

GRE NOV 2015  
PROJECT ID: 1420-22-71  
WITH: N/A

NOV 2015

ORDER OF SHEETS

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

TOTAL SHEETS = 702

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT  
FOND DU LAC BYPASS

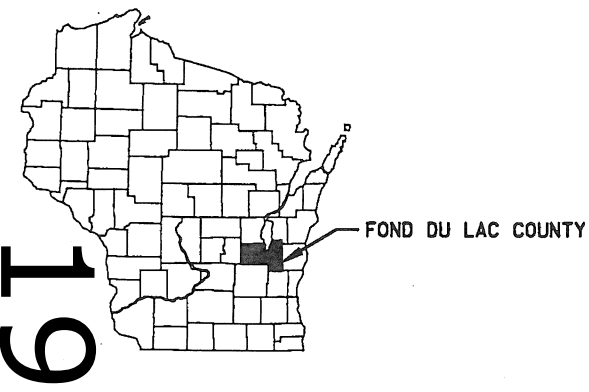
CTH V INTERCHANGE

USH 151

FOND DU LAC COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1420-22-71	WISC 2015578	1

STATE PROJECT NUMBER  
1420-22-71



DESIGN DESIGNATION

	CTH V	USH 151
A.A.D.T. (2006)	= 3000	= 11500
A.A.D.T. (2038)	= 4700	= 17000
D.H.V. (2038)	= 517	= 1870
D.D.	= 60/40	= 60/40
T. (DHV)	= 7.1	= 7.1
DESIGN SPEED	= 40 MPH	= 70 MPH
ESALS	= 905,200	-

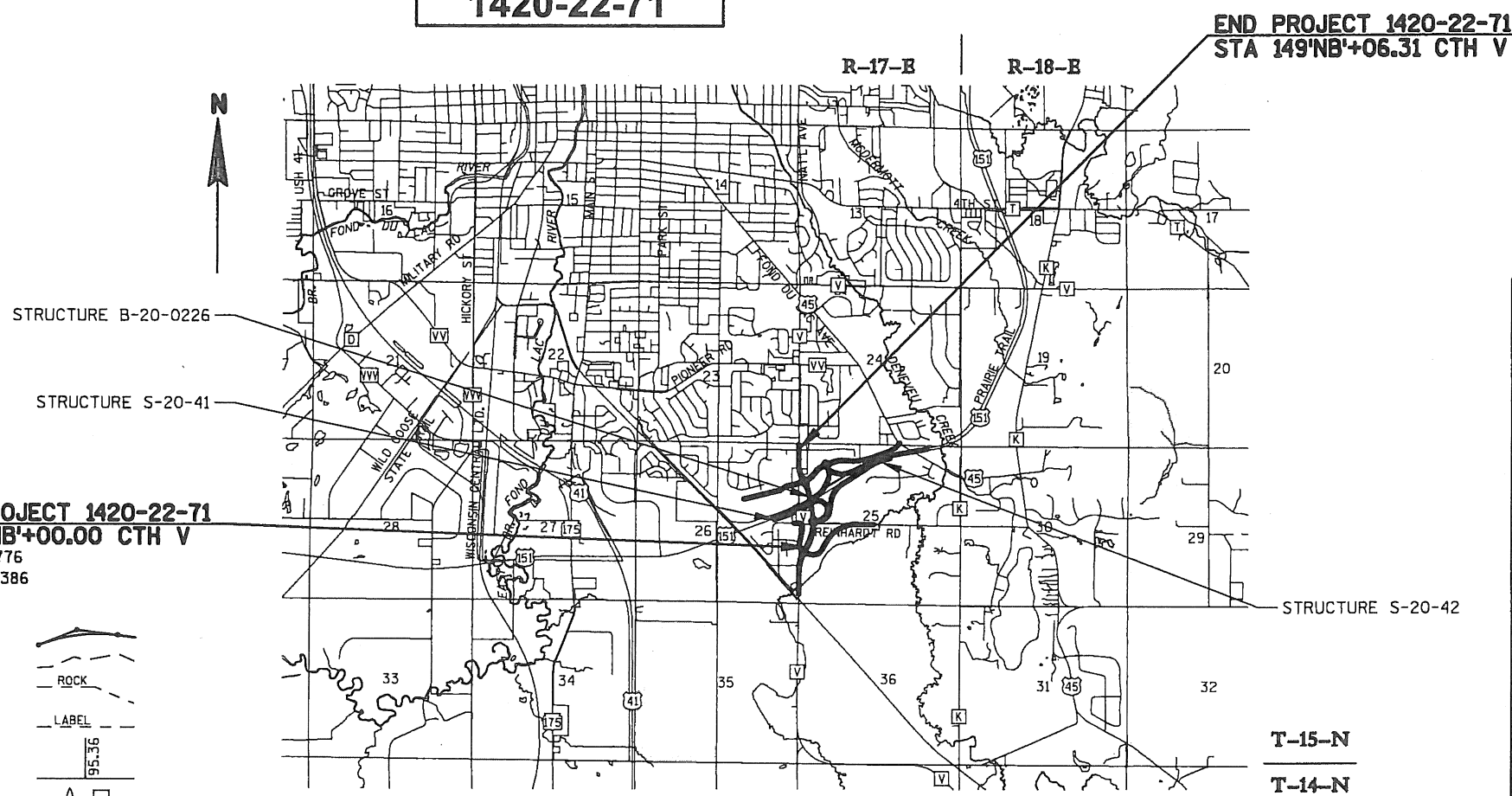
CONVENTIONAL SYMBOLS

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	
MARSH AREA	
WOODED OR SHRUB AREA	

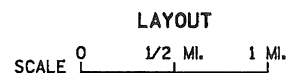
PROFILE

GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	
GRADE ELEVATION	
CULVERT (Profile View)	
UTILITIES	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	



BEGIN PROJECT 1420-22-71  
STA 115'NB'+00.00 CTH V  
Y = 371287.776  
X = 823900.386

END PROJECT 1420-22-71  
STA 149'NB'+06.31 CTH V



TOTAL NET LENGTH OF CENTERLINE = 0.645 MI. (CTH V)

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), FOND DU LAC COUNTY, NAD 1983 (97)  
ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)

ORIGINAL PLANS PREPARED BY

**OMNI ASSOCIATES**

RYAN E. BETKER  
E-38778  
NEENAH WI  
PROFESSIONAL ENGINEER  
4-23-15

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor WISDOT/GREMMER & ASSOCIATES, INC.  
Designer OMNI ASSOCIATES, INC.  
Project Manager B. LEARST  
Regional Examiner -  
Regional Supervisor R. WAGNER  
C.O. Examiner -

APPROVED FOR THE DEPARTMENT  
DATE: 04/23/15   
(Signature)

1 **E**

**GENERAL NOTES**

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

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

ALL MANHOLE AND INLET OFFSETS ARE GIVEN TO THE CENTER OF THE STRUCTURE.

INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES AND CULVERT PIPES SHOWN ARE APPROXIMATE AND SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD.

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

CURB AND GUTTER RADII ARE SHOWN TO THE FLANGE LINE OF THE CURB AND GUTTER.

THE EXACT LOCATIONS AND LIMITS OF PRIVATE ENTRANCES, FIELD ENTRANCES AND COMMERCIAL ENTRANCES SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD.

IMMEDIATELY AFTER CONSTRUCTION OF ANY INLET, CONTRACTOR SHALL CONSTRUCT THE EROSION CONTROL PROTECTION IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS TO MINIMIZE SEDIMENTATION IN THE INLET AND STORM SEWER.

WETLAND AREAS ARE SHOWN ON THE PLANS. CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO WORK WITHIN THE SLOPE INTERCEPTS IN THE WETLAND AREAS.

DISTANCES SHOWN ON THIS PLAN ARE GROUND DISTANCES.

EROSION CONTROL FEATURES AS SHOWN ON THE PLAN SHEETS ARE AT SUGGESTED LOCATIONS. EXACT LOCATION WILL BE DETERMINED BY THE ENGINEER IN THE FIELD

MISCELLANEOUS REMOVAL ITEMS SHALL BE REMOVED TO AN EXISTING JOINT OR SAWCUT AS SHOWN ON THE PLANS

REMOVAL OF THE TEMPORARY PIPE UNDERDRAIN OUTFALLS FROM PROJECT 1420-23-71 WILL BE CONSIDERED INCIDENTAL TO COMMON EXCAVATION.

UTILITY REFERENCE LINES ON THE CROSS SECTIONS ARE FOR HORIZONTAL REFERENCE ONLY.

**DESIGNER NOTES**

DESIGN, PLANS, SPECIFICATIONS AND ESTIMATE FOR TRAFFIC CONTROL ITEMS PROVIDED BY QUEST CIVIL ENGINEERS.

DESIGN, PLANS, SPECIFICATIONS AND ESTIMATE FOR STREET LIGHTING ITEMS PROVIDED BY POWRTEK ENGINEERING.

DESIGN, PLANS, SPECIFICATIONS AND ESTIMATE FOR LANDSCAPING/PLANTING ITEMS PROVIDED BY KEN SAIKI DESIGN.

HYDROLOGY, HYDRAULICS AND CULVERT PIPE SIZING FOR THE PROJECT PROVIDED BY STORMWATER SOLUTIONS ENGINEERING.

**EROSION CONTROL NOTES**

RUNOFF COEFFICIENT FOR THIS PROJECT:  
 EXISTING PAVEMENT 0.95, EXISTING SLOPES 0.30,  
 NEW PAVEMENT 0.95, NEW SLOPES 0.30.

TOTAL PROJECT AREA = 114 ACRES.  
 TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 56 ACRES.

**UTILITIES**

ELECTRIC & GAS	ALLIANT ENERGY JASON HOGAN 4902 N BILTMORE LANE MADISON, WI 53718 TELEPHONE: 608-458-4871 JASONHOGAN@ALLIANTENERGY.COM
ELECTRIC	AMERICAN TRANSMISSION COMPANY, LLC MIKE OLSEN 801 O'KEEFE ROAD PO BOX 6113 DEPERE, WI 54115-6113 TELEPHONE: 920-338-6582 MOLSEN@ATCLLC.COM
COMMUNICATION	AT&T - WISCONSIN LISA SUPRENAND 70 E DIVISION ST FOND DU LAC, WI 54935 TELEPHONE: 920-929-8459 AD5647@ATT.COM
CABLE TV	CHARTER COMMUNICATIONS BRUCE HENRY 1623 BROADWAY AVENUE SHEBOYGAN, WI 53081 TELEPHONE: 920-907-7720 BRUCE.HENRY@CHARTERCOM.COM
WATER	CITY OF FOND DU LAC KATHY SCHARF 160 SOUTH MACY ST FOND DU LAC, WI 54936 TELEPHONE: 920-322-3682 KSCHARF@FDL.WI.GOV
SANITARY	TOWN OF EMPIRE SAN DIST #1 MARY TORIELLO N5295 CLUB DENEVUE DR FOND DU LAC, WI 54935 TELEPHONE: 920-923-1373
SANITARY	TOWN OF FOND DU LAC SAN DIST #4 JOHN RANSOM W5082 PARADISE LANE FOND DU LAC, WI 54935 TELEPHONE: 920-929-6562

**SURVEY CONTACT**

CORMAC MCINNIS  
 SURVEY  
 944 VANDERPERREN WAY  
 GREEN BAY, WI 54304  
 TELEPHONE: 920-492-5638  
 EMAIL: CORMAC.MCINNIS@DOT.WI.GOV

**DESIGN CONTACT**

OMNI ASSOCIATES  
 PHIL ROBERTS  
 ONE SYSTEMS DRIVE  
 APPLETON, WI 541914  
 TELEPHONE: 920-830-6178  
 EMAIL: PHIL.ROBERTS@OMNI.COM

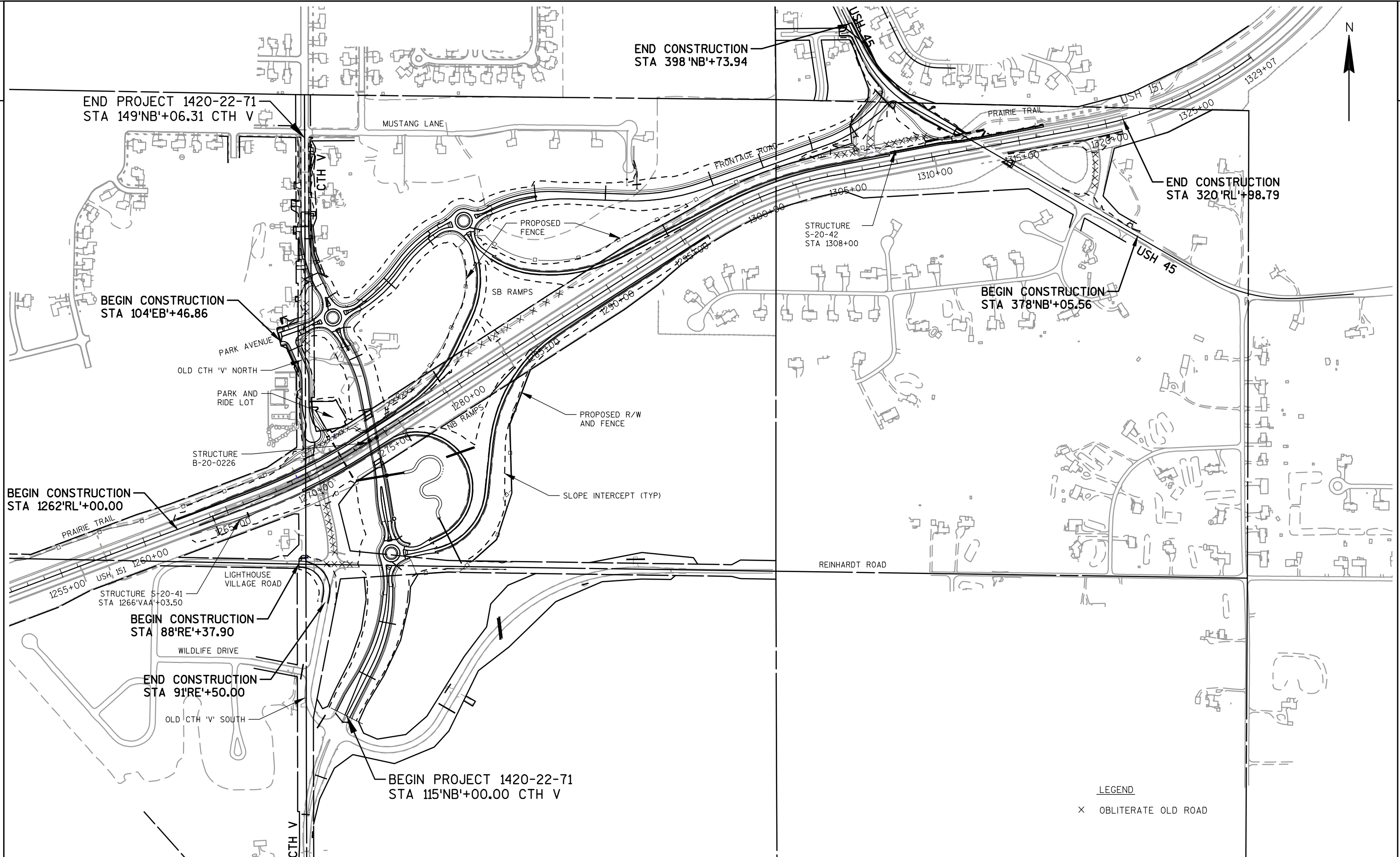
**OTHER CONTACTS**

DNR LIAISON      JAY SCHIEFELBEIN  
 DNR NORTHEAST REGIONAL HQ  
 2984 SHAWANO AVE  
 GREEN BAY, WI 54313  
 TELEPHONE: 920-662-5130  
 EMAIL: JEREMIAH.SCHIEFELBEIN@WISCONSIN.GOV

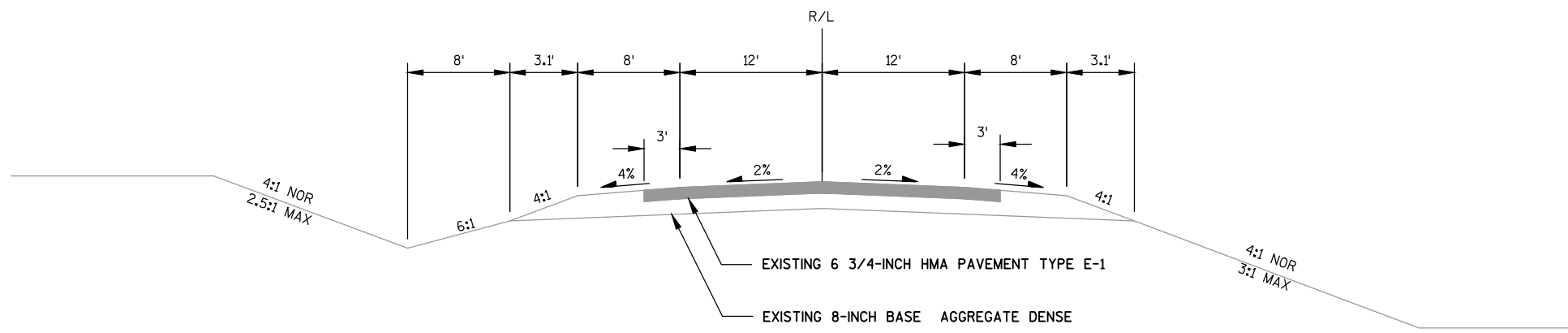
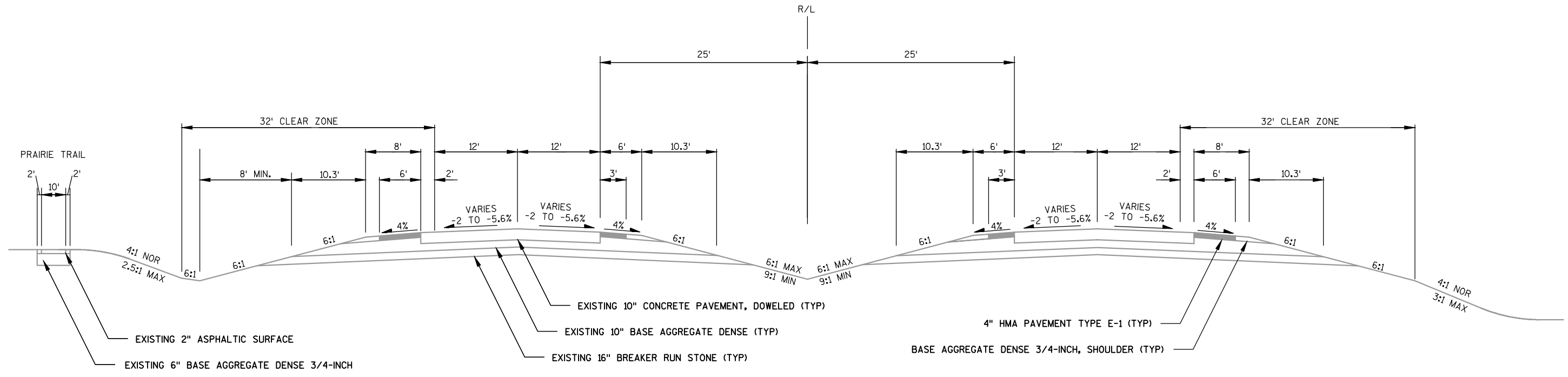


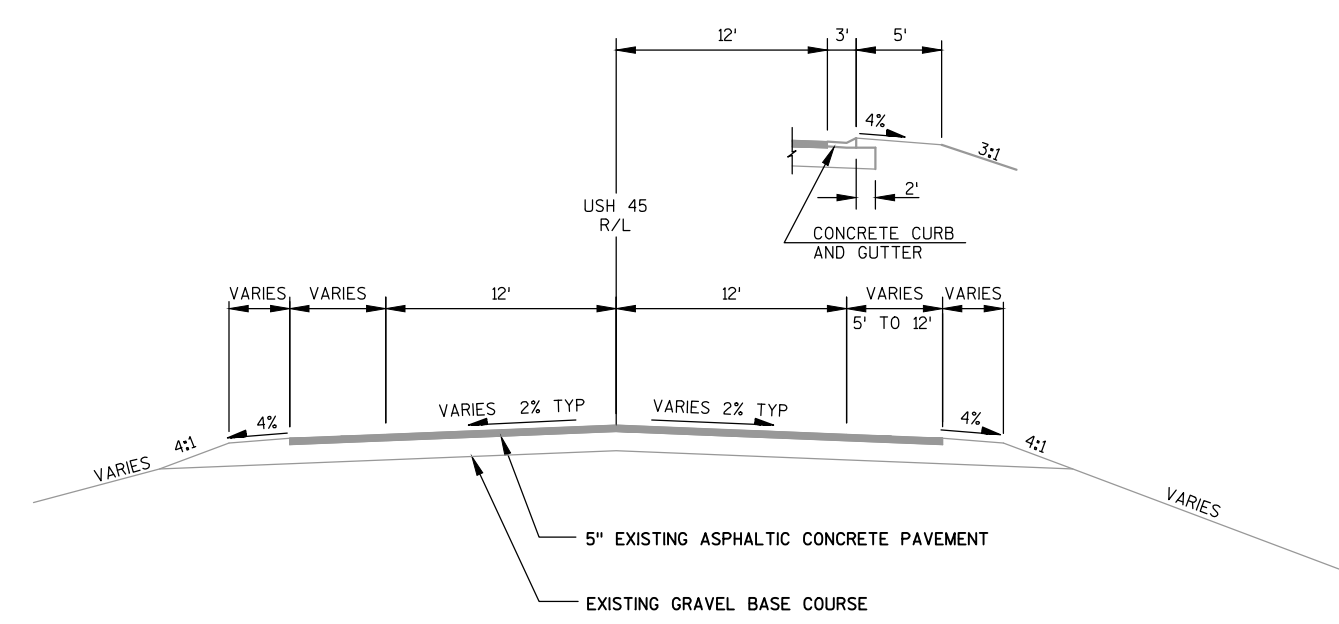
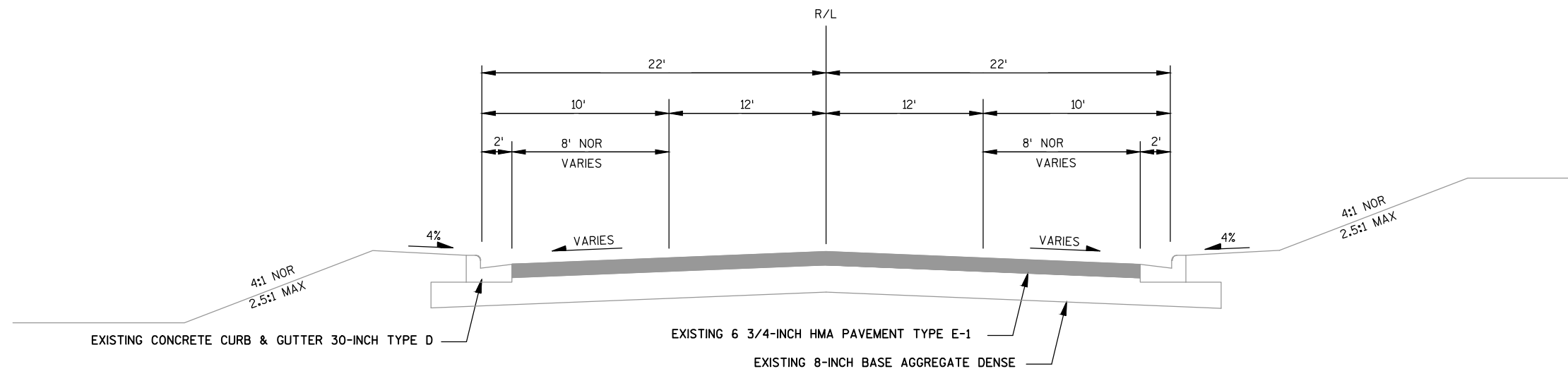
**ORDER OF "SECTION 2" SHEETS**

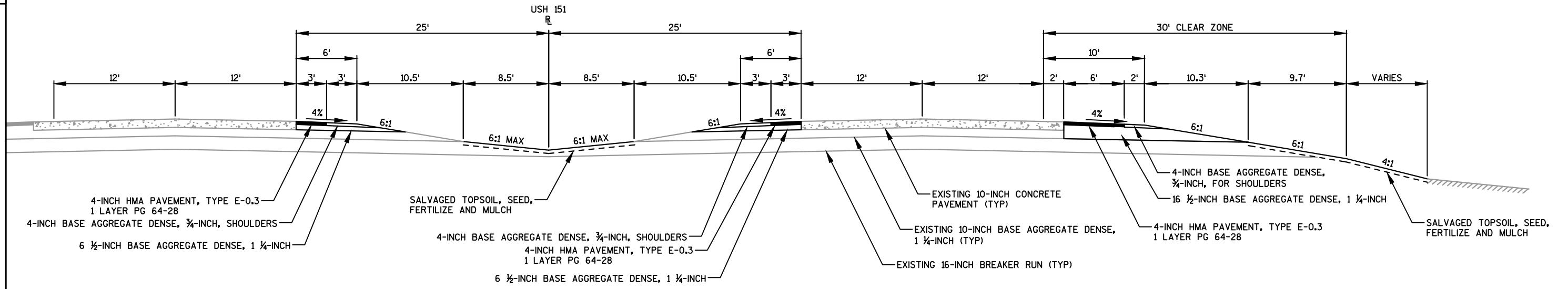
- SHEET TITLE
- GENERAL NOTES
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- PAVING DETAILS
- CONTOUR MAP
- EROSION CONTROL
- STORM SEWER PLAN
- PLANTING
- PERMANENT SIGNING
- LIGHTING
- PAVEMENT MARKING
- TRAFFIC CONTROL AND STAGING
- FENCING
- ALIGNMENT



LEGEND  
 X OBLITERATE OLD ROAD

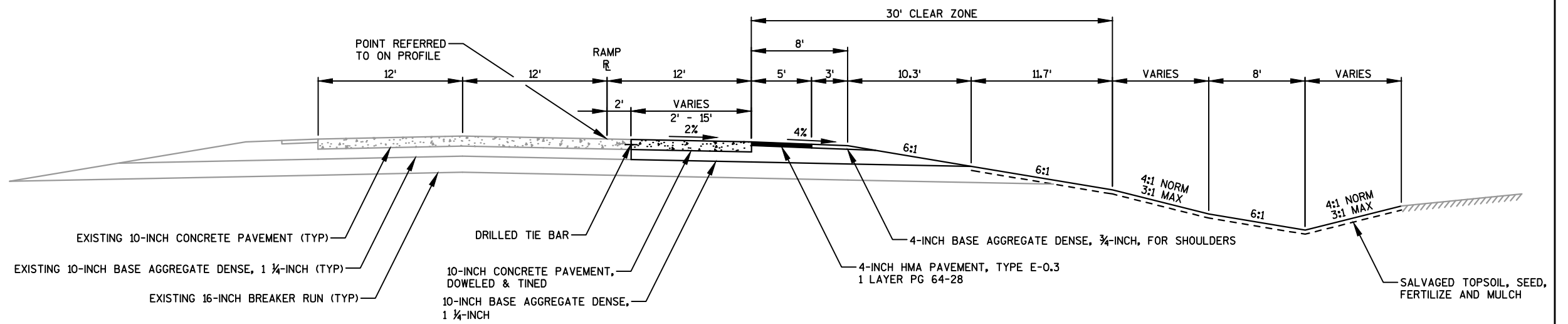






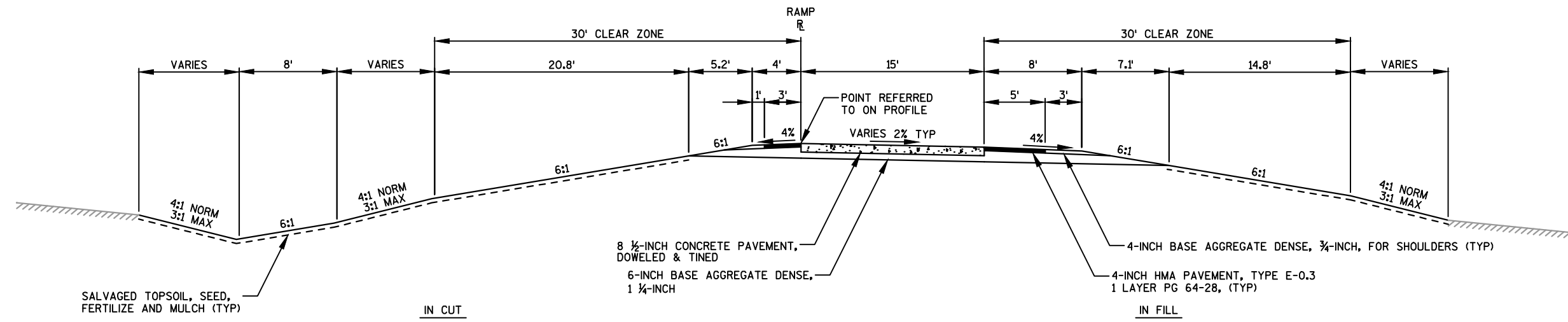
**TYPICAL FINISHED SECTION FOR USH 151**

MEDIAN	STA 1263+25 RT - STA 1272+12 RT
	STA 1268+74 LT - STA 1277+79 LT
RIGHT SIDE	STA 1314+27 RT - STA 1320+99 RT



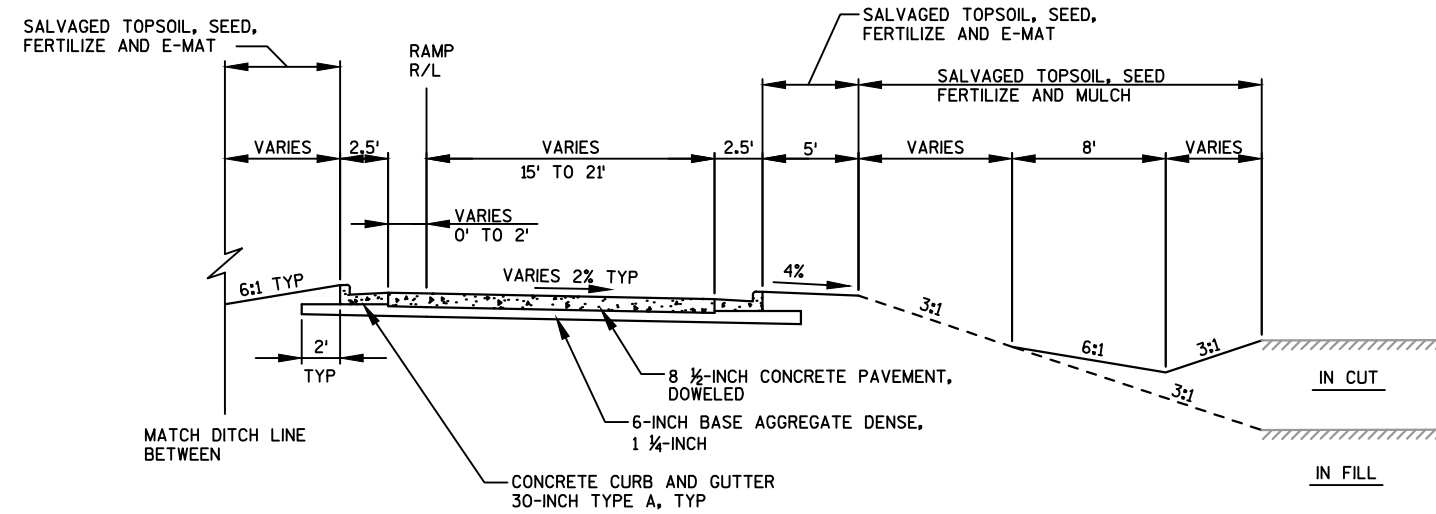
**TYPICAL FINISHED SECTION FOR USH 151 RAMPS**

NB OFF-RAMP (VAA)	STA 269'VAA'+40.14 - STA 275'VAA'+40.70
NB ON-RAMP (VBB)	STA 285'VBB'+81.35 - STA 296'VBB'+15.62
SB OFF-RAMP (VCC)	STA 299'VCC'+65.61 - STA 307'VCC'+66.22 (MIRROR TYPICAL SECTION)
SB ON-RAMP (VDD)	STA 262'VDD'+20.00 - STA 277'VDD'+01.47 (MIRROR TYPICAL SECTION)



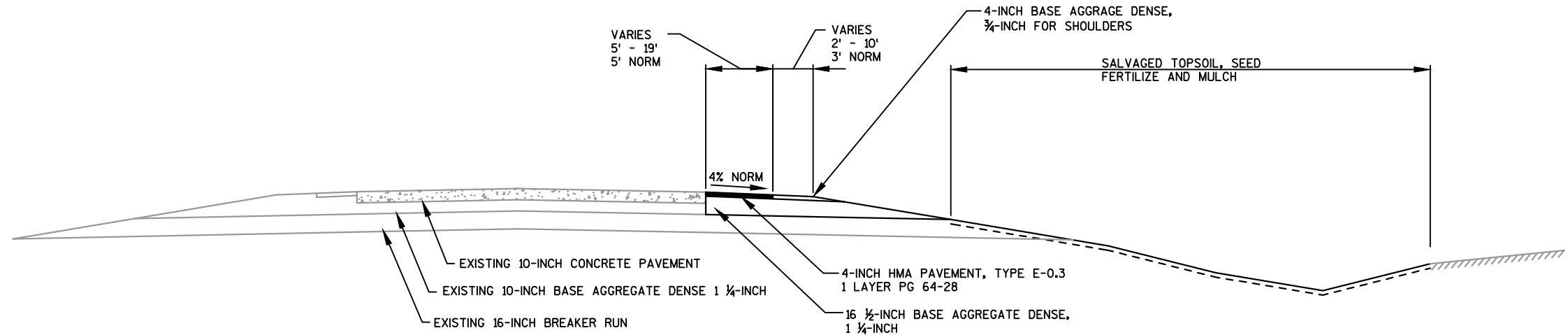
**TYPICAL FINISHED SECTION FOR USH 151 RAMPS**

NB OFF-RAMP (VAA) STA 275'VAA'+40.70 - STA 285'VAA'+84.23  
 NB ON-RAMP (VBB) STA 271'VBB'+30.04 - STA 285'VBB'+81.35  
 SB OFF-RAMP (VCC) STA 283'VCC'+63.49 - STA 299'VCC'+65.61 (MIRROR TYPICAL SECTION)  
 SB ON-RAMP (VDD) STA 277'VDD'+01.47 - STA 286'VDD'+24.47 (MIRROR TYPICAL SECTION)



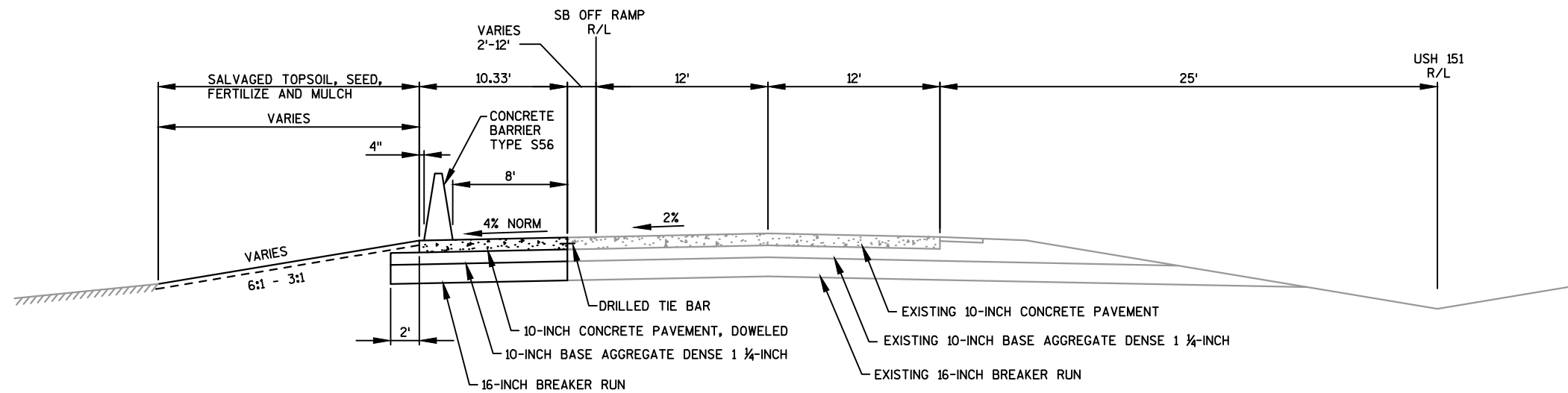
**TYPICAL FINISHED SECTION FOR USH 151 RAMPS**

NB OFF-RAMP (VAA) STA 285'VAA'+84.23 - STA 287'VAA'+43.45  
 NB ON-RAMP (VBB) STA 269'VBB'+56.79 - STA 271'VBB'+30.04  
 SB OFF-RAMP (VCC) STA 281'VCC'+65.67 - STA 283'VCC'+63.49 (MIRROR TYPICAL SECTION)  
 SB ON-RAMP (VDD) STA 286'VDD'+24.47 - STA 287'VDD'+97.45 (MIRROR TYPICAL SECTION)



**TYPICAL FINISHED SECTION FOR USH 151 RAMPS**

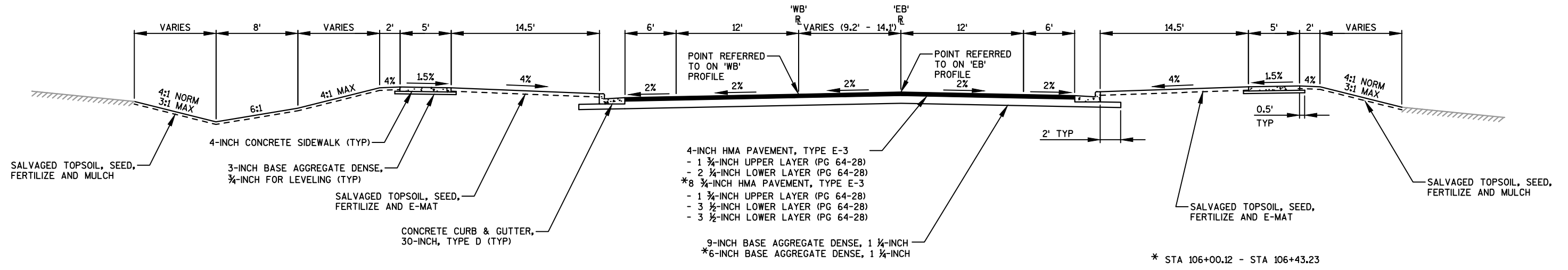
NB OFF-RAMP (VAA) STA 262'VAA'+57.94 - STA 269'VAA'+40.14  
 SB OFF-RAMP (VCC) STA 307'VCC'+66.22 - STA 307'VCC'+75 (MIRROR TYPICAL SECTION)



**TYPICAL FINISHED SECTION FOR SB OFF-RAMP (VCC)**

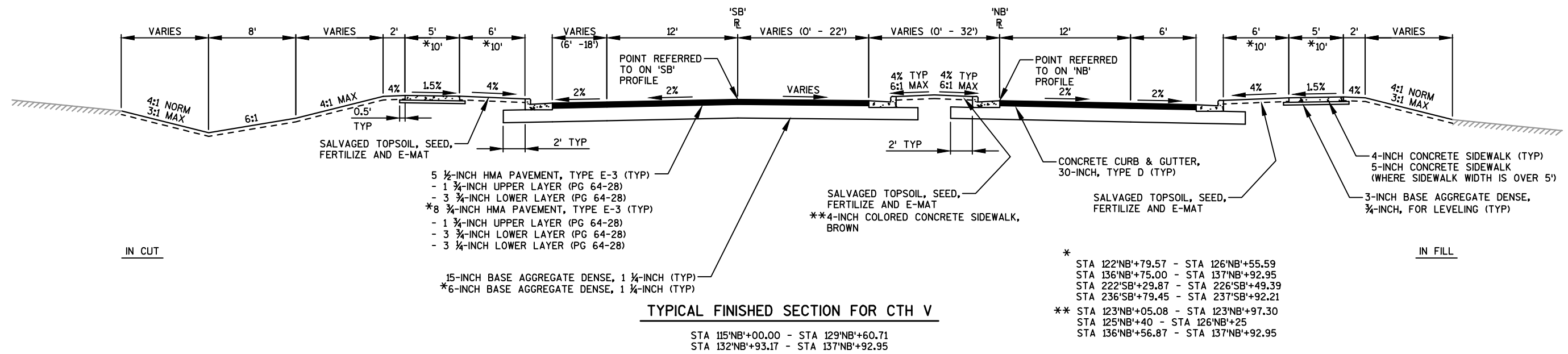
SB OFF-RAMP (VCC) STA 307'VCC'+75 - STA 316'VCC'+50.36





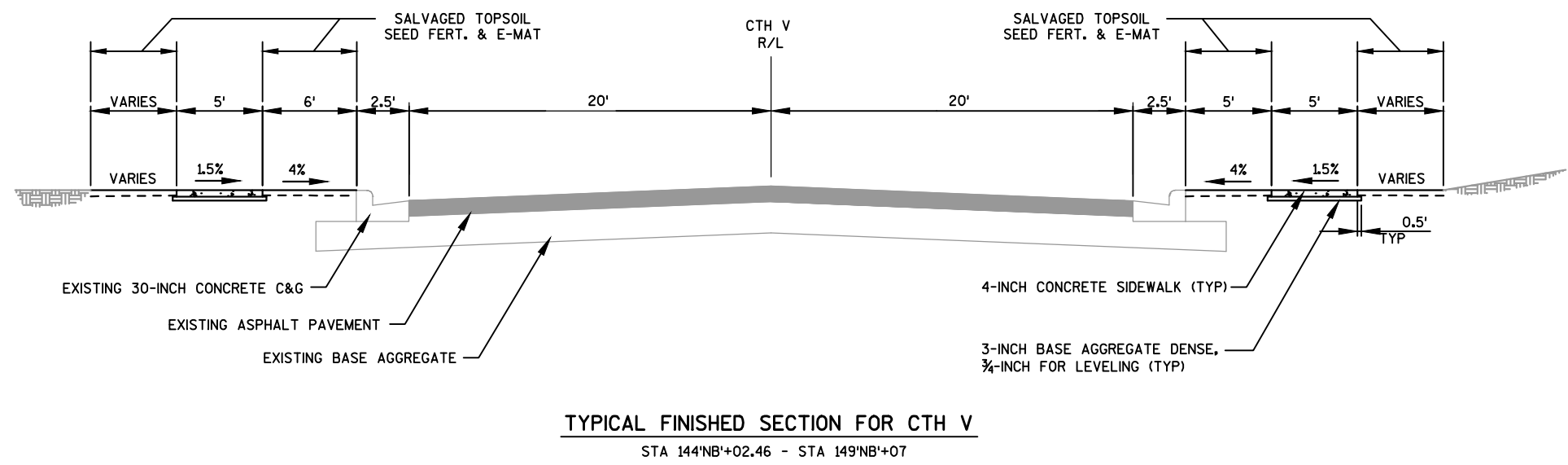
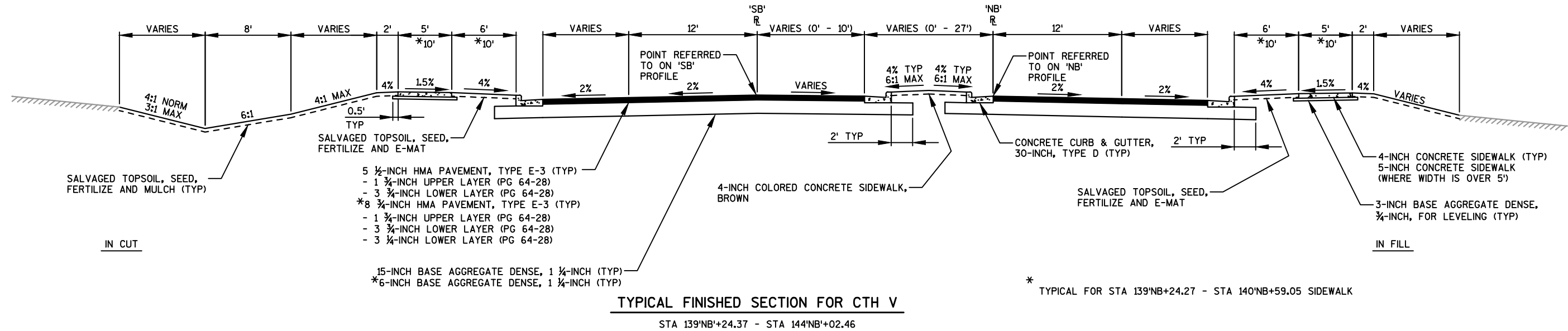
TYPICAL FINISHED SECTION PARK AVENUE

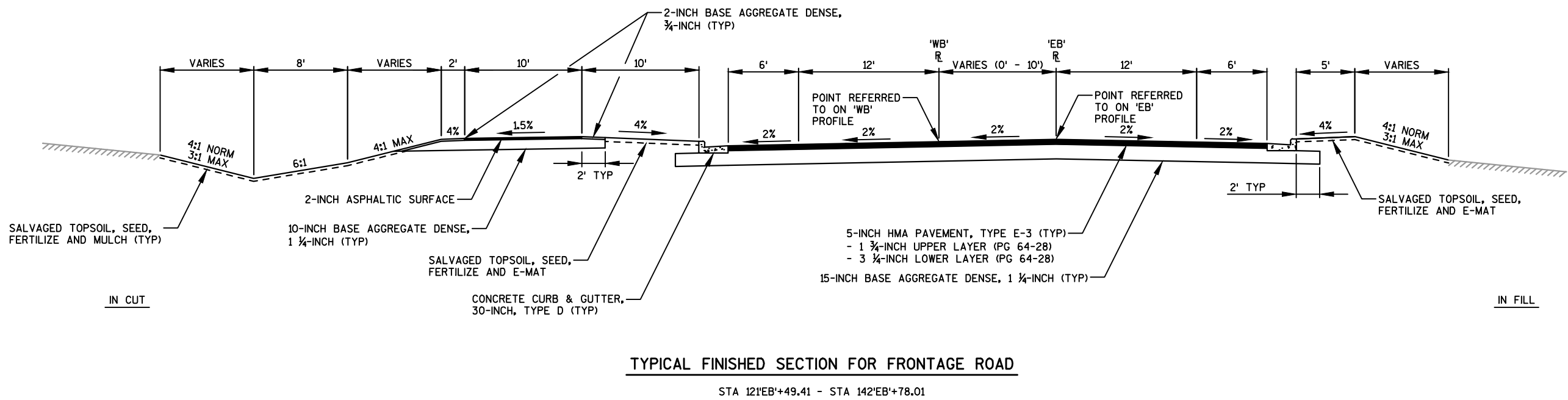
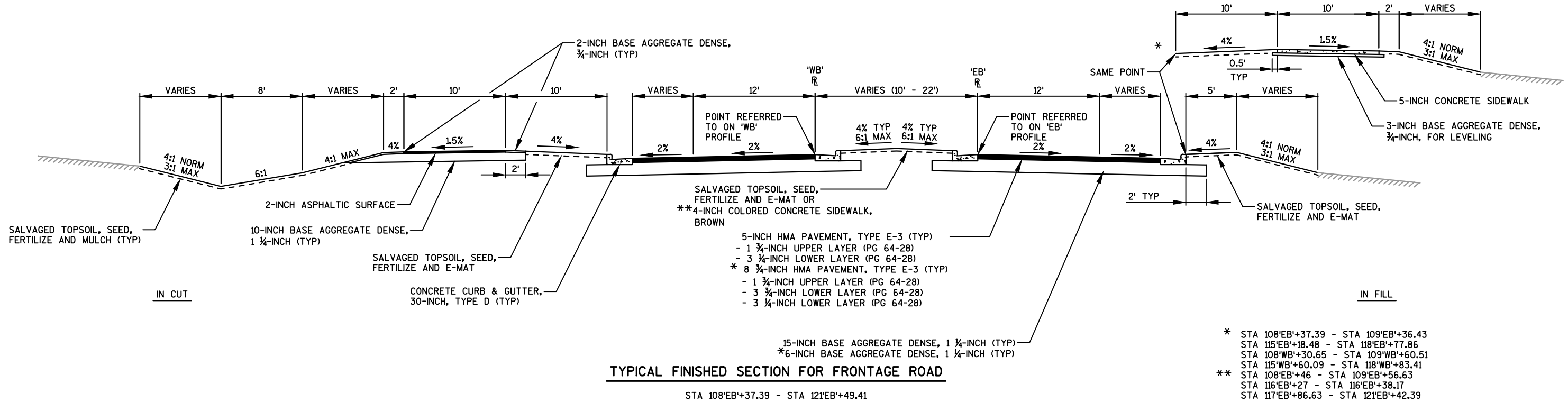
STA 104'EB'+46.86 - STA 106'EB'+43.23

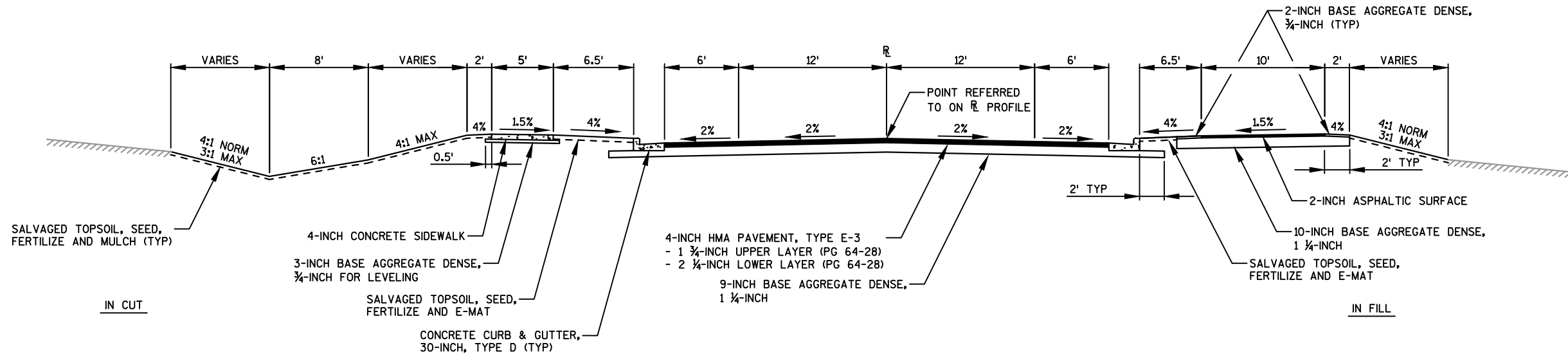


TYPICAL FINISHED SECTION FOR CTH V

STA 115'NB'+00.00 - STA 129'NB'+60.71  
STA 132'NB'+93.17 - STA 137'NB'+92.95

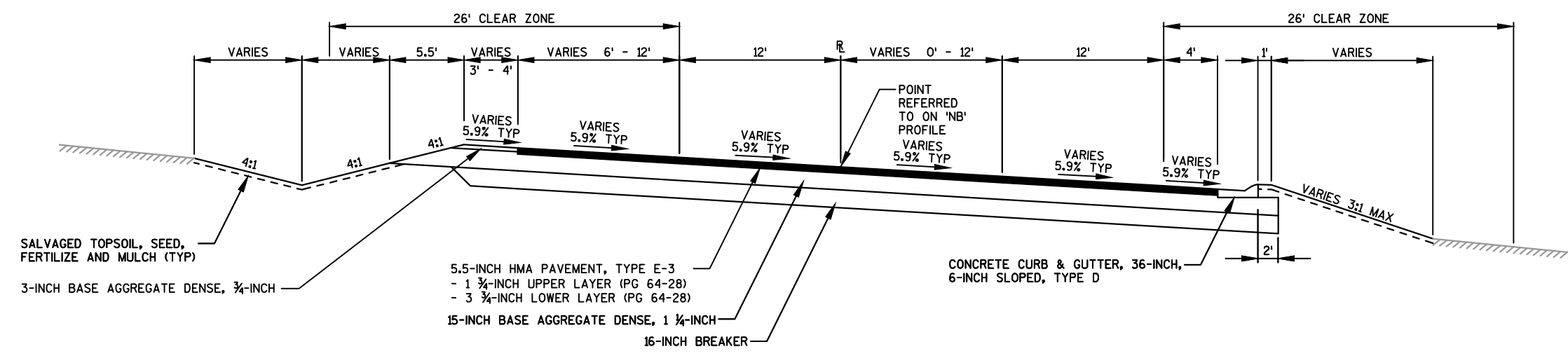






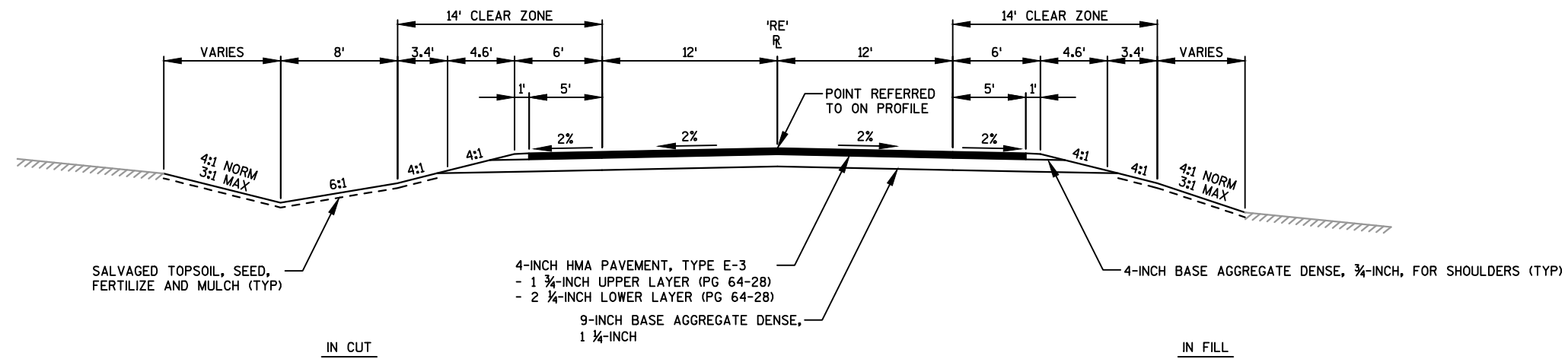
TYPICAL FINISHED SECTION OLD CTH V NORTH

STA 10+00.00 - STA 15+78.32



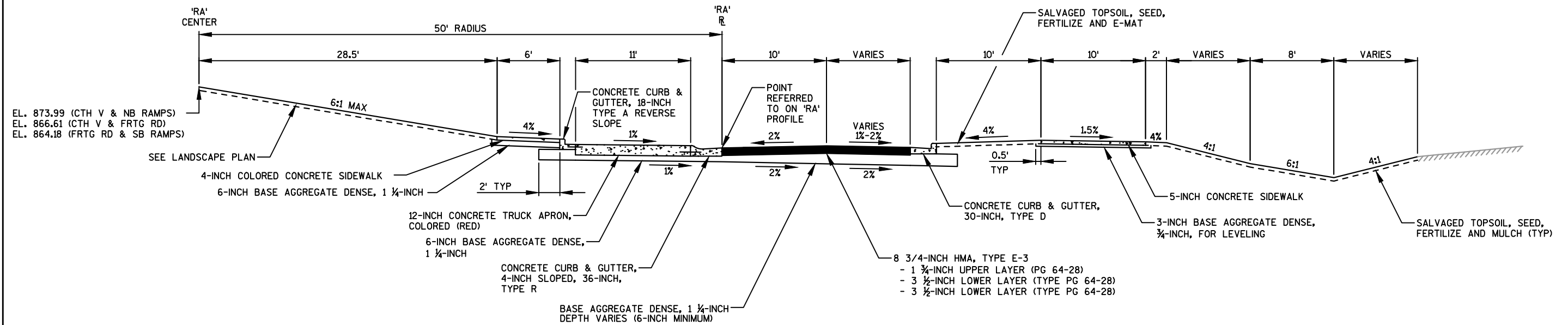
TYPICAL FINISHED SECTION FOR USH 45

STA 389'NB'+94.23 - STA 398'NB'+73.94

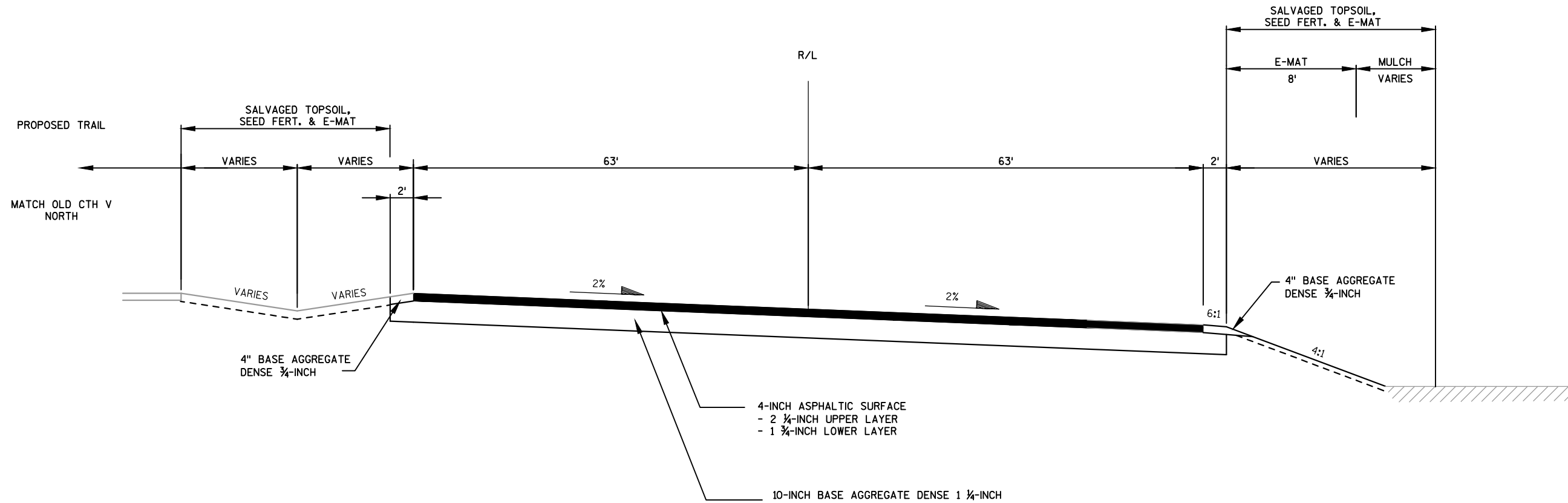


**FINISHED SECTION FOR OLD CTH V SOUTH**

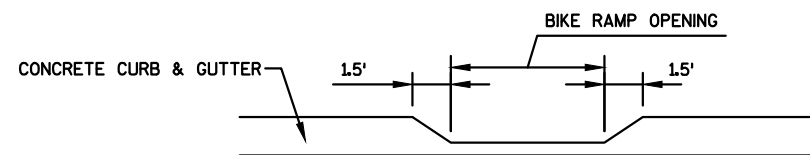
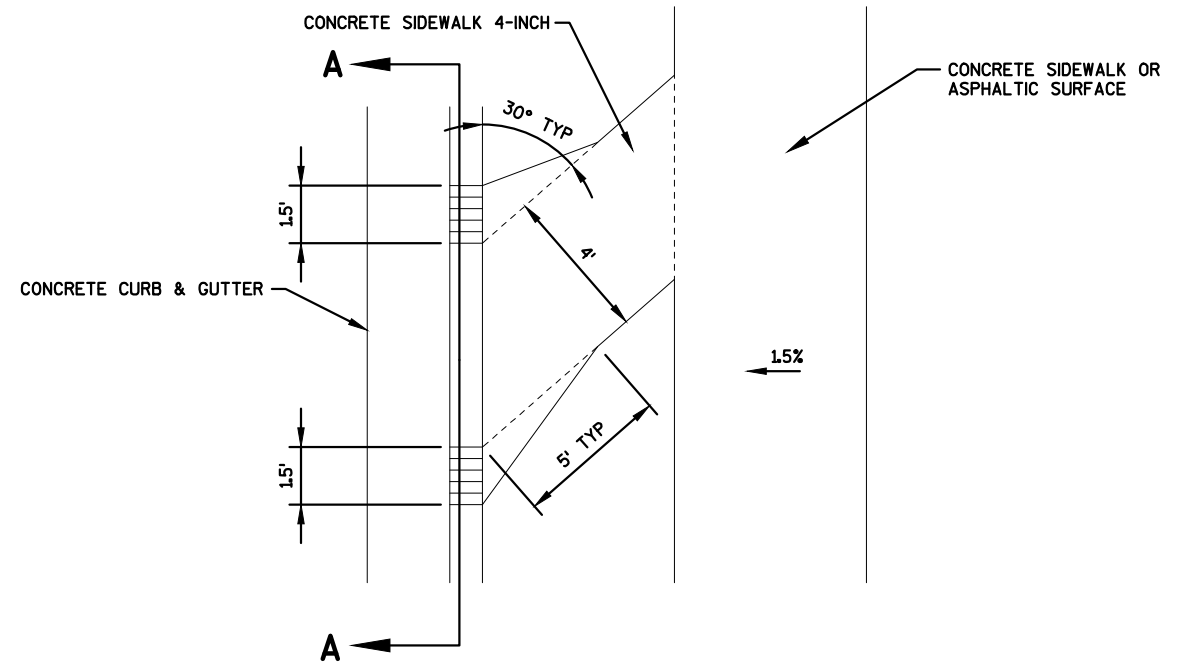
STA 88'RE'+21.49 - STA 98'RE'+14.40 (OLD CTH V SOUTH)



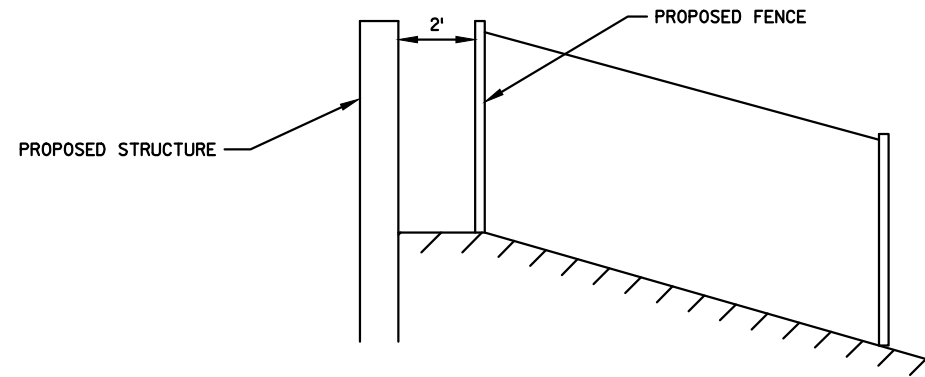
**TYPICAL FINISHED SECTION FOR ROUNDABOUTS**



TYPICAL FINISHED SECTION FOR PARK AND RIDE



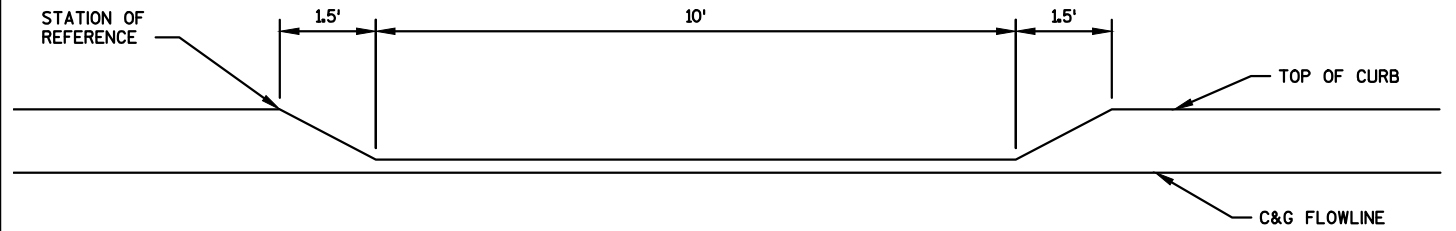
SECTION A-A  
BIKE RAMP DETAIL



PLACE FIRST FENCE POST 2' AWAY FROM THE STRUCTURE.

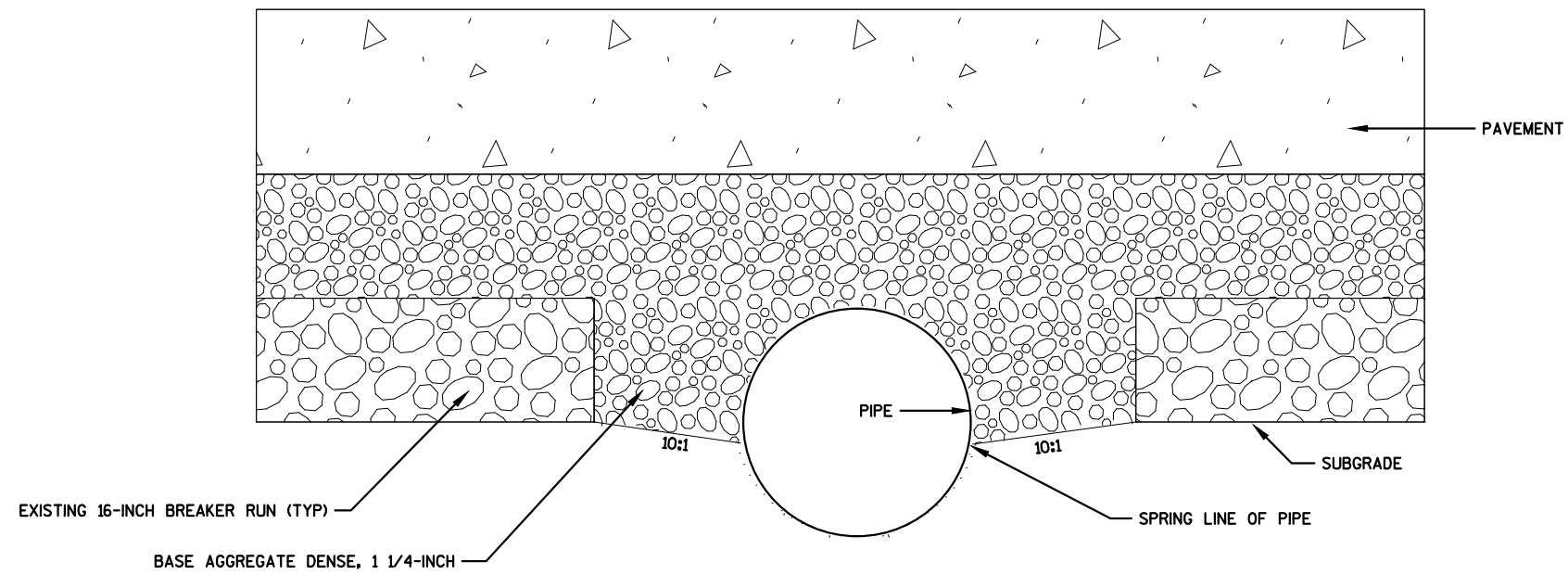
**FENCE AT STRUCTURE DETAIL**

STA 129'NB'+74 LEFT CTH V  
 STA 129'NB'+95 RIGHT CTH V  
 STA 132'NB'+56 LEFT CTH V  
 STA 132'NB'+76 RIGHT CTH V



**CURB CUT FOR MOWING DETAIL**

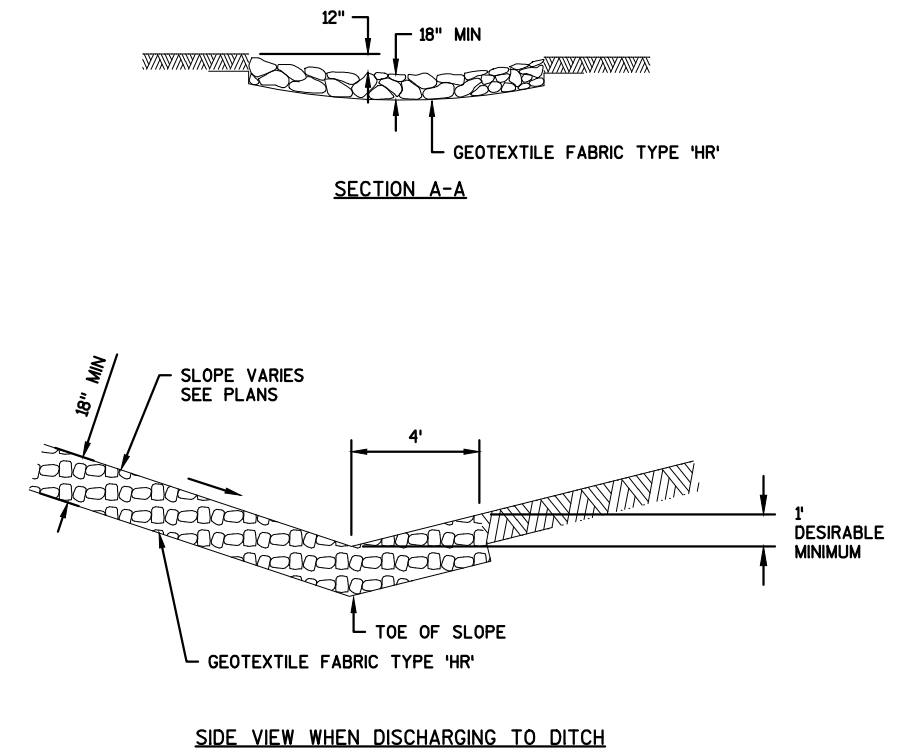
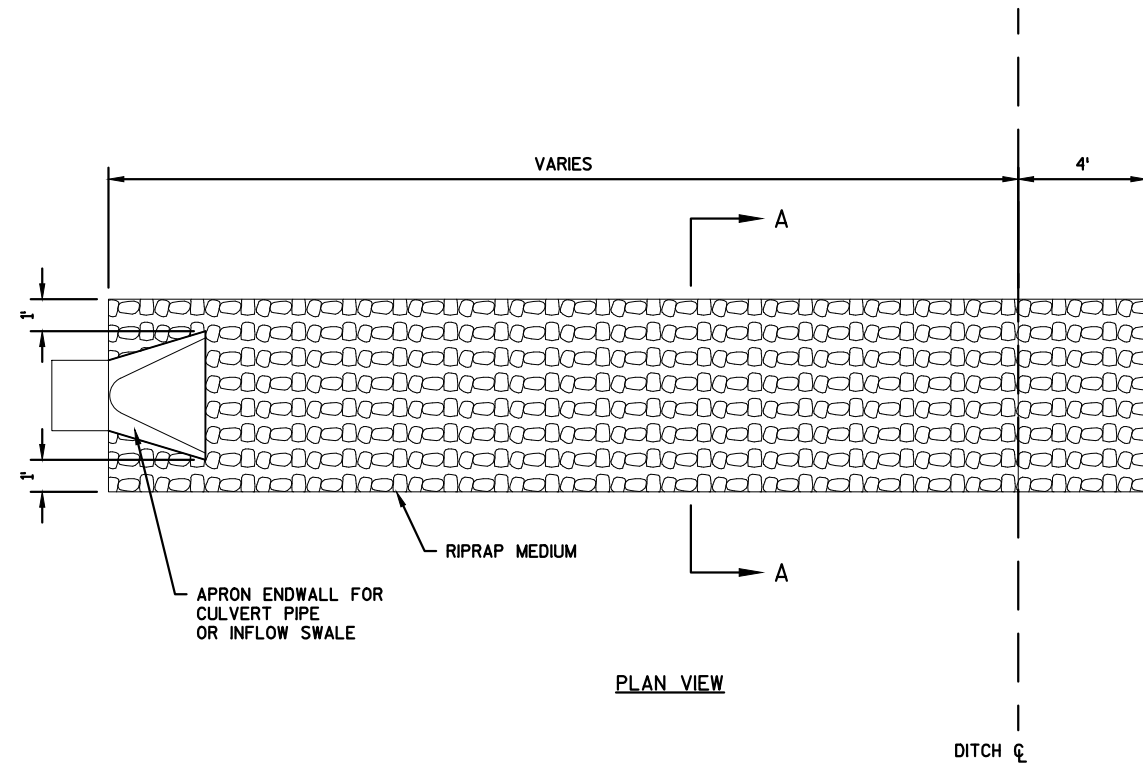
STA 109'NB'+22 CTH V  
 STA 109'EB'+65 FRONTAGE RD



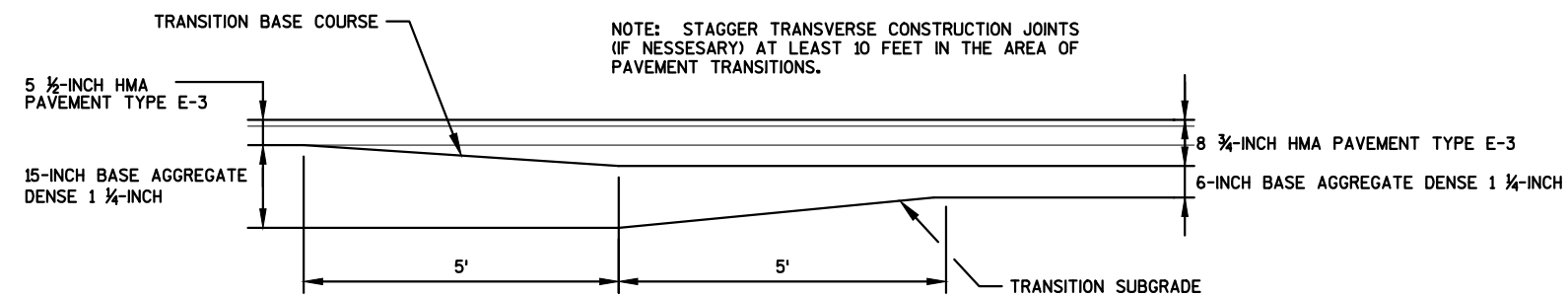
**SHALLOW PIPE CROSSING DETAIL**

STA 272'VDD'+05 SB ON RAMP

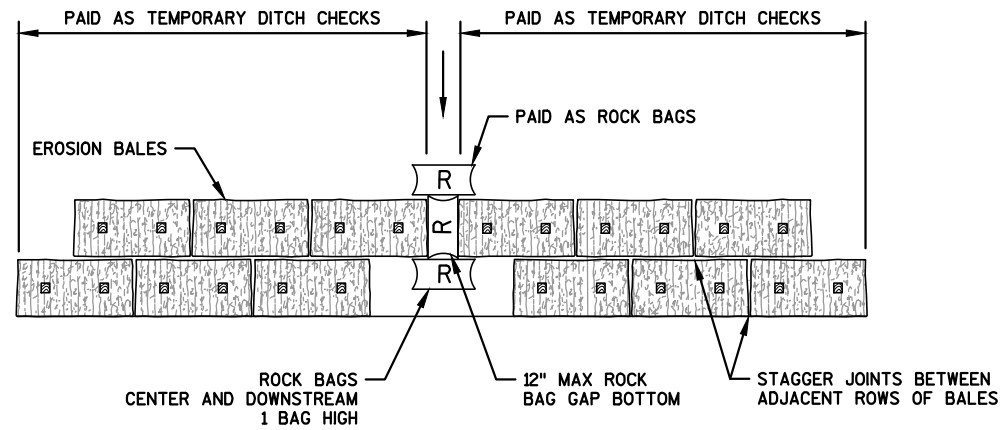




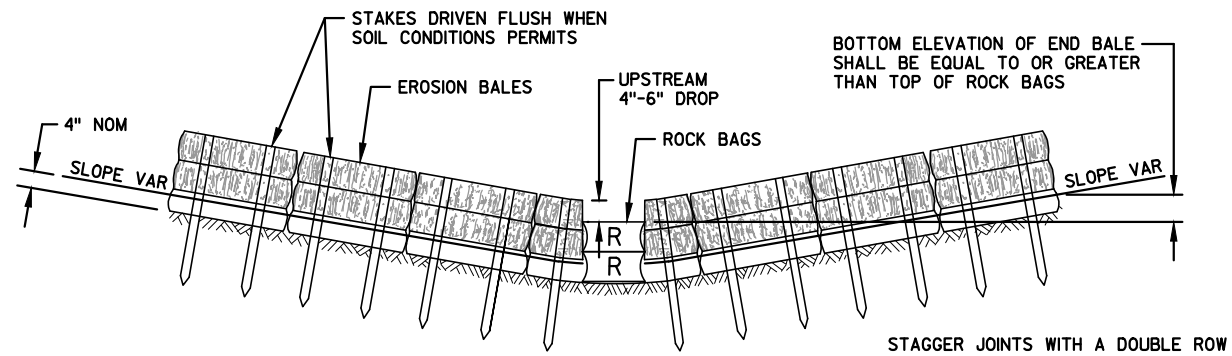
RIPRAP FLUME DETAIL



PAVEMENT TRANSITION DETAIL



PLAN VIEW

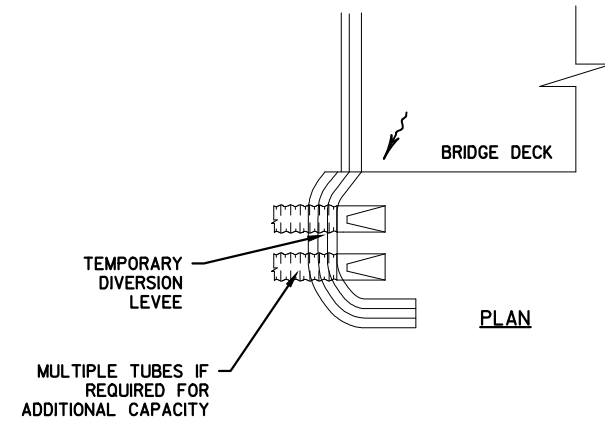


FRONT ELEVATION

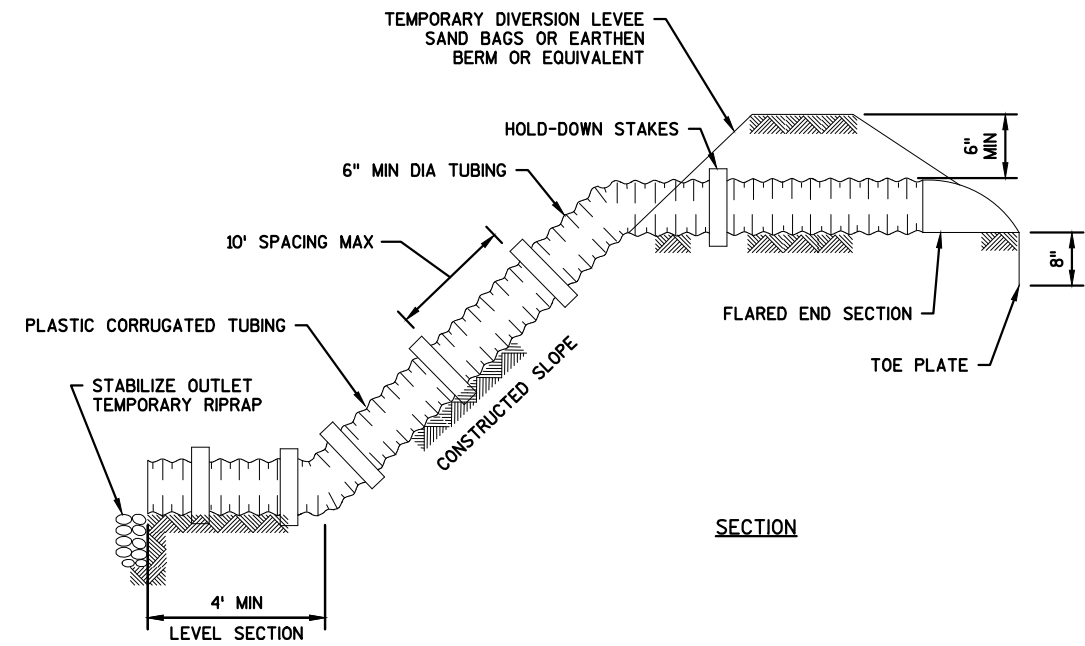
**GENERAL NOTES**

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

**TEMPORARY DITCH CHECKS WITH ROCK BAG RELIEF**



PLAN

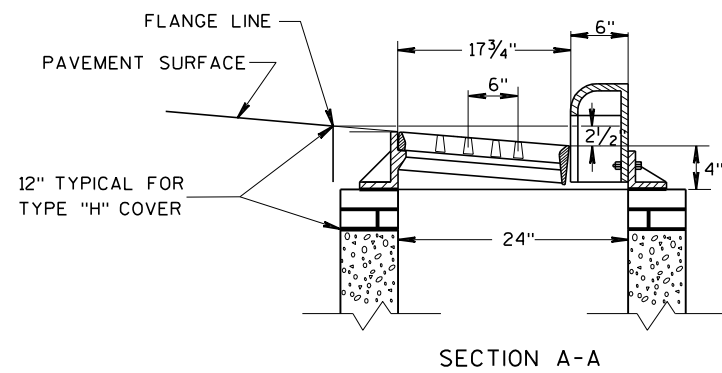
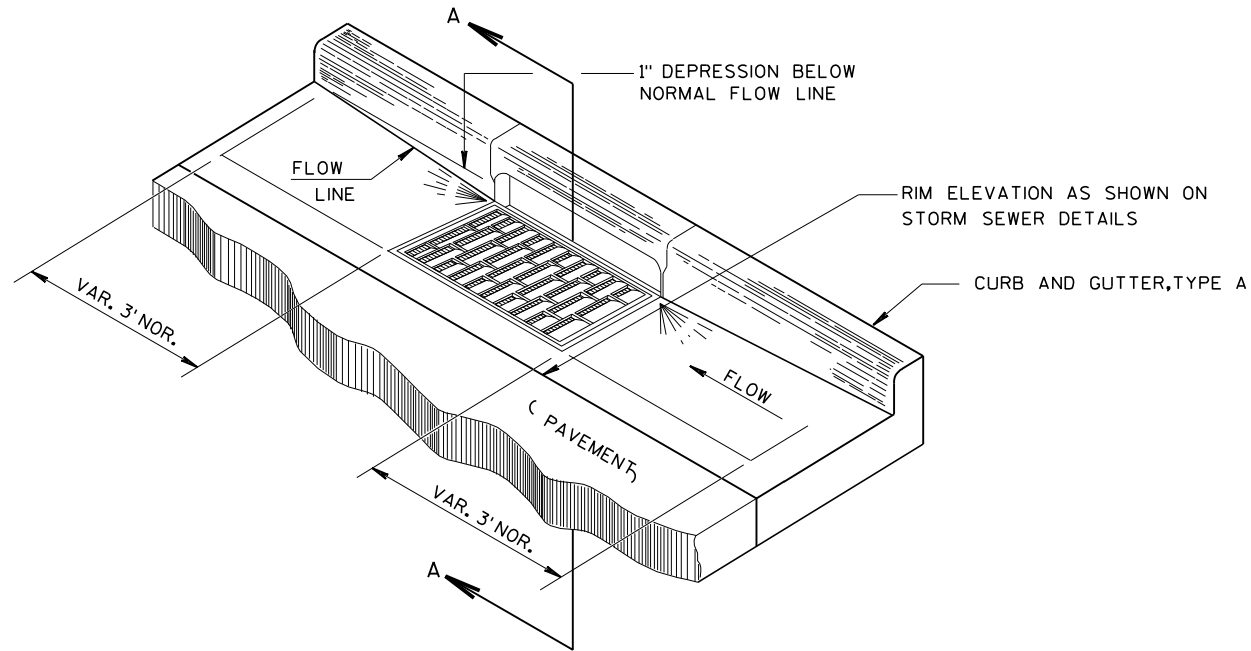
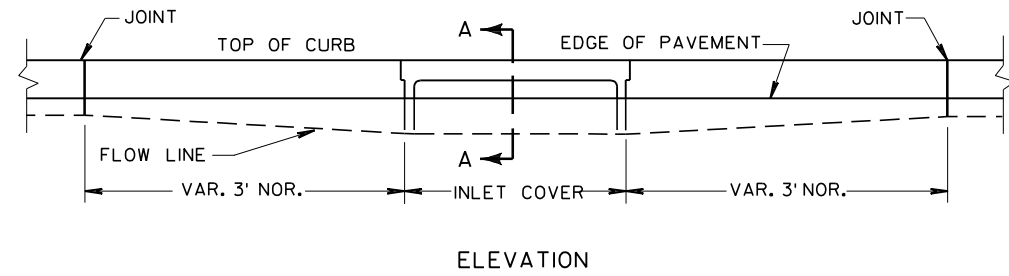


SECTION

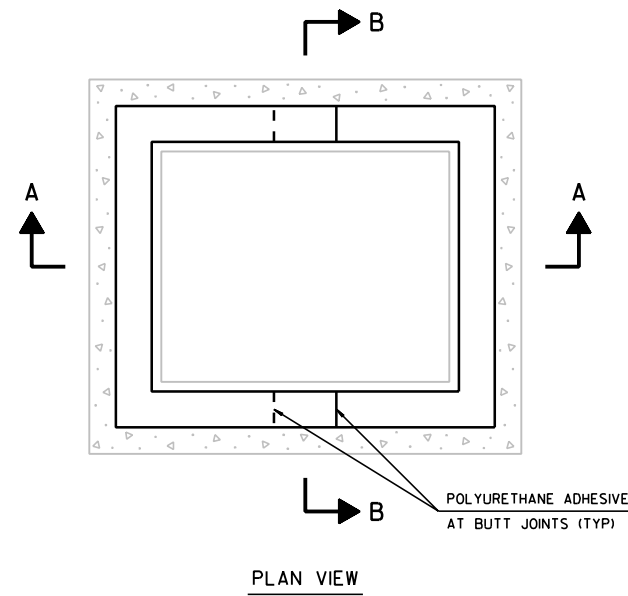
**NOTES:**

1. TEMPORARY LEVEE SHALL BE CONSTRUCTED FROM EARTHEN BERM, SAND BAGS, OR OTHER EQUIVALENT MATERIAL TO TEMPORARILY DIVERT WATER ALONG THE TOP OF SLOPE.
2. ADD MULTIPLE CONDUITS DOWN THE SLOPE AS REQUIRED FOR DISCHARGE CAPACITY.
3. CONDUIT MATERIAL SHALL BE HEAVY DUTY FLEXIBLE MATERIAL SUCH AS NON-PERFORATED CORRUGATED PLASTIC TUBING OR SPECIALLY DESIGNED FLEXIBLE TUBING.
4. THE FLARED END SECTION AT THE INLET SHALL BE WATER-TIGHT WITH HAND COMPACTED MATERIAL AROUND THE PIPE AND END SECTION.
5. THE SOIL MATERIAL AROUND THE PIPE SHALL BE HAND COMPACTED IN 6" LIFTS TO FILL ALL VOIDS IN THE TUBING CORRUGATIONS.
6. REMOVE TEMPORARY DRAINS AND TEMPORARY LEVEES AFTER SLOPE IS FULLY STABILIZED WITH VEGETATION AND EROSION CONTROL FEATURES.
7. TEMPORARY OUTLET STABILIZATION SUCH AS RIPRAP OR OTHER APPROVED METHOD IS INCIDENTAL TO THE TEMPORARY SLOPE DRAIN ITEM.

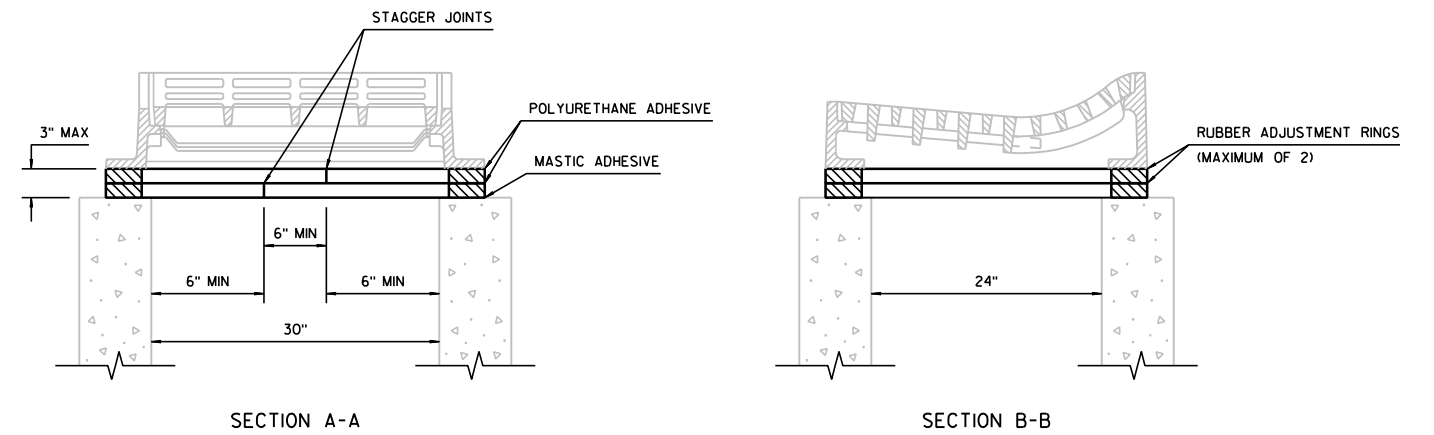
**TEMPORARY SLOPE DRAIN DETAIL**



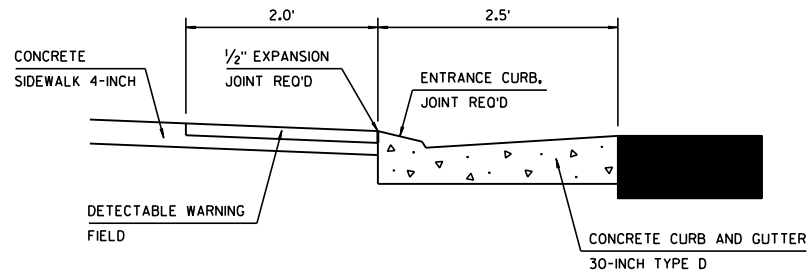
**DETAIL OF CURB AND GUTTER AT INLETS**  
(INLETS 2 X 3-FT WITH TYPE H COVER SHOWN)



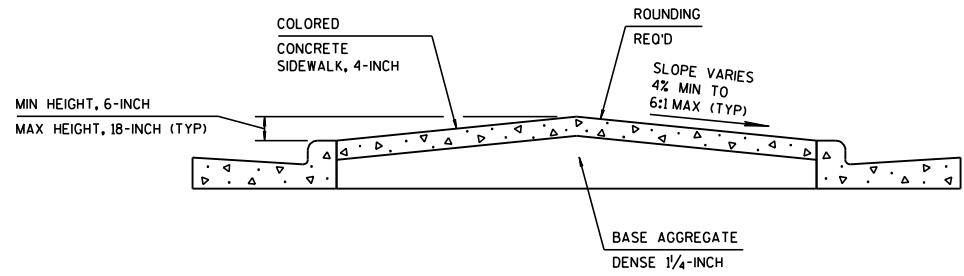
NOTE: ALL CUTS MADE TO RUBBER ADJUSTMENT RINGS WILL BE PERPENDICULAR AND PROVIDE A TIGHT JOINT.



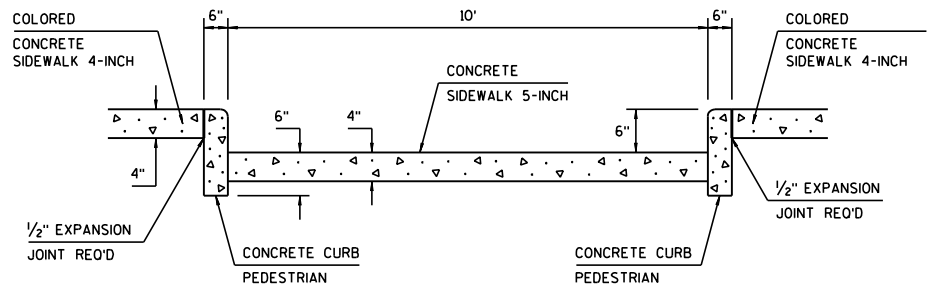
**RUBBER RING CUTTING DETAIL FOR INLETS 2X2.5-FT SPECIAL**



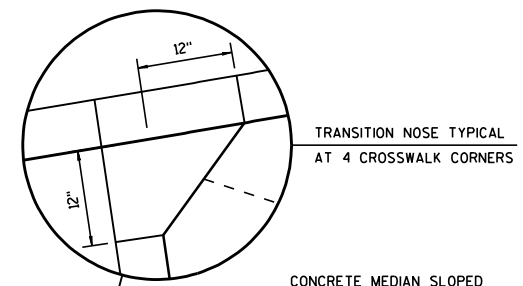
SECTION A-A



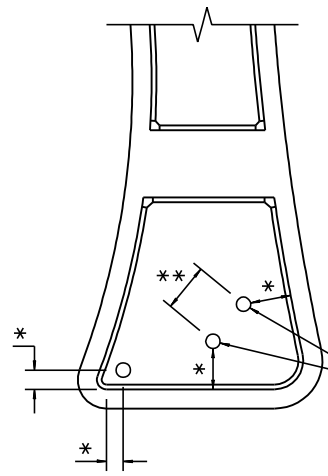
SECTION C-C



SECTION B-B



TRANSITION NOSE TYPICAL AT 4 CROSSWALK CORNERS



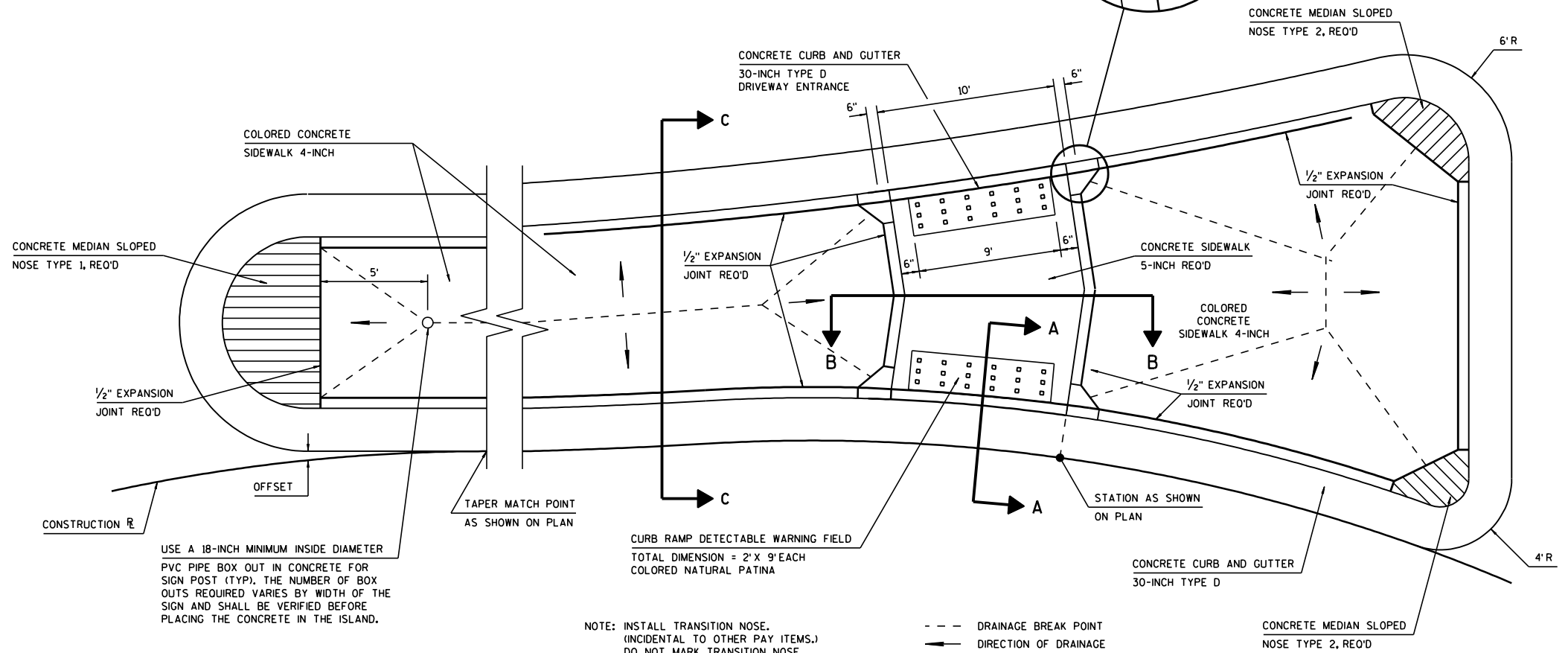
\* DISTANCE TO BE LAID OUT IN THE FIELD BASED ON SIGN SIZE. TWO FOOT MINIMUM CLEARANCE BETWEEN THE EDGE OF SIGN AND THE FACE OF CURB.

\*\* SEE A4-4 SIGN PLATE FOR POST SPACING REQUIREMENTS.

USE A 18-INCH MINIMUM INSIDE DIAMETER PVC PIPE BOX OUT IN CONCRETE FOR SIGN POST (TYP). THE NUMBER OF BOX OUTS REQUIRED VARIES BY WIDTH OF THE SIGN AND SHALL BE VERIFIED BEFORE PLACING THE CONCRETE IN THE ISLAND.

ISLAND SIGN LOCATION DETAIL (TYP)

NOTIFY THE REGIONAL TRAFFIC UNIT AT 920-492-5653 A MINIMUM OF TWO WEEKS PRIOR TO THE NEED FOR SIGN PLACEMENT TO ALLOW FOR STAKING OF ANY PERMANENT SIGNING REQUIRED ON THE PROJECT.

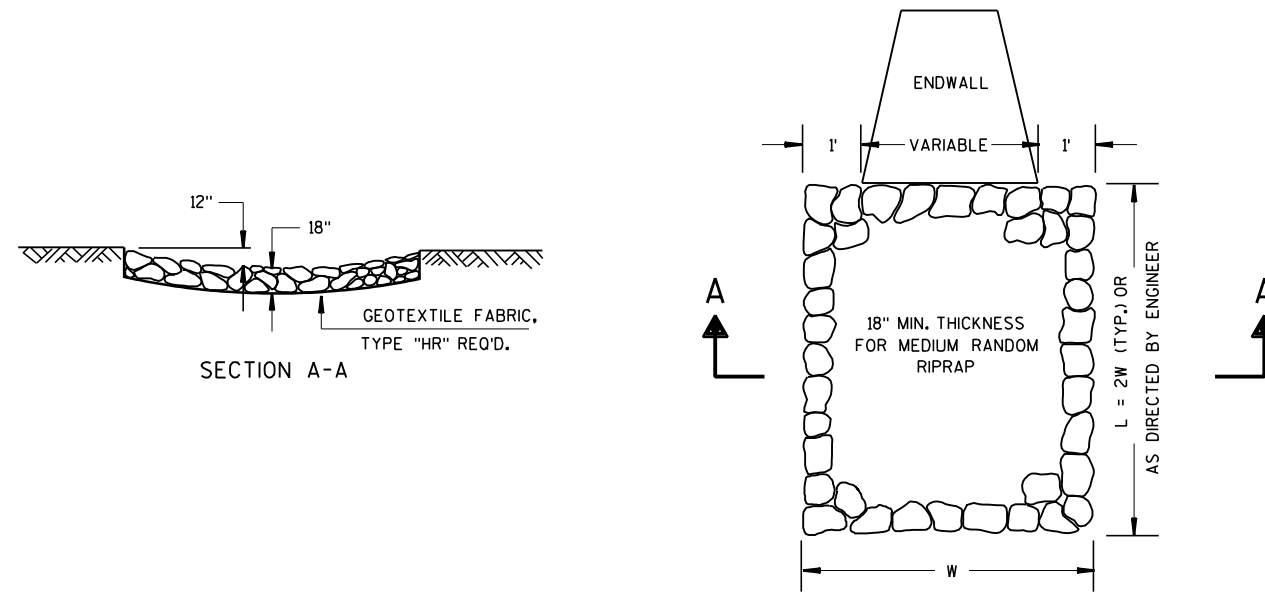


USE A 18-INCH MINIMUM INSIDE DIAMETER PVC PIPE BOX OUT IN CONCRETE FOR SIGN POST (TYP). THE NUMBER OF BOX OUTS REQUIRED VARIES BY WIDTH OF THE SIGN AND SHALL BE VERIFIED BEFORE PLACING THE CONCRETE IN THE ISLAND.

