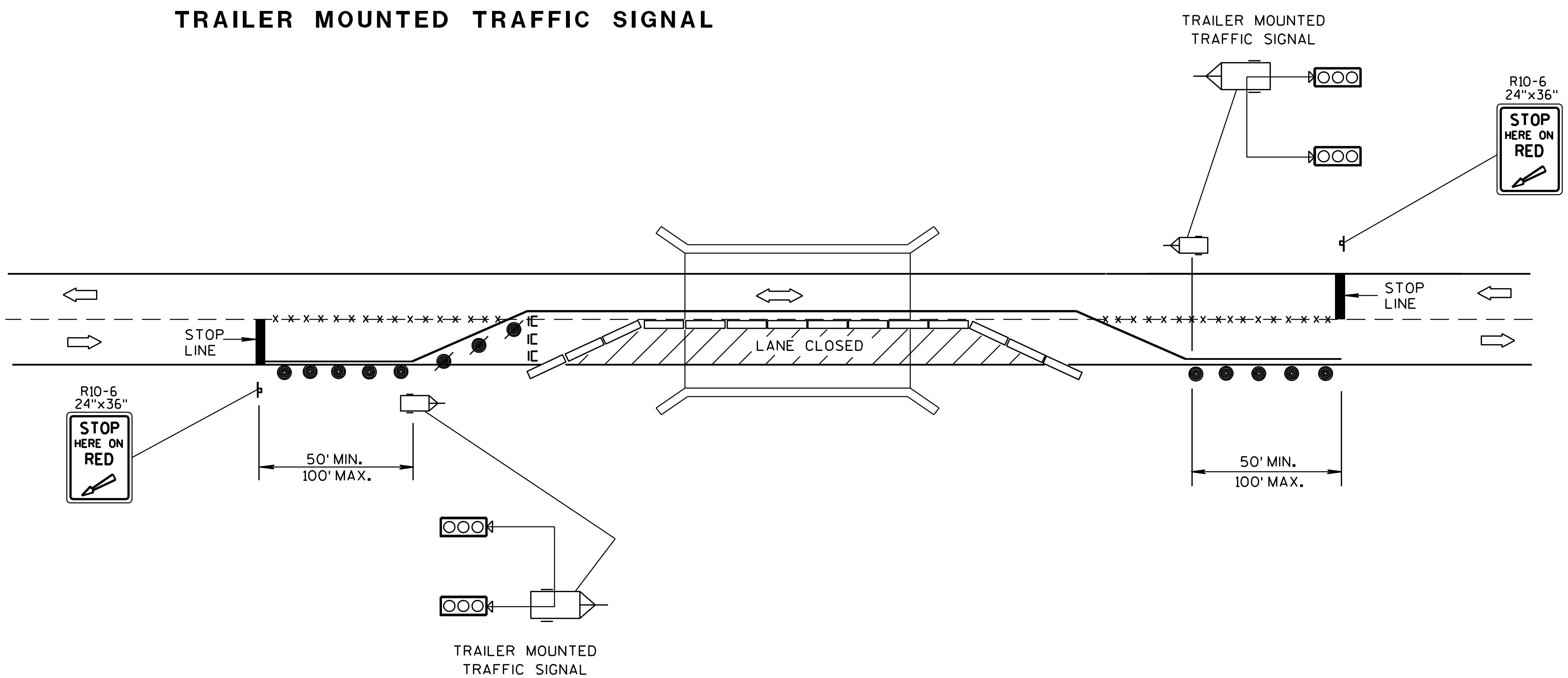


TRAILER MOUNTED TRAFFIC SIGNAL

GENERAL NOTES

DETAILS 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 15 D 33.



TYPICAL TRAILER MOUNTED TRAFFIC SIGNAL LOCATION

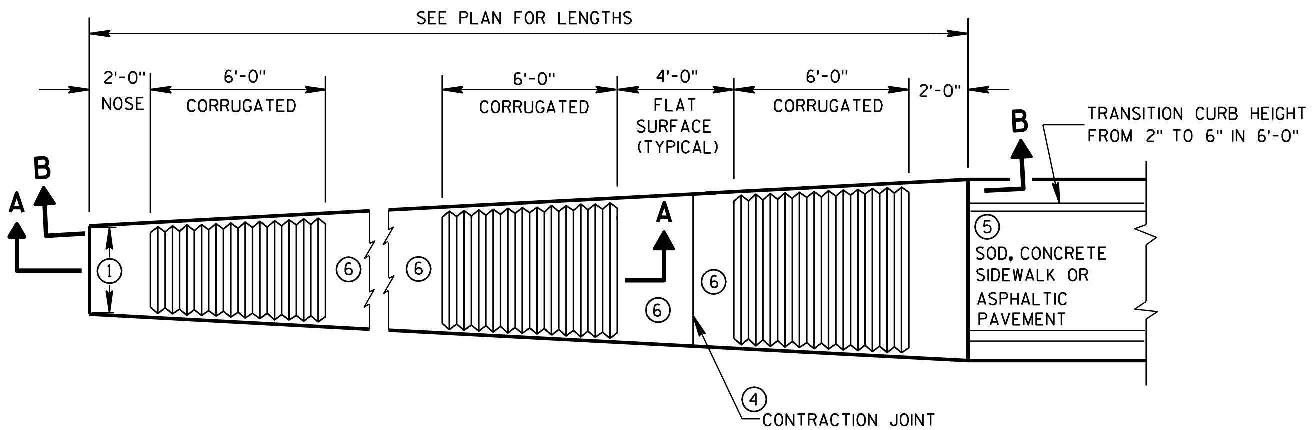
LEGEND

- POST MOUNTED SIGN
- REMOVING PAVEMENT MARKING
- TYPE III BARRICADE WITH SIGN
- DRUM WITH/WITHOUT WARNING LIGHT, TYPE C (STEADY-BURN)
- TEMPORARY PRECAST CONCRETE BARRIER
- TRAILER MOUNTED TRAFFIC SIGNAL
- DIRECTION OF TRAFFIC FLOW

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

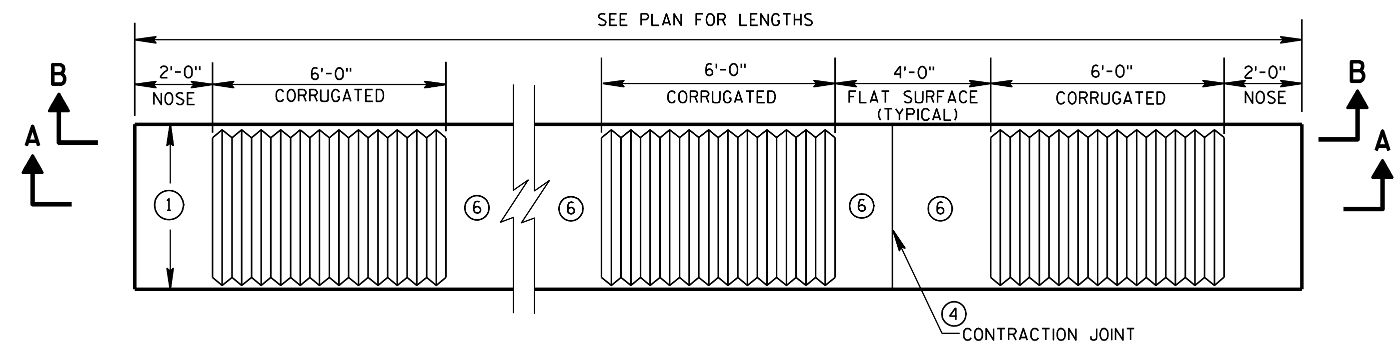
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/2/2011 — DATE
/S/ Thomas J. Goering — STATE ELECTRICAL ENGI
HWYS
FHWA



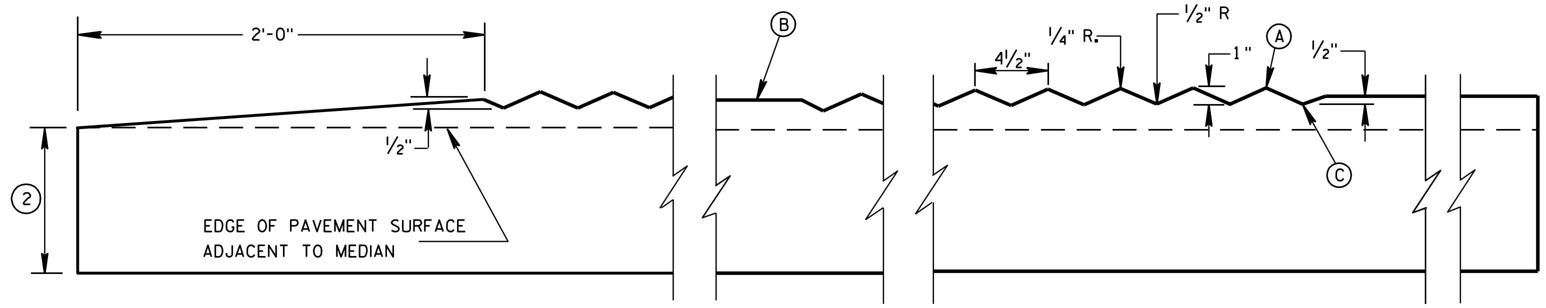
PLAN VIEW

VARIABLE WIDTH CONCRETE CORRUGATED MEDIAN



PLAN VIEW

UNIFORM WIDTH CONCRETE CORRUGATED MEDIAN

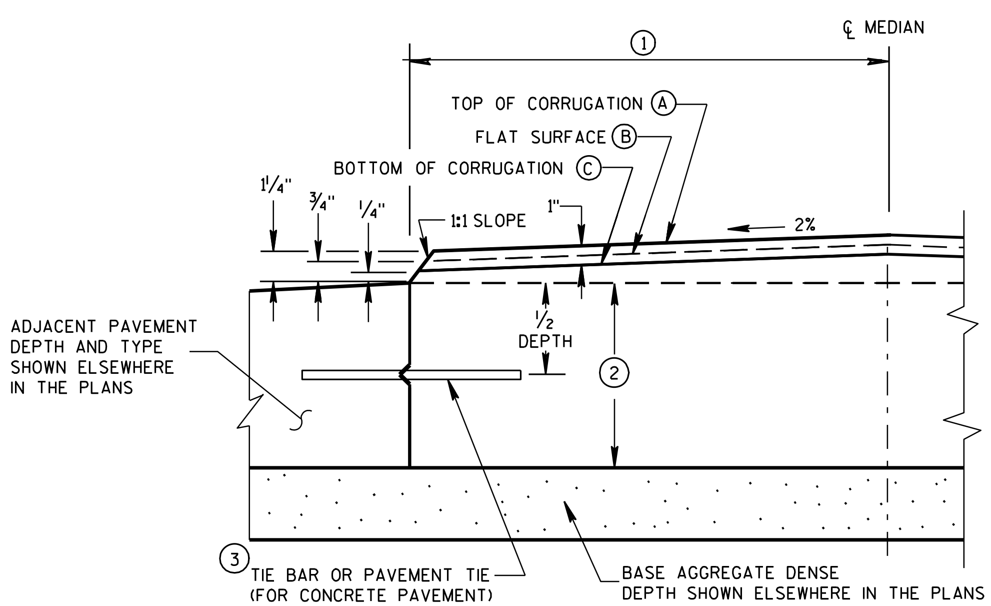


SECTION A-A

LONGITUDINAL SECTION

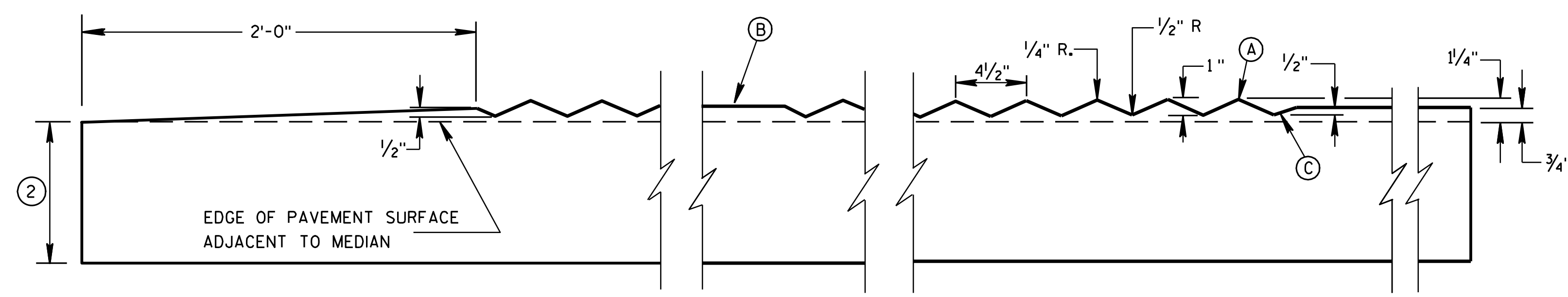
GENERAL NOTES

1. SEE PLANS FOR CONSTANT OR VARIABLE WIDTH.
2. THE DEPTH OF THE CONCRETE CORRUGATED MEDIAN SHALL BE 9-INCHES UNLESS SHOWN OTHERWISE IN THE PLAN.
   ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN IN THE PLAN. TYPICAL OPTIONS ARE:
   (1) NEW OR EXISTING CONCRETE PAVEMENT.
   (2) ASPHALTIC CONCRETE OVER NEW OR EXISTING CONCRETE BASE COURSE, OR PAVEMENT.
   (3) ASPHALTIC PAVEMENT OVER BASE AGGREGATE DENSE.
3. TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.
   INSTALL TIE BARS TO MAINTAIN A MINIMUM OF 3-INCHES OF COVER BETWEEN THE TIE BAR AND THE CONCRETE SURFACE (BOTTOM AND TOP).
   PAVEMENT TIES REQUIRED IN EXISTING CONCRETE PAVEMENT OR CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.
4. CONCRETE CORRUGATED MEDIAN CONTRACTION JOINTS SHALL BE CONSTRUCTED TO MATCH THE JOINTS IN ADJACENT CONCRETE PAVEMENT. WHERE ADJACENT PAVEMENT IS ASPHALT WITH BASE AGGREGATE DENSE, TRANSVERSE CONTRACTION JOINTS SHALL BE PROVIDED AT 20 FOOT INTERVALS.
5. SURFACE TYPE AND DETAILS ARE DEFINED ELSEWHERE IN THE PLAN.
6. YELLOW MARKING ON FLAT SURFACE WHEN MEDIAN SEPARATES OPPOSING TRAFFIC.



HALF CROSS SECTION

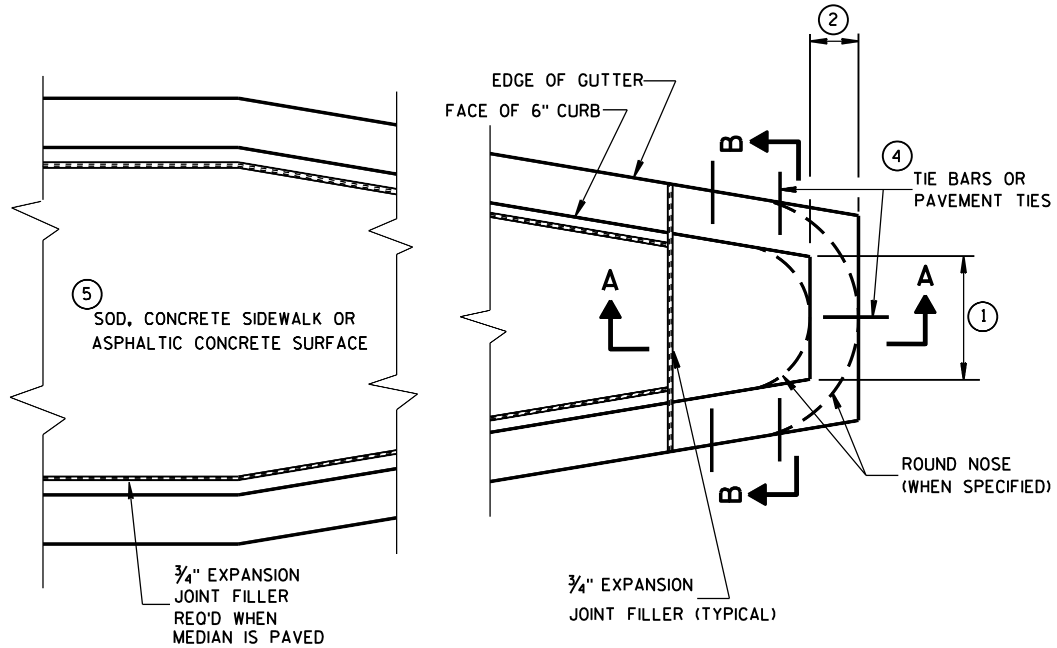
2 CONCRETE CORRUGATED MEDIAN AND ADJACENT PAVEMENT

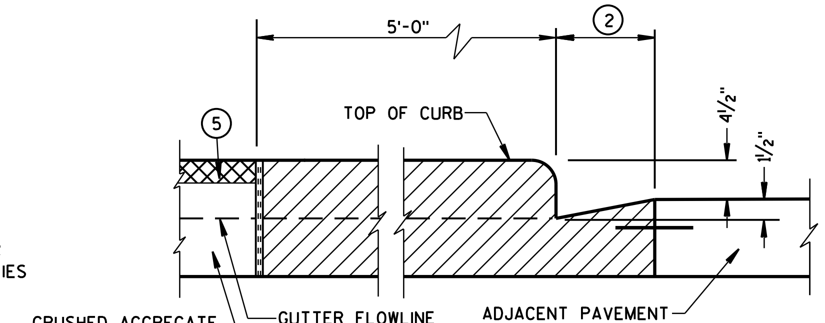


SECTION B-B

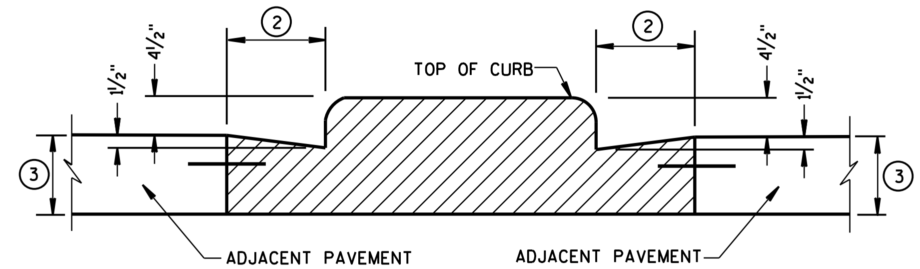
LONGITUDINAL SECTION

CONCRETE CORRUGATED MEDIAN
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 12/17/07 DATE /S/ Jerry H. Zogg ROADWAY STANDARDS ENGINEER FHWA





SECTION A-A



SECTION B-B

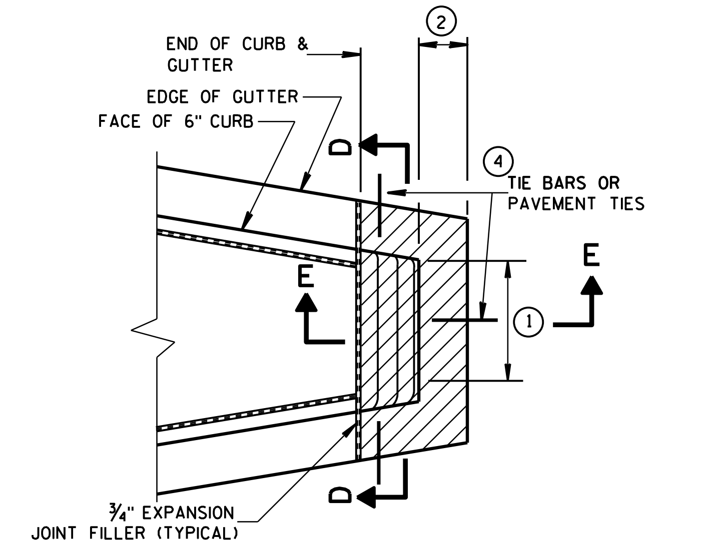
CONCRETE MEDIAN BLUNT NOSE DETAIL

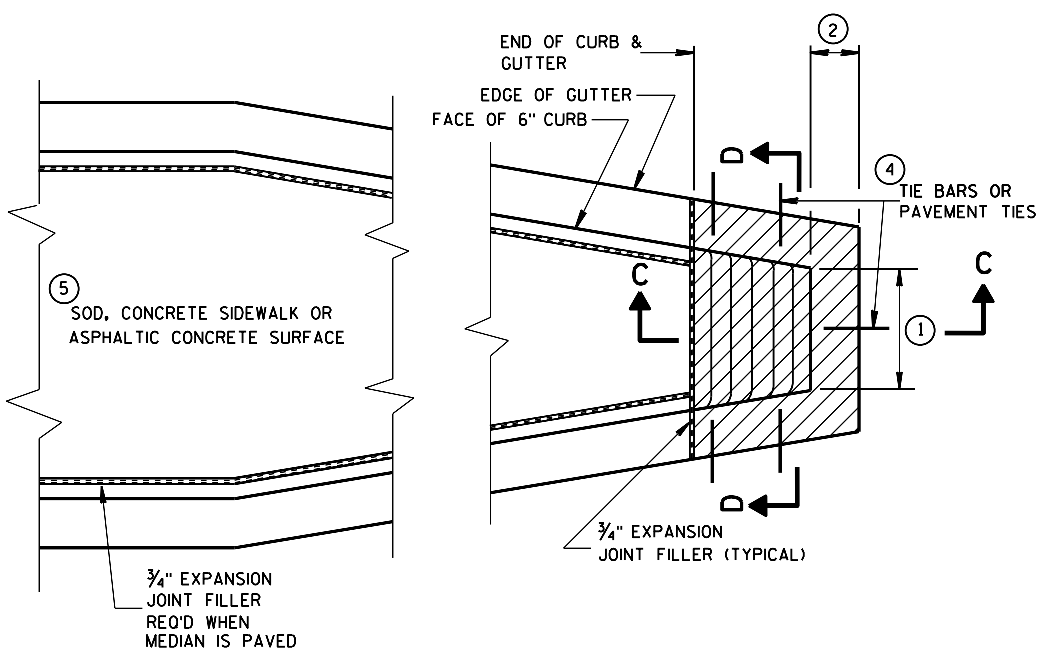
GENERAL NOTES

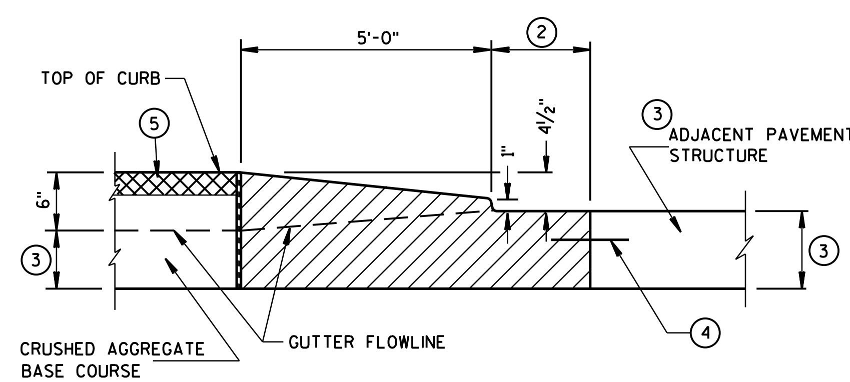
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

1. SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).
2. WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.
3. DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:
   - (1) NEW OR EXISTING CONCRETE PAVEMENT.
   - (2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.
   - (3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.
4. TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

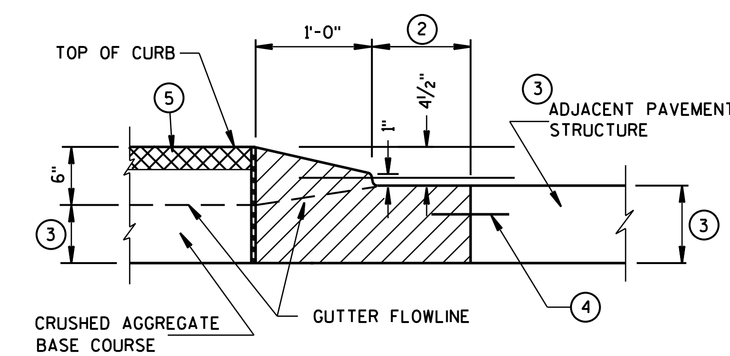
   PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.
5. SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.







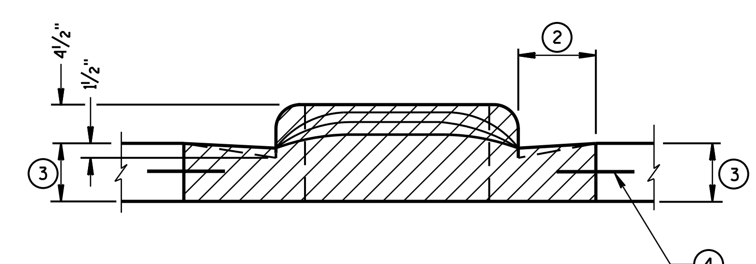
SECTION C-C



SECTION E-E

CONCRETE MEDIAN SLOPED NOSE TYPE 2

CONCRETE MEDIAN SLOPED NOSE TYPE 1



SECTION D-D

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/8/2006 — /S/ Jerry H. Zogg
DATE — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 11 B 2-2

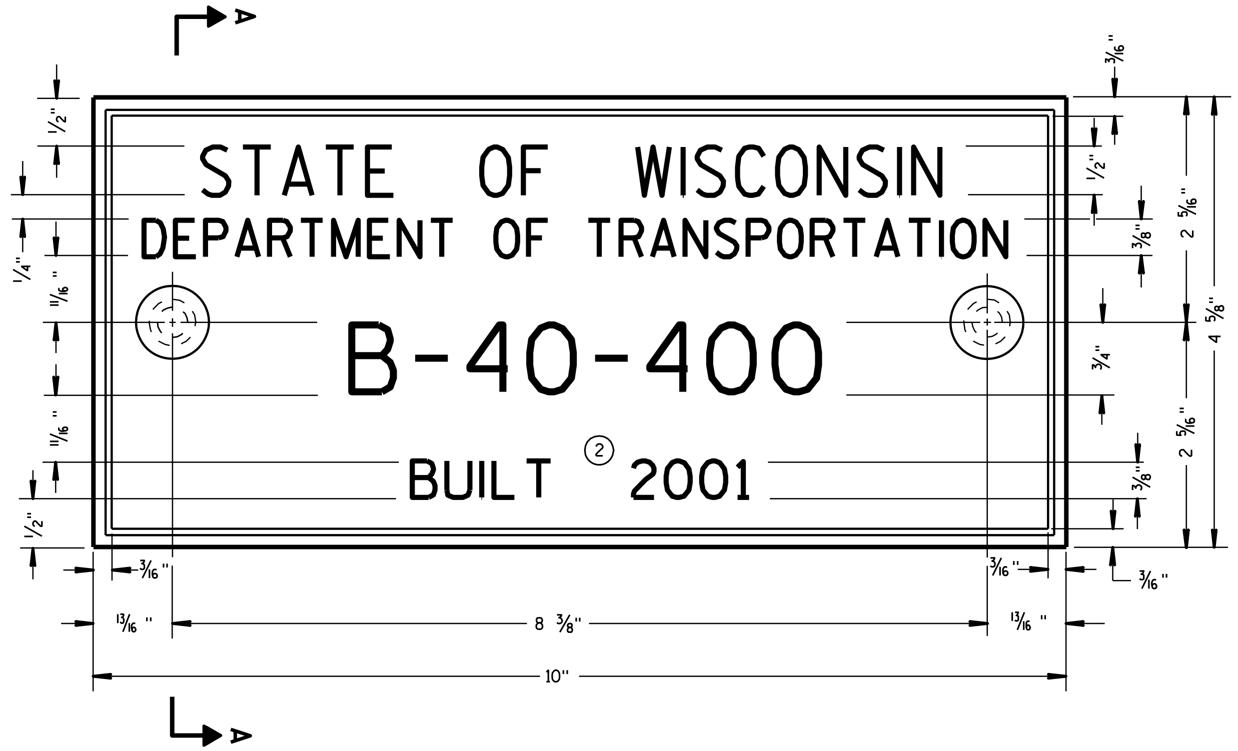
GENERAL NOTES

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.

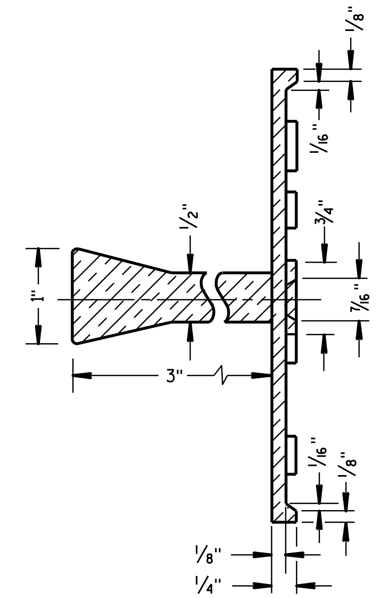
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

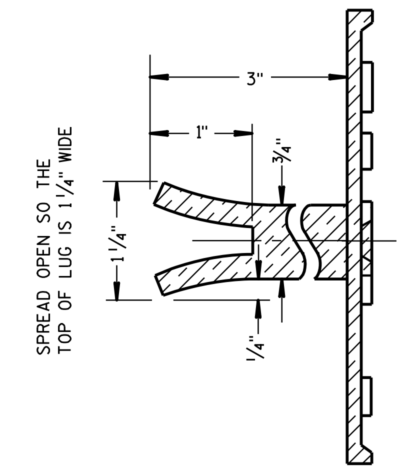
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



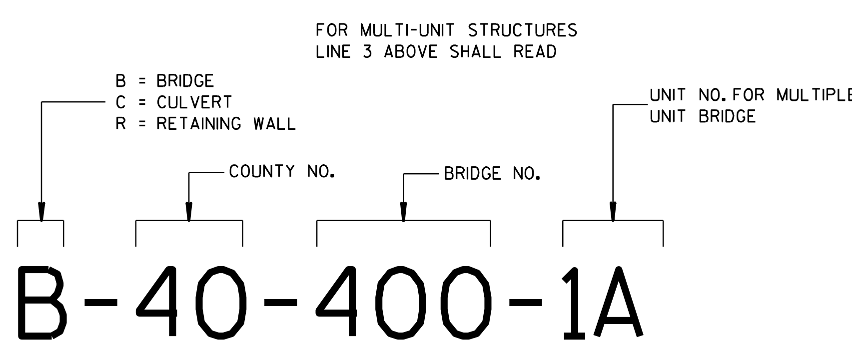
TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)



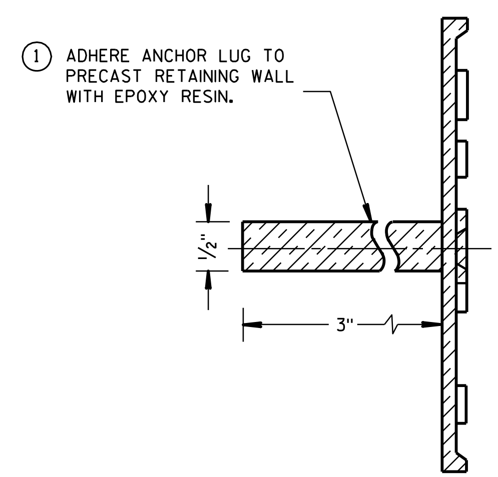
SECTION A-A



ALTERNATE LUG

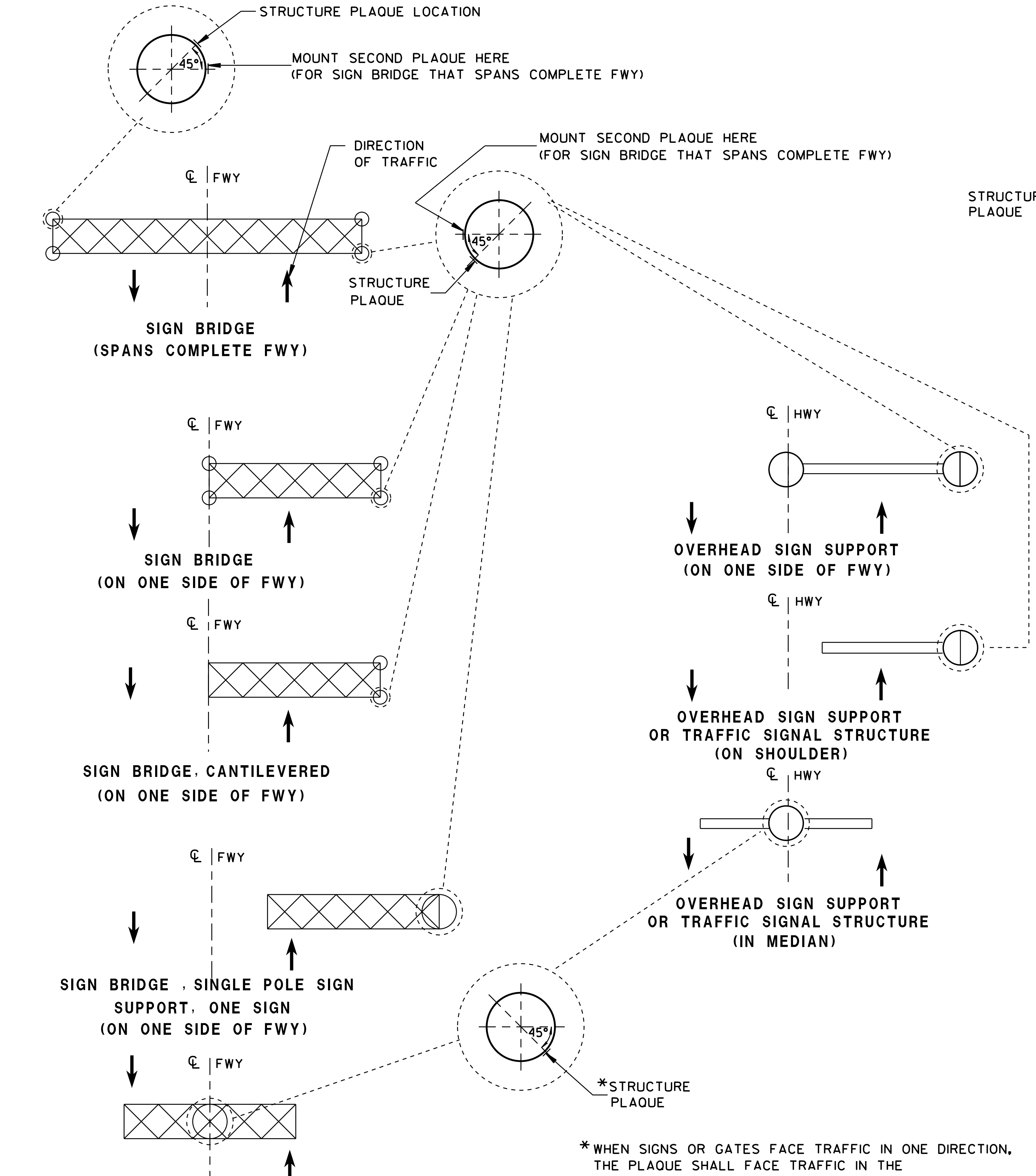


NUMBERING DESIGNATION MULTI-UNIT STRUCTURES



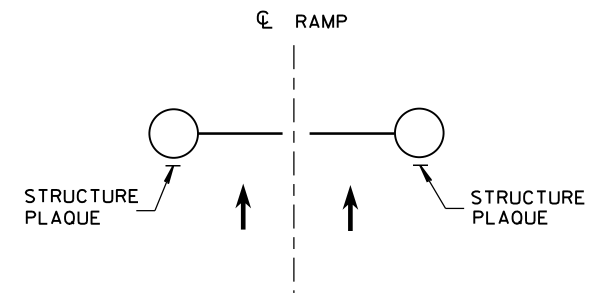
ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 3/26/10 DATE /S/ Scot Beck CHIEF STRUCTURAL DEVELOPMENT ENGINEER FHWA



*WHEN SIGNS OR GATES FACE TRAFFIC IN ONE DIRECTION, THE PLAQUE SHALL FACE TRAFFIC IN THE SAME DIRECTION. WHEN SIGNS OR GATES ARE FACING TRAFFIC IN BOTH DIRECTIONS, THE PLAQUE SHALL FACE TRAFFIC IN THE CARDINAL DIRECTION.

LOCATION OF RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT & TRAFFIC SIGNAL STRUCTURE PLAQUES



GENERAL NOTES

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

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

IF THE PROPOSED SIGN BRIDGE OR OVERHEAD SIGN SUPPORT IS REPLACING AN EXISTING SIGN BRIDGE OR OVERHEAD SIGN SUPPORT, A NEW IDENTIFICATION PLAQUE WILL BE REQUIRED.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

GALVANIZED STEEL SHAFT - 3 STAINLESS STEEL POP RIVETS

A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS; FASTEN WITH STAINLESS SELF-TAPPING SCREWS

ALUMINUM SHAFTS - 3 ALUMINUM POP RIVETS

MOUNTING HEIGHT SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

PLAQUE MATERIALS:

BASE - SHEET ALUMINUM, 0.060" THICK.

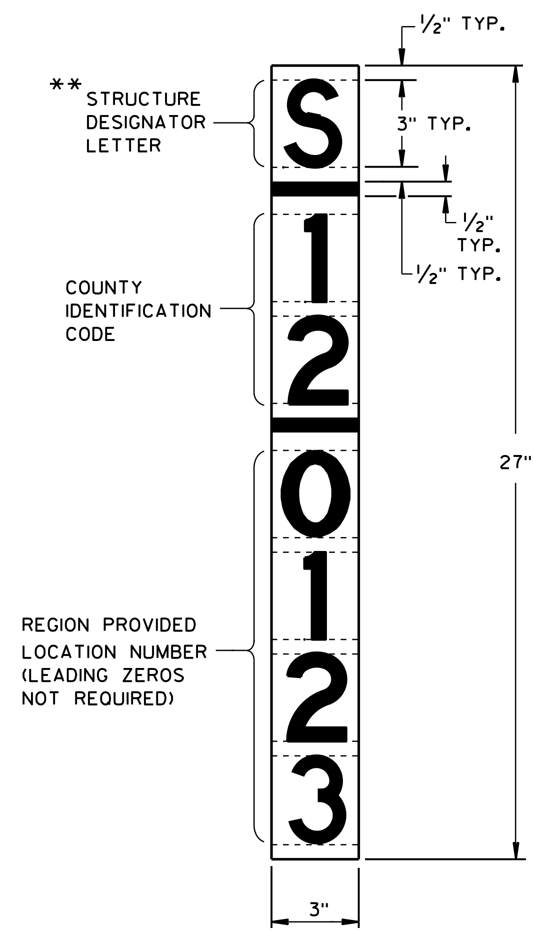
FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETROREFLECTIVE

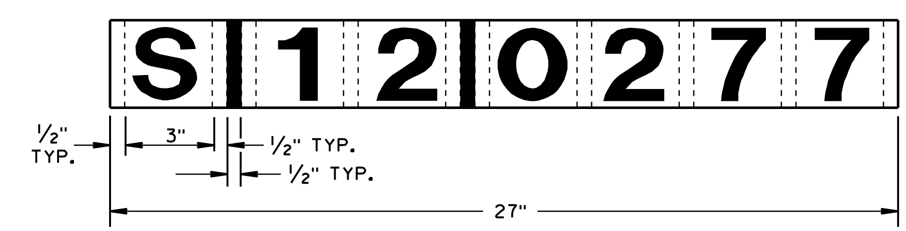
LINES - BLACK, 1/2" WIDE, SELF-ADHESIVE

CHARACTERS:- BLACK, SELF ADHESIVE, SERIES "D", SIZE AS SHOWN.

FOR SIGN BRIDGES, STRUCTURE MOUNTED, THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY AS SHOWN ON THE DRAWING. THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY TO THE BACK OF THE SIGN, BETWEEN THE ALUMINUM EXTRUSIONS, NEAR THE TOP LEFT HAND CORNER OF THE SIGN. THE BASE MATERIAL SHALL BE OMITTED AND THE FACE ADHERED DIRECTLY TO THE ALUMINUM SURFACE. PRIOR TO ADHERING THE MATERIAL, THE ALUMINUM SURFACE SHALL BE SMOOTH, CLEAN AND DRY.

WHERE SIGN BRIDGE ILLUMINATION IS PROVIDED, THE STRUCTURE MUST ALSO HAVE A SIGN BRIDGE CIRCUIT PLAQUE AS SHOWN IN THE ELECTRICAL DETAILS.





IDENTIFICATION PLAQUE FOR SIGN BRIDGE, STRUCTURE MOUNTED

** LETTER "G" UTILIZED FOR RAMP GATES. LETTER "S" UTILIZED FOR SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, AND TRAFFIC SIGNALS.

RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT AND TRAFFIC SIGNAL STRUCTURE PLAQUE FOR SIGN BRIDGES AND OVERHEAD SIGN SUPPORT WHICH ARE NOT STRUCTURE MOUNTED

STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, & TRAFFIC SIGNALS
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 12/4/2012 DATE — /S/ Travis Feltes STATE TRAFFIC ENGINEER — SIGN FHWA

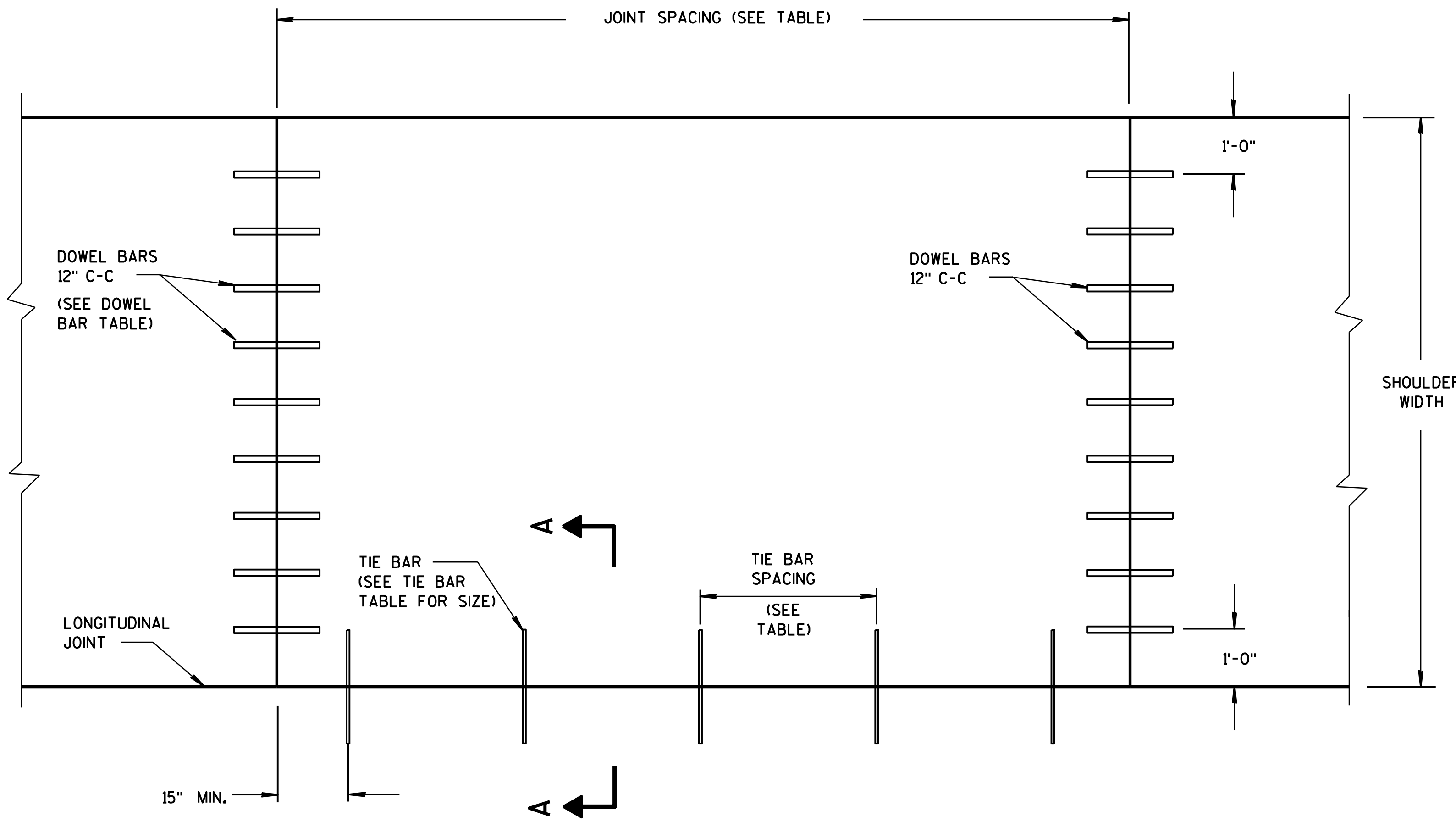
GENERAL NOTES

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

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

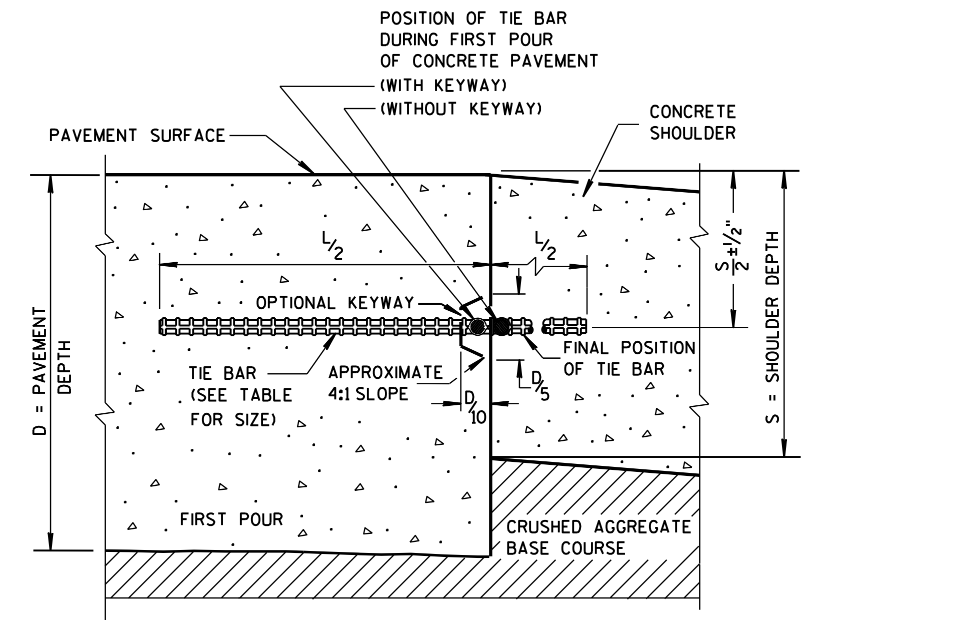
FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.



PLAN VIEW

CONCRETE PAVEMENT SHOULDER



SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT

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.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

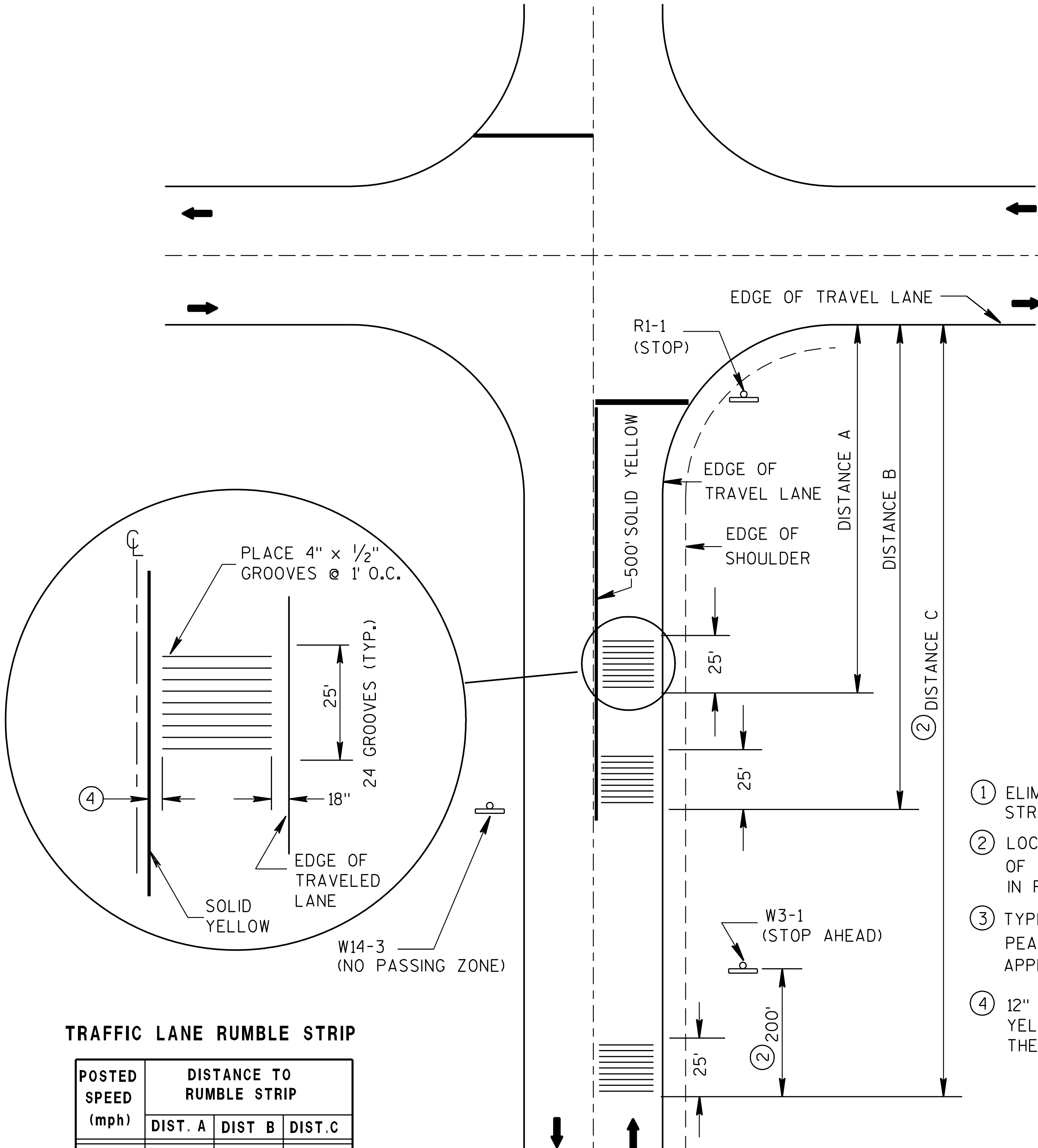
PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER***	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8", 8 1/2"	1 1/4"	15'
9", 9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'

*** FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FOR THE AVERAGE THICKNESS OF THE CROSS SECTION.

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — /S/ Peter Kemp, P.E.
DATE — PAVEMENT SUPERVISOR
FHWA



ARROW SYMBOL (➡) SHOWS DIRECTION OF TRAVEL

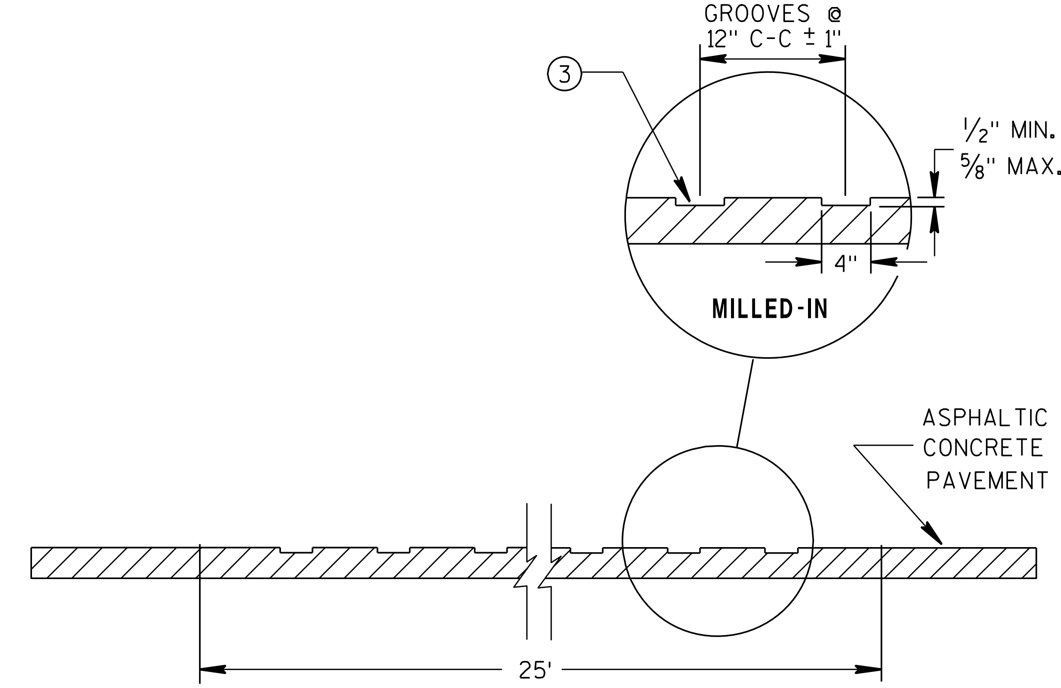
PLAN VIEW

RUMBLE STRIP LOCATION

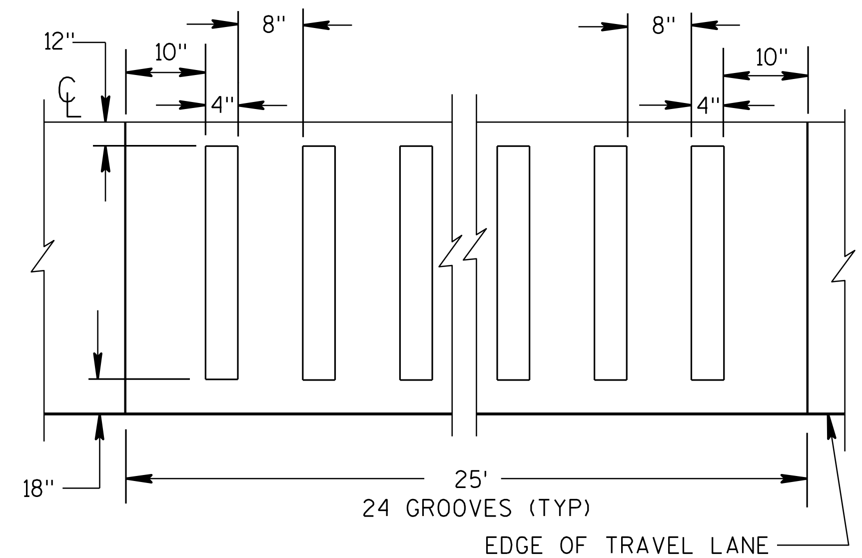
TRAFFIC LANE RUMBLE STRIP

POSTED SPEED (mph)	DISTANCE TO RUMBLE STRIP		
	DIST. A	DIST B	DIST.C
55	425'	650'	1000'
50	325'	450'	800'
45	275'	400'	650'
40	225'	1	550'
35	175'	1	475'
≤30	125'	1	425'

1. ELIMINATE THE MIDDLE SET OF RUMBLE STRIPS.
2. LOCATE RUMBLE STRIP 200' IN ADVANCE OF W3-1 SIGN AS SHOWN. IF W3-1 IS NOT IN PLACE, USE DISTANCE C.
3. TYPICAL VERTICAL VARIATION BETWEEN PEAKS AND VALLEYS WITHIN THE CUT APPROXIMATELY 1/16"
4. 12" CLEAR BETWEEN THE SOLID YELLOW LINE AND THE EDGE OF THE RUMBLE.



ELEVATION VIEW



PLAN VIEW

ASPHALTIC PAVEMENT MILLED-IN

GENERAL NOTES

CONTRACTOR SHALL CONFIRM RUMBLE STRIP LOCATION WITH THE ENGINEER PRIOR TO INSTALLATION. THE ENGINEER MAY MODIFY THE RUMBLE STRIP LOCATION AS FIELD CONDITIONS DICTATE.

WHEN ASPHALTIC PAVEMENT IS NEW IN THE RUMBLE AREA THE CONTRACTOR SHALL ALLOW THE PAVEMENT TO CURE A MINIMUM OF 7 DAYS PRIOR TO RUMBLE INSTALLATION.

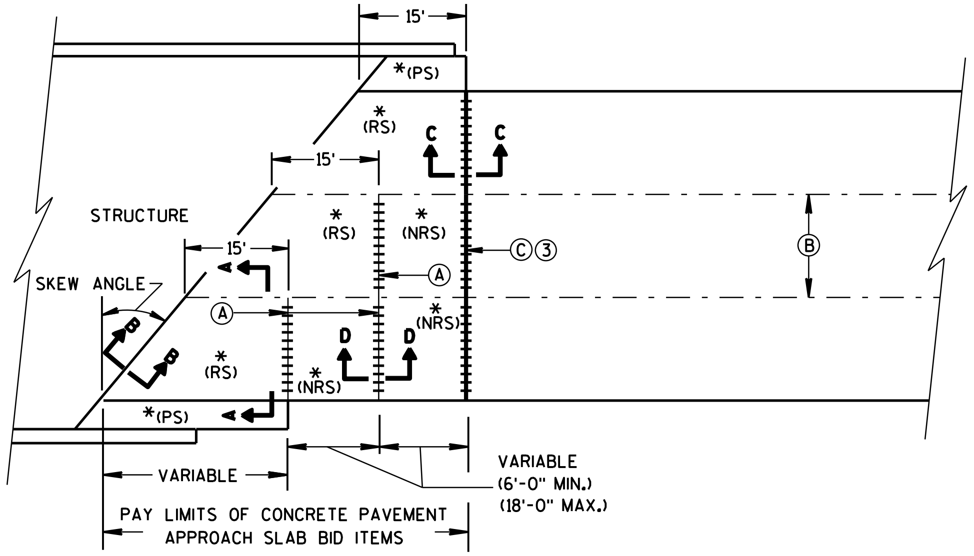
PAVEMENT MARKING AND SIGNING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

ASPHALTIC RUMBLE STRIPS AT INTERSECTION

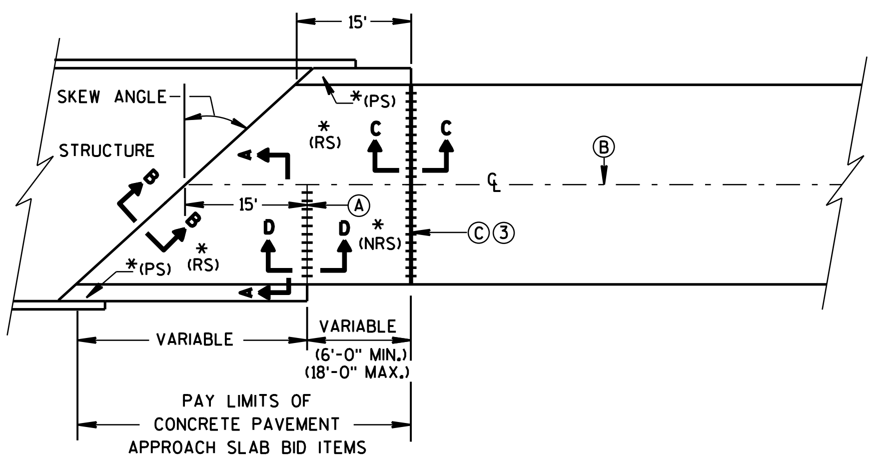
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/17/2011 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

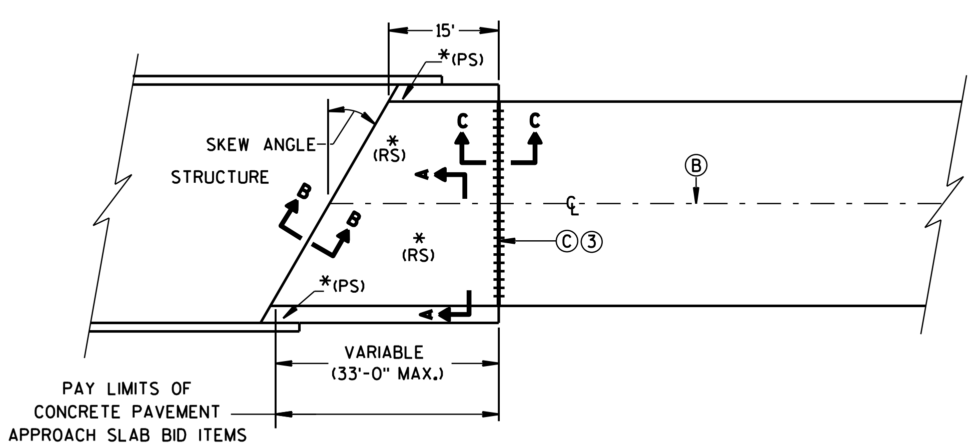
S.D.D. 13 A 8-1



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

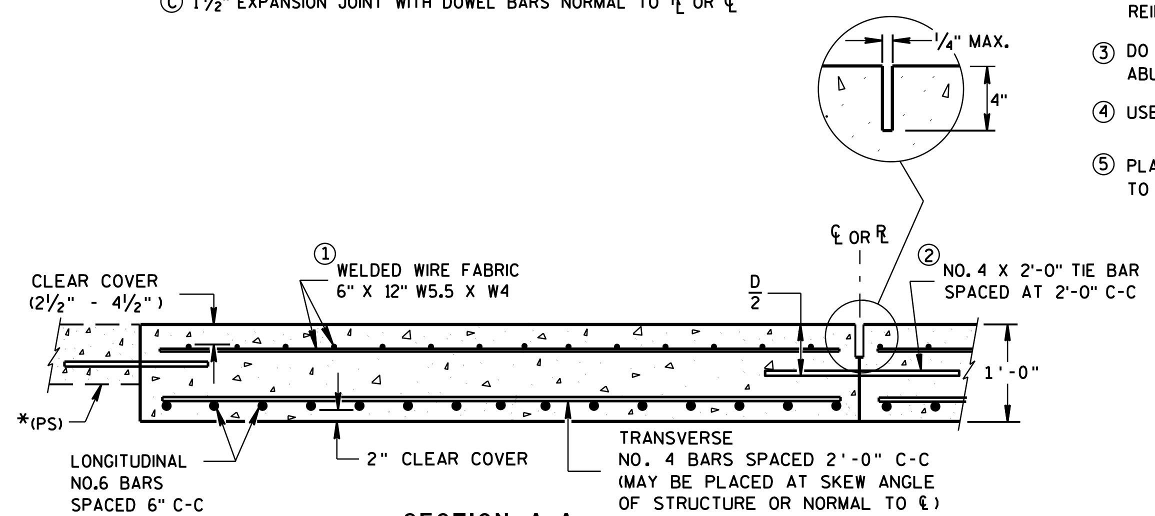
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB (SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

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

Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℞ OR ℄

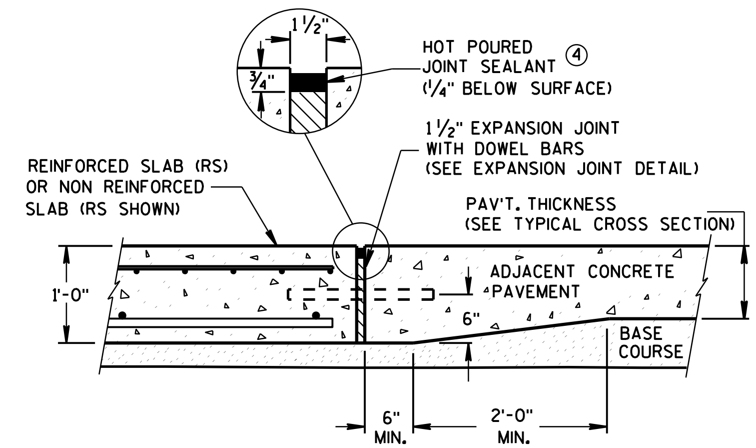
Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.

Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℞ OR ℄



SECTION A-A

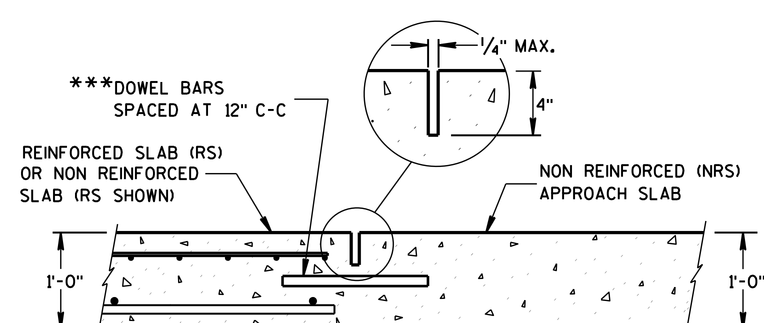
REINFORCEMENT POSITIONING DETAIL



SECTION C-C

TRANSITION DETAIL

APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D

CONTRACTION JOINT

GENERAL NOTES

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

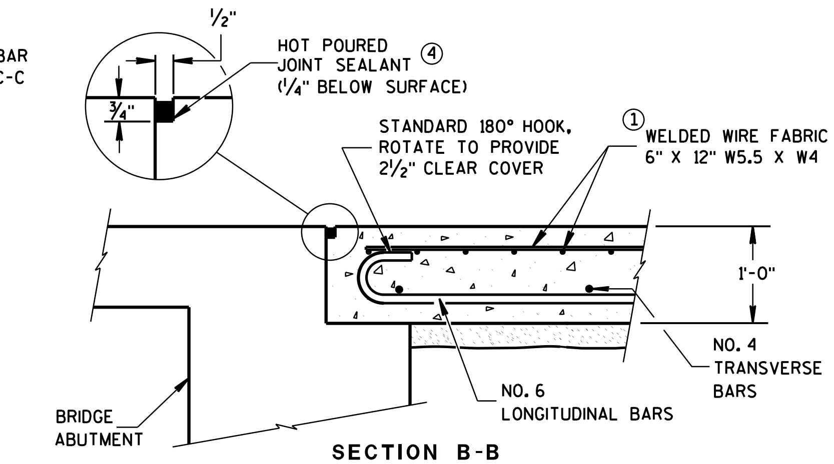
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

② THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

④ USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.

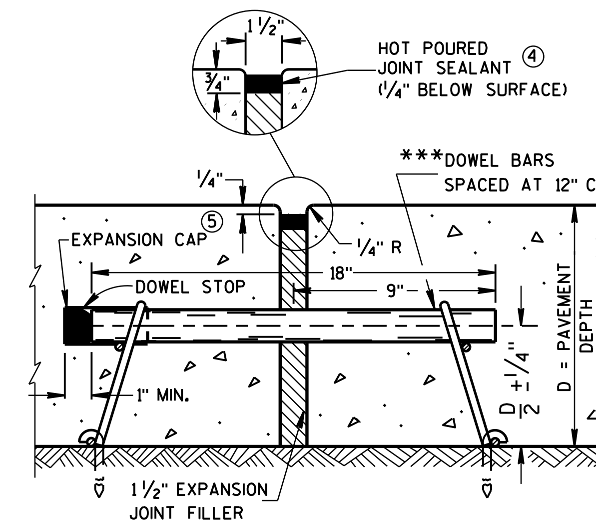
⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.



SECTION B-B

BEND DETAIL

BOTTOM REINFORCEMENT



EXPANSION JOINT DETAIL

6

6

CONCRETE PAVEMENT APPROACH SLAB
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED June, 2015 DATE /S/ Peter Kemp, P.E. PAVEMENT SUPEF FHWA

S.D.D. 13 B 2-8a

S.D.D. 13 B 2-8a

GENERAL NOTES

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE PAVEMENT APPROACH SLAB.

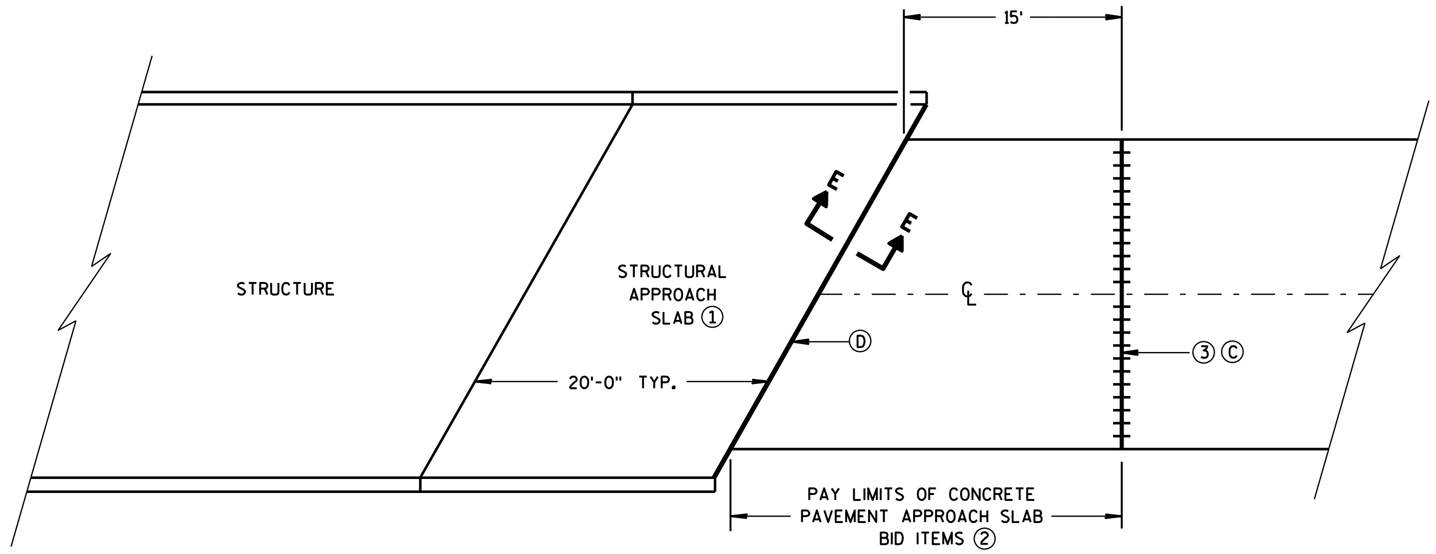
① SEE BRIDGE PLAN.

② CONFORM TO SHEET 13 B 2(A) FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS.

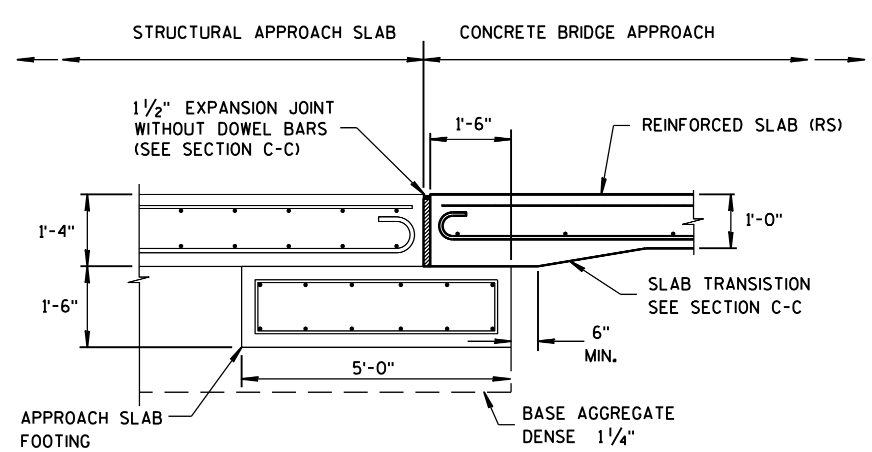
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℞ OR ℄

Ⓓ 1½" EXPANSION JOINT (NO DOWELS)



BRIDGE APPROACHES



SECTION E-E

FOOTING DETAIL

STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

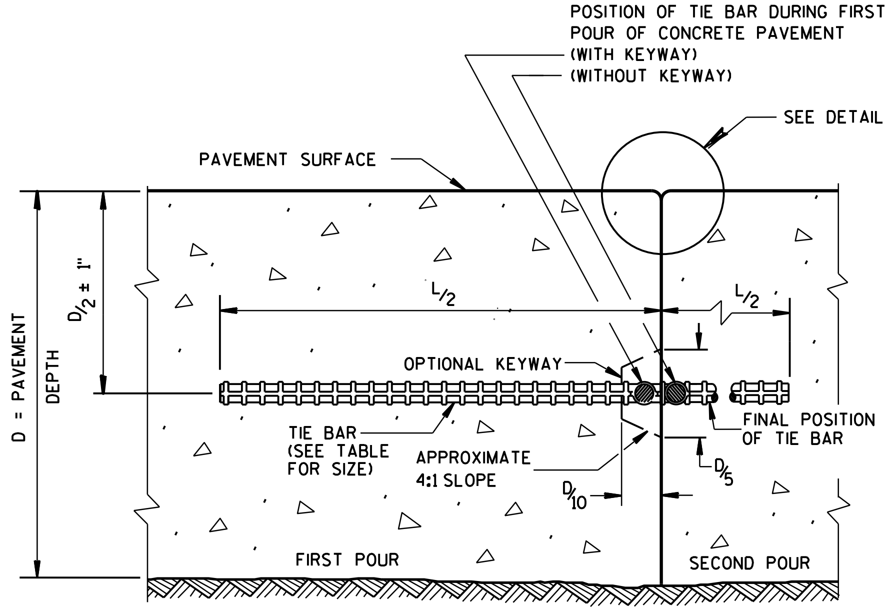
6

6

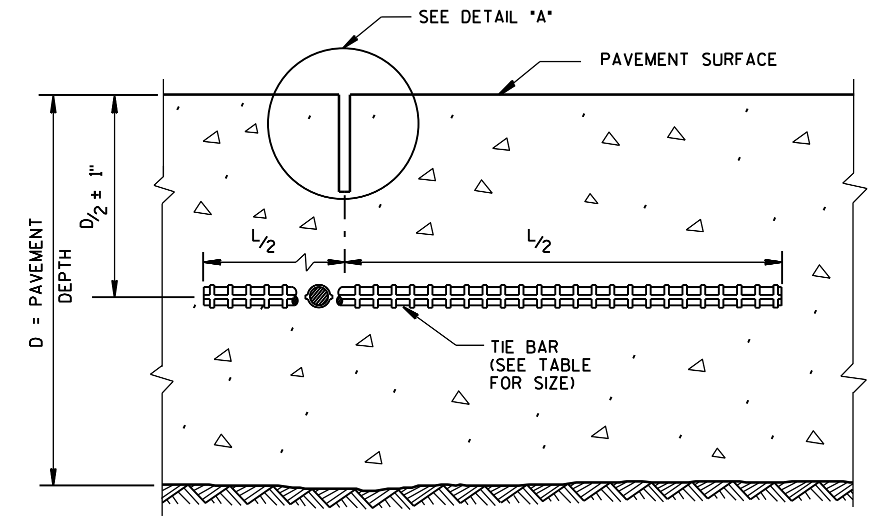
STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED June, 2015 DATE /S/ Peter Kemp, P.E. PAVEMENT SUPER FHWA

S.D.D. 13 B 2-8b

S.D.D. 13 B 2-8b



CONSTRUCTION JOINT



SAWED JOINT

GENERAL NOTES

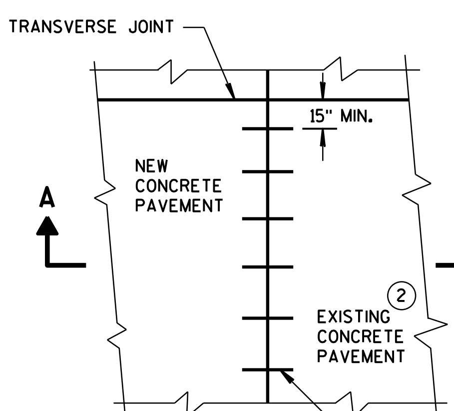
DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

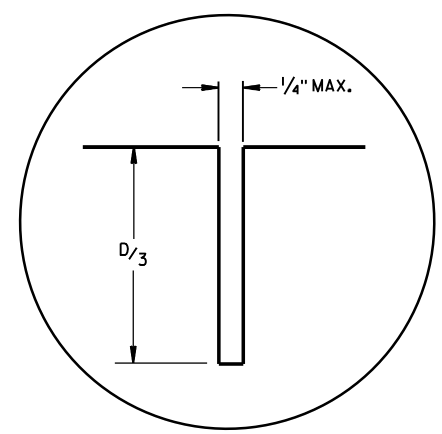
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

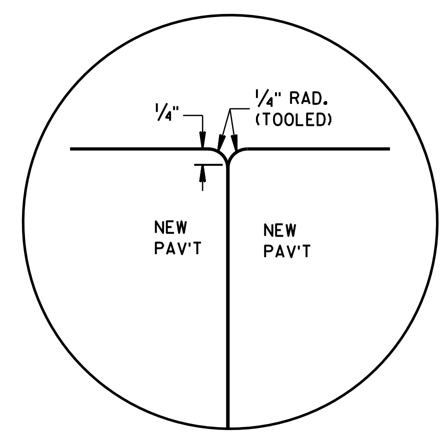
(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.



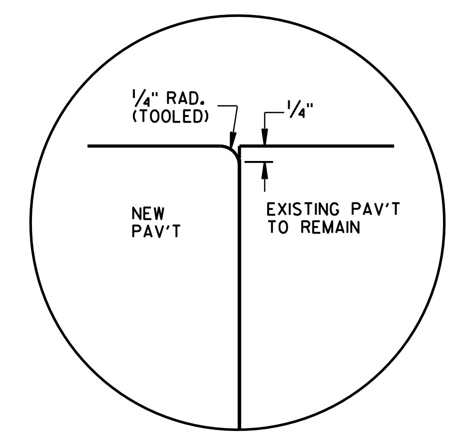
PLAN VIEW



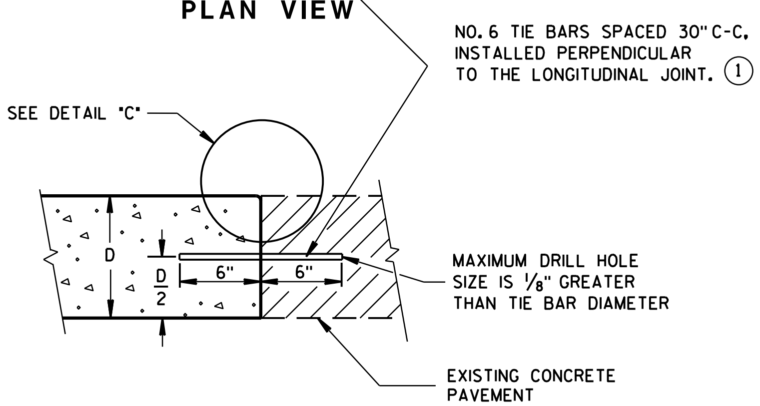
DETAIL "A"



DETAIL "B"



DETAIL "C"



SECTION A-A

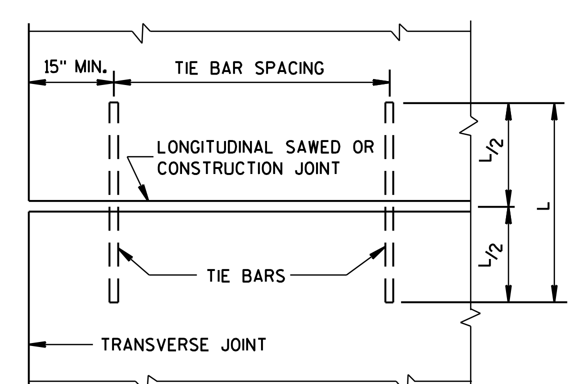
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

6

6

S.D.D. 13 C 1-18

S.D.D. 13 C 1-18

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

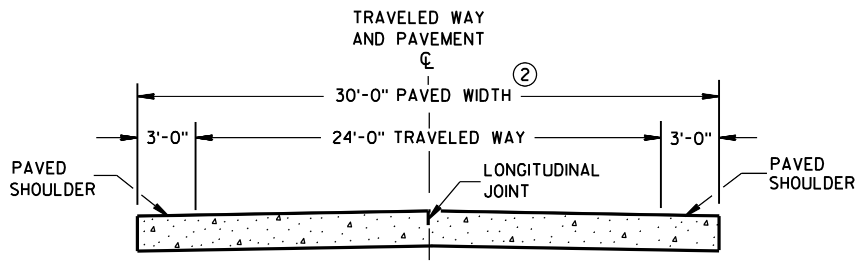
FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

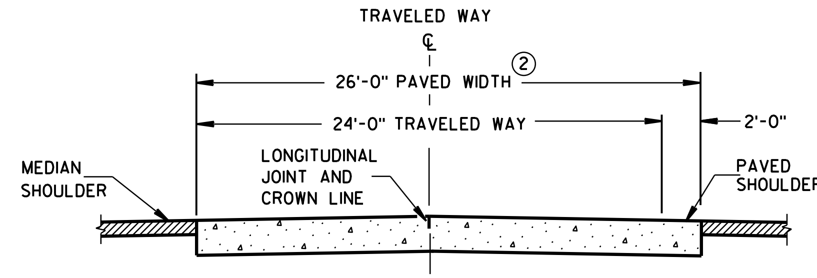
LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.

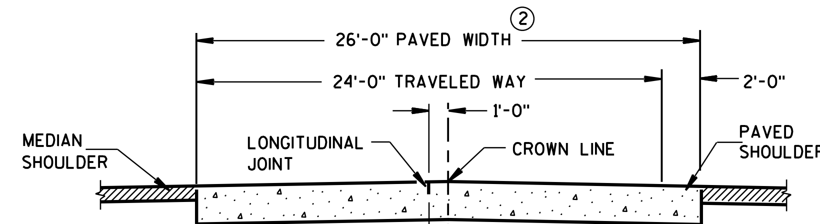
② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.



SECTION A-A ①
TWO-LANE TWO-WAY HIGHWAY



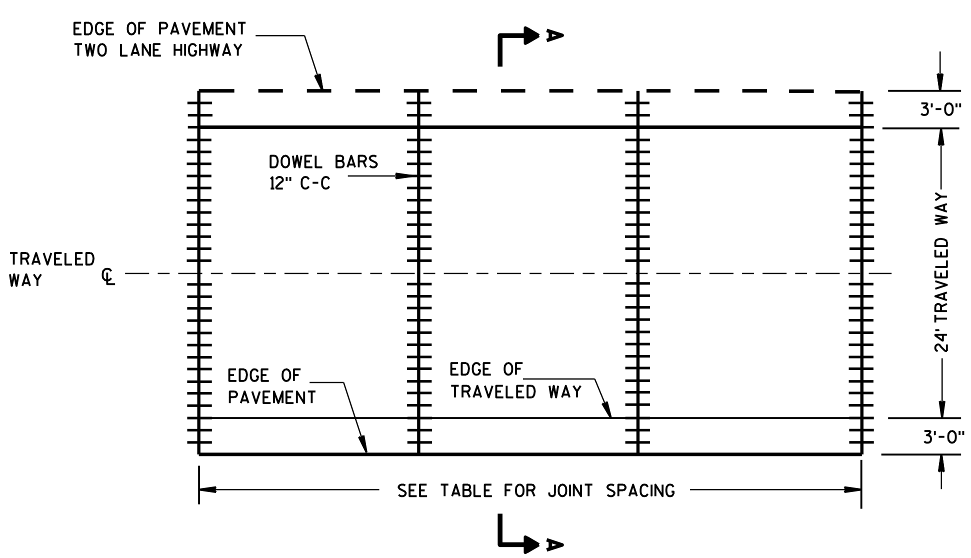
SECTION B-B



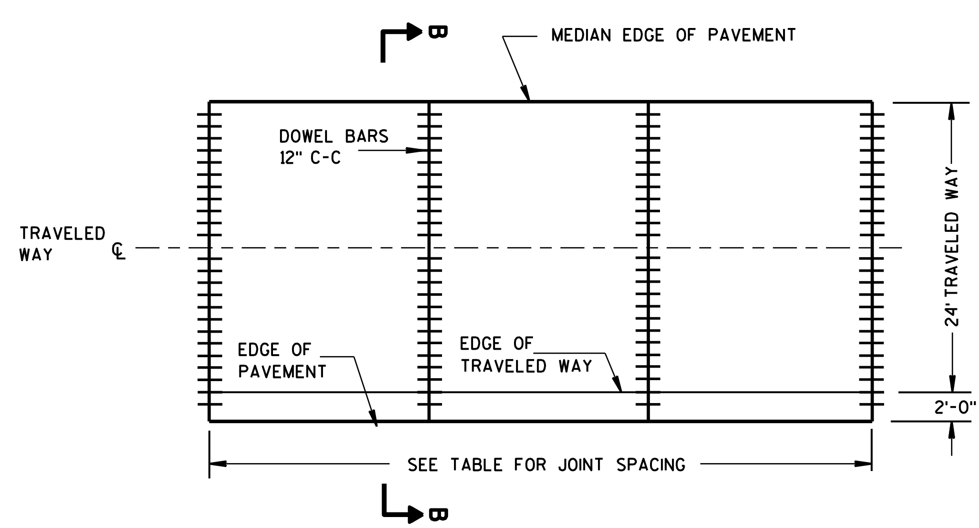
ALTERNATIVE SECTION B-B ①
DIVIDED HIGHWAY

PAVEMENT DEPTH, DOWEL BAR SIZE
AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8", 8 1/2"	1 1/4"	15'
9", 9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'



CONTRACTION JOINT LAYOUT
FOR TWO-LANE TWO-WAY HIGHWAY



CONTRACTION JOINT LAYOUT
FOR DIVIDED HIGHWAY

6

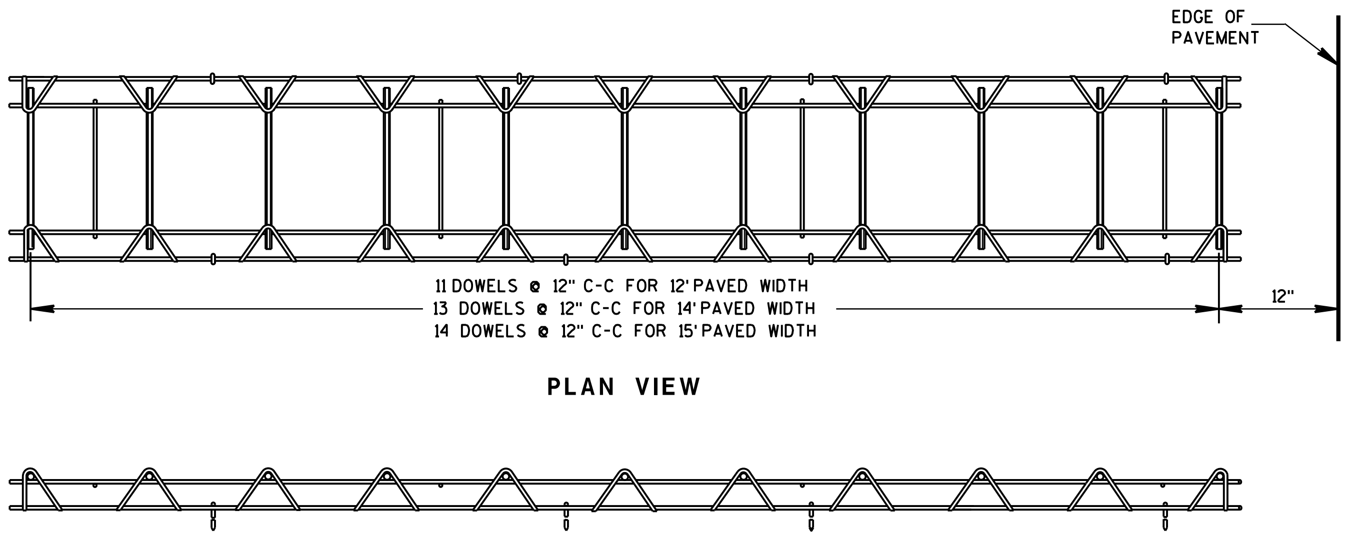
6

RURAL DOWELED
CONCRETE PAVEMENT

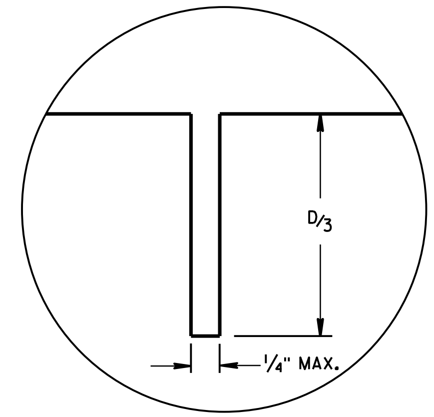
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

S.D.D. 13 C 11-11a

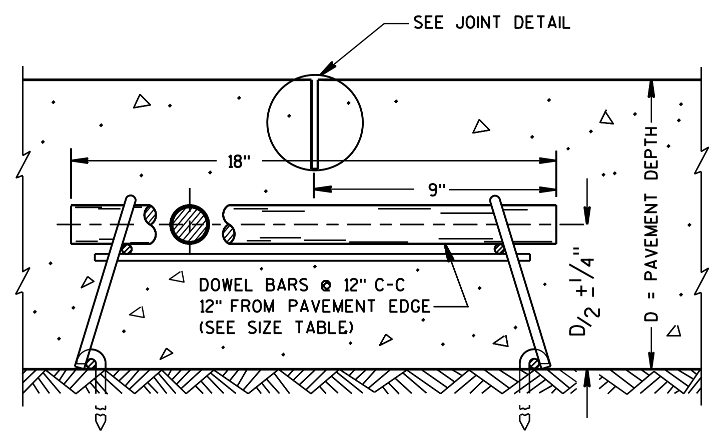
S.D.D. 13 C 11-11a



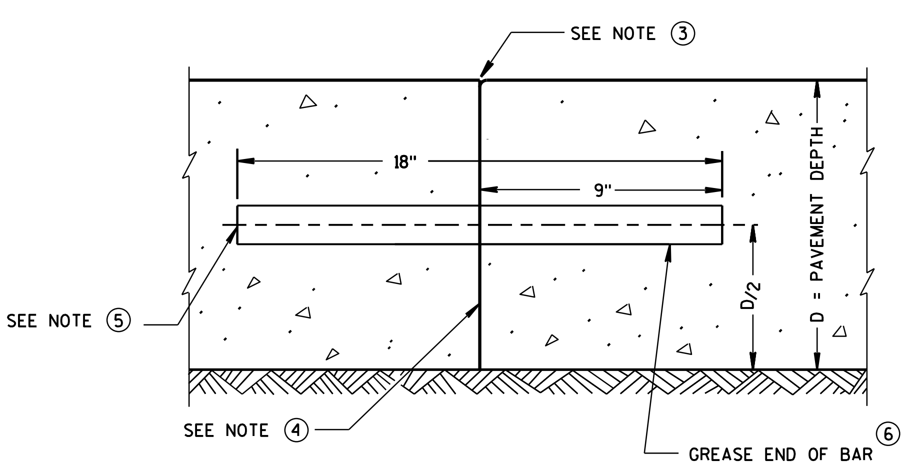
CONTRACTION JOINT DOWEL ASSEMBLY (1)



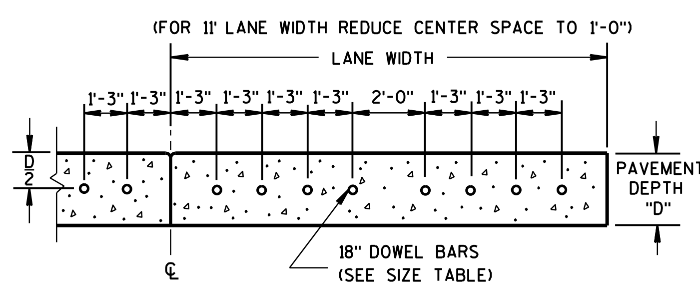
JOINT DETAIL



DOWELED CONTRACTION JOINT



TRANSVERSE CONSTRUCTION JOINT



DRILLED DOWEL BAR CONSTRUCTION JOINT (7)

GENERAL NOTES

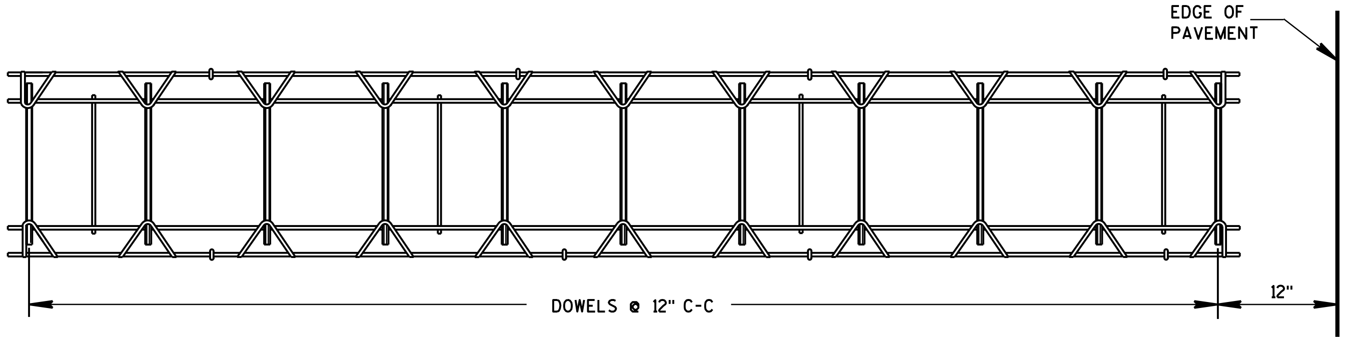
1. OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.
2. SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND 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.

RURAL DOWELED CONCRETE PAVEMENT

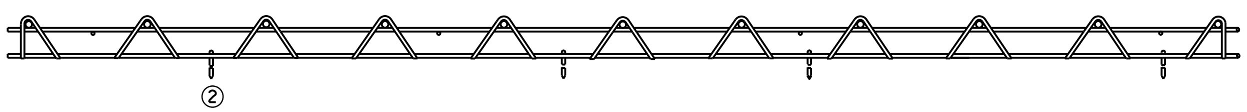
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/3/2013 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & DE[SIGN ENGI]NEER
FHWA

6
S.D.D. 13 C 11-11b



PLAN VIEW

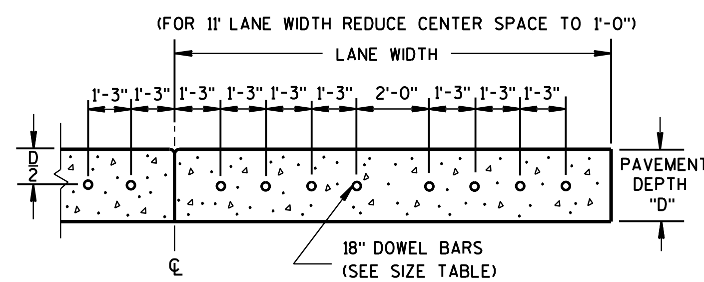


SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY ①

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6",6 1/2"	NONE	12'
7",7 1/2"	1"	14'
8",8 1/2"	1 1/4"	15'
9",9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE LONGITUDINAL JOINT AND 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 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.

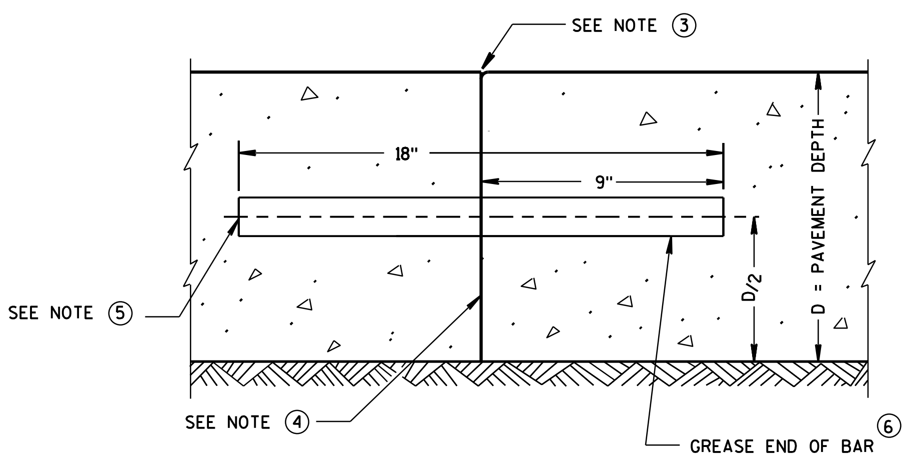
④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

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.

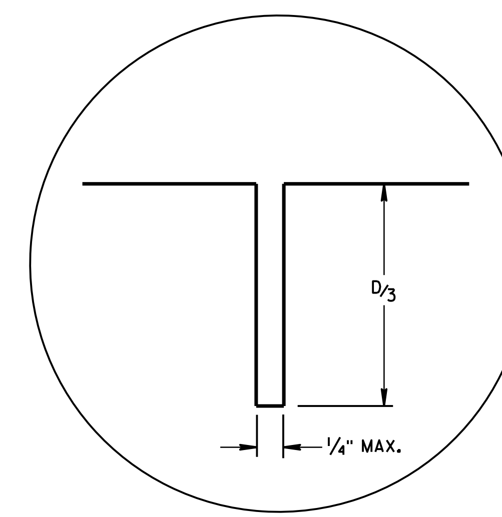
⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

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.

6

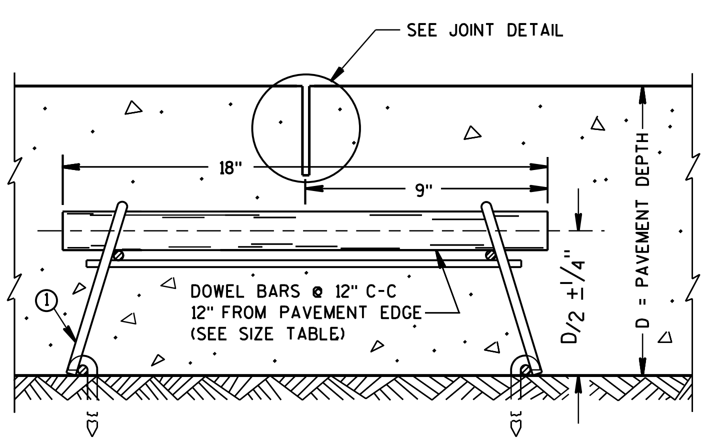


TRANSVERSE CONSTRUCTION JOINT

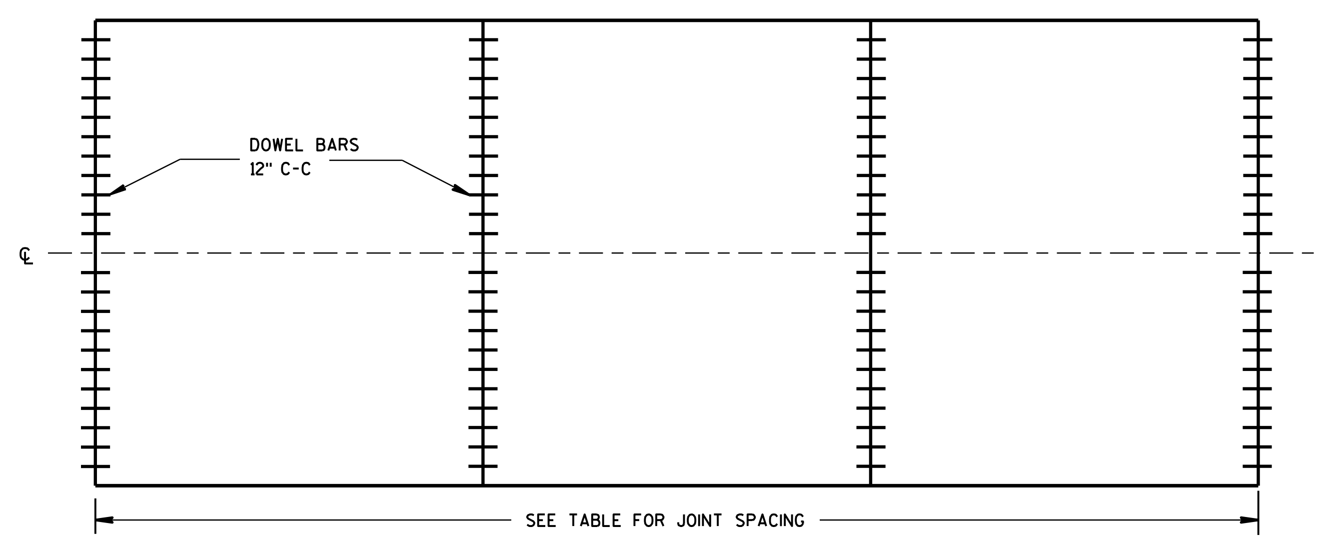


JOINT DETAIL

6



DOWELED CONTRACTION JOINT



CONTRACTION JOINT LOCATIONS

URBAN DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED

5/3/2013	/S/ Deb Bischoff
DATE	PAVEMENT POLICY & DE[illegible]IEER

FHWA

S.D.D. 13 C 13-8

S.D.D. 13 C 13-8

GENERAL NOTES

PCCP = PORTLAND CEMENT CONCRETE PAVEMENT.

SHLDR = SHOULDER.

CONTINUE SAW CUT CONTRACTION JOINT ACROSS TURN LANE, EXIT TAPER AND PASSING LANE.

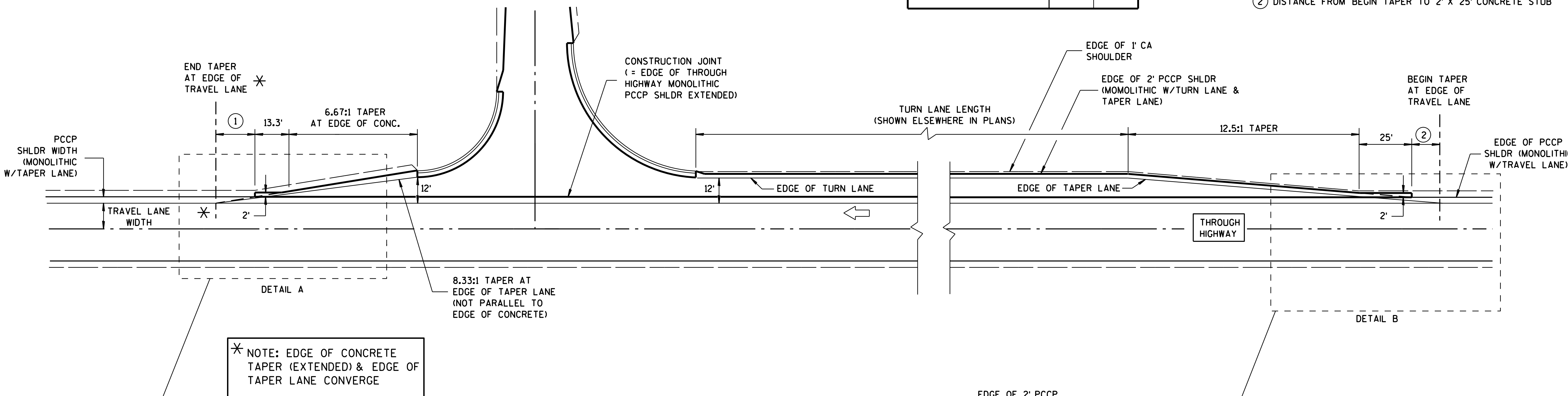
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

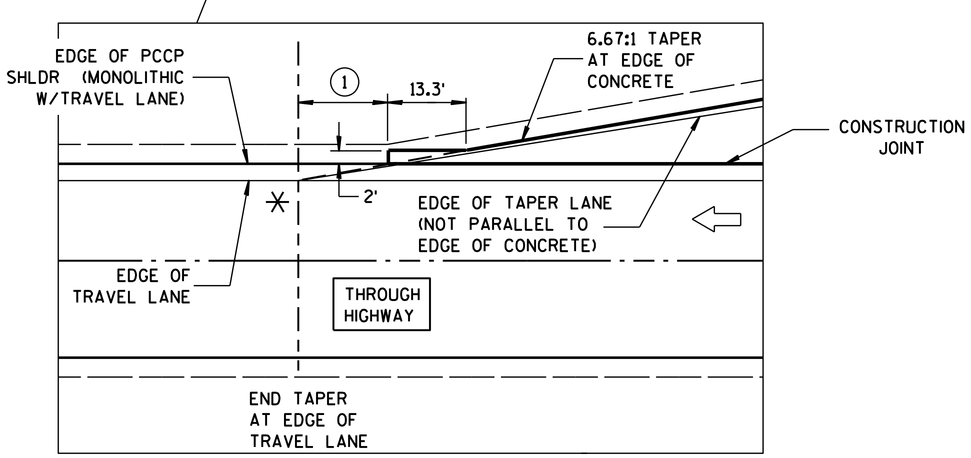
THROUGH HIGHWAY LANE WIDTH AND PCCP SHOULDER WIDTH ARE SHOWN ELSEWHERE IN PLANS

(1) DISTANCE FROM END TAPER TO 2' X 13.3' CONCRETE STUB

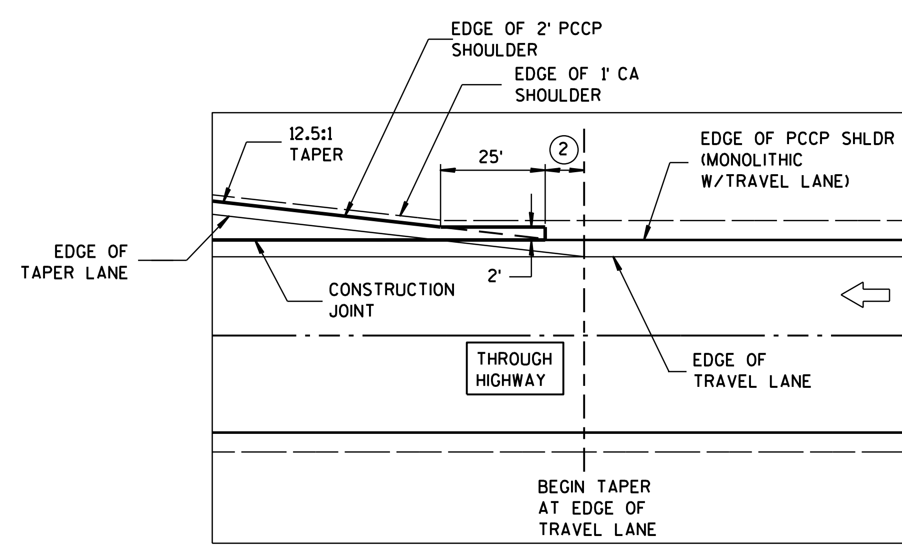
(2) DISTANCE FROM BEGIN TAPER TO 2' X 25' CONCRETE STUB

THROUGH HIGHWAY MONOLITHIC PCCP SHOULDER WIDTH (FEET)	DISTANCE (FEET)	
	(1)	(2)
2	13.3	0.0
3	20.0	12.5
TAPER RATE : 1	6.67	12.5





DETAIL A



DETAIL B

RIGHT TURN LANE AND EXIT TAPER

6

6

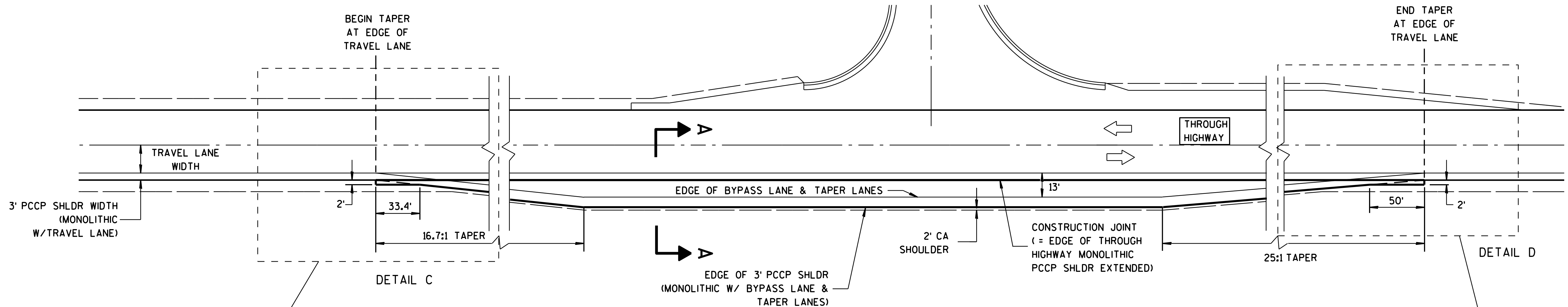
DETAIL FOR RIGHT TURN LANE/ TEE INTERSECTION BYPASS LANE ON A CONCRETE ROADWAY

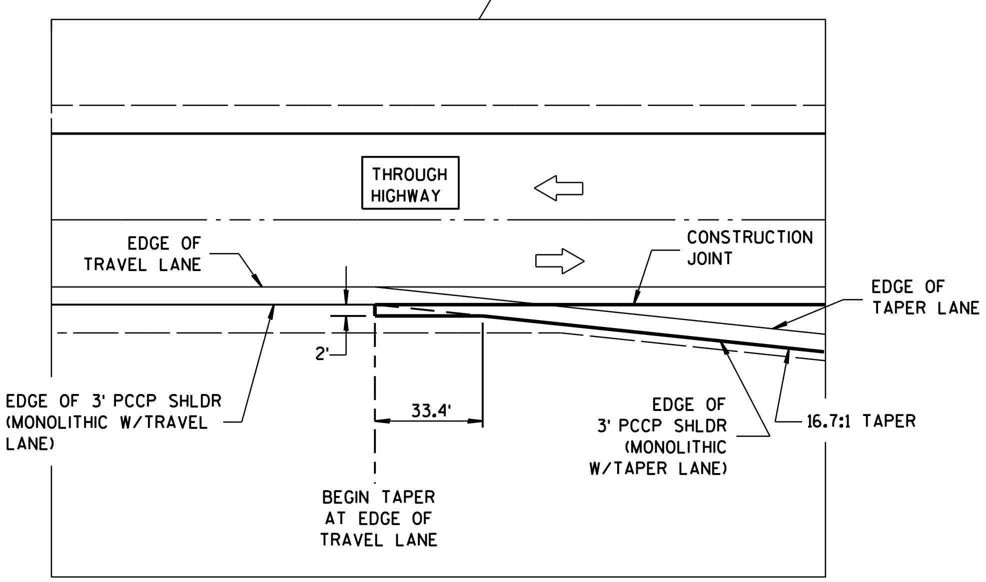
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

S.D.D. 13 C 16-2a

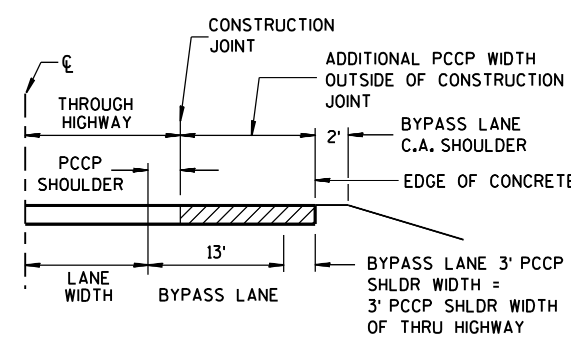
S.D.D. 13 C 16-2a

6



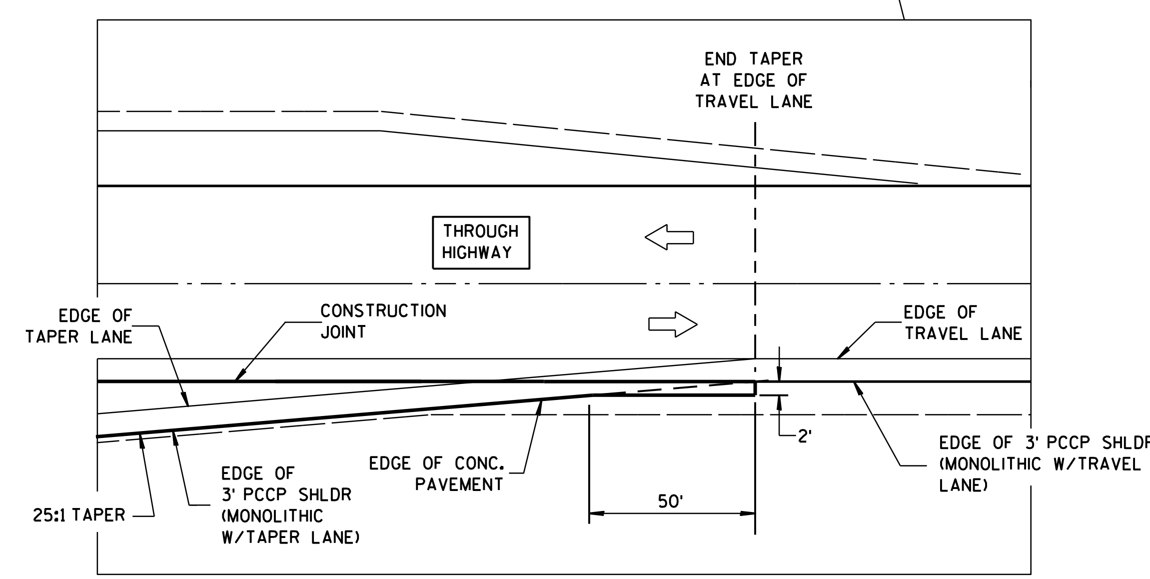


DETAIL C



SECTION A-A

(SHOWING BYPASS LANE AND SHOULDER)



DETAIL D

TWO LANE UNDIVIDED HIGHWAY TEE INTERSECTION BYPASS LANE

DETAIL FOR RIGHT TURN LANE/ TEE INTERSECTION BYPASS LANE ON A CONCRETE ROADWAY

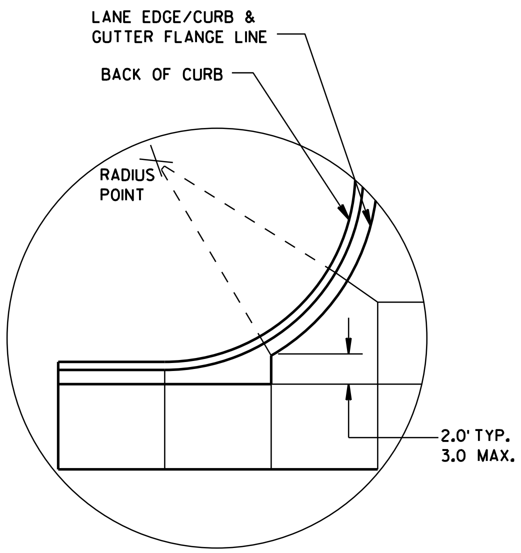
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/18/12 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

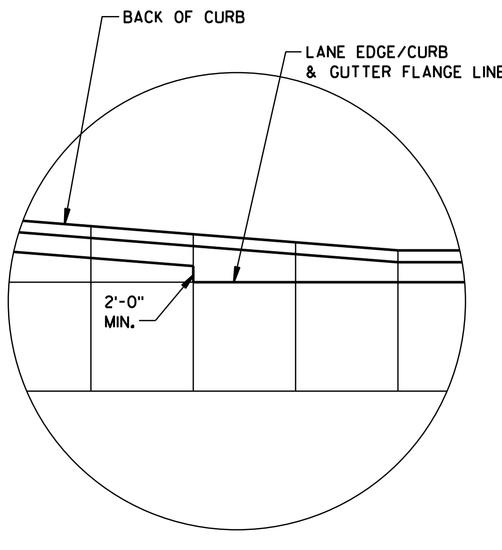
S.D.D. 13 C 16-2b

S.D.D. 13 C 16-2b

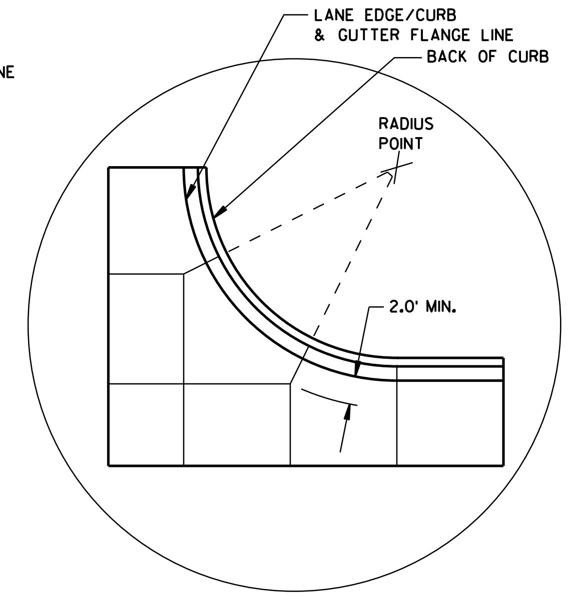
6



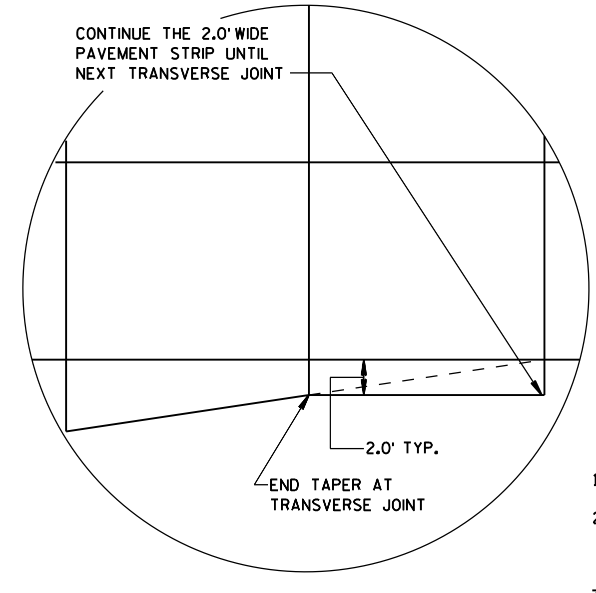
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

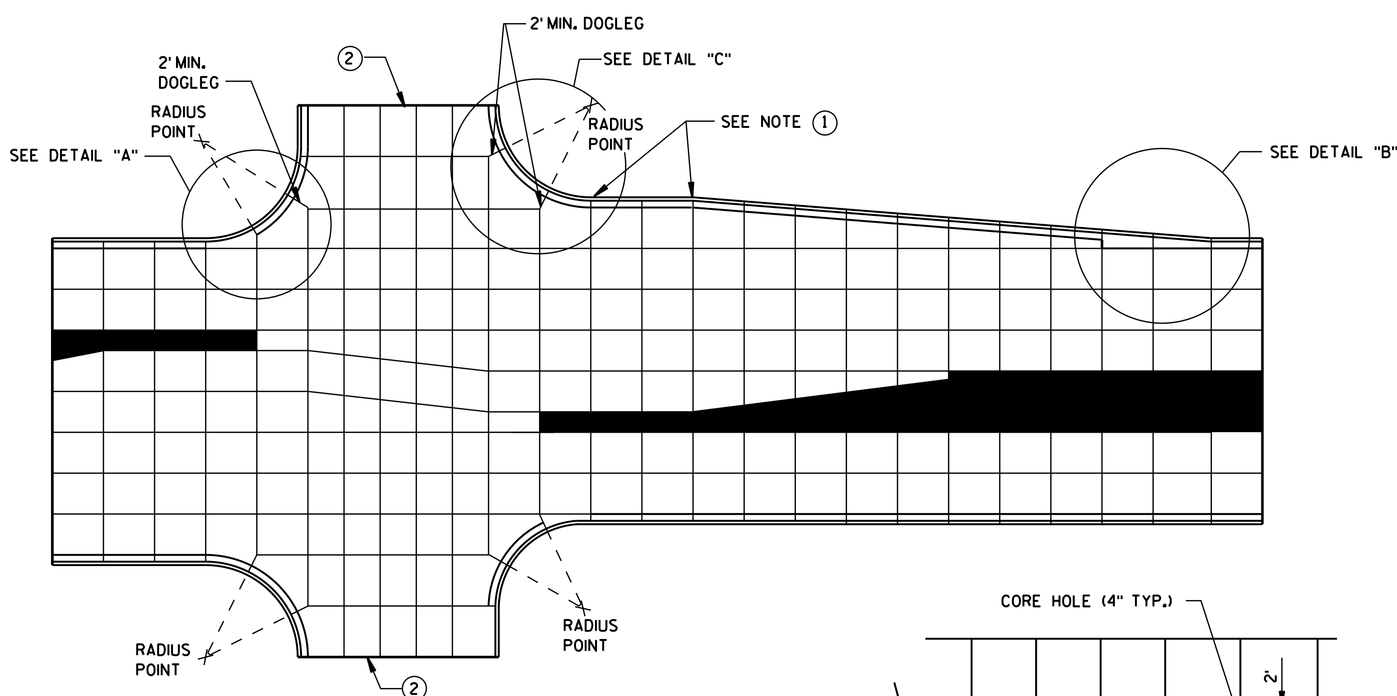
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

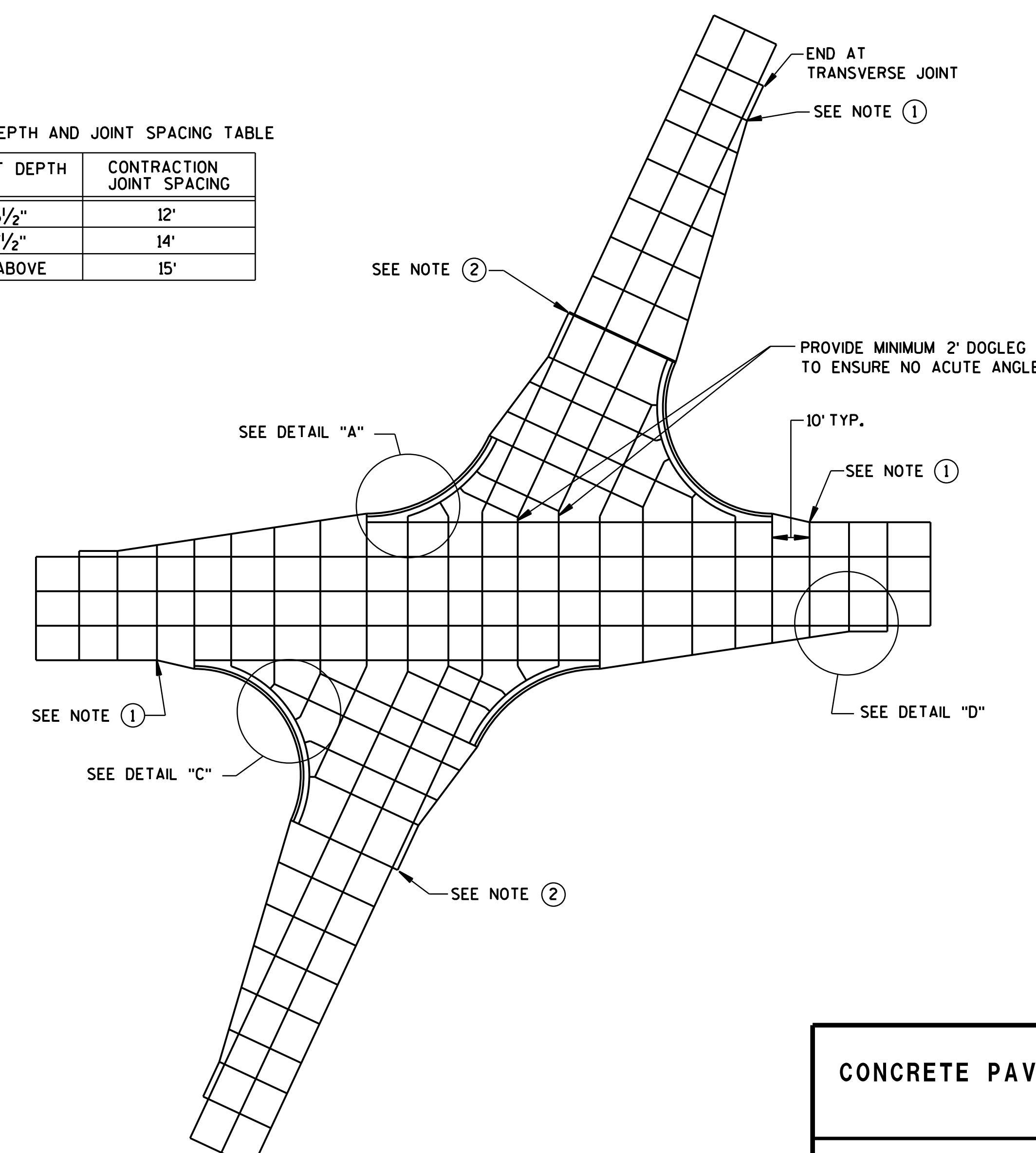
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



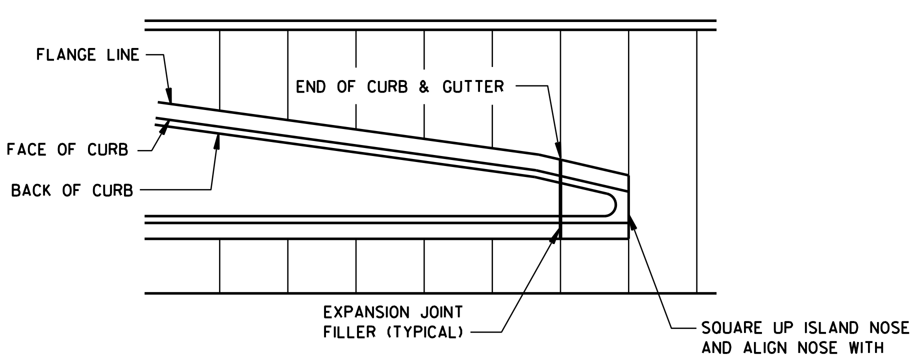
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

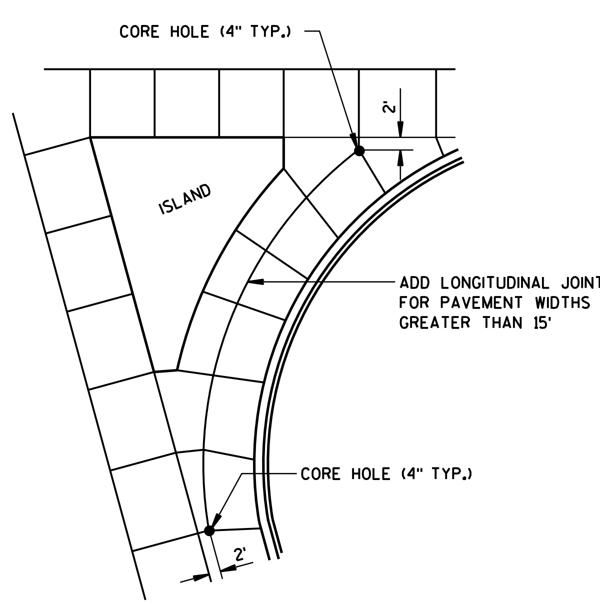
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

6

S.D.D. 13 C 18-3a

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

LEGEND

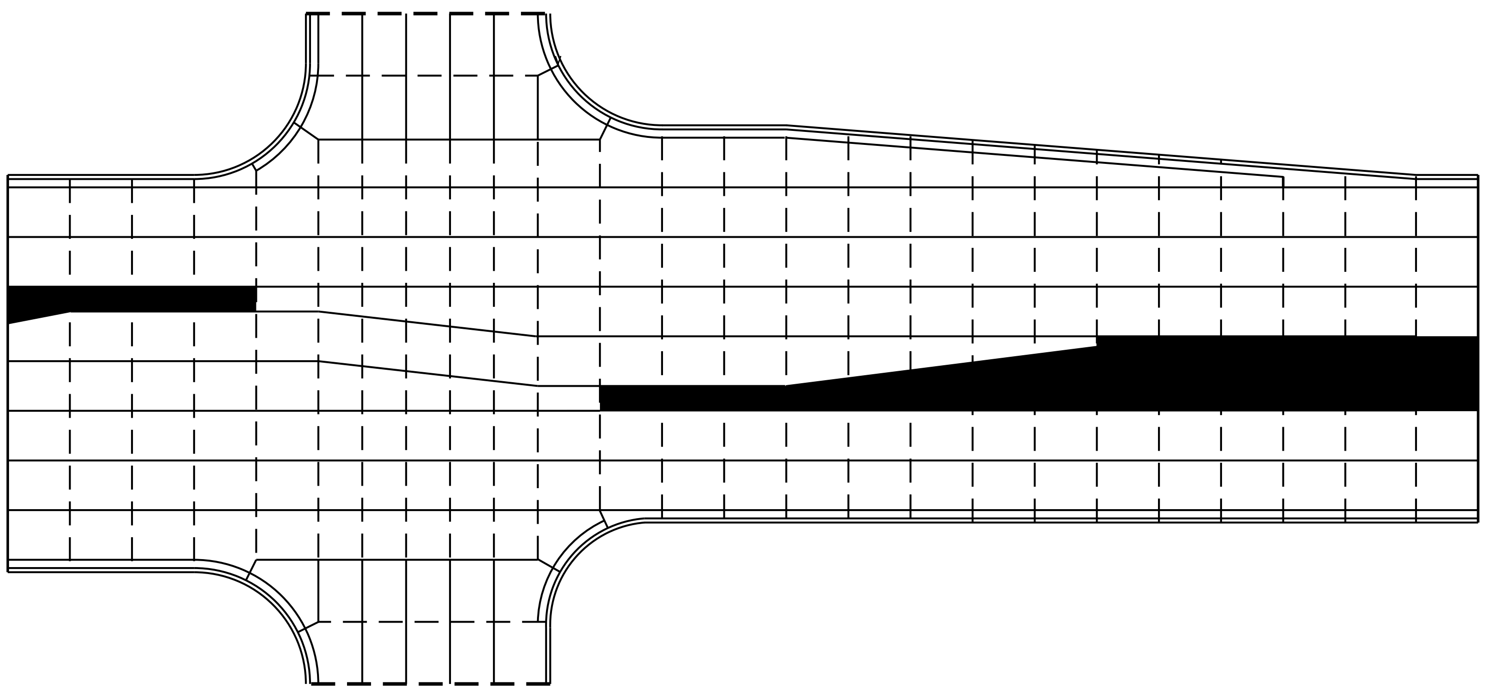
POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

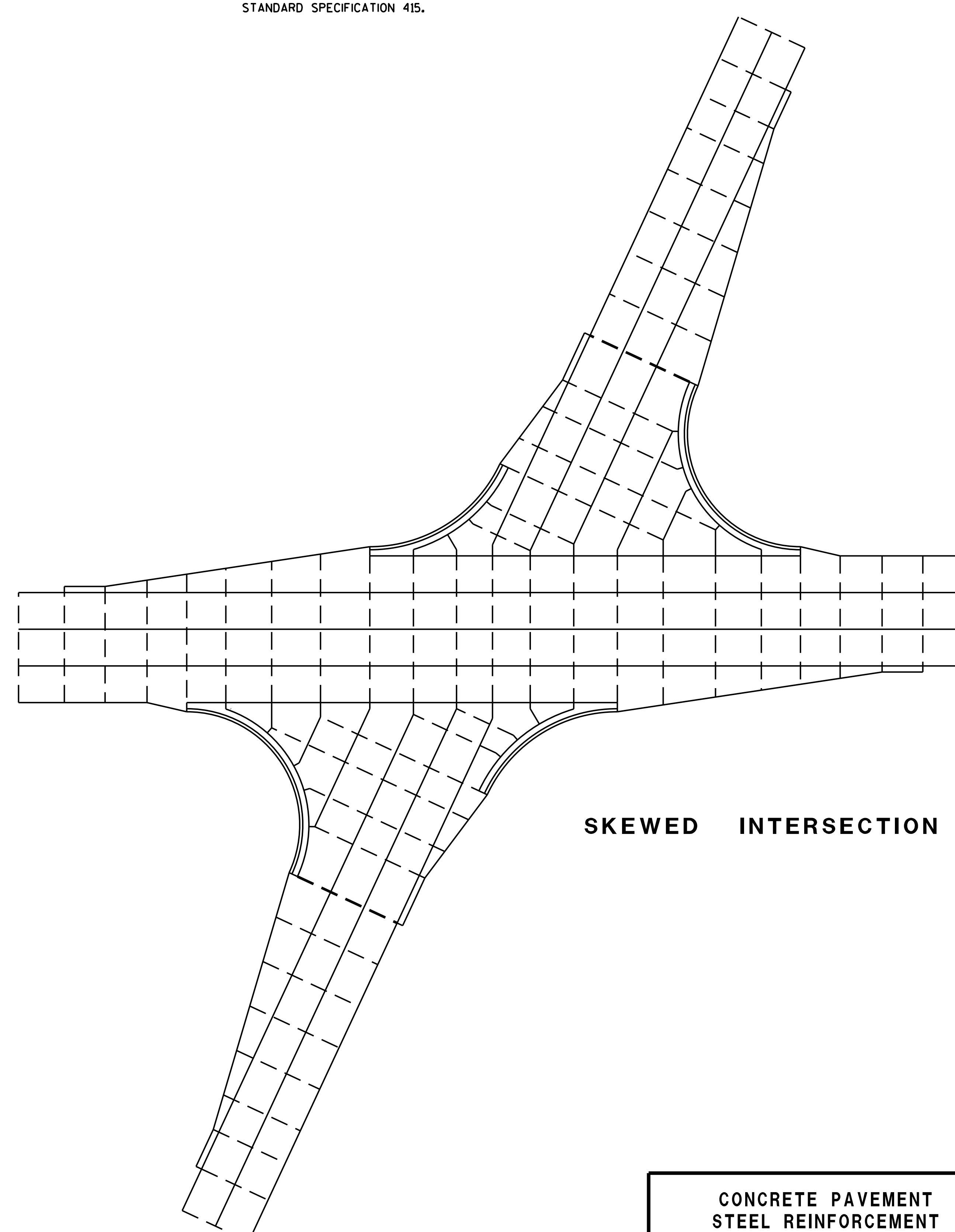
TIED JOINT

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



STANDARD INTERSECTION



SKEWED INTERSECTION

6

6

CONCRETE PAVEMENT STEEL REINFORCEMENT

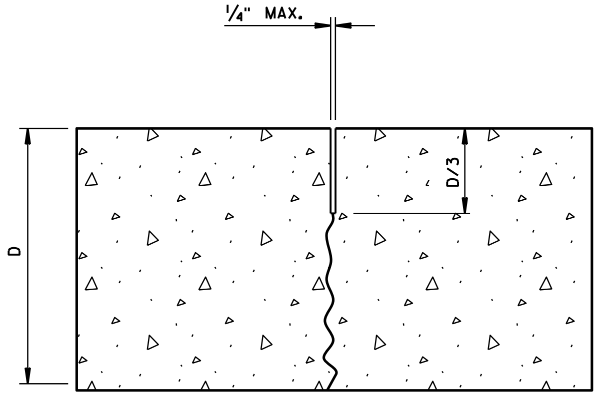
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

S.D.D. 13 C 18-3b

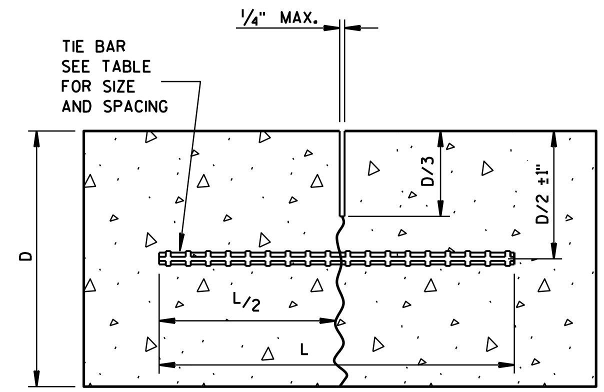
S.D.D. 13 C 18-3b

CONTRACTION JOINTS

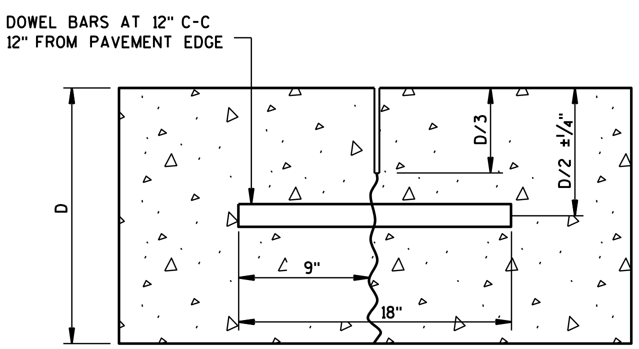
SEE NOTE ②



UNDOWELED-TRANSVERSE



TIED LONGITUDINAL



DOWELED-TRANSVERSE

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

GENERAL NOTES

① USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.

② SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.

③ LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

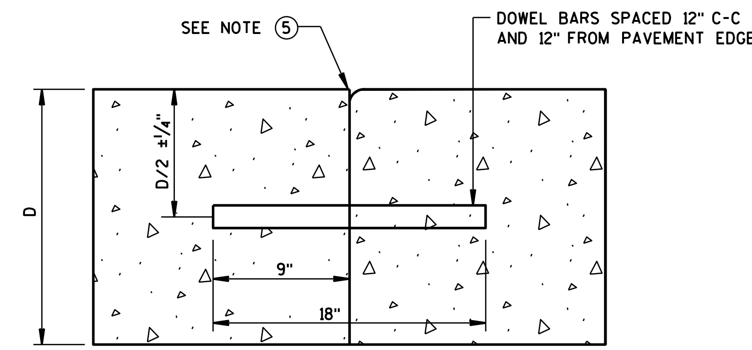
④ CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.

⑤ IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.

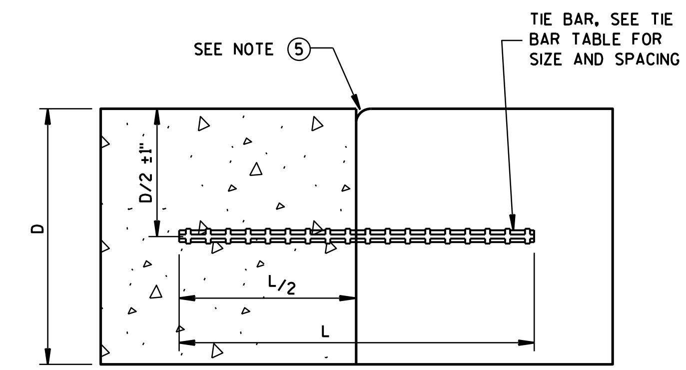
⑥ ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

CONSTRUCTION JOINTS

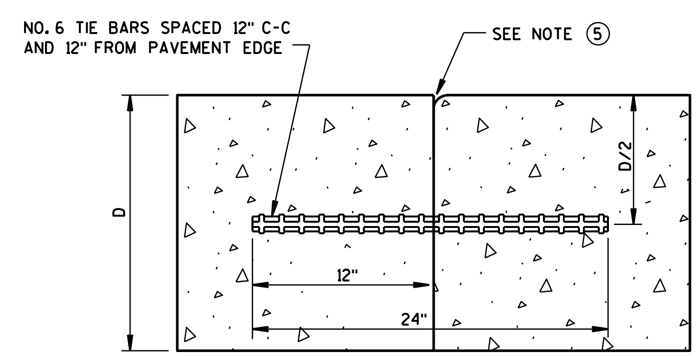
SEE NOTE ④



DOWELED TRANSVERSE ③

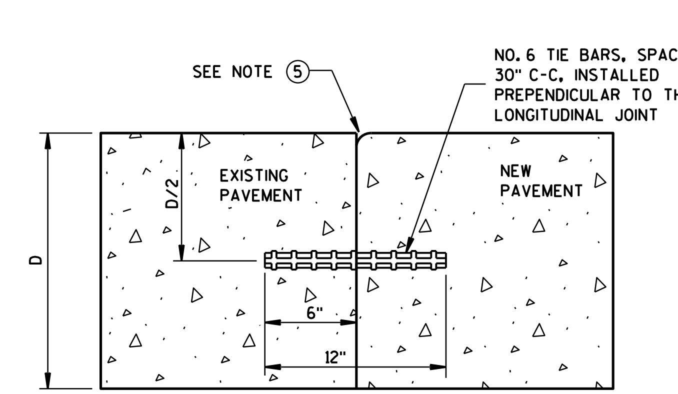


TIED LONGITUDINAL



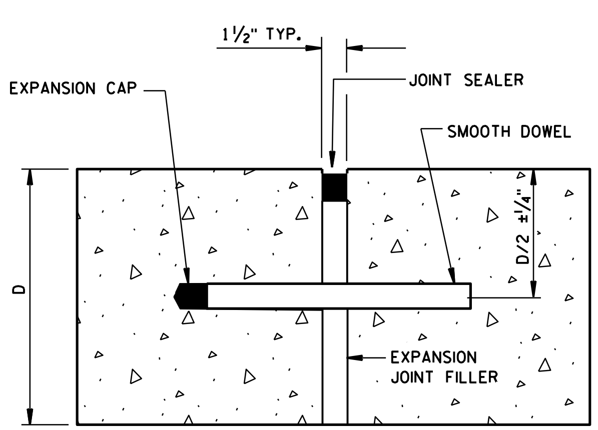
TIED TRANSVERSE ③

(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



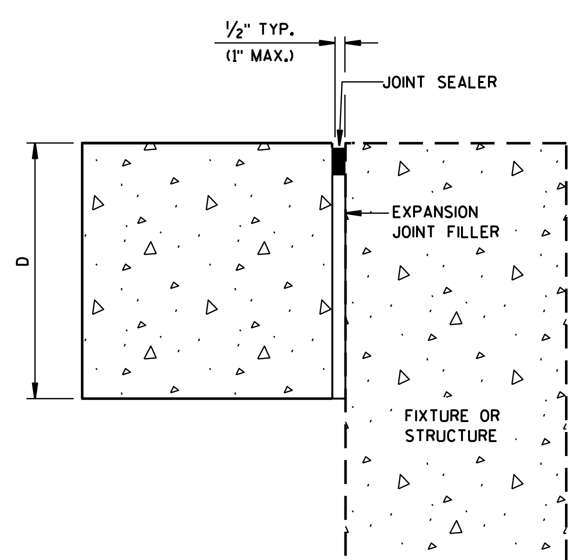
TIED LONGITUDINAL TO EXISTING

EXPANSION JOINTS



DOWELED-TRANSVERSE

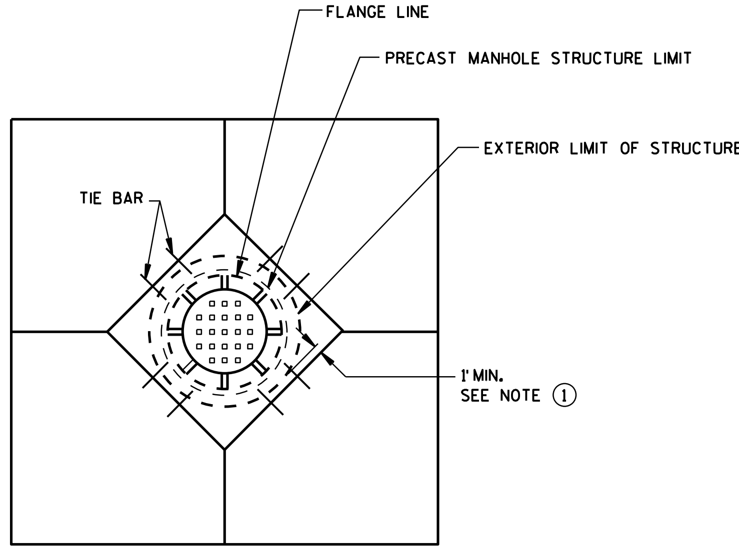
SEE NOTE ①



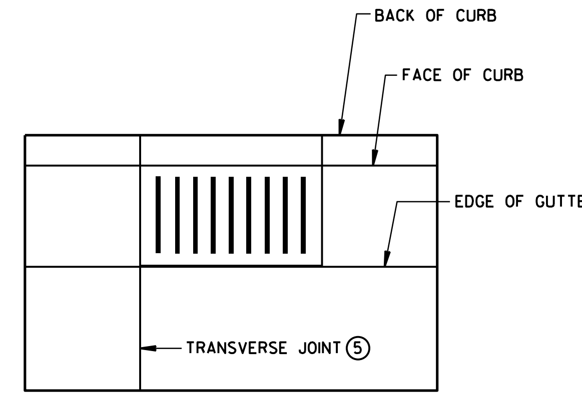
UNTIED-LONGITUDINAL

CONCRETE PAVEMENT JOINT TYPES

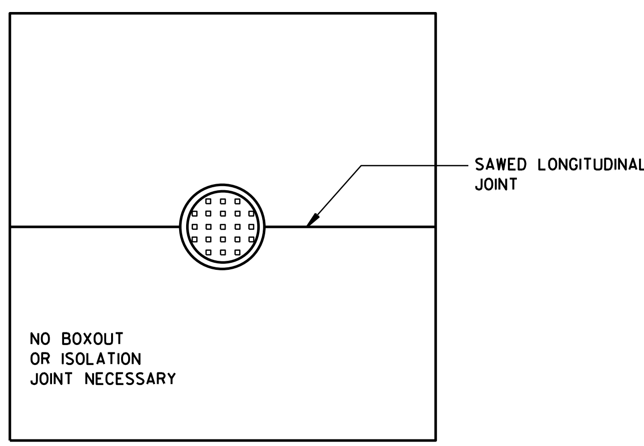
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR



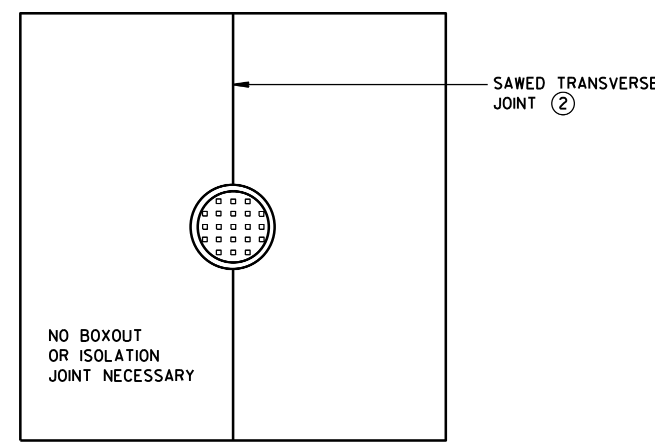
DIAGONAL MANHOLE BOXOUT
FOR CONSTRUCTION JOINTS



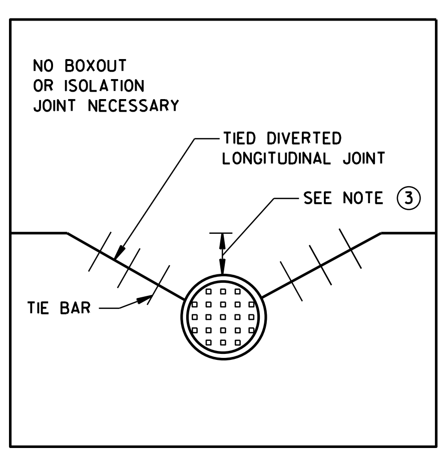
INLET WITH
TRANSVERSE JOINT



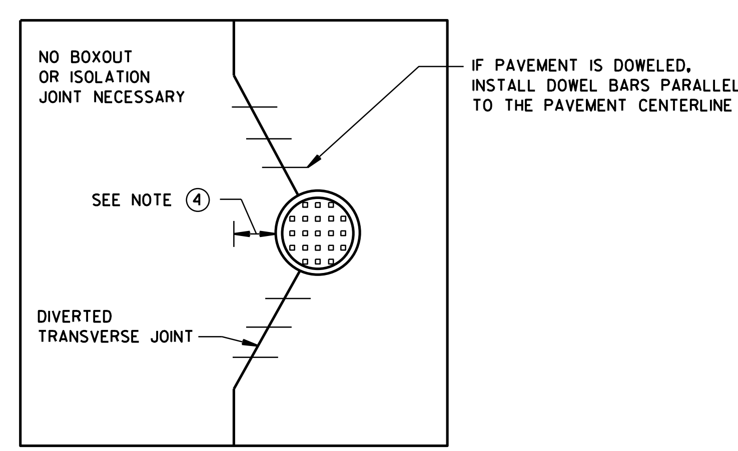
MANHOLE WITH
LONGITUDINAL JOINT



MANHOLE WITH
TRANSVERSE JOINT



MANHOLE WITH DIVERTED
LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED
TRANSVERSE CONTRACTION JOINT

GENERAL NOTES

1. USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1-FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.

2. ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.

3. IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDIAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

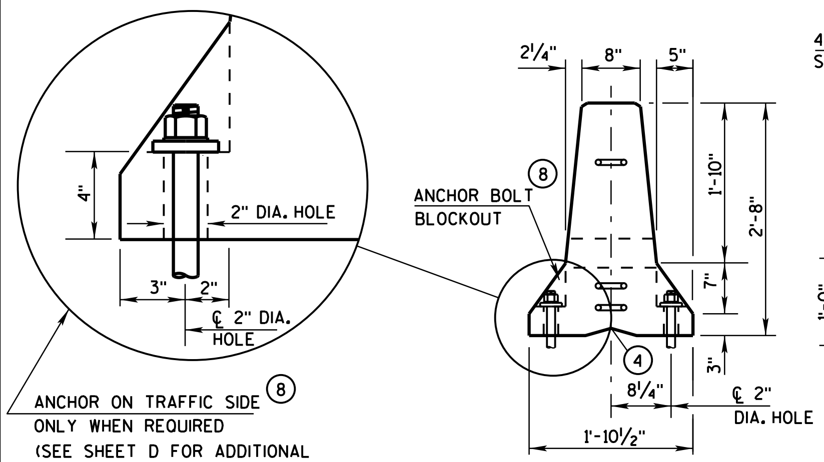
4. IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

5. ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

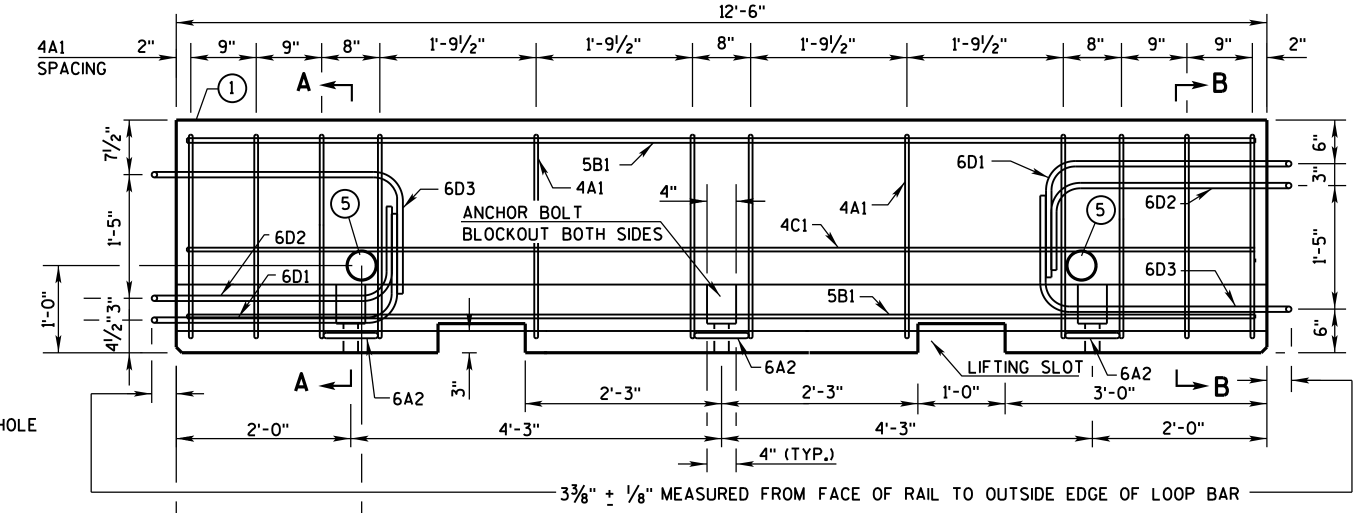
CONCRETE PAVEMENT
JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

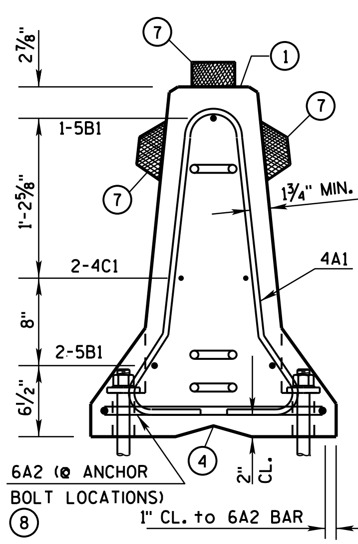
APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA



END VIEW

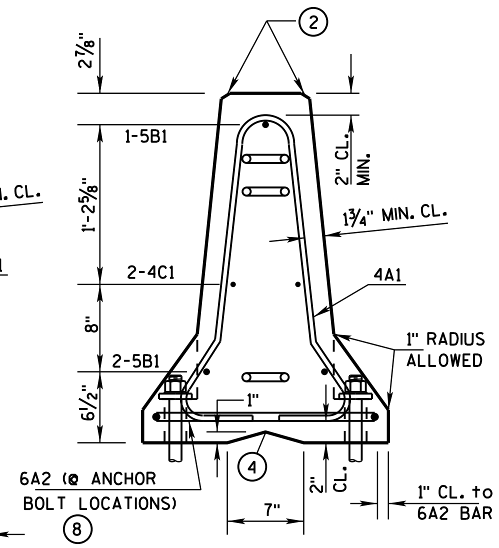


ELEVATION VIEW



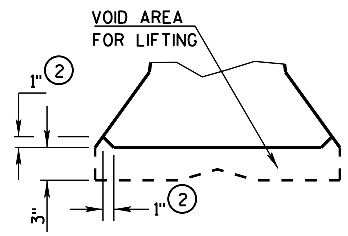
SECTION A-A

(STIRRUP PLACEMENT)

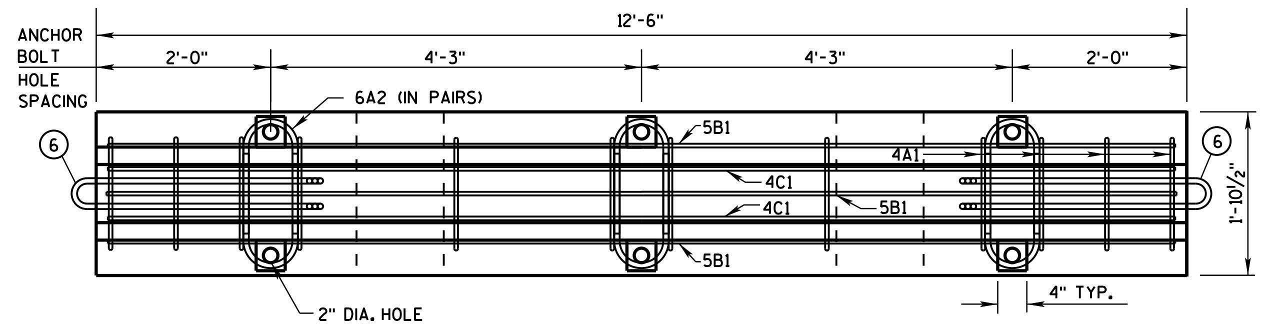


SECTION B-B

(STIRRUP PLACEMENT)

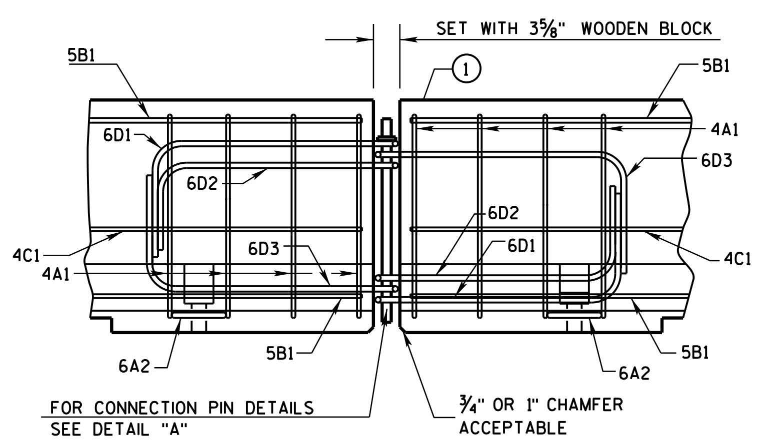


DETAIL "B"
LIFTING SLOT DETAIL

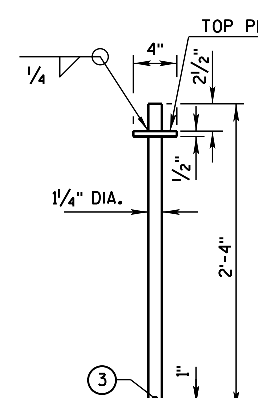


PLAN VIEW

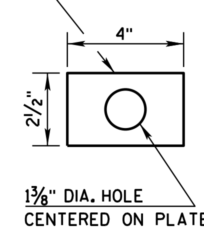
DETAILS OF BARRIER SECTION



DETAILS OF BARRIER CONNECTION



DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



1/2" TOP PLATE DETAIL

GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-14(a) THRU 14B7-14(h).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRCAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE ¾" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-½" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR ADHESIVE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

① MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
- a. TYPE: WICBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

② 1" CHAMFER TO PREVENT SPALLING.

③ A ⅜" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..

④ "V" NOTCH IS OPTIONAL.

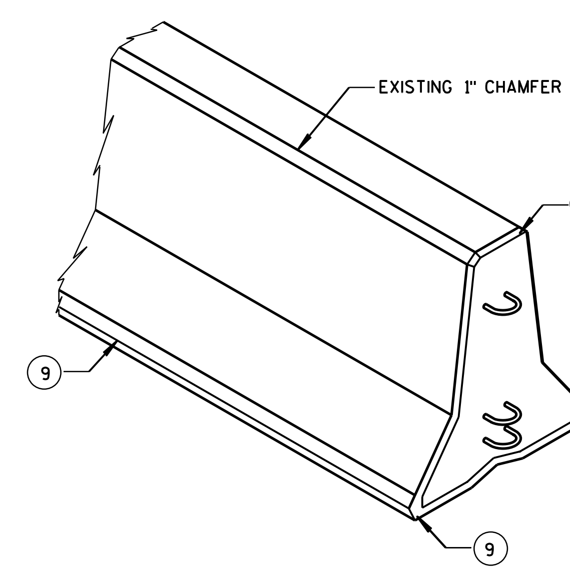
⑤ THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

⑥ NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

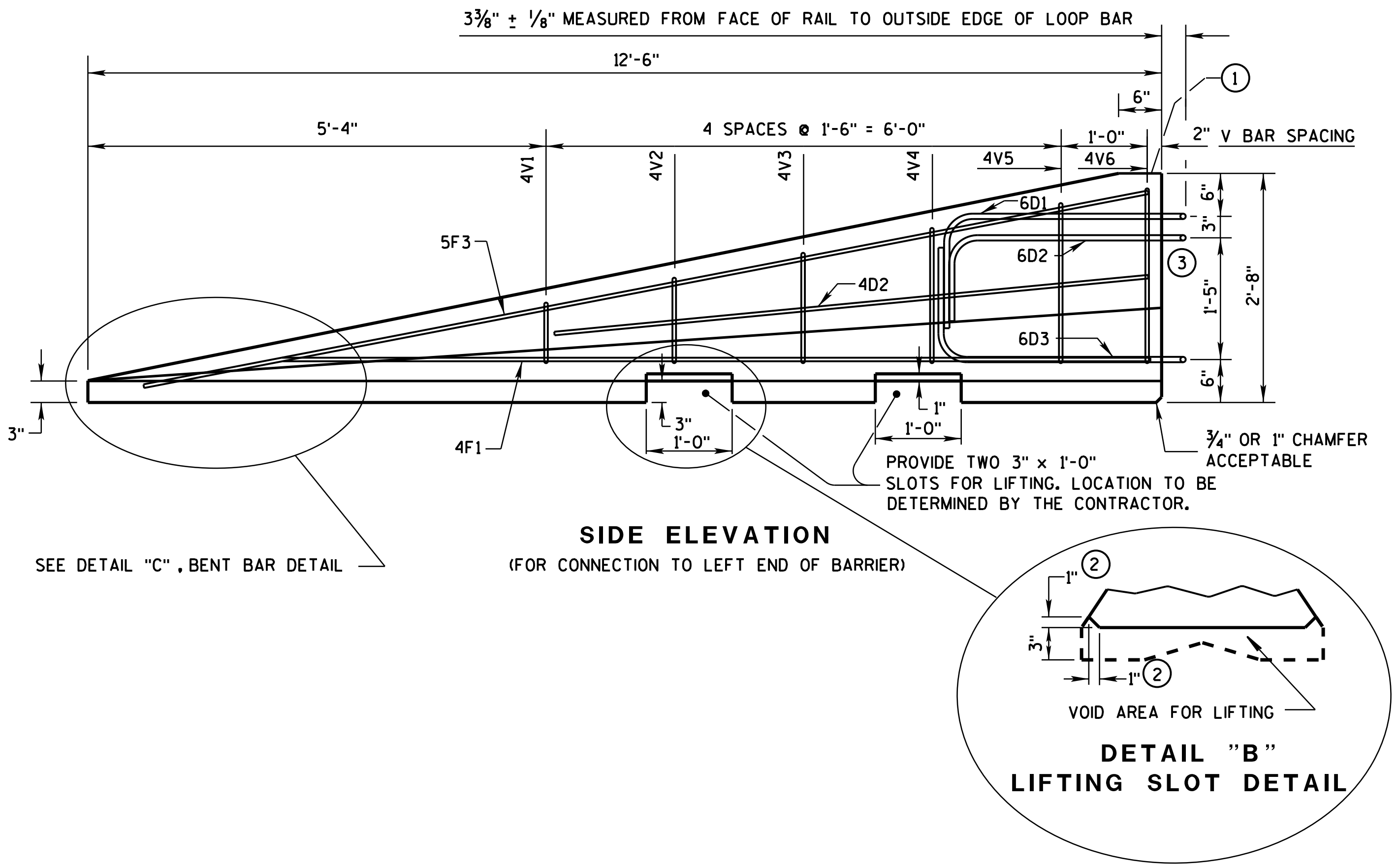
⑦ USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

⑧ SEE SHEET D FOR ANCHORING CRITERIA.

⑨ 1" CHAMFER OPTIONAL.



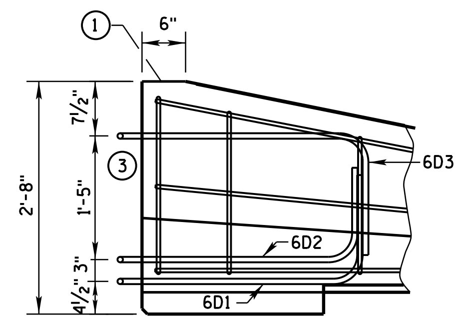
CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
STATE OF WISCONSIN DEPARTMENT OF TRANSPO



SIDE ELEVATION

(FOR CONNECTION TO LEFT END OF BARRIER)

DETAIL "B"
LIFTING SLOT DETAIL

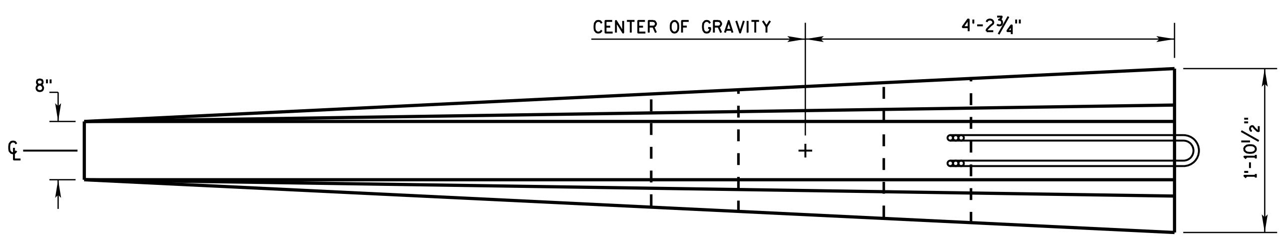


SIDE ELEVATION

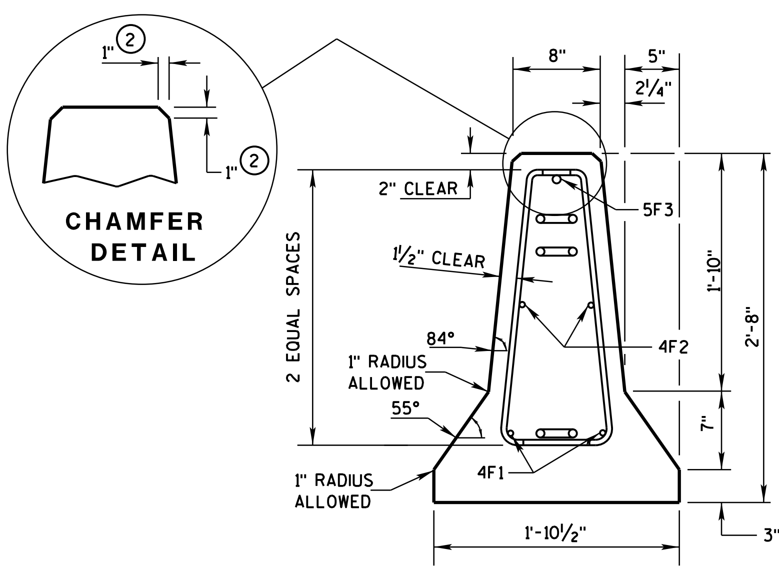
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   - a. TYPE WICBTP
   - b. MANUFACTURER
   - c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

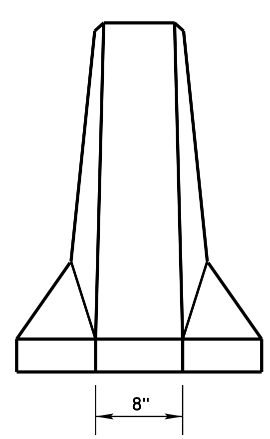


PLAN VIEW

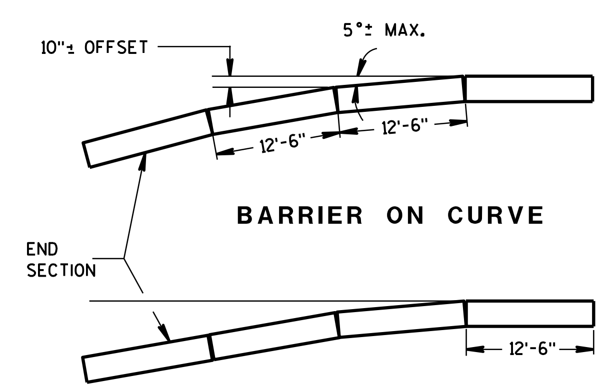


CHAMFER DETAIL

END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

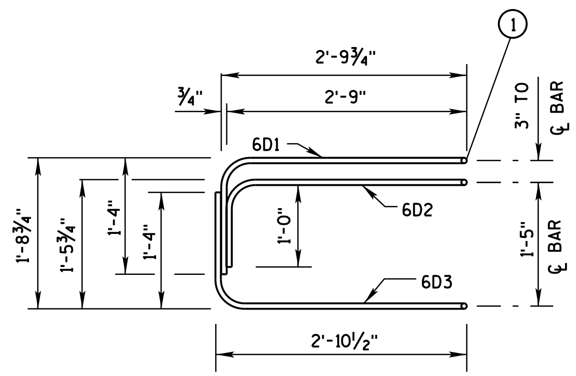
GENERAL NOTES

(1) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

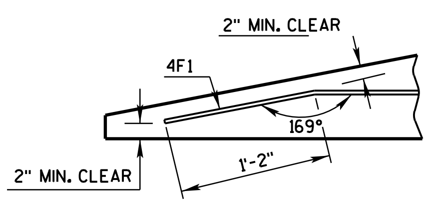
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

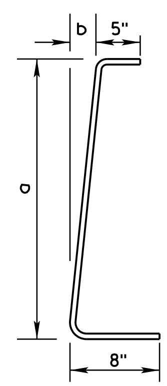
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



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

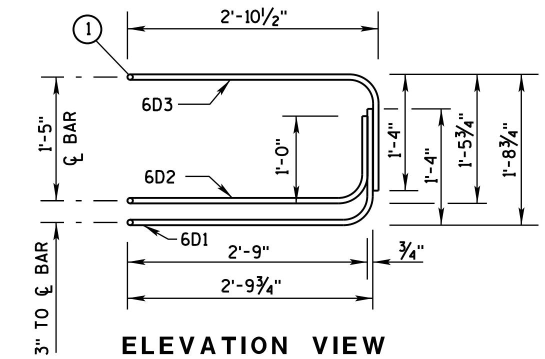
2 AT EACH SIZE REQUIRED FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

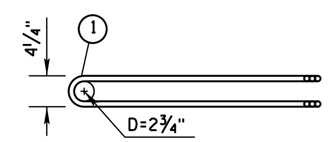
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

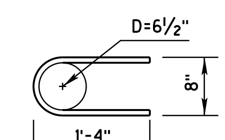
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



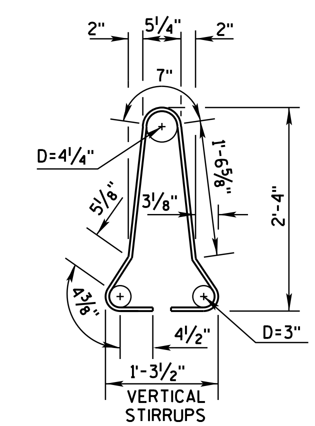
ELEVATION VIEW



PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



6A2



4A1

BARRIER SECTION

6

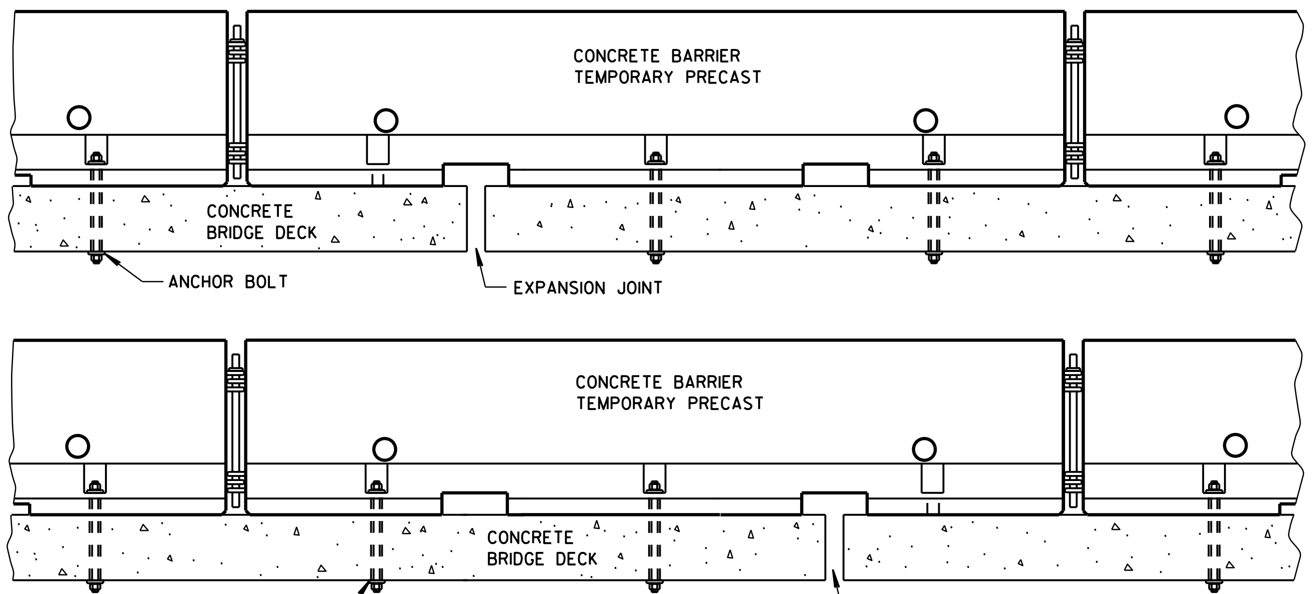
6

S.D.D. 14 B 7-14c

S.D.D. 14 B 7-14c

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO



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

1. CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
   THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

   THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.

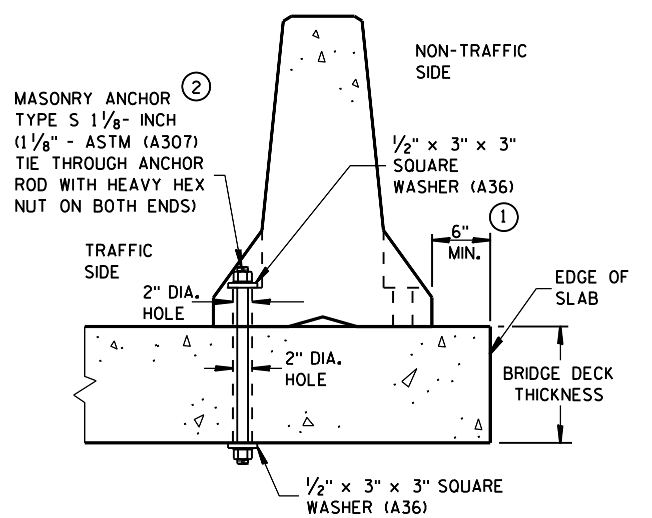
2. ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

   WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

   UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALL ANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERICAL GROUT OR MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.

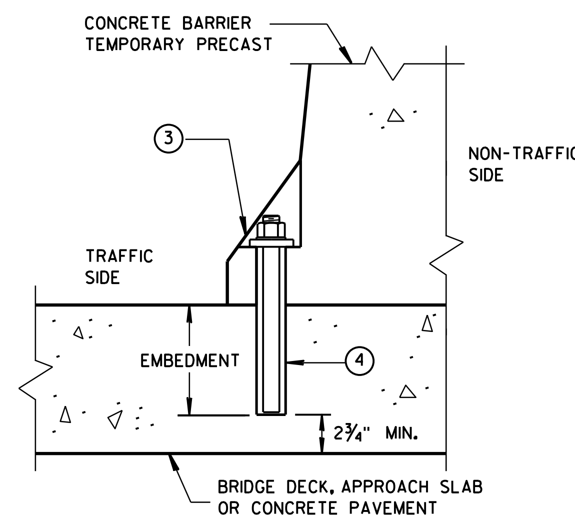
3. 1⅛" DIAMENTER A307 THREADED ROD, ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.

4. ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.



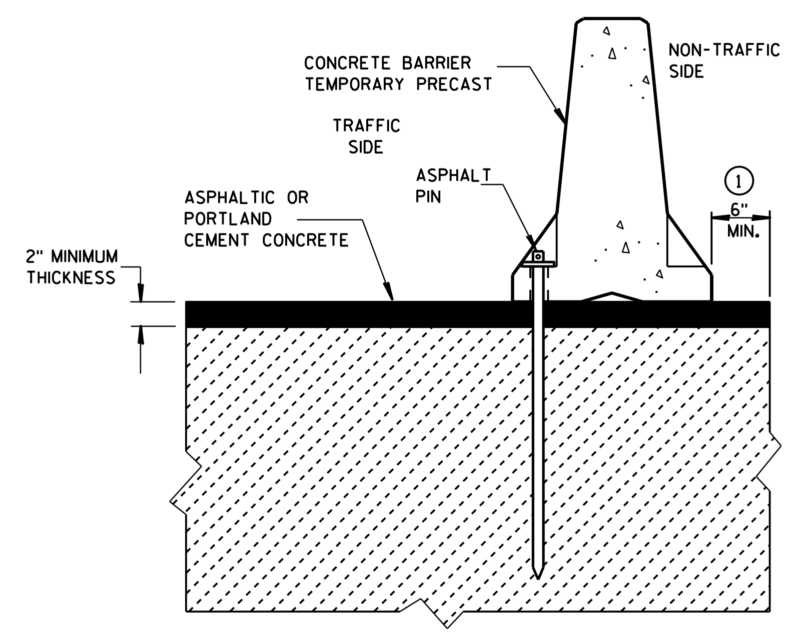
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

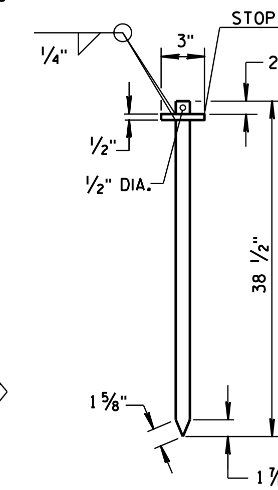
(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



REMOVABLE ADHESIVE BONDED ANCHOR ② INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

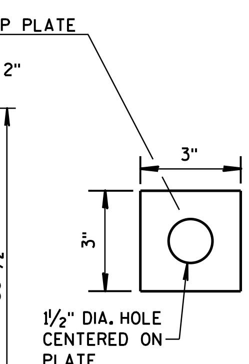
(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)





ASPHALT PIN

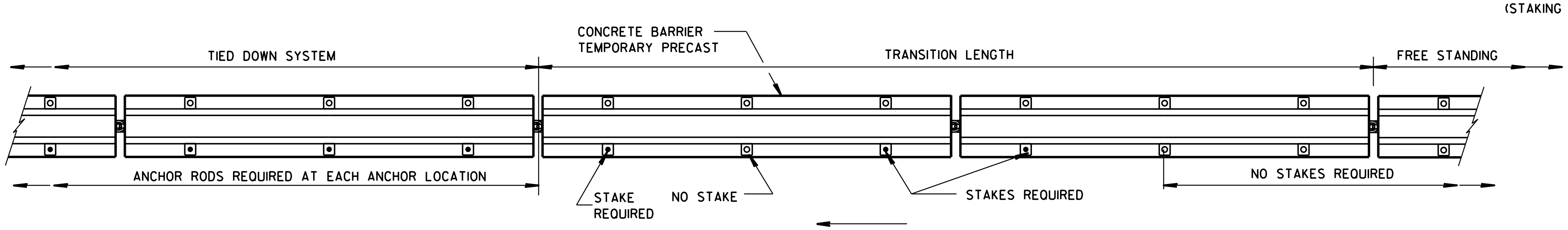
(ASTM A36 STEEL)



STOP PLATE

STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



PLAN VIEW

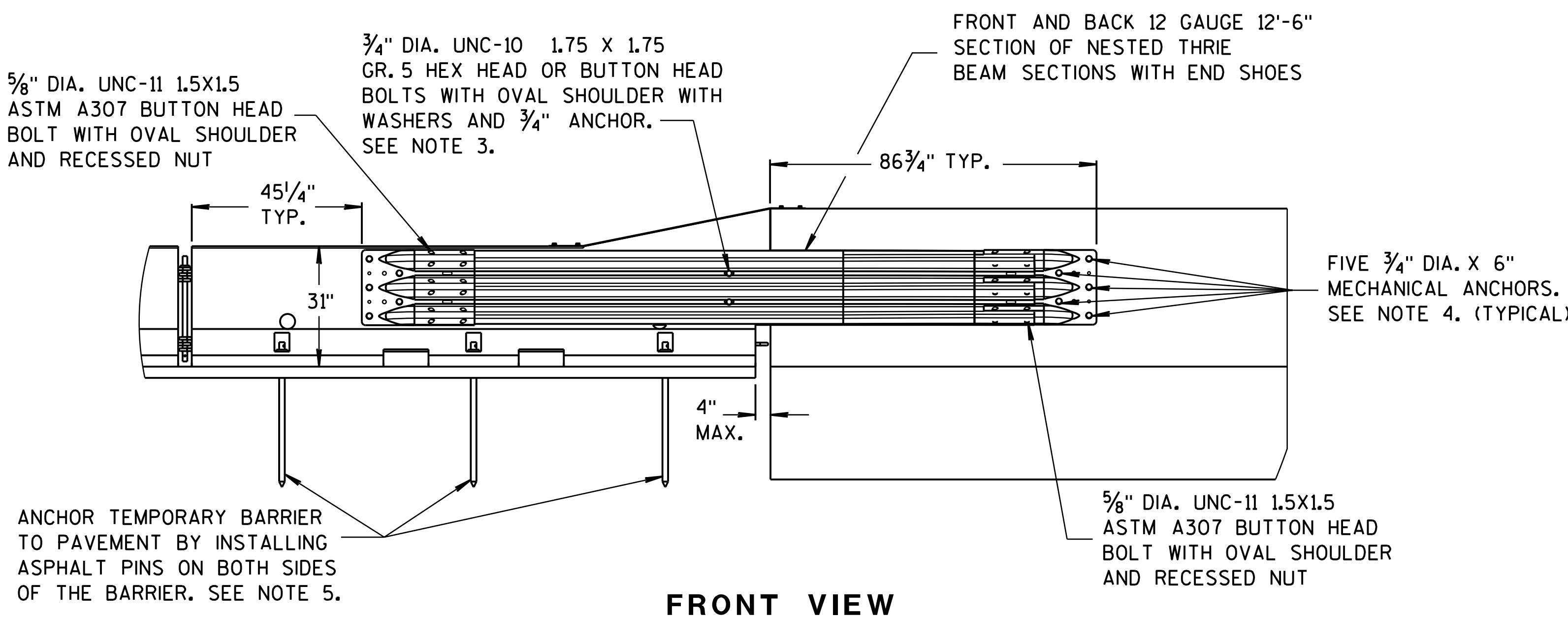
FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

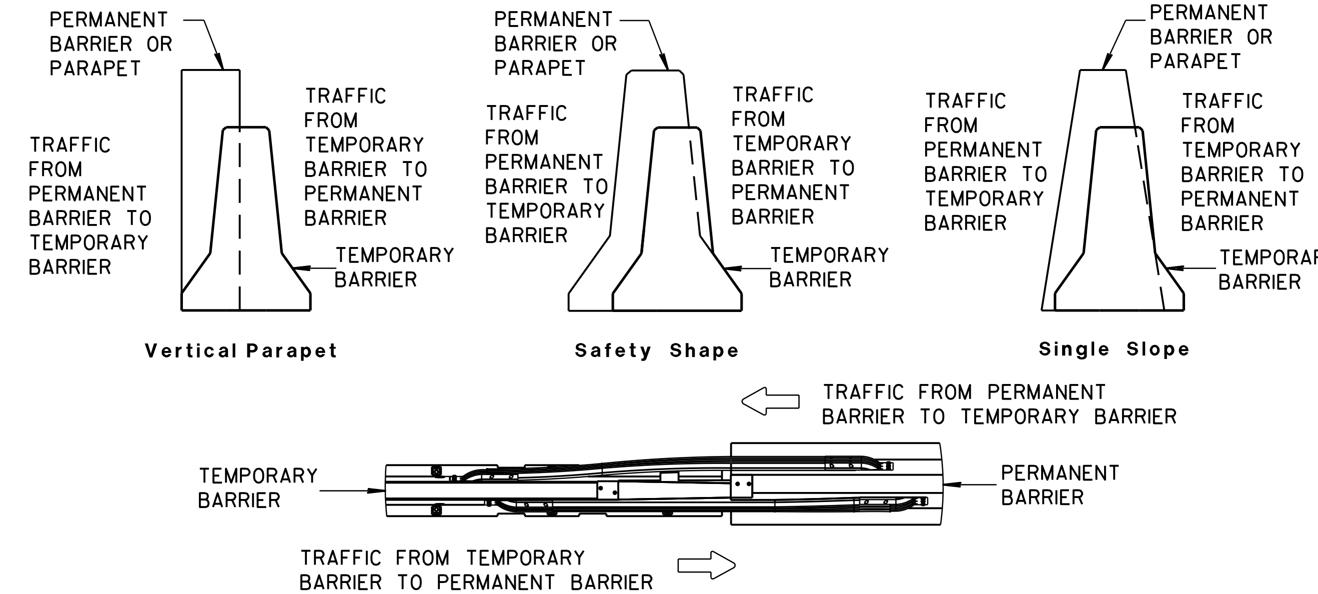
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 14 B 7-14d



FRONT VIEW

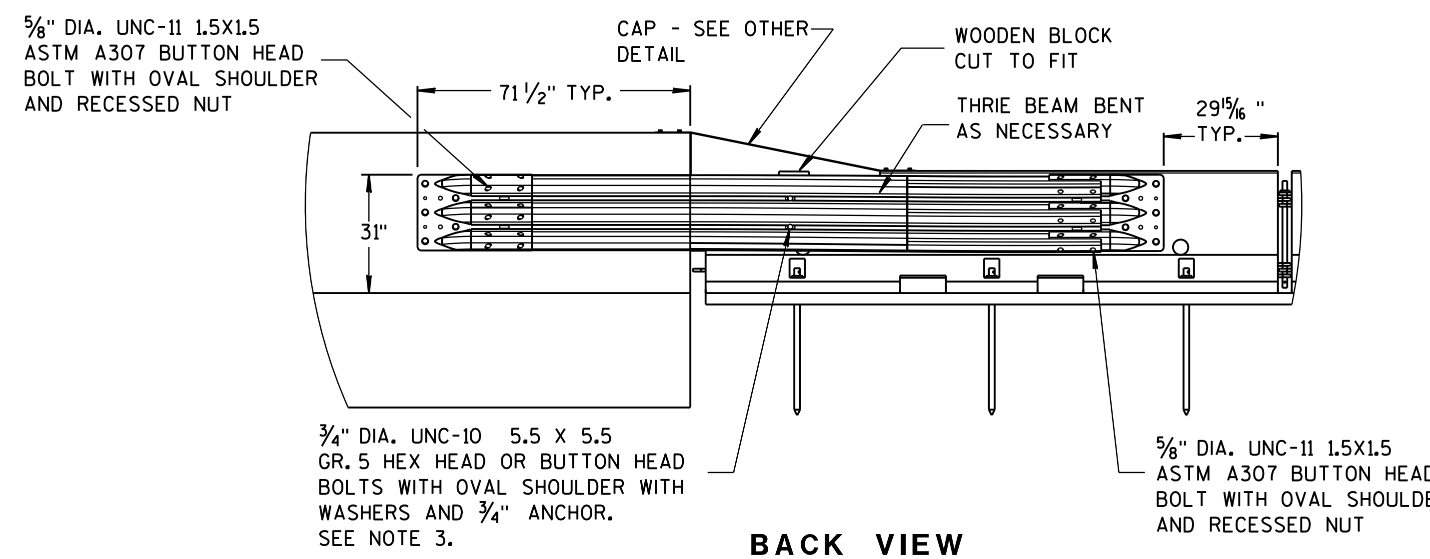


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

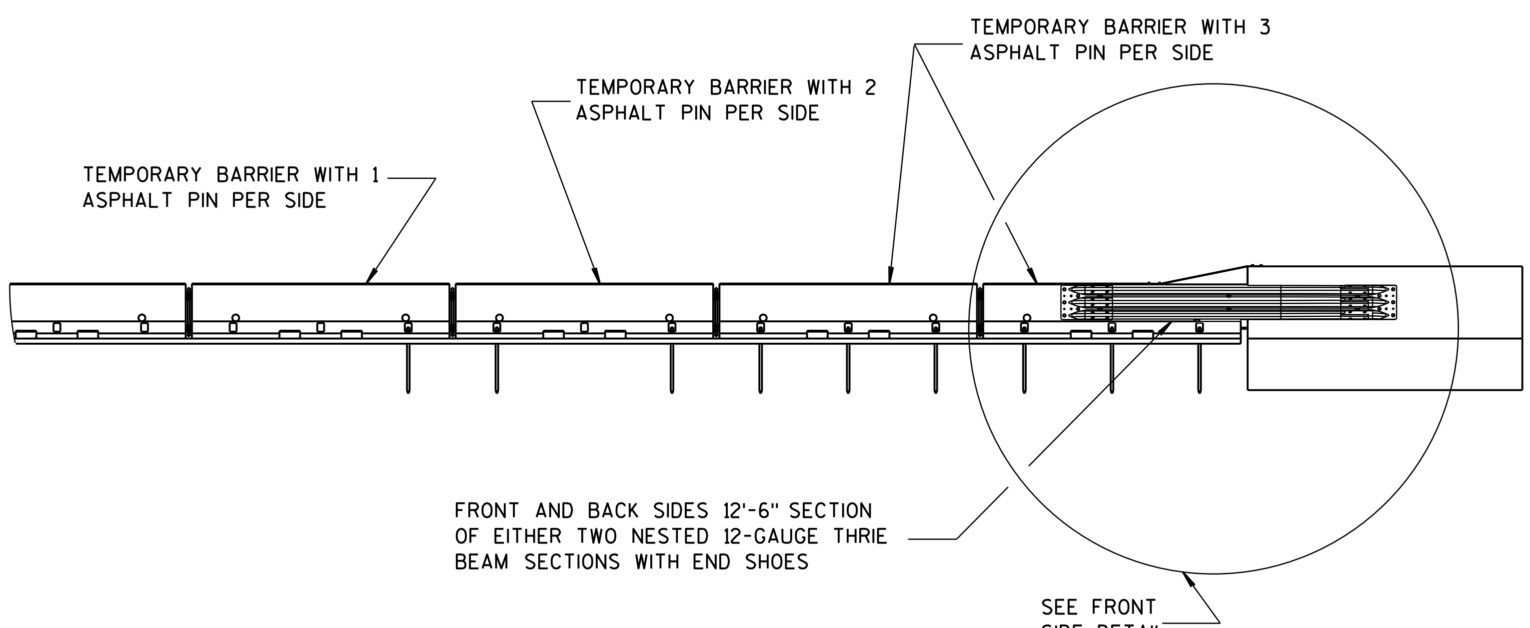
NOTES

NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.

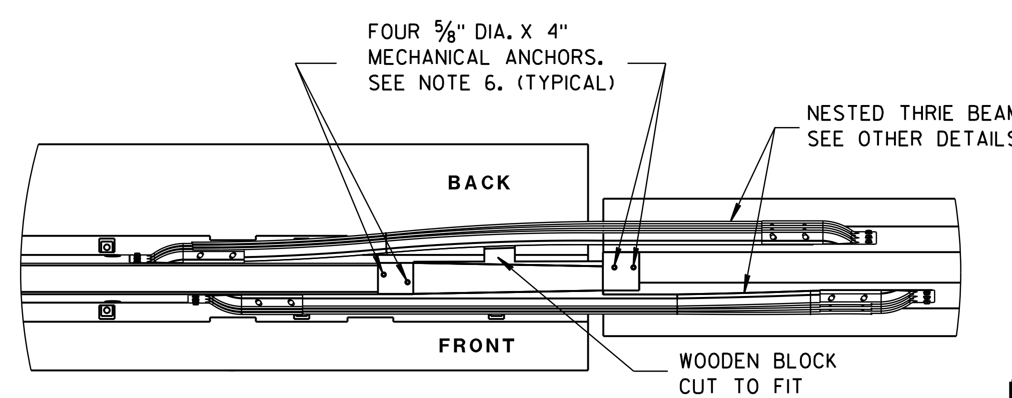
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.



BACK VIEW



FRONT VIEW

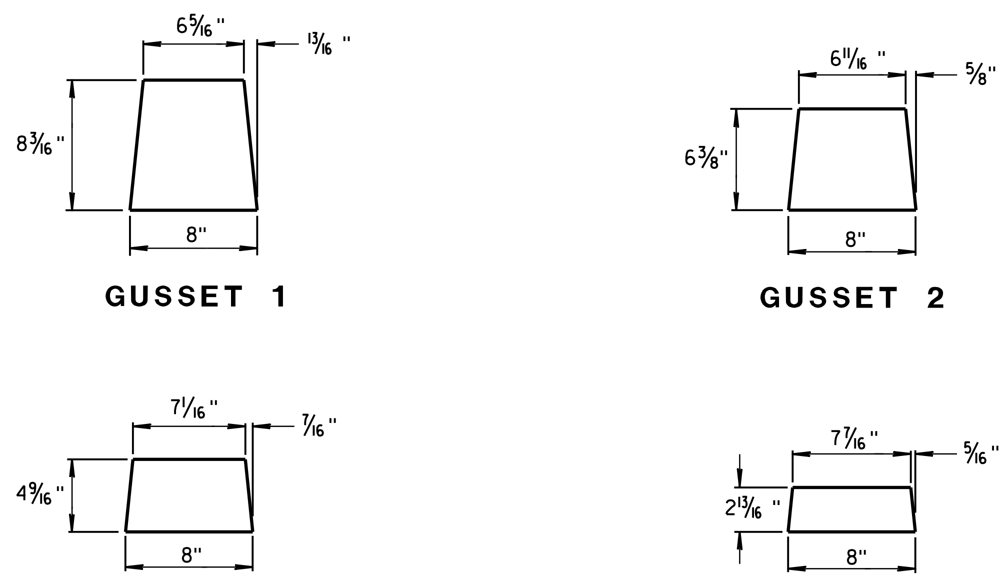


PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



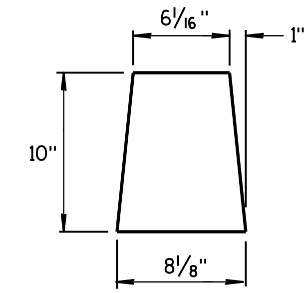
GUSSET 1

GUSSET 2

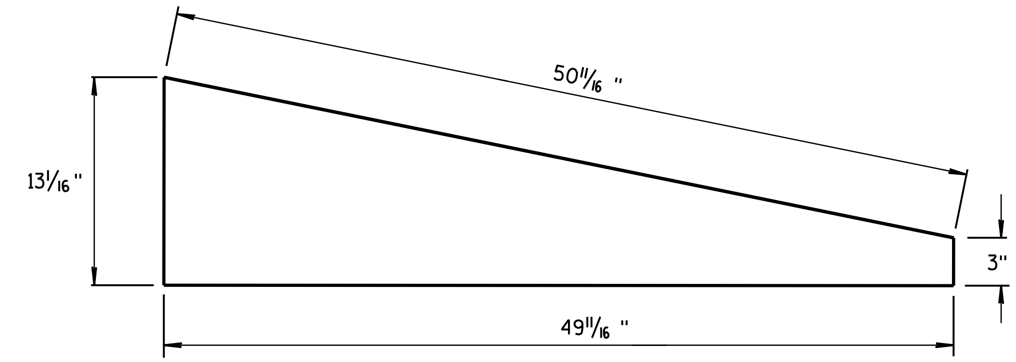
GUSSET 3

GUSSET 4

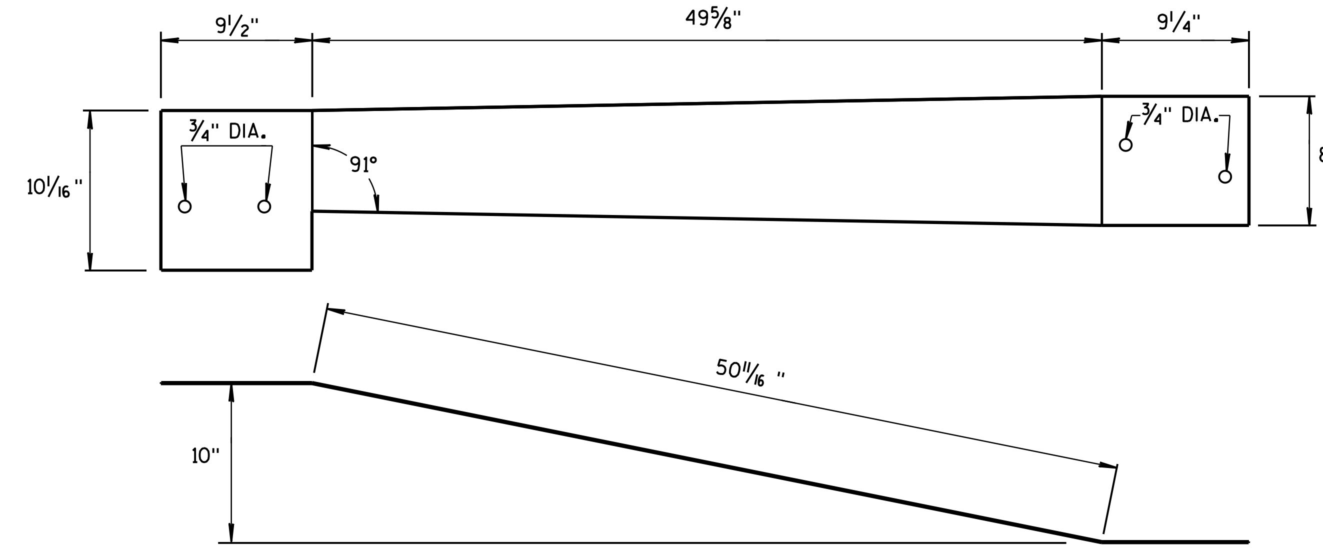
GUSSETS



END PLATE



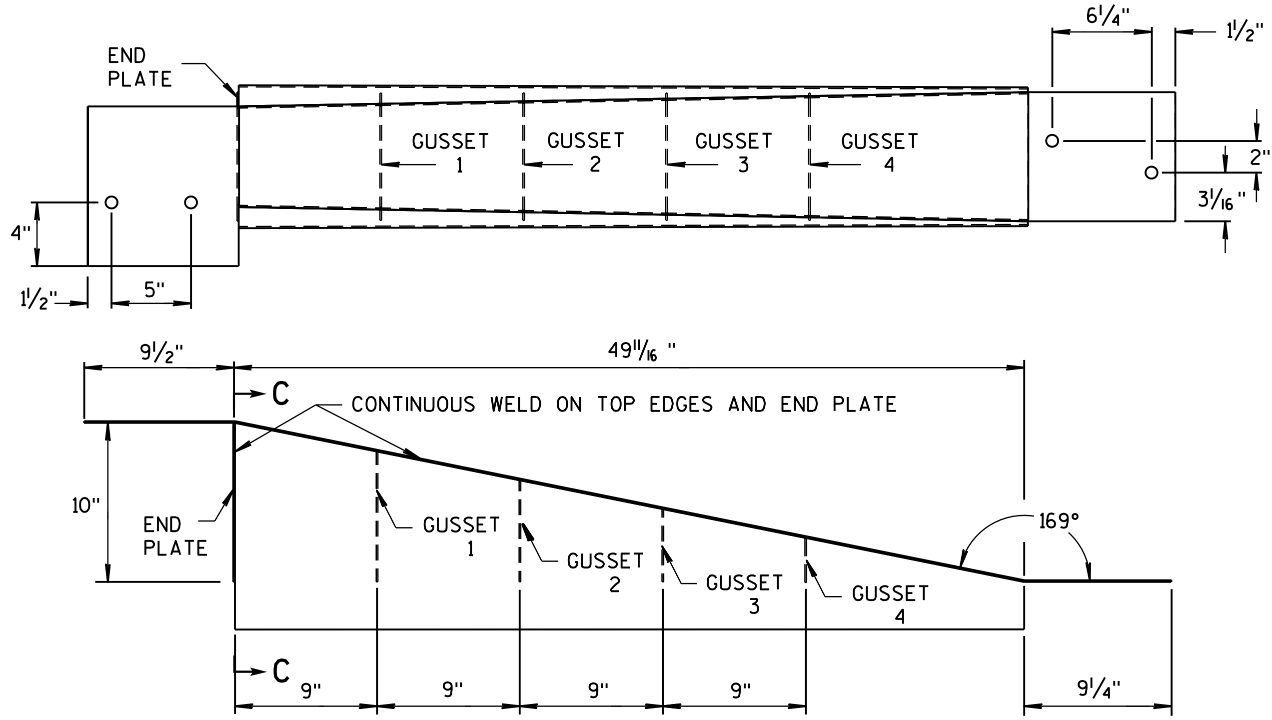
SIDE PLATE

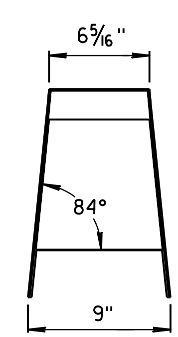


TOP PLATE

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.





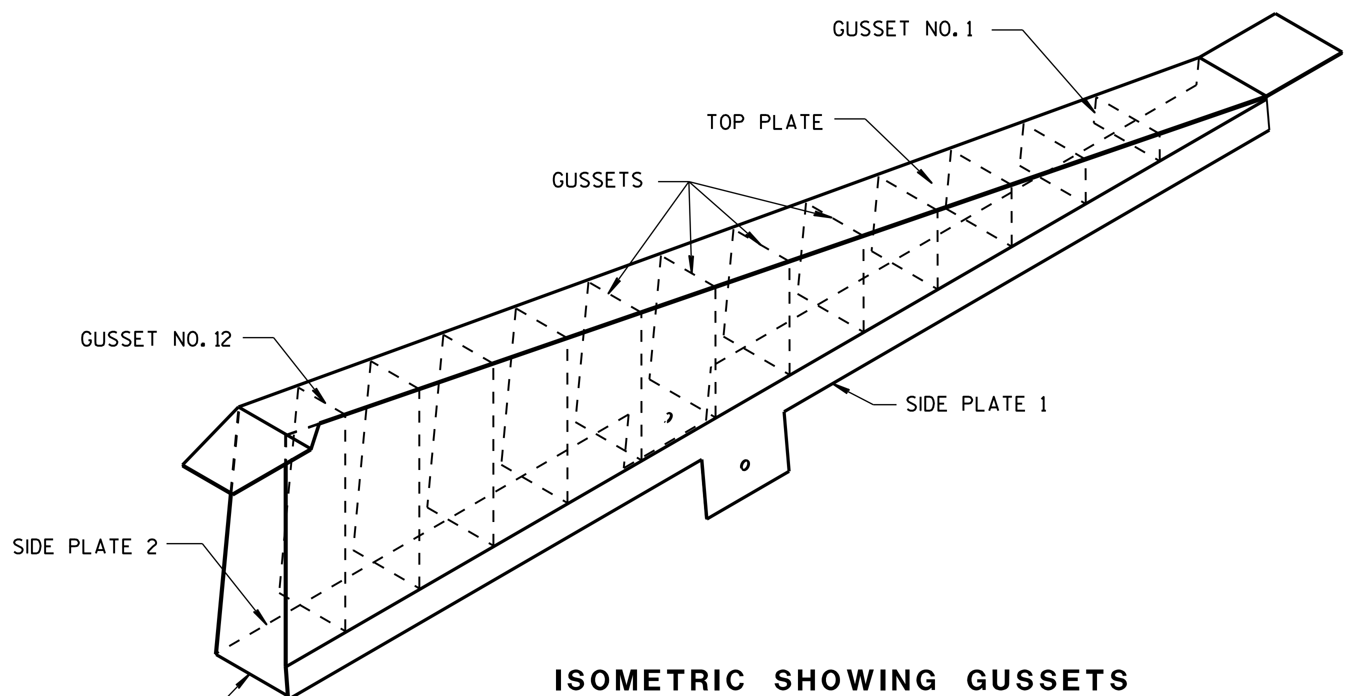
SECTION C-C

NOTES

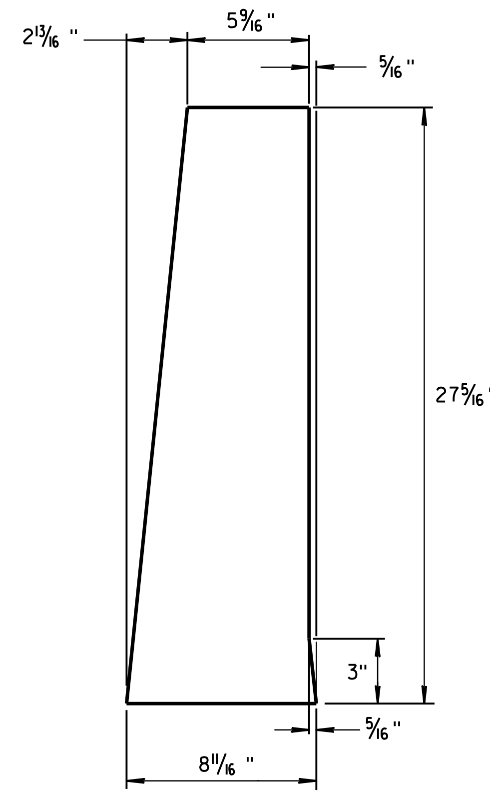
1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
STATE OF WISCONSIN DEPARTMENT OF TRANSPO[RTATION]

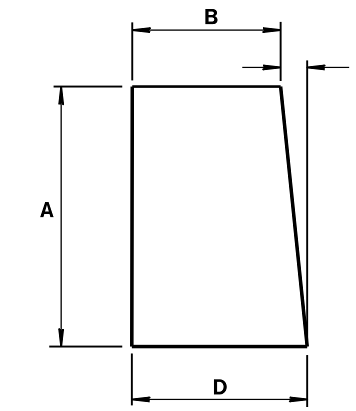


ISOMETRIC SHOWING GUSSETS



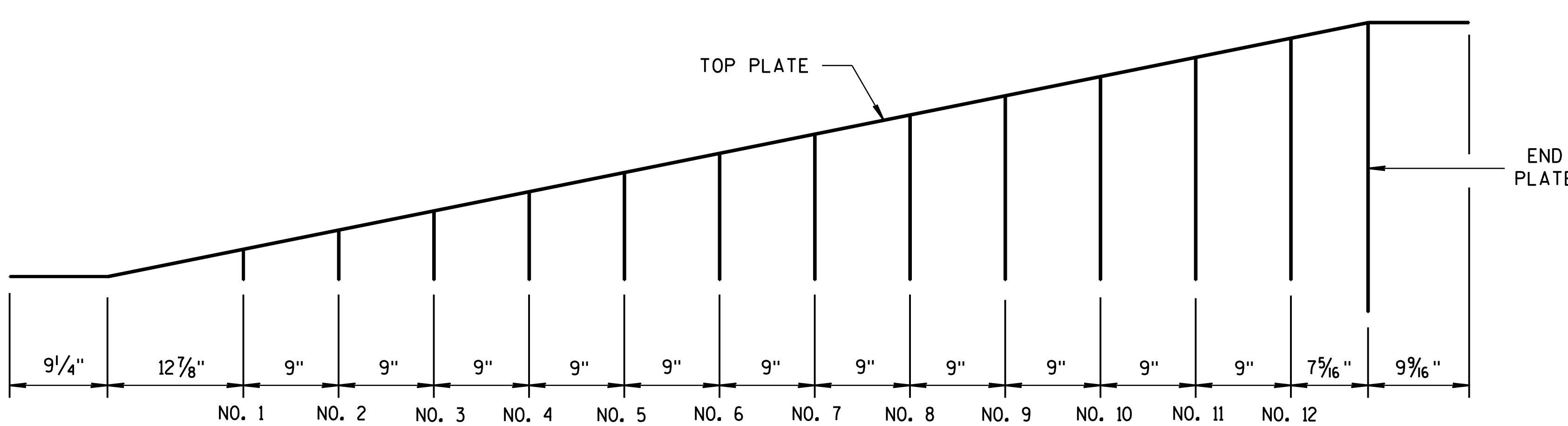
END PLATE

1/8" STEEL PLATE



GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE



GUSSET LOCATION

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.

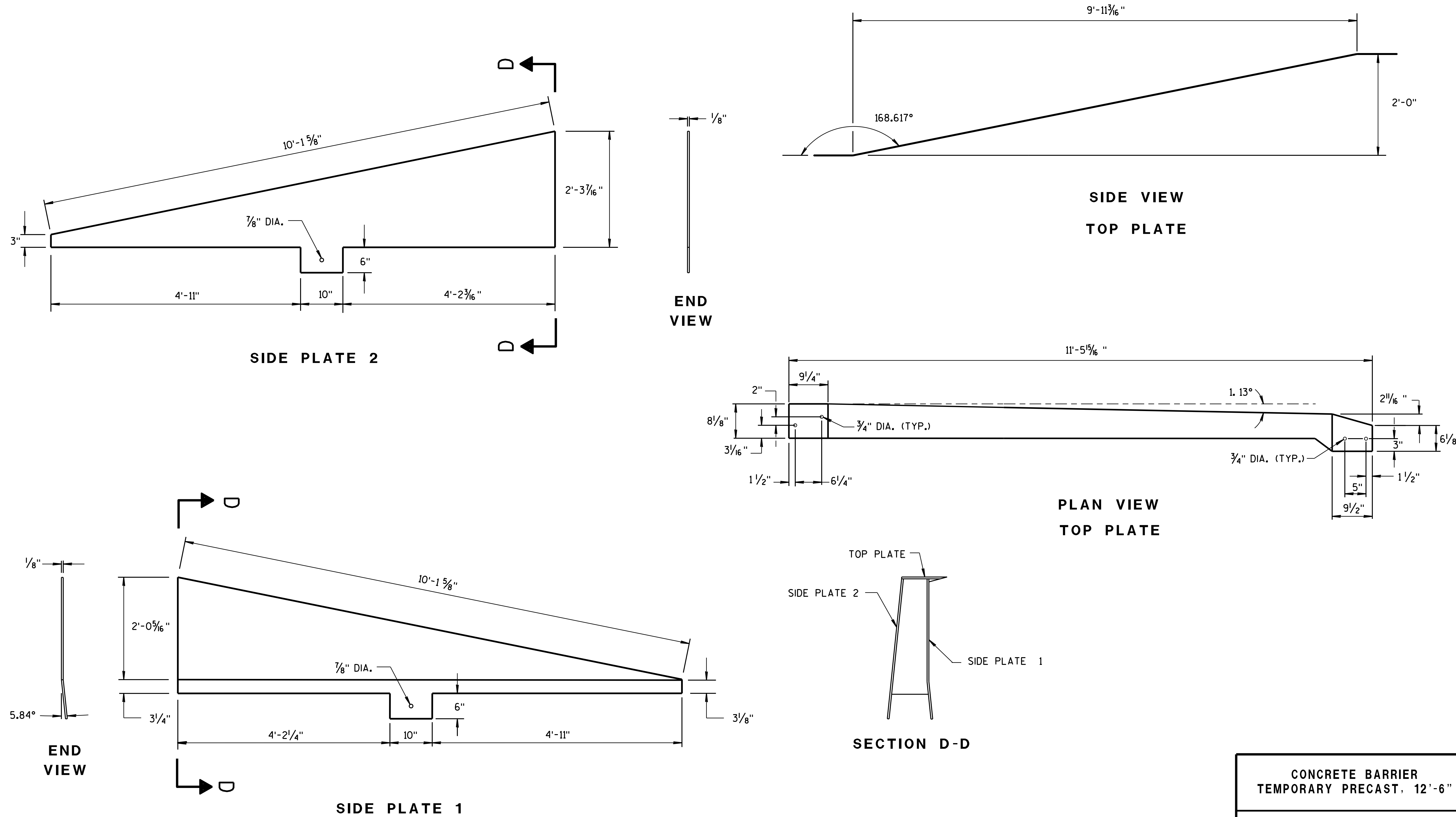
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 7-14g

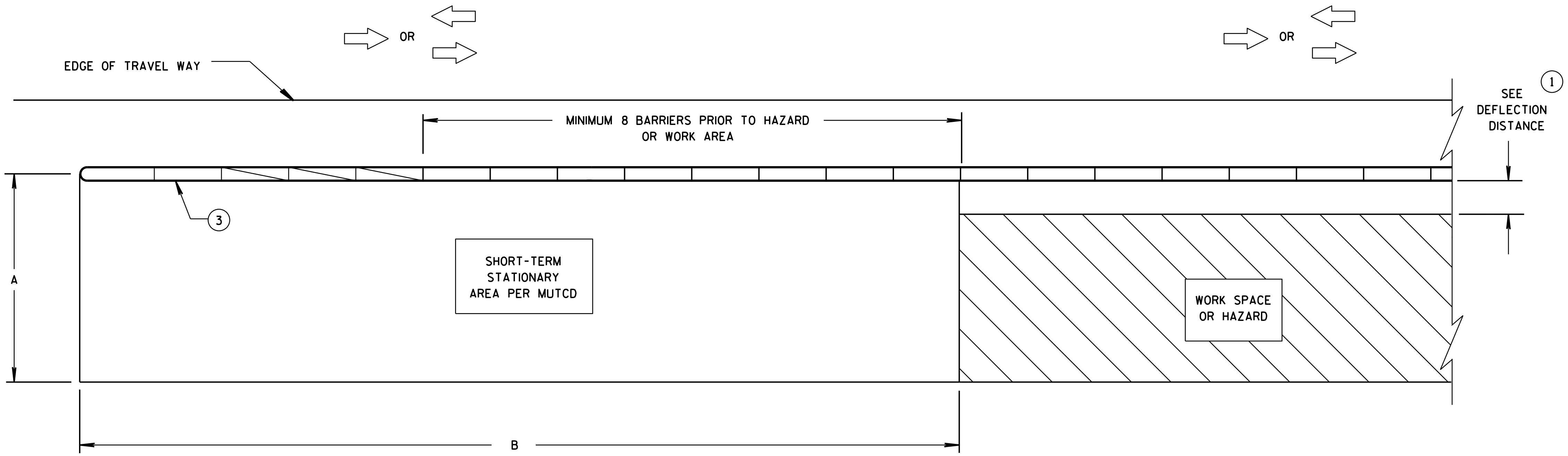


CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

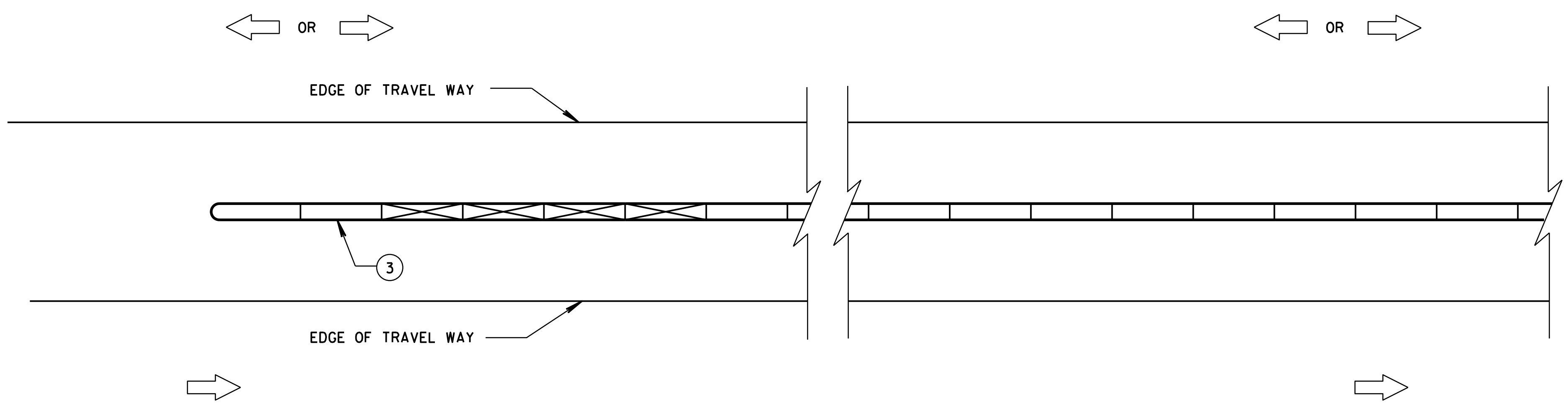
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER

DIMENSION A TABLE (2)

FACILITY	POSTED SPEED MPH	DIMENSION A MIN. FT	DIMENSION A MAX. FT
FREEWAY/EXPRESSWAY	ALL	15	20
NON-FREEWAY/EXPRESSWAY	GREATER THAN OR EQUAL TO 45	10	15
NON-FREEWAY/EXPRESSWAY	LESS THAN 45	8	10
AADT LESS THAN 1,500	ALL	8	10

DIMENSION B TABLE (2)

POSTED SPEEDS MPH	DIMENSION B FT
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

(1) FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.

(2) VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

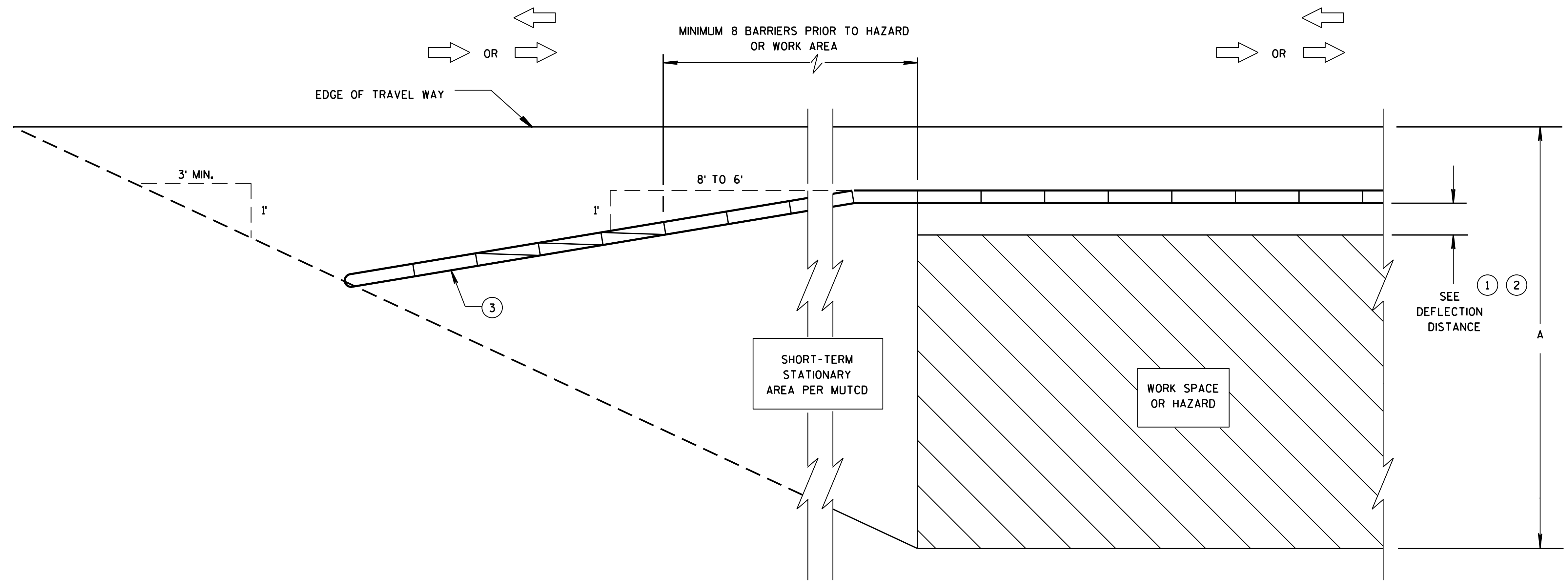
(3) ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

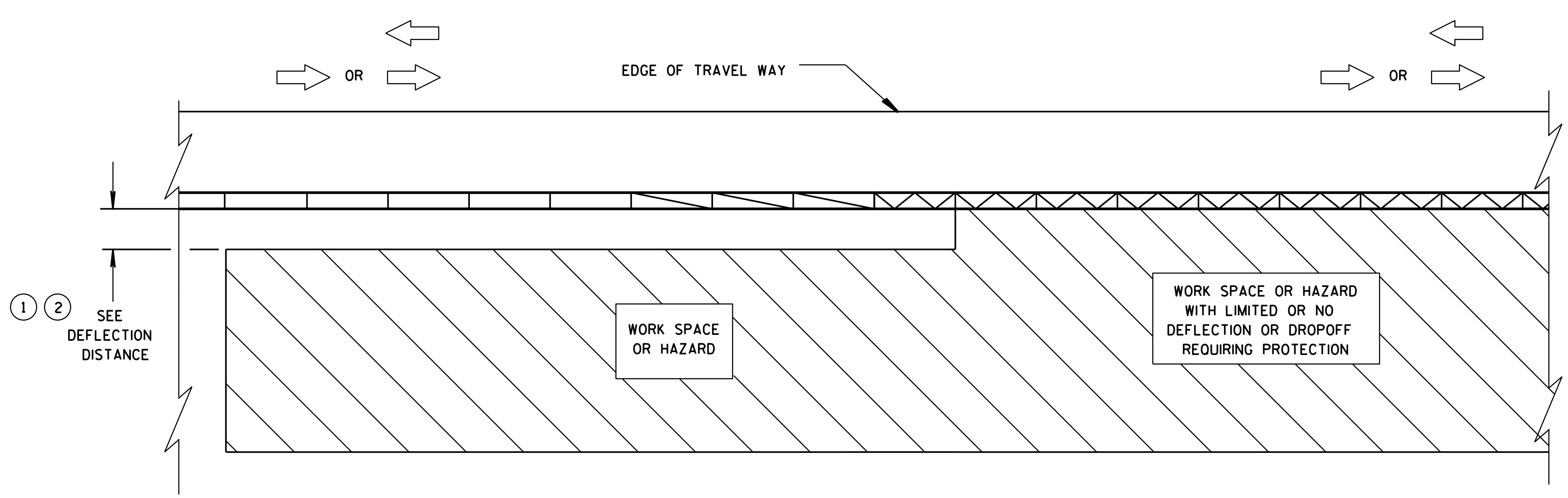
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 8-2a



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION



TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

6

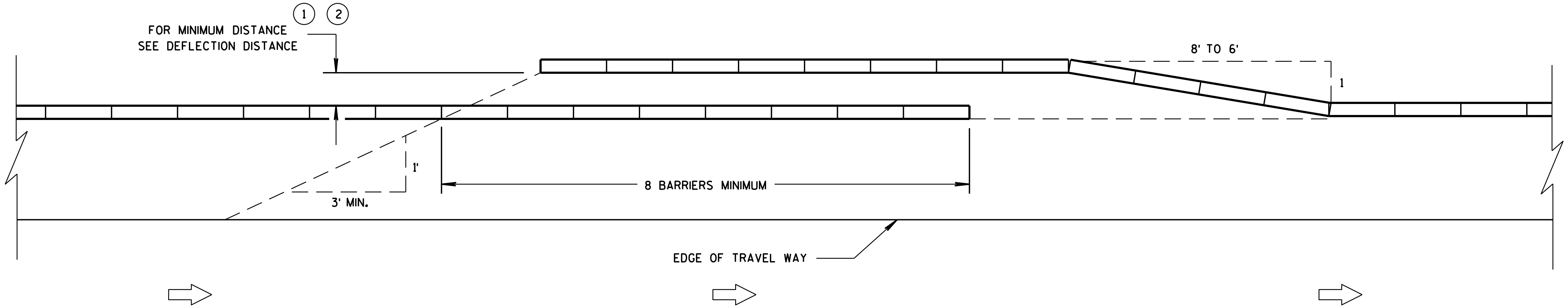
6

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

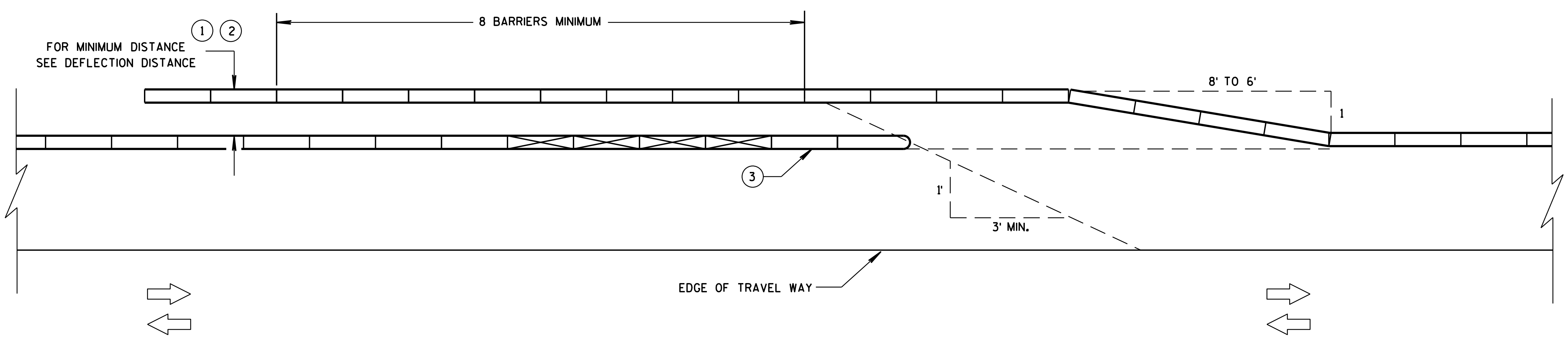
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

S.D.D. 14 B 8-2b

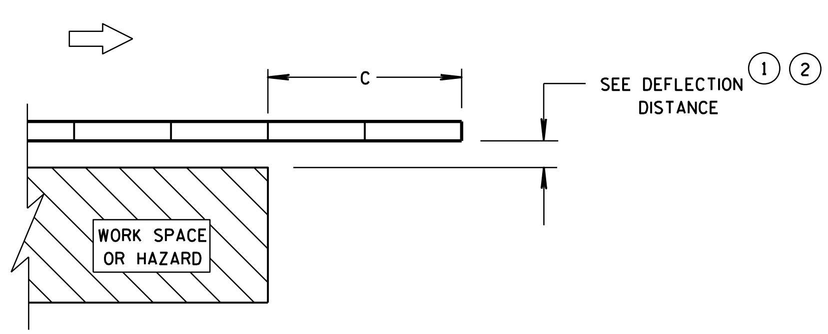
S.D.D. 14 B 8-2b



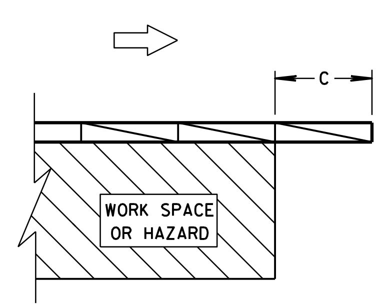
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



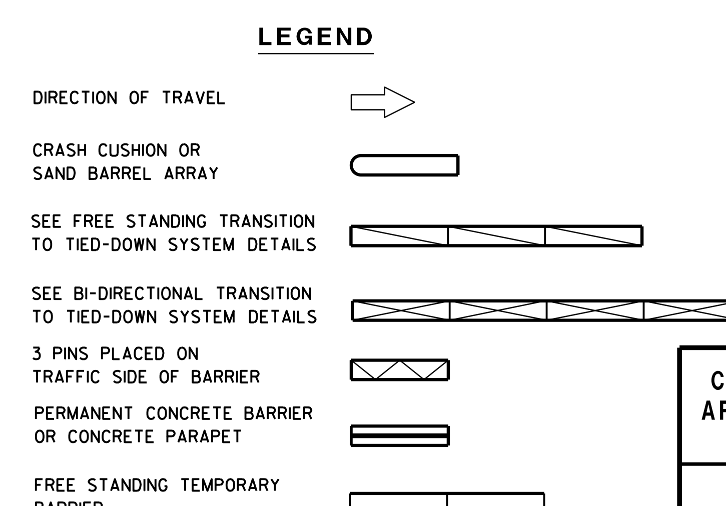
TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED



6

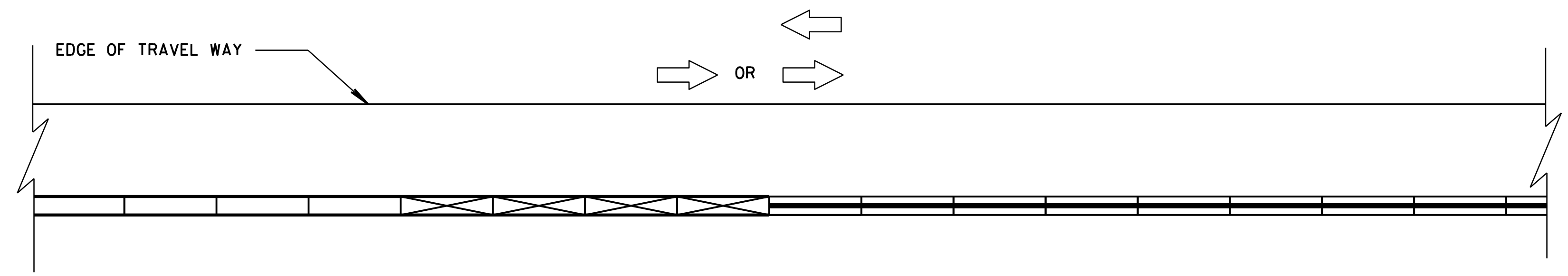
S.D.D. 14 B 8-2c

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

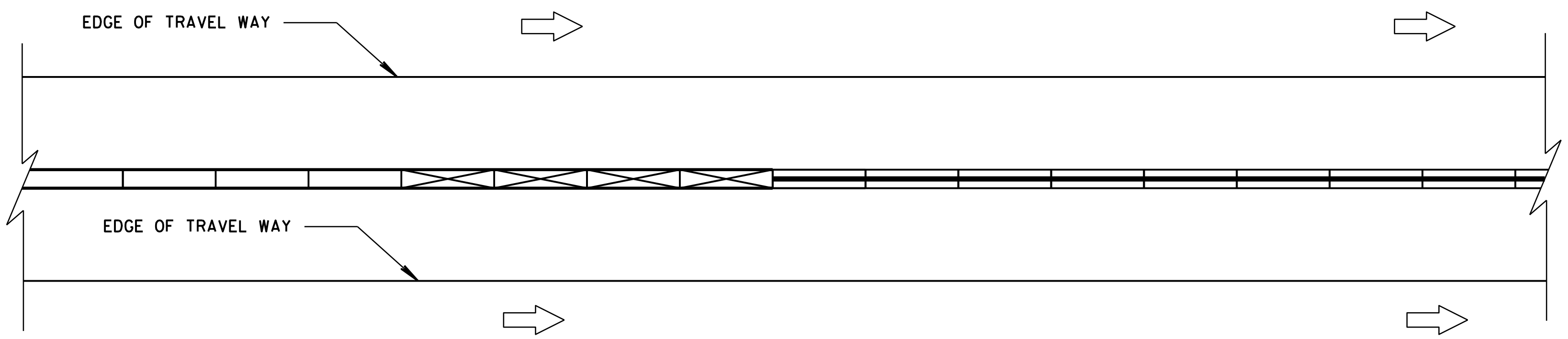
S.D.D. 14 B 8-2c



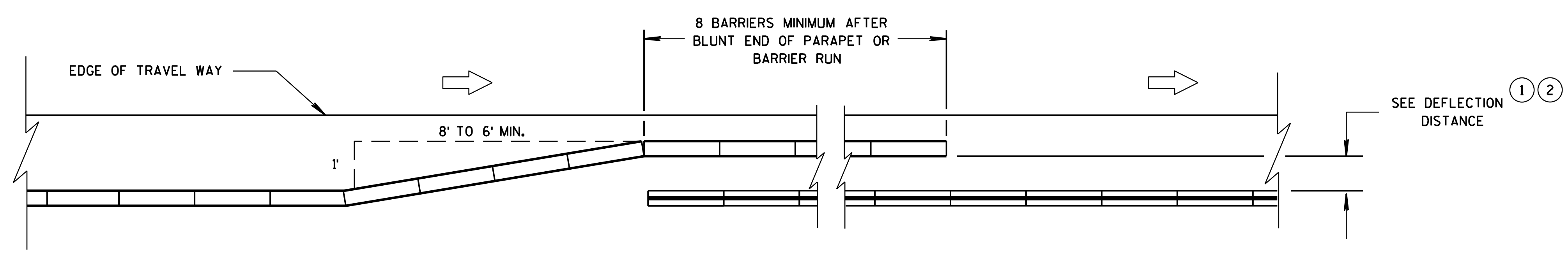
CONNECTING TEMPORARY BARRIER TO PERMANENT CONCRETE BARRIER-TRAFFIC ON ONE SIDE

LEGEND

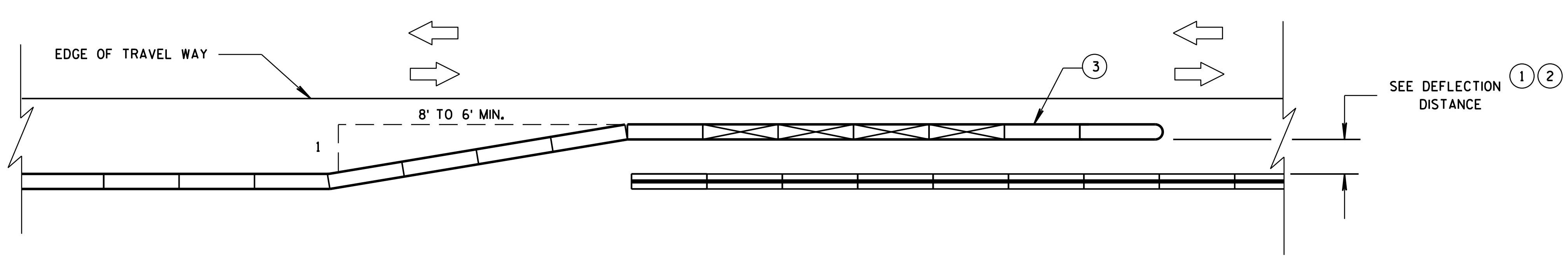
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER



CONNECTING TEMPORARY BARRIER TO PERMANENT CONCRETE BARRIER-TRAFFIC ON BOTH SIDES



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER - ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER - TWO WAY TRAFFIC

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

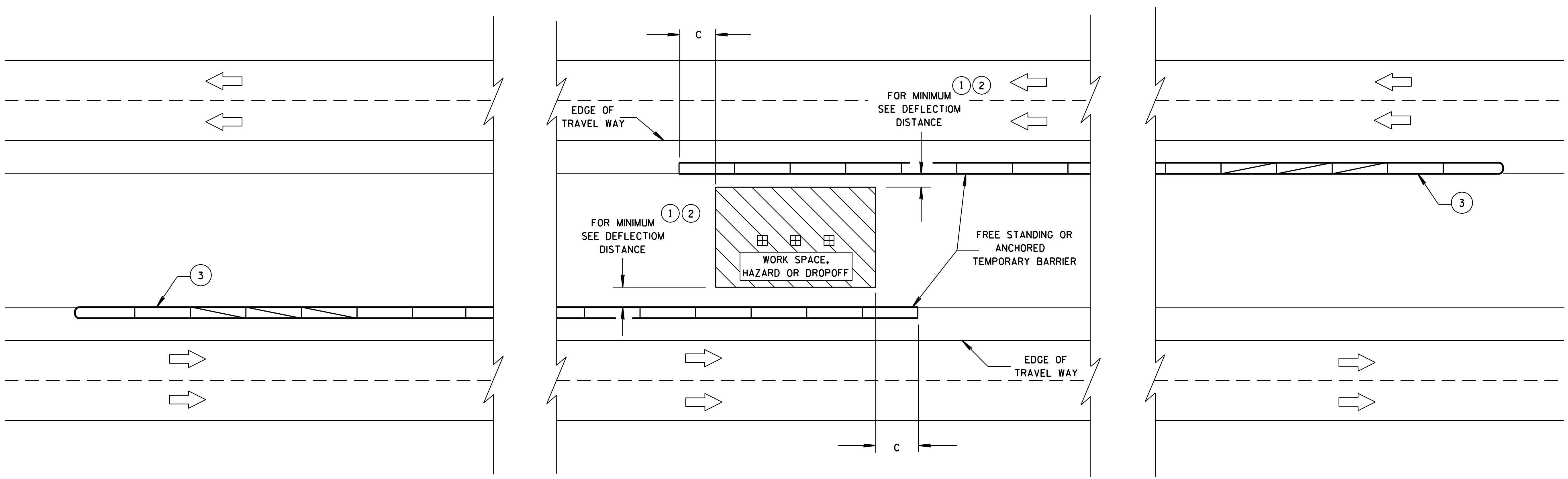
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE (2)

AVAILABLE DEFLECTION DISTANCE	MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT
GREATER THAN 8'	12.5
LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4'	50
LESS THAN OR EQUAL TO 4'	100



6

6

S.D.D. 14 B 8-2e

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

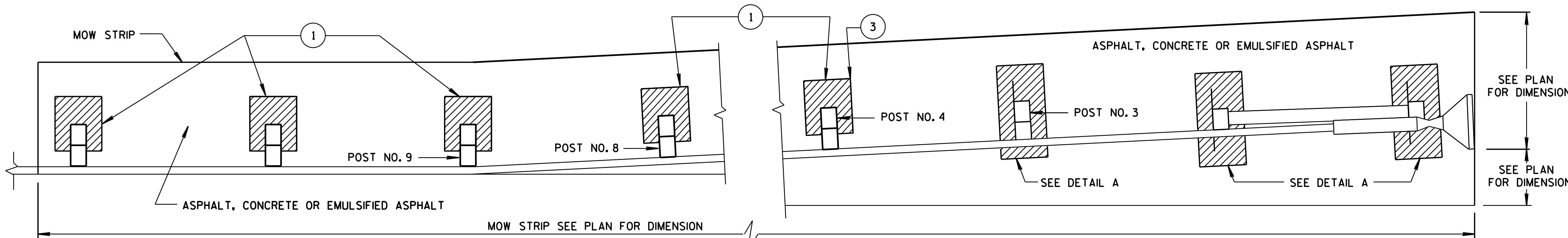
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
FHWA

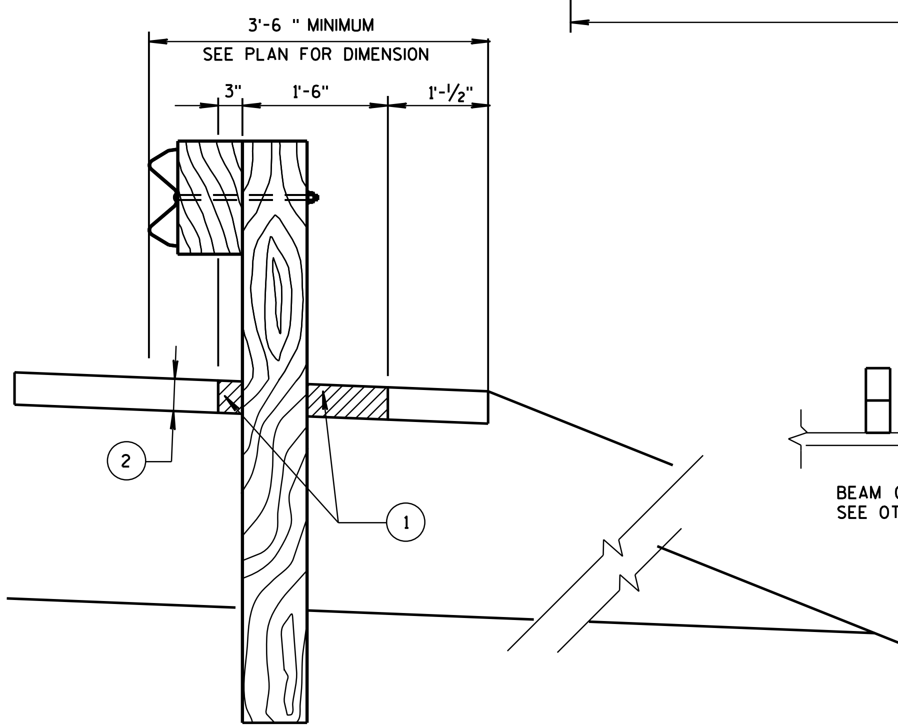
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINNER

S.D.D. 14 B 8-2e

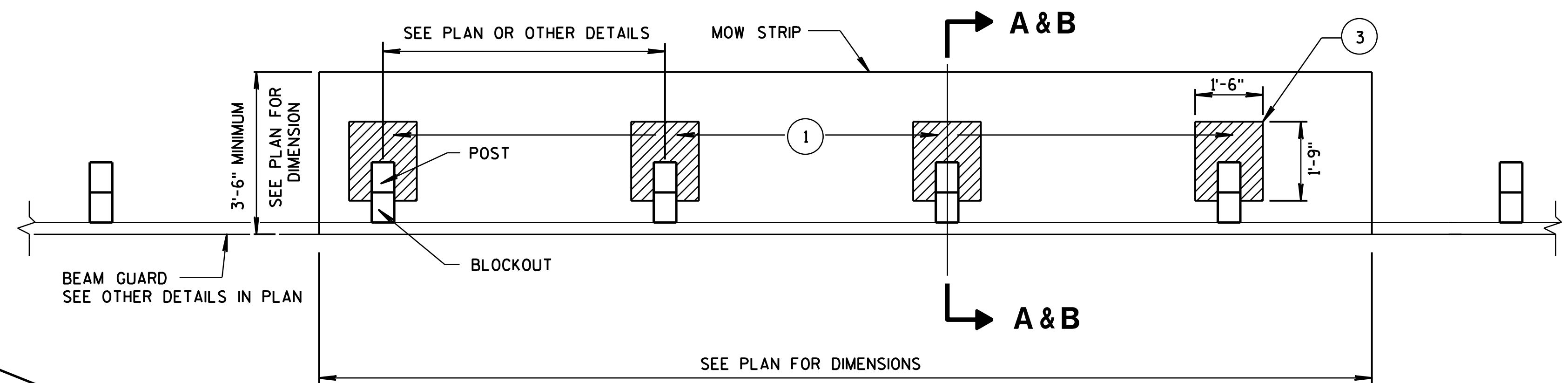
6



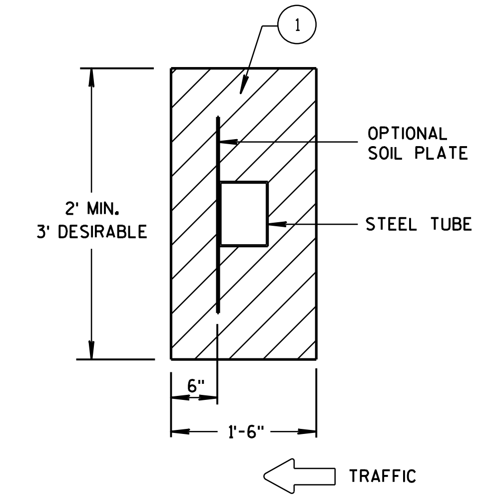
PLAN VIEW
MOW STRIP LAYOUT FOR ENERGY ABORBING TERMINAL



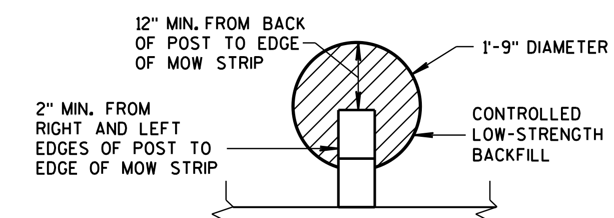
SECTION A-A



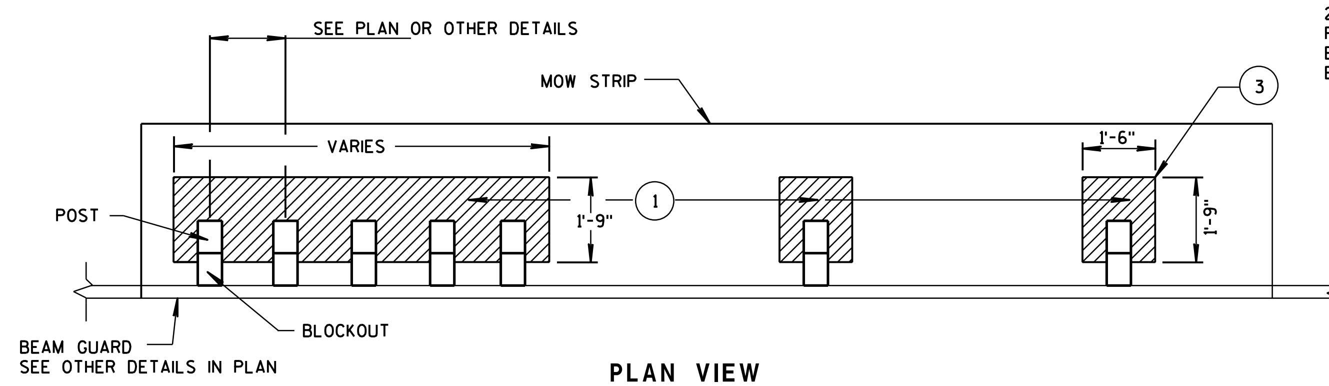
PLAN VIEW
MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT



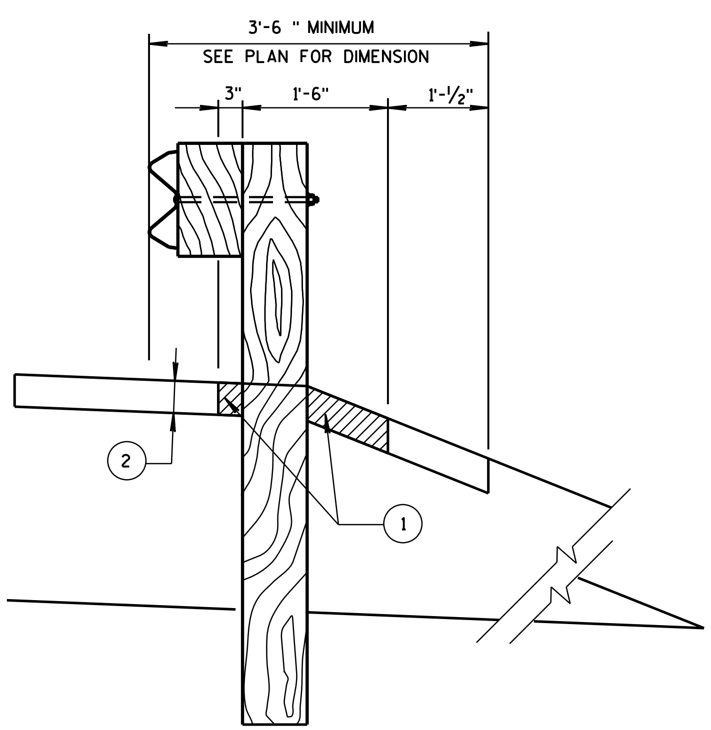
DETAIL A



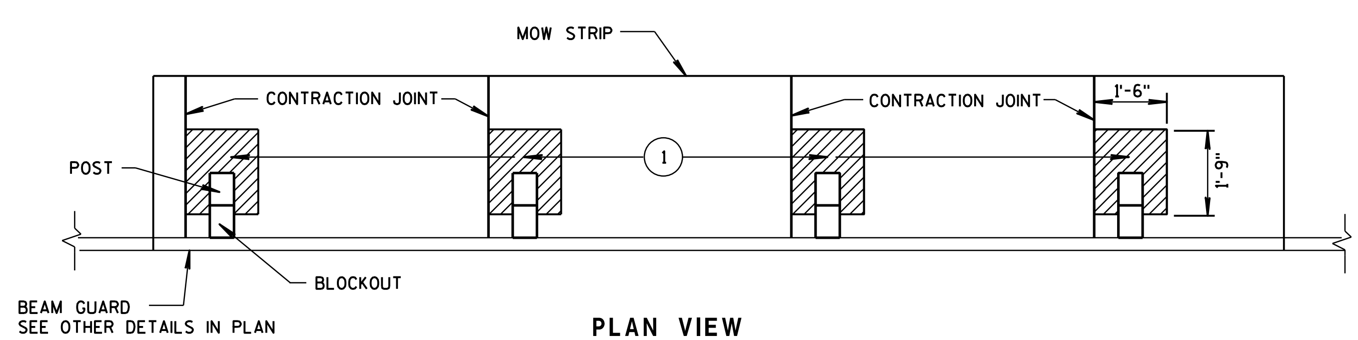
ALTERNATIVE HMA
MOW STRIP DESIGN



PLAN VIEW
MOW STRIP FOR TIGHT SPACING LAYOUT



SECTION B-B



PLAN VIEW
JOINT PLACEMENT FOR CONCRETE MOW STRIP

(1) CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.

(2) DEPTH OF MOW STRIP:
ASPHALT - 4"
CONCRETE - 4"
EMULSIFIED ASPHALT - 1" OR LESS

(3) FOR EMULSIFIED ASPHALT MOW STRIP LEAVE OUTS NOT REQUIRED.(TYPICAL FOR ALL POSTS.)

GUARDRAIL MOW STRIP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 14 B 28-3

S.D.D. 14 B 28-3

6

GENERAL NOTES

① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

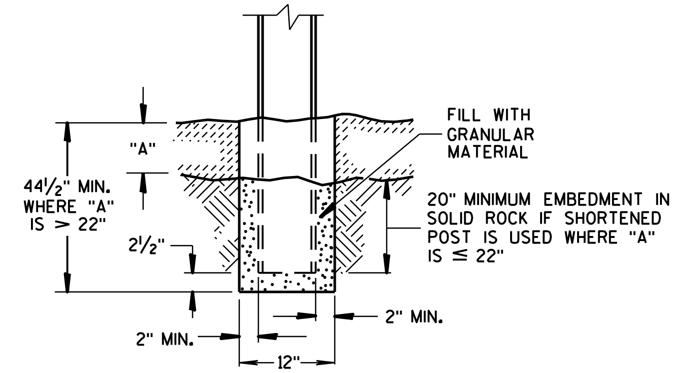
② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

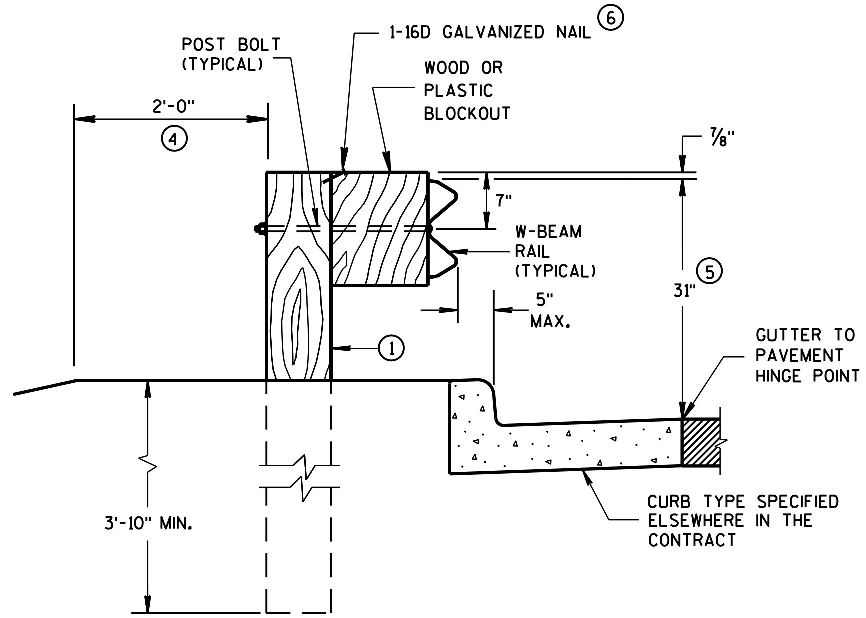
④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

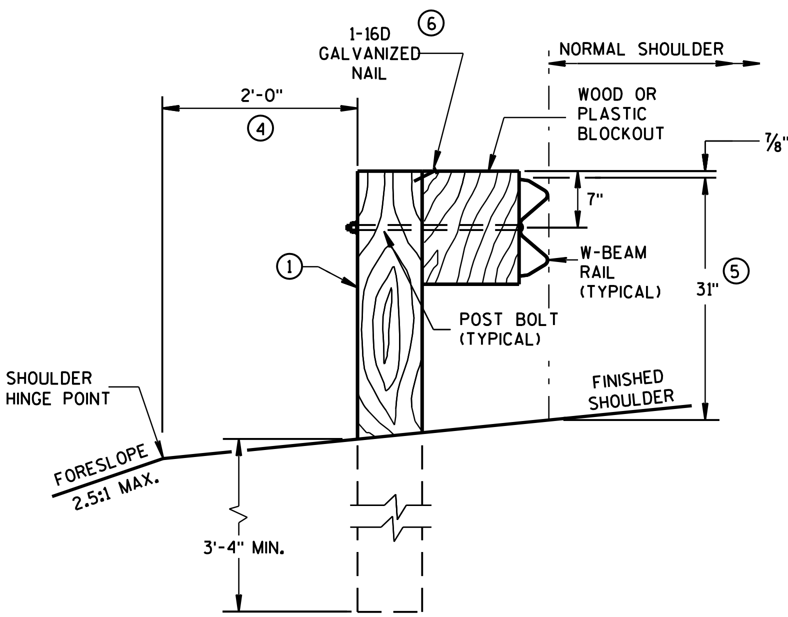
⑥ WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



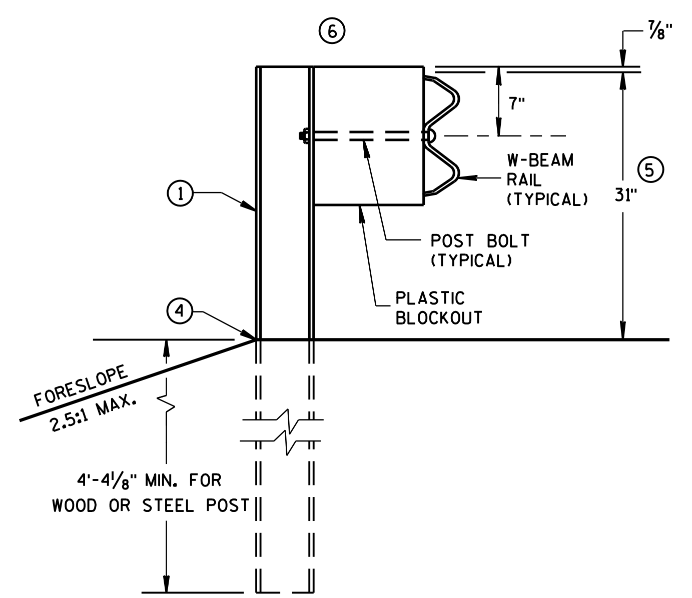
END VIEW
SETTING STEEL OR WOOD POST IN ROCK ③



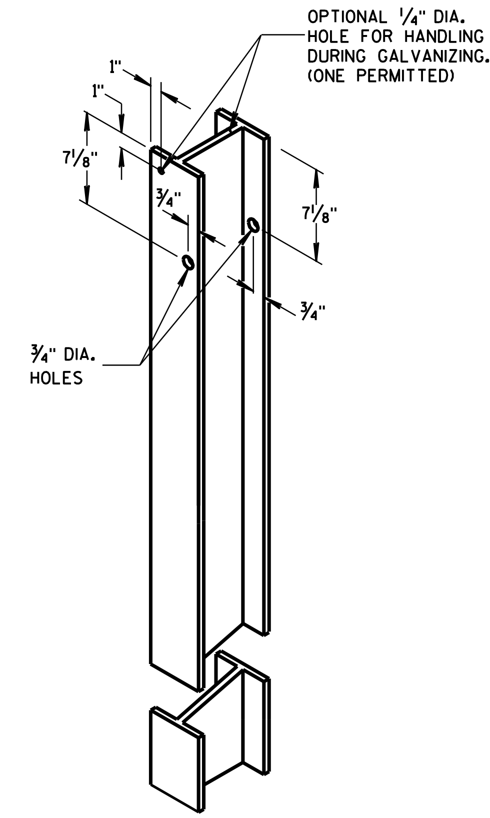
END VIEW
LOCATED ALONG A CURBED ROADWAY



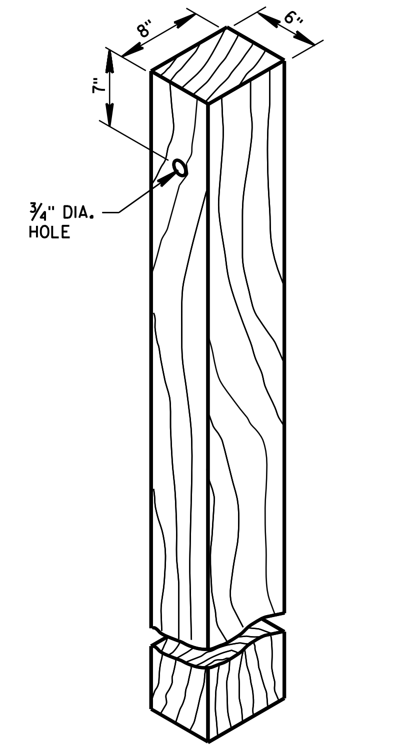
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



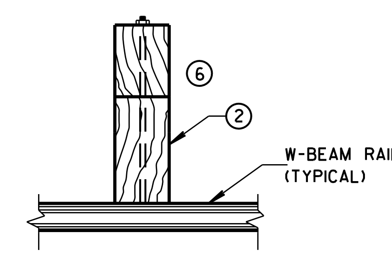
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



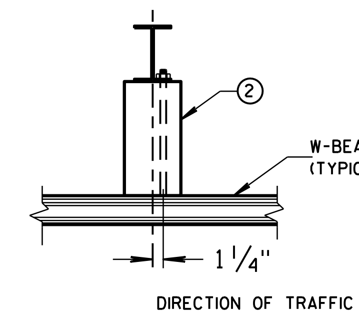
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



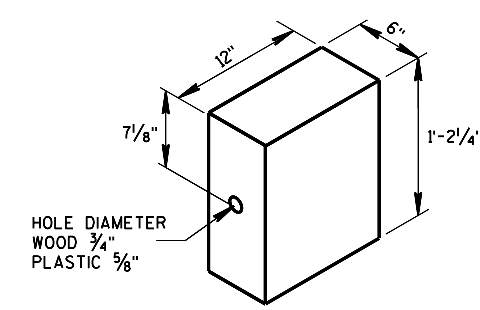
WOOD POST
(6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



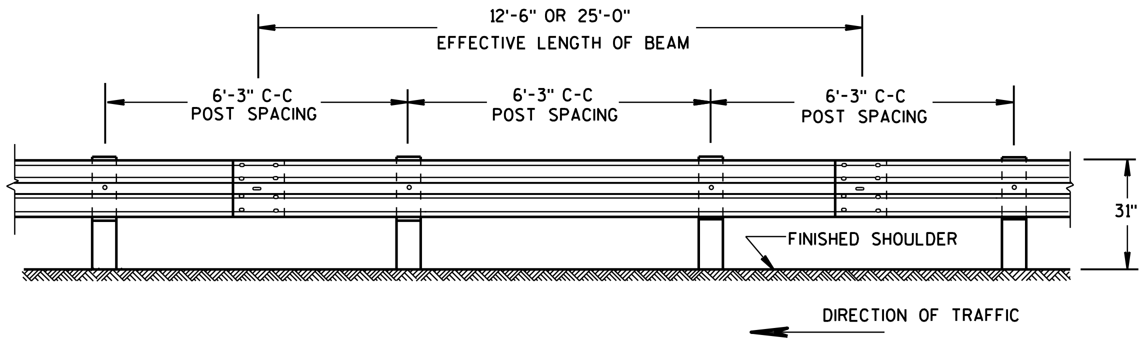
PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②

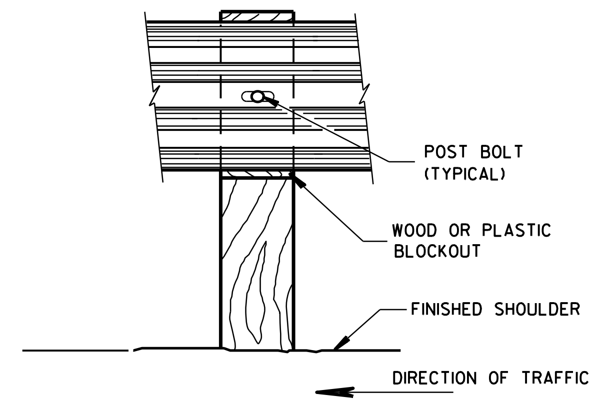
MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO



FRONT VIEW

POST SPACING STANDARD INSTALLATION



FRONT VIEW AT WOOD POST

GENERAL NOTES

(7) PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

(8) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

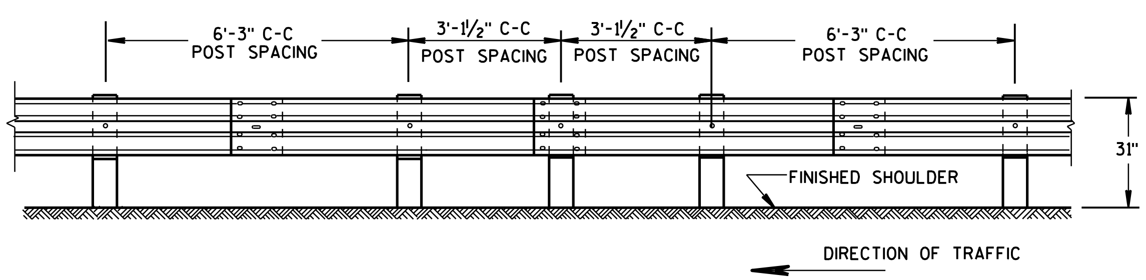
(9) REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

(10) PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

(11) 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

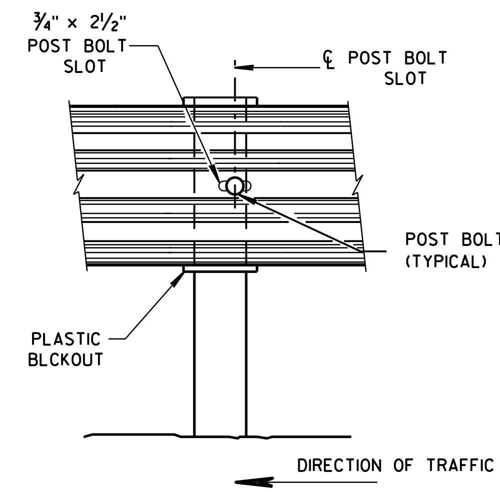
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

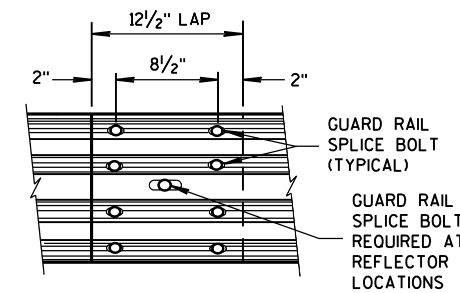


FRONT VIEW

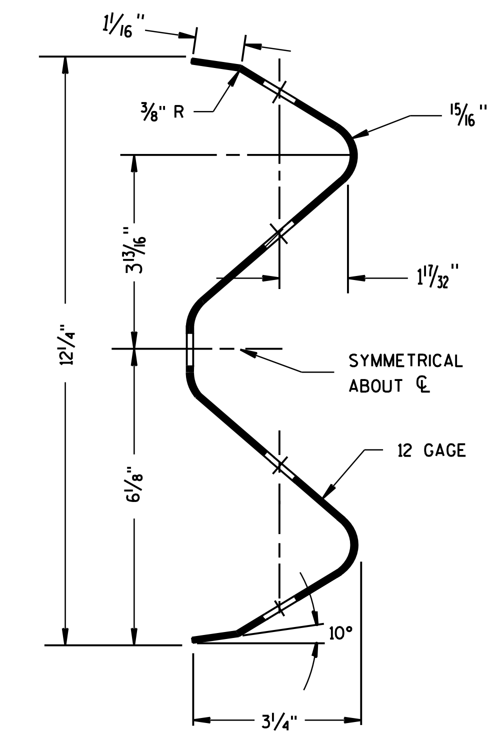
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



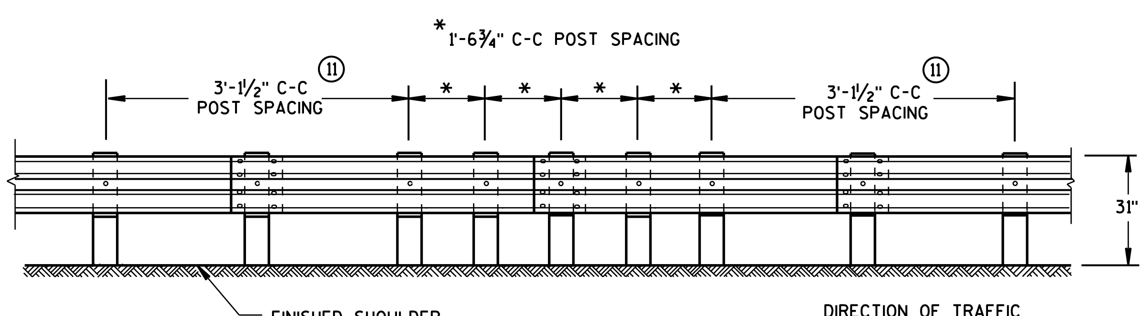
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE

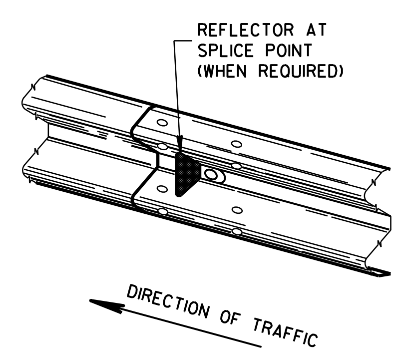


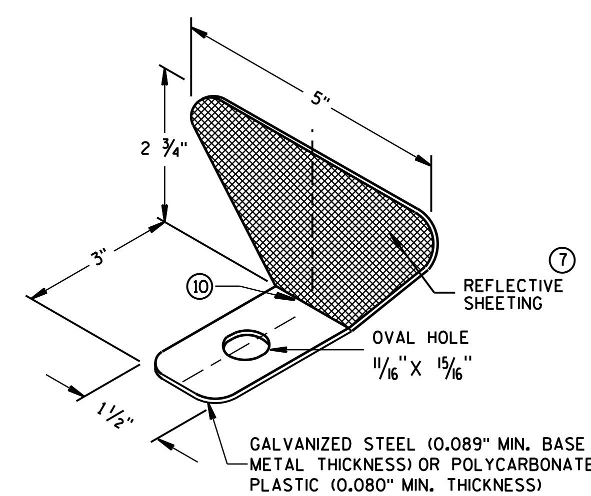
SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (7)

REFLECTOR SPACING (8)

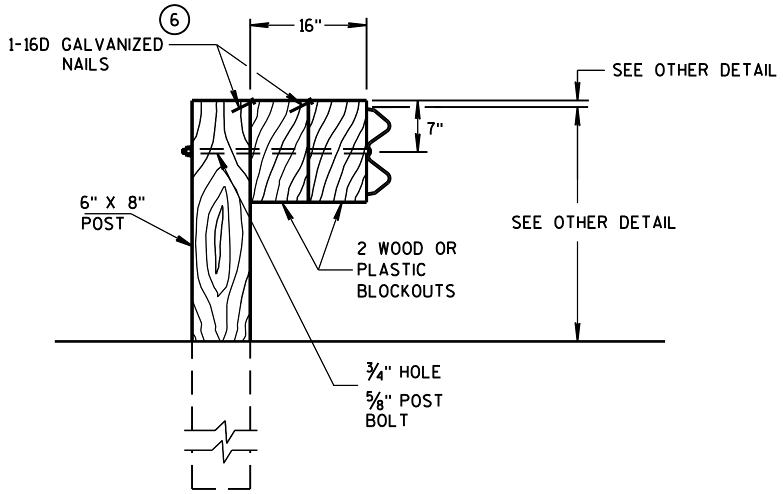
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 (9) 1	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 2 (10)	3

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO 360

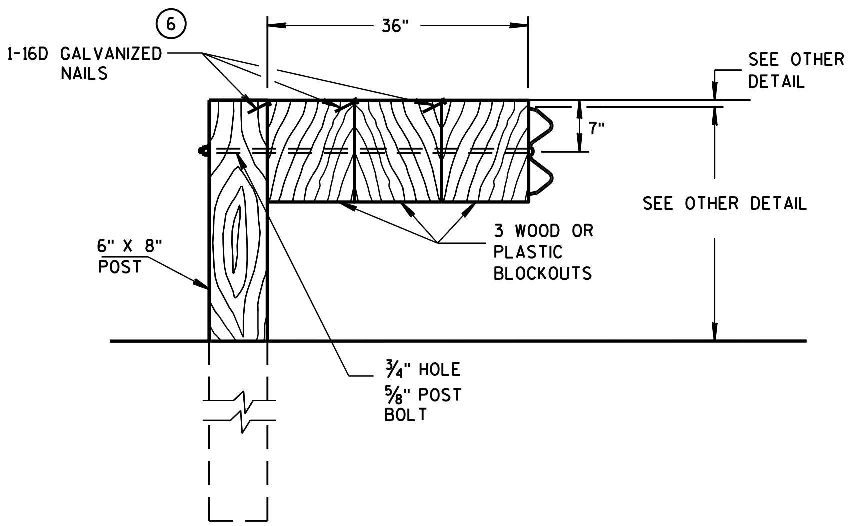
6

S.D.D. 14 B 42-3b



DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

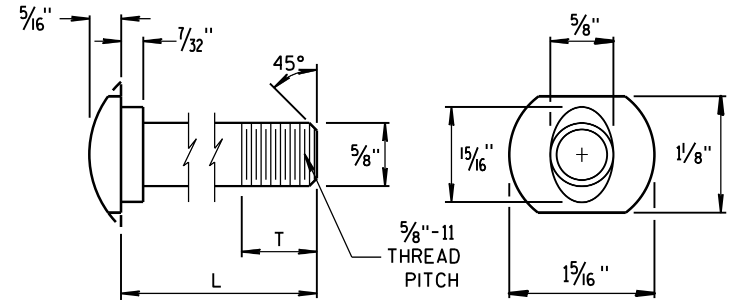


DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

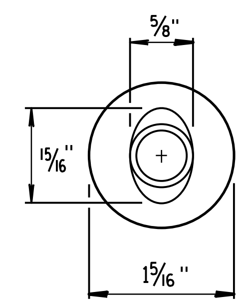
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

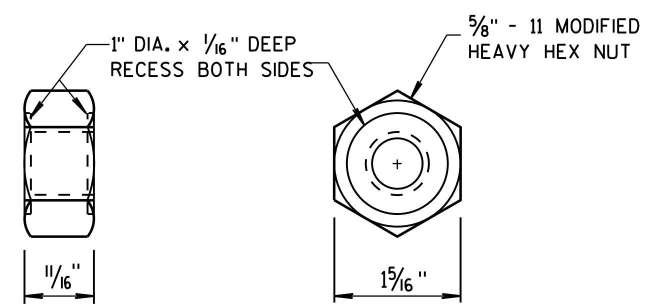


POST BOLT TABLE

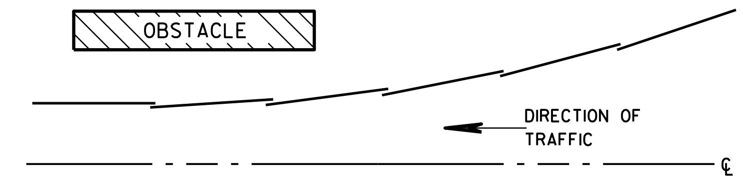
L	T (MIN.)
1¼"	1⅛"
2"	1¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

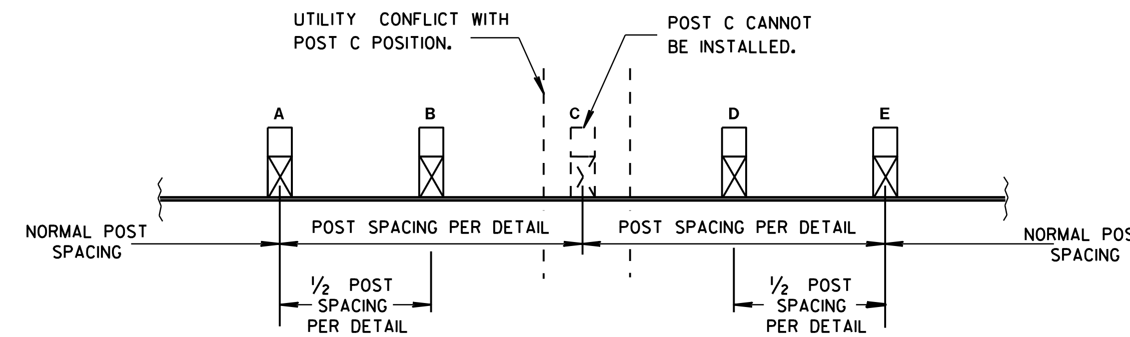


POST BOLT AND RECESS NUT

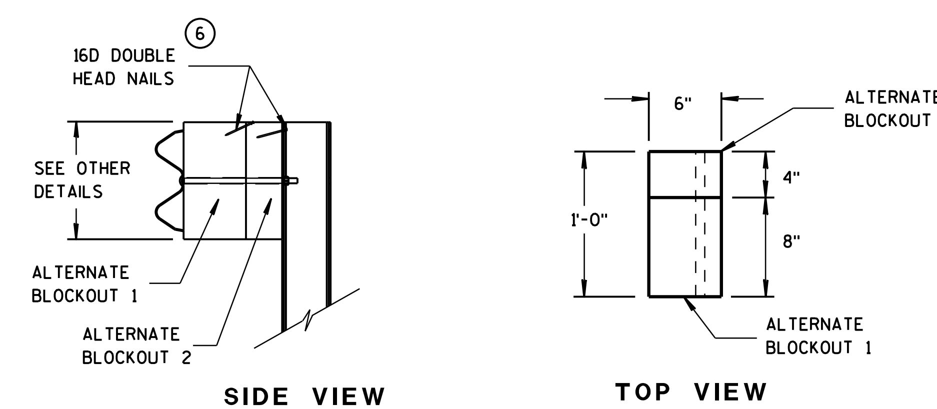


PLAN VIEW

BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



ALTERNATE WOOD BLOCKOUT DETAIL

6

6

S.D.D. 14 B 42-3c

S.D.D. 14 B 42-3c

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED

June 2014 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

GENERAL NOTES

Ⓐ 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.

Ⓑ AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

Ⓒ DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

Ⓓ THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

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

Ⓖ 1/2" DIAMETER X 3" LONG LAG BOLT AND WASHER.

Ⓗ HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

Ⓘ DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

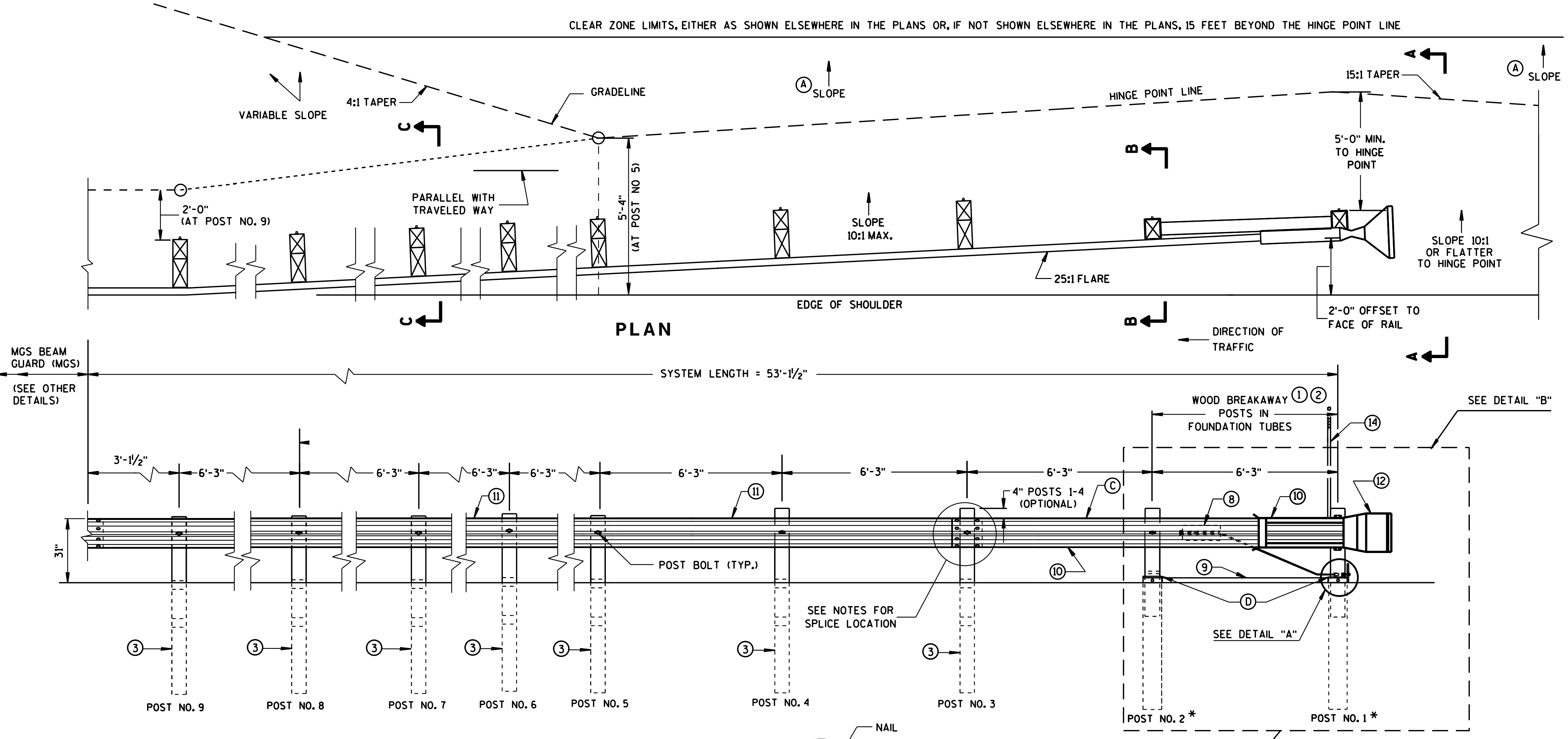
SEE SDD 14B42 FOR MORE INFORMATION.

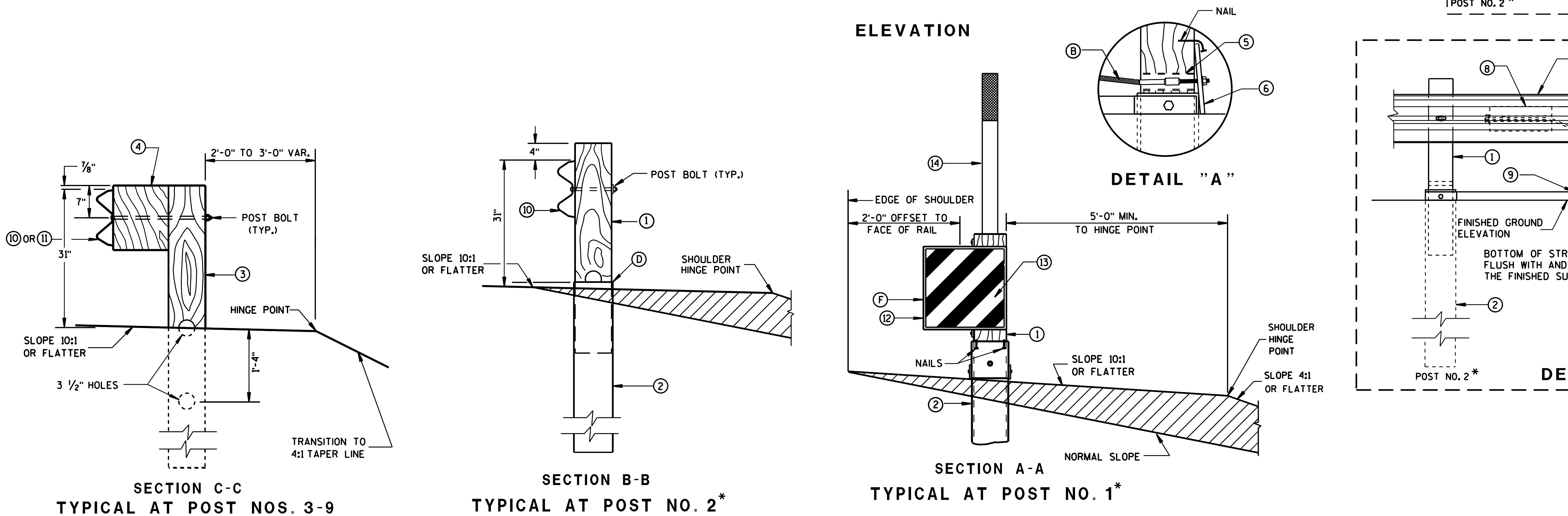
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

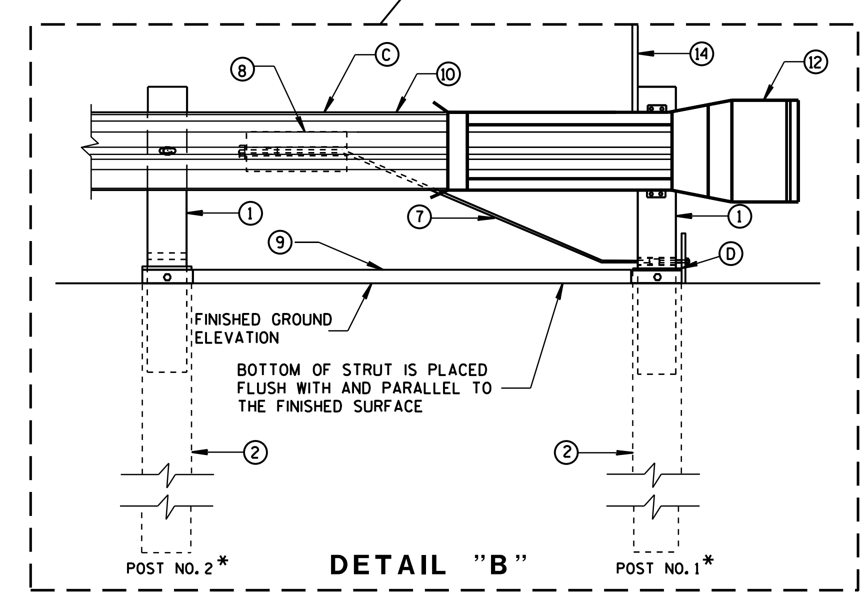
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

THE CENTER OF THE UPPER 3 1/2" 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.





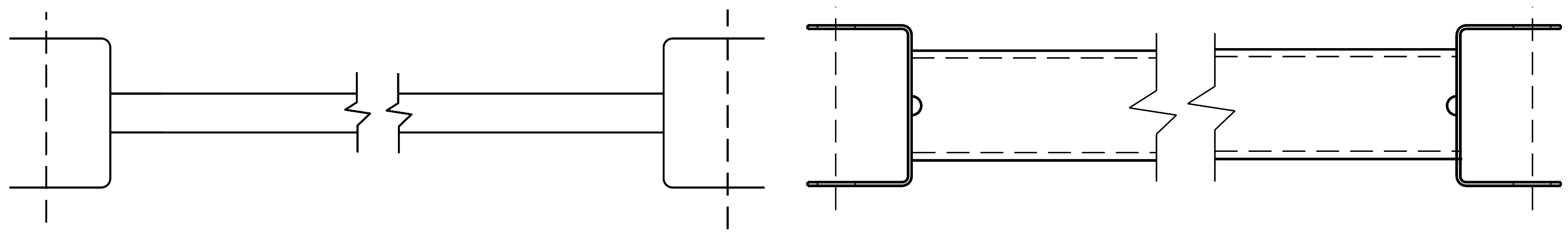


MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

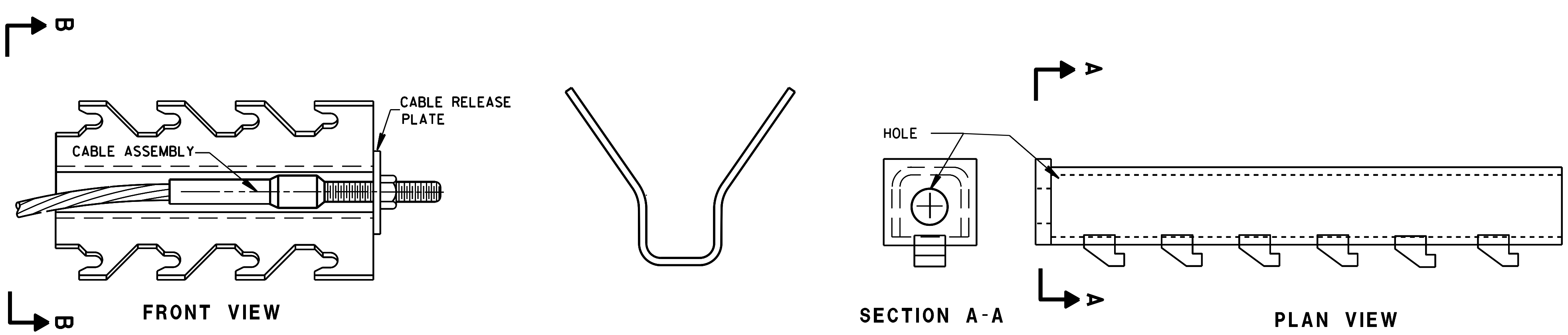
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

BILL OF MATERIALS

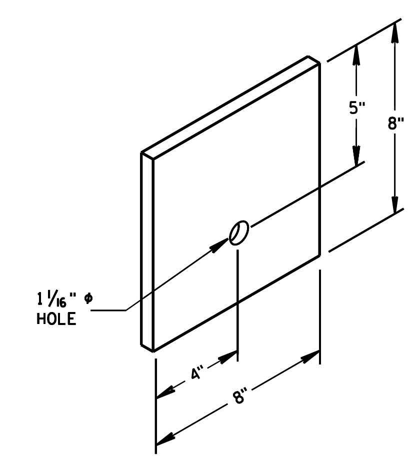
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
1	WOOD BREAKAWAY POST
2	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
3	WOOD CRT
4	WOOD BLOCKOUT
5	PIPE SLEEVE
6	BEARING PLATE
7	BCT CABLE ASSEMBLY
8	ANCHOR CABLE BOX
9	GROUND STRUT
10	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
11	STANDARD W-BEAM RAIL, MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
12	END SECTION EAT
13	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
14	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



GENERIC GROUND STRUT 9 H



GENERIC ANCHOR CABLE BOX 8 H



BEARING PLATE 6

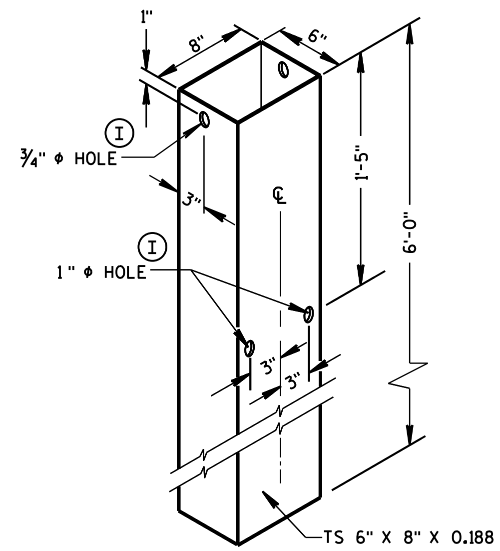
6

6

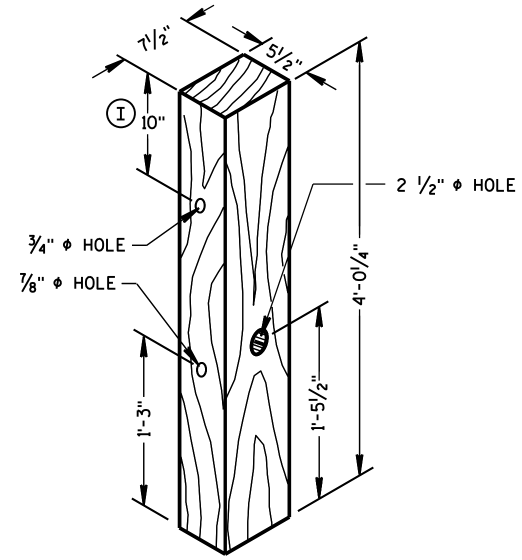
S.D.D. 14 B 44-2b

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN DEPARTMENT OF TRANSPOR

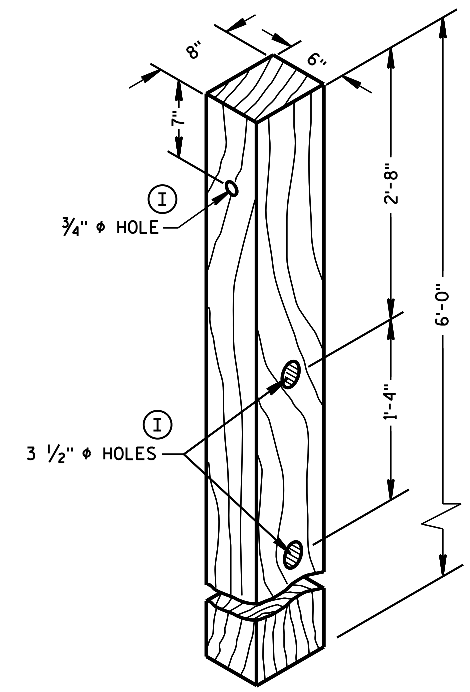


FOUNDATION TUBE (2)



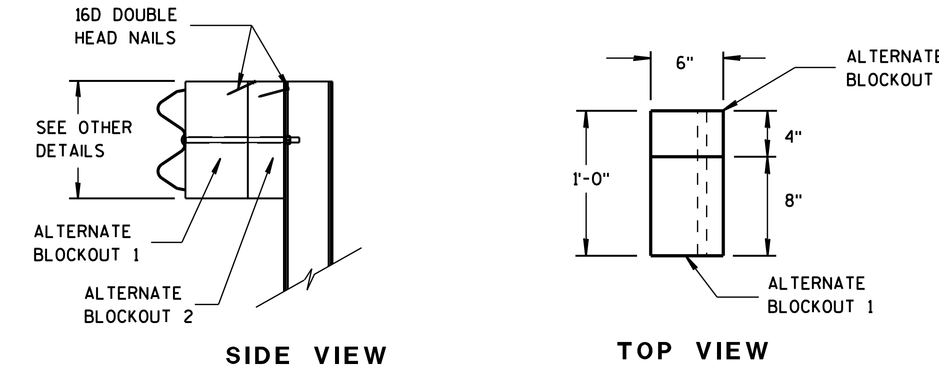
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

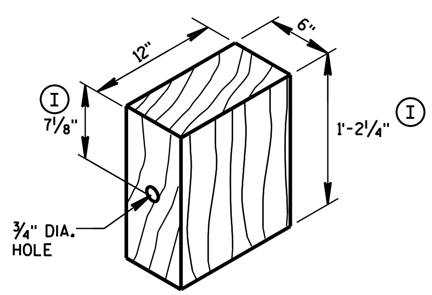


POSTS NUMBER 3-9

WOOD CRT POST (3)

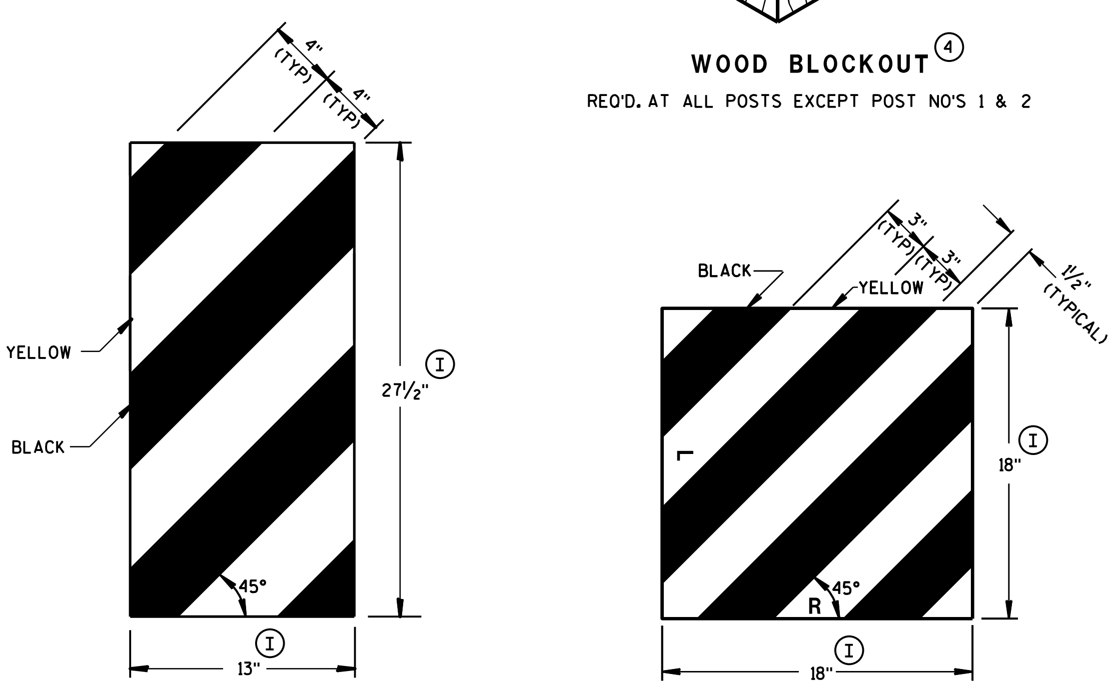


ALTERNATE WOOD BLOCKOUT DETAIL

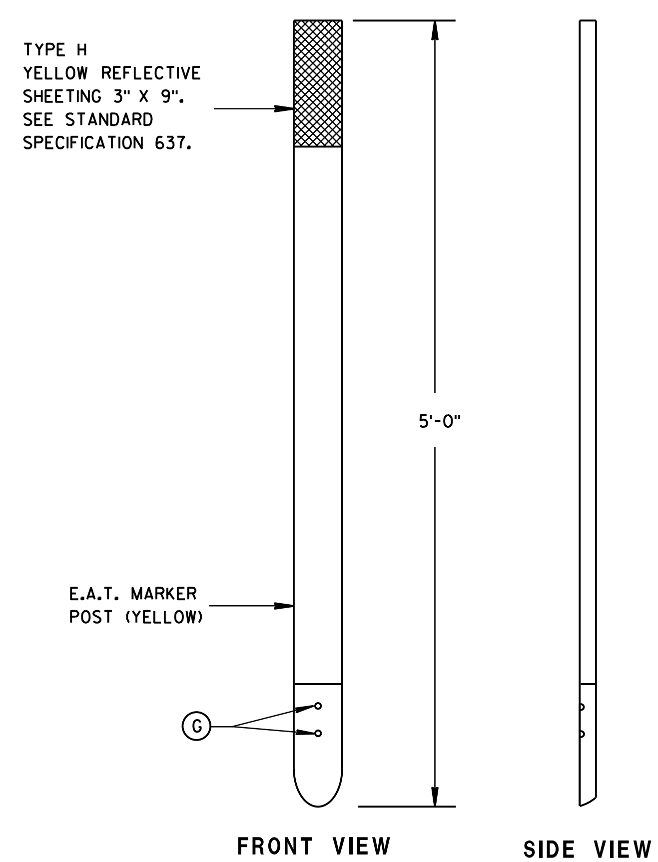


WOOD BLOCKOUT (4)

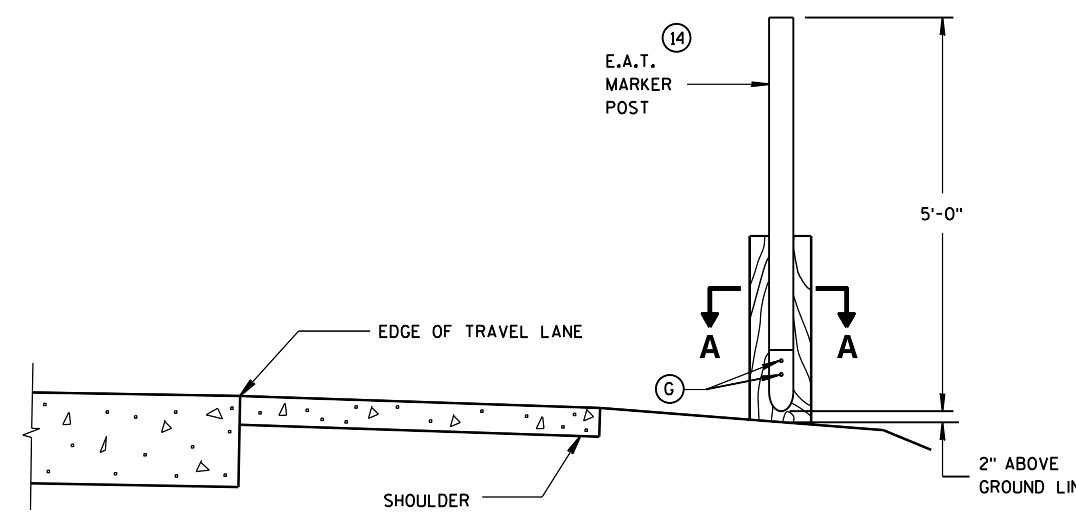
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



GENERIC REFLECTIVE SHEETING (13) (H)

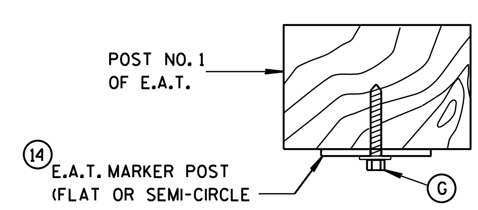


E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)

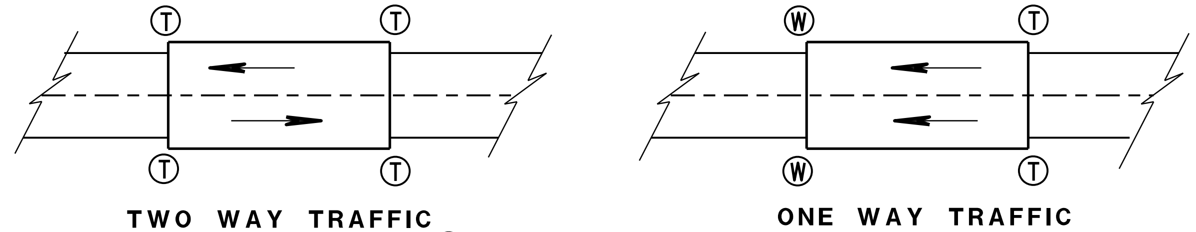


SECTION A-A

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

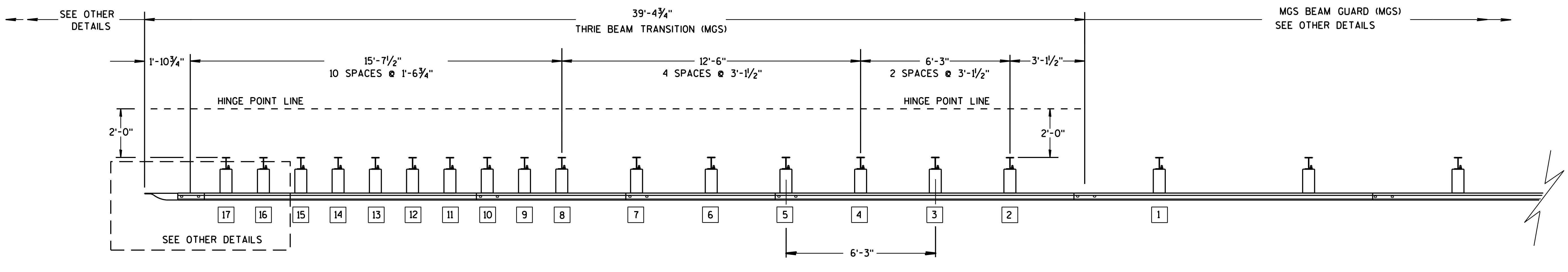
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

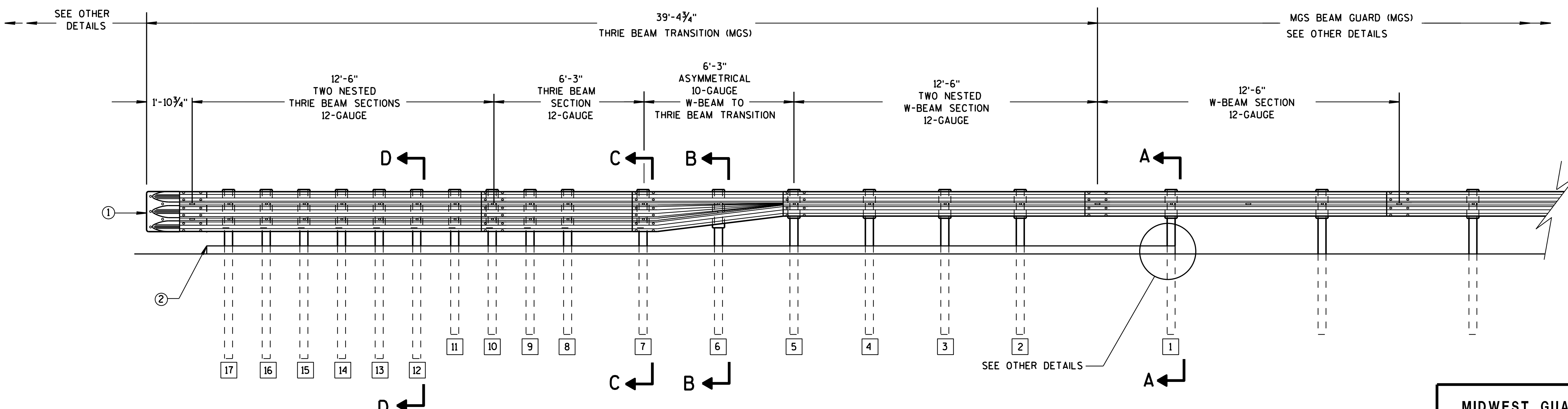
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

6

6

S.D.D. 14 B 45-4a

S.D.D. 14 B 45-4a

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

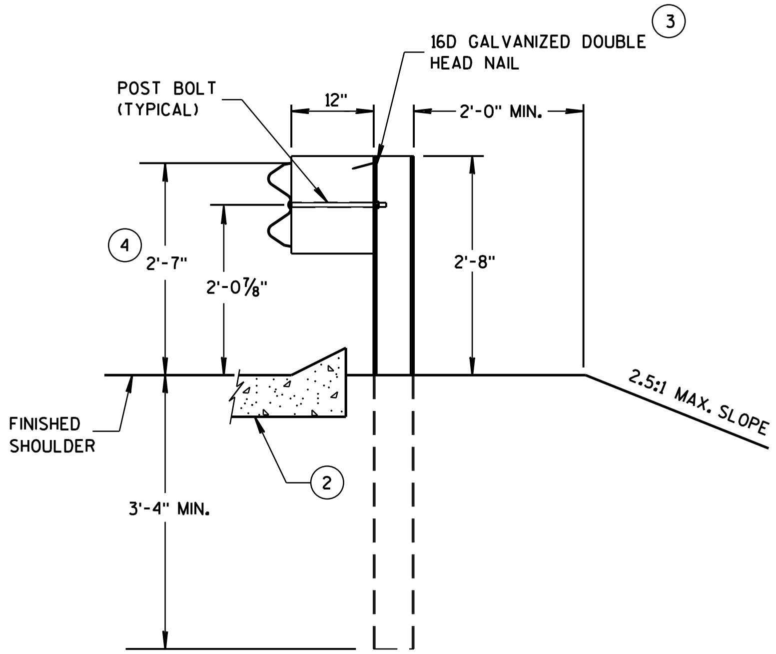
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

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

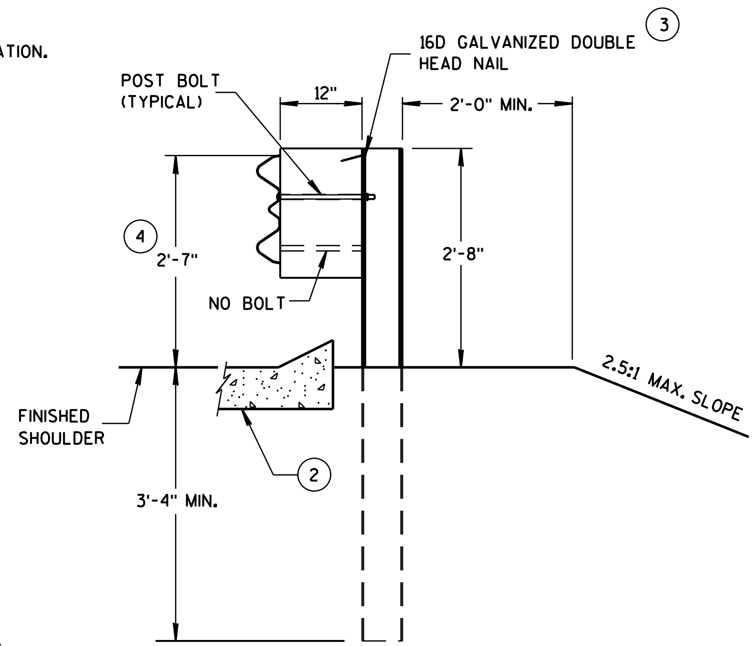
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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



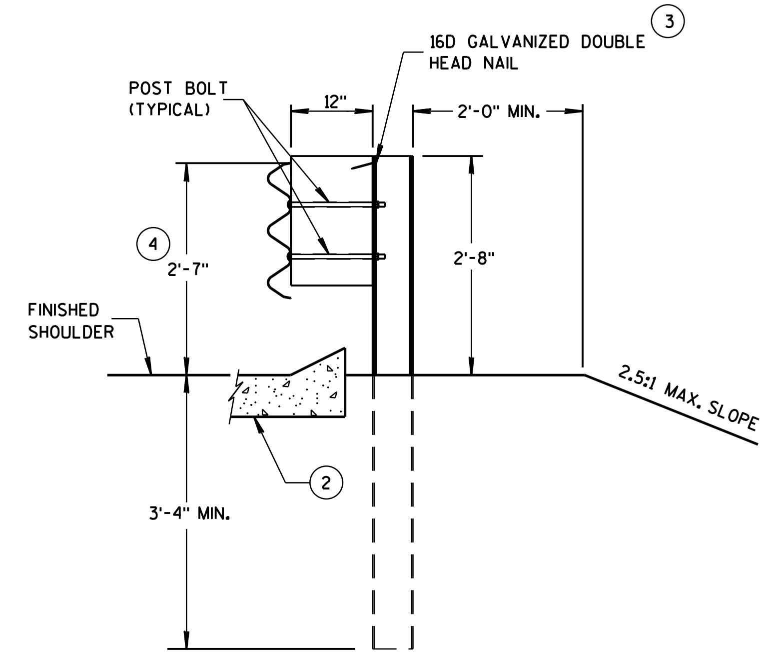
SECTION A-A

POSTS 1-5



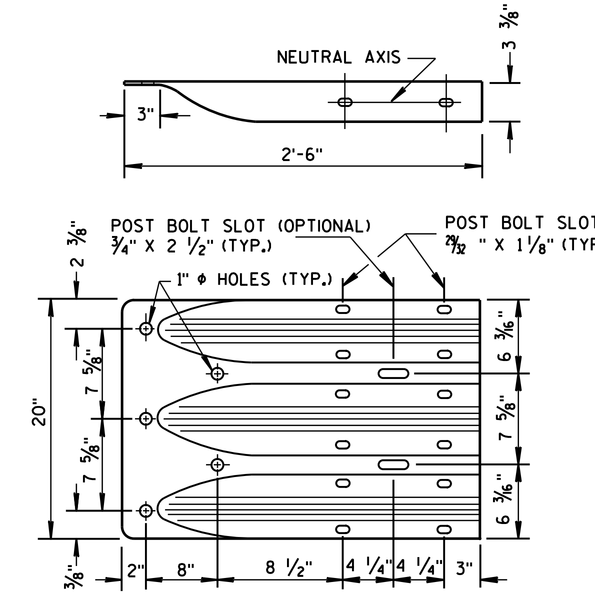
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

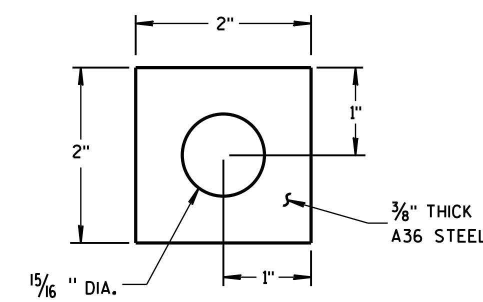
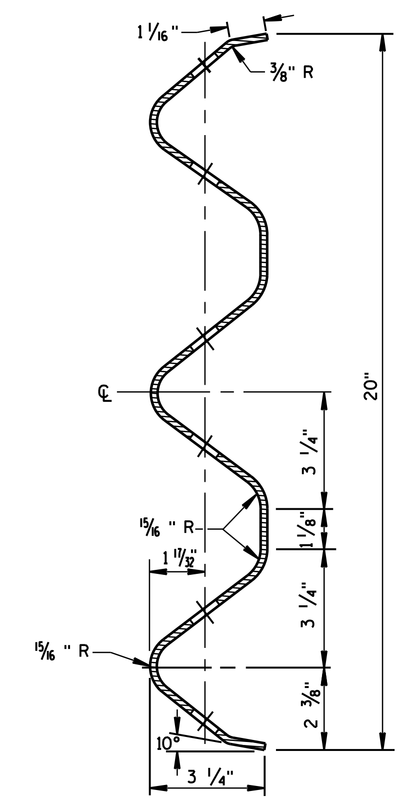
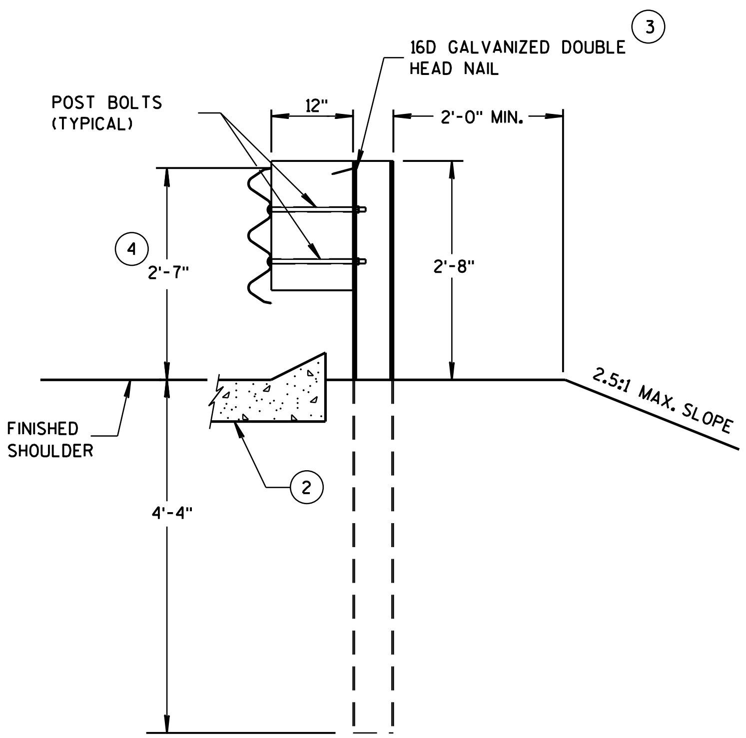


PLATE WASHER DETAIL

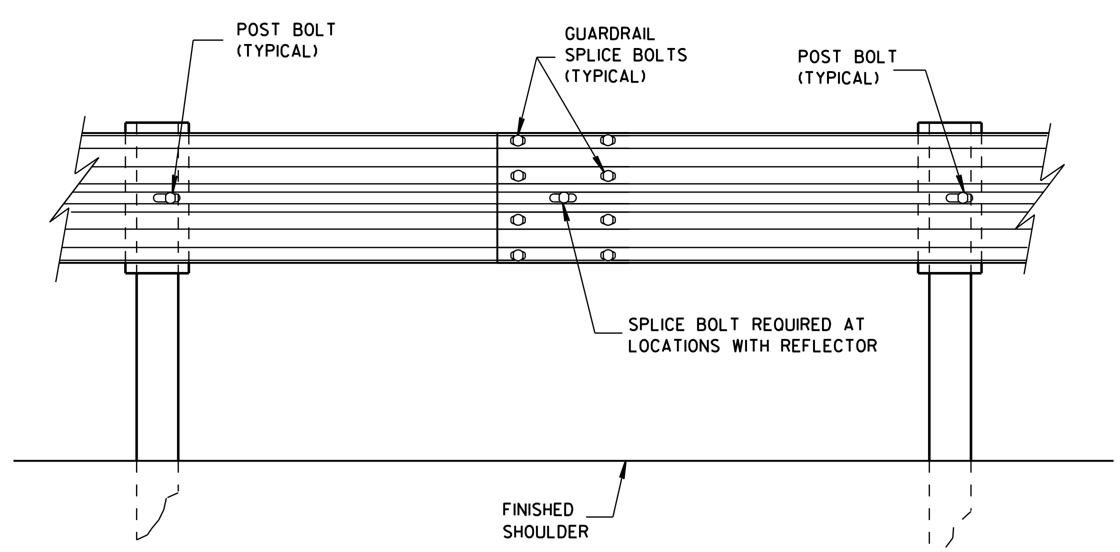


SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

POSTS 12-17



SPLICE DETAIL

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

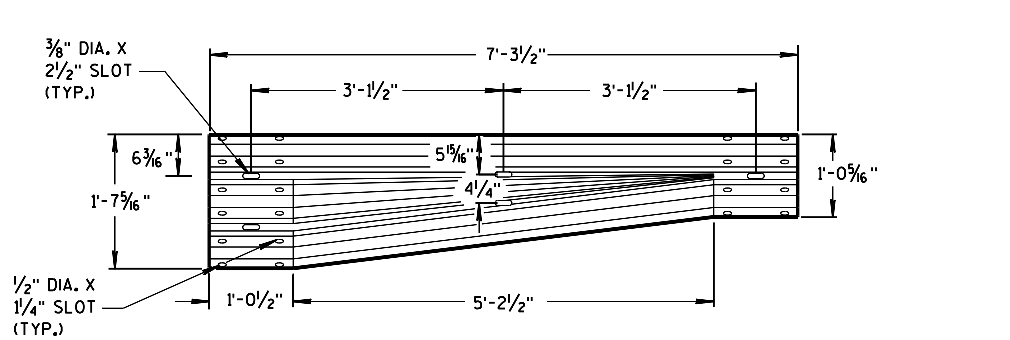
STATE OF WISCONSIN DEPARTMENT OF TRANSPO

6

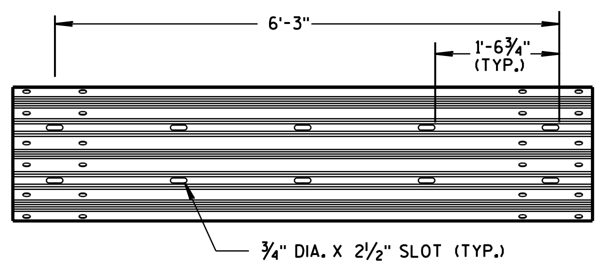
6

S.D.D. 14 B 45-4b

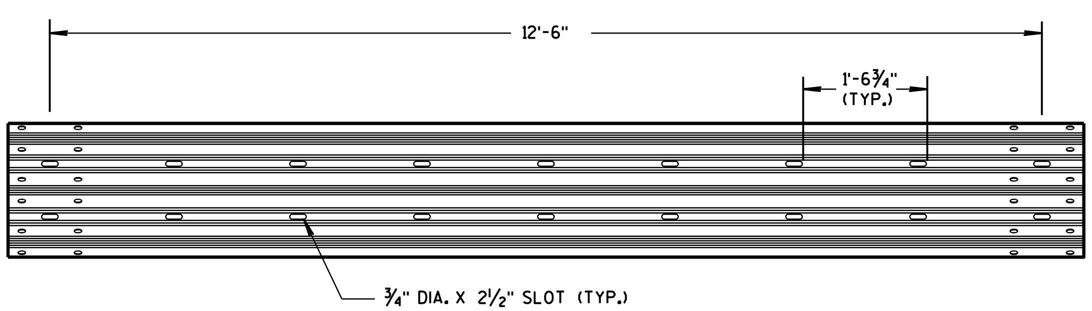
S.D.D. 14 B 45-4b



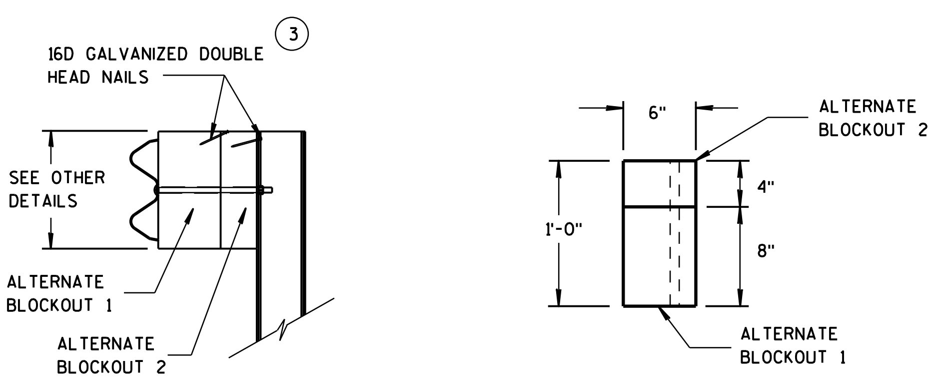
W-BEAM TO THRIE BEAM TRANSITION SECTION



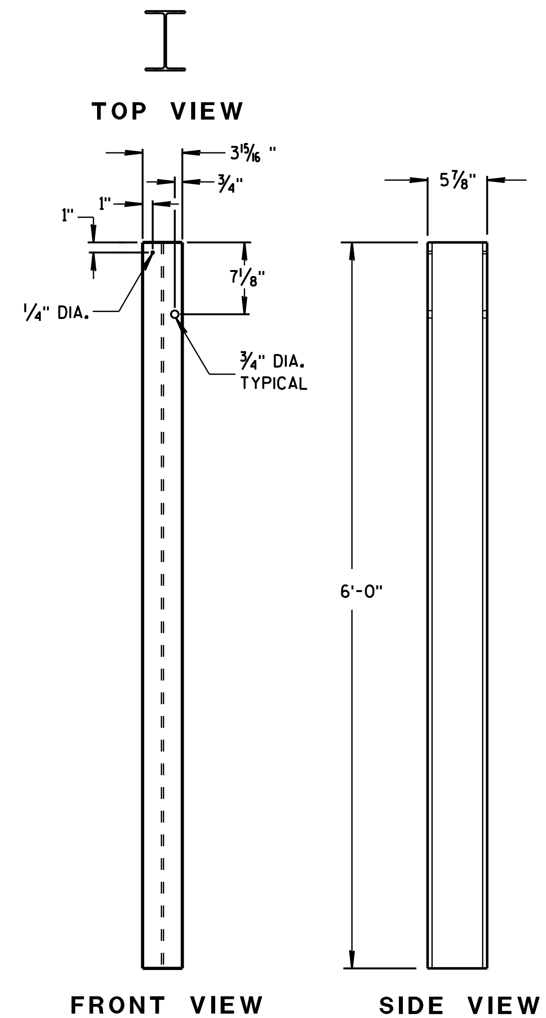
6'-3" THRIE BEAM SECTION



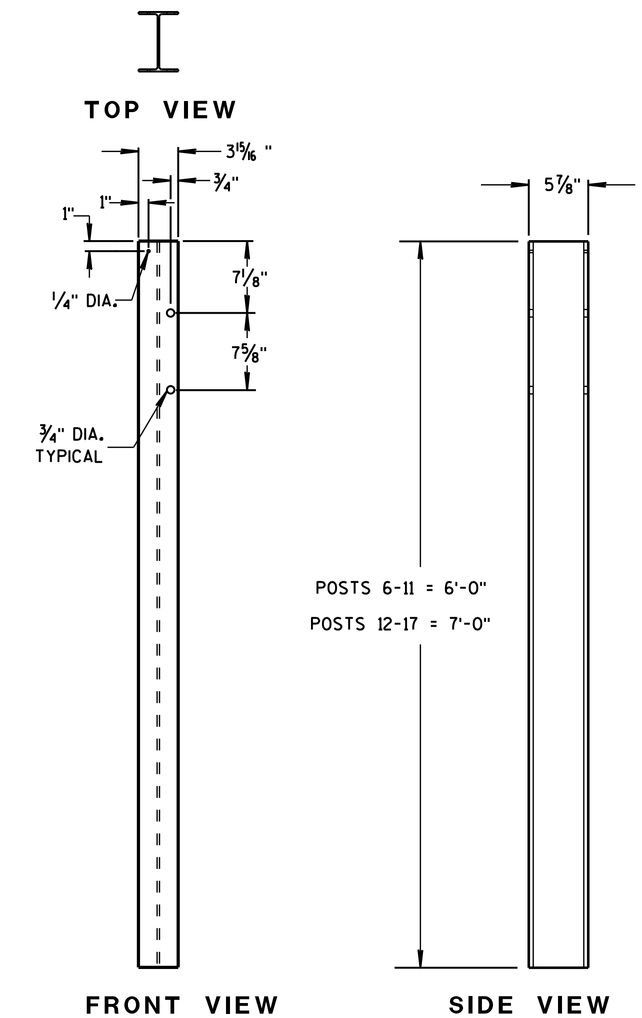
12'-6" THRIE BEAM SECTION



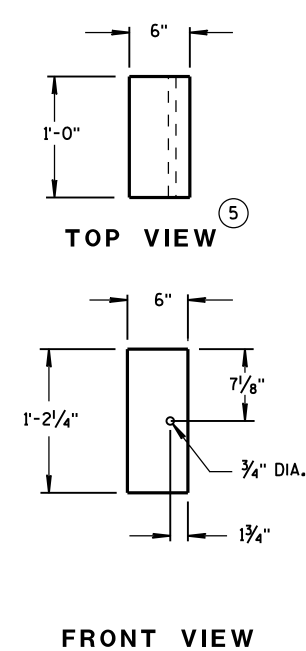
ALTERNATE WOOD BLOCKOUT DETAIL



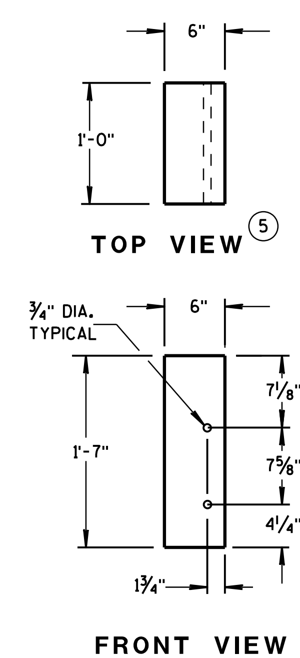
STEEL POSTS 1-5



STEEL POSTS 6-17



BLOCKOUT POSTS 1-5



BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

3 WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

5 WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

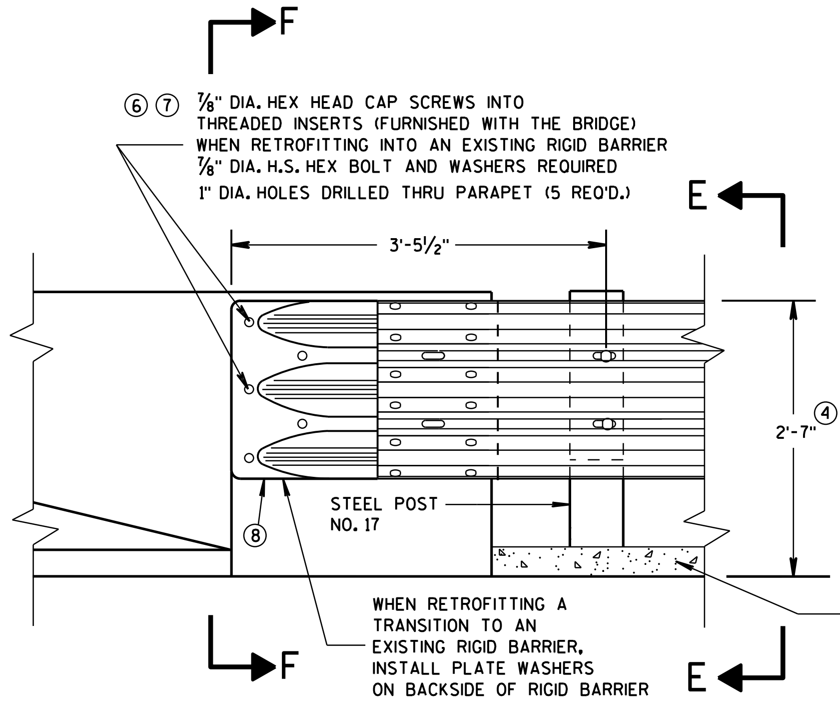
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

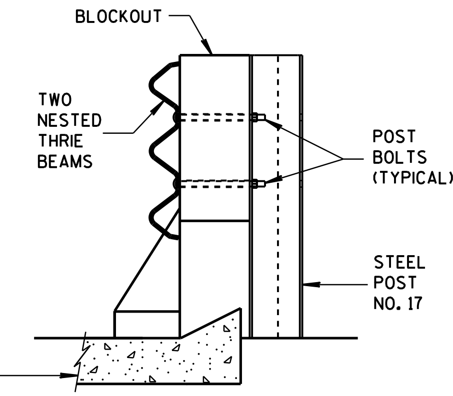
6

S.D.D. 14 B 45-4c

S.D.D. 14 B 45-4c



FRONT VIEW



SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

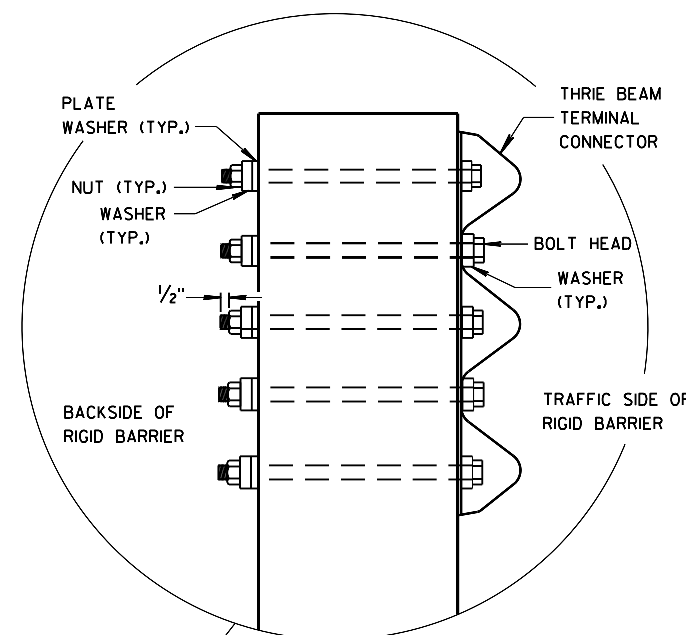
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

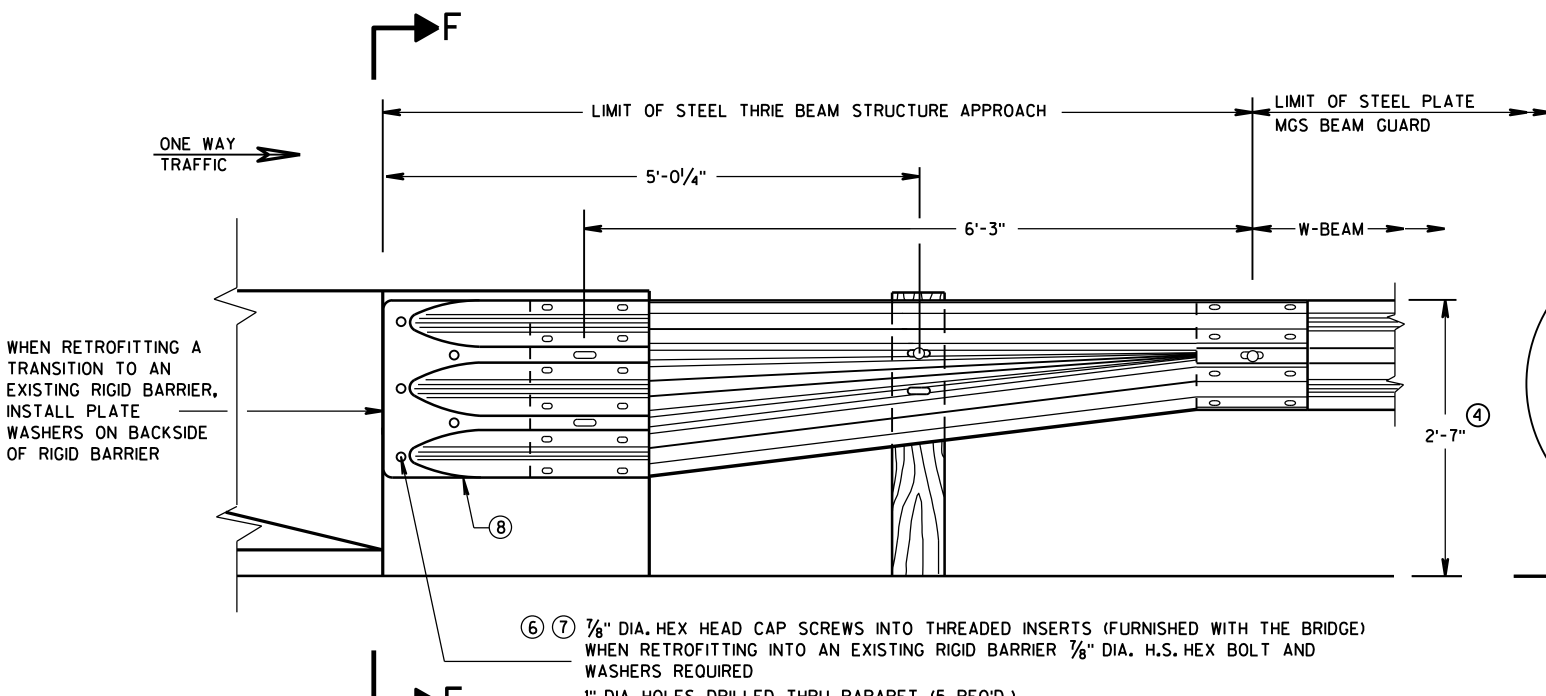
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

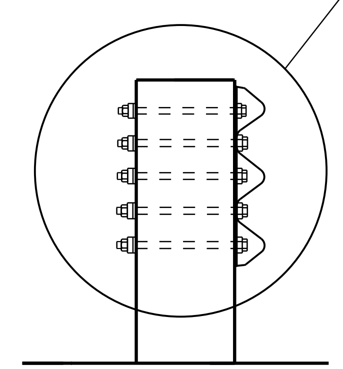
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

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

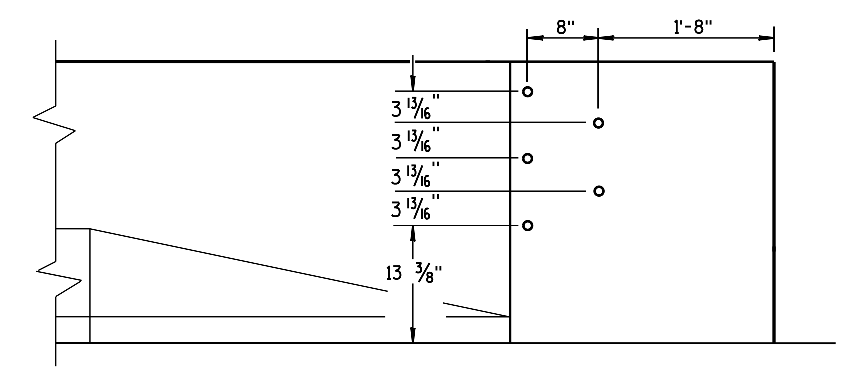




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June, 2015	/S/ Jerry H. Zogg
DATE	ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

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

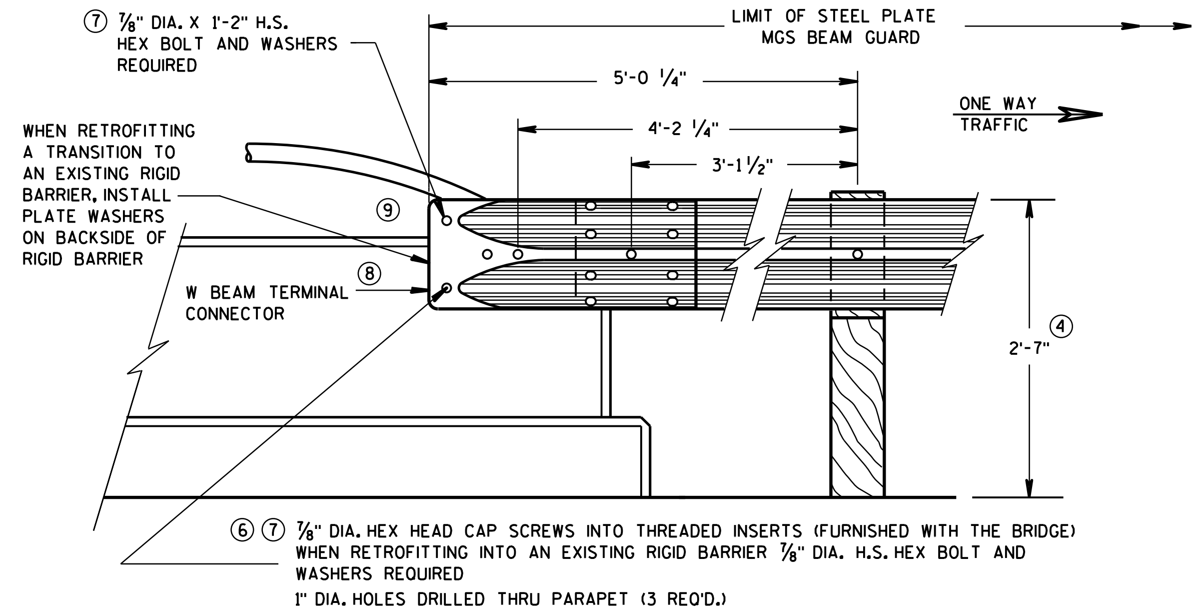
4. TOLERANCE FOR TOP OF BEAM IS ± 1".

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

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

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

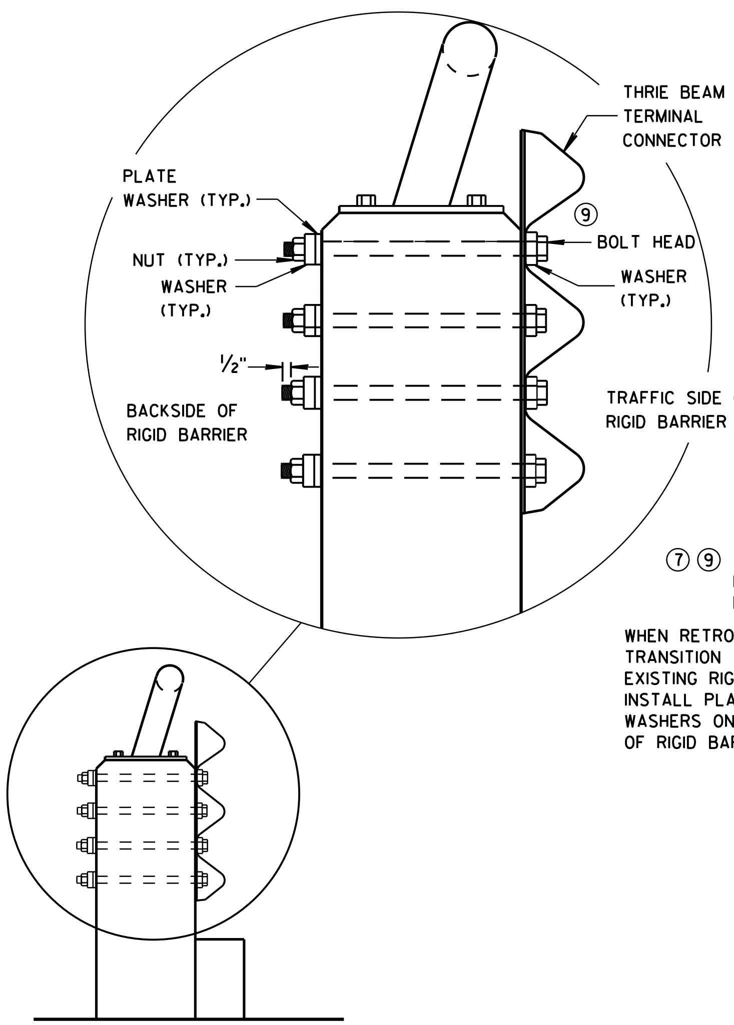
9. BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.