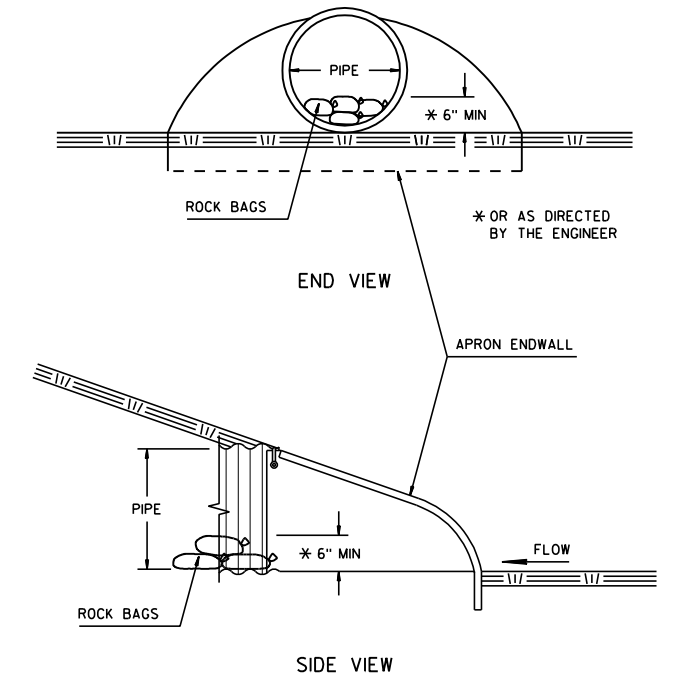
NOTE: INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

--- DRAINAGE BREAK POINT  
 -> DIRECTION OF DRAINAGE

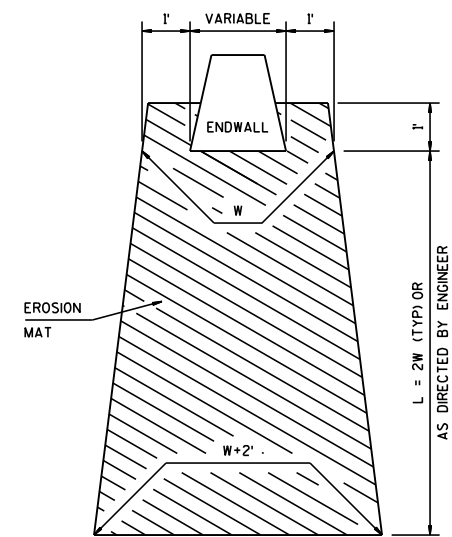
SPLITTER ISLAND DETAIL



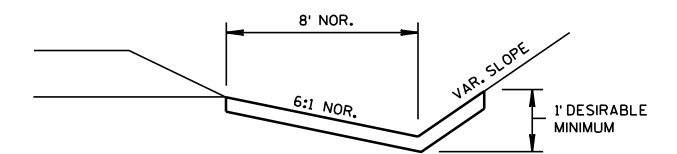
MEDIUM RANDOM RIPRAP TREATMENT AT CULVERTS



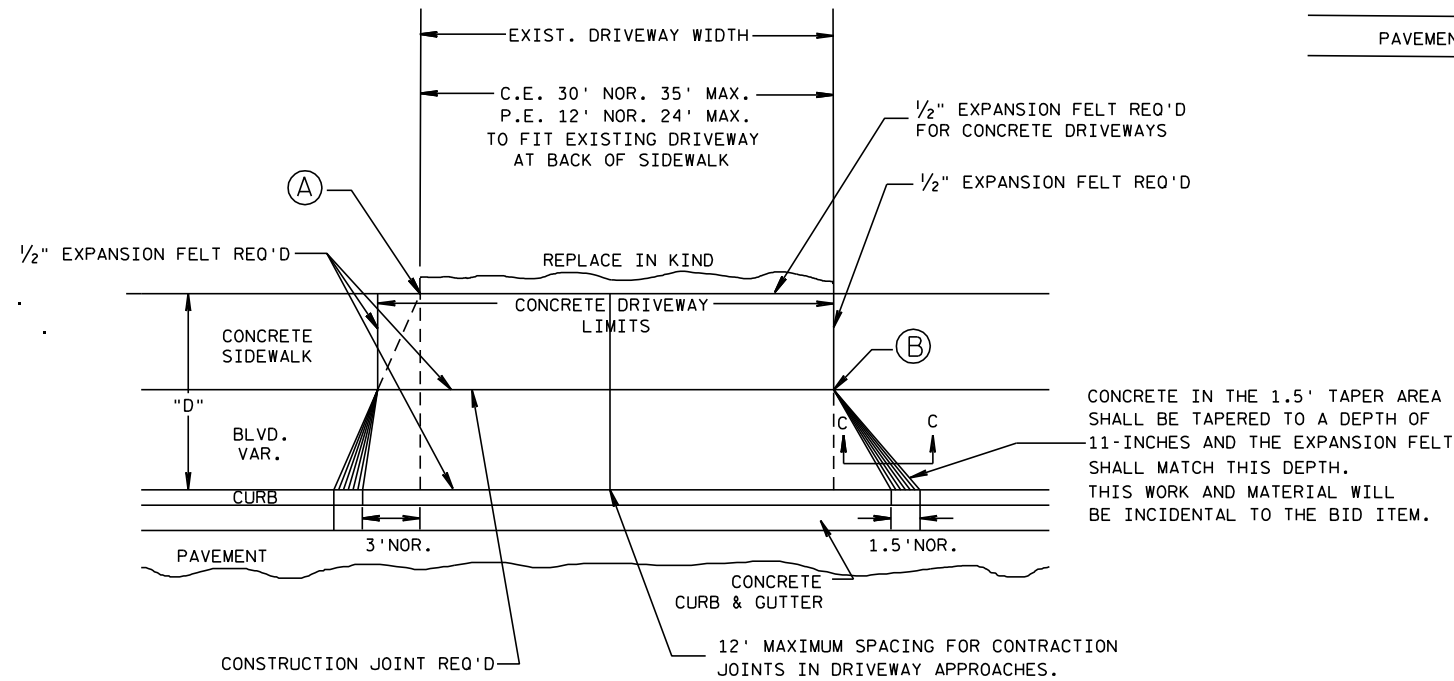
CULVERT PIPE CHECKS



EROSION MAT TREATMENT AT CULVERTS

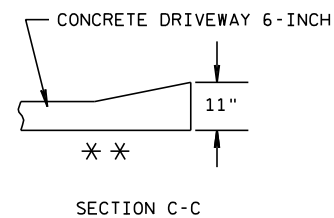


EROSION MAT DETAIL FOR DITCHES

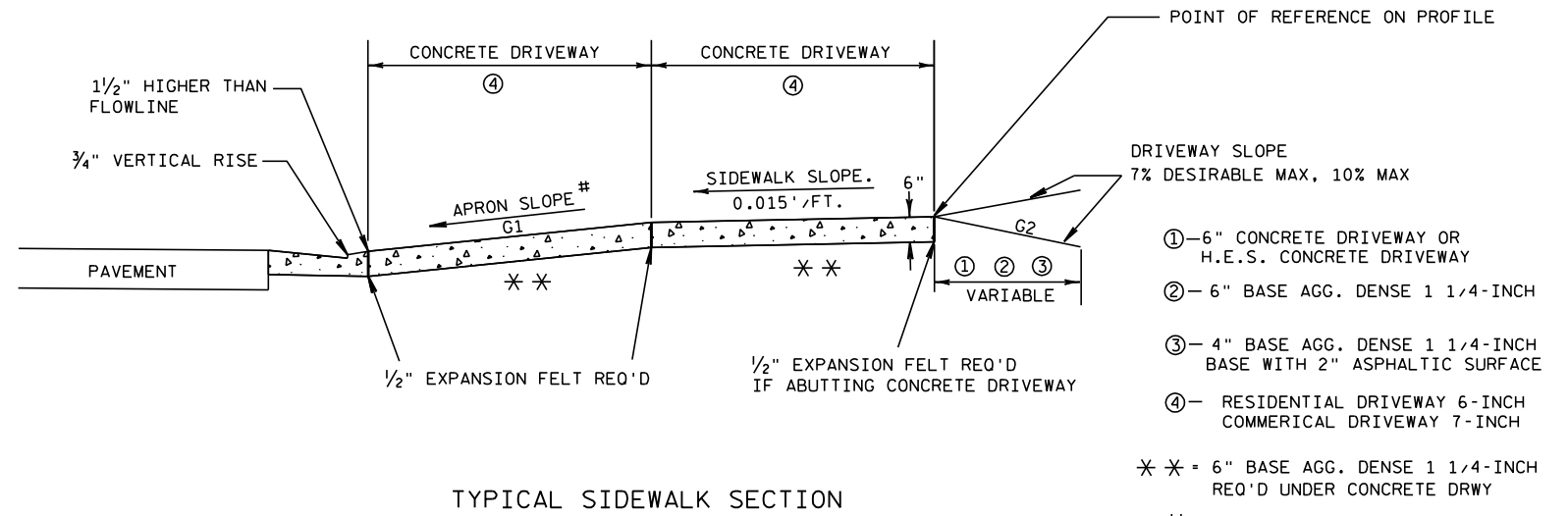


PLAN VIEW

- Ⓐ WHEN "D" IS 13' OR LESS, ALIGN TAPER WITH BACK OF SIDEWALK
- Ⓑ WHEN "D" IS GREATER THAN 13', ALIGN TAPER WITH FRONT OF SIDEWALK



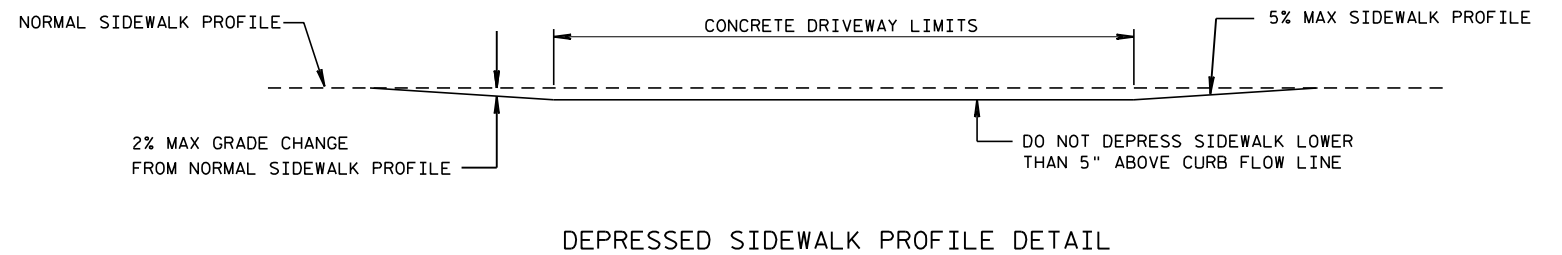
DRIVEWAY ENTRANCE DETAIL WITH SIDEWALK, CURB & GUTTER

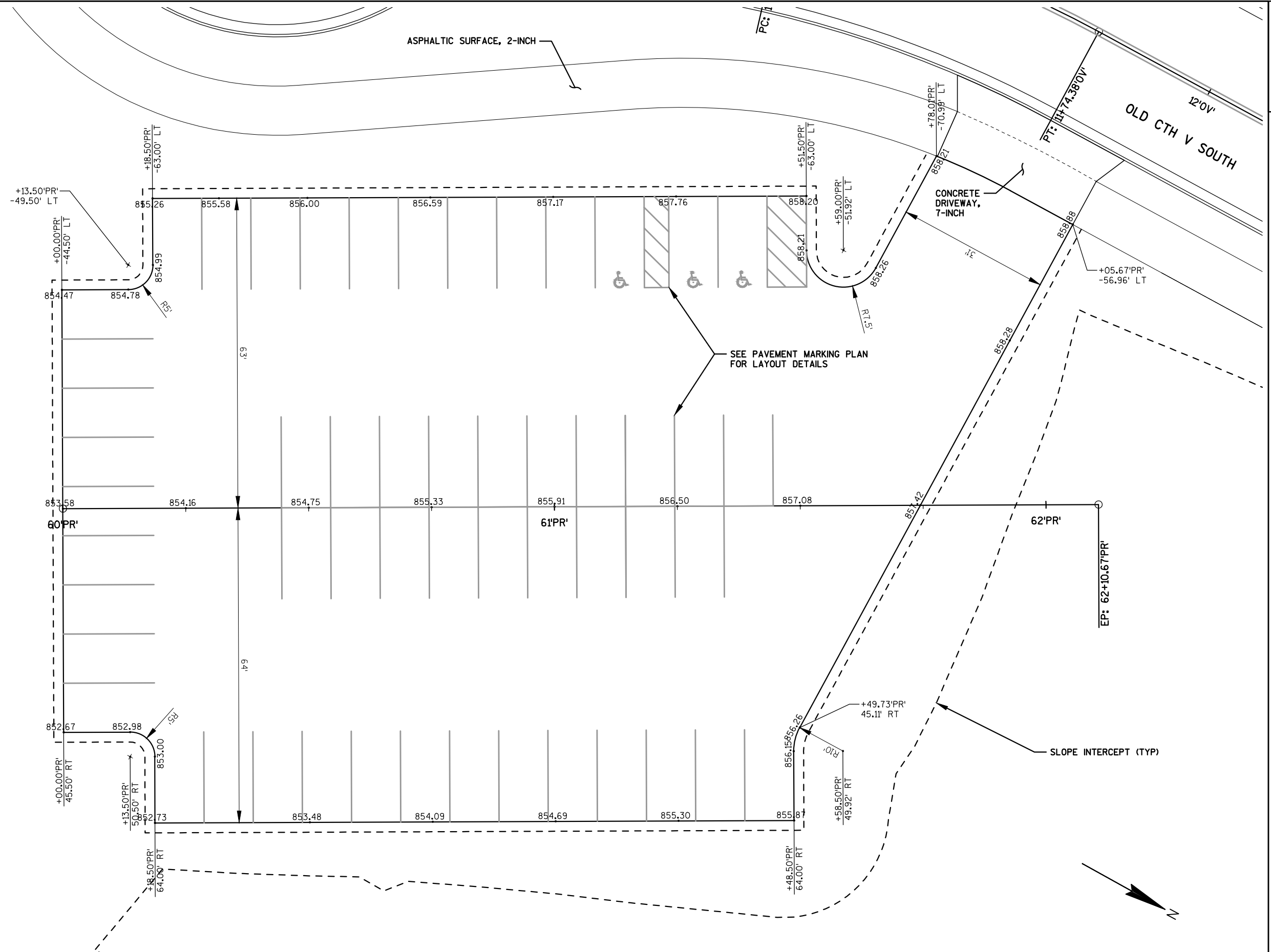


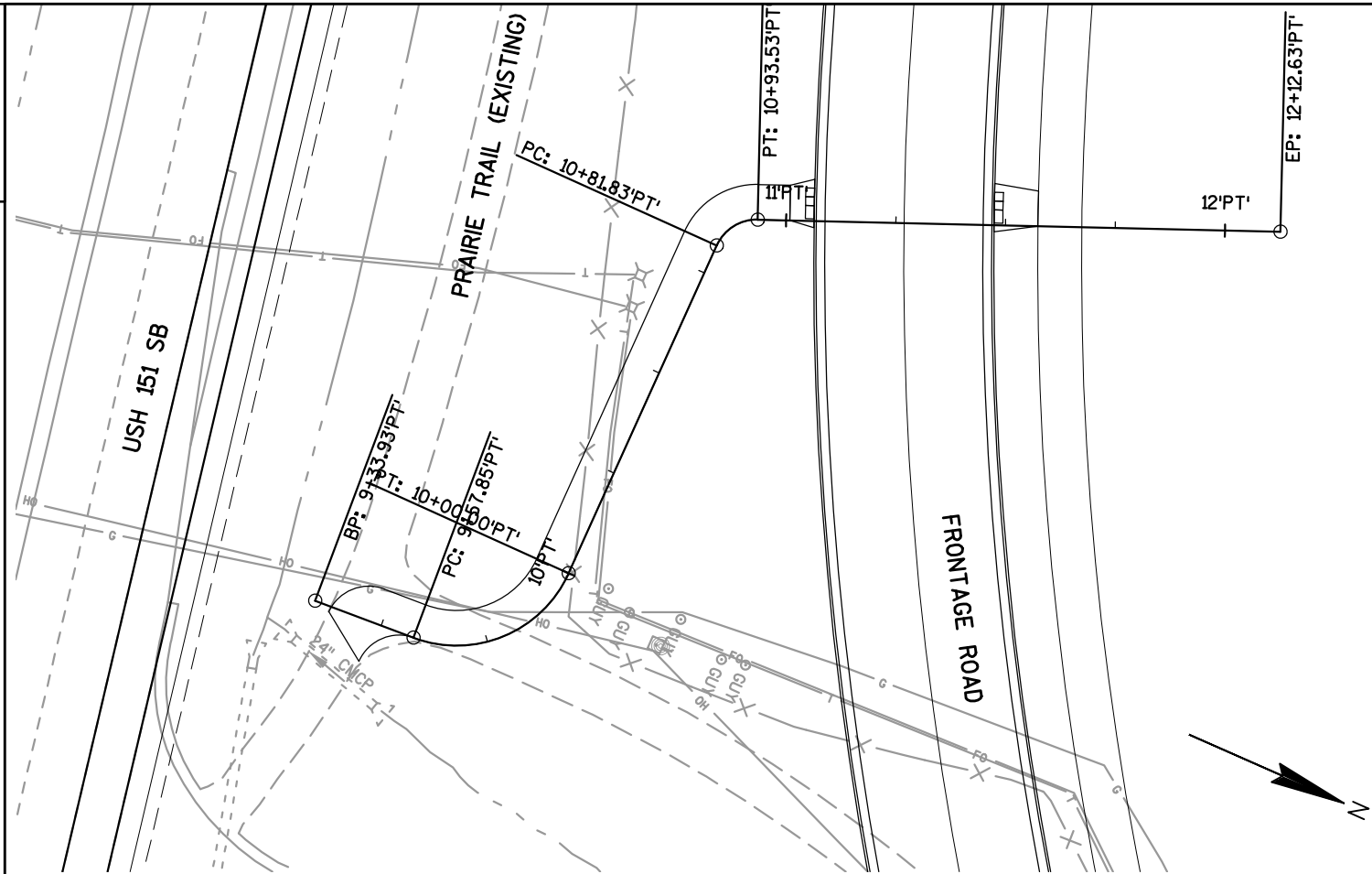
TERRACE WIDTH	APRON SLOPE (G1)		
	MIN %	DESIRABLE %	MAX %
3 FT	7.0	8.5	9.0
4 FT	5.0	7.0	9.0
5 FT	4.0	7.0	9.0
6 FT	4.0	7.0	9.0
7 FT	3.5	7.0	9.0
8 FT	3.0	7.0	9.0

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

DEPRESS SIDEWALK PROFILE IF DRIVEWAY APRON EXCEEDS MAX SLOPE

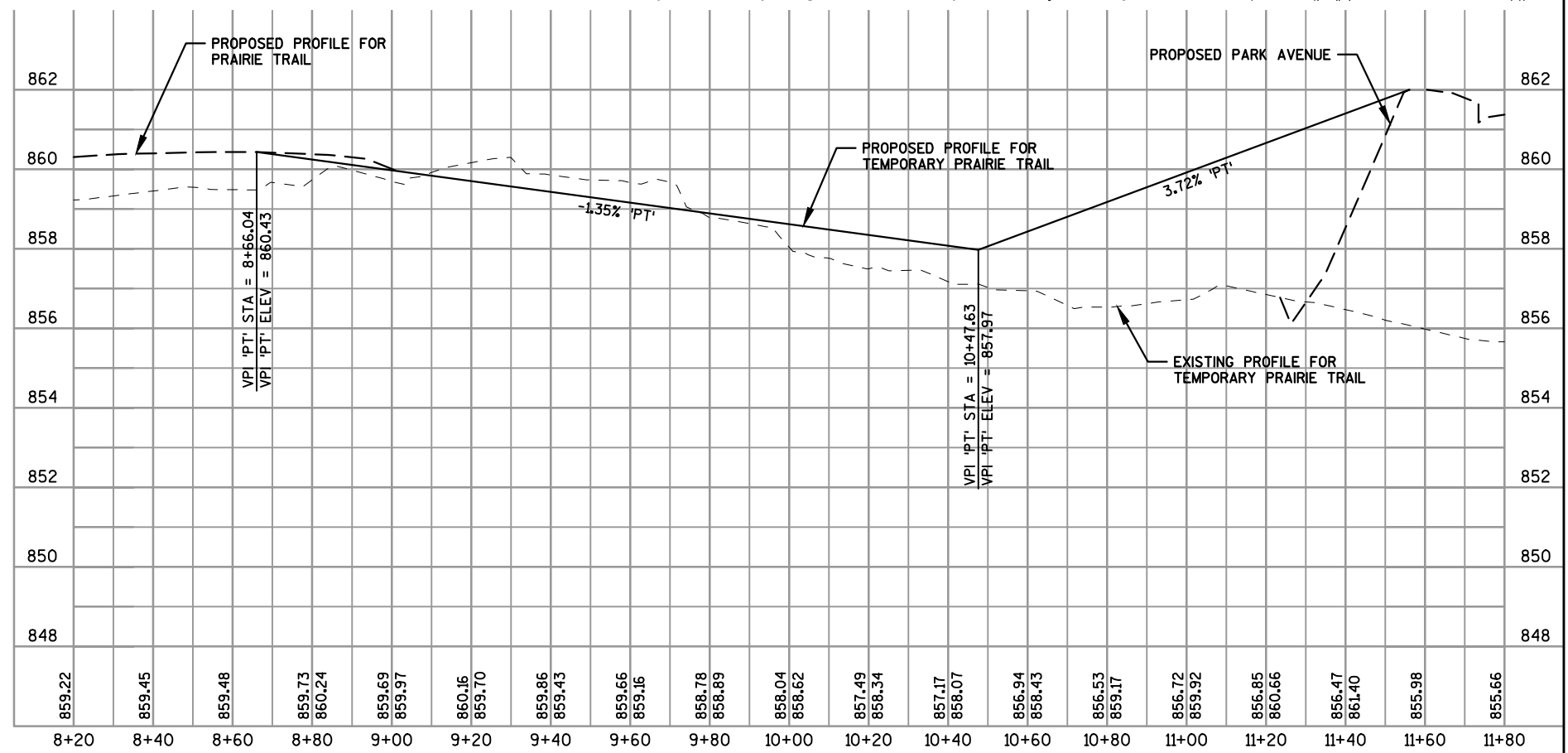
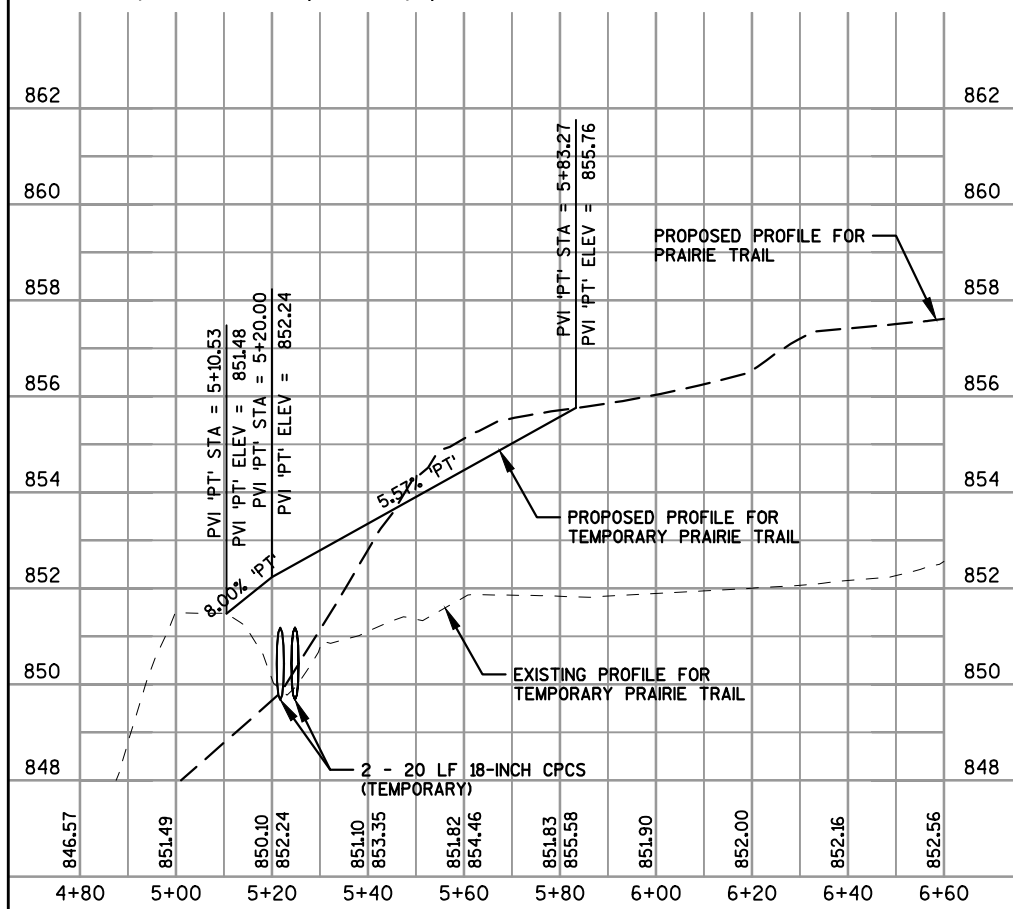
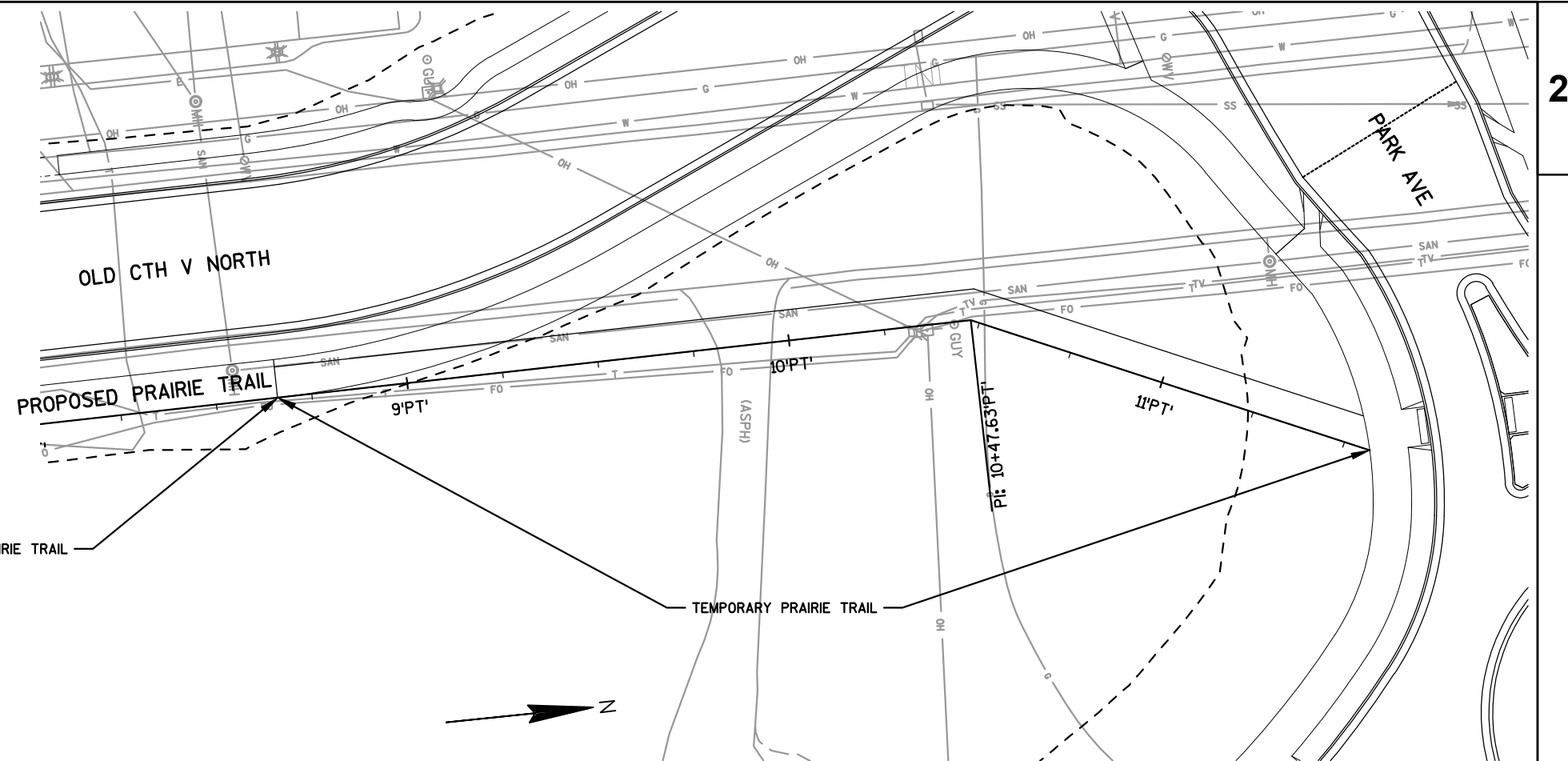
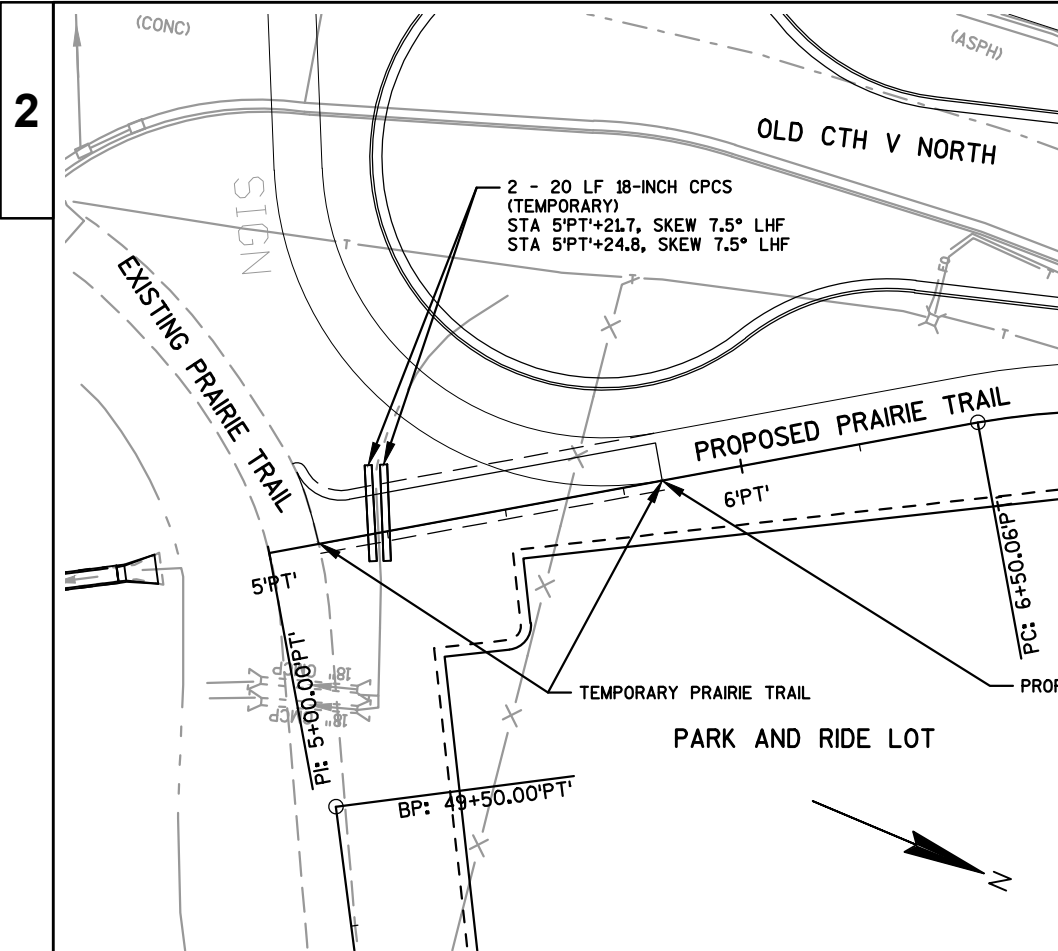




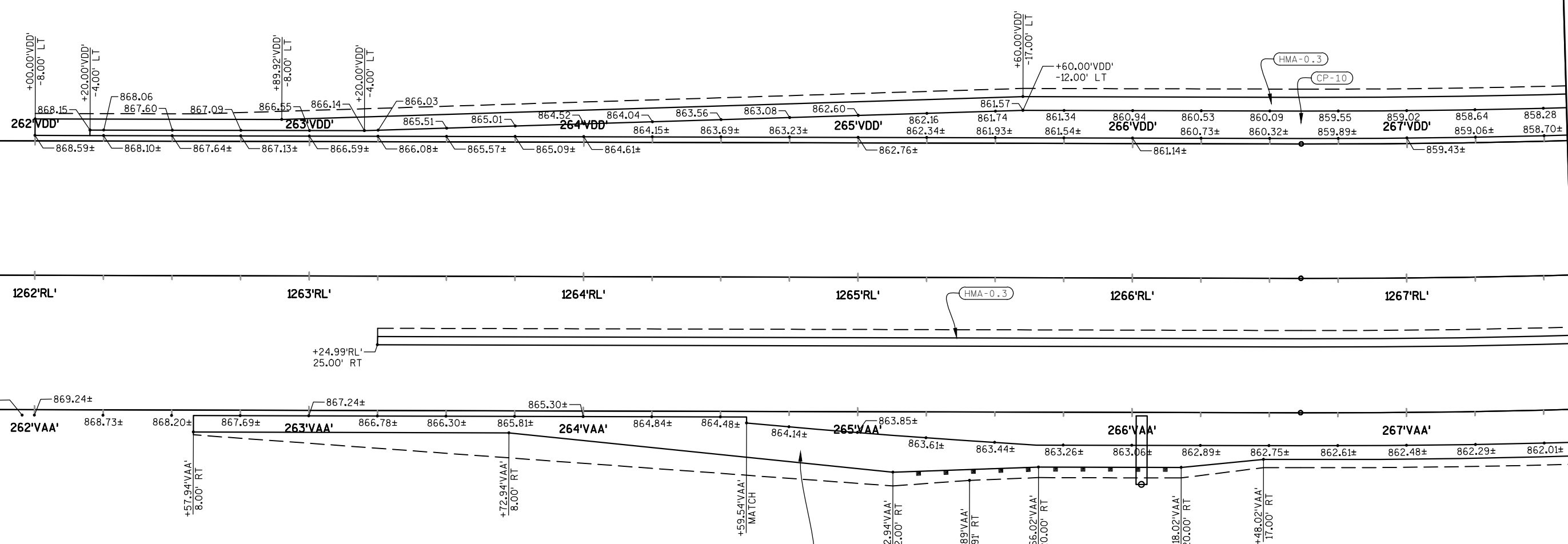


PROJECT NO: 1420-22-71	HWY: USH 151	COUNTY: FOND DU LAC	CONSTRUCTION DETAILS - TEMPORARY PRAIRIE TRAIL	SHEET	<b>E</b>
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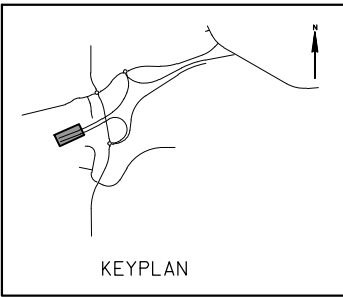




PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CONSTRUCTION DETAILS - TEMPORARY PRAIRIE TRAIL      SHEET      E



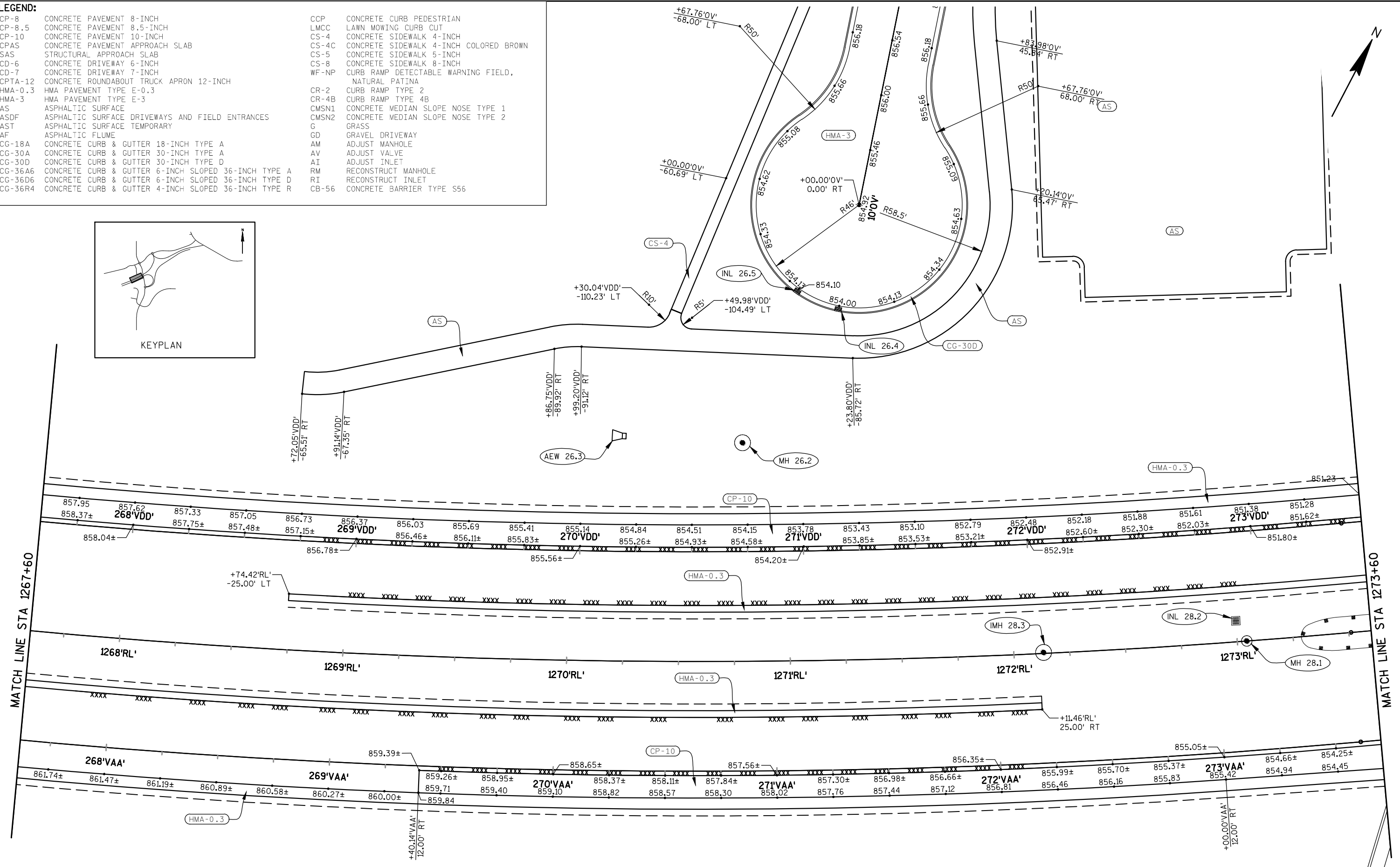
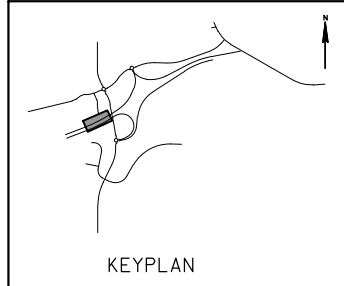
MATCH LINE STA 1267+60



**LEGEND:**

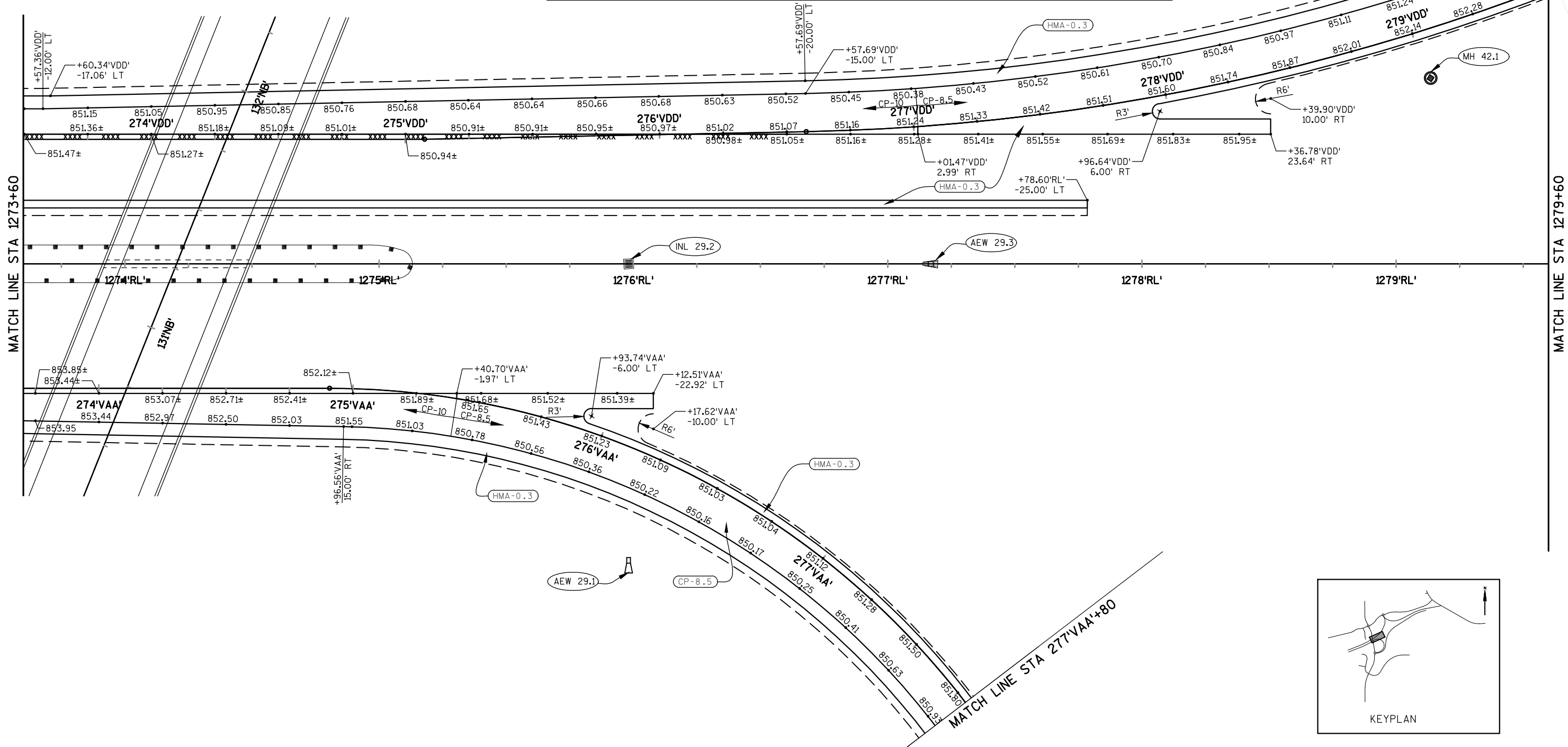
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CP-8.5	CONCRETE PAVEMENT 8.5-INCH	LMCC	LAWN MOWING CURB CUT
CP-10	CONCRETE PAVEMENT 10-INCH	CS-4	CONCRETE SIDEWALK 4-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB	CS-4C	CONCRETE SIDEWALK 4-INCH COLORED BROWN
SAS	STRUCTURAL APPROACH SLAB	CS-5	CONCRETE SIDEWALK 5-INCH
CD-6	CONCRETE DRIVEWAY 6-INCH	CS-8	CONCRETE SIDEWALK 8-INCH
CD-7	CONCRETE DRIVEWAY 7-INCH	WF-NP	CURB RAMP DETECTABLE WARNING FIELD, NATURAL PATINA
CPTA-12	CONCRETE ROUNDABOUT TRUCK APRON 12-INCH	CR-2	CURB RAMP TYPE 2
HMA-0.3	HMA PAVEMENT TYPE E-0.3	CR-4B	CURB RAMP TYPE 4B
HMA-3	HMA PAVEMENT TYPE E-3	CMSN1	CONCRETE MEDIAN SLOPE NOSE TYPE 1
AS	ASPHALTIC SURFACE	CMSN2	CONCRETE MEDIAN SLOPE NOSE TYPE 2
ASDF	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	G	GRASS
AST	ASPHALTIC SURFACE TEMPORARY	GD	GRAVEL DRIVEWAY
AF	ASPHALTIC FLUME	AM	ADJUST MANHOLE
CG-18A	CONCRETE CURB & GUTTER 18-INCH TYPE A	AV	ADJUST VALVE
CG-30A	CONCRETE CURB & GUTTER 30-INCH TYPE A	AI	ADJUST INLET
CG-30D	CONCRETE CURB & GUTTER 30-INCH TYPE D	RM	RECONSTRUCT MANHOLE
CG-36A6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A	RI	RECONSTRUCT INLET
CG-36D6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D	CB-56	CONCRETE BARRIER TYPE S56
CG-36R4	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R		

LEGEND:			
CP-8	CONCRETE PAVEMENT 8-INCH	CCP	CONCRETE CURB PEDESTRIAN
CP-8.5	CONCRETE PAVEMENT 8.5-INCH	LMCC	LAWN MOWING CURB CUT
CP-10	CONCRETE PAVEMENT 10-INCH	CS-4	CONCRETE SIDEWALK 4-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB	CS-4C	CONCRETE SIDEWALK 4-INCH COLORED BROWN
SAS	STRUCTURAL APPROACH SLAB	CS-5	CONCRETE SIDEWALK 5-INCH
CD-6	CONCRETE DRIVEWAY 6-INCH	CS-8	CONCRETE SIDEWALK 8-INCH
CD-7	CONCRETE DRIVEWAY 7-INCH	WF-NP	CURB RAMP DETECTABLE WARNING FIELD, NATURAL PATINA
CPTA-12	CONCRETE ROUNDABOUT TRUCK APRON 12-INCH	CR-2	CURB RAMP TYPE 2
HMA-0.3	HMA PAVEMENT TYPE E-0.3	CR-4B	CURB RAMP TYPE 4B
HMA-3	HMA PAVEMENT TYPE E-3	CMSN1	CONCRETE MEDIAN SLOPE NOSE TYPE 1
AS	ASPHALTIC SURFACE	CMSN2	CONCRETE MEDIAN SLOPE NOSE TYPE 2
ASDF	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	G	GRASS
AST	ASPHALTIC SURFACE TEMPORARY	GD	GRAVEL DRIVEWAY
AF	ASPHALTIC FLUME	AM	ADJUST MANHOLE
CG-18A	CONCRETE CURB & GUTTER 18-INCH TYPE A	AV	ADJUST VALVE
CG-30A	CONCRETE CURB & GUTTER 30-INCH TYPE A	AI	ADJUST INLET
CG-30D	CONCRETE CURB & GUTTER 30-INCH TYPE D	RM	RECONSTRUCT MANHOLE
CG-36A6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A	RI	RECONSTRUCT INLET
CG-36D6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D	CB-56	CONCRETE BARRIER TYPE S56
CG-36R4	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R		



LEGEND:

CP-8	CONCRETE PAVEMENT 8-INCH	CCP	CONCRETE CURB PEDESTRIAN
CP-8.5	CONCRETE PAVEMENT 8.5-INCH	LMCC	LAWN MOWING CURB CUT
CP-10	CONCRETE PAVEMENT 10-INCH	CS-4	CONCRETE SIDEWALK 4-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB	CS-4C	CONCRETE SIDEWALK 4-INCH COLORED BROWN
SAS	STRUCTURAL APPROACH SLAB	CS-5	CONCRETE SIDEWALK 5-INCH
CD-6	CONCRETE DRIVEWAY 6-INCH	CS-8	CONCRETE SIDEWALK 8-INCH
CD-7	CONCRETE DRIVEWAY 7-INCH	WF-NP	CURB RAMP DETECTABLE WARNING FIELD, NATURAL PATINA
CPTA-12	CONCRETE ROUNDABOUT TRUCK APRON 12-INCH	CR-2	CURB RAMP TYPE 2
HMA-0.3	HMA PAVEMENT TYPE E-0.3	CR-4B	CURB RAMP TYPE 4B
HMA-3	HMA PAVEMENT TYPE E-3	CMSN1	CONCRETE MEDIAN SLOPE NOSE TYPE 1
AS	ASPHALTIC SURFACE	CMSN2	CONCRETE MEDIAN SLOPE NOSE TYPE 2
ASDF	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	G	GRASS
AST	ASPHALTIC SURFACE TEMPORARY	GD	GRAVEL DRIVEWAY
AF	ASPHALTIC FLUME	AM	ADJUST MANHOLE
CG-18A	CONCRETE CURB & GUTTER 18-INCH TYPE A	AV	ADJUST VALVE
CG-30A	CONCRETE CURB & GUTTER 30-INCH TYPE A	AI	ADJUST INLET
CG-30D	CONCRETE CURB & GUTTER 30-INCH TYPE D	RM	RECONSTRUCT MANHOLE
CG-36A6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A	RI	RECONSTRUCT INLET
CG-36D6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D	CB-56	CONCRETE BARRIER TYPE S56
CG-36R4	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R		



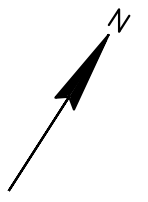
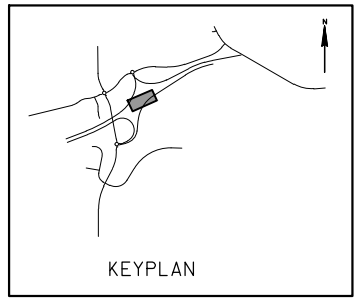
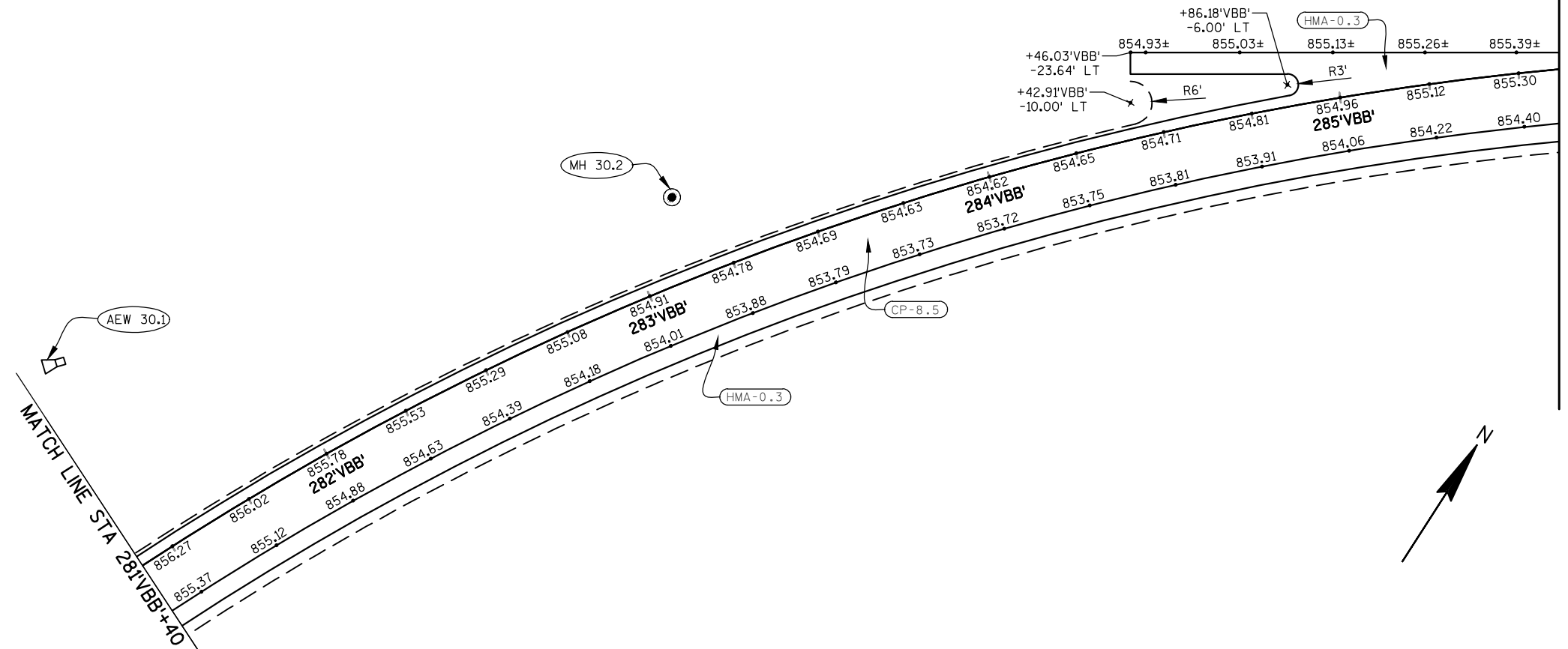
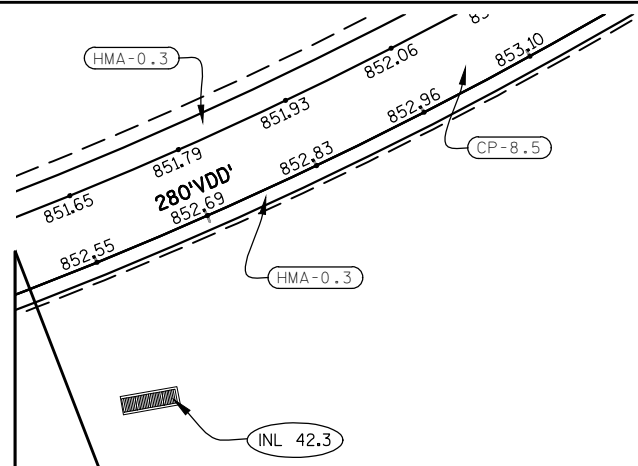
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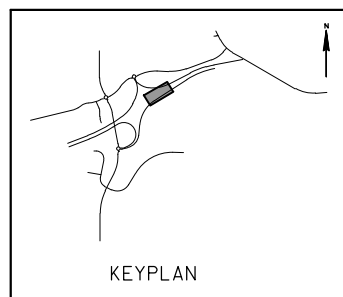
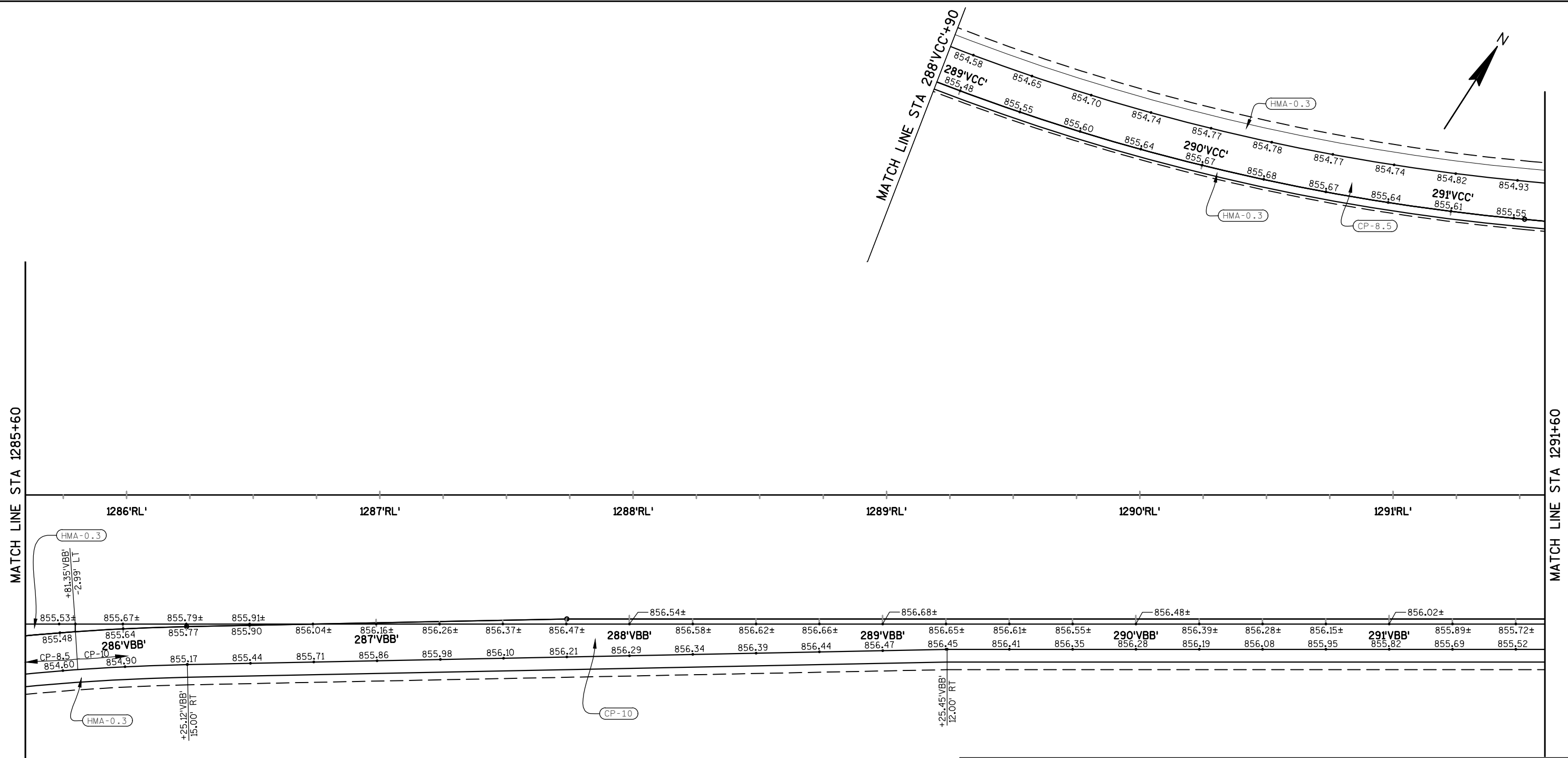
CP-8	CONCRETE PAVEMENT 8-INCH	CCP	CONCRETE CURB PEDESTRIAN
CP-8.5	CONCRETE PAVEMENT 8.5-INCH	LMCC	LAWN MOWING CURB CUT
CP-10	CONCRETE PAVEMENT 10-INCH	CS-4	CONCRETE SIDEWALK 4-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB	CS-4C	CONCRETE SIDEWALK 4-INCH COLORED BROWN
SAS	STRUCTURAL APPROACH SLAB	CS-5	CONCRETE SIDEWALK 5-INCH
CD-6	CONCRETE DRIVEWAY 6-INCH	CS-8	CONCRETE SIDEWALK 8-INCH
CD-7	CONCRETE DRIVEWAY 7-INCH	WF-NP	CURB RAMP DETECTABLE WARNING FIELD, NATURAL PATINA
CPTA-12	CONCRETE ROUNDABOUT TRUCK APRON 12-INCH	CR-2	CURB RAMP TYPE 2
HMA-0.3	HMA PAVEMENT TYPE E-0.3	CR-4B	CURB RAMP TYPE 4B
HMA-3	HMA PAVEMENT TYPE E-3	CMSN1	CONCRETE MEDIAN SLOPE NOSE TYPE 1
AS	ASPHALTIC SURFACE	CMSN2	CONCRETE MEDIAN SLOPE NOSE TYPE 2
ASDF	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	G	GRASS
AST	ASPHALTIC SURFACE TEMPORARY	GD	GRAVEL DRIVEWAY
AF	ASPHALTIC FLUME	AM	ADJUST MANHOLE
CG-18A	CONCRETE CURB & GUTTER 18-INCH TYPE A	AV	ADJUST VALVE
CG-30A	CONCRETE CURB & GUTTER 30-INCH TYPE A	AI	ADJUST INLET
CG-30D	CONCRETE CURB & GUTTER 30-INCH TYPE D	RM	RECONSTRUCT MANHOLE
CG-36A6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A	RI	RECONSTRUCT INLET
CG-36D6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D	CB-56	CONCRETE BARRIER TYPE S56
CG-36R4	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R		

MATCH LINE STA 1279+60

MATCH LINE STA 1285+60

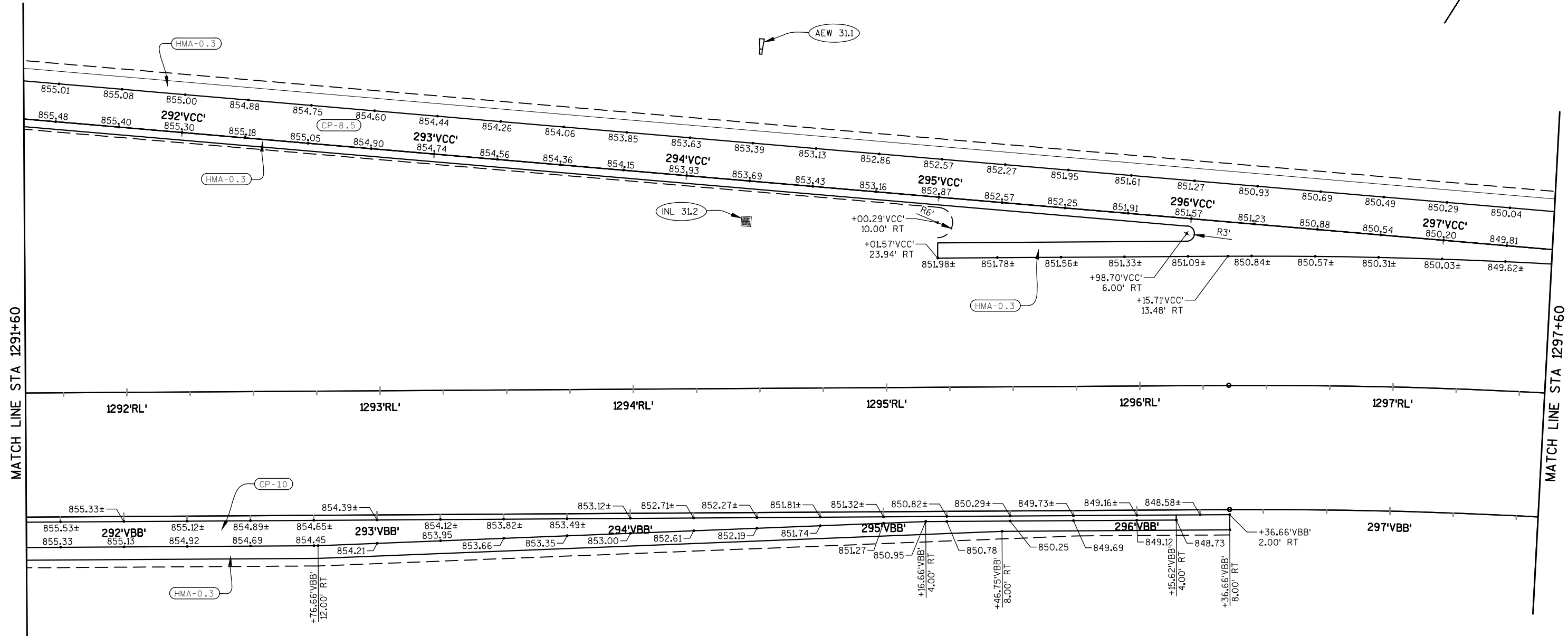
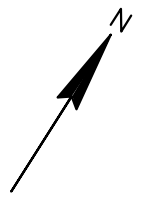
1280'RL' 1281'RL' 1282'RL' 1283'RL' 1284'RL' 1285'RL'





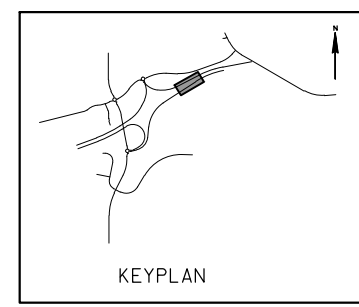
**LEGEND:**

CP-8	CONCRETE PAVEMENT 8-INCH	CCP	CONCRETE CURB PEDESTRIAN
CP-8.5	CONCRETE PAVEMENT 8.5-INCH	LMCC	LAWN MOWING CURB CUT
CP-10	CONCRETE PAVEMENT 10-INCH	CS-4	CONCRETE SIDEWALK 4-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB	CS-4C	CONCRETE SIDEWALK 4-INCH COLORED BROWN
SAS	STRUCTURAL APPROACH SLAB	CS-5	CONCRETE SIDEWALK 5-INCH
CD-6	CONCRETE DRIVEWAY 6-INCH	CS-8	CONCRETE SIDEWALK 8-INCH
CD-7	CONCRETE DRIVEWAY 7-INCH	WF-NP	CURB RAMP DETECTABLE WARNING FIELD, NATURAL PATINA
CPTA-12	CONCRETE ROUNDABOUT TRUCK APRON 12-INCH	CR-2	CURB RAMP TYPE 2
HMA-0.3	HMA PAVEMENT TYPE E-0.3	CR-4B	CURB RAMP TYPE 4B
HMA-3	HMA PAVEMENT TYPE E-3	CMSN1	CONCRETE MEDIAN SLOPE NOSE TYPE 1
AS	ASPHALTIC SURFACE	CMSN2	CONCRETE MEDIAN SLOPE NOSE TYPE 2
ASDF	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	G	GRASS
AST	ASPHALTIC SURFACE TEMPORARY	GD	GRAVEL DRIVEWAY
AF	ASPHALTIC FLUME	AM	ADJUST MANHOLE
CG-18A	CONCRETE CURB & GUTTER 18-INCH TYPE A	AV	ADJUST VALVE
CG-30A	CONCRETE CURB & GUTTER 30-INCH TYPE A	AI	ADJUST INLET
CG-30D	CONCRETE CURB & GUTTER 30-INCH TYPE D	RM	RECONSTRUCT MANHOLE
CG-36A6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A	RI	RECONSTRUCT INLET
CG-36D6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D	CB-56	CONCRETE BARRIER TYPE S56
CG-36R4	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R		



MATCH LINE STA 1291+60

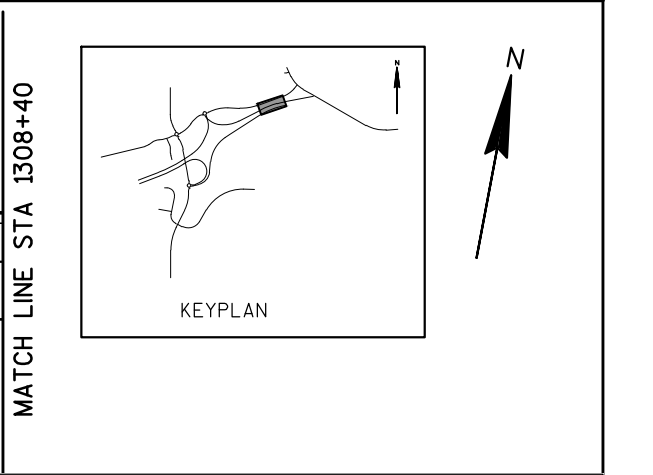
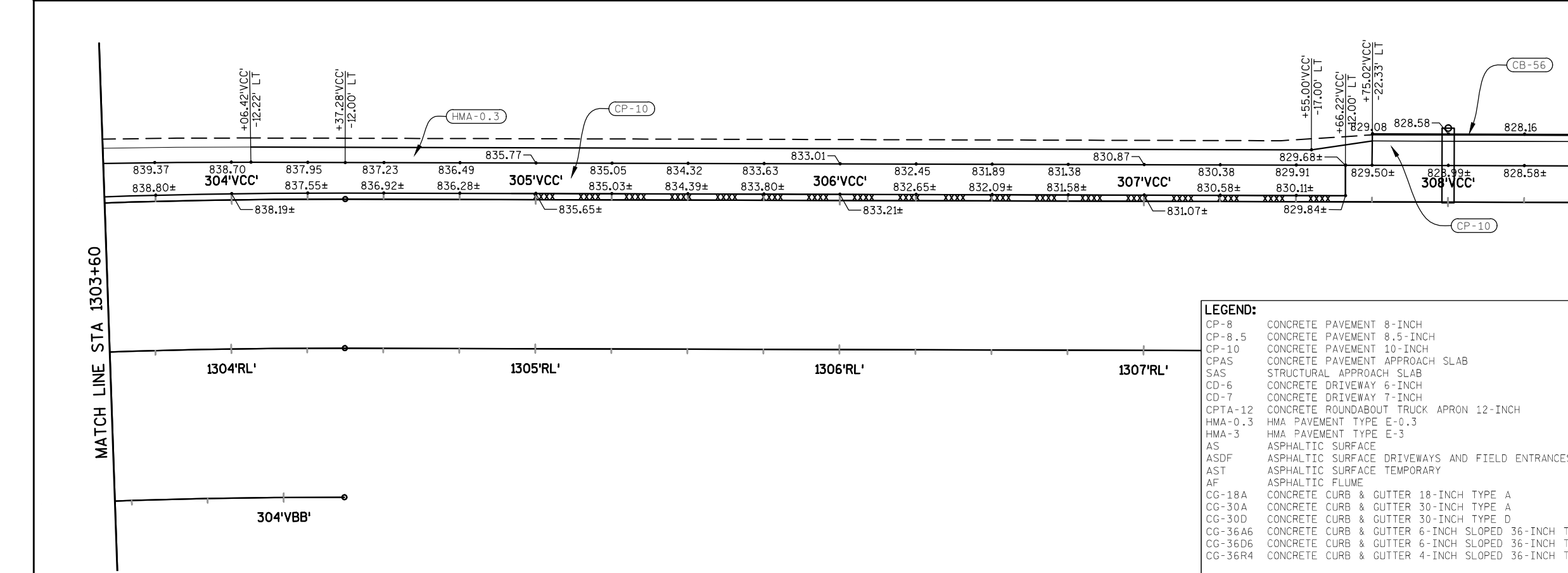
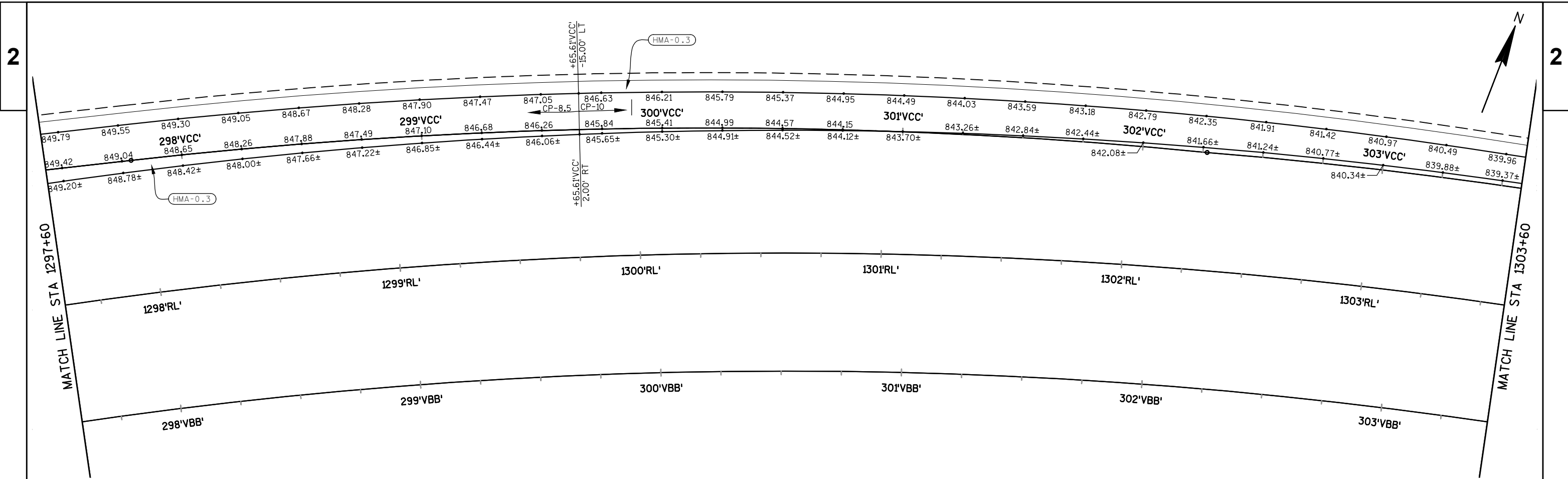
MATCH LINE STA 1297+60



KEYPLAN

**LEGEND:**

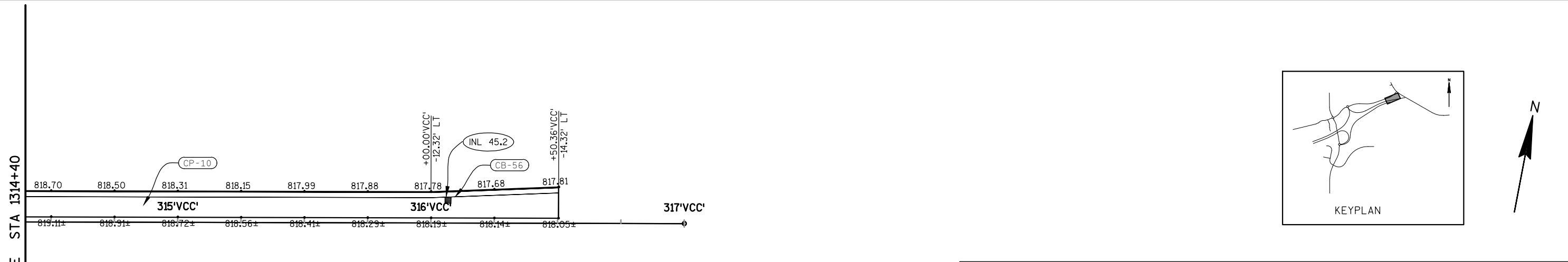
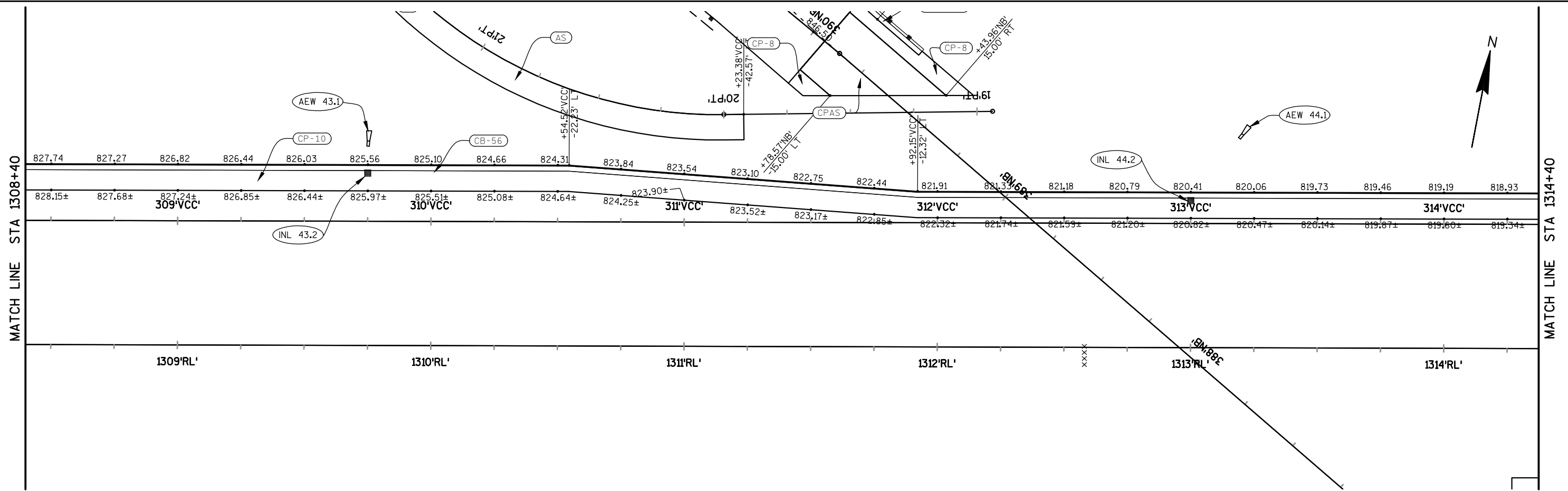
CP-8	CONCRETE PAVEMENT 8-INCH	CCP	CONCRETE CURB PEDESTRIAN
CP-8.5	CONCRETE PAVEMENT 8.5-INCH	LMCC	LAWN MOWING CURB CUT
CP-10	CONCRETE PAVEMENT 10-INCH	CS-4	CONCRETE SIDEWALK 4-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB	CS-4C	CONCRETE SIDEWALK 4-INCH COLORED BROWN
SAS	STRUCTURAL APPROACH SLAB	CS-5	CONCRETE SIDEWALK 5-INCH
CD-6	CONCRETE DRIVEWAY 6-INCH	CS-8	CONCRETE SIDEWALK 8-INCH
CD-7	CONCRETE DRIVEWAY 7-INCH	WF-NP	CURB RAMP DETECTABLE WARNING FIELD, NATURAL PATINA
CPTA-12	CONCRETE ROUNDABOUT TRUCK APRON 12-INCH	CR-2	CURB RAMP TYPE 2
HMA-0.3	HMA PAVEMENT TYPE E-0.3	CR-4B	CURB RAMP TYPE 4B
HMA-3	HMA PAVEMENT TYPE E-3	CMSN1	CONCRETE MEDIAN SLOPE NOSE TYPE 1
AS	ASPHALTIC SURFACE	CMSN2	CONCRETE MEDIAN SLOPE NOSE TYPE 2
ASDF	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	G	GRASS
AST	ASPHALTIC SURFACE TEMPORARY	GD	GRAVEL DRIVEWAY
AF	ASPHALTIC FLUME	AM	ADJUST MANHOLE
CG-18A	CONCRETE CURB & GUTTER 18-INCH TYPE A	AV	ADJUST VALVE
CG-30A	CONCRETE CURB & GUTTER 30-INCH TYPE A	AI	ADJUST INLET
CG-30D	CONCRETE CURB & GUTTER 30-INCH TYPE D	RM	RECONSTRUCT MANHOLE
CG-36A6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A	RI	RECONSTRUCT INLET
CG-36D6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D	CB-56	CONCRETE BARRIER TYPE S56
CG-36R4	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R		



**LEGEND:**

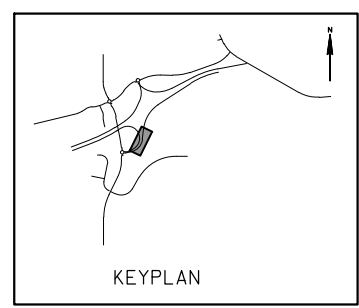
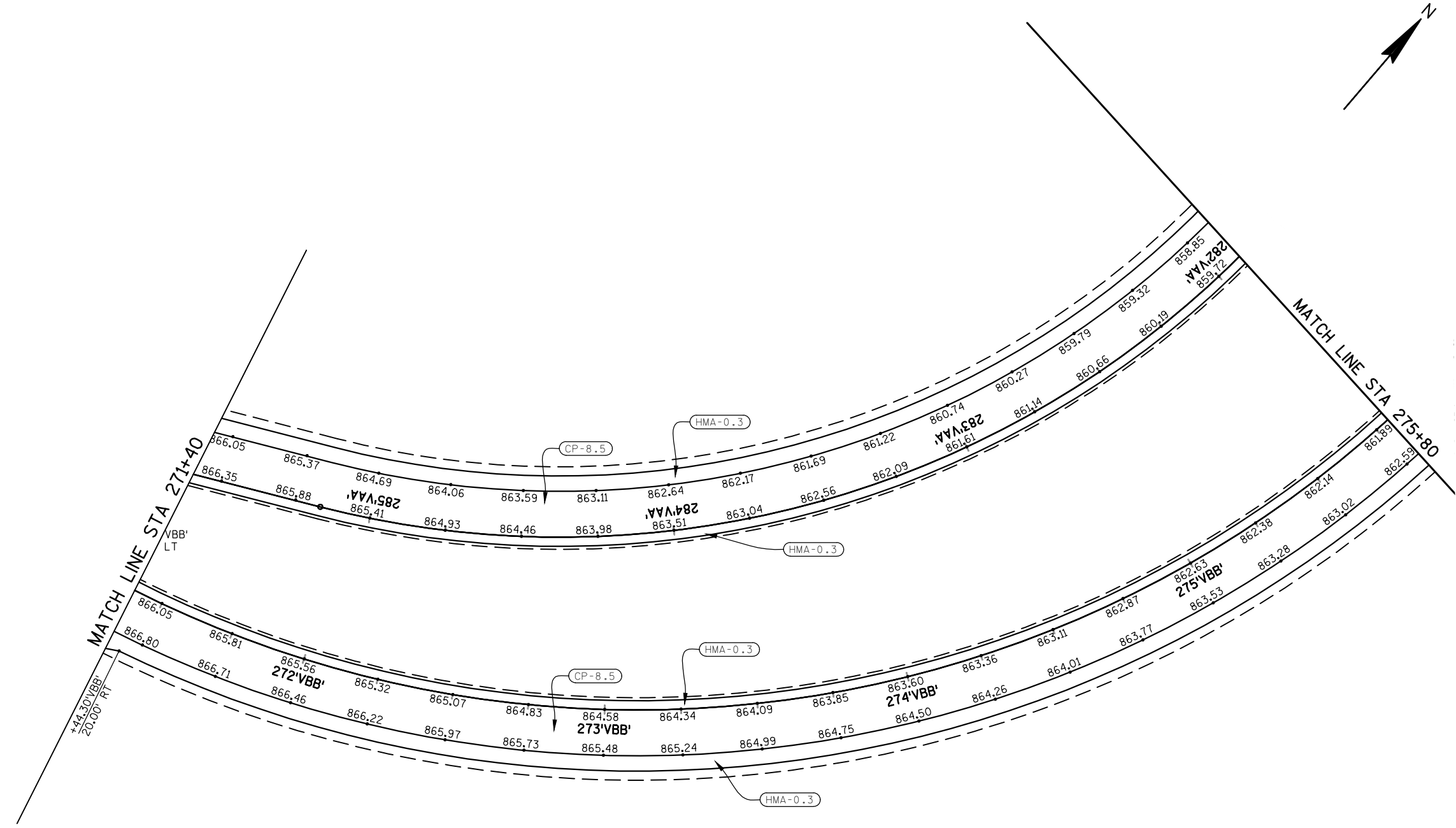
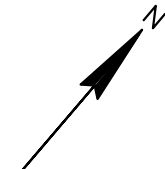
CP-8	CONCRETE PAVEMENT 8-INCH	CCP	CONCRETE CURB PEDESTRIAN
CP-8.5	CONCRETE PAVEMENT 8.5-INCH	LMCC	LAWN MOWING CURB CUT
CP-10	CONCRETE PAVEMENT 10-INCH	CS-4	CONCRETE SIDEWALK 4-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB	CS-4C	CONCRETE SIDEWALK 4-INCH COLORED BROWN
SAS	STRUCTURAL APPROACH SLAB	CS-5	CONCRETE SIDEWALK 5-INCH
CD-6	CONCRETE DRIVEWAY 6-INCH	CS-8	CONCRETE SIDEWALK 8-INCH
CD-7	CONCRETE DRIVEWAY 7-INCH	WF-NP	CURB RAMP DETECTABLE WARNING FIELD, NATURAL PATINA
CPTA-12	CONCRETE ROUNDABOUT TRUCK APRON 12-INCH	CR-2	CURB RAMP TYPE 2
HMA-0.3	HMA PAVEMENT TYPE E-0.3	CR-4B	CURB RAMP TYPE 4B
HMA-3	HMA PAVEMENT TYPE E-3	CMSN1	CONCRETE MEDIAN SLOPE NOSE TYPE 1
AS	ASPHALTIC SURFACE	CMSN2	CONCRETE MEDIAN SLOPE NOSE TYPE 2
ASDF	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	G	GRASS
AST	ASPHALTIC SURFACE TEMPORARY	GD	GRAVEL DRIVEWAY
AF	ASPHALTIC FLUME	AM	ADJUST MANHOLE
CG-18A	CONCRETE CURB & GUTTER 18-INCH TYPE A	AV	ADJUST VALVE
CG-30A	CONCRETE CURB & GUTTER 30-INCH TYPE A	AI	ADJUST INLET
CG-30D	CONCRETE CURB & GUTTER 30-INCH TYPE D	RM	RECONSTRUCT MANHOLE
CG-36A6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A	RI	RECONSTRUCT INLET
CG-36D6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D	CB-56	CONCRETE BARRIER TYPE S56
CG-36R4	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R		





**LEGEND:**

CP-8	CONCRETE PAVEMENT 8-INCH	CCP	CONCRETE CURB PEDESTRIAN
CP-8.5	CONCRETE PAVEMENT 8.5-INCH	LMCC	LAWN MOWING CURB CUT
CP-10	CONCRETE PAVEMENT 10-INCH	CS-4	CONCRETE SIDEWALK 4-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB	CS-4C	CONCRETE SIDEWALK 4-INCH COLORED BROWN
SAS	STRUCTURAL APPROACH SLAB	CS-5	CONCRETE SIDEWALK 5-INCH
CD-6	CONCRETE DRIVEWAY 6-INCH	CS-8	CONCRETE SIDEWALK 8-INCH
CD-7	CONCRETE DRIVEWAY 7-INCH	WF-NP	CURB RAMP DETECTABLE WARNING FIELD, NATURAL PATINA
CPTA-12	CONCRETE ROUNDABOUT TRUCK APRON 12-INCH	CR-2	CURB RAMP TYPE 2
HMA-0.3	HMA PAVEMENT TYPE E-0.3	CR-4B	CURB RAMP TYPE 4B
HMA-3	HMA PAVEMENT TYPE E-3	CMSN1	CONCRETE MEDIAN SLOPE NOSE TYPE 1
AS	ASPHALTIC SURFACE	CMSN2	CONCRETE MEDIAN SLOPE NOSE TYPE 2
ASDF	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	G	GRASS
AST	ASPHALTIC SURFACE TEMPORARY	GD	GRAVEL DRIVEWAY
AF	ASPHALTIC FLUME	AM	ADJUST MANHOLE
CG-18A	CONCRETE CURB & GUTTER 18-INCH TYPE A	AV	ADJUST VALVE
CG-30A	CONCRETE CURB & GUTTER 30-INCH TYPE A	AI	ADJUST INLET
CG-30D	CONCRETE CURB & GUTTER 30-INCH TYPE D	RM	RECONSTRUCT MANHOLE
CG-36A6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A	RI	RECONSTRUCT INLET
CG-36D6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D	CB-56	CONCRETE BARRIER TYPE S56
CG-36R4	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R		

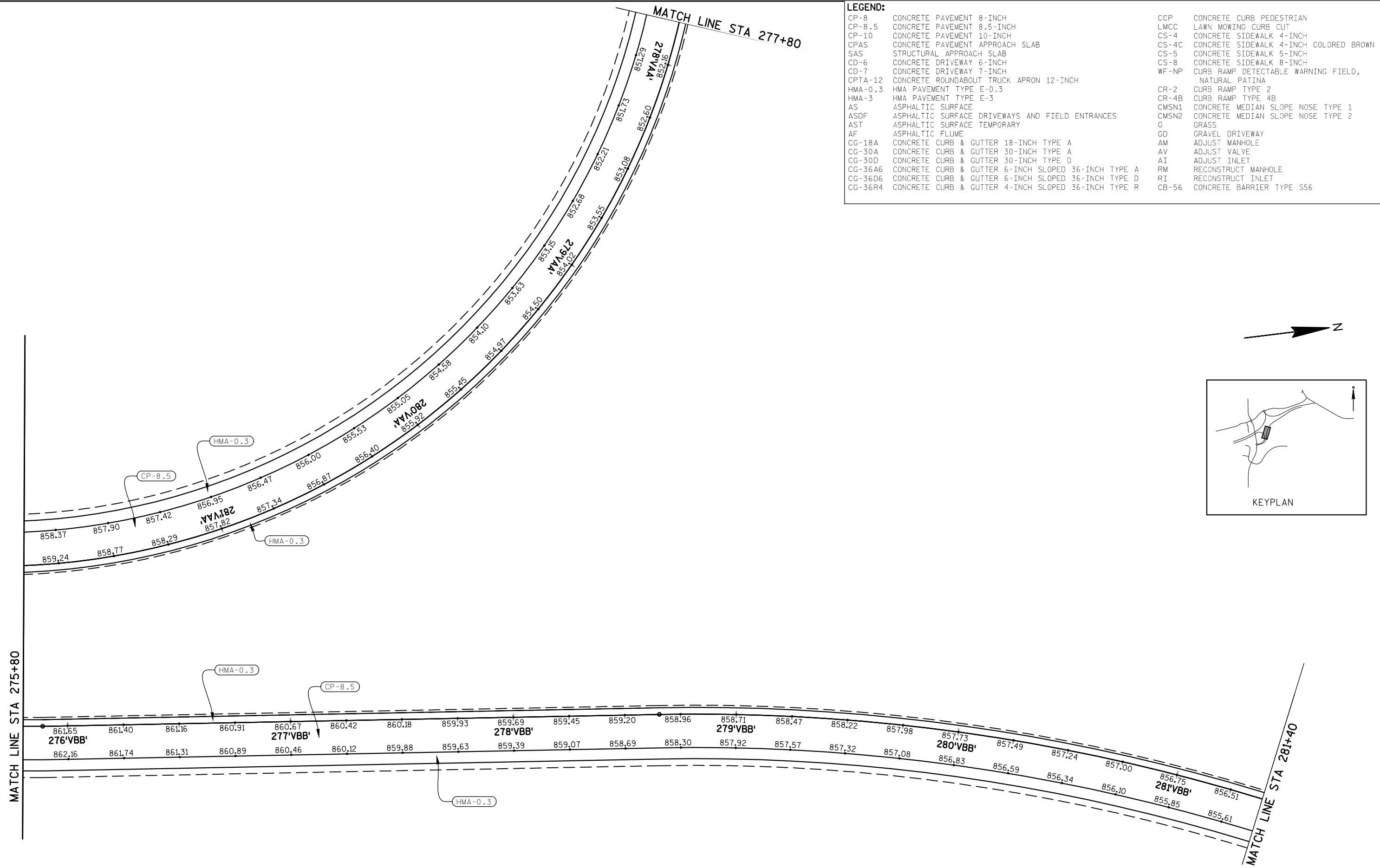


**LEGEND:**

CP-8	CONCRETE PAVEMENT 8-INCH	CCP	CONCRETE CURB PEDESTRIAN
CP-8.5	CONCRETE PAVEMENT 8.5-INCH	LMCC	LAWN MOWING CURB CUT
CP-10	CONCRETE PAVEMENT 10-INCH	CS-4	CONCRETE SIDEWALK 4-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB	CS-4C	CONCRETE SIDEWALK 4-INCH COLORED BROWN
SAS	STRUCTURAL APPROACH SLAB	CS-5	CONCRETE SIDEWALK 5-INCH
CD-6	CONCRETE DRIVEWAY 6-INCH	CS-8	CONCRETE SIDEWALK 8-INCH
CD-7	CONCRETE DRIVEWAY 7-INCH	WF-NP	CURB RAMP DETECTABLE WARNING FIELD, NATURAL PATINA
CPTA-12	CONCRETE ROUNDABOUT TRUCK APRON 12-INCH	CR-2	CURB RAMP TYPE 2
HMA-0.3	HMA PAVEMENT TYPE E-0.3	CR-4B	CURB RAMP TYPE 4B
HMA-3	HMA PAVEMENT TYPE E-3	CMSN1	CONCRETE MEDIAN SLOPE NOSE TYPE 1
AS	ASPHALTIC SURFACE	CMSN2	CONCRETE MEDIAN SLOPE NOSE TYPE 2
ASDF	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	G	GRASS
AST	ASPHALTIC SURFACE TEMPORARY	GD	GRAVEL DRIVEWAY
AF	ASPHALTIC FLUME	AM	ADJUST MANHOLE
CG-18A	CONCRETE CURB & GUTTER 18-INCH TYPE A	AV	ADJUST VALVE
CG-30A	CONCRETE CURB & GUTTER 30-INCH TYPE A	AI	ADJUST INLET
CG-30D	CONCRETE CURB & GUTTER 30-INCH TYPE D	RM	RECONSTRUCT MANHOLE
CG-36A6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A	RI	RECONSTRUCT INLET
CG-36D6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D	CB-56	CONCRETE BARRIER TYPE S56
CG-36R4	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R		

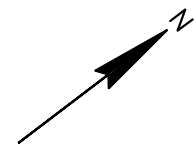
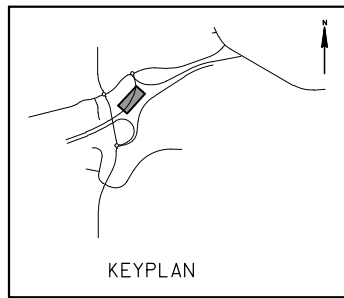
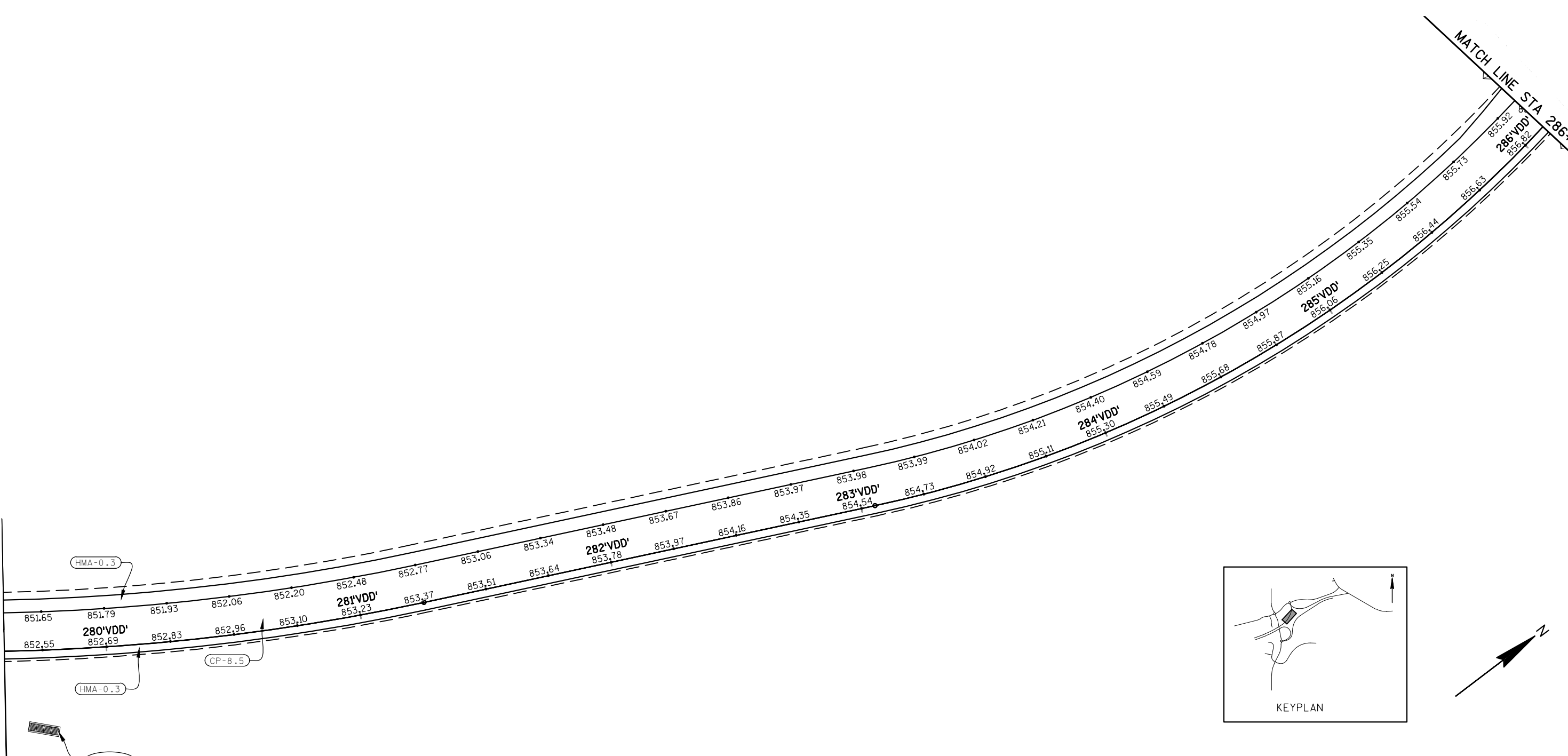
LEGEND:

CP-8	CONCRETE PAVEMENT 8-INCH	CCP	CONCRETE CURB PEDESTRIAN
CP-8.5	CONCRETE PAVEMENT 8.5-INCH	LMCC	LAWN MOWING CURB CUT
CP-10	CONCRETE PAVEMENT 10-INCH	CS-4	CONCRETE SIDEWALK 4-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB	CS-4C	CONCRETE SIDEWALK 4-INCH COLORED BROWN
SAS	STRUCTURAL APPROACH SLAB	CS-5	CONCRETE SIDEWALK 5-INCH
CD-6	CONCRETE DRIVEWAY 6-INCH	CS-8	CONCRETE SIDEWALK 8-INCH
CD-7	CONCRETE DRIVEWAY 7-INCH	WF-NP	CURB RAMP DETECTABLE WARNING FIELD, NATURAL PATINA
CPTA-12	CONCRETE ROUNDABOUT TRUCK APRON 12-INCH	CR-2	CURB RAMP TYPE 2
HMA-0.3	HMA PAVEMENT TYPE E-0.3	CR-4B	CURB RAMP TYPE 4B
HMA-3	HMA PAVEMENT TYPE E-3	CMSN1	CONCRETE MEDIAN SLOPE NOSE TYPE 1
AS	ASPHALTIC SURFACE	CMSN2	CONCRETE MEDIAN SLOPE NOSE TYPE 2
ASDF	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	G	GRASS
AST	ASPHALTIC SURFACE TEMPORARY	GD	GRAVEL DRIVEWAY
AF	ASPHALTIC FLUME	AM	ADJUST MANHOLE
CG-18A	CONCRETE CURB & GUTTER 18-INCH TYPE A	AV	ADJUST VALVE
CG-30A	CONCRETE CURB & GUTTER 30-INCH TYPE A	AI	ADJUST INLET
CG-30D	CONCRETE CURB & GUTTER 30-INCH TYPE D	RM	RECONSTRUCT MANHOLE
CG-36A6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A	RI	RECONSTRUCT INLET
CG-36D6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D	CB-56	CONCRETE BARRIER TYPE S56
CG-36R4	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R		



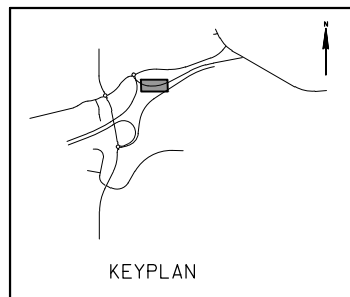
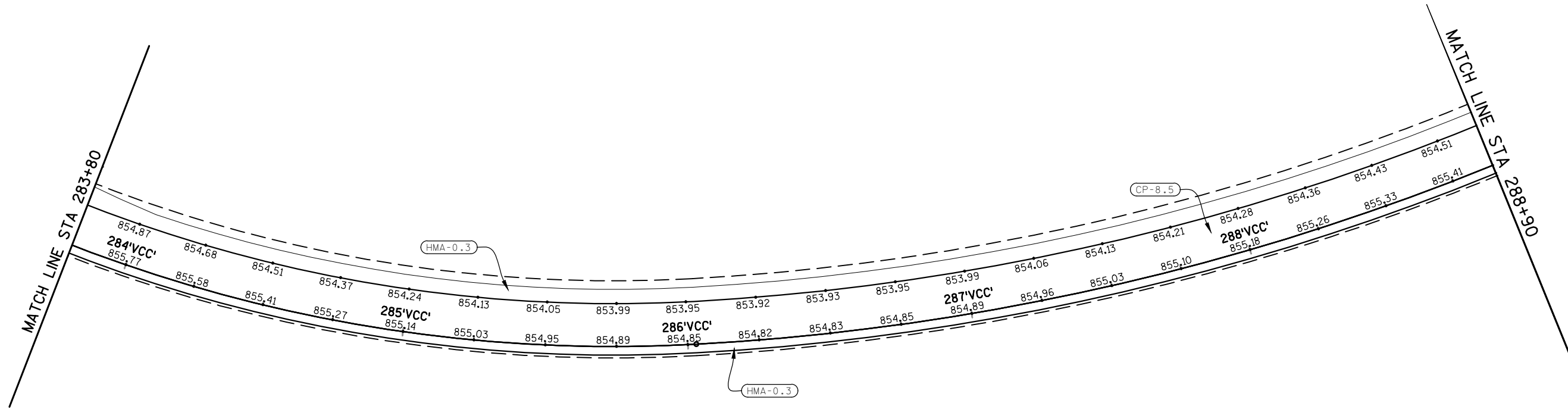
MATCH LINE STA 279+60

MATCH LINE STA 286+10



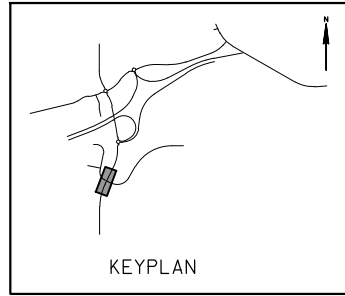
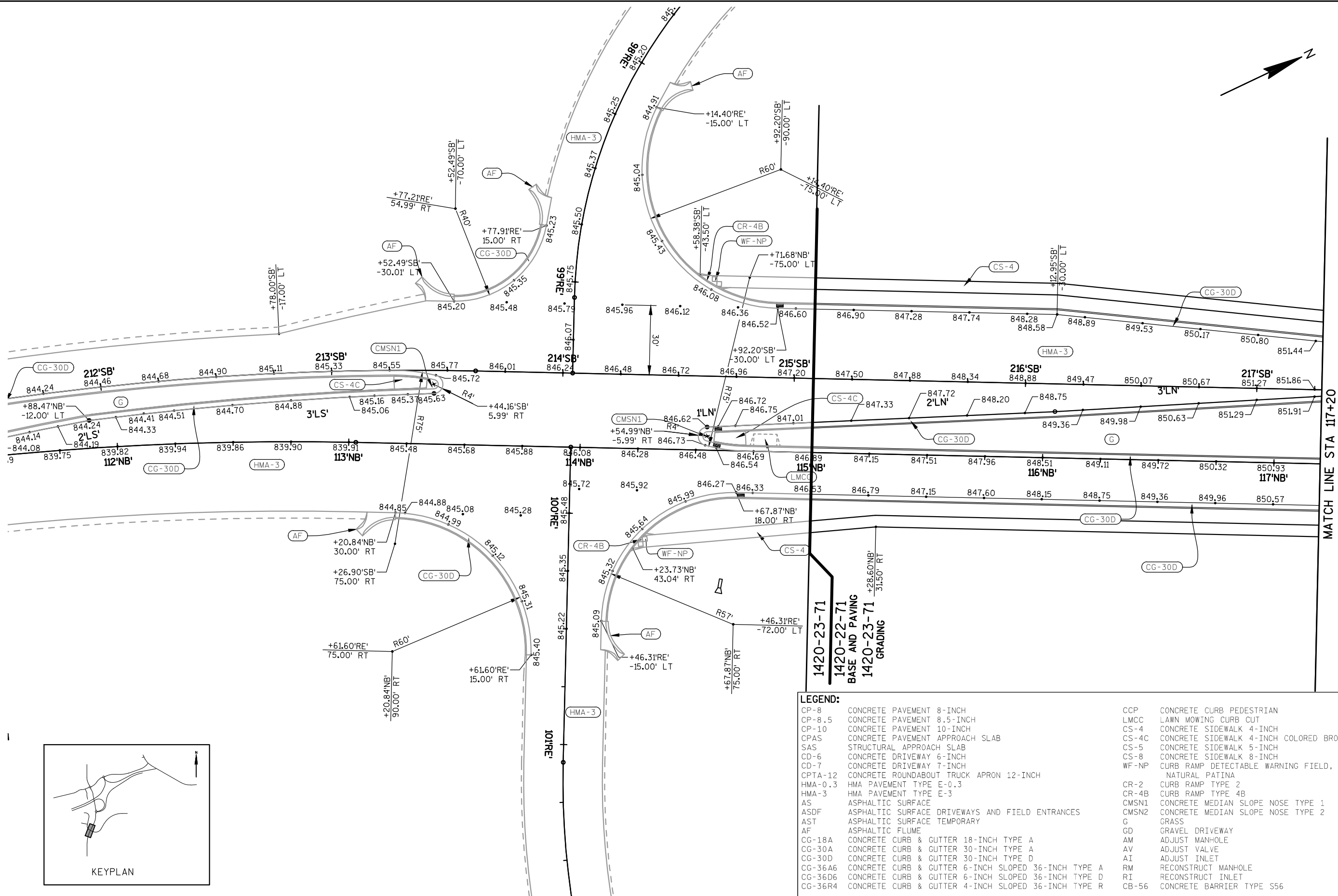
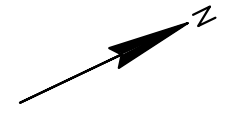
**LEGEND:**

CP-8	CONCRETE PAVEMENT 8-INCH	CCP	CONCRETE CURB PEDESTRIAN
CP-8.5	CONCRETE PAVEMENT 8.5-INCH	LMCC	LAWN MOWING CURB CUT
CP-10	CONCRETE PAVEMENT 10-INCH	CS-4	CONCRETE SIDEWALK 4-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB	CS-4C	CONCRETE SIDEWALK 4-INCH COLORED BROWN
SAS	STRUCTURAL APPROACH SLAB	CS-5	CONCRETE SIDEWALK 5-INCH
CD-6	CONCRETE DRIVEWAY 6-INCH	CS-8	CONCRETE SIDEWALK 8-INCH
CD-7	CONCRETE DRIVEWAY 7-INCH	WF-NP	CURB RAMP DETECTABLE WARNING FIELD, NATURAL PATINA
CPTA-12	CONCRETE ROUNDABOUT TRUCK APRON 12-INCH	CR-2	CURB RAMP TYPE 2
HMA-0.3	HMA PAVEMENT TYPE E-0.3	CR-4B	CURB RAMP TYPE 4B
HMA-3	HMA PAVEMENT TYPE E-3	CMSN1	CONCRETE MEDIAN SLOPE NOSE TYPE 1
AS	ASPHALTIC SURFACE	CMSN2	CONCRETE MEDIAN SLOPE NOSE TYPE 2
ASDF	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	G	GRASS
AST	ASPHALTIC SURFACE TEMPORARY	GD	GRAVEL DRIVEWAY
AF	ASPHALTIC FLUME	AM	ADJUST MANHOLE
CG-18A	CONCRETE CURB & GUTTER 18-INCH TYPE A	AV	ADJUST VALVE
CG-30A	CONCRETE CURB & GUTTER 30-INCH TYPE A	AI	ADJUST INLET
CG-30D	CONCRETE CURB & GUTTER 30-INCH TYPE D	RM	RECONSTRUCT MANHOLE
CG-36A6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A	RI	RECONSTRUCT INLET
CG-36D6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D	CB-56	CONCRETE BARRIER TYPE S56
CG-36R4	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R		



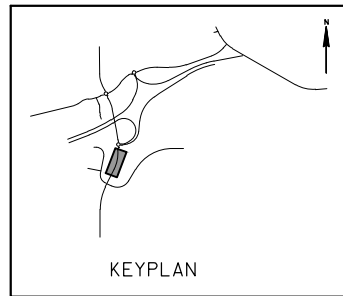
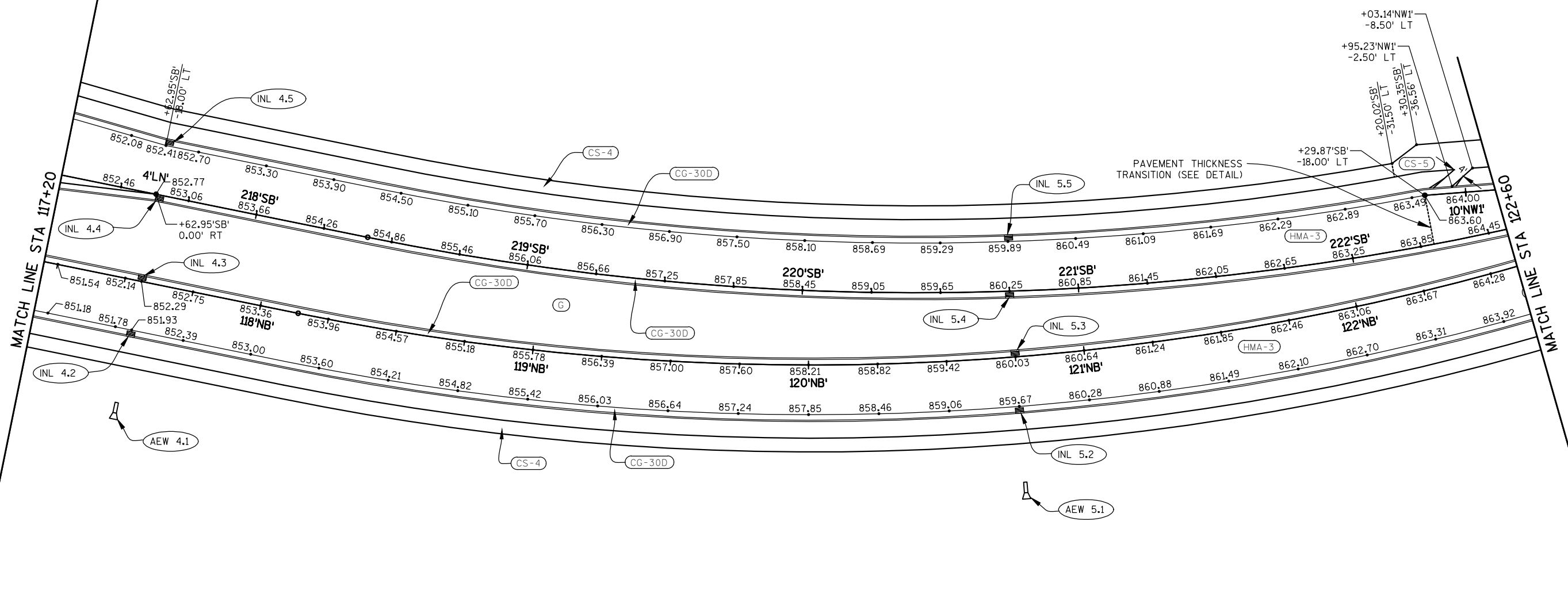
**LEGEND:**

CP-8	CONCRETE PAVEMENT 8-INCH	CCP	CONCRETE CURB PEDESTRIAN
CP-8.5	CONCRETE PAVEMENT 8.5-INCH	LMCC	LAWN MOWING CURB CUT
CP-10	CONCRETE PAVEMENT 10-INCH	CS-4	CONCRETE SIDEWALK 4-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB	CS-4C	CONCRETE SIDEWALK 4-INCH COLORED BROWN
SAS	STRUCTURAL APPROACH SLAB	CS-5	CONCRETE SIDEWALK 5-INCH
CD-6	CONCRETE DRIVEWAY 6-INCH	CS-8	CONCRETE SIDEWALK 8-INCH
CD-7	CONCRETE DRIVEWAY 7-INCH	WF-NP	CURB RAMP DETECTABLE WARNING FIELD, NATURAL PATINA
CPTA-12	CONCRETE ROUNDABOUT TRUCK APRON 12-INCH	CR-2	CURB RAMP TYPE 2
HMA-0.3	HMA PAVEMENT TYPE E-0.3	CR-4B	CURB RAMP TYPE 4B
HMA-3	HMA PAVEMENT TYPE E-3	CMSN1	CONCRETE MEDIAN SLOPE NOSE TYPE 1
AS	ASPHALTIC SURFACE	CMSN2	CONCRETE MEDIAN SLOPE NOSE TYPE 2
ASDF	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	G	GRASS
AST	ASPHALTIC SURFACE TEMPORARY	GD	GRAVEL DRIVEWAY
AF	ASPHALTIC FLUME	AM	ADJUST MANHOLE
CG-18A	CONCRETE CURB & GUTTER 18-INCH TYPE A	AV	ADJUST VALVE
CG-30A	CONCRETE CURB & GUTTER 30-INCH TYPE A	AI	ADJUST INLET
CG-30D	CONCRETE CURB & GUTTER 30-INCH TYPE D	RM	RECONSTRUCT MANHOLE
CG-36A6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A	RI	RECONSTRUCT INLET
CG-36D6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D	CB-56	CONCRETE BARRIER TYPE S56
CG-36R4	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R		



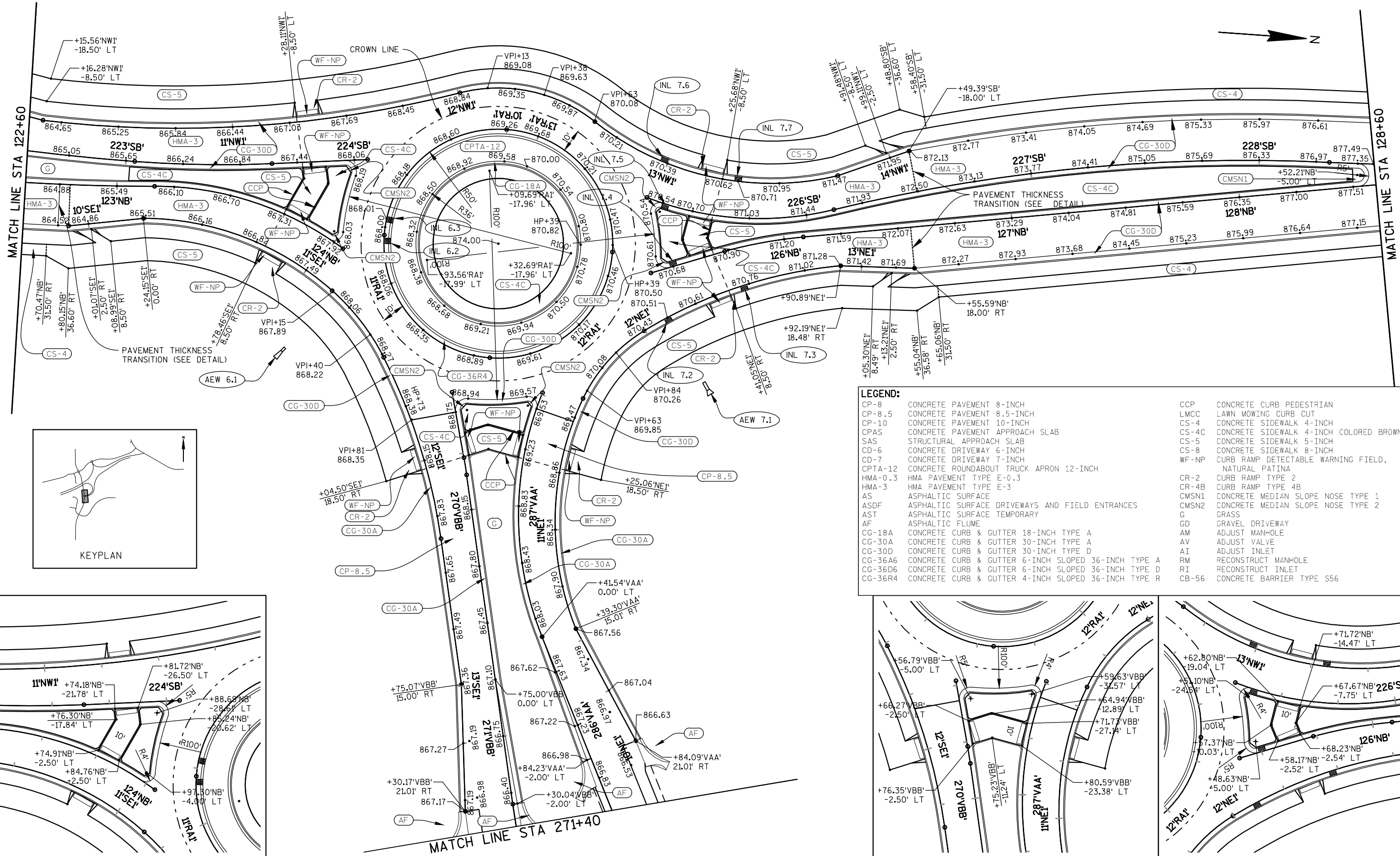
**LEGEND:**

CP-8	CONCRETE PAVEMENT 8-INCH	CCP	CONCRETE CURB PEDESTRIAN
CP-8.5	CONCRETE PAVEMENT 8.5-INCH	LMCC	LAWN MOWING CURB CUT
CP-10	CONCRETE PAVEMENT 10-INCH	CS-4	CONCRETE SIDEWALK 4-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB	CS-4C	CONCRETE SIDEWALK 4-INCH COLORED BROWN
SAS	STRUCTURAL APPROACH SLAB	CS-5	CONCRETE SIDEWALK 5-INCH
CD-6	CONCRETE DRIVEWAY 6-INCH	CS-8	CONCRETE SIDEWALK 8-INCH
CD-7	CONCRETE DRIVEWAY 7-INCH	WF-NP	CURB RAMP DETECTABLE WARNING FIELD, NATURAL PATINA
CPTA-12	CONCRETE ROUNDABOUT TRUCK APRON 12-INCH	CR-2	CURB RAMP TYPE 2
HMA-0.3	HMA PAVEMENT TYPE E-0.3	CR-4B	CURB RAMP TYPE 4B
HMA-3	HMA PAVEMENT TYPE E-3	CMSN1	CONCRETE MEDIAN SLOPE NOSE TYPE 1
AS	ASPHALTIC SURFACE	CMSN2	CONCRETE MEDIAN SLOPE NOSE TYPE 2
ASDF	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	G	GRASS
AST	ASPHALTIC SURFACE TEMPORARY	GD	GRAVEL DRIVEWAY
AF	ASPHALTIC FLUME	AM	ADJUST MANHOLE
CG-18A	CONCRETE CURB & GUTTER 18-INCH TYPE A	AV	ADJUST VALVE
CG-30A	CONCRETE CURB & GUTTER 30-INCH TYPE A	AI	ADJUST INLET
CG-30D	CONCRETE CURB & GUTTER 30-INCH TYPE D	RM	RECONSTRUCT MANHOLE
CG-36A6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A	RI	RECONSTRUCT INLET
CG-36D6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D	CB-56	CONCRETE BARRIER TYPE S56
CG-36R4	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R		



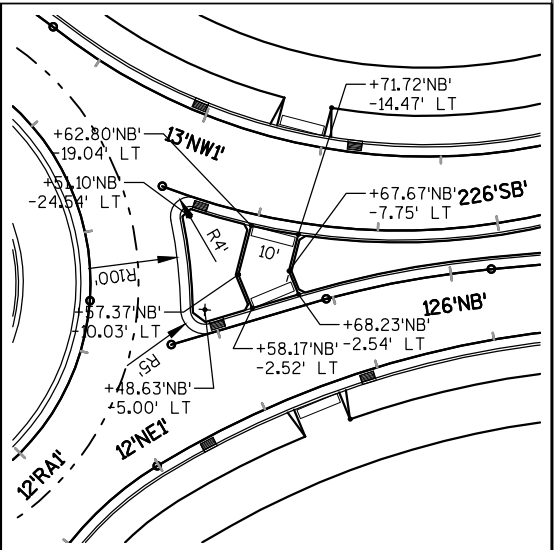
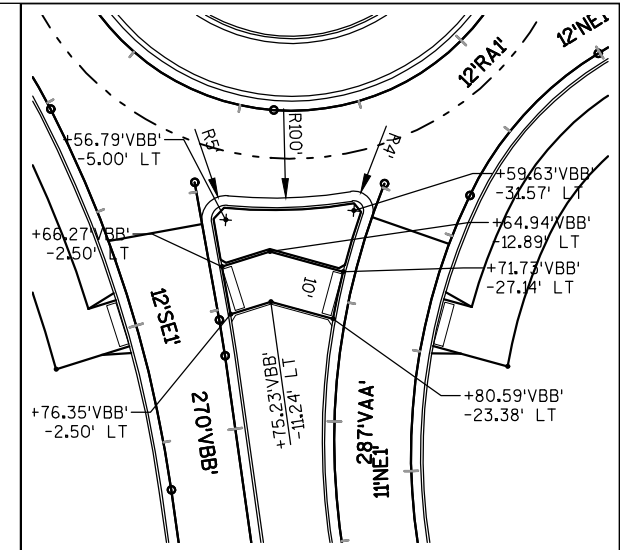
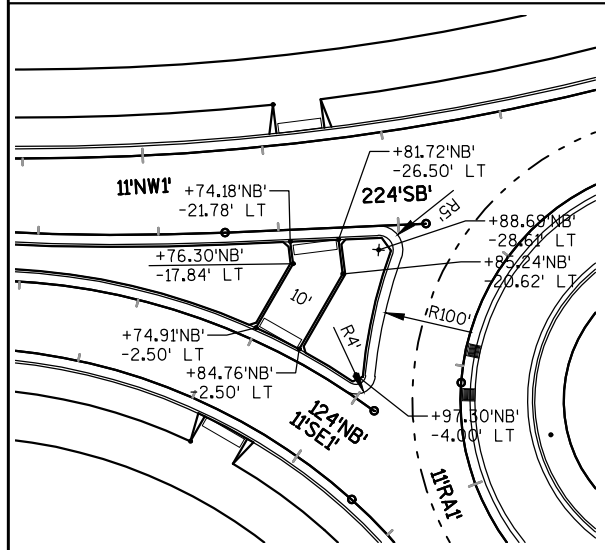
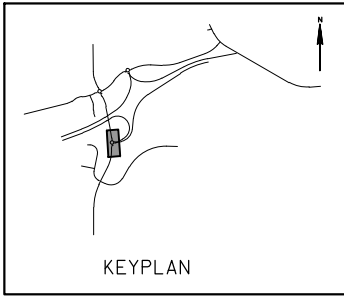
**LEGEND:**

CP-8	CONCRETE PAVEMENT 8-INCH	CCP	CONCRETE CURB PEDESTRIAN
CP-8.5	CONCRETE PAVEMENT 8.5-INCH	LMCC	LAWN MOWING CURB CUT
CP-10	CONCRETE PAVEMENT 10-INCH	CS-4	CONCRETE SIDEWALK 4-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB	CS-4C	CONCRETE SIDEWALK 4-INCH COLORED BROWN
SAS	STRUCTURAL APPROACH SLAB	CS-5	CONCRETE SIDEWALK 5-INCH
CD-6	CONCRETE DRIVEWAY 6-INCH	CS-8	CONCRETE SIDEWALK 8-INCH
CD-7	CONCRETE DRIVEWAY 7-INCH	WF-NP	CURB RAMP DETECTABLE WARNING FIELD, NATURAL PATINA
CPTA-12	CONCRETE ROUNDABOUT TRUCK APRON 12-INCH	CR-2	CURB RAMP TYPE 2
HMA-0.3	HMA PAVEMENT TYPE E-0.3	CR-4B	CURB RAMP TYPE 4B
HMA-3	HMA PAVEMENT TYPE E-3	CMSN1	CONCRETE MEDIAN SLOPE NOSE TYPE 1
AS	ASPHALTIC SURFACE	CMSN2	CONCRETE MEDIAN SLOPE NOSE TYPE 2
ASDF	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	G	GRASS
AST	ASPHALTIC SURFACE TEMPORARY	GD	GRAVEL DRIVEWAY
AF	ASPHALTIC FLUME	AM	ADJUST MANHOLE
CG-18A	CONCRETE CURB & GUTTER 18-INCH TYPE A	AV	ADJUST VALVE
CG-30A	CONCRETE CURB & GUTTER 30-INCH TYPE A	AI	ADJUST INLET
CG-30D	CONCRETE CURB & GUTTER 30-INCH TYPE D	RM	RECONSTRUCT MANHOLE
CG-36A6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A	RI	RECONSTRUCT INLET
CG-36D6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D	CB-56	CONCRETE BARRIER TYPE S56
CG-36R4	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R		

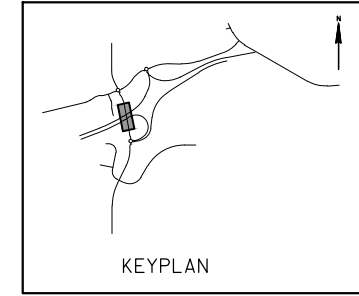
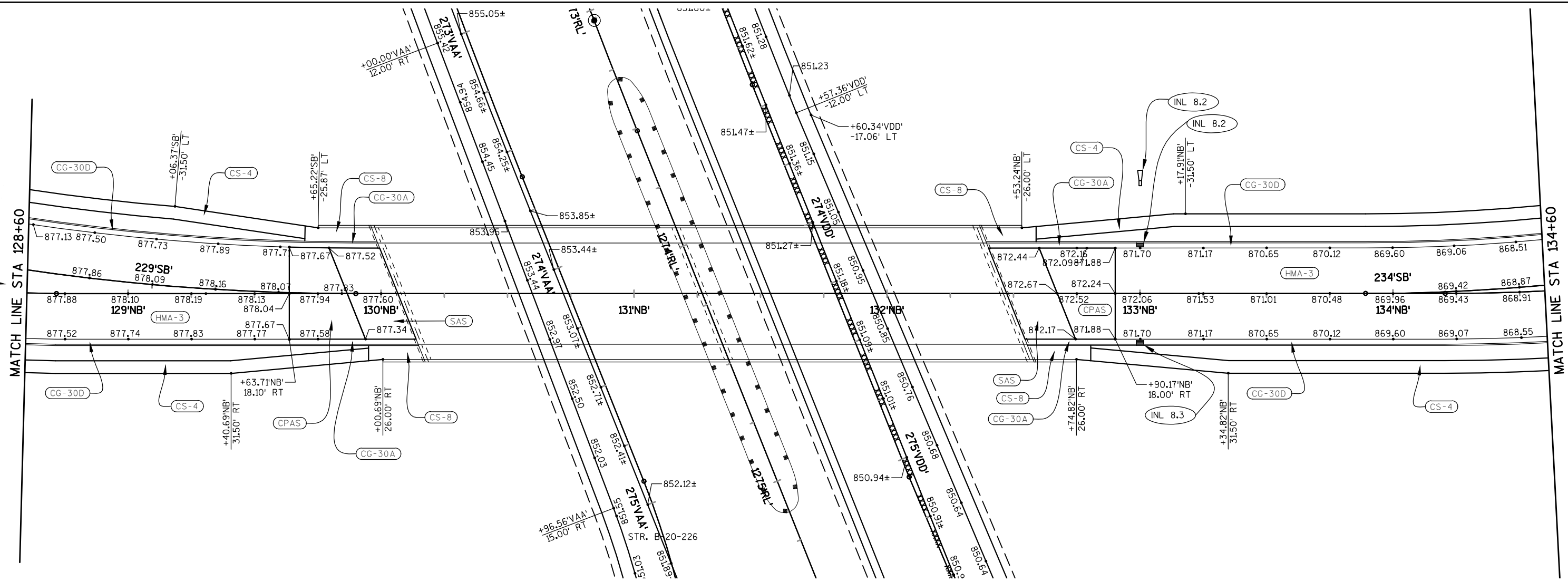


**LEGEND:**

CP-8	CONCRETE PAVEMENT 8-INCH	CCP	CONCRETE CURB PEDESTRIAN
CP-8.5	CONCRETE PAVEMENT 8.5-INCH	LMCC	LAWN MOWING CURB CUT
CP-10	CONCRETE PAVEMENT 10-INCH	CS-4	CONCRETE SIDEWALK 4-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB	CS-4C	CONCRETE SIDEWALK 4-INCH COLORED BROWN
SAS	STRUCTURAL APPROACH SLAB	CS-5	CONCRETE SIDEWALK 5-INCH
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CD-7	CONCRETE DRIVEWAY 7-INCH	WF-NP	CURB RAMP DETECTABLE WARNING FIELD, NATURAL PATINA
CPTA-12	CONCRETE ROUNDABOUT TRUCK APRON 12-INCH	CR-2	CURB RAMP TYPE 2
HMA-0.3	HMA PAVEMENT TYPE E-0.3	CR-4B	CURB RAMP TYPE 4B
HMA-3	HMA PAVEMENT TYPE E-3	CMSN1	CONCRETE MEDIAN SLOPE NOSE TYPE 1
AS	ASPHALTIC SURFACE	CMSN2	CONCRETE MEDIAN SLOPE NOSE TYPE 2
ASDF	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	G	GRASS
AST	ASPHALTIC SURFACE TEMPORARY	GD	GRAVEL DRIVEWAY
AF	ASPHALTIC FLUME	AM	ADJUST MANHOLE
CG-18A	CONCRETE CURB & GUTTER 18-INCH TYPE A	AV	ADJUST VALVE
CG-30A	CONCRETE CURB & GUTTER 30-INCH TYPE A	AI	ADJUST INLET
CG-30D	CONCRETE CURB & GUTTER 30-INCH TYPE D	RM	RECONSTRUCT MANHOLE
CG-36A6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A	RI	RECONSTRUCT INLET
CG-36D6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D	CB-56	CONCRETE BARRIER TYPE S56
CG-36R4	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R		

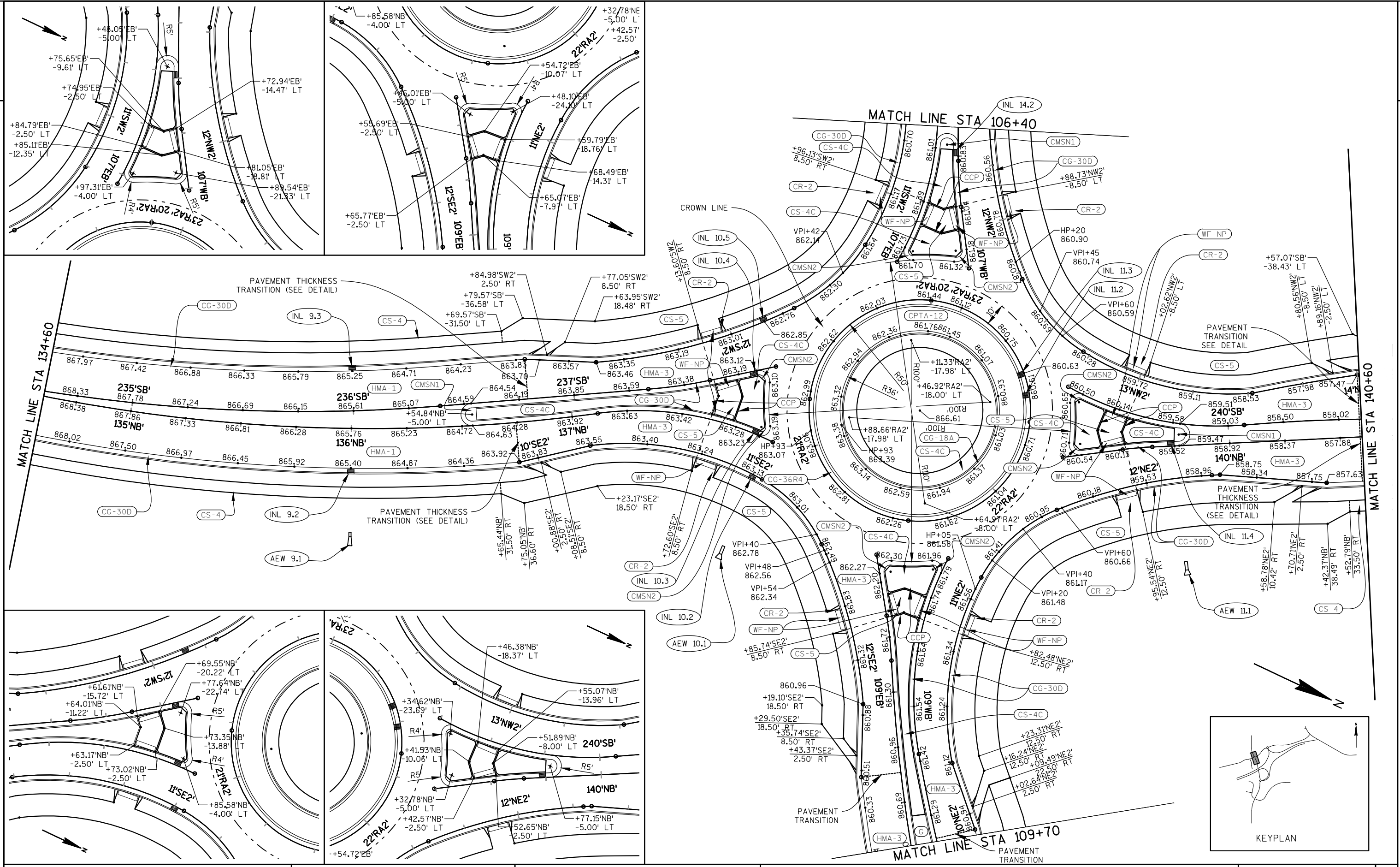






**LEGEND:**

CP-8	CONCRETE PAVEMENT 8-INCH	CCP	CONCRETE CURB PEDESTRIAN
CP-8.5	CONCRETE PAVEMENT 8.5-INCH	LMCC	LAWN MOWING CURB CUT
CP-10	CONCRETE PAVEMENT 10-INCH	CS-4	CONCRETE SIDEWALK 4-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB	CS-4C	CONCRETE SIDEWALK 4-INCH COLORED BROWN
SAS	STRUCTURAL APPROACH SLAB	CS-5	CONCRETE SIDEWALK 5-INCH
CD-6	CONCRETE DRIVEWAY 6-INCH	CS-8	CONCRETE SIDEWALK 8-INCH
CD-7	CONCRETE DRIVEWAY 7-INCH	WF-NP	CURB RAMP DETECTABLE WARNING FIELD, NATURAL PATINA
CPTA-12	CONCRETE ROUNDABOUT TRUCK APRON 12-INCH	CR-2	CURB RAMP TYPE 2
HMA-0.3	HMA PAVEMENT TYPE E-0.3	CR-4B	CURB RAMP TYPE 4B
HMA-3	HMA PAVEMENT TYPE E-3	CMSN1	CONCRETE MEDIAN SLOPE NOSE TYPE 1
AS	ASPHALTIC SURFACE	CMSN2	CONCRETE MEDIAN SLOPE NOSE TYPE 2
ASDF	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	G	GRASS
AST	ASPHALTIC SURFACE TEMPORARY	GD	GRAVEL DRIVEWAY
AF	ASPHALTIC FLUME	AM	ADJUST MANHOLE
CG-18A	CONCRETE CURB & GUTTER 18-INCH TYPE A	AV	ADJUST VALVE
CG-30A	CONCRETE CURB & GUTTER 30-INCH TYPE A	AI	ADJUST INLET
CG-30D	CONCRETE CURB & GUTTER 30-INCH TYPE D	RM	RECONSTRUCT MANHOLE
CG-36A6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A	RI	RECONSTRUCT INLET
CG-36D6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D	CB-56	CONCRETE BARRIER TYPE S56
CG-36R4	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R		



PROJECT NO: 1420-22-71

HWY: USH 151

COUNTY: FOND DU LAC

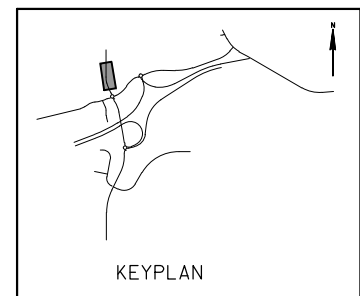
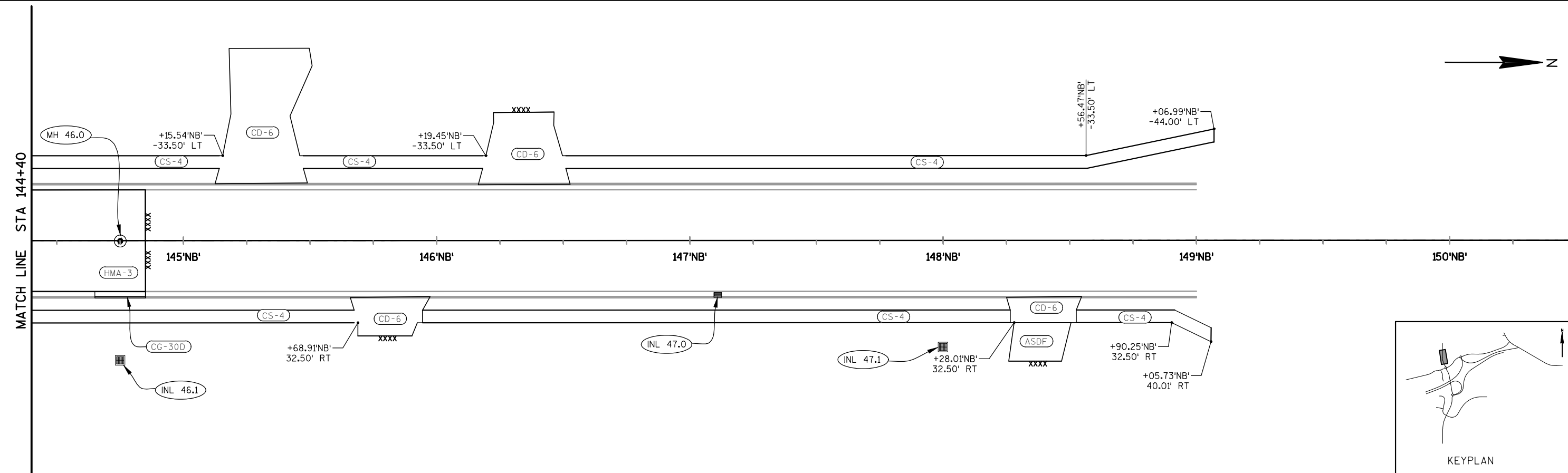
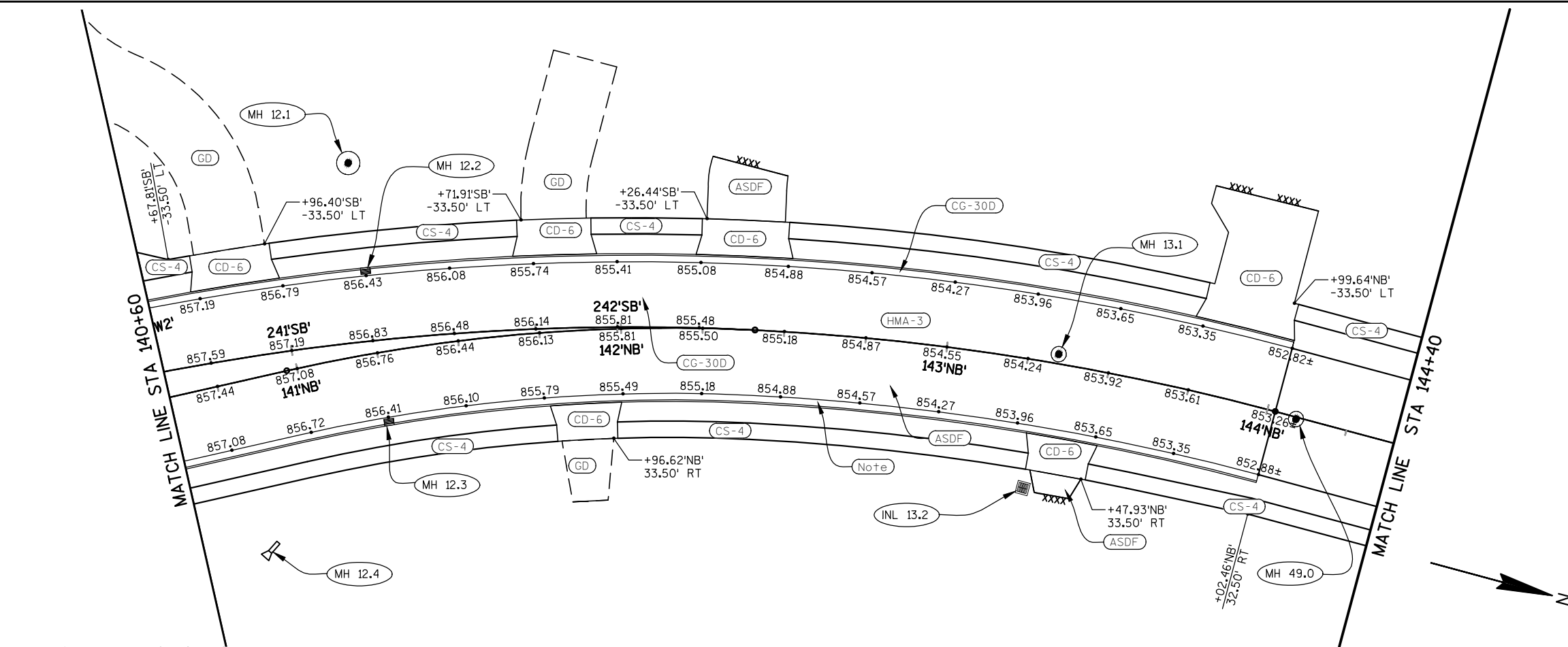
PAVING DETAIL - CTH V

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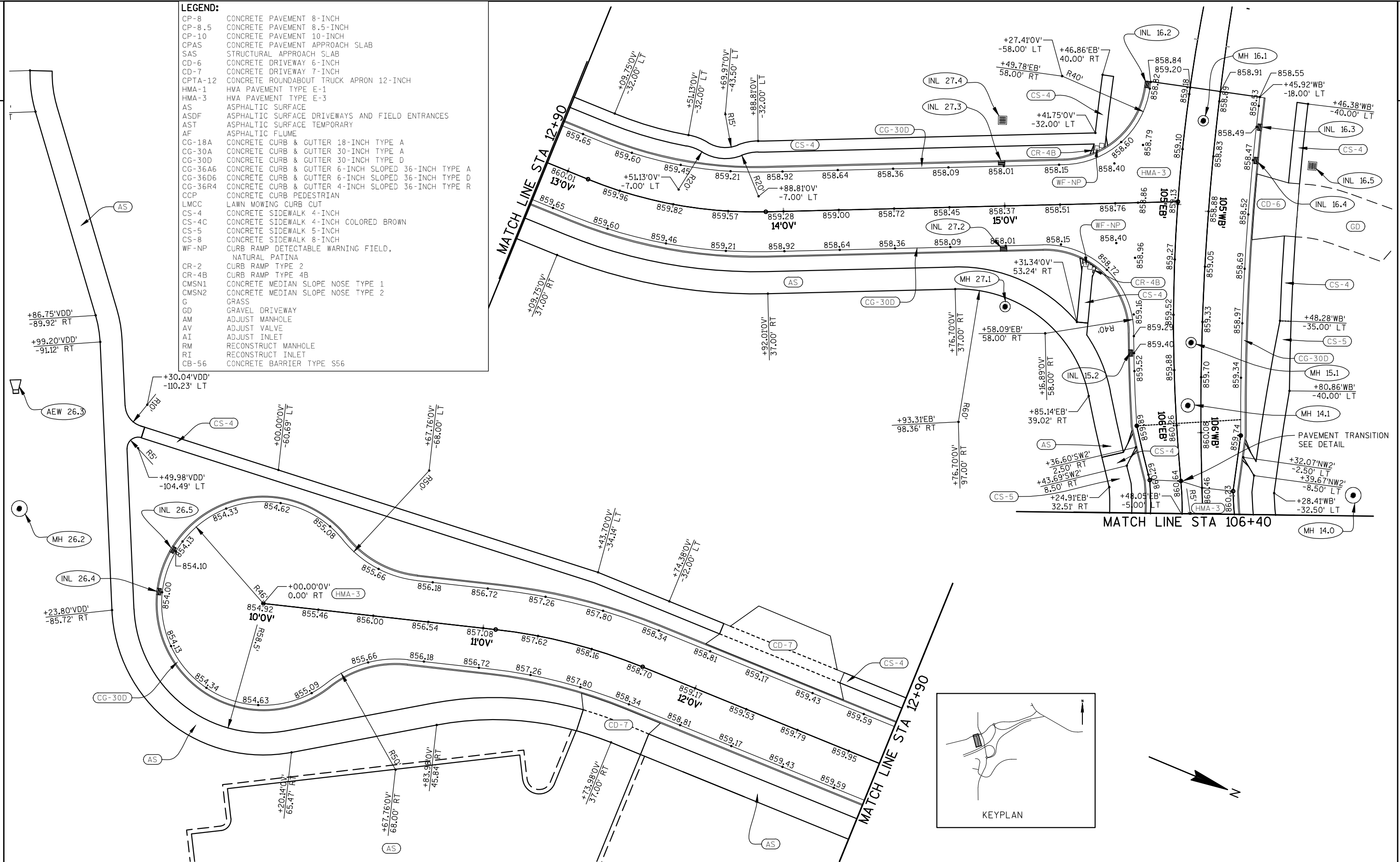
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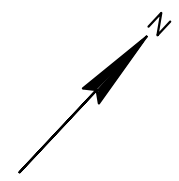
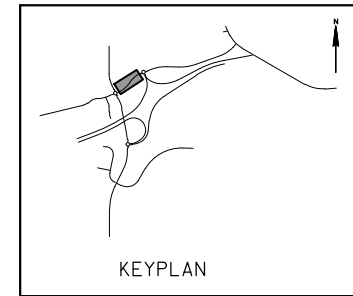
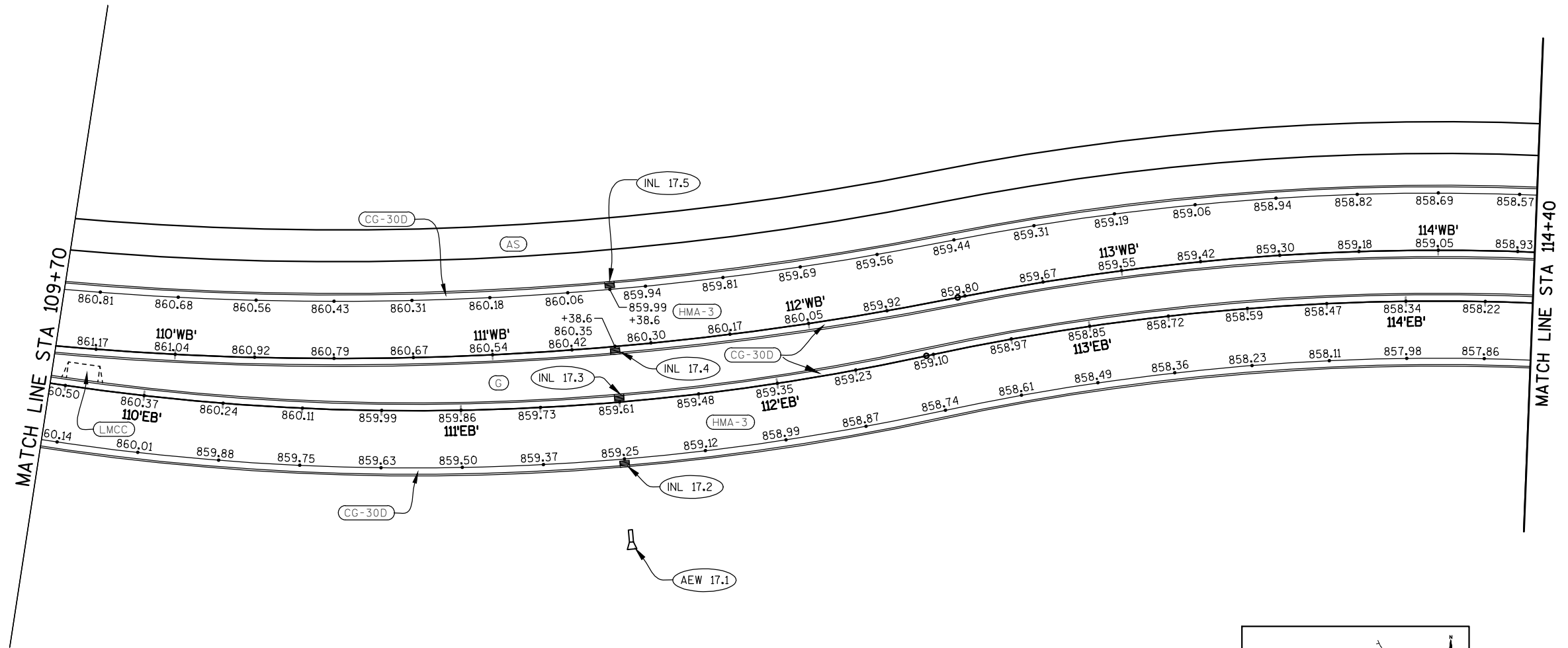
CP-8	CONCRETE PAVEMENT 8-INCH
CP-8.5	CONCRETE PAVEMENT 8.5-INCH
CP-10	CONCRETE PAVEMENT 10-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB
SAS	STRUCTURAL APPROACH SLAB
CD-6	CONCRETE DRIVEWAY 6-INCH
CD-7	CONCRETE DRIVEWAY 7-INCH
CPTA-12	CONCRETE ROUNDABOUT TRUCK APRON 12-INCH
HMA-1	HMA PAVEMENT TYPE E-1
HMA-3	HMA PAVEMENT TYPE E-3
AS	ASPHALTIC SURFACE
ASDF	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES
AST	ASPHALTIC SURFACE TEMPORARY
AF	ASPHALTIC FLUME
CG-18A	CONCRETE CURB & GUTTER 18-INCH TYPE A
CG-30A	CONCRETE CURB & GUTTER 30-INCH TYPE A
CG-30D	CONCRETE CURB & GUTTER 30-INCH TYPE D
CG-36A6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A
CG-36D6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D
CG-36R4	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R
CCP	CONCRETE CURB PEDESTRIAN
LMCC	LAWN MOWING CURB CUT
CS-4	CONCRETE SIDEWALK 4-INCH
CS-4C	CONCRETE SIDEWALK 4-INCH COLORED BROWN
CS-5	CONCRETE SIDEWALK 5-INCH
CS-8	CONCRETE SIDEWALK 8-INCH
WF-NP	CURB RAMP DETECTABLE WARNING FIELD, NATURAL PATINA
CR-2	CURB RAMP TYPE 2
CR-4B	CURB RAMP TYPE 4B
CMSN1	CONCRETE MEDIAN SLOPE NOSE TYPE 1
CMSN2	CONCRETE MEDIAN SLOPE NOSE TYPE 2
G	GRASS
GD	GRAVEL DRIVEWAY
AM	ADJUST MANHOLE
AV	ADJUST VALVE
AI	ADJUST INLET
RM	RECONSTRUCT MANHOLE
RI	RECONSTRUCT INLET
CB-56	CONCRETE BARRIER TYPE S56



**LEGEND:**

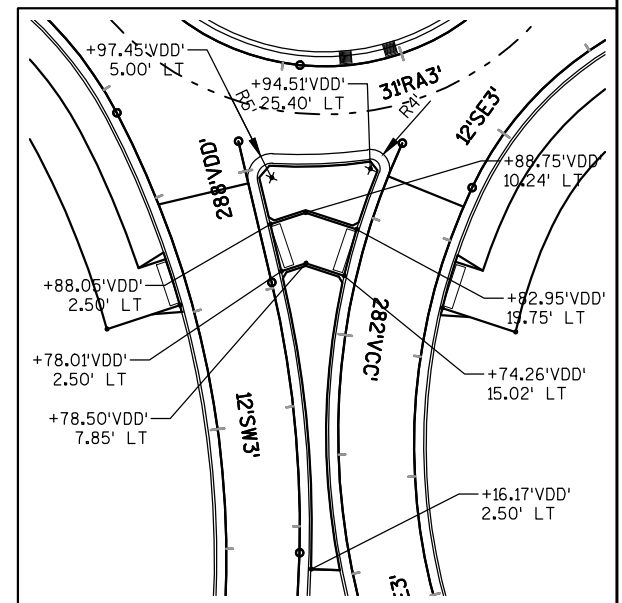
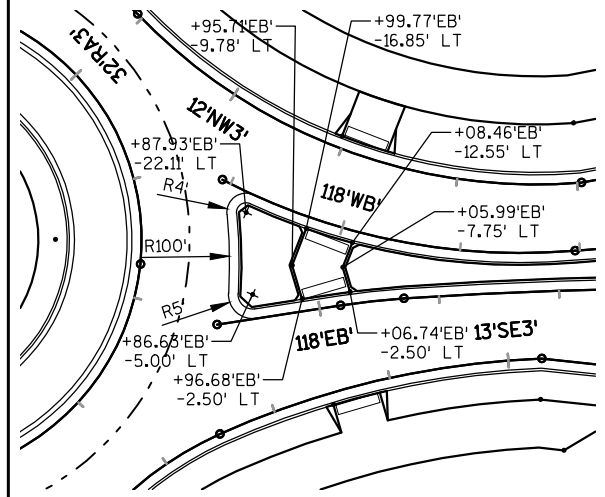
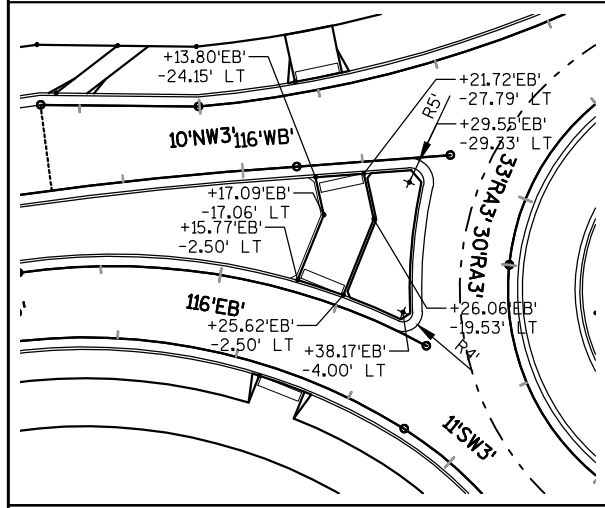
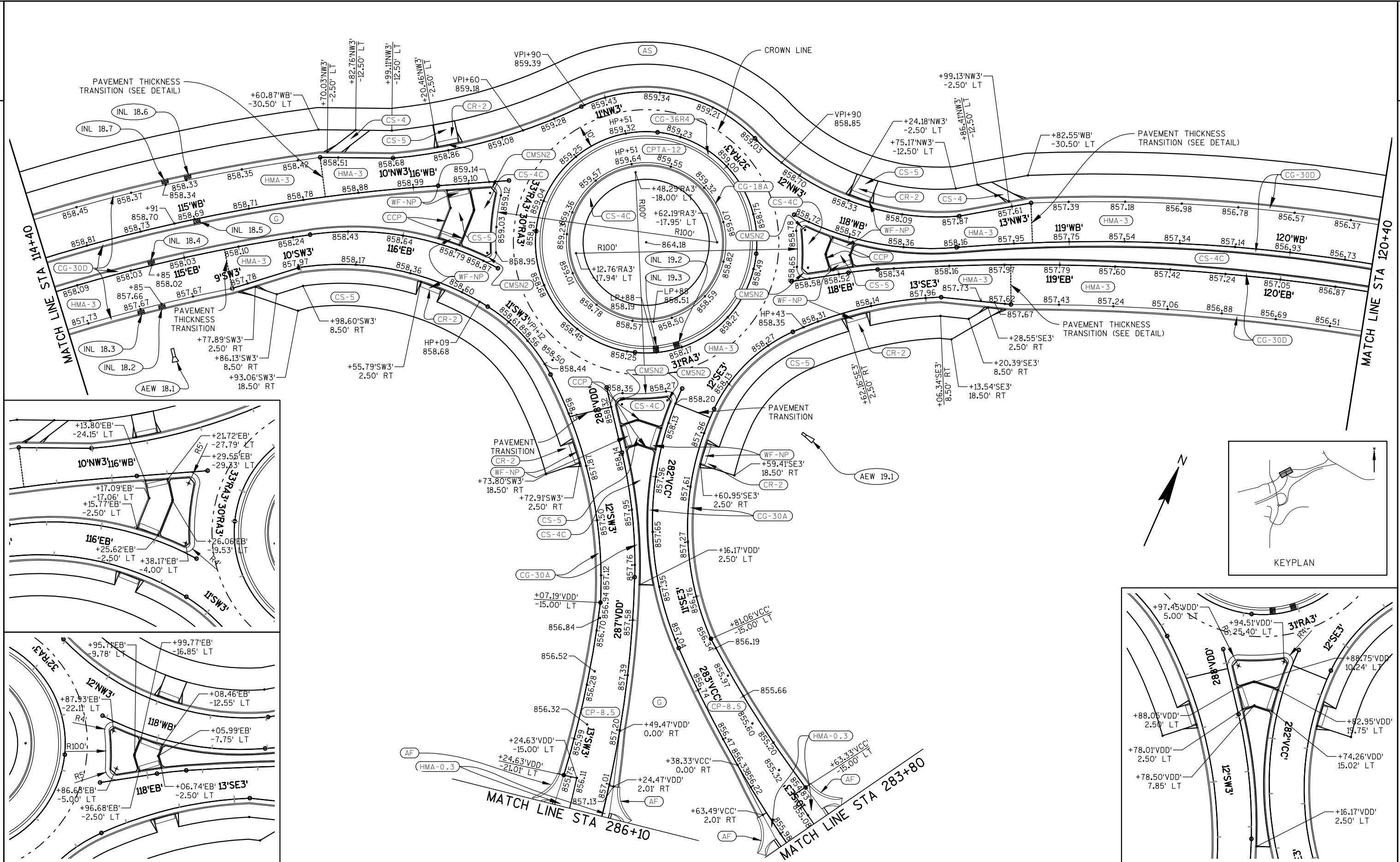
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CP-8.5	CONCRETE PAVEMENT 8.5-INCH
CP-10	CONCRETE PAVEMENT 10-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB
SAS	STRUCTURAL APPROACH SLAB
CD-6	CONCRETE DRIVEWAY 6-INCH
CD-7	CONCRETE DRIVEWAY 7-INCH
CPTA-12	CONCRETE ROUNDABOUT TRUCK APRON 12-INCH
HMA-1	HMA PAVEMENT TYPE E-1
HMA-3	HMA PAVEMENT TYPE E-3
AS	ASPHALTIC SURFACE
ASDF	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES
AST	ASPHALTIC SURFACE TEMPORARY
AF	ASPHALTIC FLUME
CG-18A	CONCRETE CURB & GUTTER 18-INCH TYPE A
CG-30A	CONCRETE CURB & GUTTER 30-INCH TYPE A
CG-30D	CONCRETE CURB & GUTTER 30-INCH TYPE D
CG-36A6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A
CG-36D6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D
CG-36R4	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R
CCP	CONCRETE CURB PEDESTRIAN
LMCC	LAWN MOWING CURB CUT
CS-4	CONCRETE SIDEWALK 4-INCH
CS-4C	CONCRETE SIDEWALK 4-INCH COLORED BROWN
CS-5	CONCRETE SIDEWALK 5-INCH
CS-8	CONCRETE SIDEWALK 8-INCH
WF-NP	CURB RAMP DETECTABLE WARNING FIELD, NATURAL PATINA
CR-2	CURB RAMP TYPE 2
CR-4B	CURB RAMP TYPE 4B
CMSN1	CONCRETE MEDIAN SLOPE NOSE TYPE 1
CMSN2	CONCRETE MEDIAN SLOPE NOSE TYPE 2
G	GRASS
GD	GRAVEL DRIVEWAY
AM	ADJUST MANHOLE
AV	ADJUST VALVE
AI	ADJUST INLET
RM	RECONSTRUCT MANHOLE
RI	RECONSTRUCT INLET
CB-56	CONCRETE BARRIER TYPE S56

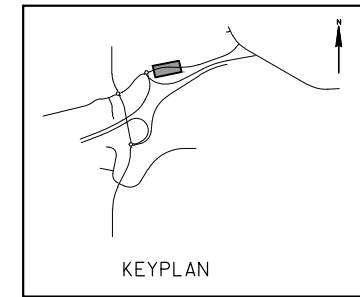
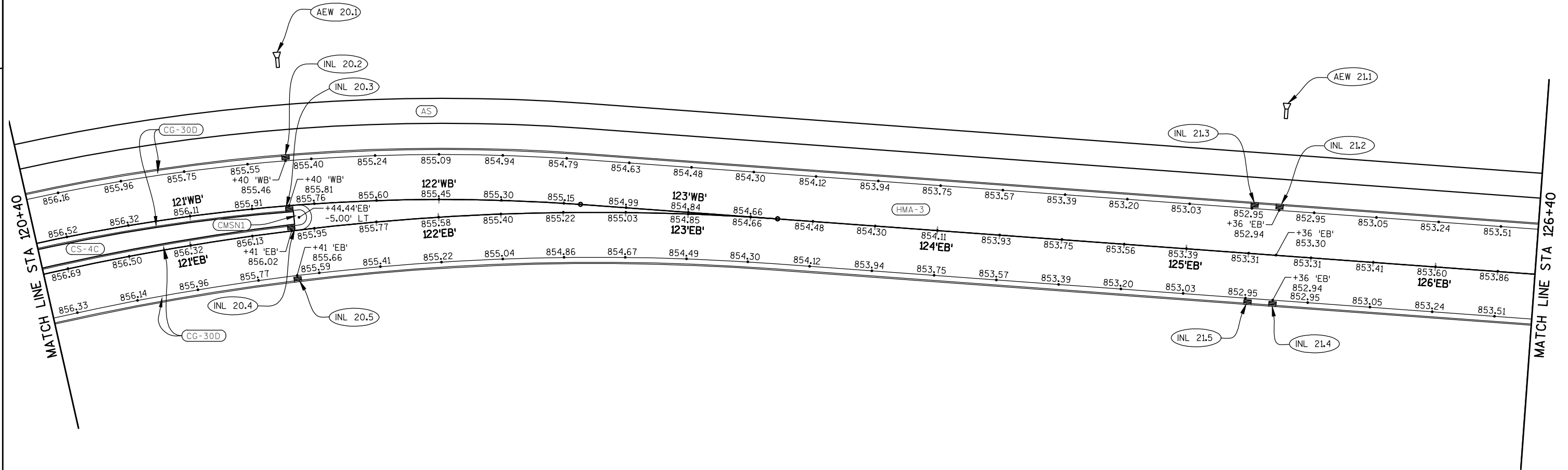




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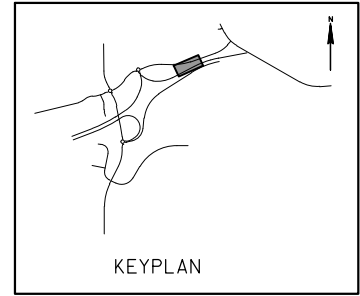
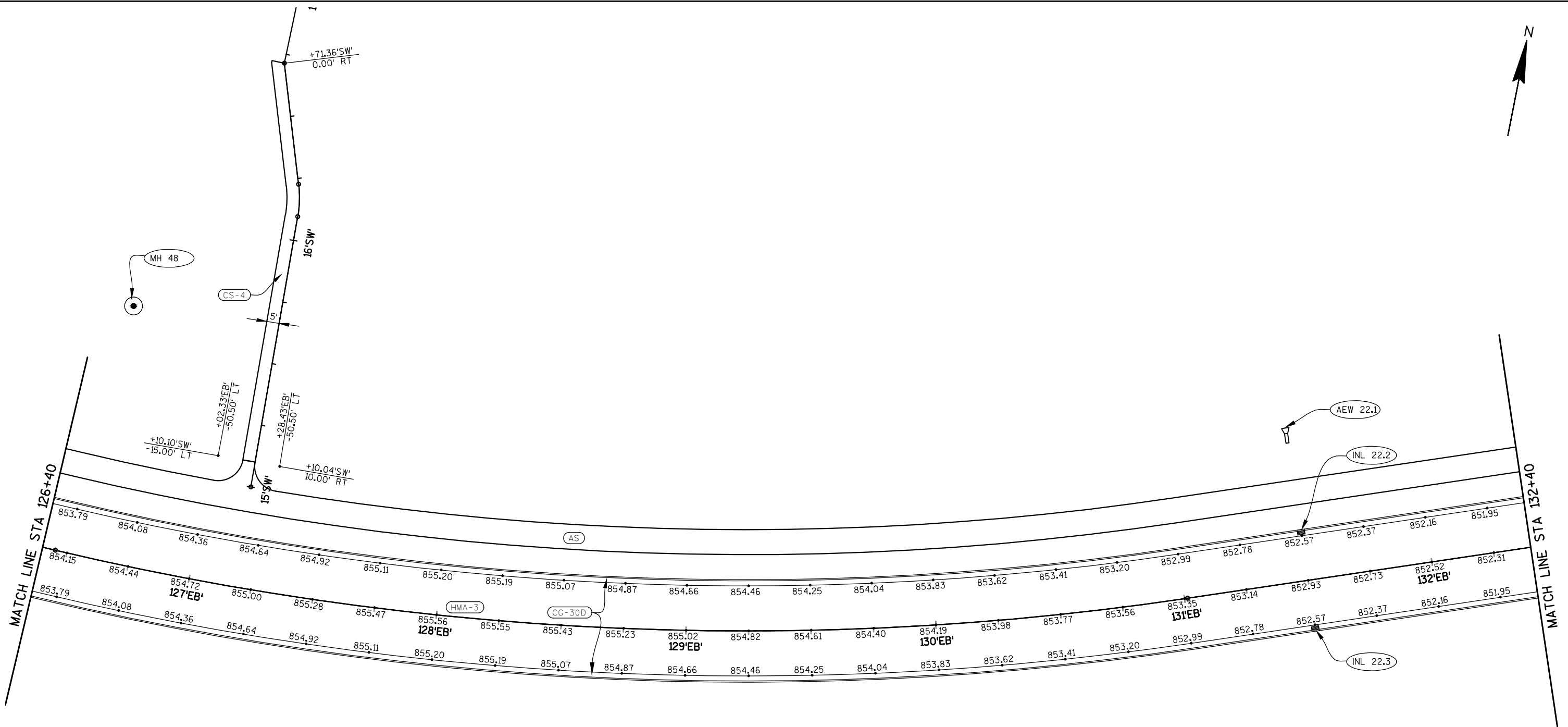
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CP-8.5	CONCRETE PAVEMENT 8.5-INCH	LMCC	LAWN MOWING CURB CUT
CP-10	CONCRETE PAVEMENT 10-INCH	CS-4	CONCRETE SIDEWALK 4-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB	CS-4C	CONCRETE SIDEWALK 4-INCH COLORED BROWN
SAS	STRUCTURAL APPROACH SLAB	CS-5	CONCRETE SIDEWALK 5-INCH
CD-6	CONCRETE DRIVEWAY 6-INCH	CS-8	CONCRETE SIDEWALK 8-INCH
CD-7	CONCRETE DRIVEWAY 7-INCH	WF-NP	CURB RAMP DETECTABLE WARNING FIELD, NATURAL PATINA
CPTA-12	CONCRETE ROUNDABOUT TRUCK APRON 12-INCH	CR-2	CURB RAMP TYPE 2
HMA-0.3	HMA PAVEMENT TYPE E-0.3	CR-4B	CURB RAMP TYPE 4B
HMA-3	HMA PAVEMENT TYPE E-3	CMSN1	CONCRETE MEDIAN SLOPE NOSE TYPE 1
AS	ASPHALTIC SURFACE	CMSN2	CONCRETE MEDIAN SLOPE NOSE TYPE 2
ASDF	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	G	GRASS
AST	ASPHALTIC SURFACE TEMPORARY	GD	GRAVEL DRIVEWAY
AF	ASPHALTIC FLUME	AM	ADJUST MANHOLE
CG-18A	CONCRETE CURB & GUTTER 18-INCH TYPE A	AV	ADJUST VALVE
CG-30A	CONCRETE CURB & GUTTER 30-INCH TYPE A	AI	ADJUST INLET
CG-30D	CONCRETE CURB & GUTTER 30-INCH TYPE D	RM	RECONSTRUCT MANHOLE
CG-36A6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A	RI	RECONSTRUCT INLET
CG-36D6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D	CB-56	CONCRETE BARRIER TYPE S56
CG-36R4	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R		





**LEGEND:**

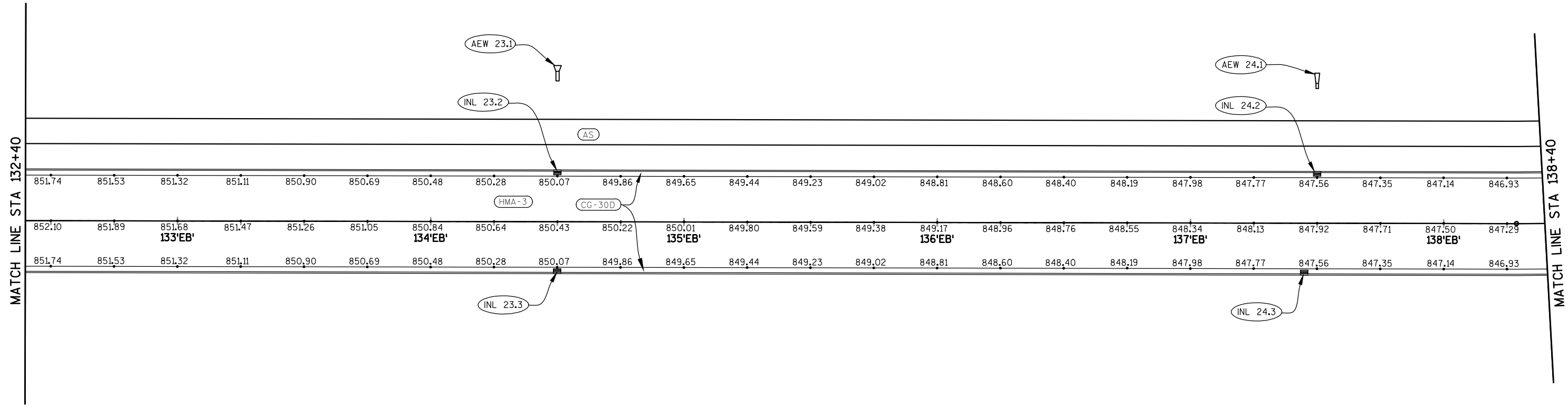
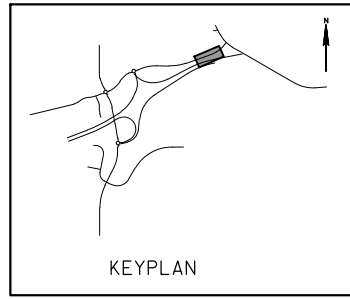
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CP-8.5	CONCRETE PAVEMENT 8.5-INCH	LMCC	LAWN MOWING CURB CUT
CP-10	CONCRETE PAVEMENT 10-INCH	CS-4	CONCRETE SIDEWALK 4-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB	CS-4C	CONCRETE SIDEWALK 4-INCH COLORED BROWN
SAS	STRUCTURAL APPROACH SLAB	CS-5	CONCRETE SIDEWALK 5-INCH
CD-6	CONCRETE DRIVEWAY 6-INCH	CS-8	CONCRETE SIDEWALK 8-INCH
CD-7	CONCRETE DRIVEWAY 7-INCH	WF-NP	CURB RAMP DETECTABLE WARNING FIELD, NATURAL PATINA
CPTA-12	CONCRETE ROUNDABOUT TRUCK APRON 12-INCH	CR-2	CURB RAMP TYPE 2
HMA-0.3	HMA PAVEMENT TYPE E-0.3	CR-4B	CURB RAMP TYPE 4B
HMA-3	HMA PAVEMENT TYPE E-3	CMSN1	CONCRETE MEDIAN SLOPE NOSE TYPE 1
AS	ASPHALTIC SURFACE	CMSN2	CONCRETE MEDIAN SLOPE NOSE TYPE 2
ASDF	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	G	GRASS
AST	ASPHALTIC SURFACE TEMPORARY	GD	GRAVEL DRIVEWAY
AF	ASPHALTIC FLUME	AM	ADJUST MANHOLE
CG-18A	CONCRETE CURB & GUTTER 18-INCH TYPE A	AV	ADJUST VALVE
CG-30A	CONCRETE CURB & GUTTER 30-INCH TYPE A	AI	ADJUST INLET
CG-30D	CONCRETE CURB & GUTTER 30-INCH TYPE D	RM	RECONSTRUCT MANHOLE
CG-36A6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A	RI	RECONSTRUCT INLET
CG-36D6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D	CB-56	CONCRETE BARRIER TYPE S56
CG-36R4	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R		



**LEGEND:**

CP-8	CONCRETE PAVEMENT 8-INCH	CCP	CONCRETE CURB PEDESTRIAN
CP-8.5	CONCRETE PAVEMENT 8.5-INCH	LMCC	LAWN MOWING CURB CUT
CP-10	CONCRETE PAVEMENT 10-INCH	CS-4	CONCRETE SIDEWALK 4-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB	CS-4C	CONCRETE SIDEWALK 4-INCH COLORED BROWN
SAS	STRUCTURAL APPROACH SLAB	CS-5	CONCRETE SIDEWALK 5-INCH
CD-6	CONCRETE DRIVEWAY 6-INCH	CS-8	CONCRETE SIDEWALK 8-INCH
CD-7	CONCRETE DRIVEWAY 7-INCH	WF-NP	CURB RAMP DETECTABLE WARNING FIELD, NATURAL PATINA
CPTA-12	CONCRETE ROUNDABOUT TRUCK APRON 12-INCH	CR-2	CURB RAMP TYPE 2
HMA-0.3	HMA PAVEMENT TYPE E-0.3	CR-4B	CURB RAMP TYPE 4B
HMA-3	HMA PAVEMENT TYPE E-3	CMSN1	CONCRETE MEDIAN SLOPE NOSE TYPE 1
AS	ASPHALTIC SURFACE	CMSN2	CONCRETE MEDIAN SLOPE NOSE TYPE 2
ASDF	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	G	GRASS
AST	ASPHALTIC SURFACE TEMPORARY	GD	GRAVEL DRIVEWAY
AF	ASPHALTIC FLUME	AM	ADJUST MANHOLE
CG-18A	CONCRETE CURB & GUTTER 18-INCH TYPE A	AV	ADJUST VALVE
CG-30A	CONCRETE CURB & GUTTER 30-INCH TYPE A	AI	ADJUST INLET
CG-30D	CONCRETE CURB & GUTTER 30-INCH TYPE D	RM	RECONSTRUCT MANHOLE
CG-36A6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A	RI	RECONSTRUCT INLET
CG-36D6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D	CB-56	CONCRETE BARRIER TYPE S56
CG-36R4	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R		



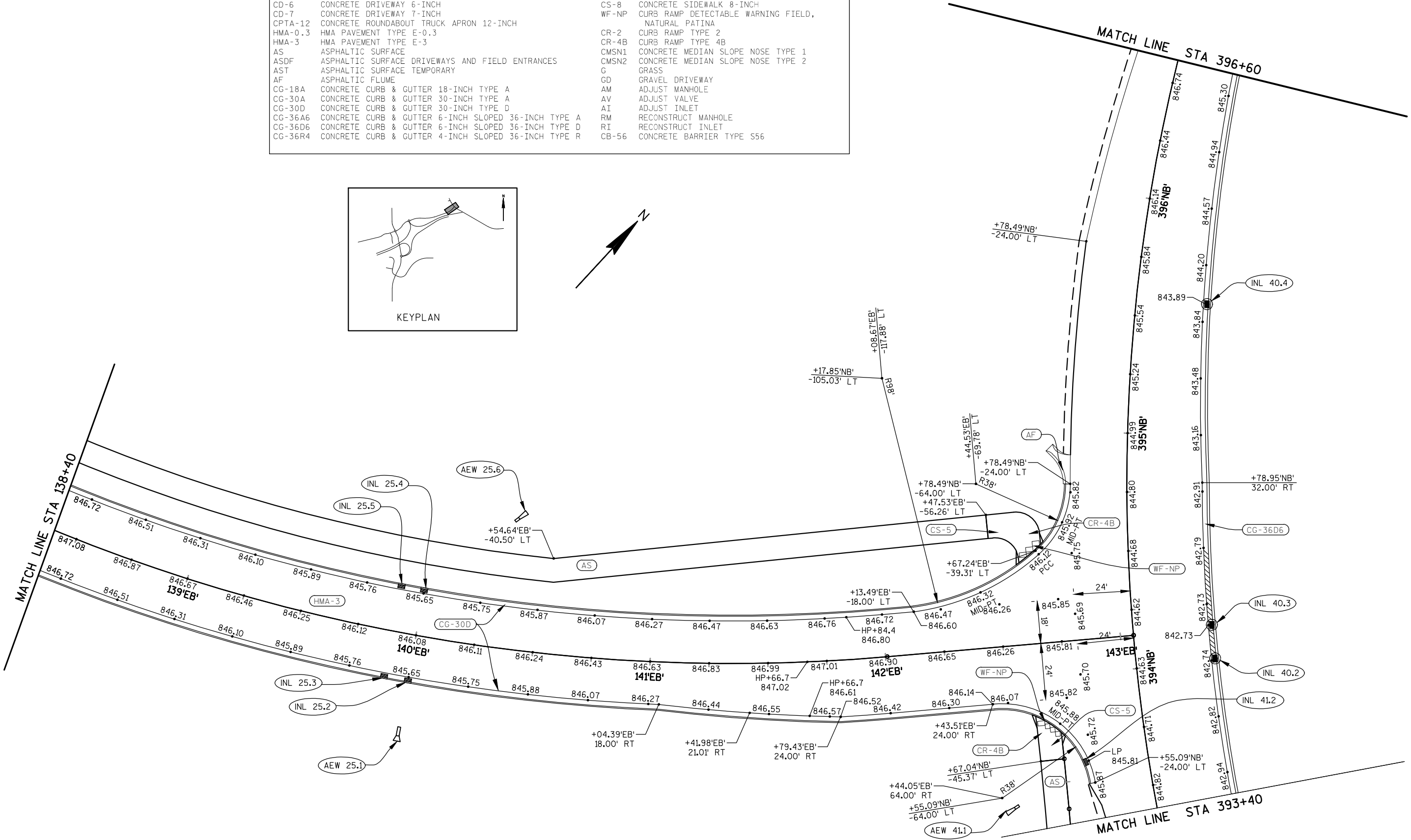
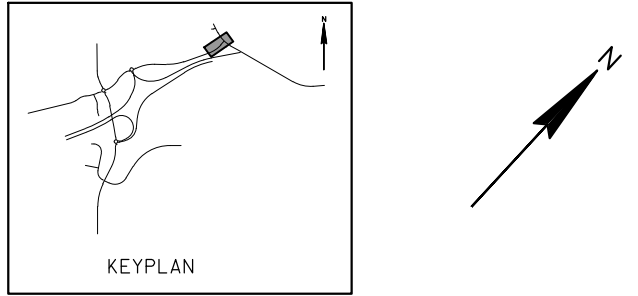


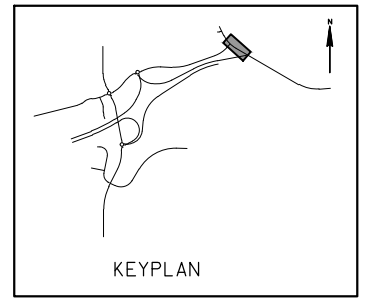
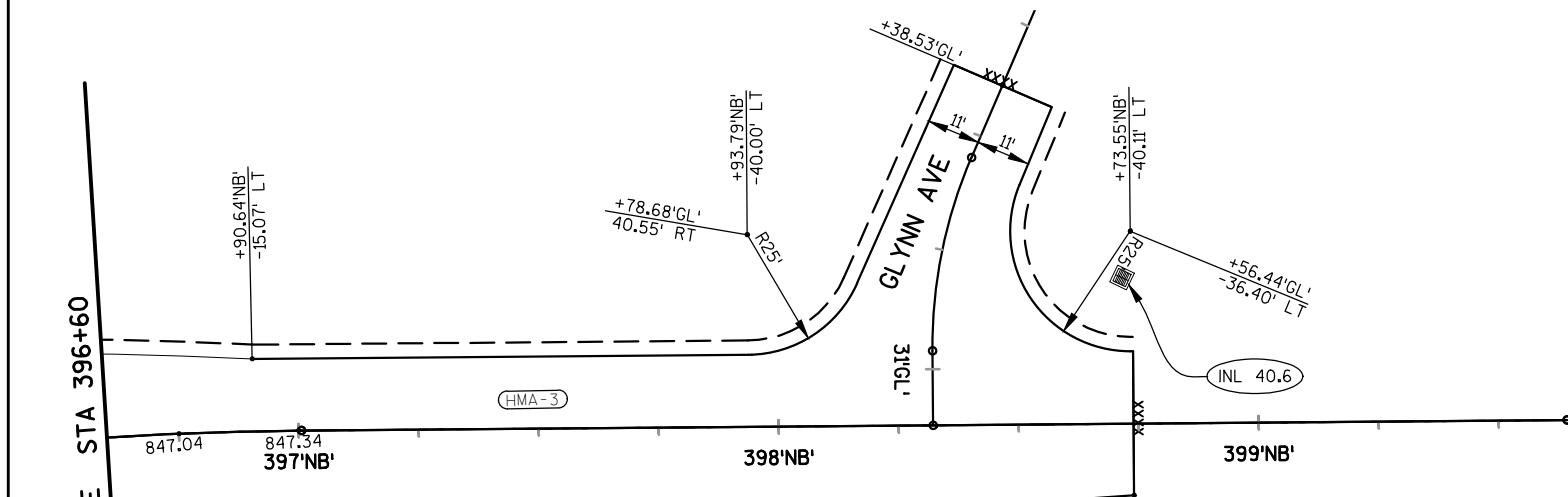
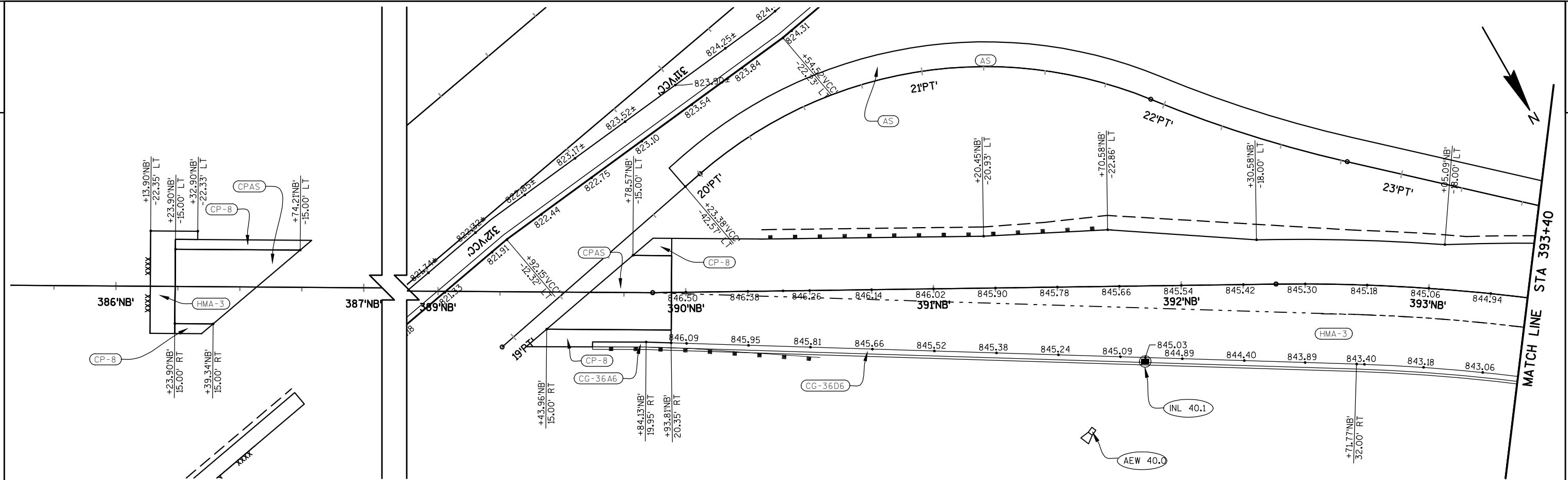
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CP-8.5	CONCRETE PAVEMENT 8.5-INCH	LMCC	LAWN MOWING CURB CUT
CP-10	CONCRETE PAVEMENT 10-INCH	CS-4	CONCRETE SIDEWALK 4-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB	CS-4C	CONCRETE SIDEWALK 4-INCH COLORED BROWN
SAS	STRUCTURAL APPROACH SLAB	CS-5	CONCRETE SIDEWALK 5-INCH
CD-6	CONCRETE DRIVEWAY 6-INCH	CS-8	CONCRETE SIDEWALK 8-INCH
CD-7	CONCRETE DRIVEWAY 7-INCH	WF-NP	CURB RAMP DETECTABLE WARNING FIELD, NATURAL PATINA
CPTA-12	CONCRETE ROUNDABOUT TRUCK APRON 12-INCH	CR-2	CURB RAMP TYPE 2
HMA-0.3	HMA PAVEMENT TYPE E-0.3	CR-4B	CURB RAMP TYPE 4B
HMA-3	HMA PAVEMENT TYPE E-3	CMSN1	CONCRETE MEDIAN SLOPE NOSE TYPE 1
AS	ASPHALTIC SURFACE	CMSN2	CONCRETE MEDIAN SLOPE NOSE TYPE 2
ASDF	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	G	GRASS
AST	ASPHALTIC SURFACE TEMPORARY	GD	GRAVEL DRIVEWAY
AF	ASPHALTIC FLUME	AM	ADJUST MANHOLE
CG-18A	CONCRETE CURB & GUTTER 18-INCH TYPE A	AV	ADJUST VALVE
CG-30A	CONCRETE CURB & GUTTER 30-INCH TYPE A	AI	ADJUST INLET
CG-30D	CONCRETE CURB & GUTTER 30-INCH TYPE D	RM	RECONSTRUCT MANHOLE
CG-36A6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A	RI	RECONSTRUCT INLET
CG-36D6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D	CB-56	CONCRETE BARRIER TYPE S56
CG-36R4	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R		

**LEGEND:**

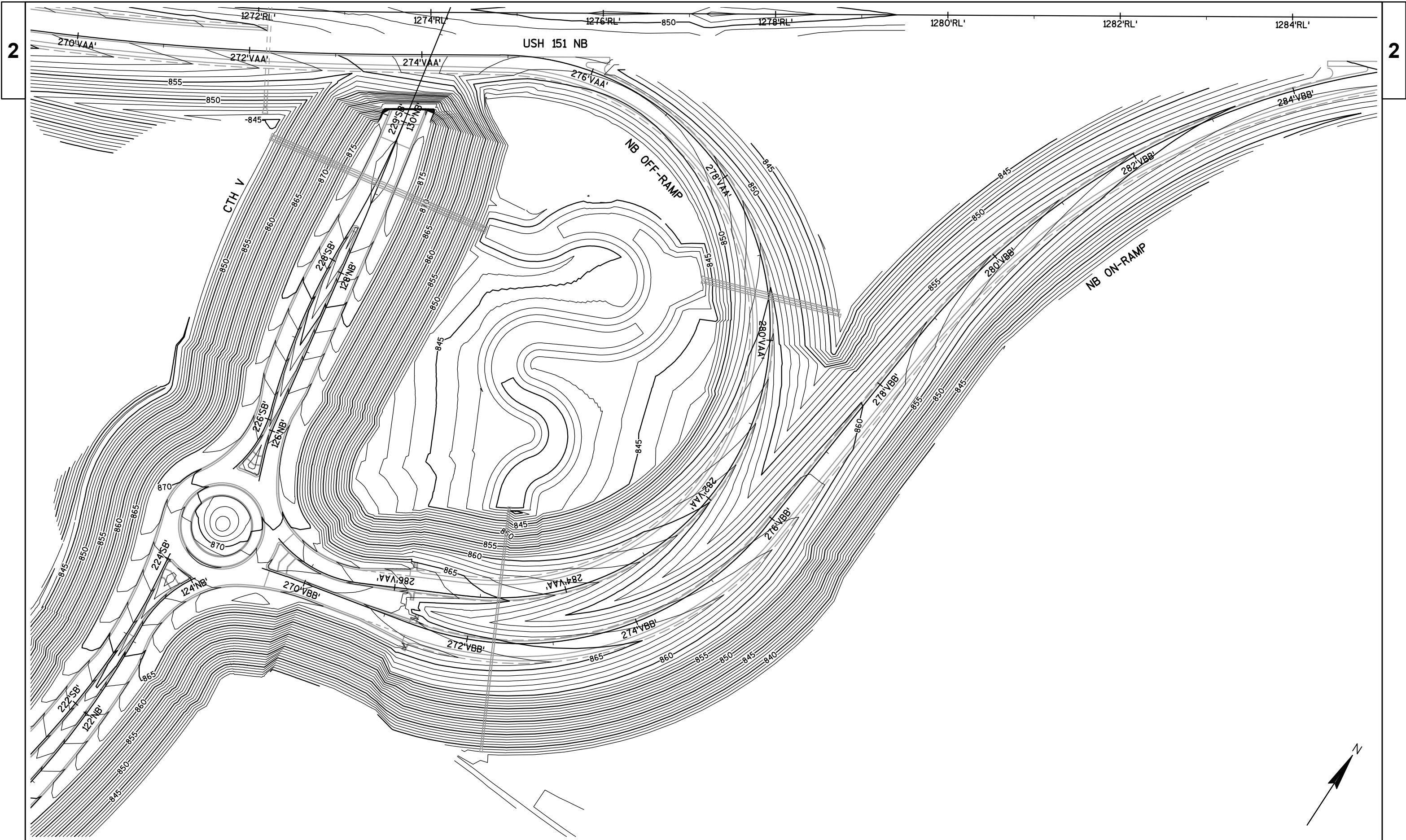
CP-8	CONCRETE PAVEMENT 8-INCH	CCP	CONCRETE CURB PEDESTRIAN
CP-8.5	CONCRETE PAVEMENT 8.5-INCH	LMCC	LAWN MOWING CURB CUT
CP-10	CONCRETE PAVEMENT 10-INCH	CS-4	CONCRETE SIDEWALK 4-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB	CS-4C	CONCRETE SIDEWALK 4-INCH COLORED BROWN
SAS	STRUCTURAL APPROACH SLAB	CS-5	CONCRETE SIDEWALK 5-INCH
CD-6	CONCRETE DRIVEWAY 6-INCH	CS-8	CONCRETE SIDEWALK 8-INCH
CD-7	CONCRETE DRIVEWAY 7-INCH	WF-NP	CURB RAMP DETECTABLE WARNING FIELD, NATURAL PATINA
CPTA-12	CONCRETE ROUNDABOUT TRUCK APRON 12-INCH	CR-2	CURB RAMP TYPE 2
HMA-0.3	HMA PAVEMENT TYPE E-0.3	CR-4B	CURB RAMP TYPE 4B
HMA-3	HMA PAVEMENT TYPE E-3	AS	ASPHALTIC SURFACE
AS	ASPHALTIC SURFACE	CMSN1	CONCRETE MEDIAN SLOPE NOSE TYPE 1
ASDF	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	CMSN2	CONCRETE MEDIAN SLOPE NOSE TYPE 2
AST	ASPHALTIC SURFACE TEMPORARY	G	GRASS
AF	ASPHALTIC FLUME	GD	GRAVEL DRIVEWAY
CG-18A	CONCRETE CURB & GUTTER 18-INCH TYPE A	AM	ADJUST MANHOLE
CG-30A	CONCRETE CURB & GUTTER 30-INCH TYPE A	AV	ADJUST VALVE
CG-30D	CONCRETE CURB & GUTTER 30-INCH TYPE D	AI	ADJUST INLET
CG-36A6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A	RM	RECONSTRUCT MANHOLE
CG-36D6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D	RI	RECONSTRUCT INLET
CG-36R4	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R	CB-56	CONCRETE BARRIER TYPE S56





**LEGEND:**

CP-8	CONCRETE PAVEMENT 8-INCH	CCP	CONCRETE CURB PEDESTRIAN
CP-8.5	CONCRETE PAVEMENT 8.5-INCH	LMCC	LAWN MOWING CURB CUT
CP-10	CONCRETE PAVEMENT 10-INCH	CS-4	CONCRETE SIDEWALK 4-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB	CS-4C	CONCRETE SIDEWALK 4-INCH COLORED BROWN
SAS	STRUCTURAL APPROACH SLAB	CS-5	CONCRETE SIDEWALK 5-INCH
CD-6	CONCRETE DRIVEWAY 6-INCH	CS-8	CONCRETE SIDEWALK 8-INCH
CD-7	CONCRETE DRIVEWAY 7-INCH	WF-NP	CURB RAMP DETECTABLE WARNING FIELD, NATURAL PATINA
CPTA-12	CONCRETE ROUNDABOUT TRUCK APRON 12-INCH	CR-2	CURB RAMP TYPE 2
HMA-0.3	HMA PAVEMENT TYPE E-0.3	CR-4B	CURB RAMP TYPE 4B
HMA-3	HMA PAVEMENT TYPE E-3	CMSN1	CONCRETE MEDIAN SLOPE NOSE TYPE 1
AS	ASPHALTIC SURFACE	CMSN2	CONCRETE MEDIAN SLOPE NOSE TYPE 2
ASDF	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	G	GRASS
AST	ASPHALTIC SURFACE TEMPORARY	GD	GRAVEL DRIVEWAY
AF	ASPHALTIC FLUME	AM	ADJUST MANHOLE
CG-18A	CONCRETE CURB & GUTTER 18-INCH TYPE A	AV	ADJUST VALVE
CG-30A	CONCRETE CURB & GUTTER 30-INCH TYPE A	AI	ADJUST INLET
CG-30D	CONCRETE CURB & GUTTER 30-INCH TYPE D	RM	RECONSTRUCT MANHOLE
CG-36A6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A	RI	RECONSTRUCT INLET
CG-36D6	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D	CB-56	CONCRETE BARRIER TYPE S56
CG-36R4	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE R		



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PROJECT NO: 1420-22-71

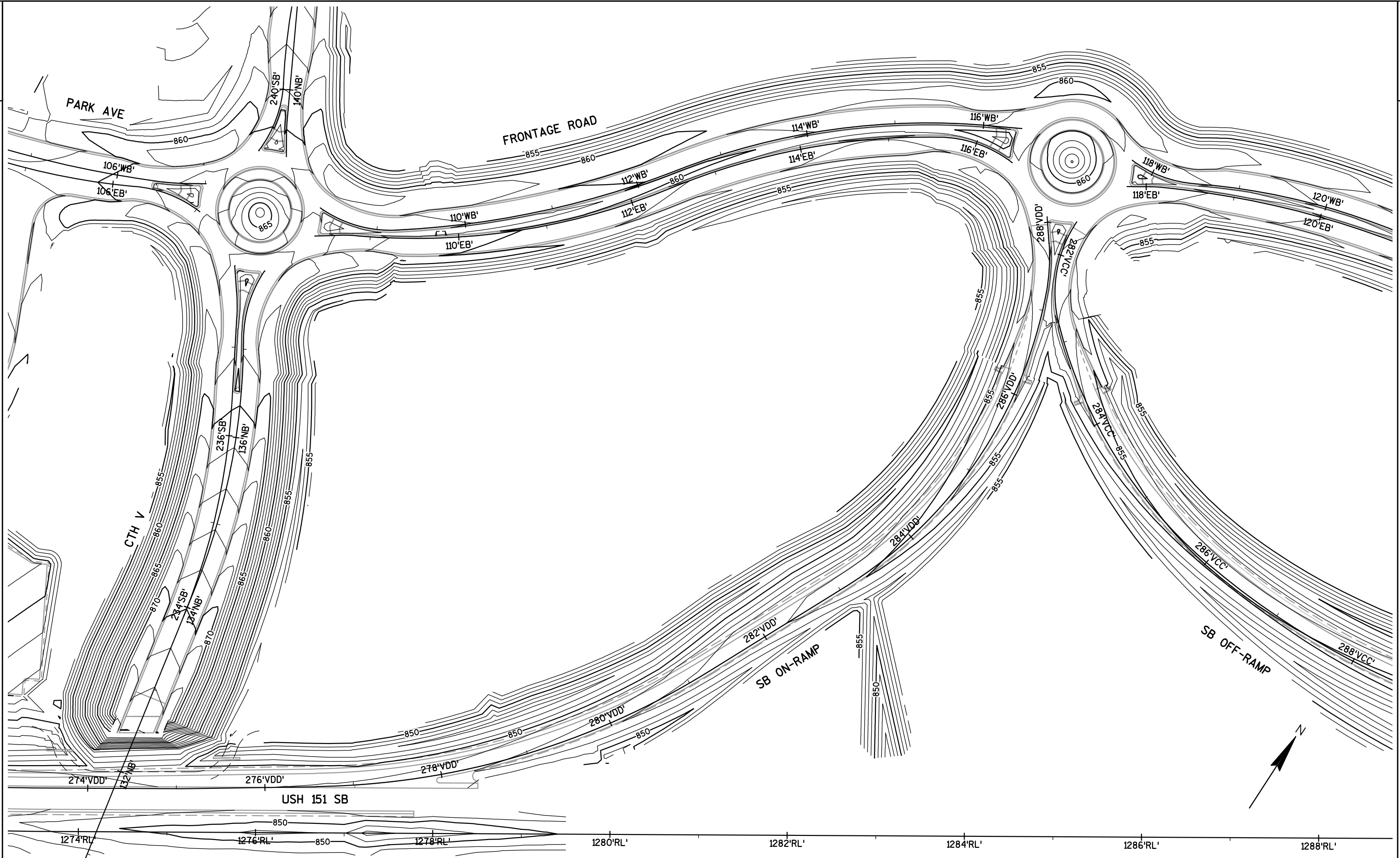
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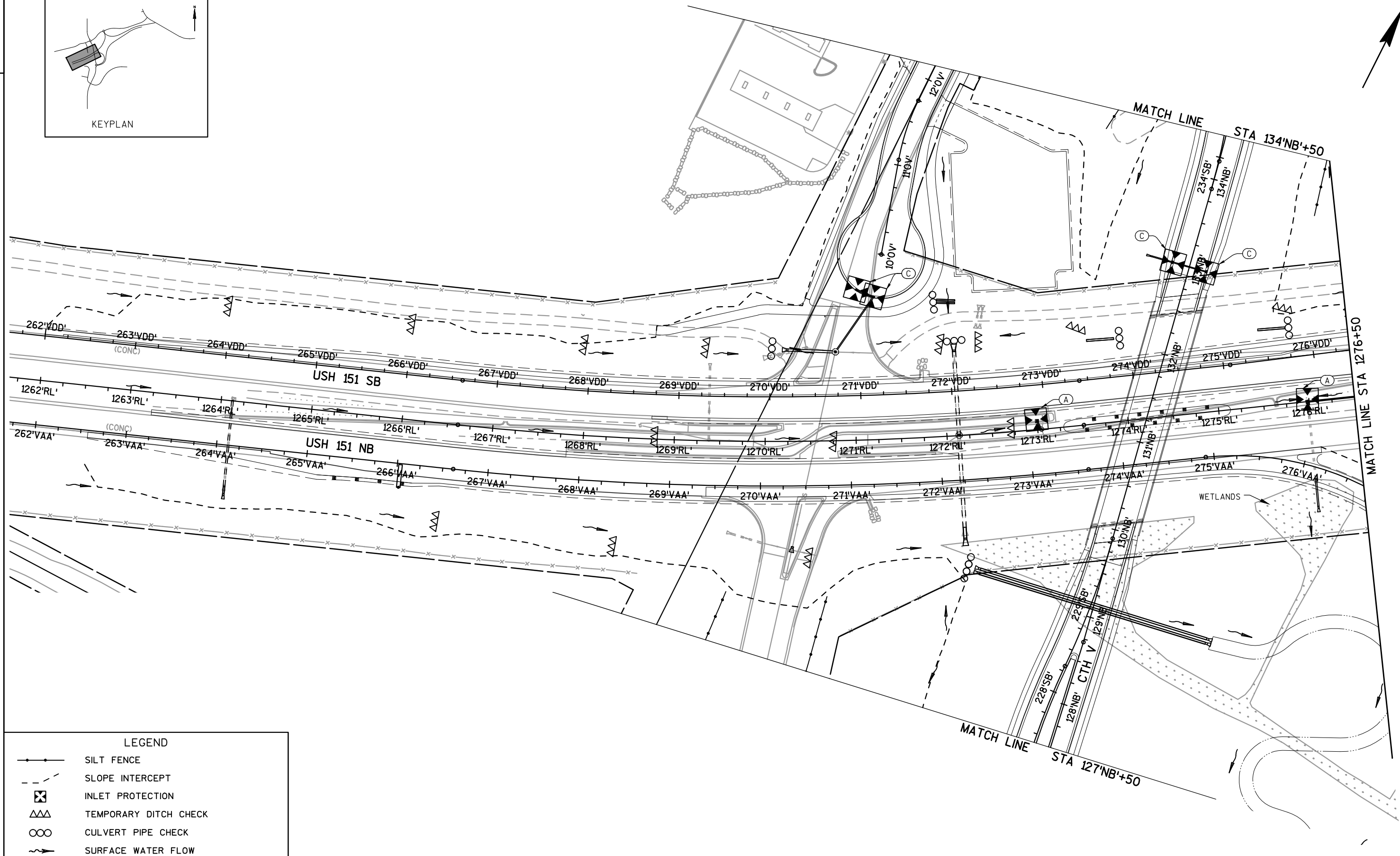
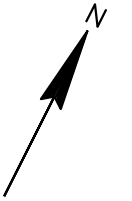
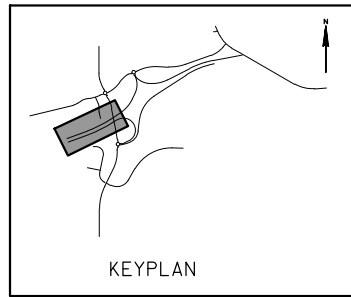
COUNTY: FOND DU LAC

CONTOUR MAP - CTH V INTERCHANGE

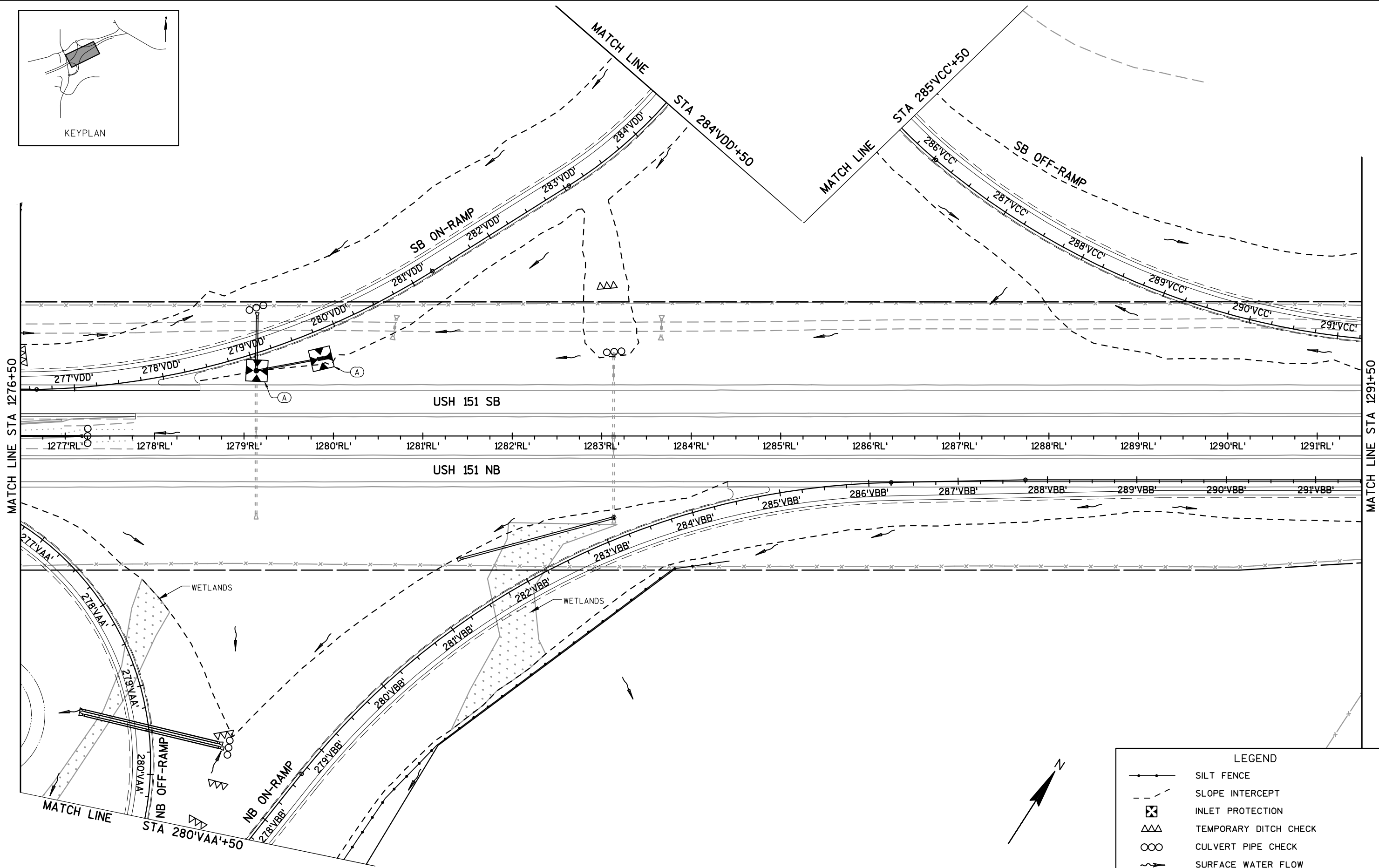
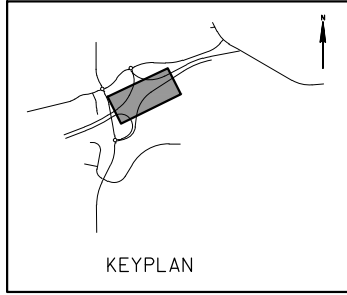
SHEET

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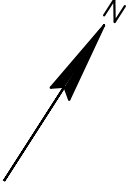


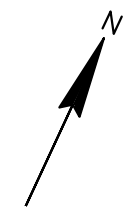
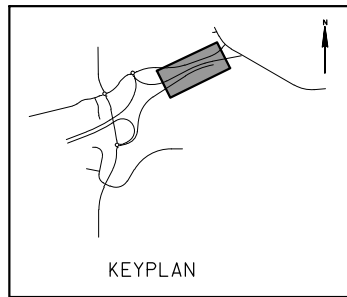
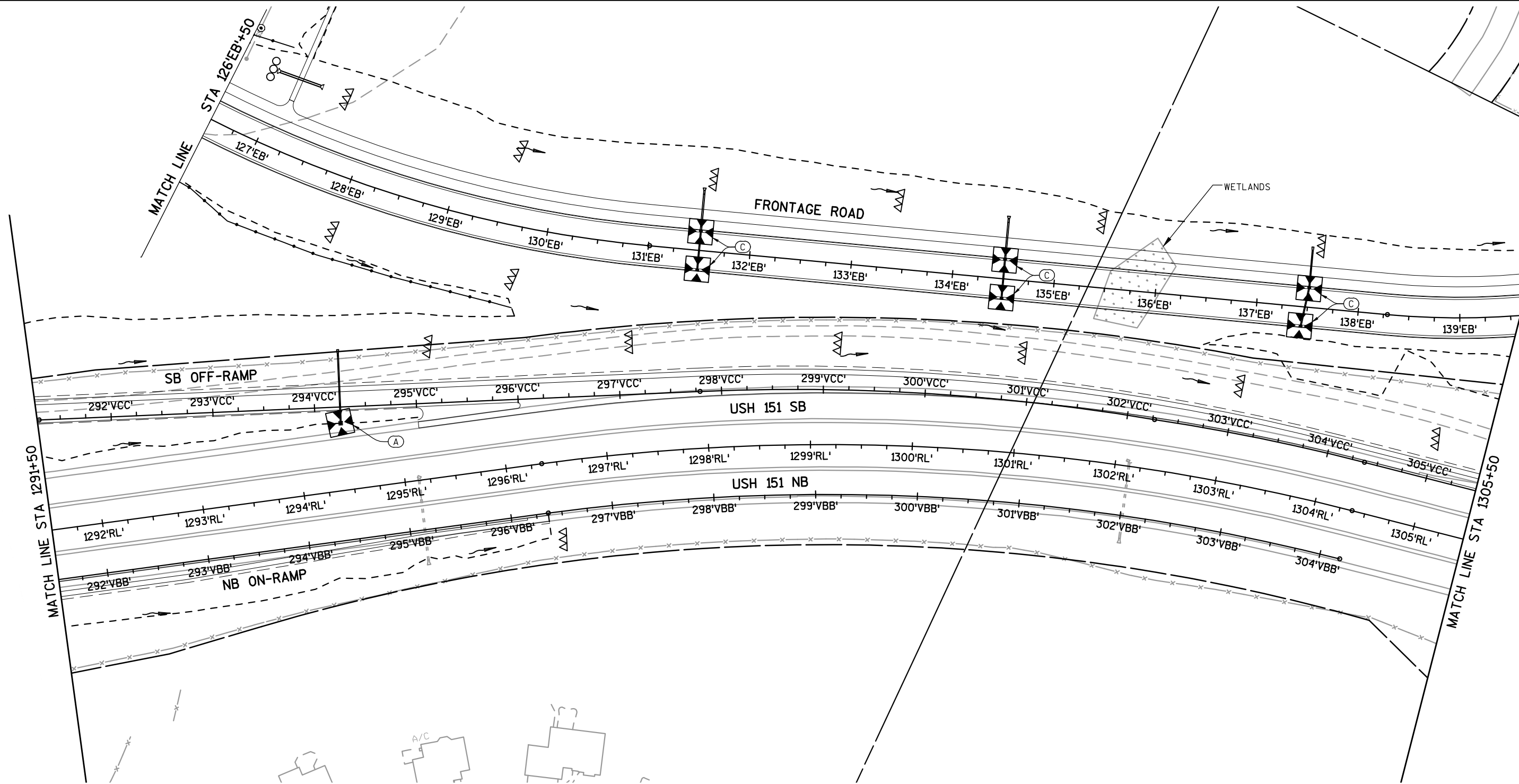


LEGEND	
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	SLOPE INTERCEPT
	INLET PROTECTION
	TEMPORARY DITCH CHECK
	CULVERT PIPE CHECK
	SURFACE WATER FLOW



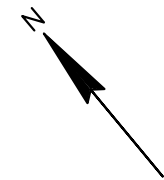
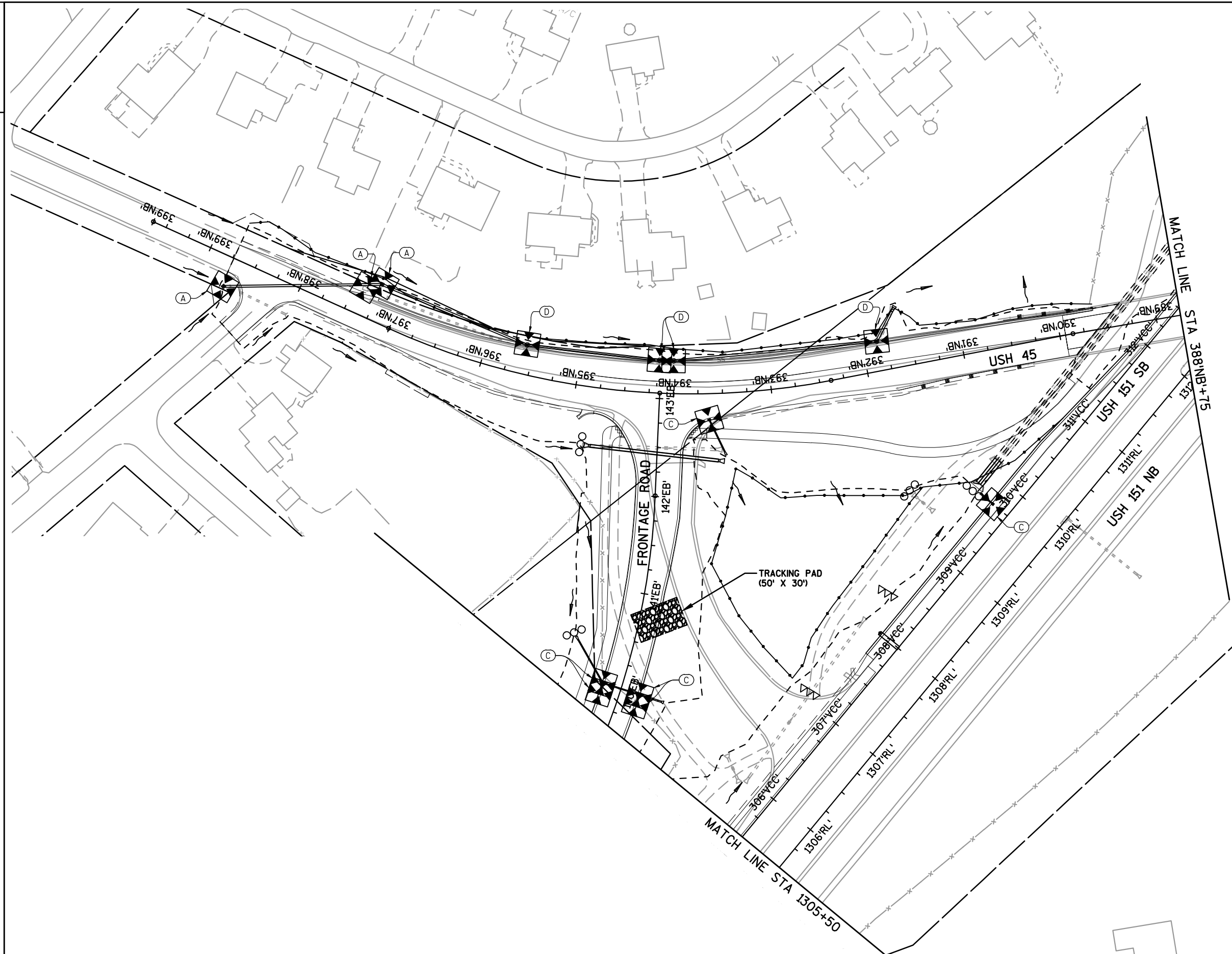
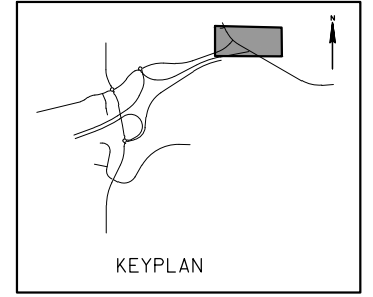
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	CULVERT PIPE CHECK
	SURFACE WATER FLOW





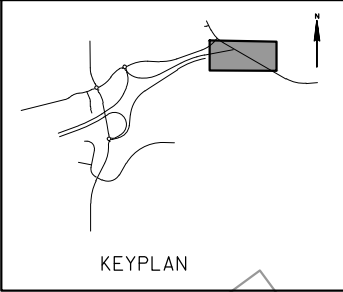
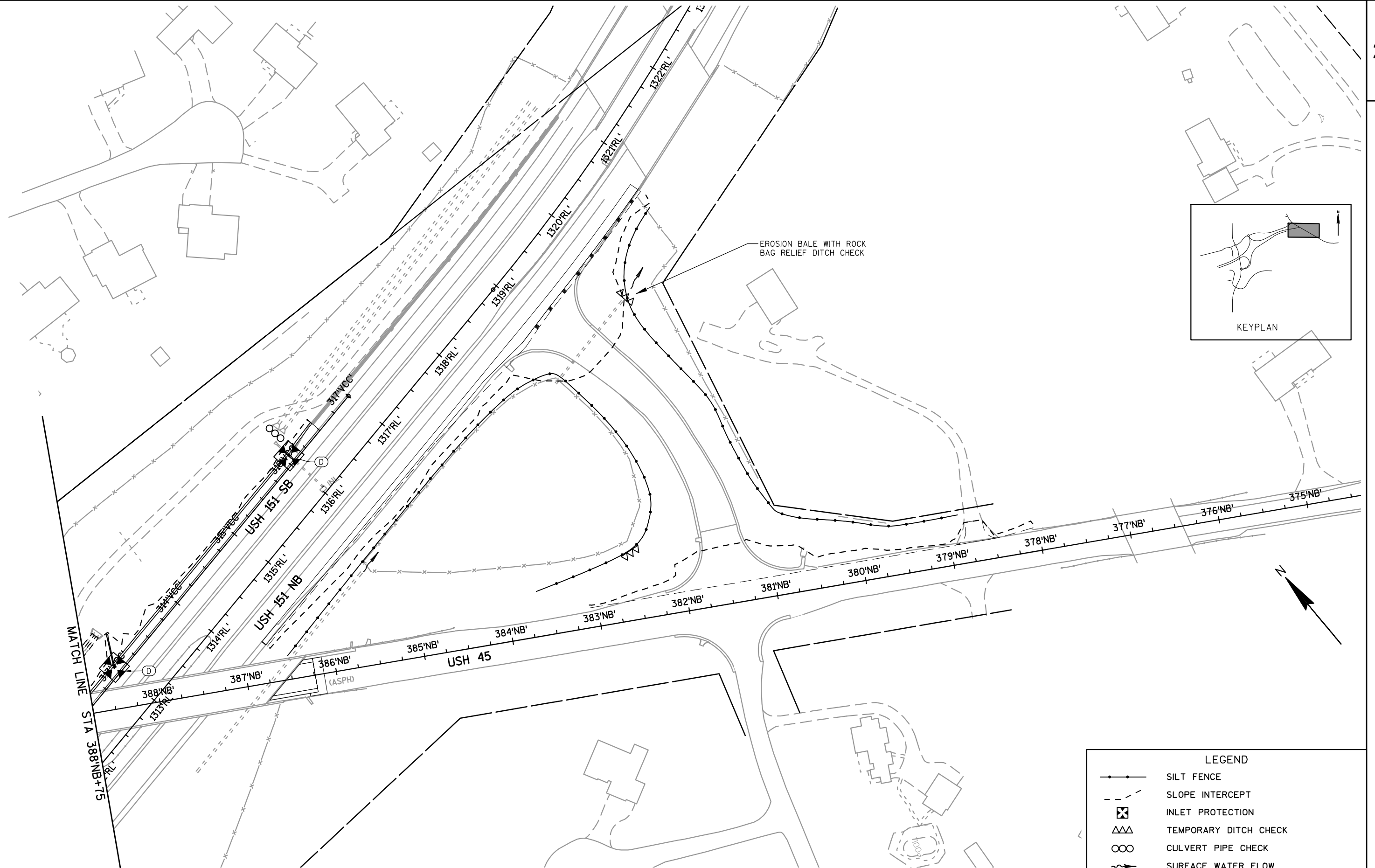
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	CULVERT PIPE CHECK
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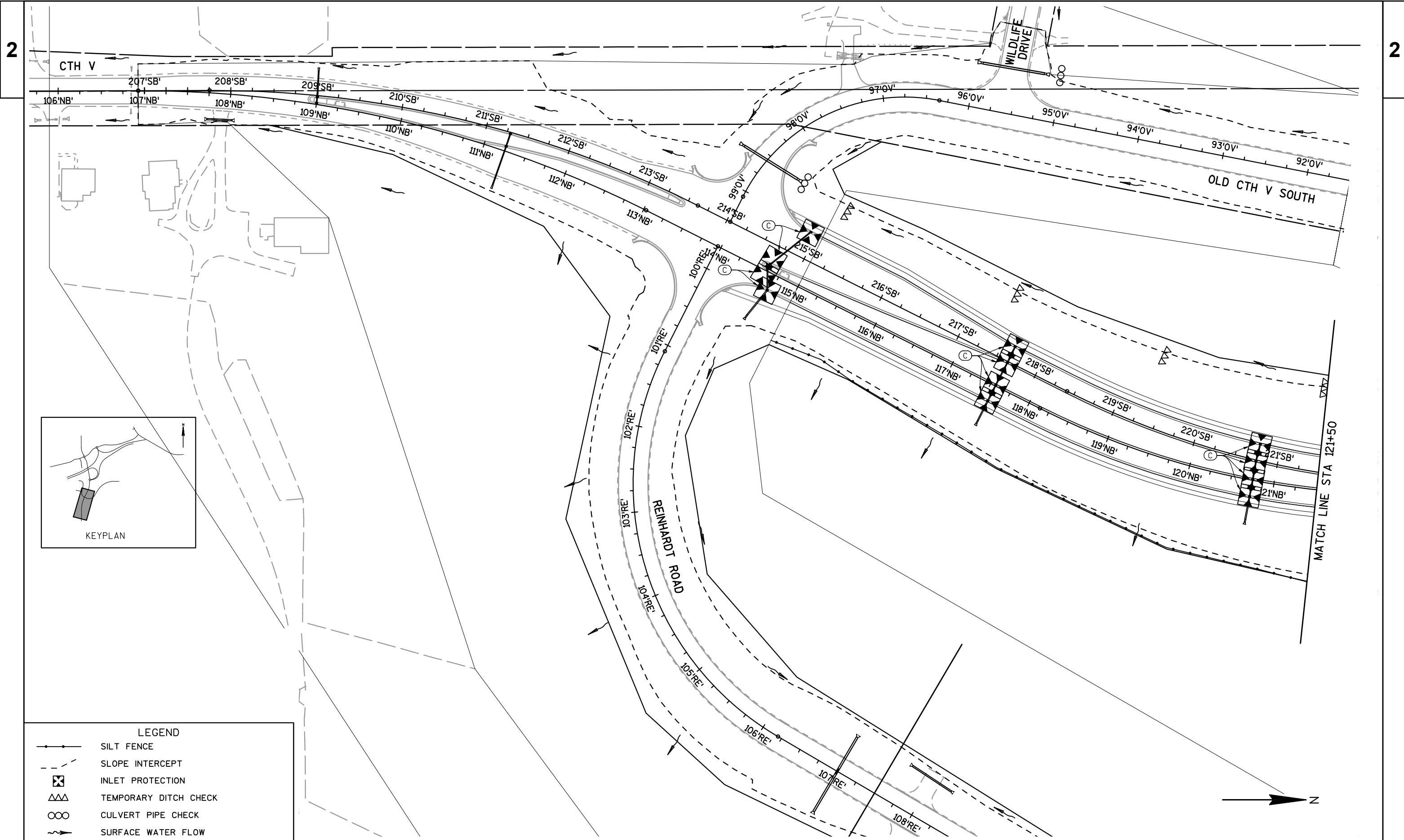


LEGEND	
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	SLOPE INTERCEPT
	INLET PROTECTION
	TEMPORARY DITCH CHECK
	CULVERT PIPE CHECK
	SURFACE WATER FLOW

PROJECT NO: 1420-22-71 | HWY: USH 151 | COUNTY: FOND DU LAC | EROSION CONTROL TEMPORARY - USH 151 | SHEET | E



LEGEND	
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	SLOPE INTERCEPT
	INLET PROTECTION
	TEMPORARY DITCH CHECK
	CULVERT PIPE CHECK
	SURFACE WATER FLOW



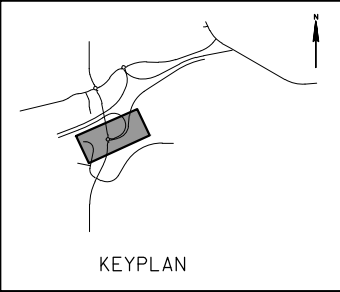
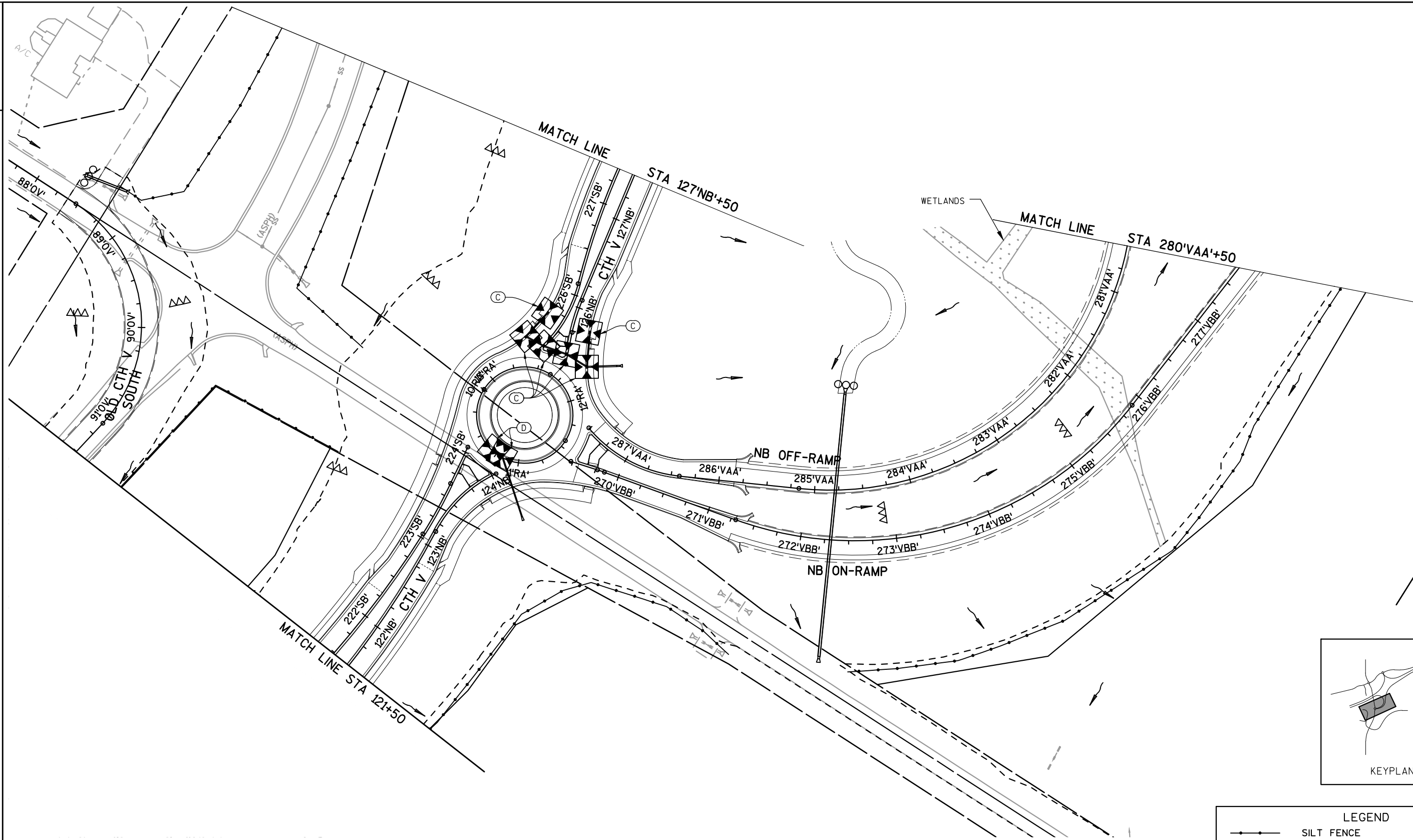
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	SURFACE WATER FLOW

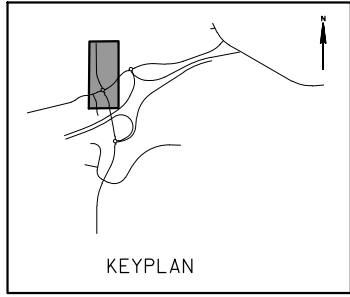
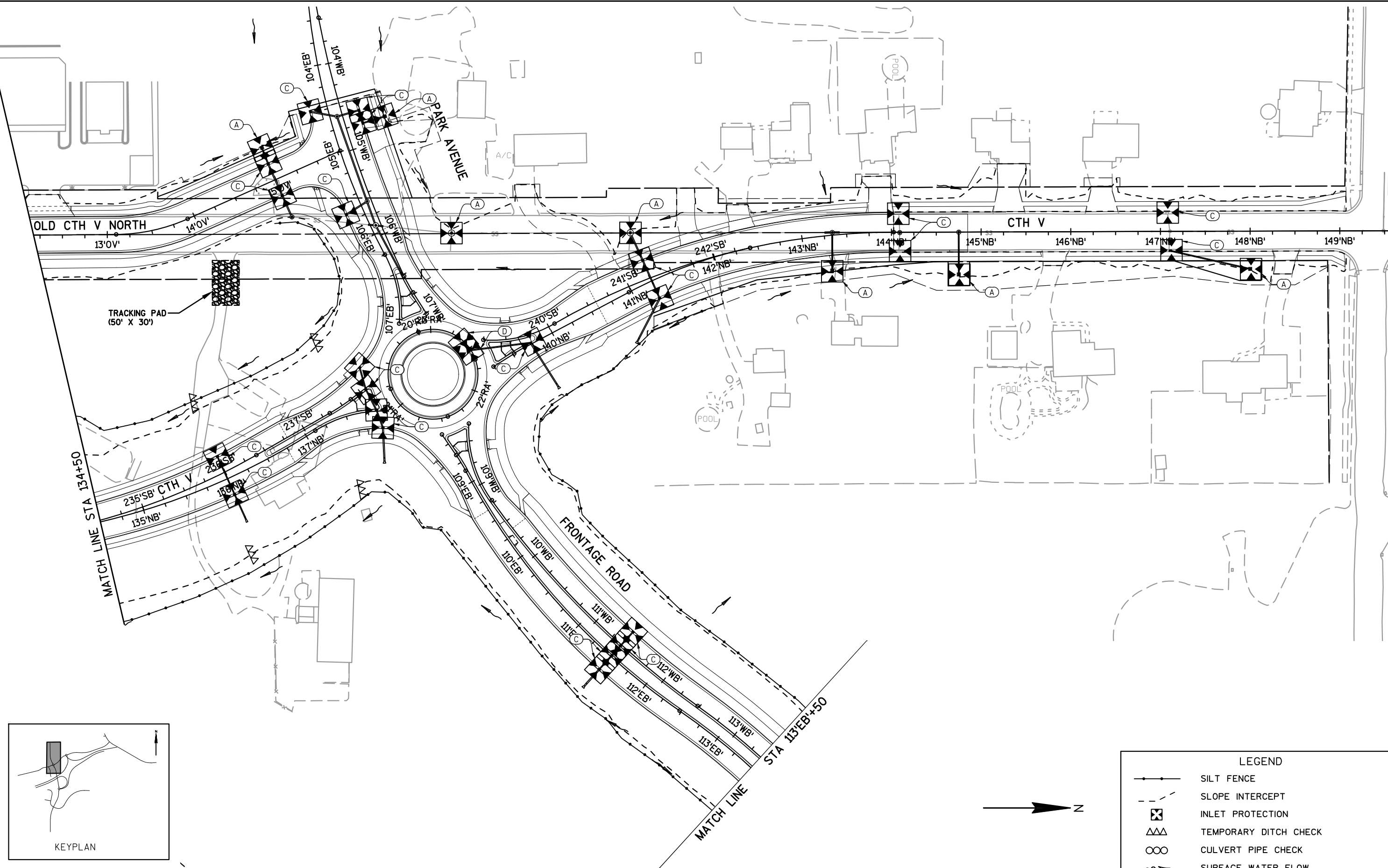
PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      EROSION CONTROL TEMPORARY - CTH V      SHEET      E

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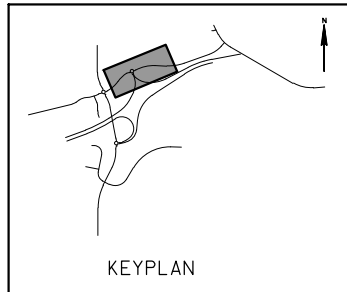
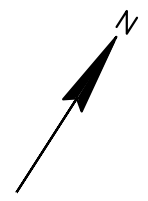
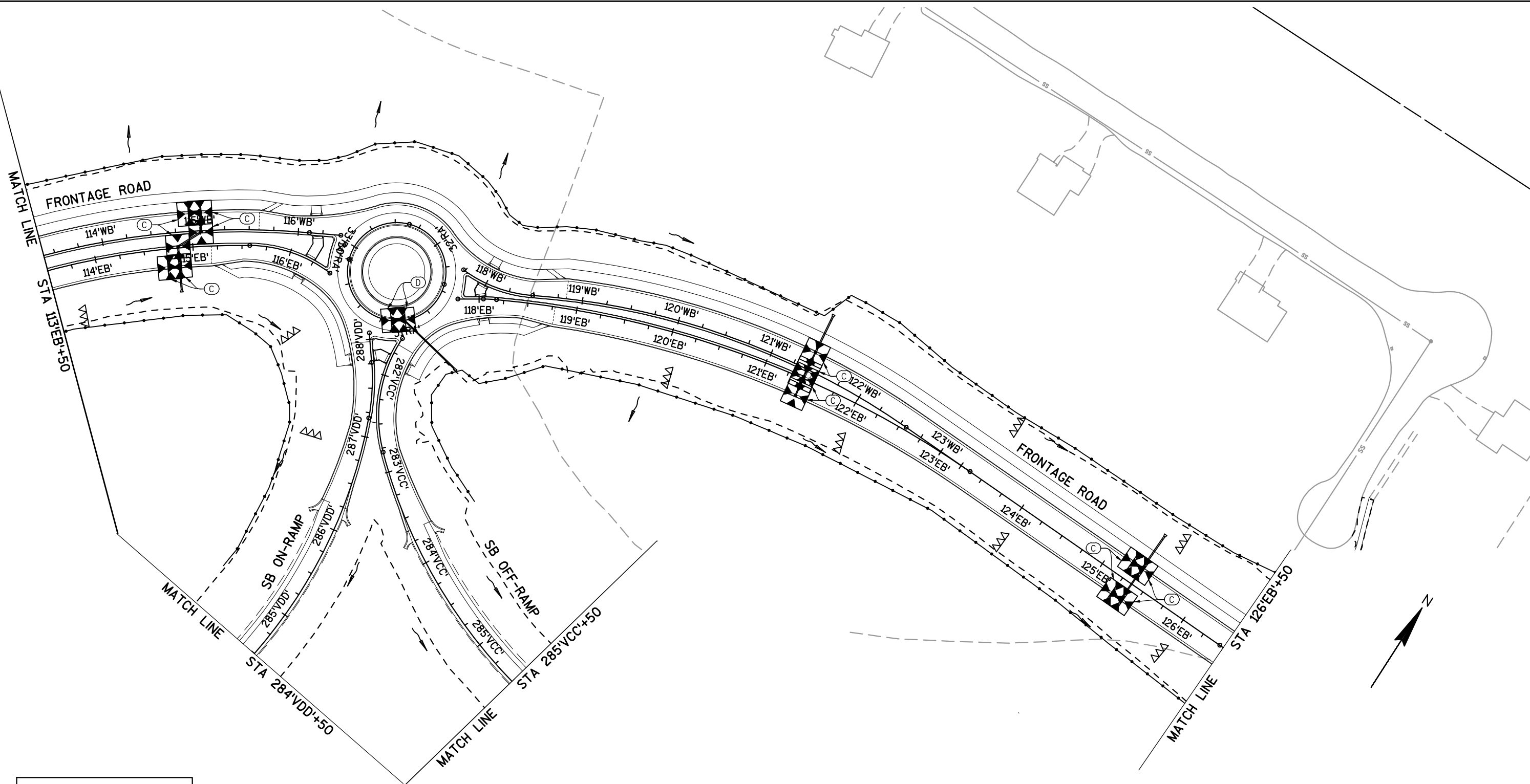


LEGEND	
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	INLET PROTECTION
	TEMPORARY DITCH CHECK
	CULVERT PIPE CHECK
	SURFACE WATER FLOW

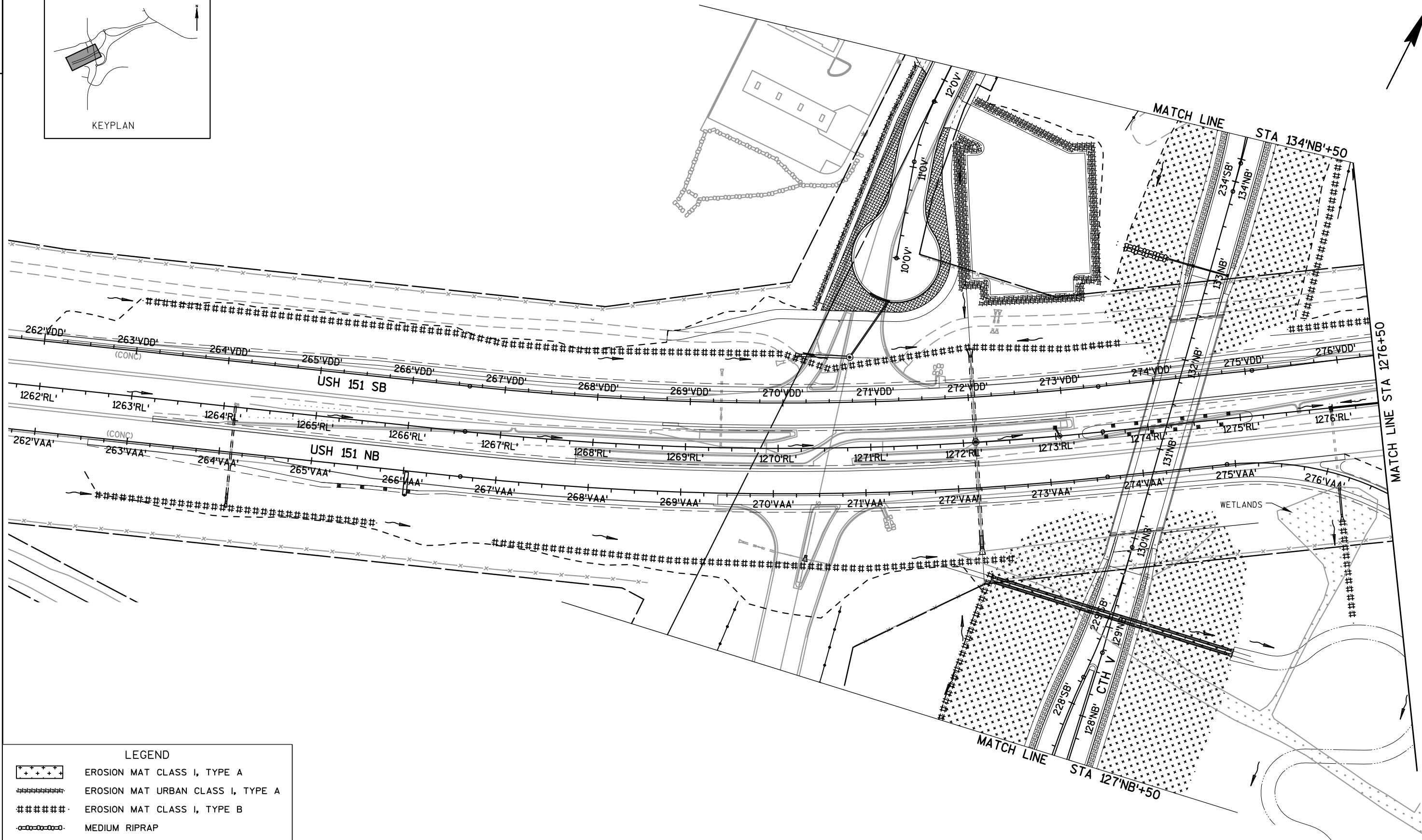
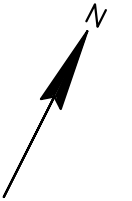
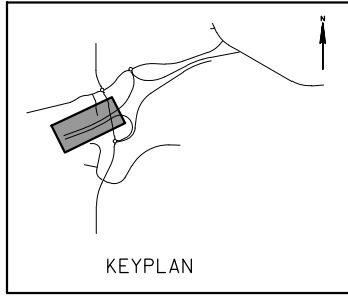


LEGEND	
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	SLOPE INTERCEPT
	INLET PROTECTION
	TEMPORARY DITCH CHECK
	CULVERT PIPE CHECK
	SURFACE WATER FLOW



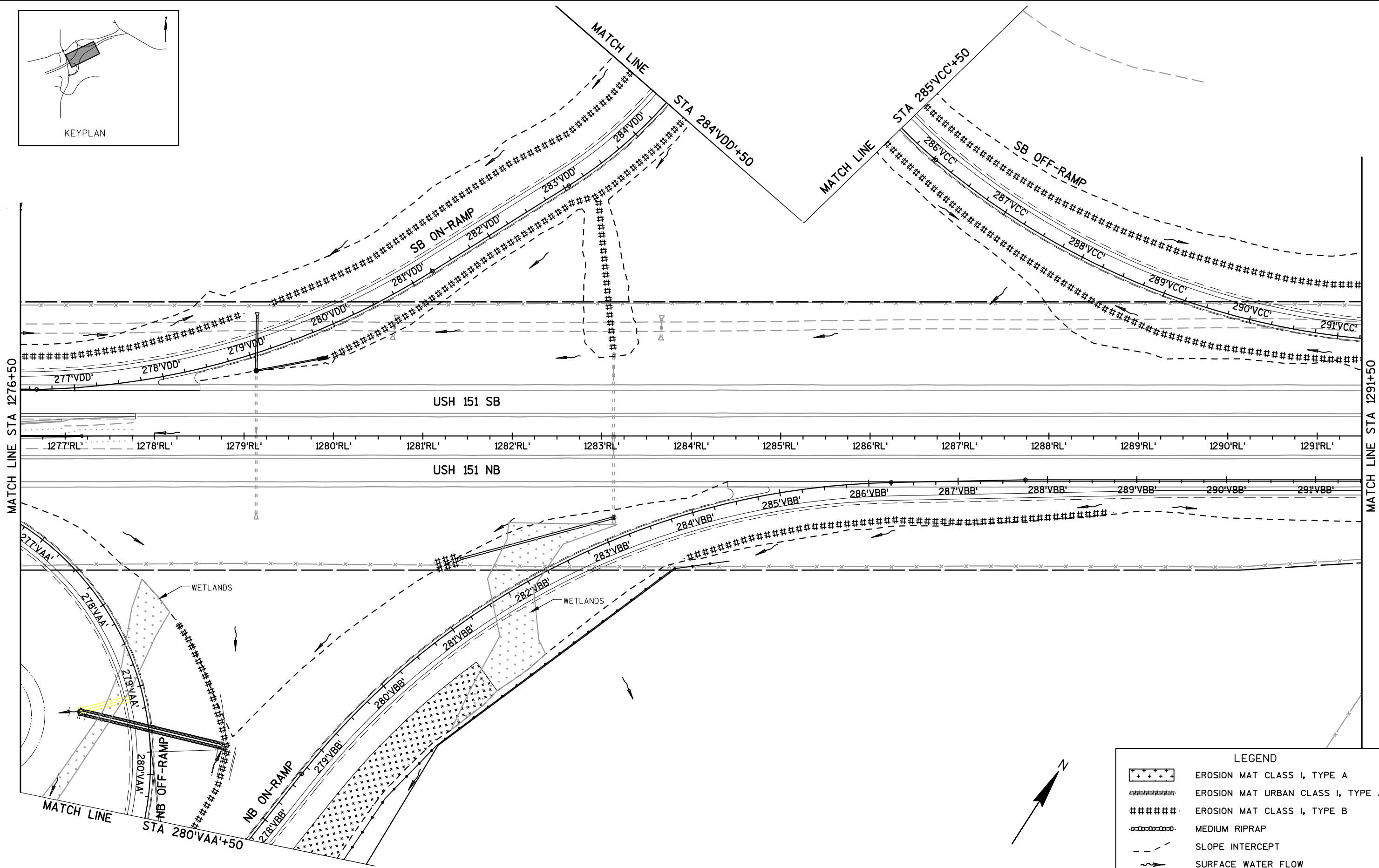
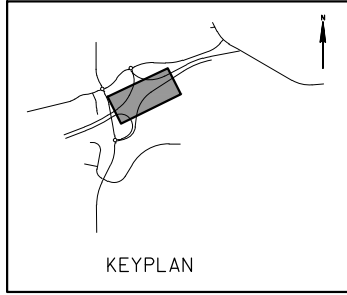


LEGEND	
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	SLOPE INTERCEPT
	INLET PROTECTION
	TEMPORARY DITCH CHECK
	CULVERT PIPE CHECK
	SURFACE WATER FLOW



**LEGEND**

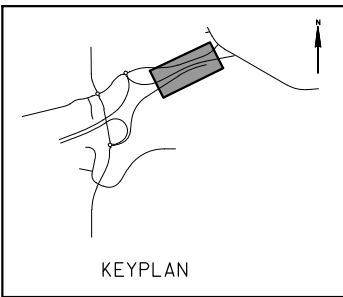
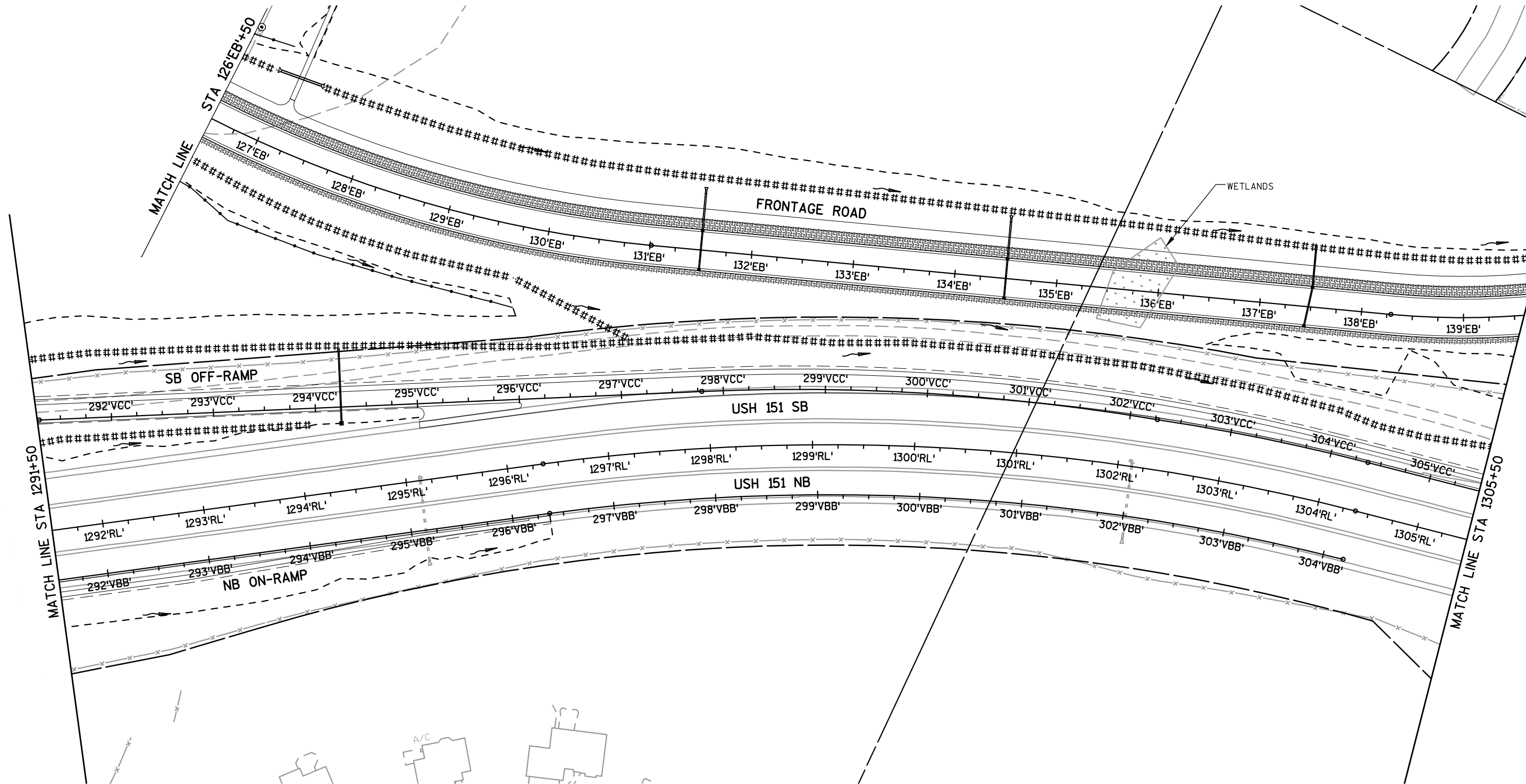
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	MEDIUM RIPRAP
	SLOPE INTERCEPT
	SURFACE WATER FLOW