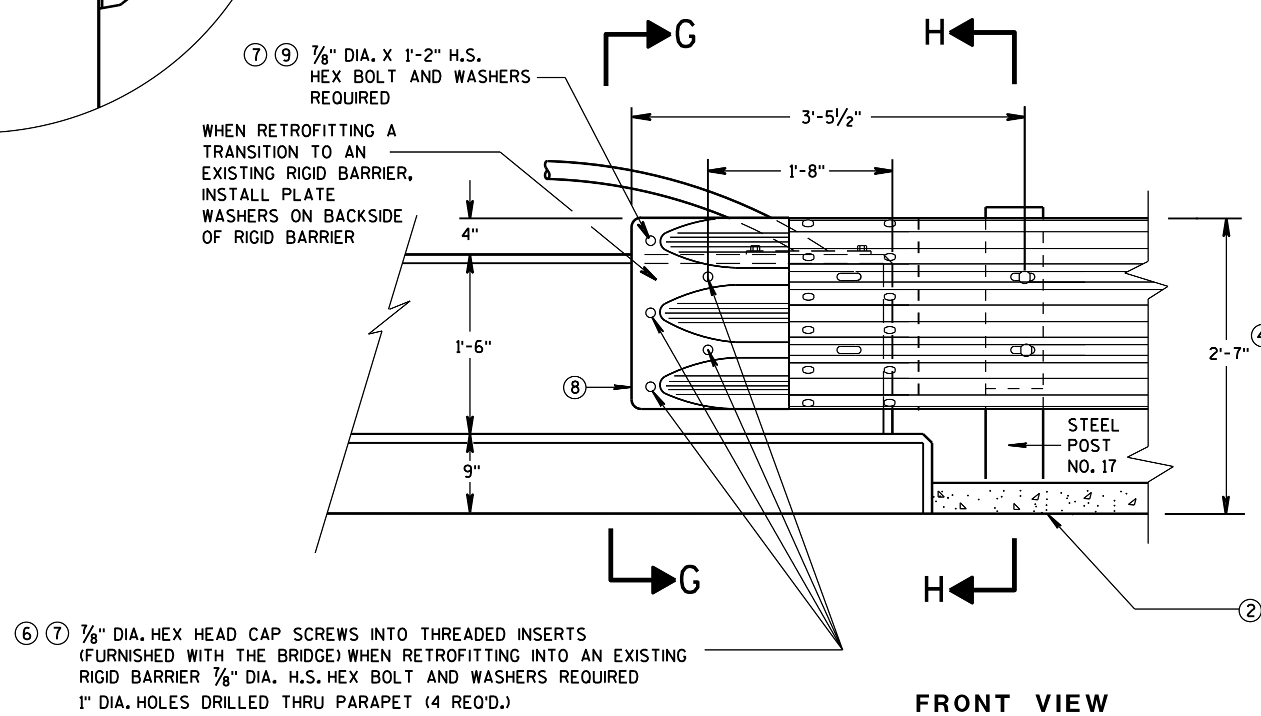
FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

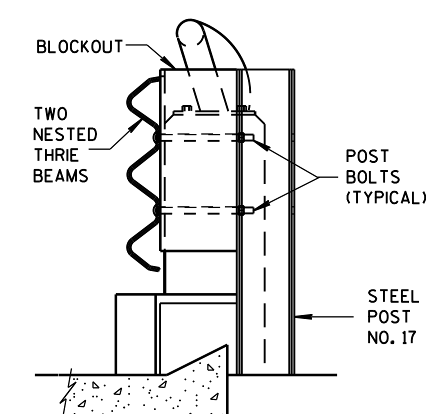
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



SECTION G-G



FRONT VIEW



SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED June, 2015 — DATE /S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER FHWA

6

S.D.D. 14 B 45-4e

6

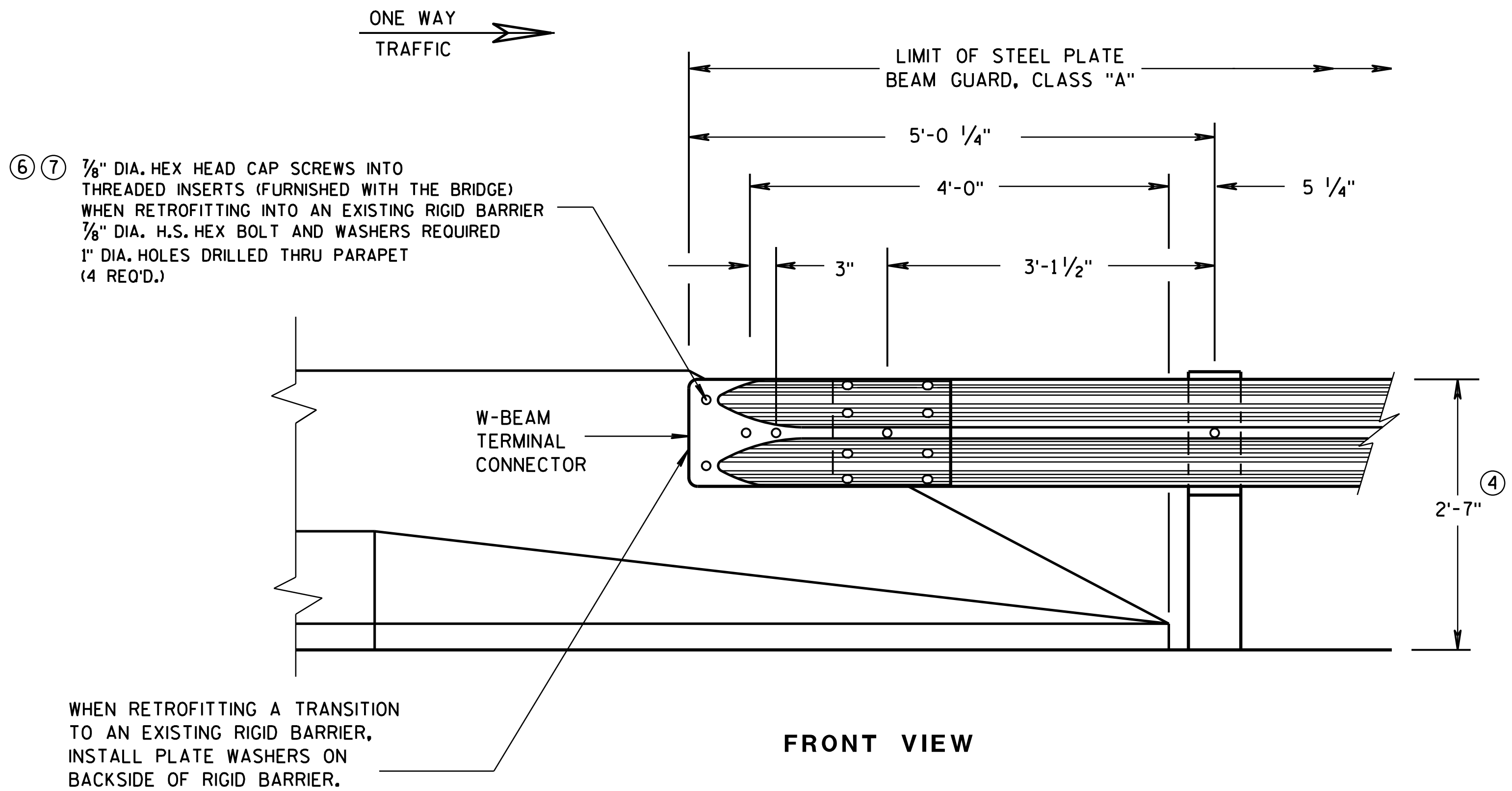
GENERAL NOTES

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

④ TOLERANCE FOR TOP OF BEAM IS ± 1".

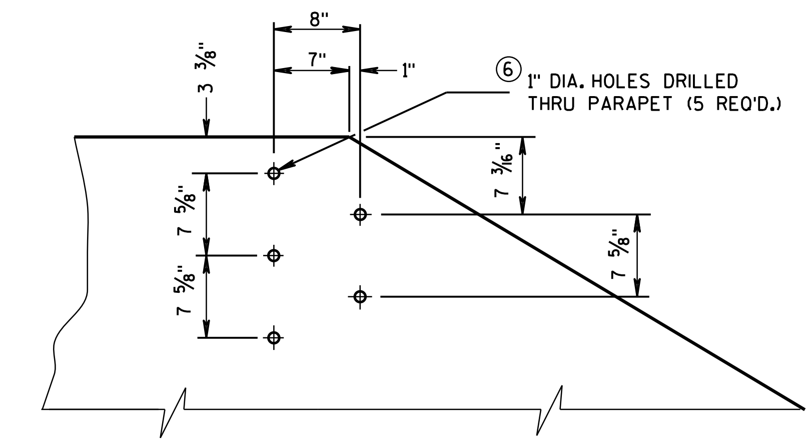
⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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 ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



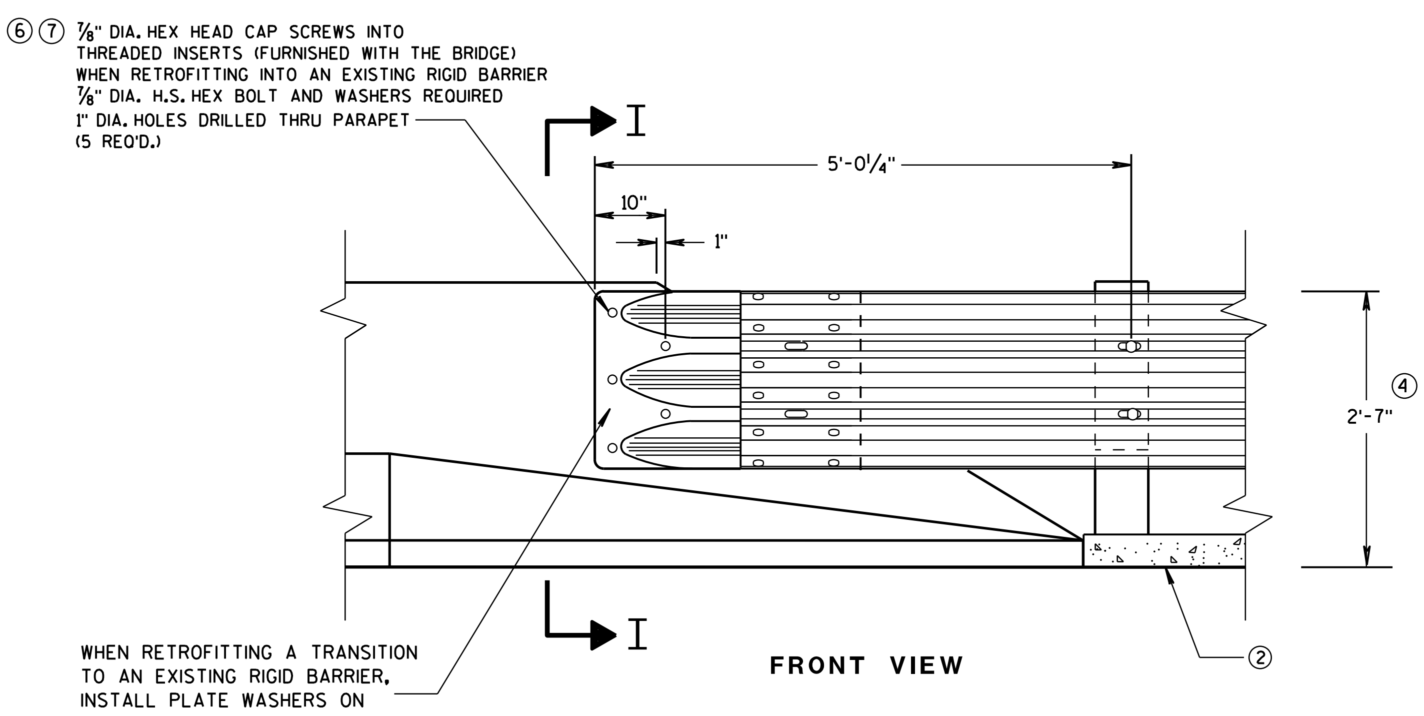
FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS
(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

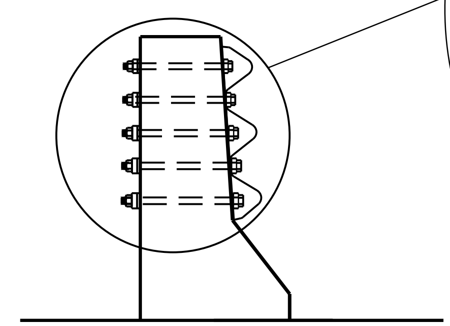


DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION

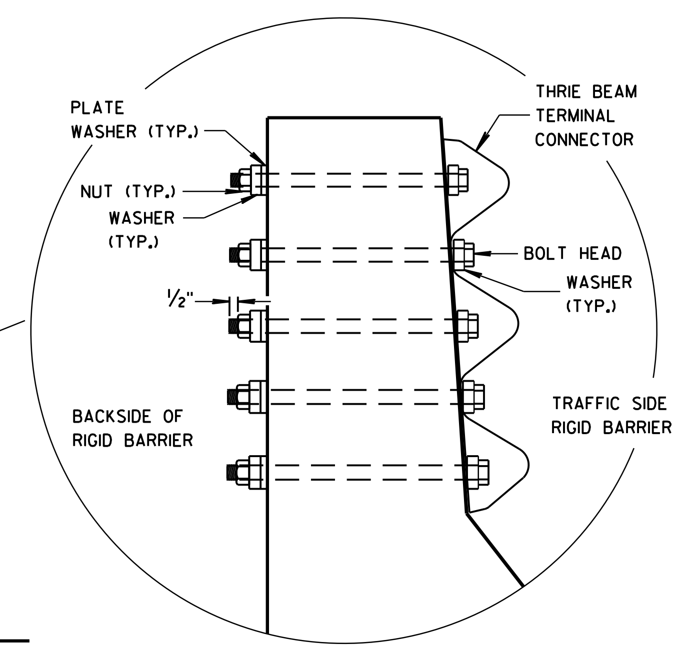
6



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

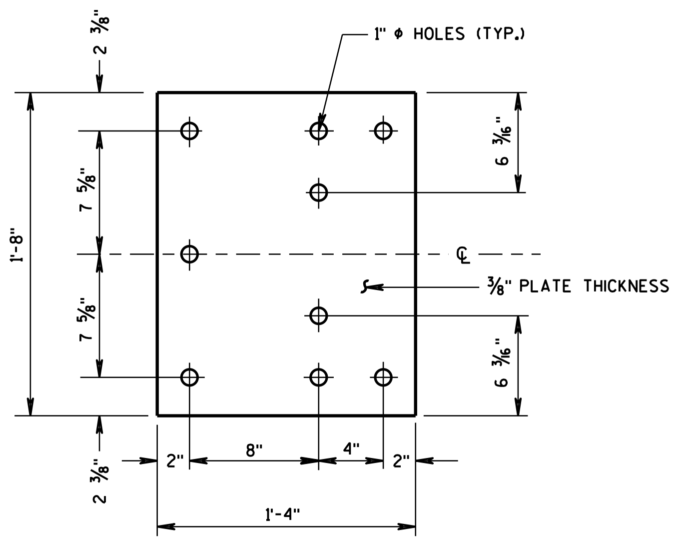
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June, 2015 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

6

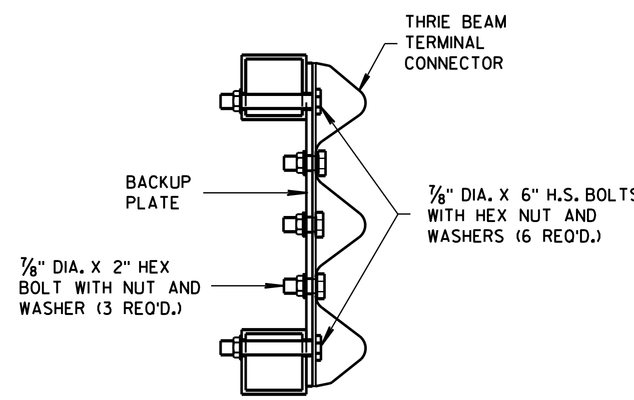
GENERAL NOTES

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

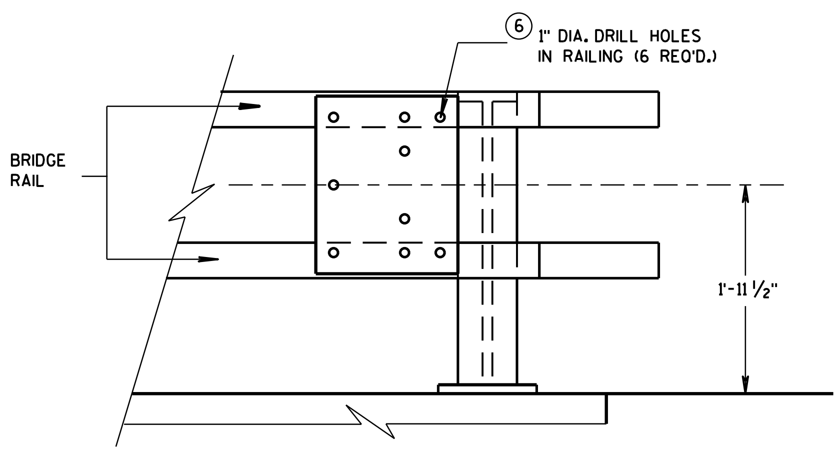
(6) DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.



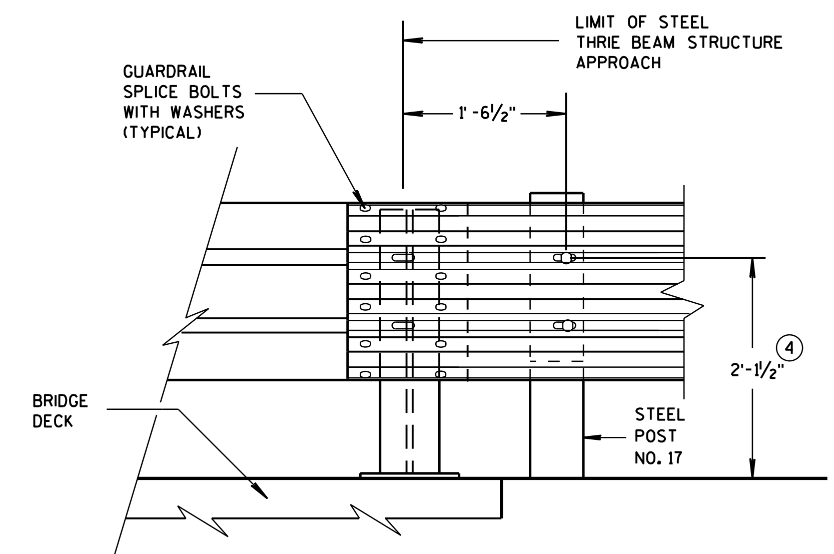
BACK-UP PLATE DETAIL



SECTION J-J

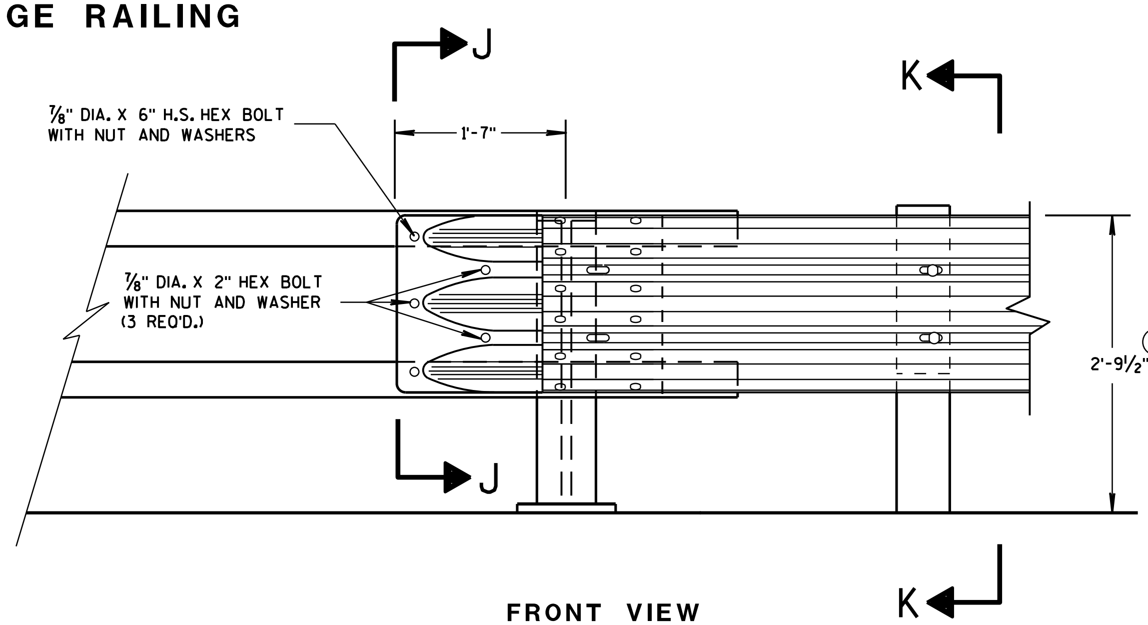


BACK-UP PLATE MOUNTING
ONTO BRIDGE RAILING



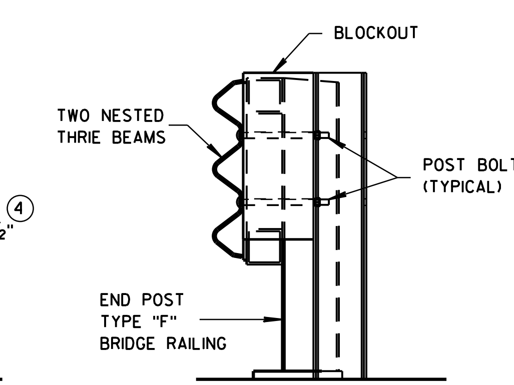
FRONT VIEW

THRIE BEAM CONNECTION TO
STEEL RAILING TYPE "W"



FRONT VIEW

THRIE BEAM CONNECTION TO
TUBULAR RAILING TYPE "F"



SECTION K-K

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
APPROVED June, 2015 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS D 371 ENGINEER	NT
FHWA		

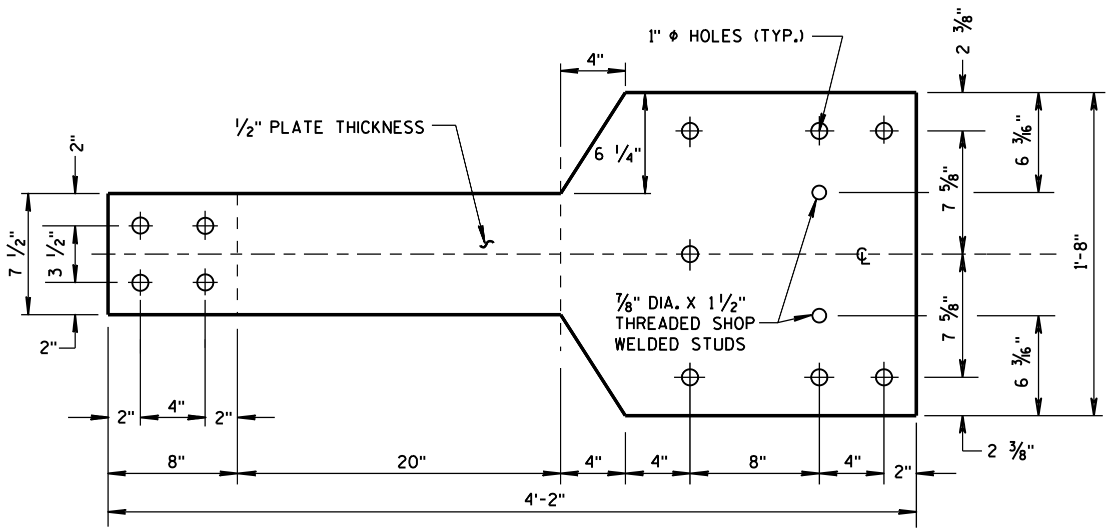
S.D.D. 14 B 45-4g

6

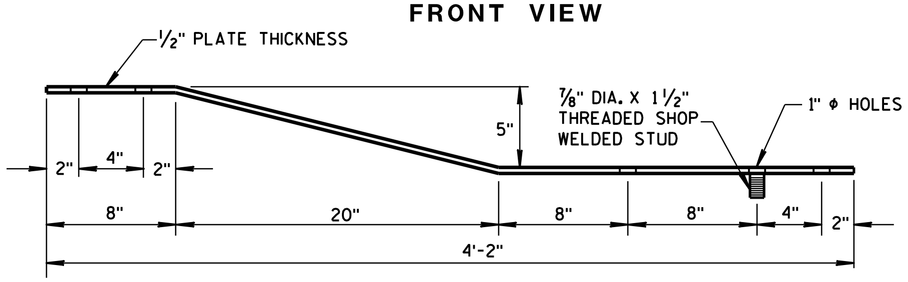
S.D.D. 14 B 45-4g

GENERAL NOTES

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

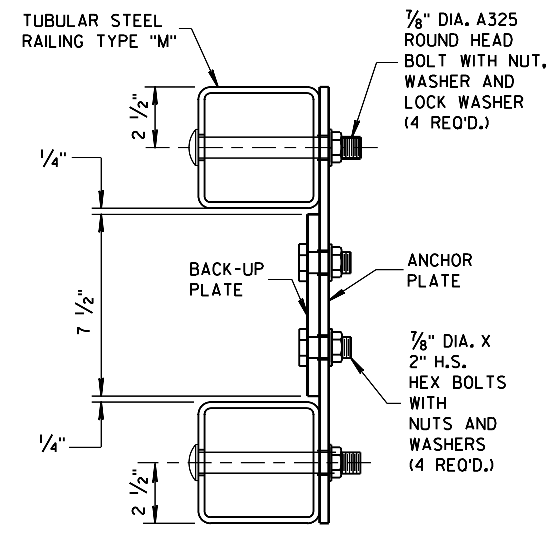


FRONT VIEW

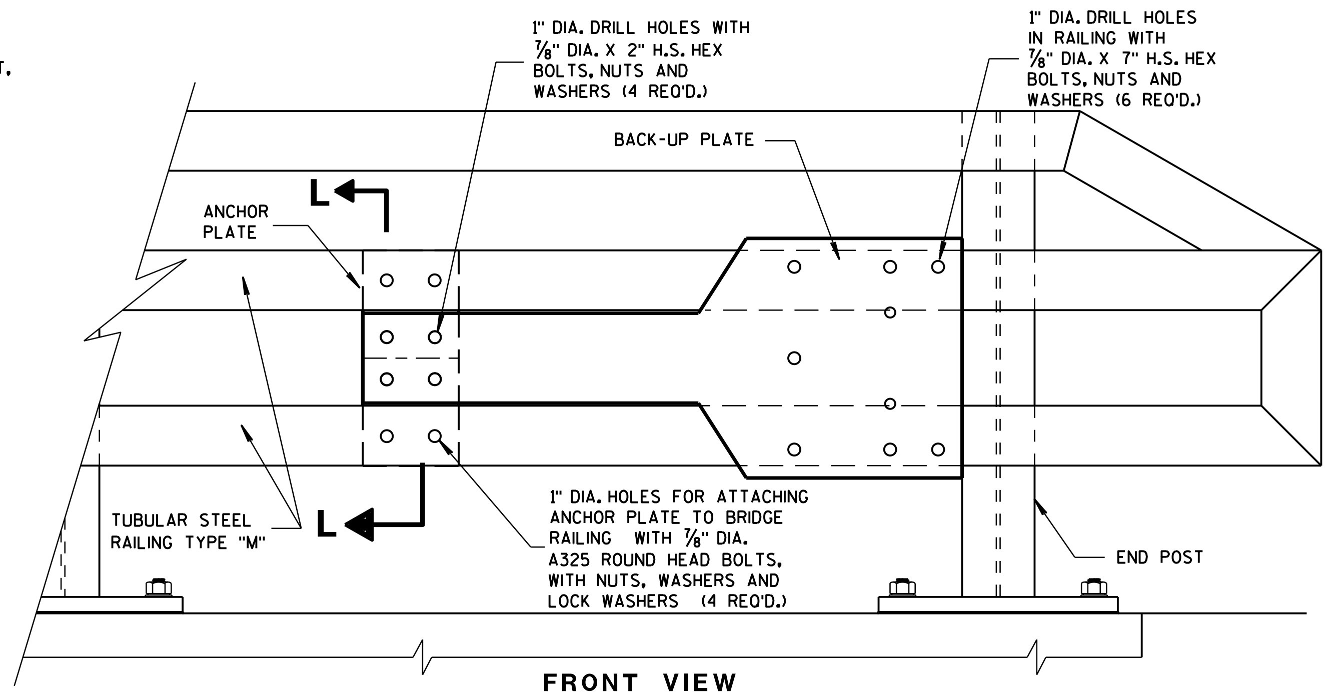


PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

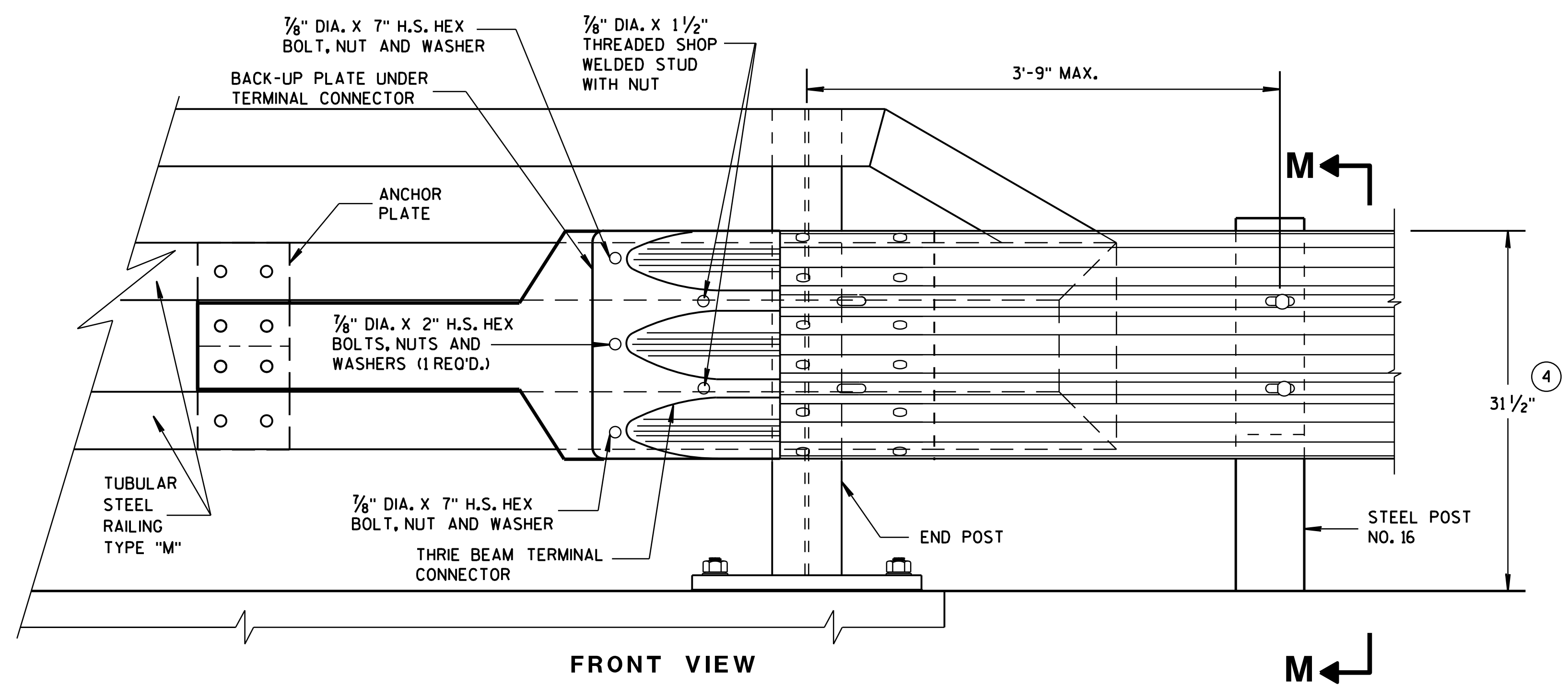


SECTION L-L

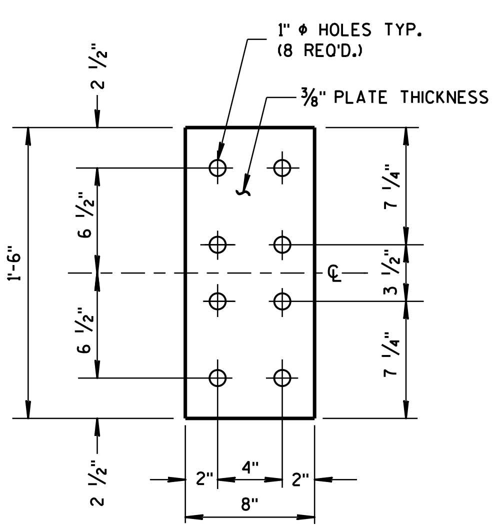


FRONT VIEW

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

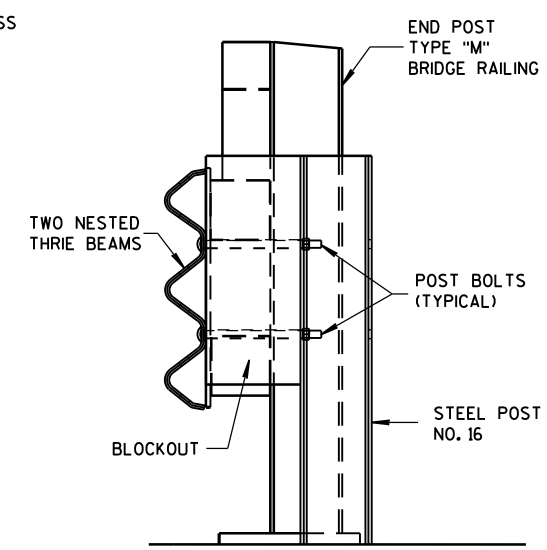


FRONT VIEW

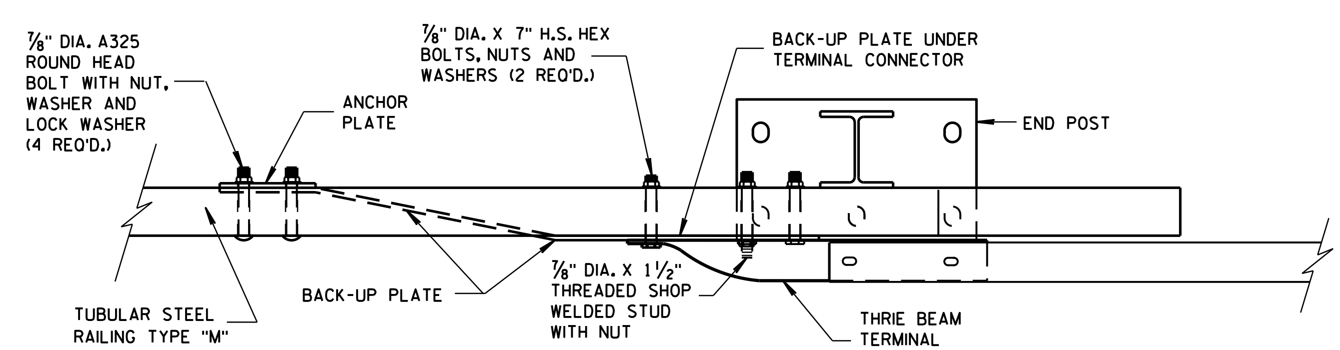


FRONT VIEW

ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED

June, 2015	/S/ Jerry H. Zogg
DATE	ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

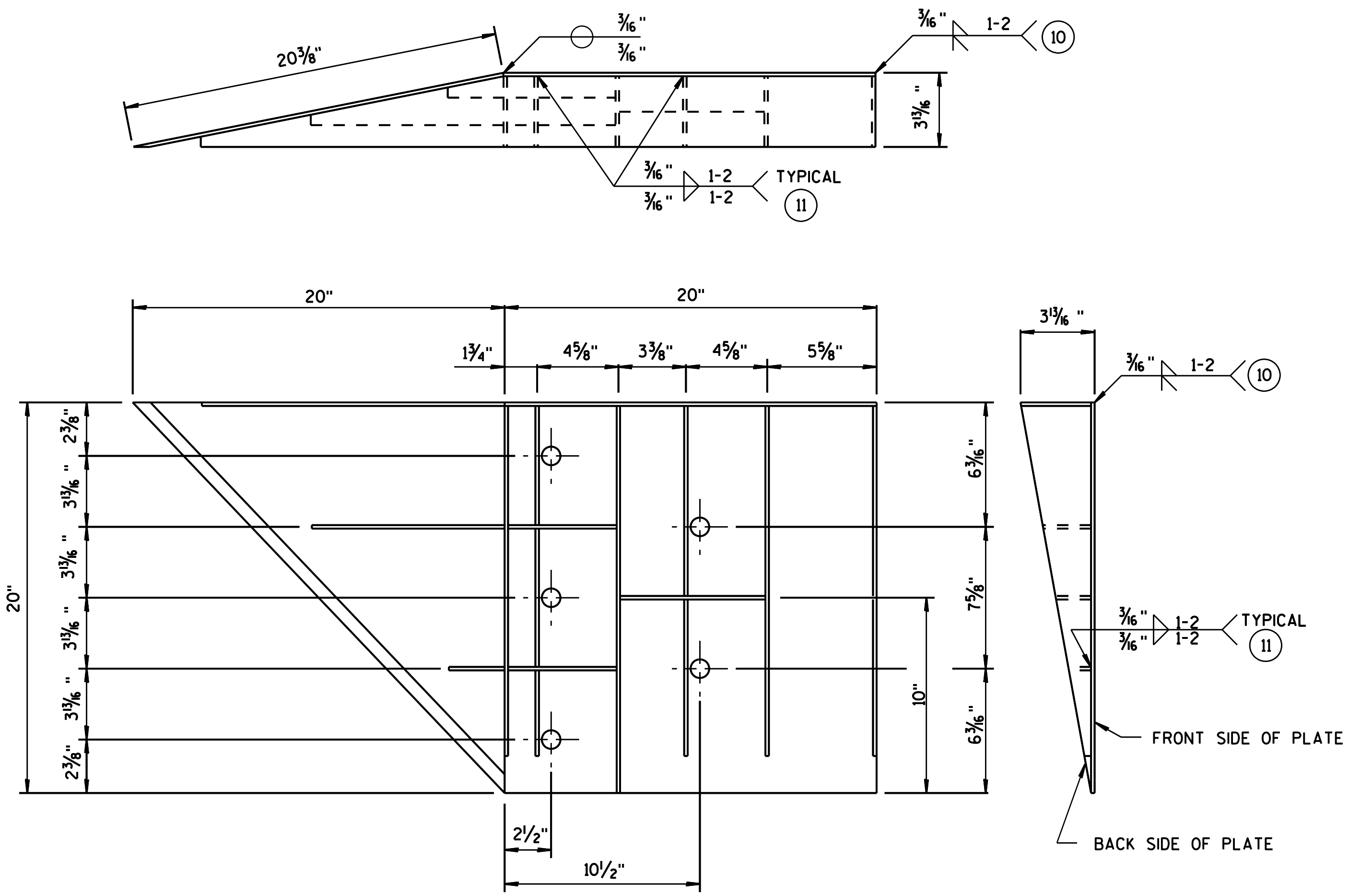
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(10) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS: SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(11) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS: 3/16" FILLET WELD BY 1" LONG SPACED AT 2".



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

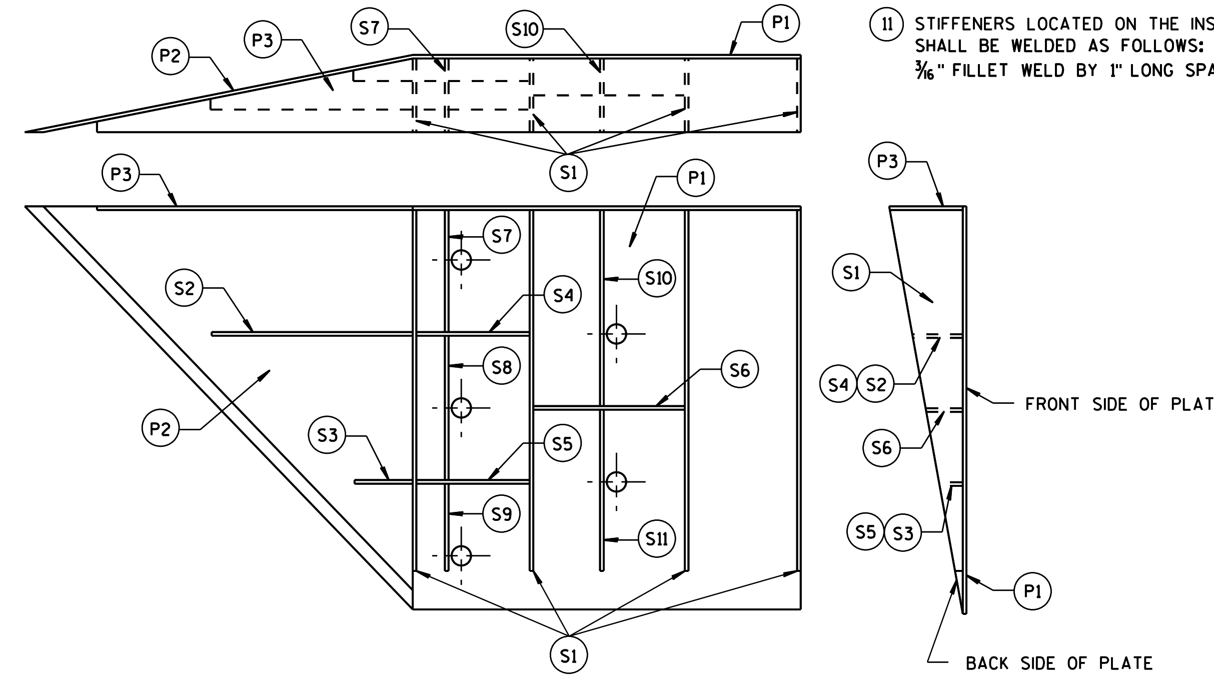


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)				
PLATE	QUANTITY	SHAPE	SIZE (A × B × C × D)	THICKNESS
P1	1		20" × 20"	3/16"
P2	1		20" × 20" × 28 9/16"	3/16"
P3	1		39" × 3 5/8" × 20" × 19 5/16"	3/16"
S1	4		18 7/16" × 3 5/8" × 18 3/4"	1/4"
S2	1		10 1/4" × 2 7/16" × 10 3/8" × 1/2"	1/4"
S3	1		3" × 1 1/16" × 3 1/8" × 1/2"	1/4"
S4	1		6 1/8" × 2 7/16"	1/4"
S5	1		6 1/8" × 1 1/16"	1/4"
S6	1		7 3/4" × 1 3/4"	1/4"
S7	1		2 9/16" × 6" × 3 5/8" × 5 7/8"	1/4"
S8	1		1 5/32" × 7 1/2" × 2 1/2" × 7 3/8"	1/4"
S9	1		6 1/16" × 6 3/16" × 1 3/32"	1/4"
S10	1		1 7/8" × 9 7/8" × 3 5/8" × 9 11/16"	1/4"
S11	1		8 1/2" × 8 3/4" × 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

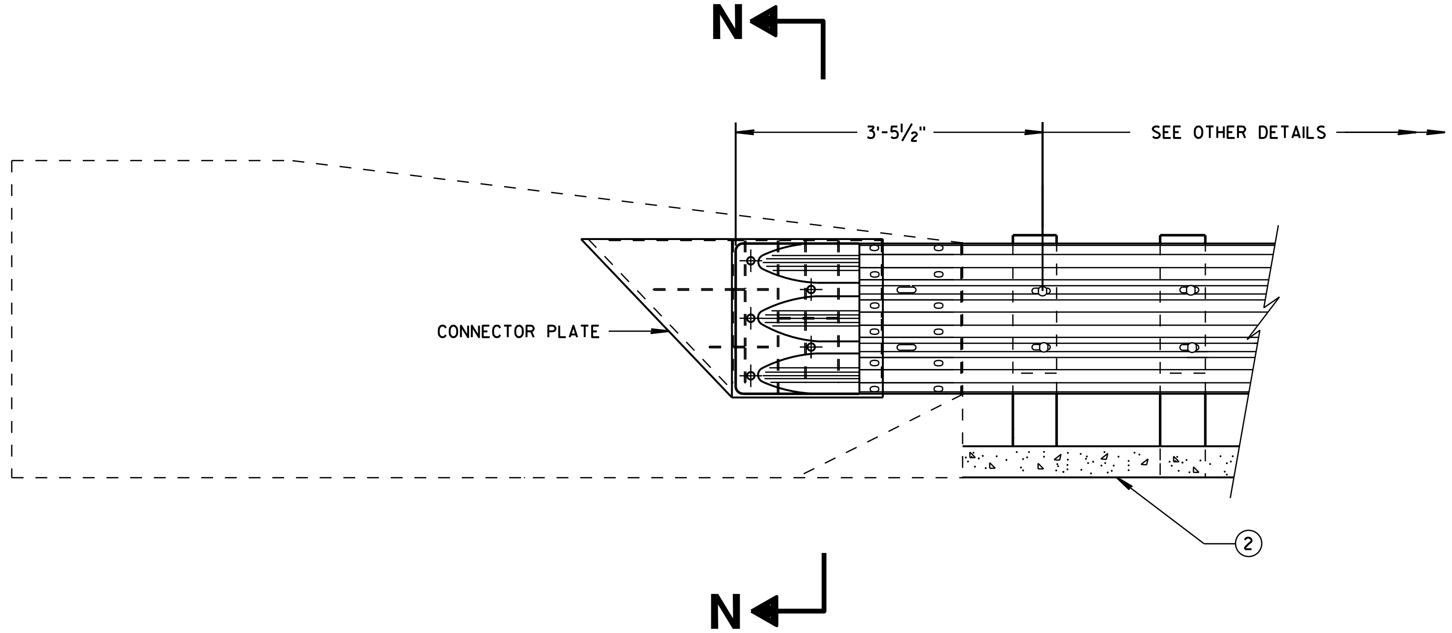
APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA
ENT

GENERAL NOTES

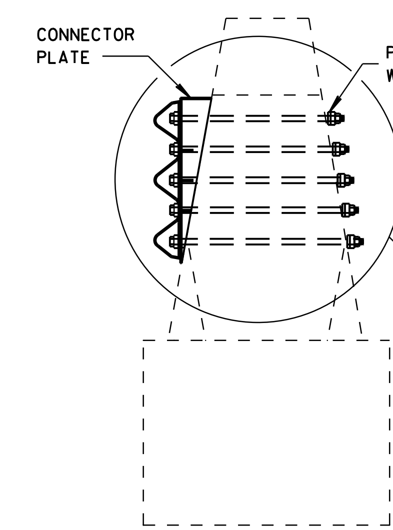
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

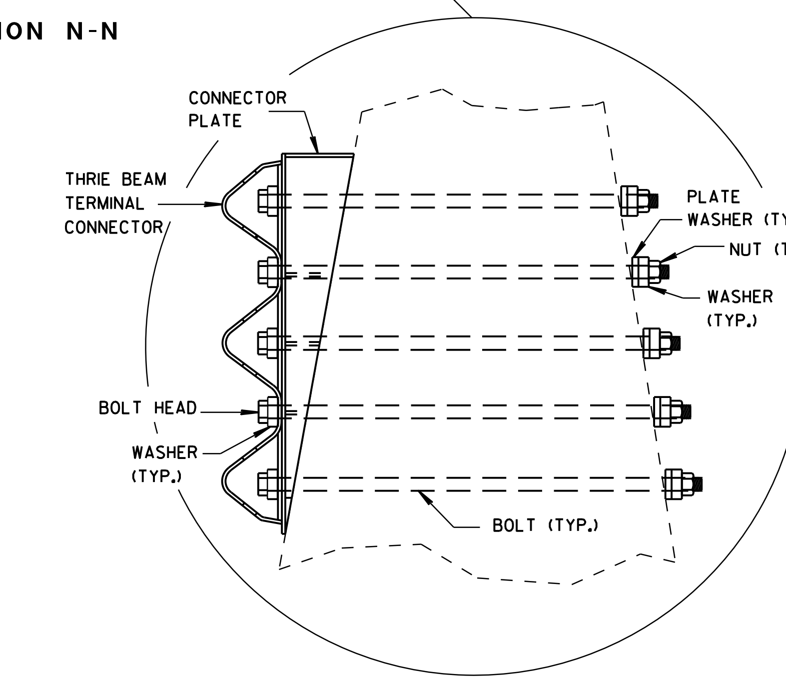
(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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

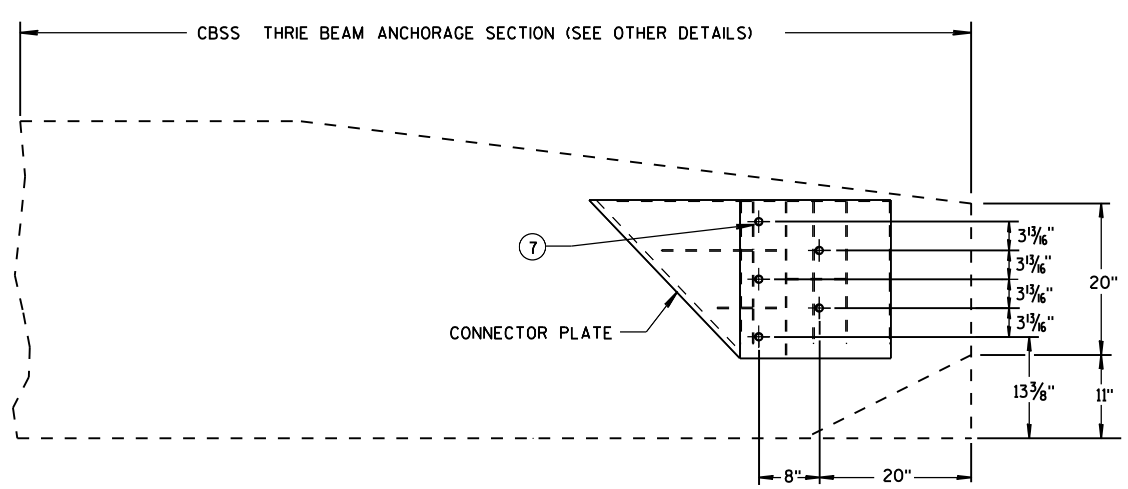


THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



SECTION N-N



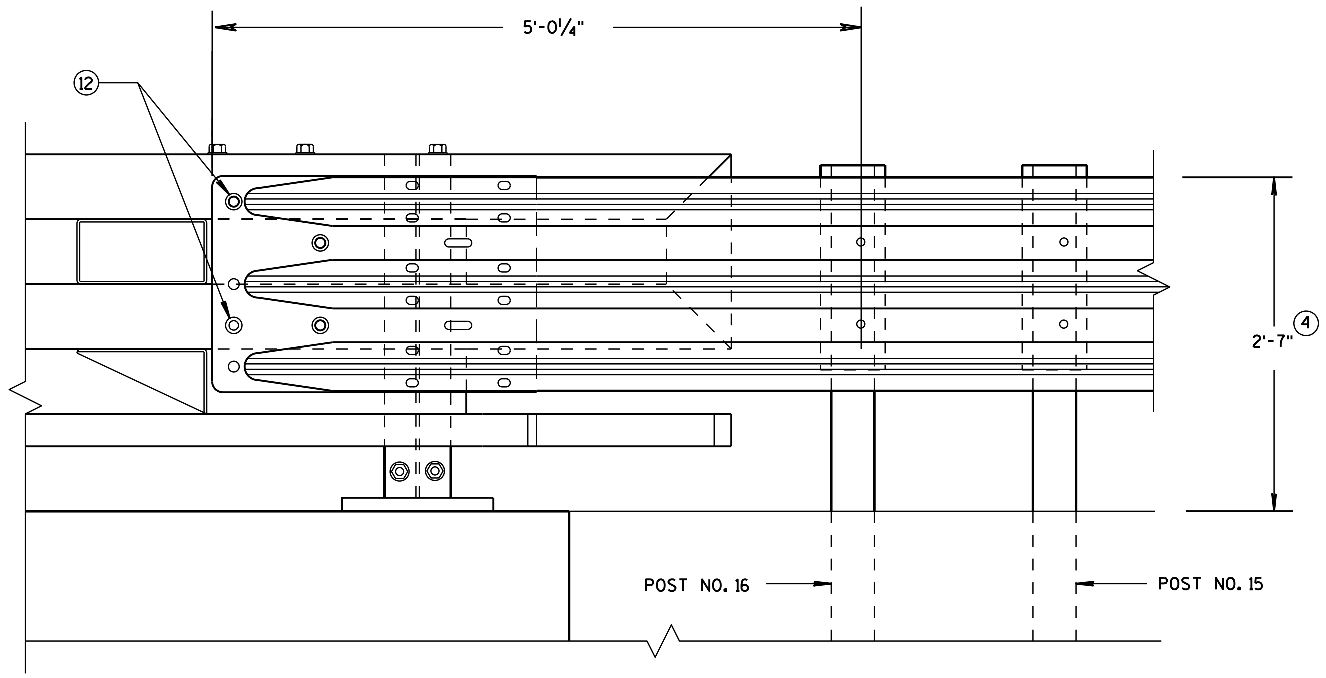


SINGLE SLOPE CONNECTION PLATE PLACEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

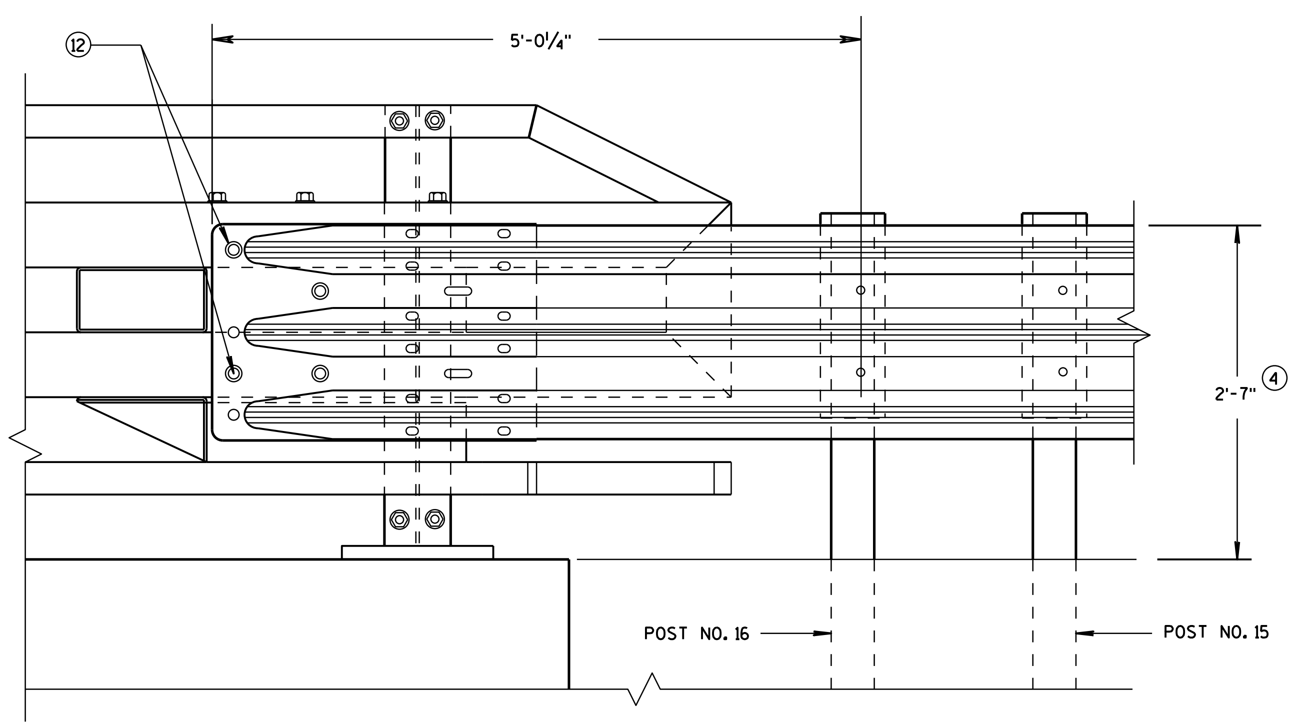
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA



ELEVATION OF DETAIL AT NY3 END POST

THRIE BEAM RAIL ATTACHMENT



ELEVATION OF DETAIL AT NY4 END POST

THRIE BEAM RAIL ATTACHMENT

GENERAL NOTES

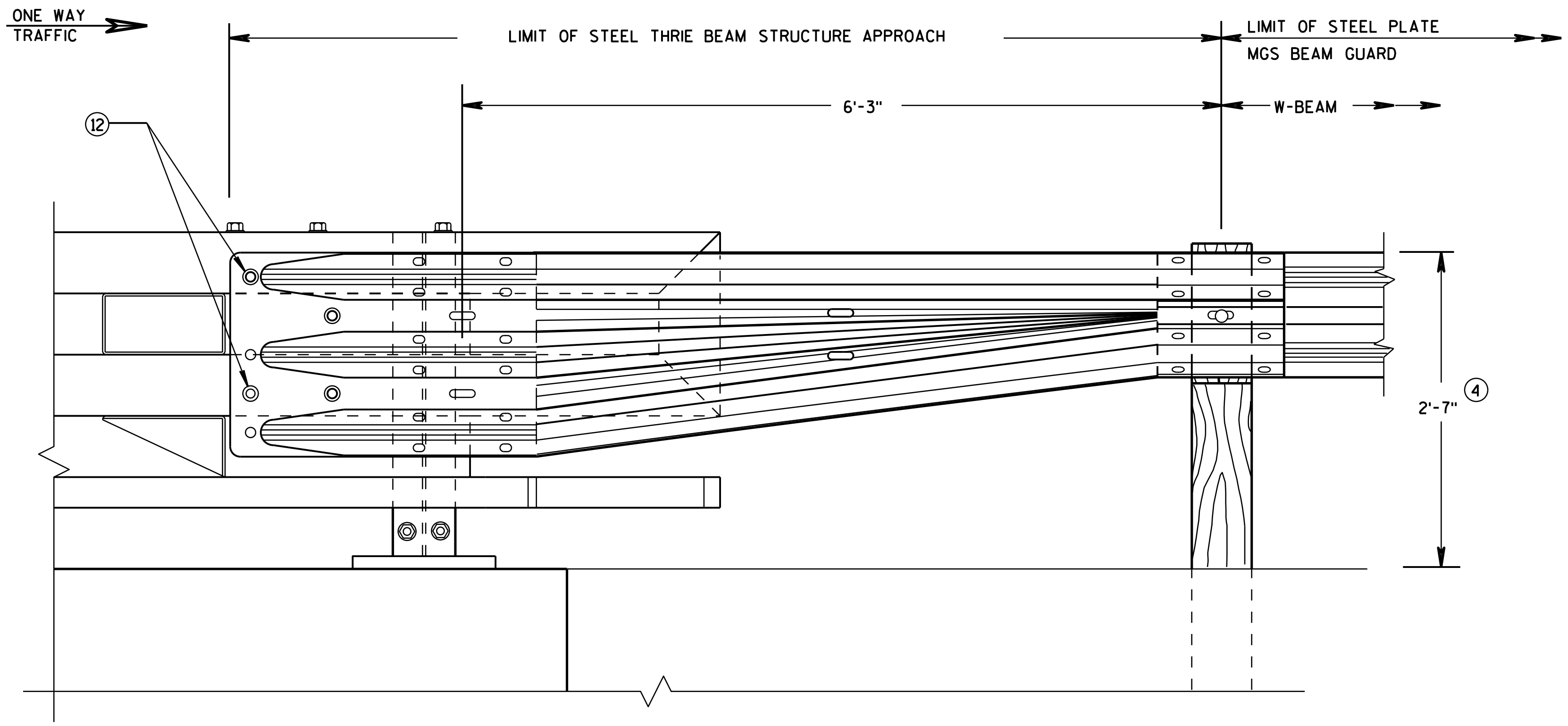
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(12) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND ½-INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA



FRONT VIEW

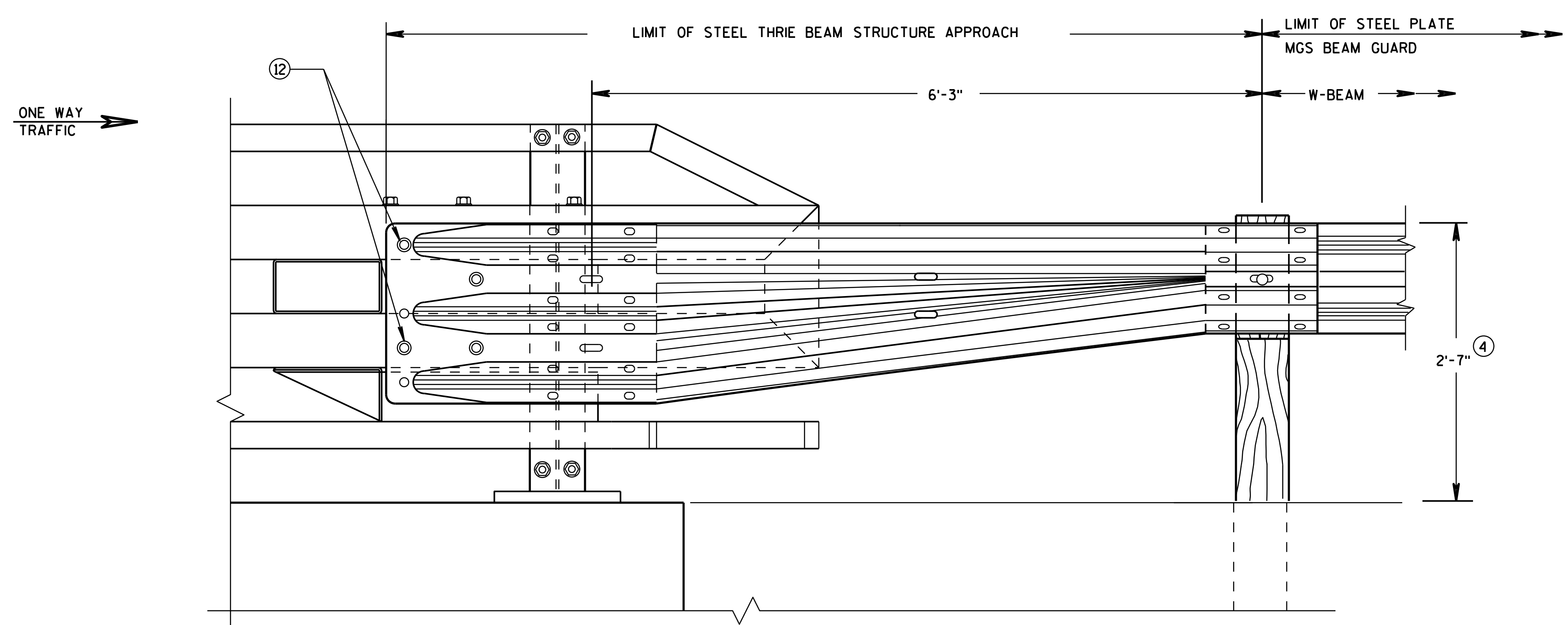
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

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

GENERAL NOTES

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

(12) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.



FRONT VIEW

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

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

6

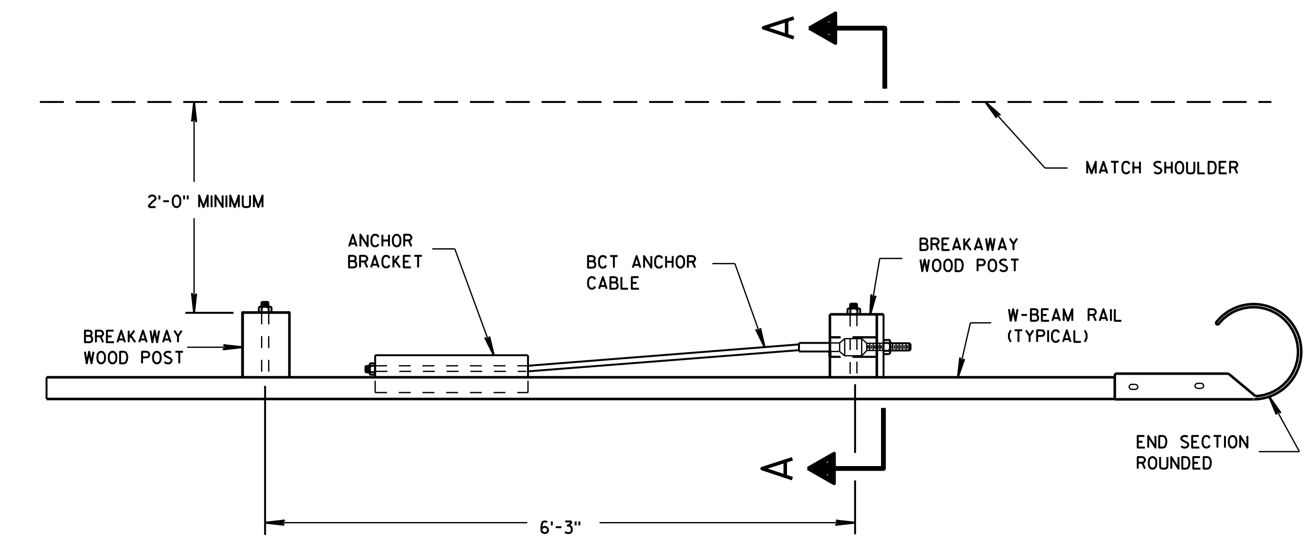
6

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

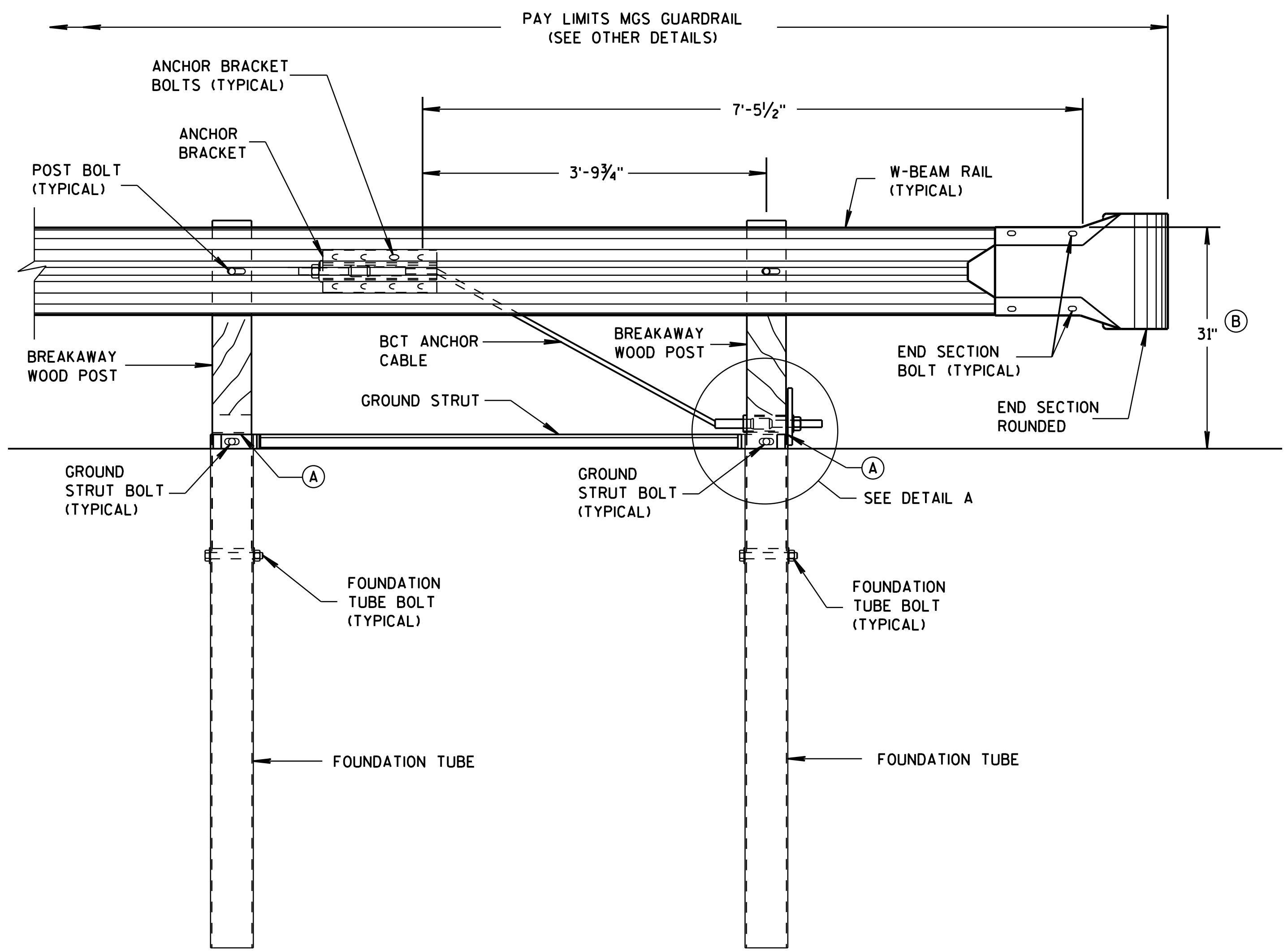
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

S.D.D. 14 B 45-4L

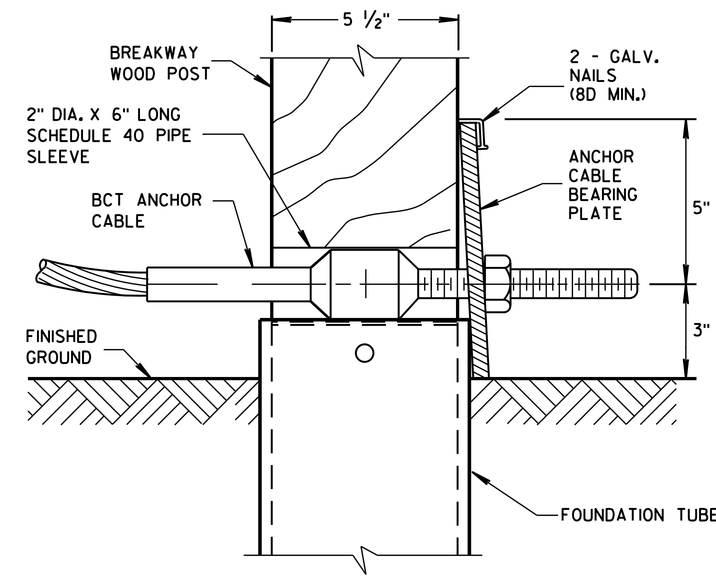


PLAN VIEW



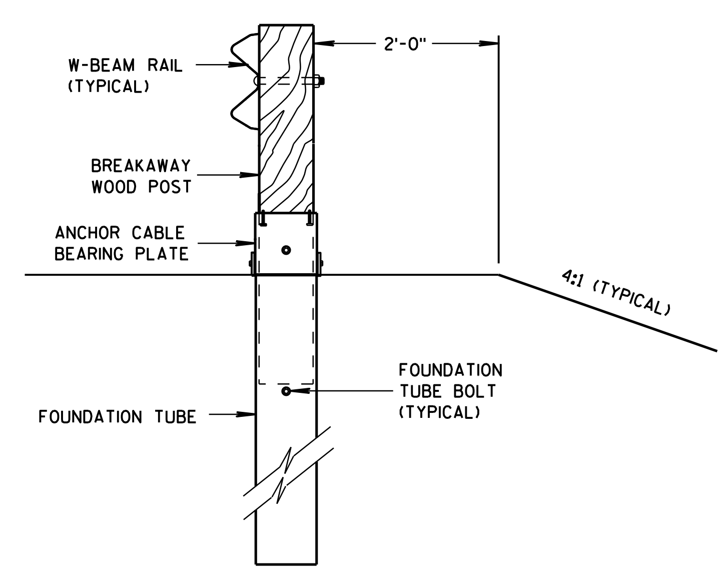
FRONT VIEW

END RAIL DETAIL



DETAIL A

POST NO. 1
GROUNG STRUT NOT SHOWN FOR CLARITY.



SECTION A-A

GENERAL NOTES

SEE SDD 14 B 42 FOR MORE INFORMATION.

END SECTION BOLTS AND NUTS HAVE THE SAME MATERIAL REQUIREMENTS AS SPLICE BOLTS.

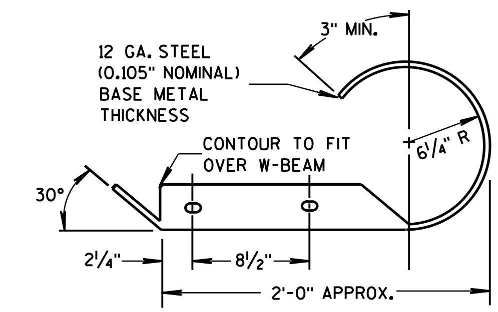
FOUNDATION TUBE BOLTS ARE ⅞" DIAMETER ASTM A307 HEX HEAD BOLT. FOUNDATION TUBE BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅞" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

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.

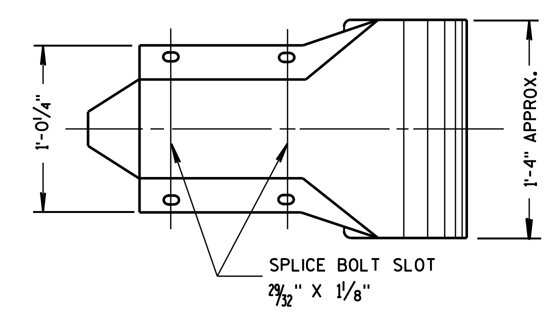
W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

(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".



PLAN VIEW



FRONT VIEW

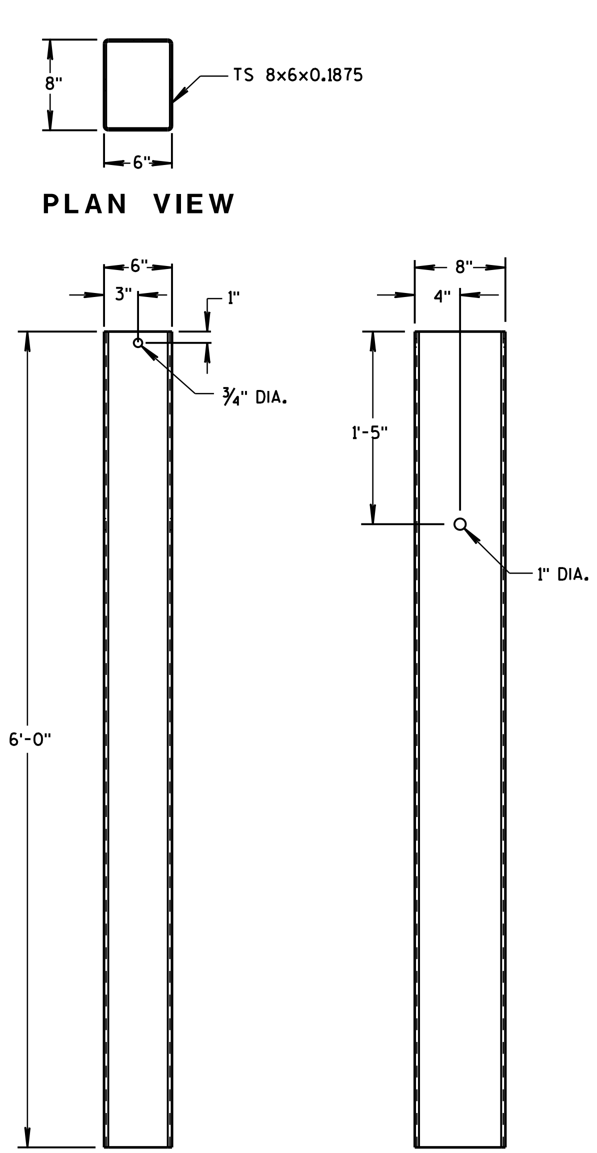
W BEAM END SECTION ROUNDED

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

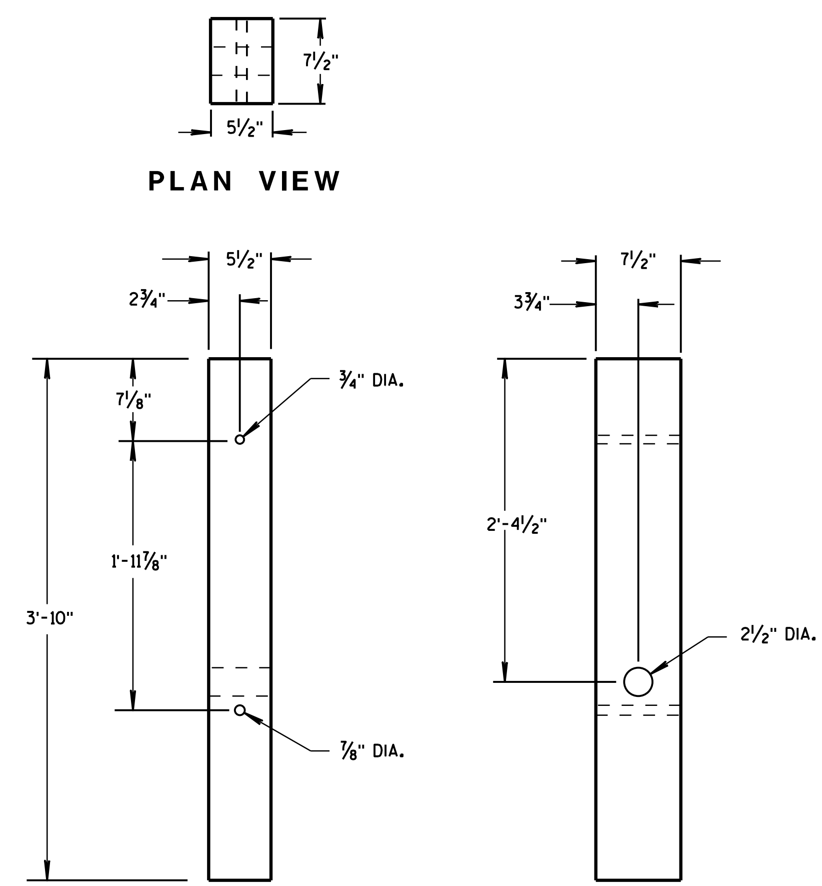
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

GENERAL NOTES

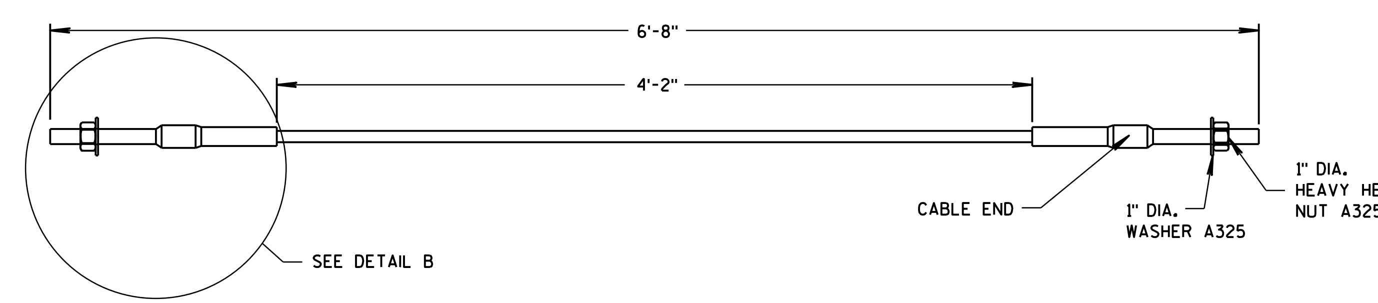
BCT ANCHOR CABLE IS A ¾" DIAMETER 6X19 IWRC IPS GALVANIZED WIRE ROPE. THE SWAGED FITTINGS AND STUD ARE REQUIRED. END FITTING SHALL BE MACHINED FROM HOT-ROLLED CARBON STEEL CONFORMING TO ASTM A576 GRADE 1035 AND GALVANIZED ACCORDING TO ASTM A123. TREADED STUD SHALL CONFORM TO ASTM A325 OR SAE GRADE 5. MINIMUM BREAKING STRENGTH OF WIRE ROPE IS 43,000 LB. WIRE ROPE IS TO BE TAUT.



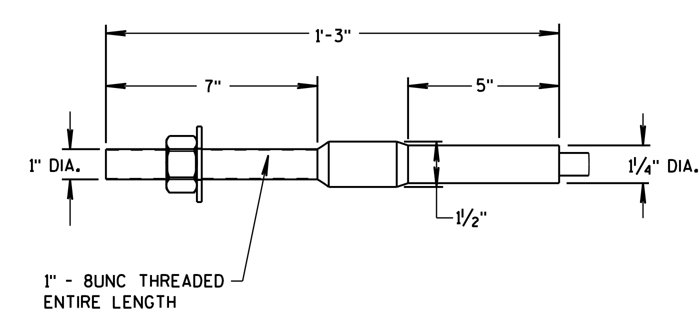
FOUNDATION TUBE



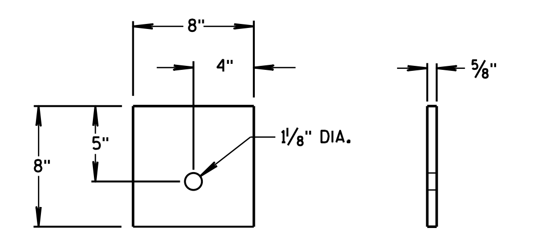
BREAKAWAY WOOD POST



BCT ANCHOR CABLE



DETAIL B



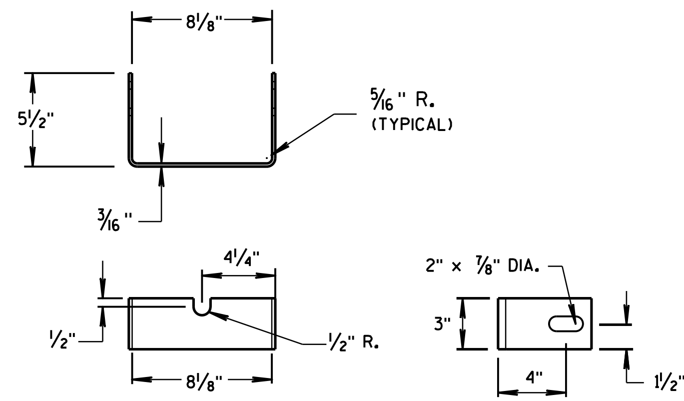
ANCHOR CABLE BEARING PLATE

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

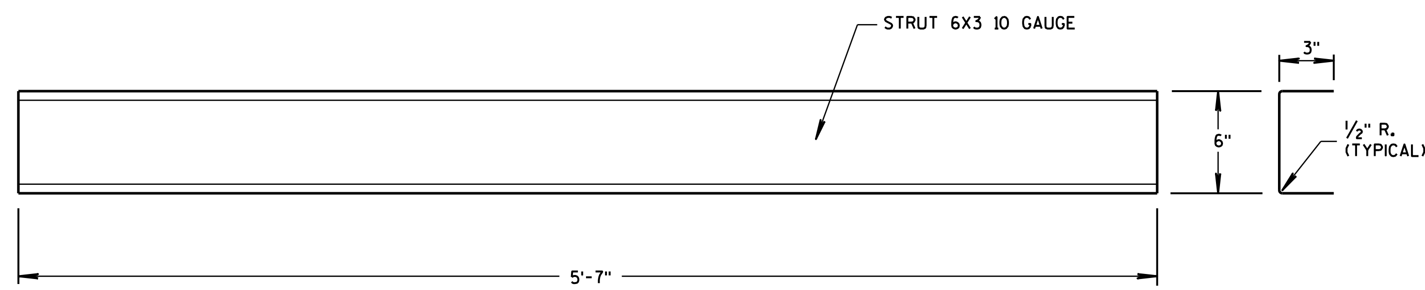
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

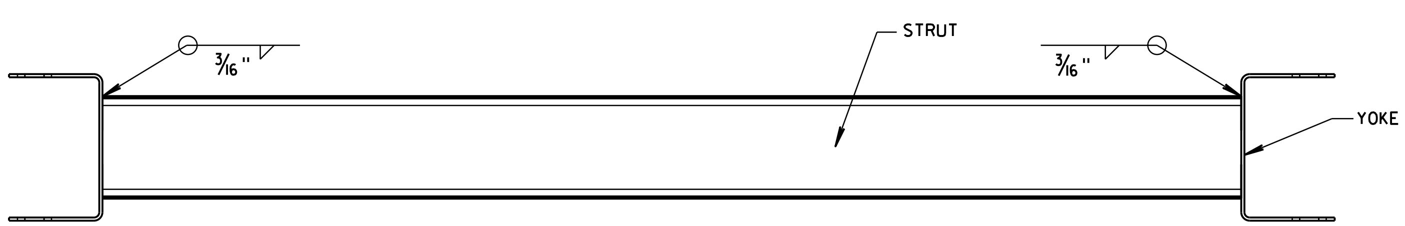
S.D.D. 14 B 47-2b



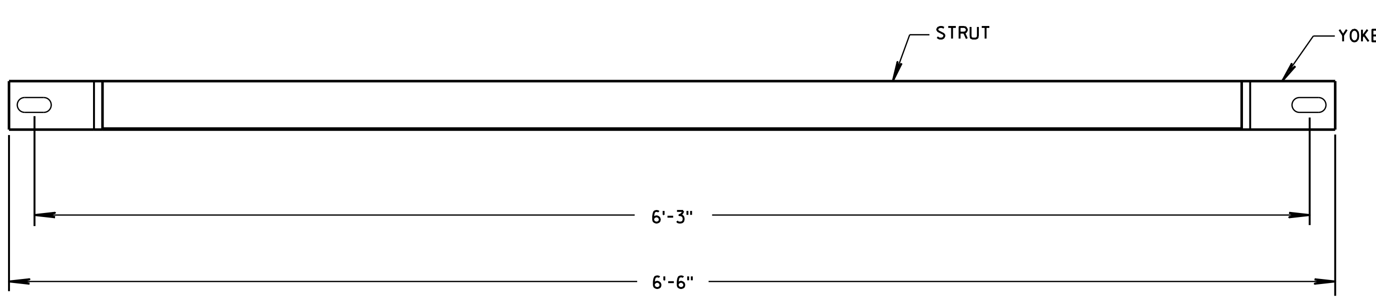
YOKE DETAIL



STRUT DETAIL

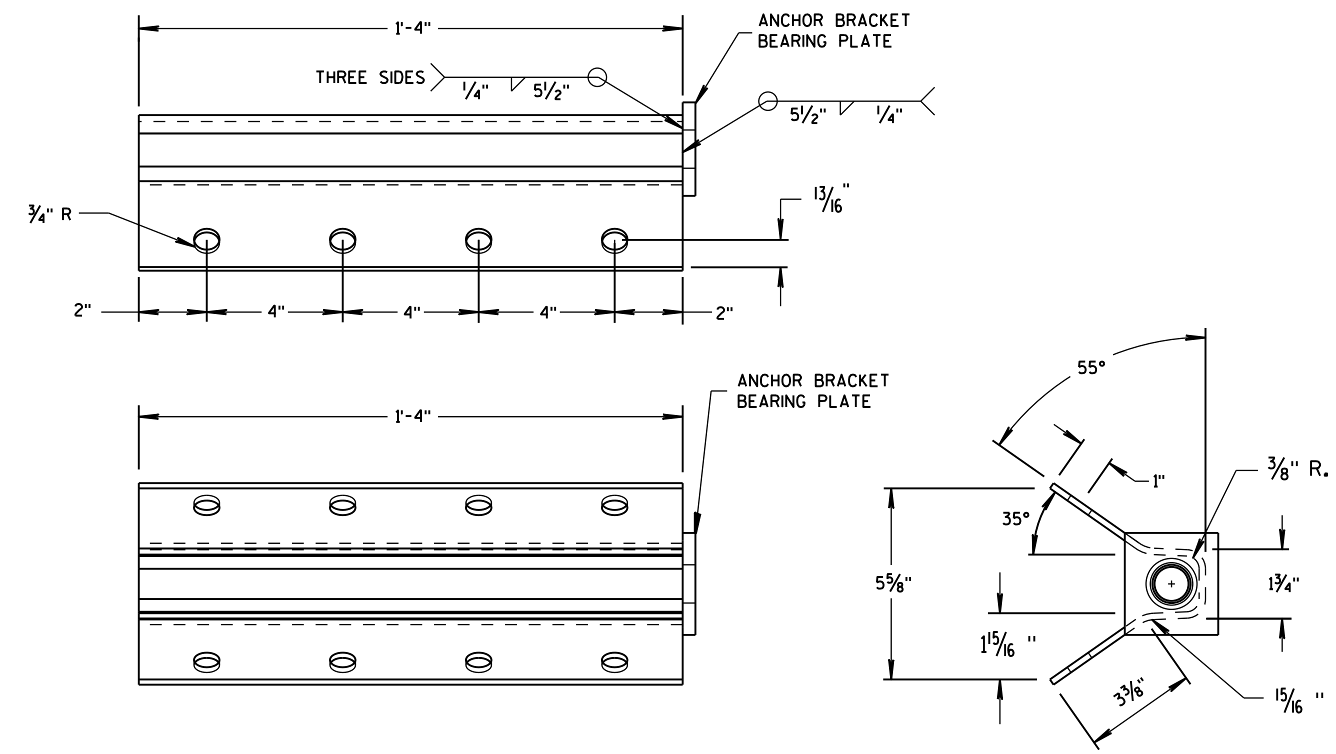


PLAN VIEW

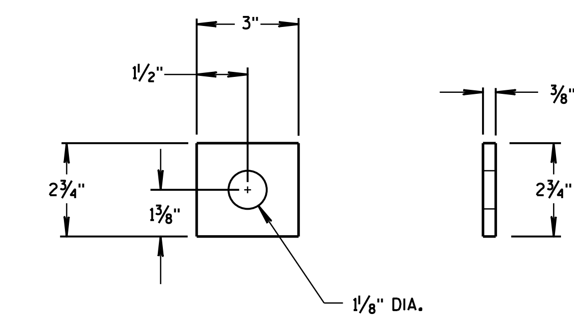


FRONT VIEW

GROUND STRUT DETAIL



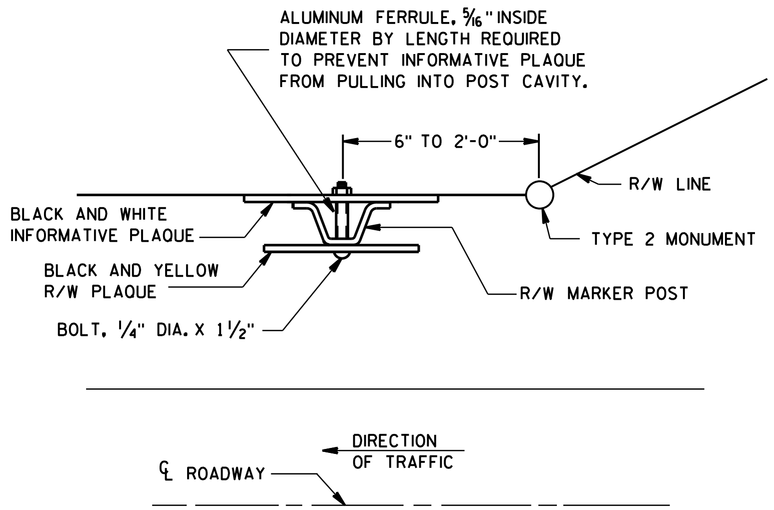
ANCHOR BRACKET



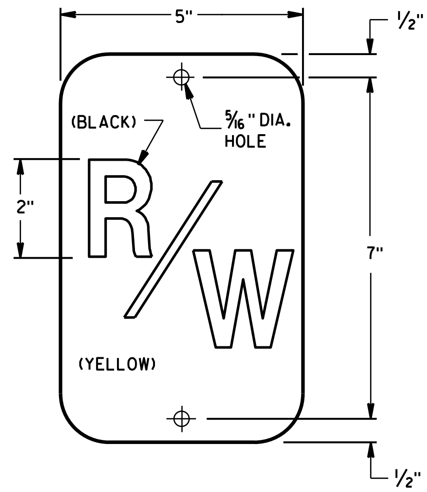
ANCHOR BRACKET BEARING PLATE

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

S.D.D. 14 B 47-2c

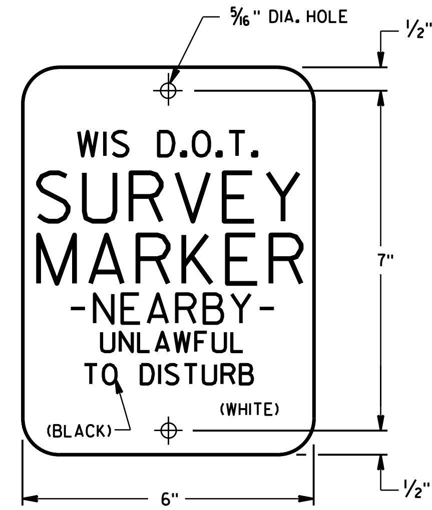


PLAN VIEW



R/W PLAQUE

THE RIGHT-OF-WAY PLAQUE AND INFORMATIVE PLAQUE WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.



INFORMATIVE PLAQUE

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.

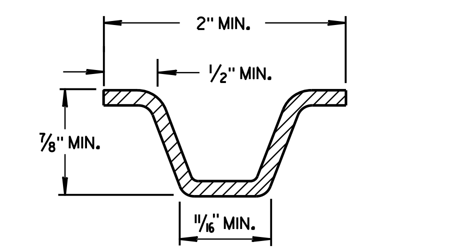
A STEEL MARKER POST FOR RIGHT-OF-WAY SHALL BE PLACED IN THE RIGHT-OF-WAY, WITH THE BACK OF THE POST ON THE LONGER RIGHT-OF-WAY TANGENT, 6 INCHES TO 24 INCHES FROM EACH TYPE 2 MONUMENT TO SERVE AS A GUARD POST, AND AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

THE "R/W" PLAQUE SHALL FACE THE ROADWAY AND THE INFORMATIVE PLAQUE SHALL FACE AWAY FROM THE ROADWAY. R/W AND INFORMATIVE PLAQUES WILL BE FURNISHED BY THE DEPARTMENT OF TRANSPORTATION.

STEEL MARKER POSTS SHALL MEET THE MINIMUM MATERIAL REQUIREMENTS FOR STEEL DELINEATOR POSTS; EXCEPT POSTS PAINTED WITH FEDERAL YELLOW ENAMEL NEED NOT BE ZINC COATED.

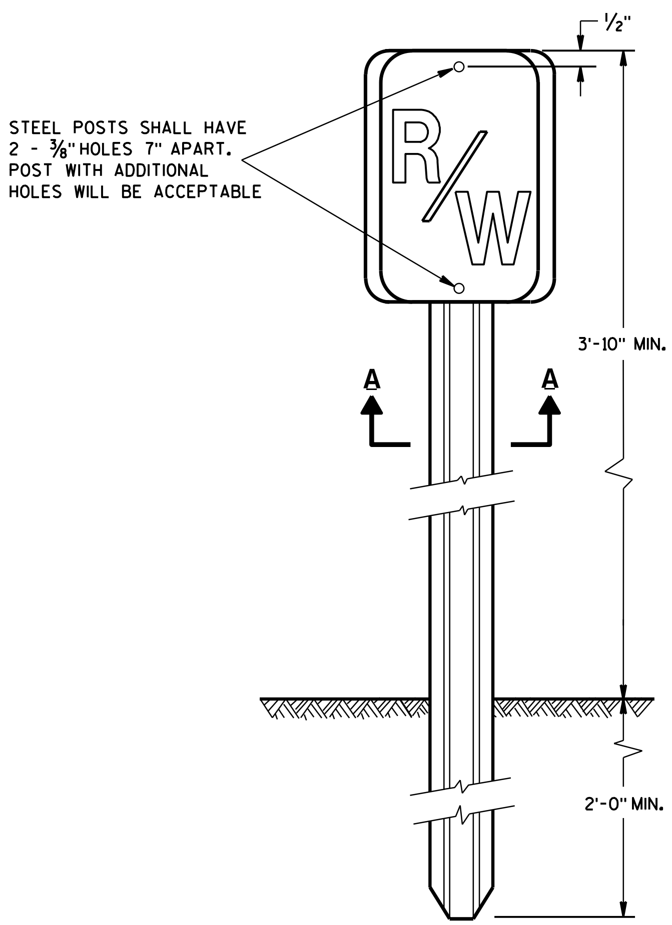
(1) IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK TO A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 3'10" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR.

FILL THE BORE HOLE WITH CEMENT GROUT, OR EQUIVALENT, DEPENDING ON THE STABILITY OF THE ROCK.



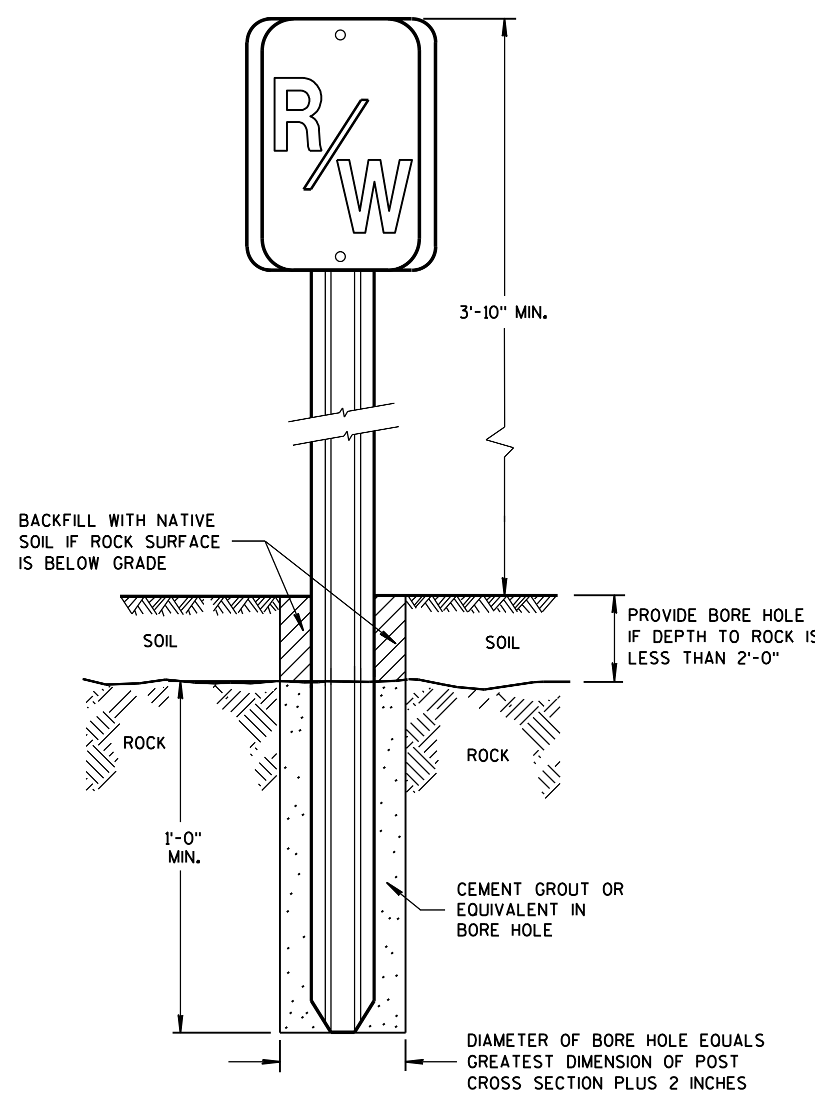
MIN. WEIGHT 1.12 LB./FT.

SECTION A-A



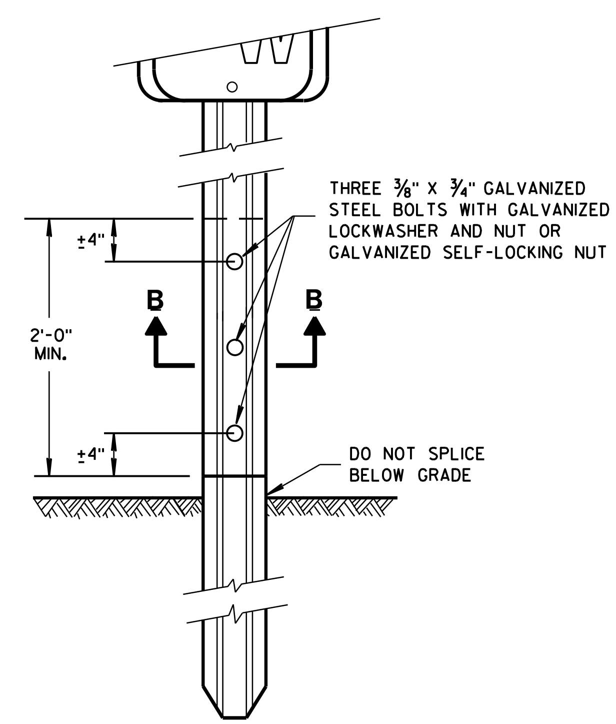
FRONT VIEW

STEEL MARKER POST



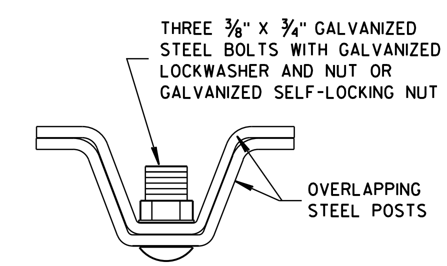
FRONT VIEW

ROCK INSTALLATION (1)



FRONT VIEW

SPLICE DETAIL



SECTION B-B

MARKER POST FOR RIGHT-OF-WAY

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED

June, 2015	/S/ Roy Kumapayi
DATE	CHIEF SURVEYING AND MA INEER

FHWA

6

S.D.D. 15 A 1-12a

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.

A FLEXIBLE MARKER POST FOR RIGHT-OF-WAY SHALL BE PLACED IN THE RIGHT-OF-WAY, WITH THE BACK OF THE POST ON THE LONGER RIGHT-OF-WAY TANGENT, 6 INCHES TO 24 INCHES FROM EACH TYPE 2 MONUMENT TO SERVE AS A GUARD POST, AND AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

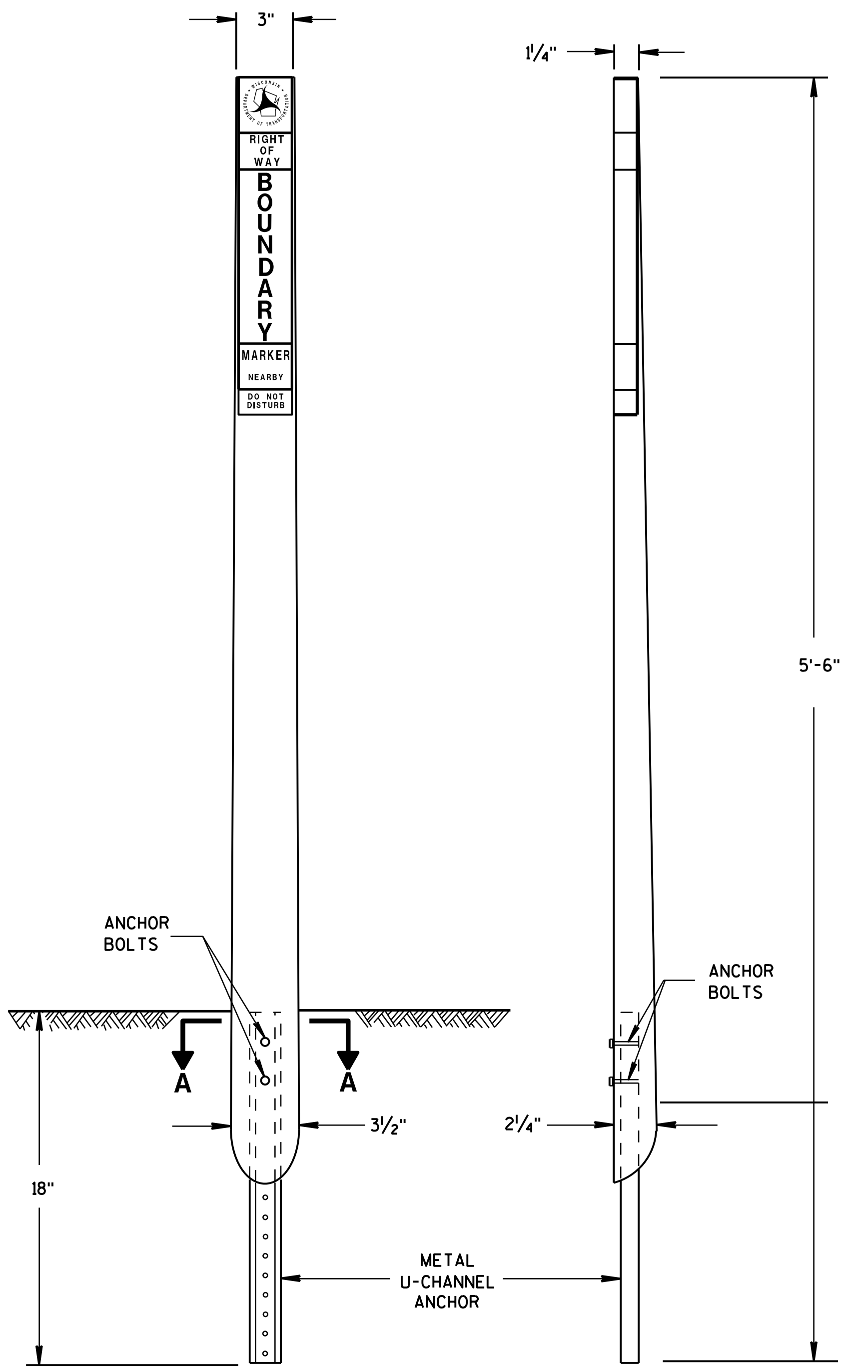
THE RIGHT-OF-WAY STICKER SHALL FACE THE ROADWAY.

INSTALL PER DEPTH OF MANUFACTURER'S RECOMMENDATIONS BUT NOT LESS THAN 18 INCHES BELOW GRADE FROM THE BOTTOM OF THE METAL U-CHANNEL ANCHOR.

(1) FLEXIBLE MARKER POSTS SHALL BE INCLUDED IN THE APPROVED PRODUCTS LIST FOR MARKER POSTS AND SHALL BE FEDERAL YELLOW IN COLOR.

(2) IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK TO A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 4'-0" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR.

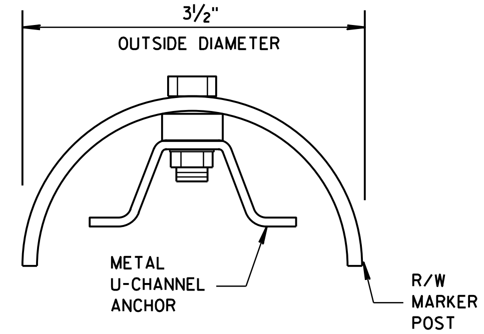
FILL THE BORE HOLE WITH CEMENT GROUT, OR EQUIVALENT, DEPENDING ON THE STABILITY OF THE ROCK.



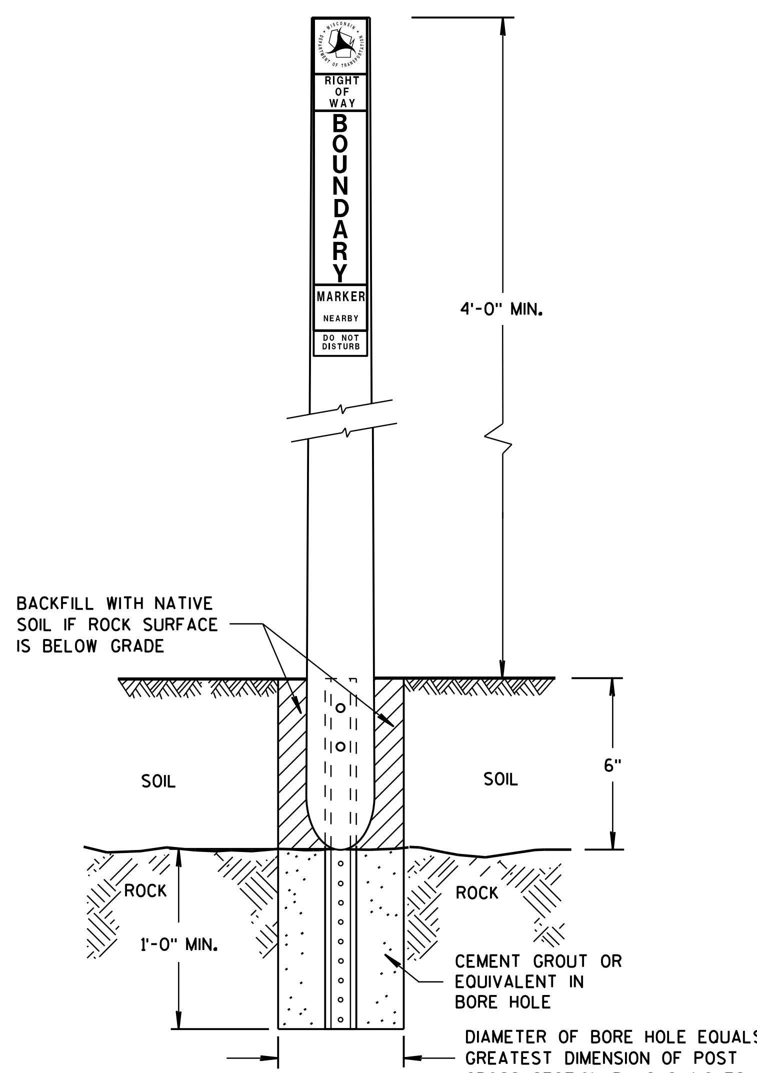
FRONT VIEW

SIDE VIEW

FLEXIBLE MARKER POST FOR RIGHT-OF-WAY (1)

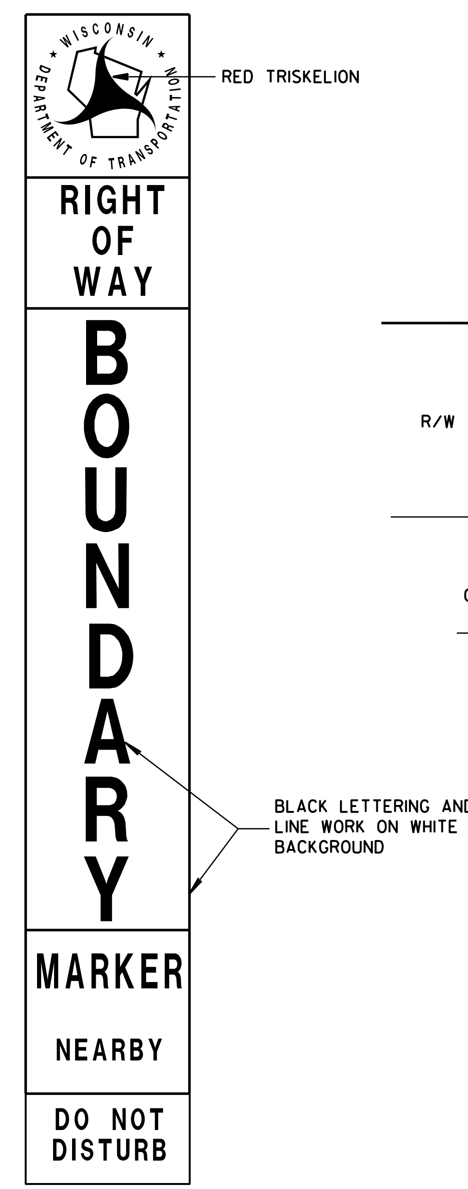


SECTION A-A



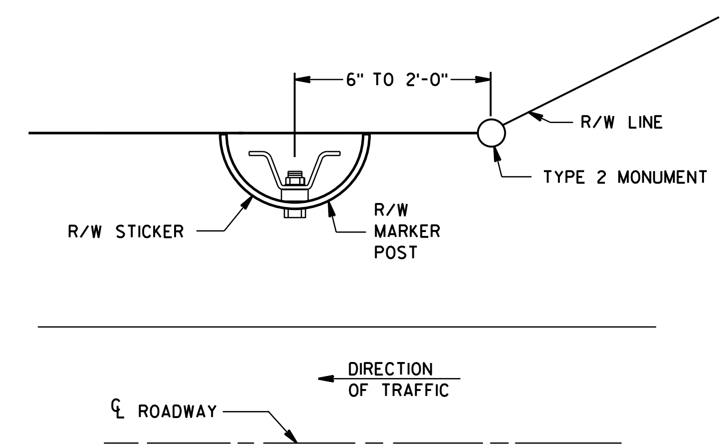
FRONT VIEW

ROCK INSTALLATION (1)(2)



RIGHT-OF-WAY STICKER

THE RIGHT-OF-WAY STICKER WILL BE ATTACHED TO THE RIGHT-OF-WAY POST PRIOR TO DELIVERY.



PLAN VIEW

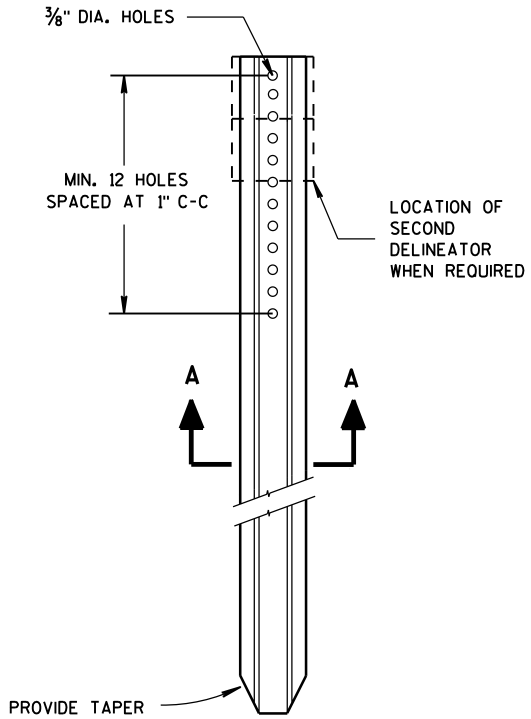
FLEXIBLE MARKER POST FOR RIGHT-OF-WAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June, 2015 DATE	/S/ Ray Kumapayi CHIEF SURVEYING AND MA INEER
FHWA	

6

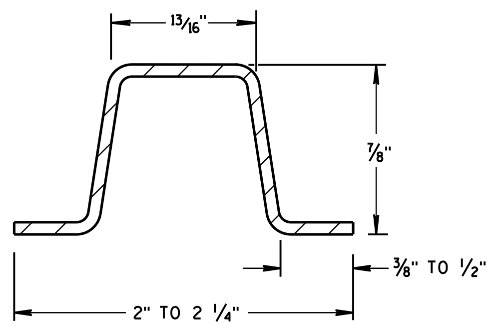
6

S.D.D. 15 A 1-12b

S.D.D. 15 A 1-12b

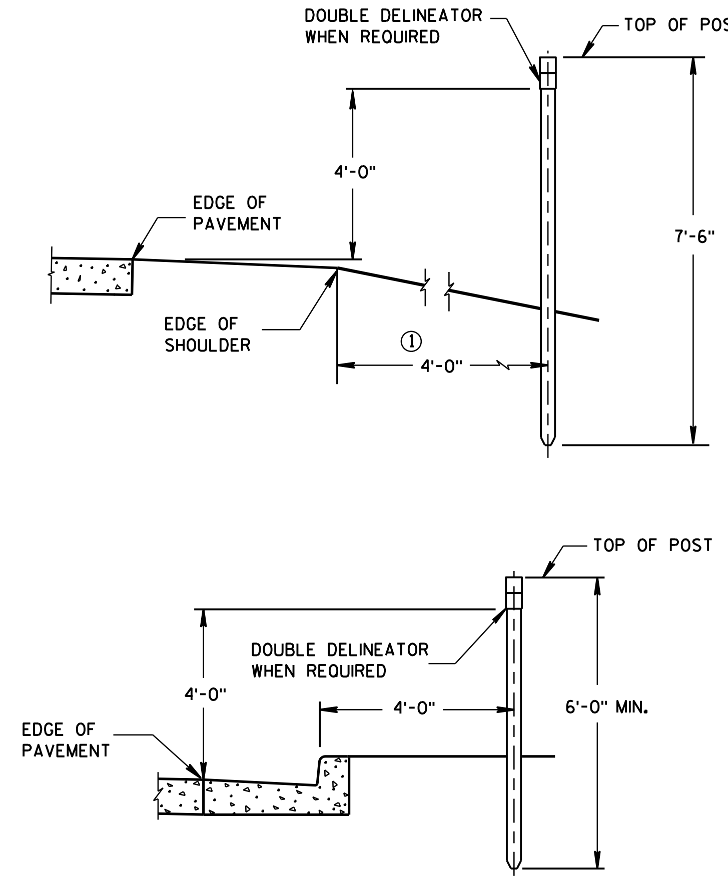


DELINEATOR POST



SECTION A-A

WEIGHT 1.12 LBS PER FT. ± 0.1 LB.

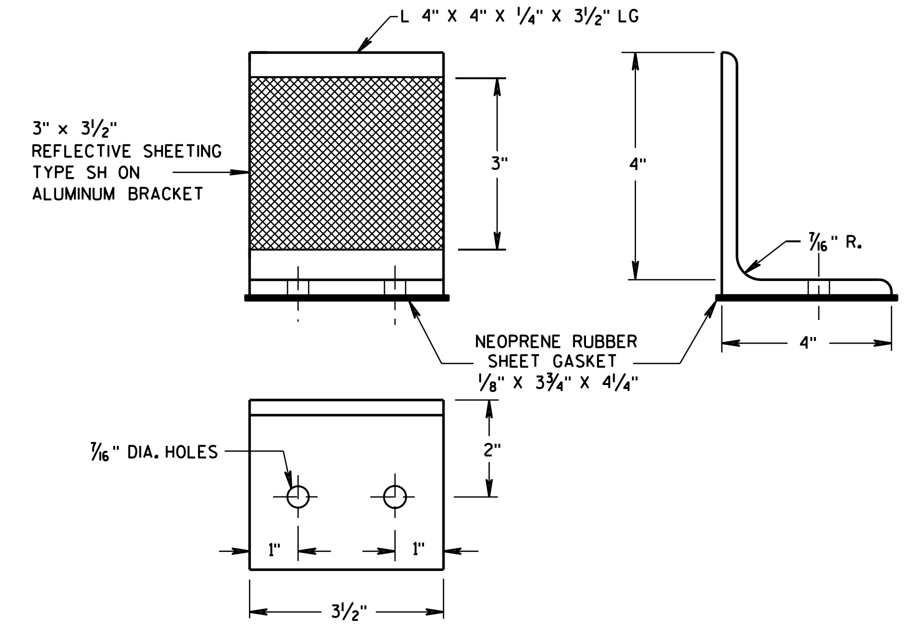


TYPICAL INSTALLATIONS OF DELINEATOR POSTS

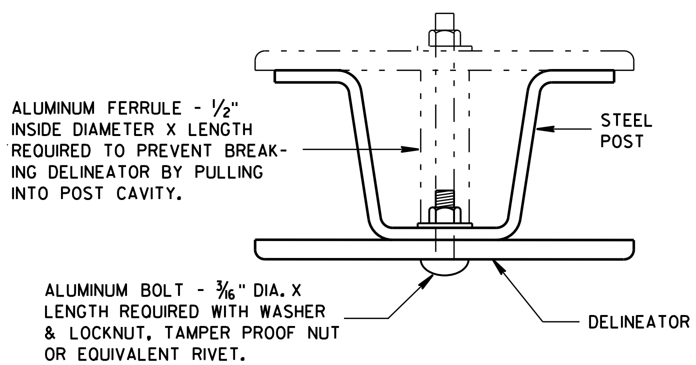
GENERAL NOTES

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

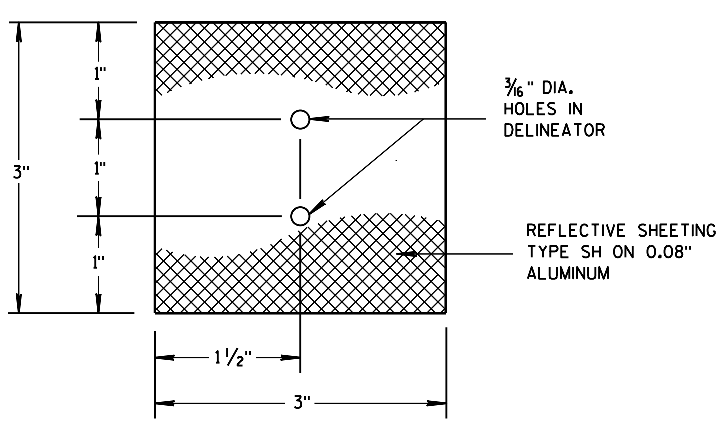
① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.



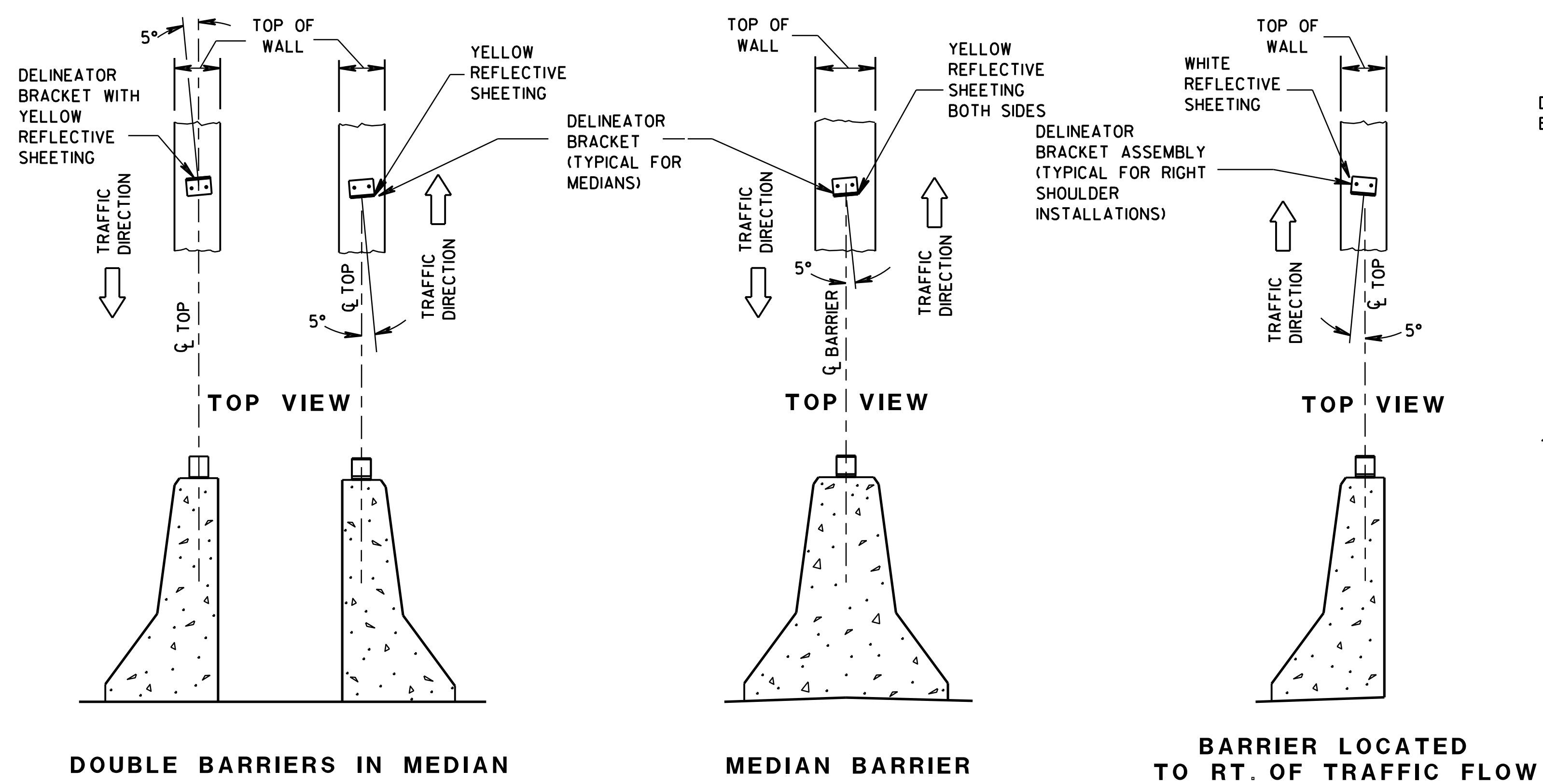
DELINEATOR BRACKET



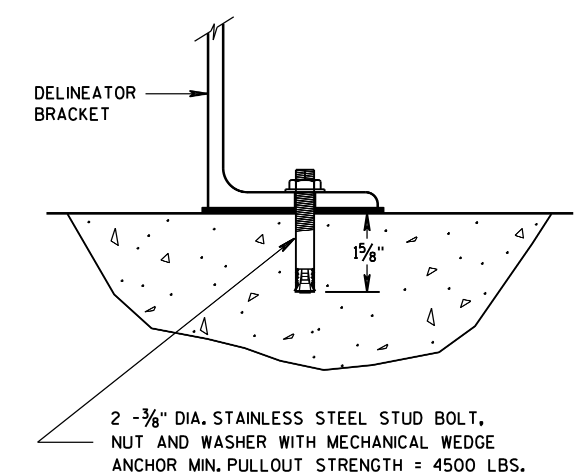
MOUNTING DETAIL FOR DELINEATOR



3"x 3" DELINEATOR



LOCATION AND AIMING DETAILS FOR DELINEATOR BRACKETS MOUNTED ON CONCRETE BARRIERS



DELINEATOR BRACKET MOUNTING DETAIL

6

6

DELINEATOR POST, DELINEATOR, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

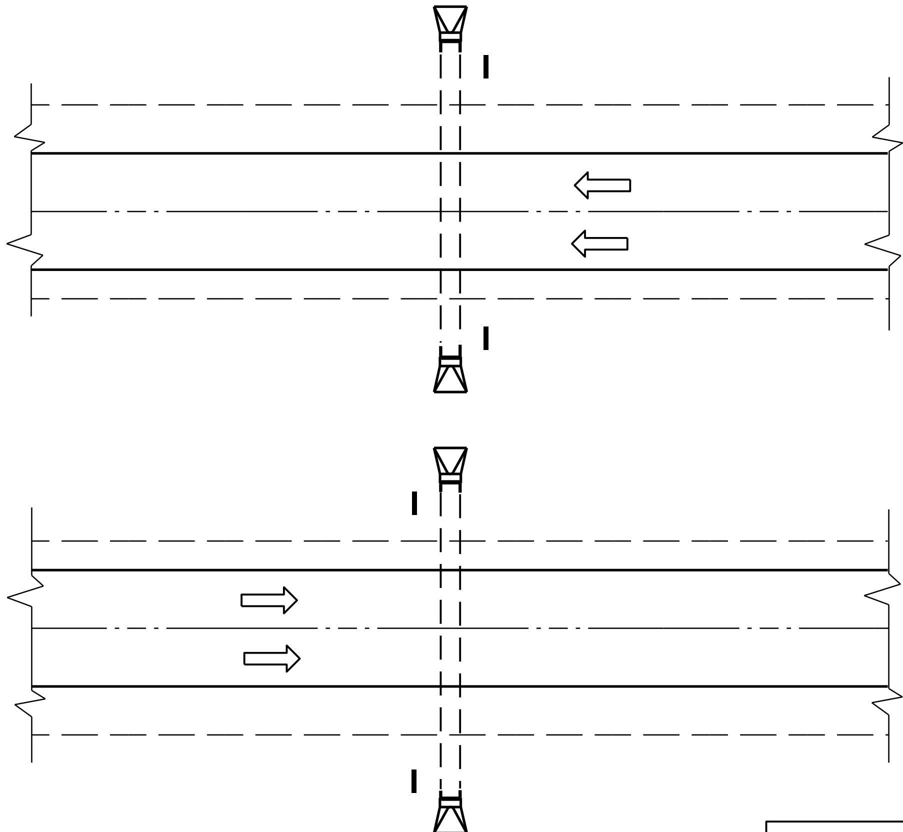
APPROVED	
7/2013	/S/ Travis Feltes
DATE	STATE TRAFFIC E
FHWA	

S.D.D. 15 A 2-8

S.D.D. 15 A 2-8

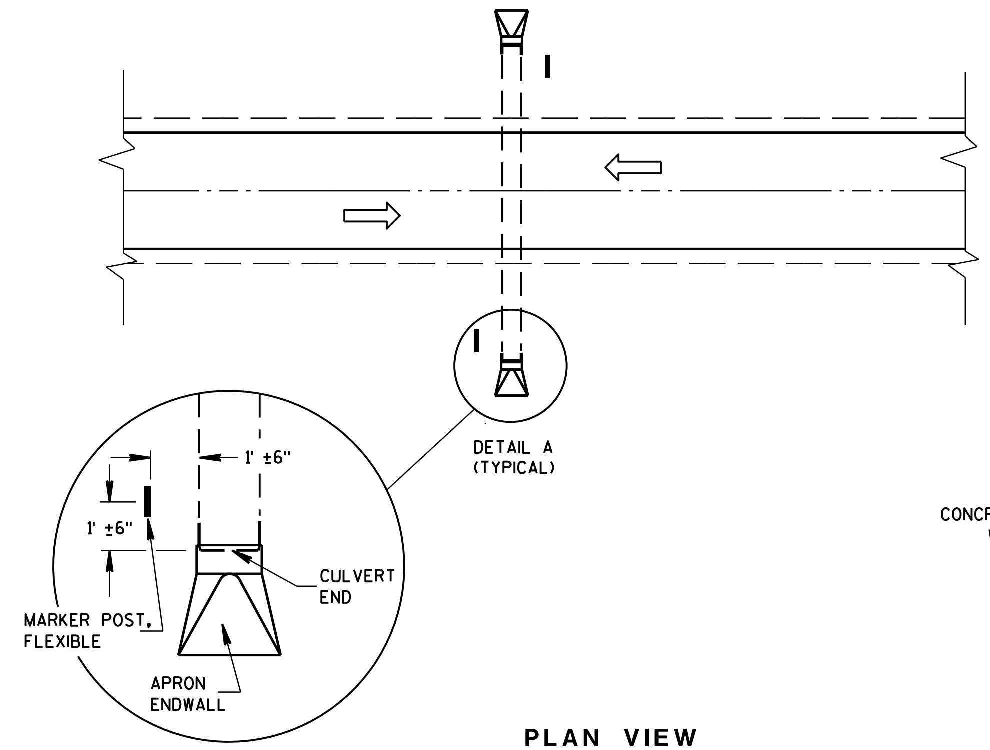
GENERAL NOTES

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



PLAN VIEW

DIVIDED HIGHWAY

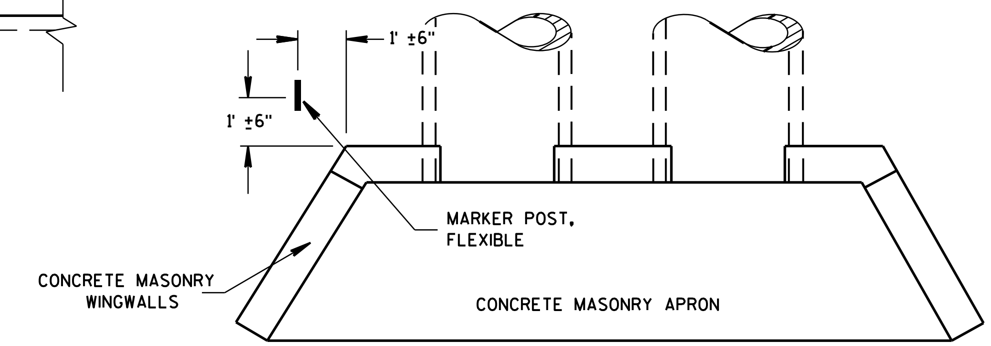


DETAIL A
(TYPICAL)

PLAN VIEW

UNDIVIDED HIGHWAY

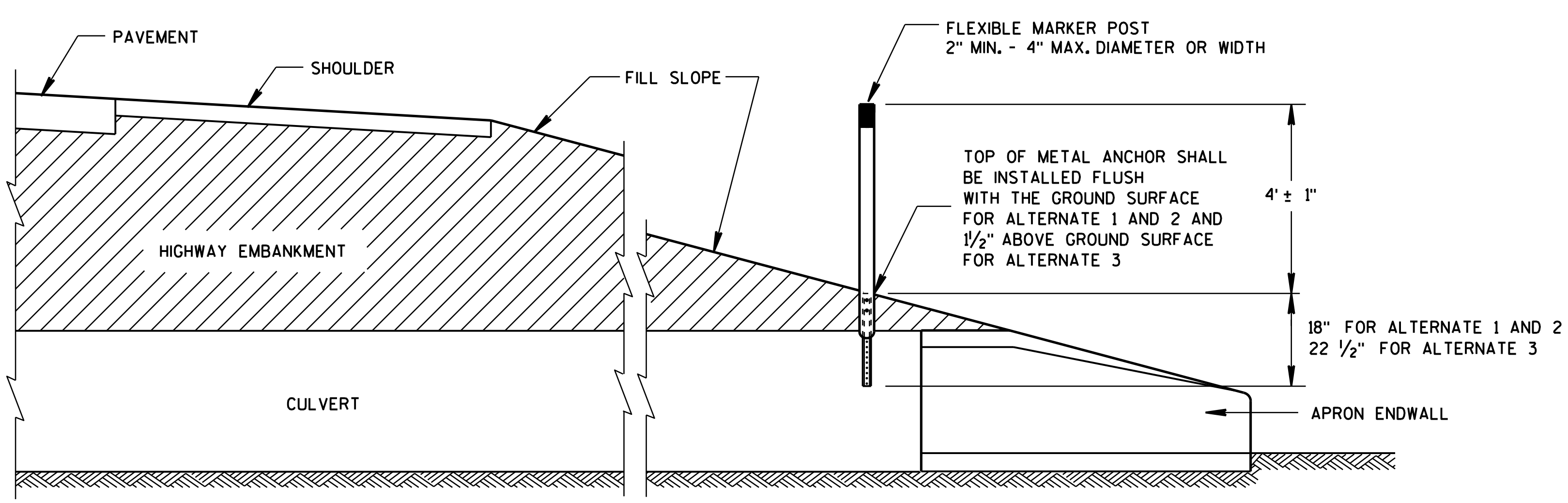
I	MARKER POST, FLEXIBLE
⇨	DIRECTION OF TRAFFIC FLOW



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION

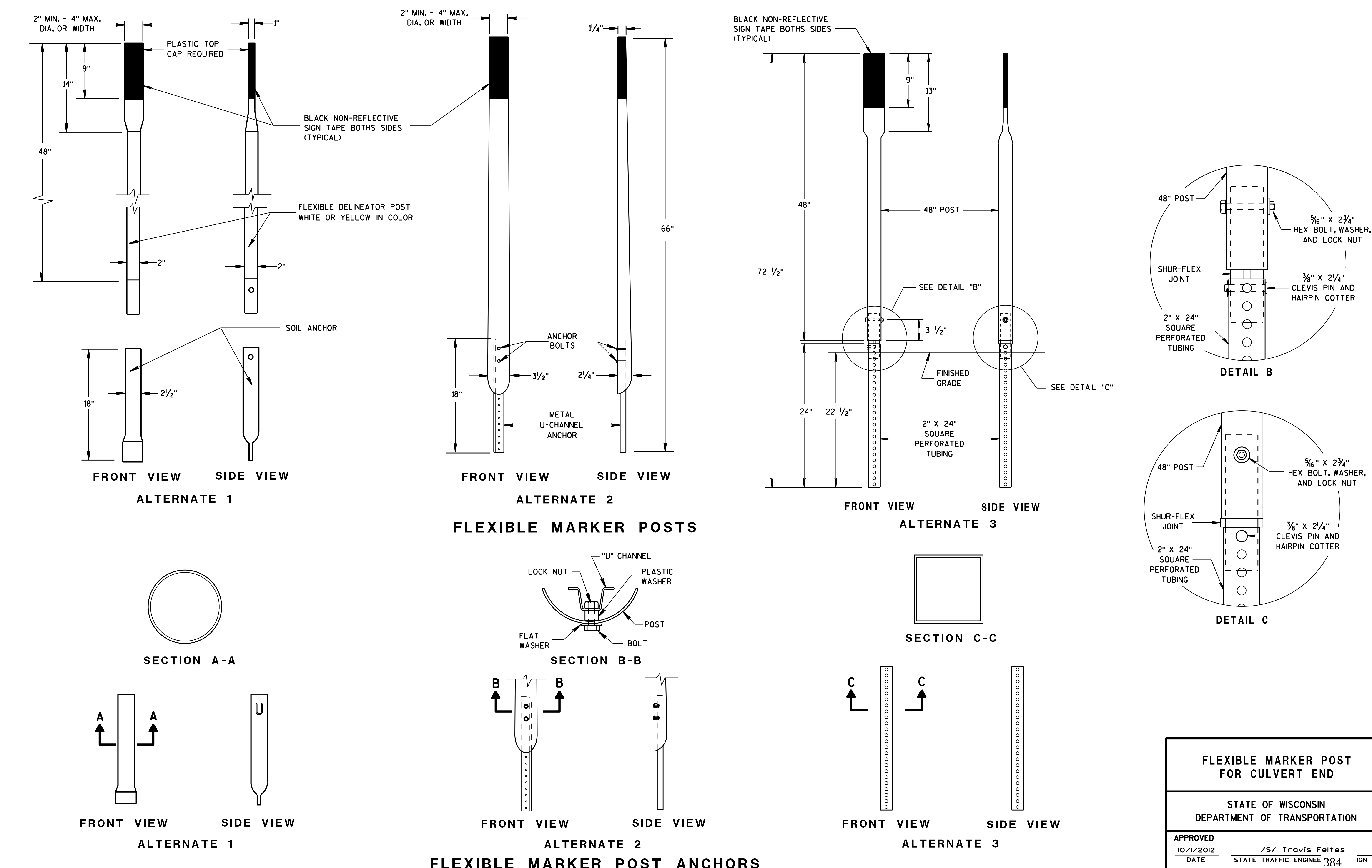


CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



6

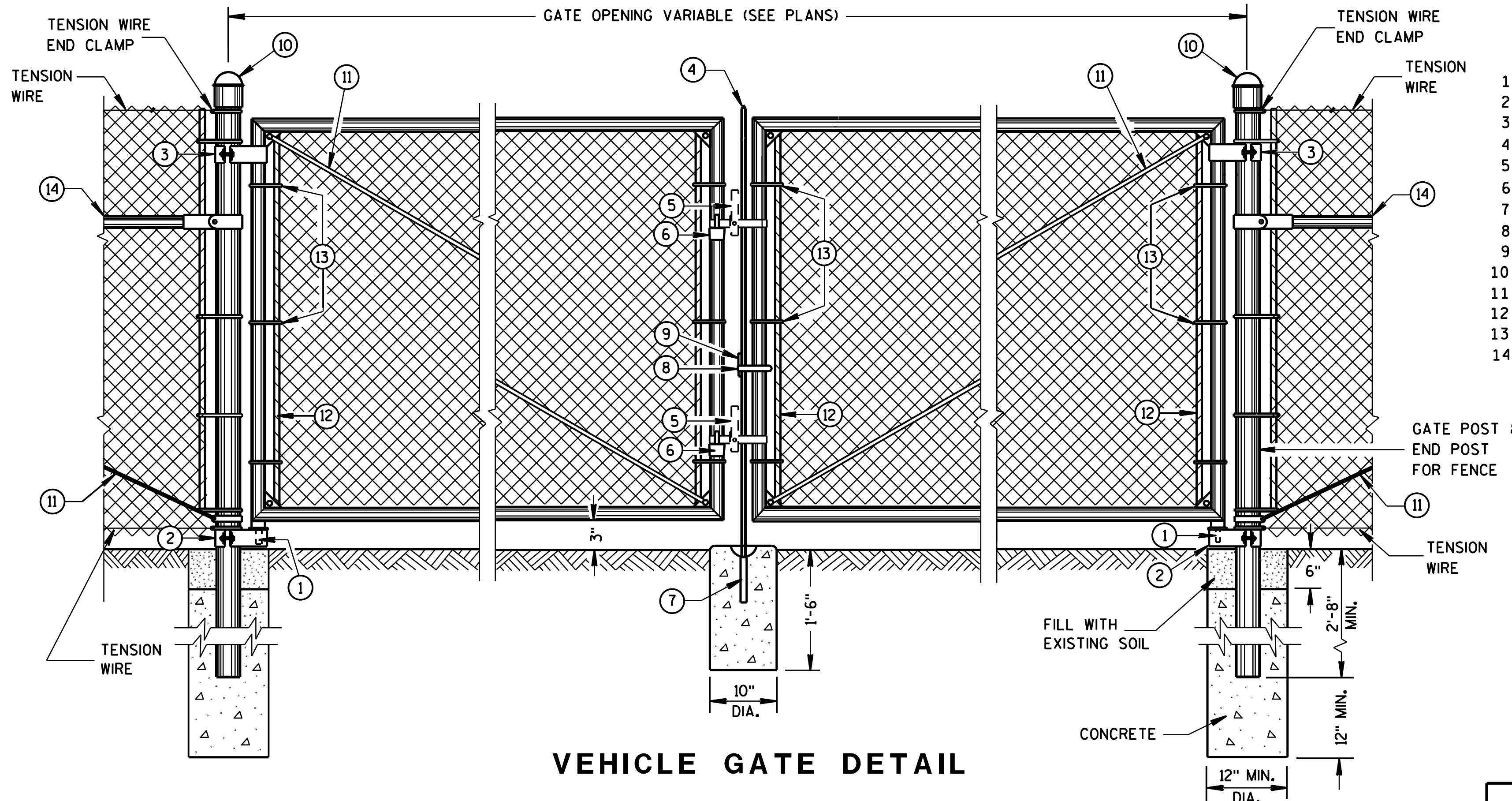
6

FLEXIBLE MARKER POST FOR CULVERT END

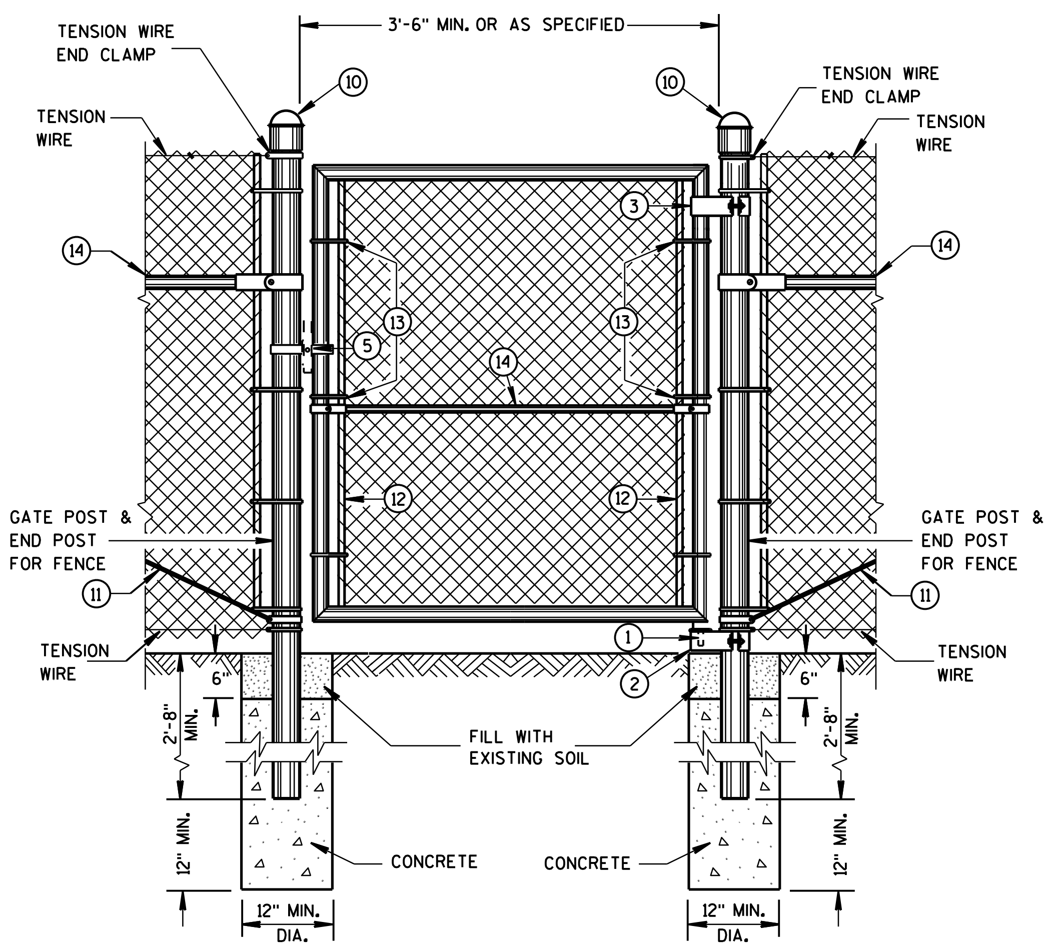
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER IGN
FHWA

S.D.D. 15 A 3-2b



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.

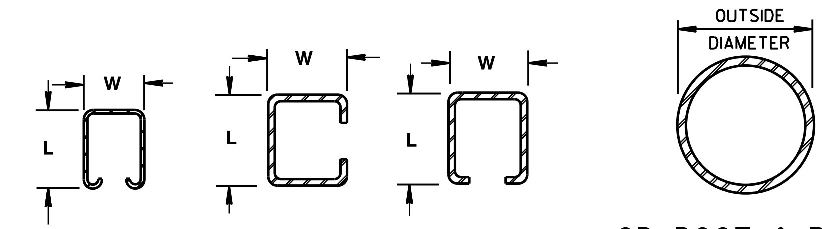
USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

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

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 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

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

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

BRACE RAIL TYPES

USE		TYPE
BRACE RAIL		SP1 OR FS1

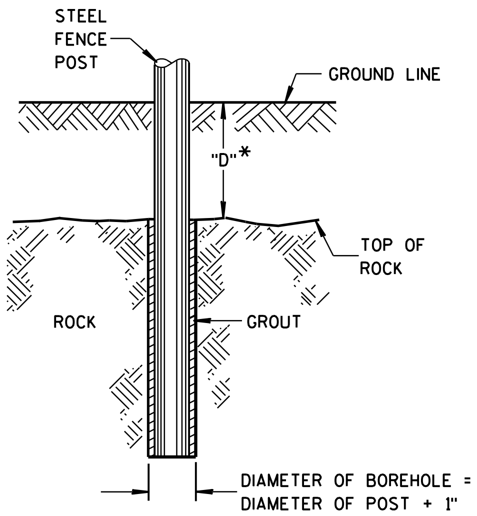
** INCLUDES END, CORNER, ANGLE, INTERSECTION AND INTERMEDIATE BRACED POSTS

FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

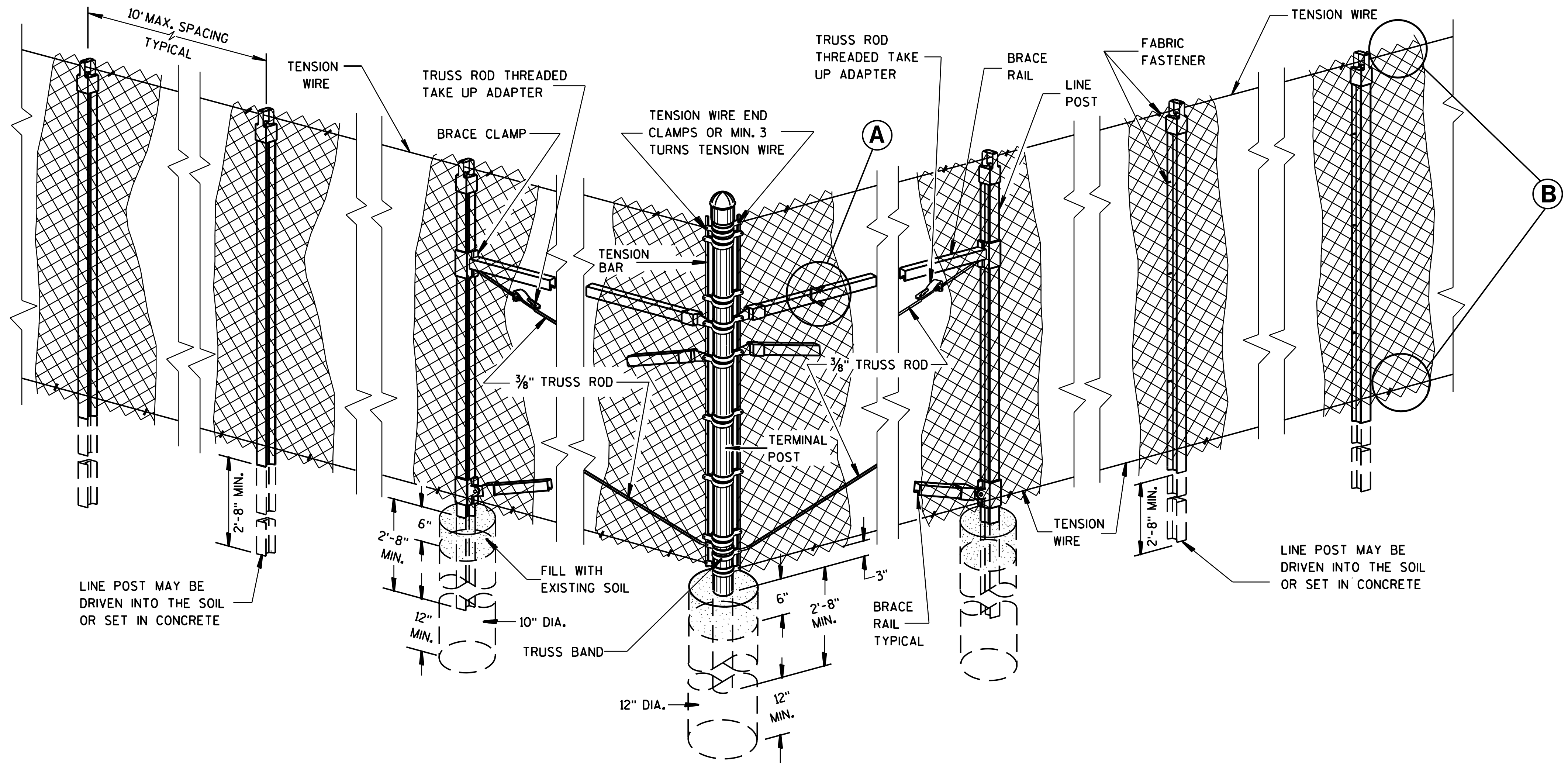
6

S.D.D. 15 B 3-15a



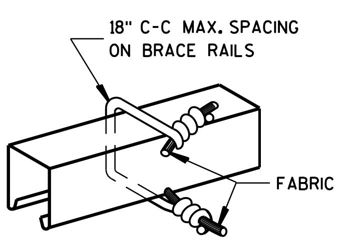
* IF "D" IS LESS THAN 2'-6",
DRILL ROCK AND INSTALL GROUT

ROCK INSTALLATION OF LINE POST

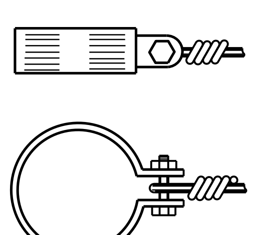


END, CORNER, ANGLE INTERSECTION & INTERMEDIATE BRACED POSTS

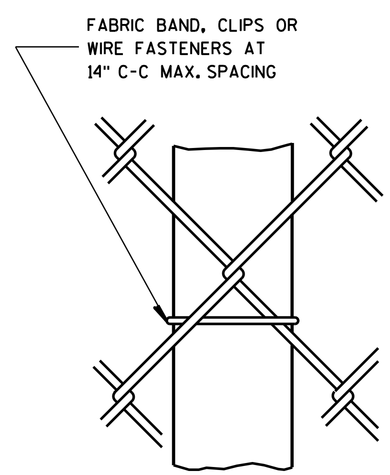
6



BRACE RAIL
FABRIC FASTENER
A

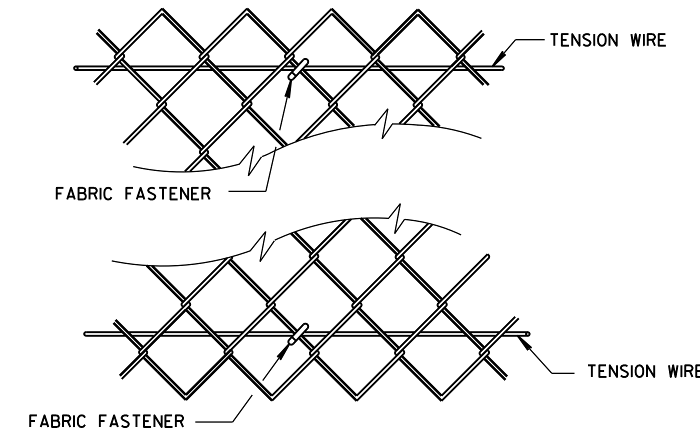


TENSION WIRE END CLAMP



LINE POST
FABRIC FASTENER

AT TOP



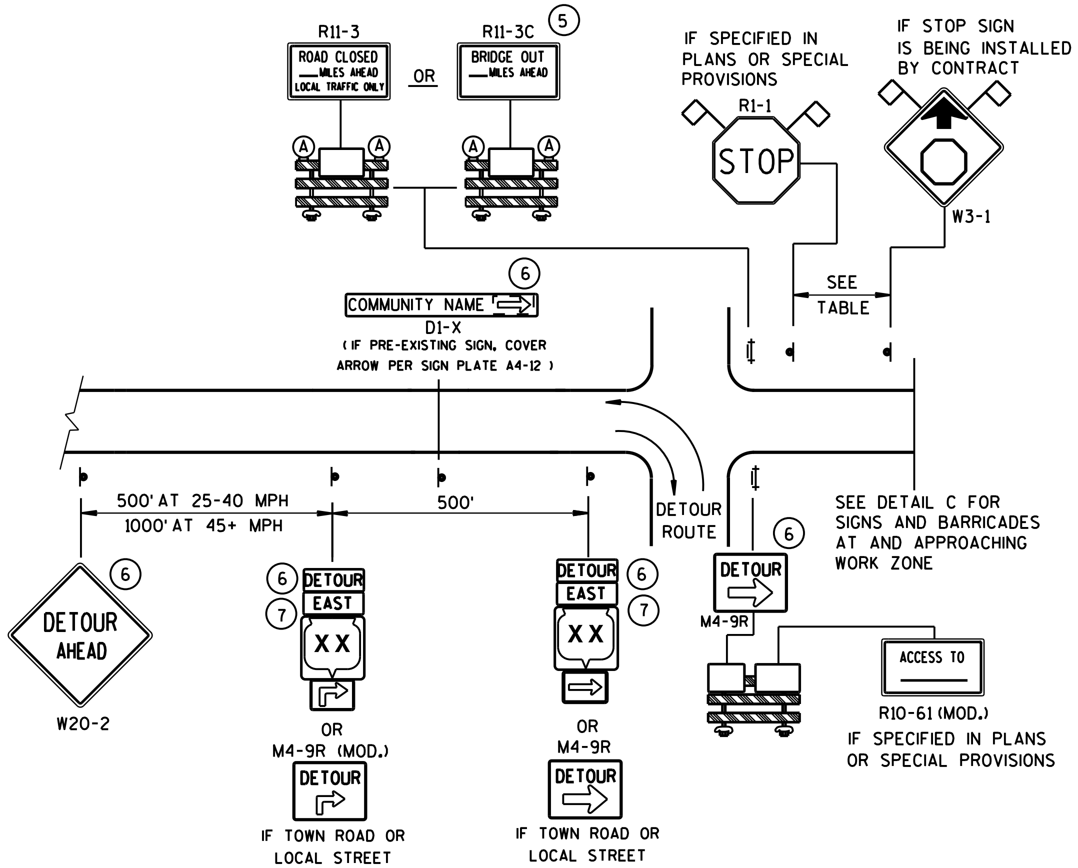
AT BOTTOM
SELVAGES
B

FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
FEB. 2015 — DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

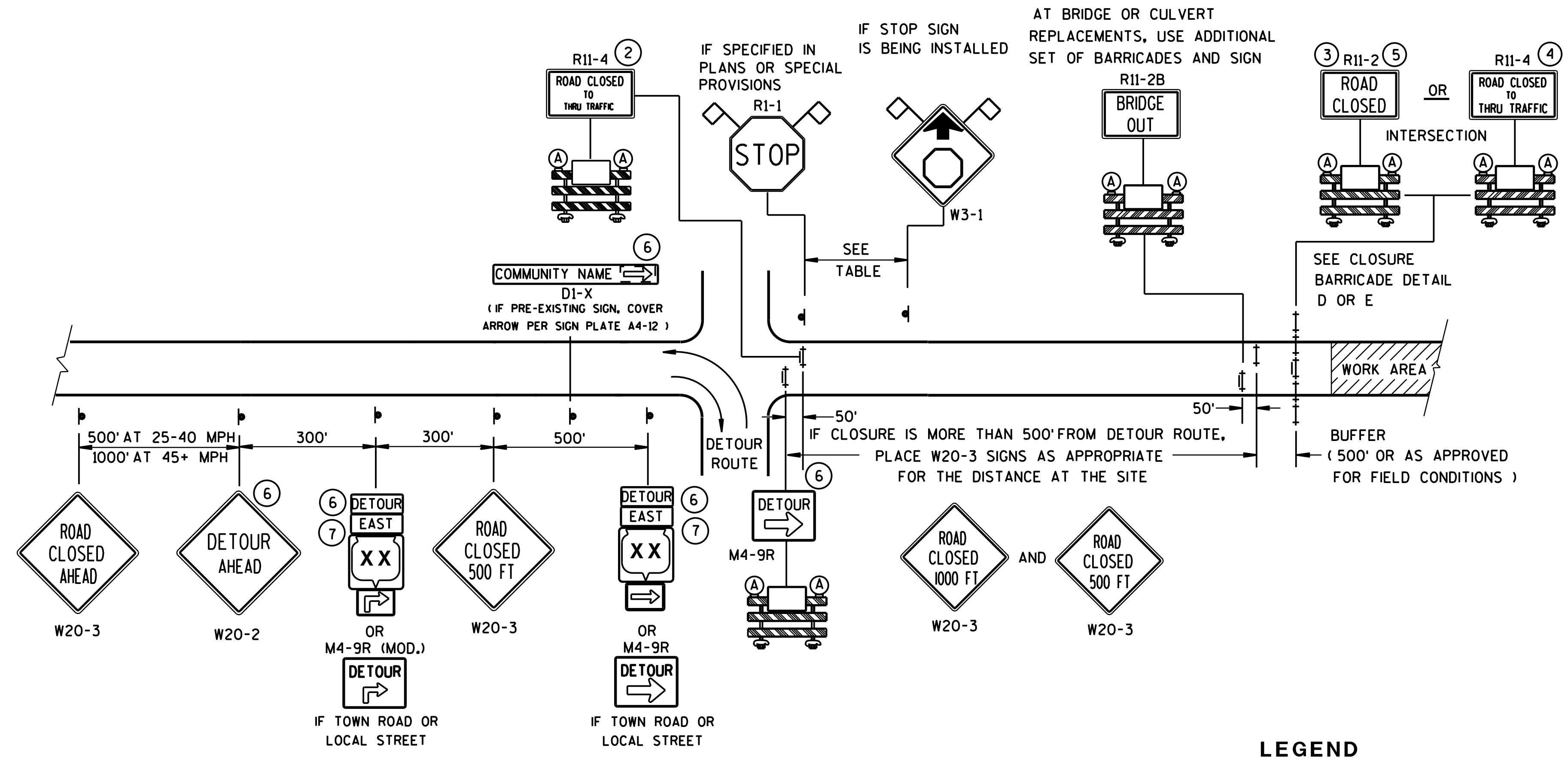
S.D.D. 15 B 3-15b
6



DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

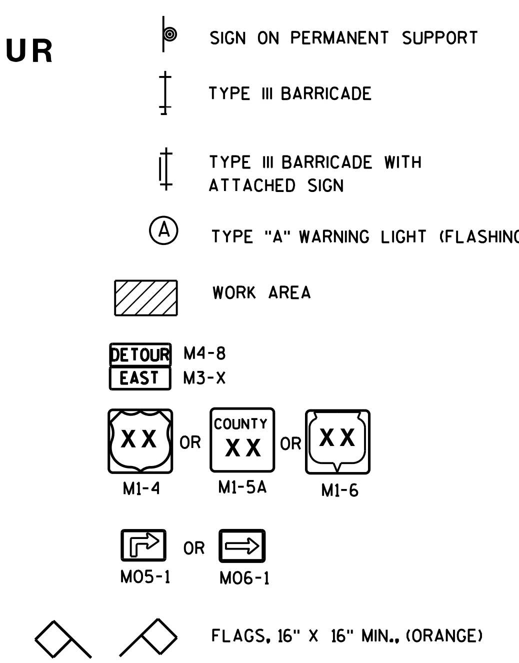


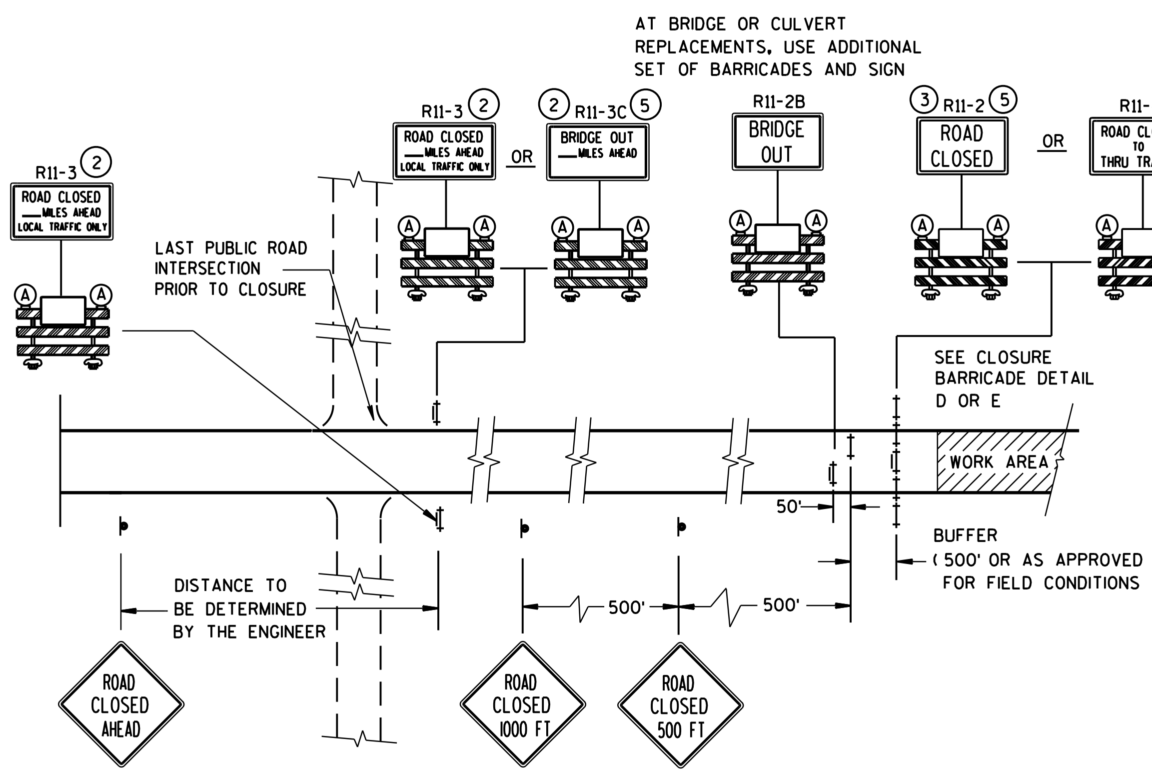
DETAIL B

MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

LEGEND





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

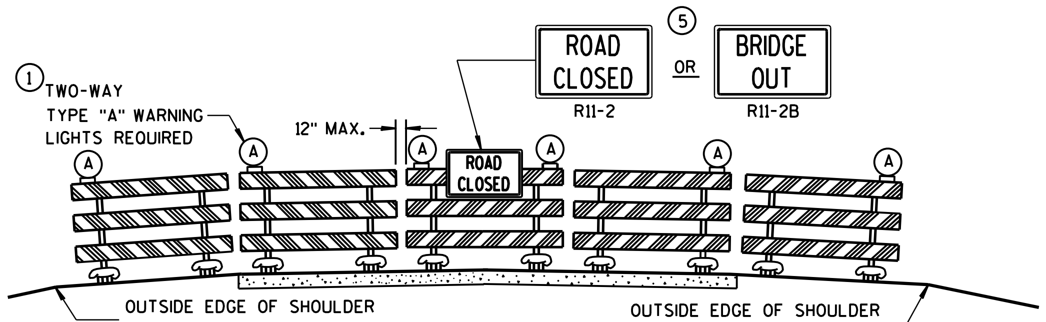
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

8/2013	/S/ Travis Feltes
DATE	STATE TRAFFIC ENGINEER OF DESIGN

FHWA

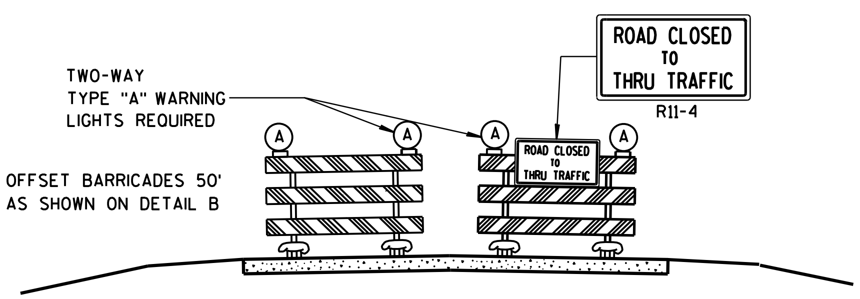
6
S.D.D. 15 C 2-5a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

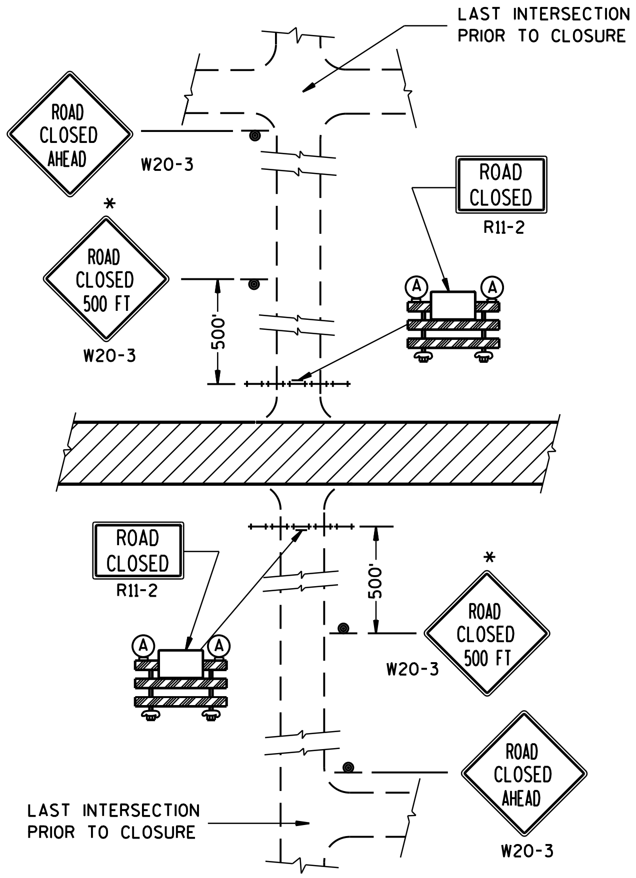
1. TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).
2. THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.
3. FOR ROAD CLOSURE <u>WITHOUT</u> LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.
4. FOR ROAD CLOSURE <u>WITH</u> LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.
5. FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.
6. INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
7. "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

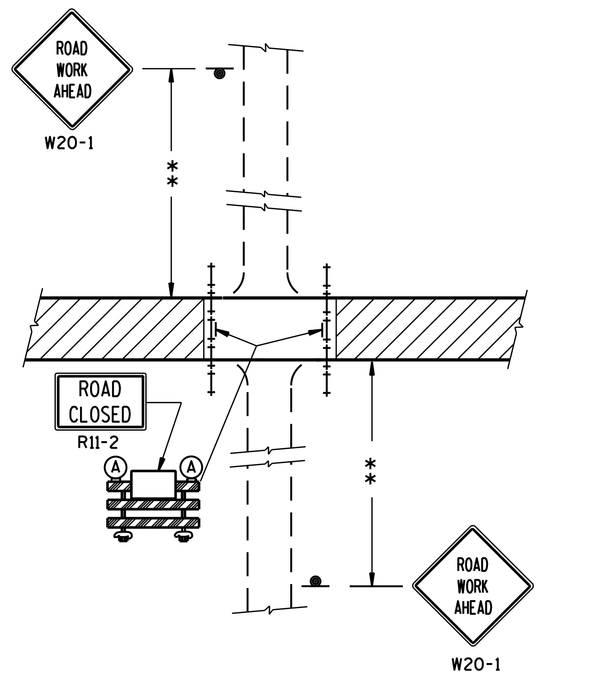
8/2013	/S/ Travis Feltes
DATE	STATE TRAFFIC ENGINEER

FHWA



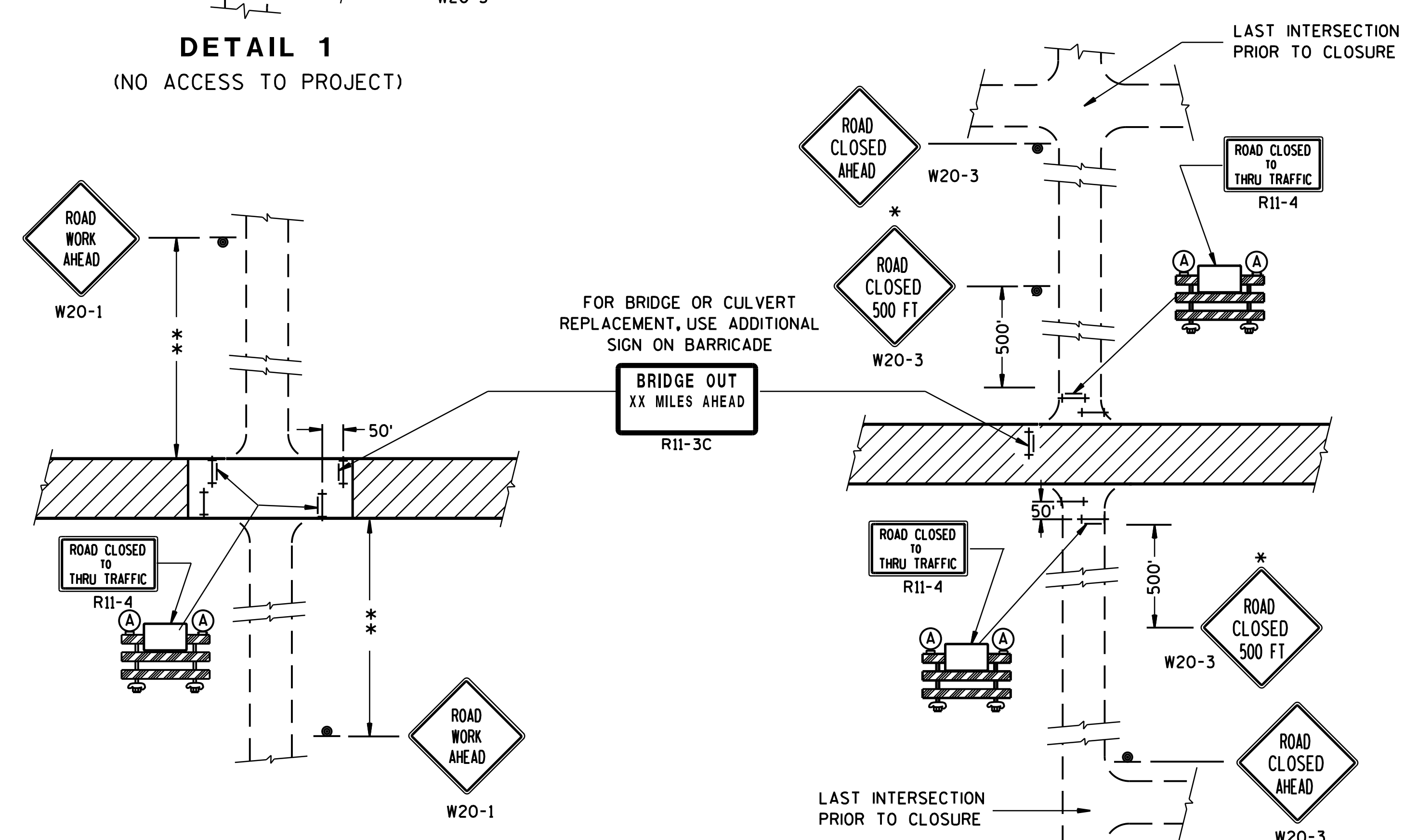
DETAIL 1

(NO ACCESS TO PROJECT)



DETAIL 2

(PUBLIC CROSS-TRAFFIC MAINTAINED. NO ACCESS TO PROJECT).



DETAIL 3

(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).

DETAIL 4

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

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

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

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

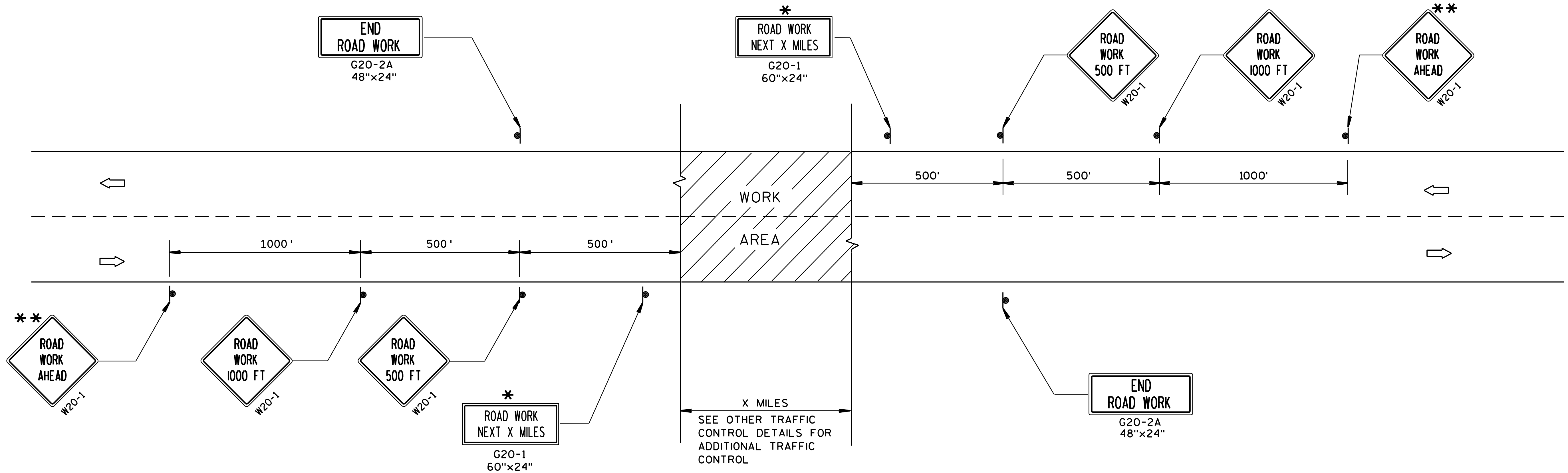
6

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINE[ER] ESIGN
FHWA

S.D.D. 15 C 3-2



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

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

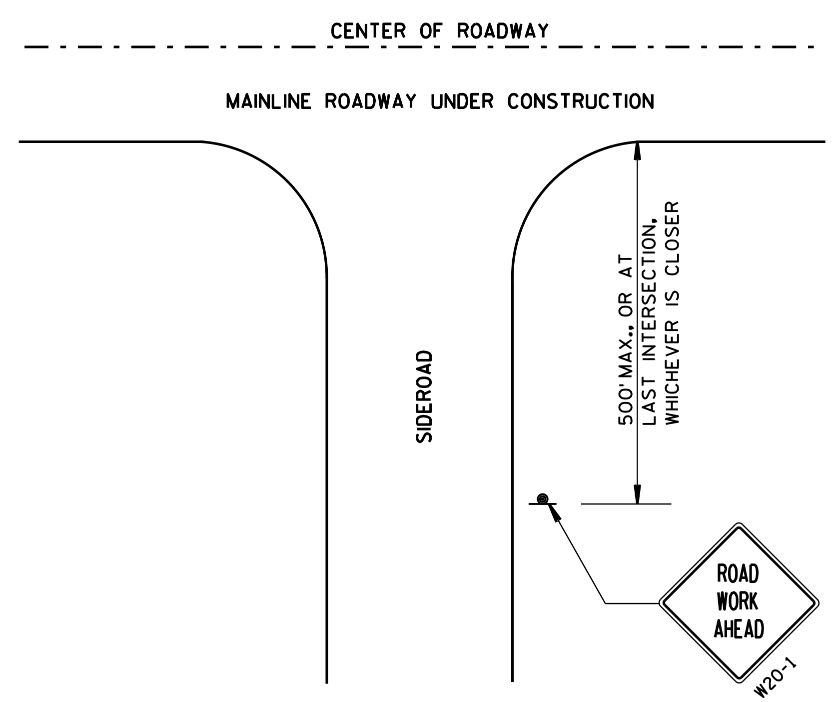
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

** PLACE ADDITIONAL W20-1 "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

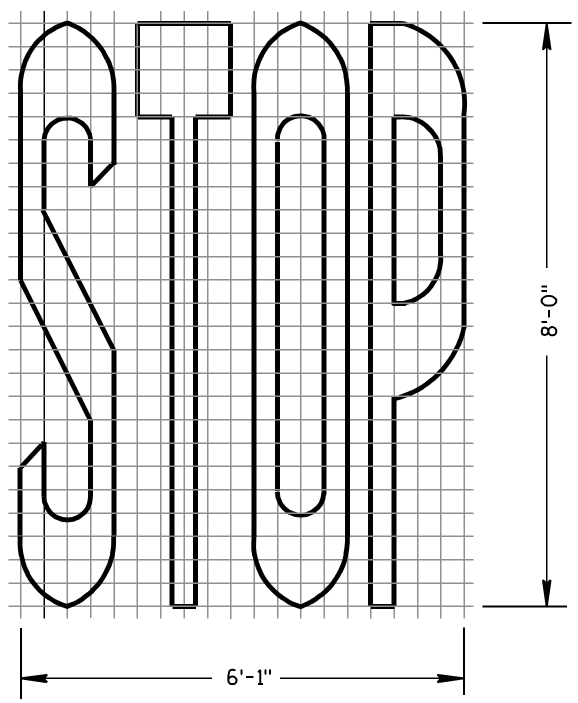
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

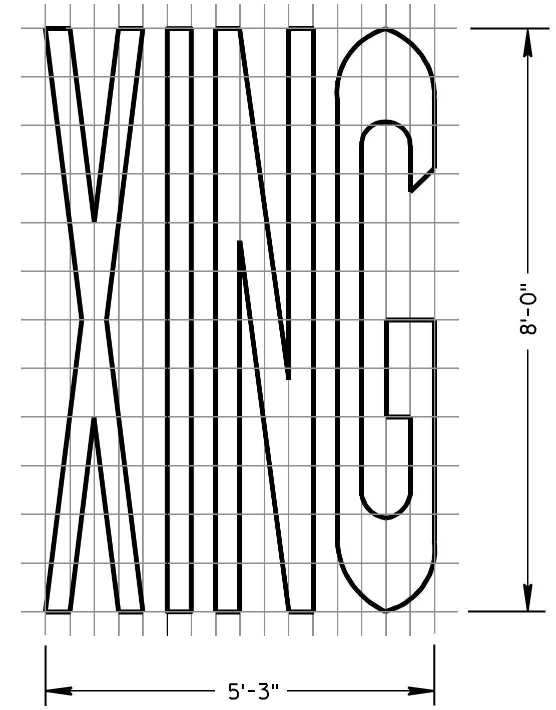
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
SIGN
FHWA

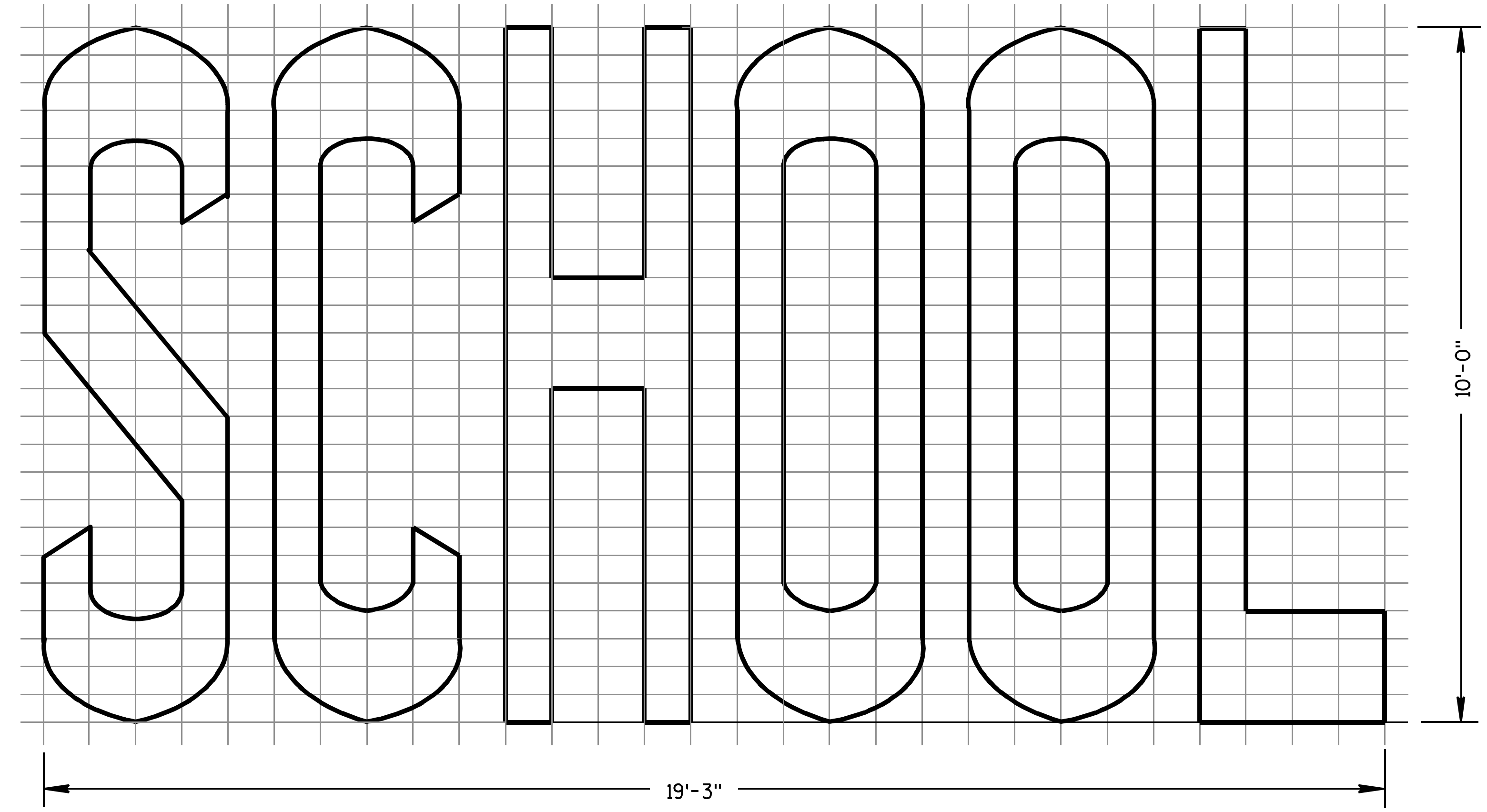
GENERAL NOTES

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.

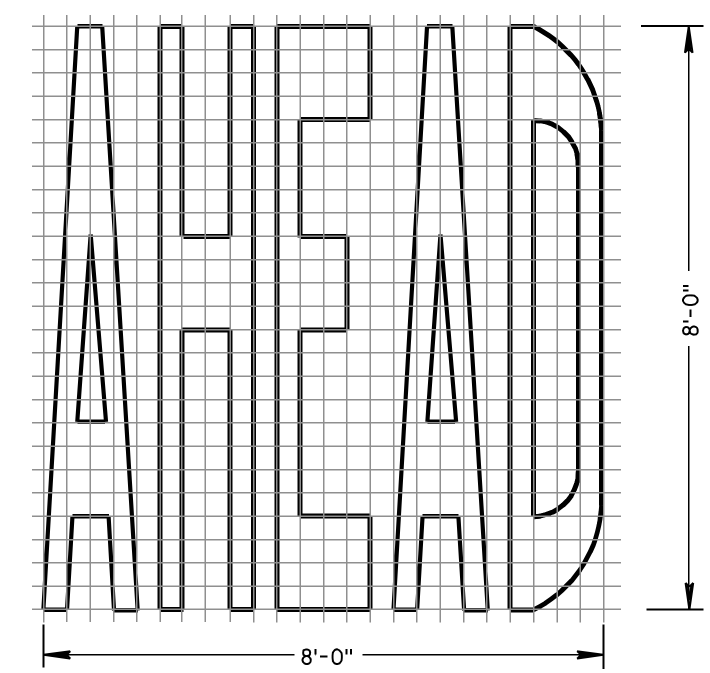
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.

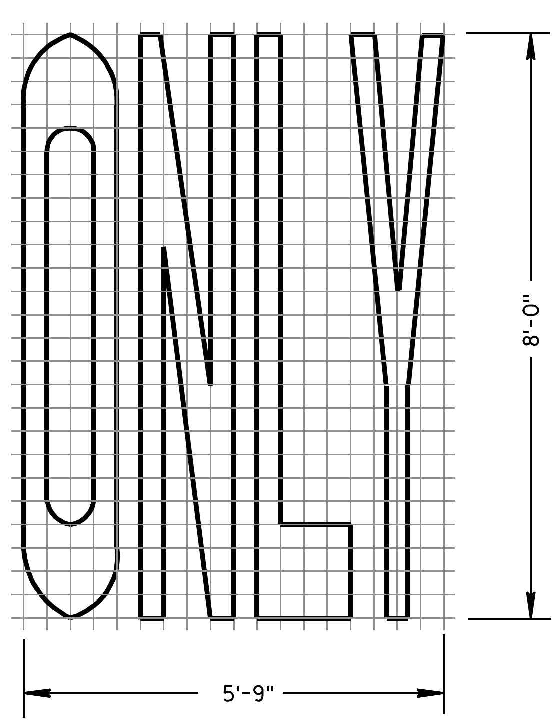


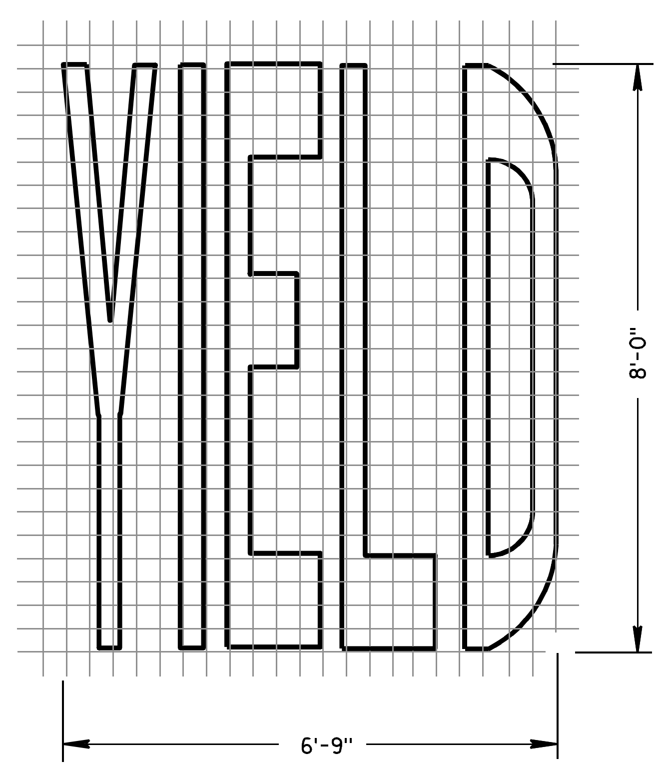


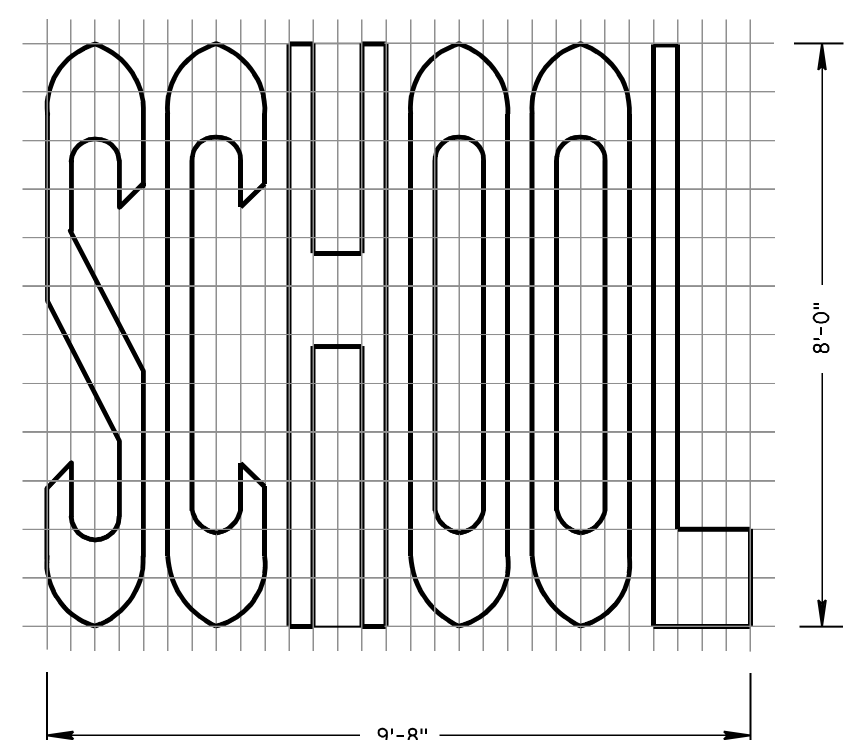


TWO-LANE









SINGLE-LANE

6

6

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7-1-11 /S/ Thomas N. Notbohm
DATE STATE TRAFFIC ENGINEER IGN
FHWA

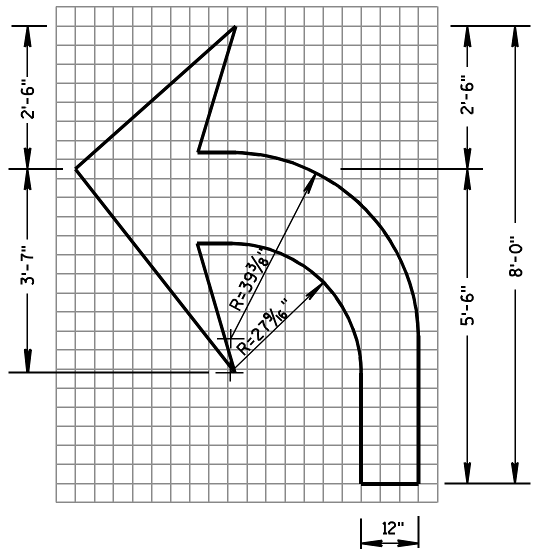
S.D.D. 15 C 7-12b

S.D.D. 15 C 7-12b

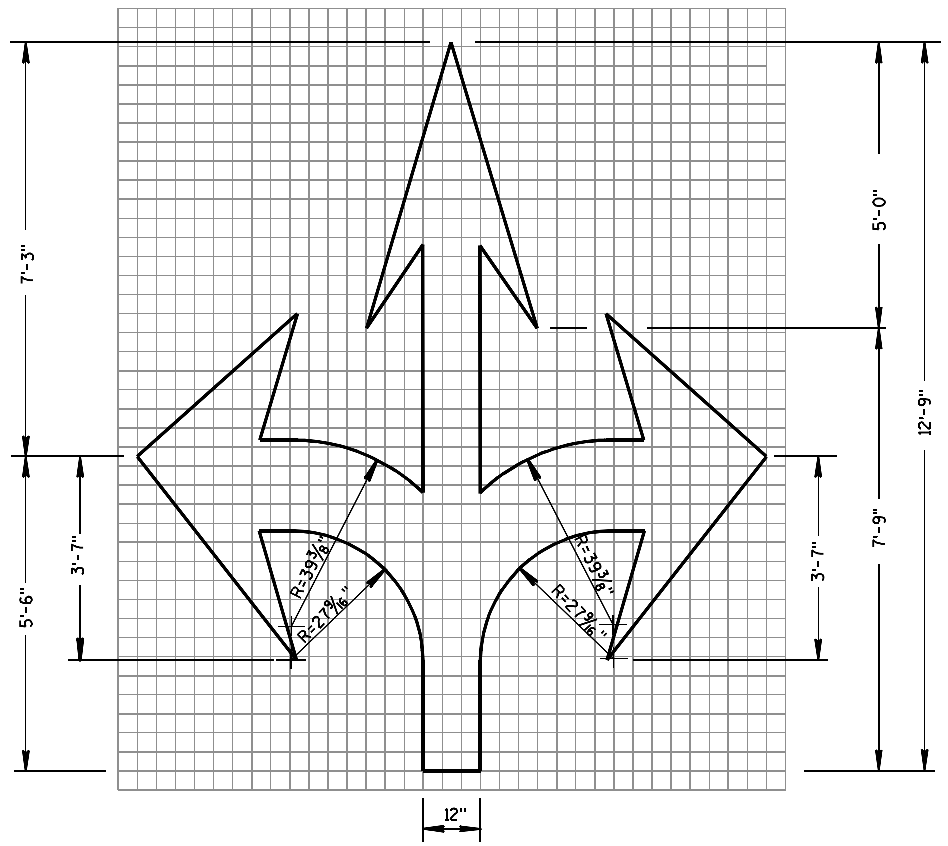
GENERAL NOTES

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.

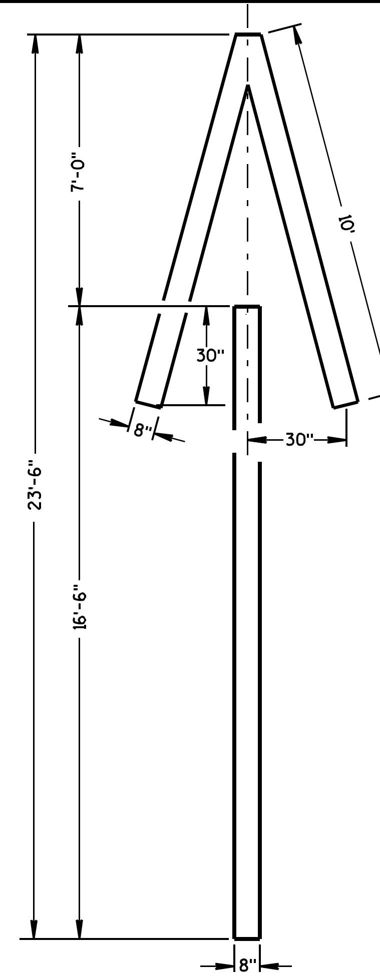
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



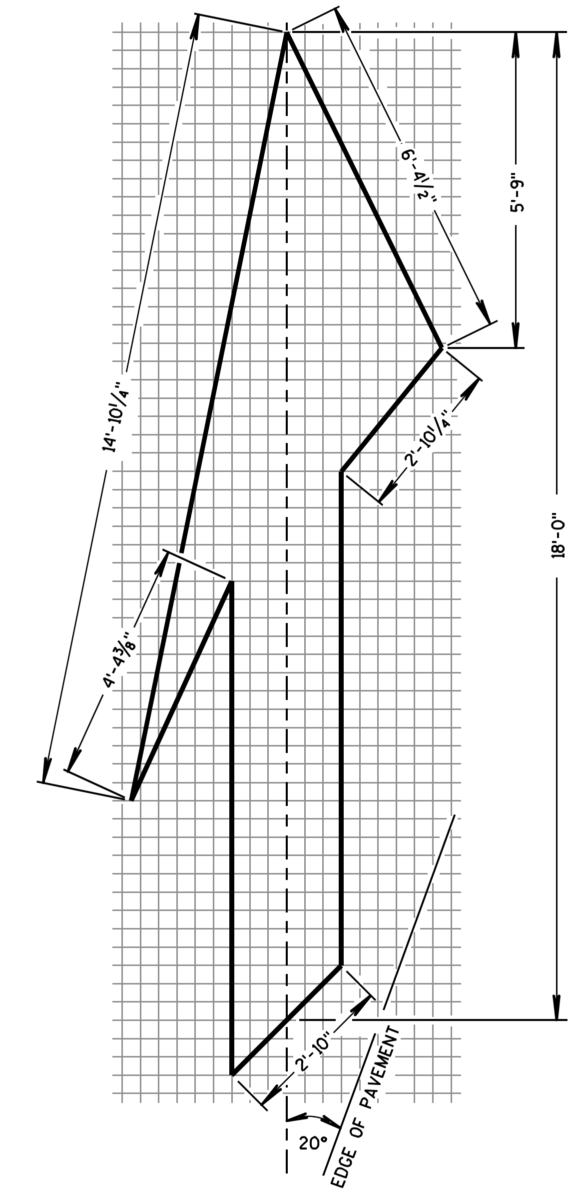
TYPE 2



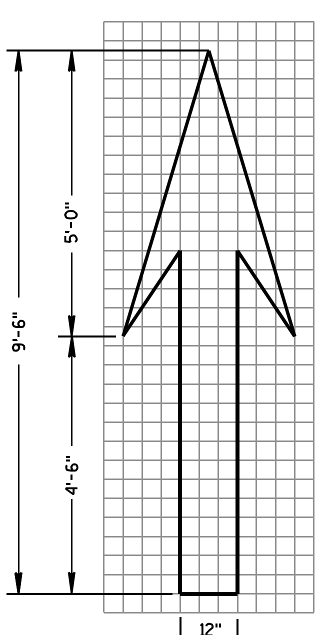
TYPE 6



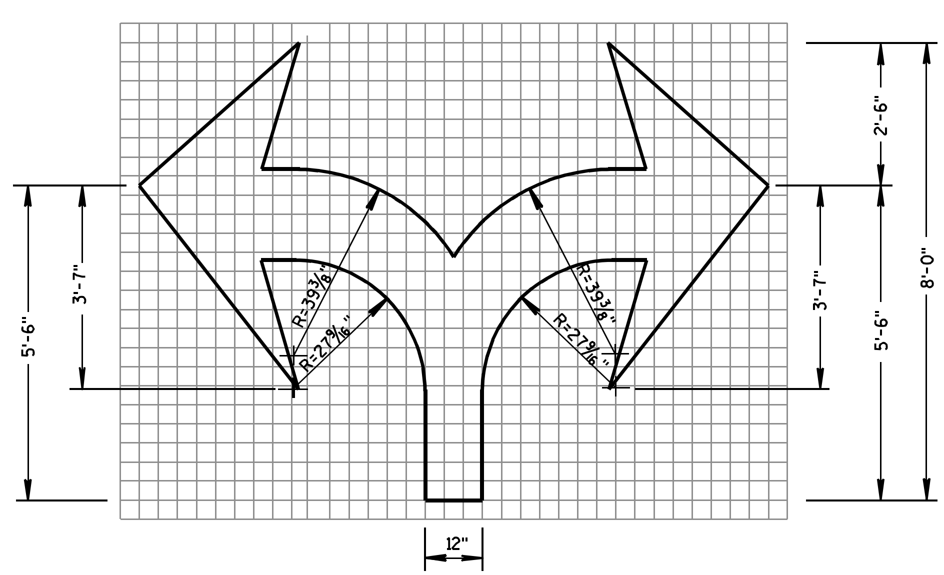
TYPE 4



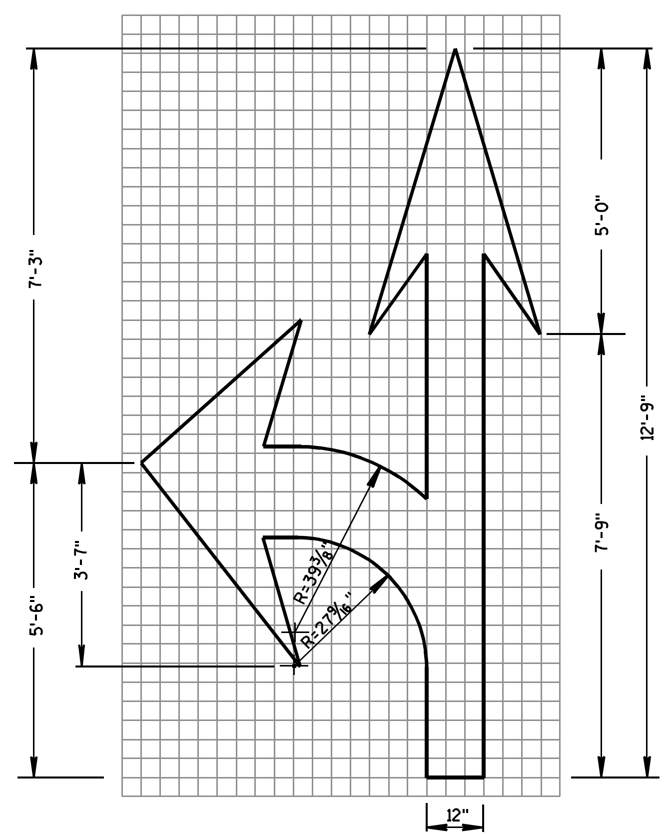
TYPE 5 LANE DROP ARROW



TYPE 1



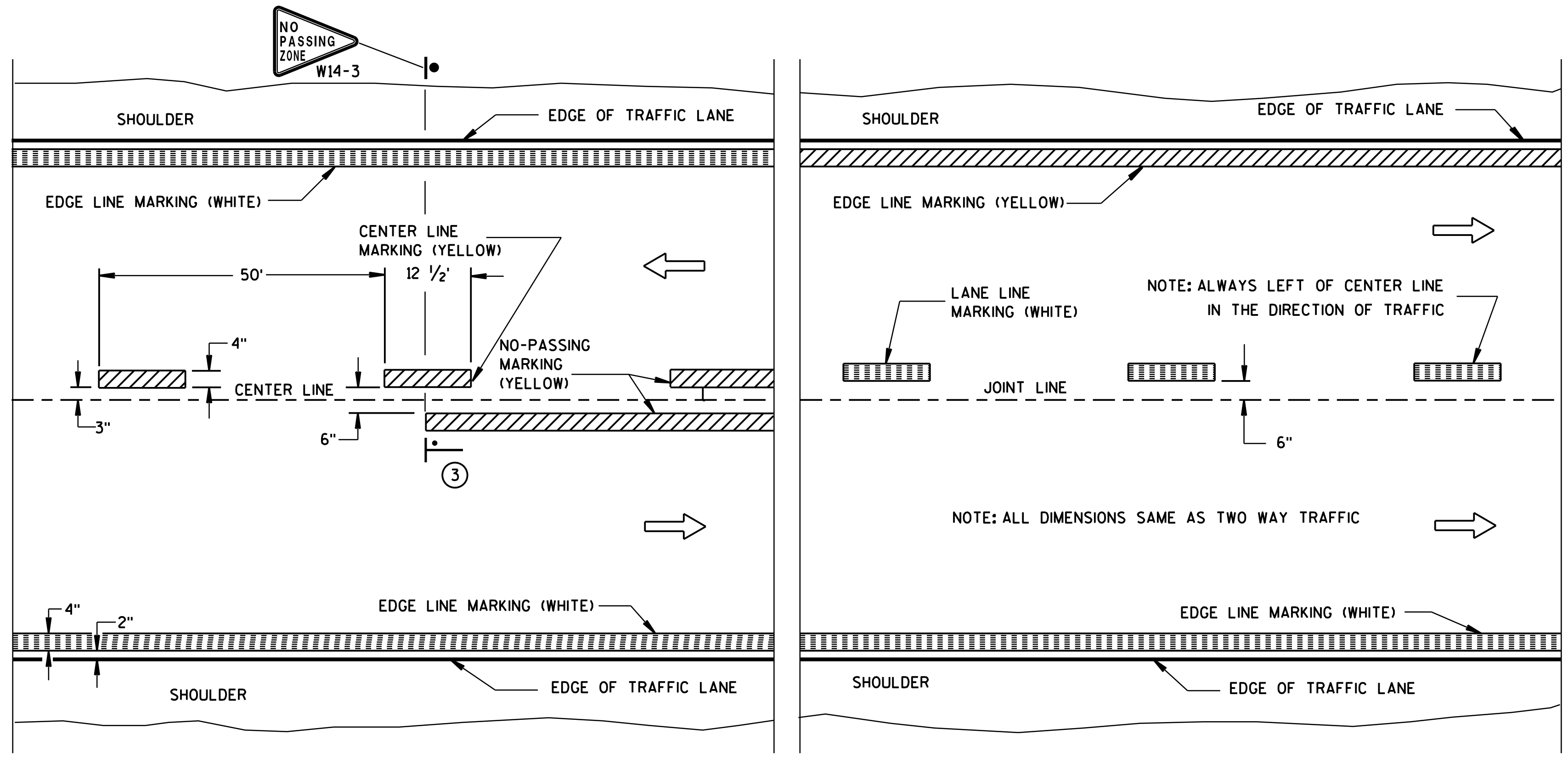
TYPE 7



TYPE 3

PAVEMENT MARKING ARROWS
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 7/1/11 — DATE /S/ Thomas N. Notbohm — STATE TRAFFIC ENGINEER DESIGN FHWA

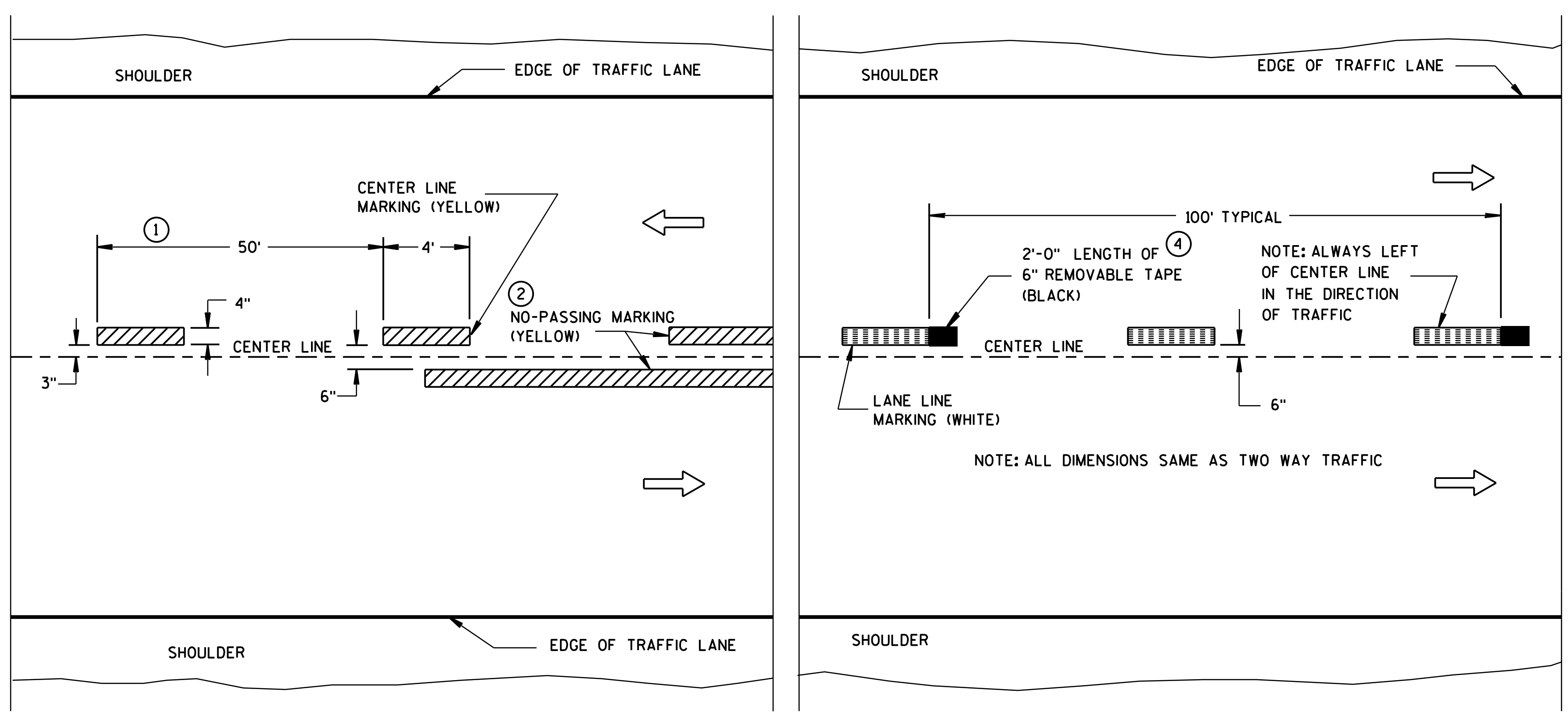
6



TWO WAY TRAFFIC

ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC

ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

GENERAL NOTES

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

(1) HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.

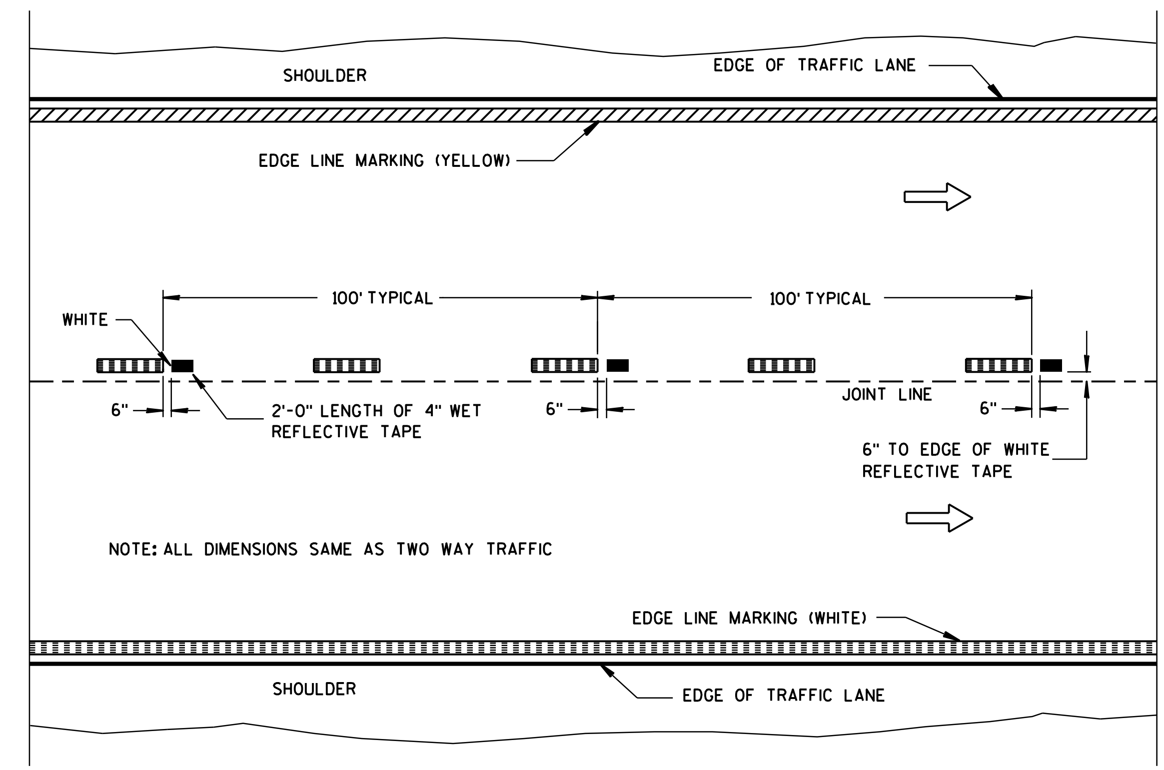
(2) NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.

(3) NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.

(4) CONCRETE ONLY.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 5-13-2013 DATE /S/ Travis Feltes STATE TRAFFIC E FHWA

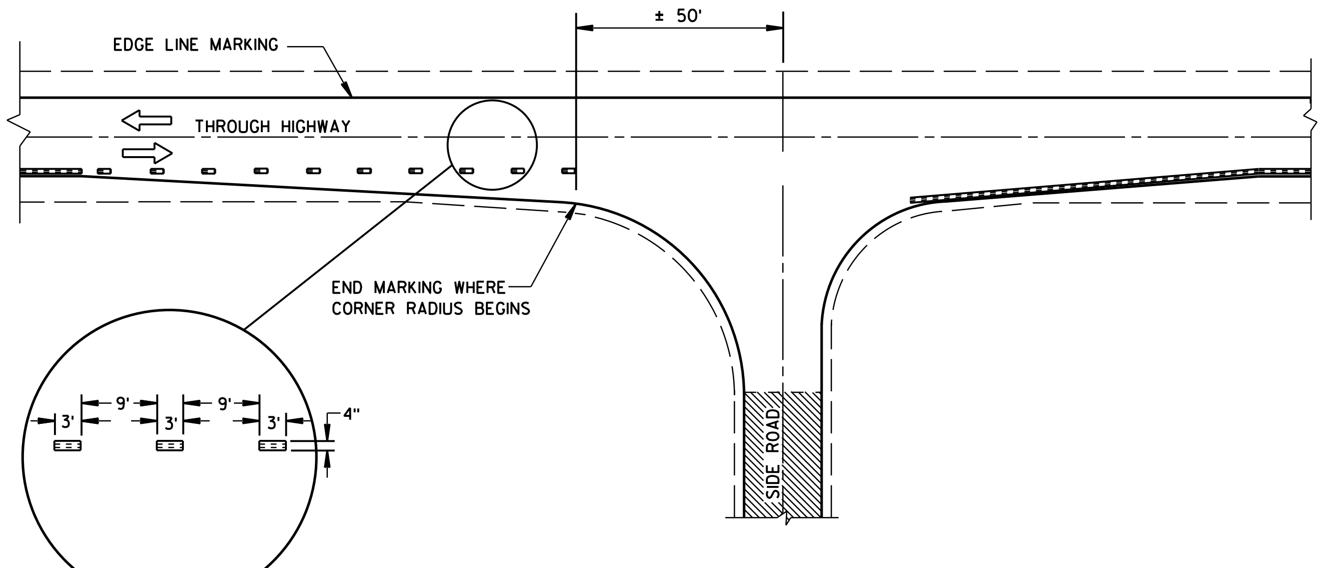
393

6

S.D.D. 15 C 8-16a

S.D.D. 15 C 8-16a

6



MINOR INTERSECTION WITHOUT CURBS

GENERAL NOTES

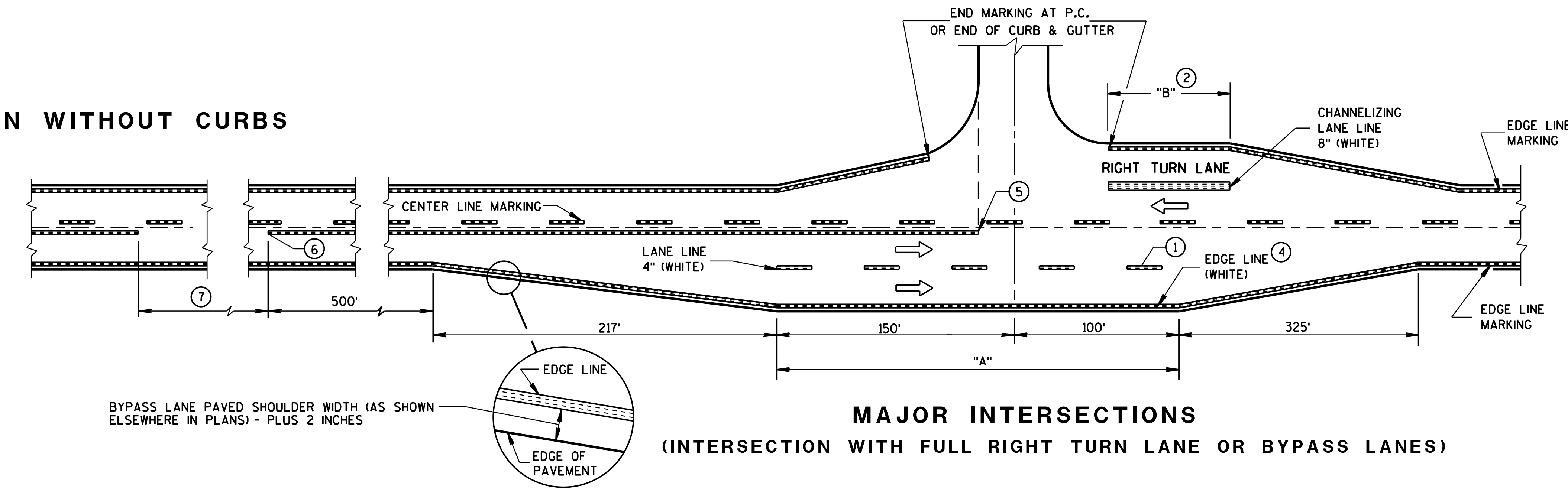
EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

1. WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
2. WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
3. ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.
4. THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.
5. BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.
6. BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
7. IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.
8. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

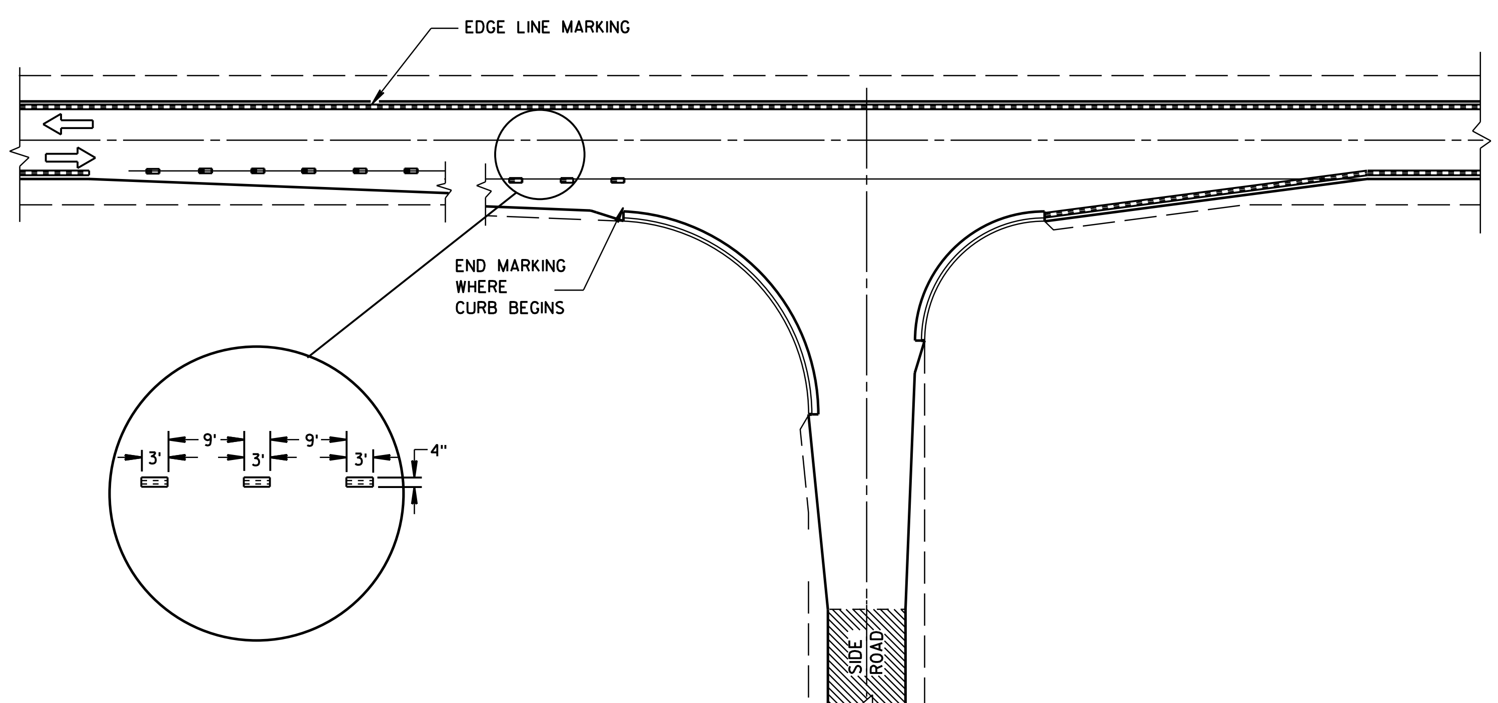
ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

7

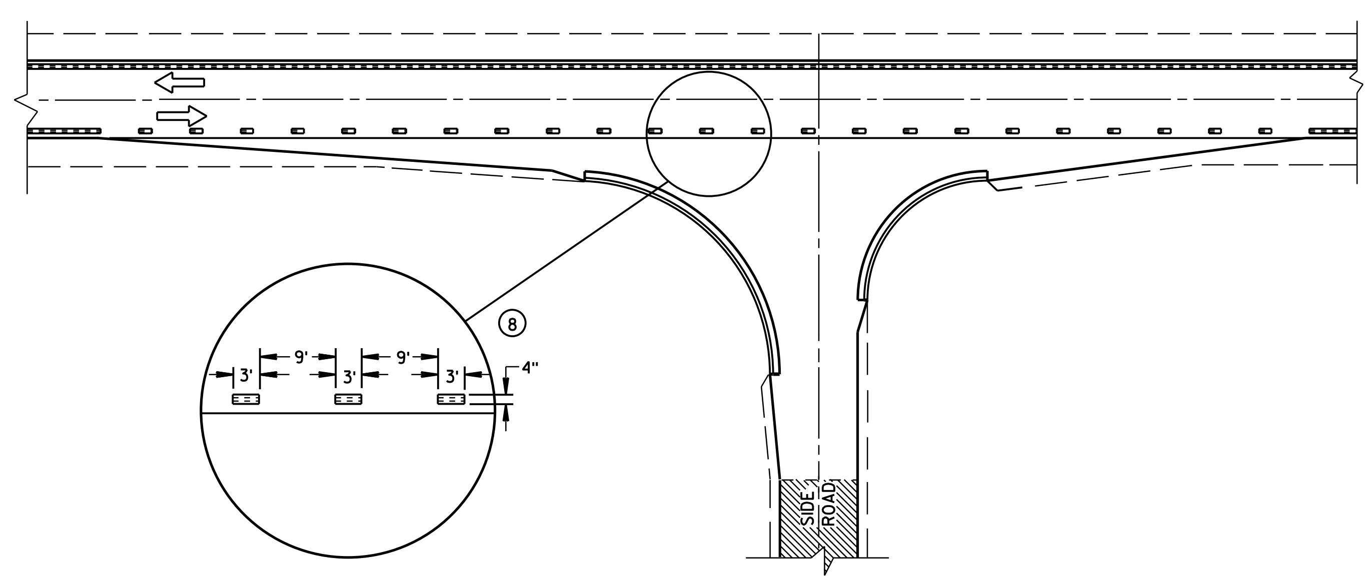
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS
(TYPICAL MARKING)



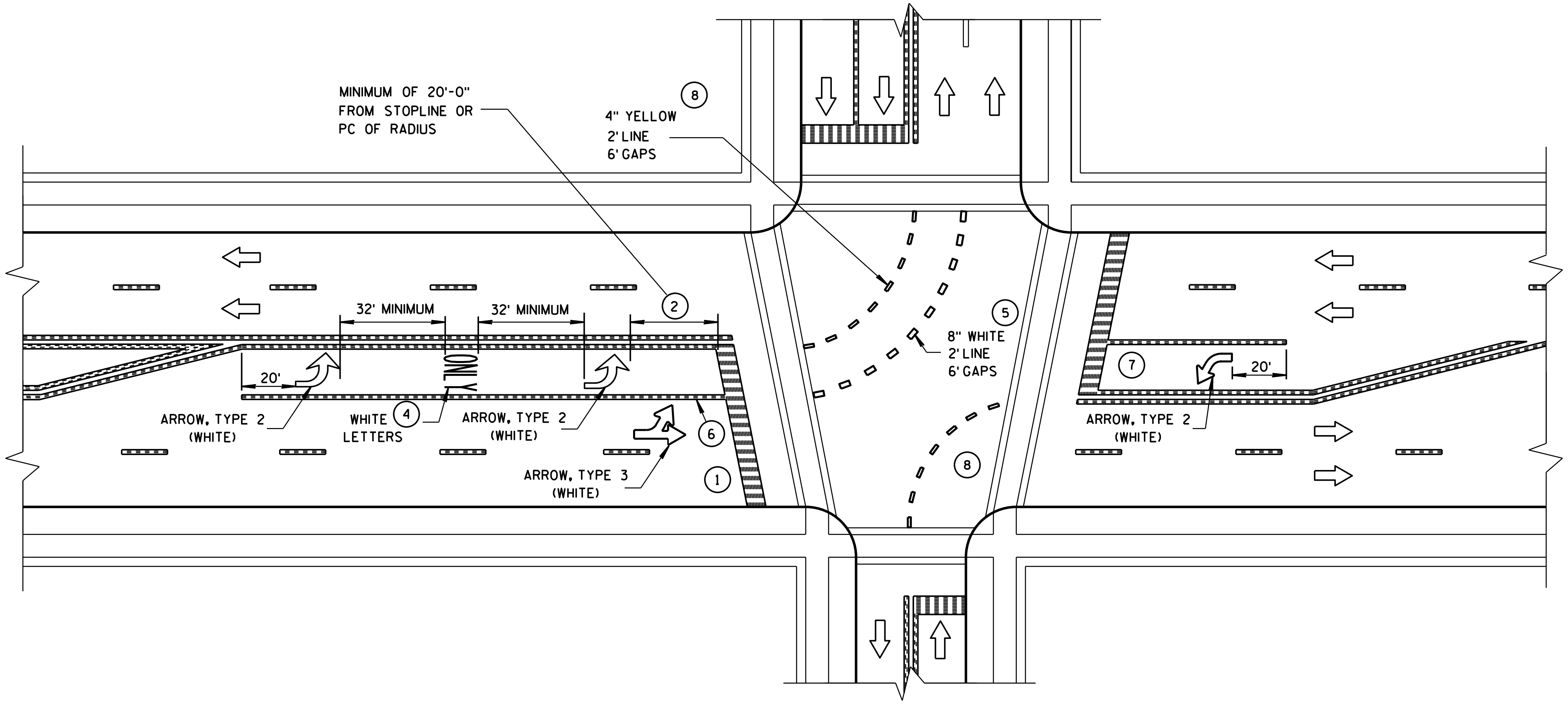
MINOR INTERSECTION WITH CURBS
3 (FOR SPECIAL CONDITIONS AS SPECIFIED)

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

S.D.D. 15 C 8-16b

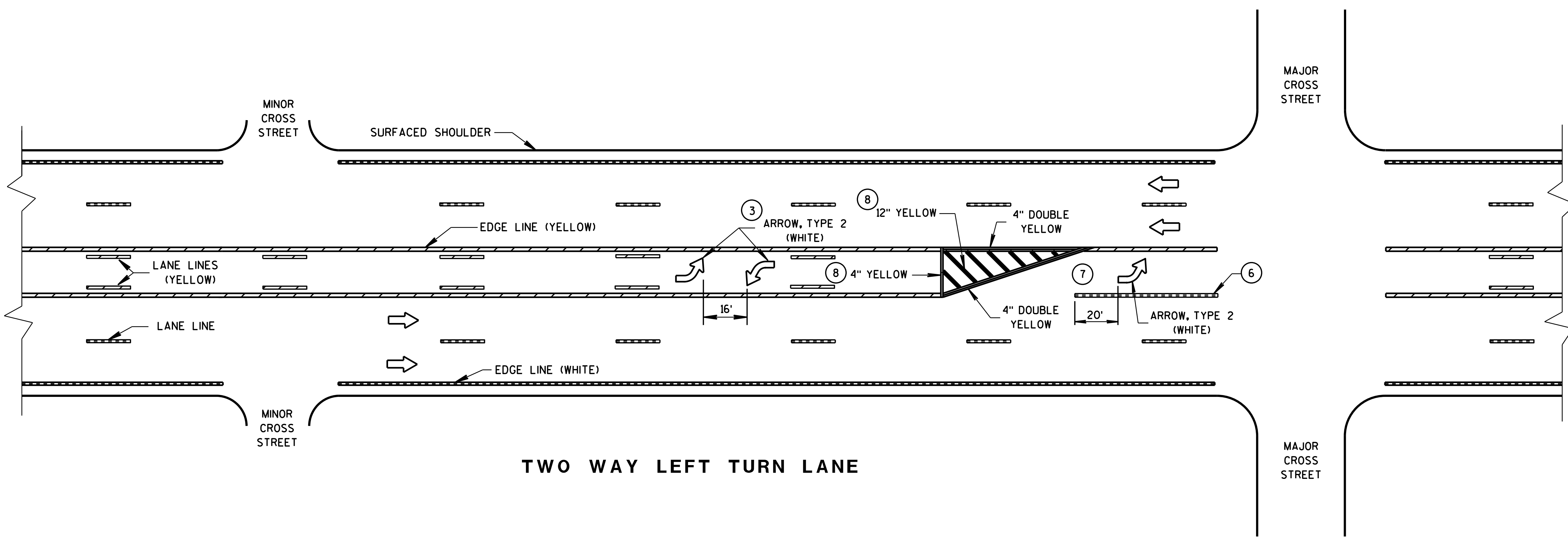
6



GENERAL NOTES

1. STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
2. DISTANCE MAY BE ADJUSTED TO ACCOMODATE SHORT LEFT TURN LANES. AS APPROVED BY THE ENGINEER.
3. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
4. ADD EXTRA SETS OF ONE ARROW AND ONE ONLY PER 160 FEET OR WHEN ON A CURVE.
5. 8" WHITE WITH 2' LINE 6' GAPS FOR DUAL TURN LANE.
6. 8" WHITE
7. ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108 FEET.
8. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL

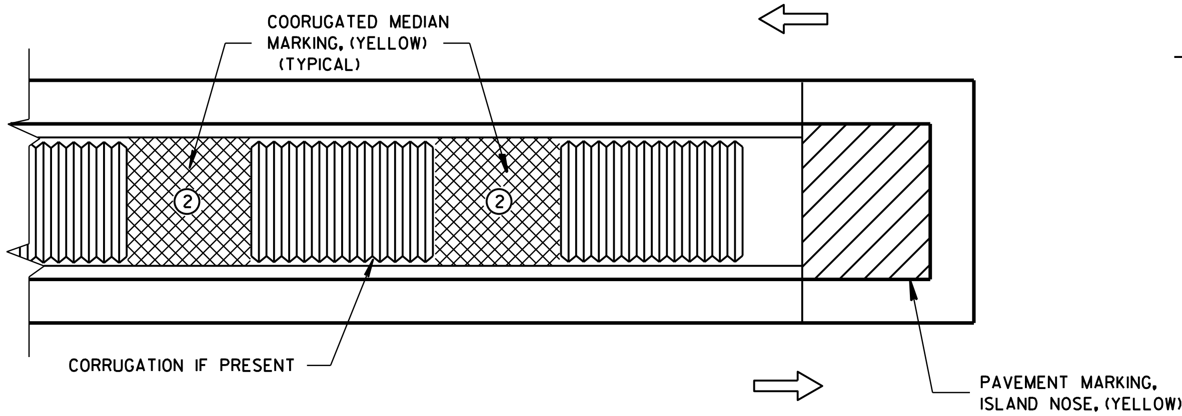


TWO WAY LEFT TURN LANE

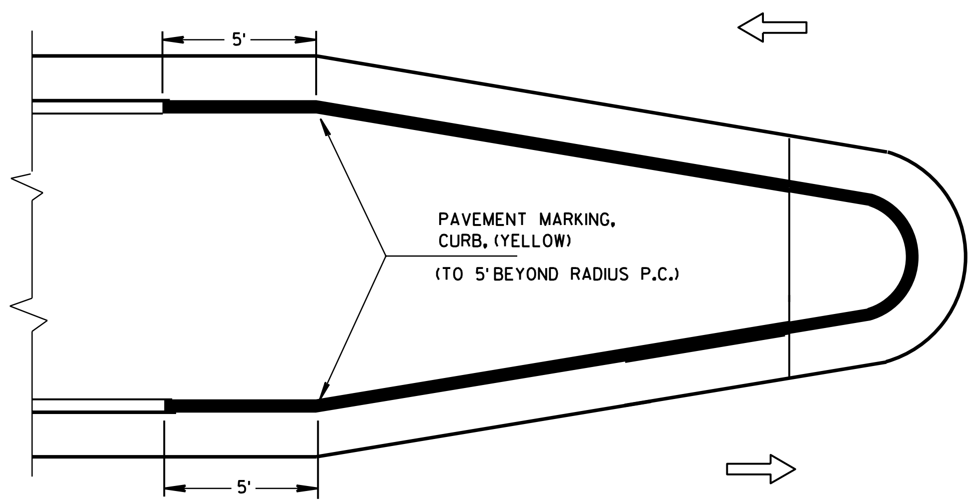
PAVEMENT MARKING
(LEFT TURN LANE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

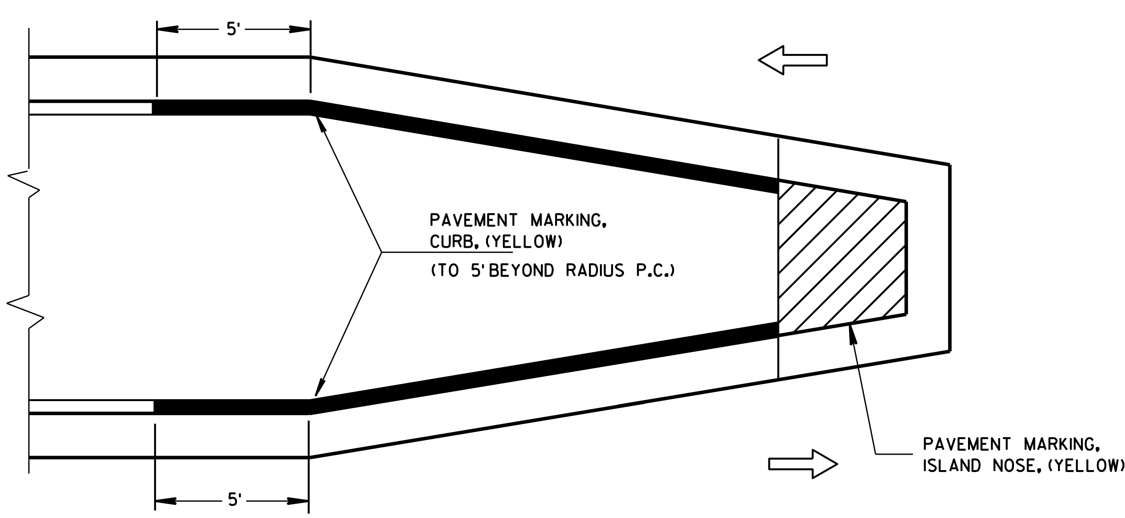
6



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

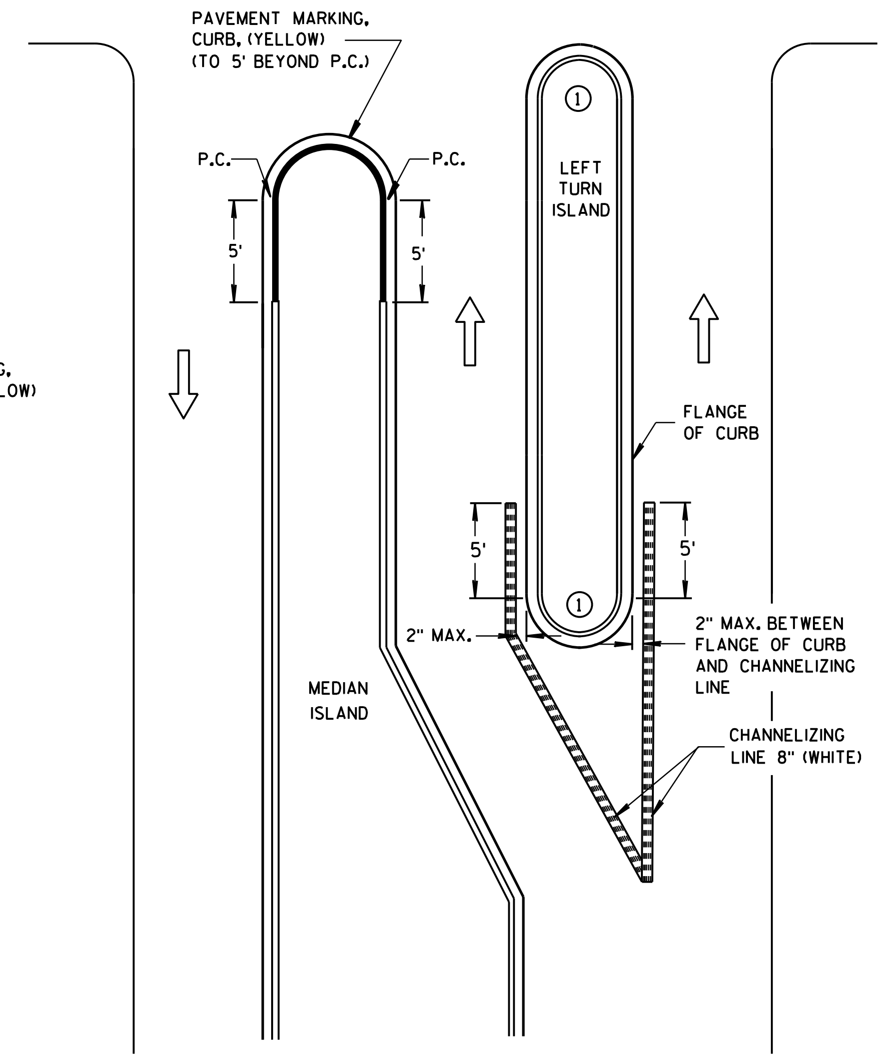


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

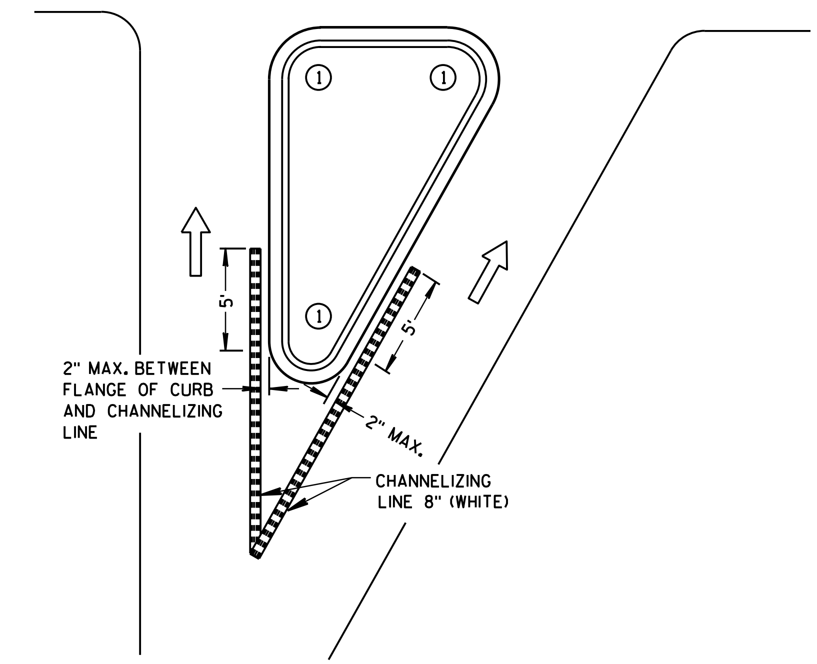


LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

1. DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.

2. WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



RIGHT TURN ISLAND

LEGEND

- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

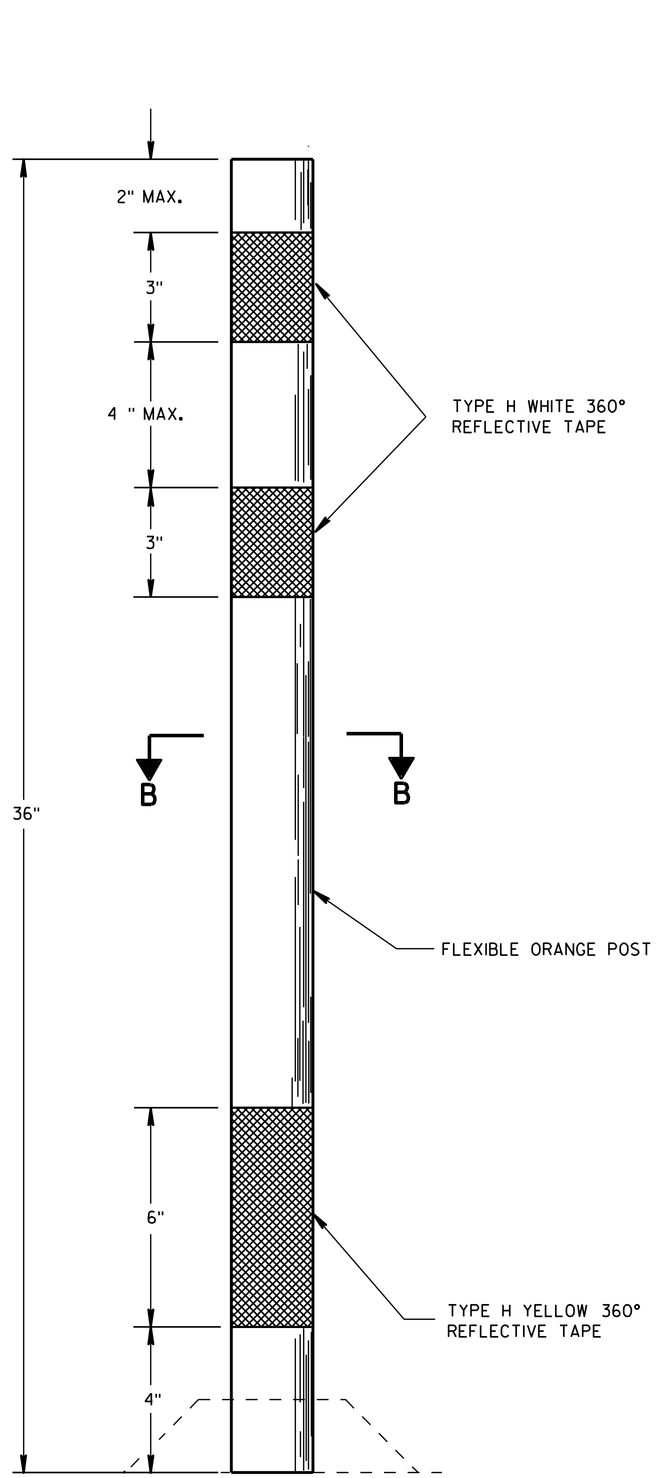
PAVEMENT MARKING (ISLANDS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

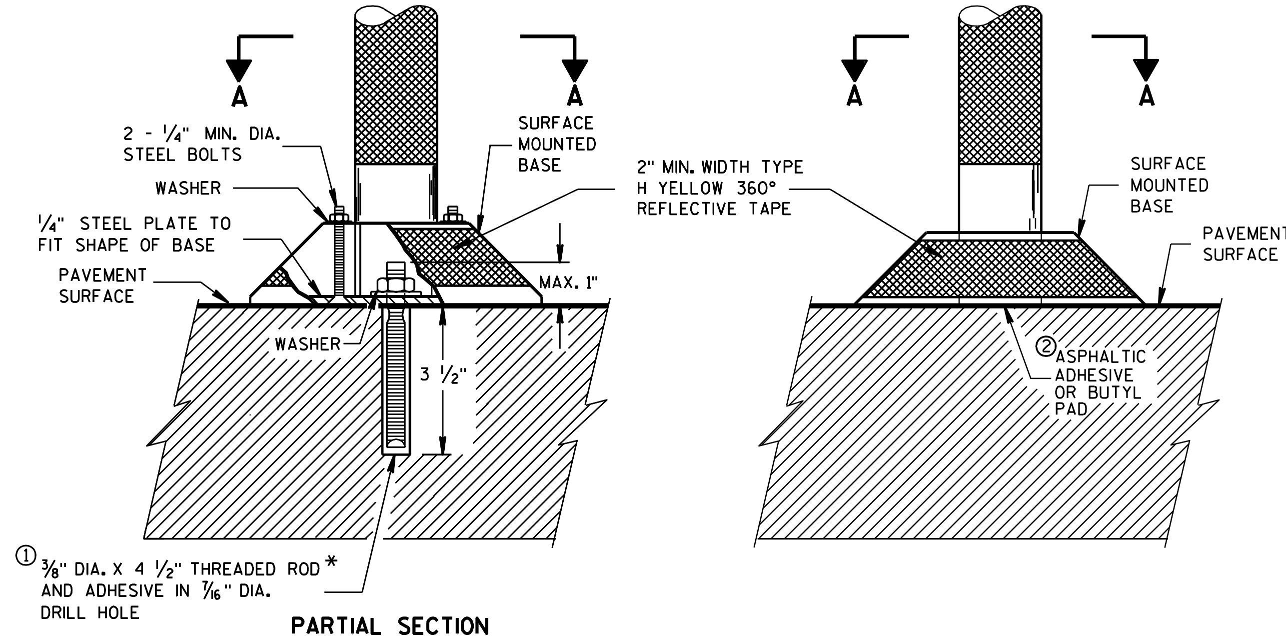
6

S.D.D. 15 C 8-16f

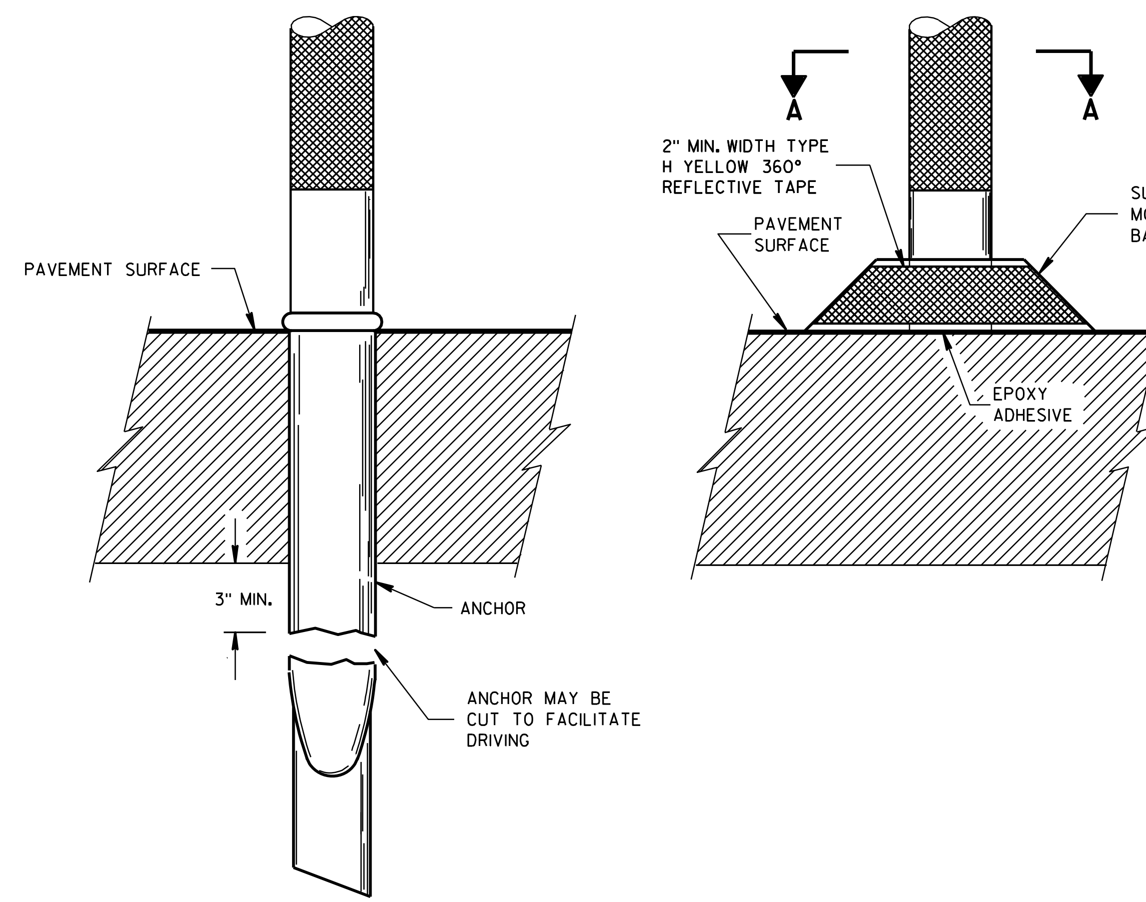
S.D.D. 15 C 8-16f



FLEXIBLE TUBULAR MARKER POST



POST BASES ON NEW OR EXISTING PAVEMENT



POST ANCHOR AND BASE ON PAVEMENT WHICH WILL BE REMOVED

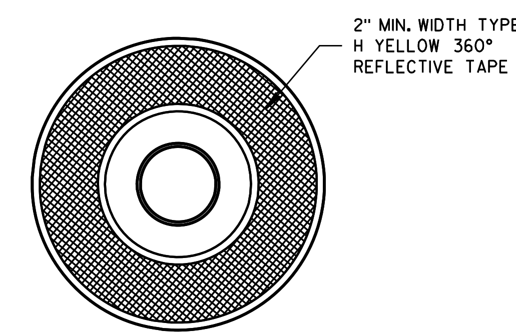
GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

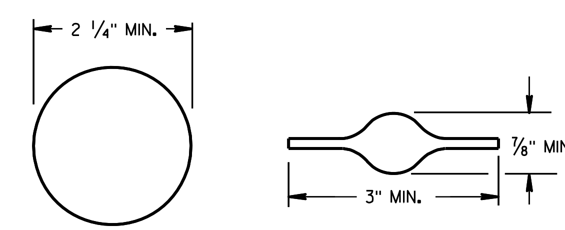
① THREADED ROD SHALL BE MACHINED DOWN TO 0.280 INCH DIA. 1 1/4 INCHES FROM THE TOP.

② THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.



SECTION A-A

SURFACE MOUNTED BASE



SECTION B-B

ALTERNATIVE SHAPES

6

6

S.D.D. 15 C 11-5

FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

2/17/94 /S/ Chester J. ...
DATE DIRECTOR, OFFICE O...
FHWA

S.D.D. 15 C 11-5

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

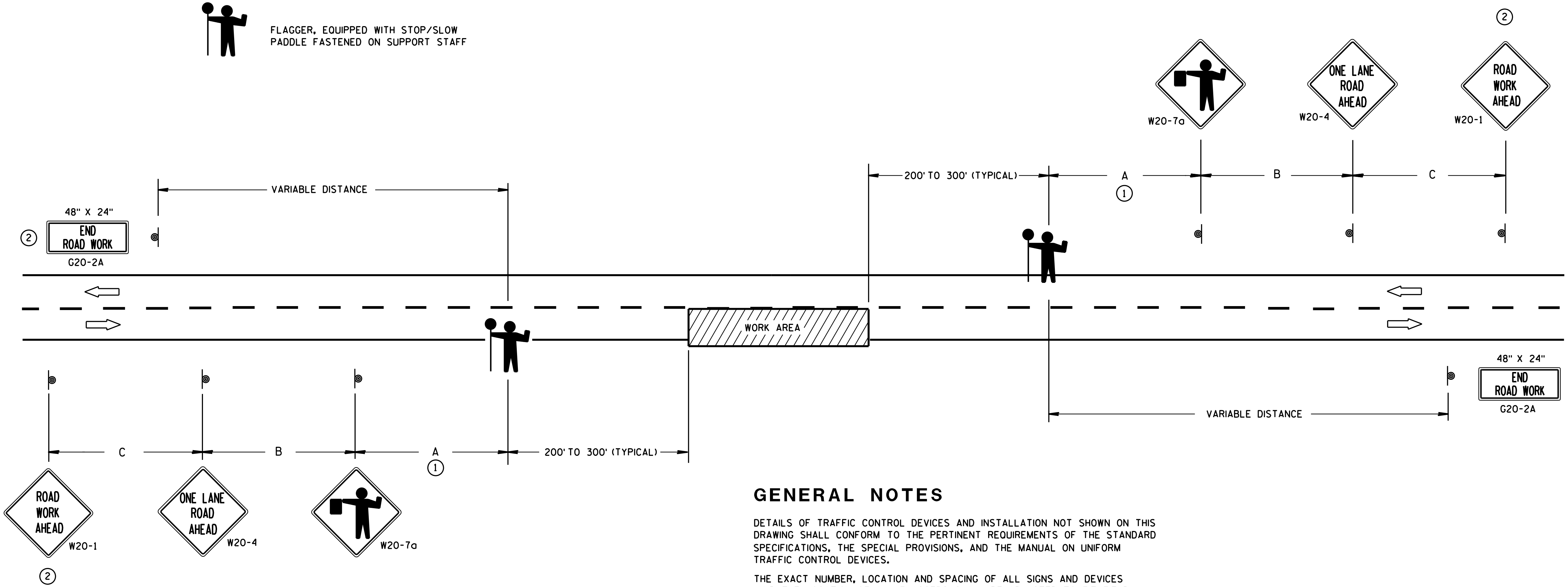
WORK AREA

FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A,B,C
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



① FOR A MOVING WORK OPERATION, SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT 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.

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.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES (AND THE 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.

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, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

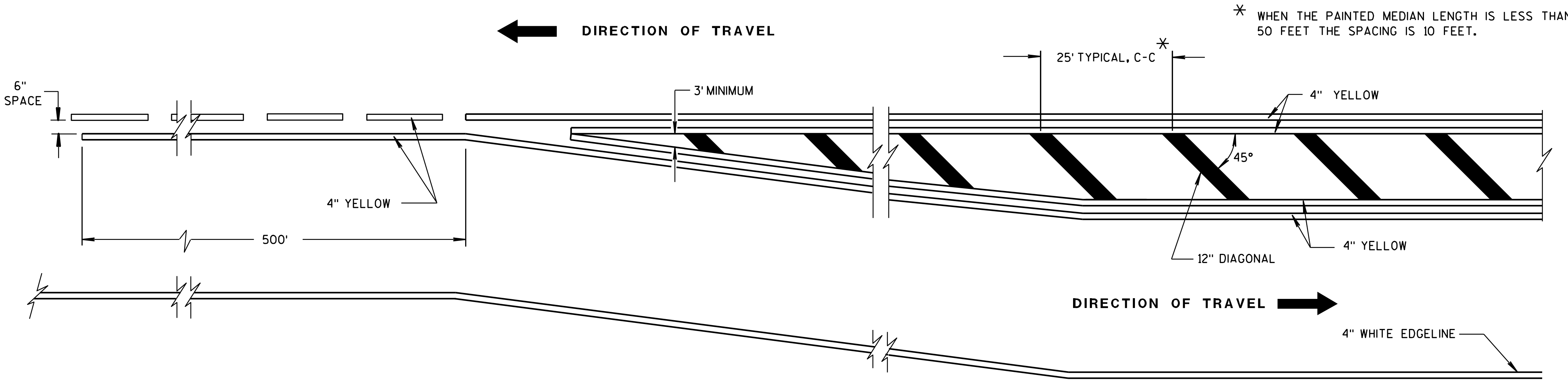
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINE 398 ESIGN
FHWA

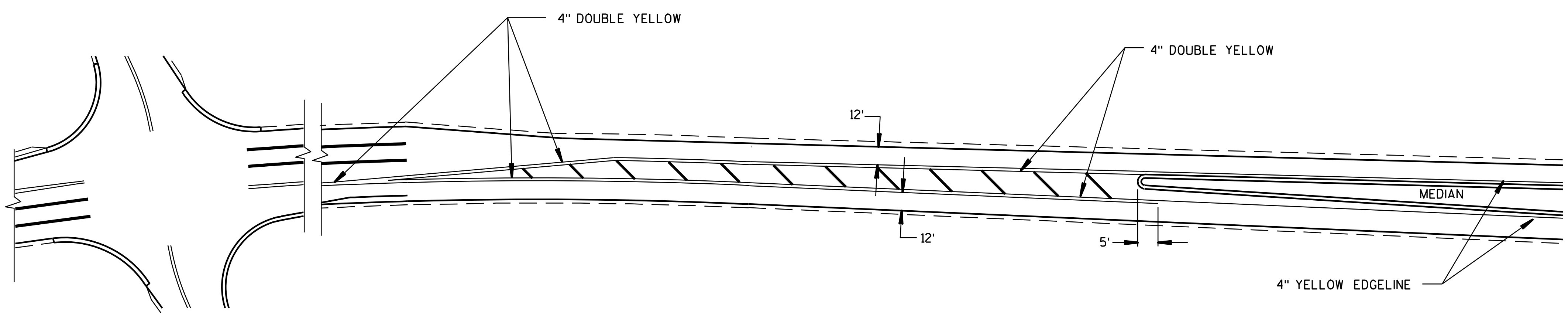
S.D.D. 15 C 12-4
6



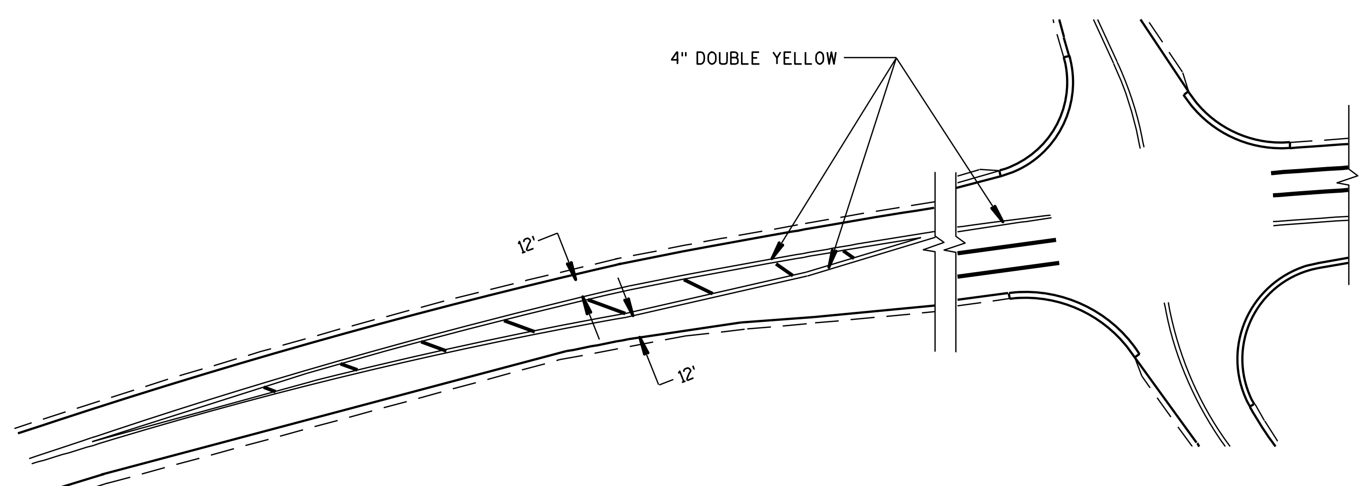
GENERAL NOTE

DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.

MEDIAN ISLAND DETAIL



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON APPROACH MARKINGS

MEDIAN ISLAND MARKING
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 2-5-09 DATE   /S/ Thomas N. Notbohm STATE TRAFFIC ENGINEER DESIGN FHWA

6

6

S.D.D. 15 C 18-3

S.D.D. 15 C 18-3

GENERAL NOTES

SIGNING AND MARKING IS SHOWN AS TYPICAL PLACEMENT. FIELD CONDITIONS MAY DICTATE CHANGES IN SIGNING AND MARKING PLACEMENT.

A DISTANCE DEPENDENT ON SPEED (SEE TABLE)

(1) WRONG WAY PREVENTION SIGNS ARE DISCUSSED IN T G M 2-15-12

(2) OPTIONAL - USED ONLY WHEN APPROVED BY REGION TRAFFIC ENGINEER.

SYMBOLS

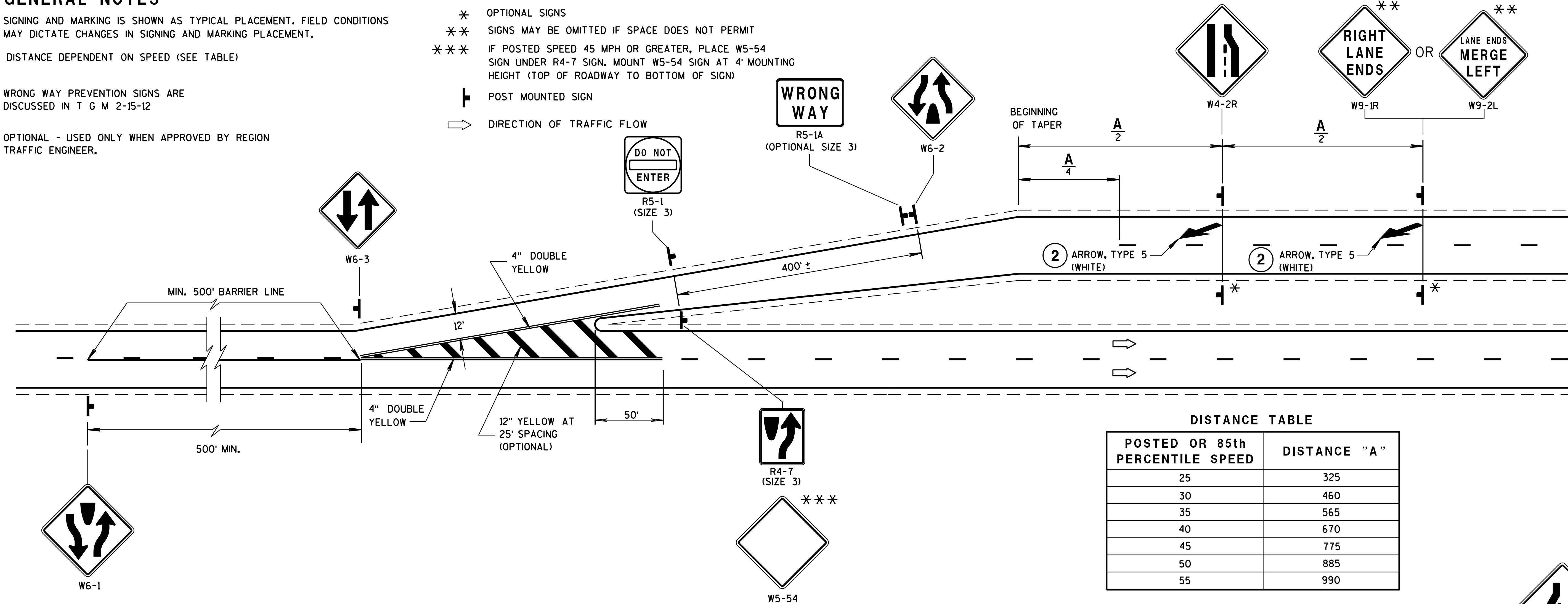
* OPTIONAL SIGNS

** SIGNS MAY BE OMITTED IF SPACE DOES NOT PERMIT

*** IF POSTED SPEED 45 MPH OR GREATER, PLACE W5-54 SIGN UNDER R4-7 SIGN. MOUNT W5-54 SIGN AT 4' MOUNTING HEIGHT (TOP OF ROADWAY TO BOTTOM OF SIGN)

POST MOUNTED SIGN

DIRECTION OF TRAFFIC FLOW



DISTANCE TABLE

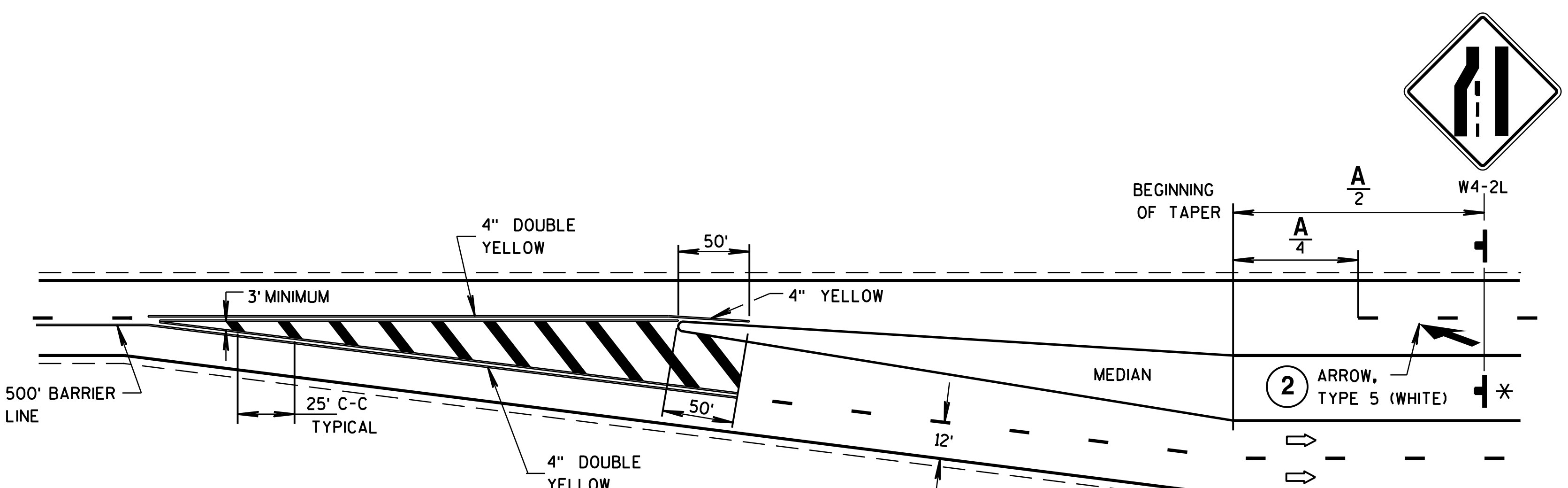
POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	325
30	460
35	565
40	670
45	775
50	885
55	990

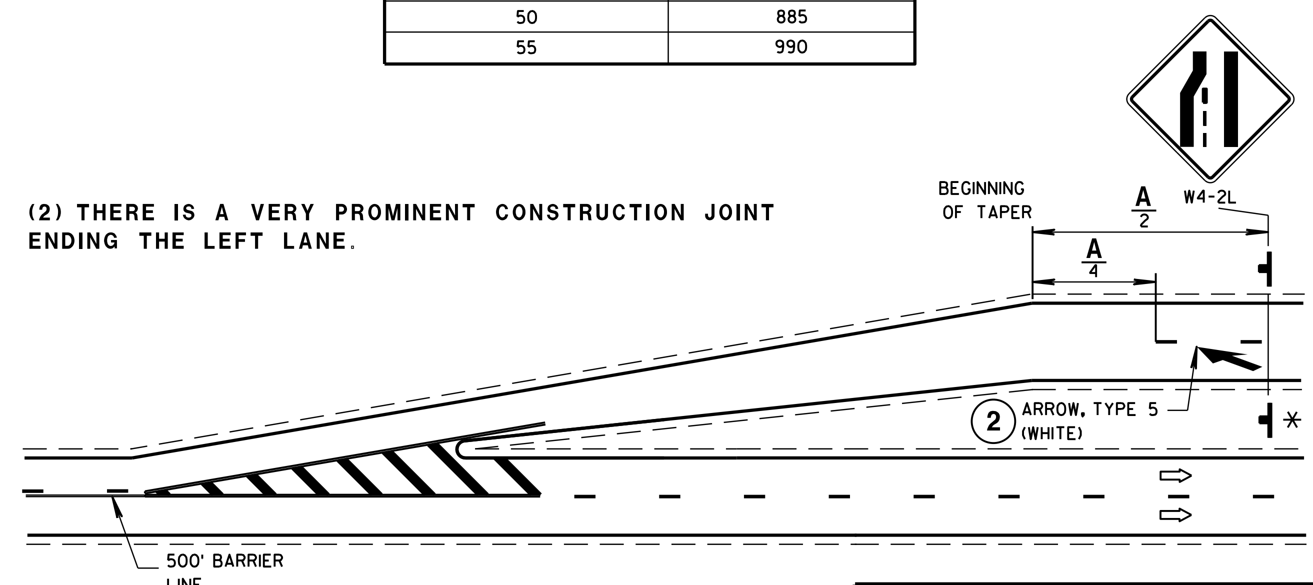
USE W4-2L IF :

(1) THE LEFT LANE IS PUSHED TO THE RIGHT:

OR

(2) THERE IS A VERY PROMINENT CONSTRUCTION JOINT ENDING THE LEFT LANE.





SIGNING AND MARKING TWO LANE TO FOUR LANE DIVIDED TRANSITIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
IGN
FHWA

GENERAL NOTES

ORIENT ANCHOR BOLTS IN FOOTING AND PROVIDE ANCHOR BOLT 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 BOLTS 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.

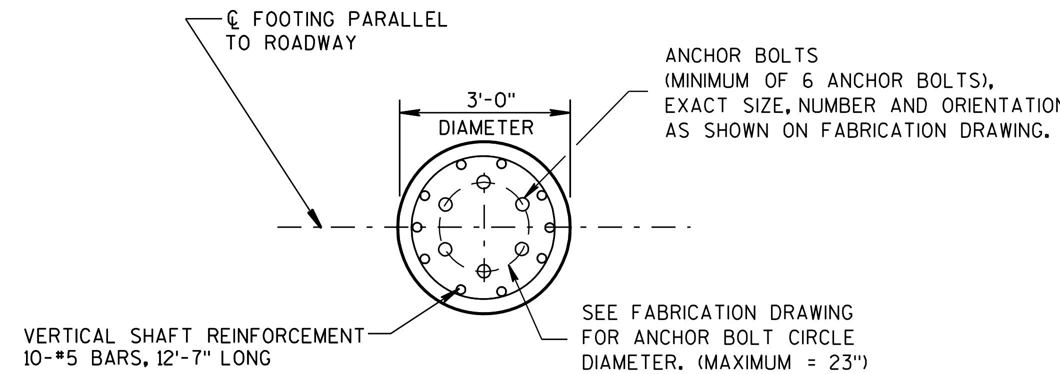
IF THE DRILLED HOLE CONTAINS STANDING WATER, THE CONCRETE SHALL BE PLACED USING A TREMIE TO DISPLACE THE WATER.

THE REINFORCEMENT AND ANCHOR BOLTS SHALL BE ADEQUATELY SUPPORTED IN THE PROPER POSITIONS SO NO MOVEMENT OCCURS DURING CONCRETE PLACEMENT.

ANY DAMAGE TO THE CONCRETE BASE DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED AT THE ENGINEER'S DIRECTION, AT THE EXPENSE OF THE CONTRACTOR.

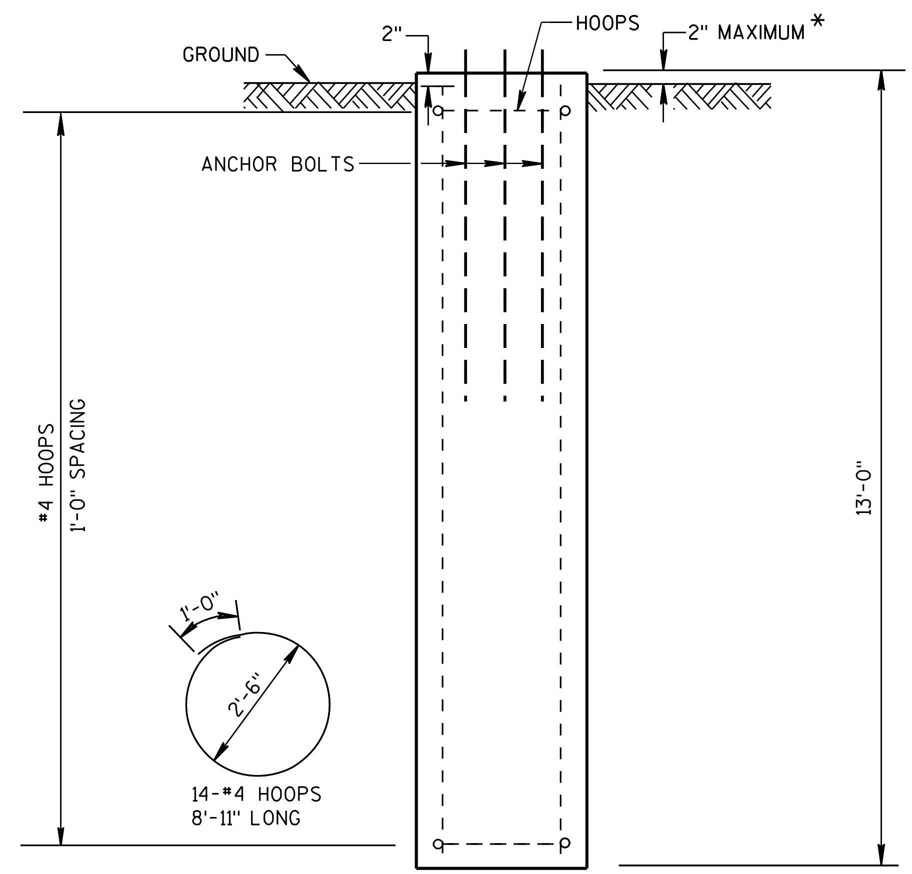
CONCRETE MASONRY -- fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 ------- fy=60,000 p.s.i.
ANCHOR BOLTS -- AASHTO M314 GRADE 55

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

* FOR OVERHEAD SIGN SUPPORTS THAT ARE INSTALLED ADJACENT TO SIDEWALKS, THE TOP OF THE BASE SHALL BE POURED FLUSH WITH THE GROUND.



ELEVATION VIEW

CONCRETE - 3.4 C.Y. PER FOOTING
H.S. REINFORCEMENT - 215 LBS. PER FOOTING

36" DIAMETER CANTILEVER OVERHEAD SIGN SUPPORT BASE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

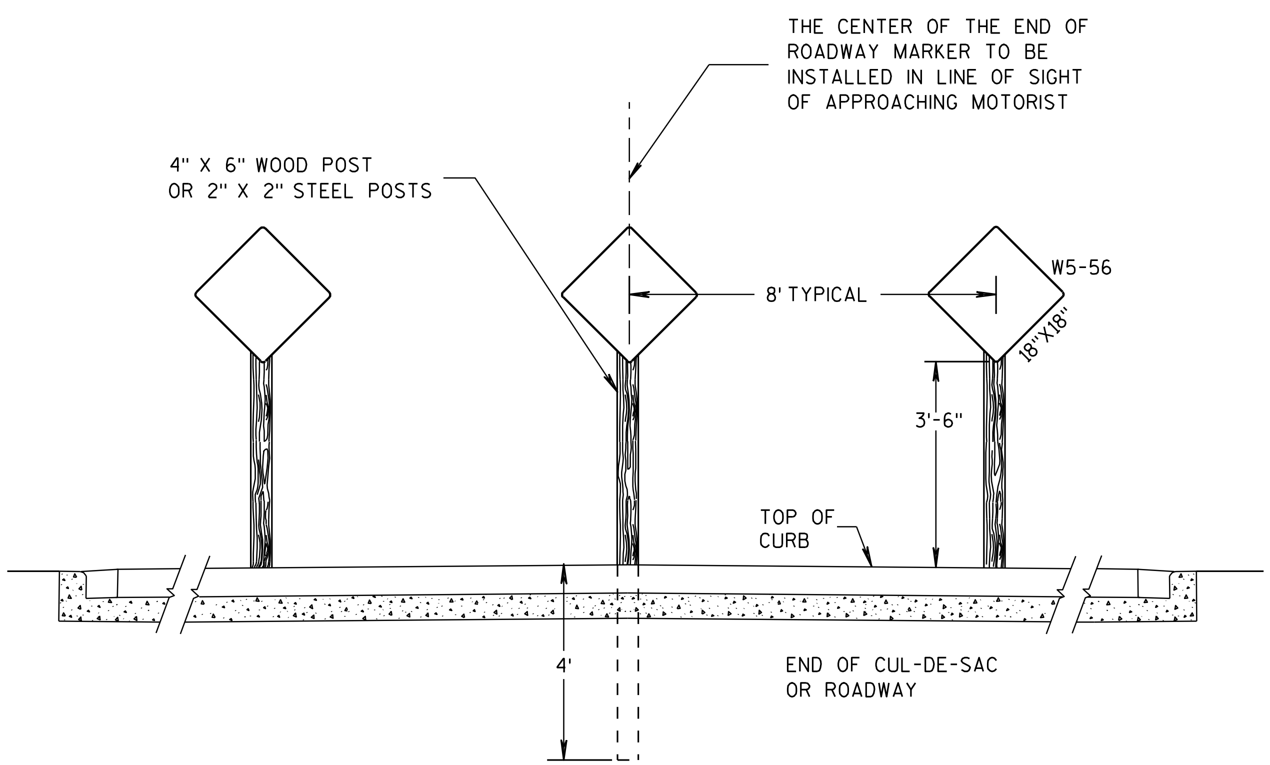
APPROVED
4/17/2009 — DATE
/S/ Thomas N. N... — STATE TRAFFIC ENGINEER
FHWA

GENERAL NOTES

SIGN LOCATIONS SHOWN ARE TYPICAL PLACEMENT AND MAY BE ADJUSTED BY THE ENGINEER AS FIELD CONDITIONS DICTATE.

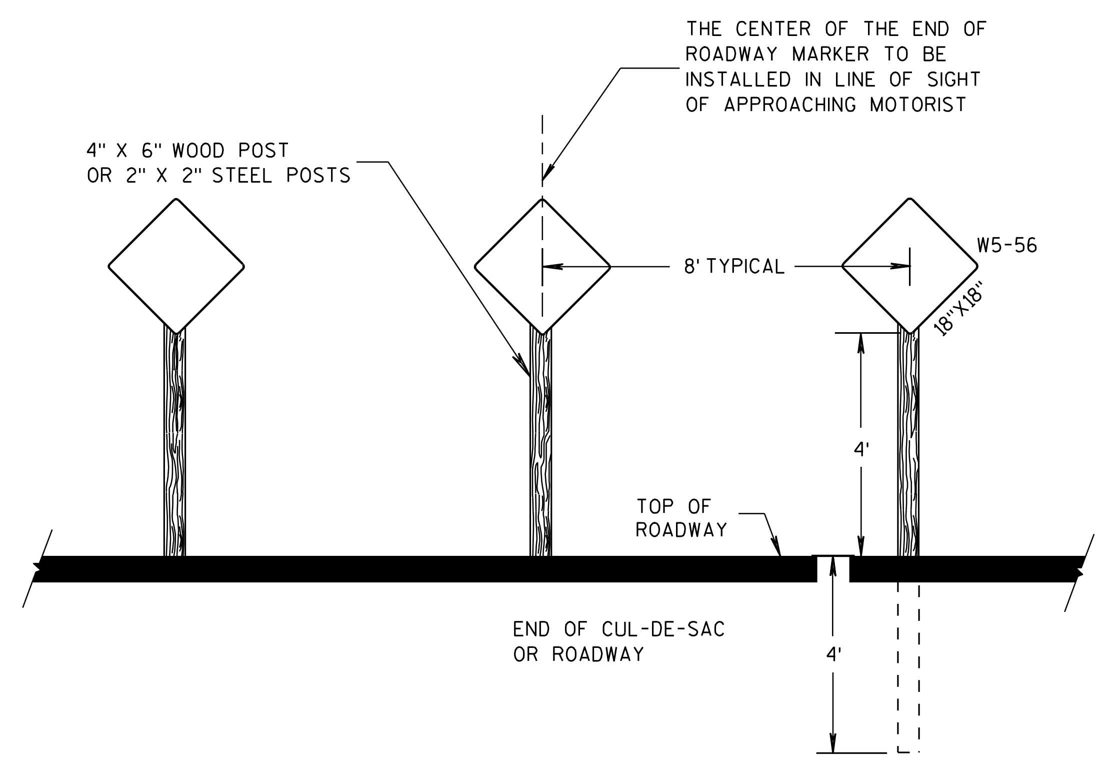
THE MINIMUM NUMBER OF END-OF-ROADWAY SIGNS ARE THREE (AS SHOWN). ADDITIONAL END-OF-ROADWAY SIGNS MAY BE INSTALLED AS FIELD CONDITIONS DICTATE. (SEE SIGNING PLAN).

WHEN BEAMGUARD IS REQUIRED, PLACE END-OF-ROADWAY SIGNING BEHIND BEAMGUARD.



TYPICAL URBAN SIGN INSTALLATION

(WITH CURB & GUTTER)



TYPICAL RURAL SIGN INSTALLATION

(WITHOUT CURB & GUTTER)

6

6

END-OF-ROADWAY SIGNING
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 8/1/2011 /S/ Thomas N. Notbohm DATE STATE TRAFFIC ENGINEER DESIGN FHWA

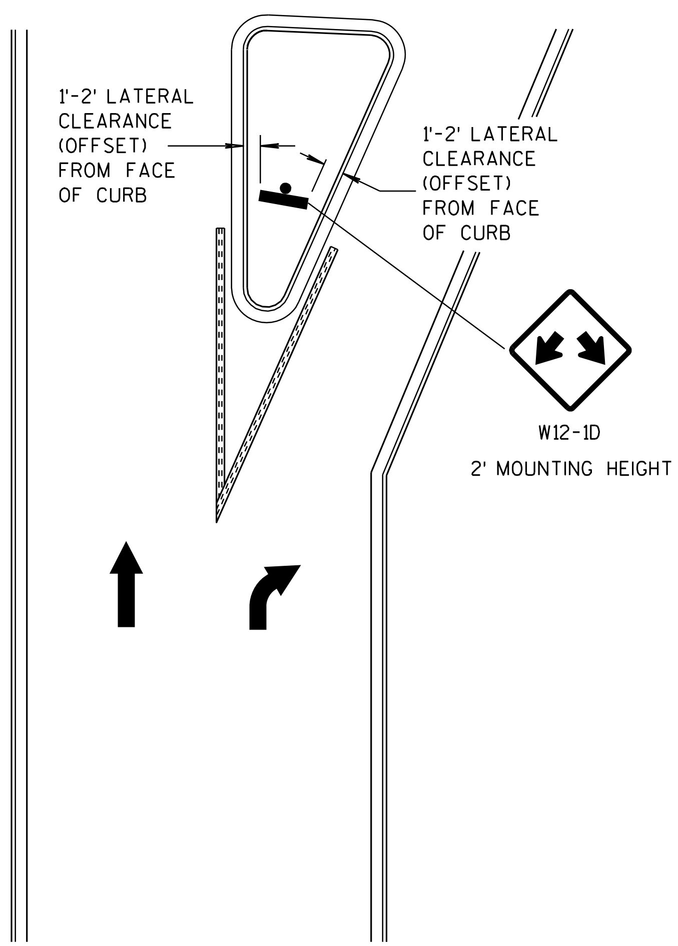
S.D.D. 15 C 26-2

S.D.D. 15 C 26-2

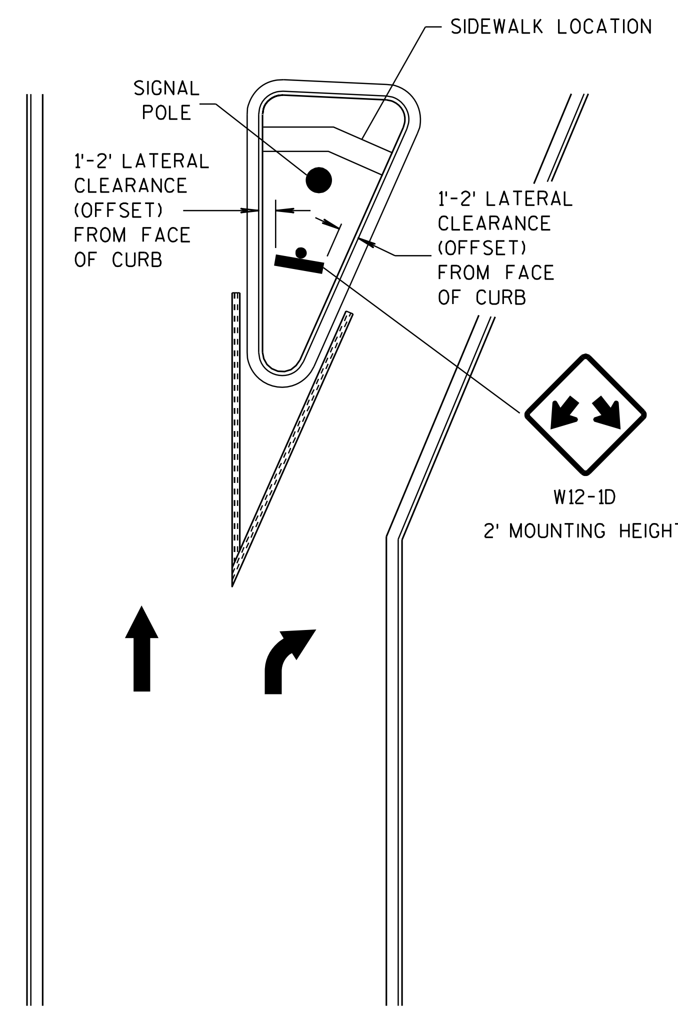
GENERAL NOTE

APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.

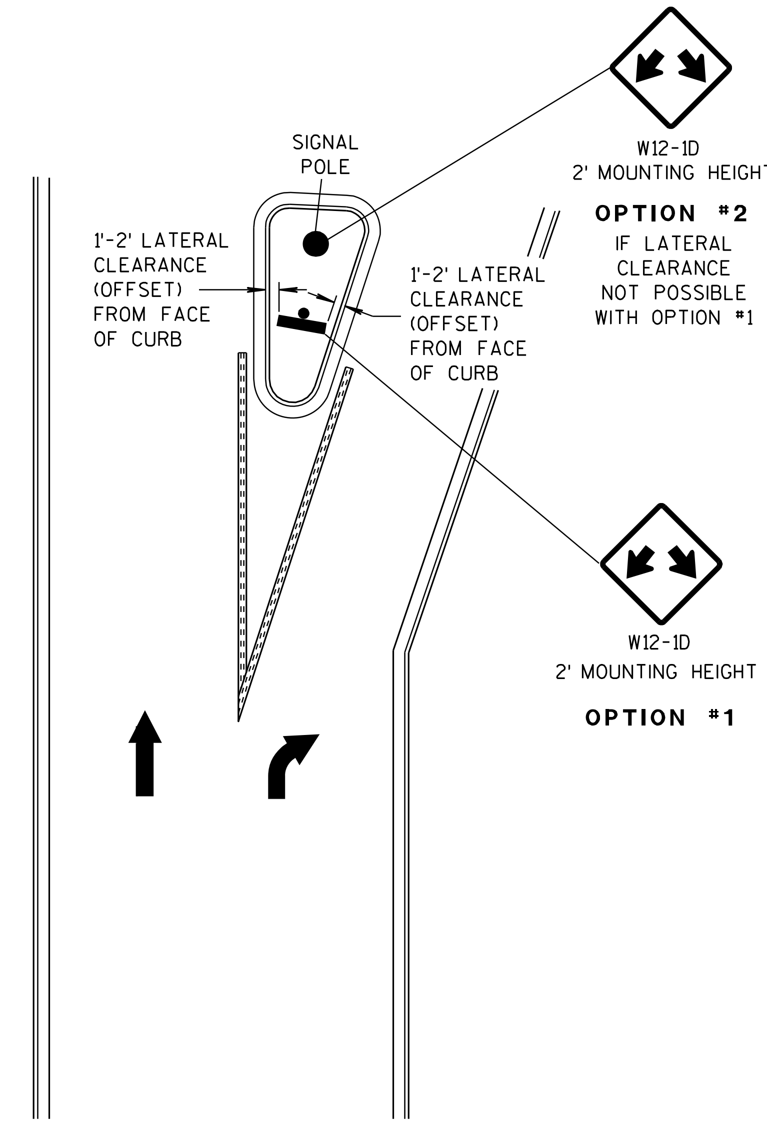
SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.



LARGE RIGHT TURN ISLAND



LARGE RIGHT TURN ISLAND
WITH SIGNAL POLE



SMALL RIGHT TURN ISLAND

DOUBLE ARROW WARNING SIGN PLACEMENT

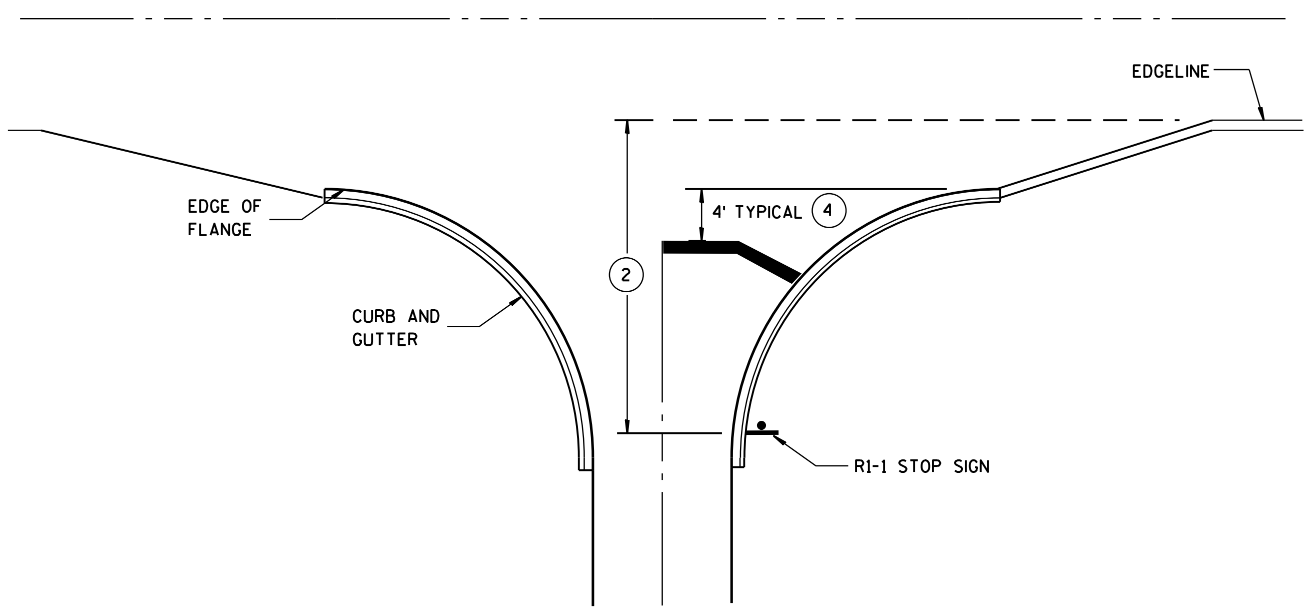
6

6

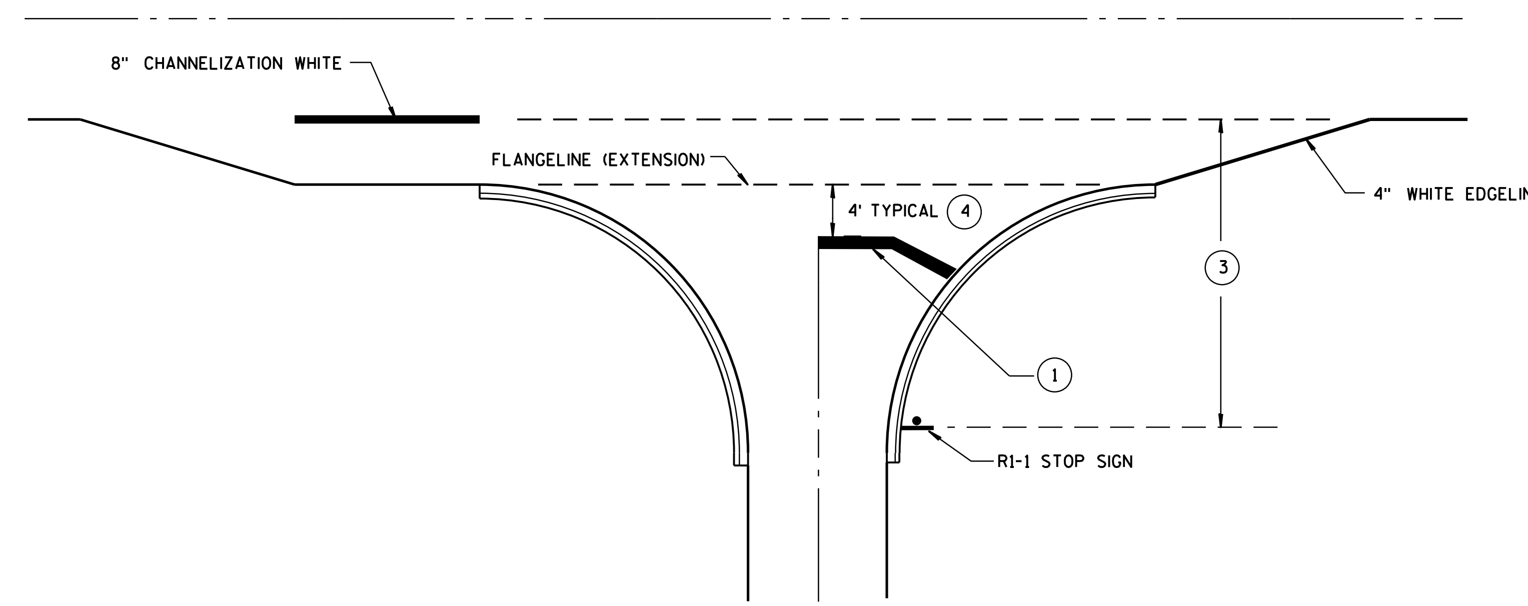
DOUBLE ARROW WARNING SIGN PLACEMENT
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 10-22-08 DATE   /S/ Thomas N. Notbohm STATE TRAFFIC ENGINEER   IGN FHWA

S.D.D. 15 C 27-1

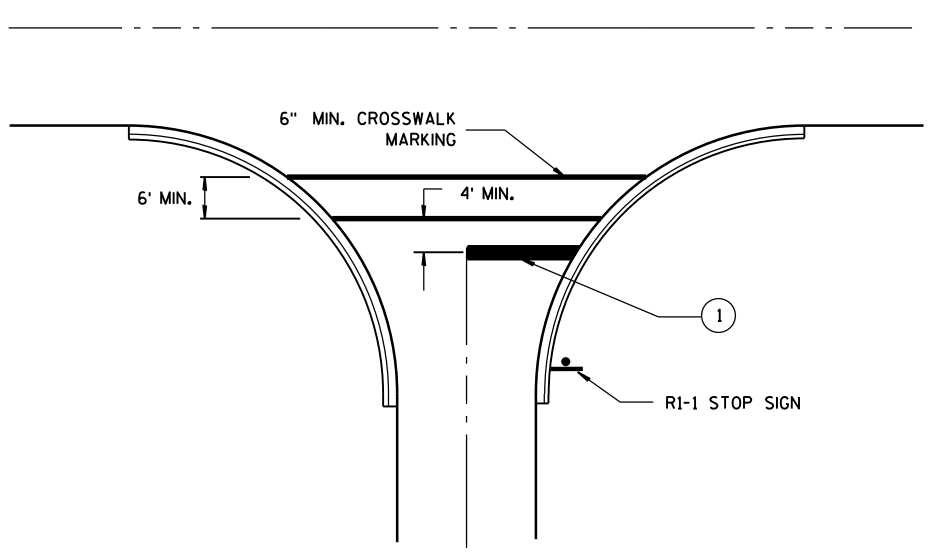
S.D.D. 15 C 27-1



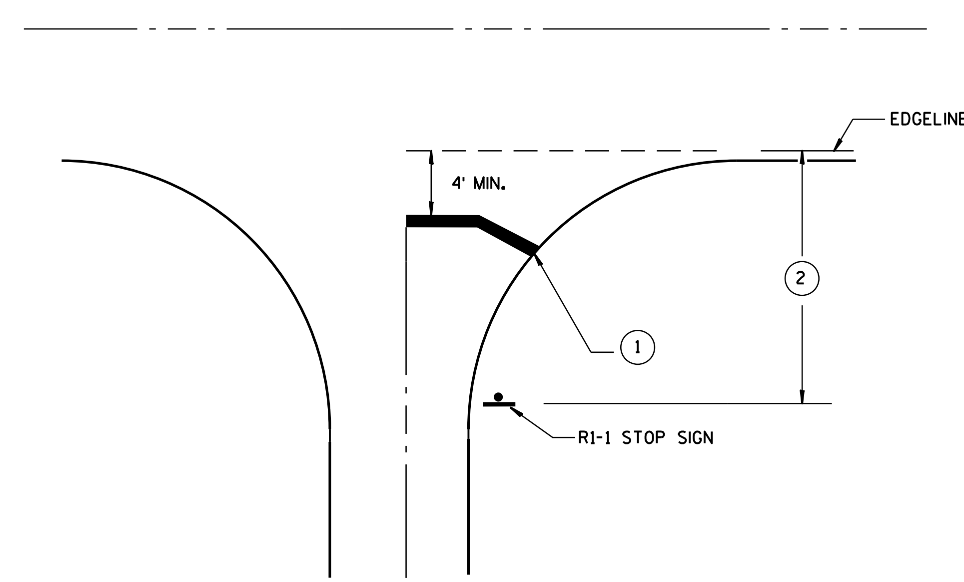
TYPICAL STOP LINE PAVEMENT MARKING
WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING
WITHOUT CURB AND GUTTER

GENERAL NOTES

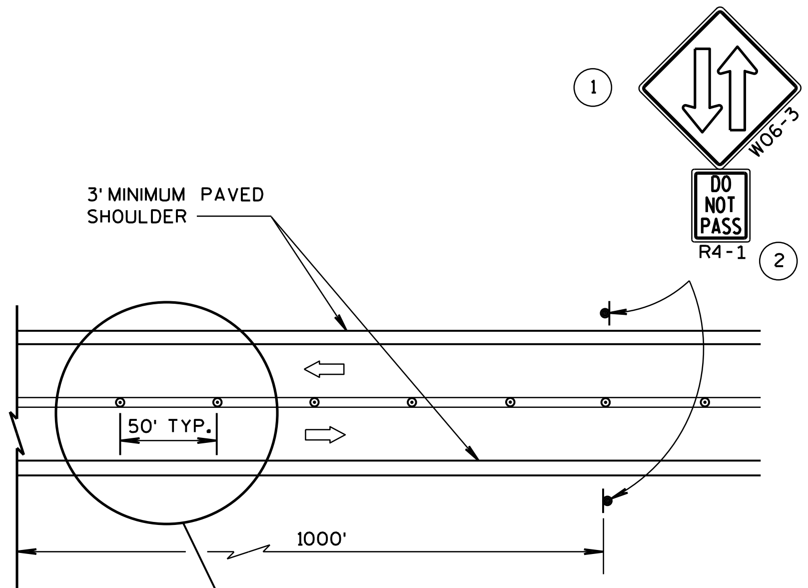
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE THAN NO STOP LINE IS REQUIRED.
3. IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
4. MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES.

STOP LINE AND CROSSWALK
PAVEMENT MARKING

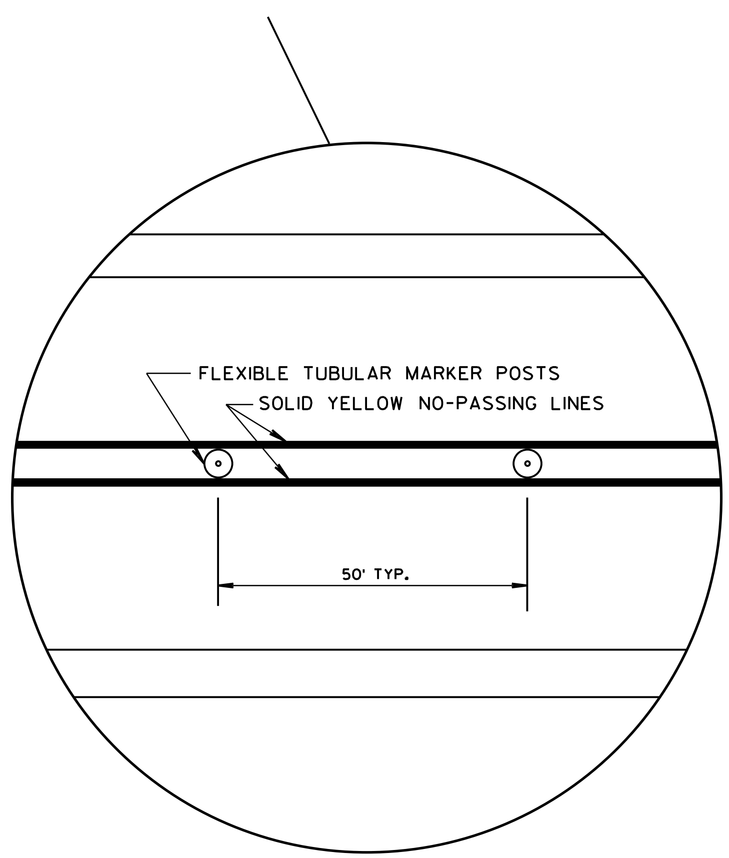
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/30/2013 /S/ Travis Feltes
DATE STATE TRAFFIC E
FHWA

S.D.D. 15 C 33-1
6



TWO LANE, TWO WAY OPERATION



LEGEND

- SIGN ON PERMANENT SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC

GENERAL NOTES

ALL SIGNS ARE 48"x48" UNLESS OTHERS NOTED.

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

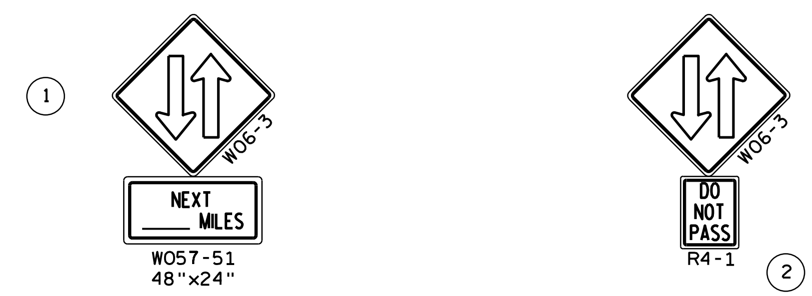
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

A SINGLE ROW OF FLEXIBLE TUBULAR MARKERS ON CENTERLINE EXTEND FOR THE ENTIRE LENGTH OF TWO-WAY TRAFFIC AT 50-FOOT SPACING.

COVER EXISTING CENTERLINE STRIPE WITH TEMPORARY PAVEMENT MARKING, 4-INCH DOUBLE YELLOW.



THE W06-3 WITH THE W057-51 SHALL BE LOCATED 200 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP AND/OR 500 FEET BEYOND ANY SIDEROAD. THE W06-3 WITH THE R4-1 SHALL BE LOCATED 1000 FEET BEYOND THE W06-3 AND THE W057-51 AND THE SIGNS SHALL BE ALTERNATED WITH ONE MILE INTERVALS BETWEEN W06-3 SIGNS.

(2) CONVENTIONAL: 24"x30"
FREEWAY AND EXPRESSWAY: 36"x48"

TRAFFIC CONTROL, TWO LANE TWO WAY OPERATION
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 8/2013 DATE · /S/ Travis Feltes STATE TRAFFIC ENGINEER · SIGN · FHWA

6

S.D.D. 15 D 6-3

6

S.D.D. 15 D 6-3

LEGEND

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

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIREABLE) DISTANCE TO EXISTING SIGNS.

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

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

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

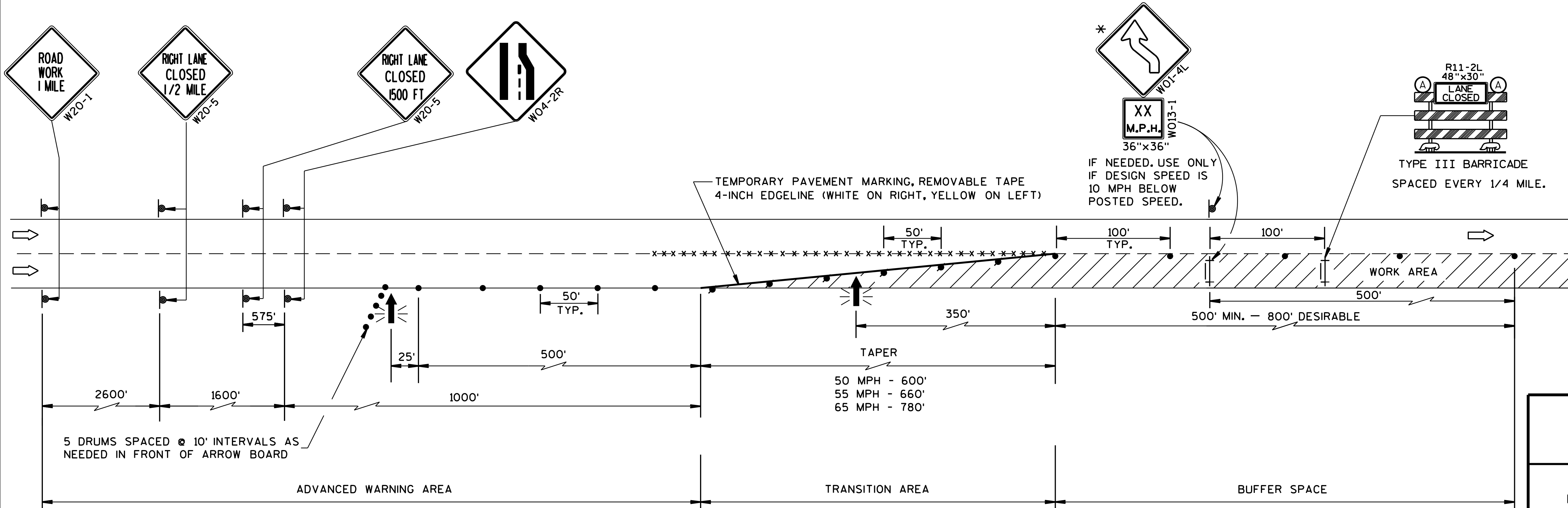
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* THE LEFT REVERSE CURVE SIGN (WO1-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.

6



6

S.D.D. 15 D 12-5a

TRAFFIC CONTROL, LANE CLOSURE

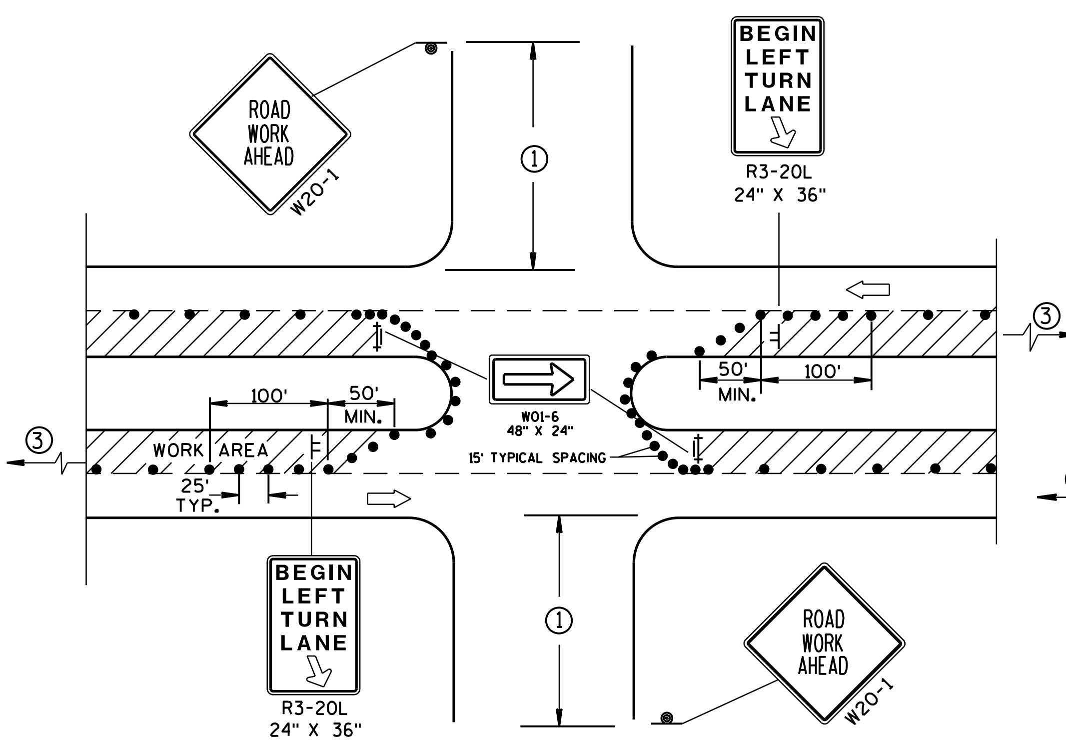
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED

Feb. 2015	/S/ Travis Feltes
DATE	STATE TRAFFIC ENGINEER DESIGN

FHWA

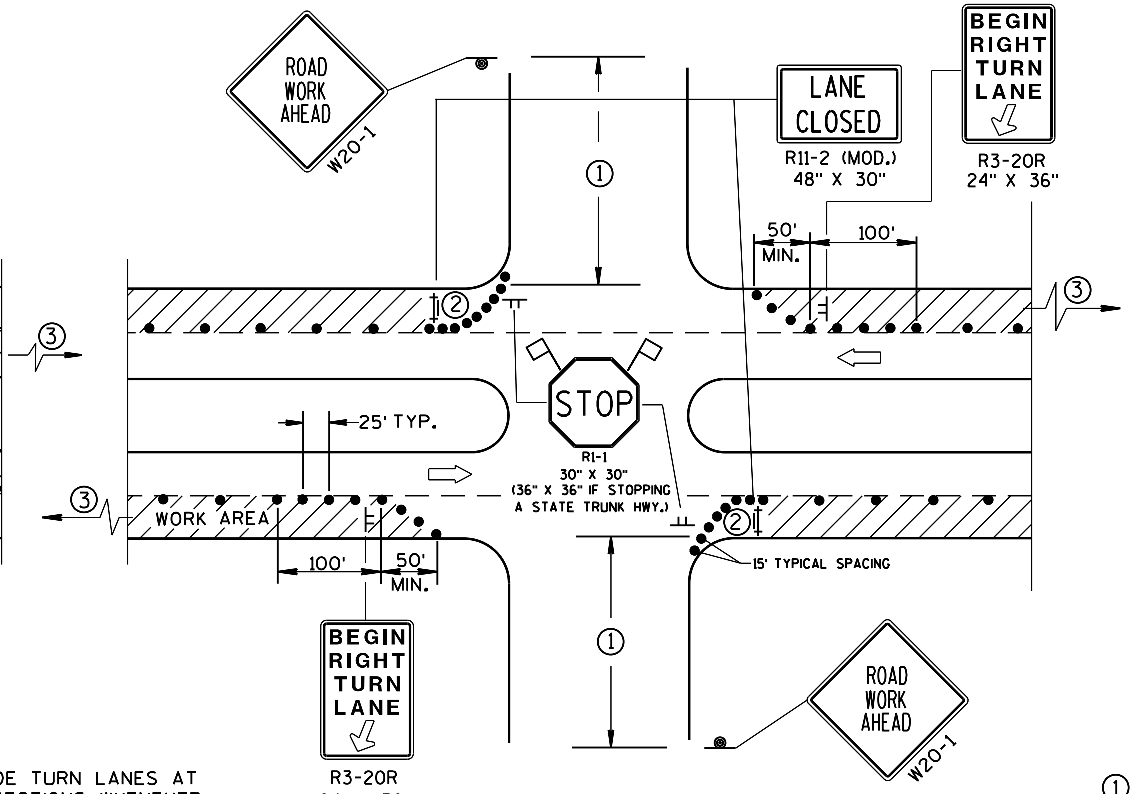
S.D.D. 15 D 12-5a



DETAIL A

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.



DETAIL B

FOR RIGHT LANE CLOSURE AT INTERSECTION

GENERAL NOTES

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

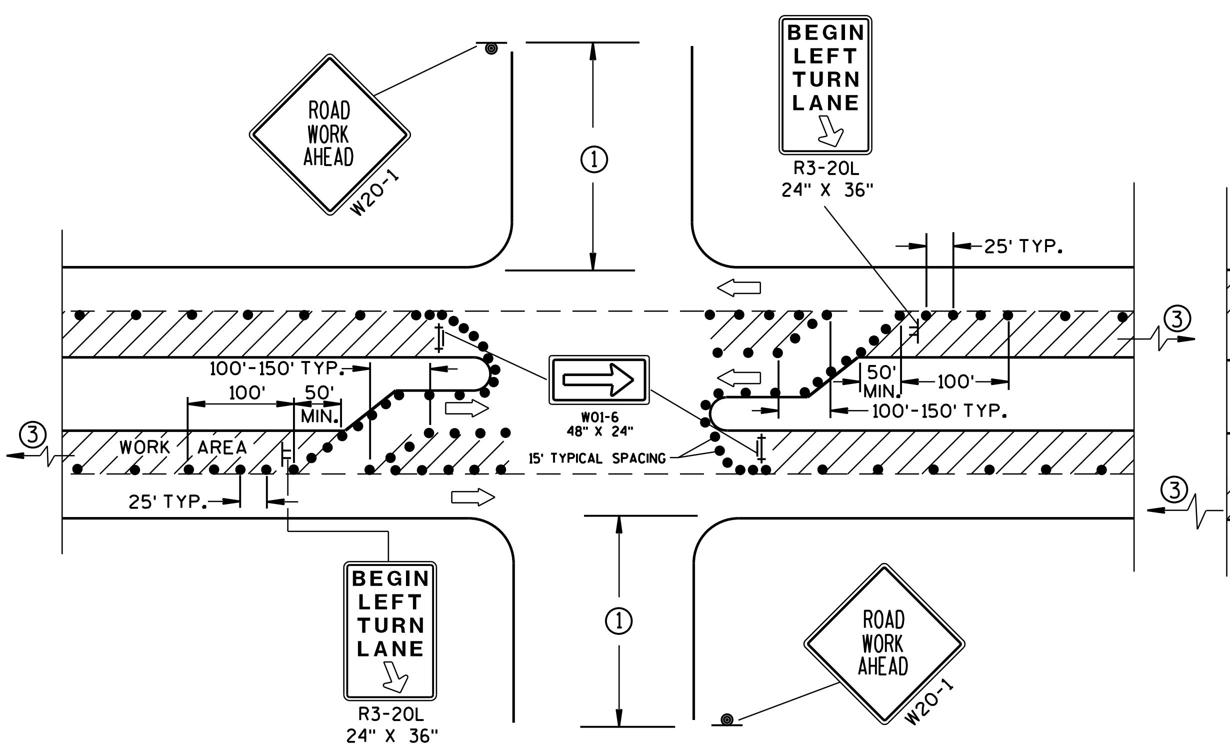
BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.

② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

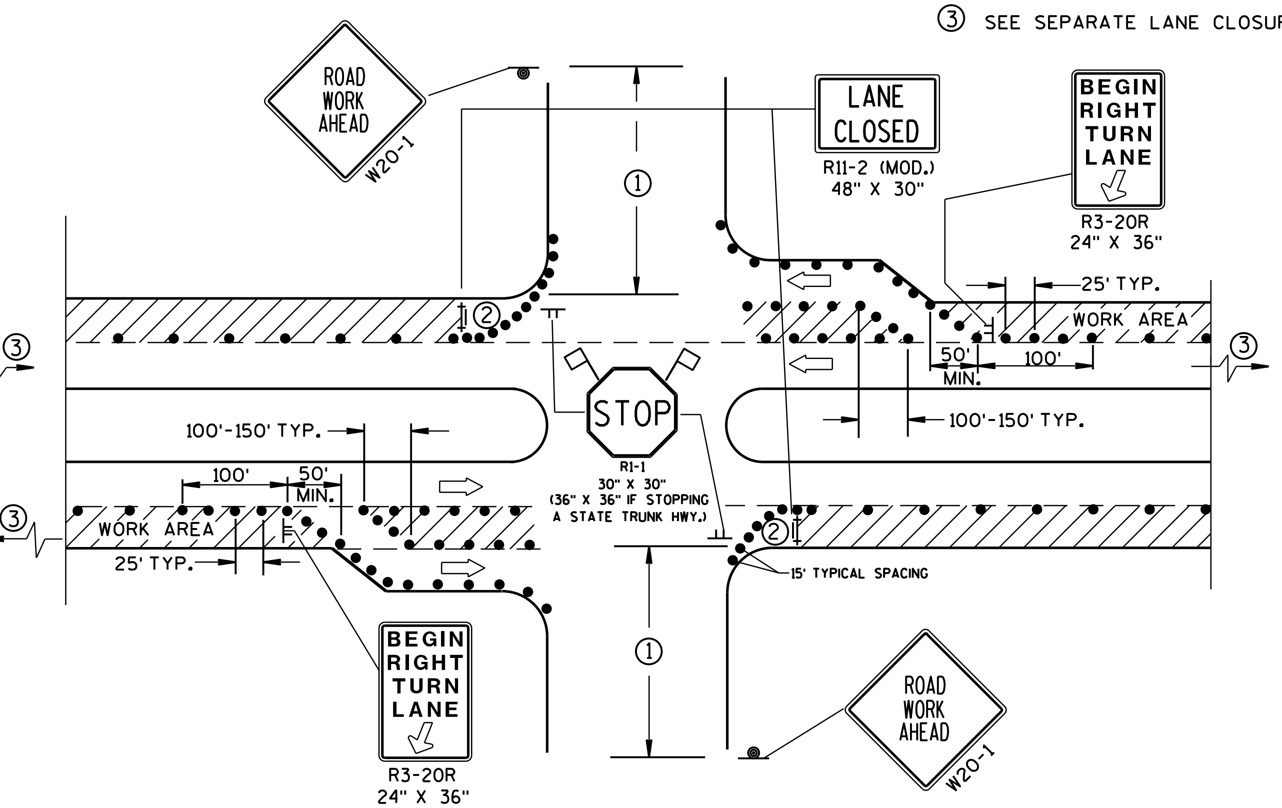
③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

6



DETAIL C

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



DETAIL D

FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- WORK AREA

6

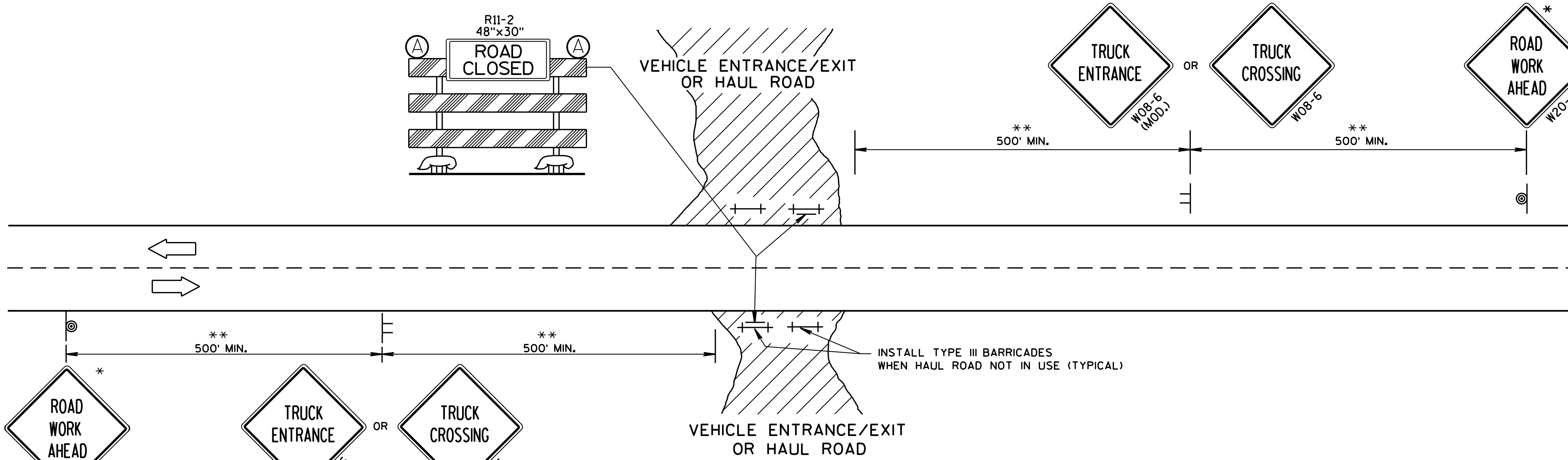
TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Nov. 2014 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINE[ER] [D]ESIGN
FHWA

S.D.D. 15 D 21-3

S.D.D. 15 D 21-3



THE ABOVE DETAIL TO BE USED WHEN CONSTRUCTION VEHICLE TRAFFIC YIELDS TO THE FREE FLOW OF MAINLINE OR RAMP TRAFFIC

LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC

GENERAL NOTES

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

WHEN ACTIVITY REFLECTED BY THE SIGN IS NOT CURRENTLY TAKING PLACE, THE HIGHWAY SHALL BE RESTORED TO NORMAL CONDITION AND THE SIGNS SHALL BE REMOVED, COVERED OR TURNED AWAY FROM TRAFFIC.

WHEN A SIDE ROAD OR RAMP INTERSECTS WITHIN THE ADVANCE SIGNING AREA, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

* THESE SIGNS ARE TO BE USED ONLY WHEN VEHICLE ENTRANCE/EXIT CONDITIONS ARE SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA OR SIGNING OR AS DIRECTED BY THE ENGINEER.

** 500 FEET SHOWN IS FOR ROADWAYS WITH A NON-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350 FEET, FOR 25-30 MPH, USE 200 FEET. USE 1000 FEET/1500 FEET FOR EXPRESSWAY/FREEWAY.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

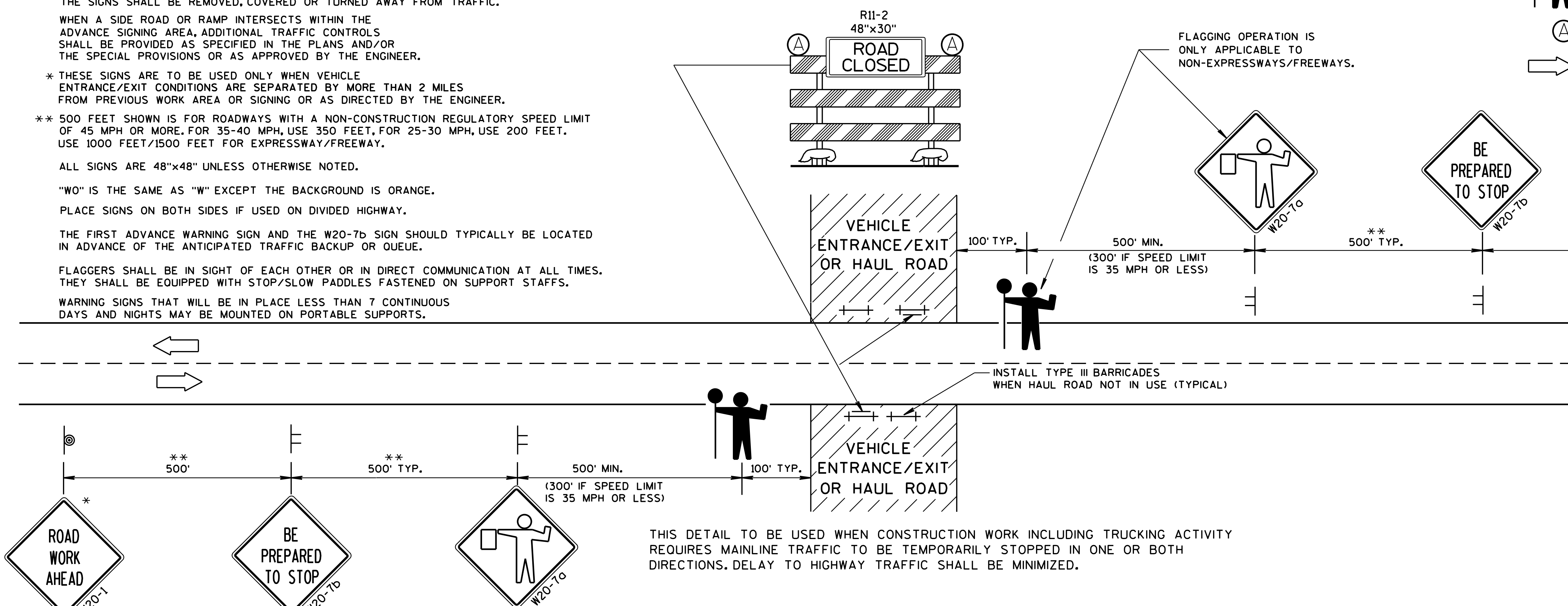
"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

PLACE SIGNS ON BOTH SIDES IF USED ON DIVIDED HIGHWAY.

THE FIRST ADVANCE WARNING SIGN AND THE W20-7b SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS.

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



THIS DETAIL TO BE USED WHEN CONSTRUCTION WORK INCLUDING TRUCKING ACTIVITY REQUIRES MAINLINE TRAFFIC TO BE TEMPORARILY STOPPED IN ONE OR BOTH DIRECTIONS. DELAY TO HIGHWAY TRAFFIC SHALL BE MINIMIZED.

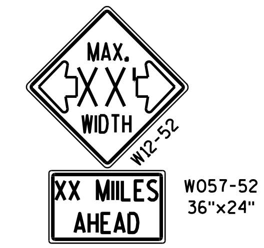
TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED		
8/2013	/S/ Travis Feltes	
DATE	STATE TRAFFIC ENGINEER	IGN
FHWA		

LEGEND

- SIGN ON PERMANENT SUPPORT
- REMOVING PAVEMENT MARKING
- TYPE III BARRICADE WITH ATTACHED SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- FLAGS, 16" × 16" MIN., (ORANGE)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- ASPHALTIC PAVEMENT WIDENING
- DIRECTION OF TRAFFIC
- 4" X 6" WOOD POST
- TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES ON BREAKAWAY POLE



INSTALL ON EACH APPROACH AT THE CLOSEST INTERSECTION WITH A STATE OR COUNTY TRUNK HIGHWAY, OR AS DIRECTED BY THE ENGINEER. WIDTH ON SIGN TO BE APPROX. 1-FOOT LESS THAN AVAILABLE WIDTH. (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET.)

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"x48" UNLESS OTHERWISE NOTED.

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

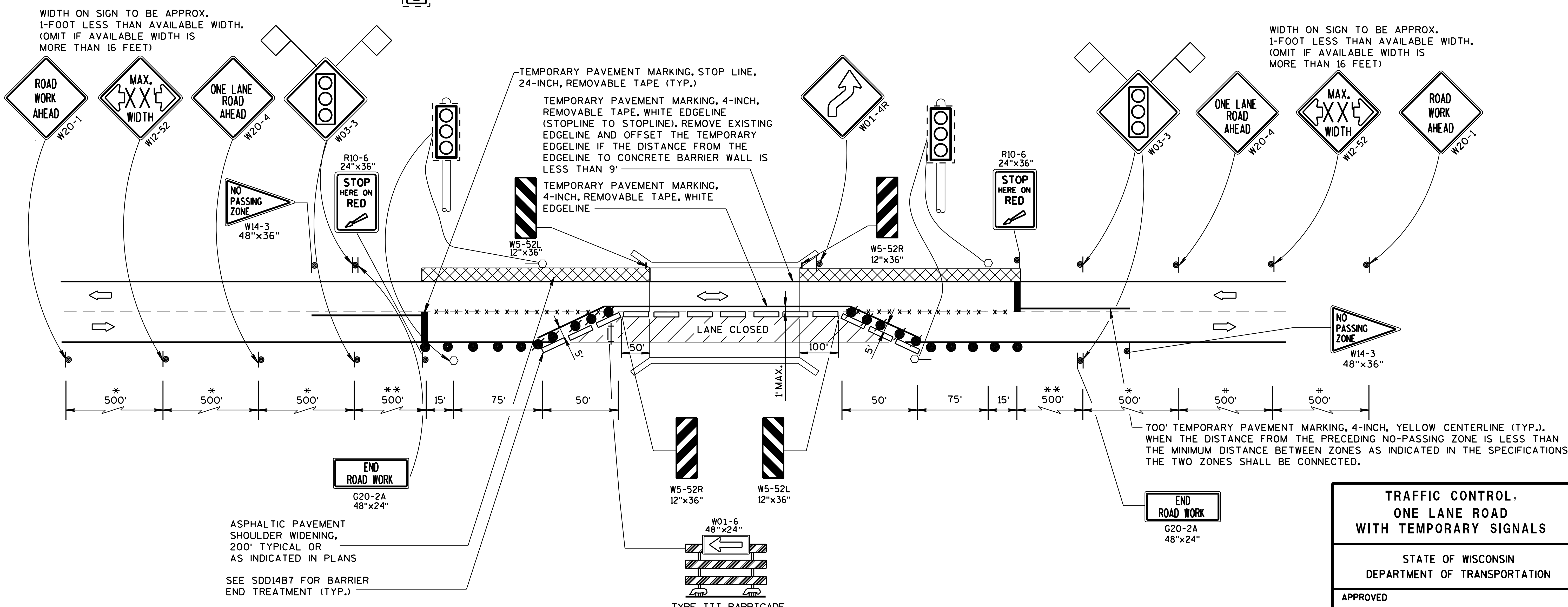
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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 EDGELINE AND CENTERLINE, AND REMOVE EXISTING PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS OR AS NOTED ON DETAIL.

* 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.

** USE 300' SPACING IF PRE-CONSTRUCTION REGULATORY SPEED LIMIT IS 35 MPH OR LESS.



TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS

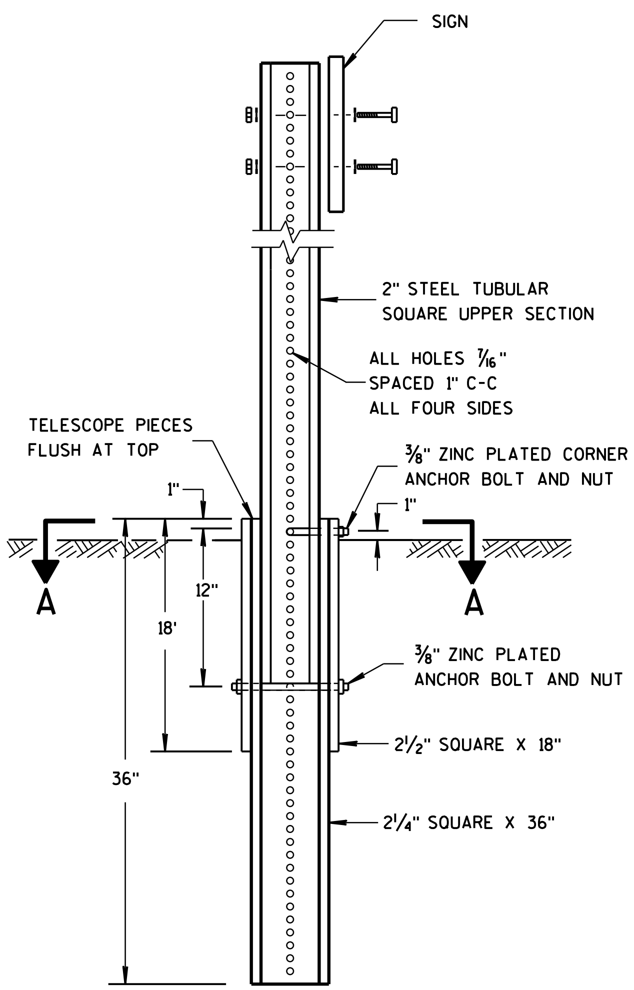
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED 8/2013 DATE /S/ Travis Feltes STATE TRAFFIC ENGINEER DESIGN

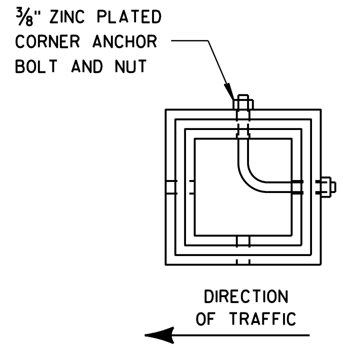
FHWA

6

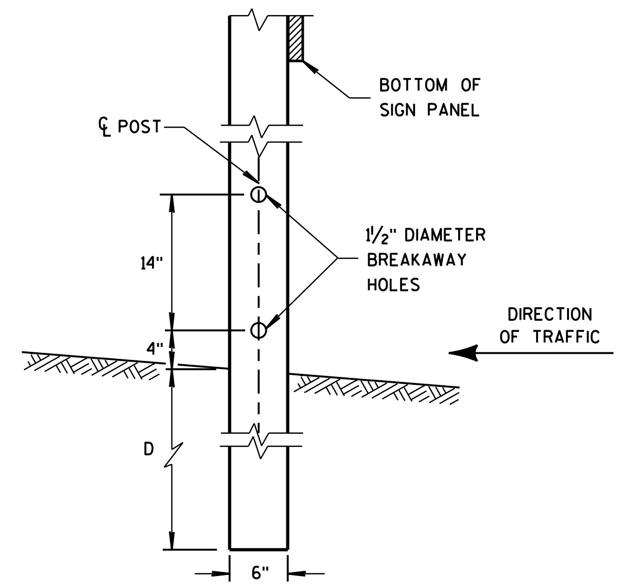
S.D.D. 15 D 33-3



DETAIL OF TUBULAR STEEL SIGN POST



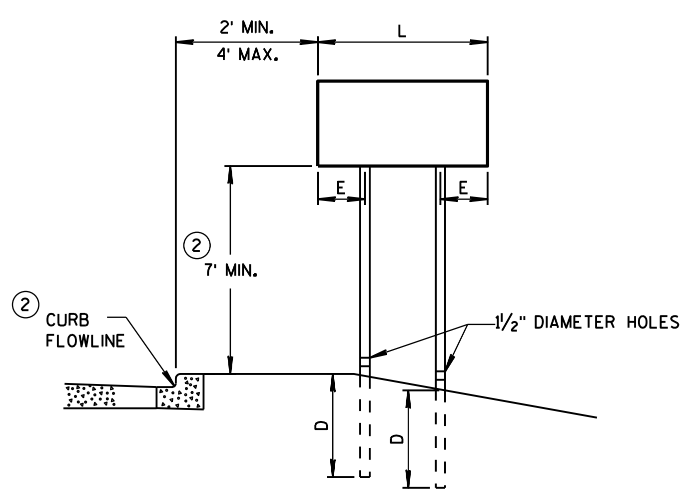
SECTION A-A



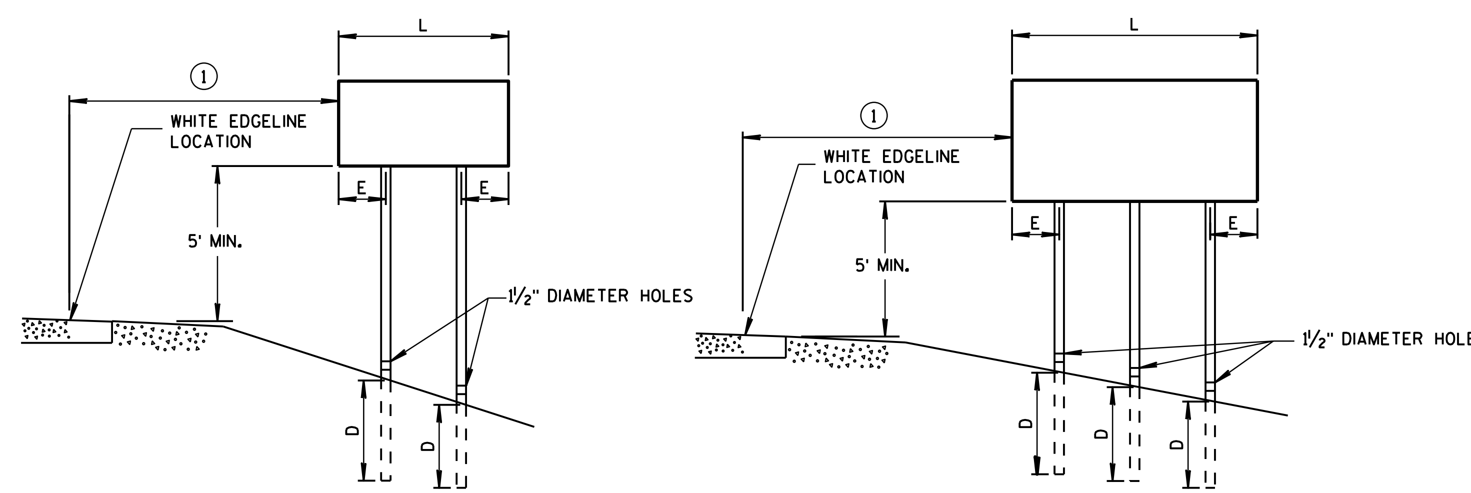
4"x6" WOOD POST MODIFICATION

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

6

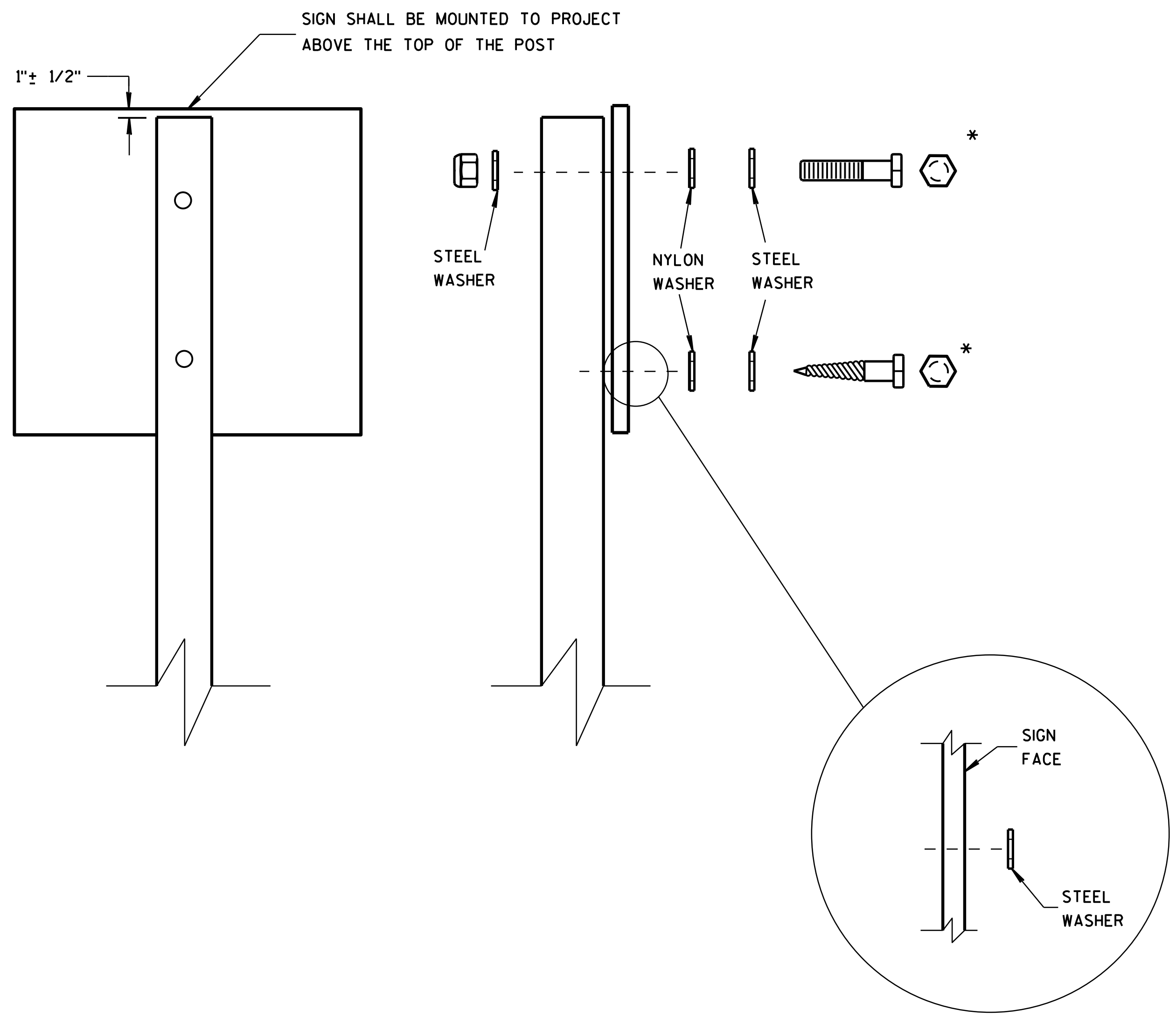
6

TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

S.D.D. 15 D 38-1a

S.D.D. 15 D 38-1a



WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

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

WASHERS (ALL POSTS) -

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

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

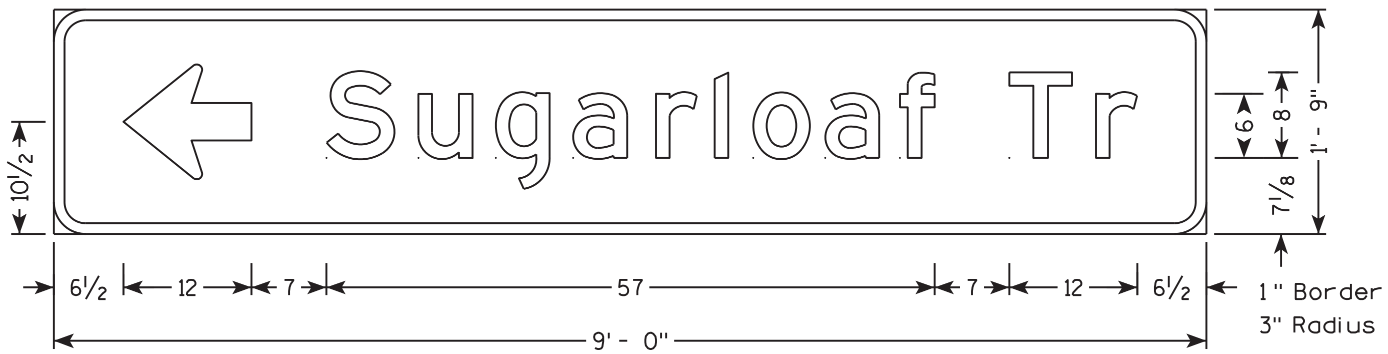
ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Feb. 2015 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER
FHWA	

6

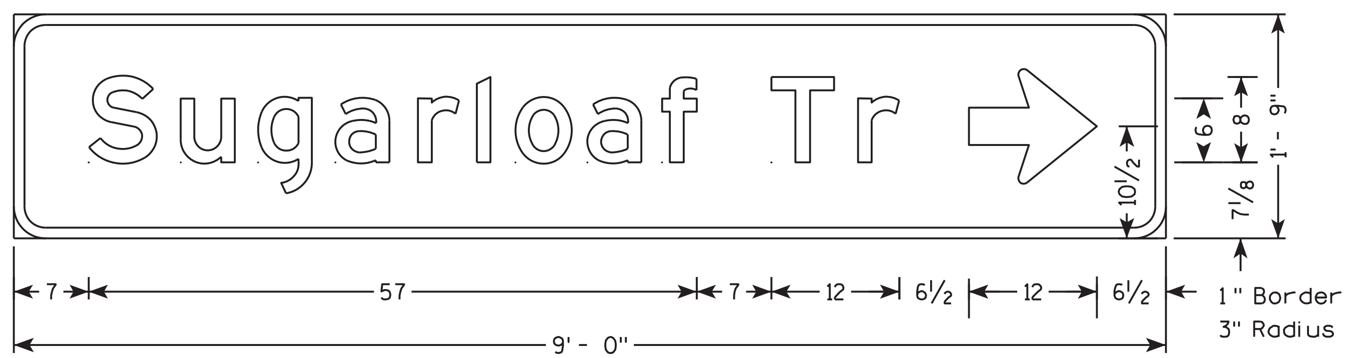
S.D.D. 15 D 38-1b

NOTES

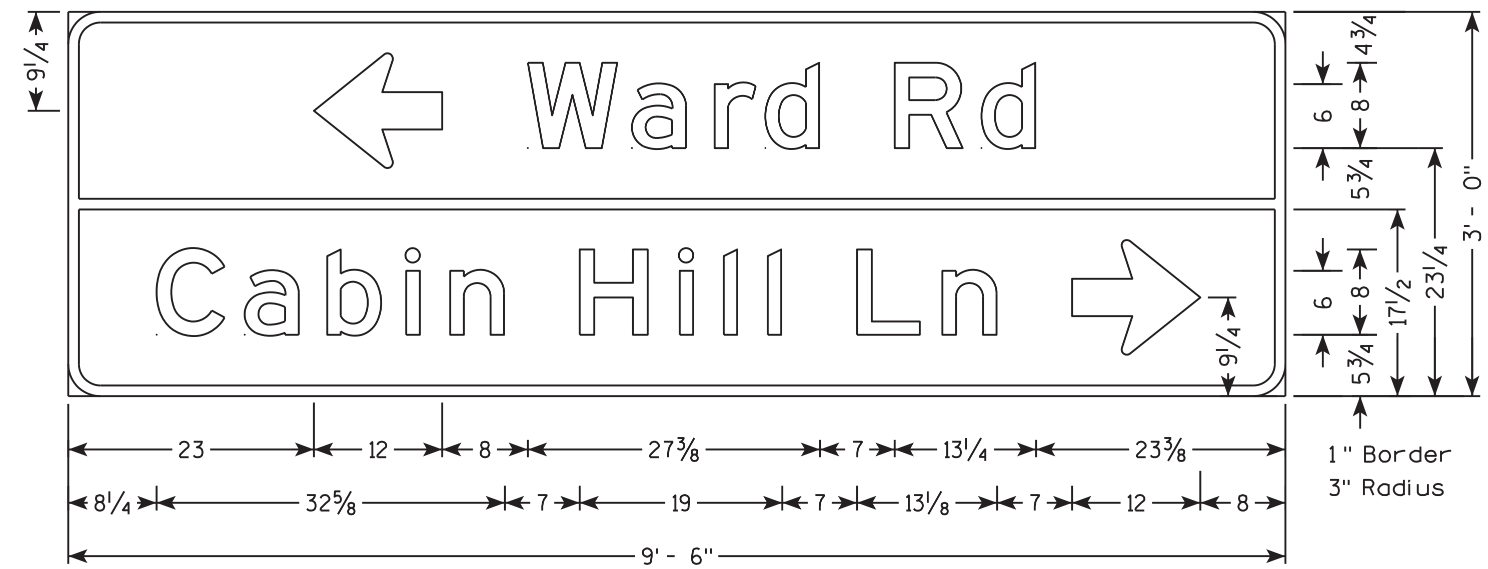
1. All Signs Type II - Type H Reflective
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E



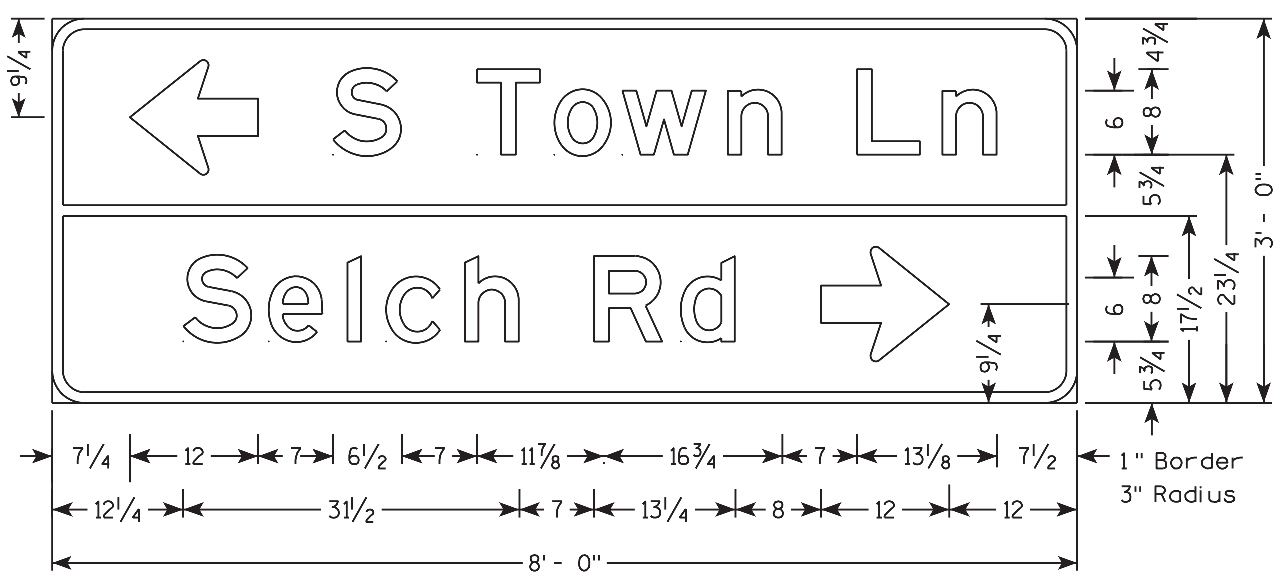
D1-1



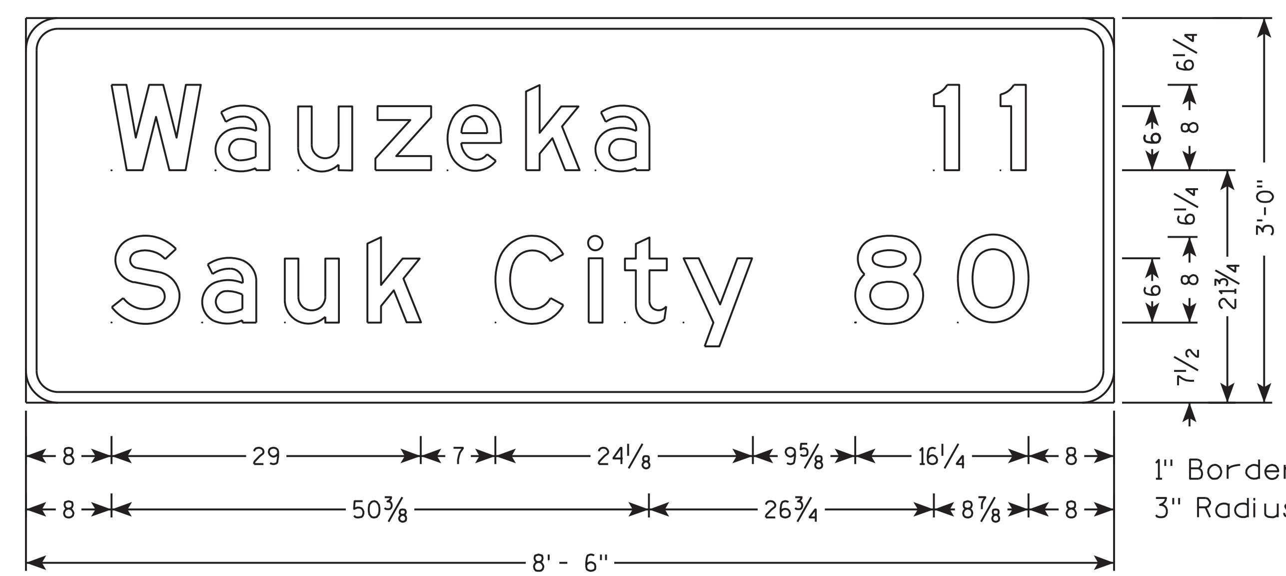
D1-1



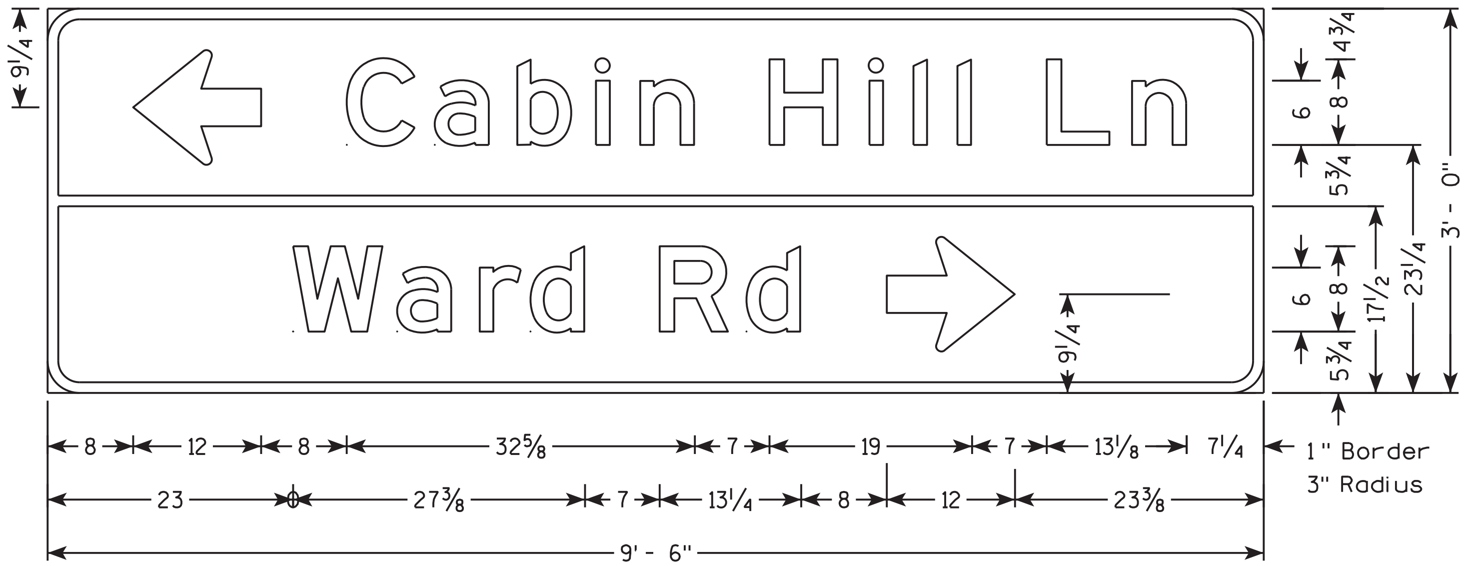
D1-2



D1-2



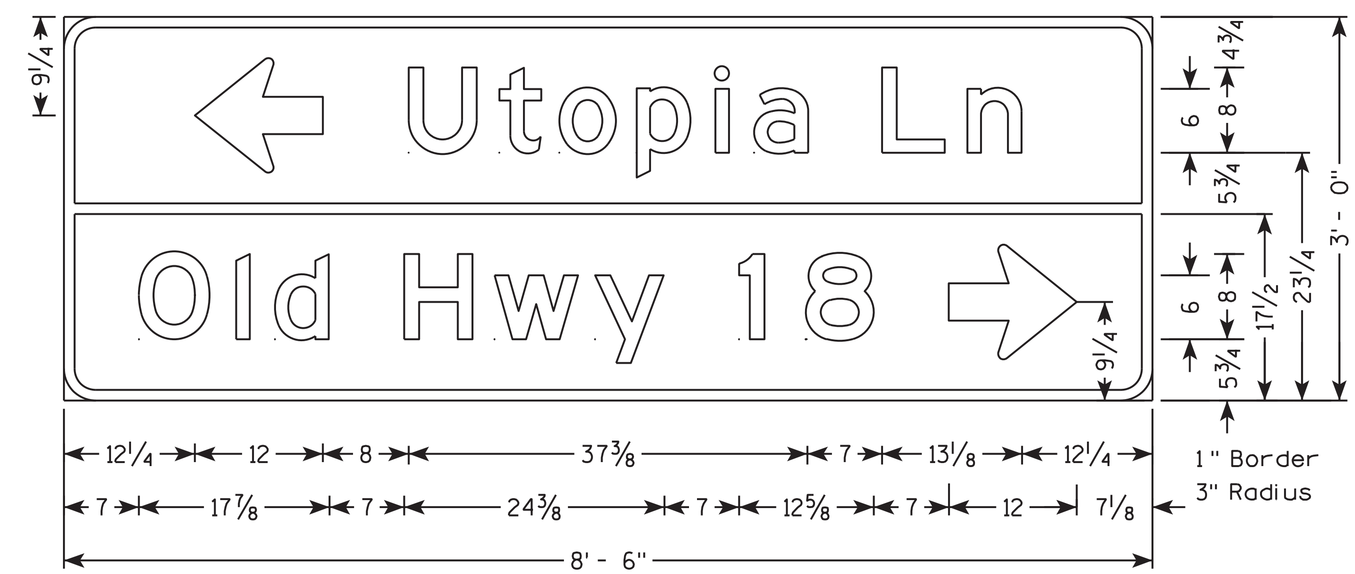
D2-2



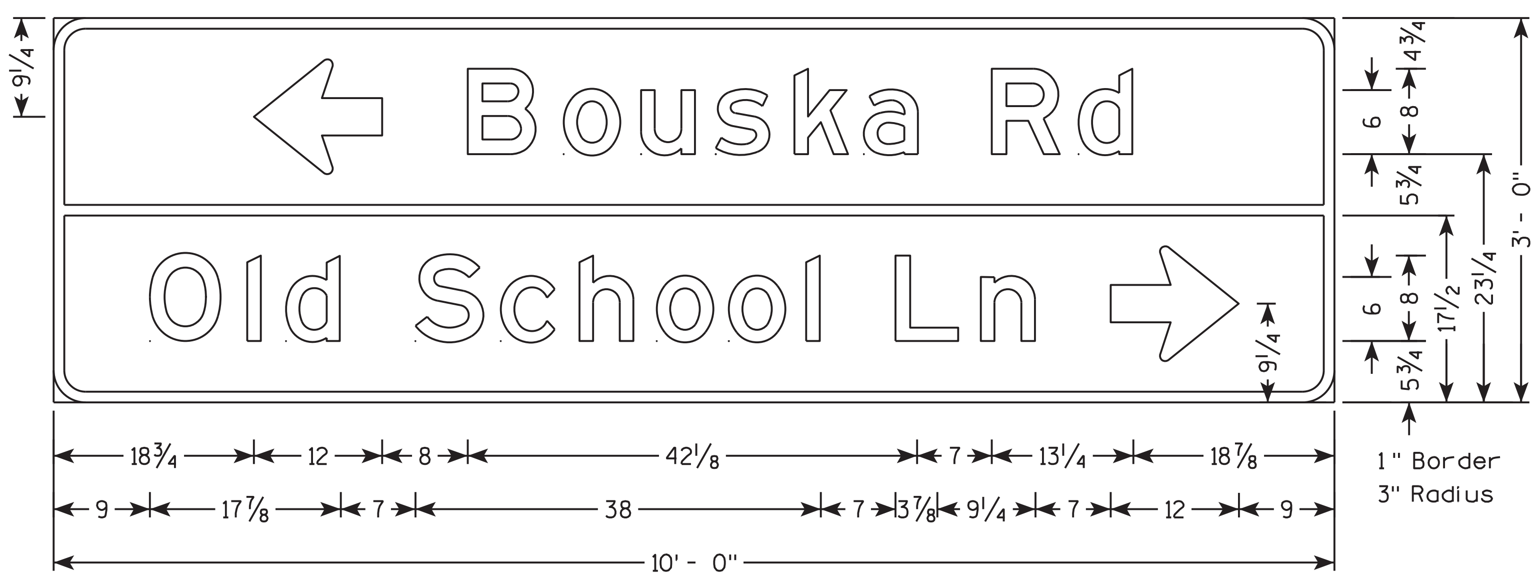
D1-2

NOTES

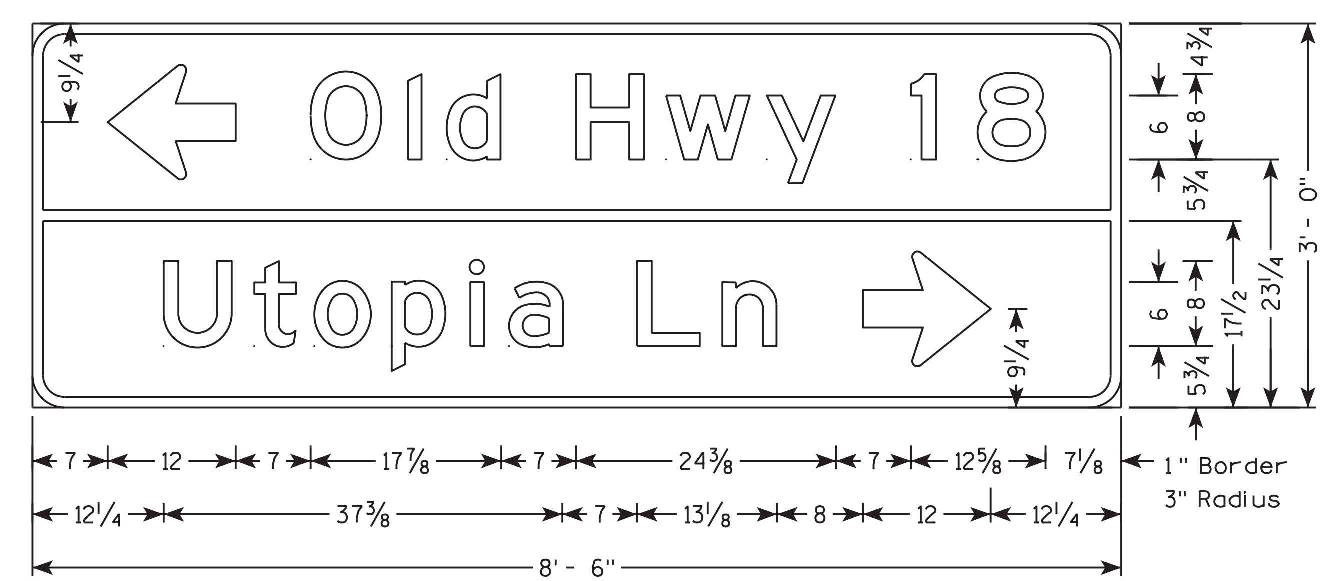
1. All Signs Type II - Type H Reflective
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E



D1-2



D1-2



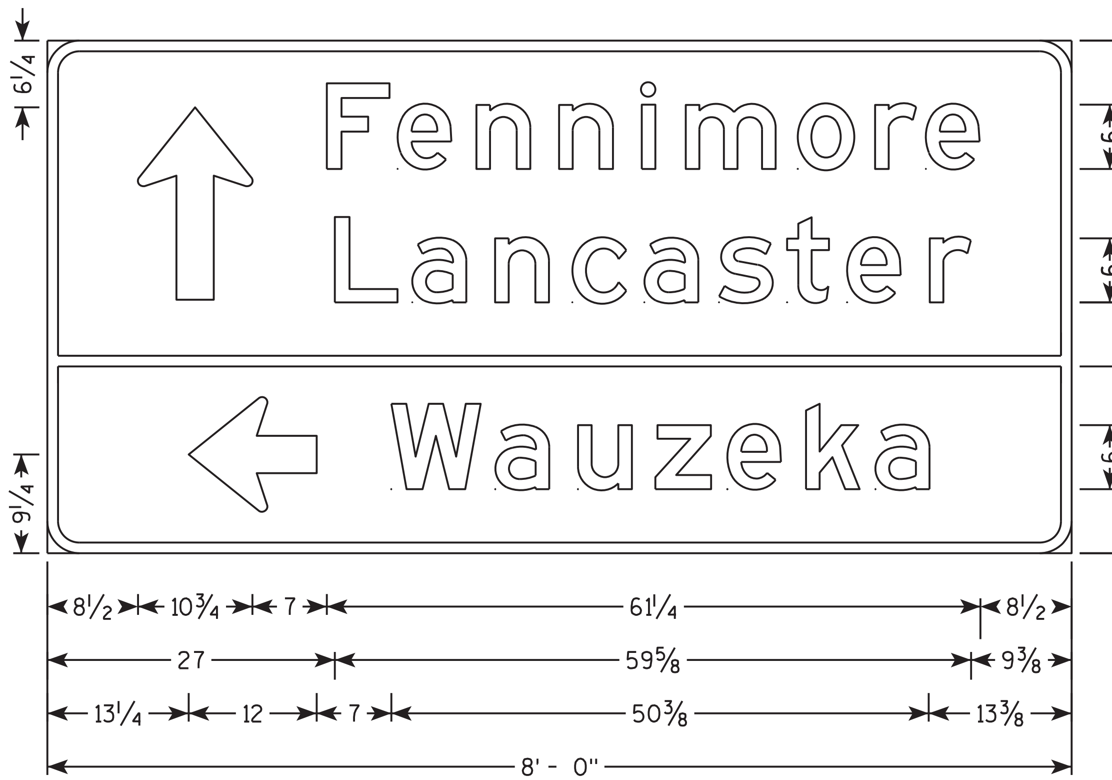
D1-2

7

7

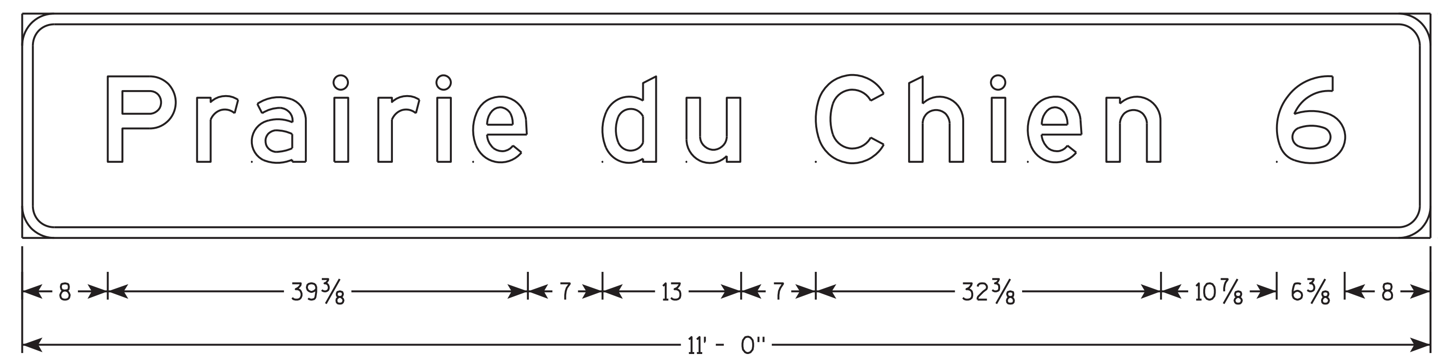
NOTES

1. All Signs Type II - Type H Reflective
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E



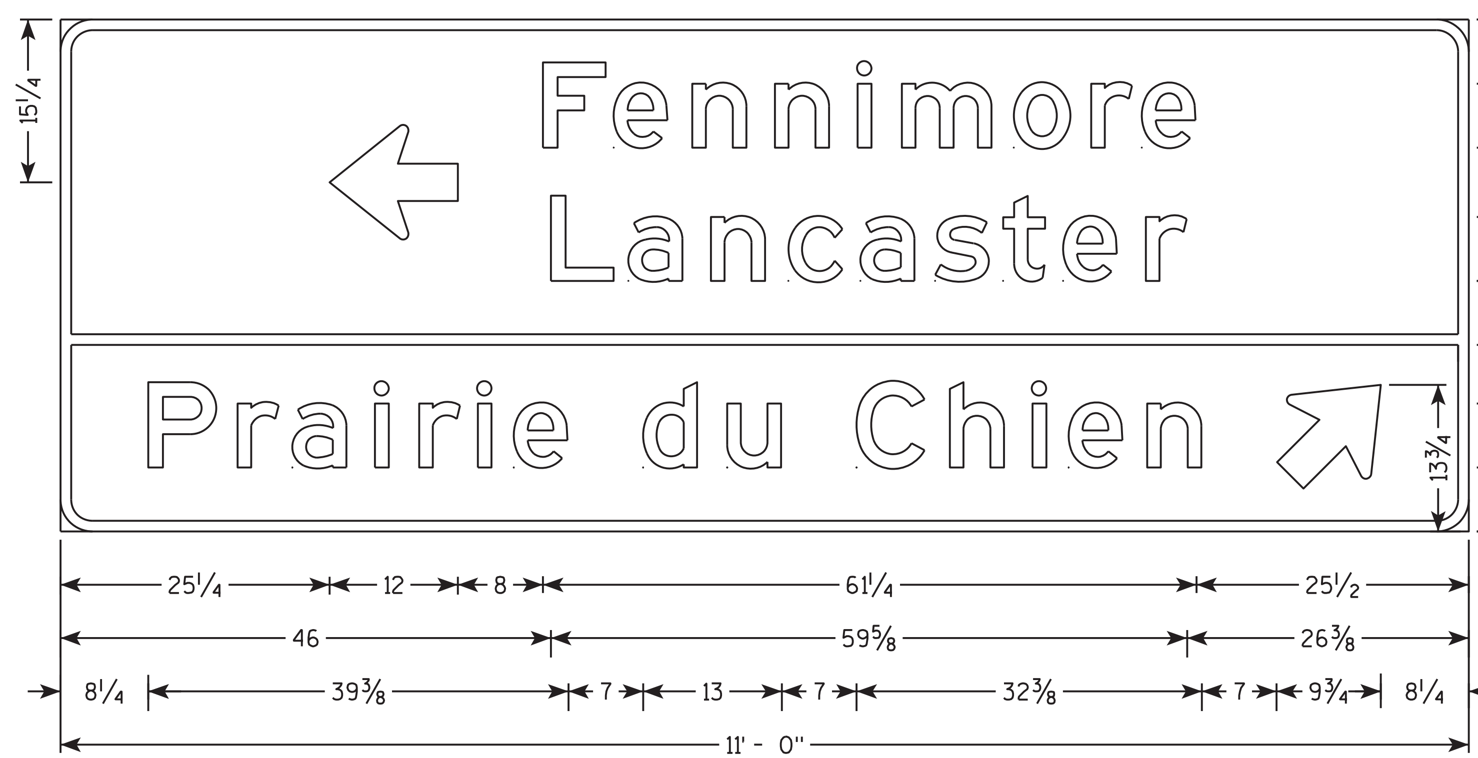
1" Border
3" Radius

D1-3



1" Border
3" Radius

D2-1



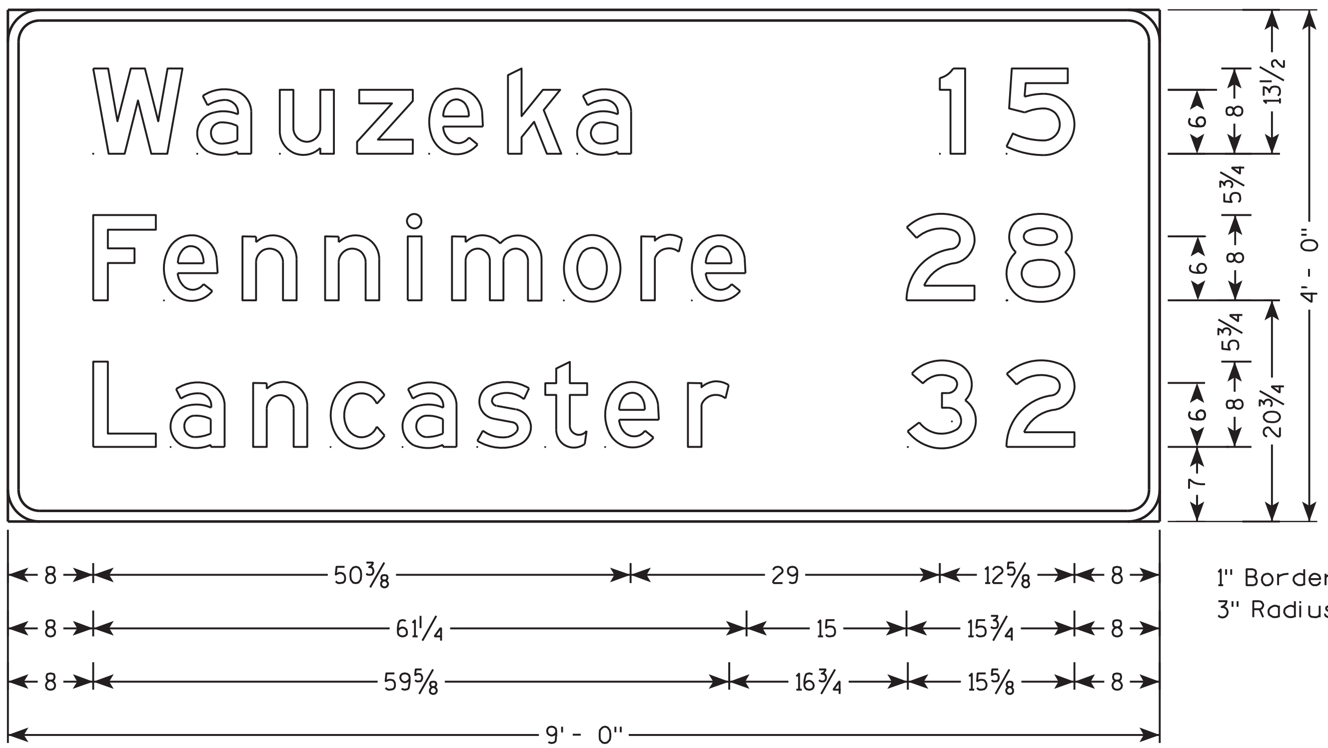
1" Border
3" Radius

D1-3

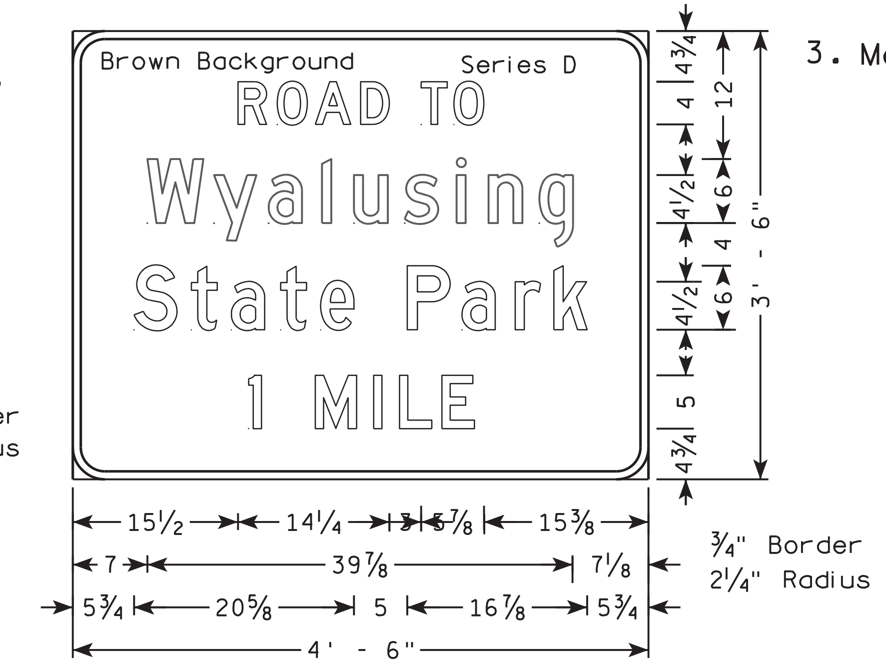
PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PERMANENT SIGNING	SHEET NO: 414	E

NOTES

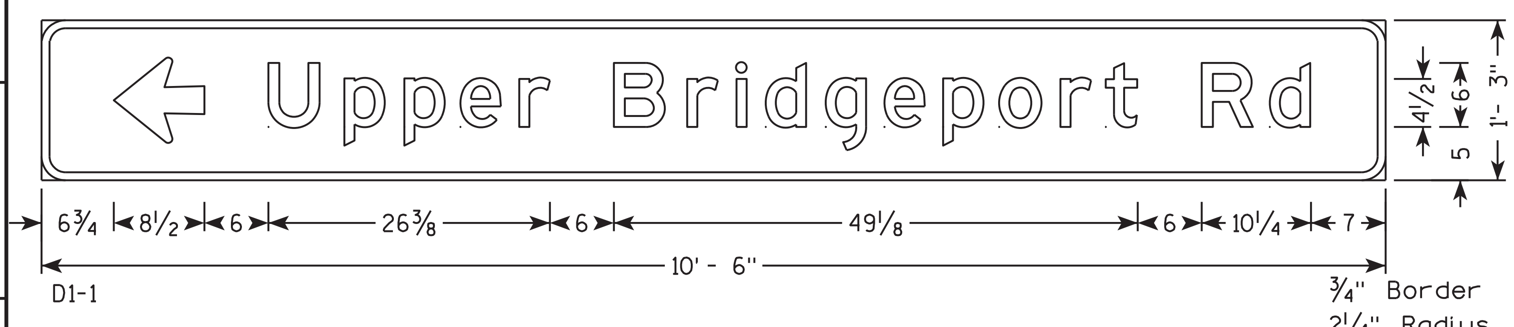
1. All Signs Type II - Type H Reflective
2. Color:
   Background - GREEN except as Shown
   Message - WHITE
3. Message Series - E except as Shown



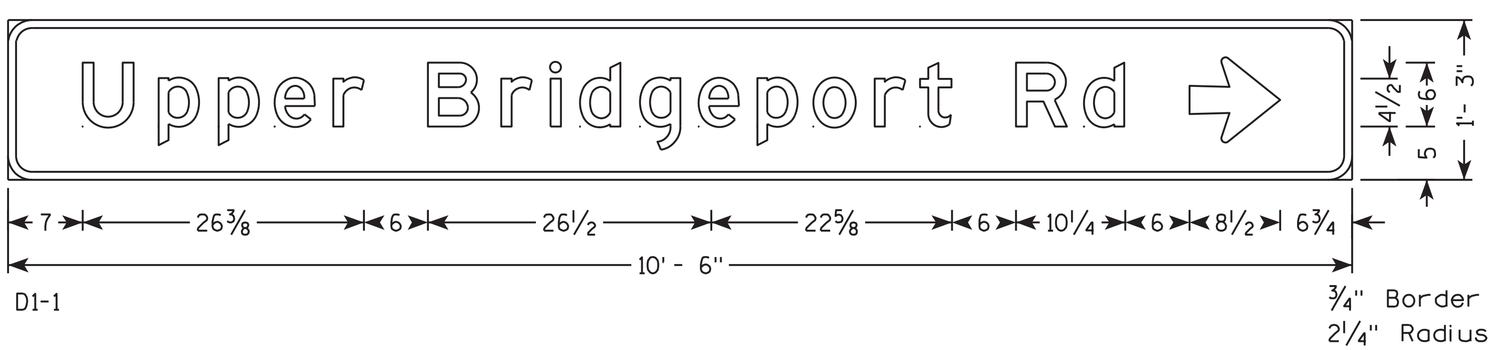
D2-3



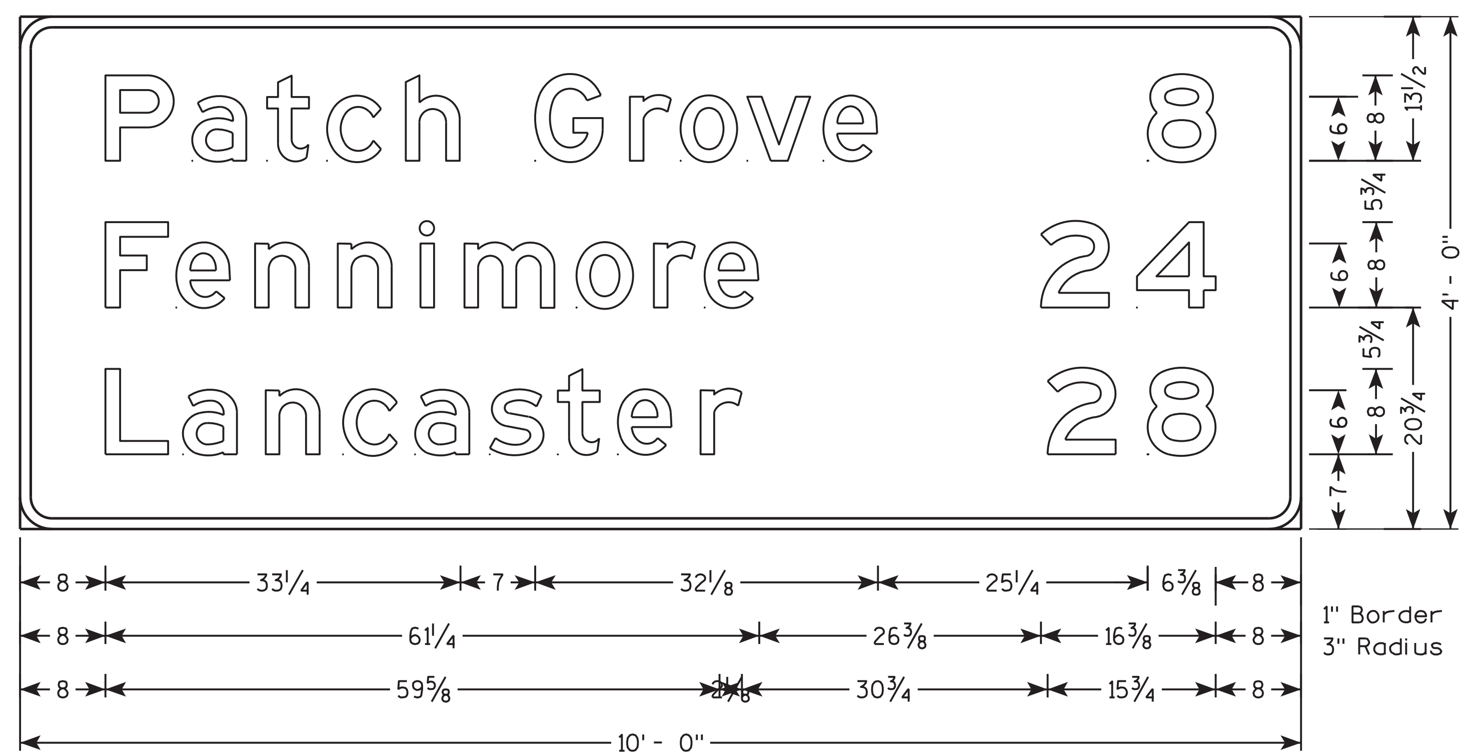
D7-52



D1-1



D1-1



D2-3

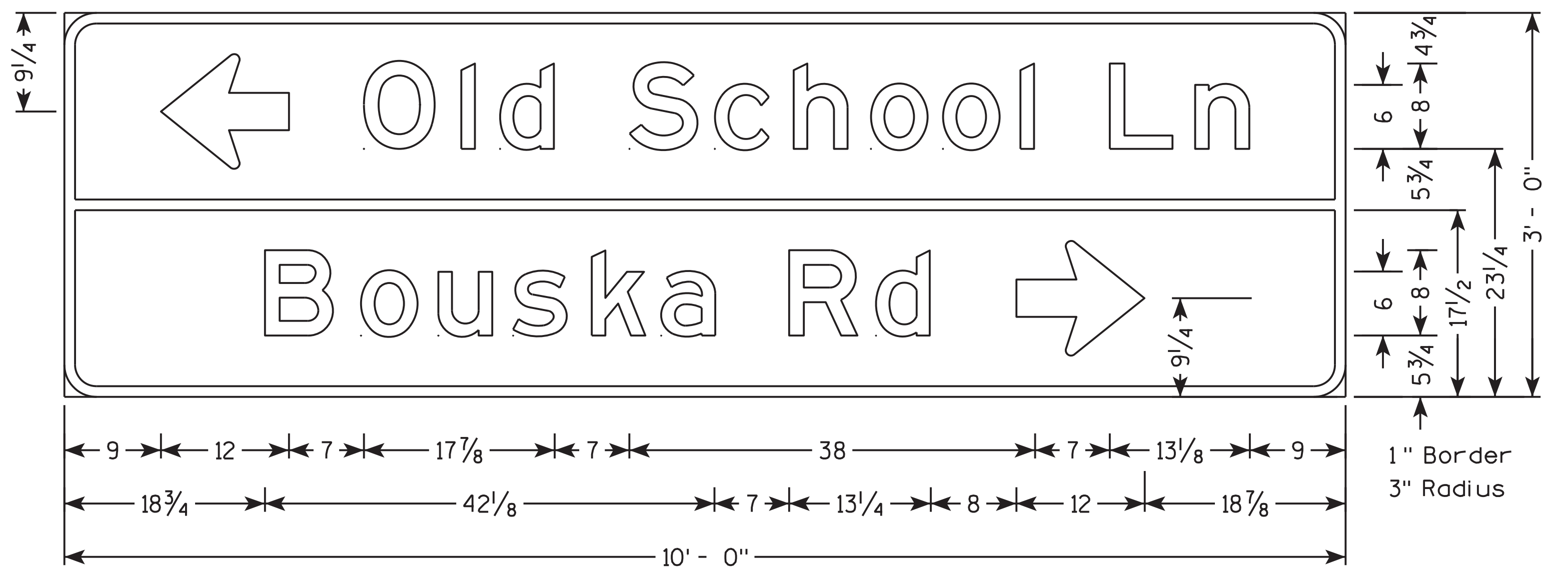
PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PERMANENT SIGNING	SHEET NO: 415	E

FILE NAME : P:\WIDOT\12005 - USH 18\CAD\SNUSH1800_from WisDOT.dgn PLOT DATE : 7/9/2015 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

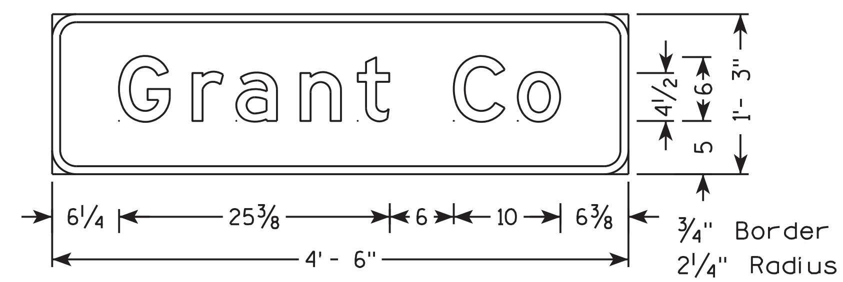
7

NOTES

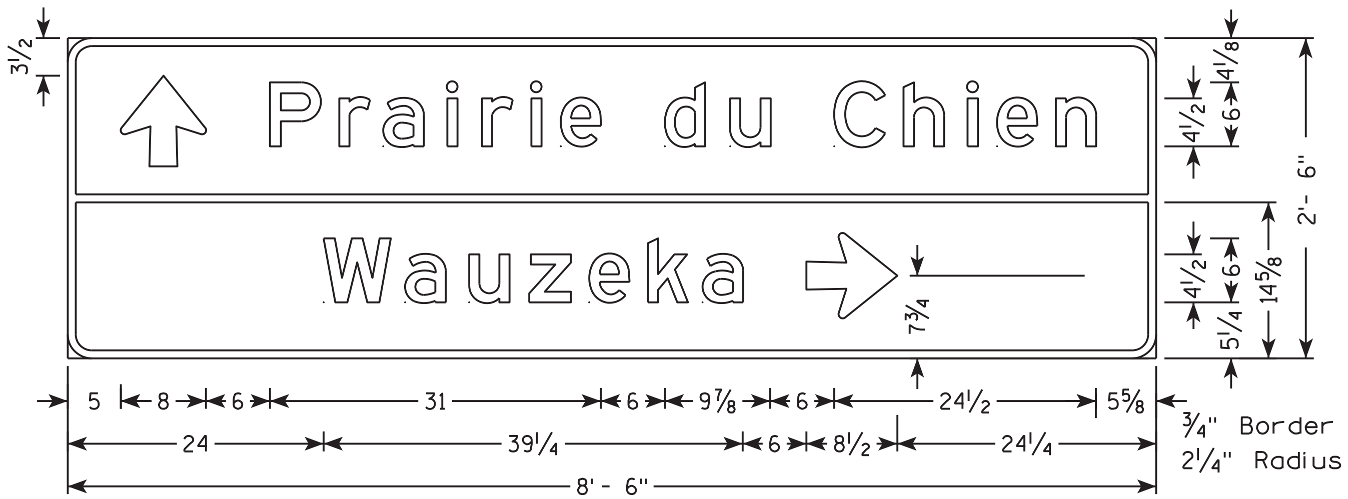
1. All Signs Type II - Type H Reflective
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E except as Shown



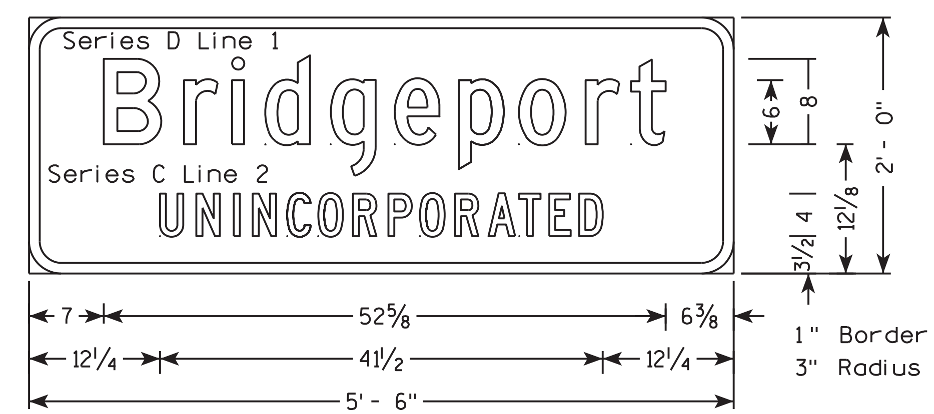
D1-2



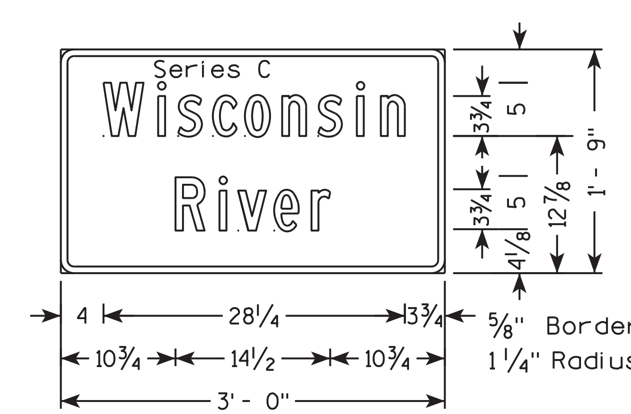
I2-2



D1-2



I2-3

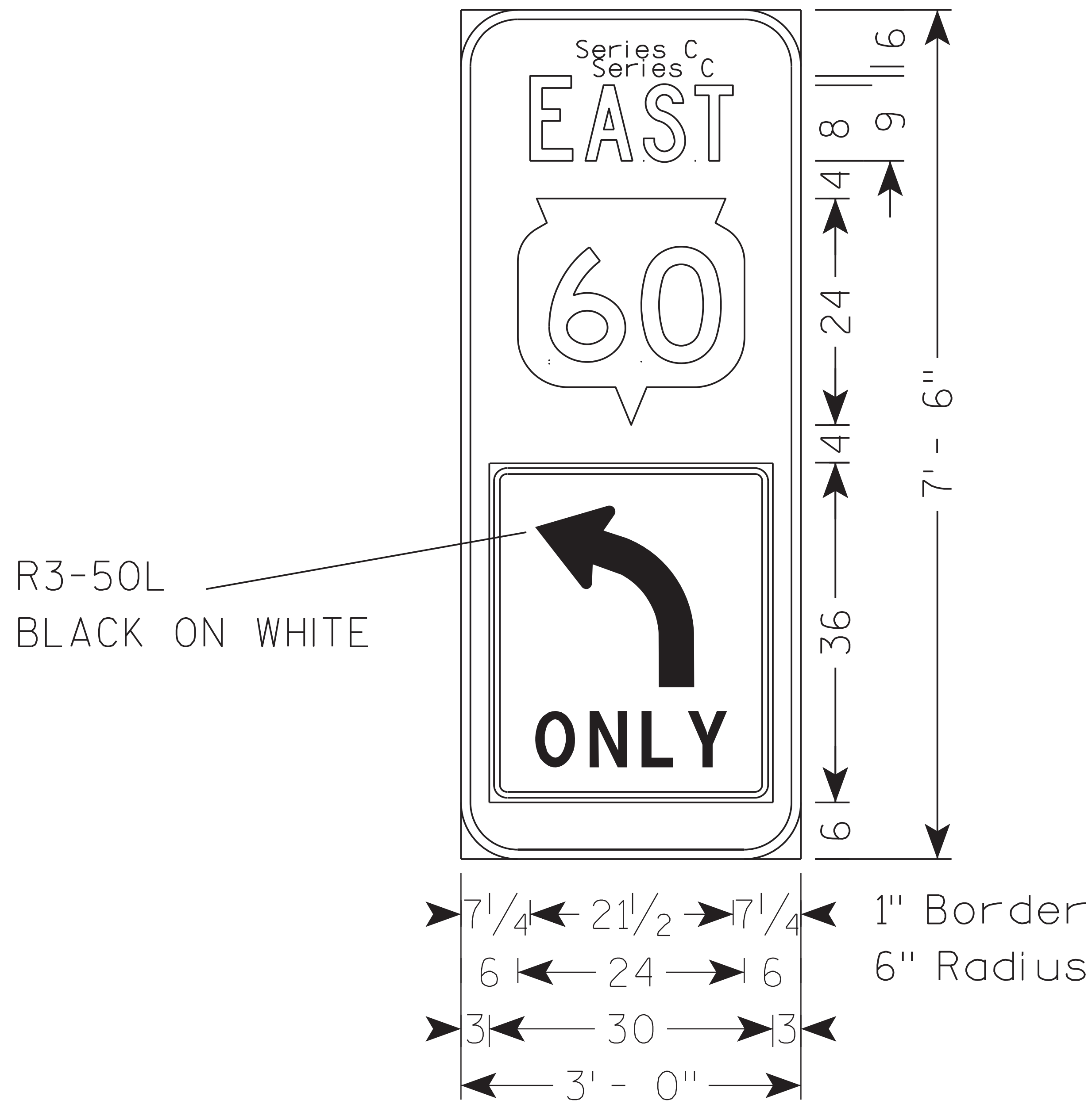


I3-1

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PERMANENT SIGNING	SHEET NO: 416	E

NOTES

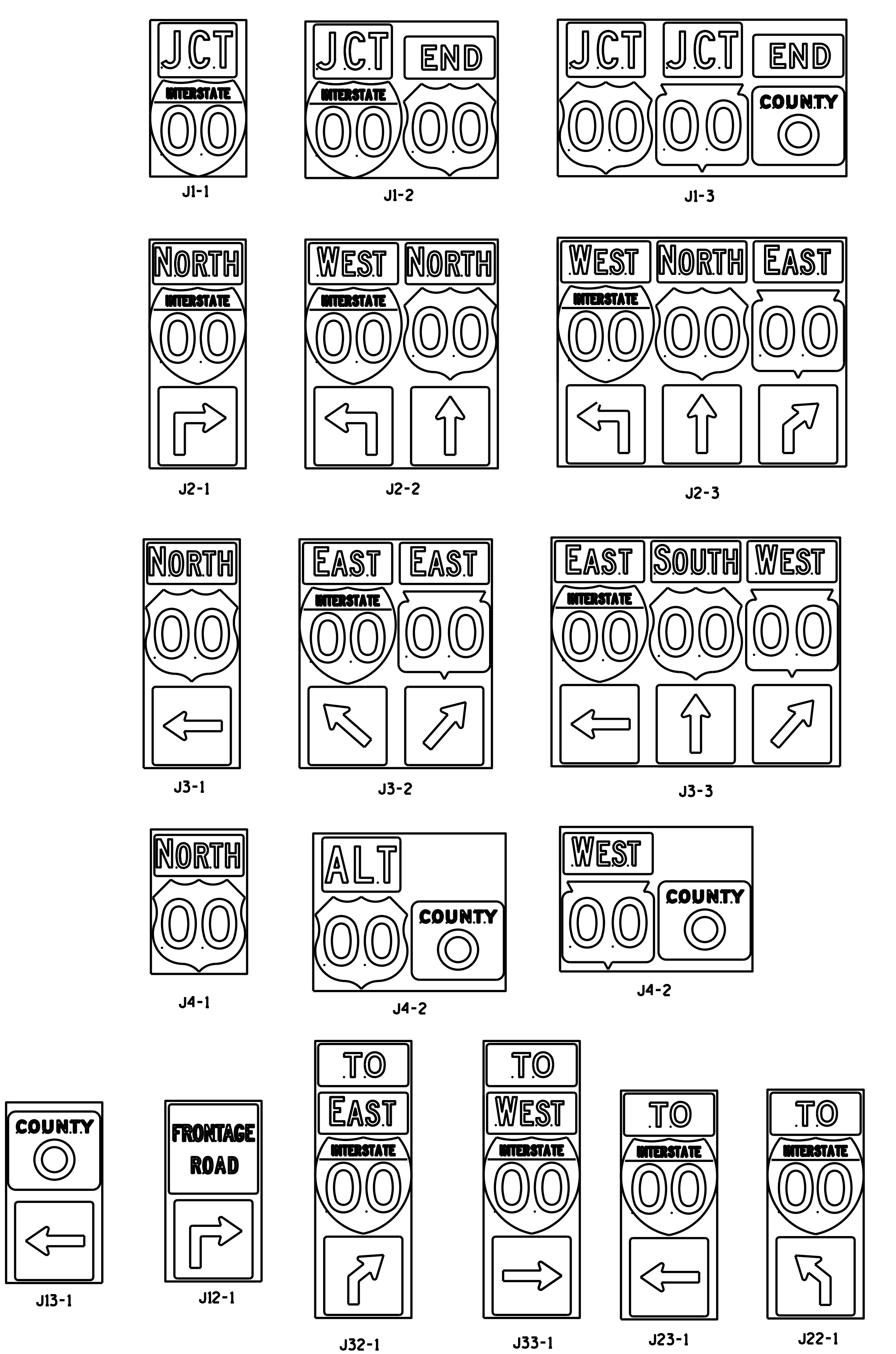
1. All Signs Type I - Type SH Reflective
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E except as Shown

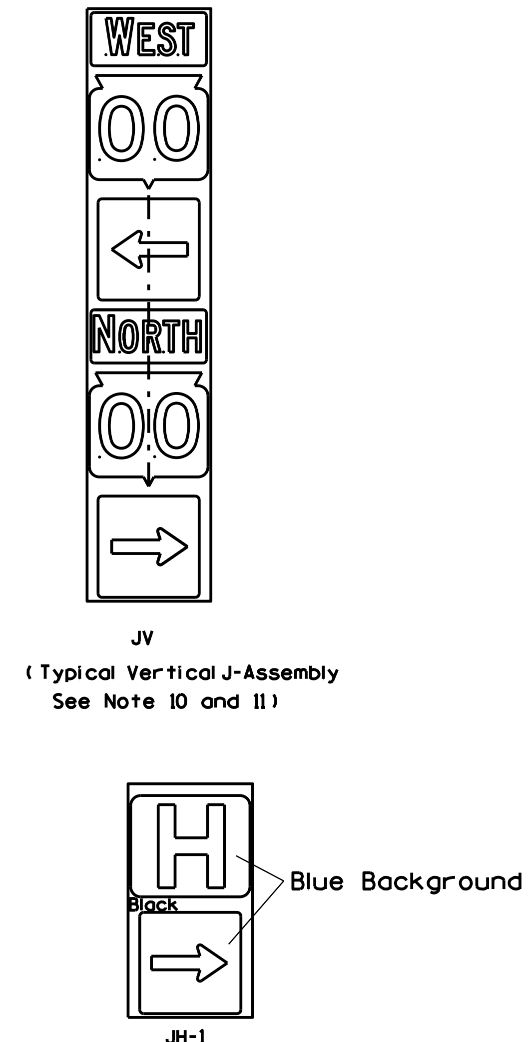


D15-1

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	PERMANENT SIGNING	SHEET NO: 417	E

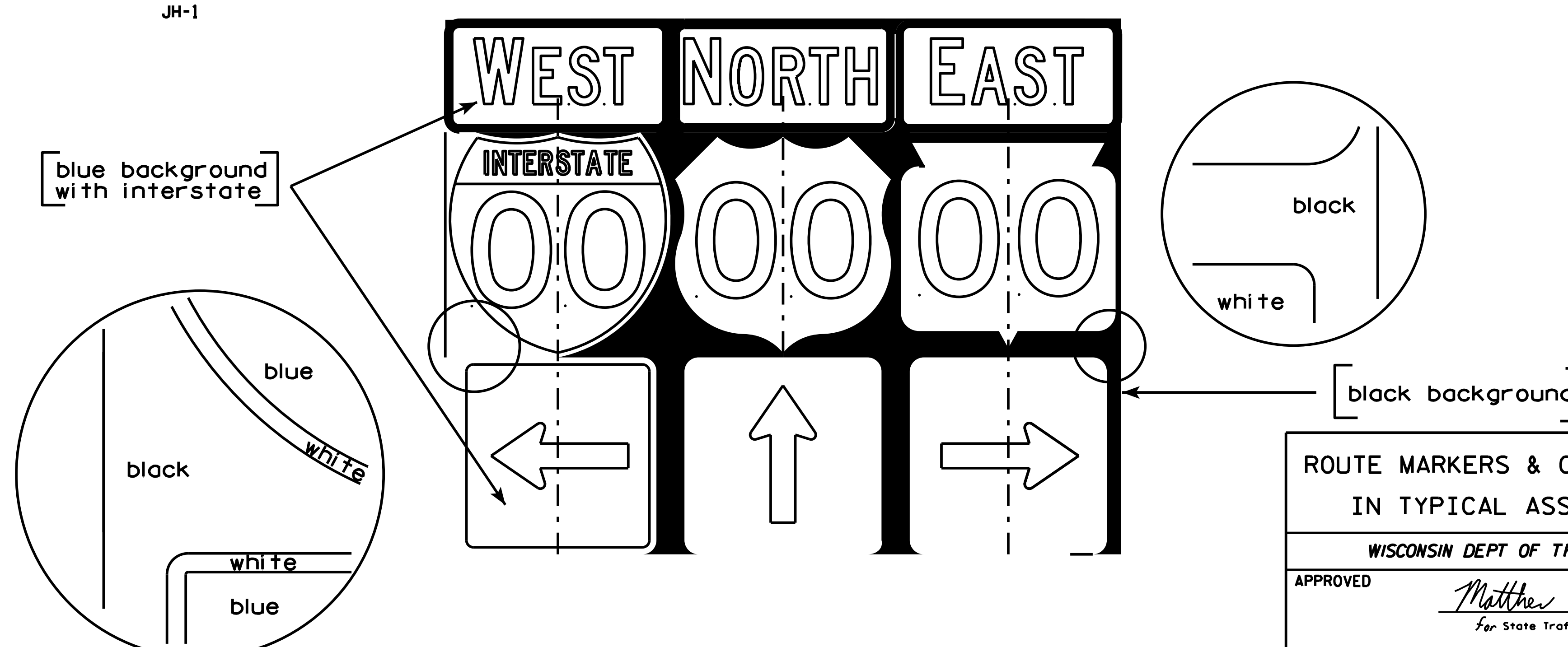
TYPICAL ASSEMBLIES





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

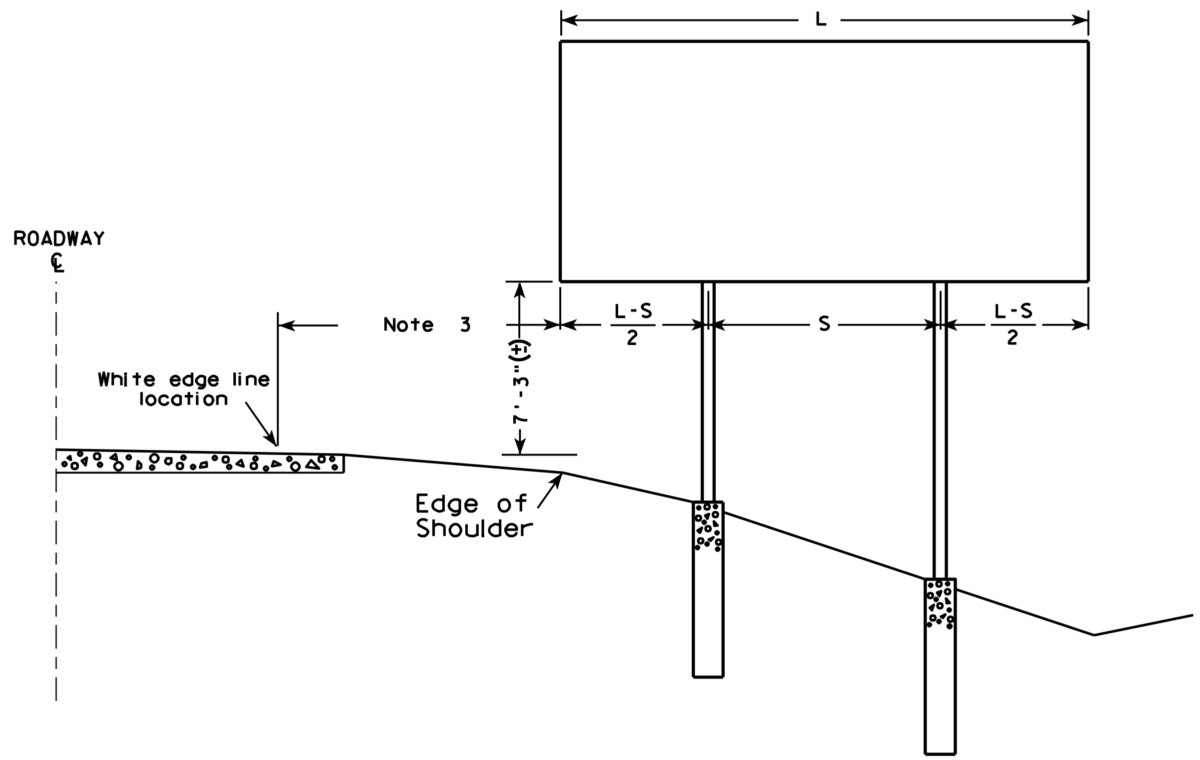
WISCONSIN DEPT OF TRANSPORTATION

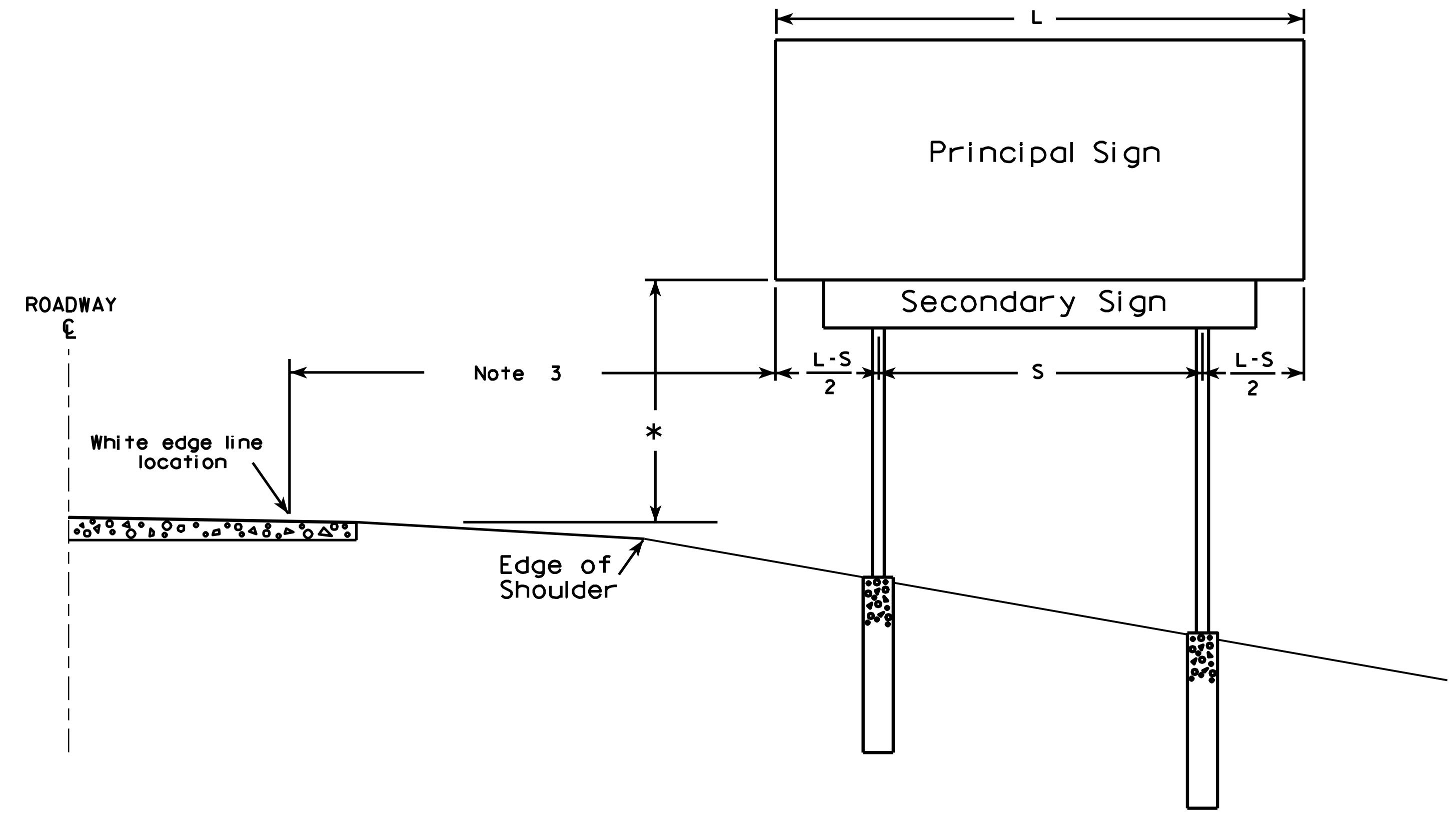
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/06/14 PLATE NO. 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 :





GENERAL NOTES

1. For a 2 post installation, S equals 3L/5, but shall not be less than 9 ft.
2. For a 3 post installation, S equals 5L/7, but shall not be less than 18 ft., and the space between any two posts shall not be less than 9 ft.
3. Unless noted in the plan, the sign offset distance shall be a minimum of 17'-6", desirable 30'-0".
4. The (±) tolerance shown on this sheet is 3 in.
5. The vertical sign height clearance detailed is measured from the bottom of the sign to the near edge of pavement.
6. Post lengths shown in the miscellaneous quantities are estimated lengths. The contractor shall verify post lengths at the time of final grading.
7. Refer to the Traffic Guidelines Manual for further guidance on minimum vertical clearance requirements.

* Clearance is 8'-3"(±) when the secondary sign is 3 ft. or less in height. For secondary signs larger than 3 ft., the clearance to the bottom of the secondary sign shall be 5'-3"(±).

7

7

TYPICAL INSTALLATION
OF TYPE I SIGNS

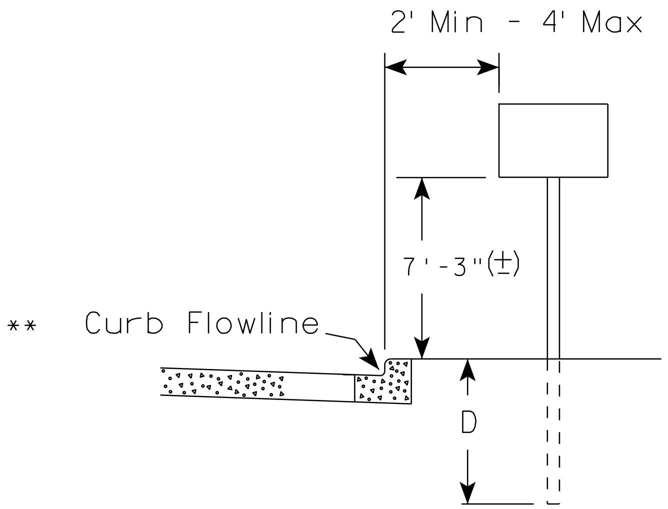
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

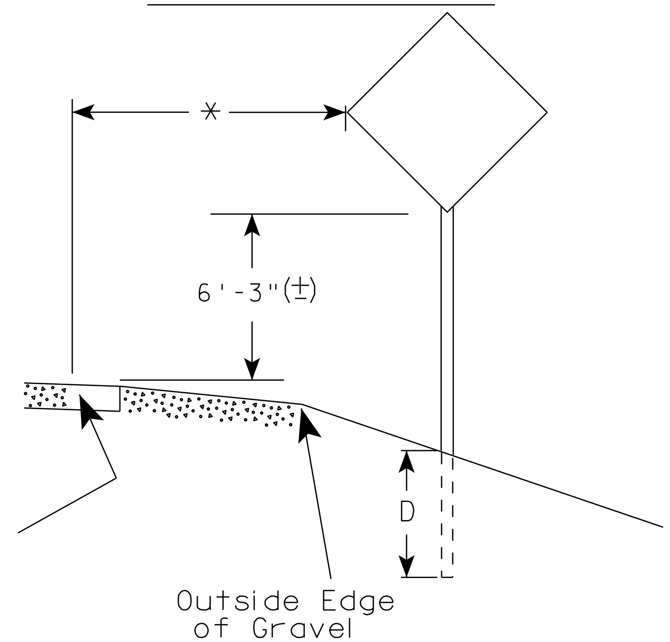
DATE 4/02/08 PLATE NO. A4-1.9

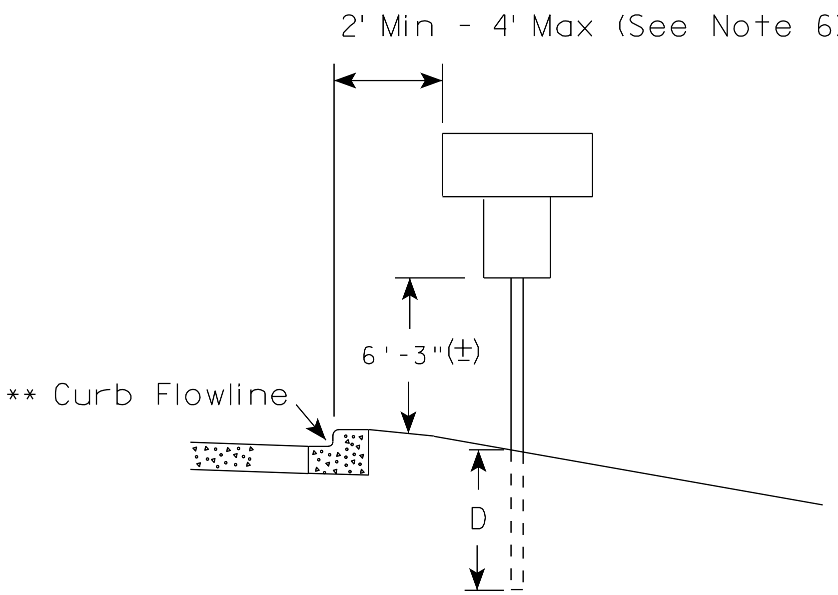
PROJECT NO:				SHEET NO: 419	E

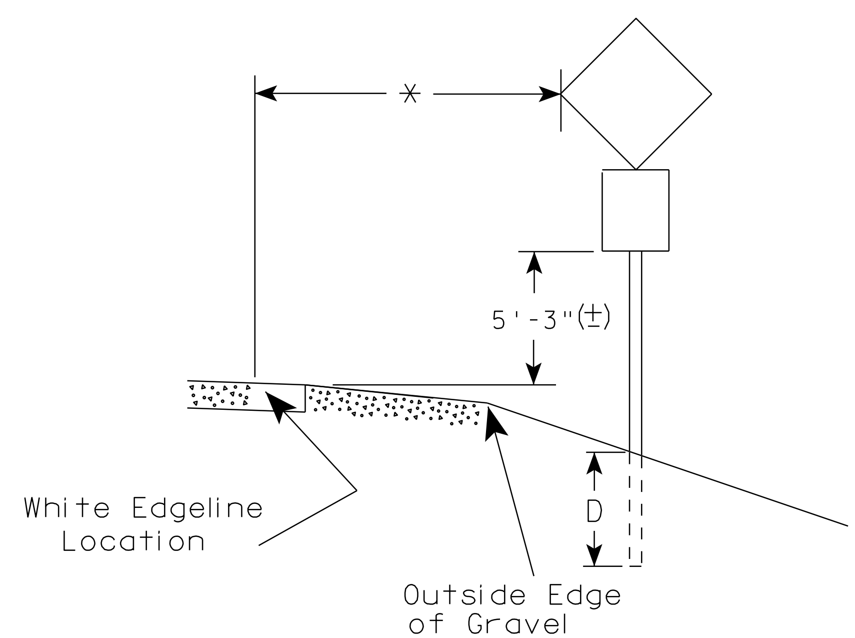
URBAN AREA



RURAL AREA (See Note 2)







GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

POST EMBEDMENT DEPTH

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

** 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.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20

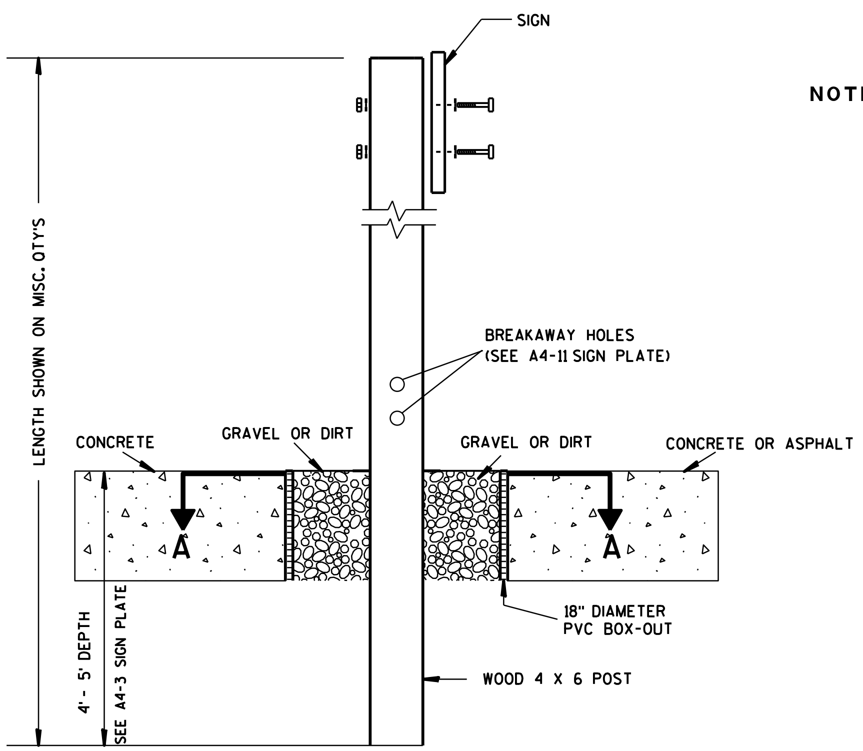
420

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

7

7

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A43.DGN PLOT DATE : 23-JUL-2015 15:21 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 99.237937:1.000000 WISDOT/CADDS SHEET 42



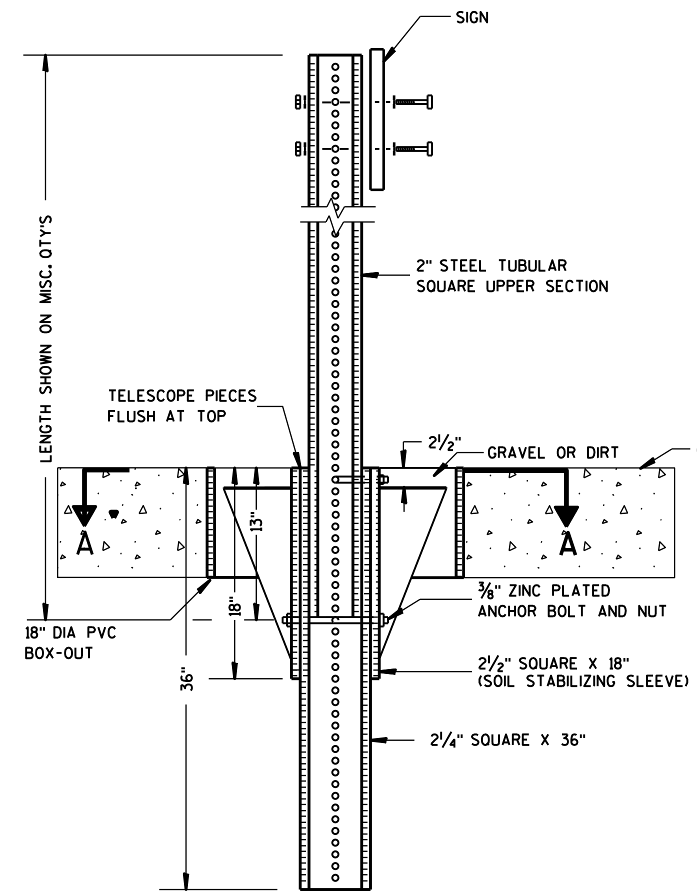
NOTES: 1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION

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.

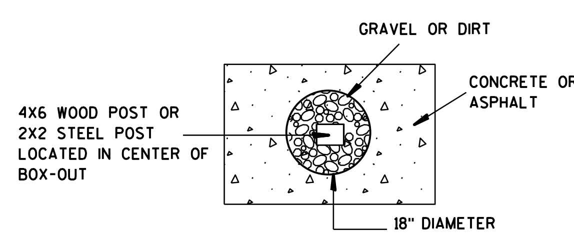
ELEVATION VIEW

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



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

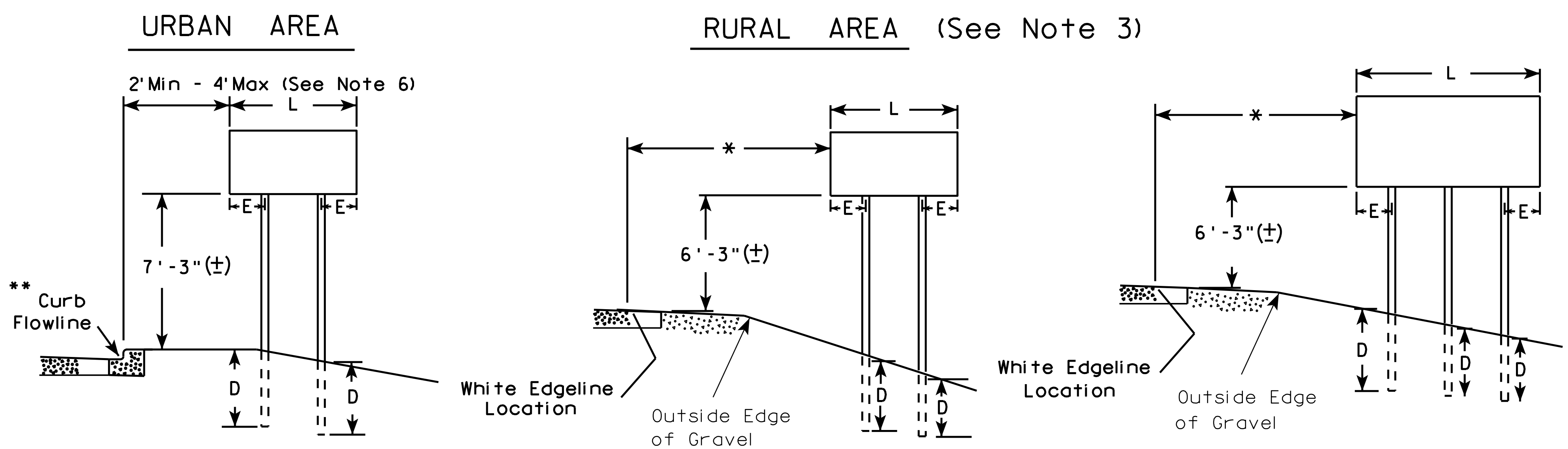
WISCONSIN DEPT OF TRANSPORTATION

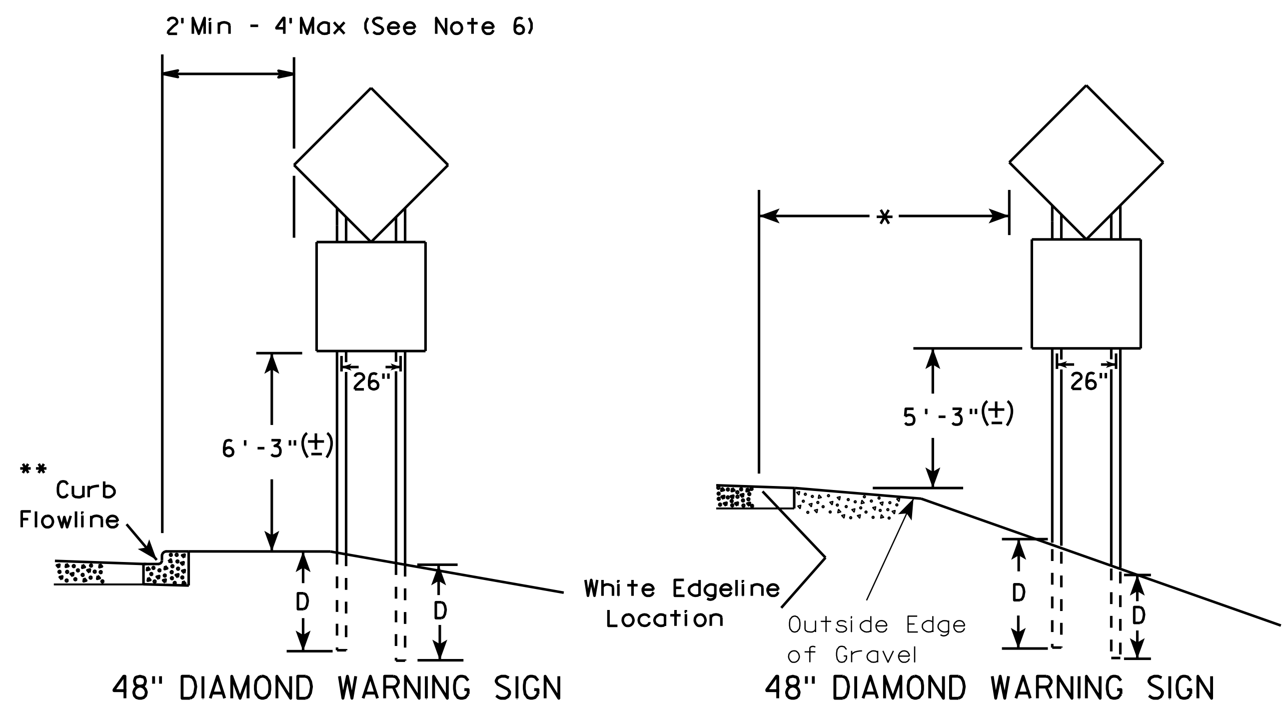
APPROVED Matthew R Rauch
for State Traffic Engineer

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





GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

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

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

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

	SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
	L	E
***	Greater than 48" Less than 60"	12"
	60" to 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

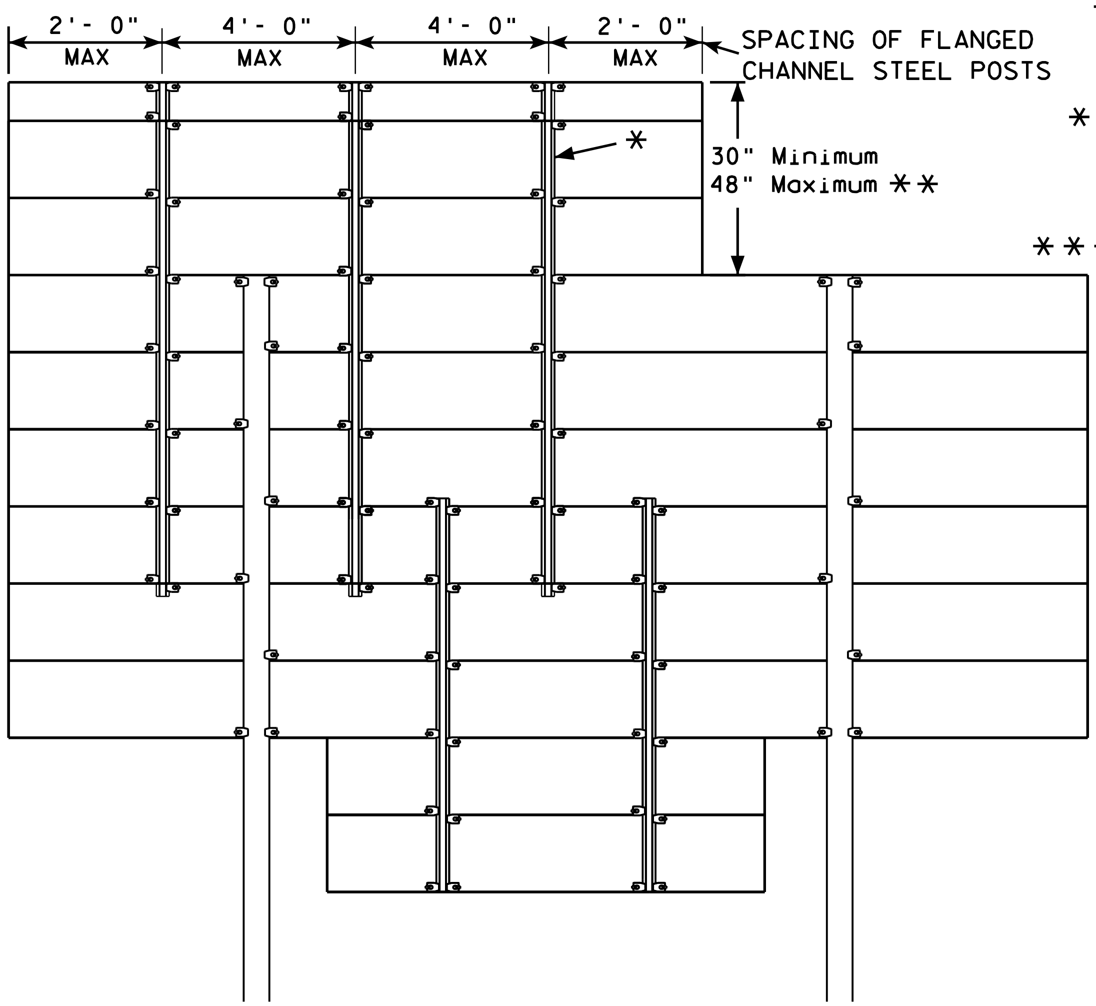
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-4 14

7 7

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

GROUND MOUNTED SIGN

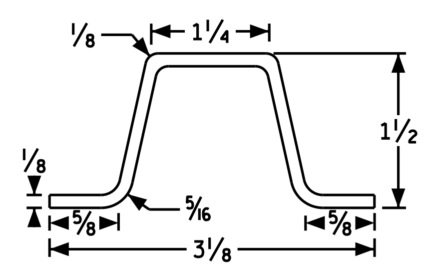


* = 2.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

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

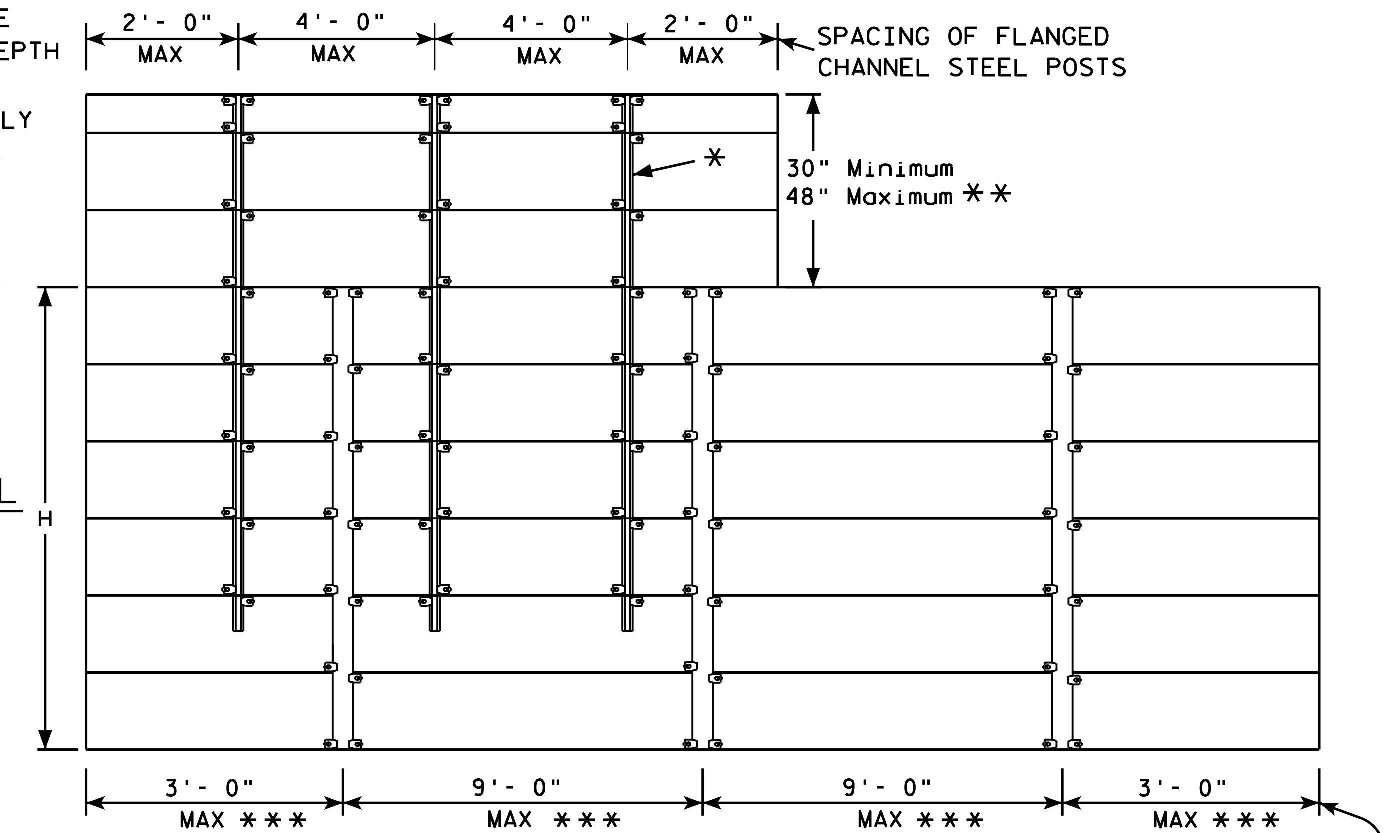
*** THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 16 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 16 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

FLANGE CHANNEL DETAIL



NOT TO SCALE

SIGN BRIDGE MOUNTED SIGN



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.

7

ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

WISCONSIN DEPT OF TRANSPORTATION

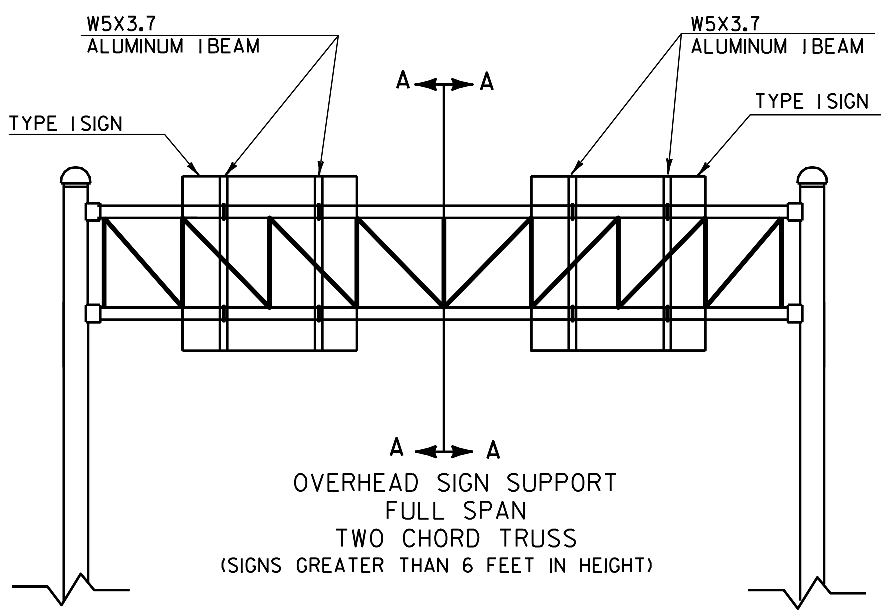
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/05/13 PLAT A4-6.12

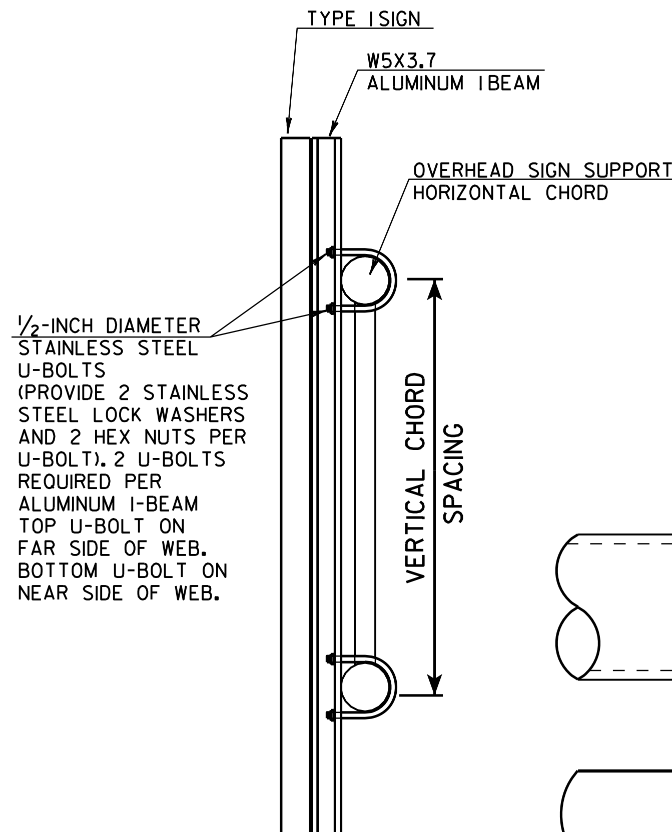
PROJECT NO: | SHEET NO: E

GENERAL NOTES

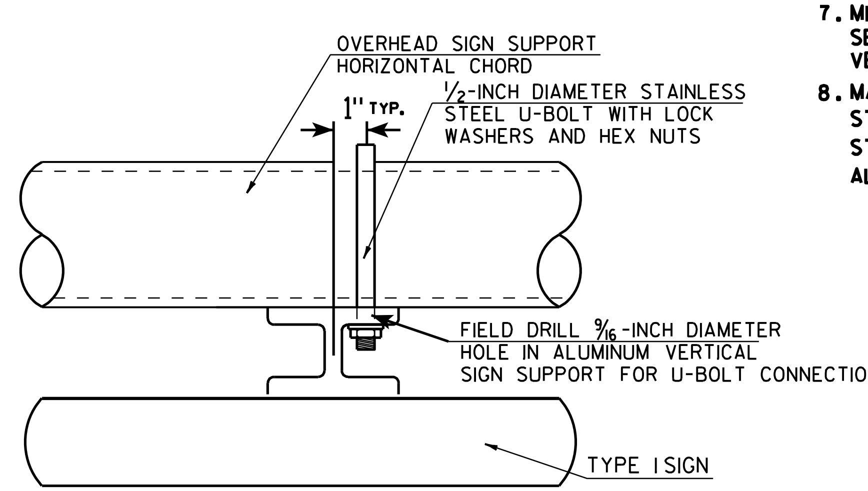
1. USE STAINLESS STEEL U-BOLTS, WASHERS, AND NUTS.
2. USE CLIPS ON EVERY EXTRUDED PANEL JOINT PER SIGN PLATE A4-6.
3. USE ALUMINUM VERTICAL SIGN SUPPORT BEAMS HAVING A 5 INCH BEAM DEPTH AND WEIGHT OF 3.7 LBS PER FOOT.
4. U-BOLTS SHALL BE STAINLESS STEEL AND MANUFACTURED TO THE PROPER SIZE TO FIT THE CHORDS OF THE OVERHEAD SIGN STRUCTURE.
5. DIAMETER OF U-BOLTS SHALL BE AS SHOWN.
6. THE LENGTH OF THE ALUMINUM VERTICAL SIGN SUPPORT BEAMS SHALL BE THE SAME AS THE HEIGHT OF THE SIGN THEY ARE SUPPORTING. BEAM LENGTHS MAY BE LONGER FOR PROPER ATTACHMENT TO CHORDS.
7. MINIMUM NUMBER OF BRACKETS PER SIGN IS TWO. SEE DETAIL BELOW FOR SPACING OF ALUMINUM VERTICAL SIGN SUPPORTS
8. MATERIAL NOTES:
   STAINLESS STEEL U-BOLTS AND LOCKWASHERS ASTM 304.
   STAINLESS STEEL HEX NUTS ASTM A276.
   ALUMINUM I-BEAMS ARE 6061-T6.



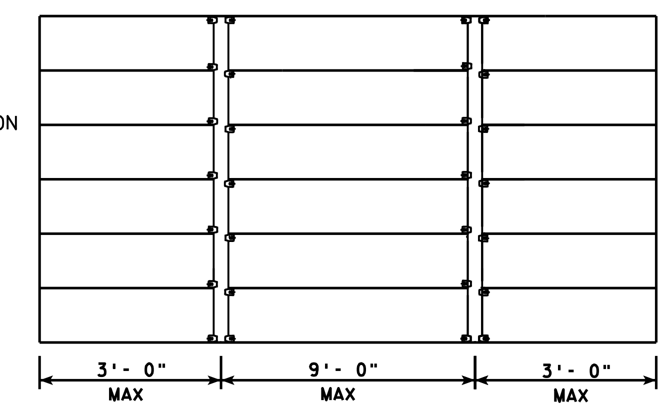
OVERHEAD SIGN SUPPORT
FULL SPAN
TWO CHORD TRUSS
(SIGNS GREATER THAN 6 FEET IN HEIGHT)



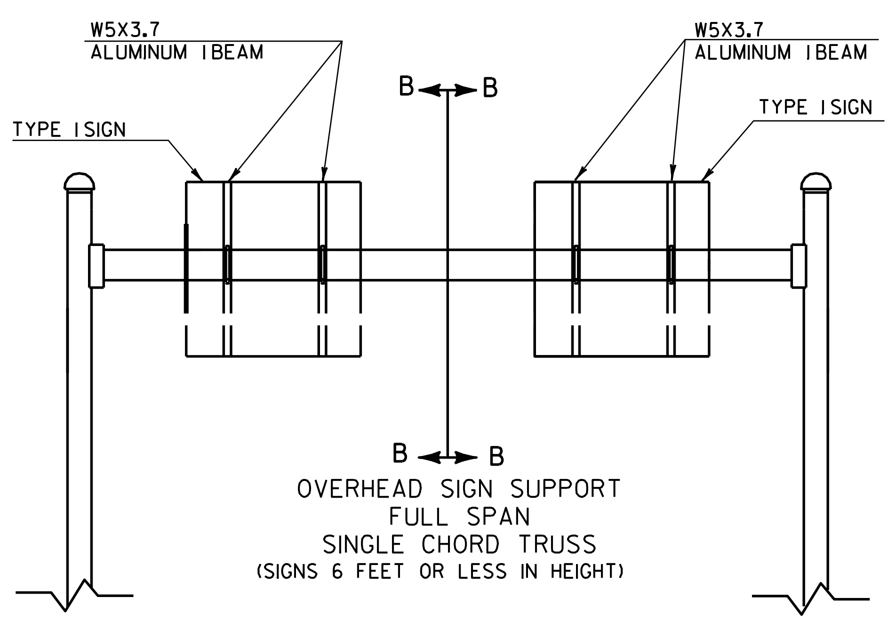
CUT SECTION A-A



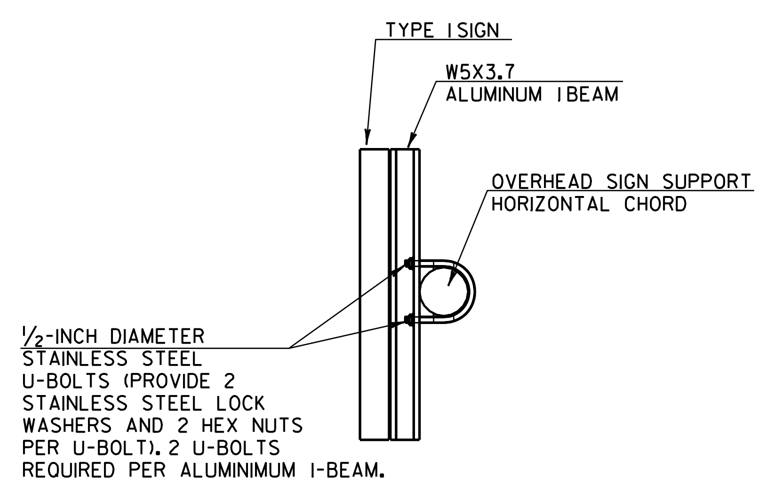
TYPICAL SIGN CONNECTION FOR
TWO CHORD TRUSS
PLAN VIEW



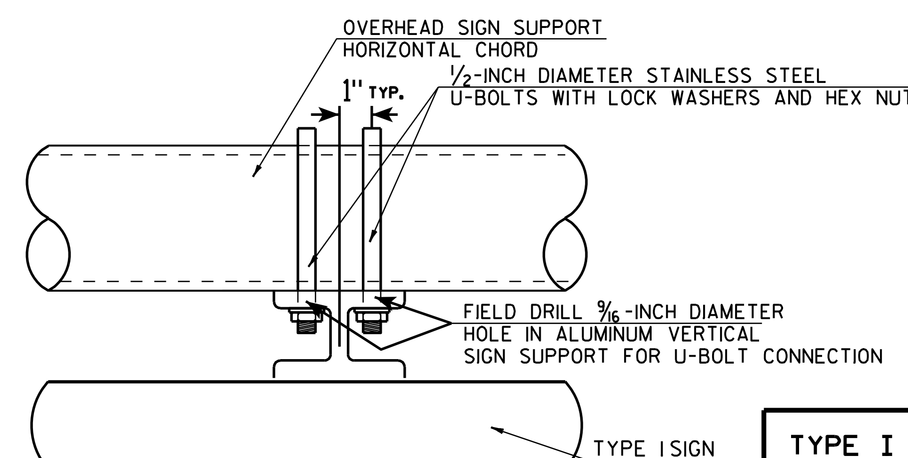
SPACING OF W5X3.7 ALUMINUM
VERTICAL SIGN SUPPORT



OVERHEAD SIGN SUPPORT
FULL SPAN
SINGLE CHORD TRUSS
(SIGNS 6 FEET OR LESS IN HEIGHT)



CUT SECTION B-B



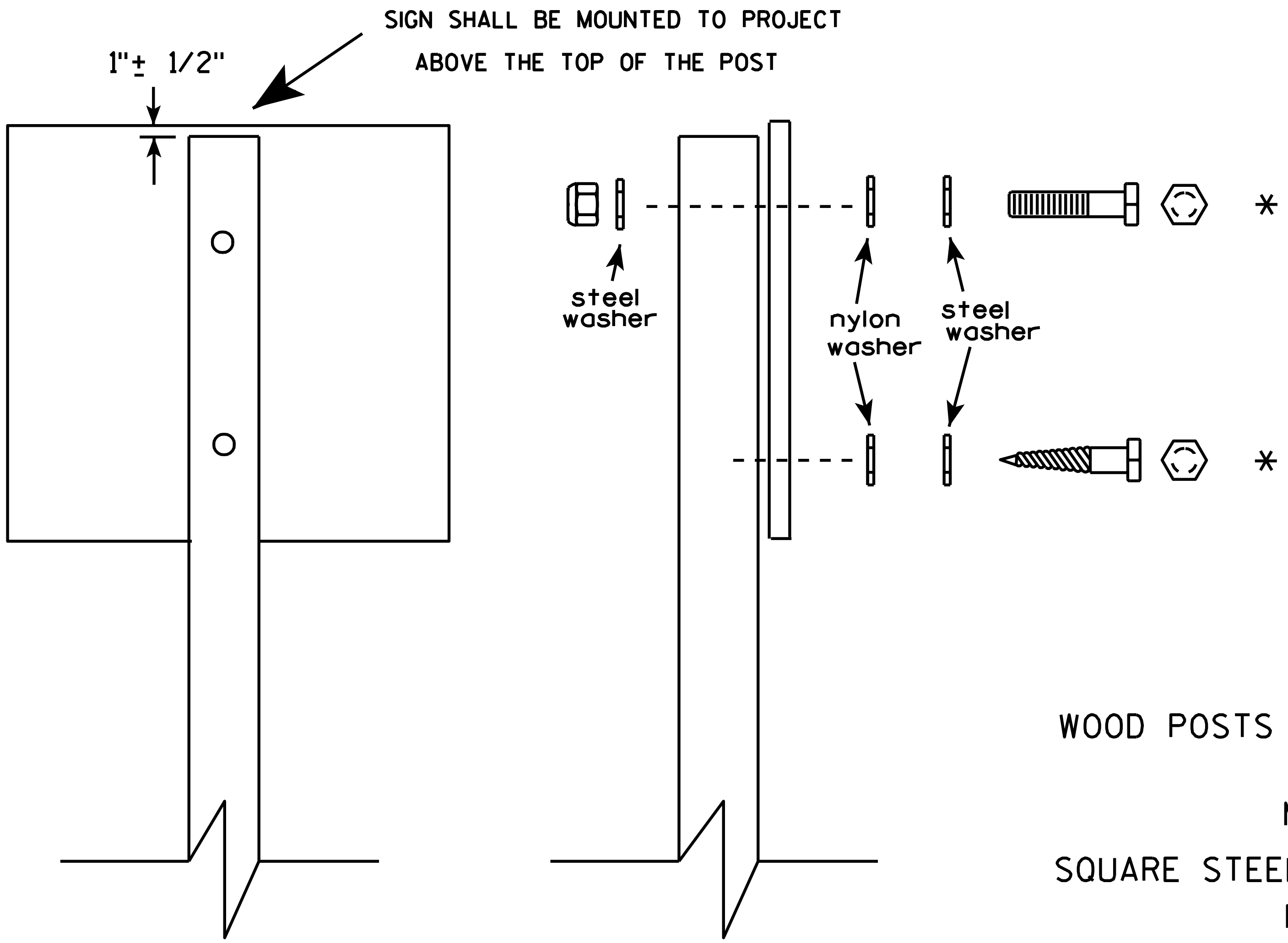
TYPICAL SIGN CONNECTION FOR
SINGLE CHORD TRUSS
PLAN VIEW

TYPE I SIGN CONNECTION TO OVERHEAD SIGN SUPPORT

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 11/12/12 PLATE NO. A4-7.3



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

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

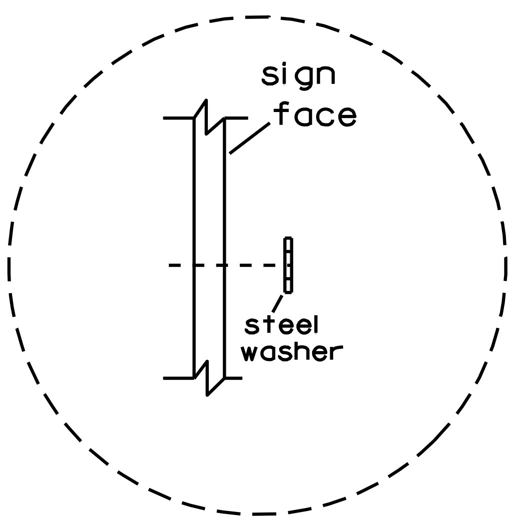
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" X 3"
- MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
- RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
- 1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
- 1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



Washer Placement when Sign Has Other Than Type H or Type F Face

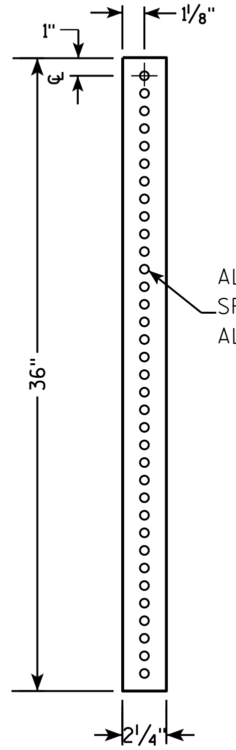
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

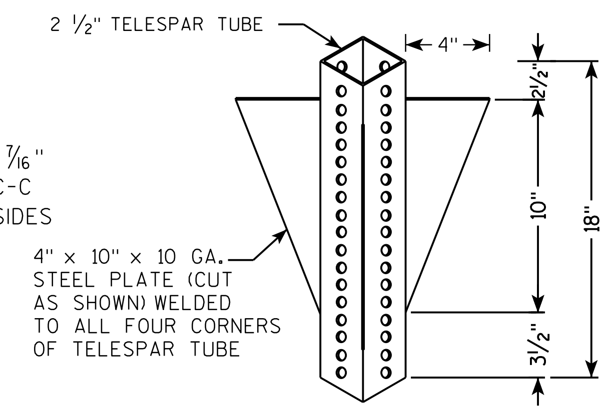
ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED Matthew R Rauch for State Traffic Engineer	
DATE 3/23/10	PLATE NO. A4-8.7

7

7

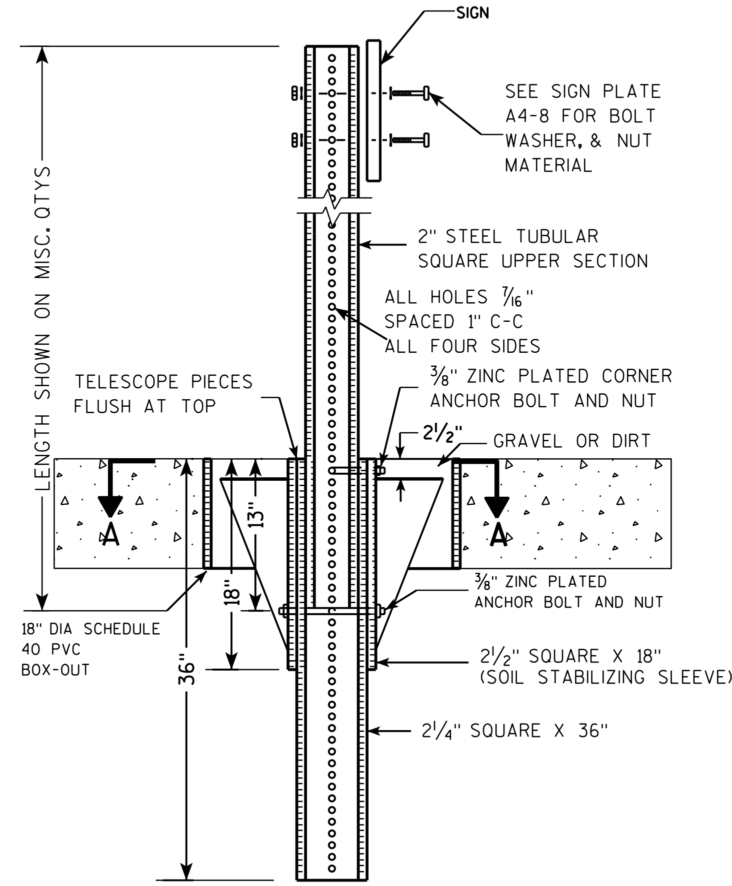
TELESCOPIC TUBING ANCHORS TWO PIECE SYSTEM





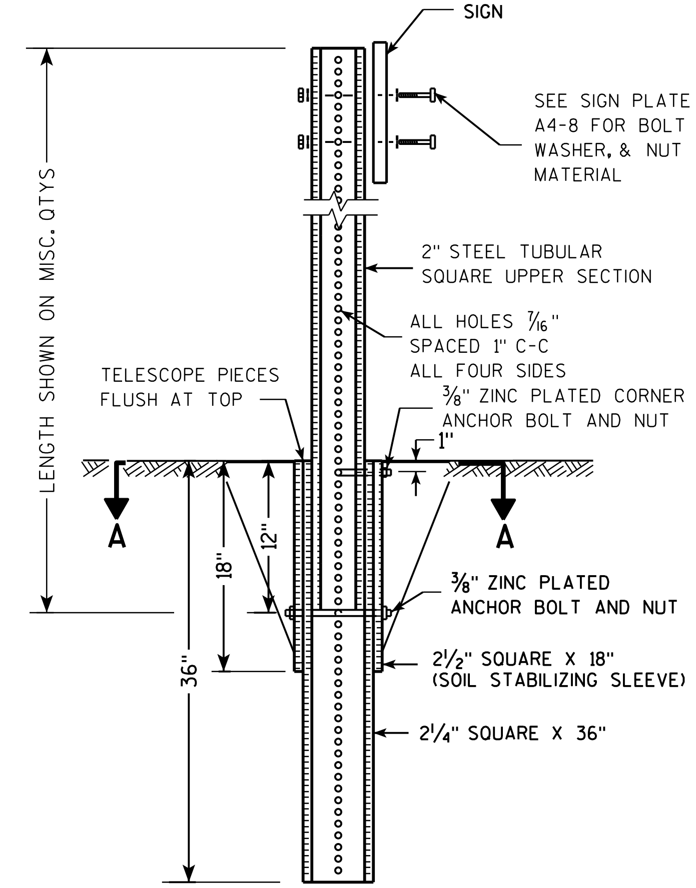
DETAIL OF TUBULAR STEEL SIGN POST

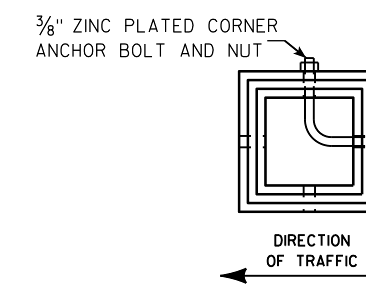
(IN POURED CONCRETE OR ASPHALT)



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).

7

7

TUBULAR STEEL
SIGN POST
A4-9

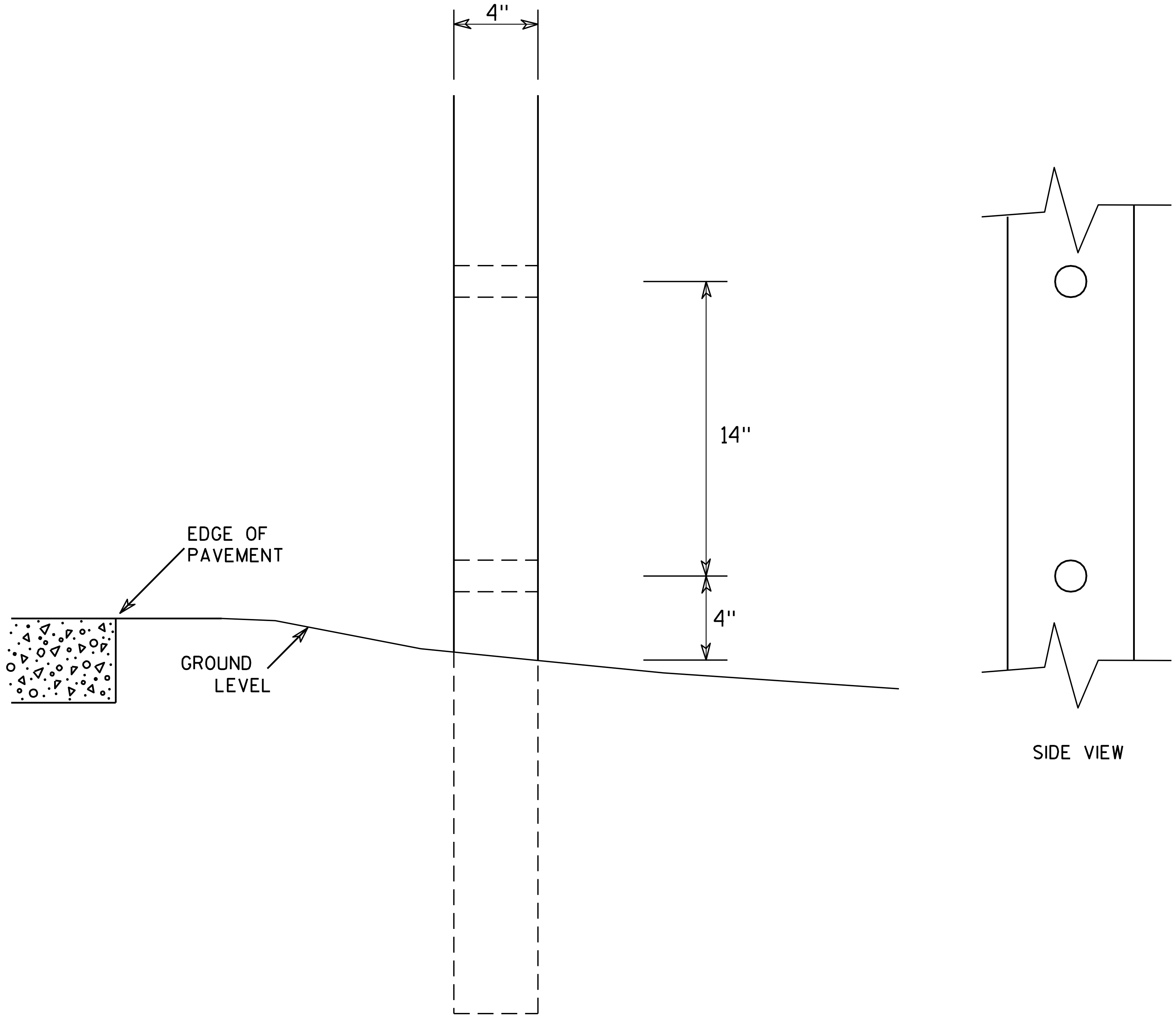
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two $1\frac{1}{2}$" diameter holes drilled perpendicular to the roadway centerline.

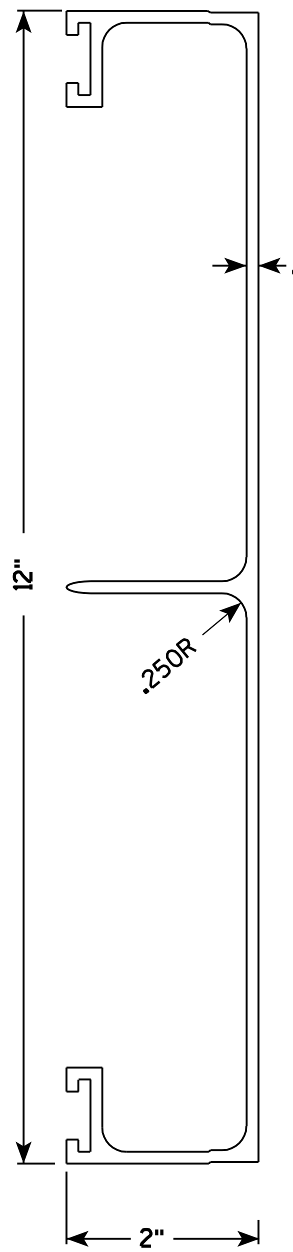
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

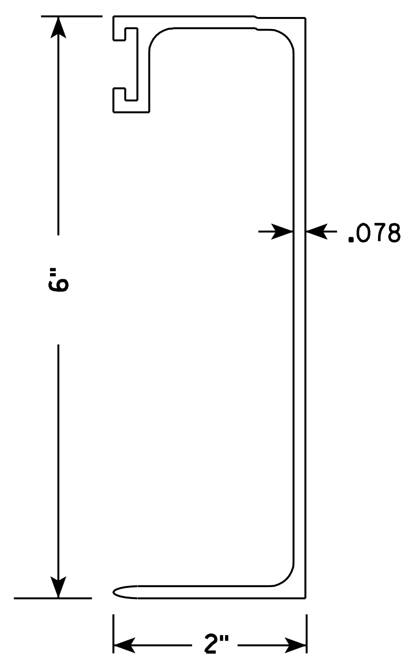
APPROVED Chester J Spang
for State Traffic Engineer

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

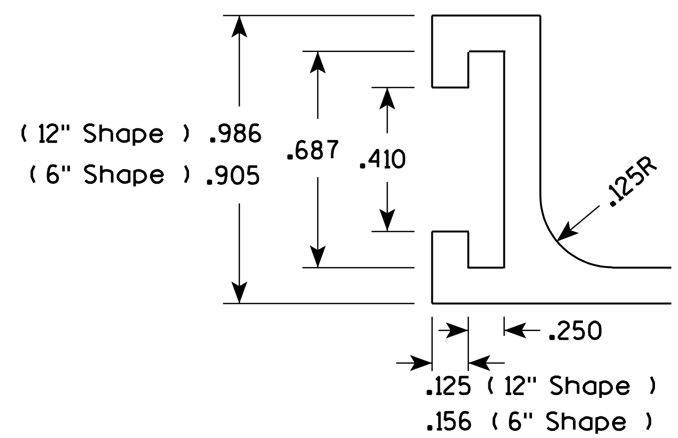
Extruded Shape

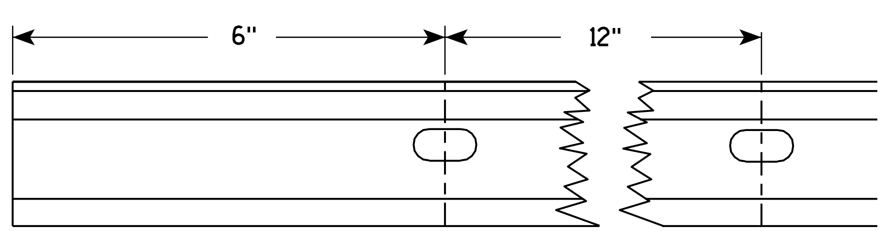


12" Extrusion
Minimum Weight
2.45 lb./ft.

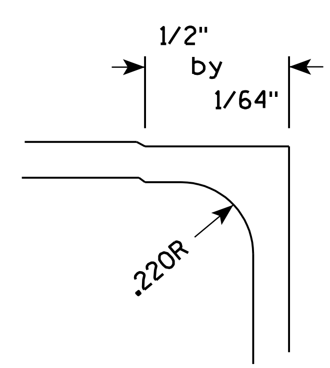


6" Extrusion
Minimum Weight
1.1 lb./ft.





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

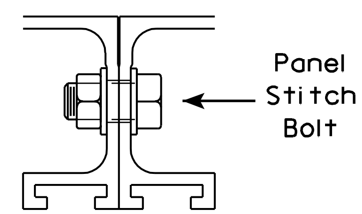


Hardware

STITCH BOLT, WASHER & NUT

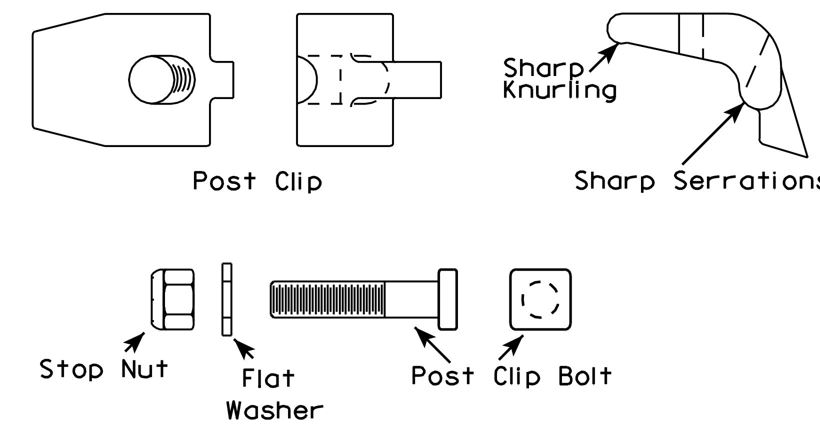
The hardware includes:

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



POST CLIP, POST CLIP BOLT, WASHER & NUT

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



NOTES

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

ALUMINUM EXTRUSIONS FOR TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for State Traffic Engineer

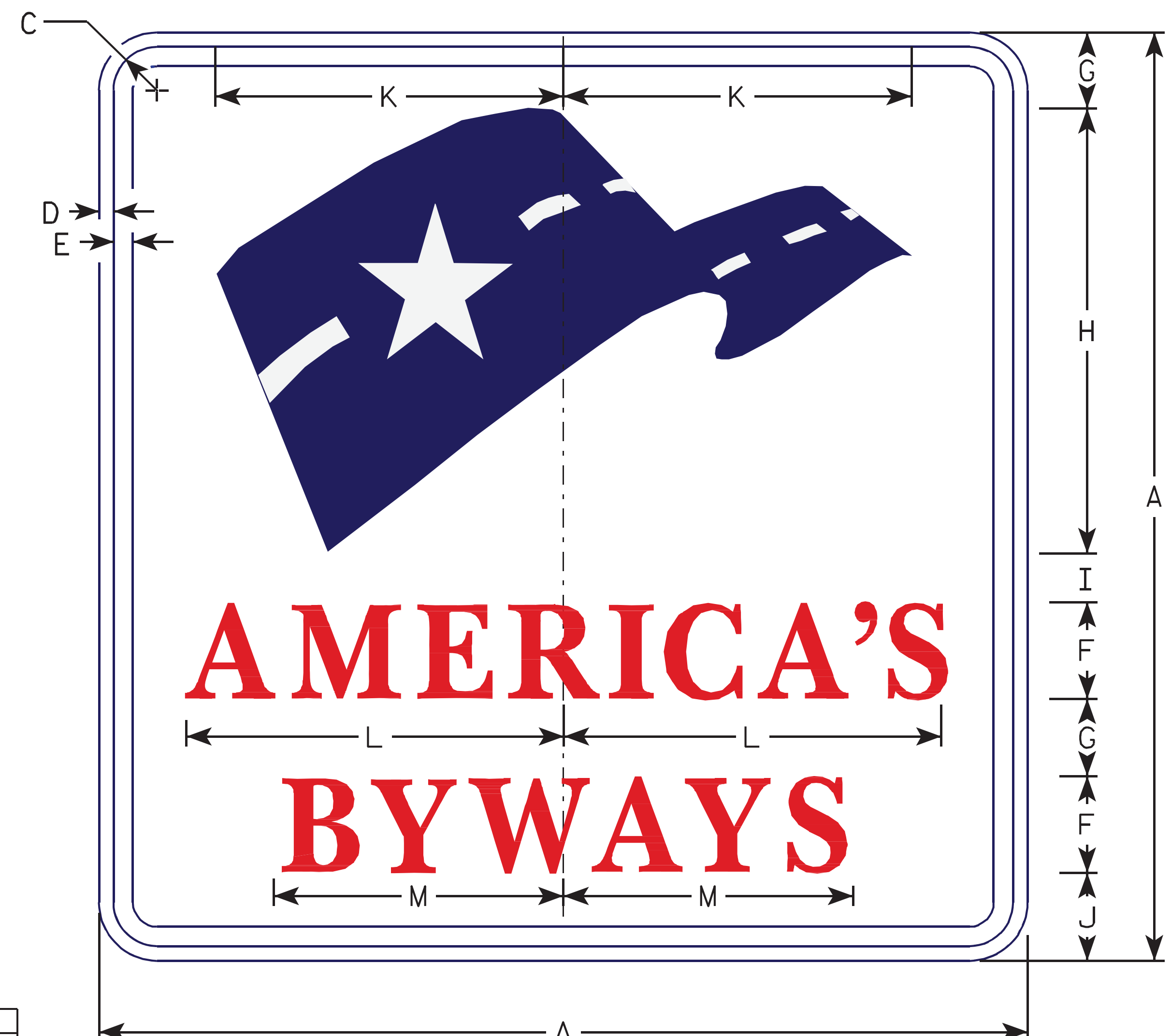
DATE 11/18/99 PLATE NO. A5-2.9

7

7

PROJECT NO:				SHEET NO: 428	E

7



D6-4

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 - RED Logo is Blue with White dashes and Star.
3. Message Series - SPECIAL FONT (See MUTCD Standard Highway Signs Manual)
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	
2	600 mm X 600 mm
3	
4	900 mm X 900 mm
5	

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24		1 1/8	3/8	1/2	2 1/2	2	11 1/2	1 1/4	2 1/4	9	9 3/4	7 1/2														4.0	0.36
3																												
4	36		1 5/8	3/4	5/8	3 3/4	3	17 1/4	1 7/8	3 3/8	13 1/2	14 5/8	11 1/4														9.0	0.81
5																												

7

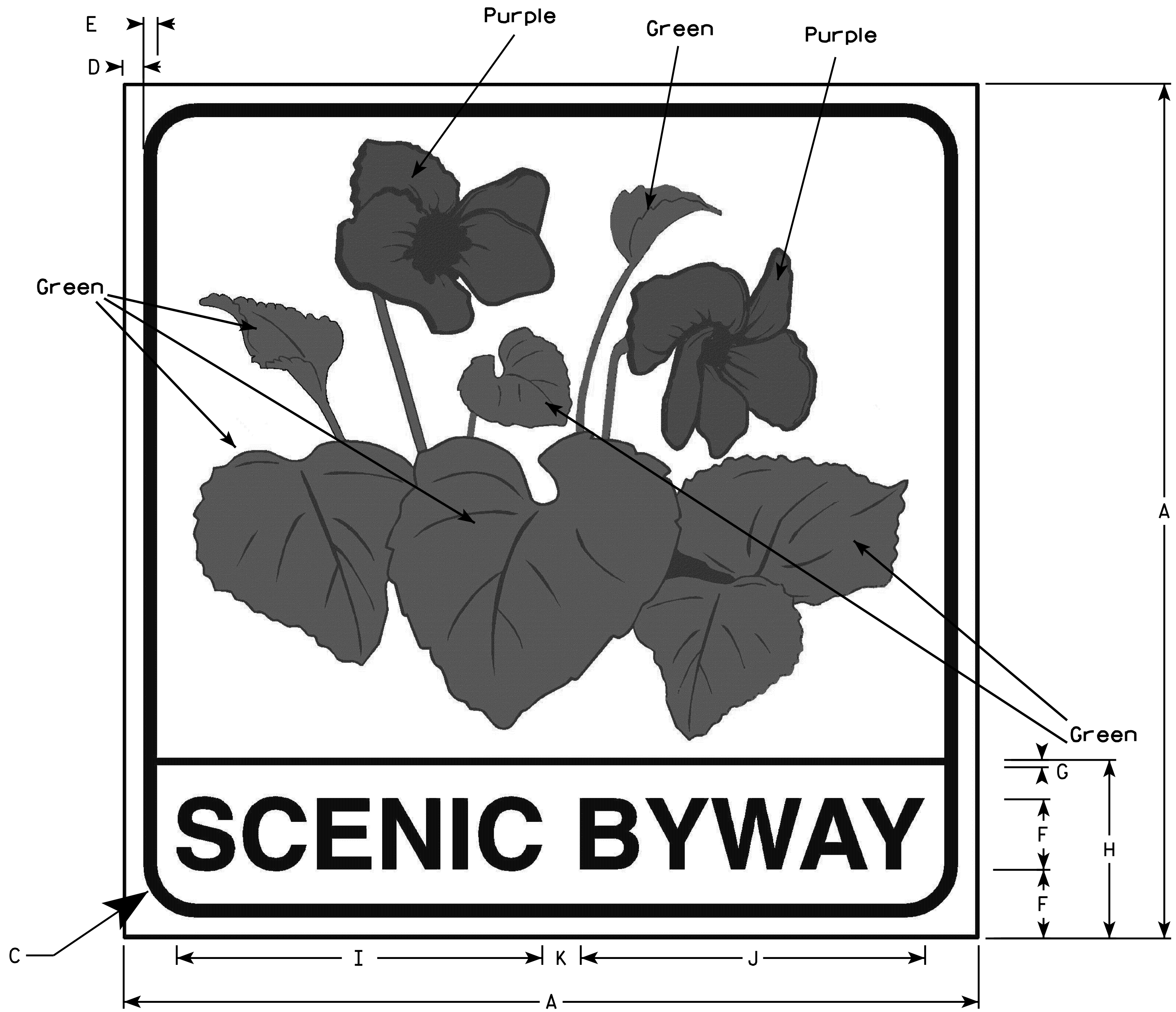
STANDARD SIGN
D6-4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/30/10 PLATE NO. D6-4.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: | 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 Except as noted
   Border of Leaves and Flowers is Black
3. Message Series - Special
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. Contact WisDOT with any questions.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24		1 1/2	5/8	3/8	2	1/4	5	10 1/4	9 5/8	1 1/8																4.0	.36
3																												
4	36		4	7/8	5/8	3	1/4	7 1/2	15 3/8	14 1/2	1 5/8																9.0	.81
5																												

STANDARD SIGN
D6-4S

WISCONSIN DEPT OF TRANSPORTATION

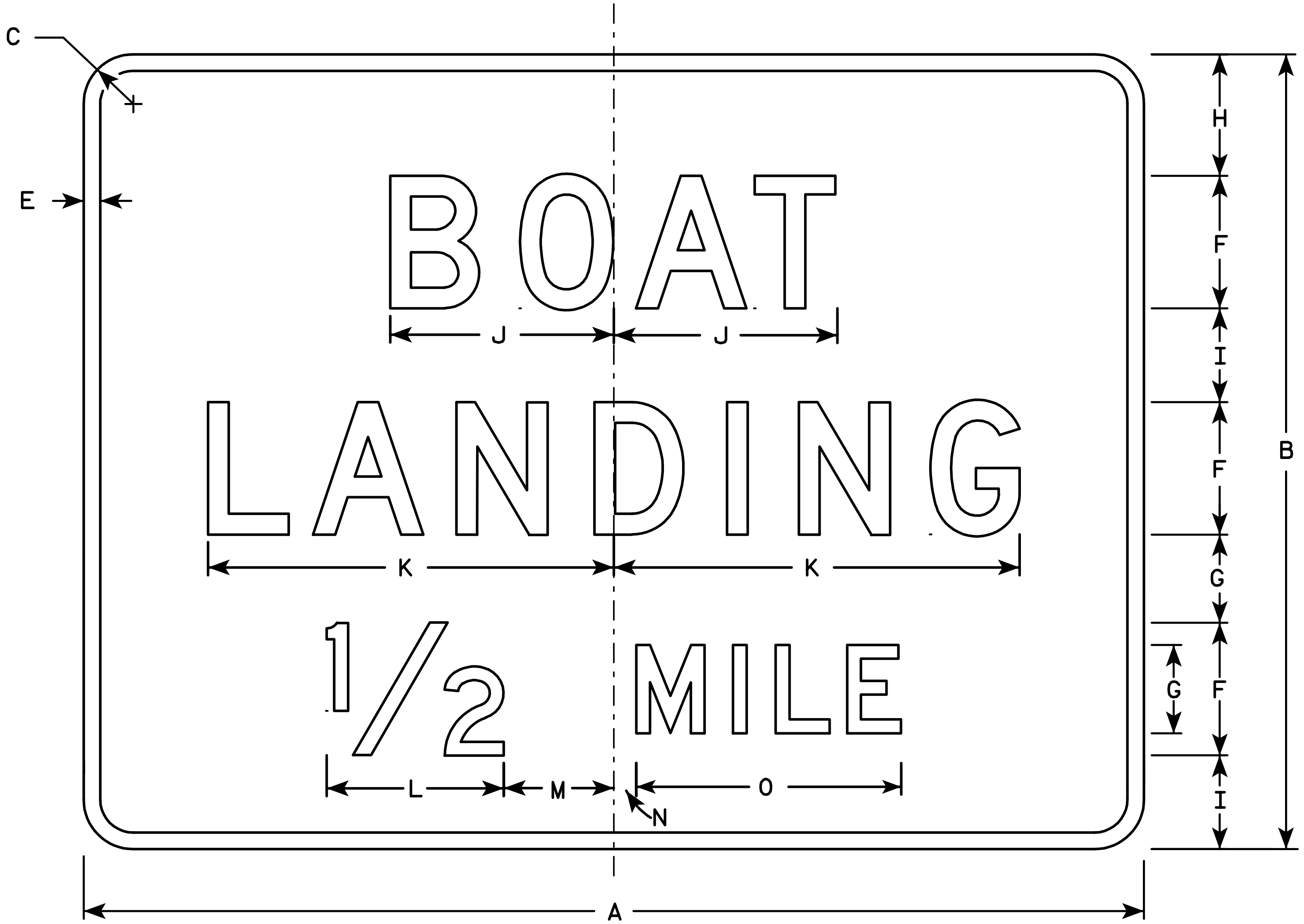
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 10/05/09 PLATE NO. D6-4S.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 430 | E

7 7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\D64S.dgn PLOT DATE : 05-OCT-2009 13:37 PLOT BY : dotjph PLOT NAME : PLOT SCALE : 5.959043:1.000000



D7-54

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Brown
   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.

Metric equivalent for this sign is:

SIZE	
1	
2	1200 mm X 900 mm
3	
4	
5	

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	48	36	2 1/4		3/4	6	4	5 1/2	4 1/4	10 1/8	18 3/8	8	5	1	12												12.0	1.08
3																												
4																												
5																												

STANDARD SIGN
D7-54

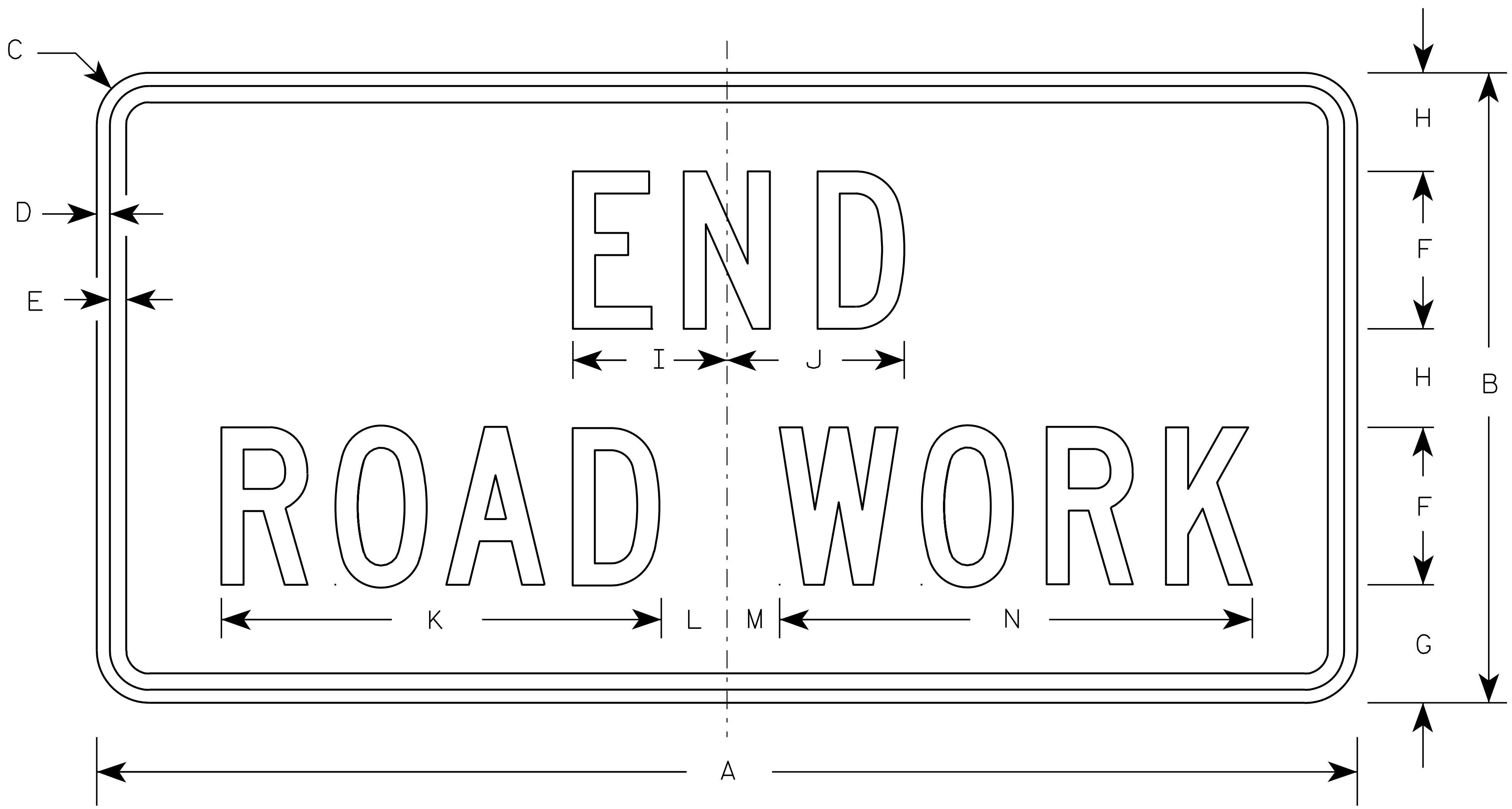
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for State Traffic Engineer

DATE 1/10/02 PLATE NO. D7-54.6

STATE PROJECT NUMBER:

SHEET NO: 431 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

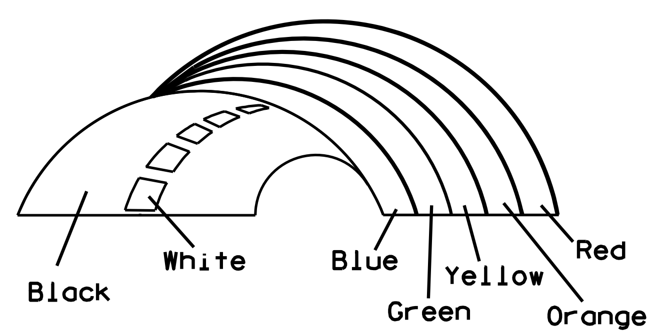
DATE 9/30/09 PLATE NO. G20-2A.8

* VARIES

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - (See Note 5)
3. Message Series - (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. Border - Blue
   Line 1 - Red
   Line 2 - Black
   Line 3-5 - Blue
6. Line 1 - Dutch 8011L
   Line 2 - Series E
   Line 3-5 - Series C
7. Contractor shall provide and install a new post bracket in accordance with the I55-56B sign detail.

Background Colors of Symbol*



*1/4" Black Border between each color of rainbow and border of rainbow

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																											
2	30	36	1 1/2	1/2	5/8	3	2	3 1/2	2 7/8	1	8	2 1/8	11 1/4	11 1/8	9 3/8	1 1/4		3/4	12 5/8	7 1/2							7.5
3																											
4																											
5																											

STANDARD SIGN
I55-56

WISCONSIN DEPT OF TRANSPORTATION

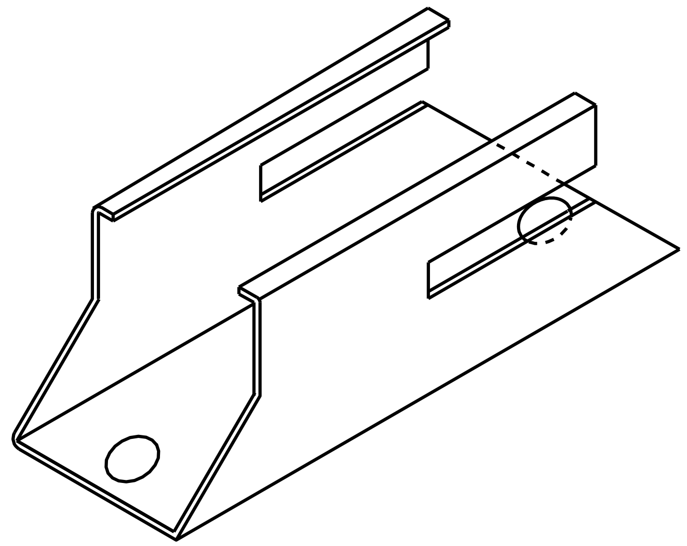
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/27/11 PLATE NO. I55-56.3

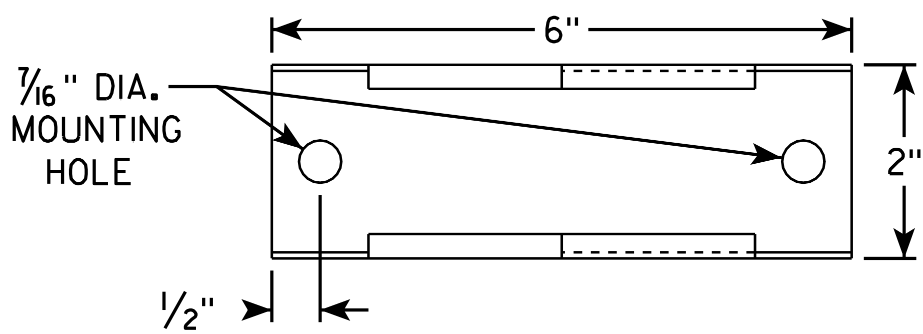
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 433 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\I5556.DGN PLOT DATE : 27-APR-2011 10:05 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 7.945391:1.000000 WISDOT/CADDS SHEET 42

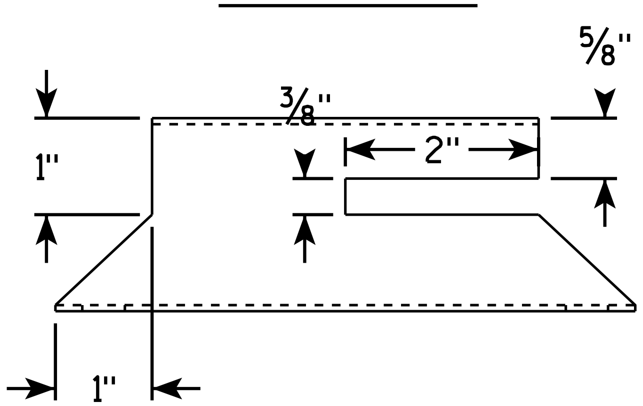
ISOMETRIC VIEW



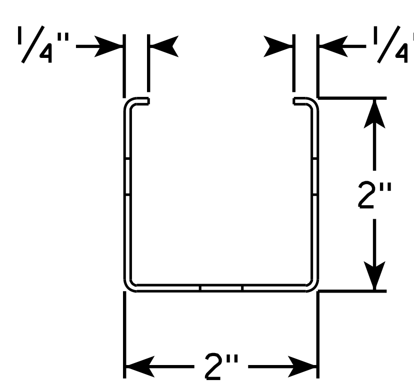
TOP VIEW



SIDE VIEW



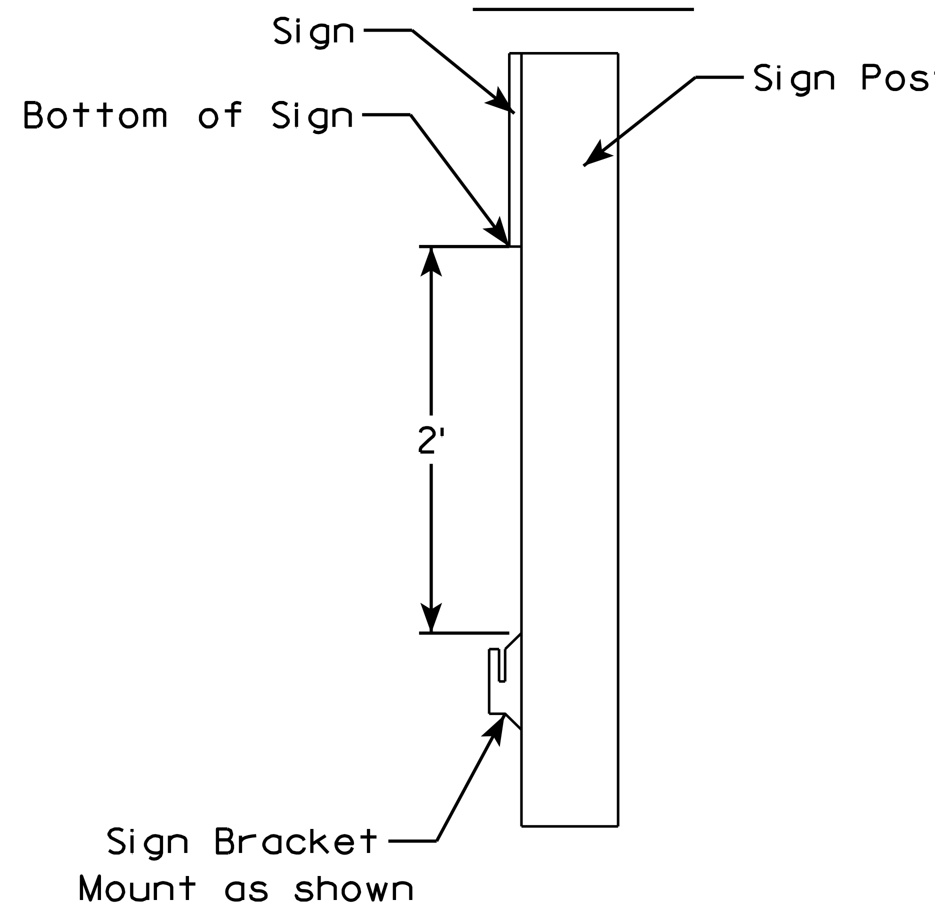
END VIEW



NOTES

1. Must be capable of permanent attachment to a wood or steel channel sign post utilizing the fastening hardware specified on the A4-8 sign plate.
2. Shall be entirely primed and painted with two coats of a black powder coated enamel paint.
3. Shall be made with 12 gauge steel, and incorporate no welds, no hinged components, no threaded lock-type components, and no parts which are loose or can be separated from the main body.
4. Shall have rounded edges with at least 1/8" radii.
5. Shall not have unrounded and uncoated metal edges which can contact the back surface of the roll-up sign.
6. Top of bracket shall be mounted 2' below the bottom of the I55-56 sign.
7. Cost of bracket and fastening hardware shall be incidental to the I55-56 sign.

SIDE VIEW



ROLLUP SIGN BRACKET
I55-56B

WISCONSIN DEPT OF TRANSPORTATION

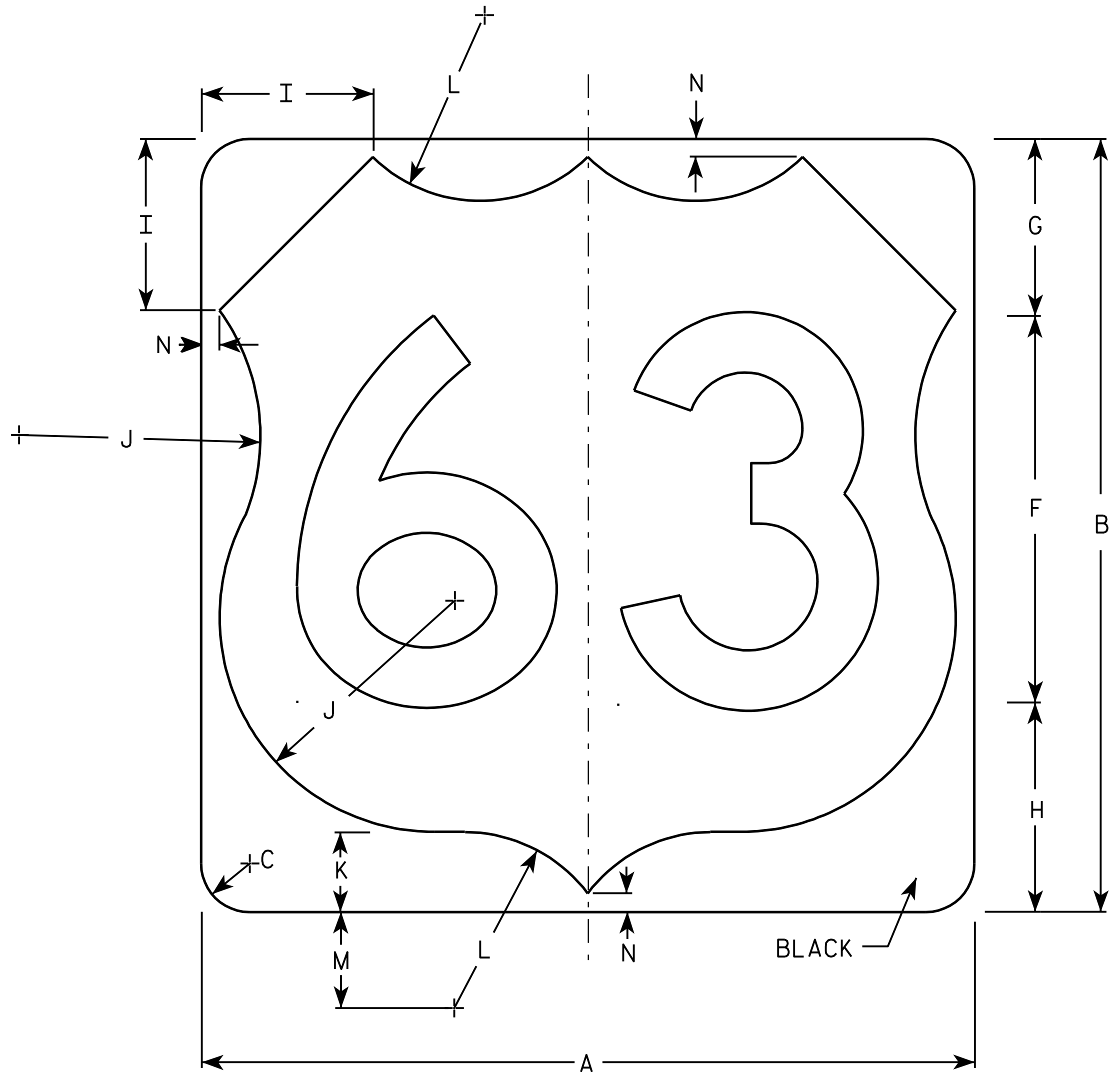
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/5/10 PLATE NO. I55-56B.1

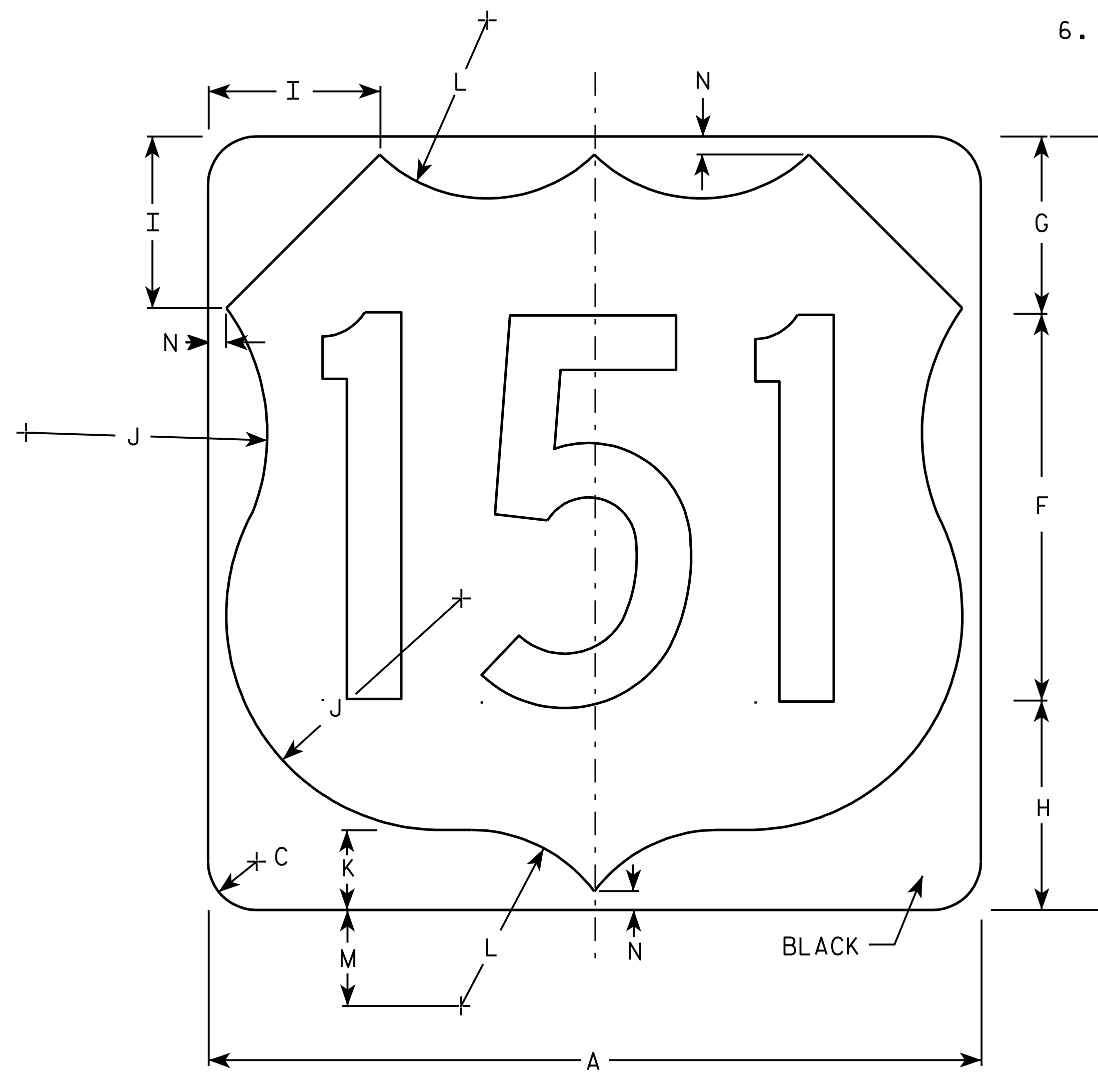
7 | 7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 434	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\I5556B.DGN PLOT DATE : 01-MAR-2010 15:34 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 1.986348:1.000000 WISDOT/CADDS SHEET 42



M1-4



M1-4

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and adjust spacing as per Plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or other temporary signs
   Background - Reflective

Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0	.36
3	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
4	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
5	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81

USH MARKER
M1-4 FOR ASSEMBLIES

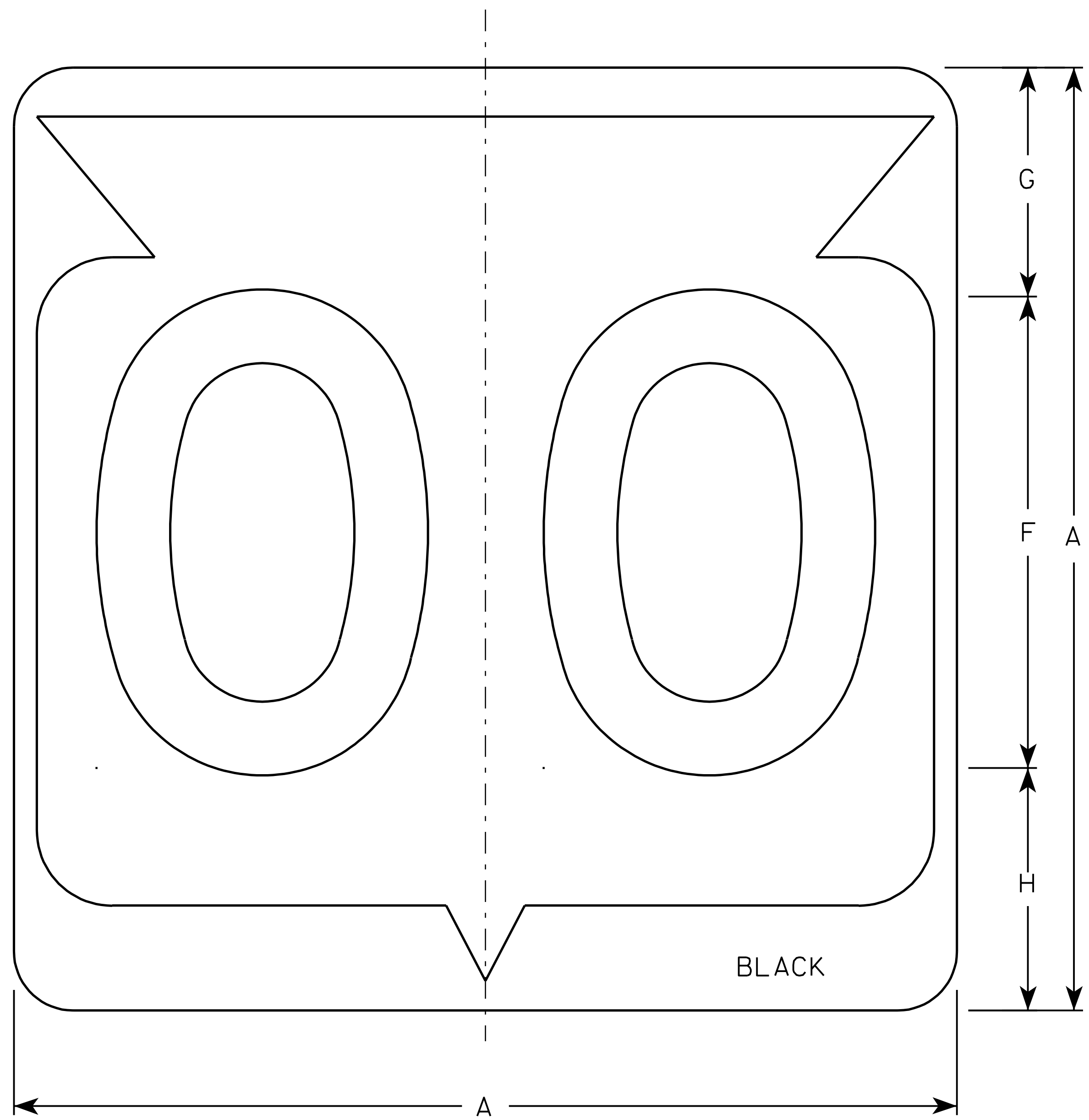
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 08/25/05 PLATE NO. M1-4.9

7

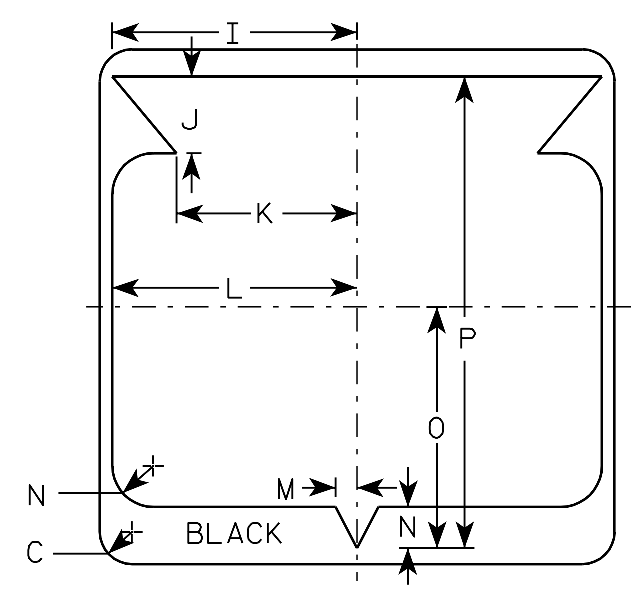
7



M1-6

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective



7

Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

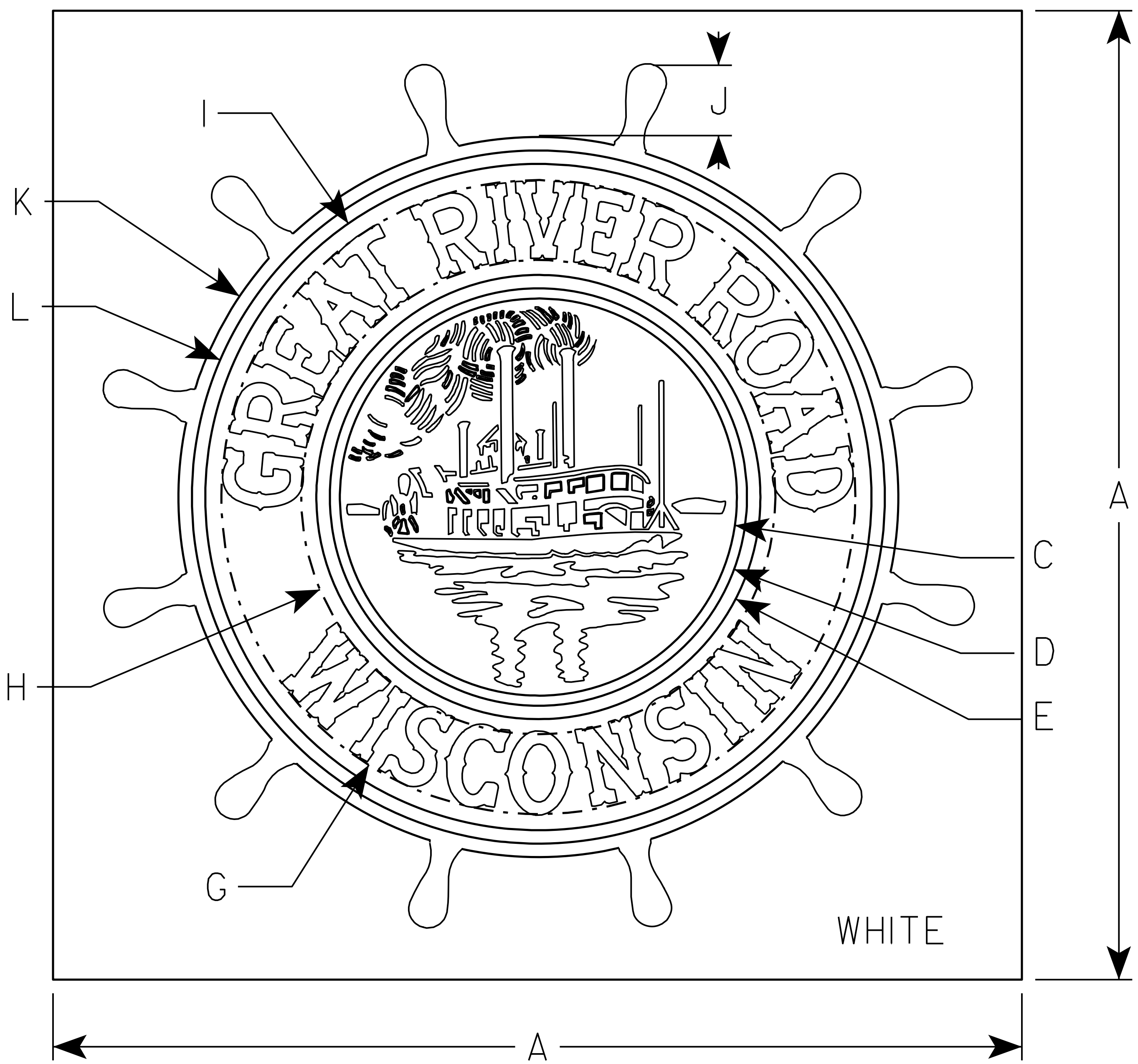
7

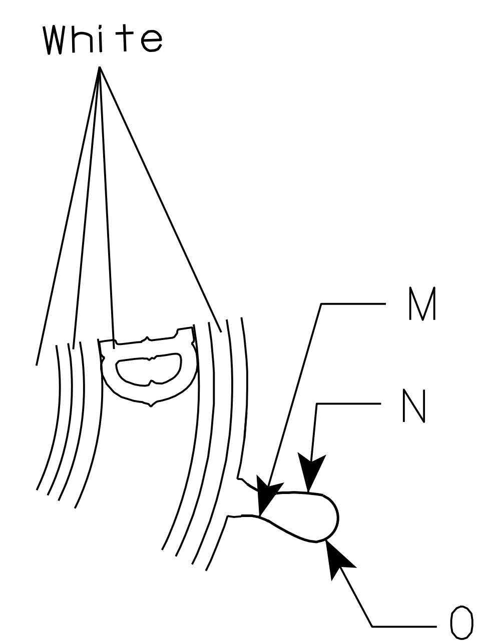
PROJECT NO: HWY: COUNTY: SHEET NO: 436 E

FILE NAME : C:\Users\Projects\tr_stdplate\M16.DGN PLOT DATE : 13-OCT-2005 14:55 PLOT BY : DITJPH PLOT NAME : PLOT SCALE : 6.715871:1.000000 WISDOT/CADDS SHEET 42

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 - Words - White - Graphics - Green
3. Message Series - Special
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	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		R 5	R 5 1/4	R 5 1/2		R 7 7/8	R 5 7/8	R 8 1/2	1 3/4	R 4 1/2	R 8 1/2	R 7/8	R 3 1/2	R 1/2												4.0
3																											
4	36		R 7 3/8	R 7 3/4	R 8 1/4		R 11 3/4	R 8 3/4	R 12 3/8	2 5/8	R 13 3/8	R 12 7/8	R 1 3/8	R 5 1/4	R 3/4												9.0
5																											

STANDARD SIGN
M1-96

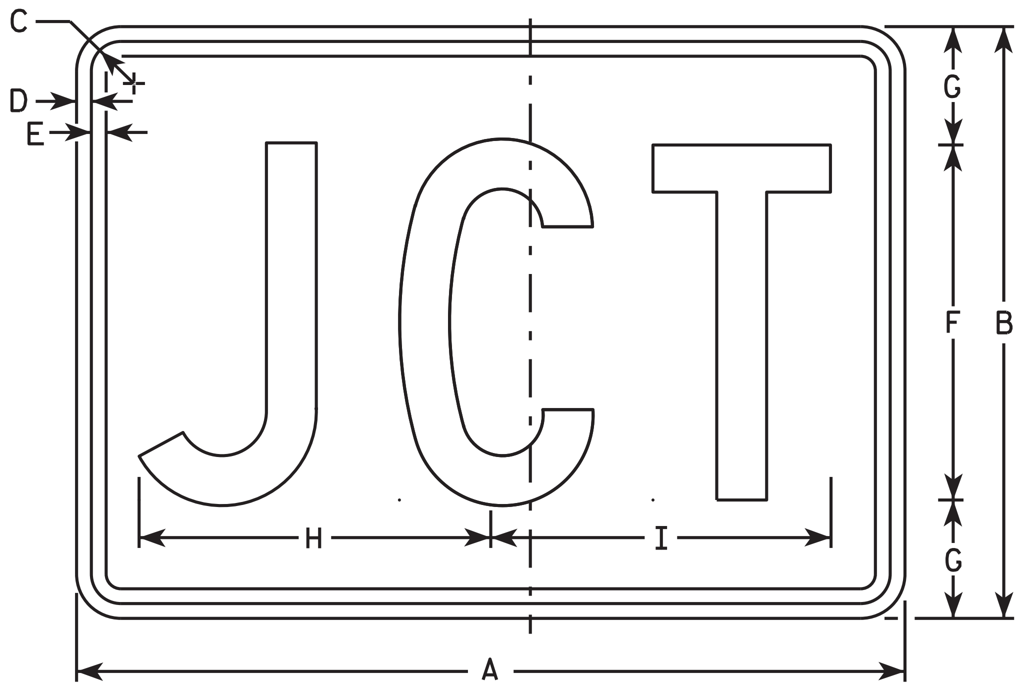
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

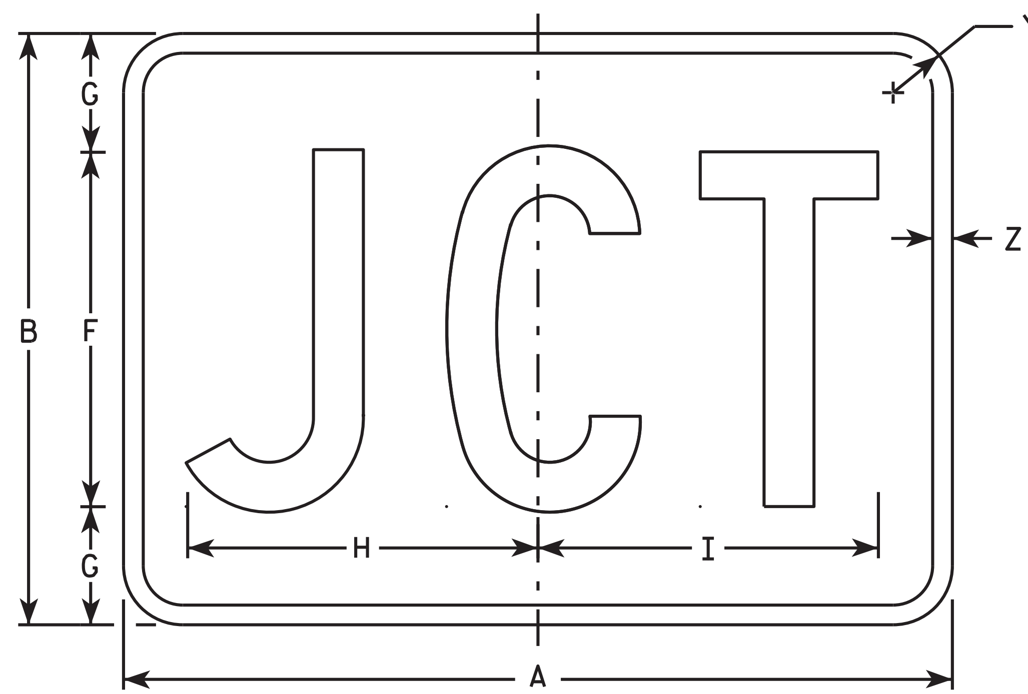
DATE 2/23/10 PLATE NO. M1-96.2

PROJECT NO: HWY: COUNTY: SHEET NO: 437 E

7 7



M2-1
MM2-1
MP2-1



MB2-1
MK2-1
MN2-1
MR2-1

NOTES

1. Sign is Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M2-1 Background - White
   Message - Black
   MB2-1 Background - Blue
   Message - White
   MK2-1 Background - Green
   Message - White
   MM2-1 Background - White
   Message - Green
   MN2-1 Background - Brown
   Message - White
   MP2-1 Background - White
   Message - Blue
   MR2-1 Background - Brown
   Message - Yellow

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
5	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40

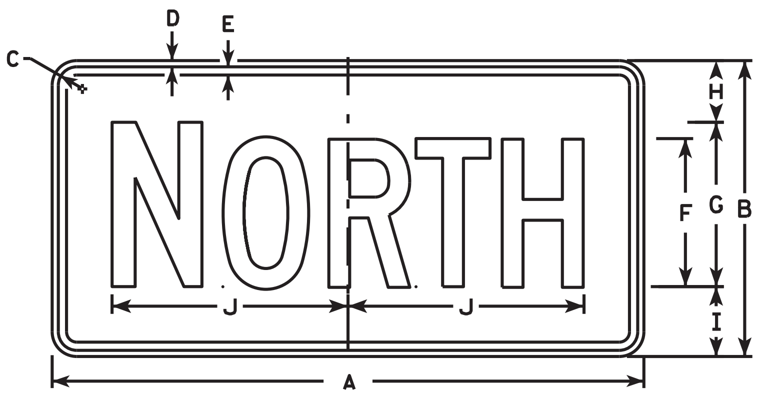
STANDARD SIGN
M2-1

WISCONSIN DEPT OF TRANSPORTATION

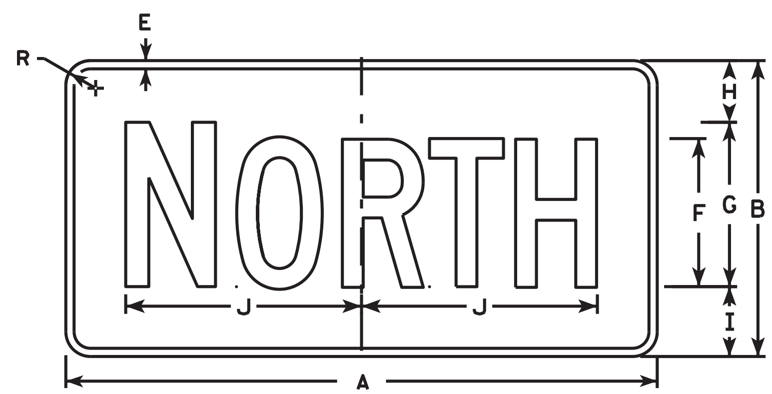
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M2-1.12

PROJECT NO: HWY: COUNTY: SHEET NO: E



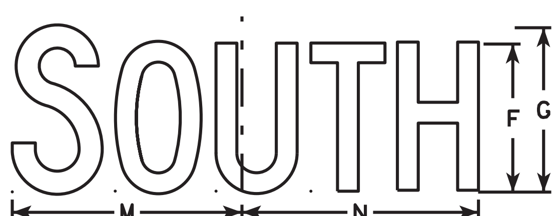
M3-1
MM3-1
MP3-1



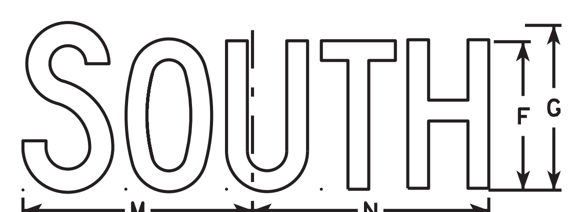
MB3-1
MK3-1
MN3-1

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	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thur M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

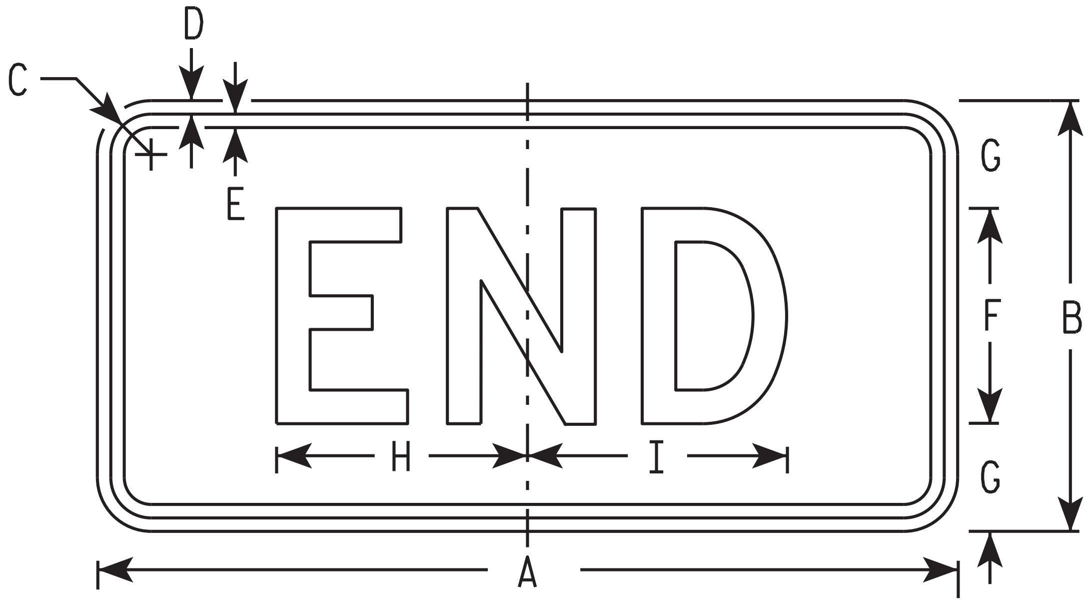
DATE 10/15/15 PLATE NO. M3-1.14

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

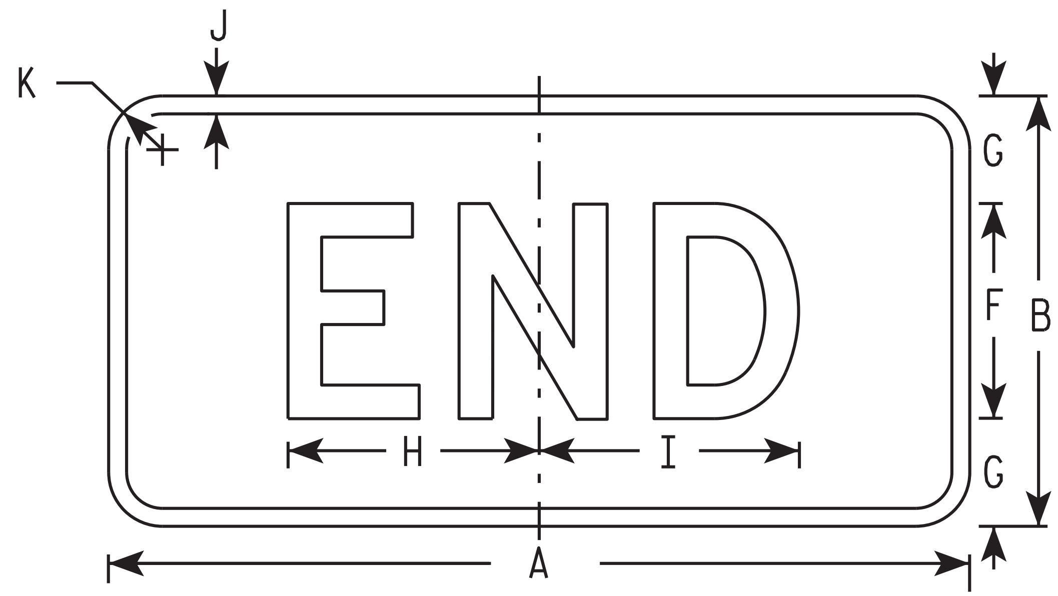
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 15-OCT-2015 12:16 PLOT BY : ss...plotuser...ss PLOT NAME : PLOT SCALE : 18.607113:1.000000 WISDOT/CADDS SHEET 42

7

7



M4-6
MM4-6
MP4-6



MB4-6
MK4-6
MN4-6
MR4-6

NOTES

1. Sign is Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
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. M4-6 Background - White
   Message - Black

   MB4-6 Background - Blue
   Message - White

   MK4-6 Background - Green
   Message - White

   MM4-6 Background - White
   Message - Green

   MN4-6 Background - Brown
   Message - White

   MP4-6 Background - White
   Message - Blue

   MR4-6 Background - Brown
   Message - Yellow

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																											
2	24	12	1 1/8	3/8	3/8	6	3	7	7 1/4	1/2	1 1/2																2.00
3	36	18	1 1/8	3/8	1/2	9	4 1/2	12	11 7/8	1/2	1 1/2																4.5
4	36	18	1 1/8	3/8	1/2	9	4 1/2	12	11 7/8	1/2	1 1/2																4.5
5	36	18	1 1/8	3/8	1/2	9	4 1/2	12	11 7/8	1/2	1 1/2																4.5

STANDARD SIGN
M4-6

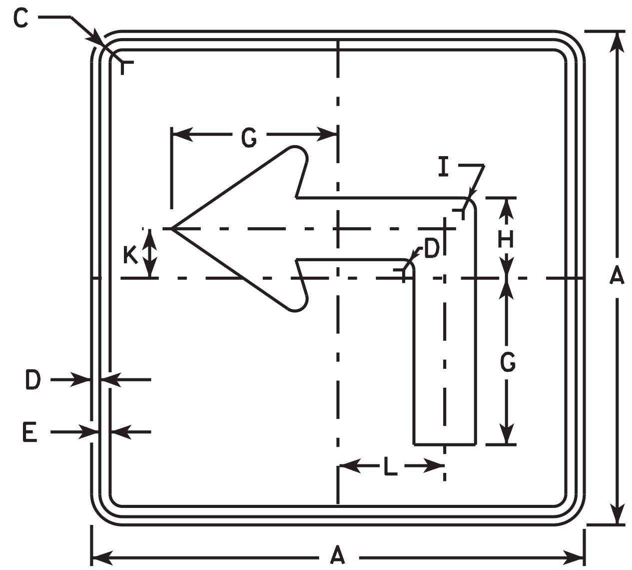
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

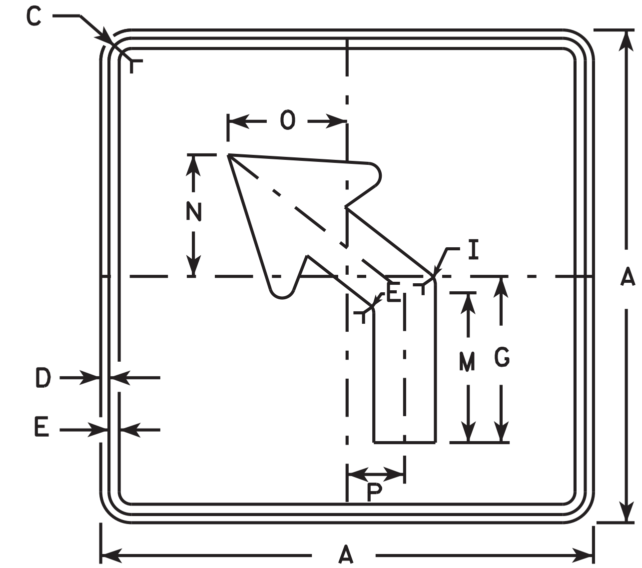
DATE 10/15/15 PLATE NO. M4-7.9

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

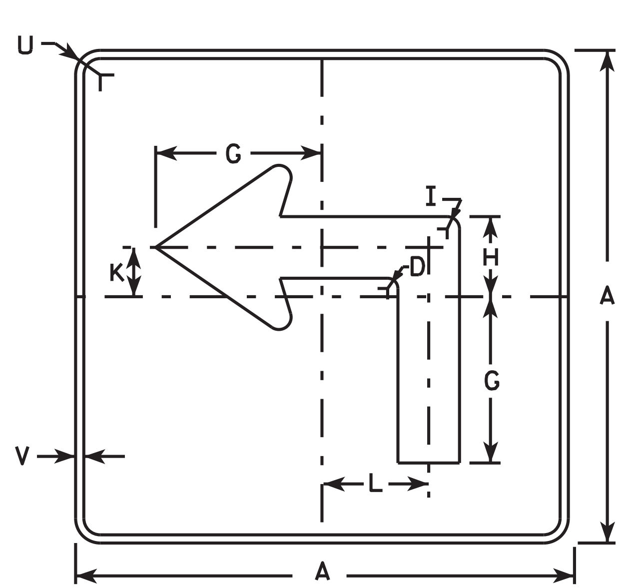
7



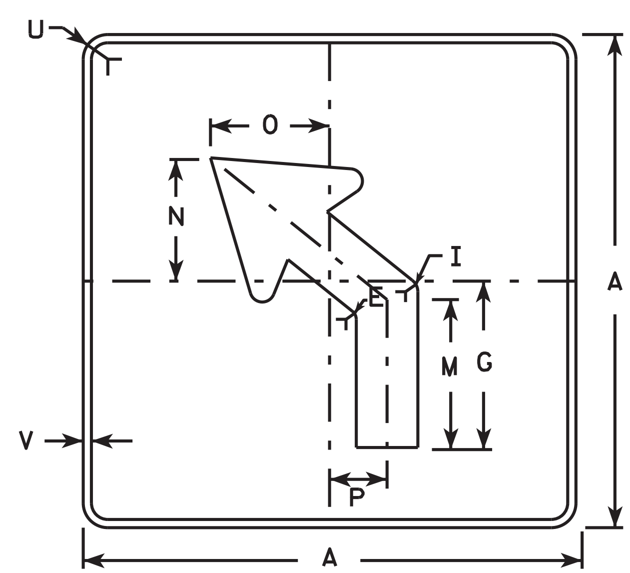
M5-1L
MM5-1L
MO5-1L
MP5-1L



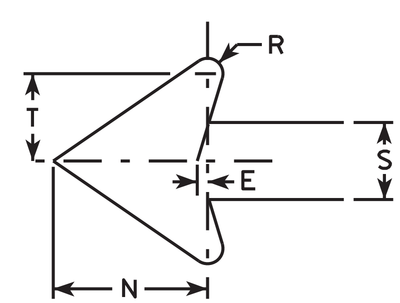
M5-2L
MM5-2L
MO5-2L
MP5-2L



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	O	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

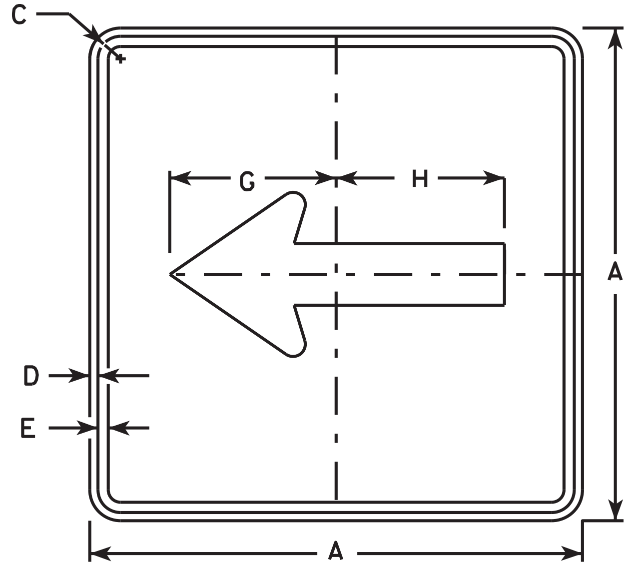
STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

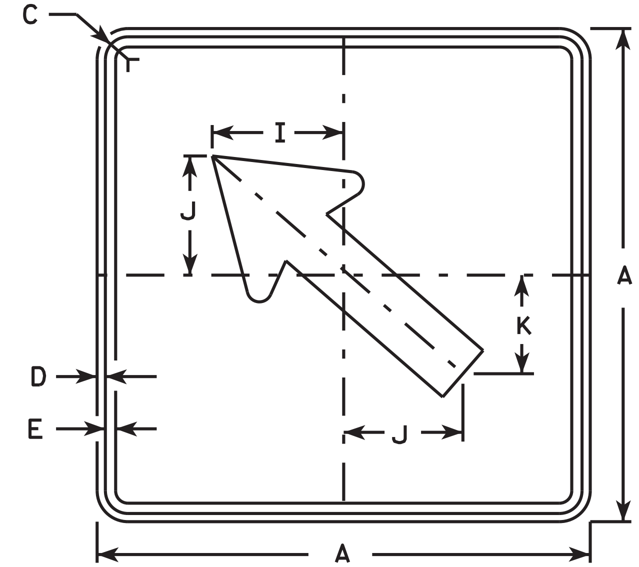
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M5-1.13

PROJECT NO: HWY: COUNTY: SHEET NO: E



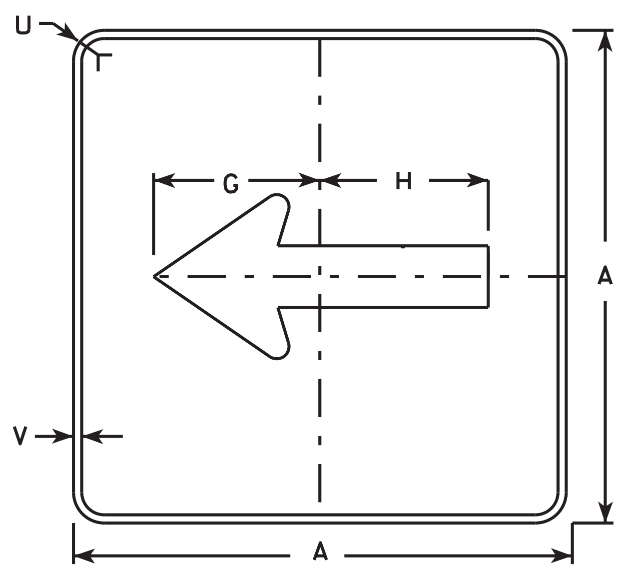
M6 - 1
MM6 - 1
MO6 - 1
MP6 - 1



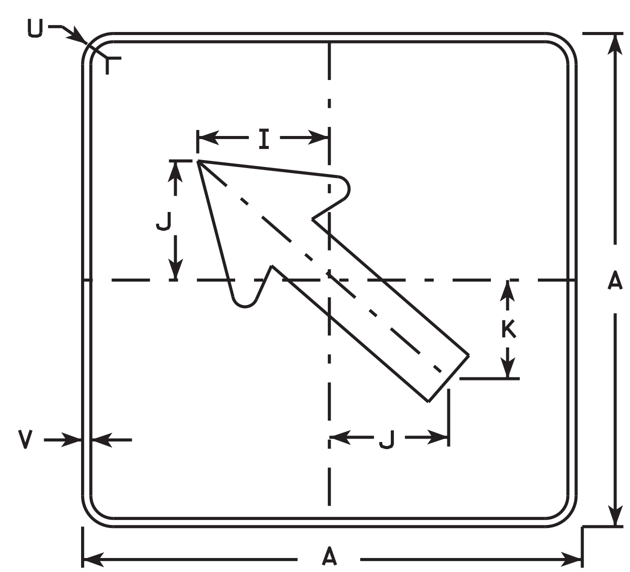
M6 - 2
MM6 - 2
MO6 - 2
MP6 - 2

NOTES

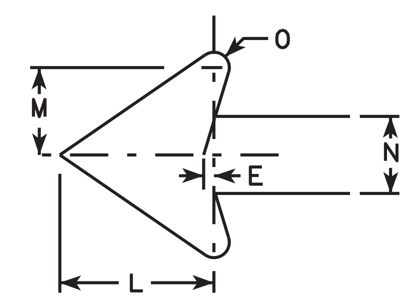
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - 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	O	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

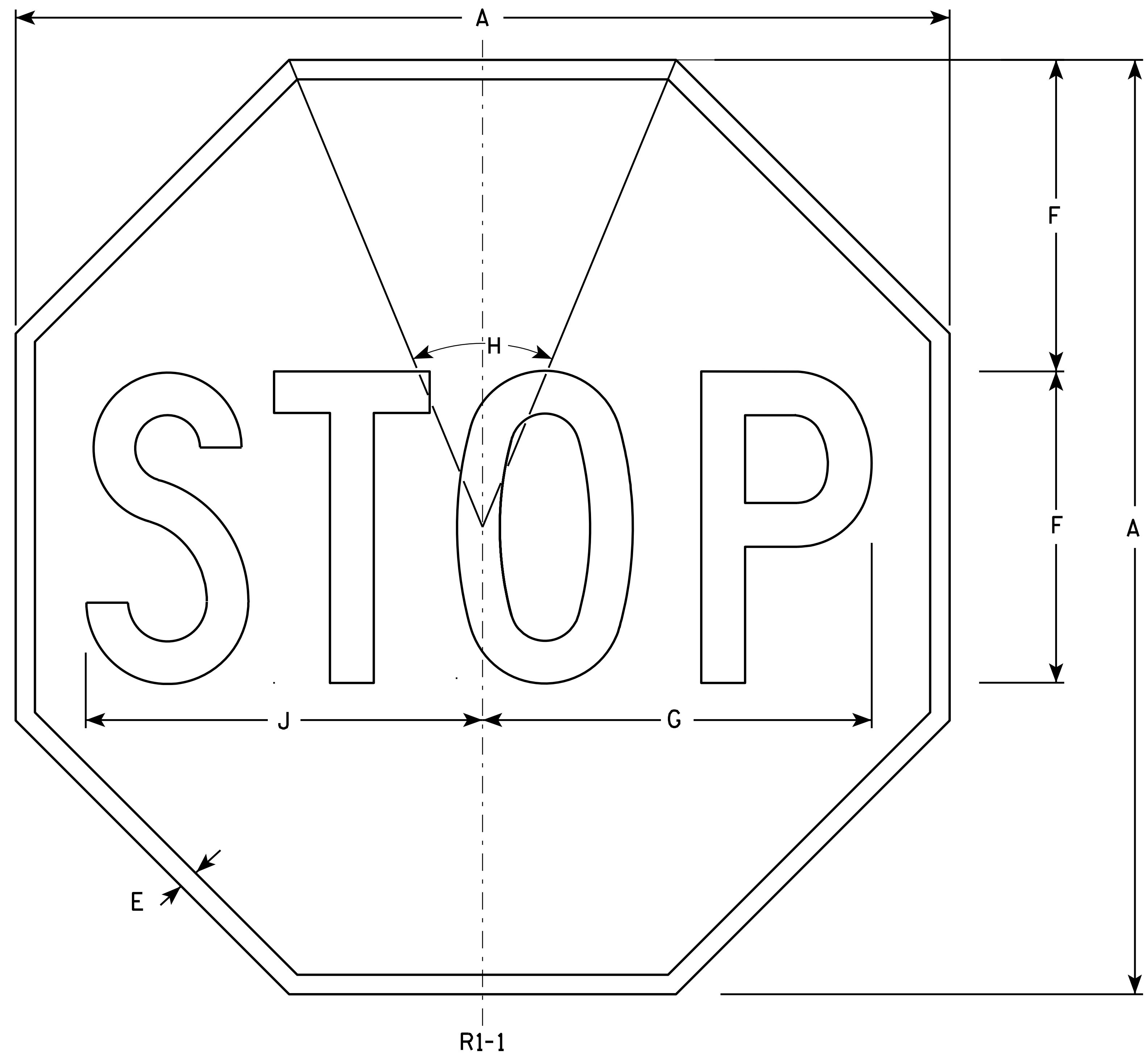
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M6-1.15

7

7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: | 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 - Red
   Message - White
3. Message Series - C

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24				3/8	8	10	45°		10 1/4																	3.31
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

STANDARD SIGN
R1-1

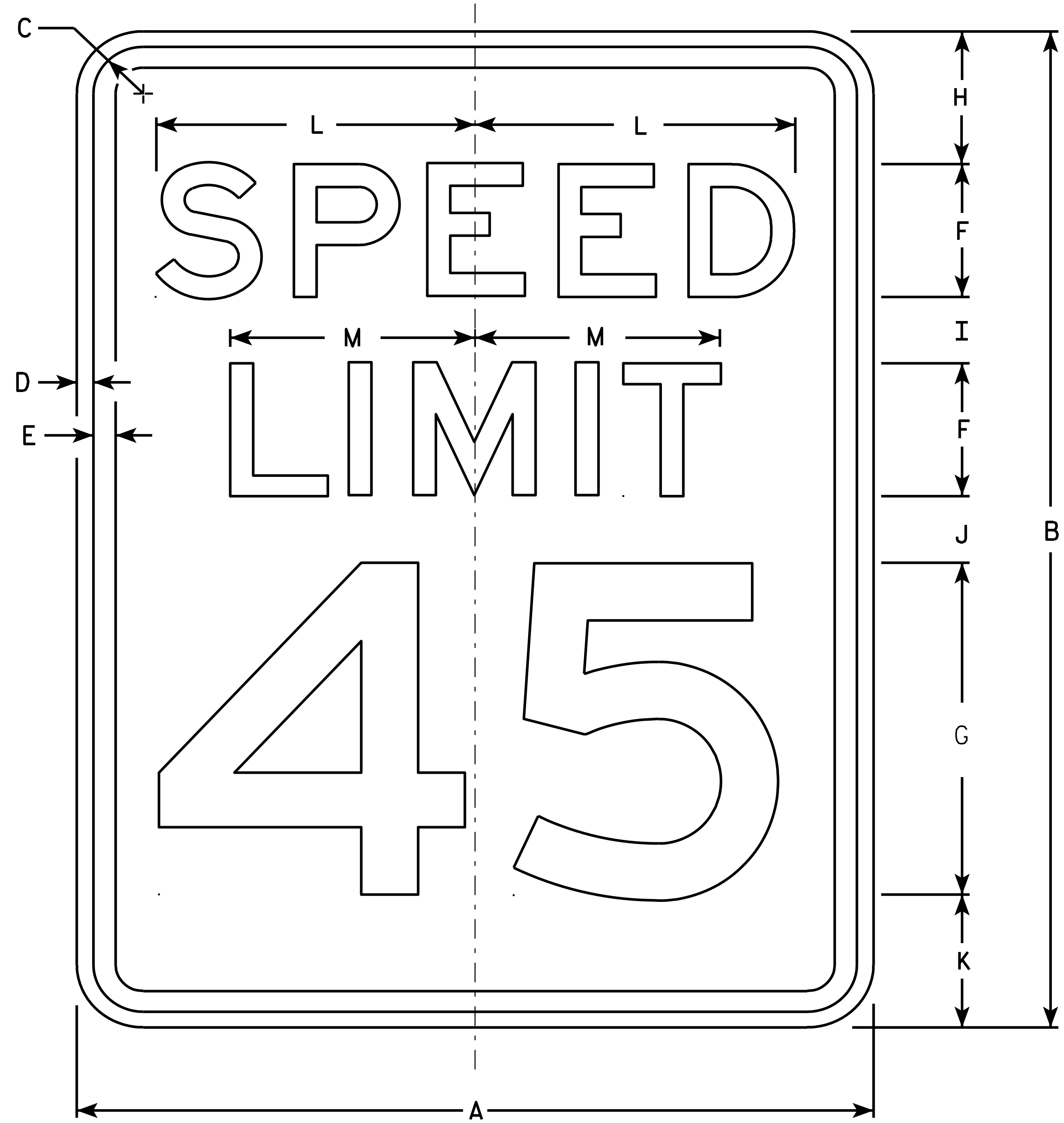
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1.12

7

7



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	O	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

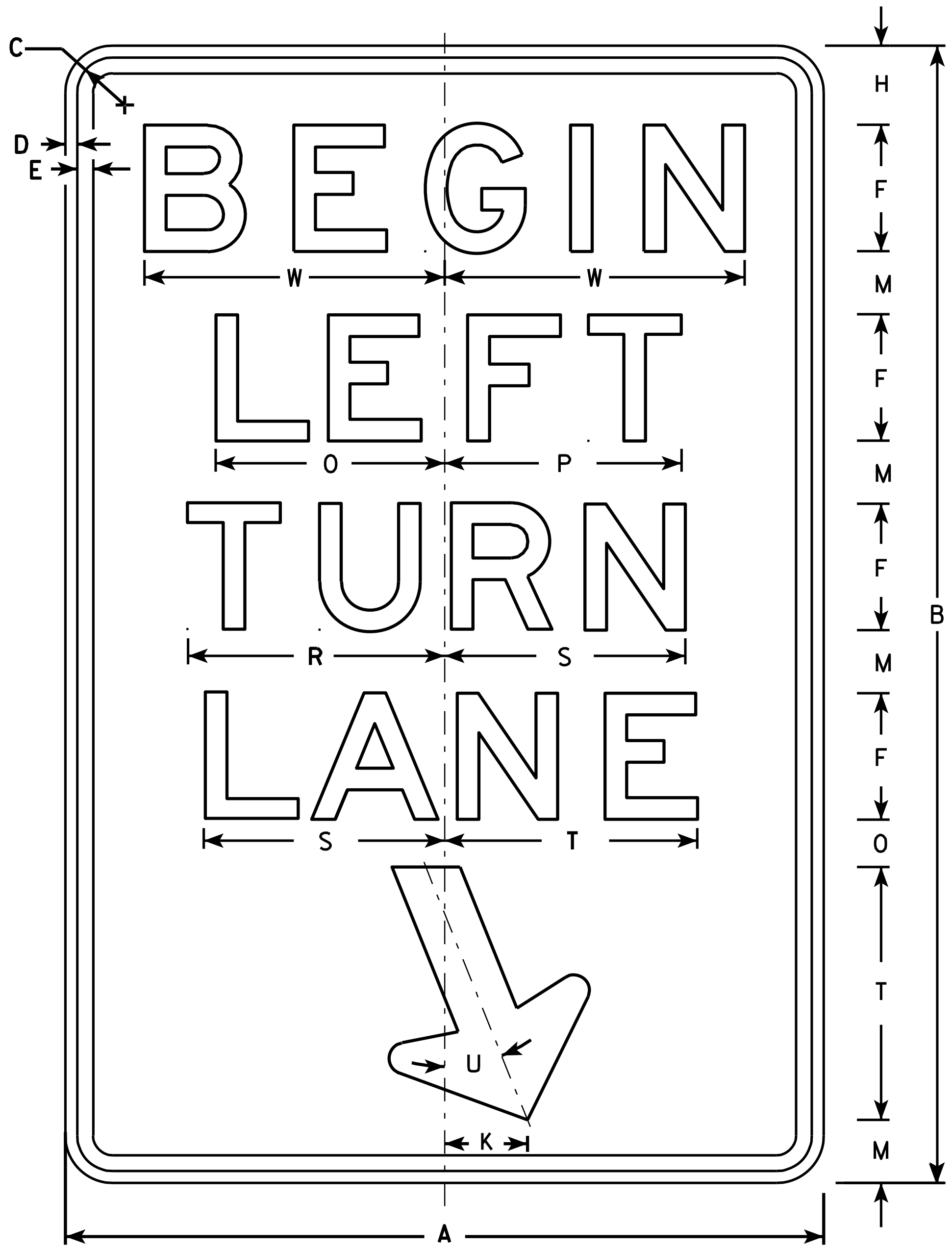
DATE 5/26/10 PLATE NO. R2-1.13

7

7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 444 | E

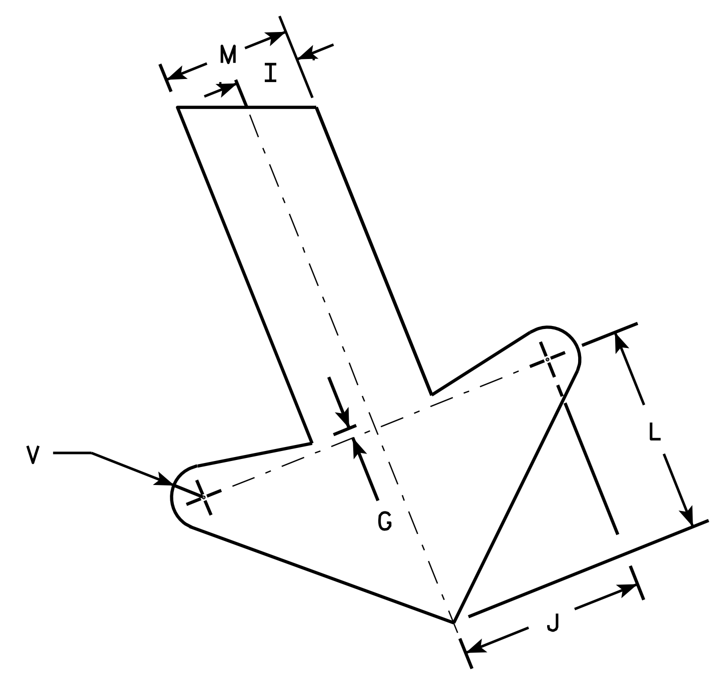
FILE NAME : C:\Users\PROJECTS\tr_stdplate\R21.DGN PLOT DATE : 28-MAY-2010 08:32 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 4.717577:1.000000 WISDOT/CADDS SHEET 42



R3-20L

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	10 7/8	11 1/4		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

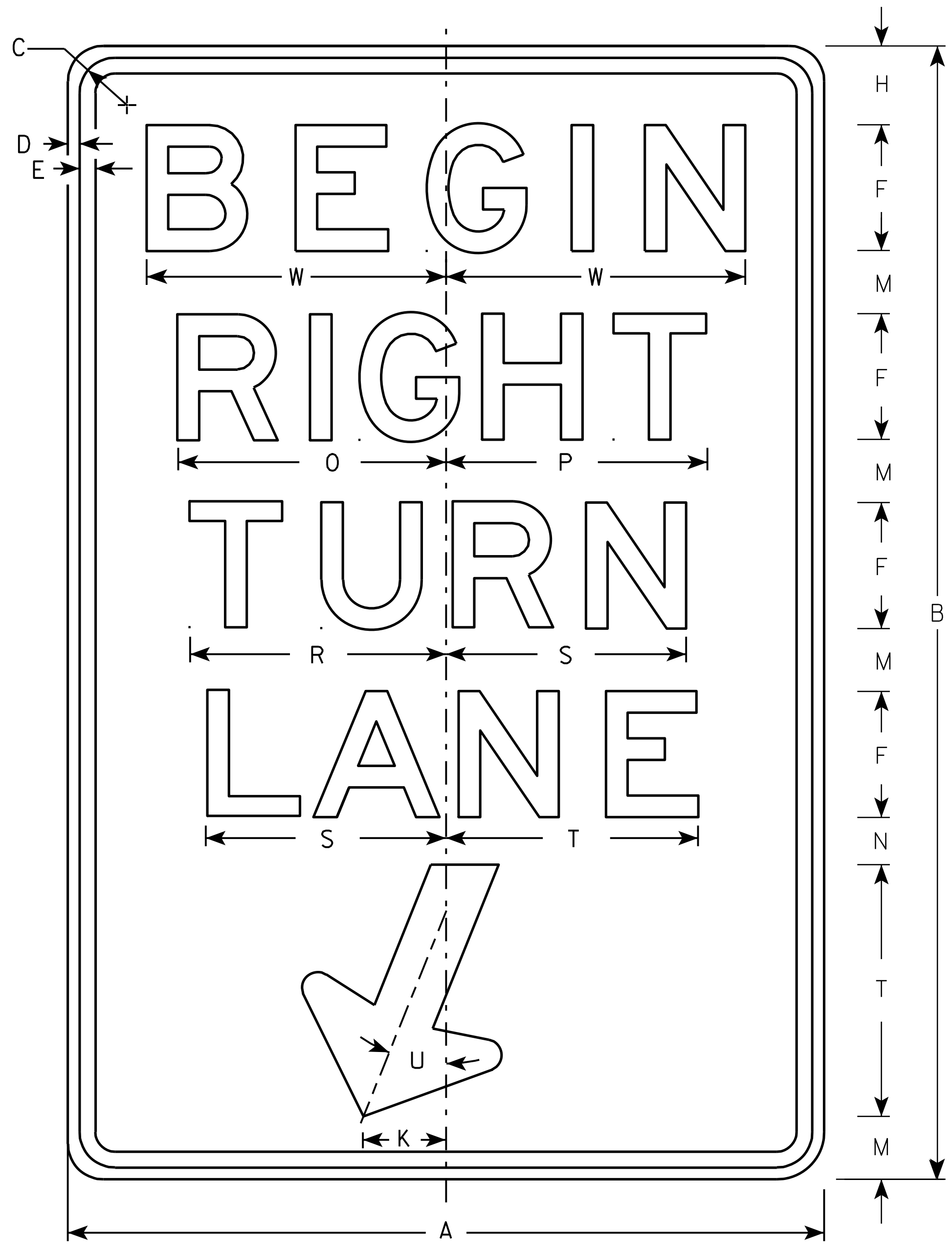
STANDARD SIGN
R3-20L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20L.7

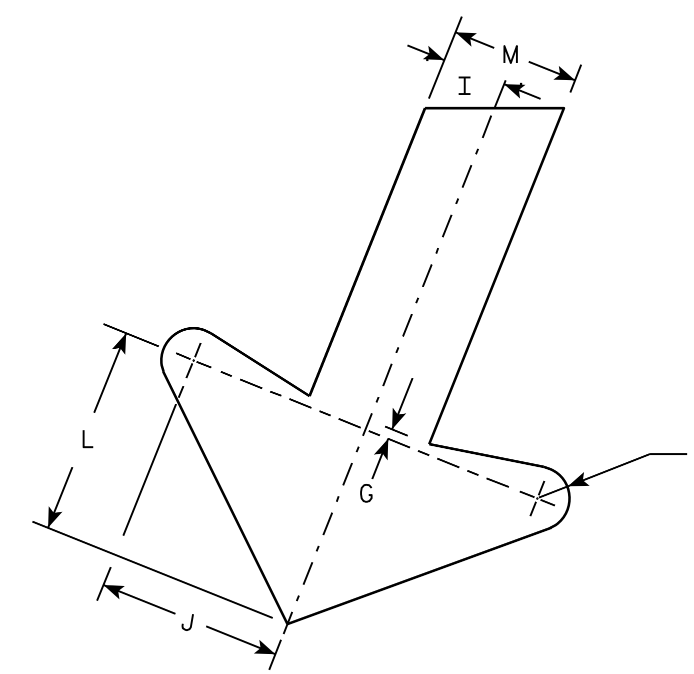
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 445 | E



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

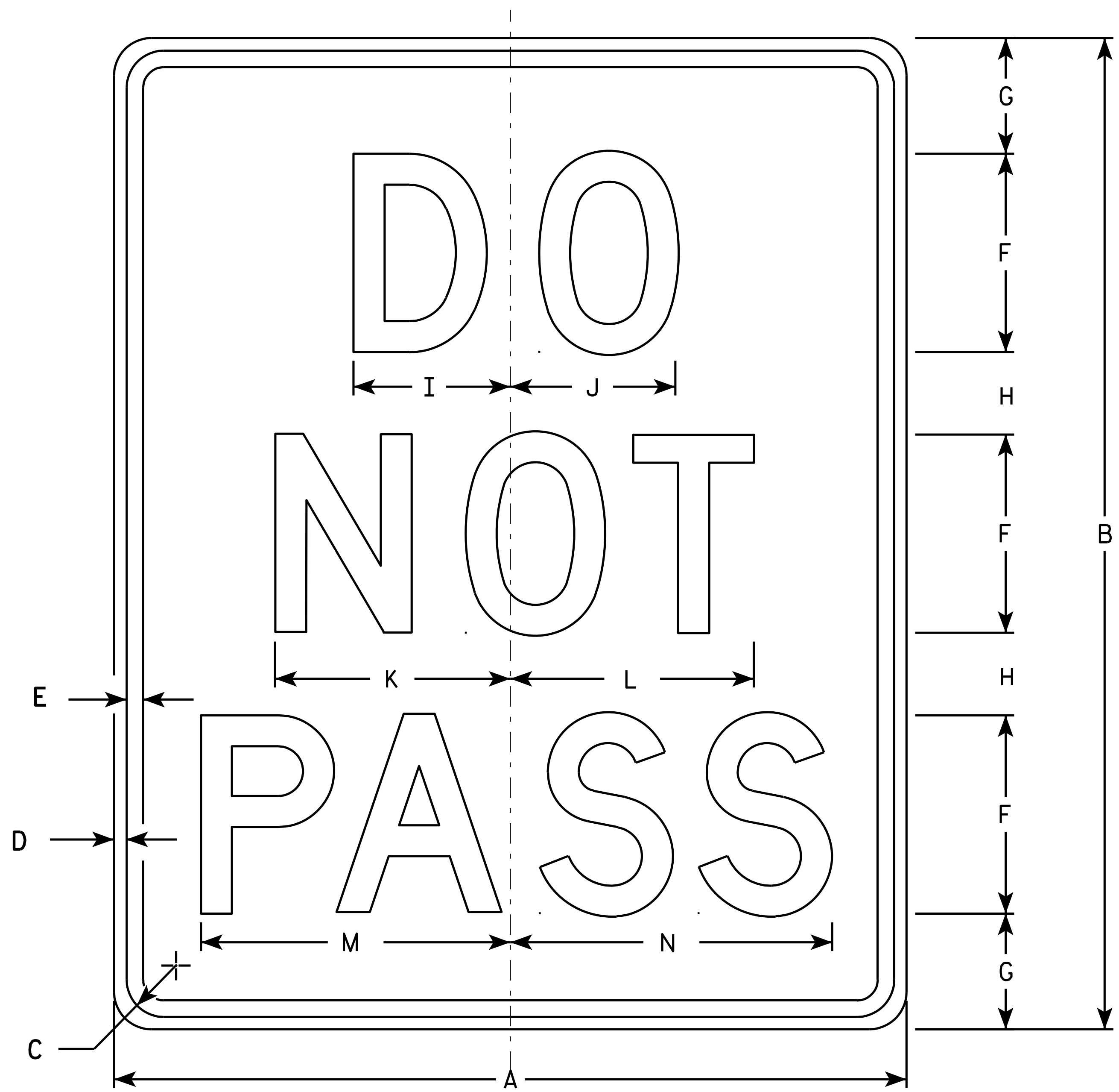
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20R.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 446 | E

7

7



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

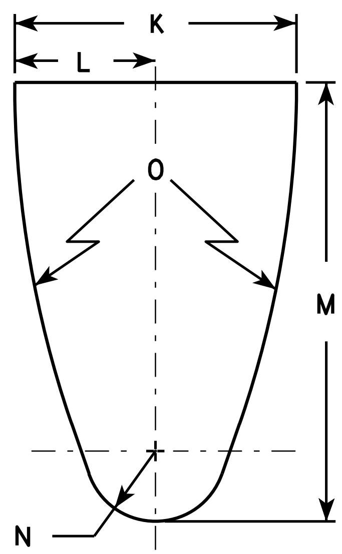
WISCONSIN DEPT OF TRANSPORTATION

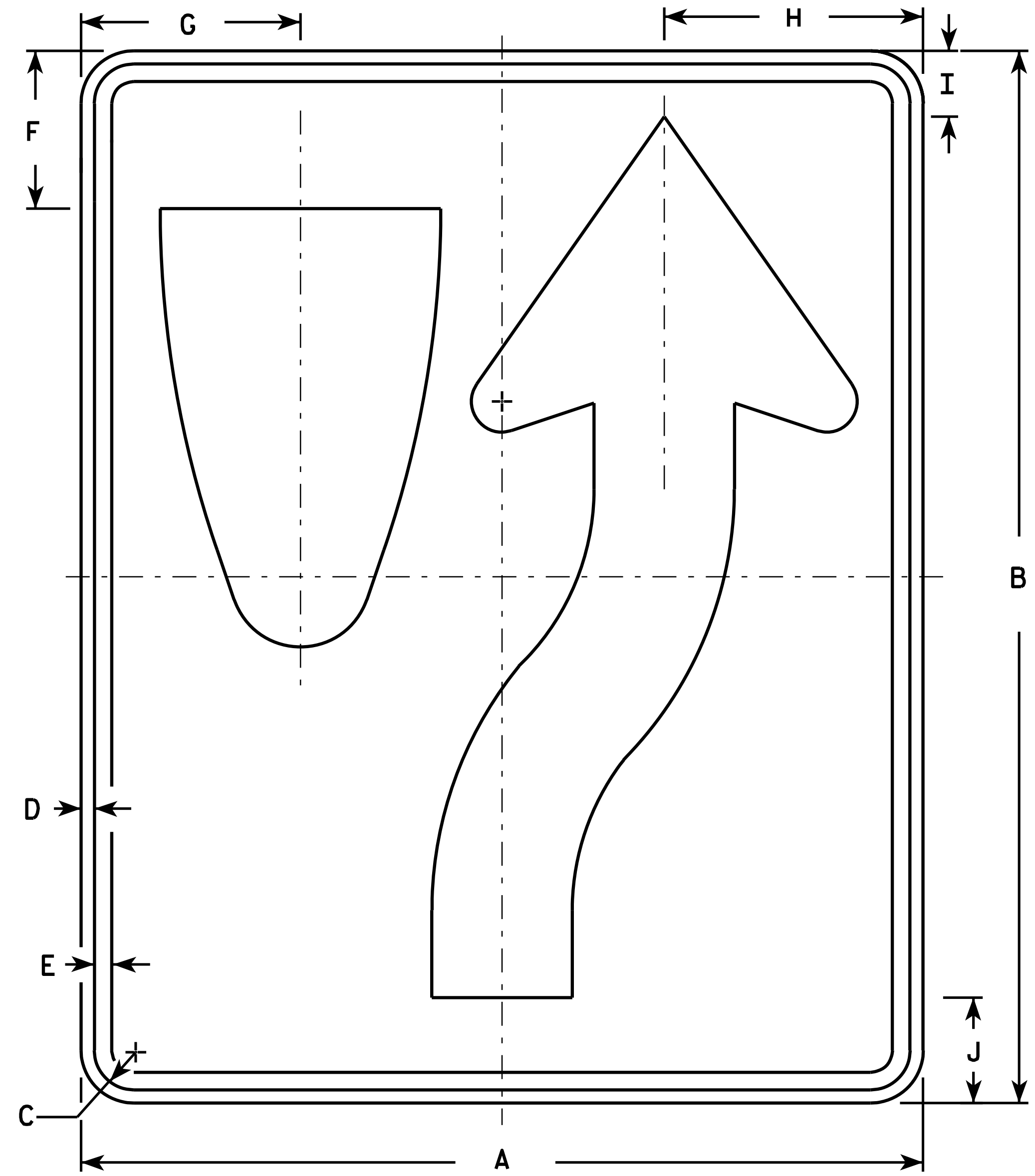
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-1.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 447 | E

7 7

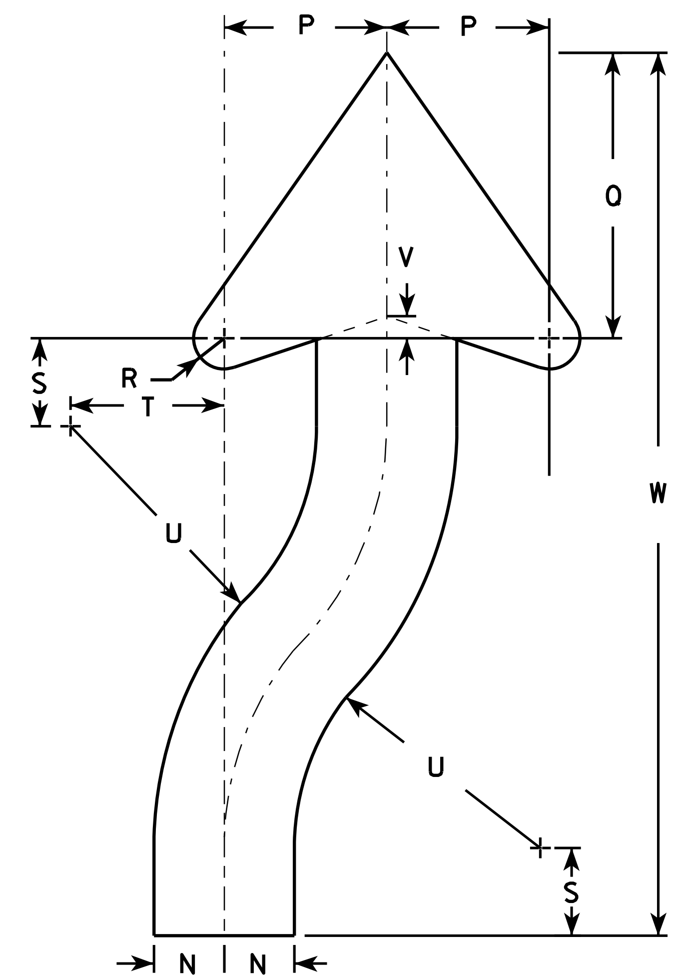




R4-7

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
2. Color:
   Background - White
   Message - Black
3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
4. R4-8 is the same as R4-7 except Legend is reversed.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

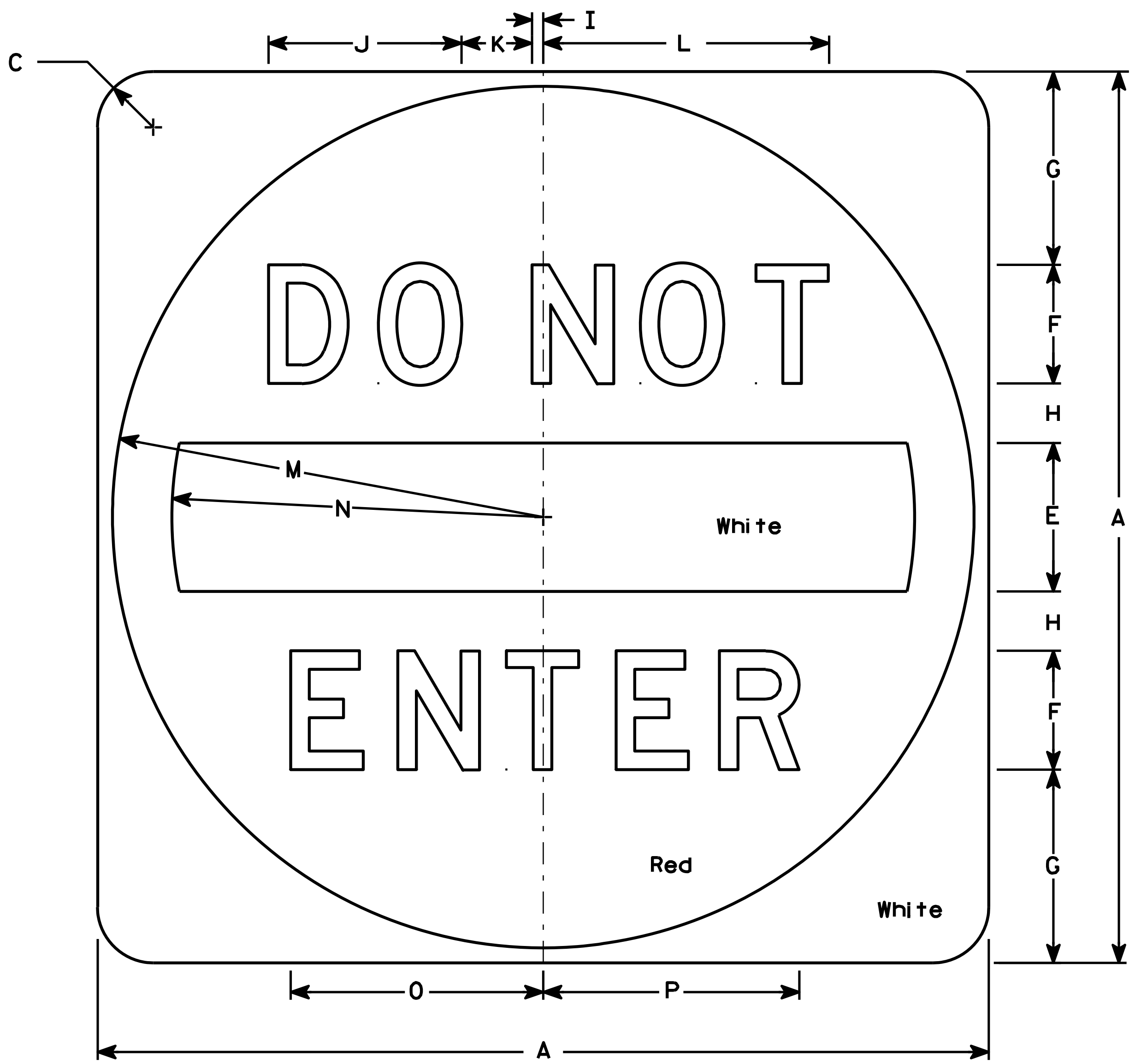
STANDARD SIGN
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 448	E



R5-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See detail
   Message - White - Type H Reflective
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but when base material is metal, the cornors shallbe rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30		1 7/8		5	4	6 1/2	2	3/8	6 1/2	2 3/8	9 5/8	14 1/2	12 1/2	8 1/2	8 5/8											6.26
2M	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
3	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
4	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
5	48		3		8	6	11	3	5/8	9 3/4	3 5/8	14 1/2	23 1/2	20	12 3/4	12 7/8											16.0

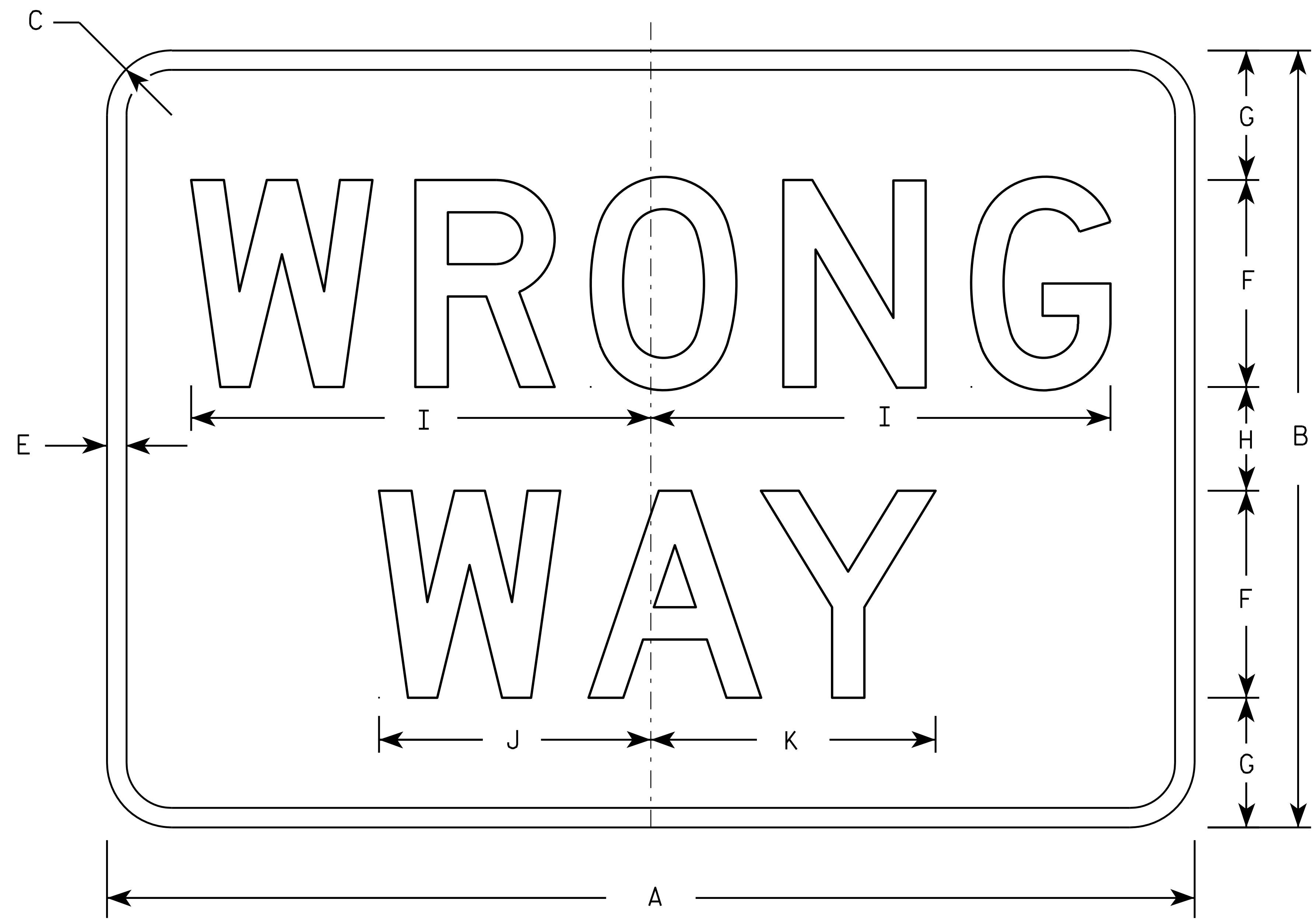
STANDARD SIGN
R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1.15

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 449 | 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

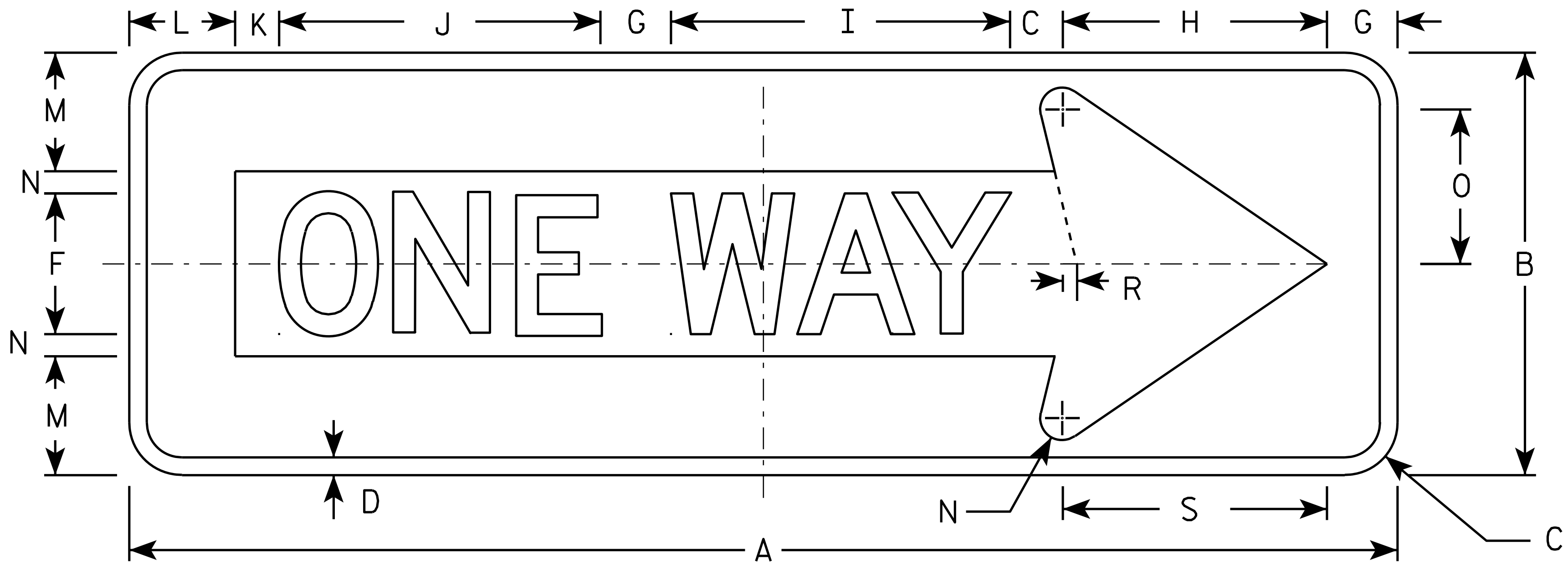
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1A.2

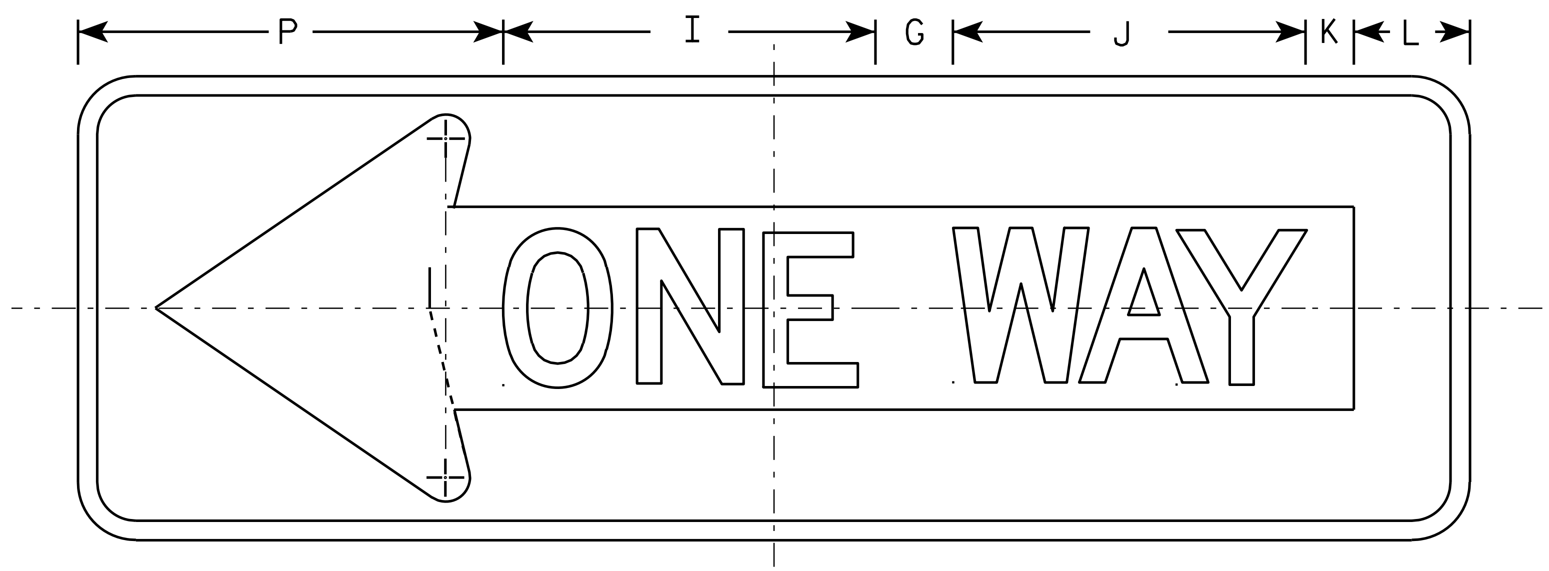
7

7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 450 | E



R6-1 R



R6-1 L

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - BLACK
   Message - BLACK LEGEND & WHITE ARROW & BORDER
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36	12	1 1/2	1/2		4	2	7 1/2	9 5/8	9 1/8	1 1/4	3	3 3/8	5/8	4 3/8	11		3/8	7 1/2								3.0
2M	54	18	2 1/4	3/4		6	3	11 1/4	14 1/2	13 5/8	1 7/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
3	54	18	2 1/4	3/4		6	3	11 1/4	14 1/2	13 5/8	1 7/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
4	54	18	2 1/4	3/4		6	3	11 1/4	14 1/2	13 5/8	1 7/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
5																											

STANDARD SIGN
R6-1 L & R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R6-1.2

PROJECT NO:

SHEET NO: 451 E

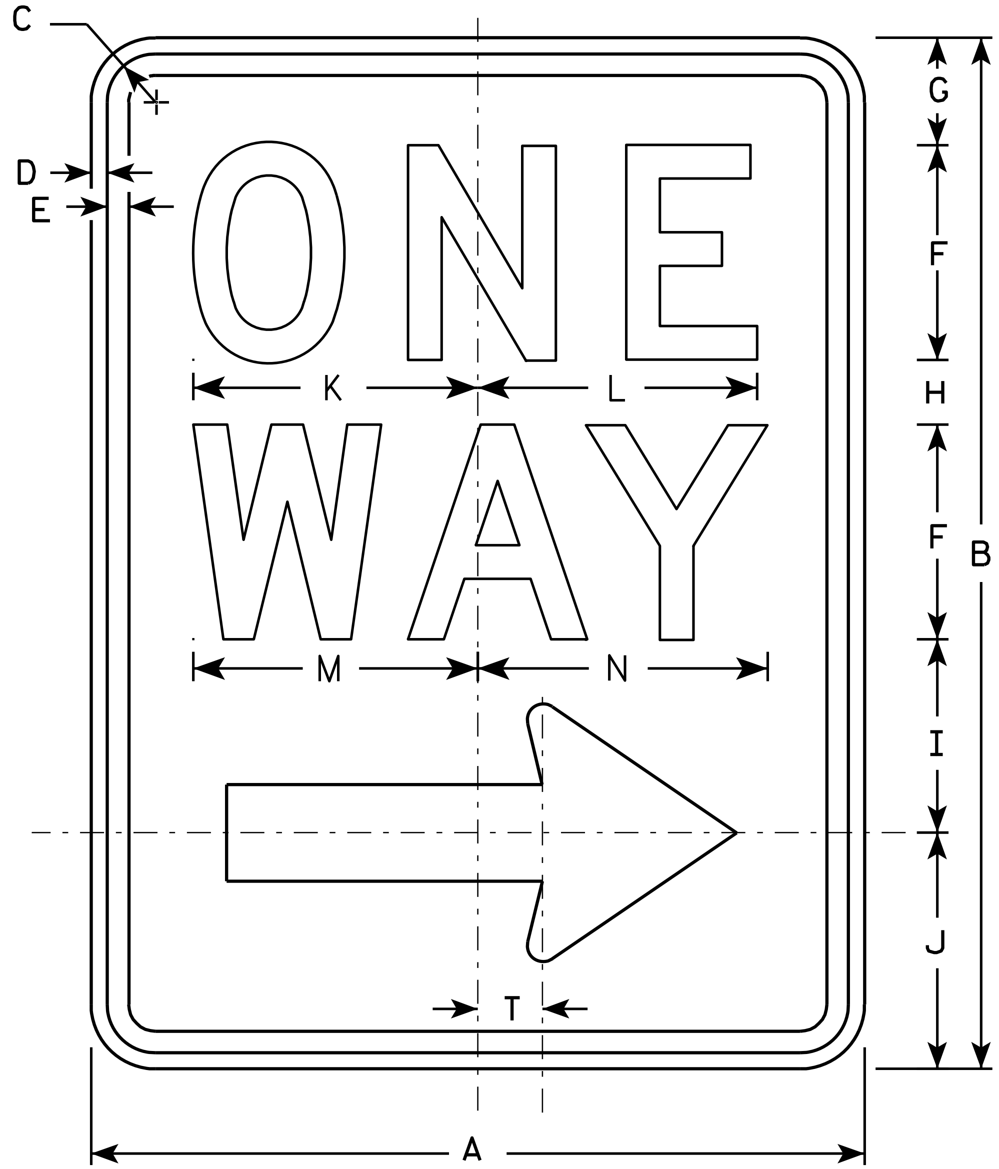
7

7

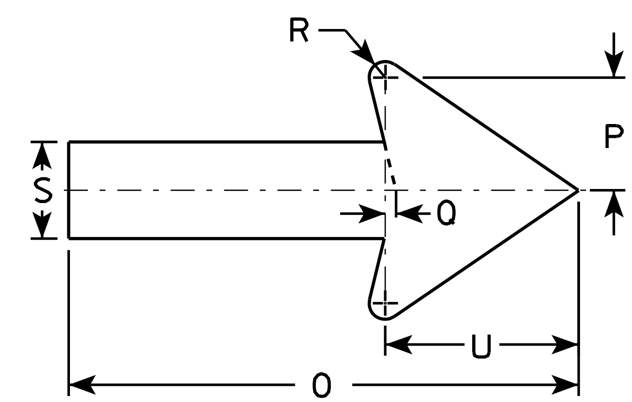
FILE NAME : C:\Users\PROJECTS\tr_stdplate\R61.DGN

PLOT DATE : 17-DEC-2010 14:11 PLOT BY : dotsja

WISDOT/CADDS SHEET 42



R6-2R



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R6-2L same as R6-2R except arrow points to the left.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1	18	24	1 1/8	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 5/8	6 1/2	6 5/8	6 3/4	11 7/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
2S	24	30	1 1/8	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 3/8	1/2	5/8	8	2 1/2	2 5/8	6 7/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
4	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

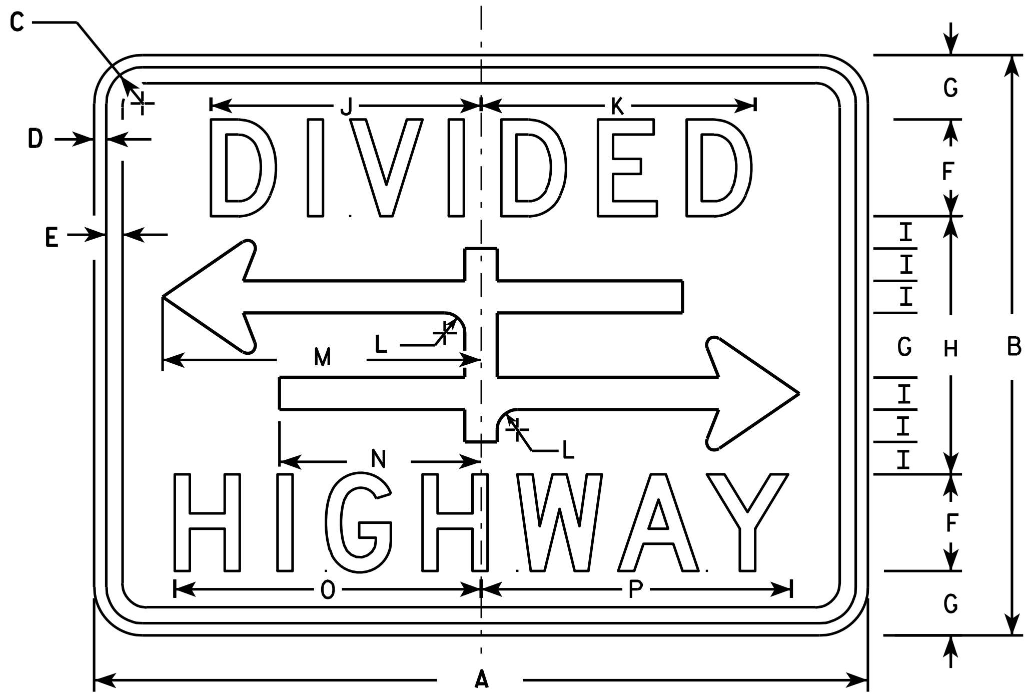
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/2/10 PLATE NO. R6-2.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 452 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R62.DGN PLOT DATE : 02-NOV-2010 15:25 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 4.469282:1.000000 WISDOT/CADDS SHEET 42

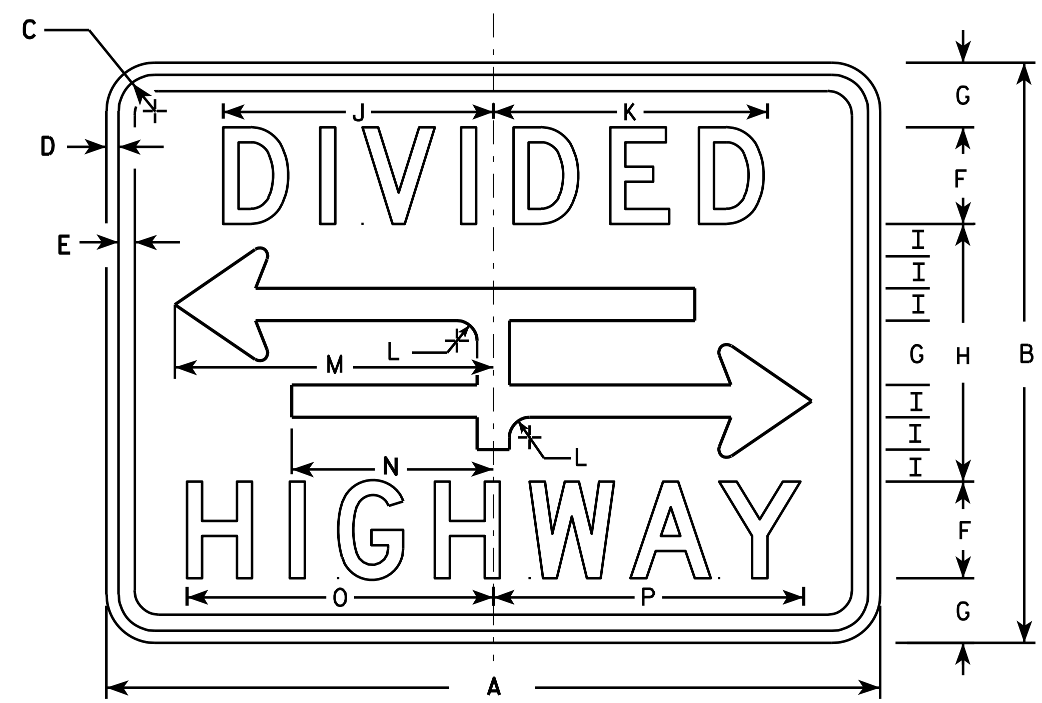
7 7



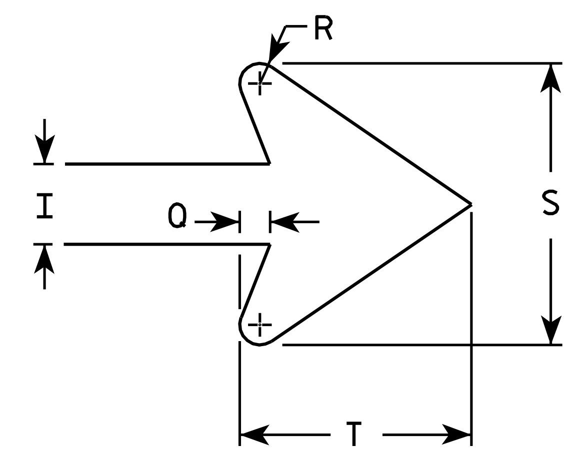
R6-3

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



R6-3A



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	18	1 1/8	3/8	3/8	3	2	8	1	8 3/8	8 1/2	5/8	9 7/8	6 1/4	9 1/2	9 5/8	3/8	1/4	3 1/2	2 3/4							3.0
2S	30	24	1 1/8	3/8	1/2	4	2 5/8	10 3/4	1 3/8	10 1/2	10 5/8	7/8	12 1/2	7 7/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 5/8							5.0
2M	30	24	1 1/8	3/8	1/2	4	2 5/8	10 3/4	1 3/8	10 1/2	10 5/8	7/8	12 1/2	7 7/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 5/8							5.0
3																											
4																											
5																											

STANDARD SIGN
R6-3 & R6-3A

WISCONSIN DEPT OF TRANSPORTATION

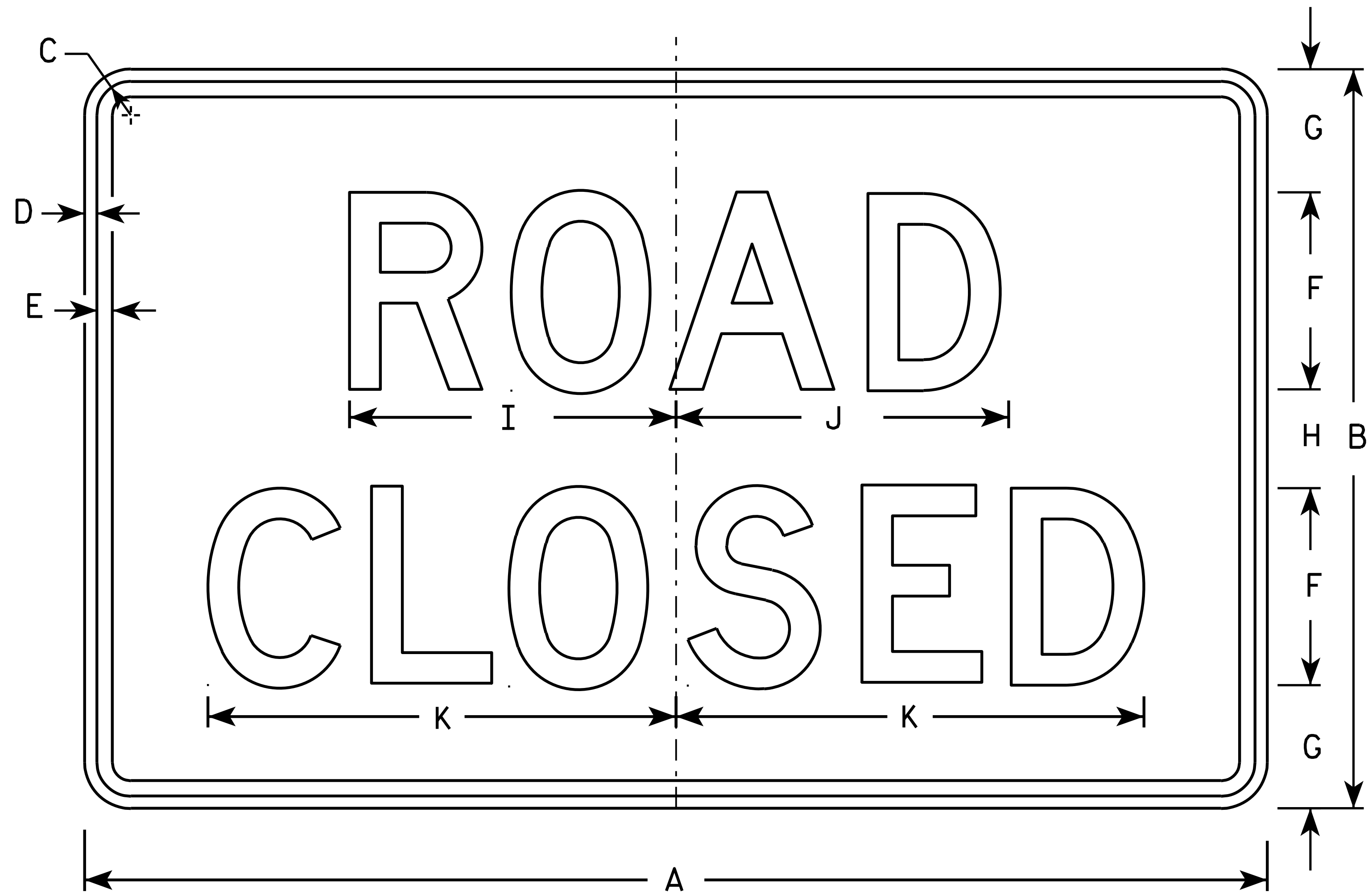
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R6-3.5

7

PROJECT NO:

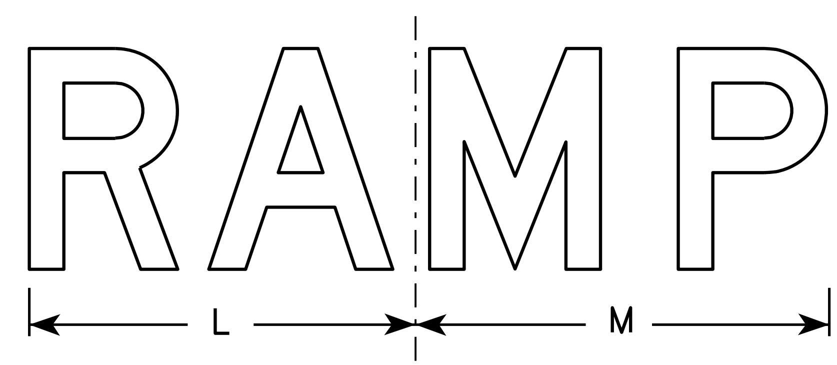
SHEET NO: 453 E



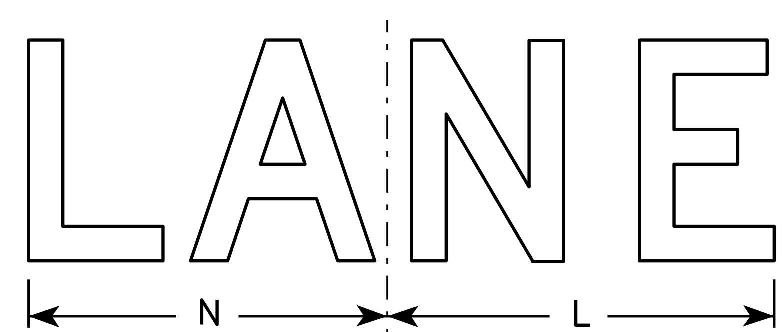
R11-2

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

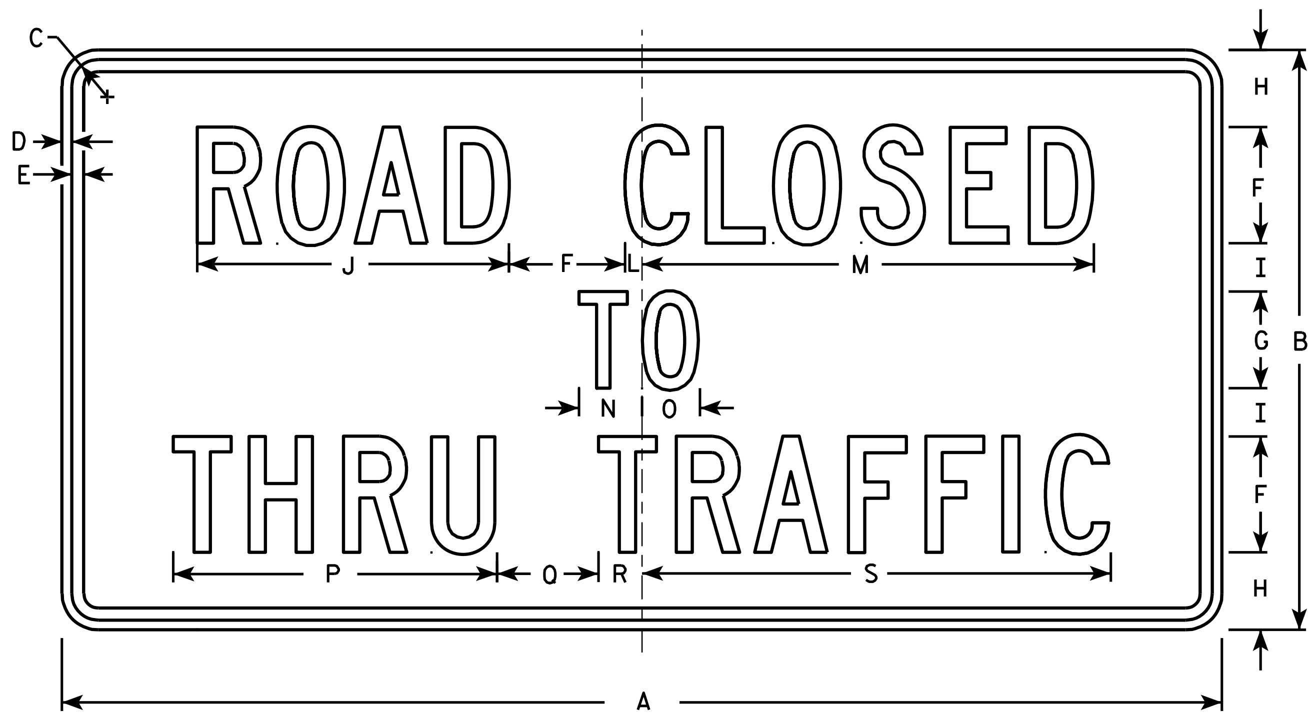
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

7



R11-4

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 - 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.

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
3																											
4																											
5																											

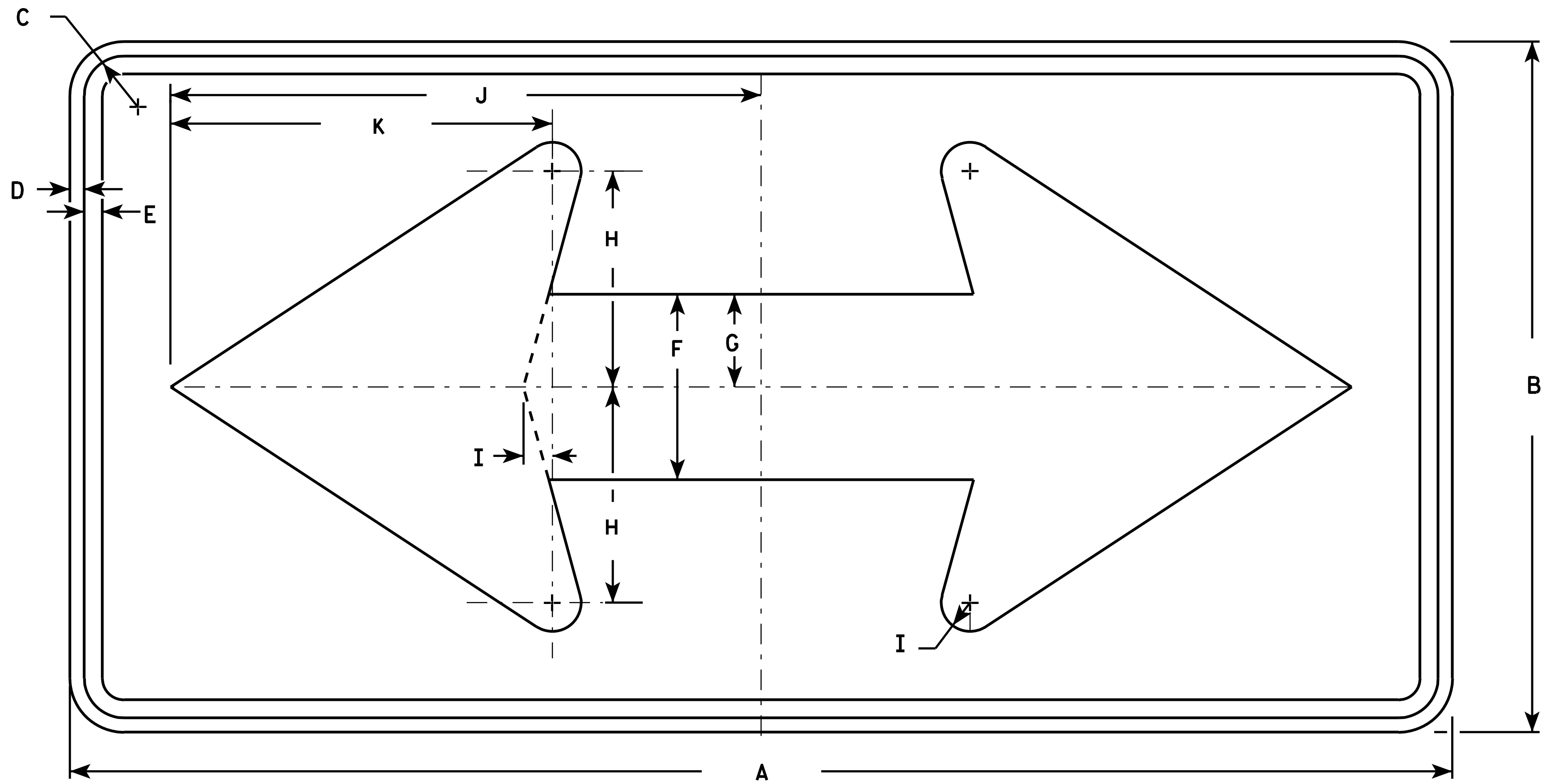
STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-4.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 455 | E



W1-7

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/8	3/8	1/2	5	2 1/2	5 3/4	3/4	15 5/8	10 1/8																4.5
2S	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
2M	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
3	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
4	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
5	96	48	2 1/4	3/4	1	13	6 1/2	15	2	41	26 1/2																32.0

STANDARD SIGN
W1-7

WISCONSIN DEPT OF TRANSPORTATION

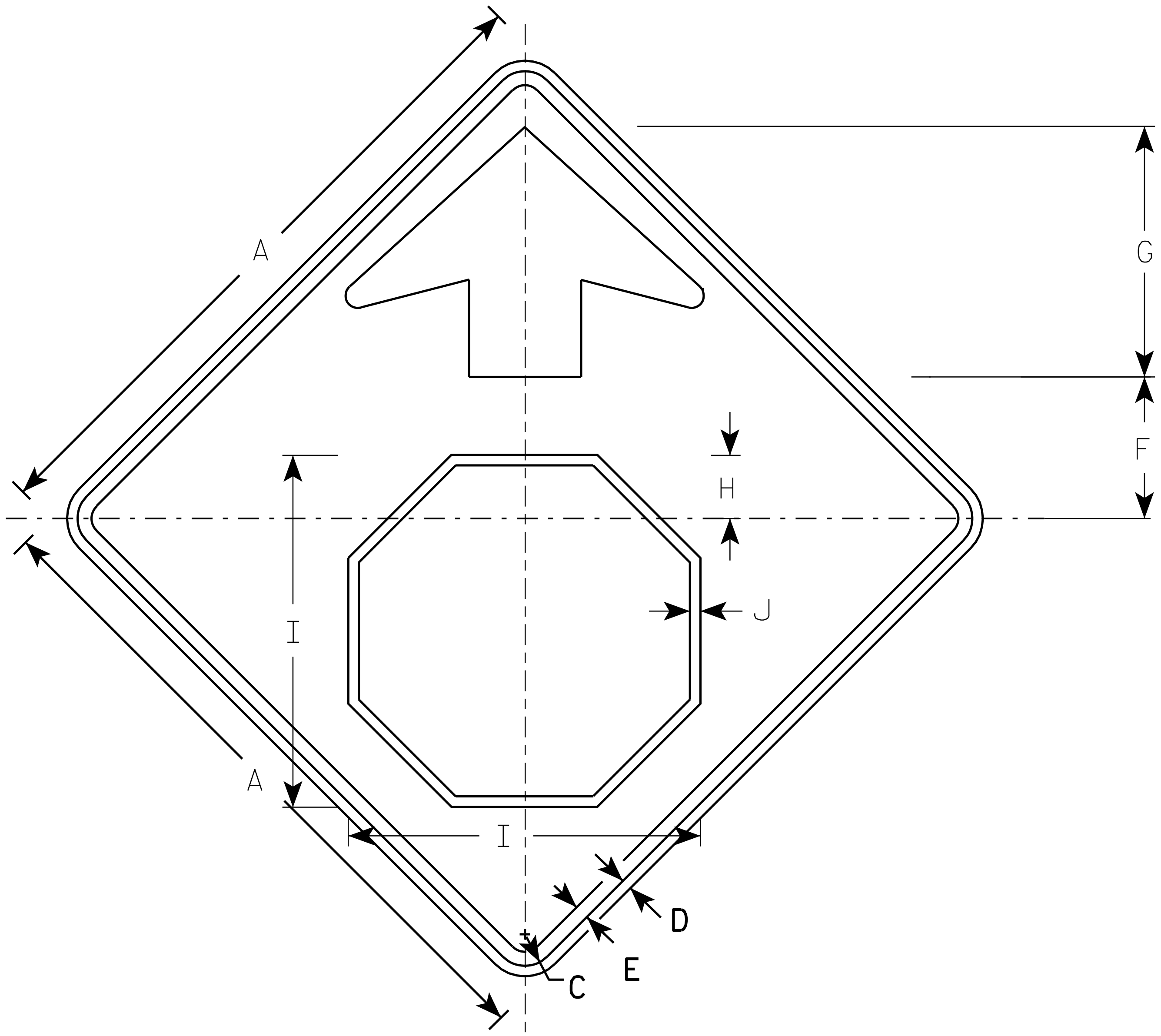
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-7.7

7

7

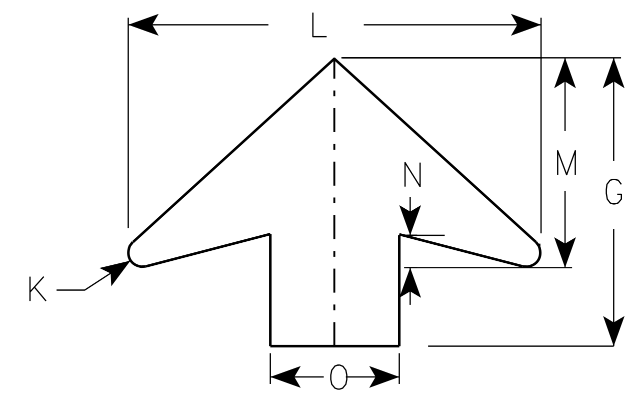
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 456 | E



W3-1

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   - Background - YELLOW
   - Arrow & Border - BLACK
   - Stop Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	6 1/4	11 1/4	2 7/8	15 3/4	1/2	1/2	16	8	1 1/4	5												6.25
2S	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
2M	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
3	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0

STANDARD SIGN
W3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-1.12

7

7

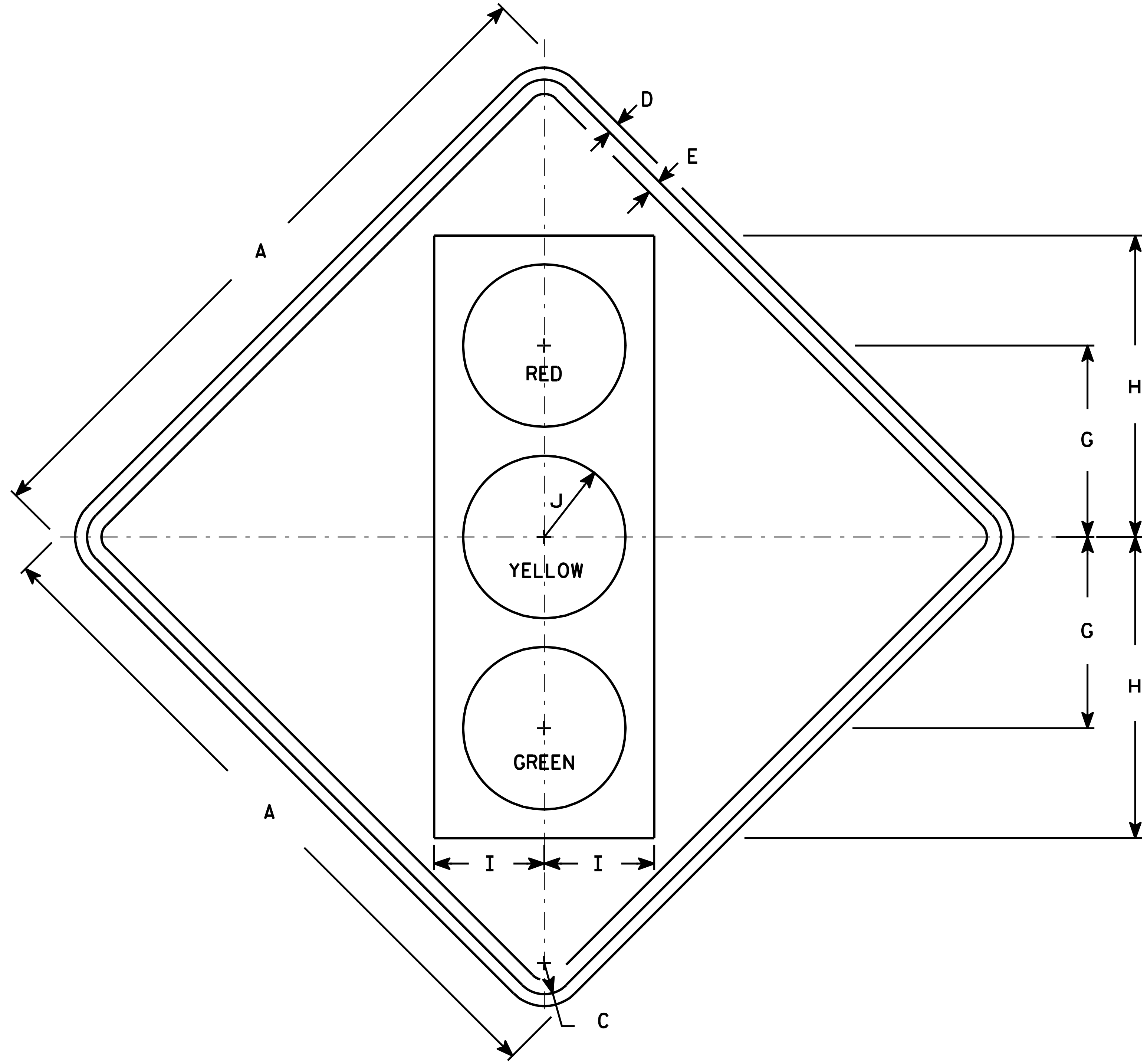
PROJECT NO:

SHEET NO: 457 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W31.DGN

PLOT DATE : 07-JUN-2010 12:59 PLOT BY : ditjph

WISDOT/CADDS SHEET 42



W3-3

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Symbol and border are non-reflective black.
   Top circle - Type H Reflectorized Red
   Center circle - Same as background
   Bottom circle - Type H Reflectorized Green

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		8 3/4	13 3/4	5	3 3/4																	6.25
2S	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
2M	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
3	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
4	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
5	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0

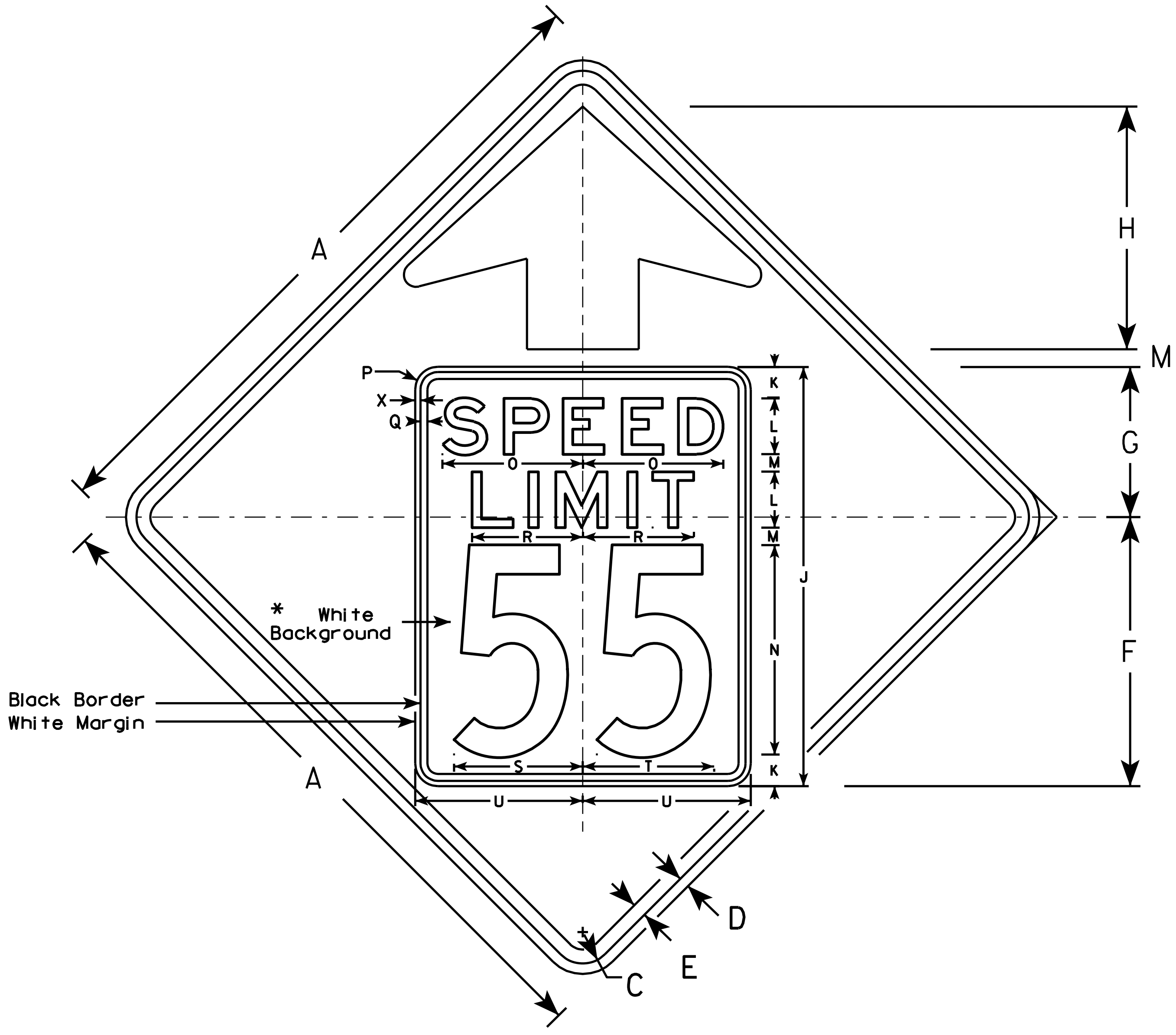
STANDARD SIGN
W3-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-3.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 458 | E

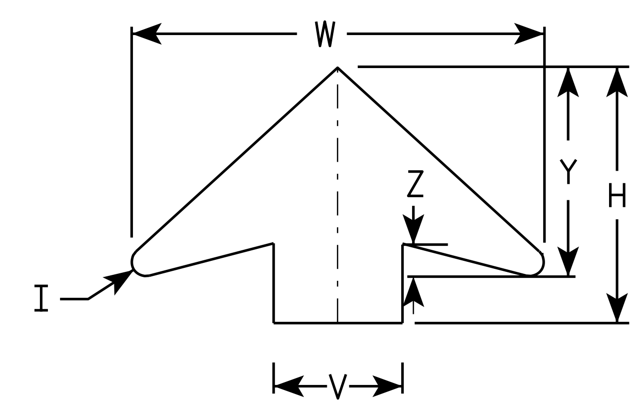


W3-5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color: *
   Background - YELLOW*
   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	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	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
2M	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
3	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
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
W3-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

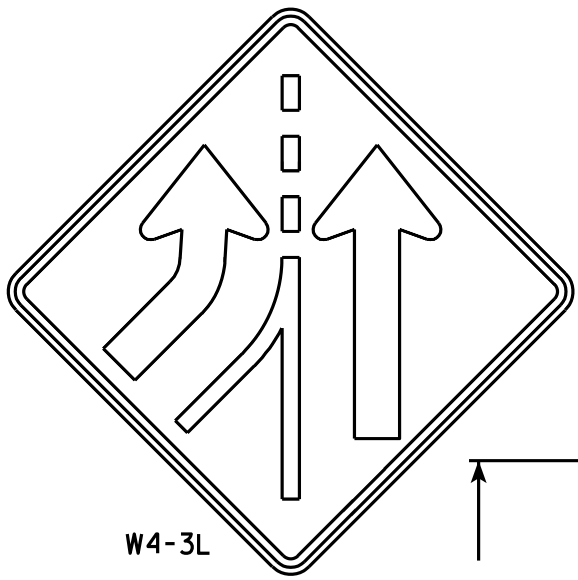
DATE 5/29/12 PLATE NO. W3-5.5

7

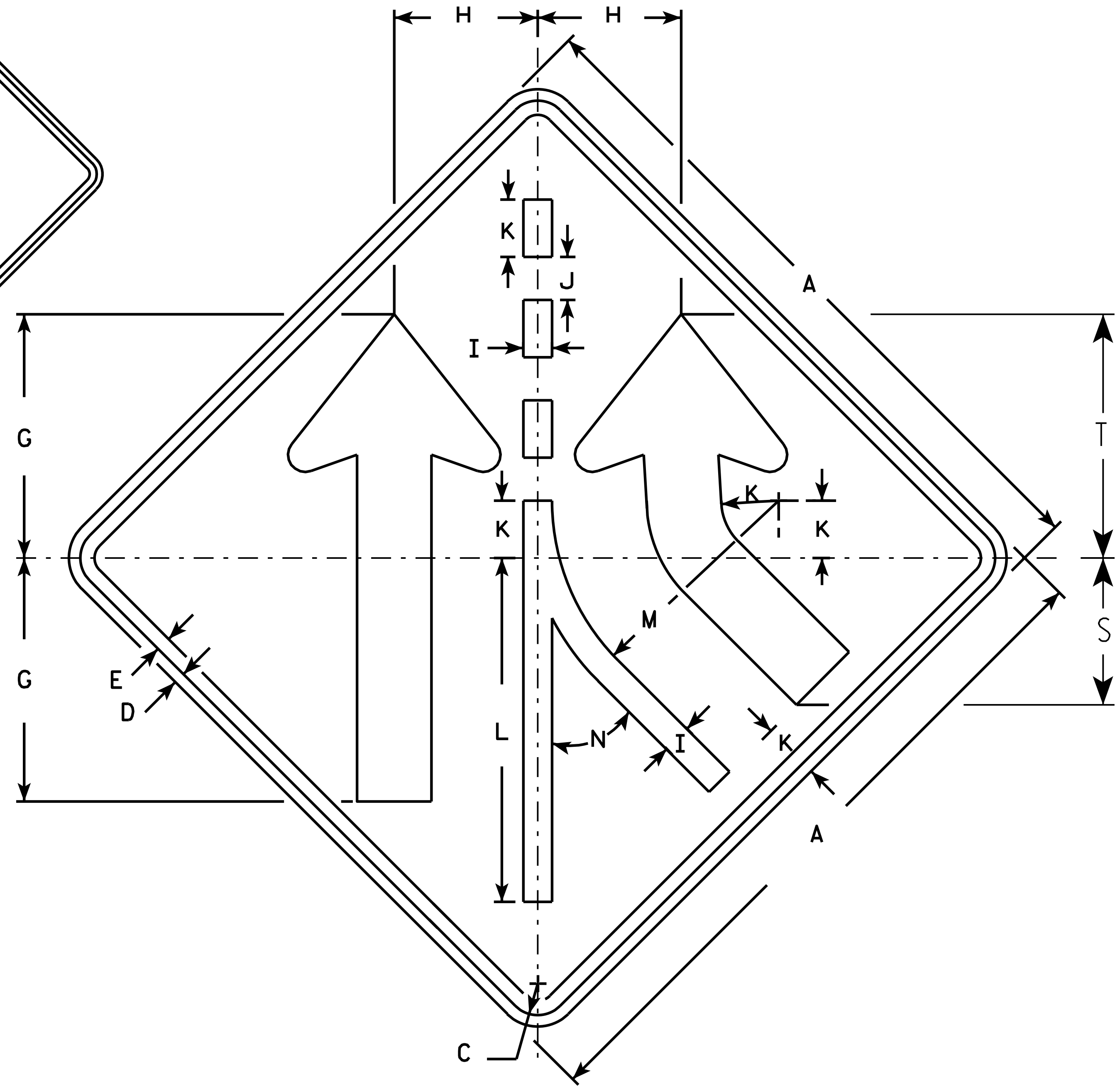
PROJECT NO:

SHEET NO: 459

E



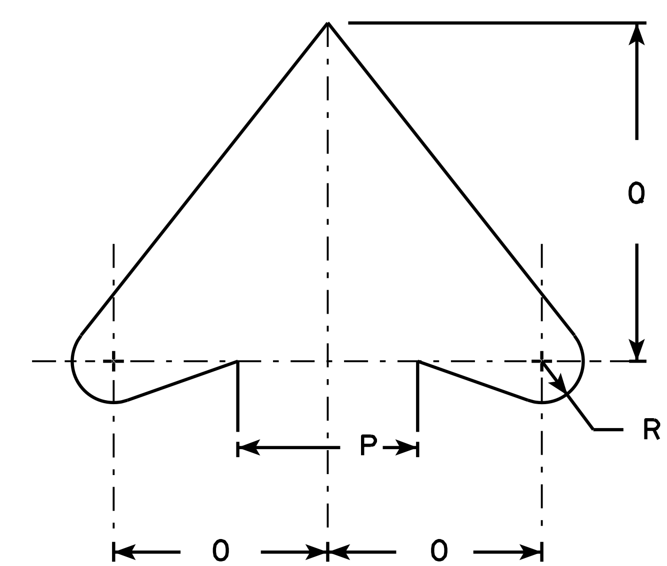
W4-3L



W4-3R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W4-3 L is the same as W4-3 R except the arrow is reversed along the vertical centerline.



ARROW DETAIL

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	30		1 3/8	1/2	5/8		10 5/8	6 1/4	1 1/4	1 7/8	2 1/2	15	9 7/8	45°	3 7/8	3 1/4	6 1/8	3/4	6 3/8	10 5/8							6.25
2S	36		1 5/8	5/8	3/4		12 3/4	7 1/2	1 1/2	2 1/4	3	18	11 7/8	45°	4 5/8	4	7 3/8	7/8	7 3/4	12 3/4							9.0
2M	36		1 5/8	5/8	3/4		12 3/4	7 1/2	1 1/2	2 1/4	3	18	11 7/8	45°	4 5/8	4	7 3/8	7/8	7 3/4	12 3/4							9.0
3																											
4	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0
5	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0

STANDARD SIGN
W4-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 03/12/13 PLATE NO. W4-3.8

PROJECT NO:

SHEET NO: 460 E

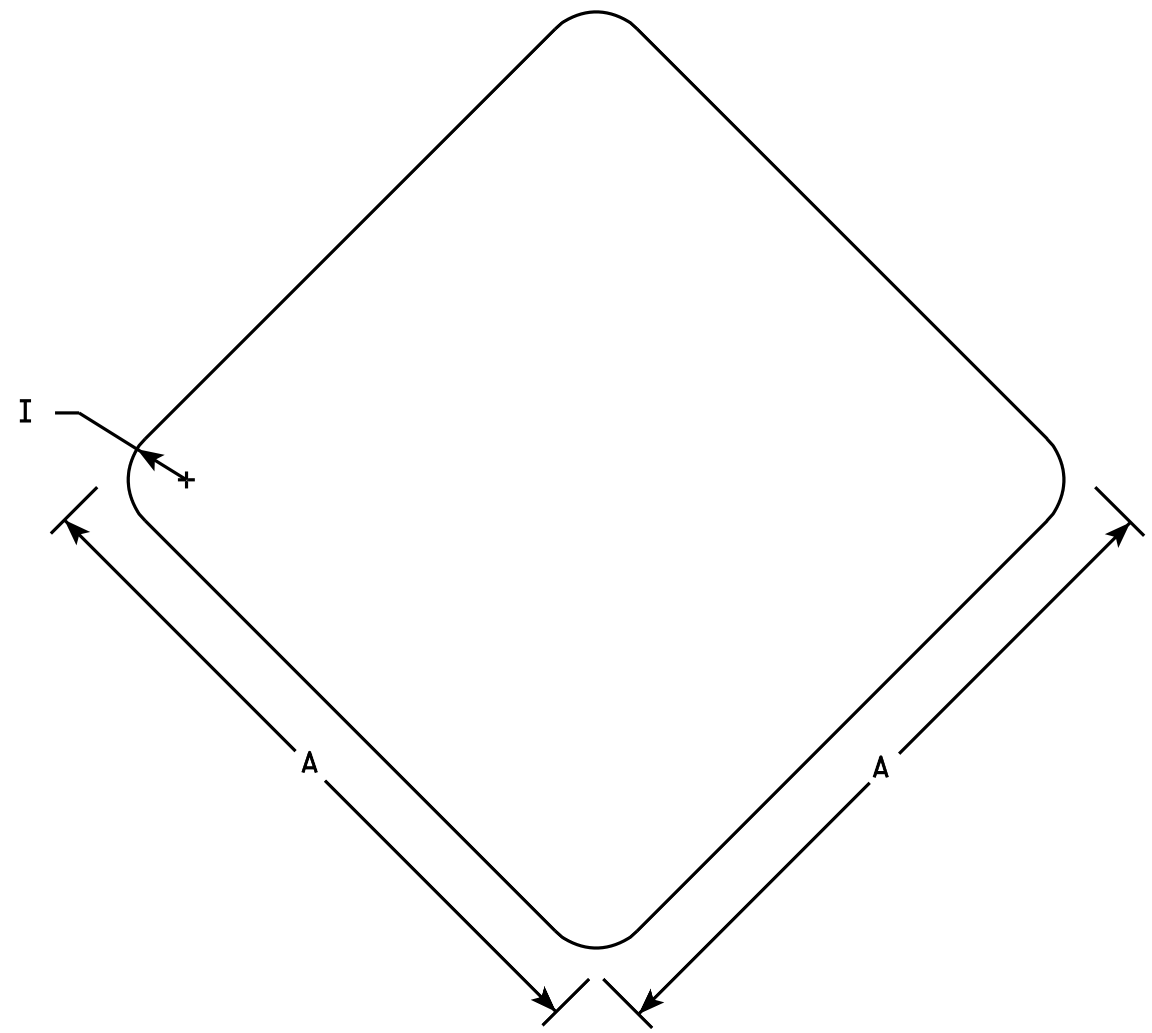
7

7

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W43.DGN PLOT DATE : 12-MAR-2013 11:31 PLOT BY : mscsja 6.946657:1.000000 WISDOT/CADDS SHEET 42

NOTES

1. Sign is Type II - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
3. Corners may be square or rounded when base material is plywood. When base material is metal the corners shall be rounded.



W5-56

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																											

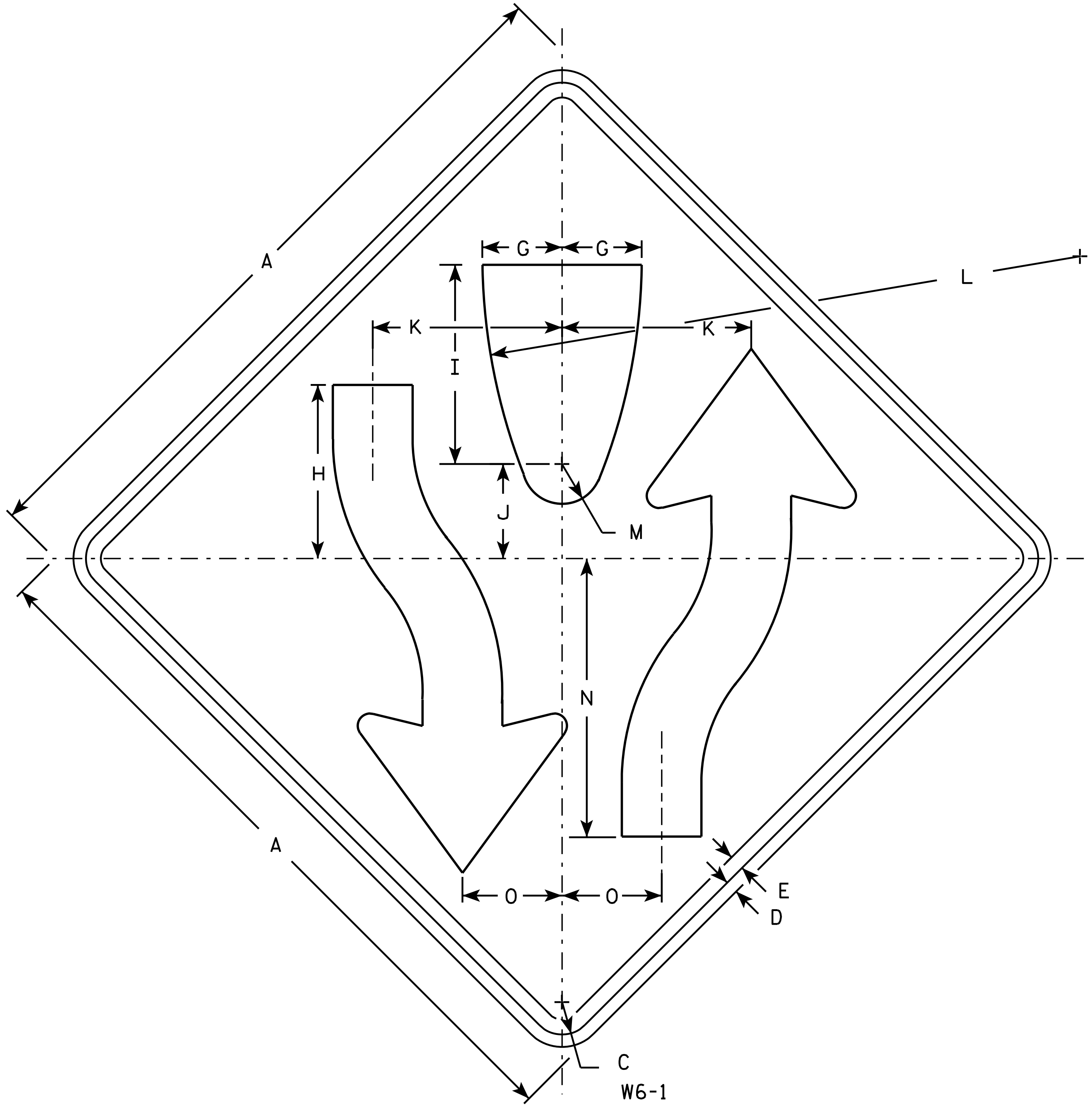
STANDARD SIGN
W5-56

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

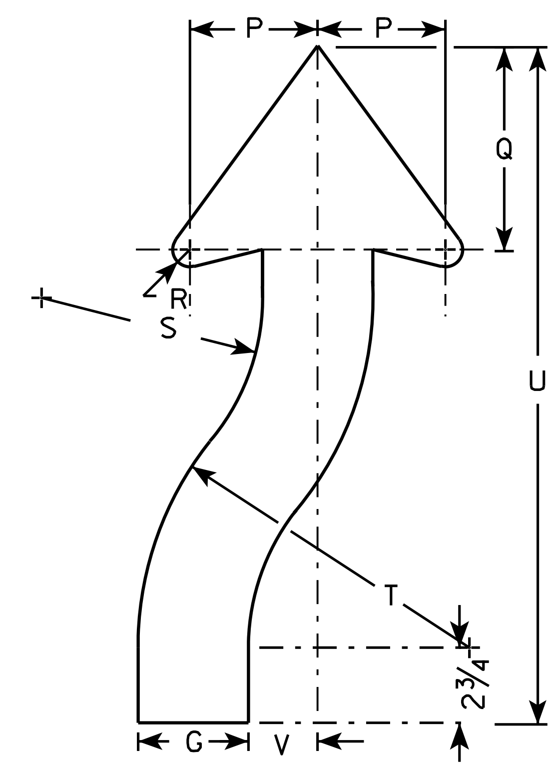
DATE 11/2/10 PLATE NO. W5-56.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 461 | E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W6-2 same as W6-1 but is rotated 180° when mounted.



ARROW DETAIL

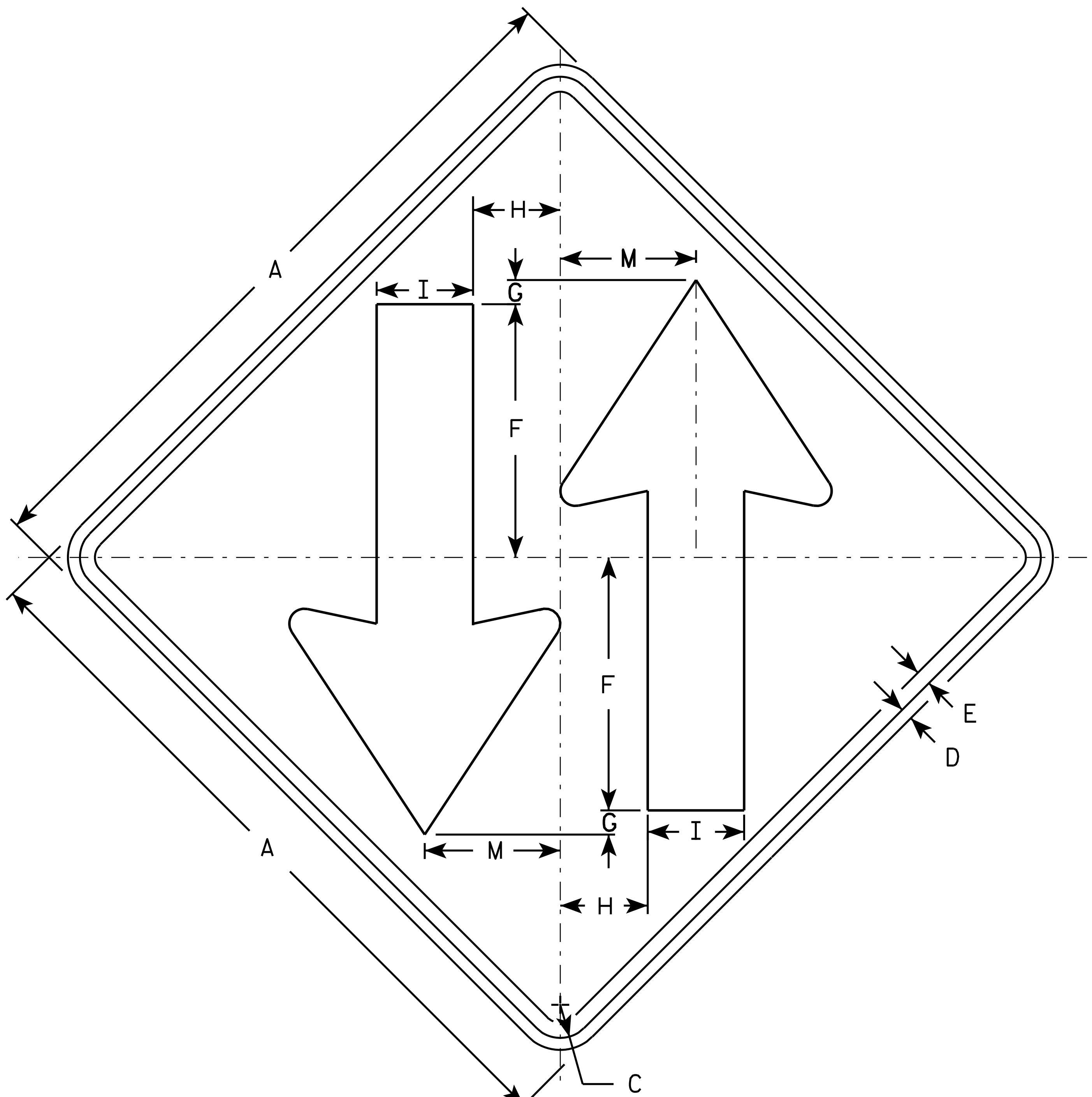
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		3 1/4	8	8 1/4	4 1/8	7 7/8	25	1 3/4	11 5/8	4 1/8	3 7/8	6 3/4	5/8	6 5/8	9 7/8	21 5/8	2					6.25
2S	36		1 5/8	5/8	3/4		4	8 3/4	10	4 3/4	9 1/2	30	2	14	5	4 5/8	7 3/8	7/8	8	12	24 1/2	2 1/2					9.0
2M	36		1 5/8	5/8	3/4		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
3																											
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
W6-1 & W6-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

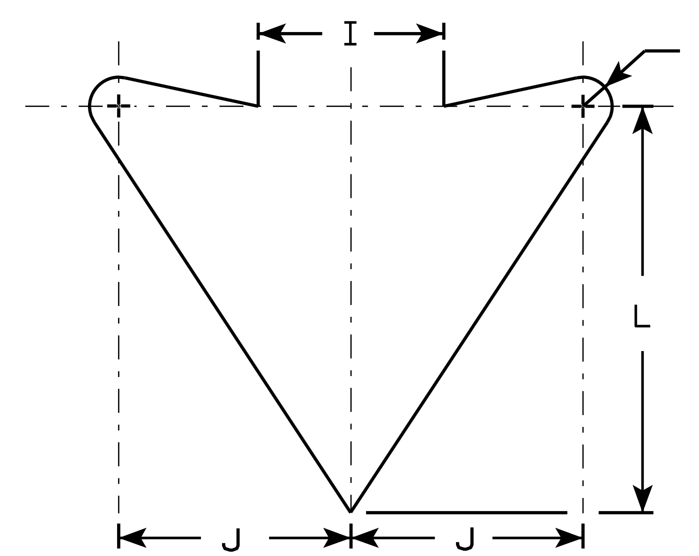
DATE 03/12/13 PLATE NO. W6-1.14



W6-3

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. 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	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	10 1/2	1	3 5/8	4	5	5/8	8 3/4	5 5/8														6.25
2S	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
2M	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
3																											
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
W6-3

WISCONSIN DEPT OF TRANSPORTATION

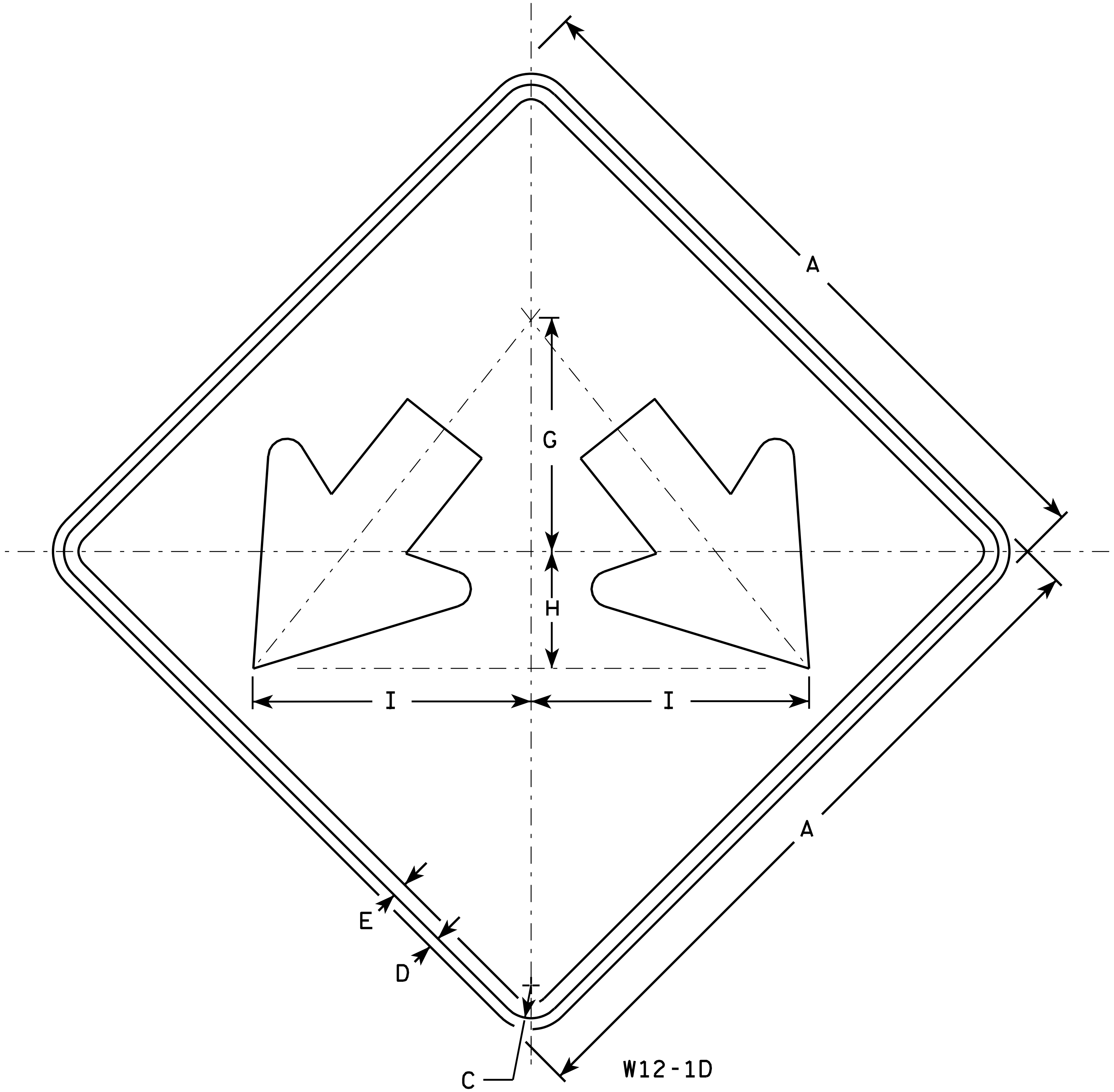
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W6-3.10

PROJECT NO: HWY: COUNTY: SHEET NO: 463 E

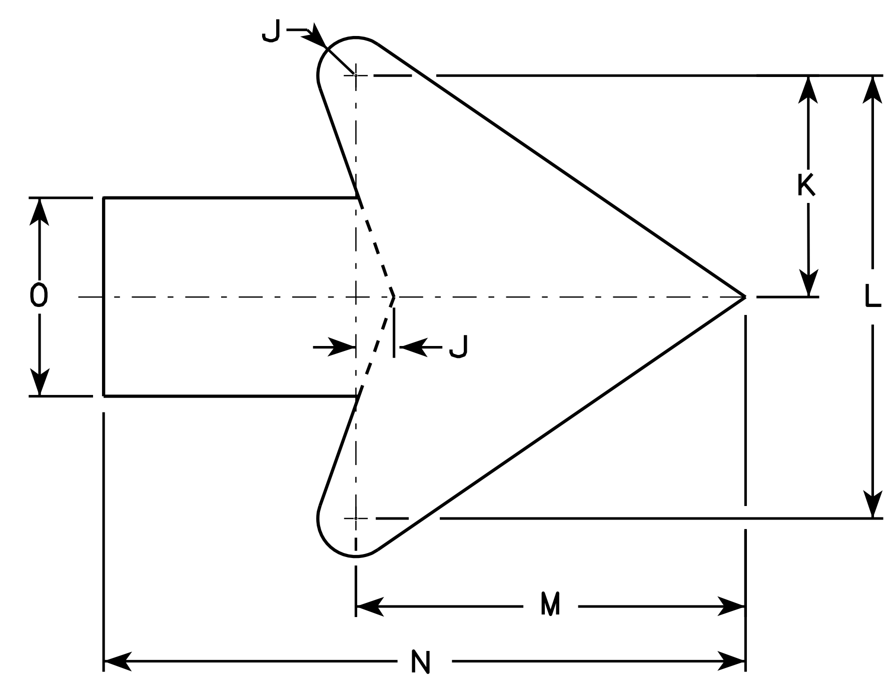
7 7

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W63.DGN PLOT DATE : 12-MAR-2013 14:11 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 6.202372:1.000000 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 - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2M	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
3	30		1 3/8	1/2	5/8		10	5	11 7/8	3/4	4 1/2	9	7 7/8	13	4												6.25
4	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0
5	48		2 1/4	3/4	1		16	8	19	1 1/4	7 1/4	14 1/2	12 3/4	21	6 1/4												16.0

STANDARD SIGN
W12-1D

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

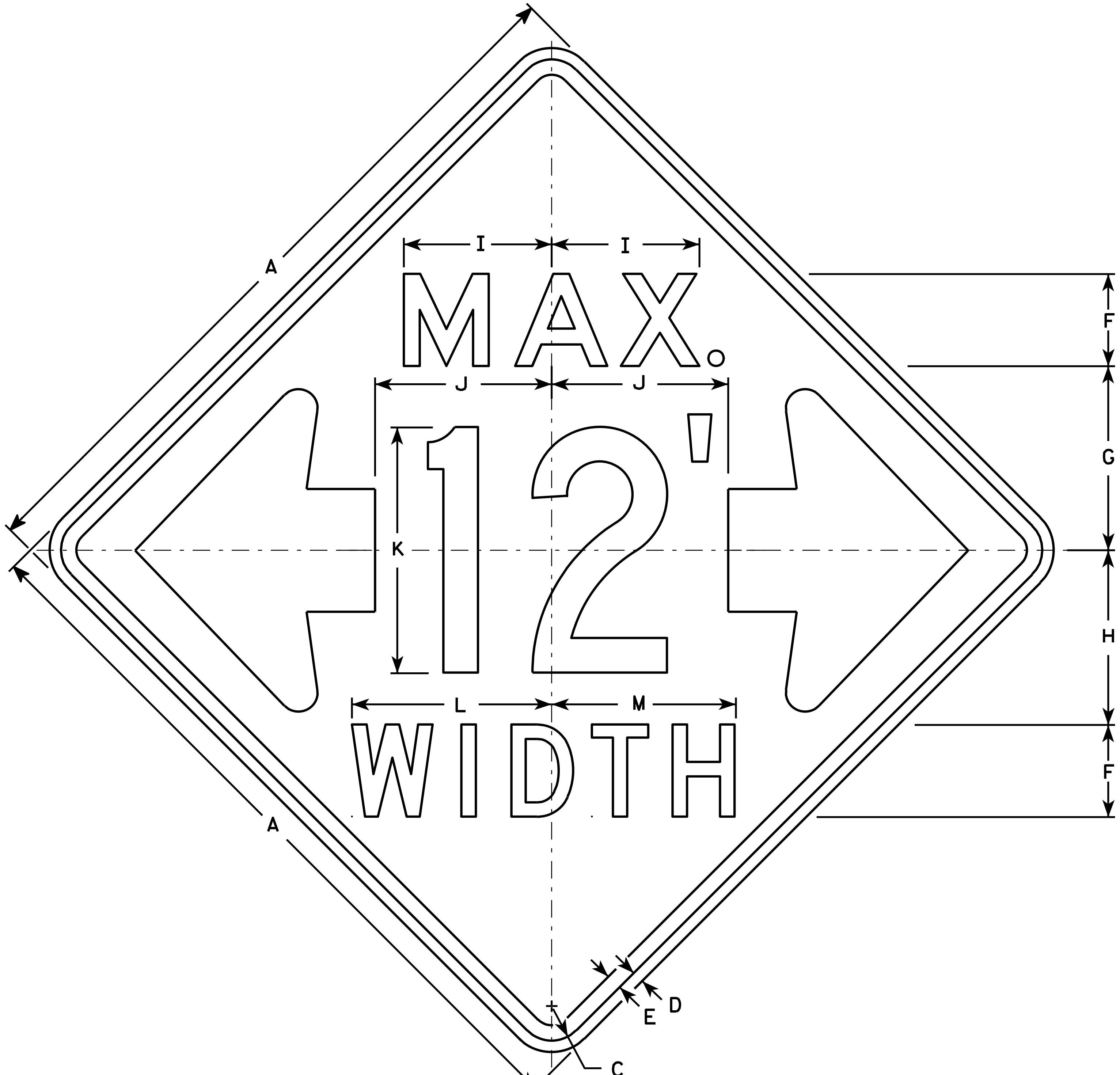
DATE 3/13/13 PLATE NO. W12-1D.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 464	E

7 7

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W121D.DGN PLOT DATE : 13-MAR-2013 13:26 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 4.713802:1.000000

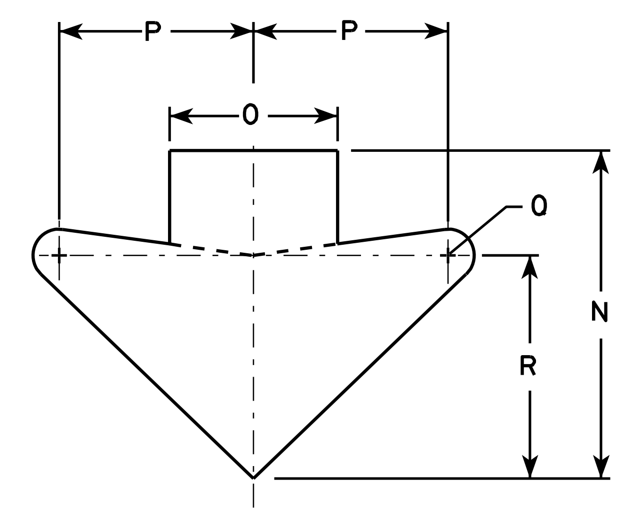
WISDOT/CADDS SHEET 42



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

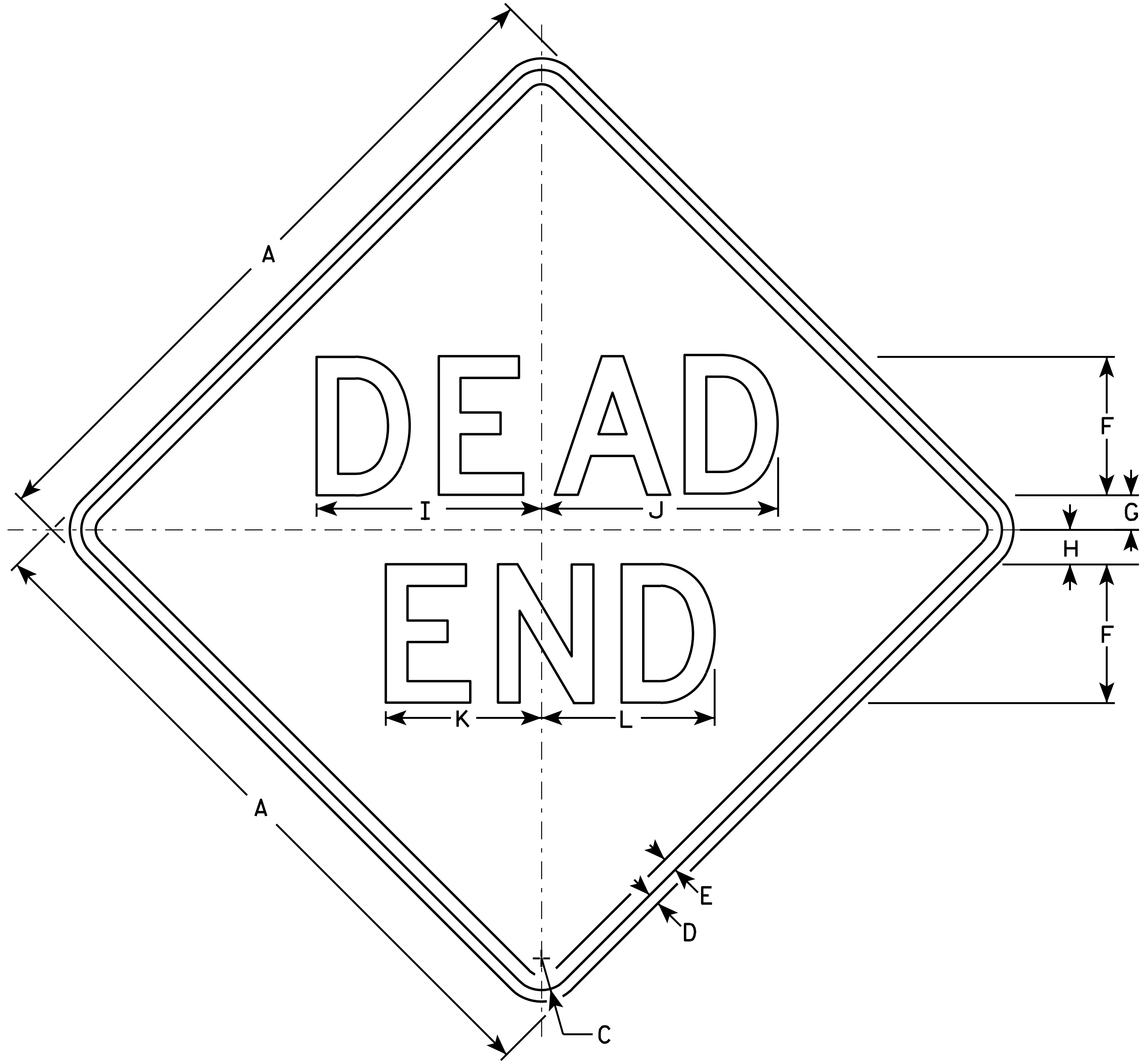
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/11 PLATE NO. W12-52.7

7 7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 465 | E



W14-1

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   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	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	5	1	2	8 1/4	8 5/8	5 5/8	6 1/4															4.0
2S	30		1 3/8	1/2	5/8	6	1 1/2	2 1/2	9 3/4	10 1/4	6 3/4	7 1/2															6.25
2M	30		1 3/8	1/2	5/8	6	1 1/2	2 1/2	9 3/4	10 1/4	6 3/4	7 1/2															6.25
3	36		1 5/8	5/8	3/4	7	2	3	11 3/8	12	7 7/8	8 3/4															9.0
4																											
5																											

STANDARD SIGN
W14-1

WISCONSIN DEPT OF TRANSPORTATION

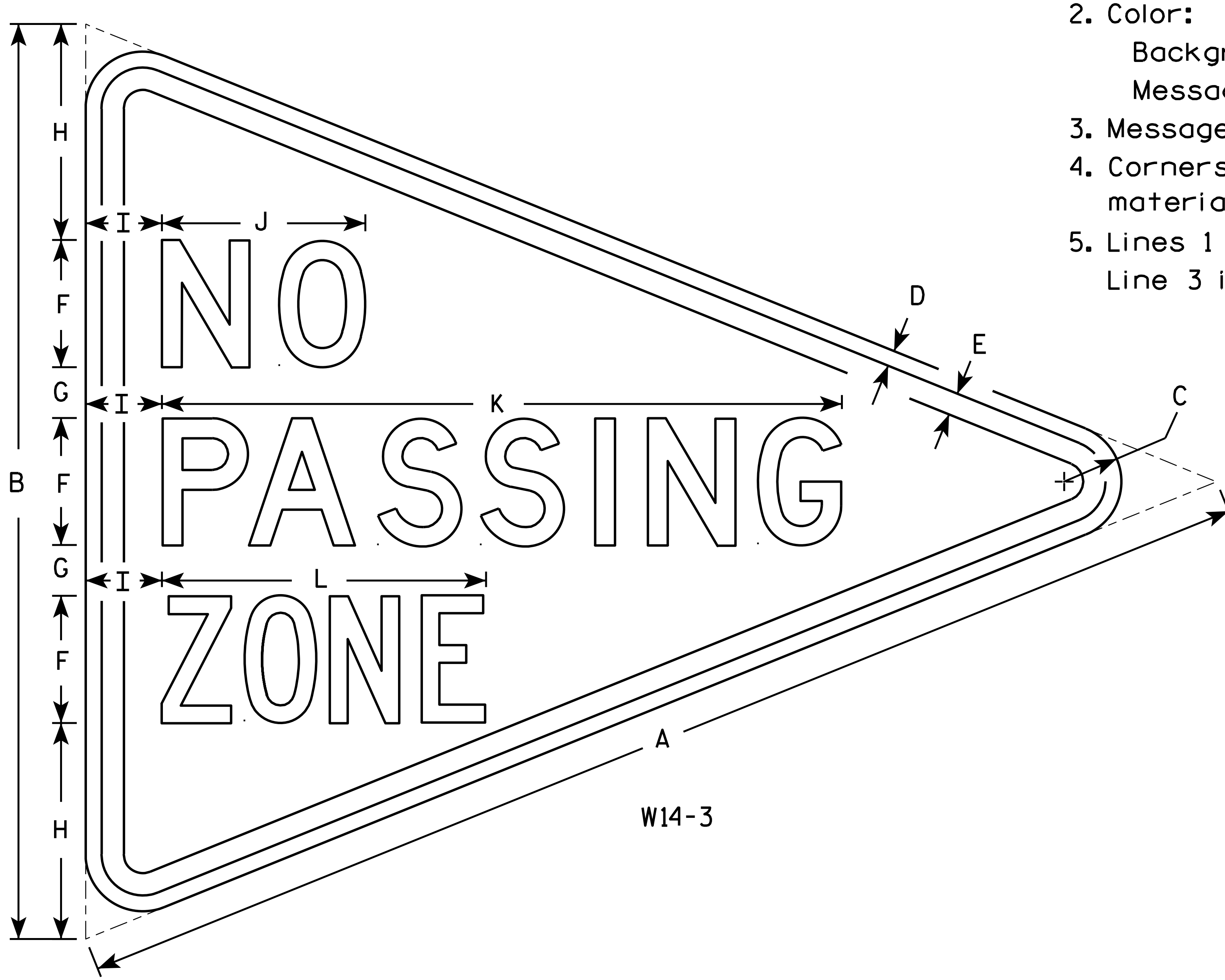
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W14-1.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 466 | E

7

7



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - See note 5
4. Corners and borders shall be rounded on all base materials for this sign.
5. Lines 1 and 2 are Series D.
   Line 3 is series C.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
2M	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
3	64	48	3	3/4	1 1/4	6	3	12	4	10 3/4	33 5/8	16 1/2															10.7
4																											
5																											

STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

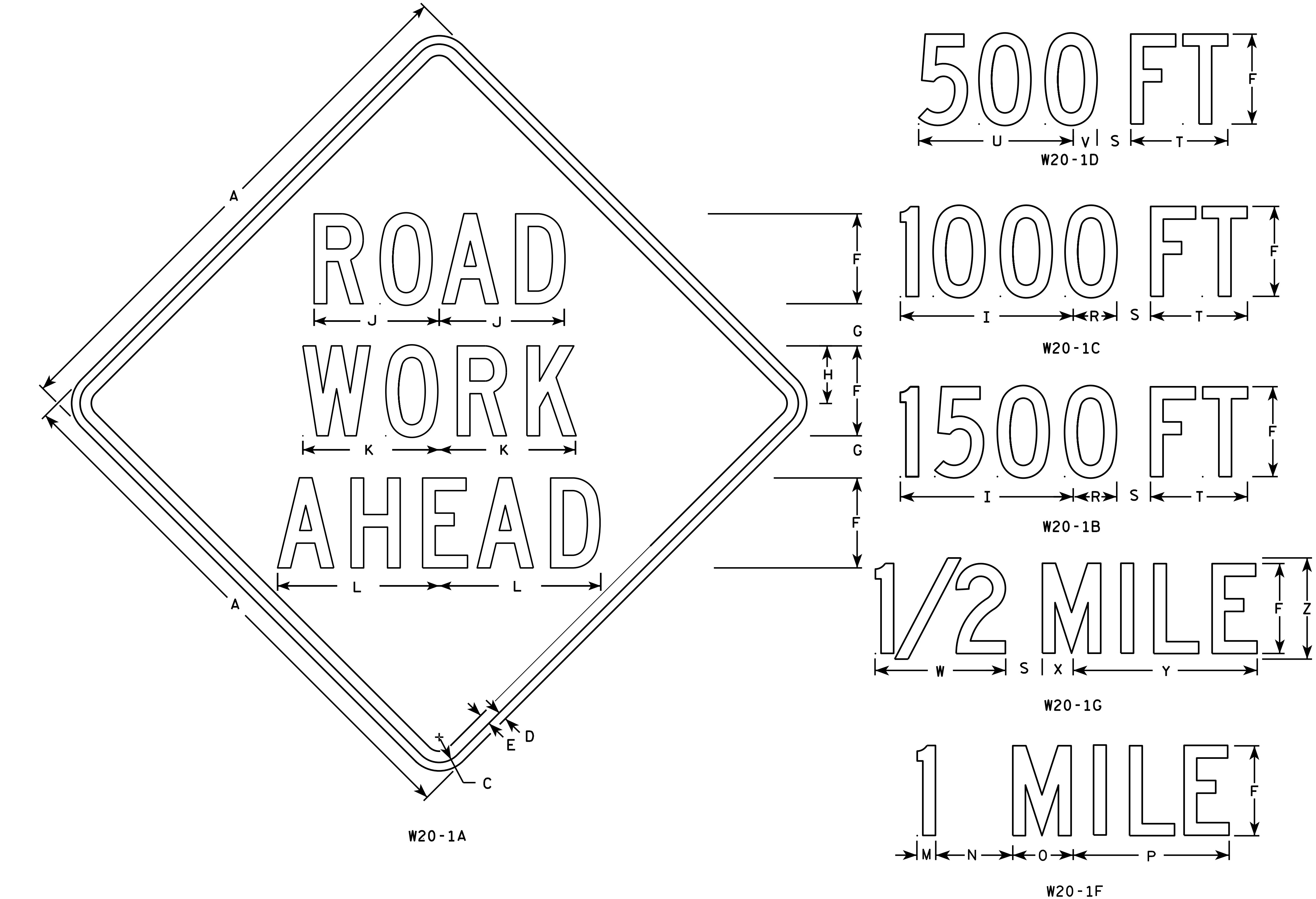
APPROVED Matthew R Rauch
For State Traffic Engineer

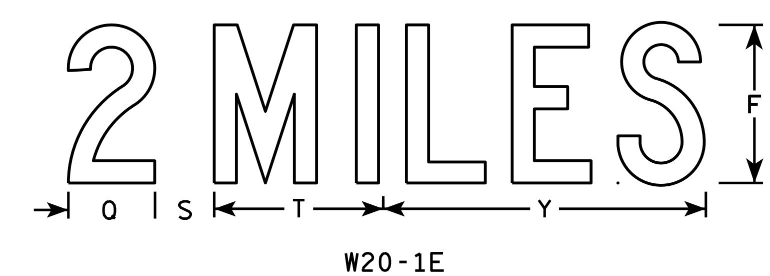
DATE 6/7/10 PLATE NO. W14-3.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 467 | E

7

7





NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

State Traffic Engineer

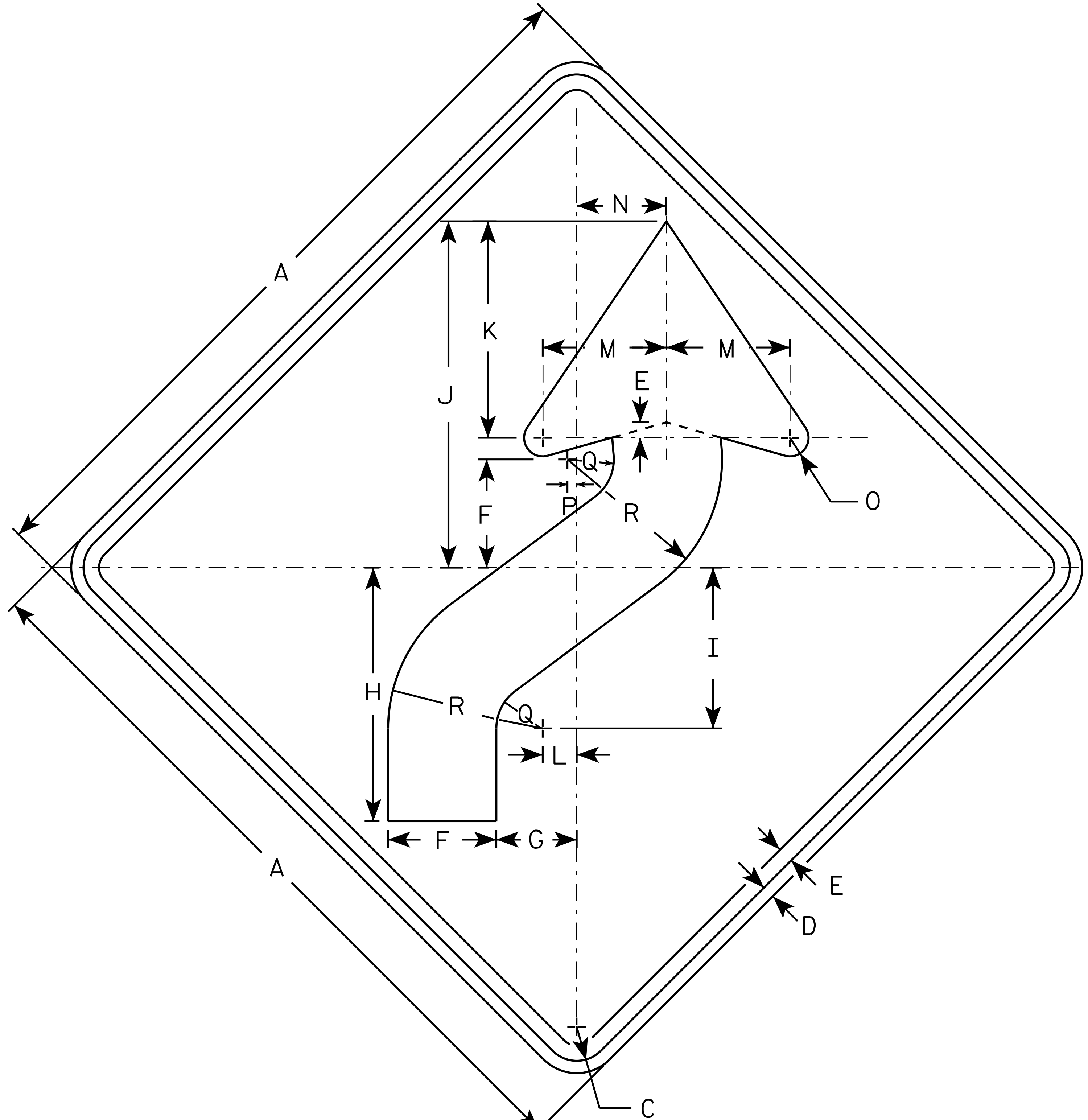
DATE 5/07/15 PLATE NO. W20-1.10

7 7

PROJECT NO: SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W201.dgn PLOT DATE : 27-MAY-2015 15:58 PLOT BY : mscsja

WISDOT/CADDS SHEET 42



W01-4R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W01-4L is the same as W01-4R except the arrow is reversed along the vertical centerline.