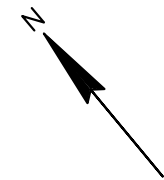
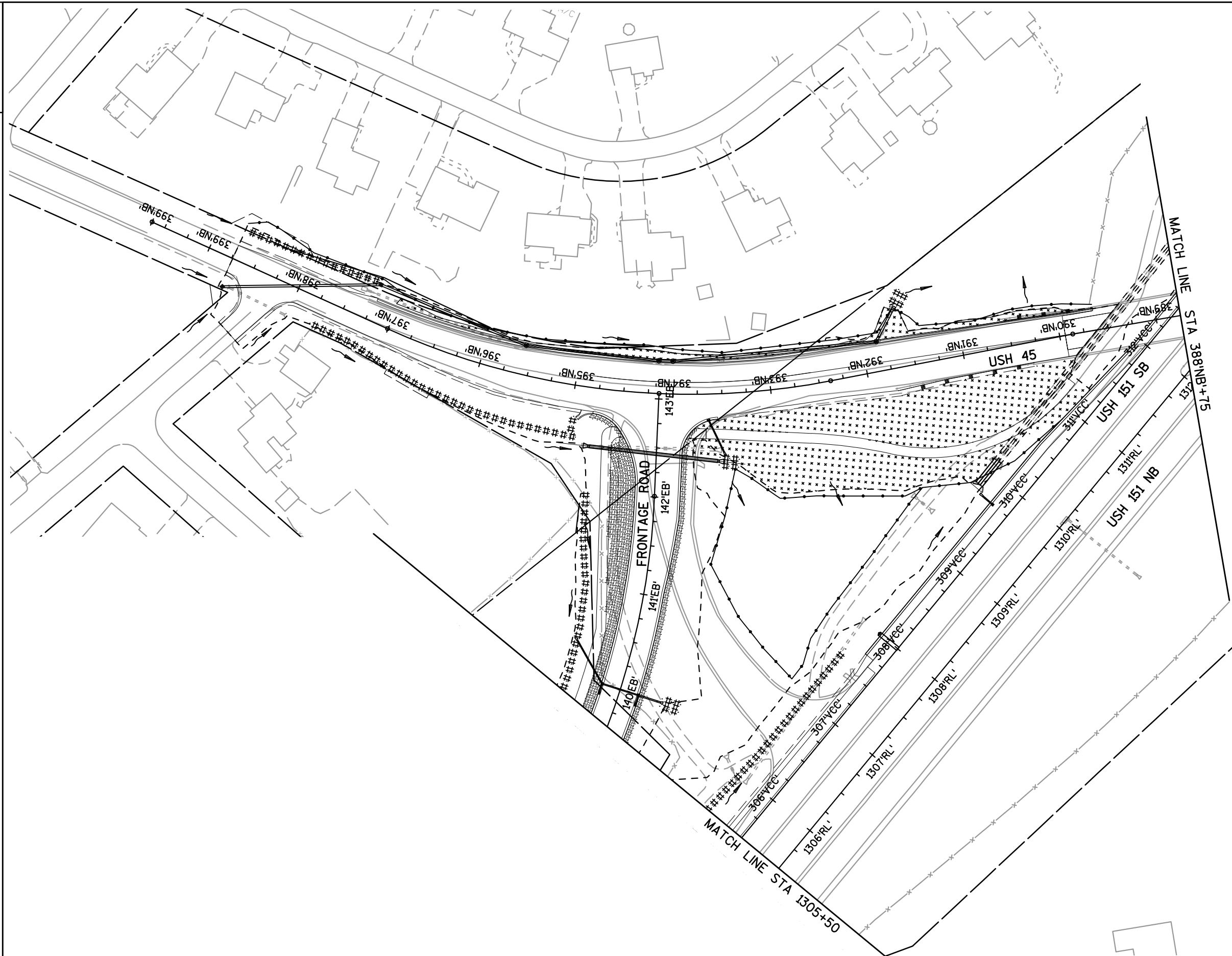
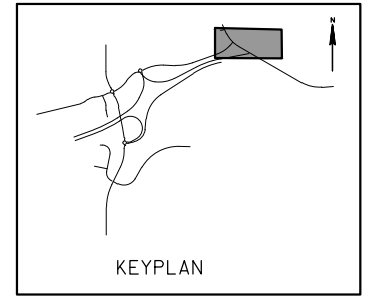
**LEGEND**

	EROSION MAT CLASS I, TYPE A
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	EROSION MAT CLASS I, TYPE B
	MEDIUM RIPRAP
	SLOPE INTERCEPT
	SURFACE WATER FLOW



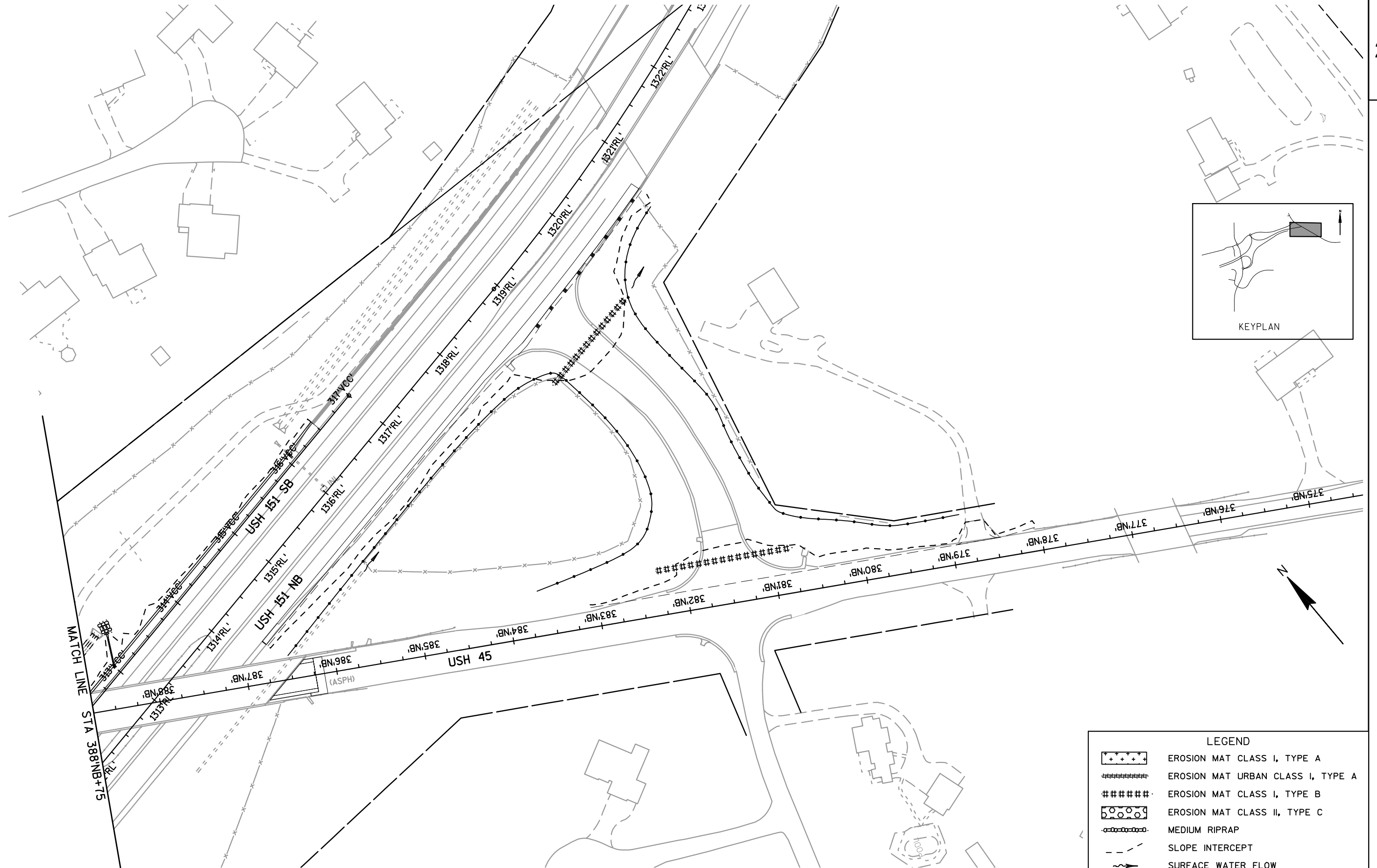


LEGEND	
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	EROSION MAT CLASS I, TYPE B
	EROSION MAT CLASS II, TYPE C
	MEDIUM RIPRAP
	SLOPE INTERCEPT
	SURFACE WATER FLOW



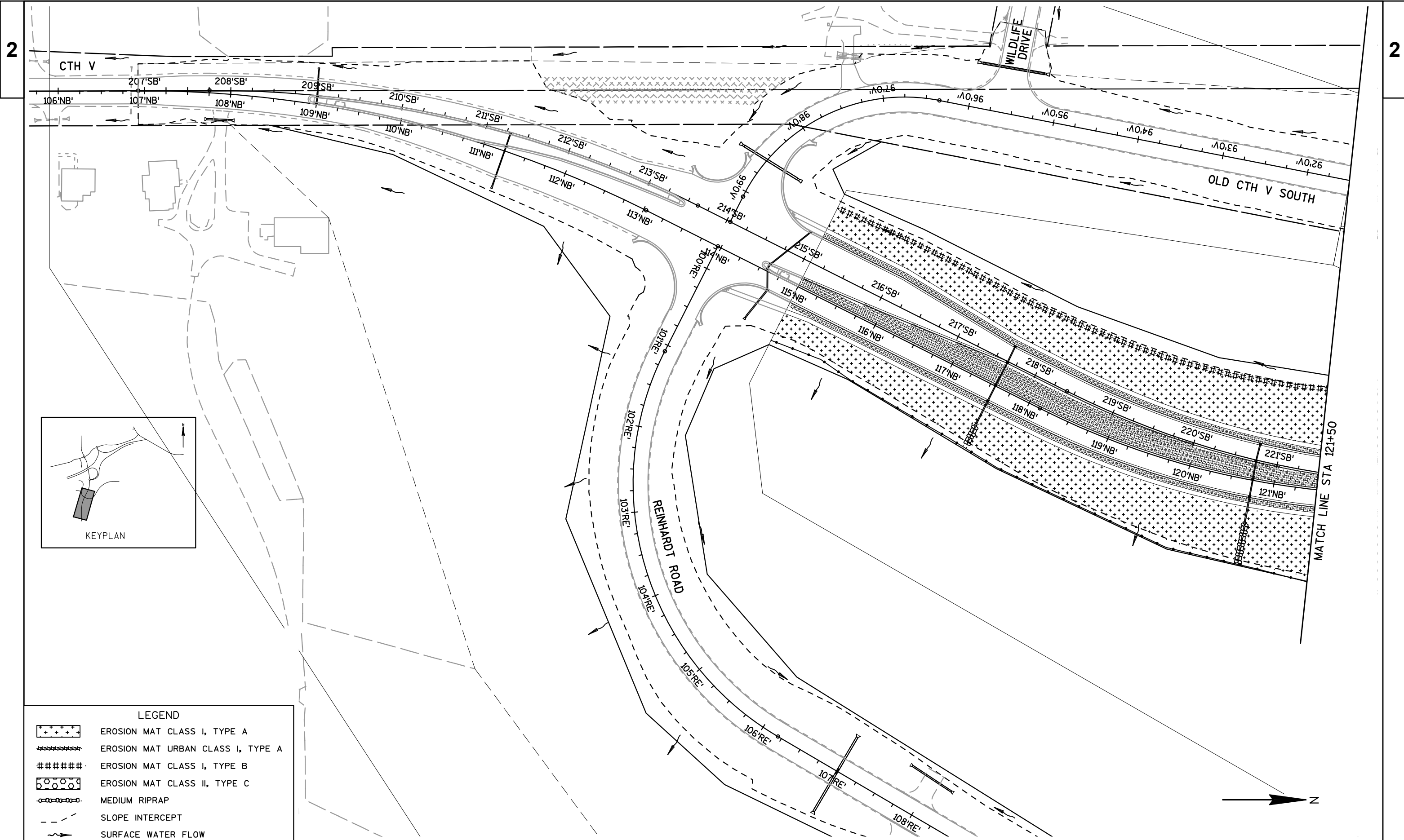
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	EROSION MAT CLASS II, TYPE C
	MEDIUM RIPRAP
	SLOPE INTERCEPT
	SURFACE WATER FLOW



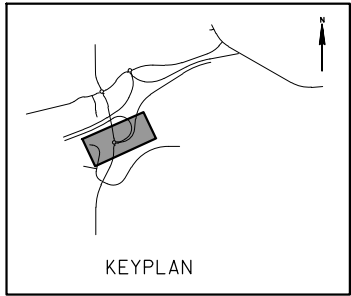
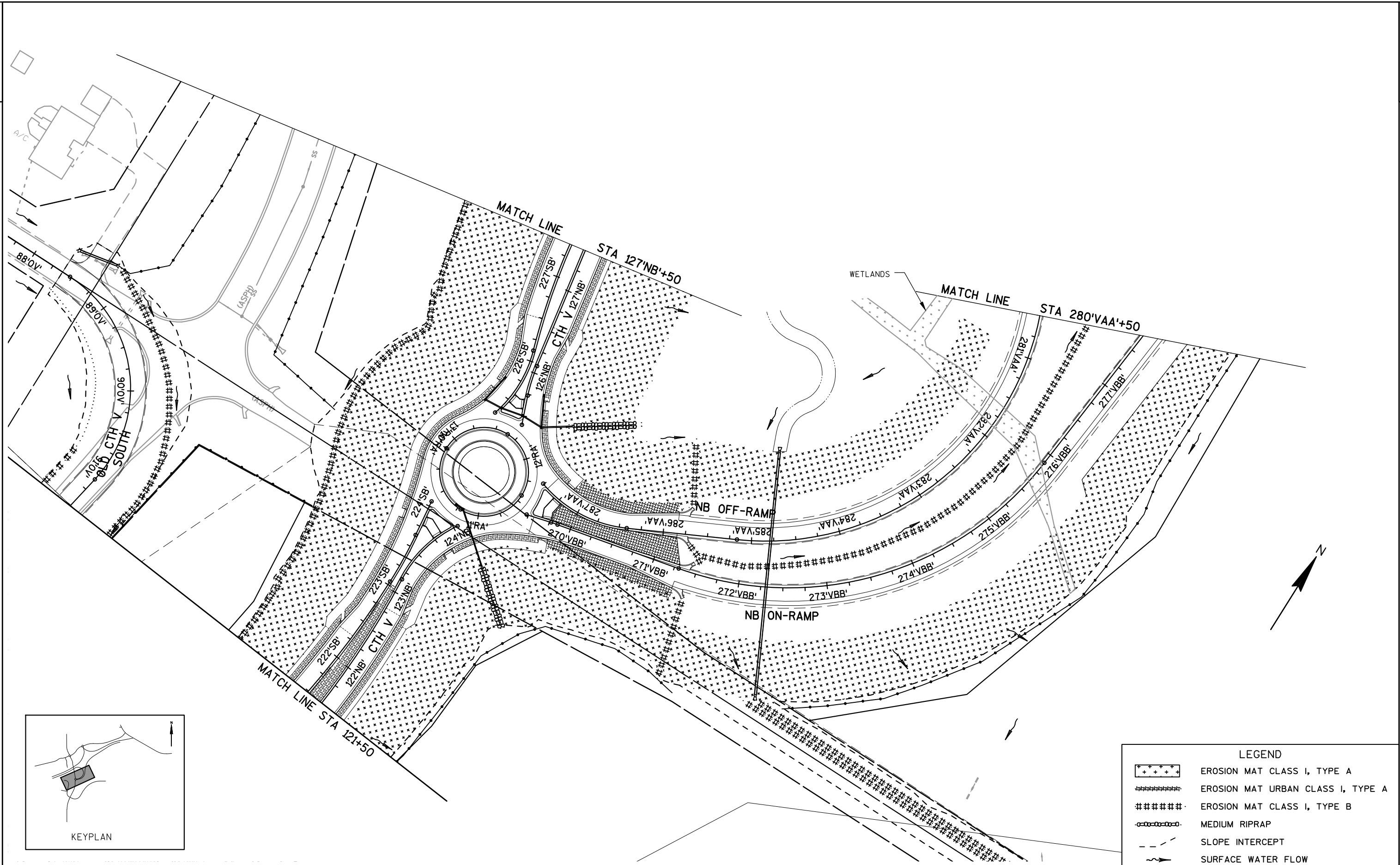
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	EROSION MAT CLASS I, TYPE B
	EROSION MAT CLASS II, TYPE C
	MEDIUM RIPRAP
	SLOPE INTERCEPT
	SURFACE WATER FLOW



**LEGEND**

	EROSION MAT CLASS I, TYPE A
	EROSION MAT URBAN CLASS I, TYPE A
	EROSION MAT CLASS I, TYPE B
	EROSION MAT CLASS II, TYPE C
	MEDIUM RIPRAP
	SLOPE INTERCEPT
	SURFACE WATER FLOW



LEGEND	
	EROSION MAT CLASS I, TYPE A
	EROSION MAT URBAN CLASS I, TYPE A
	EROSION MAT CLASS I, TYPE B
	MEDIUM RIPRAP
	SLOPE INTERCEPT
	SURFACE WATER FLOW

PROJECT NO: 1420-22-71

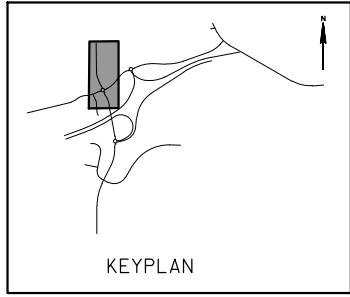
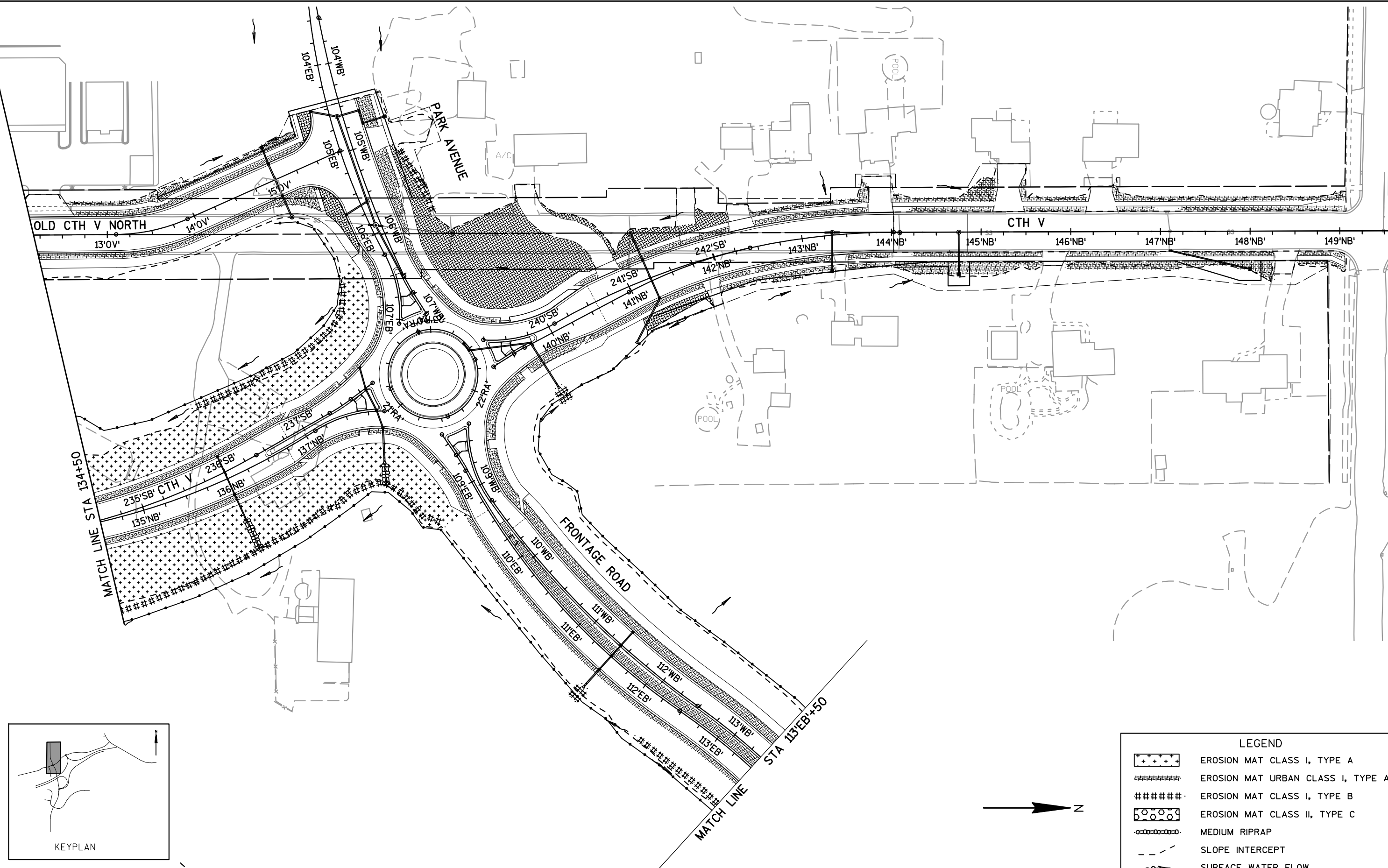
HWY: USH 151

COUNTY: FOND DU LAC

EROSION CONTROL PERMANENT - CTH V

SHEET

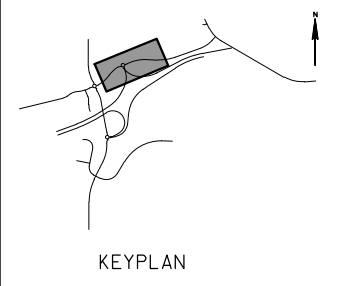
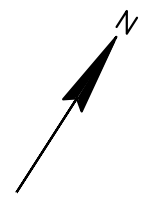
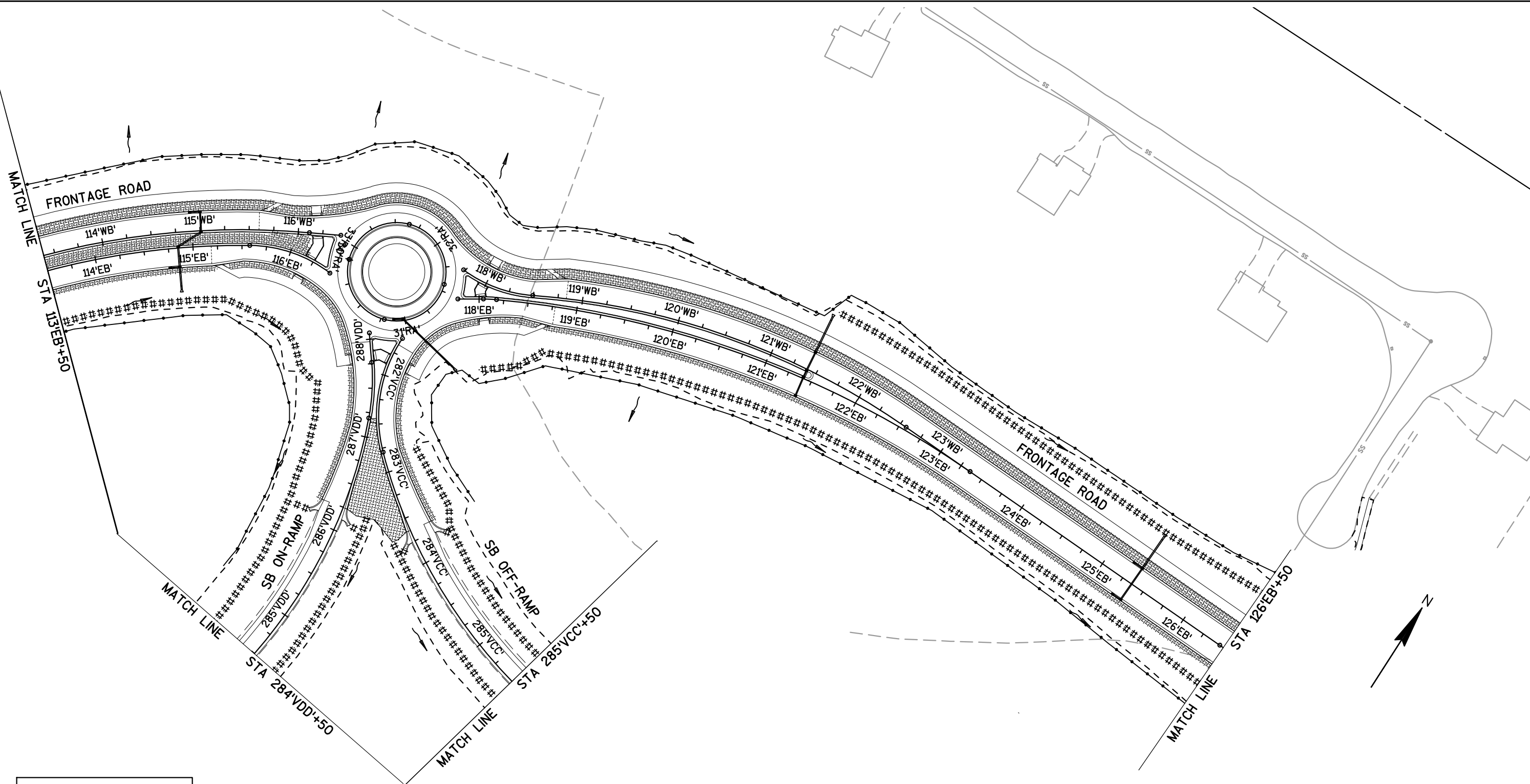
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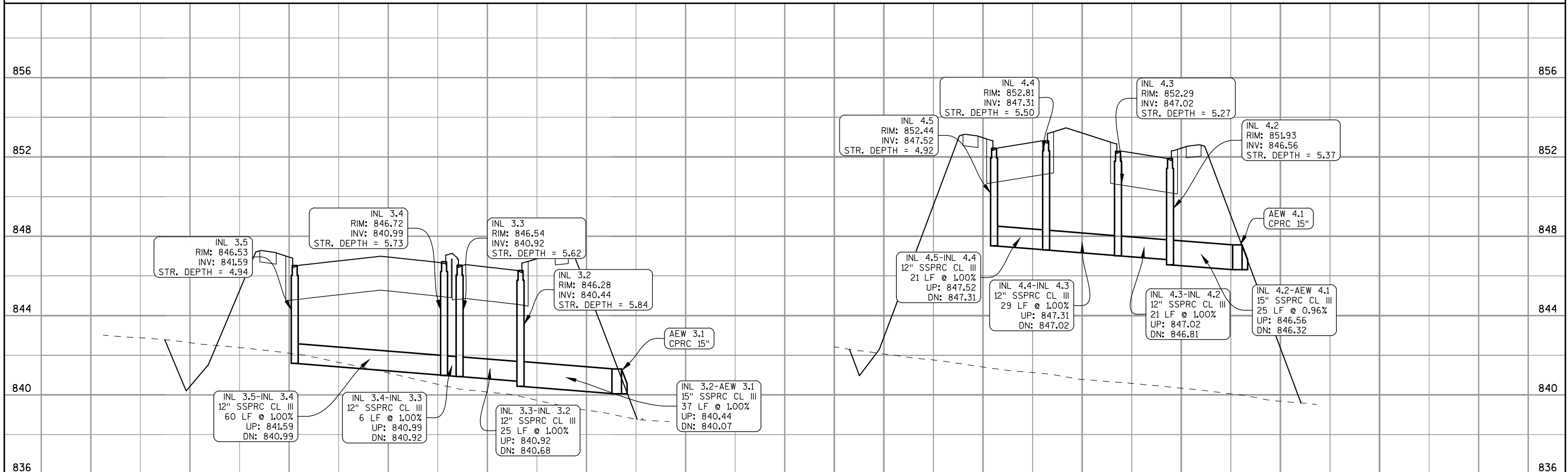
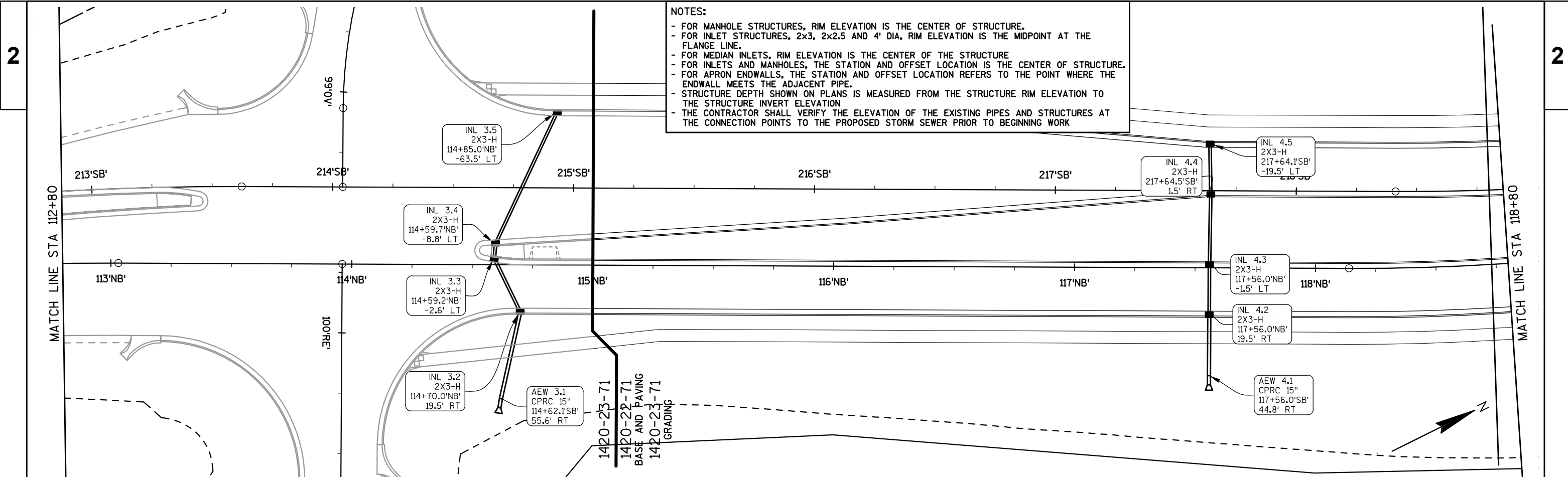
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	EROSION MAT URBAN CLASS I, TYPE A
	EROSION MAT CLASS I, TYPE B
	EROSION MAT CLASS II, TYPE C
	MEDIUM RIPRAP
	SLOPE INTERCEPT
	SURFACE WATER FLOW





**LEGEND**

	EROSION MAT CLASS I, TYPE A
	EROSION MAT URBAN CLASS I, TYPE A
	EROSION MAT CLASS I, TYPE B
	EROSION MAT CLASS II, TYPE C
	MEDIUM RIPRAP
	SLOPE INTERCEPT
	SURFACE WATER FLOW

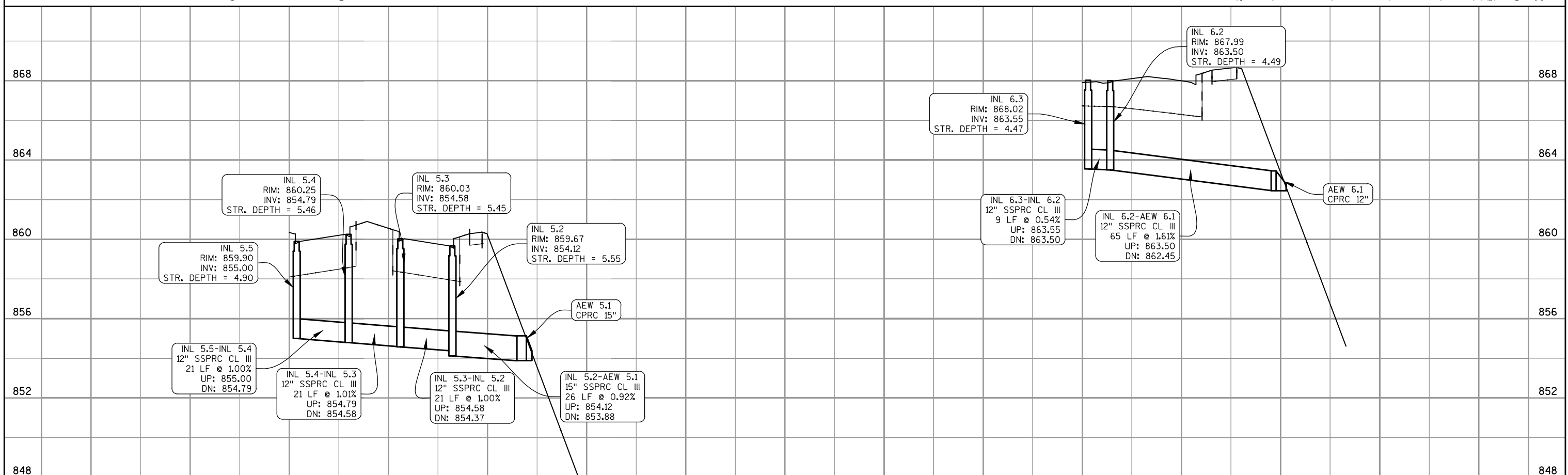
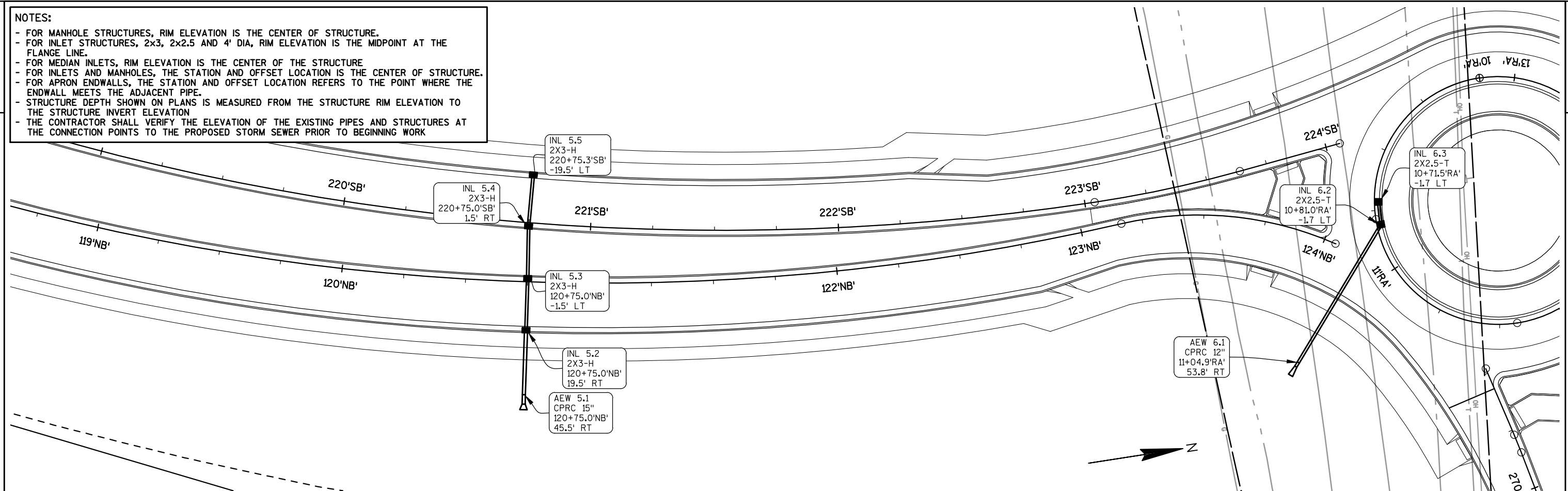


PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      STORM SEWER: CTH V      SHEET      E

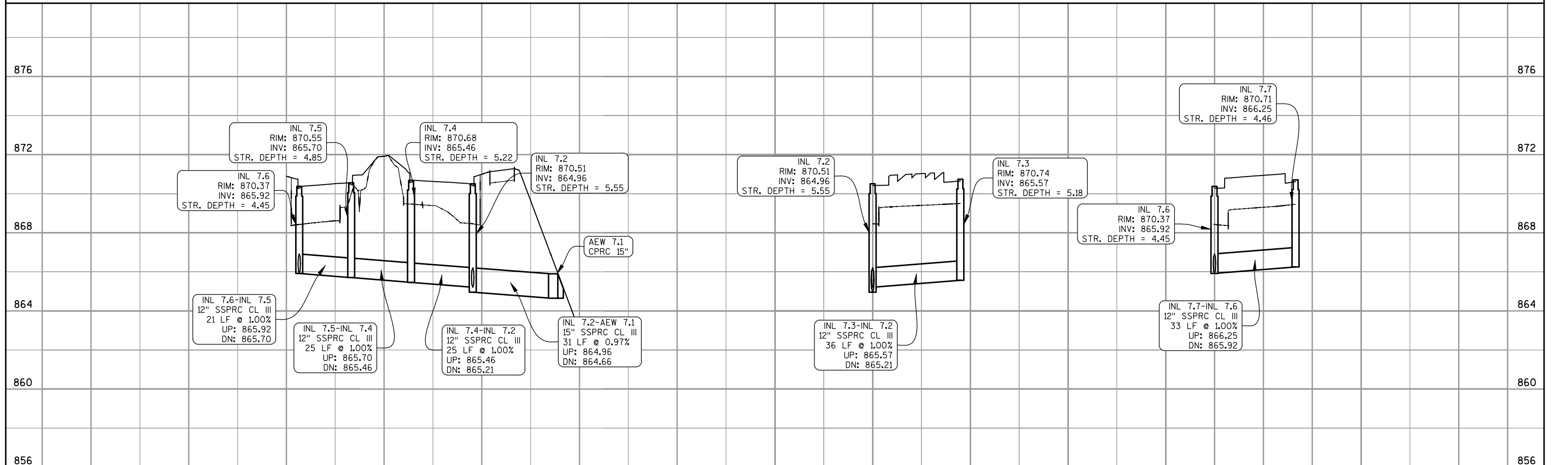
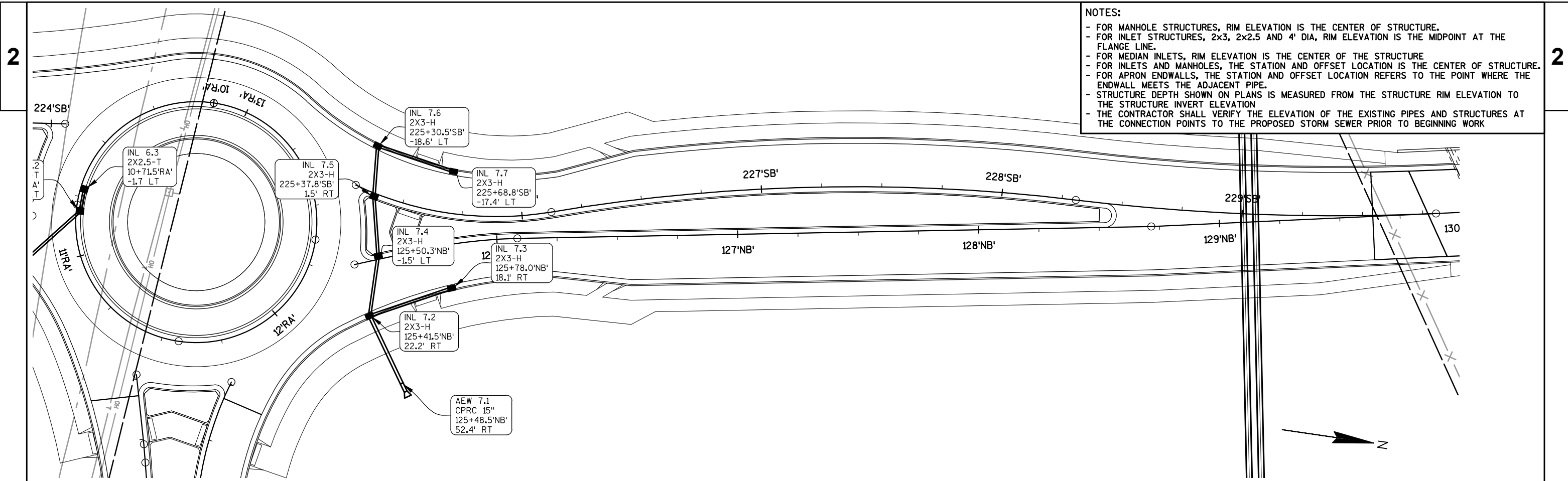


**NOTES:**

- FOR MANHOLE STRUCTURES, RIM ELEVATION IS THE CENTER OF STRUCTURE.
- FOR INLET STRUCTURES, 2x3, 2x2.5 AND 4' DIA, RIM ELEVATION IS THE MIDPOINT AT THE FLANGE LINE.
- FOR MEDIAN INLETS, RIM ELEVATION IS THE CENTER OF THE STRUCTURE
- FOR INLETS AND MANHOLES, THE STATION AND OFFSET LOCATION IS THE CENTER OF STRUCTURE.
- FOR APRON ENDWALLS, THE STATION AND OFFSET LOCATION REFERS TO THE POINT WHERE THE ENDWALL MEETS THE ADJACENT PIPE.
- STRUCTURE DEPTH SHOWN ON PLANS IS MEASURED FROM THE STRUCTURE RIM ELEVATION TO THE STRUCTURE INVERT ELEVATION
- THE CONTRACTOR SHALL VERIFY THE ELEVATION OF THE EXISTING PIPES AND STRUCTURES AT THE CONNECTION POINTS TO THE PROPOSED STORM SEWER PRIOR TO BEGINNING WORK

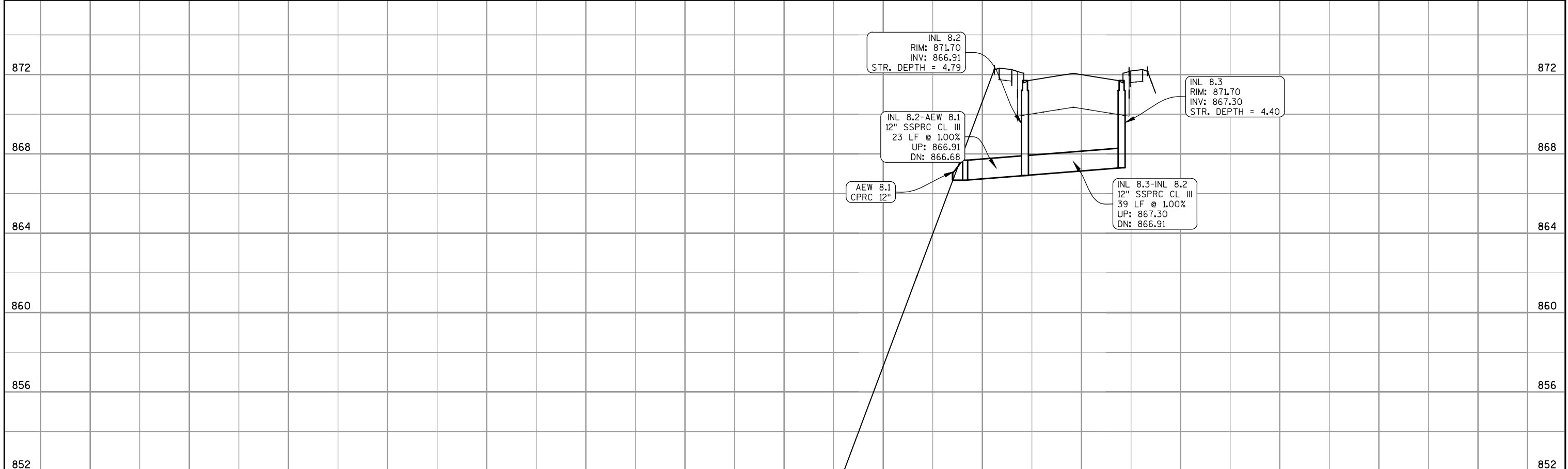
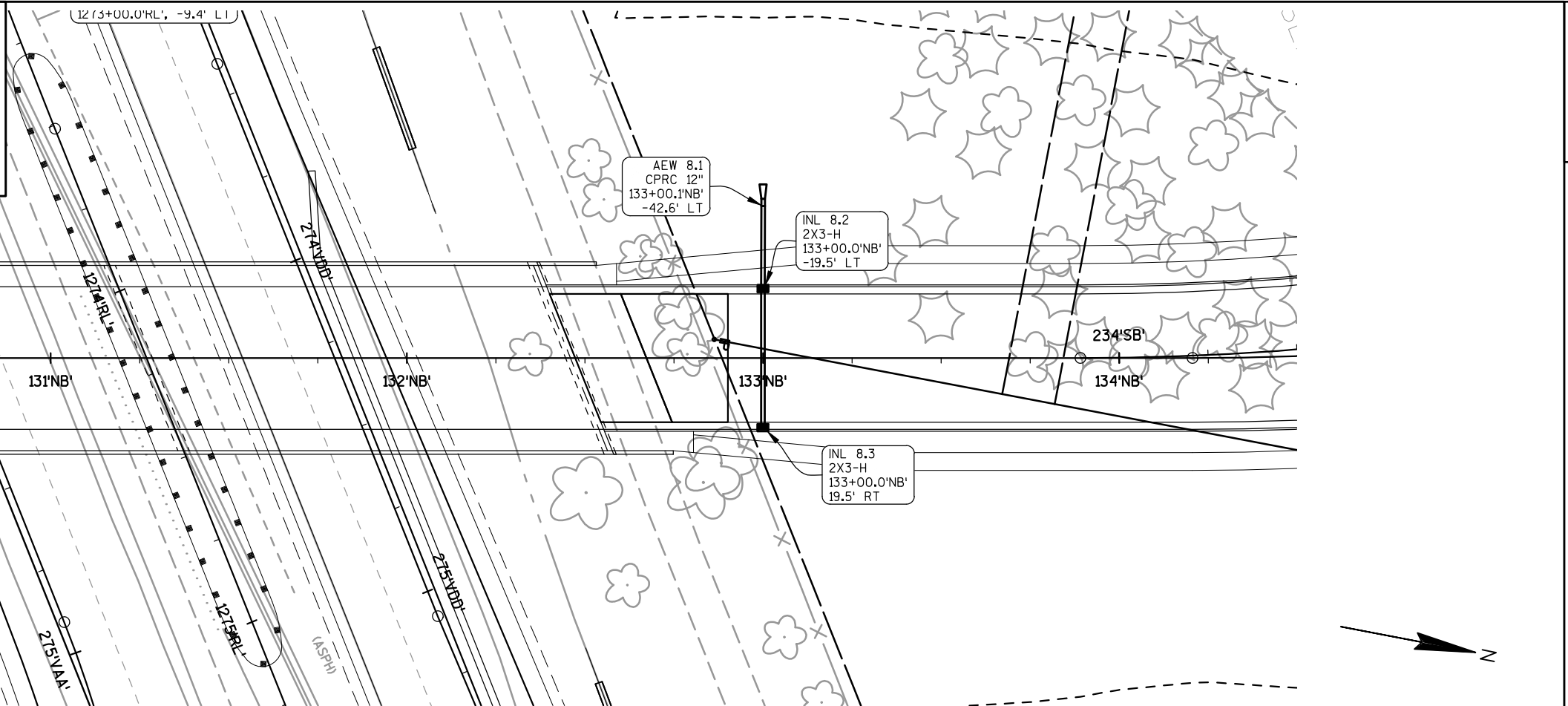


PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      STORM SEWER: CTH V      SHEET      E



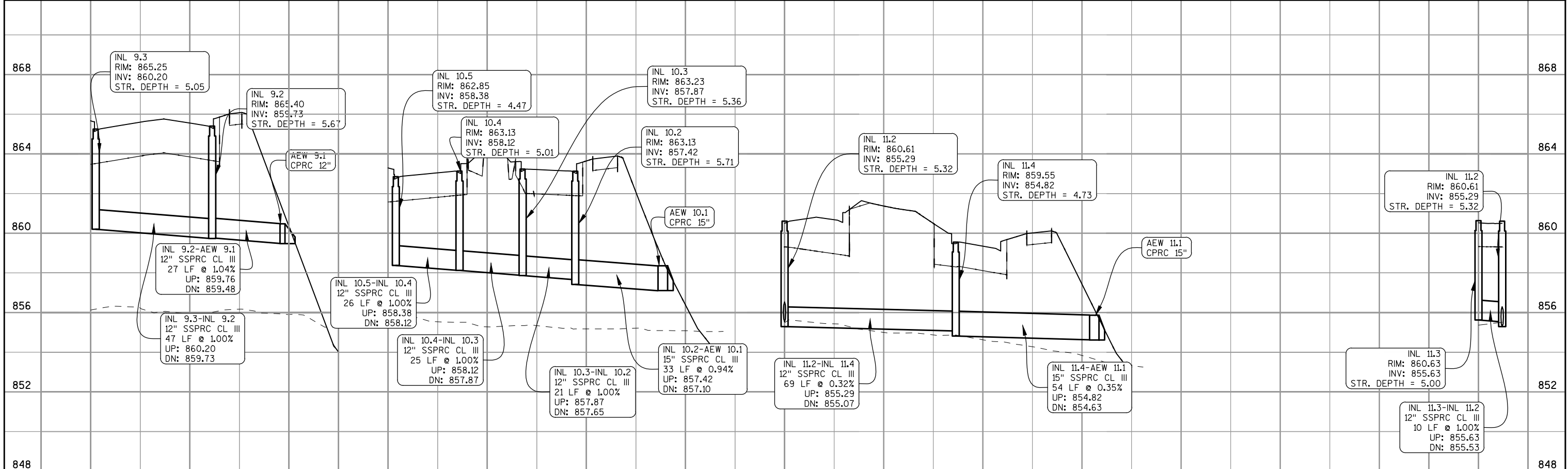
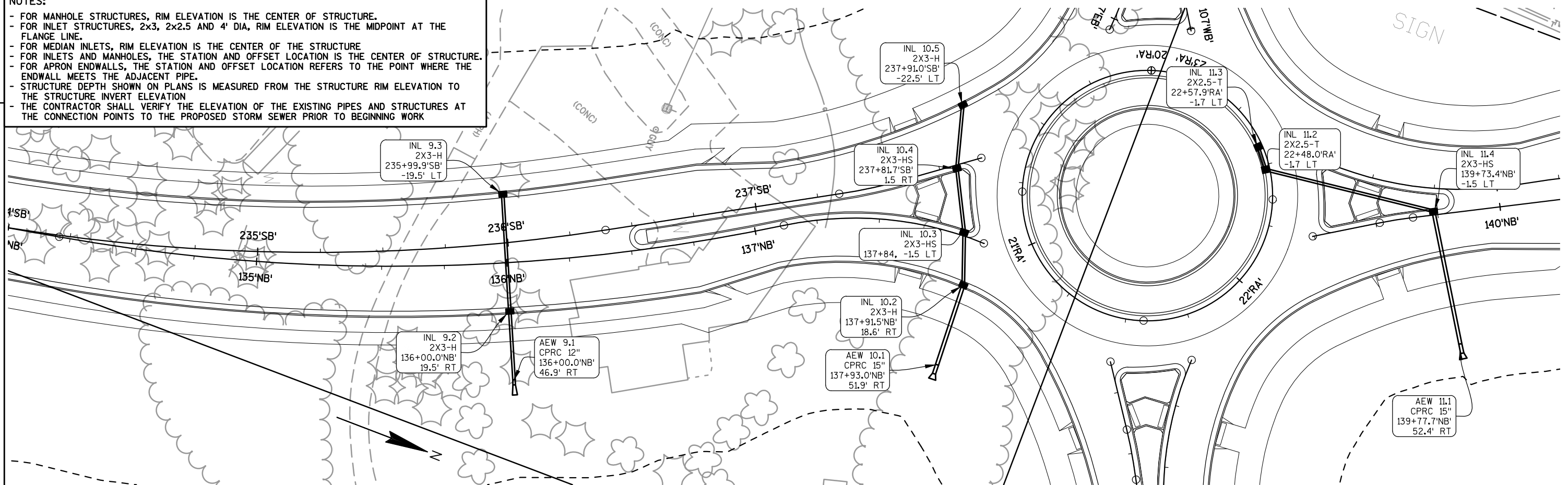
**2** NOTES:

- FOR MANHOLE STRUCTURES, RIM ELEVATION IS THE CENTER OF STRUCTURE.
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- THE CONTRACTOR SHALL VERIFY THE ELEVATION OF THE EXISTING PIPES AND STRUCTURES AT THE CONNECTION POINTS TO THE PROPOSED STORM SEWER PRIOR TO BEGINNING WORK

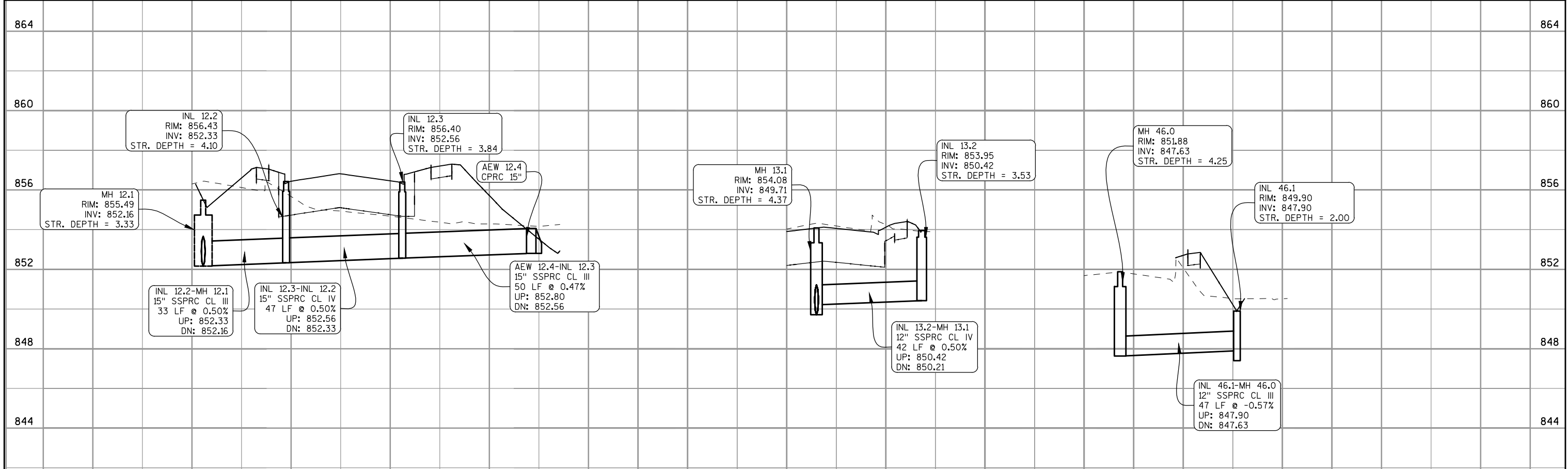
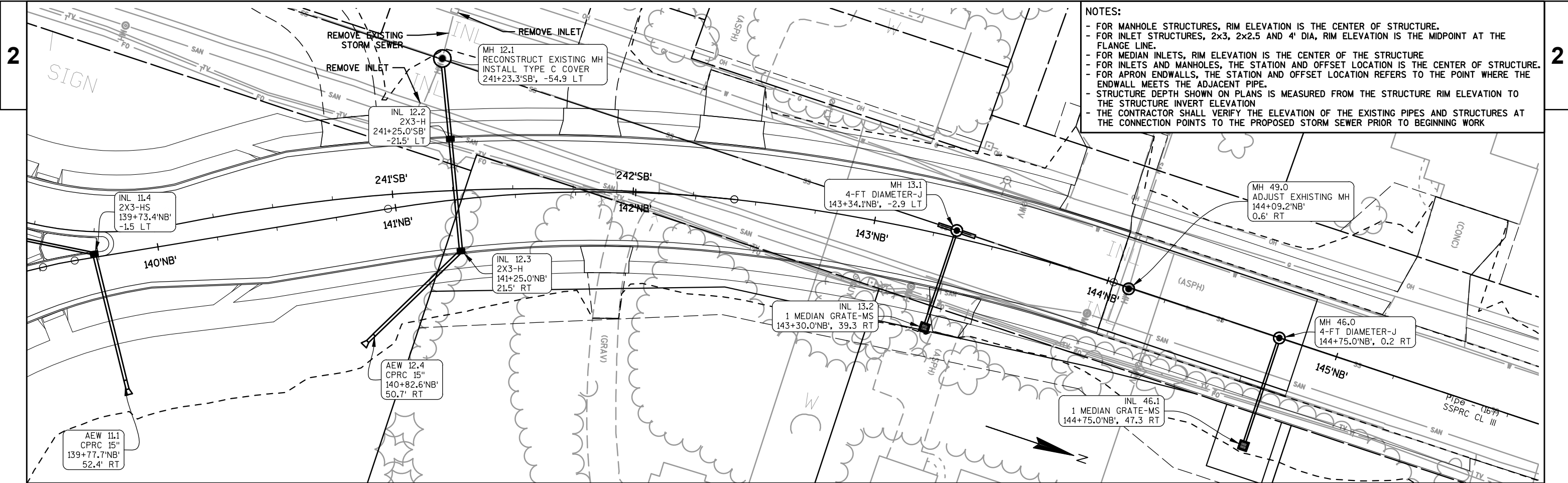


**2** NOTES:

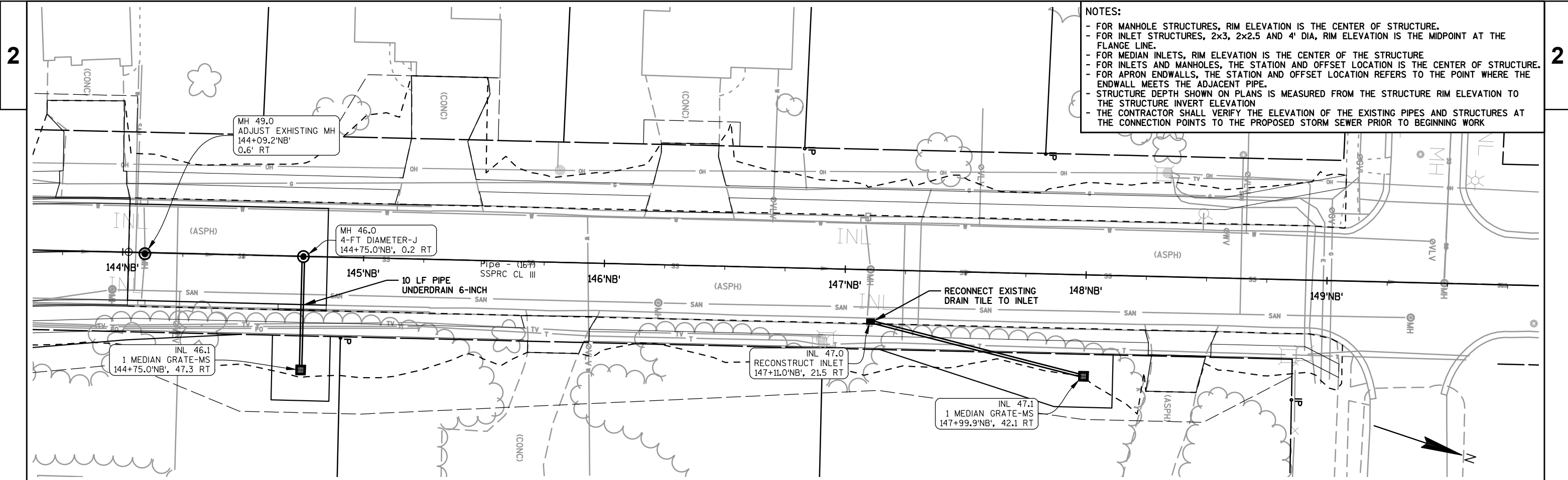
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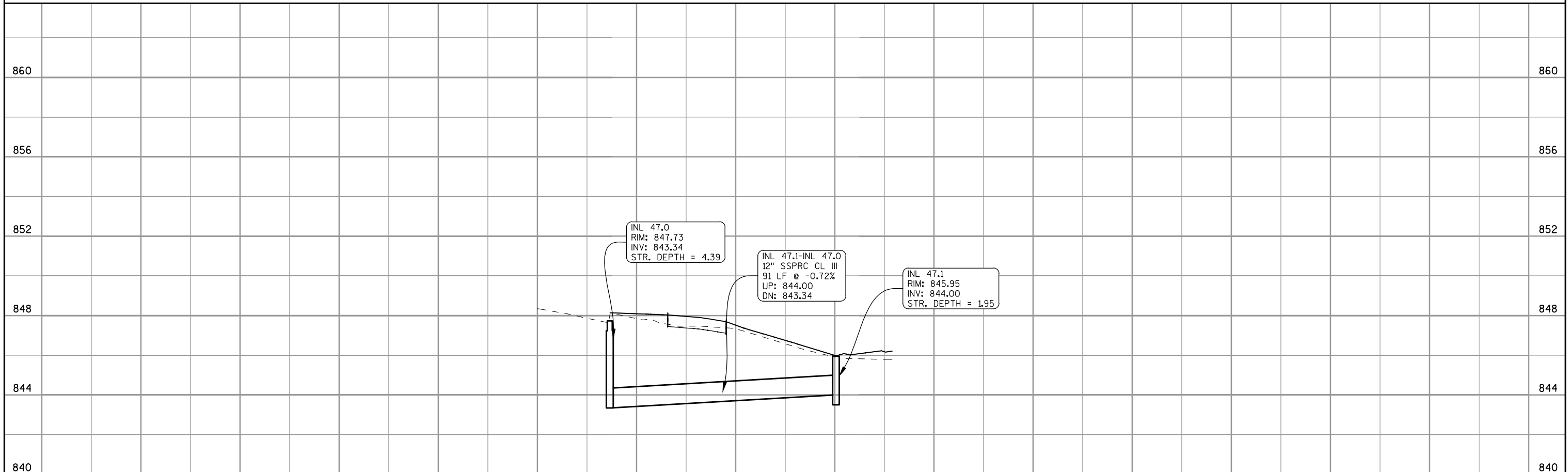
PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      STORM SEWER: CTH V      SHEET      E

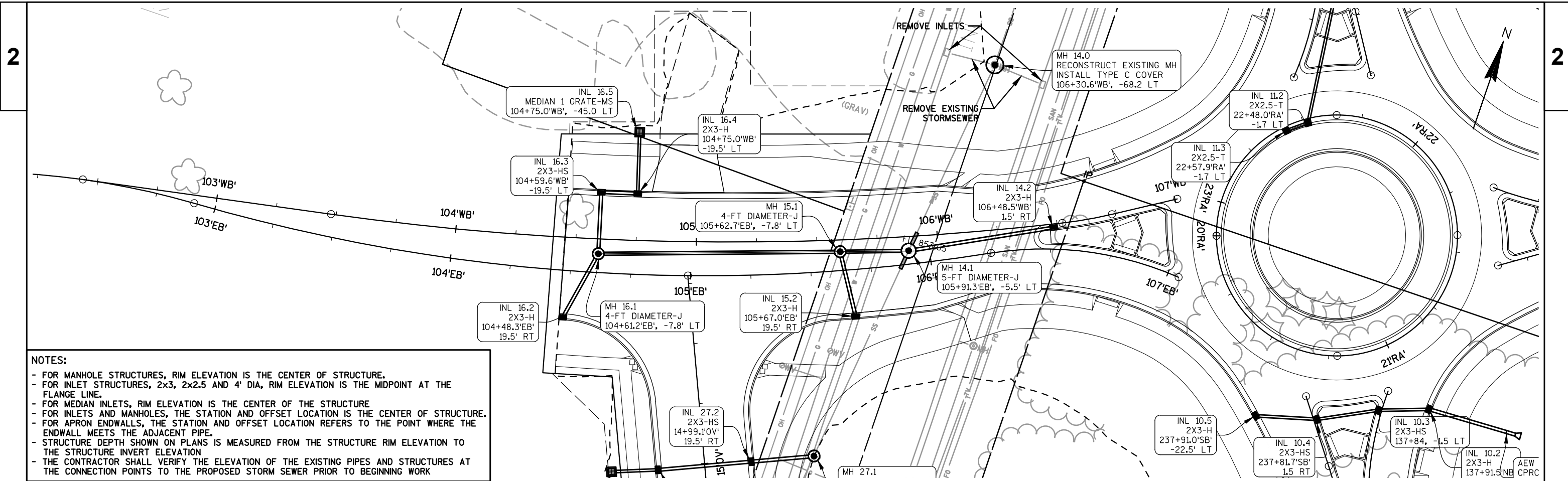


PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      STORM SEWER: CTH V      SHEET      E



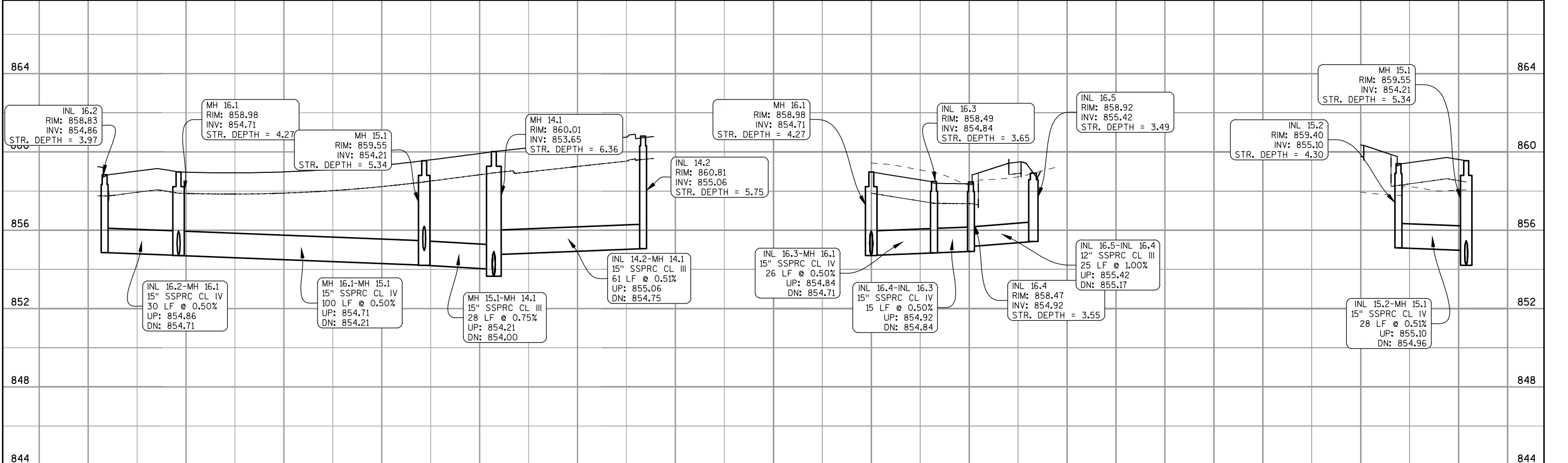
- NOTES:
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**NOTES:**

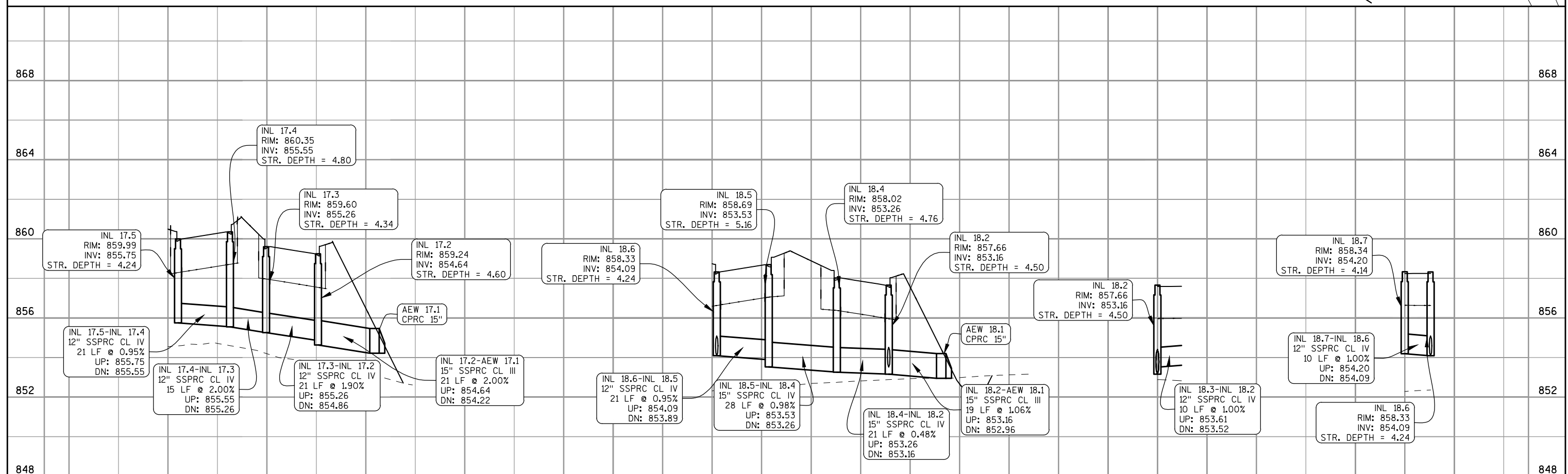
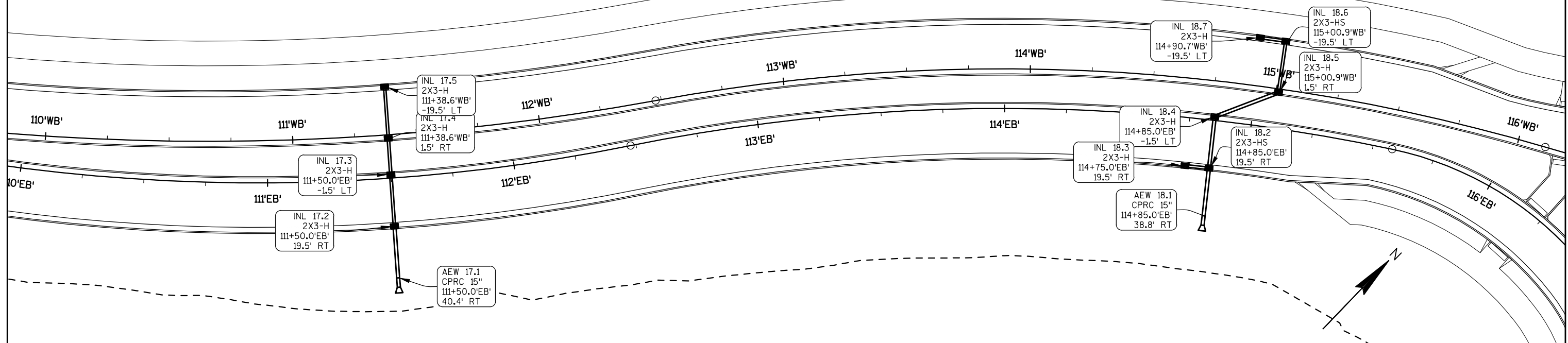
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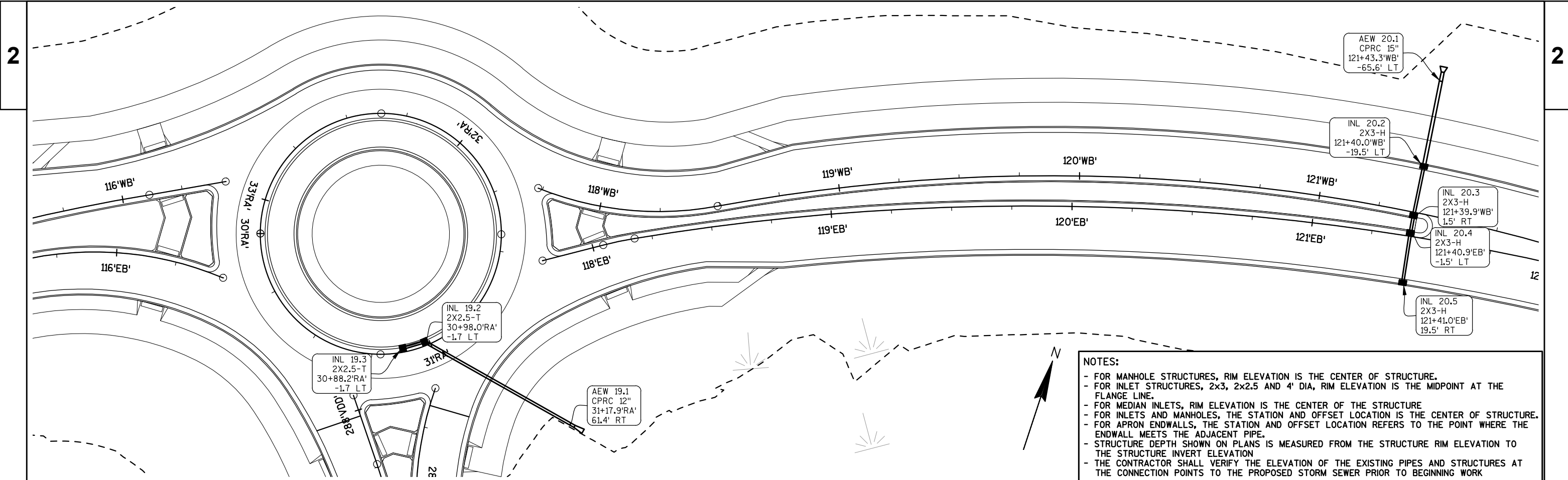
PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      STORM SEWER: PARK AVENUE      SHEET      E

**NOTES:**

- FOR MANHOLE STRUCTURES, RIM ELEVATION IS THE CENTER OF STRUCTURE.
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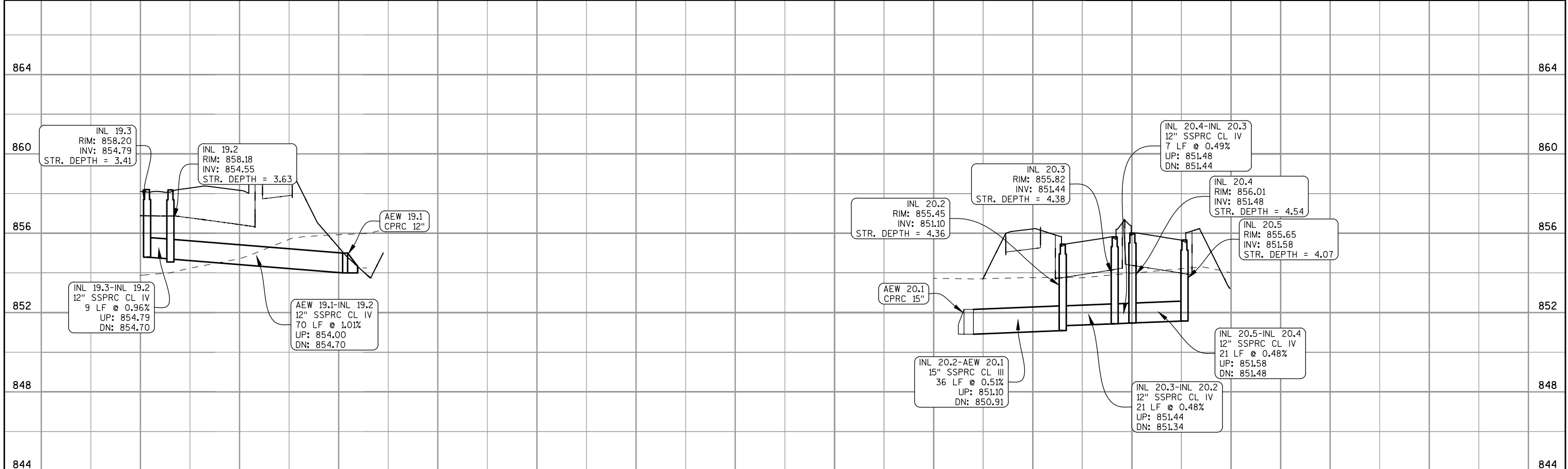




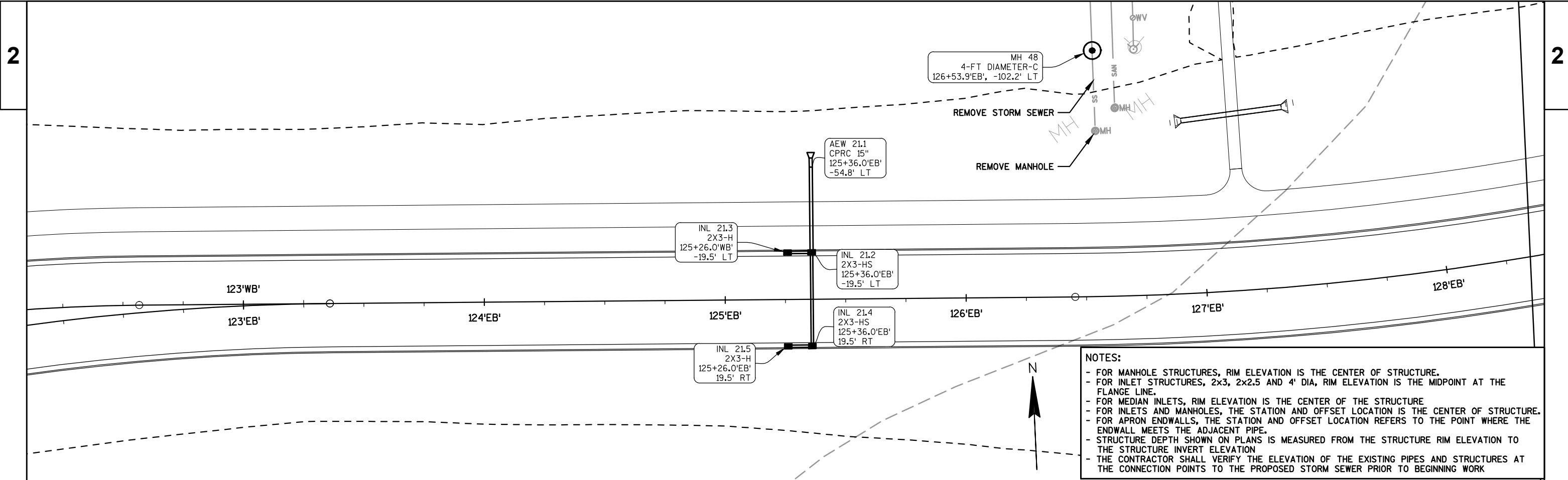


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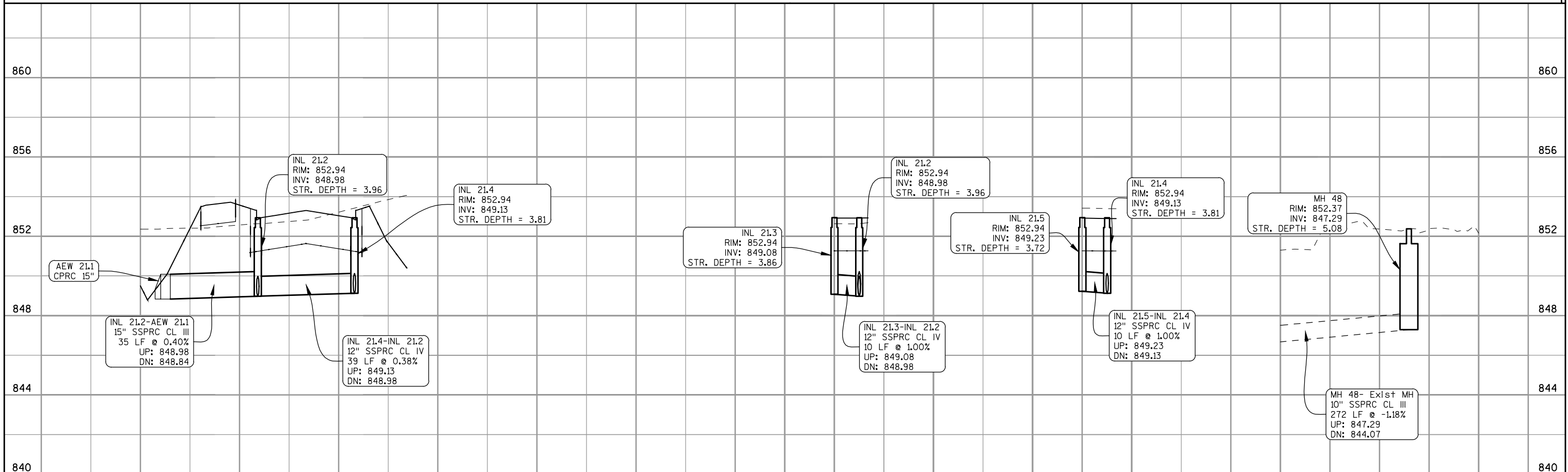


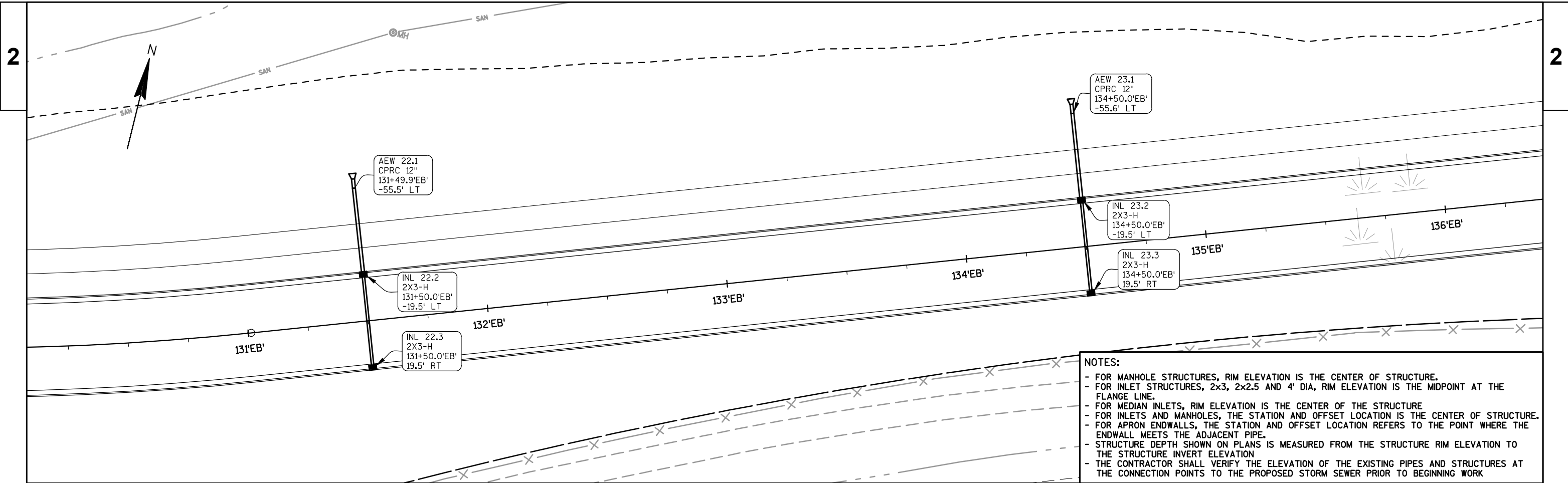
PROJECT NO: 1420-22-71	HWY: USH 151	COUNTY: FOND DU LAC	STORM SEWER: FRONTAGE ROAD
			SHEET <b>E</b>



**NOTES:**

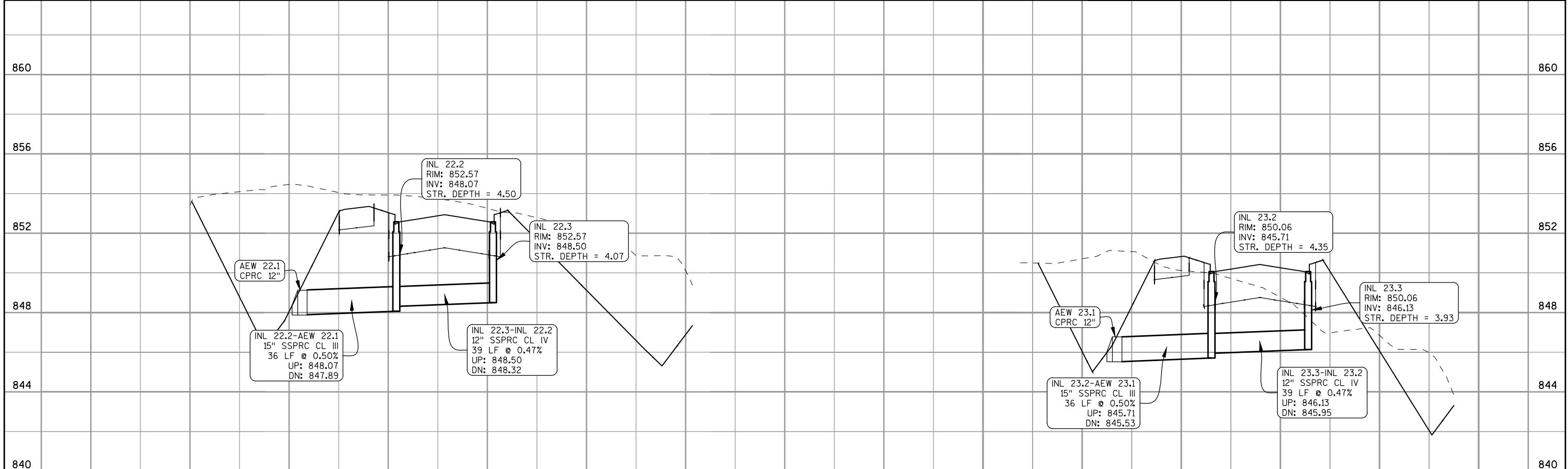
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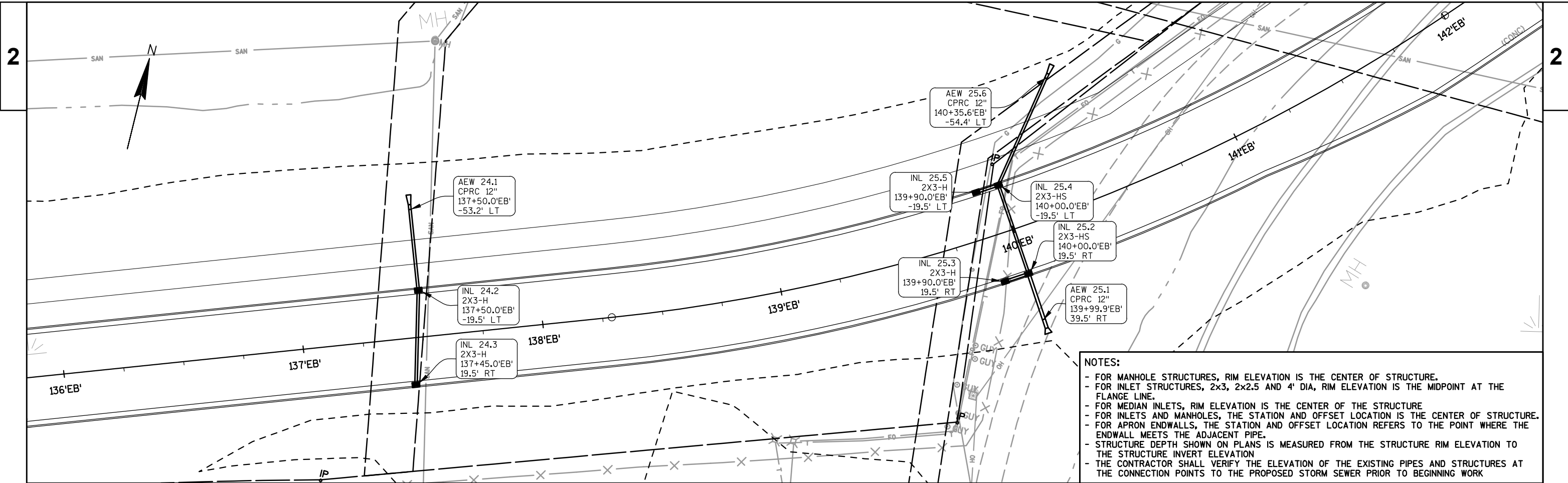


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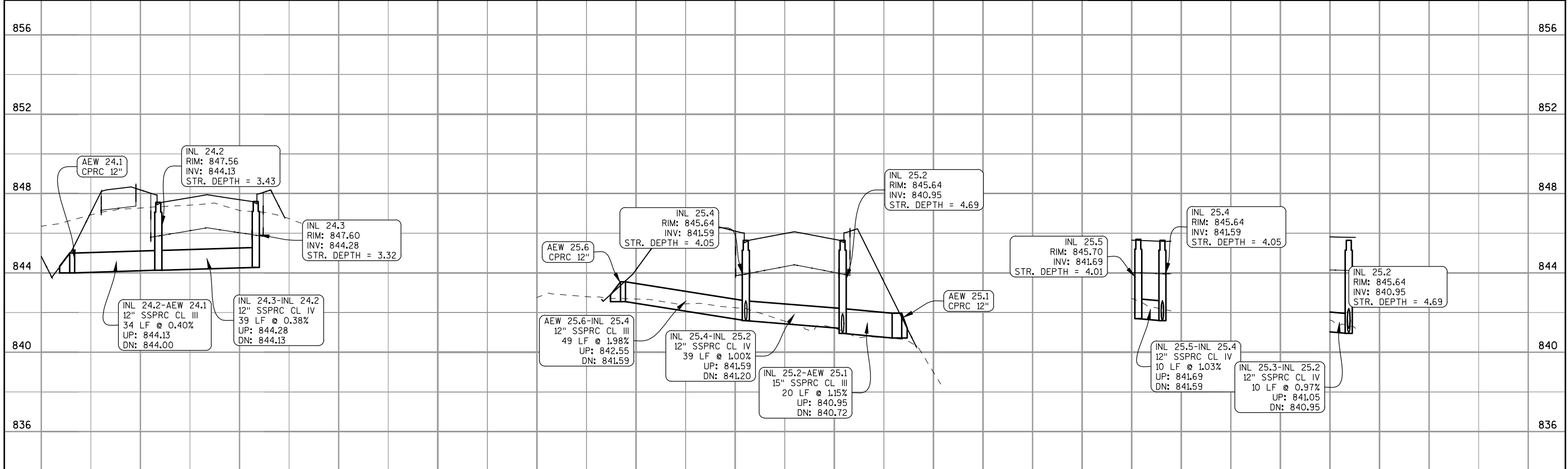


PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      STORM SEWER: FRONTAGE ROAD      SHEET      E

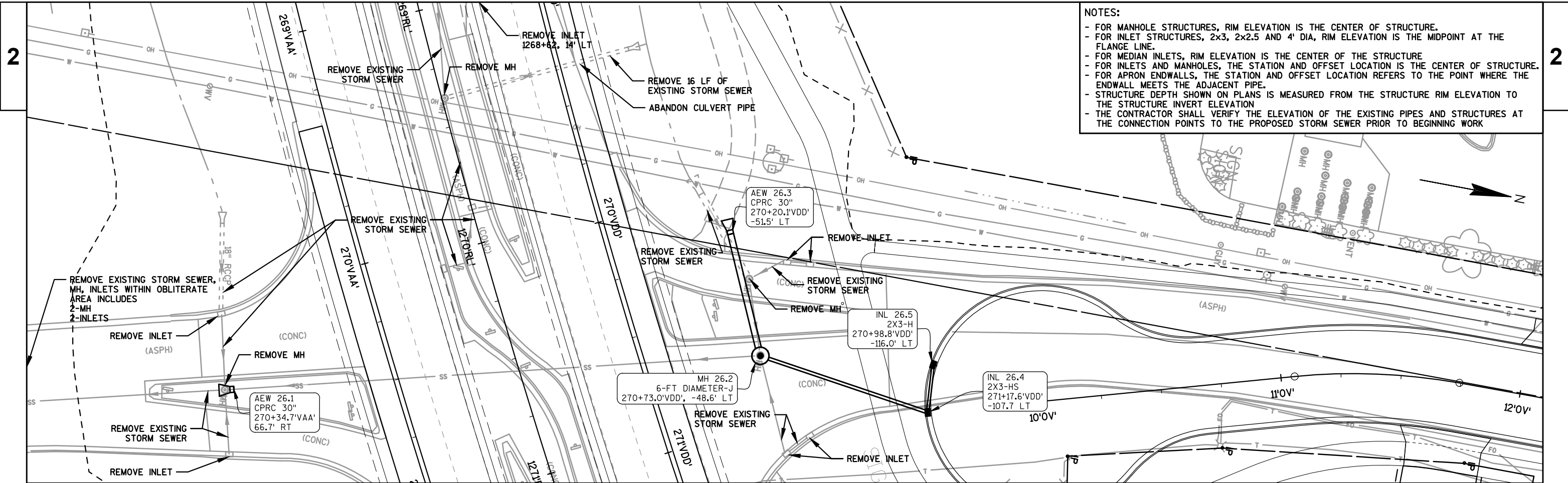


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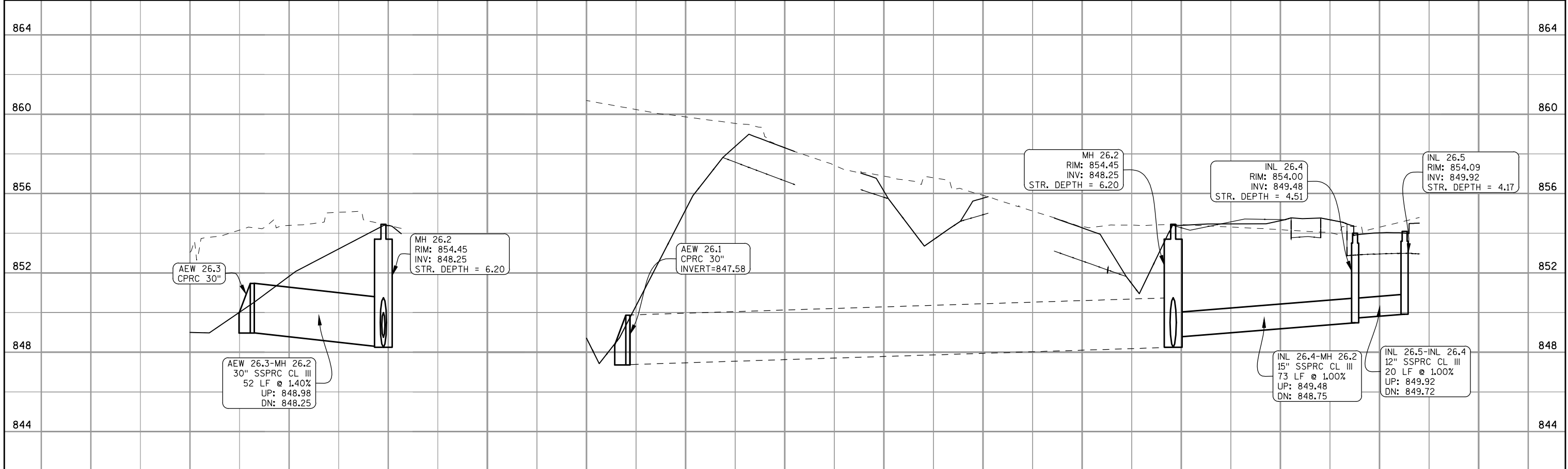


PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      STORM SEWER: FRONTAGE ROAD      SHEET      E



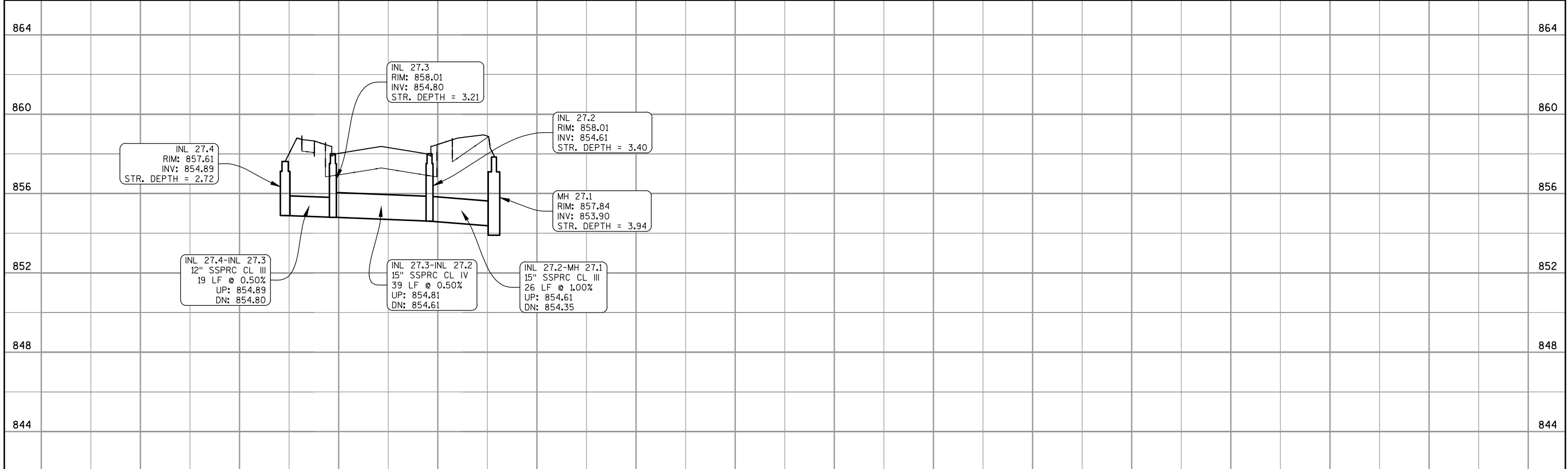
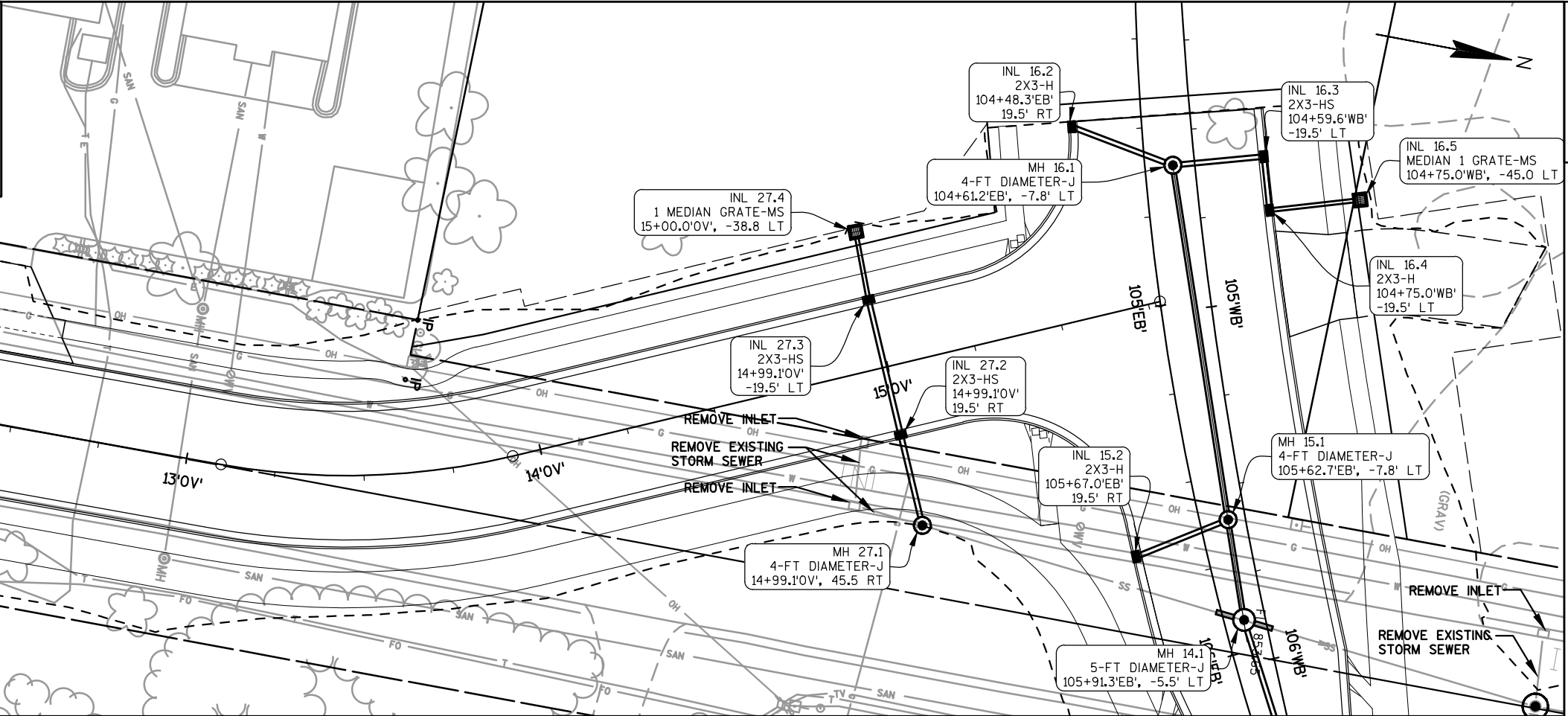
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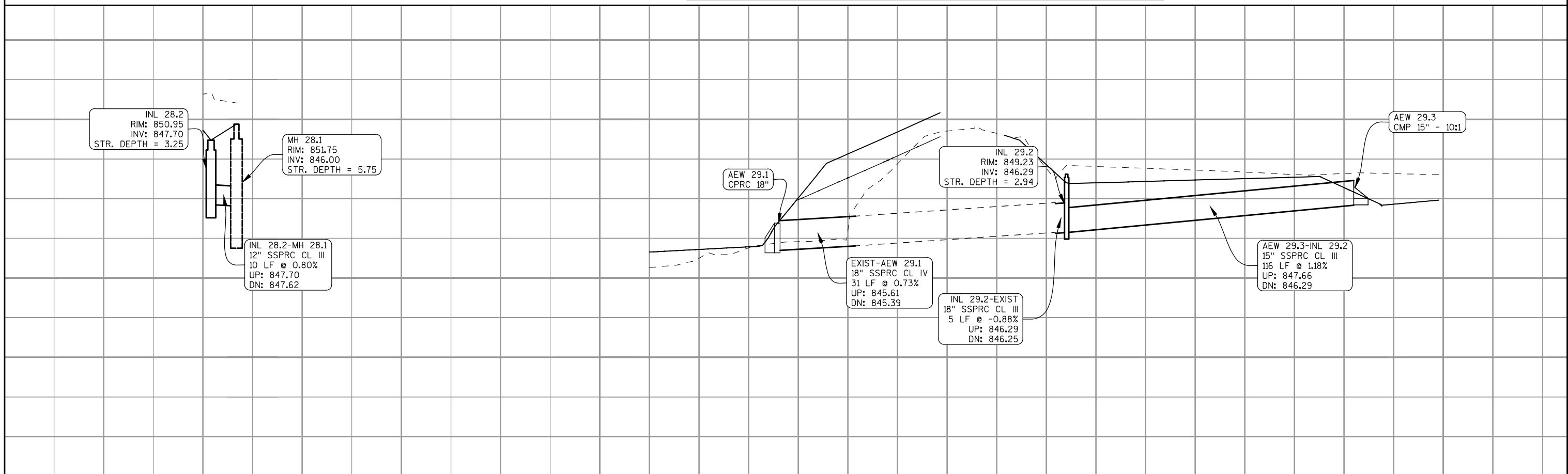
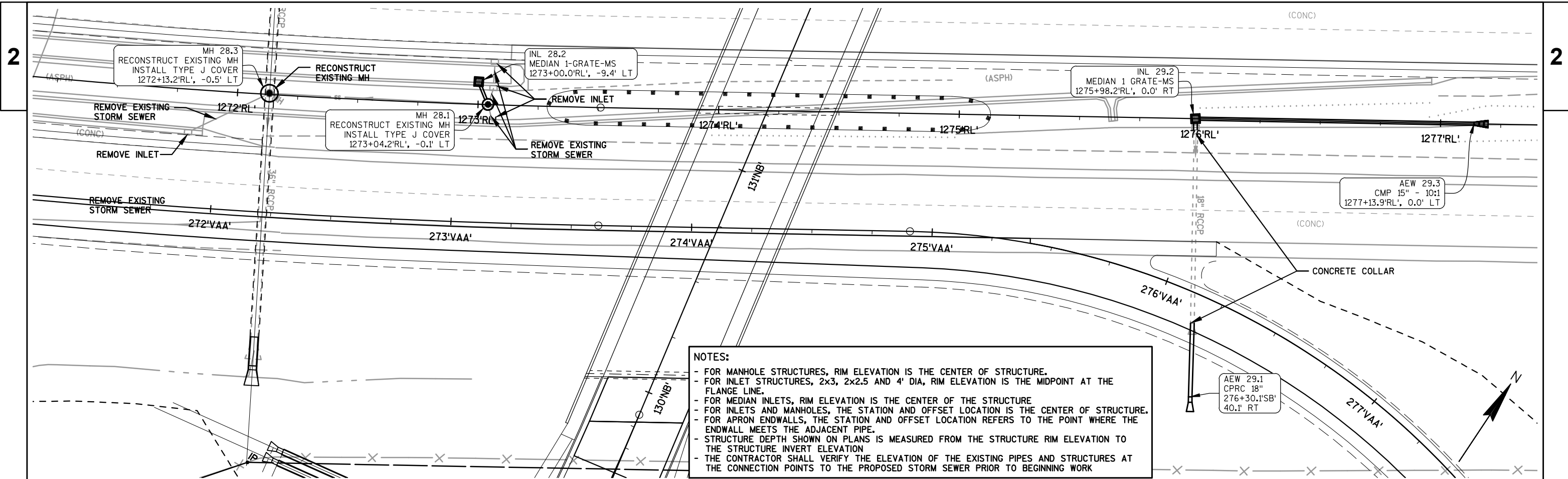


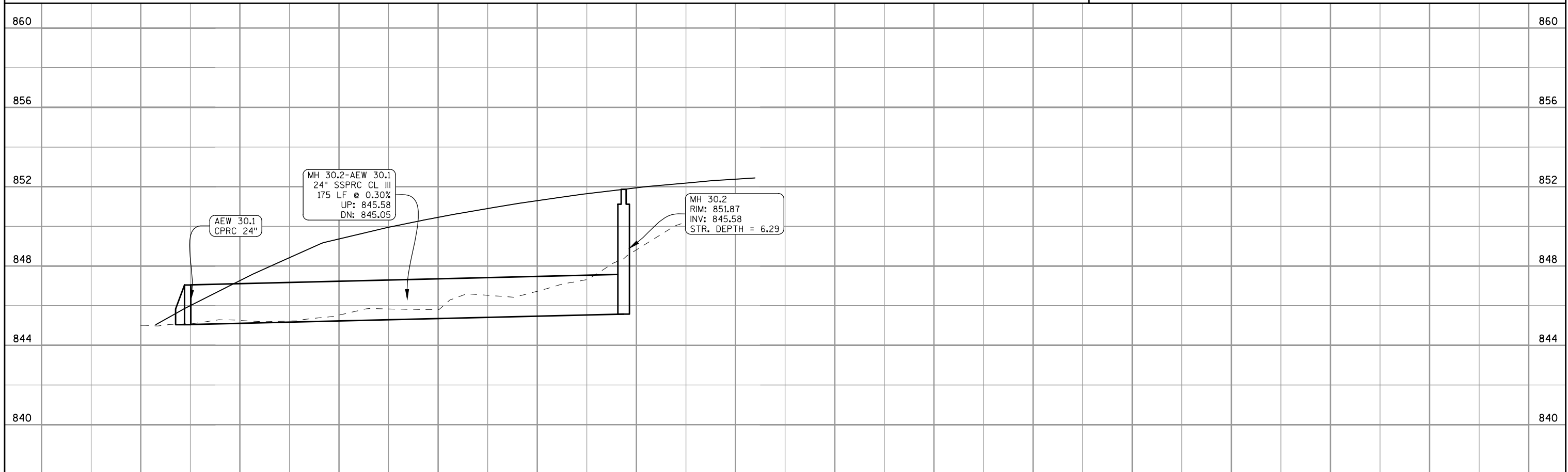
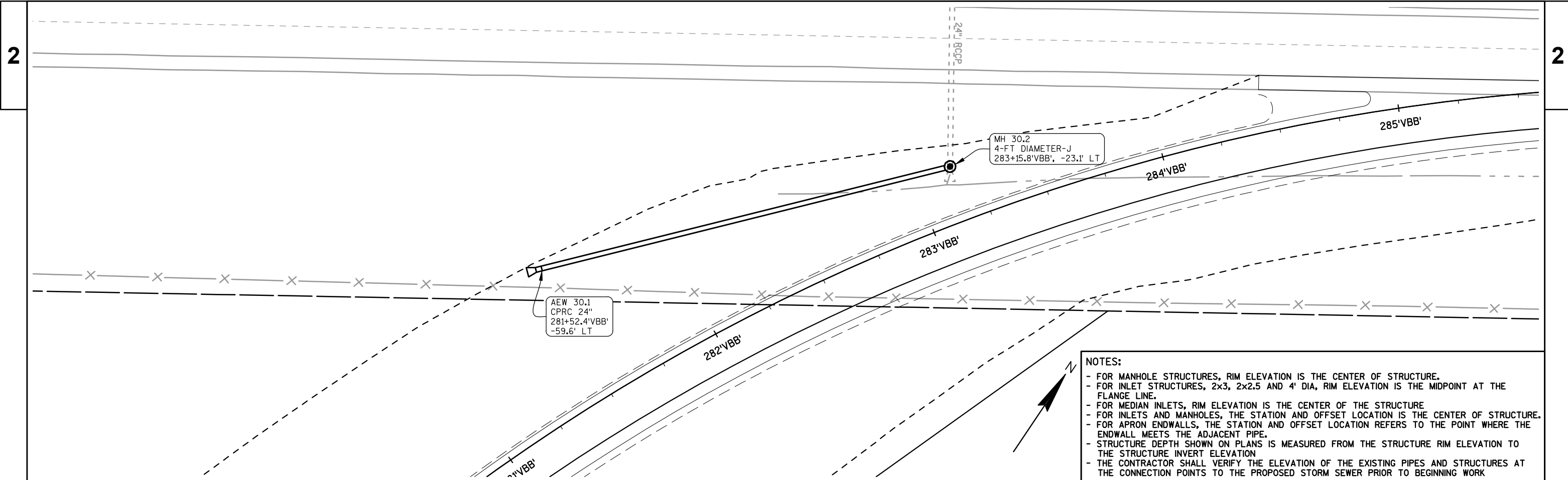
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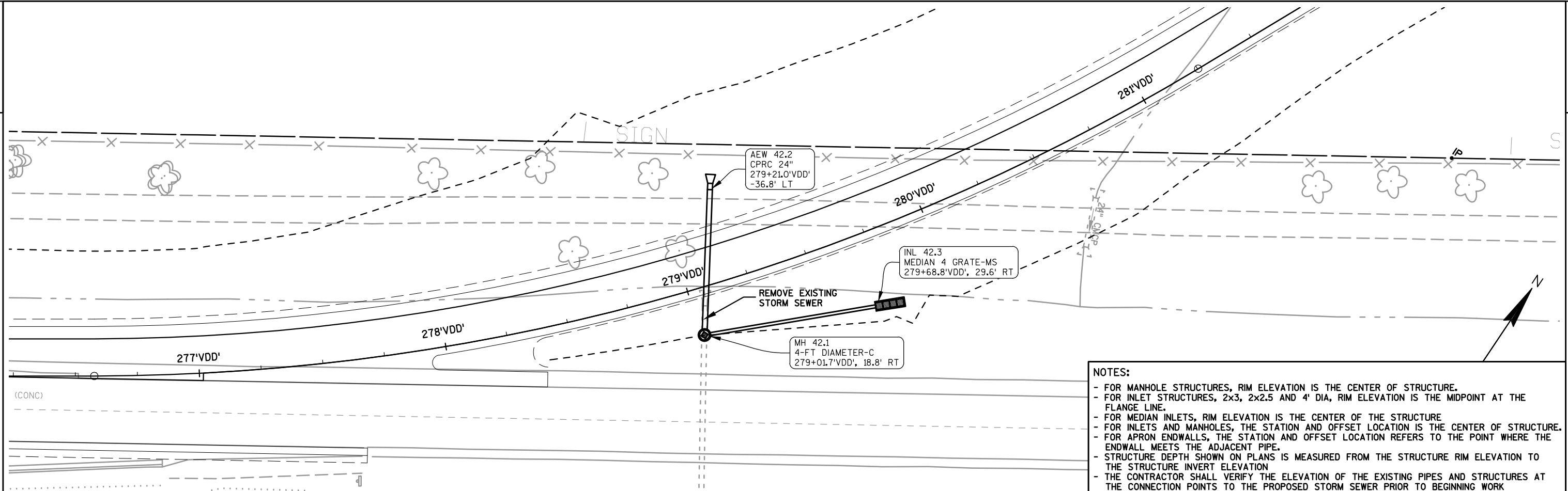


PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      STORM SEWER: OLD CTH V NORTH      SHEET      E



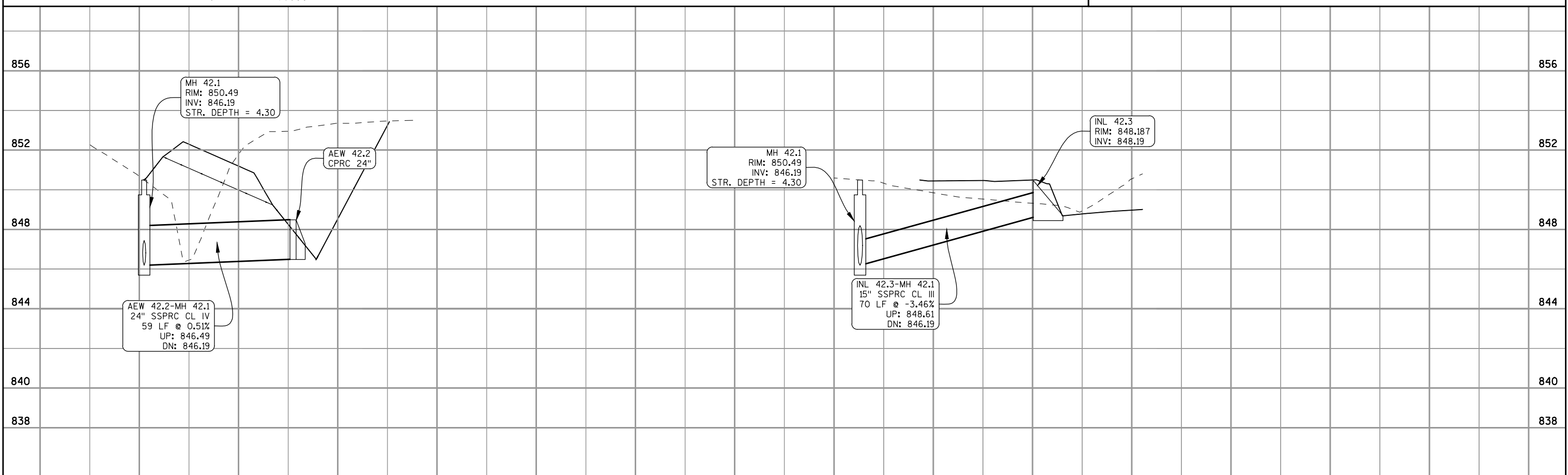


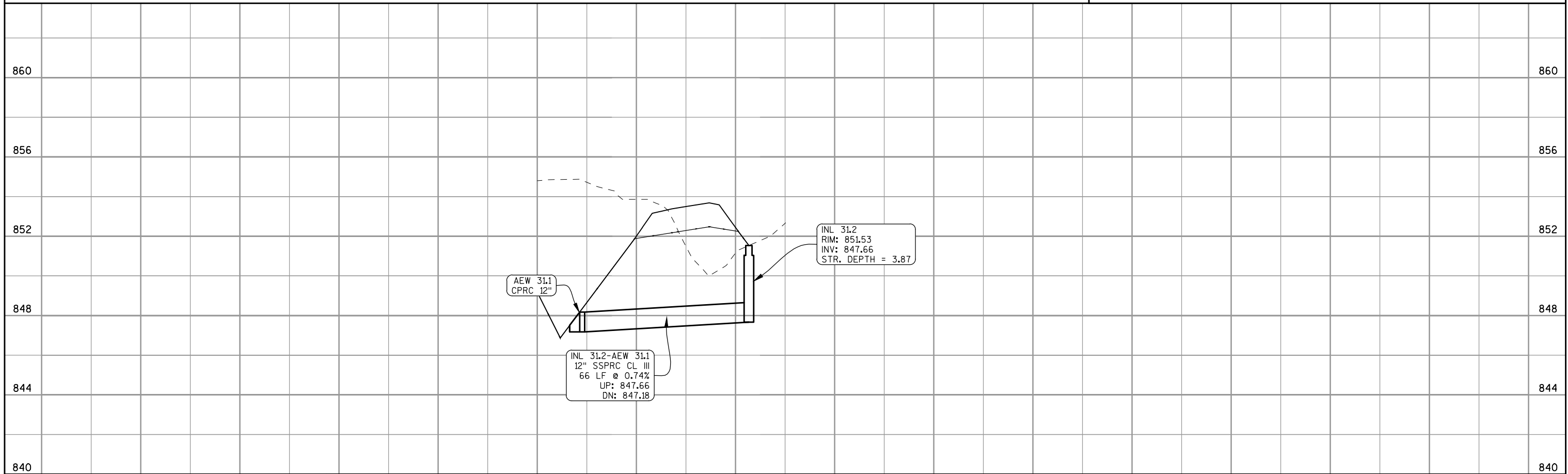
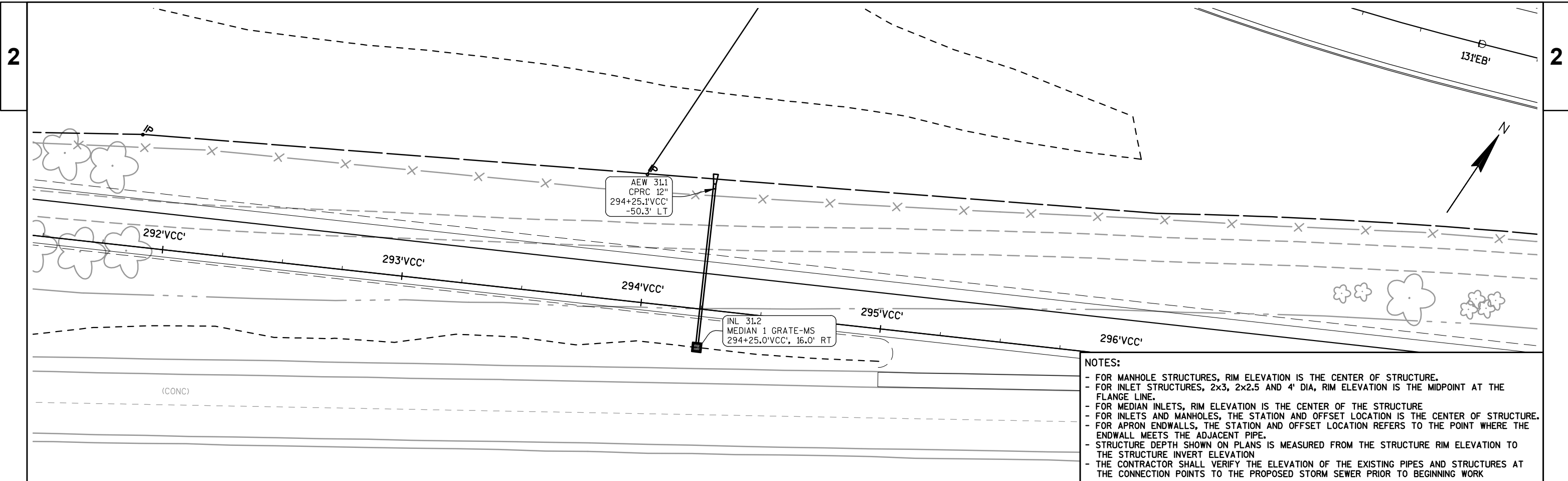