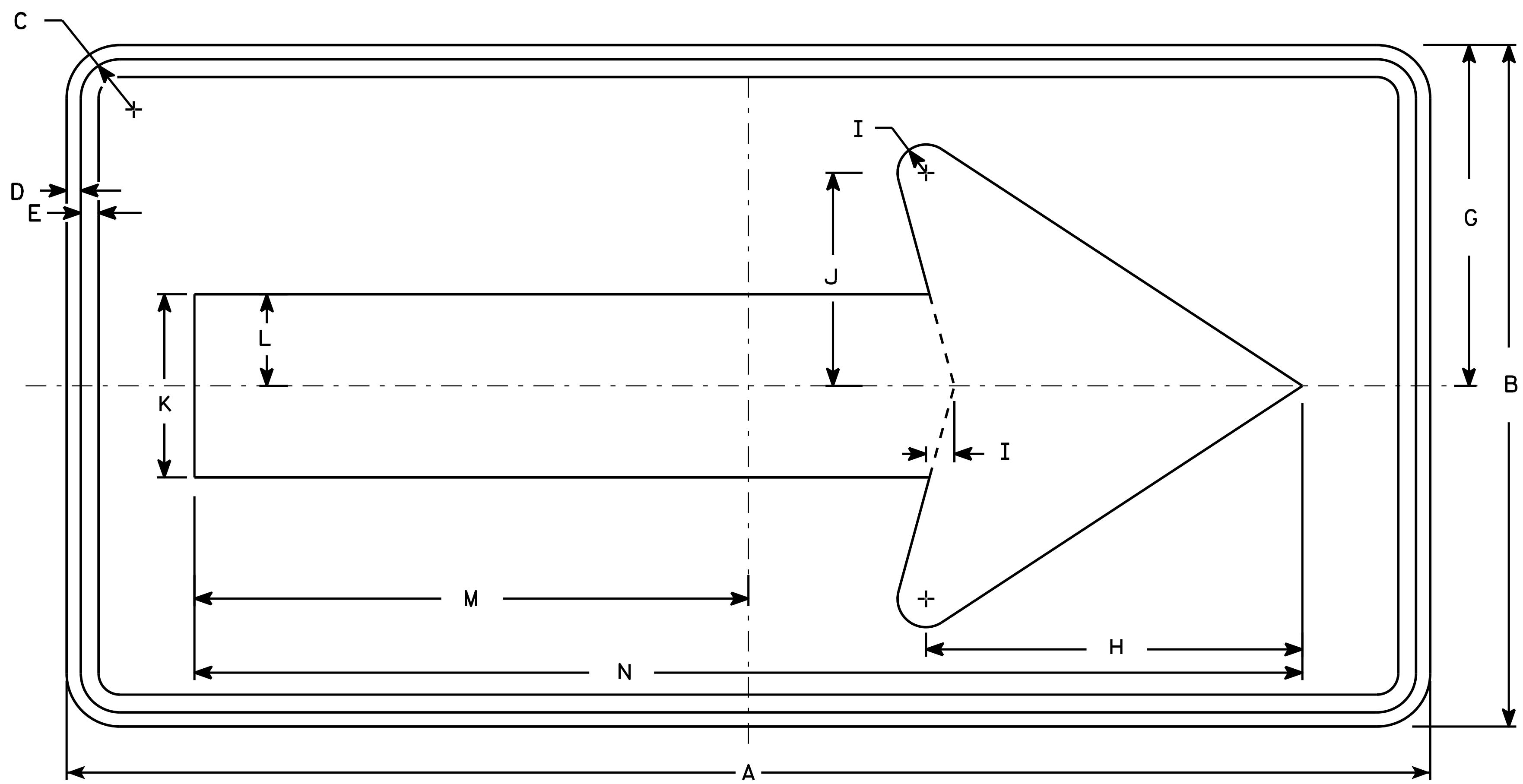
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
2S	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
2M	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
3	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
4	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
5	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0

STANDARD SIGN
W01-4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO W01-4.1



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	O	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

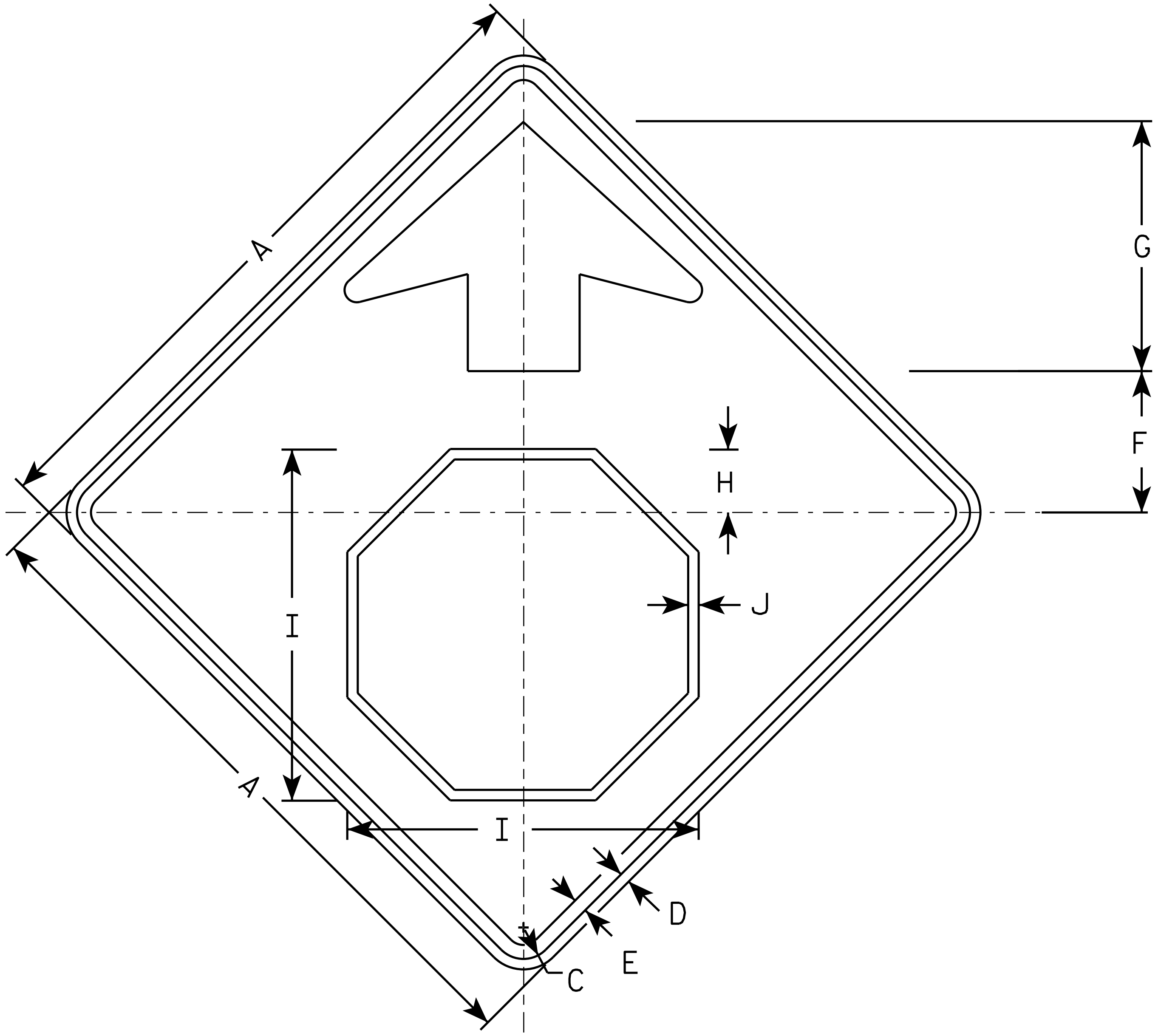
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-6.1

7

7

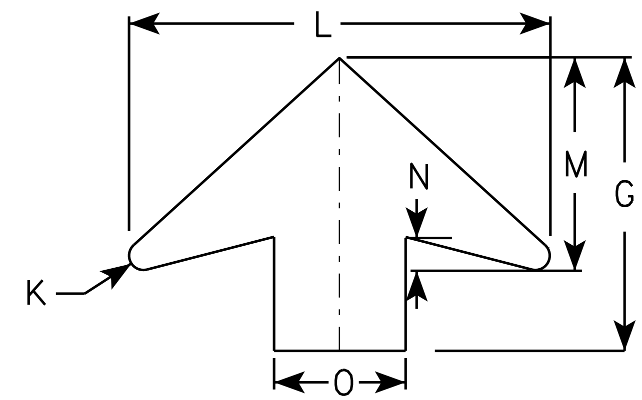
PROJECT NO: | HWY: | COUNTY: | SHEET NO: | E



W03-1

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - ORANGE
   Arrow & Border - BLACK
   Stop Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
2S	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
2M	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
3	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0

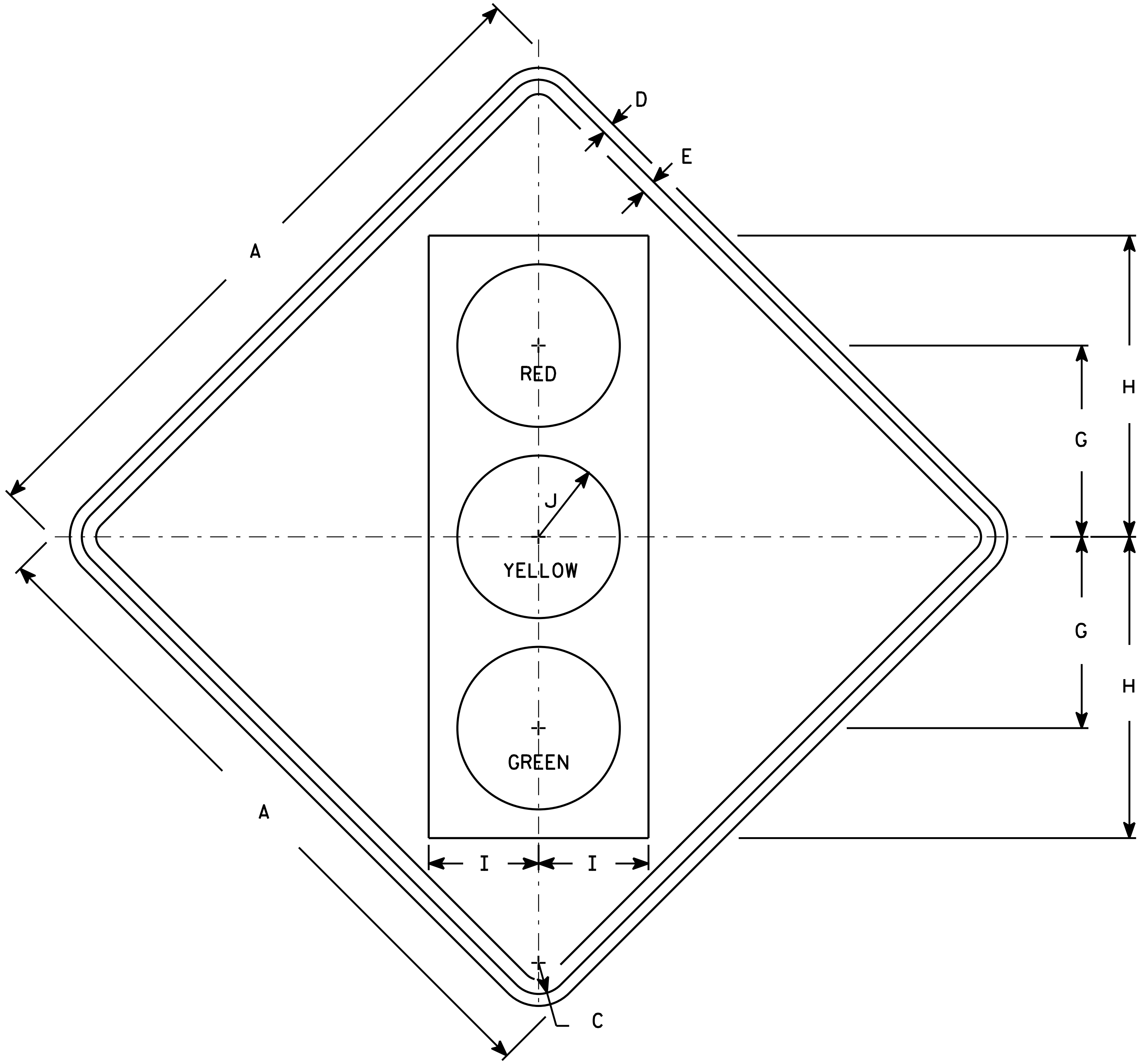
STANDARD SIGN
W03-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 471 03-1.1

PROJECT NO: SHEET NO: E



W03-3

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Symbol and border are non-reflective black.
   Top circle - Type H Reflectorized Red
   Center circle - Same as background
   Bottom circle - Type H Reflectorized Green

7

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		10	15 3/4	5 3/4	4 1/4																	9.0
2S	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
2M	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
3	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
4	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
5	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0

STANDARD SIGN
W03-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W03-3.1

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

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W033.DGN PLOT DATE : 20-NOV-2013 11:26 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 7.296908:1.000000 WISDOT/CADDS SHEET 42

7

W03-4

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.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	6	2 1/2	3 3/4	15 7/8	16 7/8	7 3/8	4	2 3/8	13 3/4													9.0
2S	48		2 1/4	3/4	1	8	4	5	21 1/2	22 1/2	9 7/8	5	3 3/8	18 1/4													16.0
2M	48		2 1/4	3/4	1	8	4	5	21 1/2	22 1/2	9 7/8	5	3 3/8	18 1/4													16.0
3	48		2 1/4	3/4	1	8	4	5	21 1/2	22 1/2	9 7/8	5	3 3/8	18 1/4													16.0
4	48		2 1/4	3/4	1	8	4	5	21 1/2	22 1/2	9 7/8	5	3 3/8	18 1/4													16.0
5	48		2 1/4	3/4	1	8	4	5	21 1/2	22 1/2	9 7/8	5	3 3/8	18 1/4													16.0

STANDARD SIGN
W03-4

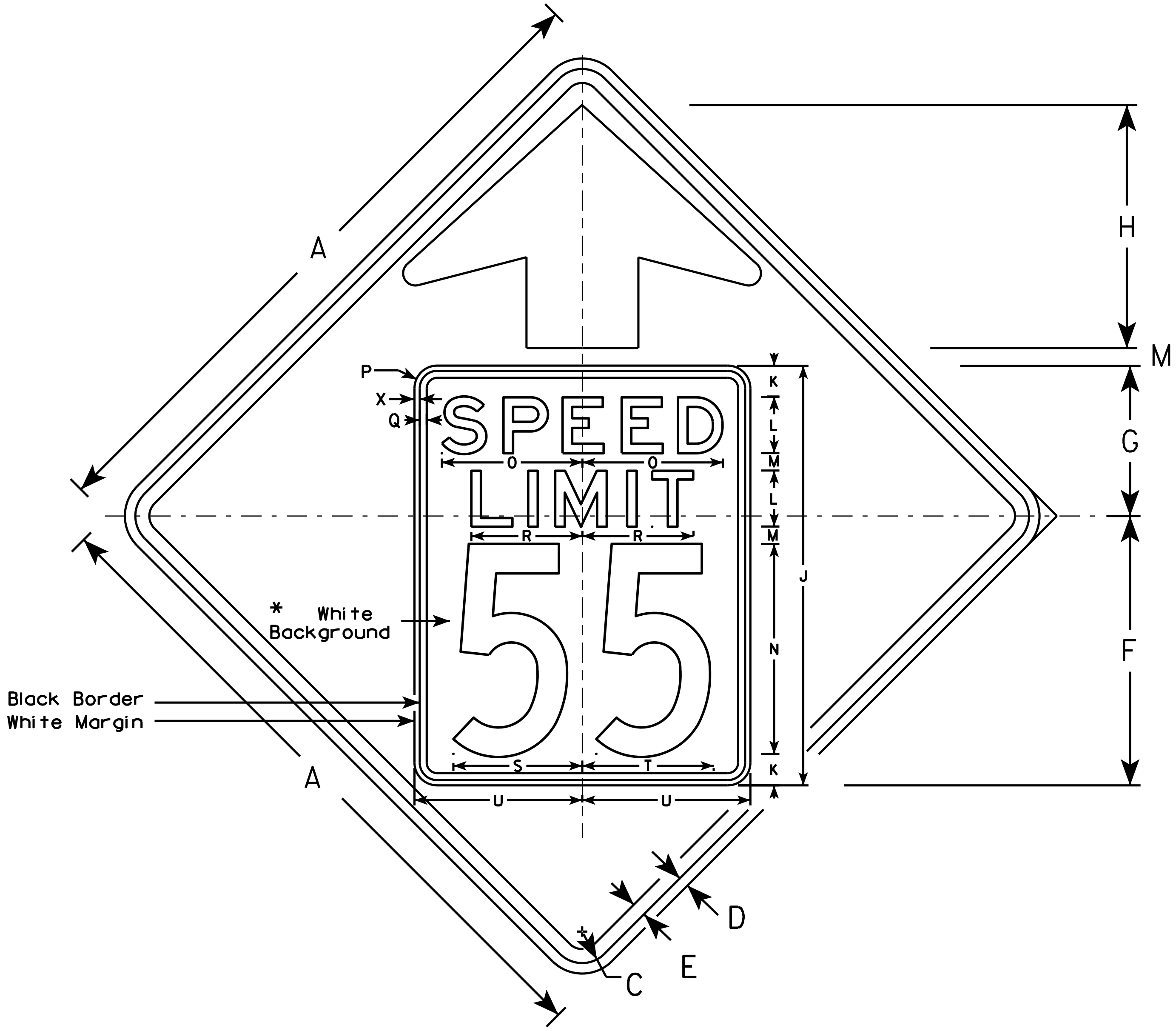
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/02/13 PLATE NO. W03-4.1

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

7

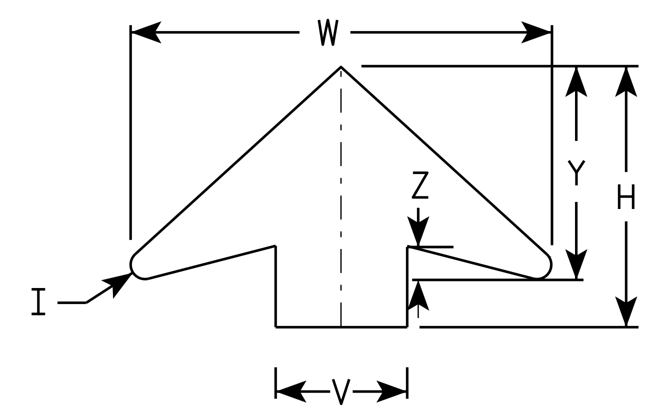


W03-5

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

7

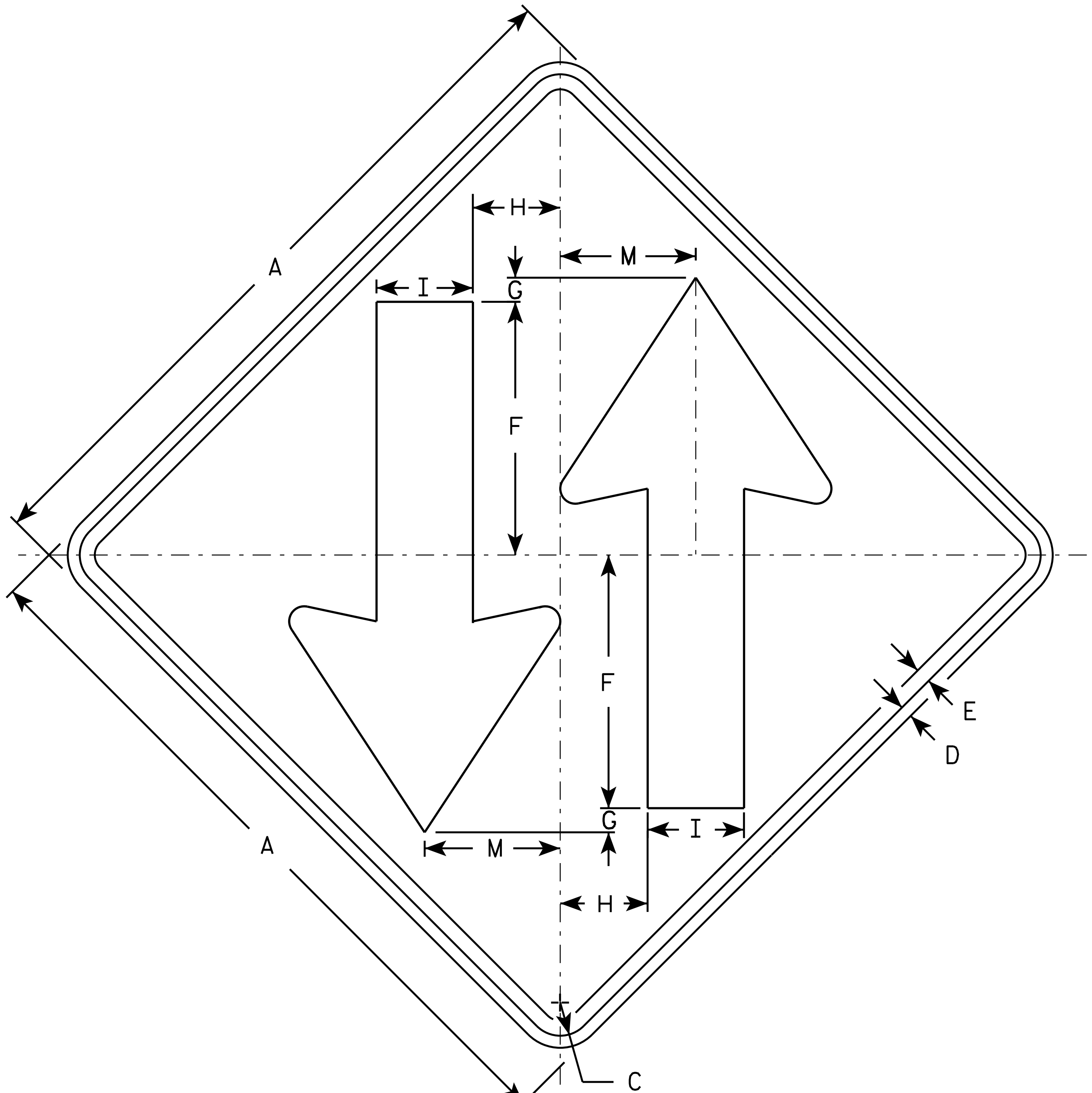
7

PROJECT NO:

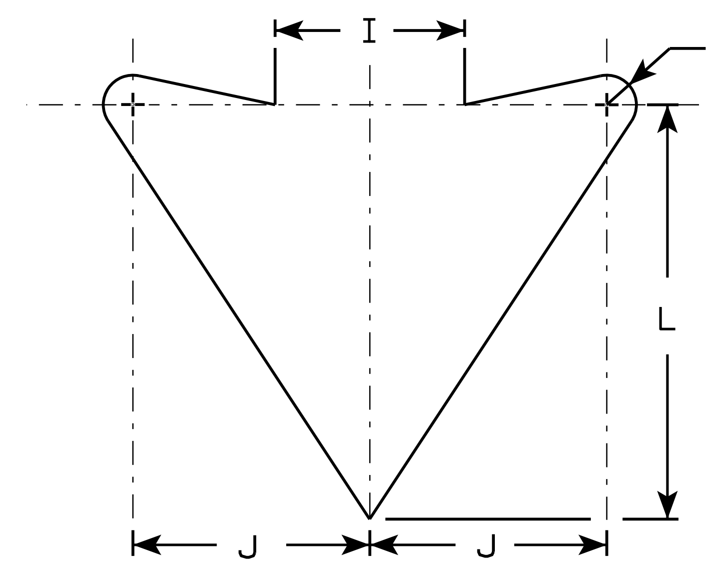
SHEET NO: E

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W06-3



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

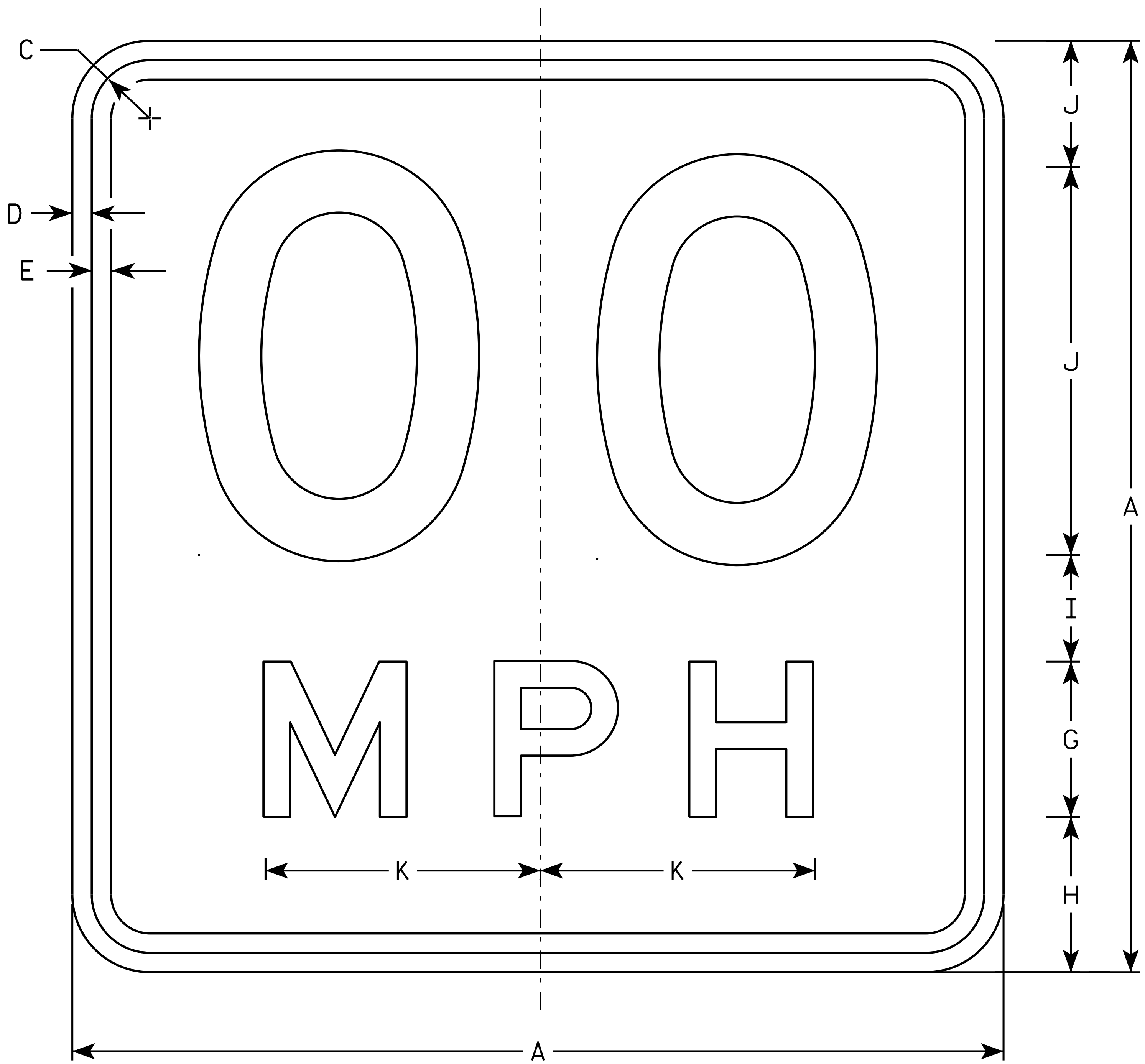
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W06-3.1

PROJECT NO: HWY: COUNTY: SHEET NO: E

7



W013-1

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See Note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
6. Line 1 is Series D
   Line 2 is Series E

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	7 1/8																4.00
2S	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
2M	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
3	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

STANDARD SIGN
W013-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

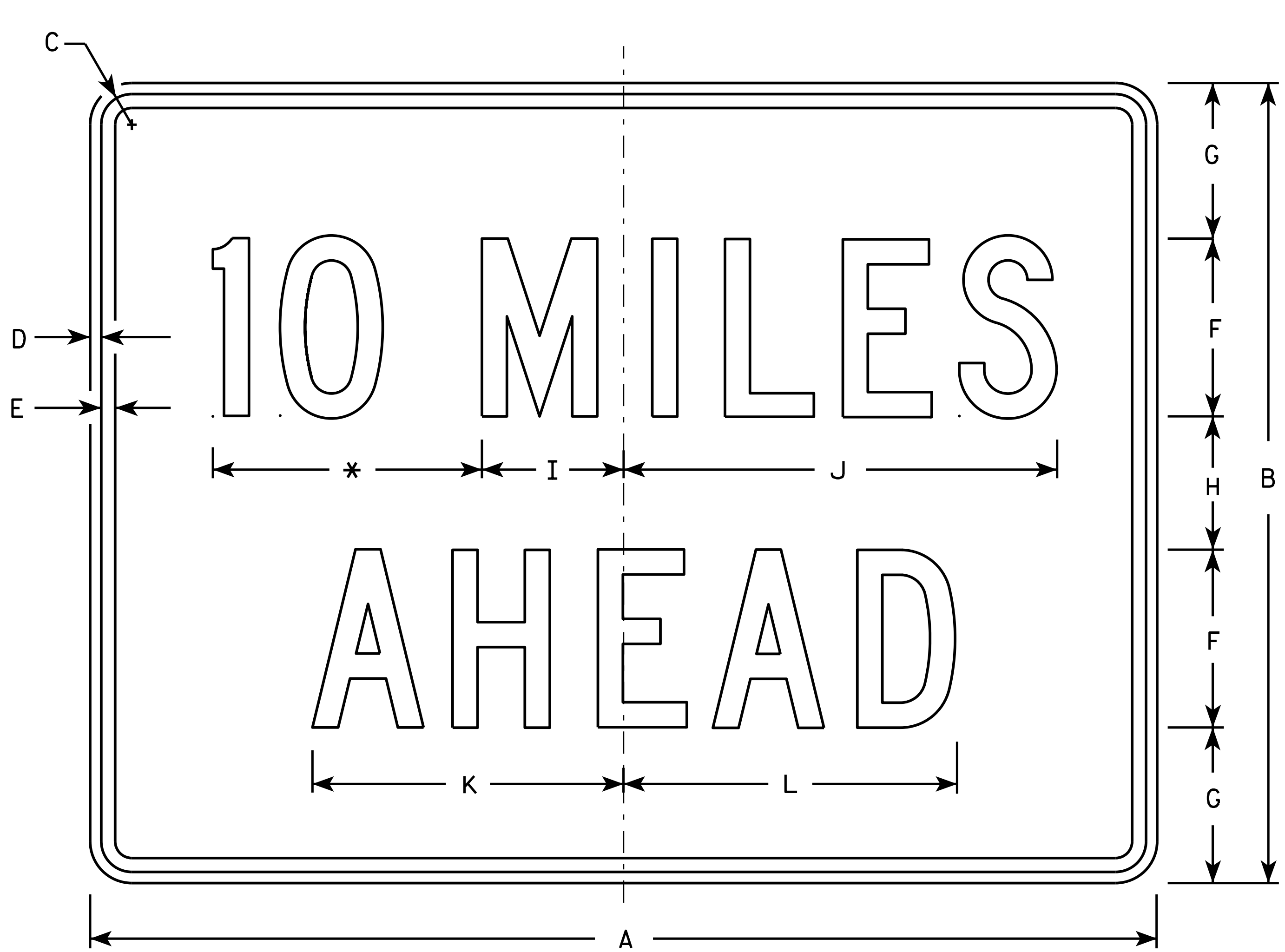
DATE 11/21/13 PLATE W013-1.1

PROJECT NO: HWY: COUNTY: SHEET NO: E

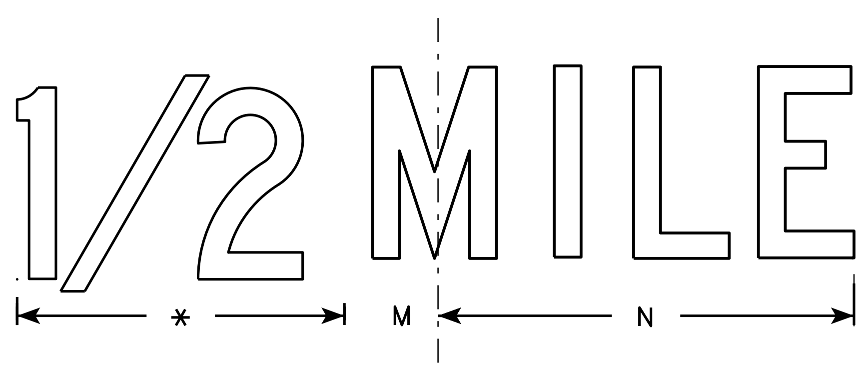
7 7

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.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.



W057-52



* See note 5

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	24	1 1/8	3/8	1/2	6	4 1/2	3	4 3/4	14 5/8	10 5/8	11 3/8	2	13													6.0
2S	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
2M	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
3	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
4	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
5	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0

STANDARD SIGN
W057-52

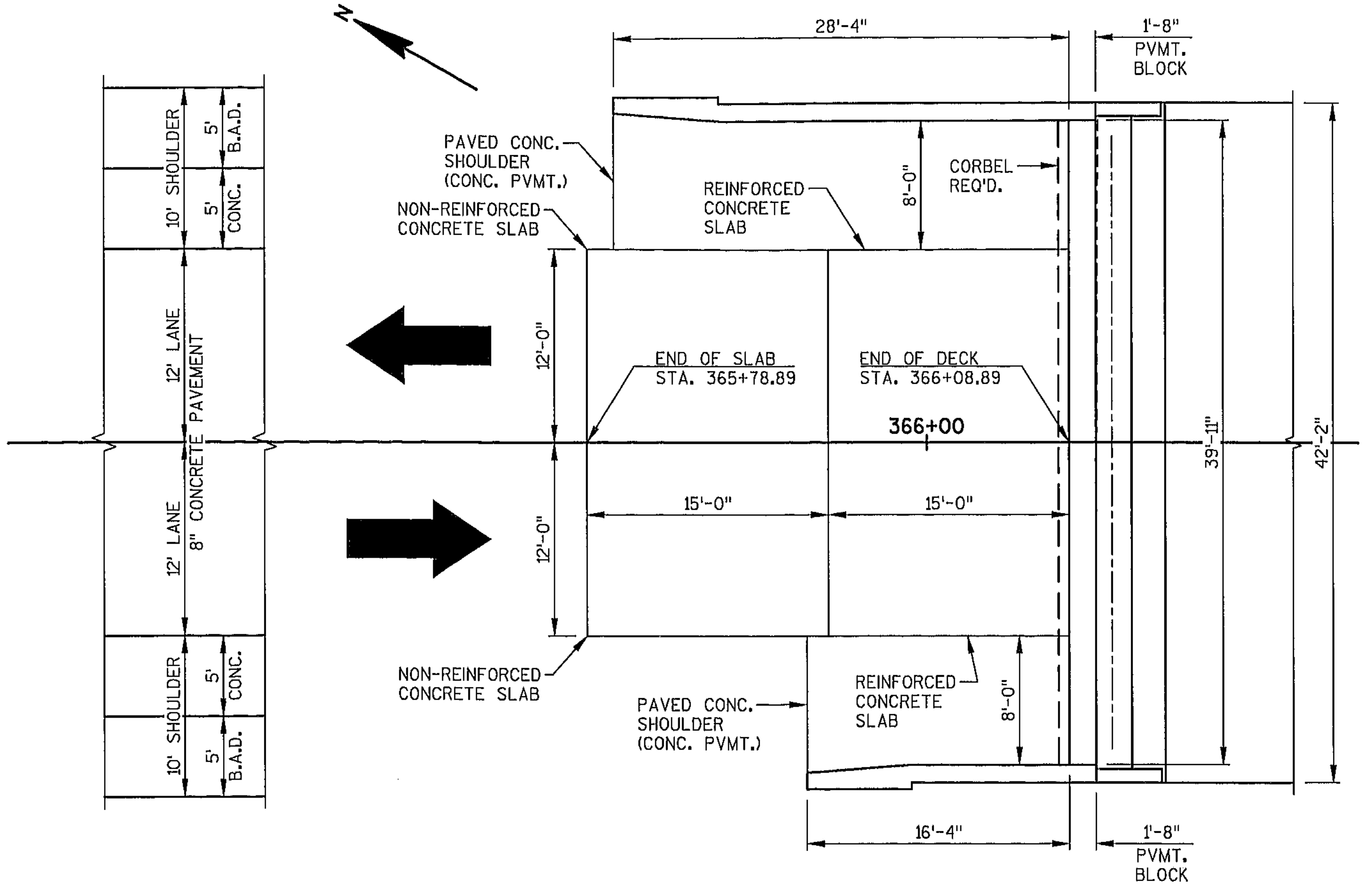
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W057-52.1

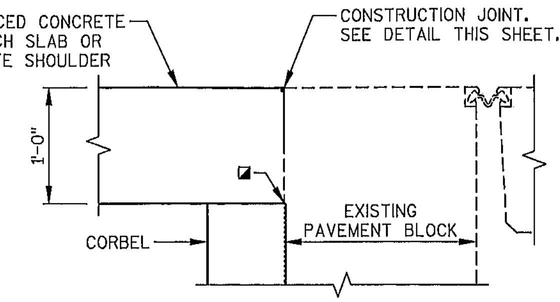
PROJECT NO: HWY: COUNTY: SHEET NO: E

STATE PROJECT NUMBER
1661-05-78



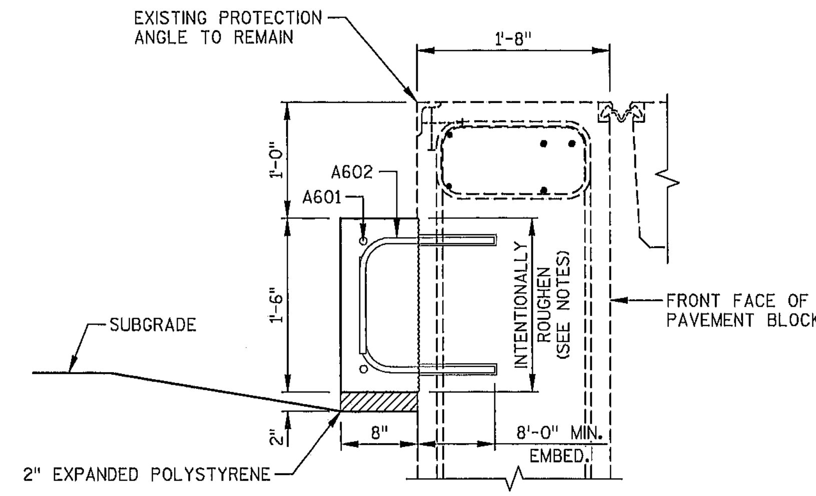
PLAN VIEW - NORTH ABUTMENT

SEE ROADWAY PLANS FOR CONCRETE APPROACH SLAB DETAILS

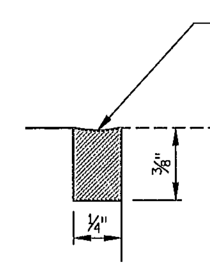


FINISHED SECTION AT END OF DECK

■ TROWEL LOW VISCOSITY CRACK SEALER INTO JOINT BETWEEN CORBEL AND PAVEMENT BLOCK. COST IS INCIDENTAL TO "CONCRETE MASONRY BRIDGES".



SECTION A-A



CONSTRUCTION JOINT DETAIL

DESIGN DATA

LIVE LOAD:

DESIGN LOADING — HS20
INVENTORY RATING FACTOR — HS22
OPERATING RATING FACTOR — HS37
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) — 190 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 P.S.F.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY — f'c = 3,500 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 — fy = 60,000 P.S.I.

TRAFFIC DATA

A.D.T. (2016) — 5,600
A.D.T. (2036) — 6,900
DESIGN SPEED — 60 M.P.H.

LIST OF DRAWINGS

GENERAL PLAN — 1.

NOTES

DURING FIELD DRILLING OF HOLES FOR MASONRY ANCHORS TYPE L NO. 6 BARS, IF EXISTING STEEL IS ENCOUNTERED, SHIFT THE HOLE TO MISS THE REINFORCEMENT.

CLEAN BACK FACE OF EXISTING PAVEMENT BLOCK TO REMOVE DIRT, LAITANCE AND ANY OTHER DELETERIOUS MATERIALS. INTENTIONALLY ROUGHEN SURFACE WHERE CORBEL WILL CONTACT EXISTING PAVEMENT BLOCK TO AN AMPLITUDE OF 0.125 INCHES. COST OF FURNISHING INTENTIONALLY ROUGHENED SURFACE IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY BRIDGES".

▲ ½" FILLER EXTEND AS SHOWN. JOINT FILLER SHALL CONFORM TO A.A.S.H.T.O. DESIGNATION M153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M213.

◇ CONSTRUCTION JOINT REQUIRED AT CENTER OF BRIDGE. BAR COUPLERS REQUIRED. SEE ROADWAY PLANS FOR CONSTRUCTION STAGING DETAILS.

BILL OF BARS

CORBEL — 440 LB (COATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
A601	4	19-9		X	CORBEL - HORIZ.
A602	108	2-0	X	X	CORBEL - VERT.

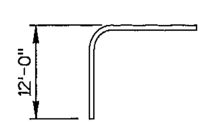
NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

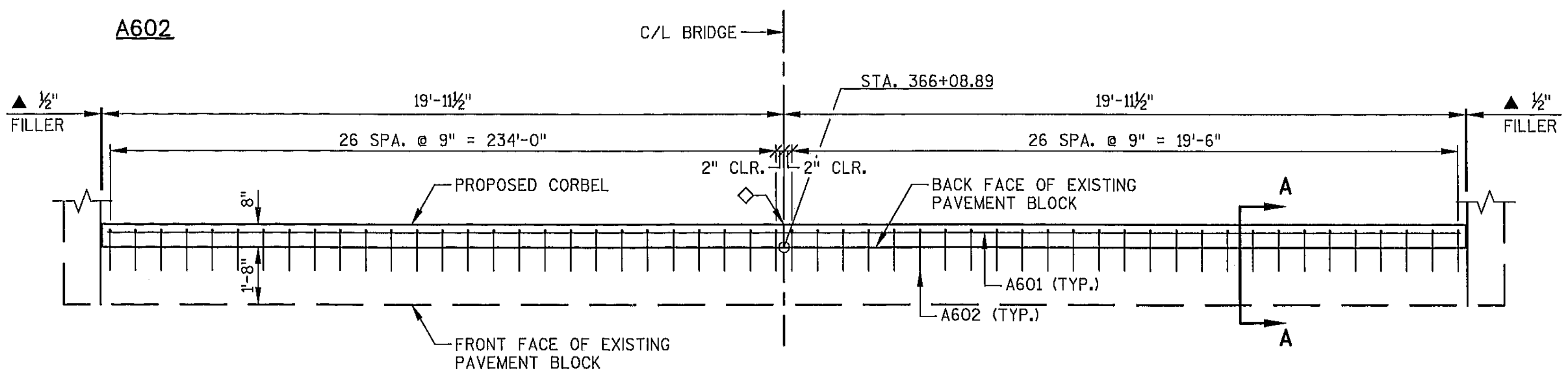
BAR COUPLERS NO. 6 REQ'D. AT A601 BARS. MASONRY ANCHORS TYPE L NO. 6 BARS REQ'D. AT A602 BARS.

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	UNIT	TOTALS
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-12-0093	LS	1
502.0100	CONCRETE MASONRY BRIDGES	CY	1.5
502.5010	MASONRY ANCHORS TYPE L NO. 6 BARS	EACH	108
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	440
505.0906	BAR COUPLERS NO. 6	EACH	2
	NON-BID ITEMS		
	FILLER	SIZE	½"
	EXPANDED POLYSTYRENE	SIZE	2"



A602



CORBEL PLAN VIEW

WISCONSIN
PATRICK T. BOLAND
E-36303
SPRING GREEN, WIS.
PROFESSIONAL ENGINEER
Patrick T. Boland 7-30-15

DESIGN CONSULTANT
PATRICK BOLAND, PE
(608) 588-7484

BRIDGE OFFICE CONTACT
WILLIAM DREHER, PE
(608) 266-8489

NO.	DATE	REVISION	BY

JEWELL associates engineers, inc.
Engineers • Surveyors • Architects
560 SUNRISE DRIVE
SPRING GREEN, WI 53588
PHONE: (608) 588-7484
FAX: (608) 588-9322

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 08/17/15
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-12-0093

USH 18 OVER WISCONSIN RIVER

COUNTY CRAWFORD — TOWN/~~CITY/VILLAGE~~ BRIDGEPORT

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY PTB — DESIGN CK'D. RBH — DRAWN BY PTB — PLANS CK'D. RBH

GENERAL PLAN

SHEET 1 OF 1

8

8

FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0093 (APPROACH SLAB)\B-12-0093_01_GENERAL PLAN.DWG
LAYOUT : LAYOUT

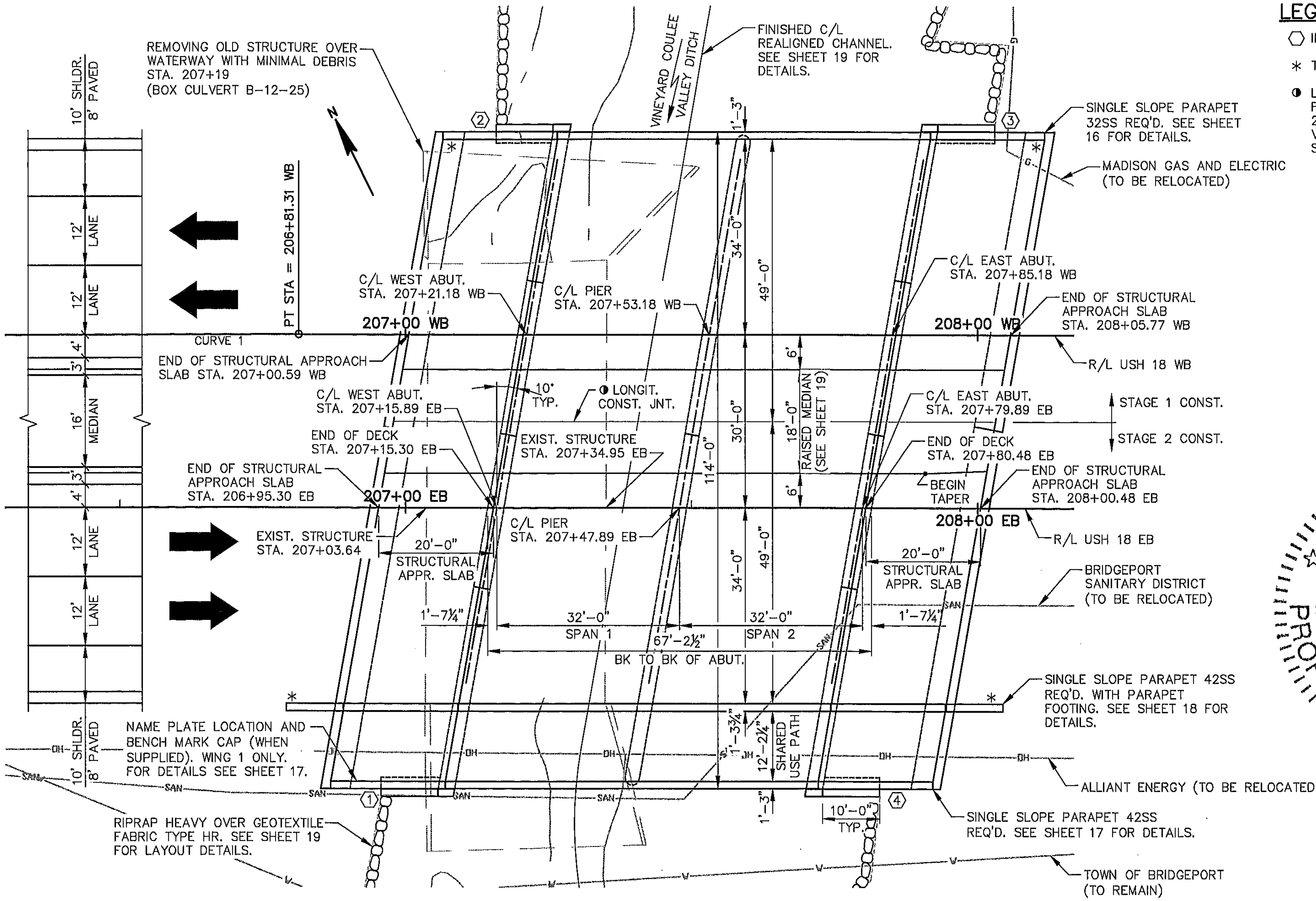
PLOT DATE : 7/29/2015
PLOT TIME : 10:34:57 AM

PLOT BY : BOLAND, PATRICK

PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

1661-05-78



PLAN B-12-0184

(TWO-SPAN REINFORCED CONCRETE FLAT SLAB)

LEGEND

- ⬡ INDICATES WING NUMBER
- * THRIE BEAM RAIL ATTACHMENT
- ◑ LONGITUDINAL CONSTRUCTION JOINT FORMED BY SURFACED AND BEVELED 2x6. ROUT AND SEAL WITH LOW VISCOSITY CRACK SEALER. SEE SHEET 19 FOR DETAIL.

CURVE 1

PI STA. = 205+75.47 WB
Y = 109,186.71
X = 327,734.85
R = 14100.00
D = 0°24'23"
DELTA = 0°49'06"
L = 201.41
T = 100.71
C = 201.41
PC STA. = 204+74.76 WB
Y = 109,230.17
X = 327,644.01
PT STA. = 206+81.31 WB
Y = 109,141.96
X = 327,825.07

WISCONSIN PATRICK T. BOLAND E-36303 SPRING GREEN, WIS. PROFESSIONAL ENGINEER
Patrick Boland 8-5-15

DESIGN DATA

LIVE LOAD:

DESIGN LOADING ____ HL-93
INVENTORY RATING FACTOR ____ RF=1.45
OPERATING RATING FACTOR ____ RF=1.88
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) ____ 250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 P.S.F.

MATERIAL PROPERTIES:

CONCRETE MASONRY, SLAB ____ f'c = 4,000 P.S.I.
ALL OTHER ____ f'c = 3,500 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 ____ fy = 60,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON PILING CIP CONCRETE 10¾ X 0.25-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 130 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 70 FT. PILE LENGTHS AT BOTH ABUTMENTS. PIER TO BE SUPPORTED ON PILING CIP CONCRETE 12¾ X 0.25-INCH LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 160 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 73 FT. PILE LENGTHS AT PIER.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

TRAFFIC DATA

A.D.T. (2016) ____ 8,500
A.D.T. (2036) ____ 10,800
DESIGN SPEED ____ 50 M.P.H.

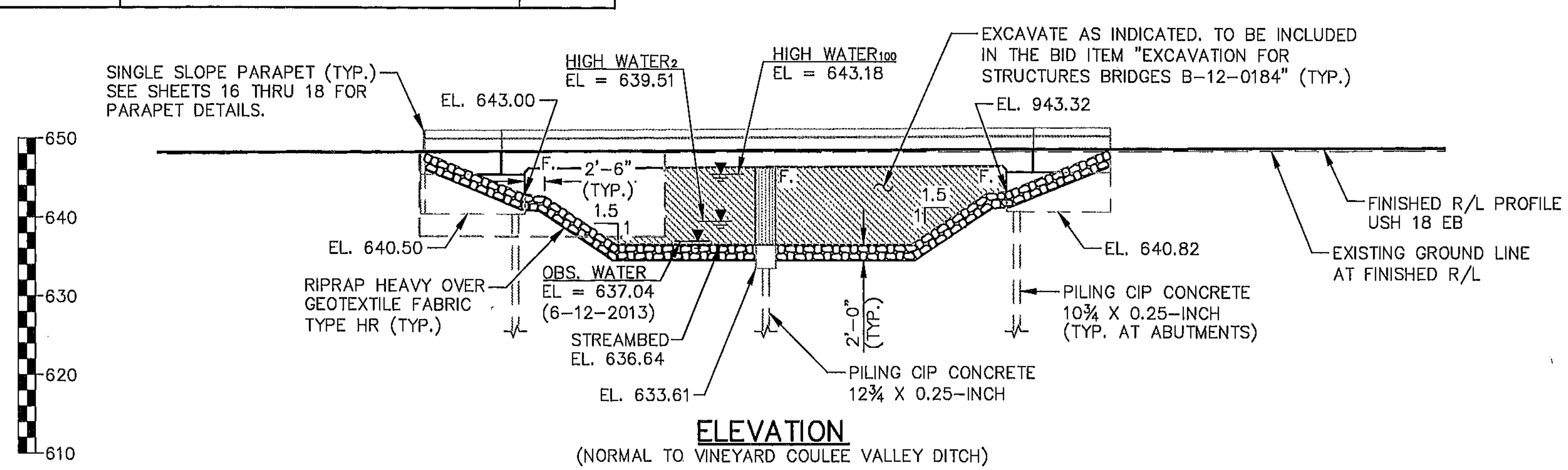
HYDRAULIC DATA

100 YEAR FREQUENCY
DRAINAGE AREA ____ 6.8 SQ. MI.
Q_{100} TOTAL ____ 1,550 C.F.S.
THROUGH STRUCTURE ____ 1,550 C.F.S.
OVERTOPPING ROADWAY ____ N/A
VELOCITY - THROUGH STRUCTURE ____ 6.8 F.P.S.
WATERWAY AREA - THROUGH STRUCTURE ____ 227 SQ. FT.
HIGH $WATER_{100}$ ELEVATION ____ 643.18
SCOUR CRITICAL CODE ____ 5

EROSION CONTROL
Q_2 ____ 250 C.F.S.
HIGH $WATER_2$ ELEVATION ____ 639.51

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
414	195+14.78, 47.3' RT.	BOLT ON FIRE HYDRANT TA6 7 BURY 6	648.51
413	207+04.27, 33.8' RT.	DISK SW COR. BOX CULVERT B-12-25	645.47
412	11+62.97, 17.6' LT.	CHIS.☐ NW CORNER DECK, BEHIND RAIL	649.68



ELEVATION

(NORMAL TO VINEYARD COULEE VALLEY DITCH)

LIST OF DRAWINGS

DESIGN CONSULTANT
PATRICK BOLAND, PE
(608) 588-7484

BRIDGE OFFICE CONTACT
WILLIAM DREHER, PE
(608) 266-8489

8

NO.	DATE	REVISION	BY

JEWELL associates engineers, inc. Engineers - Surveyors - Architects
560 SUNRISE DRIVE
SPRING GREEN, WI 53588
PHONE: (608) 588-7484
FAX: (608) 588-9322

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 08/06/15
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-12-0184

USH 18 OVER VINEYARD COULEE VALLEY DITCH

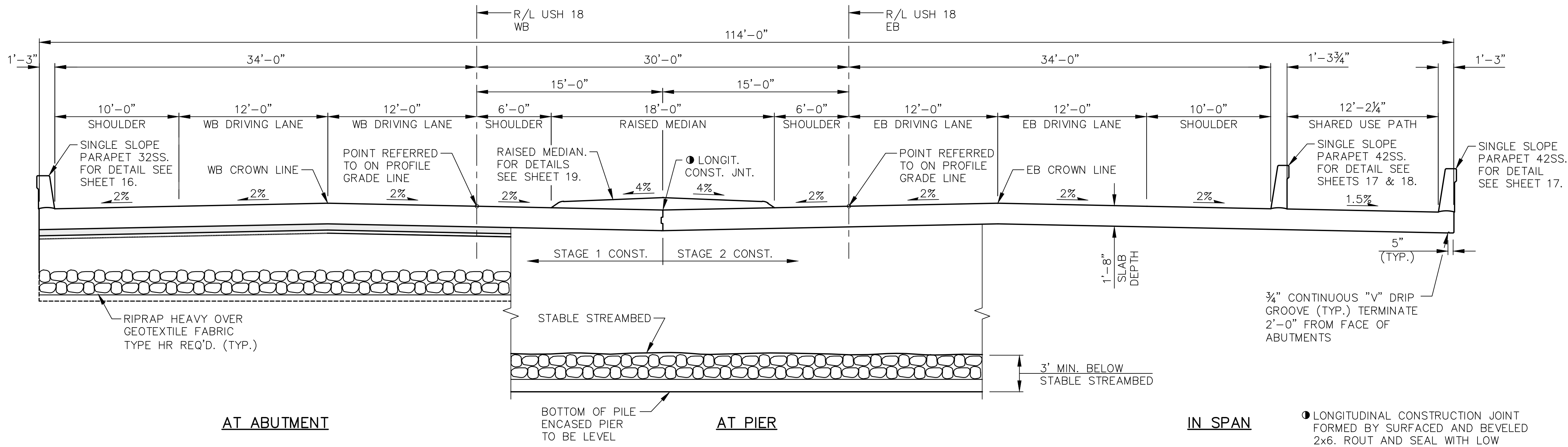
COUNTY CRAWFORD TOWN/~~CITY~~/~~VILLAGE~~ BRIDGEPORT

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY PTB | DESIGN CK'D. RBH | DRAWN BY PTB | PLANS CK'D. RBH

GENERAL PLAN

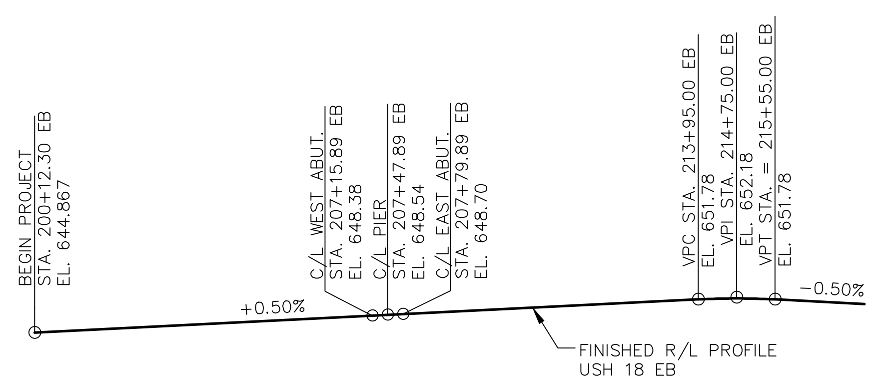
SHEET 1 OF 20



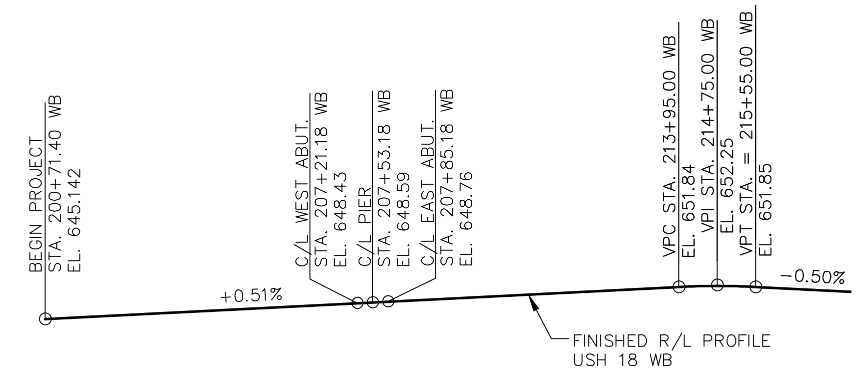
◑ LONGITUDINAL CONSTRUCTION JOINT FORMED BY SURFACED AND BEVELED 2x6. ROUT AND SEAL WITH LOW VISCOSITY CRACK SEALER. SEE SHEET 19 FOR DETAIL.

PROPOSED CROSS-SECTION THROUGH ROADWAY

(LOOKING EAST)



USH 18 EB – PROFILE GRADE LINE



USH 18 WB – PROFILE GRADE LINE

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD 88).

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

JOINT FILLER SHALL CONFORM TO A.A.S.H.T.O. DESIGNATION M153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M213.

THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE FABRIC TYPE HR TO THE EXTENT SHOWN ON SHEET 19 AND IN THE ABUTMENT DETAILS, OR AS DIRECTED BY THE ENGINEER IN THE FIELD.

AT THE BACK FACE OF ABUTMENTS, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE.

THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.

APPLY PROTECTIVE SURFACE TREATMENT TO THE ENTIRE TOP OF THE DECK AND THE STRUCTURAL APPROACH SLABS EXCEPT THOSE PORTIONS COVERED BY THE MEDIAN, TO ALL SURFACES OF THE MEDIAN INCLUDING THOSE PORTIONS ON THE STRUCTURAL APPROACH SLABS AND TO THE PAVING NOTCHES.

APPLY PIGMENTED SURFACE SEALER TO ALL SURFACES OF THE SEPARATION BARRIER INCLUDING THOSE PORTIONS ON THE STRUCTURAL APPROACH SLABS AND TO THE FRONT FACE AND TOP OF THE OUTER PARAPETS INCLUDING PARAPETS ON THE STRUCTURAL APPROACH SLABS.

THE EXISTING STRUCTURE (B-12-0025) IS A REINFORCED CONCRETE BOX CULVERT WITH TWO 15-FOOT WIDE BY 10-FOOT HIGH CELLS AND A BARREL LENGTH OF 76.8 FEET WHICH SHALL BE REMOVED.

ALL STATIONS AND ELEVATIONS SHOWN ARE IN FEET.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

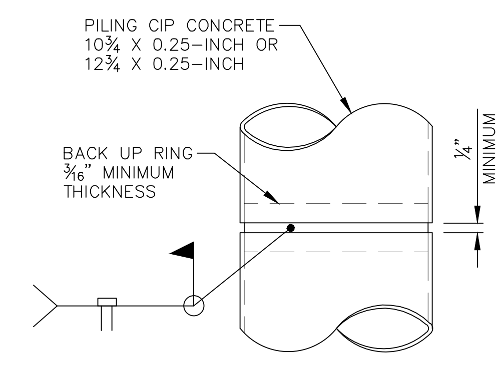
SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS AN ALTERNATIVE METHOD IS APPROVED BY THE ENGINEER IN THE FIELD.

THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

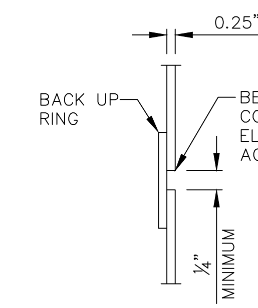
TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	UNIT	W. APPR. SLAB	W. ABUT.	PIER	E. ABUT.	E. APPR. SLAB	*SUPER.	TOTAL
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 207+19	LS	--	--	--	--	--	--	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-12-0184	LS	--	--	--	--	--	--	1
210.0100	BACKFILL STRUCTURE	CY	--	135	--	135	--	--	270
305.0120	BASE AGGREGATE DENSE 1¼-INCH	CY	350	--	--	--	350	--	700
502.0100	CONCRETE MASONRY BRIDGES	CY	131	83	129	83	131	582	1,139
502.3200	PROTECTIVE SURFACE TREATMENT	SY	248	--	--	--	247	865	1,365
502.3210	PIGMENTED SURFACE SEALER	SY	45	--	--	--	45	120	210
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	--	6,980	5,680	6,980	--	--	19,640
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	24,425	1,520	240	1,540	24,425	92,540	144,690
505.0800.S	BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES	LB	1,940	--	--	--	1,940	--	3,880
511.1200	TEMPORARY SHORING B-12-0184	SF	--	--	--	--	--	--	670
511.2200	TEMPORARY SHORING LEFT IN PLACE B-12-0184	SF	--	--	--	--	--	--	180
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	--	25	--	25	--	--	50
550.2104	PILING CIP CONCRETE 10¾ X 0.25-INCH	LF	--	1,120	--	1,120	--	--	2,240
550.2124	PILING CIP CONCRETE 12¾ X 0.25-INCH	LF	--	--	1,385	--	--	--	1,385
606.0300	RIPRAP HEAVY	CY	--	470	--	690	--	--	1,160
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	--	190	--	190	--	--	380
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	--	--	--	--	--	4	4
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	--	750	--	1,050	--	--	1,800
	NON-BID ITEMS								
	FILLER	SIZE							½ ¾ 1¼ 1½
	NAME PLATE								

* THE SUPERSTRUCTURE QUANTITIES INCLUDE THE CONCRETE AND BAR STEEL REINFORCEMENT OF THE PARAPETS AND THE RAISED MEDIAN ON THE DECK INCLUDING THOSE PORTIONS LOCATED ON THE STRUCTURAL APPROACH SLABS.



CAST IN PLACE PIPE PILE



C.I.P. PILE WELD DETAIL

NOTES:

CAST-IN-PLACE PILE SHELL MATERIAL SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS

GRINDING MAY BE USED IN LIEU OF BACKGOUGING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0184

DRAWN BY PTB PLANS CK'D. RBH

CROSS SECTION AND QUANTITIES

SHEET 2 OF 20

8

8

FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0184 (BRIDGE)\B-12-0184_02_CROSS SECTION QUAN.DWG
LAYOUT : LAYOUT

PLOT DATE : 8/5/2015
PLOT TIME : 1:41:05 PM

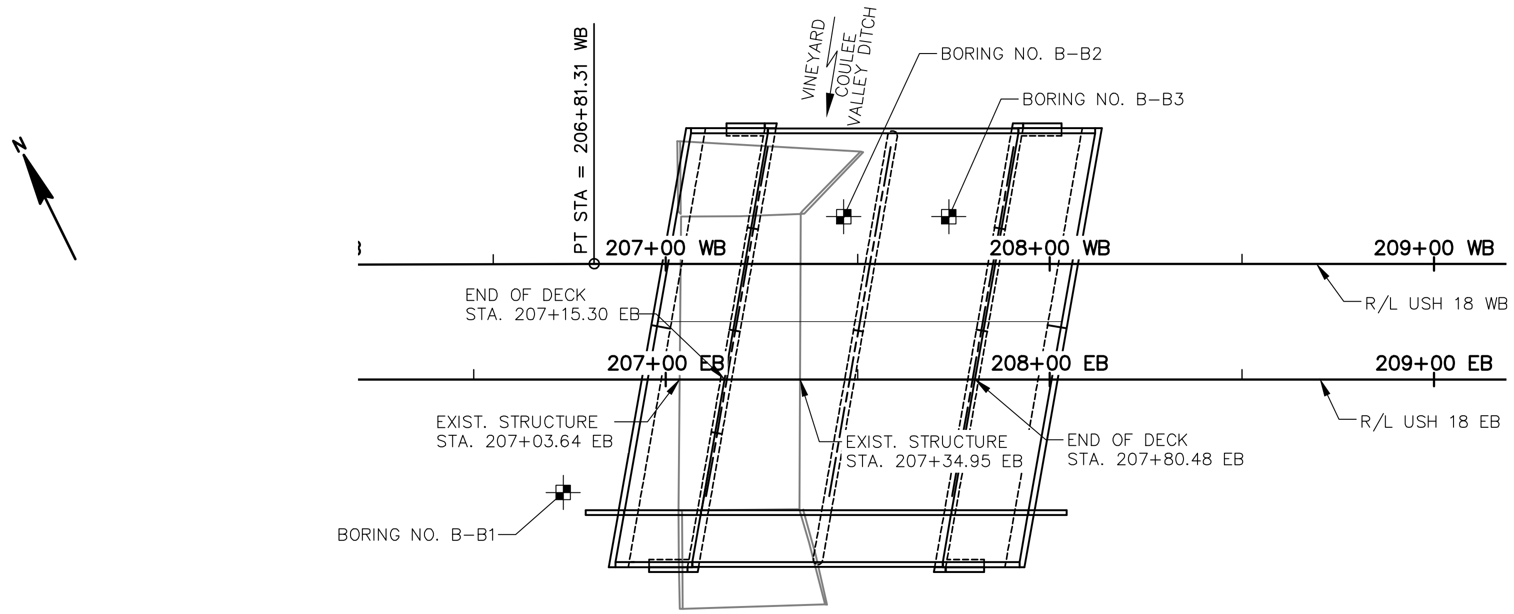
PLOT BY : BOLAND, PATRICK

PLOT SCALE : 1" = 1'

SOIL BORINGS

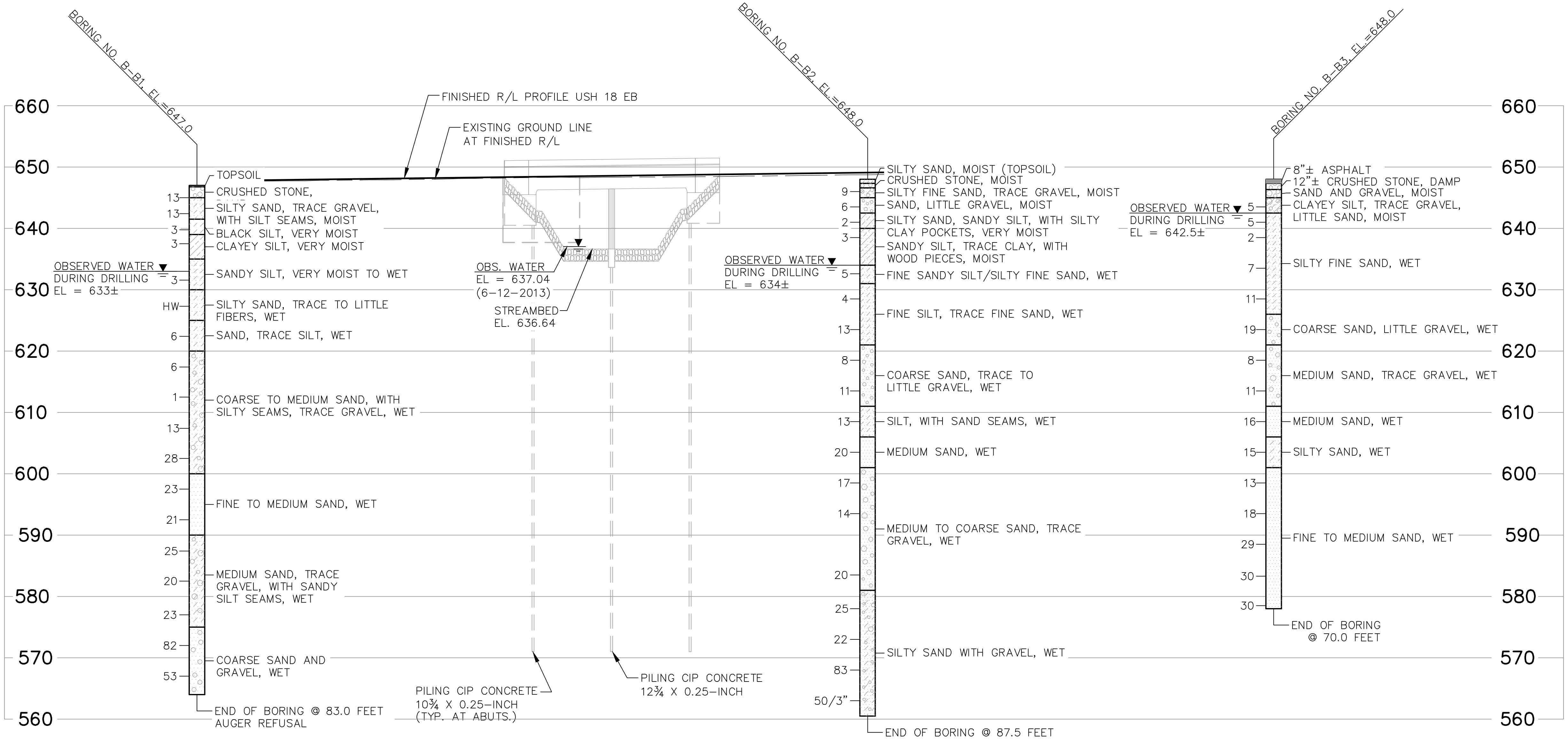
BY: MIDWEST ENGINEERING SERVICES
821 CORPORATE COURT, STE 102
WAUKESHA, WI 53189

ON: JULY 23, 2014 AND JULY 24, 2015



PLAN B-12-0184

ABUTMENTS TO BE SUPPORTED ON PILING CIP CONCRETE 10¾ X 0.25-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 70 FT. PILE LENGTHS AT BOTH ABUTMENTS. PIER TO BE SUPPORTED ON PILING CIP CONCRETE 12¾ X 0.25-INCH LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 73 FT. PILE LENGTHS AT PIER.



STATE PROJECT NUMBER

1661-05-78

ABBREVIATIONS

F-Fine M-Medium C-Course
Ws-Weathered So-Sound

MATERIAL SYMBOLS

Asphalt, Silt, Sandstone, Sand, Peat, Limestone, Gravel, Clay, Igneous Rock

LEGEND OF PROBING

PROBING No.; Elevation
Station

95/6 = 96 Blows for 6" Penetration.
Probing Taken with a 350# Weight Falling 18" on a 2" O.D. Point.

7 Average Blows Per Foot

Refusal 95/6

LEGEND OF BORING

Boring No.; Elevation
Station

Unconfined Strength — 7.7 8

Blows Per Ft. Using 140# Wt. Falling 30"

Wash Sample

Shelby Tube — S.T.

No Ground Water Observed Above This Elevation

Ground Water Elevation

Sandy Gravel
Boulders or Cobbles
F. Sand
Silty Clay
So. Limestone

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0184

DRAWN BY TMS PLANS CK'D. RBH

SUBSURFACE EXPLORATION

SHEET 3 OF 20

STATE PROJECT NUMBER

1661-05-78

NOTES

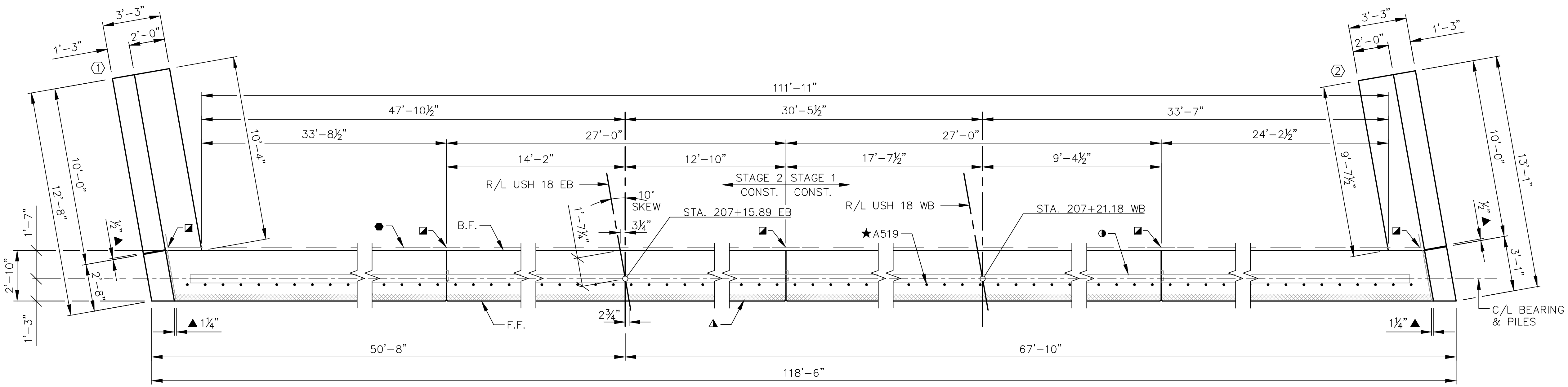
SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 6 FOR BILL OF BARS.

DO NOT PLACE FILL HIGHER THAN 3 FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

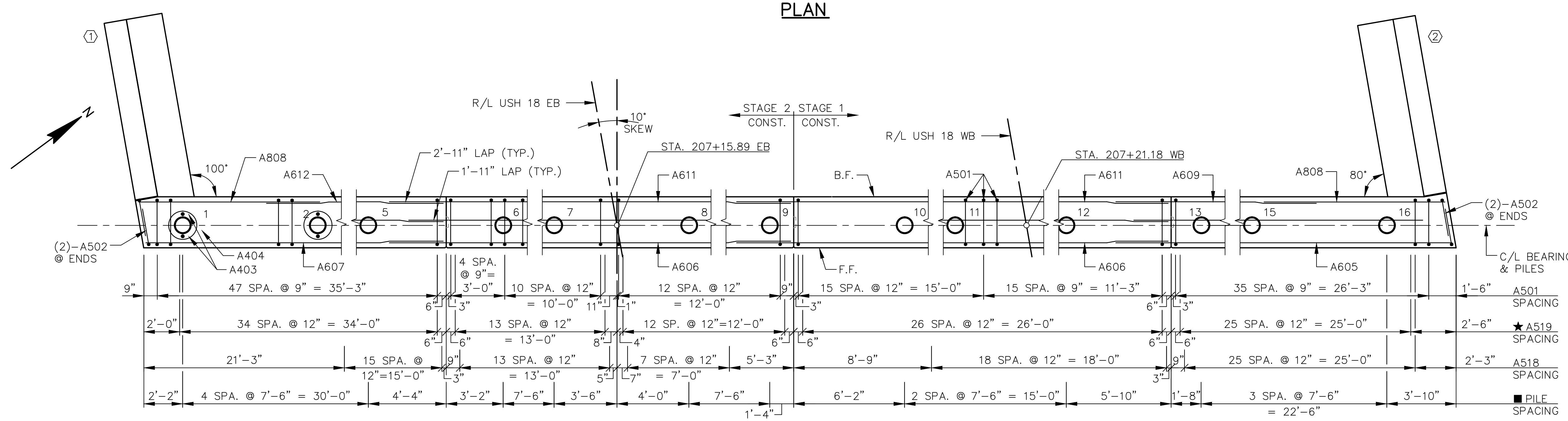
SPACE REINFORCEMENT TO MISS PILING.

F.F. – FRONT FACE

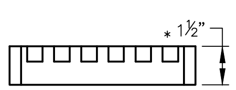
B.F. – BACK FACE



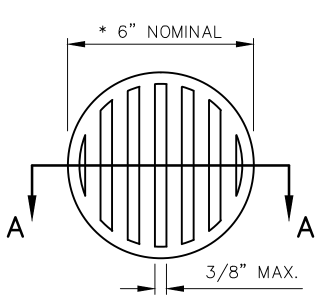
PLAN



LAYOUT



SECTION A–A



RODENT SCREEN

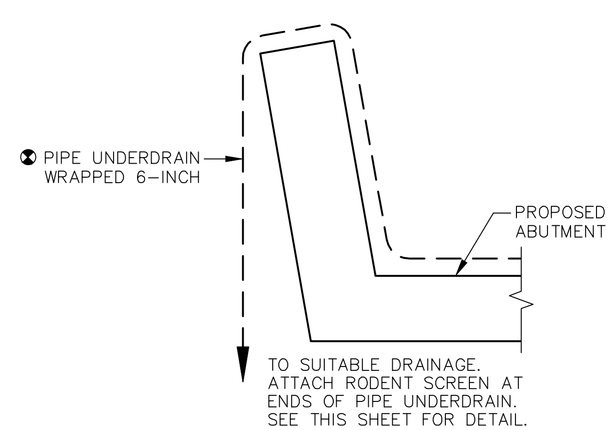
RODENT SCREEN NOTES:

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

ORIENT SHIELD SO SLOTS ARE VERTICAL.

THE RODENT SCREEN, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SCREEN SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SCREEN TO THE EXPOSED ENDS OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



PIPE UNDERDRAIN DETAIL

LEGEND

- ◑ KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6.
- ◪ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING. AT WINGWALLS, EXTEND TO 1" BELOW TOP OF WINGS.
- ⬢ 18" RUBBERIZED MEMBRANE WATERPROOFING (HORIZONTAL)
- ▲ FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINUOS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE)
- ◭ 4" x ¾" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF SLAB.
- ★ A519 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".
- ■ PILE SPACING MEASURED AT BASE OF ABUTMENT BODY.
- ⬡ INDICATES WING NUMBER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0184

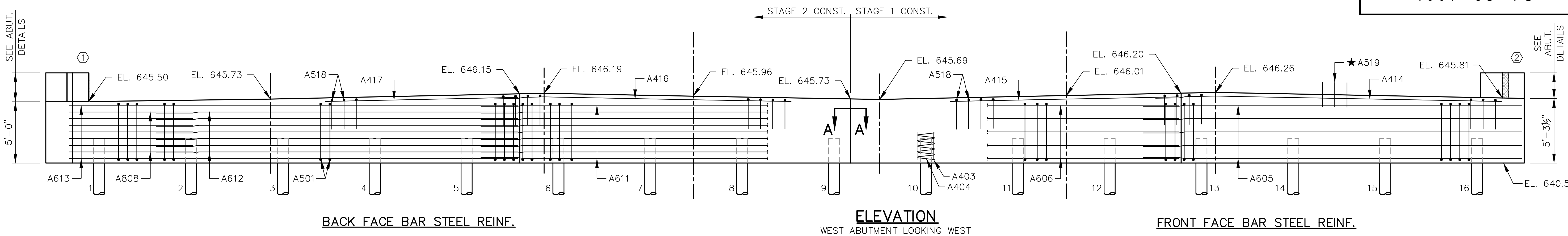
DRAWN BY PTB | PLANS CK'D. RBH

WEST ABUTMENT

SHEET 4 OF 20

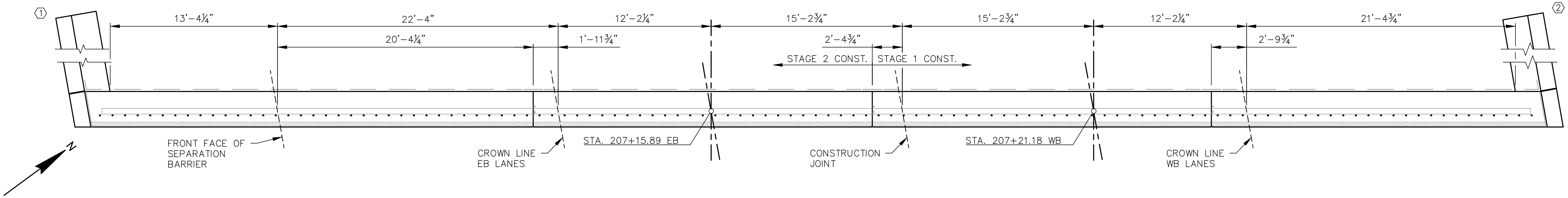
8

8



ELEVATION

WEST ABUTMENT LOOKING WEST



NOTES

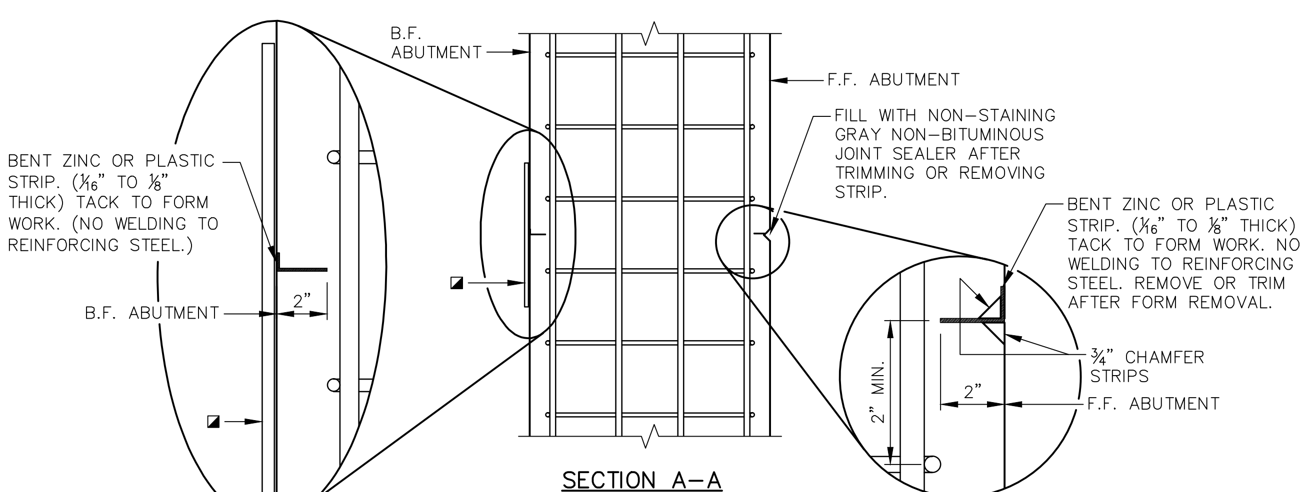
SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 6 FOR BILL OF BARS.

DO NOT PLACE FILL HIGHER THAN 3 FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

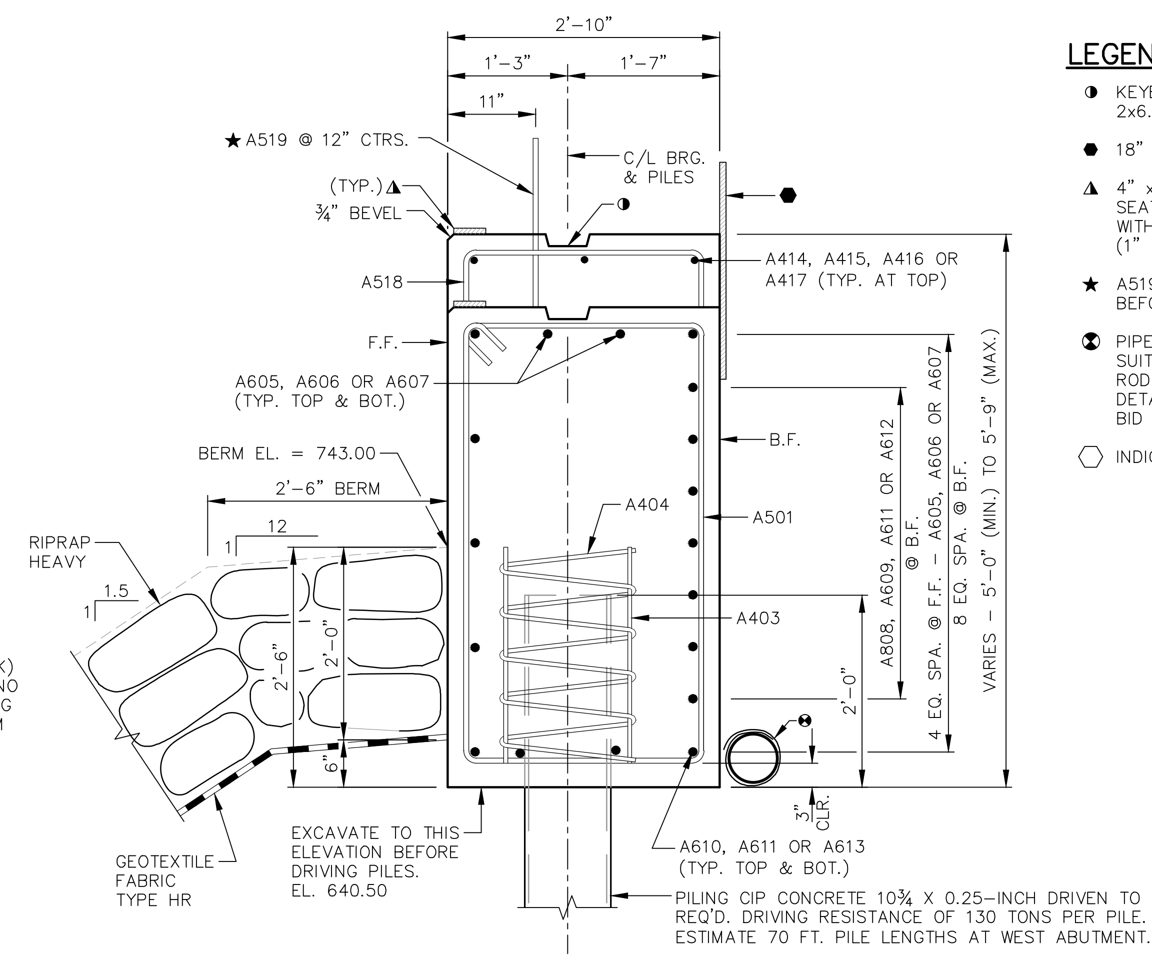
SPACE REINFORCEMENT TO MISS PILING.

F.F. – FRONT FACE

B.F. – BACK FACE



ALTERNATE CONSTRUCTION JOINT DETAIL



TYPICAL SECTION THROUGH ABUTMENT BODY

LEGEND

- ◑ KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6.
- ⬣ 18" RUBBERIZED MEMBRANE WATERPROOFING (HORIZONTAL)
- ▲ 4" x ¾" PREFORMED FILLER, EXTEND FULL LENGTH OF BEARING SEAT. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINUOS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE)
- ★ A519 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".
- ⦻ PIPE UNDERDRAIN WRAPPED 6-INCH, SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. SEE THIS SHEET FOR DETAILS. ATTACH RODENT SCREEN AT EXPOSED ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 4. RODENT SCREEN TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".
- ⬡ INDICATES WING NUMBER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0184

DRAWN BY PTB PLANS CK'D. RBH

WEST ABUTMENT ELEVATION

SHEET 5 OF 20

8

8

FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0184 (BRIDGE)\B-12-0184_04_ABUTMENTS.DWG
LAYOUT : WEST ABUTMENT ELEVATION
PLOT DATE : 8/5/2015
PLOT TIME : 1:41:41 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

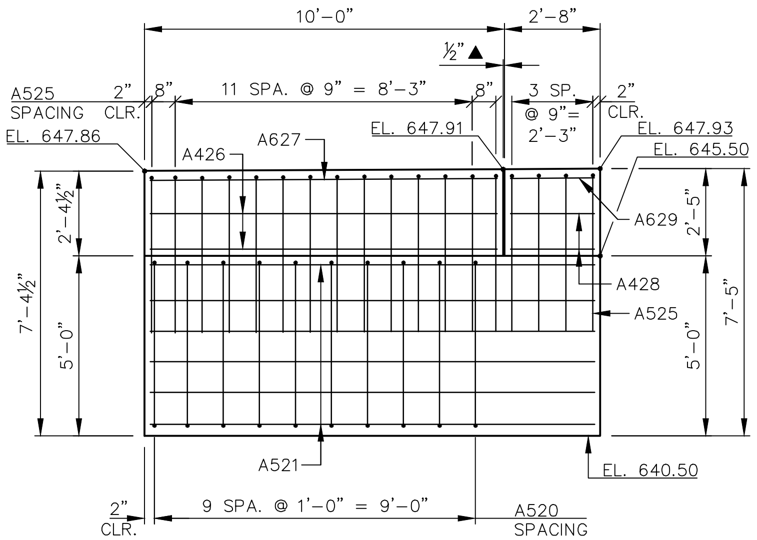
8

STATE PROJECT NUMBER

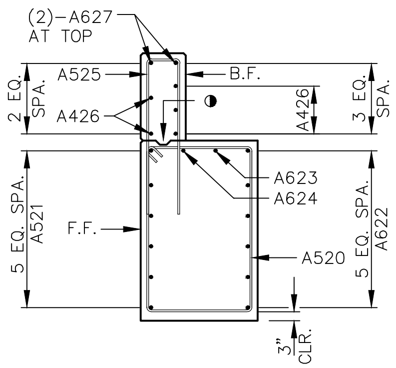
1661-05-78

NOTES

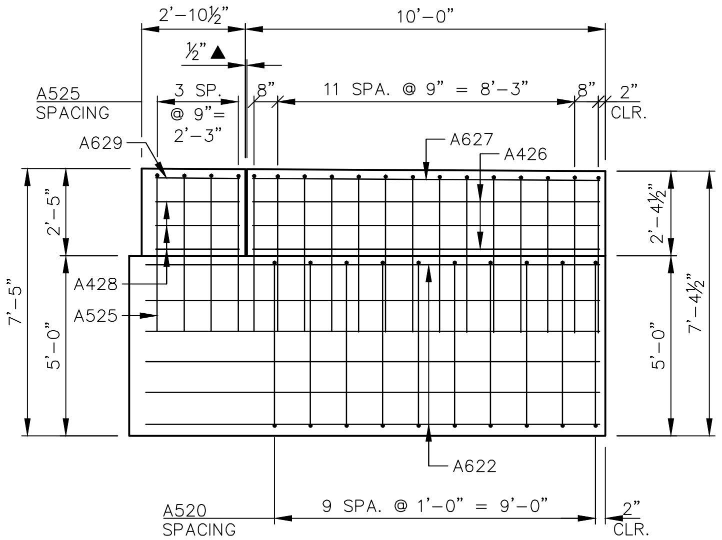
SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.



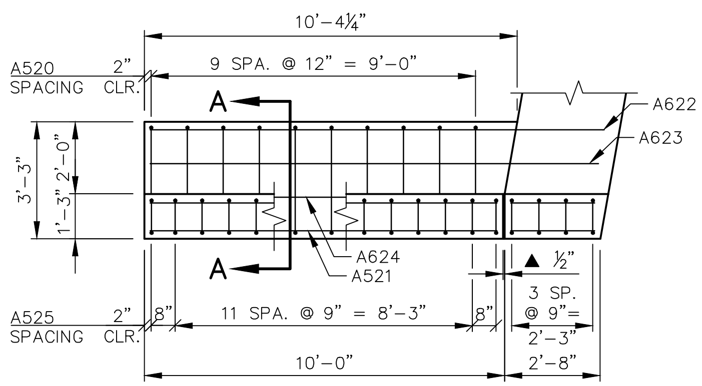
F.F. ELEVATION – WING 1



SECTION A–A



B.F. ELEVATION – WING 1



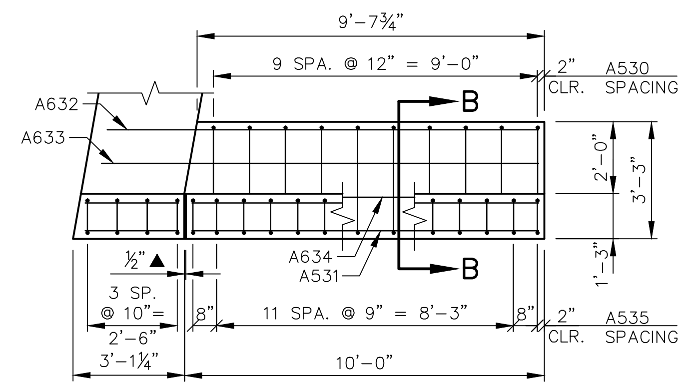
PLAN VIEW – WING 1

LEGEND

◑ OPTIONAL CONSTRUCTION JOINT. FORM KEYWAY WITH A BEVELED 2X6. PLACE 18" RUBBERIZED MEMBRANE WATERPROOFING AT BACK FACE AND ¾" "V" GROOVE AT FRONT FACE IF USED.

▲ ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING, GRAY, NON-BITUMINUOS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

★ A519 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".



PLAN VIEW – WING 2

BILL OF BARS WEST ABUTMENT

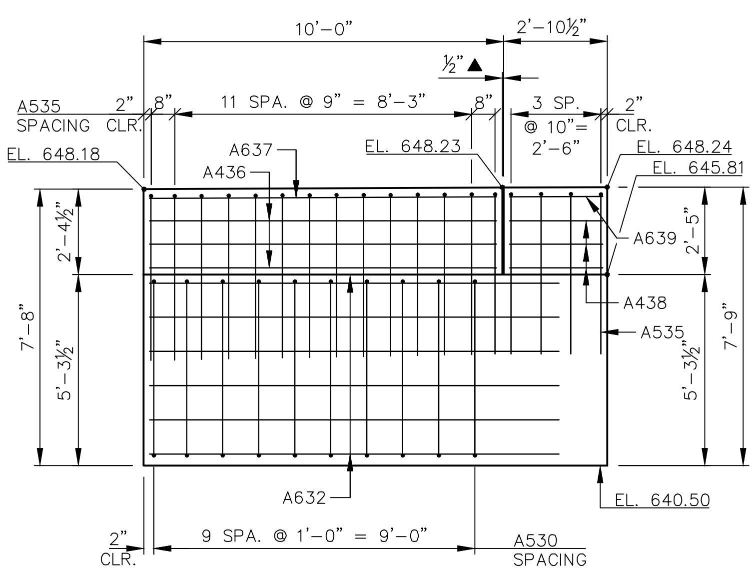
1,520 LB (COATED)

6,980 LB (UNCOATED)

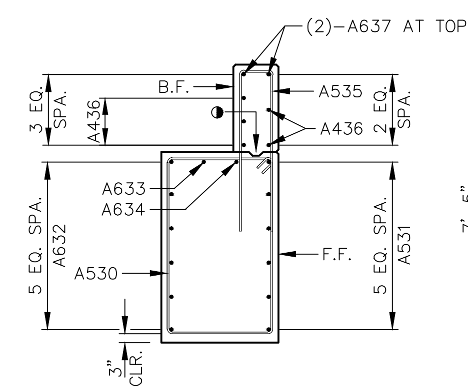
BAR MARK	NUMBER REQ'D. STAGE 1	STAGE 2	LENGTH	BENT	COAT	LOCATION
A501	67	76	14–4	X		BODY – VERT. – STIRRUP
A502	2	2	8–4	X		BODY – VERT. – STIRRUP AT ENDS
A403	14	18	2–3			BODY – VERT. – 2 PER PILE
A404	7	9	28–0	X		BODY – VERT. – SPIRAL – 1 PER PILE
A605	9	0	31–0			BODY – HORIZ. – F.F.
A606	9	9	30–0			BODY – HORIZ. – F.F.
A607	0	9	36–2			BODY – HORIZ. – F.F.
A808	7	7	10–0			BODY – HORIZ. – B.F. @ ENDS
A609	7	0	23–4			BODY – HORIZ. – B.F. @ N. END
A610	2	0	30–6			BODY – HORIZ. – B.F. @ N. END – TOP & BOT.
A611	9	9	30–0			BODY – HORIZ. – B.F.
A612	0	7	29–6			BODY – HORIZ. – B.F. @ S. END
A613	0	2	36–7			BODY – HORIZ. – B.F. @ S. END – TOP & BOT.
A414	3	0	28–3			BODY – HORIZ. – TOP
A415	3	0	18–8			BODY – HORIZ. – TOP
A416	0	3	24–3			BODY – HORIZ. – TOP
A417	0	3	15–8			BODY – HORIZ. – TOP
A518	45	38	7–3	X		BODY – VERT. – TOP
★ A519	53	62	2–0		X	BODY – VERT. – DOWELS
A520	0	10	15–2	X	X	WING 1 – VERT. – STIRRUP
A521	0	6	12–4		X	WING 1 – HORIZ. – F.F.
A622	0	6	12–9		X	WING 1 – HORIZ. – B.F.
A623	0	1	12–6		X	WING 1 – HORIZ. – CENTER
A624	0	1	12–2		X	WING 1 – HORIZ. – CENTER
A525	0	18	9–4	X	X	WING 1 – VERT. – TOP
A426	0	5	9–7		X	WING 1 – HORIZ. – F.F. & B.F.
A627	0	2	9–7		X	WING 1 – HORIZ. – TOP
A428	0	5	2–4		X	WING 1 – HORIZ. – F.F. & B.F.
A629	0	2	2–4		X	WING 1 – HORIZ. – TOP
A530	10	0	15–8	X	X	WING 2 – VERT. – STIRRUP
A531	6	0	12–7		X	WING 2 – HORIZ. – F.F.
A632	6	0	12–0		X	WING 2 – HORIZ. – B.F.
A633	1	0	12–2		X	WING 2 – HORIZ. – CENTER
A634	1	0	12–4		X	WING 2 – HORIZ. – CENTER
A535	18	0	9–8	X	X	WING 2 – VERT. – TOP
A436	5	0	9–7		X	WING 2 – HORIZ. – F.F. & B.F.
A637	2	0	9–7		X	WING 2 – HORIZ. – TOP
A438	5	0	2–7		X	WING 2 – HORIZ. – F.F. & B.F.
A639	2	0	2–7		X	WING 2 – HORIZ. – TOP

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

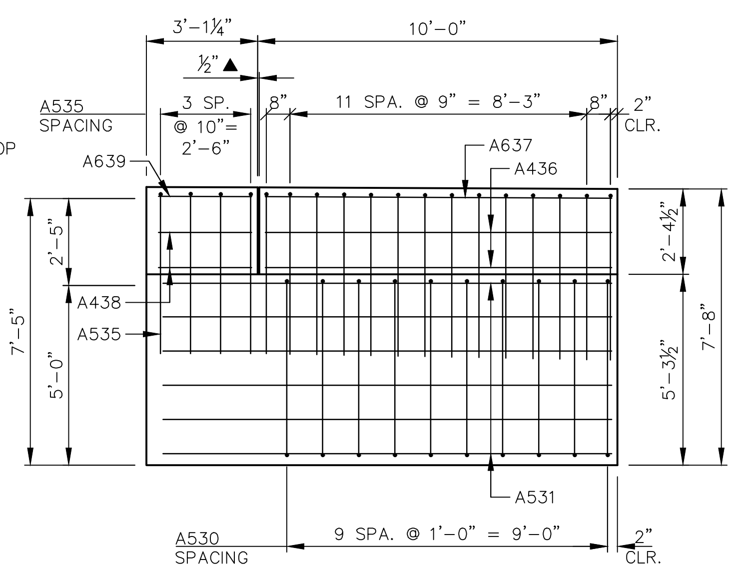
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



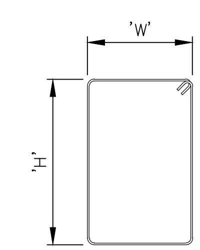
B.F. ELEVATION – WING 2



SECTION B–B

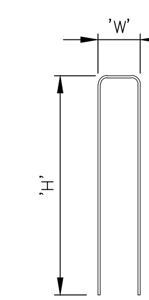


F.F. ELEVATION – WING 2



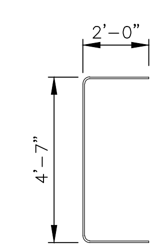
MARK	'W'	'H'
A501	2–6	4–7
A520	2–11	4–7
A530	2–11	4–10

A501, A520, A530

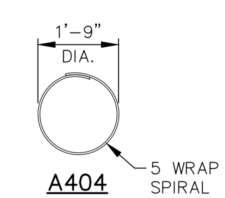


MARK	'W'	'H'
A518	2–6	2–6
A525	0–11	4–4
A535	0–11	4–6

A518, A525, A535



A502



A404

NO.	DATE	REVISION	BY

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0184

DRAWN BY PTB PLANS CK'D. RBH

WEST ABUTMENT DETAILS

SHEET 6 OF 20

8

STATE PROJECT NUMBER
1661–05–78

NOTES

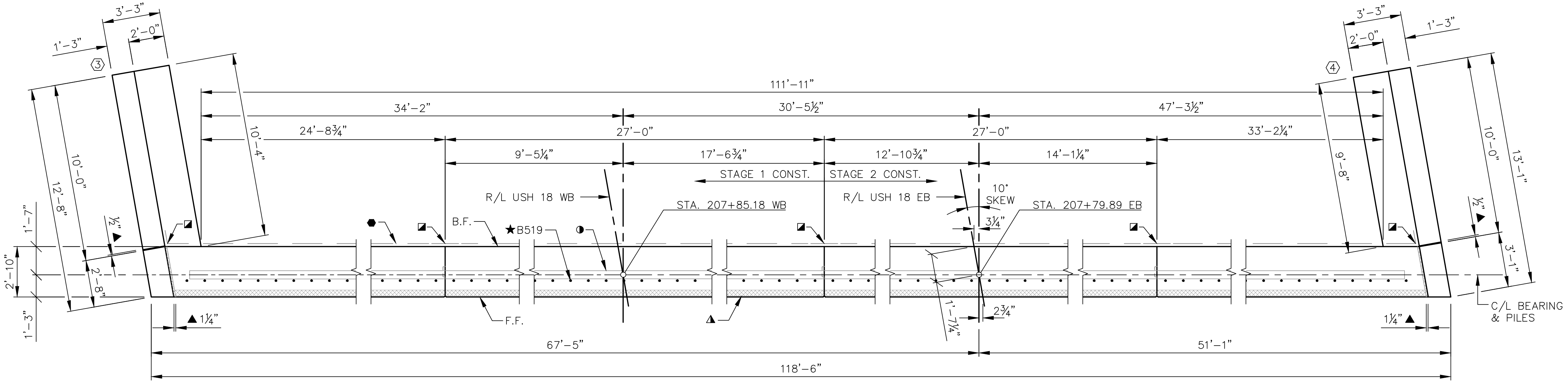
SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 9 FOR BILL OF BARS.

DO NOT PLACE FILL HIGHER THAN 3 FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

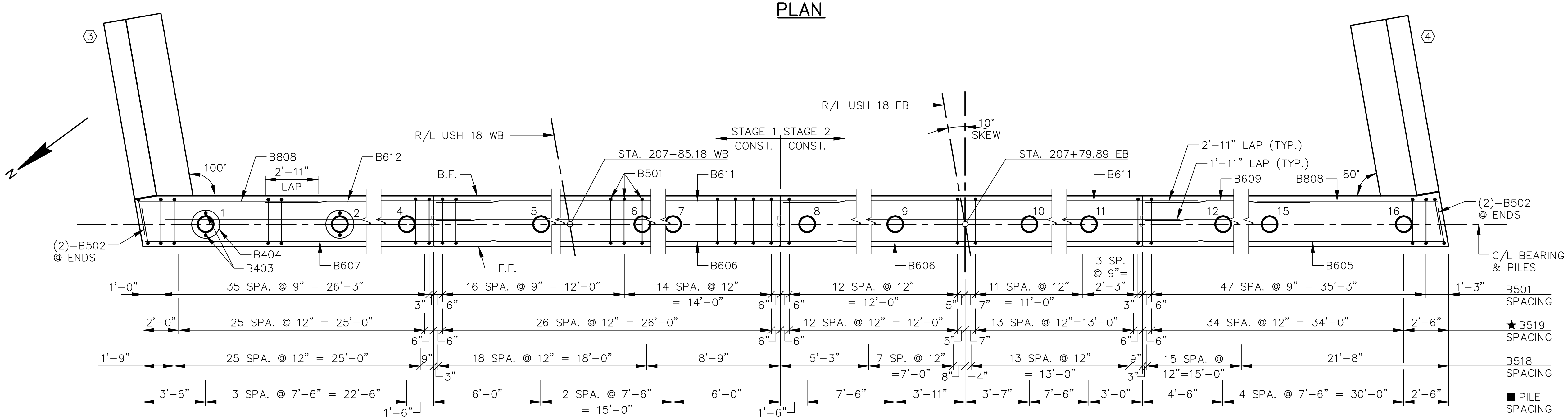
SPACE REINFORCEMENT TO MISS PILING.

F.F. – FRONT FACE

B.F. – BACK FACE



PLAN



LAYOUT

LEGEND

◑ KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6.

◪ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING. AT WINGWALLS, EXTEND TO 1" BELOW TOP OF WINGS.

⬣ 18" RUBBERIZED MEMBRANE WATERPROOFING (HORIZONTAL)

▲ FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON–STAINING GRAY, NON–BITUMINUOS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE)

◭ 4" x ¾" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF SLAB.

★ B519 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'–0".

■ PILE SPACING MEASURED AT BASE OF ABUTMENT BODY.

⬡ INDICATES WING NUMBER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–12–0184

DRAWN BY PTB PLANS CK'D. RBH

EAST ABUTMENT

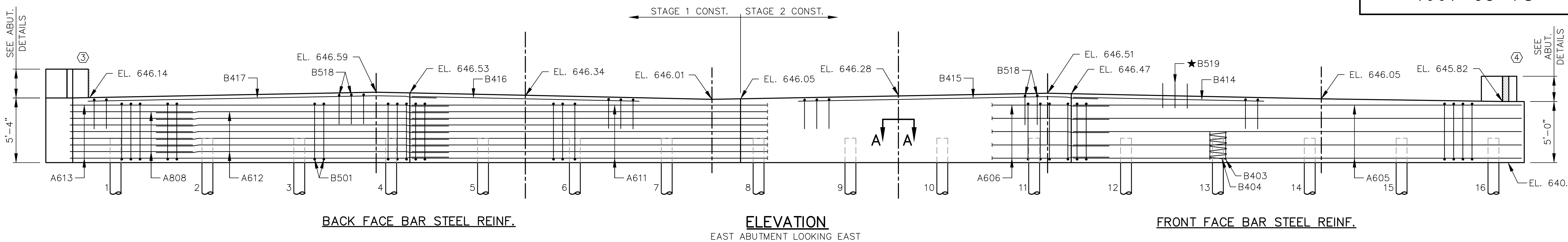
SHEET 7 OF 20

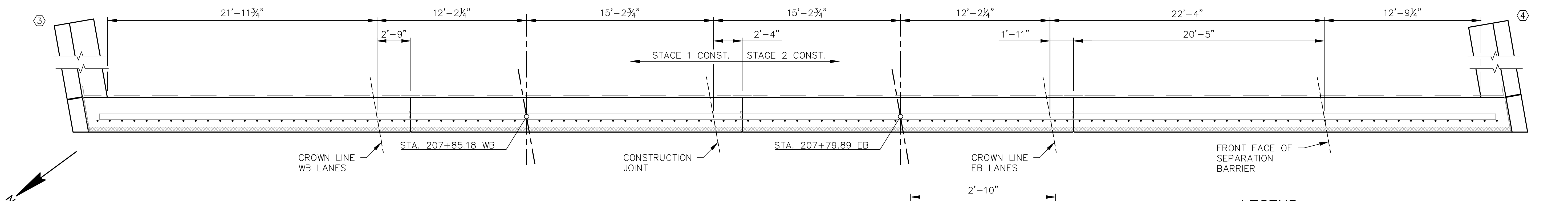
8

FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B–12–0184 (BRIDGE)\B–12–0184_04_ABUTMENTS.DWG
LAYOUT : EAST ABUTMENT
PLOT DATE : 8/5/2015
PLOT TIME : 1:41:54 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

1661-05-78





NOTES

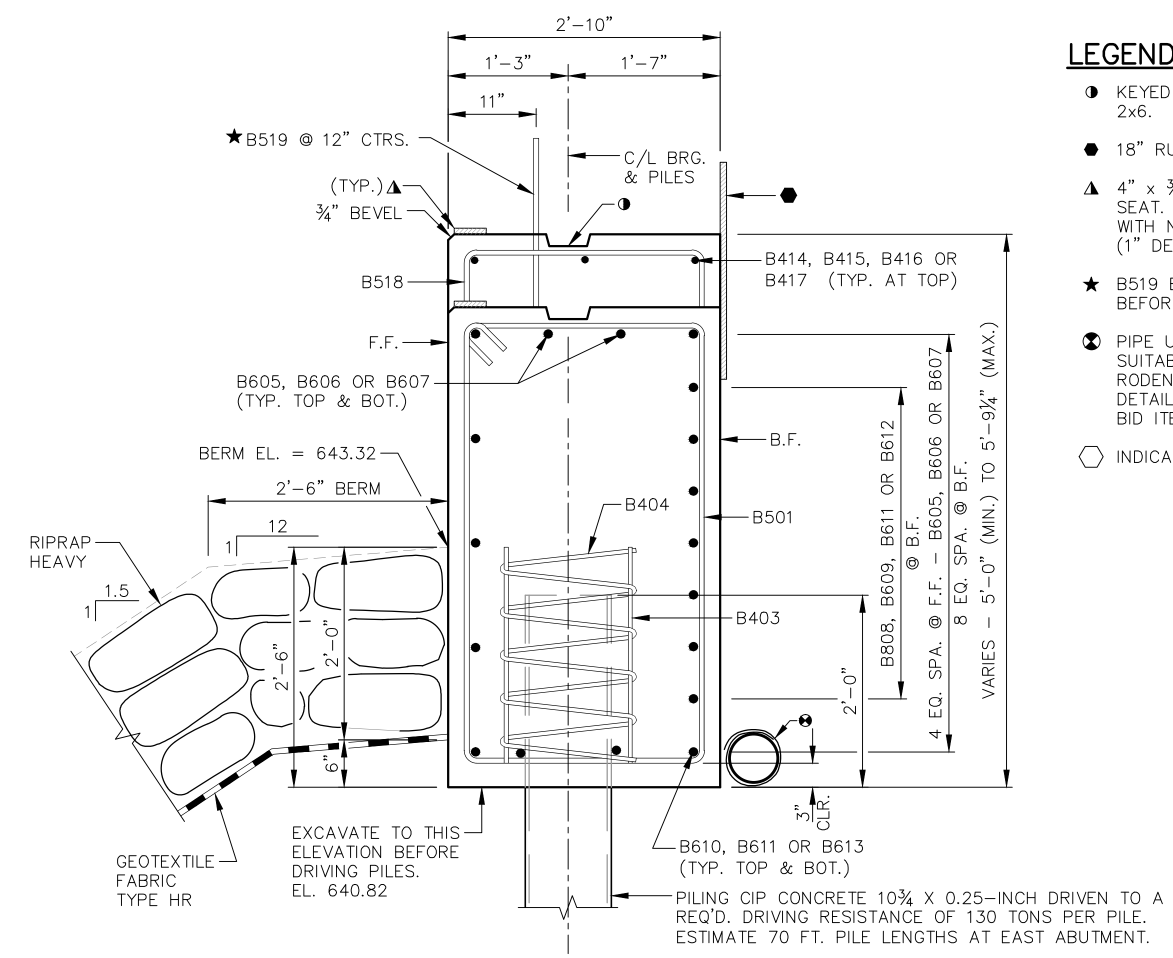
SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 9 FOR BILL OF BARS.

DO NOT PLACE FILL HIGHER THAN 3 FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

SPACE REINFORCEMENT TO MISS PILING.

F.F. – FRONT FACE

B.F. – BACK FACE



TYPICAL SECTION THROUGH ABUTMENT BODY

LEGEND

- ◑ KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6.
- ⬢ 18" RUBBERIZED MEMBRANE WATERPROOFING (HORIZONTAL)
- ▲ 4" x ¾" PREFORMED FILLER, EXTEND FULL LENGTH OF BEARING SEAT. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINUOS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE)
- ★ B519 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".
- PIPE UNDERDRAIN WRAPPED 6-INCH, SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. SEE THIS SHEET FOR DETAILS. ATTACH RODENT SCREEN AT EXPOSED ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 4. RODENT SCREEN TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".
- ⬡ INDICATES WING NUMBER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0184

DRAWN BY PTB | PLANS CK'D. RBH

EAST ABUTMENT ELEVATION

SHEET 8 OF 20

8

8

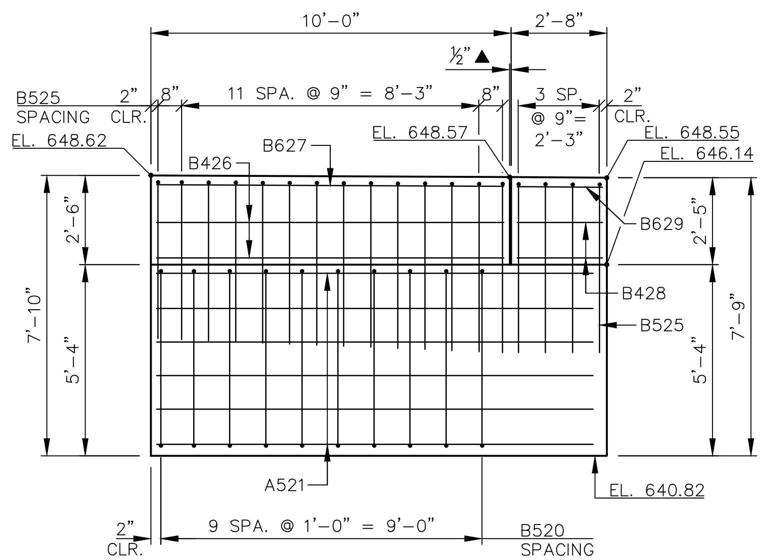
FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0184 (BRIDGE)\B-12-0184_04_ABUTMENTS.DWG
LAYOUT : EAST ABUTMENT ELEVATION
PLOT DATE : 8/5/2015
PLOT TIME : 1:42:01 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

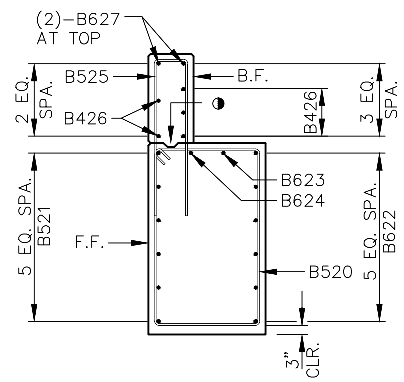
1661-05-78

NOTES

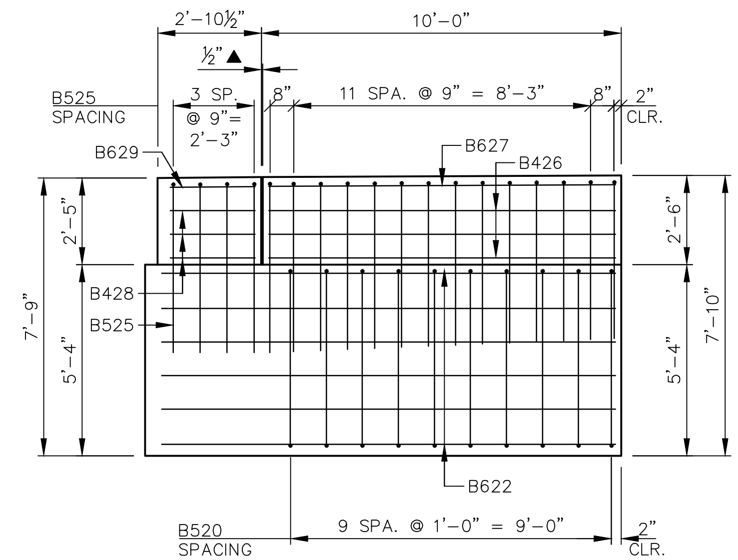
SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.



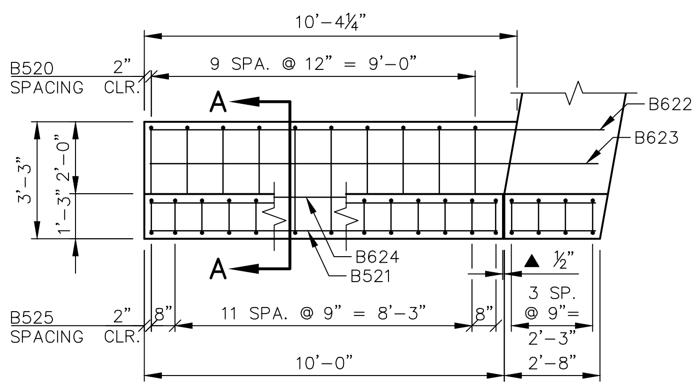
F.F. ELEVATION – WING 3



SECTION A–A



B.F. ELEVATION – WING 3



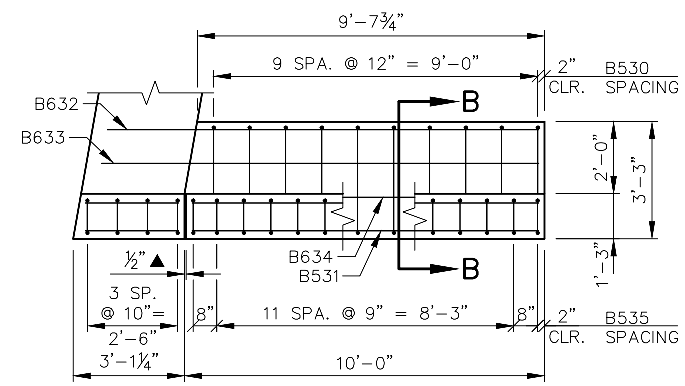
PLAN VIEW – WING 3

LEGEND

◑ OPTIONAL CONSTRUCTION JOINT. FORM KEYWAY WITH A BEVELED 2X6. PLACE 18" RUBBERIZED MEMBRANE WATERPROOFING AT BACK FACE AND ¾" "V" GROOVE AT FRONT FACE IF USED.

▲ ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING, GRAY, NON-BITUMINUOS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

★ B519 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".



PLAN VIEW – WING 4

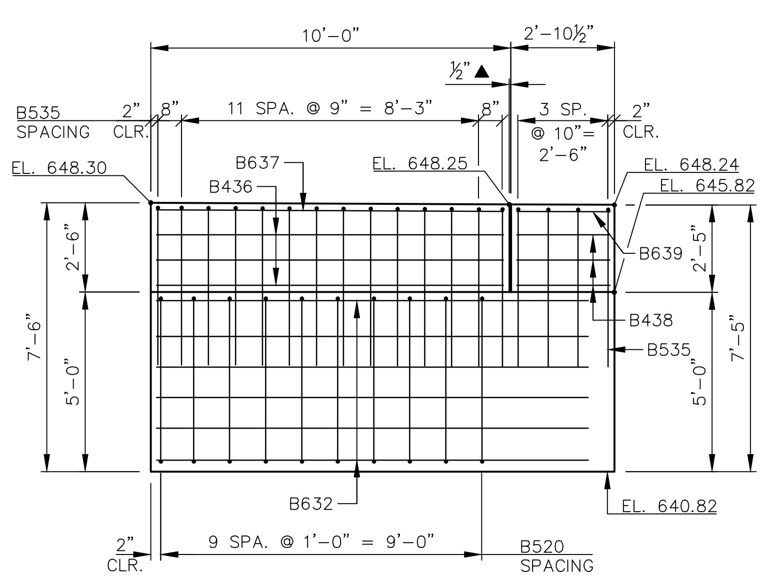
BILL OF BARS
EAST ABUTMENT

1,540 LB (COATED)
6,980 LB (UNCOATED)

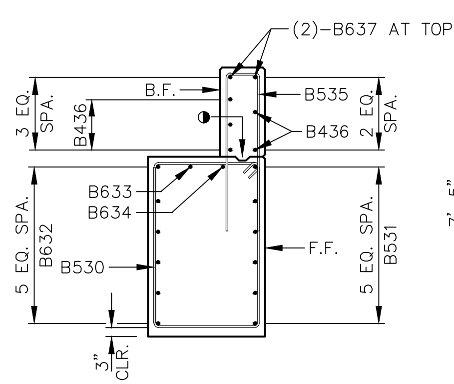
BAR MARK	NUMBER REQ'D. STAGE 1	STAGE 2	LENGTH	BENT	COAT	LOCATION
B501	67	76	14-4	X		BODY – VERT. – STIRRUP
B502	2	2	8-4	X		BODY – VERT. – STIRRUP AT ENDS
B403	14	18	2-3			BODY – VERT. – 2 PER PILE
B404	7	9	28-0	X		BODY – VERT. – SPIRAL – 1 PER PILE
B605	0	9	36-7			BODY – HORIZ. – F.F.
B606	9	9	30-0			BODY – HORIZ. – F.F.
B607	9	0	30-6			BODY – HORIZ. – F.F.
B808	7	7	10-0			BODY – HORIZ. – B.F. @ ENDS
B609	0	7	29-2			BODY – HORIZ. – B.F. @ S. END
B610	0	2	36-2			BODY – HORIZ. – B.F. @ S. END – TOP & BOT.
B611	9	9	30-0			BODY – HORIZ. – B.F.
B612	7	0	23-10			BODY – HORIZ. – B.F. @ N. END
B613	2	0	31-0			BODY – HORIZ. – B.F. @ N. END – TOP & BOT.
B414	0	3	15-7			BODY – HORIZ. – TOP
B415	0	3	24-6			BODY – HORIZ. – TOP
B416	3	0	18-8			BODY – HORIZ. – TOP
B417	3	0	28-6			BODY – HORIZ. – TOP
B518	45	38	7-3	X		BODY – VERT. – TOP
★ B519	53	62	2-0		X	BODY – VERT. – DOWELS
B520	10	0	15-10	X	X	WING 3 – VERT. – STIRRUP
B521	6	0	12-4		X	WING 3 – HORIZ. – F.F.
B622	6	0	12-7		X	WING 3 – HORIZ. – B.F.
B623	1	0	12-6		X	WING 3 – HORIZ. – CENTER
B624	1	0	12-2		X	WING 3 – HORIZ. – CENTER
B525	18	0	10-0	X	X	WING 3 – VERT. – TOP
B426	5	0	9-7		X	WING 3 – HORIZ. – F.F. & B.F.
B627	2	0	9-7		X	WING 3 – HORIZ. – TOP
B428	5	0	2-4		X	WING 3 – HORIZ. – F.F. & B.F.
B629	2	0	2-4		X	WING 3 – HORIZ. – TOP
B530	0	10	15-2	X	X	WING 4 – VERT. – STIRRUP
B531	0	6	12-7		X	WING 4 – HORIZ. – F.F.
B632	0	6	12-0		X	WING 4 – HORIZ. – B.F.
B633	0	1	12-2		X	WING 4 – HORIZ. – CENTER
B634	0	1	12-4		X	WING 4 – HORIZ. – CENTER
B535	0	18	9-8	X	X	WING 4 – VERT. – TOP
B436	0	5	9-7		X	WING 4 – HORIZ. – F.F. & B.F.
B637	0	2	9-7		X	WING 4 – HORIZ. – TOP
B438	0	5	2-7		X	WING 4 – HORIZ. – F.F. & B.F.
B639	0	2	2-7		X	WING 4 – HORIZ. – TOP

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

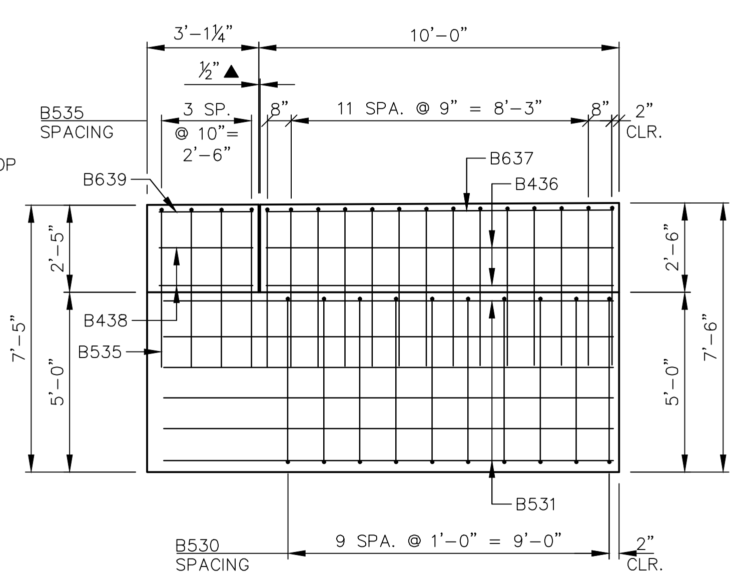
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



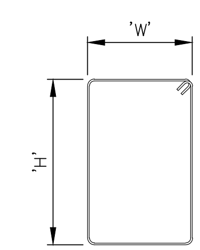
B.F. ELEVATION – WING 4



SECTION B–B

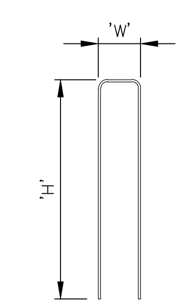


F.F. ELEVATION – WING 4



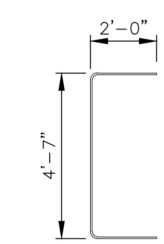
MARK	'W'	'H'
B501	2-6	4-7
B520	2-11	4-11
B530	2-11	4-7

B501, B520, B530

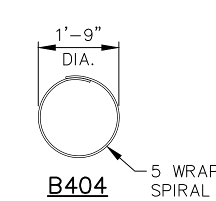


MARK	'W'	'H'
B518	2-6	2-6
B525	0-11	4-8
B535	0-11	4-6

B518, B525, B535



B502



B404

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0184

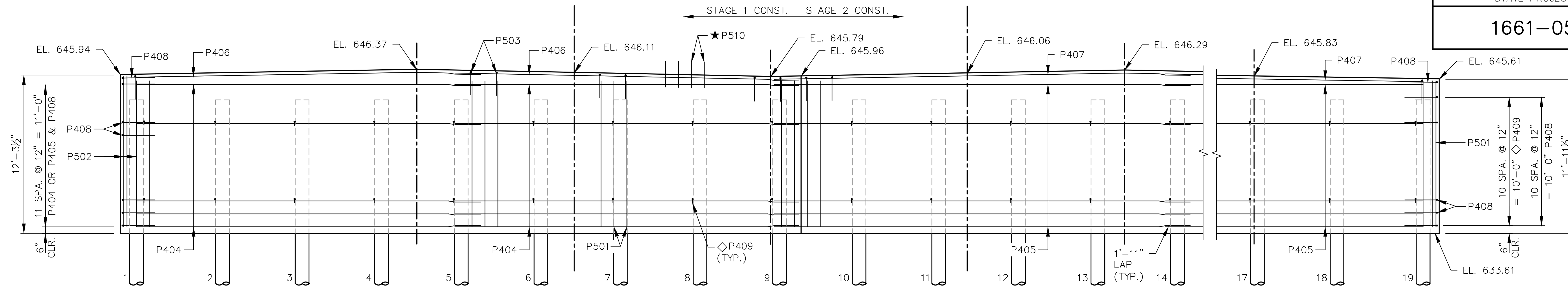
DRAWN BY PTB | PLANS CK'D. RBH

EAST ABUTMENT DETAILS

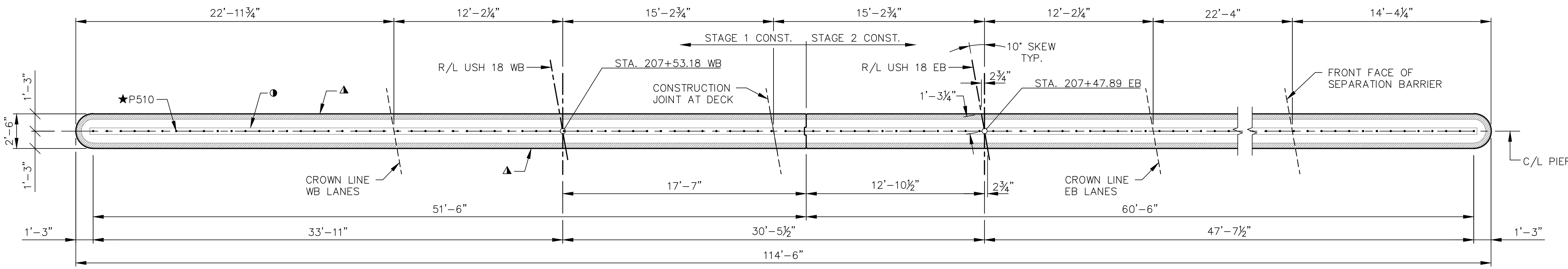
SHEET 9 OF 20

8

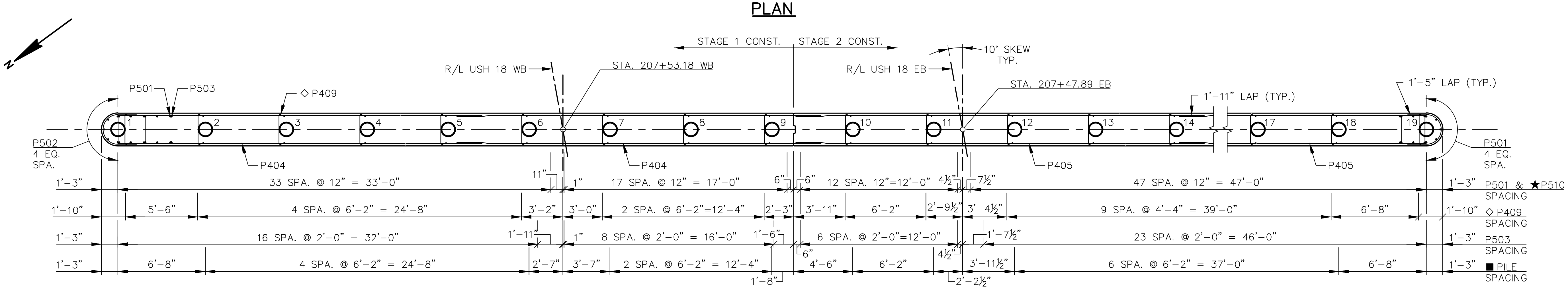
FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0184 (BRIDGE)\B-12-0184_04_ABUTMENTS.DWG
LAYOUT : EAST ABUTMENT DETAILS
PLOT DATE : 8/5/2015
PLOT TIME : 1:42:07 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'



ELEVATION
PIER LOOKING EAST



PLAN



LAYOUT

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 11 FOR BILL OF BARS.

TOP OF PIER ELEVATIONS ARE ¾" BELOW BOTTOM OF DECK TO ALLOW FOR FILLER.

E.F. – EACH FACE

LEGEND

◑ KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6.

▲ ¾"x4" PREFORMED FILLER, EXTEND FULL LENGTH OF PIER AS SHOWN.

★ P510 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".

■ PILE SPACING MEASURED AT BASE OF SHAFT.

◇ PLACE P409 BARS ADJACENT TO PILING @ 12" VERTICAL SPACING FROM BASE OF SHAFT TO TOP OF PILING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0184

DRAWN BY PTB | PLANS CK'D. RBH

PIER

SHEET 10 OF 20

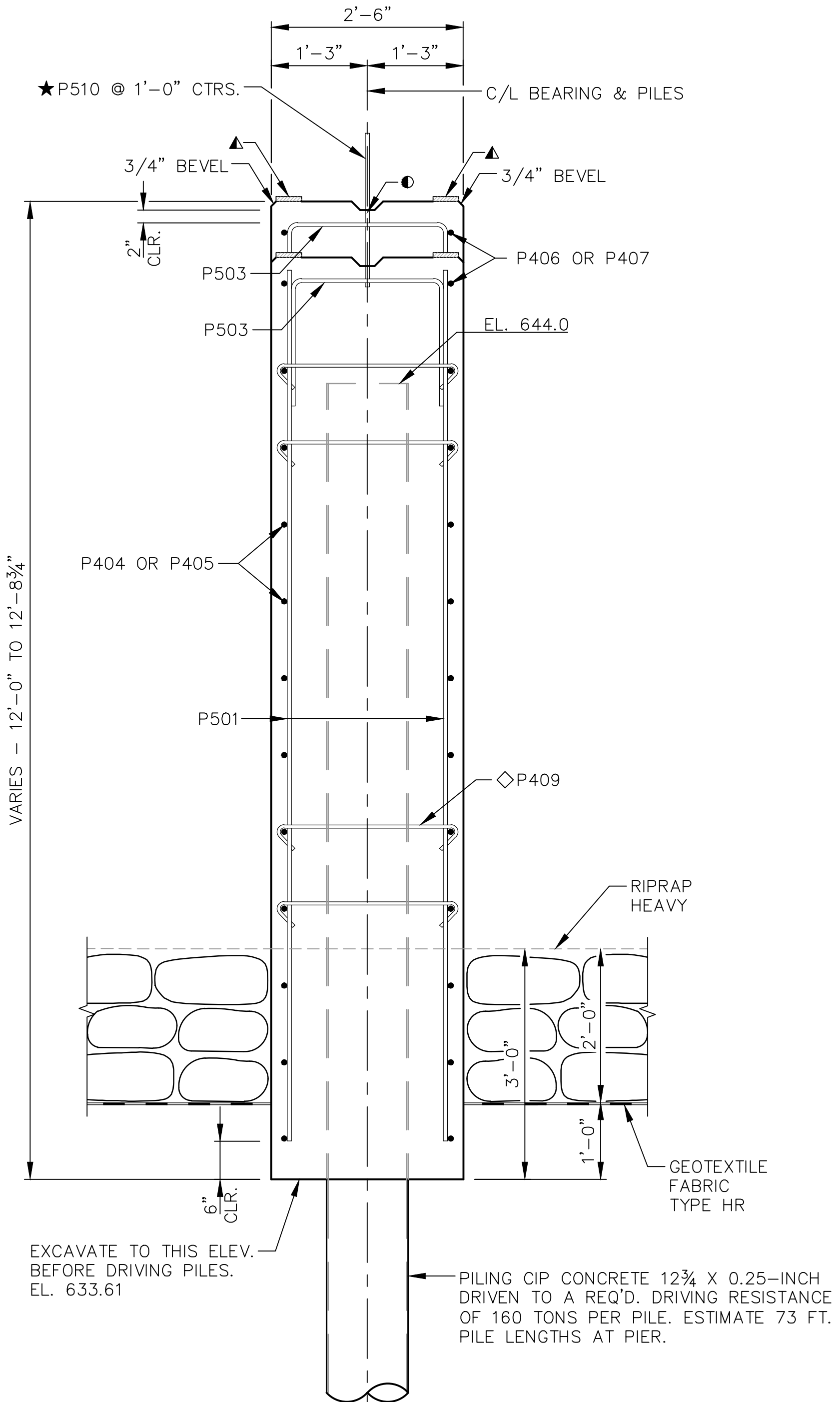
FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0184 (BRIDGE)\B-12-0184_10_PIER.DWG
LAYOUT : PIER
PLOT DATE : 8/5/2015
PLOT TIME : 1:42:18 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.

TOP OF PIER ELEVATIONS ARE ¾" BELOW BOTTOM OF DECK TO ALLOW FOR FILLER.

E.F. – EACH FACE



TYPICAL SECTION THROUGH PIER

LEGEND

◑ KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6.

▲ ¾"x4" PREFORMED FILLER, EXTEND FULL LENGTH OF PIER AS SHOWN.

★ P510 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".

■ PILE SPACING MEASURED AT BASE OF SHAFT.

◇ PLACE P409 BARS ADJACENT TO PILING @ 12" VERTICAL SPACING FROM BASE OF SHAFT TO TOP OF PILING.

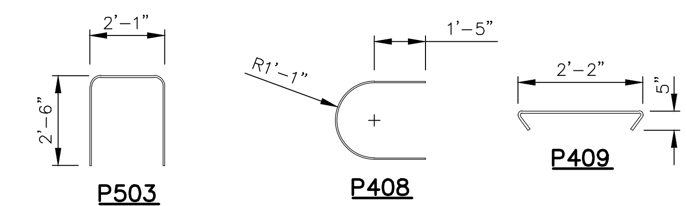
BILL OF BARS
PIER

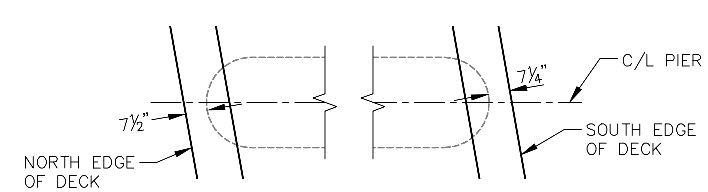
240 LB (COATED)
5,680 LB (UNCOATED)

	BAR MARK	NUMBER REQ'D. STAGE 1	NUMBER REQ'D. STAGE 2	LENGTH	BENT	COAT	LOCATION
	P501	102	125	11-3			BODY – VERT. – E.F.
	P502	5	0	11-7			BODY – VERT. – END
	P503	26	31	6-10	X		BODY – TOP
	P404	48	0	27-9			BODY – HORIZ. – E.F.
	P405	0	48	31-2			BODY – HORIZ. – E.F.
	P406	4	0	27-9			BODY – HORIZ. – E.F. – TOP
	P407	0	4	31-2			BODY – HORIZ. – E.F. – TOP
	P408	13	12	6-2	X		BODY – HORIZ. – ENDS
◇	P409	99	110	2-10	X		BODY – TIES
★	P510	52	61	2-0		X	BODY – VERT. – DOWELS

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.





PLAN AT ENDS OF PIER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0184

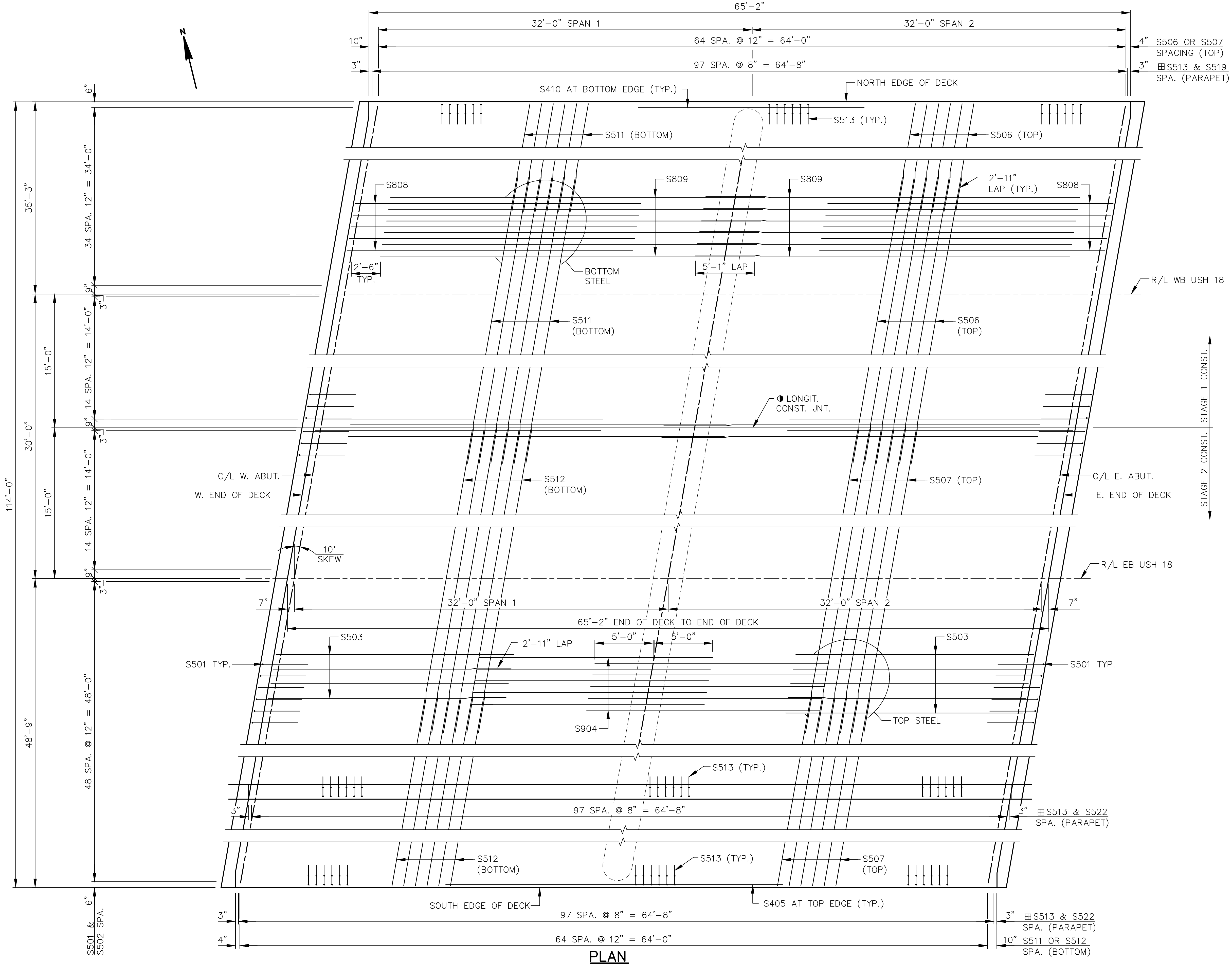
DRAWN BY PTB PLANS CK'D. RBH

PIER DETAILS

SHEET 11 OF 20

FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0184 (BRIDGE)\B-12-0184_10_PIER.DWG
LAYOUT : PIER DETAILS
PLOT DATE : 8/5/2015
PLOT TIME : 1:42:21 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER
1661-05-78



PLAN

LEGEND

⊞ S513 & SS901 BARS TO BE TIED TO DECK STEEL BEFORE DECK IS POURED (SEE SHEET 15 FOR SS901 BAR LAYOUT

◑ LONGITUDINAL CONSTRUCTION JOINT FORMED BY SURFACED AND BEVELED 2x6. ROUT AND SEAL WITH LOW VISCOSITY CRACK SEALER. SEE SHEET 19 FOR DETAIL.

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 14 FOR BILL OF BARS.

SEE SUPERSTRUCTURE DETAILS SHEET (SHEET 13) FOR BAR SPACINGS NOT SHOWN ON THIS SHEET.

SUPPORT ALTERNATE TOP TRANSVERSE BARS IN SLAB BY INDIVIDUAL BAR CHAIRS AT APPROX. 3'-0" CENTERS. SUPPORT BOTTOM LONGITUDINAL BARS BY CONTINUOUS BAR CHAIRS AT APPROX. 4'-0" CENTERS.

PLACE TRANSVERSE BARS PARALLEL TO THE CENTERLINE OF SUBSTRUCTURE UNITS.

THE SLAB THICKNESS DIMENSION IS MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0184

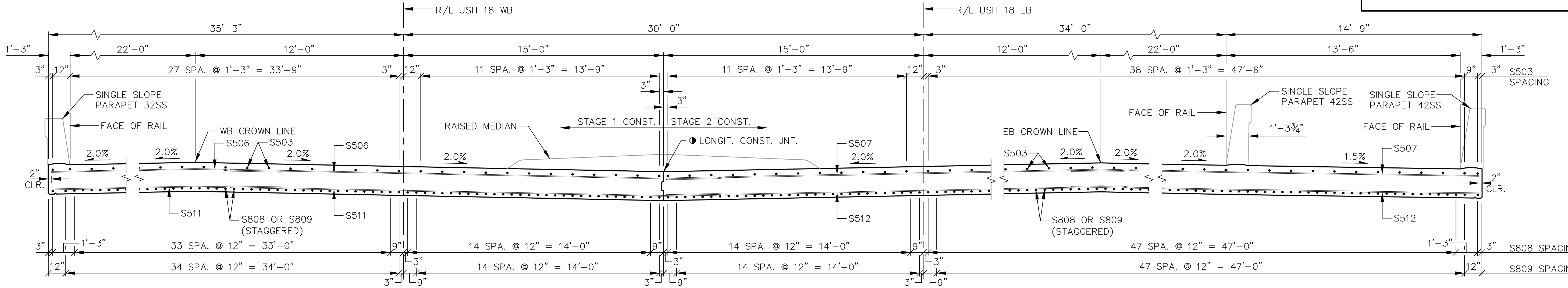
DRAWN BY PTB PLANS CK'D. RBH

SUPERSTRUCTURE

SHEET 12 OF 20

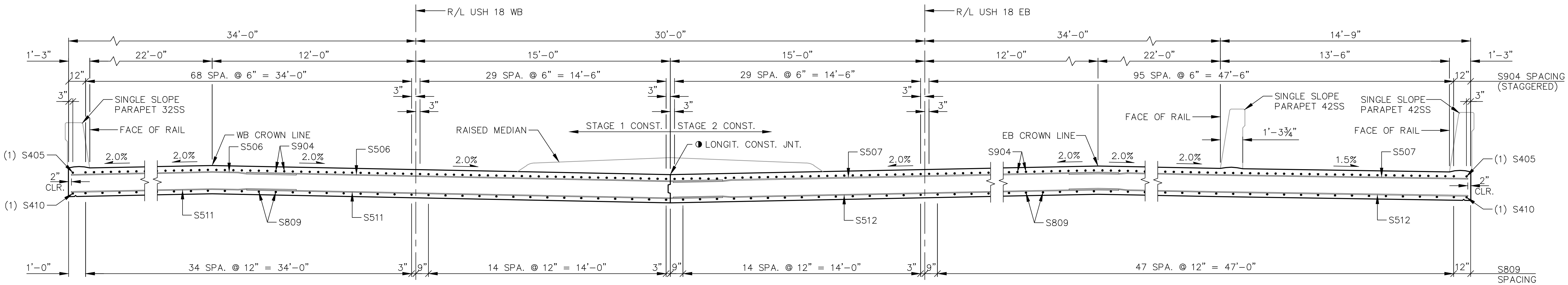
FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0184 (BRIDGE)\B-12-0184_12_SUPERSTRUCTURE.DWG
LAYOUT : SUPERSTRUCTURE
PLOT DATE : 4/20/2015
PLOT TIME : 3:26:13 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER
1661-05-78



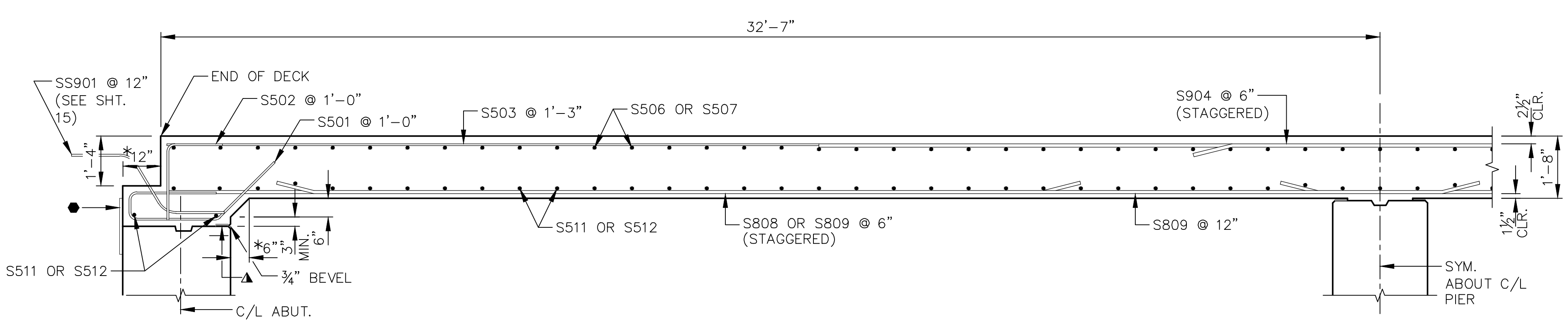
CROSS SECTION THROUGH ROADWAY

SPANS 1 & 2 (IN SPAN LOOKING EAST)



CROSS SECTION THROUGH ROADWAY

PIER (AT PIER LOOKING EAST)



PARTIAL LONGITUDINAL SECTION THROUGH ROADWAY

LEGEND

- ⬢ 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- ∗ DIMENSION IS NORMAL TO THE C/L OF SUBSTRUCTURE UNITS.
- ▲ ¾"x4" PREFORMED FILLER, EXTEND FULL LENGTH OF BEARING SEAT.
- ◑ LONGITUDINAL CONSTRUCTION JOINT FORMED BY SURFACED AND BEVELED 2x6. ROUT AND SEAL WITH LOW VISCOSITY CRACK SEALER. SEE SHEET 19 FOR DETAIL.

NOTES

SEE SHEET 14 FOR BILL OF BARS.

SUPPORT ALTERNATE TOP TRANSVERSE BARS IN SLAB BY INDIVIDUAL BAR CHAIRS AT APPROX. 3'-0" CENTERS. SUPPORT BOTTOM LONGITUDINAL BARS BY CONTINUOUS BAR CHAIRS AT APPROX. 4'-0" CENTERS.

PLACE TRANSVERSE BARS PARALLEL TO THE CENTERLINE OF SUBSTRUCTURE UNITS.

THE SLAB THICKNESS DIMENSION IS MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0184

DRAWN BY PTB PLANS CK'D. RBH

SUPERSTRUCTURE DETAILS (1 OF 2)

SHEET 13 OF 20

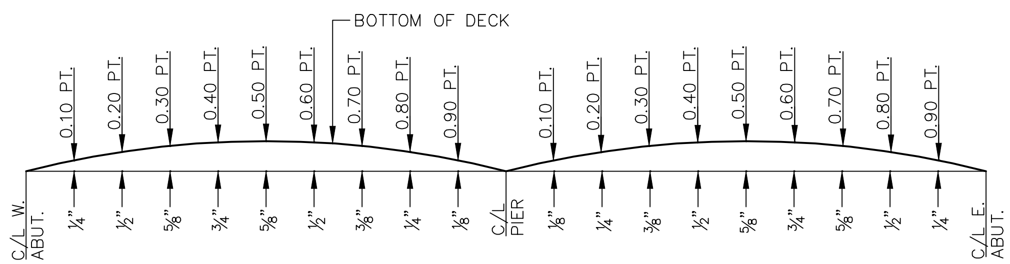
8

8

FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0184 (BRIDGE)\B-12-0184_12_SUPERSTRUCTURE.DWG
LAYOUT : SUPERSTRUCTURE DETAILS
PLOT DATE : 3/9/2015
PLOT TIME : 3:11:59 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

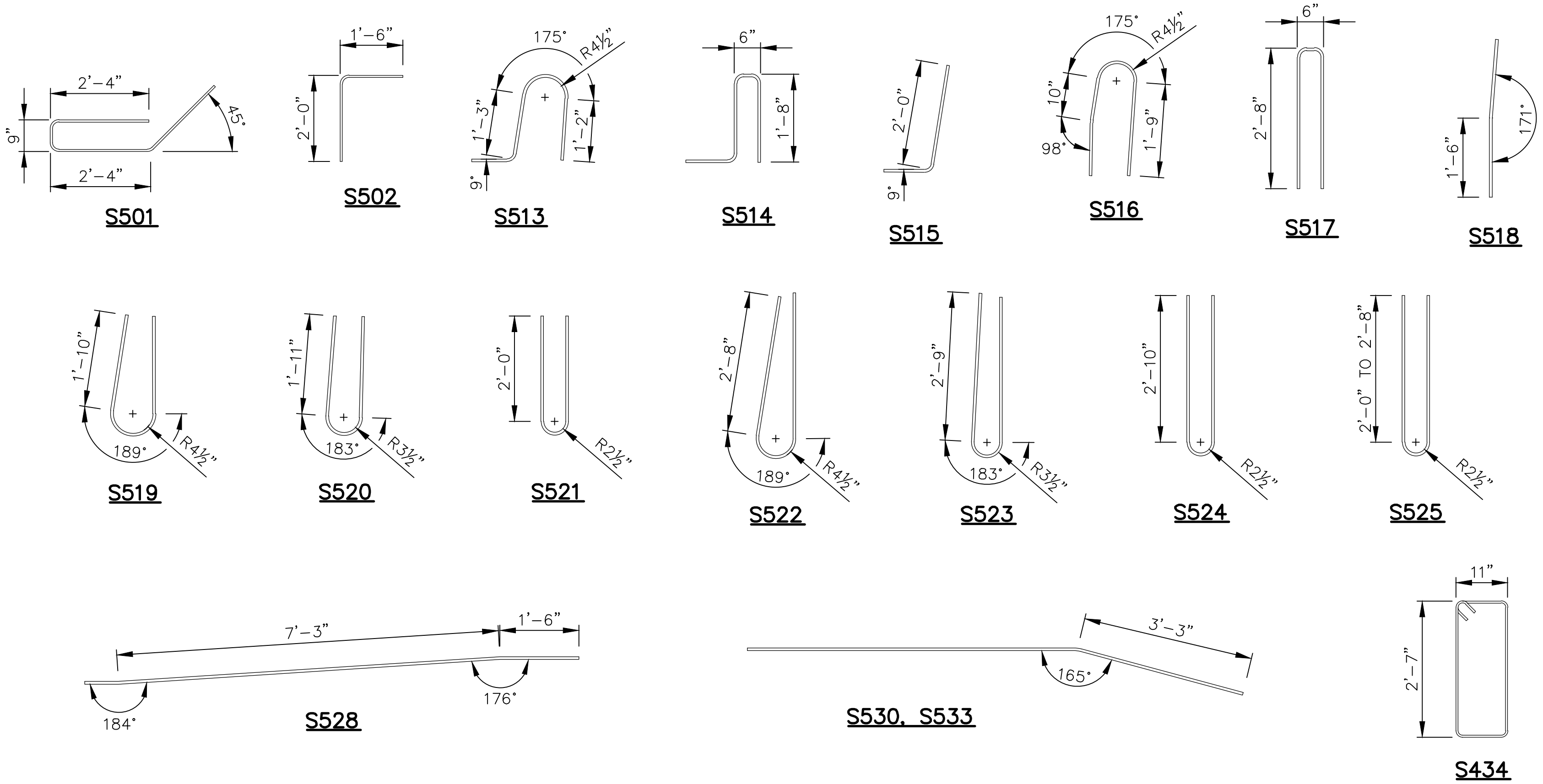
TOP OF DECK ELEVATIONS

	C/L W. ABUT.	0.10 PNT.	0.20 PNT.	0.30 PNT.	0.40 PNT.	0.50 PNT.	0.60 PNT.	0.70 PNT.	0.80 PNT.	0.90 PNT.	C/L PIER	0.10 PNT.	0.20 PNT.	0.30 PNT.	0.40 PNT.	0.50 PNT.	0.60 PNT.	0.70 PNT.	0.80 PNT.	0.90 PNT.	C/L E. ABUT.
N. EDGE	648.24	648.26	648.28	648.29	648.31	648.33	648.34	648.36	648.37	648.39	648.41	648.42	648.44	648.45	648.47	648.49	648.50	648.52	648.54	648.55	648.57
WB CROWN LINE	648.68	648.70	648.72	648.73	648.75	648.76	648.78	648.80	648.81	648.83	648.85	648.86	648.88	648.89	648.91	648.93	648.94	648.96	648.97	648.99	649.01
R/L WB USH 18	648.44	648.45	648.47	648.48	648.50	648.52	648.53	648.55	648.57	648.58	648.59	648.61	648.63	648.64	648.66	648.68	648.69	648.71	648.72	648.74	648.76
CONSTR. JNT.	648.11	648.13	648.14	648.16	648.17	648.19	648.21	648.22	648.24	648.26	648.27	648.29	648.30	648.32	648.34	648.35	648.37	648.38	648.40	648.42	648.43
R/L EB USH 18	648.38	648.40	648.42	648.43	648.45	648.46	648.48	648.50	648.51	648.53	648.54	648.56	648.58	648.59	648.61	648.62	648.64	648.66	648.67	648.69	648.70
EB CROWN LINE	648.61	648.63	648.65	648.66	648.68	648.69	648.71	648.73	648.74	648.76	648.77	648.79	648.81	648.82	648.84	648.85	648.87	648.89	648.90	648.92	648.93
FACE BARRIER	648.15	648.17	648.19	648.20	648.22	648.23	648.25	648.27	648.28	648.30	648.31	648.33	648.35	648.36	648.38	648.39	648.41	648.43	648.44	648.46	648.47
S. EDGE	647.92	647.94	647.95	647.97	647.99	648.00	648.02	648.03	648.05	648.07	648.08	648.10	648.11	648.13	648.15	648.16	648.18	648.19	648.21	648.23	648.24



CAMBER DIAGRAM

CAMBER SPAN AS SHOWN TO PROVIDE FOR THEORETICAL DEADLOAD DEFLECTION AND FUTURE PLASTIC FLOW. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.



BILL OF BARS
SUPERSTRUCTURE

92,540 LB (COATED)

	BAR MARK	NUMBER REQ'D. STAGE 1	STAGE 2	LENGTH	BENT	COAT	BAR SERIES	LOCATION
	S501	100	128	7-3	X	X		END OF DECK
	S502	100	128	3-4	X	X		END OF DECK
	S503	82	104	20-4		X		SLAB - TOP - LONG.
	S904	99	126	20-0		X		SLAB - TOP - LONG.
	S405	1	1	28-0		X		SLAB - TOP - LONG. - EDGE
	S506	260	0	28-6		X		SLAB - TOP - TRANS.
	S507	0	260	33-8		X		SLAB - TOP - TRANS.
	S808	100	128	24-6		X		SLAB - BOTTOM - LONG.
	S809	100	126	32-2		X		SLAB - BOTTOM - LONG.
	S410	1	1	19-4		X		SLAB - BOTTOM - LONG. - EDGE
	S511	138	0	28-6		X		SLAB - BOTTOM - TRANS.
	S512	0	138	33-8		X		SLAB - BOTTOM - TRANS.
⊞	S513	132	290	4-5	X	X		PARAPET - VERT.
	S514	34	34	4-4	X	X		PARAPET - VERT.
★	S515	24	22	2-9	X	X		PARAPET - VERT.
⊞	S516	0	4	4-9	X	X		PARAPET - VERT.
⊞	S517	0	34	5-7	X	X		PARAPET - VERT.
★	S518	0	22	3-0	X	X		PARAPET - VERT.
	S519	132	0	5-0	X	X		PARAPET - VERT.
	S520	12	0	4-10	X	X		PARAPET - VERT.
	S521	22	0	4-9	X	X		PARAPET - VERT.
	S522	0	294	6-8	X	X		PARAPET - VERT.
	S523	0	24	6-6	X	X		PARAPET - VERT.
	S524	0	20	6-5	X	X		PARAPET - VERT.
	S525	0	24	5-5	X	X	*	PARAPET - VERT.
	S526	12	32	33-4		X		PARAPET - HORIZ.
	S527	10	10	19-8		X		PARAPET - HORIZ.
	S528	2	4	9-4		X		PARAPET - HORIZ.
	S529	2	2	11-9		X		PARAPET - HORIZ.
	S530	0	4	19-6		X		PARAPET - HORIZ.
	S531	0	16	19-8		X		PARAPET - HORIZ.
	S532	0	10	9-8		X		PARAPET - HORIZ.
	S533	0	4	9-6		X		PARAPET - HORIZ.
	S434	0	18	7-2		X		PARAPET FOOTING - VERT.
	S435	0	8	8-1		X		PARAPET FOOTING - HORIZ.
	S436	0	8	9-7		X		PARAPET FOOTING - HORIZ.
	S437	0	36	36-2		X		RAISED MEDIAN - LONGIT.
	S438	0	71	8-0		X		RAISED MEDIAN - TRANS.
	S439	0	71	11-8		X		RAISED MEDIAN - TRANS.

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

* LENGTH SHOWN IS AN AVERAGE LENGTH ONLY. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
B525	4 SERIES OF 6	4-9 TO 6-1

BUNDLE AND TAG EACH SERIES SEPARATELY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0184

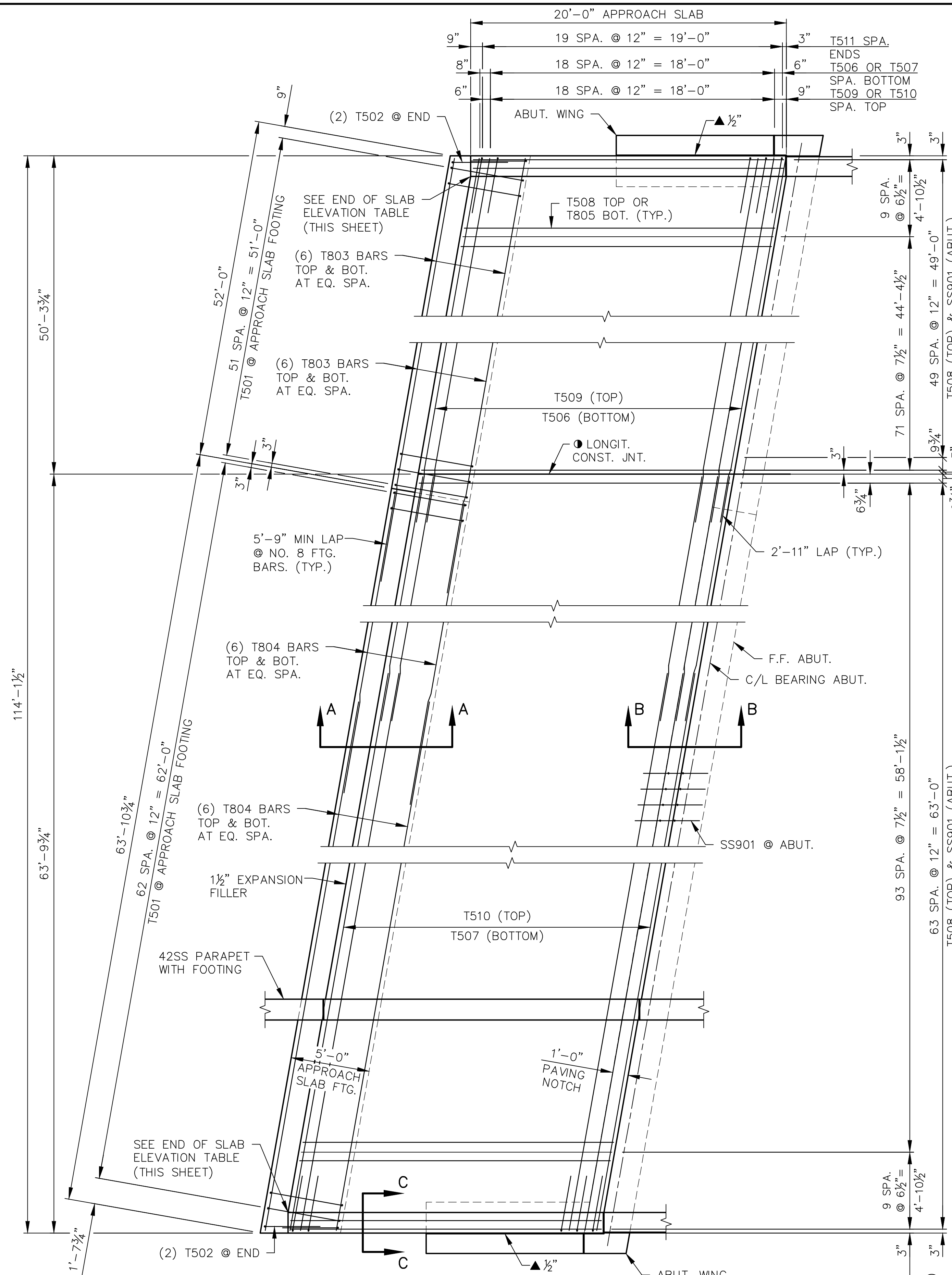
DRAWN BY PTB PLANS CK'D. RBH

SUPERSTRUCTURE DETAILS (2 OF 2)

SHEET 14 OF 20

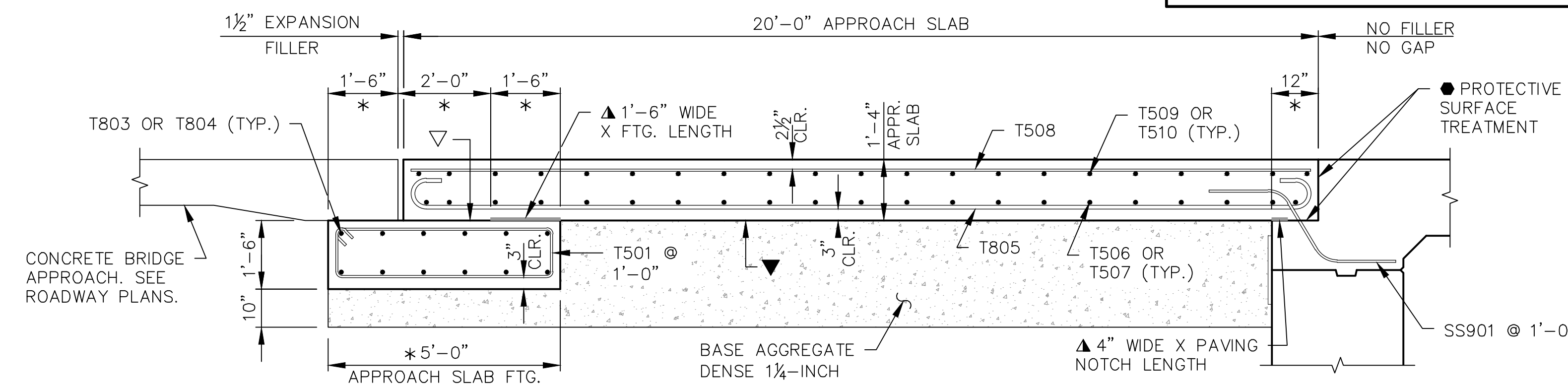
STATE PROJECT NUMBER

1661-05-78



APPROACH SLAB PLAN

WEST APPROACH SHOWN – EAST APPROACH SIMILAR

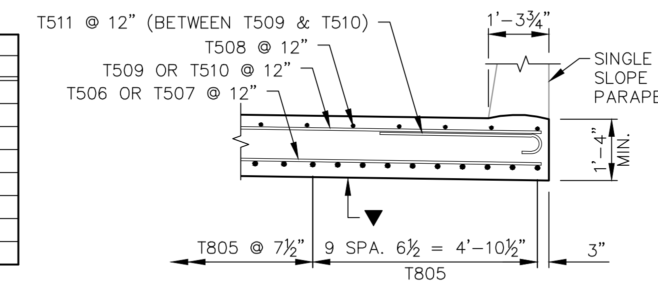


CROSS SECTION THROUGH APPROACH SLAB

WEST APPROACH SHOWN – EAST APPROACH SIMILAR

END OF SLAB ELEVATIONS

END OF SLAB LOCATION	WEST APPROACH SLAB		EAST APPROACH SLAB	
	STATION	ELEV.	STATION	ELEV.
FACE N. PARAPET	207+06.58 WB	648.16	208+11.77 WB	648.69
WB CROWN LINE	207+02.70 WB	648.58	208+07.89 WB	649.11
R/L WB USH 18	207+00.59 WB	648.33	208+05.77 WB	648.86
CONSTR. JNT.	206+97.94 EB	648.00	208+03.13 EB	648.54
R/L EB USH 18	206+95.30 EB	648.28	208+00.48 EB	648.81
EB CROWN LINE	206+93.18 EB	648.51	207+98.37 EB	649.04
FACE BARRIER	206+89.30 EB	648.05	207+94.49 EB	648.58
FACE S. PARAPET	206+86.92 EB	647.84	207+92.11 EB	648.37



SECTION C-C

BILL OF BARS — TWO APPROACH SLABS

47,430 LB (COATED)

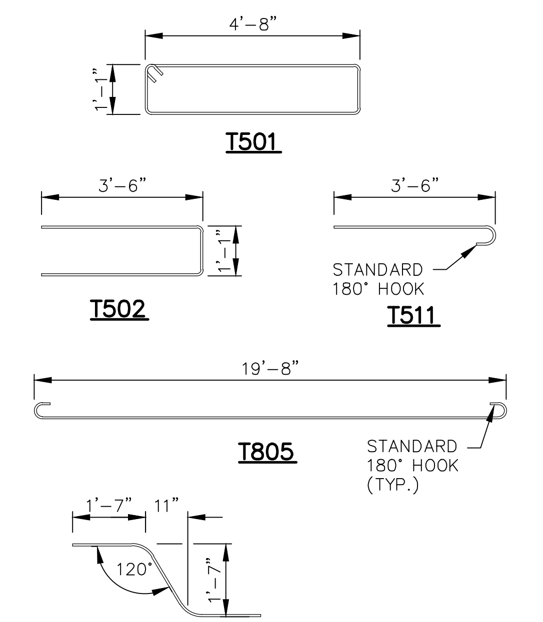
3,880 LB (STAINLESS STEEL)

BAR MARK	NUMBER REQ'D. STAGE 1	NUMBER REQ'D. STAGE 2	LENGTH	BENT	COAT	LOCATION
T501	104	126	11-8	X	X	APPROACH SLAB FTG. – STIRRUP
T502	4	4	7-10	X	X	APPROACH SLAB FTG. – ENDS
T803	48	0	32-2		X	APPROACH SLAB FTG. – TRANS.
T804	0	48	34-8		X	APPROACH SLAB FTG. – TRANS.
T805	162	206	21-9	X	X	APPROACH SLAB – LONG. – BOT.
T506	84	0	28-2		X	APPROACH SLAB – TRANS. – BOT.
T507	0	84	33-8		X	APPROACH SLAB – TRANS. – BOT.
T508	100	128	19-8		X	APPROACH SLAB – LONG. – TOP
T509	84	0	28-6		X	APPROACH SLAB – TRANS. – TOP
T510	0	84	33-9		X	APPROACH SLAB – TRANS. – TOP
T511	40	80	4-1	X	X	APPROACH SLAB – TRANS. – ENDS
STAINLESS STEEL						
SS901	100	128	5-0	X		CONC. ABUT. DIAPH. TO APPROACH SLAB

NOTES: BOTH THE WEST AND EAST APPROACH SLABS ARE INCLUDED IN THIS BILL OF BARS.

THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



LEGEND

● APPLY PROTECTIVE SURFACE TREATMENT TO PAVING NOTCH PRIOR TO POURING STRUCTURAL APPROACH SLAB.

∗ DIMENSION IS NORMAL TO THE C/L OF SUBSTRUCTURE UNITS.

◑ LONGITUDINAL CONSTRUCTION JOINT FORMED BY SURFACED AND BEVELED 2x6. ROUT AND SEAL WITH LOW VISCOSITY CRACK SEALER. SEE SHEET 19 FOR DETAIL.

◭ ¾" PREFORMED JOINT FILLER, EXTEND AS SHOWN.

▲ FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINUOS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE)

▽ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE TOP OF FOOTING. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

▼ PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF SUBGRADE BENEATH SLAB. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0184

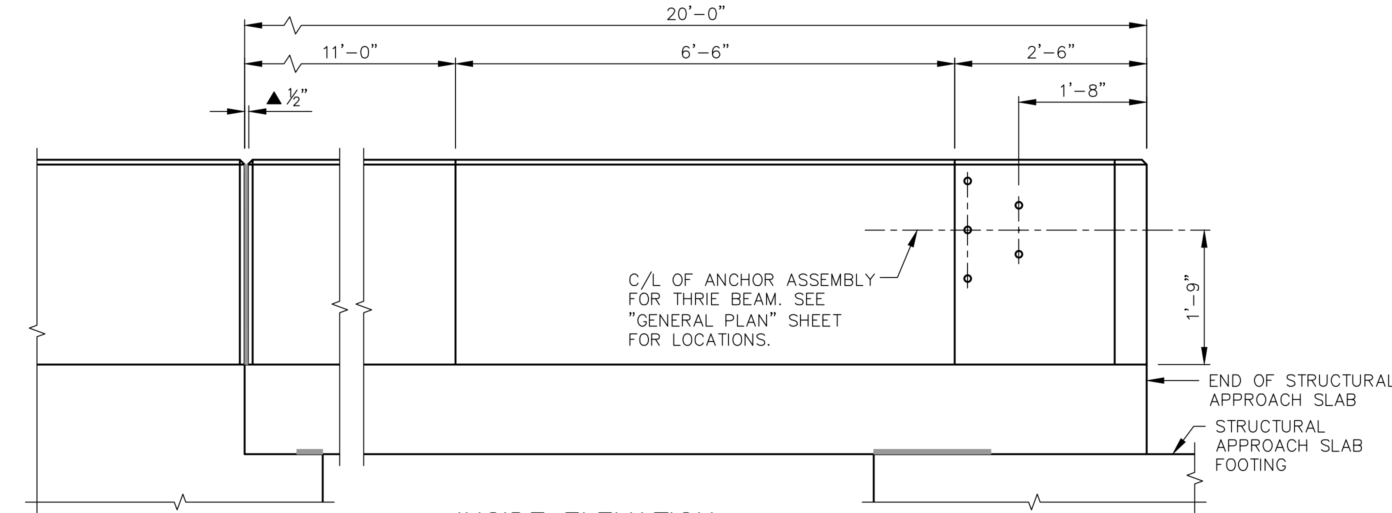
DRAWN BY PTB PLANS CK'D. RBH

STRUCTURAL APPROACH SLAB

SHEET 15 OF 20

8

8

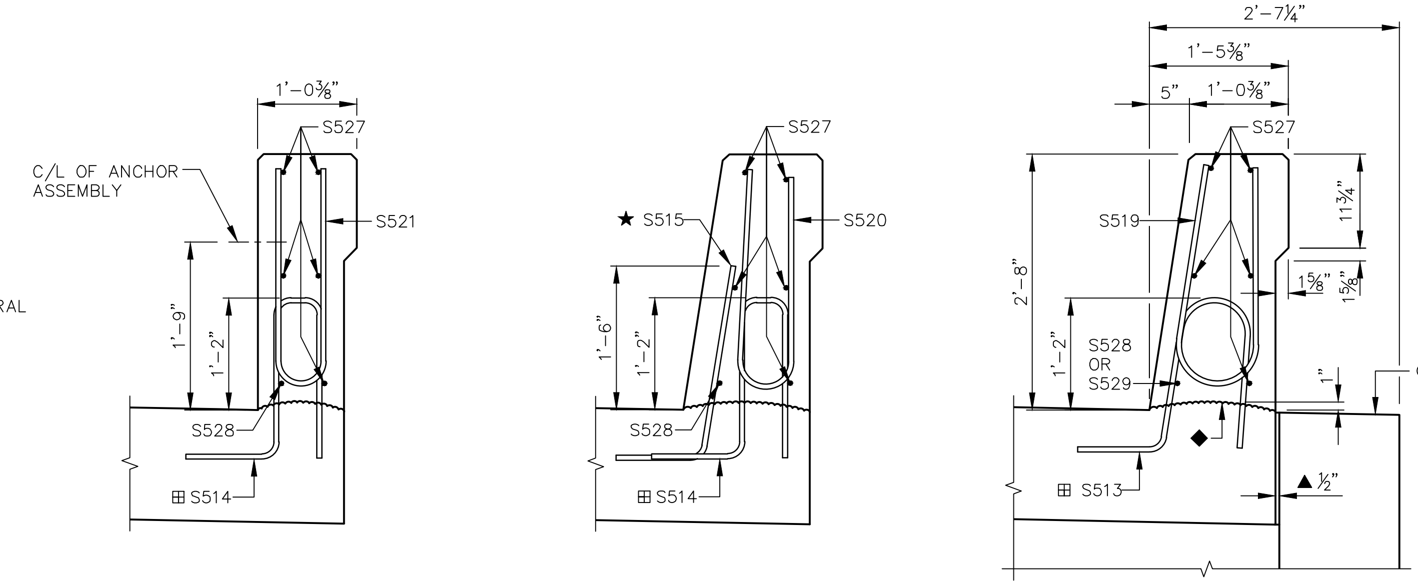


INSIDE ELEVATION

(WING 3 SHOWN – WING 2 SIMILAR)

NOTES

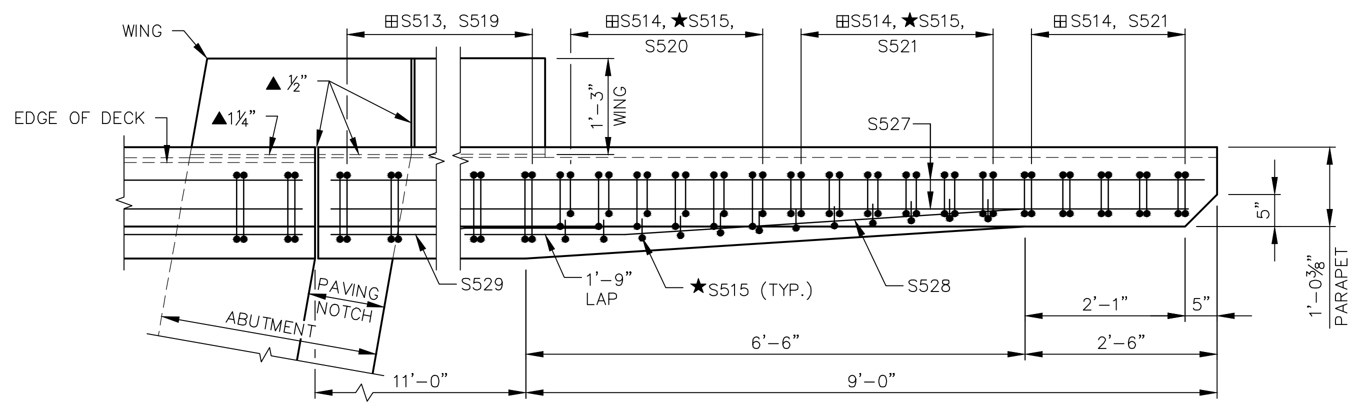
SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 14 FOR BILL OF BARS.



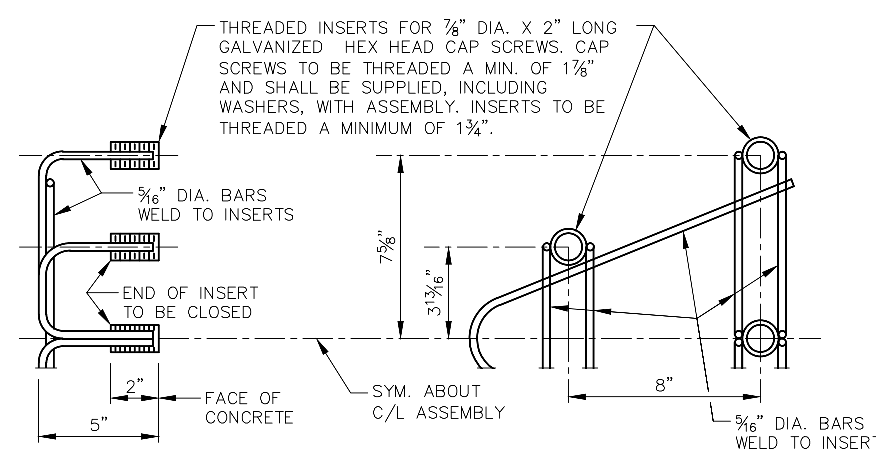
SECTION A

SECTION B

SECTION C



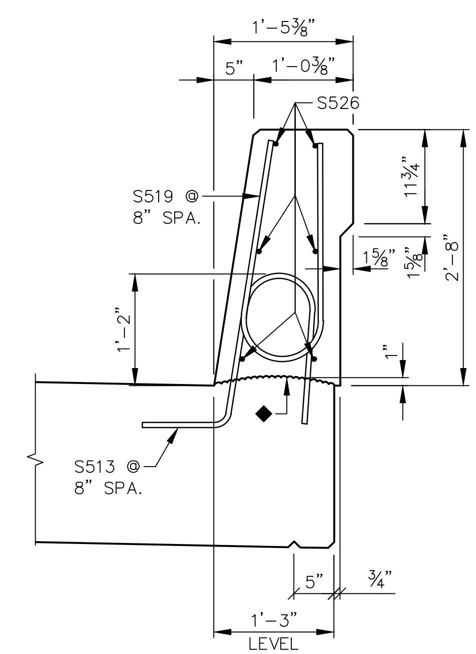
PLAN



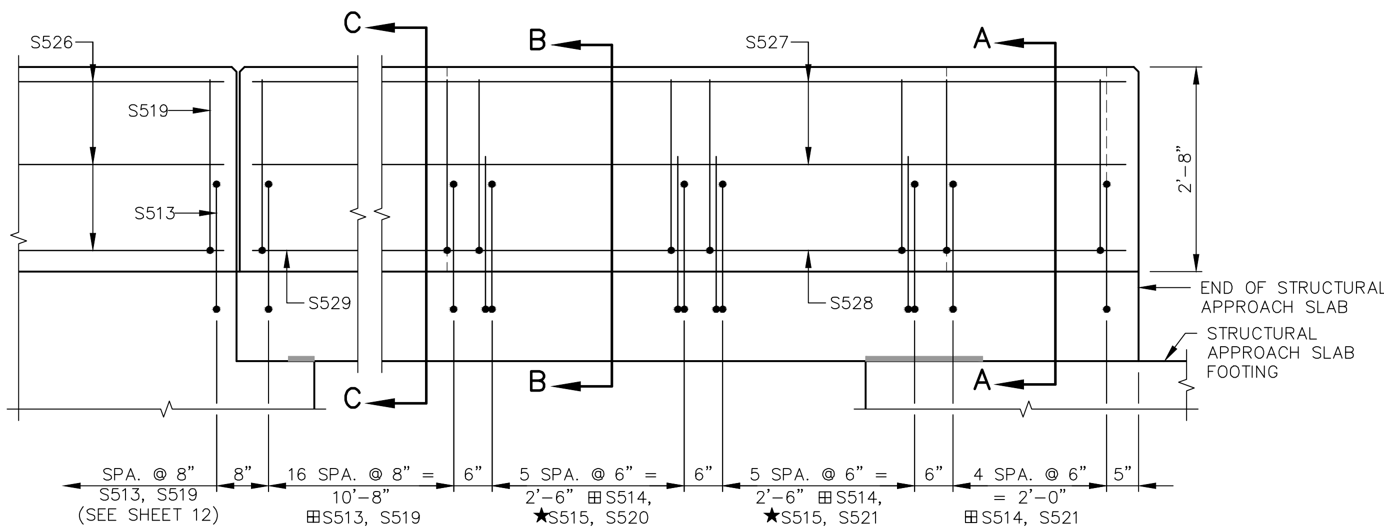
DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS AND WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232, CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD".



SECTION THROUGH PARAPET ON BRIDGE



STEEL LAYOUT

LEGEND

- ◆ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN.
- ▲ FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING, GRAY, NON-BITUMINUOS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE).
- ★ S515 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE S515 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- ⊞ S513 AND S514 BARS TO BE TIED TO APPROACH SLAB STEEL BEFORE APPROACH SLAB IS POURED.
- ◑ SLOPE FOR DRAINAGE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0184

DRAWN BY PTB | PLANS CK'D. RBH

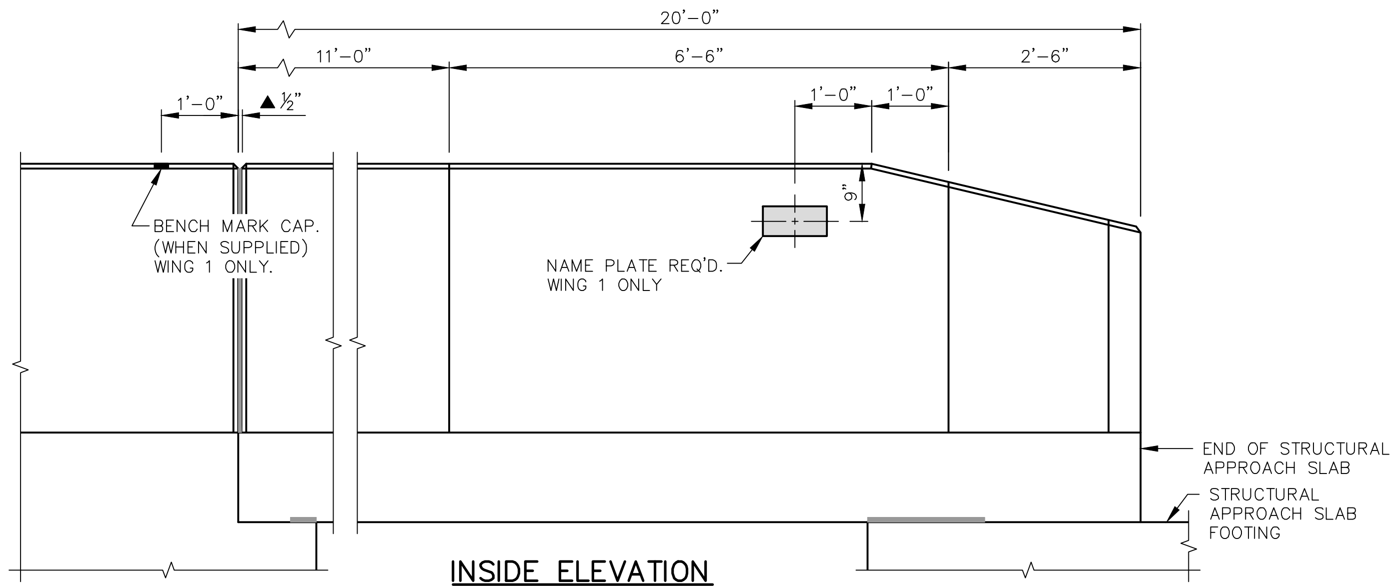
SINGLE SLOPE PARAPET 32SS

FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0184 (BRIDGE)\B-12-0184_12_SUPERSTRUCTURE.DWG
LAYOUT : 32SS
PLOT DATE : 3/9/2015
PLOT TIME : 3:14:20 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER
1661-05-78

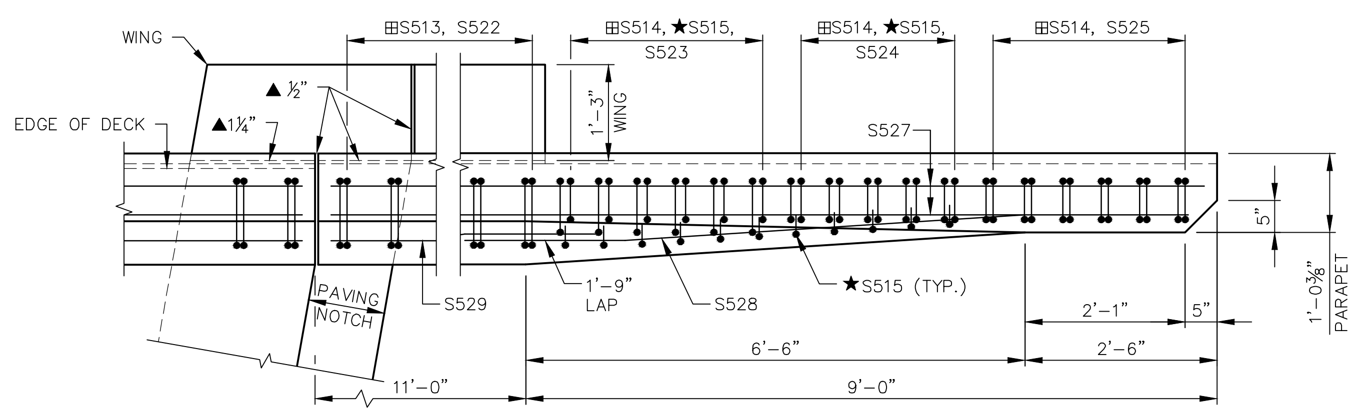
NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 14 FOR BILL OF BARS.

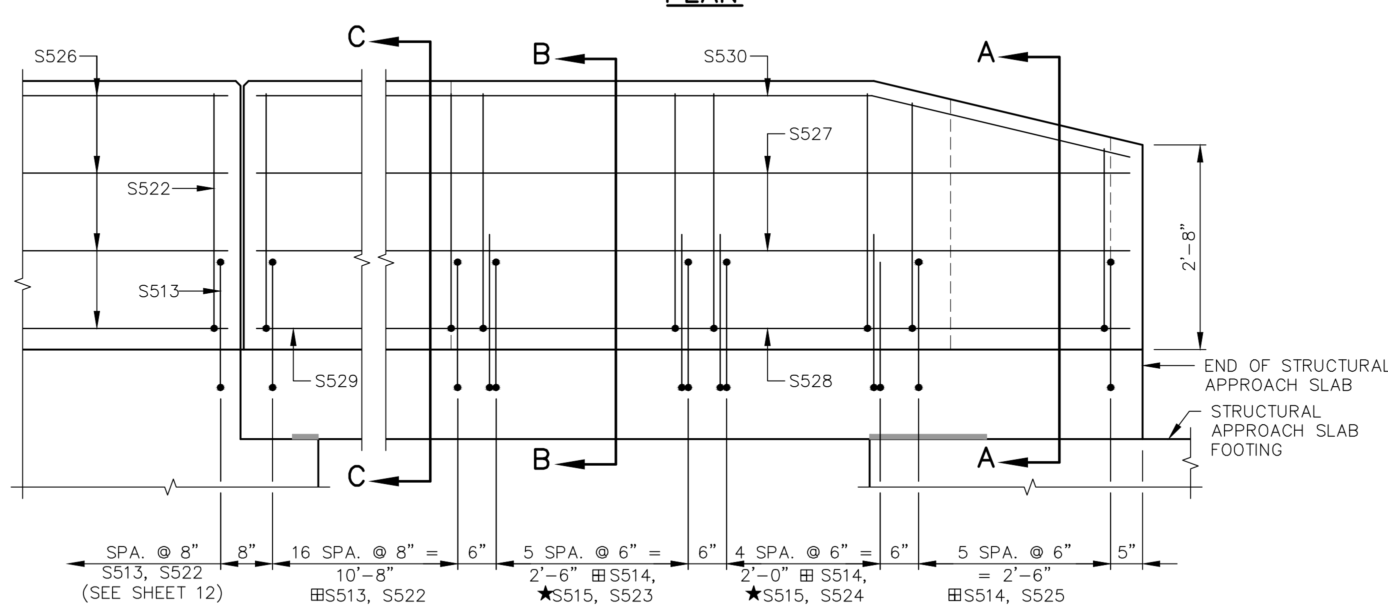


INSIDE ELEVATION

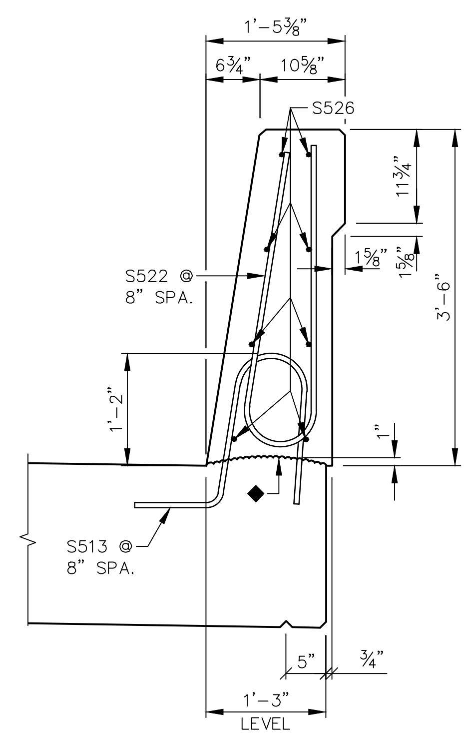
(WING 1 SHOWN – WING 4 SIMILAR)



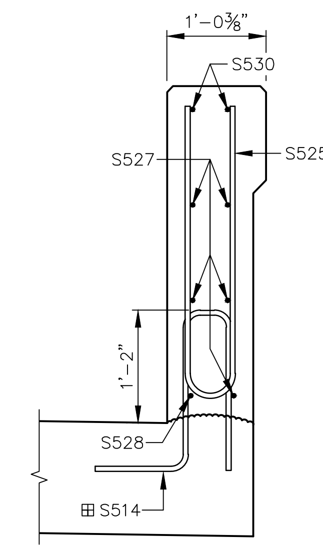
PLAN



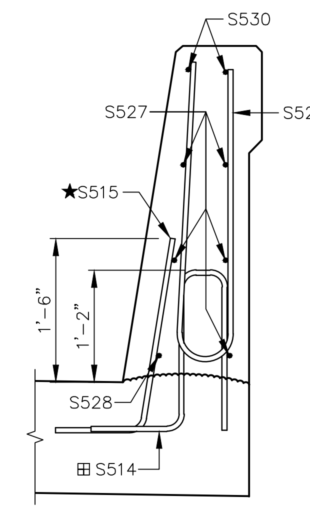
STEEL LAYOUT



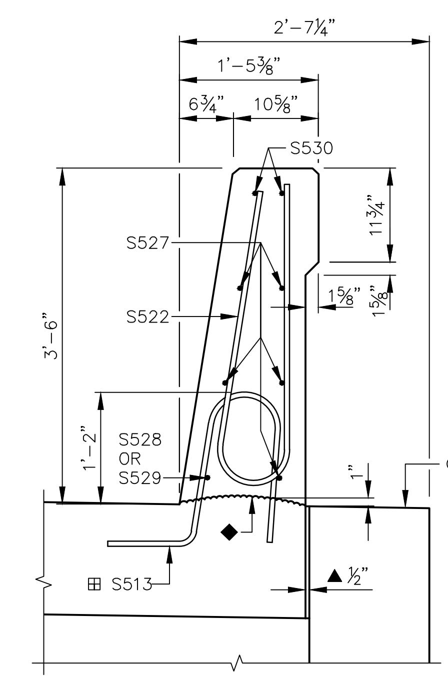
SECTION THROUGH PARAPET ON BRIDGE



SECTION A



SECTION B



SECTION C

LEGEND

- ◆ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN.
- ▲ FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING, GRAY, NON-BITUMINUOS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE).
- ★ S515 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE S515 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- ⊞ S513 AND S514 BARS TO BE TIED TO APPROACH SLAB STEEL BEFORE APPROACH SLAB IS POURED.
- ◑ SLOPE FOR DRAINAGE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0184

DRAWN BY PTB PLANS CK'D. RBH

SINGLE SLOPE PARAPET 42SS

SHEET 17 OF 20

8

8

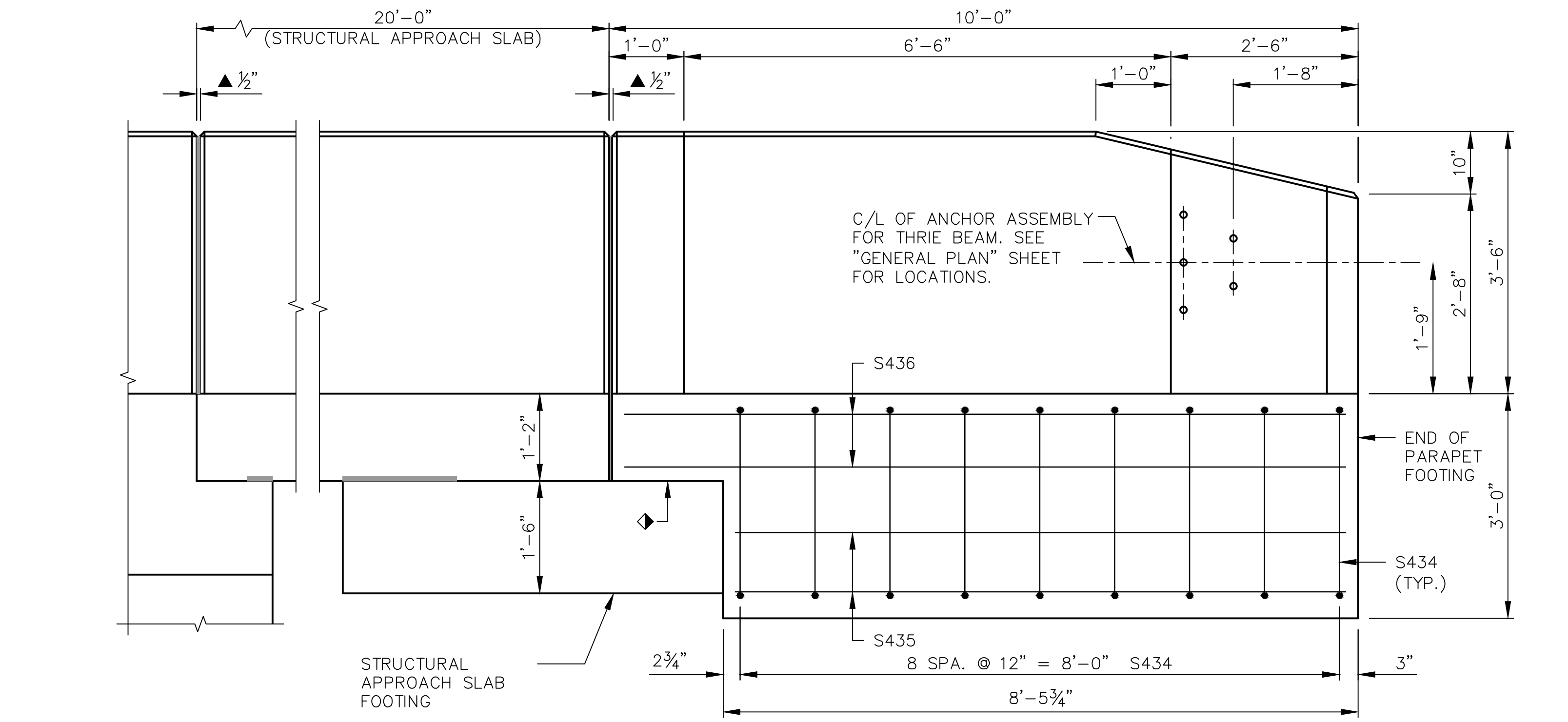
FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0184 (BRIDGE)\B-12-0184_12_SUPERSTRUCTURE.DWG
LAYOUT : 42SS
PLOT DATE : 3/9/2015
PLOT TIME : 3:14:20 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 14 FOR BILL OF BARS.

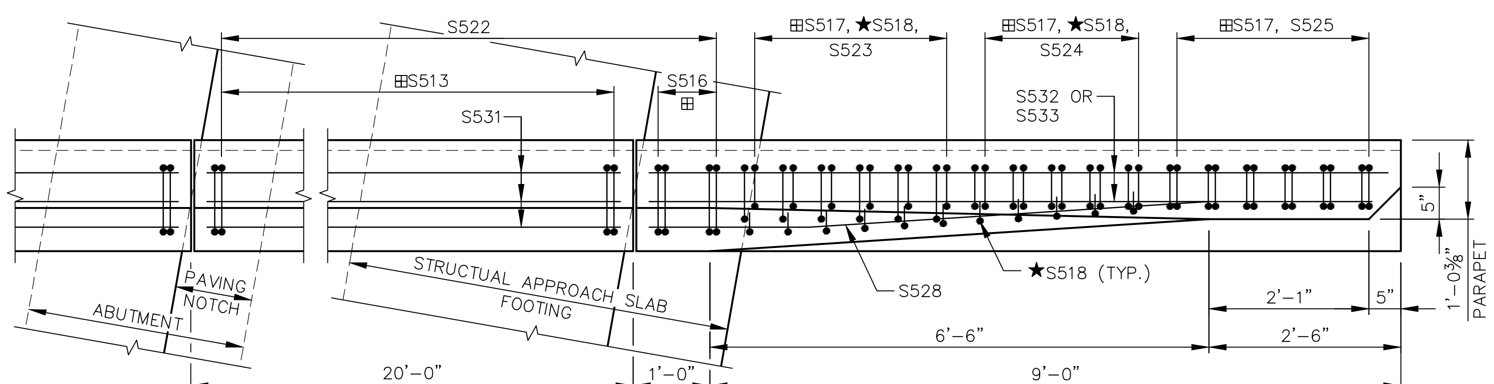
SEE SHEET 16 FOR DETAIL OF ANCHOR ASSEMBLY.

SEE SHEET 17 FOR SECTION THROUGH PARAPET ON BRIDGE.

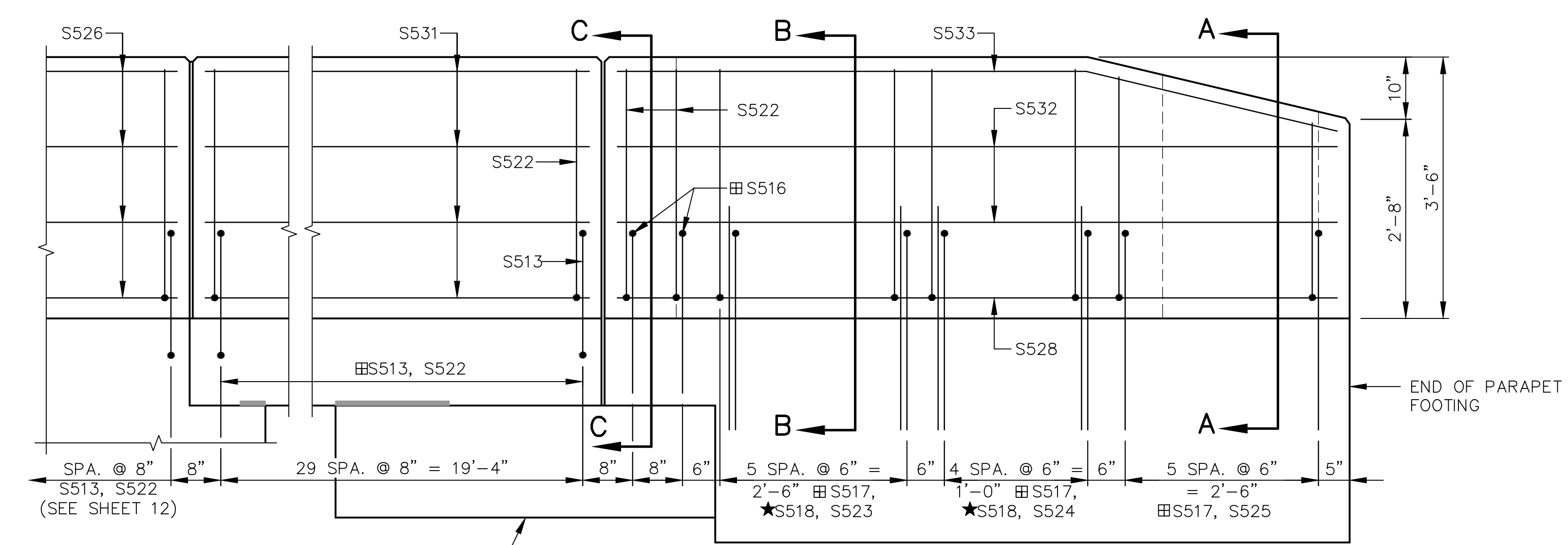


INSIDE ELEVATION

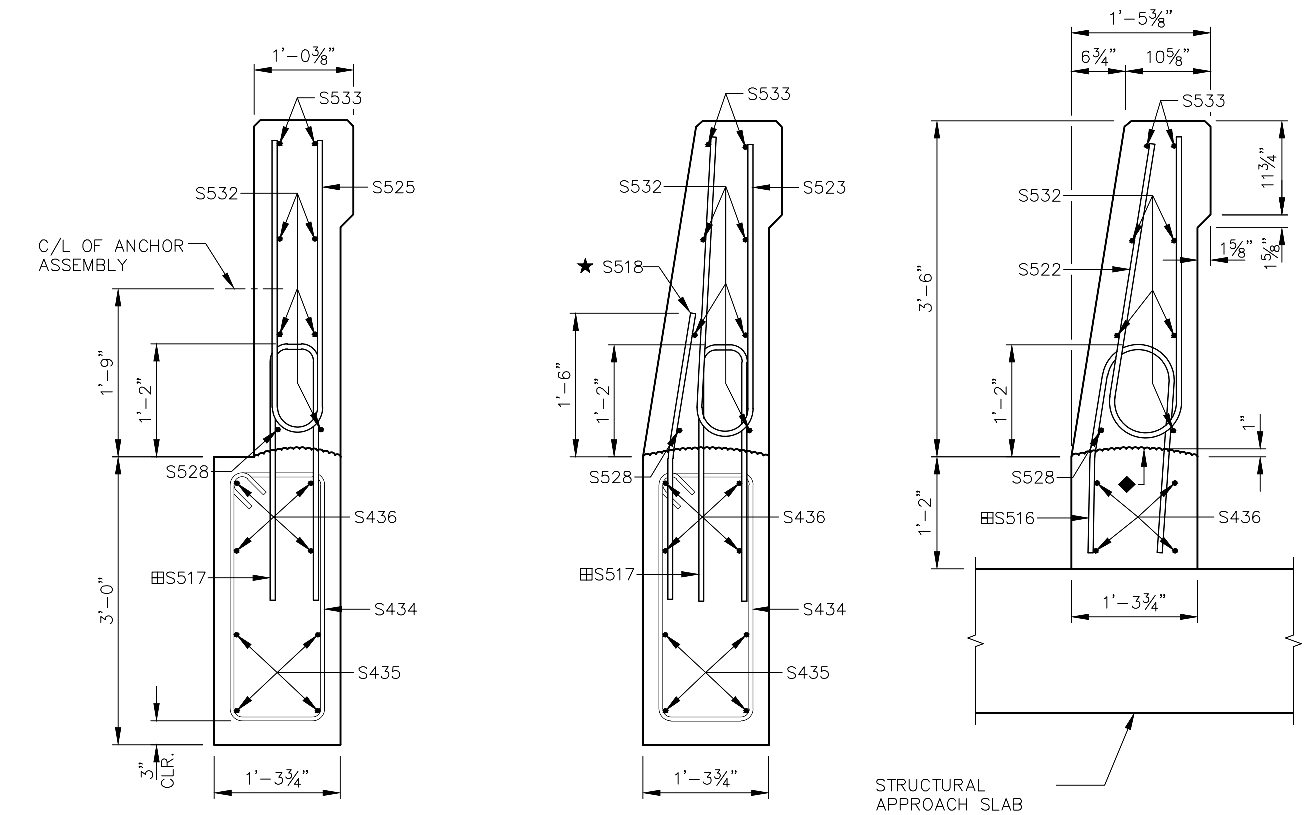
(WEST FOOTING SHOWN – EAST FOOTING SIMILAR)



PLAN



STEEL LAYOUT



LEGEND

- ◆ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN.
- ▲ ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING, GRAY, NON-BITUMINUOS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE).
- ★ S518 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE S518 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- ⊞ S513 BARS TO BE TIED TO APPROACH SLAB STEEL BEFORE APPROACH SLAB IS POURED. S516 AND S517 BARS TO BE TIED TO PARAPET FOOTING STEEL BEFORE PARAPET FOOTING IS POURED.
- ◈ STEEL TROWEL HORIZONTAL SURFACE OF STRUCTURAL APPROACH SLAB FOOTING. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS BETWEEN PARAPET FOOTING AND HORIZONTAL SURFACE OF STRUCTURAL APPROACH SLAB FOOTING. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

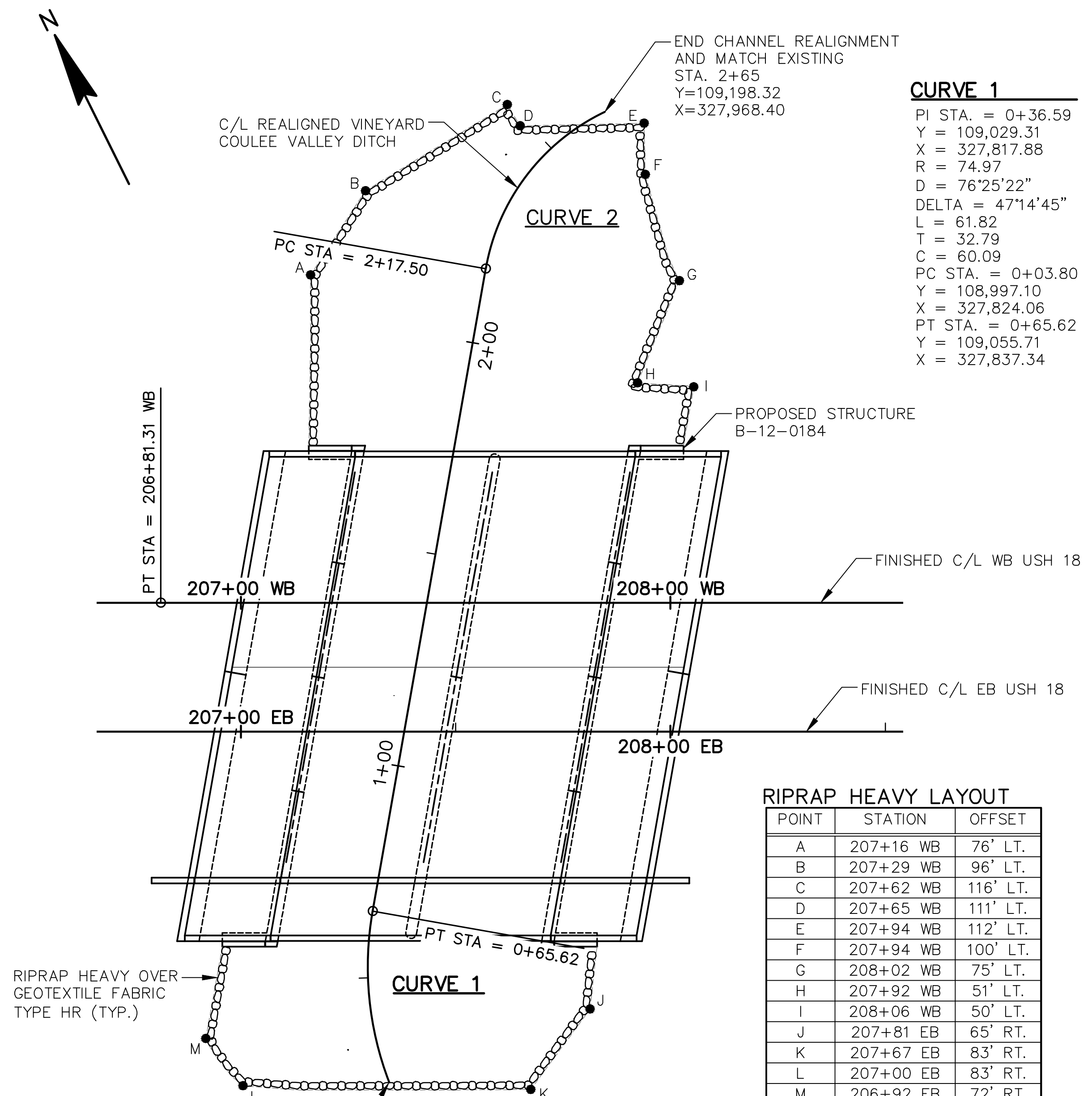
STRUCTURE B-12-0184

DRAWN BY PTB | PLANS CK'D. RBH

PARAPET FOOTING

FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0184 (BRIDGE)\B-12-0184_12_SUPERSTRUCTURE.DWG
LAYOUT : PARAPET FOOTING
PLOT DATE : 3/9/2015
PLOT TIME : 3:14:20 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

8



CURVE 1

PI STA. = 0+36.59
Y = 109,029.31
X = 327,817.88
R = 74.97
D = 76°25'22"
DELTA = 47°14'45"
L = 61.82
T = 32.79
C = 60.09
PC STA. = 0+03.80
Y = 108,997.10
X = 327,824.06
PT STA. = 0+65.62
Y = 109,055.71
X = 327,837.34

CURVE 2

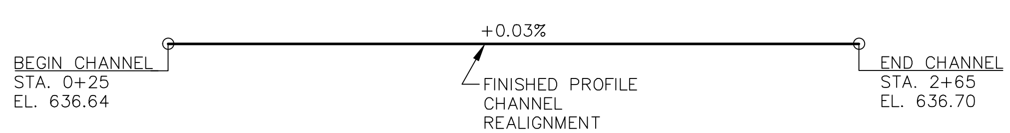
PI STA. = 2+44.50
Y = 109,199.71
X = 327,943.45
R = 50.00
D = 114°35'30"
DELTA = 56°43'42"
L = 49.50
T = 26.99
C = 47.51
PC STA. = 2+17.50
Y = 109,177.98
X = 327,927.44
PT STA. = 2+67.01
Y = 109,198.25
X = 327,970.40

RIPRAP HEAVY LAYOUT

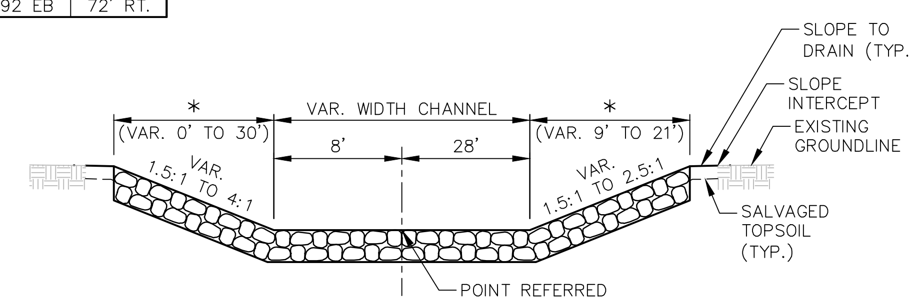
POINT	STATION	OFFSET
A	207+16 WB	76' LT.
B	207+29 WB	96' LT.
C	207+62 WB	116' LT.
D	207+65 WB	111' LT.
E	207+94 WB	112' LT.
F	207+94 WB	100' LT.
G	208+02 WB	75' LT.
H	207+92 WB	51' LT.
I	208+06 WB	50' LT.
J	207+81 EB	65' RT.
K	207+67 EB	83' RT.
L	207+00 EB	83' RT.
M	206+92 EB	72' RT.

CHANNEL REALIGNMENT – PLAN VIEW

EARTHWORK AT CHANNEL REALIGNMENT TO BE INCLUDED IN THE BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-12-0184" (TYP.)



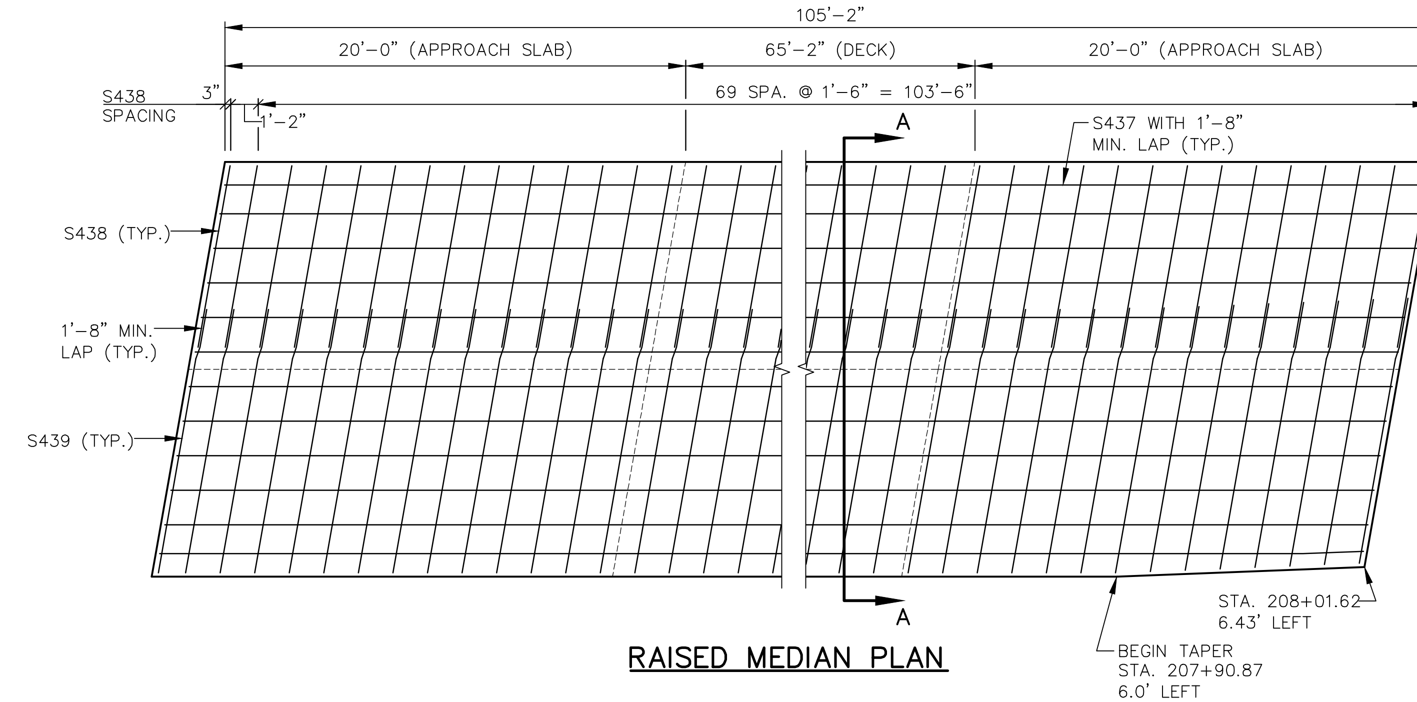
CHANNEL REALIGNMENT – PROFILE GRADE LINE



* LIMITS OF SEEDING MIXTURE NO. 60, SEEDING TEMPORARY, FERTILIZER TYPE B AND MULCH (INCLUDED IN CATEGORY 010 MAINLINE QUANTITIES)

TYPICAL CHANNEL REALIGNMENT SECTION

CHANNEL REALIGNMENT DETAILS



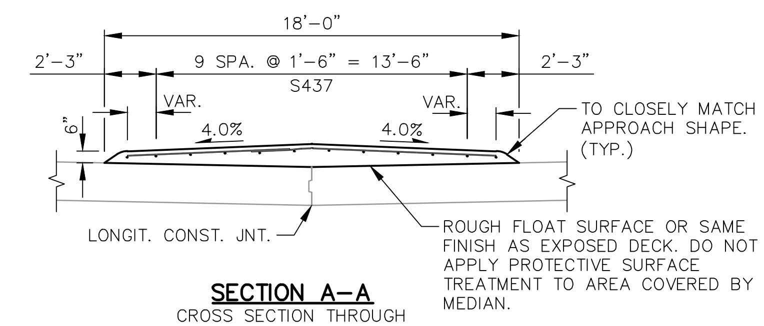
RAISED MEDIAN PLAN

NOTES

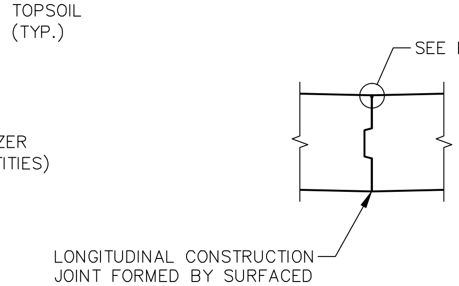
SEE SHEET 14 FOR BILL OF BARS.

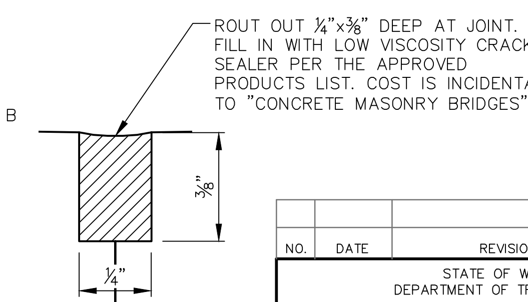
CLEAN ALL LOOSE MATERIAL ON THE DECK AT THE MEDIAN LOCATION PRIOR TO MEDIAN PLACEMENT USING HIGH PRESSURE WATER OR AIR, ENSURING ALL FREE-STANDING WATER IS REMOVED PRIOR TO MEDIAN PLACEMENT. NEAT CEMENT IS REQUIRED AS PER 509.3.8.2 OF THE STANDARD SPECIFICATIONS.

PLACE TRANSVERSE BARS IN THE MEDIAN PARALLEL TO THE CENTERLINE OF SUBSTRUCTURE UNITS.



SECTION A–A
CROSS SECTION THROUGH RAISED MEDIAN





DETAIL B

LONGITUDINAL CONSTRUCTION JOINT DETAIL

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–12–0184

DRAWN BY PTB | PLANS CK'D. RBH

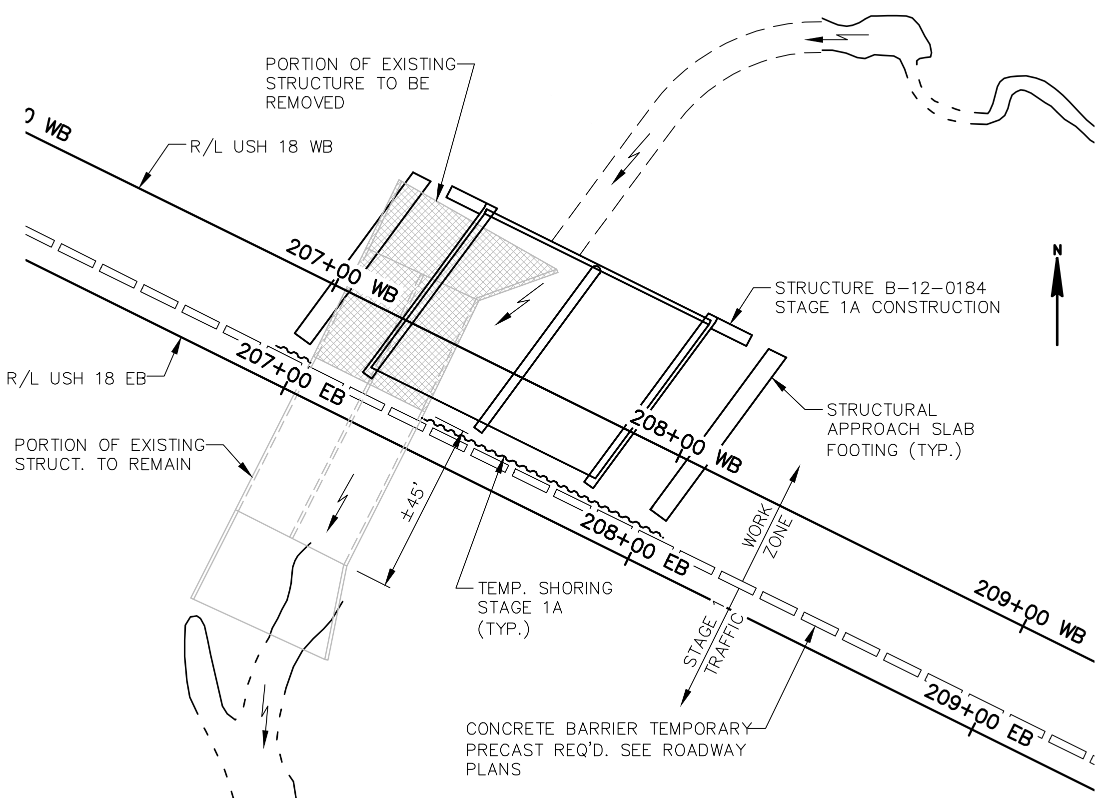
MISCELLANEOUS CONSTRUCTION DETAILS

SHEET 19 OF 20

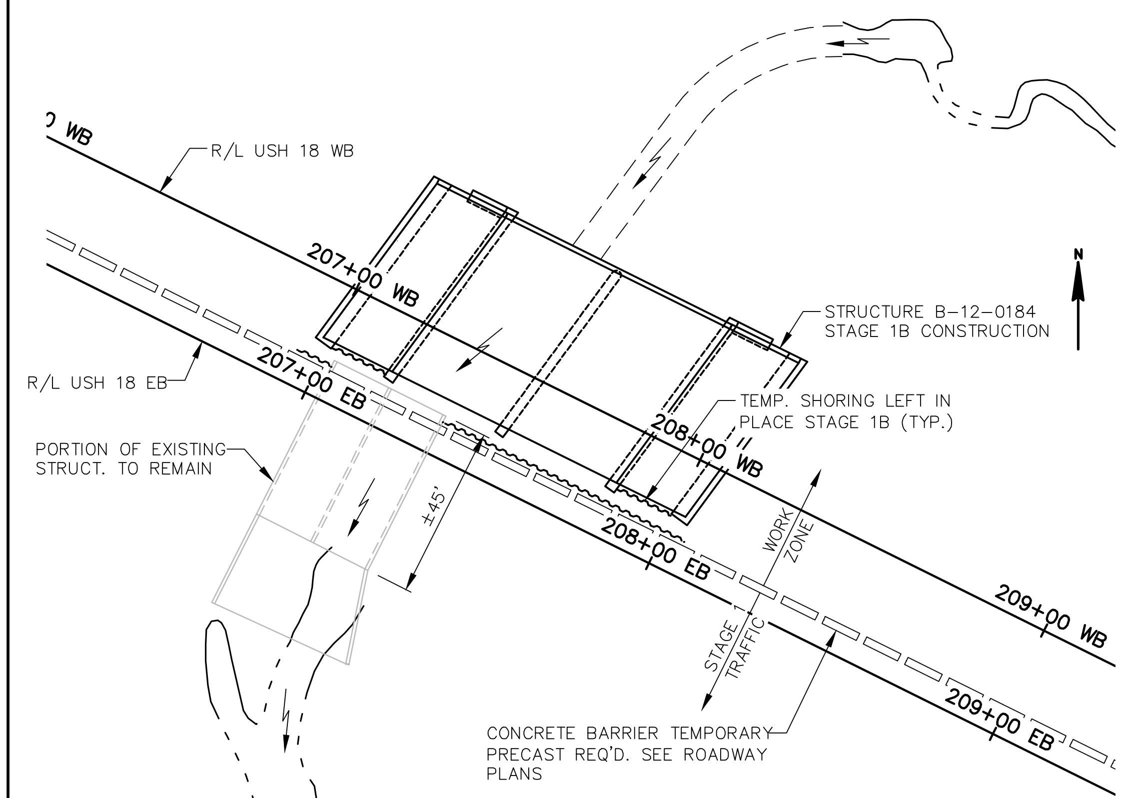
FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0184 (BRIDGE)\B-12-0184_19_CONSTRUCTION DETAILS.DWG
LAYOUT : LAYOUT
PLOT DATE : 8/5/2015
PLOT TIME : 1:43:17 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

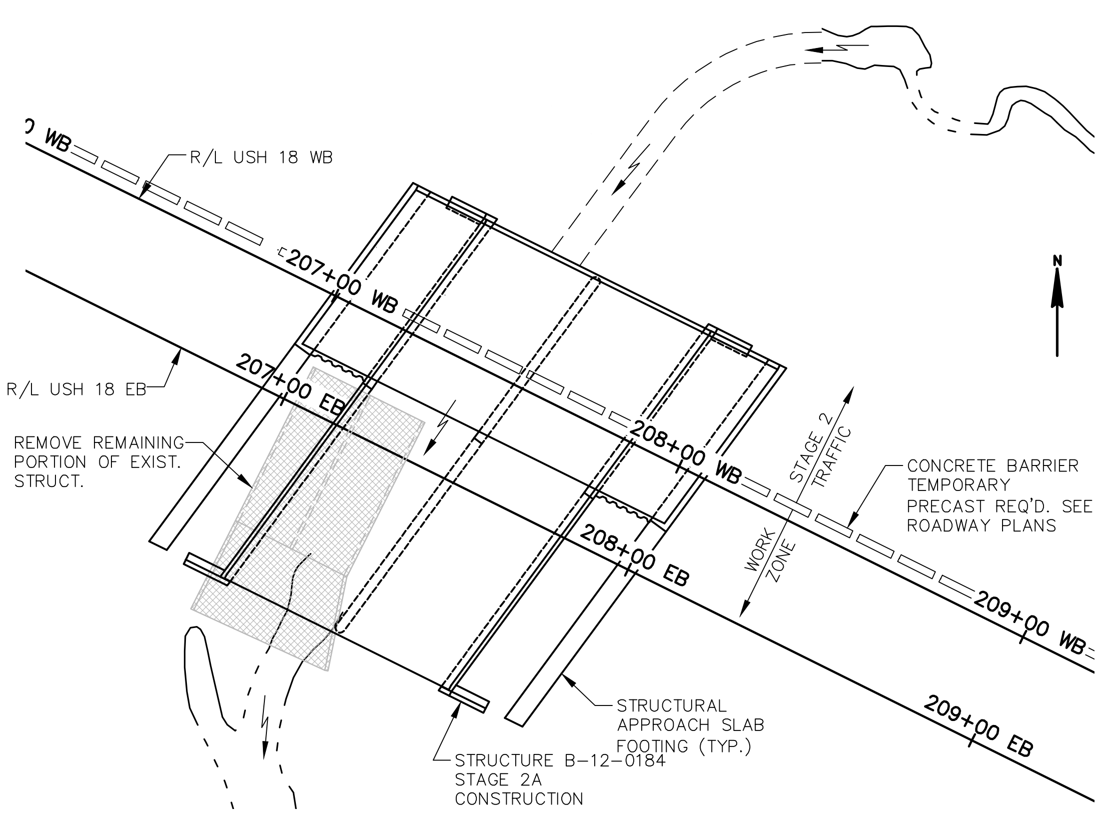
1661–05–78



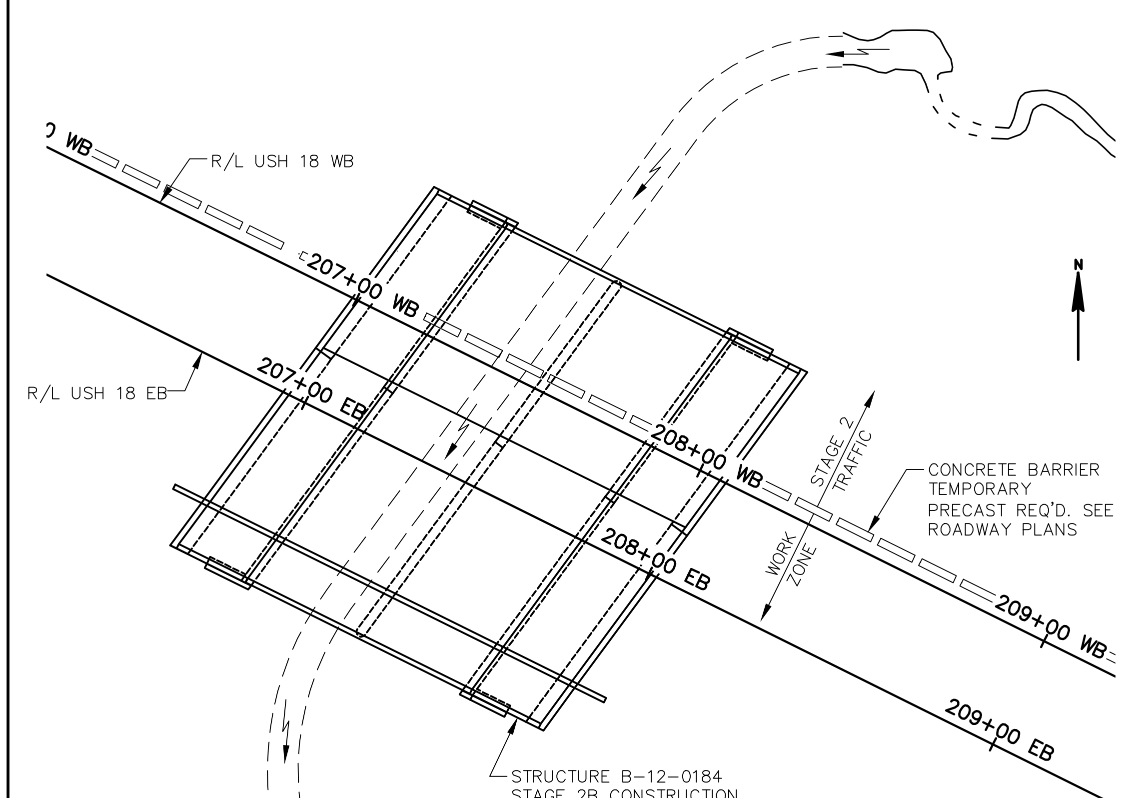
STAGE 1A CONSTRUCTION



STAGE 1B CONSTRUCTION



STAGE 2A CONSTRUCTION



STAGE 2B CONSTRUCTION

NOTES:

SEE ROADWAY PLANS FOR TRAFFIC STAGING DETAILS INCLUDING LOCATION AND DIRECTION OF TRAFFIC LANES AND LOCATION OF CONCRETE BARRIER TEMPORARY PRECAST.

CONSTRUCTION DETAILS AND TEMPORARY SHORING LOCATIONS SHOWN ON THIS SHEET PRESENT ONE POSSIBLE CONSTRUCTION METHOD. ALTERNATE METHODS AND LOCATIONS MAY BE ACCEPTABLE PROVIDED THEY MEET THE APPROVAL OF THE FIELD ENGINEER.

TEMPORARY SHORING QUANTITIES CALCULATED USING FINISHED GRADE ELEVATIONS

STAGE 1A

TRAFFIC

1. TRAFFIC WILL UTILIZE SOUTH PORTION OF EXISTING BOX CULVERT, EASTBOUND TRAVEL LANE AND SHOULDER. INSTALL TEMPORARY CONCRETE BARRIER TO SHIELD CONSTRUCTION AREA. SEE ROADWAY PLANS FOR LOCATIONS.

CONSTRUCTION

1. INSTALL TEMPORARY SHORING ADJACENT TO TRAVEL LANES AS INDICATED ON STAGING DETAILS (THIS SHEET).
2. REMOVE NORTH PORTION OF EXISTING BOX CULVERT STRUCTURE.
3. ANY BASE FLOW WILL PASS THROUGH WORK ZONE AND UTILIZE THE EAST CELL OF EXISTING BOX CULVERT TO PASS UNDER USH 18.
4. CONSTRUCT NORTH PORTION OF PROPOSED STRUCTURE EXCEPT STRUCTURAL APPROACH SLABS.

STAGE 1B

TRAFFIC

1. TRAFFIC WILL UTILIZE THE SAME TRAFFIC PATTERN AS STAGE 1A.

CONSTRUCTION

1. INSTALL TEMPORARY SHORING LEFT IN PLACE ADJACENT TO STRUCTURAL APPROACH SLABS AS INDICATED ON STAGING DETAILS (THIS SHEET).
2. BACKFILL ABUTMENTS, CONSTRUCT STRUCTURAL APPROACH SLABS AND COMPLETE CONSTRUCTION OF NORTH PORTION OF PROPOSED STRUCTURE.

STAGE 2A

TRAFFIC

1. TRAFFIC WILL UTILIZE WESTBOUND LANES OF COMPLETED NORTH PORTION OF NEW STRUCTURE. INSTALL TEMPORARY CONCRETE BARRIER TO SHIELD STAGE 2 CONSTRUCTION AREA. SEE ROADWAY PLANS FOR LOCATIONS.

CONSTRUCTION

1. REMOVE TEMPORARY SHORING ADJACENT TO STAGE 1 TRAVEL LANES. TEMPORARY SHORING ADJACENT TO APPROACH SLABS TO REMAIN.
2. REMOVE SOUTH PORTION OF EXISTING BOX CULVERT STRUCTURE.
3. CONSTRUCT SOUTH PORTION OF PROPOSED STRUCTURE EXCEPT STRUCTURAL APPROACH SLABS.

STAGE 2B

TRAFFIC

1. TRAFFIC WILL UTILIZE THE SAME TRAFFIC PATTERN AS STAGE 2A.

CONSTRUCTION

1. BACKFILL ABUTMENTS, CONSTRUCT STRUCTURAL APPROACH SLABS AND COMPLETE CONSTRUCTION OF SOUTH PORTION OF PROPOSED STRUCTURE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–12–0184

DRAWN BY PTB PLANS CK'D. RBH

STAGING DETAILS

SHEET 20 OF 20

8

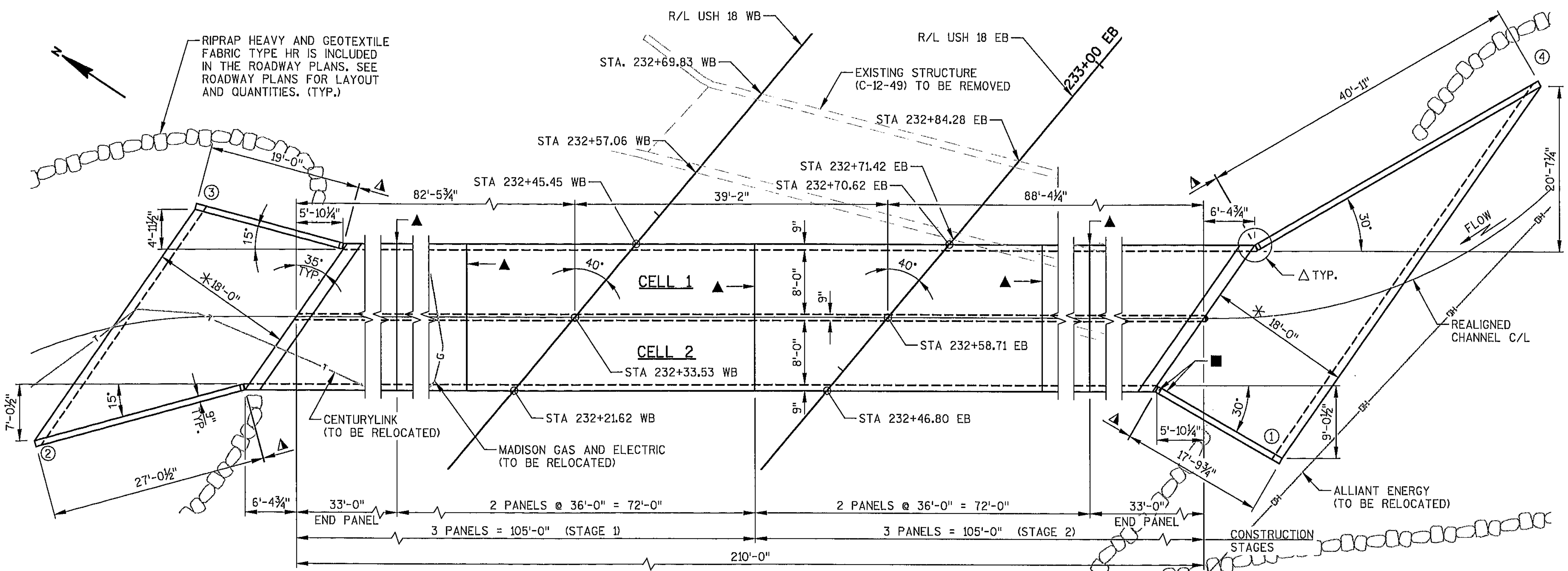
8

FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0184 (BRIDGE)\B-12-0184_20_STAGING DETAILS.DWG
LAYOUT : LAYOUT

PLOT DATE : 8/5/2015
PLOT TIME : 1:43:40 PM

PLOT BY : BOLAND, PATRICK

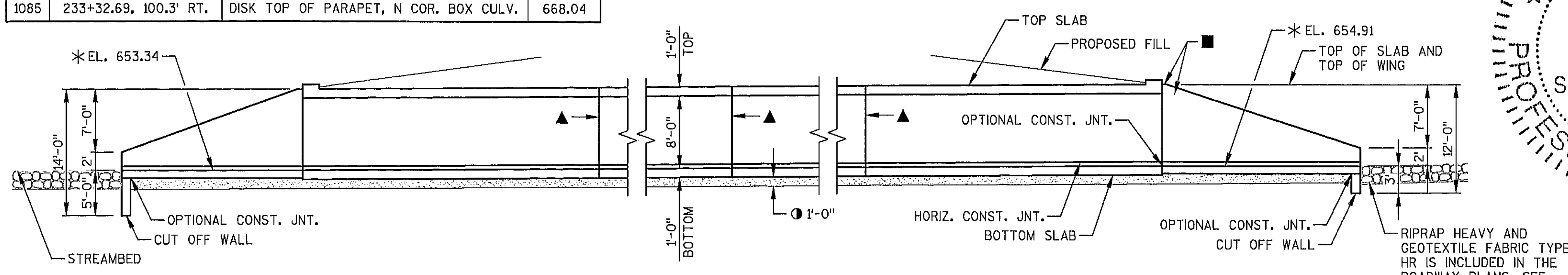
PLOT SCALE : 1" = 1'



PLAN B-12-0187
(TWO-CELL BOX CULVERT)

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
410	232+97.60, 54.7' RT.	DISK SW COR. OF BOX C-12-00-49	665.94
1085	233+32.69, 100.3' RT.	DISK TOP OF PARAPET, N COR. BOX CULV.	668.04



OUTLET

ELEVATION
(INTERIOR WALL NOT SHOWN)

INLET

DESIGN DATA

LIVE LOAD:
DESIGN LOADING — HL-93
INVENTORY RATING FACTOR — RF=1.05
OPERATING RATING FACTOR — RF=1.35
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) — 255 KIPS

EARTH LOAD:
DESIGNED FOR 6 - 8 FEET OF FILL

MATERIAL PROPERTIES:
CONCRETE MASONRY (GRADE A-FA) — f'c = 3,500 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 — fy = 60,000 P.S.I.

TRAFFIC DATA
A.D.T. (2036) — 10,800
DESIGN SPEED — 60 M.P.H.

HYDRAULIC DATA
100 YEAR FREQUENCY
DRAINAGE AREA — 1.1 SQ. MI.
Q_{100} TOTAL — 625 C.F.S.
THROUGH STRUCTURE — 625 C.F.S.
OVERTOPPING ROADWAY — N/A
VELOCITY - THROUGH STRUCTURE — 8.7 F.P.S.
WATERWAY AREA - THROUGH STRUCTURE — 72 SQ. FT.
HIGH $WATER_{100}$ ELEVATION — 661.05
SCOUR CRITICAL CODE — 8

EROSION CONTROL
Q_2 — 95 C.F.S.
HIGH $WATER_2$ ELEVATION — 656.83

LIST OF DRAWINGS

WISCONSIN PROFESSIONAL ENGINEER
PATRICK T. BOLAND E-36303 SPRING GREEN WIS.
Patrick T. Boland 7-30-15

DESIGN CONSULTANT
PATRICK BOLAND, PE
(608) 588-7484

BRIDGE OFFICE CONTACT
WILLIAM DREHER, PE
(608) 266-8489

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	UNIT	TOTAL
203.0200	REMOVING OLD STRUCTURE STA. 323+78 EB	LS	1
206.2000	EXCAVATION FOR STRUCTURES CULVERTS B-12-0187	LS	1
210.0100	BACKFILL STRUCTURE	CY	2,100
311.0115	BREAKER RUN	CY	280
504.0100	CONCRETE MASONRY CULVERTS	CY	492
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	42,100
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	3,620
511.1200	TEMPORARY SHORING B-12-0187	SF	1,225
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	125
645.0105	GEOTEXTILE FABRIC TYPE C	SY	710
	NON-BID ITEMS		
	FILLER	SIZE	¾"

LEGEND

- △ SEE CORNER DETAILS (SHEET 3).
- ■ NAME PLATE LOCATION (SEE SHEET 3) AND BENCHMARK CAP (WHEN SUPPLIED).
- ▲ VERT. CONST. JOINT (TYP.). 18" MIN. WIDTH RUBBERIZED MEMBRANE WATER-PROOFING UP WALLS AND ACROSS TOP SLAB.
- ✳ BUILD APRON AND END OF BOX LEVEL.
- ○ INDICATES WING NUMBER.
- ◑ UNDER CUT STRUCTURE (TO BE PAID FOR UNDER "EXCAVATION FOR STRUCTURES"), PLACE GEOTEXTILE FABRIC TYPE C, AND BACKFILL WITH BREAKER RUN. EXTEND 3'-0" BEYOND THE FOOTPRINT OF THE CULVERT.
- ▲ ¾" FILLER & 18" RUBBERIZED MEMBRANE WATER-PROOFING. EXTEND FROM HORIZ. CONST. JT. TO TOP OF WING WALL.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES SHALL BE THE EXISTING GROUNDLINE. ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TO THE ELEVATION OF THE TOP OF THE BOX WITHIN THE LENGTH OF THE CULVERT.

THE CONCRETE IN THE CUTOFF WALLS MAY BE PLACED UNDERWATER IF THE EXCAVATION CANNOT BE DEWATERED.

THE CONTRACTOR MAY FURNISH A PRECAST CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE BOX CULVERT WITH APPROVAL OF THE STRUCTURES DESIGN SECTION. MATERIALS, FABRICATION AND DESIGN OF PRECAST BOXES SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR TRANSPORTATION MATERIALS, M259 OR M273, AND AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION 2, SECTION 27, EXCEPT THE CONCRETE MIXTURE SHALL CONTAIN NOT LESS THAN 565 POUNDS OF CEMENTITIOUS MATERIALS PER CUBIC YARD.

NO.	DATE	REVISION	BY

JEWELL associates engineers, inc.
Engineers - Surveyors - Architects
560 SUNRISE DRIVE
SPRING GREEN, WI 53588
PHONE: (608) 588-7484
FAX: (608) 588-9322

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher 08/04/15
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-12-0187
USH 18 OVER DRAINAGE CHANNEL

COUNTY	CRAWFORD	TOWN/~~CITY/VILLAGE~~	BRIDGEPORT

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	PTB	DESIGN CK'D.	RBH	DRAWN BY	PTB	PLANS CK'D.	RBH

GENERAL PLAN — SHEET 1 OF 11

8

FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0187 (USH 18)\B-12-0187_01_GENERAL PLAN.DWG
LAYOUT : LAYOUT
PLOT DATE : 7/29/2015
PLOT TIME : 10:23:35 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

8

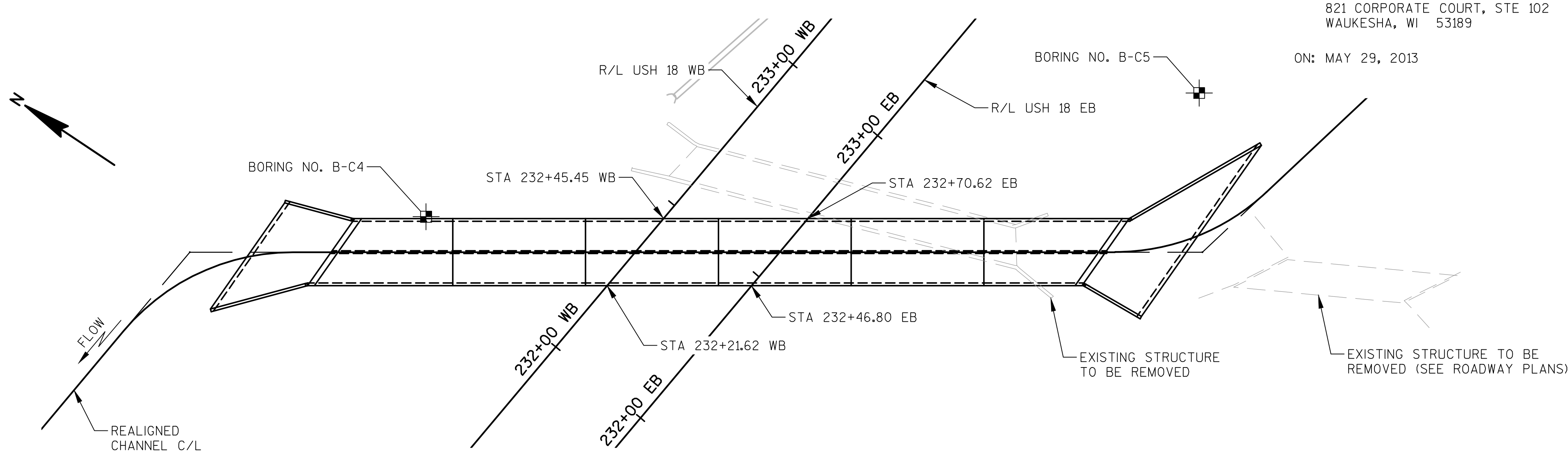
STATE PROJECT NUMBER

1661-05-78

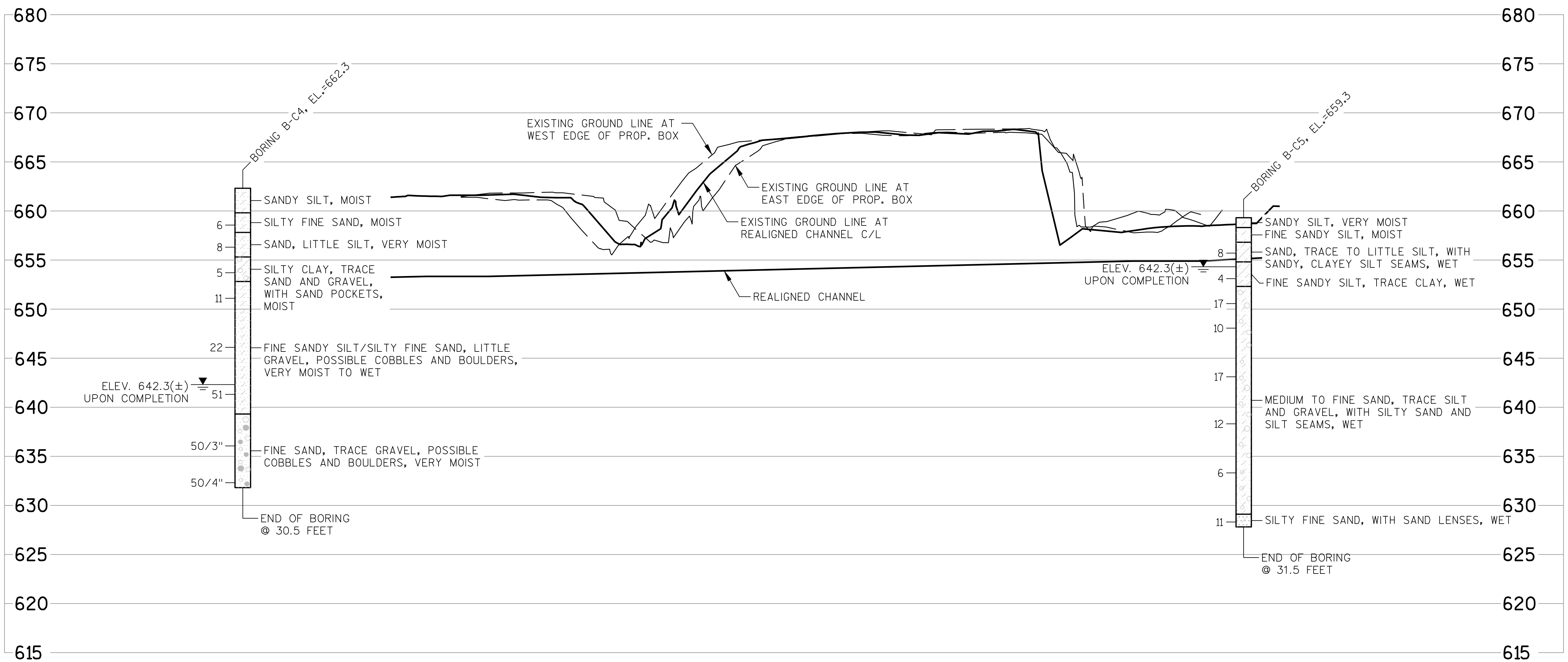
SOIL BORINGS

BY: MIDWEST ENGINEERING SERVICES
821 CORPORATE COURT, STE 102
WAUKESHA, WI 53189

ON: MAY 29, 2013



PLAN B-12-0187



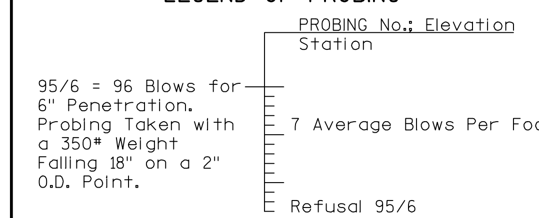
ABBREVIATIONS

F–Fine M–Medium C–Course
Ws–Weathered So–Sound

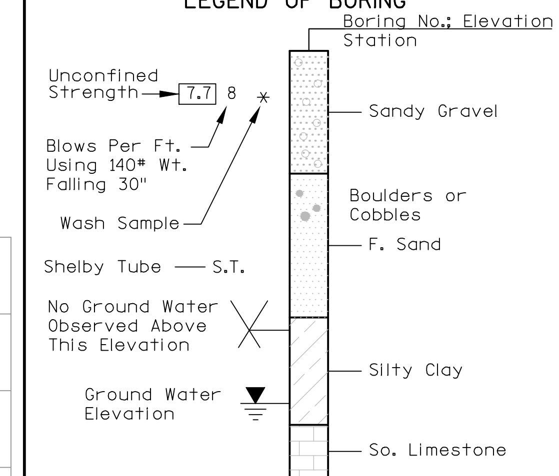
MATERIAL SYMBOLS

Asphalt	Silt	Sandstone
Sand	Peat	Limestone
Gravel	Clay	Igneous Rock

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0187

DRAWN BY TMS PLANS CK'D. PTB

SUBSURFACE EXPLORATION

SHEET 2 OF 11

8

FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0187 (USH 18)\B-12-0187_02_SUBSURFACE EXPLORATION.DWG
LAYOUT : LAYOUT1

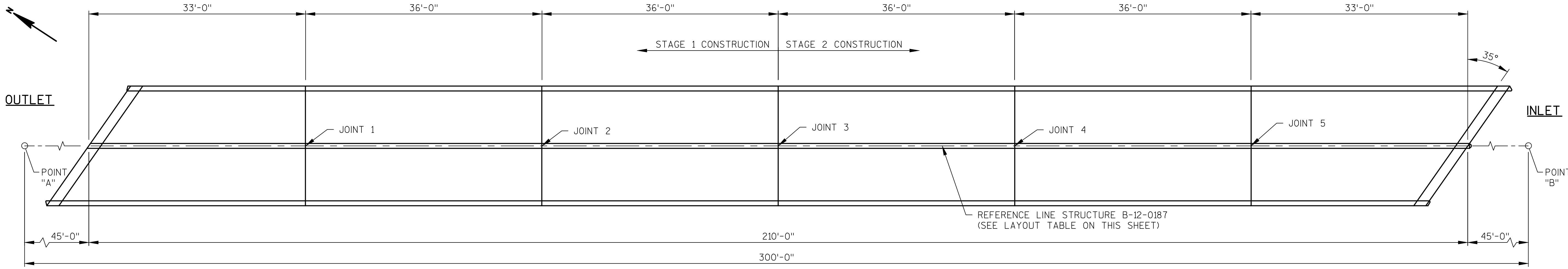
PLOT DATE : 7/29/2015
PLOT TIME : 10:23:49 AM

PLOT BY : BOLAND, PATRICK

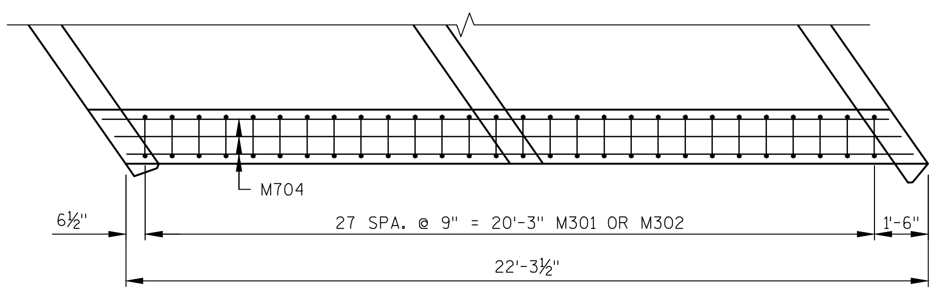
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

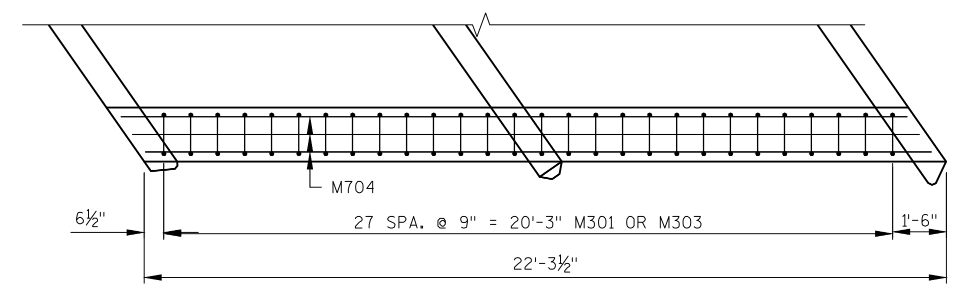
1661-05-78



INDIVIDUAL PANEL LAYOUT



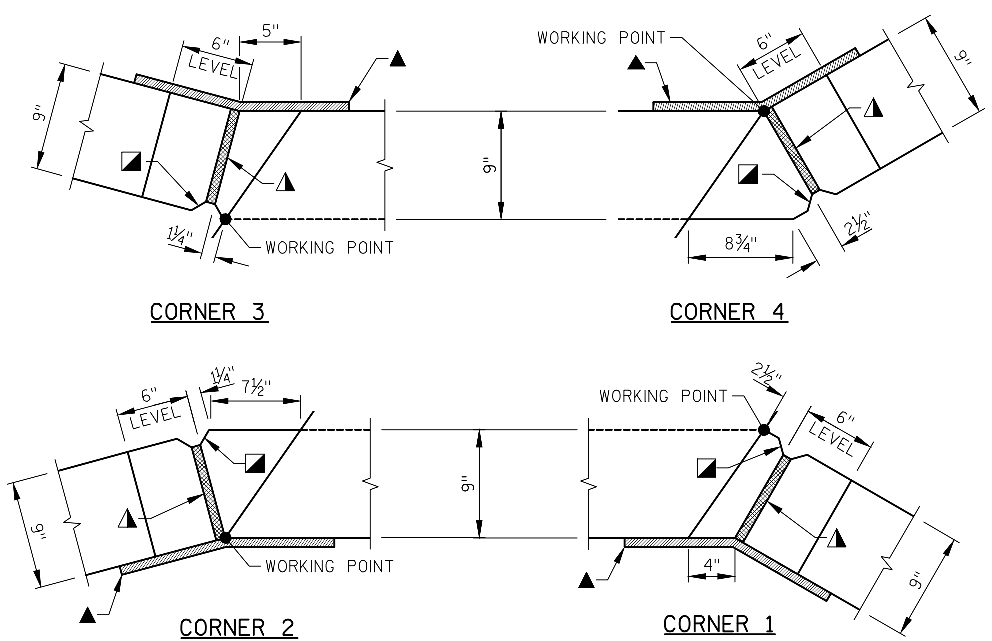
HEADER PLAN VIEW – OUTLET



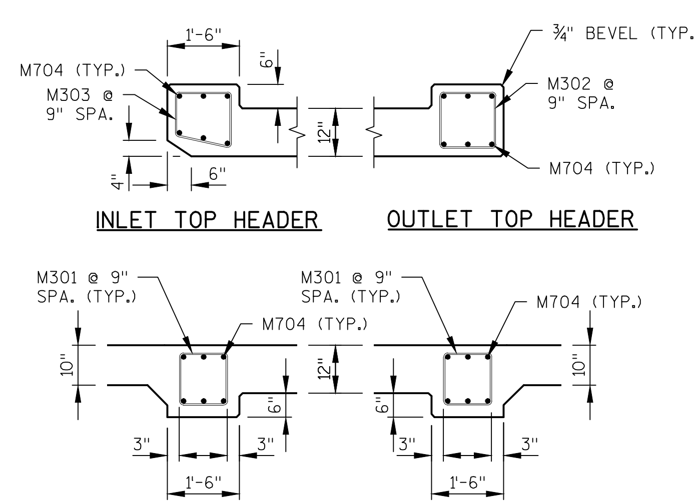
HEADER PLAN VIEW – INLET

B–12–0187 LAYOUT TABLE

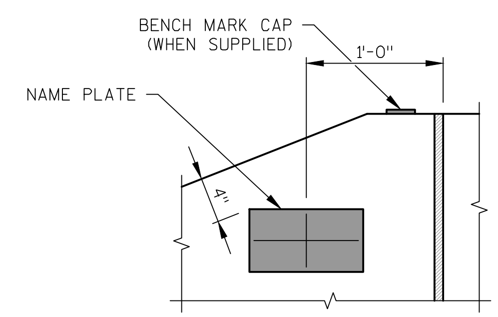
LOCATION	REFERENCE LINE STATION	Y	X
POINT A	0+00.0'	108,621.81	330,188.38
OUTLET	0+45.0'	108,584.36	330,213.33
JOINT 1	0+78.0'	108,556.89	330,231.62
JOINT 2	1+14.0'	108,526.93	330,251.58
JOINT 3	1+50.0'	108,496.97	330,271.54
JOINT 4	1+86.0'	108,467.01	330,291.49
JOINT 5	2+22.0'	108,437.04	330,311.45
INLET	2+55.0'	108,409.58	330,329.74
POINT B	3+00.0'	108,372.13	330,354.69



CORNER DETAILS



HEADER SECTION



NAME PLATE LOCATION
WING 1

NOTES

SEE SHEET 10 FOR BILL OF BARS

LEGEND

▲ 18" RUBBERIZED MEMBRANE WATER-PROOFING. EXTEND FROM HORIZ. CONST. JT TO TOP OF WALL.

◑ BAR LENGTH OR DISTANCE MEASURED ALONG SKEW.

◪ 1" BEVEL TYPICAL

◭ ¾" FILLER TYPICAL. EXTEND FILLER FROM HORIZ. CONST. JT. TO TOP OF WING.

NO.	DATE	REVISION	BY

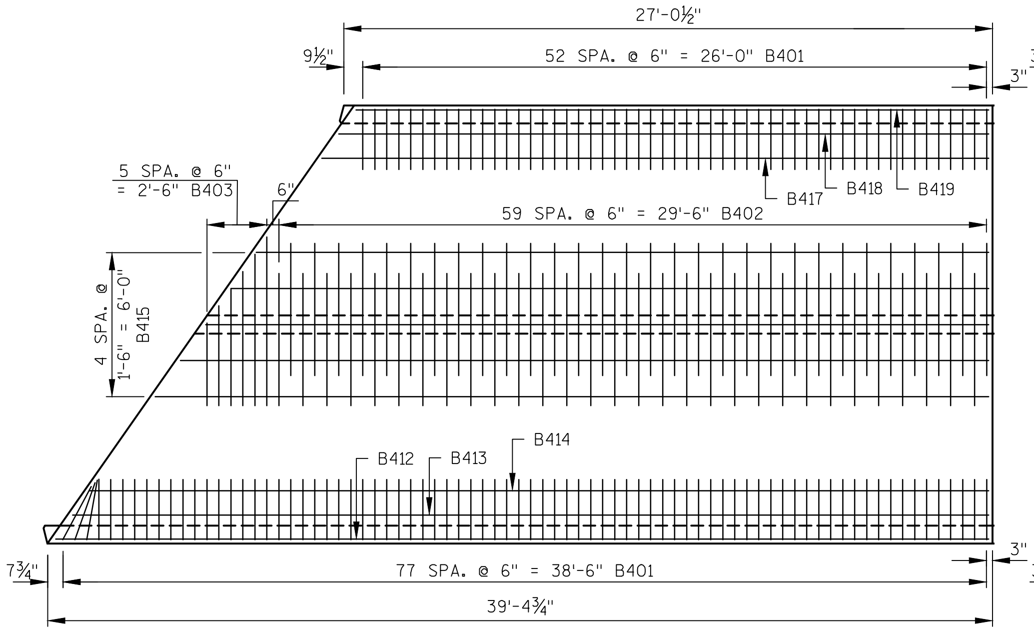
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–12–0187

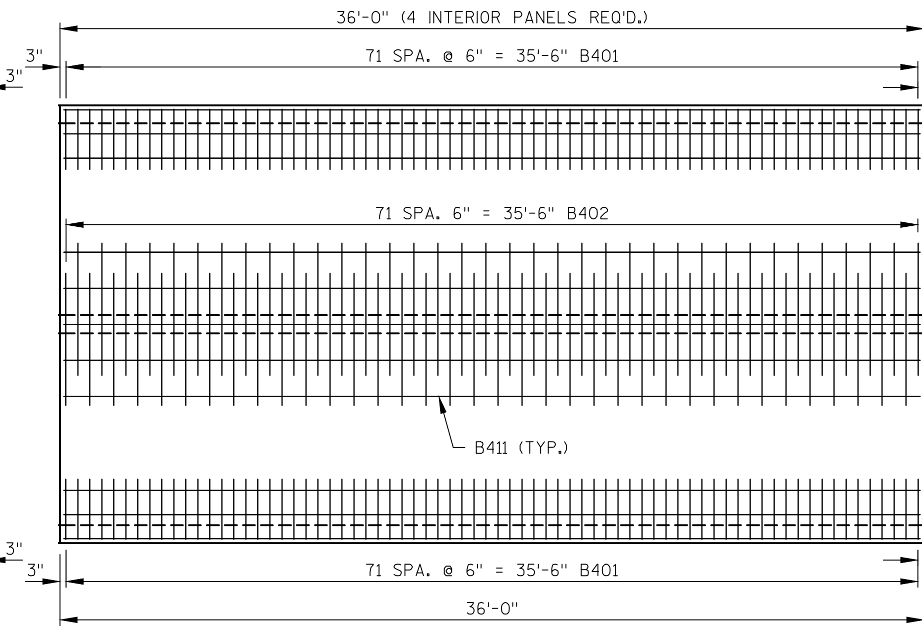
DRAWN BY RBH | PLANS CK'D. PTB

INDIVDUAL PANEL LAYOUT

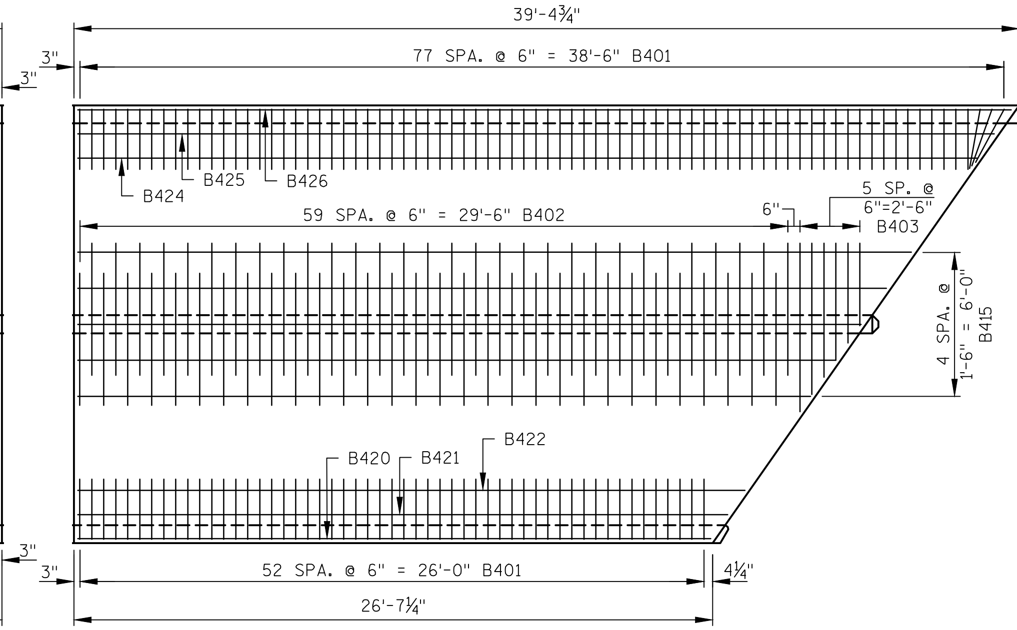
SHEET 3 OF 11



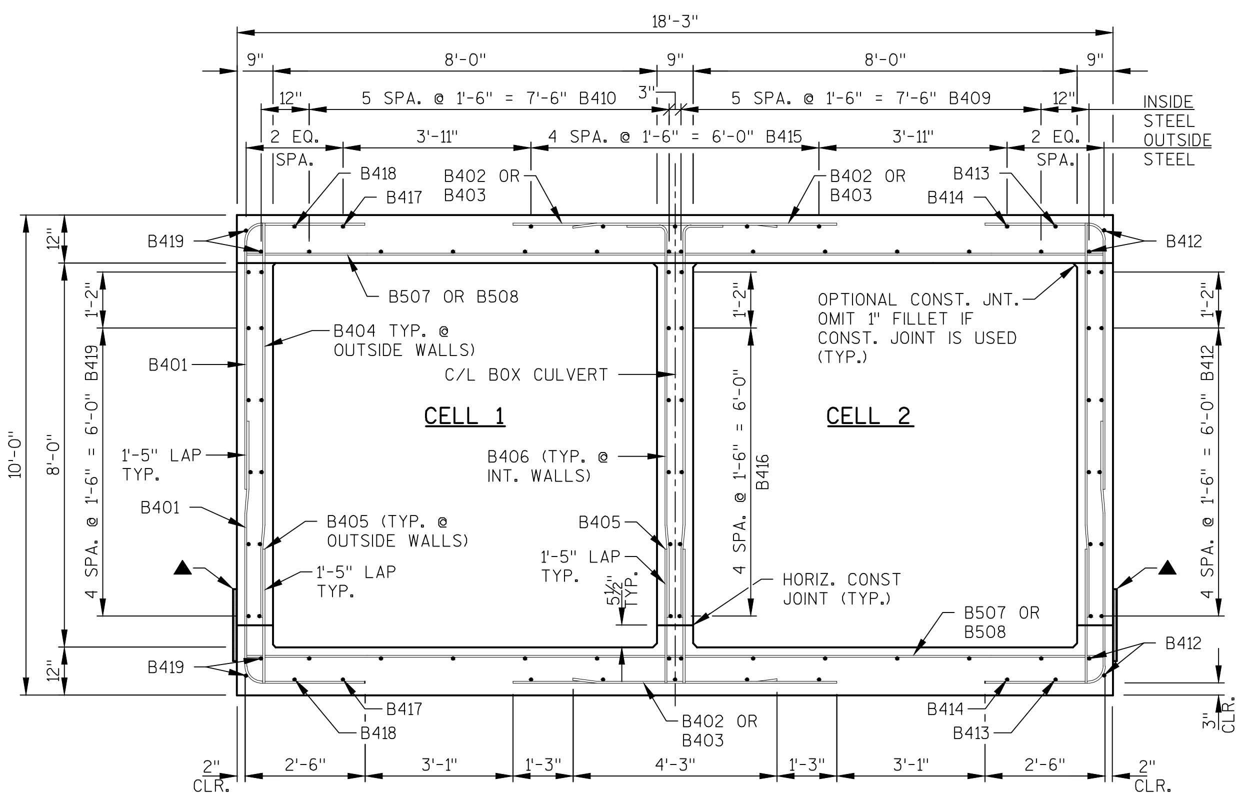
OUTLET PANEL
OUTSIDE STEEL



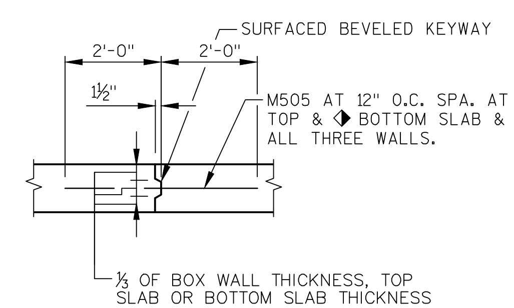
INTERIOR PANELS
OUTSIDE STEEL



INLET PANEL
OUTSIDE STEEL



SECTION THROUGH BOX - OUTLET PANEL
(LOOKING UPSTREAM)



TYPICAL CONSTRUCTION JOINT

◆ IN LIEU OF CONSTRUCTION JOINTS IN THE BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAWCUTS WITHIN 12 HOURS AFTER POURING.

NOTES

UNLESS NOTED OTHERWISE, ALL BAR STEEL AND MEASUREMENTS SHOWN IN THE SECTION VIEW ARE SYMMETRICAL ABOUT THE C/L BOX CULVERT

SEE SHEET 10 FOR BILL OF BARS

LEGEND

▲ 18" RUBBERIZED MEMBRANE WATER-PROOFING. EXTEND FROM HORIZ. CONST. JT TO TOP OF WALL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0187

DRAWN BY RBH | PLANS CK'D. PTB

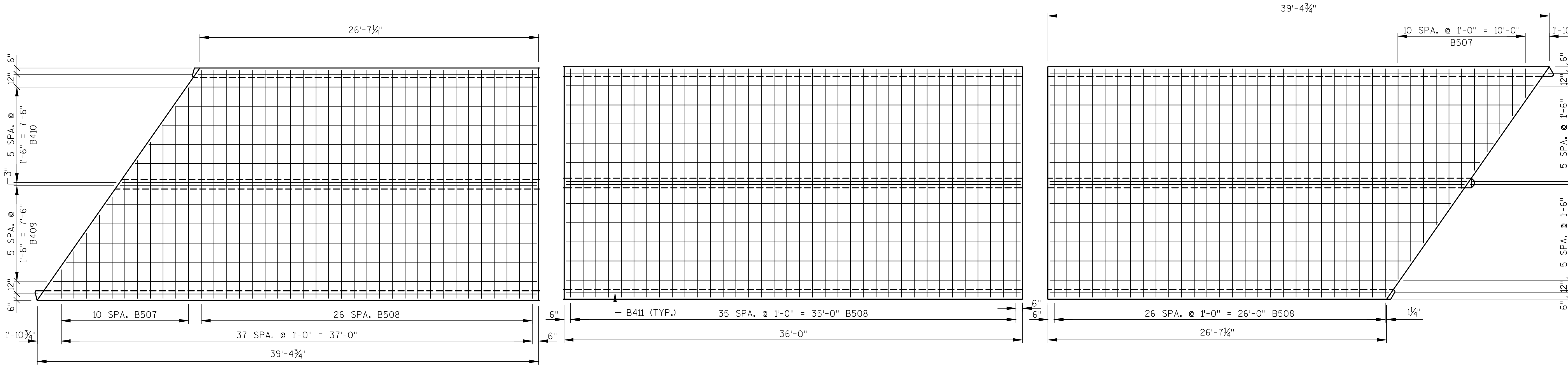
OUTSIDE STEEL & OUTLET PANEL SECTION

SHEET 4 OF 11

8

8

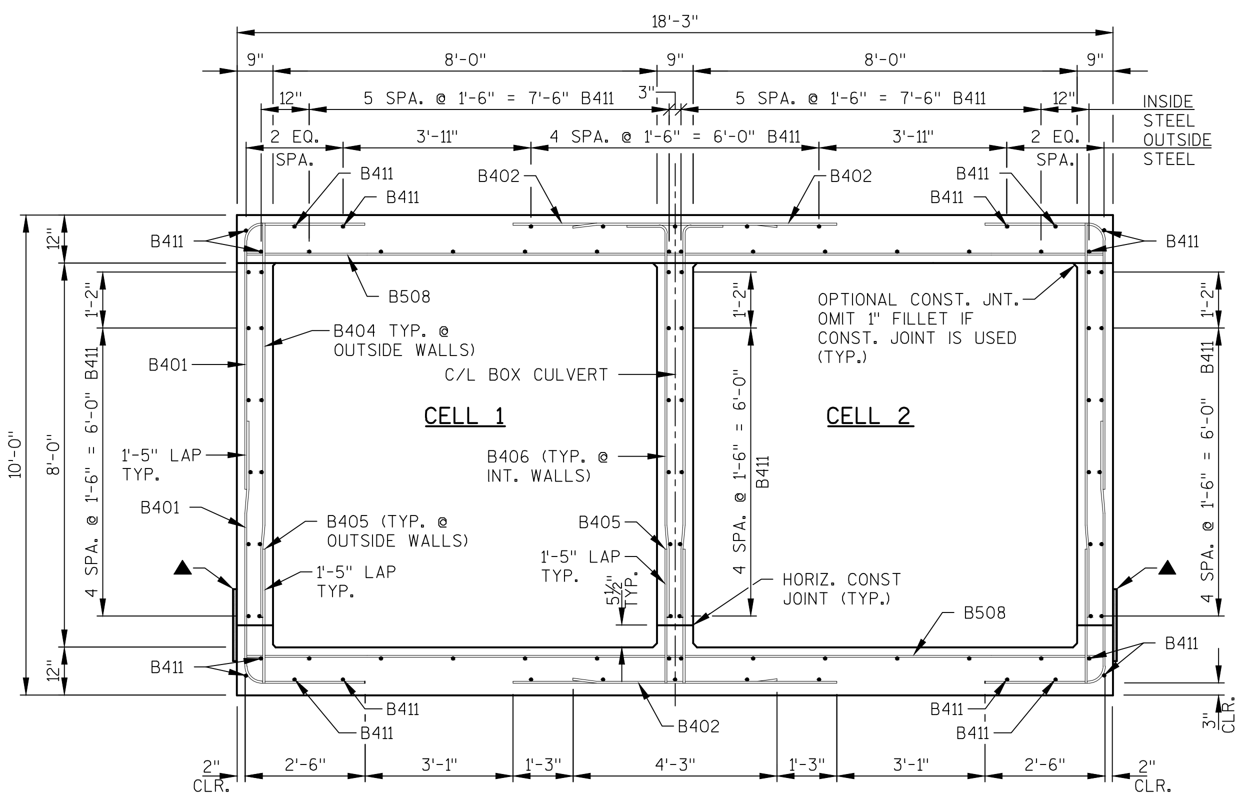
FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0187 (USH 18)\B-12-0187_04_ BARREL SECTION OUTLET - OUTSIDE SLAB STEEL.DWG
LAYOUT : BARREL SECTION INLET - BOTTOM SLAB OUTSIDE STEEL
PLOT DATE : 4/8/2015
PLOT TIME : 2:13:43 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'



OUTLET PANEL
INSIDE STEEL

INTERIOR PANELS
INSIDE STEEL

INLET PANEL
INSIDE STEEL



SECTION THROUGH BOX - INTERIOR PANEL
(LOOKING UPSTREAM)

NOTES

UNLESS NOTED OTHERWISE, ALL BAR STEEL AND MEASUREMENTS SHOWN IN THE SECTION VIEW ARE SYMMETRICAL ABOUT THE C/L BOX CULVERT

SEE SHEET 10 FOR BILL OF BARS

LEGEND

▲ 18" RUBBERIZED MEMBRANE WATER-PROOFING. EXTEND FROM HORIZ. CONST. JT TO TOP OF WALL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0187

DRAWN BY RBH PLANS CK'D. PTB

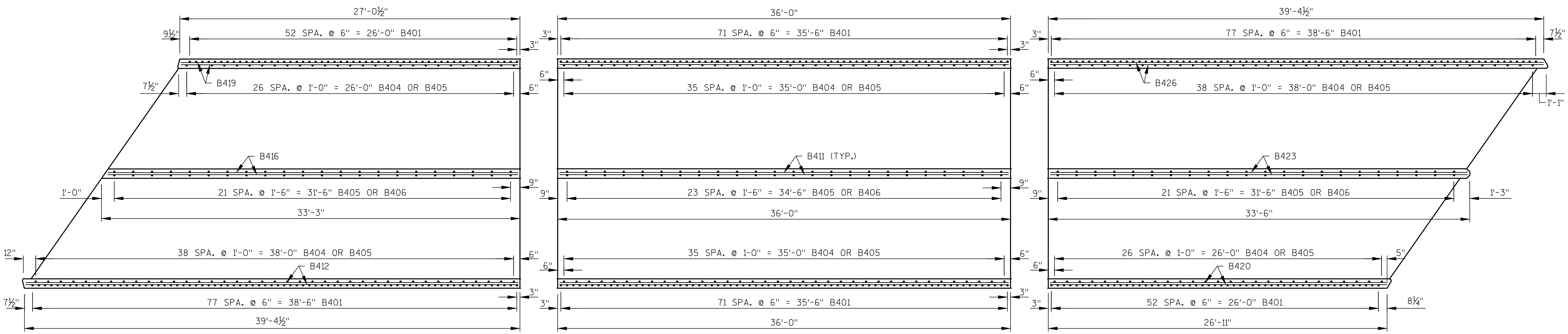
INSIDE STEEL & INTERIOR PANEL SECTION

SHEET 5 OF 11

FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0187 (USH 18)\B-12-0187_05_ BARREL SECTION INTERIOR - INSIDE SLAB STEEL.DWG
LAYOUT : BARREL SECTION INTERIOR - INSIDE SLAB STEEL
PLOT DATE : 4/8/2015
PLOT TIME : 2:13:43 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

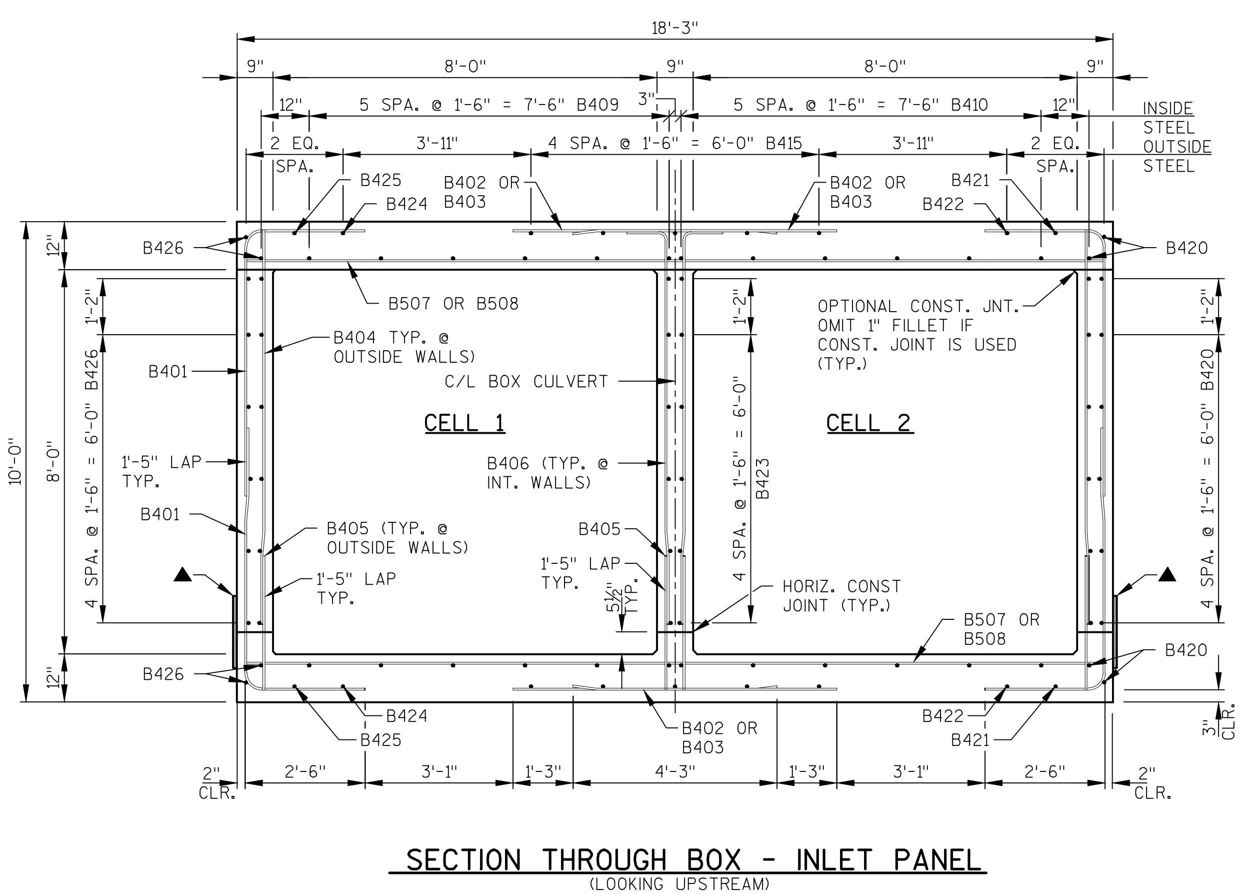
1661-05-78



OUTLET PANEL
WALL STEEL

INTERIOR PANELS
WALL STEEL

INLET PANEL
WALL STEEL



SECTION THROUGH BOX - INLET PANEL
(LOOKING UPSTREAM)

NOTES

UNLESS NOTED OTHERWISE, ALL BAR STEEL AND MEASUREMENTS SHOWN IN THE SECTION VIEW ARE SYMMETRICAL ABOUT THE C/L BOX CULVERT

SEE SHEET 10 FOR BILL OF BARS

LEGEND

▲ 18" RUBBERIZED MEMBRANE WATER-PROOFING. EXTEND FROM HORIZ. CONST. JT TO TOP OF WALL.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0187

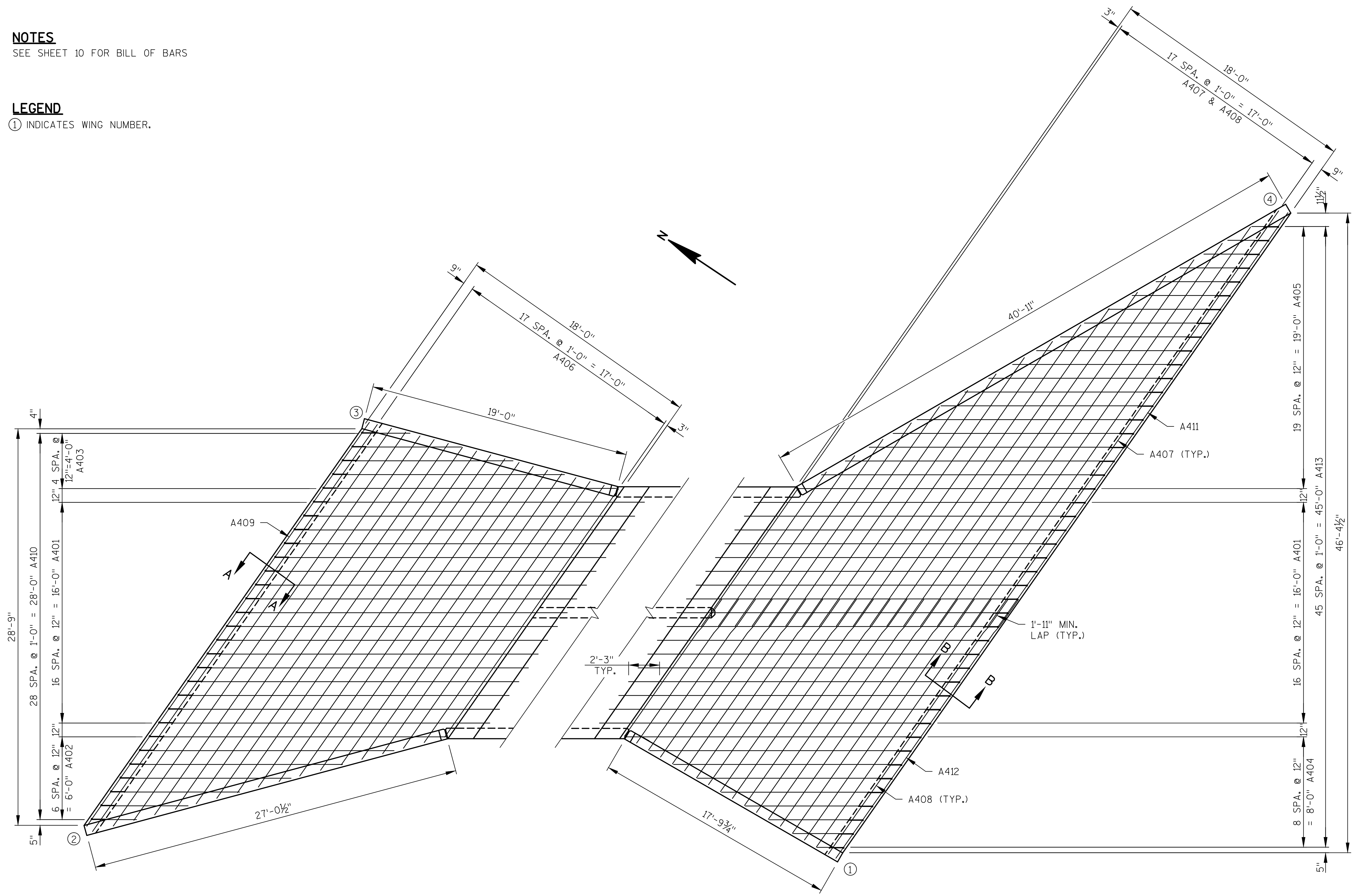
DRAWN BY RBH PLANS CK'D. PTB

WALL STEEL & INLET PANEL SECTION

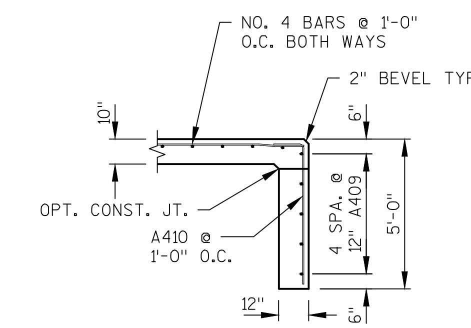
SHEET 6 OF 11

NOTES
SEE SHEET 10 FOR BILL OF BARS

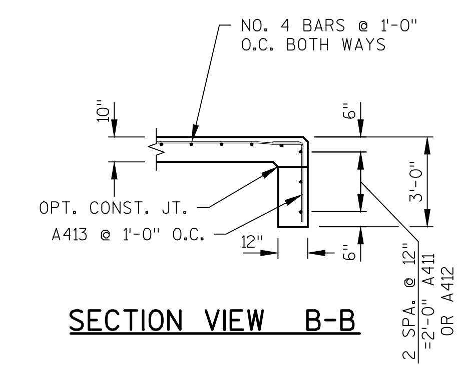
LEGEND
① INDICATES WING NUMBER.



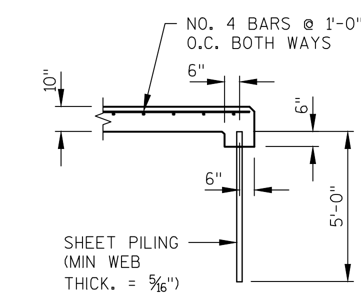
PLAN VIEW - APRON STEEL



SECTION VIEW A-A



SECTION VIEW B-B



ALTERNATE CUT-OFF WALL

THE ABOVE ALT. MAY BE USED IN LIEU OF THE CAST-IN-PLACE CONC CUT-OFF WALL. PAYMENT WILL BE BASED ON THE CONC. CUT OFF WALL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0187

DRAWN BY RBH | PLANS CK'D. PTB

APRON DETAILS

SHEET 7 OF 11

8

FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0187 (USH 18)\B-12-0187_07_ APRON DETAILS.DWG
LAYOUT : APRON DETAILS
PLOT DATE : 5/20/2015
PLOT TIME : 3:56:20 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER
1661-05-78

NOTES

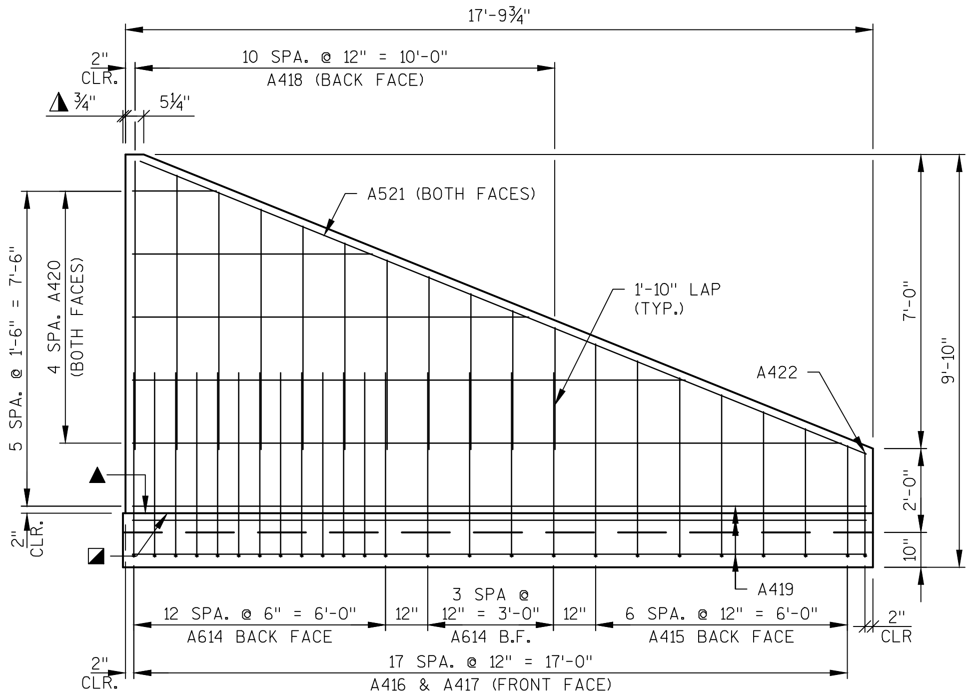
SEE SHEET 10 FOR BILL OF BARS

LEGEND

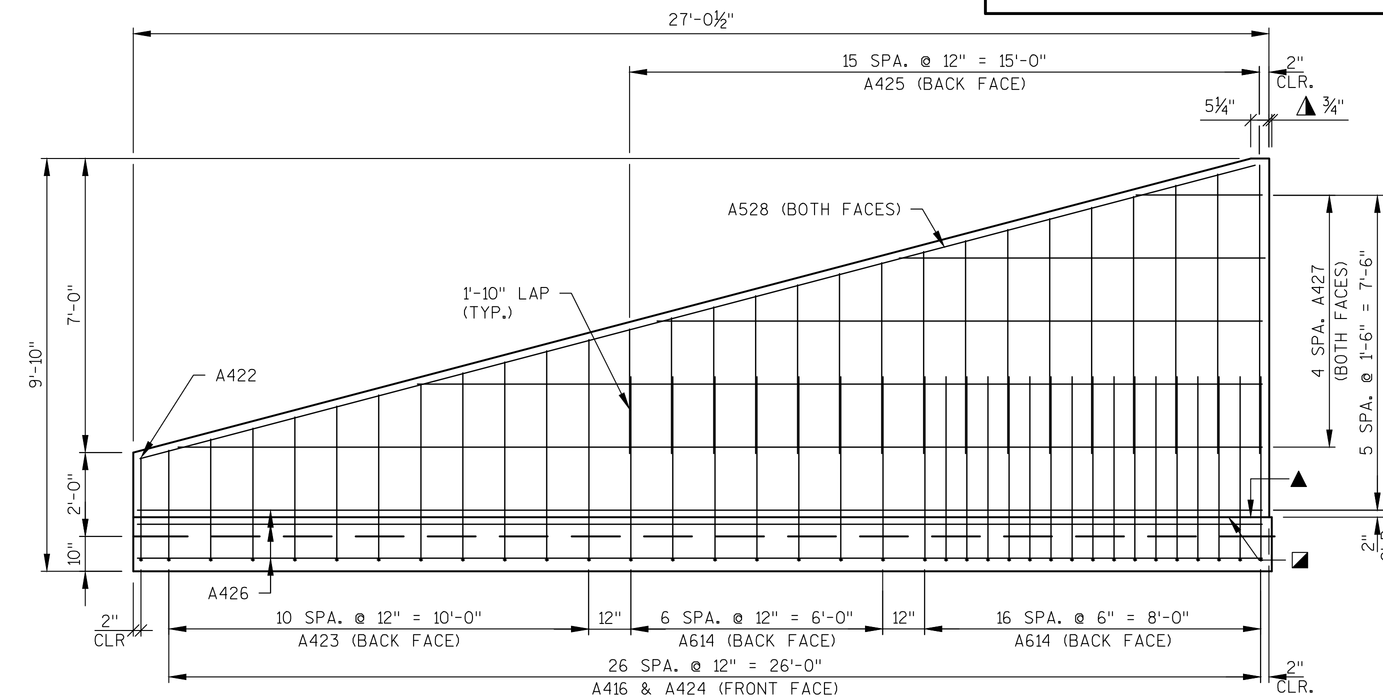
▲ 18" RUBBERIZED MEMBRANE WATER-PROOFING. PLACE ALONG HORIZONTAL CONSTRUCTION JOINT FOR ENTIRE WING LENGTH. (TYP.)

◪ HORIZONTAL CONSTRUCTION JOINT LOCATED 5½" ABOVE FLOOR OF APRON.

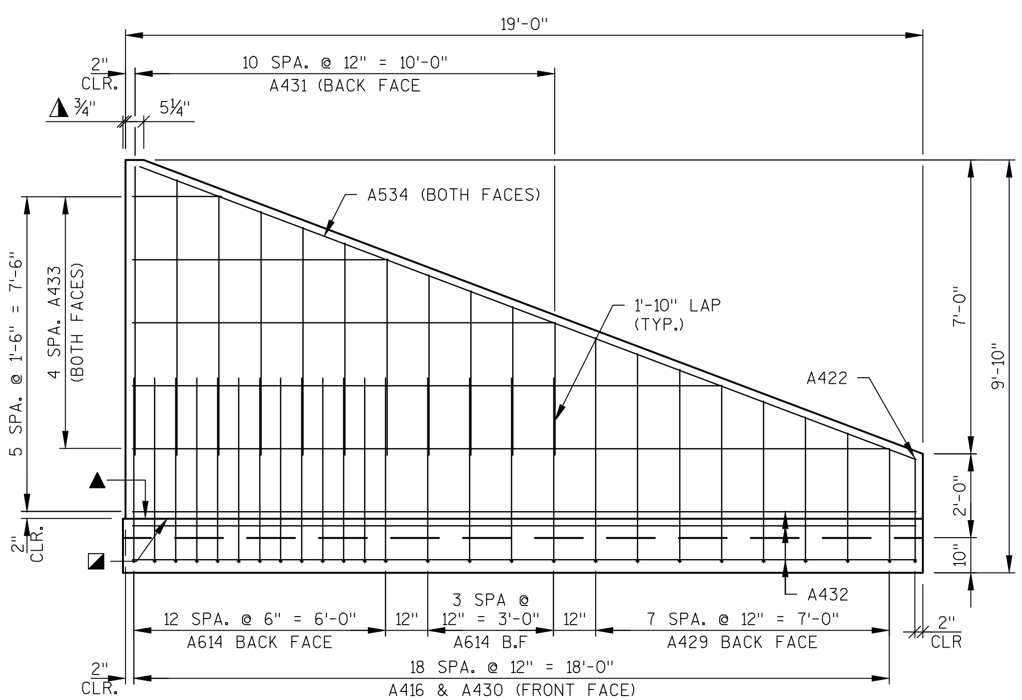
△ ¾" FILLER & 18" RUBBERIZED MEMBRANE WATER-PROOFING. EXTEND FROM HORIZ. CONST. JT. TO TOP OF WING WALL.



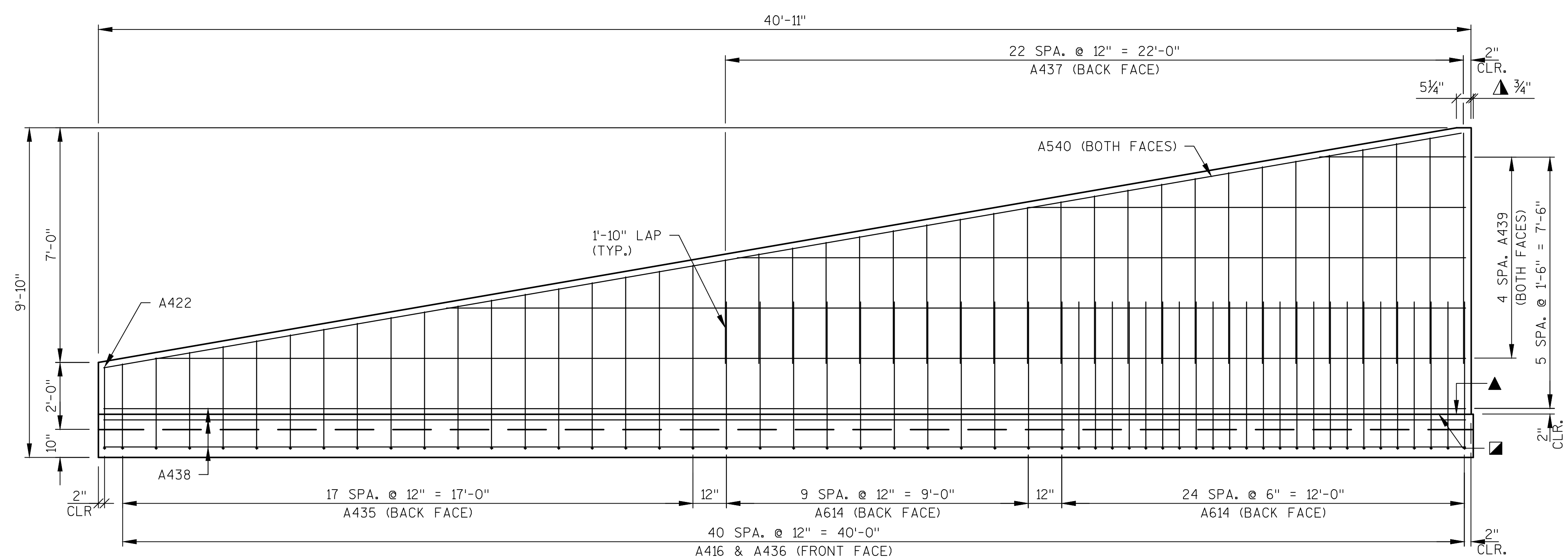
WINGWALL 1



WINGWALL 2



WINGWALL 3



WINGWALL 4

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

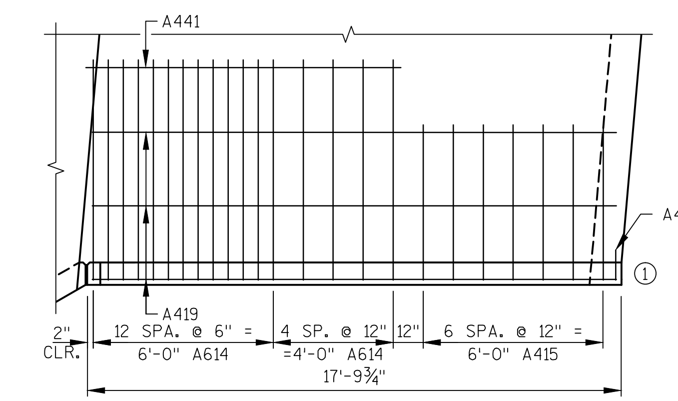
STRUCTURE B-12-0187

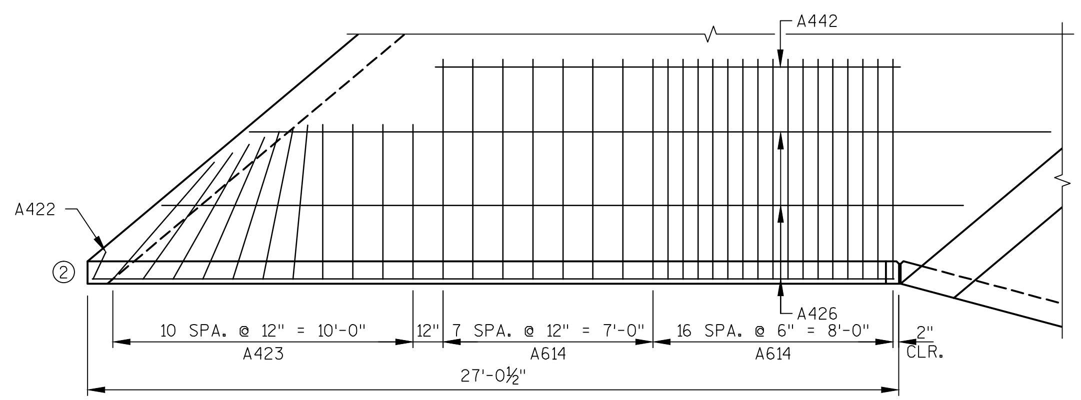
DRAWN BY RBH | PLANS CK'D. PTB

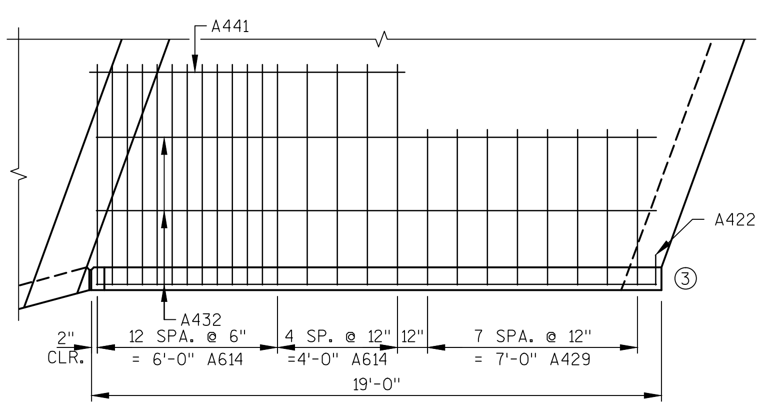
WINGWALL DETAILS (1 OF 2)

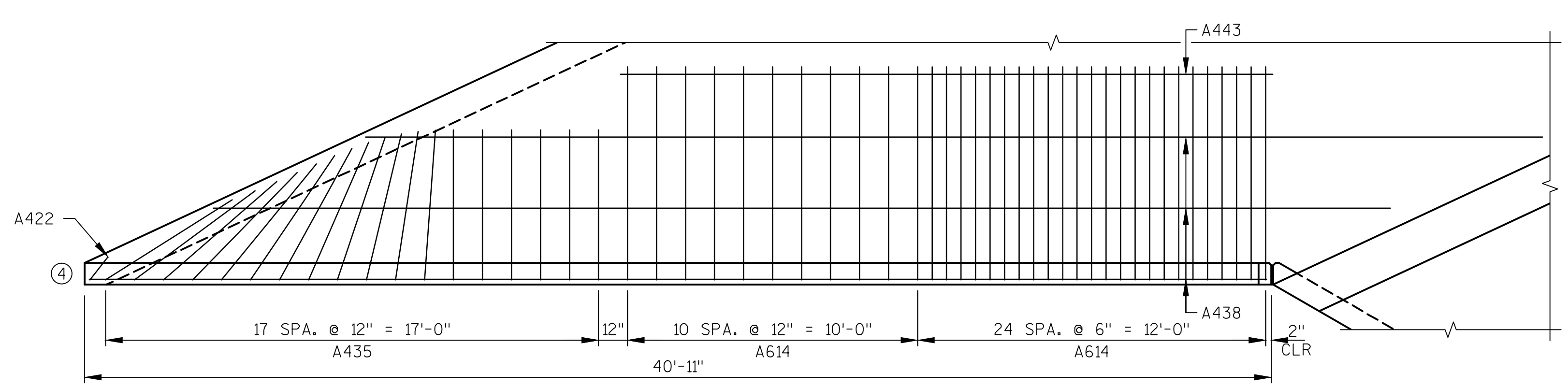
SHEET 8 OF 11

FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0187 (USH 18)\B-12-0187_08 WINGWALL DETAILS.DWG
LAYOUT : WINGWALL DETAILS
PLOT DATE : 3/27/2015
PLOT TIME : 10:15:26 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

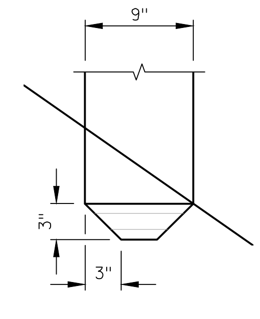




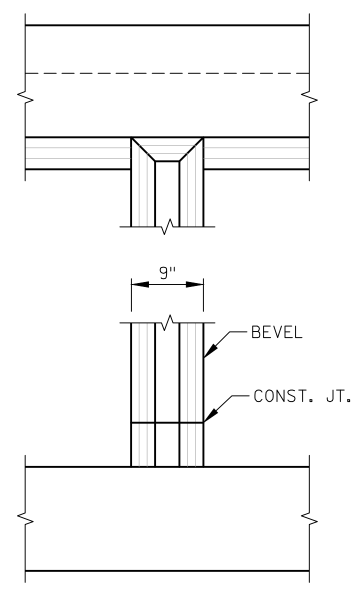




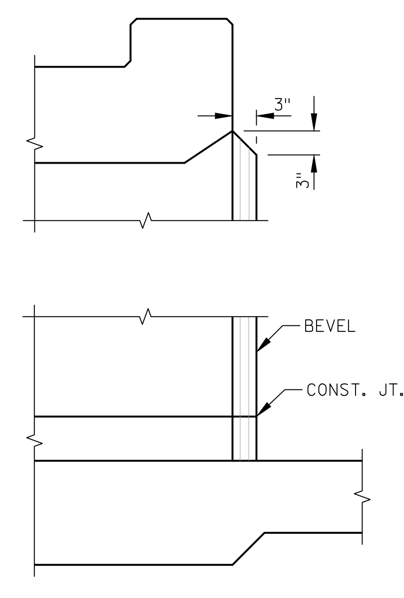
APRON BOTTOM STEEL



PLAN

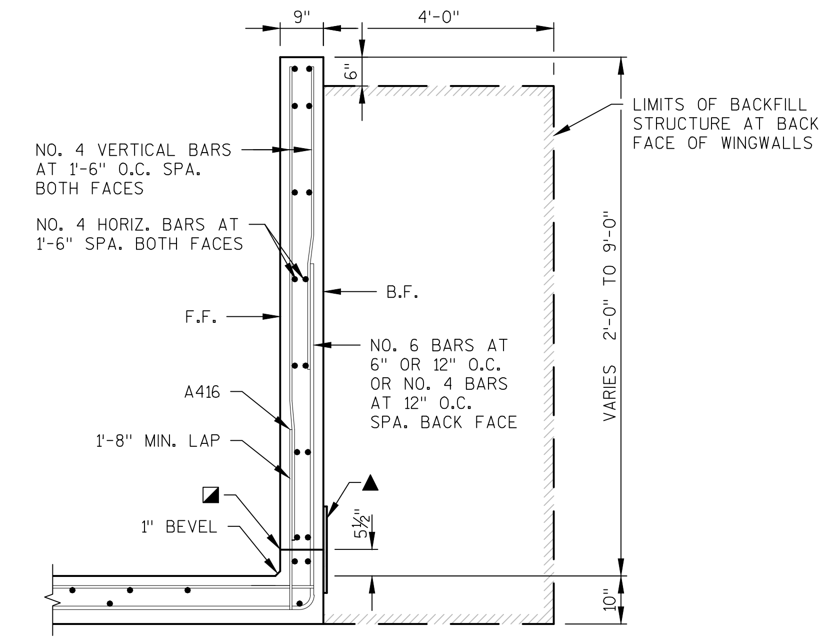


ELEVATION



SECTION

INLET NOSE CENTERWALL DETAILS



SECTION THROUGH WINGS

NOTES

SEE SHEET 10 FOR BILL OF BARS

LEGEND

▲ 18" RUBBERIZED MEMBRANE WATER-PROOFING. PLACE ALONG HORIZONTAL CONSTRUCTION JOINT FOR ENTIRE WING LENGTH. (TYP.)

◪ HORIZONTAL CONSTRUCTION JOINT LOCATED 5½" ABOVE FLOOR OF APRON.

1 INDICATES WING NUMBER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0187

DRAWN BY RBH PLANS CK'D. PTB

WINGWALL DETAILS (2 OF 2)

SHEET 9 OF 11

STATE PROJECT NUMBER

1661-05-78

BILL OF BARS
BARREL

37,010 LB (UNCOATED)

BAR MARK	NUMBER REQ'D. STAGE 1	NUMBER REQ'D. STAGE 2	LENGTH	BEND "D"	COAT	BAR SERIES	LOCATION
B401	838	838	7-11	2-6			EXT. WALLS - VERT. - OUTSIDE
B402	408	408	5-6				SLABS - OUTSIDE
B403	12	12	5-3			*	SLABS - OUTSIDE - OUTLET & INLET
B404	210	210	8-2				EXT. WALLS - VERT. - INSIDE
B405	350	350	2-10				WALLS - VERT. - BOTTOM
B406	140	140	9-0	1-0			INT. WALL - VERT.
B507	22	22	9-4			*	SLABS - OUTLET & INLET - INSIDE
B508	198	198	17-11				SLABS - INSIDE
B409	12	12	35-4			*	SLABS - OUTLET & INLET - INSIDE
B410	12	12	29-10			*	SLABS - OUTLET & INLET - INSIDE
B411	172	172	35-8				INTERIOR PANELS - HORIZ.
B412	16	0	38-8				EXT. WALL - CELL 2 - OUTLET
B413	2	0	38-2				SLABS - CELL 2 - OUTLET - OUTSIDE
B414	2	0	37-4				SLABS - CELL 2 - OUTLET - OUTSIDE
B415	10	10	32-7			*	SLABS - INLET & OUTLET - OUTSIDE
B416	12	0	32-6				INT. WALL - OUTLET
B417	2	0	27-8				SLABS - CELL 1 - OUTLET - OUTSIDE
B418	2	0	27-0				SLABS - CELL 1 - OUTLET - OUTSIDE
B419	16	0	26-4				EXT. WALL - CELL 1 - OUTLET
B420	0	16	26-4				EXT. WALL - CELL 2 - INLET
B421	0	2	27-0				SLABS - CELL 2 - INLET - OUTSIDE
B422	0	2	29-8				SLABS - CELL 2 - INLET - OUTSIDE
B423	0	12	32-6				INT. WALL - INLET
B424	0	2	37-4				SLABS - CELL 1 - INLET - OUTSIDE
B425	0	2	38-2				SLABS - CELL 1 - INLET - OUTSIDE
B426	0	16	38-8				EXT. WALL - CELL 1 - INLET

BILL OF BARS
APRONS

2,330 LB (COATED)
3,820 LB (UNCOATED)

BAR MARK	NUMBER REQ'D. STAGE 1	NUMBER REQ'D. STAGE 2	LENGTH	BEND "D"	COAT	BAR SERIES	LOCATION
A401	17	17	24-0				APRONS - TOP
A402	7	0	12-5			*	APRON - TOP - OUTLET
A403	5	0	12-4			*	APRON - TOP - OUTLET
A404	0	9	11-8			*	APRON - TOP - INLET
A405	0	20	11-8			*	APRON - TOP - INLET
A406	18	0	28-11			*	APRON - TOP - OUTLET
A407	0	18	24-4			*	APRON - TOP - INLET
A408	0	18	17-2			*	APRON - TOP - INLET
A409	5	0	35-8				CUT OFF WALL - HORIZ. - OUTLET
A410	29	0	5-6	1-0			CUT OFF WALL - VERT. - OUTLET
A411	0	3	36-6				CUT OFF WALL - HORIZ. - INLET
A412	0	3	23-0				CUT OFF WALL - HORIZ. - INLET
A413	0	46	3-6	1-0			CUT OFF WALL - VERT. - INLET
A614	41	52	13-2	7-4	X		WING WALLS - B.F. - VERT.
A415	0	7	8-11	5-2	X	*	WING WALL 1 - B.F. - VERT.
A416	46	59	3-0		X		WING WALLS - F.F. - VERT - BOTTOM
A417	0	18	4-10			*	WING WALL 1 - F.F. - VERT.
A418	0	11	4-11			*	WING WALL 1 - B.F. - VERT. - TOP
A419	0	7	17-5				WING WALL 1 - HORIZ. - BOT.
A420	0	10	9-5			*	WING WALL 1 - HORIZ.
A521	0	2	18-8				WING WALL 1 - TOP
A422	2	2	5-8	■	X		WING WALLS - VERT. - ENDS
A423	11	0	9-0	5-2	X	*	WING WALL 2 - B.F. - VERT.
A424	27	0	4-9			*	WING WALL 2 - F.F. - VERT.
A425	16	0	4-11			*	WING WALL 2 - B.F. - VERT. - TOP
A426	7	0	26-8				WING WALL 2 - HORIZ. - BOT.
A427	10	0	14-5			*	WING WALL 2 - HORIZ.
A528	2	0	27-6				WING WALL 2 - TOP
A429	8	0	9-1	5-2	X	*	WING WALL 3 - B.F. - VERT.
A430	19	0	4-10			*	WING WALL 3 - F.F. - VERT.
A431	11	0	5-0			*	WING WALL 3 - B.F. - VERT. - TOP
A432	7	0	18-8				WING WALL 3 - HORIZ. - BOT.
A433	10	0	10-1			*	WING WALL 3 - HORIZ.
A534	2	0	19-9				WING WALL 3 - TOP
A435	0	18	9-1	5-2	X	*	WING WALL 4 - B.F. - VERT.
A436	0	41	4-9			*	WING WALL 4 - F.F. - VERT.
A437	0	23	5-0			*	WING WALL 4 - B.F. - VERT. - TOP
A438	0	7	40-7				WING WALL 4 - HORIZ. - BOT.
A439	0	10	21-8			*	WING WALL 4 - HORIZ.
A540	0	2	41-0				WING WALL 4 - TOP
A441	1	1	10-6				APRON - BOTTOM
A442	1	0	15-6				APRON - BOTTOM
A443	0	1	22-6				APRON - BOTTOM

BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
B403	4 SERIES OF 6	3-6 TO 7-0
B507	4 SERIES OF 11	2-2 TO 16-6
B409	4 SERIES OF 6	32-8 TO 38-0
B410	4 SERIES OF 6	27-3 TO 32-5
B415	4 SERIES OF 5	30-6 TO 34-8
A402	1 SERIES OF 7	3-4 TO 21-6
A403	1 SERIES OF 5	3-6 TO 21-2
A404	1 SERIES OF 9	1-11 TO 21-5
A405	1 SERIES OF 20	1-11 TO 21-5
A406	1 SERIES OF 18	21-10 TO 36-0
A407	1 SERIES OF 18	12-0 TO 36-8
A408	1 SERIES OF 18	12-0 TO 22-4
A415	1 SERIES OF 7	7-8 TO 10-2
A417	1 SERIES OF 18	1-5 TO 8-3
A418	1 SERIES OF 11	2-11 TO 6-11
A420	2 SERIES OF 5	2-0 TO 16-10
A423	1 SERIES OF 11	7-8 TO 10-4
A424	1 SERIES OF 27	1-4 TO 8-2
A425	1 SERIES OF 16	3-0 TO 6-10
A427	2 SERIES OF 5	3-0 TO 25-10
A429	1 SERIES OF 8	7-9 TO 10-5
A430	1 SERIES OF 19	1-6 TO 8-2
A431	1 SERIES OF 11	3-2 TO 6-10
A433	2 SERIES OF 5	2-2 TO 18-0
A435	1 SERIES OF 18	7-7 TO 10-7
A436	1 SERIES OF 41	1-4 TO 8-2
A437	1 SERIES OF 23	3-1 TO 6-11
A439	2 SERIES OF 5	4-4 TO 39-0

BUNDLE AND TAG EACH SERIES SEPARATELY.

BILL OF BARS
MISCELLANEOUS

1,290 LB (COATED)
1,270 LB (UNCOATED)

BAR MARK	NUMBER REQ'D. STAGE 1	NUMBER REQ'D. STAGE 2	LENGTH	BEND "D"	COAT	BAR SERIES	LOCATION
M301	28	28	4-6	■			HEADERS - BOTTOM - STIRRUPS
M302	28	0	5-0	■			HEADER - OUTLET - TOP - STIRRUPS
M303	0	28	4-9	■			HEADER - INLET - TOP - STIRRUPS
M704	12	12	21-10				HEADERS - HORIZ.
M505	186	124	4-0		X		DOWEL BARS AT JNTS. (62 PER JNT.)

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

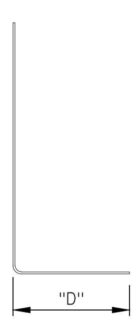
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

THE DIMENSION IN THE BEND COLUMN ("D") IS THE OUT TO OUT HORIZONTAL LEG OF AN "L" SHAPED BAR. SEE TYPICAL BENDING DETAIL ON THIS SHEET.

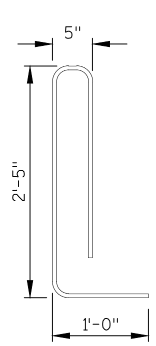
* LENGTH SHOWN FOR BARS IN AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

■ SEE BENDING DETAILS.

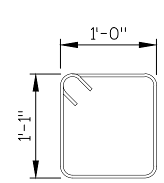
8



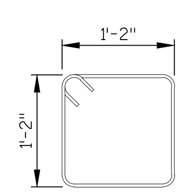
TYP. BENDING DETAIL



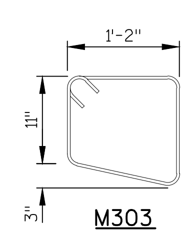
A422



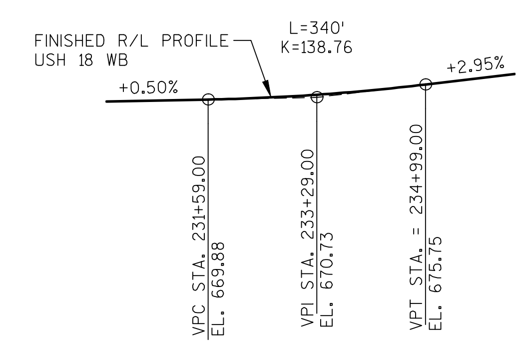
M301



M302

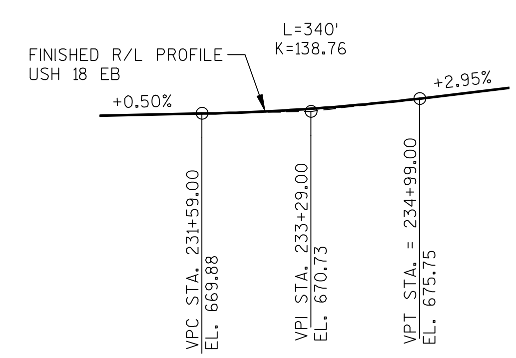


M303



USH 18 WB
PROFILE GRADE LINE

8



USH 18 EB
PROFILE GRADE LINE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0187

DRAWN BY PTB PLANS CK'D. RBH

BAR STEEL AND DETAILS

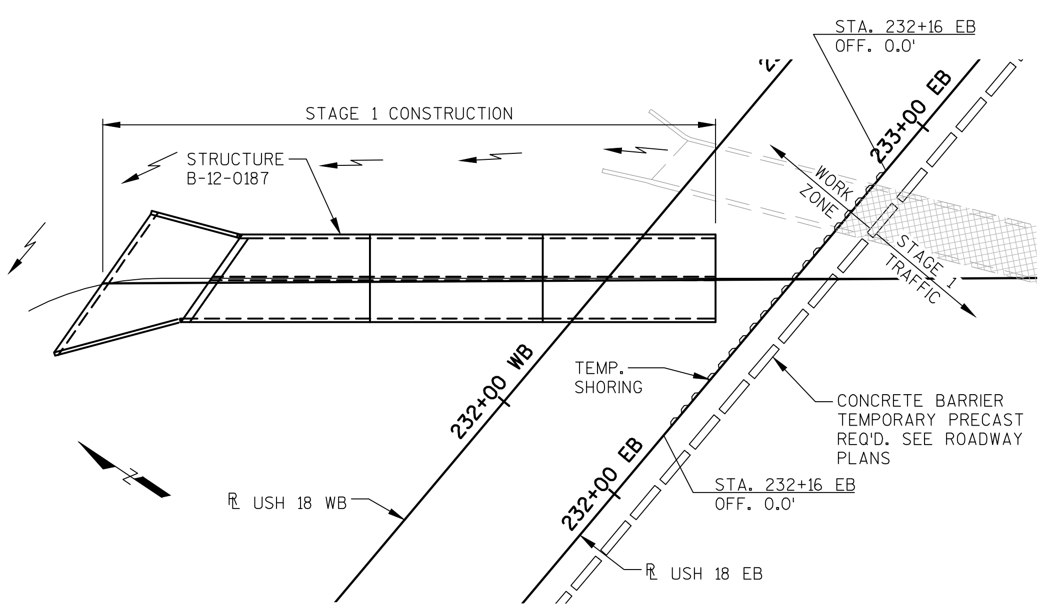
SHEET 10 OF 11

FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0187 (USH 18)\B-12-0187_10_DETAILS.DWG
LAYOUT : LAYOUT

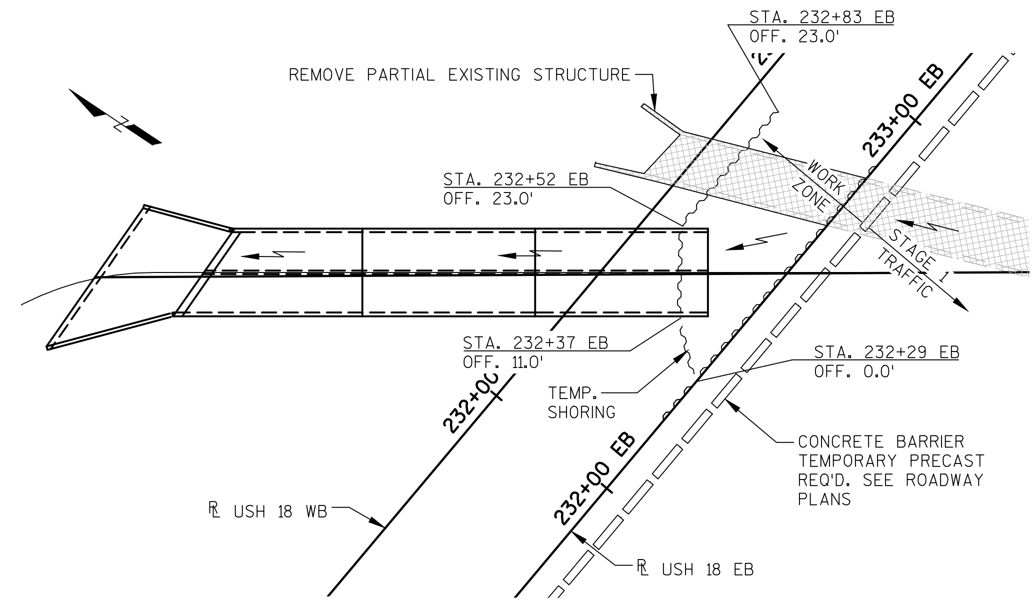
PLOT DATE : 7/29/2015
PLOT TIME : 10:25:05 AM

PLOT BY : BOLAND, PATRICK

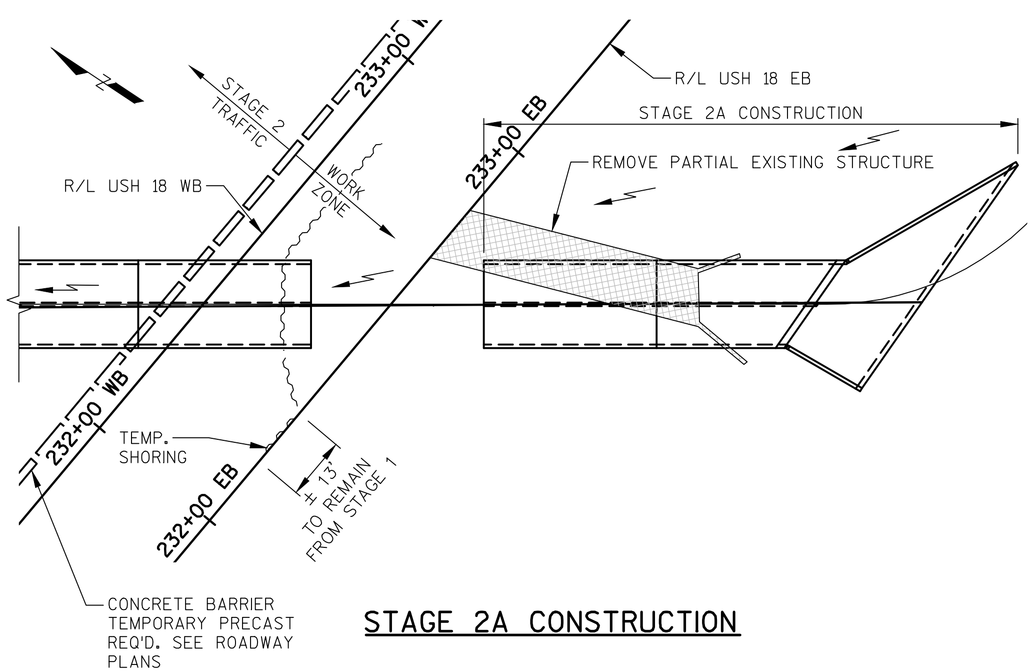
PLOT SCALE : 1" = 1'



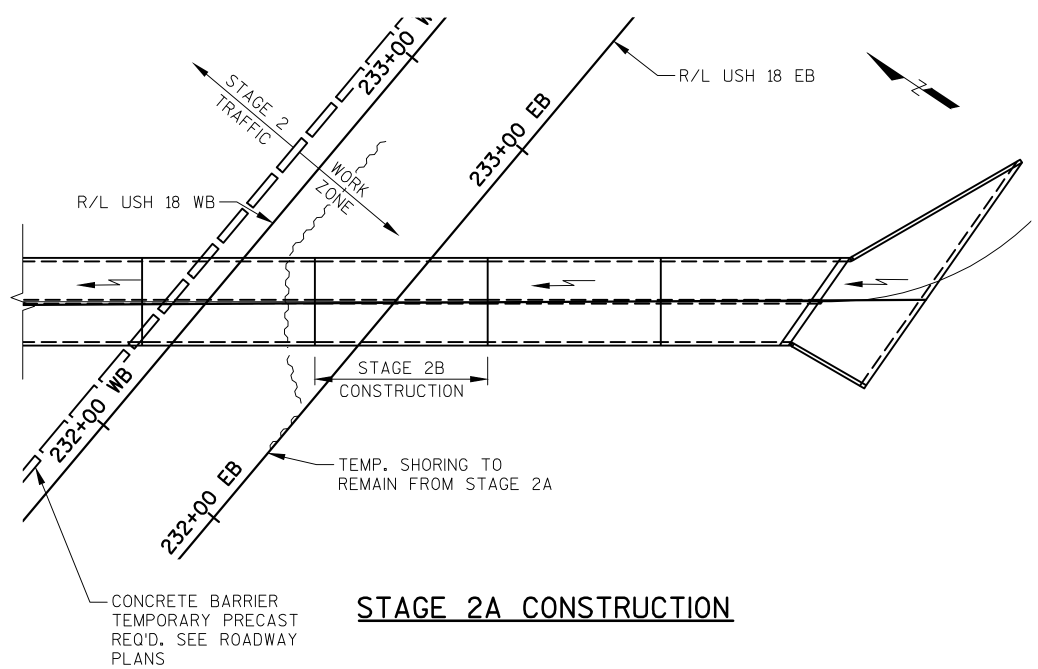
STAGE 1A CONSTRUCTION



STAGE 1B CONSTRUCTION



STAGE 2A CONSTRUCTION



STAGE 2A CONSTRUCTION

NOTES:

SEE ROADWAY PLANS FOR TRAFFIC STAGING DETAILS INCLUDING LOCATION AND DIRECTION OF TRAFFIC LANES AND LOCATION OF CONCRETE BARRIER TEMPORARY PRECAST.

INTERMITTENT FLOW POSSIBLE DURING CONSTRUCTION, TAKE NECESSARY PRECAUTIONS TO DIVERT FLOW AWAY FROM WORK AREAS.

CONSTRUCTION DETAILS AND TEMPORARY SHORING LOCATIONS SHOWN ON THIS SHEET PRESENT ONE POSSIBLE CONSTRUCTION METHOD. ALTERNATE METHODS AND LOCATIONS MAY BE ACCEPTABLE PROVIDED THEY MEET THE APPROVAL OF THE FIELD ENGINEER.

TEMPORARY SHORING QUANTITIES CALCULATED USING FINISHED GRADE ELEVATIONS.

STAGE 1A

TRAFFIC

1. TRAFFIC WILL UTILIZE EXISTING EASTBOUND LANE AND SHOULDER. INSTALL TEMPORARY CONCRETE BARRIER TO SHIELD BOX CULVERT CONSTRUCTION AREA SEE ROADWAY PLANS FOR LOCATIONS.

CONSTRUCTION

1. INSTALL TEMPORARY SHORING STAGE 1 AT LOCATIONS INDICATED ON STAGING DETAILS (THIS SHEET).
2. CONSTRUCT TEMPORARY CHANNEL FROM EXISTING STRUCTURE TO DIVERT INTERMITTENT FLOW AROUND STAGE 1 WORK AREA.
3. CONSTRUCT OUTLET PORTION OF PROPOSED STRUCTURE OUTLET TO JOINT 3.

STAGE 1B

1. REMOVE PORTION OF EXISTING STRUCTURE FROM OUTLET TO TEMPORARY SHORING LOCATION APPROXIMATELY 47'.

5. DIVERT INTERMITTENT FLOW FROM EXISTING STRUCTURE TO PROPOSED STRUCTURE.

6. INSTALL TEMPORARY SHORING STAGE 2 AT LOCATIONS INDICATED ON STAGING DETAILS (THIS SHEET).

7. CONSTRUCT ROADWAY OVER COMPLETED OUTLET PORTION OF STRUCTURE B-12-0187.

STAGE 2A

TRAFFIC

1. TRAFFIC WILL UTILIZE NEW WESTBOUND LANE AND SHOULDER. INSTALL TEMPORARY CONCRETE BARRIER TO SHIELD BOX CULVERT CONSTRUCTION AREA SEE ROADWAY PLANS FOR LOCATIONS.

CONSTRUCTION

1. REMOVE STAGE 1 TEMPORARY SHORING.
2. REMOVE REMAINING EXISTING STRUCTURE.
3. CONSTRUCT TEMPORARY CHANNEL AROUND PROPOSED STRUCTURE INLET CONSTRUCTION AREA.
4. CONSTRUCT PROPOSED STRUCTURE INLET TO JOINT 4.
5. DIVERT INTERMITTENT FLOW THOUGH PROPOSED STRUCTURE.

STAGE 2B

TRAFFIC

1. TRAFFIC WILL UTILIZE THE SAME TRAFFIC PATTERN AS STAGE 1A.

CONSTRUCTION

1. CONSTRUCT PROPOSED STRUCTURE JOINT 4 TO JOINT 3. USE DISCRETION WHEN CONSTRUCTING THIS PANEL AS TO NOT ALLOW POSSIBLE INTERMITTENT FLOW TO DAMAGE CONCRETE.
2. CONSTRUCT ROADWAY OVER INLET PORTION OF PROPOSED STRUCTURE (SEE ROADWAY PLANS).
3. REMOVE STAGE 2 TEMPORARY SHORING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0187

DRAWN BY PTB PLANS CK'D. RBH

STAGING DETAILS

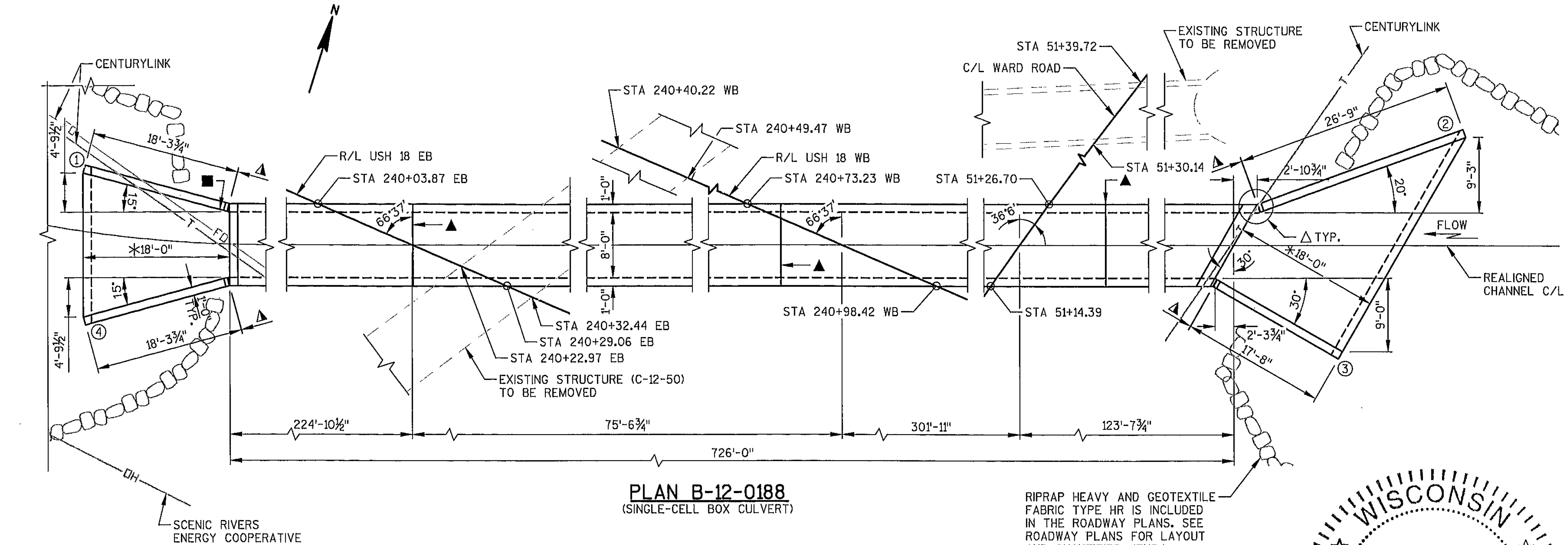
SHEET 11 OF 11

8

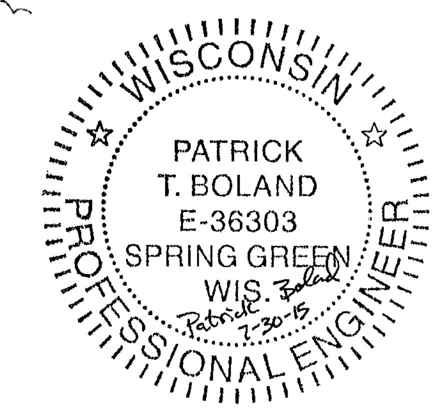
8

STATE PROJECT NUMBER

1661-05-78



PLAN B-12-0188
(SINGLE-CELL BOX CULVERT)



DESIGN DATA

LIVE LOAD:

DESIGN LOADING ______ HL-93
INVENTORY RATING FACTOR ______ RF=1.05
OPERATING RATING FACTOR ______ RF=1.35
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) ______ 255 KIPS

EARTH LOAD:

DESIGNED FOR 17 - 21 FEET OF FILL

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY (GRADE A-FA) ______ f'c = 3,500 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 ______ fy = 60,000 P.S.I.