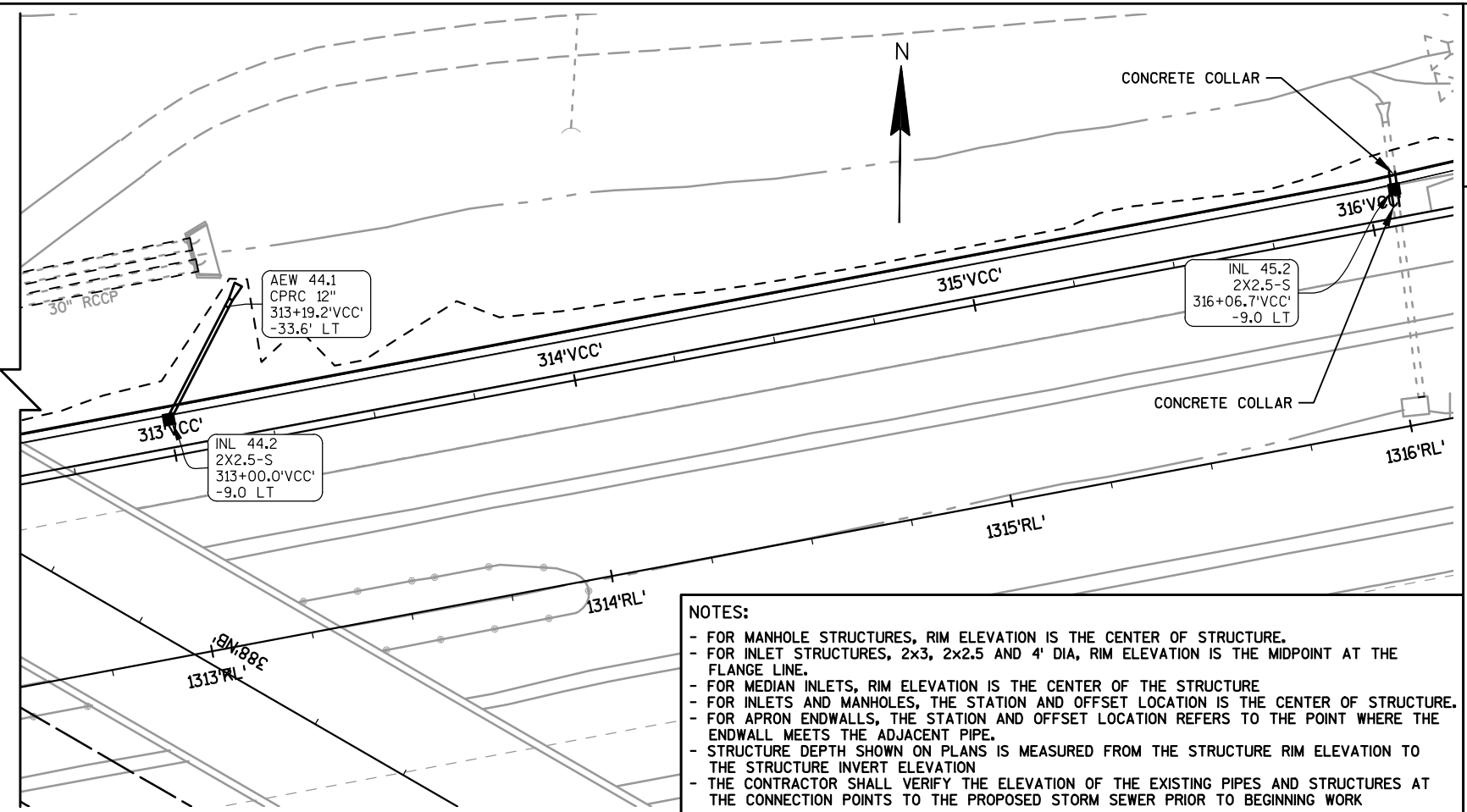
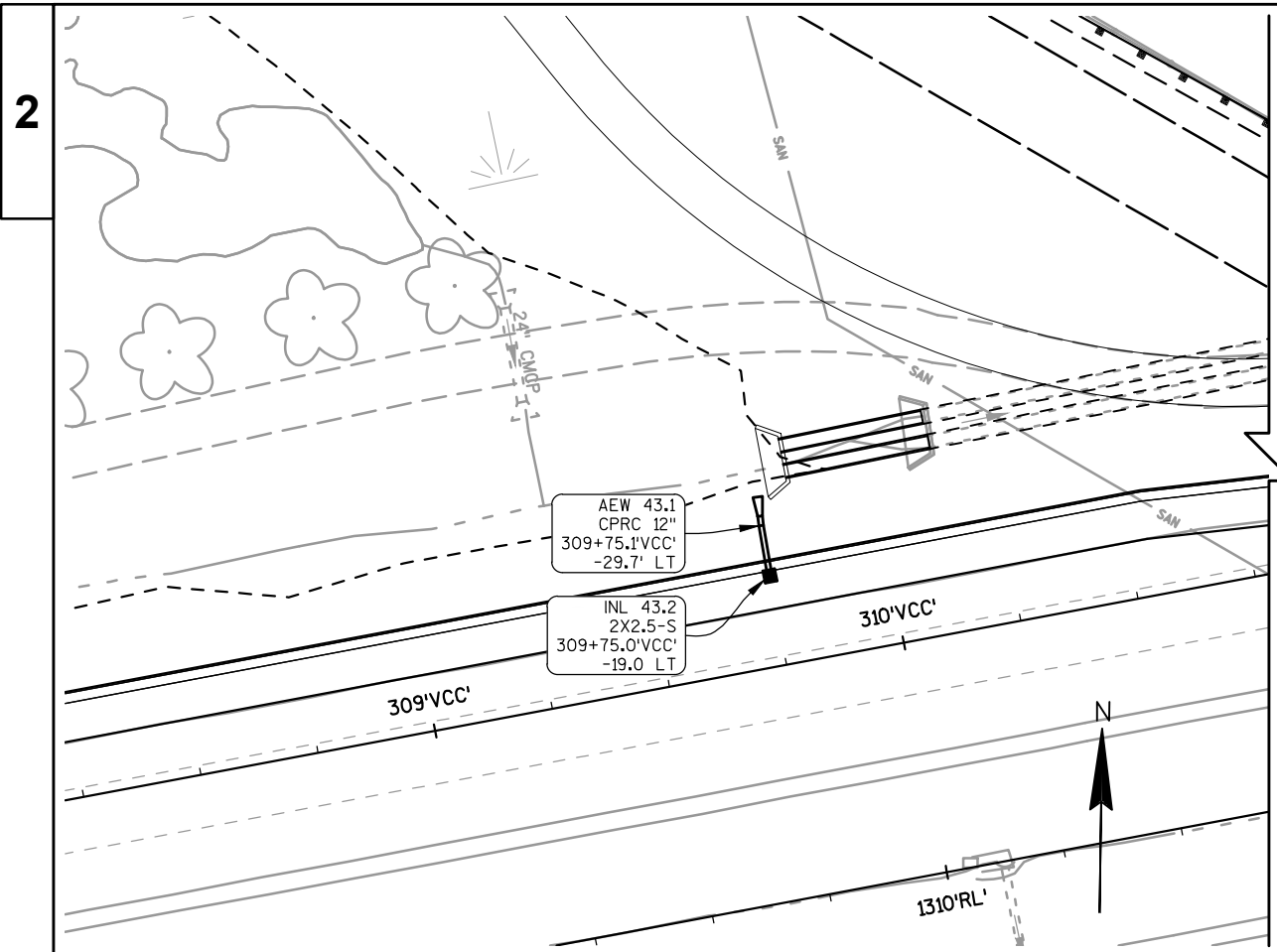


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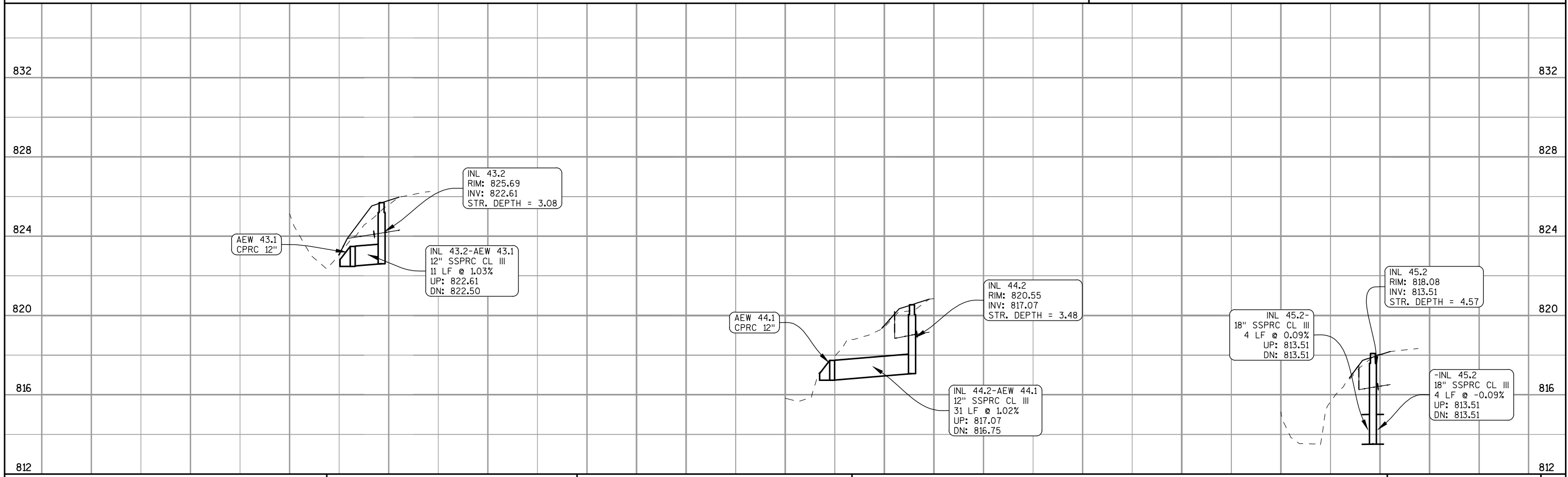


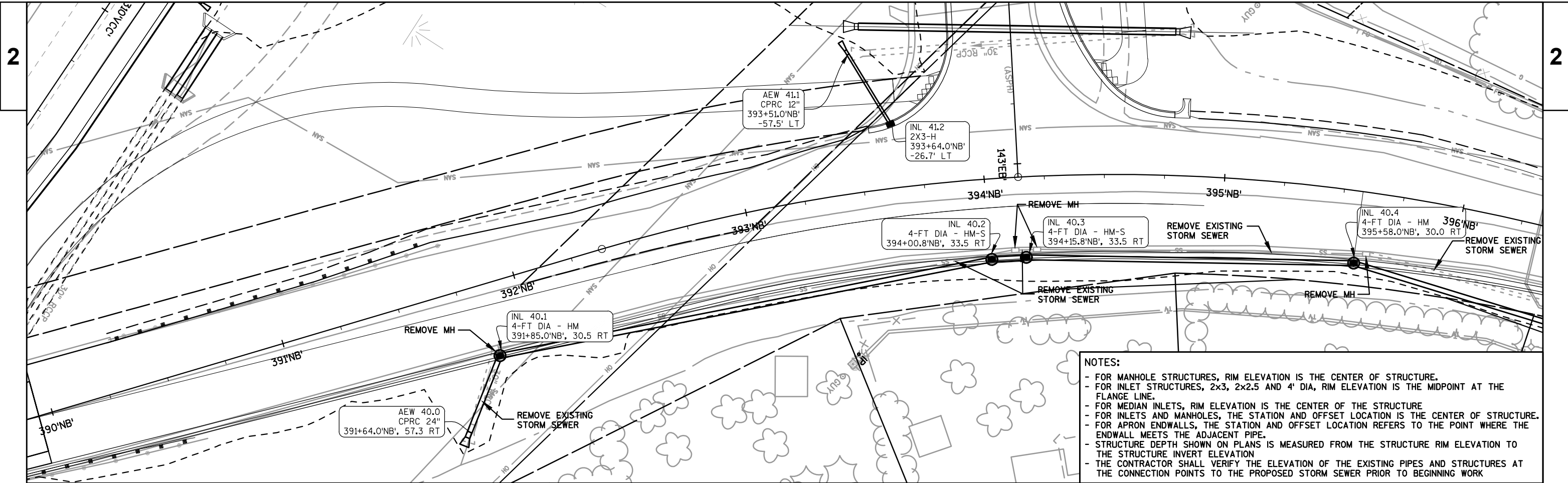




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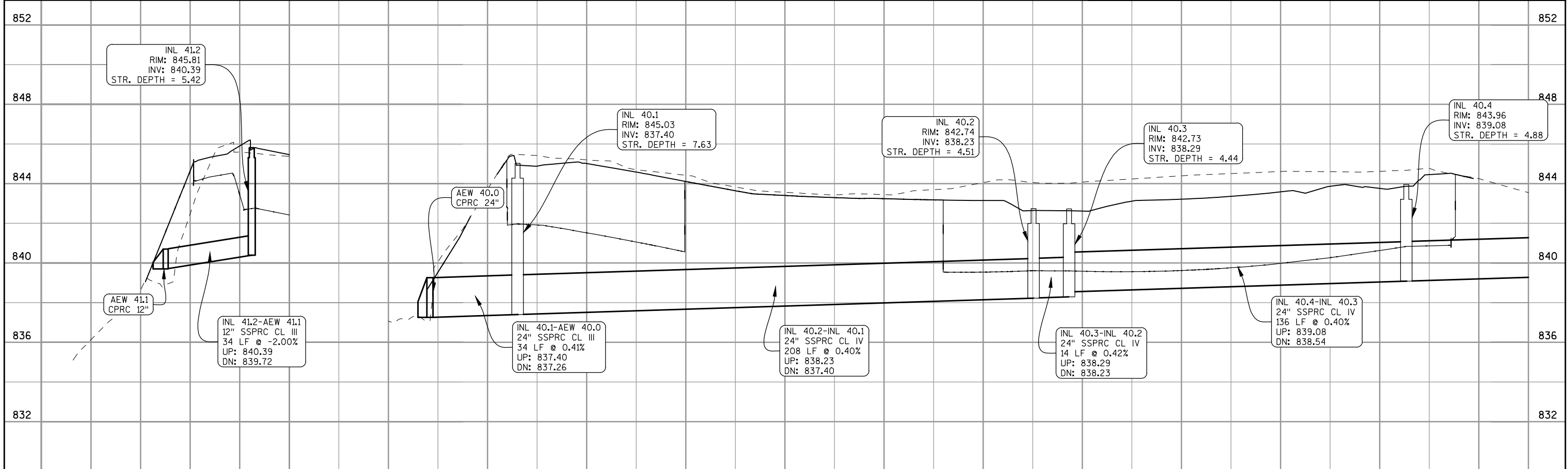
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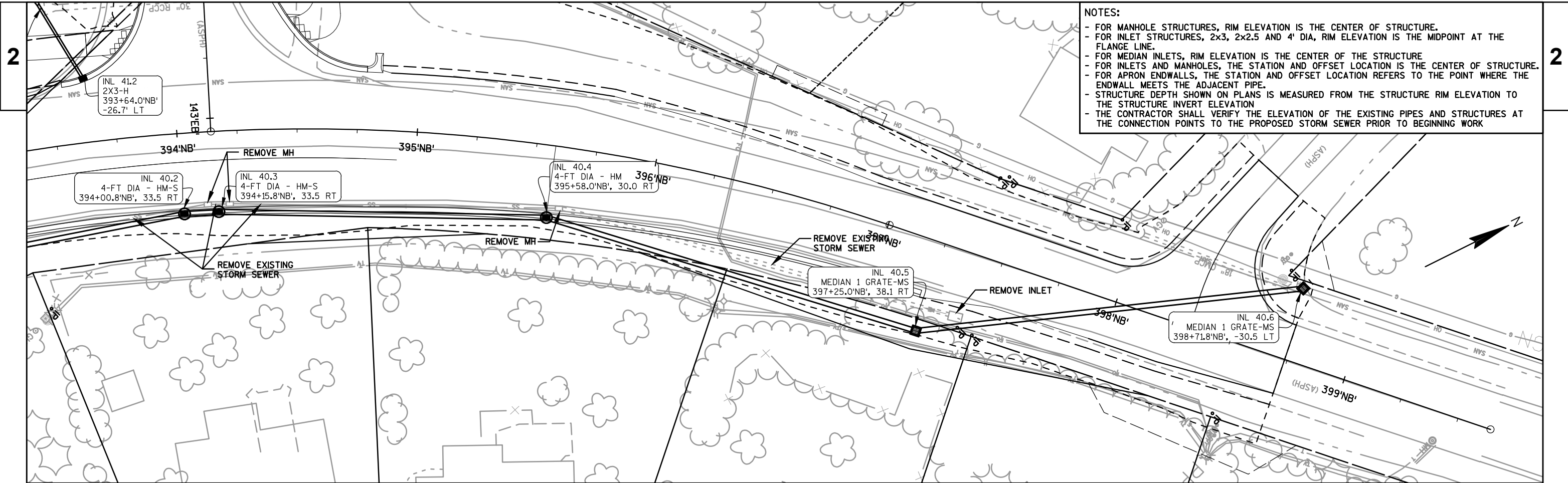




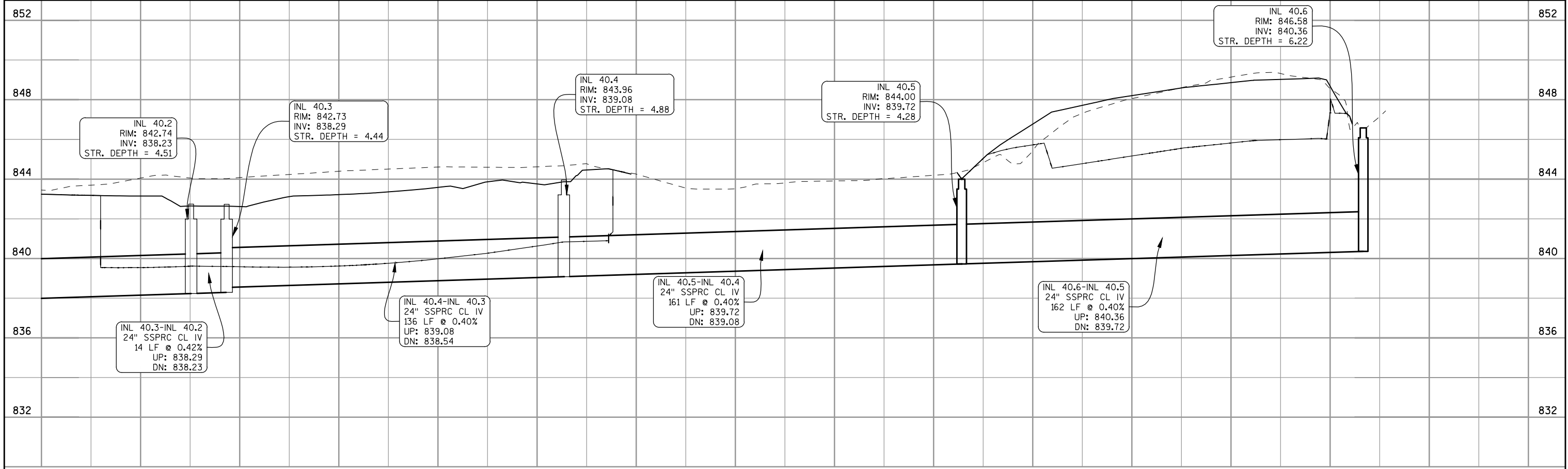
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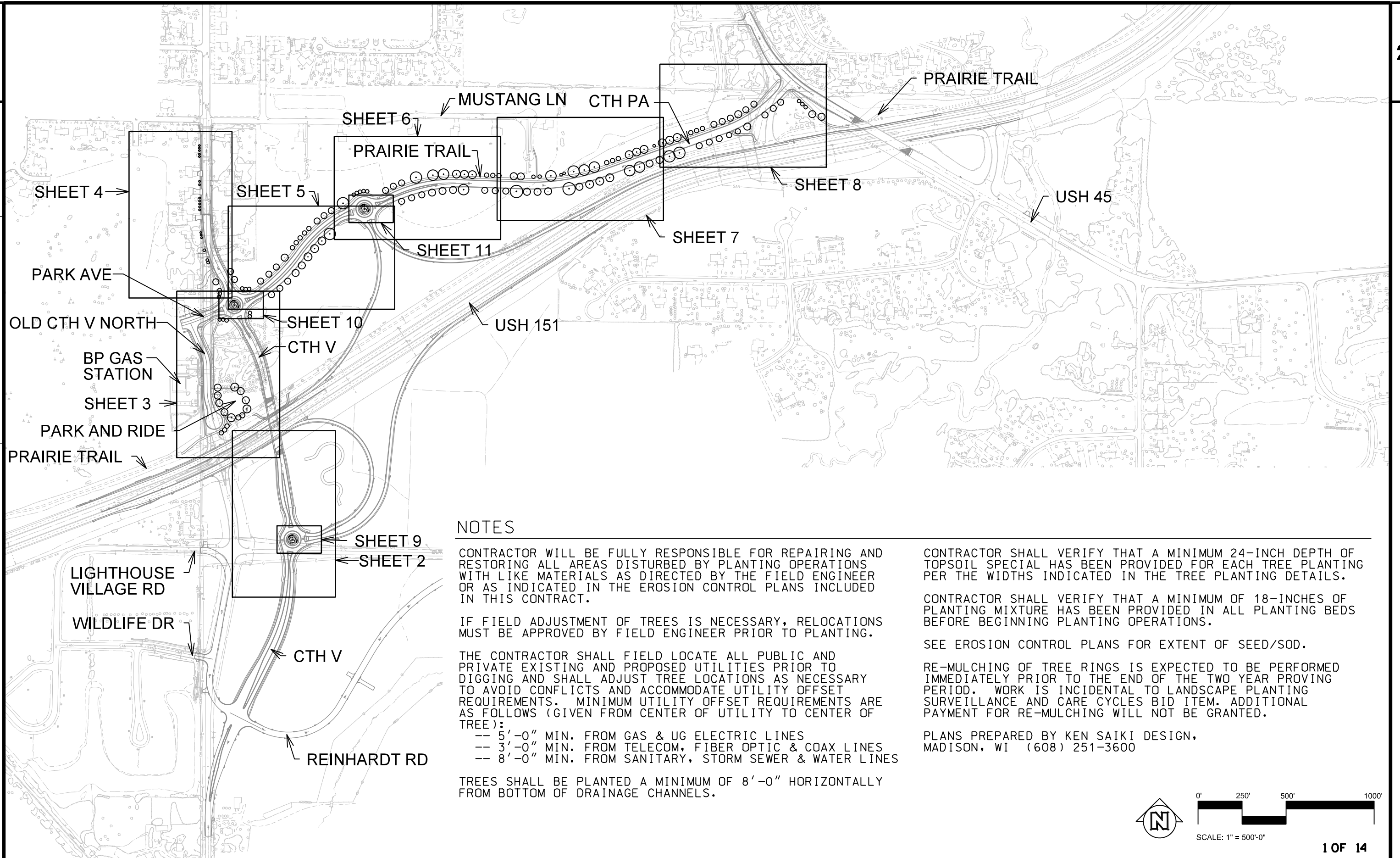




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PROJECT NO: 1420-22-17      HWY: USH 151      COUNTY: FOND DU LAC      STORM SEWER: USH 45      SHEET      E



NOTES

CONTRACTOR WILL BE FULLY RESPONSIBLE FOR REPAIRING AND RESTORING ALL AREAS DISTURBED BY PLANTING OPERATIONS WITH LIKE MATERIALS AS DIRECTED BY THE FIELD ENGINEER OR AS INDICATED IN THE EROSION CONTROL PLANS INCLUDED IN THIS CONTRACT.

IF FIELD ADJUSTMENT OF TREES IS NECESSARY, RELOCATIONS MUST BE APPROVED BY FIELD ENGINEER PRIOR TO PLANTING.

THE CONTRACTOR SHALL FIELD LOCATE ALL PUBLIC AND PRIVATE EXISTING AND PROPOSED UTILITIES PRIOR TO DIGGING AND SHALL ADJUST TREE LOCATIONS AS NECESSARY TO AVOID CONFLICTS AND ACCOMMODATE UTILITY OFFSET REQUIREMENTS. MINIMUM UTILITY OFFSET REQUIREMENTS ARE AS FOLLOWS (GIVEN FROM CENTER OF UTILITY TO CENTER OF TREE):

- 5'-0" MIN. FROM GAS & UG ELECTRIC LINES
- 3'-0" MIN. FROM TELECOM, FIBER OPTIC & COAX LINES
- 8'-0" MIN. FROM SANITARY, STORM SEWER & WATER LINES

TREES SHALL BE PLANTED A MINIMUM OF 8'-0" HORIZONTALLY FROM BOTTOM OF DRAINAGE CHANNELS.

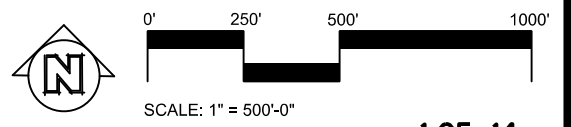
CONTRACTOR SHALL VERIFY THAT A MINIMUM 24-INCH DEPTH OF TOPSOIL SPECIAL HAS BEEN PROVIDED FOR EACH TREE PLANTING PER THE WIDTHS INDICATED IN THE TREE PLANTING DETAILS.

CONTRACTOR SHALL VERIFY THAT A MINIMUM OF 18-INCHES OF PLANTING MIXTURE HAS BEEN PROVIDED IN ALL PLANTING BEDS BEFORE BEGINNING PLANTING OPERATIONS.

SEE EROSION CONTROL PLANS FOR EXTENT OF SEED/SOD.

RE-MULCHING OF TREE RINGS IS EXPECTED TO BE PERFORMED IMMEDIATELY PRIOR TO THE END OF THE TWO YEAR PROVING PERIOD. WORK IS INCIDENTAL TO LANDSCAPE PLANTING SURVEILLANCE AND CARE CYCLES BID ITEM. ADDITIONAL PAYMENT FOR RE-MULCHING WILL NOT BE GRANTED.

PLANS PREPARED BY KEN SAIKI DESIGN,  
MADISON, WI (608) 251-3600



**LEGEND**

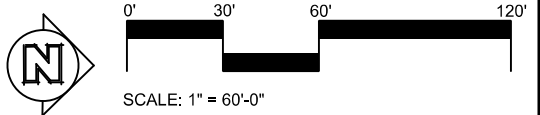
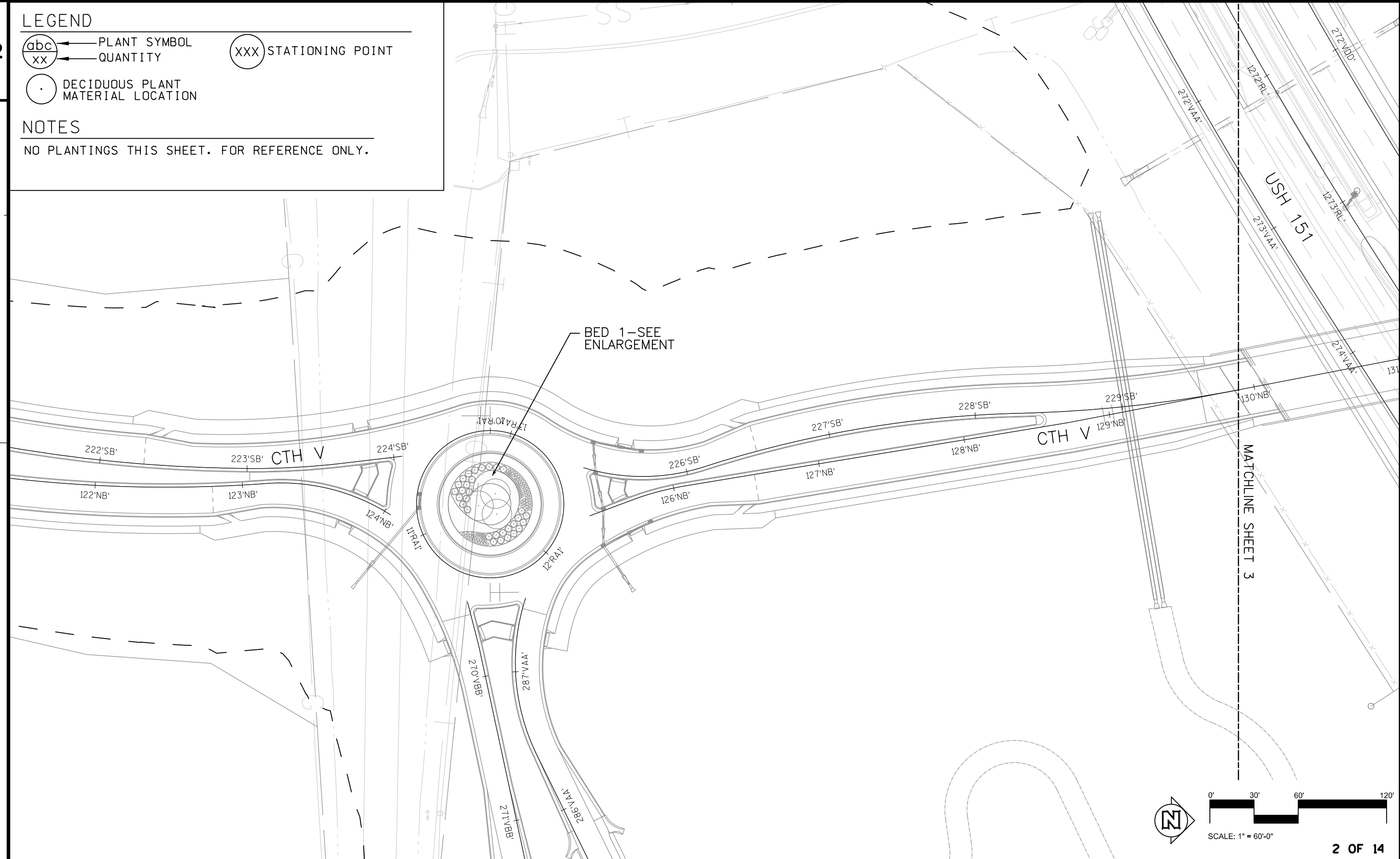
(abc) — PLANT SYMBOL  
 xx — QUANTITY

(XXX) STATIONING POINT

(○) DECIDUOUS PLANT MATERIAL LOCATION

**NOTES**

NO PLANTINGS THIS SHEET. FOR REFERENCE ONLY.



LEGEND

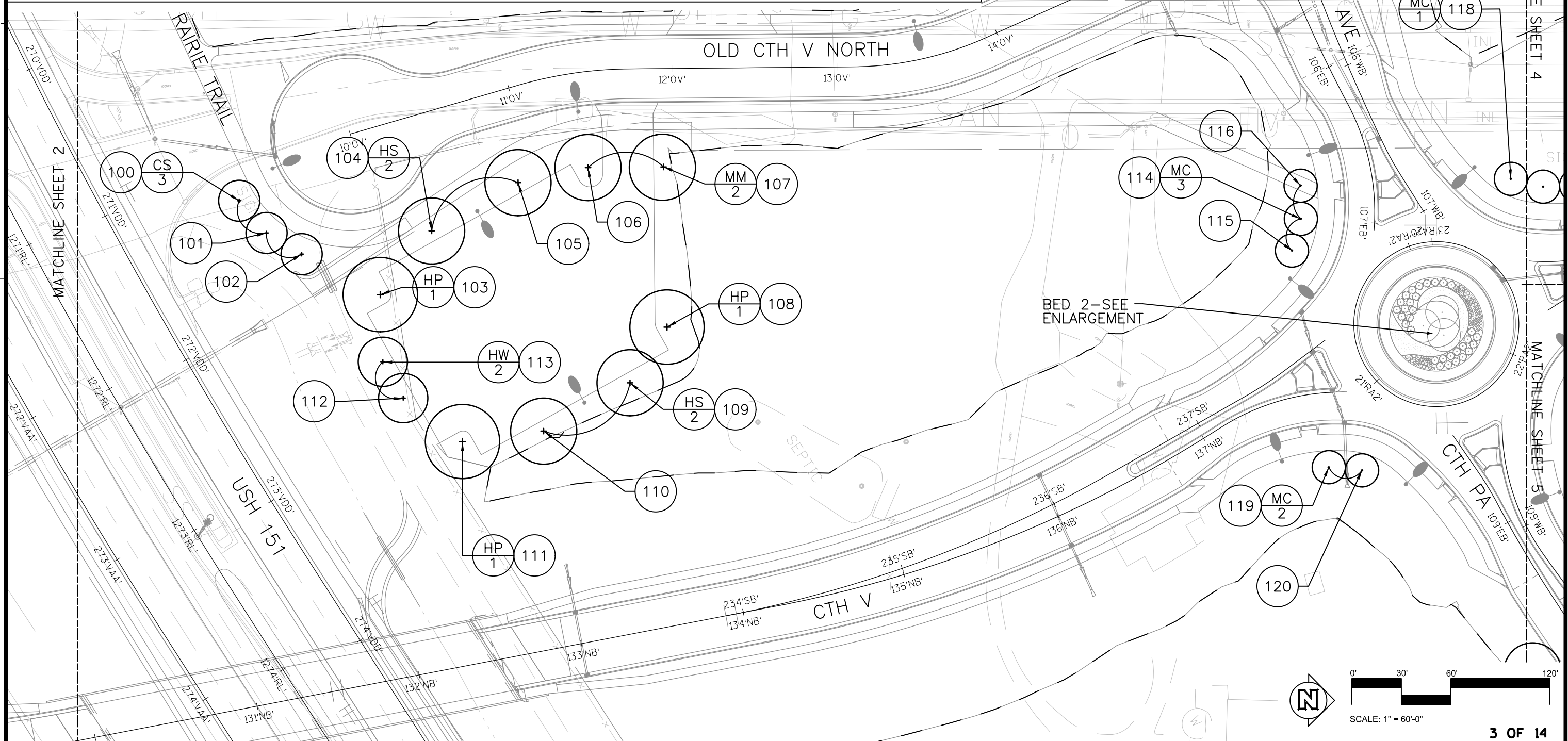
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- (●) — DECIDUOUS PLANT MATERIAL LOCATION

NOTES

ALL TREE PLANTINGS TO RECEIVE TOPSOIL SPECIAL, SEE TREE PLANTING DETAILS.

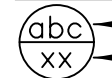

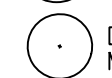
PLANT KEY

SYM	COMMON NAME
CS	Crabapple, 'Snowdrift'
HP	Hackberry, 'Prairie Pride'
HW	Hawthorn, 'Winter King'
HS	Honeylocust, 'Skyline'
MC	Maple, Freeman 'Celebration'
MM	Maple, Freeman 'Marmo'





LEGEND

-  PLANT SYMBOL
-  STATIONING POINT
-  DECIDUOUS PLANT MATERIAL LOCATION

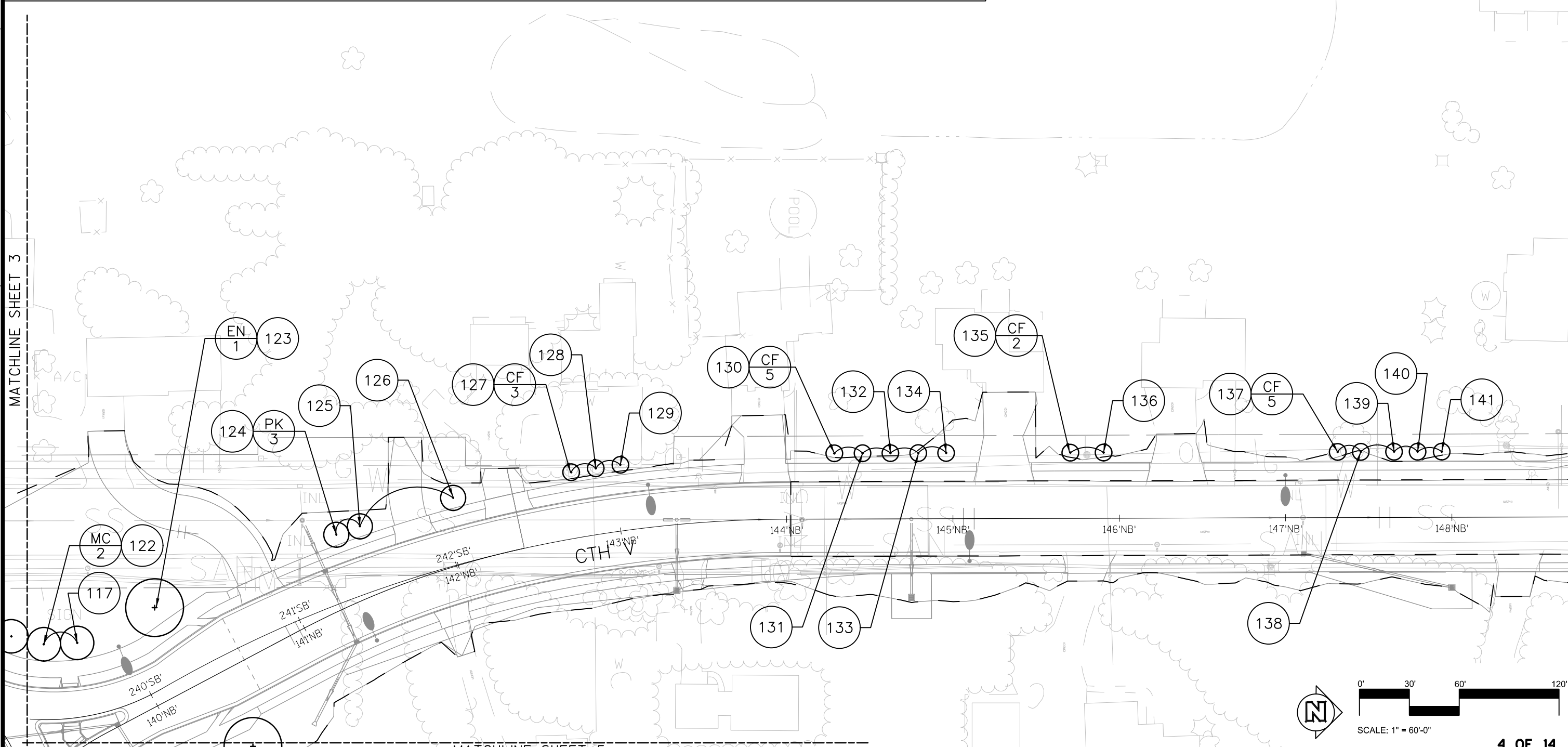
PLANT KEY

SYM	COMMON NAME
CF	Crabapple, 'Firebird'
EN	Elm, 'New Horizon'
MC	Maple, Freeman 'Celebration'
PK	Pear, 'Korean Sun'

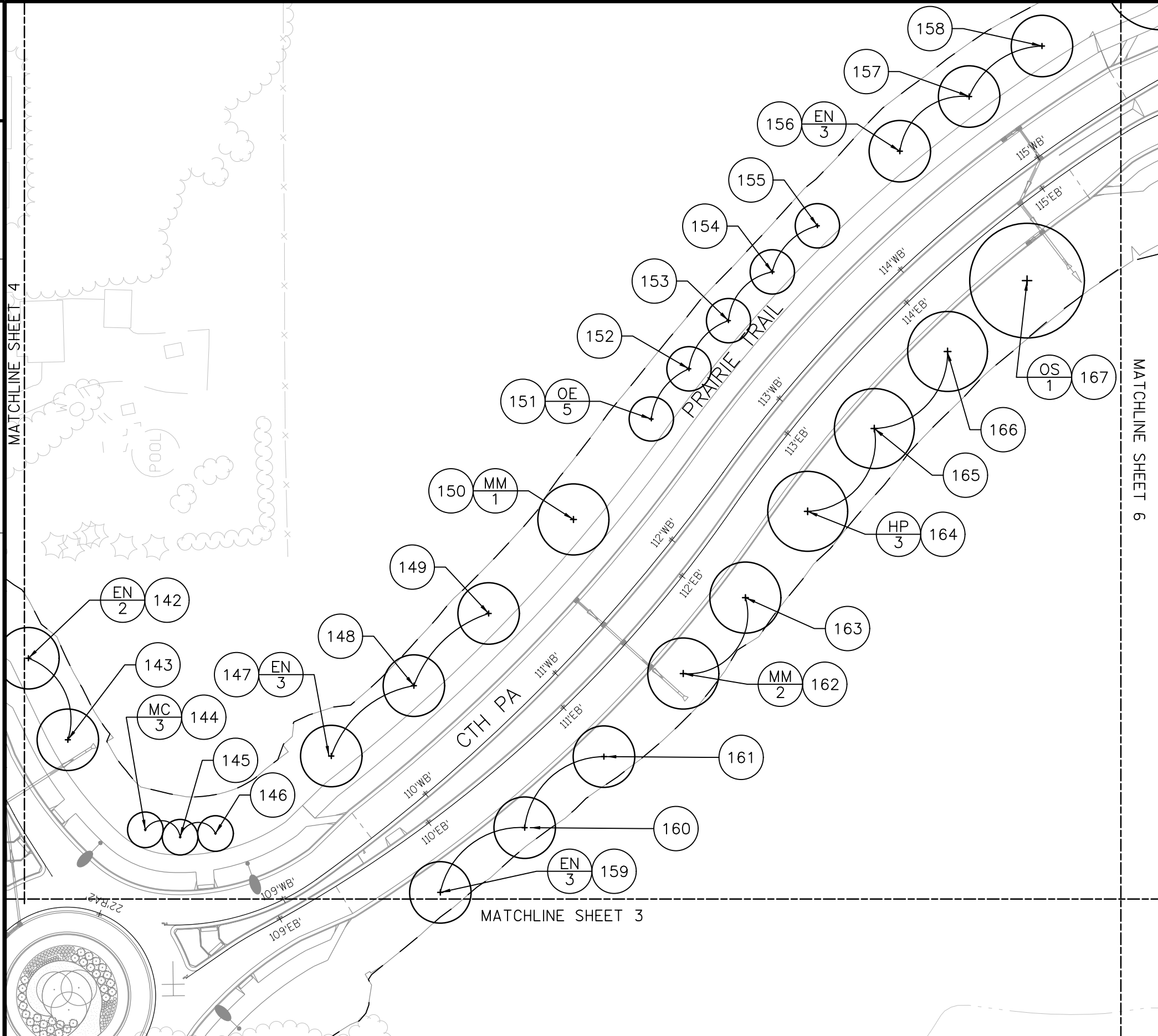
NOTES

ALL TREE PLANTINGS TO RECEIVE TOPSOIL SPECIAL, SEE TREE PLANTING DETAILS.

MATCHLINE SHEET 3



MATCHLINE SHEET 5



LEGEND

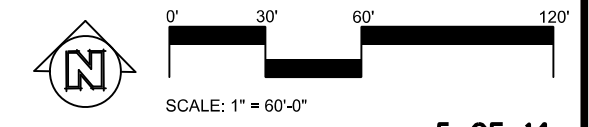
- PLANT SYMBOL
- QUANTITY
- DECIDUOUS PLANT MATERIAL LOCATION
- STATIONING POINT

NOTES



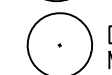
ALL TREE PLANTINGS TO RECEIVE TOPSOIL SPECIAL, SEE TREE PLANTING DETAILS.

PLANT KEY

SYM	COMMON NAME
EN	Elm, 'New Horizon'
HP	Hackberry, 'Prairie Pride'
MC	Maple, Freeman 'Celebration'
MM	Maple, Freeman 'Marmo'
OE	Oak, English 'Skymaster'
OS	Oak, Swamp White



LEGEND

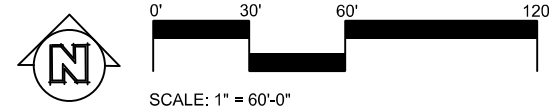
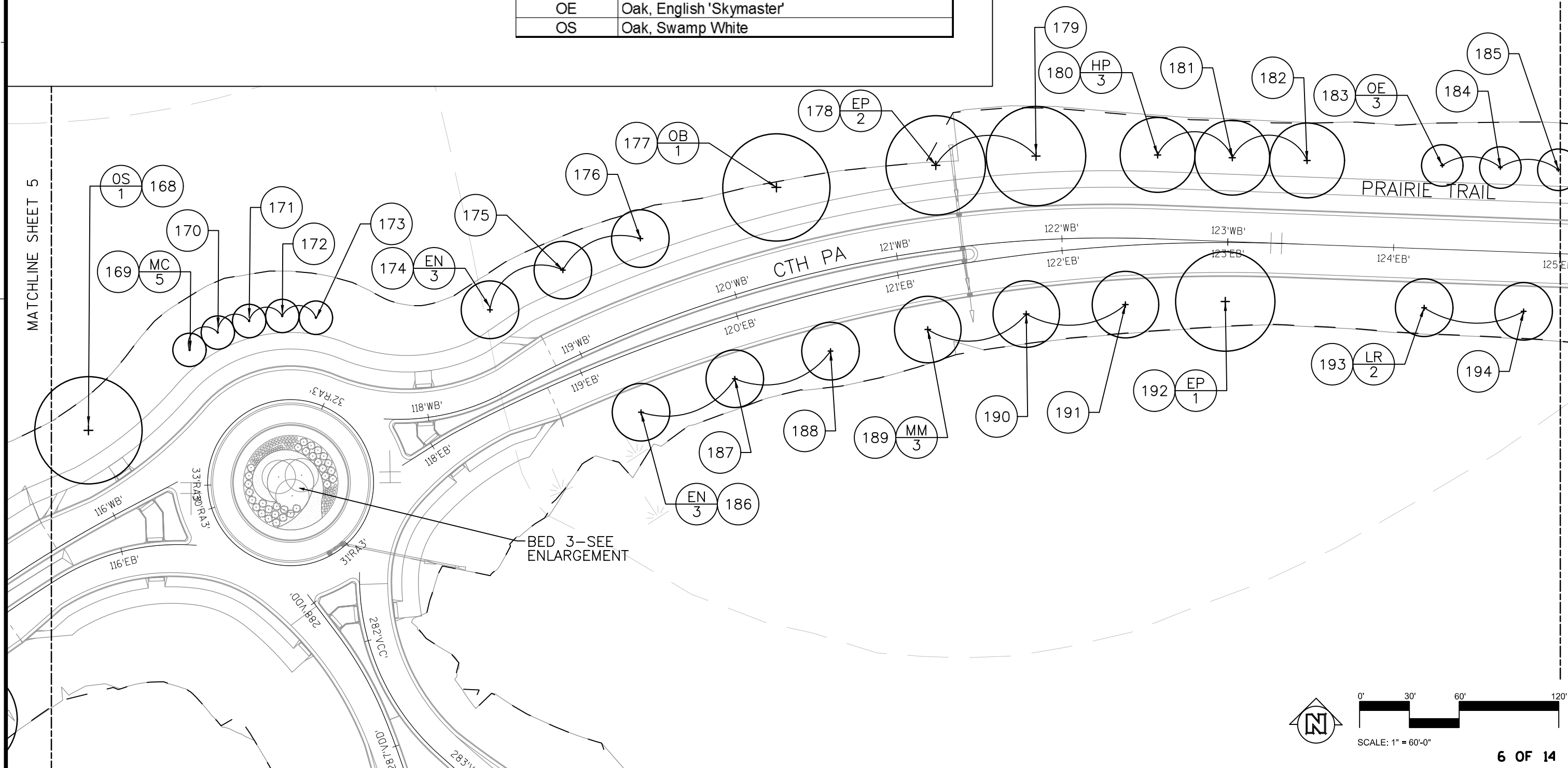
-  PLANT SYMBOL
-  STATIONING POINT
-  DECIDUOUS PLANT MATERIAL LOCATION

PLANT KEY

SYM	COMMON NAME
EN	Elm, 'New Horizon'
EP	Elm, 'Princeton'
HP	Hackberry, 'Prairie Pride'
LR	Linden, 'Redmond'
MC	Maple, Freeman 'Celebration'
MM	Maple, Freeman 'Marmo'
OB	Oak, Bur
OE	Oak, English 'Skymaster'
OS	Oak, Swamp White

NOTES

ALL TREE PLANTINGS TO RECEIVE TOPSOIL SPECIAL, SEE TREE PLANTING DETAILS.



LEGEND

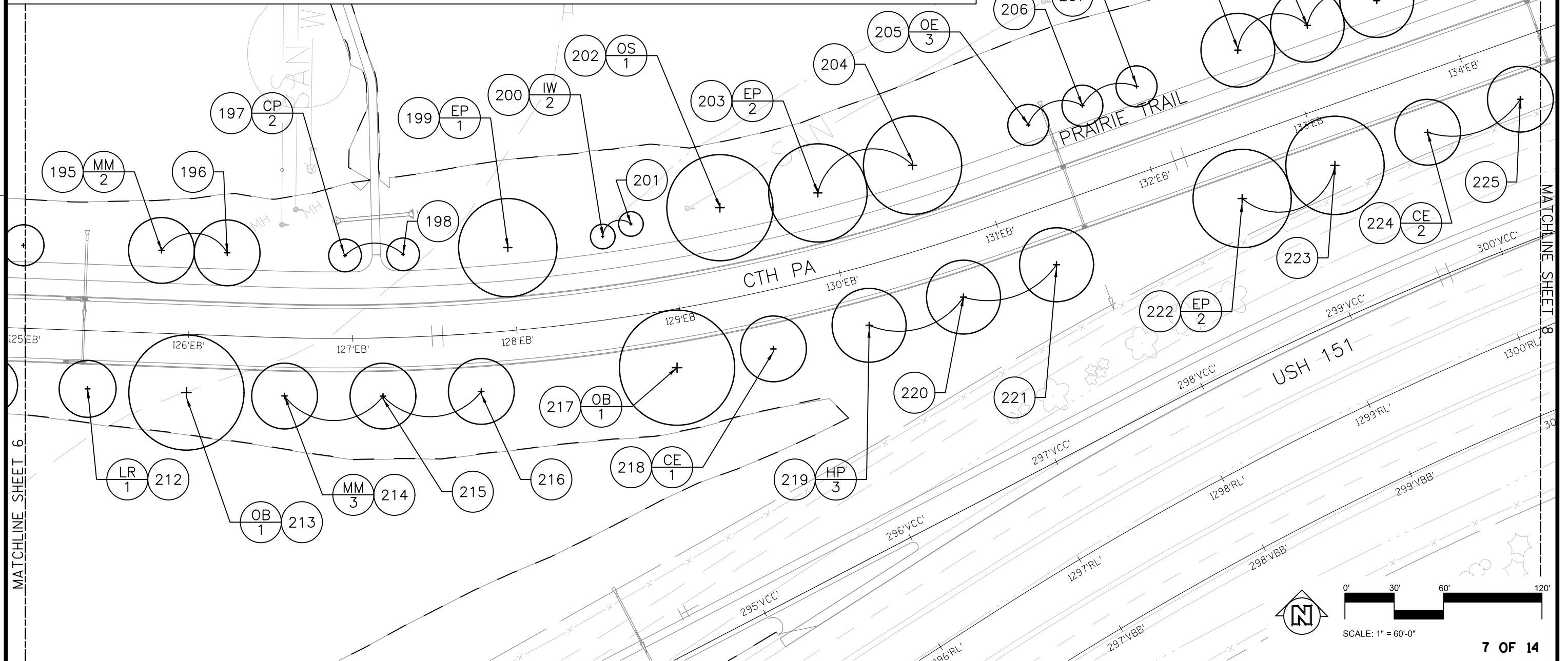
- (abc) PLANT SYMBOL
- (xx) QUANTITY
- (XXX) STATIONING POINT
- (●) DECIDUOUS PLANT MATERIAL LOCATION

NOTES

ALL TREE PLANTINGS TO RECEIVE TOPSOIL SPECIAL, SEE TREE PLANTING DETAILS.

PLANT KEY

SYM	COMMON NAME
CE	Coffeetree, 'Espresso'
CP	Crabapple, 'Prairifire'
EP	Elm, 'Princeton'
HP	Hackberry, 'Prairie Pride'
IW	Ironwood
LR	Linden, 'Redmond'
MM	Maple, Freeman 'Marmo'
ML	Maple, Sugar 'Legacy'
OB	Oak, Bur
OE	Oak, English 'Skymaster'
OS	Oak, Swamp White



LEGEND

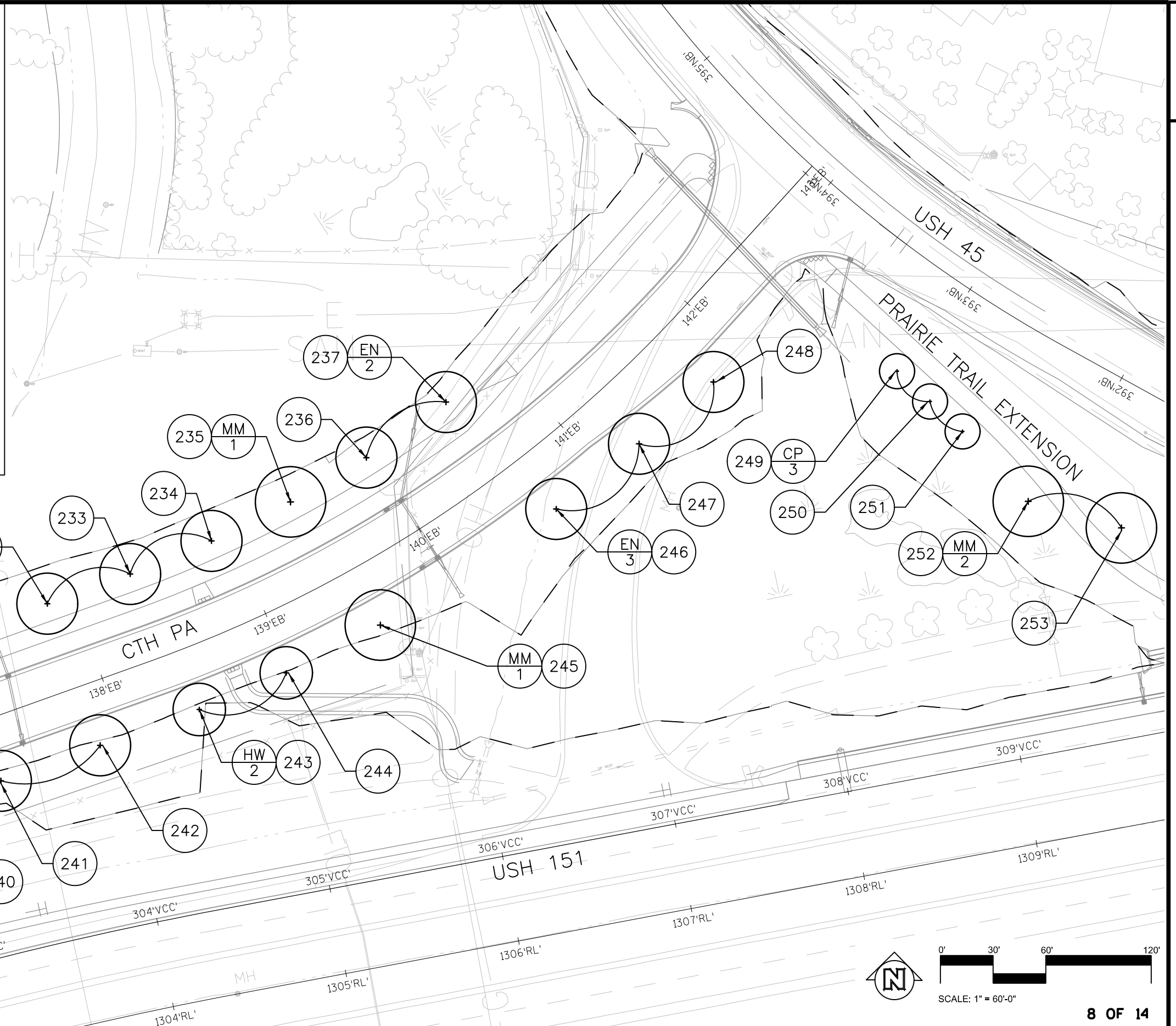
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- (•) — DECIDUOUS PLANT MATERIAL LOCATION

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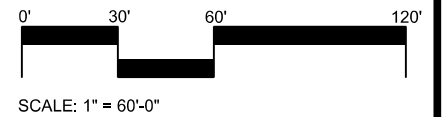
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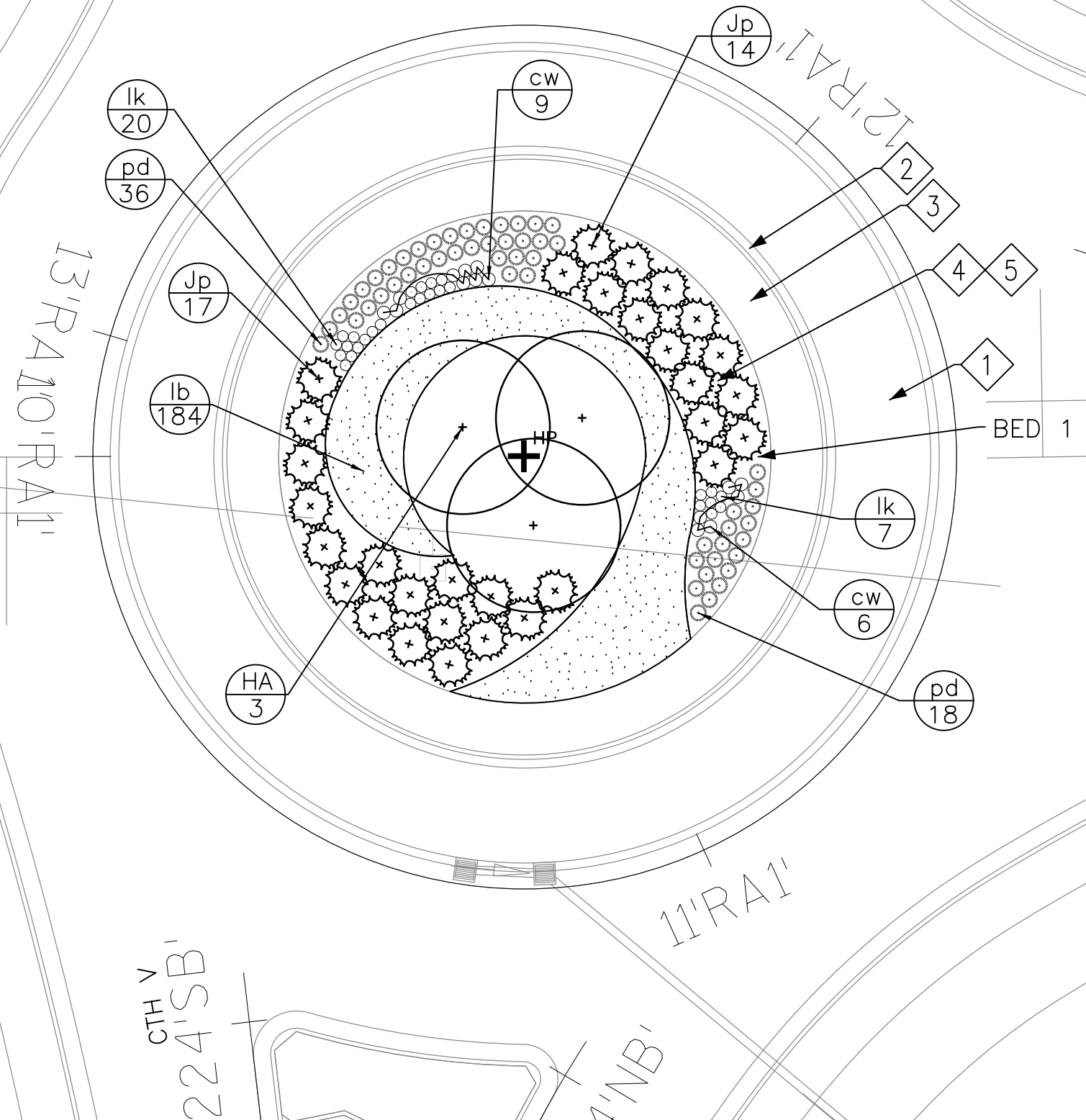
PLANT KEY

SYM	COMMON NAME
CP	Crabapple, 'Prairifire'
EF	Elm, 'Frontier'
EN	Elm, 'New Horizon'
HP	Hackberry, 'Prairie Pride'
HW	Hawthorn, 'Winter King'
MM	Maple, Freeman 'Mamo'
OE	Oak, English 'Skymaster'
OS	Oak, Swamp White



MATCHLINE SHEET 7





### LEGEND

- abc ← PLANT SYMBOL
- xx ← QUANTITY
- DECIDUOUS PLANT MATERIAL LOCATION
- + EVERGREEN PLANT MATERIAL LOCATION
- xxx STATIONING POINT
- 1 TRUCK APRON
- 2 ROUNDABOUT CONCRETE CURB, TYPE A
- 3 ROUNDABOUT CONCRETE TRAVERSABLE ZONE
- 4 SHREDDED HARDWOOD BARK MULCH
- 5 PLANTING MIXTURE

### PLANT KEY

SYM	COMMON NAME
HA	Hawthorn, Thomless Cockspur (Shrub Form Tree)
Jp	Juniper, Pfitzer 'Kallay's Compact'
cw	Coneflower, 'White Swan'
lb	Little Bluestem, 'Blue Heaven'
lk	Liatris, 'Kobold'
pd	Prairie Dropseed 'Tara'

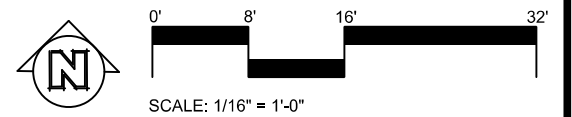
### LANDSCAPE LAYOUT

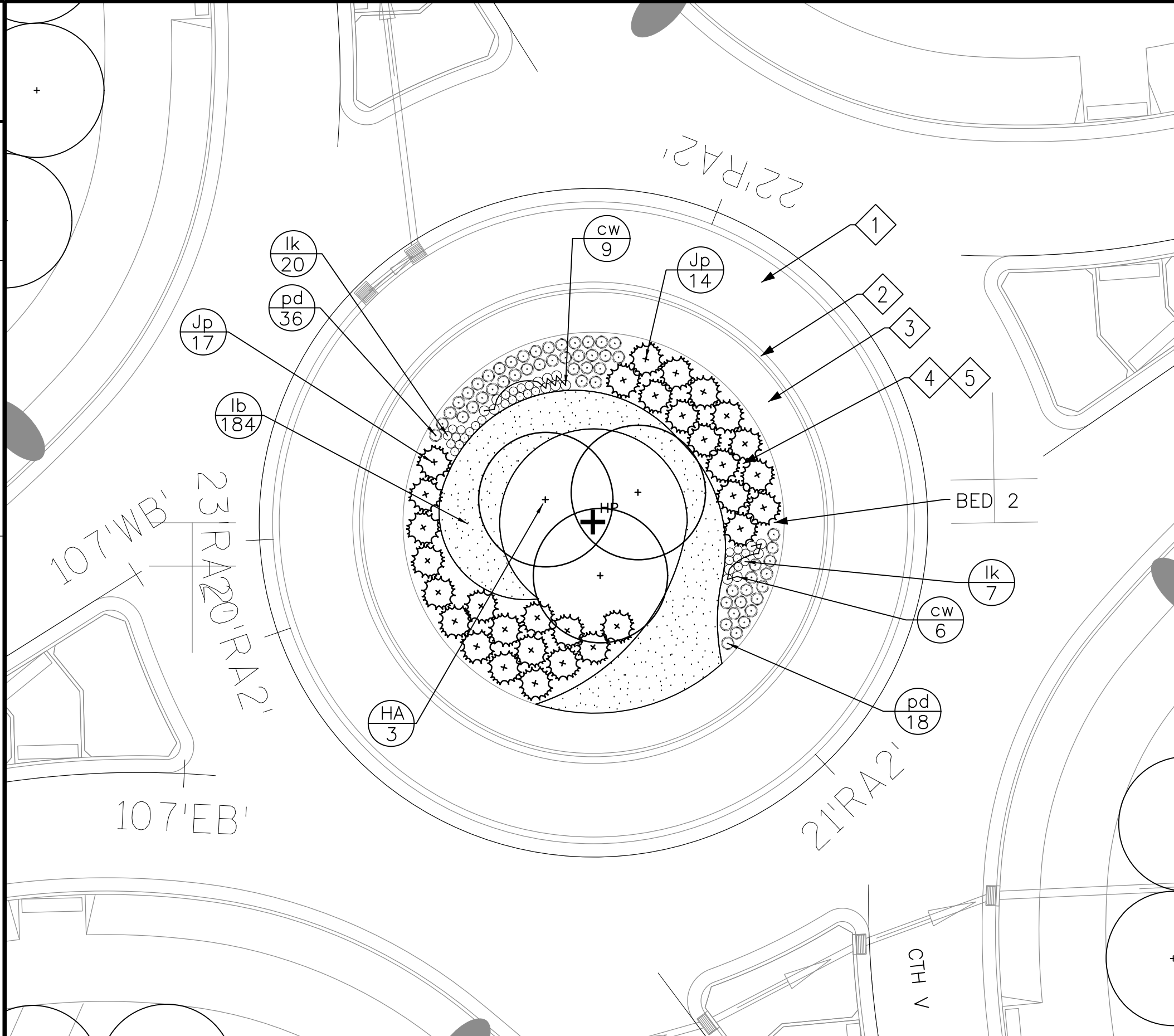
- 1) + HP DEPICTS HIGH POINT (HP) OF ROUNDABOUT
- 2) LOCATE +HP AT THE CENTER OF ROUNDABOUT
- 3) HP = 874.00

ALL ELEVATIONS GIVEN ARE FINAL ELEVATIONS FOR PLANTING MIXTURE IN PLACE AND COMPACTED TO ACHIEVE FINAL GRADES. CONTRACTOR MUST TAKE INTO ACCOUNT ANY SETTLING THAT MAY OCCUR IN ACHIEVING THE FINAL GRADES INDICATED IN THIS DRAWING.

SEE ROADWAY PLANS FOR ROADWAY SPOT ELEVATIONS AND PAVEMENT INFORMATION.

SEE DETAILS FOR ROUNDABOUT PLANTING MIXTURE DEPTHS.





### LEGEND

- abc ← PLANT SYMBOL
- xx ← QUANTITY
- DECIDUOUS PLANT MATERIAL LOCATION
- + EVERGREEN PLANT MATERIAL LOCATION
- xxx STATIONING POINT
- 1 TRUCK APRON
- 2 ROUNDABOUT CONCRETE CURB, TYPE A
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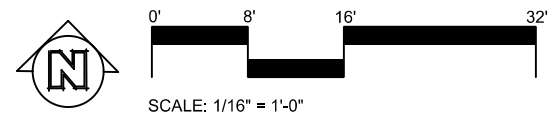
### LANDSCAPE LAYOUT

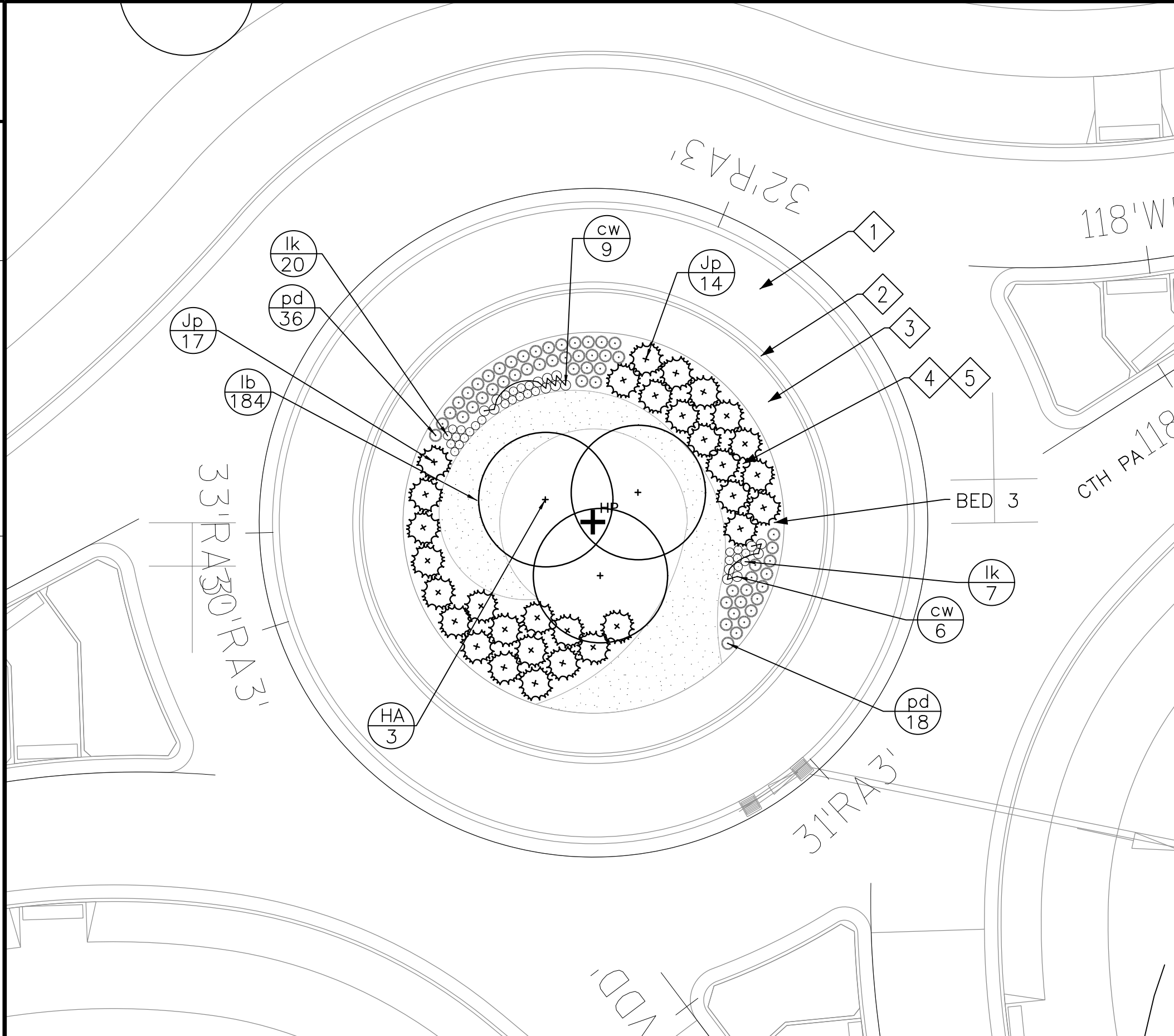
- 1) +HP DEPICTS HIGH POINT (HP) OF ROUNDABOUT
- 2) LOCATE +HP AT THE CENTER OF ROUNDABOUT
- 3) HP = 866.50

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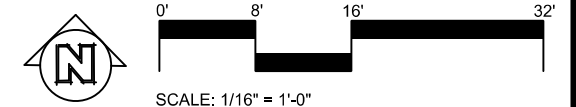
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- 2) LOCATE +HP AT THE CENTER OF ROUNDABOUT
- 3) HP = 864.00

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SHEET 3				
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
100	72+85.42	10.00 RT	CENTER OF TREE	PRAIRIE TRAIL
101	73+7.88	10.00 RT	CENTER OF TREE	PRAIRIE TRAIL
102	73+29.65	10.00 RT	CENTER OF TREE	PRAIRIE TRAIL
103	73+68.68	30.45 RT	CENTER OF TREE	PRAIRIE TRAIL
104	74+4.82	7.60 RT	CENTER OF TREE	PRAIRIE TRAIL
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
105	74+64.80	11.90 RT	CENTER OF TREE	PRAIRIE TRAIL
106	75+13.16	19.90 RT	CENTER OF TREE	PRAIRIE TRAIL
107	75+63.36	22.61 RT	CENTER OF TREE	PRAIRIE TRAIL
108	75+64.61	119.71 RT	CENTER OF TREE	PRAIRIE TRAIL
109	74+54.62	150.55 RT	CENTER OF TREE	PRAIRIE TRAIL
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
110	50+25.99	84.11 LT	CENTER OF TREE	PRAIRIE TRAIL
111	50+18.07	37.28 LT	CENTER OF TREE	PRAIRIE TRAIL
112	49+77.26	19.52 LT	CENTER OF TREE	PRAIRIE TRAIL
113	49+52.00	19.98 LT	CENTER OF TREE	PRAIRIE TRAIL
114	11+22.12	28.50 RT	CENTER OF TREE	SW2
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
115	11+52.78	28.50 RT	CENTER OF TREE	SW2
116	10+95.63	28.50 RT	CENTER OF TREE	SW2
117	13+5.22	28.50 LT	CENTER OF TREE	NW2
118	12+47.22	28.50 LT	CENTER OF TREE	NW2
119	10+89.53	28.50 RT	CENTER OF TREE	SE2
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
120	11+20.07	28.50 RT	CENTER OF TREE	SE2
121	--	--	--	--

SHEET 7				
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
195	125+81.52	50.50 LT	CENTER OF TREE	EB
196	126+21.56	50.50 LT	CENTER OF TREE	EB
197	126+95.5	50.50 LT	CENTER OF TREE	EB
198	127+32.41	50.50 LT	CENTER OF TREE	EB
199	127+99.12	50.50 LT	CENTER OF TREE	EB
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
200	128+59.91	50.50 LT	CENTER OF TREE	EB
201	128+78.88	55.50 LT	CENTER OF TREE	EB
202	129+36.63	55.50 LT	CENTER OF TREE	EB
203	129+99.60	50.50 LT	CENTER OF TREE	EB
204	130+62.30	50.50 LT	CENTER OF TREE	EB
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
205	131+38.57	50.50 LT	CENTER OF TREE	EB
206	131+73.58	50.50 LT	CENTER OF TREE	EB
207	132+8.58	50.50 LT	CENTER OF TREE	EB
208	132+74.10	50.50 LT	CENTER OF TREE	EB
209	133+19.03	50.50 LT	CENTER OF TREE	EB
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
210	133+63.93	50.50 LT	CENTER OF TREE	EB
211	134+24.31	50.50 LT	CENTER OF TREE	EB
212	125+35.67	35.50 RT	CENTER OF TREE	EB
213	125+99.88	35.50 RT	CENTER OF TREE	EB
214	126+59.28	35.50 RT	CENTER OF TREE	EB
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
215	127+17.53	35.50 RT	CENTER OF TREE	EB
216	127+75.78	35.50 RT	CENTER OF TREE	EB
217	128+92.47	35.50 RT	CENTER OF TREE	EB
218	129+50.56	35.50 RT	CENTER OF TREE	EB
219	130+8.85	35.50 RT	CENTER OF TREE	EB
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
220	130+67.12	35.50 RT	CENTER OF TREE	EB
221	131+26.11	35.50 RT	CENTER OF TREE	EB
222	132+46.19	35.50 RT	CENTER OF TREE	EB
223	133+6.19	35.50 RT	CENTER OF TREE	EB
224	133+66.08	35.50 RT	CENTER OF TREE	EB
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
225	134+26.08	35.50 RT	CENTER OF TREE	EB

SHEET 4				
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
122	12+79.18	28.50 LT	CENTER OF TREE	NW2
123	13+70.60	28.50 LT	CENTER OF TREE	NW2
124	241+38.43	39.50 LT	CENTER OF TREE	SB
125	241+52.76	39.50 LT	CENTER OF TREE	SB
126	242+8.48	39.50 LT	CENTER OF TREE	SB
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
127	142+76.45	39.50 LT	CENTER OF TREE	NB
128	142+90.69	39.50 LT	CENTER OF TREE	NB
129	143+4.92	39.50 LT	CENTER OF TREE	NB
130	144+28.77	39.50 LT	CENTER OF TREE	NB
131	144+45.74	39.50 LT	CENTER OF TREE	NB
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
132	144+62.78	39.50 LT	CENTER OF TREE	NB
133	144+79.24	39.50 LT	CENTER OF TREE	NB
134	144+95.99	39.50 LT	CENTER OF TREE	NB
135	145+70.71	39.50 LT	CENTER OF TREE	NB
136	145+90.71	39.50 LT	CENTER OF TREE	NB
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
137	147+31.46	39.50 LT	CENTER OF TREE	NB
138	147+45.33	39.50 LT	CENTER OF TREE	NB
139	147+65.33	39.50 LT	CENTER OF TREE	NB
140	147+79.49	39.50 LT	CENTER OF TREE	NB
141	147+93.99	39.50 LT	CENTER OF TREE	NB

SHEET 8				
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
226	134+73.35	50.50 LT	CENTER OF TREE	EB
227	135+18.42	50.50 LT	CENTER OF TREE	EB
228	135+63.49	50.50 LT	CENTER OF TREE	EB
229	136+45.42	50.50 LT	CENTER OF TREE	EB
230	136+80.42	50.50 LT	CENTER OF TREE	EB
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
231	137+18.42	50.50 LT	CENTER OF TREE	EB
232	137+84.85	50.50 LT	CENTER OF TREE	EB
233	138+35.36	50.50 LT	CENTER OF TREE	EB
234	138+88.92	50.50 LT	CENTER OF TREE	EB
235	139+42.64	50.50 LT	CENTER OF TREE	EB
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
236	139+96.21	50.50 LT	CENTER OF TREE	EB
237	140+55.42	50.87 LT	CENTER OF TREE	EB
238	134+86.22	35.50 RT	CENTER OF TREE	EB
239	135+46.22	35.50 RT	CENTER OF TREE	EB
240	136+66.05	35.50 RT	CENTER OF TREE	EB
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
241	137+26.05	35.50 RT	CENTER OF TREE	EB
242	137+86.05	35.50 RT	CENTER OF TREE	EB
243	138+45.25	35.50 RT	CENTER OF TREE	EB
244	138+96.61	35.50 RT	CENTER OF TREE	EB
245	139+54.00	35.50 RT	CENTER OF TREE	EB
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
246	140+68.67	35.50 RT	CENTER OF TREE	EB
247	141+26.41	36.71 RT	CENTER OF TREE	EB
248	141+78.09	41.44 RT	CENTER OF TREE	EB
249	23+20.18	20.00 LT	CENTER OF TREE	PRAIRIE TRAIL
250	22+94.70	20.00 LT	CENTER OF TREE	PRAIRIE TRAIL
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
251	22+69.20	20.00 LT	CENTER OF TREE	PRAIRIE TRAIL
252	22+12.32	20.00 LT	CENTER OF TREE	PRAIRIE TRAIL
253	21+65.28	10.00 RT	CENTER OF TREE	PRAIRIE TRAIL

SHEET 5				
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
142	140+39.28	48.37 RT	CENTER OF TREE	NB
143	12+26.06	32.50 RT	CENTER OF TREE	NE2
144	11+39.15	32.50 RT	CENTER OF TREE	NE2
145	11+3.65	32.50 RT	CENTER OF TREE	NE2
146	11+76.48	32.50 RT	CENTER OF TREE	NE2
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
147	109+71.69	50.50 LT	CENTER OF TREE	WB
148	110+36.17	50.50 LT	CENTER OF TREE	WB
149	110+97.91	50.50 LT	CENTER OF TREE	WB
150	111+73.11	50.50 LT	CENTER OF TREE	WB
151	112+48.54	50.50 LT	CENTER OF TREE	WB
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
152	112+81.75	50.50 LT	CENTER OF TREE	WB
153	113+14.77	50.50 LT	CENTER OF TREE	WB
154	113+49.49	50.50 LT	CENTER OF TREE	WB
155	113+83.65	50.50 LT	CENTER OF TREE	WB
156	114+42.53	50.50 LT	CENTER OF TREE	WB
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
157	114+89.27	50.50 LT	CENTER OF TREE	WB
158	115+36.21	50.50 LT	CENTER OF TREE	WB
159	109+82.50	35.50 RT	CENTER OF TREE	EB
160	110+39.86	35.50 RT	CENTER OF TREE	EB
161	110+97.23	35.50 RT	CENTER OF TREE	EB
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
162	111+59.14	35.50 RT	CENTER OF TREE	EB
163	112+12.01	35.50 RT	CENTER OF TREE	EB
164	112+71.49	35.50 RT	CENTER OF TREE	EB
165	113+34.39	35.50 RT	CENTER OF TREE	EB
166	113+97.30	35.50 RT	CENTER OF TREE	EB
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
167	114+60.33	35.50 RT	CENTER OF TREE	EB

SHEET 6				
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
168	116+10.00	52.59 LT	CENTER OF TREE	WB
169	11+2.73	32.50 LT	CENTER OF TREE	NW3
170	11+16.29	32.50 LT	CENTER OF TREE	NW3
171	11+29.93	32.50 LT	CENTER OF TREE	NW3
172	11+43.60	32.50 LT	CENTER OF TREE	NW3
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
173	11+57.33	32.50 LT	CENTER OF TREE	NW3
174	12+92.36	32.50 LT	CENTER OF TREE	NW3
175	119+10.67	50.50 LT	CENTER OF TREE	WB
176	119+57.95	50.50 LT	CENTER OF TREE	WB
177	120+39.70	55.50 LT	CENTER OF TREE	WB
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
178	121+30.23	50.50 LT	CENTER OF TREE	WB
179	121+87.14	50.50 LT	CENTER OF TREE	WB
180	122+55.86	50.50 LT	CENTER OF TREE	WB
181	123+0.84	50.50 LT	CENTER OF TREE	WB
182	123+45.93	50.50 LT	CENTER OF TREE	WB
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
183	124+27.45	50.50 LT	CENTER OF TREE	EB
184	124+62.45	50.50 LT	CENTER OF TREE	EB
185	124+97.45	50.50 LT	CENTER OF TREE	EB
186	119+24.83	35.50 RT	CENTER OF TREE	EB
187	119+87.06	35.50 RT	CENTER OF TREE	EB
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
188	120+49.30	35.50 RT	CENTER OF TREE	EB
189	121+11.57	35.50 RT	CENTER OF TREE	EB
190	121+73.82	35.50 RT	CENTER OF TREE	EB
191	122+36.08	35.50 RT	CENTER OF TREE	EB
192	122+98.46	35.50 RT	CENTER OF TREE	EB
POINT	STATION	OFFSET	DESCRIPTION	ALIGNMENT
193	124+19.67	35.50 RT	CENTER OF TREE	EB
194	124+79.67	35.50 RT	CENTER OF TREE	EB

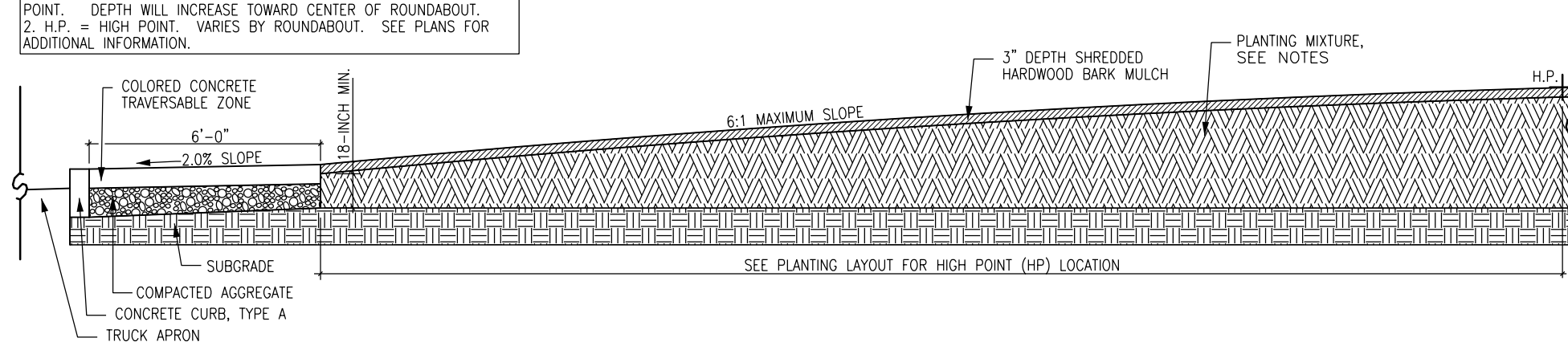
PLANT DATA TABLE

Table with columns: Symbol, Common Name, Scientific Name, Type, Average Mature Height, Plant Spacing, Size When Planted, Root Zone Mode, Minimum Size (Ball/Pot Diameter, Depth, Root Spread, Plant Hole Diameter, Depth), Brace Or Guy, Fertilizer Units Required, Rodent Protection Required, Mulch Ring Required, Notes. Rows include Canopy Trees, Ornamental Trees, Evergreens, and Perennials/Omnamental Grasses.

PLANT QUANTITIES TABLE

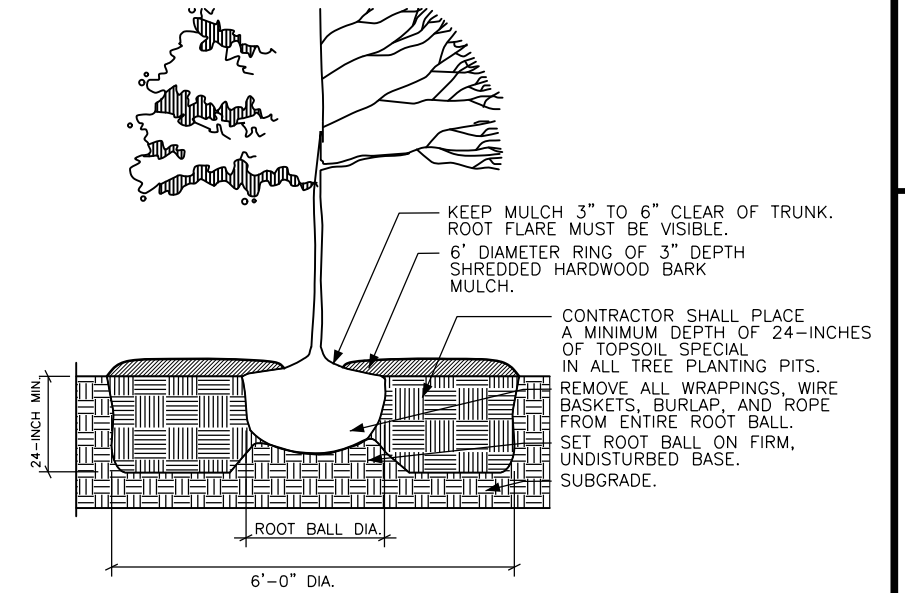
Table with columns: Symbol, Common Name, Scientific Name, Size When Planted, Root Zone Mode, Quantities (Sheet 2-11, Totals). Rows are grouped by category: Canopy Trees 632.0101, Ornamental Trees 632.0101, Evergreens 632.0201, and Perennials, Container, 1 Gal.

NOTES:  
 1. PLANTING MIXTURE SHALL BE INSTALLED IN 6-8" LAYERS, TAMPING EACH LAYER TO REMOVE AIR POCKETS AND PREVENT SETTLING. PLANTING MIXTURE SHALL BE NO LESS THAN 18" DEPTH AT ANY GIVEN POINT. DEPTH WILL INCREASE TOWARD CENTER OF ROUNDABOUT.  
 2. H.P. = HIGH POINT. VARIES BY ROUNDABOUT. SEE PLANS FOR ADDITIONAL INFORMATION.



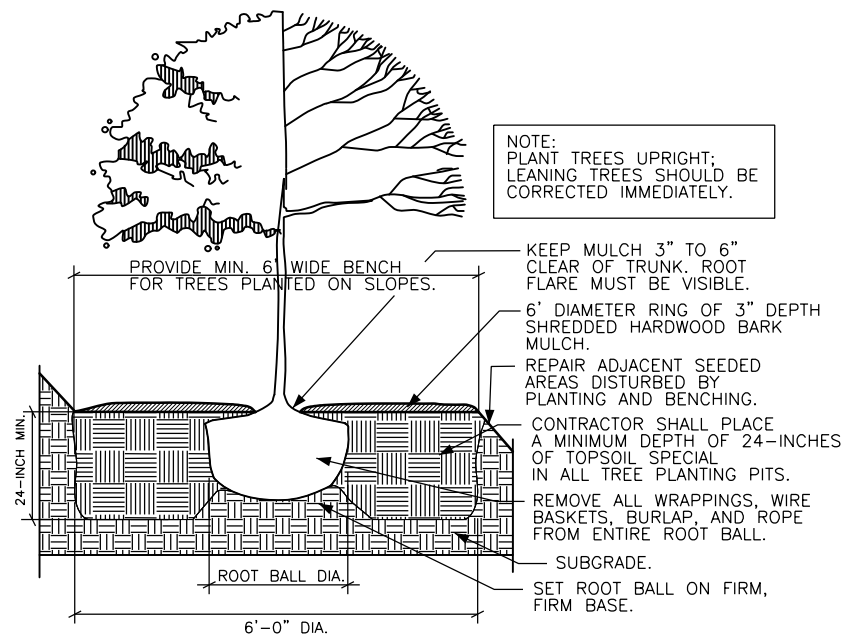
1 ROUNDABOUT PLANTING BED SECTION

DETAIL  
NOT TO SCALE



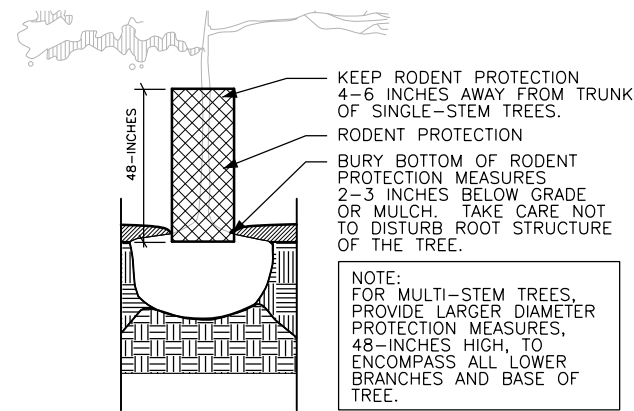
2 TREE PLANTING AND TOPSOIL SPECIAL

DETAIL  
NOT TO SCALE



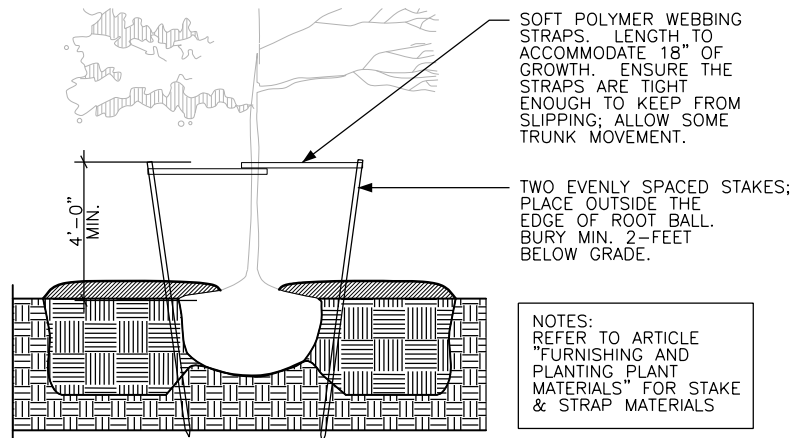
3 TREE PLANTING ON SLOPE

DETAIL  
NOT TO SCALE



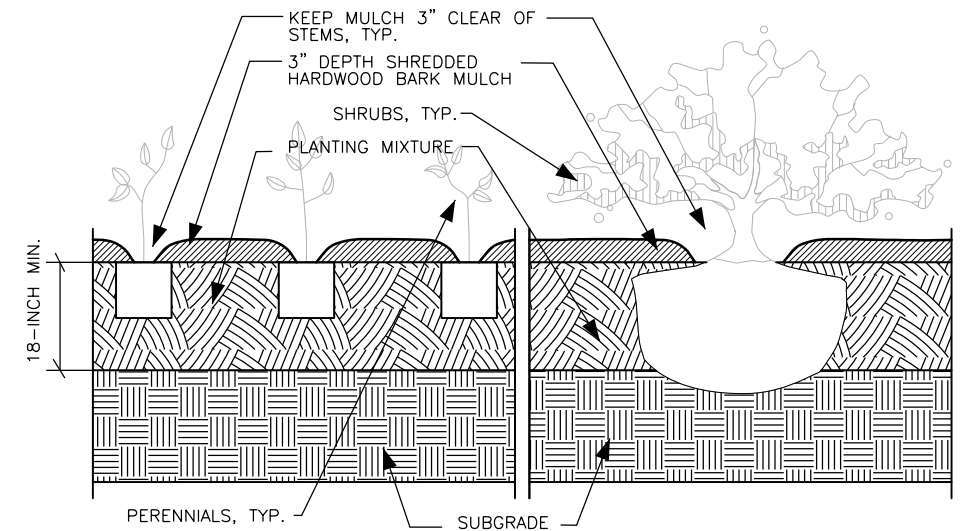
4 TREE PLANTING RODENT PROTECTION

DETAIL  
NOT TO SCALE



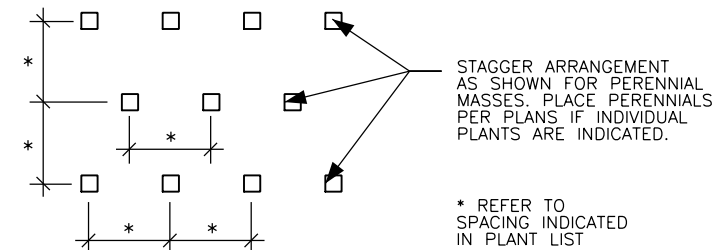
5 TREE STAKING & GUYING

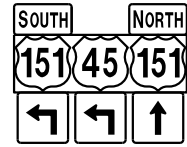
DETAIL  
NOT TO SCALE



6 SHRUB & PERENNIAL PLANTING

DETAIL  
NOT TO SCALE





J2-3  
72" X 57"



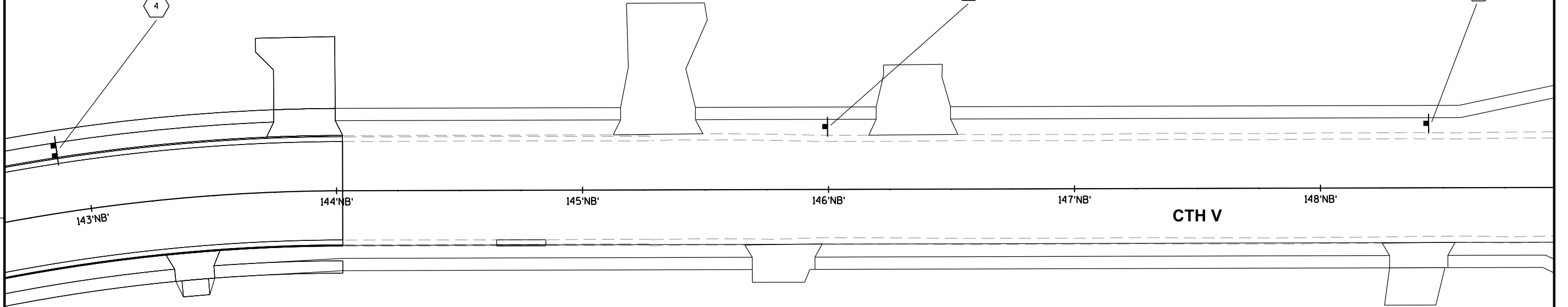
W2-6  
30" X 30"



W13-1  
18" X 18"



J1-2  
48" X 39"



SIGNING NOTES

WHEN AN EXISTING STOP SIGN AND SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

NEW STOP SIGNS (R1-1) PLACED UNDER STAGE \* SHALL HAVE A MINIMUM OF 6'6" OF CLEARANCE ABOVE THE ROADWAY. THIS WILL ALLOW FOR THE PLACEMENT OF FUTURE SIGNS BENEATH THE STOP SIGN.

INSTALL 18" X 18" ORANGE FLAGS ON TOP OF THE YIELD SIGNS FOR THE FIRST SIX MONTHS OF OPERATION OF THE ROUNDABOUT TO EMPHASIZE THE YIELD MOVEMENT.

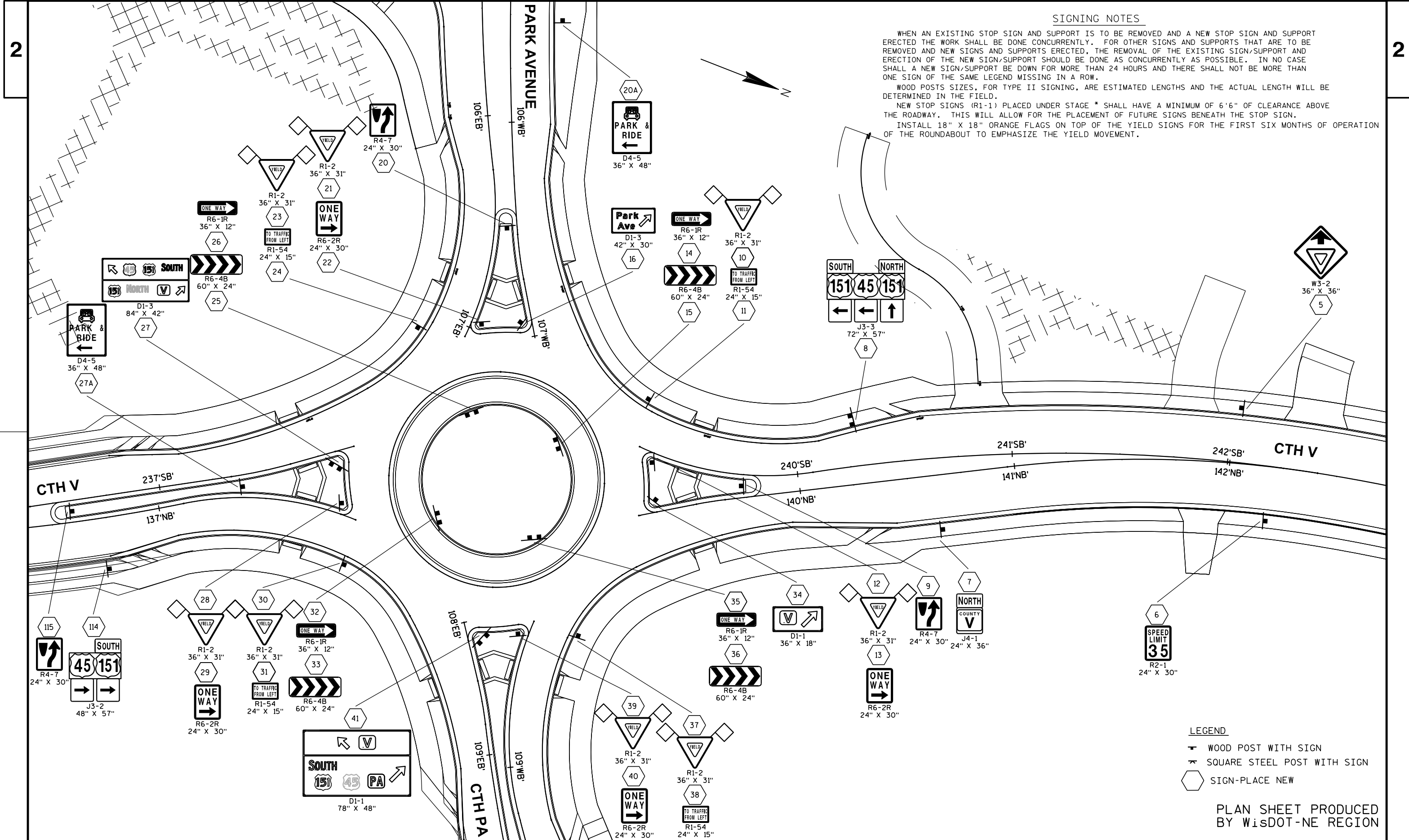
LEGEND

☛ WOOD POST WITH SIGN

☛ SQUARE STEEL POST WITH SIGN

⬡ SIGN-PLACE NEW

PLAN SHEET PRODUCED  
BY WisDOT-NE REGION



**SIGNING NOTES**

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INSTALL 18" X 18" ORANGE FLAGS ON TOP OF THE YIELD SIGNS FOR THE FIRST SIX MONTHS OF OPERATION OF THE ROUNDABOUT TO EMPHASIZE THE YIELD MOVEMENT.

- LEGEND**
- WOOD POST WITH SIGN
  - SQUARE STEEL POST WITH SIGN
  - SIGN-PLACE NEW

PLAN SHEET PRODUCED BY WISDOT-NE REGION

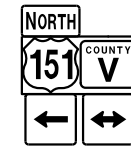
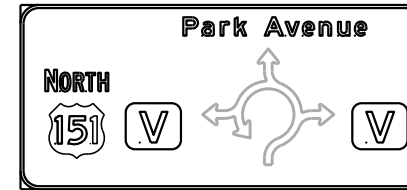
SIGNING NOTES

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INSTALL 18" X 18" ORANGE FLAGS ON TOP OF THE YIELD SIGNS FOR THE FIRST SIX MONTHS OF OPERATION OF THE ROUNDABOUT TO EMPHASIZE THE YIELD MOVEMENT.