TRAFFIC DATA

A.D.T. (2036) ______ USH 18 ______ 10,800
WARD ROAD ______ < 100
DESIGN SPEED ______ USH 18 ______ 60 M.P.H.
WARD ROAD ______ 50 M.P.H.

HYDRAULIC DATA

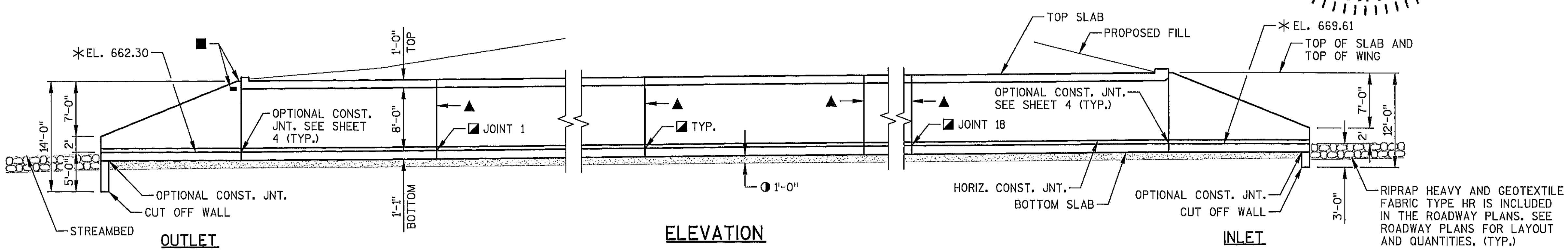
100 YEAR FREQUENCY
DRAINAGE AREA ______ 0.7 SQ. MI.
Q_{100} TOTAL ______ 400 C.F.S.
THROUGH STRUCTURE ______ 400 C.F.S.
OVERTOPPING ROADWAY ______ N/A
VELOCITY - THROUGH STRUCTURE ______ 12.4 F.P.S.
WATERWAY AREA - THROUGH STRUCTURE ______ 33 SQ. FT.
HIGH $WATER_{100}$ ELEVATION ______ 676.84
SCOUR CRITICAL CODE ______ 8

EROSION CONTROL
Q_2 ______ 65 C.F.S.
HIGH $WATER_2$ ELEVATION ______ 672.99

LIST OF DRAWINGS

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
409	250+25.30, 42.3' RT.	CHIS. □ SE END RET. WALL, 2ND ROW UP	721.00
410	232+97.60, 54.7' RT.	DISK SW COR. OF BOX C-12-00-49	665.94
1085	233+32.69, 100.3' RT.	DISK TOP OF PARAPET, N COR. BOX CULV.	668.04



OUTLET   ELEVATION   INLET

DESIGN CONSULTANT
PATRICK BOLAND, PE
(608) 588-7484

BRIDGE OFFICE CONTACT
WILLIAM DREHER, PE
(608) 266-8489

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	UNIT	TOTAL
203.0200	REMOVING OLD STRUCTURE STA. 51+35	LS	1
203.0200	REMOVING OLD STRUCTURE STA. 240+27 EB	LS	1
206.2000	EXCAVATION FOR STRUCTURES CULVERTS B-12-0188	LS	1
210.0100	BACKFILL STRUCTURE	CY	6,950
311.0115	BREAKER RUN	CY	550
504.0100	CONCRETE MASONRY CULVERTS	CY	1,040
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	132,620
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	3,470
511.1200	TEMPORARY SHORING B-12-0188	SF	5,530
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	100
645.0105	GEOTEXTILE FABRIC TYPE C	SY	1,400
	NON-BID ITEMS		
	FILLER	SIZE	¾"

LEGEND

- △ SEE CORNER DETAILS (SHEET 6).
- ■ NAME PLATE LOCATION (SEE SHEET 5) AND BENCHMARK CAP (WHEN SUPPLIED).
- ▲ VERT. CONST. JOINT (TYP.). 18" MIN. WIDTH RUBBERIZED MEMBRANE WATER-PROOFING UP WALLS AND ACROSS TOP SLAB.
- * BUILD APRON AND END OF BOX LEVEL.
- ○ INDICATES WING NUMBER.
- ◪ SEE INVERT ELEVATION TABLE FOR FLOOR ELEVATIONS (SHEET 2).
- ◑ UNDER CUT STRUCTURE (TO BE PAID FOR UNDER "EXCAVATION FOR STRUCTURES"), PLACE GEOTEXTILE FABRIC TYPE C, AND BACKFILL WITH BREAKER RUN. EXTEND 3'-0" BEYOND THE FOOTPRINT OF THE CULVERT.
- ▲ ¾" FILLER & 18" RUBBERIZED MEMBRANE WATER-PROOFING. EXTEND FROM HORIZ. CONST. JT. TO TOP OF WING WALL.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES SHALL BE THE EXISTING GROUNDLINE. ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TO THE ELEVATION OF THE TOP OF THE BOX WITHIN THE LENGTH OF THE CULVERT.

THE CONCRETE IN THE CUTOFF WALLS MAY BE PLACED UNDERWATER IF THE EXCAVATION CANNOT BE DEWATERED.

THE CONTRACTOR MAY FURNISH A PRECAST CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE BOX CULVERT WITH APPROVAL OF THE STRUCTURES DESIGN SECTION. MATERIALS, FABRICATION AND DESIGN OF PRECAST BOXES SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR TRANSPORTATION MATERIALS, M259 OR M273, AND AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION 2, SECTION 27, EXCEPT THE CONCRETE MIXTURE SHALL CONTAIN NOT LESS THAN 565 POUNDS OF CEMENTITIOUS MATERIALS PER CUBIC YARD.

NO.	DATE	REVISION	BY

JEWELL associates engineers, inc.
Engineers - Surveyors - Architects
560 SUNRISE DRIVE
SPRING GREEN, WI 53588
PHONE: (608) 588-7484
FAX: (608) 588-9322

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 08/04/15
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-12-0188

USH 18 AND WARD ROAD OVER DRAINAGE CHANNEL

COUNTY CRAWFORD | TOWN/~~CITY/VILLAGE~~ BRIDGEPORT

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY PTB | DESIGN CK'D. RBH | DRAWN BY PTB | PLANS CK'D. RBH

GENERAL PLAN

SHEET 1 OF 10

8

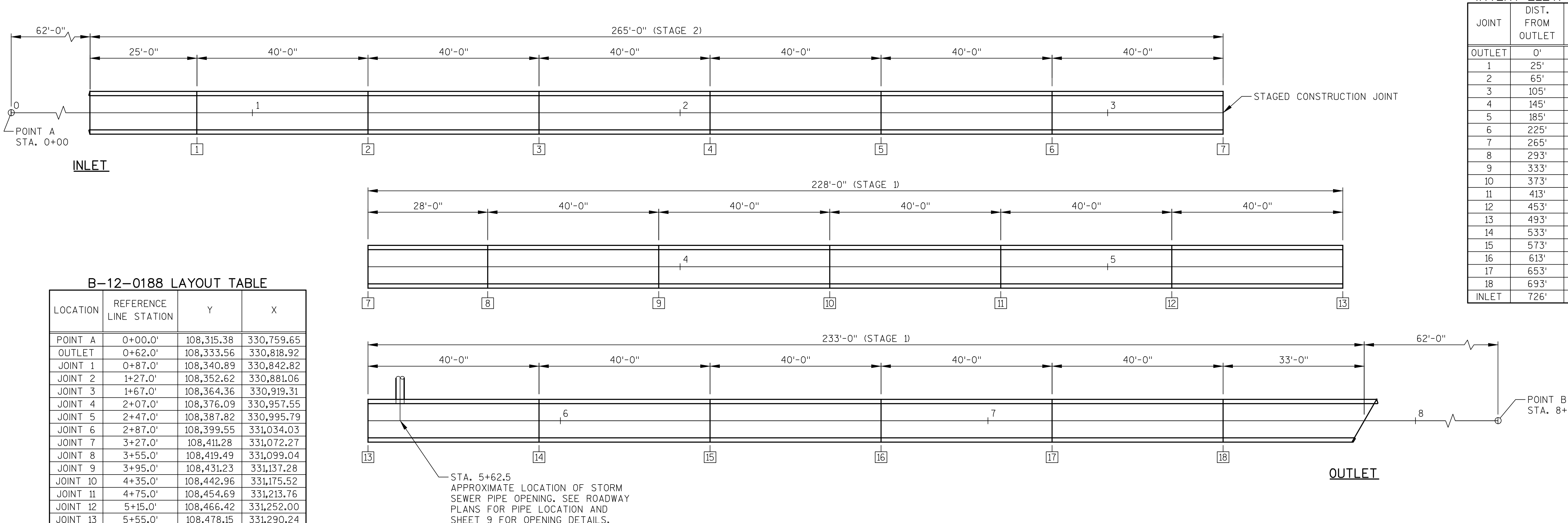
8

FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0188 (WARD ROAD)\B-12-0188_01_GENERAL PLAN.DWG
LAYOUT : LAYOUT
PLOT DATE : 7/28/2015
PLOT TIME : 3:19:04 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER
1661-05-78

LEGEND

[10] INDICATES JOINT NUMBER

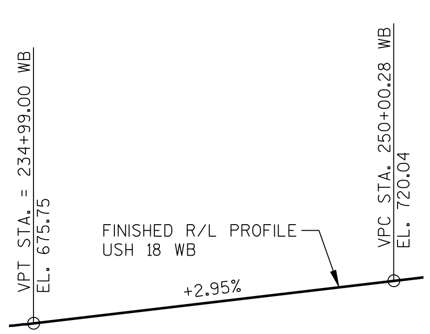


INVERT ELEV. TABLE

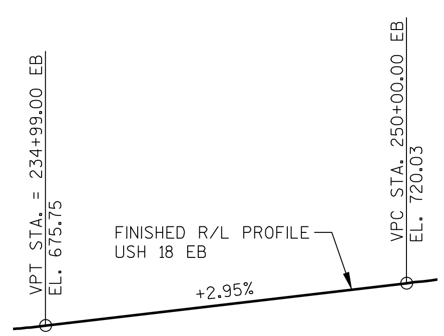
JOINT	DIST. FROM OUTLET	ELEV.
OUTLET	0'	662.30
1	25'	662.55
2	65'	662.95
3	105'	663.36
4	145'	663.76
5	185'	664.16
6	225'	664.57
7	265'	664.97
8	293'	665.25
9	333'	665.65
10	373'	666.06
11	413'	666.46
12	453'	666.86
13	493'	667.26
14	533'	667.67
15	573'	668.07
16	613'	668.47
17	653'	668.88
18	693'	669.28
INLET	726'	669.61

B-12-0188 LAYOUT TABLE

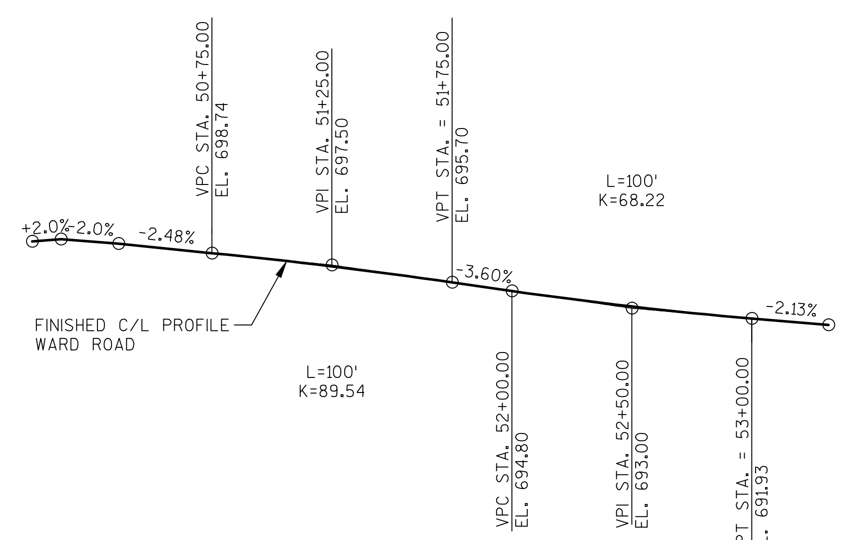
LOCATION	REFERENCE LINE STATION	Y	X
POINT A	0+00.0'	108,315.38	330,759.65
OUTLET	0+62.0'	108,333.56	330,818.92
JOINT 1	0+87.0'	108,340.89	330,842.82
JOINT 2	1+27.0'	108,352.62	330,881.06
JOINT 3	1+67.0'	108,364.36	330,919.31
JOINT 4	2+07.0'	108,376.09	330,957.55
JOINT 5	2+47.0'	108,387.82	330,995.79
JOINT 6	2+87.0'	108,399.55	331,034.03
JOINT 7	3+27.0'	108,411.28	331,072.27
JOINT 8	3+55.0'	108,419.49	331,099.04
JOINT 9	3+95.0'	108,431.23	331,137.28
JOINT 10	4+35.0'	108,442.96	331,175.52
JOINT 11	4+75.0'	108,454.69	331,213.76
JOINT 12	5+15.0'	108,466.42	331,252.00
JOINT 13	5+55.0'	108,478.15	331,290.24
JOINT 14	5+95.0'	108,489.89	331,328.48
JOINT 15	6+35.0'	108,501.62	331,366.72
JOINT 16	6+75.0'	108,513.35	331,404.97
JOINT 17	7+15.0'	108,525.08	331,443.21
JOINT 18	7+55.0'	108,536.81	331,481.45
INLET	7+88.0'	108,546.49	331,513.00
POINT B	8+50.0'	108,564.68	331,572.27



USH 18 WB
PROFILE GRADE LINE



USH 18 EB
PROFILE GRADE LINE



WARD ROAD
PROFILE GRADE LINE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0188

DRAWN BY PTB PLANS CK'D. RBH

INDIVIDUAL PANEL LAYOUT

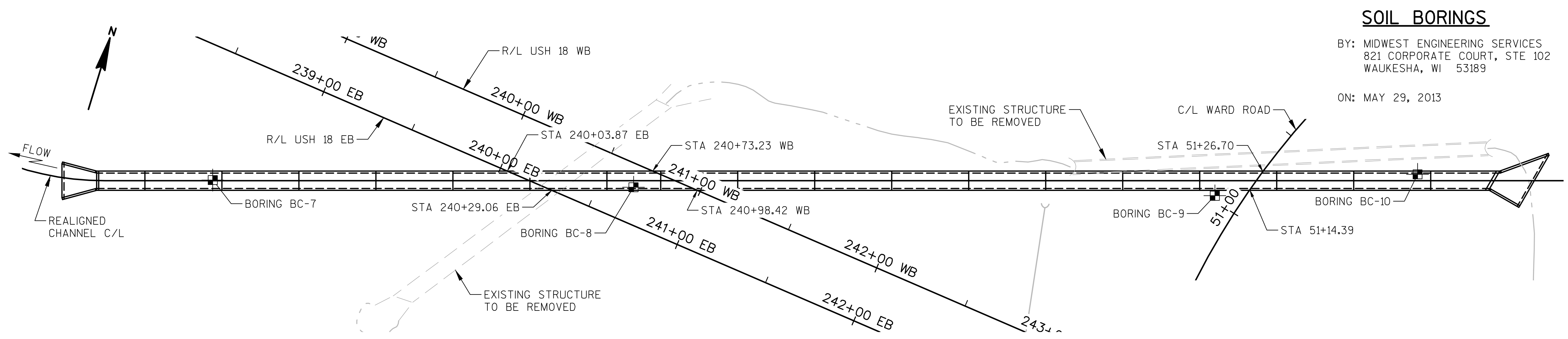
SHEET 2 OF 10

FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0188 (WARD ROAD)\B-12-0188_03_PANEL LAYOUT.DWG
LAYOUT : LAYOUT
PLOT DATE : 7/28/2015
PLOT TIME : 3:19:16 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

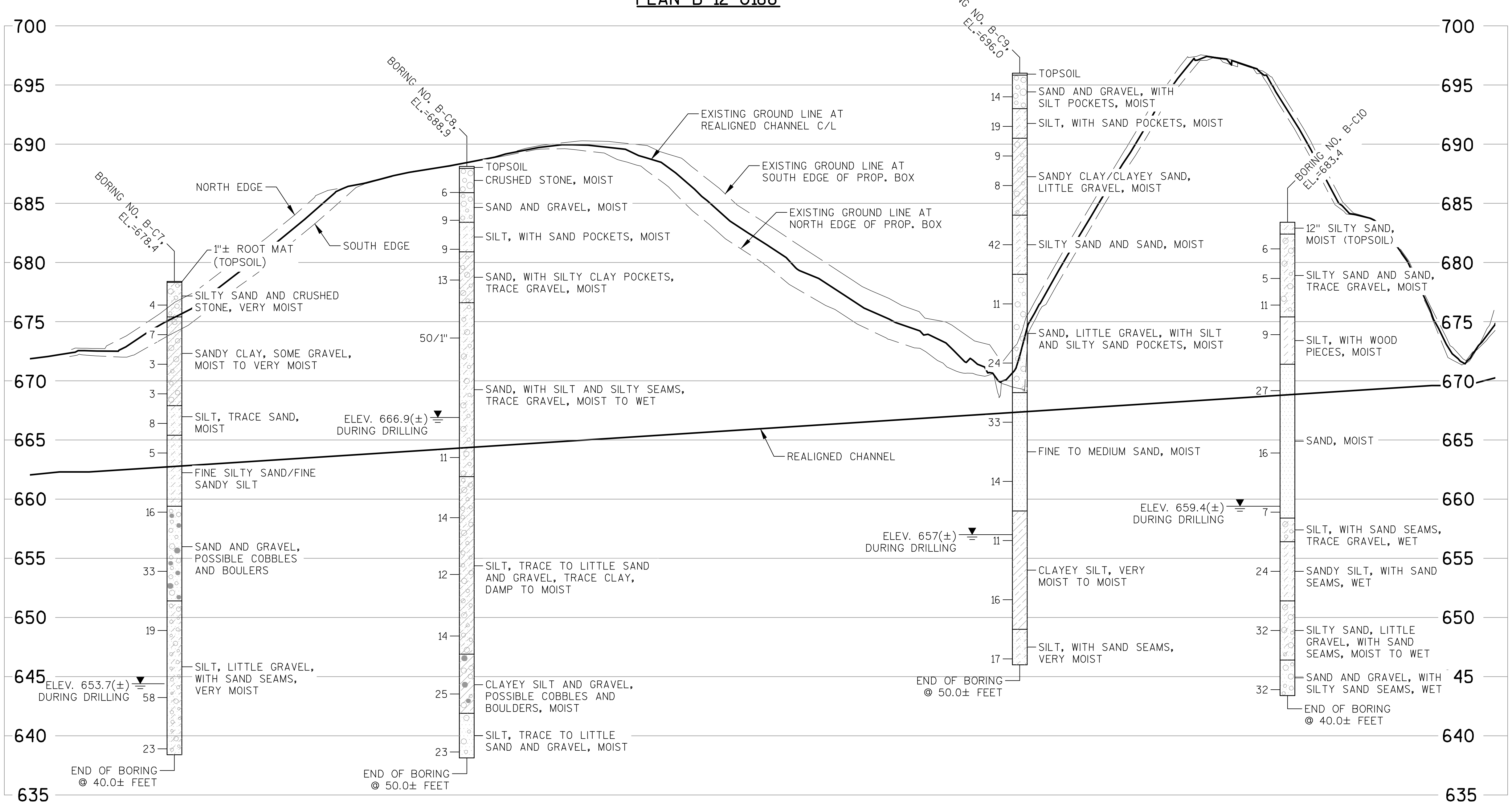
SOIL BORINGS

BY: MIDWEST ENGINEERING SERVICES
821 CORPORATE COURT, STE 102
WAUKESHA, WI 53189

ON: MAY 29, 2013



PLAN B-12-0188



8

8

STATE PROJECT NUMBER

1661-05-78

ABBREVIATIONS

F–Fine M–Medium C–Course
Ws–Weathered So–Sound

MATERIAL SYMBOLS

Asphalt, Silt, Sandstone, Sand, Peat, Limestone, Gravel, Clay, Igneous Rock

LEGEND OF PROBING

PROBING No.; Elevation
Station

95/6 = 96 Blows for 6" Penetration. Probing Taken with a 350# Weight Falling 18" on a 2" O.D. Point.

7 Average Blows Per Foot

Refusal 95/6

LEGEND OF BORING

Boring No.; Elevation
Station

Unconfined Strength 7.7 8 *

Sandy Gravel

Blows Per Ft. Using 140# Wt. Falling 30"

Boulders or Cobbles

Wash Sample

F. Sand

Shelby Tube — S.T.

No Ground Water Observed Above This Elevation

Silty Clay

Ground Water Elevation

So. Limestone

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0188

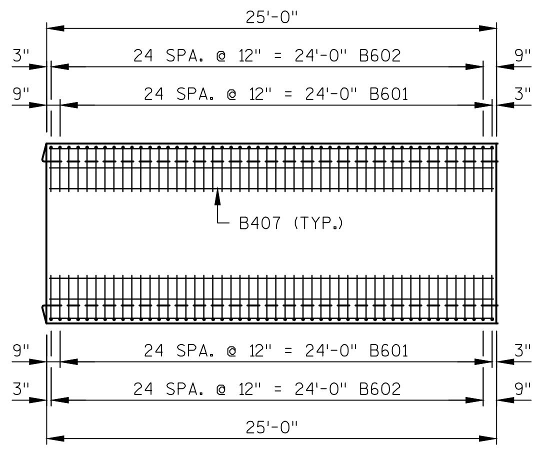
DRAWN BY TMS PLANS CK'D. RBH

SUBSURFACE EXPLORATION

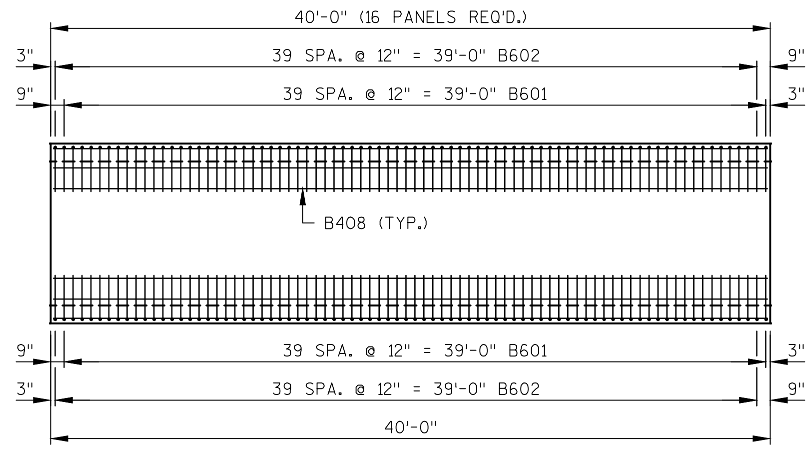
SHEET 3 OF 10

FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0188 (WARD ROAD)\B-12-0188_02_SUBSURFACE EXPLORATION.DWG
LAYOUT : LAYOUT
PLOT DATE : 7/28/2015 PLOT TIME : 3:19:29 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

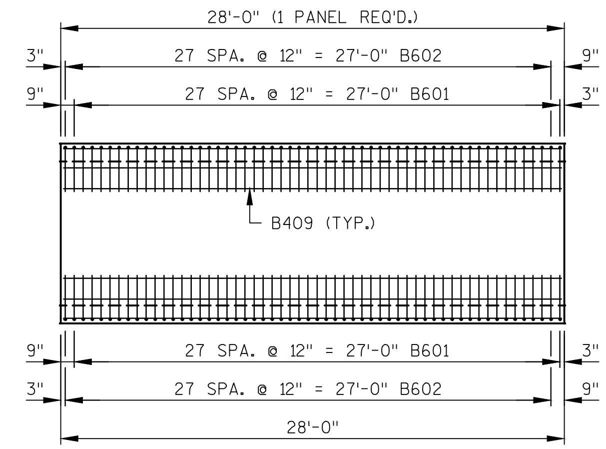
STATE PROJECT NUMBER
1661-05-78



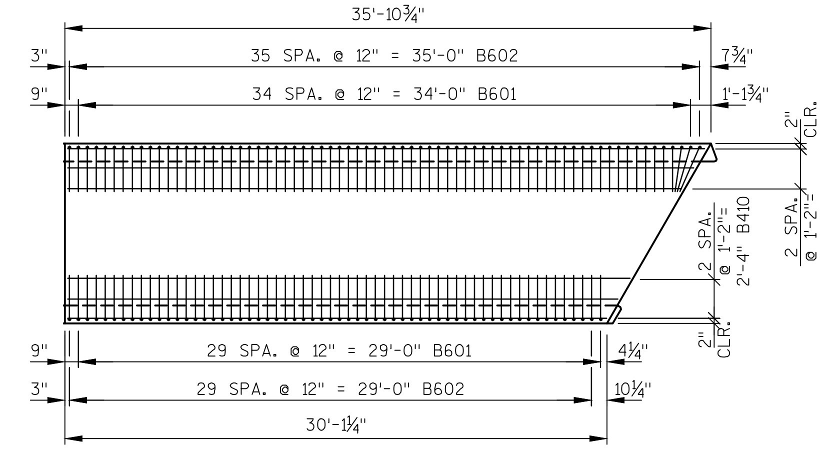
OUTLET PANEL
OUTSIDE STEEL



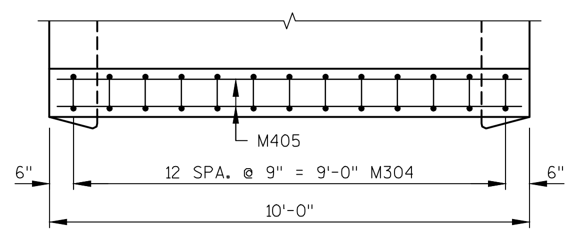
INTERIOR 40' PANEL
OUTSIDE STEEL



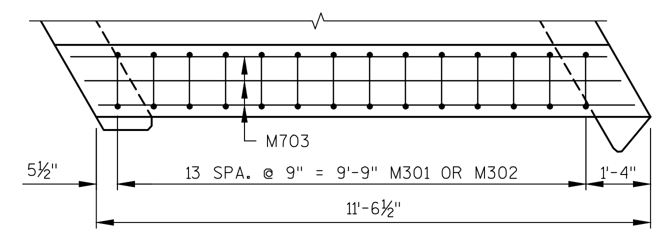
INTERIOR 28' PANEL
OUTSIDE STEEL



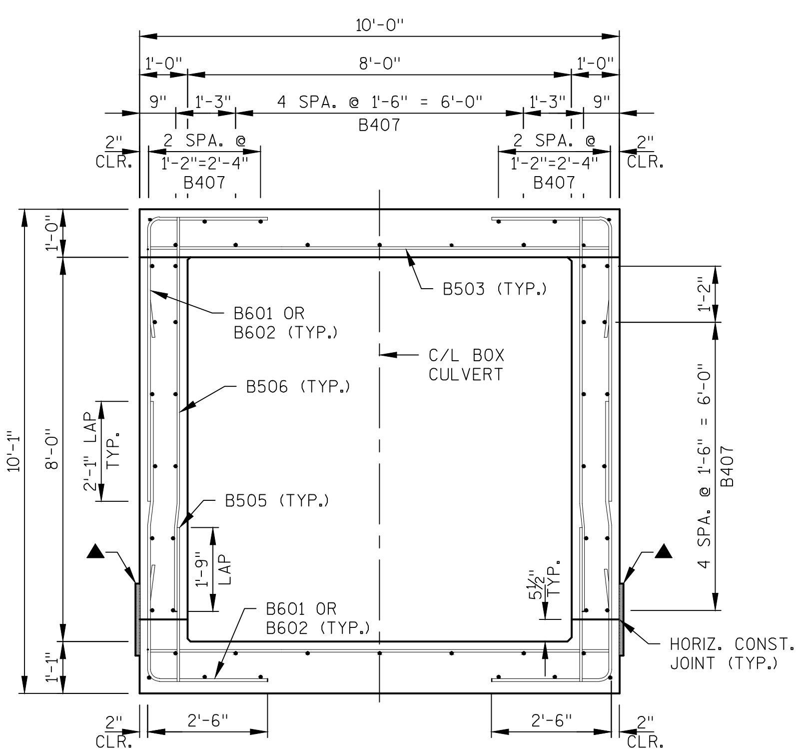
INLET PANEL
OUTSIDE STEEL



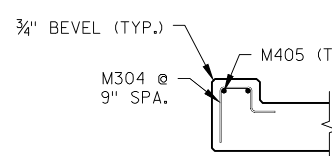
HEADER PLAN VIEW - OUTLET



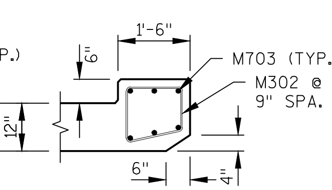
HEADER PLAN VIEW - INLET



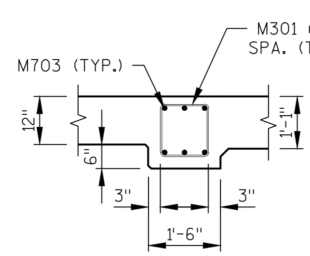
SECTION THROUGH BOX - OUTLET PANEL



OUTLET TOP HEADER

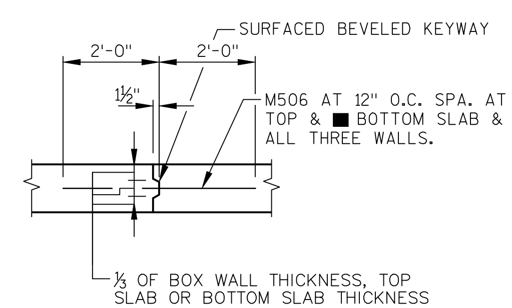


INLET TOP HEADER



INLET BOTTOM HEADER

HEADER SECTION



TYPICAL CONSTRUCTION JOINT

■ IN LIEU OF CONSTRUCTION JOINTS IN THE BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAWCUTS WITHIN 12 HOURS AFTER POURING.

NOTES

UNLESS NOTED OTHERWISE, ALL BAR STEEL AND MEASUREMENTS SHOWN IN THE SECTION VIEW ARE SYMMETRICAL ABOUT THE C/L BOX CULVERT

SEE SHEET 9 FOR BILL OF BARS

LEGEND

▲ 18" RUBBERIZED MEMBRANE WATER-PROOFING. EXTEND FROM HORIZ. CONST. JT TO TOP OF WALL.

NO.	DATE	REVISION	BY

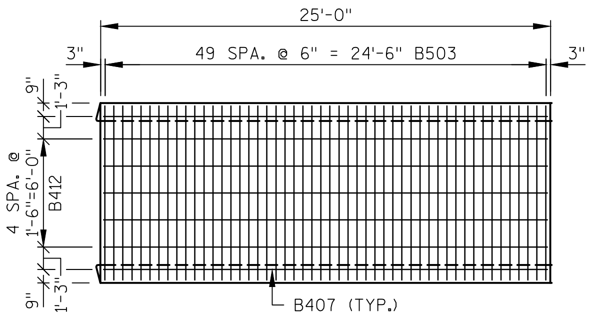
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0188

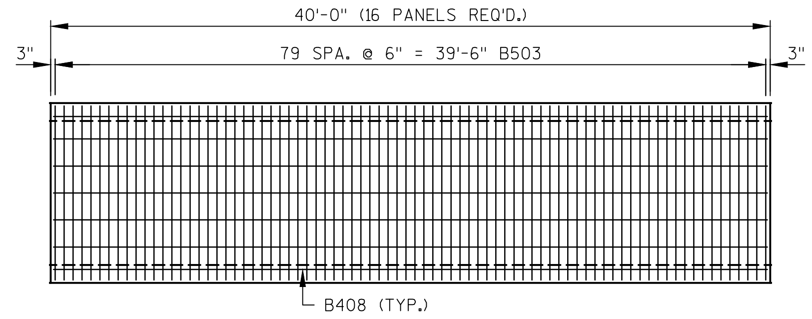
DRAWN BY RBH PLANS CK'D. PTB

OUTSIDE STEEL & OUTLET PANEL SECTION

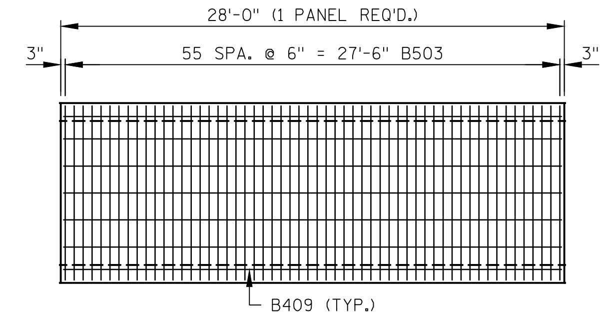
FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0188 (WARD ROAD)\B-12-0188_04_ BARREL SECTION OUTLET - OUTSIDE SLAB STEEL.DWG
LAYOUT : BARREL SECTION INLET - BOTTOM SLAB OUTSIDE STEEL
PLOT DATE : 7/28/2015
PLOT TIME : 3:19:39 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'



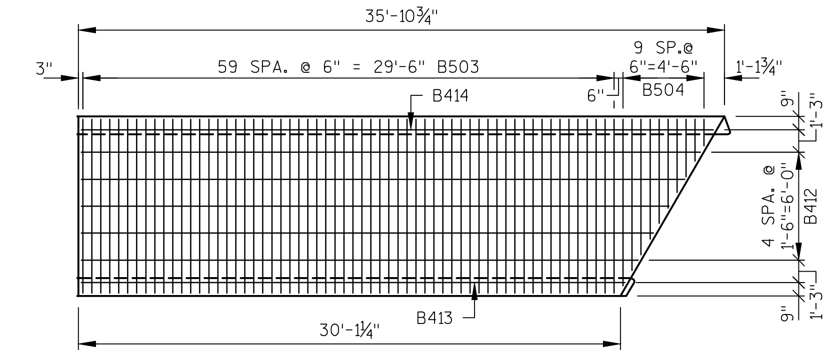
OUTLET PANEL
INSIDE STEEL



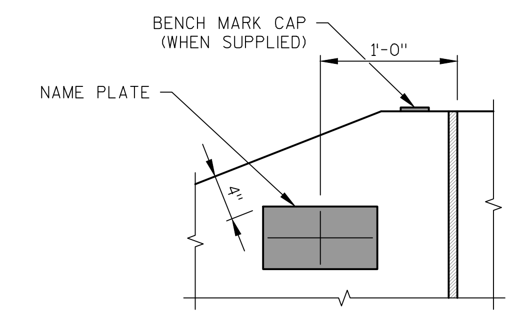
INTERIOR 40' PANEL
INSIDE STEEL



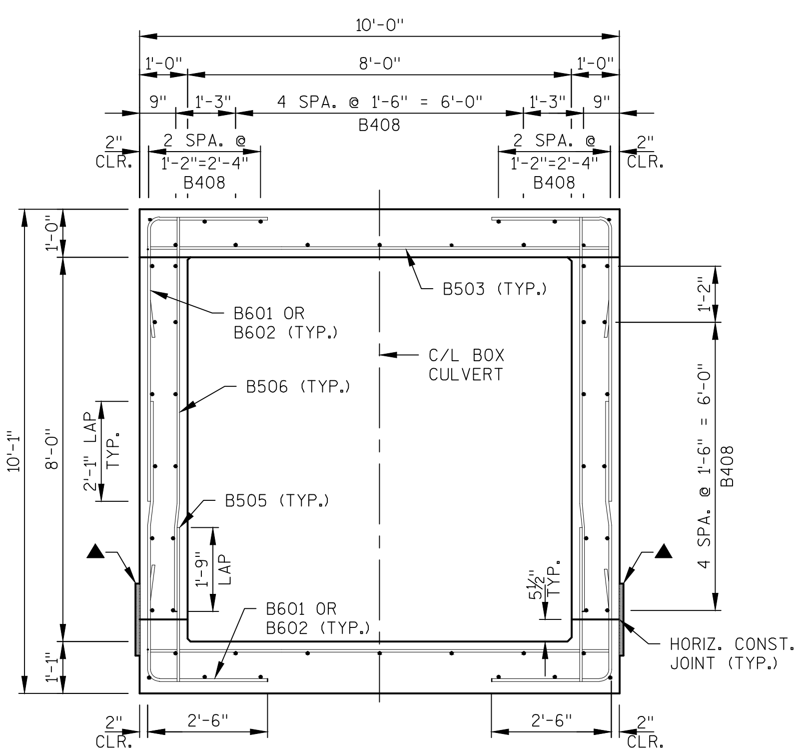
INTERIOR 28' PANEL
INSIDE STEEL



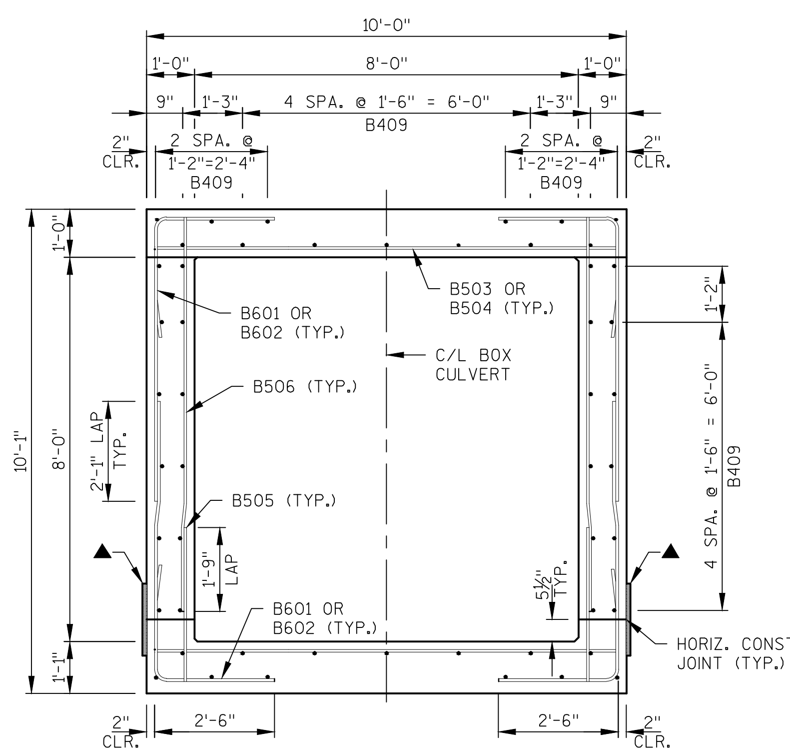
INLET PANEL
INSIDE STEEL



NAME PLATE LOCATION WING 1



SECTION THROUGH BOX - INTERIOR 40' PANEL



SECTION THROUGH BOX - INTERIOR 28' PANEL

NOTES
UNLESS NOTED OTHERWISE, ALL BAR STEEL AND MEASUREMENTS SHOWN IN THE SECTION VIEW ARE SYMMETRICAL ABOUT THE C/L BOX CULVERT

SEE SHEET 9 FOR BILL OF BARS

LEGEND
▲ 18" RUBBERIZED MEMBRANE WATER-PROOFING. EXTEND FROM HORIZ. CONST. JT TO TOP OF WALL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0188

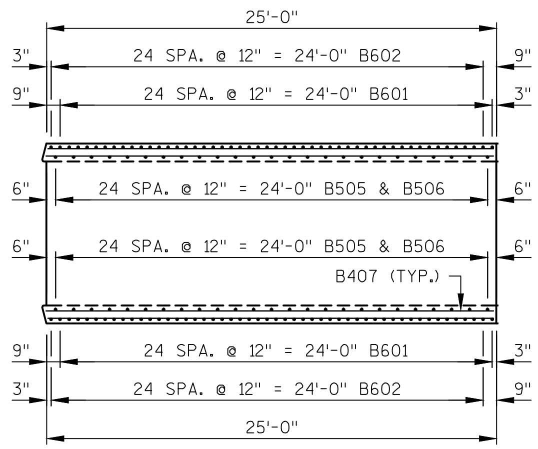
DRAWN BY RBH PLANS CK'D. PTB

INSIDE STEEL & INTERIOR PANEL SECTIONS

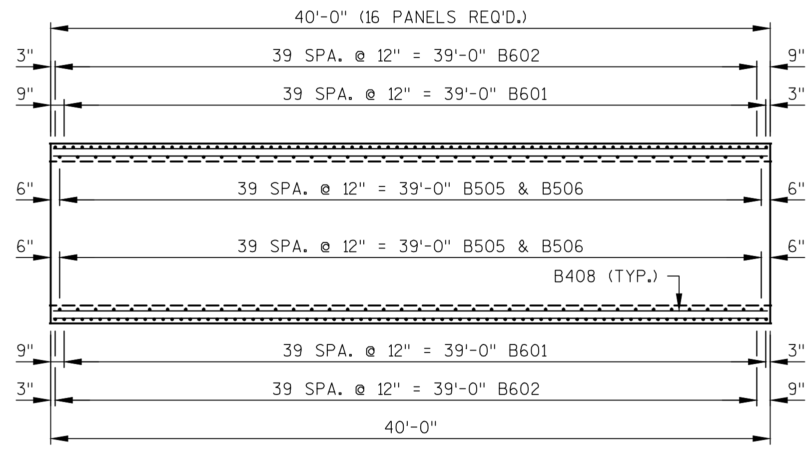
SHEET 5 OF 10

STATE PROJECT NUMBER

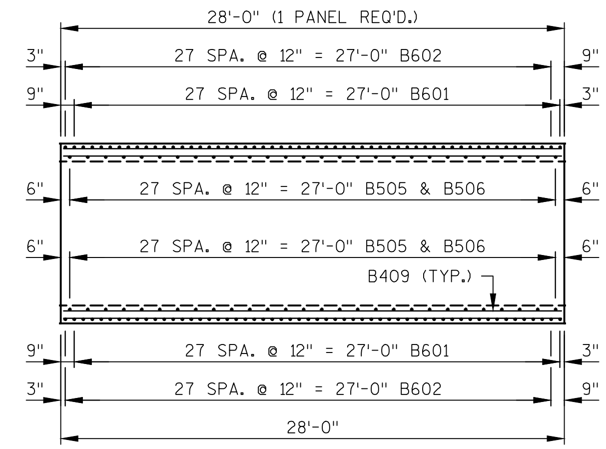
1661-05-78



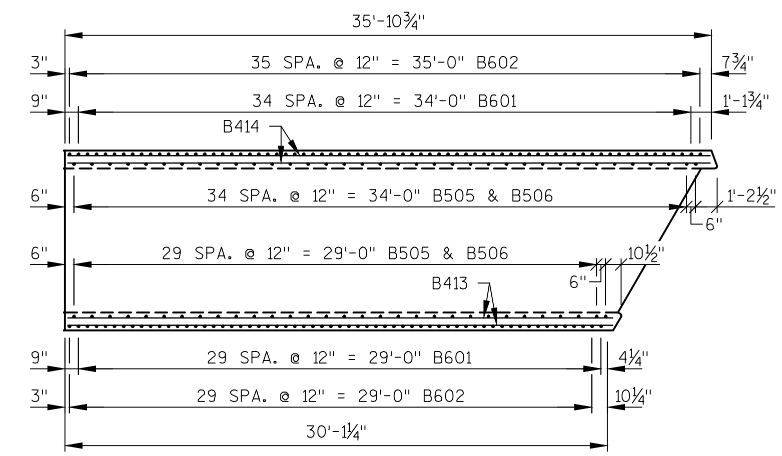
OUTLET PANEL
WALL STEEL



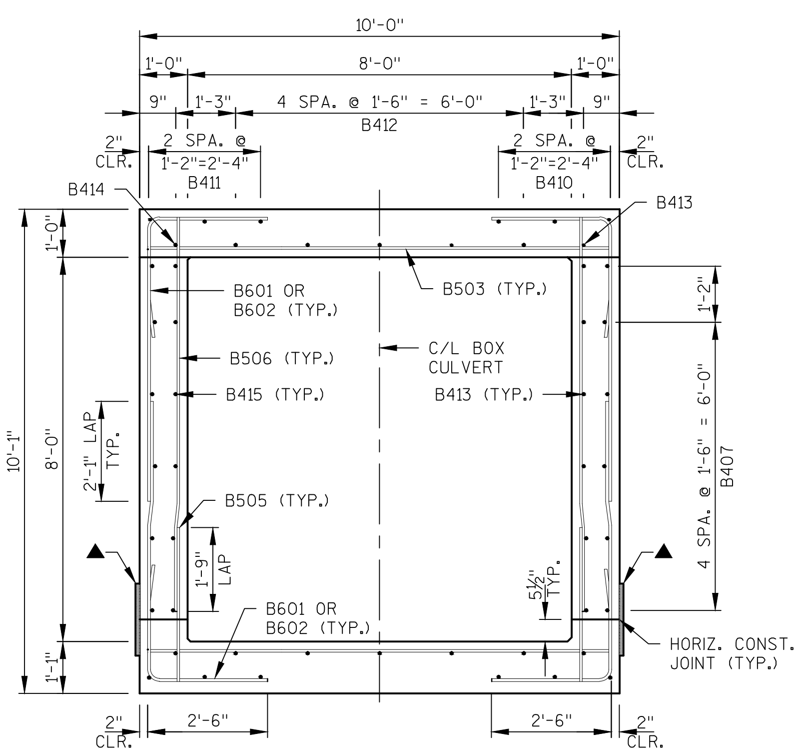
INTERIOR 40' PANEL
WALL STEEL



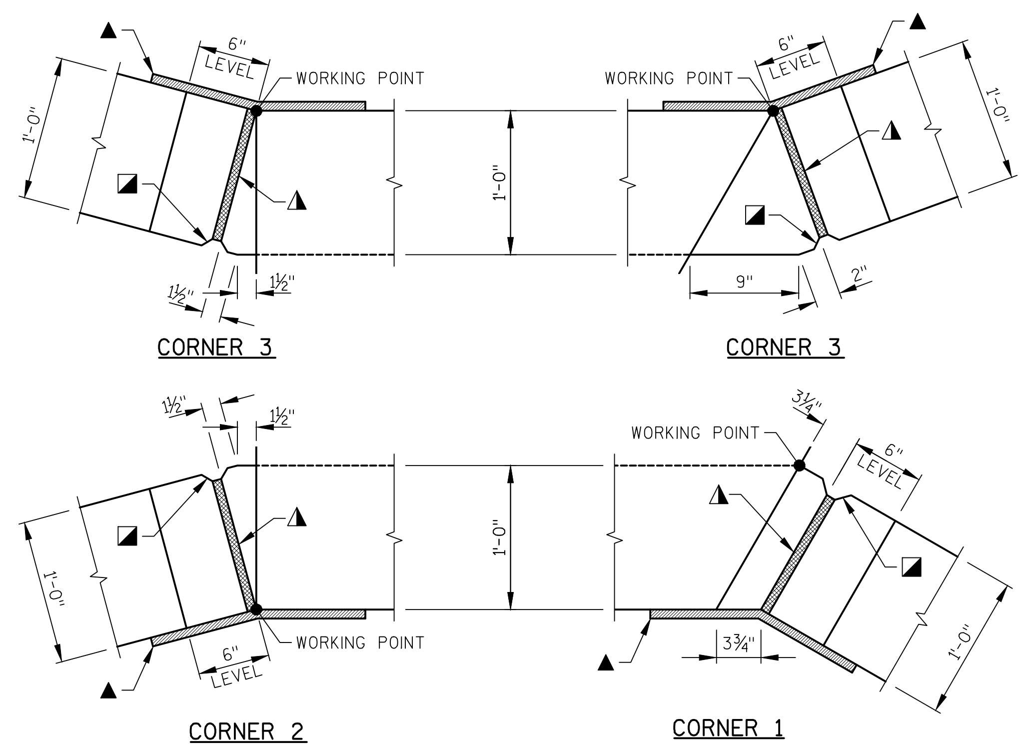
INTERIOR 28' PANEL
WALL STEEL



INLET PANEL
WALL STEEL



SECTION THROUGH BOX - INLET PANEL
(LOOKING UPSTREAM)



CORNER DETAILS

NOTES

UNLESS NOTED OTHERWISE, ALL BAR STEEL AND MEASUREMENTS SHOWN IN THE SECTION VIEW ARE SYMMETRICAL ABOUT THE C/L BOX CULVERT

SEE SHEET 9 FOR BILL OF BARS

LEGEND

▲ 18" RUBBERIZED MEMBRANE WATER-PROOFING. EXTEND FROM HORIZ. CONST. JT TO TOP OF WALL.

◪ 1" BEVEL TYPICAL

◭ ¾" FILLER TYPICAL. EXTEND FILLER FROM HORIZ. CONST. JT. TO TOP OF WING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0188

DRAWN BY RBH | PLANS CK'D. PTB

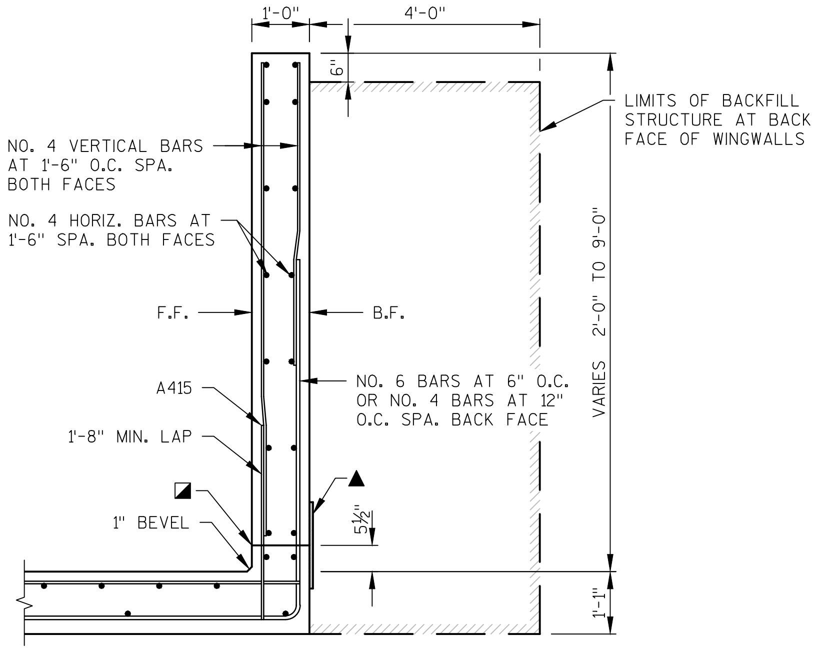
WALL STEEL & INLET PANEL SECTION

SHEET 6 OF 10

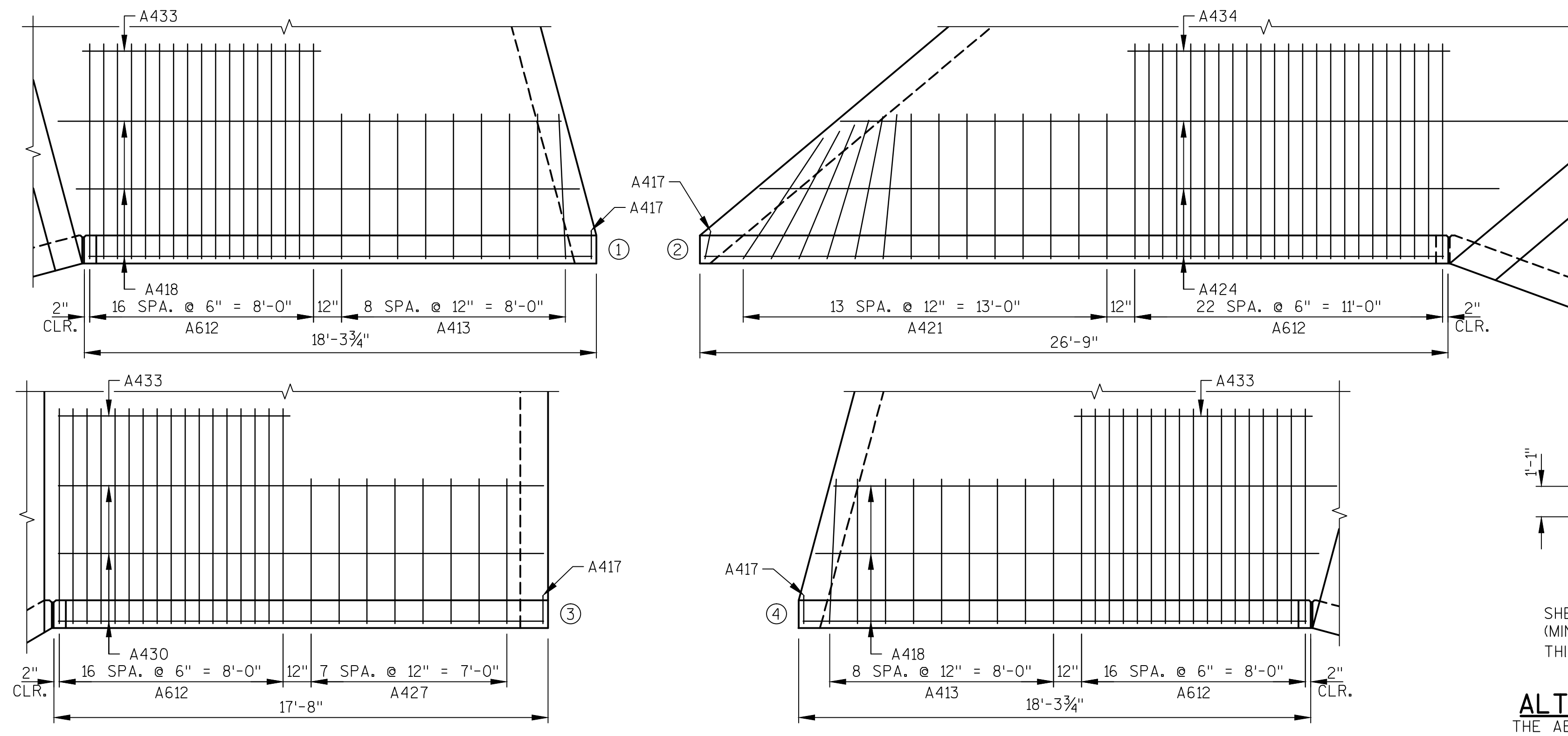
8

8

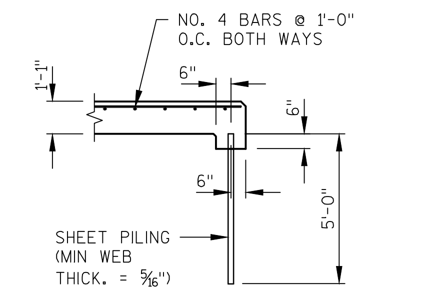
FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0188 (WARD ROAD)\B-12-0188_06_BARREL SECTIONS INLET PANEL - WALL STEEL.DWG
LAYOUT : BARREL SECTION INLET - WALL STEEL
PLOT DATE : 7/28/2015
PLOT TIME : 3:19:54 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'



SECTION THROUGH WINGS

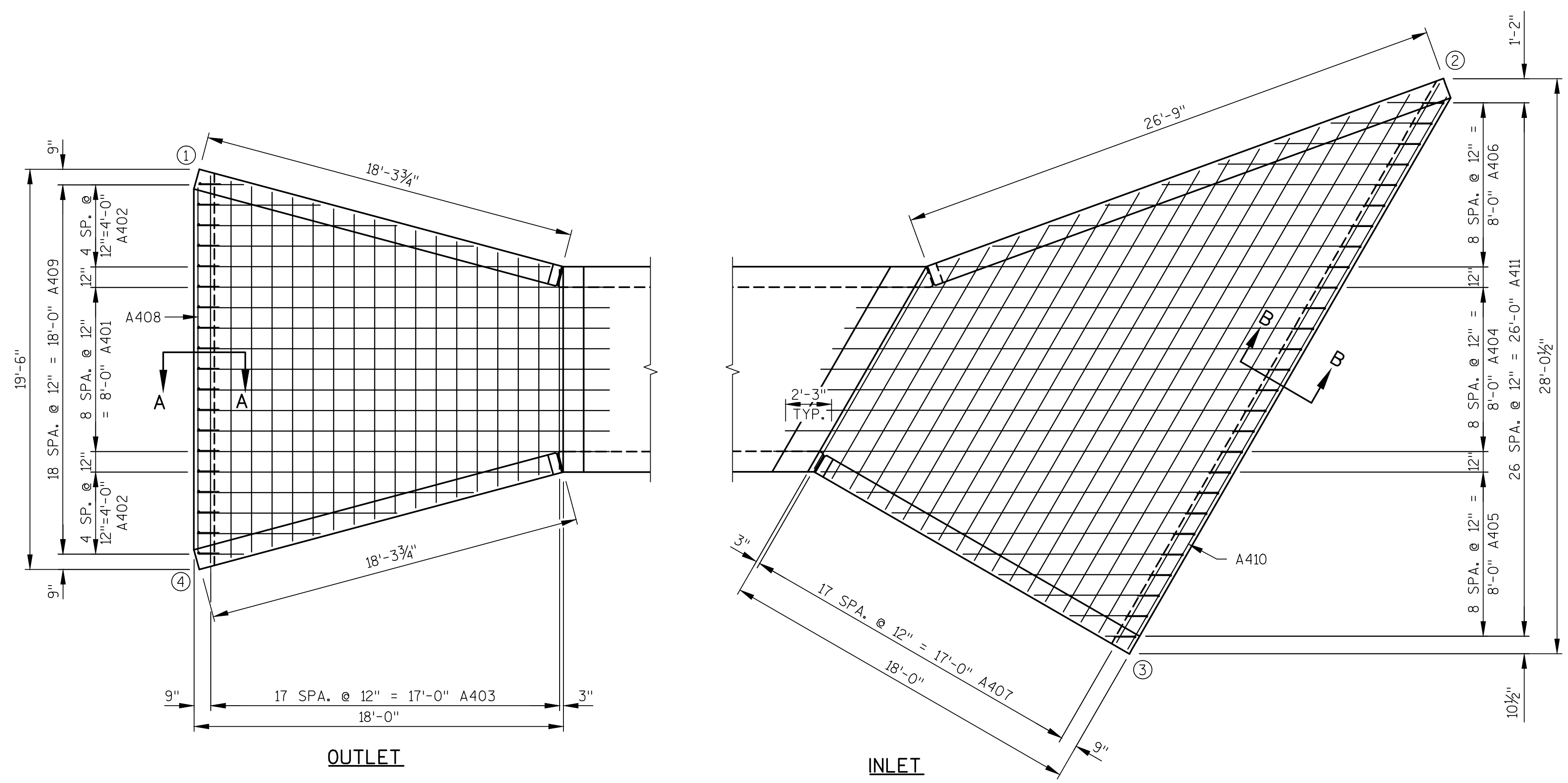


APRON BOTTOM STEEL

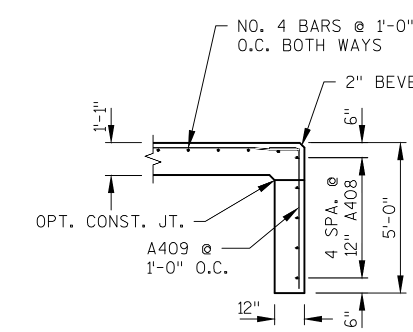


ALTERNATE CUT-OFF WALL

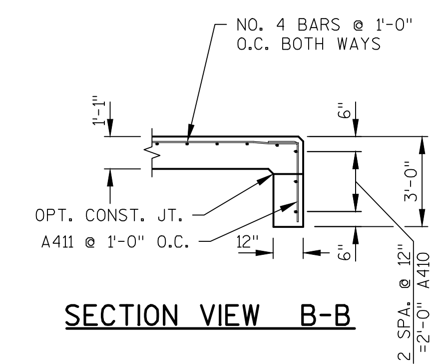
THE ABOVE ALT. MAY BE USED IN LIEU OF THE CAST-IN-PLACE CONC CUT-OFF WALL. PAYMENT WILL BE BASED ON THE CONC. CUT OFF WALL.



PLAN VIEW - APRON STEEL



SECTION VIEW A-A



SECTION VIEW B-B

NOTES

SEE SHEET 9 FOR BILL OF BARS

LEGEND

▲ 18" RUBBERIZED MEMBRANE WATER-PROOFING. PLACE ALONG HORIZONTAL CONSTRUCTION JOINT FOR ENTIRE WING LENGTH. (TYP.)

◪ HORIZONTAL CONSTRUCTION JOINT LOCATED 5½" ABOVE FLOOR OF APRON.

(1) INDICATES WING NUMBER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0188

DRAWN BY RBH | PLANS CK'D. PTB

APRON DETAILS

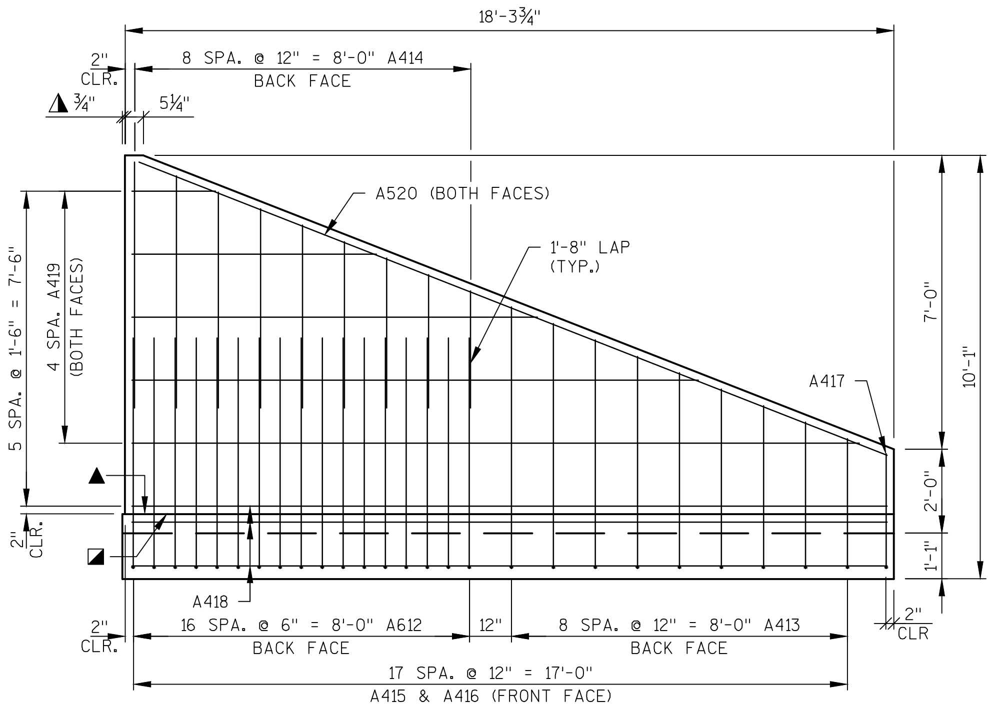
SHEET 7 OF 10

8

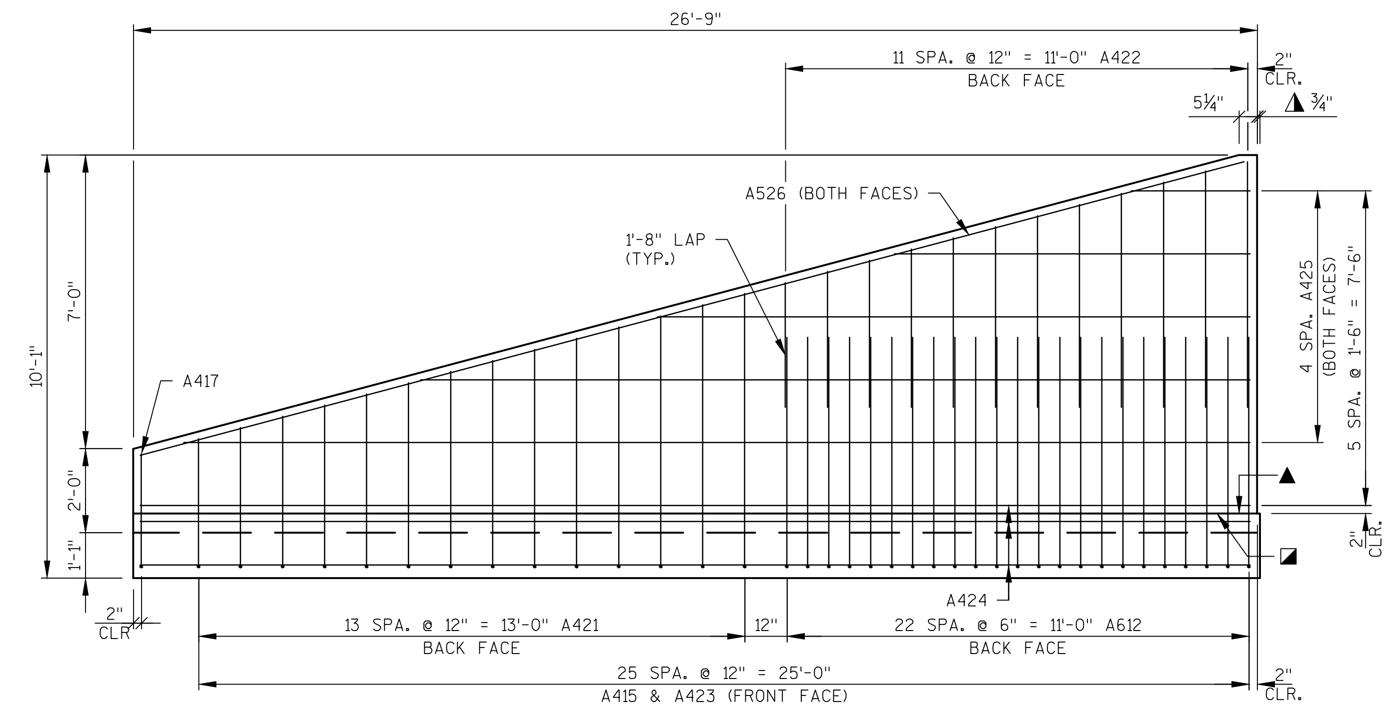
8

STATE PROJECT NUMBER

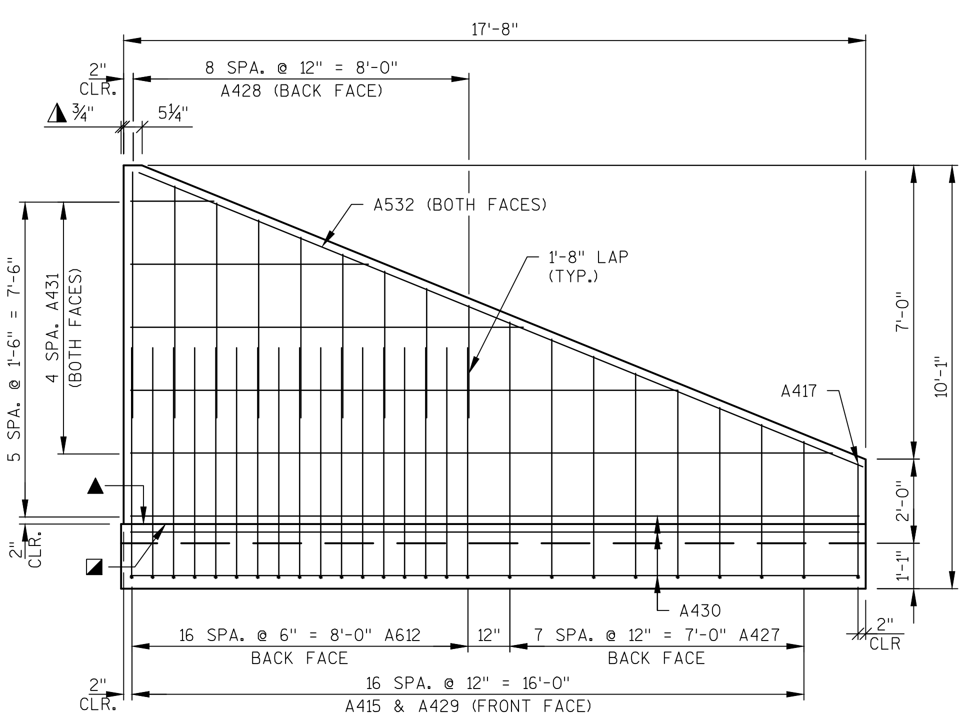
1661-05-78



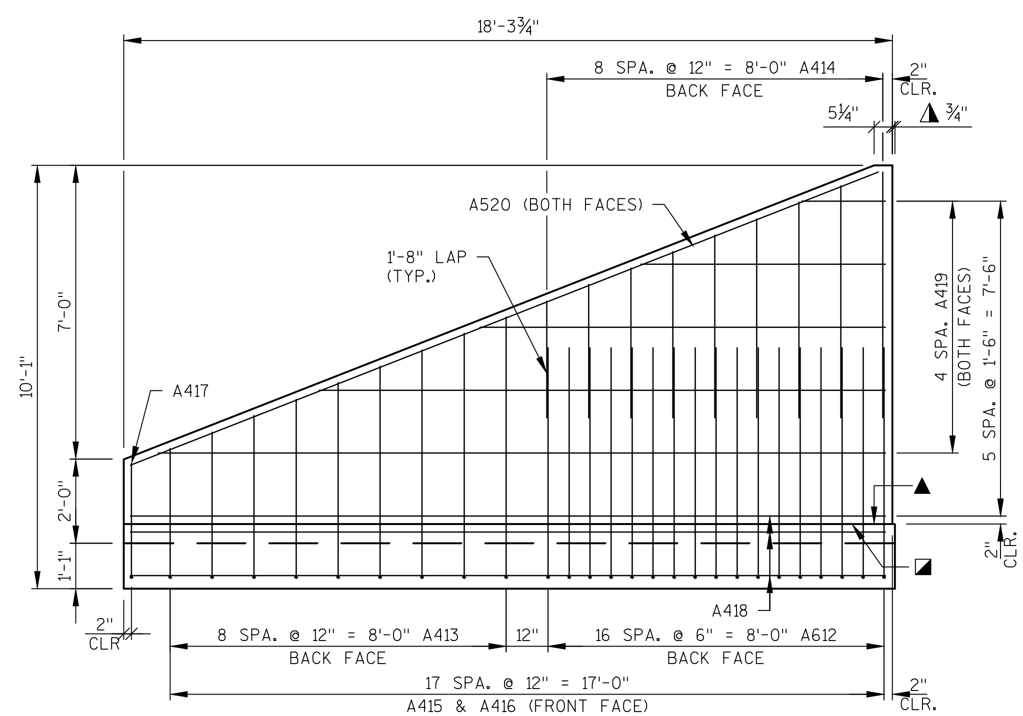
WINGWALL 1



WINGWALL 2



WINGWALL 3



WINGWALL 4

NOTES

SEE SHEET 9 FOR BILL OF BARS

LEGEND

▲ 18" RUBBERIZED MEMBRANE WATER-PROOFING. PLACE ALONG HORIZONTAL CONSTRUCTION JOINT FOR ENTIRE WING LENGTH. (TYP.)

◩ HORIZONTAL CONSTRUCTION JOINT LOCATED 5½" ABOVE FLOOR OF APRON.

◮ ¾" FILLER & 18" RUBBERIZED MEMBRANE WATER-PROOFING. EXTEND FROM HORIZ. CONST. JT. TO TOP OF WING WALL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-0188

DRAWN BY RBH PLANS CK'D. PTB

WING WALL DETAILS

SHEET 8 OF 10

FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0188 (WARD ROAD)\B-12-0188_08_ WINGWALL DETAILS.DWG
LAYOUT : APRON DETAILS
PLOT DATE : 7/28/2015 PLOT TIME : 3:20:08 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

8

STATE PROJECT NUMBER

1661-05-78

BILL OF BARS BARREL

129,840 LB (UNCOATED)

BAR MARK	NUMBER REQ'D. STAGE 1	NUMBER REQ'D. STAGE 2	LENGTH	BEND "D"	COAT	BAR SERIES	LOCATION
B601	1842	1060	8-5	2-8			WALLS - VERT. - OUTSIDE
B602	1844	1060	5-2	2-8			WALLS - VERT. - OUTSIDE
B503	1832	1060	9-8				SLABS - INSIDE
B504	20	0	5-4			*	SLABS - INSIDE - INLET
B505	923	530	3-3				WALLS - VERT. - INSIDE - BOTTOM
B506	923	530	8-2				WALLS - VERT. - INSIDE
B407	0	50	24-8				OUTLET PANEL - HORIZ.
B408	500	300	39-8				INTERIOR 40' PANEL - HORIZ.
B409	50	0	27-8				INTERIOR 28' PANEL - HORIZ.
B410	6	0	30-6			*	INLET PANEL - HORIZ.
B411	6	0	34-8			*	INLET PANEL - HORIZ.
B412	10	0	32-7			*	INLET PANEL - HORIZ.
B413	14	0	30-2				INLET PANEL - HORIZ.
B414	14	0	35-7				INLET PANEL - HORIZ.

BILL OF BARS MISCELLANEOUS

1,500 LB (COATED)
400 LB (UNCOATED)

BAR MARK	NUMBER REQ'D. STAGE 1	NUMBER REQ'D. STAGE 2	LENGTH	BEND "D"	COAT	BAR SERIES	LOCATION
M301	14	0	4-10	■			INLET HEADER - STIRRUP - BOT.
M302	14	0	4-8	■			INLET HEADER - STIRRUP - TOP
M703	12	0	11-1				INLET HEADER - HORIZ.
M304	0	13	2-9	■			OUTLET HEADER - STIRRUP - TOP
M405	0	2	9-8				OUTLET HEADER - HORIZ.
M506	240	120	4-0		X		DOWEL BARS AT JNTS. (20 PER JNT.)
M607	4	0	3-6				PIPE OPENING - VERT. - EXTERIOR FACE
M408	4	0	4-0				PIPE OPENING - DIAGONALS
M509	4	0	3-6				PIPE OPENING - VERT. - INTERIOR FACE
M410	4	0	3-0				PIPE OPENING - HORIZ. - BOTH FACES

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

THE DIMENSION IN THE BEND COLUMN ("D") IS THE OUT TO OUT HORIZONTAL LEG OF AN "L" SHAPED BAR. SEE TYPICAL BENDING DETAIL ON THIS SHEET.

* LENGTH SHOWN FOR BARS IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

■ SEE BENDING DETAILS.

BILL OF BARS APRONS

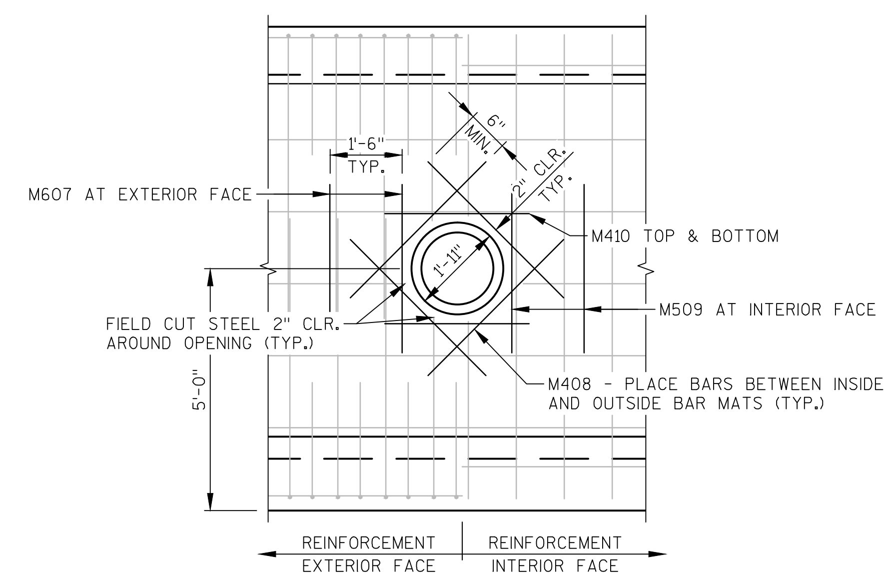
1,970 LB (COATED)
2,380 LB (UNCOATED)

BAR MARK	NUMBER REQ'D. STAGE 1	NUMBER REQ'D. STAGE 2	LENGTH	BEND "D"	COAT	BAR SERIES	LOCATION
A401	0	9	20-2				APRON - TOP - OUTLET
A402	0	10	9-8			*	APRON - TOP - OUTLET
A403	0	18	14-3			*	APRON - TOP - OUTLET - TRANS.
A404	9	0	23-0				APRON - TOP - INLET
A405	9	0	10-8			*	APRON - TOP - INLET
A406	9	0	11-5			*	APRON - TOP - INLET
A407	18	0	21-3			*	APRON - TOP - INLET - TRANS.
A408	0	5	17-8				CUT OFF WALL - OUTLET - HORIZ.
A409	0	19	5-6	1-0			CUT OFF WALL - OUTLET - VERT.
A410	3	0	31-0				CUT OFF WALL - INLET - HORIZ.
A411	27	0	3-6	1-0			CUT OFF WALL - INLET - VERT.
A612	40	34	13-9	7-8	X		WINGWALLS - B.F. - VERT.
A413	0	18	9-9	5-2	X	*	WINGWALLS 1&4 - B.F. - VERT.
A414	0	18	4-4			*	WINGWALLS 1&4 - B.F. - VERT. - TOP
A415	43	36	3-2		X		WINGWALLS - F.F. - VERT. - BOT.
A416	0	36	4-11			*	WINGWALLS 1&4 - F.F. - VERT.
A417	2	2	6-0	■	X		WINGWALLS - VERT. - END
A418	0	14	17-11				WINGWALLS 1&4 - HORIZ. - BOT.
A419	0	20	9-8			*	WINGWALLS 1&4 - HORIZ.
A520	0	4	19-2				WINGWALLS 1&4 - TOP
A421	14	0	9-10	5-2	X	*	WINGWALL 2 - B.F. - VERT.
A422	12	0	4-5			*	WINGWALL 2 - B.F. - VERT. - TOP
A423	26	0	5-4			*	WINGWALL 2 - F.F. - VERT.
A424	7	0	26-5				WINGWALL 2 - HORIZ. - BOT.
A425	10	0	14-1			*	WINGWALL 2 - HORIZ.
A526	2	0	27-2				WINGWALL 2 - TOP
A427	8	0	9-9	5-2	X	*	WINGWALL 3 - B.F. - VERT.
A428	9	0	4-3			*	WINGWALL 3 - B.F. - VERT. - TOP
A429	17	0	5-2			*	WINGWALL 3 - F.F. - VERT.
A430	7	0	17-4				WINGWALL 3 - HORIZ. - BOT.
A431	10	0	9-4			*	WINGWALL 3 - HORIZ.
A532	2	0	18-6				WINGWALL 3 - TOP
A433	1	2	8-6				APRON - BOTTOM
A434	1	0	11-6				APRON - BOTTOM

BAR SERIES TABLE

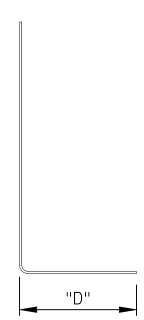
BAR MARK	NO. REQ'D.	LENGTH
B504	2 SERIES OF 10	1-5 TO 9-3
B410	2 SERIES OF 3	29-10 TO 31-2
B411	2 SERIES OF 3	34-0 TO 35-4
B412	2 SERIES OF 5	30-10 TO 34-4
A402	2 SERIES OF 5	2-2 TO 17-2
A403	1 SERIES OF 18	9-8 TO 18-10
A405	1 SERIES OF 9	1-5 TO 19-11
A406	1 SERIES OF 9	2-8 TO 20-0
A407	1 SERIES OF 18	11-2 TO 31-4
A413	2 SERIES OF 9	8-2 TO 11-4
A414	2 SERIES OF 9	2-10 TO 5-10
A416	2 SERIES OF 18	1-7 TO 8-3
A419	4 SERIES OF 5	2-0 TO 17-4
A421	1 SERIES OF 14	8-2 TO 11-6
A422	1 SERIES OF 12	3-0 TO 5-10
A423	1 SERIES OF 26	2-0 TO 8-8
A425	2 SERIES OF 5	2-10 TO 25-4
A427	1 SERIES OF 8	8-4 TO 11-2
A428	1 SERIES OF 9	2-8 TO 5-10
A429	1 SERIES OF 17	1-8 TO 8-8
A431	2 SERIES OF 5	2-0 TO 16-8

BUNDLE AND TAG EACH SERIES SEPARATELY.

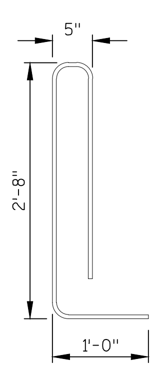


PIPE OPENING

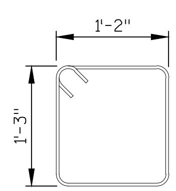
SEE SHEET 2 FOR LOCATION



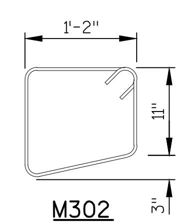
TYP. BENDING DETAIL



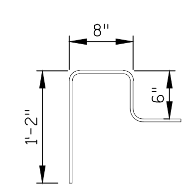
A417



M301



M302



M304

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

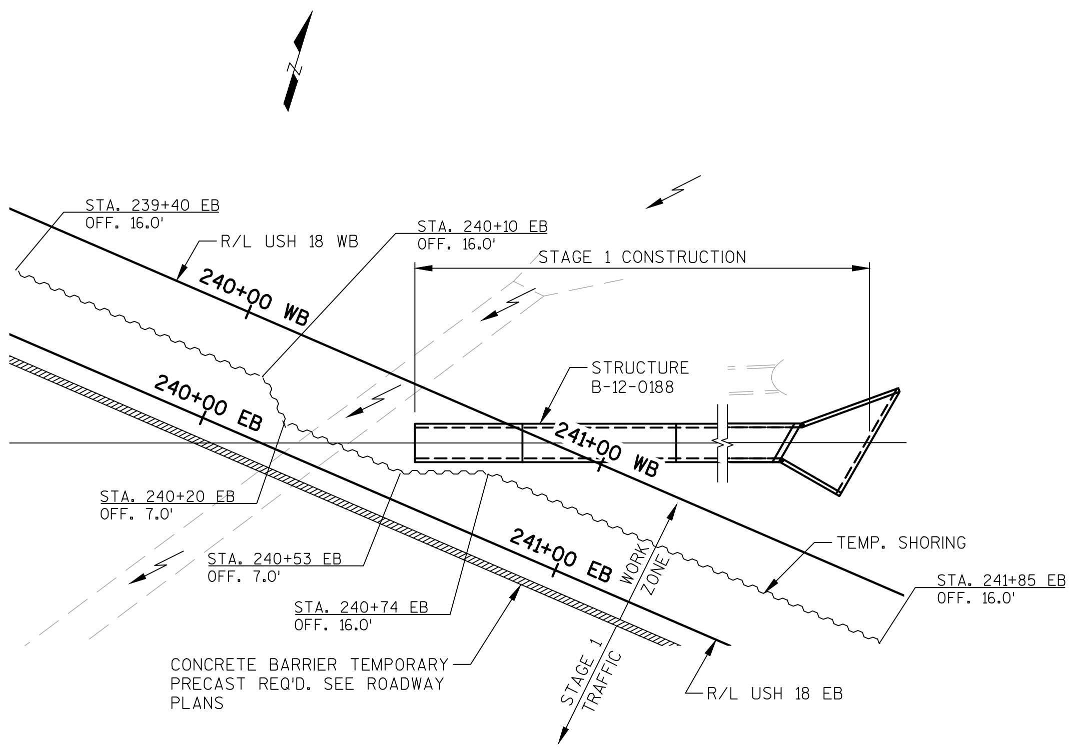
STRUCTURE B-12-0188

DRAWN BY RBH PLANS CK'D. PTB

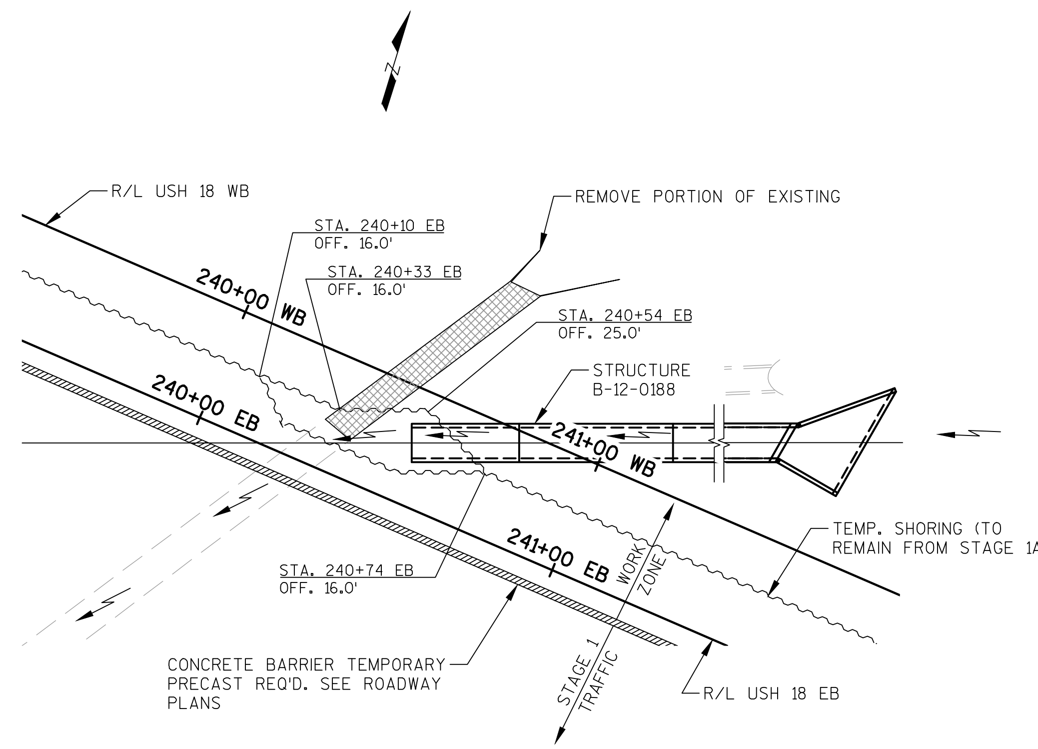
DETAILS

SHEET 9 OF 10

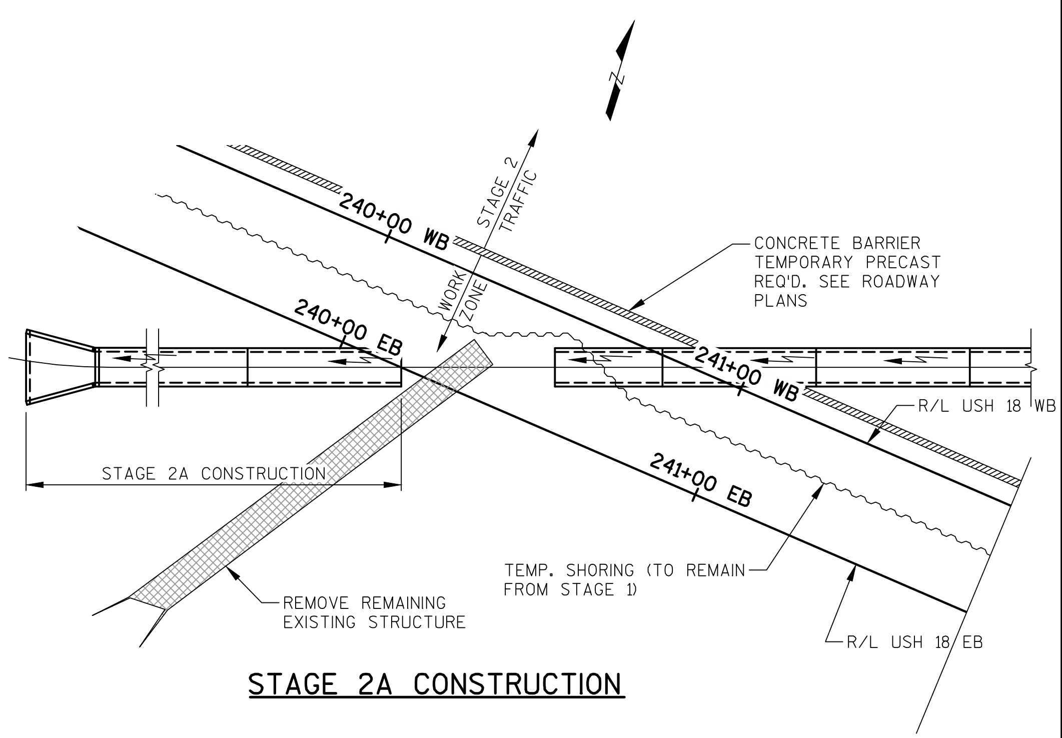
8



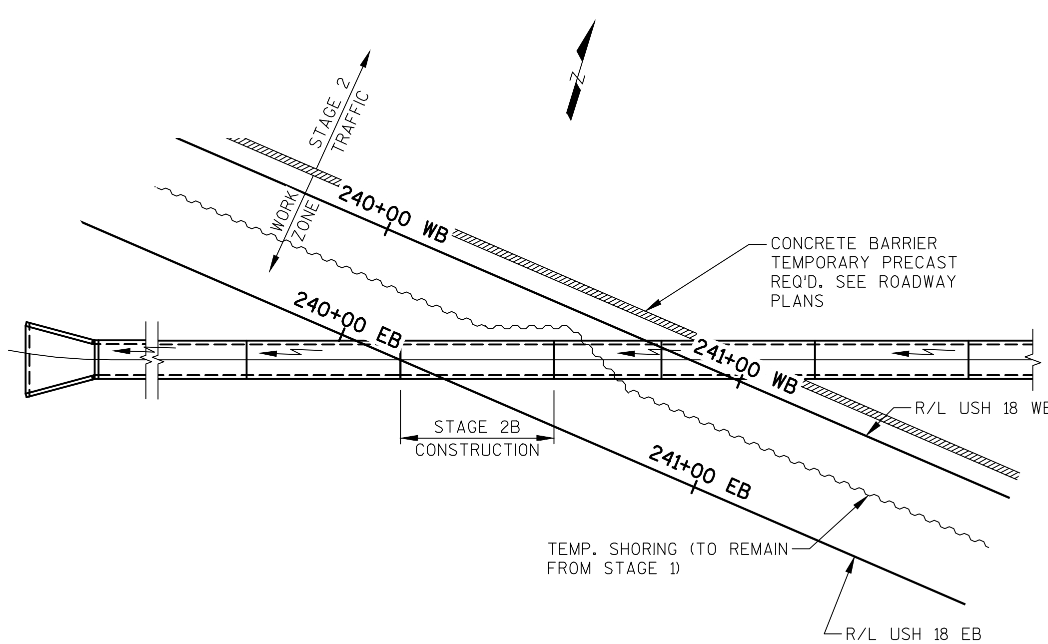
STAGE 1A CONSTRUCTION



STAGE 1B CONSTRUCTION



STAGE 2A CONSTRUCTION



STAGE 2B CONSTRUCTION

STATE PROJECT NUMBER

1661-05-78

NOTES:

SEE ROADWAY PLANS FOR TRAFFIC STAGING DETAILS INCLUDING LOCATION AND DIRECTION OF TRAFFIC LANES AND LOCATION OF CONCRETE BARRIER TEMPORARY PRECAST.

INTERMITTENT FLOW POSSIBLE DURING CONSTRUCTION, TAKE NECESSARY PRECAUTIONS TO DIVERT FLOW AWAY FROM WORK AREAS.

CONSTRUCTION DETAILS AND TEMPORARY SHORING LOCATIONS SHOWN ON THIS SHEET PRESENT ONE POSSIBLE CONSTRUCTION METHOD. ALTERNATE METHODS AND LOCATIONS MAY BE ACCEPTABLE PROVIDED THEY MEET THE APPROVAL OF THE FIELD ENGINEER.

TEMPORARY SHORING QUANTITIES CALCULATED USING FINISHED GRADE ELEVATIONS

STAGE 1A

TRAFFIC

1. TRAFFIC WILL UTILIZE EXISTING EASTBOUND LANE AND SHOULDER. INSTALL TEMPORARY CONCRETE BARRIER TO SHIELD BOX CULVERT CONSTRUCTION AREA SEE ROADWAY PLANS FOR LOCATIONS.

CONSTRUCTION

1. INSTALL TEMPORARY SHORING STAGE 1 AT LOCATIONS INDICATED ON STAGING DETAILS (THIS SHEET).
2. INTERMITTENT FLOW WILL UTILIZE EXISTING STRUCTURE.
3. CONSTRUCT PORTION OF PROPOSED STRUCTURE INLET TO JOINT 7.

STAGE 1B

1. REMOVE SECTION OF EXISTING STRUCTURE FROM INLET TO TEMPORARY SHORING LOCATION APPROXIMATELY 61'.

5. DIVERT INTERMITTENT FLOW FROM EXISTING STRUCTURE TO PROPOSED STRUCTURE.

6. INSTALL TEMPORARY SHORING STAGE 2 AT LOCATIONS INDICATED ON STAGING DETAILS (THIS SHEET).

7. CONSTRUCT ROADWAY OVER COMPLETED INLET PORTION OF STRUCTURE B-12-0188.

STAGE 2A

TRAFFIC

1. TRAFFIC WILL UTILIZE NEW WESTBOUND LANE AND SHOULDER. INSTALL TEMPORARY CONCRETE BARRIER TO SHIELD BOX CULVERT CONSTRUCTION AREA SEE ROADWAY PLANS FOR LOCATIONS.

CONSTRUCTION

1. REMOVE STAGE 1 TEMPORARY SHORING FROM STA. 240+10 EB TO STA. 240+74 EB.
2. CONSTRUCT PROPOSED STRUCTURE FROM OUTLET TO JOINT 6.
3. REMOVE REMAINING EXISTING STRUCTURE.

5. REDIRECT INTERMITTENT FLOW THOUGH PROPOSED STRUCTURE.

STAGE 2B

TRAFFIC

1. TRAFFIC WILL UTILIZE THE SAME TRAFFIC PATTERN AS STAGE 2A.

CONSTRUCTION

1. CONSTRUCT PROPOSED STRUCTURE JOINT 6 TO JOINT 7. USE DISCRETION WHEN CONSTRUCTING THIS PANEL AS TO NOT ALLOW POSSIBLE INTERMITTENT FLOW TO DAMAGE CONCRETE.
2. CONSTRUCT ROADWAY OVER OUTLET SEGMENT OF PROPOSED STRUCTURE (SEE ROADWAY PLANS).
3. REMOVE TEMPORARY SHORING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–12–0188

DRAWN BY RBH PLANS CK'D. PTB

STAGING DETAILS

SHEET 10 OF 10

8

FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\B-12-0188 (WARD ROAD)\B-12-0188_10_STAGEING_DETAILS.DWG
LAYOUT : LAYOUT

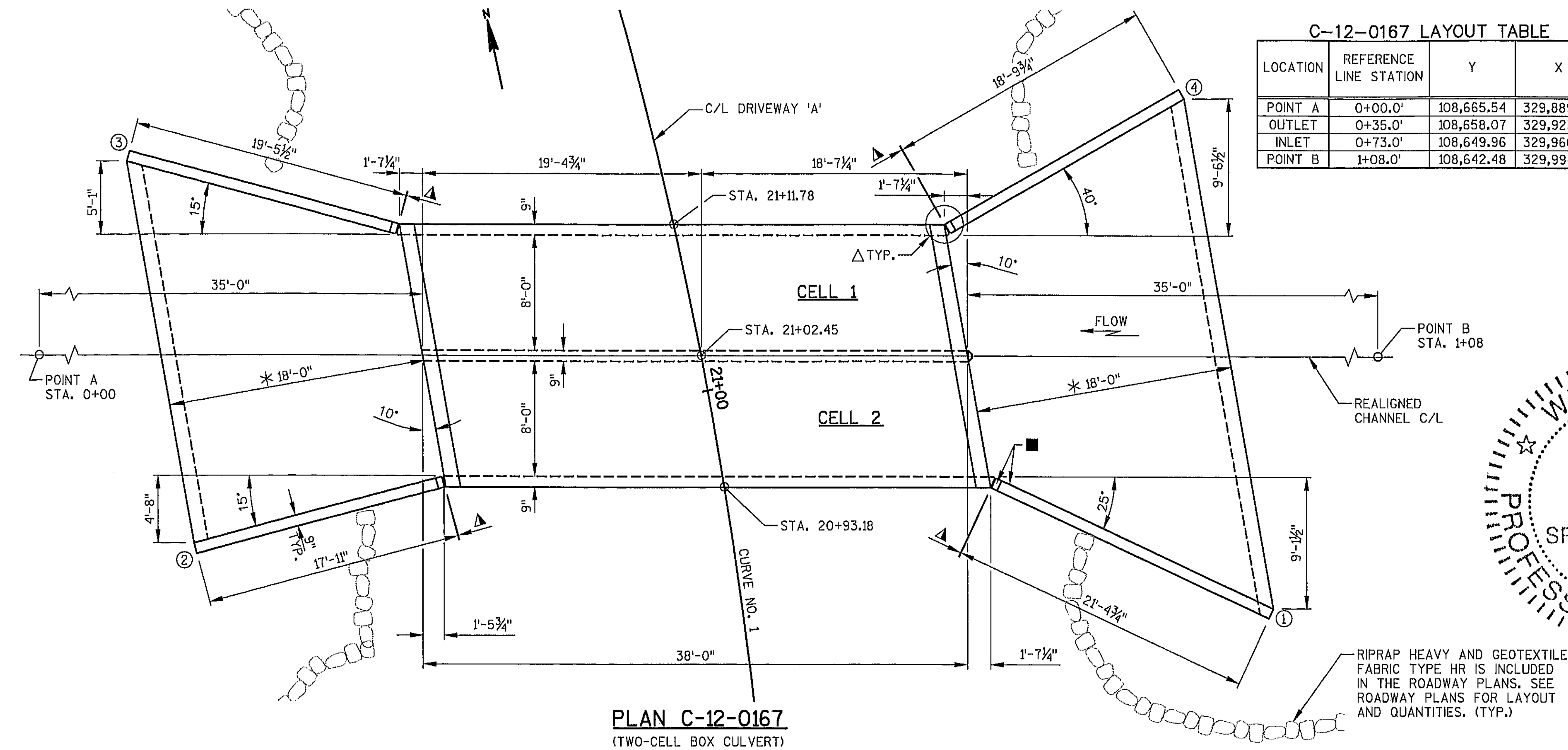
PLOT DATE : 7/28/2015
PLOT TIME : 3:20:42 PM

PLOT BY : BOLAND, PATRICK

PLOT SCALE : 1" = 1"

STATE PROJECT NUMBER

1661-05-78



PLAN C-12-0167

(TWO-CELL BOX CULVERT)

C-12-0167 LAYOUT TABLE

LOCATION	REFERENCE LINE STATION	Y	X
POINT A	0+00.0'	108,665.54	329,889.07
OUTLET	0+35.0'	108,658.07	329,923.26
INLET	0+73.0'	108,649.96	329,960.39
POINT B	1+08.0'	108,642.48	329,994.58

CURVE NO. 1

PI STA. = 21+64.23
Y = 108,715.23
X = 329,950.20
R = 310.00
D = 18°28'57"
DELTA = 31°56'04"
L = 172.78
T = 88.70
C = 170.55
PC STA. = 20+75.53
Y = 108,627.07
X = 329,940.42
PT STA. = 22+48.31
Y = 108,795.22
X = 329,911.87

WISCONSIN PROFESSIONAL ENGINEER
PATRICK T. BOLAND
E-36303
SPRING GREEN, WIS.
Patrick Boland 7-30-15

DESIGN DATA

LIVE LOAD:

DESIGN LOADING ____ HL-93
INVENTORY RATING FACTOR ____ RF=1.05
OPERATING RATING FACTOR ____ RF=1.35
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) ____ 255 KIPS

EARTH LOAD:

DESIGNED FOR 2 - 3 FEET OF FILL

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY (GRADE A-FA) ____ f'c = 3,500 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 ____ fy = 60,000 P.S.I.

TRAFFIC DATA

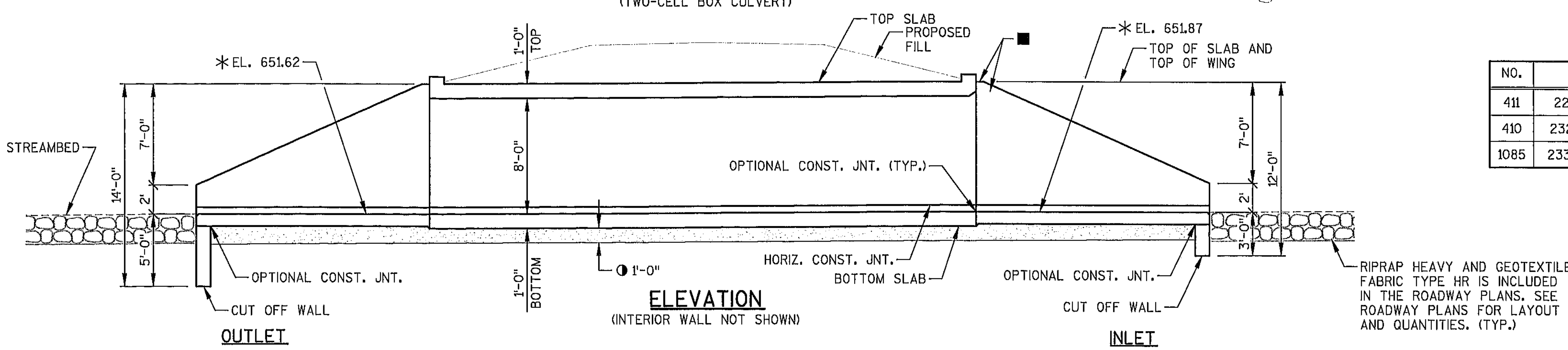
A.D.T. (2036) ____ < 100
DESIGN SPEED ____ N/A M.P.H.

HYDRAULIC DATA

100 YEAR FREQUENCY
DRAINAGE AREA ____ 1.1 SQ. MI.
Q_{100} TOTAL ____ 625 C.F.S.
THROUGH STRUCTURE ____ 625 C.F.S.
OVERTOPPING ROADWAY ____ N/A
VELOCITY - THROUGH STRUCTURE ____ 5.6 F.P.S.
WATERWAY AREA - THROUGH STRUCTURE ____ 112 SQ. FT.
HIGH WATER$_{100}$ ELEVATION ____ 659.52
SCOUR CRITICAL CODE ____ 8

EROSION CONTROL
Q_2 ____ 95 C.F.S.
HIGH WATER$_2$ ELEVATION ____ 655.02

LIST OF DRAWINGS



ELEVATION

(INTERIOR WALL NOT SHOWN)

◕ BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
411	222+74.11, 36.3' RT.	CHIS. □ TOC. OUT FROM PP K-47-540	656.30
410	232+97.60, 54.7' RT.	DISK SW COR. OF BOX C-12-00-49	665.94
1085	233+32.69, 100.3' RT.	DISK TOP OF PARAPET, N COR. BOX CULV.	668.04

DESIGN CONSULTANT	BRIDGE OFFICE CONTACT
PATRICK BOLAND, PE (608) 588-7484	WILLIAM DREHER, PE (608) 266-8489

8

8

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	UNIT	TOTAL
206.2000	EXCAVATION FOR STRUCTURES CULVERTS C-12-0167	LS	1
210.0100	BACKFILL STRUCTURE	CY	430
311.0115	BREAKER RUN	CY	90
504.0100	CONCRETE MASONRY CULVERTS	CY	125
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	11,540
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,710
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	31
645.0105	GEOTEXTILE FABRIC TYPE C	SY	225
	NON-BID ITEMS		
	FILLER	SIZE	¾"

LEGEND

- △ SEE CORNER DETAILS (SHEET 3).
- ■ NAME PLATE LOCATION (SEE SHEET 3) AND BENCHMARK CAP (WHEN SUPPLIED).
- ✱ BUILD APRON AND END OF BOX LEVEL.
- ○ INDICATES WING NUMBER.
- ◑ UNDER CUT STRUCTURE (TO BE PAID FOR UNDER "EXCAVATION FOR STRUCTURES"), PLACE GEOTEXTILE FABRIC TYPE C, AND BACKFILL WITH BREAKER RUN. EXTEND 3'-0" BEYOND THE FOOTPRINT OF THE CULVERT.
- ▲ ¾" FILLER & 18" RUBBERIZED MEMBRANE WATER-PROOFING. EXTEND FROM HORIZ. CONST. JT. TO TOP OF WING WALL.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES SHALL BE THE EXISTING GROUNDLINE. ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TO THE ELEVATION OF THE TOP OF THE BOX WITHIN THE LENGTH OF THE CULVERT.

THE CONCRETE IN THE CUTOFF WALLS MAY BE PLACED UNDERWATER IF THE EXCAVATION CANNOT BE DEWATERED.

THE CONTRACTOR MAY FURNISH A PRECAST CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE BOX CULVERT WITH APPROVAL OF THE STRUCTURES DESIGN SECTION. MATERIALS, FABRICATION AND DESIGN OF PRECAST BOXES SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR TRANSPORTATION MATERIALS, M259 OR M273, AND AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION 2, SECTION 27, EXCEPT THE CONCRETE MIXTURE SHALL CONTAIN NOT LESS THAN 565 POUNDS OF CEMENTITIOUS MATERIALS PER CUBIC YARD.

NO.	DATE	REVISION	BY

JEWELL associates engineers, inc.
Engineers - Surveyors - Architects
560 SUNRISE DRIVE
SPRING GREEN, WI 53588
PHONE: (608) 588-7484
FAX: (608) 588-9322

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 08/04/15
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE C-12-0167

DRIVEWAY 'A' OVER DRAINAGE CHANNEL

COUNTY	CRAWFORD	TOWN/~~CITY/VILLAGE~~	BRIDGEPORT
DESIGN SPEC.	AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS		

DESIGNED BY	PTB	DESIGN CK'D.	RBH	DRAWN BY	PTB	PLANS CK'D.	RBH

GENERAL PLAN

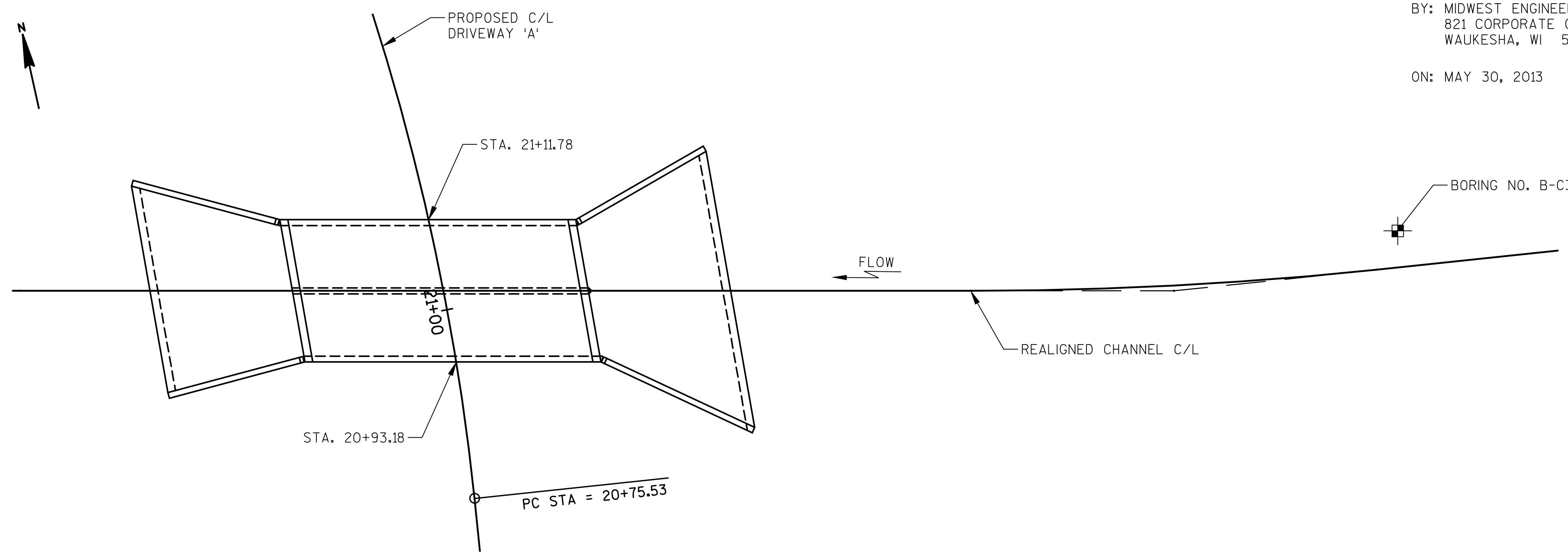
SHEET 1 OF 7

FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\C-12-0167 (DRIVEWAY A)\C-12-0167_01_GENERAL PLAN.DWG
LAYOUT : LAYOUT
PLOT DATE : 7/29/2015
PLOT TIME : 1:57:15 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

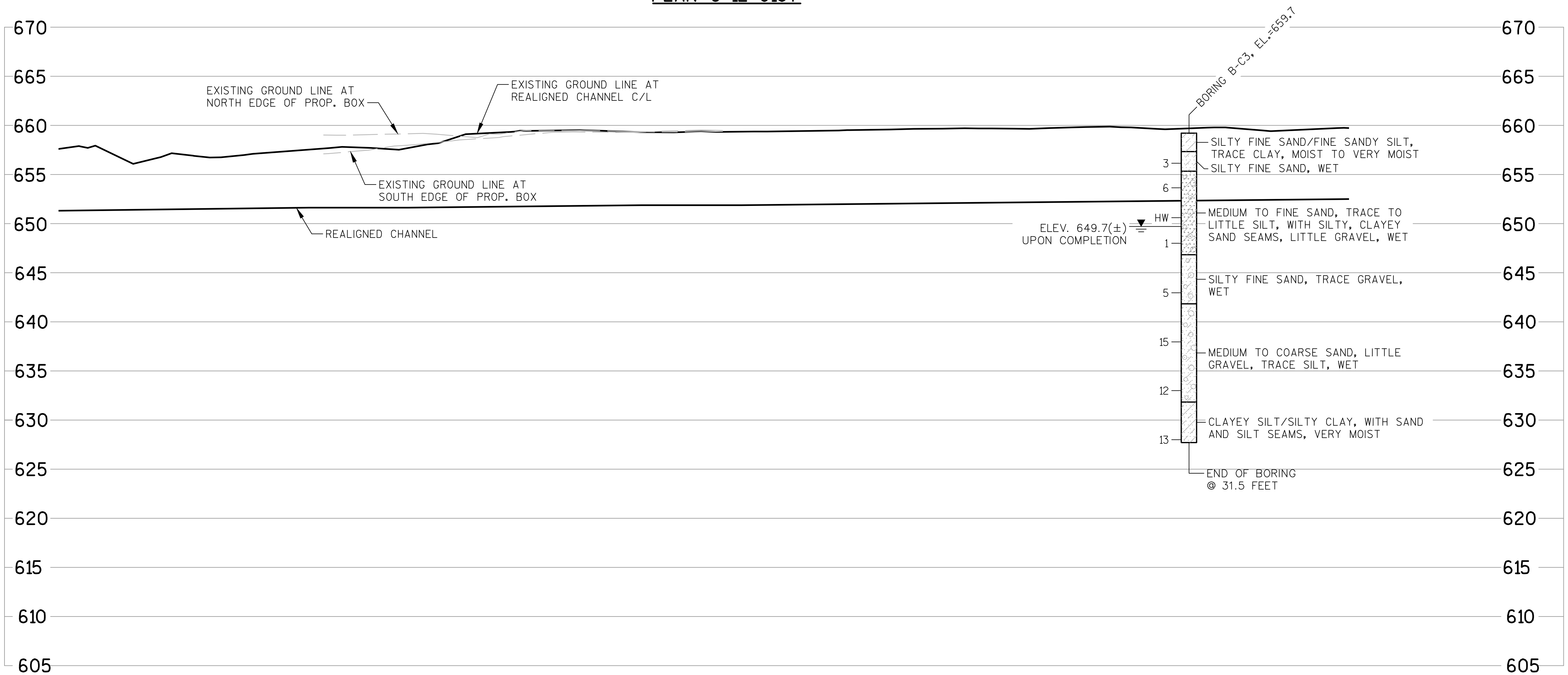
SOIL BORINGS

BY: MIDWEST ENGINEERING SERVICES
821 CORPORATE COURT, STE 102
WAUKESHA, WI 53189

ON: MAY 30, 2013



PLAN C-12-0167



8

STATE PROJECT NUMBER

1661-05-78

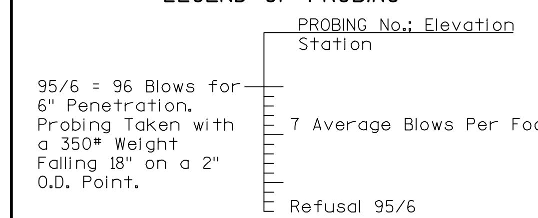
ABBREVIATIONS

F–Fine M–Medium C–Course
Ws–Weathered So–Sound

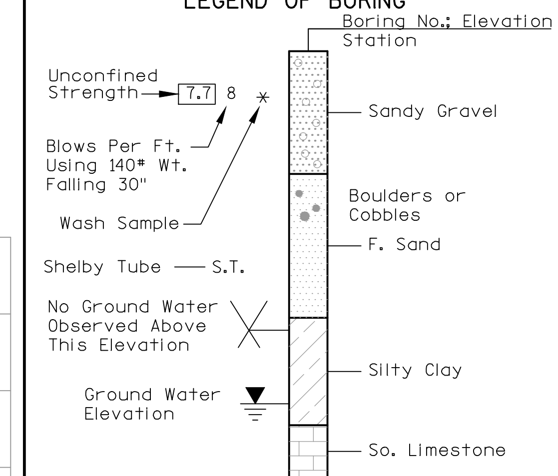
MATERIAL SYMBOLS

Asphalt	Silt	Sandstone
Sand	Peat	Limestone
Gravel	Clay	Igneous Rock

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

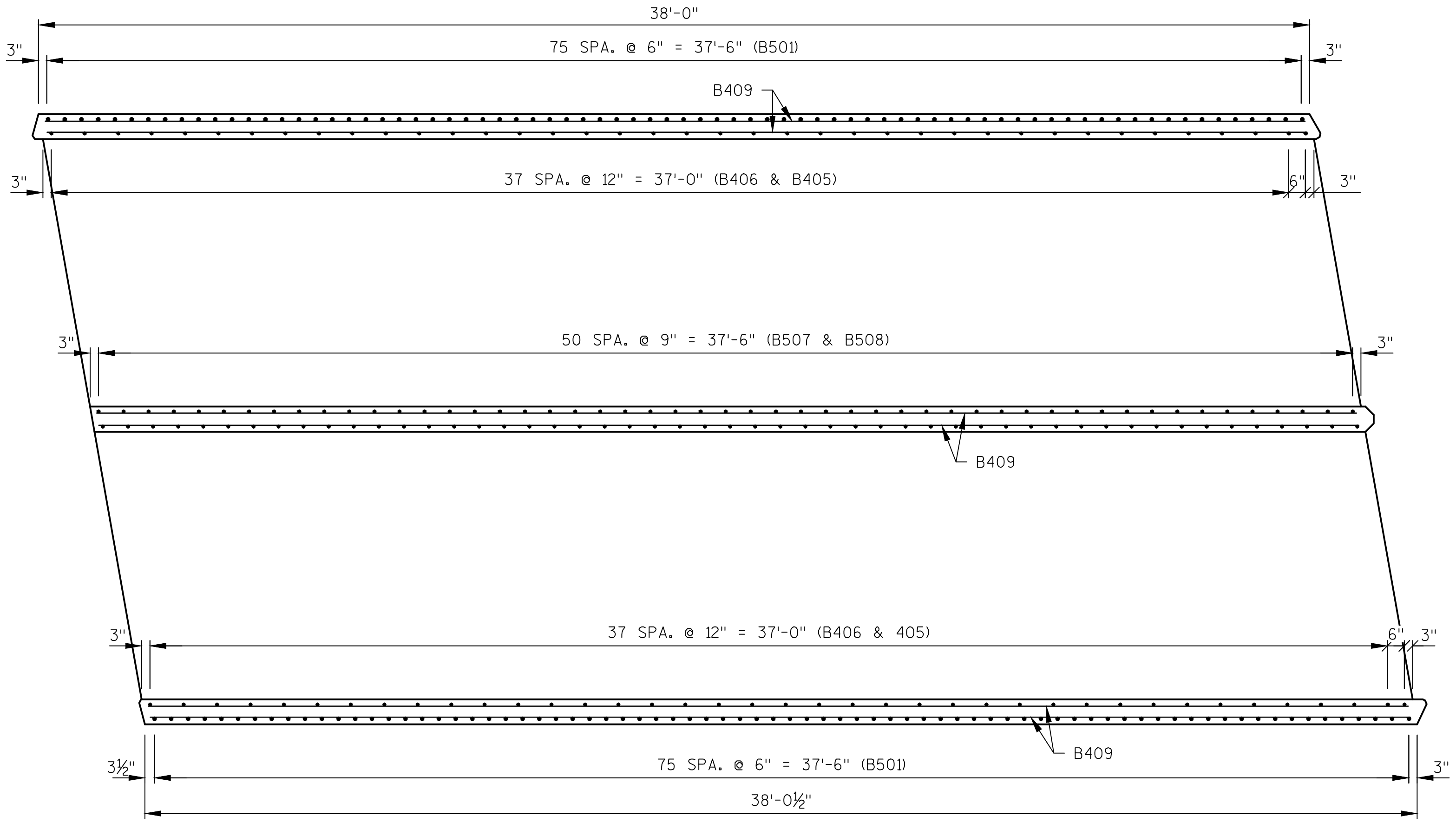
STRUCTURE C–12–0167

DRAWN BY TMS PLANS CK'D. PTB

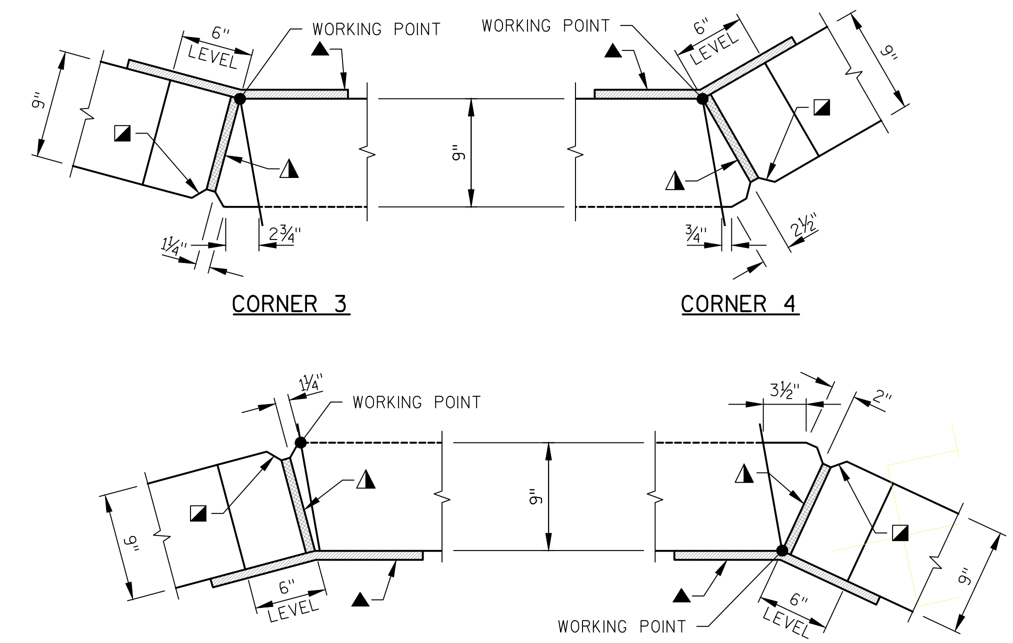
SUBSURFACE EXPLORATION

SHEET 2 OF 7

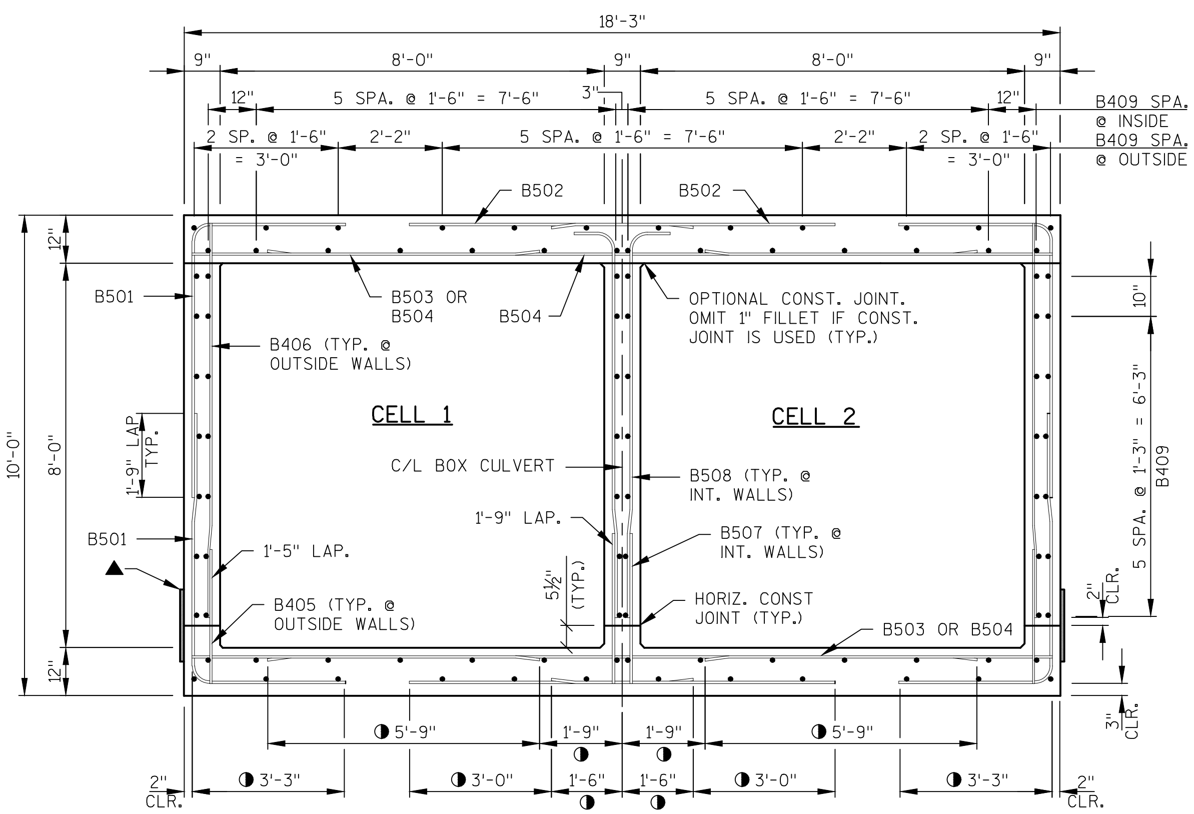
STATE PROJECT NUMBER
1661-05-78



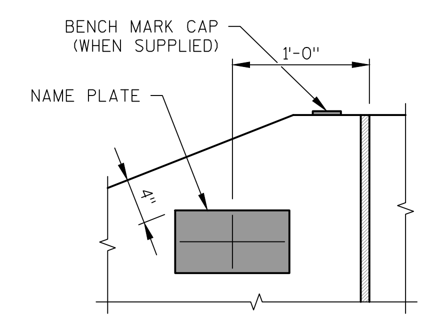
WALL STEEL



CORNER DETAILS



SECTION THROUGH BARREL
(LOOKING UPSTREAM)



NAME PLATE LOCATION
WING 1

NOTES

UNLESS NOTED OTHERWISE, ALL BAR STEEL AND MEASUREMENTS SHOWN IN THE SECTION VIEW ARE SYMMETRICAL ABOUT THE C/L BOX CULVERT

SEE SHEET 7 FOR BILL OF BARS

LEGEND

▲ 18" RUBBERIZED MEMBRANE WATER-PROOFING. EXTEND FROM HORIZ. CONST. JT TO TOP OF WALL.

◑ BAR LENGTH OR DISTANCE MEASURED ALONG SKEW.

◪ 1" BEVEL TYPICAL

△ ¾" FILLER TYPICAL. EXTEND FILLER FROM HORIZ. CONST. JT. TO TOP OF WING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-12-0167

DRAWN BY RBH PLANS CK'D. PTB

BARREL SECTION & WALL STEEL

SHEET 3 OF 7

8

8

FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\C-12-0167 (DRIVEWAY A)\C-12-0167_03_ BARREL SECTION-WALL STEEL.DWG
LAYOUT : BARREL SECTION- WALL STEEL

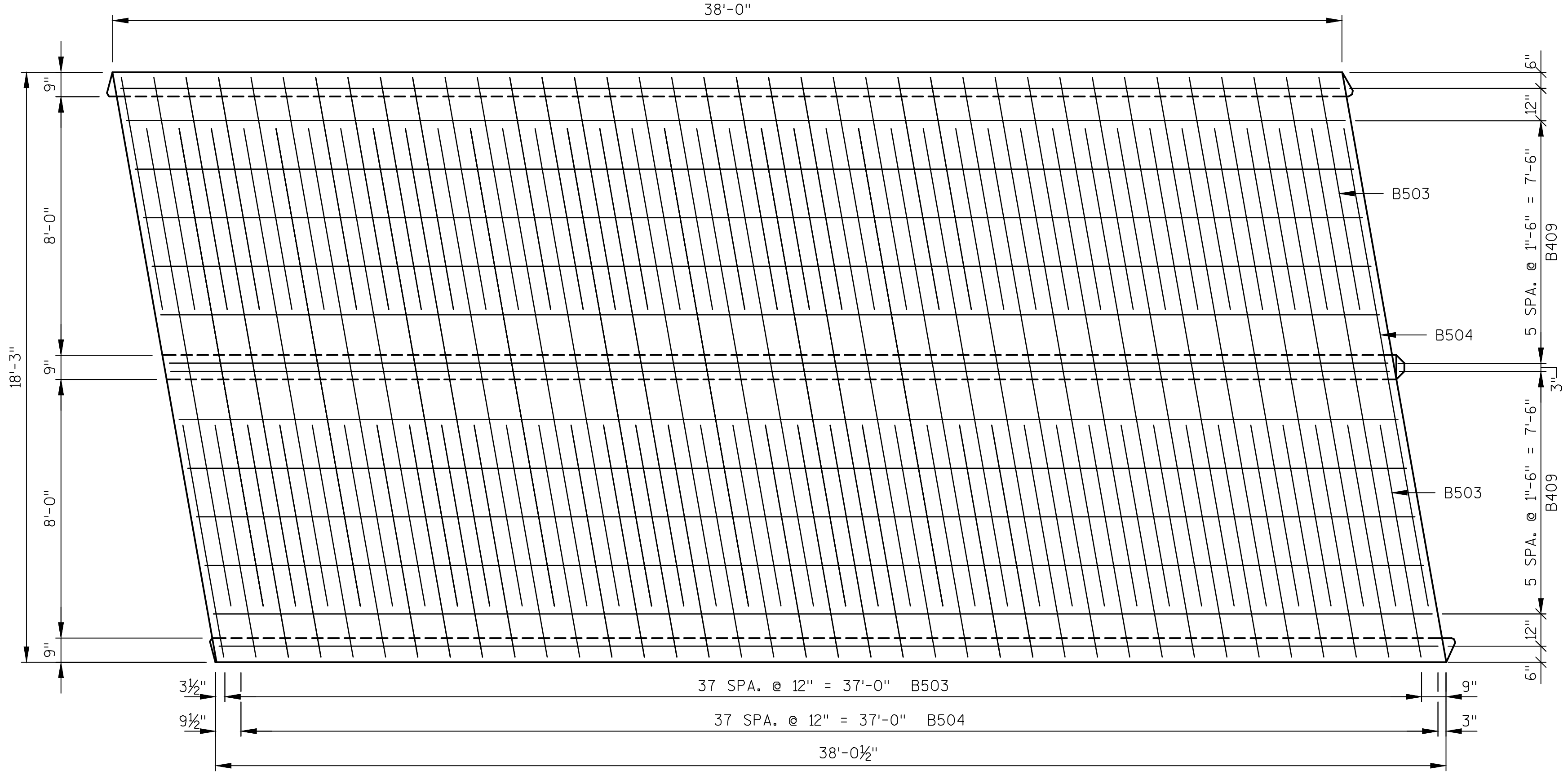
PLOT DATE : 7/29/2015
PLOT TIME : 1:57:36 PM

PLOT BY : BOLAND, PATRICK

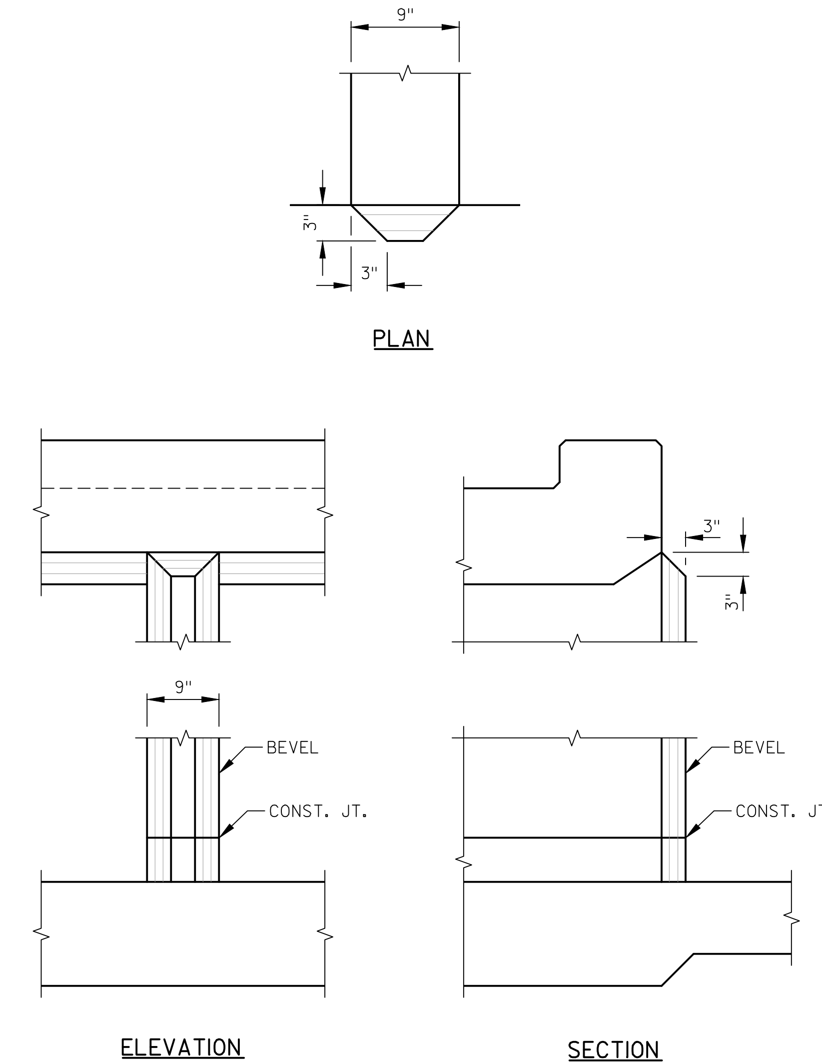
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

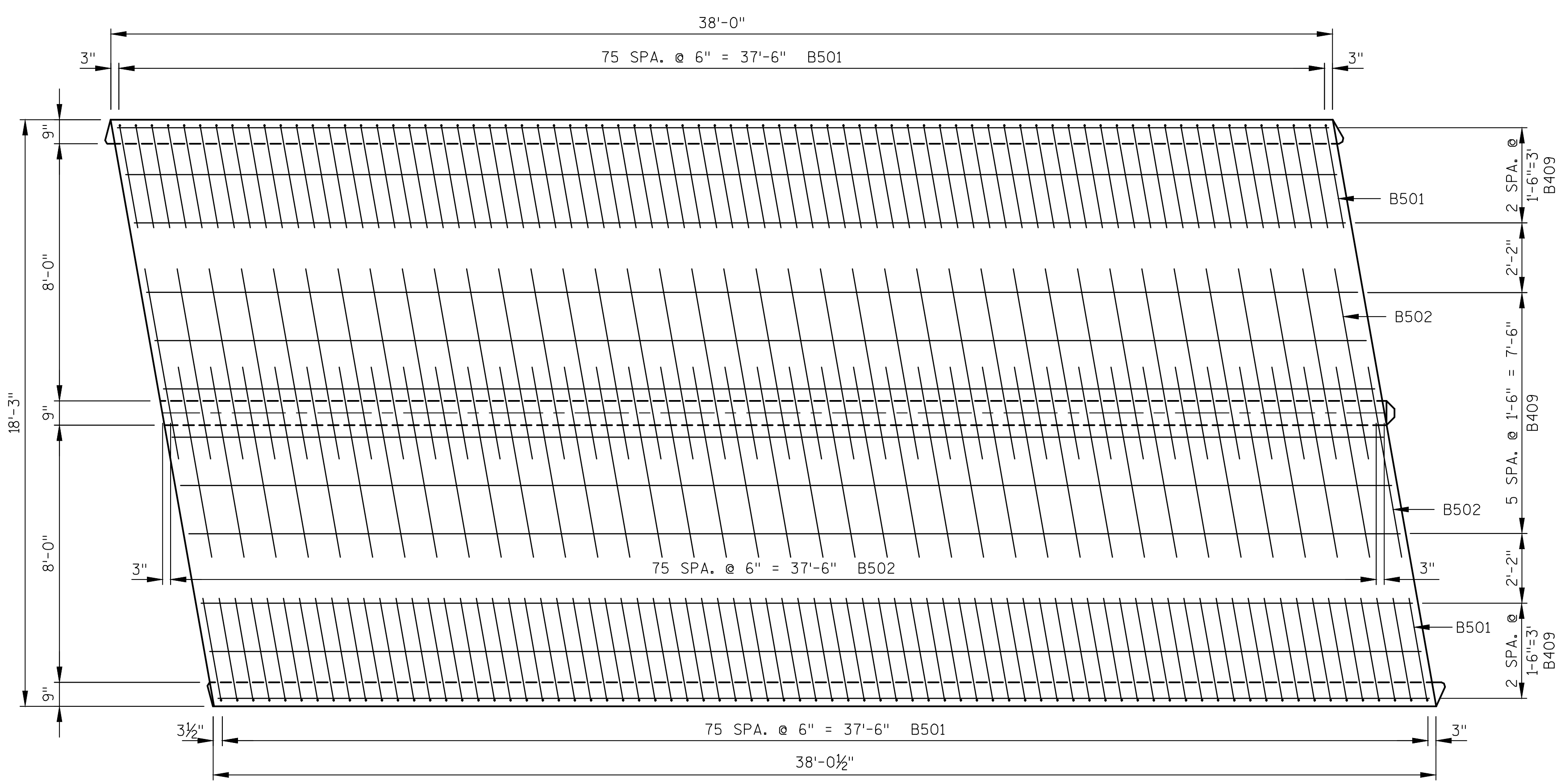
1661-05-78



TOP AND BOTTOM SLAB INSIDE STEEL



INLET NOSE CENTERWALL DETAILS



TOP AND BOTTOM SLAB OUTSIDE STEEL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-12-0167

DRAWN BY RBH PLANS CK'D. PTB

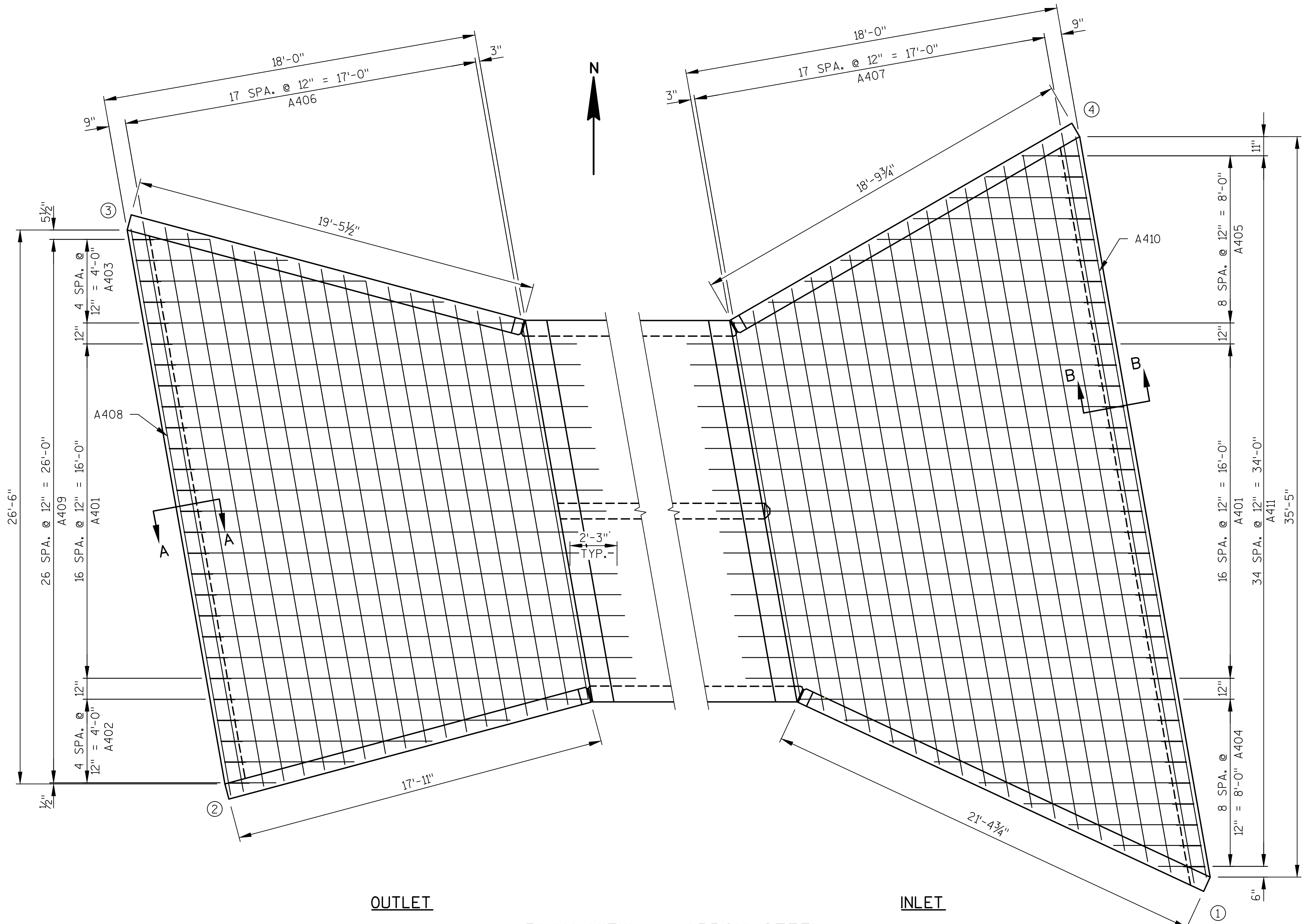
BOTTOM & TOP INSIDE & OUTSIDE STEEL

SHEET 4 OF 7

8

FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\C-12-0167 (DRIVEWAY A)\C-12-0167_BOTTOM SLAB INSIDE STEEL-WALL STEEL.DWG
LAYOUT : BOTTOM SLAB INSIDE STEEL-WALL STEEL
PLOT DATE : 7/29/2015
PLOT TIME : 1:57:43 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

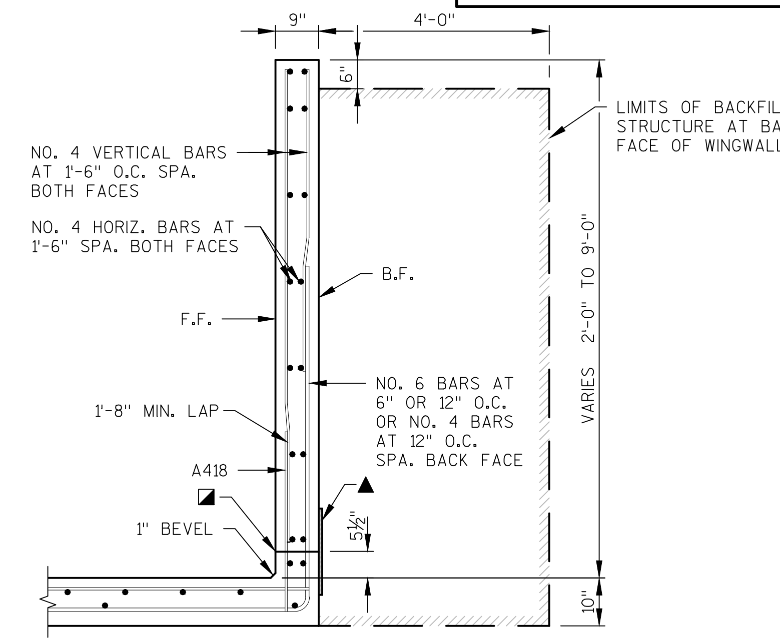
STATE PROJECT NUMBER
1661-05-78



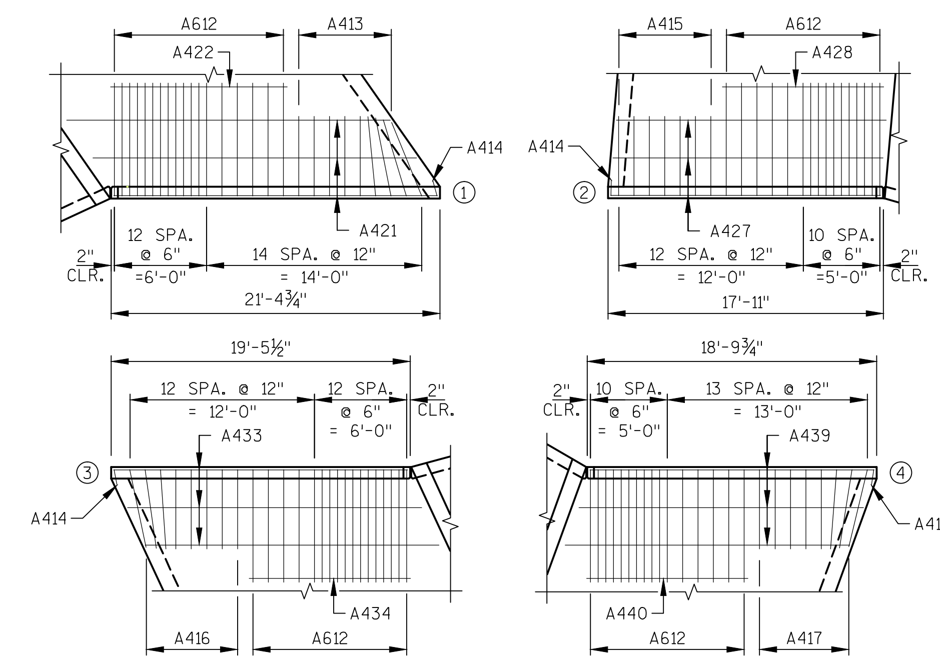
OUTLET

INLET

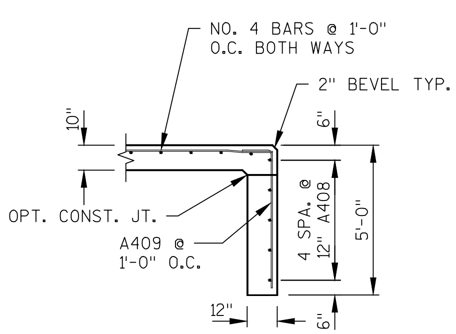
PLAN VIEW - APRON STEEL



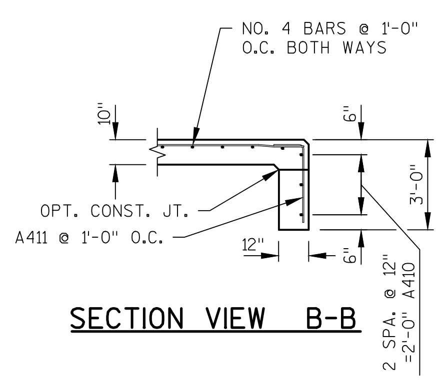
SECTION THROUGH WINGS



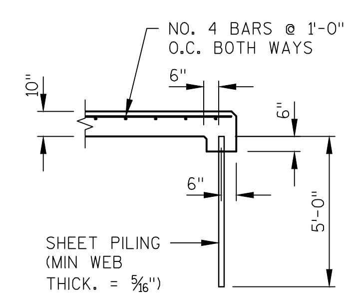
APRON BOTTOM STEEL



SECTION VIEW A-A



SECTION VIEW B-B



ALTERNATE CUT-OFF WALL

THE ABOVE ALT. MAY BE USED IN LIEU OF THE CAST-IN-PLACE CONC CUT-OFF WALL. PAYMENT WILL BE BASED ON THE CONC. CUT OFF WALL.

NOTES

SEE SHEET 7 FOR BILL OF BARS

LEGEND

▲ 18" RUBBERIZED MEMBRANE WATER-PROOFING. PLACE ALONG HORIZONTAL CONSTRUCTION JOINT FOR ENTIRE WING LENGTH. (TYP.)

◪ KEYED HORIZONTAL CONSTRUCTION JOINT FORMED WITH BEVELED 2X6 LOCATED 5½" ABOVE FLOOR OF APRON.

① INDICATES WING NUMBER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-12-0167

DRAWN BY RBH PLANS CK'D. PTB

APRON DETAILS

SHEET 5 OF 7

8

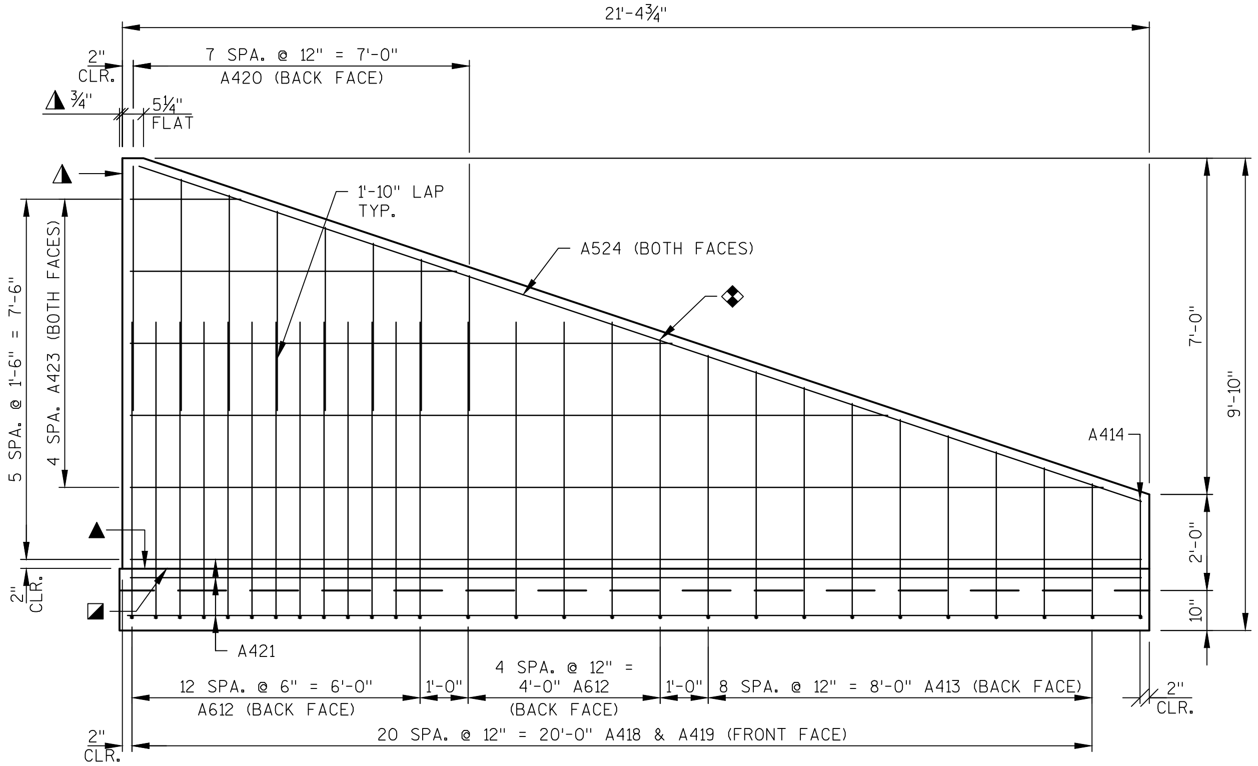
8

FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\C-12-0167 (DRIVEWAY A)\C-12-0167_03_ APRON DETAILS.DWG
LAYOUT : APRON DETAILS

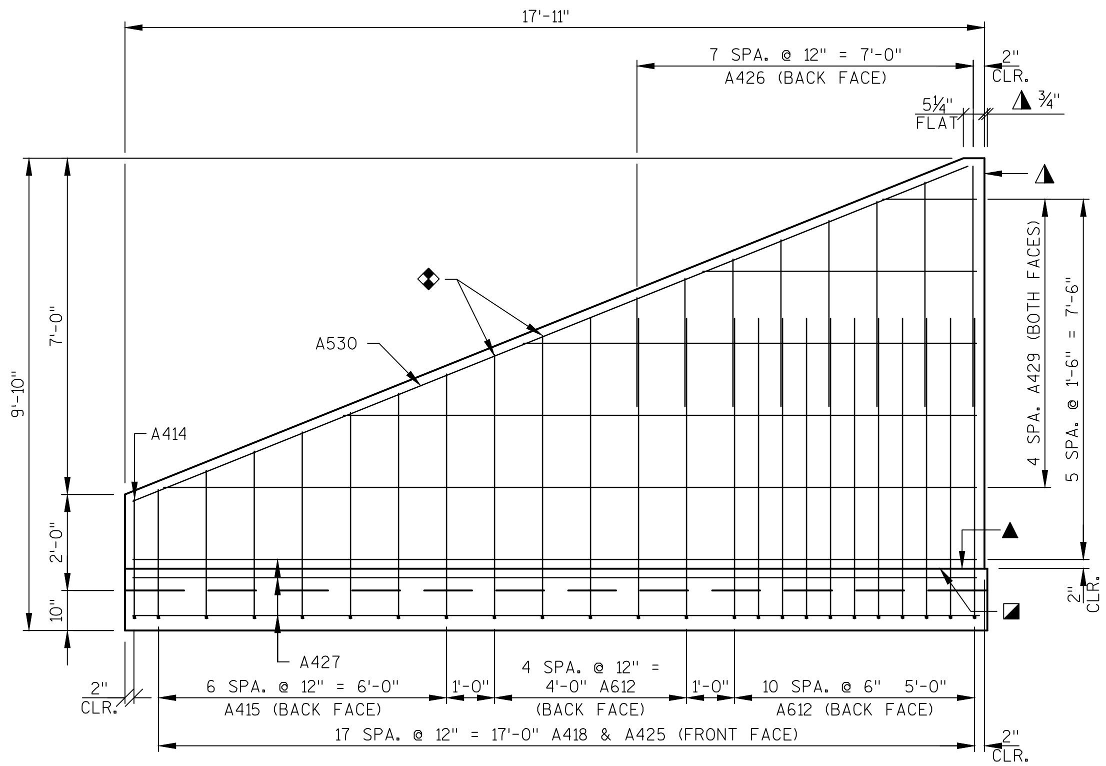
PLOT DATE : 7/29/2015
PLOT TIME : 1:57:52 PM

PLOT BY : BOLAND, PATRICK

PLOT SCALE : 1" = 1'



WING WALL 1



WING WALL 2

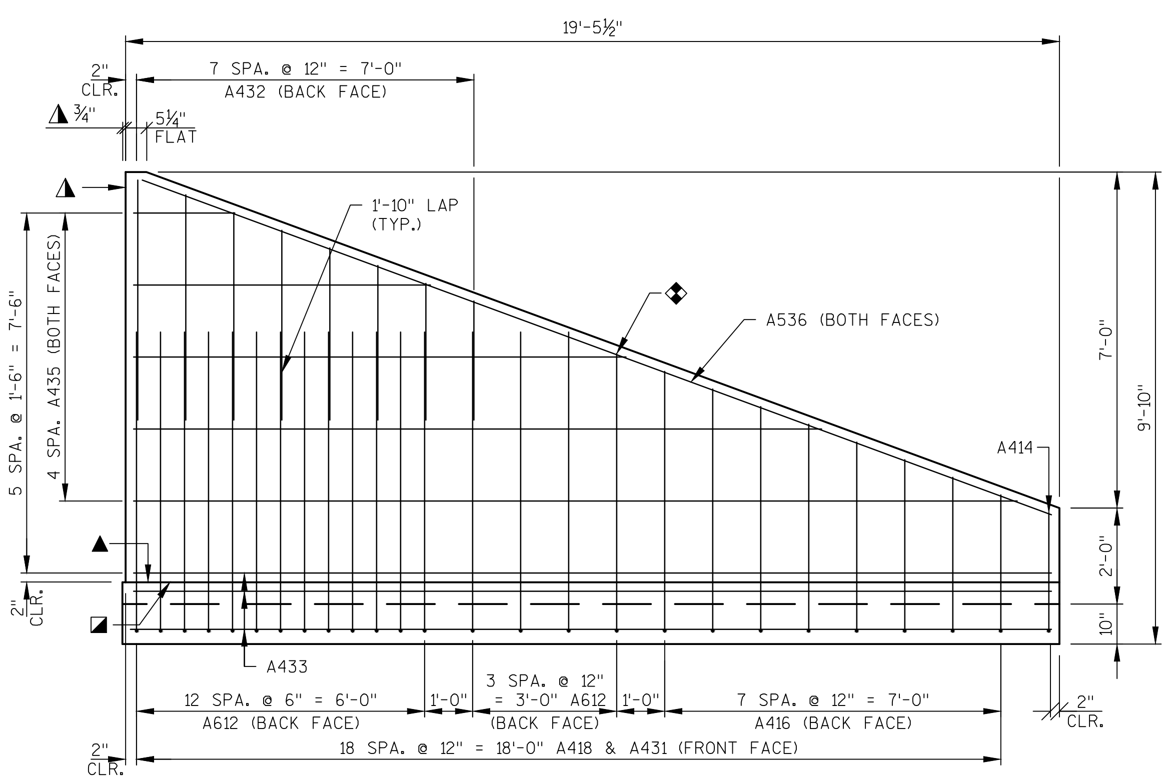
NOTES

SEE SHEET 7 FOR BILL OF BARS

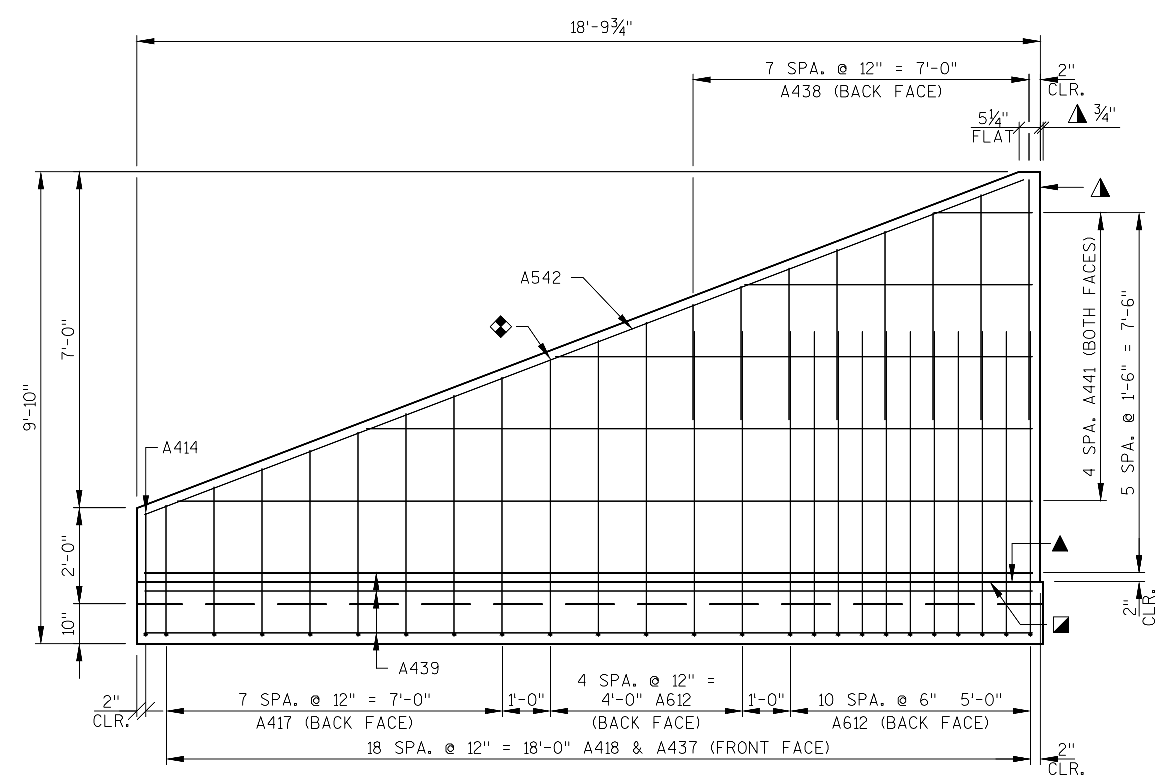
LEGEND

- ▲ 18" RUBBERIZED MEMBRANE WATER-PROOFING. PLACE ALONG HORIZONTAL CONSTRUCTION JOINT FOR ENTIRE WING LENGTH. (TYP.)
- ◪ HORIZONTAL CONSTRUCTION JOINT LOCATED 5½" ABOVE FLOOR OF APRON.
- ◈ TRIM BAR IN FIELD TO CLEAR END OF WALL BY 2" MIN.
- ◭ ¾" FILLER & 18" RUBBERIZED MEMBRANE WATER-PROOFING. EXTEND FROM HORIZ. CONST. JT. TO TOP OF WING WALL.

8



WING WALL 3



WING WALL 4

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-12-0167

DRAWN BY RBH | PLANS CK'D. PTB

WING WALL DETAILS

FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\C-12-0167 (DRIVEWAY A)\C-12-0167_06 WING-WALL DETAILS.DWG
LAYOUT : WINGWALL DETAILS

PLOT DATE : 7/29/2015
PLOT TIME : 1:58:00 PM

PLOT BY : BOLAND, PATRICK

PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

1661-05-78

BILL OF BARS
BARREL — 8,780 LB (UNCOATED)

BAR MARK	NO. REQ'D.	LENGTH	BEND "D"	COAT	BAR SERIES	LOCATION
B501	304	8-10	3-3			WALLS - EXT. - VERT. - BOTTOM
B502	76	6-0				BOTTOM - TOP - SLAB - OUTSIDE
B503	76	7-4				BOTTOM - TOP - SLAB - INSIDE
B504	38	15-0				BOTTOM - TOP - SLAB - INSIDE
B405	78	2-10				WALL - EXT. - VERT. - BOTTOM
B406	78	8-2				WALLS - EXT. - VERT. - TOP
B507	102	3-2				WALLS - INT. - VERT. - BOTTOM
B508	102	9-0	1-0			WALLS - INT. - VERT. - TOP
B409	94	37-8				WALLS - HORZ. - TOP & BOT. - OUTSIDE
B310	25	2-6	■			HEADER - OUTLET - STIRRUPS
B311	25	2-3	■			HEADER - INLET - STIRRUPS
B412	4	18-2				HEADER - HORIZ.

BILL OF BARS
APRON — 1,710 LB (COATED) 2,760 LB (UNCOATED)

BAR MARK	NO. REQ'D.	LENGTH	BEND "D"	COAT	BAR SERIES	LOCATION
A401	34	20-4				APRONS - TOP
A402	5	10-1			*	APRON - TOP - TRANS. - OUTLET
A403	5	10-9			*	APRON - TOP - TRANS. - OUTLET
A404	9	10-0			*	APRON - TOP - INLET
A405	9	10-4			*	APRON - TOP - INLET
A406	18	23-0			*	APRON - TOP - OUTLET
A407	18	27-4			*	APRON - TOP - INTLET
A408	5	27-6				CUT OFF WALL - HORIZ. - OUTLET
A409	27	5-6	1-0			CUT OFF WALL - VERT. - OUTLET
A410	3	36-0				CUT OFF WALL - HORIZ. - INLET
A411	35	3-6	1-0			CUT OFF WALL - VERT. - INLET
A612	67	13-4	7-4	X		WING WALLS - VERT. - B.F.
A413	9	9-3	5-2	X	*	WING WALL 1 - VERT. - B.F.
A414	4	5-10	■	X		WING WALLS - VERT. - END
A415	7	8-11	5-2	X	*	WING WALL 2 - VERT. - B.F.
A416	8	9-2	5-2	X	*	WING WALL 3 - VERT. - B.F.
A417	8	9-2	5-2	X	*	WING WALL 4 - VERT. - B.F.
A418	77	3-0		X		WING WALLS - VERT. - F.F. - BOTTOM
A419	21	4-10			*	WING WALL 1 - VERT. - F.F. - TOP
A420	8	4-0			*	WING WALL 1 - VERT. - B.F. - TOP
A421	7	21-0				WING WALL 1 - HORZ. - BOT.
A422	1	11-6				APRON - BOTTOM - WING 1
A423	10	11-3			*	WING WALL 1 - HORZ.
A524	2	22-0				WING WALL 1 - HORZ. - TOP
A425	18	4-9			*	WING WALL 2 - VERT. - F.F. - TOP
A426	8	3-8			*	WING WALL 2 - VERT. - B.F. - TOP
A427	7	17-6				WING WALL 2 - HORIZ. - BOT.
A428	1	10-6				APRON - BOTTOM - WING 2
A429	10	9-5			*	WING WALL 2 - HORIZ.
A530	2	18-8				WING WALL 2 - TOP
A431	19	4-11			*	WING WALL 3 - VERT. - F.F.
A432	8	3-9			*	WING WALL 3 - VERT. - B.F. - TOP
A433	7	19-1				WING WALL 3 - HORIZ. - BOT.
A434	1	10-6				APRON - BOTTOM - WING 3
A435	10	10-3			*	WING WALL 3 - HORIZ.
A536	2	20-2				WING WALL 3 - TOP
A437	19	4-10			*	WING WALL 4 - F.F.
A438	8	3-10			*	WING WALL 4 - B.F.
A439	7	18-5				WING WALL 4 - HORIZ. - BOT.
A440	1	10-6				APRON - BOTTOM - WING 4
A441	10	9-11			*	WING WALL 4 - HORIZ.
A542	2	19-7				WING WALL 4 - TOP.

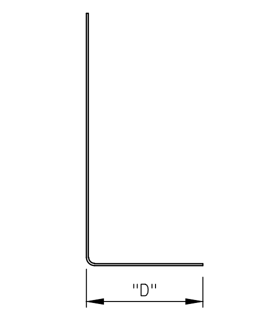
NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

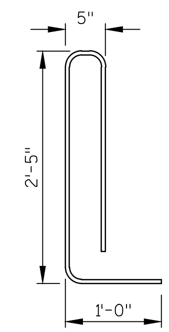
THE DIMENSION IN THE BEND COLUMN ("D") IS THE OUT TO OUT HORIZONTAL LEG OF AN "L" SHAPED BAR. SEE TYPICAL BENDING DETAIL ON THIS SHEET.

* LENGTH SHOWN FOR BARS IN AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

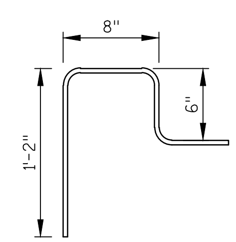
■ SEE BENDING DETAILS.



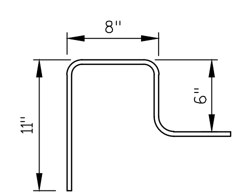
TYP. BENDING DETAIL



A414



B310

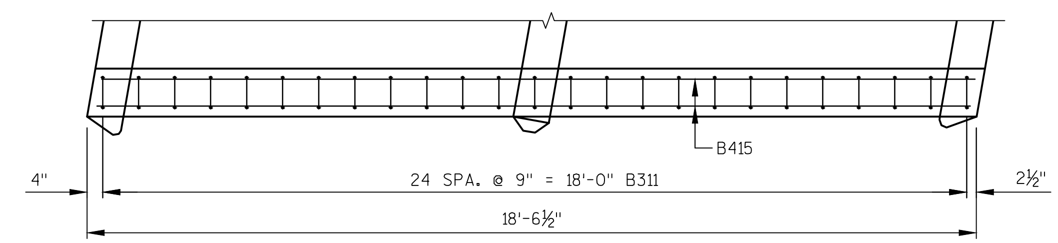


B311

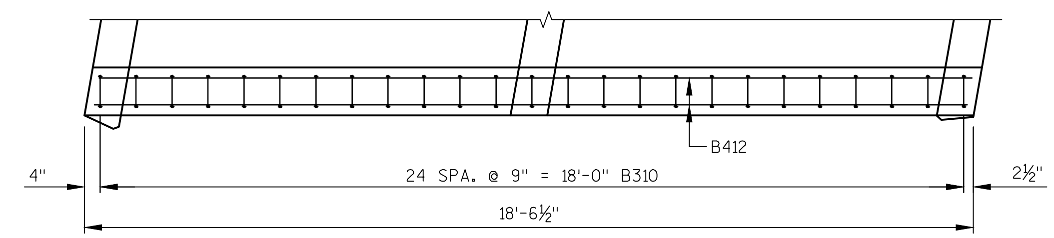
BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
A402	1 SERIES OF 5	17-11 TO 2-3
A403	1 SERIES OF 5	17-10 TO 3-8
A404	1 SERIES OF 9	17-10 TO 2-2
A405	1 SERIES OF 9	18-0 TO 2-8
A406	1 SERIES OF 18	27-8 TO 18-4
A407	1 SERIES OF 18	36-4 TO 18-4
A413	1 SERIES OF 9	10-7 TO 7-11
A415	1 SERIES OF 7	10-1 TO 7-9
A416	1 SERIES OF 8	10-5 TO 7-11
A417	1 SERIES OF 8	10-6 TO 7-10
A419	1 SERIES OF 21	8-2 TO 1-6
A420	1 SERIES OF 8	5-2 TO 2-10
A423	2 SERIES OF 5	20-3 TO 2-3
A425	1 SERIES OF 18	8-2 TO 1-4
A426	1 SERIES OF 8	5-0 TO 2-4
A429	2 SERIES OF 5	16-11 TO 1-11
A431	1 SERIES OF 19	8-2 TO 1-8
A432	1 SERIES OF 8	5-0 TO 2-6
A435	2 SERIES OF 5	18-5 TO 2-1
A437	1 SERIES OF 19	8-3 TO 1-5
A438	1 SERIES OF 8	5-2 TO 2-6
A441	2 SERIES OF 5	17-9 TO 2-1

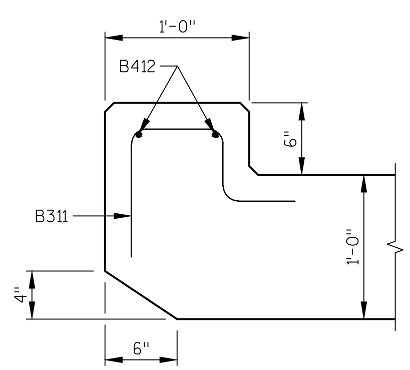
BUNDLE AND TAG EACH SERIES SEPARATELY.



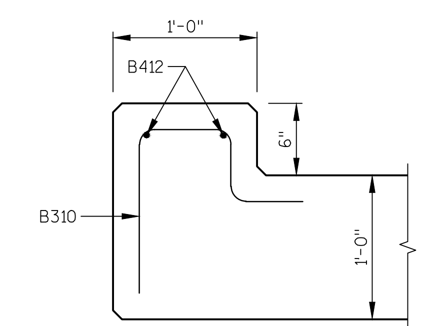
HEADER PLAN VIEW - INLET



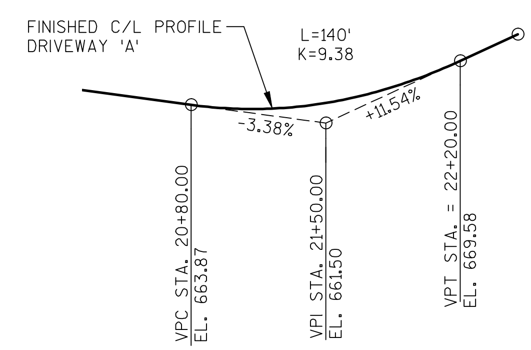
HEADER PLAN VIEW - OUTLET



INLET TOP HEADER



OUTLET TOP HEADER



DRIVEWAY 'A' PROFILE GRADE LINE

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

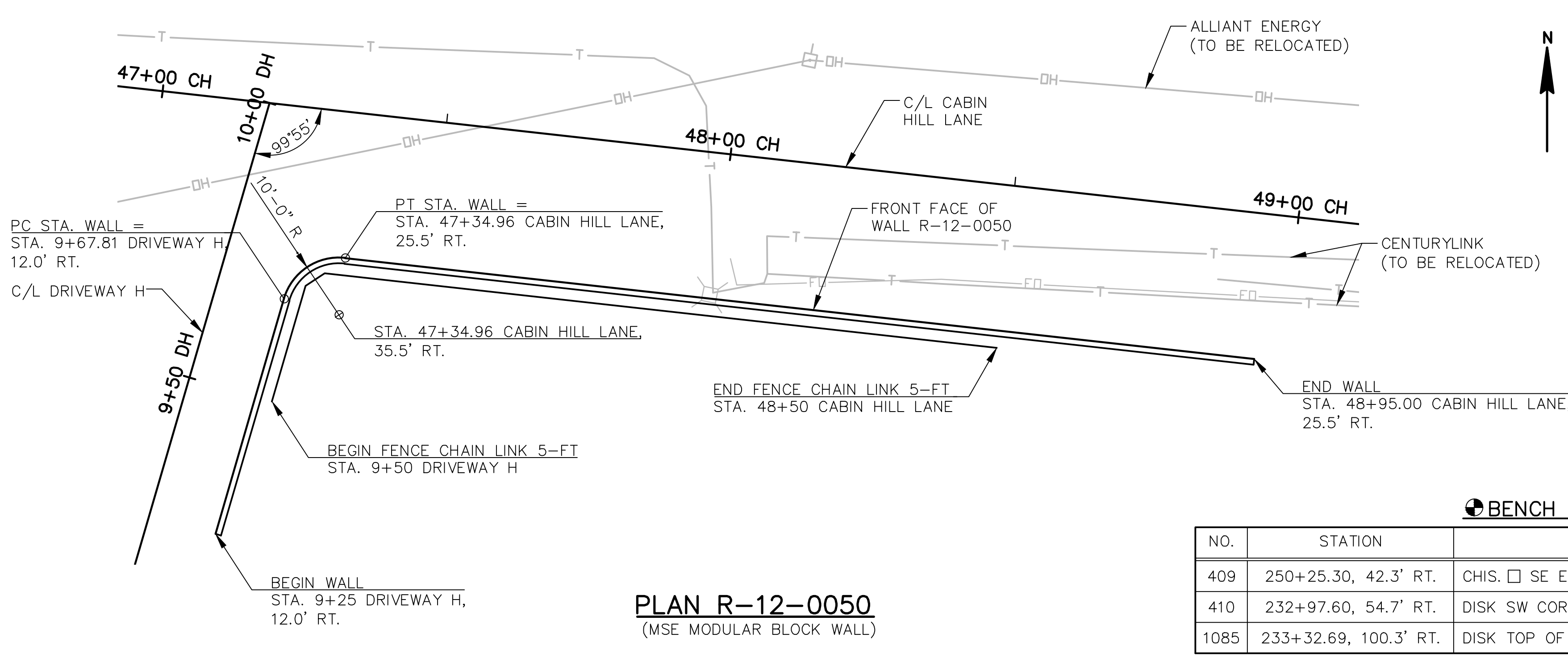
STRUCTURE C-12-0167

DRAWN BY RBH PLANS CK'D. PTB

DETAILS

SHEET 7 OF 7

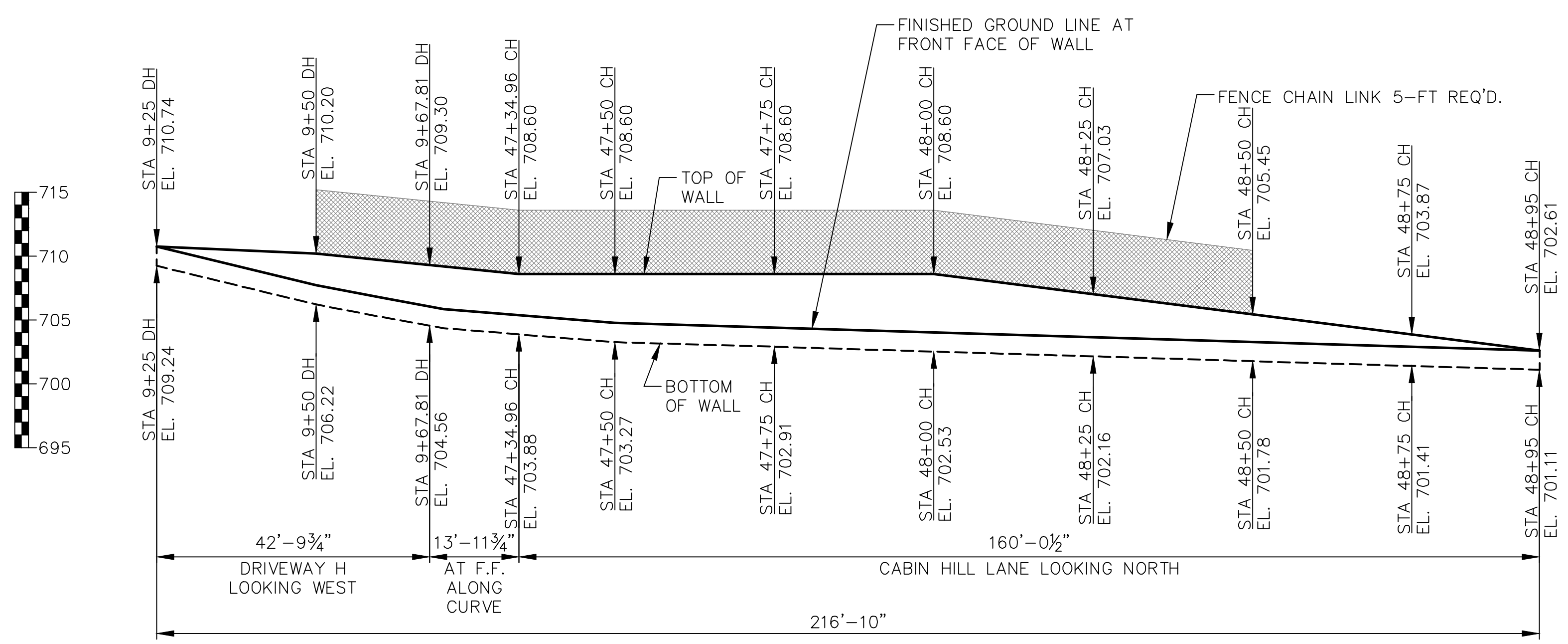
FILE NAME : S:\PROJECTS\C09020 CBS SQUARED INC USH 18 SURVEY\STRUCTURE\CAD FILES\FINALS\C-12-0167 (DRIVEWAY A)\C-12-0167_09_DETAILS.DWG
LAYOUT : LAYOUT
PLOT DATE : 7/29/2015
PLOT TIME : 1:58:14 PM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'



PLAN R-12-0050
(MSE MODULAR BLOCK WALL)

BENCH MARKS

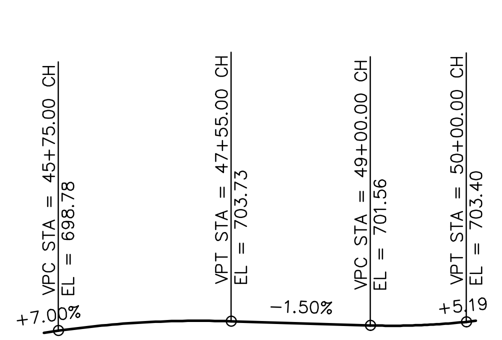
NO.	STATION	DESCRIPTION	ELEV.
409	250+25.30, 42.3' RT.	CHIS. □ SE END RET. WALL, 2ND ROW UP	721.00
410	232+97.60, 54.7' RT.	DISK SW COR. OF BOX C-12-00-49	665.94
1085	233+32.69, 100.3' RT.	DISK TOP OF PARAPET, N COR. BOX CULV.	668.04



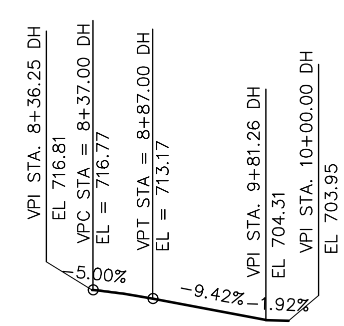
ELEVATION
LOOKING AT BACK FACE OF WALL

GEOMETRY TABLE

R/L STATION	R/L OFFSET TO F.F.	TOP OF WALL EL.	BOT. OF WALL EL.	FINSIHED G.L. @ F.F. OF WALL	WALL LENGTH
9+25 DH	12.0'	710.74	709.24	710.74	---
9+50 DH	12.0'	710.20	706.22	707.72	25'-0"
9+67.81 DH	12.0'	709.30	704.56	706.06	17'-9¾"
47+34.96 CH	25.5'	708.60	703.88	705.38	13'-11¾"
47+50 CH	25.5'	708.60	703.27	704.77	15'-0½"
47+75 CH	25.5'	708.60	702.91	704.41	25'-0"
48+00 CH	25.5'	708.60	702.53	704.03	25'-0"
48+25 CH	25.5'	707.03	702.16	703.66	25'-0"
48+50 CH	25.5'	705.45	701.78	703.28	25'-0"
48+75 CH	25.5'	703.87	701.41	702.91	25'-0"
48+95 CH	25.5'	702.61	701.11	702.61	20'-0"



PROFILE GRADE LINE
CABIN HILL LANE



PROFILE GRADE LINE
DRIVEWAY H

DESIGN DATA

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH LRFD".

PLANS, ELEVATIONS AND DETAILS SHOWN IN THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN ON THIS SHEET.

DESIGN RETAINING WALL TO PROVIDE FOR FINISHED GRADE SLOPED BEHIND WALL AS SHOWN.

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 100 PSF.

ALLOWABLE WALL SYSTEMS

M.S.E. MODULAR BLOCK WALL.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BLOCK SHALL HAVE A STRAIGHT SPLIT FACE.

COLOR SELECTION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

LIST OF DRAWINGS

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	UNIT	TOTALS
616.0205	FENCE CHAIN LINK 5-FT	LF	150
SPV.0165.01	WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH LRFD	SF	940

WISCONSIN PATRICK T. BOLAND E-36303 SPRING GREEN, WIS. PROFESSIONAL ENGINEER
Patrick Boland 10-19-15

DESIGN CONSULTANT
PATRICK BOLAND, PE
(608) 588-7484

BRIDGE OFFICE CONTACT
WILLIAM DREHER, PE
(608) 266-8489

NO.	DATE	REVISION	BY

JEWELL associates engineers, inc.
Engineers - Surveyors - Architects
560 SUNRISE DRIVE
SPRING GREEN, WI 53588
PHONE: (608) 588-7484
FAX: (608) 588-9322

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 10/19/15
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE R-12-0050
RETAINING WALL AT CABIN HILL LANE

COUNTY CRAWFORD | TOWN/~~CITY~~/~~VILLAGE~~ BRIDGEPORT
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS
DESIGNED BY DJT | DESIGN CK'D. RBH | DRAWN BY PTB | PLANS CK'D. RBH

GENERAL PLAN

SHEET 1 OF 3

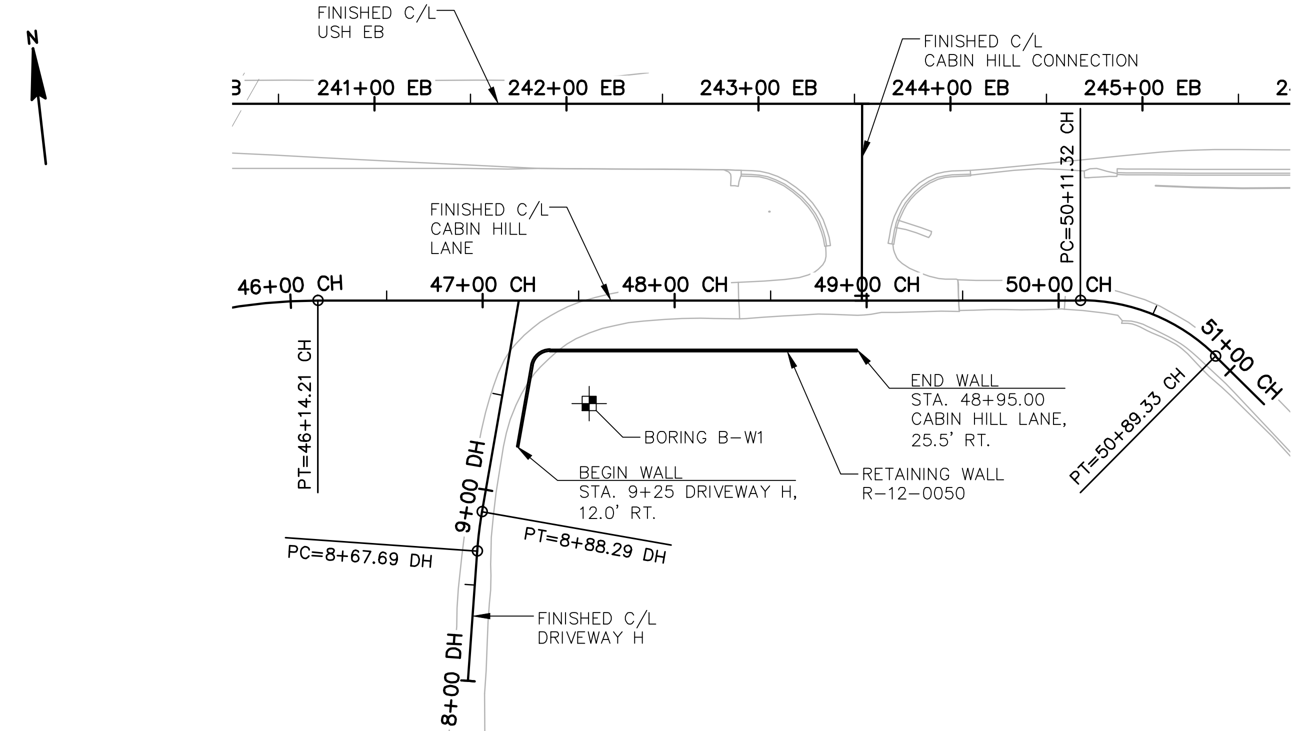
8

8

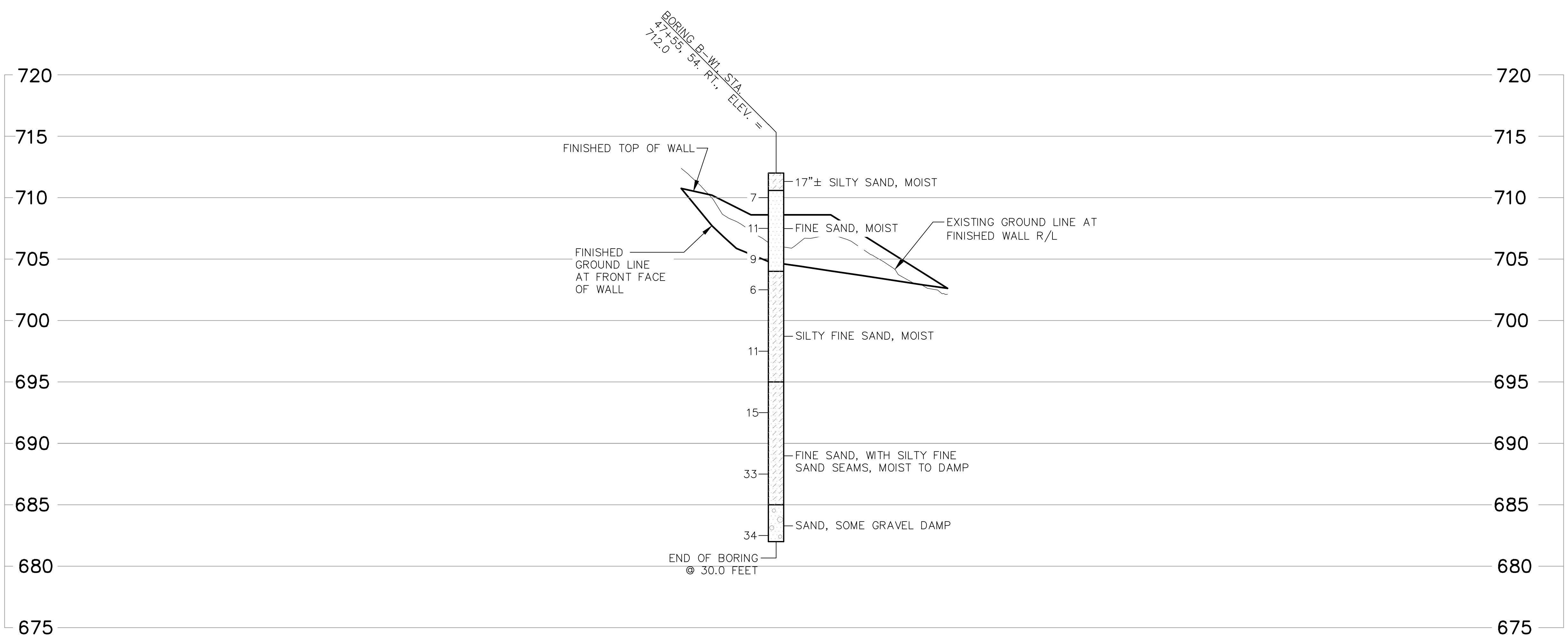
SOIL BORINGS

BY: MIDWEST ENGINEERING SERVICES
821 CORPORATE COURT, STE 102
WAUKESHA, WI 53189

ON: JULY 16, 2014



PLAN R-12-0050



STATE PROJECT NUMBER

1661-05-78

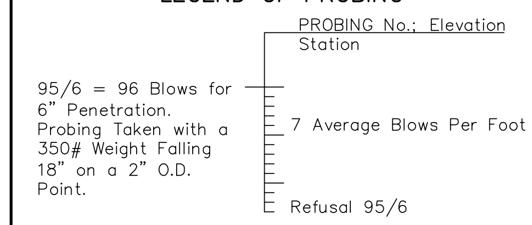
ABBREVIATIONS

F-Fine M-Medium C-Course
Ws-Weathered So-Sound

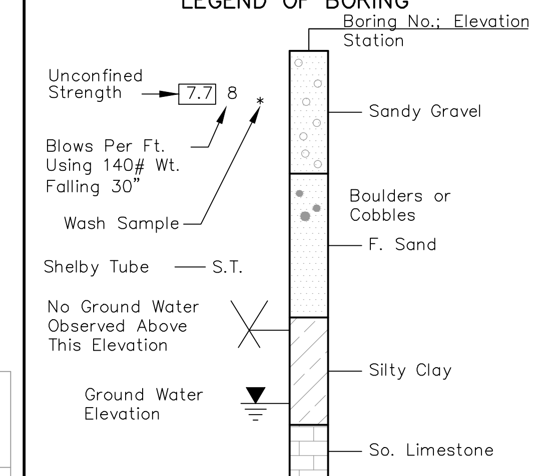
MATERIAL SYMBOLS

Asphalt	Silt	Sandstone
Sand	Peat	Limestone
Gravel	Clay	Igneous Rock

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-12-0050

DRAWN BY TMS PLANS CK'D. RBH

SUBSURFACE EXPLORATION

SHEET 2 OF 3

8

8

TABLE 1: SOIL PARAMETERS

SOIL DESCRIPTION	FRICTION ANGLE (DEGREES)	COHESION (PSF)	UNIT WEIGHT (PCF)
GRANULAR BACKFILL (REINFORCING ZONE OR BACKFILL)	30°	0	120
* RETAINED SOIL OR VIRGIN CUT (FINE SAND/SILTY FINE SAND)	29°	0	110
FOUNDATION SOILS (FINE SANDS/SILTY FINE SAND)	29°	0	110

* DESIGN WALL FOR THESE VALUES

TABLE 2: RESULTS OF MSE WALL EXTERNAL STABILITY EVALUATION

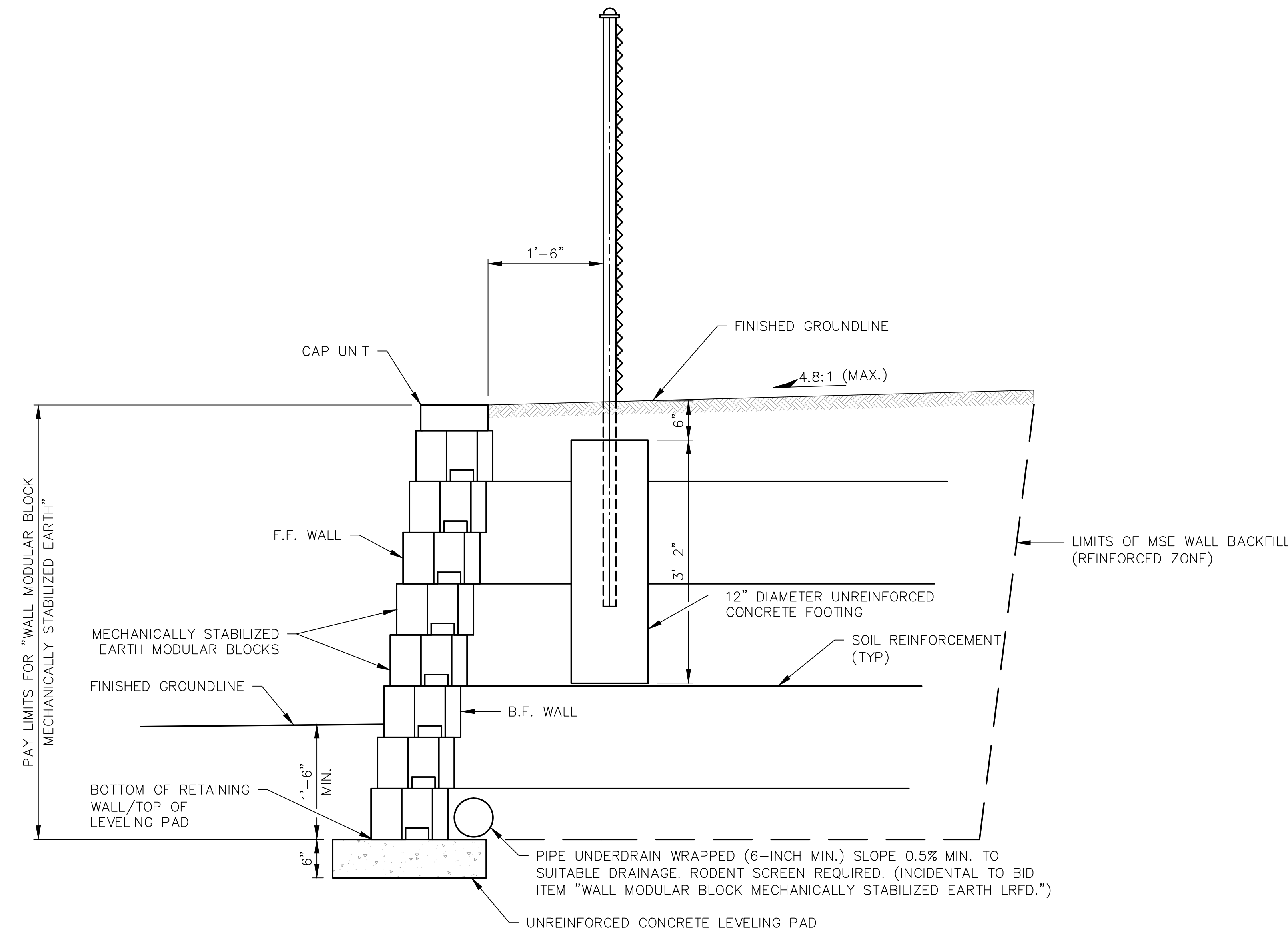
DIMENSIONS	
WALL HEIGHT (FEET)	6.1
EXPOSED WALL HEIGHT (FEET)	4.6
LENGTH OF REINFORCEMENT (FEET)	6
WALL STATION	48+00/48+50
BORING USED	B-W1
CAPACITY: DEMAND RATIO (CDR)	
GLOBAL (OVERALL) STABILITY (>1.0)	1.42
BEARING (>1.0)	5.16
SLIDING (>1.0)	1.68
ECCENTRICITY (>1.0)	2.53

NOTE:
1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 1.5 FEET
2. CDR VALUES ARE PRESENTED IN CHAPTER 14 OF THE WISDOT BRIDGE MANUAL

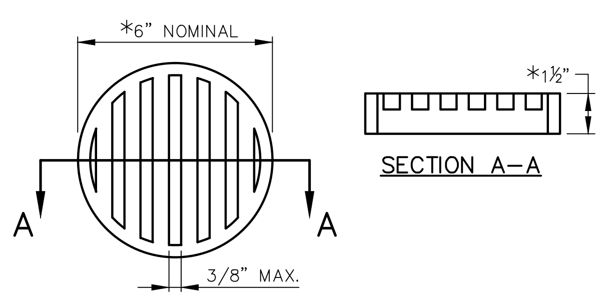
THE CRITICAL CROSS SECTION EVALUATED IN THE ANALYSIS WAS A COMPOSITE SECTION INCLUDING GEOMETRY FROM BOTH THE SECTIONS AT STATIONS 48+00 AND 48+50, BASED UPON THE TALLEST WALL HEIGHT OF 6.1 FEET AND THE STEEPEST SLOPE BEHIND THE WALL OF 4.8 HORIZONTAL TO 1 VERTICAL.

THE FOLLOWING ASSUMPTIONS ARE ALSO INCLUDED IN THE ANALYSIS:

1. THE MINIMUM EMBEDMENT DEPTH IS 1.5 FEET
2. THE LENGTH OF REINFORCEMENT WAS ASSUMED TO BE 6 FEET
3. A SURCHARGE LOAD OF 100 PSF IS INCLUDED IN THE MODEL
4. THE GLOBAL STABILITY FACTOR CDR WAS DETERMINED USING THE ANALYSIS SOFTWARE STEDwin



NOTE: CUT HOLES IN THE GEOGRID AROUND POST FOOTINGS.



RODENT SCREEN

NOTES:
*DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

ORIENT SCREEN SO SLOTS ARE VERTICAL.

THE RODENT SCREEN, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH LRFD."

THE RODENT SCREEN SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SCREEN TO THE EXPOSED ENDS OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-12-0050

DRAWN BY DJT | PLANS CK'D. RBH

WALL DETAILS

SHEET 3 OF 3

USH 18 STAGE 1A (TEMP CROSSOVERS)

STATION	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.30	Mass Ordinate Note 8
STAGE 1A							
197+59	12.2	0.0	0	0	0	0	0
199+00	18.0	0.0	79	0	79	0	79
200+00	18.0	0.0	67	0	146	0	146
201+00	16.1	0.0	63	0	209	0	209
202+00	8.7	0.0	46	0	255	0	255
203+00	0.0	0.0	16	0	271	0	271
324+51	13.60	0.00	0	0	0	0	0
326+00	7.40	0.00	58	0	58	0	58
327+00	7.40	0.00	27	0	85	0	85
328+00	6.80	0.00	26	0	112	0	112
328+57	6.80	0.00	14	0	126	0	126
328+58	0.00	0.00	0	0	126	0	126
337+47	0.00	0.00	0	0	0	0	0
338+00	3.90	3.50	4	3	4	4	-1
339+00	4.20	6.00	15	18	19	27	-9
340+00	4.20	8.00	16	26	34	61	-27
341+00	4.40	10.00	16	33	50	104	-54
342+00	4.60	12.00	17	41	67	157	-90
343+00	4.70	12.20	17	45	84	216	-131
344+00	3.40	4.40	15	31	99	256	-156
344+51	0.00	0.00	3	4	102	261	-159

Notes:

1 - Cut	Cut includes Salvaged/Unusable Pavement material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections
3 - Fill	Does not include Unusable Pavement Exc volume
4 - Expanded Marsh Backfill	Will be backfilled with Select Borrow
5 - Expanded EBS	Will be backfilled with Select Borrow
6 - Reduced Marsh in Fill	Reduced Marsh Excavation that can be used in Fill
7 - Reduced EBS in Fill	Reduced EBS Excavation that can be used in Fill
8 - Mass Ordinate	[(Cut + Marsh Exc + EBS) - ((Fill - Reduced Marsh in Fill) - (Reduced EBS in Fill) - Expanded Rock) * Fill Factor)]

USH 18 (STAGE 1B)

STATION	AREA (SF) Cut	AREA (SF) Fill	AREA (SF) Rock Exc	AREA (SF) EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 3	Incremental Vol (CY) (Unadjusted) Rock Exc	Incremental Vol (CY) (Unadjusted) EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.30	Cumulative Vol (CY) Expanded Rock 1.10	Expanded EBS Backfill 1.30 Note 5	Reduced EBS In Fill 0.80 Note 7	Mass Ordinate Note 8
196+50	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	0
197+00	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	0
197+50	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	0
198+00	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	0
198+50	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	0
199+00	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	0
199+50	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	0
200+00	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	0
200+35	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	0
200+50	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	0
201+00	59.0	0.0	0.0	0.0	55	0	0	0	55	0	0	0	0	55
201+24	60.6	0.0	0.0	0.0	53	0	0	0	108	0	0	0	0	108
201+50	60.6	0.0	0.0	0.0	58	0	0	0	166	0	0	0	0	166
202+00	54.5	0.0	0.0	0.0	107	0	0	0	273	0	0	0	0	273
202+50	53.8	0.0	0.0	0.0	100	0	0	0	373	0	0	0	0	373
203+00	48.9	0.0	0.0	0.0	95	0	0	0	468	0	0	0	0	468
203+50	34.6	9.1	0.0	0.0	77	8	0	0	545	11	0	0	0	534
204+00	26.8	219.4	0.0	0.0	57	212	0	0	602	286	0	0	0	316
204+50	26.3	200.0	0.0	0.0	49	388	0	0	651	791	0	0	0	-139
205+00	27.3	223.0	0.0	0.0	50	392	0	0	701	1,300	0	0	0	-599
205+50	26.3	53.8	0.0	0.0	50	256	0	0	751	1,633	0	0	0	-883
205+64	32.0	52.0	0.0	0.0	15	27	0	0	766	1,669	0	0	0	-903
205+89	31.7	188.5	0.0	0.0	29	111	0	0	795	1,814	0	0	0	-1,018
206+00	30.1	266.0	0.0	0.0	13	93	0	0	808	1,934	0	0	0	-1,126
206+16	29.5	278.8	0.0	0.0	18	161	0	0	825	2,144	0	0	0	-1,318
206+50	26.1	289.3	0.0	0.0	35	358	0	0	860	2,609	0	0	0	-1,748
207+18	16.8	101.4	0.0	0.0	54	492	0	0	914	3,248	0	0	0	-2,333
207+83	8.3	254.7	0.0	0.0	30	430	0	0	945	3,807	0	0	0	-2,862
208+50	16.6	122.3	0.0	0.0	126	1,422	0	0	986	4,457	0	0	0	-4,585
208+52	17.2	122.9	0.0	0.0	1	9	0	0	987	4,469	0	0	0	-4,595
208+77	23.1	127.9	0.0	0.0	19	116	0	0	1,006	4,620	0	0	0	-4,728
209+00	26.6	134.1	0.0	0.0	21	112	0	0	1,027	4,765	0	0	0	-4,852
209+02	26.7	134.5	0.0	0.0	2	10	0	0	1,029	4,778	0	0	0	-4,862
209+50	35.9	146.9	0.0	0.0	56	250	0	0	1,085	5,103	0	0	0	-5,132
210+00	42.2	144.5	0.0	0.0	72	270	0	0	1,157	5,454	0	0	0	-5,411
210+50	42.3	142.5	0.0	0.0	78	266	0	0	1,235	5,799	0	0	0	-5,678
211+00	32.1	131.6	0.0	0.0	69	254	0	0	1,304	6,129	0	0	0	-5,939
211+50	14.9	105.9	0.0	0.0	44	220	0	0	1,348	6,415	0	0	0	-6,181
211+85	12.8	63.0	0.0	0.0	18	111	0	0	1,366	6,559	0	0	0	-6,307
213+17	58.0	40.7	0.0	0.0	173	253	0	0	1,539	6,889	0	0	0	-6,464
213+50	37.6	47.1	0.0	0.0	58	53	0	0	1,597	6,958	0	0	0	-6,475
214+00	124.1	85.7	0.0	0.0	150	123	0	0	1,746	7,118	0	0	0	-6,485
214+50	336.1	124.9	0.0	0.0	426	195	0	0	2,173	7,371	0	0	0	-6,312
215+00	328.6	160.8	0.0	0.0	615	265	0	0	2,788	7,715	0	0	0	-6,041
215+50	312.9	215.8	0.0	0.0	594	349	0	0	3,382	8,168	0	0	0	-5,900
216+00	279.7	196.1	0.0	0.0	549	381	0	0	3,931	8,664	0	0	0	-5,847
216+50	303.5	182.9	0.0	0.0	540	351	0	0	4,471	9,120	0	0	0	-5,764
217+00	335.2	152.9	0.0	0.0	591	311	0	0	5,062	9,525	0	0	0	-5,576
217+50	302.0	123.4	0.0	0.0	590	256	0	0	5,652	9,857	0	0	0	-5,319
218+00	270.5	77.2	0.0	0.0	530	186	0	0	6,182	10,099	0	0	0	-5,030
218+50	277.0	41.5	0.0	0.0	507	110	0	0	6,689	10,242	0	0	0	-4,666
219+00	305.8	30.8	0.0	0.0	540	67	0	0	7,229	10,329	0	0	0	-4,214
219+50	324.3	24.9	0.0	0.0	584	52	0	0	7,812	10,396	0	0	0	-3,697
220+00	301.4	24.7	0.0	0.0	579	46	0	0	8,392	10,455	0	0	0	-3,178
220+50	216.7	34.3	0.0	0.0	480	55	0	0	8,871	10,526	0	0	0	-2,769
221+00	145.8	49.7	0.0	0.0	336	78	0	0	9,207	10,628	0	0	0	-2,535
221+50	109.0	81.9	0.0	0.0	236	122	0	0	9,443	10,786	0	0	0	-2,457
222+00	103.1	73.0	0.0	0.0	196	143	0	0	9,639	10,973	0	0	0	-2,447
222+50	6.8	104.0	0.0	0.0	102	164	0	0	9,741	11,186	0	0	0	-2,559
223+00	1.7	137.8	0.0	0.0	8	224	0	0	9,749	11,477	0	0	0	-2,842
223+16	0.7	123.5	0.0	0.0	1	79	0	0	9,749	11,579	0	0	0	-2,943
223+50	0.7	120.2	0.0	0.0	1	152	0	0	9,750	11,777	0	0	0	-3,140
224+00	8.7	121.9	0.0	0.0	9	224	0	0	9,759	12,068	0	0	0	-3,423
224+50	0.3	157.0	0.0	0.0	8	258	0	0	9,767	12,404	0	0	0	-3,750
225+00	0.2	163.2	0.0	0.0	1	296	0	0	9,768	12,789	0	0	0	-4,135
225+50	0.0	175.8	0.0	0.0	0	314	0	0	9,768	13,198	0	0	0	-4,543
226+00	0.0	195.0	0.0	0.0	0	343	0	0	9,768	13,644	0	0	0	-4,990
226+50	0.1	187.3	0.0	0.0	0	354	0	0	9,768	14,104	0	0	0	-5,450
227+00	0.0	186.4	0.0	0.0	0	346	0	0	9,768	14,554	0	0	0	-5,899
227+50	175.5	279.9	0.0	0.0	163	432	0	0	9,931	15,115	0	0	0	-6,298
228+00	81.2	378.1	0.0	0.0	238	609	0	0	10,168	15,907	0	0	0	-6,852
228+50	201.5	446.5	0.0	0.0	262	764	0	0	10,430	16,900	0	0	0	-7,583
229+00	0.0	120.3	0.0	0.0	187	525	0	0	10,617	17,582	0	0	0	-8,079
229+50	253.8	483.1	0.0	0.0	235	559	0	0	10,852	18,308	0	0	0	-8,570
230+00	233.0	524.1	0.0	0.0	451	933	0	0	11,303	19,521	0	0	0	-9,332

9

9

USH 18 (STAGE 1B) (CONTINUED)

STATION	AREA (SF) Cut	Fill	Rock Exc	EBS	Incremental Vol (CY) (Unadjusted) Cut	Fill	Rock Exc	EBS	Cumulative Vol (CY) Cut	Expanded Fill	Expanded Rock	Expanded EBS Backfill	Reduced EBS In Fill	Mass Ordinate
									1.00	1.30	1.10	1.30	0.80	
					Note 1	Note 3			Note 1			Note 5	Note 7	Note 8
230+50	222.9	521.7	0.0	0.0	422	968	0	0	11,725	20,780	0	0	0	-10,169
231+00	243.7	503.6	0.0	0.0	432	949	0	0	12,157	22,014	0	0	0	-10,971
231+50	506.8	472.5	0.0	0.0	695	904	0	0	12,852	23,189	0	0	0	-11,451
232+00	293.0	446.9	0.0	0.0	740	851	0	0	13,592	24,296	0	0	0	-11,817
232+50	60.3	382.4	0.0	0.0	327	768	0	0	13,919	25,294	0	0	0	-12,488
233+00	172.8	91.1	0.0	0.0	216	438	0	0	14,135	25,864	0	0	0	-12,843
233+50	417.3	61.2	0.0	0.0	546	141	0	0	14,681	26,047	0	0	0	-12,480
234+00	1241.6	38.3	0.0	0.0	1,536	92	0	0	16,217	26,167	0	0	0	-11,063
234+50	1013.9	35.1	0.0	0.0	2,088	68	0	0	18,306	26,255	0	0	0	-9,063
235+00	1469.4	35.9	0.0	0.0	2,299	66	0	0	20,605	26,341	0	0	0	-6,849
235+50	1567.9	33.4	0.0	0.0	2,812	64	0	0	23,417	26,424	0	0	0	-4,120
236+00	1669.1	29.8	0.0	0.0	2,997	58	0	0	26,415	26,500	0	0	0	-1,199
236+50	118.0	0.0	1024.3	0.0	1,655	28	948	0	28,069	25,180	1,043	0	0	1,776
237+00	701.0	0.0	998.5	0.0	758	0	1,873	0	28,828	22,501	3,104	0	0	5,213
237+50	237.0	0.0	540.2	37.1	869	0	1,425	34	29,696	20,464	4,671	45	27	8,189
238+00	730.0	0.0	1162.0	38.5	895	0	1,576	70	30,592	18,210	6,404	136	83	11,481
238+50	372.0	0.0	1621.0	38.5	1,020	0	2,577	71	31,612	14,525	9,239	228	141	16,331
239+00	212.0	0.0	1064.7	30.0	541	0	2,487	63	32,153	10,969	11,974	311	191	20,557
239+50	421.2	104.6	0.0	0.0	586	97	986	28	32,739	9,685	13,059	347	213	22,484
240+00	0.0	190.8	0.0	0.0	390	273	0	0	33,129	10,041	13,059	347	213	22,519
240+50	0.0	859.4	0.0	0.0	0	972	0	0	33,129	11,305	13,059	347	213	21,255
241+00	0.0	1310.7	0.0	0.0	0	2,009	0	0	33,129	13,917	13,059	347	213	18,643
241+50	0.0	1451.0	0.0	0.0	0	2,557	0	0	33,129	17,241	13,059	347	213	15,318
242+00	0.0	1458.6	0.0	0.0	0	2,694	0	0	33,129	20,743	13,059	347	213	11,816
242+50	0.0	1399.1	0.0	0.0	0	2,646	0	0	33,129	24,183	13,059	347	213	8,376
243+00	0.0	1292.0	0.0	0.0	0	2,492	0	0	33,129	27,422	13,059	347	213	5,137
244+35	0.7	887.8	0.0	0.0	2	5,434	0	0	33,131	34,487	13,059	347	213	-1,925
244+50	0.9	1044.1	0.0	0.0	0	550	0	0	33,131	35,202	13,059	347	213	-2,640
245+00	13.2	1189.2	0.0	0.0	13	2,068	0	0	33,144	37,890	13,059	347	213	-5,315
245+50	18.4	1472.3	0.0	0.0	29	2,464	0	0	33,174	41,094	13,059	347	213	-8,490
246+00	25.8	188.9	0.0	0.0	41	1,538	0	0	33,215	43,094	13,059	347	213	-10,448
246+50	286.6	44.9	0.0	0.0	289	217	0	0	33,504	43,375	13,059	347	213	-10,441
247+00	291.1	18.2	0.0	45.5	535	58	0	42	34,039	43,451	13,059	402	247	-9,896
247+50	551.5	15.5	0.0	51.0	780	31	0	89	34,819	43,492	13,059	518	319	-8,974
248+00	872.2	12.7	0.0	51.5	1,318	26	0	95	36,137	43,526	13,059	641	395	-7,496
248+50	1510.8	8.6	0.0	52.0	2,206	20	0	96	38,344	43,551	13,059	766	471	-5,120
249+00	1671.0	7.3	0.0	53.0	2,946	15	0	97	41,290	43,570	13,059	892	549	-1,994
249+50	1434.5	5.6	0.0	53.5	2,875	12	0	99	44,165	43,586	13,059	1,020	628	1,067
250+00	796.9	4.1	0.0	54.5	2,066	9	0	100	46,231	43,598	13,059	1,150	708	3,325
250+50	178.0	8.4	0.0	54.5	903	12	0	101	47,134	43,613	13,059	1,282	789	4,419
251+00	24.2	312.8	0.0	26.5	187	297	0	75	47,321	43,999	13,059	1,379	849	4,372
251+50	22.3	696.4	0.0	0.0	43	934	0	25	47,364	45,214	13,059	1,411	868	3,251
252+00	17.8	617.1	0.0	0.0	37	1,216	0	0	47,401	46,795	13,059	1,411	868	1,707
252+14	22.2	565.1	0.0	0.0	11	317	0	0	47,412	47,207	13,059	1,411	868	1,305
252+50	30.1	452.1	0.0	0.0	34	669	0	0	47,447	48,077	13,059	1,411	868	470
252+65	28.0	399.5	0.0	0.0	16	234	0	0	47,463	48,381	13,059	1,411	868	182
253+00	58.0	220.0	0.0	0.0	56	404	0	0	47,519	48,906	13,059	1,411	868	-287
253+50	138.3	74.6	0.0	0.0	182	273	0	0	47,700	49,260	13,059	1,411	868	-460
253+90	229.4	77.8	0.0	0.0	271	112	0	0	47,971	49,406	13,059	1,411	868	-335
254+00	259.5	86.6	0.0	34.1	93	31	0	6	48,064	49,447	13,059	1,419	873	-269
254+50	431.1	15.7	0.0	43.2	639	95	0	72	48,703	49,570	13,059	1,512	931	393
255+00	454.5	32.9	0.0	34.5	820	45	0	72	49,523	49,629	13,059	1,606	988	1,301
255+50	500.2	32.2	0.0	0.0	884	60	0	32	50,407	49,707	13,059	1,648	1,014	2,172
256+00	543.6	28.4	0.0	0.0	967	56	0	0	51,374	49,780	13,059	1,648	1,014	3,066
256+50	485.5	28.2	0.0	0.0	953	52	0	0	52,327	49,848	13,059	1,648	1,014	3,951
257+00	406.7	28.3	0.0	0.0	826	52	0	0	53,153	49,916	13,059	1,648	1,014	4,709
257+50	426.2	42.8	0.0	0.0	771	66	0	0	53,924	50,002	13,059	1,648	1,014	5,394
258+00	264.3	19.7	0.0	0.0	639	58	0	0	54,563	50,077	13,059	1,648	1,014	5,958
258+50	70.9	30.0	0.0	0.0	310	46	0	0	54,874	50,137	13,059	1,648	1,014	6,209
259+00	44.0	210.2	0.0	0.0	106	222	0	0	54,980	50,426	13,059	1,648	1,014	6,026
259+50	42.9	554.8	0.0	0.0	81	708	0	0	55,061	51,347	13,059	1,648	1,014	5,186
260+00	46.7	509.0	0.0	0.0	83	985	0	0	55,144	52,627	13,059	1,648	1,014	3,988
260+50	46.9	248.1	0.0	0.0	87	701	0	0	55,230	53,538	13,059	1,648	1,014	3,164
261+00	93.2	218.7	0.0	0.0	130	432	0	0	55,360	54,100	13,059	1,648	1,014	2,731
261+50	56.7	474.1	0.0	0.0	139	641	0	0	55,499	54,934	13,059	1,648	1,014	2,036
262+00	46.4	835.4	0.0	0.0	95	1,212	0	0	55,594	56,510	13,059	1,648	1,014	556
262+50	47.8	1323.9	0.0	0.0	87	1,999	0	0	55,681	59,110	13,059	1,648	1,014	-1,956
263+00	47.7	1652.3	0.0	0.0	88	2,756	0	0	55,770	62,692	13,059	1,648	1,014	-5,451
263+50	45.3	2020.3	0.0	0.0	86	3,401	0	0	55,856	67,113	13,059	1,648	1,014	-9,785
264+00	66.4	2266.9	0.0	0.0	103	3,970	0	0	55,959	72,273	13,059	1,648	1,014	-14,842
264+50	51.6	2346.2	0.0	0.0	109	4,271	0	0	56,069	77,826	13,059	1,648	1,014	-20,286
265+00	50.5	2386.0	0.0	0.0	95	4,382	0	0	56,163	83,522	13,059	1,648	1,014	-25,888
265+50	53.9	2378.9	0.0	0.0	97	4,412	0	0	56,260	89,258	13,059	1,648	1,014	-31,526
266+00	48.3	2364.7	0.0	0.0	95	4,392	0	0	56,354	94,968	13,059	1,648	1,014	-37,142
266+50	49.7	2311.8	0.0	0.0	91	4,330	0	0	56,445	100,597	13,059	1,648	1,014	-42,680

USH 18 (STAGE 1B) (CONTINUED)

STATION	AREA (SF) Cut	Fill	Rock Exc	EBS	Incremental Vol (CY) (Unadjusted) Cut	Fill	Rock Exc	EBS	Cumulative Vol (CY) Cut	Expanded Fill	Expanded Rock	Expanded EBS Backfill	Reduced EBS In Fill	Mass Ordinate
									1.00	1.30	1.10	1.30	0.80	
					Note 1	Note 3			Note 1			Note 5	Note 7	Note 8
267+00	47.1	2251.4	0.0	0.0	90	4,225	0	0	56,535	106,089	13,059	1,648	1,014	-48,083
267+26	47.3	2153.5	0.0	0.0	45	2,096	0	0	56,580	108,814	13,059	1,648	1,014	-50,763
267+50	45.0	2098.1	0.0	0.0	42	1,914	0	0	56,621	111,302	13,059	1,648	1,014	-53,209
268+00	46.9	2036.3	0.0	0.0	85	3,828	0	0	56,706	116,279	13,059	1,648	1,014	-58,100
268+50	49.9	2033.1	0.0	0.0	90	3,768	0	0	56,796	121,177	13,059	1,648	1,014	-62,909
268+94	50.8	2065.5	0.0	0.0	82	3,327	0	0	56,878	125,502	13,059	1,648	1,014	-67,152
269+50	53.1	1984.7	0.0	0.0	108	4,213	0	0	56,986	130,978	13,059	1,648	1,014	-72,521
270+00	52.6	1819.4	0.0	0.0	98	3,522	0	0	57,084	135,557	13,059	1,648	1,014	-77,002
270+50	13.1	1570.8	0.0	0.0	61	3,139	0	0	57,145	139,638	13,059	1,648	1,014	-81,022
271+00	13.7	1514.1	0.0	0.0	25	2,856	0	0	57,169	143,351	13,059	1,648	1,014	-84,710
271+50	13.9	1416.7	0.0	43.0	26	2,714	0	40	57,195	146,879	13,059	1,699	1,046	-88,131
272+00	20.2	1348.9	0.0	0.0	32	2,561	0	40	57,227	150,208	13,059	1,751	1,078	-91,347
272+50	26.6	1262.0	0.0	0.0	43	2,418	0	0	57,270	153,351	13,059	1,751	1,078	-94,447
273+00	34.2	1221.1	0.0	0.0	56	2,299	0	0	57,326	156,340	13,059	1,751	1,078	-97,379
273+50	12.2	1235.2	0.0	0.0	43	2,274	0	0	57,369	159,296	13,059	1,751	1,078	-100,293
275+00	22.0	1200.7	0.0	0.0	95	6,766	0	0	57,464	168,093	13,059	1,751	1,078	-108,994
275+50	45.9	1241.3	0.0	0.0	63	2,261	0	0	57,527	171,032	13,059	1,751	1,078	-111,871
276+00	43.1	1181.6	0.0	0.0	82	2,243	0	0	57,609	173,949	13,059	1,751	1,078	-114,705
276+50	45.9	1113.2	0.0	0.0	82	2,125	0	0	57,692	176,711	13,059	1,751	1,078	-117,385
277+00	38.2	1022.0	0.0	0.0	78	1,977	0	0	57,769	179,281	13,059	1,751	1,078	-119,877
277+50	43.6	935.1	0.0	0.0	76	1,812	0	0	57,845	181,637	13,059	1,751	1,078	-122,157
278+00	51.0	815.5	0.0	0.0	88	1,621	0	0	57,933	183,744	13,059	1,751	1,078	-124,177
278+50	55.2	651.5	0.0	0.0	98	1,358	0	0	58,031	185,510	13,059	1,751	1,078	-125,844
279+00	54.7	614.3	0.0	0.0	102	1,172	0	0	58,133	187,033	13,059	1,751	1,078	-127,266
279+50	54.4	607.8	0.0	0.0	101	1,132	0	0	58,234	188,504	13,059	1,751	1,078	-128,636
280+00	48.6	582.2	0.0	0.0	95	1,102	0	0	58,329	189,937	13,059	1,751	1,078	-129,973
280+50	44.1	463.2	0.0	0.0	86	968	0	0	58,415	191,195	13,059	1,751	1,078	-131,146
281+00	41.8	357.9	0.0	0.0	80	760	0	0	58,495	192,184	13,059	1,751	1,078	-132,055
281+50	39.5	358.0	0.0	0.0	75	663	0	0	58,570	193,046	13,059	1,751	1,078	-132,841
282+00	37.3	371.4	0.0	0.0	71	675	0	0	58,641	193,924	13,059	1,751	1,078	-133,648
282+50	35.2	348.9	0.0	0.0	67	667	0	0	58,708	194,790	13,059	1,751	1,078	-134,448
283+00	33.3	281.5	0.0	0.0	63	584	0	0	58,772	195,549	13,059	1,751	1,078	-135,144
283+50	38.0	174.1	0.0	0.0	66	422	0	0	58,838	196,098	13,059	1,751	1,078	-135,626
284+00	25.2	66.6	0.0	0.0	59	223	0	0	58,896	196,387	13,059	1,751	1,078	-135,857
284+50	51.4	16.5	0.0	40.1	71	77	0	37	58,967	196,487	13,059	1,799	1,107	-135,811
285+00	80.8	16.9	0.0	40.2	122	31	0	74	59,089	196,528	13,059	1,896	1,167	-135,577
285+50	280.4	10.3	0.0	40.2	334	25	0	74	59,424	196,560	13,059	1,993	1,226	-135,123
286+00	343.2	8.7	0.0	40.2	577	18	0	74	60,001	196,583	13,059	2,090	1,286	-134,417
286+50	374.9	9.1	0.0	40.2	665	16	0	74	60,666	196,605	13,059	2,186	1,345	-133,621
287+00	379.5	9.5	0.0	40.2	699	17	0	74	61,365	196,627	13,059	2,283	1,405	-132,793
288+77	319.7	9.7	0.0	40.2	2,289	63	0	263	63,653	196,709	13,059	2,625	1,615	-130,050
289+00	367.8	12.5	0.0	39.8	296	10	0	34	63,949	196,721	13,059	2,670	1,643	-129,696
289+50	292.8	16.4	0.0	39.5	612	27	0	73	64,561	196,756	13,059	2,765	1,702	-128,969
290+00	218.8	16.3	0.0	41.0	474	30	0	75	65,034	196,795	13,059	2,862	1,761	-128,383
290+50	175.8	22.1	0.0	41.0	365	35	0	76	65,400	196,842	13,059	2,961	1,822	-127,909
291+00	121.5	22.4	0.0	43.6	275	41	0	78	65,675	196,895	13,059	3,063	1,885	-127,528
291+50	44.8	69.2	0.0	0.0	154	85	0	40	65,829	197,005	13,059	3,115	1,917	-127,402
292+00	5.7	134.6	0.0	0.0	47	189	0	0	65,876	197,251	13,059	3,115	1,917	-127,600
292+50	2.3	230.4	0.0	0.0	7	338	0	0	65,883	197,690	13,059	3,115	1,917	-128,032
293+00	0.2	510.8	0.0	0.0	2	686	0	0	65,885	198,582	13,059	3,115	1,917	-128,922
293+50	0.0	661.2	0.0	0.0	0	1,085	0	0	65,886	199,993	13,059	3,115	1,917	-130,332
294+00	0.0	816.3	0.0	0.0	0	1,368	0	0	65,886	201,771	13,059	3,115	1,917	-132,111
294+50	0.0	957.9	0.0	0.0	0	1,643	0	0	65,886	203,907	13,059	3,115	1,917	-134,247
295+00	0.0	1060.1	0.0	0.0	0	1,869	0	0	65,886	206,336	13,059	3,115	1,917	-136,676
295+50	0.0	1150.5	0.0	0.0	0	2,047	0	0	65,886	208,997	13,059	3,115	1,917	-139,337
295+83	0.0	1158.7	0.0	0.0	0	1,396	0	0	65,886	210,812	13,059	3,115	1,917	-141,152
296+00	0.0	1143.8	0.0	0.0	0	740	0	0	65,886	211,774	13,059	3,115	1,917	-142,113
296+50	0.0	1044.0	0.0	0.0	0	2,026	0	0	65,886	214,407	13,059	3,115	1,917	-144,747
297+00	0.0	947.6	0.0	0.0	0	1,844	0	0	65,886	216,805	13,059	3,115	1,917	-147,144
297+50	0.0	806.3	0.0	0.0	0	1,624	0	0	65,886	218,916	13,059	3,115	1,917	-149,255
298+00	0.0	545.8	0.0	0.0	0	1,252	0	0	65,886	220,543	13,059	3,115	1,917	-150,883
298+50	0.0	483.2	0.0	0.0	0	953	0	0	65,886	221,782	13,059	3,115	1,917	-152,121
299+00	0.0	426.8	0.0	0.0	0	843	0	0	65,886	222,877	13,059	3,115	1,917	-153,216
299+50	0.0	366.8	0.0	0.0	0	735	0	0	65,886	223,832	13,059	3,115	1,917	-154,172

Notes:

1 - Cut	Cut includes Salvaged/Unusable Pavement material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections
3 - Fill	Does not include Unusable Pavement Exc volume
4 - Expanded Marsh Backfill	Will be backfilled with Select Borrow
5 - Expanded EBS	Will be backfilled with Select Borrow
6 - Reduced Marsh in Fill	Reduced Marsh Excavation that can be used in Fill
7 - Reduced EBS in Fill	Reduced EBS Excavation that can be used in Fill
8 - Mass Ordinate	[(Cut + Marsh Exc + EBS) - ((Fill - Reduced Marsh in Fill) - (Reduced EBS in Fill) - Expanded Rock) * Fill Factor)]

9

9

USH 18 (STAGE 1B) (CONTINUED)

STATION	AREA (SF) Cut	AREA (SF) Fill	AREA (SF) Rock Exc	AREA (SF) EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 3	Incremental Vol (CY) (Unadjusted) Rock Exc	Incremental Vol (CY) (Unadjusted) EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.30	Cumulative Vol (CY) Expanded Rock 1.10	Cumulative Vol (CY) Expanded EBS Backfil 1.30 Note 5	Cumulative Vol (CY) Reduced EBS In Fill 0.80 Note 7	Mass Ordinate Note 8
300+00	27.2	314.2	0.0	0.0	25	631	0	0	65,911	224,652	13,059	3,115	1,917	-154,966
300+50	75.8	118.6	0.0	0.0	95	401	0	0	66,006	225,173	13,059	3,115	1,917	-155,392
301+00	139.4	98.8	0.0	0.0	199	201	0	0	66,205	225,435	13,059	3,115	1,917	-155,454
301+50	191.7	89.1	0.0	0.0	307	174	0	0	66,512	225,661	13,059	3,115	1,917	-155,374
302+00	283.9	77.9	0.0	0.0	440	155	0	0	66,952	225,862	13,059	3,115	1,917	-155,134
302+50	364.6	83.1	0.0	37.6	600	149	0	35	67,553	226,056	13,059	3,161	1,945	-154,657
303+00	346.3	65.5	0.0	38.6	658	138	0	71	68,211	226,235	13,059	3,252	2,001	-154,034
303+50	266.2	57.1	0.0	39.0	567	114	0	72	68,778	226,382	13,059	3,346	2,059	-153,468
304+00	172.7	44.1	0.0	40.0	406	94	0	73	69,185	226,504	13,059	3,441	2,117	-153,034
304+50	142.3	32.1	0.0	43.2	292	71	0	77	69,476	226,596	13,059	3,541	2,179	-152,677
305+00	170.0	25.7	0.0	43.2	289	53	0	80	69,766	226,666	13,059	3,645	2,243	-152,294
305+50	202.9	0.0	0.0	43.2	345	24	0	80	70,111	226,696	13,059	3,749	2,307	-151,816
306+00	250.1	0.0	0.0	43.2	419	0	0	80	70,530	226,696	13,059	3,853	2,371	-151,234
306+50	271.9	0.0	0.0	43.2	483	0	0	80	71,014	226,696	13,059	3,957	2,435	-150,587
307+00	287.7	0.0	0.0	43.2	518	0	0	80	71,532	226,696	13,059	4,061	2,499	-149,906
307+50	115.8	18.3	0.0	40.2	374	17	0	77	71,906	226,718	13,059	4,161	2,561	-149,396
308+00	107.1	36.3	0.0	16.0	206	51	0	52	72,112	226,784	13,059	4,229	2,602	-149,150
308+50	257.1	24.7	0.0	0.0	337	56	0	15	72,449	226,858	13,059	4,248	2,614	-148,856
309+00	278.7	41.4	0.0	0.0	496	61	0	0	72,945	226,937	13,059	4,248	2,614	-148,439
309+50	296.7	53.5	0.0	0.0	533	88	0	0	73,478	227,051	13,059	4,248	2,614	-148,020
310+00	315.0	68.4	0.0	0.0	566	113	0	0	74,044	227,198	13,059	4,248	2,614	-147,601
311+56	396.8	95.0	0.0	0.0	2,058	472	0	0	76,103	227,812	13,059	4,248	2,614	-146,157
312+00	385.3	98.4	0.0	0.0	635	157	0	0	76,738	228,016	13,059	4,248	2,614	-145,725
312+50	390.8	103.4	0.0	0.0	719	187	0	0	77,457	228,259	13,059	4,248	2,614	-145,250
313+00	383.9	111.0	0.0	0.0	717	199	0	0	78,174	228,517	13,059	4,248	2,614	-144,790
313+50	365.8	119.9	0.0	0.0	694	214	0	0	78,868	228,795	13,059	4,248	2,614	-144,374
314+00	330.5	138.6	0.0	0.0	645	239	0	0	79,513	229,106	13,059	4,248	2,614	-144,041
314+50	362.2	129.4	0.0	0.0	641	248	0	0	80,154	229,429	13,059	4,248	2,614	-143,722
315+00	329.4	160.2	0.0	0.0	640	268	0	0	80,795	229,778	13,059	4,248	2,614	-143,430
315+50	294.0	147.1	0.0	0.0	577	285	0	0	81,372	230,148	13,059	4,248	2,614	-143,223
316+00	264.4	125.6	0.0	0.0	517	252	0	0	81,889	230,476	13,059	4,248	2,614	-143,034
316+50	231.6	95.8	0.0	0.0	459	205	0	0	82,348	230,742	13,059	4,248	2,614	-142,841
317+00	199.4	97.9	0.0	0.0	399	179	0	0	82,748	230,975	13,059	4,248	2,614	-142,675
317+50	188.7	87.7	0.0	0.0	359	172	0	0	83,107	231,199	13,059	4,248	2,614	-142,539
318+00	23.2	440.6	0.0	0.0	196	489	0	0	83,303	231,835	13,059	4,248	2,614	-142,979
318+50	13.4	325.8	0.0	0.0	34	710	0	0	83,337	232,757	13,059	4,248	2,614	-143,867
319+00	7.0	435.8	0.0	0.0	19	705	0	0	83,356	233,674	13,059	4,248	2,614	-144,765
319+50	6.4	447.8	0.0	0.0	12	818	0	0	83,368	234,738	13,059	4,248	2,614	-145,817
320+00	5.7	370.6	0.0	0.0	11	758	0	0	83,380	235,723	13,059	4,248	2,614	-146,790
320+50	26.2	224.0	0.0	0.0	30	551	0	0	83,409	236,439	13,059	4,248	2,614	-147,477
321+00	31.4	120.6	0.0	0.0	53	319	0	0	83,462	236,853	13,059	4,248	2,614	-147,838
321+50	42.3	69.3	0.0	0.0	68	176	0	0	83,531	237,082	13,059	4,248	2,614	-147,999
321+76	148.6	54.4	0.0	0.0	93	60	0	0	83,623	237,160	13,059	4,248	2,614	-147,984
323+00	202.6	44.6	0.0	0.0	805	227	0	0	84,428	237,455	13,059	4,248	2,614	-147,474
323+50	166.0	27.8	0.0	0.0	341	67	0	0	84,770	237,542	13,059	4,248	2,614	-147,220
324+00	119.1	45.7	0.0	0.0	264	68	0	0	85,034	237,631	13,059	4,248	2,614	-147,044
324+50	120.0	41.8	0.0	0.0	221	81	0	0	85,255	237,736	13,059	4,248	2,614	-146,928
325+00	122.9	32.1	0.0	0.0	225	68	0	0	85,480	237,825	13,059	4,248	2,614	-146,792
325+50	83.5	12.6	0.0	0.0	191	41	0	0	85,671	237,879	13,059	4,248	2,614	-146,655
326+00	81.1	11.4	0.0	0.0	152	22	0	0	85,824	237,908	13,059	4,248	2,614	-146,532
326+12	78.8	11.0	0.0	0.0	36	5	0	0	85,859	237,914	13,059	4,248	2,614	-146,503
326+50	79.0	9.9	0.0	0.0	111	15	0	0	85,970	237,934	13,059	4,248	2,614	-146,411
327+00	72.9	13.4	0.0	0.0	141	22	0	0	86,111	237,962	13,059	4,248	2,614	-146,298
327+34	92.5	16.5	0.0	0.0	104	19	0	0	86,215	237,986	13,059	4,248	2,614	-146,218
327+50	80.1	18.7	0.0	0.0	51	10	0	0	86,266	238,000	13,059	4,248	2,614	-146,181
327+59	75.1	19.9	0.0	0.0	26	6	0	0	86,292	238,008	13,059	4,248	2,614	-146,163
327+84	68.7	25.1	0.0	0.0	67	21	0	0	86,358	238,035	13,059	4,248	2,614	-146,124
328+00	65.6	30.2	0.0	0.0	40	16	0	0	86,398	238,056	13,059	4,248	2,614	-146,105
328+50	59.2	34.7	0.0	0.0	116	60	0	0	86,514	238,135	13,059	4,248	2,614	-146,068
329+00	59.6	19.9	0.0	0.0	110	51	0	0	86,624	238,200	13,059	4,248	2,614	-146,024
329+50	74.8	26.2	0.0	0.0	124	43	0	0	86,748	238,256	13,059	4,248	2,614	-145,955
330+00	68.2	33.0	0.0	0.0	132	55	0	0	86,881	238,327	13,059	4,248	2,614	-145,894
330+50	66.2	24.8	0.0	0.0	124	54	0	0	87,005	238,397	13,059	4,248	2,614	-145,839
331+00	64.1	16.1	0.0	0.0	121	38	0	0	87,126	238,446	13,059	4,248	2,614	-145,768
331+13	65.0	16.3	0.0	0.0	31	8	0	0	87,157	238,456	13,059	4,248	2,614	-145,747
331+50	72.7	13.0	0.0	0.0	94	20	0	0	87,251	238,482	13,059	4,248	2,614	-145,678
332+00	85.9	14.2	0.0	0.0	147	25	0	0	87,398	238,515	13,059	4,248	2,614	-145,564
332+35	79.4	19.1	0.0	0.0	107	22	0	0	87,505	238,543	13,059	4,248	2,614	-145,485
332+50	121.4	32.1	0.0	0.0	56	14	0	0	87,561	238,562	13,059	4,248	2,614	-145,448
332+60	115.1	35.5	0.0	0.0	44	13	0	0	87,605	238,578	13,059	4,248	2,614	-145,421
332+85	143.4	55.4	0.0	0.0	120	42	0	0	87,724	238,633	13,059	4,248	2,614	-145,356
333+00	195.2	31.4	0.0	0.0	94	24	0	0	87,818	238,664	13,059	4,248	2,614	-145,293
333+50	216.4	22.8	0.0	0.0	381	50	0	0	88,200	238,729	13,059	4,248	2,614	-144,977
334+00	226.0	42.7	0.0	0.0	410	61	0	0	88,609	238,808	13,059	4,248	2,614	-144,646
334+50	250.9	54.9	0.0	0.0	0	0	0	0	88,609	238,808	13,059	4,248	2,614	-144,646

USH 18 (STAGE 1B) (CONTINUED)

STATION	AREA (SF) Cut	AREA (SF) Fill	AREA (SF) Rock Exc	AREA (SF) EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 3	Incremental Vol (CY) (Unadjusted) Rock Exc	Incremental Vol (CY) (Unadjusted) EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.30	Cumulative Vol (CY) Expanded Rock 1.10	Cumulative Vol (CY) Expanded EBS Backfill 1.30 Note 5	Cumulative Vol (CY) Reduced EBS In Fill 0.80 Note 7	Mass Ordinate Note 8
335+00	173.6	77.4	0.0	0.0	393	123	0	0	89,002	238,968	13,059	4,248	2,614	-144,412
335+50	275.5	114.9	0.0	0.0	416	178	0	0	89,418	239,199	13,059	4,248	2,614	-144,228
336+00	300.6	186.5	0.0	0.0	533	279	0	0	89,952	239,562	13,059	4,248	2,614	-144,057
336+50	116.3	331.2	0.0	0.0	386	479	0	0	90,338	240,185	13,059	4,248	2,614	-144,295
337+00	122.5	416.3	0.0	0.0	221	692	0	0	90,559	241,085	13,059	4,248	2,614	-144,973
337+50	131.5	463.1	0.0	0.0	235	814	0	0	90,794	242,143	13,059	4,248	2,614	-145,797
338+00	138.8	680.0	0.0	0.0	250	1,058	0	0	91,044	243,519	13,059	4,248	2,614	-146,922
338+54	15.6	1427.5	0.0	0.0	154	2,107	0	0	91,199	246,258	13,059	4,248	2,614	-149,507
339+00	12.4	1603.8	0.0	0.0	24	2,583	0	0	91,223	249,616	13,059	4,248	2,614	-152,841
339+50	7.9	1619.4	0.0	0.0	19	2,984	0	0	91,242	253,496	13,059	4,248	2,614	-156,702
340+00	6.7	1365.9	0.0	0.0	14	2,764	0	0	91,255	257,090	13,059	4,248	2,614	-160,282
340+50	3.2	986.0	0.0	0.0	9	2,178	0	0	91,264	259,921	13,059	4,248	2,614	-163,104
341+00	1.1	789.7	0.0	0.0	4	1,644	0	0	91,268	262,058	13,059	4,248	2,614	-165,237
343+10	36.9	251.4	0.0	0.0	148	4,045	0	0	91,416	267,316	13,059	4,248	2,614	-170,347
343+50	63.8	273.8	0.0	0.0	75	391	0	0	91,491	267,825	13,059	4,248	2,614	-170,781
344+00	51.9	303.8	0.0	0.0	107	535	0	0	91,598	268,520	13,059	4,248	2,614	-171,369
344+50	16.0	304.9	0.0	0.0	63	564	0	0	91,661	269,253	13,059	4,248	2,614	-172,039
345+00	1.2	302.2	0.0	0.0	16	562	0	0	91,677	269,983	13,059	4,248	2,614	-172,754
345+50	0.0	317.2	0.0	0.0	1	574	0	0	91,678	270,729	13,059	4,248	2,614	-173,498
346+00	0.0	279.4	0.0	0.0	0	552	0	0	91,678	271,447	13,059	4,248	2,614	-174,216
346+50	0.0	223.7	0.0	0.0	0	466	0	0	91,678	272,053	13,059	4,248	2,614	-174,822
347+00	0.0	165.6	0.0	0.0	0	360	0	0	91,678	272,521	13,059	4,248	2,614	-175,290
347+50	4.6	115.1	0.0	0.0	4	260	0	0	91,683	272,859	13,059	4,248	2,614	-175,624
348+00	23.5	67.3	0.0	0.0	26	169	0	0	91,709	273,079	13,059	4,248	2,614	-175,817
348+50	56.8	39.4	0.0	0.0	74	99	0	0	91,783	273,207	13,059	4,248	2,614	-175,872
349+00	95.2	14.4	0.0	0.0	141	50	0	0	91,924	273,272	13,059	4,248	2,614	-175,795
349+50	145.9	9.4	0.0	0.0	223	22	0	0	92,147	273,301	13,059	4,248	2,614	-175,601
350+00	181.1	7.9	0.0	0.0	303	16	0	0	92,450	273,322	13,059	4,248	2,614	-175,319
350+50	201.0	6.0	0.0	0.0	354	13	0	0	92,804	273,338	13,059	4,248	2,614	-174,982
351+00	210.5	2.7	0.0	0.0	381	8	0	0	93,185	273,349	13,059	4,248	2,614	-174,611
351+29	213.2	1.0	0.0	0.0	227	2	0	0	93,411	273,351	13,059	4,248	2,614	-174,387
351+50	227.9	0.2	0.0	0.0	172	0	0	0	93,584	273,352	13,059	4,248	2,614	-174,215
352+00	263.1	7.6	0.0	0.0	455	7	0	0	94,039	273,361	13,059	4,248	2,614	-173,770
352+48	282.8	4.1	0.0	0.0	485	10	0	0	94,524	273,375	13,059	4,248	2,614	-173,298
352+50	282.3	4.5	0.0	0.0	21	0	0	0	94,545	273,375	13,059	4,248	2,614	-173,278
353+00	283.7	0.0	0.0	0.0	524	4	0	0	95,069	273,381	13,059	4,248	2,614	-172,759
353+50	338.9	0.0	0.0	0.0	577	0	0	0	95,645	273,381	13,059	4,248	2,614	-172,183
353+76	269.3	0.0	0.0	0.0	297	0	0	0	95,942	273,381	13,059	4,248	2,614	-171,886
355+25	217.6	0.0	0.0	0.0	1,339	0	0	0	97,281	273,381	13,059	4,248	2,614	-170,547
355+50	202.0	0.0	0.0	0.0	195	0	0	0	97,476	273,381	13,059	4,248	2,614	-170,352
356+00	155.3	0.0	0.0	0.0	331	0	0	0	97,807	273,381	13,059	4,248	2,614	-170,021
356+50	129.9	0.0	0.0	0.0	264	0	0	0	98,071	273,381	13,059	4,248	2,614	-169,757
357+00	115.3	2.4	0.0	0.0	227	2	0	0	98,298	273,384	13,059	4,248	2,614	-169,533
357+50	101.2	0.0	0.0	0.0	200	2	0	0	98,499	273,387	13,059	4,248	2,614	-169,335
358+00	90.7	0.0	0.0	0.0	178	0	0	0	98,677	273,387	13,059	4,248	2,614	-169,157
358+50	80.9	0.0	0.0	0.0	159	0	0	0	98,836	273,387	13,059	4,248	2,614	-168,998
359+00	76.8	0.0	0.0	0.0	146	0	0	0	98,982	273,387	13,059	4,248	2,614	-168,852
359+50	78.1	0.0	0.0	0.0	143	0	0	0	99,125	273,387	13,059	4,248	2,614	-168,709
360+00	0.0	0.0	0.0	0.0	72	0	0	0	99,197	273,387	13,059	4,248	2,614	-168,637
360+50	0.0	0.0	0.0	0.0	0	0	0	0	99,197	273,387	13,059	4,248	2,614	-168,637
361+00	0.0	0.0	0.0	0.0	0	0	0	0	99,197	273,387	13,059	4,248	2,614	-168,637
361+50	0.0	0.0	0.0	0.0	0	0	0	0	99,197	273,387	13,059	4,248	2,614	-168,637
361+67	0.0	0.0	0.0	0.0	0	0	0	0	99,197	273,387	13,059	4,248	2,614	-168,637
362+00	0.0	0.0	0.0	0.0	0	0	0	0	99,197	273,387	13,059	4,248	2,614	-168,637
362+48	0.0	0.0	0.0	0.0	0	0	0	0	99,197	273,387	13,059	4,248	2,614	-168,637
362+50	0.0	0.0	0.0	0.0	0	0	0	0	99,197	273,387	13,059	4,248	2,614	-168,637
362+86	0.0	0.0	0.0	0.0	0	0	0	0	99,197	273,387	13,059	4,248	2,614	-168,637
363+00	0.0	0.0	0.0	0.0	0	0	0	0	99,197	273,387	13,059	4,248	2,614	-168,637
363+11	0.0	0.0	0.0	0.0	0	0	0	0	99,197	273,387	13,059	4,248	2,614	-168,637
363+36	0.0	0.0	0.0	0.0	0	0	0	0	99,197	273,387	13,059	4,248	2,614	-168,637
363+50	0.0	0.0	0.0	0.0	0	0	0	0	99,197	273,387	13,059	4,248	2,614	-168,637

Notes:

1 - Cut	Cut includes Salvaged/Unusable Pavement material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections
3 - Fill	Does not include Unusable Pavement Exc volume
4 - Expanded Marsh Backfill	Will be backfilled with Select Borrow
5 - Expanded EBS	Will be backfilled with Select Borrow
6 - Reduced Marsh in Fill	Reduced Marsh Excavation that can be used in Fill
7 - Reduced EBS in Fill	Reduced EBS Excavation that can be used in Fill
8 - Mass Ordinate	[(Cut + Marsh Exc + EBS) - ((Fill - Reduced Marsh in Fill) - (Reduced EBS in Fill) - Expanded Rock) * Fill Factor)]

USH 18 (STAGE 1B) (CONTINUED)

STATION	AREA (SF) Cut	AREA (SF) Fill	AREA (SF) Rock Exc	AREA (SF) EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 3	Incremental Vol (CY) (Unadjusted) Rock Exc	Incremental Vol (CY) (Unadjusted) EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.30	Cumulative Vol (CY) Expanded Rock 1.10	Cumulative Vol (CY) Expanded EBS Backfill 1.30 Note 5	Cumulative Vol (CY) Reduced EBS In Fill 0.80 Note 7	Mass Ordinate Note 8
363+67	0.0	0.0	0.0	0.0	0	0	0	0	99,197	272,745	13,552	4,248	2,614	-167,995
363+92	0.0	0.0	0.0	0.0	0	0	0	0	99,197	272,745	13,552	4,248	2,614	-167,995
364+00	0.0	0.0	0.0	0.0	0	0	0	0	99,197	272,745	13,552	4,248	2,614	-167,995
364+17	0.0	0.0	0.0	0.0	0	0	0	0	99,197	272,745	13,552	4,248	2,614	-167,995
364+50	0.0	0.0	0.0	0.0	0	0	0	0	99,197	272,745	13,552	4,248	2,614	-167,995
365+00	0.0	0.0	0.0	0.0	0	0	0	0	99,197	272,745	13,552	4,248	2,614	-167,995
365+40	0.0	0.0	0.0	0.0	0	0	0	0	99,197	272,745	13,552	4,248	2,614	-167,995

USH 18 STAGE 2A (TEMP CROSSOVERS)

STATION	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.30	Mass Ordinate Note 8
STAGE 2A							
318+15	0.0	0.0	0	0	0	0	0
319+00	0.0	0.0	0	0	0	0	0
320+00	0.0	1.7	0	3	0	4	-4
321+00	0.0	8.6	0	19	0	29	-29
321+86	0.0	8.6	0	27	0	64	-64
324+86	0.00	0.00	0	0	0	0	0
326+00	4.50	0.50	10	1	10	1	8
327+00	5.50	2.00	19	5	28	7	21
328+00	0.50	8.00	11	19	39	31	8
329+00	0.00	4.80	1	24	40	62	-22
330+00	0.00	16.50	0	39	40	114	-74
331+00	0.00	11.00	0	51	40	180	-140
332+00	0.00	0.60	0	21	40	208	-168
333+00	0.00	0.00	0	1	40	209	-169
334+00	0.00	0.00	0	0	40	209	-169
334+27	0.00	0.00	0	0	40	209	-169
354+91	12.70	0.00	0	0	0	0	0
355+25	9.50	0.00	14	0	14	0	14
356+00	7.00	0.00	23	0	37	0	37
357+00	7.00	0.00	26	0	63	0	63
358+00	6.00	0.00	24	0	87	0	87
359+00	6.00	0.00	22	0	109	0	109
359+50	6.00	0.00	11	0	120	0	120

USH 18 (STAGE 2A)

STATION	AREA (SF) Cut	AREA (SF) Fill	AREA (SF) Rock Exc	AREA (SF) EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 3	Incremental Vol (CY) (Unadjusted) Rock Exc	Incremental Vol (CY) (Unadjusted) EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.30	Cumulative Vol (CY) Expanded Rock 1.10	Cumulative Vol (CY) Expanded EBS Backfill 1.30 Note 5	Cumulative Vol (CY) Reduced EBS In Fill 0.80 Note 7	Mass Ordinate Note 8
196+50	11.8	35.8	0.0	0.0	0	0	0	0	0	0	0	0	0	0
197+00	11.5	43.9	0.0	0.0	22	74	0	0	22	96	0	0	0	-74
197+50	17.4	57.5	0.0	0.0	27	94	0	0	48	218	0	0	0	-170
198+00	10.4	73.3	0.0	0.0	26	121	0	0	74	375	0	0	0	-301
198+50	6.3	75.8	0.0	0.0	15	138	0	0	89	555	0	0	0	-465
199+00	5.0	74.2	0.0	0.0	10	139	0	0	100	735	0	0	0	-635
199+50	3.7	80.8	0.0	0.0	8	144	0	0	108	922	0	0	0	-814
200+00	3.6	91.8	0.0	0.0	7	160	0	0	115	1,130	0	0	0	-1,015
200+35	74.1	1.5	0.0	0.0	50	60	0	0	165	1,208	0	0	0	-1,043
200+50	69.4	5.8	0.0	0.0	40	2	0	0	205	1,211	0	0	0	-1,006
201+00	59.0	133.3	0.0	0.0	119	129	0	0	324	1,378	0	0	0	-1,054
201+24	60.6	124.4	0.0	0.0	53	115	0	0	377	1,527	0	0	0	-1,150
201+50	60.6	124.3	0.0	0.0	58	120	0	0	435	1,683	0	0	0	-1,247
202+00	54.5	106.8	0.0	0.0	107	214	0	0	542	1,961	0	0	0	-1,419
202+50	53.8	104.9	0.0	0.0	100	196	0	0	642	2,216	0	0	0	-1,574
203+00	48.9	83.9	0.0	0.0	95	175	0	0	737	2,443	0	0	0	-1,706
203+50	34.6	81.8	0.0	0.0	77	153	0	0	815	2,642	0	0	0	-1,828
204+00	26.8	94.0	0.0	0.0	57	163	0	0	871	2,854	0	0	0	-1,983
204+50	26.3	85.7	0.0	0.0	49	166	0	0	920	3,070	0	0	0	-2,150
205+00	27.3	95.6	0.0	0.0	50	168	0	0	970	3,289	0	0	0	-2,319
205+50	26.3	23.1	0.0	0.0	50	110	0	0	1,020	3,431	0	0	0	-2,412
205+64	32.0	22.3	0.0	0.0	15	12	0	0	1,035	3,447	0	0	0	-2,412
205+89	31.7	80.8	0.0	0.0	29	48	0	0	1,064	3,509	0	0	0	-2,444
206+00	30.1	114.0	0.0	0.0	13	40	0	0	1,077	3,560	0	0	0	-2,483
206+16	29.5	119.5	0.0	0.0	18	69	0	0	1,095	3,650	0	0	0	-2,556
206+50	26.1	124.0	0.0	0.0	35	153	0	0	1,130	3,850	0	0	0	-2,720
207+18	16.8	43.5	0.0	0.0	54	211	0	0	1,184	4,123	0	0	0	-2,940
207+83	75.0	0.0	0.0	0.0	111	52	0	0	1,294	4,192	0	0	0	-2,897
208+50	149.8	0.0	0.0	0.0	496	310	0	0	1,625	4,253	0	0	0	-2,805
208+52	154.5	0.0	0.0	0.0	11	0	0	0	1,637	4,253	0	0	0	-2,794
208+77	208.2	0.0	0.0	0.0	168	0	0	0	1,804	4,253	0	0	0	-2,626
209+00	239.1	0.0	0.0	0.0	191	0	0	0	1,995	4,253	0	0	0	-2,435
209+02	240.4	0.0	0.0	0.0	18	0	0	0	2,013	4,253	0	0	0	-2,417
209+50	322.9	0.0	0.0	0.0	501	0	0	0	2,513	4,253	0	0	0	-1,917
210+00	379.7	0.0	0.0	0.0	651	0	0	0	3,164	4,253	0	0	0	-1,266
210+50	380.9	0.0	0.0	0.0	704	0	0	0	3,868	4,253	0	0	0	-562
211+00	289.3	0.0	0.0	0.0	621	0	0	0	4,489	4,253	0	0	0	59
211+50	134.0	0.0	0.0	0.0	392	0	0	0	4,881	4,253	0	0	0	451
211+85	115.2	0.0	0.0	0.0	164	0	0	0	5,044	4,253	0	0	0	614
213+17	87.0	27.2	0.0	0.0	493	66	0	0	5,538	4,339	0	0	0	1,021
213+50	56.5	31.4	0.0	0.0	87	36	0	0	5,625	4,385	0	0	0	1,062
214+00	186.2	57.1	0.0	0.0	225	82	0	0	5,849	4,492	0	0	0	1,180
214+50	37.3	31.2	0.0	0.0	207	82	0	0	6,056	4,598	0	0	0	1,281
215+00	36.5	40.2	0.0	0.0	68	66	0	0	6,125	4,684	0	0	0	1,263
215+50	34.8	53.9	0.0	0.0	66	87	0	0	6,191	4,797	0	0	0	1,216
216+00	31.1	49.0	0.0	0.0	61	95	0	0	6,252	4,921	0	0	0	1,153
216+50	33.7	45.7	0.0	0.0	60	88	0	0	6,312	5,035	0	0	0	1,099
217+00	37.2	38.2	0.0	0.0	66	78	0	0	6,377	5,136	0	0	0	1,064
217+50	33.6	30.9	0.0	0.0	66	64	0	0	6,443	5,219	0	0	0	1,046
218+00	30.1	19.3	0.0	0.0	59	46	0	0	6,502	5,280	0	0	0	1,045
218+50	30.8	10.4	0.0	0.0	56	27	0	0	6,558	5,315	0	0	0	1,065
219+00	34.0	7.7	0.0	0.0	60	17	0	0	6,618	5,337	0	0	0	1,103
219+50	36.0	6.2	0.0	0.0	65	13	0	0	6,683	5,354	0	0	0	1,152
220+00	33.5	6.2	0.0	0.0	64	11	0	0	6,747	5,369	0	0	0	1,201
220+50	24.1	8.6	0.0	0.0	53	14	0	0	6,801	5,387	0	0	0	1,237
221+00	16.2	12.4	0.0	0.0	37	19	0	0	6,838	5,412	0	0	0	1,249
221+50	12.1	20.5	0.0	0.0	26	30	0	0	6,864	5,452	0	0	0	1,235
222+00	11.5	18.3	0.0	0.0	22	36	0	0	6,886	5,498	0	0	0	1,210
222+50	6.8	44.6	0.0	0.0	17	58	0	0	6,903	5,574	0	0	0	1,152
223+00	1.7	59.1	0.0	0.0	8	96	0	0	6,911	5,699	0	0	0	1,035
223+16	0.7	52.9	0.0	0.0	1	34	0	0	6,911	5,742	0	0	0	992
223+50	0.7	51.5	0.0	0.0	1	65	0	0	6,912	5,827	0	0	0	908
224+00	8.7	52.3	0.0	0.0	9	96	0	0	6,921	5,952	0	0	0	791

Notes:

1 - Cut	Cut includes Salvaged/Unusable Pavement material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections
3 - Fill	Does not include Unusable Pavement Exc volume
4 - Expanded Marsh Backfill	Will be backfilled with Select Borrow
5 - Expanded EBS	Will be backfilled with Select Borrow
6 - Reduced Marsh in Fill	Reduced Marsh Excavation that can be used in Fill
7 - Reduced EBS in Fill	Reduced EBS Excavation that can be used in Fill
8 - Mass Ordinate	[(Cut + Marsh Exc + EBS) - ((Fill - Reduced Marsh in Fill) - (Reduced EBS in Fill) - Expanded Rock) * Fill Factor)]

USH 18 (STAGE 2A) (CONTINUED)

STATION	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)					
	Cut	Fill	Rock Exc	EBS	Cut Note 1	Fill Note 3	Rock Exc	EBS	Cut 1.00 Note 1	Expanded Fill 1.30	Expanded Rock 1.10	Expanded EBS Backfill 1.30 Note 5	Reduced EBS In Fill 0.80 Note 7	Mass Ordinate Note 8
224+50	0.3	67.3	0.0	0.0	8	111	0	0	6,929	6,096	0	0	0	656
225+00	0.2	69.9	0.0	0.0	1	127	0	0	6,930	6,261	0	0	0	491
225+50	0.0	75.3	0.0	0.0	0	135	0	0	6,930	6,436	0	0	0	317
226+00	0.0	83.6	0.0	0.0	0	147	0	0	6,930	6,627	0	0	0	125
226+50	0.1	80.3	0.0	0.0	0	152	0	0	6,930	6,825	0	0	0	-72
227+00	0.0	79.9	0.0	0.0	0	148	0	0	6,930	7,017	0	0	0	-264
227+50	0.0	150.7	0.0	0.0	0	214	0	0	6,930	7,295	0	0	0	-542
228+00	0.0	203.6	0.0	0.0	0	328	0	0	6,930	7,721	0	0	0	-968
228+50	0.0	240.4	0.0	0.0	0	411	0	0	6,930	8,256	0	0	0	-1,503
229+00	0.0	64.8	0.0	0.0	0	283	0	0	6,930	8,623	0	0	0	-1,870
229+50	0.0	260.1	0.0	0.0	0	301	0	0	6,930	9,014	0	0	0	-2,261
230+00	25.9	224.6	0.0	0.0	24	449	0	0	6,954	9,598	0	0	0	-2,821
230+50	24.8	223.6	0.0	0.0	47	415	0	0	7,001	10,137	0	0	0	-3,314
231+00	27.1	215.8	0.0	0.0	48	407	0	0	7,049	10,666	0	0	0	-3,795
231+50	56.3	202.5	0.0	0.0	77	387	0	0	7,126	11,170	0	0	0	-4,221
232+00	32.6	191.5	0.0	0.0	82	365	0	0	7,209	11,644	0	0	0	-4,613
232+50	6.7	163.9	0.0	0.0	36	329	0	0	7,245	12,072	0	0	0	-5,004
233+00	172.8	364.5	0.0	0.0	166	489	0	0	7,411	12,708	0	0	0	-5,474
233+50	417.3	244.7	0.0	0.0	546	564	0	0	7,958	13,441	0	0	0	-5,661
234+00	0.0	216.9	0.0	0.0	386	427	0	0	8,344	13,997	0	0	0	-5,830
234+50	0.0	198.8	0.0	0.0	0	385	0	0	8,344	14,497	0	0	0	-6,331
235+00	0.0	203.5	0.0	0.0	0	373	0	0	8,344	14,981	0	0	0	-6,815
235+50	0.0	189.1	0.0	0.0	0	364	0	0	8,344	15,454	0	0	0	-7,288
236+00	0.0	168.7	0.0	0.0	0	331	0	0	8,344	15,885	0	0	0	-7,718
236+50	0.0	171.6	0.0	0.0	0	315	0	0	8,344	16,294	0	0	0	-8,128
237+00	0.0	173.0	0.0	0.0	0	319	0	0	8,344	16,709	0	0	0	-8,543
237+50	0.0	156.8	0.0	0.0	0	305	0	0	8,344	17,106	0	0	0	-8,939
238+00	0.0	127.5	0.0	0.0	0	263	0	0	8,344	17,448	0	0	0	-9,282
238+50	0.0	204.7	0.0	0.0	0	308	0	0	8,344	17,848	0	0	0	-9,682
239+00	0.0	255.1	0.0	0.0	0	426	0	0	8,344	18,401	0	0	0	-10,235
239+50	0.0	194.2	0.0	0.0	0	416	0	0	8,344	18,942	0	0	0	-10,776
240+00	0.0	354.3	0.0	0.0	0	508	0	0	8,344	19,602	0	0	0	-11,436
240+50	0.0	151.7	0.0	0.0	0	468	0	0	8,344	20,211	0	0	0	-12,045
241+00	0.0	231.3	0.0	0.0	0	355	0	0	8,344	20,672	0	0	0	-12,506
241+50	0.0	256.1	0.0	0.0	0	451	0	0	8,344	21,259	0	0	0	-13,092
242+00	0.0	257.4	0.0	0.0	0	475	0	0	8,344	21,877	0	0	0	-13,711
242+50	0.0	246.9	0.0	0.0	0	467	0	0	8,344	22,484	0	0	0	-14,318
243+00	0.0	228.0	0.0	0.0	0	440	0	0	8,344	23,056	0	0	0	-14,889
244+35	0.7	156.7	0.0	0.0	2	959	0	0	8,346	24,302	0	0	0	-16,134
244+50	8.5	116.0	0.0	0.0	3	78	0	0	8,348	24,403	0	0	0	-16,232
245+00	119.2	132.1	0.0	0.0	118	230	0	0	8,467	24,702	0	0	0	-16,413
245+50	165.5	163.6	0.0	0.0	264	274	0	0	8,730	25,058	0	0	0	-16,505
246+00	232.1	21.0	0.0	0.0	368	171	0	0	9,099	25,280	0	0	0	-16,359
246+50	286.6	44.9	0.0	0.0	480	61	0	0	9,579	25,359	0	0	0	-15,958
247+00	291.1	18.2	0.0	0.0	535	58	0	0	10,114	25,435	0	0	0	-15,499
247+50	551.5	15.5	0.0	0.0	780	31	0	0	10,894	25,476	0	0	0	-14,759
248+00	872.2	12.7	0.0	0.0	1,318	26	0	0	12,212	25,510	0	0	0	-13,475
248+50	503.6	8.6	0.0	0.0	1,274	20	0	0	13,486	25,536	0	0	0	-12,227
249+00	557.0	7.3	0.0	0.0	982	15	0	0	14,468	25,555	0	0	0	-11,264
249+50	478.2	5.6	0.0	0.0	958	12	0	0	15,427	25,570	0	0	0	-10,321
250+00	265.6	4.1	0.0	0.0	689	9	0	0	16,115	25,582	0	0	0	-9,644
250+50	118.6	0.9	0.0	0.0	356	5	0	0	16,471	25,588	0	0	0	-9,294
251+00	16.2	34.8	0.0	0.0	125	33	0	0	16,596	25,631	0	0	0	-9,212
251+50	14.9	77.4	0.0	0.0	29	104	0	0	16,625	25,766	0	0	0	-9,319
252+00	11.8	68.6	0.0	0.0	25	135	0	0	16,650	25,942	0	0	0	-9,470
252+14	14.8	62.8	0.0	0.0	7	35	0	0	16,657	25,987	0	0	0	-9,508
252+50	20.1	50.2	0.0	0.0	23	74	0	0	16,680	26,084	0	0	0	-9,582
252+65	18.7	44.4	0.0	0.0	11	26	0	0	16,690	26,118	0	0	0	-9,605
253+00	38.7	24.4	0.0	0.0	37	45	0	0	16,728	26,176	0	0	0	-9,626
253+50	74.5	49.8	0.0	0.0	105	69	0	0	16,832	26,265	0	0	0	-9,611
253+90	123.5	51.9	0.0	0.0	146	75	0	0	16,978	26,363	0	0	0	-9,562
254+00	139.7	57.7	0.0	0.0	50	21	0	0	17,028	26,390	0	0	0	-9,539
254+50	107.8	15.7	0.0	0.0	229	68	0	0	17,257	26,478	0	0	0	-9,398
255+00	113.6	32.9	0.0	0.0	205	45	0	0	17,462	26,537	0	0	0	-9,252
255+50	125.1	32.2	0.0	0.0	221	60	0	0	17,683	26,615	0	0	0	-9,109
256+00	135.9	28.4	0.0	0.0	242	56	0	0	17,925	26,688	0	0	0	-8,940
256+50	121.4	28.2	0.0	0.0	238	52	0	0	18,163	26,756	0	0	0	-8,770
257+00	101.7	28.3	0.0	0.0	207	52	0	0	18,370	26,824	0	0	0	-8,632
257+50	106.5	42.8	0.0	0.0	193	66	0	0	18,562	26,910	0	0	0	-8,525
258+00	66.1	19.7	0.0	0.0	160	58	0	0	18,722	26,985	0	0	0	-8,440
258+50	12.5	5.3	0.0	0.0	73	23	0	0	18,795	27,015	0	0	0	-8,397
259+00	7.8	37.1	0.0	0.0	19	39	0	0	18,814	27,066	0	0	0	-8,430
259+50	7.6	97.9	0.0	0.0	14	125	0	0	18,828	27,228	0	0	0	-8,578
260+00	8.2	89.8	0.0	0.0	15	174	0	0	18,843	27,454	0	0	0	-8,789
260+50	8.3	43.8	0.0	0.0	15	124	0	0	18,858	27,615	0	0	0	-8,935

USH 18 (STAGE 2A) (CONTINUED)

STATION	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)					
	Cut	Fill	Rock Exc	EBS	Cut Note 1	Fill Note 3	Rock Exc	EBS	Cut 1.00 Note 1	Expanded Fill 1.30	Expanded Rock 1.10	Expanded EBS Backfill 1.30 Note 5	Reduced EBS In Fill 0.80 Note 7	Mass Ordinate Note 8
261+00	16.5	38.6	0.0	0.0	23	76	0	0	18,881	27,714	0	0	0	-9,011
261+50	10.0	83.7	0.0	0.0	24	113	0	0	18,905	27,862	0	0	0	-9,134
262+00	8.2	147.4	0.0	0.0	17	214	0	0	18,922	28,140	0	0	0	-9,395
262+50	8.4	233.6	0.0	0.0	15	353	0	0	18,938	28,598	0	0	0	-9,838
263+00	8.4	291.6	0.0	43.2	16	486	0	40	18,953	29,231	0	52	32	-10,373
263+50	8.0	356.5	0.0	43.2	15	600	0	80	18,968	30,011	0	156	96	-10,975
264+00	11.7	400.0	0.0	43.2	18	701	0	80	18,987	30,921	0	260	160	-11,704
264+50	9.1	414.0	0.0	43.2	19	754	0	80	19,006	31,901	0	364	224	-12,502
265+00	8.9	421.1	0.0	43.2	17	773	0	80	19,023	32,907	0	468	288	-13,327
265+50	9.5	419.8	0.0	42.5	17	779	0	79	19,040	33,919	0	571	351	-14,160
266+00	8.5	417.3	0.0	42.5	17	775	0	79	19,056	34,926	0	673	414	-14,991
266+50	8.8	408.0	0.0	43.0	16	764	0	79	19,072	35,920	0	776	478	-15,806
267+00	8.3	397.3	0.0	43.0	16	746	0	80	19,088	36,889	0	880	541	-16,597
267+26	8.4	380.0	0.0	43.0	8	370	0	41	19,096	37,370	0	933	574	-16,987
267+50	7.9	370.2	0.0	43.0	7	338	0	39	19,103	37,809	0	983	605	-17,340
268+00	8.3	359.4	0.0	42.0	15	676	0	79	19,118	38,687	0	1,086	668	-18,042
268+50	8.8	358.8	0.0	42.0	16	665	0	78	19,134	39,551	0	1,187	730	-18,732
268+94	9.0	364.5	0.0	41.0	14	587	0	67	19,149	40,315	0	1,274	784	-19,344
269+50	9.4	350.2	0.0	46.0	19	743	0	90	19,168	41,281	0	1,392	857	-20,106
270+00	9.3	321.1	0.0	53.9	17	622	0	93	19,185	42,089	0	1,512	931	-20,708
270+50	52.5	392.7	0.0	43.2	57	661	0	90	19,242	42,948	0	1,629	1,003	-21,327
271+00	55.0	378.5	0.0	41.0	100	714	0	78	19,342	43,877	0	1,731	1,065	-21,997
271+50	55.7	354.2	0.0	0.0	103	678	0	38	19,444	44,759	0	1,780	1,095	-22,699
272+00	80.6	337.2	0.0	0.0	126	640	0	0	19,570	45,591	0	1,780	1,095	-23,405
272+50	106.4	315.5	0.0	0.0	173	604	0	0	19,744	46,377	0	1,780	1,095	-24,017
273+00	136.7	305.3	0.0	0.0	225	575	0	0	19,969	47,124	0	1,780	1,095	-24,539
273+50	49.0	308.8	0.0	0.0	172	569	0	0	20,141	47,863	0	1,780	1,095	-25,107
275+00	87.8	300.2	0.0	0.0	380	1,692	0	0	20,520	50,062	0	1,780	1,095	-26,926
275+50	45.9	137.9	0.0	0.0	124	406	0	0	20,644	50,589	0	1,780	1,095	-27,329
276+00	43.1	131.3	0.0	0.0	82	249	0	0	20,727	50,913	0	1,780	1,095	-27,571
276+50	45.9	123.7	0.0	0.0	82	236	0	0	20,809	51,220	0	1,780	1,095	-27,796
277+00	38.2	113.6	0.0	0.0	78	220	0	0	20,887	51,506	0	1,780	1,095	-28,003
277+50	43.6	103.9	0.0	0.0	76	201	0	0	20,963	51,768	0	1,780	1,095	-28,189
278+00	51.0	90.6	0.0	0.0	88	180	0	0	21,050	52,002	0	1,780	1,095	-28,336
278+50	55.2	72.4	0.0	0.0	98	151	0	0	21,149	52,198	0	1,780	1,095	-28,434
279+00	54.7	68.3	0.0	0.0	102	130	0	0	21,250	52,367	0	1,780	1,095	-28,501
279+50	54.4	67.5	0.0	0.0	101	126	0	0	21,351	52,531	0	1,780	1,095	-28,564
280+00	48.6	64.7	0.0	0.0	95	122	0	0	21,447	52,690	0	1,780	1,095	-28,628
280+50	44.1	51.5	0.0	0.0	86	108	0	0	21,533	52,830	0	1,780	1,095	-28,682
281+00	41.8	39.8	0.0	0.0	80	84	0	0	21,612	52,940	0	1,780	1,095	-28,712
281+50	39.5	39.8	0.0	0.0	75	74	0	0	21,687	53,035	0	1,780	1,095	-28,732
282+00	37.3	41.3	0.0	0.0	71	75	0	0	21,758	53,133	0	1,780	1,095	-28,759
282+50	35.2	38.8	0.0	0.0	67	74	0	0	21,825	53,229	0	1,780	1,095	-28,788
283+00	33.3	31.3	0.0	0.0	63	65	0	0	21,889	53,313	0	1,780	1,095	-28,809
283+50	38.0	19.3	0.0	0.0	66	47	0	0	21,955	53,374	0	1,780	1,095	-28,804
284+00	75.5	22.2	0.0	0.0	105	38	0	0	22,060	53,424	0	1,780	1,095	-28,749
284+50	154.1	5.5	0.0	0.0	213	26	0	0	22,272	53,458	0	1,780	1,095	-28,570
285+00	242.3	5.6	0.0	0.0	367	10	0	0	22,640	53,471	0	1,780	1,095	-28,216
285+50	120.2	10.3	0.0	0.0	336	15	0	0	22,975	53,490	0	1,780	1,095	-27,899
286+00	147.1	8.7	0.0	0.0	247	18	0	0	23,223	53,513	0	1,780	1,095	-27,675
286+50	160.7	9.1	0.0	0.0	285	16	0	0	23,508	53,534	0	1,780	1,095	-27,411
287+00	162.6	9.5	0.0	0.0	299	17	0	0	23,807	53,557	0	1,780	1,095	-27,134
288+77	137.0	9.7	0.0	0.0	981	63	0	0	24,788	53,639	0	1,780	1,095	-26,235
289+00	157.6	12.5	0.0	0.0	127	10	0	0	24,915	53,651	0	1,780	1,095	-26,121
289+50	125.5	16.4	0.0	0.0	262	27	0	0	25,177	53,686	0	1,780	1,095	-25,894
290+00	93.8	16.3	0.0	0.0	203	30	0	0	25,380	53,725	0	1,780	1,095	-25,730
290+50	75.3	22.1	0.0	0.0	157	35	0	0	25,536	53,772	0	1,780	1,095	-25,619
291+00	52.1	22.4	0.0	0.0	118	41	0	0	25,654	53,825	0	1,780	1,095	-25,555
291+50	2.4	69.2	0.0	0.0	50	85	0	0	25,705	53,935	0	1,780	1,095	-25,615
292+00	0.3	134.6	0.0	0.0	2	189	0	0	25,707	54,181	0	1,780	1,095	-25,858
292+50	0.1	230.4	0.0	0.0	0	338	0	0	25,708	54,620	0	1,780	1,095	-26,297
293+00	0.2	170.3	0.0	0.0	0	371	0	0	25,708	55,102	0	1,780	1,095	-26,779
293+50	0.0	220.4	0.0	0.0	0	362	0	0	25,708	55,573	0	1,780	1,095	-27,249
294+00	0.0	272.1	0.0	0.0	0	456	0	0	25,708	56,165	0	1,780	1,095	-27,842
294+50	0.0	319.3	0.0	0.0	0	548	0	0	25,708	56,877	0	1,780	1,095	-28,554

Notes:

1 - Cut	Cut includes Salvaged/Unusable Pavement material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections
3 - Fill	Does not include Unusable Pavement Exc volume
4 - Expanded Marsh Backfill	Will be backfilled with Select Borrow
5 - Expanded EBS	Will be backfilled with Select Borrow
6 - Reduced Marsh in Fill	Reduced Marsh Excavation that can be used in Fill
7 - Reduced EBS in Fill	Reduced EBS Excavation that can be used in Fill
8 - Mass Ordinate	[(Cut + Marsh Exc + EBS) - ((Fill - Reduced Marsh in Fill) - (Reduced EBS in Fill) - Expanded Rock) * Fill Factor)]

9

9

USH 18 (STAGE 2A) (CONTINUED)

STATION	AREA (SF) Cut	Fill	Rock Exc	EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Fill Note 3	Rock Exc	EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.30	Expanded Rock 1.10	Expanded EBS Backfill 1.30 Note 5	Reduced EBS In Fill 0.80 Note 7	Mass Ordinate Note 8
295+00	0.0	353.4	0.0	0.0	0	623	0	0	25,708	57,687	0	1,780	1,095	-29,363
295+50	0.0	383.5	0.0	0.0	0	682	0	0	25,708	58,574	0	1,780	1,095	-30,250
295+83	0.0	386.2	0.0	0.0	0	465	0	0	25,708	59,179	0	1,780	1,095	-30,855
296+00	0.0	381.3	0.0	0.0	0	247	0	0	25,708	59,500	0	1,780	1,095	-31,176
296+50	0.0	348.0	0.0	0.0	0	675	0	0	25,708	60,377	0	1,780	1,095	-32,054
297+00	0.0	315.9	0.0	0.0	0	615	0	0	25,708	61,176	0	1,780	1,095	-32,853
297+50	0.0	268.8	0.0	0.0	0	541	0	0	25,708	61,880	0	1,780	1,095	-33,556
298+00	0.0	363.9	0.0	0.0	0	586	0	0	25,708	62,642	0	1,780	1,095	-34,318
298+50	0.0	322.1	0.0	0.0	0	635	0	0	25,708	63,467	0	1,780	1,095	-35,144
299+00	0.0	284.5	0.0	0.0	0	562	0	0	25,708	64,198	0	1,780	1,095	-35,874
299+50	0.0	244.6	0.0	0.0	0	490	0	0	25,708	64,834	0	1,780	1,095	-36,511
300+00	0.0	209.5	0.0	0.0	0	420	0	0	25,708	65,381	0	1,780	1,095	-37,057
300+50	8.4	276.6	0.0	0.0	8	450	0	0	25,716	65,966	0	1,780	1,095	-37,634
301+00	15.5	230.6	0.0	0.0	22	470	0	0	25,738	66,577	0	1,780	1,095	-38,223
301+50	21.3	207.9	0.0	0.0	34	406	0	0	25,772	67,104	0	1,780	1,095	-38,717
302+00	31.5	181.9	0.0	0.0	49	361	0	0	25,821	67,574	0	1,780	1,095	-39,137
302+50	40.5	194.0	0.0	0.0	67	348	0	0	25,888	68,026	0	1,780	1,095	-39,523
303+00	38.5	152.9	0.0	0.0	73	321	0	0	25,961	68,443	0	1,780	1,095	-39,867
303+50	29.6	133.3	0.0	0.0	63	265	0	0	26,024	68,788	0	1,780	1,095	-40,148
304+00	19.2	103.0	0.0	0.0	45	219	0	0	26,069	69,072	0	1,780	1,095	-40,388
304+50	15.8	74.9	0.0	0.0	32	165	0	0	26,101	69,286	0	1,780	1,095	-40,569
305+00	18.9	59.9	0.0	0.0	32	125	0	0	26,134	69,449	0	1,780	1,095	-40,699
305+50	67.6	-0.8	0.0	0.0	80	55	0	0	26,214	69,520	0	1,780	1,095	-40,690
306+00	83.4	21.4	0.0	0.0	140	19	0	0	26,354	69,545	0	1,780	1,095	-40,575
306+50	90.6	55.1	0.0	0.0	161	71	0	0	26,515	69,637	0	1,780	1,095	-40,506
307+00	95.9	49.3	0.0	0.0	173	97	0	0	26,687	69,762	0	1,780	1,095	-40,459
307+50	173.7	27.4	0.0	0.0	250	71	0	0	26,937	69,855	0	1,780	1,095	-40,302
308+00	160.7	54.4	0.0	0.0	310	76	0	0	27,247	69,953	0	1,780	1,095	-40,091
308+50	0.0	140.1	0.0	0.0	149	180	0	0	27,396	70,187	0	1,780	1,095	-40,176
309+00	0.0	234.5	0.0	0.0	0	347	0	0	27,396	70,638	0	1,780	1,095	-40,627
309+50	0.0	302.9	0.0	0.0	0	498	0	0	27,396	71,285	0	1,780	1,095	-41,274
310+00	0.0	387.4	0.0	0.0	0	639	0	0	27,396	72,116	0	1,780	1,095	-42,105
311+56	0.0	538.4	0.0	0.0	0	2,677	0	0	27,396	75,596	0	1,780	1,095	-45,585
312+00	0.0	557.7	0.0	0.0	0	891	0	0	27,396	76,754	0	1,780	1,095	-46,742
312+50	0.0	585.7	0.0	0.0	0	1,059	0	0	27,396	78,130	0	1,780	1,095	-48,119
313+00	0.0	629.2	0.0	0.0	0	1,125	0	0	27,396	79,592	0	1,780	1,095	-49,581
313+50	0.0	679.4	0.0	0.0	0	1,212	0	0	27,396	81,167	0	1,780	1,095	-51,156
314+00	0.0	785.5	0.0	0.0	0	1,356	0	0	27,396	82,931	0	1,780	1,095	-52,920
314+50	0.0	733.4	0.0	0.0	0	1,406	0	0	27,396	84,759	0	1,780	1,095	-54,748
315+00	0.0	908.0	0.0	0.0	0	1,520	0	0	27,396	86,735	0	1,780	1,095	-56,724
315+50	0.0	833.4	0.0	0.0	0	1,612	0	0	27,396	88,831	0	1,780	1,095	-58,820
316+00	0.0	711.7	0.0	0.0	0	1,431	0	0	27,396	90,691	0	1,780	1,095	-60,680
316+50	0.0	542.6	0.0	0.0	0	1,161	0	0	27,396	92,200	0	1,780	1,095	-62,189
317+00	0.0	554.7	0.0	0.0	0	1,016	0	0	27,396	93,521	0	1,780	1,095	-63,510
317+50	0.0	496.8	0.0	0.0	0	974	0	0	27,396	94,787	0	1,780	1,095	-64,776
318+00	440.6	0.0	0.0	0.0	408	460	0	0	27,803	95,385	0	1,780	1,095	-64,966
318+50	255.3	0.0	0.0	0.0	644	0	0	0	28,448	95,385	0	1,780	1,095	-64,322
319+00	132.2	0.0	0.0	0.0	359	0	0	0	28,807	95,385	0	1,780	1,095	-63,963
319+50	122.2	0.0	0.0	0.0	236	0	0	0	29,042	95,385	0	1,780	1,095	-63,727
320+00	108.8	0.0	0.0	0.0	214	0	0	0	29,256	95,385	0	1,780	1,095	-63,513
320+50	104.9	24.9	0.0	0.0	198	23	0	0	29,454	95,415	0	1,780	1,095	-63,346
321+00	125.4	13.4	0.0	0.0	213	35	0	0	29,667	95,461	0	1,780	1,095	-63,178
321+50	169.3	7.7	0.0	0.0	273	20	0	0	29,940	95,487	0	1,780	1,095	-62,931
321+76	99.0	13.6	0.0	0.0	130	10	0	0	30,070	95,500	0	1,780	1,095	-62,814
323+00	135.1	11.1	0.0	0.0	537	57	0	0	30,607	95,574	0	1,780	1,095	-62,351
323+50	110.7	7.0	0.0	0.0	228	17	0	0	30,835	95,596	0	1,780	1,095	-62,145
324+00	79.4	11.4	0.0	0.0	176	17	0	0	31,011	95,618	0	1,780	1,095	-61,991
324+50	80.0	10.5	0.0	0.0	148	20	0	0	31,158	95,644	0	1,780	1,095	-61,870
325+00	81.9	8.0	0.0	0.0	150	17	0	0	31,308	95,666	0	1,780	1,095	-61,743
325+50	125.3	12.6	0.0	0.0	192	19	0	0	31,500	95,691	0	1,780	1,095	-61,576
326+00	121.7	11.4	0.0	0.0	229	22	0	0	31,729	95,720	0	1,780	1,095	-61,376
326+12	118.1	11.0	0.0	0.0	53	5	0	0	31,782	95,727	0	1,780	1,095	-61,329
326+50	118.5	9.9	0.0	0.0	167	15	0	0	31,948	95,746	0	1,780	1,095	-61,182
327+00	109.3	13.4	0.0	0.0	211	22	0	0	32,159	95,774	0	1,780	1,095	-60,999
327+34	138.7	16.5	0.0	0.0	156	19	0	0	32,316	95,798	0	1,780	1,095	-60,867
327+50	120.1	18.7	0.0	0.0	77	10	0	0	32,392	95,812	0	1,780	1,095	-60,804
327+59	112.6	19.9	0.0	0.0	39	6	0	0	32,431	95,820	0	1,780	1,095	-60,773
327+84	103.1	25.1	0.0	0.0	100	21	0	0	32,531	95,847	0	1,780	1,095	-60,701
328+00	98.4	30.2	0.0	0.0	60	16	0	0	32,591	95,868	0	1,780	1,095	-60,662
328+50	88.8	34.7	0.0	0.0	173	60	0	0	32,764	95,947	0	1,780	1,095	-60,567
329+00	89.3	19.9	0.0	0.0	165	51	0	0	32,929	96,012	0	1,780	1,095	-60,468
329+50	112.3	26.2	0.0	0.0	187	43	0	0	33,115	96,068	0	1,780	1,095	-60,337
330+00	102.3	33.0	0.0	0.0	199	55	0	0	33,314	96,139	0	1,780	1,095	-60,210
330+50	99.4	24.8	0.0	0.0	187	54	0	0	33,501	96,209	0	1,780	1,095	-60,092

USH 18 (STAGE 2A) (CONTINUED)

STATION	AREA (SF) Cut	Fill	Rock Exc	EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Fill Note 3	Rock Exc	EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.30	Expanded Rock 1.10	Expanded EBS Backfill 1.30 Note 5	Reduced EBS In Fill 0.80 Note 7	Mass Ordinate Note 8
331+00	96.2	16.1	0.0	0.0	181	38	0	0	33,682	96,258	0	1,780	1,095	-59,961
331+13	97.5	16.3	0.0	0.0	47	8	0	0	33,728	96,268	0	1,780	1,095	-59,924
331+50	109.0	13.0	0.0	0.0	141	20	0	0	33,870	96,294	0	1,780	1,095	-59,809
332+00	128.9	14.2	0.0	0.0	220	25	0	0	34,090	96,327	0	1,780	1,095	-59,621
332+35	119.1	19.1	0.0	0.0	161	22	0	0	34,251	96,355	0	1,780	1,095	-59,489
332+50	80.9	10.7	0.0	0.0	56	8	0	0	34,306	96,366	0	1,780	1,095	-59,444
332+60	76.7	11.8	0.0	0.0	29	4	0	0	34,336	96,372	0	1,780	1,095	-59,420
332+85	117.4	9.8	0.0	0.0	90	10	0	0	34,426	96,385	0	1,780	1,095	-59,343
333+00	159.7	5.5	0.0	0.0	77	4	0	0	34,502	96,390	0	1,780	1,095	-59,272
333+50	177.1	4.0	0.0	0.0	312	9	0	0	34,814	96,402	0	1,780	1,095	-58,972
334+00	184.9	7.5	0.0	0.0	335	11	0	0	35,149	96,416	0	1,780	1,095	-58,650
334+50	205.3	9.7	0.0	0.0	0	0	0	0	35,149	96,416	0	1,780	1,095	-58,650
335+00	142.0	13.7	0.0	0.0	322	22	0	0	35,471	96,444	0	1,780	1,095	-58,357
335+50	225.4	20.3	0.0	0.0	340	31	0	0	35,811	96,485	0	1,780	1,095	-58,058
336+00	246.0	32.9	0.0	0.0	436	49	0	0	36,248	96,549	0	1,780	1,095	-57,685
336+50	465.4	0.0	0.0	0.0	659	30	0	0	36,906	96,588	0	1,780	1,095	-57,066
337+00	490.0	0.0	0.0	0.0	885	0	0	0	37,791	96,588	0	1,780	1,095	-56,181
337+50	526.1	0.0	0.0	0.0	941	0	0	0	38,732	96,588	0	1,780	1,095	-55,241
338+00	555.4	0.0	0.0	0.0	1,001	0	0	0	39,733	96,588	0	1,780	1,095	-54,239
338+54	62.6	0.0	0.0	0.0	618	0	0	0	40,351	96,588	0	1,780	1,095	-53,622
339+00	49.8	0.0	0.0	0.0	96	0	0	0	40,447	96,588	0	1,780	1,095	-53,526
339+50	31.7	0.0	0.0	0.0	75	0	0	0	40,522	96,588	0	1,780	1,095	-53,450
340+00	26.8	0.0	0.0	0.0	54	0	0	0	40,576	96,588	0	1,780	1,095	-53,396
340+50	12.7	0.0	0.0	0.0	37	0	0	0	40,613	96,588	0	1,780	1,095	-53,360
341+00	4.6	0.0	0.0	0.0	16	0	0	0	40,629	96,588	0	1,780	1,095	-53,344
343+10	36.9	135.4	0.0	0.0	161	526	0	0	40,790	97,272	0	1,780	1,095	-53,866
343+50	63.8	147.4	0.0	0.0	75	211	0	0	40,865	97,546	0	1,780	1,095	-54,065
344+00	51.9	163.6	0.0	0.0	107	288	0	0	40,972	97,920	0	1,780	1,095	-54,332
344+50	16.0	164.2	0.0	0.0	63	303	0	0	41,035	98,314	0	1,780	1,095	-54,664
345+00	1.2	162.7	0.0	0.0	16	303	0	0	41,051	98,708	0	1,780	1,095	-55,041
345+50	0.0	170.8	0.0	0.0	1	309	0	0	41,052	99,109	0	1,780	1,095	-55,442
346+00	0.0	150.4	0.0	0.0	0	297	0	0	41,052	99,496	0	1,780	1,095	-55,828
346+50	0.0	120.5	0.0	0.0	0	251	0	0	41,052	99,822	0	1,780	1,095	-56,154
347+00	0.0	89.2	0.0	0.0	0	194	0	0	41,052	100,075	0	1,780	1,095	-56,407
347+50	4.6	62.0	0.0	0.0	4	140	0	0	41,057	100,256	0	1,780	1,095	-56,584
348+00	23.5	36.3	0.0	0.0	26	91	0	0	41,083	100,375	0	1,780	1,095	-56,676
348+50	56.8	21.2	0.0	0.0	74	53	0	0	41,157	100,444	0	1,780	1,095	-56,671
349+00	95.2	21.6	0.0	0.0	141	40	0	0	41,298	100,495	0	1,780	1,095	-56,582
349+50	145.9	14.1	0.0	0.0	223	33	0	0	41,521	100,538	0	1,780	1,095	-56,402
350+00	181.1	11.8	0.0	0.0	303	24	0	0	41,824	100,570	0	1,780	1,095	-56,130
350+50	201.0	9.0	0.0	0.0	354	19	0	0	42,178	100,595	0	1,780	1,095	-55,802
351+00	210.5	4.1	0.0	0.0	381	12	0	0	42,559	100,611	0	1,780	1,095	-55,436
351+29	213.2	1.4	0.0	0.0	227	3	0	0	42,785	100,614	0	1,780	1,095	-55,213
351+50	227.9	0.2	0.0	0.0	172	1	0	0	42,958	100,615	0	1,780	1,095	-55,042
352+00	263.1	11.4	0.0	0.0	455	11	0	0	43,412	100,629	0	1,780	1,095	-54,601
352+48	282.8	6.2	0.0	0.0	485	16	0	0	43,898	100,650	0	1,780	1,095	-54,136
352+50	282.3	6.8	0.0	0.0	21	0	0	0	43,919	100,650	0	1,780	1,095	-54,116
353+00	283.7	0.0	0.0	0.0	524	6	0	0	44,443	100,658	0	1,780	1,095	-53,600
353+50	338.9	0.0	0.0	0.0	577	0	0	0	45,019	100,658	0	1,780	1,095	-53,024
353+76	269.3	0.0	0.0	0.0	297	0	0	0	45,316	100,658	0	1,780	1,095	-52,727
355+25	217.6	0.0	0.0	0.0	1,339	0	0	0	46,655	100,658	0	1,780	1,095	-51,388
355+50	202.0	0.0	0.0	0.0	195	0	0	0	46,850	100,658	0	1,780	1,095	-51,192
356+00	155.3	0.0	0.0	0.0	331	0	0	0	47,181	100,658	0	1,780	1,095	-50,862
356+50	129.9	0.0	0.0	0.0	264	0	0	0	47,445	100,658	0	1,780	1,095	-50,597
357+00	115.3	3.6	0.0	0.0	227	3	0	0	47,672	100,663	0	1,780	1,095	-50,375
357+50	101.2	84.0	0.0	0.0	200	81	0	0	47,873	100,768	0	1,780	1,095	-50,280
358+00	90.7	117.6	0.0	0.0	178	187	0	0	48,051	101,011	0	1,780	1,095	-50,345
358+50	80.9	100.3	0.0	0.0	159	202	0	0	48,209	101,273	0	1,780	1,095	-50,448
359+00	76.8	21.8	0.0	0.0	146	113	0	0	48,355	101,420	0	1,780	1,095	-50,449
359+50	78.1	9.6	0.0	0.0	143	29	0	0	48,499	101,458	0	1,780	1,095	-50,343
360+00	0.0	0.0	0.0	0.0	72	9	0	0	48,571	101,470	0	1,780	1,095	-50,283

Notes:

1 - Cut	Cut includes Salvaged/Unusable Pavement material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections
3 - Fill	Does not include Unusable Pavement Exc volume
4 - Expanded Marsh Backfill	Will be backfilled with Select Borrow
5 - Expanded EBS	Will be backfilled with Select Borrow
6 - Reduced Marsh in Fill	Reduced Marsh Excavation that can be used in Fill
7 - Reduced EBS in Fill	Reduced EBS Excavation that can be used in Fill
8 - Mass Ordinate	[(Cut + Marsh Exc + EBS) - ((Fill - Reduced Marsh in Fill) - (Reduced EBS in Fill) - Expanded Rock) * Fill Factor)]

9 9

USH 18 (STAGE 3A)

STATION	AREA (SF) Cut	Fill	Rock Exc	EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Fill Note 3	Rock Exc	EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.30	Expanded Rock 1.10	Expanded EBS Backfill 1.30 Note 5	Reduced EBS In Fill 0.80 Note 7	Mass Ordinate Note 8
360+00	76.2	9.1	0.0	0.0	141	17	0	0	141	22	0	0	0	119
360+50	74.8	12.9	0.0	0.0	140	20	0	0	281	48	0	0	0	232
361+00	66.2	14.7	0.0	0.0	131	26	0	0	411	82	0	0	0	330
361+50	60.4	12.1	0.0	0.0	117	25	0	0	529	114	0	0	0	415
361+67	56.9	11.3	0.0	0.0	37	7	0	0	566	123	0	0	0	442
362+00	63.1	6.6	0.0	0.0	73	11	0	0	639	138	0	0	0	501
362+48	64.0	10.3	0.0	0.0	113	15	0	0	752	157	0	0	0	595
362+50	65.0	10.5	0.0	0.0	5	1	0	0	757	158	0	0	0	599
362+86	70.1	14.5	0.0	0.0	89	16	0	0	845	179	0	0	0	666
363+00	67.8	18.3	0.0	0.0	37	9	0	0	883	191	0	0	0	692
363+11	71.0	26.2	0.0	0.0	27	9	0	0	910	202	0	0	0	707
363+36	76.0	0.0	0.0	0.0	68	12	0	0	978	218	0	0	0	760
363+50	81.3	0.0	0.0	0.0	42	0	0	0	1,020	218	0	0	0	802
363+67	86.6	0.0	0.0	0.0	54	0	0	0	1,074	218	0	0	0	856
363+92	90.3	0.1	0.0	0.0	82	0	0	0	1,156	218	0	0	0	938
364+00	87.8	0.0	0.0	0.0	25	0	0	0	1,181	218	0	0	0	963
364+17	80.8	0.0	0.0	0.0	54	0	0	0	1,235	218	0	0	0	1,017
364+50	73.2	0.3	0.0	0.0	93	0	0	0	1,328	218	0	0	0	1,110
365+00	73.0	0.1	0.0	0.0	135	0	0	0	1,464	219	0	0	0	1,245
365+40	57.3	0.0	0.0	0.0	96	0	0	0	1,559	219	0	0	0	1,340

SUGARLOAF TRAIL

STATION	AREA (SF) Cut	Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.30	Mass Ordinate Note 8
10+67	0.0	0.0	0	0	0	0	0
11+07.643	65.5	40.6	49	31	49	40	10
11+50.000	45.1	41.0	87	64	136	123	13

USH 18 (STAGE 3B)

STATION	AREA (SF) Cut	Fill	Rock Exc	EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Fill Note 3	Rock Exc	EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.30	Expanded Rock 1.10	Expanded EBS Backfill 1.30 Note 5	Reduced EBS In Fill 0.80 Note 7	Mass Ordinate Note 8
360+00	76.2	0.0	0.0	0.0	141	0	0	0	141	0	0	0	0	141
360+50	74.8	0.0	0.0	0.0	140	0	0	0	281	0	0	0	0	281
361+00	66.2	0.0	0.0	0.0	131	0	0	0	411	0	0	0	0	411
361+50	60.4	0.0	0.0	0.0	117	0	0	0	529	0	0	0	0	529
361+67	56.9	0.0	0.0	0.0	37	0	0	0	566	0	0	0	0	566
362+00	63.1	0.0	0.0	0.0	73	0	0	0	639	0	0	0	0	639
362+48	64.0	10.3	0.0	0.0	113	9	0	0	752	12	0	0	0	740
362+50	65.0	10.5	0.0	0.0	5	1	0	0	757	13	0	0	0	744
362+86	70.1	14.5	0.0	0.0	89	16	0	0	845	34	0	0	0	811
363+00	67.8	18.3	0.0	0.0	37	9	0	0	883	46	0	0	0	837
363+11	71.0	26.2	0.0	0.0	27	9	0	0	910	57	0	0	0	853
363+36	76.0	0.0	0.0	0.0	68	12	0	0	978	73	0	0	0	905
363+50	81.3	0.0	0.0	0.0	42	0	0	0	1,020	73	0	0	0	947
363+67	86.6	0.0	0.0	0.0	54	0	0	0	1,074	73	0	0	0	1,001
363+92	90.3	0.1	0.0	0.0	82	0	0	0	1,156	73	0	0	0	1,083
364+00	87.8	0.0	0.0	0.0	25	0	0	0	1,181	73	0	0	0	1,108
364+17	80.8	0.0	0.0	0.0	54	0	0	0	1,235	73	0	0	0	1,163
364+50	73.2	0.3	0.0	0.0	93	0	0	0	1,328	73	0	0	0	1,255
365+00	73.0	0.1	0.0	0.0	135	0	0	0	1,464	73	0	0	0	1,390
365+40	57.3	0.0	0.0	0.0	96	0	0	0	1,559	74	0	0	0	1,486

USH 18 STAGE 4 (TEMP CROSSOVER)

STATION	AREA (SF) Cut	Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.30	Mass Ordinate Note 8
STAGE 4							
197+55	22.00	0.00	0	0	0	0	0
198+00	22.90	0.00	37	0	37	0	37
198+50	25.20	0.00	45	0	82	0	82
199+00	25.70	0.00	47	0	129	0	129
199+50	27.90	0.00	50	0	179	0	179
200+00	33.10	0.00	56	0	235	0	235
200+12	33.00	0.00	15	0	250	0	250
318+15	0.0	0.0	0	0	0	0	0
319+00	0.3	0.0	0	0	0	0	0
320+00	8.0	0.0	15	0	16	0	16
321+00	19.0	0.0	50	0	66	0	66
321+86	19.0	0.0	61	0	126	0	126
324+86	0.00	0.00	0	0	0	0	0
326+00	15.00	0.00	32	0	32	0	32
327+00	23.40	0.00	71	0	103	0	103
328+00	29.40	0.00	98	0	201	0	201
329+00	22.50	0.00	96	0	297	0	297
330+00	30.70	0.00	99	0	395	0	395
331+00	21.50	0.00	97	0	492	0	492
332+00	5.90	0.00	51	0	543	0	543
333+00	2.00	0.00	15	0	557	0	557
334+00	1.00	0.00	6	0	563	0	563
334+27	0.00	0.00	1	0	563	0	563
354+91	6.00	0.00	0	0	0	0	0
355+25	6.00	0.00	8	0	8	0	8
356+00	6.00	0.00	17	0	24	0	24
357+00	6.00	0.00	22	0	46	0	46
358+00	6.00	0.00	22	0	69	0	69
359+00	6.00	0.00	22	0	91	0	91
359+50	6.00	0.00	11	0	102	0	102

SUGARLOAF CHANNEL

STATION	AREA (SF) Cut	Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Fill Note 3	Cumulatve Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.30	Mass Ordinate Note 8
20+25	26.5	6.8	0	0	0	0	0
20+50	62.9	12.9	41	9	41	12	30
20+75	69.7	0.0	61	6	103	20	83
21+00	100.8	0.0	79	0	182	20	162

Notes:

1 - Cut	Cut includes Salvaged/Unusable Pavement material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections
3 - Fill	Does not include Unusable Pavement Exc volume
4 - Expanded Marsh Backfill	Will be backfilled with Select Borrow
5 - Expanded EBS	Will be backfilled with Select Borrow
6 - Reduced Marsh in Fill	Reduced Marsh Excavation that can be used in Fill
7 - Reduced EBS in Fill	Reduced EBS Excavation that can be used in Fill
8 - Mass Ordinate	[(Cut + Marsh Exc + EBS) - ((Fill - Reduced Marsh in Fill) - (Reduced EBS in Fill) - Expanded Rock) * Fill Factor)]

DRIVEWAY A

STATION	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.30	Mass Ordinate Note 8
20+60	0.0	648.8	0	0	0	0	0
21+00	248.6	137.6	184	583	184	757	-573
21+50	17.8	139.1	247	256	431	1,090	-659
22+00	3.7	45.9	20	171	451	1,313	-862
22+48	7.3	0.4	10	41	461	1,366	-906

DRIVEWAY B

STATION	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.30	Mass Ordinate Note 8
22+30	13.4	0.6	0	0	0	0	0
22+50	9.1	0.3	8	0	8	0	8
23+00	0.0	89.6	8	83	17	109	-92
23+50	0.0	331.8	0	390	17	616	-599
23+63	0.0	207.4	0	133	17	789	-772

CABIN HILL LANE

STATION	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.30	Mass Ordinate Note 8
38+14	15.0	0.0	0	0	0	0	0
38+50	28.1	6.3	29	4	29	5	23
39+00	4.3	21.1	30	25	59	38	20
39+50	0.0	120.6	4	131	63	209	-146
40+00	0.0	250.2	0	343	63	655	-593
40+50	143.7	206.6	133	423	196	1,205	-1,009
41+00	504.5	123.2	600	305	796	1,602	-806
42+50	508.0	0.0	2,813	342	3,609	2,047	1,561
43+00	95.5	6.8	559	6	4,167	2,055	2,112
43+50	2.0	367.0	90	346	4,258	2,505	1,752
44+00	37.0	1375.2	36	1,613	4,294	4,602	-309
44+50	0.0	1637.7	34	2,790	4,328	8,229	-3,901
45+00	0.0	1860.8	0	3,239	4,328	12,440	-8,112
45+50	0.0	1767.7	0	3,360	4,328	16,808	-12,480
46+00	0.0	957.7	0	2,524	4,328	20,088	-15,760
46+50	0.0	370.9	0	1,230	4,328	21,688	-17,360
47+50	144.3	55.7	267	790	4,595	22,715	-18,120
48+00	96.4	26.1	223	76	4,818	22,813	-17,995
48+50	6.8	2.7	96	27	4,913	22,848	-17,934
49+50	11.2	52.6	33	102	4,947	22,981	-18,034
50+00	51.8	23.1	58	70	5,005	23,072	-18,067
50+50	141.0	24.4	179	44	5,184	23,129	-17,945
51+00	13.1	0.0	143	23	5,326	23,158	-17,832

WARD ROAD

STATION	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.30	Mass Ordinate Note 8
50+50	0.0	0.0	0	0	0	0	0
51+00	18.0	538.6	12	359	12	467	-455
51+50	46.6	365.3	60	837	72	1,555	-1,483
52+00	42.6	143.2	83	471	154	2,167	-2,012
52+50	37.6	207.6	74	325	229	2,589	-2,360
53+00	34.5	0.0	67	192	296	2,839	-2,543
53+32	30.6	0.1	60	0	356	2,839	-2,483

OLD HWY 18 (WEST)

STATION	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.30	Mass Ordinate Note 8
25+02	10.0	10.0	0	0	0	0	0
25+42	16.7	56.7	20	49	20	64	-44
26+00	228.8	10.5	264	72	283	158	126
26+50	382.8	65.9	566	71	850	250	600
27+00	334.2	192.2	664	239	1,514	561	953
27+50	245.6	350.9	537	503	2,051	1,214	836
28+00	257.2	379.6	466	676	2,516	2,094	423
28+39	440.3	305.8	504	495	3,020	2,737	283
28+86	400.0	275.0	731	505	3,751	3,394	357
29+15	0.0	0.0	215	148	3,966	3,586	380

CHANNEL

STATION	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.30	Mass Ordinate Note 8
22+60	200.0	0.0	0	0	0	0	0
23+00	520.2	0.0	533	0	533	0	533
23+50	612.1	0.0	1,048	0	1,582	0	1,582
24+00	403.5	0.1	940	0	2,522	0	2,522
24+50	159.9	0.4	522	0	3,044	1	3,043
25+00	94.7	14.4	236	14	3,280	19	3,261
25+50	88.8	12.5	170	25	3,449	51	3,399
26+00	107.1	17.8	181	28	3,631	87	3,543
26+50	150.2	68.8	238	80	3,869	192	3,677
26+73	186.5	171.8	141	101	4,010	323	3,687
27+07	412.9	0.6	381	110	4,391	465	3,926
27+12	429.6	0.0	76	0	4,467	465	4,002
27+25	432.7	2.7	207	1	4,674	466	4,208
27+43	398.0	0.6	277	1	4,951	468	4,484
27+51	243.8	0.0	103	0	5,054	468	4,586
35+15	51.3	12.0	0	0	0	0	0
35+50	338.6	0.7	251	8	251	11	240
36+04	306.8	0.6	645	1	896	12	884
36+30	8.3	0.0	152	0	1,048	13	1,035

DRIVEWAY H

STATION	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.30	Mass Ordinate Note 8
8+36	5.0	0.0	0	0	0	0	0
8+50	14.7	1.0	5	0	5	0	5
9+00	53.6	0.0	63	1	68	2	67
9+50	90.2	1.6	133	1	201	4	198
9+70	0.0	0.0	33	1	235	4	231

Notes:

1 - Cut	Cut includes Salvaged/Unusable Pavement material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections
3 - Fill	Does not include Unusable Pavement Exc volume
4 - Expanded Marsh Backfill	Will be backfilled with Select Borrow
5 - Expanded EBS	Will be backfilled with Select Borrow
6 - Reduced Marsh in Fill	Reduced Marsh Excavation that can be used in Fill
7 - Reduced EBS in Fill	Reduced EBS Excavation that can be used in Fill
8 - Mass Ordinate	[(Cut + Marsh Exc + EBS) - ((Fill - Reduced Marsh in Fill) - (Reduced EBS in Fill) - Expanded Rock) * Fill Factor)]

9 9

9

CHURCH ENTRANCE

STATION	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.30	Mass Ordinate Note 8
61+00	0.0	0.0	0	0	0	0	0
61+46	0.7	181.0	1	154	1	200	-200
62+00	42.4	0.0	43	181	44	436	-392
62+14	10.0	0.0	14	0	57	436	-379

UTOPIA LANE CONNECTION

STATION	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.30	Mass Ordinate Note 8
70+95	0.0	0.0	0	0	0	0	0
71+46	257.7	0.0	243	0	243	0	243
71+50	246.2	0.0	39	0	281	0	281
72+00	126.7	0.0	345	0	627	0	627
72+21	48.4	10.9	70	4	696	6	691

UTOPIA LANE

STATION	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.30	Mass Ordinate Note 8
80+92	0.0	0.0	0	0	0	0	0
81+00	34.4	100.9	5	16	5	20	-15
81+50	29.8	2.7	59	96	65	145	-80
82+00	7.9	8.9	35	11	100	159	-59
82+50	15.6	4.4	22	12	121	175	-54
83+00	70.1	9.5	79	13	201	192	9
83+50	79.4	8.2	138	16	339	213	126
84+00	81.2	5.2	149	12	488	229	259
84+50	69.8	0.0	140	5	628	235	392
85+00	77.2	13.5	136	12	764	252	512
85+50	46.6	15.9	115	27	878	287	591
86+03	40.3	13.1	85	28	963	324	639
86+92	10.0	5.0	83	30	1,046	363	684

OLD HWY 18 (EAST)

STATION	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.30	Mass Ordinate Note 8
67+30	65.3	0.0	0	0	0	0	0
67+50	54.7	0.0	45	0	45	0	45
68+00	44.8	1.5	92	1	137	2	136
68+25	46.1	0.4	42	1	179	3	177
68+50	81.6	0.0	59	0	239	3	236
68+67	74.6	0.0	51	0	289	3	286
69+30	90.0	0.0	192	0	481	3	478
69+61	0.0	0.0	51	0	532	3	529

DRIVEWAY C

STATION	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.30	Mass Ordinate Note 8
90+37	18.4	0.1	0	0	0	0	0
90+50	21.0	0.0	10	0	10	0	10
91+00	18.2	0.0	36	0	46	0	46
91+50	26.7	0.0	42	0	88	0	88
92+00	19.3	0.0	43	0	130	0	130
92+50	11.5	0.1	29	0	159	0	158
93+00	12.5	0.1	22	0	181	0	181
93+50	8.8	0.4	20	0	201	1	200
94+00	9.6	2.9	17	3	218	5	213

DRIVEWAY D

STATION	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.30	Mass Ordinate Note 8
114+43	14.9	0.2	0	0	0	0	0
114+66	1.1	9.4	7	4	7	5	1
115+00	12.6	0.9	9	7	15	14	2
115+50	8.8	2.0	20	3	35	17	18
115+71	8.1	5.8	6	3	42	21	21
115+95	7.7	12.2	7	8	49	32	17
116+00	8.1	0.1	2	1	50	33	17
116+50	13.7	0.0	20	0	71	33	37
117+00	14.6	0.1	26	0	97	33	63
117+50	13.1	0.0	26	0	122	34	89
117+72	1.6	0.9	6	0	128	34	94

GOLF VIEW DRIVE (GV)

STATION	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.30	Mass Ordinate Note 8
117+84	5.0	5.0	0	0	0	0	0
118+14	54.6	9.9	33	8	33	11	22
118+50	25.3	7.1	53	11	86	26	61
118+75	23.4	11.2	23	8	109	37	72
119+00	7.4	18.8	14	14	123	55	68
119+50	9.7	9.2	16	26	139	88	51
120+50	78.1	40.1	163	91	302	207	95
121+00	40.2	53.7	110	87	411	320	91
121+50	58.4	56.3	91	102	502	452	50
122+00	28.6	74.7	80	121	583	610	-27
122+50	21.2	91.4	46	154	629	810	-181
123+00	22.9	100.5	41	178	670	1,041	-371
123+50	38.6	96.7	57	183	727	1,279	-552
125+00	99.0	41.1	382	383	1,109	1,776	-667
125+50	80.6	39.5	166	75	1,275	1,873	-598
125+77	48.4	42.5	64	40	1,339	1,926	-587
126+00	67.6	47.3	50	39	1,389	1,976	-587
126+50	36.2	26.3	96	68	1,485	2,065	-579

Notes:

1 - Cut	Cut includes Salvaged/Unusable Pavement material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections
3 - Fill	Does not include Unusable Pavement Exc volume
4 - Expanded Marsh Backfill	Will be backfilled with Select Borrow
5 - Expanded EBS	Will be backfilled with Select Borrow
6 - Reduced Marsh in Fill	Reduced Marsh Excavation that can be used in Fill
7 - Reduced EBS in Fill	Reduced EBS Excavation that can be used in Fill
8 - Mass Ordinate	[(Cut + Marsh Exc + EBS) - ((Fill - Reduced Marsh in Fill) - (Reduced EBS in Fill) - Expanded Rock) * Fill Factor)]

9

GOLF VIEW DRIVE (GD)

STATION	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		
	Cut	Fill	Cut	Fill	Cut	Expanded Fill	Mass Ordinate
					1.00	1.30	
			Note 1	Note 3	Note 1		Note 8
128+51	56.13	0.00	0	0	0	0	0.00
129+00	34.29	0.00	83	0	83	0	82.87
129+59	33.26	2.72	73	3	156	4	152.48

BOUSKA ROAD

STATION	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		
	Cut	Fill	Cut	Fill	Cut	Expanded Fill	Mass Ordinate
					1.00	1.30	
			Note 1	Note 3	Note 1		Note 8
101+00	0.0	274.6	0	0	0	0	0
101+50	0.0	270.4	0	505	0	656	-656
102+00	0.0	208.2	0	443	0	1,232	-1,232
102+50	5.6	75.3	5	262	5	1,573	-1,568
103+00	17.9	94.4	22	157	27	1,778	-1,751
103+25	21.9	87.5	18	84	45	1,887	-1,842
103+40	5.0	15.0	7	28	53	1,924	-1,871

NEW FRONTAGE ROAD

STATION	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		
	Cut	Fill	Cut	Fill	Cut	Expanded Fill	Mass Ordinate
					1.00	1.30	
			Note 1	Note 3	Note 1		Note 8
140+85	187.8	0.0	0	0	0	0	0
141+00	73.8	13.8	73	4	73	5	68
141+50	44.4	0.0	109	13	182	22	160
141+60	23.0	0.0	12	0	195	22	173
142+00	0.0	4.7	17	4	212	26	185
142+57	3.8	4.8	4	10	216	39	176
143+00	3.0	6.4	5	9	221	51	170
143+49	5.0	7.7	7	13	228	68	161

DRIVEWAY E

STATION	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		
	Cut	Fill	Cut	Fill	Cut	Expanded Fill	Mass Ordinate
					1.00	1.30	
			Note 1	Note 3	Note 1		Note 8
143+03	1.0	8.0	0	0	0	0	0
143+50	8.7	27.8	8	31	8	41	-32
144+00	17.5	1.7	24	27	33	76	-43
144+60	21.0	5.5	43	8	75	87	-11
145+00	7.5	6.1	21	9	97	98	-1
145+50	10.7	8.9	17	14	113	116	-2
146+00	17.2	11.6	26	19	139	140	-1
146+50	28.2	18.2	42	28	181	176	5
147+00	41.0	13.6	64	29	245	215	31
147+50	76.8	19.4	109	31	354	254	100
148+00	70.4	22.9	136	39	491	305	185
148+20	40.0	15.0	41	14	531	324	208

DRIVEWAY G

STATION	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		
	Cut	Fill	Cut	Fill	Cut	Expanded Fill	Mass Ordinate
					1.00	1.30	
			Note 1	Note 3	Note 1		Note 8
10+65	0.0	0.0	0	0	0	0	0
10+75	1.4	3.3	0	1	0	1	-1
11+50	0.0	163.4	2	232	2	302	-300
11+75	0.2	24.5	0	87	2	415	-413
12+00	12.7	0.0	6	11	8	430	-421
12+25	0.0	0.0	6	0	14	430	-416

RAMP A

STATION	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		
	Cut	Fill	Cut	Fill	Cut	Expanded Fill	Mass Ordinate
					1.00	1.30	
			Note 1	Note 3	Note 1		Note 8
338+51	579.9	0.0	0	0	0	0	0
338+75	559.3	0.0	513	0	513	0	513
339+00	596.5	0.0	526	0	1,039	0	1,039
339+50	573.6	0.1	1,083	0	2,122	0	2,122
340+00	526.1	18.3	1,018	17	3,141	22	3,118
340+50	432.0	20.6	887	36	4,028	69	3,959
341+00	304.3	11.8	682	30	4,709	108	4,601
341+50	309.7	16.3	568	26	5,278	142	5,136
342+00	225.4	30.3	495	43	5,773	198	5,576
342+50	275.2	80.8	464	103	6,237	332	5,905
343+00	305.2	22.0	537	95	6,774	455	6,319
343+50	372.3	21.0	627	40	7,402	507	6,895
344+00	335.6	14.0	655	32	8,057	549	7,508
344+22	319.3	3.1	265	7	8,322	558	7,764

Notes:

1 - Cut	Cut includes Salvaged/Unusable Pavement material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections
3 - Fill	Does not include Unusable Pavement Exc volume
4 - Expanded Marsh Backfill	Will be backfilled with Select Borrow
5 - Expanded EBS	Will be backfilled with Select Borrow
6 - Reduced Marsh in Fill	Reduced Marsh Excavation that can be used in Fill
7 - Reduced EBS in Fill	Reduced EBS Excavation that can be used in Fill
8 - Mass Ordinate	[(Cut + Marsh Exc + EBS) - ((Fill - Reduced Marsh in Fill) - (Reduced EBS in Fill) - Expanded Rock) * Fill Factor)]

9 9

STH 60

STATION	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.30	Mass Ordinate Note 8
STAGE 2A							
160+17	0.0	0.0	0	0	0	0	0
160+37	0.0	147.3	0	56	0	73	-73
161+00	2.0	39.5	2	216	2	354	-351
161+50	12.4	108.2	13	137	16	532	-516
162+00	0.0	147.0	12	236	27	839	-812
162+50	0.0	170.9	0	294	27	1,221	-1,194
163+00	0.0	171.1	0	317	27	1,633	-1,606
163+56	0.5	146.0	1	331	28	2,064	-2,036
165+00	226.4	71.5	603	578	631	2,816	-2,185
165+50	219.7	56.7	413	119	1,044	2,970	-1,926
166+00	157.1	38.0	349	88	1,393	3,084	-1,691
166+50	107.9	25.1	245	58	1,638	3,160	-1,522
167+00	75.6	14.2	170	36	1,808	3,207	-1,399
167+50	42.9	4.9	110	18	1,918	3,230	-1,313
168+00	34.0	3.9	71	8	1,989	3,241	-1,252
168+50	35.8	2.7	65	6	2,054	3,249	-1,195
169+00	44.6	0.8	74	3	2,128	3,253	-1,125
169+50	55.6	0.0	93	1	2,221	3,254	-1,033
170+00	60.6	0.0	108	0	2,328	3,254	-926
170+32	62.0	0.0	72	0	2,400	3,254	-854
STAGE 2B							
163+56	0.00	0.00	0	0	0	0	0
165+00	150.94	47.69	403	127	403	165	237
165+50	146.44	37.80	278	80	681	269	411
166+00	128.53	31.08	252	63	933	351	581
166+50	107.91	25.11	221	53	1,154	420	734
167+00	75.64	14.25	168	36	1,322	467	856
167+50	42.90	4.95	111	18	1,433	490	943
168+00	34.00	3.93	70	8	1,503	500	1,003
168+50	35.80	2.65	65	6	1,569	508	1,060
169+00	44.55	0.77	74	3	1,642	512	1,130
169+50	55.60	0.00	94	1	1,736	513	1,223
170+00	60.55	0.00	106	0	1,842	513	1,329
170+32	62.00	0.00	72	0	1,914	513	1,401

UPPER BRIDGEPORT ROAD

STATION	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.30	Mass Ordinate Note 8
177+80	15.0	0.0	0	0	0	0	0
178+00	44.1	0.0	22	0	22	0	22
178+50	69.2	0.0	105	0	126	0	126
179+00	115.5	43.0	171	40	297	52	246
179+50	139.3	83.0	236	117	533	203	330
179+80	0.0	0.0	77	46	611	263	347
190+35	0.0	0.0	0	0	0	0	0
190+79	140.0	0.0	115	0	115	0	115
191+00	115.0	0.0	98	0	213	0	213
191+50	60.0	0.0	162	0	375	0	375
191+56	50.0	0.0	12	0	387	0	387

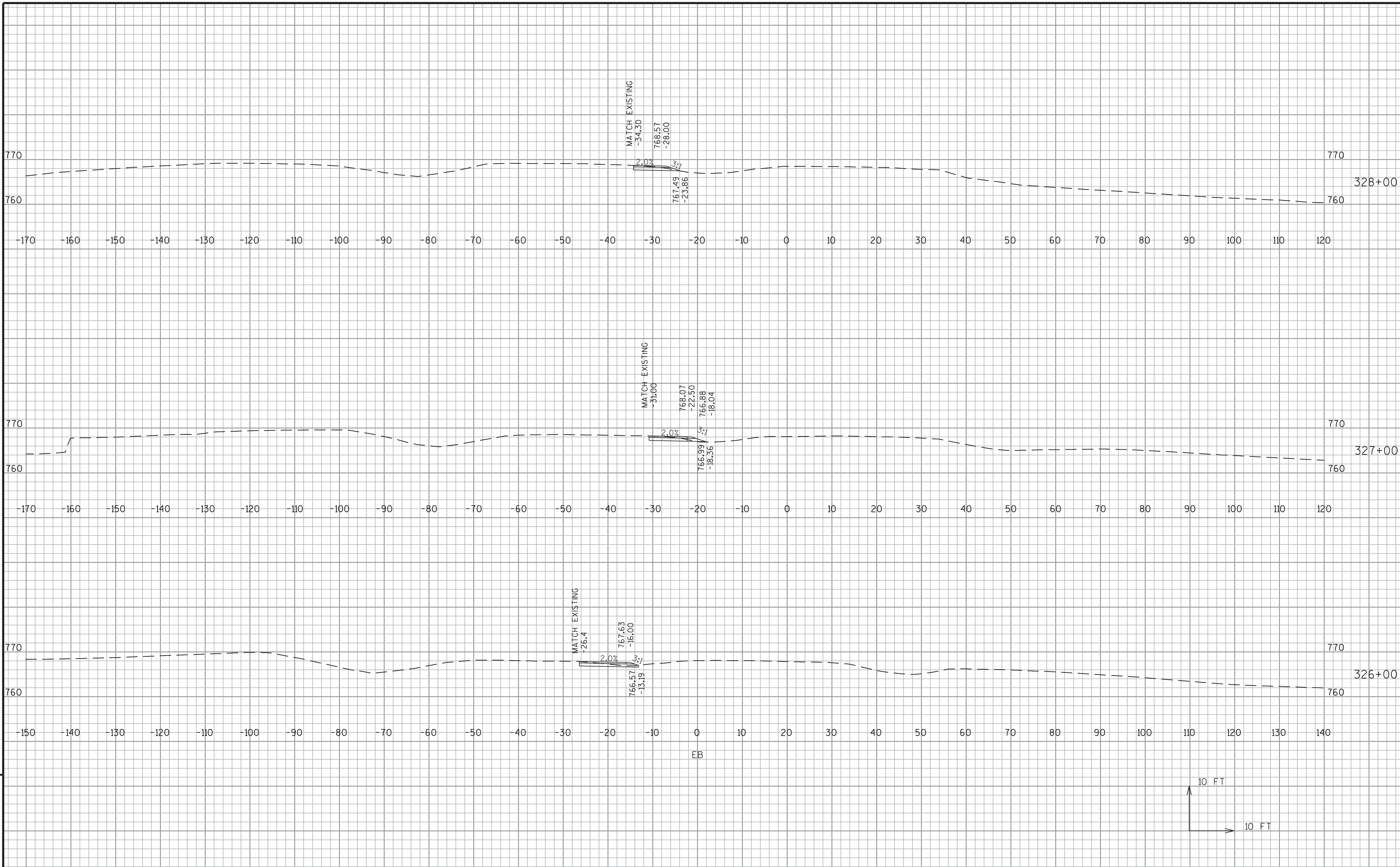
OLD HWY 60

STATION	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.30	Mass Ordinate Note 8
180+25	0.0	0.0	0	0	0	0	0
180+50	565.5	0.0	262	0	262	0	262
181+00	54.4	52.4	574	48	836	63	773
181+50	33.3	0.0	81	48	917	126	791
181+61	10.0	0.0	9	0	926	126	800

Notes:

1 - Cut	Cut includes Salvaged/Unusable Pavement material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections
3 - Fill	Does not include Unusable Pavement Exc volume
4 - Expanded Marsh Backfill	Will be backfilled with Select Borrow
5 - Expanded EBS	Will be backfilled with Select Borrow
6 - Reduced Marsh in Fill	Reduced Marsh Excavation that can be used in Fill
7 - Reduced EBS in Fill	Reduced EBS Excavation that can be used in Fill
8 - Mass Ordinate	[(Cut + Marsh Exc + EBS) - ((Fill - Reduced Marsh in Fill) - (Reduced EBS in Fill) - Expanded Rock) * Fill Factor)]

9 9



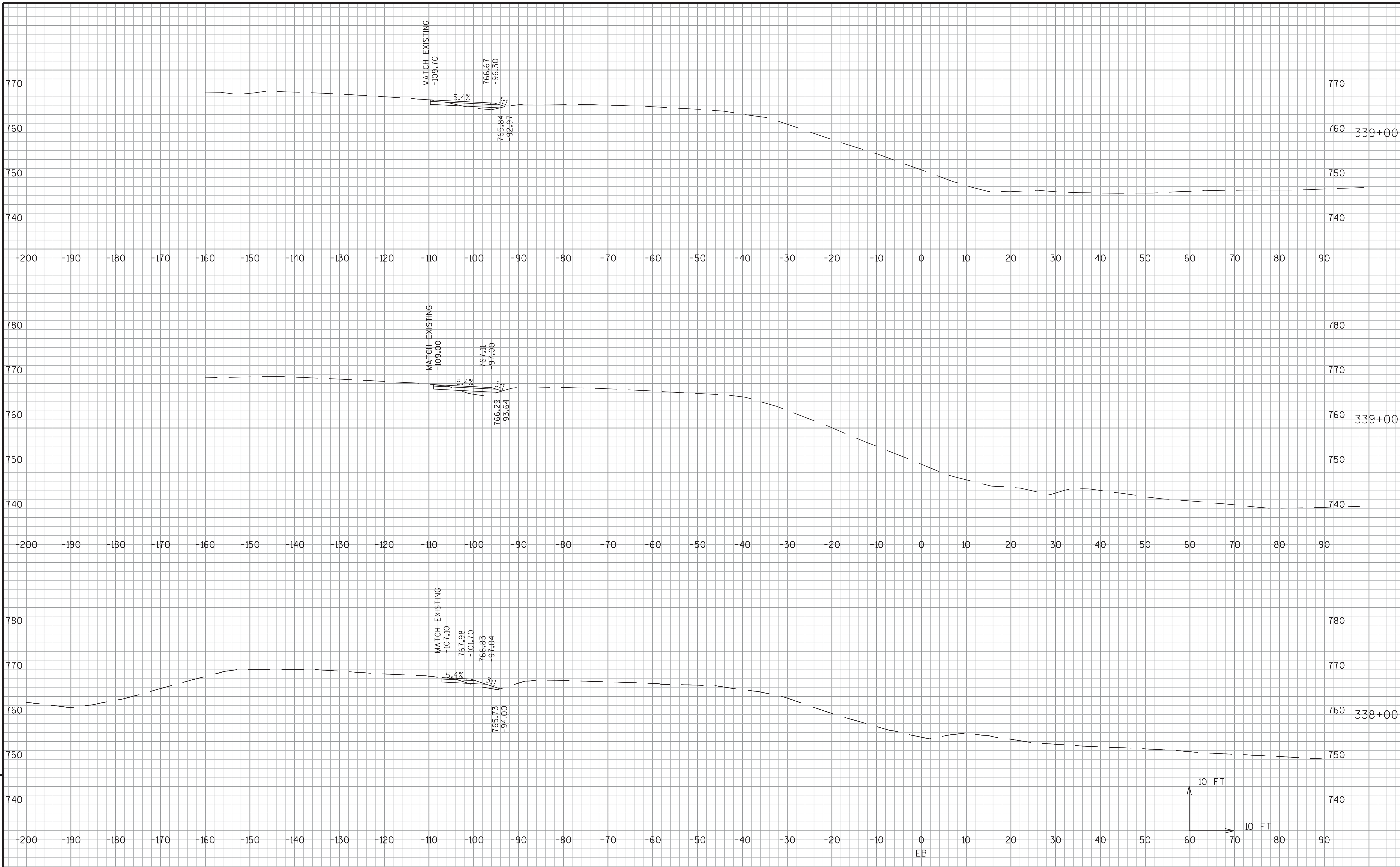
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: STAGE 1A (TEMPORARY WIDENING)	SHEET 541	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±FOR ADAM 4-27-15±TC XS STAGE 1A USH 18.DWG

SHEET NAME: XSUSH1898



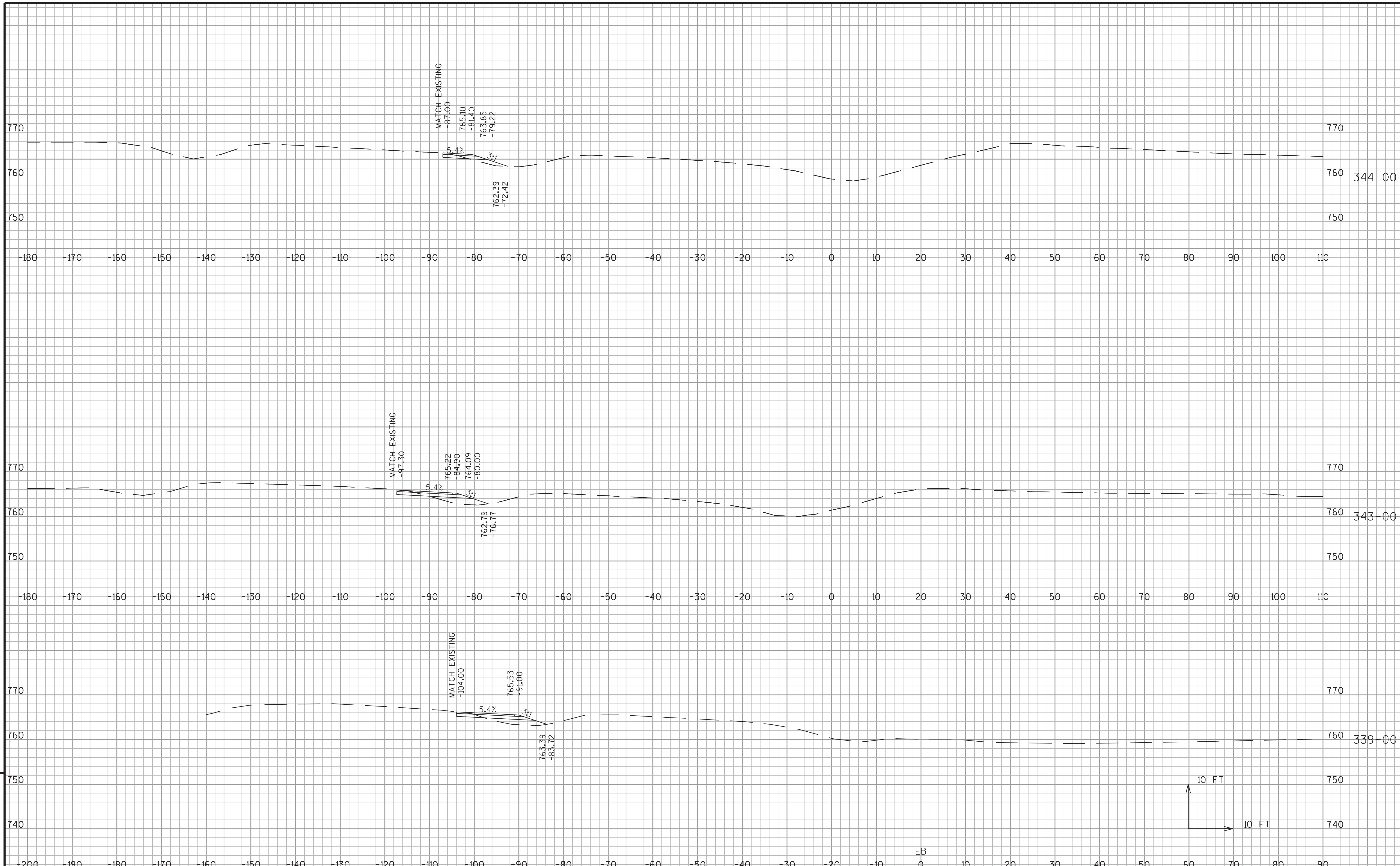
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: STAGE 1A (TEMPORARY WIDENING)	SHEET 542	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±FOR ADAM 4-27-15±TC XS STAGE 1A USH 18.DWG

SHEET NAME: XSUSH1899



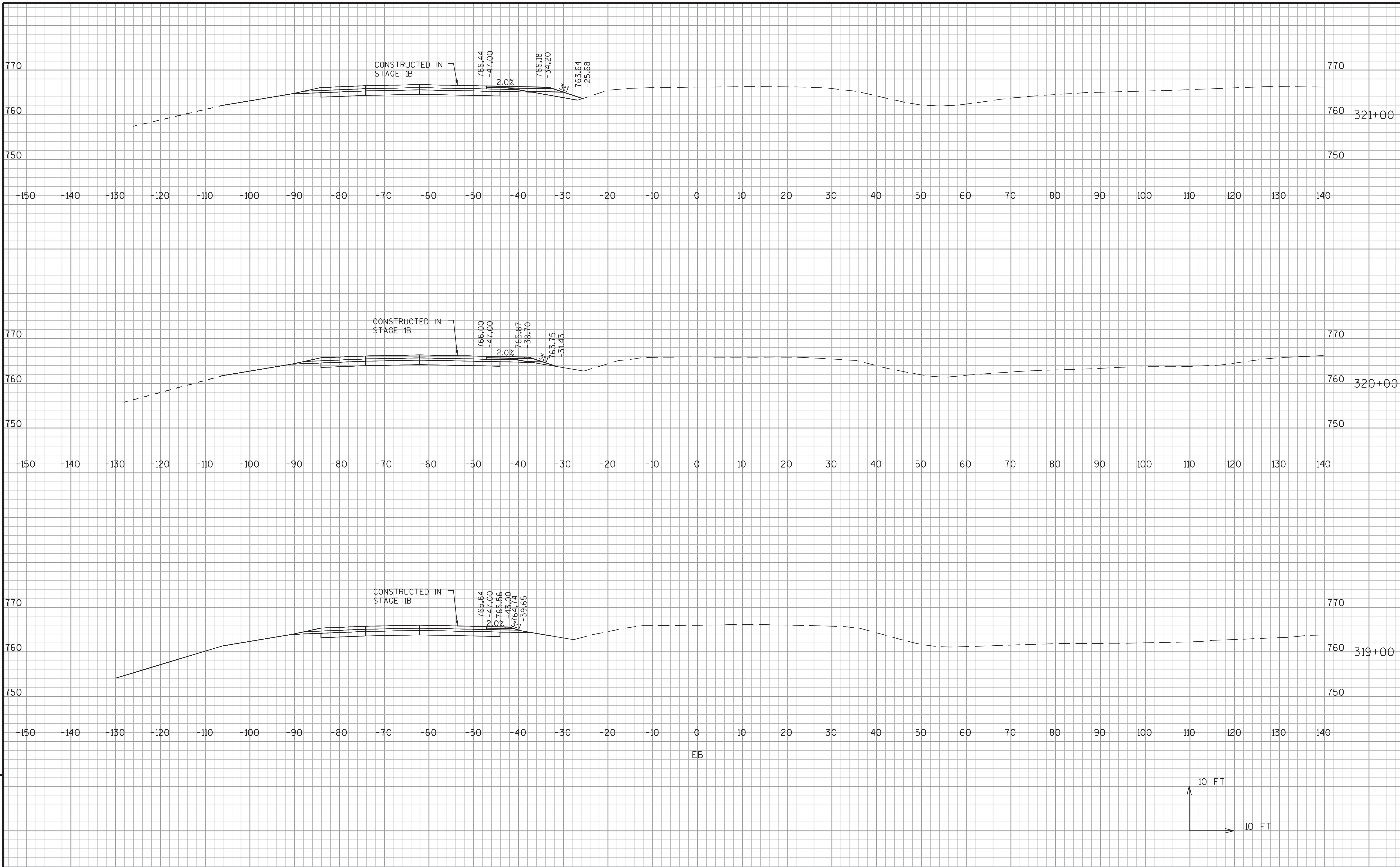
9

9

PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: STAGE 1A (TEMPORARY WIDENING) | SHEET 543 | E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±FOR ADAM 4-27-15±TC XS STAGE 1A USH 18.DWG

SHEET NAME: XSUSH18100



9

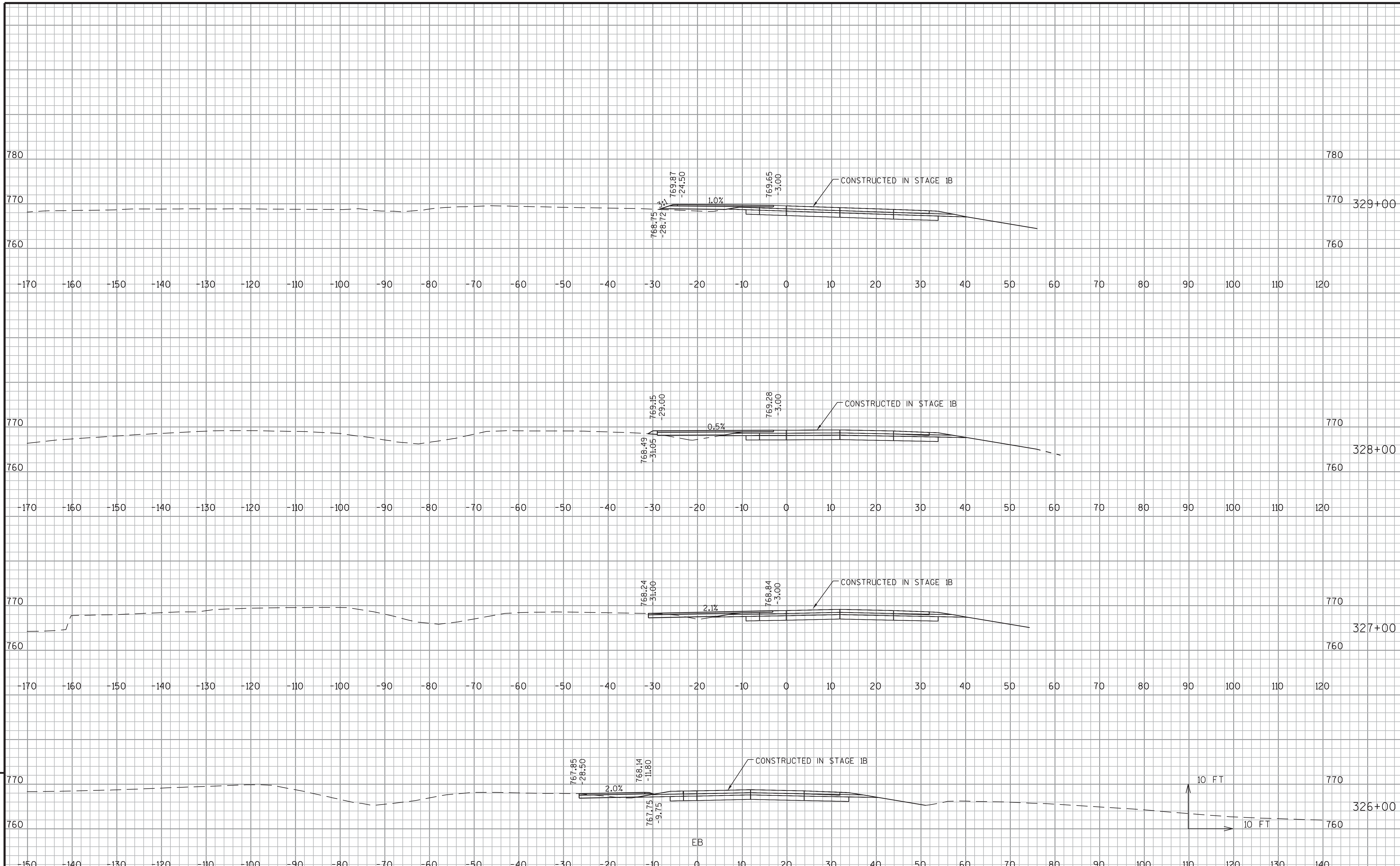
9

PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: STAGE 2A (TEMPORARY WIDENING) | SHEET 544 | E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±FOR ADAM 4-27-15±TC XS STAGE 2A USH 18.DWG

SHEET NAME: XSUSH1894

9

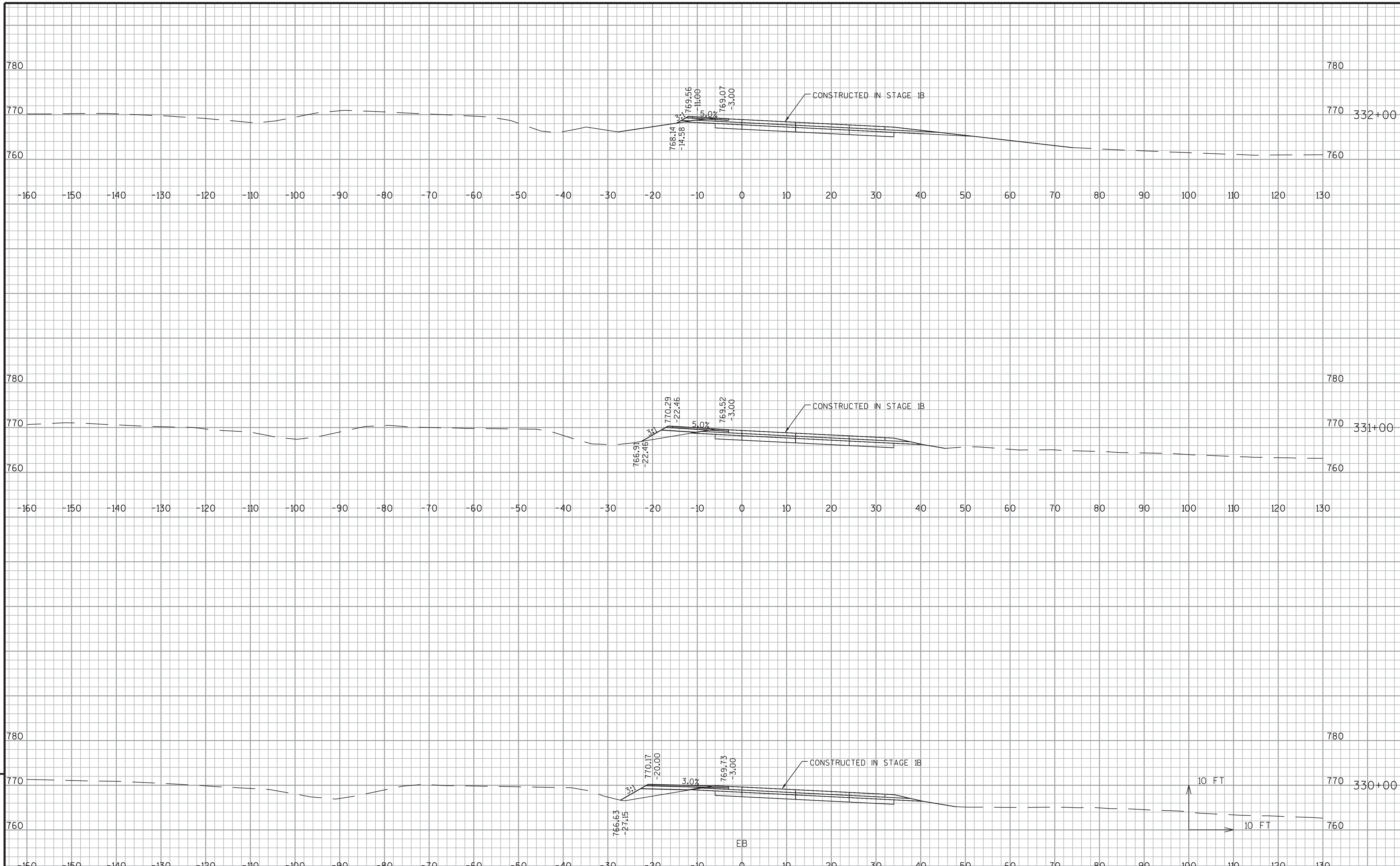


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: STAGE 2A (TEMPORARY WIDENING)	SHEET 545	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±FOR ADAM 4-27-15±TC XS STAGE 2A USH 18.DWG

SHEET NAME: XSUSH1895



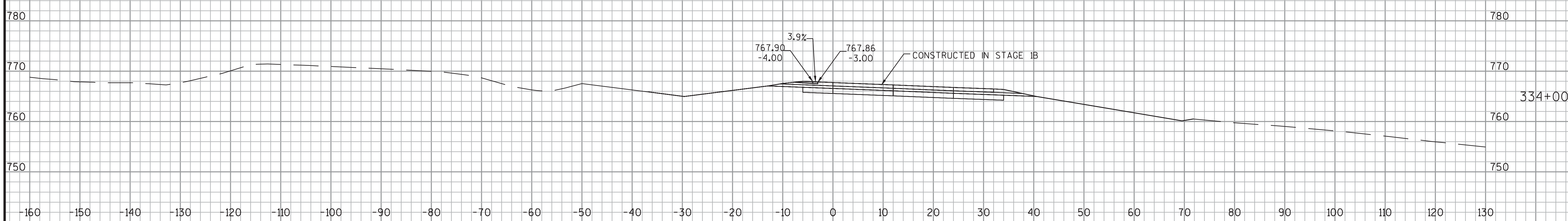
9

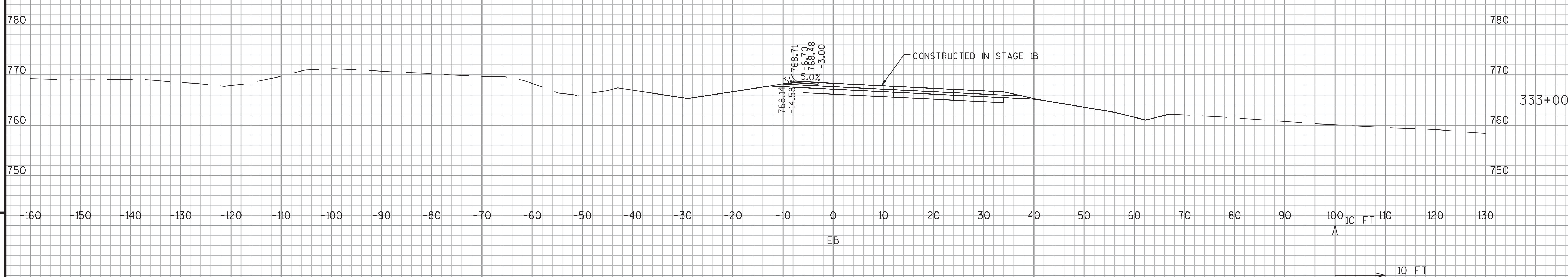
9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: STAGE 2A (TEMPORARY WIDENING)	SHEET 546	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±FOR ADAM 4-27-15±TC XS STAGE 2A USH 18.DWG

SHEET NAME: XSUSH1896





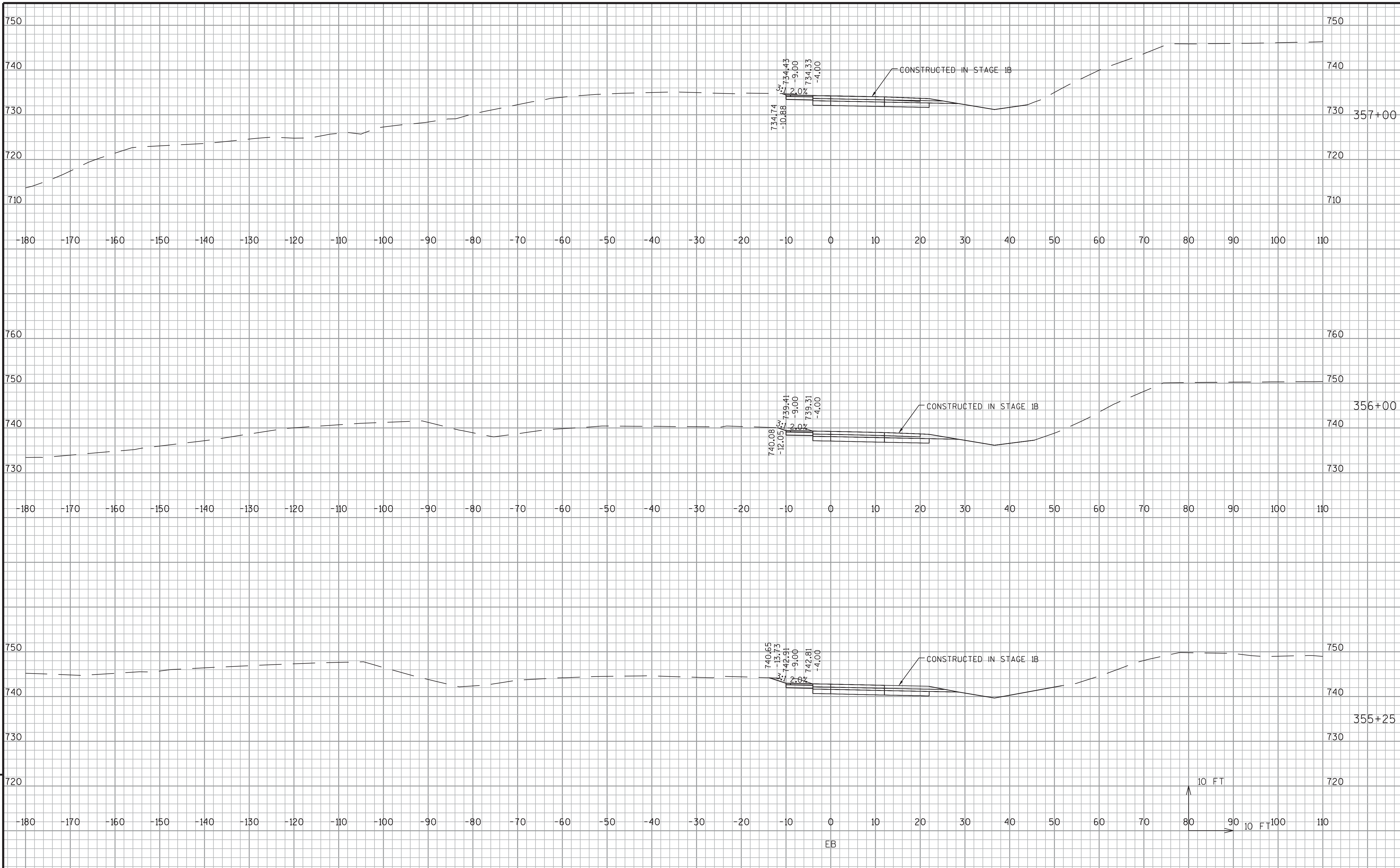
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: STAGE 2A (TEMPORARY WIDENING)	SHEET 547	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±FOR ADAM 4-27-15±TC XS STAGE 2A USH 18.DWG

SHEET NAME: XSUSH1897



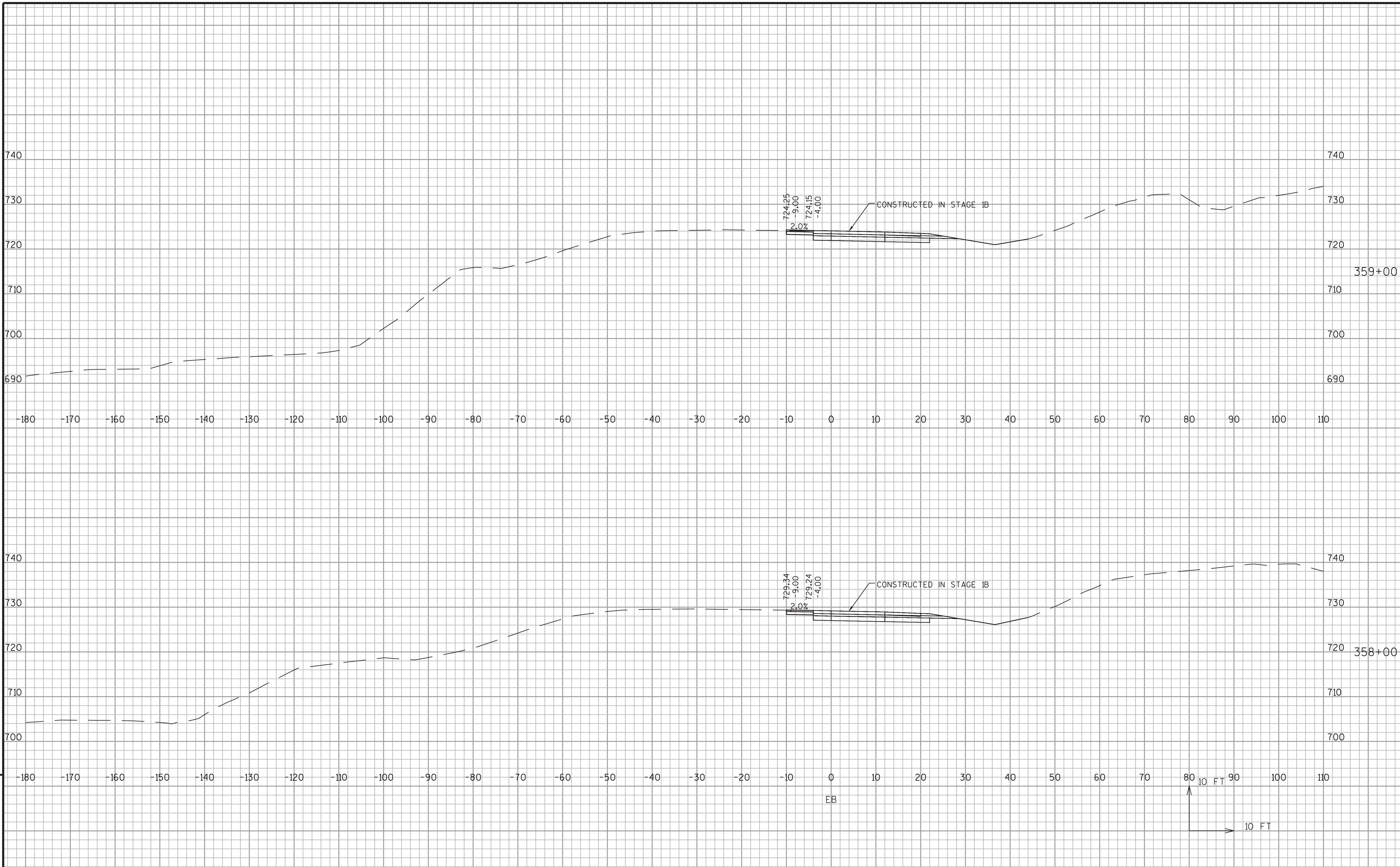
9

9

PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: STAGE 2A (TEMPORARY WIDENING) | SHEET 548 | E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±FOR ADAM 4-27-15±TC XS STAGE 2A USH 18.DWG

SHEET NAME: XSUSH1898



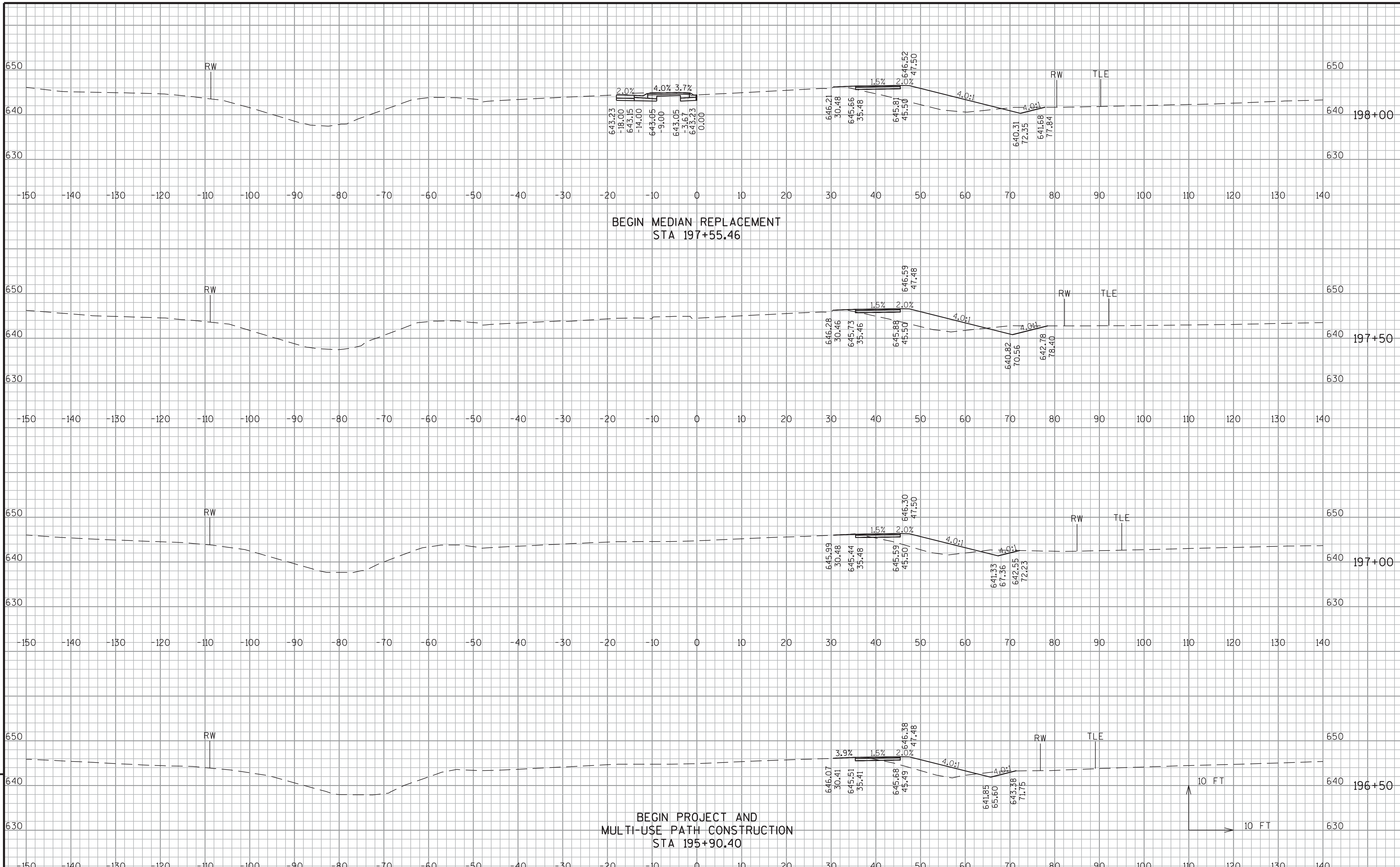
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: STAGE 2A (TEMPORARY WIDENING)	SHEET 549	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±FOR ADAM 4-27-15±TC XS STAGE 2A USH 18.DWG

SHEET NAME: XSUSH1899



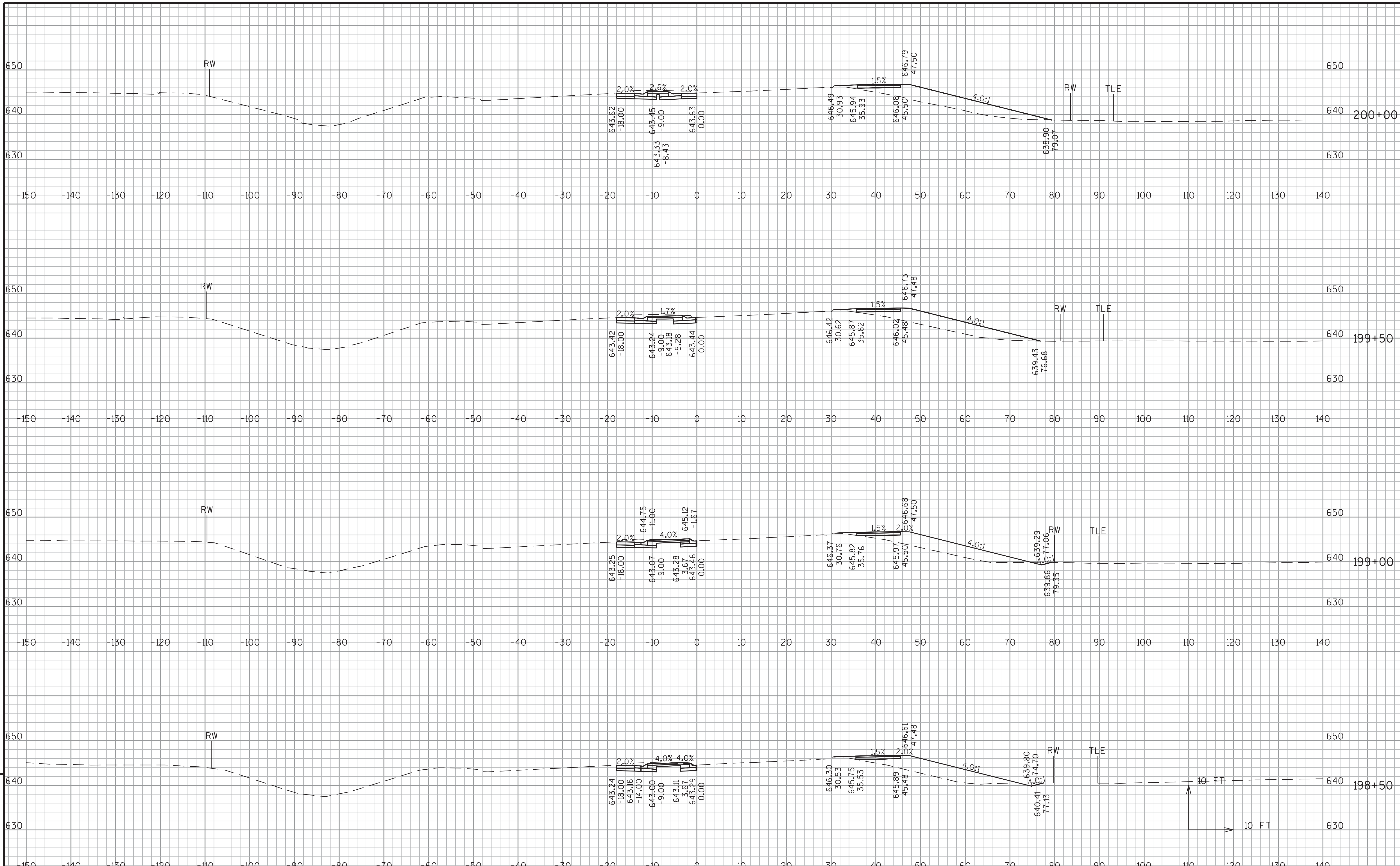
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±BEGIN-21200 XSUSH18.DWG

SHEET NAME: XSUSH1801



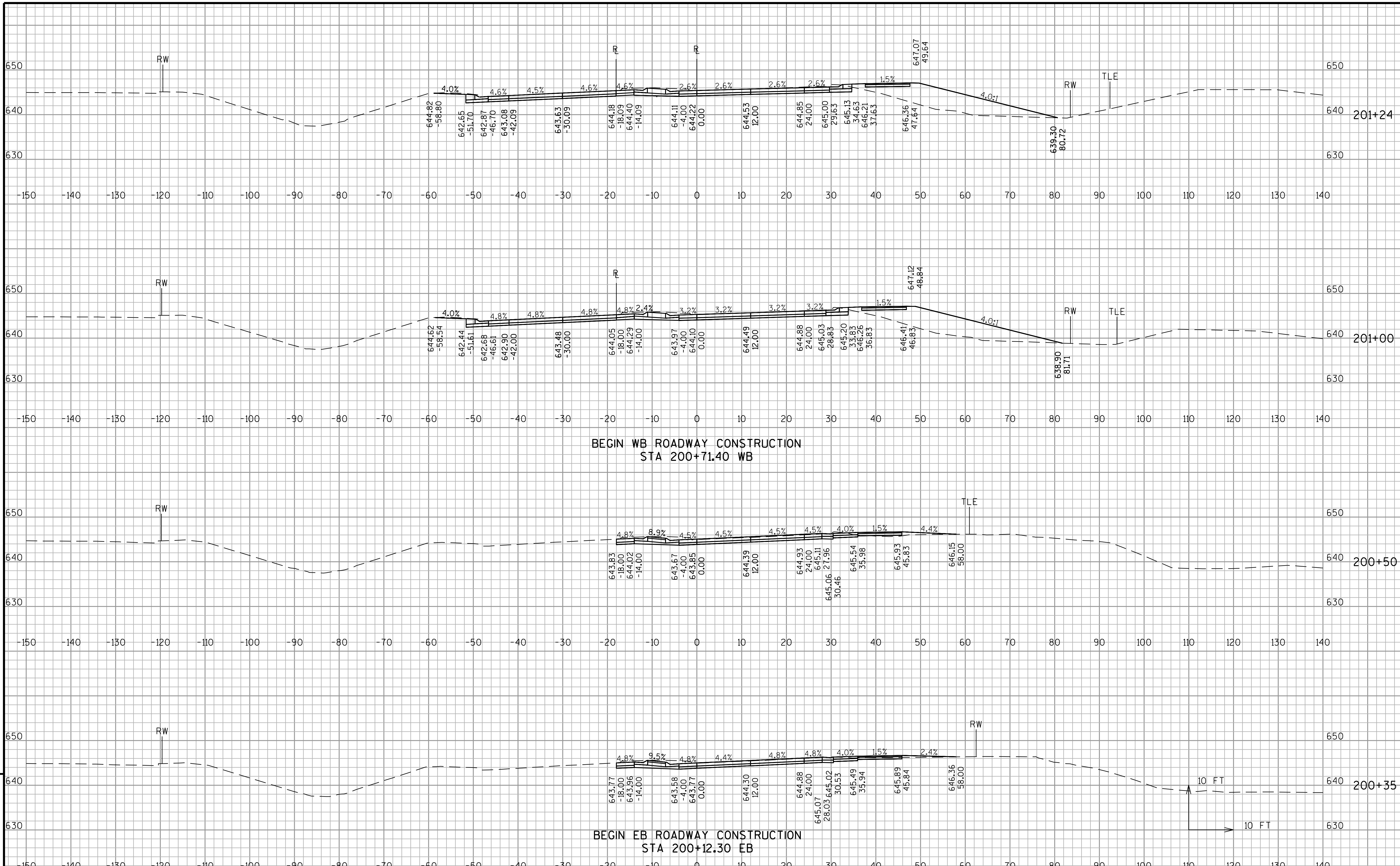
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 551	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±BEGIN-21200 XSUSH18.DWG

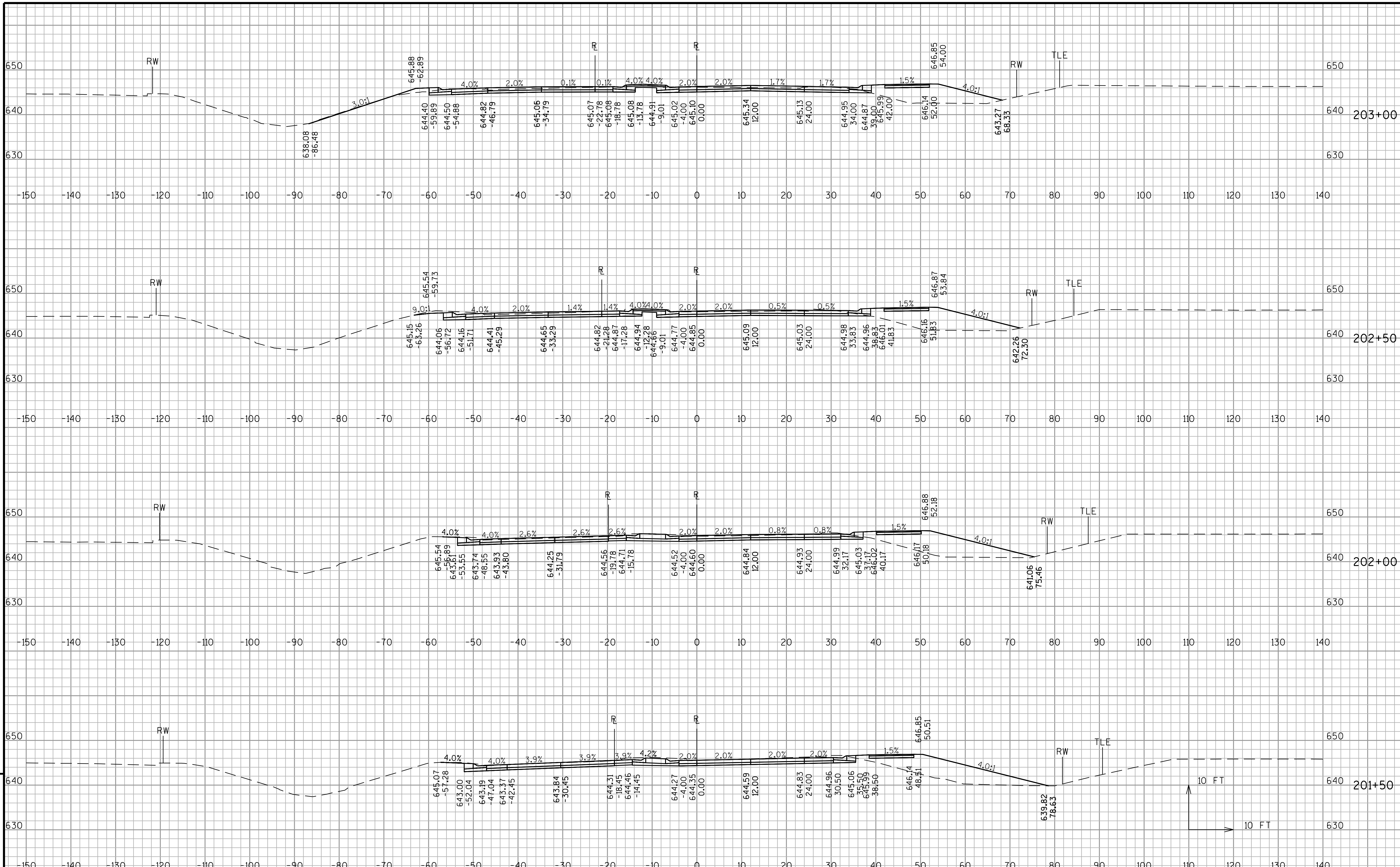
SHEET NAME: XSUSH1802



9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 552	E

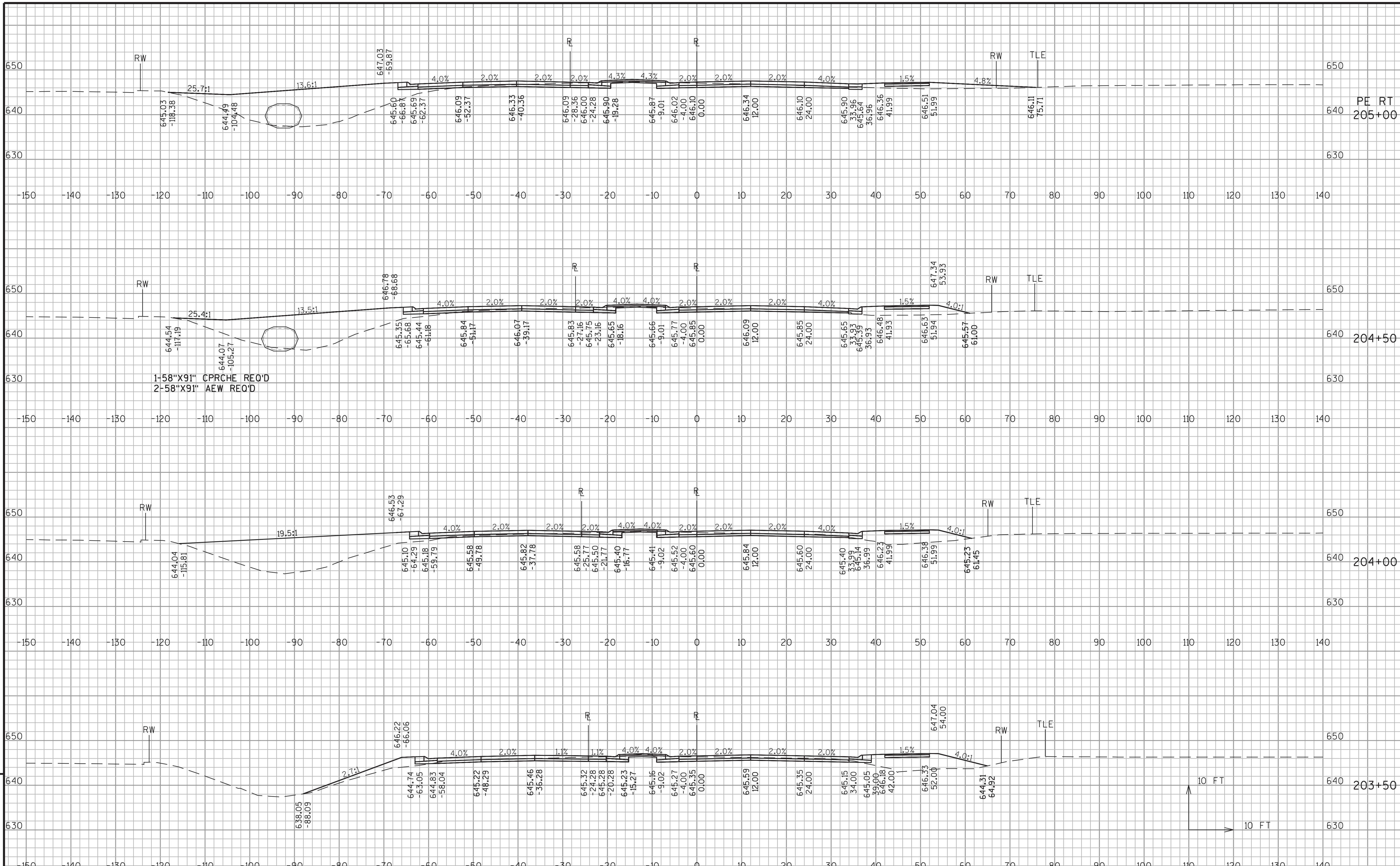


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 553	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±BEGIN-21200 XSUSH18.DWG

SHEET NAME: XSUSH1804



9

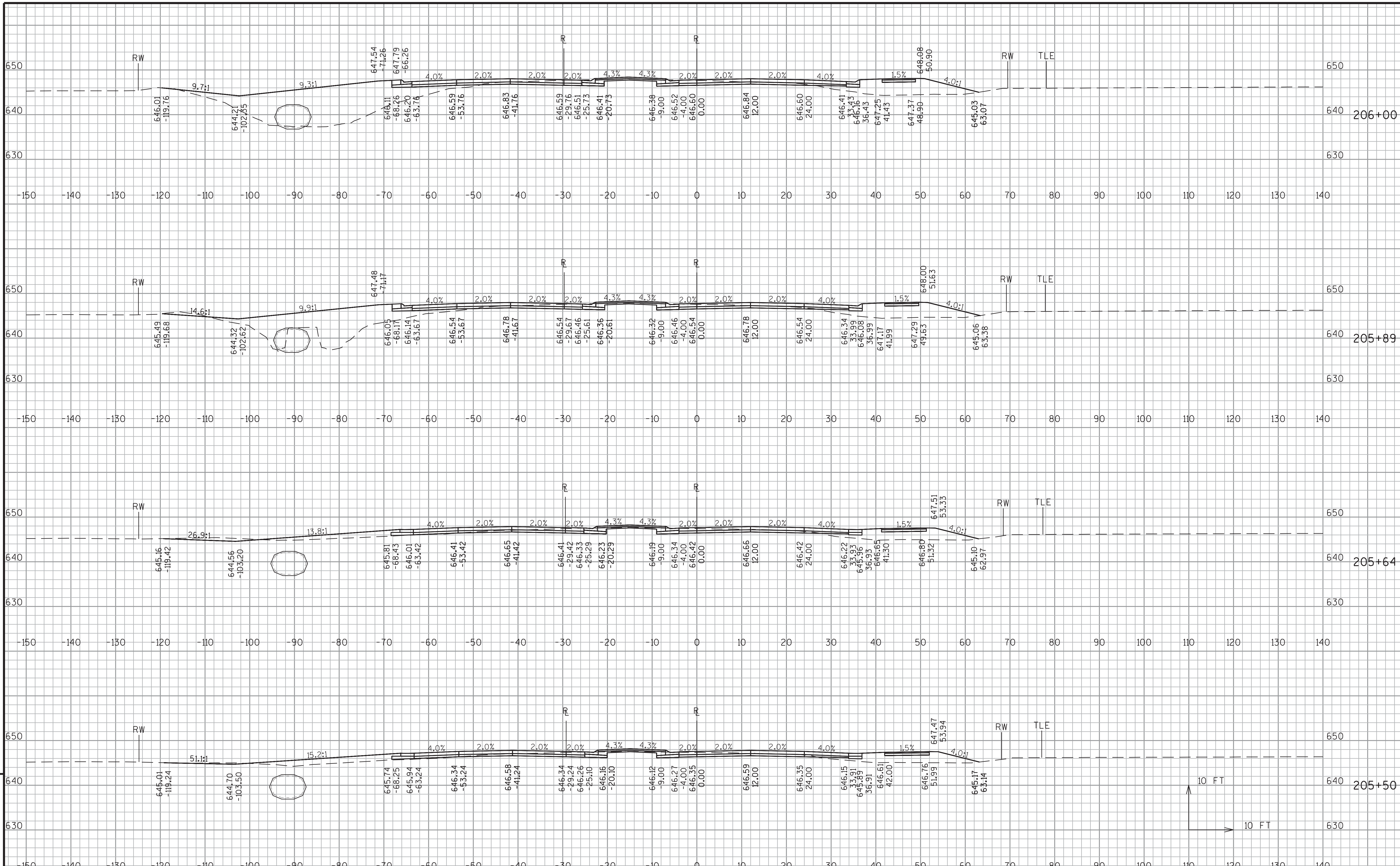
9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 554	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±BEGIN-21200 XSUSH18.DWG

SHEET NAME: XSUSH1805

9

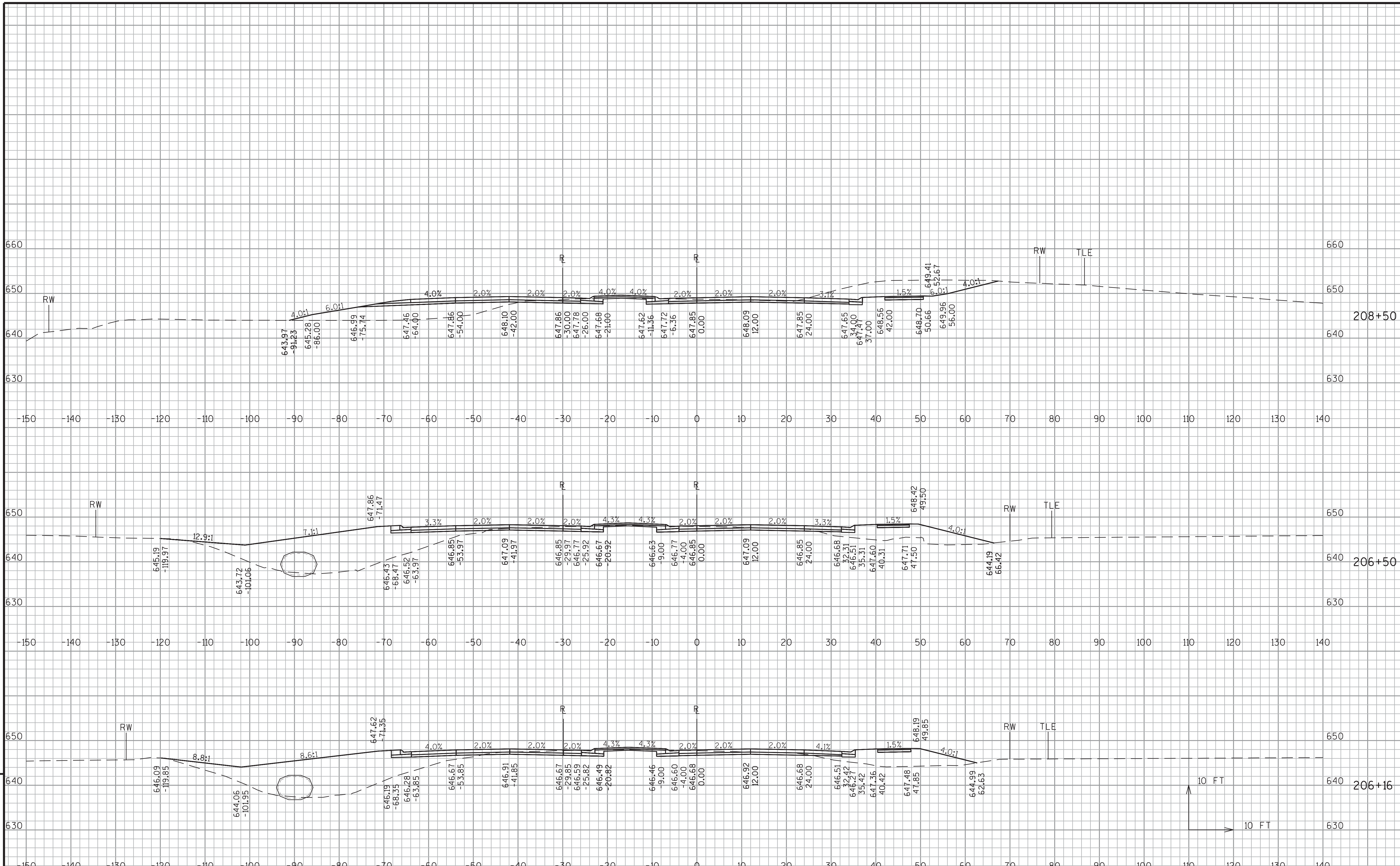


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 555	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±BEGIN-21200 XSUSH18.DWG

SHEET NAME: XSUSH1806



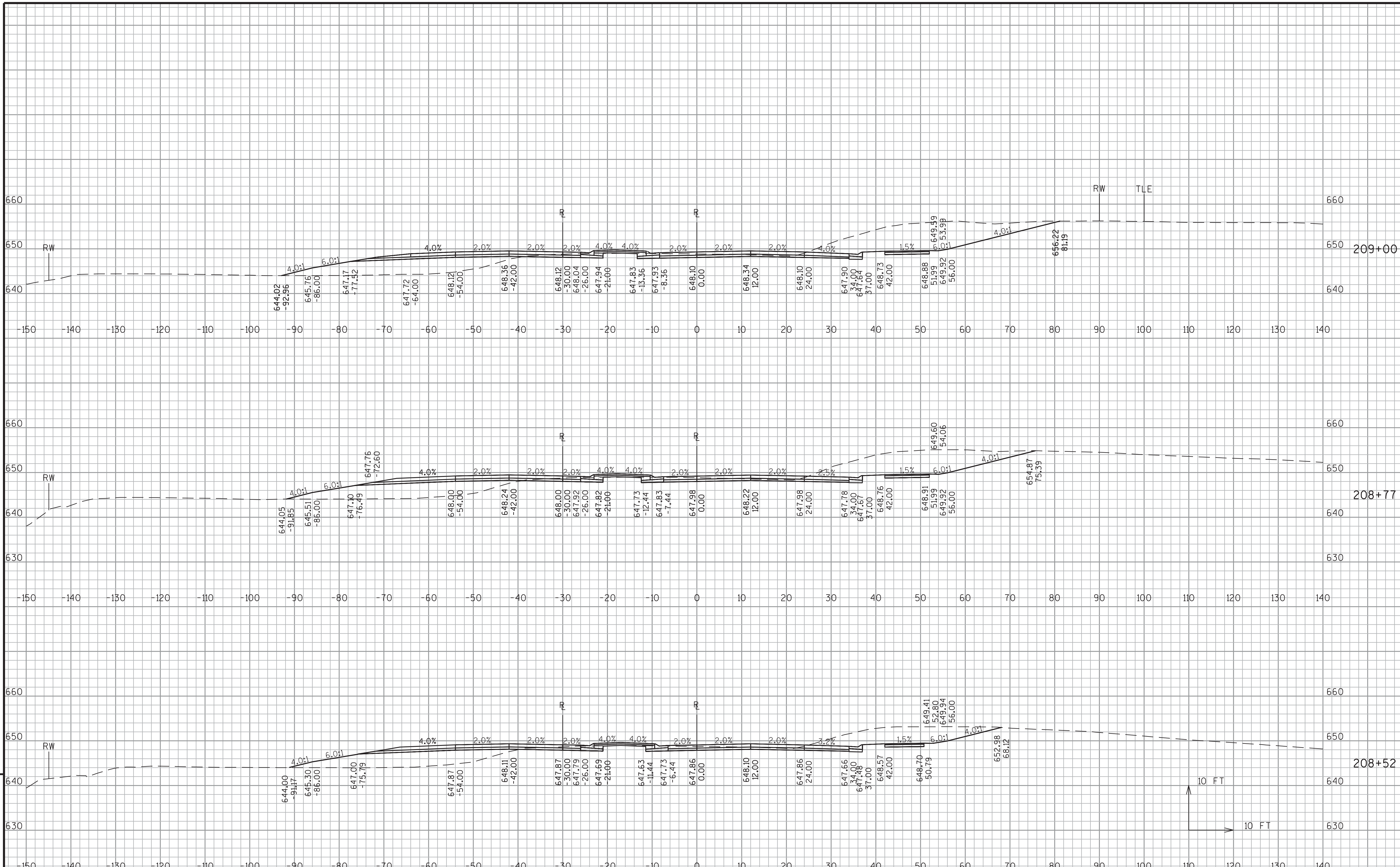
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 556	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±BEGIN-21200 XSUSH18.DWG

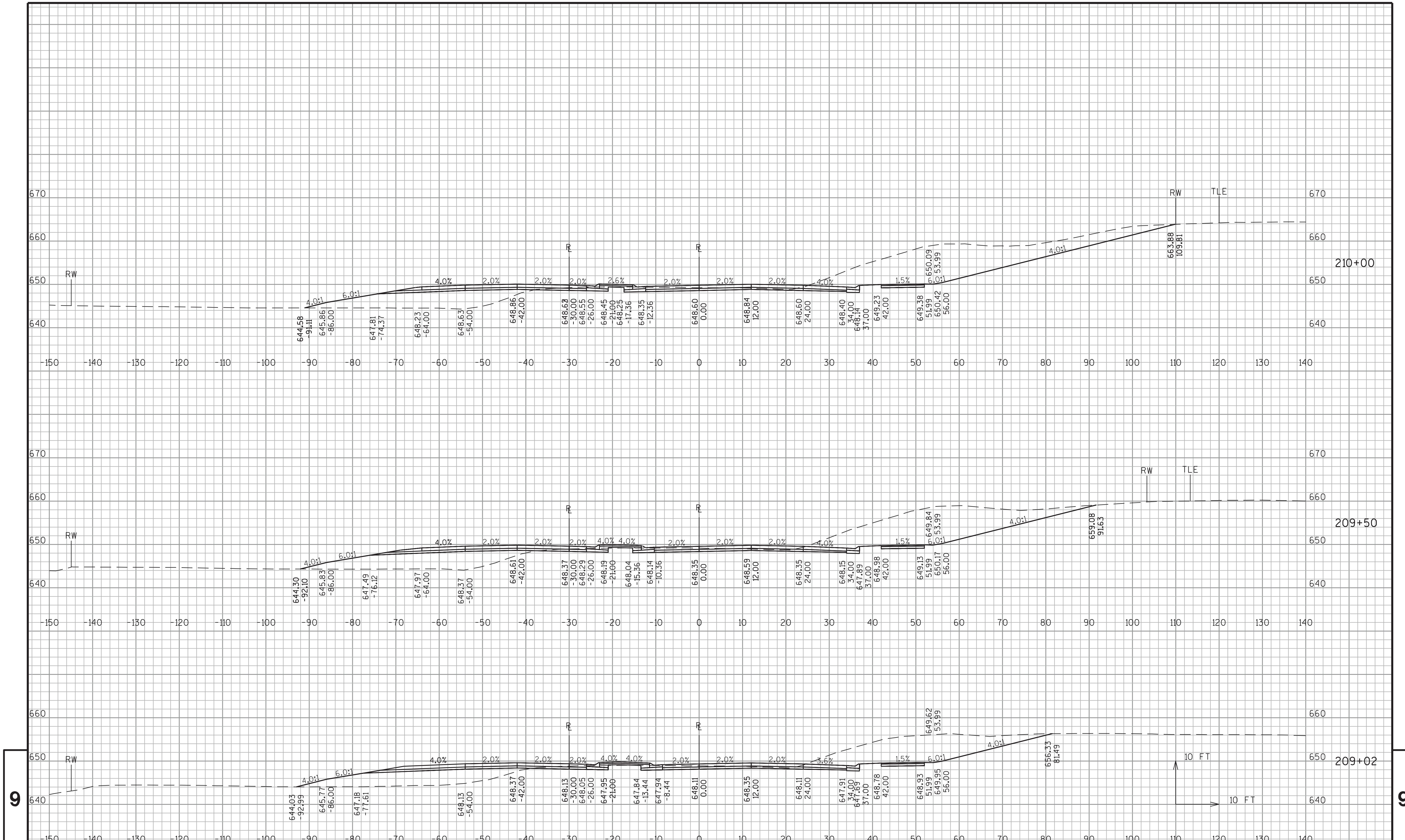
SHEET NAME: XSUSH1807



9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 557	E

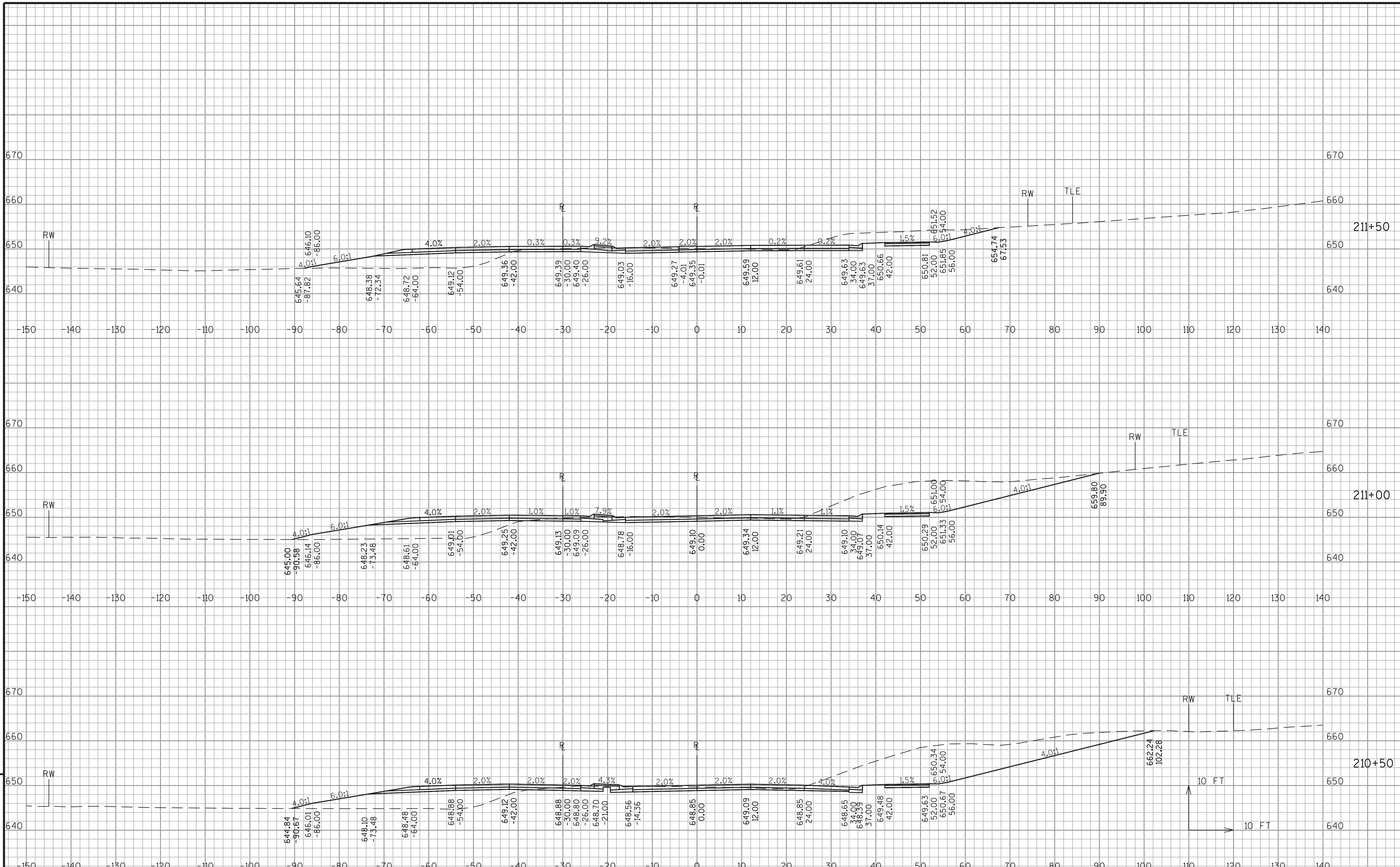
FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±BEGIN-21200 XSUSH18.DWG
SHEET NAME: XSUSH1808



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 558	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±BEGIN-21200 XSUSH18.DWG

SHEET NAME: XSUSH1809



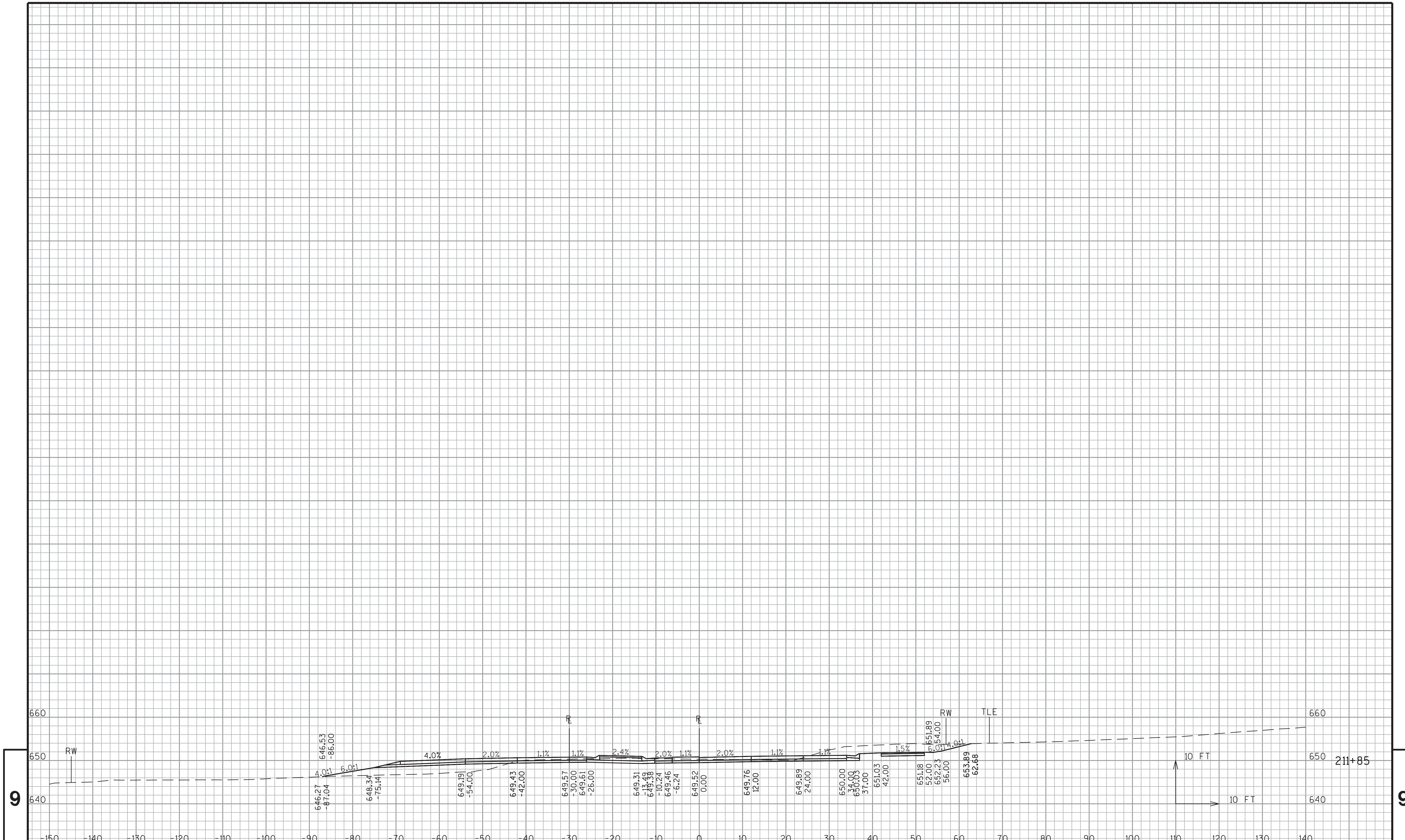
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 559	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±BEGIN-21200 XSUSH18.DWG

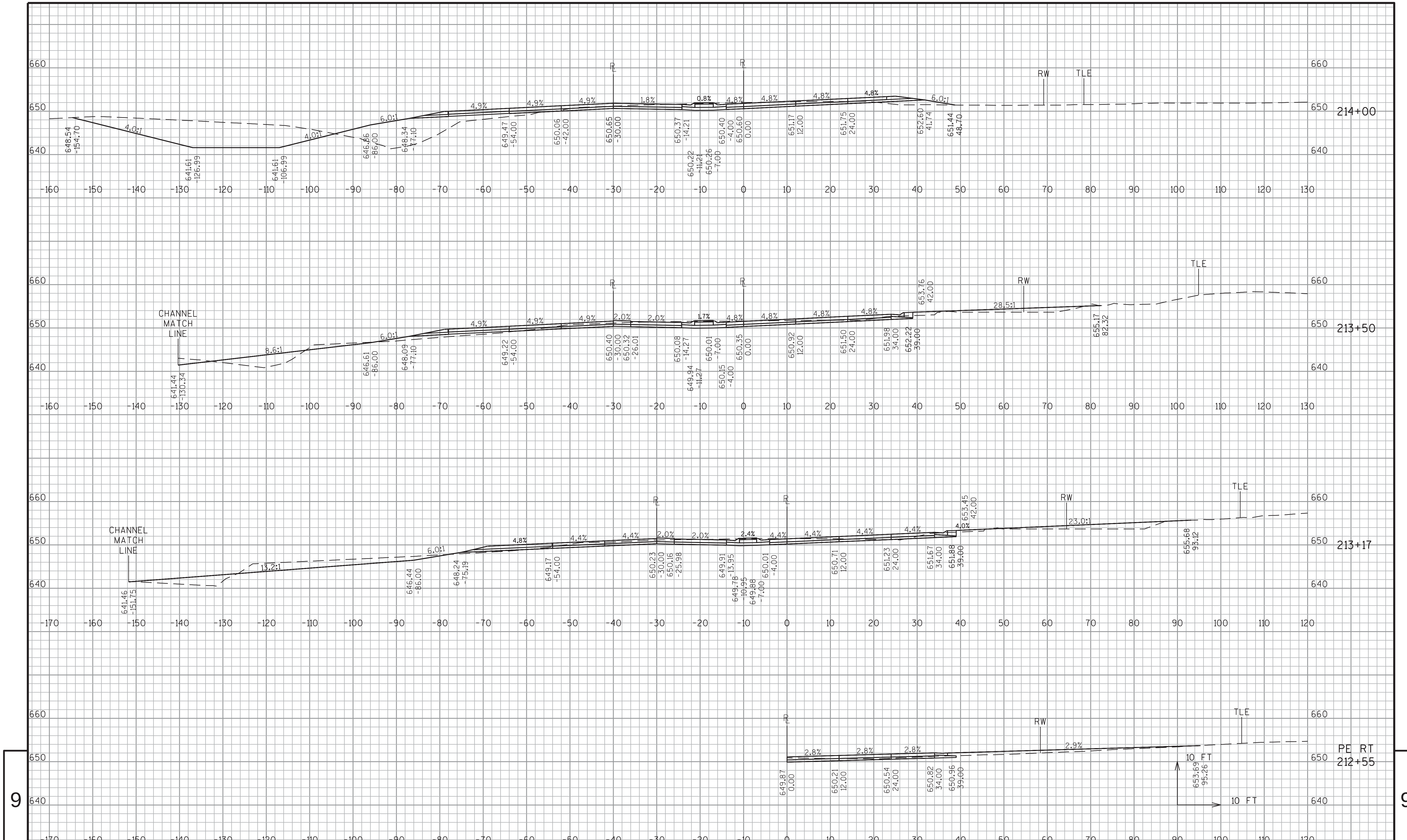
SHEET NAME: XSUSH1809A



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 560	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±BEGIN-21200 XSUSH18.DWG

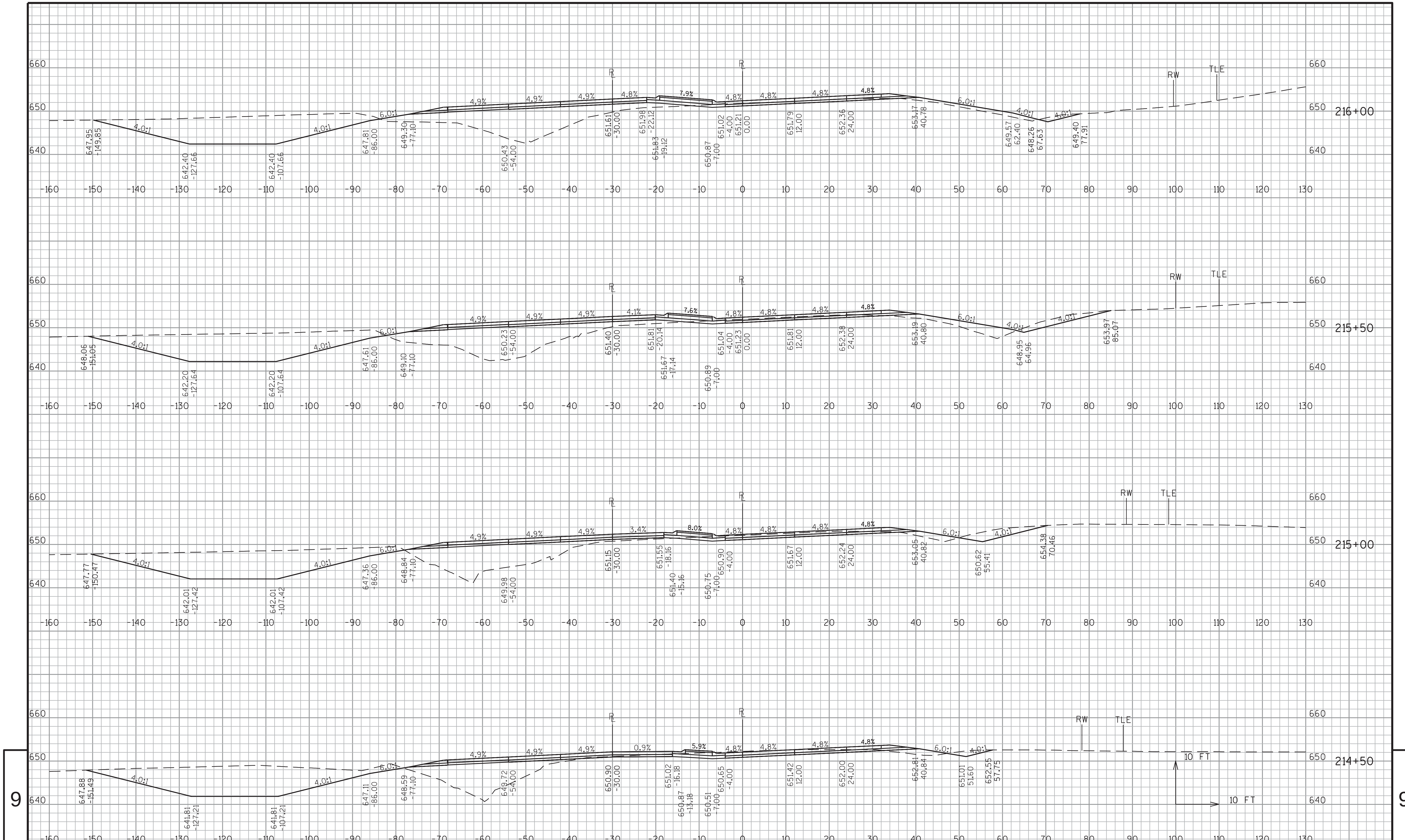
SHEET NAME: XSUSH1809B



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 561	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

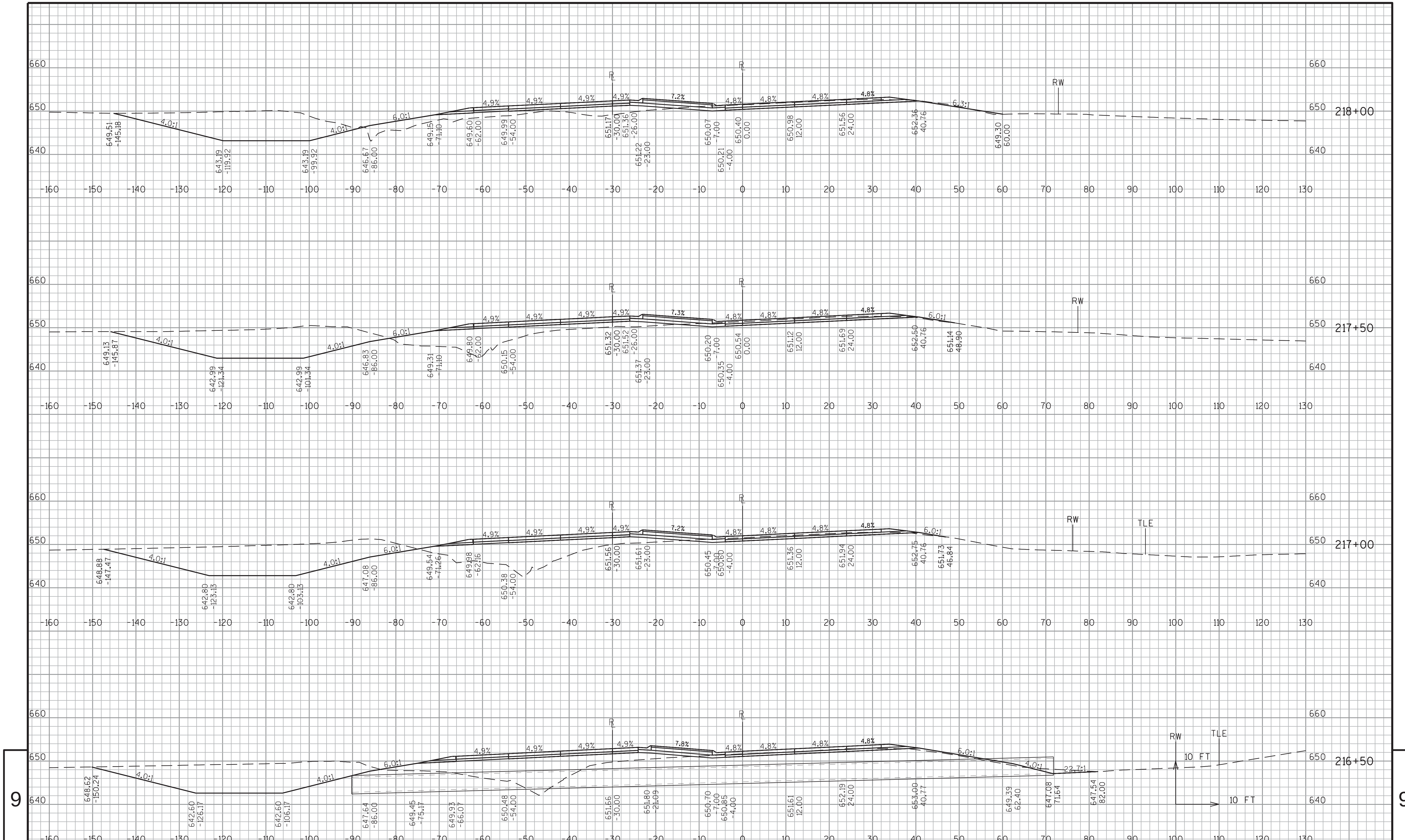
SHEET NAME: XSUSH1810



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 562	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

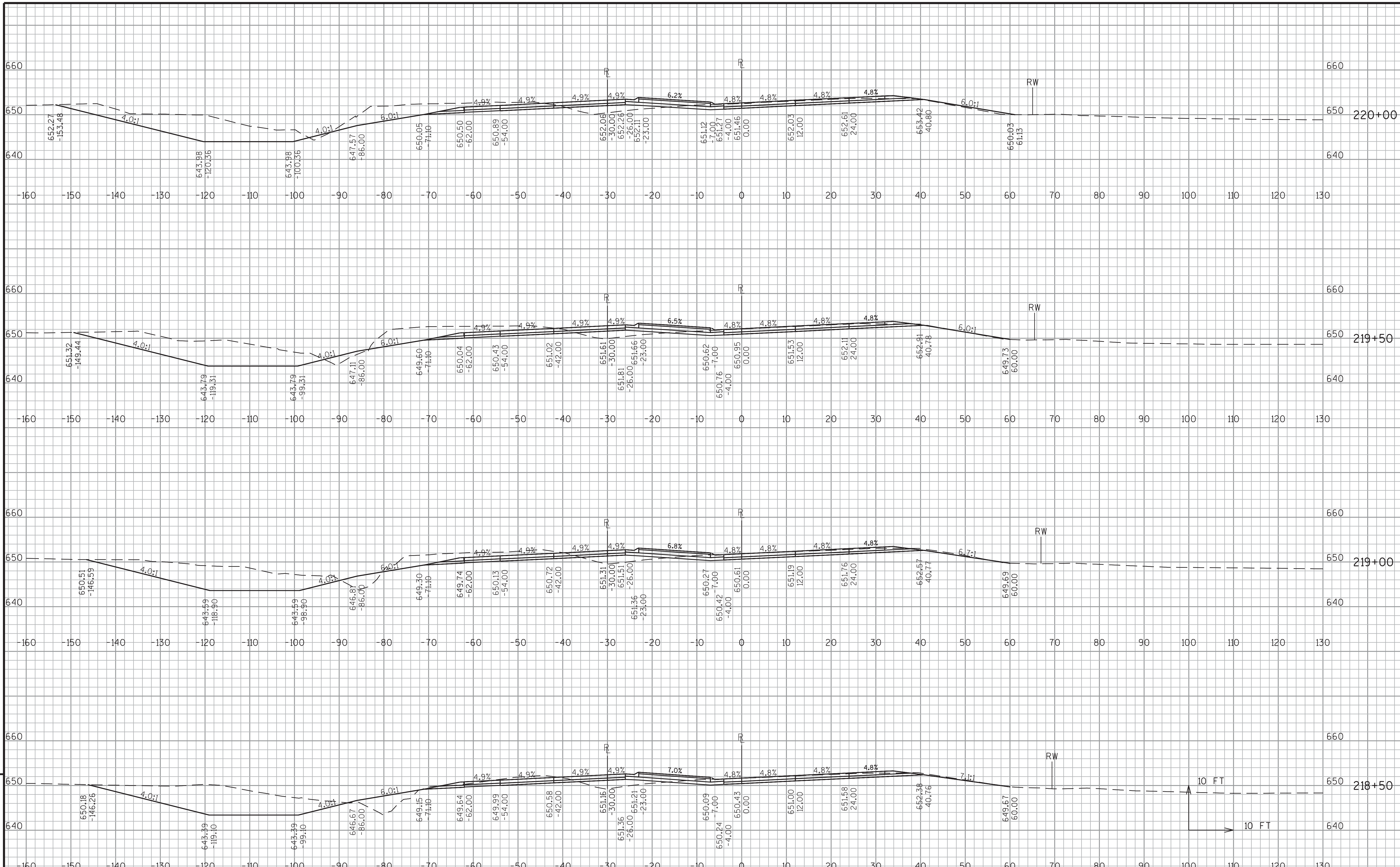
SHEET NAME: XSUSH1811



PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: USH 18 EB | SHEET 563 | E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

SHEET NAME: XSUSH1812

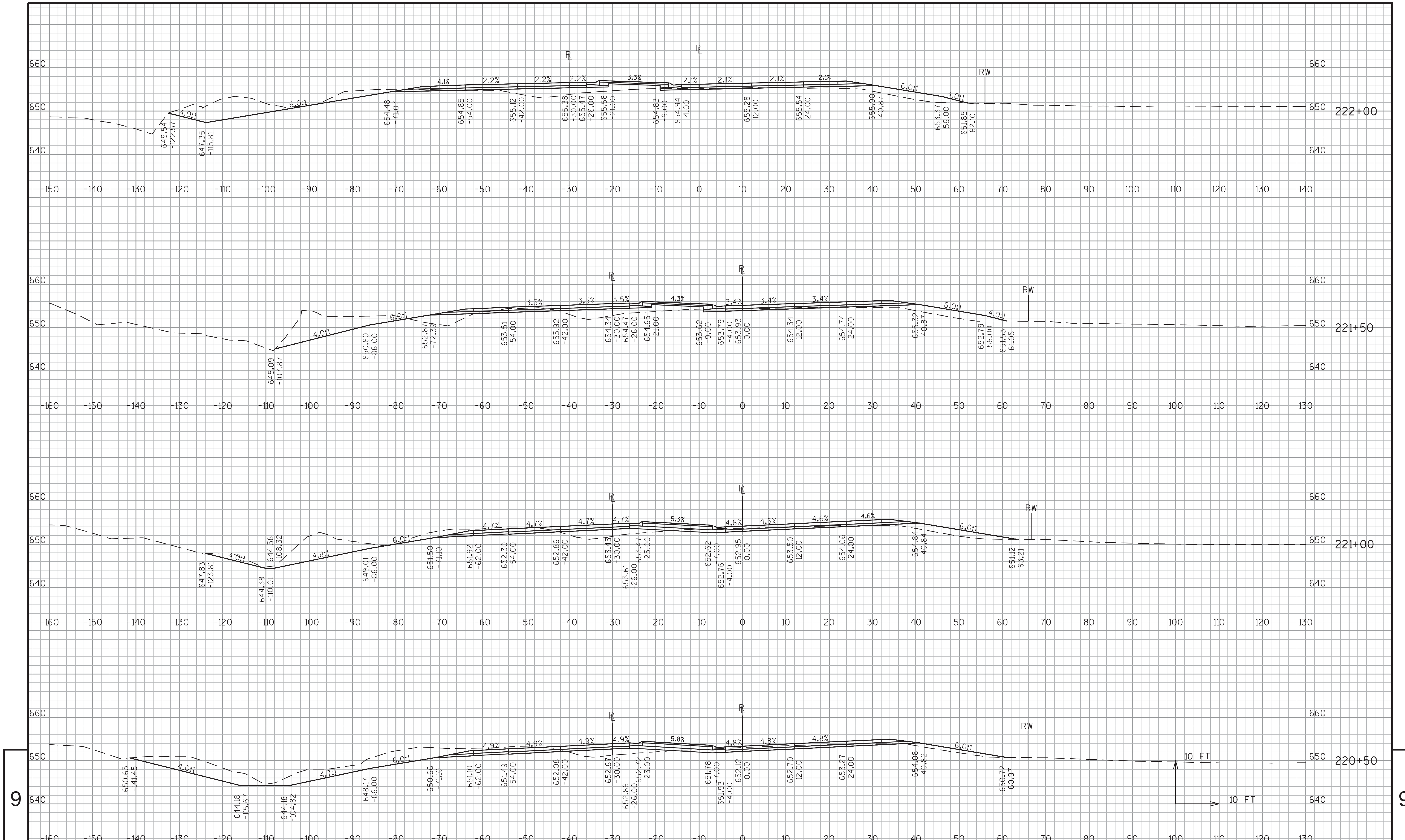


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 564	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

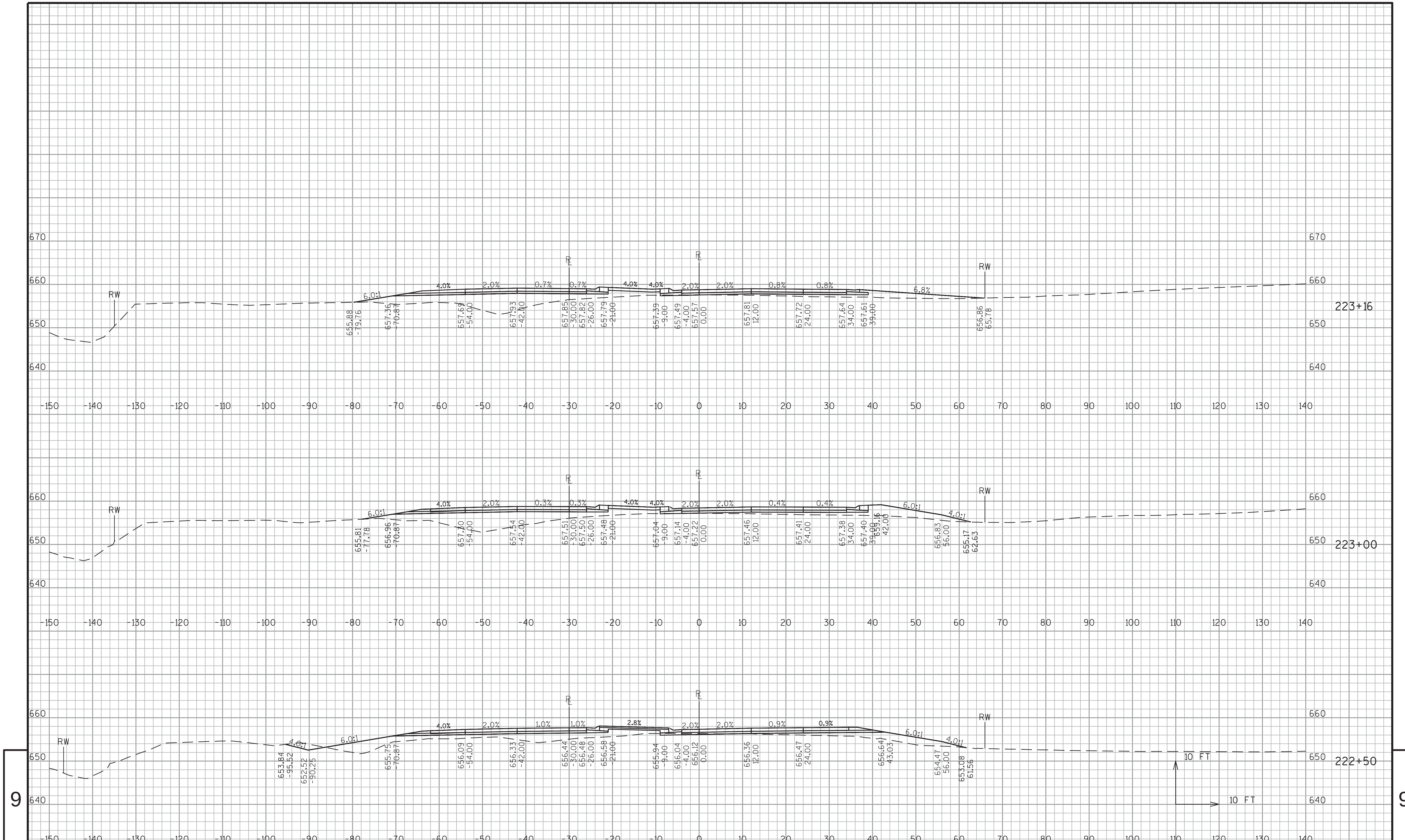
SHEET NAME: XSUSH1813



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 565	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

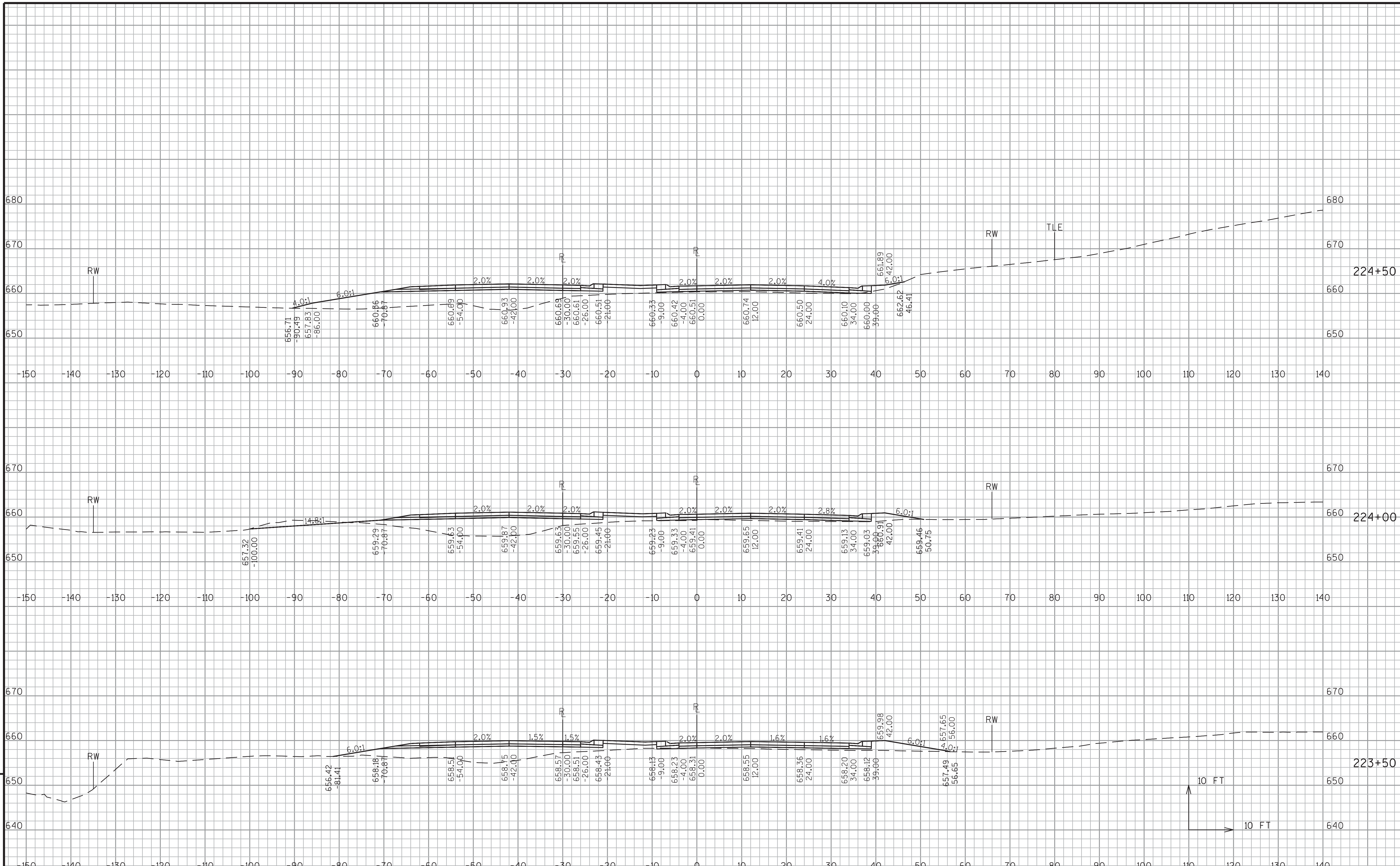
SHEET NAME: XSUSH1814



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 566	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

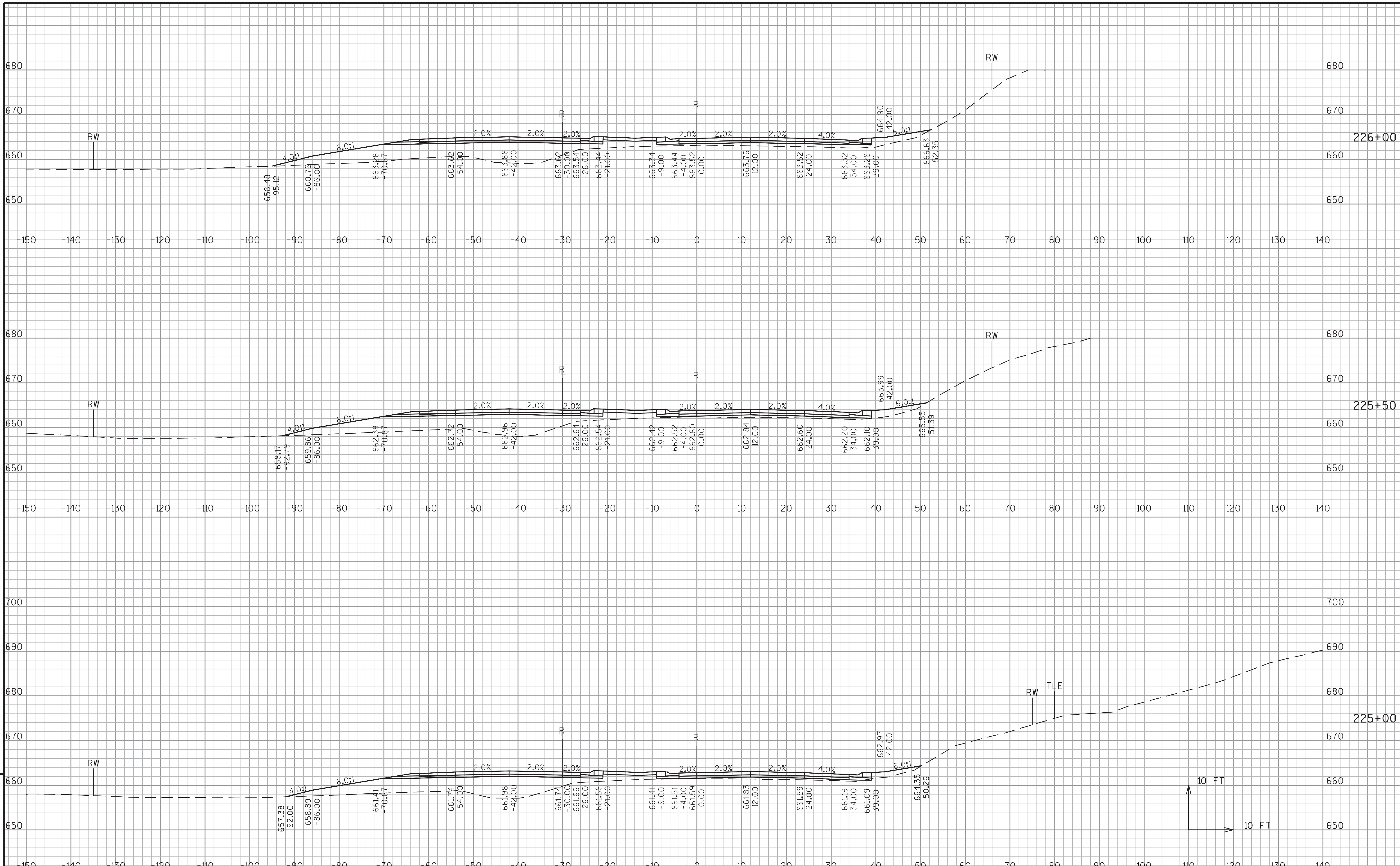
SHEET NAME: XSUSH1815



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 567	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

SHEET NAME: XSUSH1816

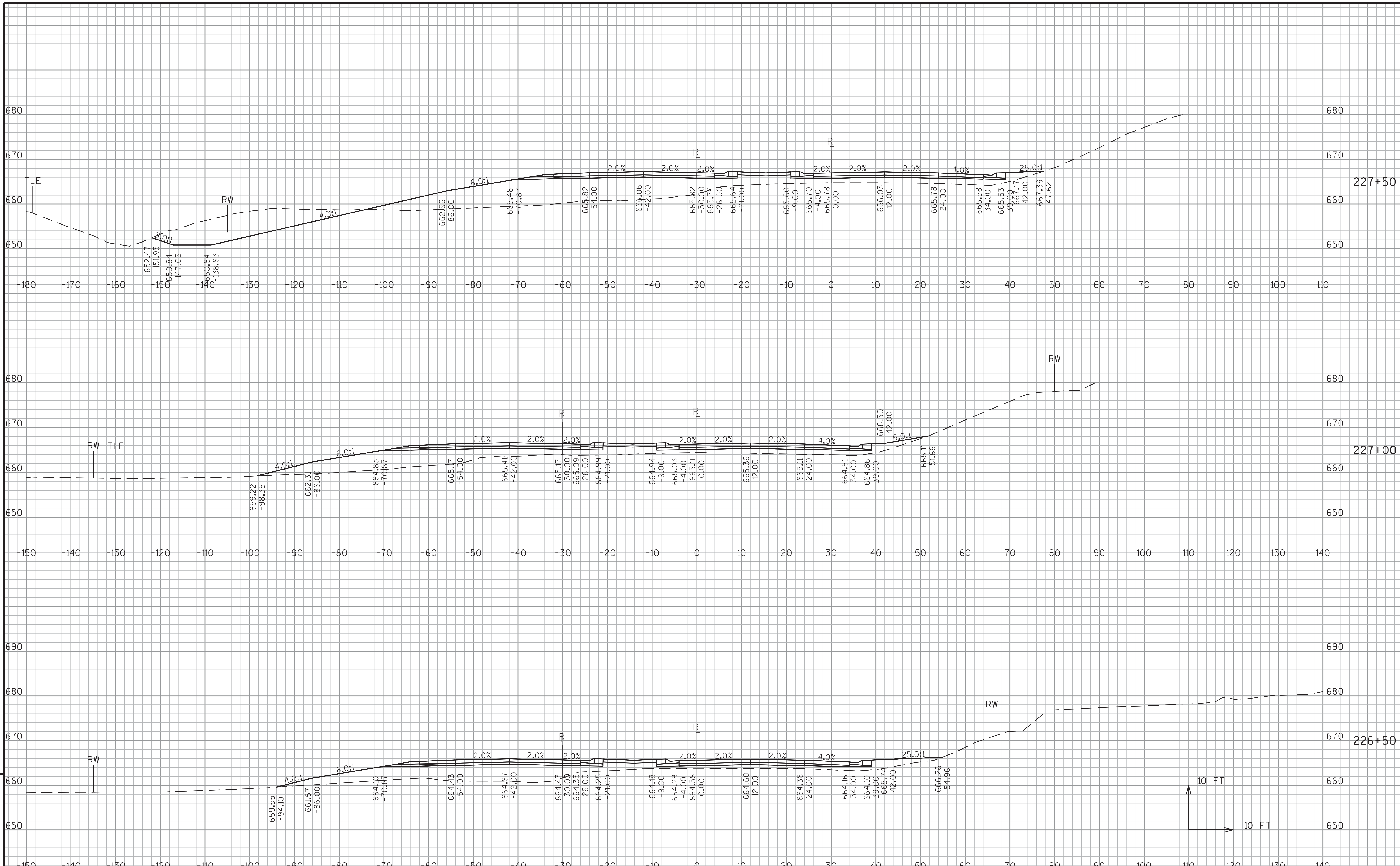


9 | 9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 568	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

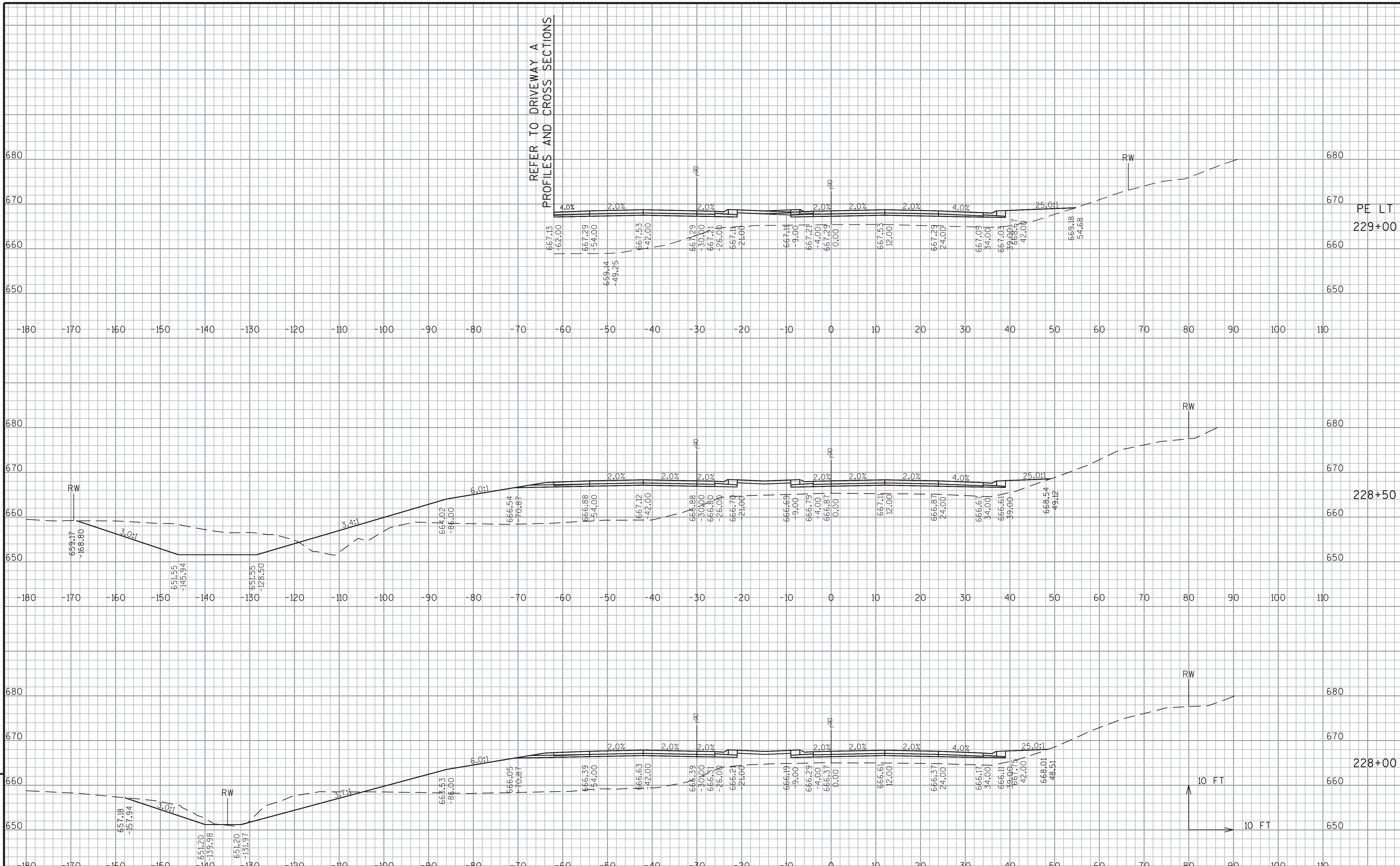
SHEET NAME: XSUSH1817



9 9

PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: USH 18 EB | SHEET 569 | E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG
SHEET NAME: XSUSH1818

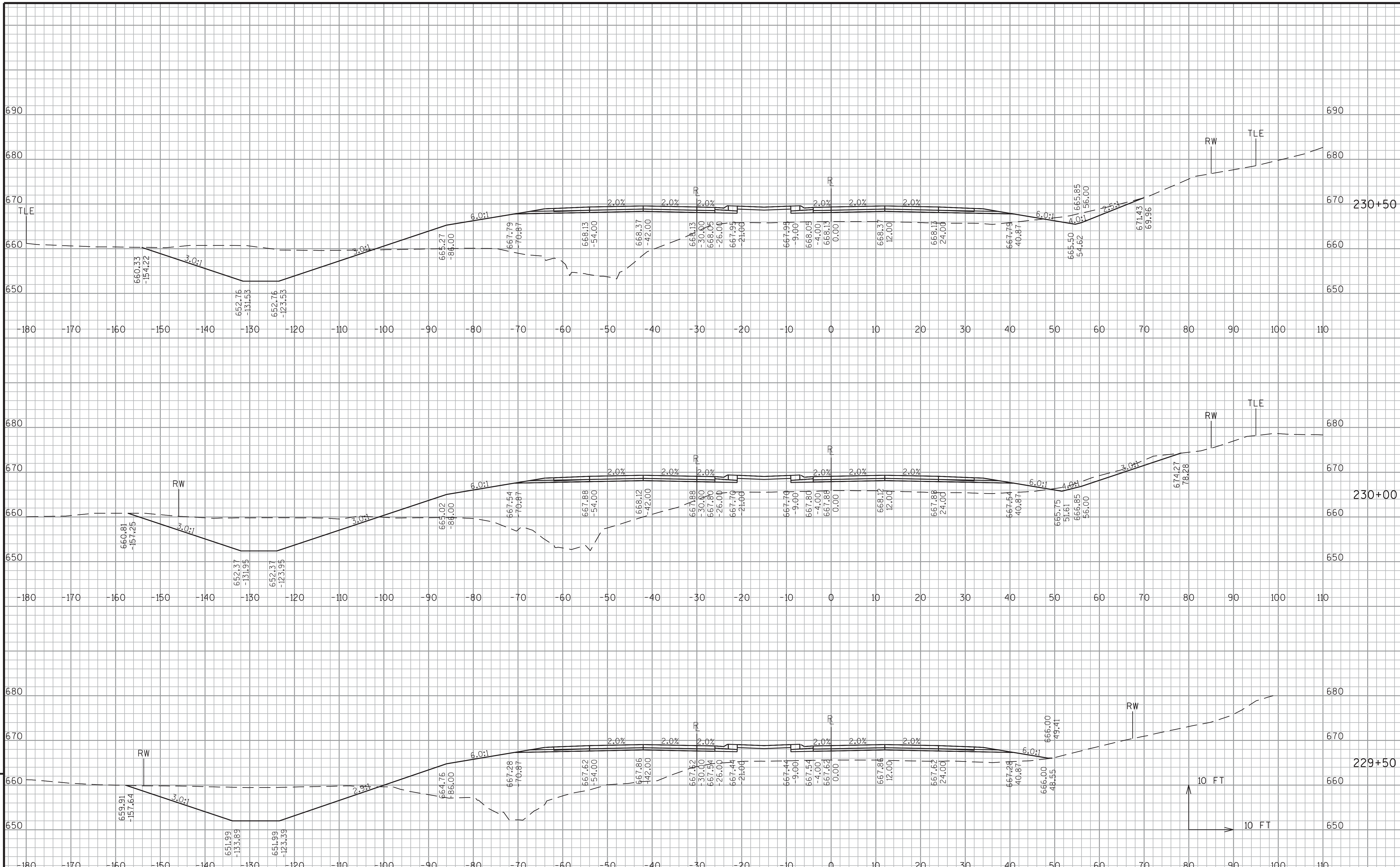


9 | 9

PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: USH 18 EB | SHEET 570 | E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

SHEET NAME: XSUSH1819

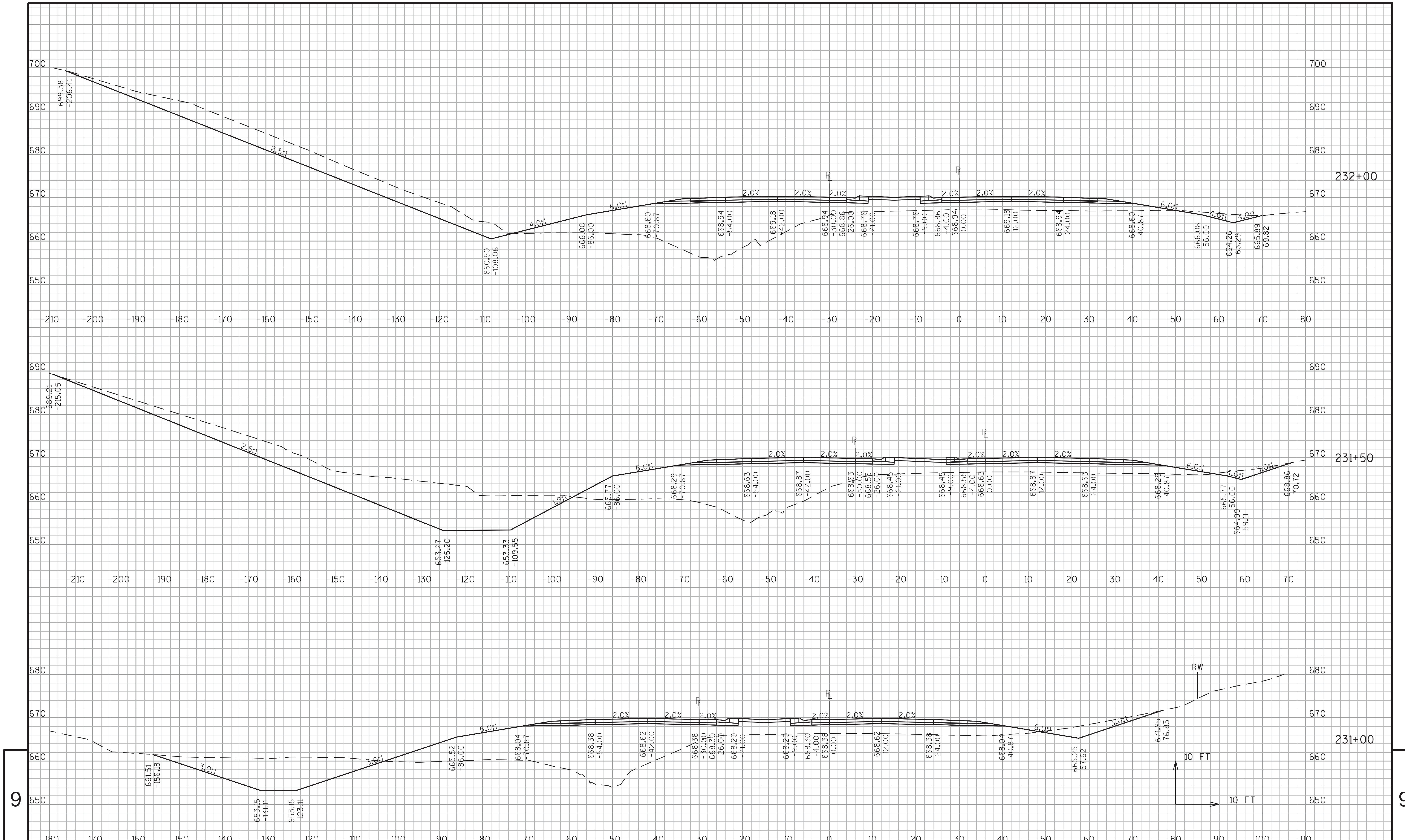


9 9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 571	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

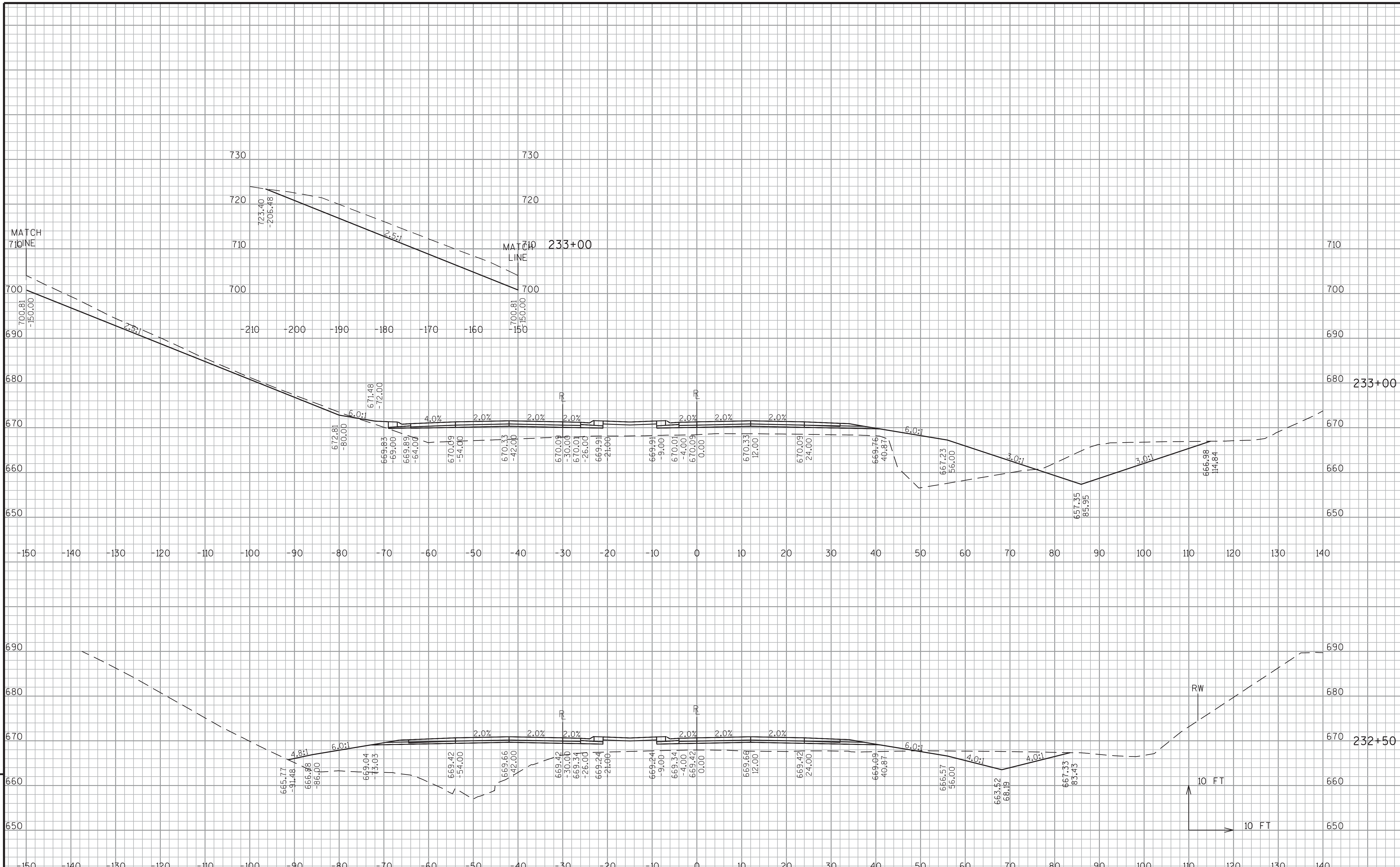
SHEET NAME: XSUSH1820



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 572	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

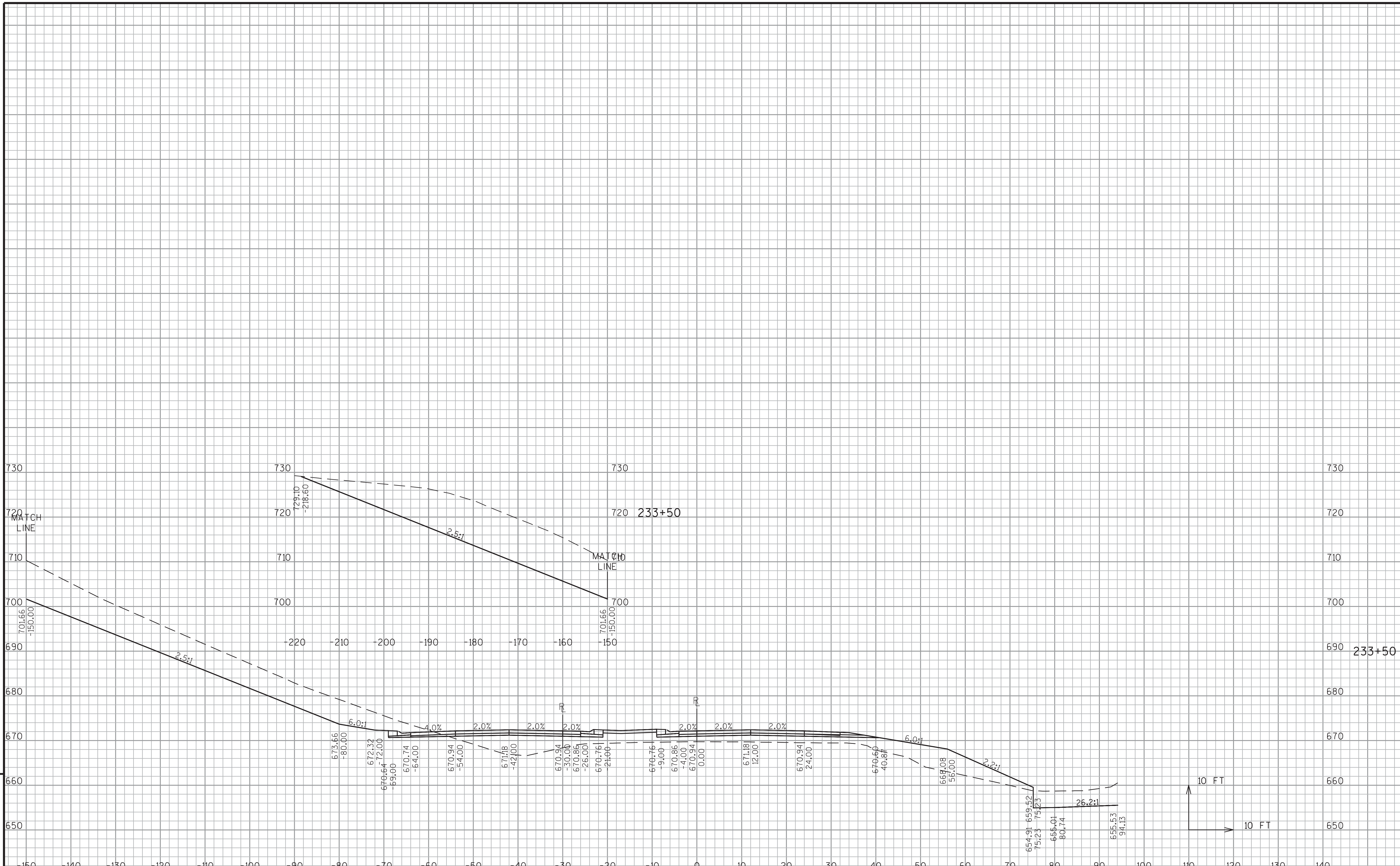
SHEET NAME: XSUSH1821



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 573	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

SHEET NAME: XSUSH1822



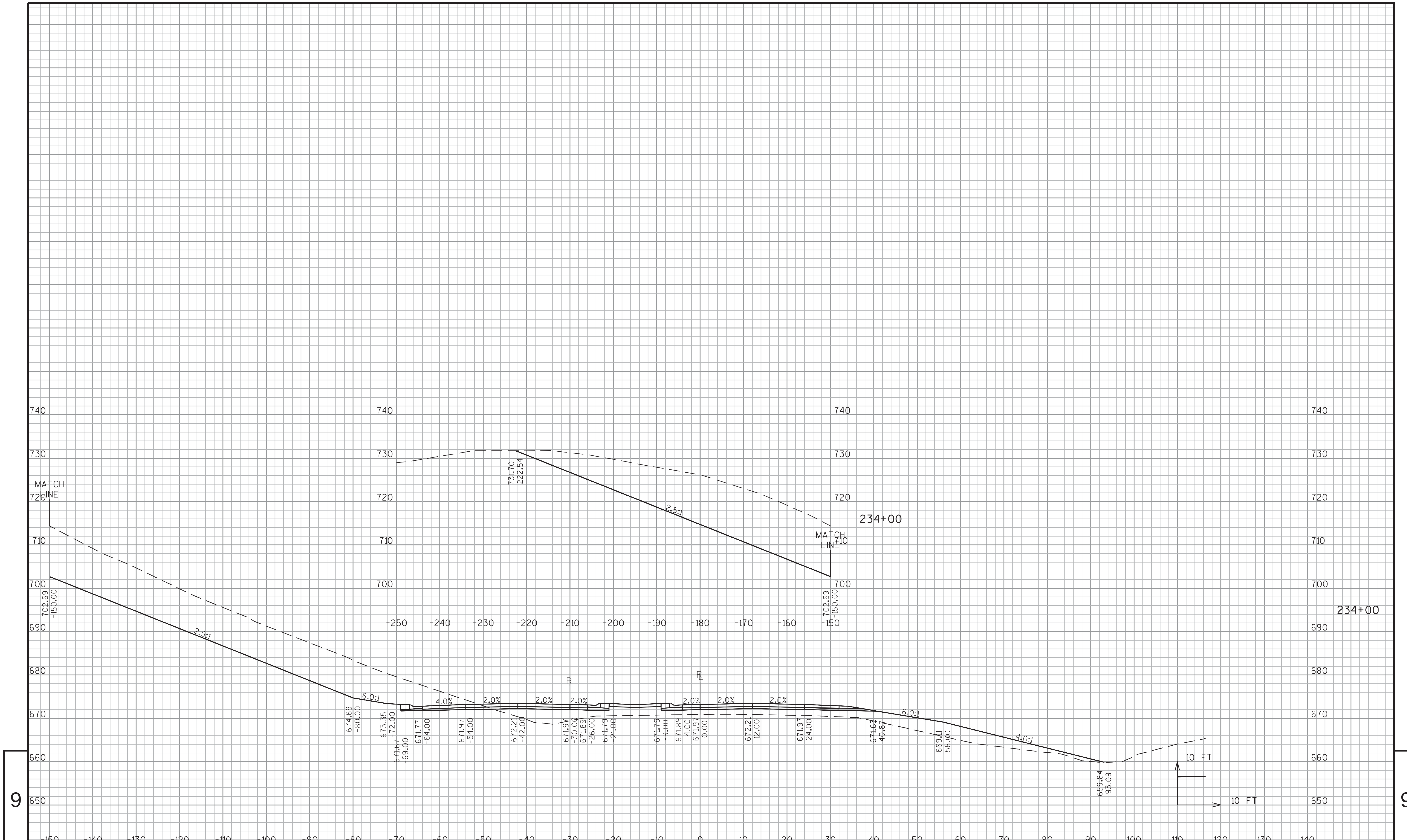
9

9

PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: USH 18 EB | SHEET 574 | E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

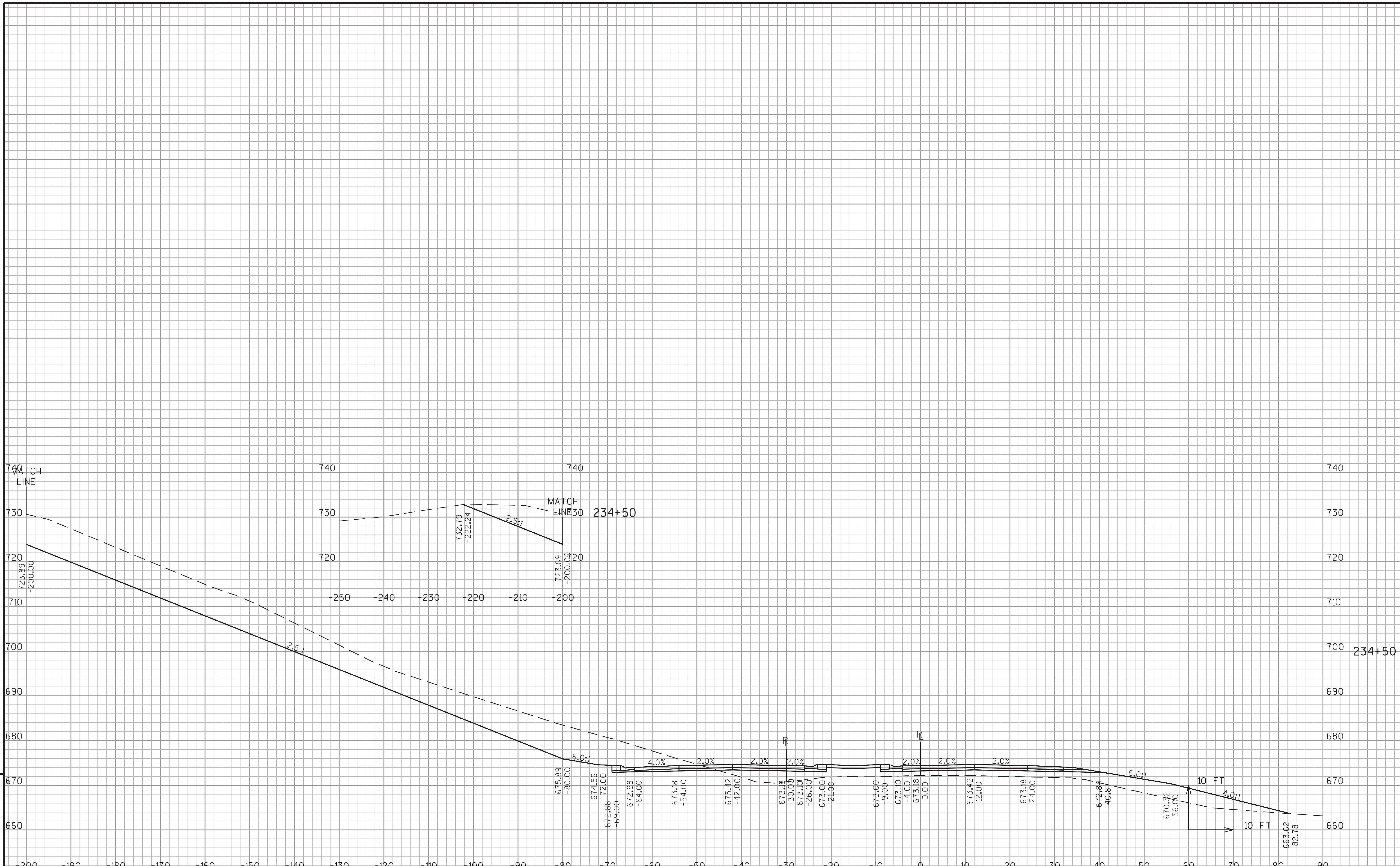
SHEET NAME: XSUSH1823



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 575	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

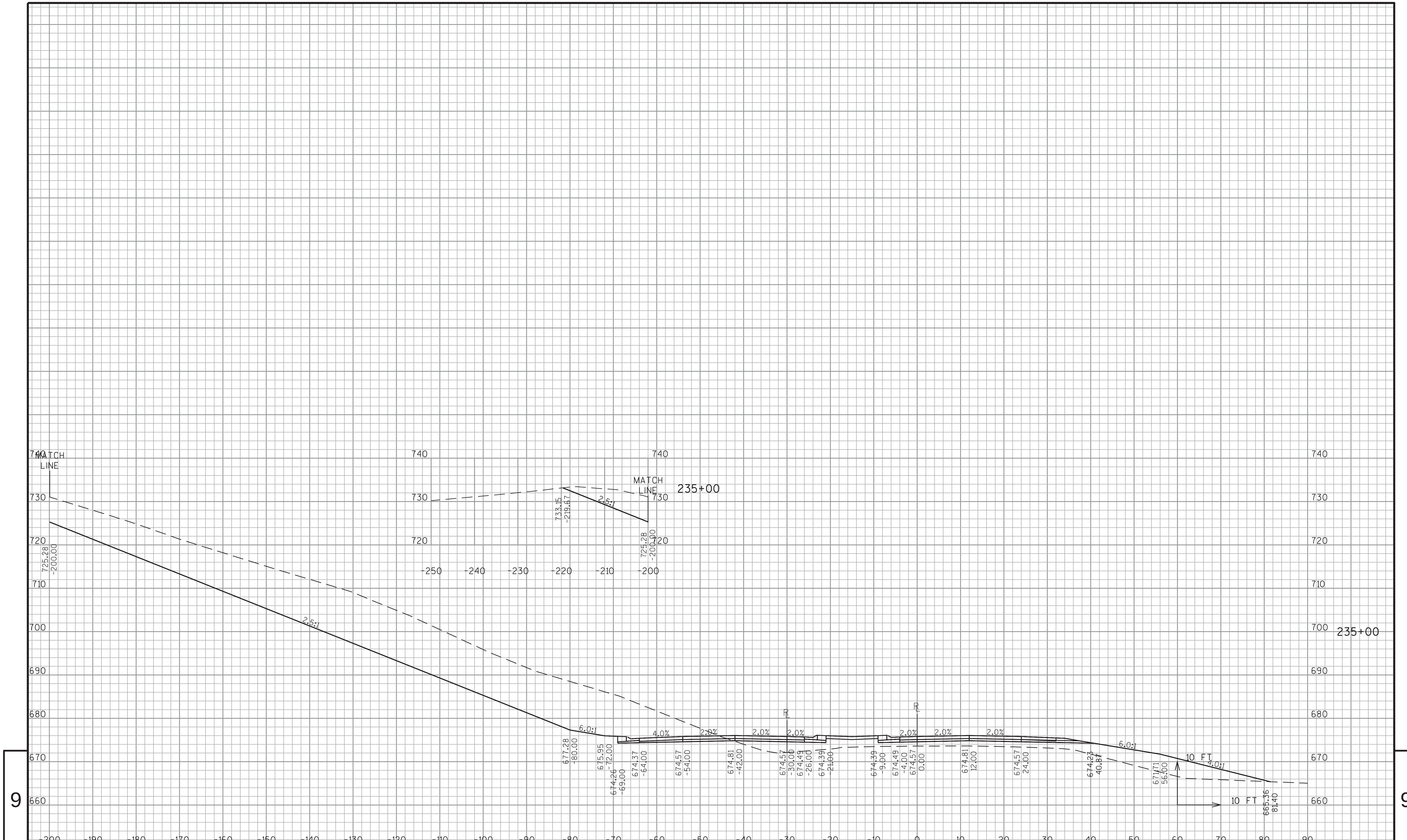
SHEET NAME: XSUSH1824



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 576	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

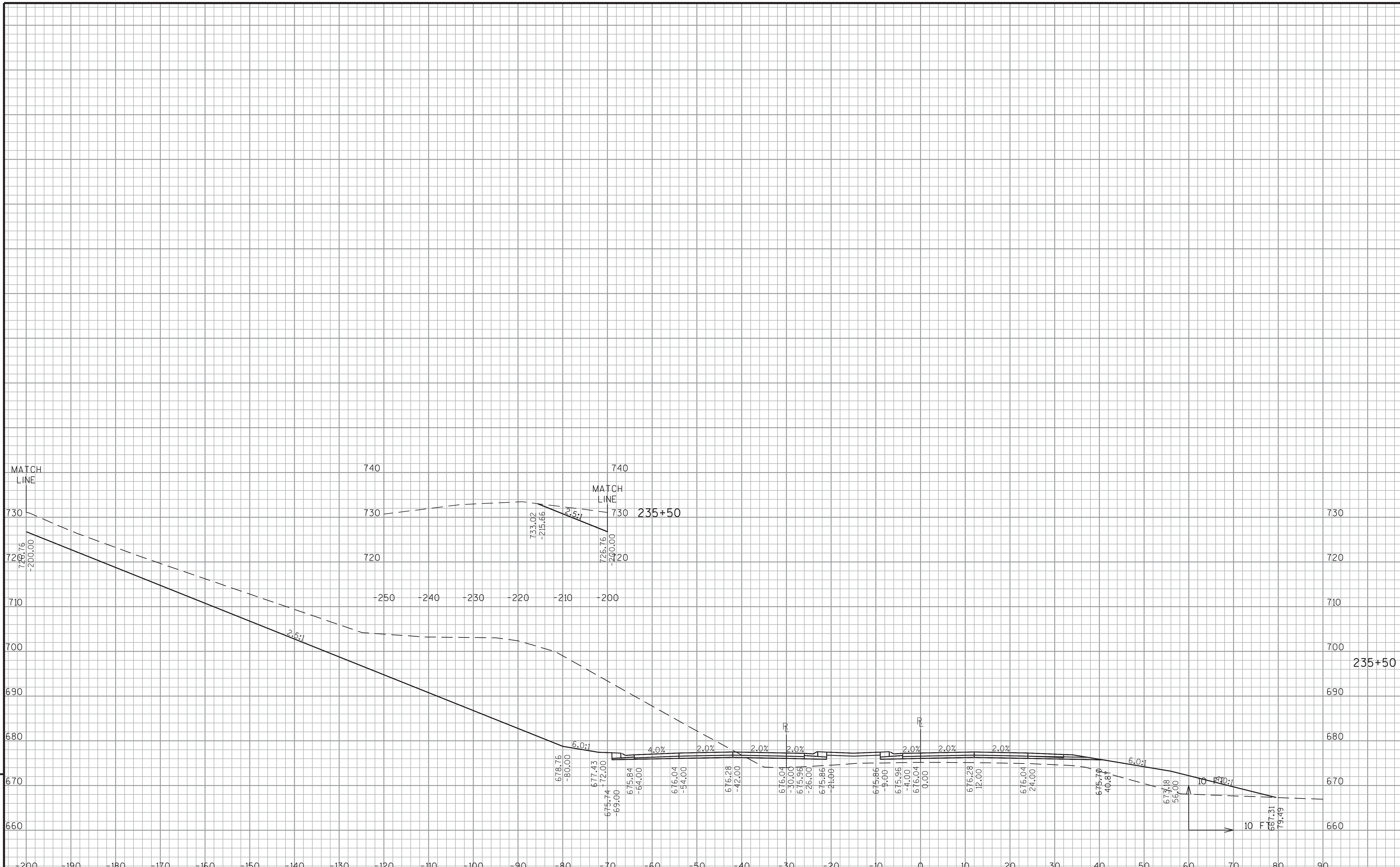
SHEET NAME: XSUSH1825



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 577	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

SHEET NAME: XSUSH1826



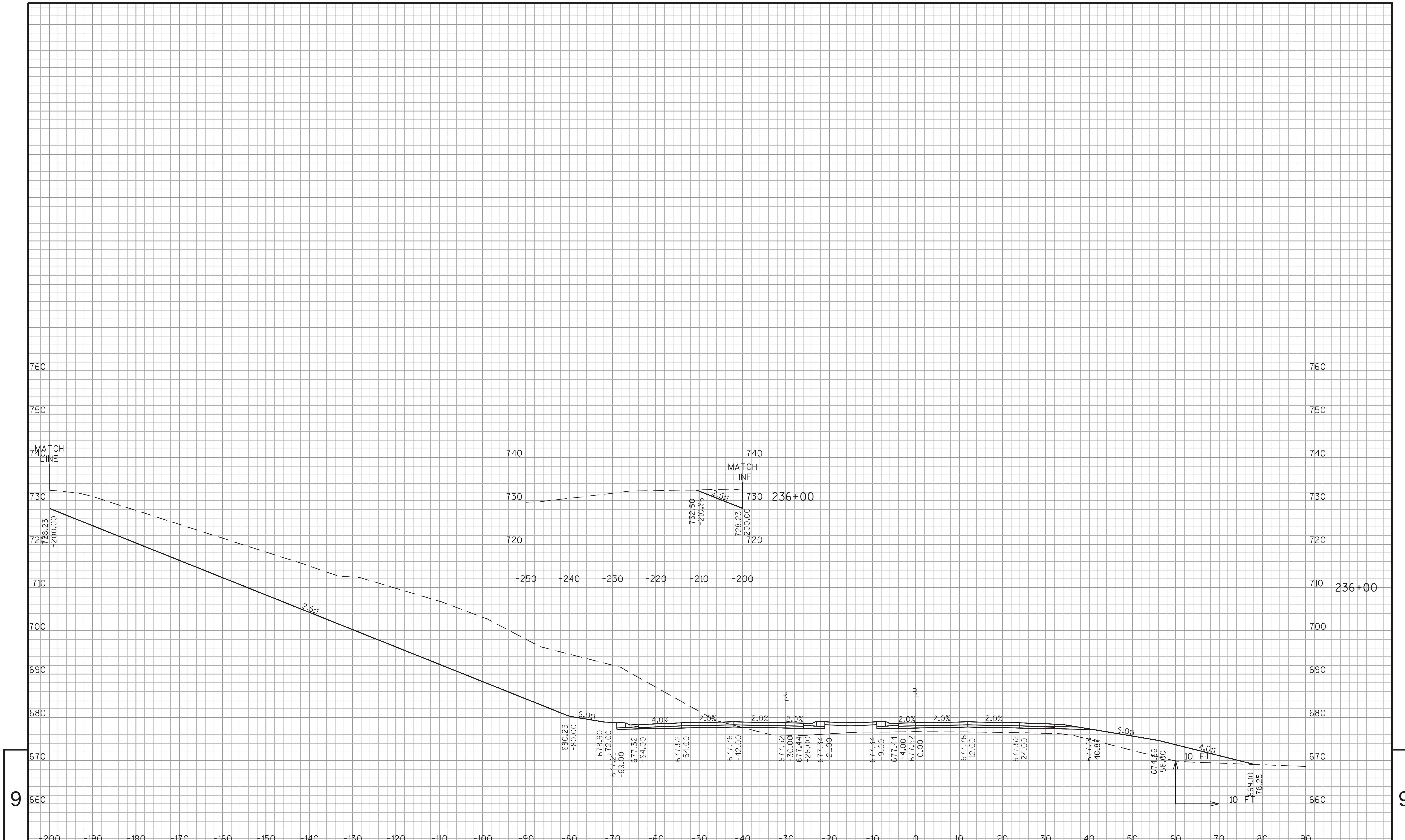
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 578	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

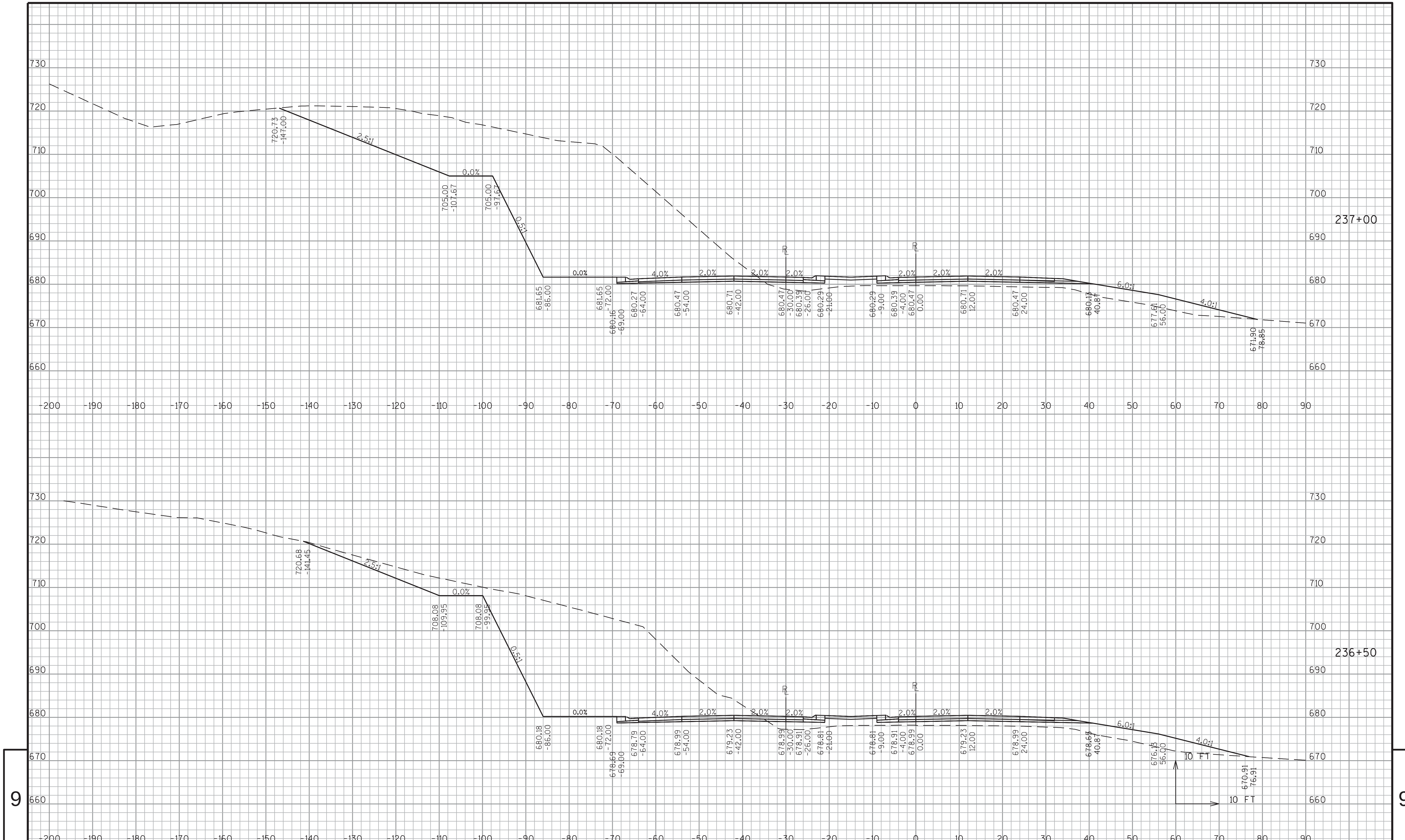
SHEET NAME: XSUSH1827



PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: USH 18 EB | SHEET 579 | E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

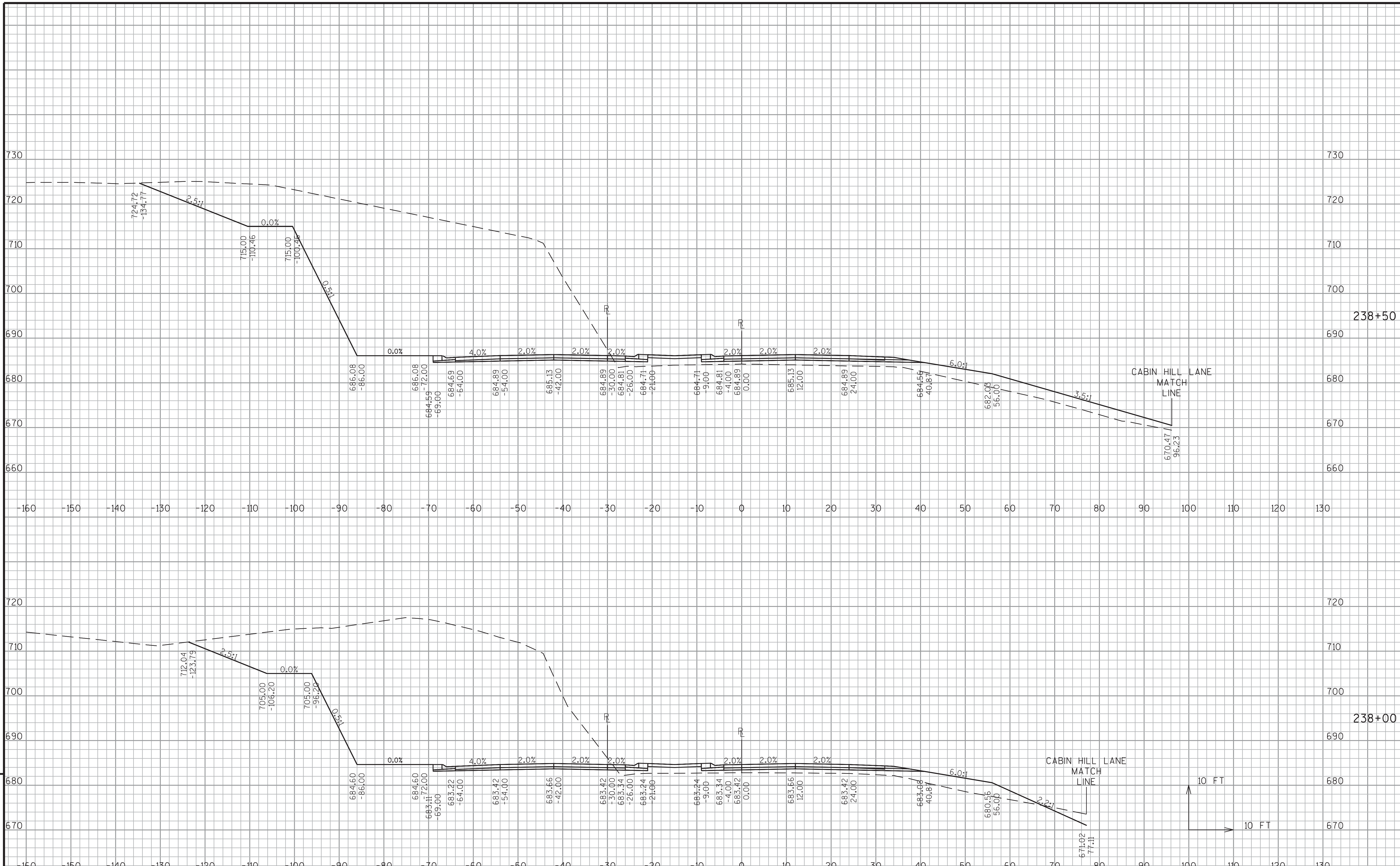
SHEET NAME: XSUSH1828



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 580 E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

SHEET NAME: XSUSH1829



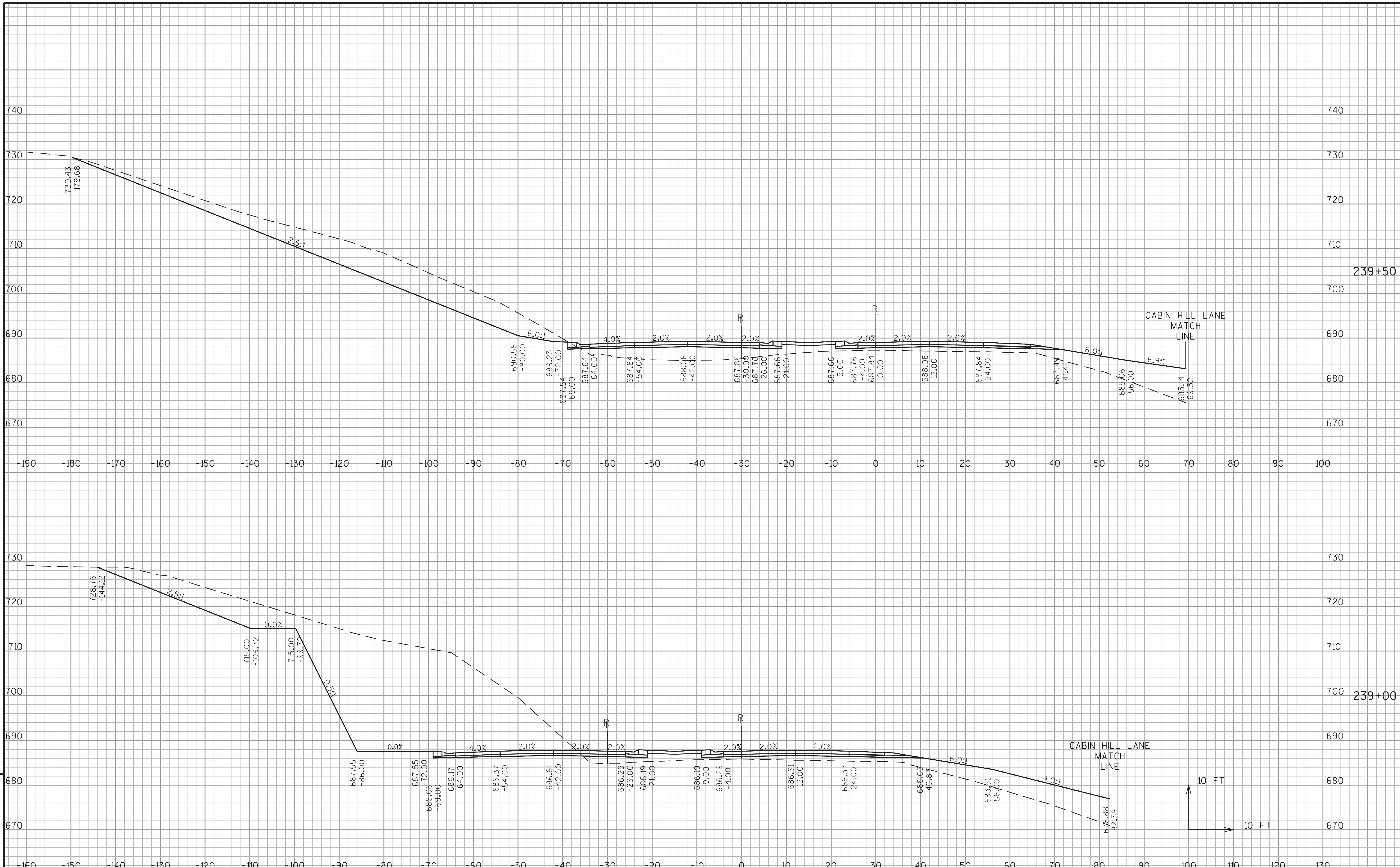
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 581	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

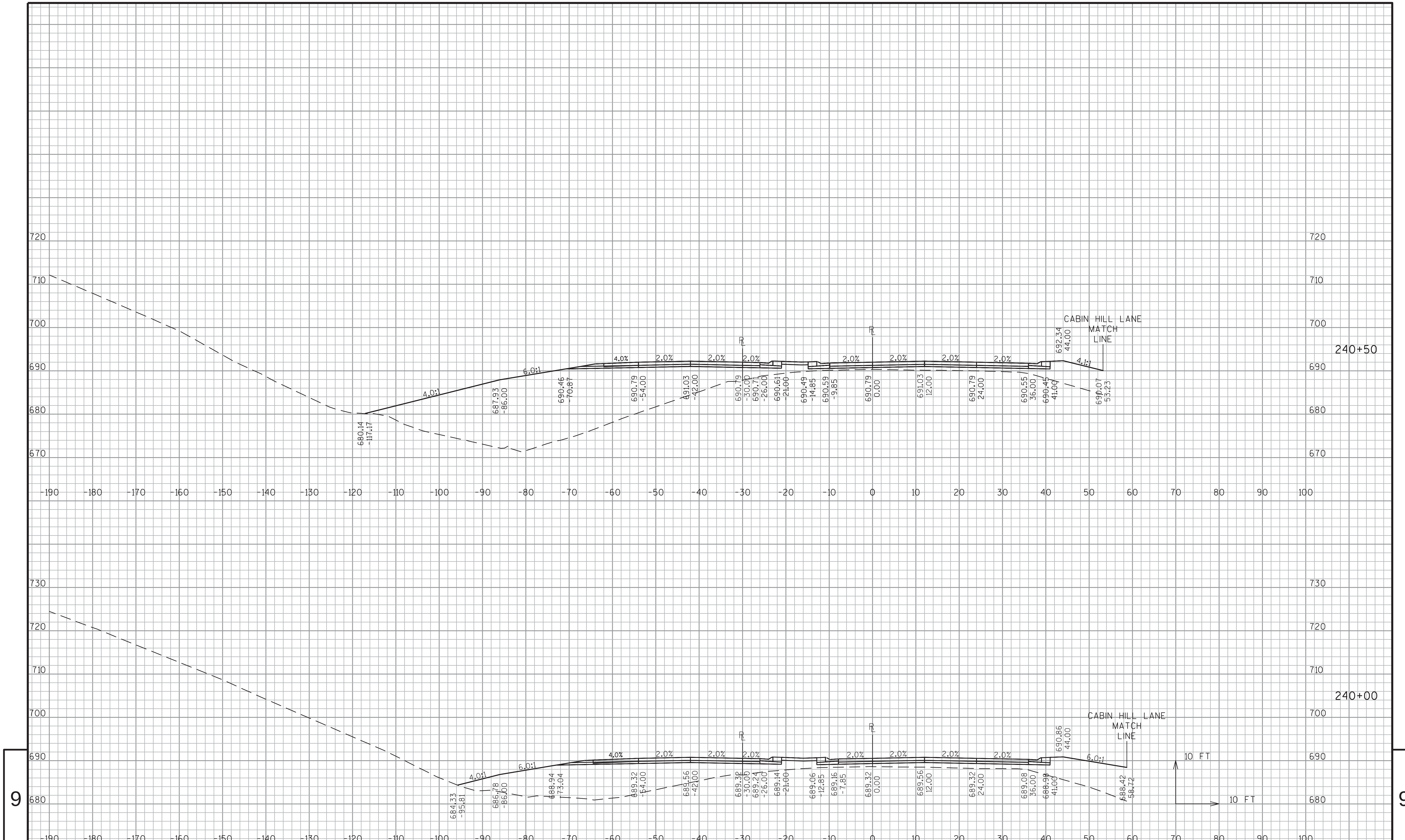
SHEET NAME: XSUSH1830



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 582	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

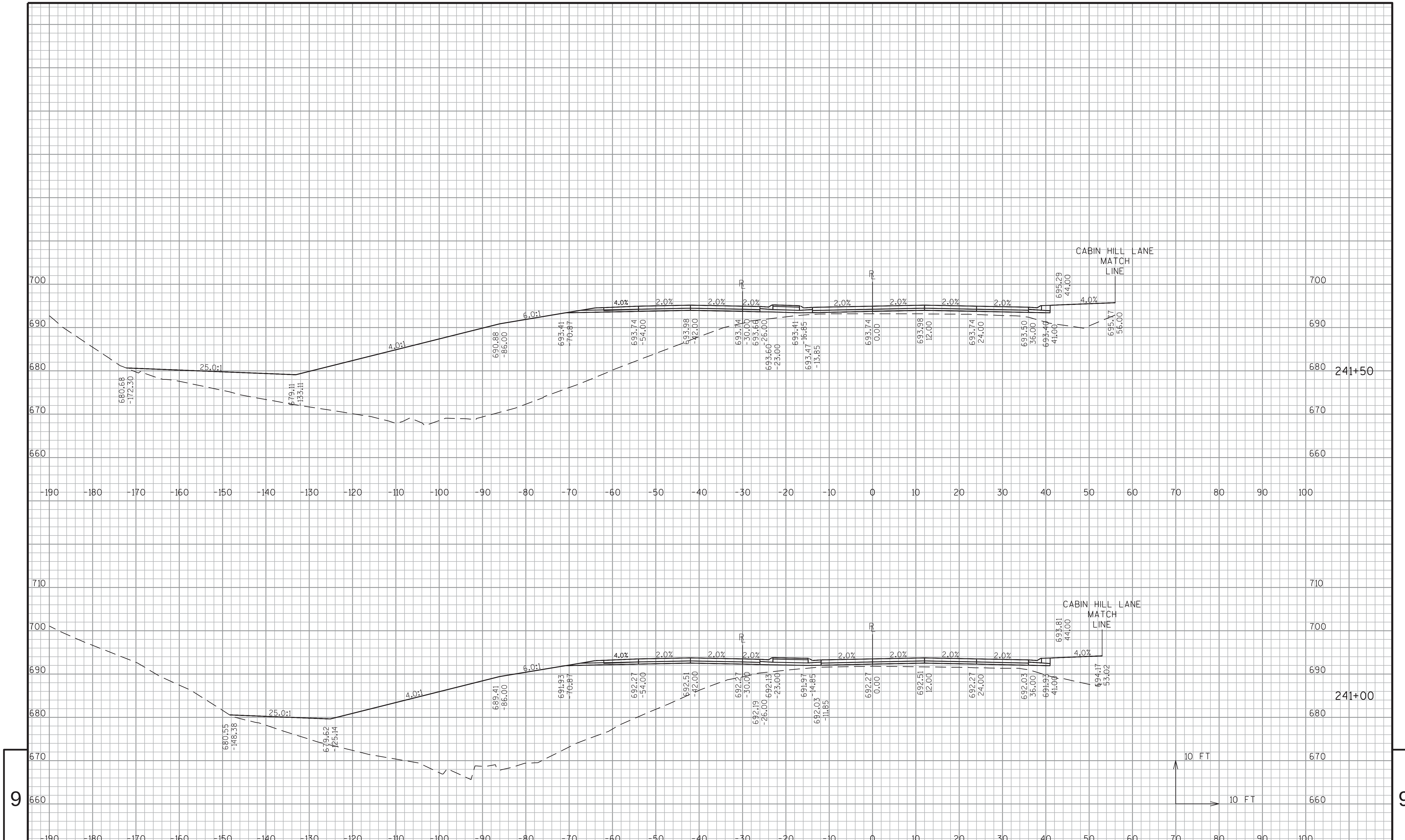
SHEET NAME: XSUSH1831



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 583	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

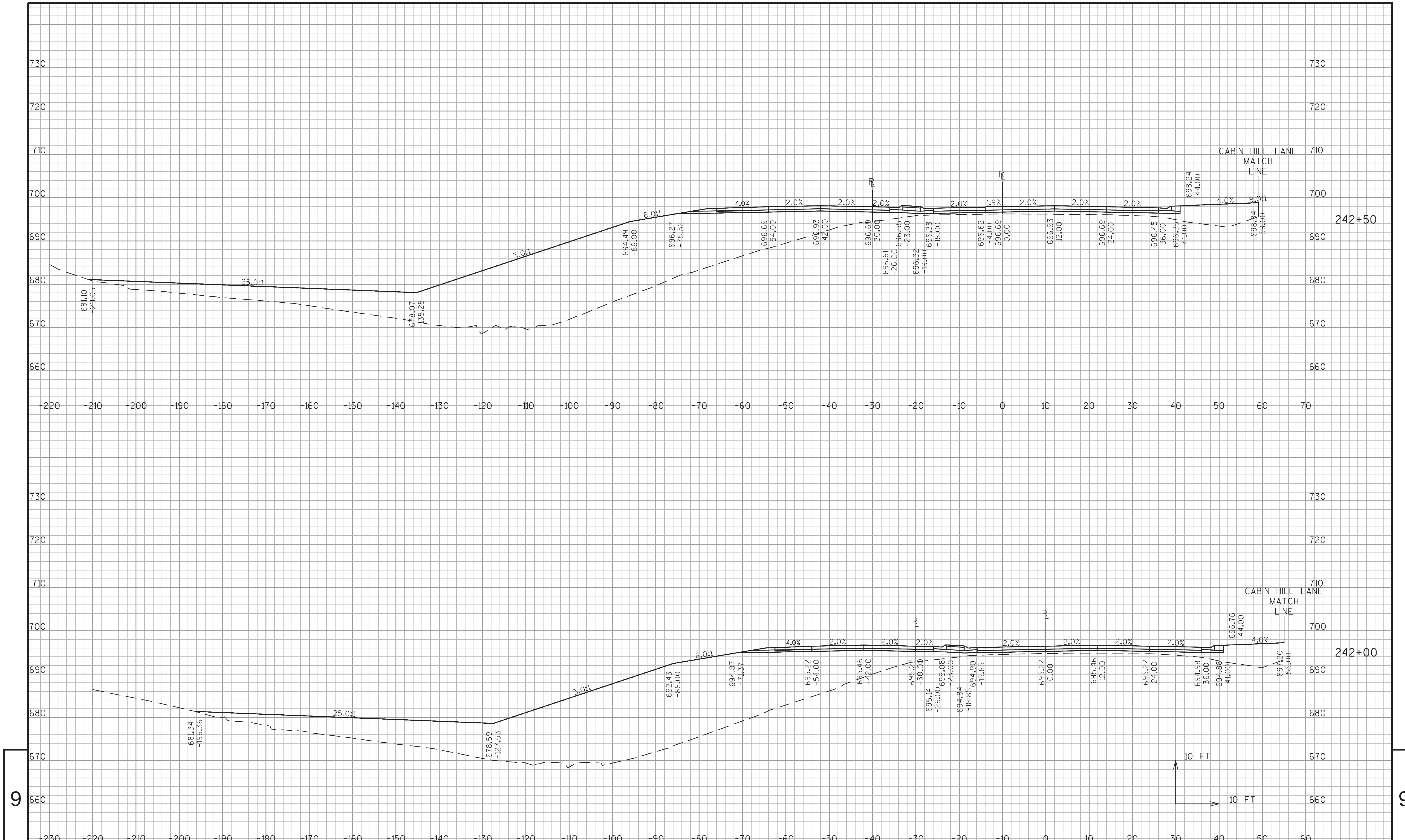
SHEET NAME: XSUSH1832



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 584	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

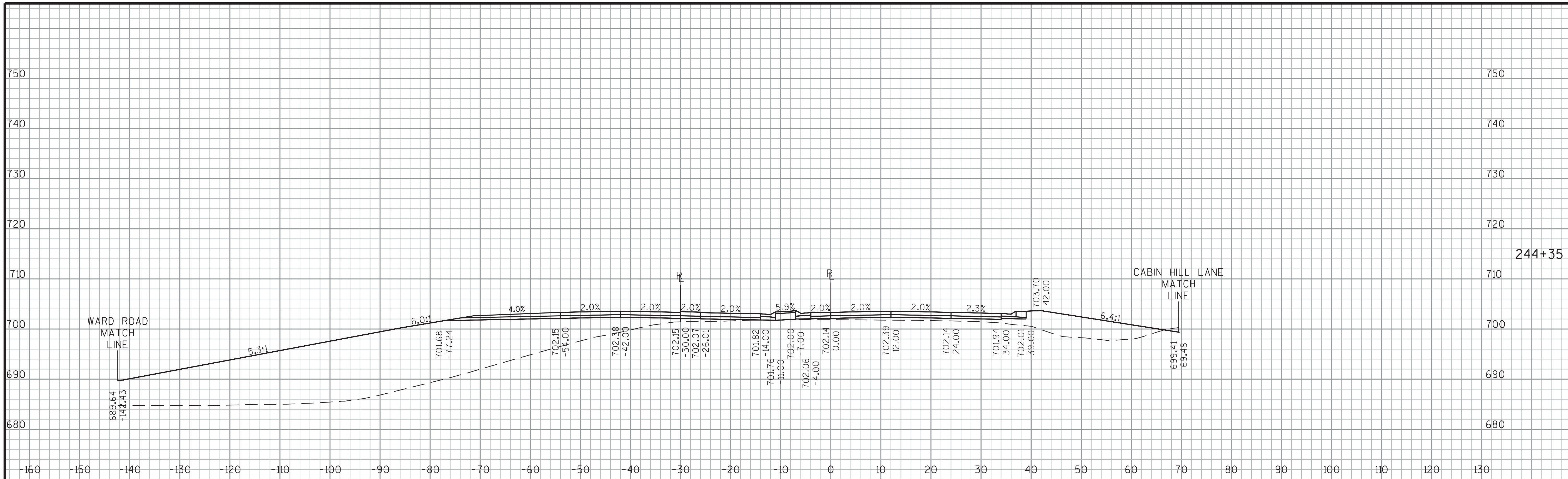
SHEET NAME: XSUSH1833

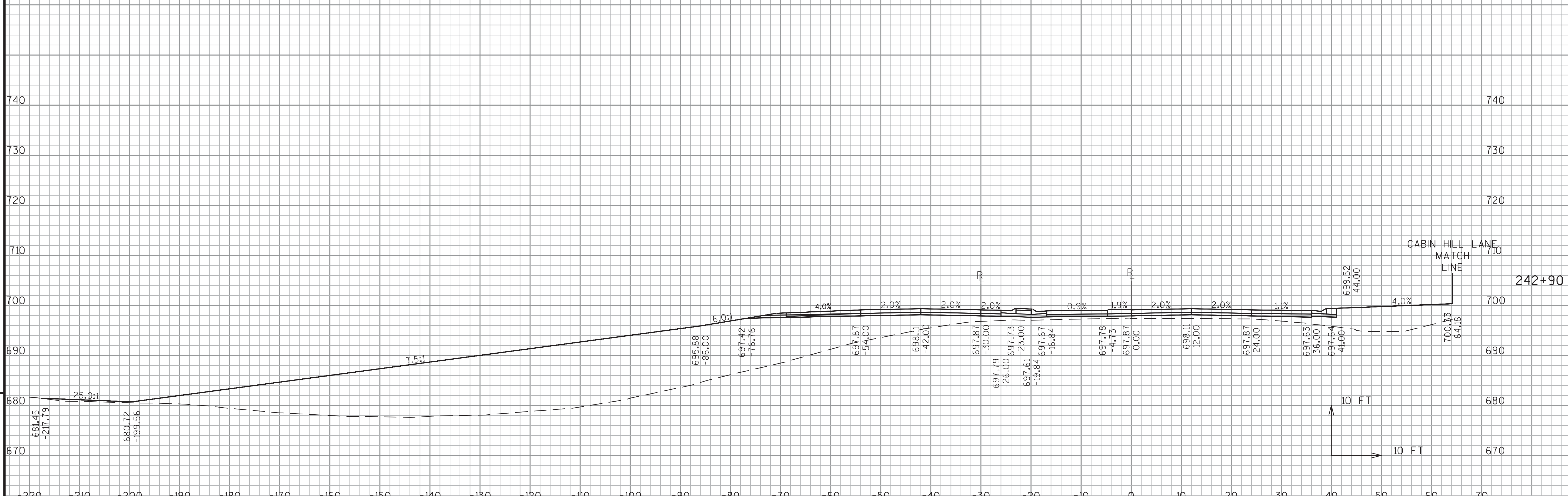


PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 585	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

SHEET NAME: XSUSH1834





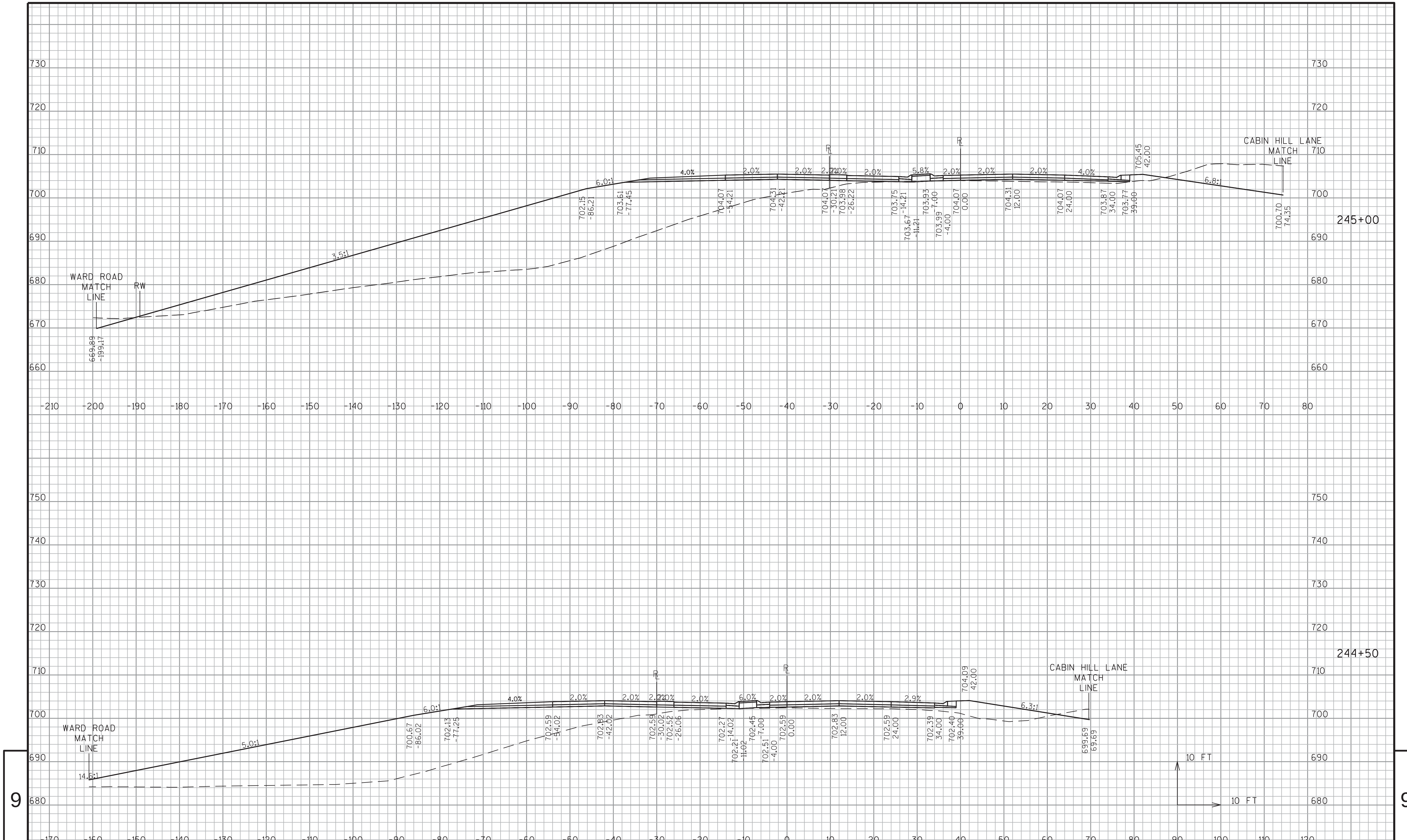
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 586	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

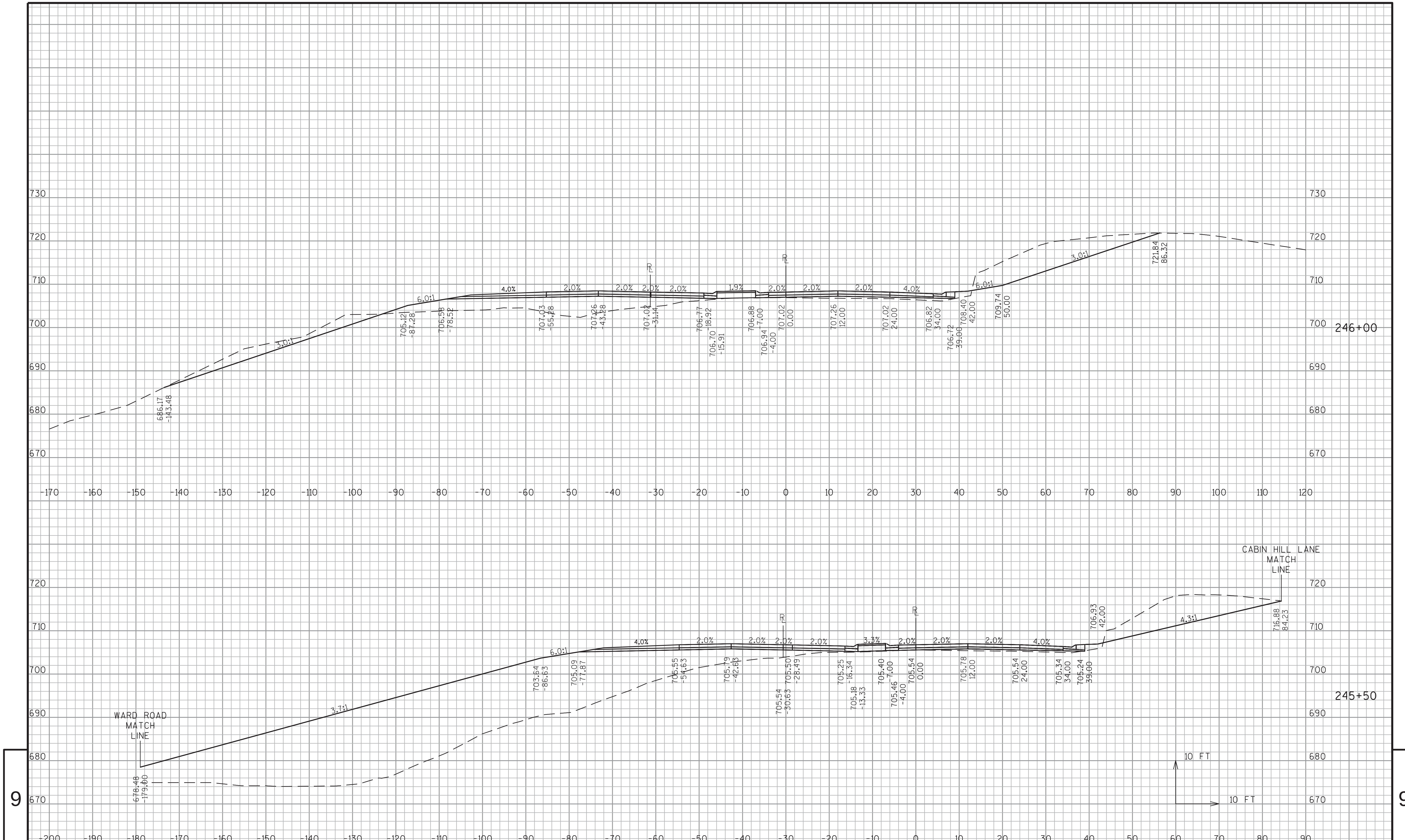
SHEET NAME: XSUSH1835



PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: USH 18 EB | SHEET 587 | E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

SHEET NAME: XSUSH1836



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 588	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

SHEET NAME: XSUSH1837

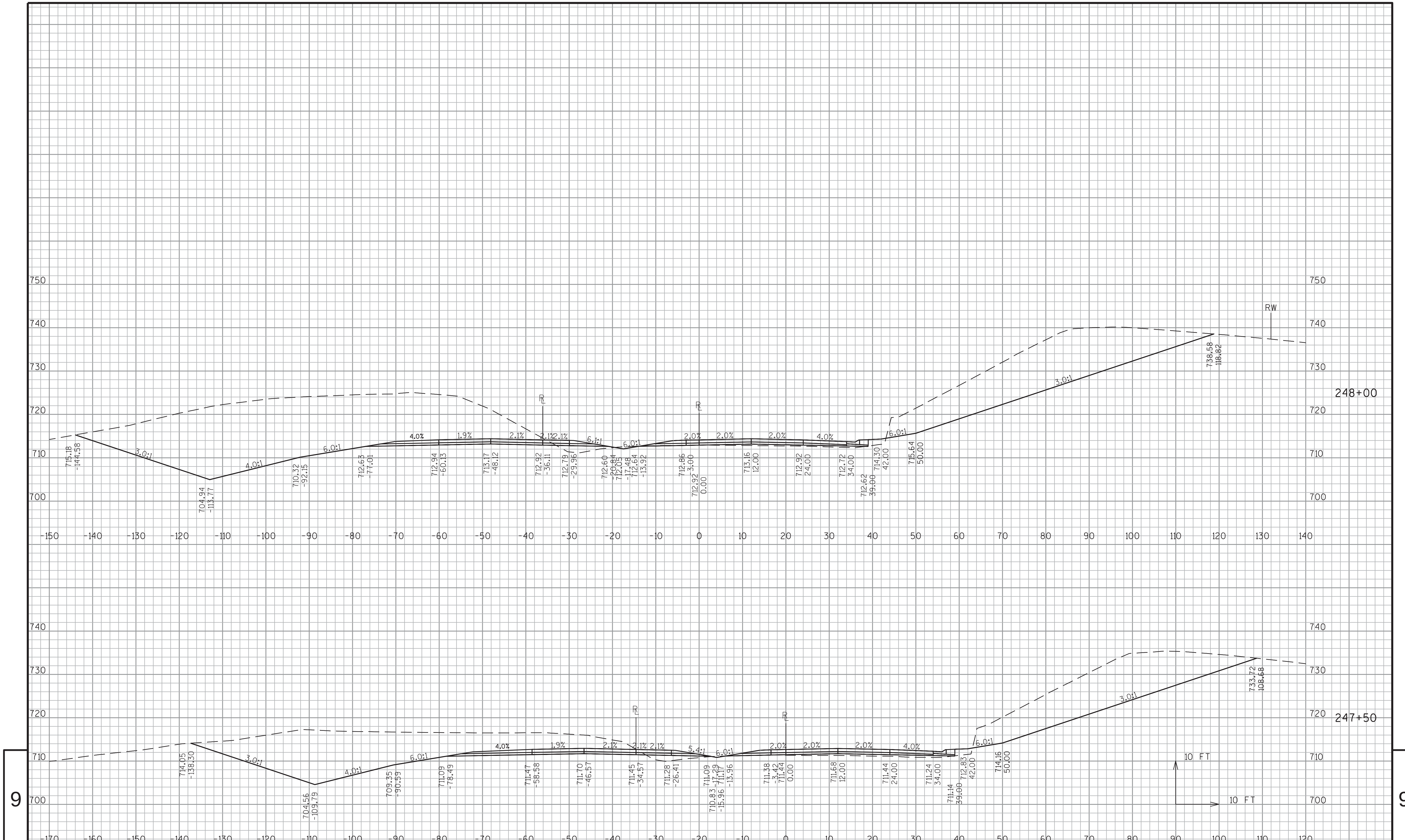
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 589	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

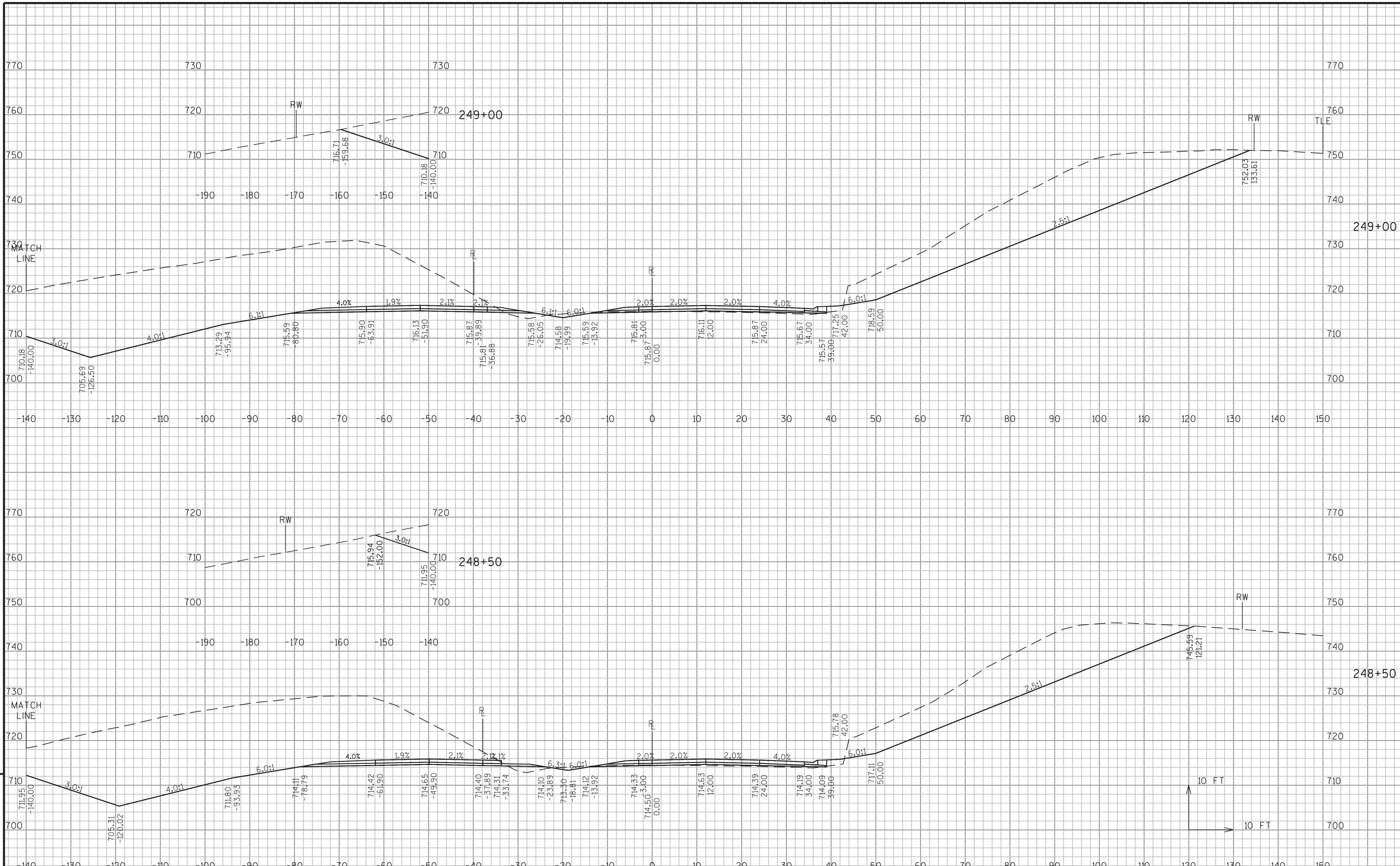
SHEET NAME: XSUSH1838



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

SHEET NAME: XSUSH1839



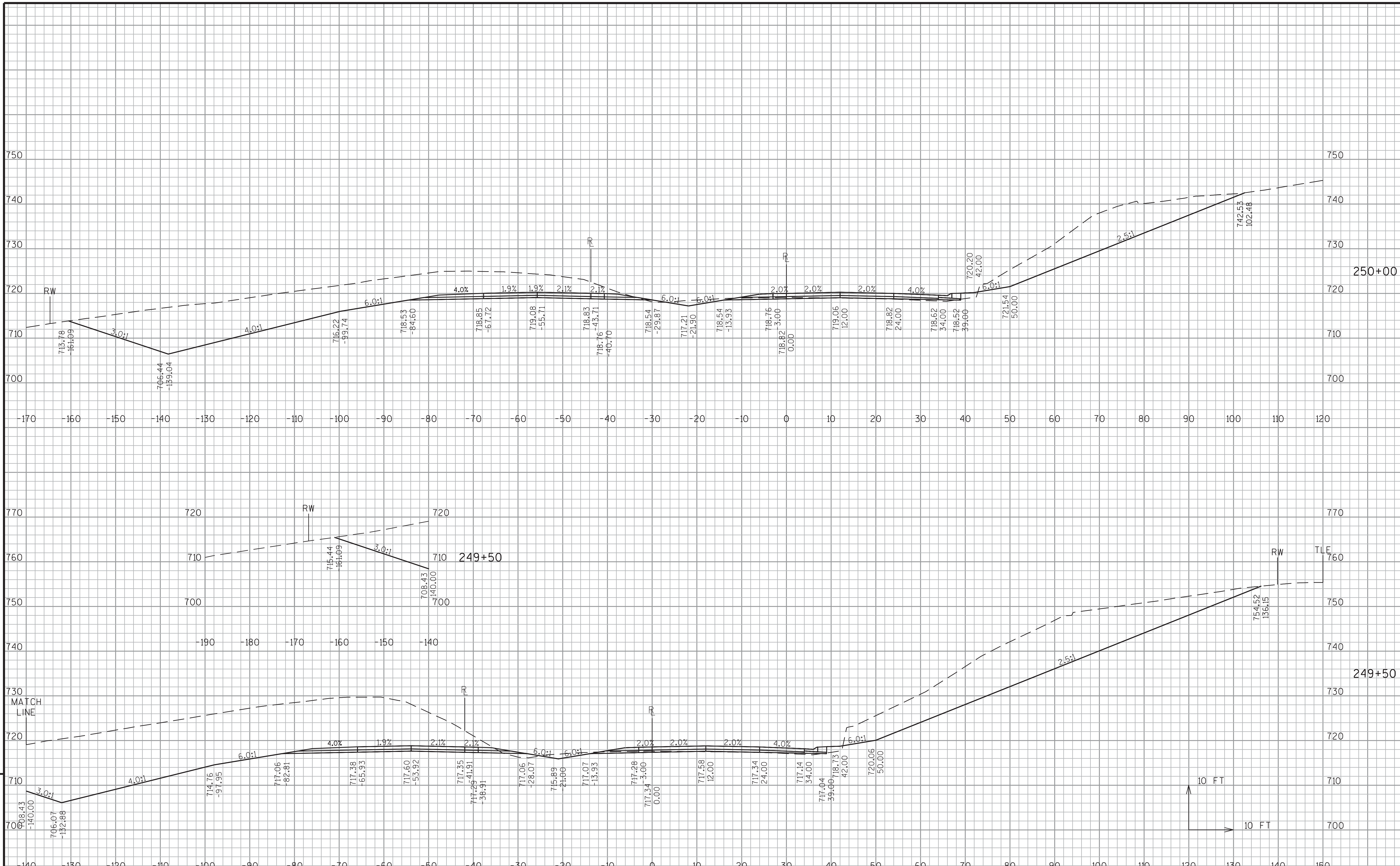
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 591	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

SHEET NAME: XSUSH1840



9

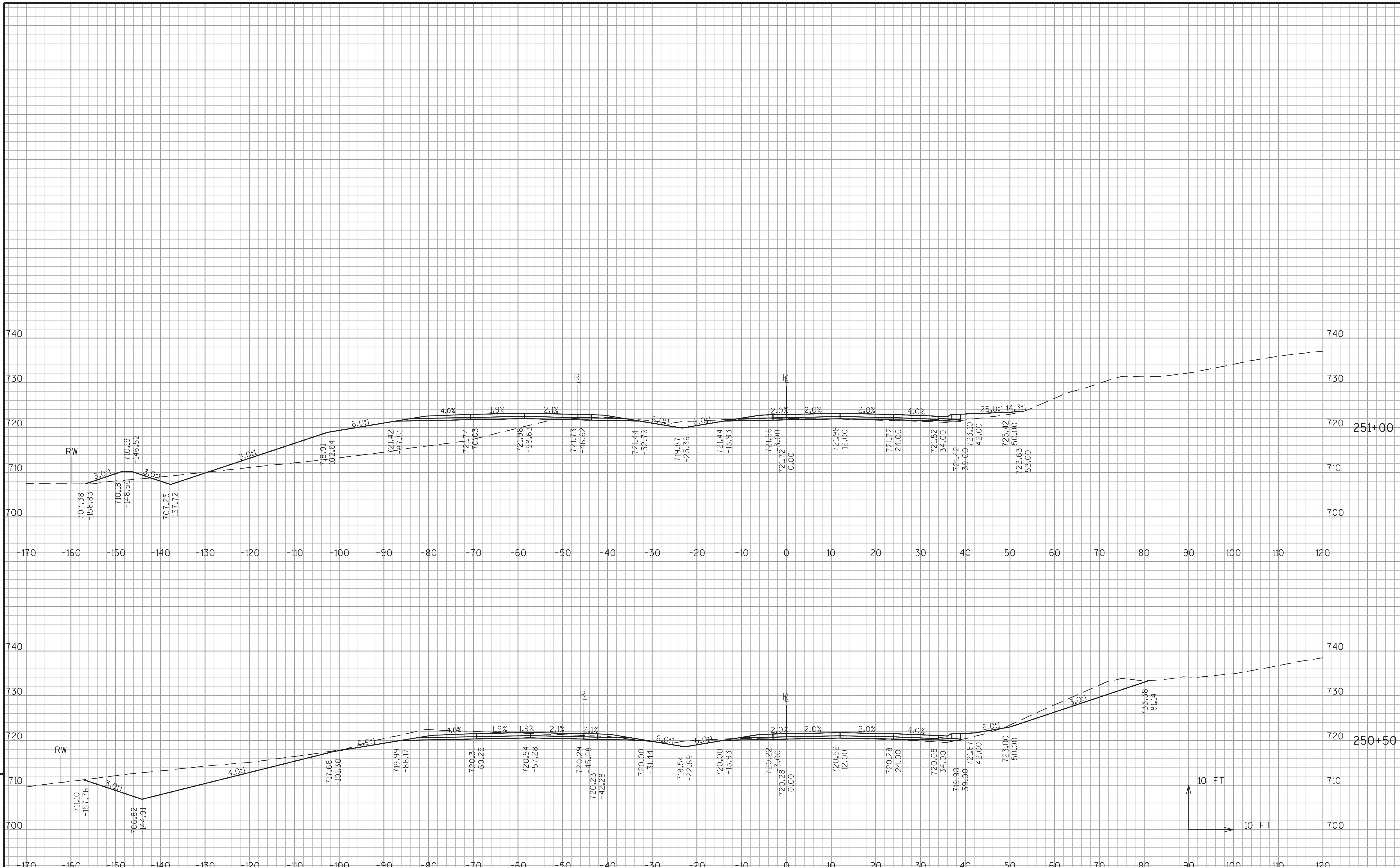
9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

SHEET NAME: XSUSH1841

9

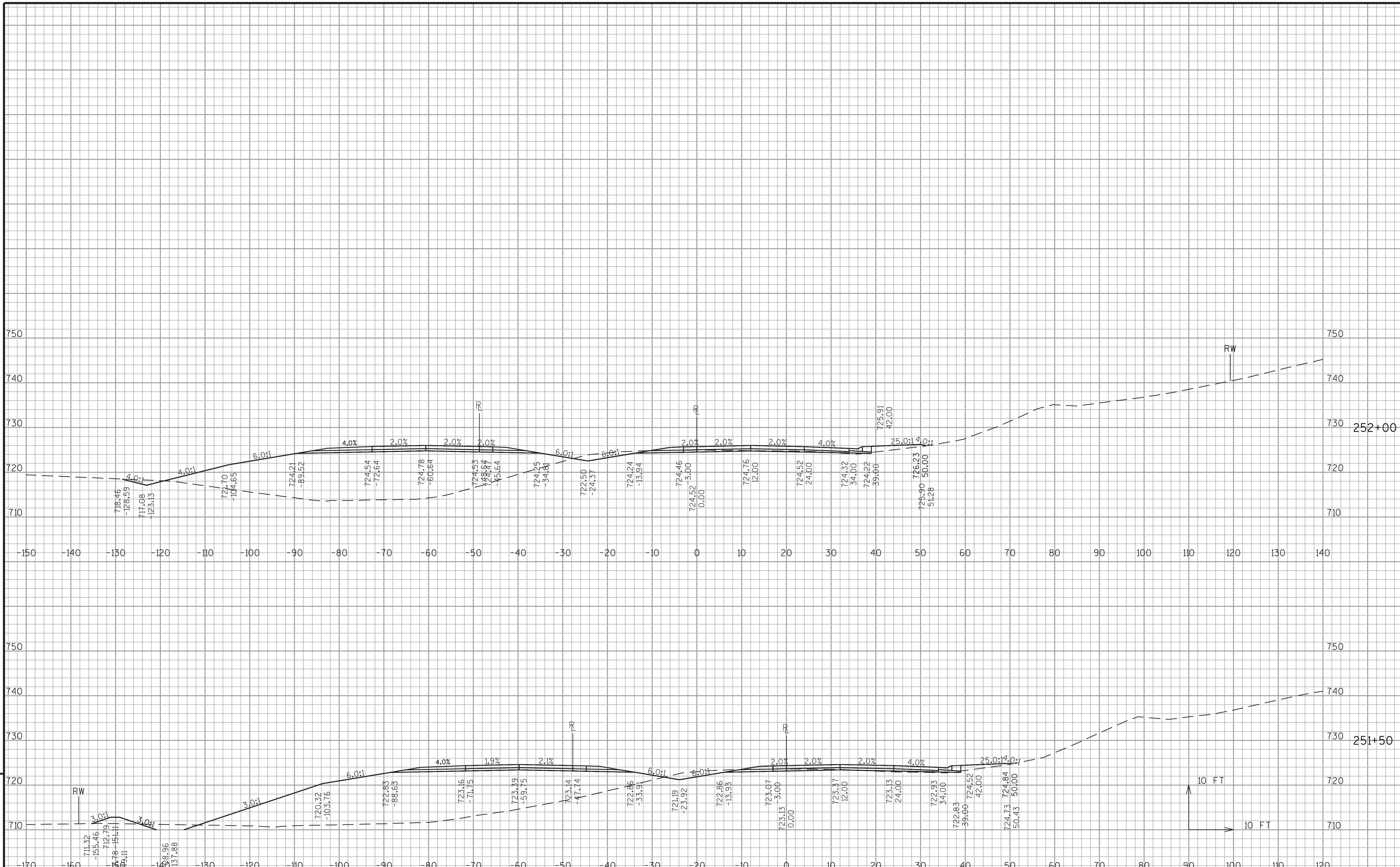


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 593	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

SHEET NAME: XSUSH1842

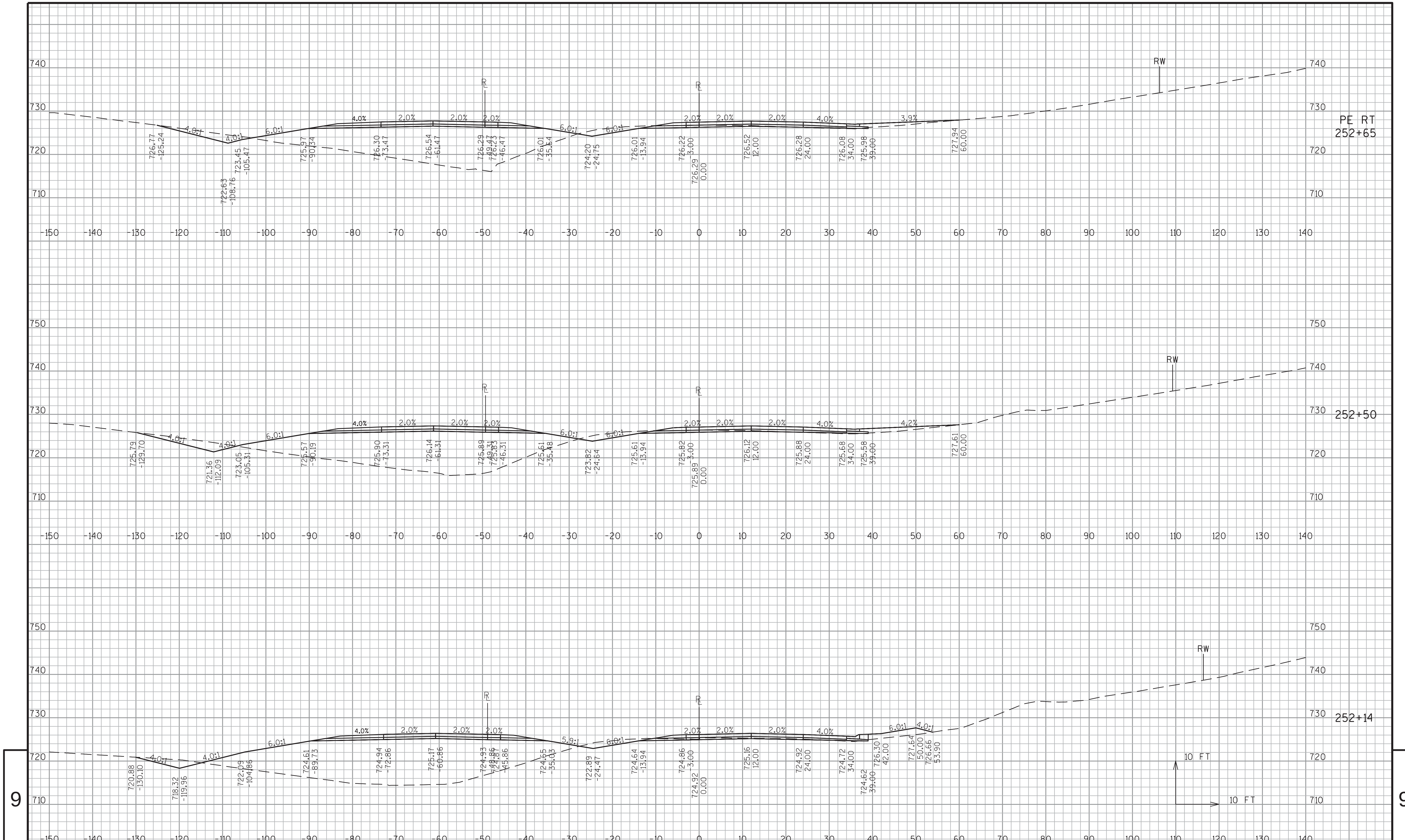


9 | 9

PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: USH 18 EB | SHEET 594 | E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

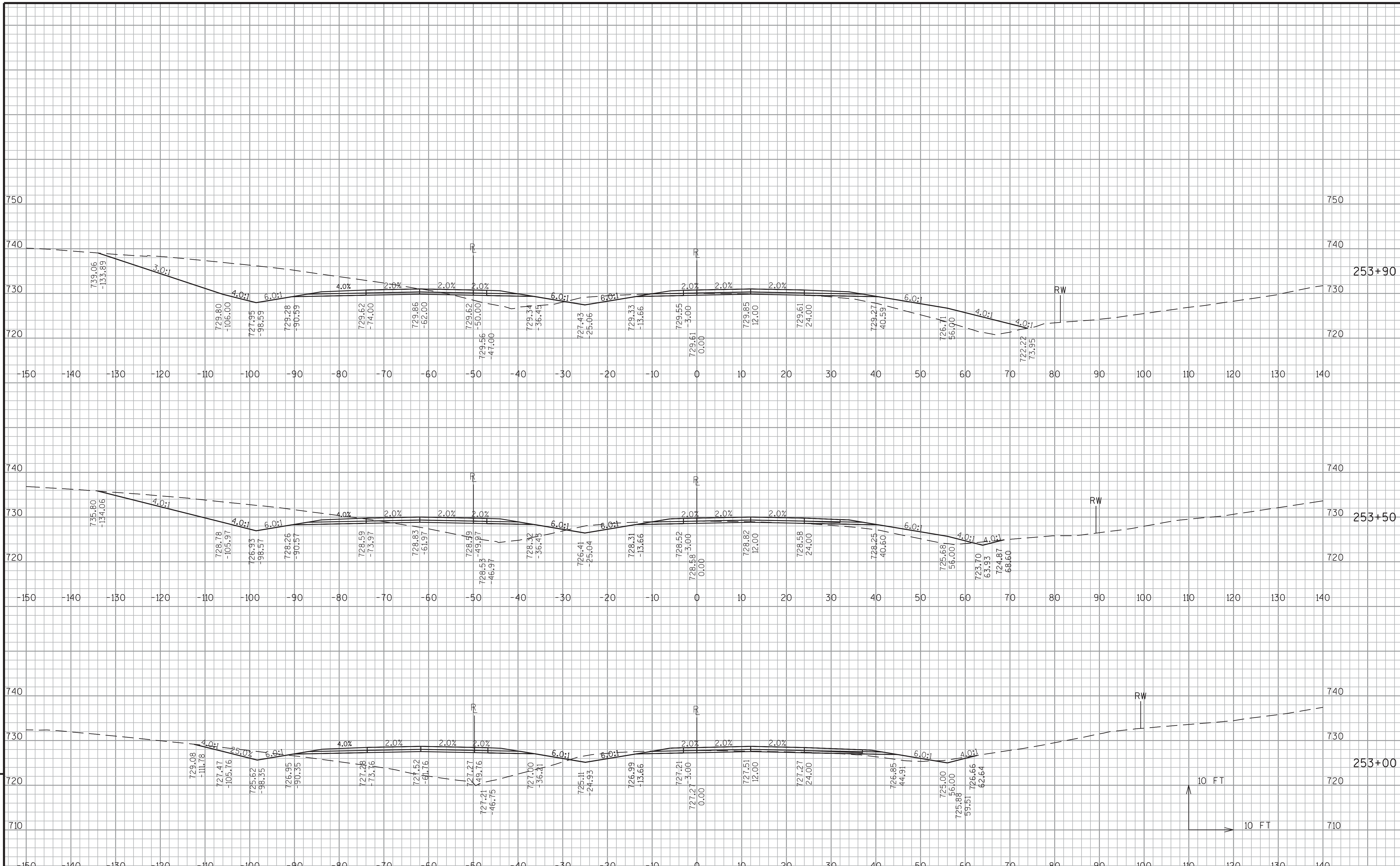
SHEET NAME: XSUSH1843



PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: USH 18 EB | SHEET 595 | E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

SHEET NAME: XSUSH1844



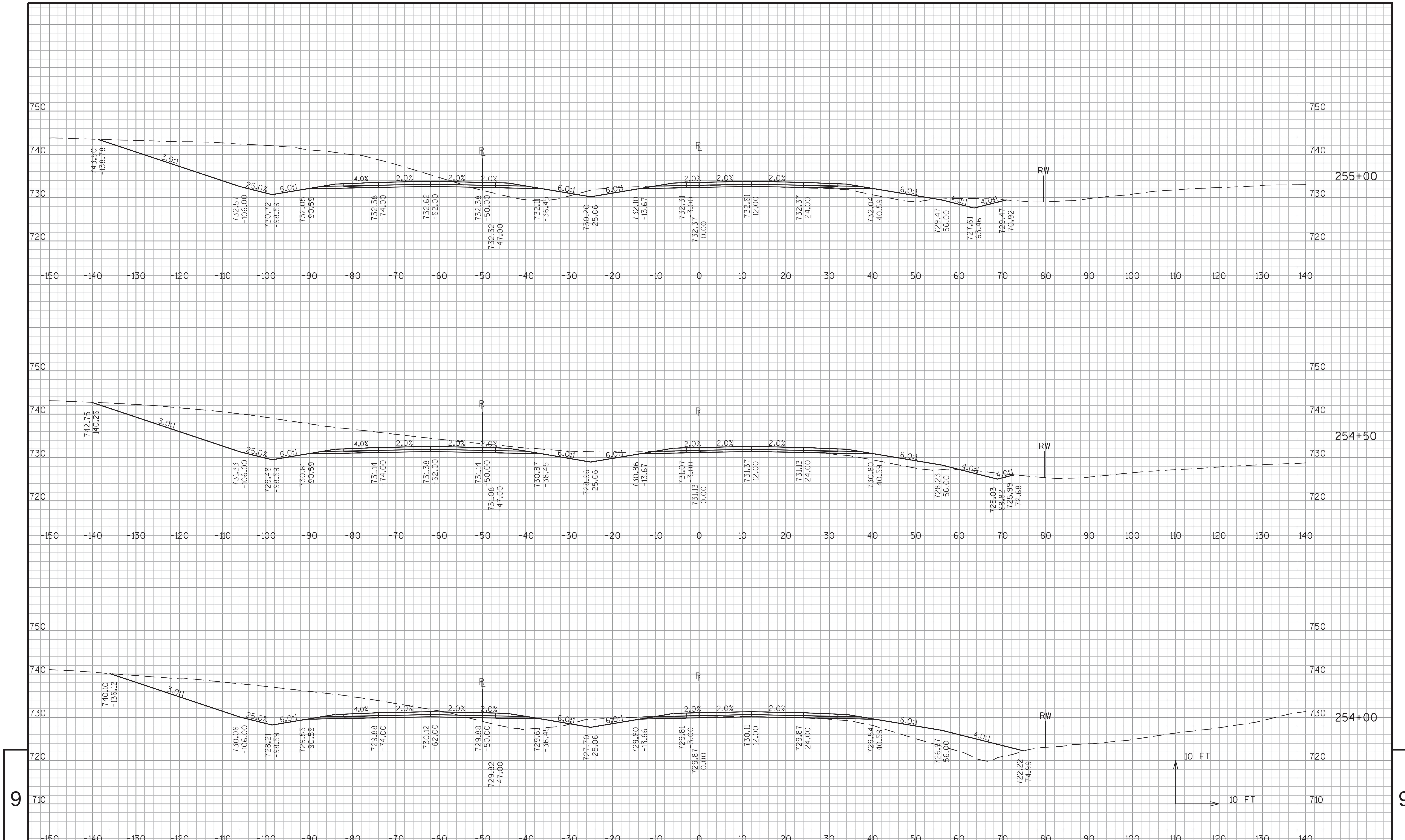
9

9

PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: USH 18 EB | SHEET 596 | E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

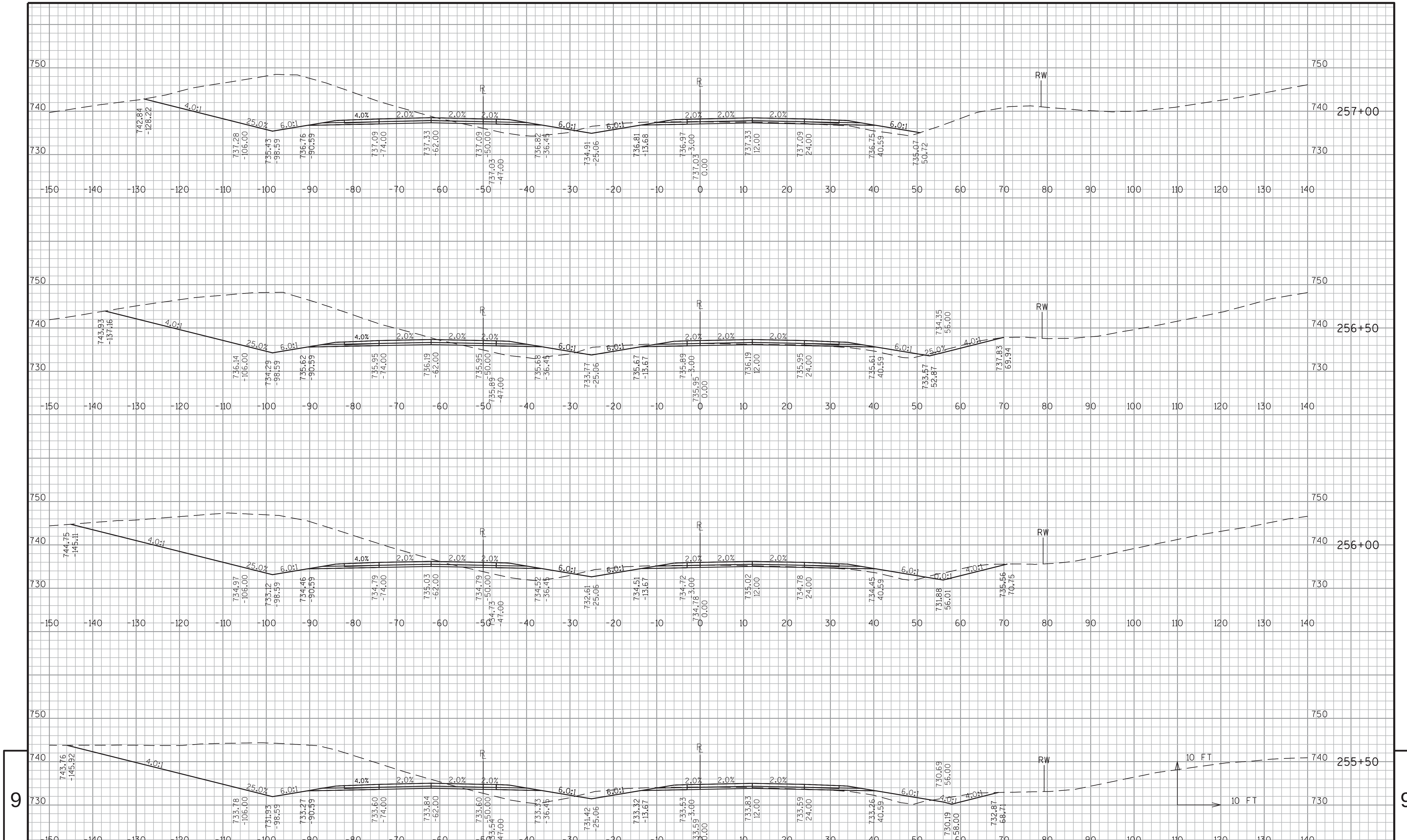
SHEET NAME: XSUSH1845



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 597	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

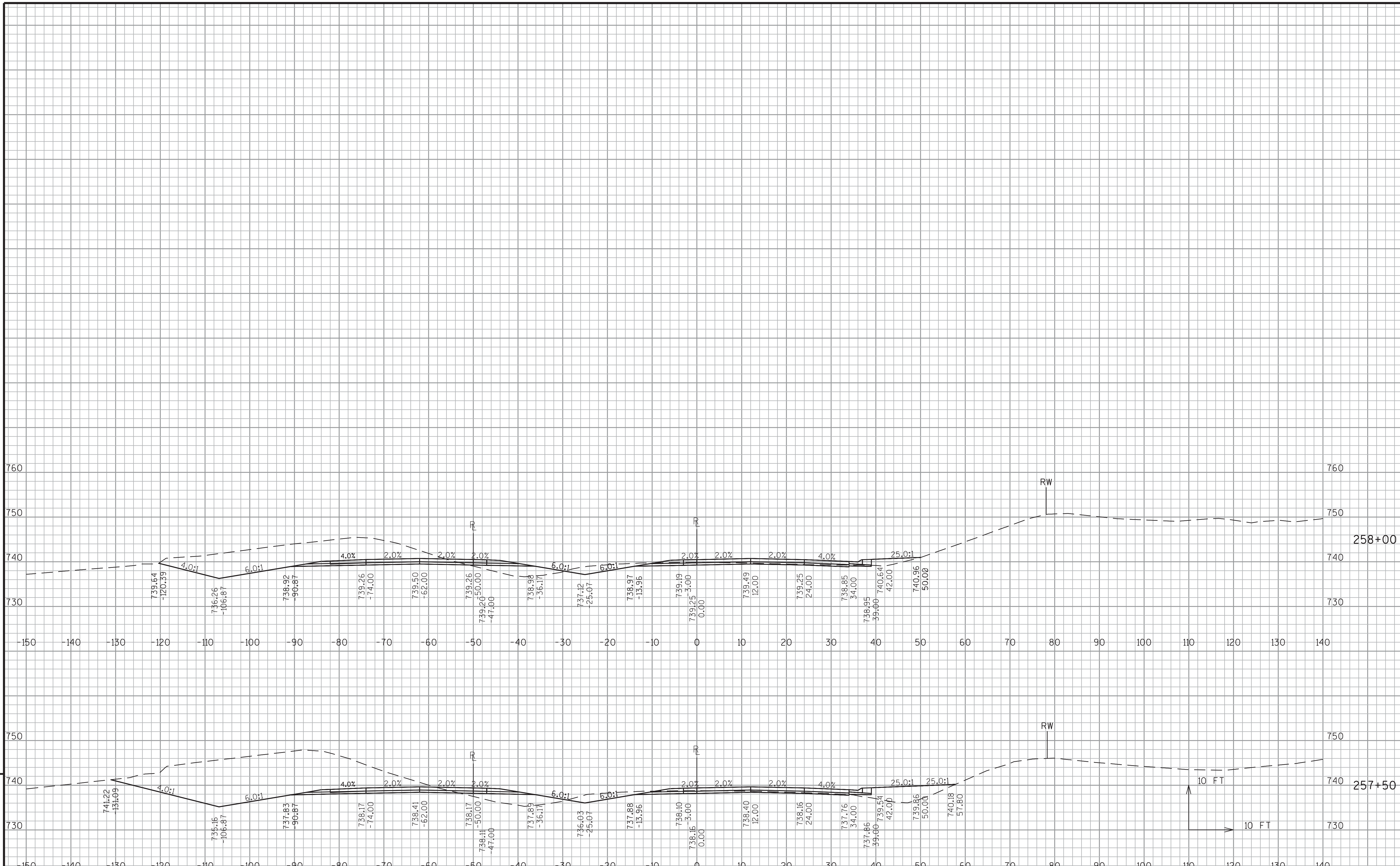
SHEET NAME: XSUSH1846



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 598	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

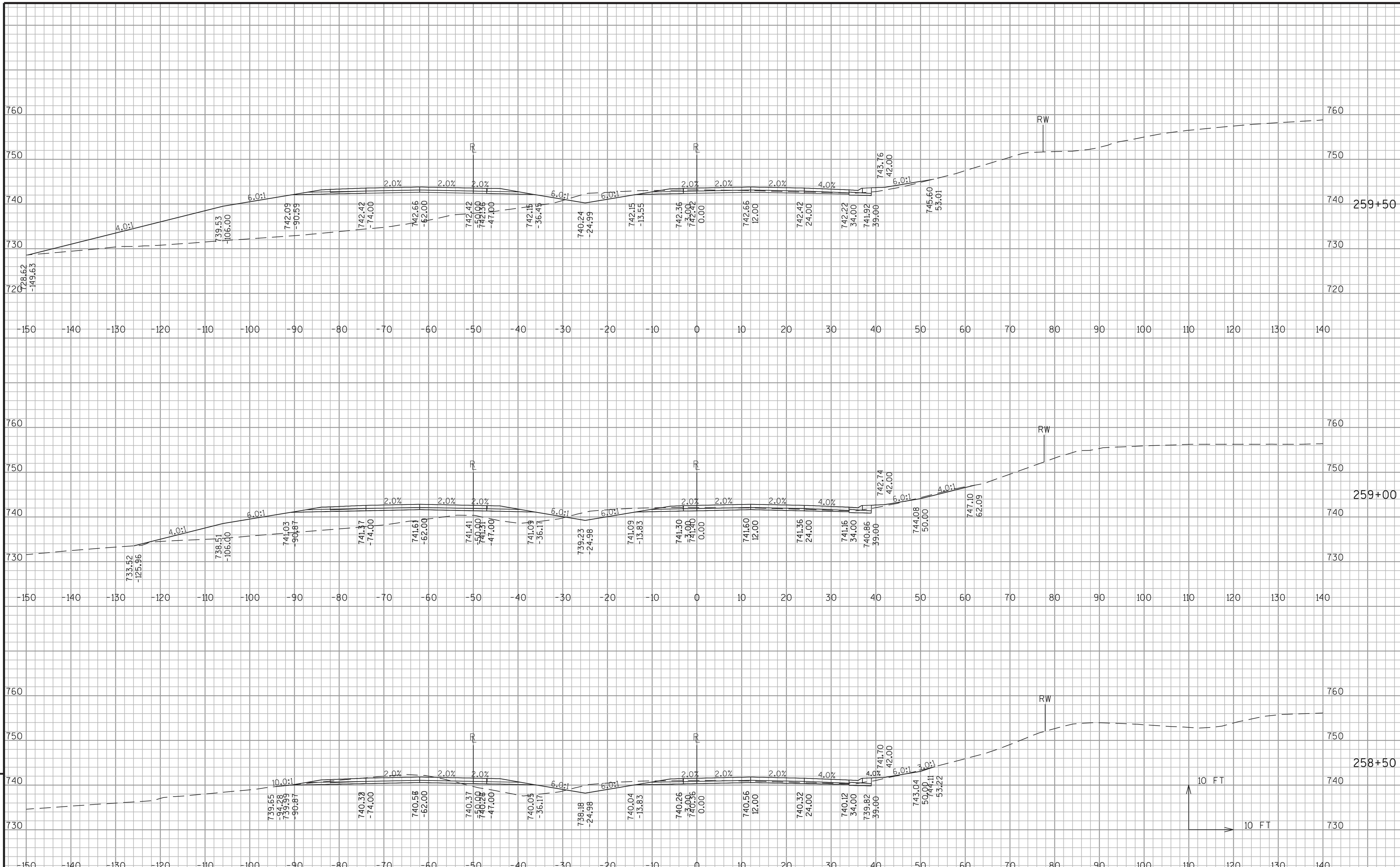
SHEET NAME: XSUSH1847



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 599	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18.DWG

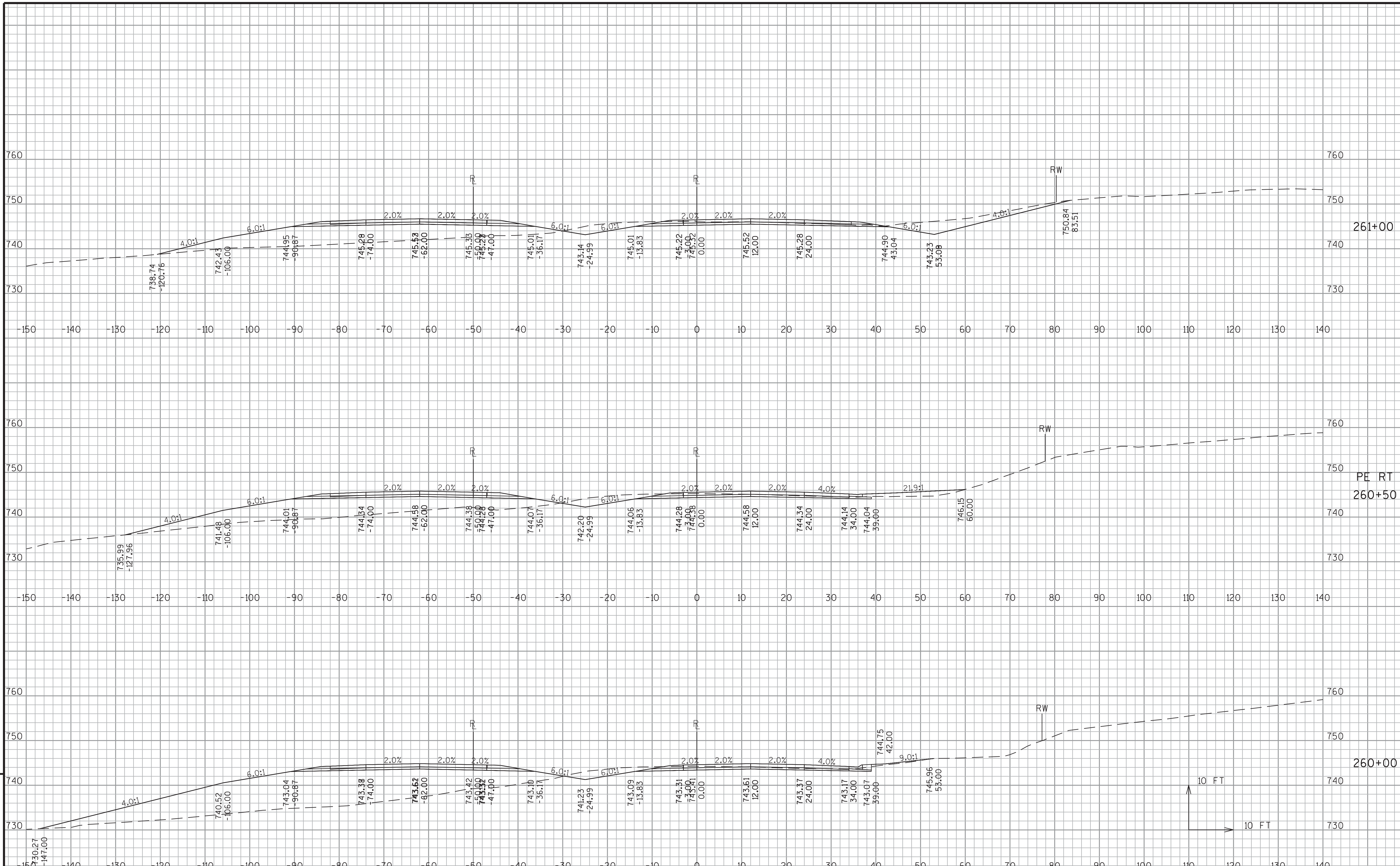
SHEET NAME: XSUSH1848



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

SHEET NAME: XSUSH1849

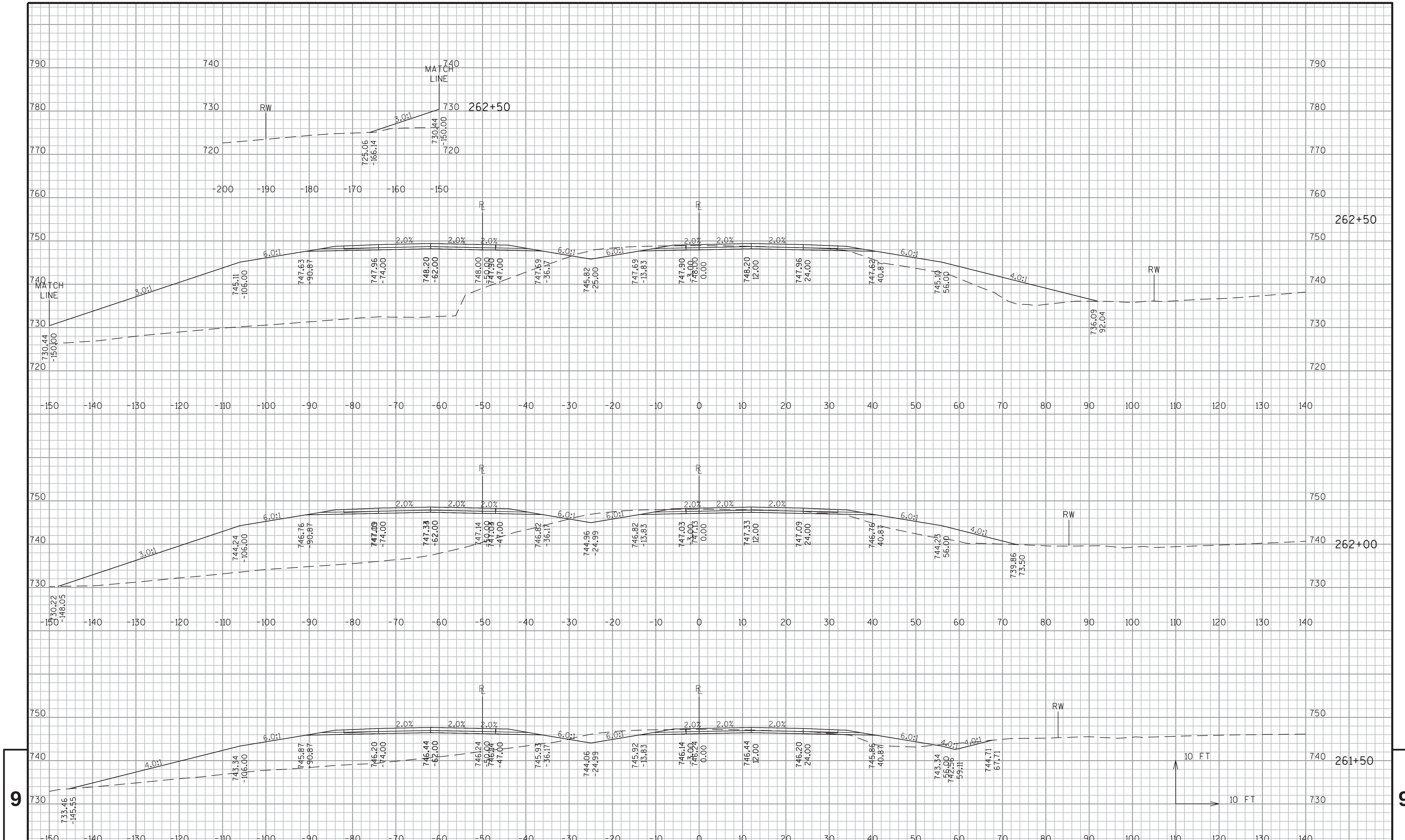


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 601	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

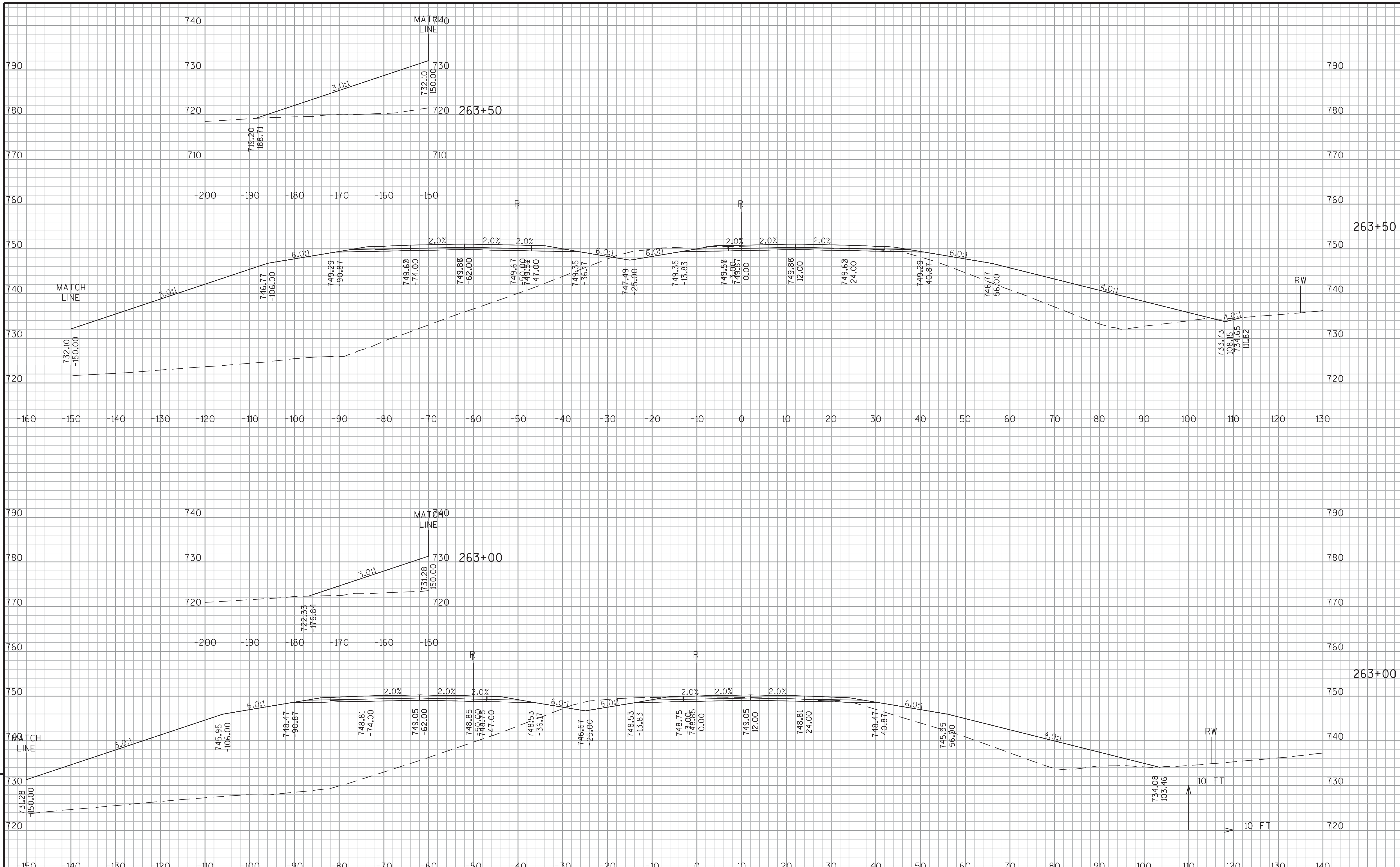
SHEET NAME: XSUSH1850



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 602	E

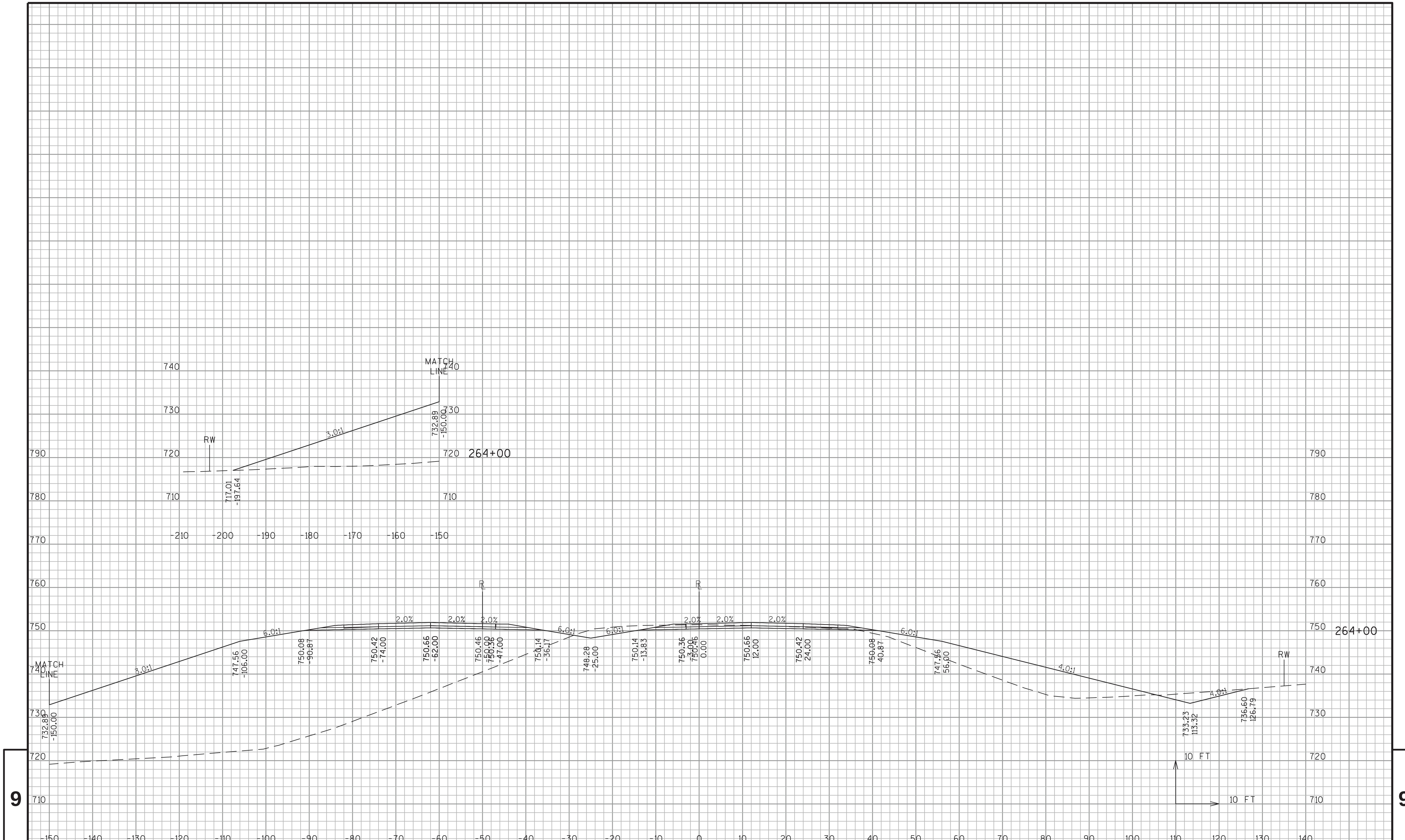
FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

SHEET NAME: XSUSH1851



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 603	E

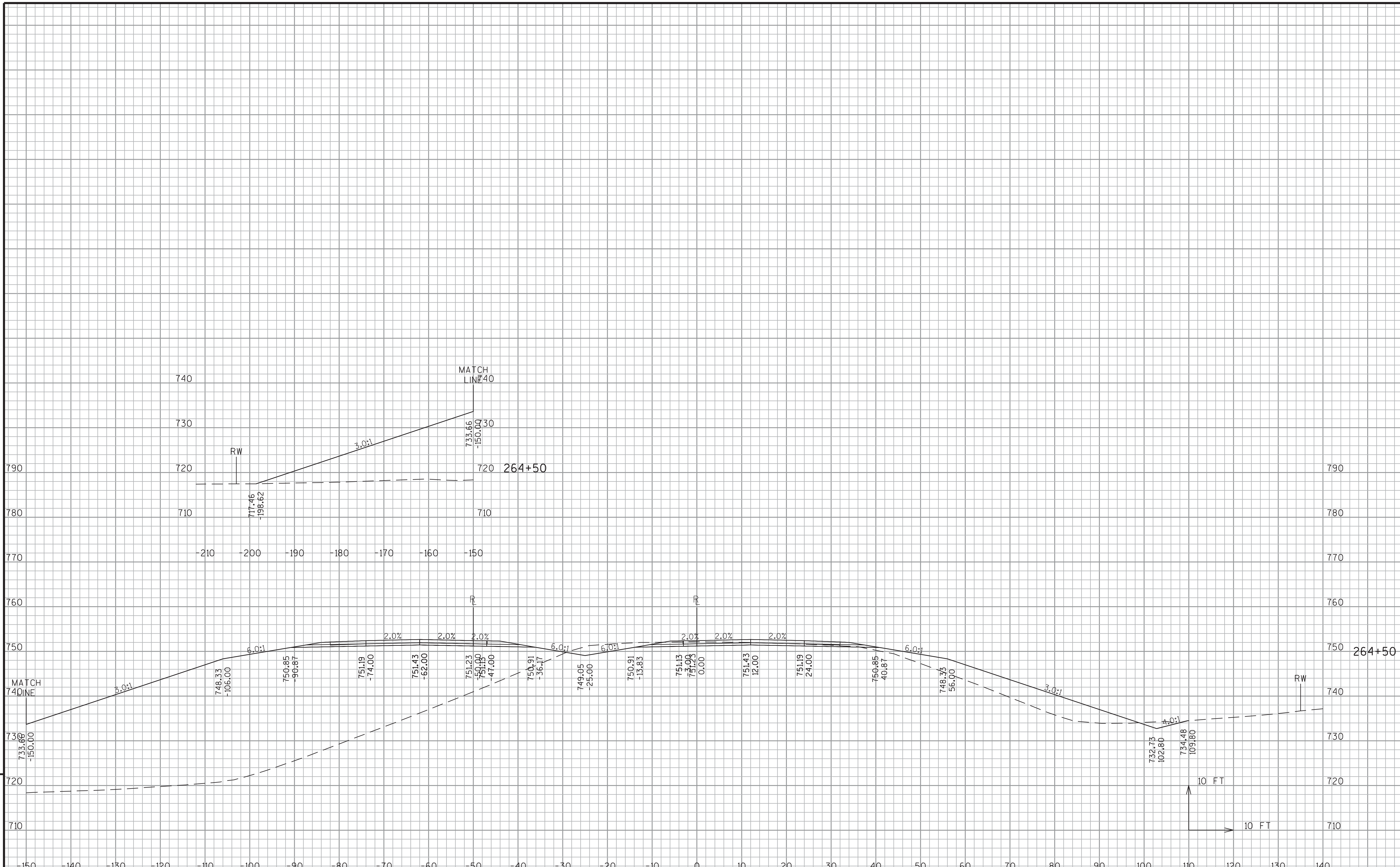
FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG
SHEET NAME: XSUSH1852



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 604	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

SHEET NAME: XSUSH1853

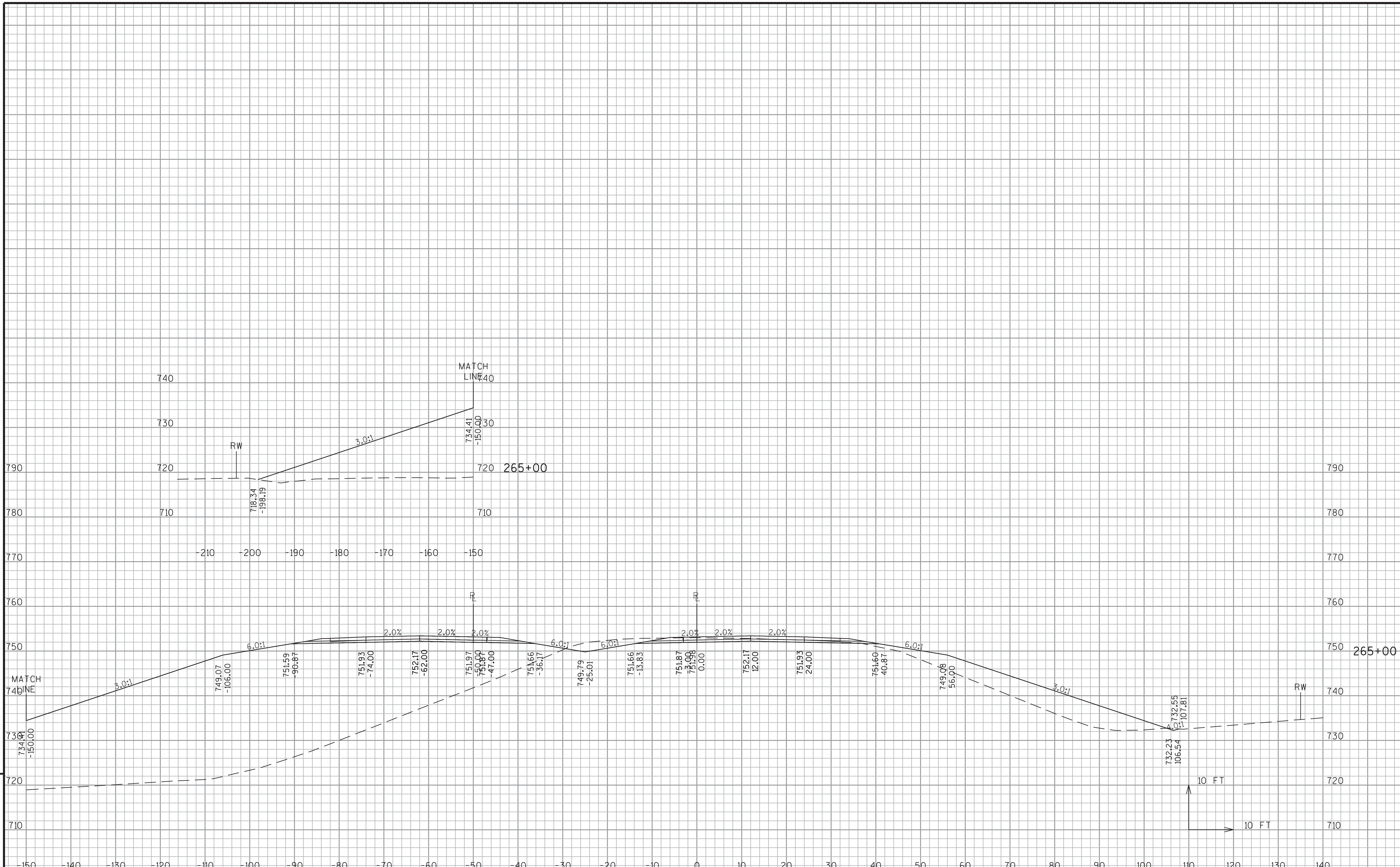


9

PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: USH 18 EB | SHEET 605 | E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

SHEET NAME: XSUSH1854



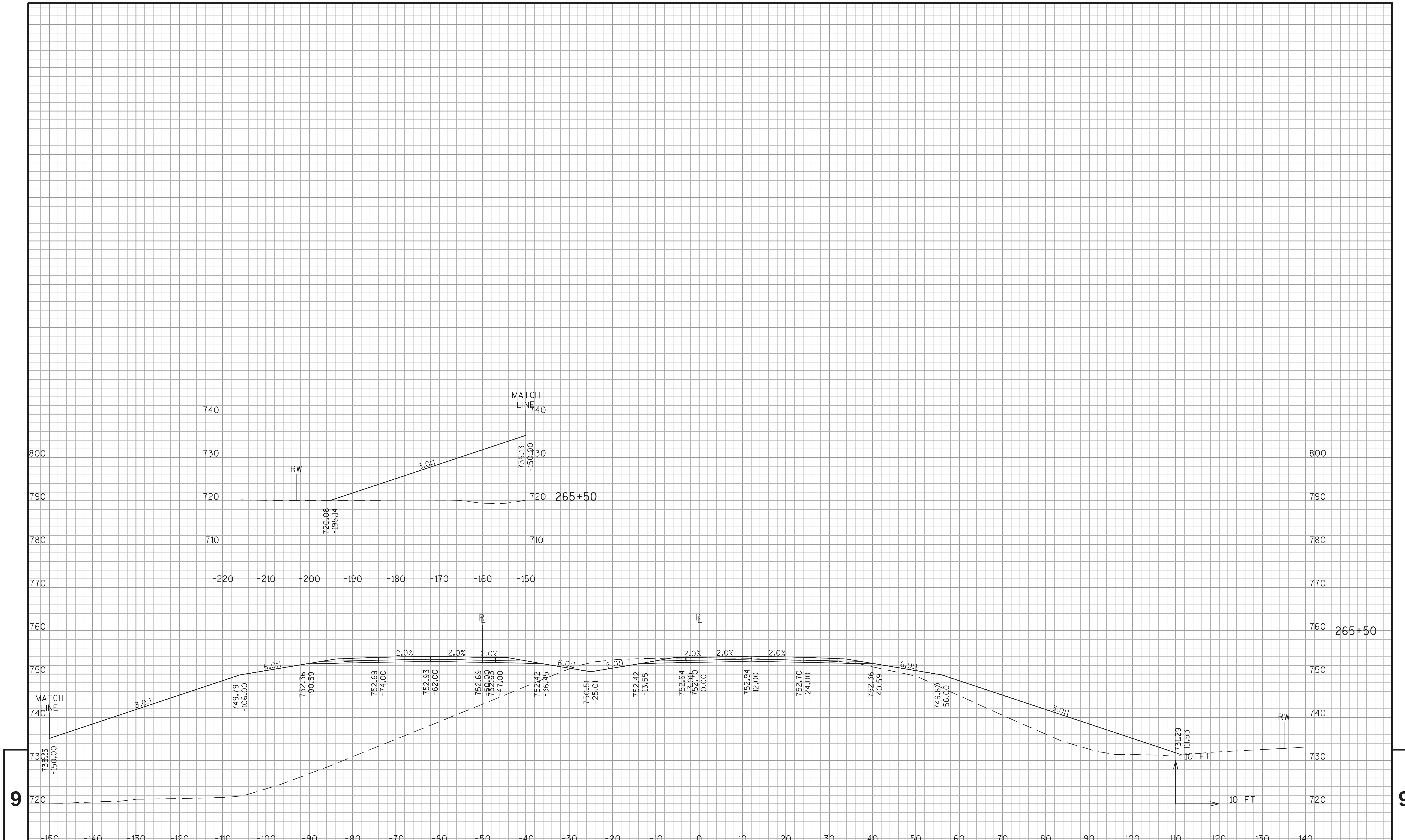
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 606	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

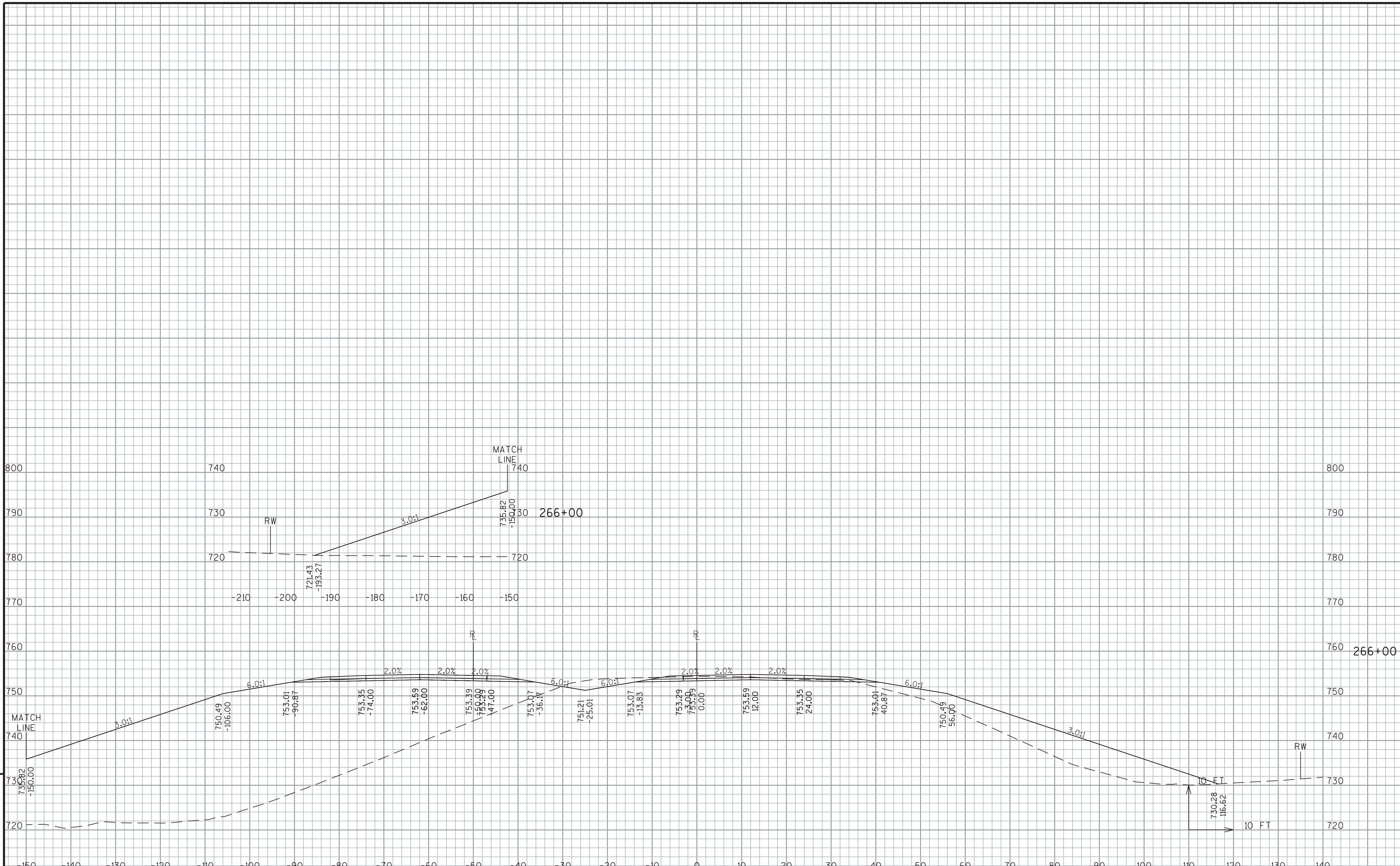
SHEET NAME: XSUSH1855



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 607	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

SHEET NAME: XSUSH1856



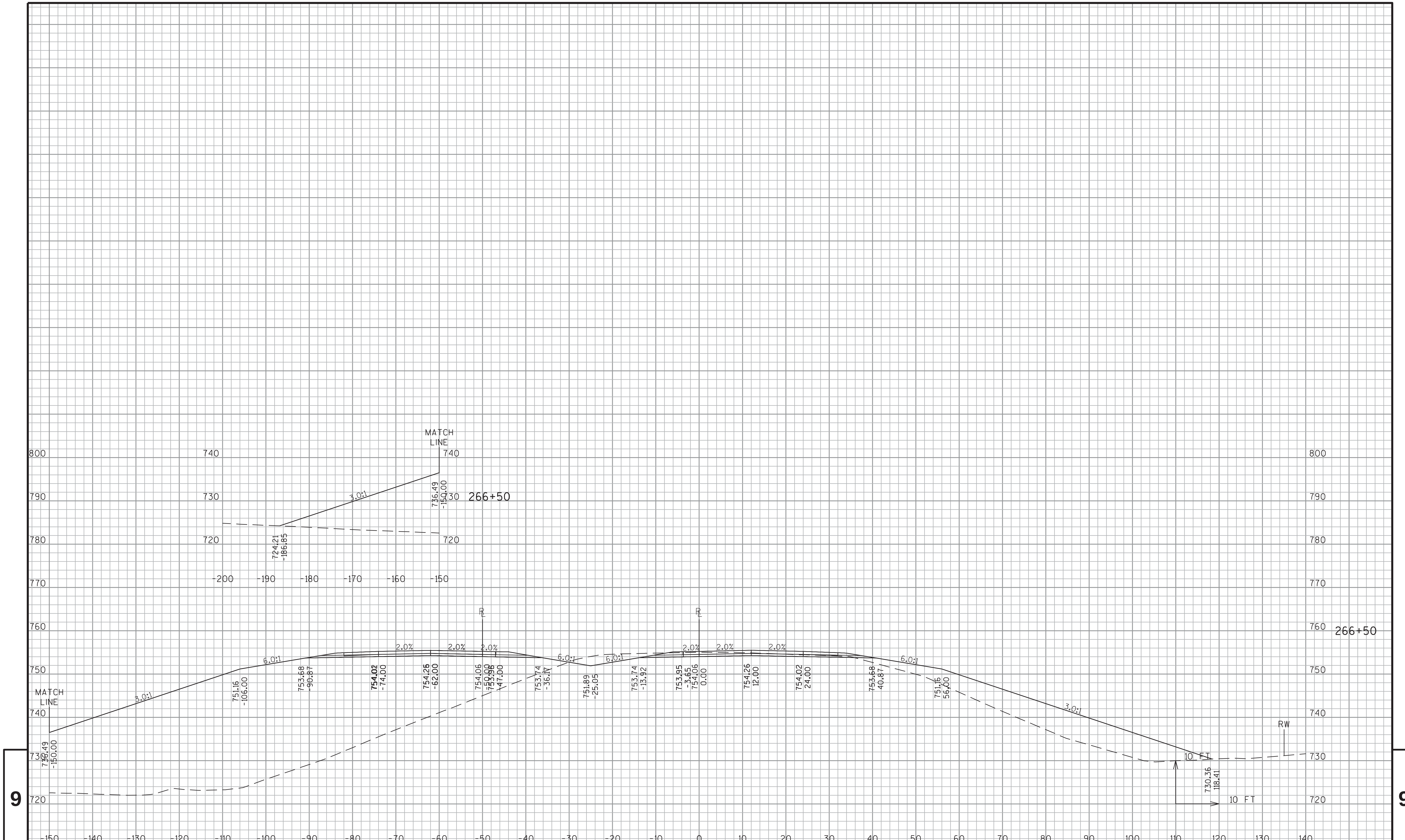
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 608	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

SHEET NAME: XSUSH1857

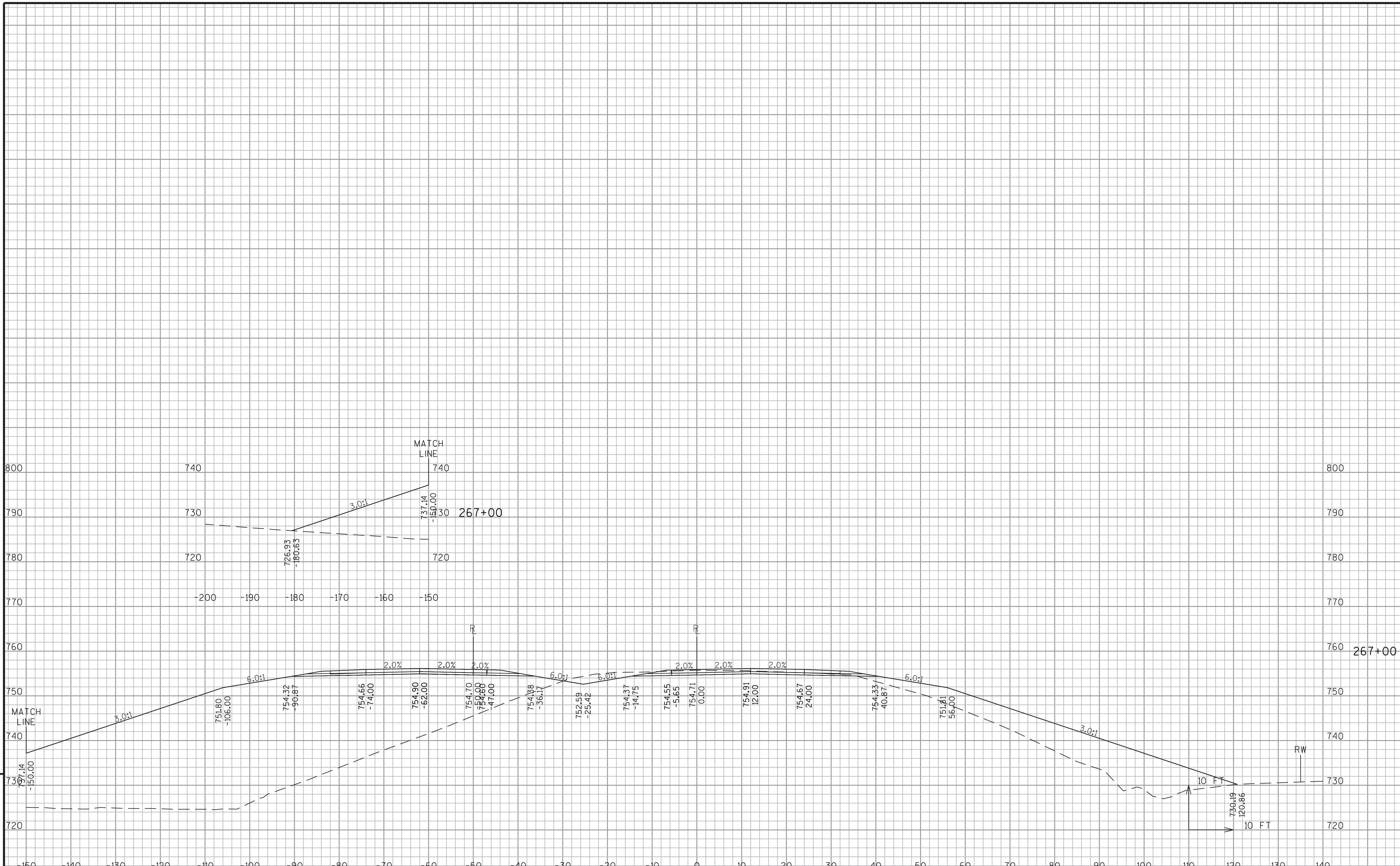


PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 609	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

SHEET NAME: XSUSH1858

9

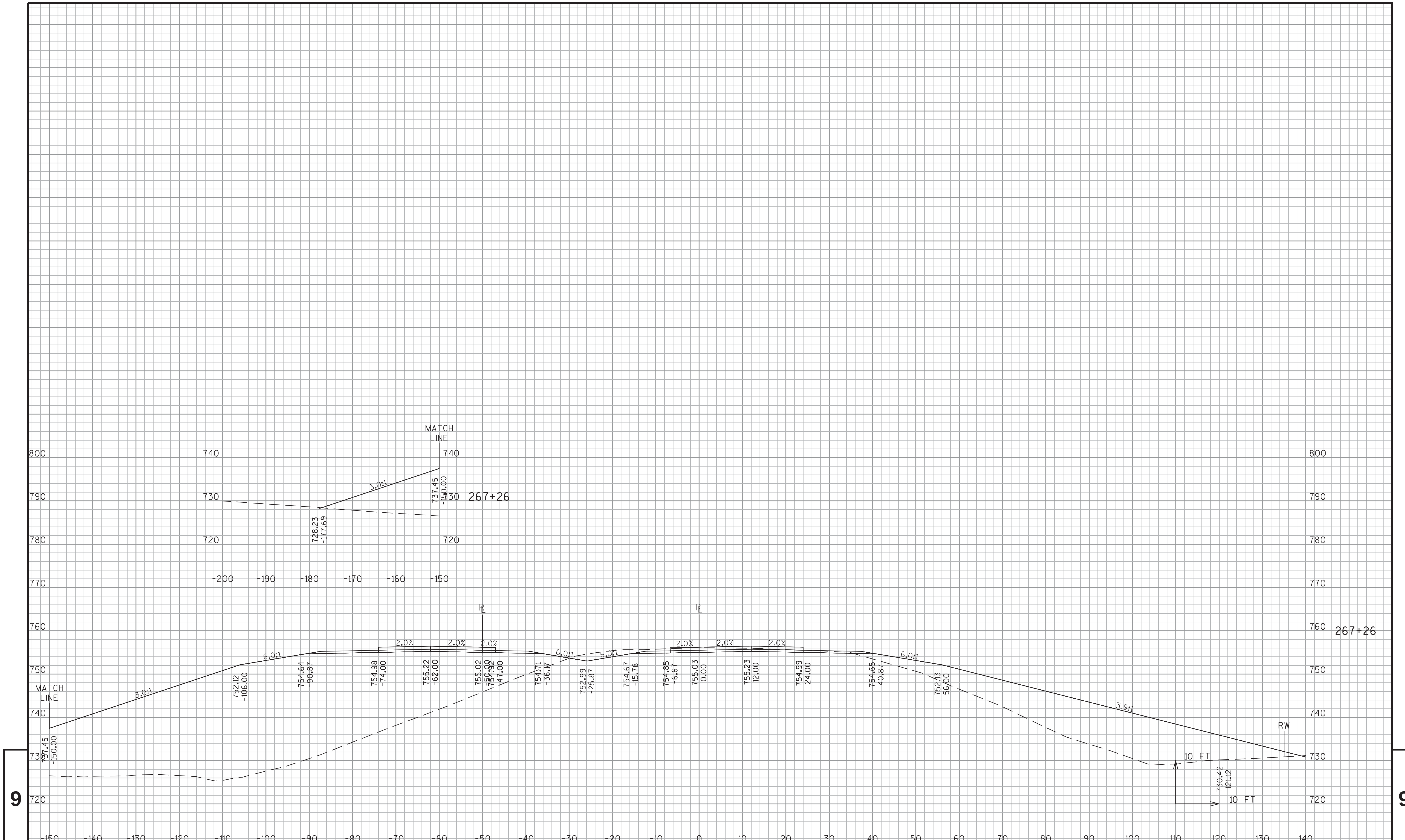


9

PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: USH 18 EB | SHEET 610 | E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

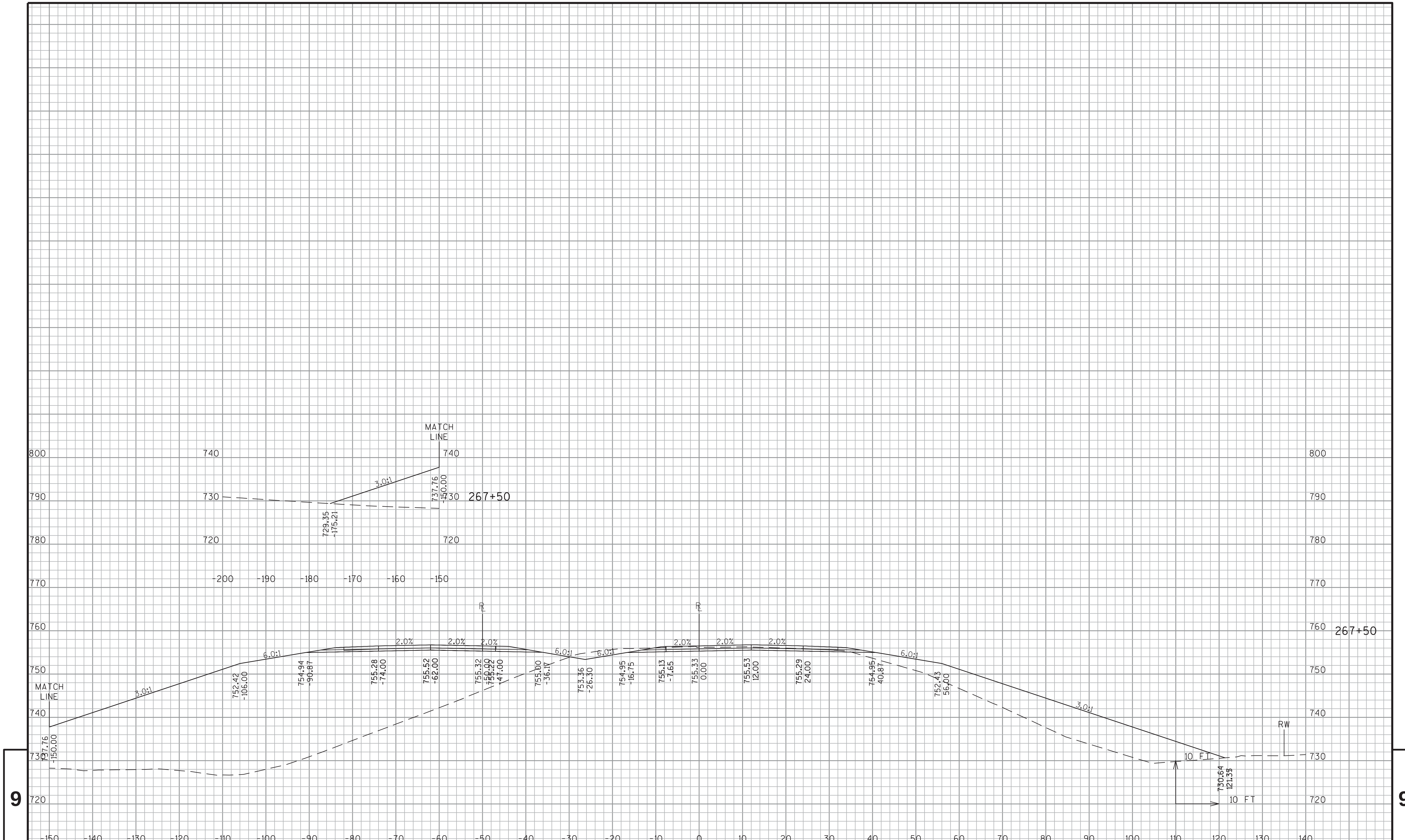
SHEET NAME: XSUSH1859



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

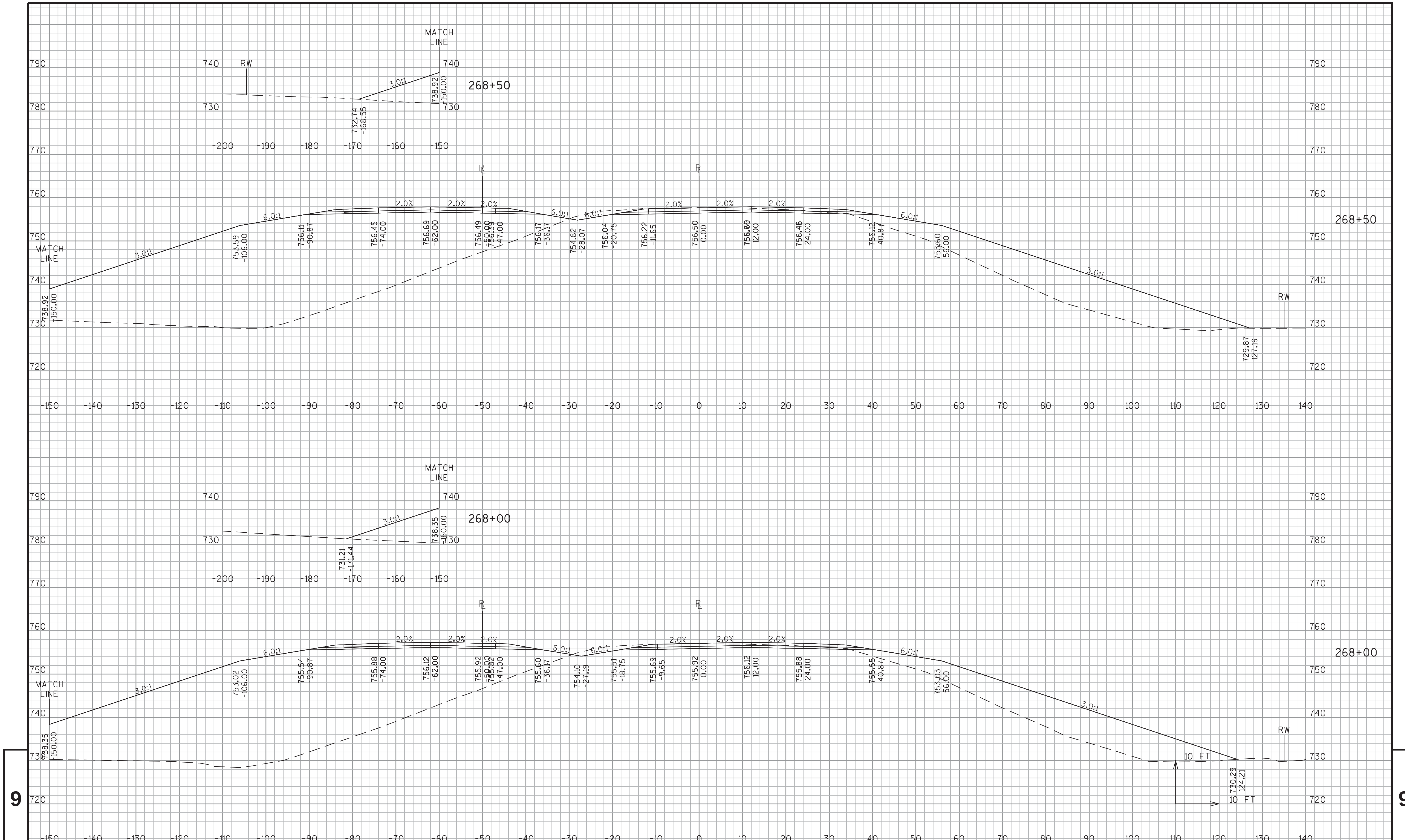
SHEET NAME: XSUSH1860



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 612	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

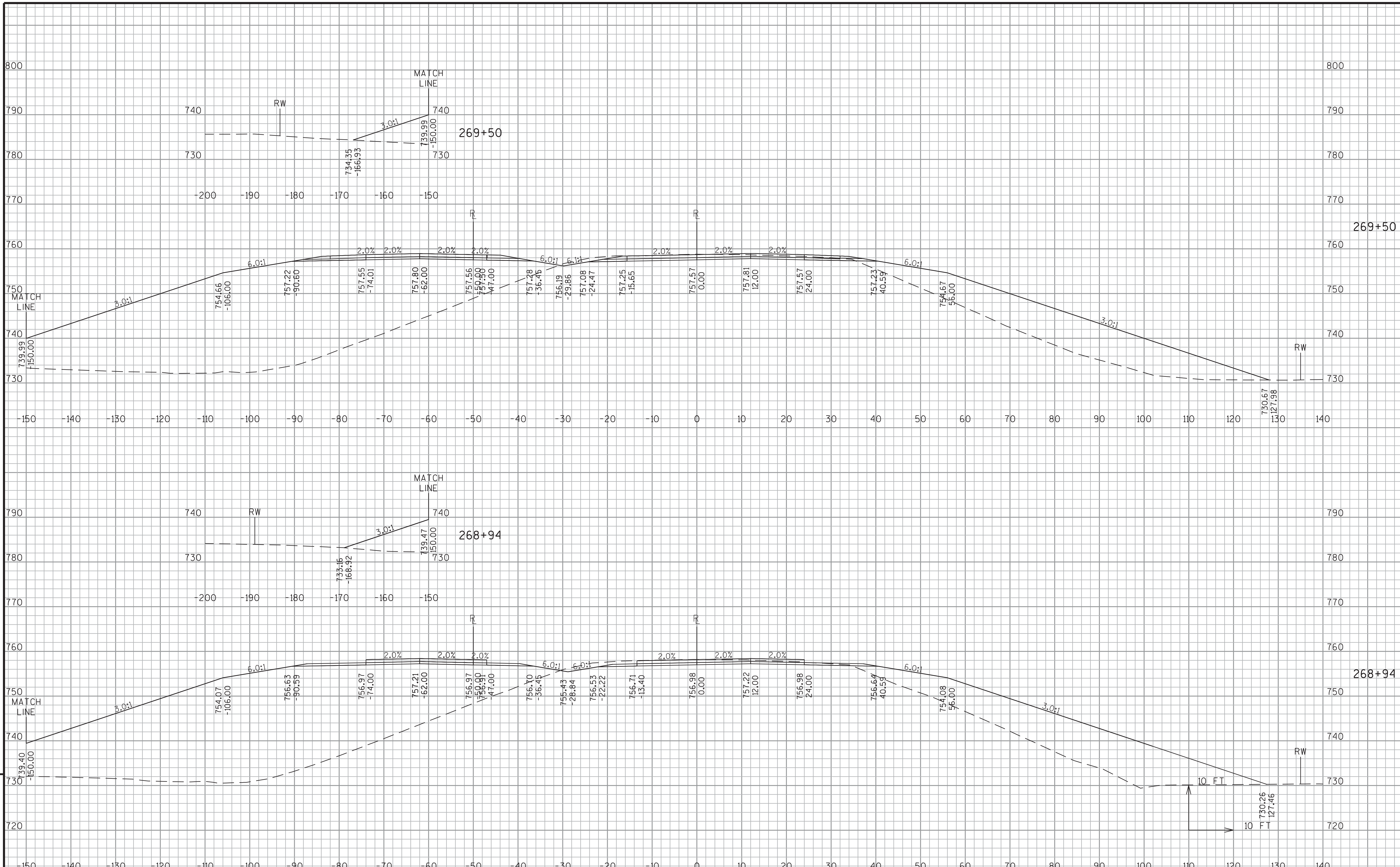
SHEET NAME: XSUSH1861



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 613	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

SHEET NAME: XSUSH1862



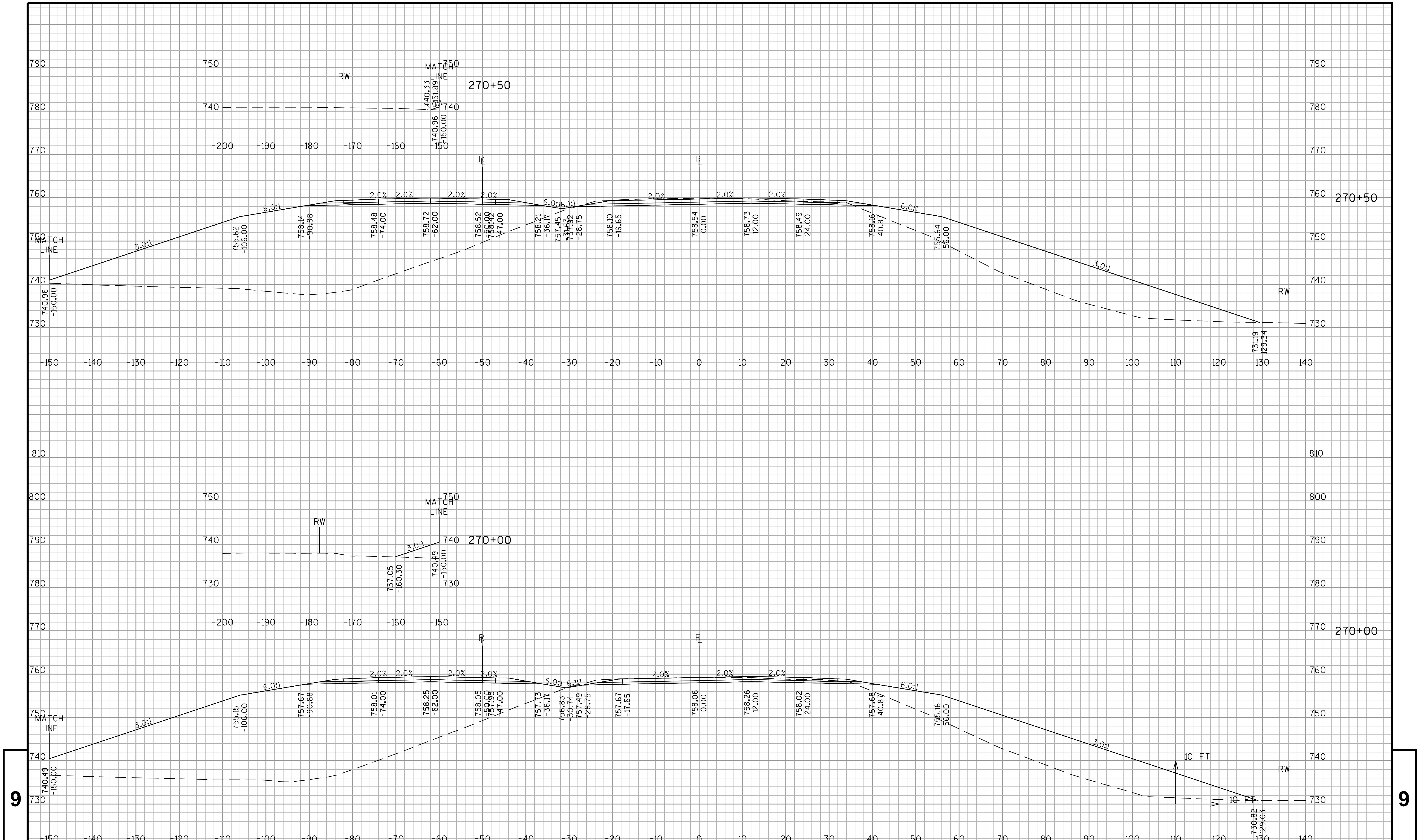
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 614	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

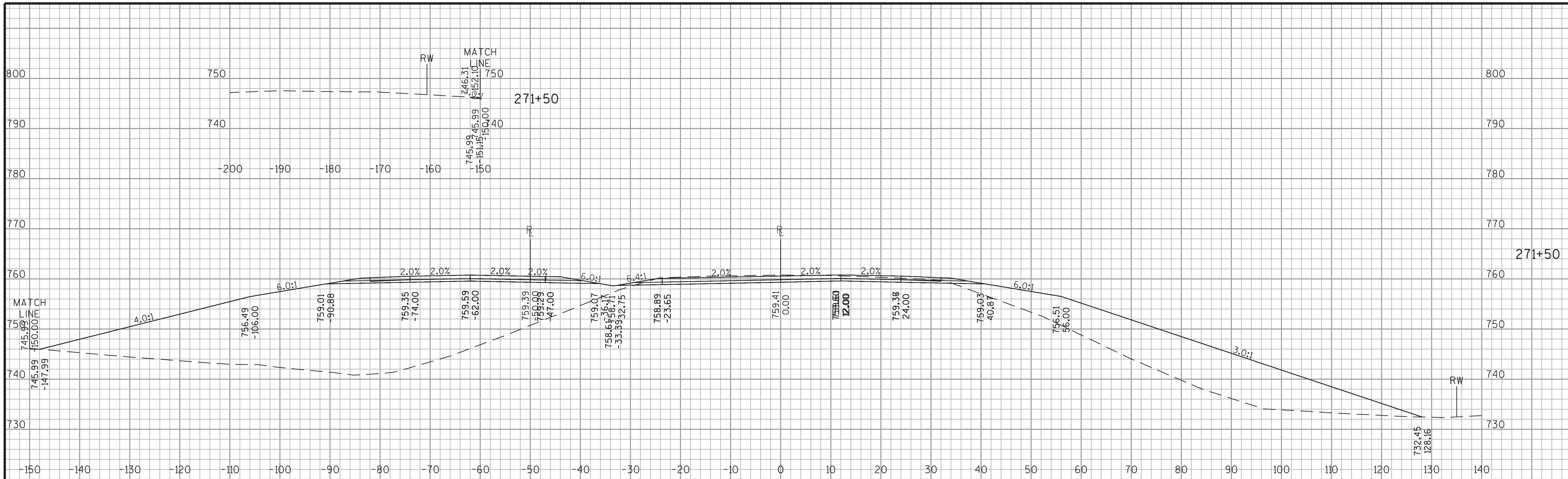
SHEET NAME: XSUSH1863

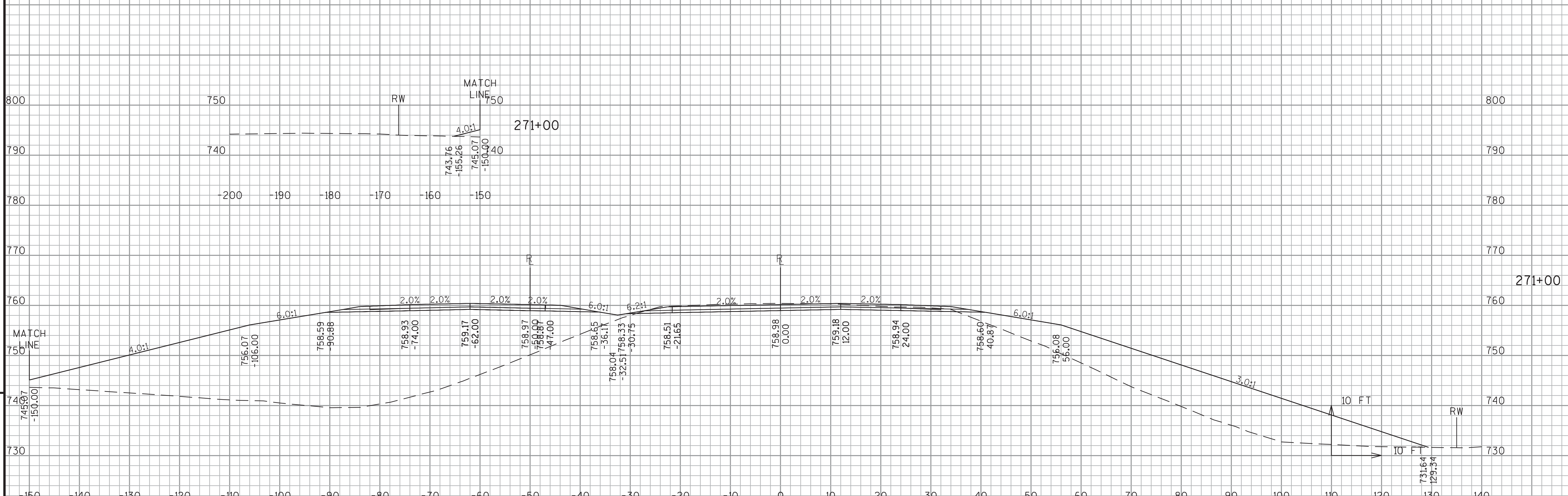


PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 615	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

SHEET NAME: XSUSH1864

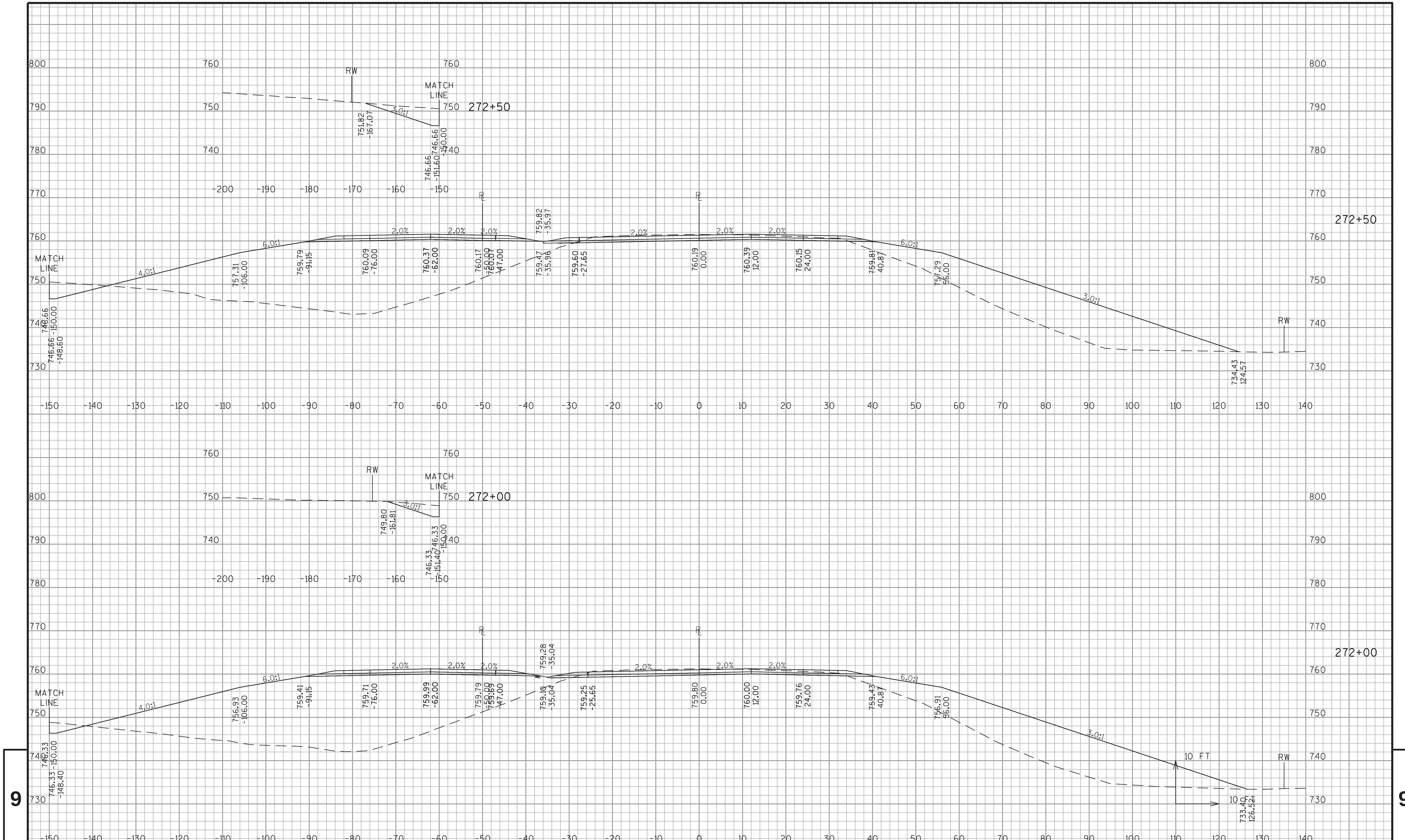




PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 616 E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

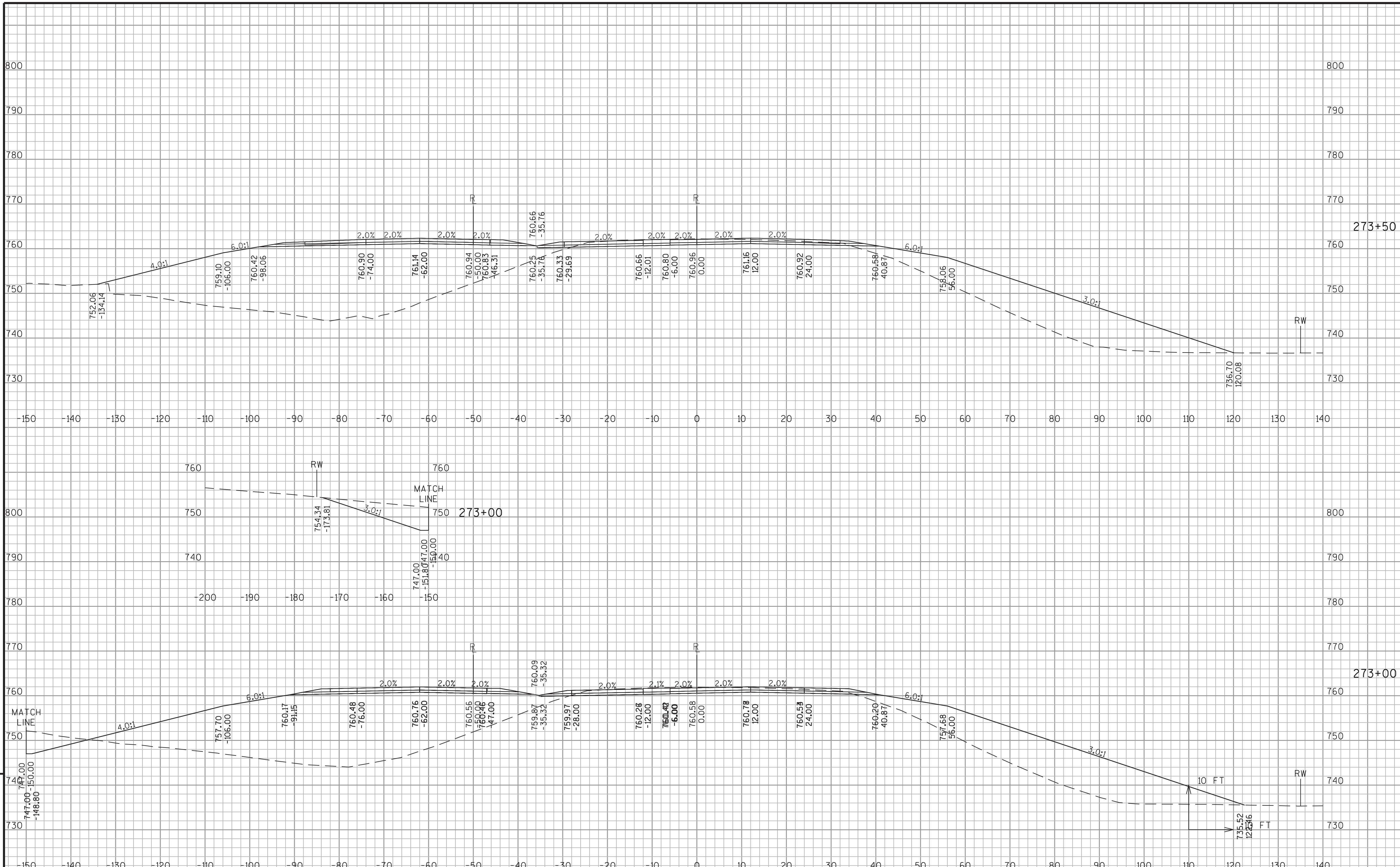
SHEET NAME: XSUSH1865



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 617	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

SHEET NAME: XSUSH1866

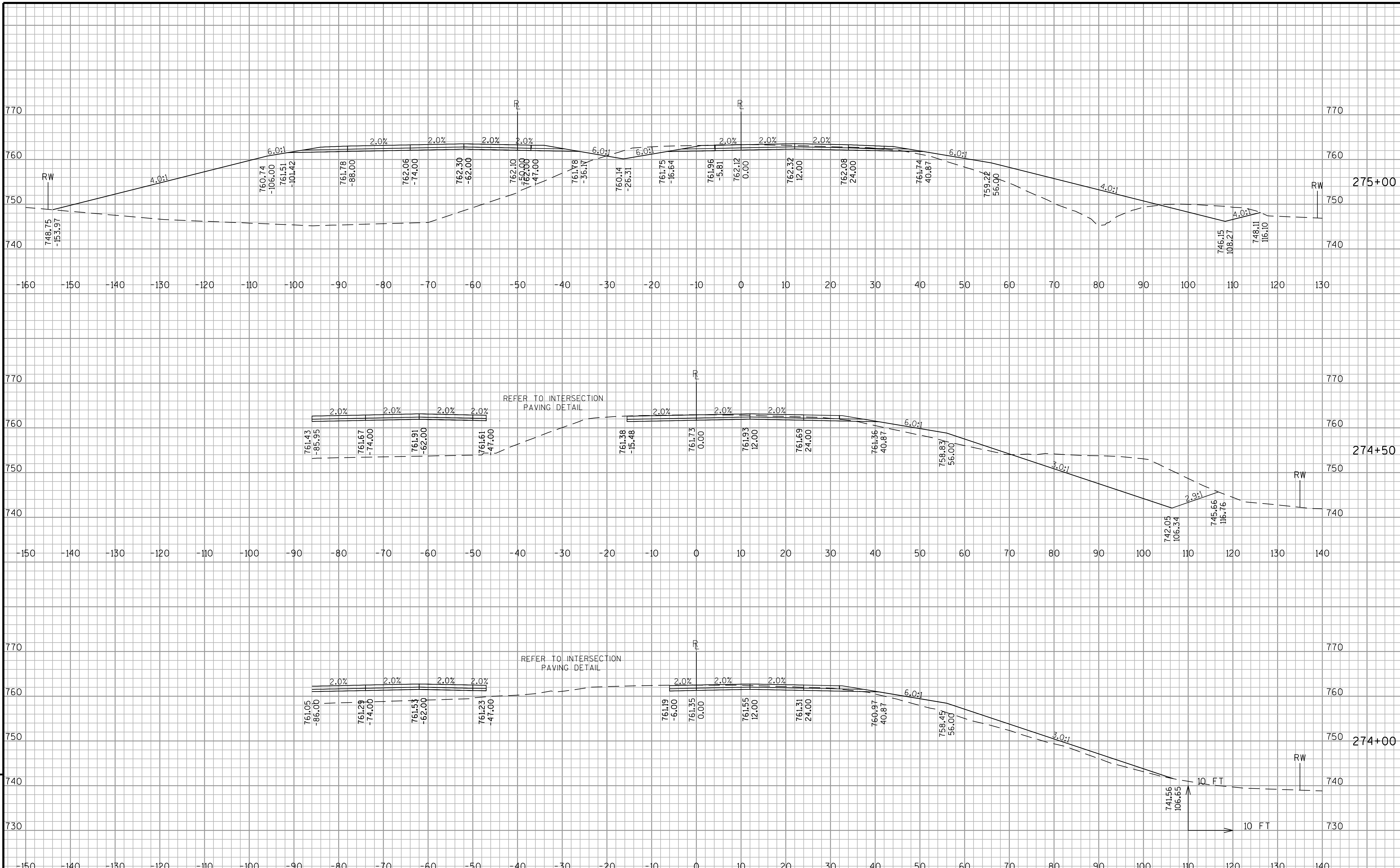


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

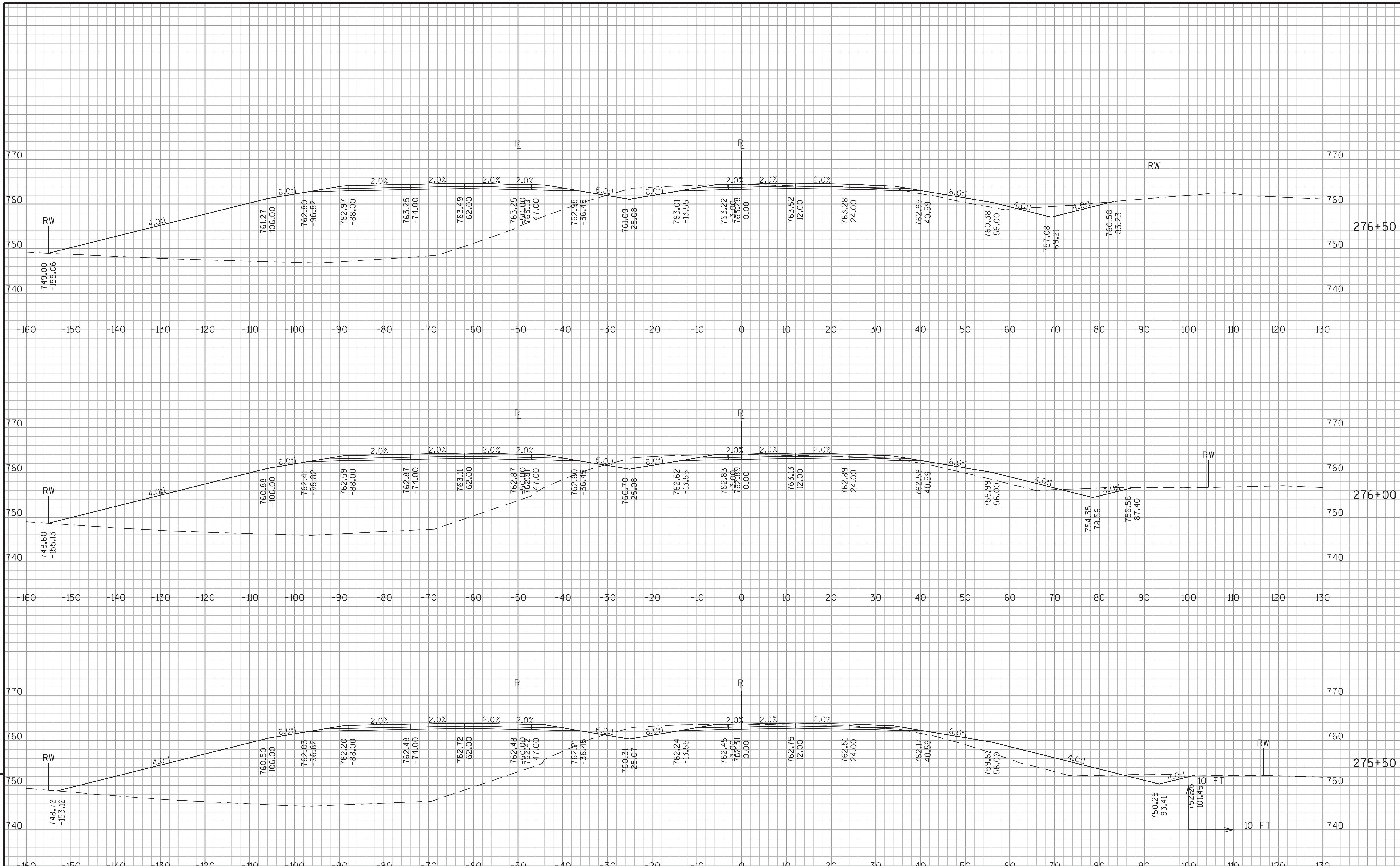
SHEET NAME: XSUSH1867



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 619	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

SHEET NAME: XSUSH1868

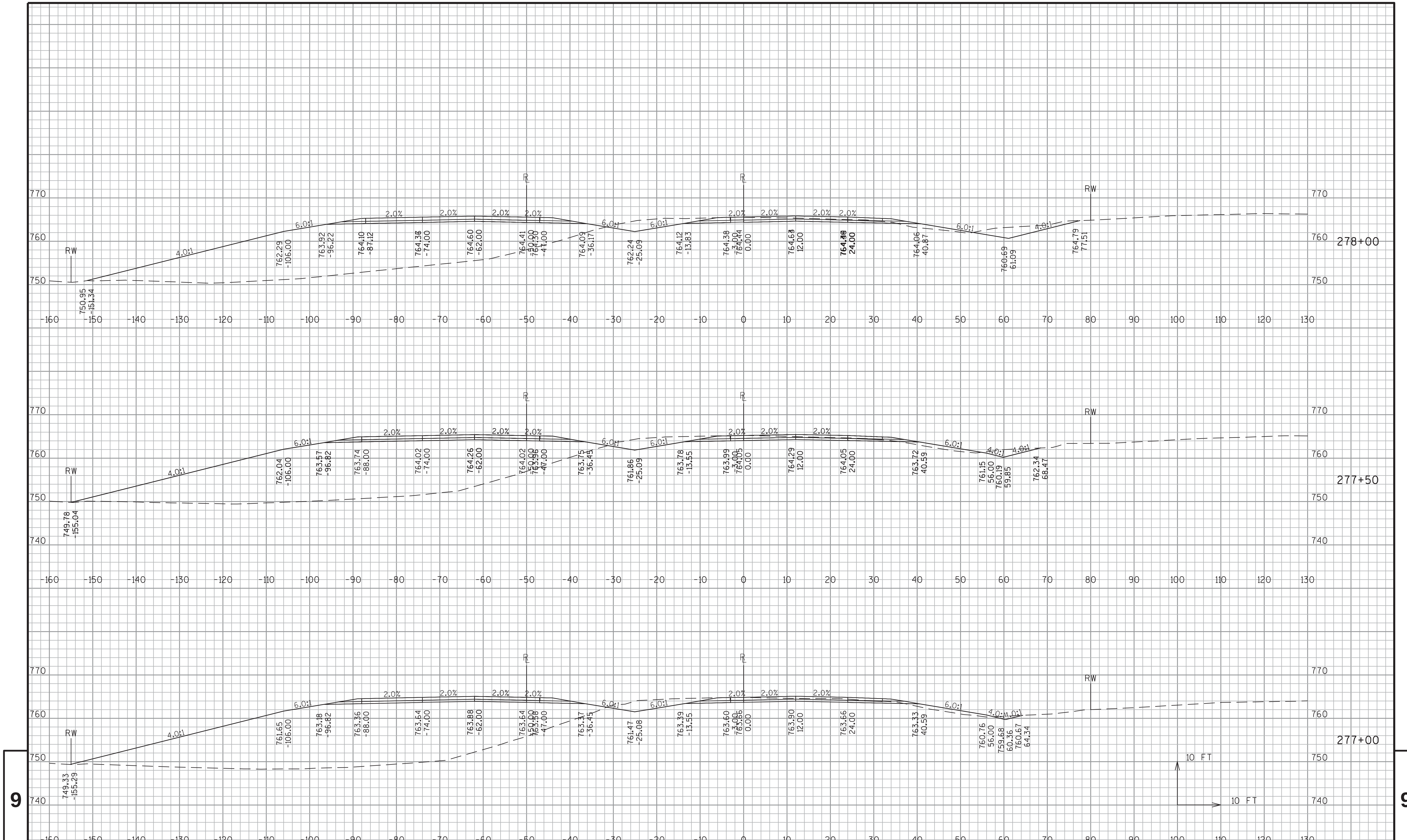


9 9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 620	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

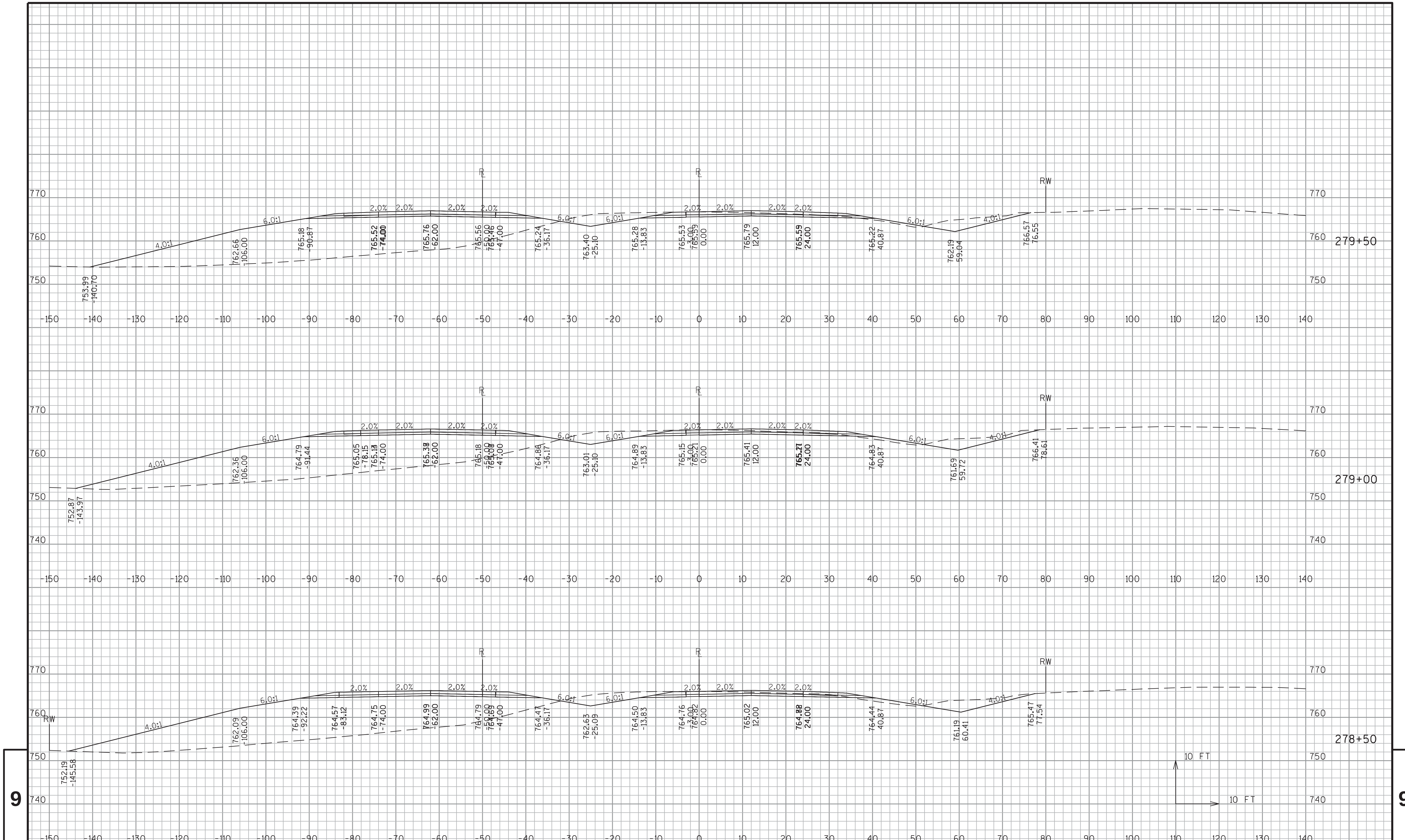
SHEET NAME: XSUSH1869



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 621	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

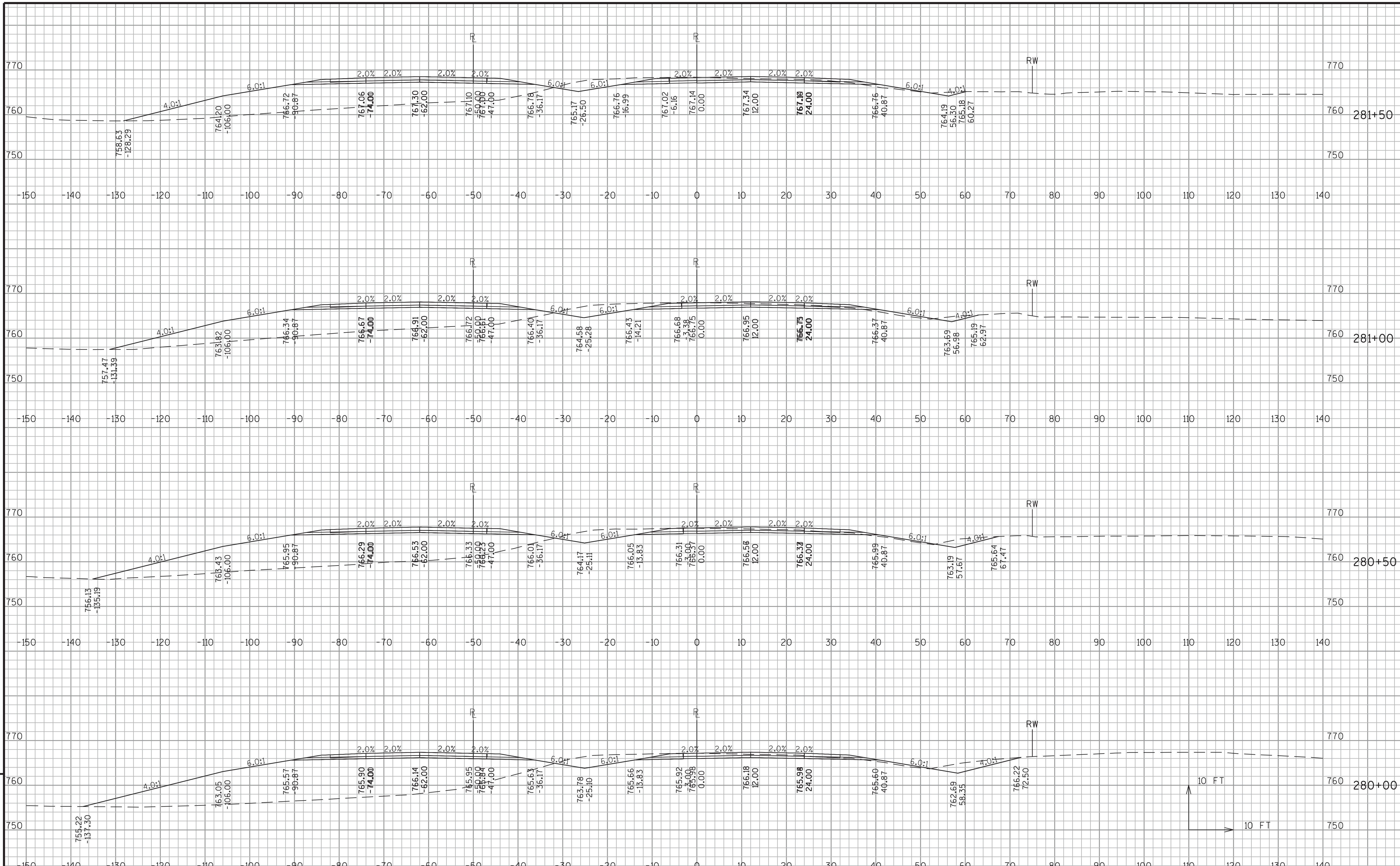
SHEET NAME: XSUSH1870



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 622	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

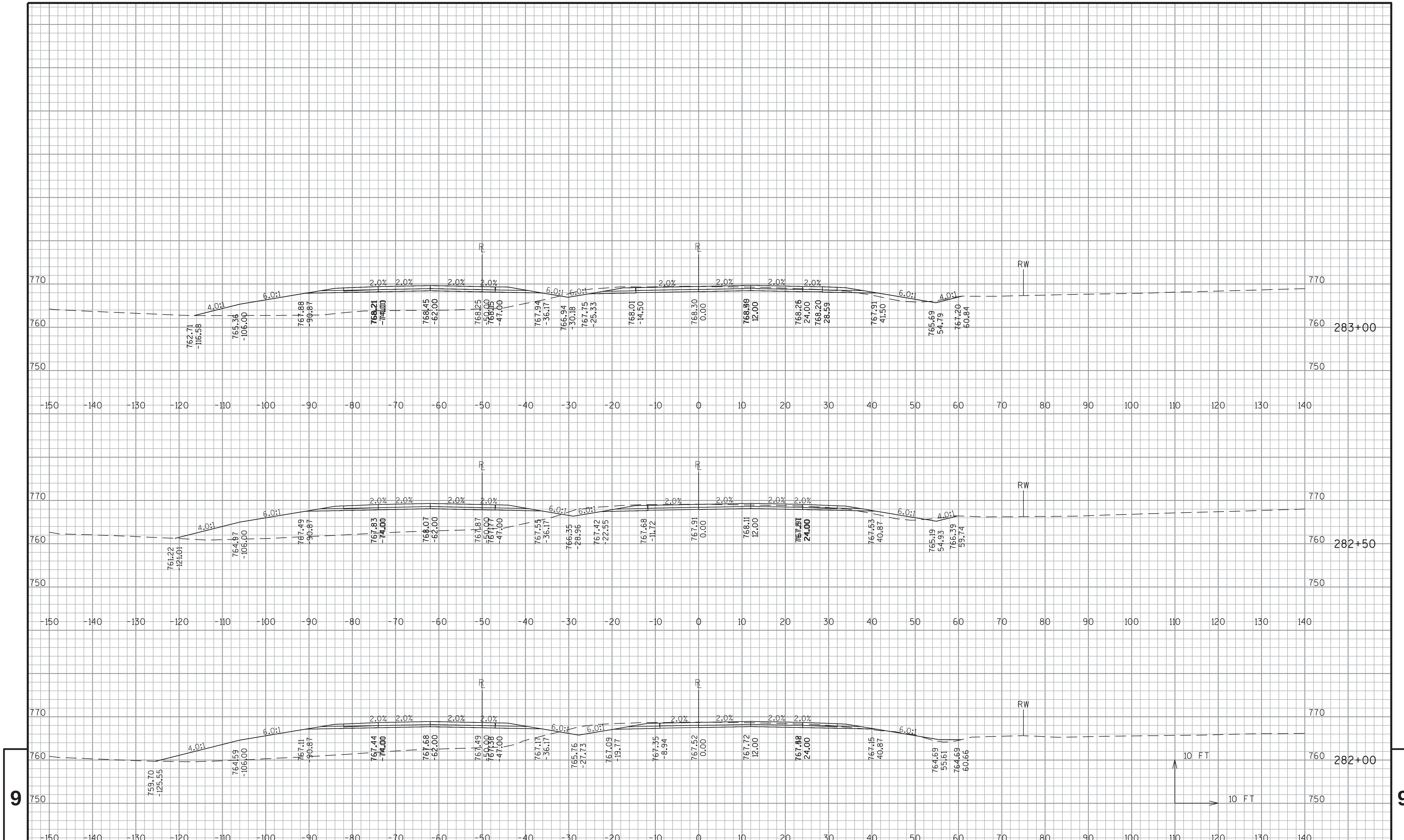
SHEET NAME: XSUSH1871



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 623	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

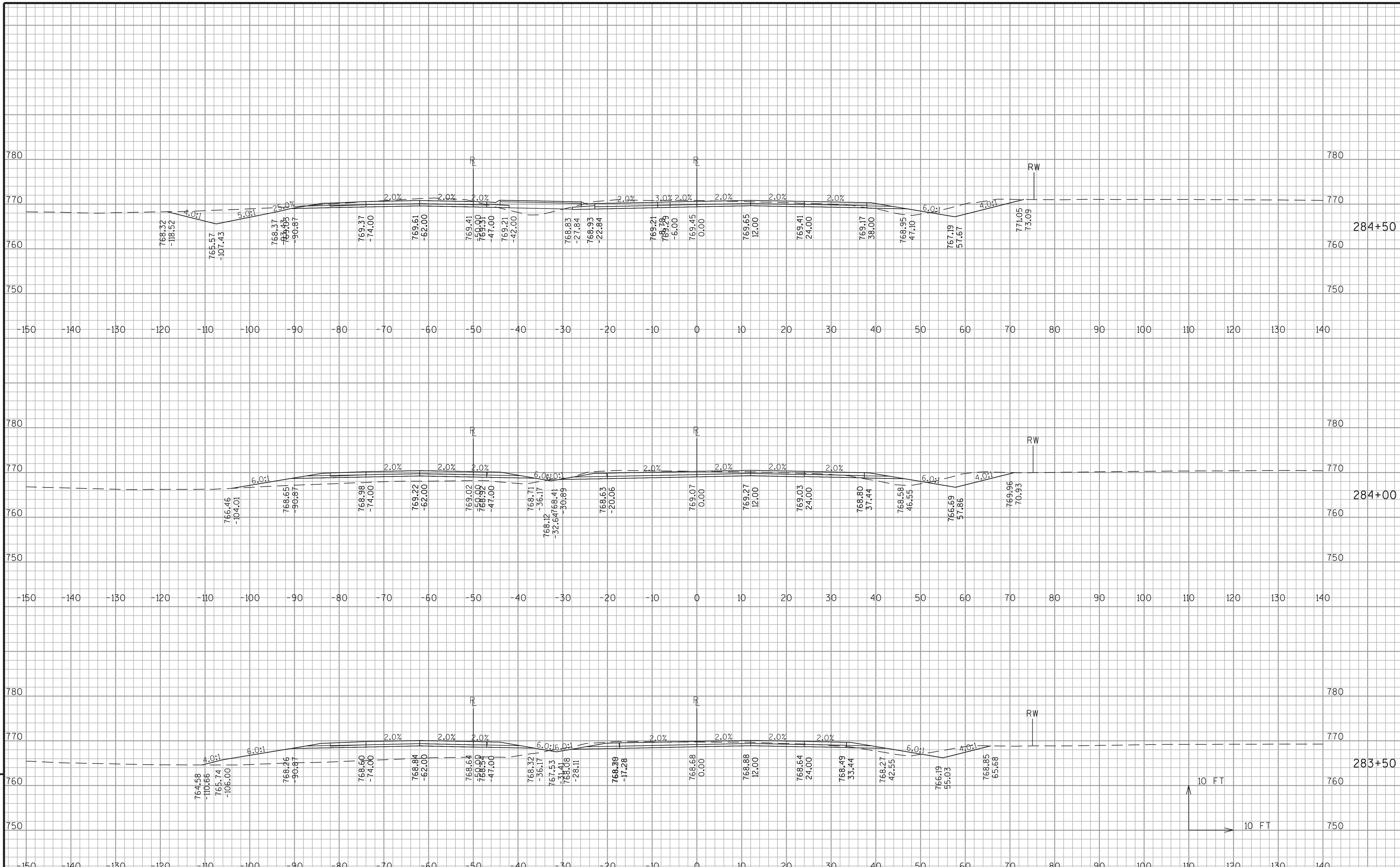
SHEET NAME: XSUSH1872



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 624	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

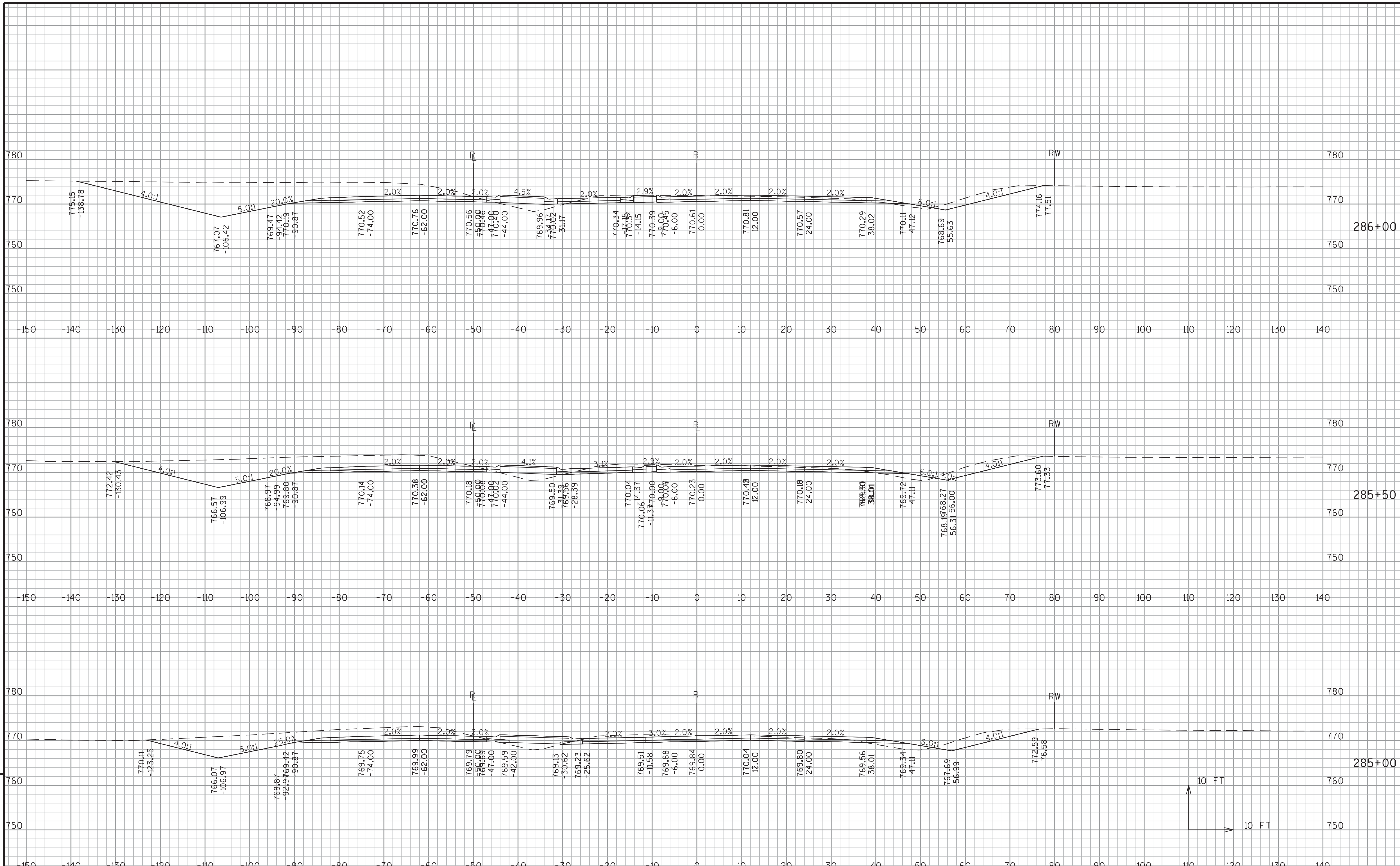
SHEET NAME: XSUSH1873



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 625	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

SHEET NAME: XSUSH1874

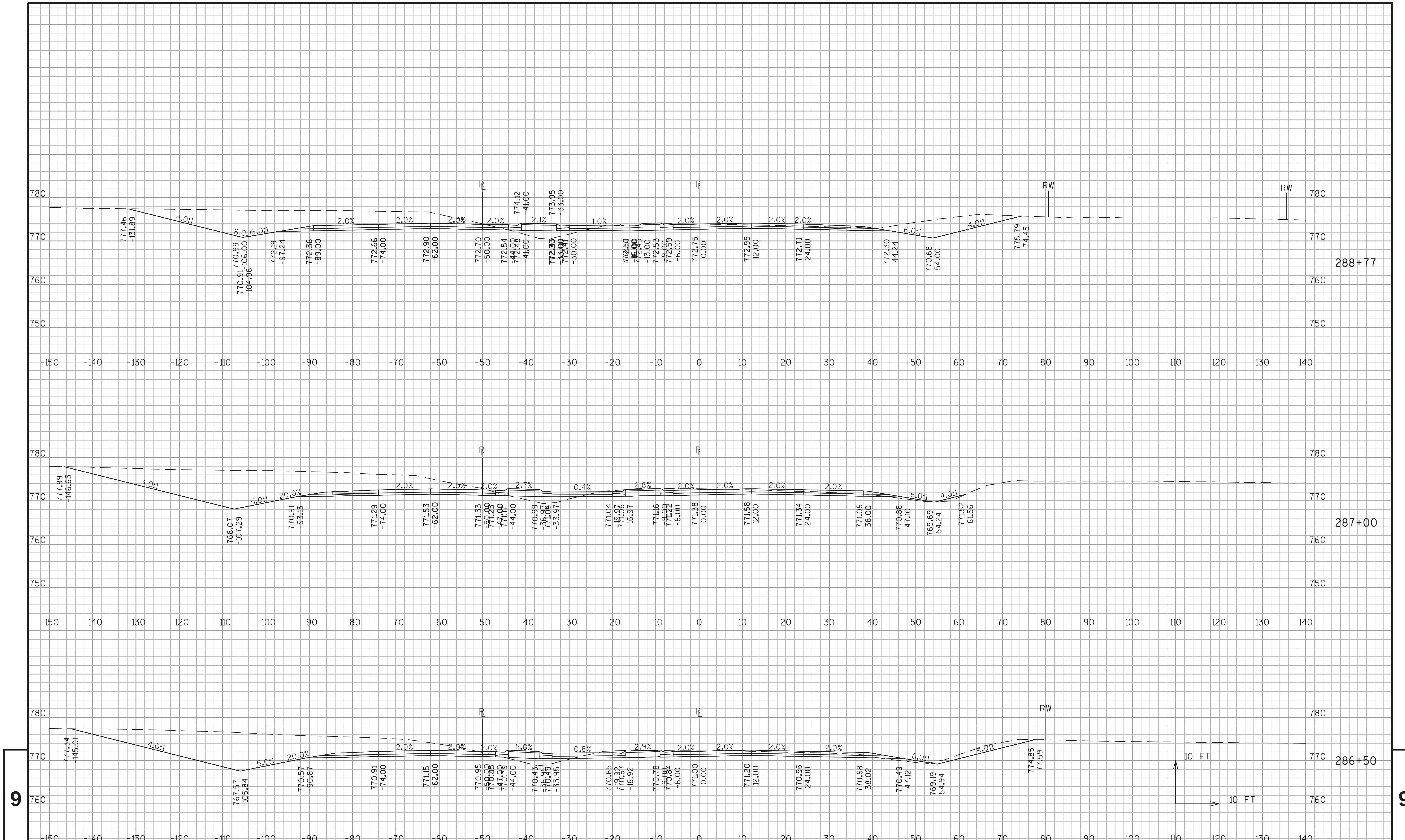


PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 626	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

SHEET NAME: XSUSH1875

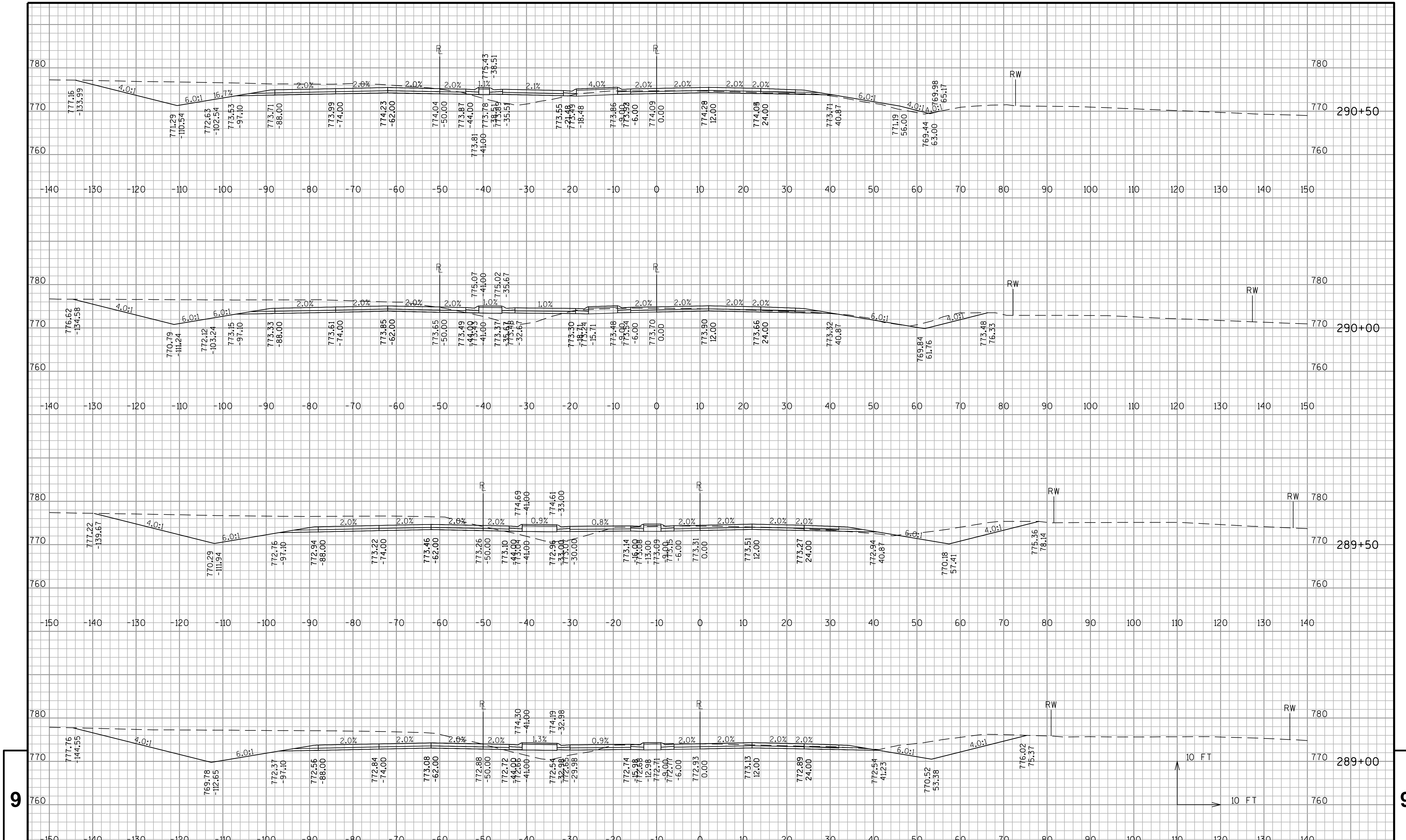
9



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 627 E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

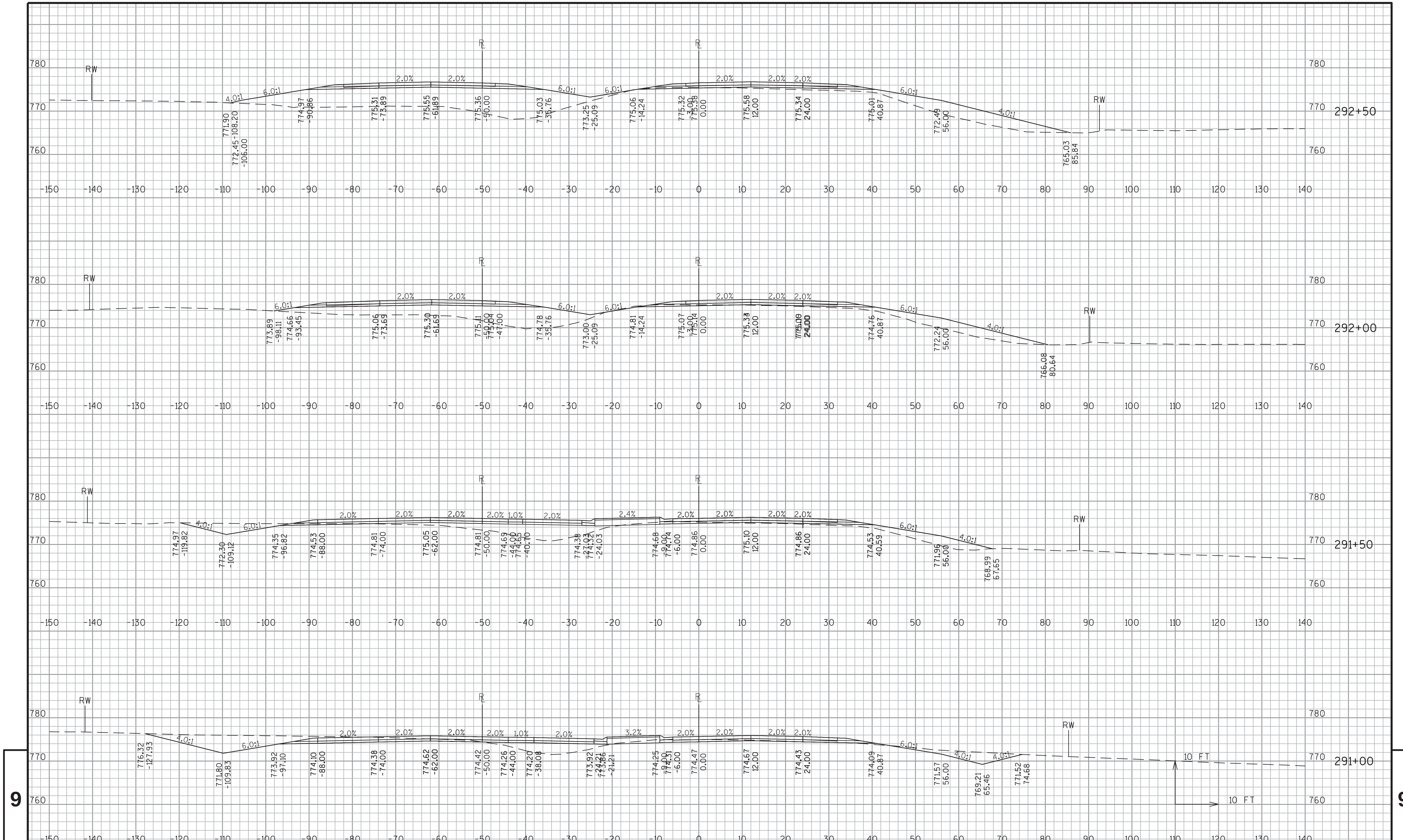
SHEET NAME: XSUSH1876



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

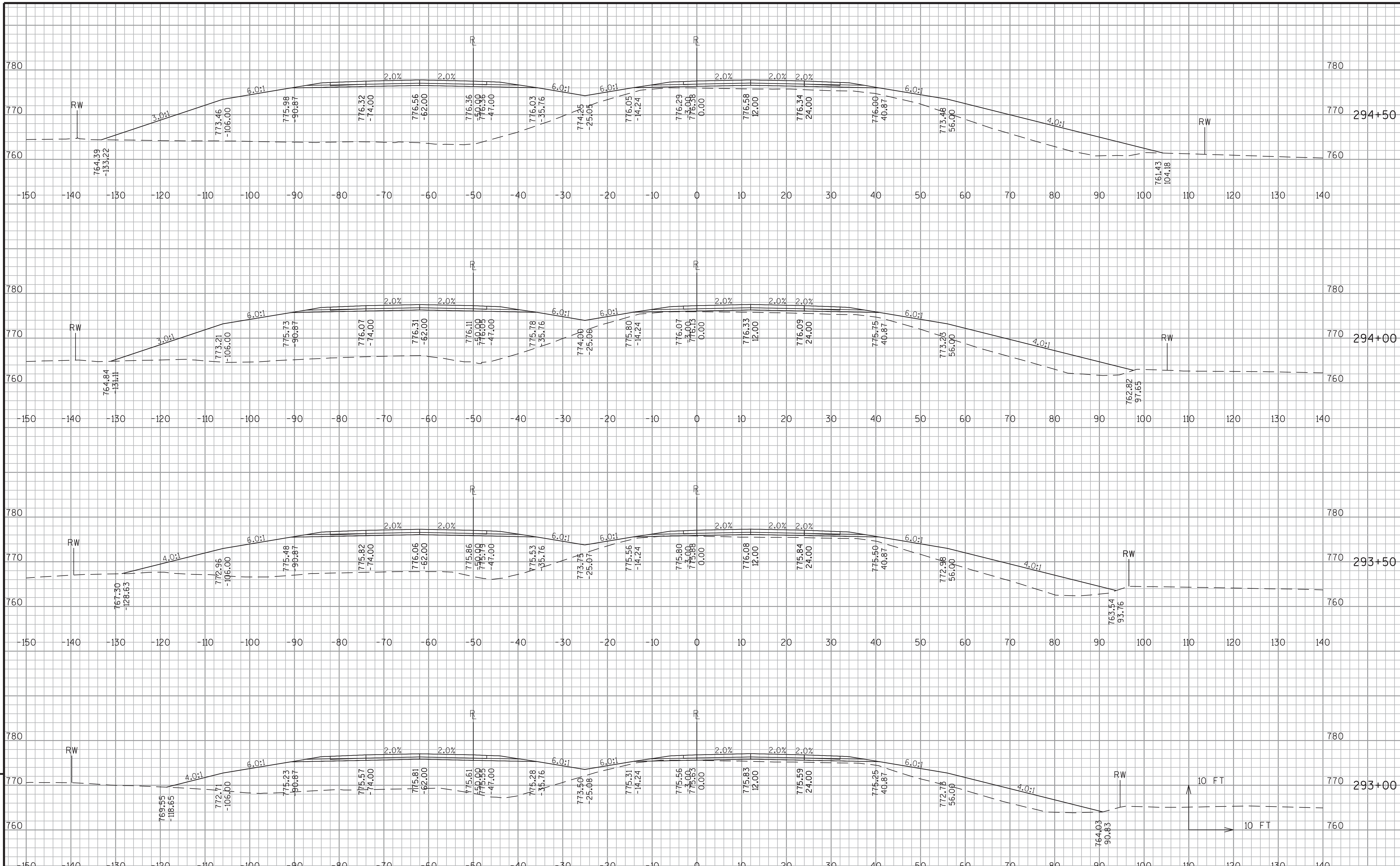
SHEET NAME: XSUSH1877



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

SHEET NAME: XSUSH1878



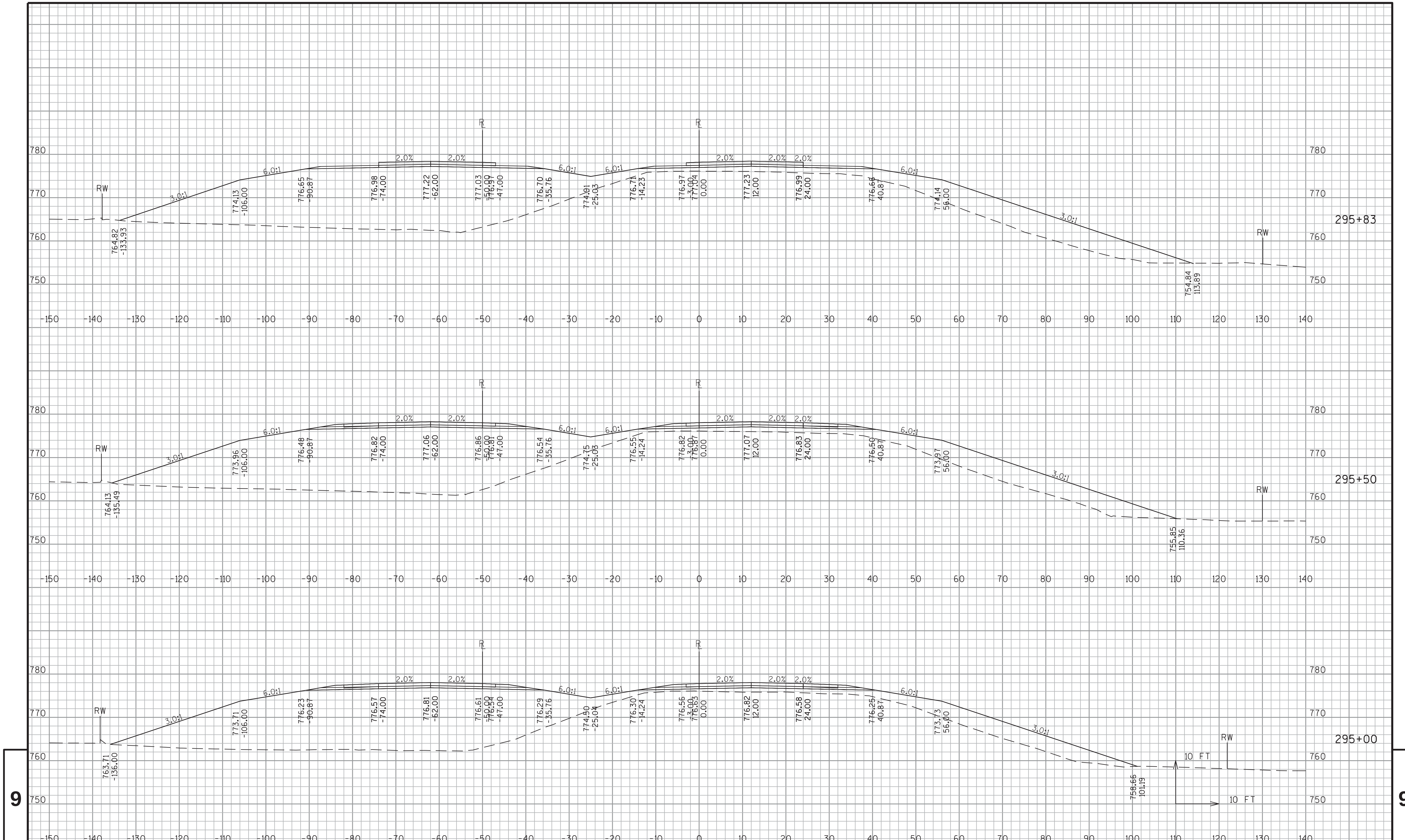
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

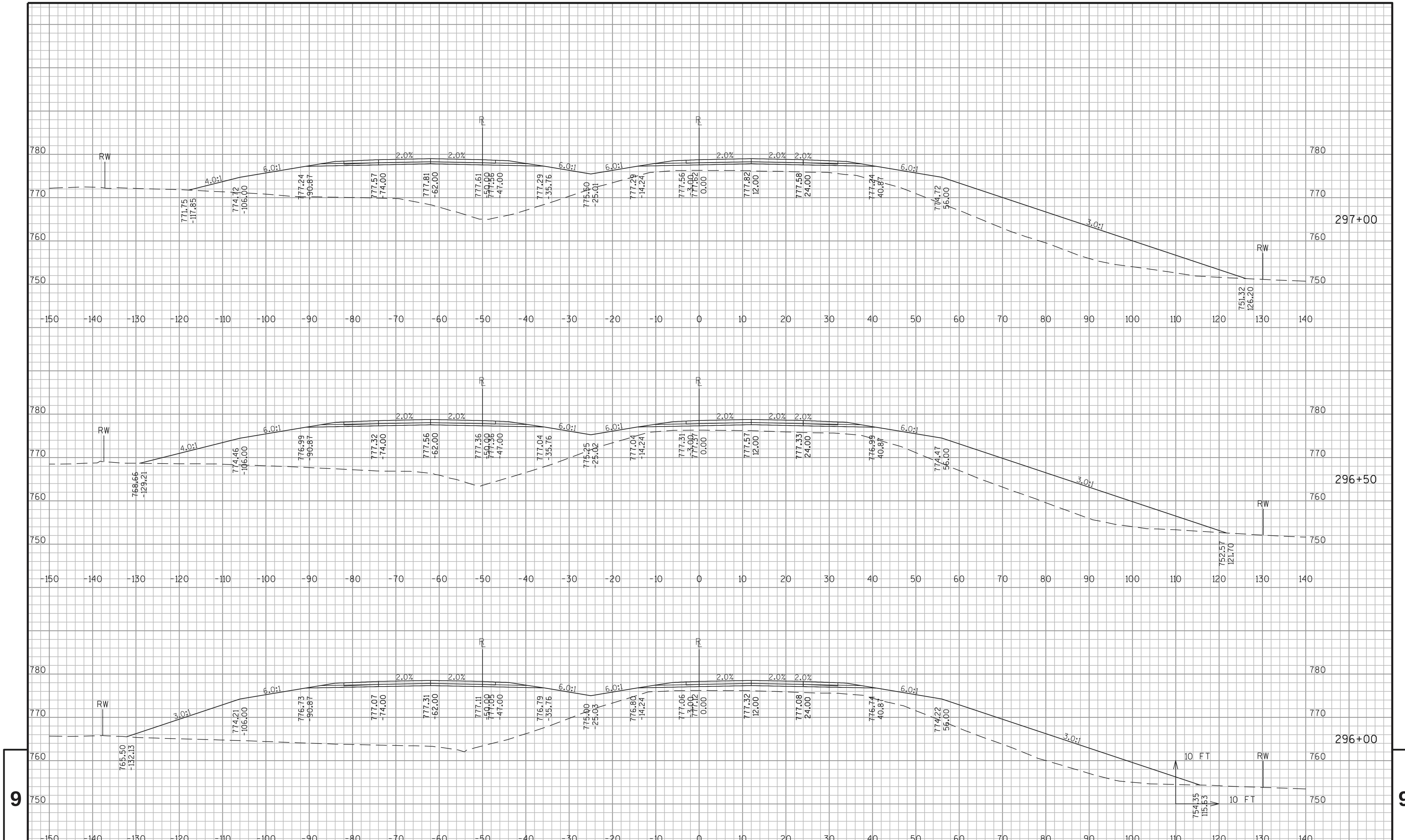
SHEET NAME: XSUSH1879



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 631	E

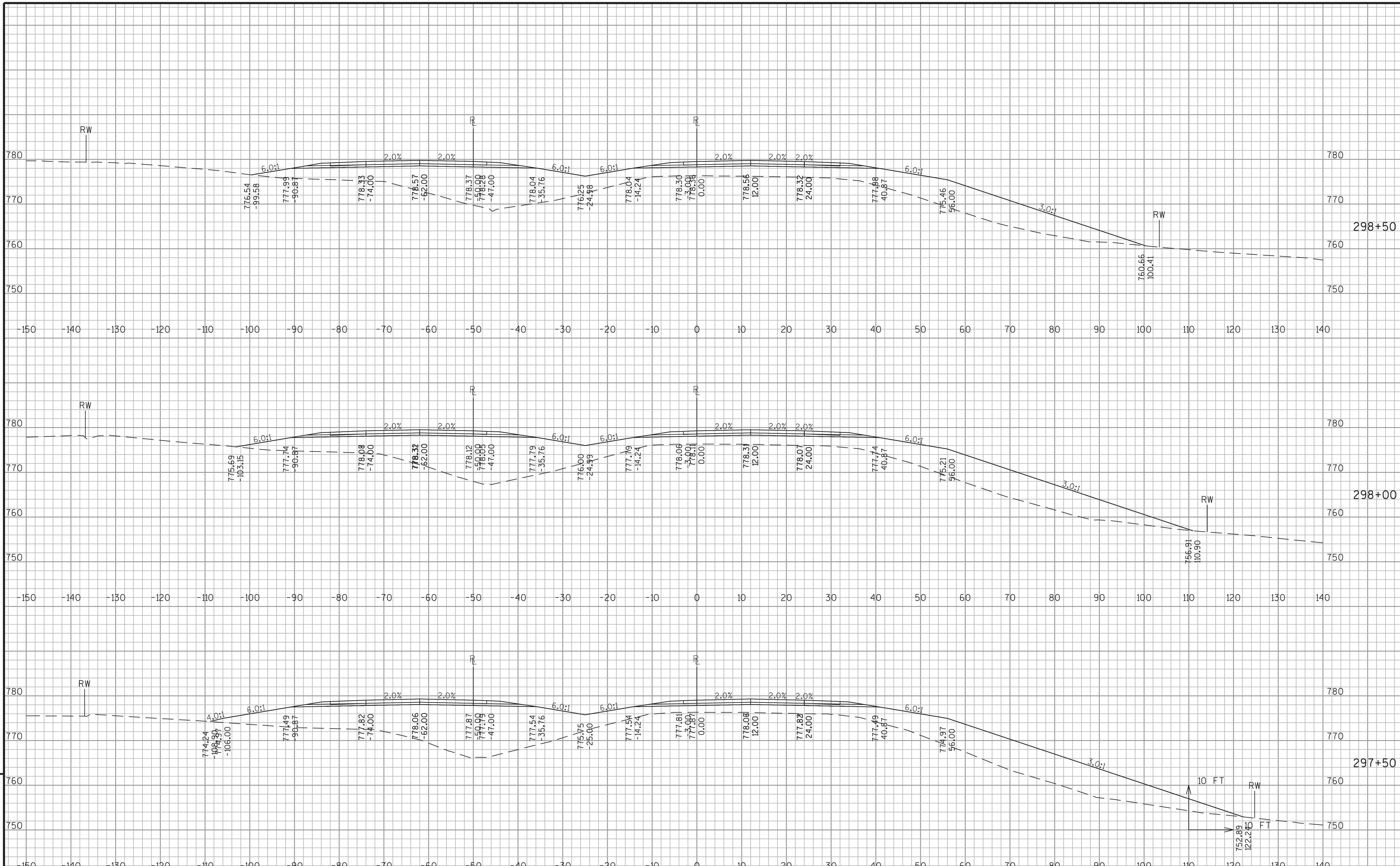
FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

SHEET NAME: XSUSH1880



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 632 E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG
SHEET NAME: XSUSH1881

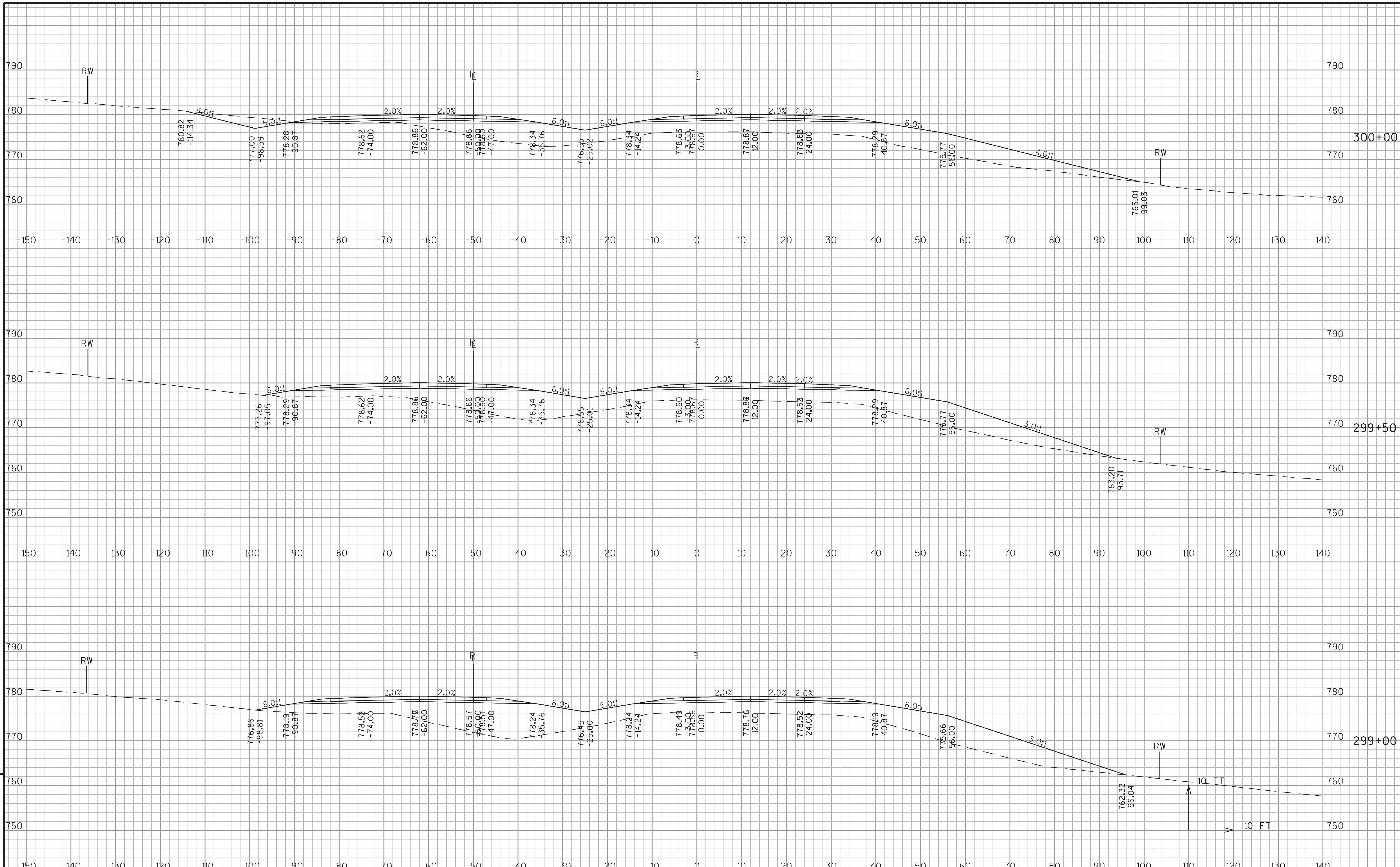


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 633	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