43

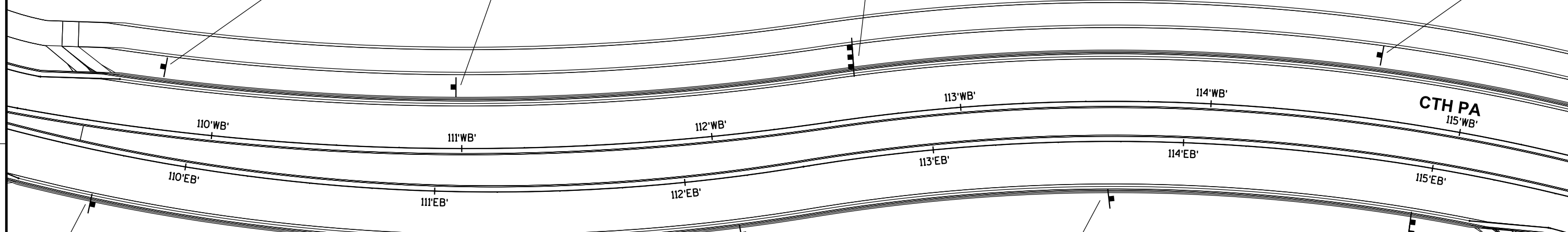


45

D1-62  
132" X 60"



49



42



24" X 24"



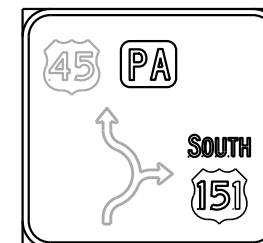
44



24" X 30"



46



D1-62  
84" X 78"



48



36" X 36"



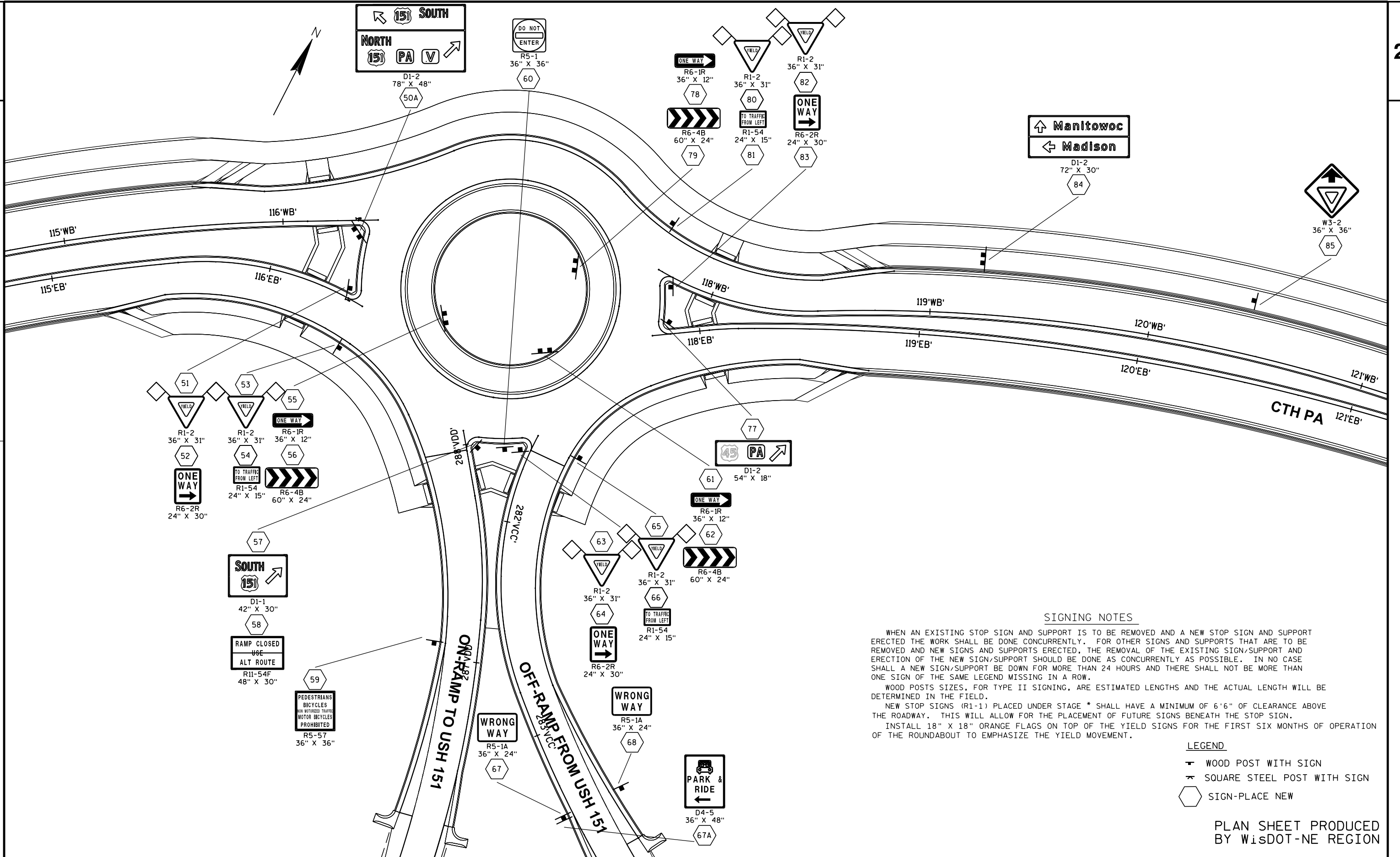
D1-1  
60" X 15"



LEGEND

- WOOD POST WITH SIGN
- SQUARE STEEL POST WITH SIGN
- SIGN-PLACE NEW

PLAN SHEET PRODUCED BY WISDOT-NE REGION



SIGNING NOTES

WHEN AN EXISTING STOP SIGN AND SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERRECTED THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERRECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERRECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

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LEGEND

- WOOD POST WITH SIGN
- SQUARE STEEL POST WITH SIGN
- SIGN-PLACE NEW

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1420-22-71	HWY: USH 151	COUNTY: FOND DU LAC	PERMANENT SIGNING PLAN	SHEET	E
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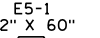
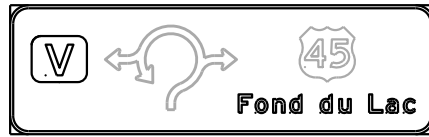
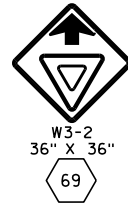
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290'VCC'

291'VCC'

292'VCC'

293'VCC'

294'VCC'

295'VCC'

1290'RL'

1291'RL'

1292'RL'

1293'RL'

1294'RL'

1295'RL'

LEGEND

- WOOD POST WITH SIGN
- SQUARE STEEL POST WITH SIGN
- SIGN-PLACE NEW

PLAN SHEET PRODUCED BY WISDOT-NE REGION





OFF-RAMP FROM USH 151  
296'VCC'

297'VCC'

298'VCC'

299'VCC'

300'VCC'

301'VCC'

1296'RL'

1297'RL'

1298'RL'

1299'RL'

1300'RL'

1301'RL'

1302'RL'

133'EB'

CTH PA  
134'EB'

135'EB'

USH 151 SB

USH 151 NB



SIGNING NOTES




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LEGEND

-  WOOD POST WITH SIGN
-  SQUARE STEEL POST WITH SIGN
-  SIGN-PLACE NEW

PLAN SHEET PRODUCED  
BY WISDOT-NE REGION

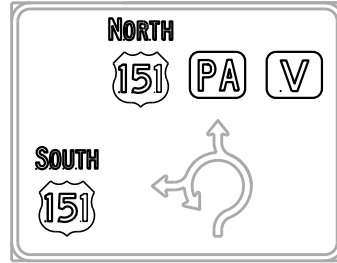
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R4-7  
24" X 30"



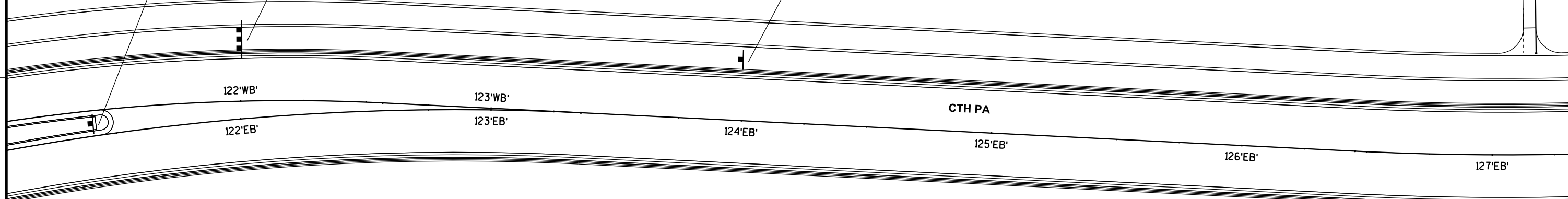
D1-62  
108" X 84"






W2-6  
30" X 30"



W13-1  
18" X 18"



LEGEND

-  WOOD POST WITH SIGN
-  SQUARE STEEL POST WITH SIGN
-  SIGN-PLACE NEW

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1420-22-71	HWY: USH 151	COUNTY: FOND DU LAC	PERMANENT SIGNING PLAN	SHEET	E
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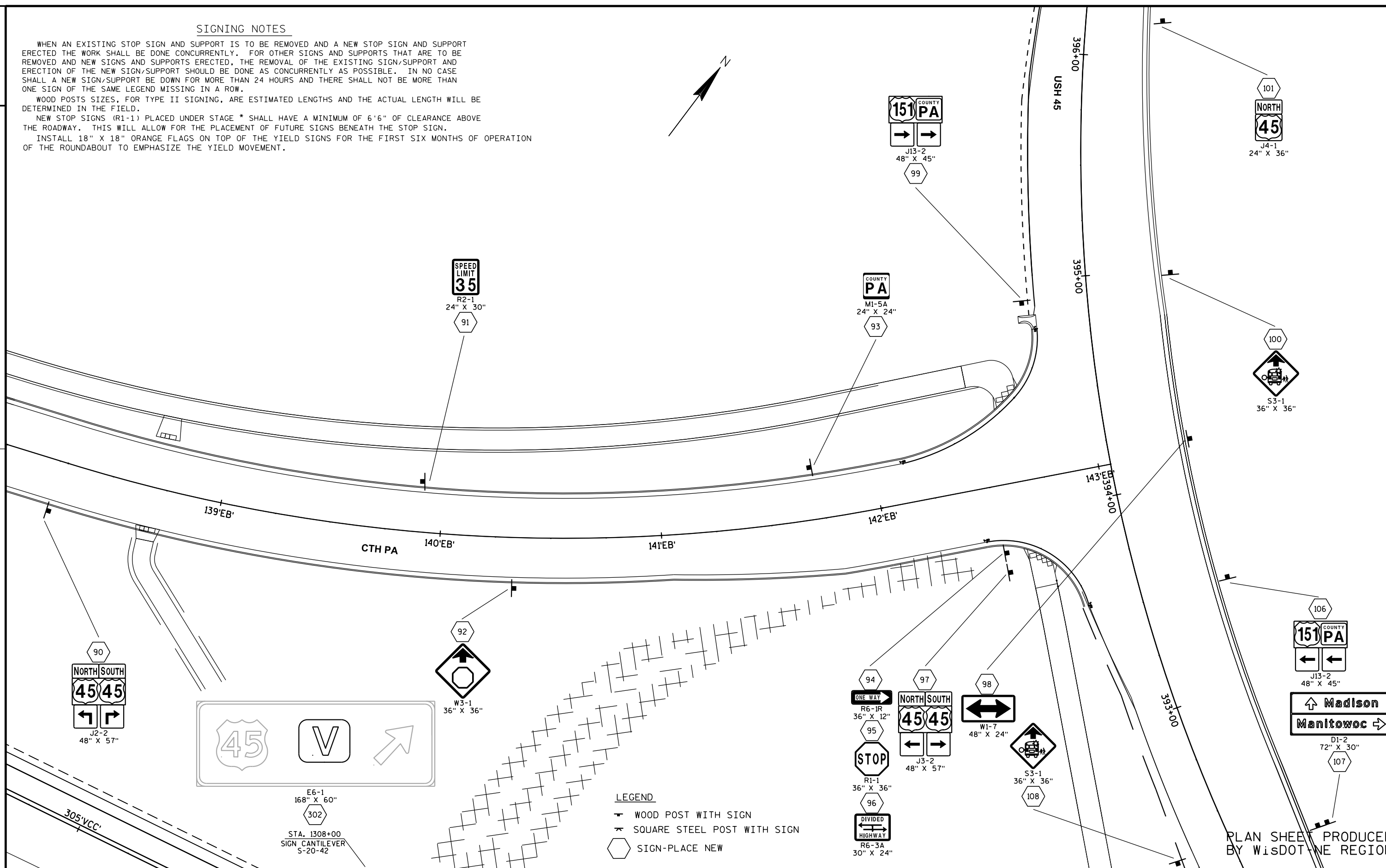
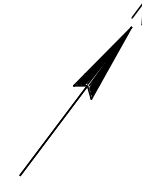
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PLAN SHEET PRODUCED BY WISDOT-NE REGION

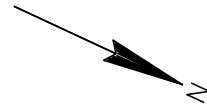
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Madison  
Manitowoc →

D1-2  
72" X 24"



J12-2  
48" X 45"



R1-1  
30" X 30"



GLYNN AVE



J1-2  
48" X 39"



397+00

398+00

USH 45

399+00

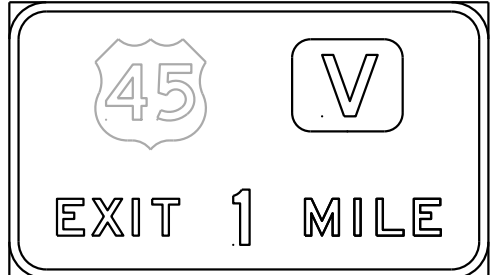
LEGEND

WOOD POST WITH SIGN

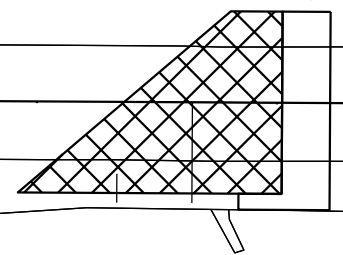
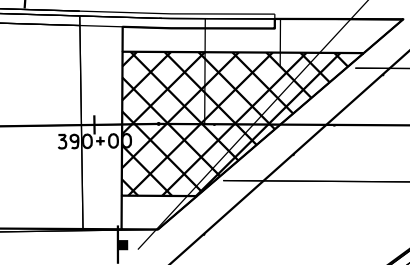
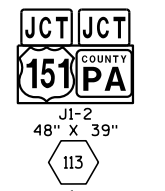
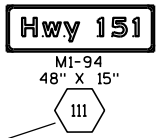
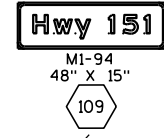
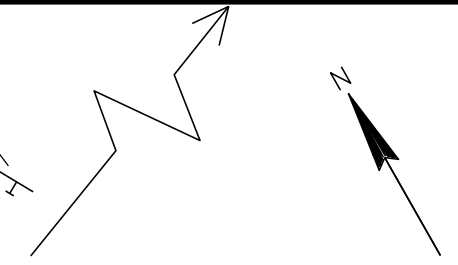
SQUARE STEEL POST WITH SIGN

SIGN-PLACE NEW

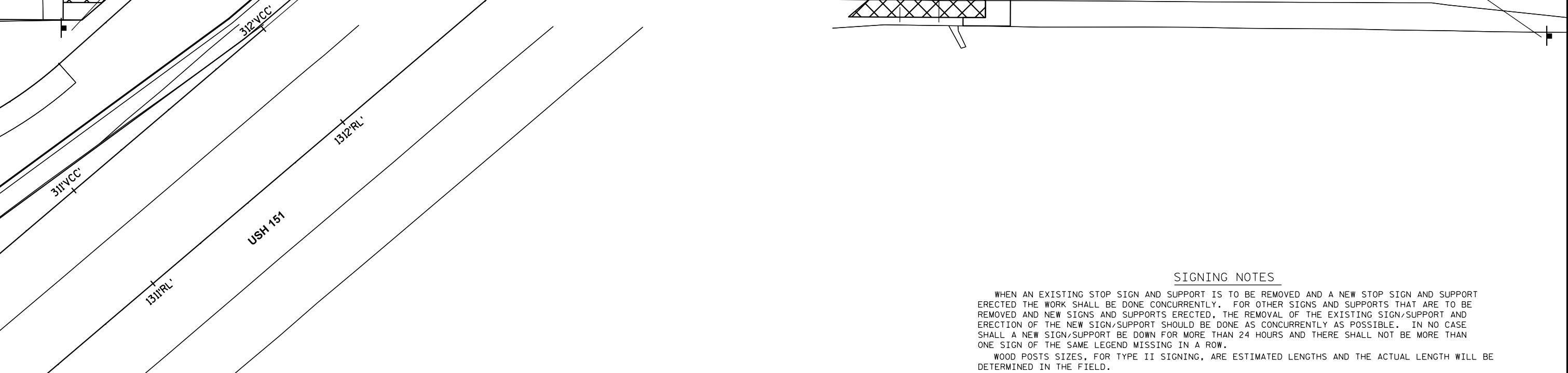
PLAN SHEET PRODUCED  
BY WISDOT-NE REGION



STA. 1348+05  
GROUND MOUNT  
303  
E1-1A  
156" X 90"



390+00 389+00 388+00 387+00 385+00 384+00



- LEGEND**
- WOOD POST WITH SIGN
  - SQUARE STEEL POST WITH SIGN
  - SIGN-PLACE NEW

**SIGNING NOTES**

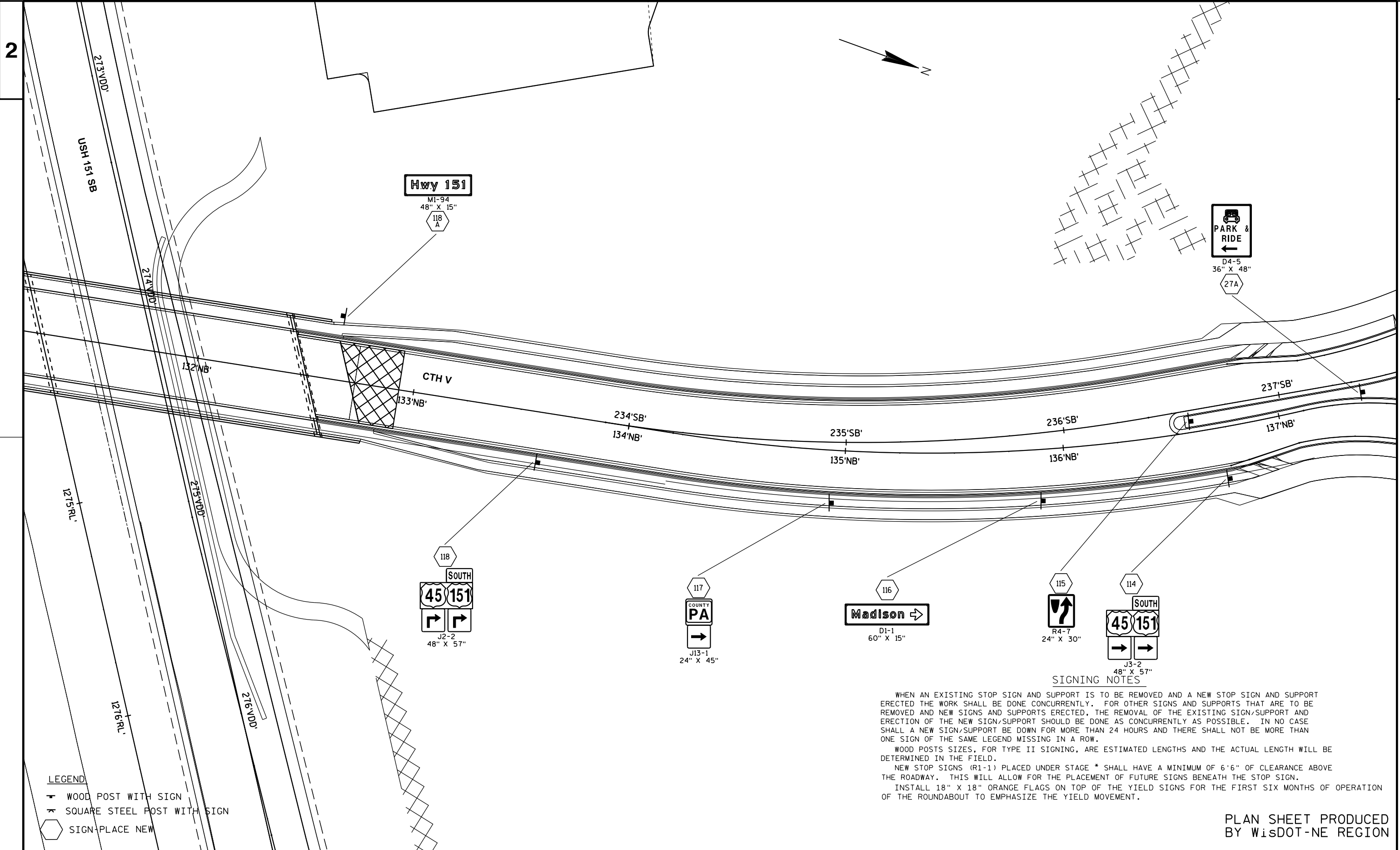
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PLAN SHEET PRODUCED  
BY WISDOT-NE REGION



- LEGEND**
- WOOD POST WITH SIGN
  - SQUARE STEEL POST WITH SIGN
  - SIGN-PLACE NEW

**SIGNING NOTES**

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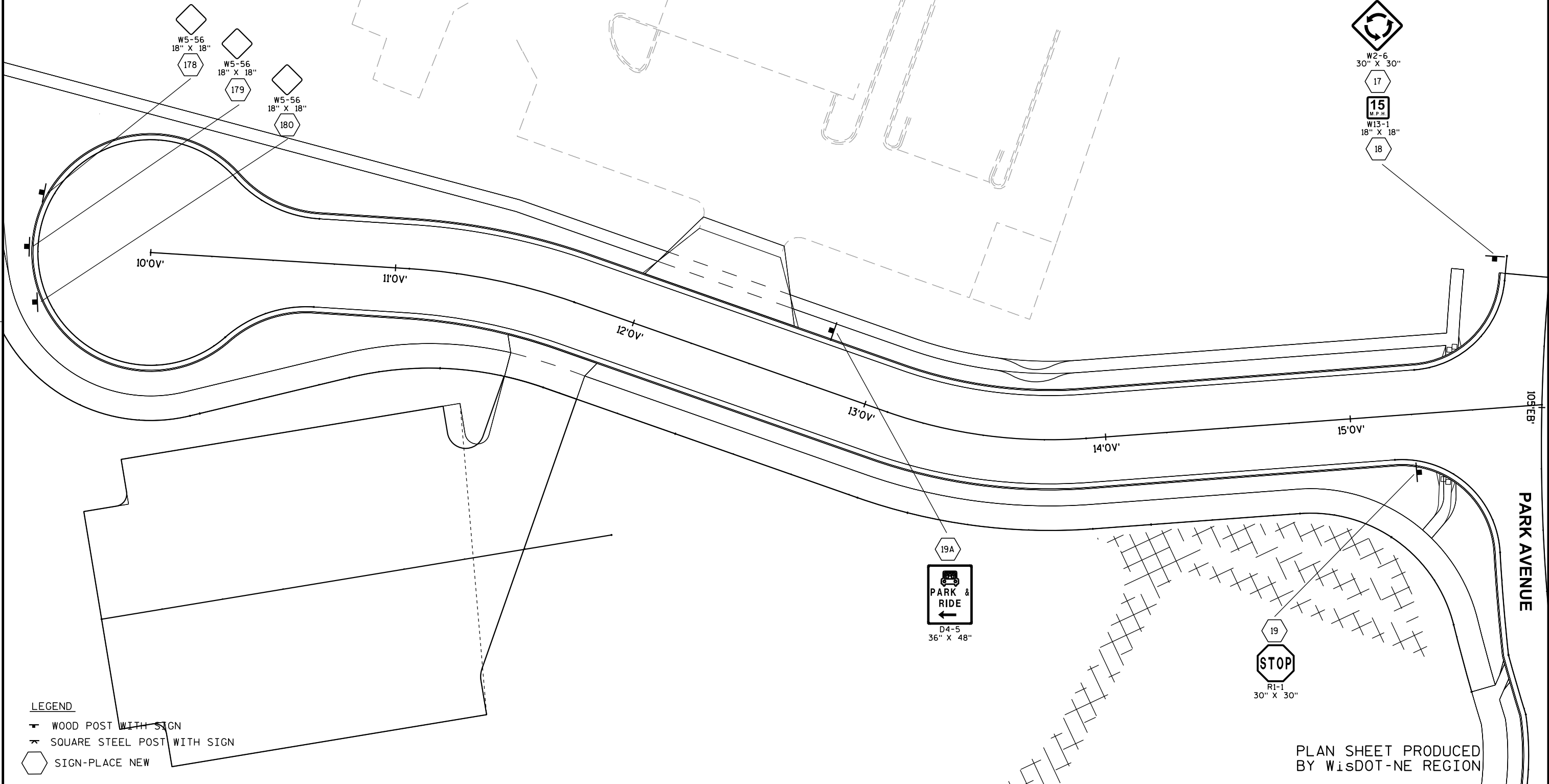
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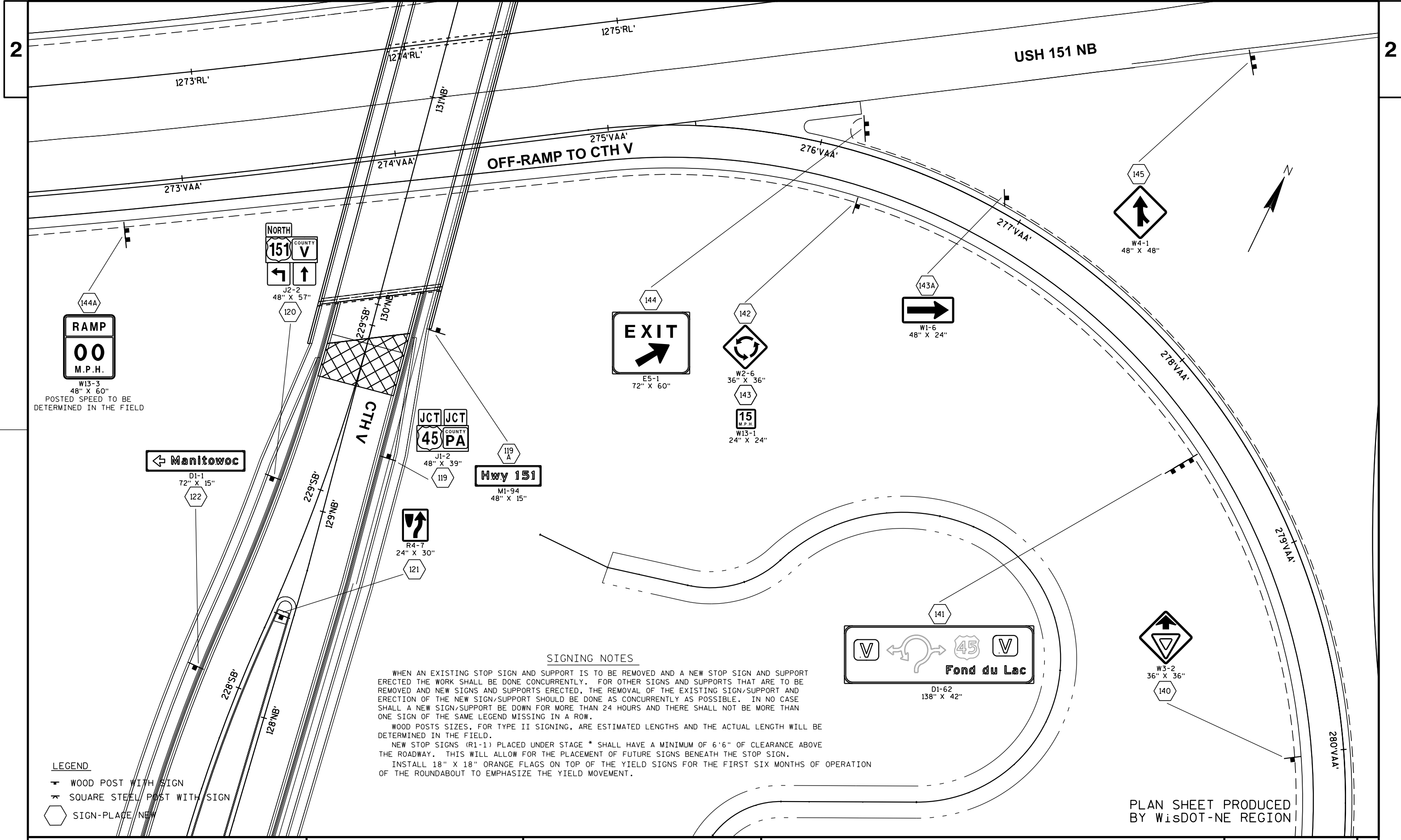
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- LEGEND**
- WOOD POST WITH SIGN
  - SQUARE STEEL POST WITH SIGN
  - SIGN-PLACE NEW

PLAN SHEET PRODUCED BY WISDOT-NE REGION



**LEGEND**

- WOOD POST WITH SIGN
- SQUARE STEEL POST WITH SIGN
- SIGN-PLACE/NEW

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D1-62  
 138" X 42"



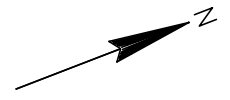
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261'VDD'

262'VDD'

263'VDD'

264'VDD'

265'VDD'

USH 151 SB

1260'RL'

1261'RL'

1262'RL'

1263'RL'

1264'RL'

1265'RL'

USH 151 NB

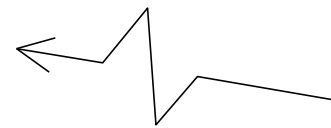
261'VAA'

262'VAA'

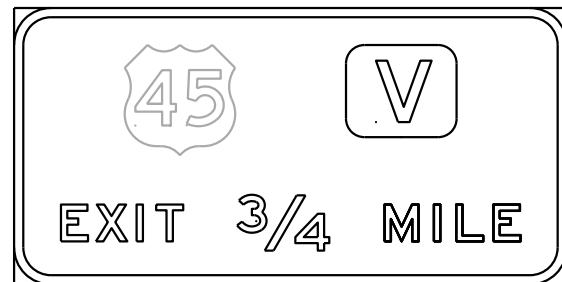
263'VAA'

264'VAA'

265'VAA'



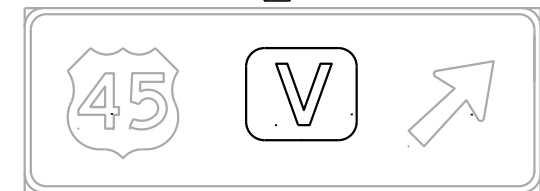
STA. 1235+70  
GROUND MOUNT



E1-1A  
156" X 90"



STA. 1265+65  
SIGN CANTILEVER  
S-20-41



E6-1  
168" X 60"

LEGEND

- WOOD POST WITH SIGN
- SQUARE STEEL POST WITH SIGN
- SIGN-PLACE NEW

PLAN SHEET PRODUCED BY WISDOT-NE REGION

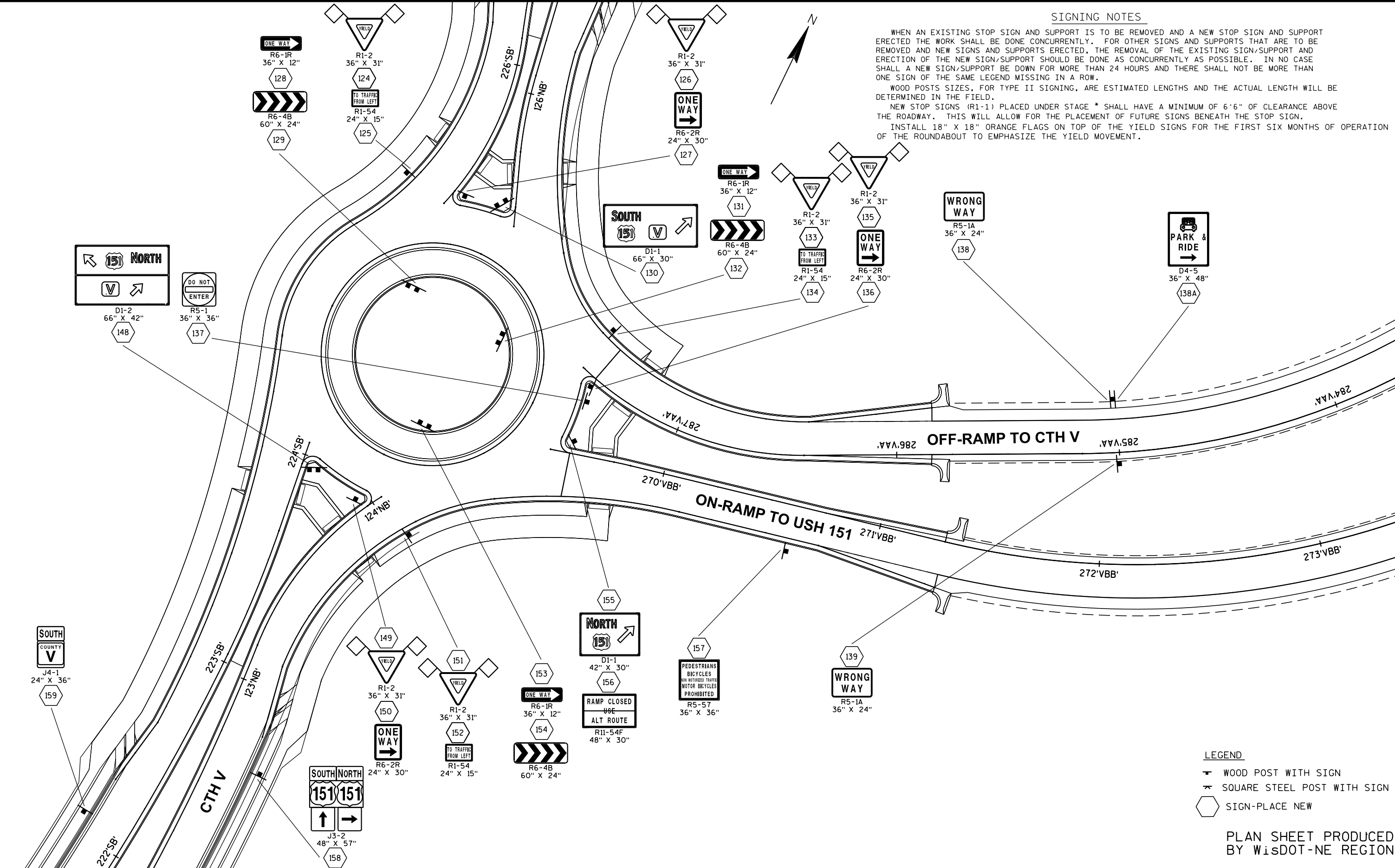
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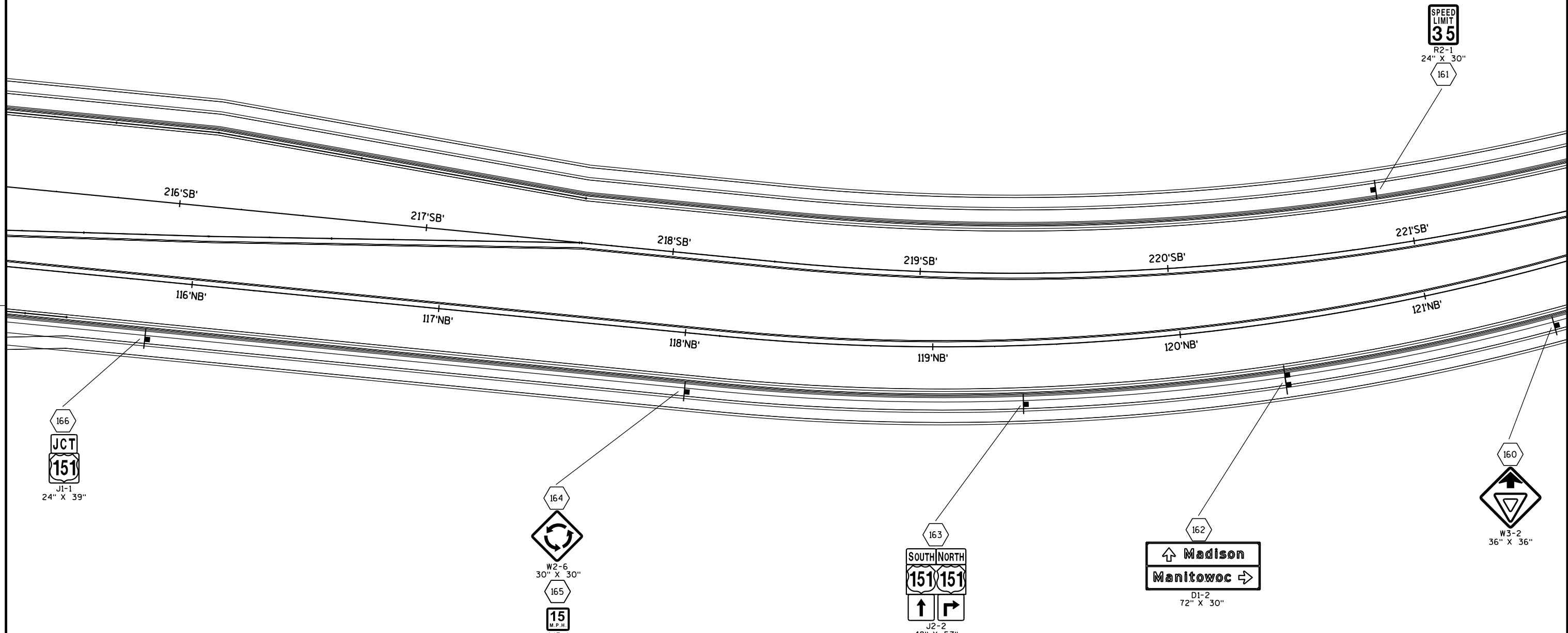
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WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

NEW STOP SIGNS (R1-1) PLACED UNDER STAGE \* SHALL HAVE A MINIMUM OF 6'6" OF CLEARANCE ABOVE THE ROADWAY. THIS WILL ALLOW FOR THE PLACEMENT OF FUTURE SIGNS BENEATH THE STOP SIGN.

INSTALL 18" X 18" ORANGE FLAGS ON TOP OF THE YIELD SIGNS FOR THE FIRST SIX MONTHS OF OPERATION OF THE ROUNDABOUT TO EMPHASIZE THE YIELD MOVEMENT.



- LEGEND**
- WOOD POST WITH SIGN
  - SQUARE STEEL POST WITH SIGN
  - SIGN-PLACE NEW

PLAN SHEET PRODUCED  
BY WISDOT-NE REGION

PROJECT NO: 1420-22-71	HWY: USH 151	COUNTY: FOND DU LAC	PERMANENT SIGNING PLAN	SHEET	<b>E</b>
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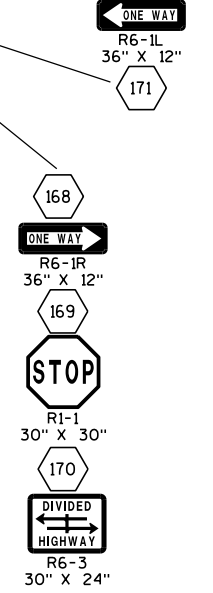
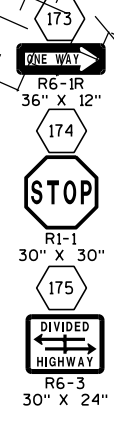
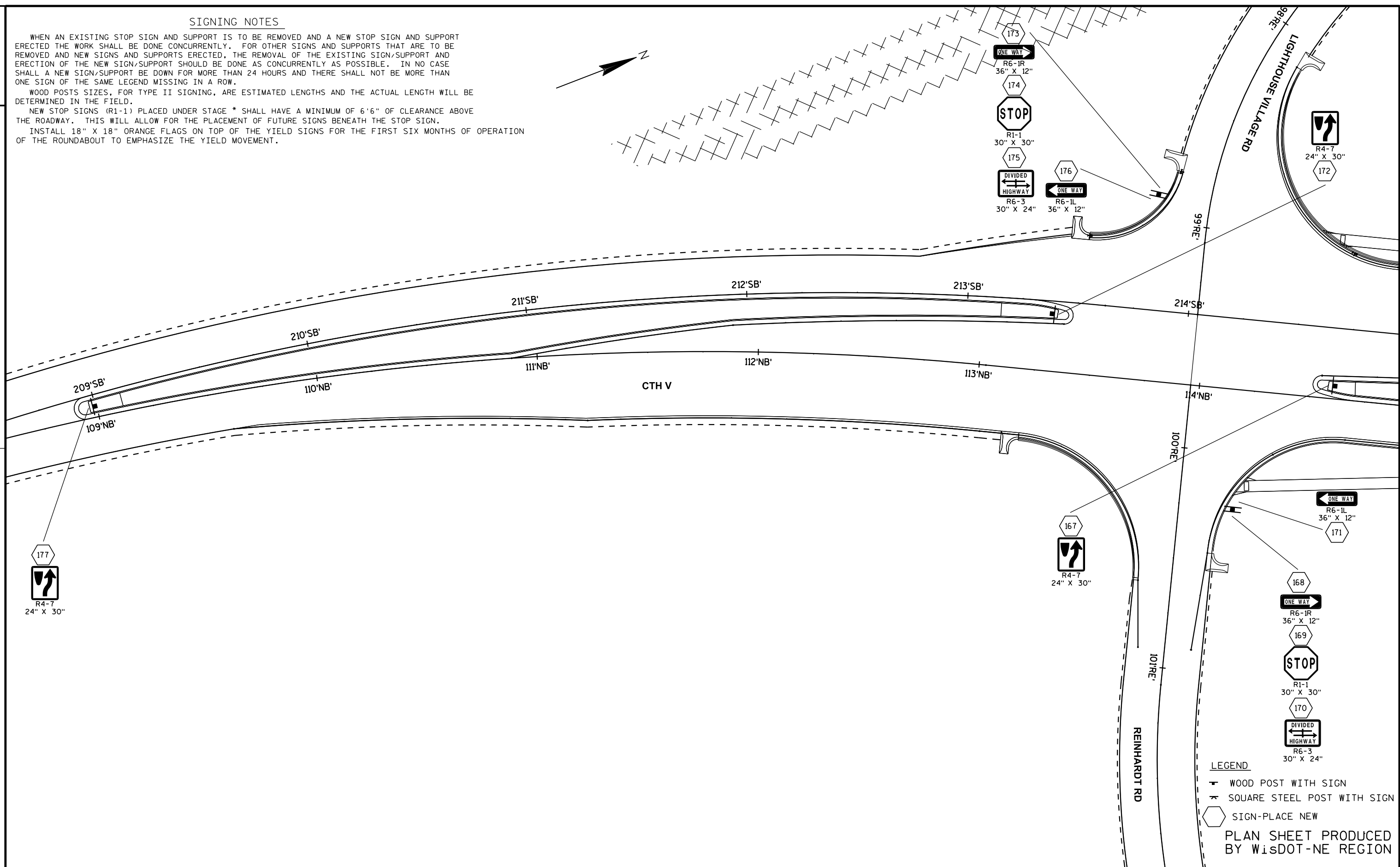
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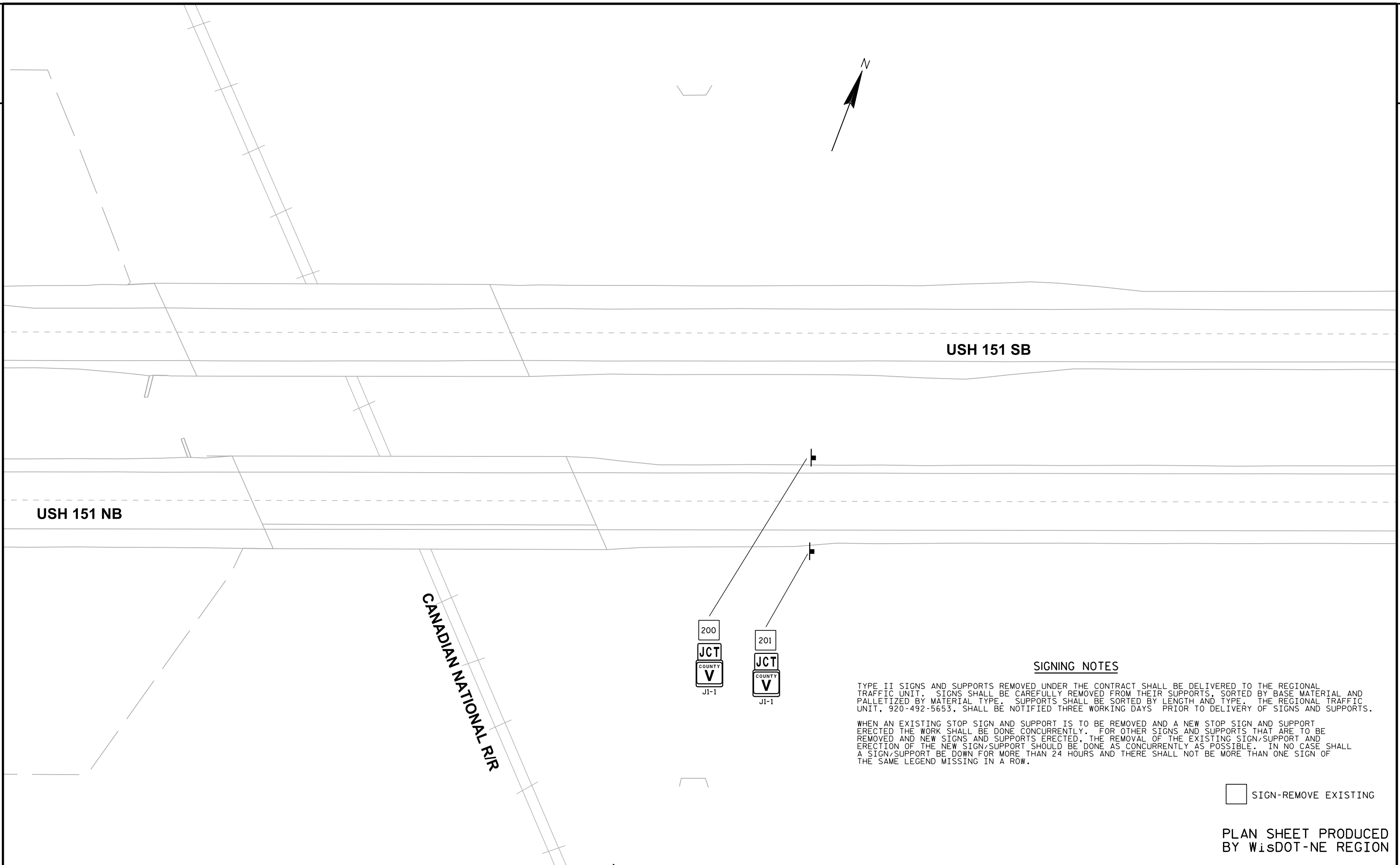
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**LEGEND**  
 ┆ WOOD POST WITH SIGN  
 \* SQUARE STEEL POST WITH SIGN  
 ○ SIGN-PLACE NEW  
 PLAN SHEET PRODUCED BY WISDOT-NE REGION



USH 151 SB

USH 151 NB

CANADIAN NATIONAL R/R

200  
JCT  
COUNTY  
V  
J1-1

201  
JCT  
COUNTY  
V  
J1-1

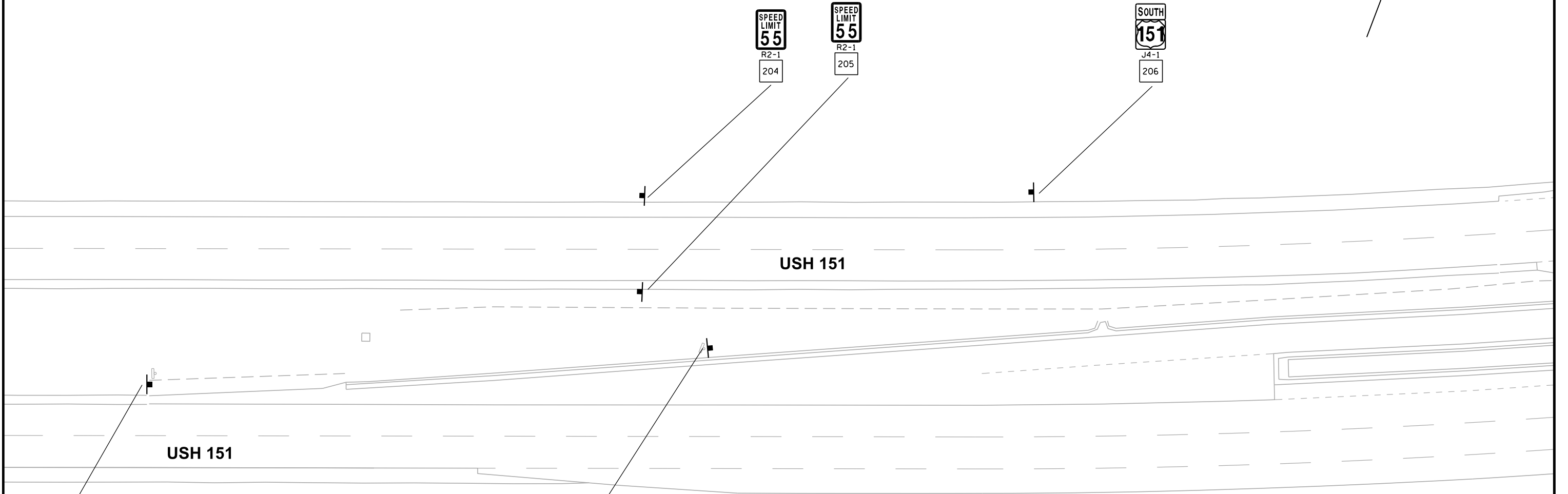
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□ SIGN-REMOVE EXISTING

PLAN SHEET PRODUCED BY WISDOT-NE REGION



202  
 BEGIN  
 LEFT  
 TURN  
 LANE  
  
 R3-20L

203  
 NORTH  
 COUNTY  
  
  
 J3-1

207  
 WRONG  
 WAY  
 R5-1A

SPEED  
 LIMIT  
 55  
 R2-1  
 204

SPEED  
 LIMIT  
 55  
 R2-1  
 205

SOUTH  
 151  
 J4-1  
 206

USH 151

USH 151

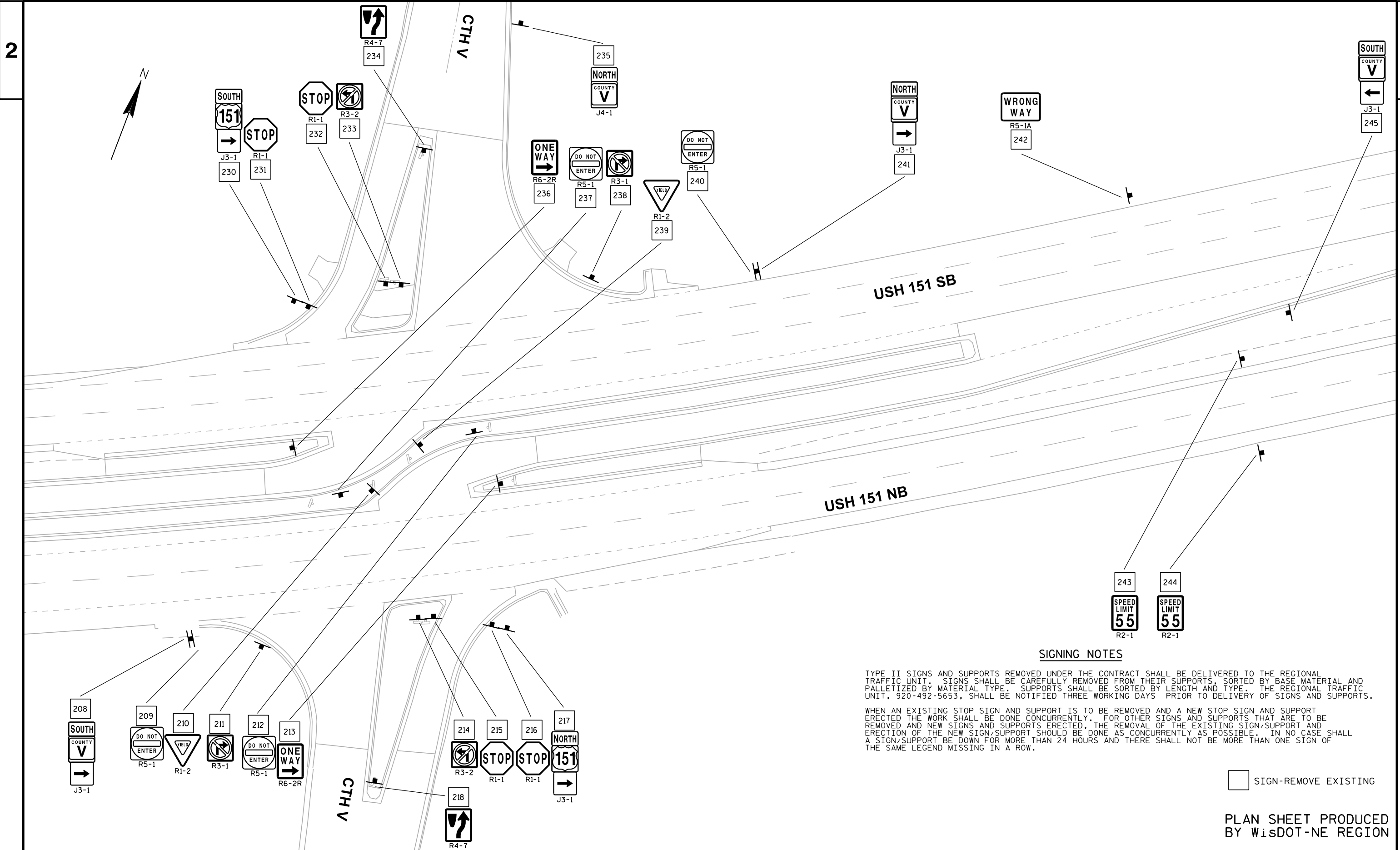
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PLAN SHEET PRODUCED  
 BY WisDOT-NE REGION



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PLAN SHEET PRODUCED BY WISDOT-NE REGION

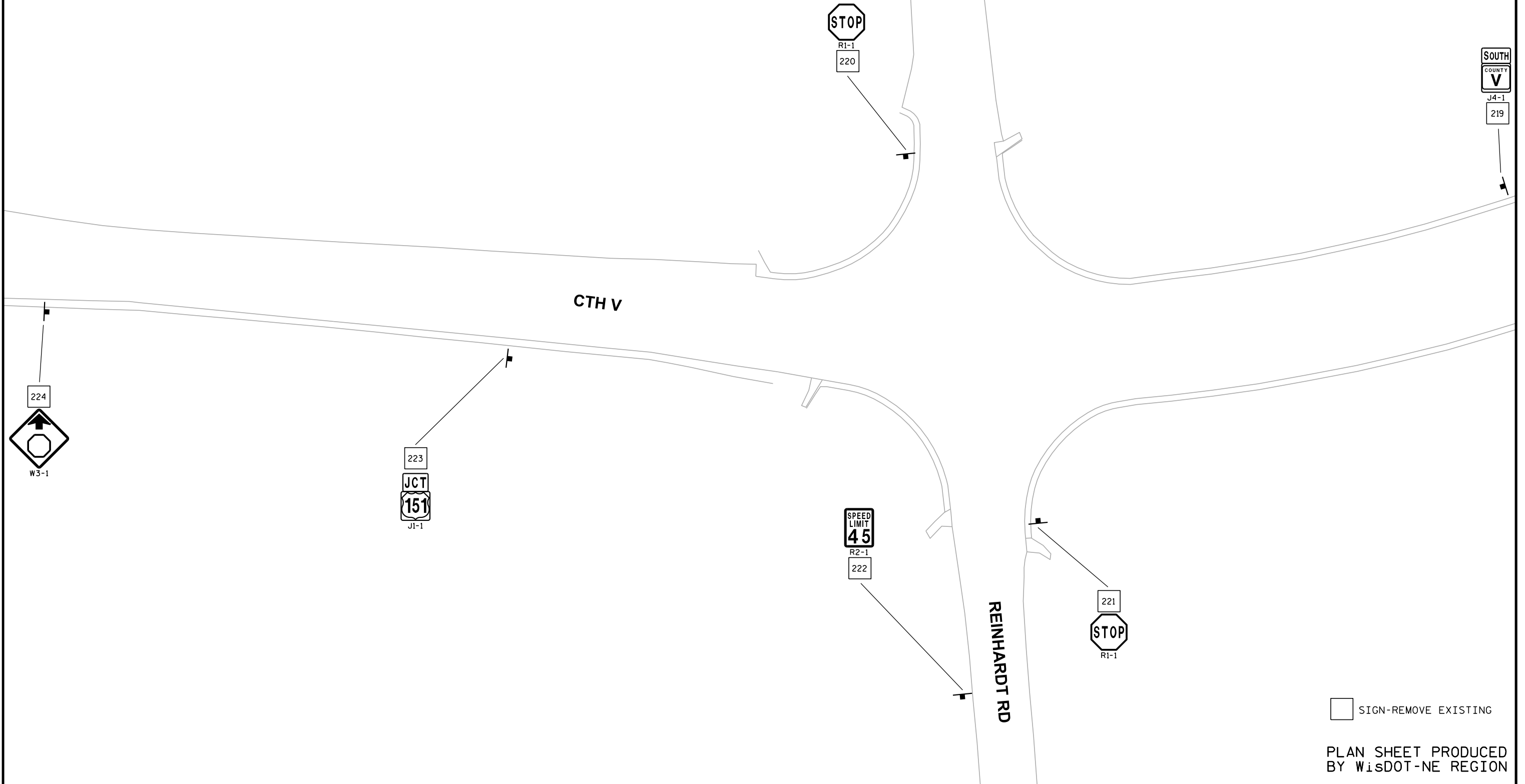
**SIGNING NOTES**

2

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2



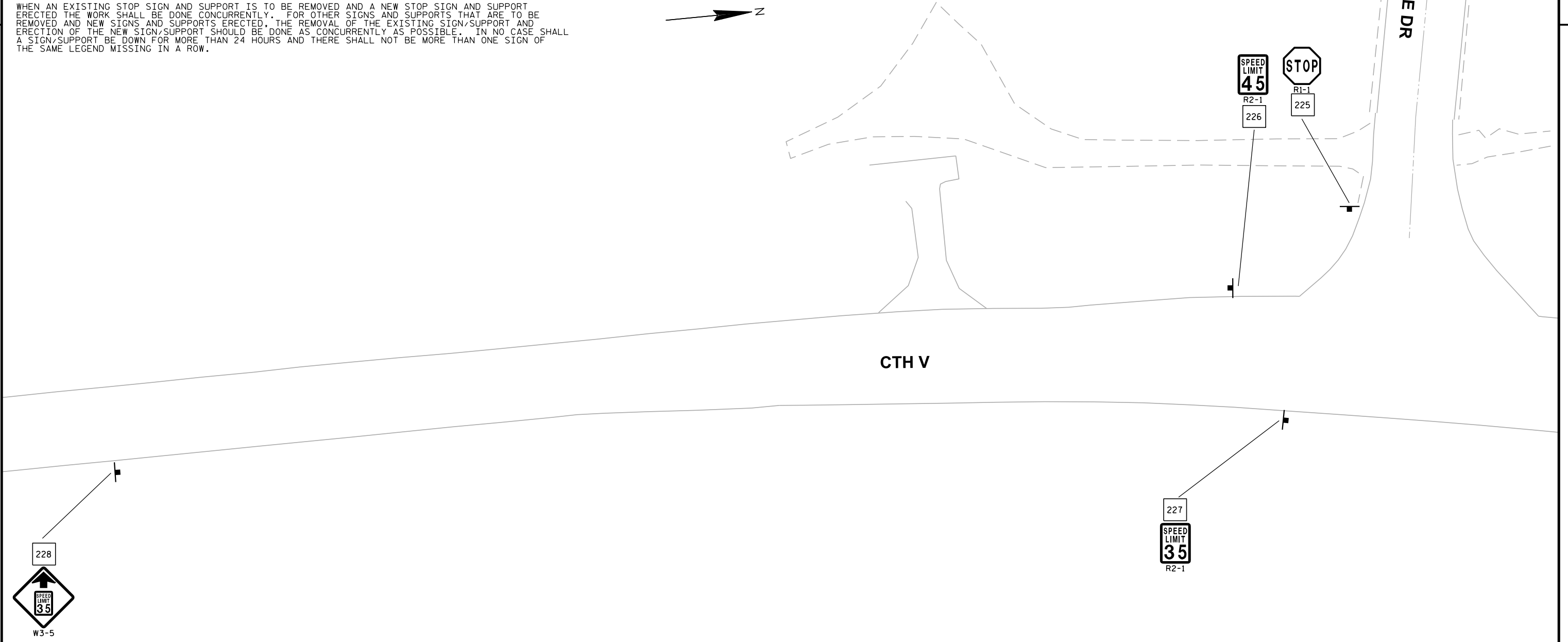
PROJECT NO:1420-22-71	HWY: USH 151	COUNTY: FOND DU LAC	SIGN REMOVALS-TYPE II	SHEET	E
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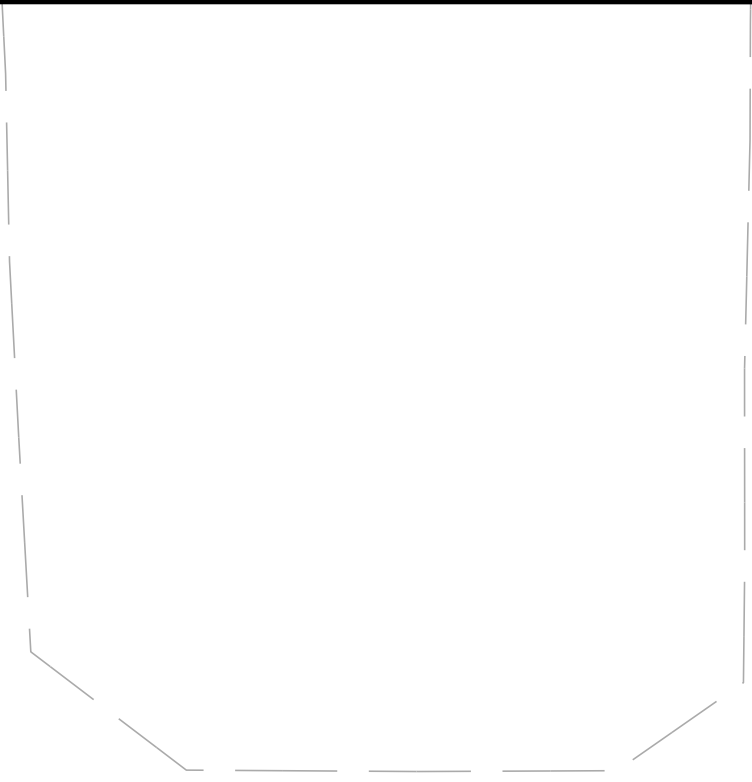
PLAN SHEET PRODUCED BY WISDOT-NE REGION

PROJECT NO:1420-22-71	HWY: USH 151	COUNTY:FOND DU LAC	SIGN REMOVALS-TYPE II	SHEET	<b>E</b>
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**CTH V**



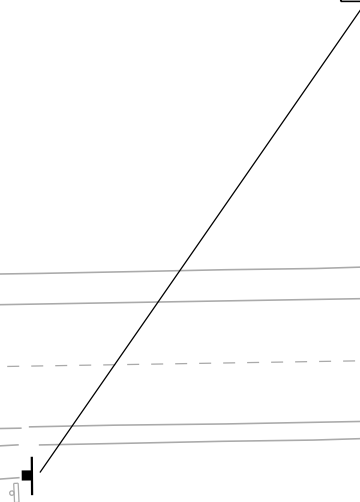
SIGN-REMOVE EXISTING

PLAN SHEET PRODUCED BY WisDOT-NE REGION

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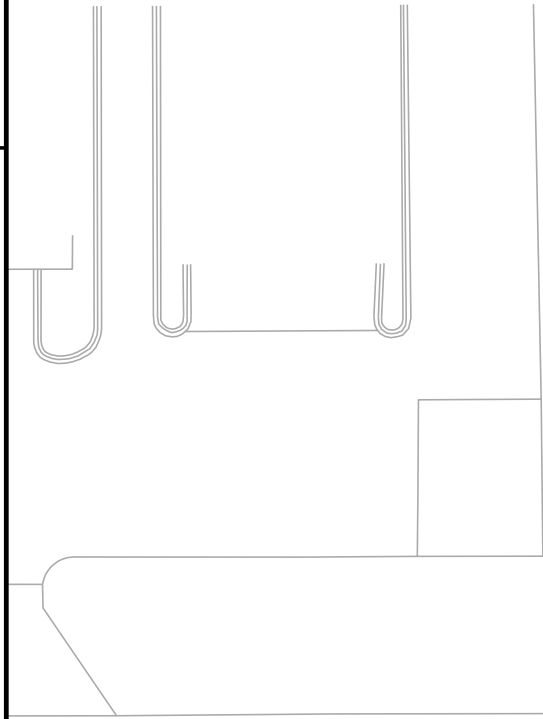


**USH 151 SB**

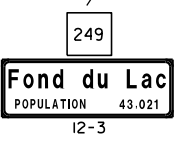
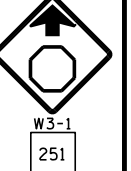
**USH 151 NB**

SIGN-REMOVE EXISTING

PLAN SHEET PRODUCED BY WISDOT-NE REGION



CTH V



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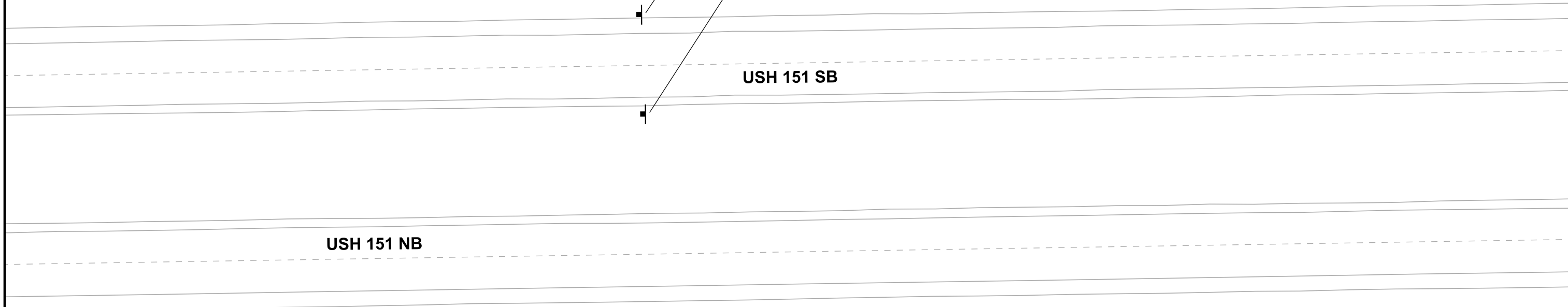
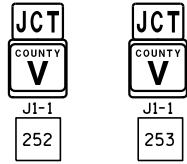
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PLAN SHEET PRODUCED BY WisDOT-NE REGION

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SIGN-REMOVE EXISTING

PLAN SHEET PRODUCED BY WISDOT-NE REGION

**SIGNING NOTES**

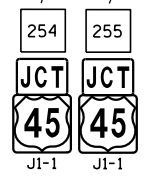
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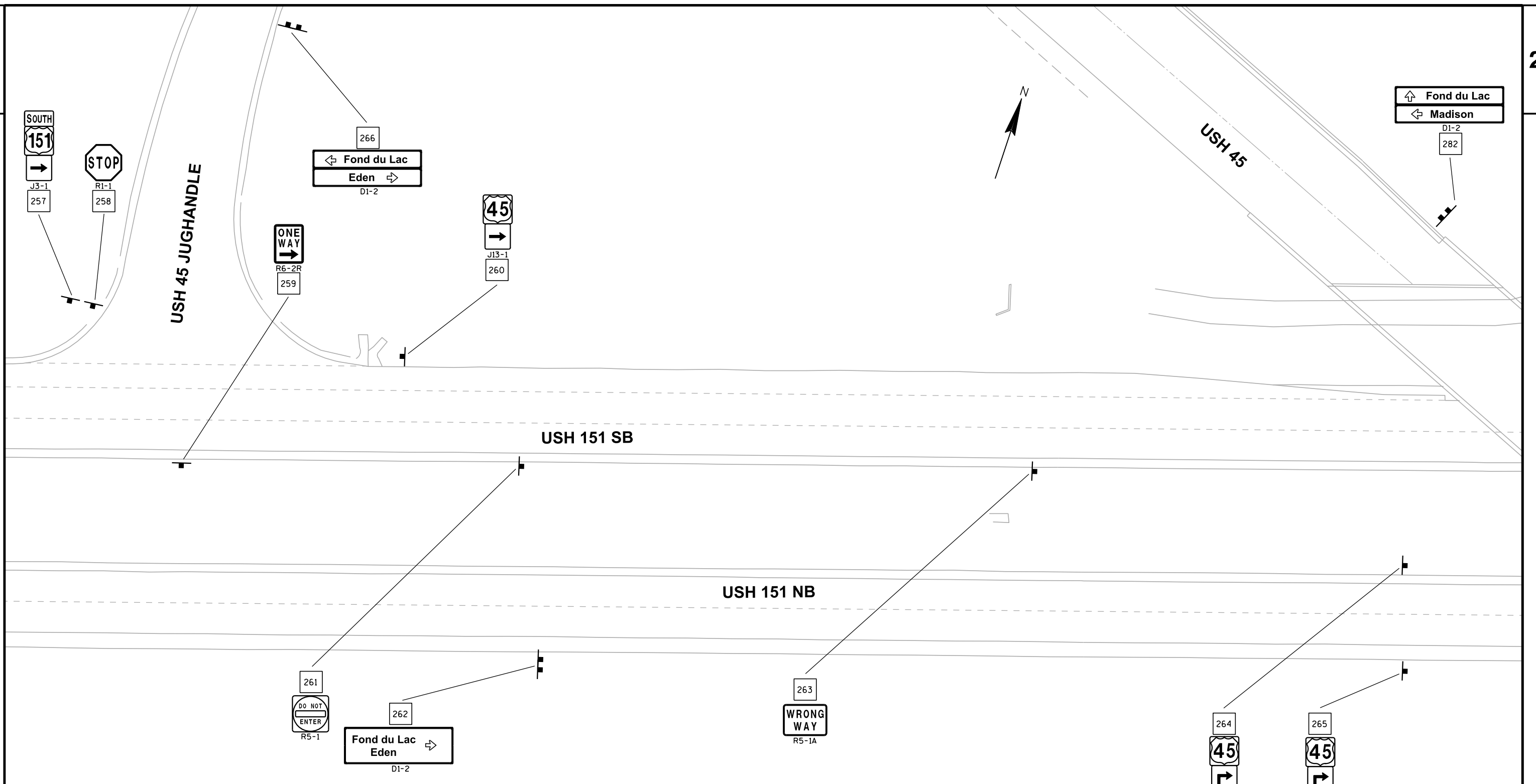
**USH 151 SB**

**USH 151 NB**



□ SIGN-REMOVE EXISTING

PLAN SHEET PRODUCED BY WISDOT-NE REGION



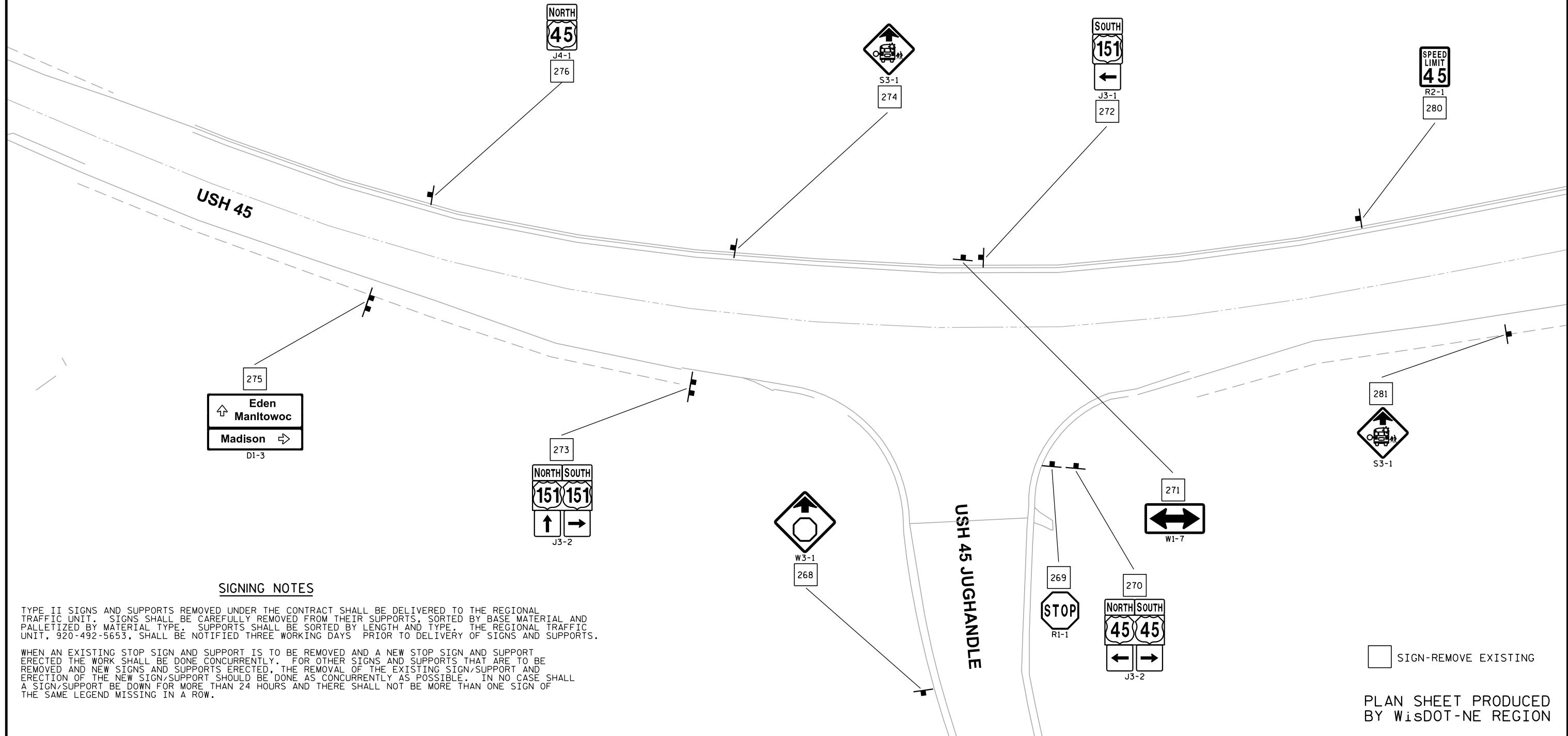
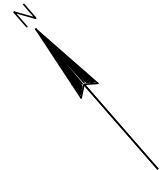
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SIGN-REMOVE EXISTING

PLAN SHEET PRODUCED BY WisDOT-NE REGION



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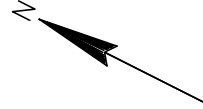
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PLAN SHEET PRODUCED BY WISDOT-NE REGION

PROJECT NO:1420-22-71	HWY: USH 151	COUNTY:FOND DU LAC	SIGN REMOVALS-TYPE II	SHEET	<b>E</b>
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TAKODAH DR

USH 45

GLYNN AVE



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□ SIGN-REMOVE EXISTING

PLAN SHEET PRODUCED BY WisDOT-NE REGION



W1-2R  
285



J3-2  
288



R1-1  
289

USH 45 JUGHANDLE



290

W3-1



J3-2  
291

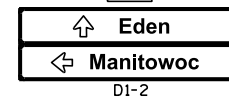
USH 45

283



J2-1

284



D1-2

286



W1-2L

287



J3-1

VALLEY CREEK RD

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SIGN-REMOVE EXISTING

PLAN SHEET PRODUCED BY WisDOT-NE REGION



USH 45

CTH K

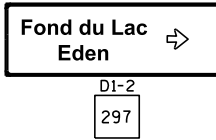
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SIGN-REMOVE EXISTING

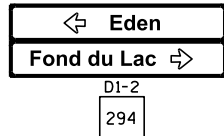
PLAN SHEET PRODUCED BY WisDOT-NE REGION



USH 151 SB

USH 151 NB

USH 45 NB



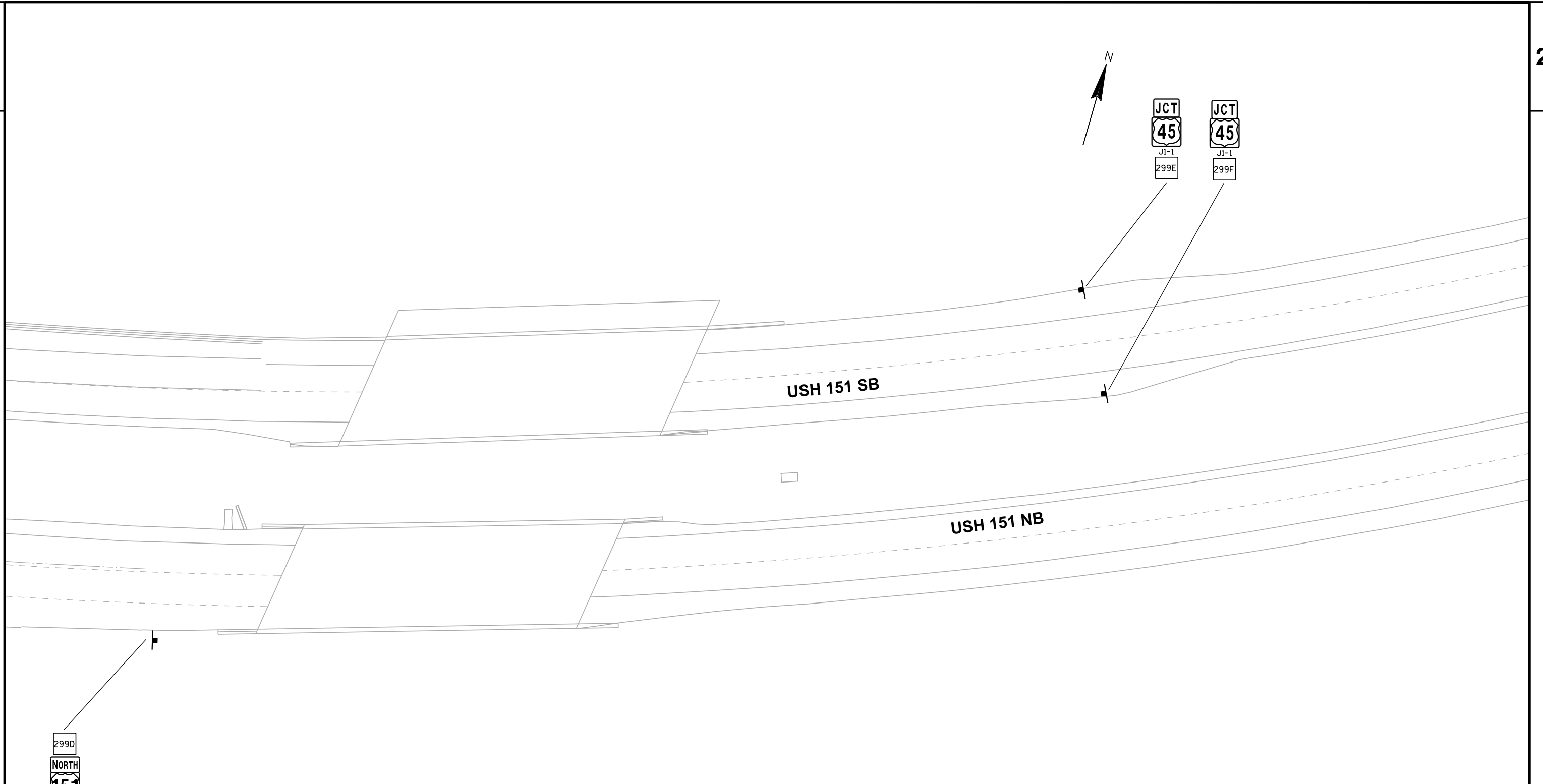
SIGNING NOTES

TYPE II SIGNS AND SUPPORTS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE REGIONAL TRAFFIC UNIT. SIGNS SHALL BE CAREFULLY REMOVED FROM THEIR SUPPORTS, SORTED BY BASE MATERIAL AND PALLETIZED BY MATERIAL TYPE. SUPPORTS SHALL BE SORTED BY LENGTH AND TYPE. THE REGIONAL TRAFFIC UNIT, 920-492-5653, SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF SIGNS AND SUPPORTS.

WHEN AN EXISTING STOP SIGN AND SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERRECTED THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERRECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERRECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

□ SIGN-REMOVE EXISTING

PLAN SHEET PRODUCED BY WisDOT-NE REGION



**SIGNING NOTES**




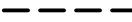

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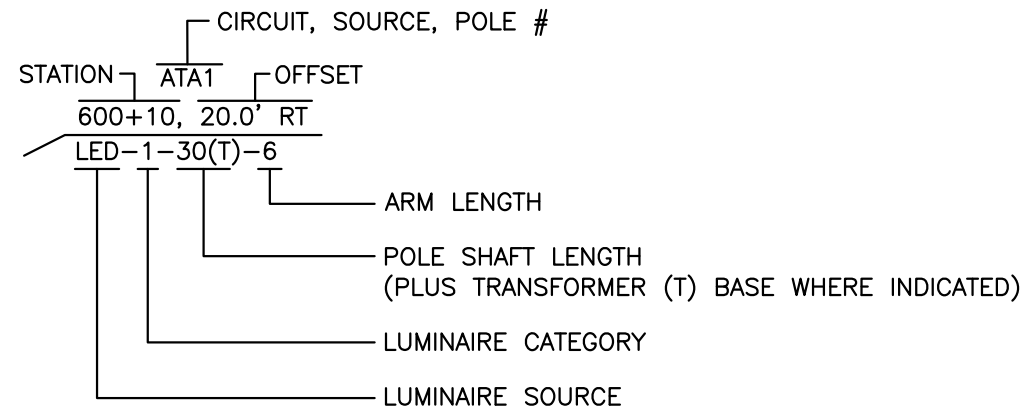
□ SIGN-REMOVE EXISTING

PLAN SHEET PRODUCED BY WisDOT-NE REGION

**LEGEND:**

-  MUNICIPAL LIGHTING UNIT
-  STEEL PULL BOX (24 X 42 - INCH)
-  2-INCH SCH. 40 NONMETALLIC CONDUIT
-  CONDUCTORS IN CONDUIT:  
2-6 AWG AND 1-6 AWG GND IN  
2-INCH SCH. 40 NONMETALLIC CONDUIT
-  CONDUCTORS IN CONDUIT:  
3-6 AWG AND 1-6 AWG GND IN  
2-INCH SCH. 40 NONMETALLIC CONDUIT

**MUNICIPAL LIGHTING  
UNIT IDENTIFICATION**

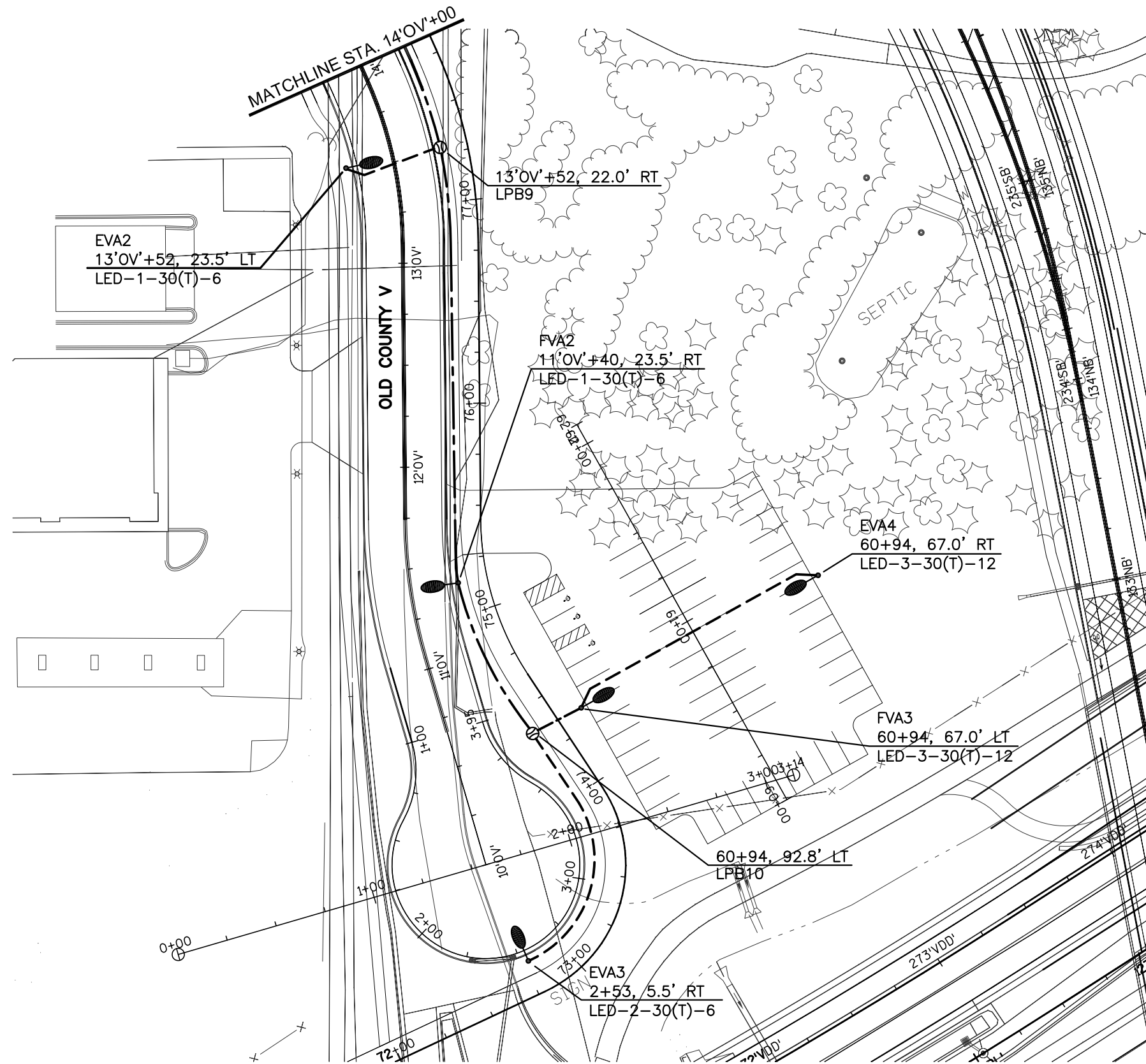


**GENERAL NOTES:**

1. THE ENGINEER WILL APPROVE THE FINAL LOCATION OF ALL CONCRETE BASES AND PULL BOXES IN THE FIELD PRIOR TO CONSTRUCTION.
2. PITCH ALL CONDUITS TOWARDS PULL BOXES.
3. THE LOCATION OF EXISTING AND PROPOSED UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. IN ADDITION, THERE MAY BE OTHER UTILITIES WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION.
4. THE LOCATION OF CONDUIT AS SHOWN ON THE PLANS IS APPROXIMATE. INSTALL ALL CONDUIT WITHIN 12-INCHES BEHIND CURB AND GUTTER.

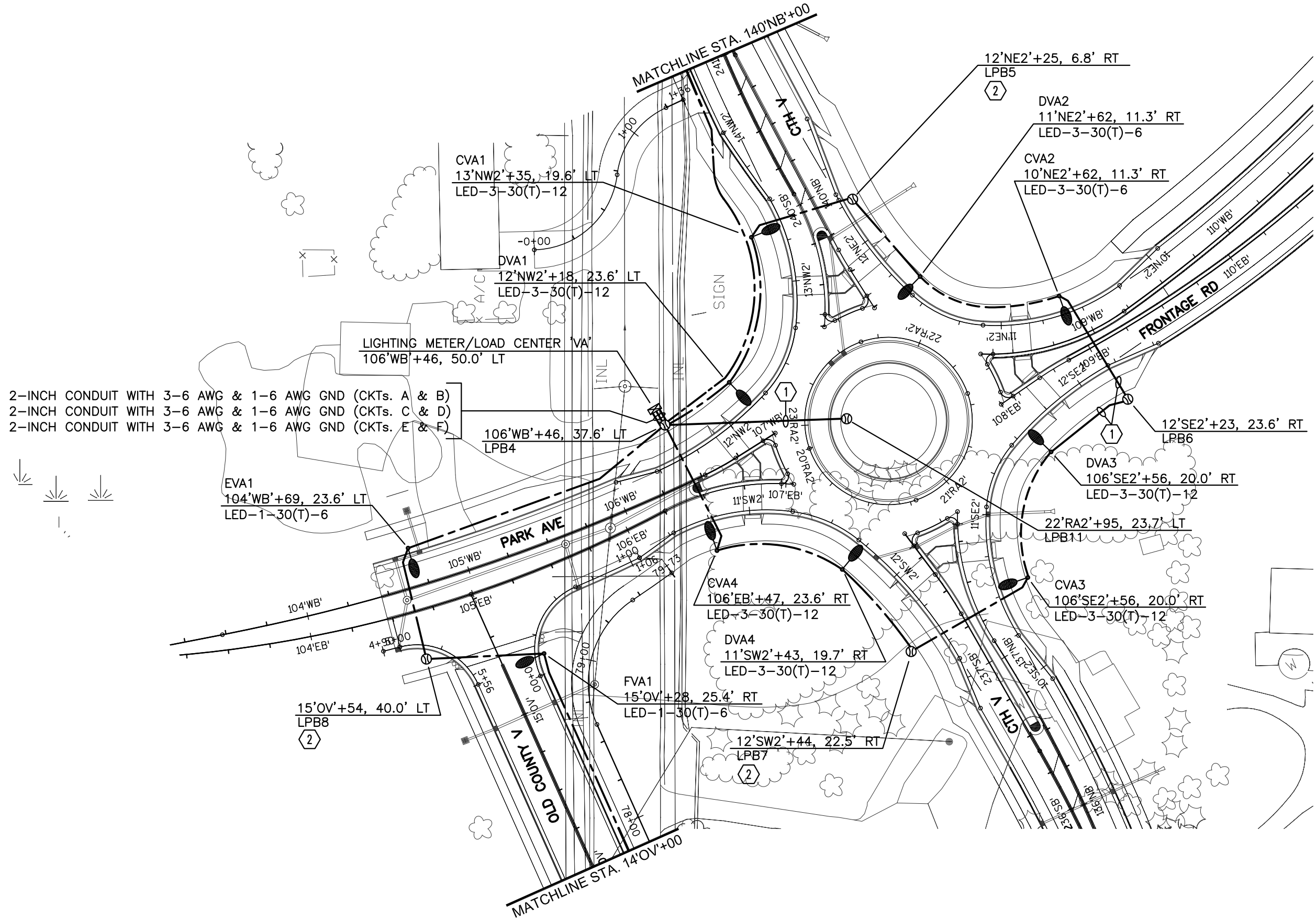
**KEYED NOTES:**

- ① PROVIDE PULL ROPE IN EMPTY CONDUIT. INCIDENTAL TO CONDUIT.
- ② NO SPLICES ALLOWED IN PULL BOX, EXCEPT FOR BONDING PULL BOX TO GROUNDING CONDUCTOR.

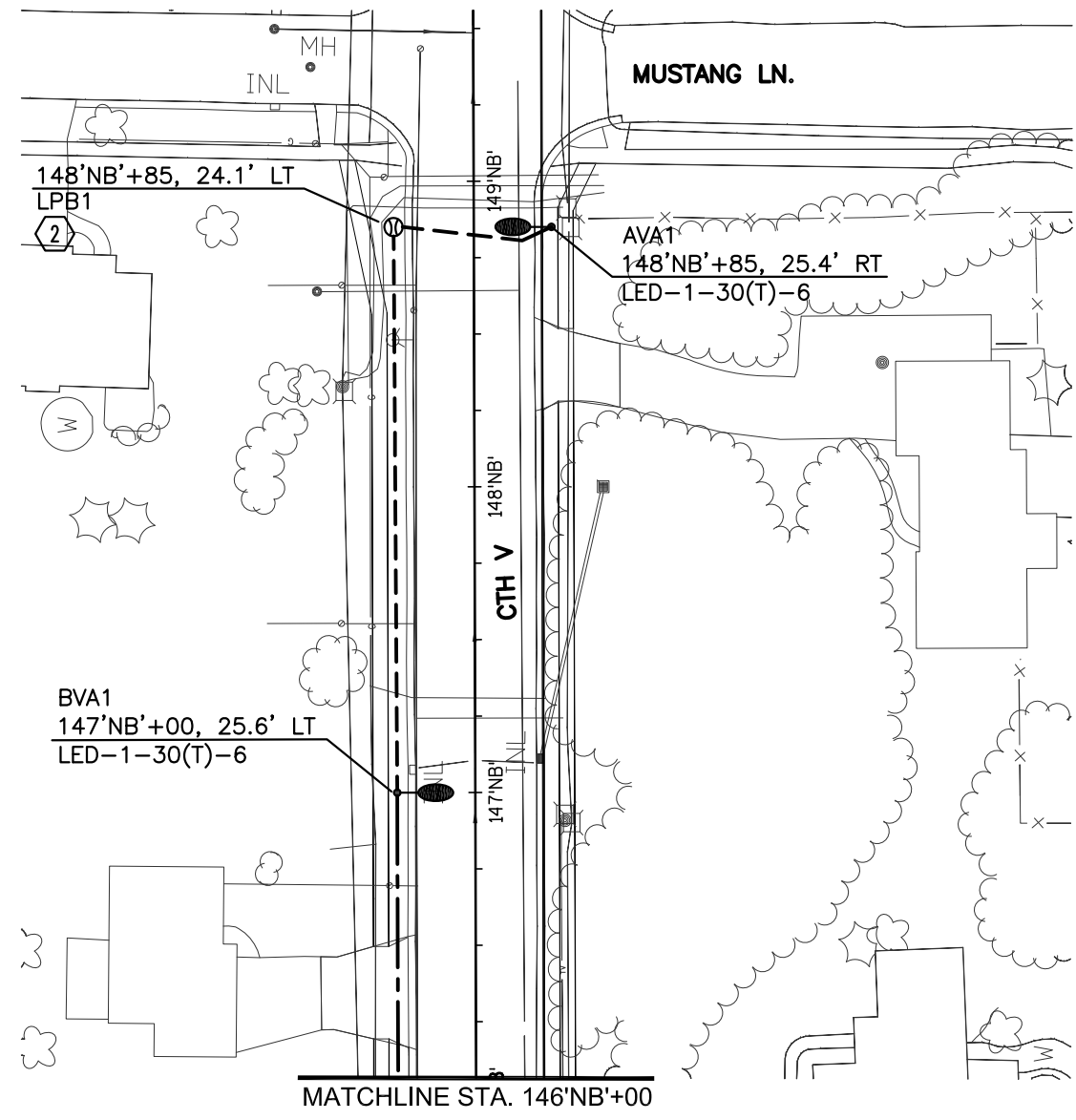
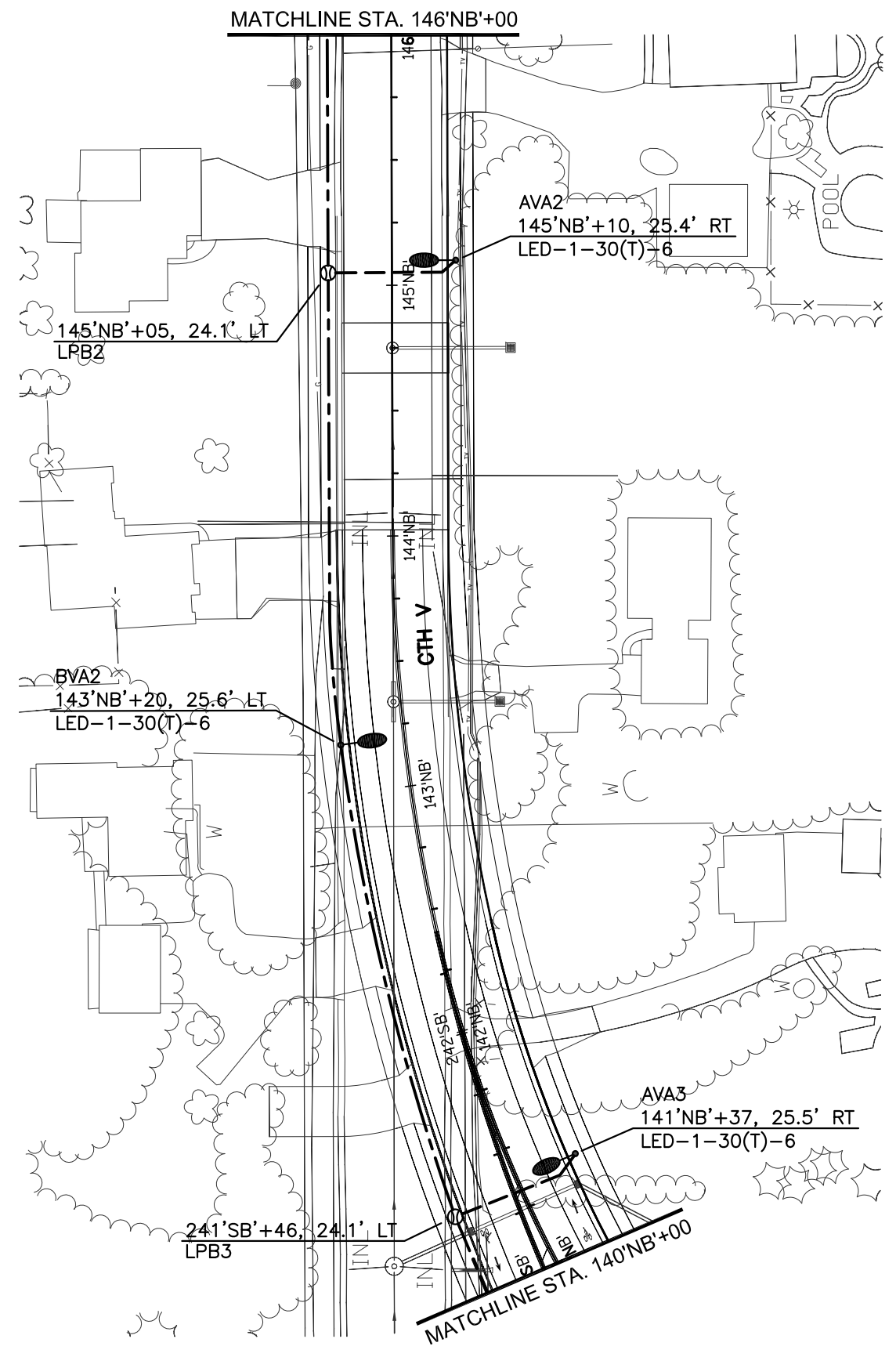


DESIGNED BY: POWRTEK ENGINEERING, INC. SHEET 2 OF 6

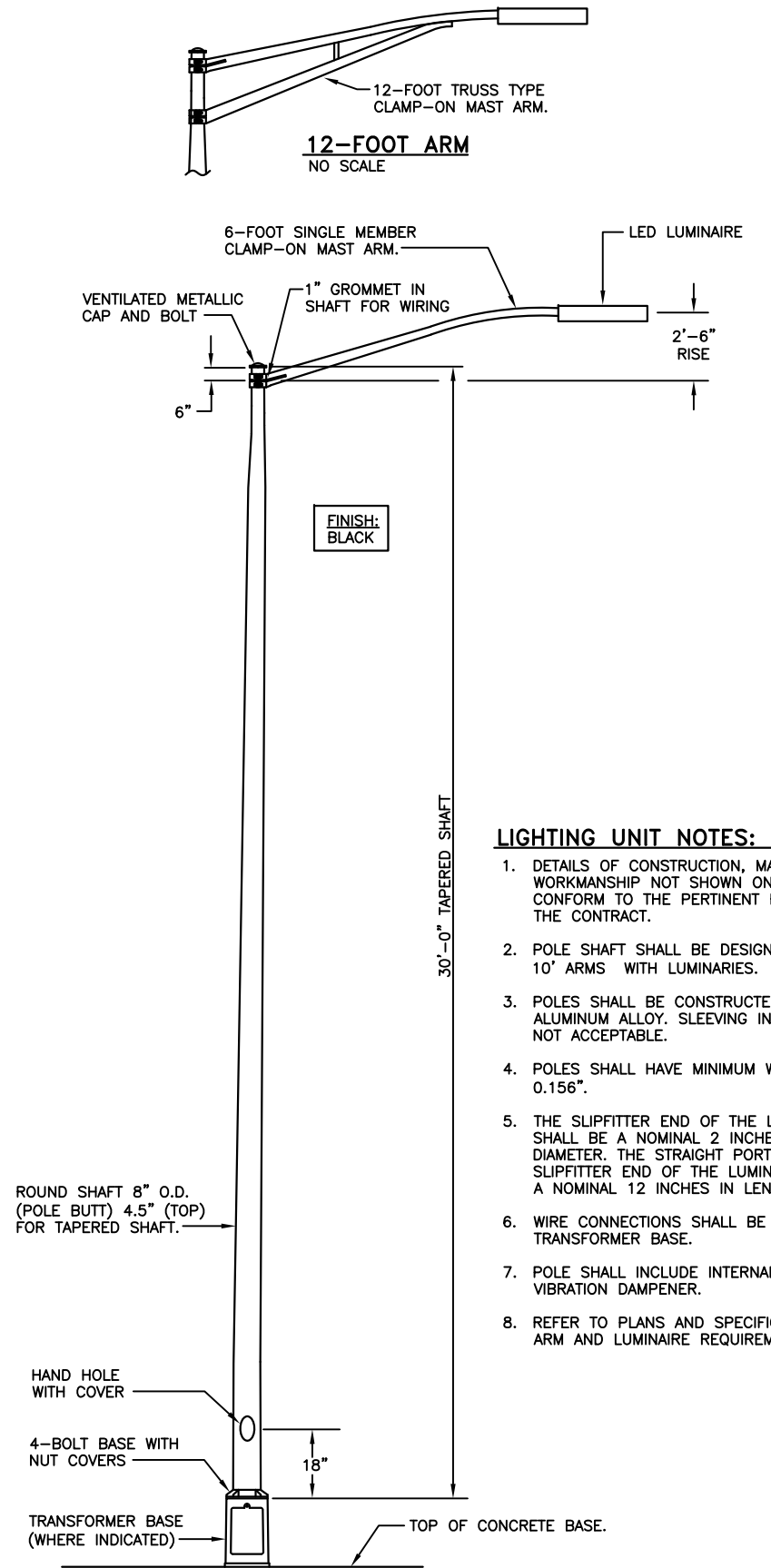
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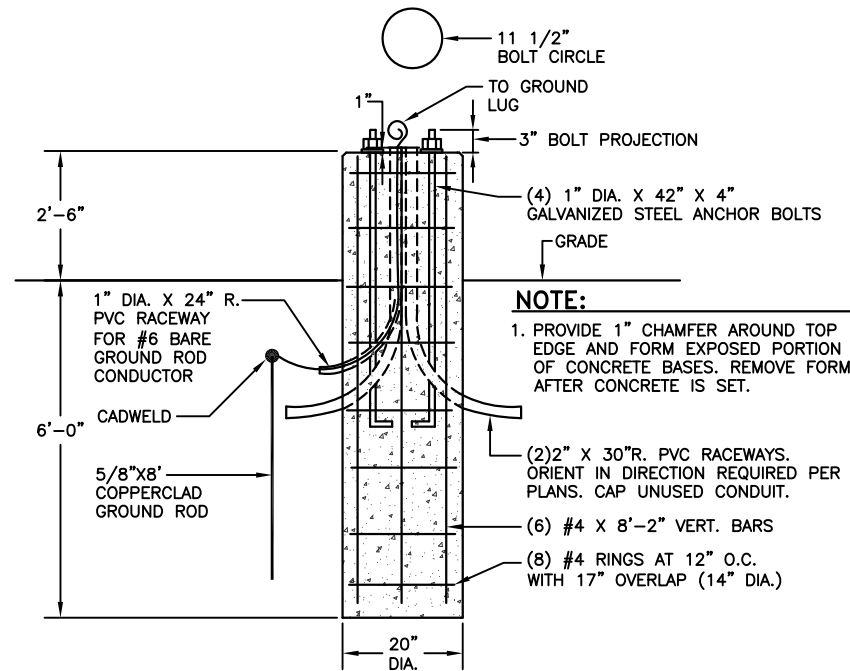


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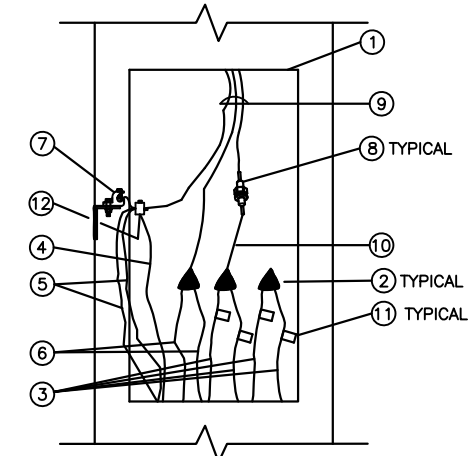


**MUNICIPAL LIGHTING UNIT DETAIL**  
NO SCALE

- LIGHTING UNIT NOTES:**
1. DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.
  2. POLE SHAFT SHALL BE DESIGNED TO INCLUDE TWIN 10' ARMS WITH LUMINARIES.
  3. POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.
  4. POLES SHALL HAVE MINIMUM WALL THICKNESS OF 0.156".
  5. THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2 INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.
  6. WIRE CONNECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.
  7. POLE SHALL INCLUDE INTERNAL DUMBBELL STYLE VIBRATION DAMPENER.
  8. REFER TO PLANS AND SPECIFICATIONS FOR MAST ARM AND LUMINAIRE REQUIREMENTS.

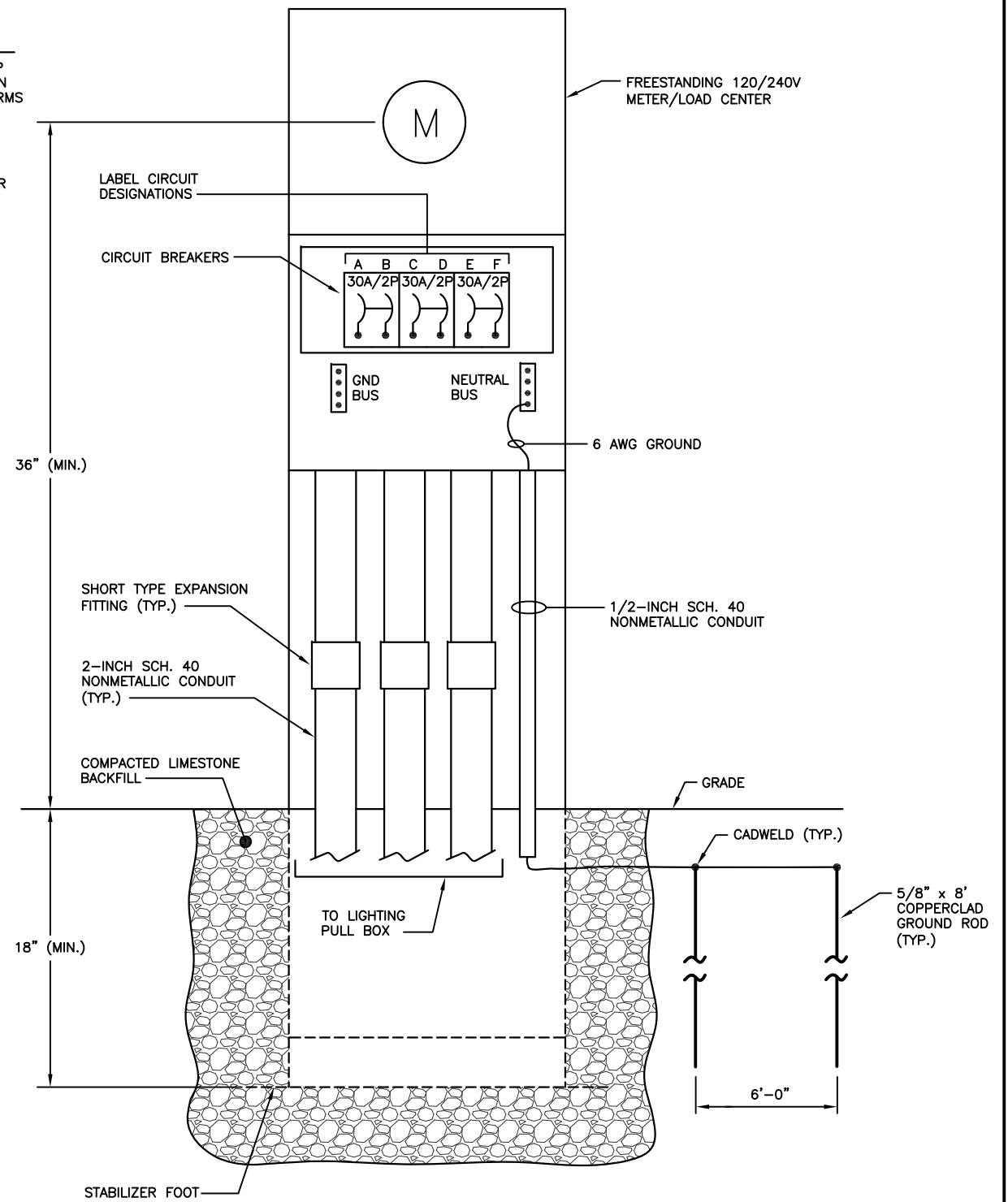


**PARKING LOT CONCRETE BASE**  
NO SCALE

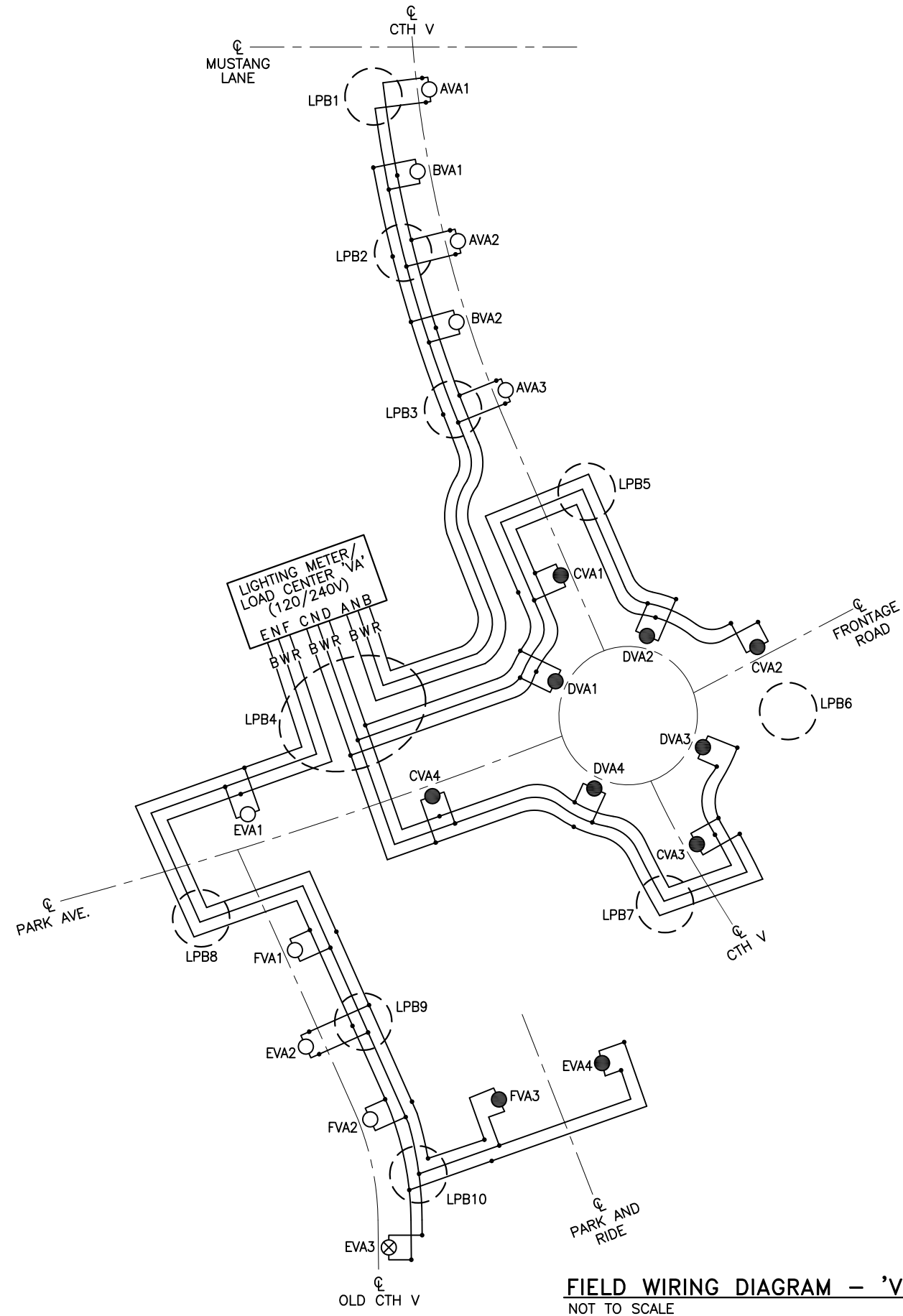


- POLE WIRING NOTES:**
- ① TRANSFORMER BASE HAND HOLE AND COVER
  - ② INSULATED SPLICE
  - ③ UNGROUNDED CONDUCTORS
  - ④ #8 CONDUCTOR TO GROUND ROD
  - ⑤ SYSTEM GROUNDING CONDUCTORS
  - ⑥ GROUNDED CONDUCTOR (NEUTRAL)
  - ⑦ HAND HOLE GROUNDING LUG
  - ⑧ INLINE 1-POLE FUSE ASSEMBLY AND 5A KTK FUSES. WEATHERPROOF BOOTS.
  - ⑨ 3#12 RHW/USE (XLP) TO LUMINAIRE
  - ⑩ 12" PIGTAIL BETWEEN SPLICE AND FUSE ASSEMBLY
  - ⑪ CIRCUIT TAG
  - ⑫ REVERSIBLE PRESSURE OR COMPRESSION GROUNDING CONNECTION (NOT INSULATED)

**POLE WIRING DETAIL**  
NO SCALE



**METER/LOAD CENTER DETAIL**  
NO SCALE



**LEGEND:**

- TYPE 1 LED LUMINAIRE (135W MAX)
- ⊗ TYPE 2 LED LUMINAIRE (135W MAX)
- TYPE 3 LED LUMINAIRE (185W MAX)
- SPLICE

**COLOR CODE:**

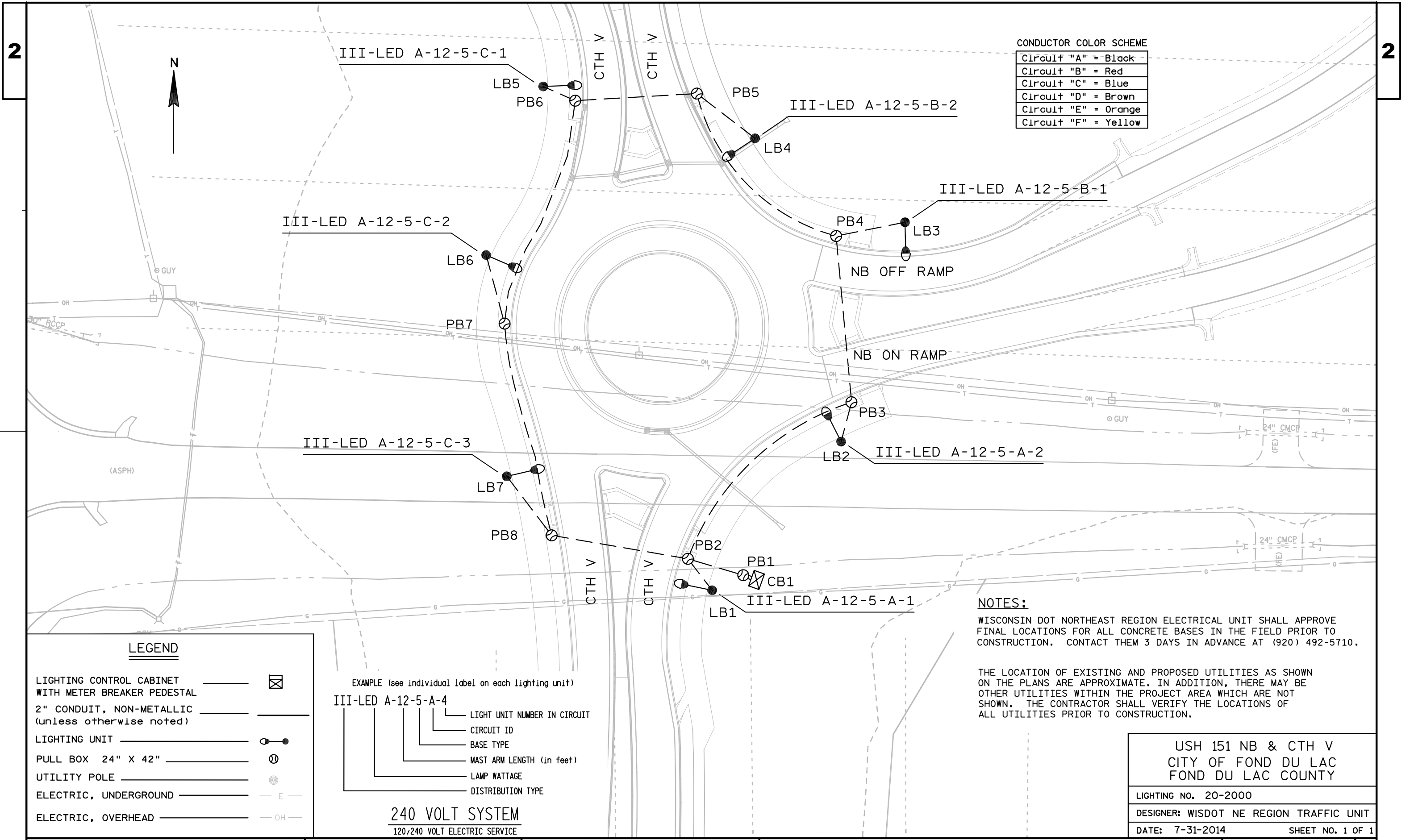
- B - BLACK
- R - RED
- W - WHITE

**NOTES:**

1. SPLICES ONLY ALLOWED IN PULL BOXES, WHERE INDICATED.
2. GROUND CONDUCTOR (GREEN) REQUIRED, NOT SHOWN.

**FIELD WIRING DIAGRAM - 'VA'**  
NOT TO SCALE

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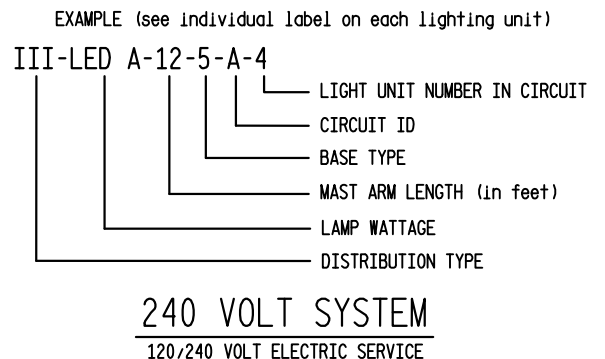


**CONDUCTOR COLOR SCHEME**

Circuit "A"	= Black
Circuit "B"	= Red
Circuit "C"	= Blue
Circuit "D"	= Brown
Circuit "E"	= Orange
Circuit "F"	= Yellow

**LEGEND**

LIGHTING CONTROL CABINET WITH METER BREAKER PEDESTAL	☒
2" CONDUIT, NON-METALLIC (unless otherwise noted)	—
LIGHTING UNIT	○●
PULL BOX 24" X 42"	⊙
UTILITY POLE	⊙
ELECTRIC, UNDERGROUND	— E —
ELECTRIC, OVERHEAD	— OH —

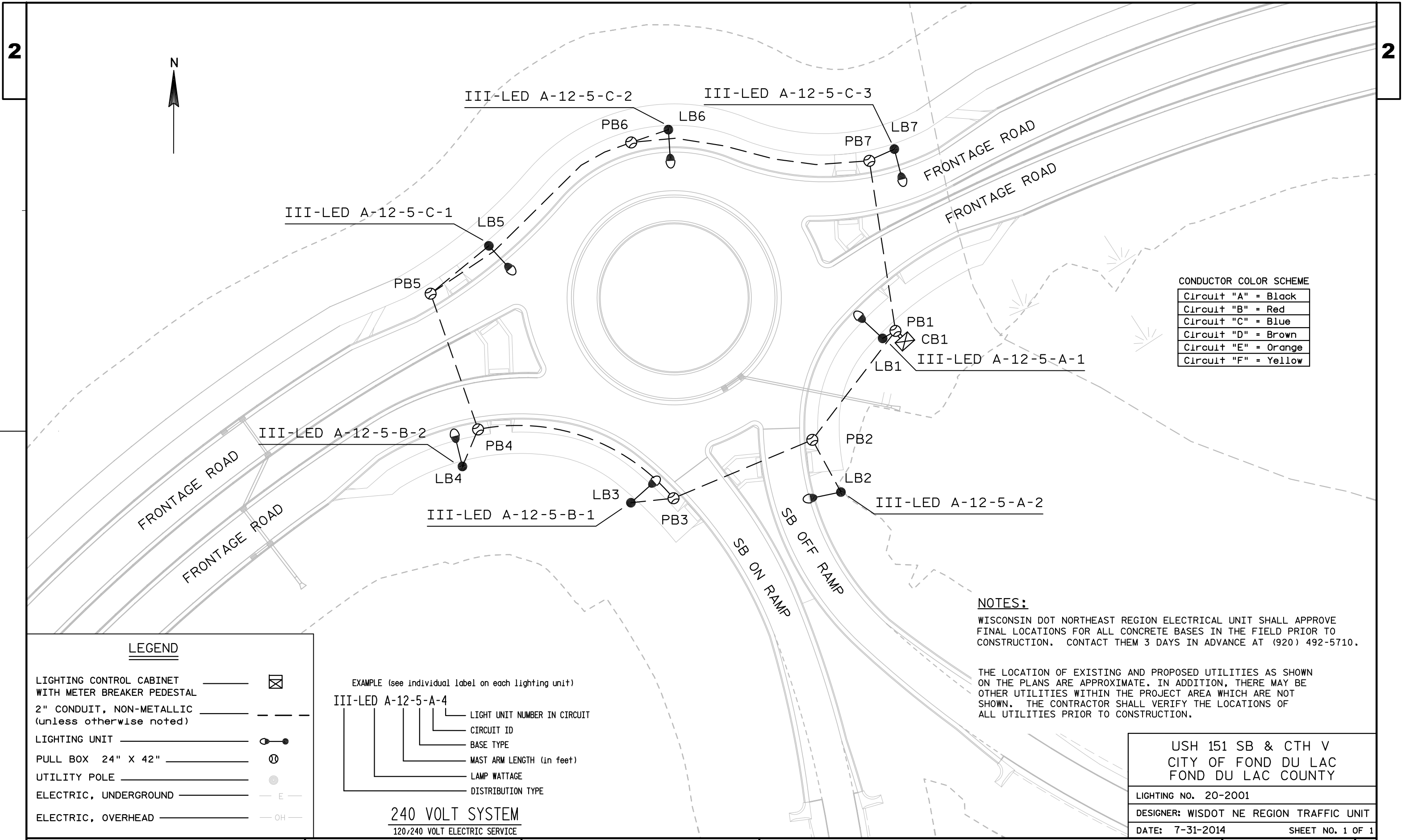


**NOTES:**

WISCONSIN DOT NORTHEAST REGION ELECTRICAL UNIT SHALL APPROVE FINAL LOCATIONS FOR ALL CONCRETE BASES IN THE FIELD PRIOR TO CONSTRUCTION. CONTACT THEM 3 DAYS IN ADVANCE AT (920) 492-5710.

THE LOCATION OF EXISTING AND PROPOSED UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. IN ADDITION, THERE MAY BE OTHER UTILITIES WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION.

USH 151 NB & CTH V CITY OF FOND DU LAC FOND DU LAC COUNTY	
LIGHTING NO. 20-2000	
DESIGNER: WISDOT NE REGION TRAFFIC UNIT	
DATE: 7-31-2014	SHEET NO. 1 OF 1



**CONDUCTOR COLOR SCHEME**

Circuit "A" = Black
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Circuit "F" = Yellow

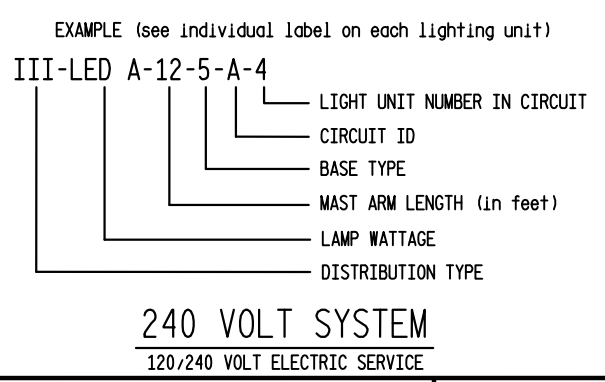
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THE LOCATION OF EXISTING AND PROPOSED UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. IN ADDITION, THERE MAY BE OTHER UTILITIES WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION.