SHEET NAME: XSUSH1882

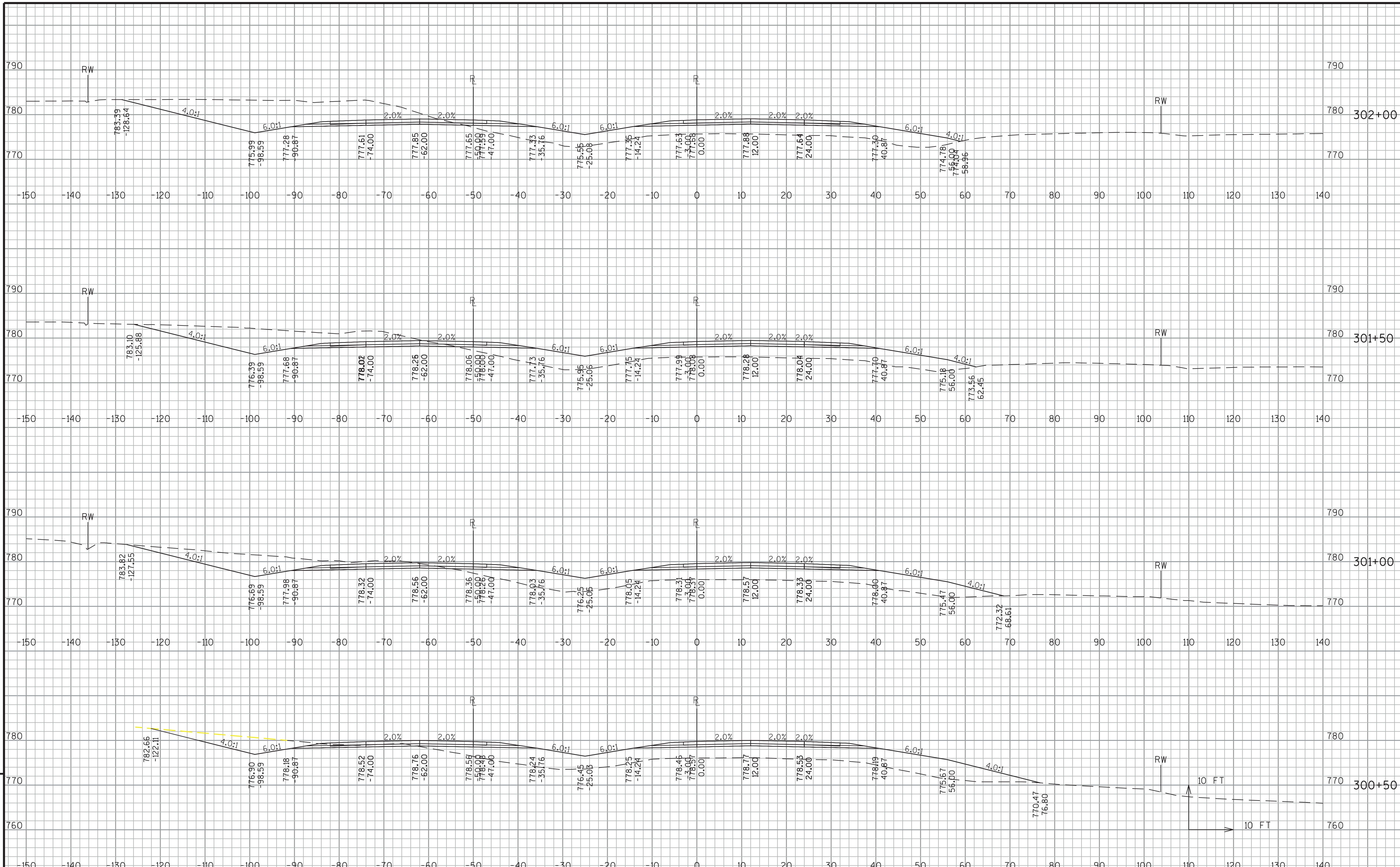


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 634	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

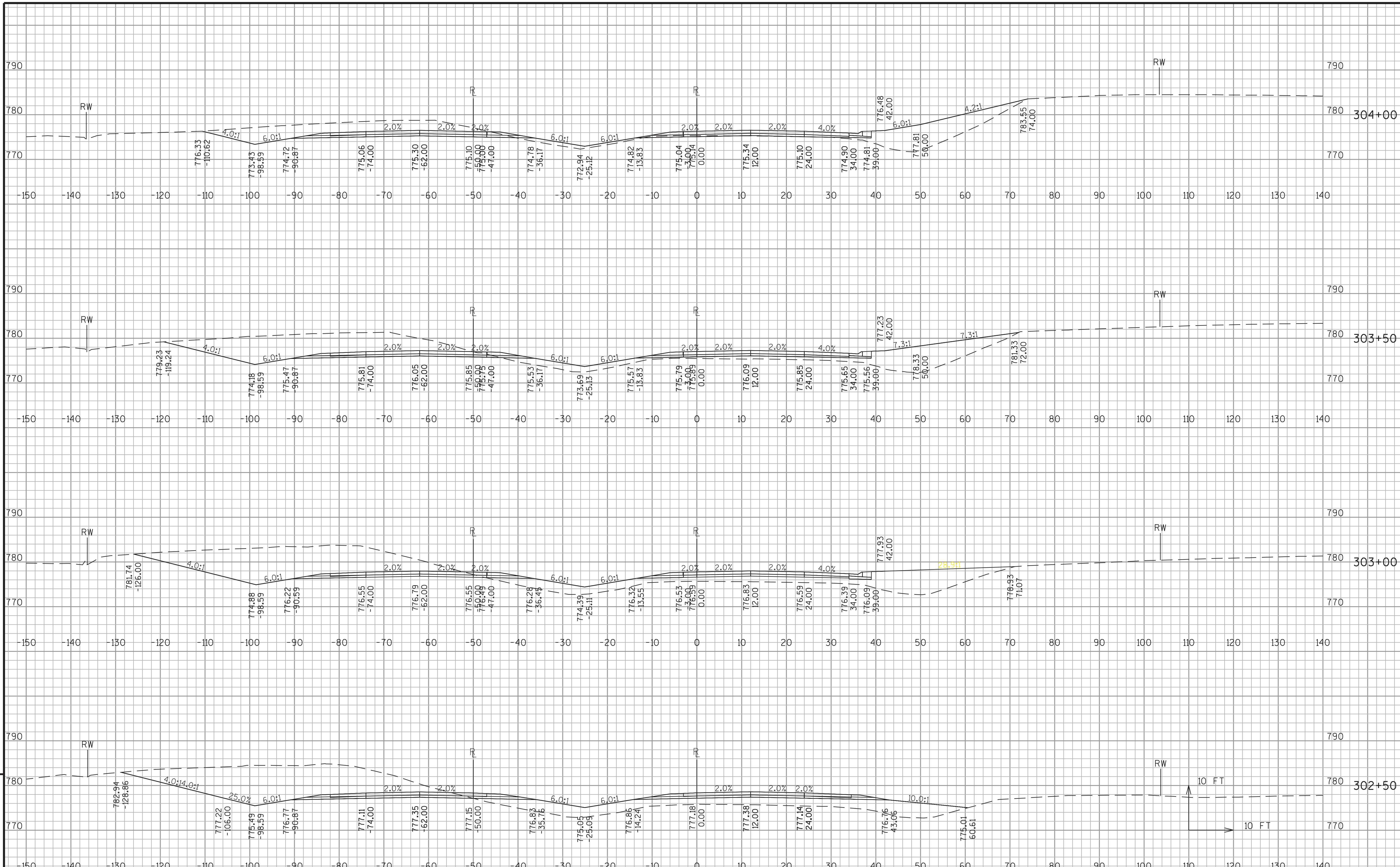
SHEET NAME: XSUSH1883



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 635	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

SHEET NAME: XSUSH1884



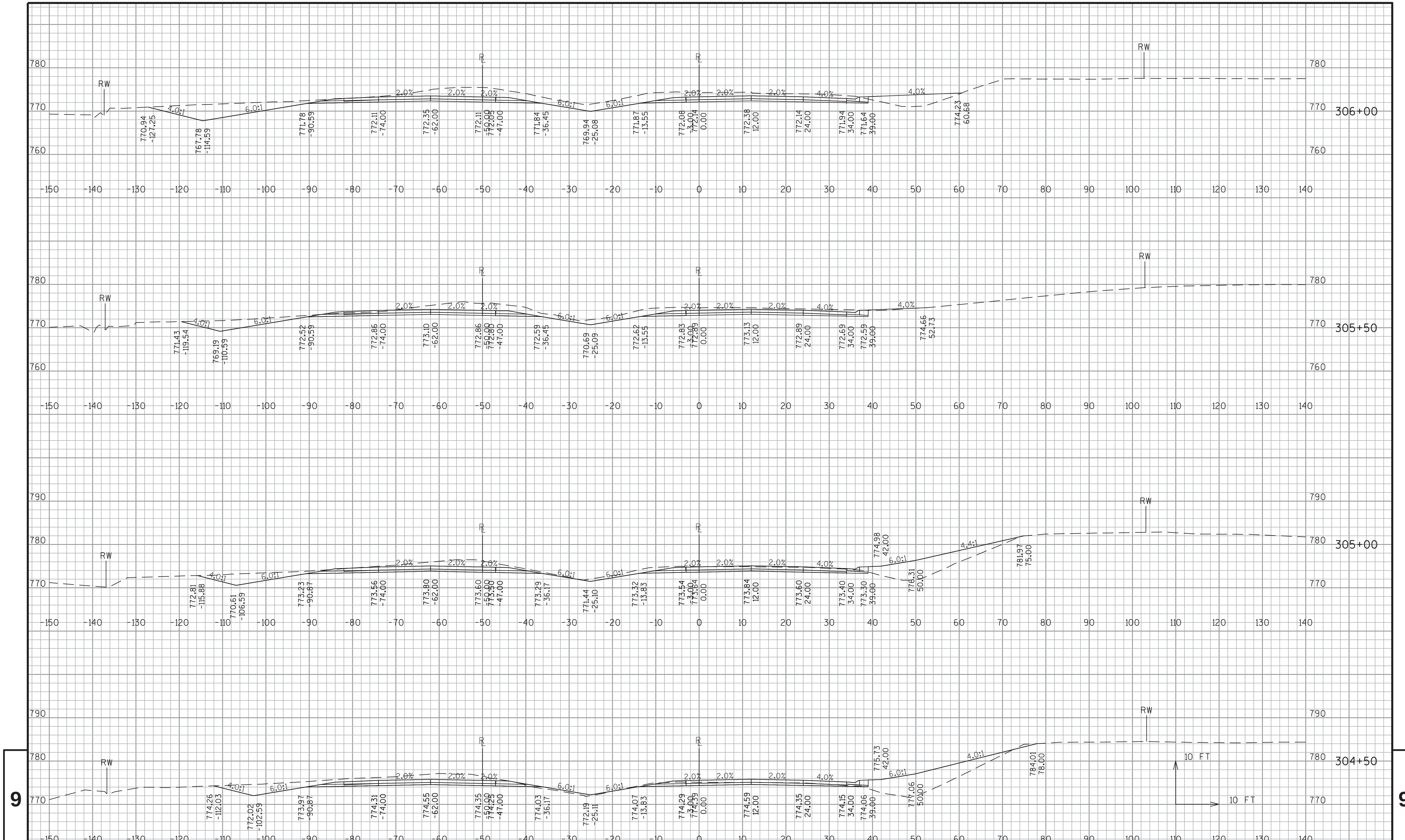
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 636	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

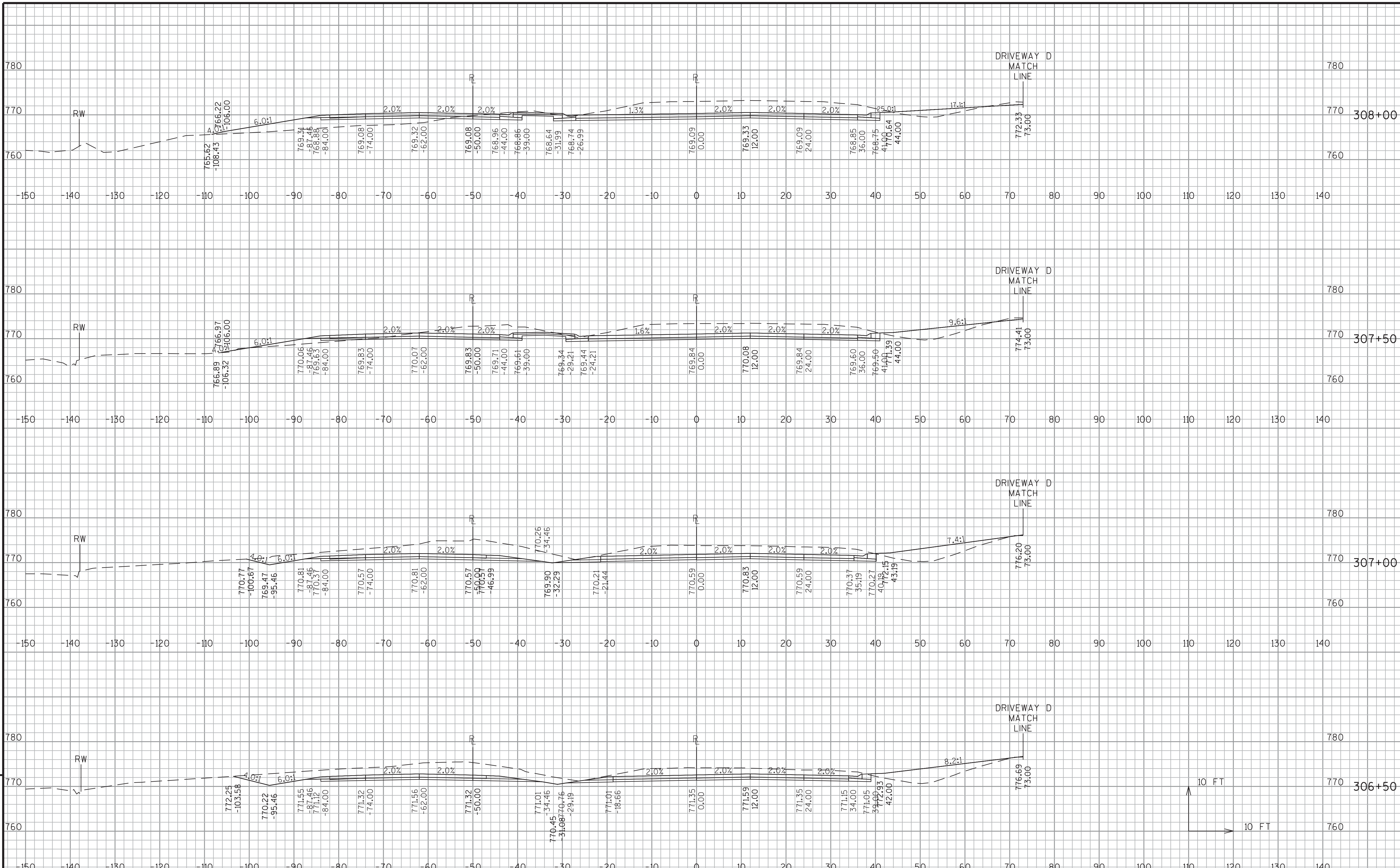
SHEET NAME: XSUSH1885



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 637	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-30600 XSUSH18.DWG

SHEET NAME: XSUSH1886

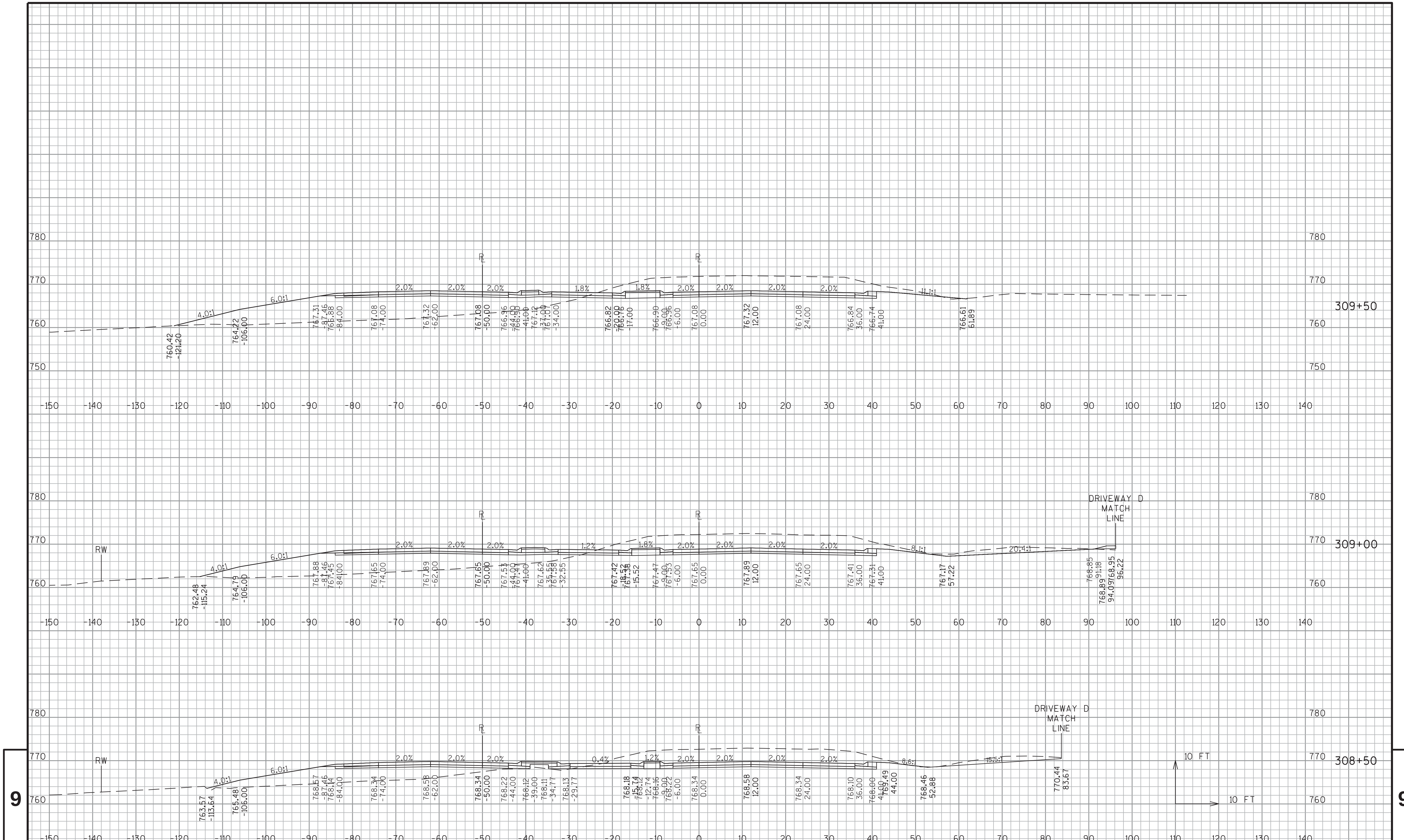


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 638	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±30600-31500 XSUSH18.DWG

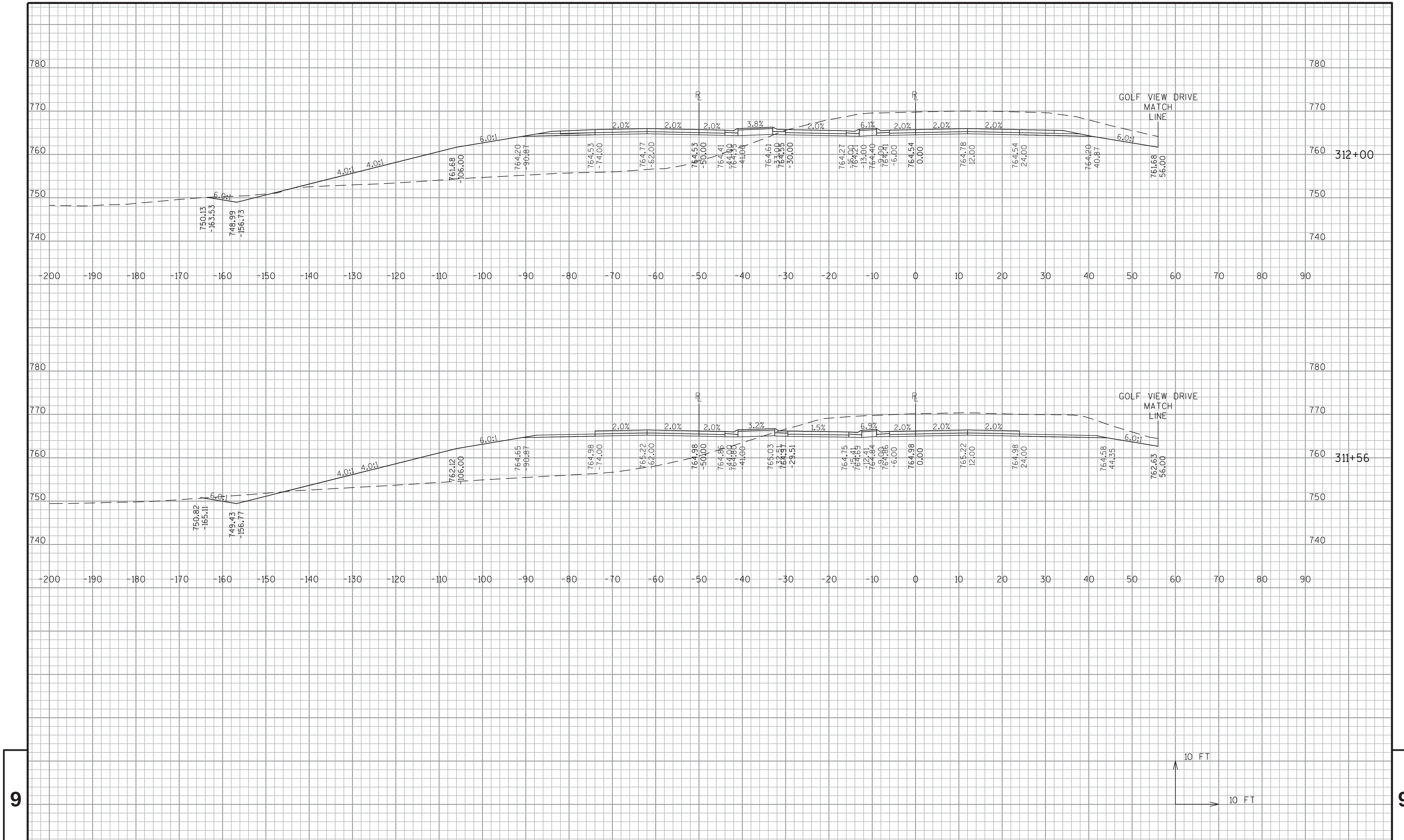
SHEET NAME: XSUSH1887



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±30600-31500 XSUSH18.DWG

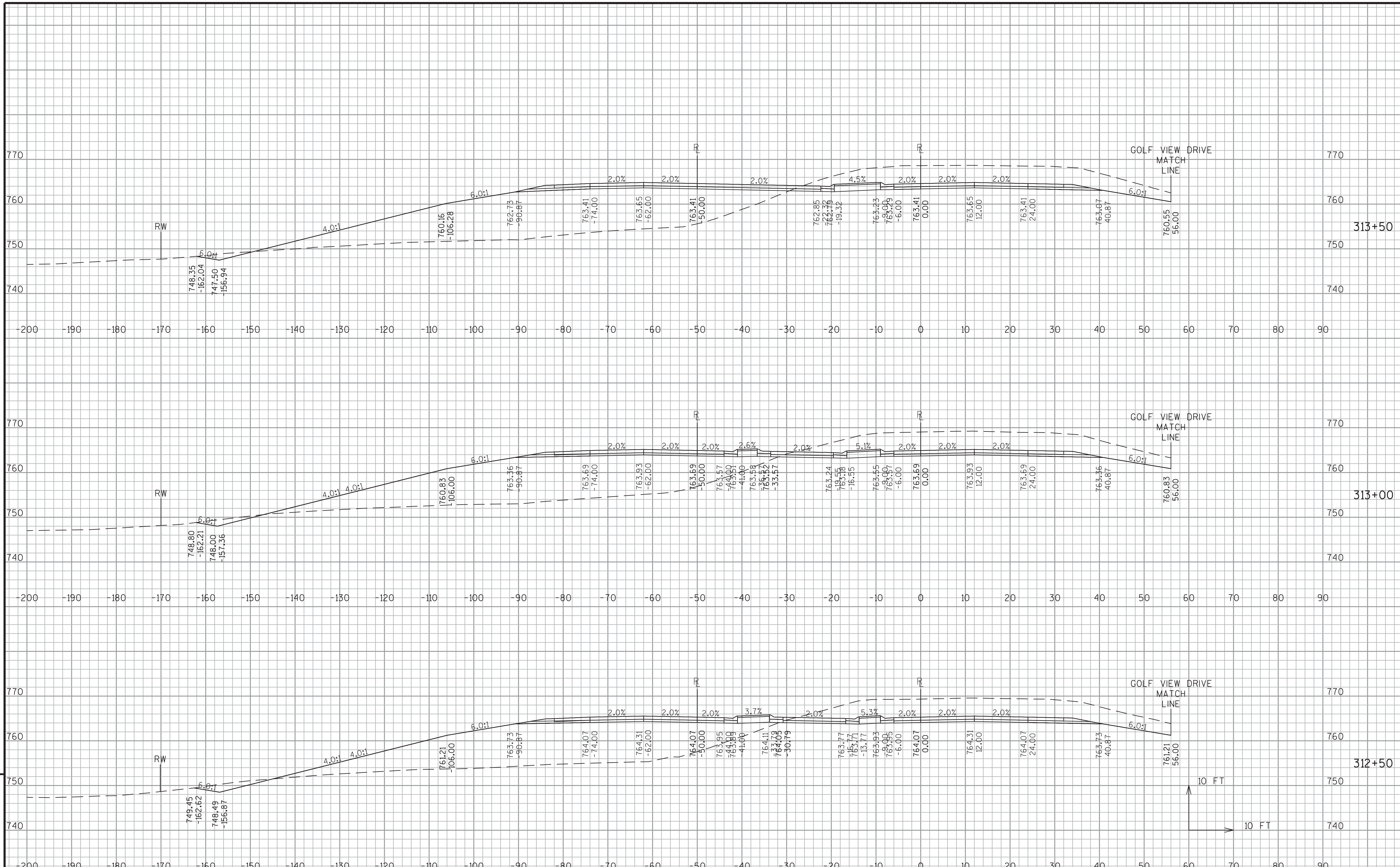
SHEET NAME: XSUSH1888



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 640	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±30600-31500 XSUSH18.DWG

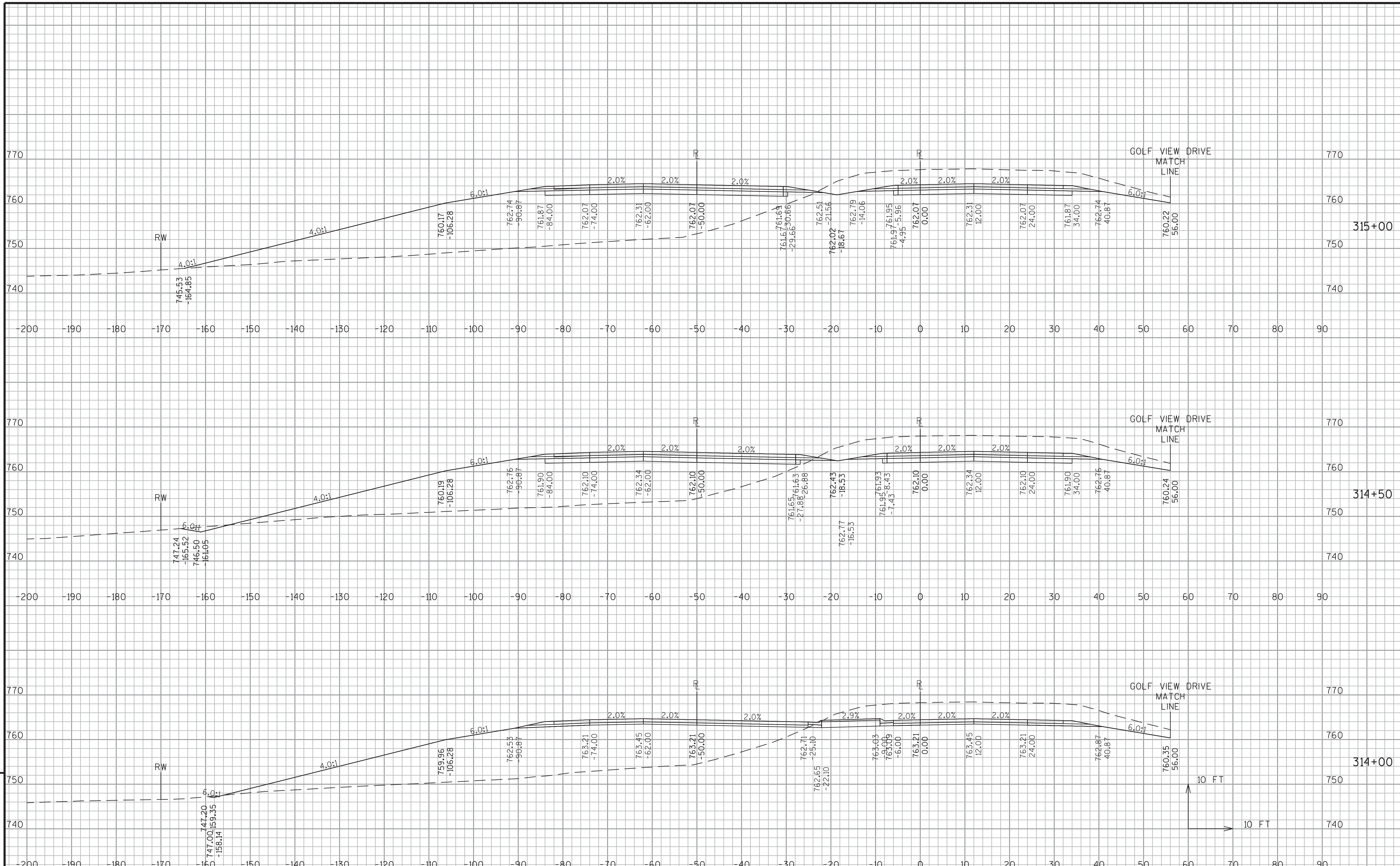
SHEET NAME: XSUSH1889



9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 641	E

9

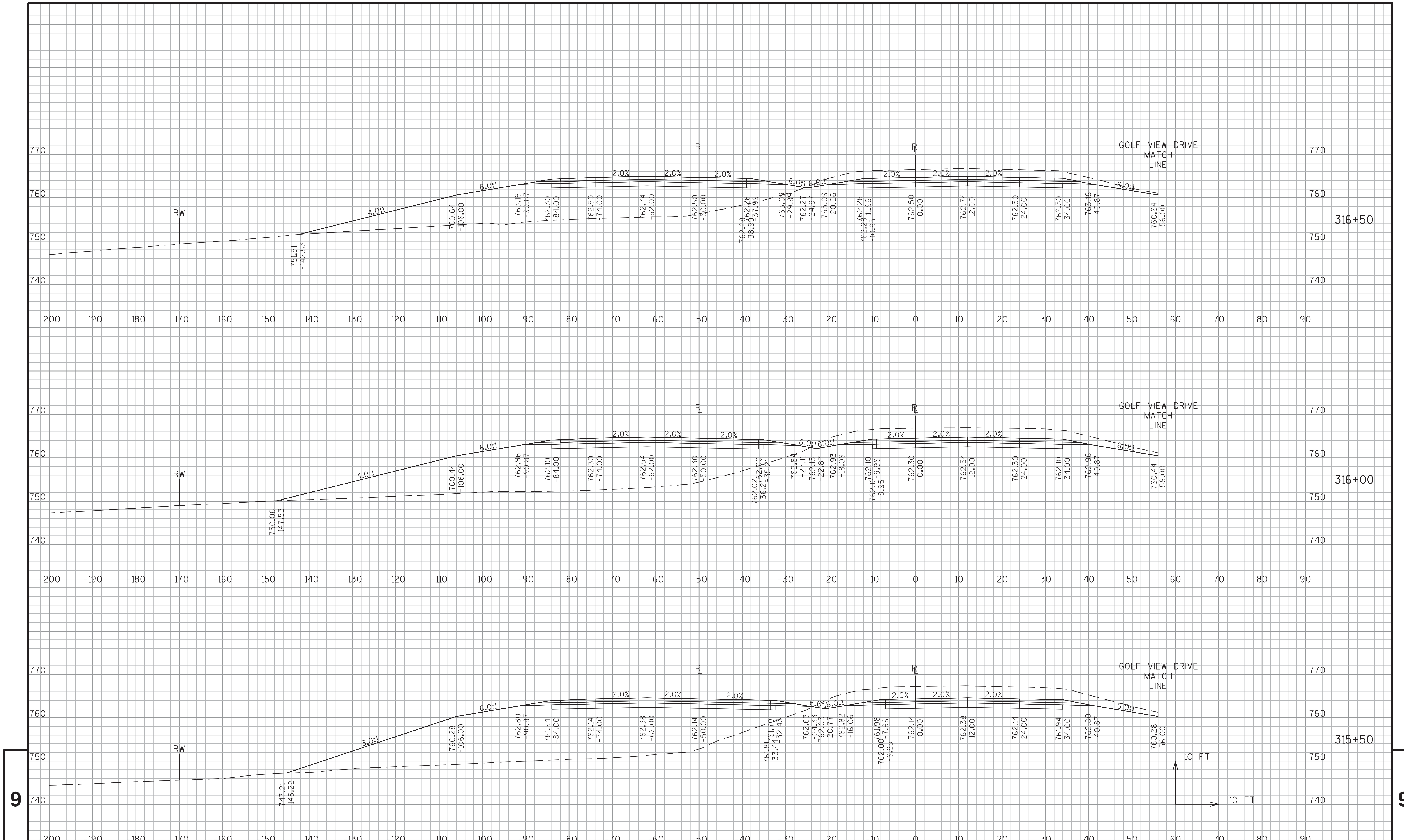


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 642	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±30600-31500 XSUSH18.DWG

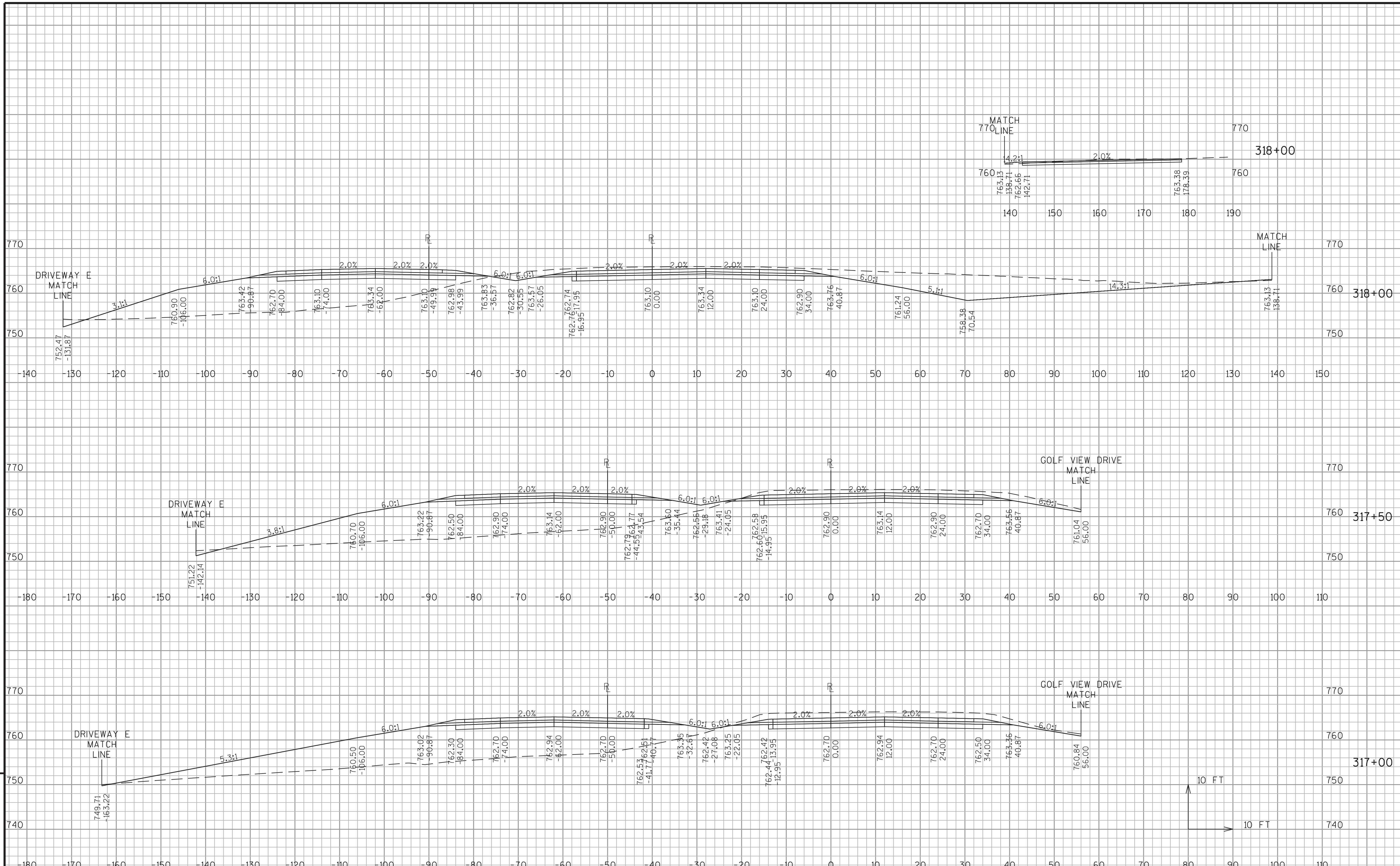
SHEET NAME: XSUSH1891



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 643	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±31500-33000 XSUSH18.DWG

SHEET NAME: XSUSH1892



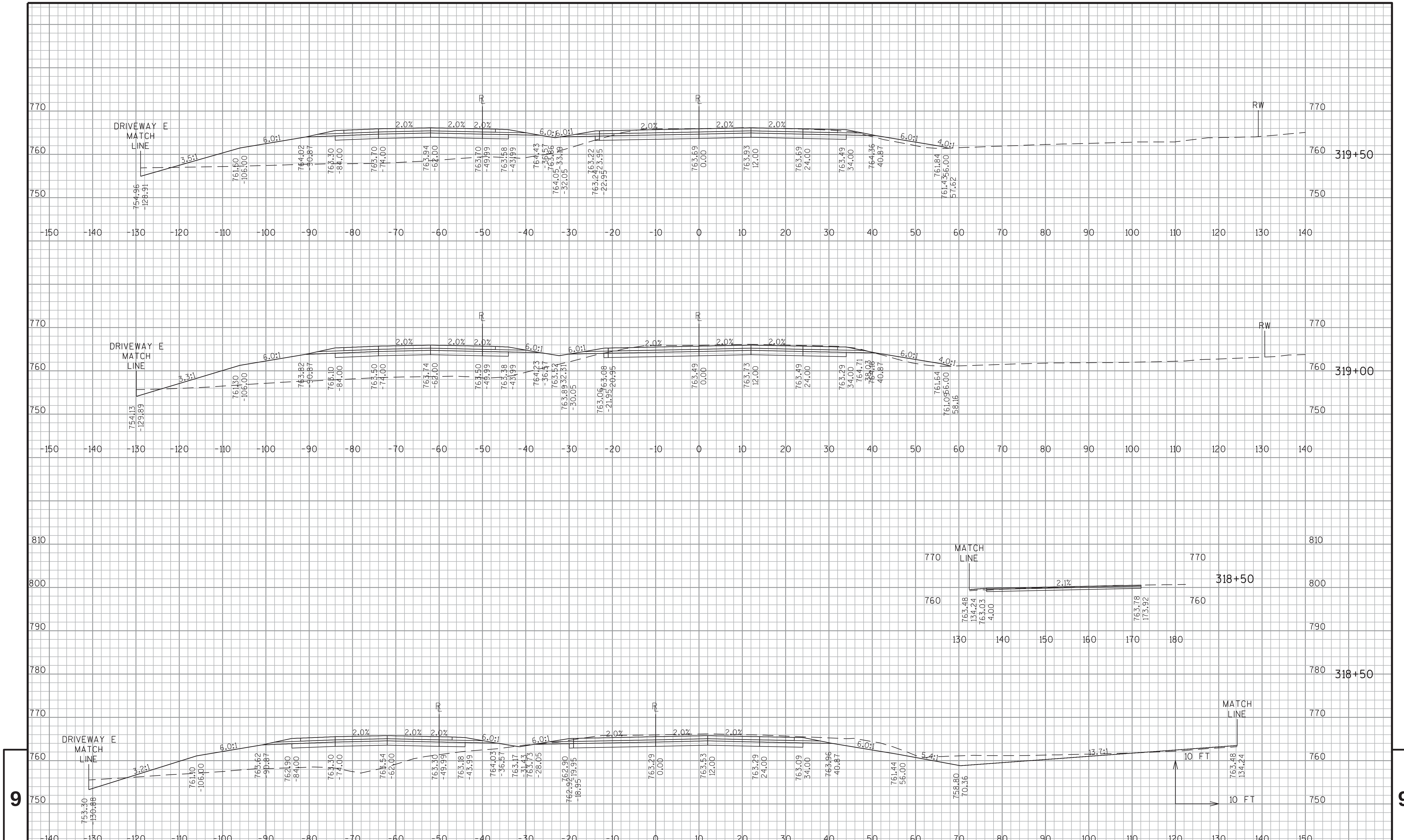
9

9

PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: USH 18 EB | SHEET 644 | E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±31500-33000 XSUSH18.DWG

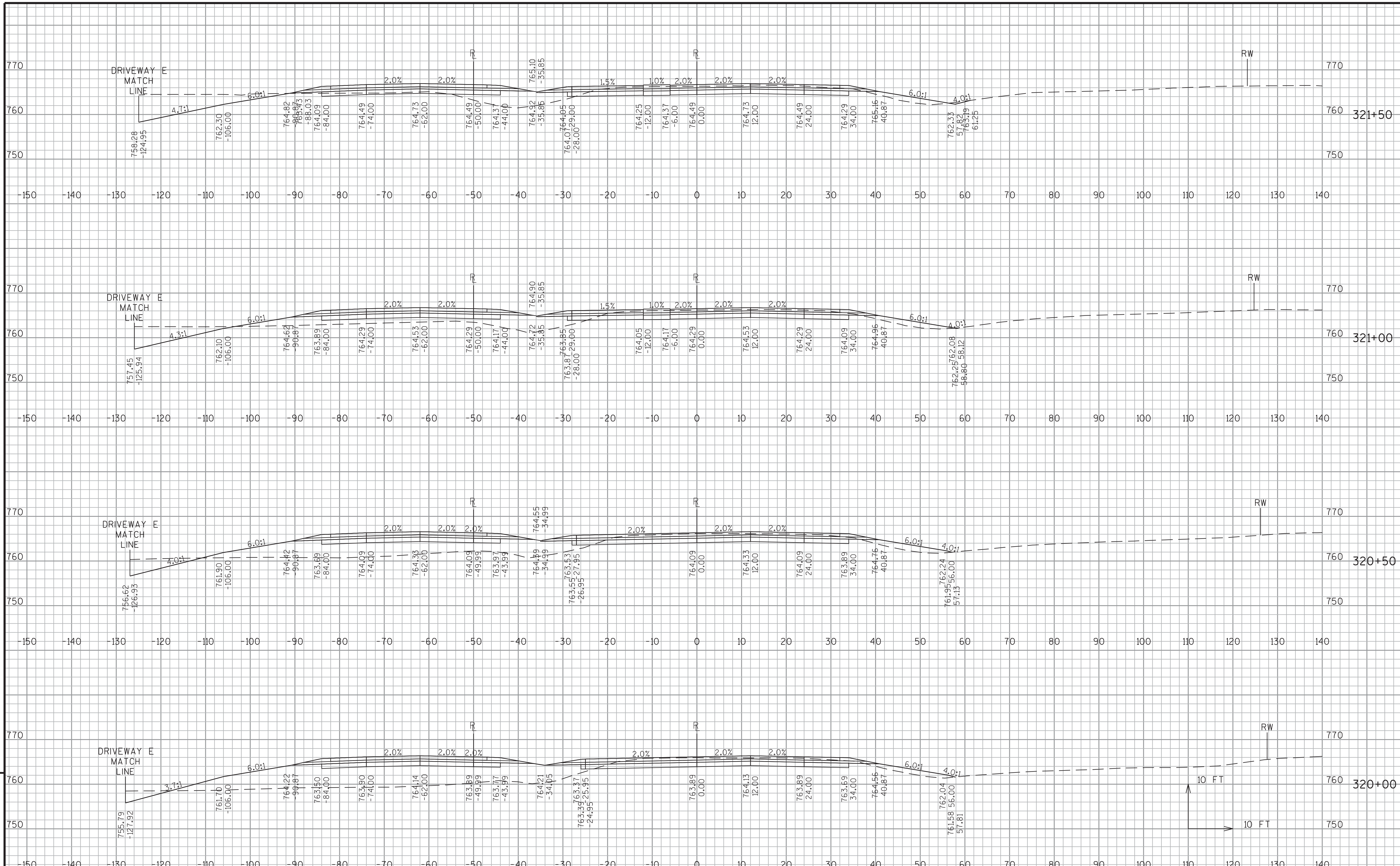
SHEET NAME: XSUSH1893



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 645	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±31500-33000 XSUSH18.DWG

SHEET NAME: XSUSH1894

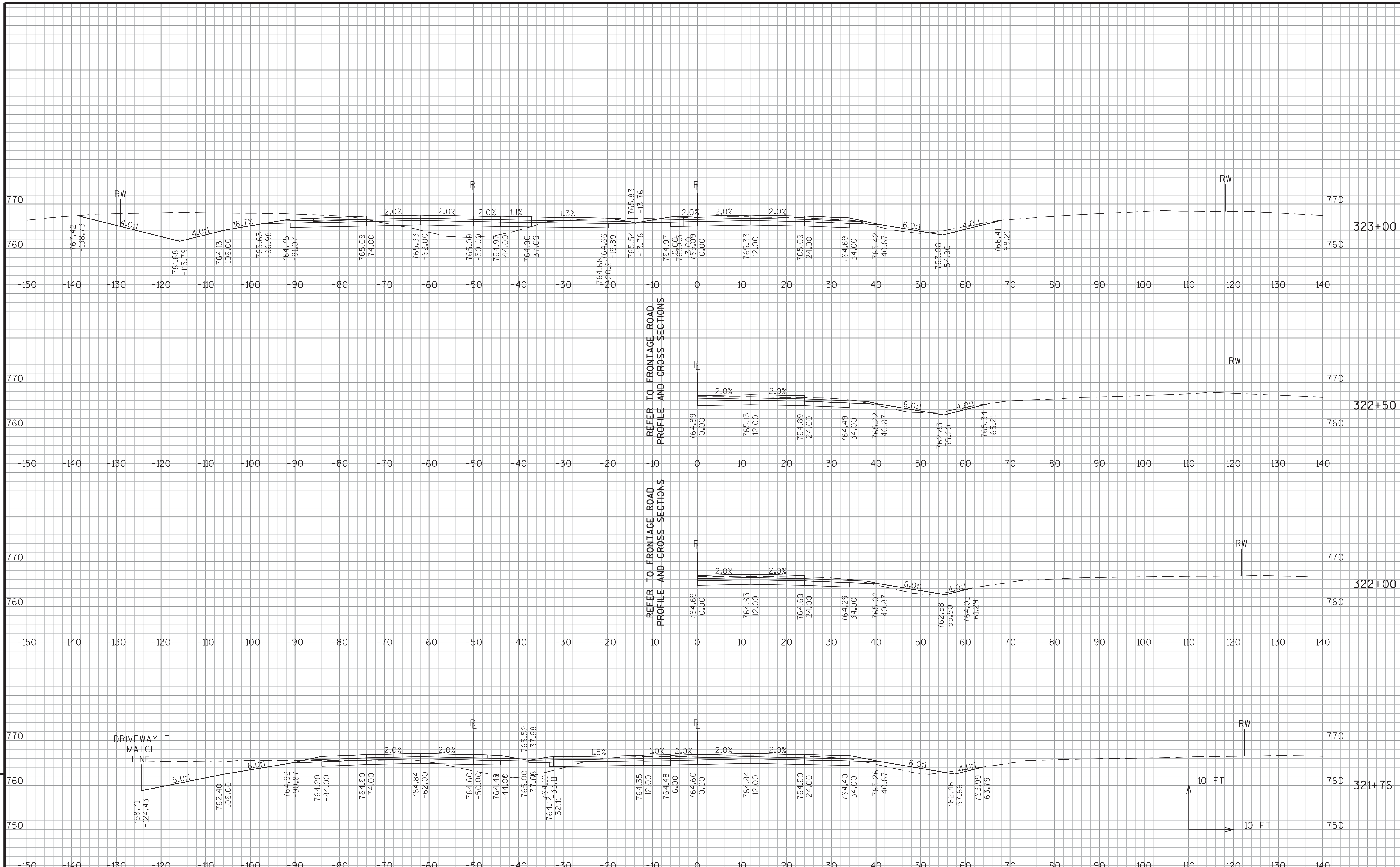


9 | 9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 646	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±31500-33000 XSUSH18.DWG

SHEET NAME: XSUSH1895



9

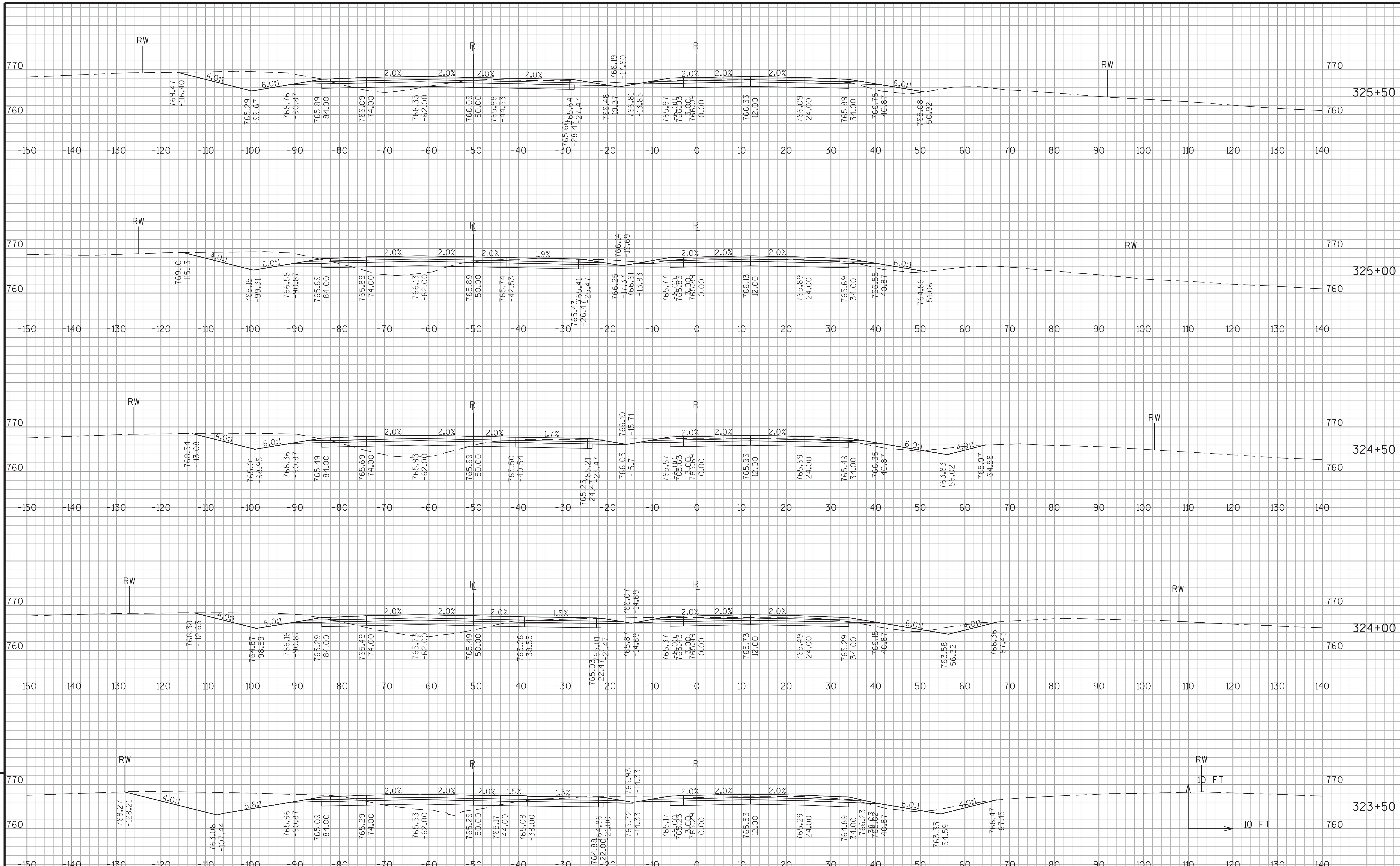
9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 647	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±31500-33000 XSUSH18.DWG

SHEET NAME: XSUSH1896

9



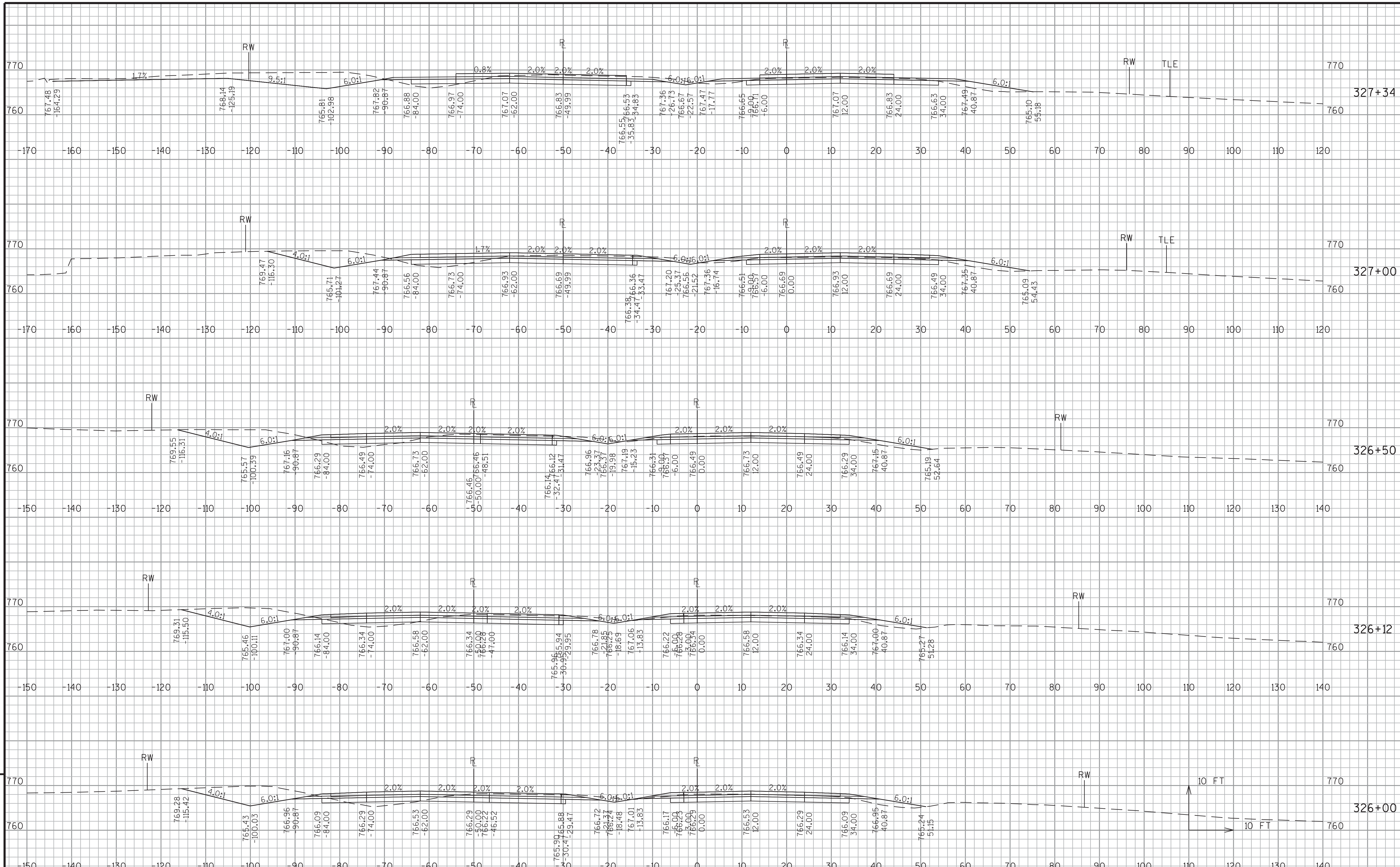
9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 648	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±31500-33000 XSUSH18.DWG

SHEET NAME: XSUSH1897

9

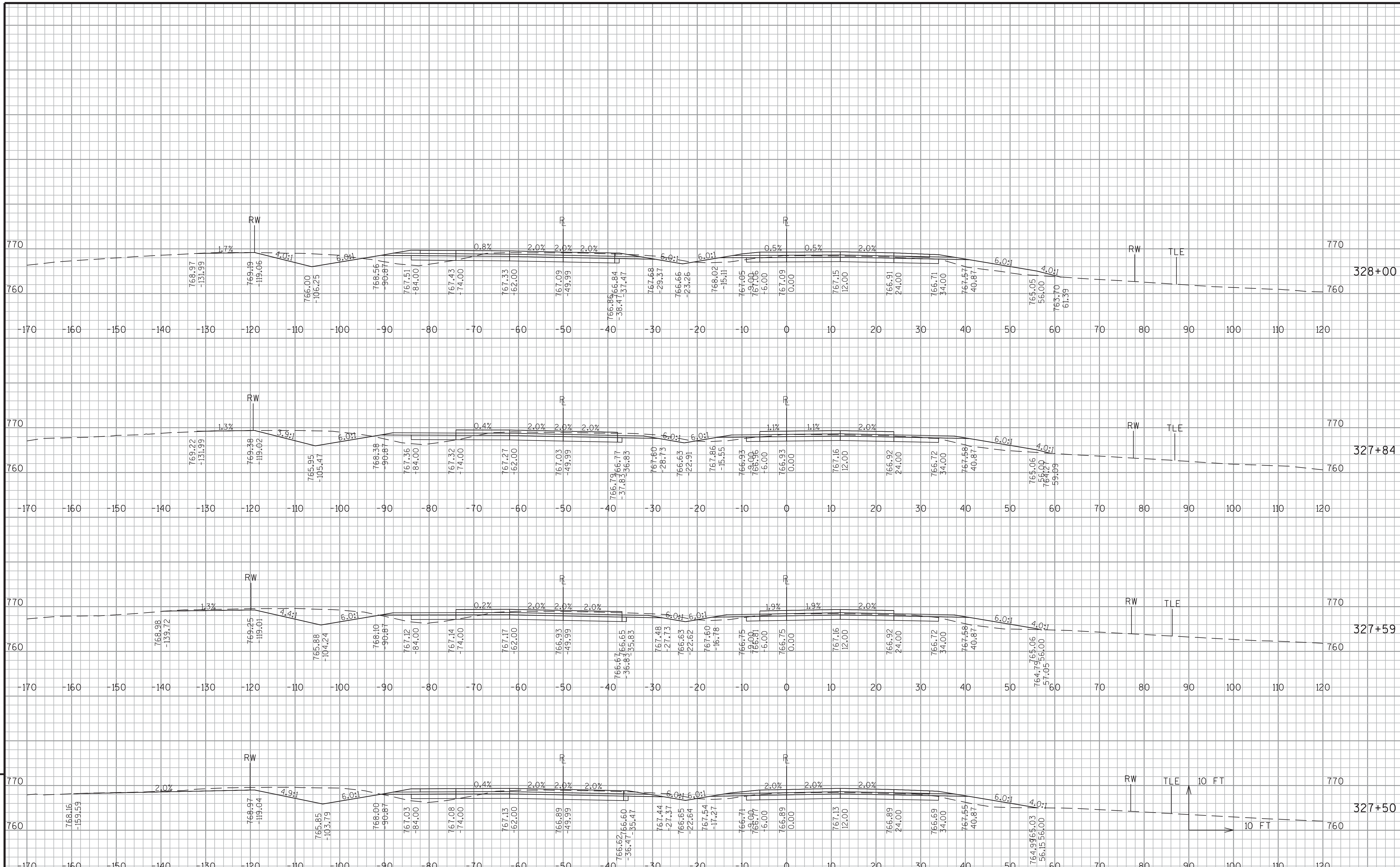


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 649	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±31500-33000 XSUSH18.DWG

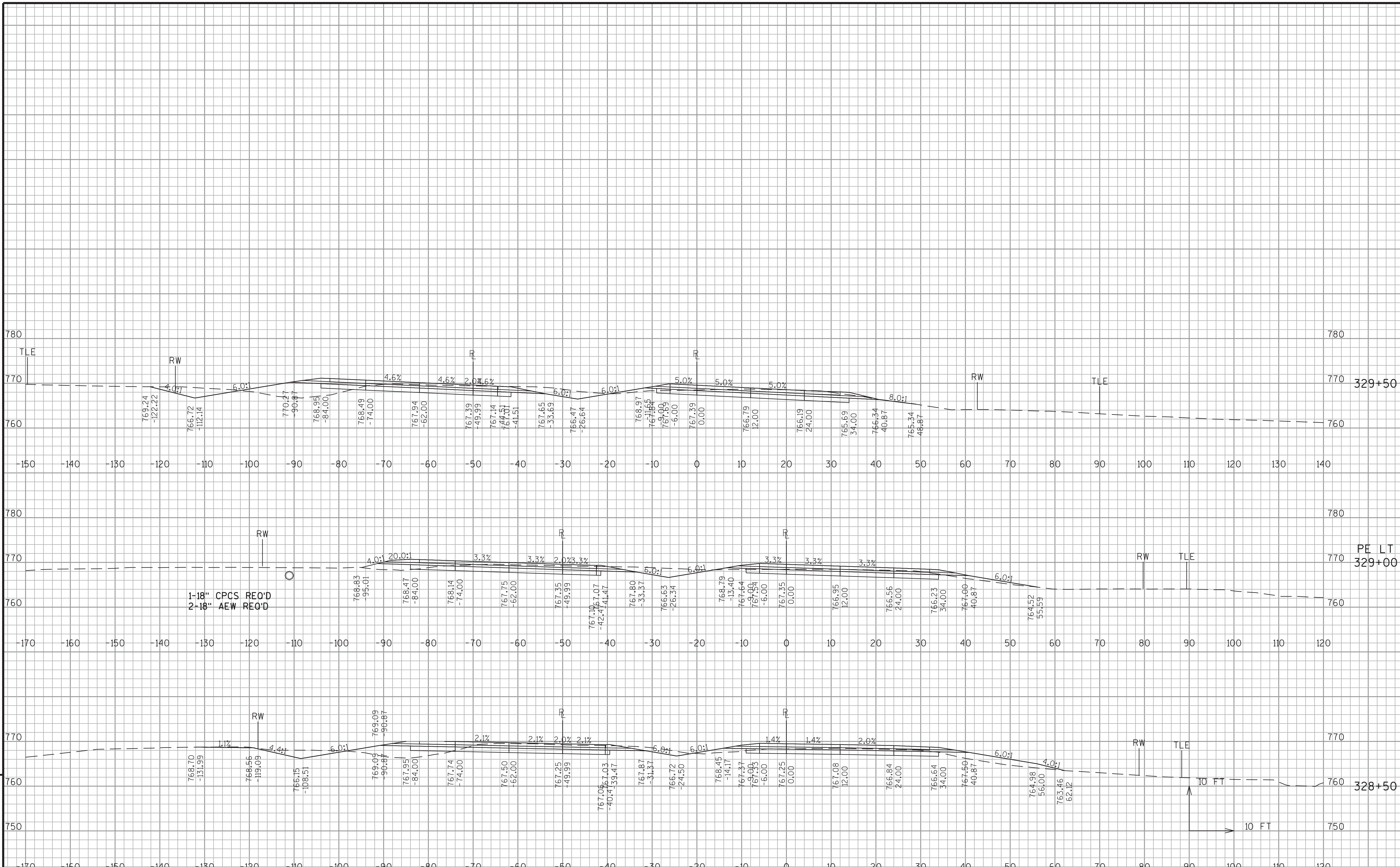
SHEET NAME: XSUSH1898



9 9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 650	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±31500-33000 XSUSH18.DWG
SHEET NAME: XSUSH1899

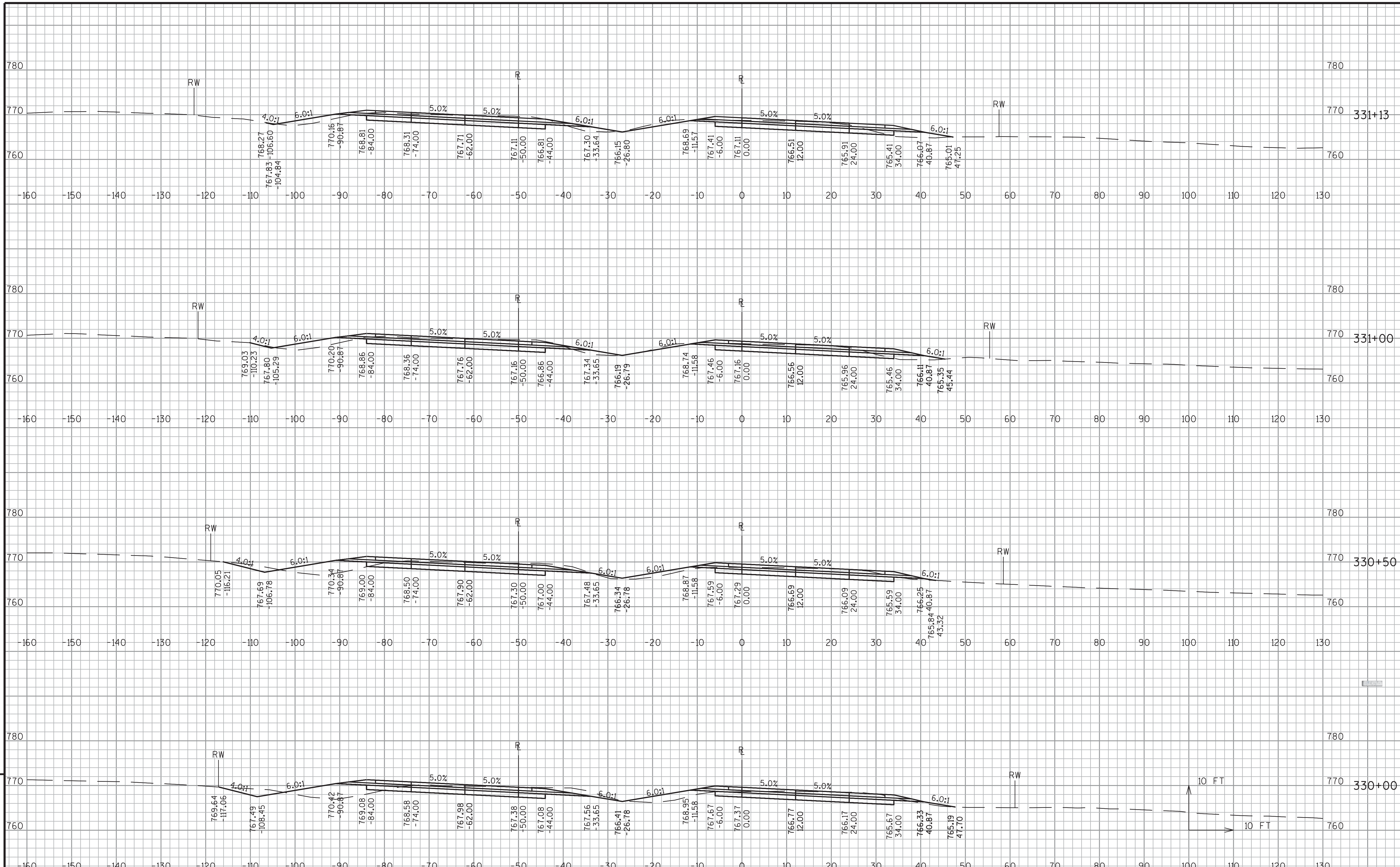


9 9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 651 E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±31500-33000 XSUSH18.DWG

SHEET NAME: XSUSH18100

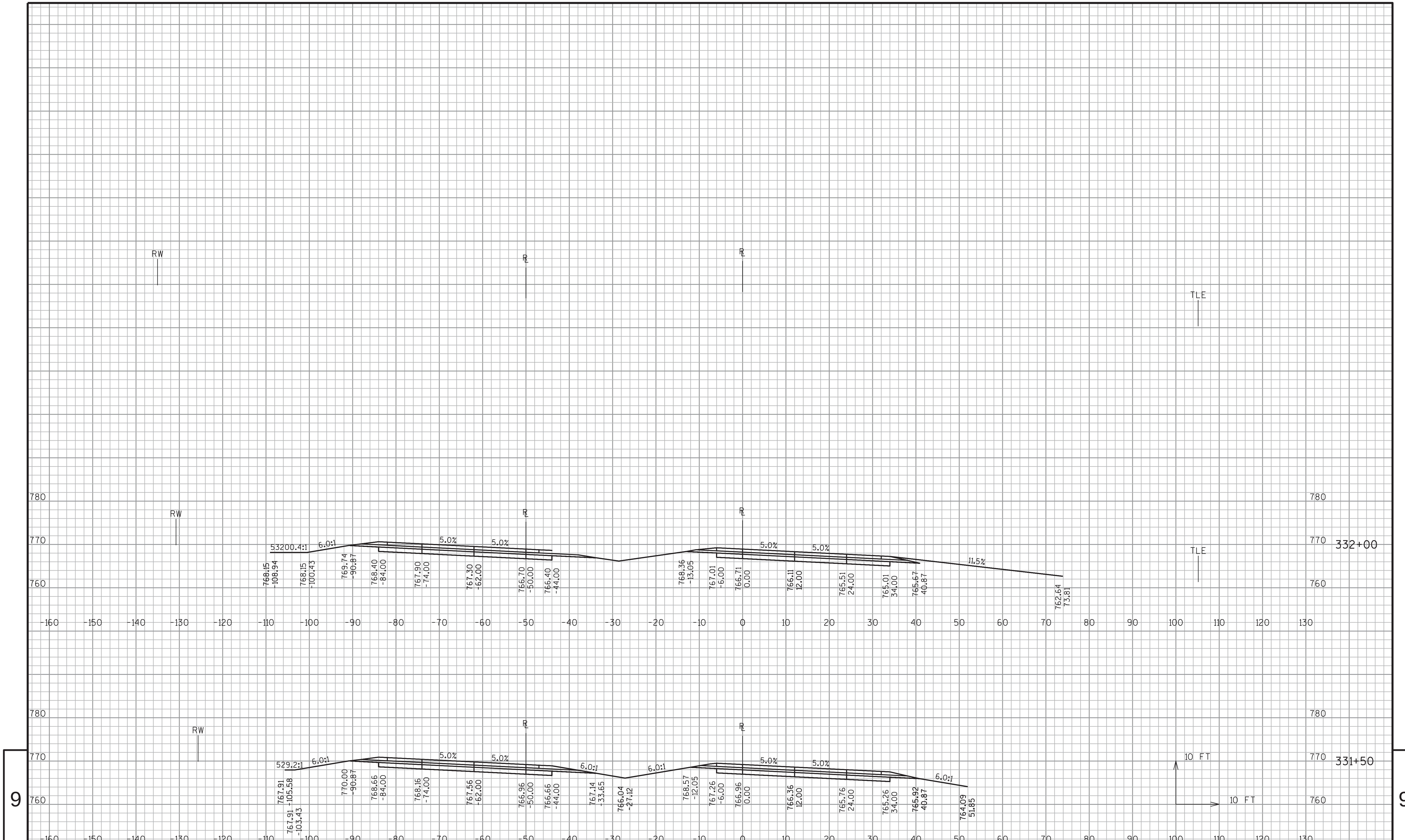


9 9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 652	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

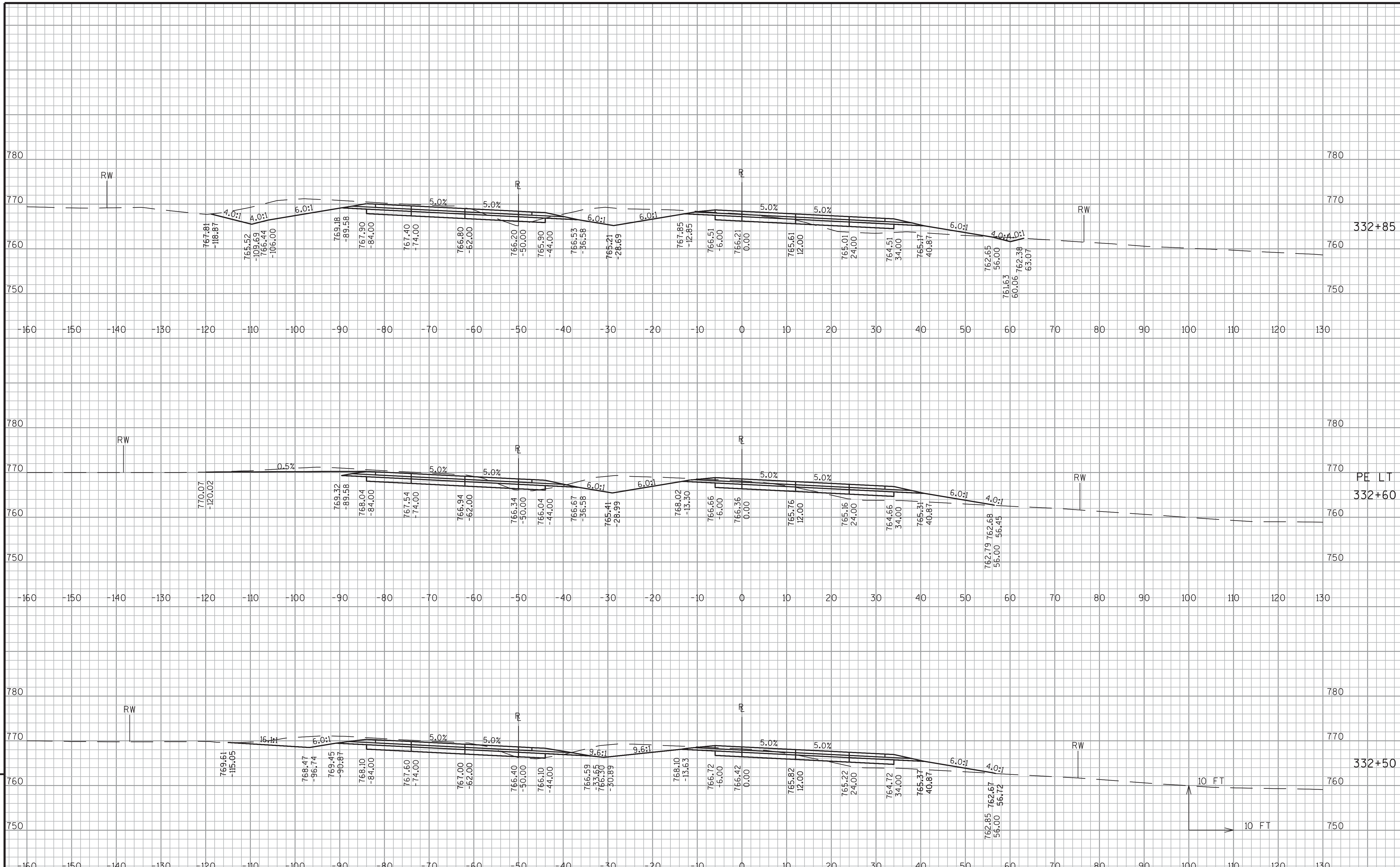
SHEET NAME: XSUSH18101



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 653	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18102



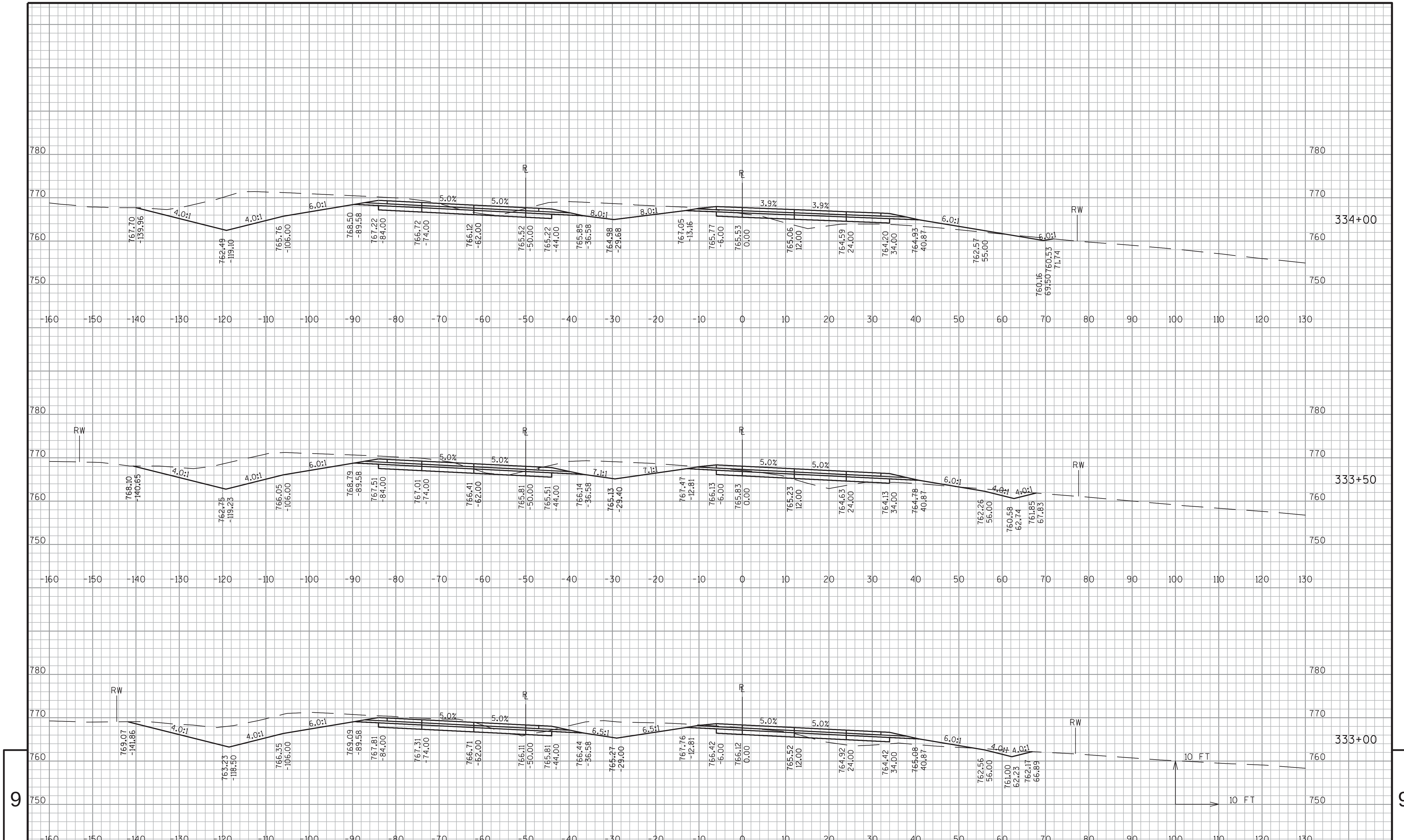
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 654 E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

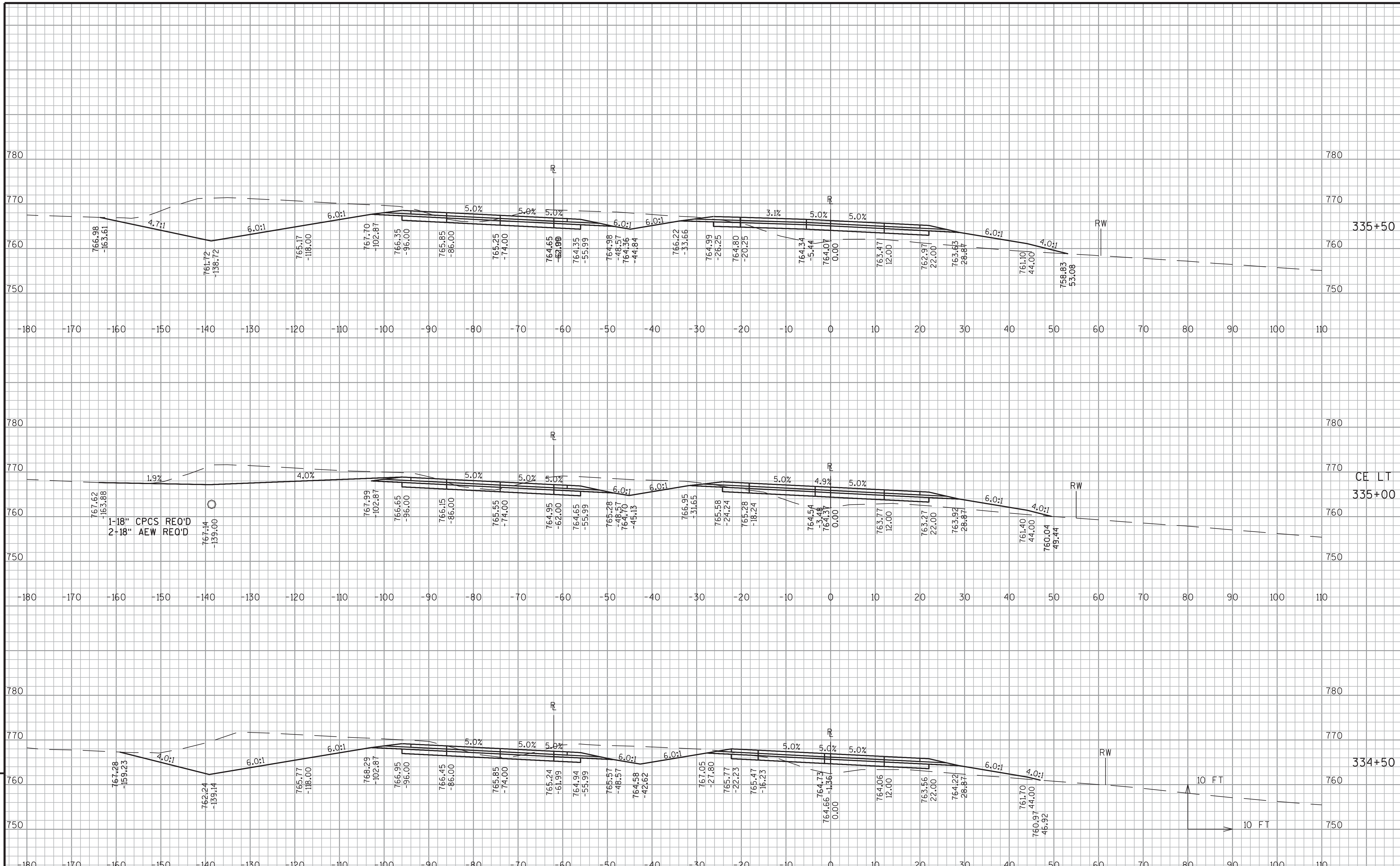
SHEET NAME: XSUSH18103



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG
SHEET NAME: XSUSH18104

9

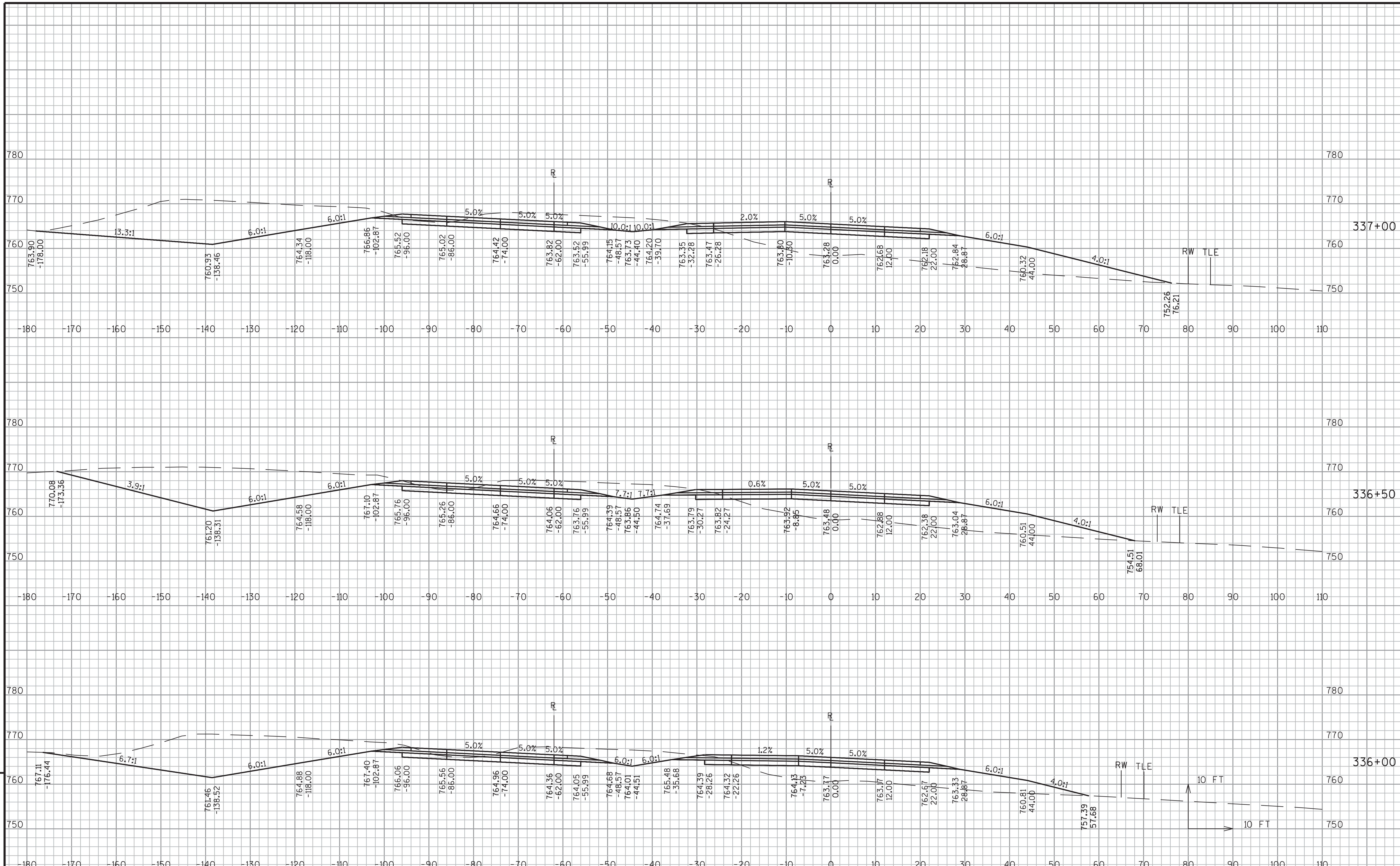


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 656	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18105

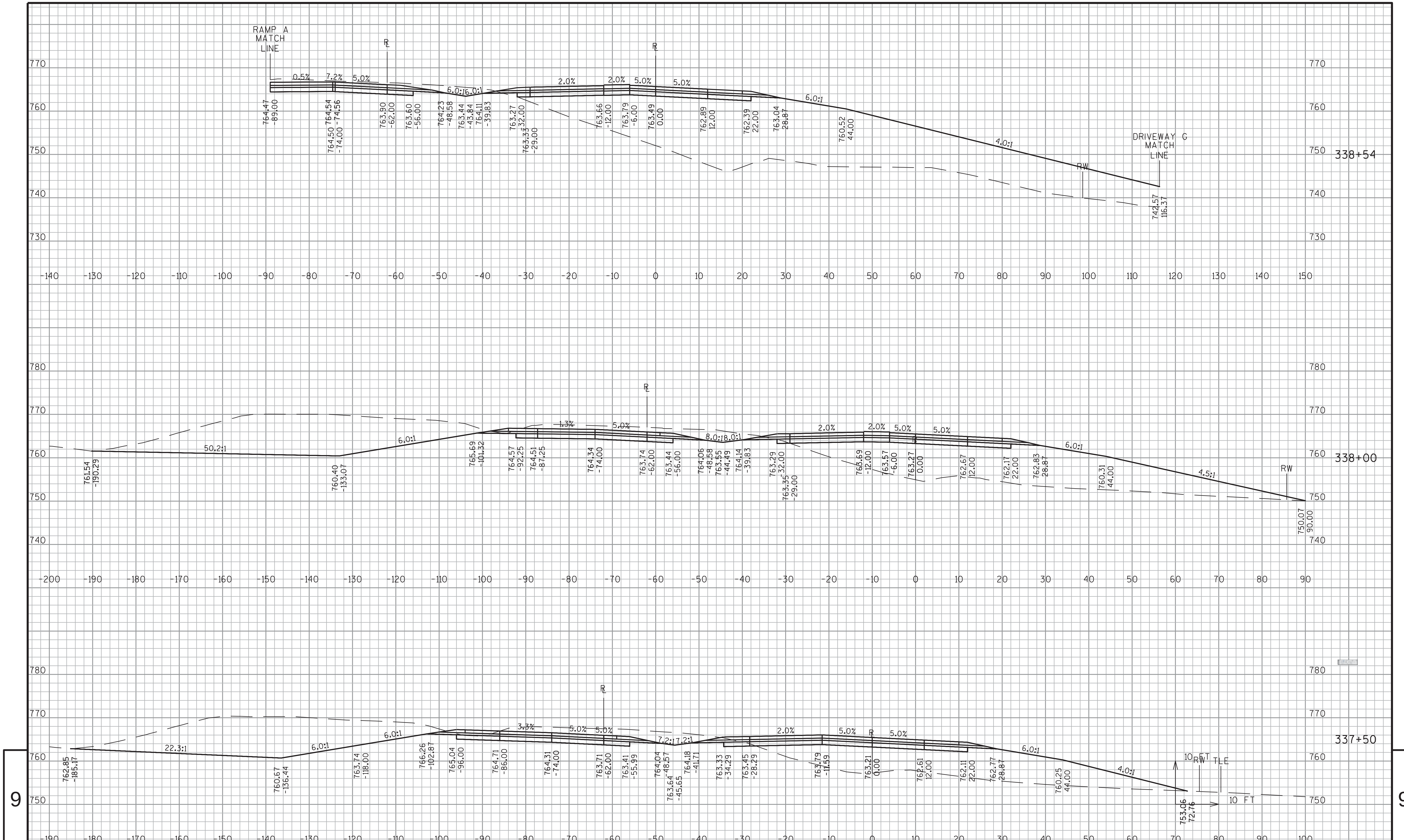


9 9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 657 E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

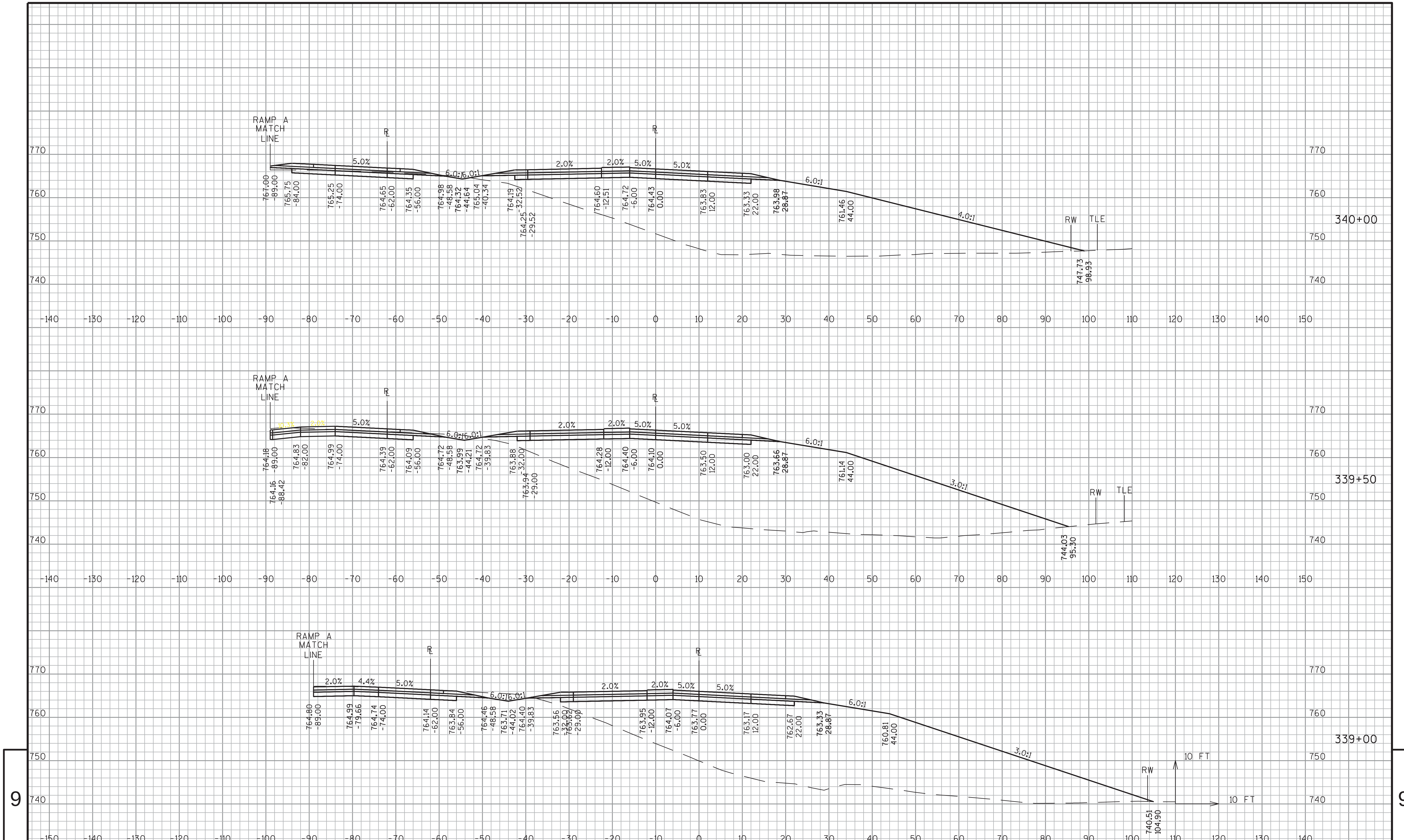
SHEET NAME: XSUSH18106



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 658	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

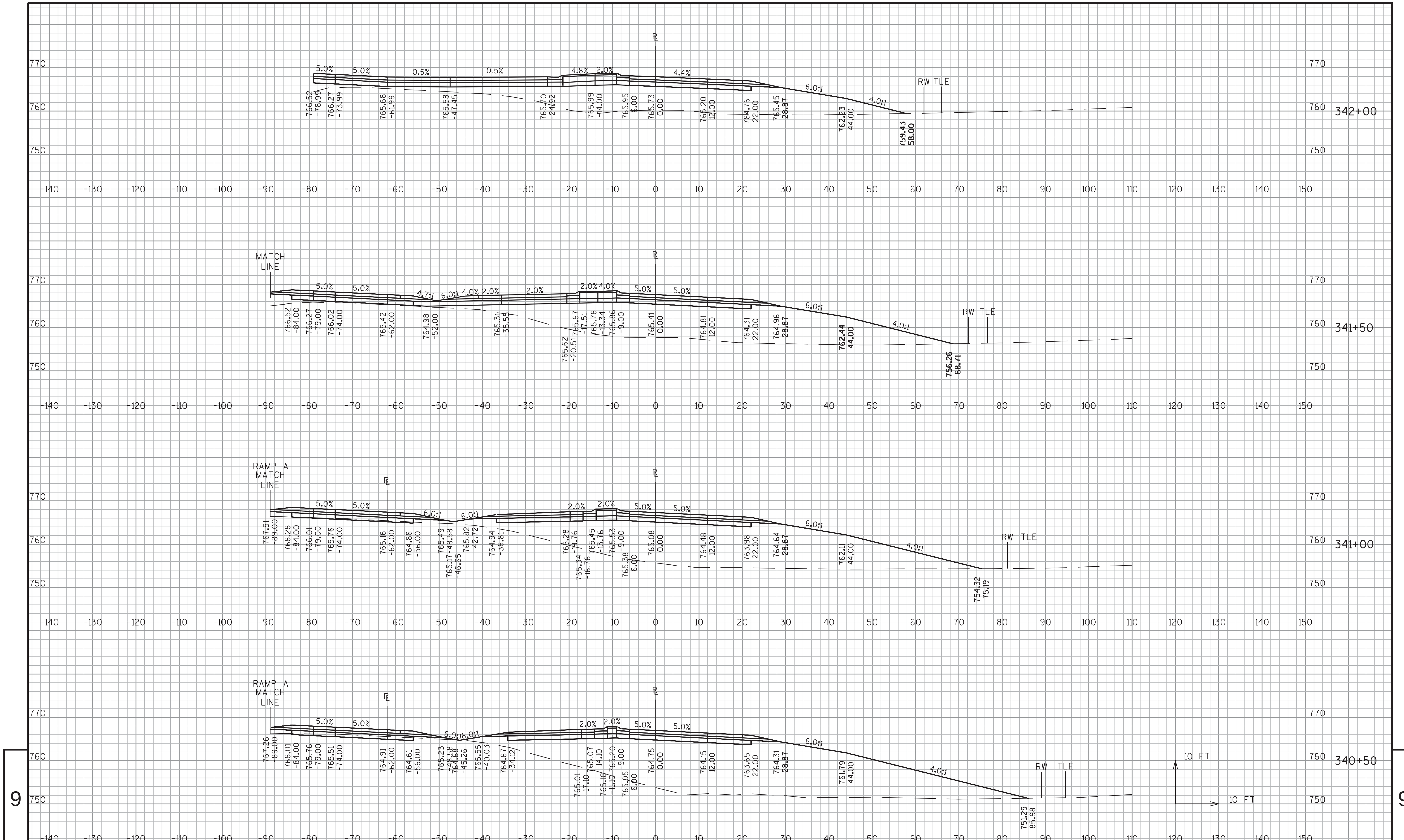
SHEET NAME: XSUSH18107



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 659 E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

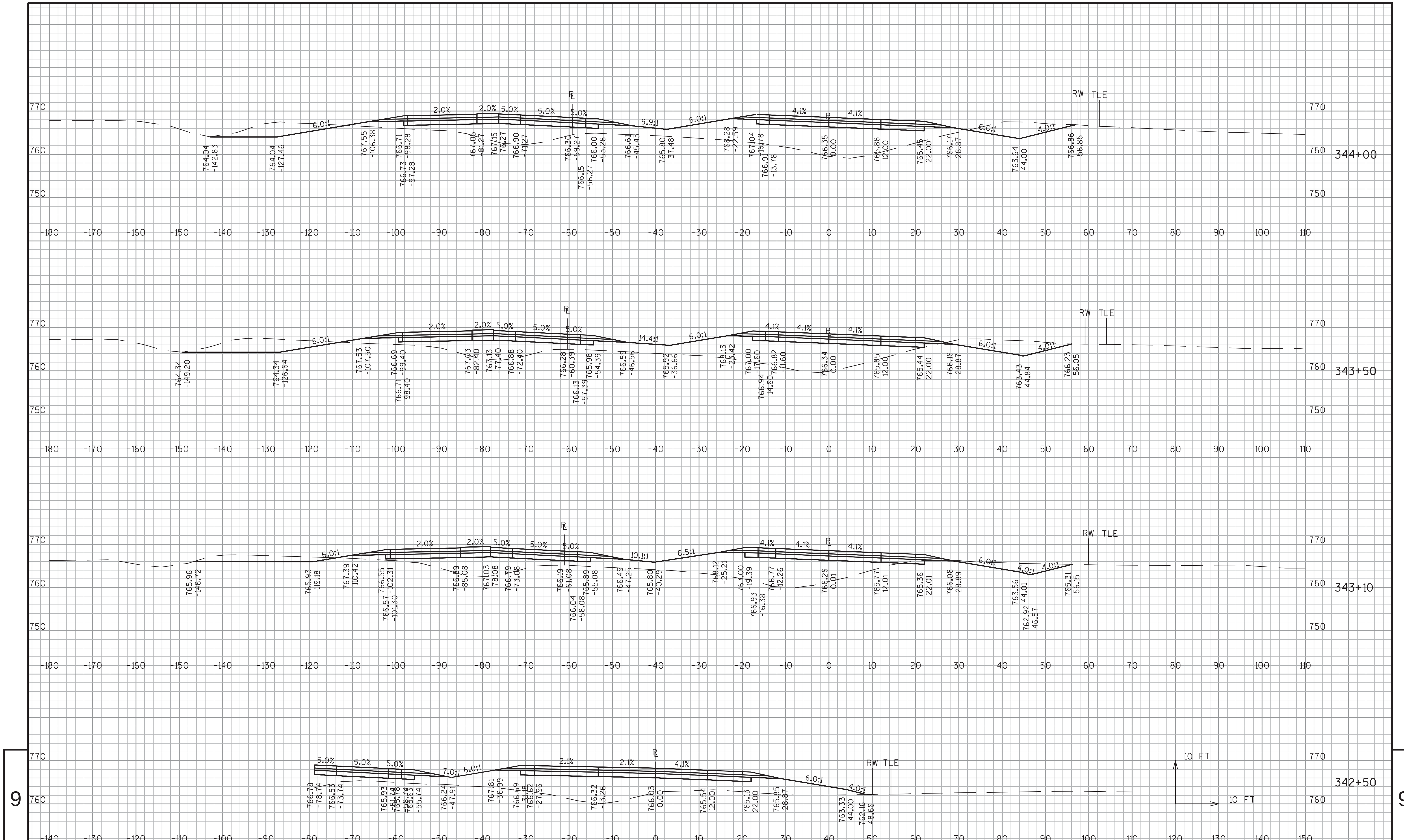
SHEET NAME: XSUSH18108



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 660	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

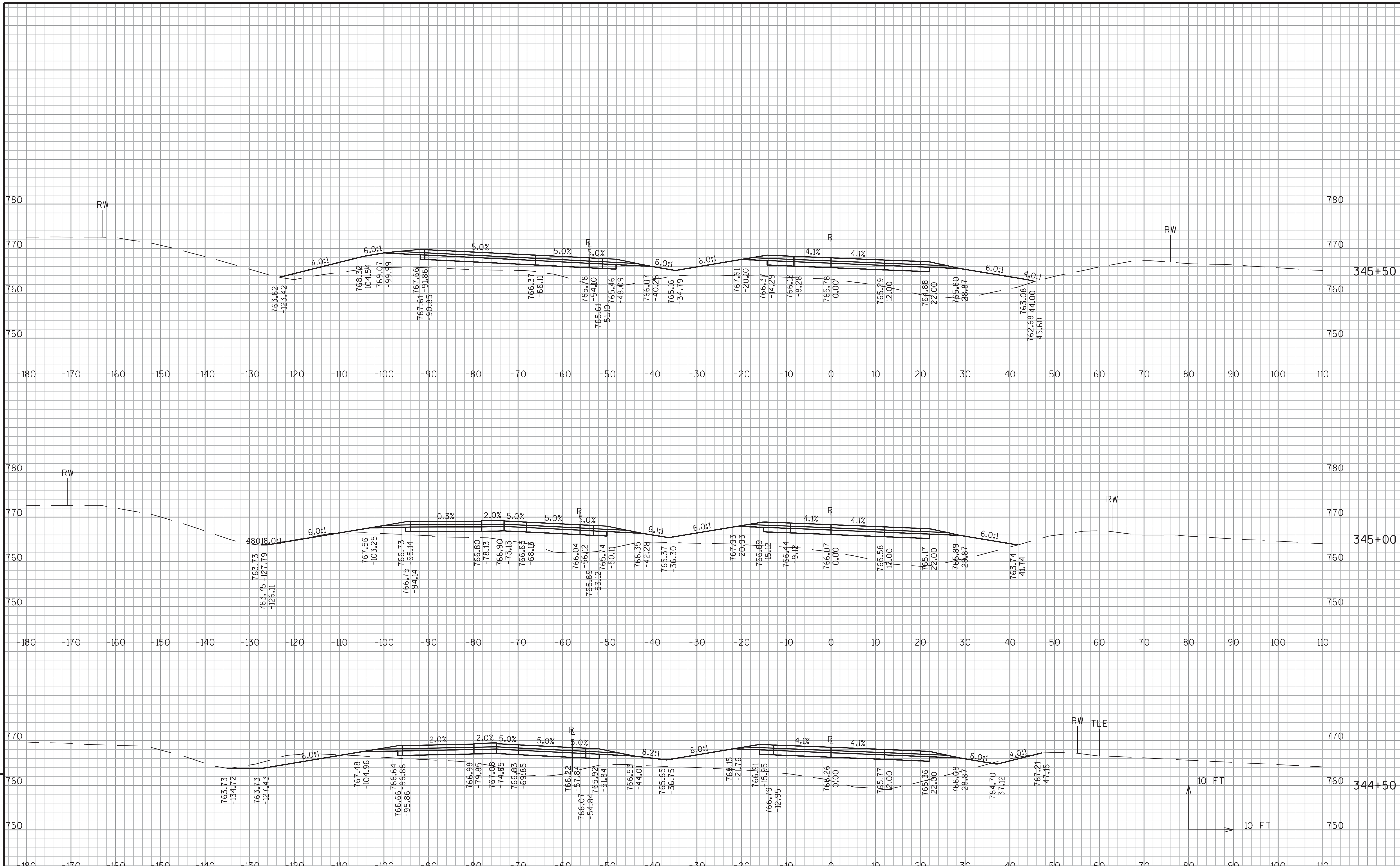
SHEET NAME: XSUSH18109



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 661	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18110



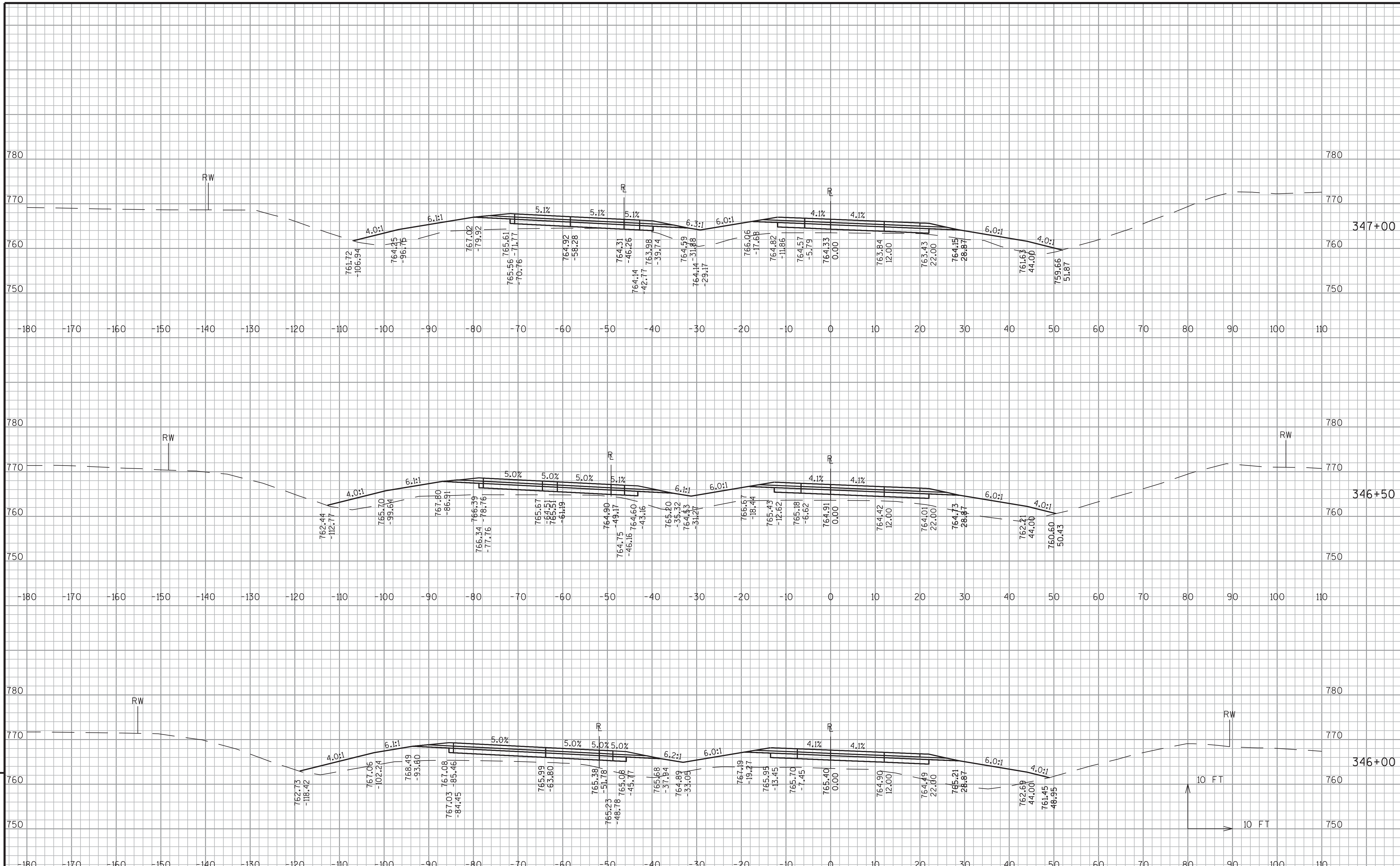
9 | 9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 662	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18111

9

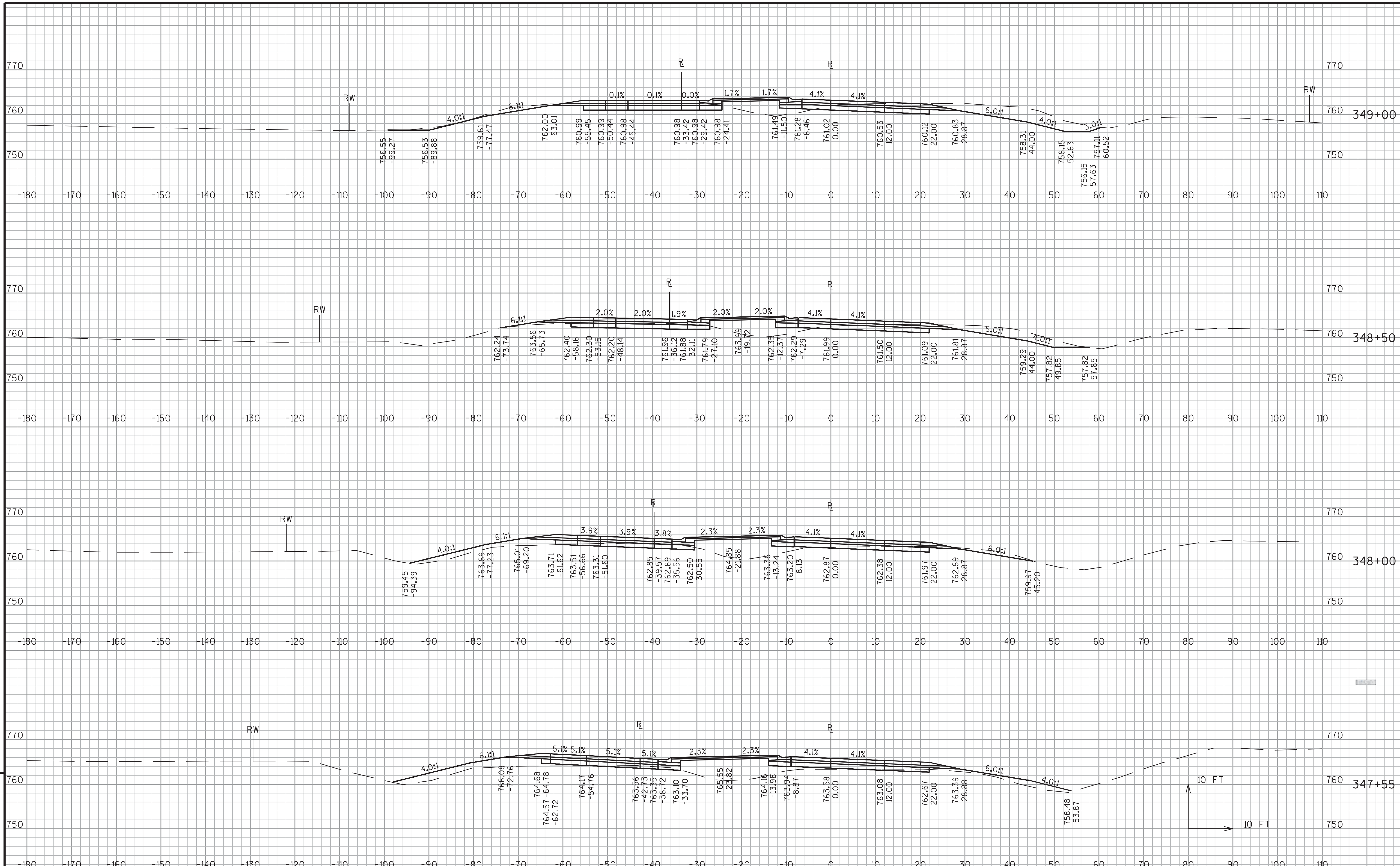


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 663	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18112



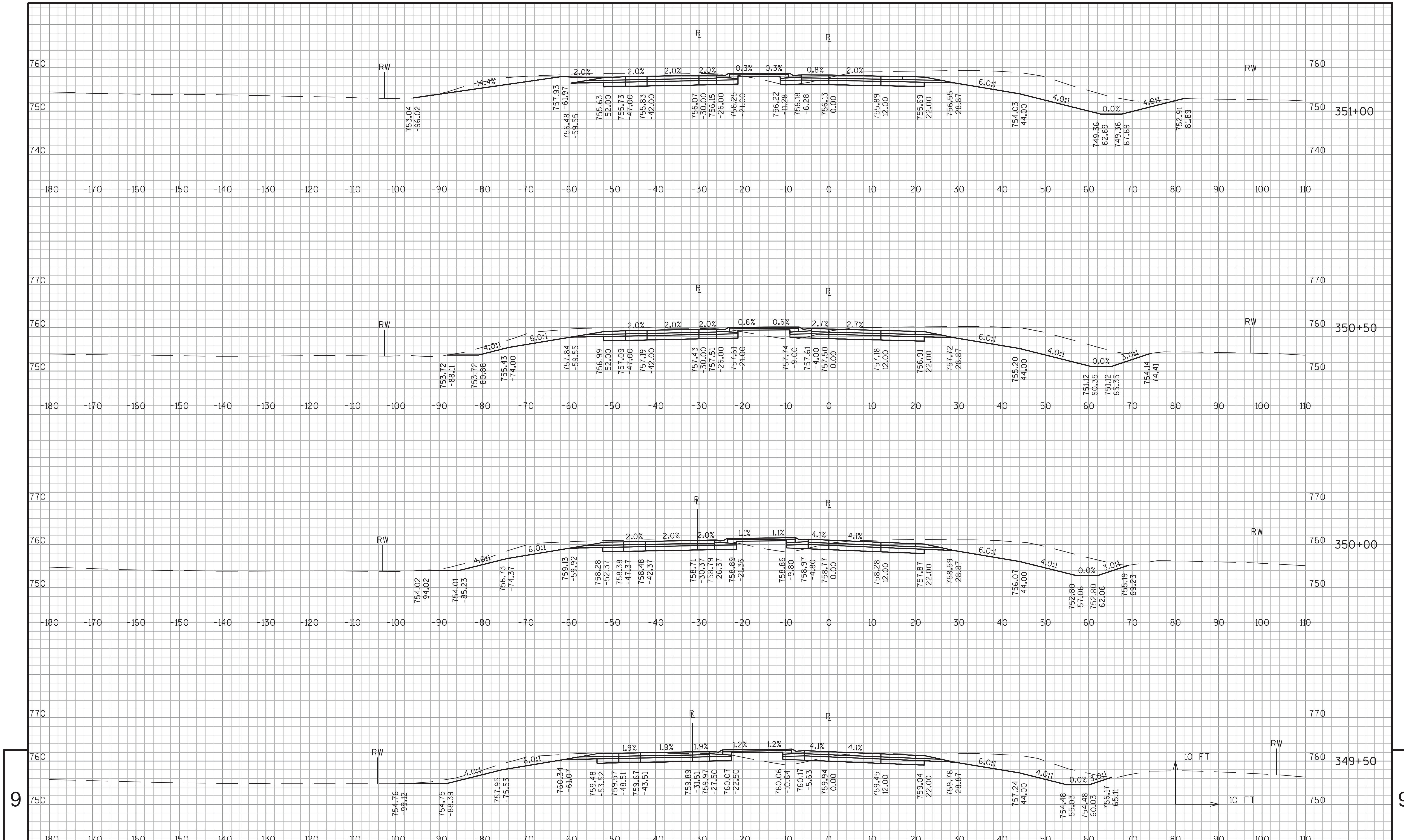
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 664	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

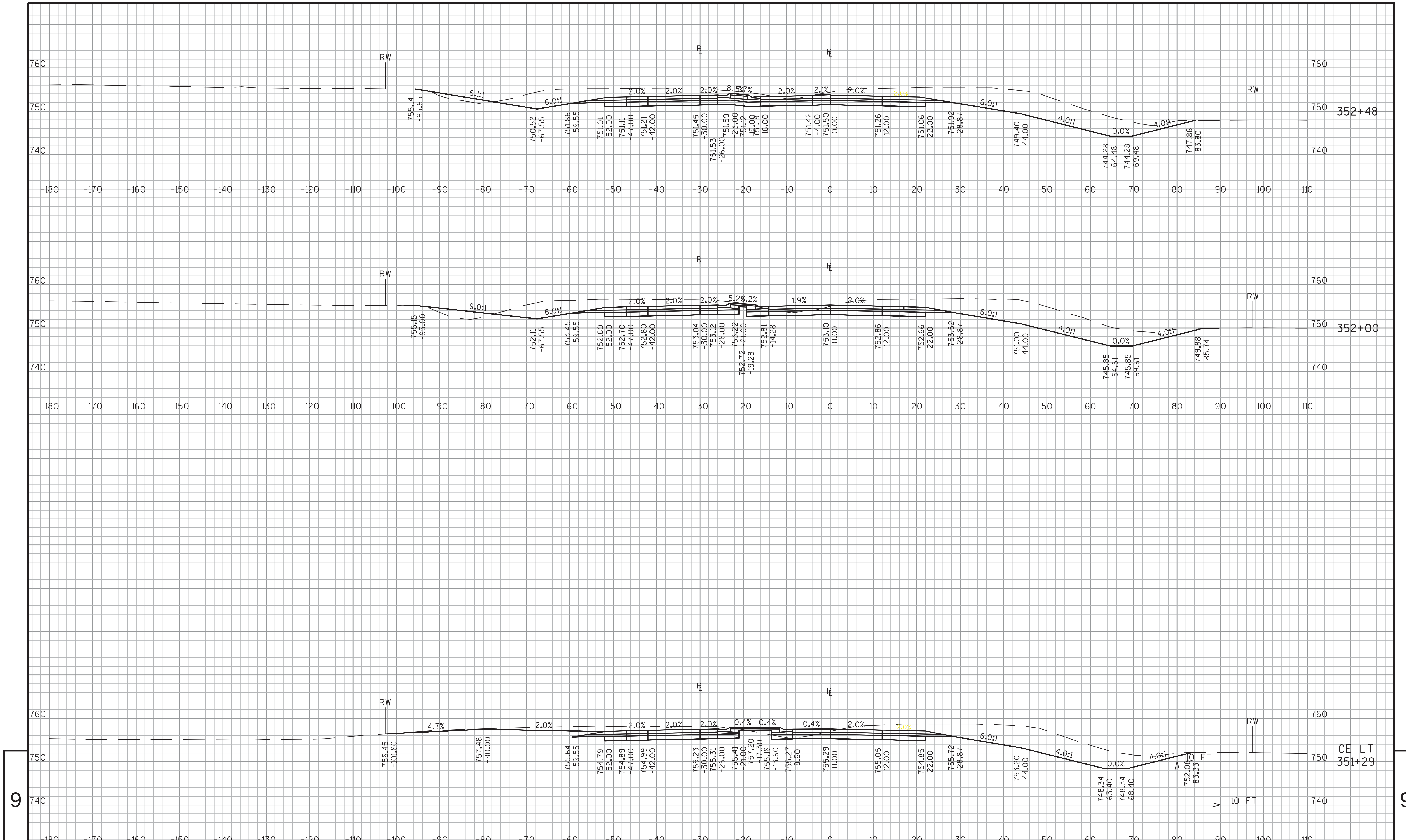
SHEET NAME: XSUSH18113



PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: USH 18 EB | SHEET 665 | E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

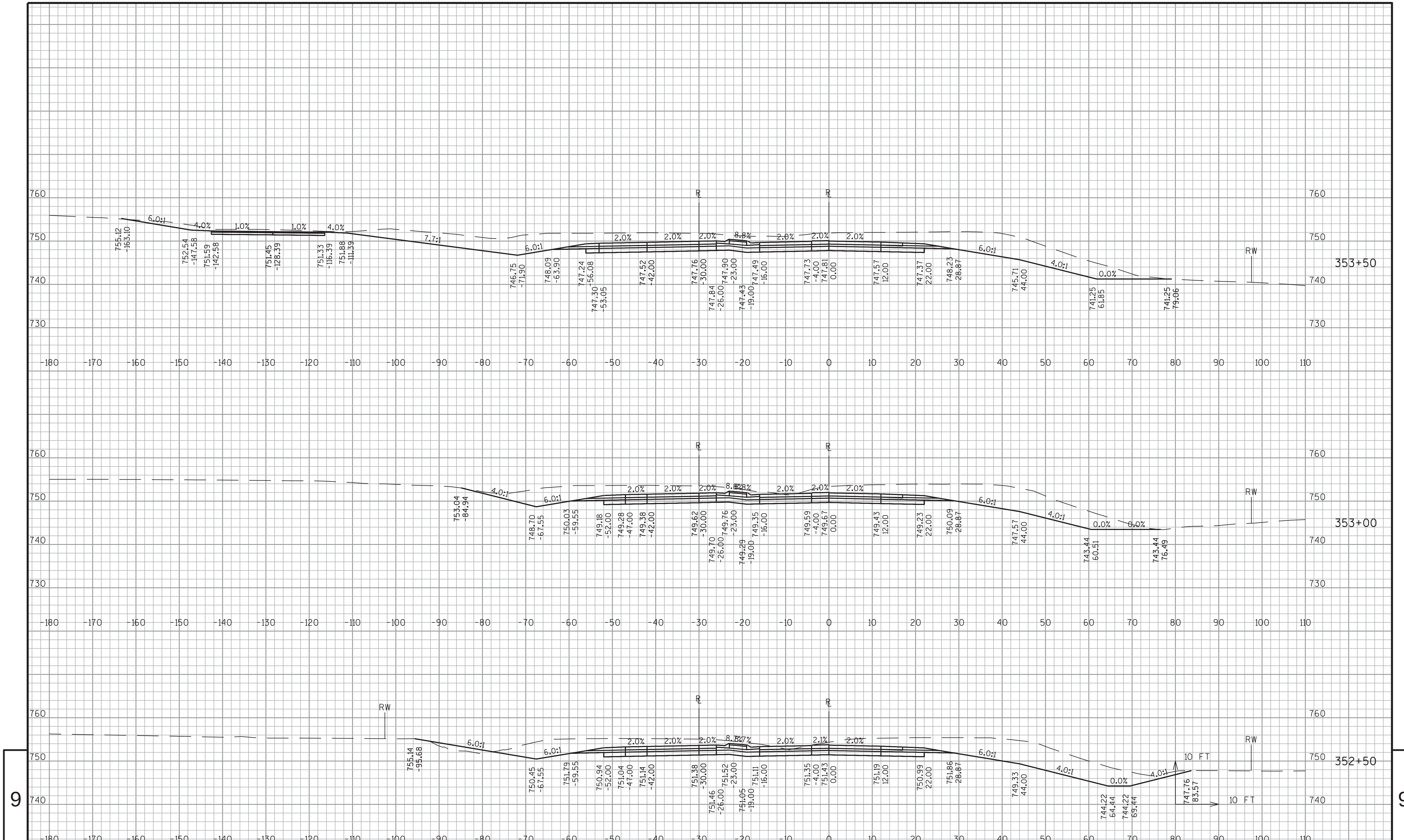
SHEET NAME: XSUSH18114



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 666	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

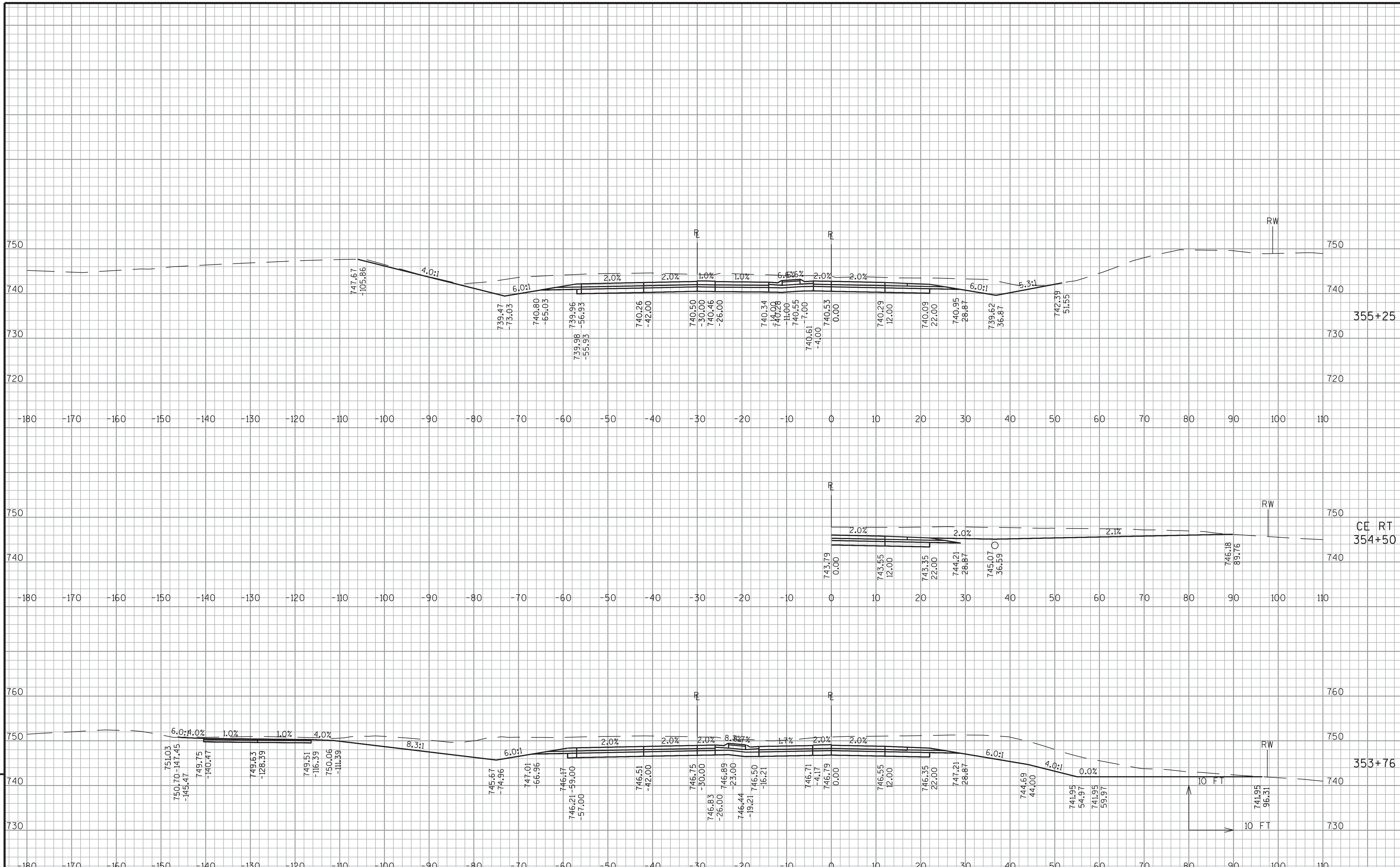
SHEET NAME: XSUSH18115



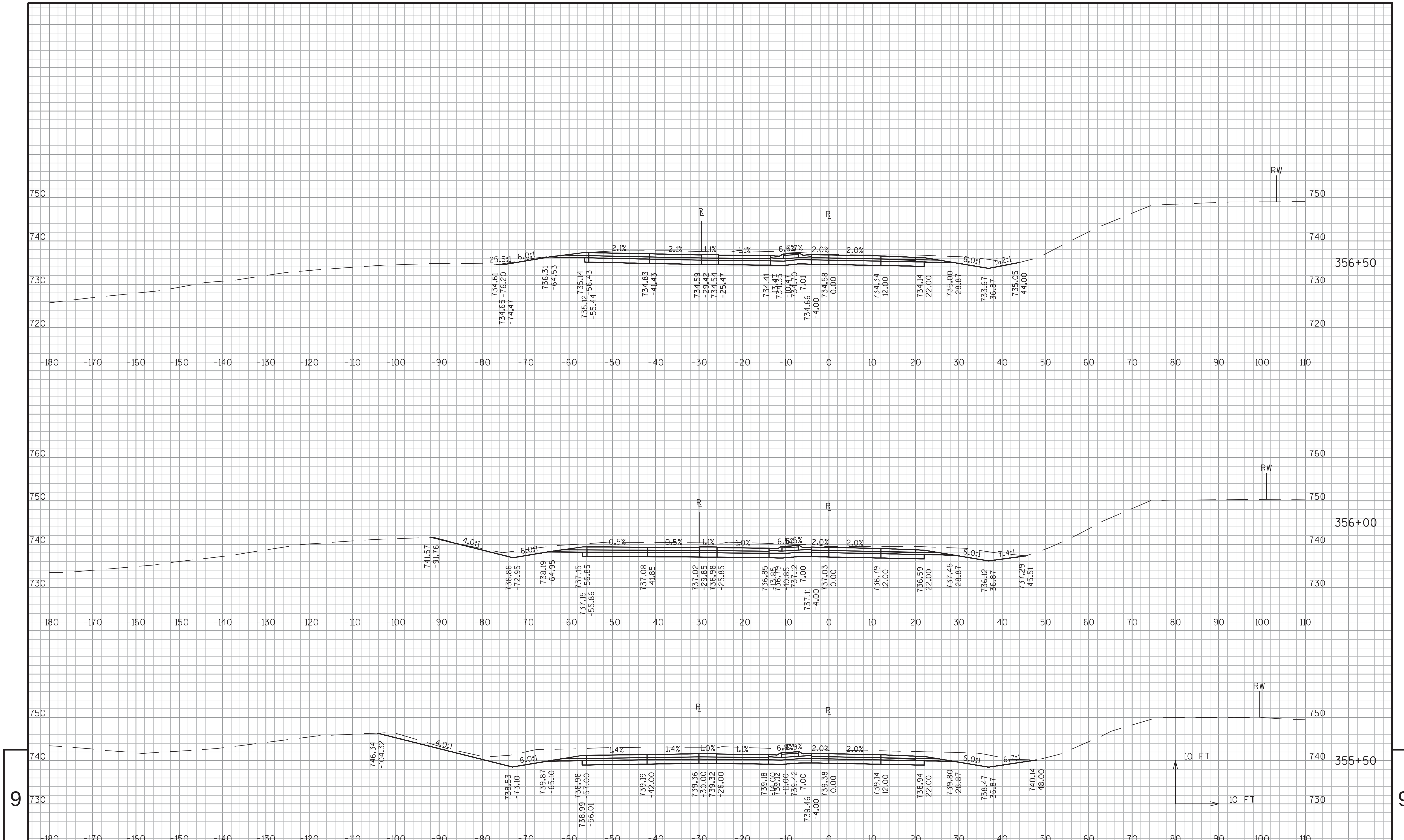
PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 667	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18116



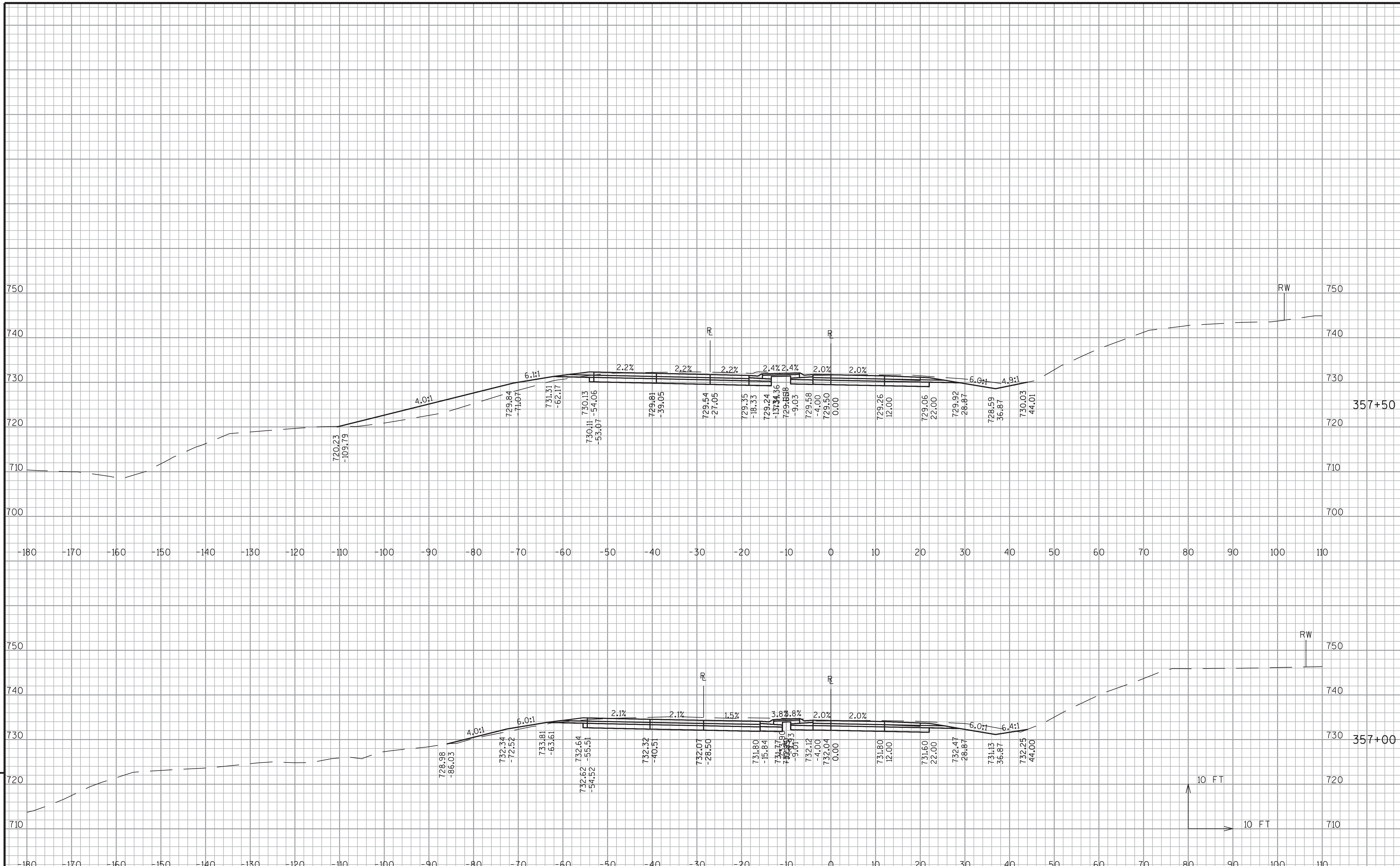
PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 668	E



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 669	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18118



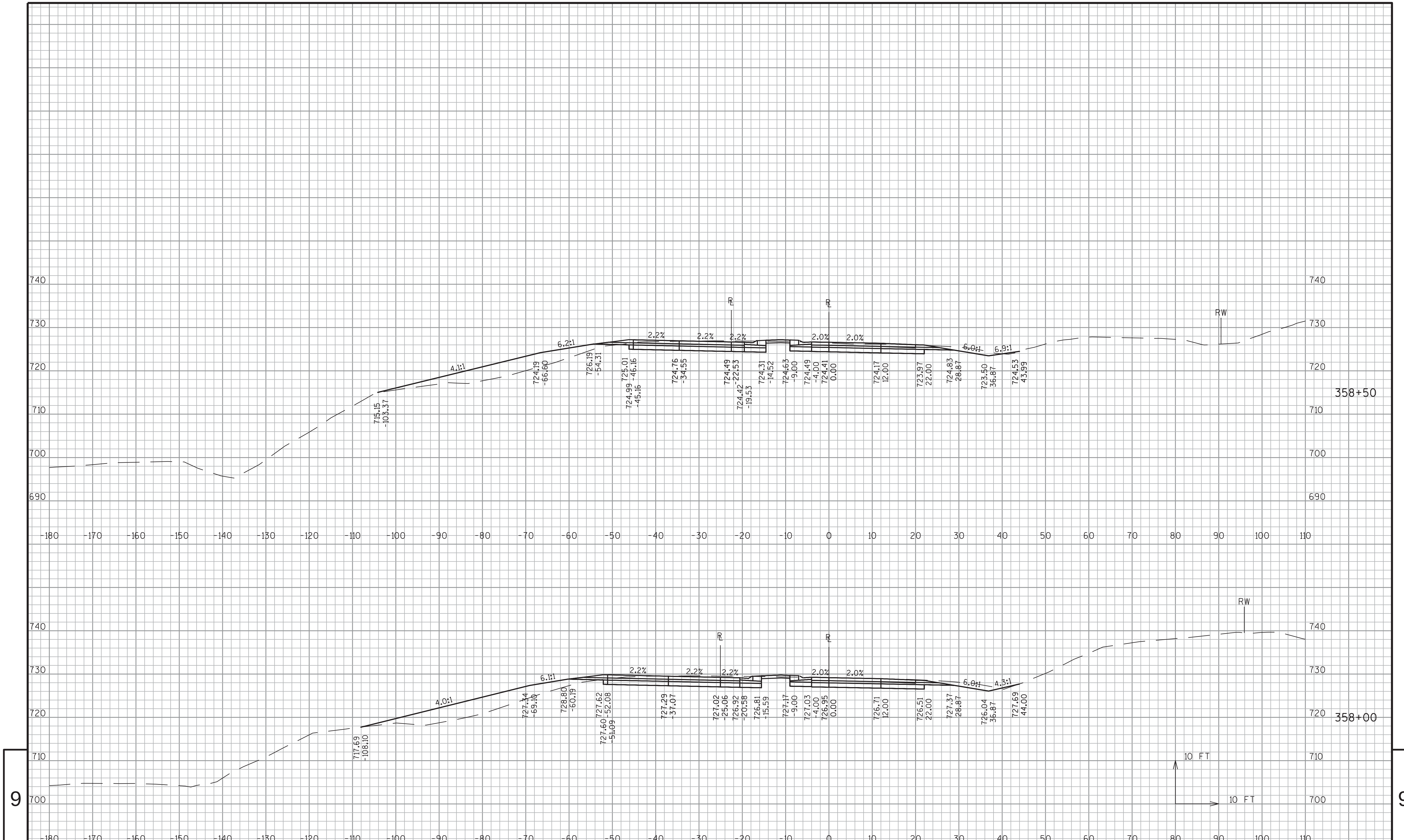
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 670	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

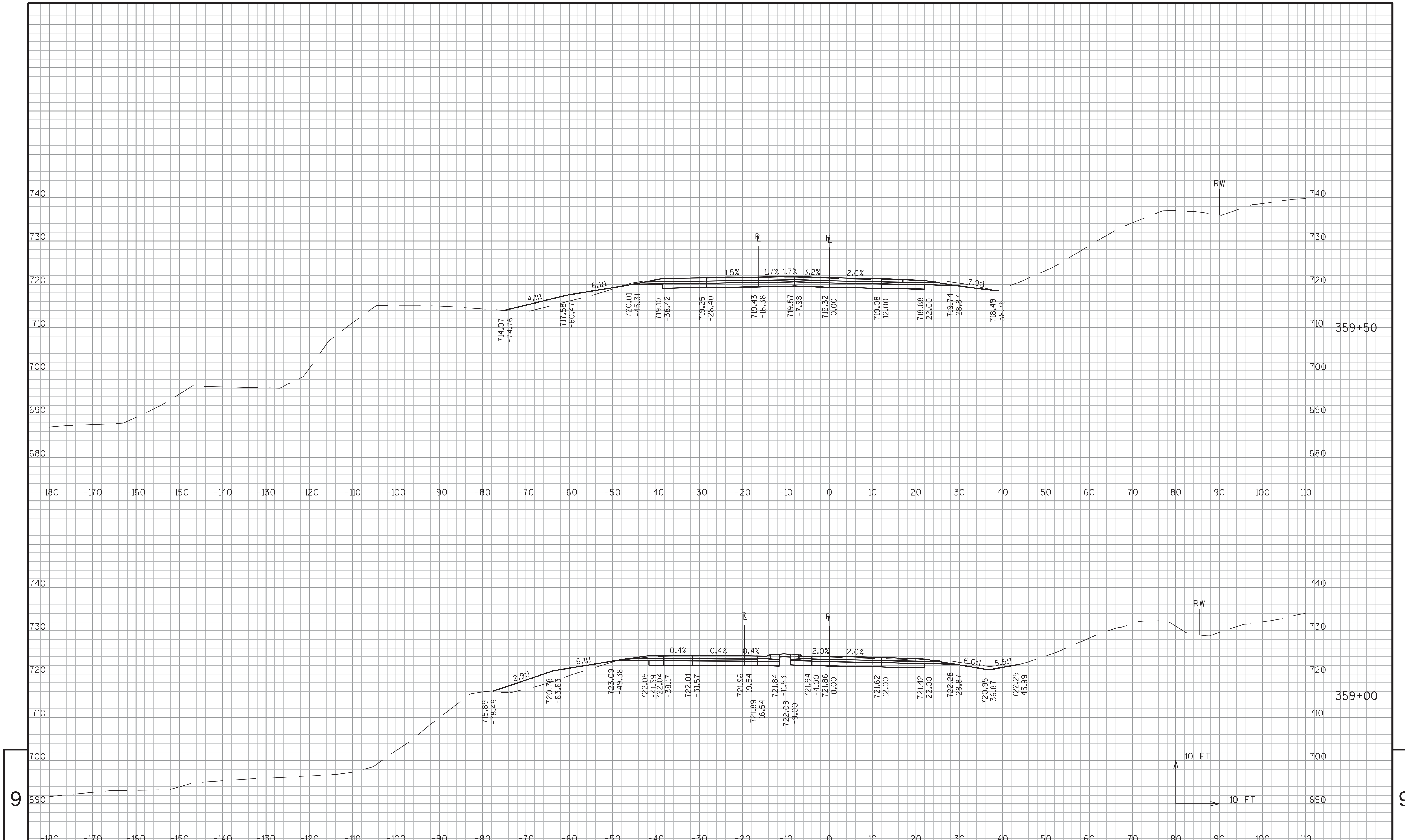
SHEET NAME: XSUSH18119



PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: USH 18 EB | SHEET 671 | E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

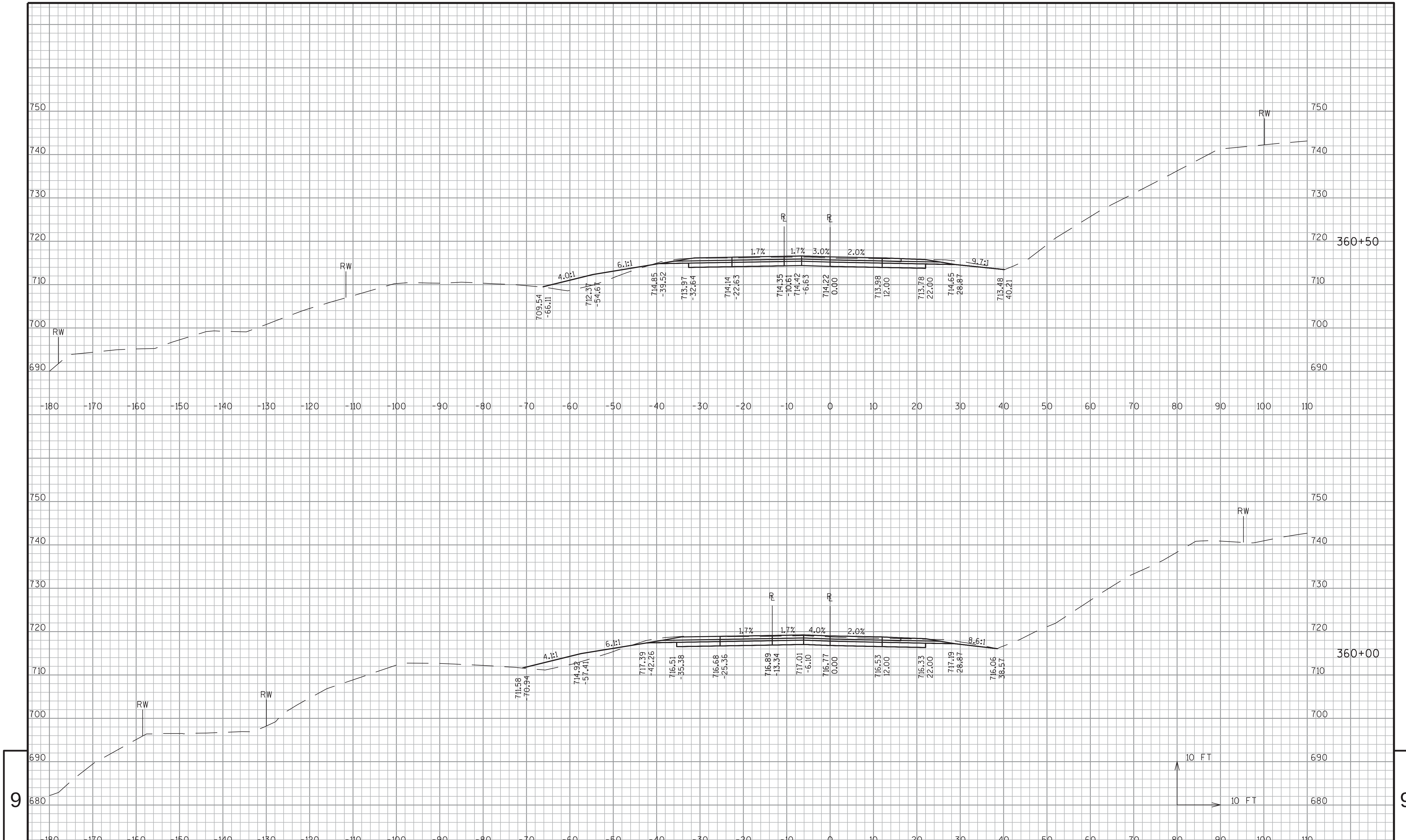
SHEET NAME: XSUSH18120



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 672	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

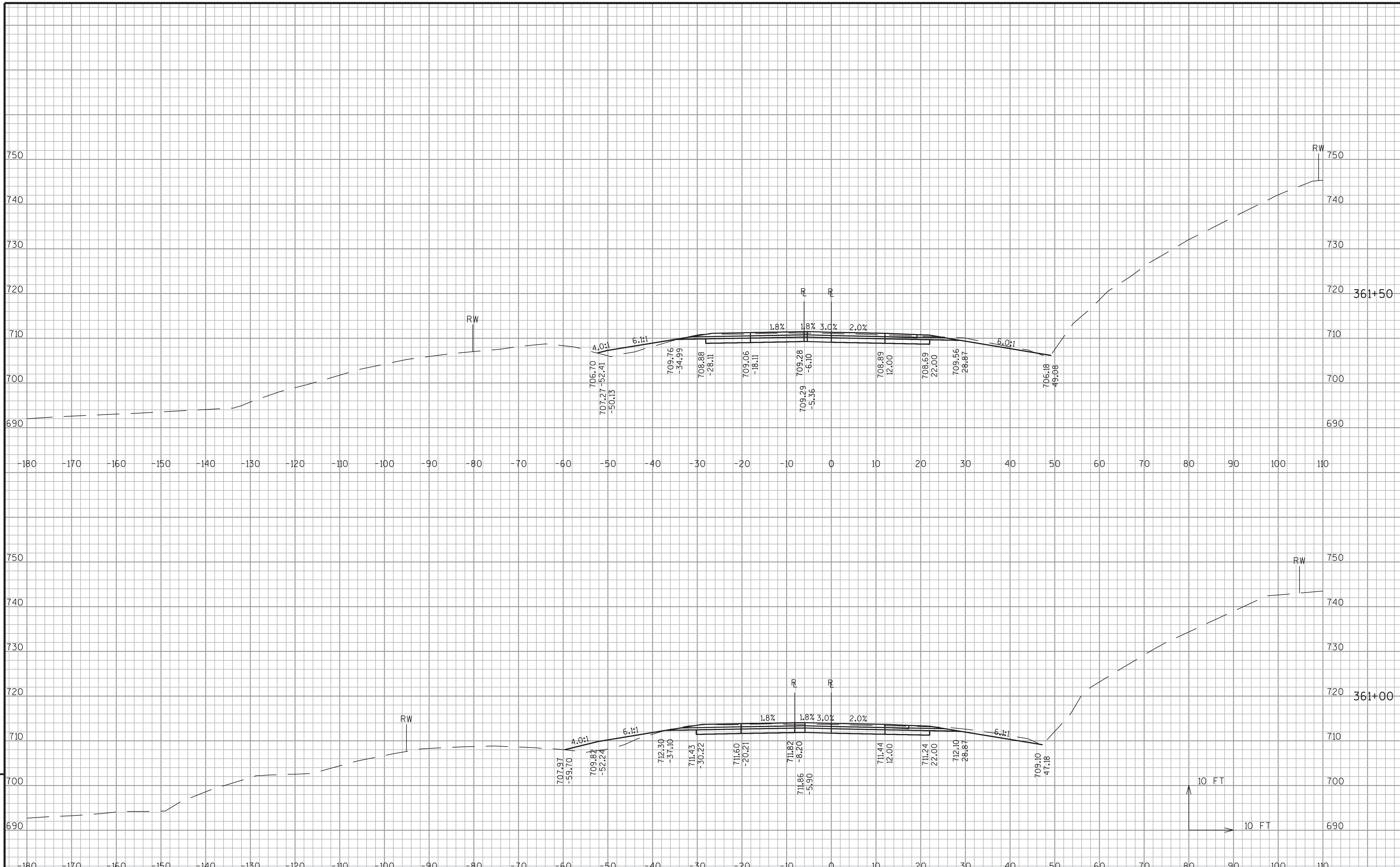
SHEET NAME: XSUSH18121



9 | PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: USH 18 EB | SHEET 673 | E | 9

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18122



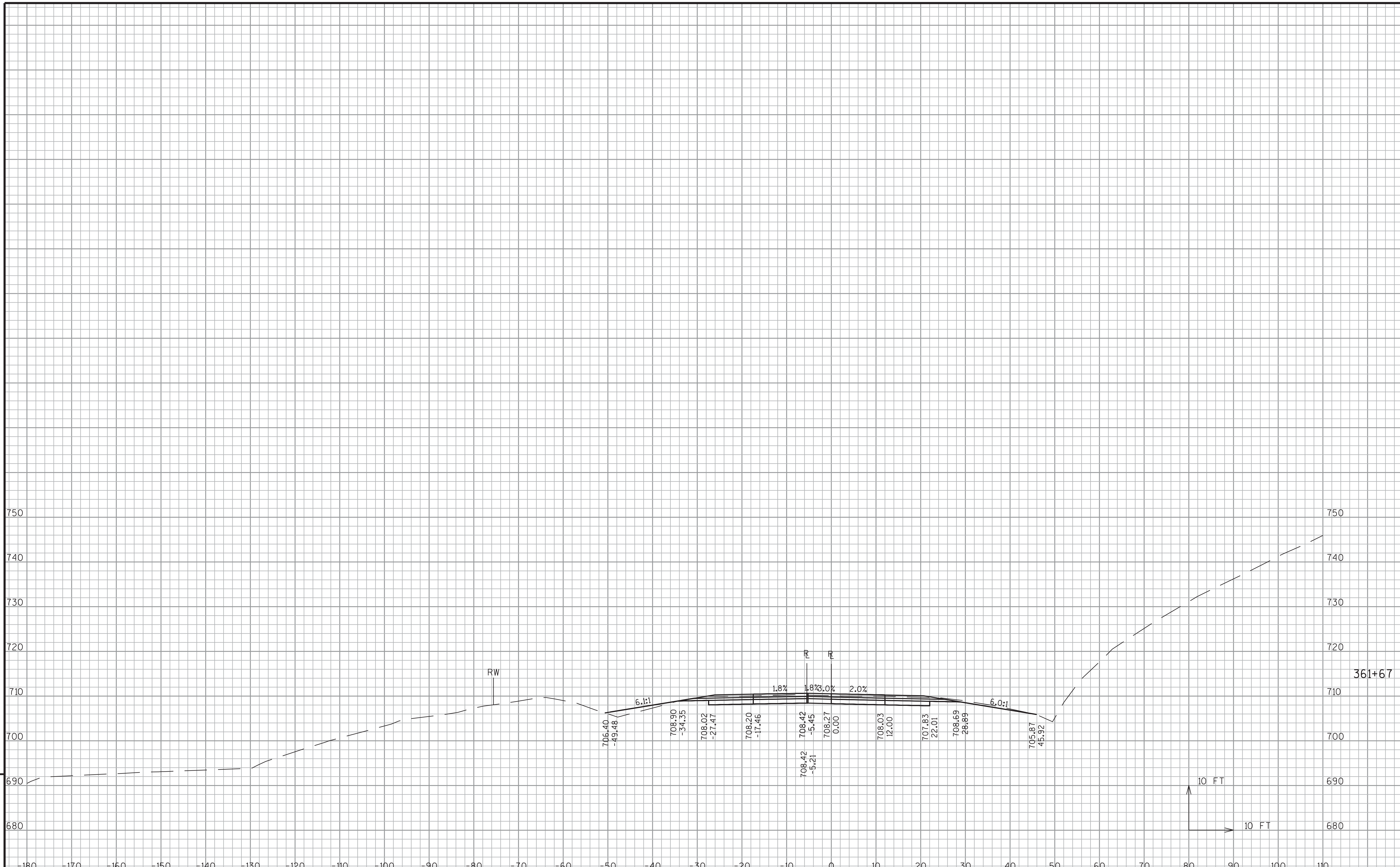
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 674	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18123



9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 675	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

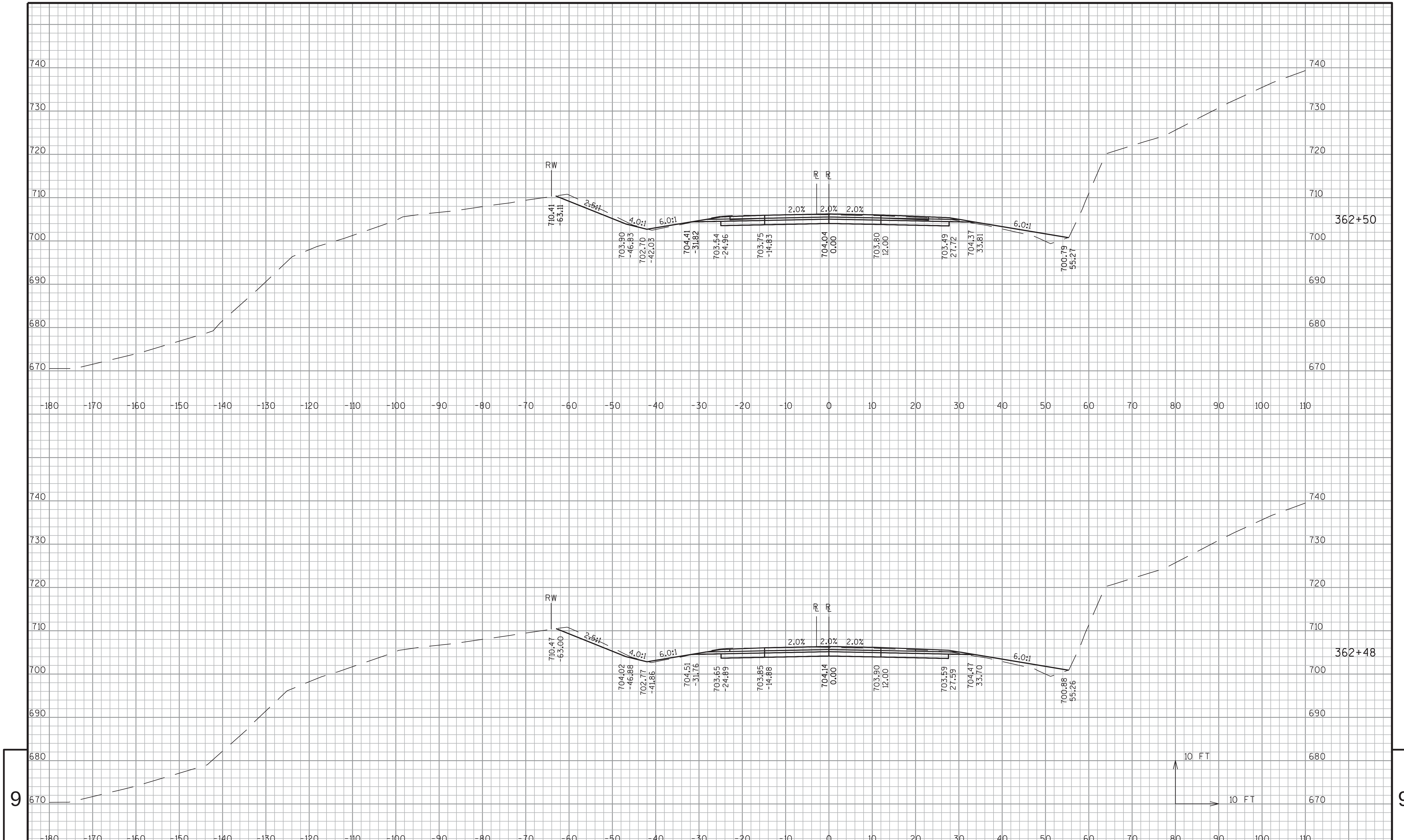
SHEET NAME: XSUSH18124

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 676	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18125

9



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 677	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18126

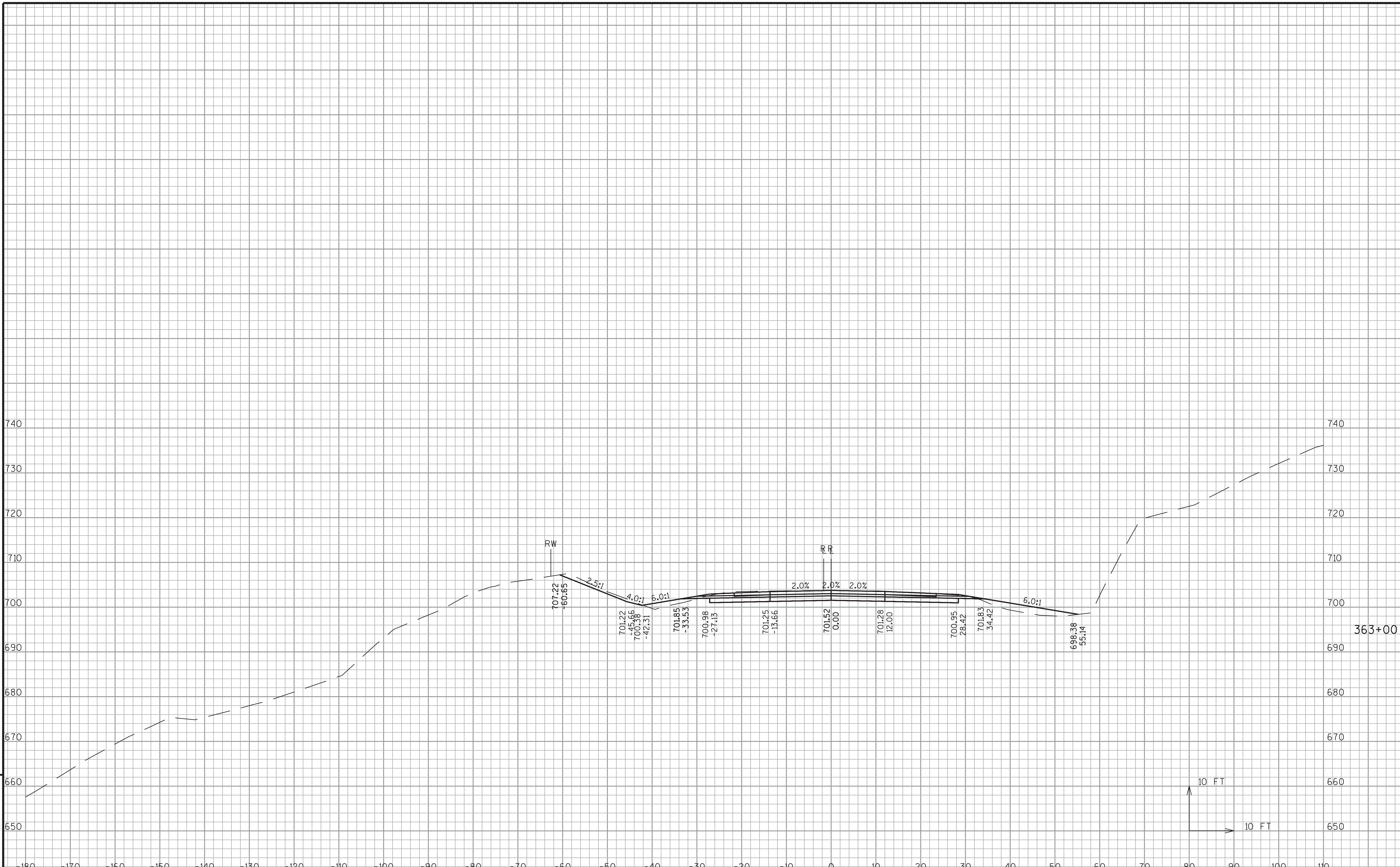
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 678	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18127



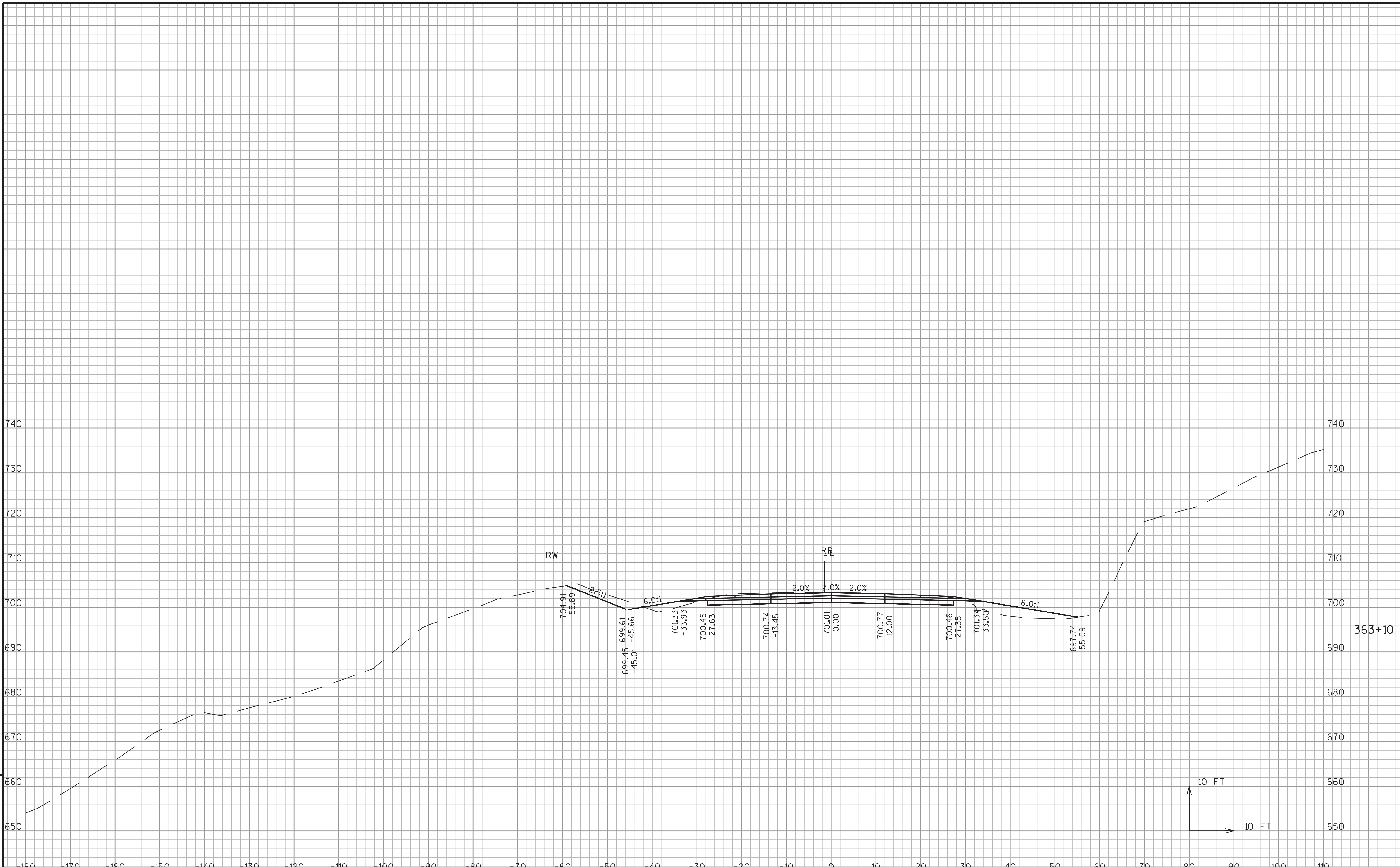
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 679	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18128



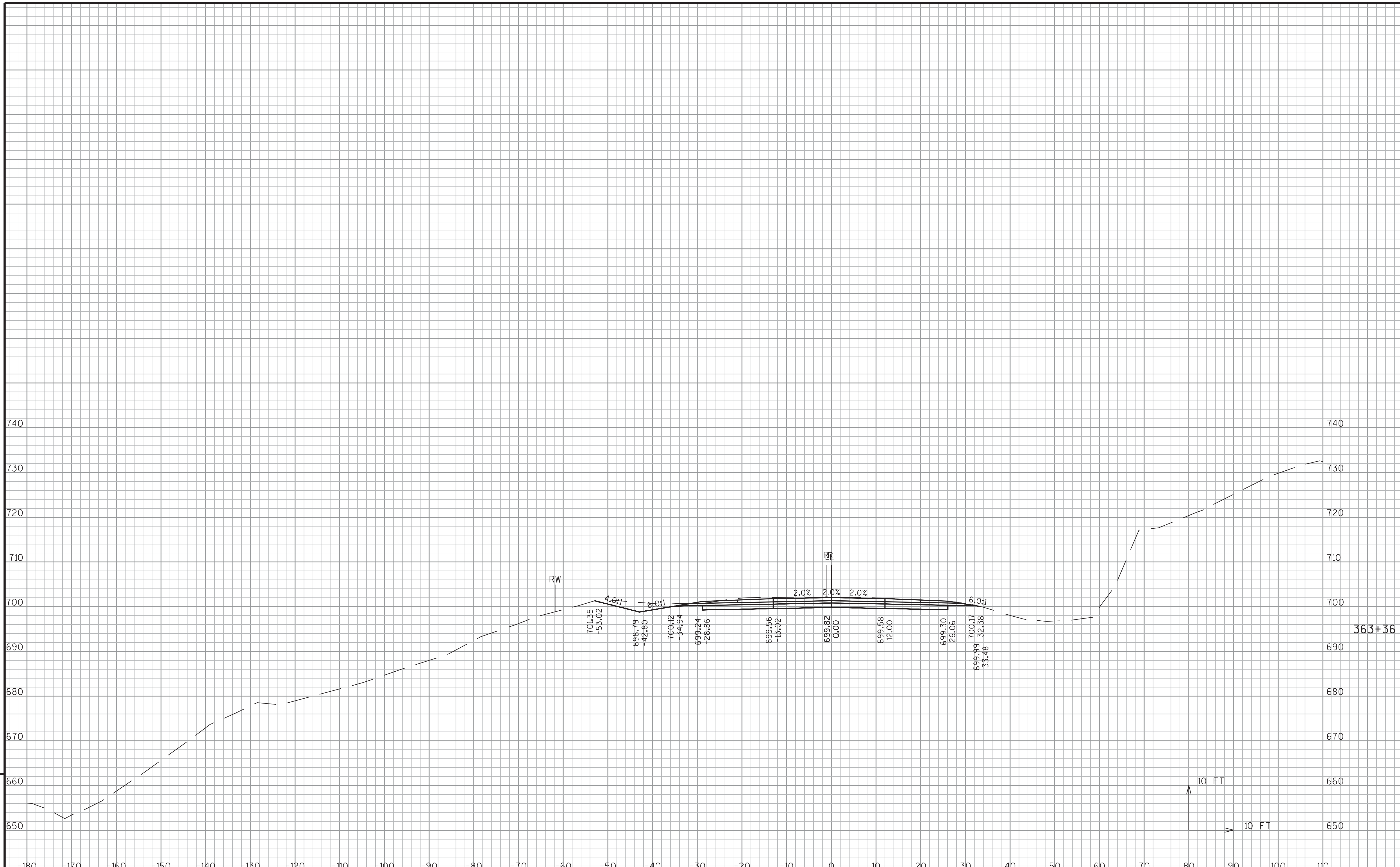
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18129



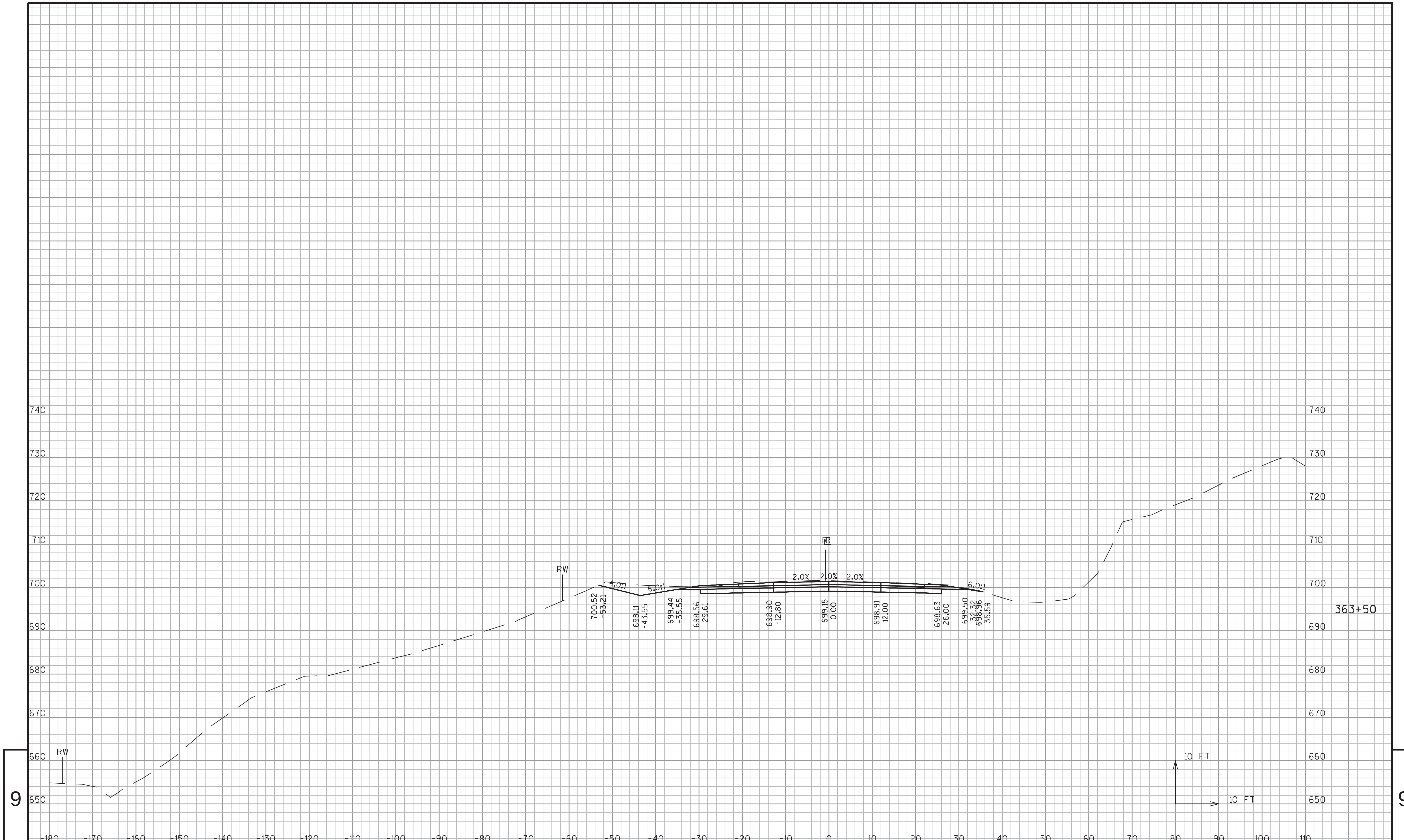
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 681	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

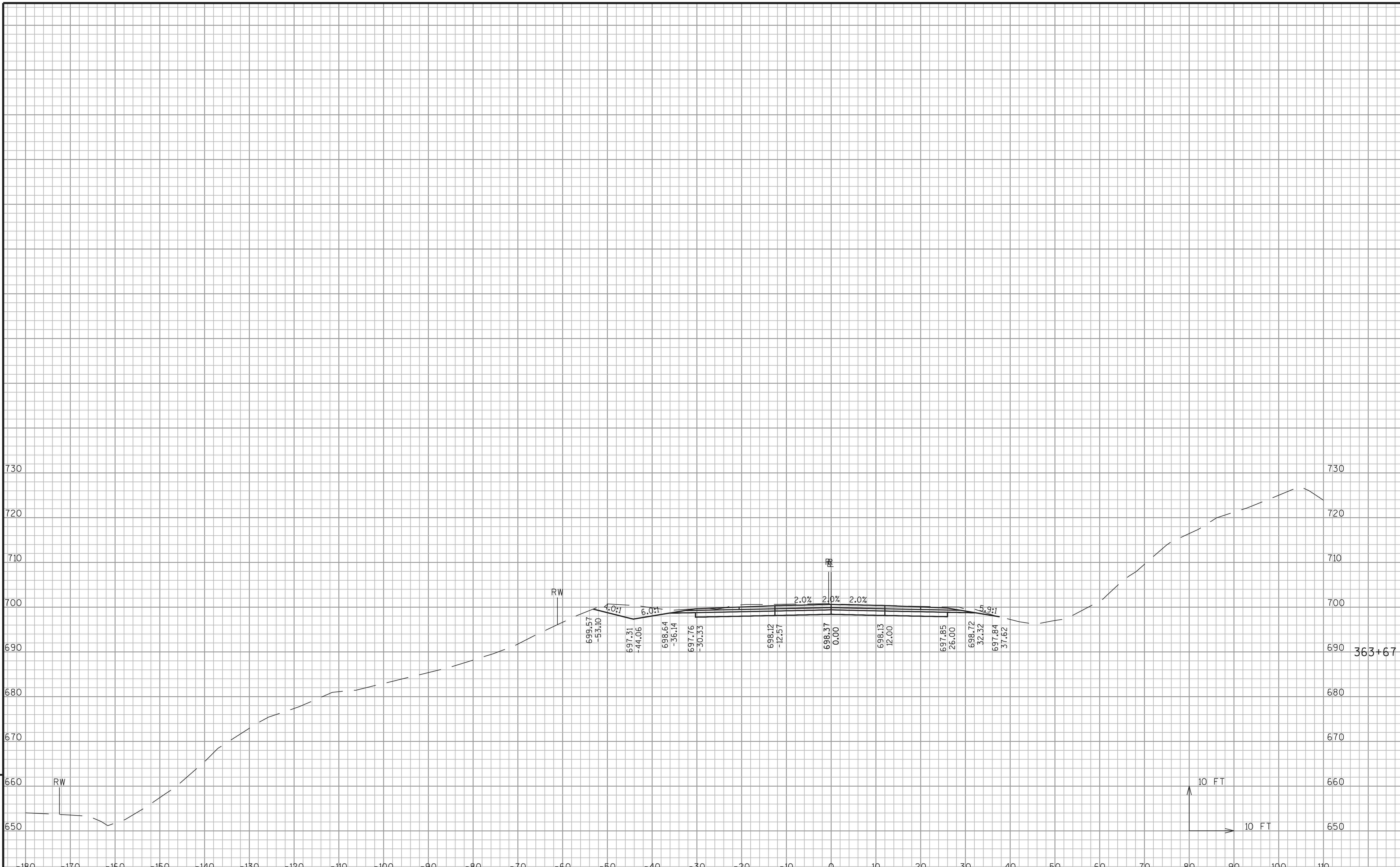
SHEET NAME: XSUSH18130



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 682	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

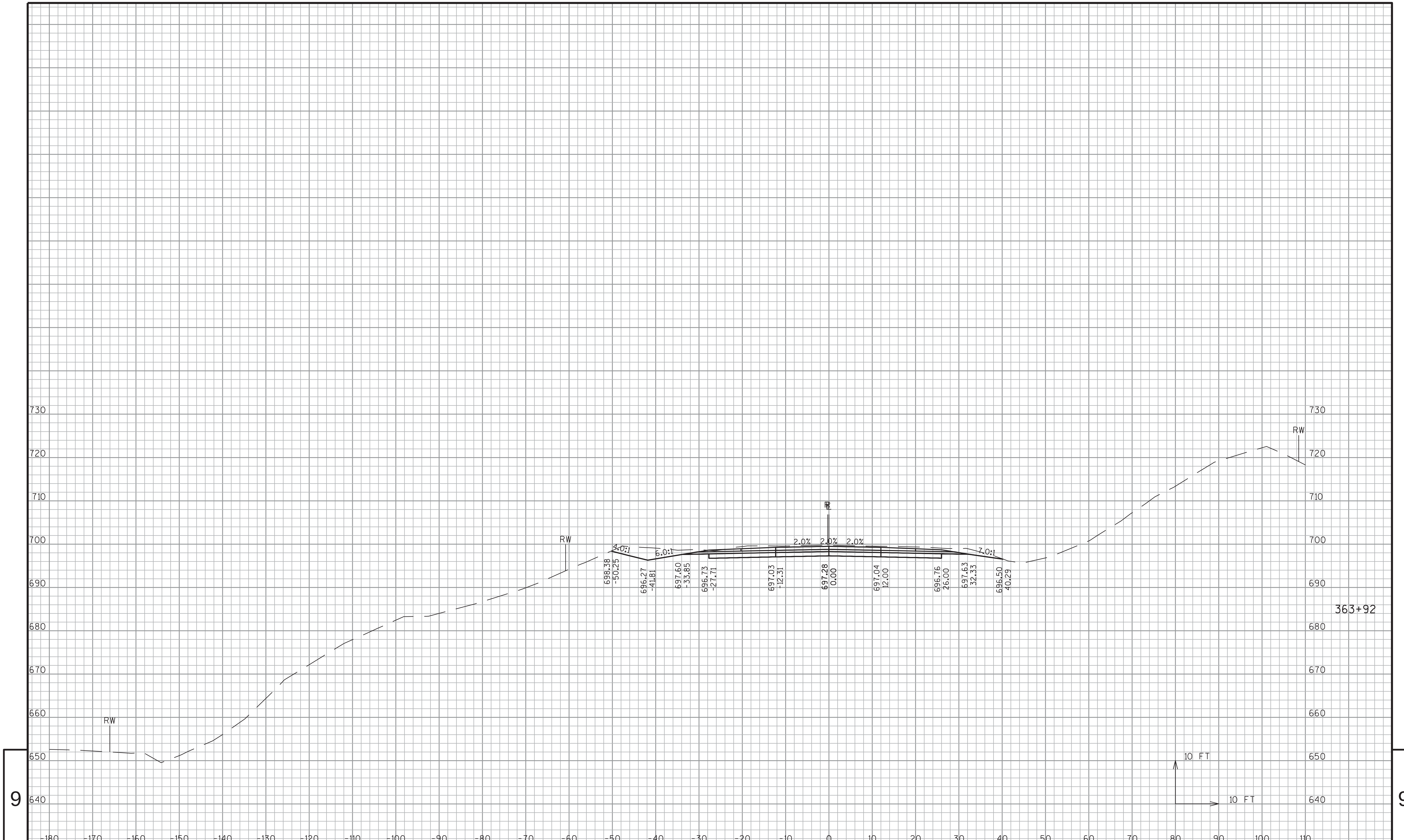
SHEET NAME: XSUSH18131



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 683	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18132

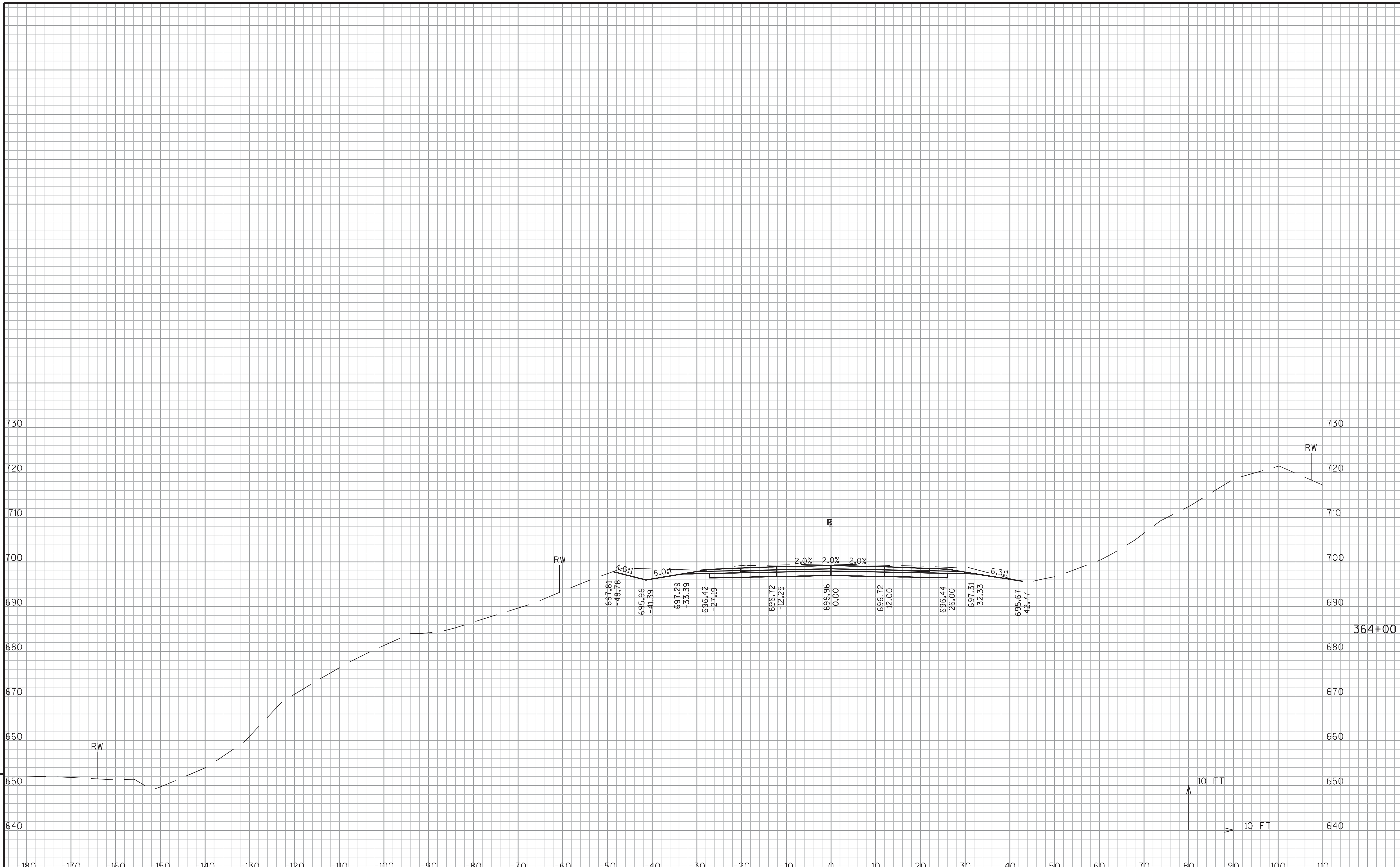


PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 684	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18133

9

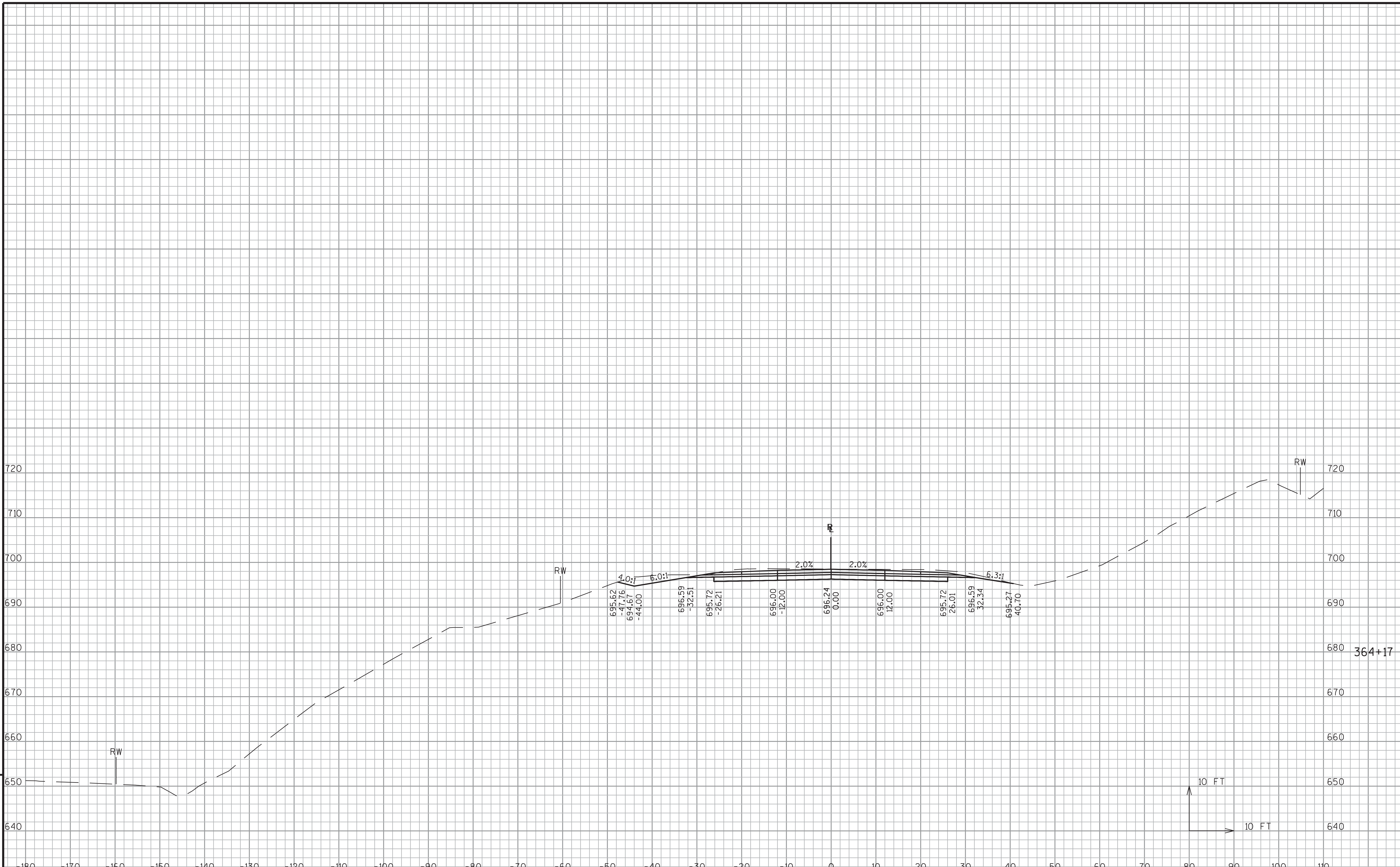


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 685	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18134



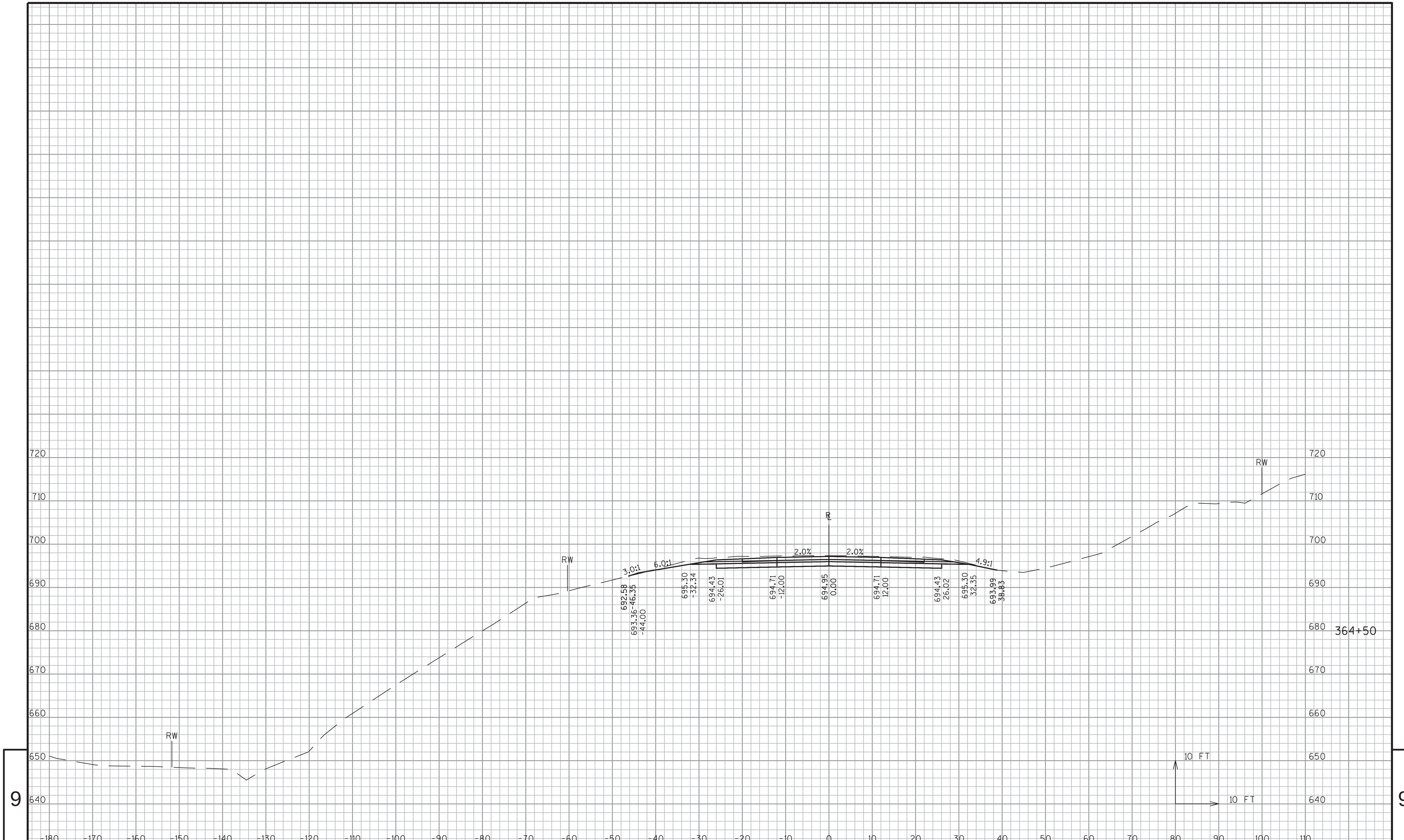
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 686	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

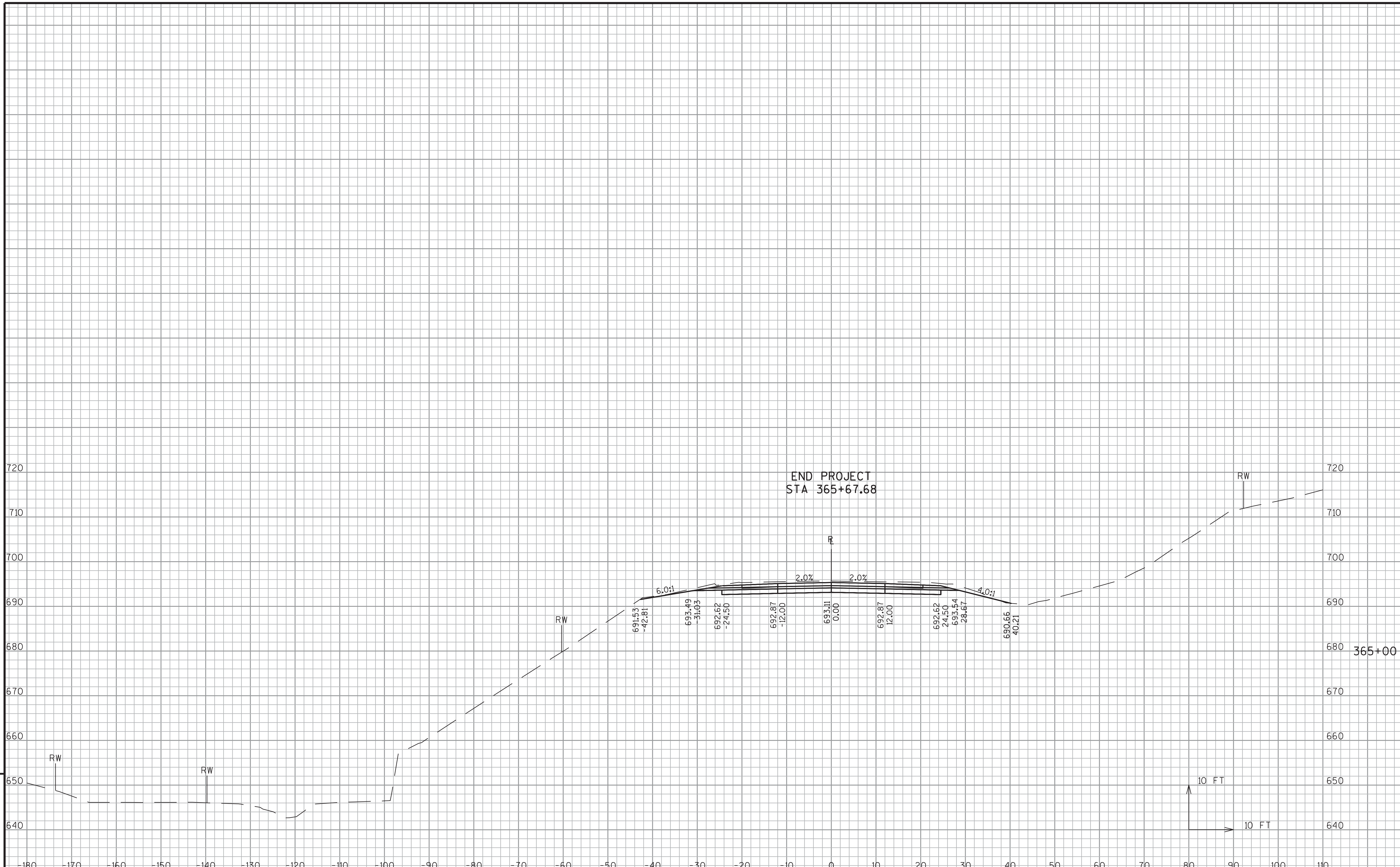
SHEET NAME: XSUSH18135



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 687	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18136



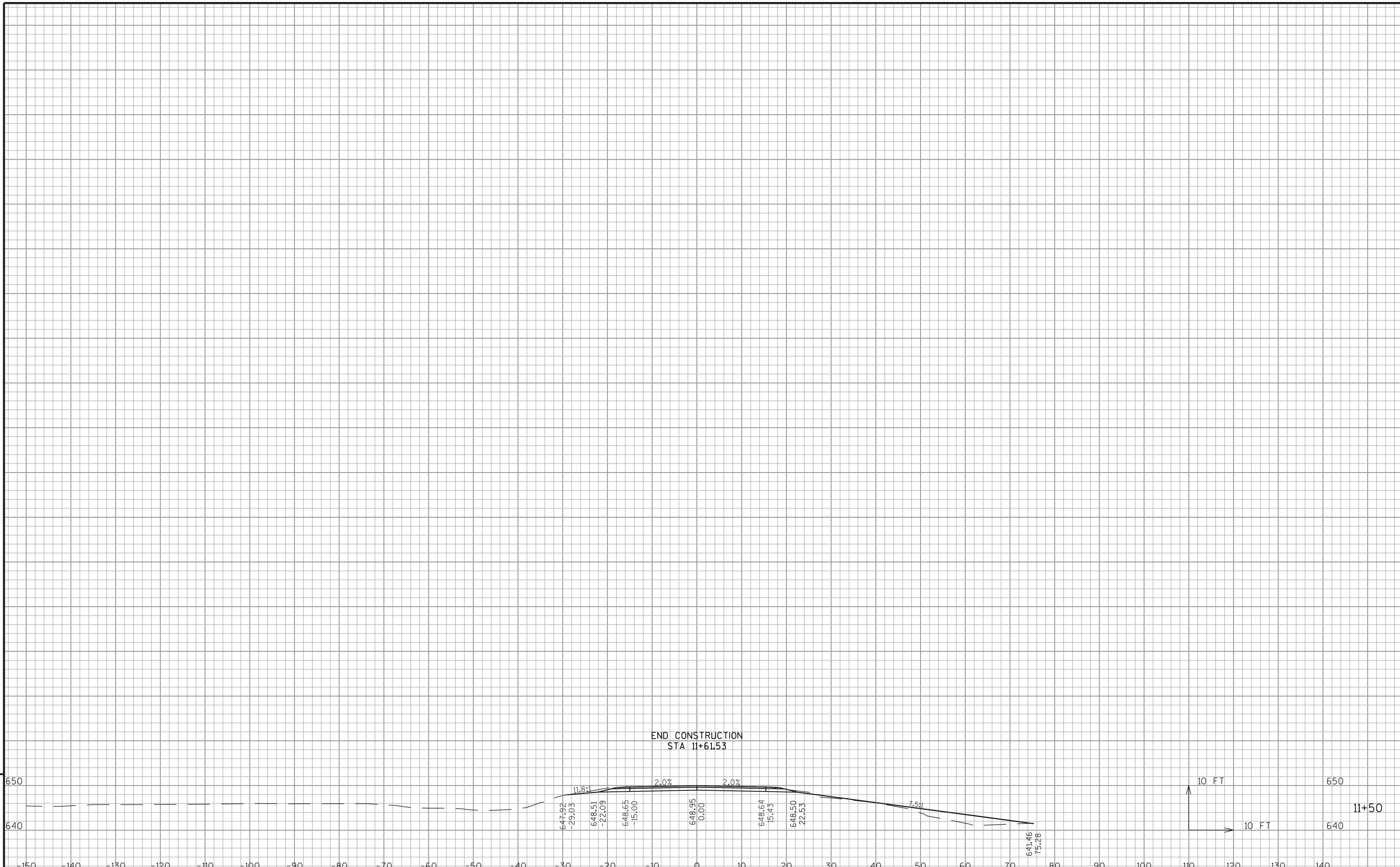
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: USH 18 EB	SHEET 688	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18137



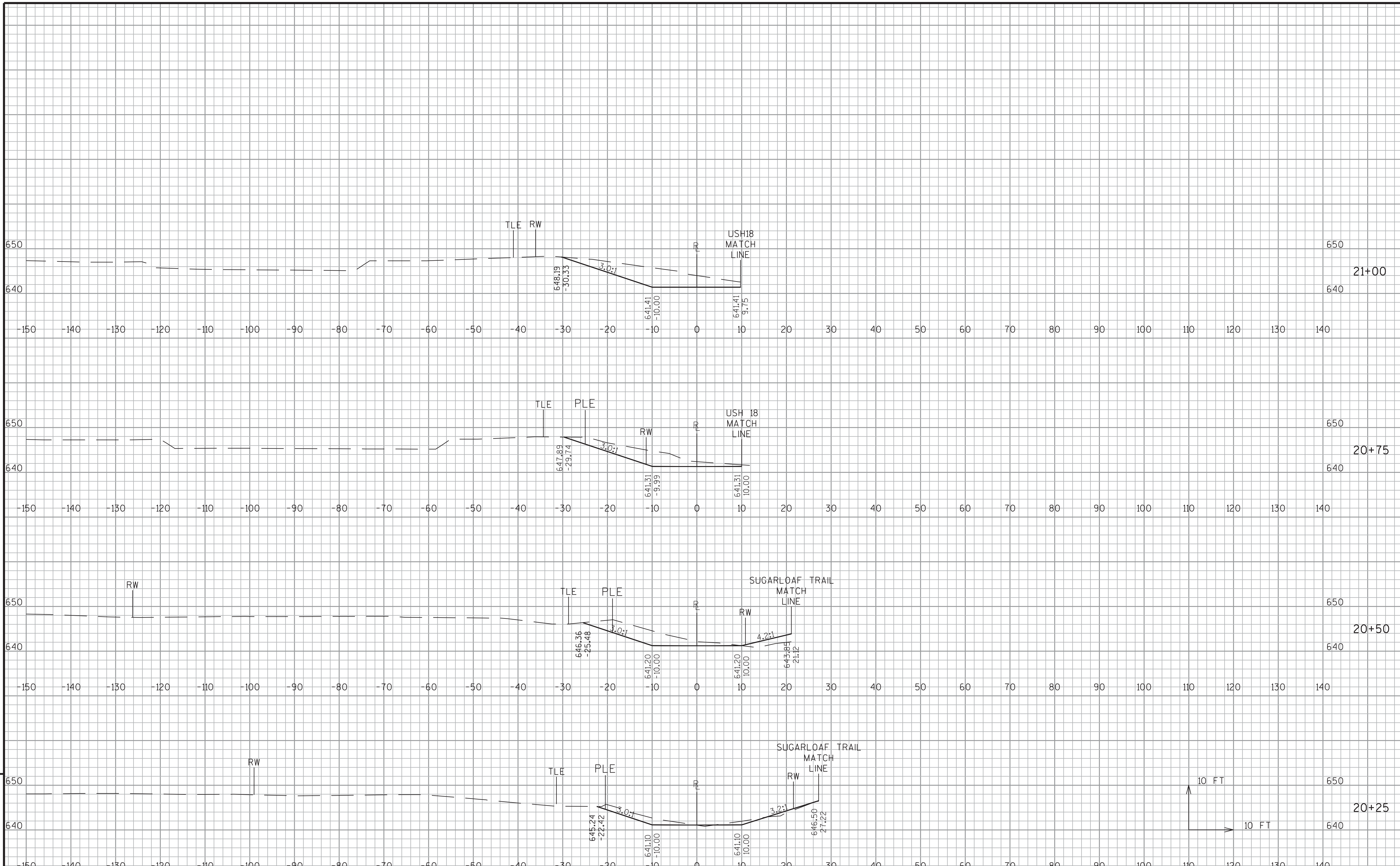
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: SUGARLOAF TRAIL	SHEET 689	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-SUGARLOAF01



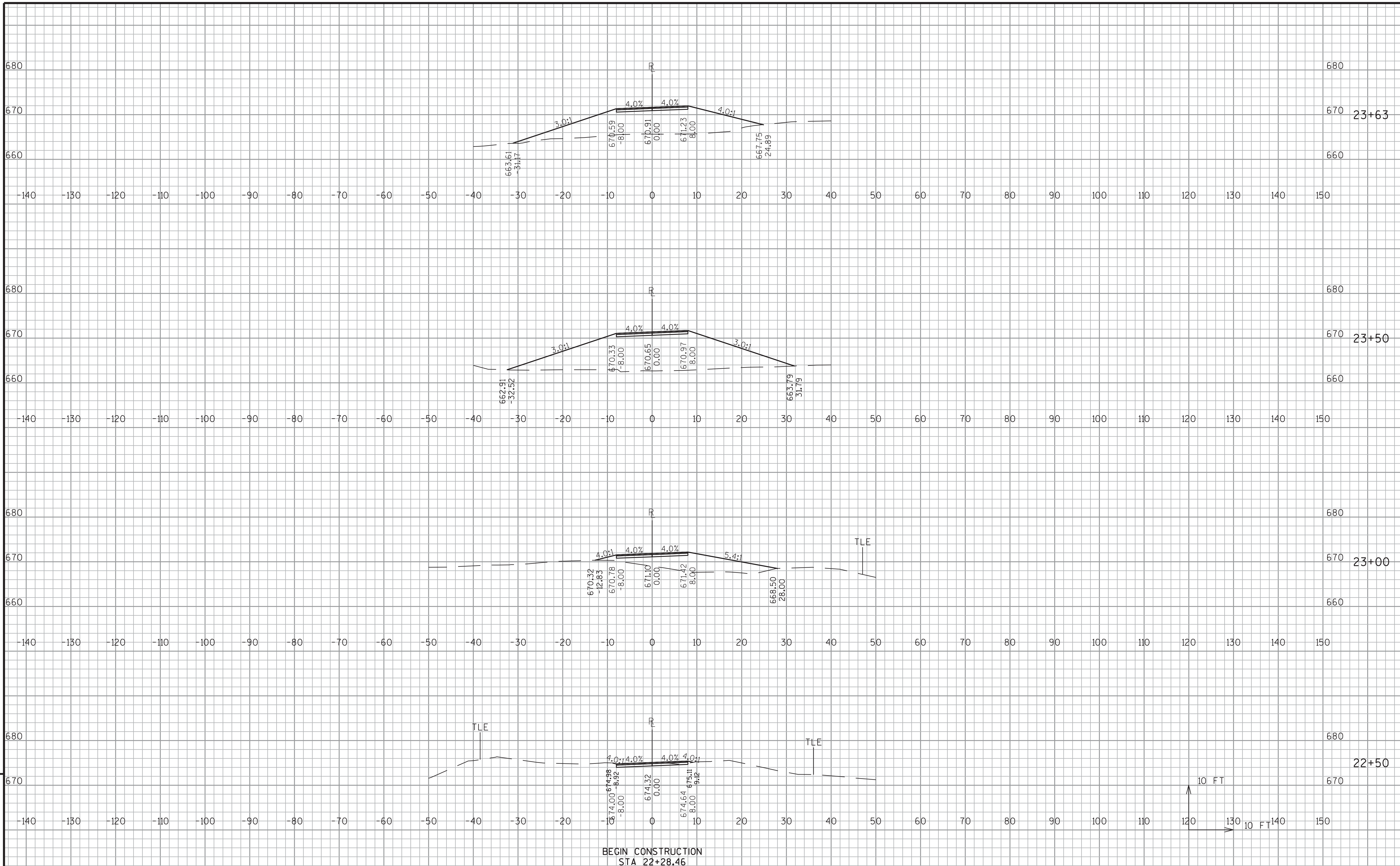
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: CHANNEL	SHEET 690	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-SUGARLOAF CHANNEL01



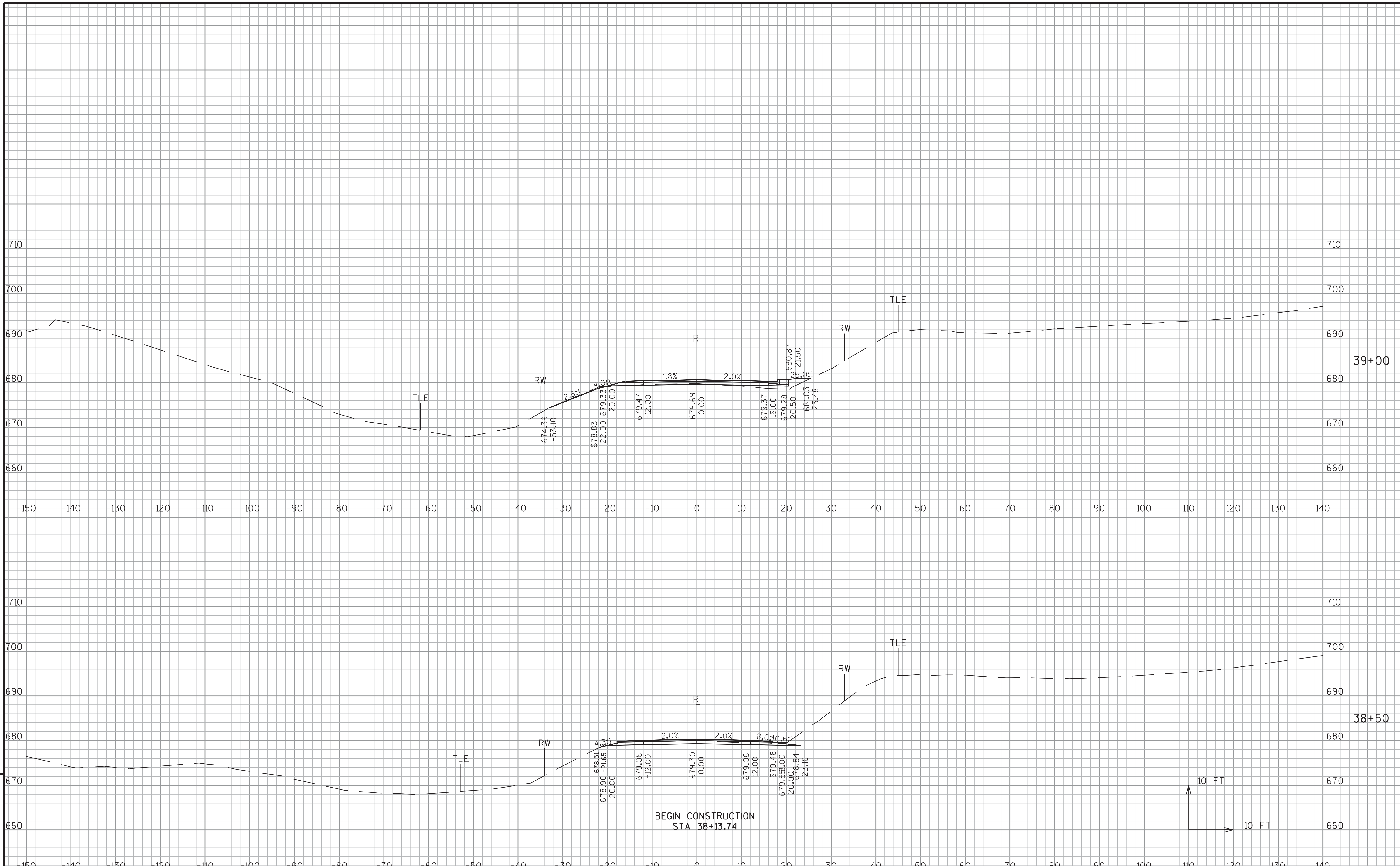
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: DRIVEWAY B	SHEET 691	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-DRIVEWAY B01

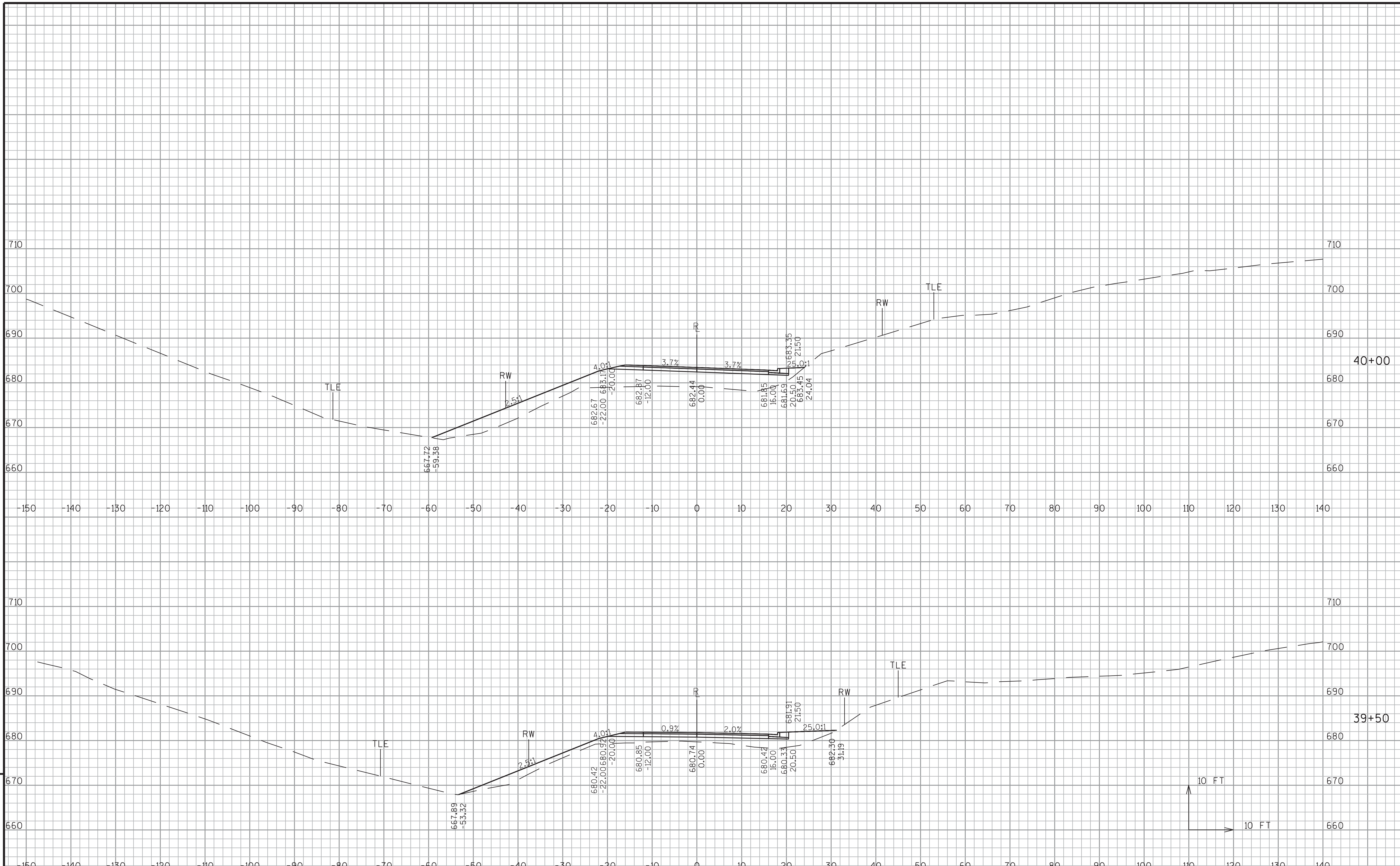


9 | 9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: CABIN HILL LANE	SHEET 692	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

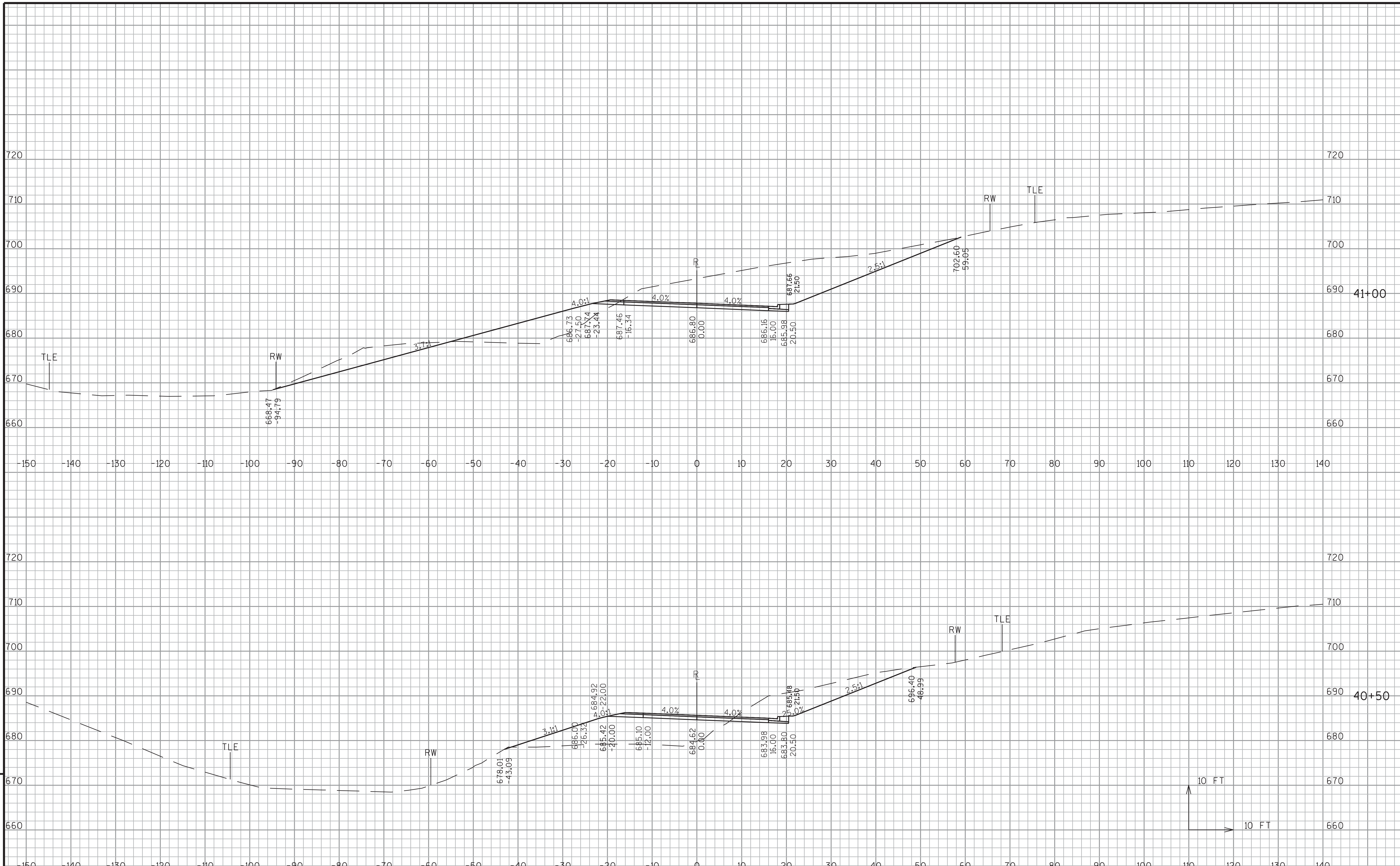
SHEET NAME: XSUSH18-CABIN HILL LANE01



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: CABIN HILL LANE	SHEET 693	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-CABIN HILL LANE02

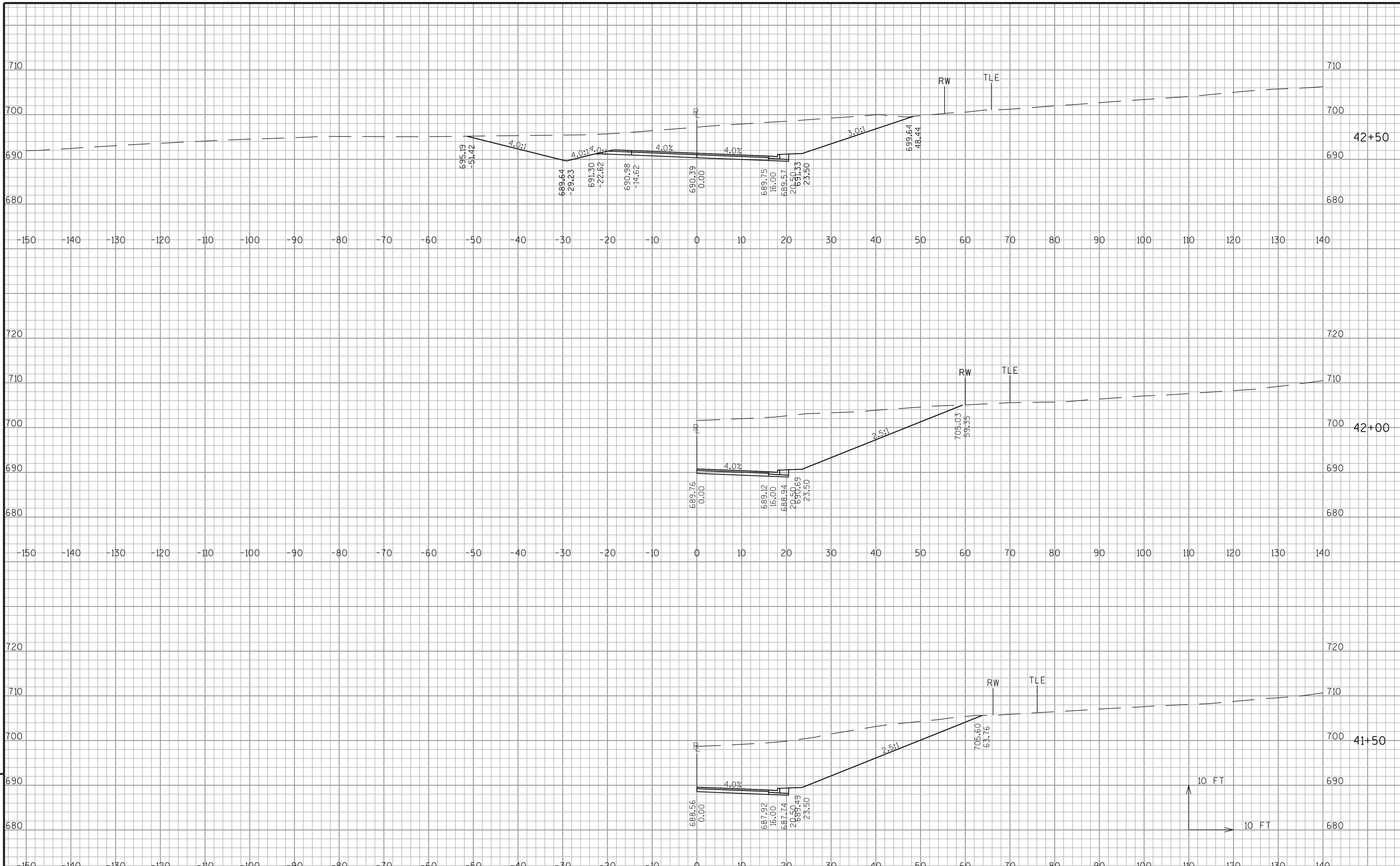


PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: CABIN HILL LANE	SHEET 694	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-CABIN HILL LANE03

9

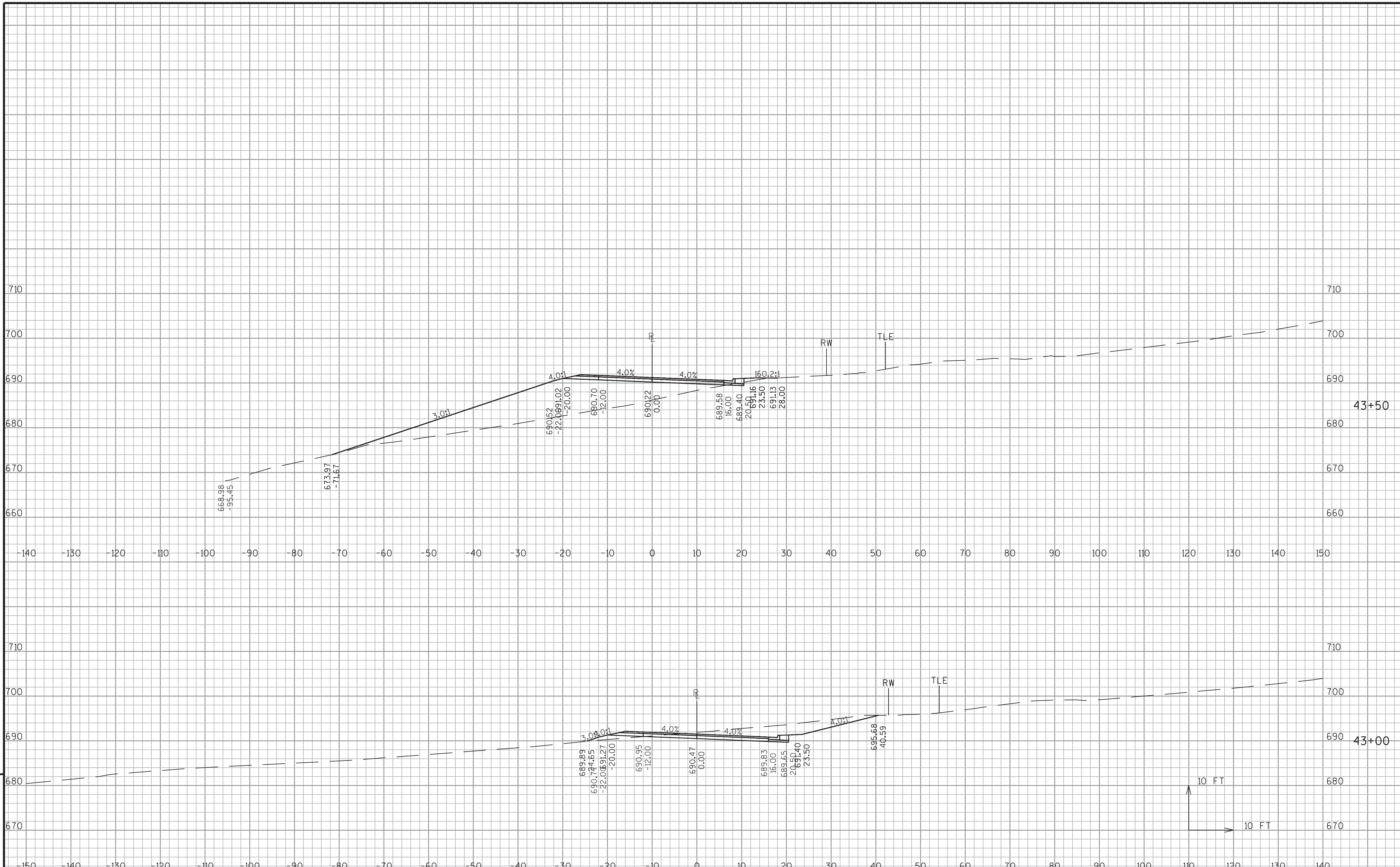


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: CABIN HILL LANE	SHEET	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-CABIN HILL LANE04



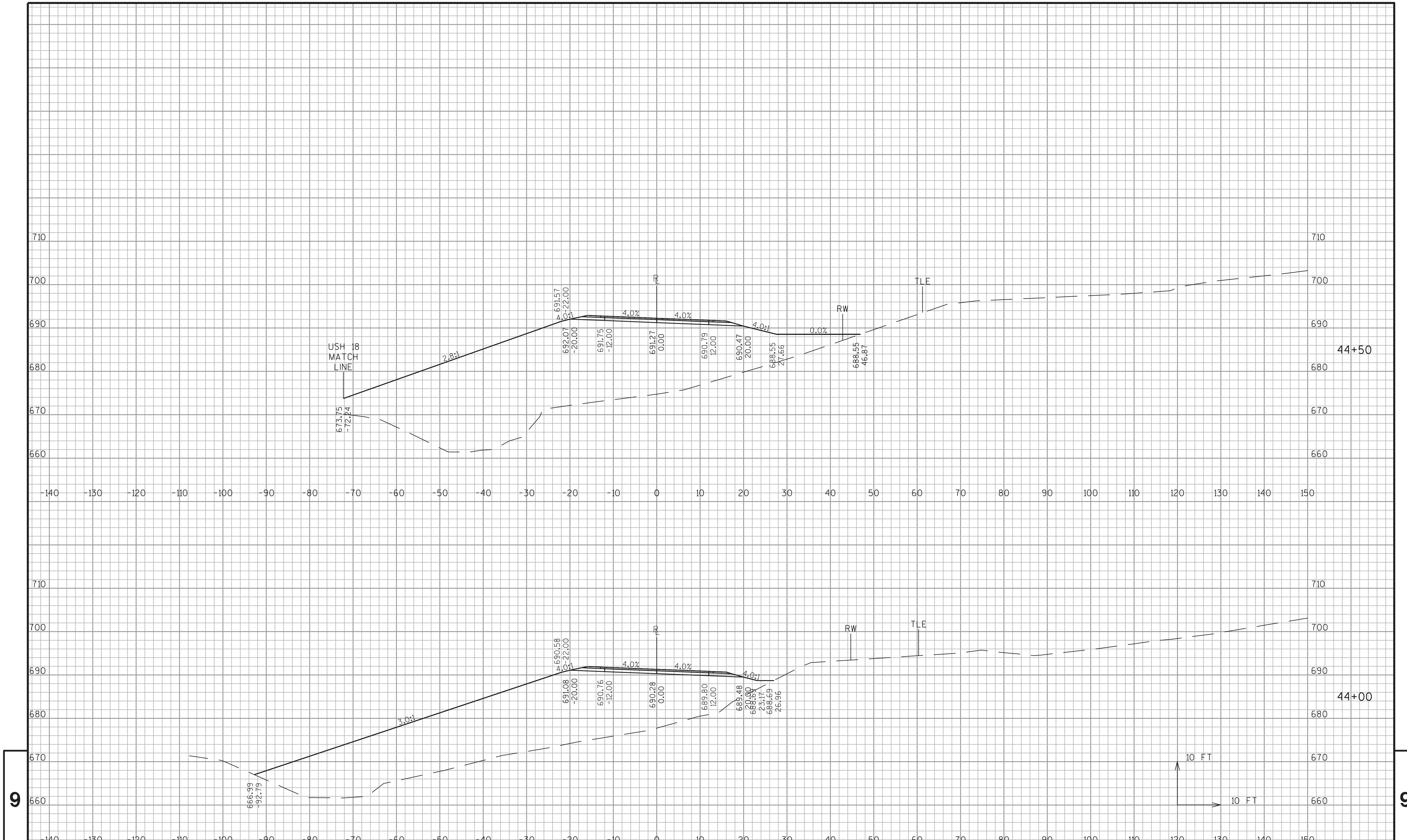
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: CABIN HILL LANE	SHEET 696	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

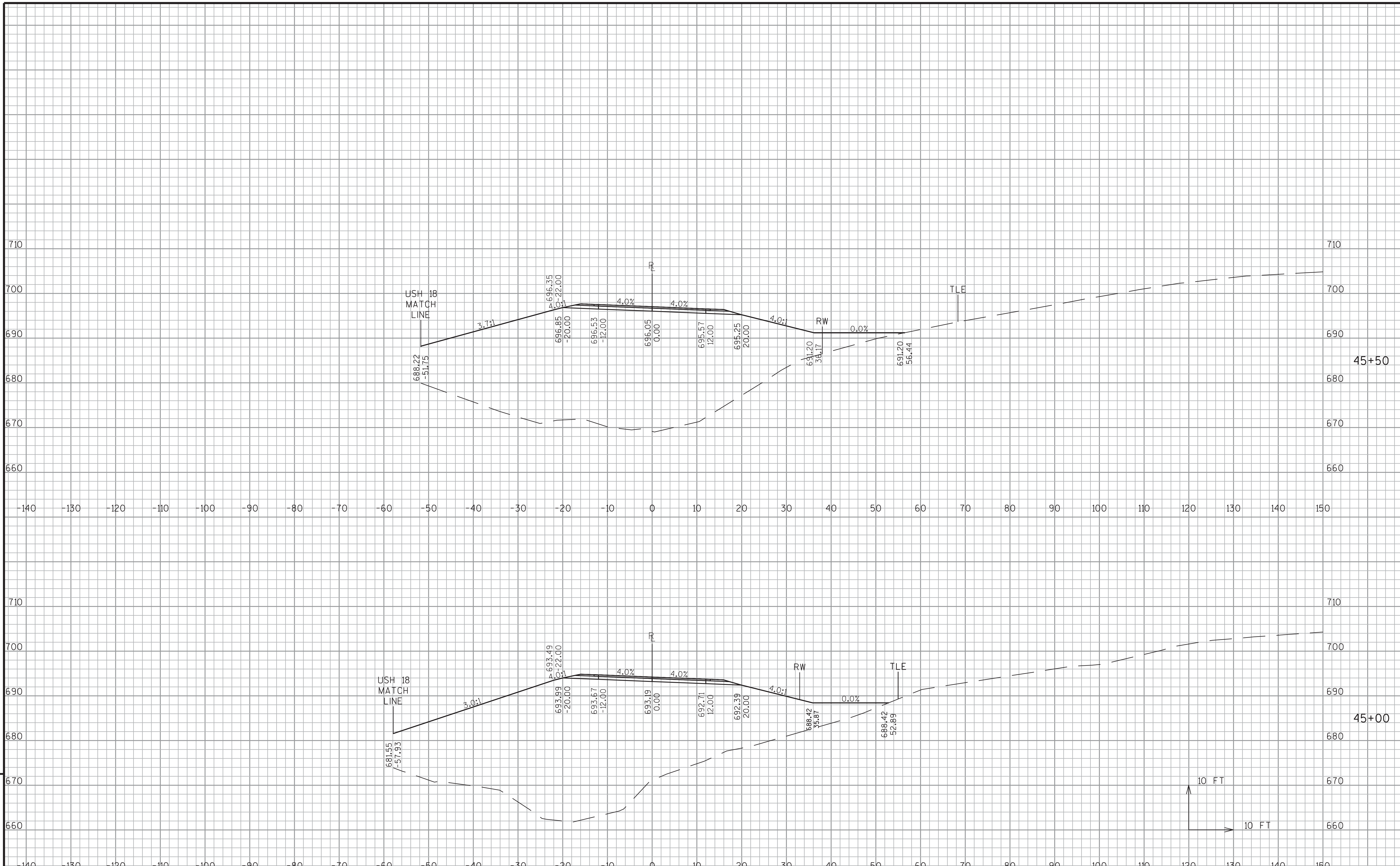
SHEET NAME: XSUSH18-CABIN HILL LANE05



PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: CABIN HILL LANE | SHEET 697 | E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-CABIN HILL LANE06



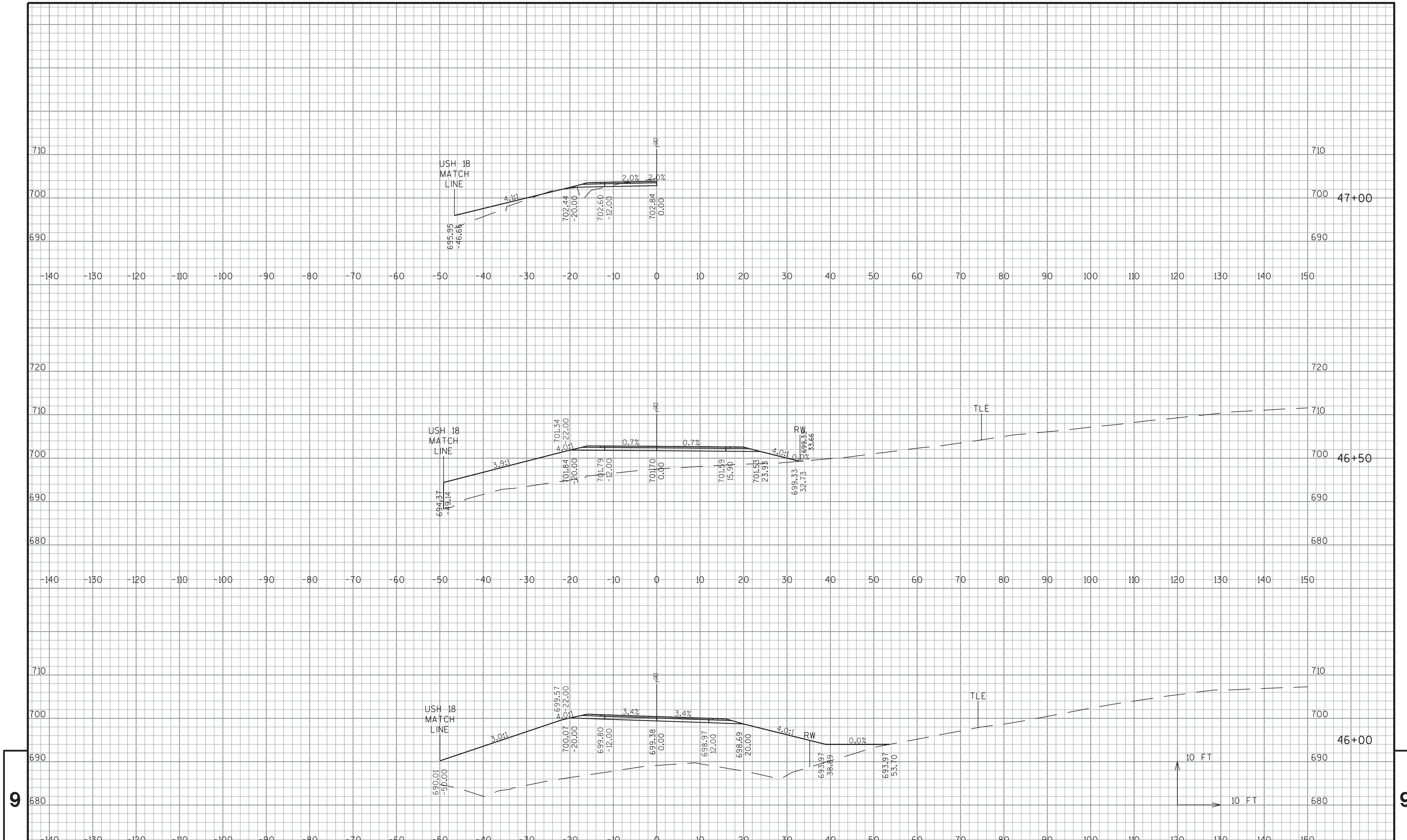
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: CABIN HILL LANE	SHEET	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

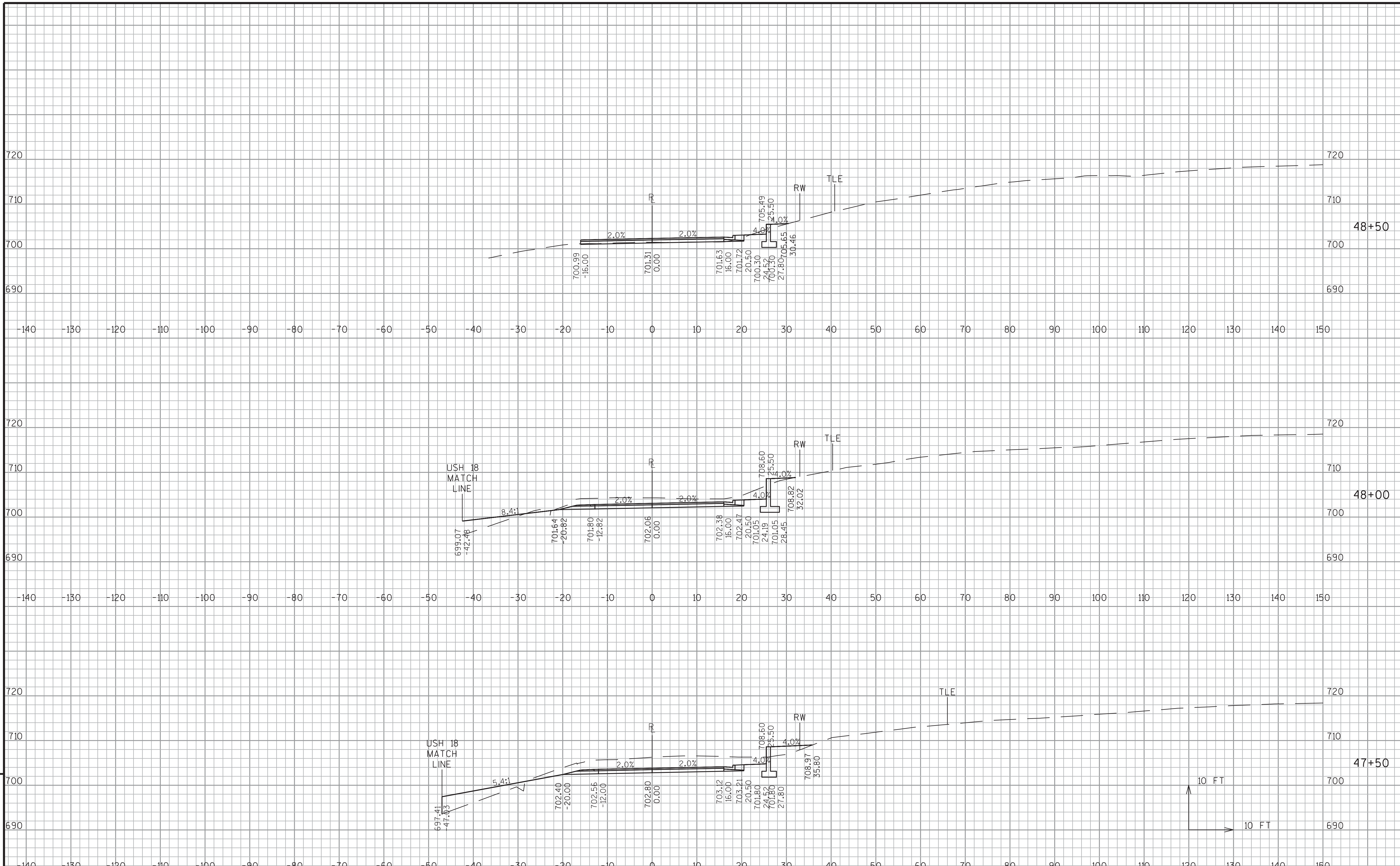
SHEET NAME: XSUSH18-CABIN HILL LANE07



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: CABIN HILL LANE	SHEET 699	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-CABIN HILL LANE08



9

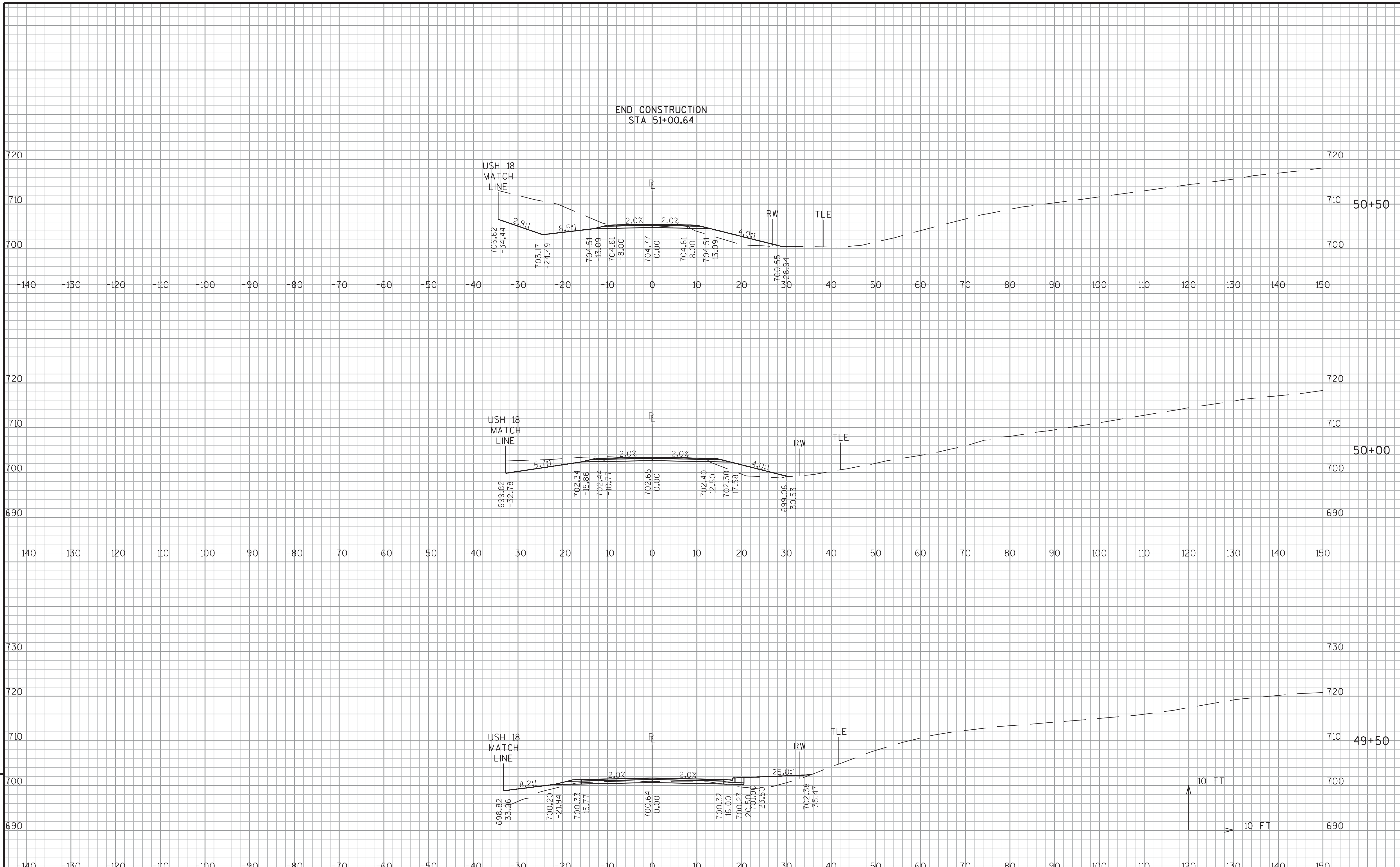
9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: CABIN HILL LANE	SHEET	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-CABIN HILL LANE09

9

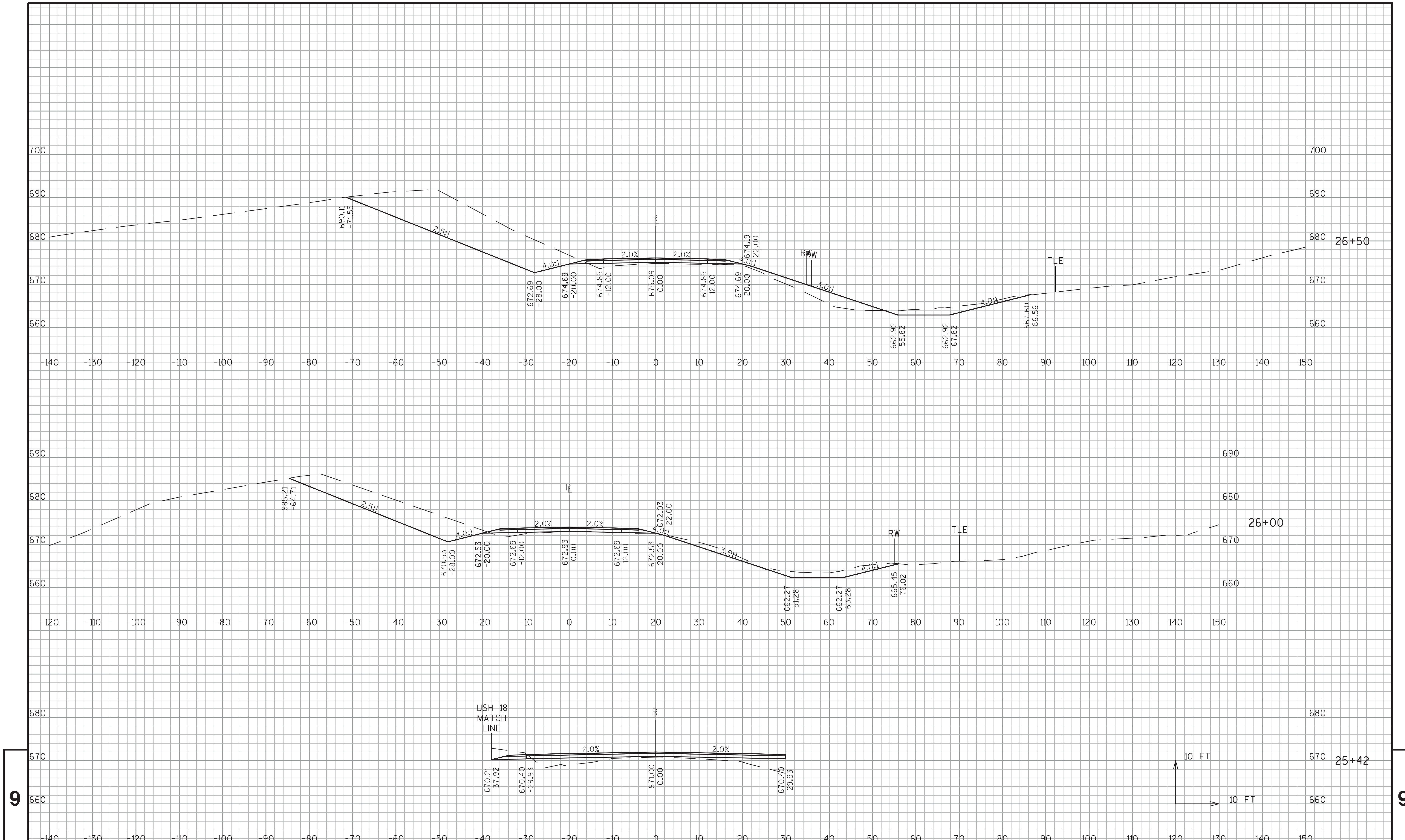


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: CABIN HILL LANE	SHEET 701	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

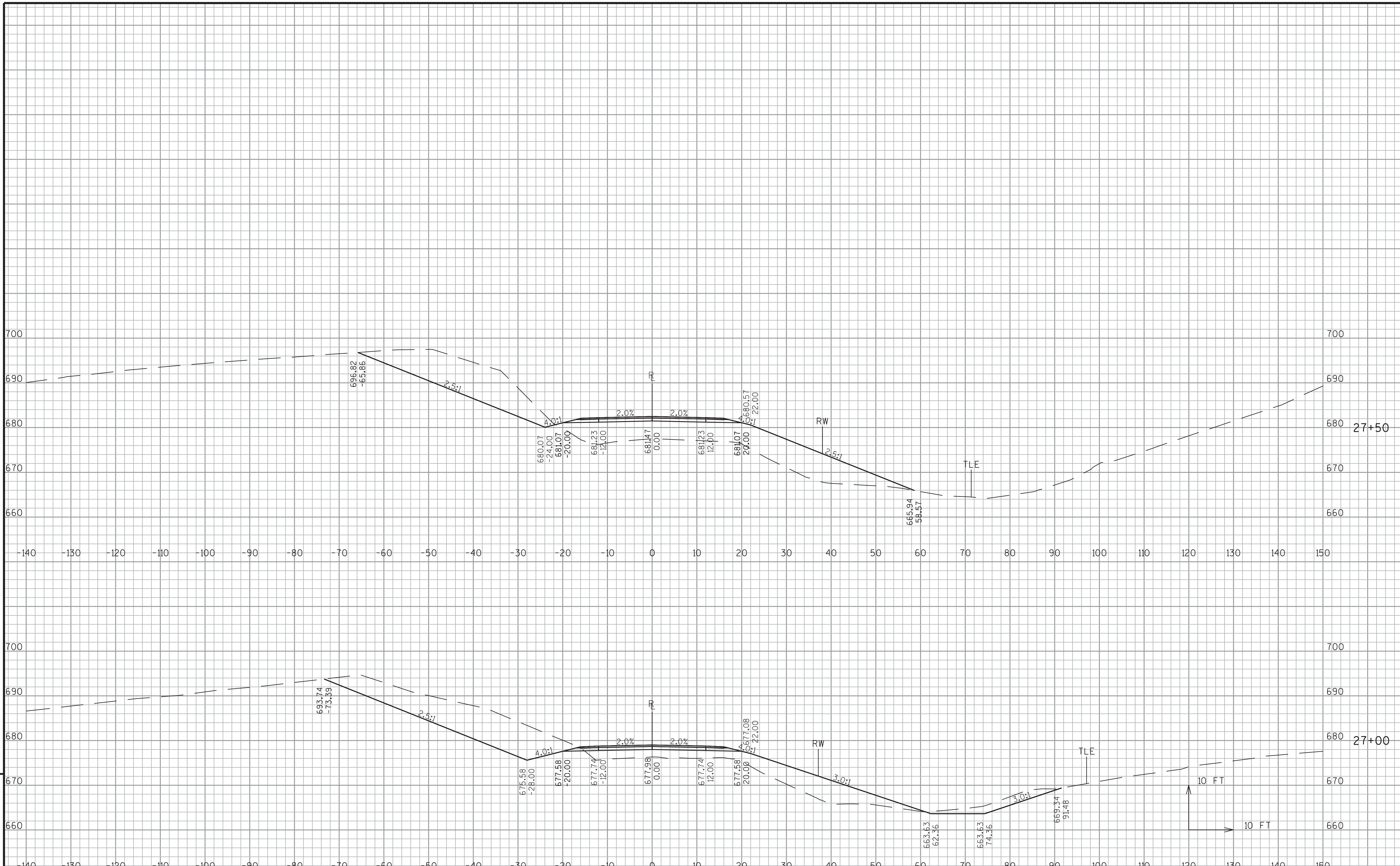
SHEET NAME: XSUSH18-CABIN HILL LANE10



PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: OLD USH 18 WEST | SHEET 702 | E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-OLD 18W01



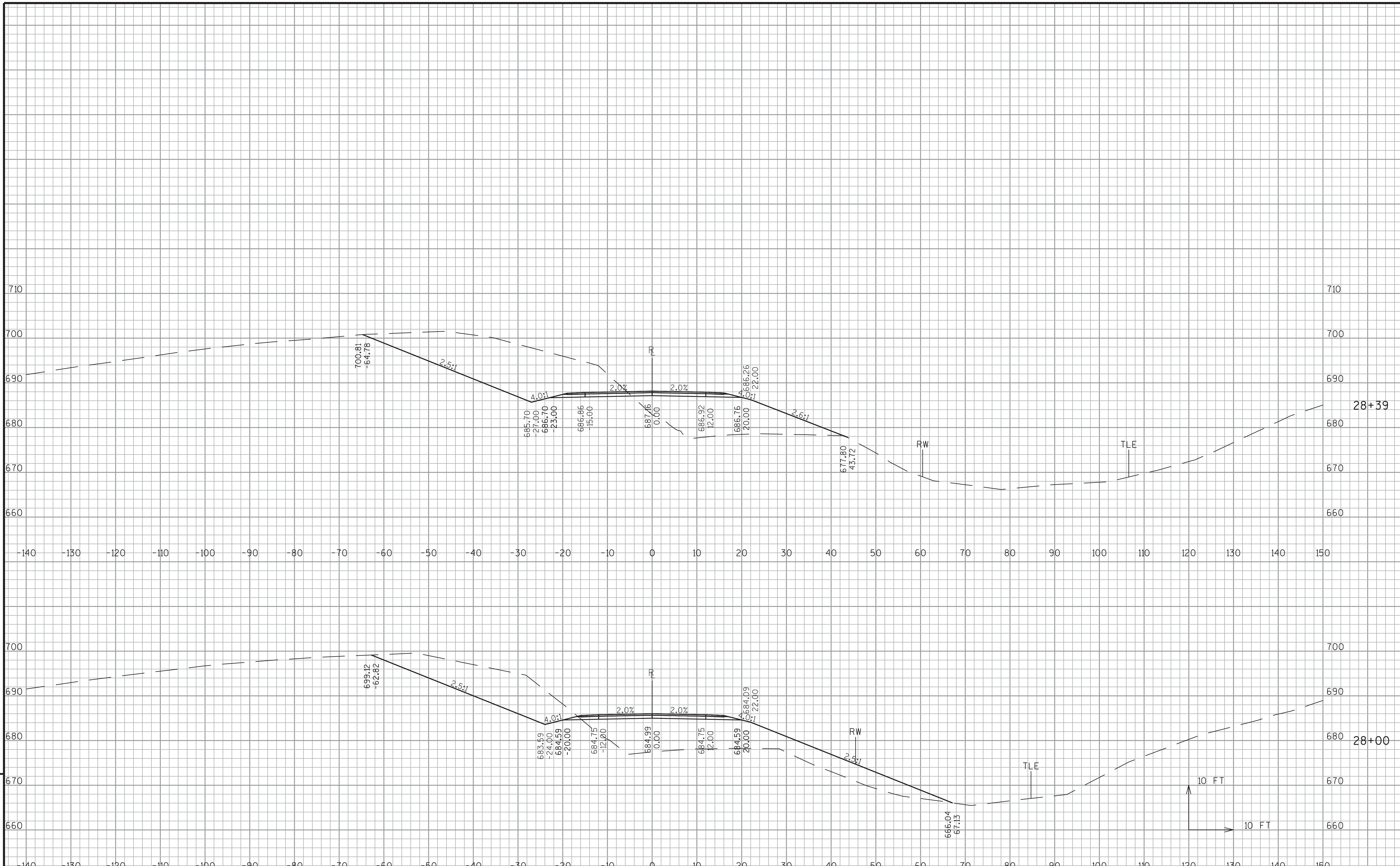
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: OLD USH 18 WEST	SHEET 703	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-OLD 18W02

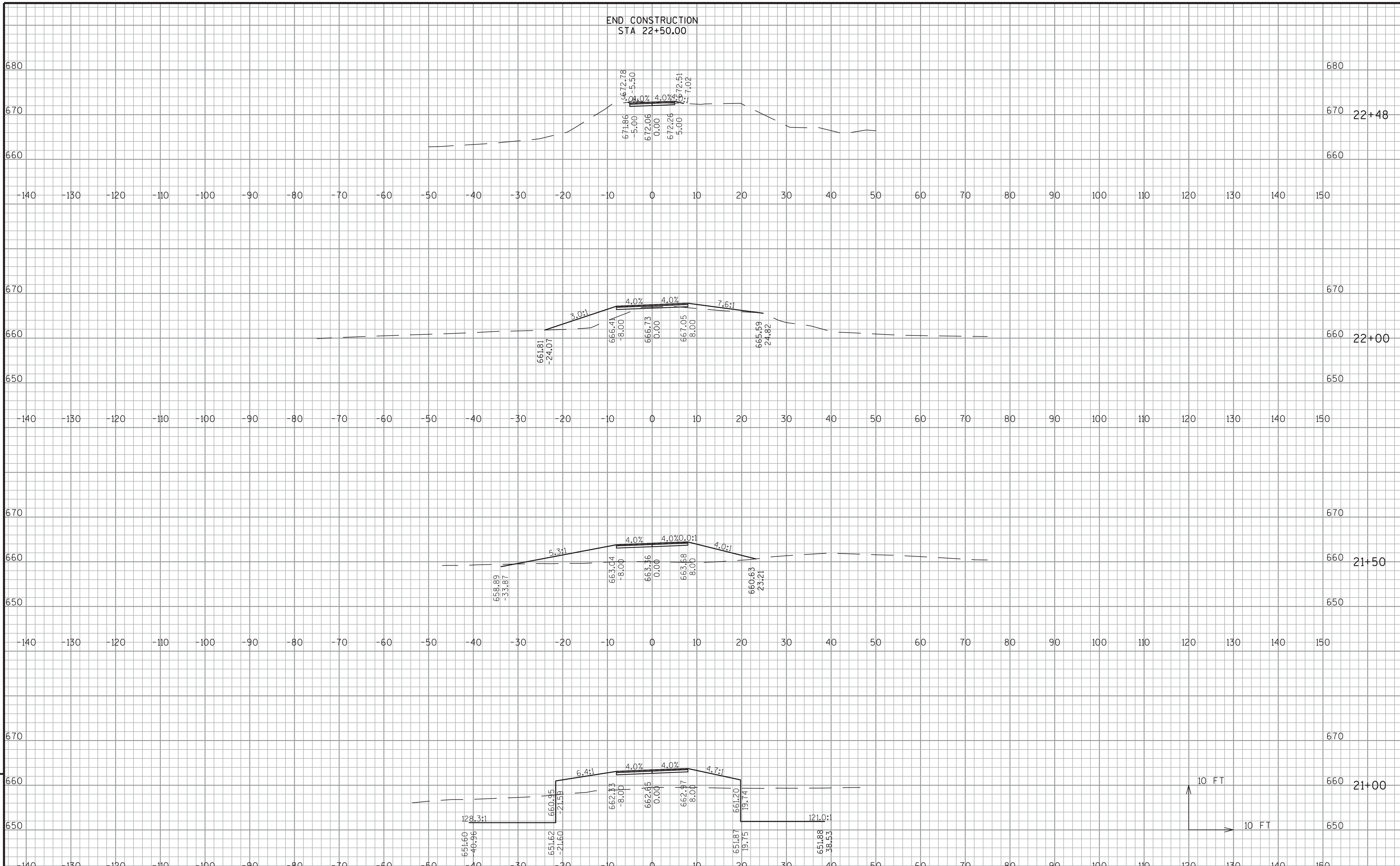


PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: OLD USH 18 WEST	SHEET 704	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-OLD 18W03

9

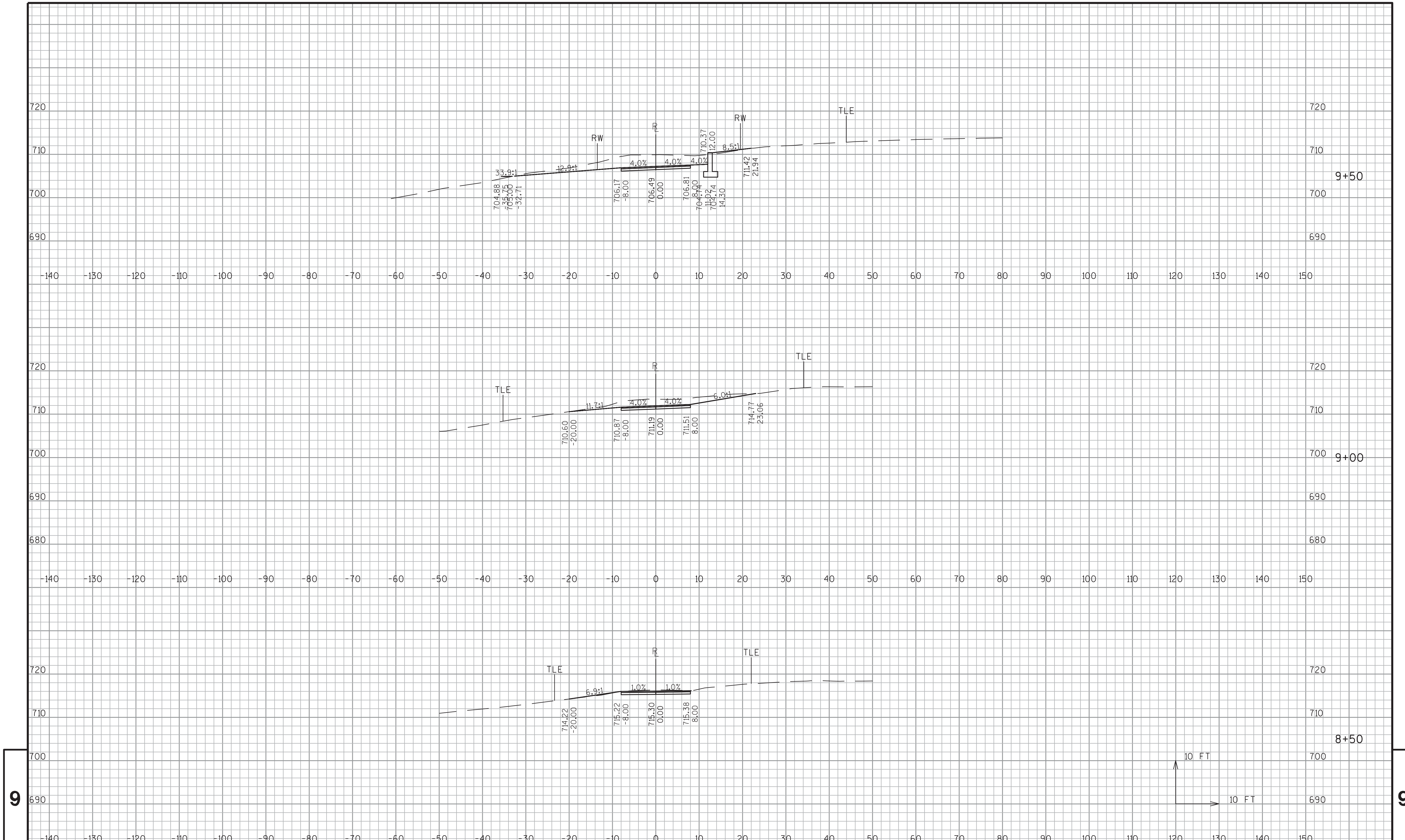


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: DRIVEWAY A	SHEET	E

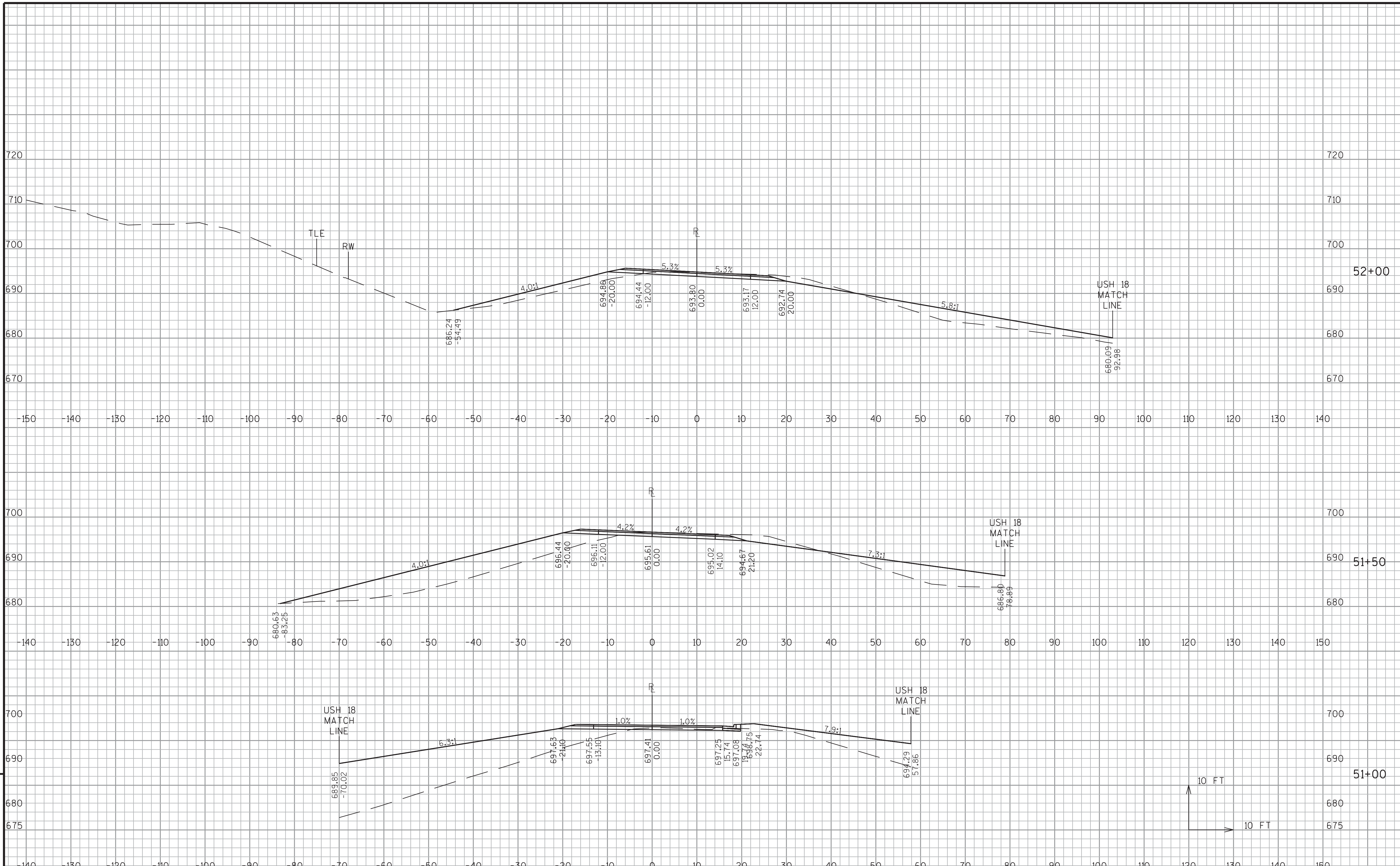
FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-DRIVEWAY A01



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: DRIVEWAY H	SHEET 706	E

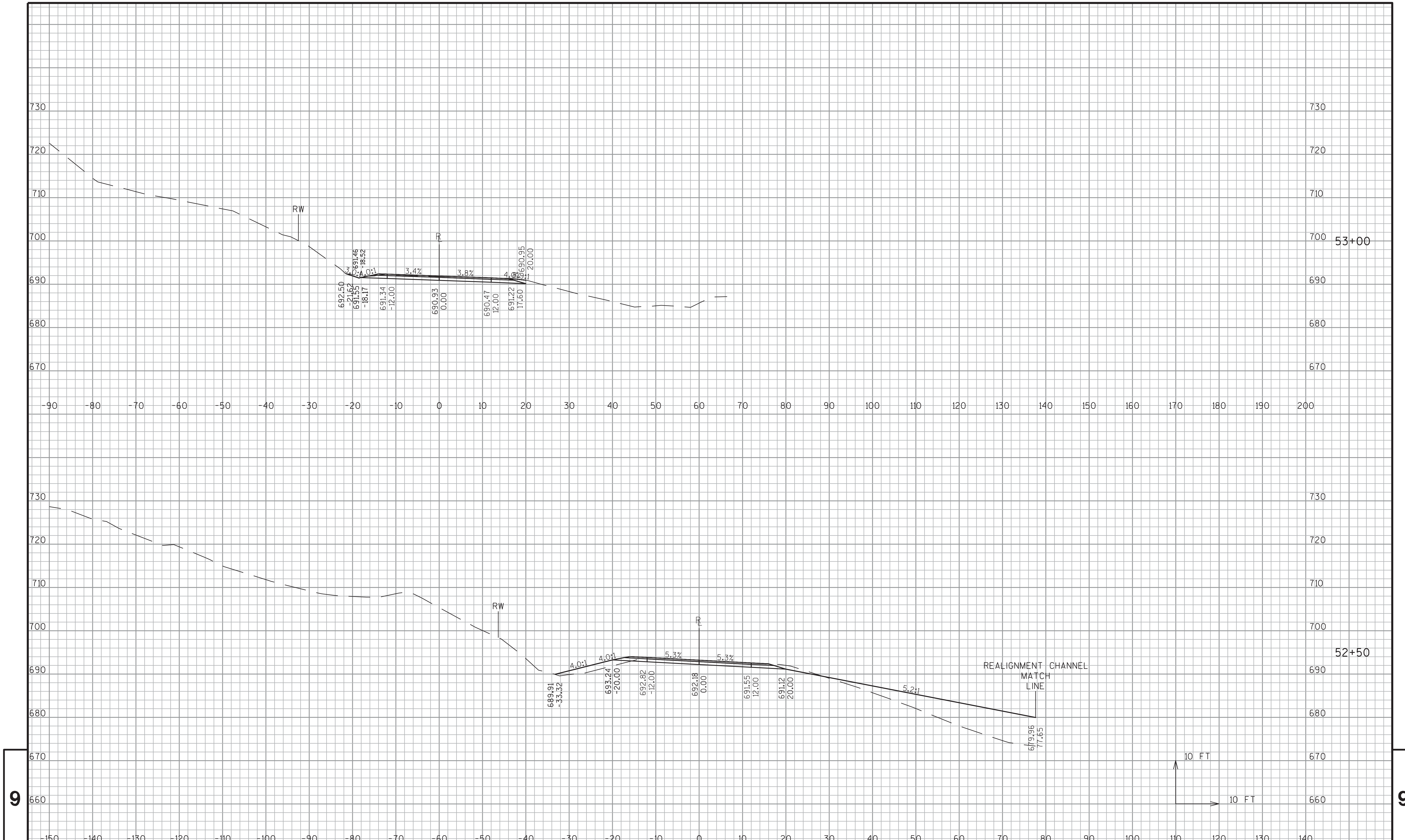
FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG SHEET NAME: XSUSH18-DRIVEWAY H01



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: WARD ROAD	SHEET 707	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

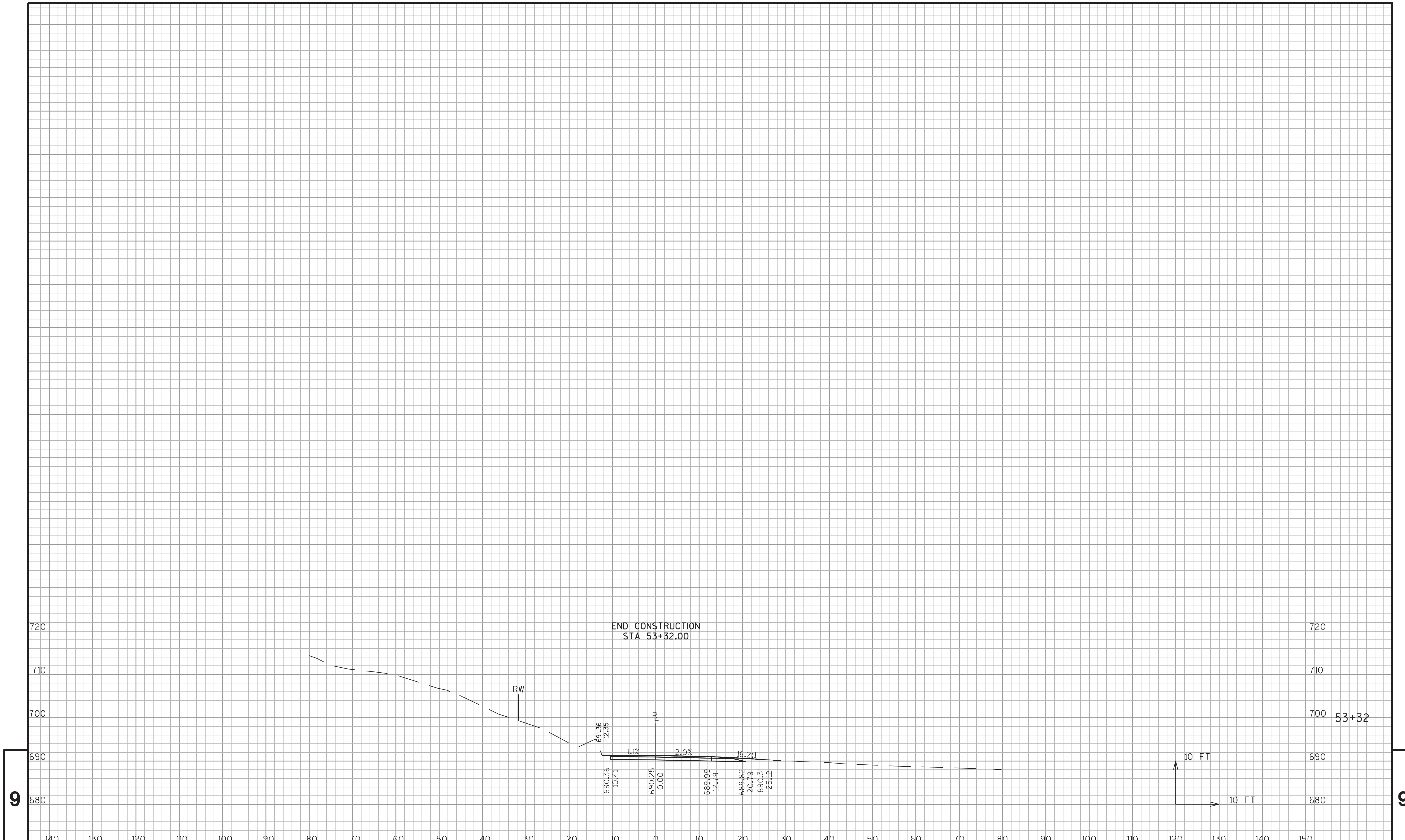
SHEET NAME: XSUSH18-WARD ROAD01



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: WARD ROAD	SHEET 708 E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

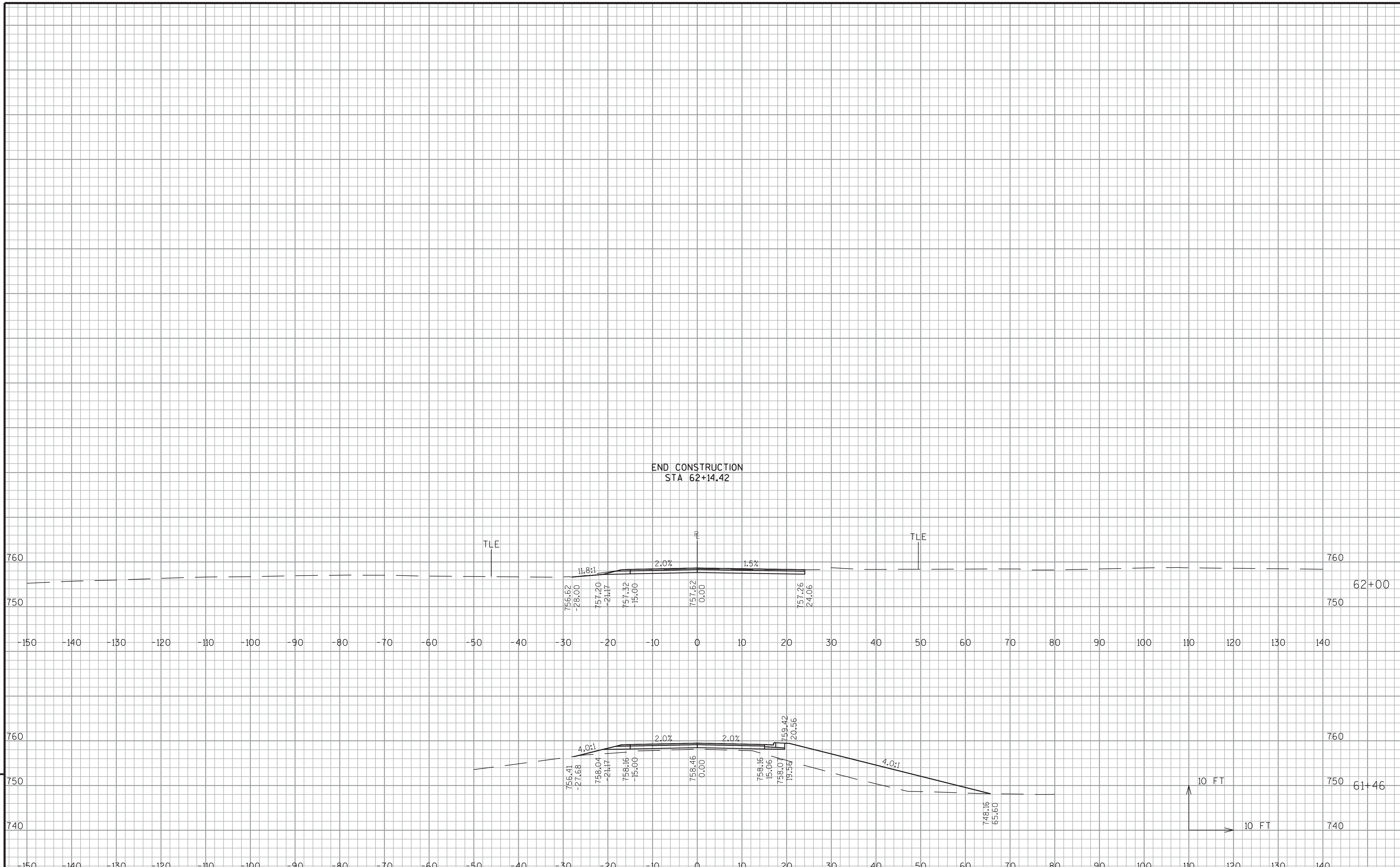
SHEET NAME: XSUSH18-WARD ROAD02



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: WARD ROAD	SHEET 709	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-WARD ROAD03

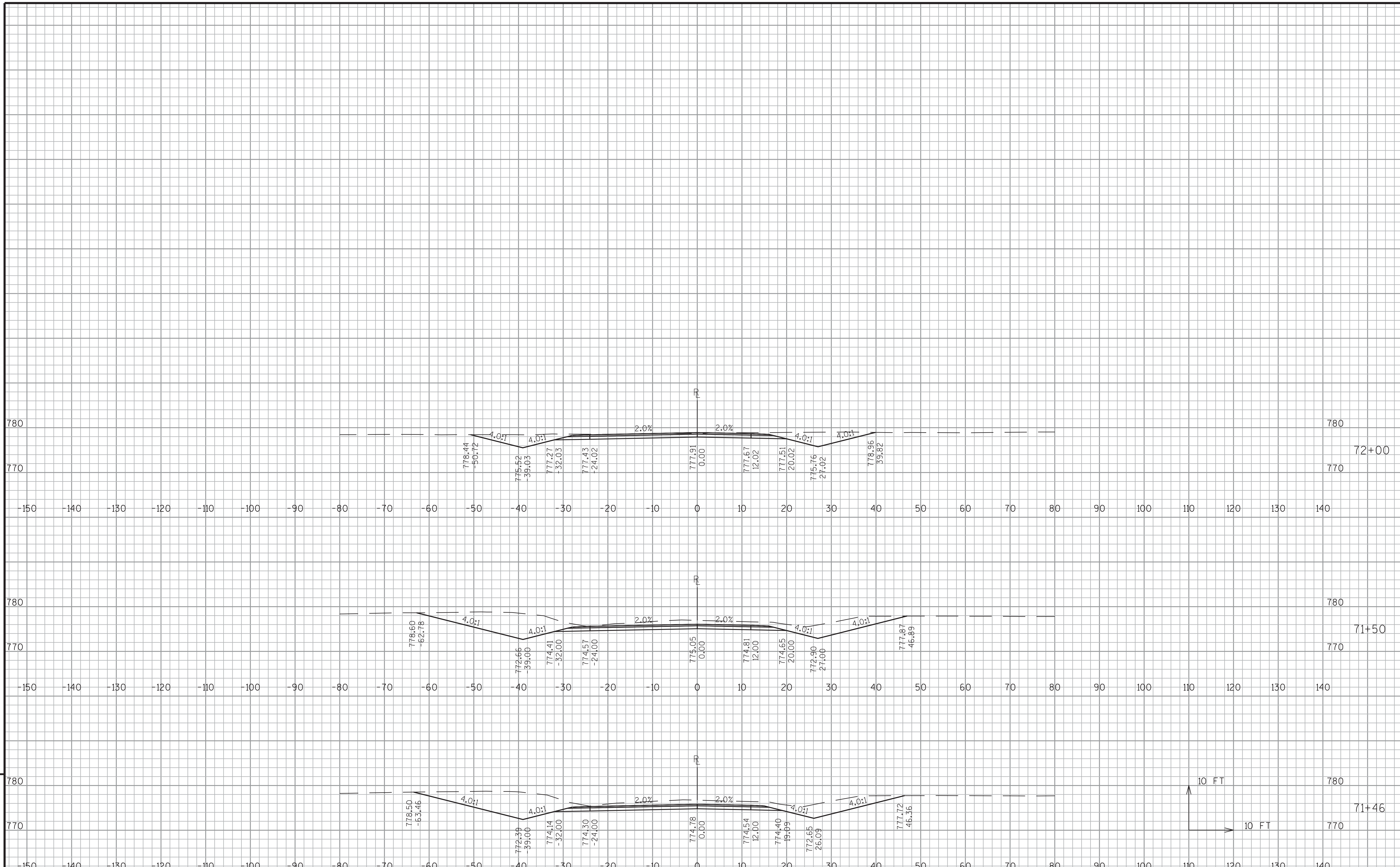


9

PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: CHURCH ENTRANCE | SHEET 710 | E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-33000 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-CHURCHENT01



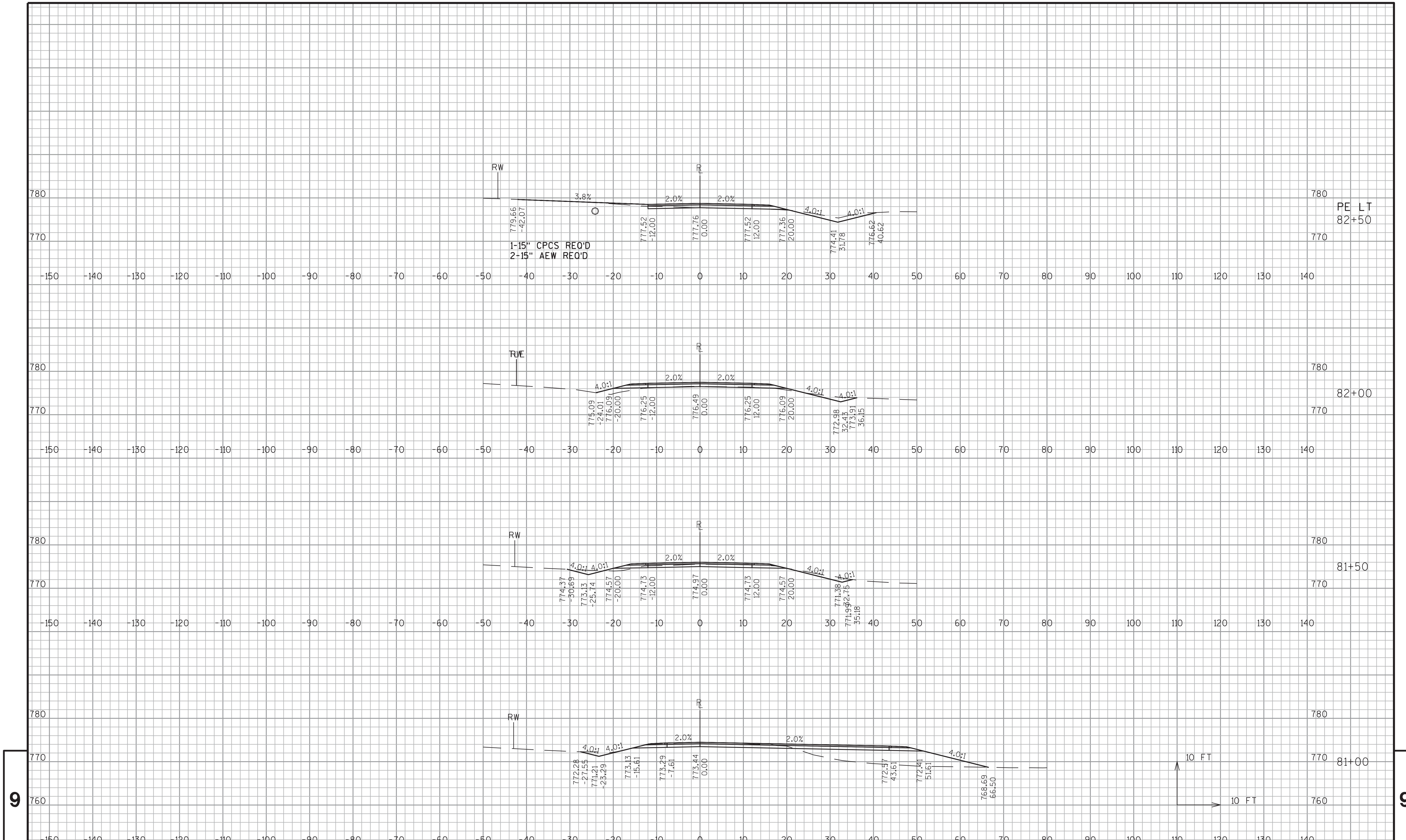
9

9

PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: UTOPIA LANE CONNECTION | SHEET 711 | E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-33000 XSUSH18-SIDEROADS.DWG

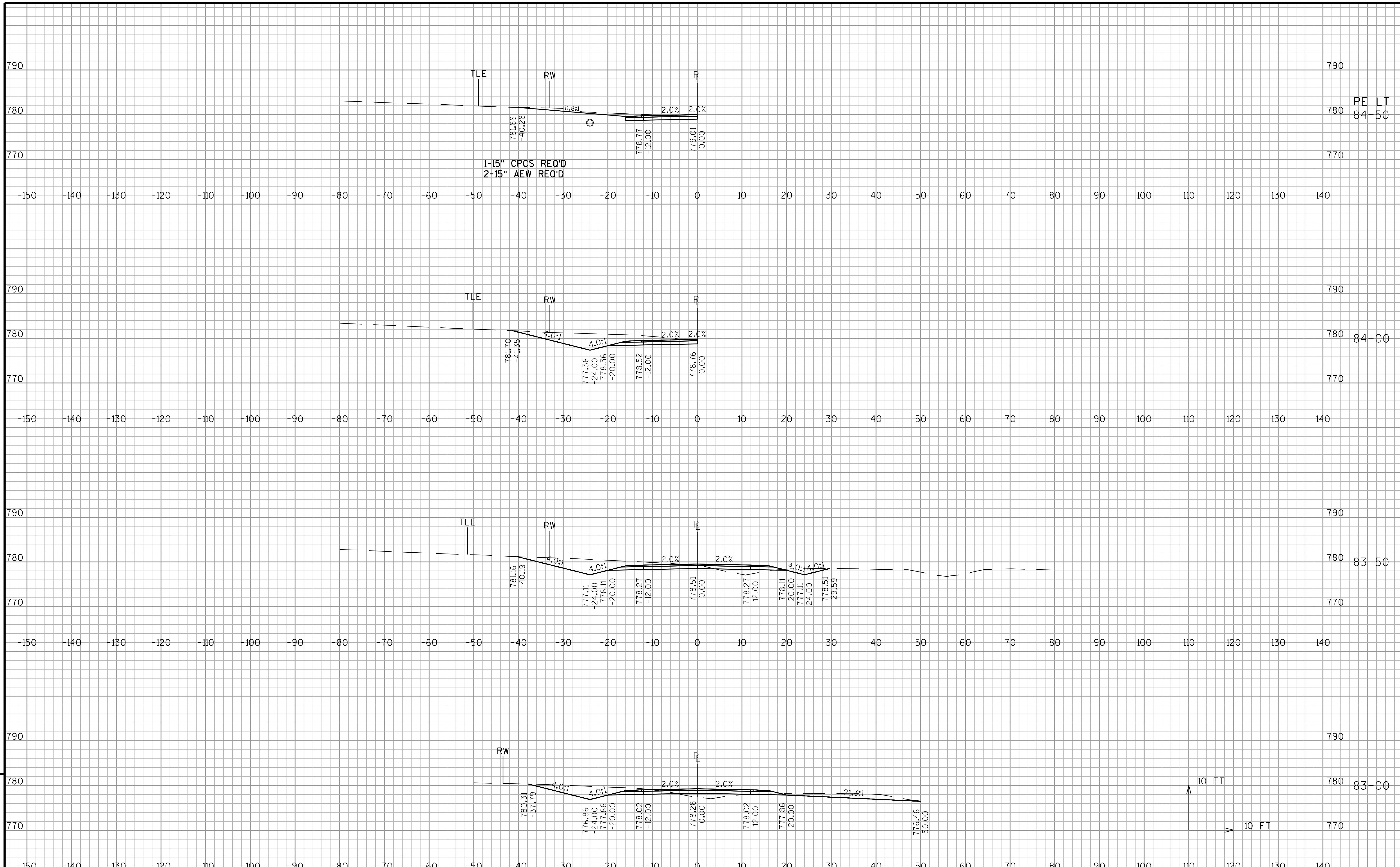
SHEET NAME: XSUSH18-UTOPIA LN01



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: UTOPIA LANE	SHEET 712	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-33000 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-UTOPIA FRONT01

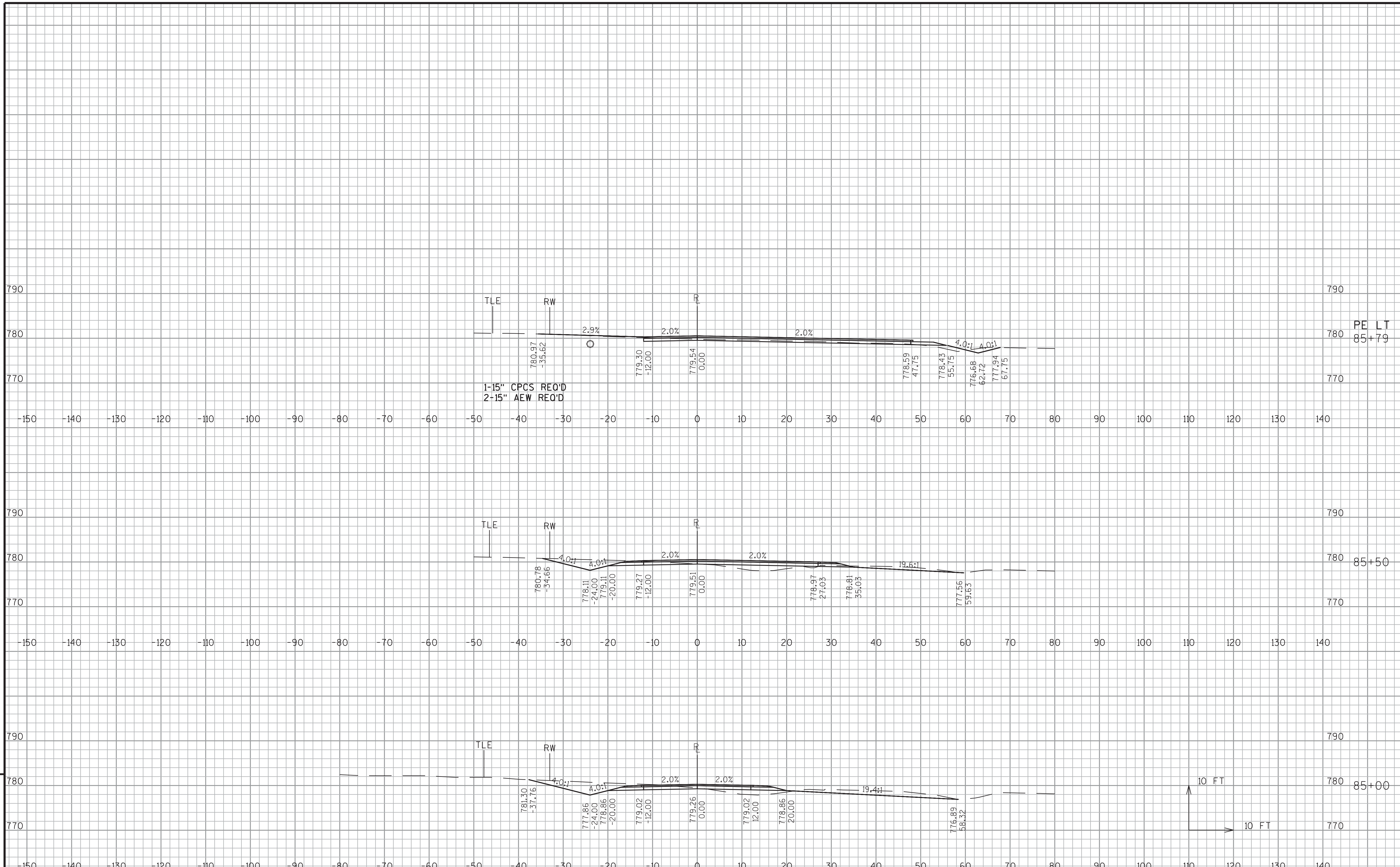


9

PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: UTOPIA LANE | SHEET 713 | E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-33000 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-UTOPIA FRONT02



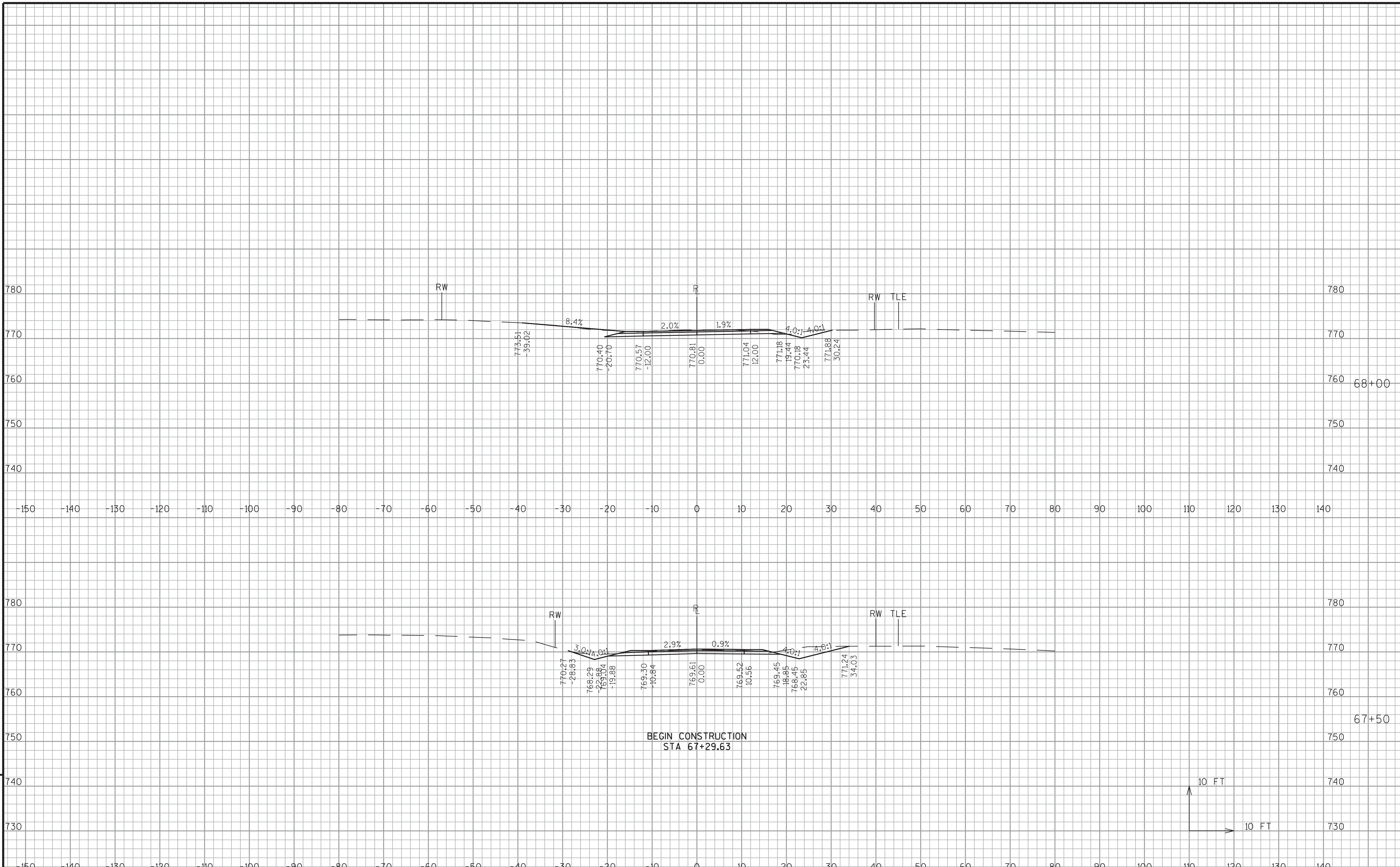
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: UTOPIA LANE	SHEET 714	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-33000 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-UTOPIA FRONT03



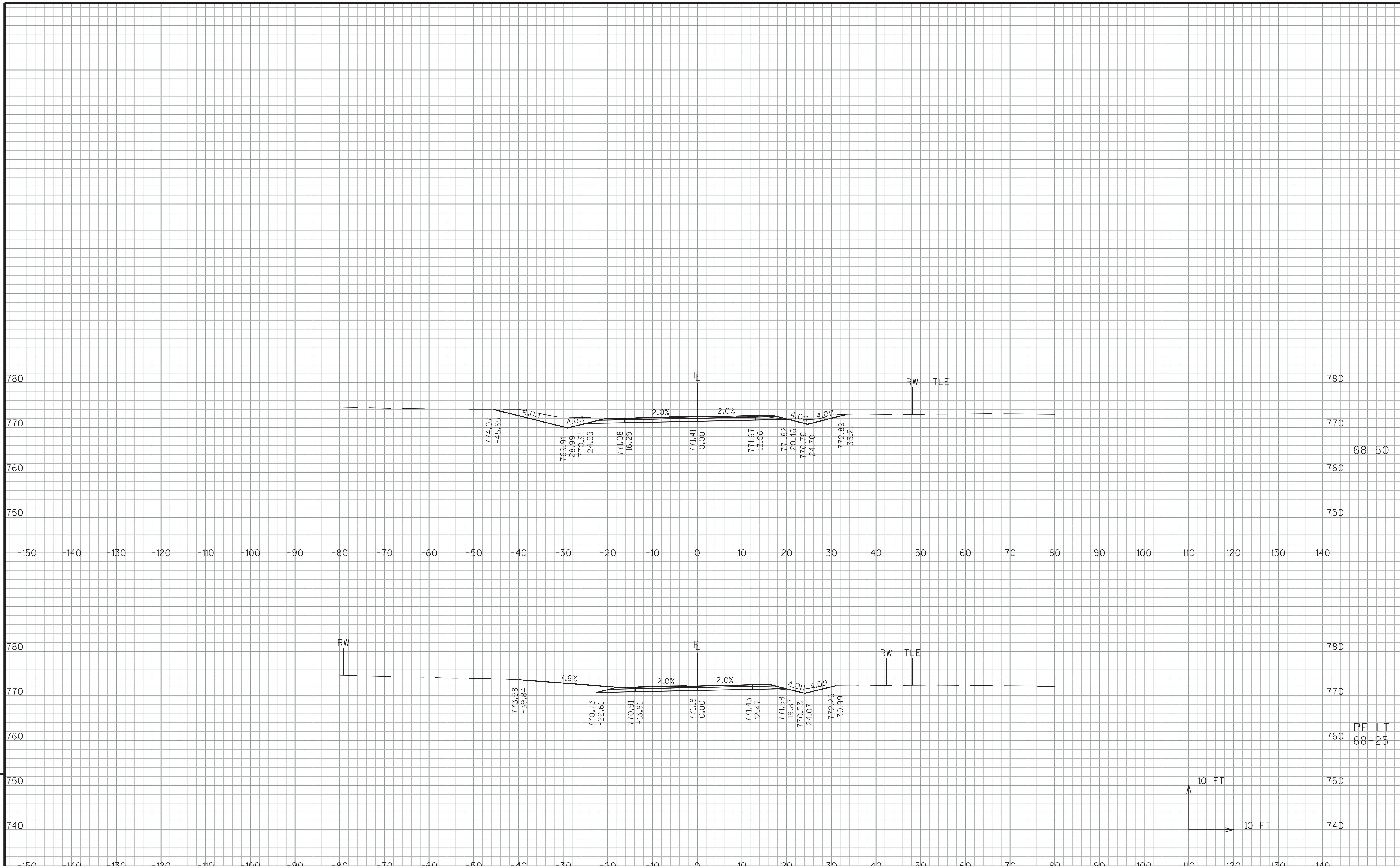
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: OLD 18 EAST	SHEET 715	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-33000 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-OLD 18 EAST01



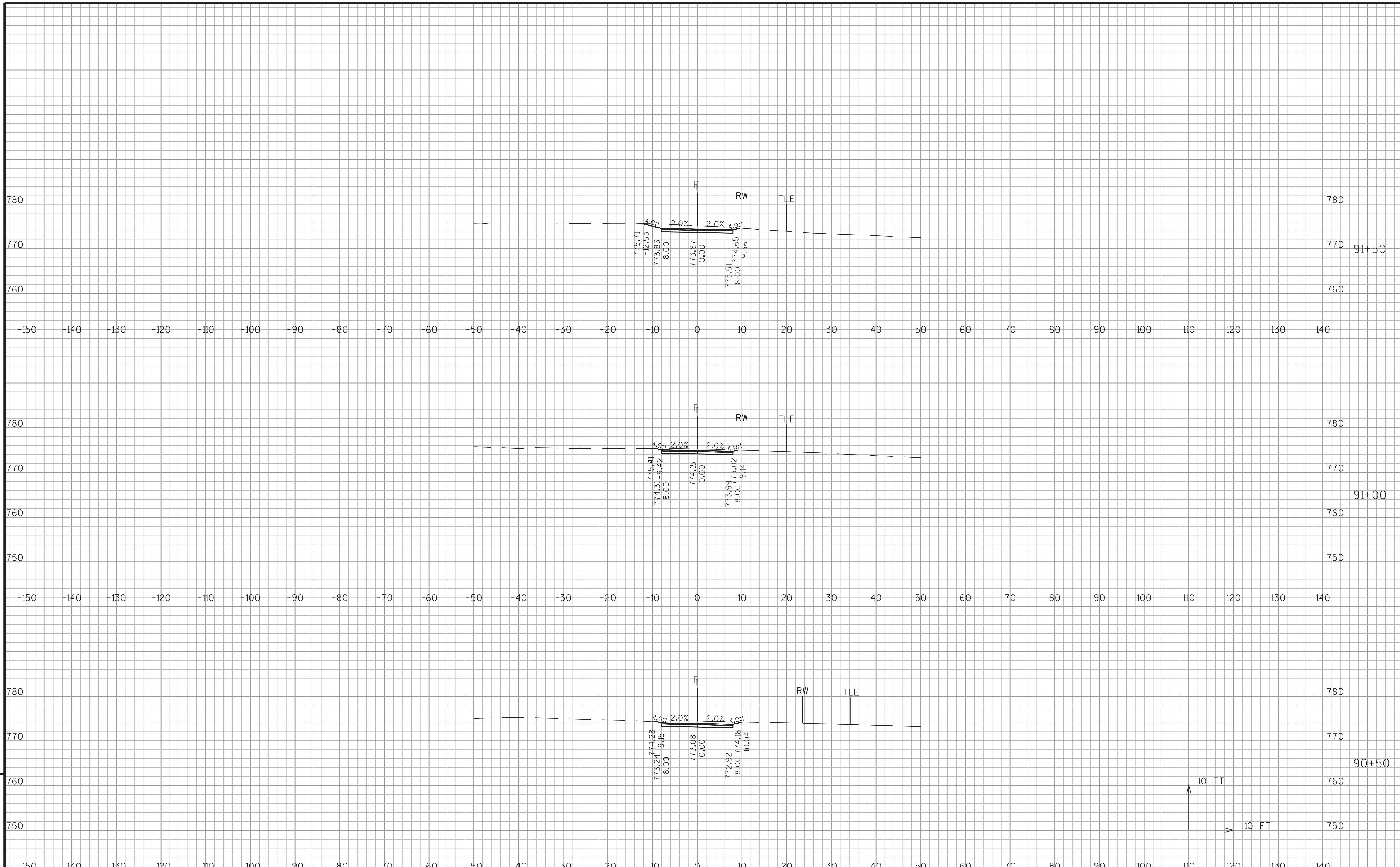
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: OLD 18 EAST	SHEET 716	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-33000 XSUSH18-SIDEROADS.DWG

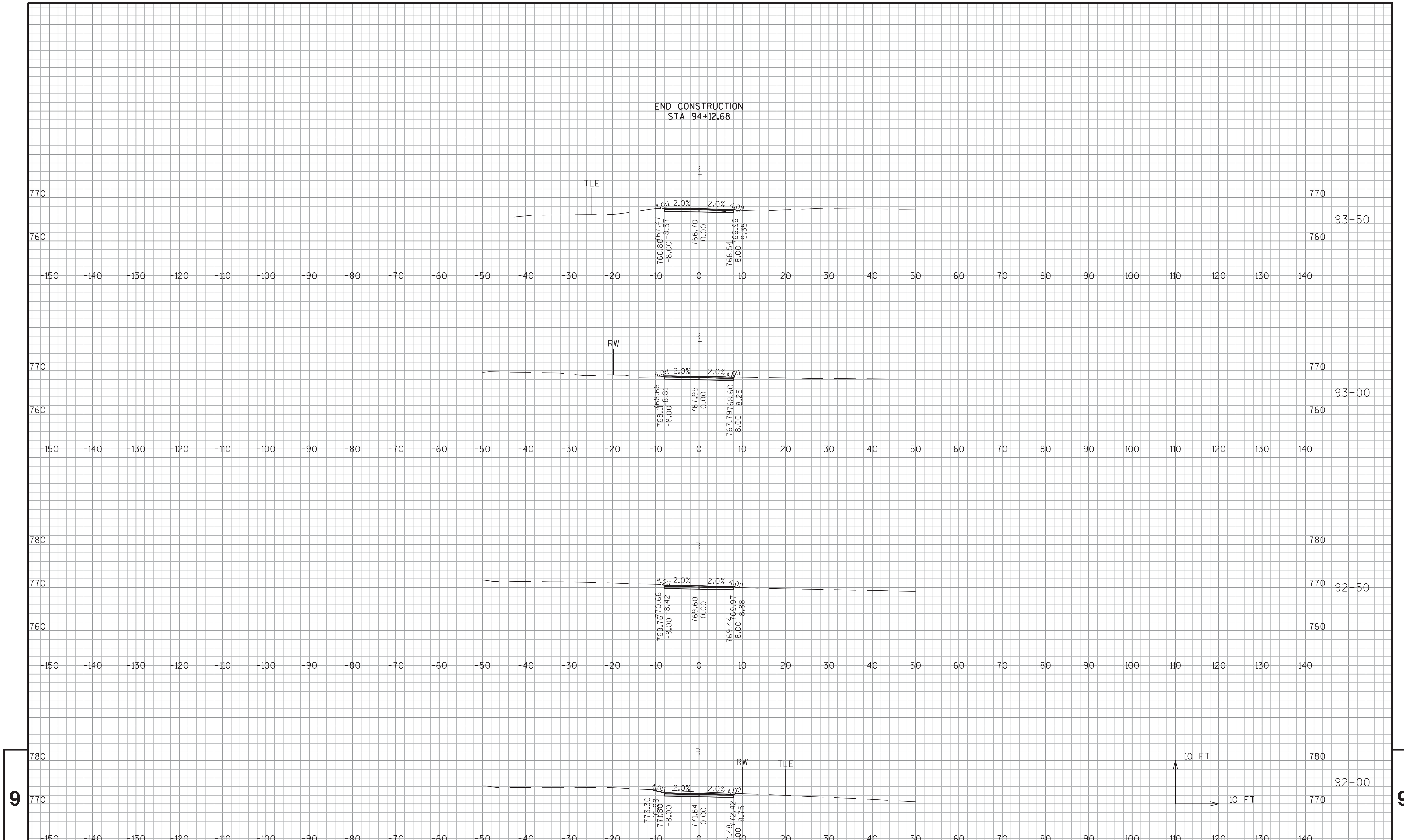
SHEET NAME: XSUSH18-OLD 18 EAST02



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: DRIVEWAY C	SHEET 717	E

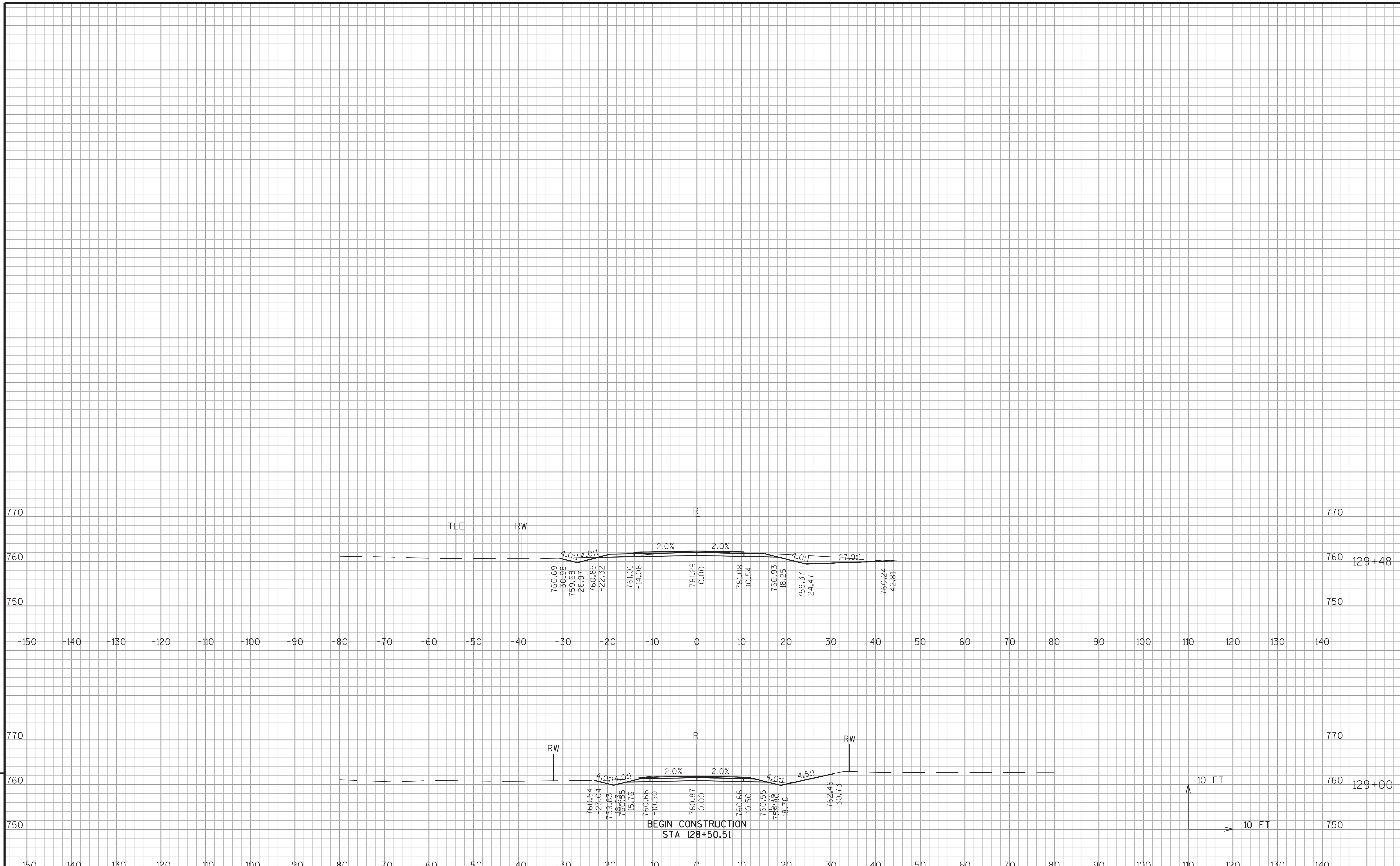
FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-33000 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-DRIVEWAY C01



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: DRIVEWAY C	SHEET 718 E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-33000 XSUSH18-SIDEROADS.DWG
SHEET NAME: XSUSH18-DRIVEWAY C02

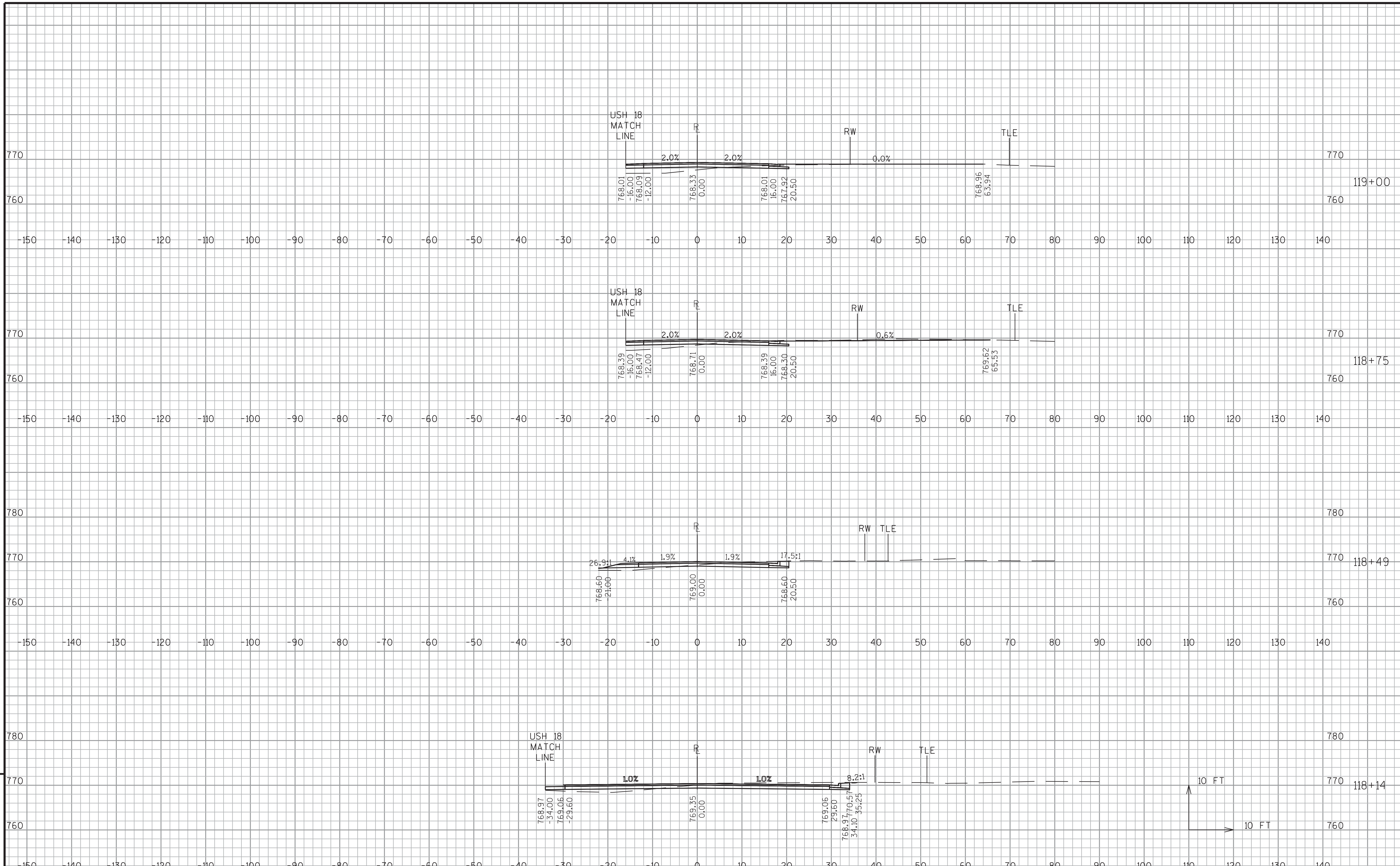


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: GOLF VIEW ROAD	SHEET 719	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-33000 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-GOLF VIEW 2



9

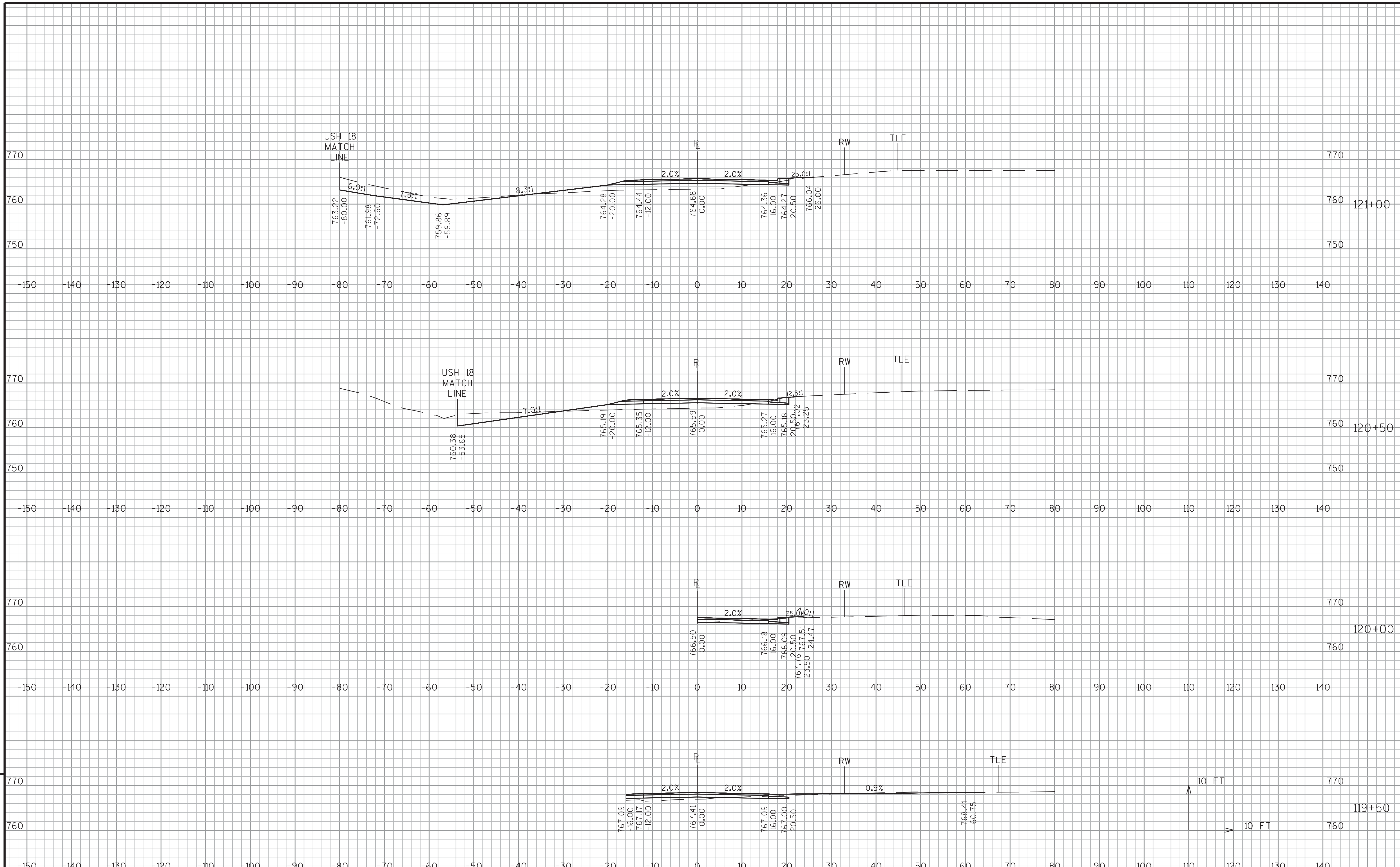
9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: GOLF VIEW DRIVE	SHEET 720	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-33000 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-GOLF VIEW01

9

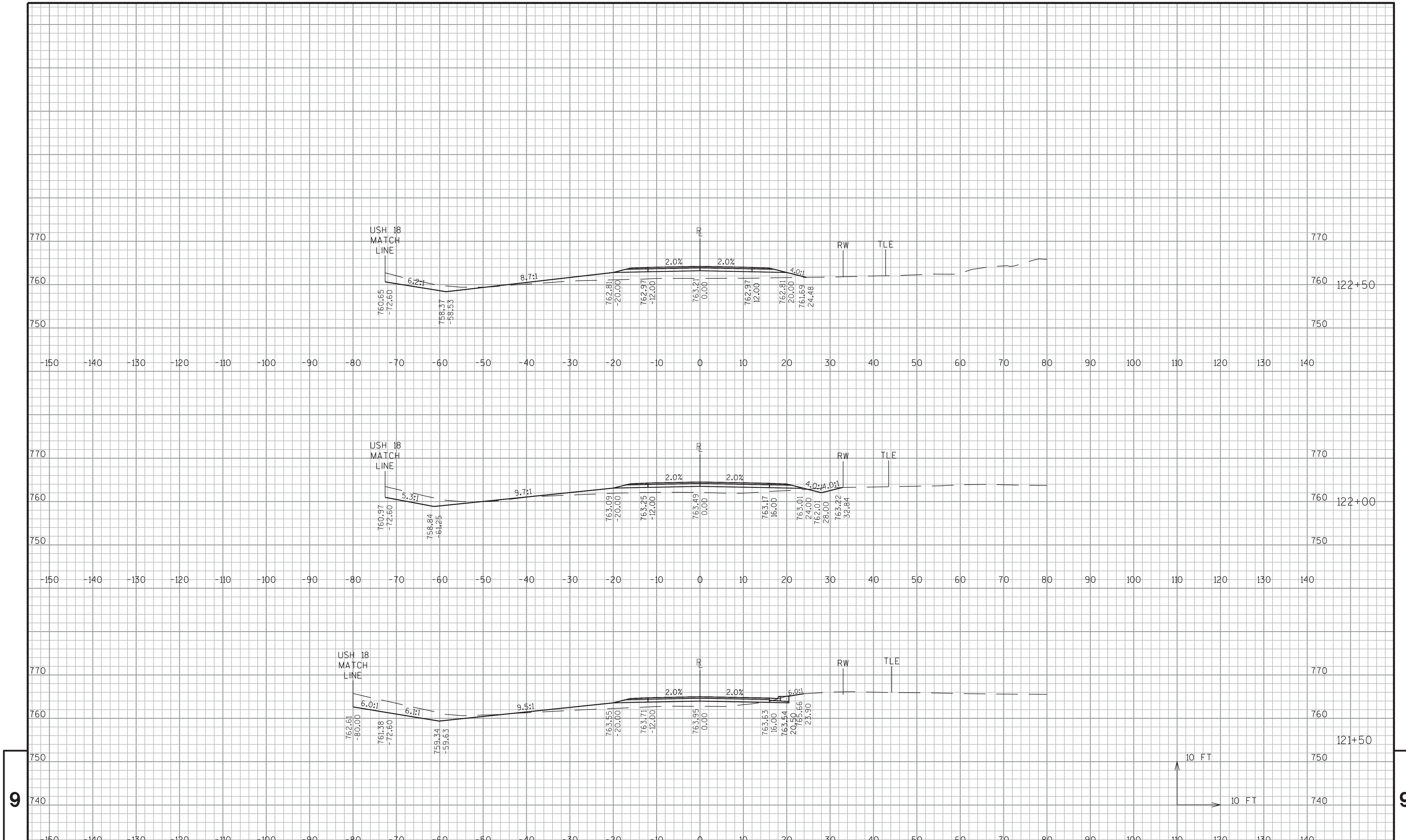


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: GOLF VIEW DRIVE	SHEET	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-33000 XSUSH18-SIDEROADS.DWG

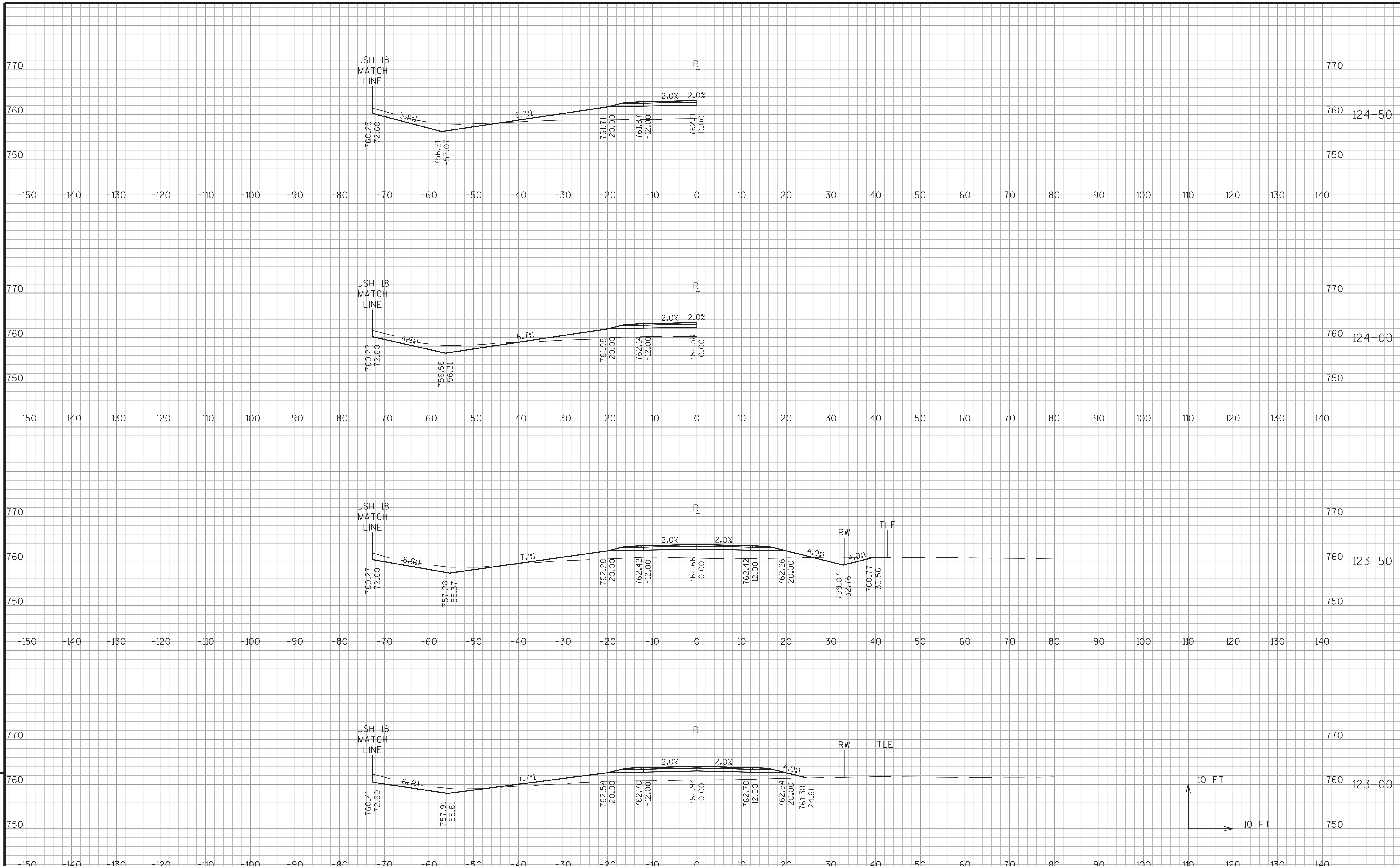
SHEET NAME: XSUSH18-GOLF VIEW02



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: GOLF VIEW DRIVE	SHEET 722 E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-33000 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-GOLF VIEW03



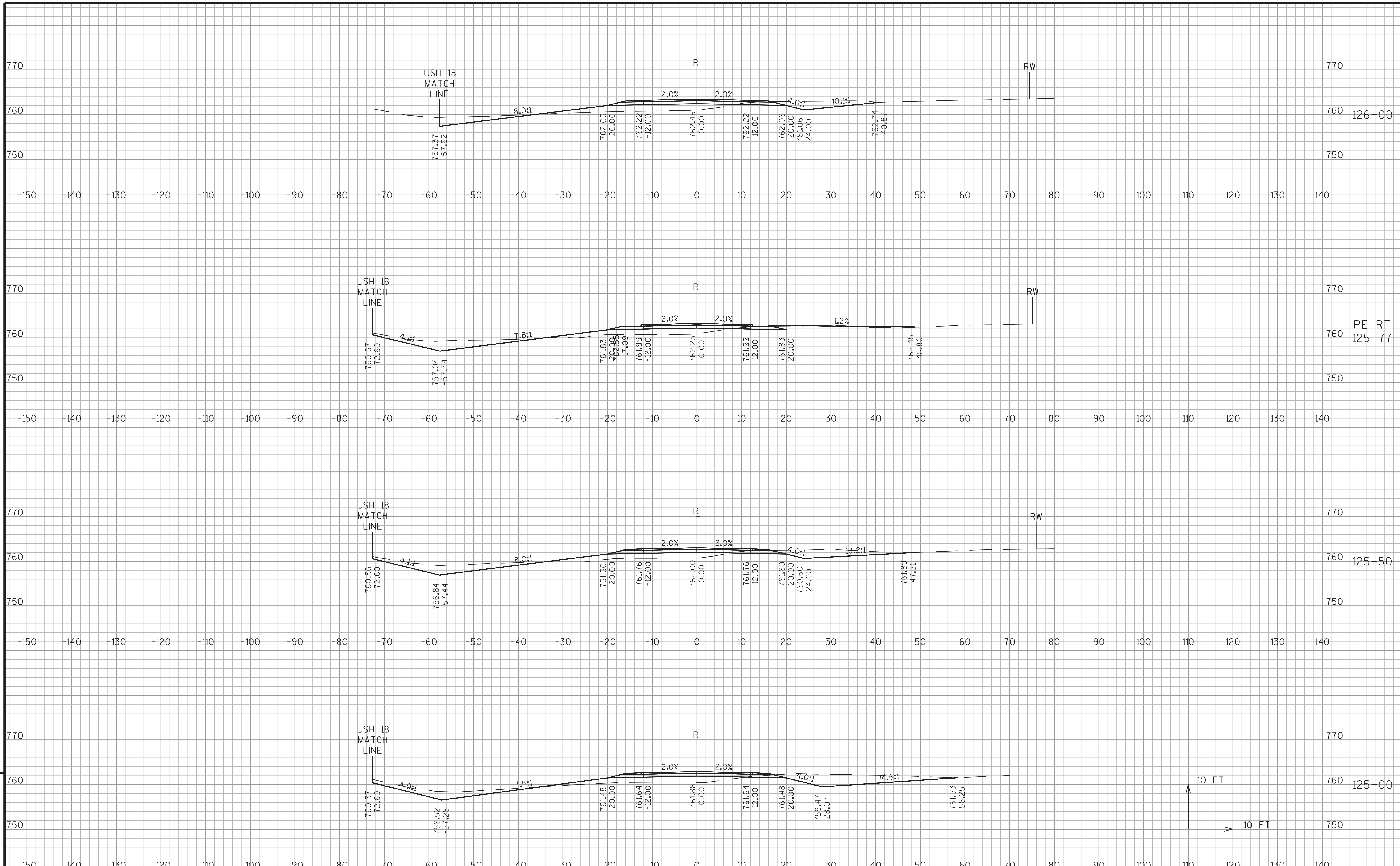
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: GOLF VIEW DRIVE	SHEET 723	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-33000 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-GOLF VIEW04