USH 151 SB & CTH V CITY OF FOND DU LAC FOND DU LAC COUNTY	
LIGHTING NO. 20-2001	
DESIGNER: WISDOT NE REGION TRAFFIC UNIT	
DATE: 7-31-2014	SHEET NO. 1 OF 1

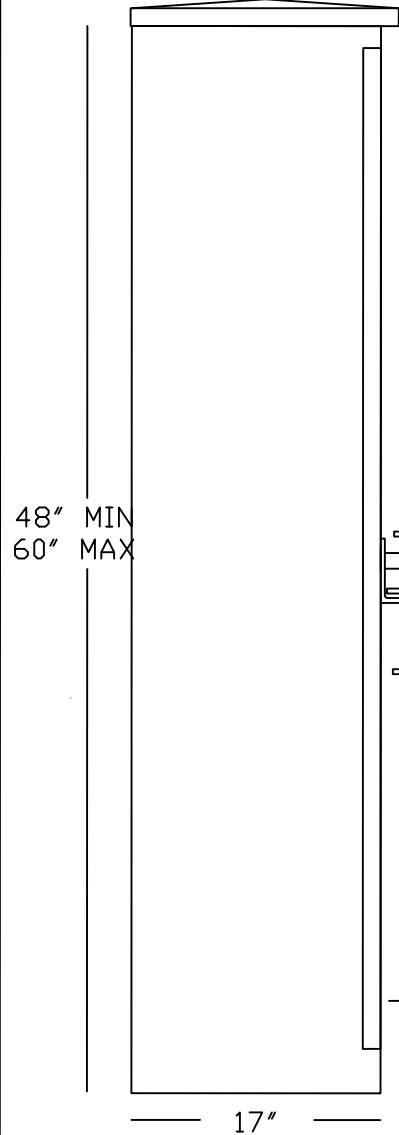
**LEGEND**

LIGHTING CONTROL CABINET WITH METER BREAKER PEDESTAL	— ⊠ —
2" CONDUIT, NON-METALLIC (unless otherwise noted)	— - - - —
LIGHTING UNIT	— ○ —
PULL BOX 24" X 42"	— ⊙ —
UTILITY POLE	— ● —
ELECTRIC, UNDERGROUND	— E —
ELECTRIC, OVERHEAD	— OH —

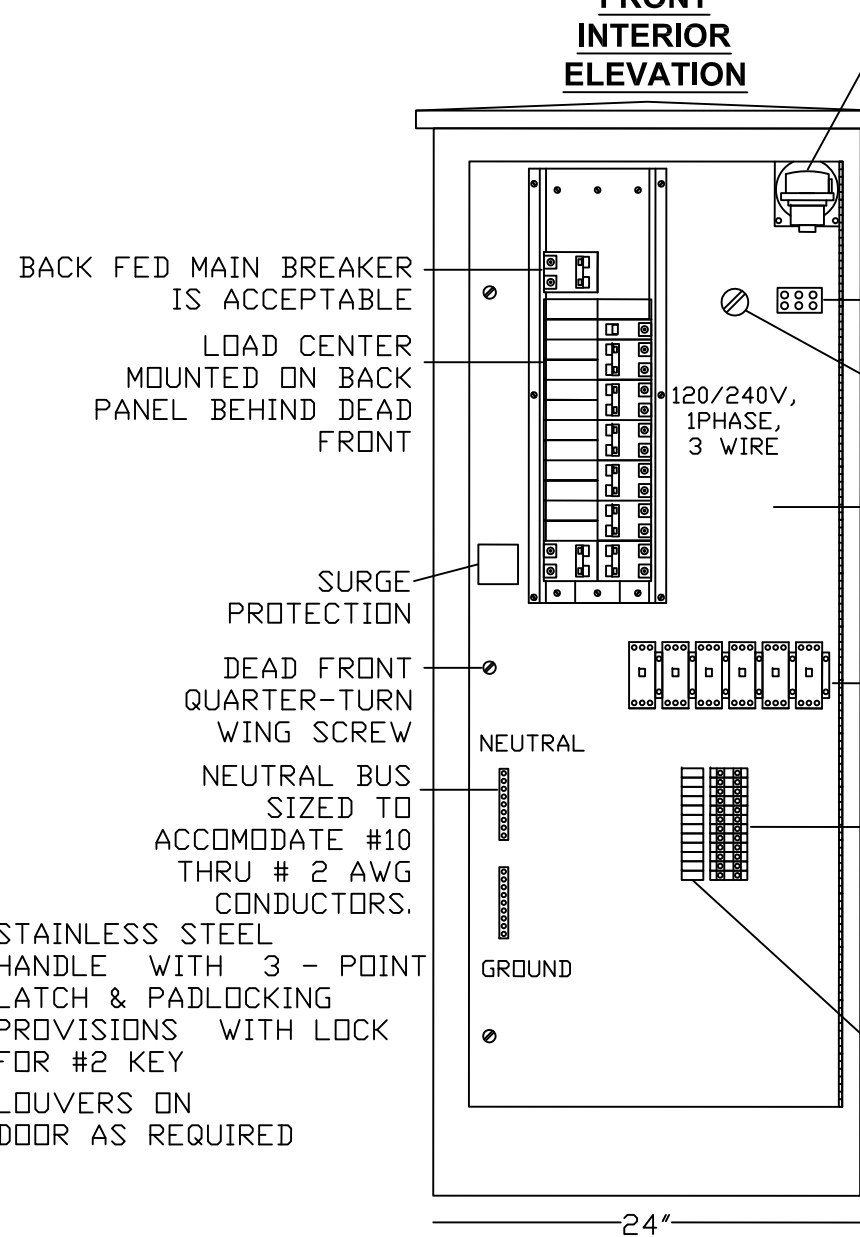


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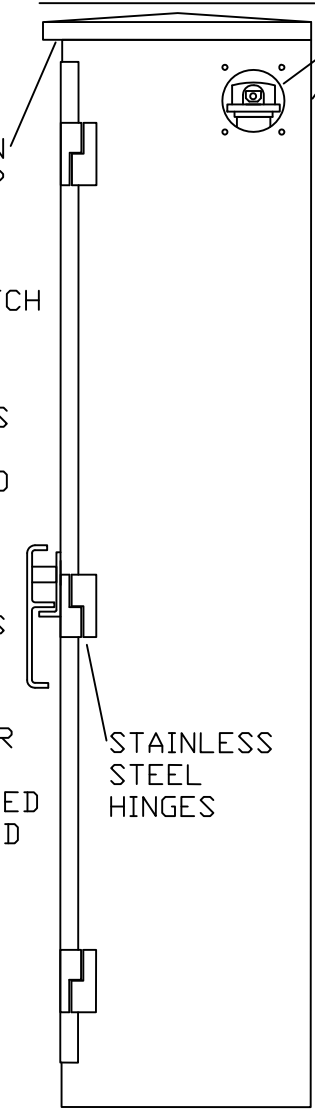
LEFT SIDE VIEW



FRONT INTERIOR ELEVATION



RIGHT SIDE VIEW

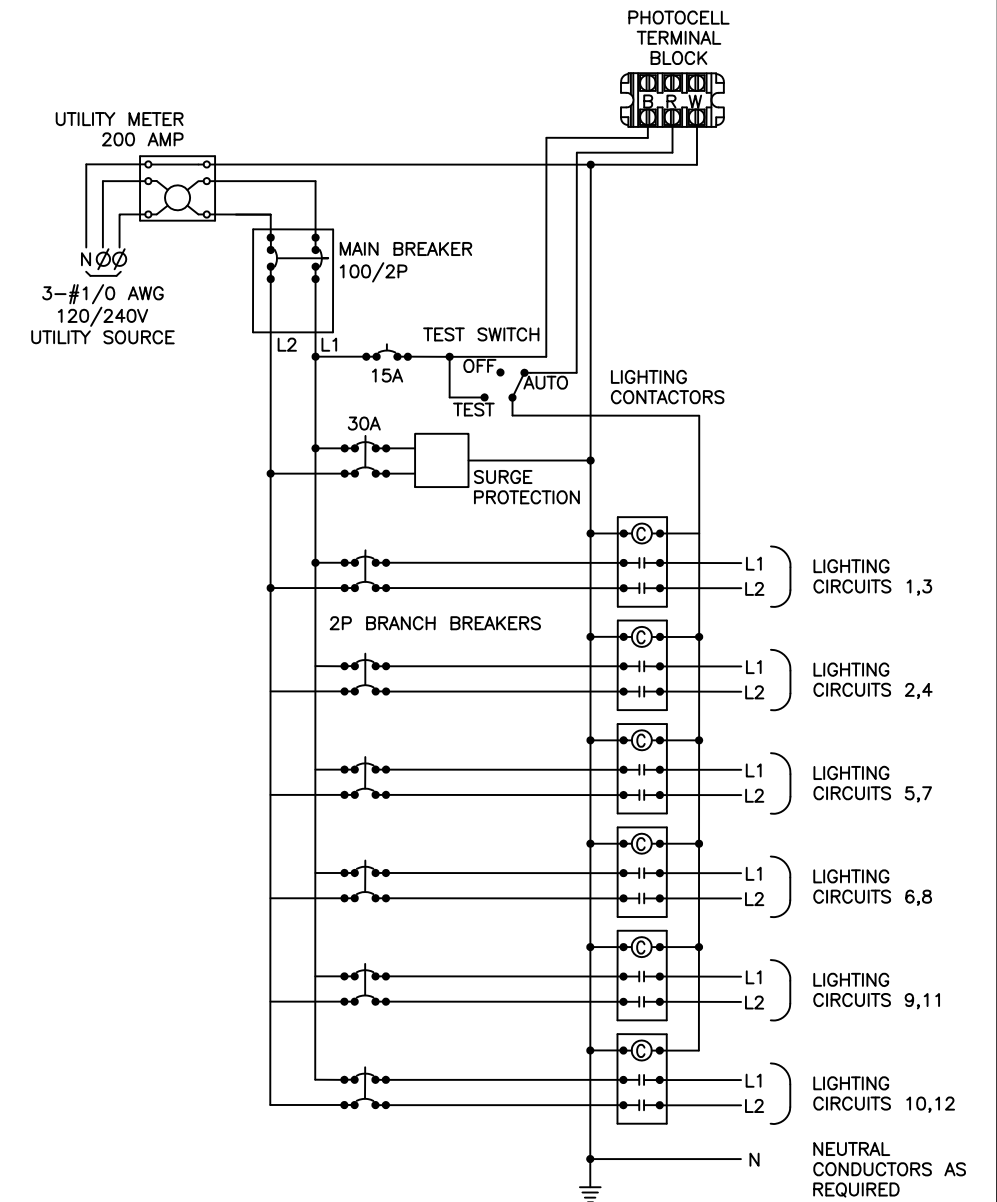
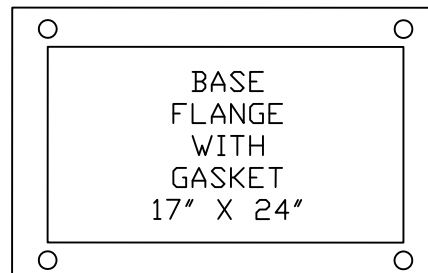


BOX CONSTRUCTION:

- NEMA3R
- UL LISTED
- 1/8" ALUMINUM 5052-H32 ANODIZED CLEAR
- BENT CONSTRUCTION - ONE PIECE SIDES AND BACK
- NEOPRENE GASKETED DOORS
- STAINLESS STEEL HARDWARE
- ETL LISTED IN ACCORDANCE W/ UL508A

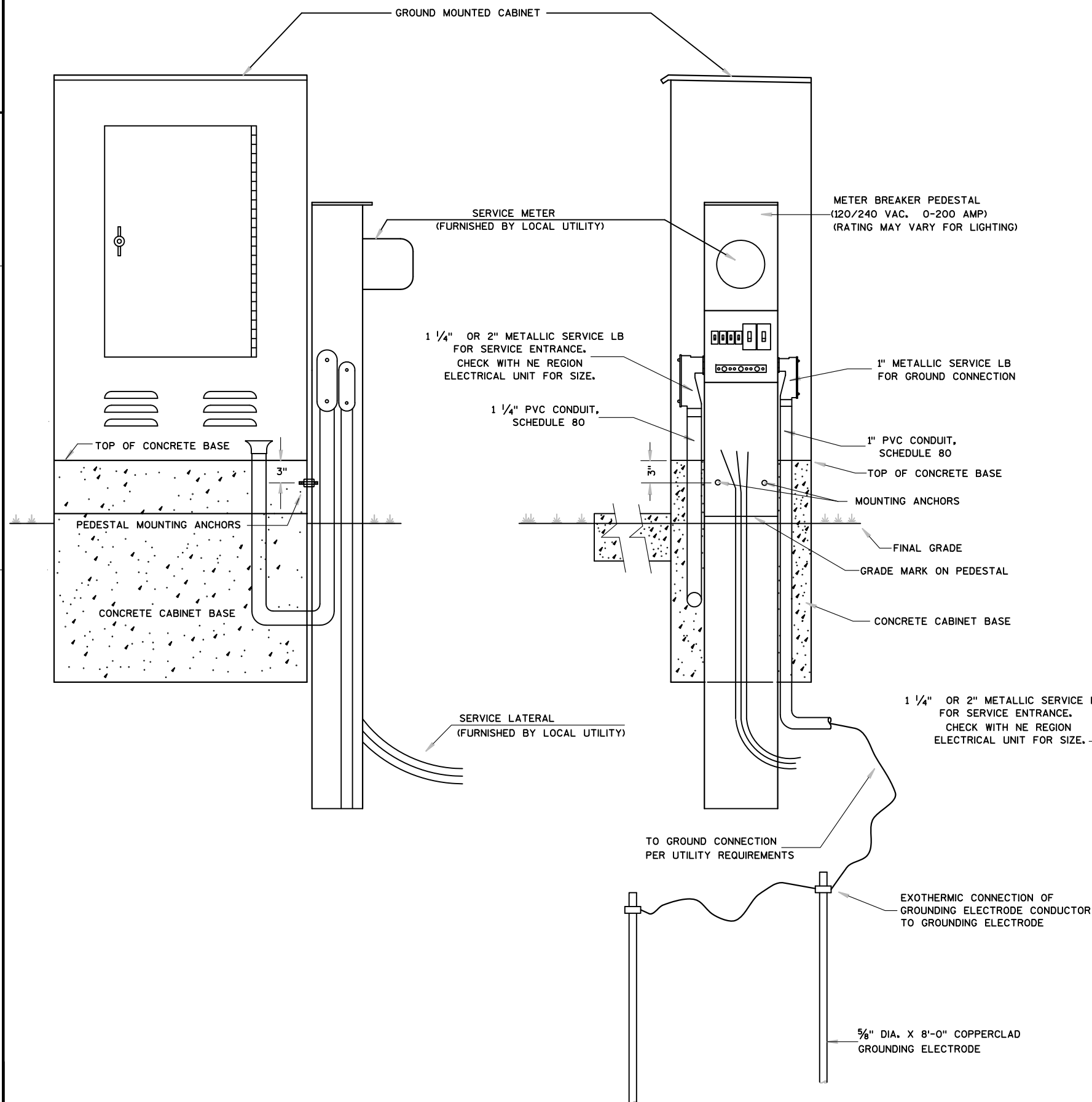
LOAD CENTER:

- 30 CIRCUIT MIN.
- 100AMP MAIN CIRCUIT BREAKER
- COPPER BUS
- 22K AIC
- (1) 15A/1P CONTROL BREAKER
- (1) 30A/2P BREAKER FOR SURGE PROTECTION DEVICE
- (6) 2P BRANCH BREAKERS (BREAKERS SIZED AS REQUIRED)



CONTROL CABINET SCHEMATIC

120/240 VOLT LIGHTING CONTROL CABINET WISDOT 120/240



**GENERAL NOTES**

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

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

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

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

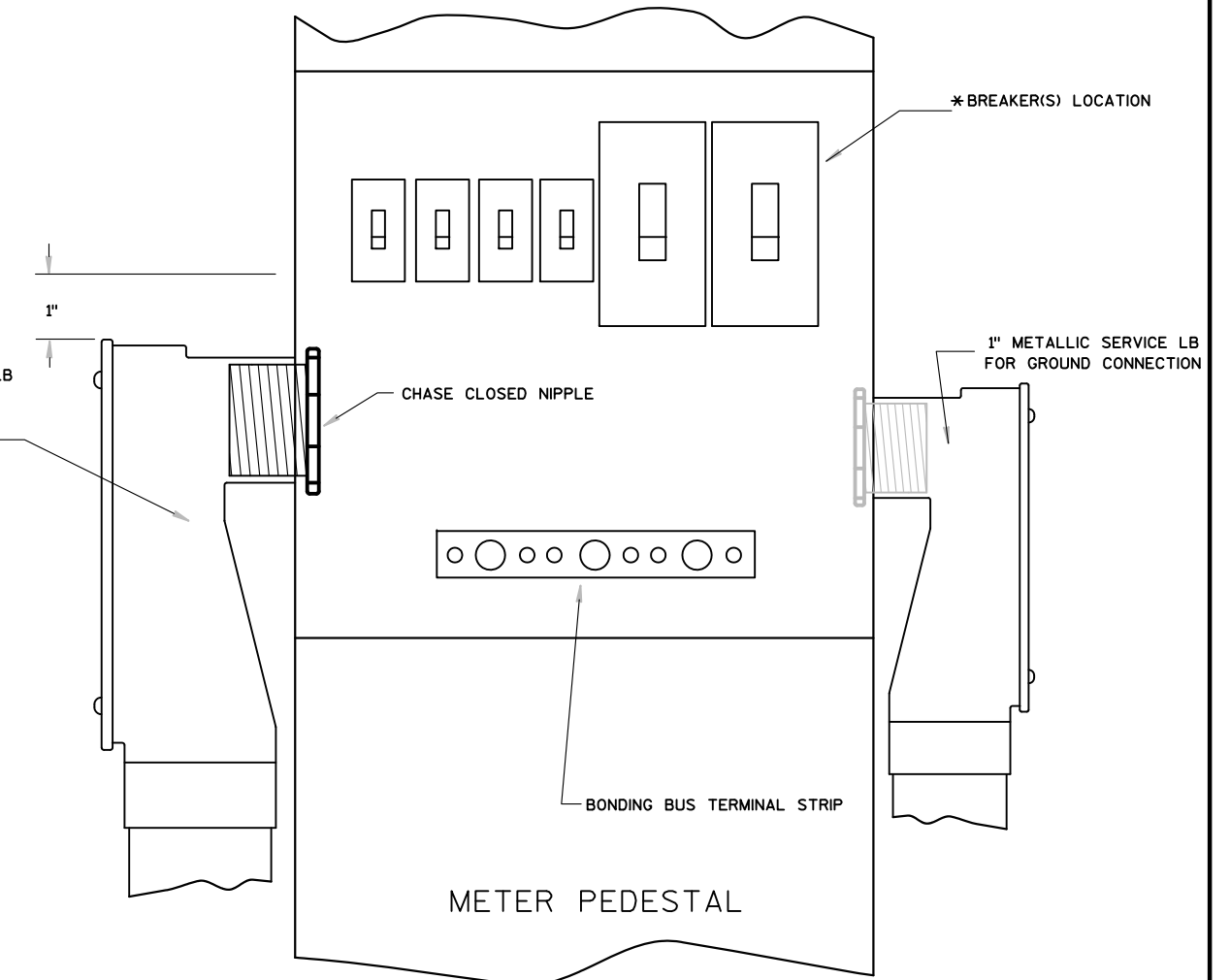
WHILE FLUSH MOUNTING IS THE MOST DESIRABLE MOUNTING CONFIGURATION UTILITY REQUIREMENTS MAY PRECLUDE THIS OPTION. CONTRACTOR MUST PROVIDE UTILITY APPROVED PEDESTAL AND INSTALL PER UTILITY AND MANUFACTURERS REQUIREMENTS.

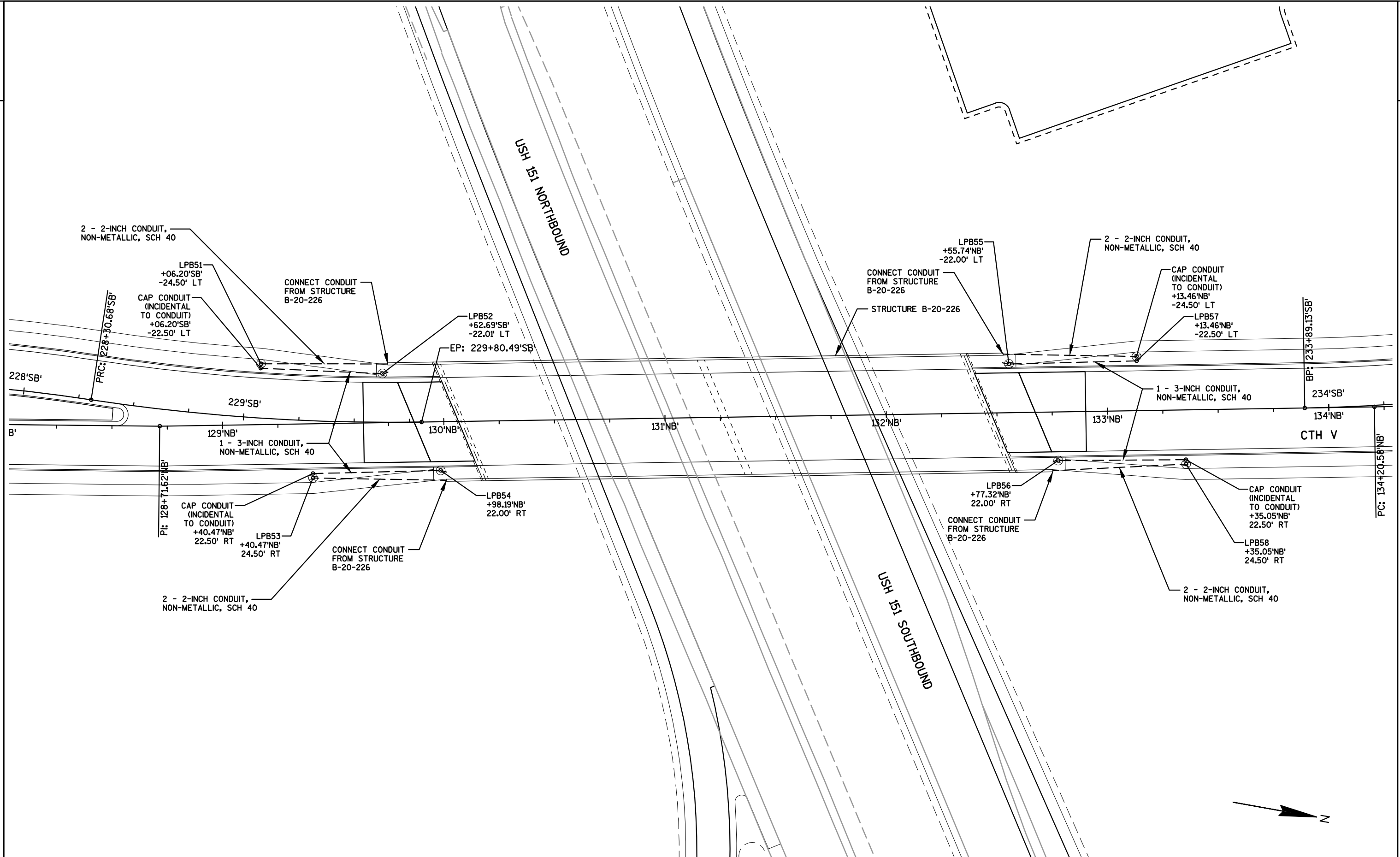
SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT OR SCHEDULE 80 PVC, NIPPLES AND/OR CONDULETS AS REQUIRED. CONDUIT LB SHALL BE OF METALLIC SERVICE ENTRANCE TYPE.

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

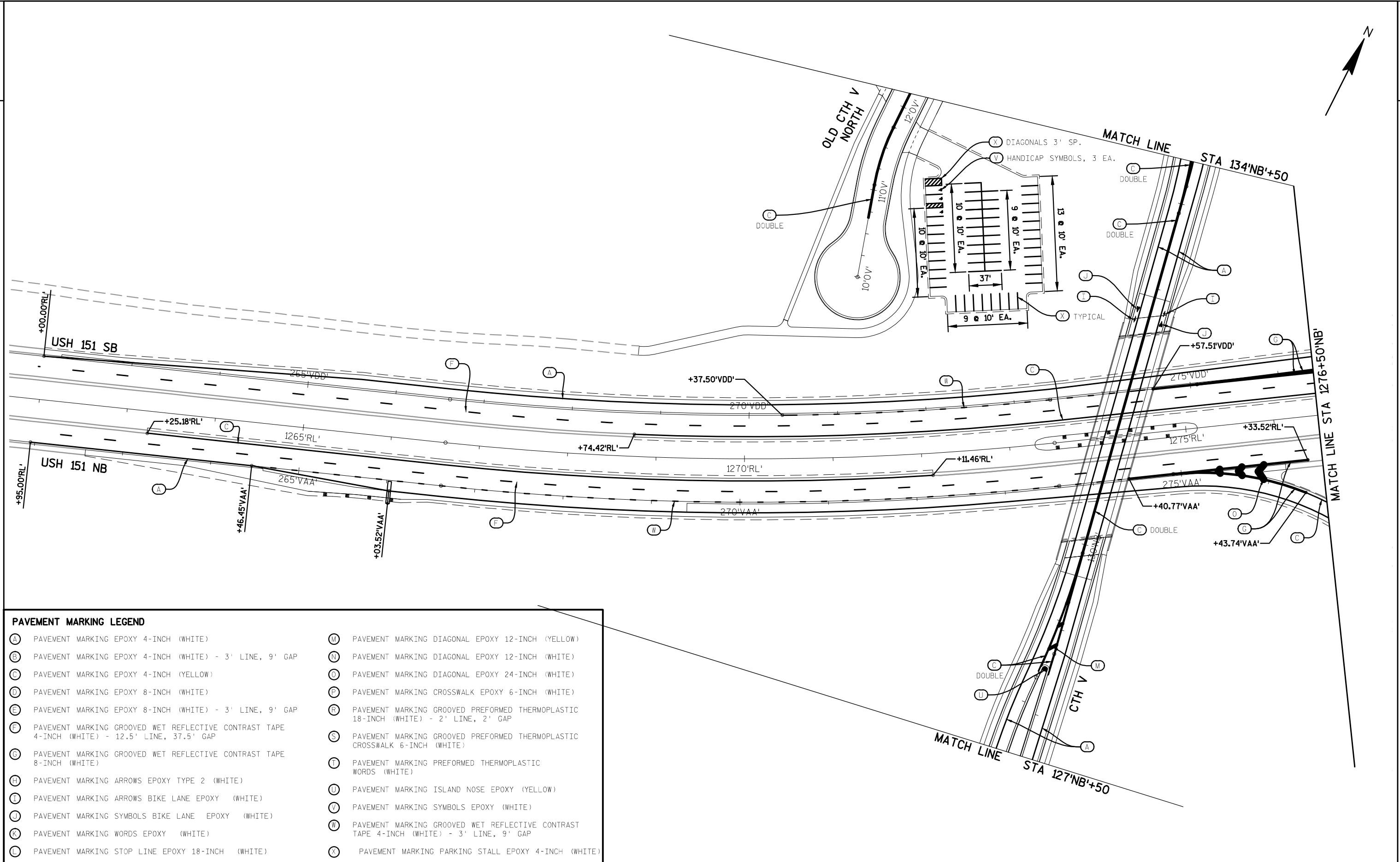
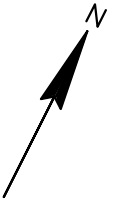
IF MORE THAN ONE GROUNDING ELECTRODE IS REQUIRED, THE DISTANCE APART SHALL BE 6 FEET OR PER NEC.

\* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.



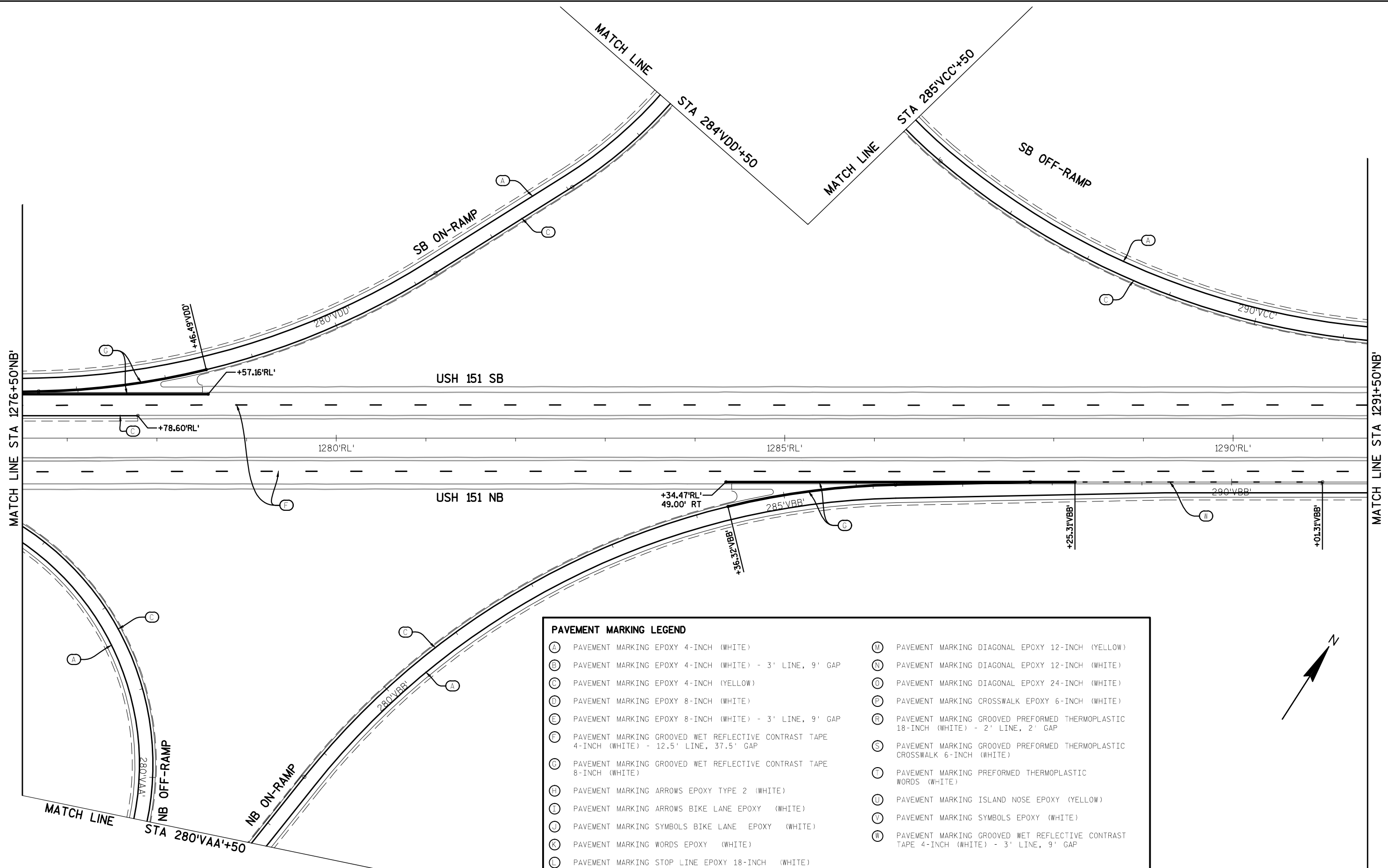




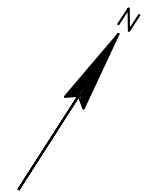


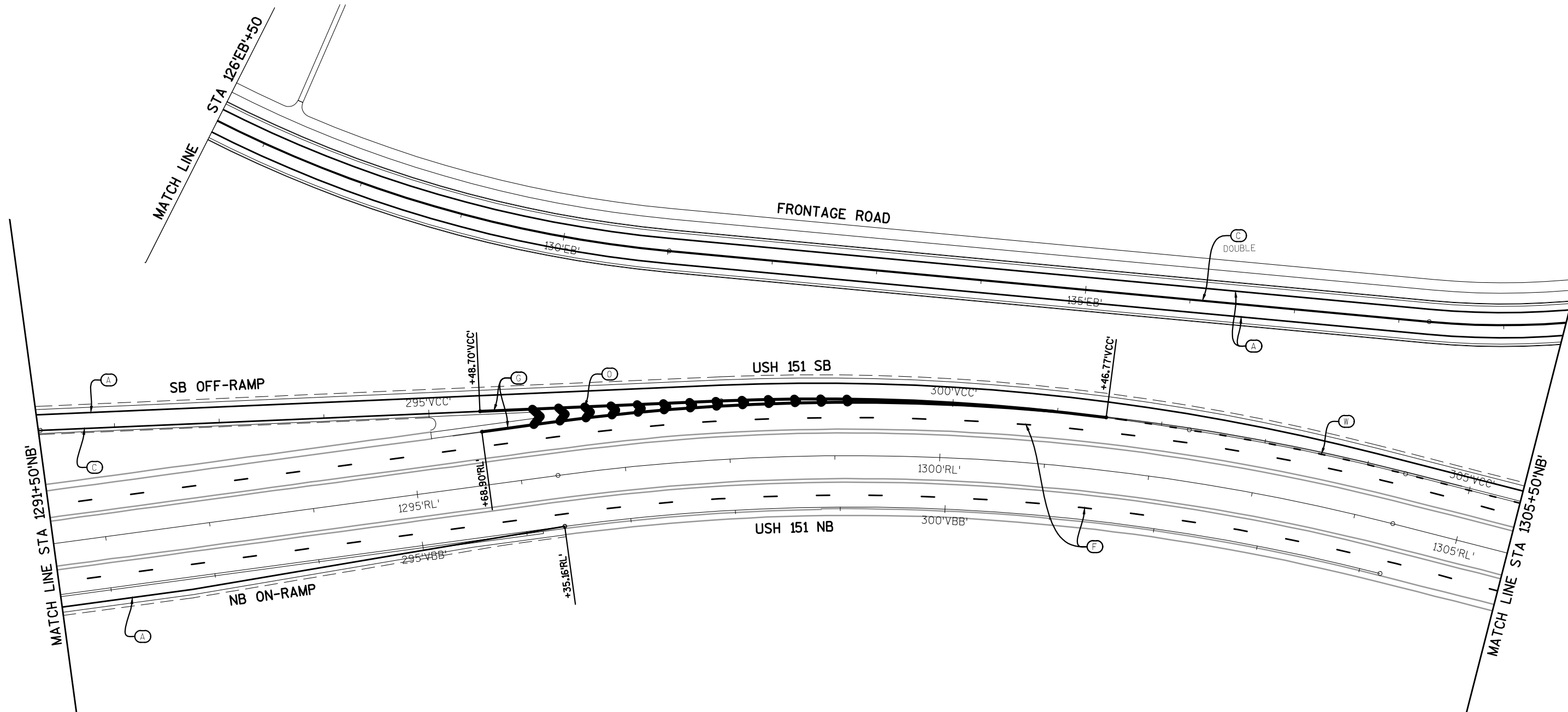
**PAVEMENT MARKING LEGEND**

(A) PAVEMENT MARKING EPOXY 4-INCH (WHITE)	(M) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
(B) PAVEMENT MARKING EPOXY 4-INCH (WHITE) - 3' LINE, 9' GAP	(N) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)
(C) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)	(O) PAVEMENT MARKING DIAGONAL EPOXY 24-INCH (WHITE)
(D) PAVEMENT MARKING EPOXY 8-INCH (WHITE)	(P) PAVEMENT MARKING CROSSWALK EPOXY 6-INCH (WHITE)
(E) PAVEMENT MARKING EPOXY 8-INCH (WHITE) - 3' LINE, 9' GAP	(R) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC 18-INCH (WHITE) - 2' LINE, 2' GAP
(F) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (WHITE) - 12.5' LINE, 37.5' GAP	(S) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH (WHITE)
(G) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE)	(T) PAVEMENT MARKING PREFORMED THERMOPLASTIC WORDS (WHITE)
(H) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)	(U) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
(I) PAVEMENT MARKING ARROWS BIKE LANE EPOXY (WHITE)	(V) PAVEMENT MARKING SYMBOLS EPOXY (WHITE)
(J) PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY (WHITE)	(W) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (WHITE) - 3' LINE, 9' GAP
(K) PAVEMENT MARKING WORDS EPOXY (WHITE)	(X) PAVEMENT MARKING PARKING STALL EPOXY 4-INCH (WHITE)
(L) PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)	



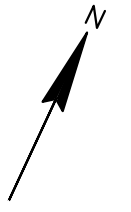
PAVEMENT MARKING LEGEND			
(A)	PAVEMENT MARKING EPOXY 4-INCH (WHITE)	(M)	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
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(D)	PAVEMENT MARKING EPOXY 8-INCH (WHITE)	(P)	PAVEMENT MARKING CROSSWALK EPOXY 6-INCH (WHITE)
(E)	PAVEMENT MARKING EPOXY 8-INCH (WHITE) - 3' LINE, 9' GAP	(R)	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC 18-INCH (WHITE) - 2' LINE, 2' GAP
(F)	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (WHITE) - 12.5' LINE, 37.5' GAP	(S)	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH (WHITE)
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(I)	PAVEMENT MARKING ARROWS BIKE LANE EPOXY (WHITE)	(V)	PAVEMENT MARKING SYMBOLS EPOXY (WHITE)
(J)	PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY (WHITE)	(W)	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (WHITE) - 3' LINE, 9' GAP
(K)	PAVEMENT MARKING WORDS EPOXY (WHITE)		
(L)	PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)		





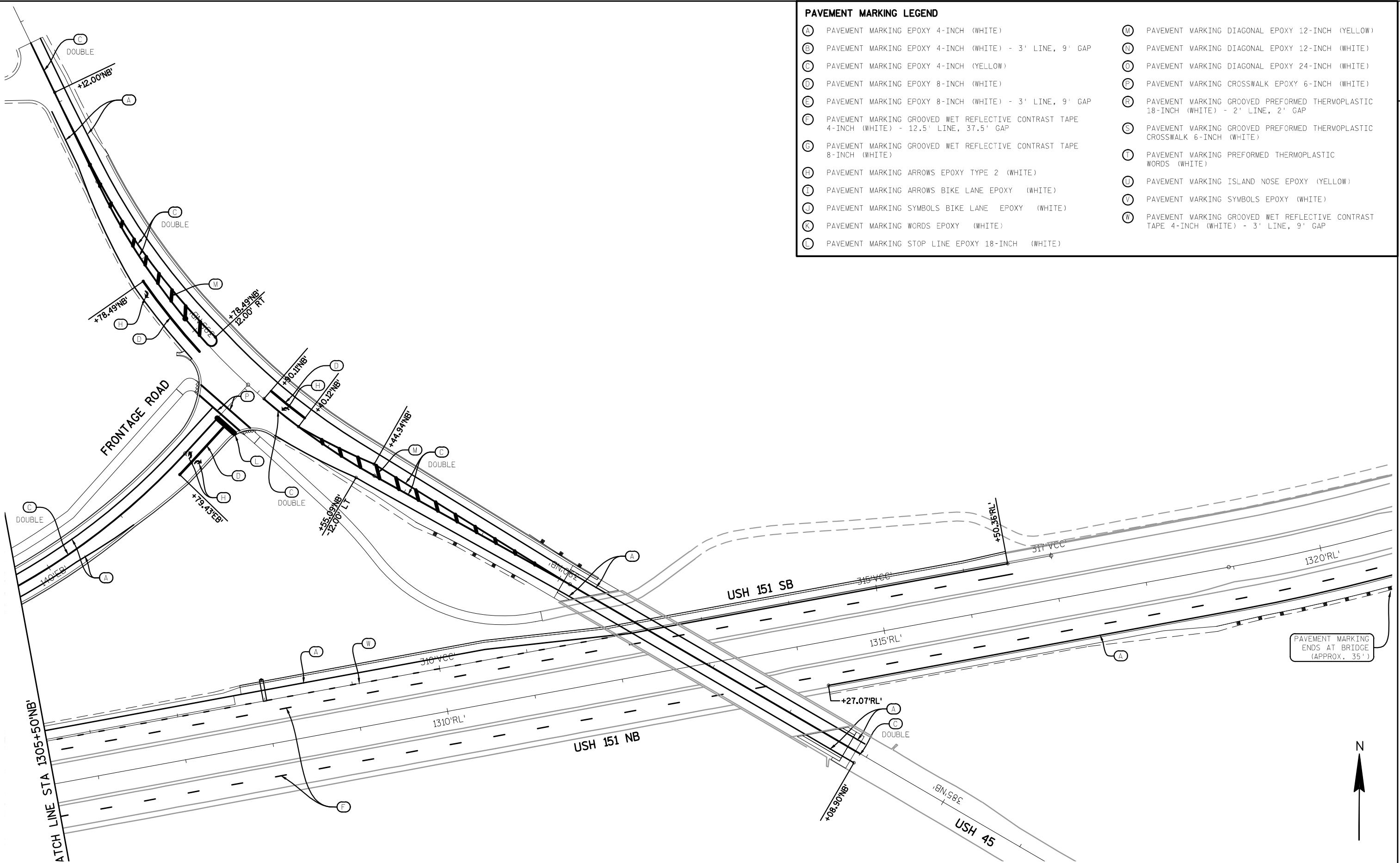
**PAVEMENT MARKING LEGEND**

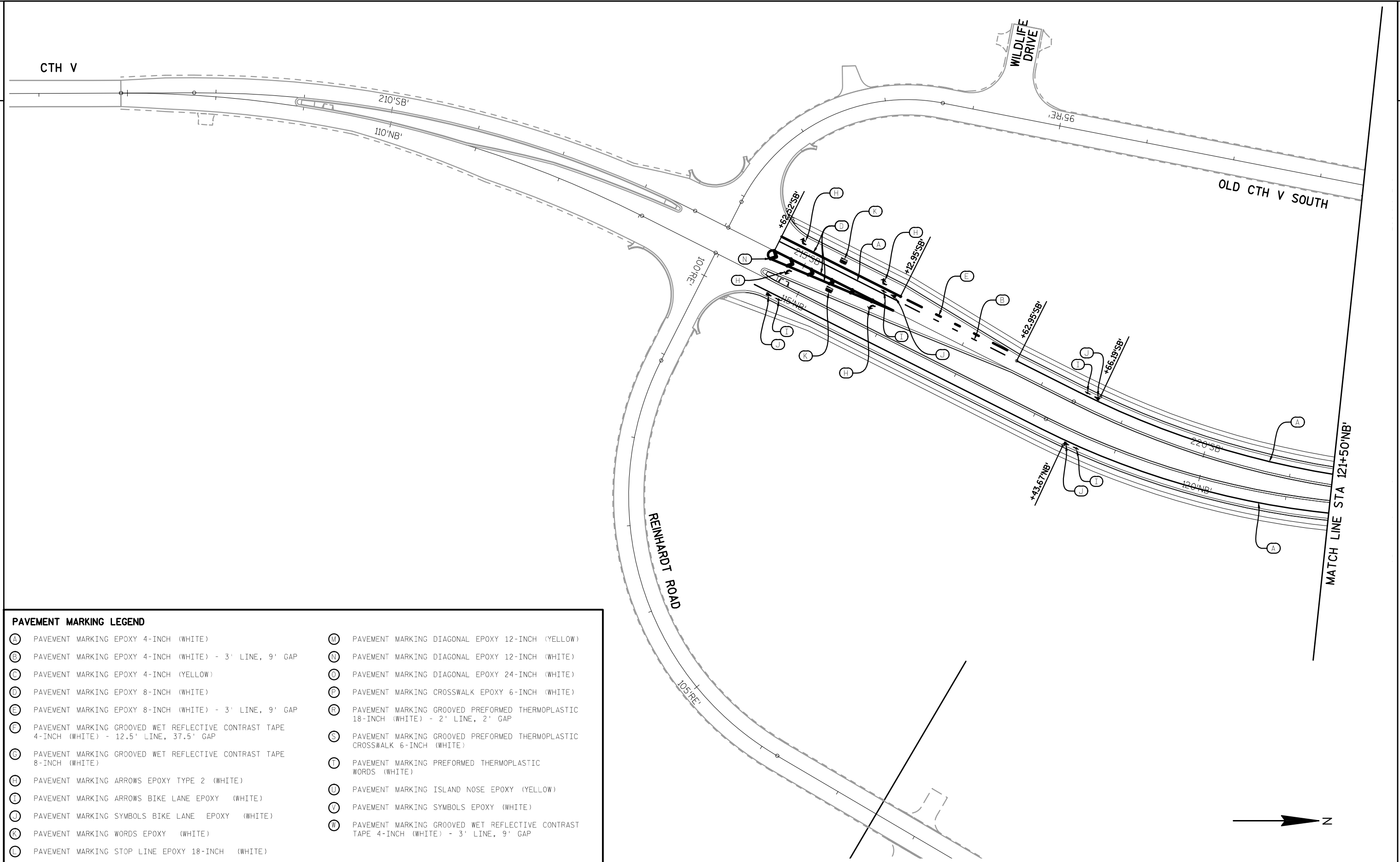
(A) PAVEMENT MARKING EPOXY 4-INCH (WHITE)	(M) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
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(E) PAVEMENT MARKING EPOXY 8-INCH (WHITE) - 3' LINE, 9' GAP	(R) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC 18-INCH (WHITE) - 2' LINE, 2' GAP
(F) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (WHITE) - 12.5' LINE, 37.5' GAP	(S) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH (WHITE)
(G) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE)	(T) PAVEMENT MARKING PREFORMED THERMOPLASTIC WORDS (WHITE)
(H) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)	(U) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
(I) PAVEMENT MARKING ARROWS BIKE LANE EPOXY (WHITE)	(V) PAVEMENT MARKING SYMBOLS EPOXY (WHITE)
(J) PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY (WHITE)	(W) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (WHITE) - 3' LINE, 9' GAP
(K) PAVEMENT MARKING WORDS EPOXY (WHITE)	
(L) PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)	



PAVEMENT MARKING LEGEND

- (A) PAVEMENT MARKING EPOXY 4-INCH (WHITE)
- (B) PAVEMENT MARKING EPOXY 4-INCH (WHITE) - 3' LINE, 9' GAP
- (C) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
- (D) PAVEMENT MARKING EPOXY 8-INCH (WHITE)
- (E) PAVEMENT MARKING EPOXY 8-INCH (WHITE) - 3' LINE, 9' GAP
- (F) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (WHITE) - 12.5' LINE, 37.5' GAP
- (G) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE)
- (H) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)
- (I) PAVEMENT MARKING ARROWS BIKE LANE EPOXY (WHITE)
- (J) PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY (WHITE)
- (K) PAVEMENT MARKING WORDS EPOXY (WHITE)
- (L) PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
- (M) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
- (N) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)
- (O) PAVEMENT MARKING DIAGONAL EPOXY 24-INCH (WHITE)
- (P) PAVEMENT MARKING CROSSWALK EPOXY 6-INCH (WHITE)
- (R) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC 18-INCH (WHITE) - 2' LINE, 2' GAP
- (S) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH (WHITE)
- (T) PAVEMENT MARKING PREFORMED THERMOPLASTIC WORDS (WHITE)
- (U) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
- (V) PAVEMENT MARKING SYMBOLS EPOXY (WHITE)
- (W) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (WHITE) - 3' LINE, 9' GAP





**PAVEMENT MARKING LEGEND**

- |  |  |
|--|--|
| (A) PAVEMENT MARKING EPOXY 4-INCH (WHITE)  | (M) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)                                       |
| (B) PAVEMENT MARKING EPOXY 4-INCH (WHITE) - 3' LINE, 9' GAP                                      | (N) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)  |
| (C) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)   | (O) PAVEMENT MARKING DIAGONAL EPOXY 24-INCH (WHITE)  |
| (D) PAVEMENT MARKING EPOXY 8-INCH (WHITE)  | (P) PAVEMENT MARKING CROSSWALK EPOXY 6-INCH (WHITE)  |
| (E) PAVEMENT MARKING EPOXY 8-INCH (WHITE) - 3' LINE, 9' GAP                                      | (R) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC 18-INCH (WHITE) - 2' LINE, 2' GAP     |
| (F) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (WHITE) - 12.5' LINE, 37.5' GAP | (S) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH (WHITE)              |
| (G) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE)                         | (T) PAVEMENT MARKING PREFORMED THERMOPLASTIC WORDS (WHITE)                                 |
| (H) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)   | (U) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)  |
| (I) PAVEMENT MARKING ARROWS BIKE LANE EPOXY (WHITE)  | (V) PAVEMENT MARKING SYMBOLS EPOXY (WHITE)   |
| (J) PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY (WHITE)   | (W) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (WHITE) - 3' LINE, 9' GAP |
| (K) PAVEMENT MARKING WORDS EPOXY (WHITE)   |  |
| (L) PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)   |  |

PROJECT NO: 1420-22-71

HWY: USH 151

COUNTY: FOND DU LAC

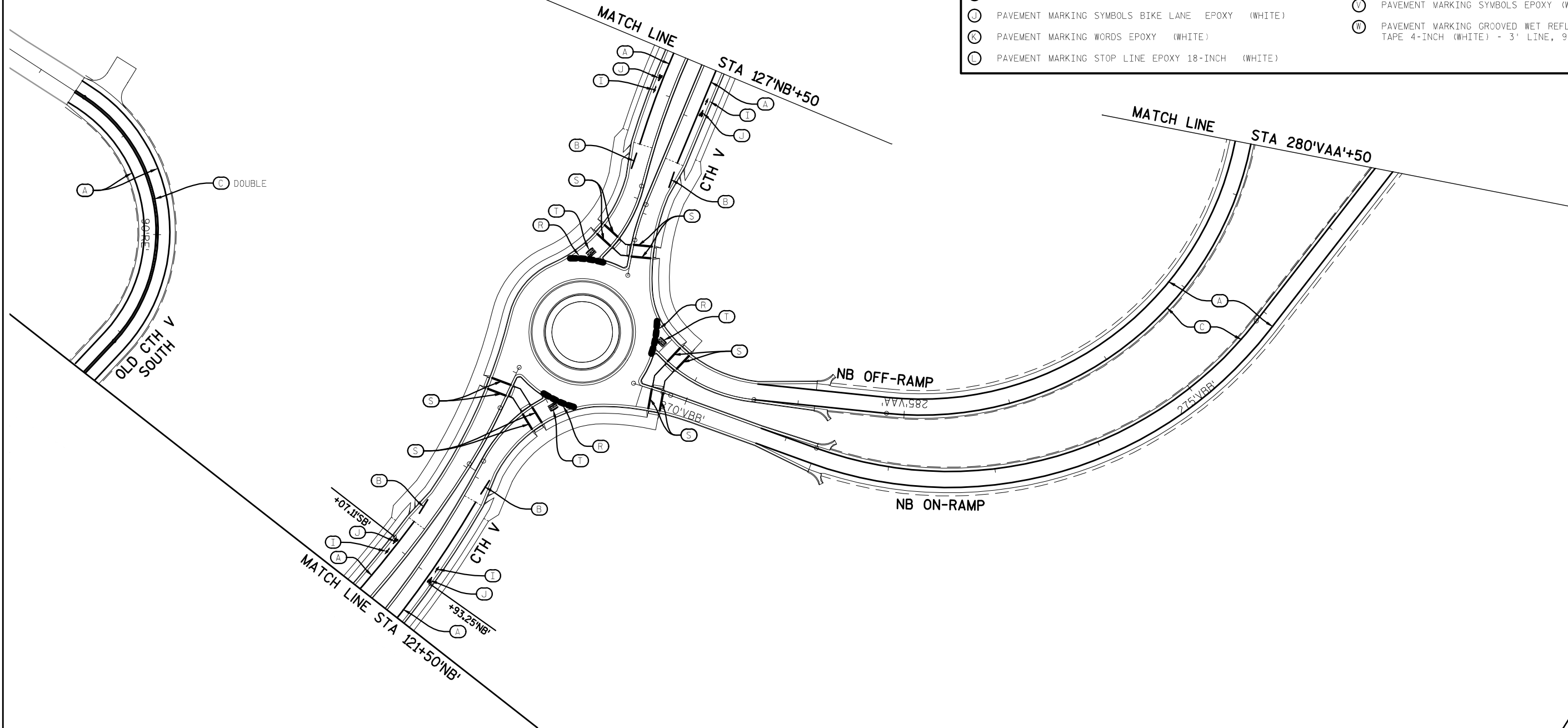
PAVEMENT MARKING - CTH V

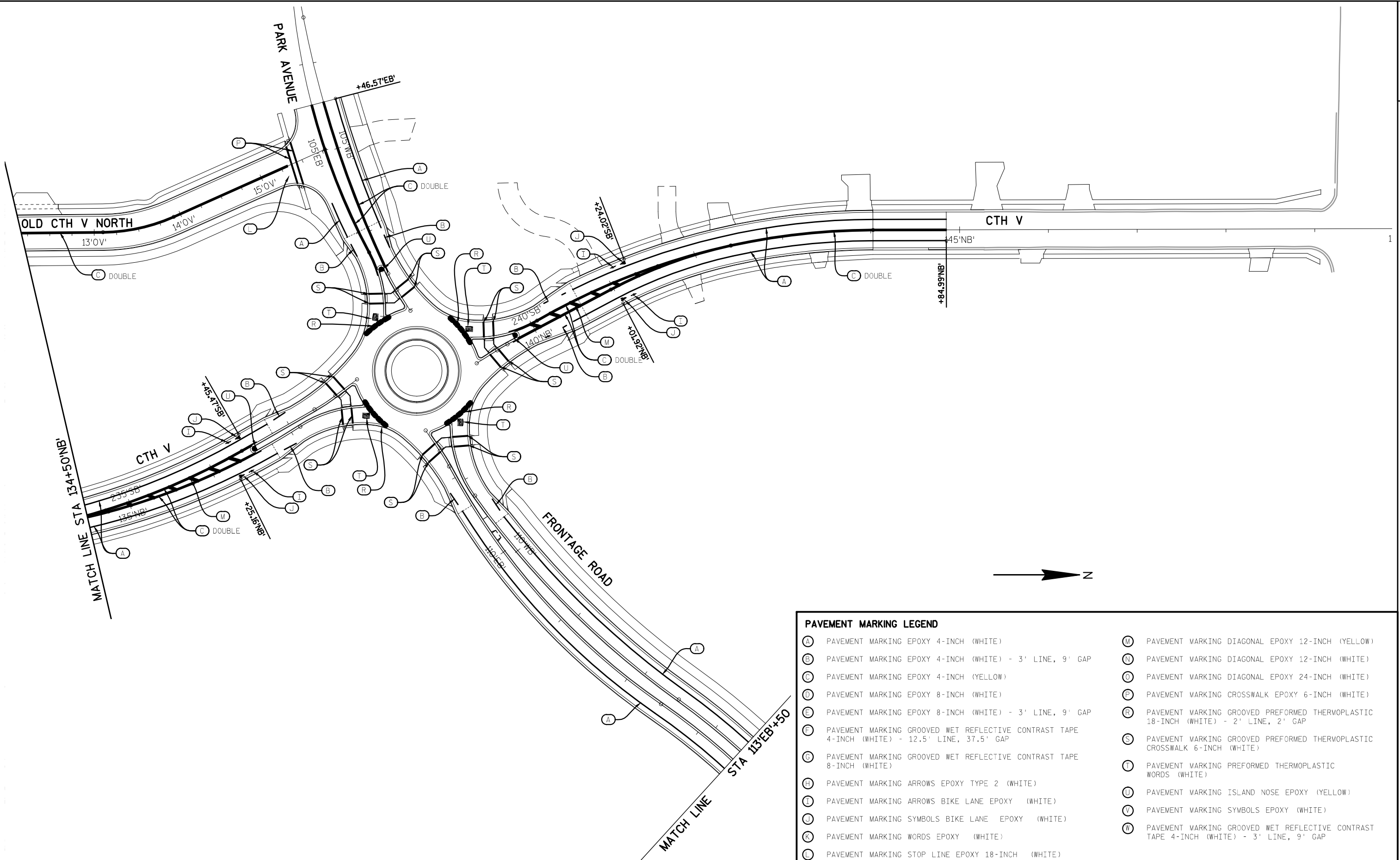
SHEET

E

PAVEMENT MARKING LEGEND

- (A) PAVEMENT MARKING EPOXY 4-INCH (WHITE)
- (B) PAVEMENT MARKING EPOXY 4-INCH (WHITE) - 3' LINE, 9' GAP
- (C) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
- (D) PAVEMENT MARKING EPOXY 8-INCH (WHITE)
- (E) PAVEMENT MARKING EPOXY 8-INCH (WHITE) - 3' LINE, 9' GAP
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- (P) PAVEMENT MARKING CROSSWALK EPOXY 6-INCH (WHITE)
- (R) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC 18-INCH (WHITE) - 2' LINE, 2' GAP
- (S) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH (WHITE)
- (T) PAVEMENT MARKING PREFORMED THERMOPLASTIC WORDS (WHITE)
- (U) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
- (V) PAVEMENT MARKING SYMBOLS EPOXY (WHITE)
- (W) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (WHITE) - 3' LINE, 9' GAP

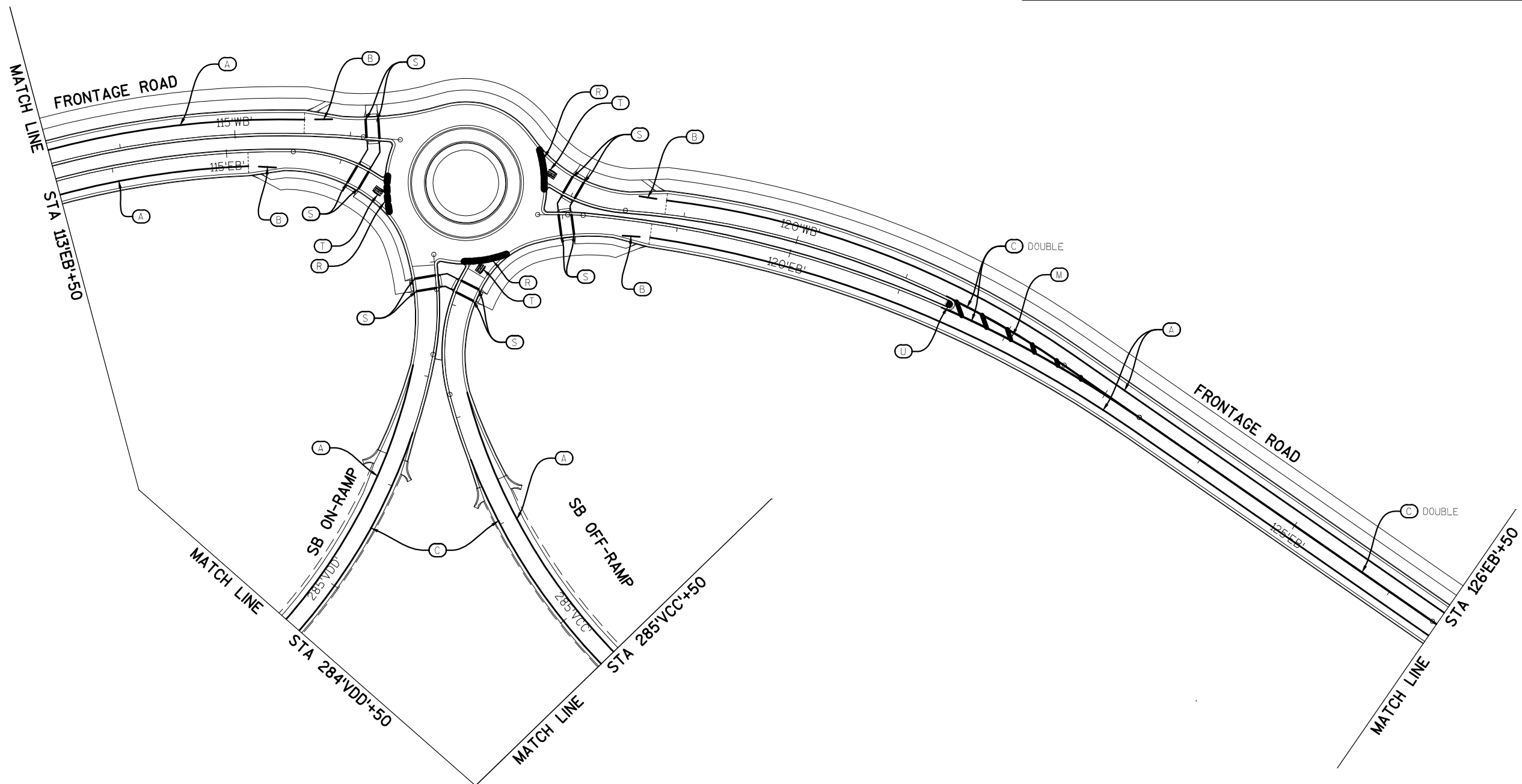




PAVEMENT MARKING LEGEND	
(A)	PAVEMENT MARKING EPOXY 4-INCH (WHITE)
(B)	PAVEMENT MARKING EPOXY 4-INCH (WHITE) - 3' LINE, 9' GAP
(C)	PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
(D)	PAVEMENT MARKING EPOXY 8-INCH (WHITE)
(E)	PAVEMENT MARKING EPOXY 8-INCH (WHITE) - 3' LINE, 9' GAP
(F)	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (WHITE) - 12.5' LINE, 37.5' GAP
(G)	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE)
(H)	PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)
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(U)	PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
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GENERAL NOTES FOR TRAFFIC CONTROL

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

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

UNLESS NOTED, ALL WARNING SIGNS ARE 48" X 48". ALL OTHER SIGNS ARE SIZE 5 IF LOCATED ON THE FREEWAY OR RAMP AND SIZE 2S IF LOCATED ON OTHER ROADWAYS.

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

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

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

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

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

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

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

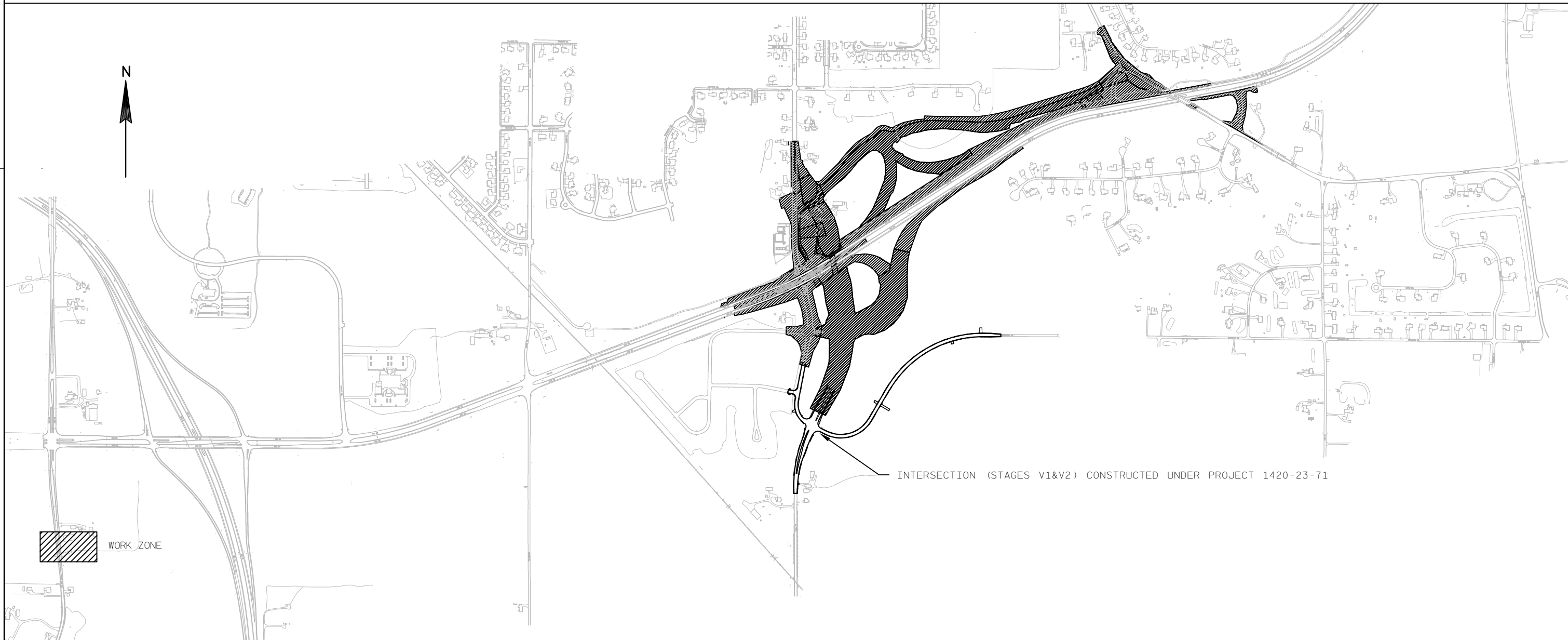
DURING HOURS OF DARKNESS, ALL BARRICADES USED TO SHIELD A HAZARD SHALL BE EQUIPPED WITH TYPE "A" LIGHTS.

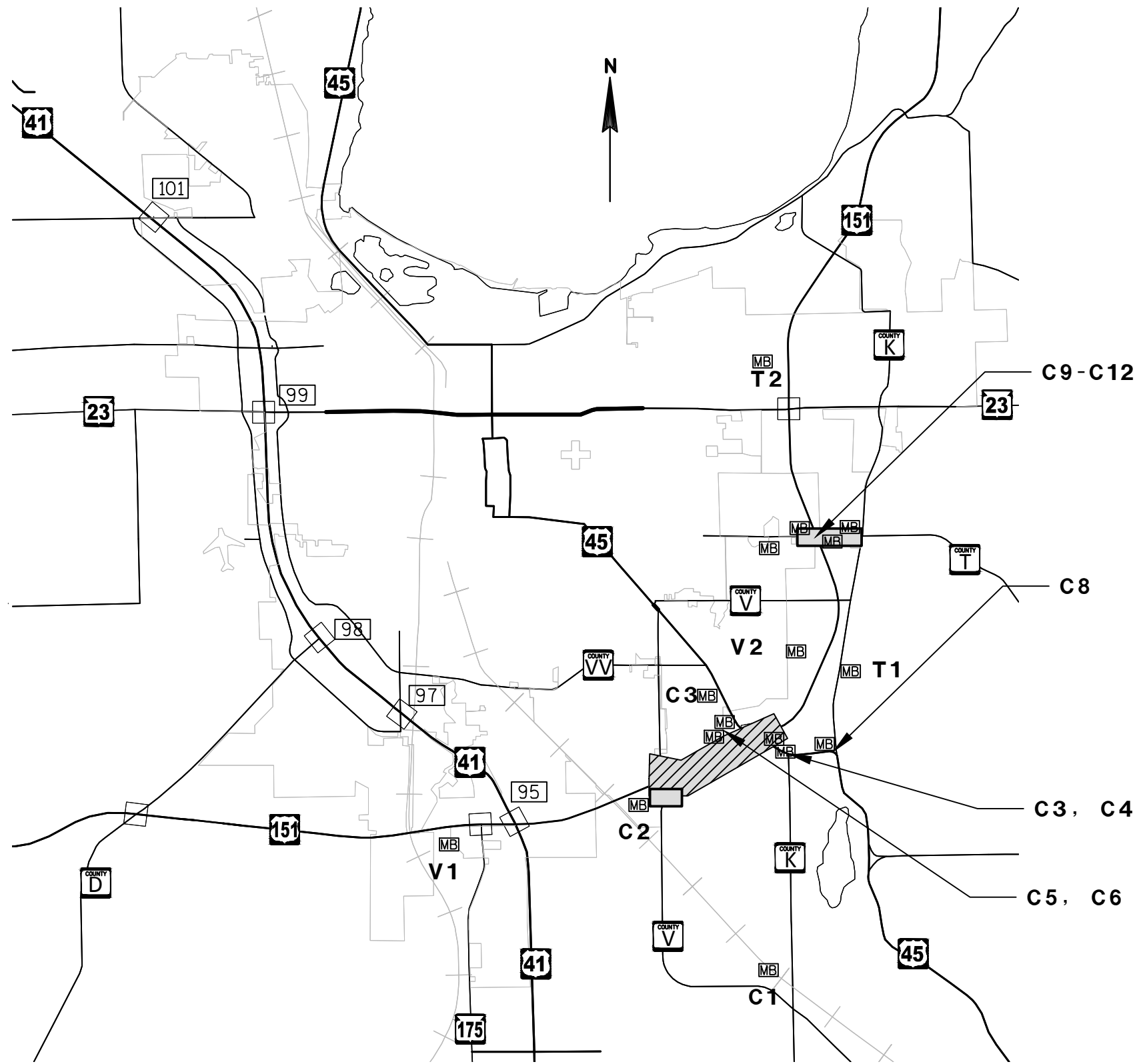
REMOVE ALL EXISTING PAVEMENT MARKINGS CONFLICTING WITH THE TRAFFIC CONTROL OR NOT APPROPRIATE TO THE TRAVEL PATH.

LAYOUT INFORMATION PROVIDED IS NOT INTENDED TO REPLACE WHAT IS PROVIDED IN APPLICABLE STANDARD DETAIL DRAWINGS.

ALL SIGN FLAGS SHOWN ARE 16" X 16" MIN (ORANGE) AND INCIDENTAL TO SIGN.

COORDINATE TRAFFIC CONTROL AND DEVICES NORTH OF STATION 260+00 WITH PROJECT 1420-23-71





PROJECT PCMS SIGN LOCATIONS

SITE NO	APPROXIMATE LOCATION	PURPOSE
<b>PROJECT 1420-22-71</b>		
V1	NB USH 151 UNDER STH 175 OVERPASS	CONSTRUCTION NOTIFICATION (2016)
V2	SB USH 151 1/2 MILE SOUTH OF CTH V	CONSTRUCTION NOTIFICATION
C3	NB USH 45 OFF RAMP	ADVANCE RAMP CLOSURE NOTIFICATION
C4	NB USH 45 ON RAMP	ADVANCE RAMP CLOSURE NOTIFICATION
C5	SB USH 45 OFF RAMP	ADVANCE RAMP CLOSURE NOTIFICATION
C6	SB USH 45 ON RAMP	ADVANCE RAMP CLOSURE NOTIFICATION
C7	NB USH 45 AT CTH K	ADVANCE USH 45 CLOSURE NOTIFICATION
C8	SB USH 45 AT GLYNN AVE	ADVANCE USH 45 CLOSURE NOTIFICATION
<b>PROJECT 1420-23-71</b>		
V1	NB USH 151 UNDER STH 175 OVERPASS	CONSTRUCTION NOTIFICATION (2015)
T1	NB USH 151 1/2 MILE SOUTH OF CTH V	CONSTRUCTION NOTIFICATION
T2	SB USH 151 1/2 MILE NORTH OF STH 23 OFF RAMP	CONSTRUCTION NOTIFICATION
C1	SB CTH V AT USH 151	ADVANCE CTH V CLOSURE NOTIFICATION
C2	NB CTH V AT CTH K	ADVANCE CTH V CLOSURE NOTIFICATION
C9	EB CTH T AT USH 151	ADVANCE CTH T CLOSURE NOTIFICATION
C10	WB CTH T AT CTH K	ADVANCE CTH T CLOSURE NOTIFICATION
C11	WB CTH T AT USH 151	ADVANCE CTH T CLOSURE NOTIFICATION
C12	EB CTH T AT COUNTRY LANE	ADVANCE CTH T CLOSURE NOTIFICATION

GENERAL NOTES FOR PCMS

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

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

- PROPOSED PCMS LOCATION
- PROJECT 1420-22-71
- PROJECT 1420-23-71
- EXIT NUMBER

### PCMS MESSAGE OVERVIEW - PROJECT 1420-22-71

2016	ROADWAY CONDITION/ CONSTRUCTION	STAGE V3									
		GENERAL		7 DAYS PRIOR TO NORTHBOUND LIFT		NIGHT OF NORTHBOUND LIFT		7 DAYS PRIOR TO SOUTHBOUND LIFT		NIGHT OF SOUTHBOUND LIFT	
		PHASE 1 (2 SEC)	PHASE 2 (2 SEC)	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)
SITE V1	GENERAL	NO MESSAGE BOARD USED		30 MIN CLOSURES AT CTH V	MON. XX 10 PM - 5 AM	30 MIN CLOSURES AT CTH V	BE PREPARED TO STOP	NO MESSAGE BOARD USED		NO MESSAGE BOARD USED	
SITE V2	LANE CLOSURE ADVANCE NOTICE	NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		30 MIN CLOSURES AT CTH V	MON. XX 10 PM - 5 AM	30 MIN CLOSURES AT CTH V	BE PREPARED TO STOP
SITES C3-C6	USH 45 RAMP CLOSURES ADV NOTICE	NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		NO MESSAGE BOARD USED	
SITES C7-C8	USH 45 CLOSURE ADVANCE NOTICE	NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		NO MESSAGE BOARD USED	

2016	ROADWAY CONDITION/ CONSTRUCTION	STAGE V4		7 DAYS PRIOR TO STAGE V5		STAGE V5		7 DAYS PRIOR TO STAGE V6		STAGE V6		STAGE V7	
		PHASE 1 (2 SEC)	PHASE 2 (2 SEC)	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)
		SITE V1	GENERAL	(NO MESSAGE)		(NO MESSAGE)		(NO MESSAGE)		(NO MESSAGE)		(NO MESSAGE)	
SITE V2	LANE CLOSURE ADVANCE NOTICE	(NO MESSAGE)		(NO MESSAGE)		USH 45 RAMP CLOSED	USE NEW COUNTY V RAMP	(NO MESSAGE)		(NO MESSAGE)		(NO MESSAGE)	
SITES C3-C6	USH 45 RAMP CLOSURES ADV NOTICE	NO MESSAGE BOARD USED		RAMP CLOSES	DAY MON. XX	NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		NO MESSAGE BOARD USED	
SITES C7-C8	USH 45 CLOSURE ADVANCE NOTICE	NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		US 45 CLOSURE	TO BEGIN MON. XX	NO MESSAGE BOARD USED		NO MESSAGE BOARD USED	

IF A REVISION TO THESE MESSAGES OR ADDITIONAL  
PCMS LOCATIONS/MESSAGES ARE PROPOSED  
CONTACT THE NORTHEAST REGION TRAFFIC SECTION FOR APPROVAL

STAGE V3



PURPOSE:  
BEGIN GRADING OF FRONTAGE ROAD AND SB USH 151 INTERCHANGE RAMP  
BEGIN CONSTRUCTION OF B-20-0226  
CONTINUE GRADING OF NEW CTH V AND NB USH 151 INTERCHANGE RAMP  
COMPLETE PAVING OF NEW PRAIRIE TRAIL ADJACENT TO FRONTAGE ROAD AND TEMPORARY CONNECTIONS

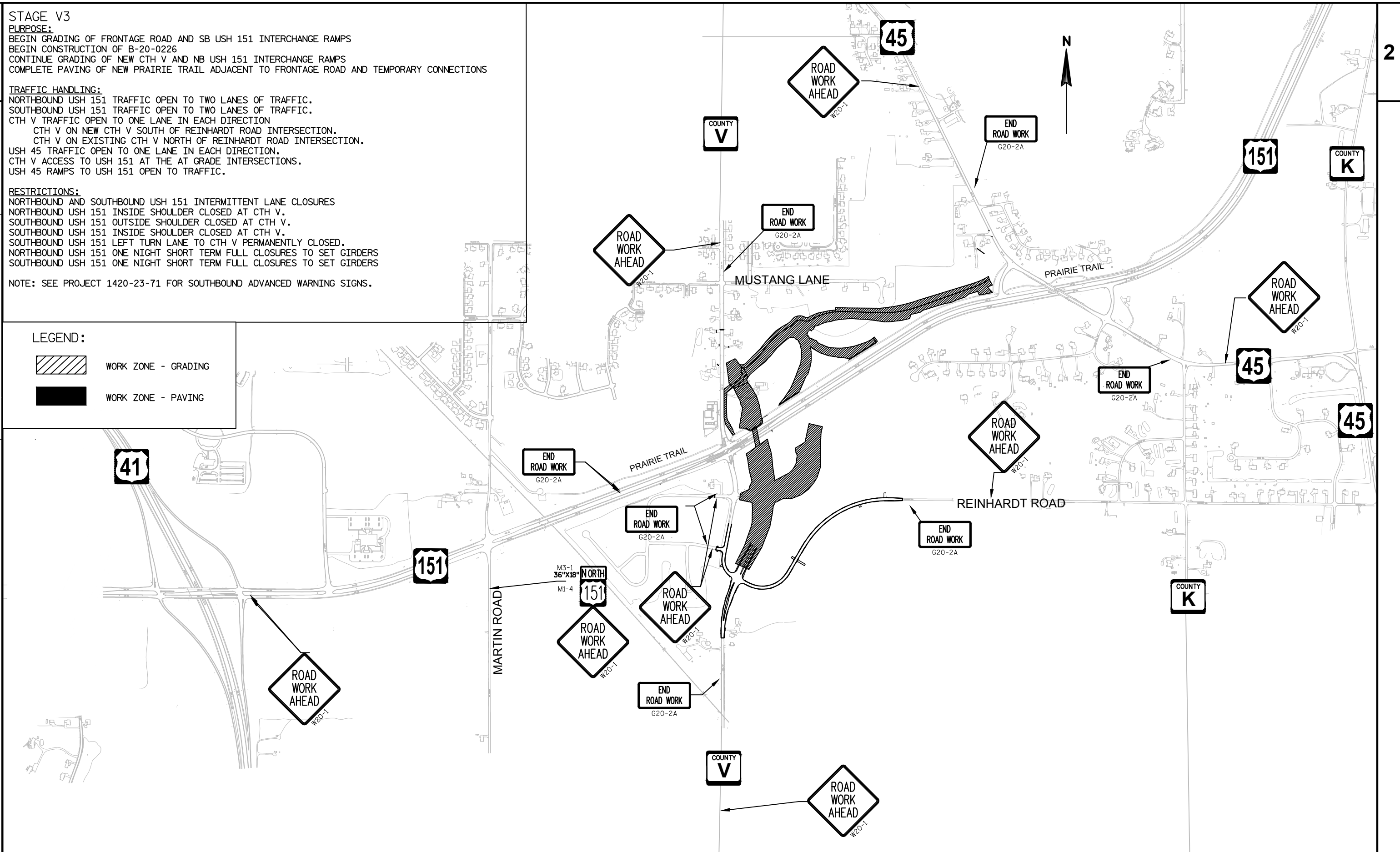
TRAFFIC HANDLING:  
NORTHBOUND USH 151 TRAFFIC OPEN TO TWO LANES OF TRAFFIC.  
SOUTHBOUND USH 151 TRAFFIC OPEN TO TWO LANES OF TRAFFIC.  
CTH V TRAFFIC OPEN TO ONE LANE IN EACH DIRECTION  
CTH V ON NEW CTH V SOUTH OF REINHARDT ROAD INTERSECTION.  
CTH V ON EXISTING CTH V NORTH OF REINHARDT ROAD INTERSECTION.  
USH 45 TRAFFIC OPEN TO ONE LANE IN EACH DIRECTION.  
CTH V ACCESS TO USH 151 AT THE AT GRADE INTERSECTIONS.  
USH 45 RAMP TO USH 151 OPEN TO TRAFFIC.

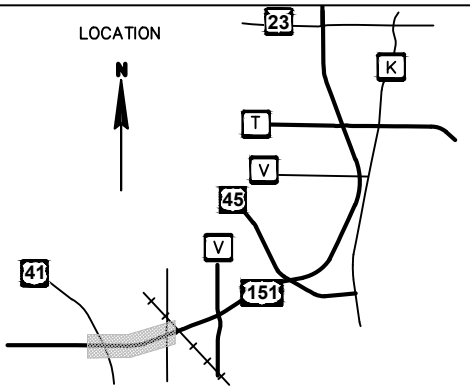
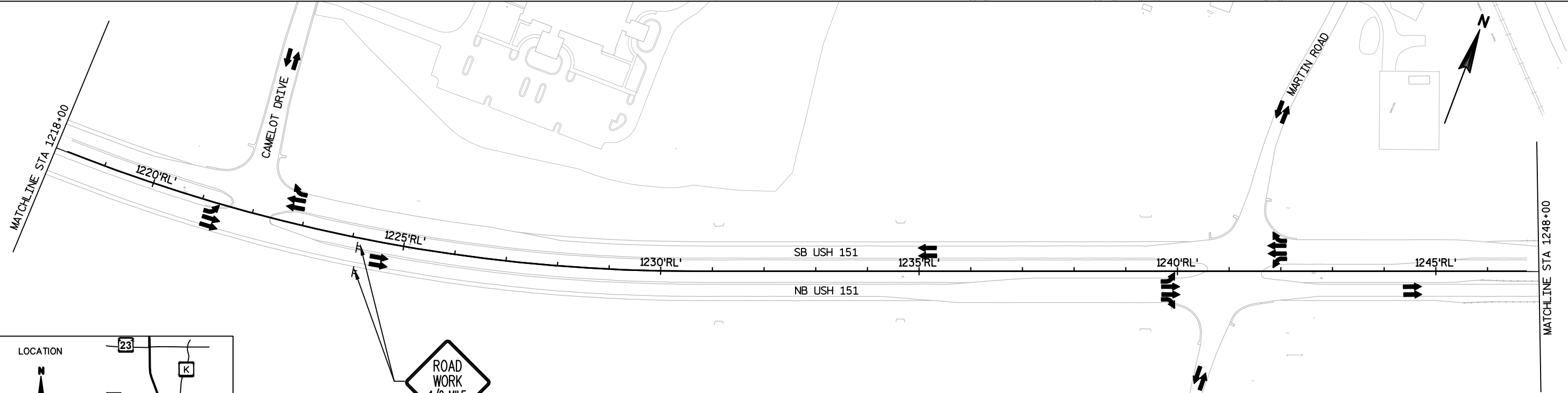
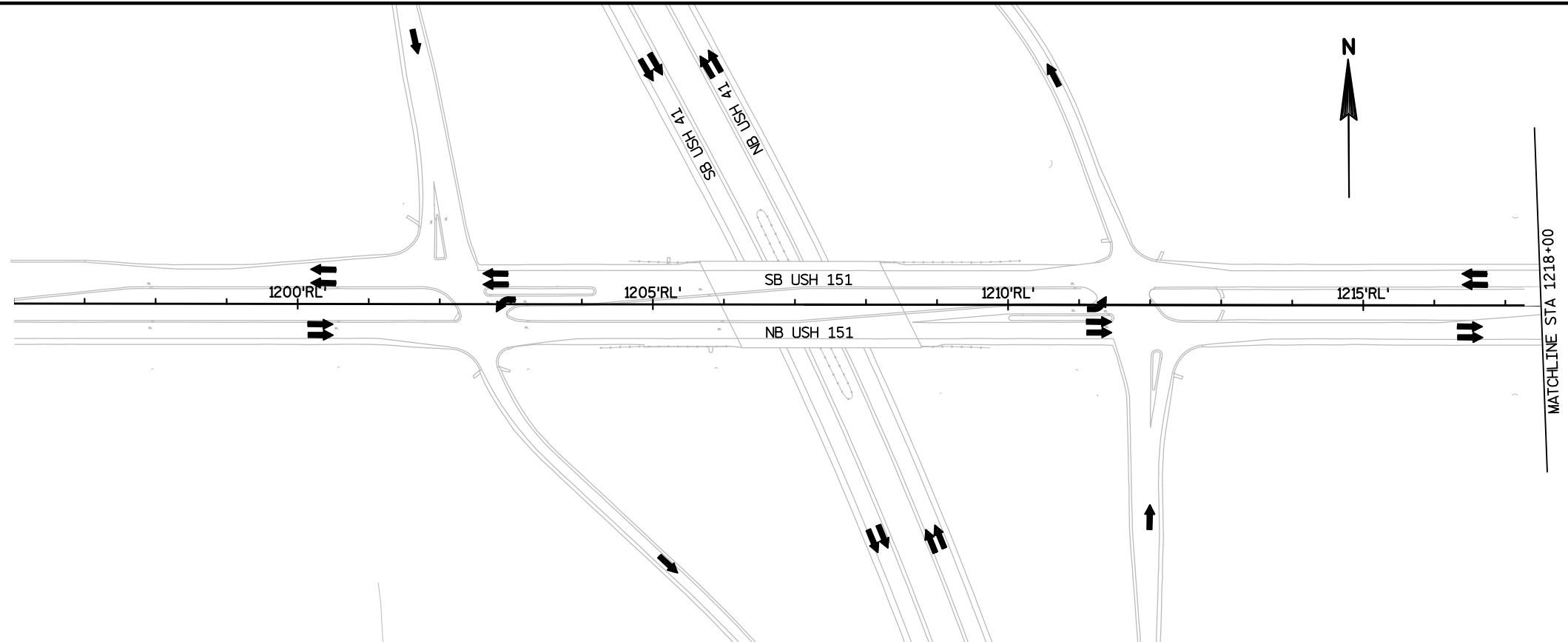
RESTRICTIONS:  
NORTHBOUND AND SOUTHBOUND USH 151 INTERMITTENT LANE CLOSURES  
NORTHBOUND USH 151 INSIDE SHOULDER CLOSED AT CTH V.  
SOUTHBOUND USH 151 OUTSIDE SHOULDER CLOSED AT CTH V.  
SOUTHBOUND USH 151 INSIDE SHOULDER CLOSED AT CTH V.  
SOUTHBOUND USH 151 LEFT TURN LANE TO CTH V PERMANENTLY CLOSED.  
NORTHBOUND USH 151 ONE NIGHT SHORT TERM FULL CLOSURES TO SET GIRDERS  
SOUTHBOUND USH 151 ONE NIGHT SHORT TERM FULL CLOSURES TO SET GIRDERS

NOTE: SEE PROJECT 1420-23-71 FOR SOUTHBOUND ADVANCED WARNING SIGNS.

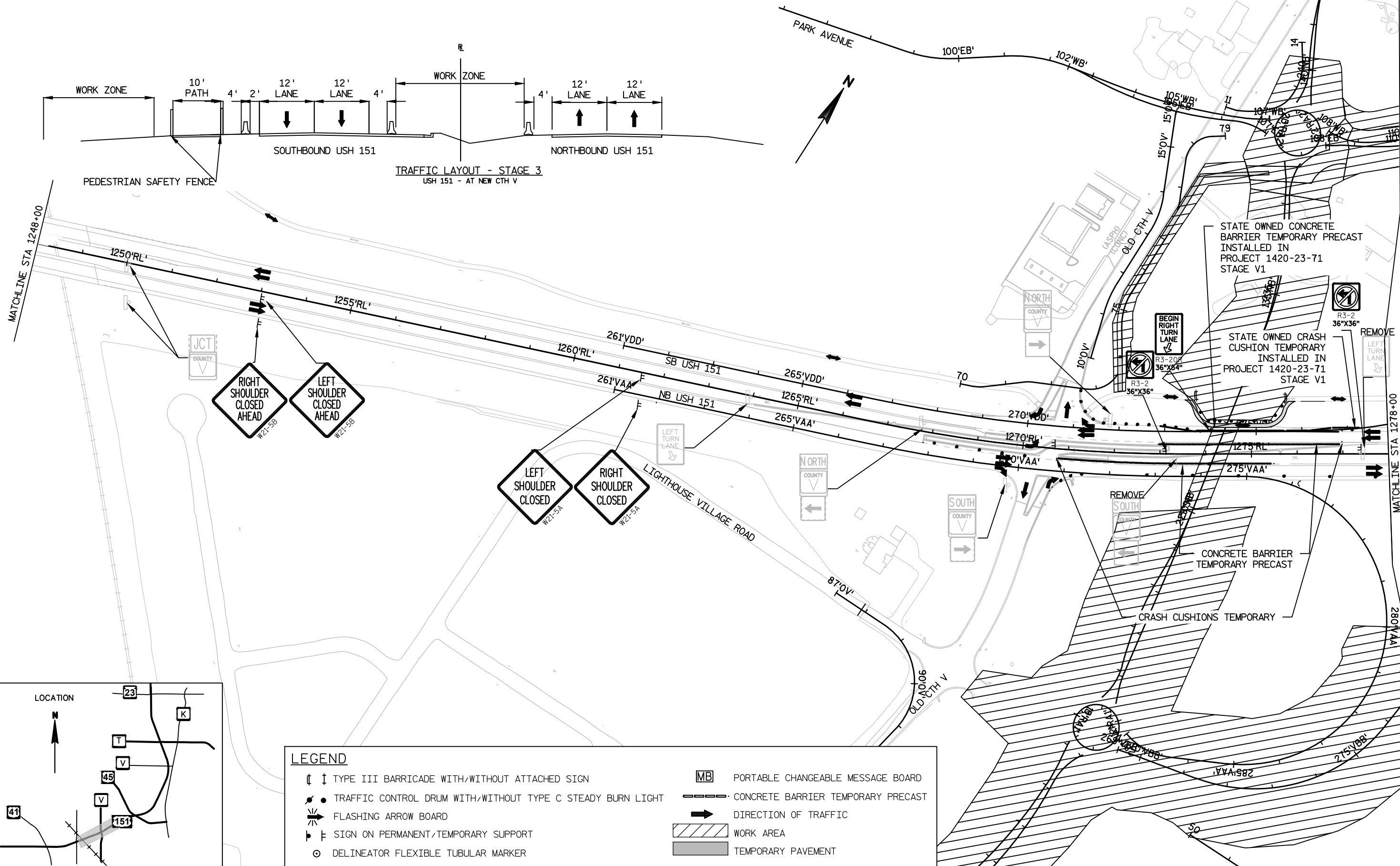
LEGEND:

-  WORK ZONE - GRADING
-  WORK ZONE - PAVING





LEGEND	
↑ ↓	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
•	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
↔	FLASHING ARROW BOARD
⊥	SIGN ON PERMANENT/TEMPORARY SUPPORT
⊙	DELINEATOR FLEXIBLE TUBULAR MARKER
MB	PORTABLE CHANGEABLE MESSAGE BOARD
—	CONCRETE BARRIER TEMPORARY PRECAST
→	DIRECTION OF TRAFFIC
▨	WORK AREA
■	TEMPORARY PAVEMENT



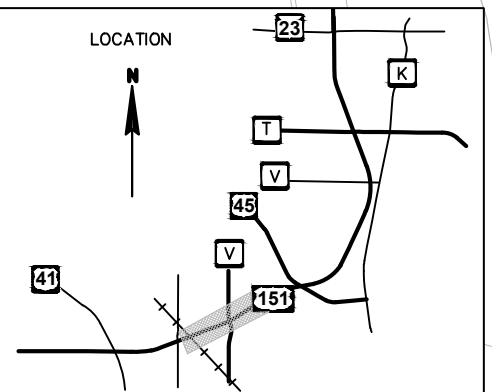
**TRAFFIC LAYOUT - STAGE 3**  
USH 151 - AT NEW CTH V

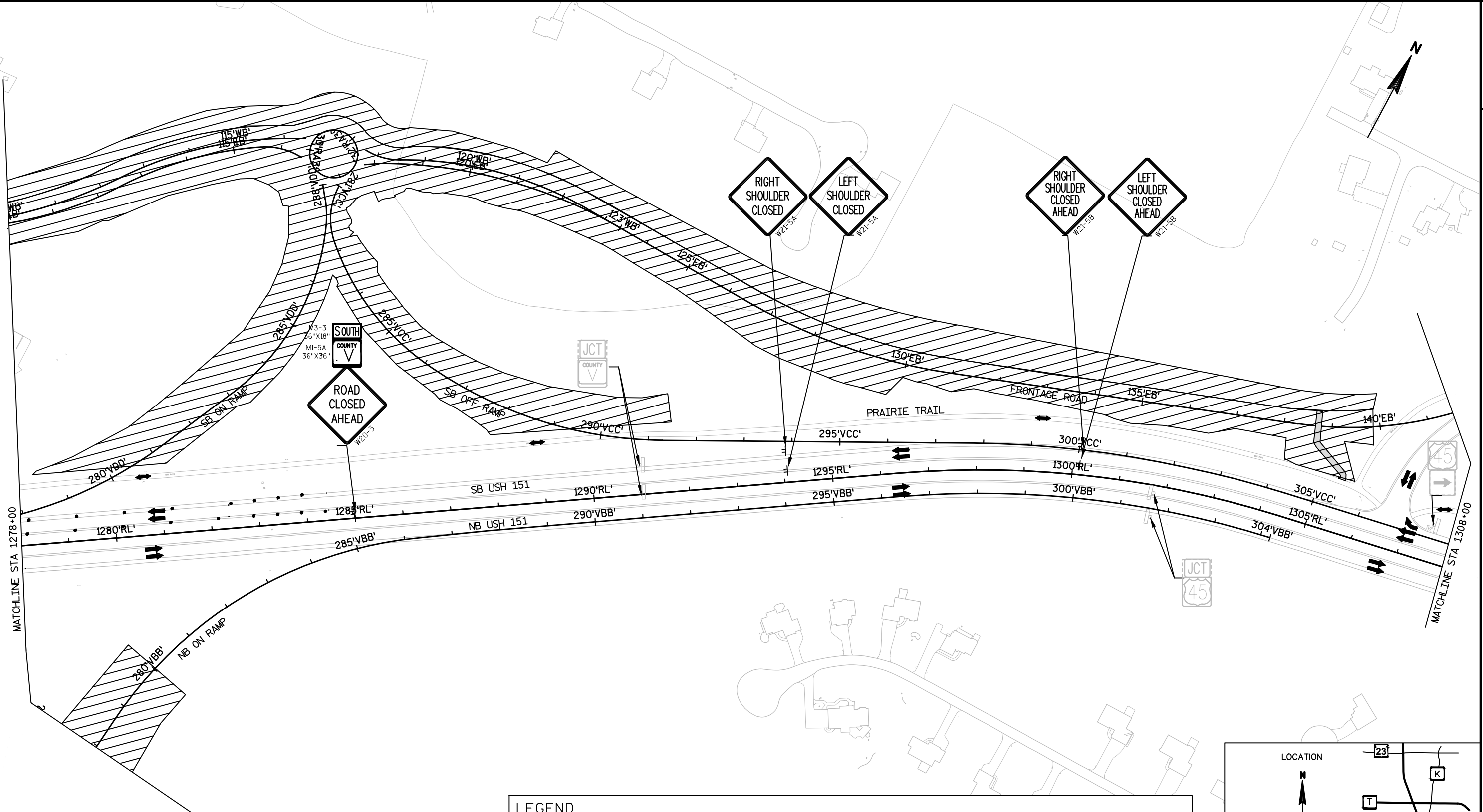
STATE OWNED CONCRETE BARRIER TEMPORARY PRECAST INSTALLED IN PROJECT 1420-23-71 STAGE V1

STATE OWNED CRASH CUSHION TEMPORARY INSTALLED IN PROJECT 1420-23-71 STAGE V1

CONCRETE BARRIER TEMPORARY PRECAST  
CRASH CUSHIONS TEMPORARY

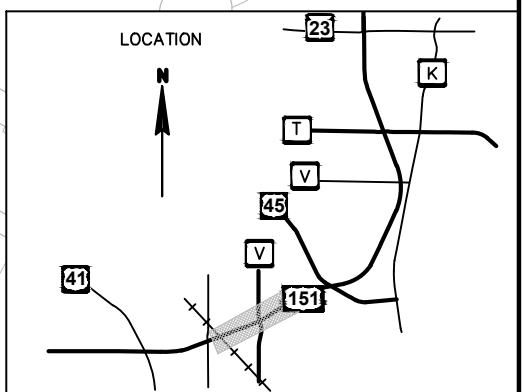
LEGEND	
	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT/TEMPORARY SUPPORT
	DELINEATOR FLEXIBLE TUBULAR MARKER
	PORTABLE CHANGEABLE MESSAGE BOARD
	CONCRETE BARRIER TEMPORARY PRECAST
	DIRECTION OF TRAFFIC
	WORK AREA
	TEMPORARY PAVEMENT

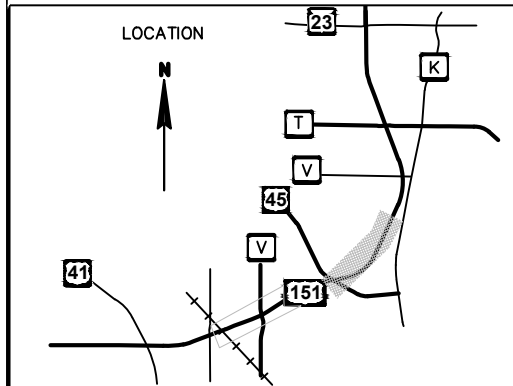
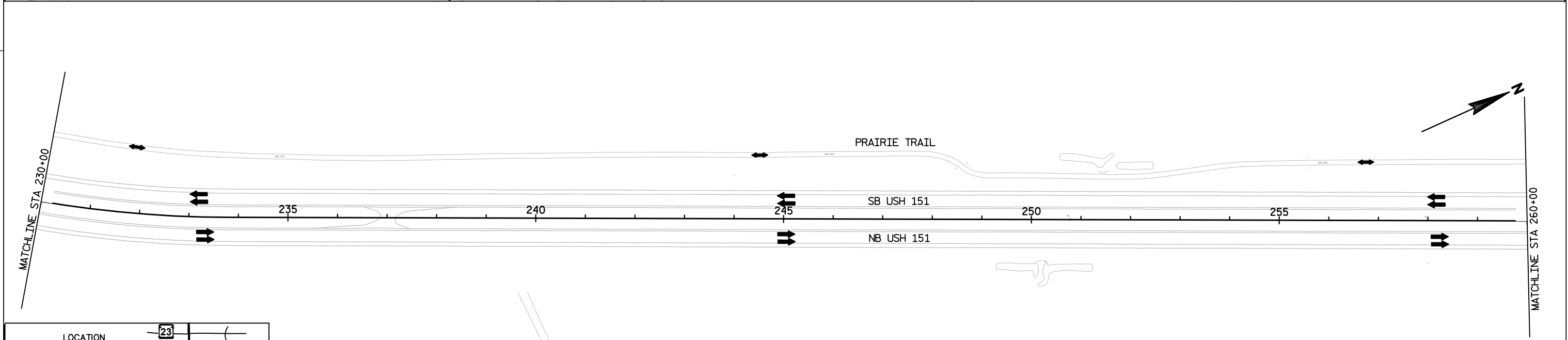
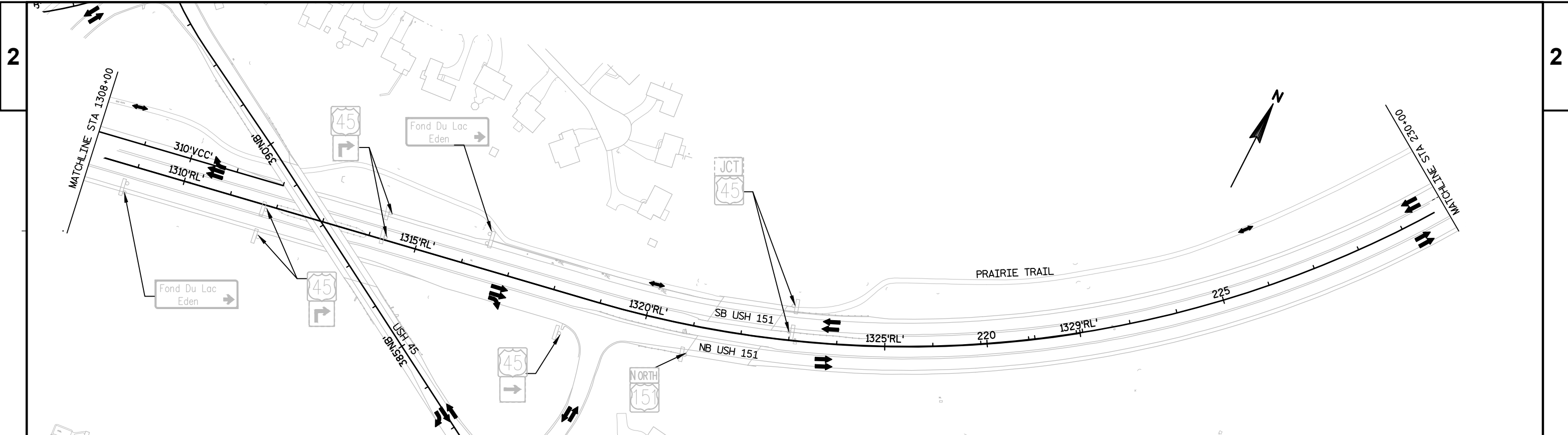




**LEGEND**

<ul style="list-style-type: none"> <li>↑ ↓ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN</li> <li>● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT</li> <li>↔ FLASHING ARROW BOARD</li> <li>⊥ SIGN ON PERMANENT/TEMPORARY SUPPORT</li> <li>○ DELINEATOR FLEXIBLE TUBULAR MARKER</li> </ul>	<ul style="list-style-type: none"> <li>MB PORTABLE CHANGEABLE MESSAGE BOARD</li> <li>--- CONCRETE BARRIER TEMPORARY PRECAST</li> <li>➔ DIRECTION OF TRAFFIC</li> <li>▨ WORK AREA</li> <li>■ TEMPORARY PAVEMENT</li> </ul>
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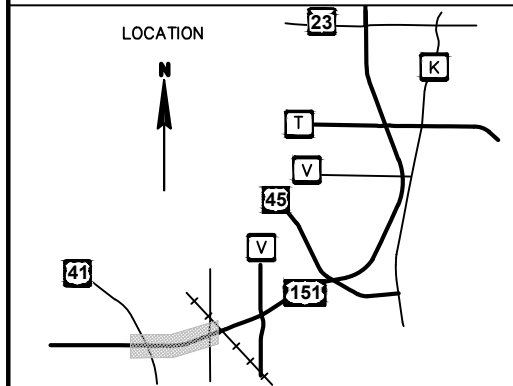
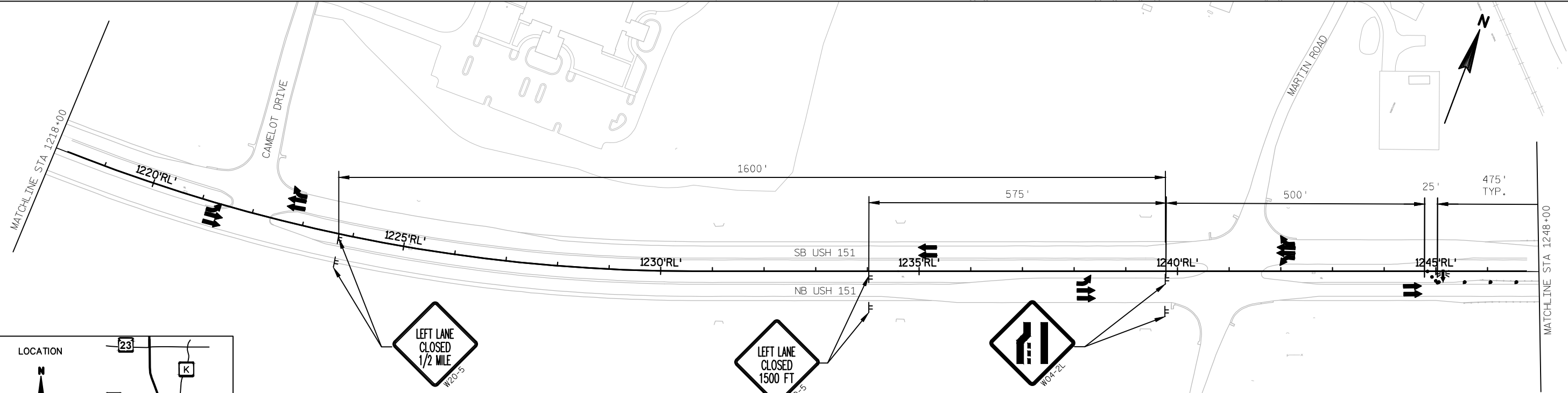
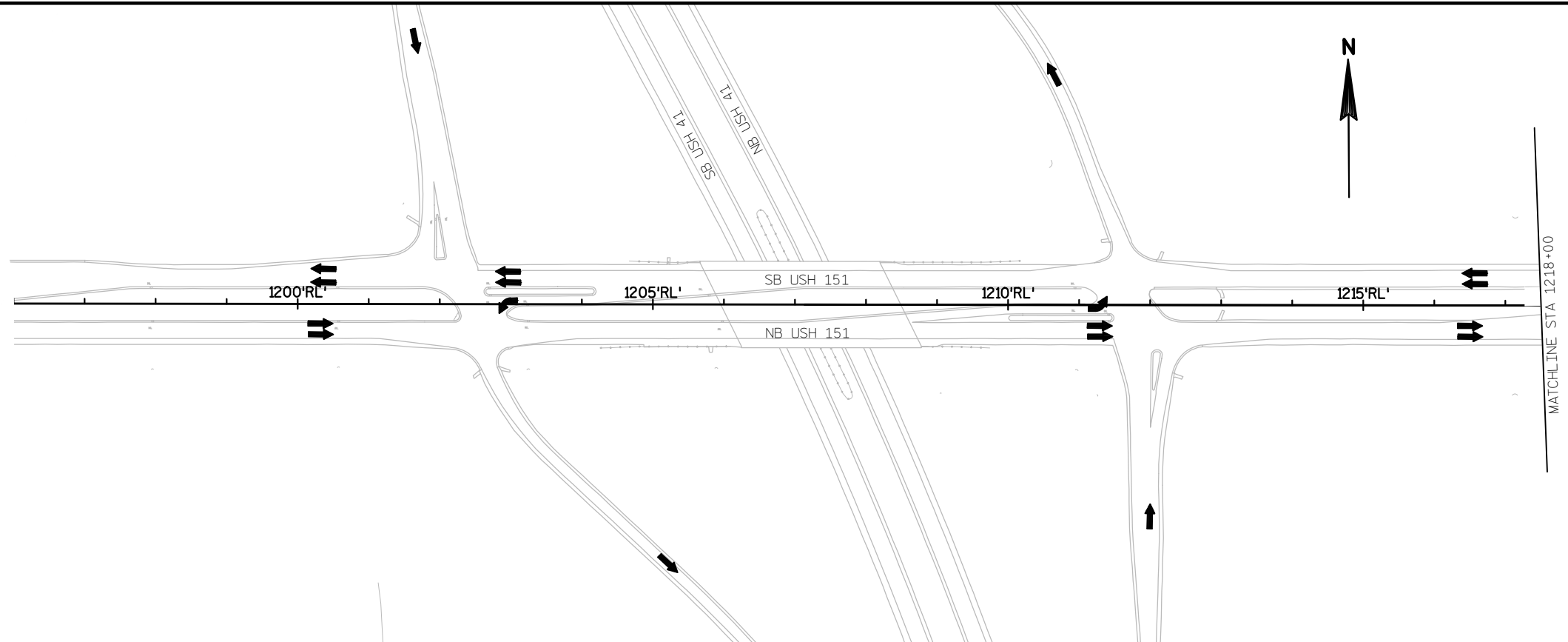




**LEGEND**

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT/TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE TUBULAR MARKER
- PORTABLE CHANGEABLE MESSAGE BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA
- TEMPORARY PAVEMENT

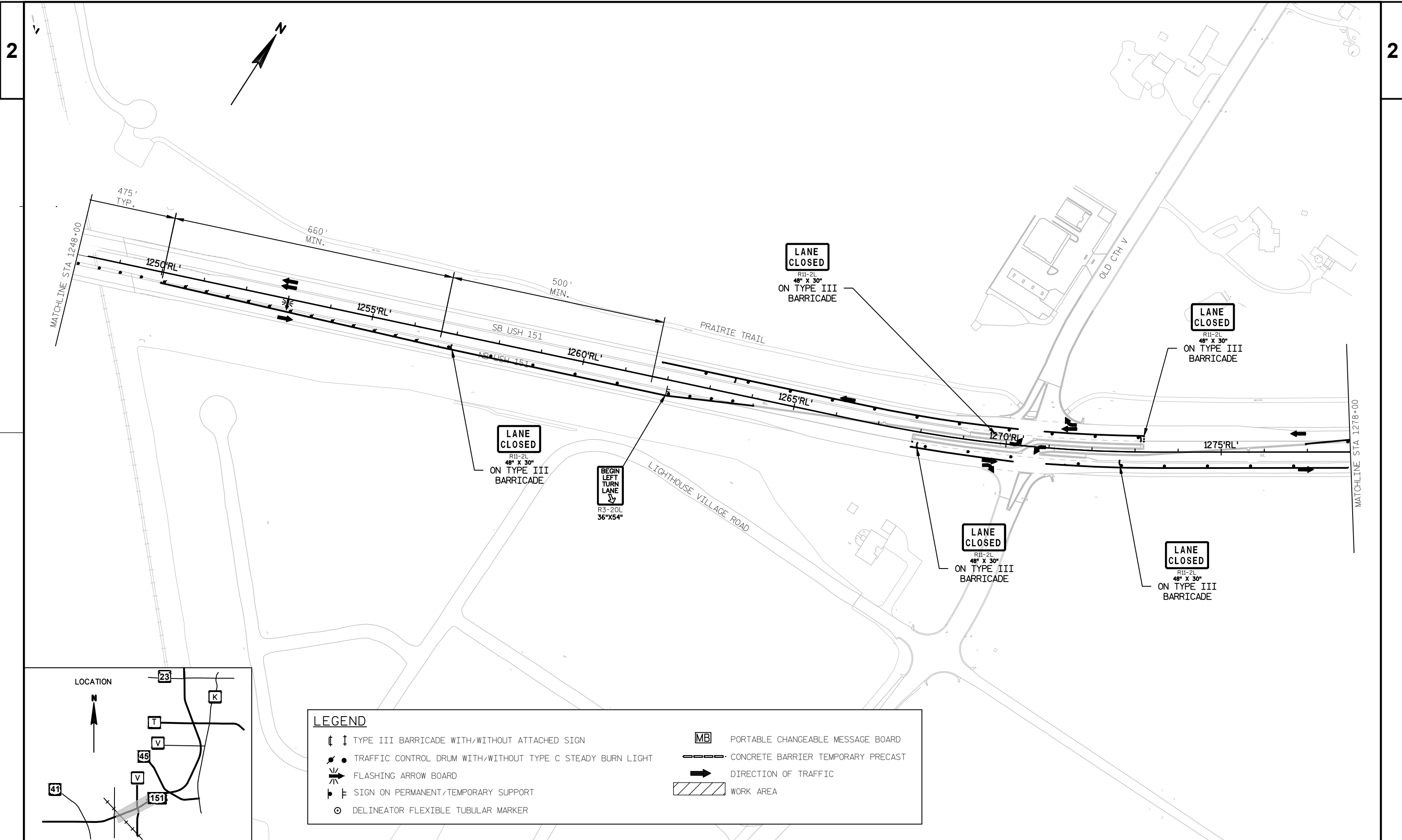




NOTES:  
 DETAIL FOR USE FOR SHORT TERM LANE CLOSURES REQUIRED TO SET UP PERMANENT TRAFFIC CONTROL OR OTHER CONSTRUCTION OPERATIONS. USE INDIVIDUAL STAGE DETAILS FOR PERMANENT TRAFFIC CONTROL DURING THE STAGE.

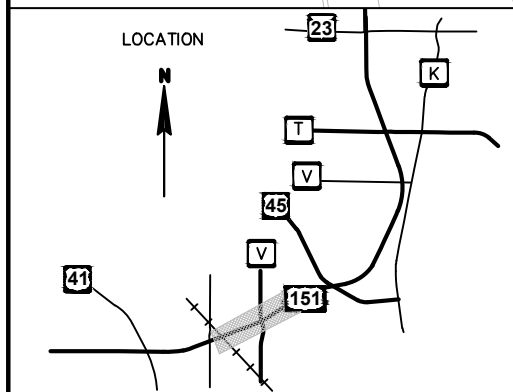
COORDINATE LANE CLOSURES WITH PROJECT 1420-23-71, INCLUDING CONNECTING ADJACENT CLOSURES.