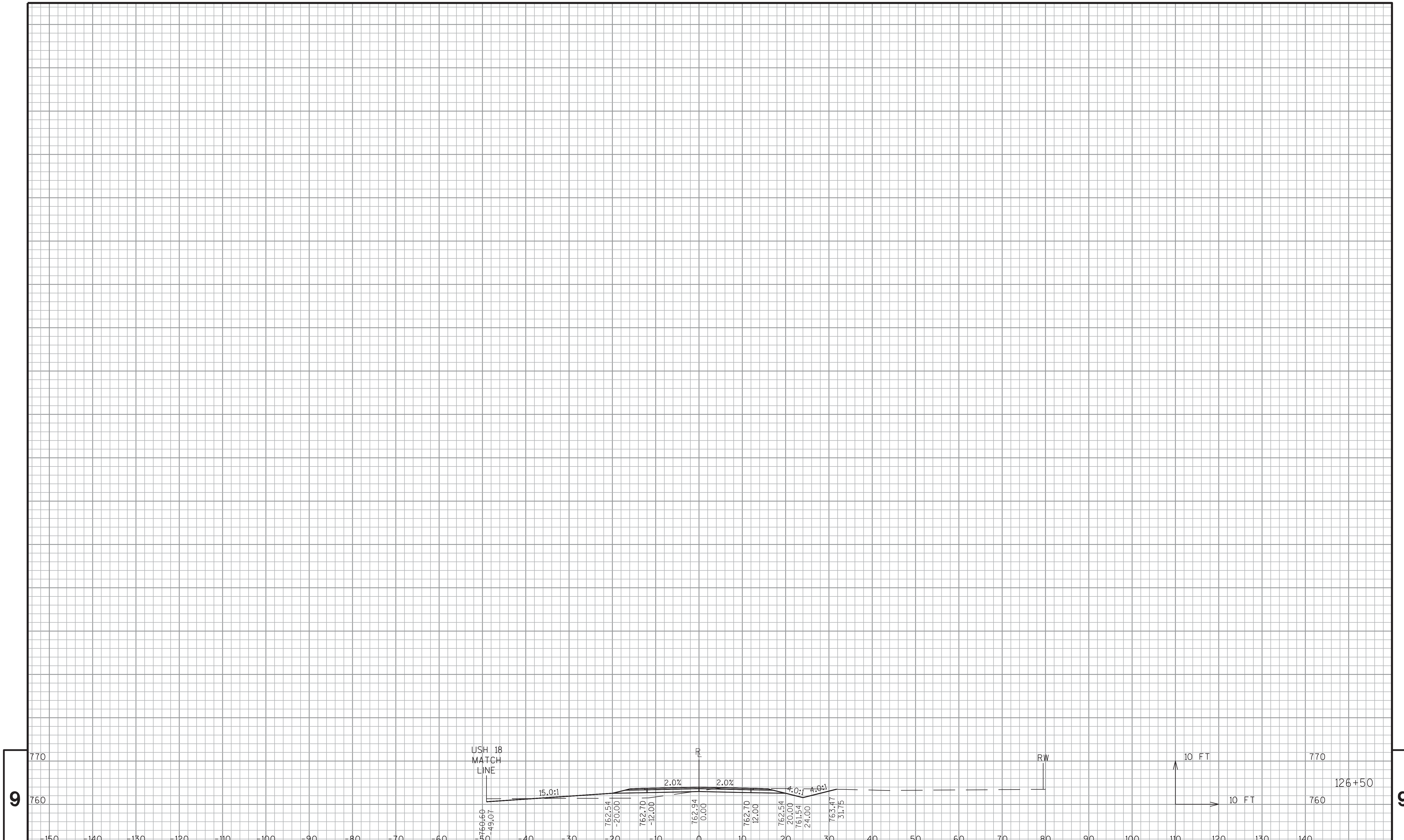


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: GOLF VIEW DRIVE	SHEET 724	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-33000 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-GOLF VIEW05

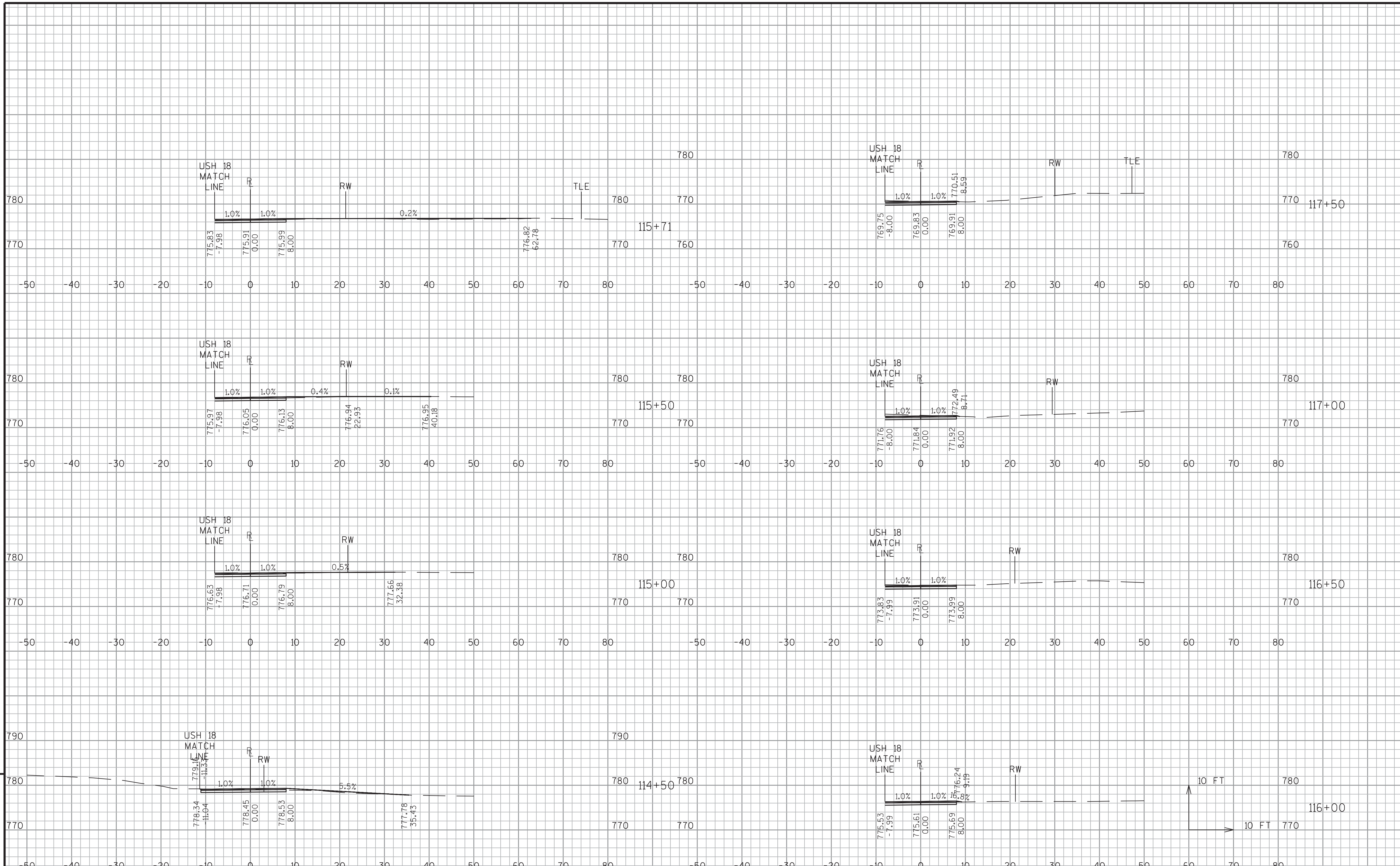


PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: GOLF VIEW DRIVE	SHEET 725	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-33000 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-GOLF VIEW06

9

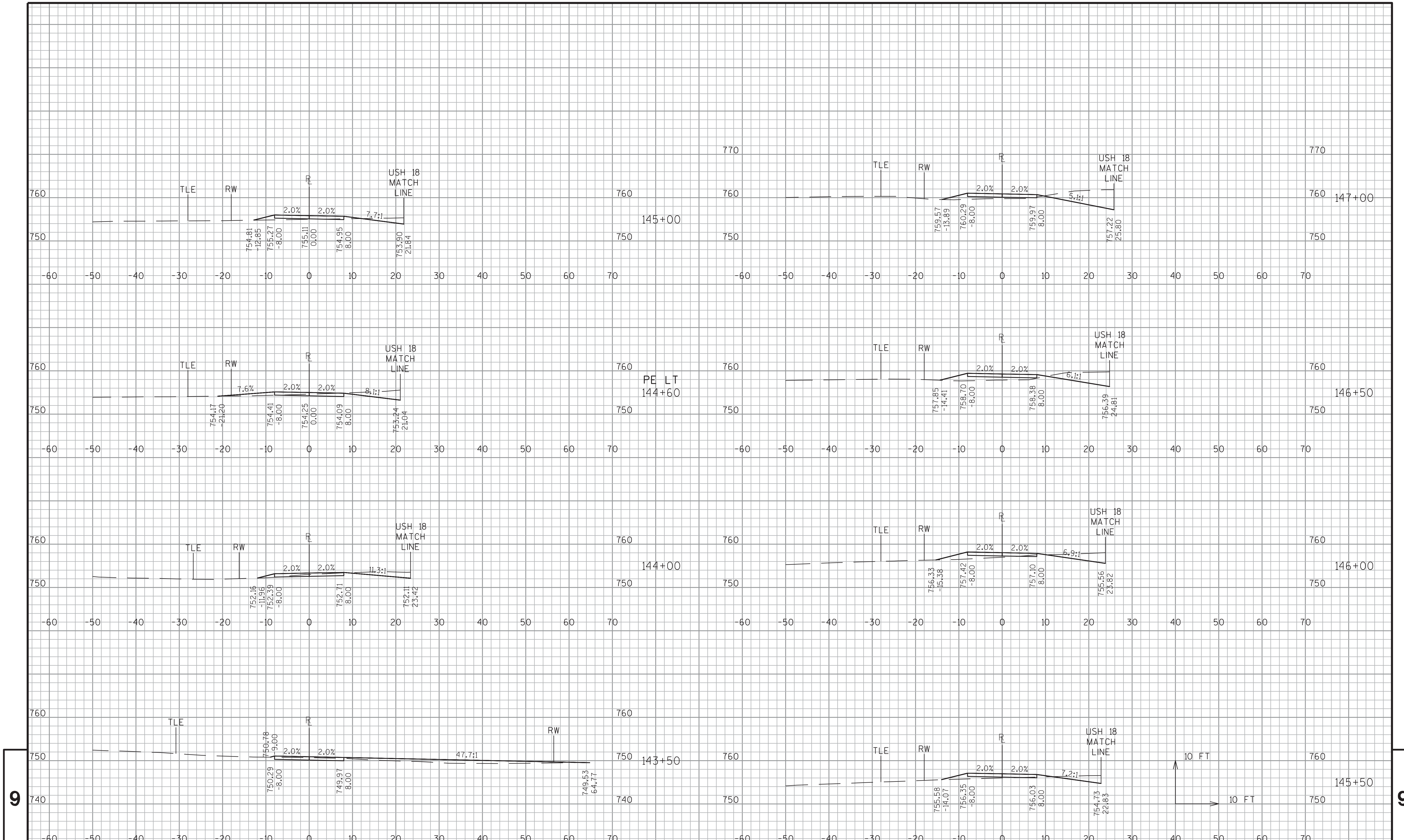


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: DRIVEWAY D	SHEET 726	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-33000 XSUSH18-SIDEROADS.DWG

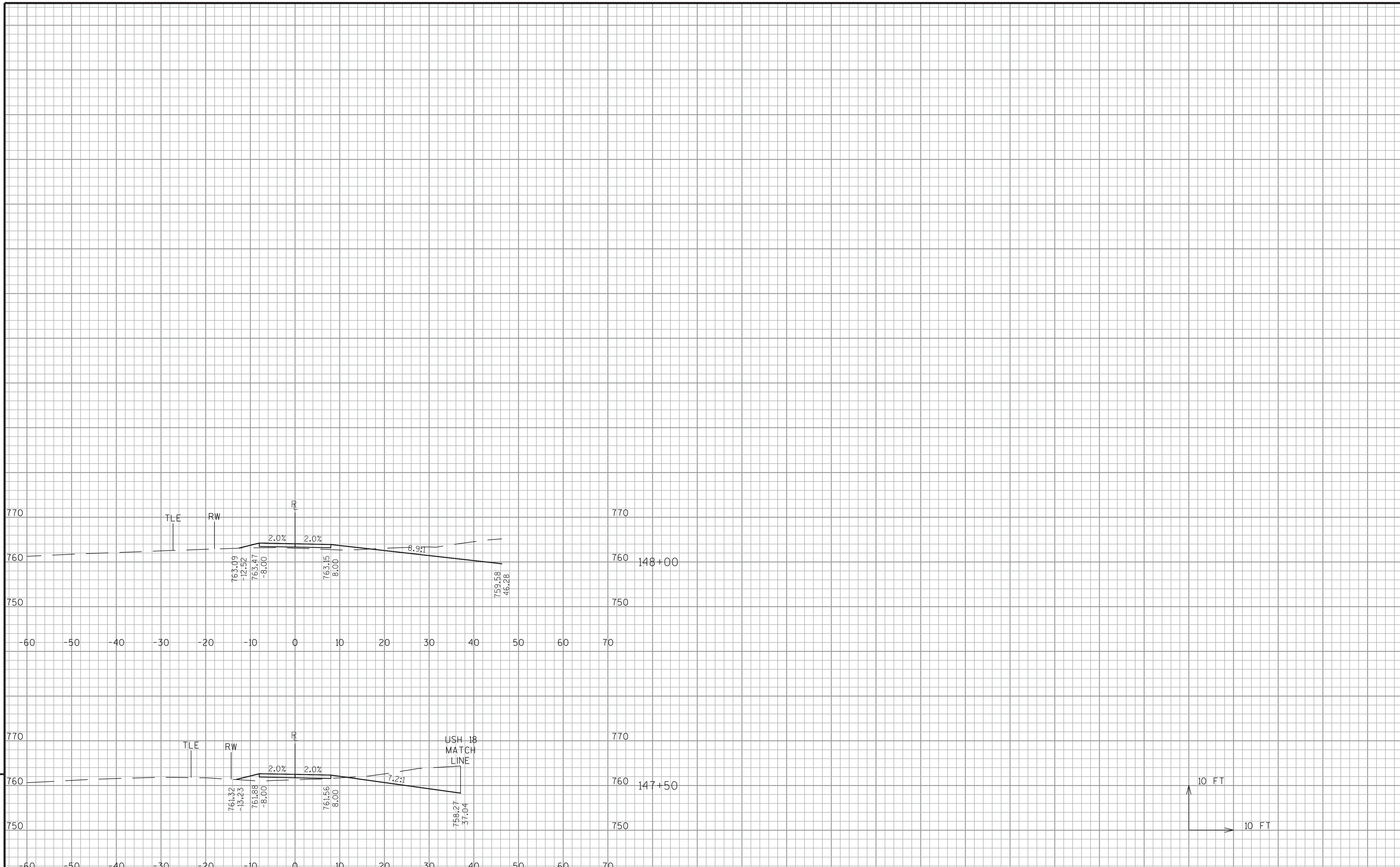
SHEET NAME: XSUSH18-DRIVEWAY D01



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: DRIVEWAY E	SHEET 727	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-33000 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-DRIVEWAY E01

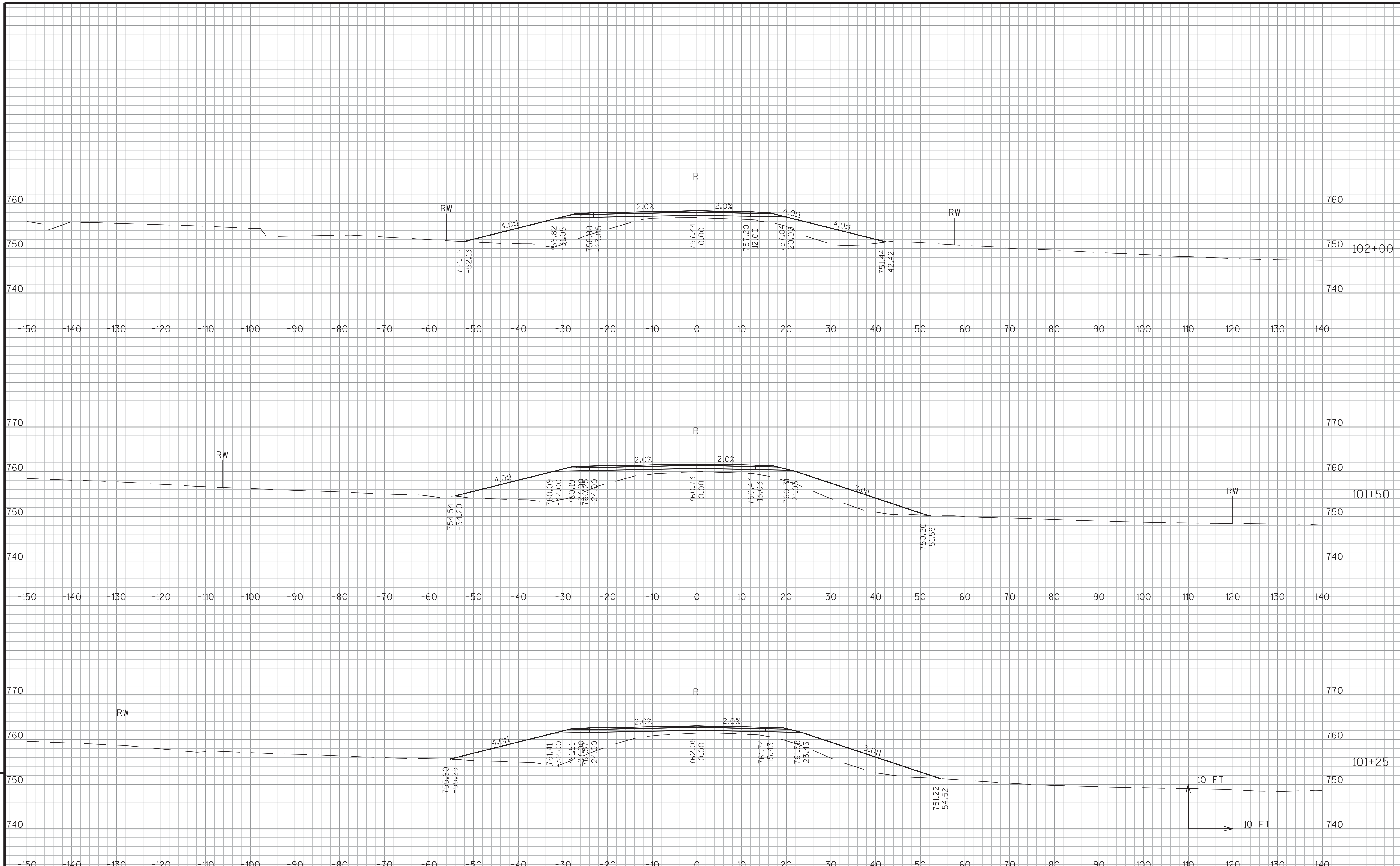


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: DRIVEWAY E	SHEET 728	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-33000 XSUSH18-SIDEROADS.DWG

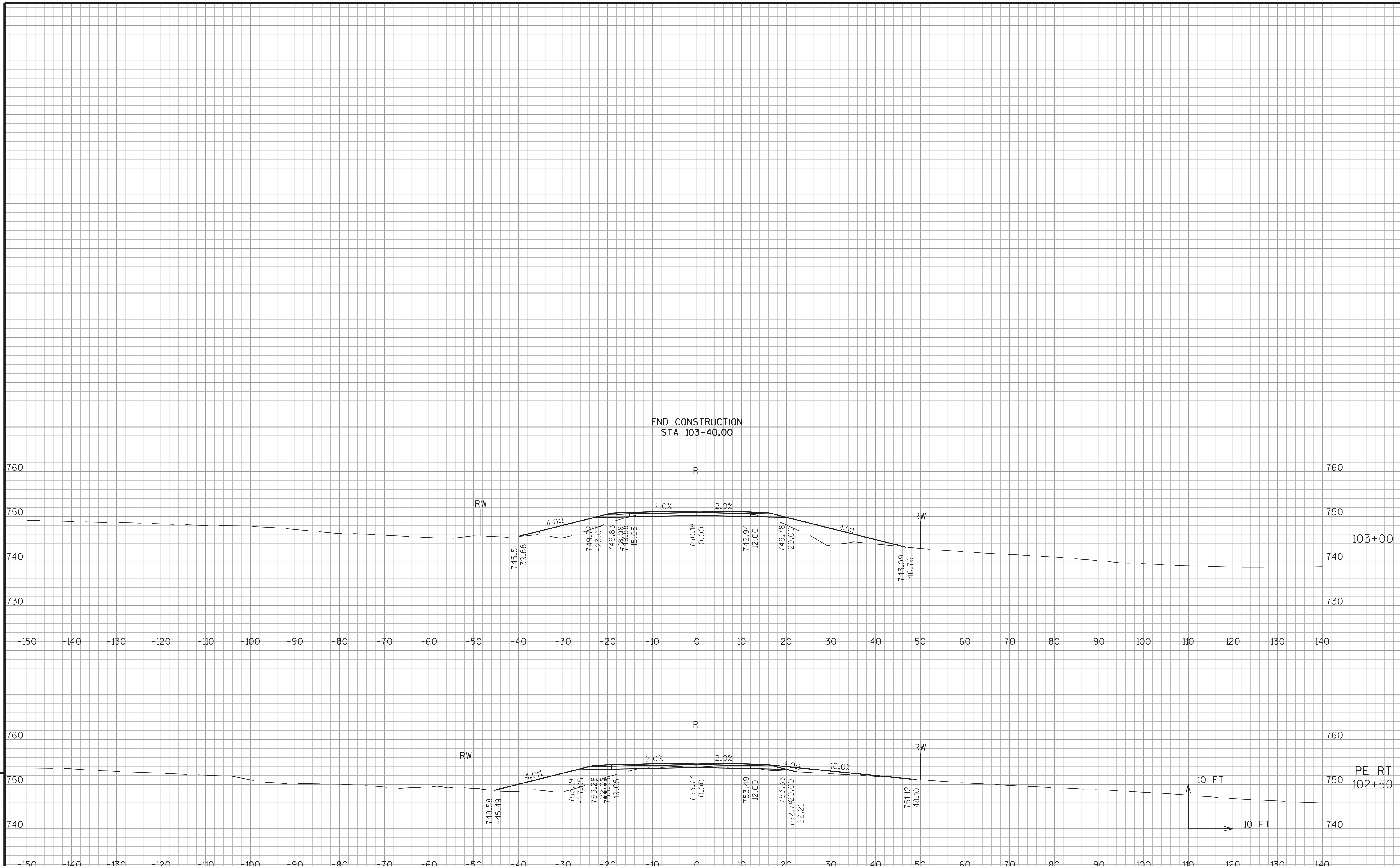
SHEET NAME: XSUSH18-DRIVEWAY E02



9 | PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: BOUSKA RD | SHEET 729 | E | 9

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-33000 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-BOUSKA RD01



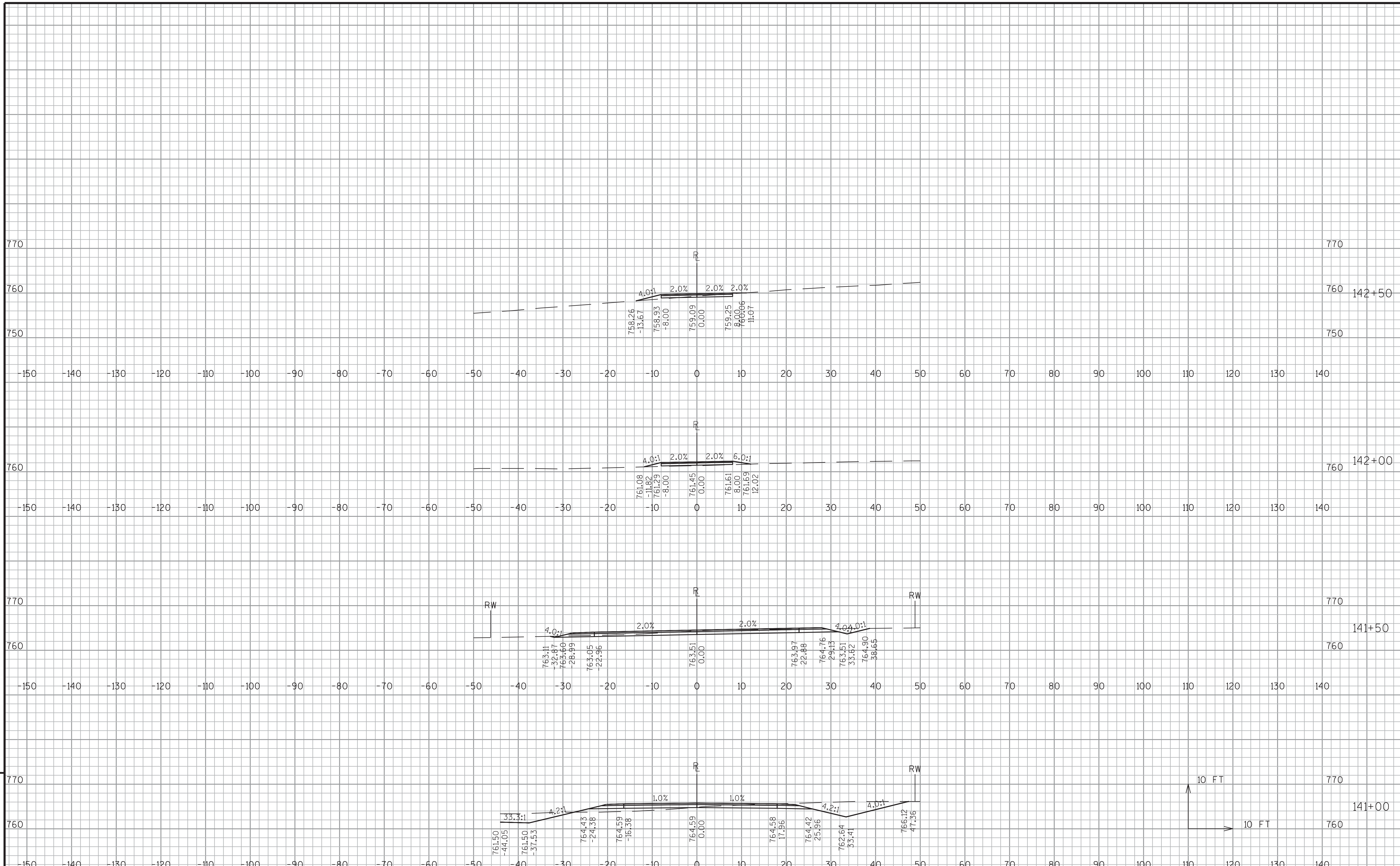
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: BOUSKA RD	SHEET 730	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-33000 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-BOUSKA RD02



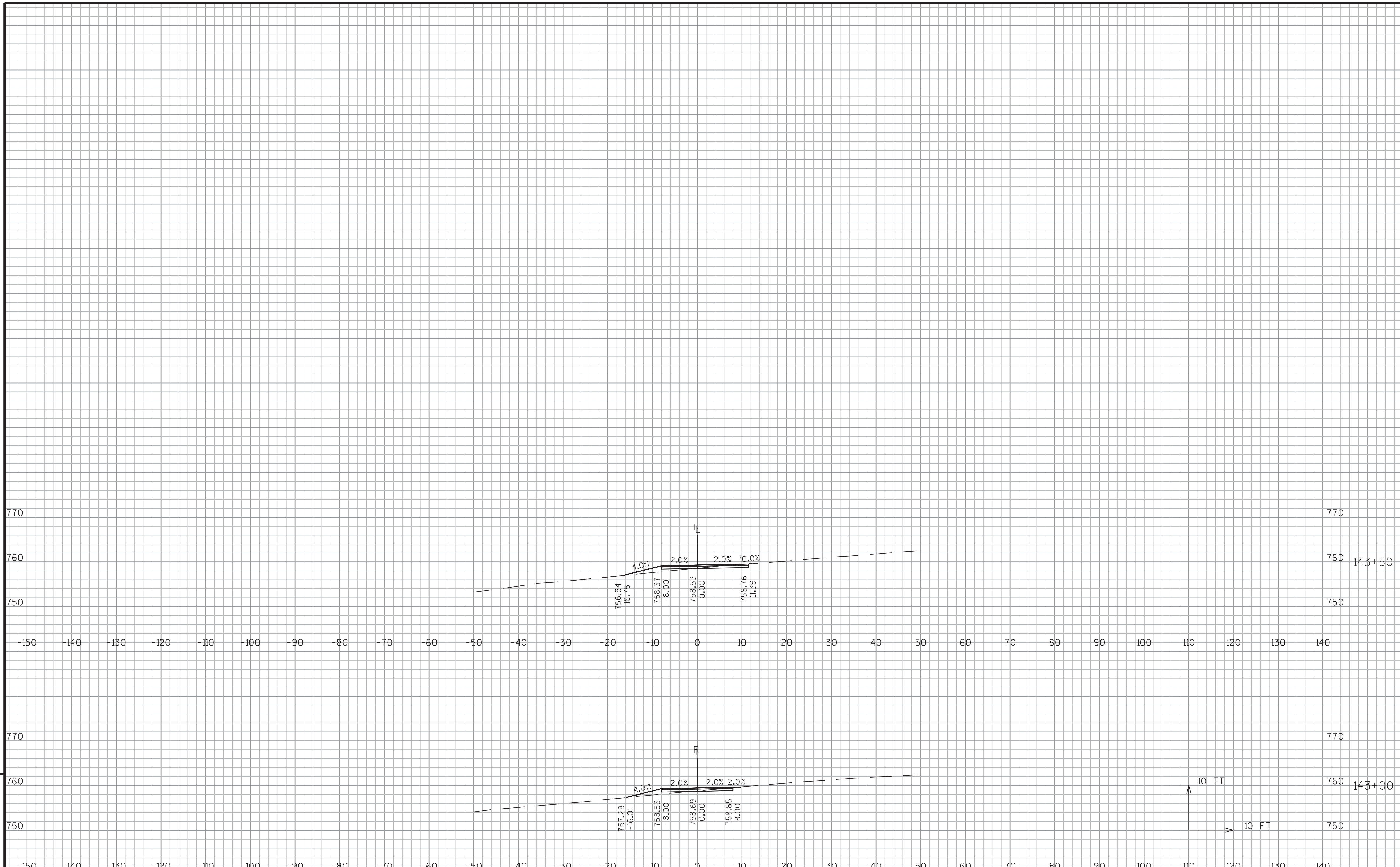
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: NEW FRONTAGE RD	SHEET 731	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±25800-33000 XSUSH18-SIDEROADS.DWG

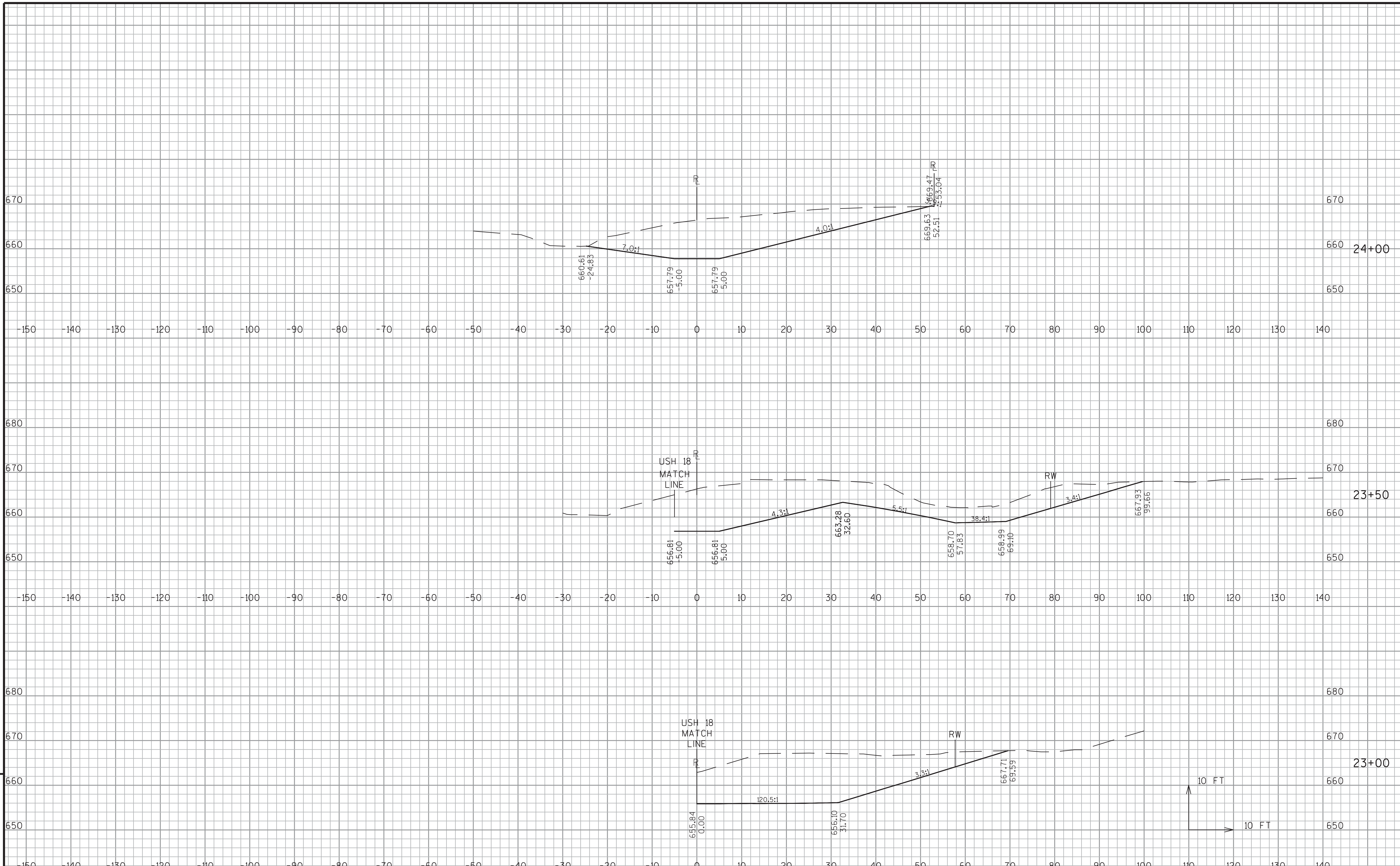
SHEET NAME: XSUSH18-FRONT ENT01



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: NEW FRONTAGE RD	SHEET 732	E

FILE NAME : N:\PDS\C3D\16610508\SHEETSPLAN\SECTIONS\25800-33000 XSUSH18-SIDEROADS.DWG

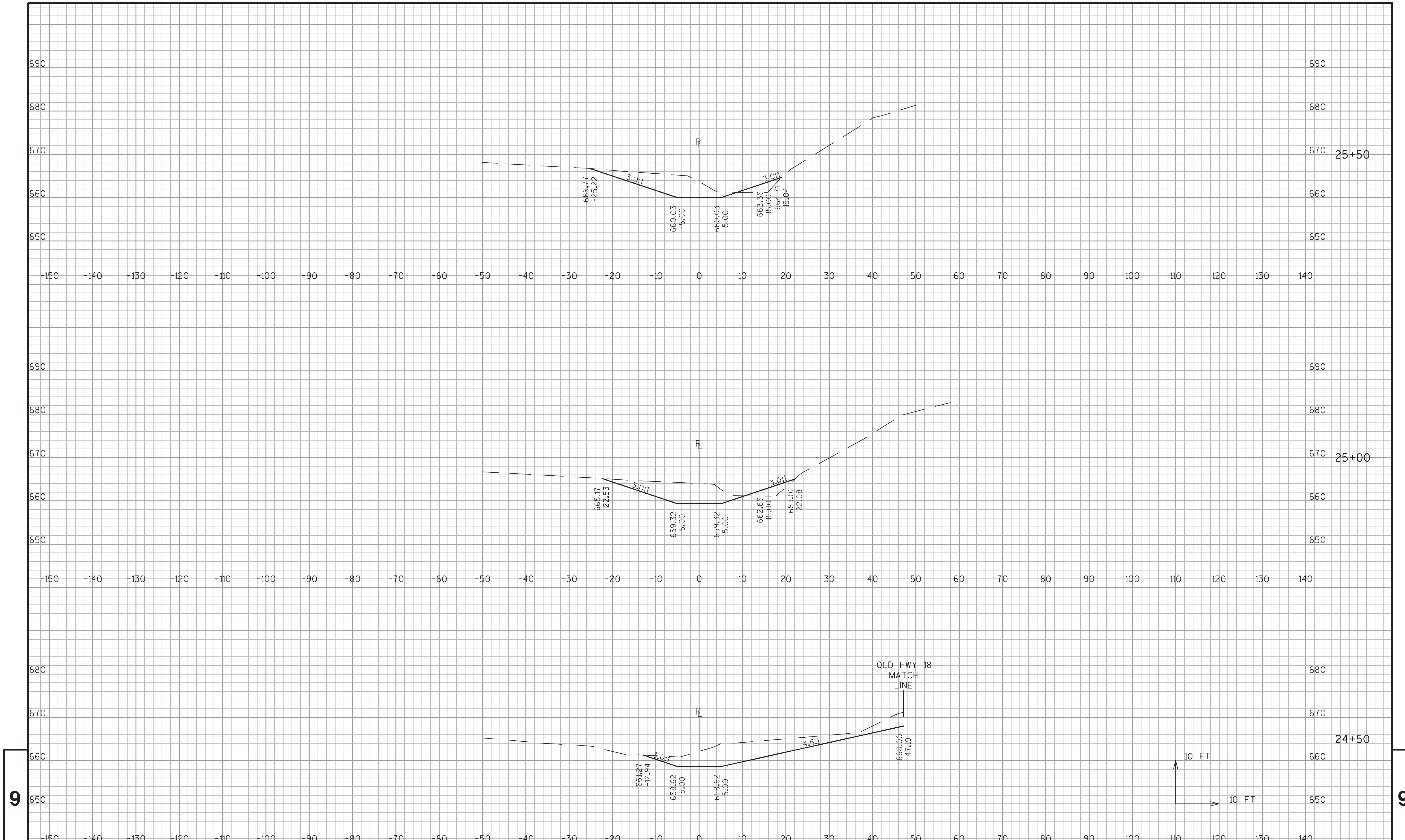
SHEET NAME: XSUSH18-FRONT ENT02



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: REALIGNMENT CHANNEL	SHEET 733	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

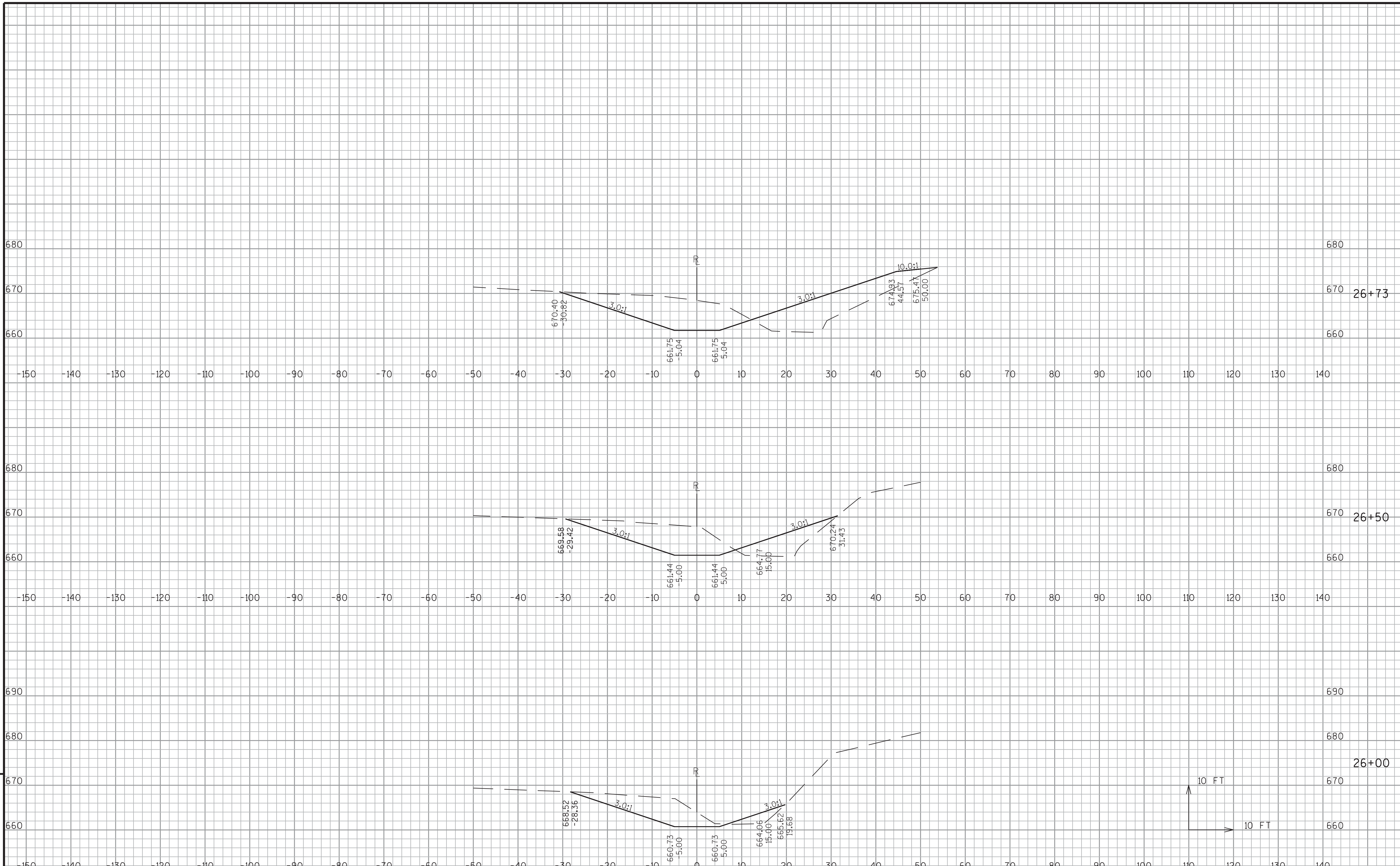
SHEET NAME: XSUSH18-CHANNEL01



PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: REALIGNMENT CHANNEL | SHEET 734 | E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-CHANNEL02

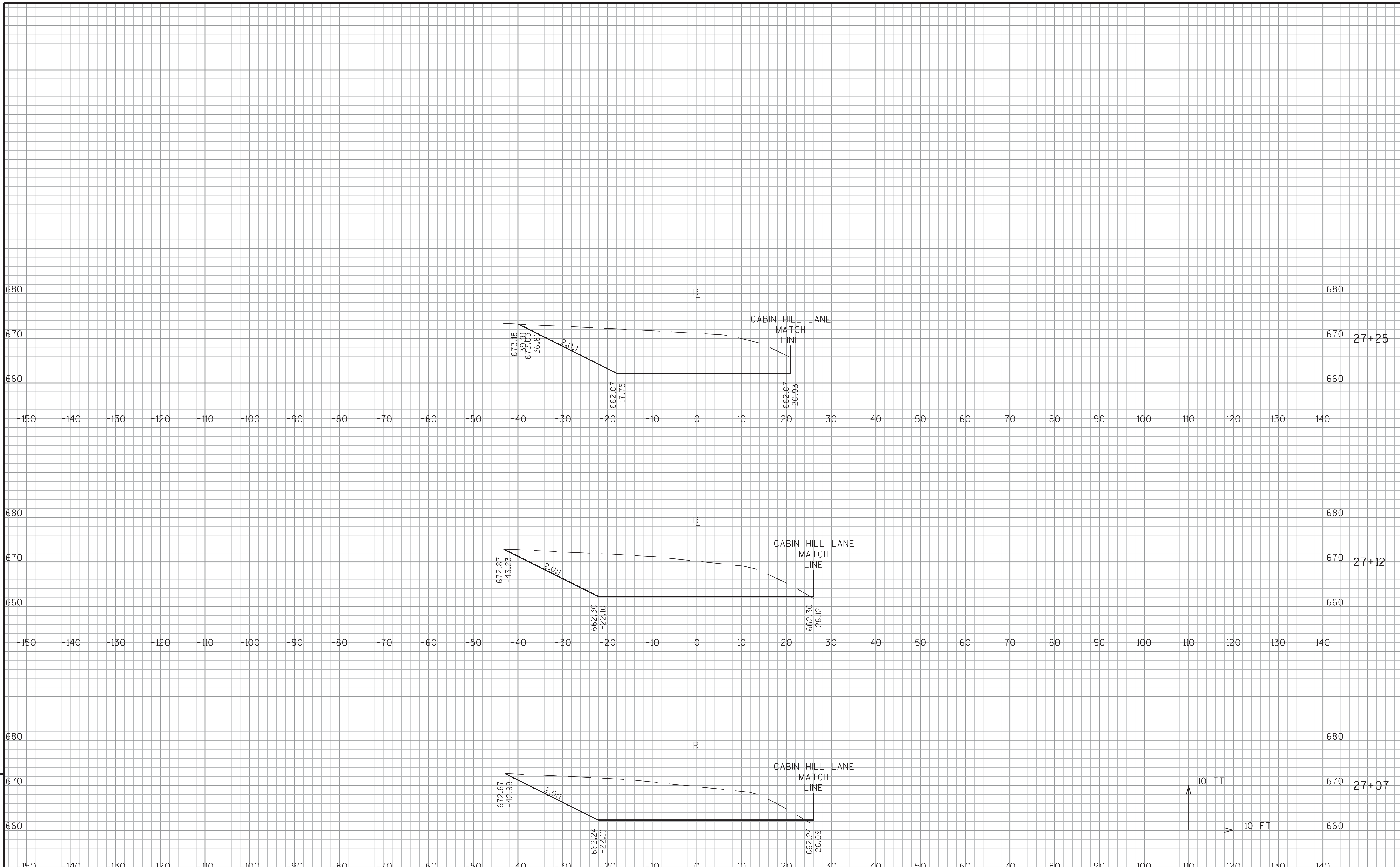


9 | 9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: REALIGNMENT CHANNEL	SHEET 735	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-CHANNEL03



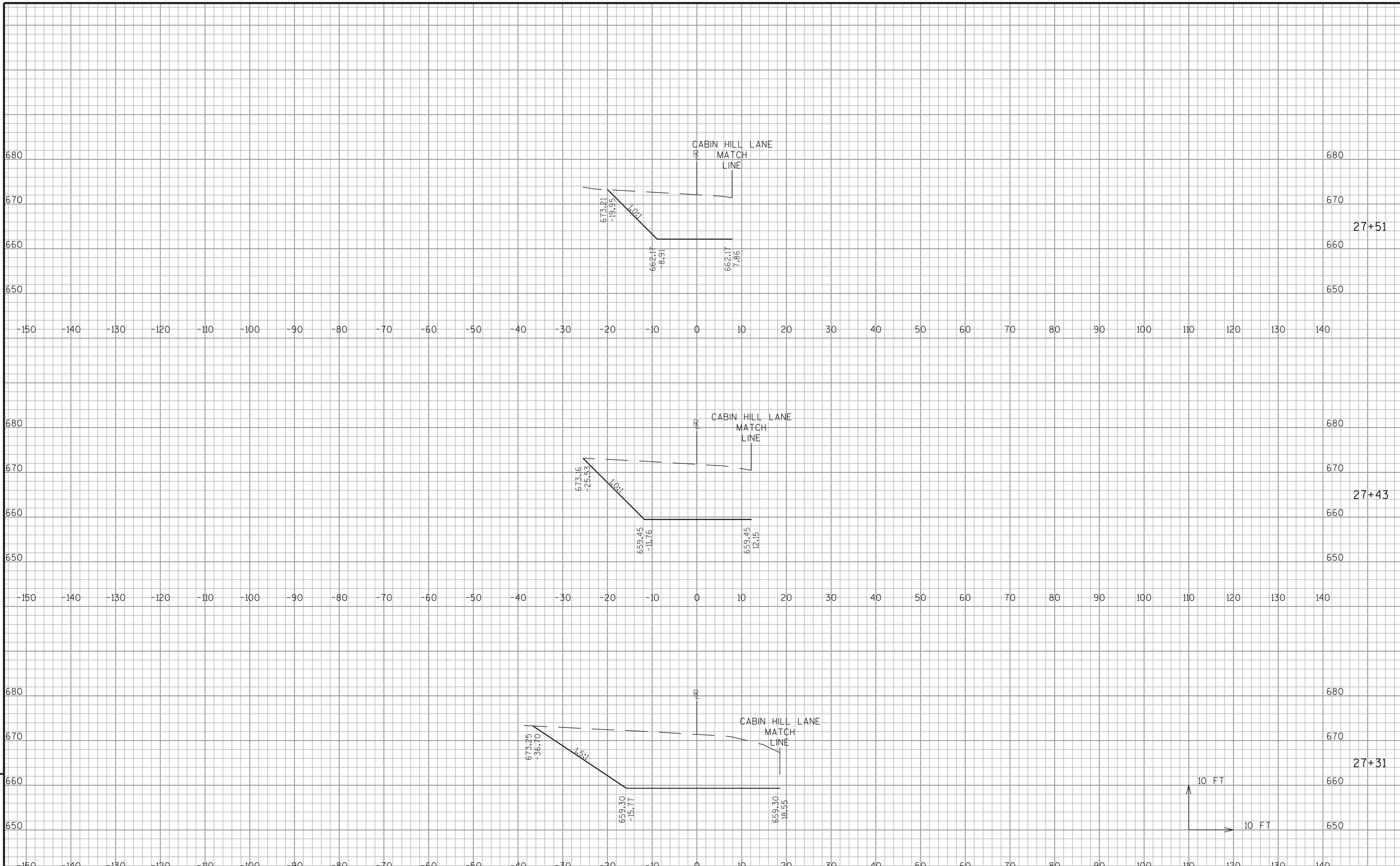
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: REALIGNMENT CHANNEL	SHEET 736	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-CHANNEL04



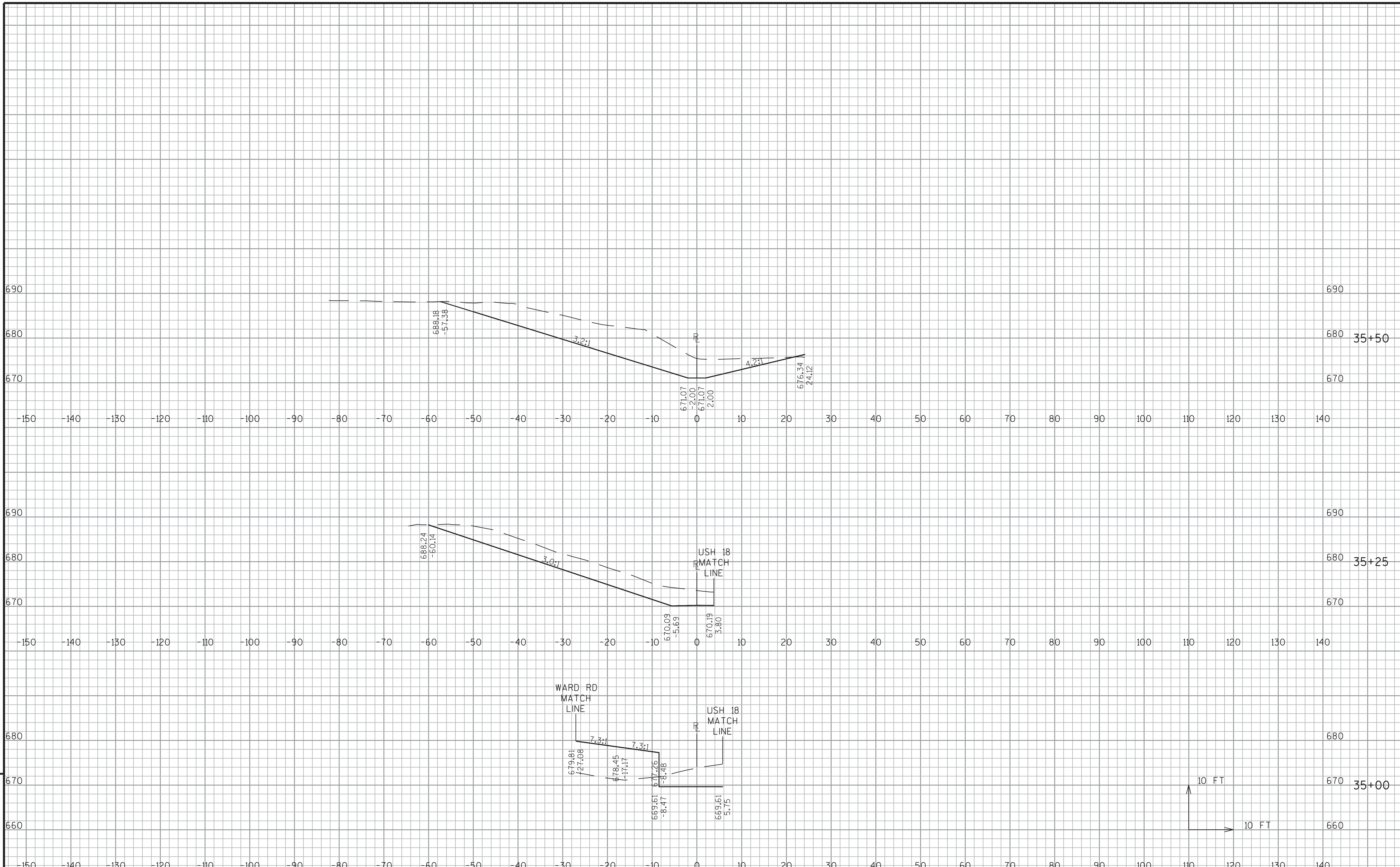
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: REALIGNMENT CHANNEL	SHEET 737	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-CHANNEL05



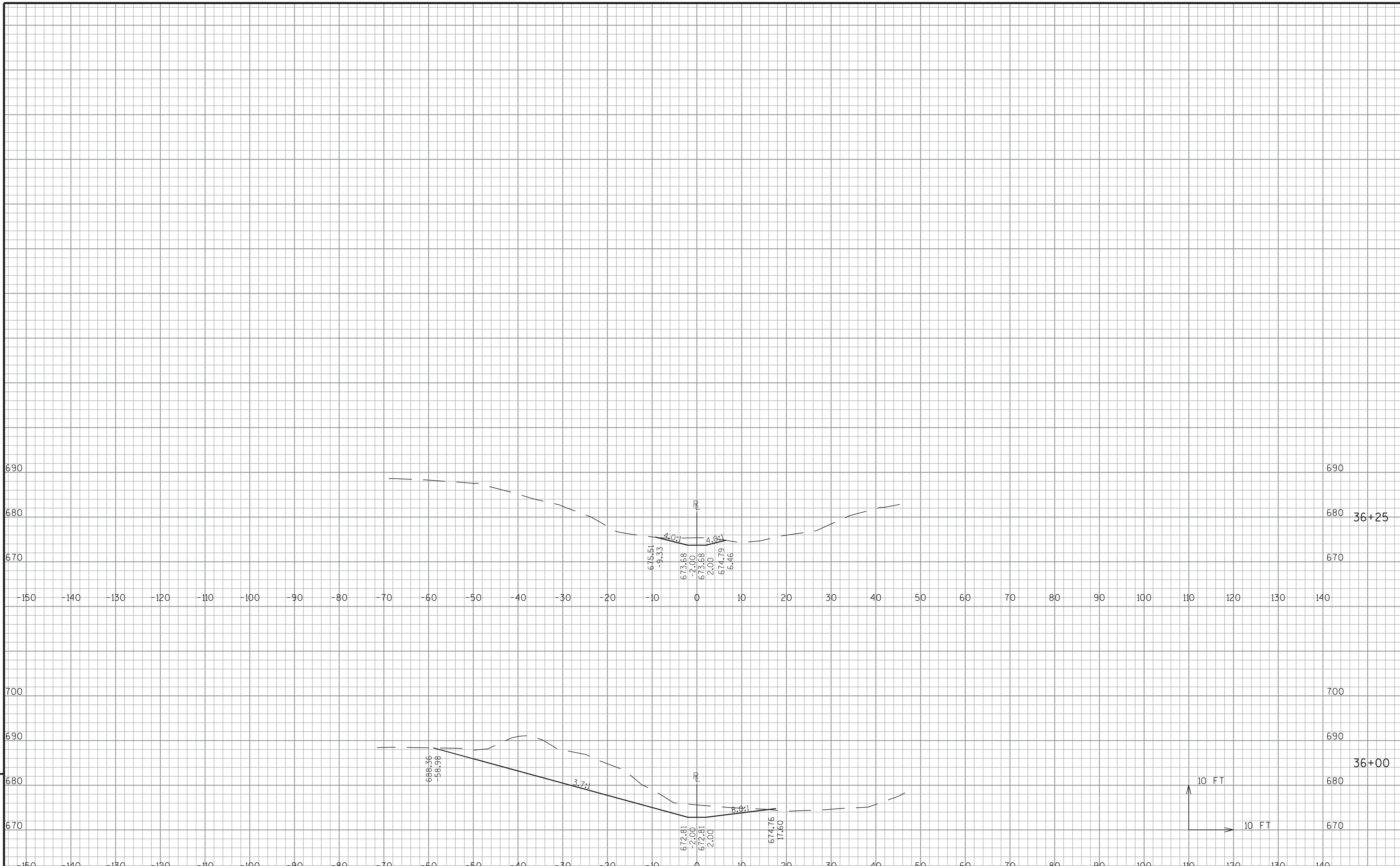
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: REALIGNMENT CHANNEL	SHEET 738	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-CHANNEL06

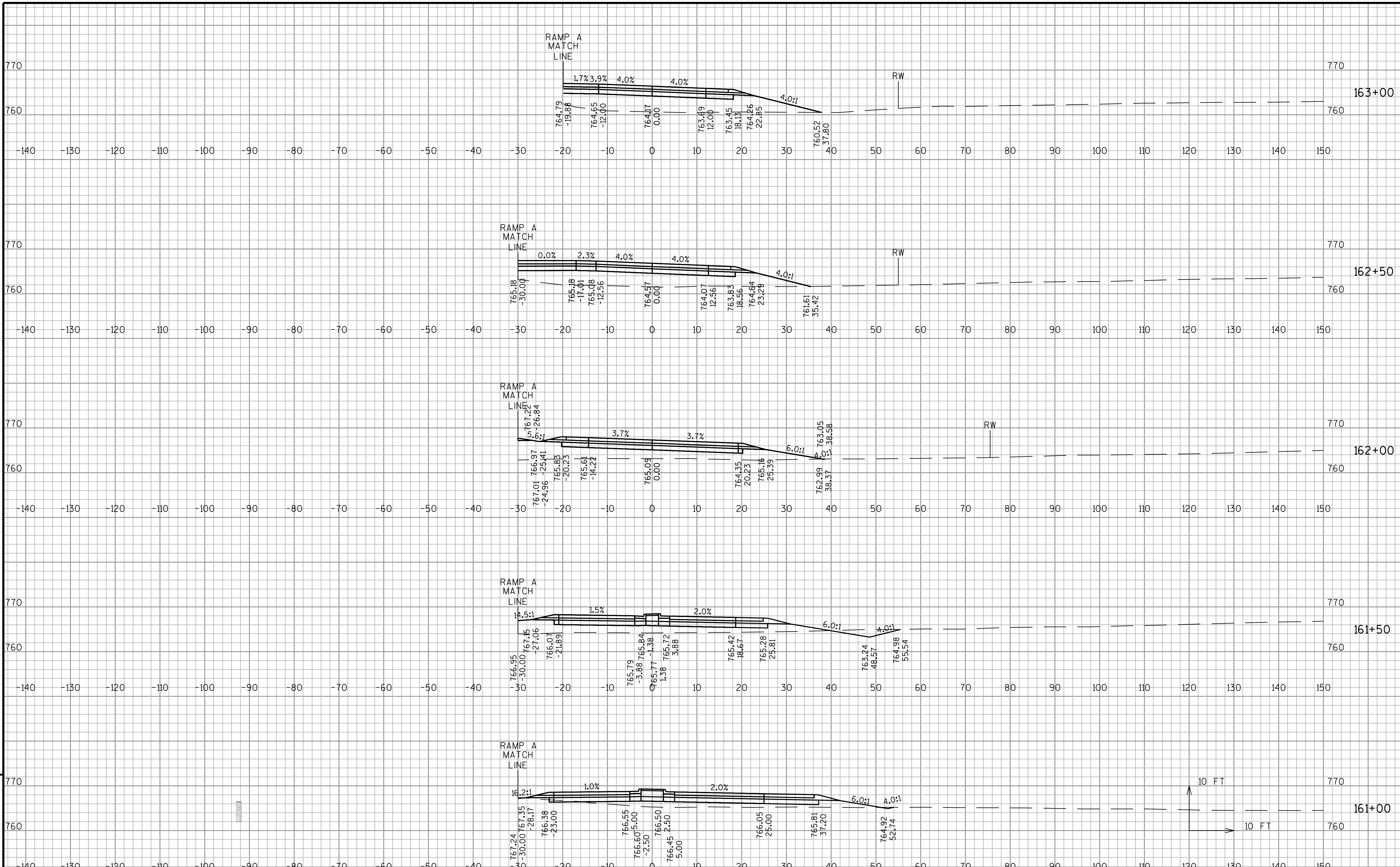


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: REALIGNMENT CHANNEL	SHEET 739	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±21200-25800 XSUSH18-SIDEROADS.DWG

SHEET NAME: XSUSH18-CHANNEL07



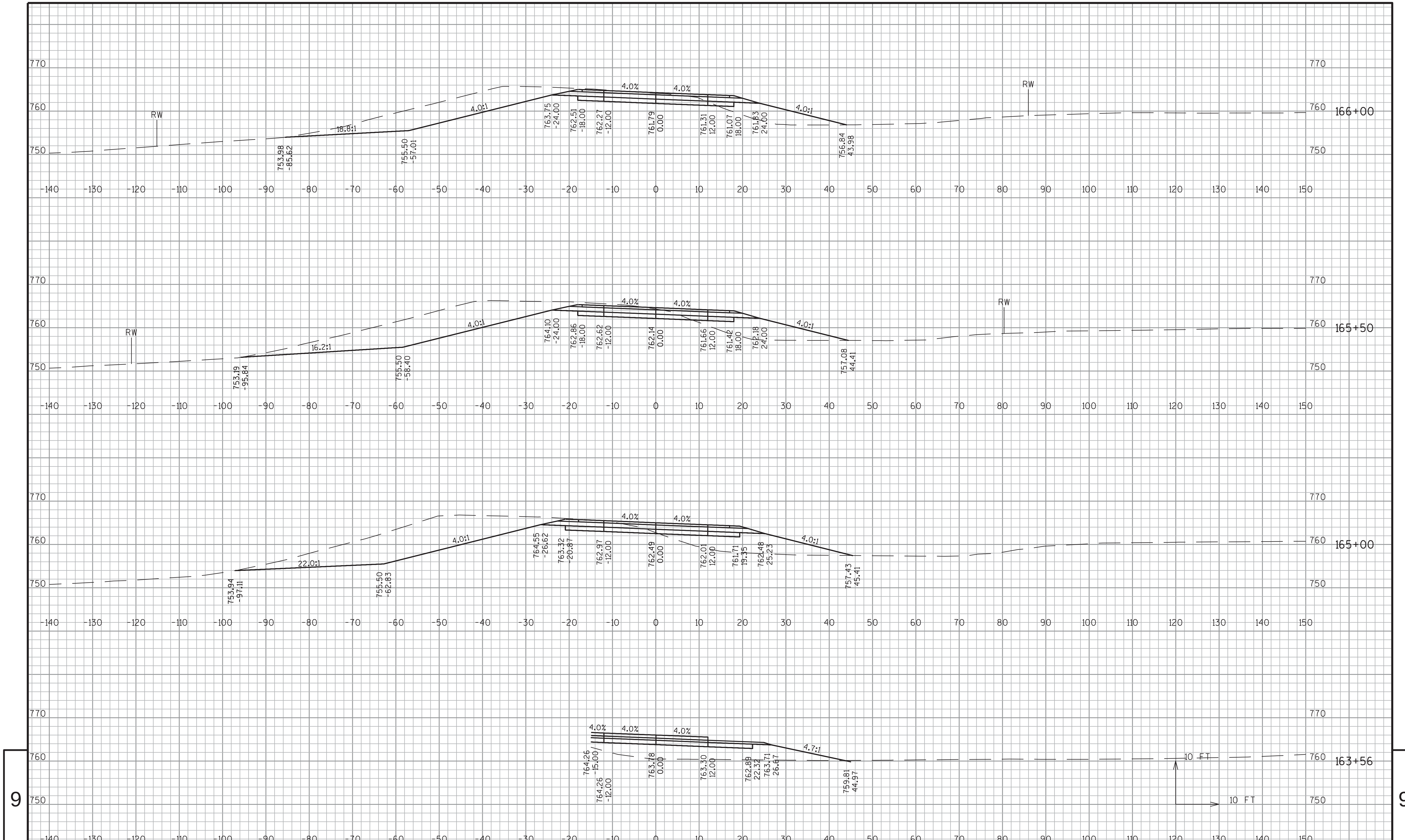
9

9

PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: STH 60 | SHEET 740 | E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

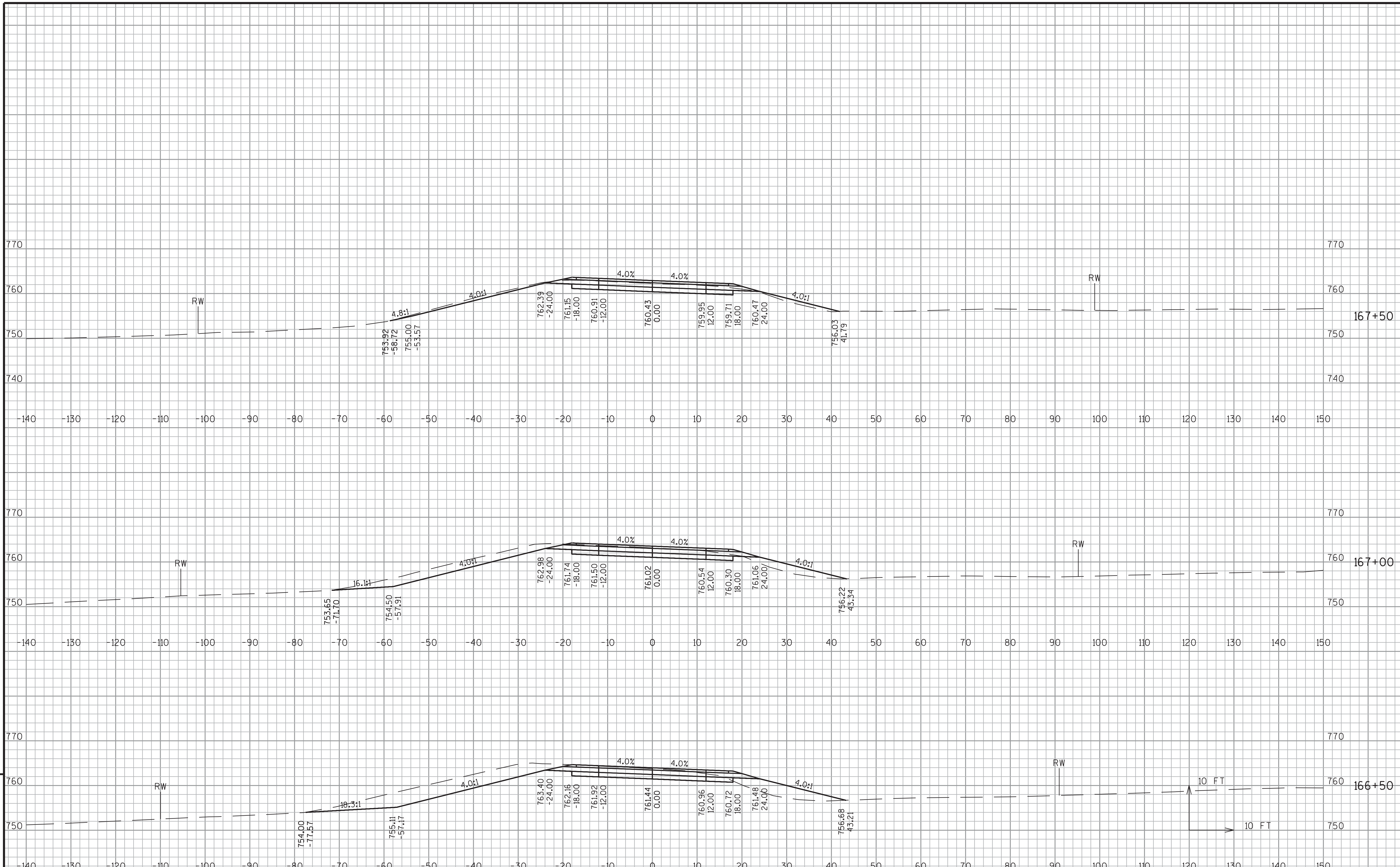
SHEET NAME: XSUSH18-STH6001



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: STH 60	SHEET 741	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18-STH6002



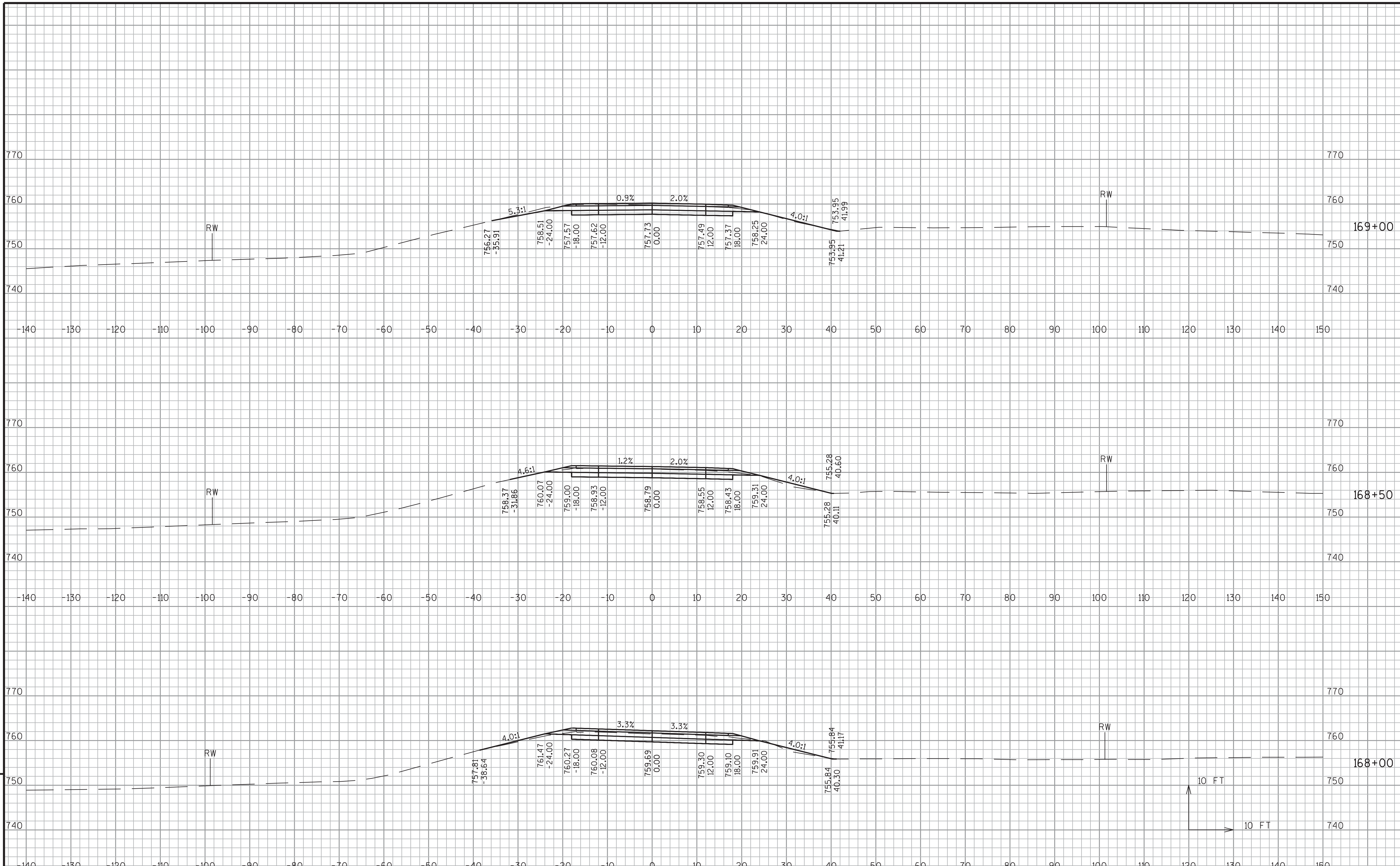
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: STH 60	SHEET 742	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18-STH6003



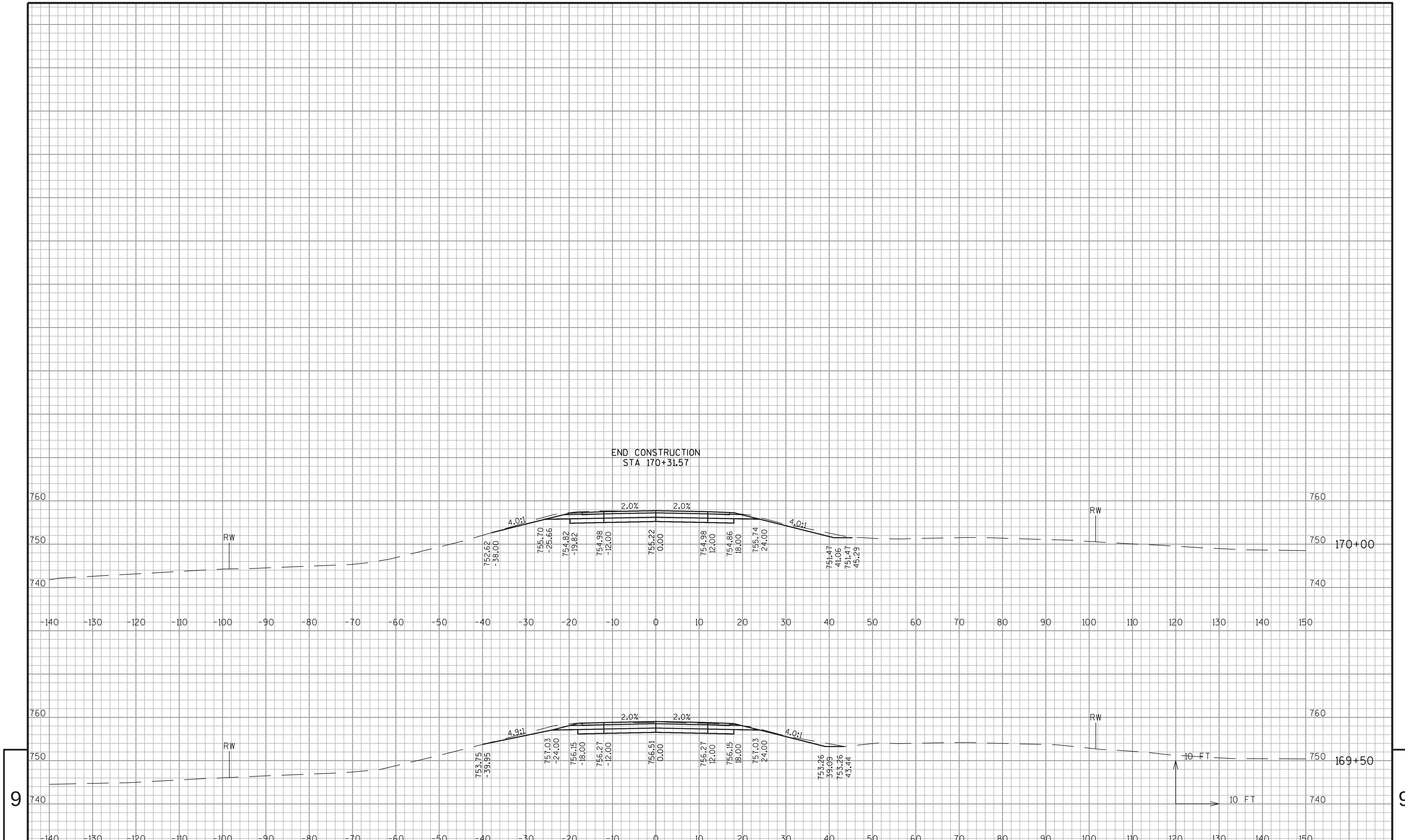
9

9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: STH 60	SHEET 743	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

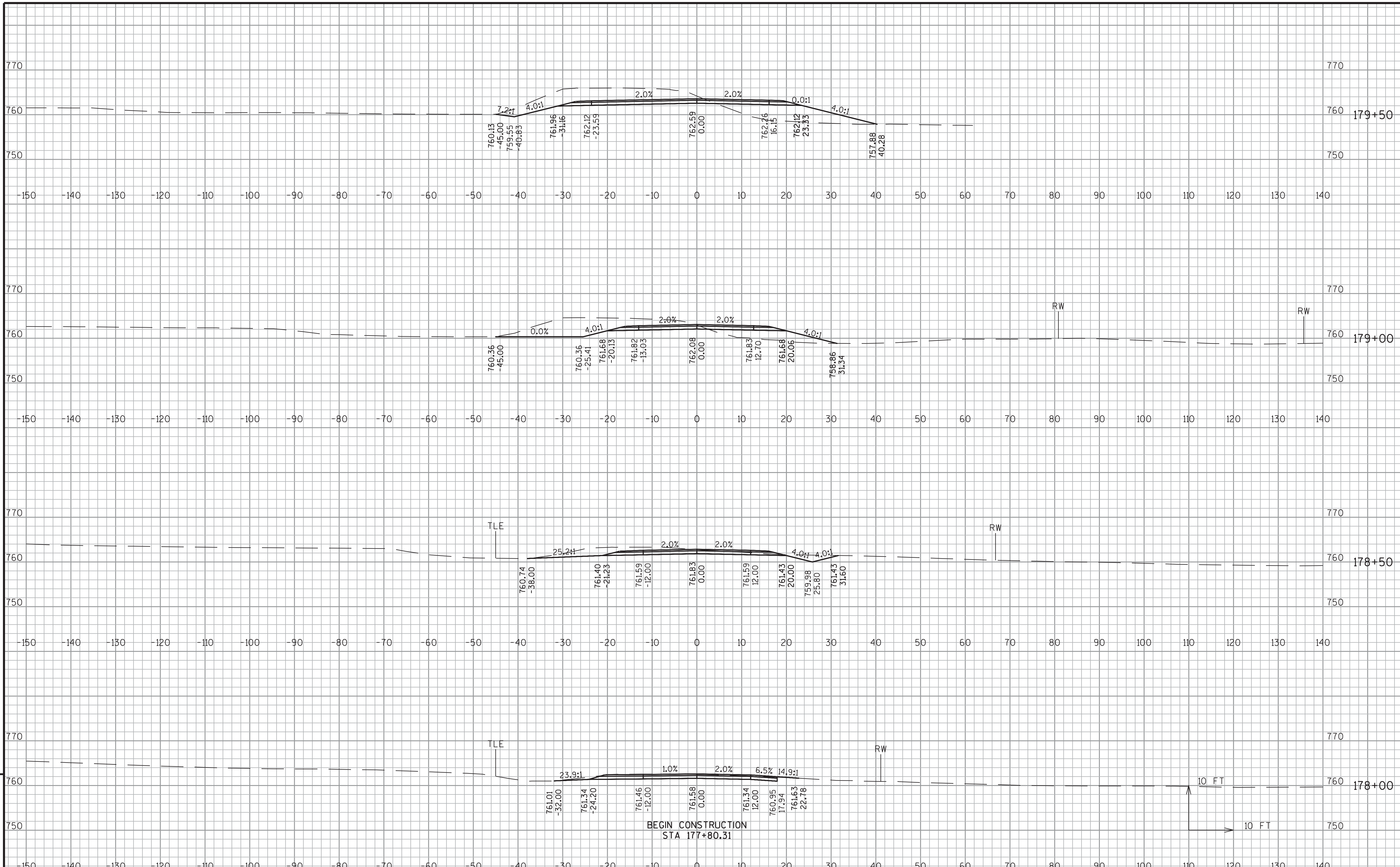
SHEET NAME: XSUSH18-STH6004



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: STH 60	SHEET 744	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18-STH6005



9

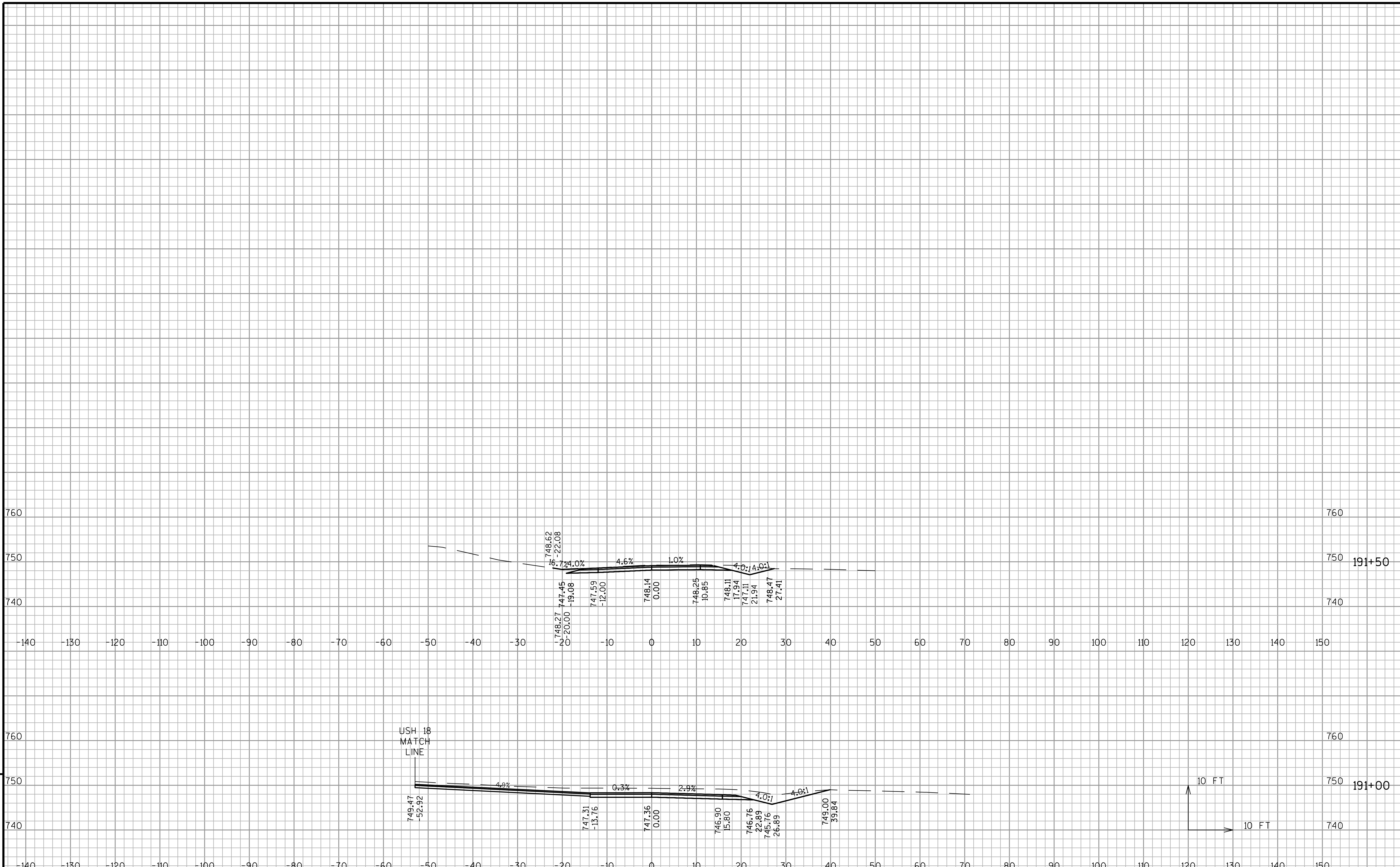
9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: UPPER BRIDGEPORT ROAD	SHEET 745	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18-UPPERBRIDGEPORT01

9

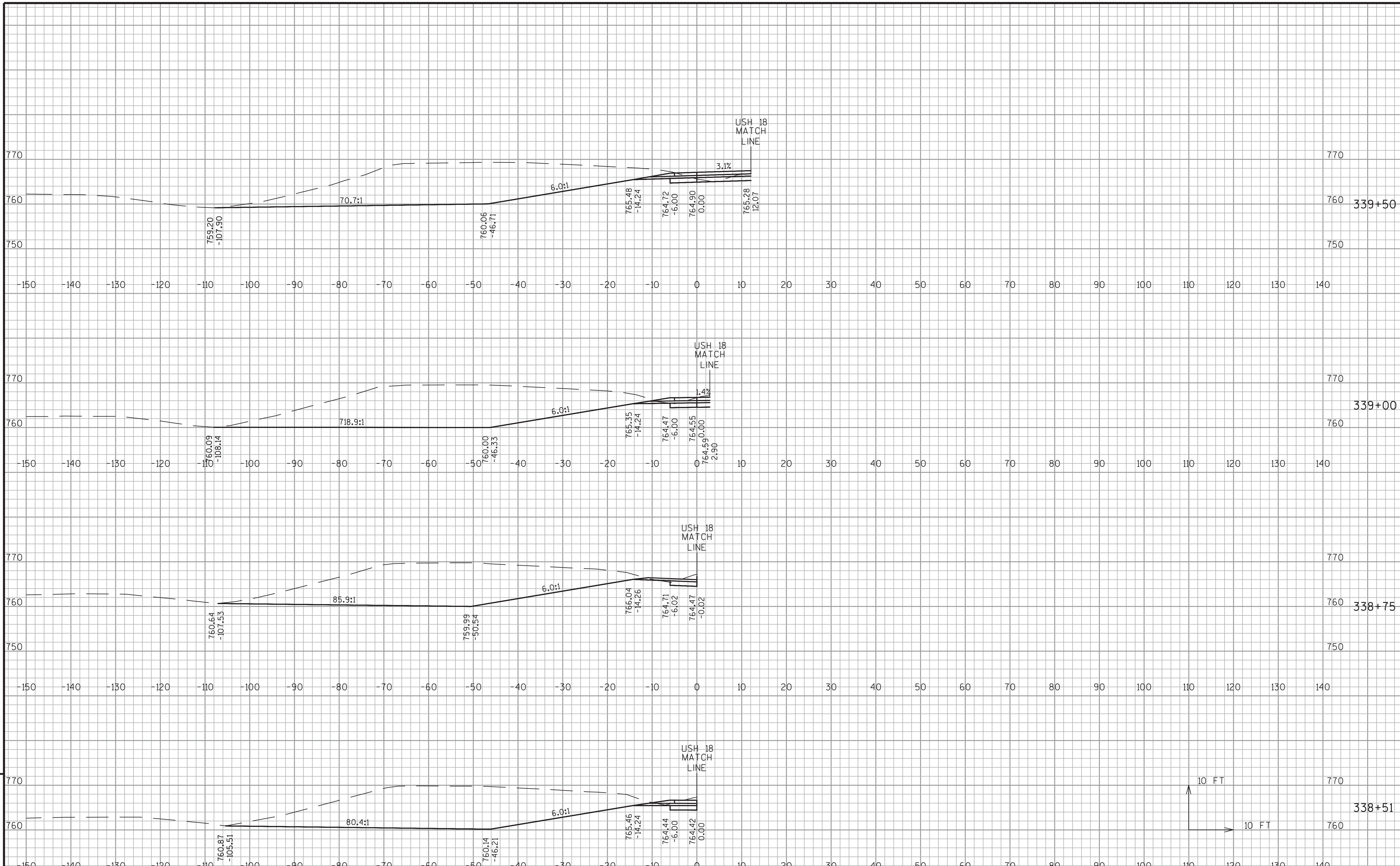


9

PROJECT NO: 1661-05-78 | HWY: USH 18 | COUNTY: CRAWFORD | CROSS SECTIONS: UPPER BRIDGEPORT ROAD | SHEET 746 | E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG
SHEET NAME: XSUSH18-UPPERBRIDGEPORT02

9

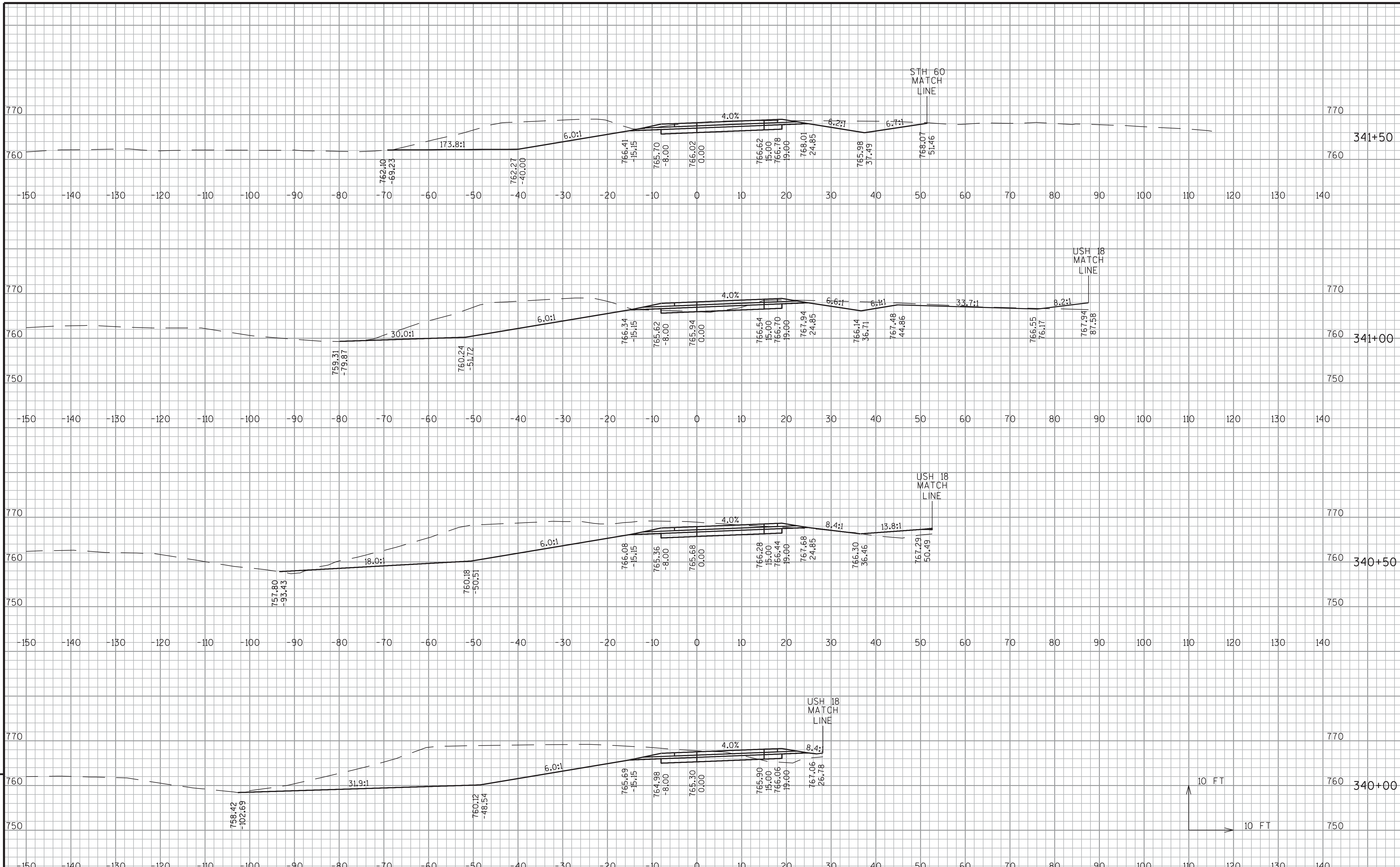


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: RAMP A	SHEET 747	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18-RAMP A01

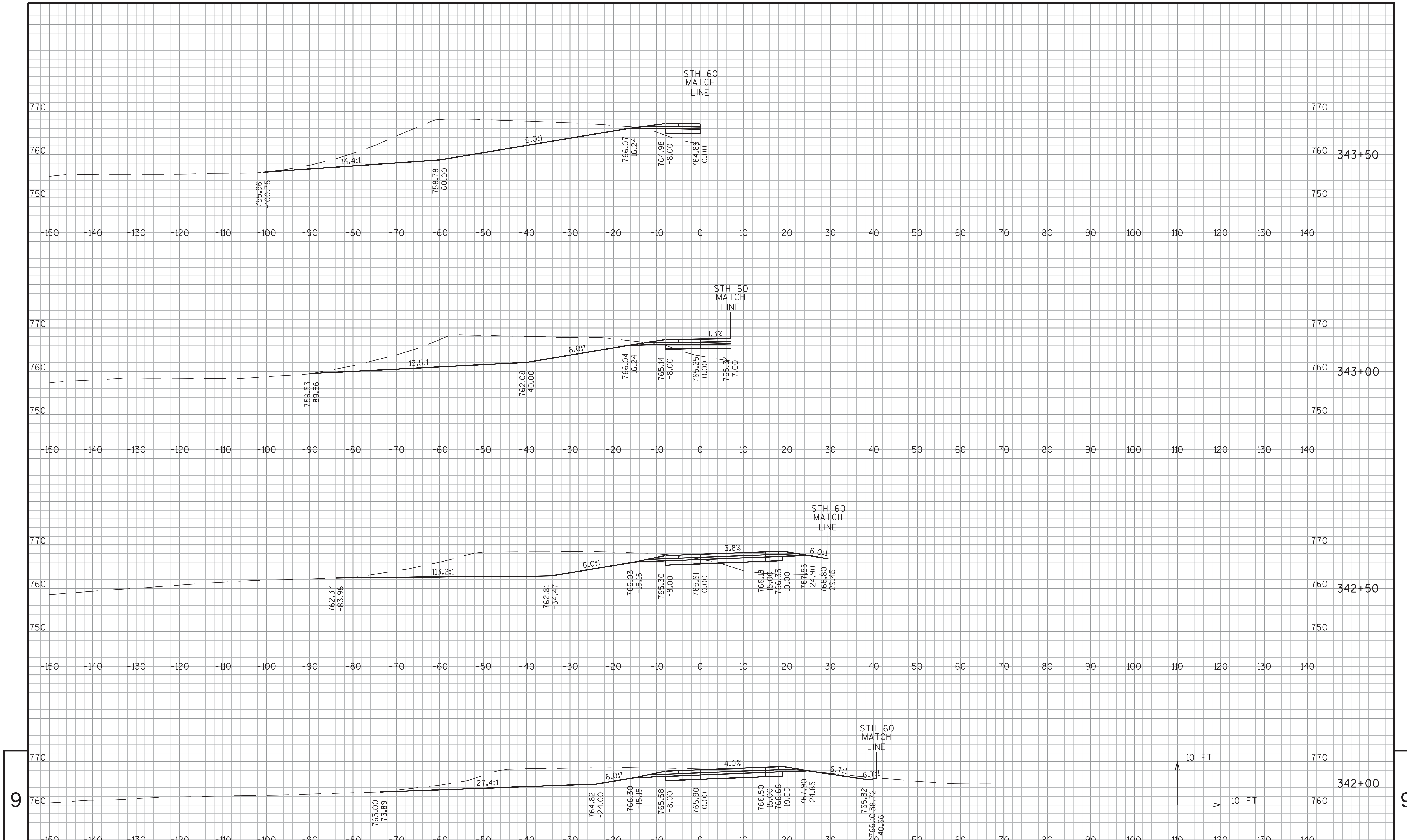


9 | 9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: RAMP A	SHEET 748	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18-RAMP A02

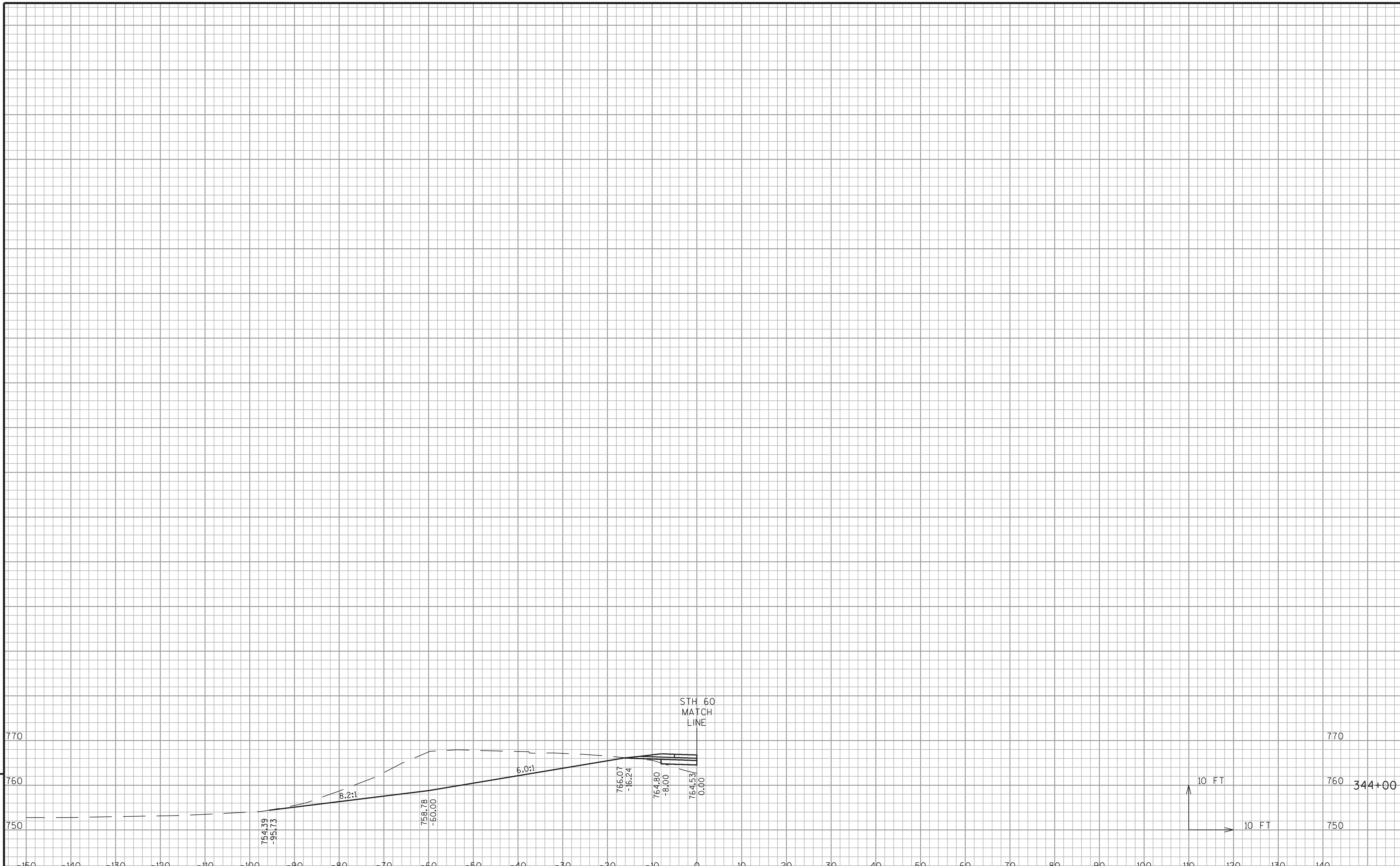


PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: RAMP A	SHEET 749	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18-RAMP A03

9

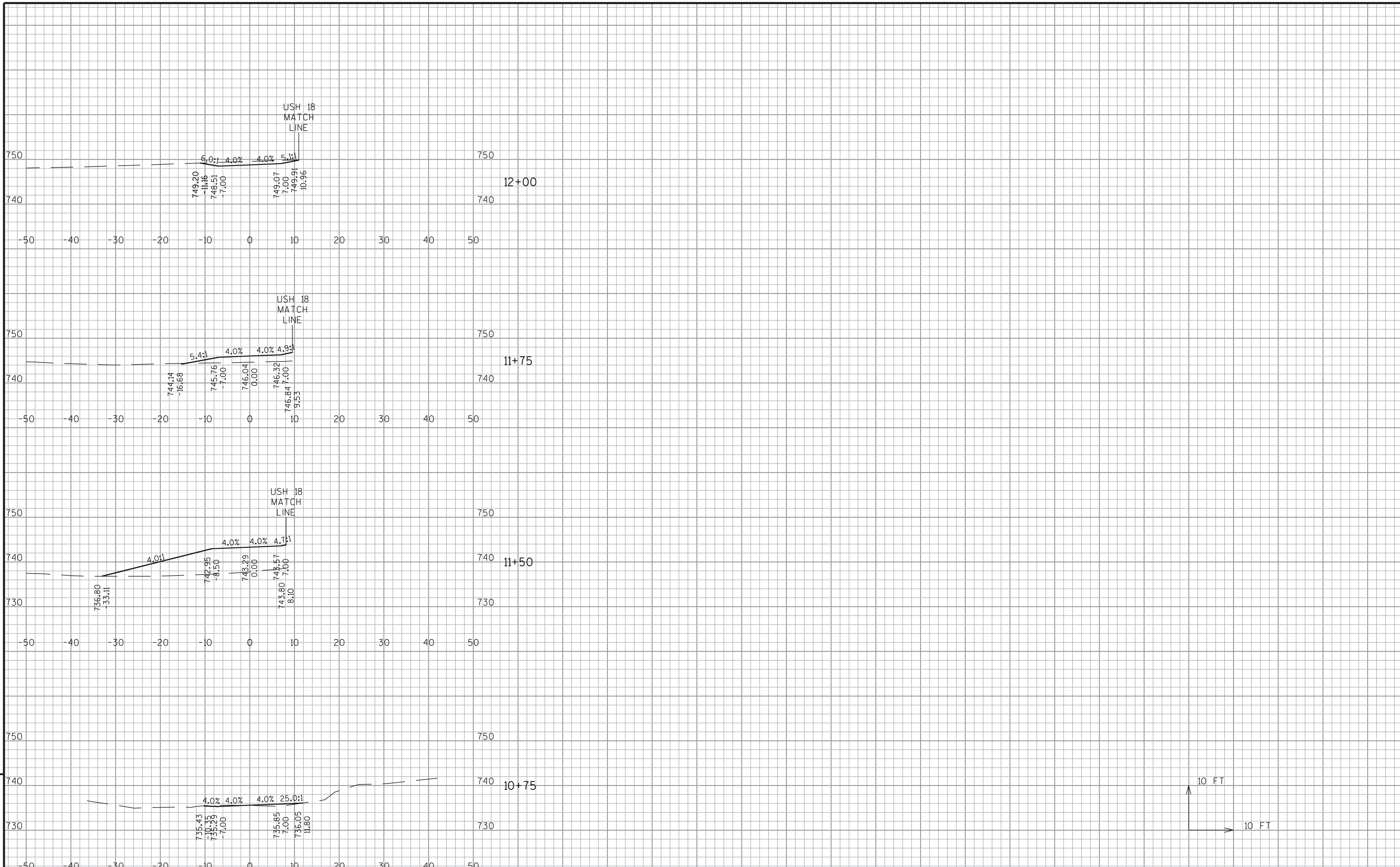


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: RAMP A	SHEET 750	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18-RAMP A04

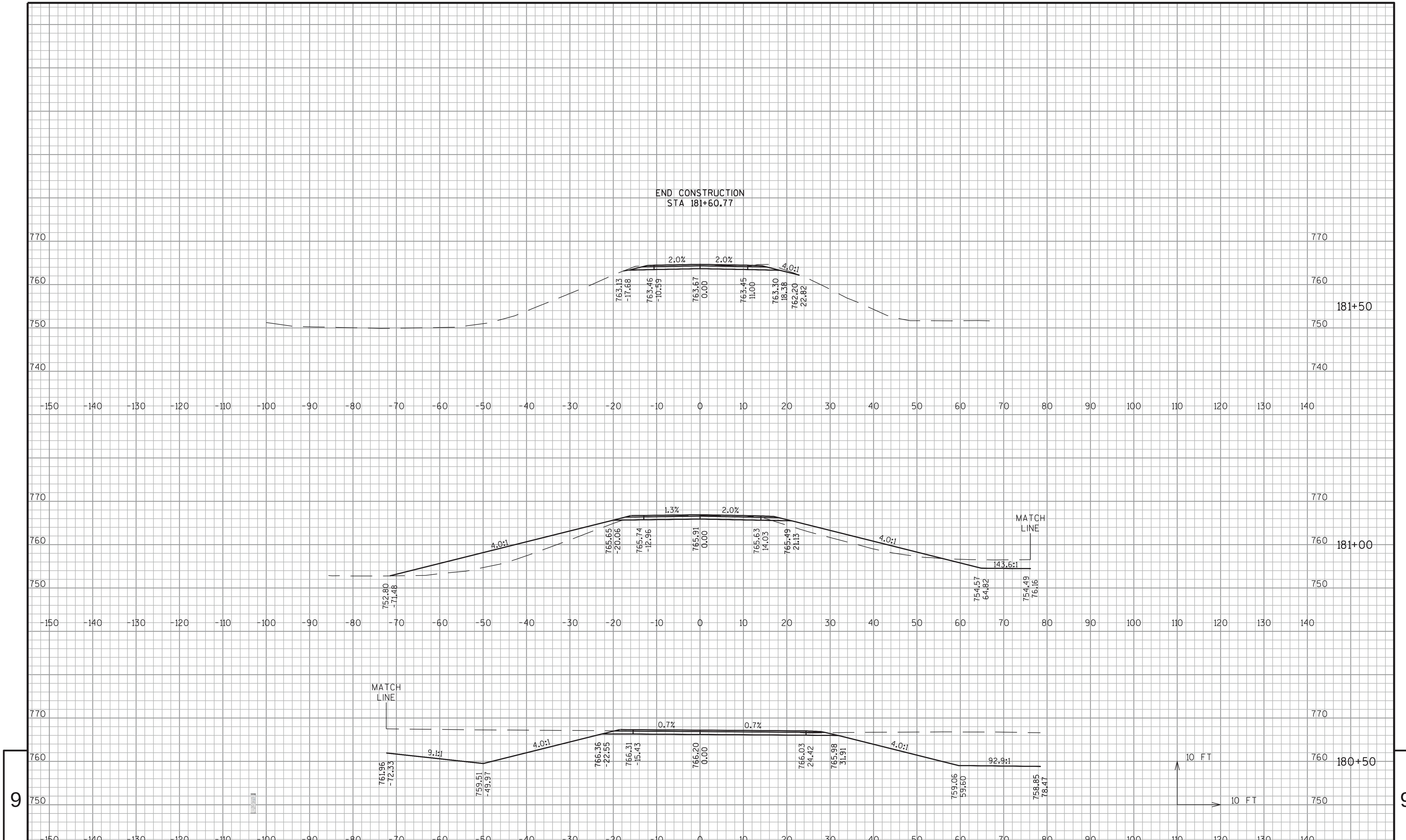


9

PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: DRIVEWAY G	SHEET 751	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUSH18-DRIVEWAY G01



PROJECT NO: 1661-05-78	HWY: USH 18	COUNTY: CRAWFORD	CROSS SECTIONS: OLD HWY 60	SHEET 752	E

FILE NAME : N:±PDS±C3D±16610508±SHEETSPLAN±SECTIONS±33000-END XSUSH18.DWG

SHEET NAME: XSUHS18-OLD HWY60

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov

LAX JANUARY 2016

PROJECT ID: 1661-05-80
WITH: 1661-05-78

COUNTY: CRAWFORD COUNTY

04

ORDER OF SHEETS

TOTAL SHEETS = 20

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

PRAIRIE DU CHIEN BYPASS

SOUTH TOWN LANE ELY TO STH 60

SALT STORAGE FACILITY

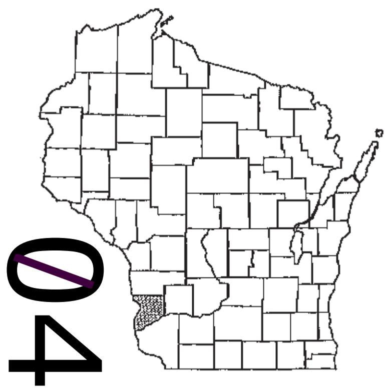
USH 18

CRAWFORD COUNTY

STATE PROJECT NUMBER
1661-05-80

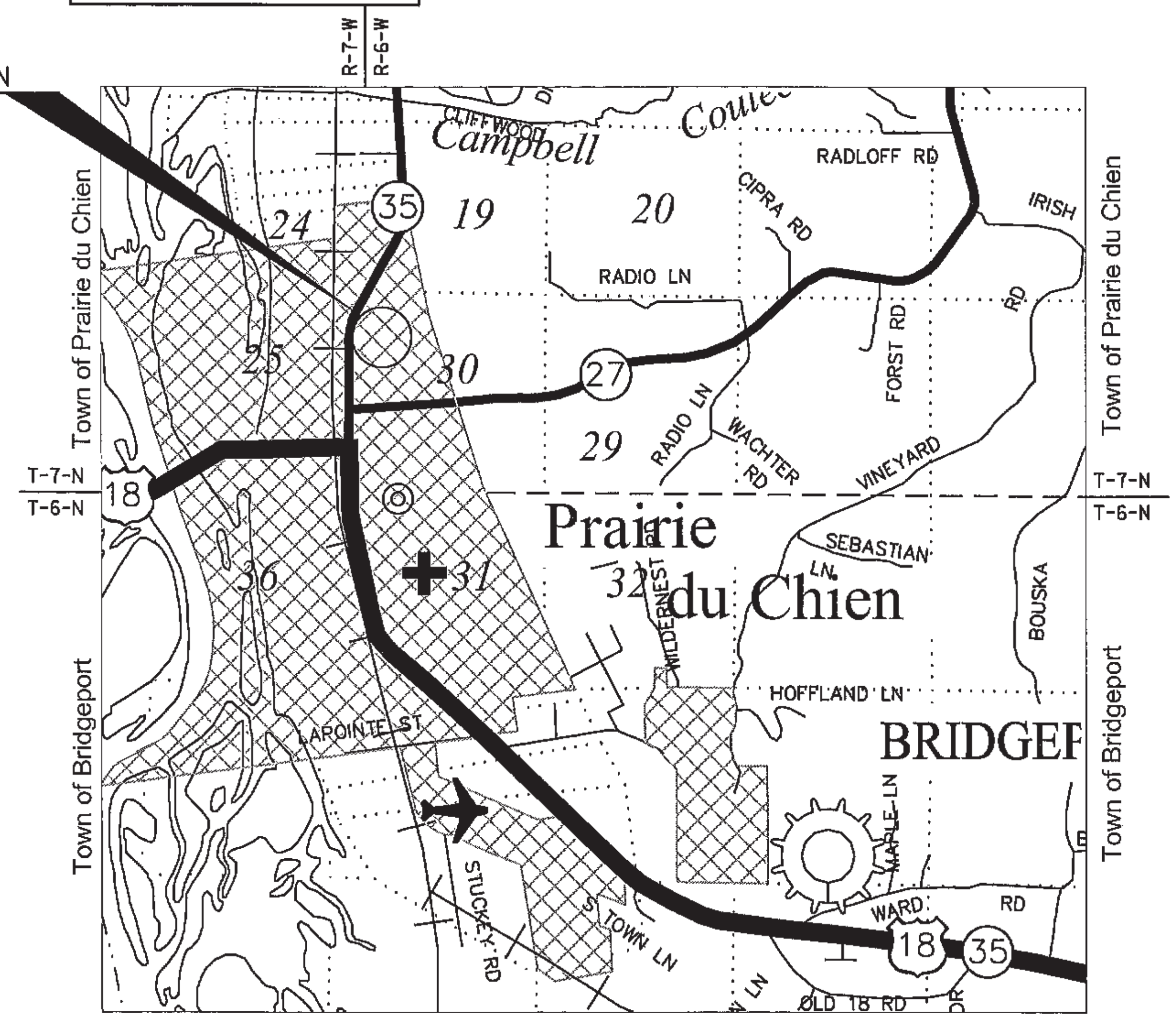
STATE PROJECT	FEDERAL PROJECT: PROJECT	FEDERAL PROJECT: CONTRACT
1661-05-80	—	—

DSPS CONDITIONAL APPROVAL 7/10/2015
TRANSACTION ID NO. 2550229
SITE ID NO. 811617



N

PROJECT LOCATION



LAYOUT

SCALE 0 — 1 MILE

DESIGN DESIGNATION DESIGN_DESIG_PROJECT*

A.A.D.T.	AADT1	=	N/A
A.A.D.T.	AADT2	=	N/A
D.H.V.		=	N/A
D.D.		=	N/A
T.		=	N/A
DESIGN SPEED		=	N/A
ESALS		=	N/A

CONVENTIONAL SYMBOLS

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

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

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

TOTAL NET LENGTH OF CENTERLINE = 0.000 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, CRAWFORD COUNTY, NAD83(99), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

JEWELL associates engineers, inc.
Engineers - Surveyors - Architects

WISCONSIN
ELLERY A. SCHAFFER
E-41742-6
SPRING GREEN, WI
PROFESSIONAL ENGINEER
7/20/15

WISCONSIN
PAUL JAMES KARDATZKE
A-8815-005
SPRING GREEN WIS.
ARCHITECT
7/21/15
(Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor	JEWELL ASSOCIATES ENGINEERS, INC.
Designer	JEWELL ASSOCIATES ENGINEERS, INC.
Project Manager	GREG JEWELL, PE, PLS
Regional Examiner	JEREMY KRACHEY, PE
Regional Supervisor	OSCAR IAN WINGER

APPROVED FOR THE DEPARTMENT
DATE: 7-21-2015 (Signature)

E

LIST OF STANDARD ENGINEER ABBREVIATIONS

BM	BENCH MARK
CP	CONTROL POINT
P.L.	PROPERTY LINE
R/W	RIGHT OF WAY

LIST OF STANDARD ARCHITECTURAL ABBREVIATIONS

AB	ANCHOR BOLT	MET	METAL
AFF	ABOVE FINISHED FLOOR	NTS	NOT TO SCALE
CJ	CONTROL JOINT	OD	OUTSIDE DIMENSION
CLG	CEILING	PL	PLATE
CL	CENTER LINE	QTY	QUANTITY
COL	COLUMN	R	RADIUS
CONC	CONCRETE	RM	ROOM
DIM	DIMENSION	RO	ROUGH OPENING
DS	DOWNSPOUT	SIM	SIMILAR
EJ	EXPANSION JOINT	SS	STAINLESS STEEL
EQ	EQUAL	STL	STEEL
EXT	EXTERIOR	TEMP	TEMPERED
FD	FLOOR DRAIN	T&B	TOP AND BOTTOM
FE	FIRE EXTINGUISHER	TOC	TOP OF CONCRETE
FINFLR	FINISHED FLOOR	TOF	TOP OF FOOTING
FLR	FLOOR	TOS	TOP OF SLAB
REINF	REINFORCE (ED) (ING)	TOW	TOP OF WALL
GC	GENERAL CONTRACTOR	TYP	TYPICAL
INSUL	INSULATION	UON	UNLESS OTHERWISE NOTED
INT	INTERIOR	VB	VAPOR BARRIER
JT	JOINT	W/	WITH
		WD	WOOD

ARCHITECTURAL SYMBOLS

1Ref / A101 — ELEVATION

1 / A101 SIM — BUILDING SECTION

1 / A101 SIM — DETAIL

1 — WALL TYPE

101 — DOOR

CODE SUMMARY

OCCUPANCY
S2 - STORAGE

CONSTRUCTION TYPE
VB - COMBUSTIBLE UNPROTECTED

FIRE PROTECTION
FIRE EXTINGUISHERS

AREA
10,173 SQ. FT.

SUMMARY BUILDING CODE REQUIREMENTS

APPLICABLE CODE PROVISIONS INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

62.1011 - EXIT SIGNS
INTERNALLY LIT EXIT SIGNS WITH BATTERY BACKUP SHALL BE PROVIDED TO MARK APPROVED EXITS FROM ANY DIRECTION OF EGRESS TRAVEL.
62.1006 - MEANS OF EGRESS ILLUMINATION
THE MEANS OF EGRESS, INCLUDING THE EXIT DISCHARGE, SHALL BE ILLUMINATED TO A MINIMUM OF 1 FOOT-CANDLE AT THE FLOOR LEVEL AT ALL TIMES THE BUILDING SPACE IS OCCUPIED.
62.1006 - ILLUMINATION EMERGENCY POWER
IN THE EVENT OF POWER SUPPLY FAILURE, AN EMERGENCY SYSTEM SHALL AUTOMATICALLY ILLUMINATE TO AN AVERAGE OF 1 FOOT-CANDLE AND MINIMUM OF 0.1 FOOT-CANDLE AT THE FLOOR LEVEL AT ALL CORRIDORS, STAIRWAYS, AND THE PORTION OF THE EXTERIOR EXIT DISCHARGE IMMEDIATELY ADJACENT TO EXIT DISCHARGE DOORWAYS, EXTERIOR WALK OR STOOPS ADJACENT TO THE EXIT DOORS TO COMPLY.
62.2304.9.5 - FASTENERS IN PRESERVATIVE TREATED WOOD
FASTENERS FOR PRESERVATIVE TREATED WOOD SHALL BE HOT-DIPPED, ZINC COATED, GALVANIZED OR STAINLESS STEEL.

THE GENERAL CONTRACTOR AND SUB CONTRACTORS ARE RESPONSIBLE FOR COORDINATING WITH PRODUCT MANUFACTURERS, SUPPLIERS, AND INSTALLERS TO ENSURE THAT ALL APPLICABLE CODE PROVISIONS ARE COMPLIED WITH. REVIEW THE FULL WISCONSIN BUILDING CODE FOR COMPLETE REQUIREMENTS.

GENERAL NOTES

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

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

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

REMOVAL OF ASPHALTIC SURFACE WHERE AN ABUTTING ASPHALTIC SURFACE IS TO REMAIN IN PLACE SHALL REQUIRE A SAWCUT MEETING THE APPROVAL OF THE ENGINEER IN THE FIELD (BY OTHERS).

THE SOILS REPORT MAY BE OBTAINED FROM JEWELL ASSOCIATES ENGINEERS, INC.

NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE FIRST BEEN INDICATED FOR REMOVAL BY THE ENGINEER IN THE FIELD.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE, AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS COMMON EXCAVATION. EXACT LOCATIONS OF EBS WILL BE DETERMINED BY THE ENGINEER.

SILT FENCE SHALL BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER IN THE FIELD. SILT FENCE SHALL BE PLACED PRIOR TO CONSTRUCTION (BY OTHERS).

THE EXACT LOCATION OF COMMERCIAL ENTRANCES TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

ALL WORK TO BE CONSTRUCTED PER GOVERNING CODES/ORDINANCES, AS AMENDED BY LOCAL AUTHORITIES. SAID CODES/ORDINANCES ARE HEREIN INCORPORATED INTO THESE DOCUMENTS. ALL CODE REQUIRED WORK TO BE INCLUDED IN CONTRACT SUM.

ADHERENCE TO CODE REQUIREMENTS OF THE NEW CONSTRUCTION SHALL BE THE STRICT RESPONSIBILITY OF THE BUILDER.

THE ARCHITECT SHALL NOT BE HELD LIABLE FOR ANY SUCH UNAUTHORIZED DEVIATIONS OR VIOLATIONS OF ANY APPLICABLE BUILDING, PLUMBING, HVAC, OR ELECTRICAL CODES OR THE ADA (AMERICANS WITH DISABILITY ACT.)

GENERAL NOTES ARE INTENDED TO CLARIFY OR EMPHASIZE THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. IN THE EVENT OF A CONFLICT BETWEEN THE DRAWINGS OR SPECIFICATIONS AND THESE NOTES, THE CONTRACTOR SHALL COMPLY WITH THE MORE STRINGENT REQUIREMENT.

ALL WORK TO BE PERFORMED IN A MANNER SO AS TO HAVE A MINIMUM OF DISRUPTION AND DISTURBANCE WITH EXISTING OPERATIONS AND LOCAL ENVIRONMENT. NOISE AND DUST SHALL BE KEPT TO A MINIMUM.

DO NOT SCALE DRAWINGS.

PERMIT AND APPROVALS ARE TO BE KEPT ON-SITE AT ALL TIMES (BY OTHERS).

DETAILS AND NOTES OF SIMILAR CONDITIONS ARE TYPICAL WHETHER OR NOT CALLED OUT AT ALL PLACES. REFERENCES TO ANY DETAIL IS FOR CONVENIENCE ONLY AND DOES NOT LIMIT THE APPLICATION OF SUCH DETAIL OR DRAWING.

SYSTEMS SHOWN ON DRAWINGS ARE INTENDED TO BE FURNISHED, INSTALLED, AND TURNED OVER TO THE OWNER IN PROPER FUNCTIONING CONDITION. ALL WORK TO BE CONSIDERED IN CONTRACT SUM.

CONTRACTOR SHALL CHECK AND VERIFY ALL FIELD CONDITIONS AND DIMENSIONS WITH THE CONSTRUCTION DRAWINGS AT THE PROJECT SITE PRIOR TO CONSTRUCTION, ERECTION, AND/OR FABRICATION.

CONTRACTOR SHALL INSPECT RELATED WORK AND ADJACENT SURFACES. CONTRACTOR SHALL REPORT ANY DISCREPANCIES BETWEEN THE CONTRACT DOCUMENTS AND THE EXISTING CONDITIONS WHICH SHALL PREVENT PROPER EXECUTION OF THIS WORK TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, QUANTITIES, AND COORDINATION OF OTHER TRADES.

INSTALLATION OF ALL MATERIALS AND SYSTEMS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

ALL PRODUCTS ARE TO BE SELECTED FOR THE INTENDED USE AND INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

CONTACTS

DESIGN CONSULTANT:
JEWELL ASSOCIATES ENGINEERS, INC.
560 SUNRISE DR.
SPRING GREEN, WI 53588
ATTN: GREG JEWELL, P.E., P.L.S.
PH: (608) 588-7484
FAX: (608) 588-9322
E-MAIL: greg.jewell@jewellassoc.com

DNR LIAISON:
STATE OF WISCONSIN
DNR SERVICE CENTER
3550 MORMON COULEE ROAD
LA CROSSE, WI 54601
ATTN: KAREN KALVELAGE
PH: (608) 785-9115
E-MAIL: karen.kalvelage@wisconsin.gov

CRAWFORD COUNTY HIGHWAY DEPARTMENT
DENNIS PELOCK, COMMISSIONER
21515 STATE HIGHWAY 27
P.O. BOX 39
SENECA, WI 54654
PH: (608) 734-9500
E-MAIL: ccommish@centurytel.net

WISDOT:
SW REGION (LA CROSSE)
3550 MORMON COULEE ROAD
LA CROSSE, WI 54601
ATTN: JEREMY KRACHEY, P.E.
PH: (608) 789-5702
E-MAIL: jeremy.krachey@wisconsin.gov

ARCHITECT:
JEWELL ASSOCIATES ENGINEERS, INC.
560 SUNRISE DR.
SPRING GREEN, WI 53588
ATTN: PAUL KARDATZKE, ARCHITECT
PH: (608) 588-7484
FAX: (608) 588-9322
E-MAIL: paul.kardatzkel@jewellassoc.com

MECHANICAL ENGINEER:
JDR ENGINEERING
5525 NOBEL DRIVE, SUITE 110
MADISON, WI 53711
ATTN: TIM MEEKER
PH: (608) 819-0170

UTILITIES

ELECTRIC:
ALLIANT ENERGY
ATTN: JASON HOGAN
4902 N. BILTMORE LANE,
SUITE 1000
MADISON, WI 53718-2148
PH: (608) 458-4871
E-MAIL: jasonhogan@alliantenergy.com

TELEPHONE:
CENTURYLINK
ATTN: CASEY PICKEL
135 N. BONSON STREET
PLATTEVILLE, WI 53818
PH: (608) 342-4350
FAX: (608) 348-2679
E-MAIL: casey.pickel@centurylink.com

WATER:
PRAIRIE DU CHIEN WATER DEPARTMENT
ATTN: LARRY GATES
724 EAST BLACKHAWK AVE.
PRAIRIE DU CHIEN, WI 53821
PH: (608) 326-8213
CELL: (608) 306-0360
E-MAIL: water@prairieduchien-wi.gov

SEWER:
PRAIRIE DU CHIEN WASTEWATER DEPARTMENT
ATTN: TERRY MEYER
PO BOX 324
PRAIRIE DU CHIEN, WI 53821
PH: (608) 326-8534
CELL: (608) 306-0365
E-MAIL: wwtf@prairieduchien-wi.gov

GAS:
MADISON GAS & ELECTRIC
ATTN: MARK OEHLER
PO BOX 266
PRAIRIE DU CHIEN, WI 53821
PH: (608) 326-2417
CELL: (608) 412-0282
E-MAIL: moehler@mge.com

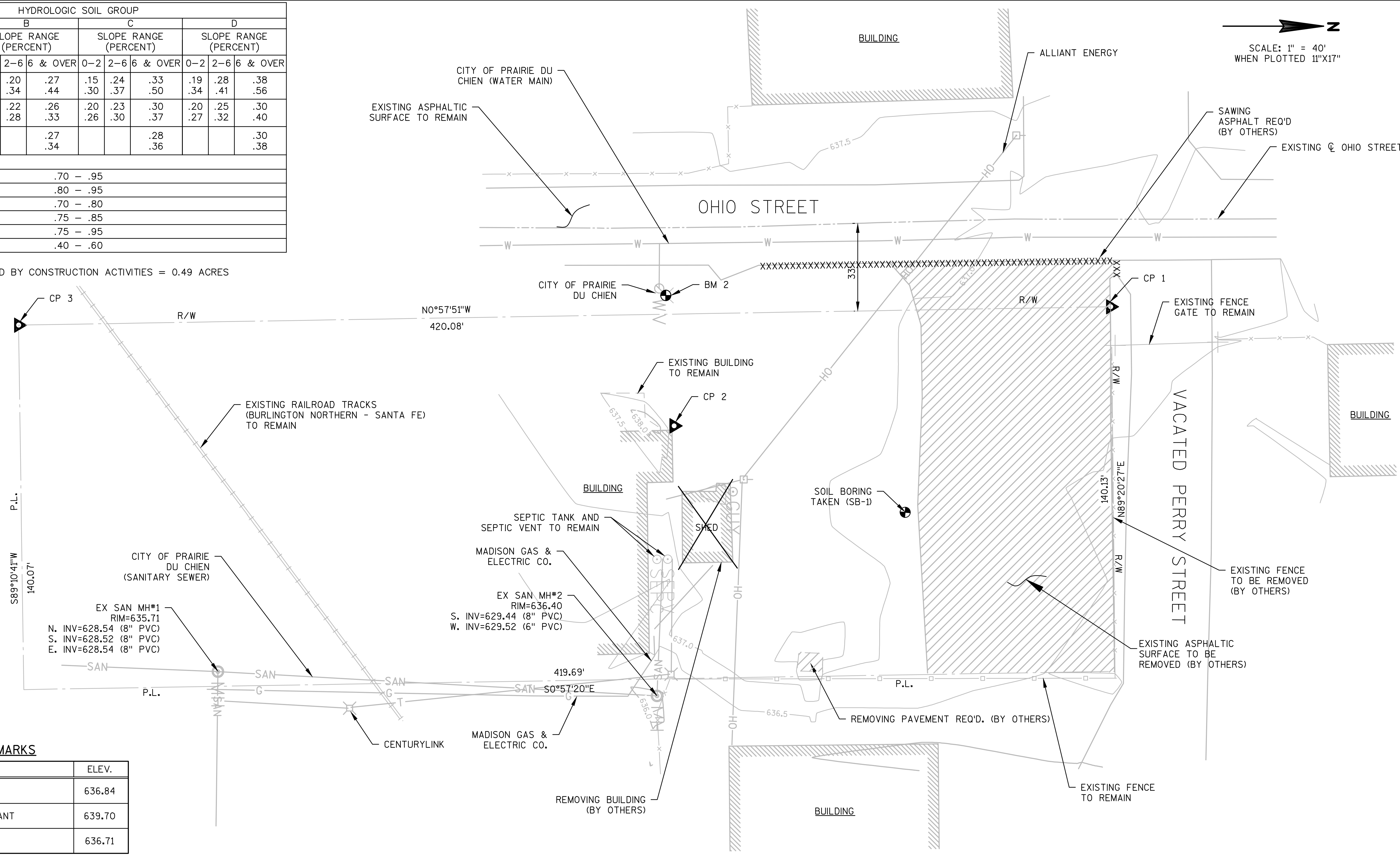
DIGGERS HOTLINE
Dial 811 or (800) 242-8511
www.DiggersHotline.com

*DENOTES UTILITY IS NOT A MEMBER OF DIGGERS HOTLINE

SHEET INDEX

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

TOTAL PROJECT AREA= 1.35 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.49 ACRES



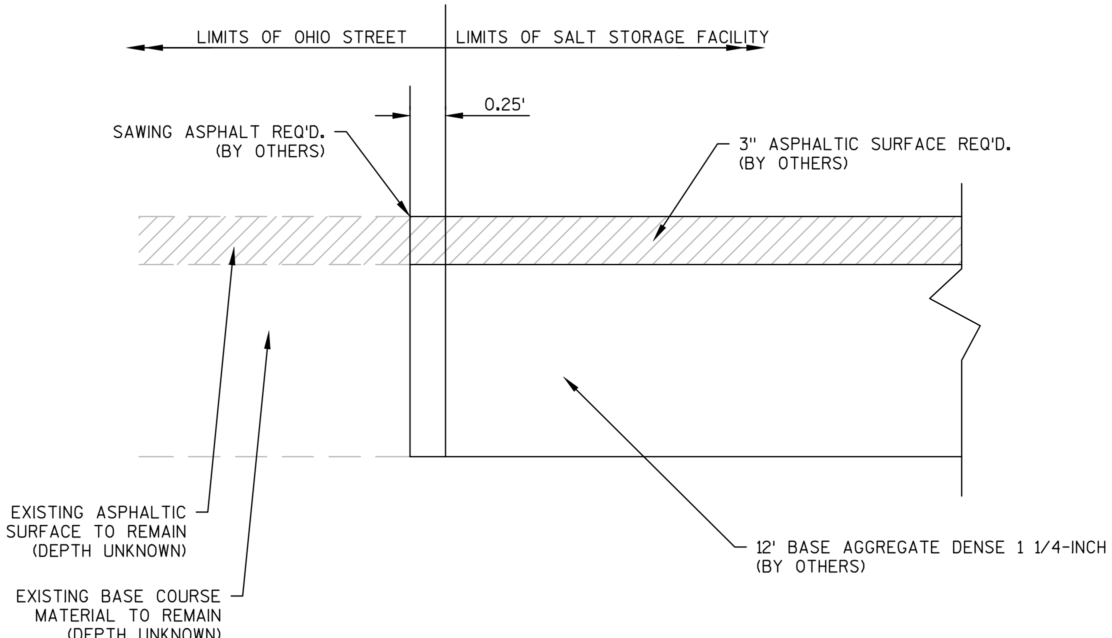
BENCH MARKS

NO.	DESCRIPTION	ELEV.
1	¾" IRON REBAR FOUND	636.84
2	TOP NUT ON FIRE HYDRANT	639.70
3	¾" IRON REBAR FOUND	636.71

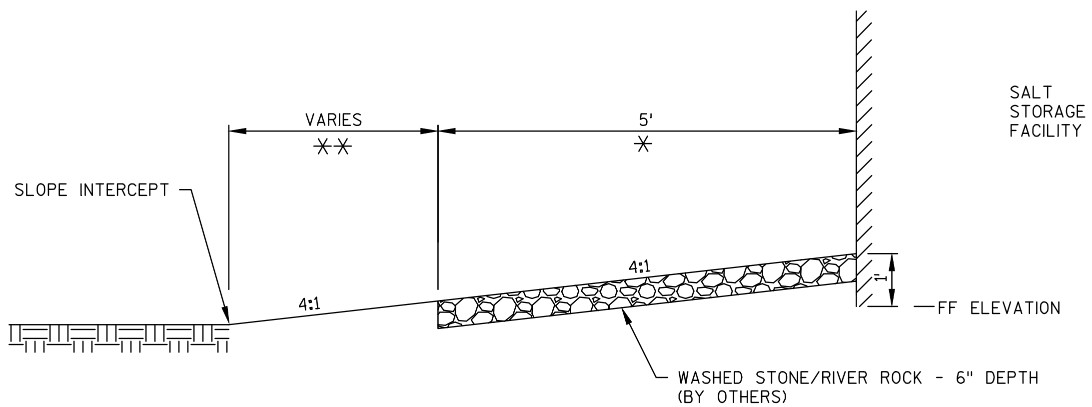
CONTROL POINTS

NO.	DESCRIPTION	Y	X
1	¾" IRON REBAR FOUND	124,400.51	319,335.06
2	COTTON GIN SPIKE SET	124,232.61	319,380.82
3	¾" REBAR FOUND	123,980.49	319,342.13

2



SECTION A–A
(PAVEMENT STRUCTURE)



* NOTE: WASHED STONE/RIVER ROCK TO BE PLACED ON NORTH, EAST, SOUTH SIDE OF BUILDING.

** LIMITS OF FERTILIZER TYPE B, SEEDING MIXTURE NO. 40, SEEDING TEMPORARY, MULCHING AND TOPSOIL (BY OTHERS).

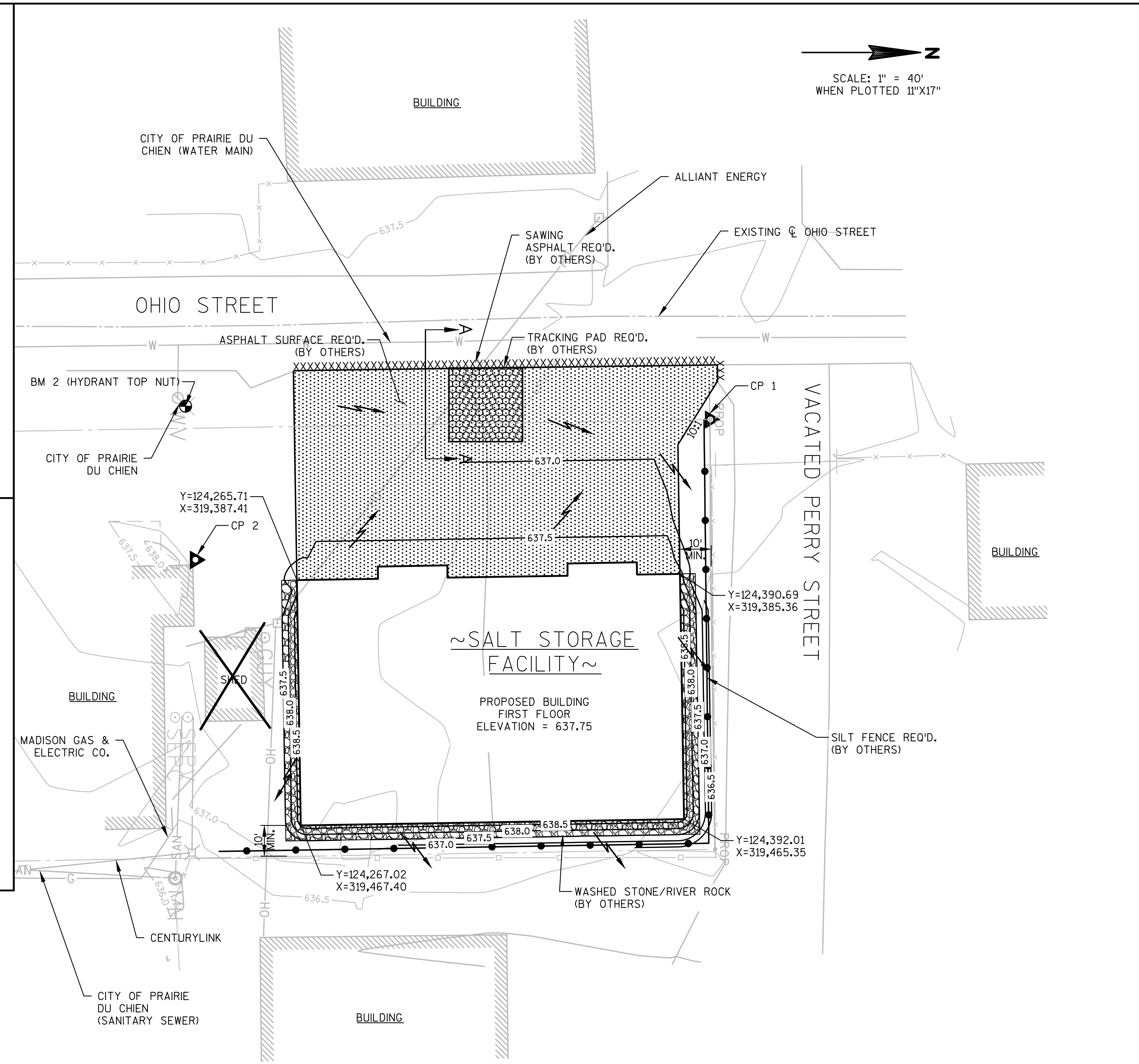
WASHED STONE/RIVER ROCK DETAIL

BENCH MARKS

NO.	DESCRIPTION	ELEV.
1	¾" IRON REBAR FOUND	636.84
2	TOP NUT ON FIRE HYDRANT	639.70
3	¾" IRON REBAR FOUND	636.71

CONTROL POINTS

NO.	DESCRIPTION	Y	X
1	¾" IRON REBAR FOUND	124,400.51	319,335.06
2	COTTON GIN SPIKE SET	124.232.61	319,380.82
3	¾" REBAR FOUND	123,980.49	319,342.13



NOTES:

GRADING FROM BUILDING ON NORTH, EAST, AND SOUTH SIDE SHALL BE 6:1

GRADING ON WEST SIDE SHALL BE 50:1

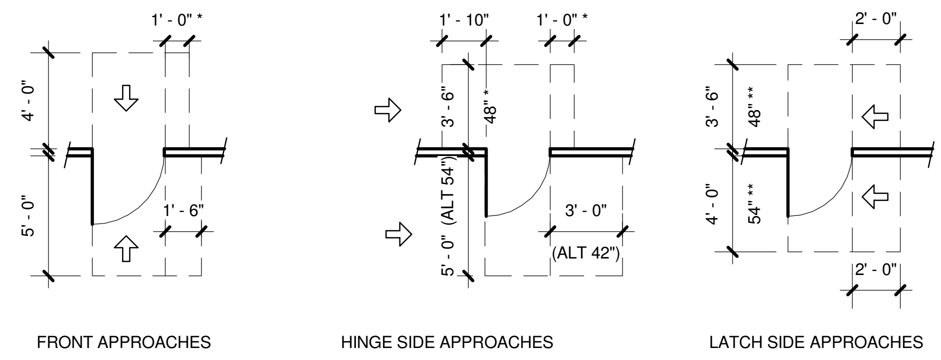
SHAPE TO DRAIN AS SHOWN ON PLAN

2

PROJECT NO:1661-05-80	HWY:SALT STORAGE FACILITY	COUNTY:CRAWFORD	CONSTRUCTION DETAILS & EROSION CONTROL	SHEET 4	E

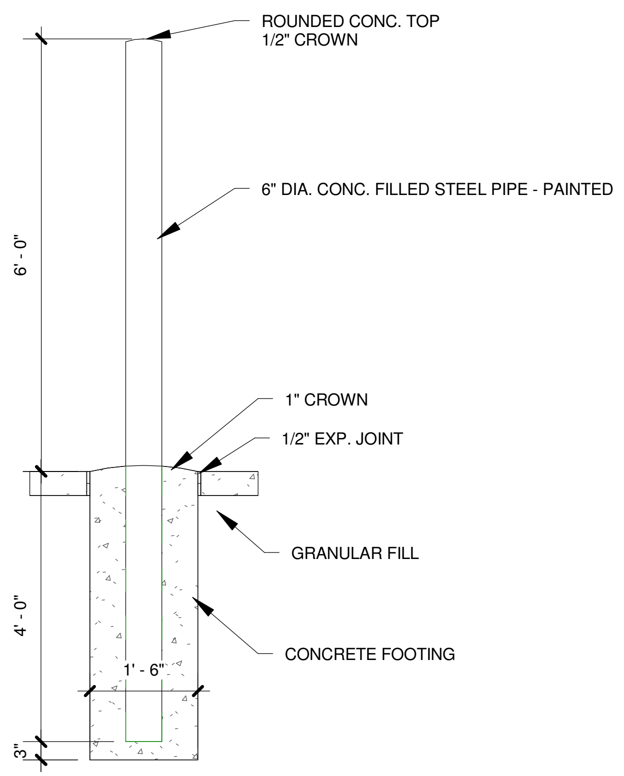
FILE NAME : S:\PROJECTS\C54360 CRAWFORD CO PDC SALT FACILITY (2015)\CADD FILES\OVERVIEW DRAWING.DWG
LAYOUT : PROPOSED
PLOT DATE : 7/2/2015 PLOT TIME : 10:56:57 AM PLOT BY : STRINE, THERESA PLOT SCALE : 1" = 1'

2

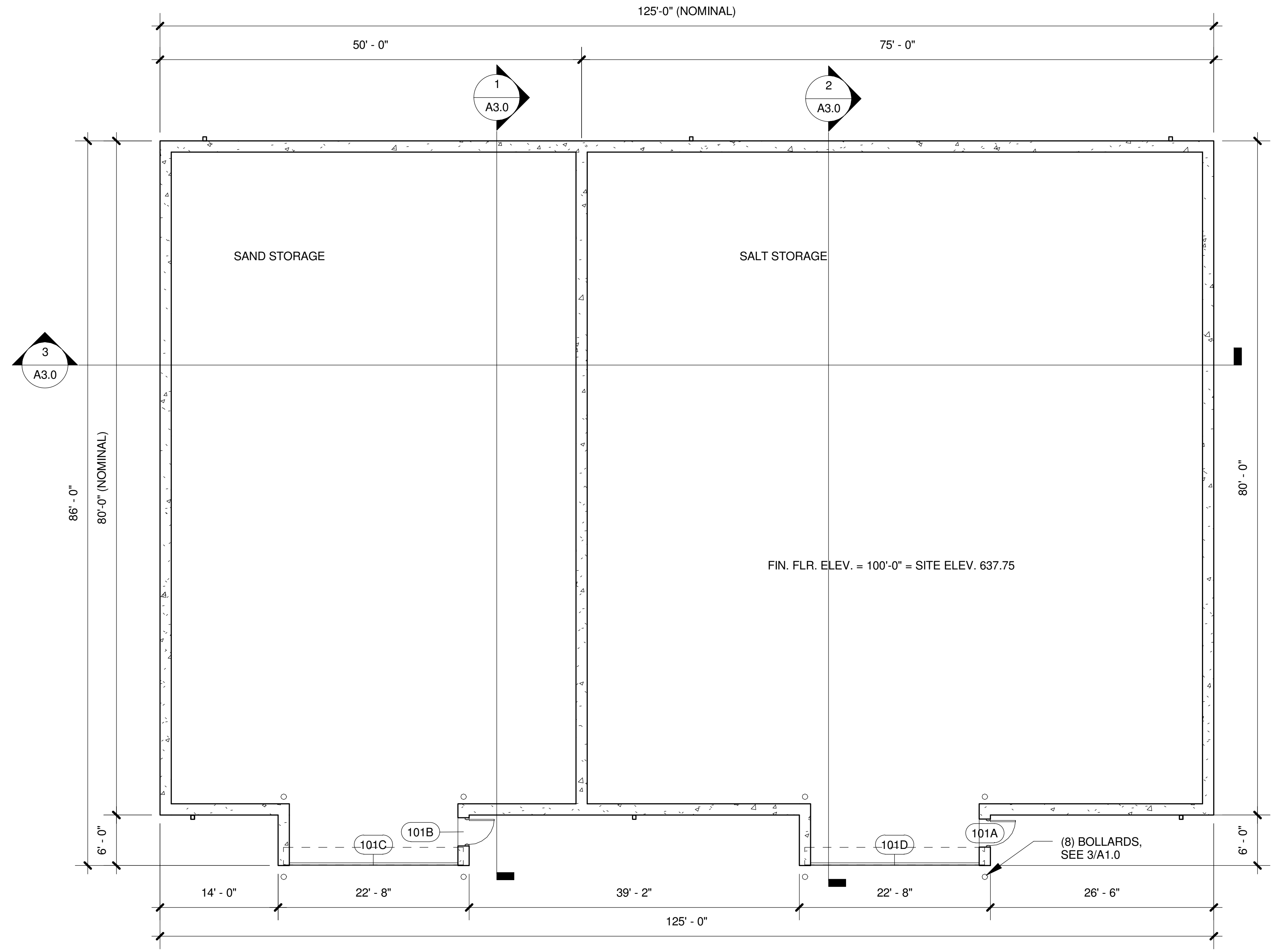


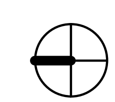
* If both closer and latch are provided
** If closer provided

2 DOOR CLEARANCES - ANSI A117.1 606
A1.0 NTS



3 BOLLARD DETAIL
A1.0 NOT TO SCALE





1 FIRST FLOOR
A1.0 1/16" = 1'-0"

Door Schedule

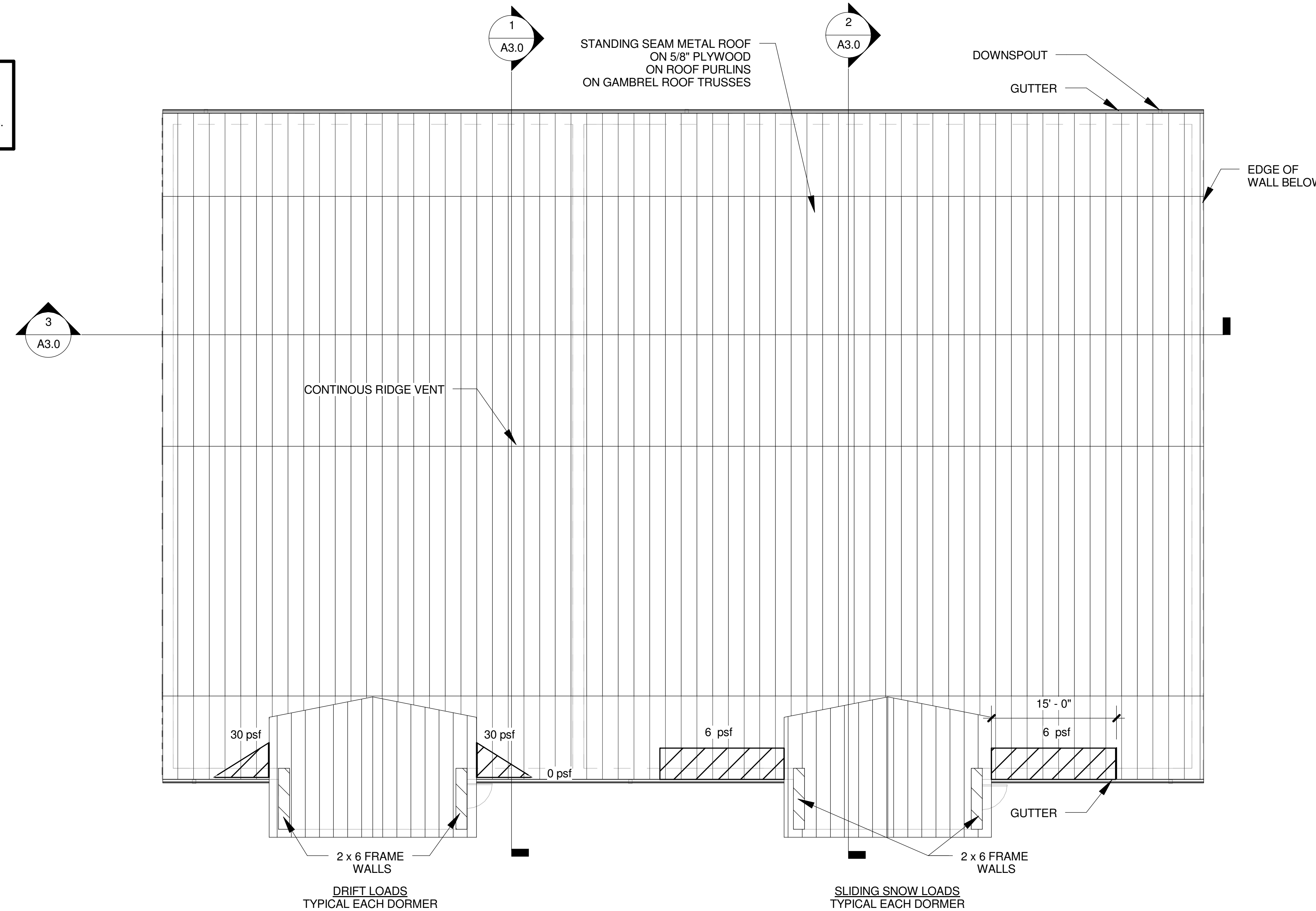
Mark	Description	Width	Height	Thickness	Comments
101A	Fiberglass Door w/ Fiberglass Frames	3' - 0"	7' - 0"	1 3/4"	Stainless Steel Lockset. Weatherstrip; Sill Sweep.
101B	Fiberglass Door w/ Fiberglass Frames	3' - 0"	7' - 0"	1 3/4"	Stainless Steel Lockset. Weatherstrip; Sill Sweep.
101C	Overhead Rolling Door	20' - 0"	30' - 0"	5/8"	Galvanized Hardware; 3 HP Power Operator w/ interior push button control. Backup manual control; Weather Stripping
101D	Overhead Rolling Door	20' - 0"	30' - 0"	5/8"	Galvanized Hardware; 3 HP Power Operator w/ interior push button control. Backup manual control; Weather Stripping

2

2

BALANCED ROOF SNOW LOAD = 20.2 psf

SNOW DRIFT LOADS & SLIDING SNOW LOADS SHALL BE APPLIED IN ADDITION TO BALANCED SNOW LOADS.



1 A1.1 ROOF PLAN
1/16" = 1'-0"

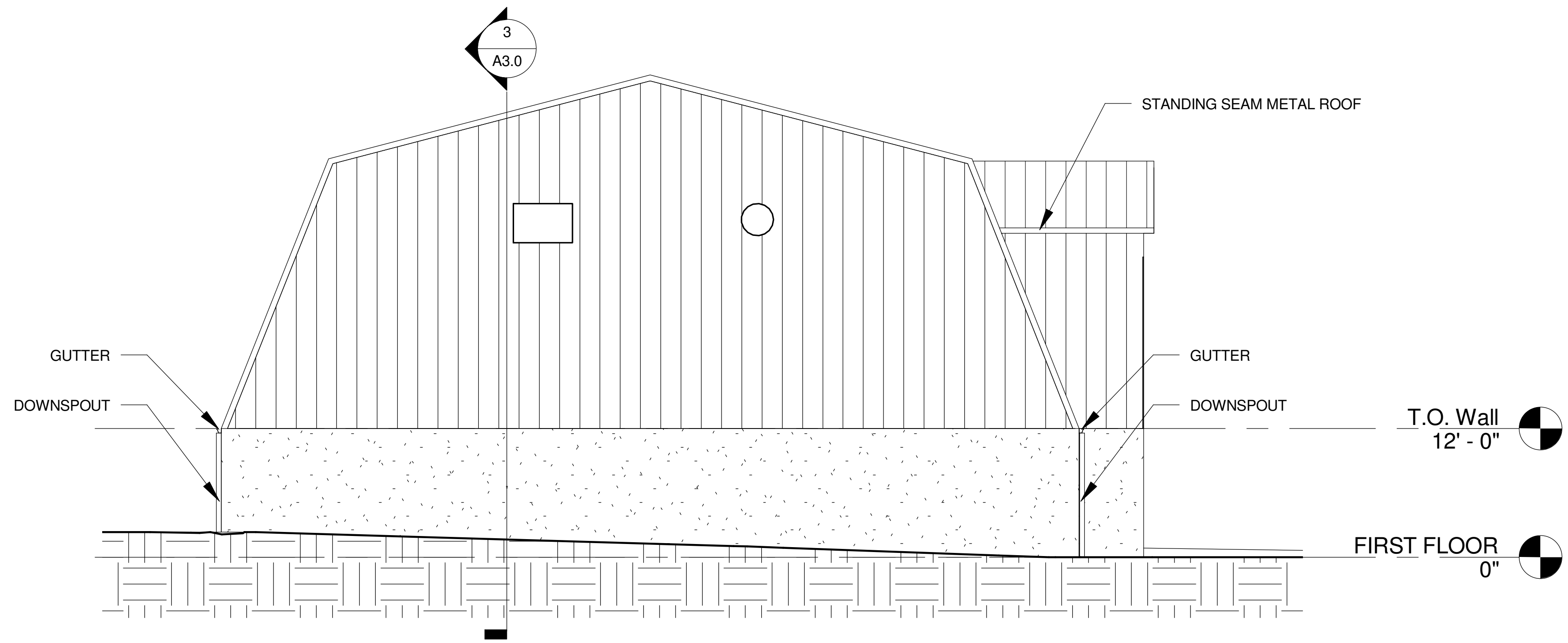
2

PROJECT NO:1661-05-80	HWY: SALT STORAGE FACILITY	COUNTY:CRAWFORD	DRAWING NAME: ROOF PLAN	SHEET: 6	E

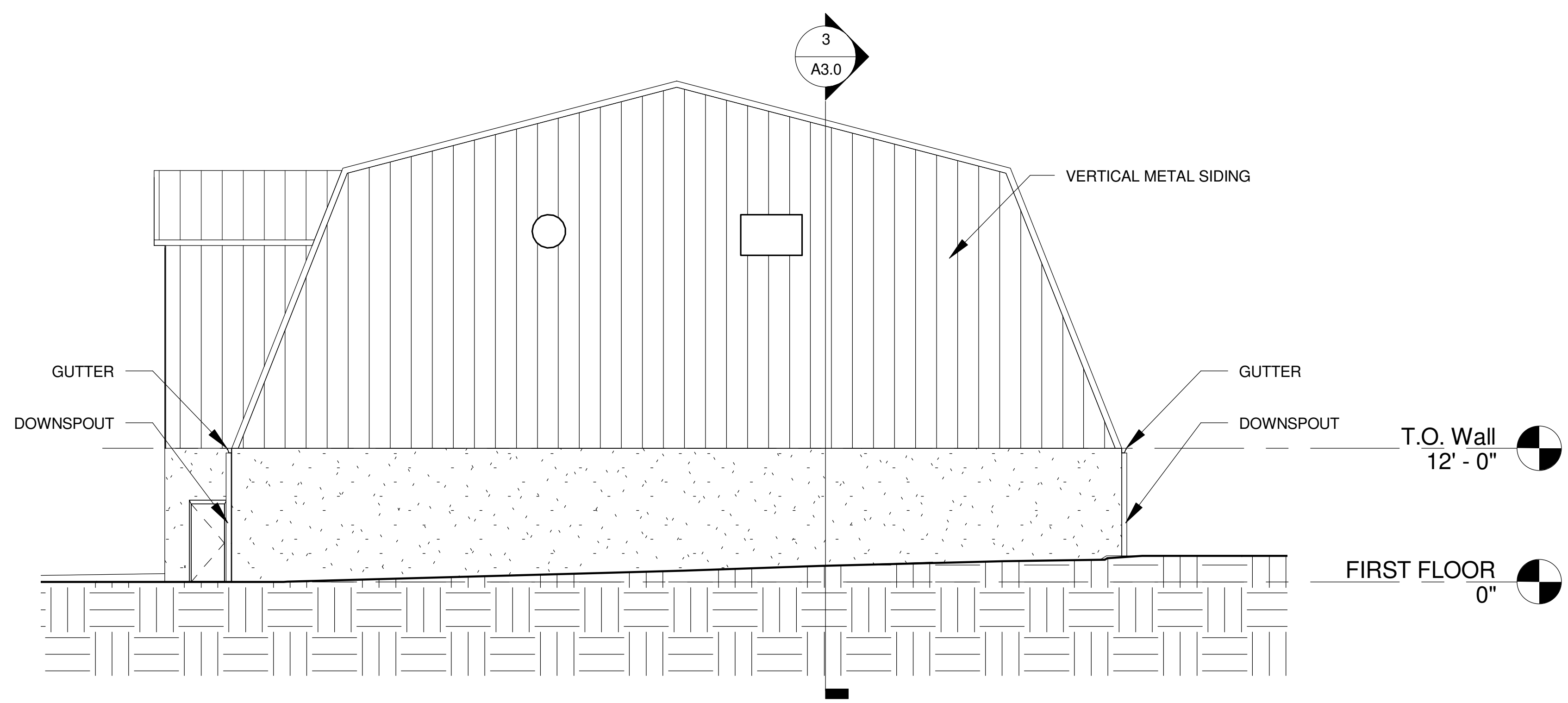
FILE NAME : S:\PROJECTS\C54360 CRAWFORD COUNTY PDC SALT FACILITY 2015\CADD FILES\REVIT FILES\DOT
LAYOUT TITLEBLOCK\DOT DETAIL BORDER.DWG
PLOT DATE : ----
PLOT TIME : ----
PLOT BY : RING, ANDREA
PLOT SCALE : 1" = 1'

2

2



2 NORTH ELEVATION
A2.0 1/16" = 1'-0"

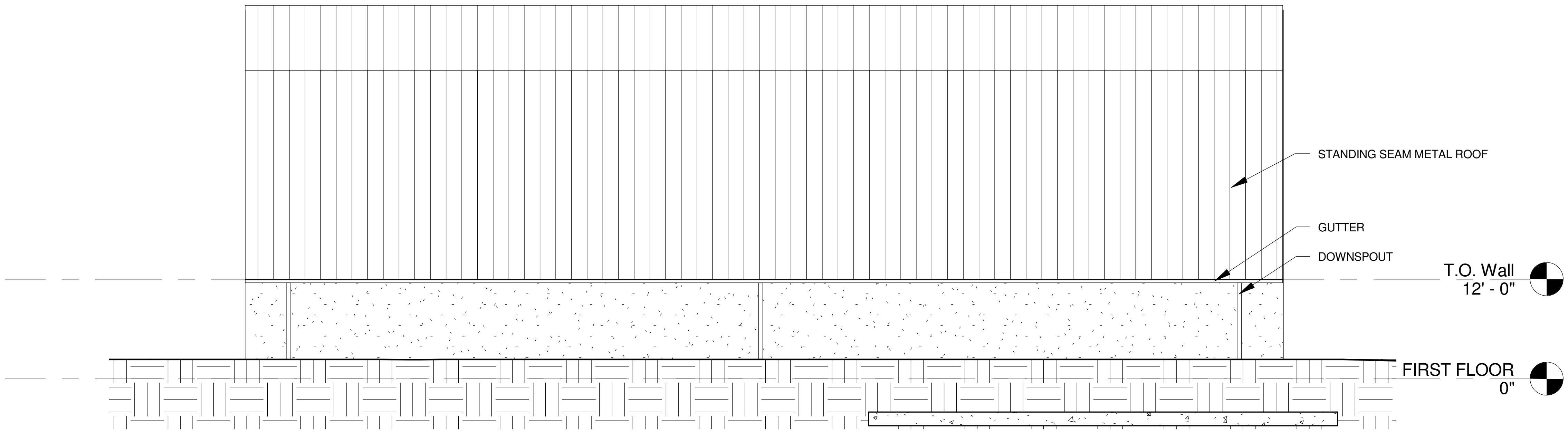


3 SOUTH ELEVATION
A2.0 1/16" = 1'-0"

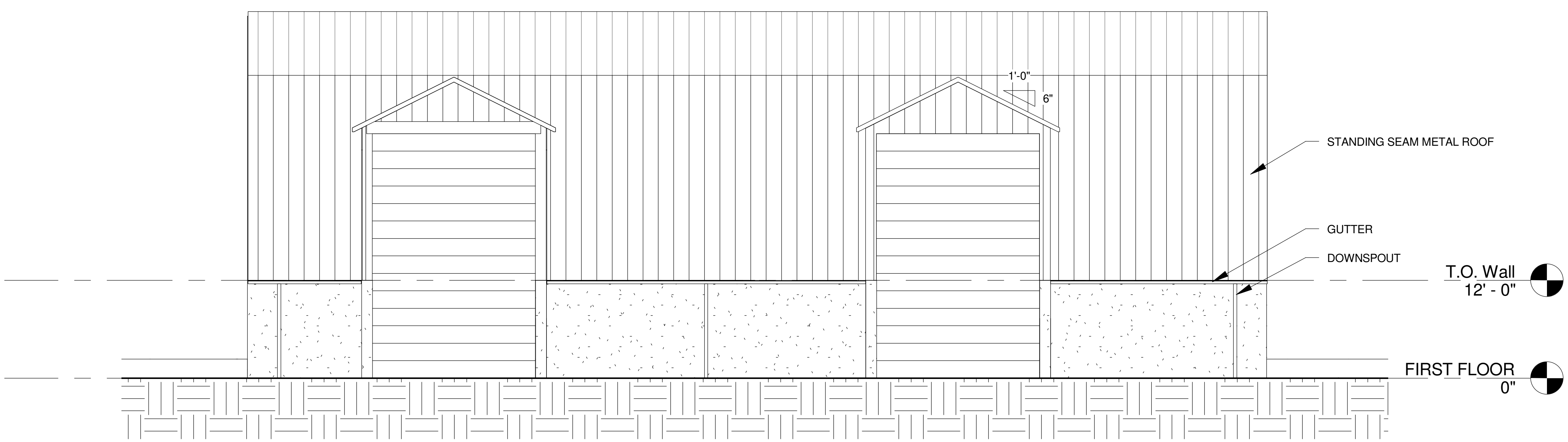
PROJECT NO:1661-05-80	HWY: SALT STORAGE FACILITY	COUNTY:CRAWFORD	DRAWING NAME: ELEVATIONS	SHEET: 7	E

FILE NAME : S:\PROJECTS\C54360 CRAWFORD COUNTY PDC SALT FACILITY 2015\CADD FILES\REVIT FILES\DOT
LAYOUT TITLEBLOCK\DOT DETAIL BORDER.DWG
PLOT DATE : ----
PLOT TIME : ----
PLOT BY : RING, ANDREA
PLOT SCALE : 1" = 1'

2



1 EAST ELEVATION
A2.1 1/16" = 1'-0"

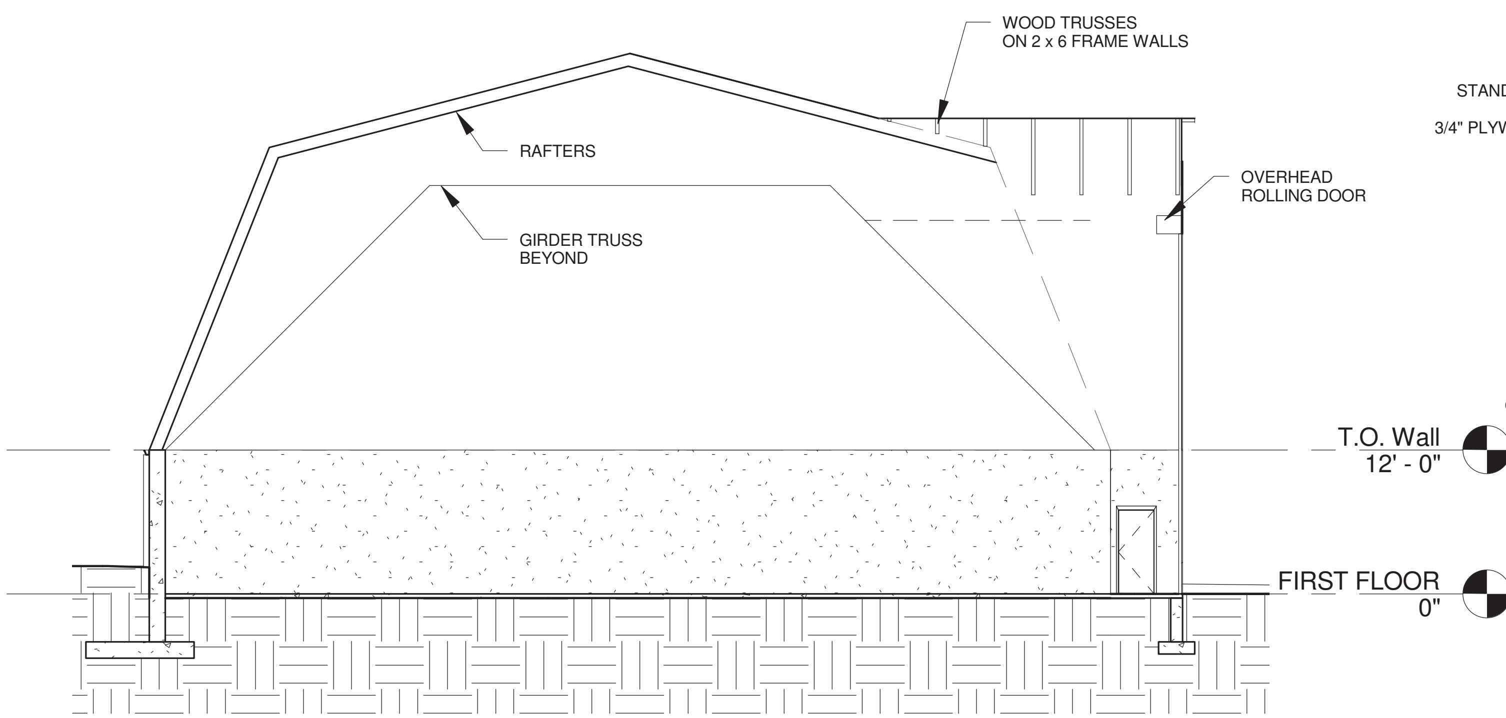


2 WEST ELEVATION
A2.1 1/16" = 1'-0"

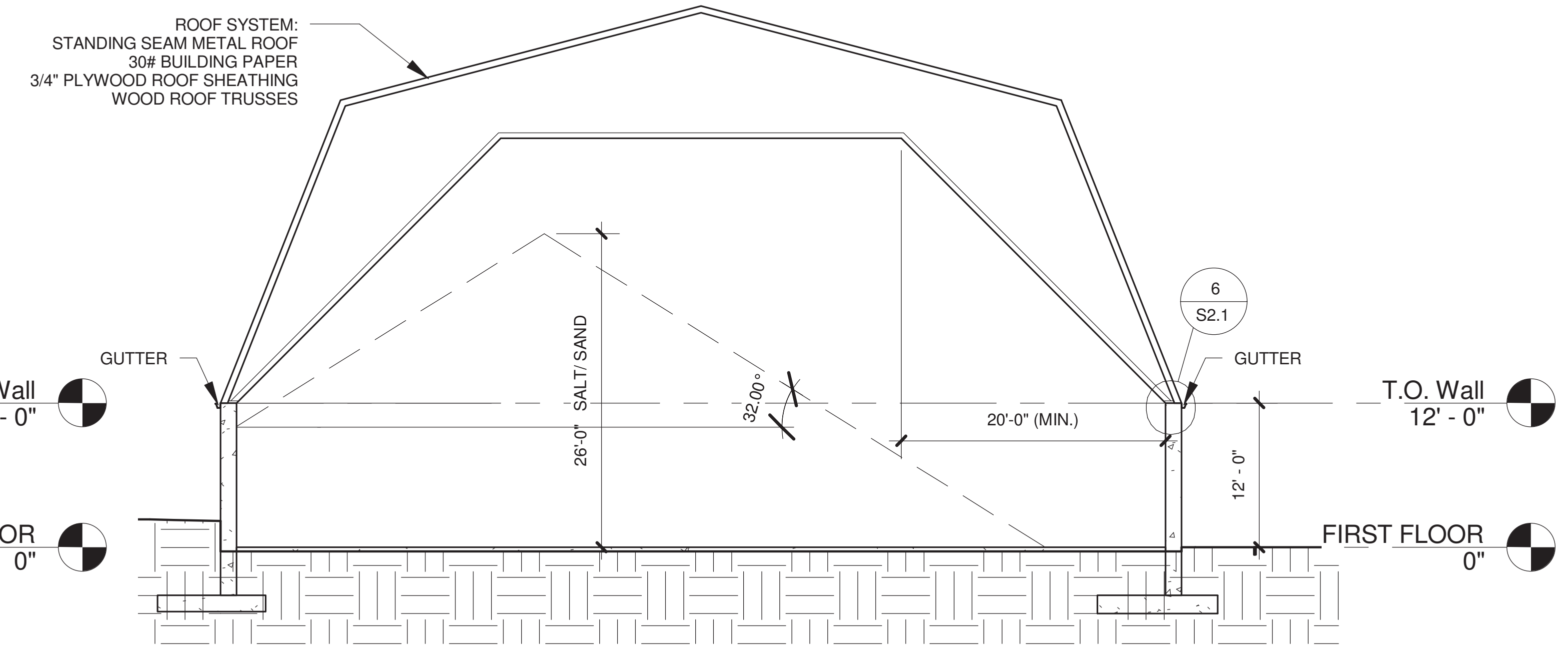
PROJECT NO:1661-05-80	HWY: SALT STORAGE FACILITY	COUNTY:CRAWFORD	DRAWING NAME: ELEVATIONS	SHEET: 8	E

FILE NAME : S:\PROJECTS\C54360 CRAWFORD COUNTY PDC SALT FACILITY 2015\CADD FILES\REVIT FILES\DOT
LAYOUT TITLEBLOCK\DOT DETAIL BORDER.DWG
PLOT DATE : ----
PLOT TIME : ----
PLOT BY : RING, ANDREA
PLOT SCALE : 1" = 1'

2

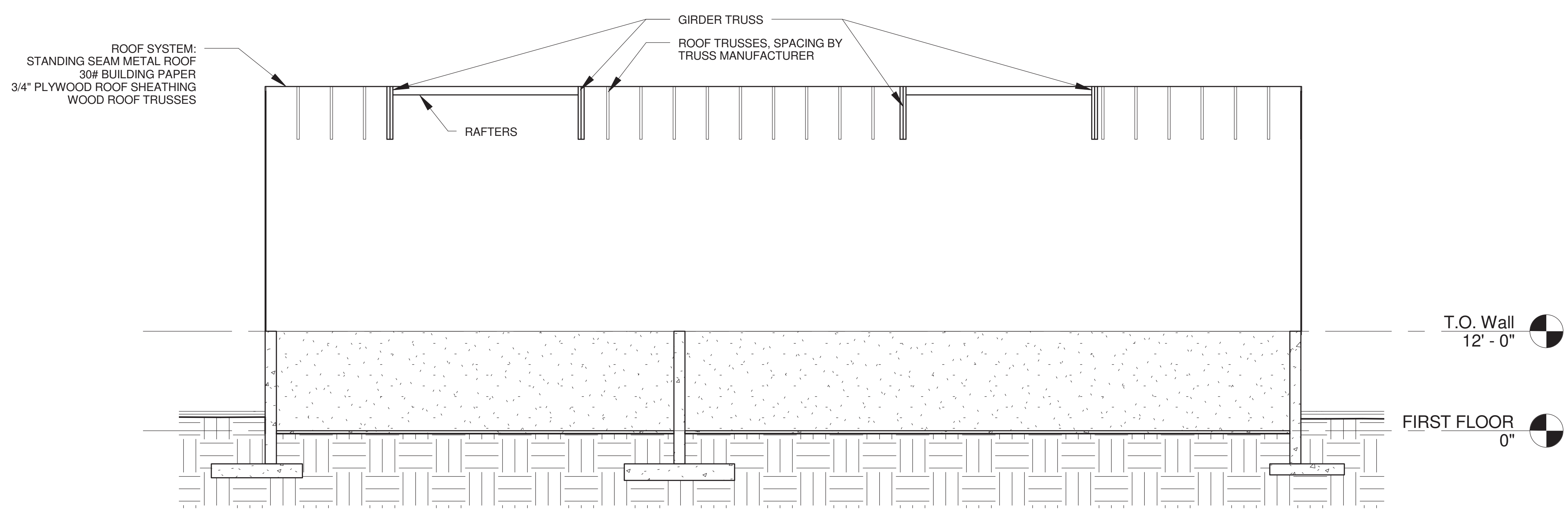


2 SECTION B
A3.0 1/16" = 1'-0"



1 SECTION A
A3.0 1/16" = 1'-0"

2



3 Section C
A3.0 1/16" = 1'-0"

PROJECT NO:1661-05-80	HWY: SALT STORAGE FACILITY	COUNTY:CRAWFORD	DRAWING NAME: SECTIONS	SHEET: 9	E

FILE NAME : S:\PROJECTS\C54360 CRAWFORD COUNTY PDC SALT FACILITY 2015\CADD FILES\REVIT FILES\DOT
LAYOUT TITLEBLOCK\DOT DETAIL BORDER.DWG

PLOT DATE : ----
PLOT TIME : ----
PLOT BY : RING, ANDREA
PLOT SCALE : 1" = 1'

GENERAL STRUCTURAL NOTES

1. DESIGNED IN CONFORMANCE WITH THE 2009 INTERNATIONAL BUILDING CODE, INCLUDING THE WISCONSIN AMENDMENTS, 2011.
2. DESIGN LOADS:
   - ROOF: 20.2 PSF BALANCED SNOW LOAD
   - PF = 0.7 X CE X CT X I X PG
   - PG = 30 PSF, CE = 1.0, CT = 1.2, I = IS = 0.8
3. DESIGN DEAD LOADS:
   - ROOF 15 PSF
4. WIND DESIGN CRITERIA:
   - PER ASCE 7-05 METHOD 1 SIMPLIFIED PROCEDURE
   - ENCLOSED BUILDING
   - V = 90 MPH, EXPOSURE C
5. KD=0.85, KZ=1.00, IW = 0.87
6. SEISMIC DESIGN CRITERIA:
   - SITE CLASS D, SDS = 0.079, S1 = 0.064
   - SEISMIC DESIGN CATEGORY A
6. STRUCTURAL DRAWINGS ARE INTENDED TO BE USED WITH ARCHITECTURAL, PLUMBING, HVAC AND ELECTRICAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING SUCH REQUIREMENTS INTO THE SHOP DRAWINGS AND WORK.
7. NO OPENING (OTHER THAN THOSE SHOWN ON THE DRAWINGS) SHALL BE MADE IN ANY BEAM, COLUMN, OR OTHER STRUCTURAL MEMBER WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
8. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON NEW OR EXISTING STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE IMPOSED.
9. SOIL BEARING CAPACITY = 3000 PSF. (VERIFIED)
10. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION. THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND FURNISHING ALL TEMPORARY BRACING AND/ OR SUPPORT THAT MAY BE REQUIRED AS THE RESULT OF THE CONTRACTOR'S CONSTRUCTION METHODS AND/OR SEQUENCES. THE STRUCTURAL ENGINEER ASSUMES NO LIABILITY FOR THE STRUCTURE DURING CONSTRUCTION.
11. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION. NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCY IMMEDIATELY. INFORMATION PERTAINING TO EXISTING FIELD CONDITIONS GIVEN ON THESE STRUCTURAL DRAWINGS REPRESENTS TO THE BEST OF OUR KNOWLEDGE, THE ACTUAL EXISTING FIELD CONDITIONS. JEWELL ASSOCIATES MAKES NO WARRANTY AS TO THEIR ACCURACY. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS IMPERATIVE TO THE NEW CONSTRUCTION AND REPORT DISCREPANCIES BETWEEN THE DRAWINGS AND FIELD CONDITIONS TO THE A/E FOR REVIEW. ANY WORK PERFORMED PRIOR TO RESOLUTION OF DISCREPANCIES BY THE A/E IS SUBJECT TO REMOVAL AND REPLACEMENT AT NO ADDITIONAL COST TO THE CONTRACT.
12. CONTRACTOR NOTE: THE BASE OF ALL EXCAVATIONS SHALL BE KEPT FREE OF WATER AND LOOSE SOIL PRIOR TO PLACING CONCRETE. CARE SHOULD BE TAKEN DURING EXCAVATION AND CONSTRUCTION TO MINIMIZE DISTURBANCE OF THE BEARING SOILS THE CONCRETE SHOULD BE PLACED AS SOON AS POSSIBLE AFTER EXCAVATION TO PREVENT EXCESSIVE DRYING OR WETTING OF THE EXCAVATION.
13. FOR APPLICABLE CODES AND STANDARDS, MATERIAL STRENGTHS AND CONSTRUCTION REQUIREMENTS, SEE GENERAL STRUCTURAL NOTES AND SPECIFICATIONS.
14. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO START OF CONSTRUCTION - RESOLVE ANY DISCREPANCY WITH ARCHITECT. DO NOT SCALE DRAWINGS.
15. FOR CLARITY, ALL EXTERIOR SLABS AND SIDEWALKS MAY NOT BE SHOWN. FOR EXACT DIMENSIONS, LOCATIONS, JOINTS AND SCORE LINES, SEE ARCHITECTURAL DRAWINGS.
16. FOR CLARITY, ALL ROOF, FLOOR AND WALL OPENINGS MAY NOT BE SHOWN ON STRUCTURAL DRAWINGS. FOR EXACT SIZE, NUMBER AND LOCATION OF OPENINGS, SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS. FOR FRAMING AT OPENINGS, SEE TYPICAL STRUCTURAL DETAILS. VERIFY ALL SIZES, WEIGHTS AND LOCATIONS OF MECHANICAL AND ELECTRICAL EQUIPMENT, DUCTS, ETC. WITH MECHANICAL AND ELECTRICAL ENGINEERS THROUGH ARCHITECT.
17. DETAILS MARKED "TYPICAL" MAY OR MAY NOT BE CUT ON PLANS, BUT SHALL APPLY UNLESS NOTED OTHERWISE.

CAST IN PLACE CONCRETE

1. PERFORM FORMWORK, SHORING AND BRACING IN ACCORDANCE WITH ACI 301, ACI 318 AND ACI 347 TO CONFORM TO DESIGN AND APPLICABLE CODE REQUIREMENTS TO ACHIEVE CONCRETE SHAPE, LINE AND DIMENSION AS INDICATED ON DRAWINGS.
2. PERFORM AND FABRICATE CONCRETE REINFORCING WORK IN ACCORDANCE WITH ACI 301, ACI 315, ACI 318.
   - PERFORM CAST-IN-PLACE CONCRETE WORK IN ACCORDANCE WITH ACI 301, ACI 318 ACI 305, AND ACI 306.1.
3. SUBMITTALS:
   - SHOP DRAWINGS: INDICATE PERTINENT DIMENSIONING, FORM MATERIALS, ARRANGEMENT OF JOINTS AND TIES, REINFORCEMENT SIZES, SPACINGS, LOCATIONS, AND QUANTITIES, BENDING AND CUTTING SCHEDULES, SUPPORTING AND SPACING DEVICES, SIDEWALKS, AND SLABS-ON-GRADE.
   - PRODUCT DATA: INDICATE ADMIXTURES AND ANCHORS
   - DESIGN DATA: SUBMIT MIX DESIGNS
4. FIRE RATED CONSTRUCTION: RATING AS INDICATED ON DRAWINGS.
   - TESTED RATING: DETERMINED IN ACCORDANCE WITH ASTM E119.
   - PRESCRIPTIVE RATING: DETERMINED IN ACCORDANCE WITH APPLICABLE CODE.
5. FORM MATERIALS
   - PLYWOOD: SOUND UNDAMAGED SHEETS WITH CLEAN TRUE EDGES.
   - LUMBER: SPF SPECIES; CONSTRUCTION GRADE.
   - PREFABRICATED STEEL TYPE: TIGHT FITTING, STIFFENED TO SUPPORT WEIGHT OF CONCRETE.
   - PAN TYPE: STEEL; OF SIZE AND PROFILE REQUIRED.
   - TUBULAR COLUMN TYPE: ROUND, SPIRALLY WOUND LAMINATED MATERIALS, INSIDE SURFACE TREATED WITH RELEASE AGENT, OF SIZE REQUIRED.
6. FORM TIES: METAL TYPE OF FIXED LENGTH.
7. WATER STOPS: BENTONITE, MAXIMUM POSSIBLE LENGTHS, PROFILED AS REQUIRED FOR PROJECT CONDITIONS. INSTALL WATER STOPS CONTINUOUS WITHOUT DISPLACING REINFORCEMENT.
8. FORM RELEASE AGENT: COLORLESS MINERAL OIL NOT CAPABLE OF STAINING CONCRETE OR IMPAIRING NATURAL BONDING CHARACTERISTICS OF COATING INTENDED FOR USE ON CONCRETE.
9. SLAB EDGE JOINT FILLER: ASTM D1751, PREMOLDED ASPHALTIC BOARD, 59/64 INCH THICK.
10. ALL CONCRETE REINFORCING STEEL IS TO BE ASTM A-615, GRADE 60, LAPS SHALL BE AS FOLLOWS:

BAR SIZE:	#3	#4	#5	#6	#7	#8	#10
LAP LENGTH:	19"	25"	32"	38"	44"	54"	77"

11. WELDED DEFORMED WIRE FABRIC: ASTM A497; IN FLAT SHEETS AND UNFINISHED.
12. WELDED PLAIN WIRE FABRIC: ASTM A185; IN FLAT SHEETS AND UNFINISHED.
13. CHAIRS, BOLSTERS, BAR SUPPORTS, SPACERS: SIZED AND SHAPED FOR SUPPORT OF REINFORCING; PLASTIC TIPPED OR NON-CORRODING FOR SUPPORTS IN SLABS FORMING FINISHED CEILINGS OR WHERE SUPPORTS ARE EXPOSED TO WEATHER.
14. FABRICATE CONCRETE REINFORCEMENT IN ACCORDANCE WITH ACI 301 AND ACI 318.
15. WELD REINFORCEMENT IN ACCORDANCE WITH AWS D1.4
16. EPOXY COATED FINISH FOR STEEL BARS: ASTM A775/A775M.
17. EPOXY COATING PATCHING MATERIAL: TYPE AS RECOMMENDED BY COATING MANUFACTURER. BEND ALL BENT BARS PRIOR TO EPOXY COATING.
18. CEMENT: ASTM C150, NORMAL-TYPE I, PORTLAND TYPE.
19. FINE AND COARSE AGGREGATES: ASTM C33.
20. WATER: CLEAN AND NOT DETRIMENTAL TO CONCRETE.
21. AIR ENTRAINMENT ADMIXTURE: ASTM C260.
22. BONDING AGENT: POLYMER RESIN EMULSION.
23. NON-SHRINK GROUT: PREMIXED COMPOUND CONSISTING OF NON-METALLIC AGGREGATE, CEMENT, WATER REDUCING AND PLASTICIZING AGENTS.
24. CURING COMPOUND: ASTM C1315, TYPE 1, CLASS A.
25. ABSORPTIVE MATS: ASTM C171, BURLAP-POLYETHYLENE.
26. METALLIC HARDENER: PREMIXED CLEAR, OXIDABLE TYPE.
27. MIX AND DELIVER CONCRETE IN ACCORDANCE WITH ASTM C94/C94M, OPTION A.
28. FURNISH CONCRETE OF THE FOLLOWING STRENGTH:
   - COMPRESSIVE STRENGTH 3,500 PSI: FOOTINGS, FOUNDATION WALLS, AND ALL OTHER CONCRETE NOT NOTED.
   - 3,500 PSI: INTERIOR AND EXTERIOR SLAB ON GRADE.
   - 4,000 PSI: SUSPENDED FLOOR SLABS, STRUCTURAL TOPPING, BEAMS AND COLUMNS (28 DAY). SLUMP 3 TO 5 INCHES.
   - MAXIMUM WATER-CEMENT RATIO: 0.50.
31. SELECT ADMIXTURE PROPORTIONS FOR NORMAL WEIGHT CONCRETE IN ACCORDANCE WITH ACI 318.
32. ADD AIR ENTRAINING AGENT TO CONCRETE MIX FOR CONCRETE WORK EXPOSED TO EXTERIOR.
33. ERECT FORMWORK, SHORING AND BRACING TO ACHIEVE DESIGN REQUIREMENTS. PROVIDE BRACING TO ENSURE STABILITY OF FORMWORK.
34. CAMBER SLABS AND FRAMING TO ACHIEVE ACI 301 TOLERANCES.
35. PROVIDE BRACING TO ENSURE STABILITY OF FORMWORK.
36. FORM EXTERNAL CORNERS OF BEAMS, JOISTS, AND COLUMNS, AS INDICATED ON DRAWINGS. PROVIDE FORMED OPENINGS WHERE REQUIRED FOR WORK TO BE EMBEDDED IN AND PASSING THROUGH CONCRETE MEMBERS. COORDINATE WORK OF OTHER SECTIONS IN FORMING AND SETTING OPENINGS, SLOTS, RECESSES, CHASES, SLEEVES, BOLTS, ANCHORS, AND OTHER INSERTS. INSTALL CONCRETE ACCESSORIES STRAIGHT, LEVEL, AND PLUMB.
37. APPLY FORM RELEASE AGENT TO FORMWORK PRIOR TO PLACING FORM ACCESSORIES AND REINFORCEMENT. DO NOT APPLY FORM RELEASE AGENT WHERE CONCRETE SURFACES WILL RECEIVE SPECIAL FINISHES OR APPLIED COVERINGS AFFECTED BY AGENT.
38. CLEAN FORMS AS ERECTION PROCEEDS, TO REMOVE FOREIGN MATTER.
39. PROVIDE FORMED OPENINGS WHERE REQUIRED FOR WORK TO BE EMBEDDED IN AND PASSING THROUGH CONCRETE MEMBERS. COORDINATE WORK OF OTHER SECTIONS IN FORMING AND SETTING OPENINGS, SLOTS, RECESSES, CHASES, SLEEVES, BOLTS, ANCHORS, AND OTHER INSERTS. INSTALL CONCRETE ACCESSORIES STRAIGHT, LEVEL, AND PLUMB.
40. PLACE JOINT FILLER AT PERIMETER OF FLOOR SLAB, PENETRATIONS, AND ISOLATION JOINTS.
41. INSTALL VOID FORMS. PROTECT FORMS FROM MOISTURE BEFORE CONCRETE PLACEMENT AND FROM CRUSHING DURING CONCRETING.
42. PLACE REINFORCEMENT, SUPPORTED AND SECURED AGAINST DISPLACEMENT.
43. ENSURE REINFORCING IS CLEAN, FREE OF LOOSE SCALE, DIRT, OR OTHER FOREIGN COATINGS.
44. WELD REINFORCEMENT IN ACCORDANCE WITH AWS D1.4.
   - DO NOT WELD CROSSING REINFORCEMENT BARS FOR ASSEMBLY EXCEPT AS PERMITTED BY ARCHITECT/ENGINEER.
45. SPACE REINFORCEMENT BARS WITH MINIMUM CLEAR SPACING IN ACCORDANCE WITH ACI 301.
46. MAINTAIN CONCRETE COVER AROUND REINFORCEMENT IN ACCORDANCE WITH ACI 301.
47. PREPARE PREVIOUSLY PLACED CONCRETE BY CLEANING WITH STEEL BRUSH AND APPLYING BONDING AGENT.
48. PLACE CONCRETE CONTINUOUSLY BETWEEN PREDETERMINED EXPANSION, CONTROL AND CONSTRUCTION JOINTS. DO NOT BREAK OR INTERRUPT SUCCESSIVE POURS CREATING COLD JOINTS.
49. WHERE NEW CONCRETE IS DOWELED TO EXISTING WORK, DRILL HOLES IN EXISTING CONCRETE, INSERT STEEL DOWELS AND PACK WITH NON-SHRINK GROUT.
50. DO NOT REMOVE FORMS OR BRACING UNTIL CONCRETE HAS GAINED SUFFICIENT STRENGTH TO CARRY ITS OWN WEIGHT AND IMPOSED LOADS.
51. REMOVE FORMWORK PROGRESSIVELY AND IN ACCORDANCE WITH CODE REQUIREMENTS.
52. PRIOR TO PLACING, ROUGHEN CONCRETE BASE COURSE AND REMOVE DELETERIOUS MATERIAL. BROOM AND VACUUM CLEAN.
53. PLACE REQUIRED DIVIDERS, EDGE STRIPS, REINFORCING AND OTHER ITEMS TO BE CAST IN.
54. MAINTAIN SURFACE FLATNESS, WITH MAXIMUM VARIATION OF 1/8 INCH IN 10 FT.
55. IMMEDIATELY AFTER PLACEMENT, PROTECT CONCRETE FROM PREMATURE DRYING, EXCESSIVELY HOT OR COLD TEMPERATURES, AND MECHANICAL INJURY.
56. MAINTAIN CONCRETE WITH MINIMAL MOISTURE LOSS AT RELATIVELY CONSTANT TEMPERATURE FOR PERIOD NECESSARY FOR HYDRATION OF CEMENT AND HARDENING OF CONCRETE FOR NOT LESS THAN 7 DAYS.
57. PROVIDE CONCRETE SURFACES TO BE LEFT EXPOSED WITH SMOOTH RUBBED FINISH.
58. INSTALL REINFORCEMENT WITHIN TOLERANCES REQUIRED BY ACI 301.
59. PERFORM FIELD INSPECTION AND TESTING IN ACCORDANCE WITH ACI 301.
60. REINFORCEMENT INSPECTION:
   - INSPECT FOR CORRECT MATERIALS, FABRICATION, SIZES, LOCATIONS, SPACING, CONCRETE COVER, AND SPLICING.
72. FIELD TESTING:
   - MEASURE SLUMP AND TEMPERATURE FOR EACH COMPRESSIVE STRENGTH CONCRETE SAMPLE.
   - MEASURE AIR CONTENT IN AIR ENTRAINED CONCRETE FOR EACH COMPRESSIVE STRENGTH CONCRETE SAMPLE.
73. CYLINDER COMPRESSIVE STRENGTH TESTING:
   TESTING TO BE DONE PER SECTION 716:
   TEST ALL CONCRETE PER SECTION 716 EXCEPT AS FOLLOWS:
   CAST ONE SET OF 2 CYLINDERS PER 75 CUBIC YARDS FOR EACH MIX GRADE AND PLACEMENT METHOD.
   CAST A MINIMUM OF ONE SET OF 2 CYLINDERS PER CONTRACT FOR EACH MIX GRADE AND PLACEMENT METHOD.
   RANDOM 28-DAY COMPRESSIVE STRENGTH CYLINDERS ARE NOT REQUIRED FOR HES OR SHES CONCRETE.
74. MODIFY OR REPLACE CONCRETE NOT CONFORMING TO REQUIRED COMPRESSIVE STRENGTH LINES, DETAILS AND ELEVATIONS, AS DIRECTED BY ARCHITECT/ENGINEER.
75. PIPE SLEEVES OVER 1-1/2 INCHES IN DIAMETER WHICH PASS THROUGH CONCRETE WALLS OR SLABS SHALL BE SCHEDULE 40 GALVANIZED STEEL PIPE. ALL OTHER SLEEVES SHALL BE 18 GAUGE SHEET METAL. SLEEVES SHALL BE ONE SIZE LARGER THAN OUTSIDE DIAMETER OF PIPE PASSING THROUGH SLEEVE. VERIFY SIZE AND NUMBER WITH MECHANICAL, ELECTRICAL, AND PLUMBING CONTRACTORS.
76. ALUMINUM CONDUIT IS NOT PERMITTED TO BE EMBEDDED IN CONCRETE.
77. PROVIDE 2"€LEAR COVER TO REINFORCING UNLESS NOTED OTHERWISE.

ROUGH CARPENTRY

1. SECTION INCLUDES STRUCTURAL FLOOR, WALL, AND ROOF FRAMING; BUILT-UP STRUCTURAL MEMBERS; TRUSSES; WALL AND ROOF SHEATHING; SUBFLOOR SHEATHING; PRESERVATIVE AND FIRE RETARDANT TREATMENT; SILL GASKETS. FLASHINGS; AND ROOF CURBS AND CANTS; BLOCKING IN WALL AND ROOF OPENINGS; WOOD FURRING AND GROUNDS; ELECTRICAL PANEL BACK BOARDS, CONCEALED WOOD BLOCKING.
2. PERFORM WORK IN ACCORDANCE WITH THE FOLLOWING:
   ••LUMBER GRADING AGENCY: CERTIFIED BY DOC PS 20.
   ••WOOD STRUCTURAL PANEL GRADING AGENCY: CERTIFIED BY EWA - THE ENGINEERED WOOD ASSOCIATION.
   ••LUMBER: DOC PS 20.
   ••WOOD STRUCTURAL PANELS: DOC PS 1 OR DOC PS 2.
3. FIRE RATED CONSTRUCTION: RATING AS INDICATED ON DRAWINGS
   ••TESTED RATING: DETERMINED IN ACCORDANCE WITH ASTM E119.
4. LUMBER GRADING RULES: WWPA G-5.
5. BEAM FRAMING: DFL SPECIES, #2GRADE, 19 PERCENT MAXIMUM MOISTURE CONTENT.
6. JOIST FRAMING: DFL SPECIES, #2GRADE, 19 PERCENT MAXIMUM MOISTURE CONTENT.
7. RAFTER FRAMING: DFL SPECIES, #2GRADE, 19 PERCENT MAXIMUM MOISTURE CONTENT.
8. NON-STRUCTURAL LIGHT FRAMING: SPF SPECIES, CONSTRUCTION GRADE, 19 PERCENT MAXIMUM MOISTURE CONTENT.
9. STUDDING: SPF SPECIES, STUD GRADE, 19 PERCENT MAXIMUM MOISTURE CONTENT.
10. SILL PLATE: PRESSURE TREATED.
11. PLYWOOD ROOF SHEATHING: RATED SHEATHING SPAN RATING AS REQUIRED FOR SPAN CONDITIONS; EXPOSURE DURABILITY 1.
12. PLYWOOD WALL SHEATHING: RATED SHEATHING, SPAN RATING AS REQUIRED FOR SPAN CONDITIONS; EXPOSURE DURABILITY 1.
13. GYPSUM WALL SHEATHING: ASTM C1396/C1396M; TYPE X FIRE RESISTANT, 5/8 INCH THICK, 48 X 96 INCH SIZED SHEETS, SQUARE EDGES, WATER REPELLANT PAPER FACES.
14. PLYWOOD FLOOR SHEATHING: APA RATED SHEATHING, STRUCTURAL I, STURD-I FLOOR SPAN RATING AS REQUIRED BY SPAN CONDITIONS; EXPOSURE DURABILITY 1.
15. TELEPHONE AND ELECTRICAL PANEL BOARDS: PLYWOOD.
16. PLYWOOD UNDERLAYMENT: RATED SHEATHING, SPAN RATING AS REQUIRED BY SPAN CONDITIONS; EXPOSURE DURABILITY 1.
17. SLOPED ROOF SHEATHING: 5/8 INCH THICK, 48 X 96 INCH SIZED SHEETS, SQUARE EDGES.
18. FLAT ROOF SHEATHING: 3/4 INCH THICK, 48 X 96 INCH SIZED SHEETS, SQUARE EDGES.
19. ABOVE GRADE WALL SHEATHING: 1/2 INCH THICK, 48 X 96 INCH SIZED SHEETS, SQUARE EDGES.
20. FLOOR SHEATHING: 3/4 INCH THICK, 48 X 96 INCH SIZED SHEETS, TONGUE AND GROOVE EDGES.
21. FLOOR UNDERLAYMENT: $\frac{59}{64}$ INCH THICK, 48 X 96 INCH SIZED SHEETS.
22. FIREBLOCKING: SOLID LUMBER, STRUCTURAL WOOD PANEL, OR PARTICLEBOARD.
   ••SOLID LUMBER NOMINAL 2 INCHES THICK.
   ••TWO LAYERS OF SOLID LUMBER NOMINAL 1 INCH THICK WITH BROKEN LAPPED JOINTS.
   ••STRUCTURAL WOOD PANEL 23/32 INCH THICK WITH JOINTS BACKED BY STRUCTURAL WOOD PANEL.
   ••PARTICLEBOARD 3/4 INCH THICK WITH JOINTS BACKED BY PARTICLEBOARD.
23. DRAFTSTOPPING: MINIMUM 1/2 INCH THICK GYPSUM BOARD, 3/8 INCH THICK WOOD STRUCTURAL PANEL OR 3/8 INCH THICH PARTICLEBOARD.
24. FASTENERS AND ANCHORS:
   ••FASTENERS: HOT DIPPED GALVANIZED STEEL FOR HIGH HUMIDITY AND TREATED WOOD LOCATIONS, UNFINISHED STEEL ELSEWHERE.
   ••NAILS AND STAPLES: ASTM F1667.
25. DIE STAMPED CONNECTORS: GALVANIZED STEEL.
26. STRUCTURAL FRAMING CONNECTORS: JOIST HANGERS: GALVANIZED STEEL, SIZED TO SUIT FRAMING CONDITIONS.
27. SILL GASKET ON TOP OF FOUNDATION WALL: PLATE WIDTH, CLOSED CELL FOAM STRIP.
28. SILL FLASHING (UNDER SILL GASKET): GALVANIZED STEEL.
29. SUBFLOOR GLUE: APA AFG-01, WATER BASE, WATERPROOF.
30. BUILDING PAPER: ASTM D226, TYPE II, NO. 30, UNPERFORATED ASPHALT FELT.
31. WOOD PRESERVATIVE (PRESSURE TREATMENT): AWPA TREATMENT C1 USING WATER BORNE PRESERVATIVE WITH 0.25 PCF RETENTION.
32. MOISTURE CONTENT AFTER TREATMENT: KILN DRIED (KDAT).
   ••LUMBER: MAXIMUM 19 PERCENT.
   ••STRUCTURAL PANELS: MAXIMUM 15 PERCENT.
33. SET STRUCTURAL MEMBERS LEVEL AND PLUMB, IN CORRECT POSITION.
34. FASTEN FRAMING IN ACCORDANCE WITH APPLICABLE CODE.
35. PLACE HORIZONTAL MEMBERS CROWN SIDE UP.
36. PLACE FULL WIDTH CONTINUOUS SILL FLASHING ON FOUNDATIONS.
37. PLACE SILL GASKET DIRECTLY ON SILL FLASHING.
38. FRAME DOUBLE JOIST HEADERS AT FLOOR AND CEILING OPENINGS. FRAME RIGIDLY INTO JOISTS. FRAME DOUBLE JOISTS UNDER WALL STUDDING.
39. BRIDGE JOISTS IN EXCESS OF 8 FEET SPAN AT MID-SPAN OF MEMBERS. FIT BRIDGING AT ENDS OF MEMBERS.
40. CURB ROOF OPENINGS EXCEPT WHERE CURBS ARE PROVIDED. CONSTRUCT CURB MEMBERS OF SINGLE PIECES FOR EACH SIDE.
41. INSTALL GYPSUM SHEATHING IN ACCORDANCE WITH ASTM C1280.
42. FASTEN SHEATHING IN ACCORDANCE WITH APPLICABLE CODE.
43. INSTALL SUBFLOOR SHEATHING WITH LONGER EDGE PERPENDICULAR TO FLOOR FRAMING WITH END JOINTS STAGGERED. SECURE SHEET EDGES OVER FIRM BEARING. ATTACH SHEATHING WITH [2]SUBFLOOR GLUE AND[3] GYPSUM BOARD SCREWS AT FLOOR APPLICATIONS
44. PLACE BUILDING PAPER BETWEEN UNDERLAYMENT AND SUBFLOORING.
45. SECURE WALL SHEATHING WITH ENDS STAGGERED, OVER FIRM BEARING.
46. PLACE BUILDING PAPER OVER WALL SHEATHING, WEATHER LAP JOINTS AND END LAPS, STAPLE IN PLACE. COORDINATE FLASHING INSTALLATION TO ENSURE CONTINUOUS WATER RESISTANT BARRIER.
47. USE SHEATHING CLIPS BETWEEN SHEETS BETWEEN ROOF FRAMING MEMBERS.
48. INSTALL TELEPHONE AND ELECTRICAL PANEL BACK BOARDS WITH PLYWOOD SHEATHING MATERIAL WHERE REQUIRED. SIZE BACK BOARD BY 12 INCHES BEYOND SIZE OF ELECTRICAL PANEL.
49. INSTALL FIREBLOCKING TO CUT OFF CONCEALED DRAFT OPENINGS.
   ••CONCEALED FRAMED WALL AND FURRED SPACES: INSTALL FIREBLOCKING VERTICALLY AT FLOOR AND CEILING LEVELS AND HORIZONTALLY AT MAXIMUM 10 FEET ON CENTER.
   ••CONNECTIONS BETWEEN HORIZONTAL AND VERTICAL SPACES: INSTALL FIREBLOCKING BETWEEN VERTICAL WALLS AND PARTITIONS AND THE FOLLOWING:
   ••HORIZONTAL FLOOR AND ROOF FRAMING.
   ••SOFFITS, DROPPED CEILINGS, COVE CEILINGS AND OTHER HORIZONTAL CONCEALED SPACES.
   ••STAIRS: INSTALL FIREBLOCKING BETWEEN STAIR STRINGERS AT TOP AND BOTTOM OF EACH RUN.
   ••EXTERIOR COMBUSTIBLE ARCHITECTURAL TRIM: INSTALL FIREBLOCKING AT MAXIMUM 20 FEET ON CENTER.
51. INSTALL DRAFTSTOPPING IN FLOORS AND AT LOCATIONS INDICATED ON DRAWINGS.
   ••FLOORS: IN LOCATIONS TO LIMIT EACH AREA TO 1000 SF.
   ••ATTICS: IN LOCATIONS TO LIMIT EACH AREA TO 3000 SF.
52. TREAT SITE-SAWN CUTS. BRUSH APPLY TWO COATS OF PRESERVATIVE TREATMENT ON UNTREATED WOOD IN CONTACT WITH CEMENTITIOUS MATERIALS ROOFING AND RELATED METAL FLASHINGS. ALLOW PRESERVATIVE TO CURE PRIOR TO ERECTING MEMBERS.

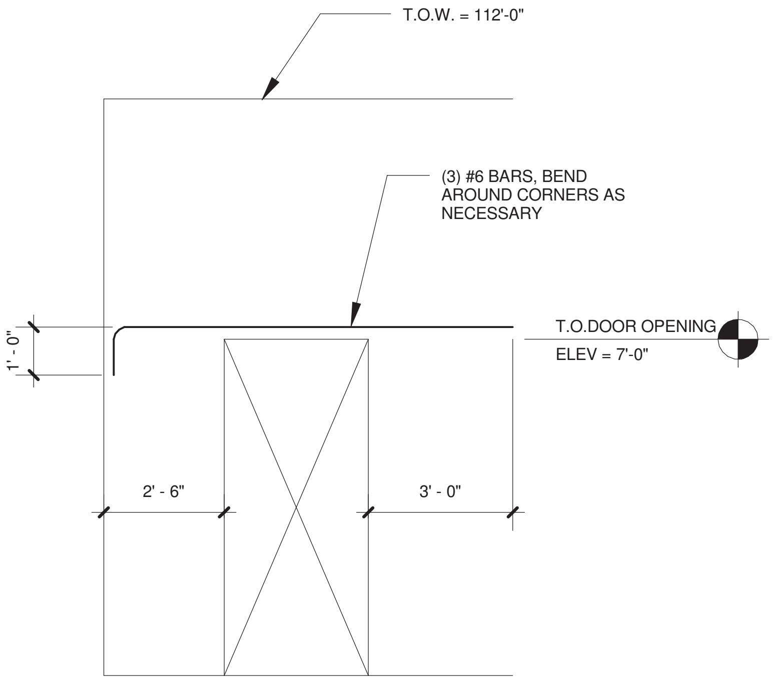
SHOP-FABRICATED WOOD TRUSSES

1. SECTION INCLUDES SHOP FABRICATED WOOD TRUSSES FOR ROOF; BRIDGING, BRACING, AND ANCHORAGE; AND PRESERVATIVE TREATMENT OF WOOD.
2. DESIGN LOADING SHALL BE ACCORDING TO APPLICABLE BUILDING CODES. WITH REFLECTIONS
3. PROVIDE TRUSS OPENINGS TO ACCOMMODATE MECHANICAL DUCTS.
4. SUBMITTALS:
   ••SHOP DRAWINGS: INDICATE SIZES AND SPACING OF TRUSSES AND ASSOCIATED COMPONENTS, WEB AND CHORD SIZES, PLATE SIZES, FASTENER DESCRIPTIONS AND SPACINGS, LOADS AND TRUSS CAMBERS, FRAMED AND OPENINGS. SUBMIT STAMPED DESIGN CALCULATIONS.
   ••PRODUCT DATA: PROVIDE TRUSS CONFIGURATIONS, BEARING AND ANCHOR DETAILS, BRIDGING AND BRACING.
7. PERFORM WORK IN ACCORDANCE WITH THE FOLLOWING:
   ••LUMBER GRADING AGENCY: CERTIFIED BY DOC PS 20.
   ••WOOD STRUCTURAL PANEL GRADING AGENCY: CERTIFIED BY EWA - THE ENGINEERED WOOD ASSOCIATION.
   ••LUMBER: DOC PS 20.
   ••WOOD STRUCTURAL PANELS: DOC PS 1 OR DOC PS 2.
   ••TRUSS DESIGN, FABRICATION, AND INSTALLATION: IN ACCORDANCE WITH TPI 1.
8. FIRE RATED CONSTRUCTION: RATING AS INDICATED ON DRAWINGS.
   ••TESTED RATING: DETERMINED IN ACCORDANCE WITH ASTM E119.
9. MANUFACTURER: COMPANY SPECIALIZING IN MANUFACTURING SHOP FABRICATED WOOD TRUSSES WITH MINIMUM THREE YEARS EXPERIENCE.
10. DESIGN TRUSSES UNDER DIRECT SUPERVISION OF PROFESSIONAL ENGINEER EXPERIENCED IN DESIGN OF THIS WORK AND LICENSED AT PROJECT LOCATION. SUBMIT STAMPED CALCULATIONS AND LAYOUT DRAWINGS FOR SUBMISSION TO THE STATE OF WISCONSIN
11. LUMBER GRADING RULES: WWPA G-5.
12. WOOD MEMBERS: SINGLE TOP AND BOTTOM CHORD, DFL SPECIES #2 GRADE OR BETTER. 19 PERCENT MAXIMUM AND 7 PERCENT MINIMUM MOISTURE CONTENT.
13. STEEL PLATE CONNECTORS SHALL BE TPI 1, SECTION 6; HOT DIP, GALVANIZED; DIE STAMPED WITH INTEGRAL TEETH.
14. TRUSS BRIDGING: TYPE, SIZE AND SPACING RECOMMENDED BY TRUSS MANUFACTURER.
15. WOOD BLOCKING SHALL BE SOFTWOOD LUMBER, S/P/F SPECIES, CONSTRUCTION GRADE, 19 PERCENT MAXIMUM AND 7 PERCENT MINIMUM MOISTURE CONTENT.
16. FASTENERS AND ANCHORS:
   ••FASTENERS: HOT DIPPED GALVANIZED STEEL FOR HIGH HUMIDITY AND TREATED WOOD LOCATIONS, UNFINISHED STEEL ELSEWHERE.
   ••NAILS AND STAPLES: ASTM F1667.
   ••ANCHORS: TOGGLE BOLT TYPE FOR ANCHORAGE TO HOLLOW MASONRY.EXPANSION SHIELD AND LAG BOLT TYPE FOR ANCHORAGE TO SOLID MASONRY OR CONCRETE. BOLT OR BALLISTIC FASTENER FOR ANCHORAGES TO STEEL.
17. FABRICATE TRUSSES TO ACHIEVE STRUCTURAL REQUIREMENTS SPECIFIED.
18. FURNISH BOTTOM AND TOP CHORD EXTENSIONS AS INDICATED ON DRAWINGS.
19. FABRICATE TO ACHIEVE MINIMUM END BEARING OF:
   ••3 1/2 INCHES ON STEEL.
   ••3 1/2 INCHES ON MASONRY.
   ••5 1/2 INCHES ON WOOD.
20. FRAME SPECIAL SIZED OPENINGS IN WEB FRAMING AS REQUIRED BY MECHANICAL SYSTEMS.
21. VERIFY SUPPORTS AND OPENINGS ARE READY TO RECEIVE TRUSSES.
22. COORDINATE PLACEMENT OF BEARING SUPPORT ITEMS.
23. SET MEMBERS LEVEL AND PLUMB, IN CORRECT POSITION.
24. MAKE PROVISIONS FOR ERECTION LOADS, AND FOR SUFFICIENT TEMPORARY BRACING TO MAINTAIN STRUCTURE PLUMB, AND IN INDICATED ALIGNMENT UNTIL COMPLETION OF ERECTION AND INSTALLATION OF PERMANENT BRACING.
25. DO NOT FIELD CUT OR ALTER STRUCTURAL MEMBERS WITHOUT APPROVAL OF ARCHITECT/ENGINEER.
26. PLACE HEADERS AND SUPPORTS TO FRAME OPENINGS.
27. COORDINATE PLACEMENT OF DECKING SHEATHING WITH WORK OF THIS SECTION.
28. AFTER ERECTION, TOUCH-UP DAMAGED SURFACES WITH PRIMER CONSISTENT WITH SHOP COAT.
29. BRUSH APPLY TWO COATS OF PRESERVATIVE TREATMENT ON WOOD IN CONTACT WITH CEMENTITIOUS MATERIALS AND ROOFING AND RELATED METAL FLASHINGS. TREAT SITE-SAWN CUTS.
30. ALLOW PRESERVATIVE TO DRY PRIOR TO ERECTING MEMBERS.

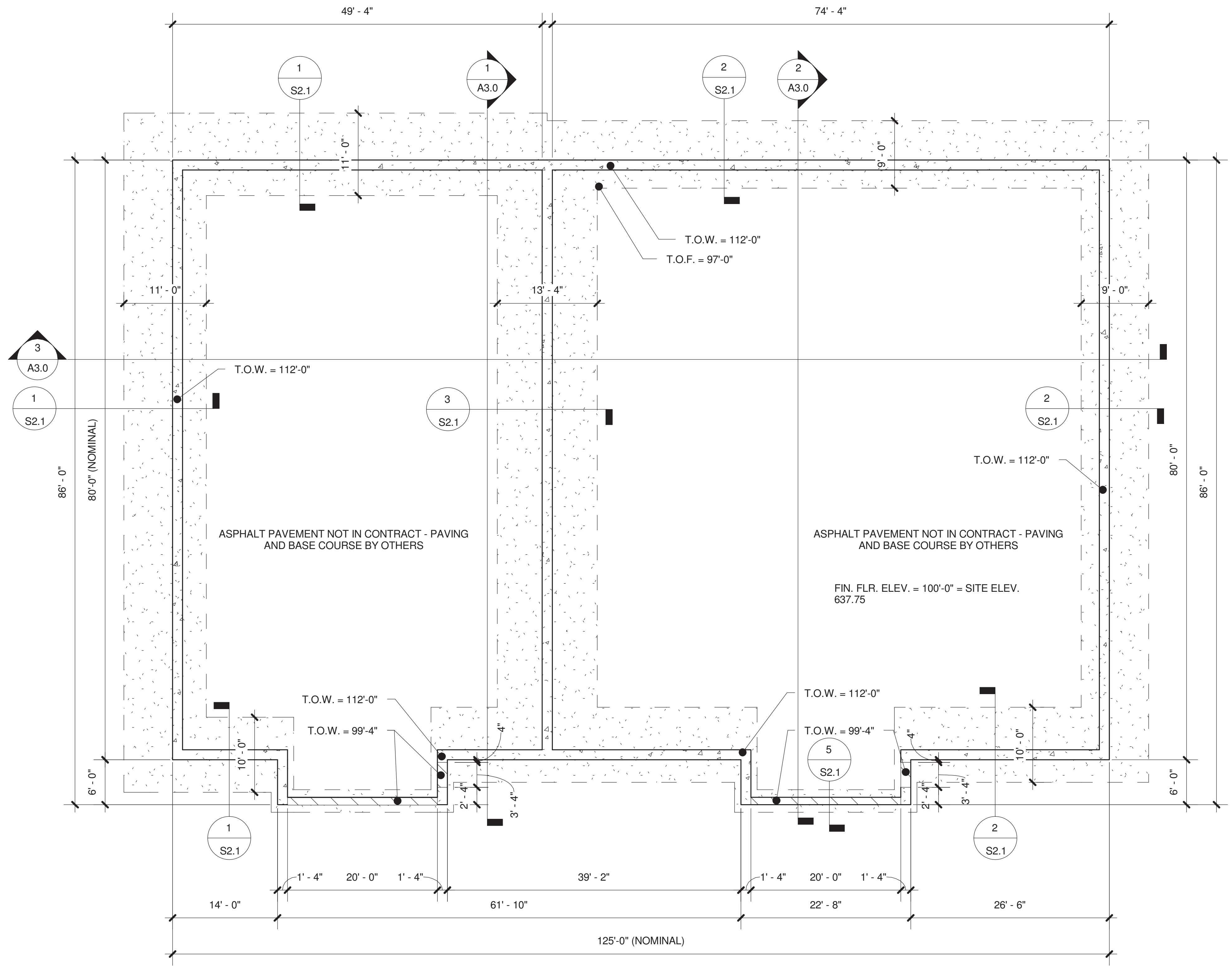
2

NOTE:
ALL STEEL REINF. SHALL BE EPOXY COATED

FOUNDATION CONTRACTOR TO COORDINATE
EXACT CONCRETE DIMENSIONS WITH WOOD ROOF STRUCTURE SUPPLIER.



2 DOOR HEADER DETAIL
S1.0 1/4" = 1'-0"



1 FOUNDATION PLAN
S1.0 1/16" = 1'-0"

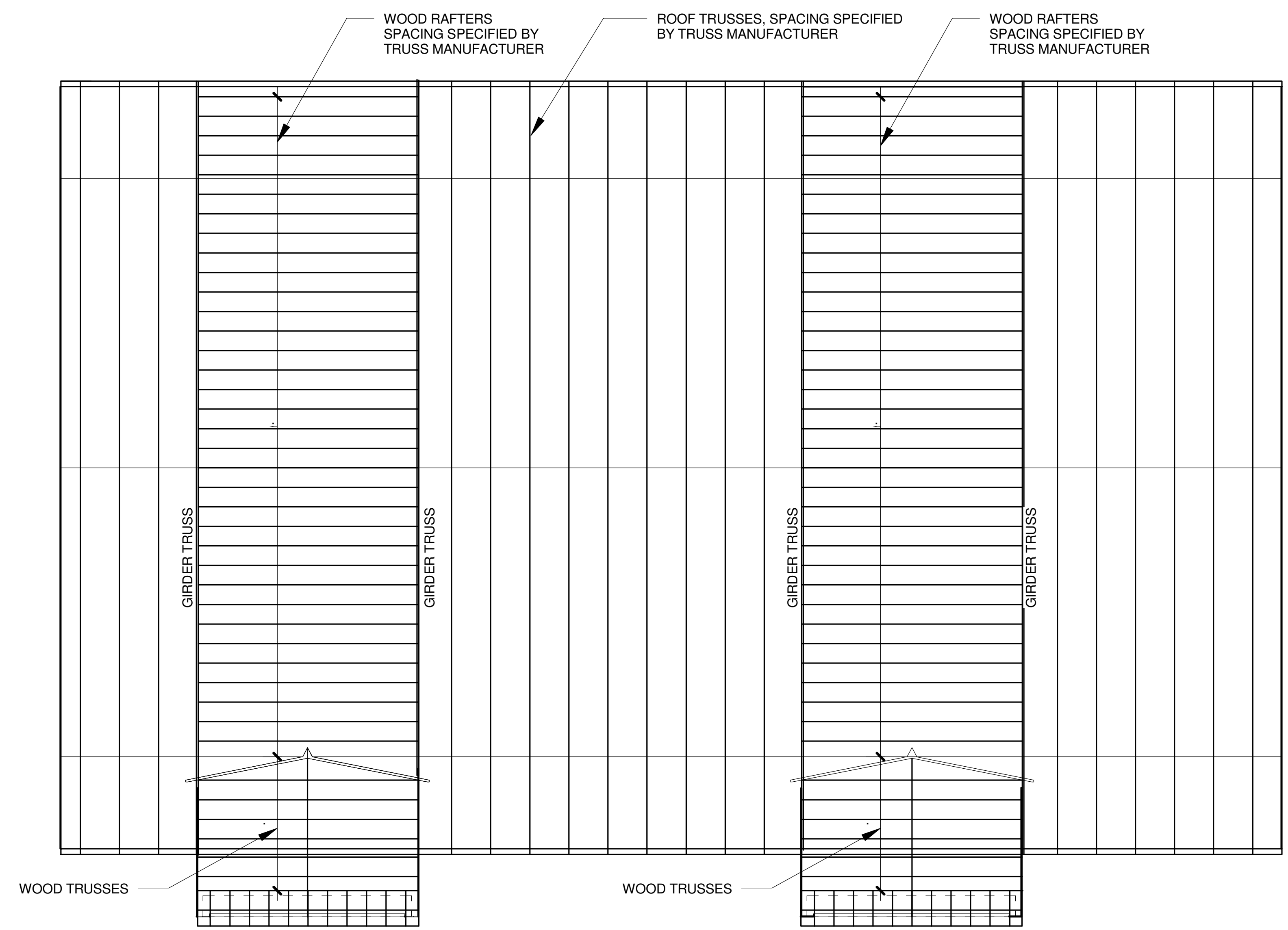
2

PROJECT NO:1661-05-80	HWY: SALT STORAGE FACILITY	COUNTY:CRAWFORD	DRAWING NAME: FOUNDATION PLAN	SHEET: 12	E

FILE NAME : S:\PROJECTS\C54360 CRAWFORD COUNTY PDC SALT FACILITY 2015\CADD FILES\REVIT FILES\DOT
LAYOUT TITLEBLOCK\DOT DETAIL BORDER.DWG
PLOT DATE : ----
PLOT TIME : ----
PLOT BY : RING, ANDREA
PLOT SCALE : 1" = 1'

2

2



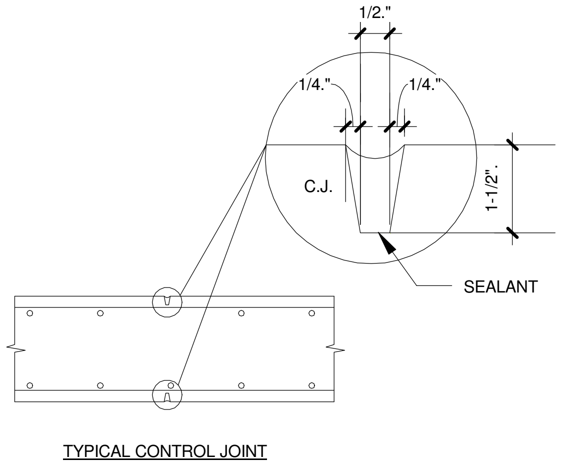
1
S1.1
ROOF FRAMING PLAN
1/16" = 1'-0"

PROJECT NO:1661-05-80	HWY: SALT STORAGE FACILITY	COUNTY:CRAWFORD	DRAWING NAME: ROOF FRAMING PLAN	SHEET: 13	E

FILE NAME : S:\PROJECTS\C54360 CRAWFORD COUNTY PDC SALT FACILITY 2015\CADD FILES\REVIT FILES\DOT
LAYOUT TITLEBLOCK\DOT DETAIL BORDER.DWG

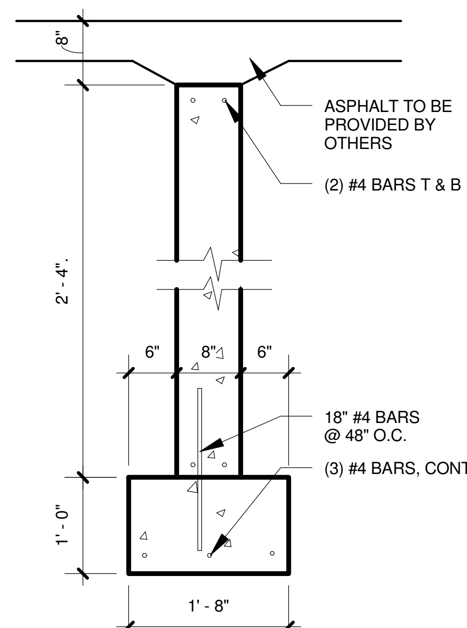
PLOT DATE : ----
PLOT TIME : ----
PLOT BY : RING, ANDREA
PLOT SCALE : 1" = 1'

2

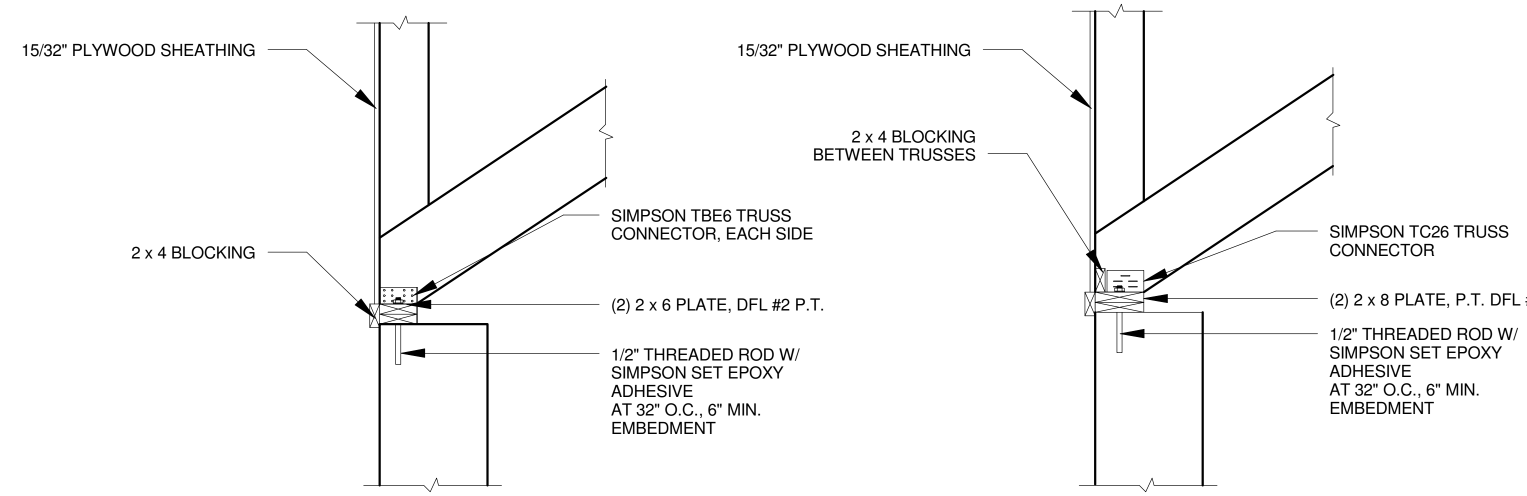


NOTES:
1. FILL JOINT WITH SEALANT.
2. OVER LONG FOUNDATION SPANS EQUALLY SPACE CONTROL JOINTS.
3. LIMIT SPACING TO 40'-0".

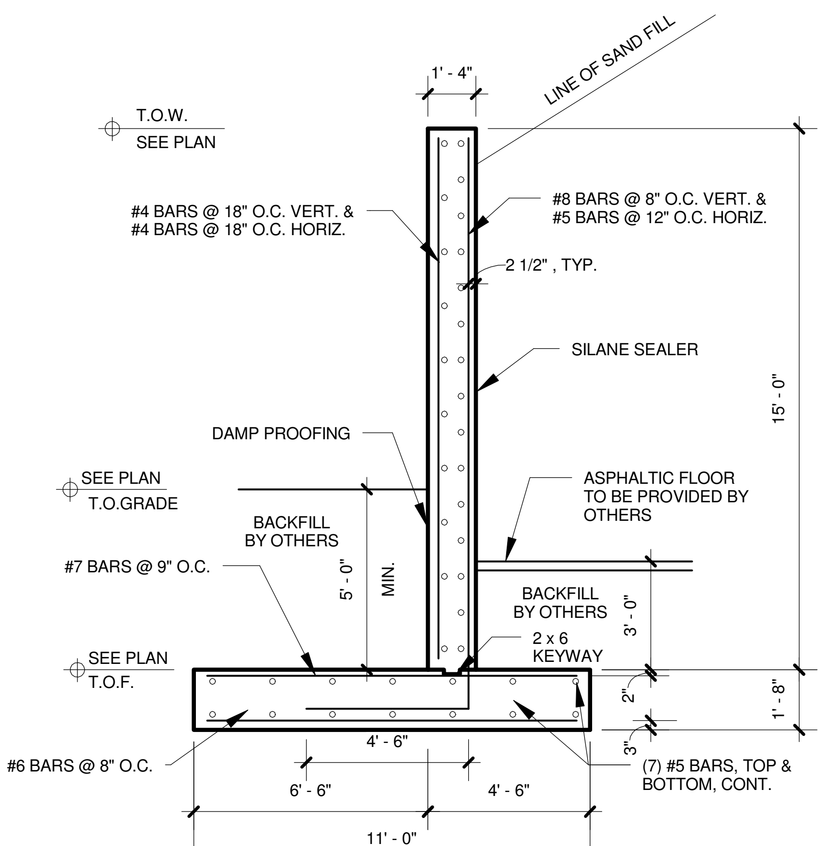
4 FOUNDATION WALL CONTROL JOINT DETAIL - TYPICAL
S2.1 N.T.S.



5 CONCRETE WALL SECTION
S2.1 N.T.S.

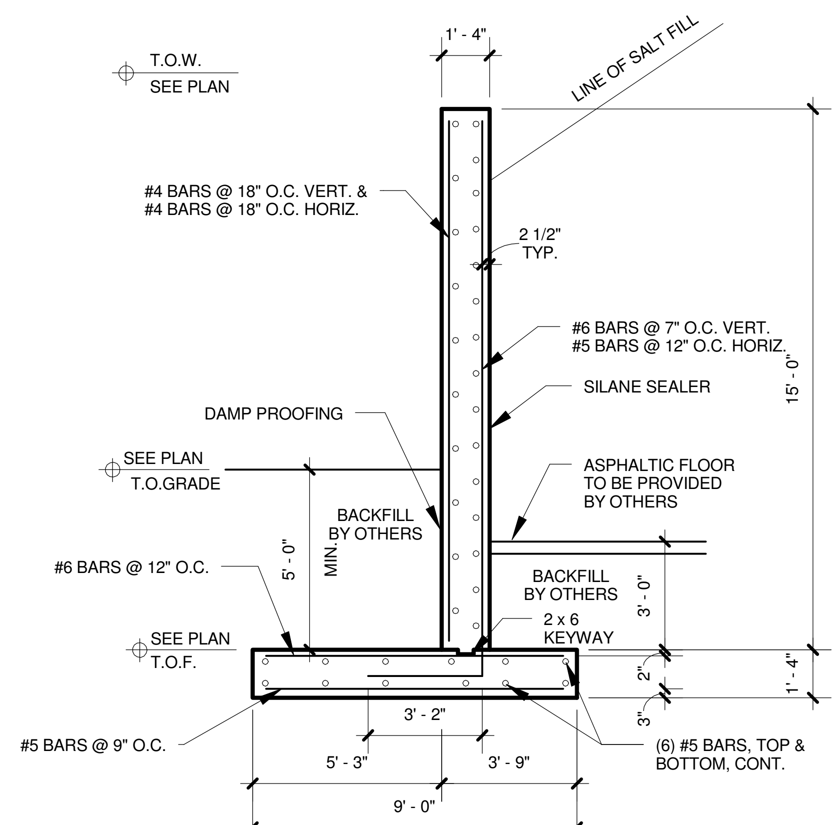


6 TYPICAL TRUSS BEARING DETAILS
S2.1 N.T.S. VERIFY W/ TRUSS MANUFACTURER



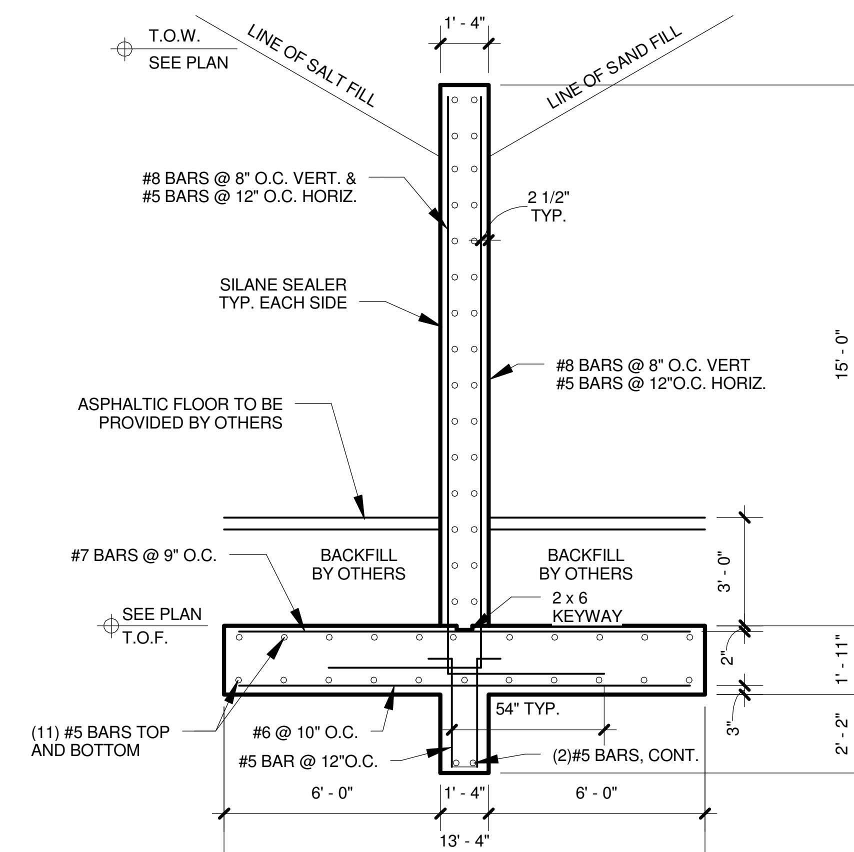
NOTE: EPOXY COAT ALL REINFORCING

1 END WALL, SAND W/ BERM
S2.1 N.T.S.



NOTE: EPOXY COAT ALL REINFORCING

2 END WALL, SALT W/ BERM
S2.1 N.T.S.



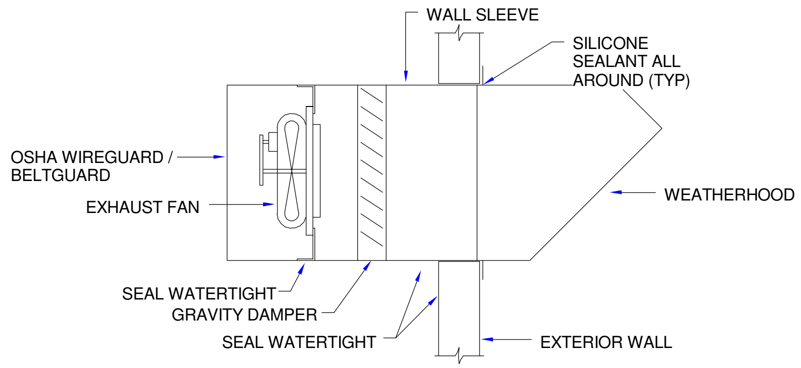
NOTE: EPOXY COAT ALL REINFORCING

3 INTERIOR WALL DETAIL
S2.1 N.T.S.

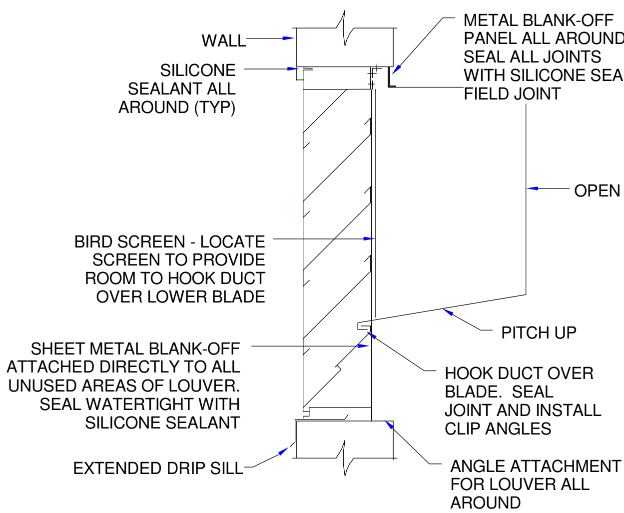
PROJECT NO:1661-05-80	HWY: SALT STORAGE FACILITY	COUNTY:CRAWFORD	DRAWING NAME: FOUNDATION DETAILS	SHEET: 14	E

FILE NAME : S:\PROJECTS\C54360 CRAWFORD COUNTY PDC SALT FACILITY 2015\CADD FILES\REVIT FILES\DOT
LAYOUT TITLEBLOCK\DOT DETAIL BORDER.DWG
PLOT DATE : ----
PLOT TIME : ----
PLOT BY : RING, ANDREA
PLOT SCALE : 1" = 1'

2



B WALL EXHAUST FAN
M1.0 N.T.S.



NOTE: ALL DUCT JOINTS. CORNERS AND SEAMS SHALL BE SEALED WITH SILICONE SEALANT OR SOLDERED LEAK TIGHT.

A LOUVER INSTALATION DETAIL
M1.0 N.T.S.

FAN SCHEDULE

UNIT NO.		EF-1	EF-2
MANUFACTURER		GREENHECK	GREENHECK
MODEL NO.		SBCE-3H36	SBCE-3H36
SERVICE		EXHAUST	EXHAUST
FAN TYPE		PROPELLER	PROPELLER
ARRANGEMENT		-	-
DESIGN CFM		7,000	7,000
EXT. SP (IN WC)		0.25	0.25
FAN WHEEL TYPE		PROPELLER	PROPELLER
FAN DIAMETER		36	36
APPROXIMATE FAN RPM		670	670
BHP		0.57	0.57
MOTOR HP		1.0	1.0
VOLTS/PHASE		208/3	208/3
DRIVE		BELT	BELT
TWO SPEED		NO	NO
VFD		NO	NO
MAX. SONES		18.0	18.0
MAX. FAN INLET AIR SOUND DATA SOUND POWER BY OCTAVE BAND (dB)	1	-	-
	2	-	-
	3	-	-
	4	-	-
	5	-	-
	6	-	-
	7	-	-
	8	-	-
REMARKS		1 2 3	1 2 3

KEYED NOTES:

1 EXHAUST FAN. PROVIDE THE FOLLOWING ACCESSORIES:
WALL HOUSING AND WEATHER HOOD (POLYESTER COATED),
ALUMINUM OSHA WIREGUARD (BELTGUARD),
ALUMINUM GRAVITY BACKDRAFT DAMPER, ALUMINUM SHEAVES, TOTALLY ENCLOSED FAN MOTOR AND NEMA TYPE 7 DISCONNECT.

TURN DISCONNECT OVER TO ELECTRICAL CONTRACTOR FOR INSTALLATION.

2 TOP OF FAN TO BE MOUNTED APPROXIMATELY 33'-0" ABOVE FINISHED FLOOR.

3 FANS TO BE OPERATED IN PARALLEL VIA TWO ELECTRICAL CONTRACTOR PROVIDED AND INSTALLED COMBINATION DISCONNECT/STARTERS. ELECTRICAL CONTRACTOR TO PROVIDE ALL WIRING FROM DISCONNECT STARTERS TO FAN DISCONNECTS.

D FAN SCHEDULE
M1.0 N.T.S.

LOUVER SCHEDULE

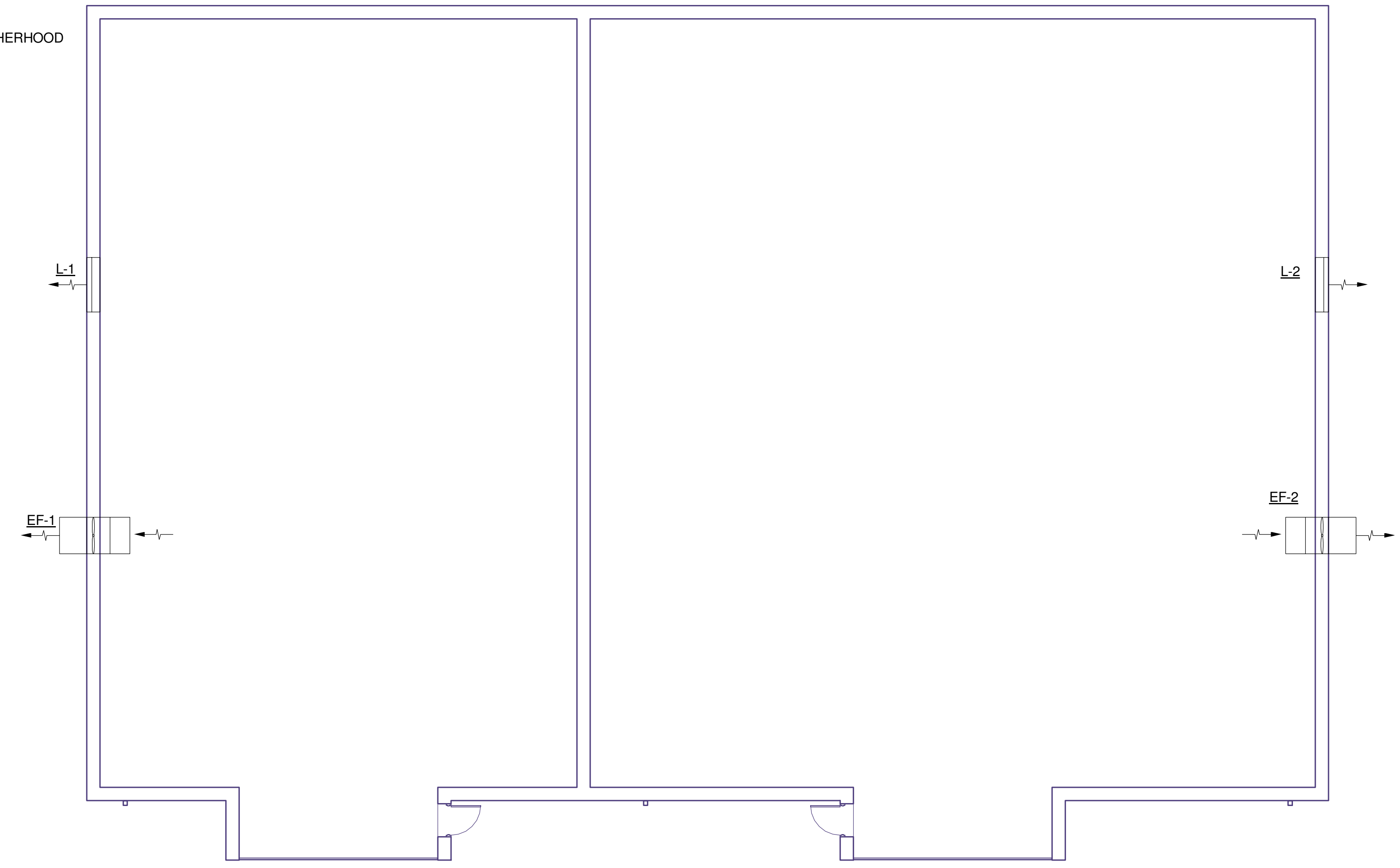
UNIT NO.	L-1	L-2	
MANUFACTURER	GREENHECK	GREENHECK	
MODEL NO.	ESD-635	ESD-635	
SERVICE	INTAKE	INTAKE	
AIRFLOW (CFM)	7,000	7,000	
SIZE WxH (IN)	66 x 44	66 x 44	
FREE AREA (FT²)	10.2	10.2	
FREE AREA VEL. (FPM)	725	725	
STATIC PRESSURE (IN W.C.)	-	-	
REMARKS	1 2	1 2	

KEYED NOTES:

1 ALUMINUM LOUVER WITH CUSTOM KYNAR COATING.
VERIFY COLOR WITH ARCHITECT.
PROVIDE LOUVER WITH 1/2 " x 1/2" MESH ALUMINUM-BIRD SCREEN WITH 12 GAUGE ALUMINUM SILL.
LOUVER TO BE MOUNTED IN WOOD WALL.
VERIFY MOUNTING WITH GENERAL CONTRACTOR.

2 TOP OF LOUVER SHALL BE APPROXIMATELY 33' ABOVE FINISHED FLOOR.

C LOUVER SCHEDULE
M1.0 N.T.S.



1 VENTILATION PLAN
M1.0 1/16" = 1'-0"

2

PROJECT NO:1661-05-80	HWY: SALT STORAGE FACILITY	COUNTY:CRAWFORD	DRAWING NAME: VENTILATION PLA N	SHEET: 15	E

FILE NAME : S:\PROJECTS\C54360 CRAWFORD COUNTY PDC SALT FACILITY 2015\CADD FILES\REVIT FILES\DOT
LAYOUT TITLEBLOCK\DOT DETAIL BORDER.DWG
PLOT DATE : ----
PLOT TIME : ----
PLOT BY : RING, ANDREA
PLOT SCALE : 1" = 1'

LIGHTING FIXTURE SCHEDULE

NOTE: ACCEPTABLE SHALL MEET ALL REQUIREMENTS AND FEATURES INDICATED. ACCEPTABLE MANUFACTURERS MUST MEET THE PHOTOMETRIC PERFORMANCE OF THE LISTED UNIT.

ABBREVIATIONS:
DW = DRYWALL
ES = EXPOSED STRUCTURE
LG = LAY-IN GRID
P = PENDANT
PL = PLASTER
R = RECESS
S = SURFACE
W = WALL MOUNTED
V = VARIES

DES.	LAMP DATA		DESCRIPTION	LIGHTING FIXTURE		VOLT	MOUNT & MTG. HEIGHT	CEILING TYPE	FIXTURE DEPTH	NOTES	ACCEPTABLE MANUFACTURERS
	NO.	TYPE		MANUFACTURER	CATALOG NUMBER						
8K	-	LED W/FIXTURE	HIGH BAY	KENALL	EPLB-22-E-HL-PPA-MW-204L-40K8-DCC-120-SCH	120	S (TIGHT TO CLG.)	ES	24"	1	DAY-BRITE, FAIL-SAFE
2S	-	LED W/FIXTURE	EXTERIOR WALL SCONCE	GARDCO	121-EP2-4-35LA-2-3235-NW-120-BLP-PCB	120	W (30'-0"AFF)	-	11"	-	LITHONIA, MCGRAW-EDISON
7X	-	LED W/FIXTURE	EXIT/EGRESS	EMERGI-LITE	WW-SVX24N-1-R-D-4X-2-MK-CW4	120	W (7'-6"AFF)	-	5"	-	KENALL, FAIL-SAFE
EM	-	LED W/FIXTURE	EXTERIOR EGRESS	LITHONIA	AFN-B-EXT-FWD	120	W (7'-6"AFF)	-	3"	-	ISOLITE, CHLORIDE

LIGHTING FIXTURE SCHEDULE NOTES:

1. PROVIDE RECEPTACLE ON CEILING OF FACILITY FOR CORDED FIXTURE.

SYMBOLS LIST:

MOUNTING HEIGHTS FOR DEVICES AND EQUIPMENT TO BE MEASURED FROM FINISHED FLOOR TO CENTERLINE OF DEVICE.

LIGHTING:

LIGHTING FIXTURE - CEILING SURFACE

A - #

CIRCUIT NUMBER

FIXTURE DESIGNATION (SEE SCHEDULE THIS SHEET)

LIGHTING FIXTURE - WALL SURFACE

SHADING INDICATES FIXTURE PROVIDED WITH BATTERY BACKUP

a

SINGLE POLE SWITCH - TOGGLE TYPE - MOUNT AT 44" AFF, UNLESS NOTED OTHERWISE

SWITCH DESIGNATION

POWER:

GROUND FAULT INTERRUPTING DUPLEX RECEPTACLE - MOUNTED AT 48" AFF UNLESS NOTED OTHERWISE.

3 WP

WEATHER PROOF

CIRCUIT NUMBER

MOTOR CONNECTION - SEE KEYED NOTE

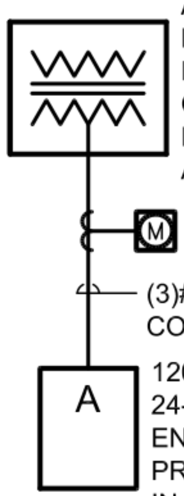
EQUIPMENT CONNECTION - SEE KEYED NOTE

PUSH BUTTON CONTROL

GENERAL:

ELECTRICAL PANEL

1 SEE KEYED NOTE SYMBOL



ALLIANT ENERGY POLE MOUNTED UTILITY TRANSFORMER. FIELD VERIFY AIC REQUIREMENTS. COORDINATE CT, METERING, AND ALL FEEDER/RACEWAY REQUIREMENTS WITH UTILITY AND INCLUDE ALL UTILITY COSTS IN BID.

CT & 200A METERING ON BUILDING EXTERIOR BY E.C. COORDINATE ALL REQUIREMENTS WITH ALLIANT.

(3)#3/0 & (1)#6 GROUND IN A 2" CONDUIT (MINIMUM) COORDINATE ALL REQUIREMENTS WITH ALLIANT.

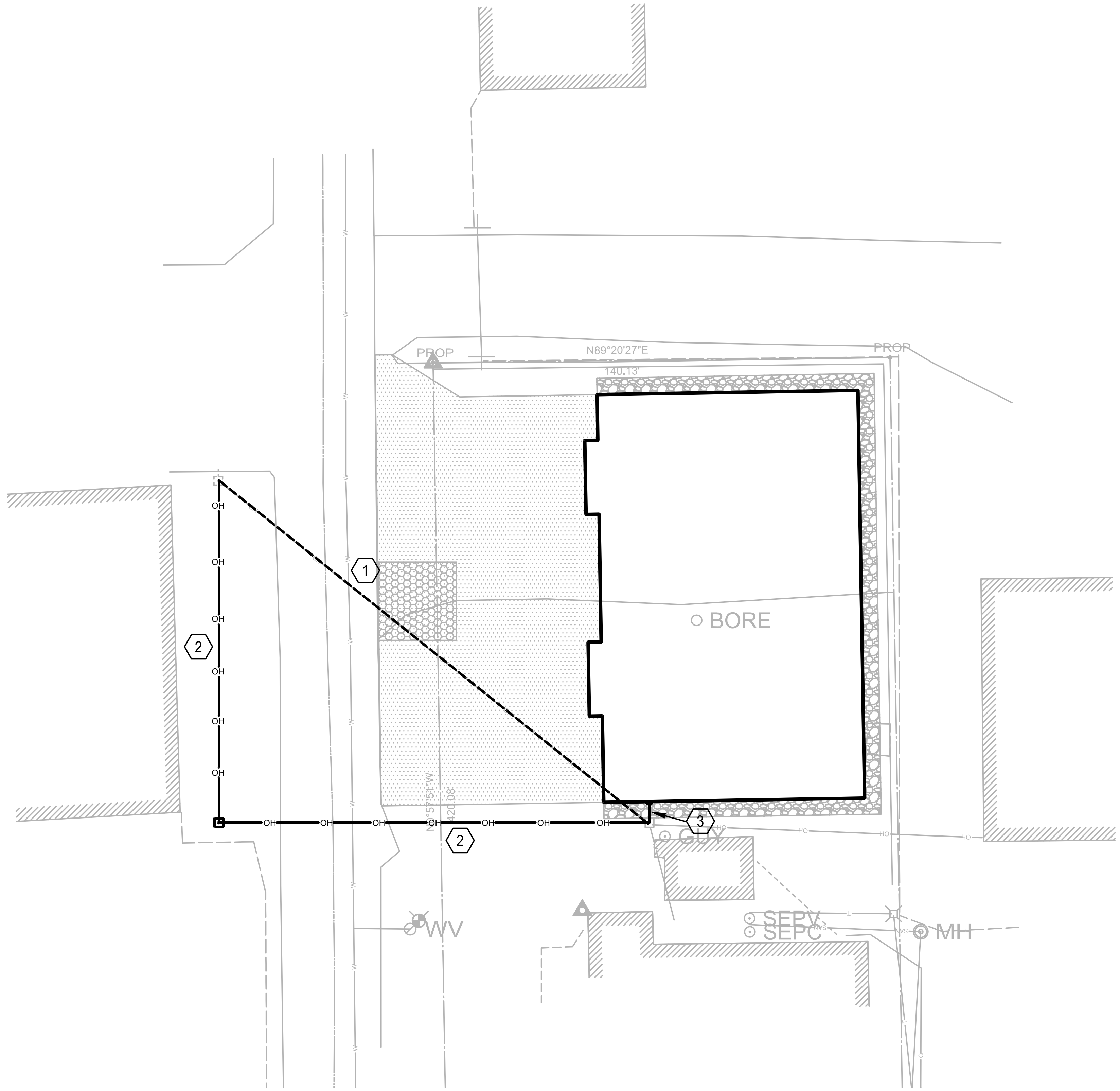
120/240V, 1-PHASE, 100A, 24-CIRCUIT PANEL WITH SERVICE ENTRANCE RATED MAIN CIRCUIT BREAKER. PROVIDE (2)15A/2P & (20)20A/1P BREAKERS IN PANEL FOR CURRENT & FUTURE LOADS.

1 E0.0 ONE LINE DIAGRAM

SCALE: NONE

ELECTRICAL SHEET INDEX

2



1
E0.1
SITE PLAN - ELECTRICAL
SCALE: 1"=40'-0"

GENERAL NOTES:

ALL ELECTRICAL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE AND ALL LOCAL AND STATE CODES. ALL CONDUCTORS SHALL BE COPPER AND ALL WIRING SHALL BE ROUTED IN CONDUIT. ALL ELECTRICAL BOXES SHALL BE LABELED WITH THE PANEL AND CIRCUIT NUMBER. WORK PERFORMED INCLUDES ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO INSTALL A COMPLETE ELECTRICAL SYSTEM AS INDICATED ON THESE DRAWINGS. ALL POWER RECEPTACLES, INCLUDING DUPLEX RECEPTACLES, SHALL BE MOUNTED AT HEIGHTS ABOVE FINISHED FLOOR AS INDICATED. ALL LIGHT SWITCHES SHALL BE MOUNTED AT HEIGHTS ABOVE FINISHED FLOOR AS INDICATED ON SYMBOLS LIST. ALL DEVICES SHALL BE RATED FOR APPROPRIATE ENVIRONMENT. GRC, HEAVY WALL, SCHEDULE 40 CONDUIT SHALL BE USED ON ALL UNDERGROUND AND EXTERIOR EXPOSED RACEWAYS. IMC OR EMT CONDUIT SHALL BE ACCEPTABLE ON INTERIOR OF SAND STORAGE FACILITY. SCHEDULE 80 PVC CONDUIT SHALL BE ACCEPTABLE ON INTERIOR OF SALT STORAGE FACILITY. PROVIDE FUSED DISCONNECT SWITCHES FOR ALL MOTORS, UNLESS NOTED OTHERWISE. CONTRACTOR SHALL VERIFY ALL EQUIPMENT SIZES AND POWER REQUIREMENTS FOR EQUIPMENT SUPPLIED BY OTHERS. WEATHERPROOF RECEPTACLE COVERS SHALL BE LEVITON 5997-DGY OR APPROVED EQUAL. ANY 20-AMP, 1-PHASE FEEDERS MORE THAN 100 FEET IN LENGTH SHALL BE FED WITH (3)#10 IN A 3/4" CONDUIT TO MINIMIZE VOLTAGE DROP. ALL CIRCUITS FED FROM NEW PANEL "A". ALL WIRING/CONDUIT SHALL BE INSTALLED ON BUILDING EXTERIOR WHEREVER POSSIBLE.

KEYED NOTES:

1 EXISTING OVERHEAD SERVICE LATERAL TO BE REMOVED BY ALLIANT ENERGY.

2 APPROXIMATE NEW OVERHEAD SERVICE LATERAL TO BE PROVIDED BY ALLIANT ENERGY.

3 NEW UNDERGROUND SERVICE LATERAL TO BE PROVIDED BY ALLIANT ENERGY. COORDINATE ALL REQUIREMENTS WITH ALLIANT ENERGY, PRIOR TO BID, AND INCLUDE ALL COSTS IN BID.

2

KEYED NOTES:

1 NEW UNDERGROUND SERVICE LATERAL TO BE PROVIDED BY ALLIANT ENERGY. COORDINATE ALL REQUIREMENTS WITH ALLIANT ENERGY, PRIOR TO BID, AND INCLUDE ALL COSTS IN BID.

PROVIDE A 120V, 20A/1P CONNECTION TO OVERHEAD DOOR OPERATOR.

2 PROVIDE A 240V, 15A/2P CONNECTION TO EXHAUST FAN. PROVIDE NEMA 3R DISCONNECT AT UNIT ON BUILDING EXTERIOR.

3 PROVIDE MOTOR RATED SWITCH FOR OPERATION OF EXHAUST FANS EF-1 AND EF-2. FANS SHALL OPERATE IN PARALLEL. PROVIDE CONTACTORS ON BUILDING EXTERIOR, IN A

4 NEMA 3R ENCLOSURE, AS REQUIRED.

1
E1.0

FLOOR PLAN - ELECTRICAL

SCALE: 3/32"=1'-0"

NORTH

2

PROJECT NO:1661-05-80	HWY: SALT STORAGE FACILITY	COUNTY:CRAWFORD	BUILDING DETAILS	SHEET 18	E

FILE NAME : S:\PROJECTS\K51010 KL ENGINEERING - STH 136 SAUK CO SALT SHED\CADD FILES\REVIT FILES\DOT
LAYOUT TITLEBLOCK\DOT DETAIL BORDER.DWG
PLOT DATE : ----
PLOT TIME : ----
PLOT BY : RING, ANDREA
PLOT SCALE : 1" = 1'

DATE 30OCT15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1661-05-80 QUANTITY
1670	619.1000	Mobilization	EACH	0.050	0.050
3070	SPV.0105	Special 01. Crawford County Storage Shed	LS	1.000	1.000

3

3

Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

http://www.dot.wisconsin.gov

LAX JANUARY 2016

PROJECT ID: 1661-05-88
WITH: 1661-05-78 & 1661-05-80

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1661-05-88	————	—

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.	5	Plan and Profile

TOTAL SHEETS = 12

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

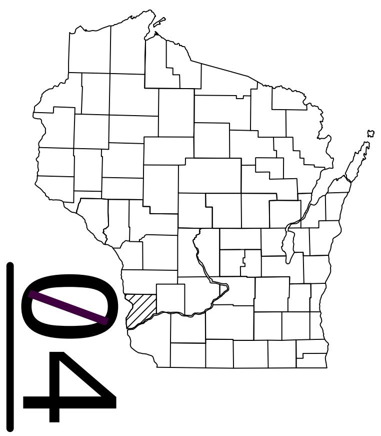
PLAN OF PROPOSED IMPROVEMENT

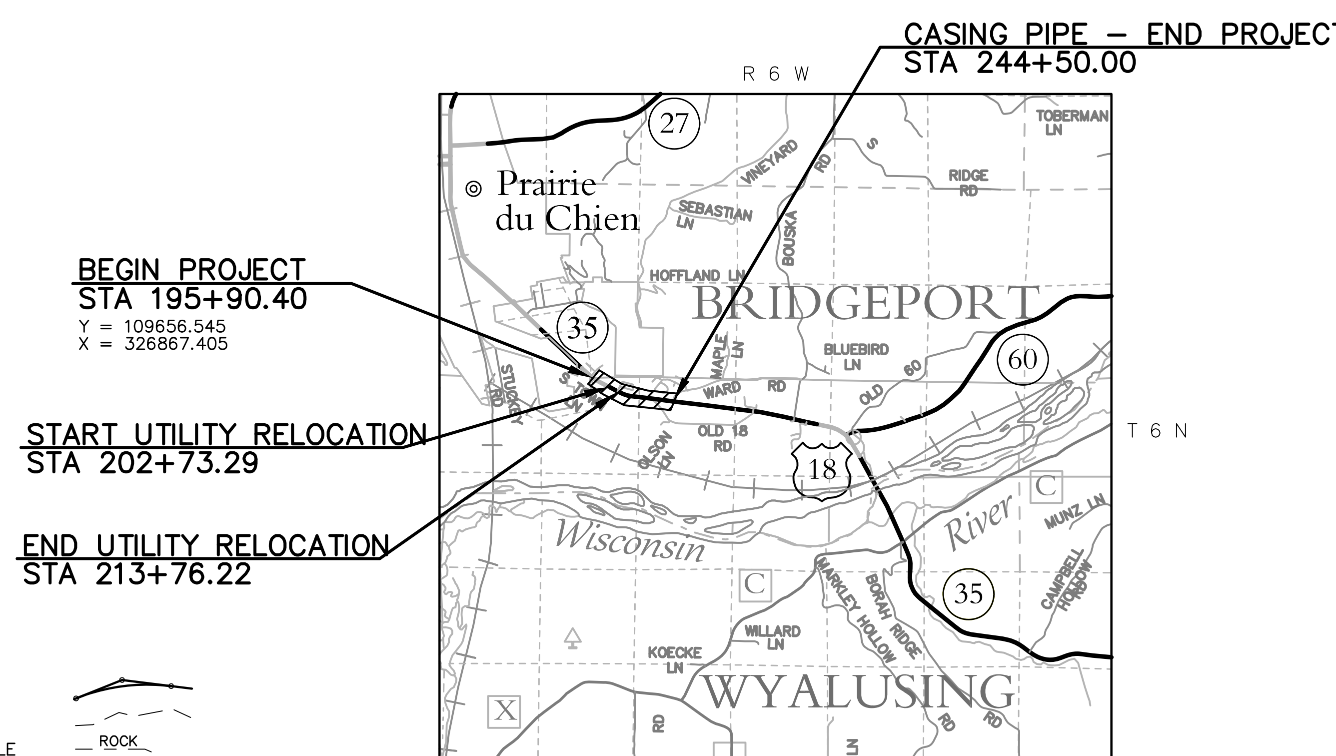
PRAIRIE DU CHIEN BYPASS/S TOWN-STH 60

SOUTH TOWN LANE ELY TO STH 60
CONST OPS / SANITARY SEWER-WATER MAIN

USH 18
CRAWFORD COUNTY

STATE PROJECT NUMBER
1661-05-88





DESIGN DESIGNATION

A.A.D.T. (2016)	=	8,500
A.A.D.T. (2036)	=	10,800
D.H.V. (2036)	=	1,242
D.D.	=	62/38
T.	=	10.6%
DESIGN SPEED	=	50/60 MPH
ESALS	=	2,730,200

COUNTY: CRAWFORD

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)

LEGEND

EX. FIRE HYDRANT
EX. WATER SERVICE
EX. WATER VALVE
EX. POWER POLE
EX. LIGHT POLE
EX. TELE PEDESTAL
EX. STREET SIGN
EX. MAILBOX
EX. PROPERTY PIN
R/W — RIGHT-OF-WAY
P/L — PROPERTY LINE
EASEMENT
PROP. WATER SERVICE
PROP. <4" WATER MAIN
PROP. 4" WATER MAIN

PROP. 6" WATER MAIN
PROP. 8" WATER MAIN
PROP. 30" STORM SEWER
PROP. SANITARY SEWER LATERAL
PROP. 8" SANITARY SEWER MAIN
PROP. FLOW DIRECTION
San. Lat. — EX. SANITARY SEWER LATERAL
6" San. S. — EX. 6" SANITARY SEWER MAIN
8" San. S. — EX. 8" SANITARY SEWER MAIN
10" San. S. — EX. 10" SANITARY SEWER MAIN
12" San. S. — EX. 12" SANITARY SEWER MAIN
15" San. S. — EX. 15" SANITARY SEWER MAIN
EX. FLOW DIRECTION
EX. WATER SERVICE

6" Water — EX. 6" WATER MAIN
8" Water — EX. 8" WATER MAIN
10" Water — EX. 10" WATER MAIN
12" Water — EX. 12" WATER MAIN
EX. CURB AND GUTTER
GAS — EX. UNDERGROUND NATURAL GAS UTILITY
UGE — EX. UNDERGROUND ELECTRIC UTILITY
UGC — EX. UNDERGROUND CABLE TV UTILITY
TEL — EX. UNDERGROUND TELEPHONE UTILITY
FO — EX. UNDERGROUND FIBER OPTIC UTILITY
OHE — EX. OVERHEAD ELECTRIC
5'R — RADIUS POINT/SIZE
0+00 — STA. ON CENTERLINE
PROP. 4' DIA. SANITARY MANHOLE

CAUTION NATURAL GAS — PROP. CROSSING OF NATURAL GAS UTILITY
PROP. FIRE HYDRANT
PROP. WATER SERVICE
PROP. WATER VALVE
PROP. WATER BEND - HORIZONTAL
PROP. WATER BEND - VERTICAL
PROP. WATER TEE
PROP. WATER CROSS
PROP. WATER REDUCER
PROP. MJ PLUG
PROP. SANITARY STRUCTURE - PROFILE

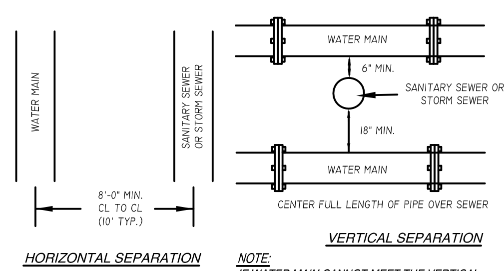
ORIGINAL PLANS PREPARED BY:

DELTA 3 ENGINEERING INC
PROFESSIONAL CIVIL-MUNICIPAL & STRUCTURAL ENGINEERING • ARCHITECTURE
GRANT WRITING • LAND DEVELOPMENT • PLANNING & CADD SERVICES
875 SOUTH CHESTNUT STREET PHONE: (608) 348-5355
PLATTEVILLE, WISCONSIN 53818 FAX: (608) 348-5455

WISCONSIN DANIEL J. DREESSENS E-35670 PLATTEVILLE WIS PROFESSIONAL ENGINEER

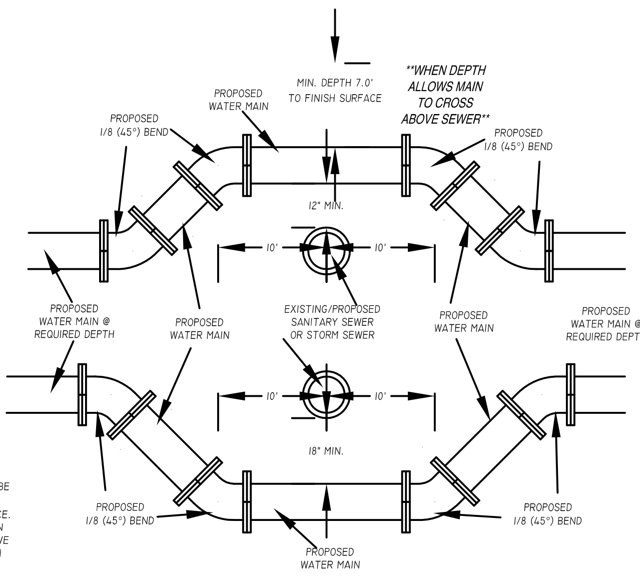
7/20/15
(Date) (Signature)

FILE NAME : G:\PROJECTS\2014\D14-079 BRIDGEPORT HWY 18 UTILITY RELOCATION\CIVIL\CAD\PLAN SHEETS\BRIDGEPORT DOT TITLE PAGE.DWG SHEET NAME: TITLE



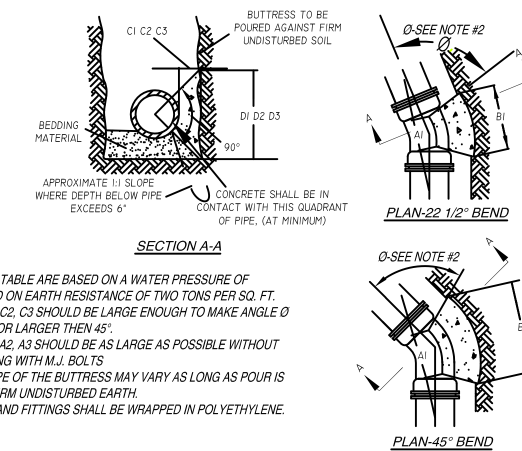
NOTE:
IF WATER MAIN CANNOT MEET THE VERTICAL CLEARANCE, AN OFFSET MAY BE USED WITH THE ENGINEER'S PERMISSION.

WATER MAIN SEPARATION DETAIL
(PER NR 811.74) SCALE: N.T.S.



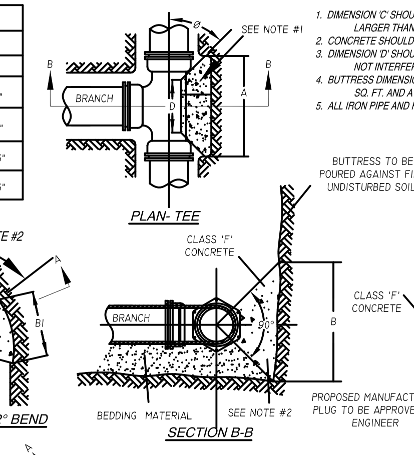
UTILITY CROSSING DETAIL
(PER NR 811.74) SCALE: N.T.S.

BUTTRESS DIMENSIONS						
PIPE SIZE	22 1/2° BENDS		45° BENDS		90° BENDS	
	B1	D1	B2	D2	B3	D3
6"	1'-0"	1'-0"	1'-0"	1'-0"	1'-4"	1'-2"
8"	1'-0"	1'-0"	1'-4"	1'-4"	1'-10"	1'-6"
10"	1'-4"	1'-4"	1'-10"	1'-10"	2'-8"	2'-3"
12"	1'-4"	1'-4"	1'-10"	1'-10"	2'-8"	2'-3"



1. DIMENSIONS IN TABLE ARE BASED ON A WATER PRESSURE OF 150 PSI AND ON EARTH RESISTANCE OF TWO TONS PER SQ. FT.
2. DIMENSION C1, C2, C3 SHOULD BE LARGE ENOUGH TO MAKE ANGLE Ø EQUAL TO OR LARGER THEN 45°.
3. DIMENSION A1, A2, A3 SHOULD BE AS LARGE AS POSSIBLE WITHOUT INTERFERING WITH M.J. BOLTS
4. THE BACK SHAPE OF THE BUTTRESS MAY VARY AS LONG AS POUR IS AGAINST FIRM UNDISTURBED EARTH.
5. ALL IRON PIPE AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE.

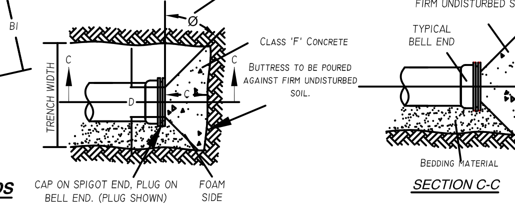
BUTTRESS FOR BENDS
SCALE: N.T.S.



1. DIMENSION 'C' SHOULD BE LARGE ENOUGH TO MAKE Ø ANGLE EQUAL TO OR LARGER THAN 45°.
2. CONCRETE SHOULD BEAR ON THIS QUADRANT OF PIPE AS A MINIMUM.
3. DIMENSION 'D' SHOULD BE AS LARGE AS POSSIBLE, BUT CONCRETE SHOULD NOT INTERFERE WITH MECHANICAL JOINTS.
4. BUTTRESS DIMENSIONS ARE BASED ON SOIL RESISTANCE OF TWO TONS PER SQ. FT. AND A WATER PRESSURE OF 150 PSI.
5. ALL IRON PIPE AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE.

BUTTRESS DIMENSIONS				
B D	A	B	C	D
6"	1'-3"	1'-0"	SEE NOTE #1	SEE NOTE #3
8"	1'-6"	1'-4"		
12"	2'-3"	2'-0"		

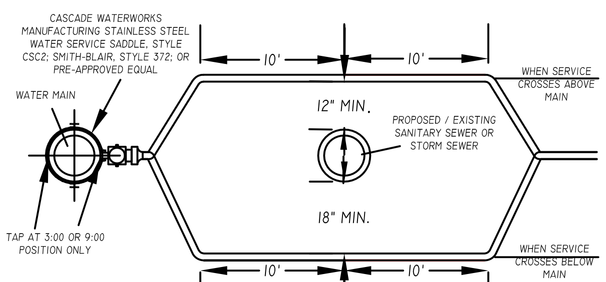
BUTTRESS FOR TEES
SCALE: N.T.S.



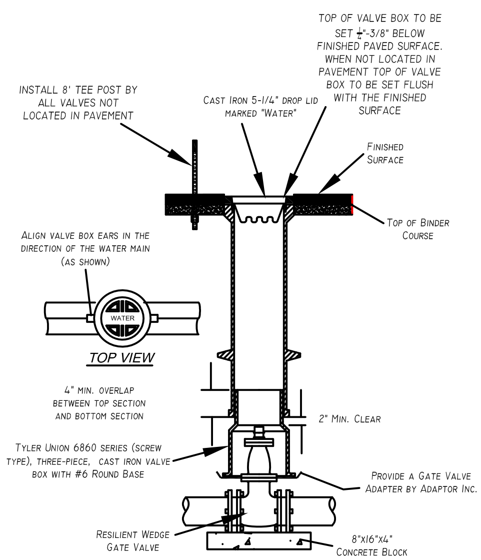
BUTTRESS DIMENSIONS				
B D	A	B	C	D
6"	1'-6"	1'-2"	SEE NOTE #1	SEE NOTE #2
8"	2'-0"	1'-4"		
10"/12"	2'-5"	1'-10"		

1. DIMENSION 'C' SHOULD BE LARGE ENOUGH TO MAKE ANGLE Ø EQUAL TO OR LARGER THAN 45°.
2. DIMENSION 'D' EQUALS APPROX. I.D. OF PIPE LESS 2". AN EFFORT SHOULD BE MADE TO PREVENT THE CONCRETE FROM COVERING THE M.J. BOLTS.
3. WHERE BUTTRESSES ARE NOT POSSIBLE BECAUSE OF POOR SOIL CONDITIONS OR LACK OF ROOM, STRAPPING SHALL BE PERMITTED.
4. BUTTRESS DIMENSIONS ARE BASED ON A SOIL RESISTANCE OF TWO TONS PER SQ. FT. AND A WATER PRESSURE OF 150 PSI.

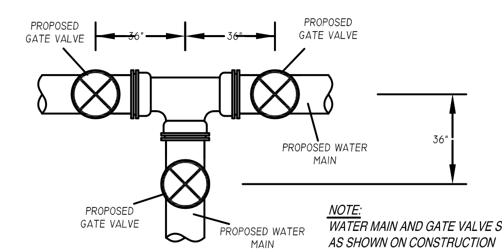
BUTTRESS FOR DEAD ENDS
SCALE: N.T.S.



WATER SERVICE SEPARATION DETAIL
(PER COMM 82.40(8)) SCALE: N.T.S.

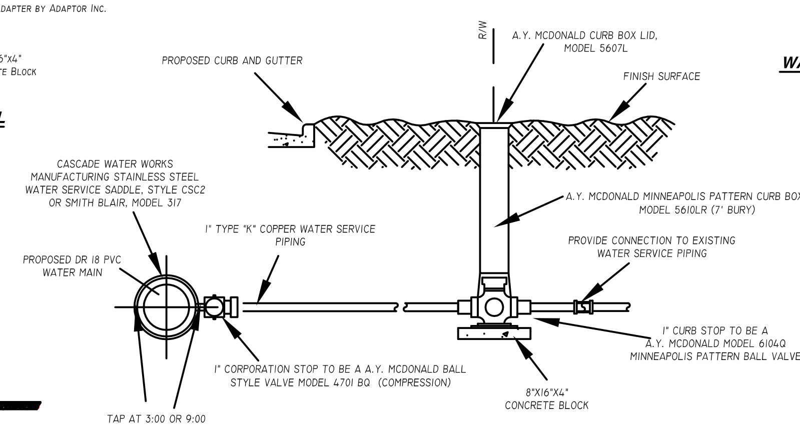


VALVE AND VALVE BOX DETAIL
SCALE: N.T.S.



NOTE:
WATER MAIN AND GATE VALVE SIZE AS SHOWN ON CONSTRUCTION PLANS. GATE VALVES SHALL BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.

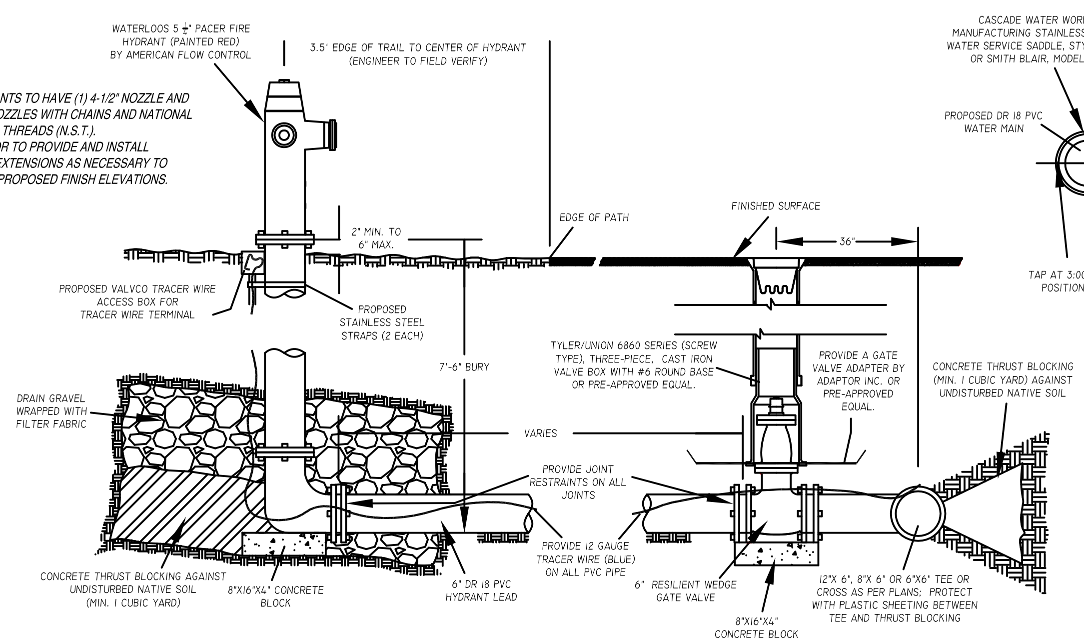
WATER MAIN TEE
SCALE: N.T.S.



WATER SERVICE REPLACEMENT DETAIL
SCALE: N.T.S.

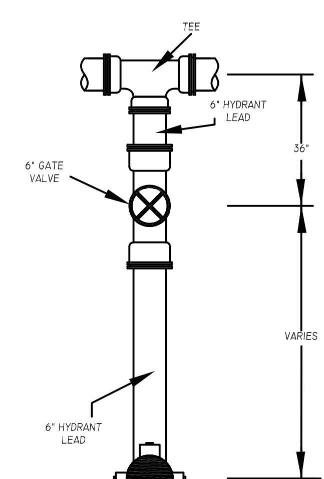
NOTES:

1. FIRE HYDRANTS TO HAVE (1) 4-1/2" NOZZLE AND (2) 2-1/2" NOZZLES WITH CHAINS AND NATIONAL STANDARD THREADS (N.S.T.).
2. CONTRACTOR TO PROVIDE AND INSTALL HYDRANT EXTENSIONS AS NECESSARY TO MEET THE PROPOSED FINISH ELEVATIONS.

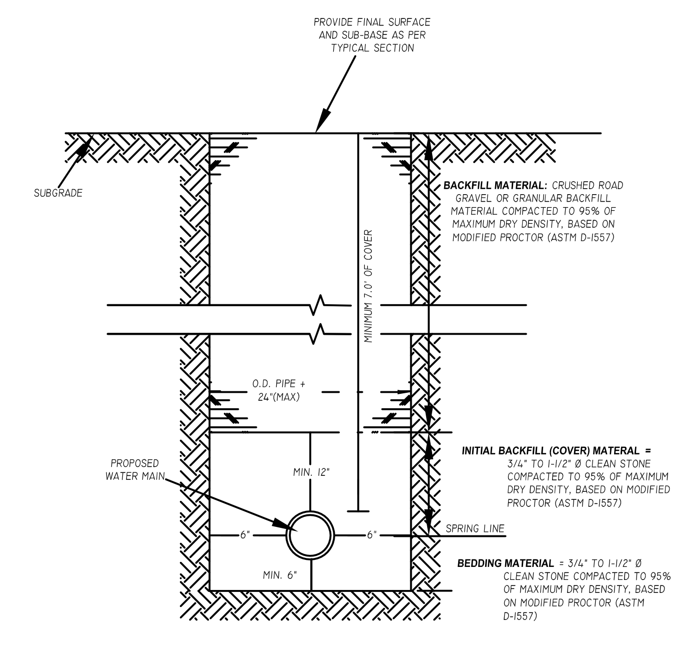


FIRE HYDRANT ASSEMBLY DETAIL
SCALE: N.T.S.

NOTE:
CONTRACTOR TO VERIFY ALL HYDRANT BURIES WITH ENGINEER PRIOR TO ORDERING



TYPICAL FIRE HYDRANT CONNECTION
SCALE: N.T.S.



TYPICAL TRENCH AND BEDDING DETAIL - WATER MAIN
SCALE: N.T.S.

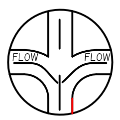
PROJECT NO: 1661-05-88	HWY: USH18	COUNTY: CRAWFORD	SHEET	SHEET 2	E

FILE NAME : G:\PROJECTS\2014\D14-079 BRIDGEPORT HWY 18 UTILITY RELOCATION\CIVIL\CAD\PLAN SHEETS\BRIDGEPORT DOT DETAILS.DWG SHEET NAME: WATER

2

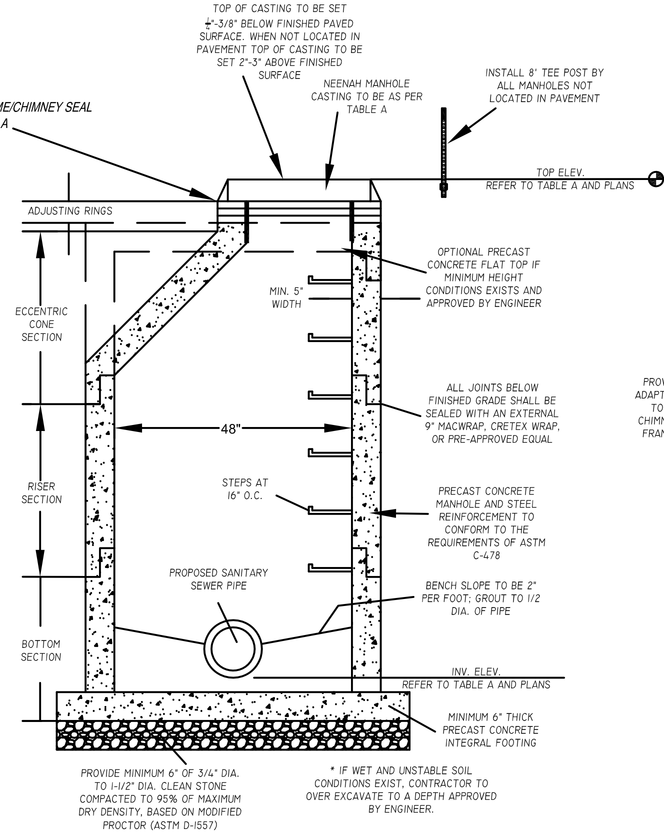
2

NOTES:
1. ADJUSTING RINGS - MINIMUM RING HEIGHT= 2"; MAXIMUM RING HEIGHT= 6"; RINGS TO BE HIGH-DENSITY POLYETHYLENE (H.D.P.E.) ADJUSTING RINGS BY LADTECH, INC. OR EQUAL.
2. MANHOLE STEPS - STEPS SHALL BE FABRICATED OF 1/2" DIA. GRADE 60 STEEL REINFORCEMENT WITH POLYETHYLENE PLASTIC COVERING BY M.A. INDUSTRIES, OR EQUAL. MANHOLE STEPS SHALL CONFORM TO ASTM C-478 AND AASHTO M-199.
3. PIPE CONNECTIONS - PROVIDE A PRESS-SEAL PSX BOOT OR APPROVED EQUAL FOR ALL PIPE CONNECTIONS TO THE MANHOLE.
4. MANHOLE JOINTS - JOINTS SHALL BE WATER TIGHT AND SHALL BE MADE USING RUBBER GASKETS OR BUTYL SEALANT.
5. STRUCTURE BACKFILL MATERIAL - PROVIDE A MINIMUM OF 12" OF CRUSHED ROAD GRAVEL COMPACTED TO 95% OF MAXIMUM DRY DENSITY, BASED ON MODIFIED PROCTOR (ASTM D-1557) AROUND ALL SIDES OF MANHOLE.



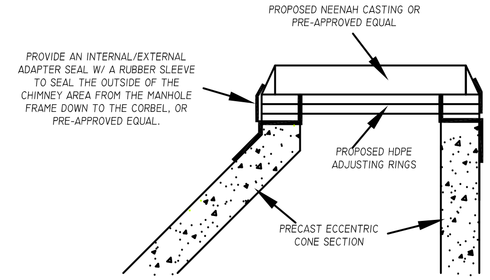
MANHOLE FLOOR DETAIL
SCALE: N.T.S.

NOTE:
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION (MOST CURRENT EDITION) AND THE APPLICABLE SPECIAL PROVISIONS.

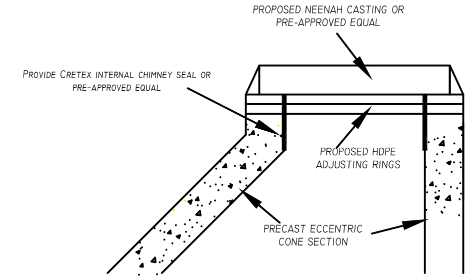


PRECAST CONCRETE MANHOLE DETAIL
SCALE: N.T.S.

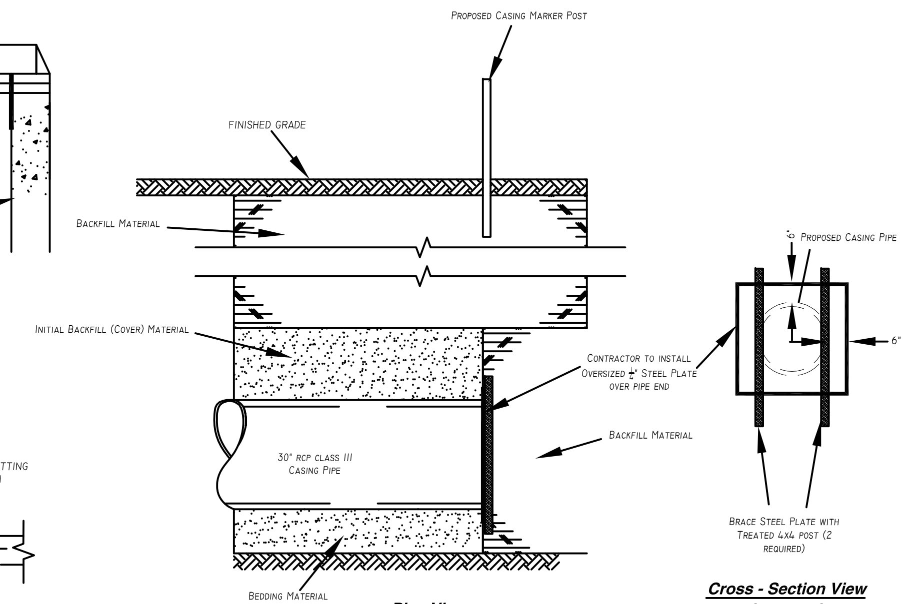
TABLE A - SANITARY SEWER MANHOLES								
STRUCTURE NUMBER:	STATION/LOCATION:	TYPE/SIZE:	CASTING TYPE:	TOP ELEV.:	INV OUT ELEV.:	DEPTH:	FRAME/CHIMNEY SEAL:	DROP MANHOLE:
MH #1A	201+13.76, 58.5' R	PRECAST CONCRETE 4' DIA.	NEENAH, R-1550, NON-ROCKING CASTING WITH A SELF-SEALING, TYPE "B" LID WITH SEALED PICK HOLES	643.09'	628.85'	14.24'	INTERNAL/EXTERNAL	NO
MH #1	203+56.95, 61.10' R	PRECAST CONCRETE 4' DIA.		645.27'	629.92'	15.35'	INTERNAL/EXTERNAL	NO
MH #2	206+55.96, 66.6' R	PRECAST CONCRETE 4' DIA.		644.74'	631.22'	13.52'	INTERNAL/EXTERNAL	NO
MH #3	209+00.96, 67.4' R	PRECAST CONCRETE 4' DIA.		646.47'	632.30'	14.17'	INTERNAL/EXTERNAL	YES
MH #4	209+00.70, 15.10' R	PRECAST CONCRETE 4' DIA.		649.49'	639.06'	10.43'	INTERNAL	NO
MH #5	213+76.22, 46.60' R	PRECAST CONCRETE 4' DIA.		654.00'	641.17'	12.83'	INTERNAL/EXTERNAL	NO
MH #98	211+68.06, 15.56' R	PRECAST CONCRETE 4' DIA.		650.75'	640.11'	10.63'	INTERNAL	NO



INTERNAL/EXTERNAL SEAL DETAIL
SCALE: N.T.S.



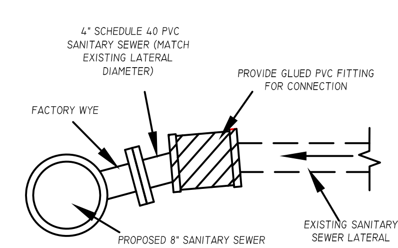
INTERNAL SEAL DETAIL
SCALE: N.T.S.



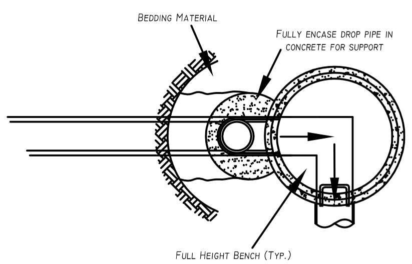
Plan View
Scale: N.T.S.

Cross - Section View
Scale: N.T.S.

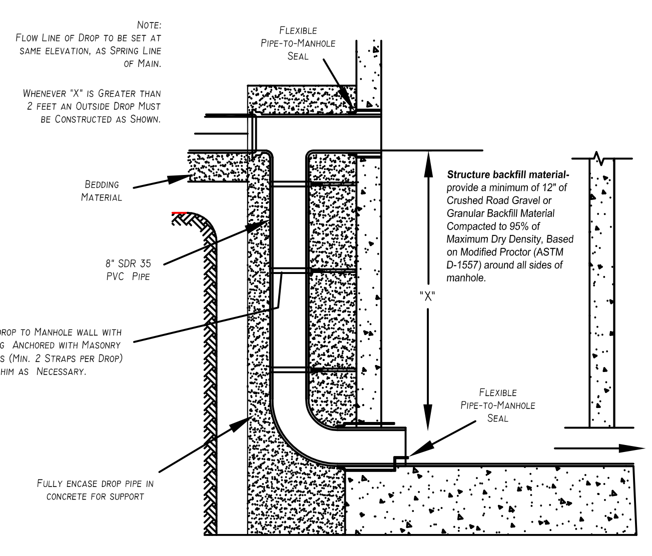
TYPICAL STORM SEWER CAP DETAIL - 30" RCP CASING PIPE
Scale: N.T.S.



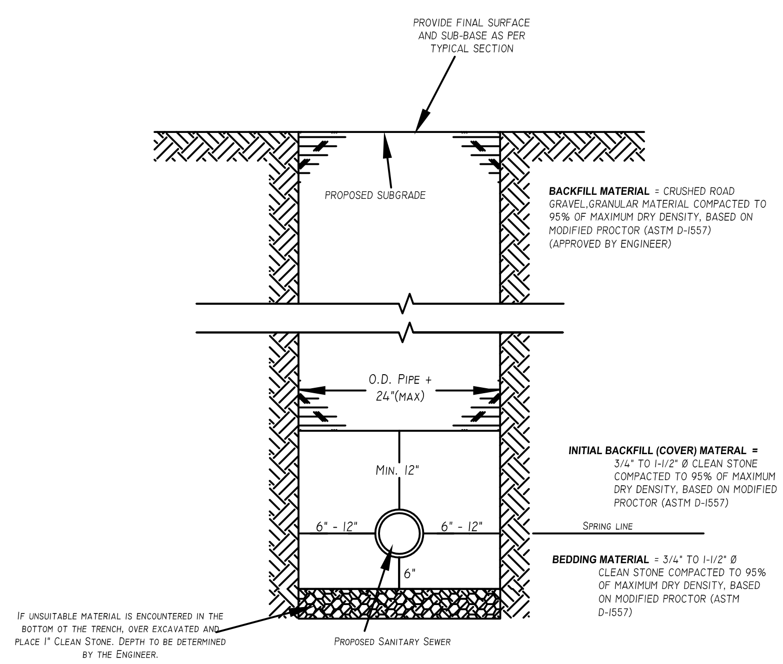
RECONNECT SANITARY SEWER LATERAL DETAIL
SCALE: N.T.S.



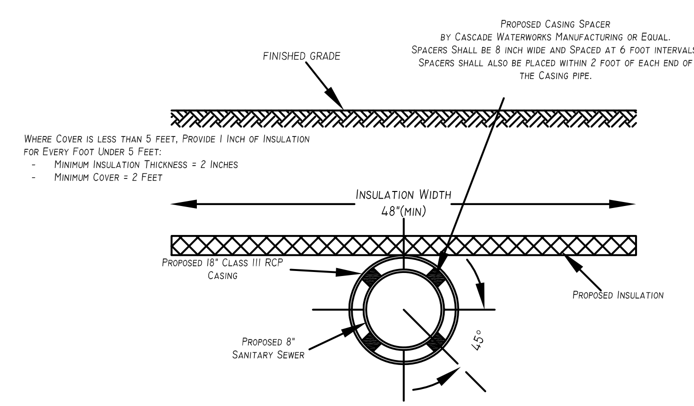
DROP MANHOLE #3 FLOOR DETAIL
Scale: N.T.S.



TYPICAL DROP MANHOLE DETAIL
Scale: N.T.S.

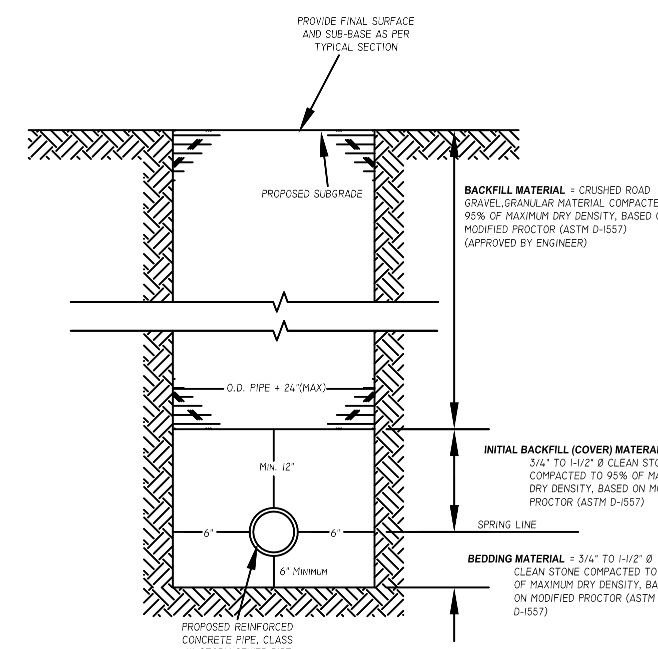


TYPICAL TRENCH AND BEDDING DETAIL - SANITARY SEWER
SCALE: N.T.S.



Sanitary Sewer Casing Detail
Scale: N.T.S.

*PROVIDE NEOPRENE CASING END SEAL AT BOTH ENDS OF CASING. END SEAL TO BE CASCADE MODEL CCES BY CASCADE WATERWORKS MANUFACTURING OR EQUAL.



TYPICAL TRENCH AND BEDDING DETAIL- 30" RCP CASING PIPE
SCALE: N.T.S.

2

PROJECT NO: 1661-05-88	HWY: USH18	COUNTY: CRAWFORD	SHEET	SHEET 3	E

FILE NAME : G:\PROJECTS\2014\D14-079 BRIDGEPORT HWY 18 UTILITY RELOCATION\CIVIL\CAD\PLAN SHEETS\BRIDGEPORT DOT DETAILS.DWG SHEET NAME: SAN.

3

DATE 30OCT15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1661-05-88 QUANTITY
0150	204.0210	Removing Manholes	EACH	5.000	5.000
1560	612.0902.S	Insulation Board Polystyrene (inch) 01. 2-Inch	SY	71.000	71.000
1670	619.1000	Mobilization	EACH	0.020	0.020
1960	633.0100	Delineator Posts Steel	EACH	2.000	2.000
1970	633.0500	Delineator Reflectors	EACH	2.000	2.000
2880	SPV.0060	Special 08. Sanitary Sewer Connection To Existing	EACH	3.000	3.000
2890	SPV.0060	Special 10. Manhole - Replace/Install With Chimney Seal	EACH	7.000	7.000
2900	SPV.0060	Special 11. Sanitary Sewer Lateral Replace	EACH	1.000	1.000
2910	SPV.0060	Special 13. Water Main Connection To Existing	EACH	1.000	1.000
2920	SPV.0060	Special 14. Remove Existing Fire Hydrant	EACH	2.000	2.000
2930	SPV.0060	Special 15. Remove Existing Valve	EACH	3.000	3.000
2940	SPV.0060	Special 16. Fire Hydrant 6-Inch (W/6" Hydrant Lead)	EACH	3.000	3.000
2950	SPV.0060	Special 17. Water Main Gate Valve 6-Inch	EACH	2.000	2.000
2960	SPV.0060	Special 18. Water Main Gate Valve 8-Inch	EACH	4.000	4.000
2970	SPV.0060	Special 21. Water Service Replace 1-Inch	EACH	1.000	1.000
3010	SPV.0090	Special 05. Sanitary Sewer SDR 35 PVC 8-Inch	LF	1,052.000	1,052.000
3020	SPV.0090	Special 08. Water Main DR 18 PVC 8-Inch	LF	1,262.000	1,262.000
3030	SPV.0090	Special 09. Casing Pipe Reinforced Concrete Class III 18-Inch	LF	80.000	80.000
3040	SPV.0090	Special 10. Casing Pipe Reinforced Concrete Class III 30-Inch	LF	158.000	158.000
3050	SPV.0090	Special 11. Post Construction Televising Sanitary Sewer	LF	1,052.000	1,052.000
3060	SPV.0090	Special 12. Post Construction Televising Casing Pipe	LF	158.000	158.000

3

3

WATER MAIN CONNECTION TO EXISTING SUMMARY

CATEGORY	STATION	LOCATION	SPV.0060.13 WATER MAIN CONNECTION TO EXISTING (EACH)
0010	200+69.0	USH '18', 12.5' RT	1
		TOTAL=	1 EACH

FIRE HYDRANT 6-INCH (W/6" HYDRANT LEAD) SUMMARY

CATEGORY	STATION	LOCATION	SPV.0060.16 FIRE HYDRANT 6-INCH W/6-INCH HYDRANT LEAD (EACH)
0010	205+37.3	USH 18, 55.4' RT	1
	211+33.2	USH 18, 87.9' LT	1
	211+53.9	USH 18, 55.5' RT	1
		TOTAL=	3 EACH

REMOVE EXISTING FIRE HYDRANT SUMMARY

CATEGORY	STATION	LOCATION	SPV.0060.14 REMOVE EXISTING FIRE HYDRANT (EACH)
0010	205+55.1	USH 18, 37.1' RT	1
	211+53.8	USH 18, 30.7' RT	1
		TOTAL=	2 EACH

REMOVE EXISTING VALVE SUMMARY

CATEGORY	STATION	LOCATION	SPV.0060.15 REMOVE EXISTING VALVE (EACH)
0010	205+55.5	USH 18, 17.3' RT	1
	205+58.0	USH 18, 13.7' RT	1
	211+54.0	USH 18, 37.4' RT	1
		TOTAL=	3 EACH

MANHOLE-REPLACE/ INSTALL W/ CHIMNEY SEAL SUMMARY

CATEGORY	STATION	LOCATION	SPV.0060.10 MANHOLE (EACH)
0020	201+13.76	USH 18, 58.5' RT	1
	203+56.95	USH 18, 61.10' RT	1
	206+55.96	USH 18, 66.6' RT	1
	209+00.96	USH 18, 67.4' RT	1
	209+00.70	USH 18, 15.1' RT	1
	211+68.06	USH 18, 15.6' RT	1
	213+76.22	USH 18, 46.6' RT	1
		TOTAL=	7 EACH

WATER MAIN GATE VALVE 6-INCH, 8-INCH SUMMARY

CATEGORY	STATION	LOCATION	SPV.0060.17 GATE VALVE, 6-INCH (EACH)	SPV.0060.18 GATE VALVE, 8-INCH (EACH)
0010	200+69.1	USH 18, 15.5' RT	-	1
	205+37.2	USH 18, 49.3' RT	1	-
	205+40.1	USH 18, 46.3' RT	-	1
	208+90.0	USH 18, 46.9' RT	-	1
	211+33.4	USH 18, 44.0' RT	-	1
	211+54.0	USH 18, 50.0' RT	1	-
		TOTAL=	2 EACH	4 EACH

WATER MAIN DR 18 PVC 8-INCH SUMMARY

CATEGORY	STATION	STATION	LOCATION	SPV.0090.08 WATER MAIN DR 18 PVC 8-INCH (L.F.)
0010	200+69.0	200+69.5	USH 18	36
	200+69.5	205+37.2	USH 18	469
	205+37.2	205+43.3	USH 18	6
	205+43.3	205+89.8	USH 18	48
	205+89.8	208+74.8	USH 18	285
	208+74.8	208+87.0	USH 18	16
	208+87.0	211+33.4	USH 18	246
	211+33.4	211+54.0	USH 18	21
	211+33.4	211+33.2	CROSSING USH 18	135
			TOTAL=	1262 L.F.

SANITARY SEWER SDR 35 PVC, 8-INCH SUMMARY

CATEGORY	STATION	STATION	LOCATION	SPV.0090.05 SANITARY SEWER SDR 35 PVC, 8-INCH (L.F.)
0020	201+13.8	203+57.0	USH 18	243
	203+57.0	206+56.0	USH 18	300
	206+56.0	209+01.0	USH 18	245
	209+01.0	209+00.1	USH 18	52
	211+68.1	213+76.2	USH 18	212
			TOTAL=	1052 L.F.

REMOVING MANHOLES SUMMARY

CATEGORY	STATION	LOCATION	204.0210 REMOVING EXISTING MANHOLES (EACH)
0020	203+54.5	USH 18, 26.2' RT	1
	205+69.1	USH 18, 22.0' RT	1
	206+69.8	USH 18, 47.85' RT	1
	207+66.5	USH 18, 61.75' RT	1
	207+79.4	USH 18, 14.8' RT	1
		TOTAL=	5 EACH

POST CONSTRUCTION TELEVISING SUMMARY

CATEGORY	STATION	STATION	LOCATION	SPV.0090.11 SANITARY SEWER (L.F.)	SPV.0090.12 CASING PIPE (L.F.)
0020	201+13.8	209+00.1	USH 18	840	--
	211+68.1	213+76.2	USH 18	212	--
		CATEGORY 0020 SUB TOTAL=		1052 L.F.	--
0030	244+54.4 RT	244+54.4 LT	USH 18	--	158
		CATEGORY 0030 SUB TOTAL=		--	158 L.F.
		GRAND TOTAL=		1052 L.F.	158 L.F.

SANITARY SEWER CONNECTION TO EXISTING SUMMARY

CATEGORY	STATION	LOCATION	SPV.0060.08 SANITARY SEWER CONNECTION TO EXISTING (EACH)
0020	203+14.8	USH 18, 58.5' RT	1
	209+00.7	USH 18, 15.1' RT	1
	211+68.1	USH 18, 15.6' RT	1
		TOTAL=	3 EACH

SANITARY SEWER LATERAL REPLACE SUMMARY

CATEGORY	STATION	LOCATION	SPV.0060.11 SANITARY SEWER LATERAL REPLACE (EACH)
0020	211+72.9	USH 18, 16.2' RT	1
		TOTAL=	1 EACH

WATER SERVICE REPLACE 1-INCH SUMMARY

CATEGORY	STATION	LOCATION	SPV.0060.21 WATER SERVICE REPLACE 1-INCH (EACH)
0010	211+43.7	USH 18, 47.0' RT	1
		TOTAL=	1 EACH

CASING PIPE REINFORCED CONCRETE CLASS III, 18-INCH, 30-INCH SUMMARY

STATION	STATION	LOCATION	SPV.0090.09 18-INCH (L.F.)	SPV.0090.10 30-INCH (L.F.)
CATEGORY 0030				
207+02.0 RT	207+82.0 RT	USH 18	80	-
CATEGORY 0030 SUB TOTAL=			80 L.F.	
CATEGORY 0030				
244+54.4 RT	244+54.4 LT	USH 18	-	158
CATEGORY 0030 SUB TOTAL=				158 L.F.
		GRAND TOTAL=	80 L.F.	158 L.F.

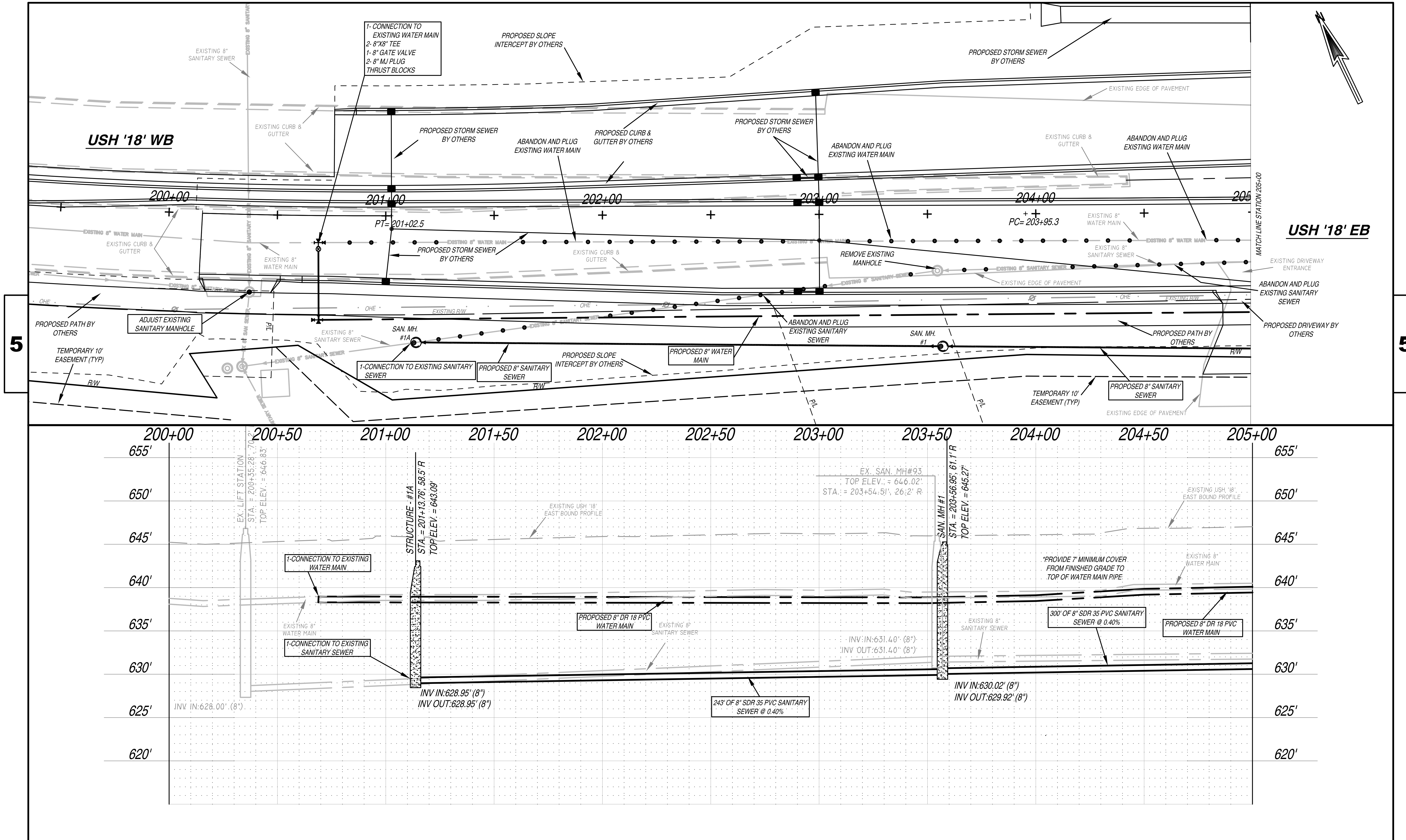
INSULATION BOARD POLYSTYRENE, 2-INCH SUMMARY

CATEGORY	STATION	LOCATION	612.0902.S INSULATION BOARD POLYSTYRENE, 2-INCH (S.Y.)
0010	207+02	USH 18	71
		TOTAL=	71 S.Y.

DELINEATOR POSTS STEEL AND DELINEATOR REFLECTORS

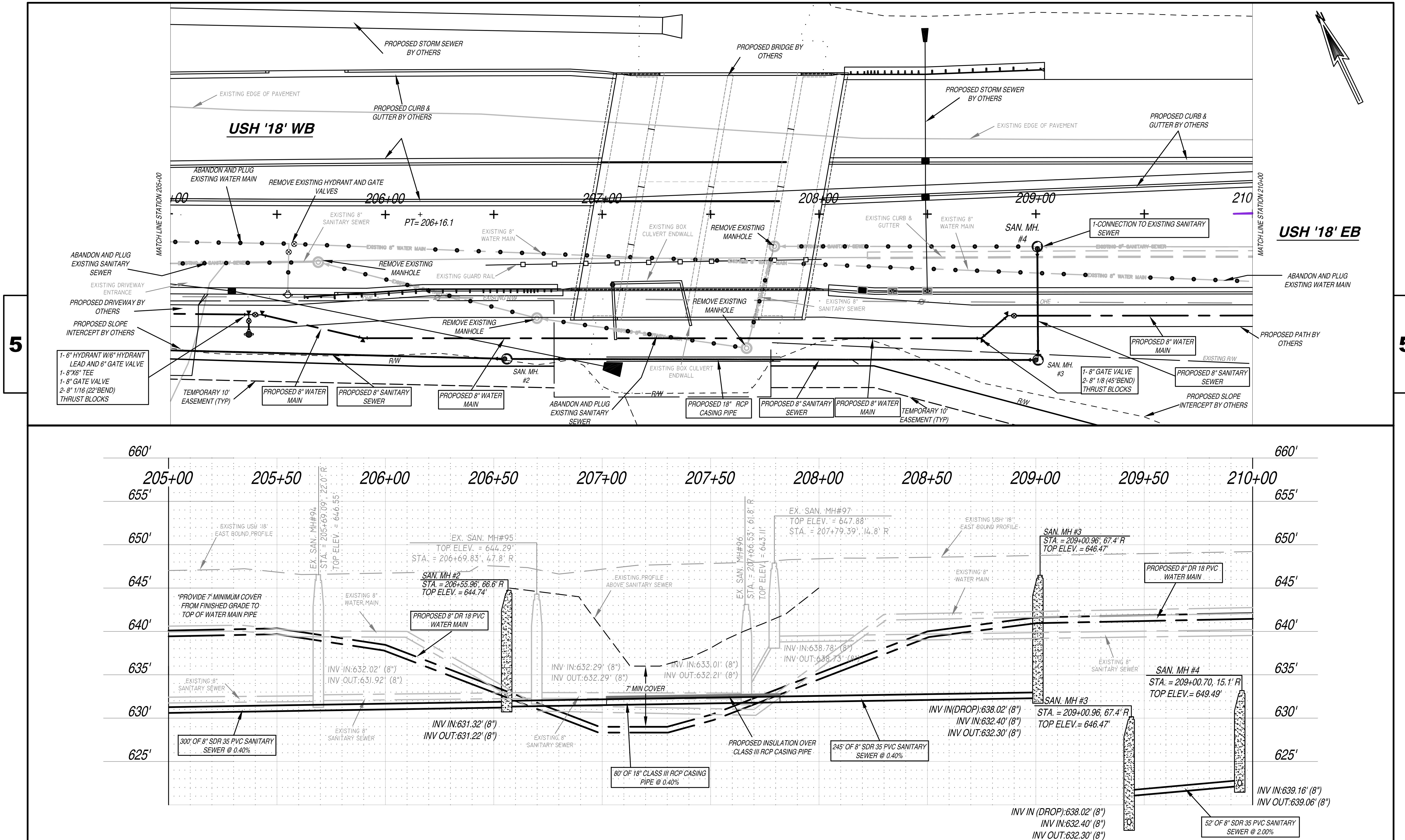
CATEGORY	STATION	LOCATION	633.0100 DELINEATOR POSTS STEEL (EACH)	633.0500 DELINEATOR REFLECTORS (EACH)
0030	244+50.0	USH 18, 42.0' RT	1	1
	244+50.0	USH 18, 73.0' LT	1	1
		TOTAL=	2 EACH	2 EACH

3



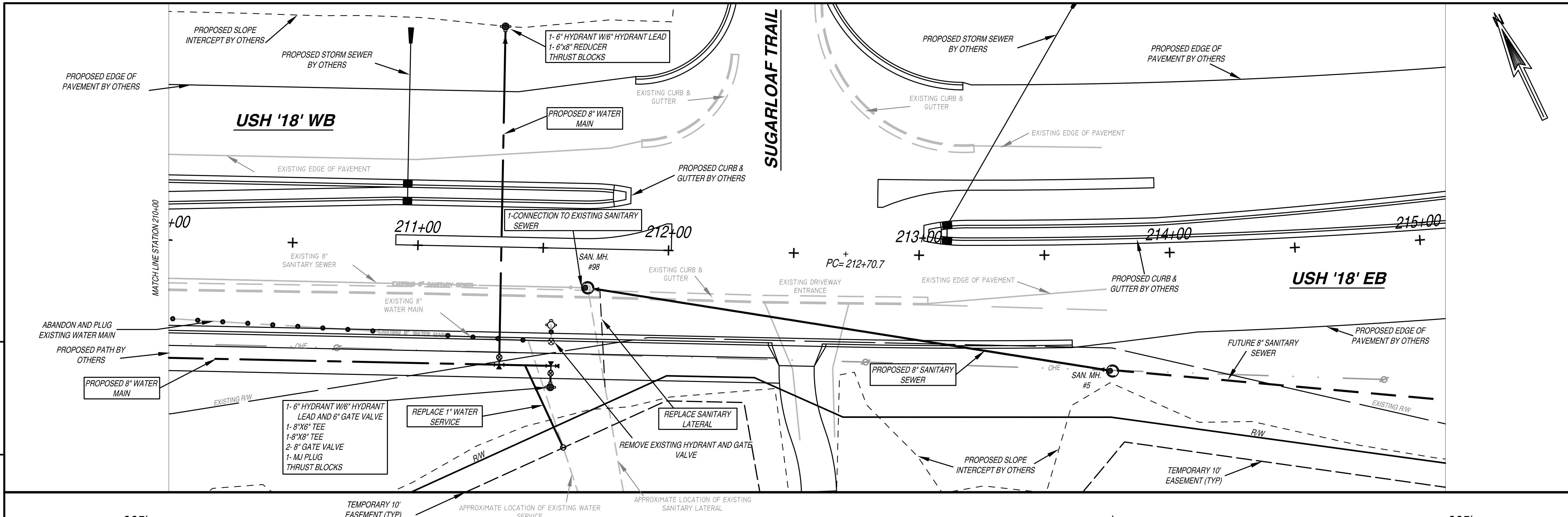
PROJECT NO: 1661-05-88	HWY: USH18	COUNTY: CRAWFORD	SHEET	SHEET	E

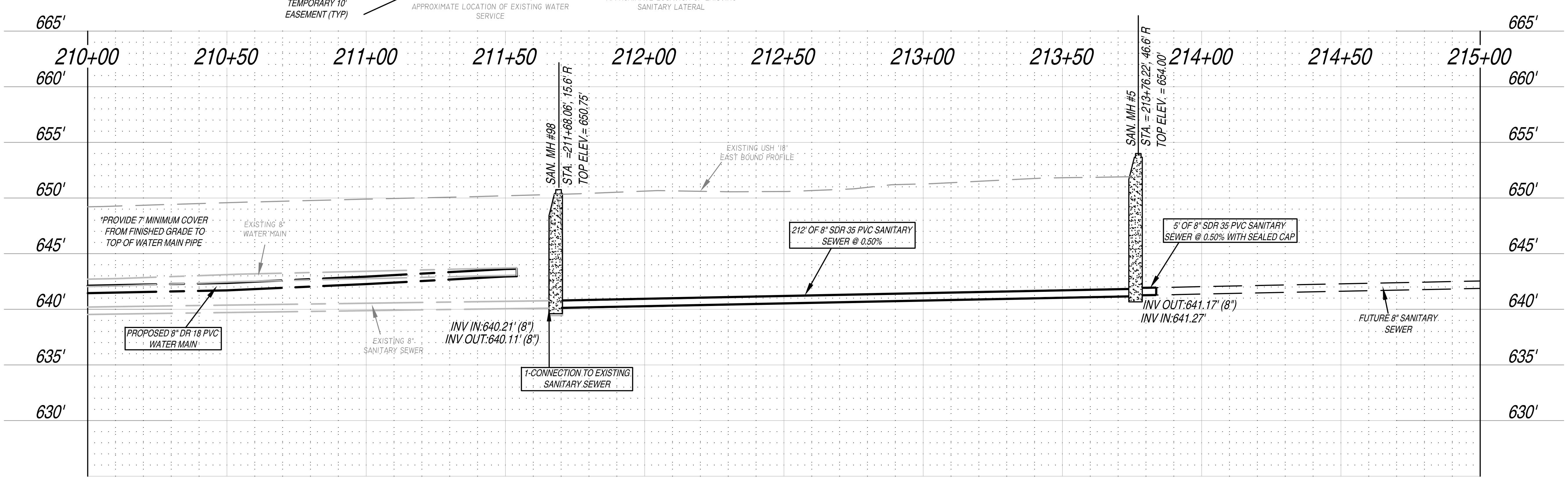
FILE NAME : G:\PROJECTS\2014\D14-079 BRIDGEPORT HWY 18 UTILITY RELOCATION\CIVIL\CAD\PLAN SHEETS\BRIDGEPORT DOT PNP.DWG SHEET NAME: 200+00 TO 205+00



PROJECT NO: 1661-05-88	HWY: USH18	COUNTY: CRAWFORD	SHEET	SHEET	E

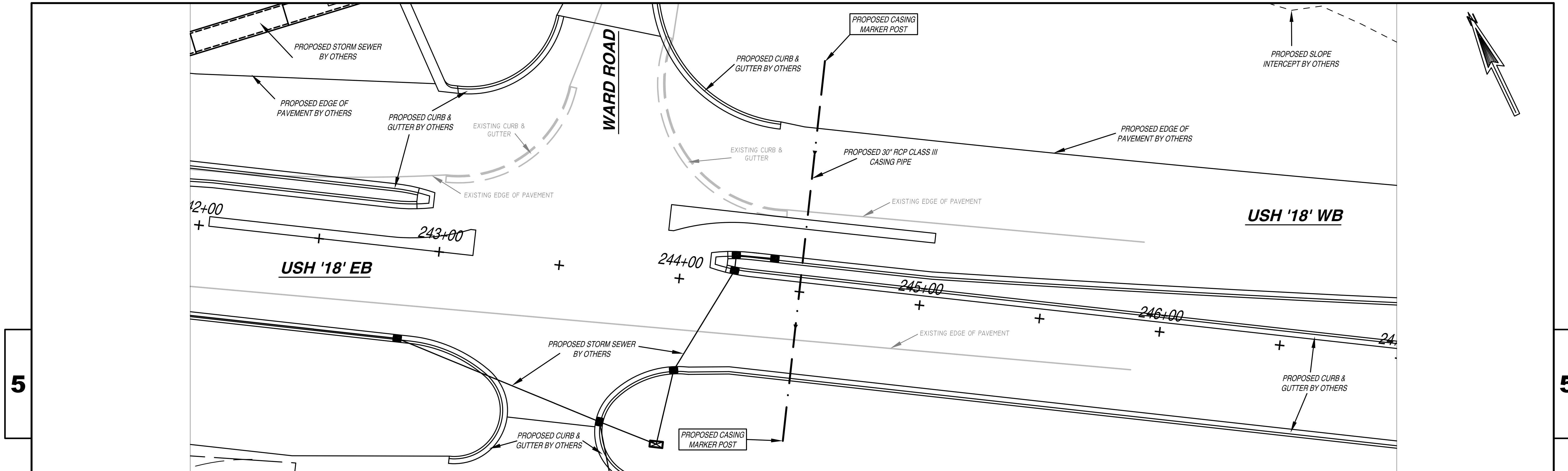
FILE NAME : G:\PROJECTS\2014\D14-079 BRIDGEPORT HWY 18 UTILITY RELOCATION\CIVIL\CAD\PLAN SHEETS\BRIDGEPORT DOT PNP.DWG SHEET NAME: 205+00 TO 210+00

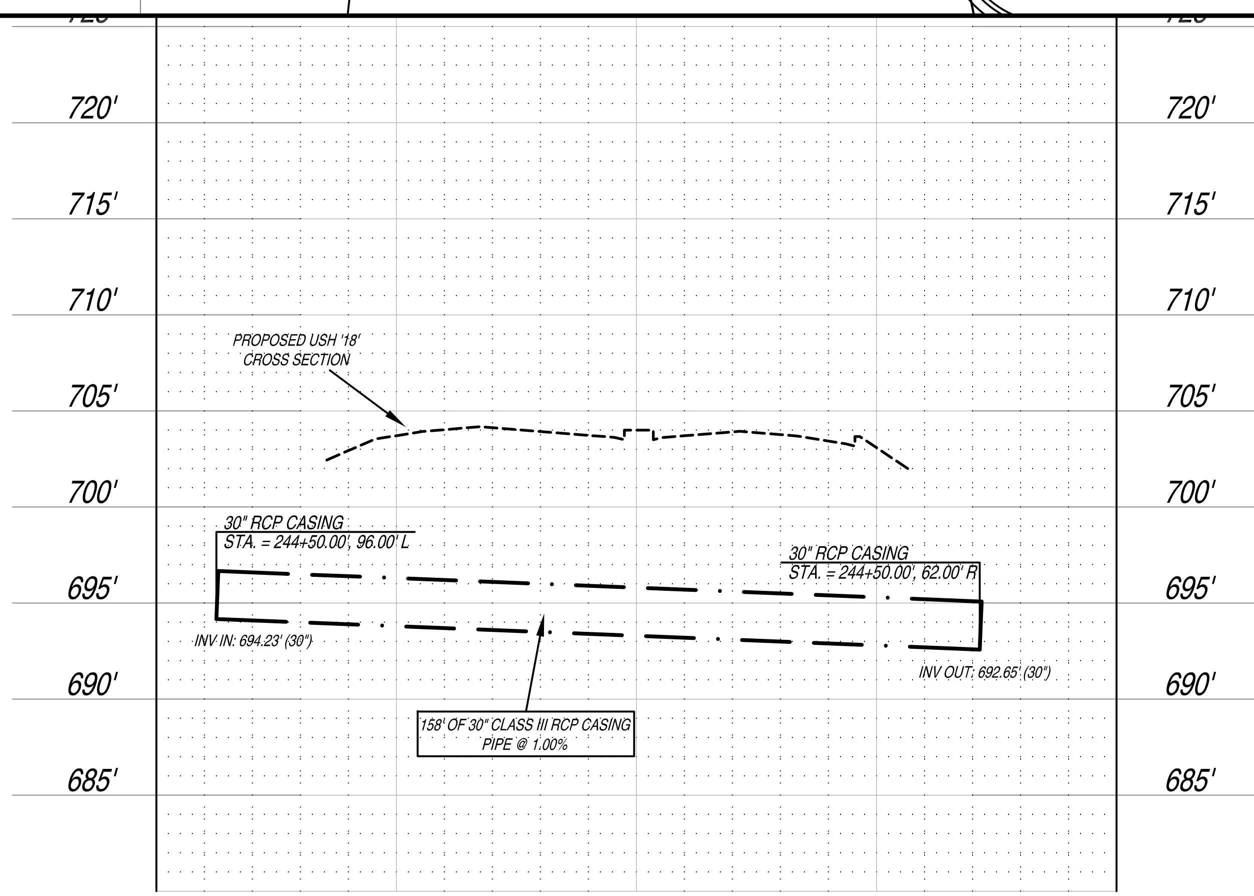


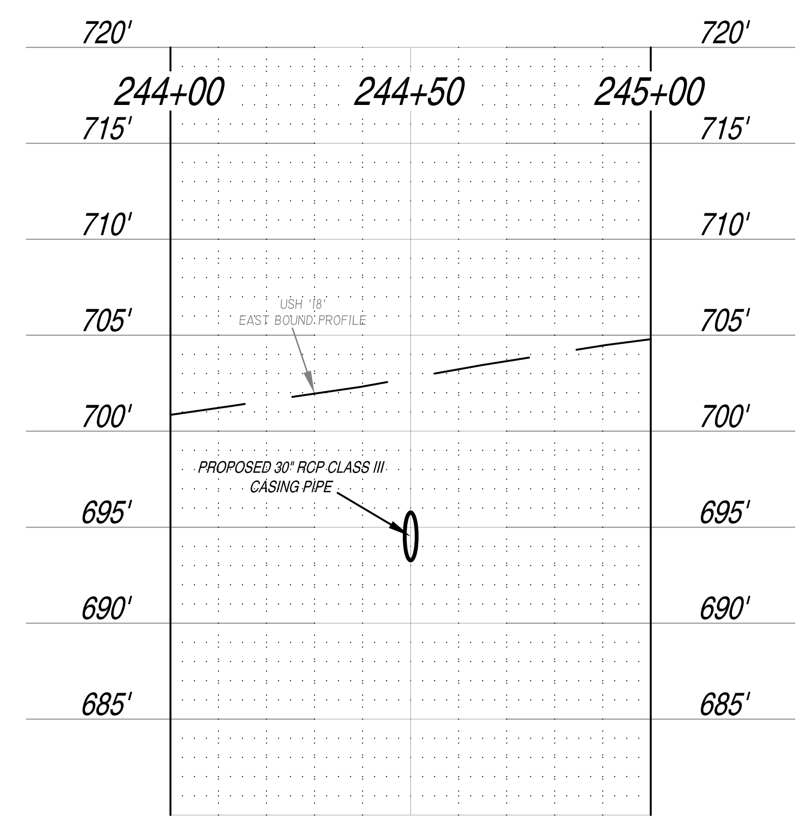


PROJECT NO: 1661-05-88	HWY: USH18	COUNTY: CRAWFORD	SHEET	SHEET	E

FILE NAME : G:\PROJECTS\2014\D14-079 BRIDGEPORT HWY 18 UTILITY RELOCATION\CIVIL\CAD\PLAN SHEETS\BRIDGEPORT DOT PNP.DWG SHEET NAME: 210+00 TO 215+00







PROJECT NO: 1661-05-88	HWY: STH18	COUNTY: CRAWFORD	SHEET	SHEET	E

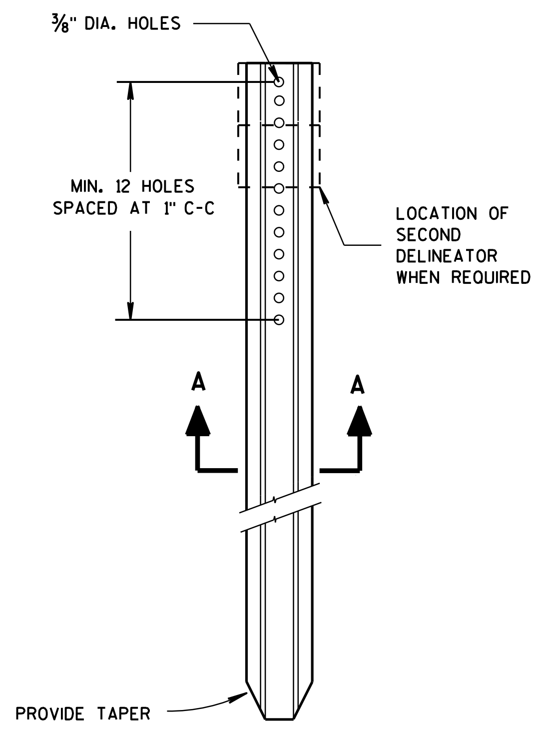
FILE NAME : G:\PROJECTS\2014\D14-079 BRIDGEPORT HWY 18 UTILITY RELOCATION\CIVIL\CAD\PLAN SHEETS\BRIDGEPORT DOT PNP.DWG SHEET NAME: WARD RD.

6

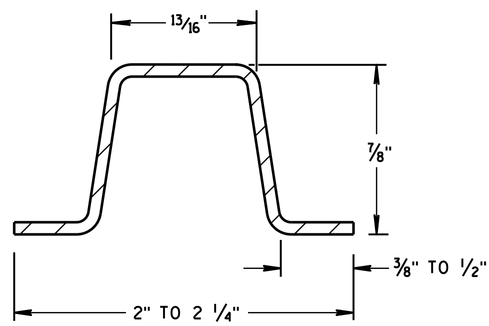
Standard Detail Drawing List

15A02-08 DELINEATOR POST, DELINEATOR, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING

6

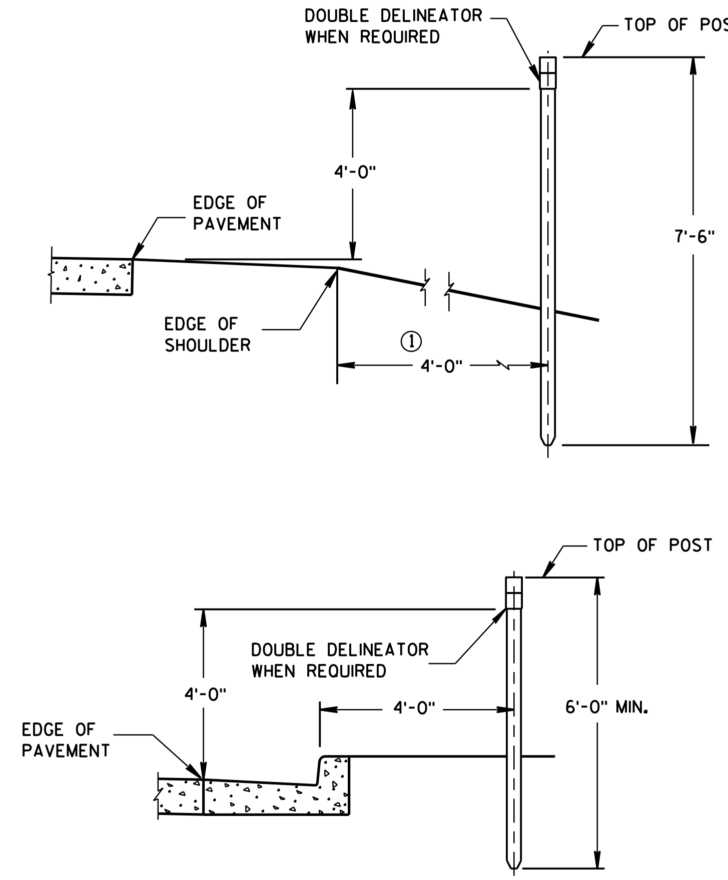


DELINEATOR POST



SECTION A-A

WEIGHT 1.12 LBS PER FT. ± 0.1 LB.

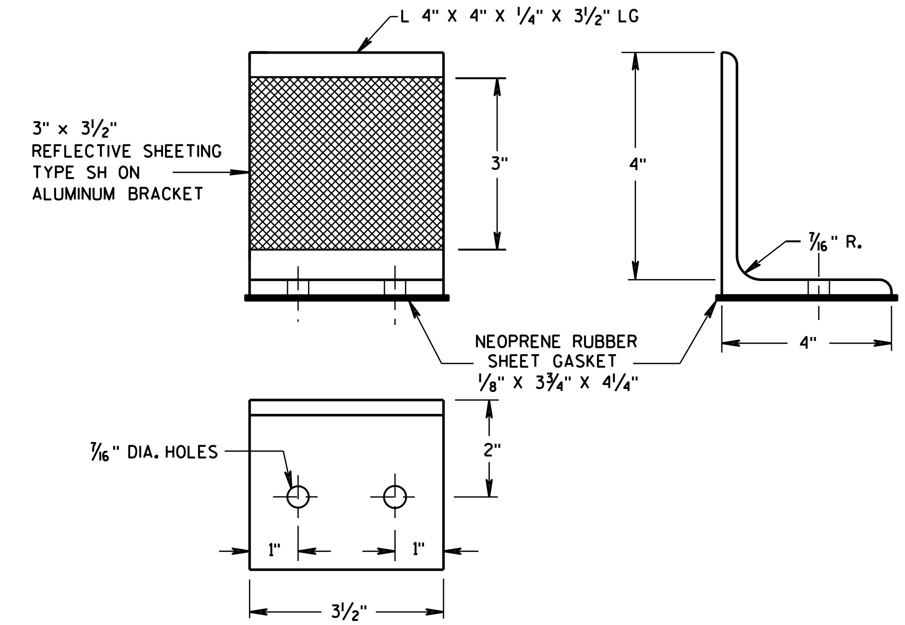


TYPICAL INSTALLATIONS OF DELINEATOR POSTS

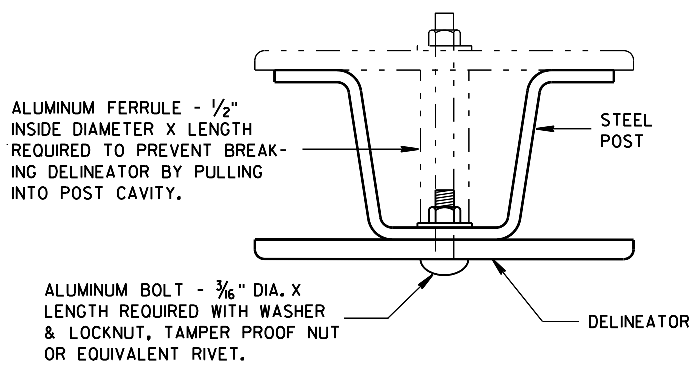
GENERAL NOTES

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

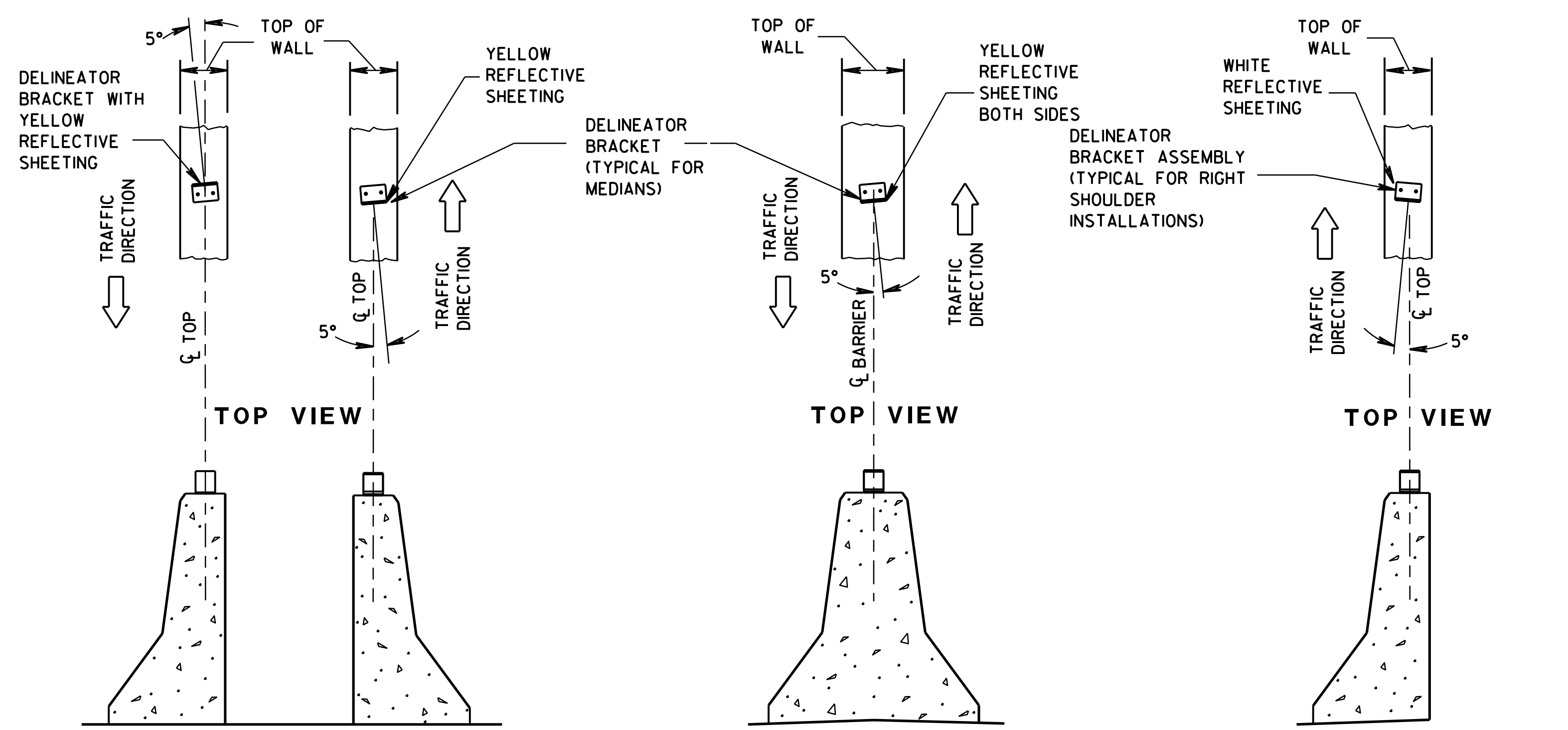
① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.



DELINEATOR BRACKET



MOUNTING DETAIL FOR DELINEATOR

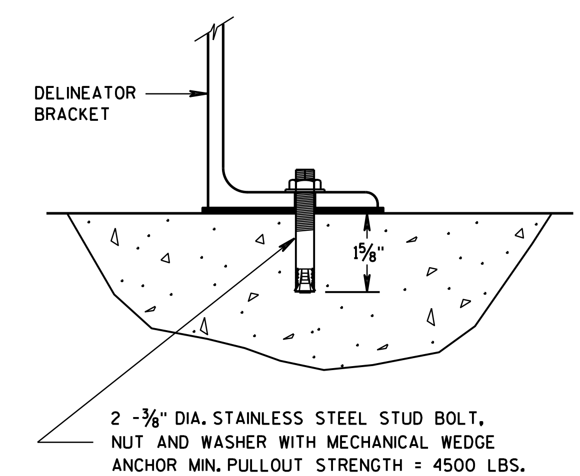


DOUBLE BARRIERS IN MEDIAN

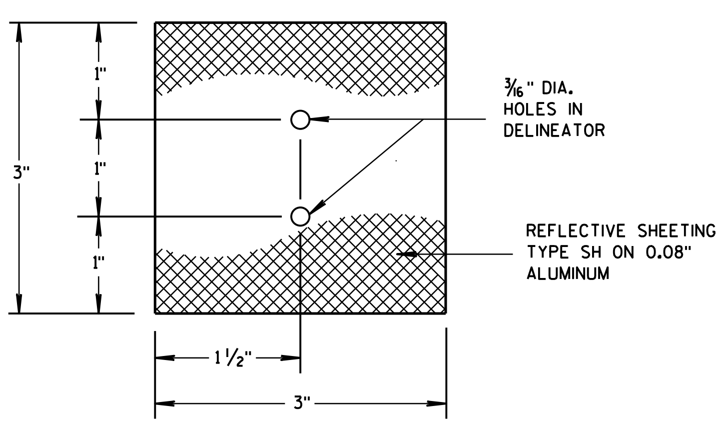
MEDIAN BARRIER

BARRIER LOCATED TO RT. OF TRAFFIC FLOW

LOCATION AND AIMING DETAILS FOR DELINEATOR BRACKETS MOUNTED ON CONCRETE BARRIERS



DELINEATOR BRACKET MOUNTING DETAIL



3"x 3" DELINEATOR

DELINEATOR POST, DELINEATOR, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC E
FHWA

S.D.D. 15 A 2-8

6

6

S.D.D. 15 A 2-8

Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

http://www.dot.wisconsin.gov