LEGEND	
	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT/TEMPORARY SUPPORT
	DELINEATOR FLEXIBLE TUBULAR MARKER
	PORTABLE CHANGEABLE MESSAGE BOARD
	CONCRETE BARRIER TEMPORARY PRECAST
	DIRECTION OF TRAFFIC
	WORK AREA



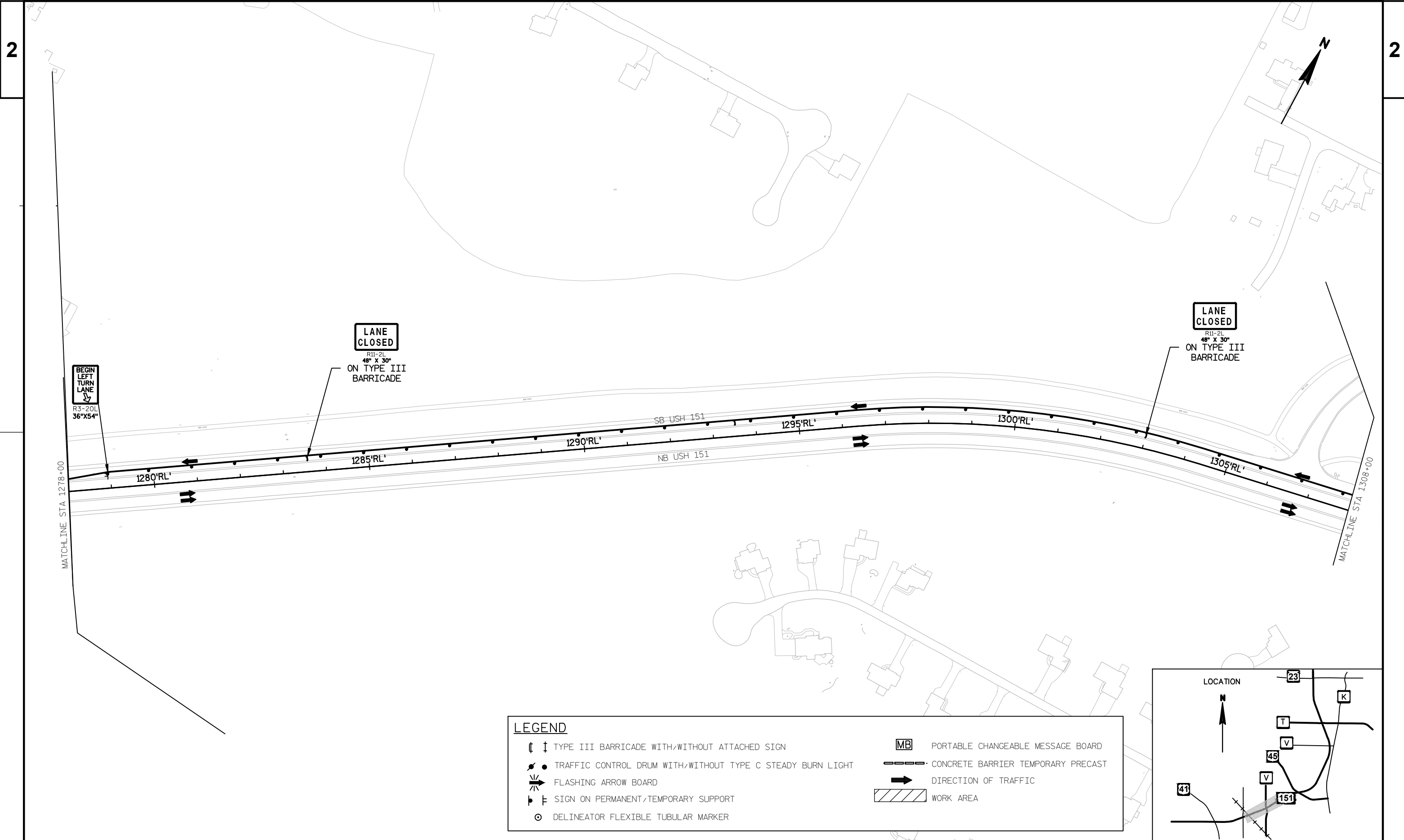
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2



**LEGEND**

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BEGIN LEFT TURN LANE  
R3-20L  
36"X54"

LANE CLOSED

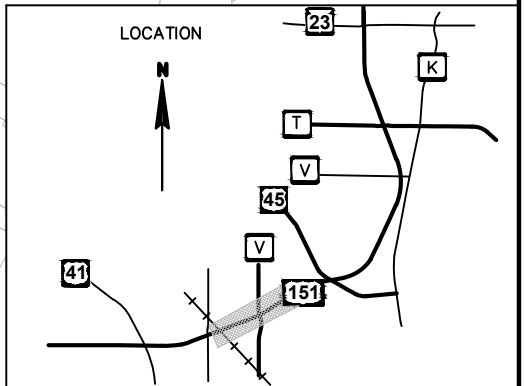
R11-2L  
48" X 30"  
ON TYPE III BARRICADE

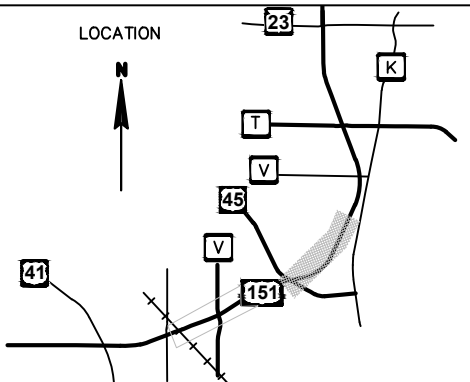
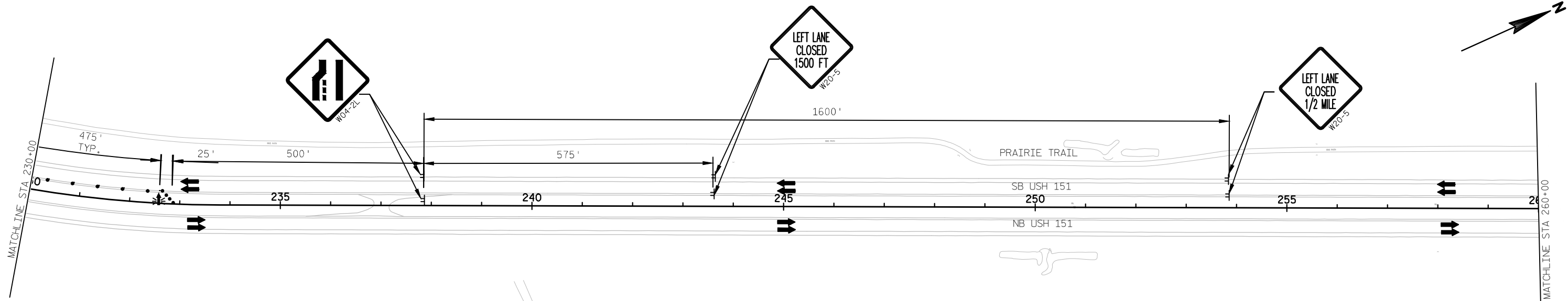
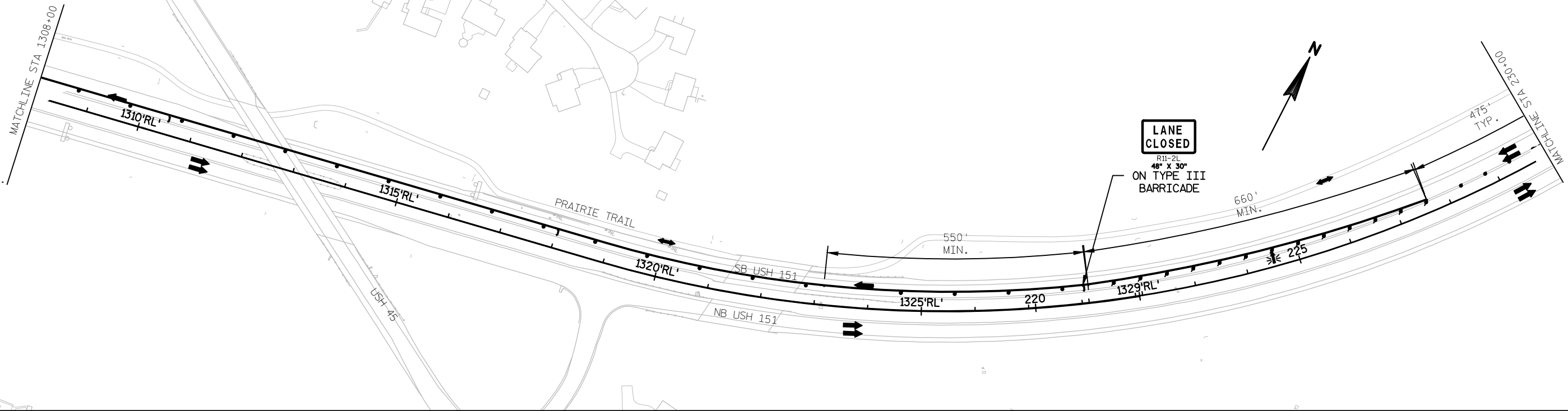
LANE CLOSED

R11-2L  
48" X 30"  
ON TYPE III BARRICADE

**LEGEND**

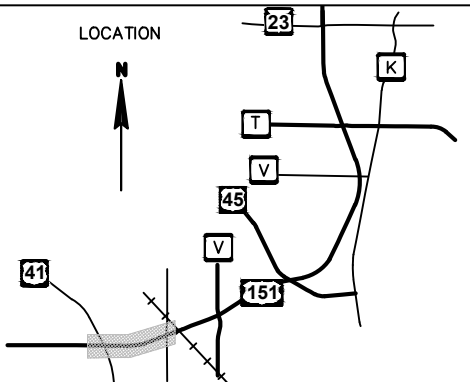
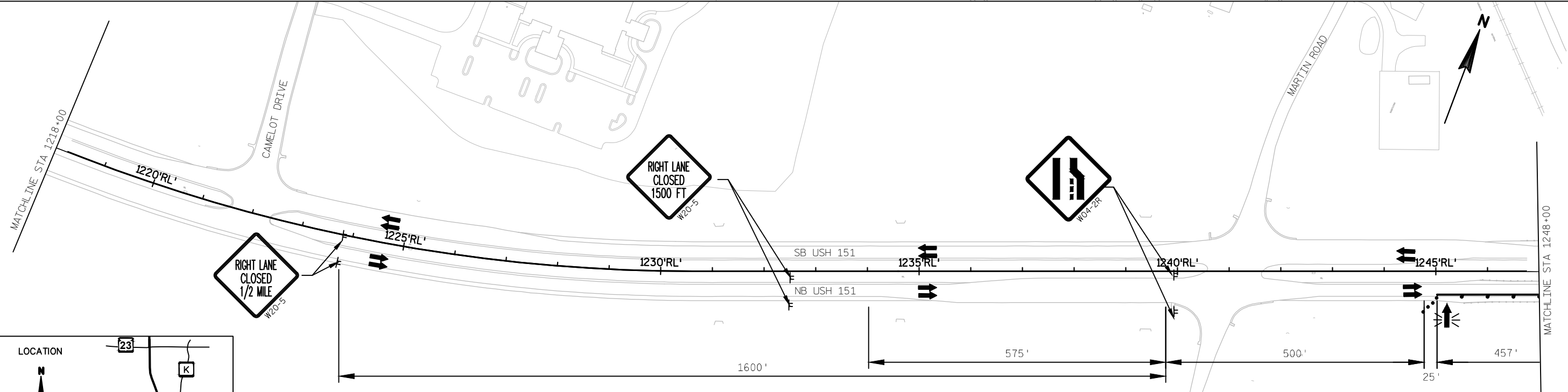
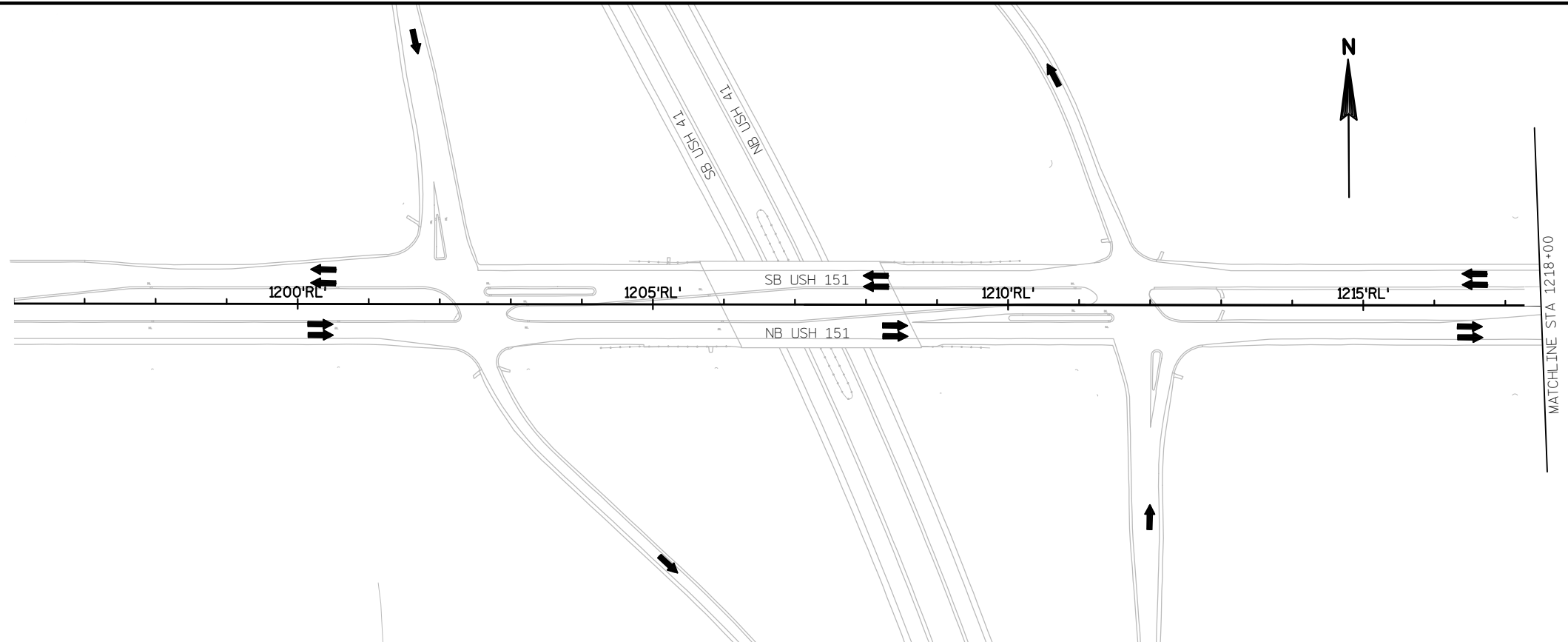
- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT/TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE TUBULAR MARKER
- PORTABLE CHANGEABLE MESSAGE BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA





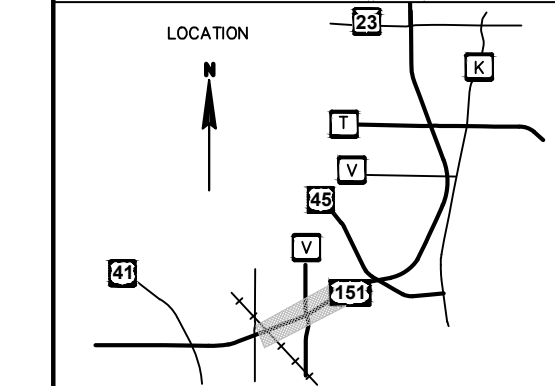
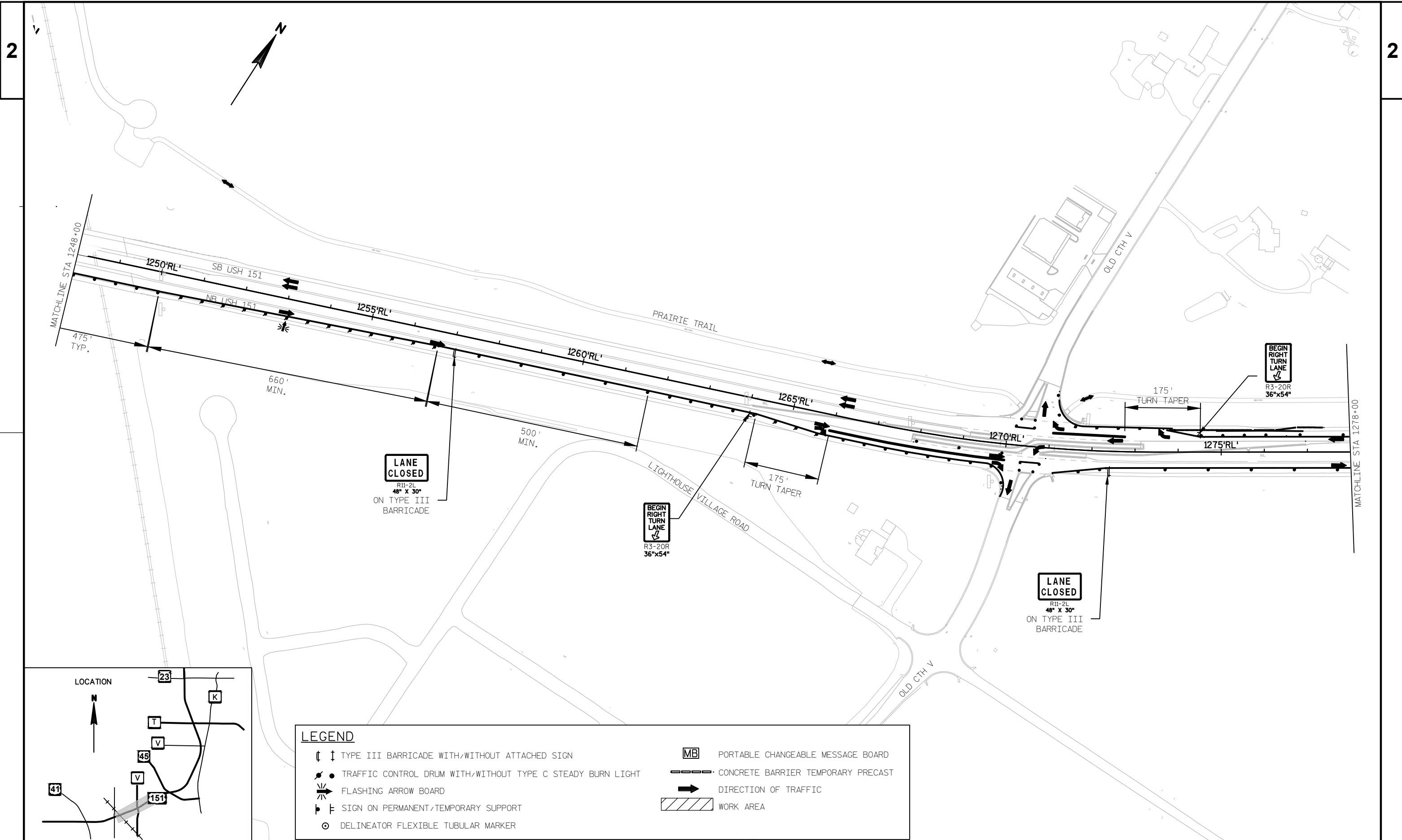
**LEGEND**

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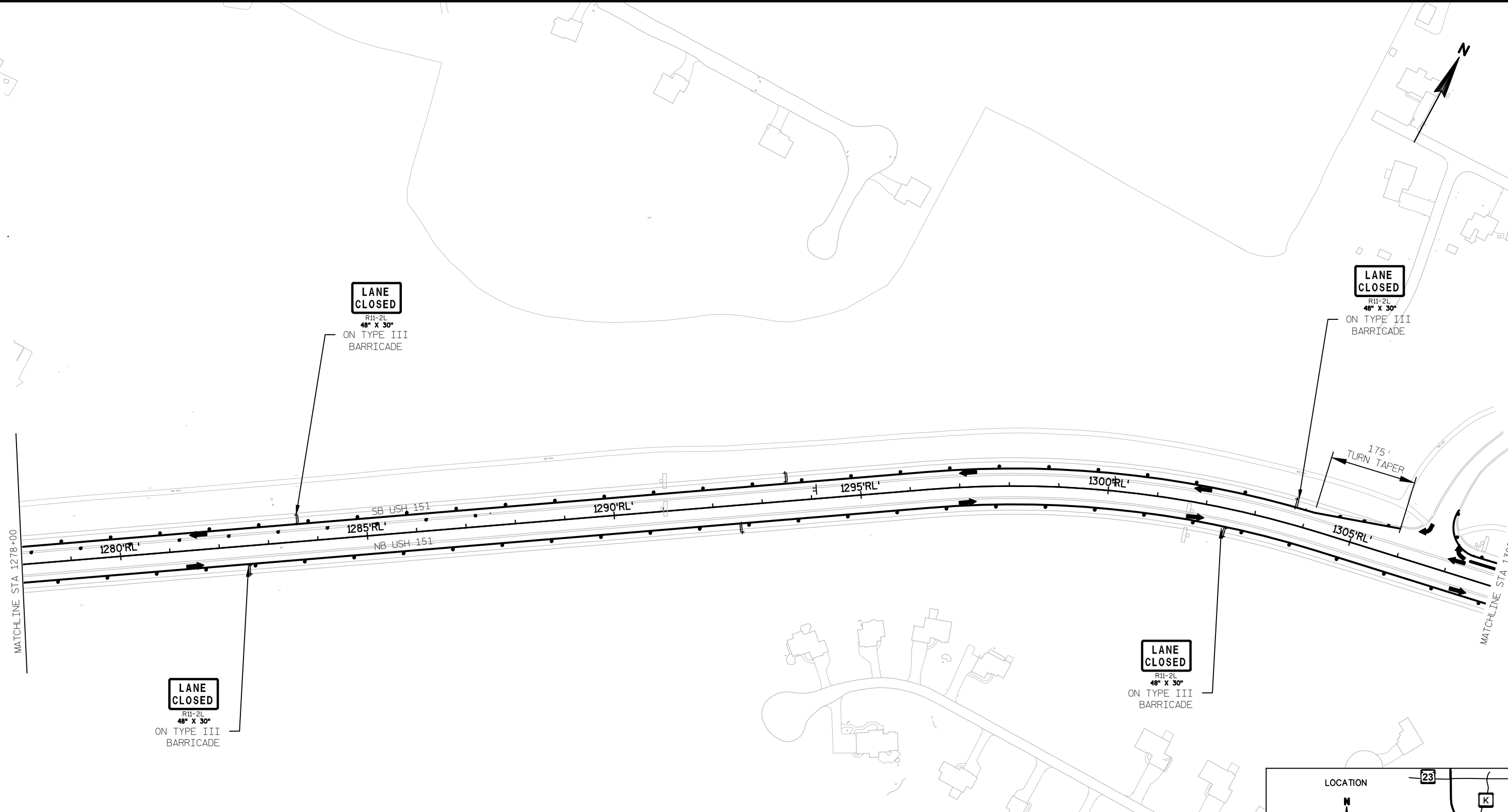
NOTES:  
 DETAIL FOR USE FOR SHORT TERM LANE CLOSURES REQUIRED TO SET UP PERMANENT TRAFFIC CONTROL OR OTHER CONSTRUCTION OPERATIONS. USE INDIVIDUAL STAGE DETAILS FOR PERMANENT TRAFFIC CONTROL DURING THE STAGE.  
 COORDINATE LANE CLOSURES WITH PROJECT 1420-23-71, INCLUDING CONNECTING ADJACENT CLOSURES.

LEGEND	
	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT/TEMPORARY SUPPORT
	DELINEATOR FLEXIBLE TUBULAR MARKER
	PORTABLE CHANGEABLE MESSAGE BOARD
	CONCRETE BARRIER TEMPORARY PRECAST
	DIRECTION OF TRAFFIC
	WORK AREA



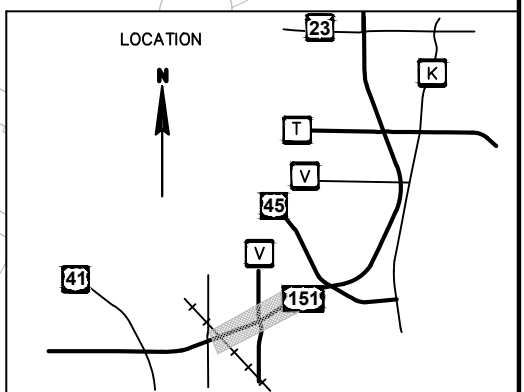
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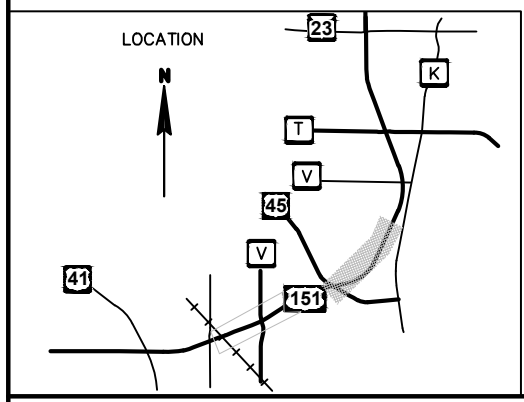
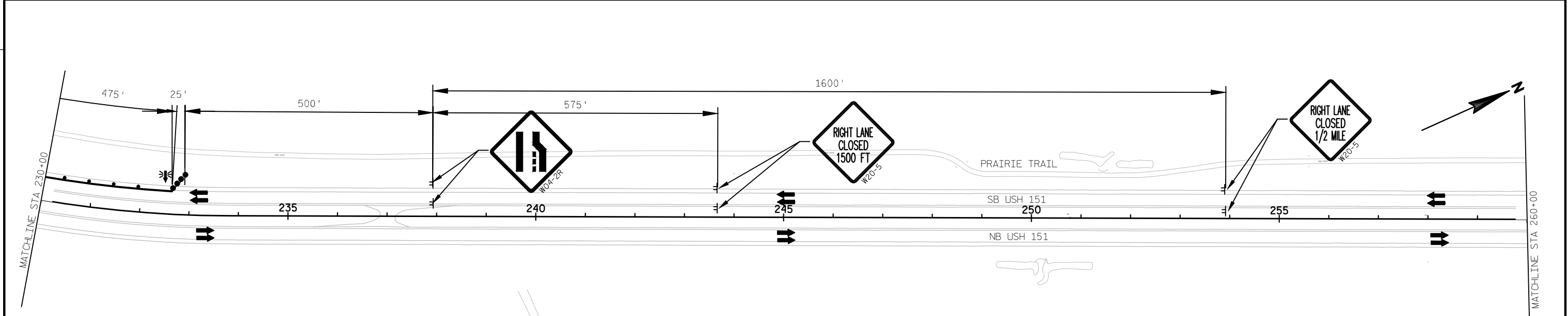
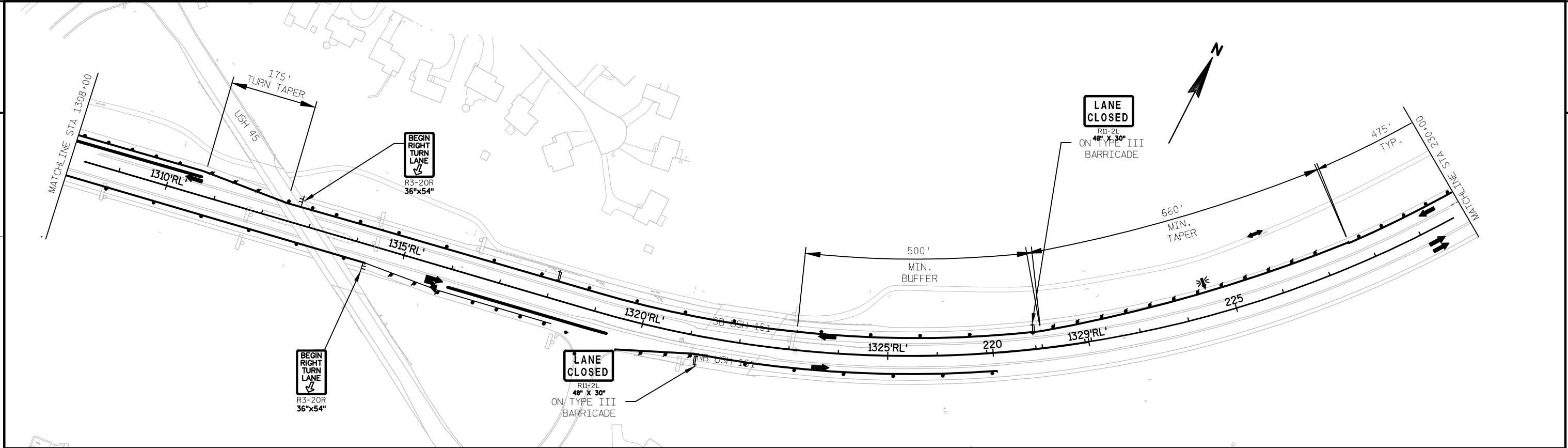
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**LEGEND**

<ul style="list-style-type: none"> <li>⬮ ⬭ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN</li> <li>● ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT</li> <li>⚡ FLASHING ARROW BOARD</li> <li>⌄ ⌄ SIGN ON PERMANENT/TEMPORARY SUPPORT</li> <li>⊙ DELINEATOR FLEXIBLE TUBULAR MARKER</li> </ul>	<ul style="list-style-type: none"> <li>MB PORTABLE CHANGEABLE MESSAGE BOARD</li> <li>— CONCRETE BARRIER TEMPORARY PRECAST</li> <li>➔ DIRECTION OF TRAFFIC</li> <li>▨ WORK AREA</li> </ul>
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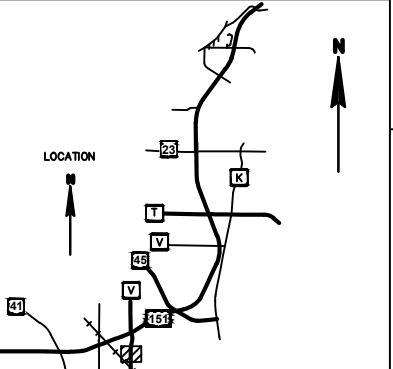
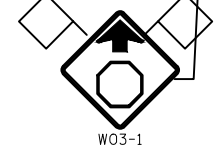
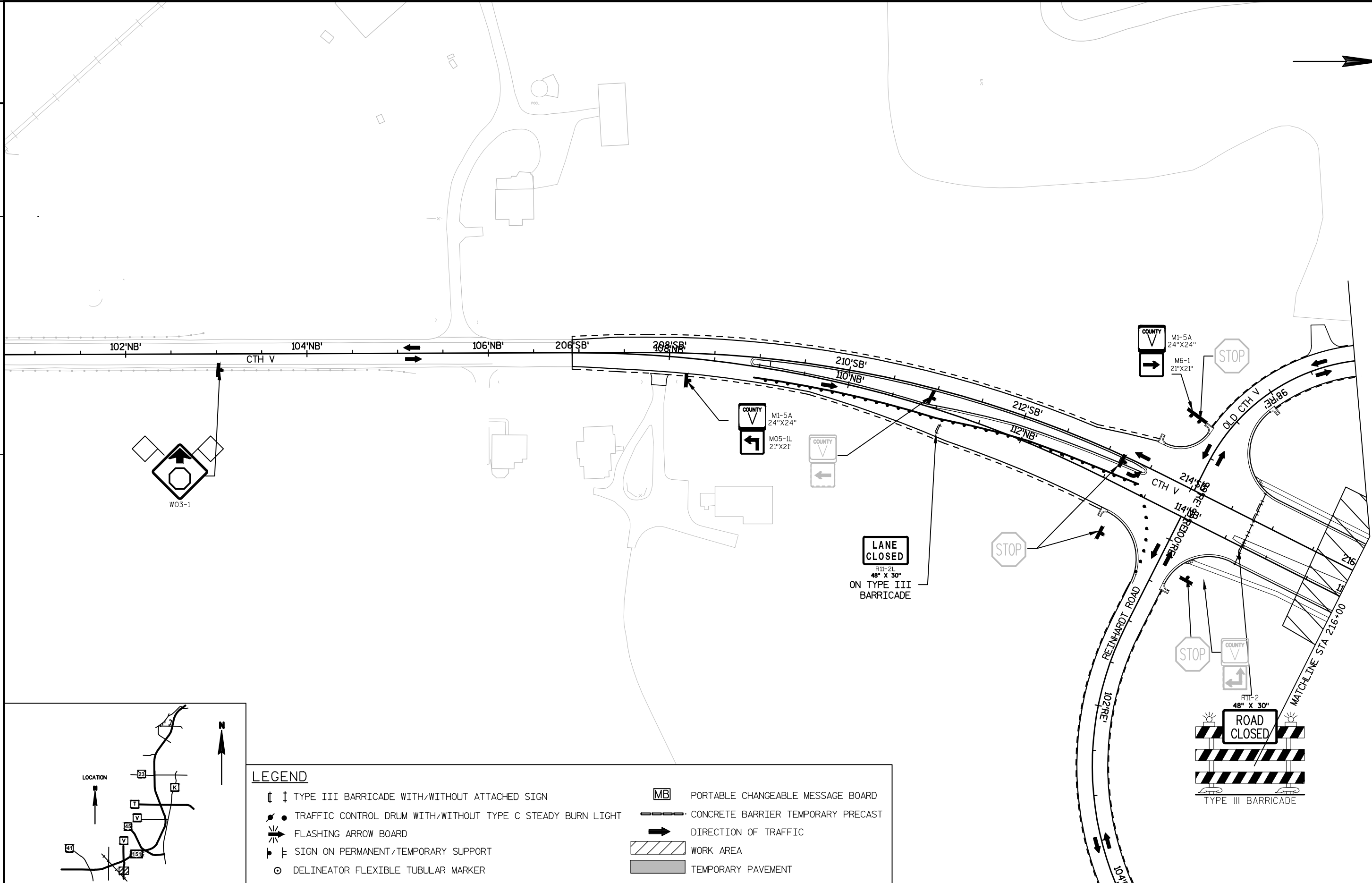




**LEGEND**

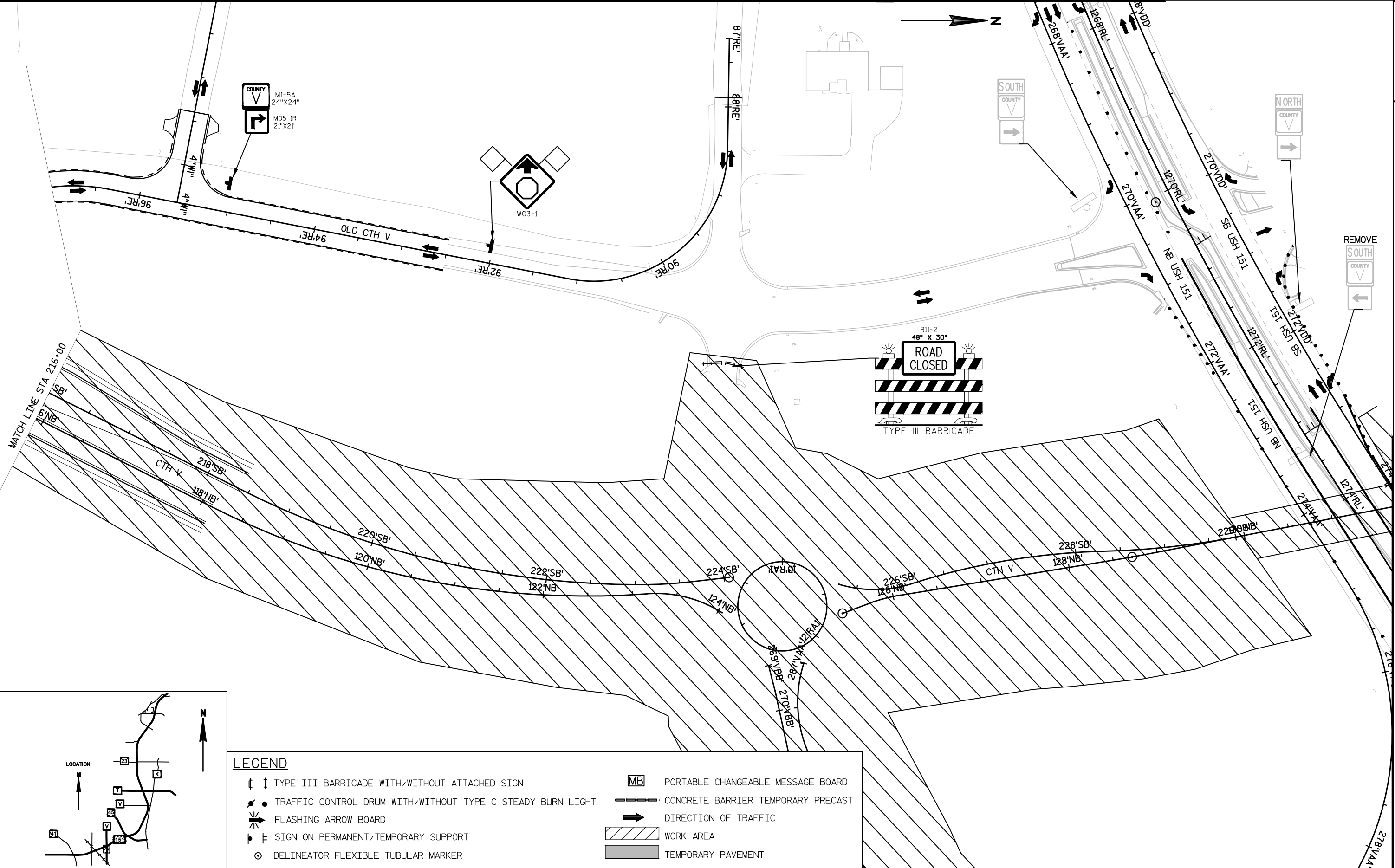
TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN	PORTABLE CHANGEABLE MESSAGE BOARD
TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT	CONCRETE BARRIER TEMPORARY PRECAST
FLASHING ARROW BOARD	DIRECTION OF TRAFFIC
SIGN ON PERMANENT/TEMPORARY SUPPORT	WORK AREA
DELINEATOR FLEXIBLE TUBULAR MARKER	





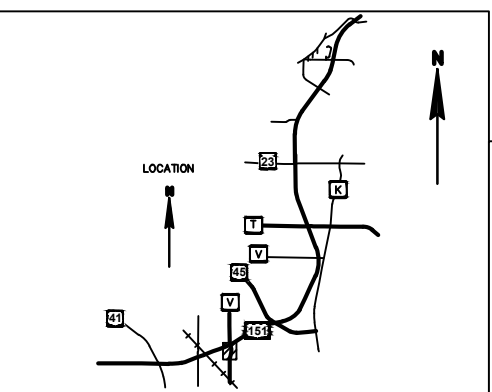
**LEGEND**

	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN		PORTABLE CHANGEABLE MESSAGE BOARD
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT		CONCRETE BARRIER TEMPORARY PRECAST
	FLASHING ARROW BOARD		DIRECTION OF TRAFFIC
	SIGN ON PERMANENT/TEMPORARY SUPPORT		WORK AREA
	DELINEATOR FLEXIBLE TUBULAR MARKER		TEMPORARY PAVEMENT



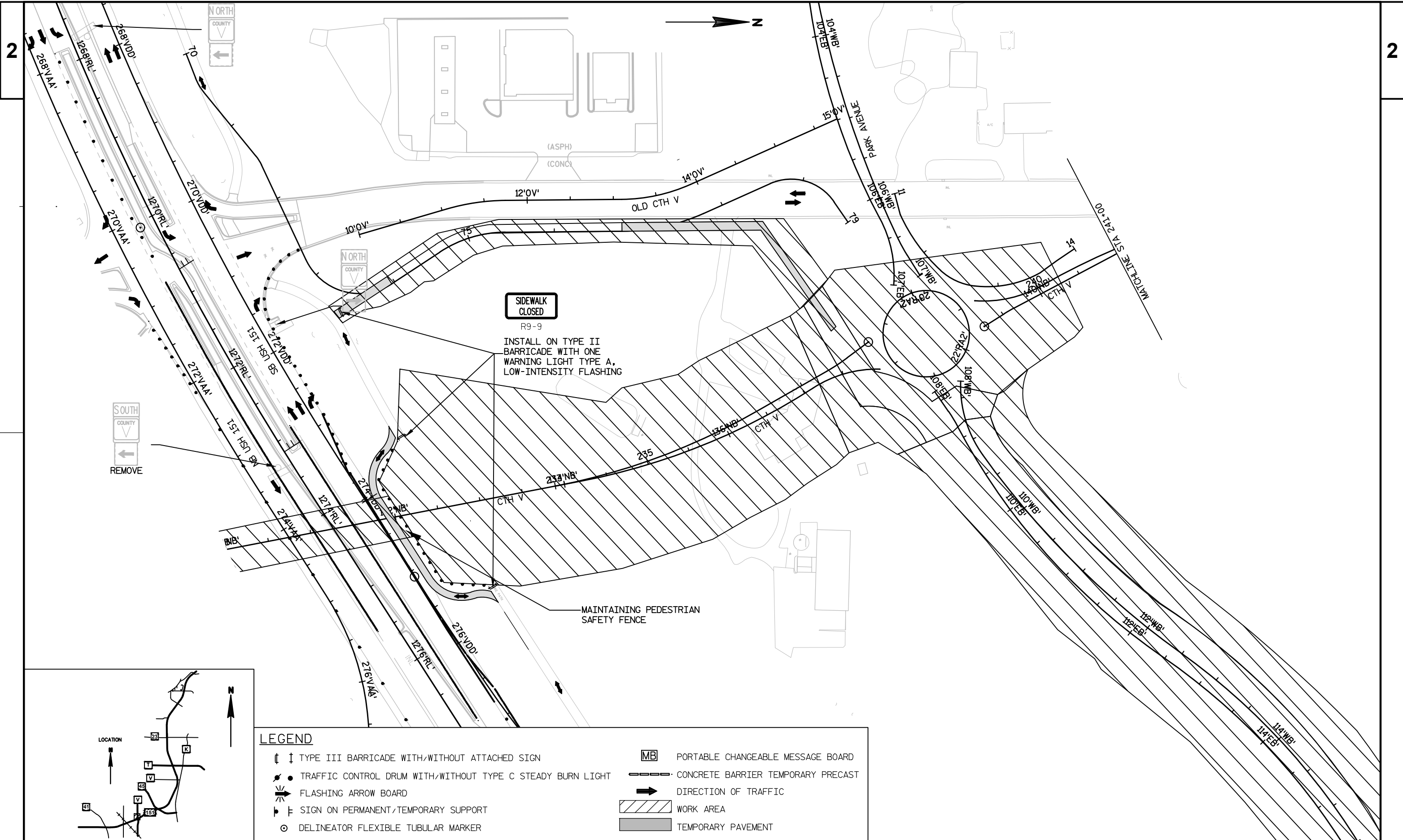
MATCH LINE STA 216+00

W03-1



**LEGEND**

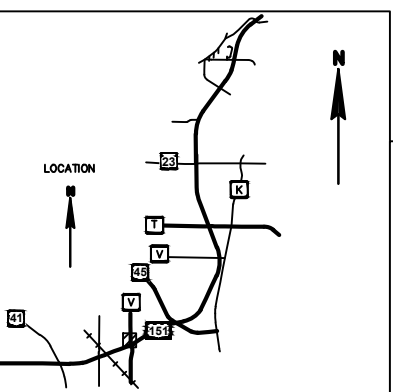
<ul style="list-style-type: none"> <li>↑ ↓ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN</li> <li>● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT</li> <li>⚡ FLASHING ARROW BOARD</li> <li>⌄ SIGN ON PERMANENT/TEMPORARY SUPPORT</li> <li>○ DELINEATOR FLEXIBLE TUBULAR MARKER</li> </ul>	<ul style="list-style-type: none"> <li>MB PORTABLE CHANGEABLE MESSAGE BOARD</li> <li>— CONCRETE BARRIER TEMPORARY PRECAST</li> <li>➔ DIRECTION OF TRAFFIC</li> <li>▨ WORK AREA</li> <li>■ TEMPORARY PAVEMENT</li> </ul>
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**SIDEWALK CLOSED**  
R9-9  
INSTALL ON TYPE II BARRICADE WITH ONE WARNING LIGHT TYPE A, LOW-INTENSITY FLASHING

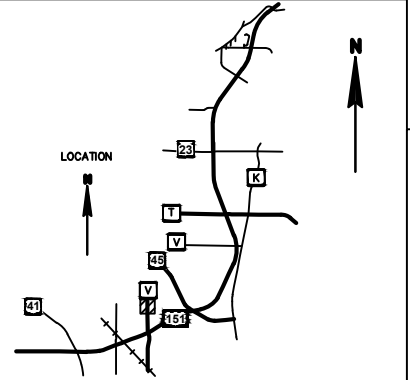
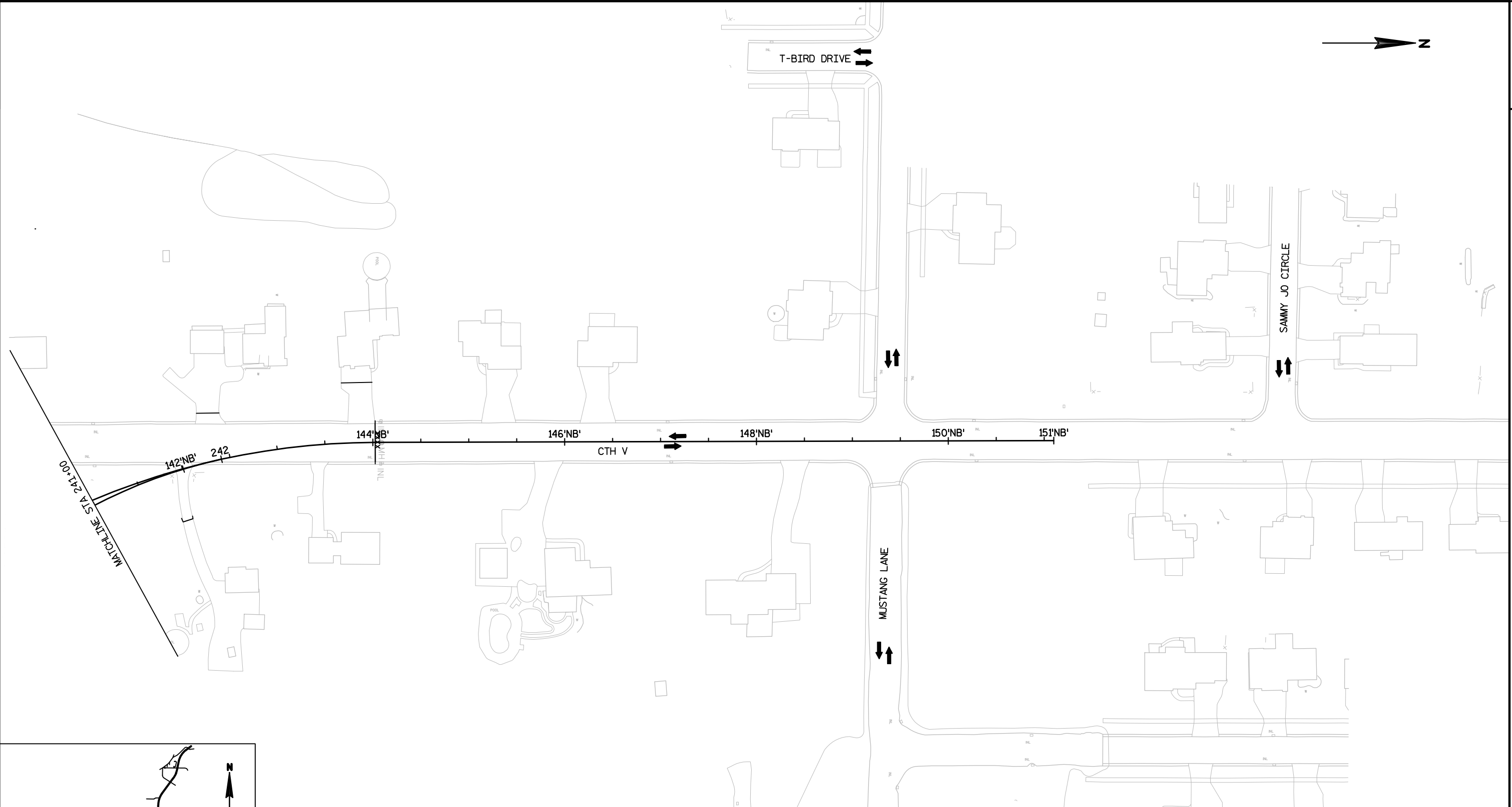
MAINTAINING PEDESTRIAN SAFETY FENCE

SOUTH COUNTY  
REMOVE



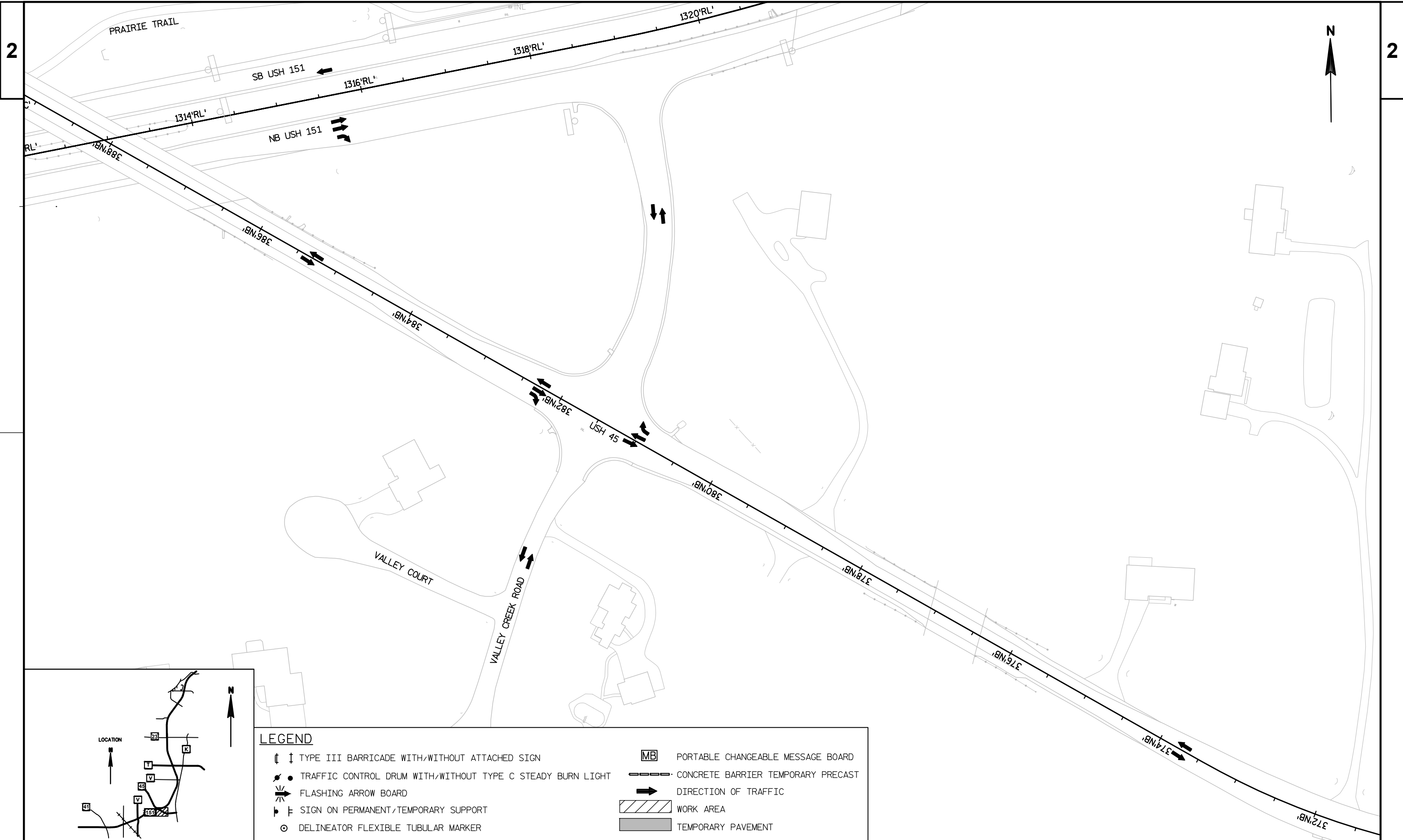
**LEGEND**

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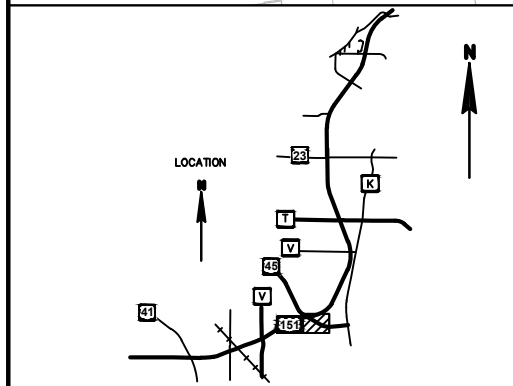
**LEGEND**

TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN	PORTABLE CHANGEABLE MESSAGE BOARD
TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT	CONCRETE BARRIER TEMPORARY PRECAST
FLASHING ARROW BOARD	DIRECTION OF TRAFFIC
SIGN ON PERMANENT/TEMPORARY SUPPORT	WORK AREA
DELINEATOR FLEXIBLE TUBULAR MARKER	TEMPORARY PAVEMENT



2

2



LEGEND	
↑ ↓	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
●	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
↔	FLASHING ARROW BOARD
⊥	SIGN ON PERMANENT/TEMPORARY SUPPORT
○	DELINEATOR FLEXIBLE TUBULAR MARKER
MB	PORTABLE CHANGEABLE MESSAGE BOARD
—	CONCRETE BARRIER TEMPORARY PRECAST
→	DIRECTION OF TRAFFIC
▨	WORK AREA
■	TEMPORARY PAVEMENT

PROJECT NO:1420-22-71

HWY:USH 151

COUNTY:FOND DU LAC

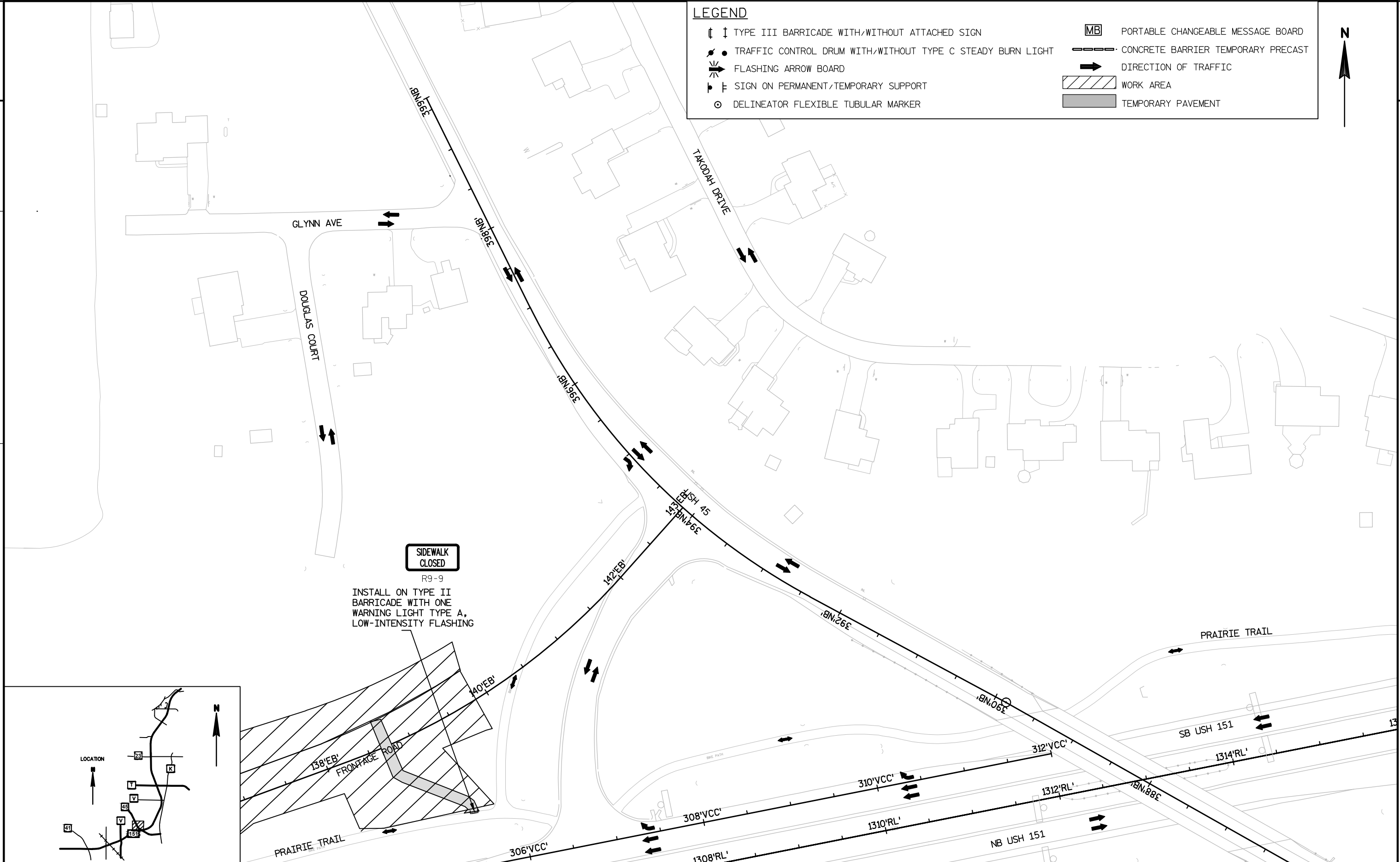
TRAFFIC CONTROL - STAGE V3

SHEET

E

LEGEND

- ⏏ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
- ↔ FLASHING ARROW BOARD
- ⌘ SIGN ON PERMANENT/TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE TUBULAR MARKER
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- ➔ DIRECTION OF TRAFFIC
- ▨ WORK AREA
- ▭ TEMPORARY PAVEMENT



SIDEWALK CLOSED

R9-9

INSTALL ON TYPE II BARRICADE WITH ONE WARNING LIGHT TYPE A, LOW-INTENSITY FLASHING

PROJECT NO:1420-22-71

HWY:USH 151

COUNTY:FOND DU LAC

TRAFFIC CONTROL - STAGE V3

SHEET

E

STAGE V4

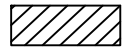

**PURPOSE:**  
 COMPLETE GRADING AND PAVING OF NEW CTH V UP TO NORTH PROJECT TIE-IN  
 COMPLETE CONSTRUCTION OF B-20-0226  
 COMPLETE PAVING OF FRONTAGE ROAD BETWEEN CTH V AND ROUNDABOUT AT INTERCHANGE RAMP  
 COMPLETE GRADING AND PAVING OF ENTIRE CTH V ON RAMP TO NB USH 151  
 COMPLETE GRADING AND PAVING OF CTH V OFF RAMP FROM NB USH 151 BETWEEN STA 271+50 AND CTH V  
 COMPLETE GRADING AND PAVING OF CTH V OFF RAMP FROM SB USH 151 BETWEEN FRONTAGE RD AND STA 304+00  
 COMPLETE GRADING AND PAVING OF CTH V ON RAMP TO SB USH 151 BETWEEN STA 273+75 AND FRONTAGE RD

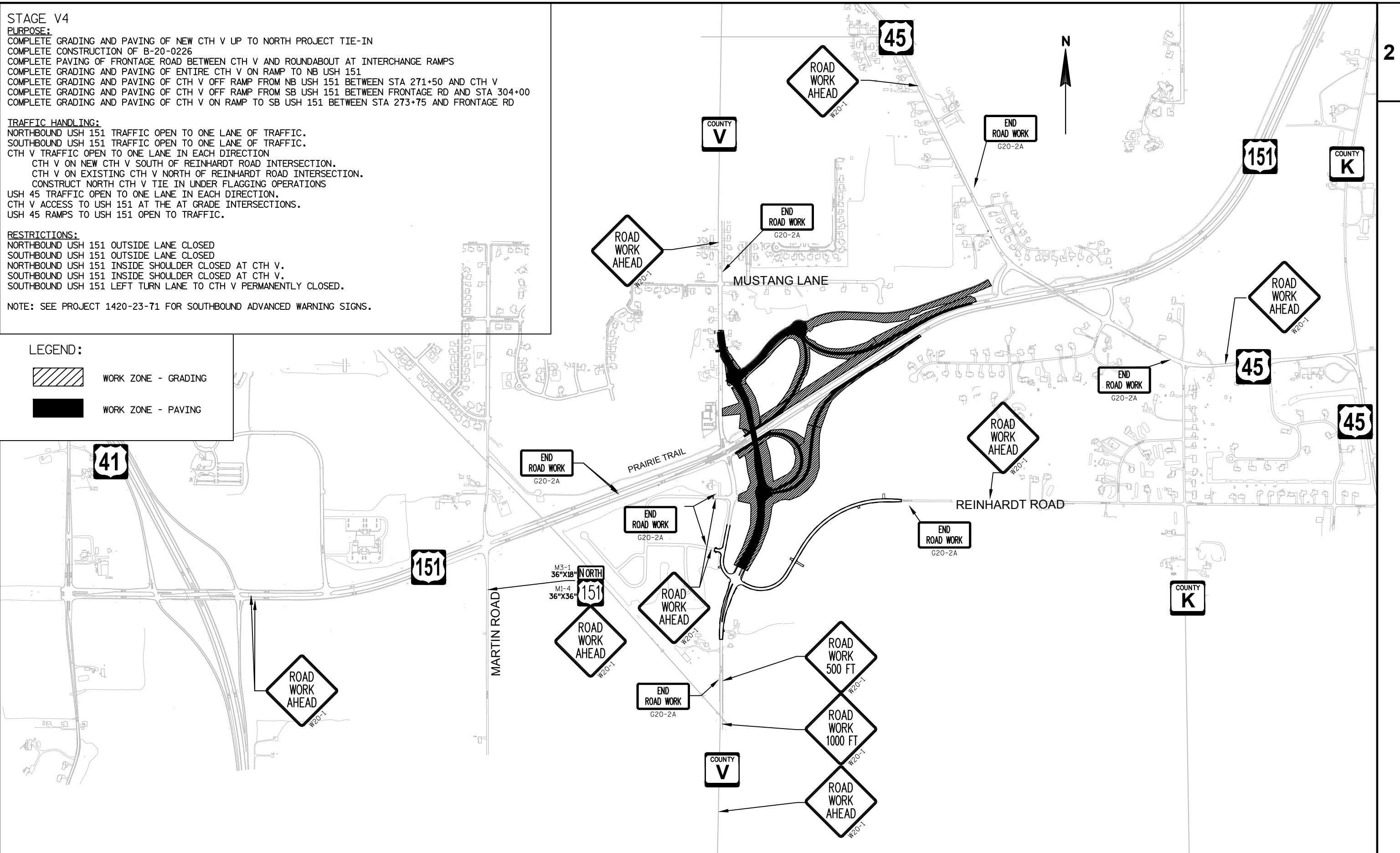
**TRAFFIC HANDLING:**  
 NORTHBOUND USH 151 TRAFFIC OPEN TO ONE LANE OF TRAFFIC.  
 SOUTHBOUND USH 151 TRAFFIC OPEN TO ONE LANE OF TRAFFIC.  
 CTH V TRAFFIC OPEN TO ONE LANE IN EACH DIRECTION  
 CTH V ON NEW CTH V SOUTH OF REINHARDT ROAD INTERSECTION.  
 CTH V ON EXISTING CTH V NORTH OF REINHARDT ROAD INTERSECTION.  
 CONSTRUCT NORTH CTH V TIE IN UNDER FLAGGING OPERATIONS  
 USH 45 TRAFFIC OPEN TO ONE LANE IN EACH DIRECTION.  
 CTH V ACCESS TO USH 151 AT THE AT GRADE INTERSECTIONS.  
 USH 45 RAMP TO USH 151 OPEN TO TRAFFIC.

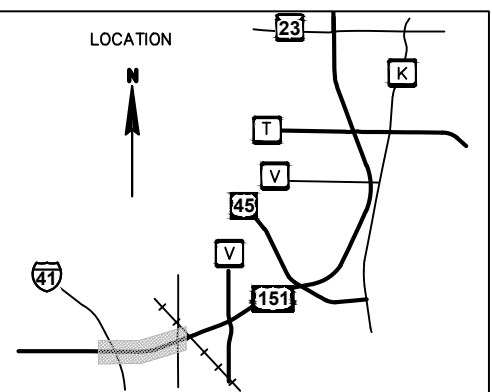
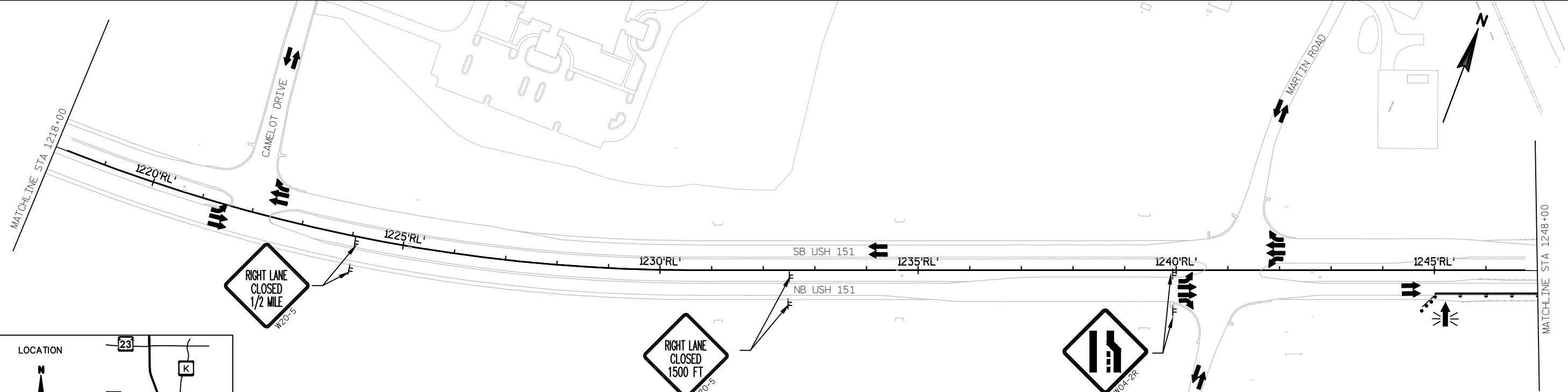
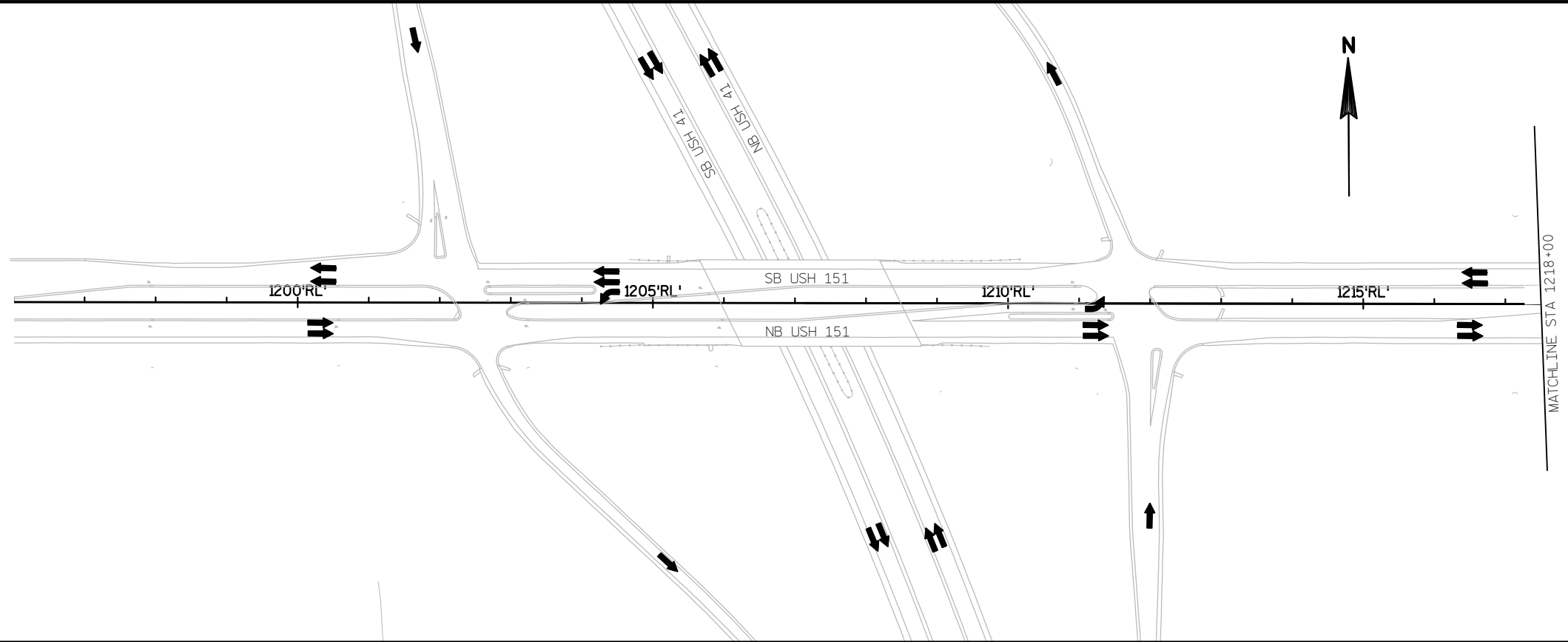
**RESTRICTIONS:**  
 NORTHBOUND USH 151 OUTSIDE LANE CLOSED  
 SOUTHBOUND USH 151 OUTSIDE LANE CLOSED  
 NORTHBOUND USH 151 INSIDE SHOULDER CLOSED AT CTH V.  
 SOUTHBOUND USH 151 INSIDE SHOULDER CLOSED AT CTH V.  
 SOUTHBOUND USH 151 LEFT TURN LANE TO CTH V PERMANENTLY CLOSED.

**NOTE:** SEE PROJECT 1420-23-71 FOR SOUTHBOUND ADVANCED WARNING SIGNS.

LEGEND:

-  WORK ZONE - GRADING
-  WORK ZONE - PAVING

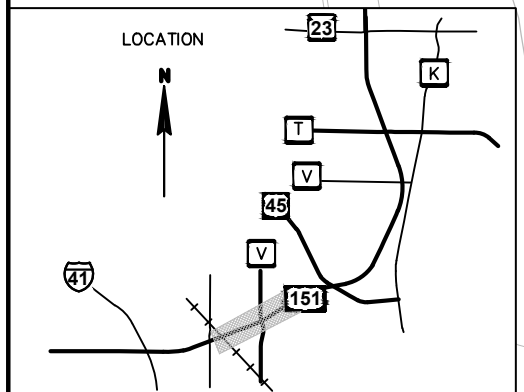
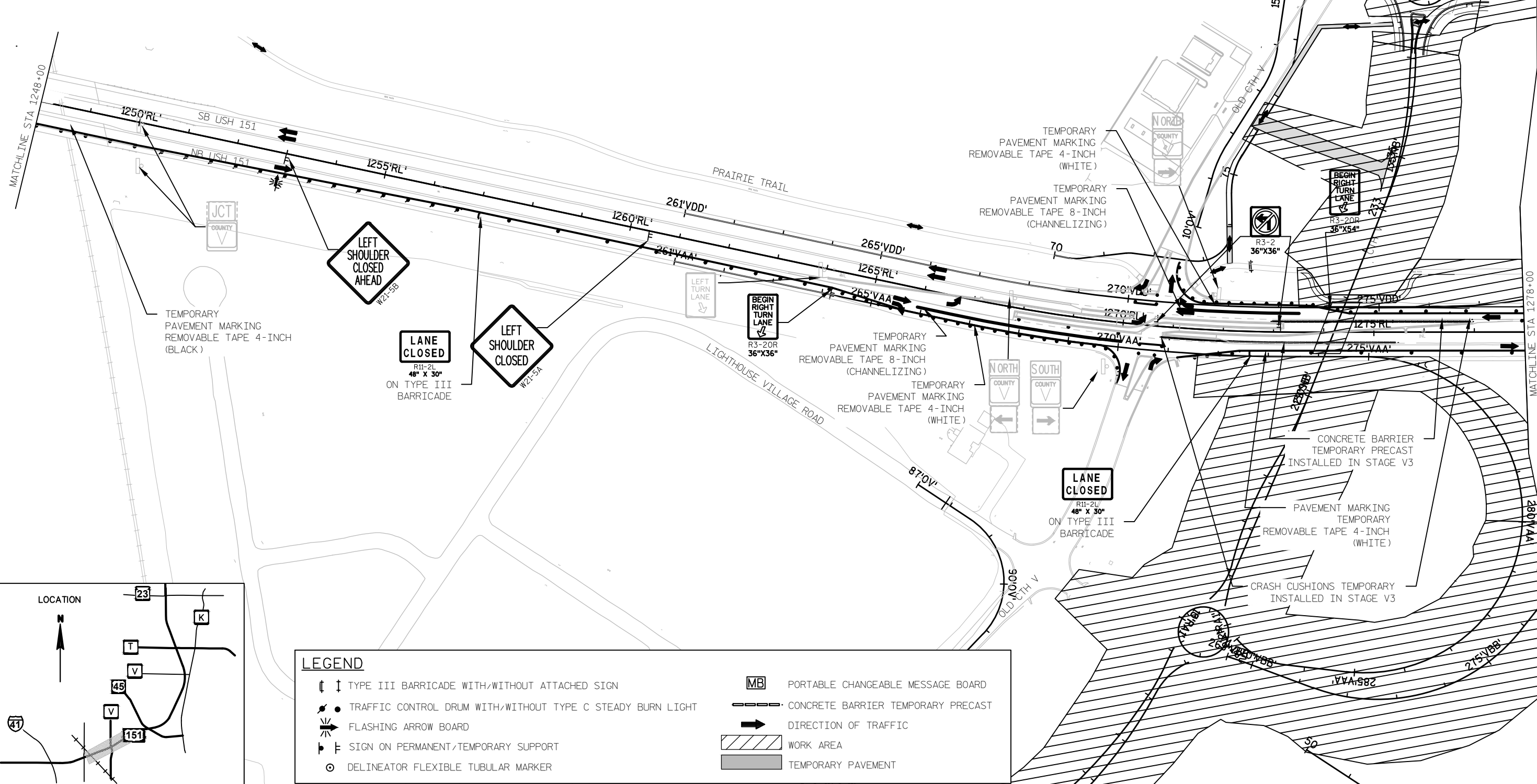
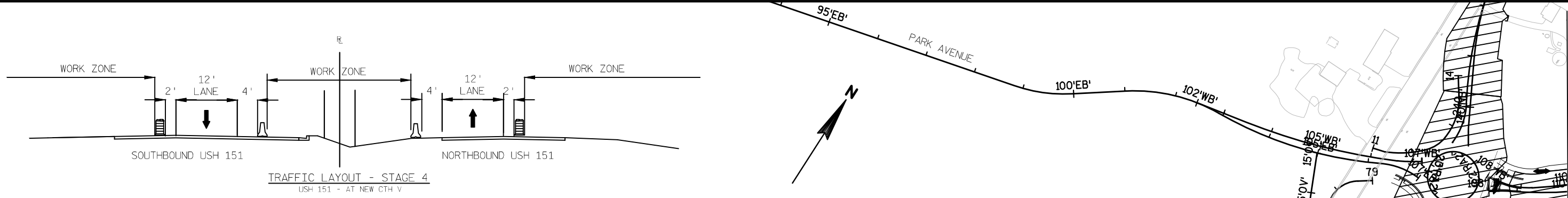




**LEGEND**

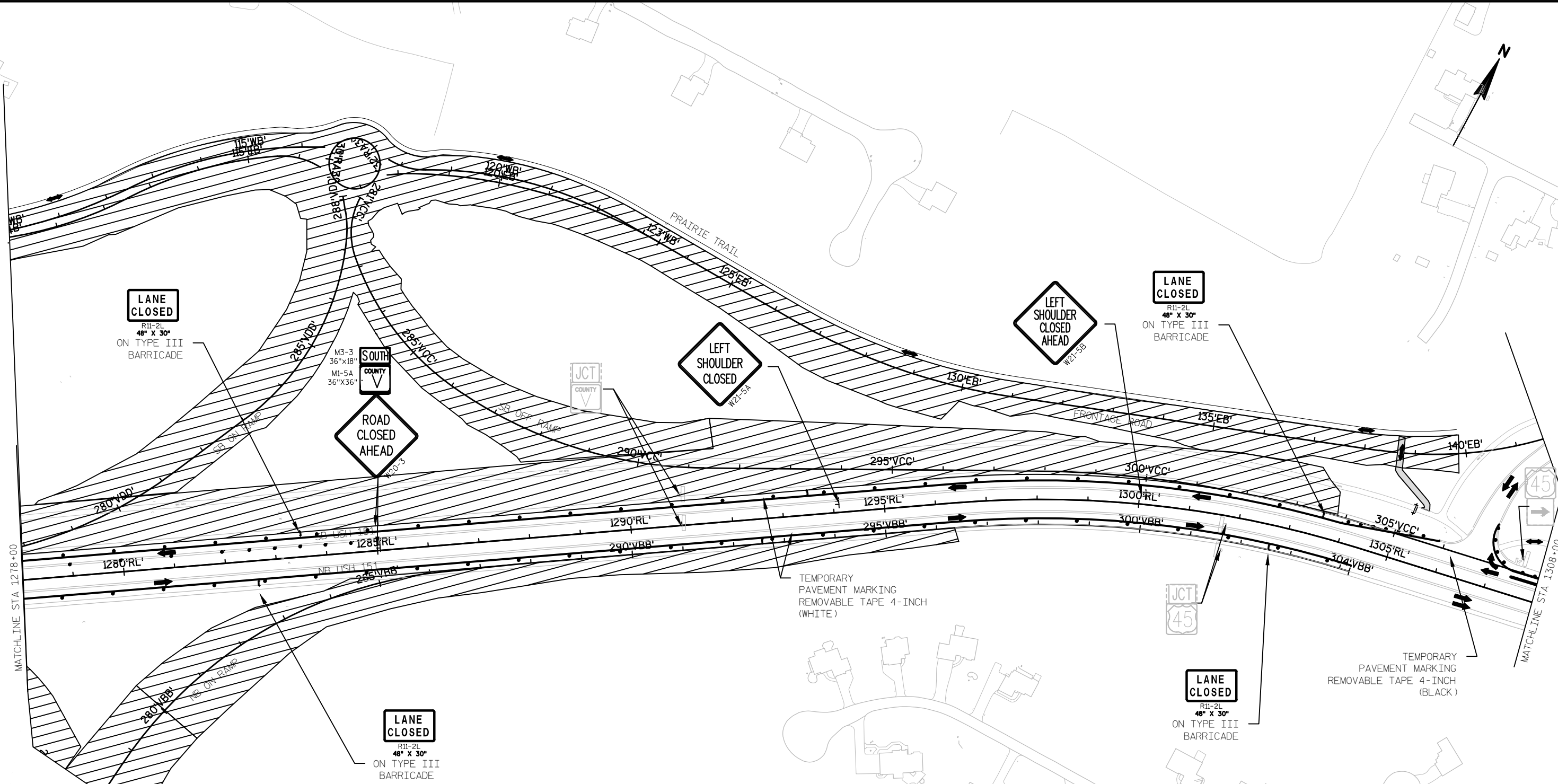
<ul style="list-style-type: none"> <li>↑ ↓ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN</li> <li>● ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT</li> <li>↔ FLASHING ARROW BOARD</li> <li>⊥ ⊥ SIGN ON PERMANENT/TEMPORARY SUPPORT</li> <li>⊙ DELINEATOR FLEXIBLE TUBULAR MARKER</li> </ul>	<ul style="list-style-type: none"> <li><b>MB</b> PORTABLE CHANGEABLE MESSAGE BOARD</li> <li>— CONCRETE BARRIER TEMPORARY PRECAST</li> <li>→ DIRECTION OF TRAFFIC</li> <li>▨ WORK AREA</li> <li>▭ TEMPORARY PAVEMENT</li> </ul>
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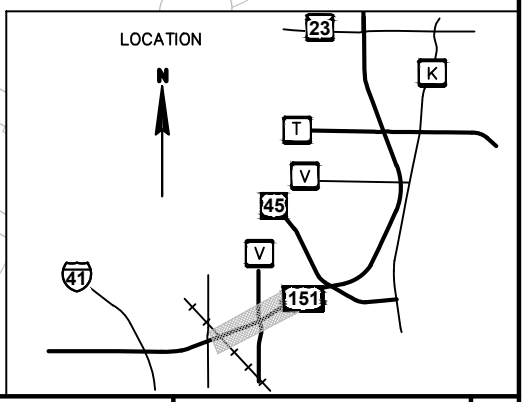
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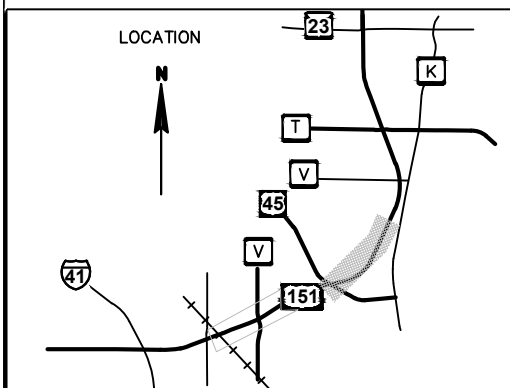
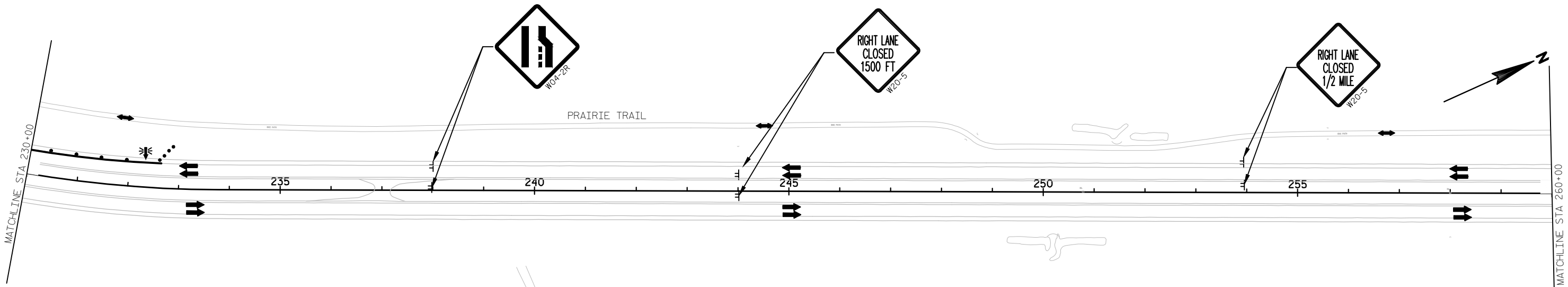
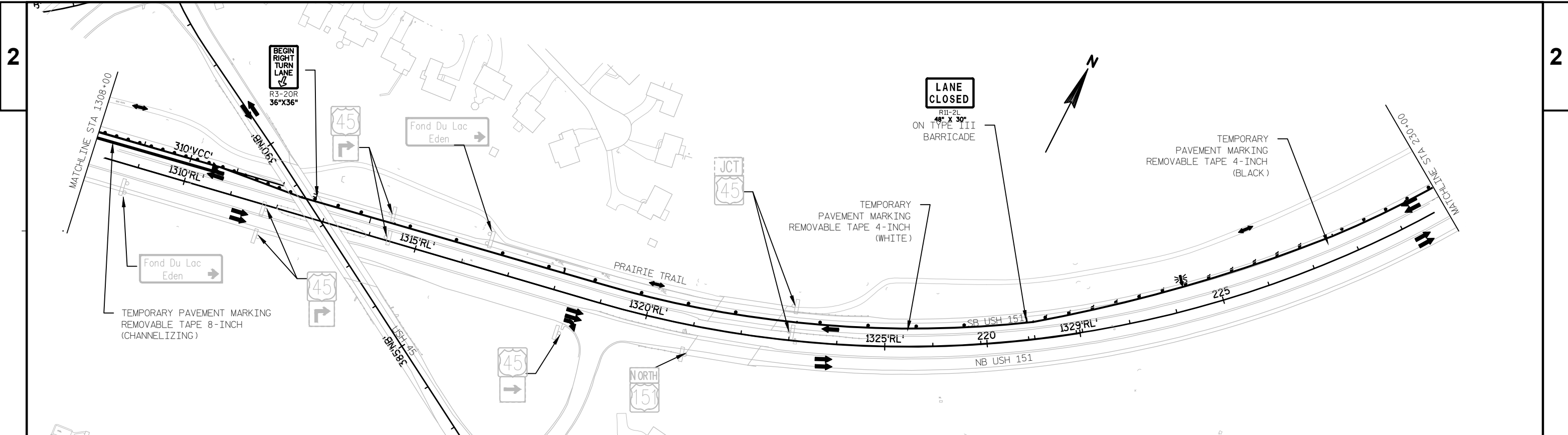
↑ ↓	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN	MB	PORTABLE CHANGEABLE MESSAGE BOARD
●	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT	—	CONCRETE BARRIER TEMPORARY PRECAST
↔	FLASHING ARROW BOARD	→	DIRECTION OF TRAFFIC
⊥	SIGN ON PERMANENT/TEMPORARY SUPPORT	▨	WORK AREA
○	DELINEATOR FLEXIBLE TUBULAR MARKER	■	TEMPORARY PAVEMENT



**LEGEND**

<ul style="list-style-type: none"> <li>⚡   TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN</li> <li>●   TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT</li> <li>↔   FLASHING ARROW BOARD</li> <li>⚡   SIGN ON PERMANENT/TEMPORARY SUPPORT</li> <li>○   DELINEATOR FLEXIBLE TUBULAR MARKER</li> </ul>	<ul style="list-style-type: none"> <li>MB   PORTABLE CHANGEABLE MESSAGE BOARD</li> <li>—   CONCRETE BARRIER TEMPORARY PRECAST</li> <li>→   DIRECTION OF TRAFFIC</li> <li>▨   WORK AREA</li> <li>■   TEMPORARY PAVEMENT</li> </ul>
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**LEGEND**

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT/TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE TUBULAR MARKER
- PORTABLE CHANGEABLE MESSAGE BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA
- TEMPORARY PAVEMENT

PROJECT NO:1420-22-71

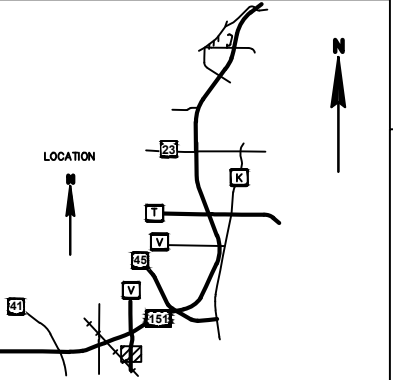
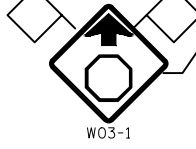
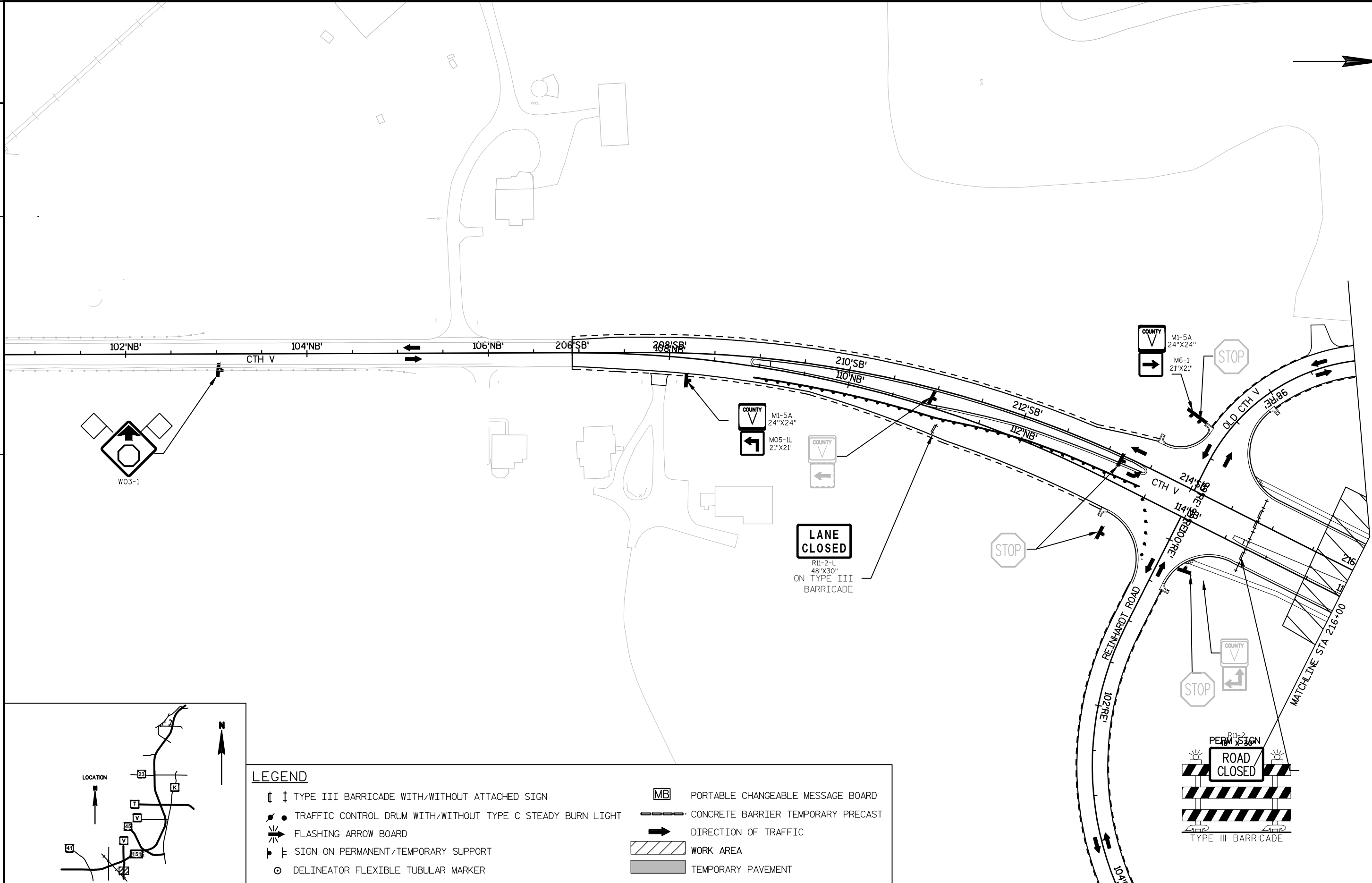
HWY:USH 151

COUNTY:FOND DU LAC

TRAFFIC CONTROL - STAGE V4 - USH 151

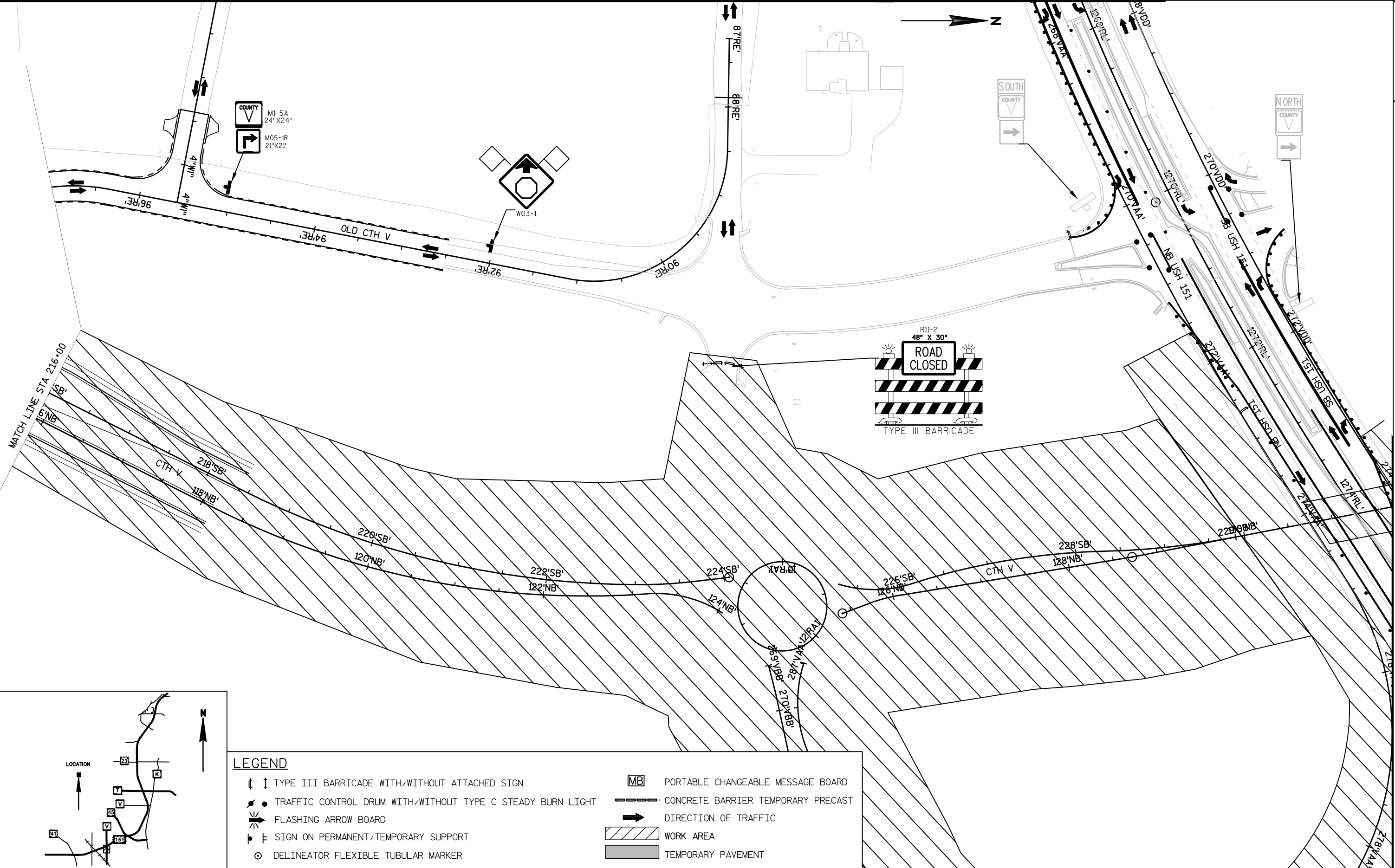
SHEET

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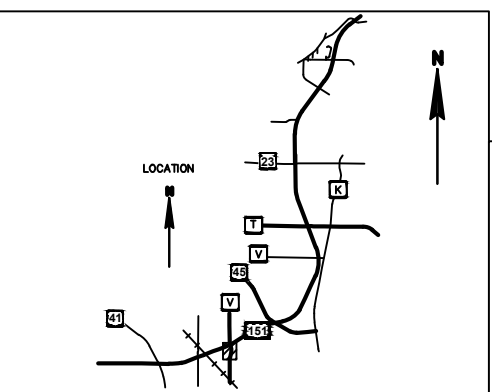
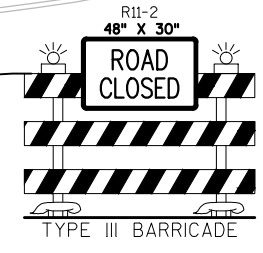


**LEGEND**

	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN		PORTABLE CHANGEABLE MESSAGE BOARD
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT		CONCRETE BARRIER TEMPORARY PRECAST
	FLASHING ARROW BOARD		DIRECTION OF TRAFFIC
	SIGN ON PERMANENT/TEMPORARY SUPPORT		WORK AREA
	DELINEATOR FLEXIBLE TUBULAR MARKER		TEMPORARY PAVEMENT

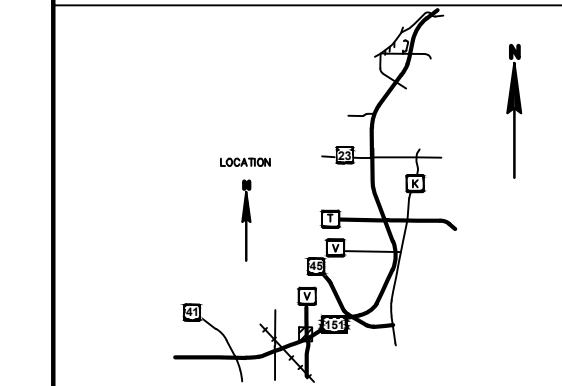
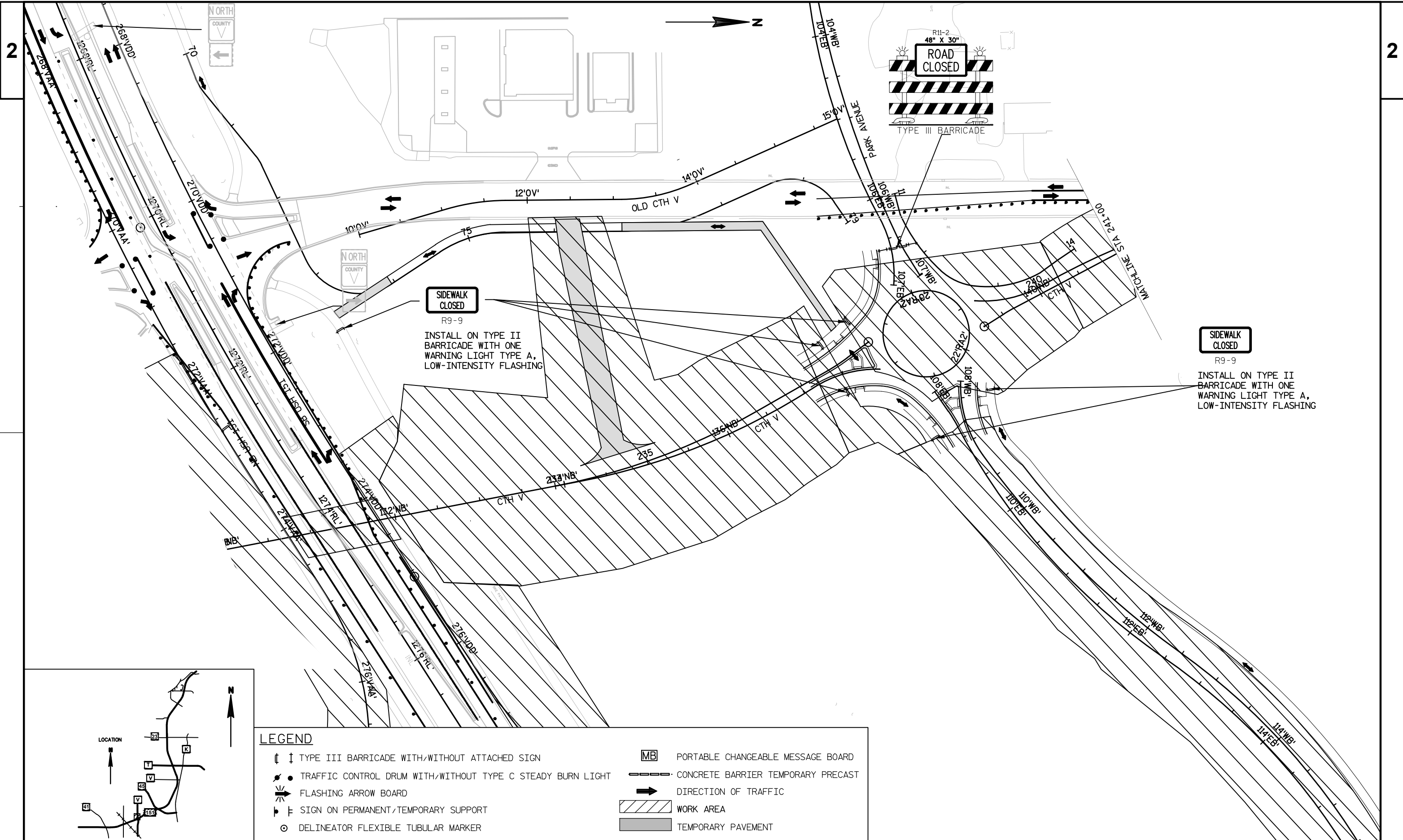


MATCH LINE STA 216+00



**LEGEND**

↑ ↓	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN	MB	PORTABLE CHANGEABLE MESSAGE BOARD
●	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT	— — —	CONCRETE BARRIER TEMPORARY PRECAST
↔	FLASHING ARROW BOARD	→	DIRECTION OF TRAFFIC
⊥	SIGN ON PERMANENT/TEMPORARY SUPPORT	▨	WORK AREA
○	DELINEATOR FLEXIBLE TUBULAR MARKER	■	TEMPORARY PAVEMENT



**LEGEND**

<ul style="list-style-type: none"> <li>⚡ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN</li> <li>● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT</li> <li>⚡ FLASHING ARROW BOARD</li> <li>⚡ SIGN ON PERMANENT/TEMPORARY SUPPORT</li> <li>○ DELINEATOR FLEXIBLE TUBULAR MARKER</li> </ul>	<ul style="list-style-type: none"> <li>MB PORTABLE CHANGEABLE MESSAGE BOARD</li> <li>— CONCRETE BARRIER TEMPORARY PRECAST</li> <li>➔ DIRECTION OF TRAFFIC</li> <li>▨ WORK AREA</li> <li>▭ TEMPORARY PAVEMENT</li> </ul>
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PROJECT NO:1420-22-71

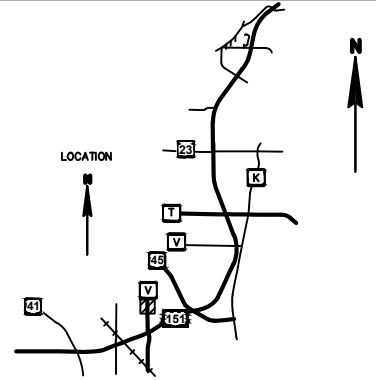
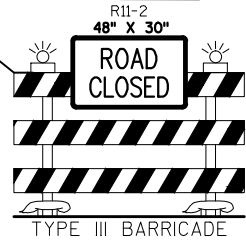
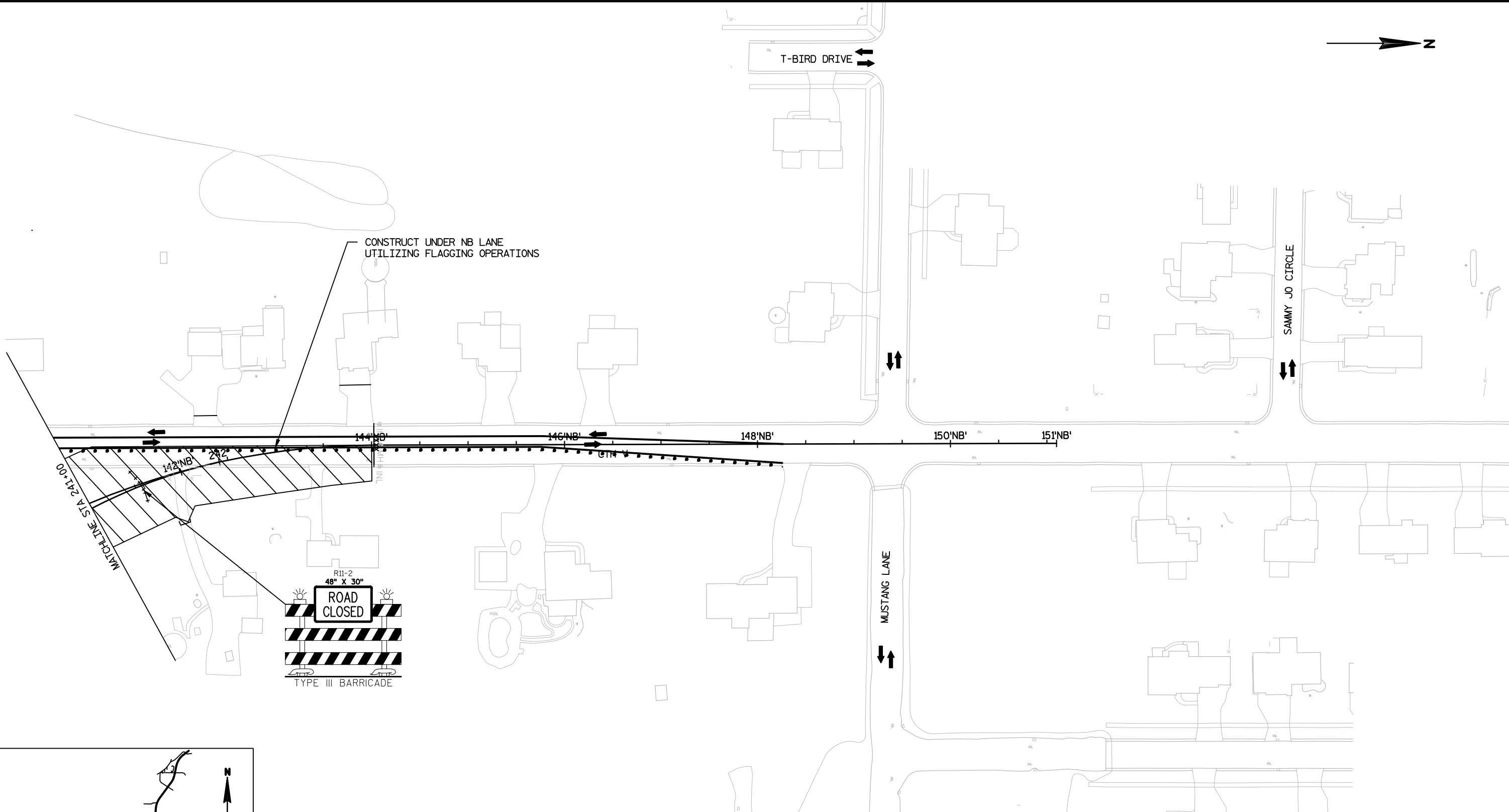
HWY:USH 151

COUNTY:FOND DU LAC

TRAFFIC CONTROL - STAGE V4

SHEET

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**LEGEND**

- ↑ ↓ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
- ⚡ FLASHING ARROW BOARD
- ⊞ SIGN ON PERMANENT/TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE TUBULAR MARKER
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- ▬ CONCRETE BARRIER TEMPORARY PRECAST
- ➡ DIRECTION OF TRAFFIC
- ▨ WORK AREA
- TEMPORARY PAVEMENT

PROJECT NO:1420-22-71

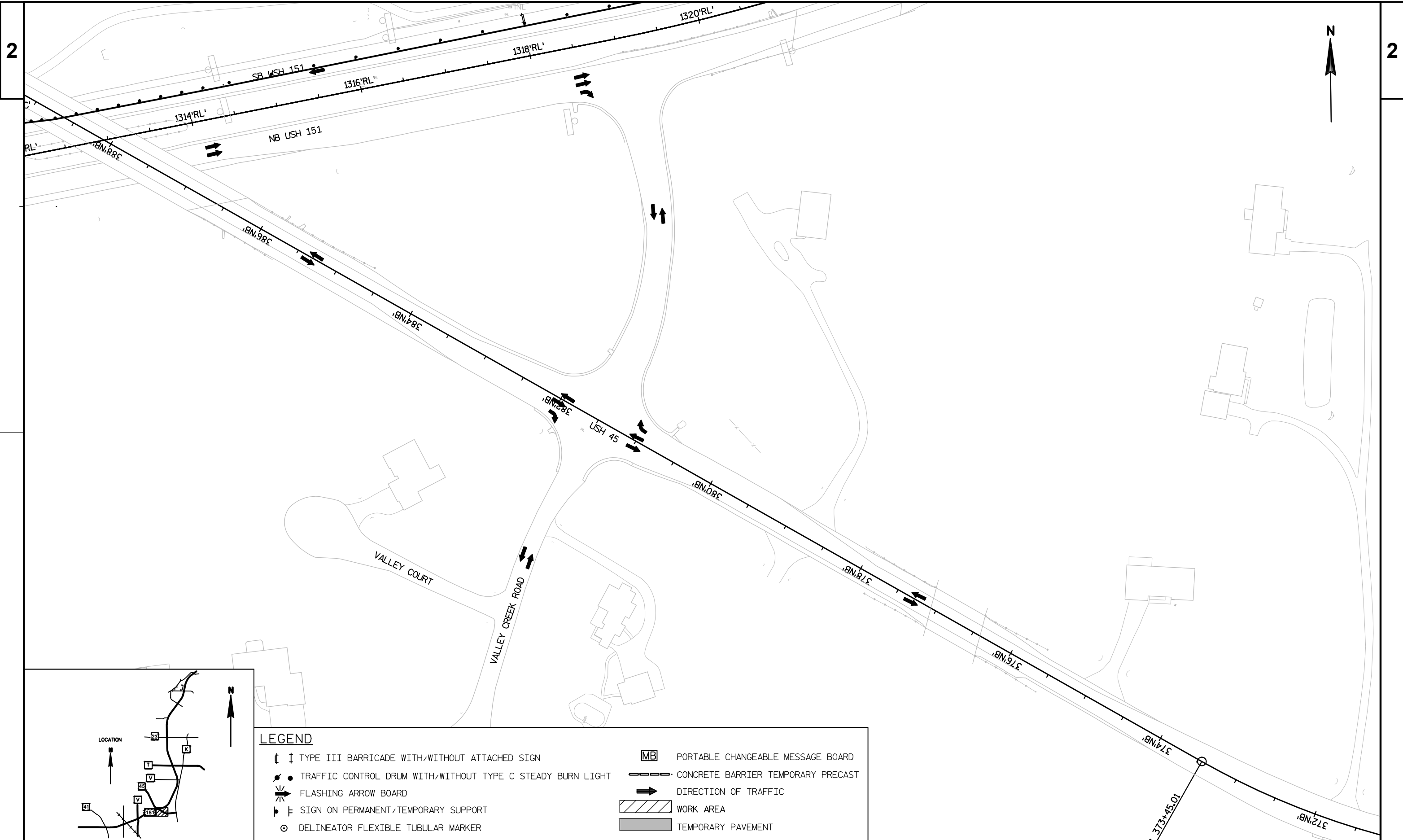
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COUNTY:FOND DU LAC

TRAFFIC CONTROL - STAGE V4

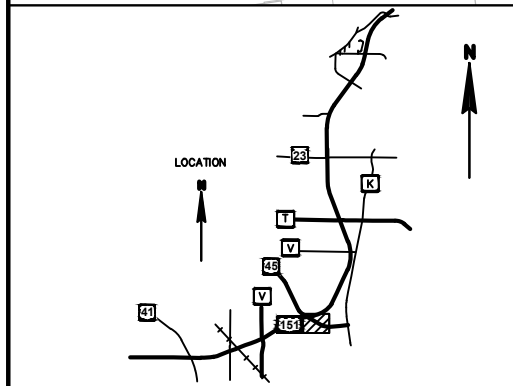
SHEET

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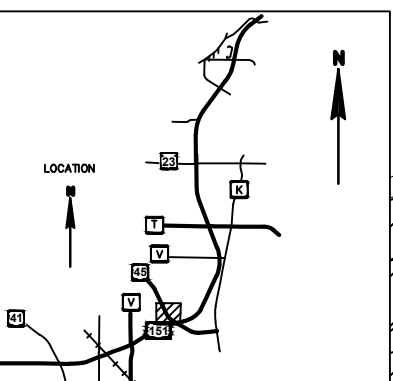
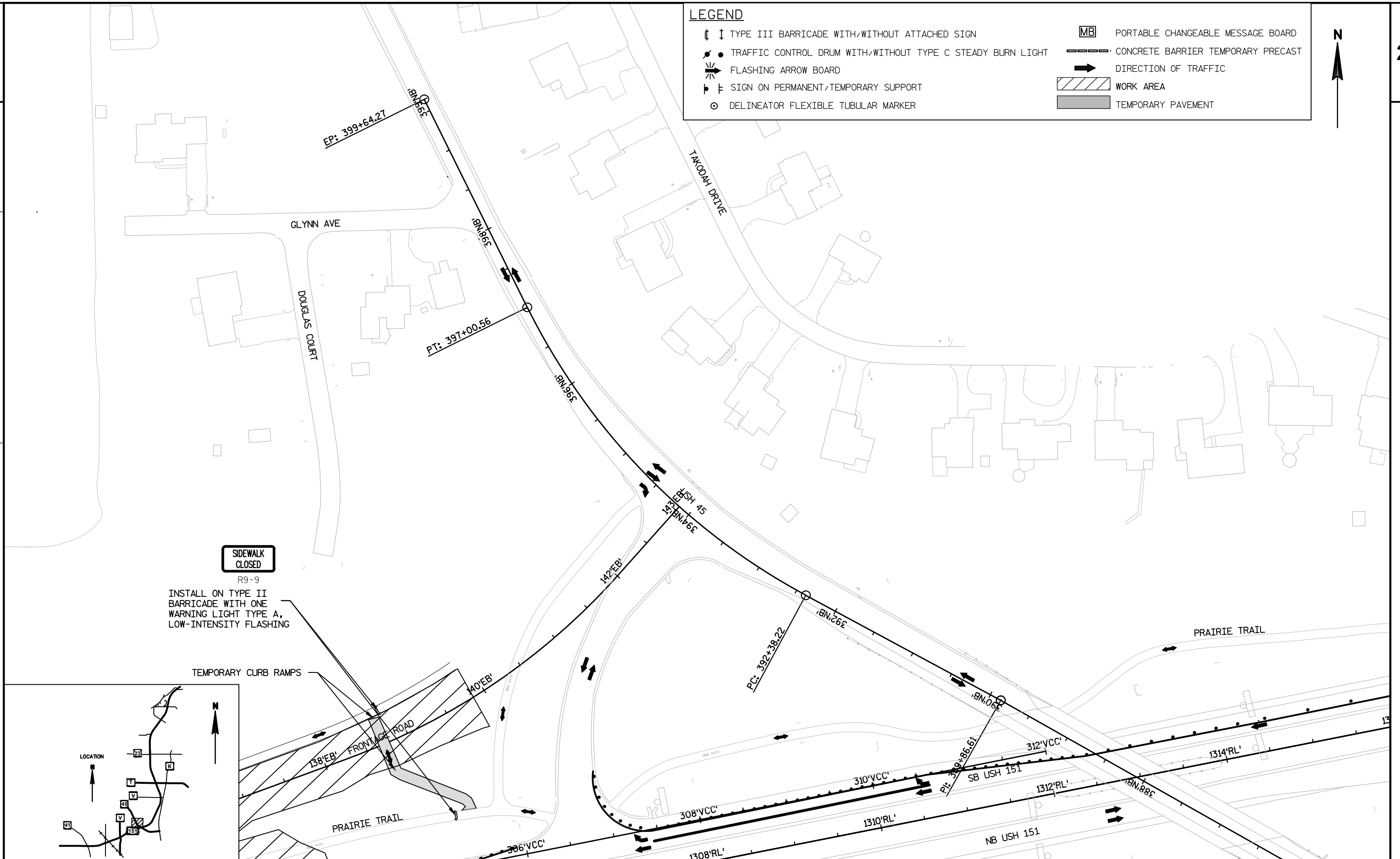
**LEGEND**

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>⚡ ⚡ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN</li> <li>● ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT</li> <li>⚡ FLASHING ARROW BOARD</li> <li>⚡ SIGN ON PERMANENT/TEMPORARY SUPPORT</li> <li>○ DELINEATOR FLEXIBLE TUBULAR MARKER</li> </ul> | <ul style="list-style-type: none"> <li>MB PORTABLE CHANGEABLE MESSAGE BOARD</li> <li>--- CONCRETE BARRIER TEMPORARY PRECAST</li> <li>➔ DIRECTION OF TRAFFIC</li> <li>▨ WORK AREA</li> <li>■ TEMPORARY PAVEMENT</li> </ul> |
|--|---|



LEGEND

- ⚡ ⚡ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
- ⚡ FLASHING ARROW BOARD
- ⚡ SIGN ON PERMANENT/TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE TUBULAR MARKER
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- ➡ DIRECTION OF TRAFFIC
- ▨ WORK AREA
- ▭ TEMPORARY PAVEMENT



STAGE V5


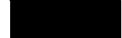
PURPOSE:  
COMPLETE CTH V NORTH PROJECT TIE IN  
COMPLETE RECONSTRUCTION OF OLD CTH V AND INSTALL CUL DE SACS  
COMPLETE NEW PARK ROAD INTERSECTION WITH OLD CTH V  
COMPLETE CONSTRUCTION OF NB OFF RAMP PARALLEL LANE AND SIGN BRIDGE

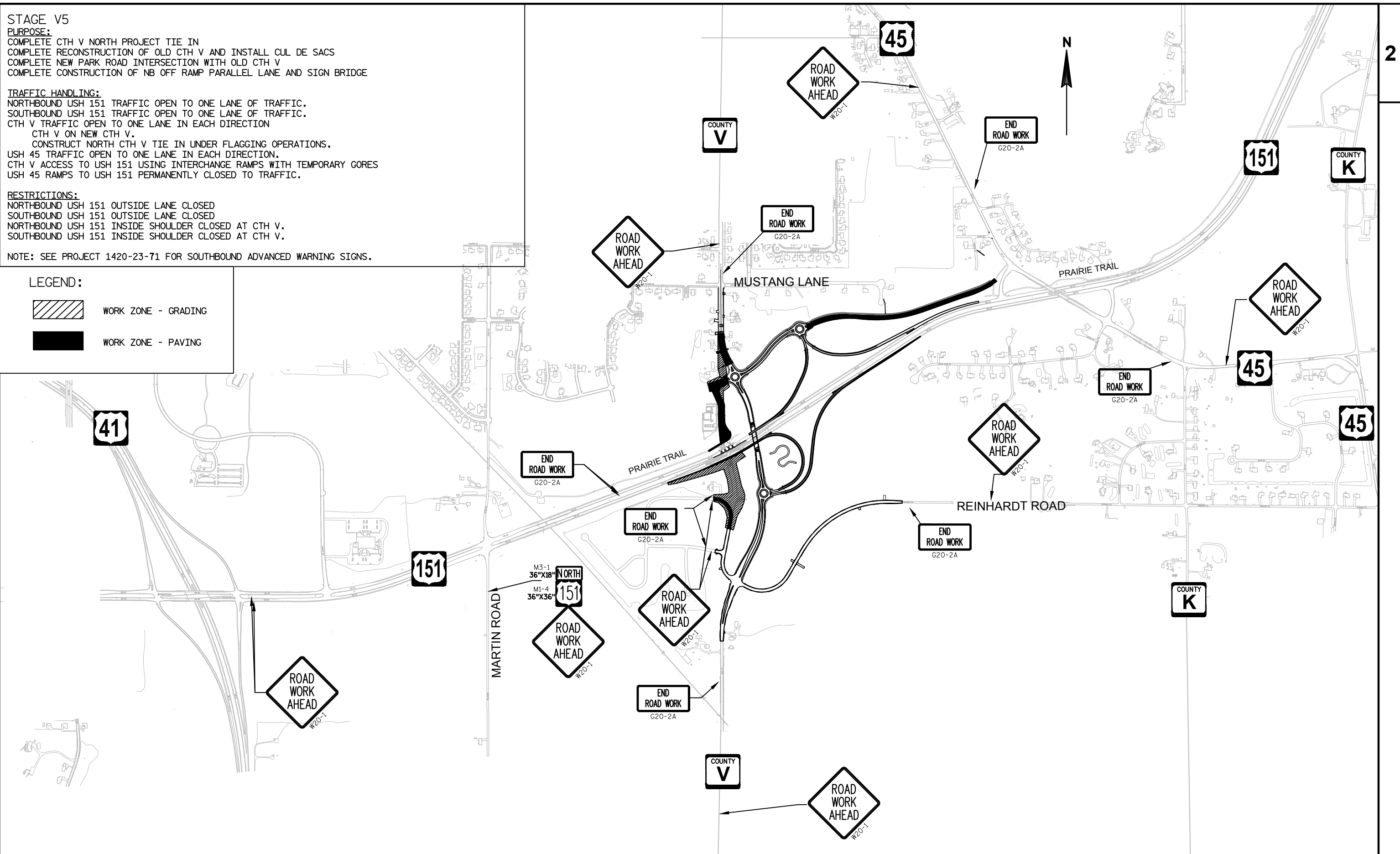
TRAFFIC HANDLING:  
NORTHBOUND USH 151 TRAFFIC OPEN TO ONE LANE OF TRAFFIC.  
SOUTHBOUND USH 151 TRAFFIC OPEN TO ONE LANE OF TRAFFIC.  
CTH V TRAFFIC OPEN TO ONE LANE IN EACH DIRECTION  
CTH V ON NEW CTH V.  
CONSTRUCT NORTH CTH V TIE IN UNDER FLAGGING OPERATIONS.  
USH 45 TRAFFIC OPEN TO ONE LANE IN EACH DIRECTION.  
CTH V ACCESS TO USH 151 USING INTERCHANGE RAMPS WITH TEMPORARY GORES  
USH 45 RAMPS TO USH 151 PERMANENTLY CLOSED TO TRAFFIC.

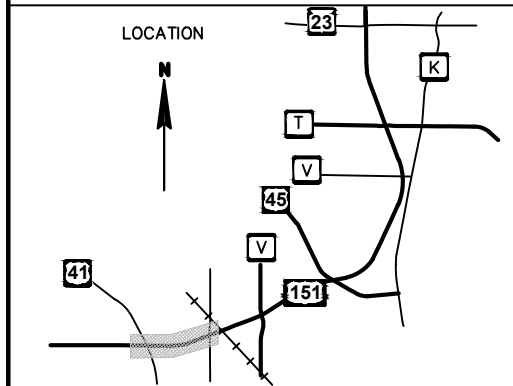
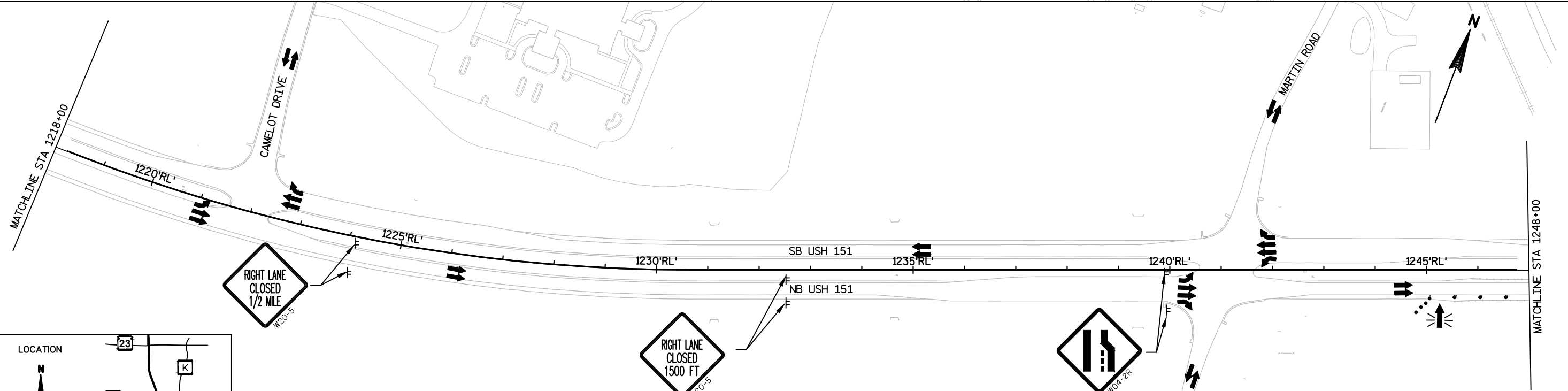
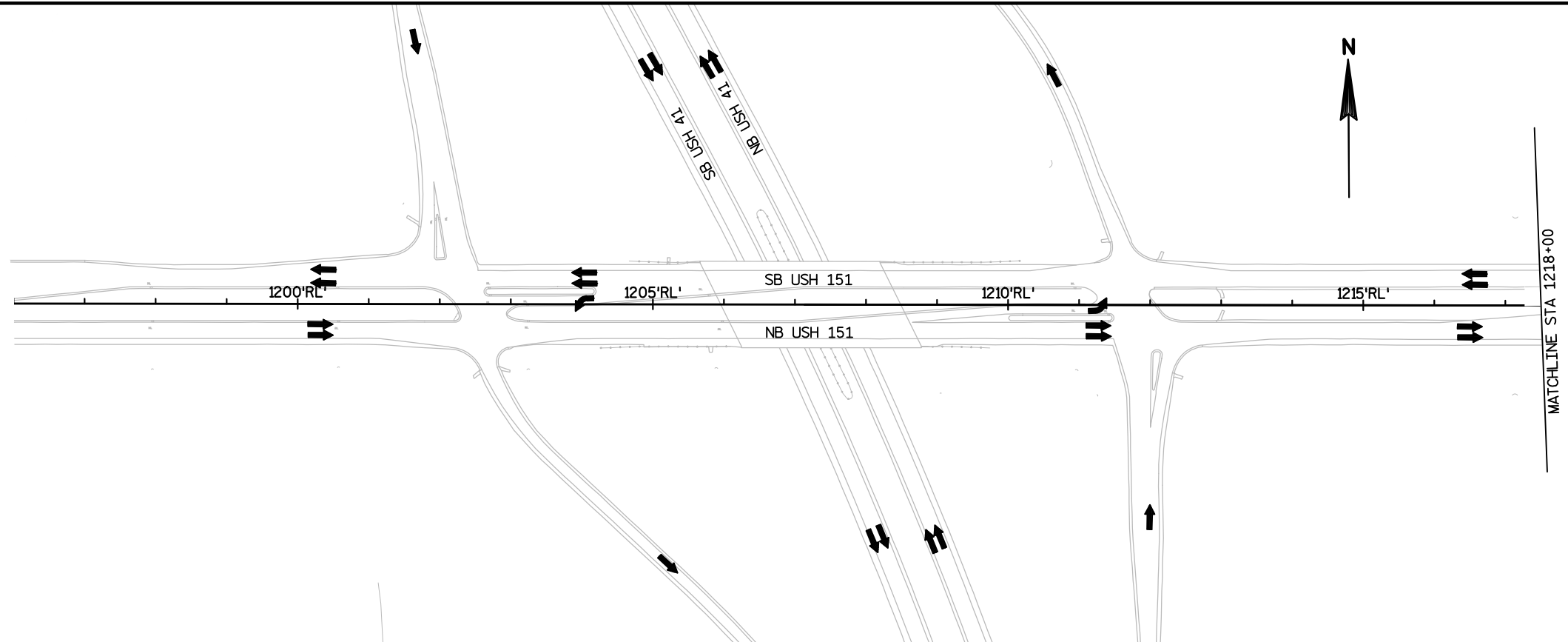
RESTRICTIONS:  
NORTHBOUND USH 151 OUTSIDE LANE CLOSED  
SOUTHBOUND USH 151 OUTSIDE LANE CLOSED  
NORTHBOUND USH 151 INSIDE SHOULDER CLOSED AT CTH V.  
SOUTHBOUND USH 151 INSIDE SHOULDER CLOSED AT CTH V.

NOTE: SEE PROJECT 1420-23-71 FOR SOUTHBOUND ADVANCED WARNING SIGNS.

LEGEND:

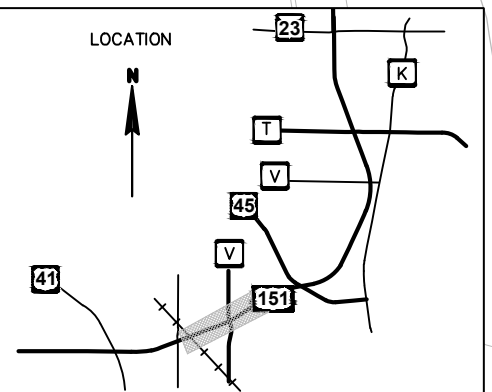
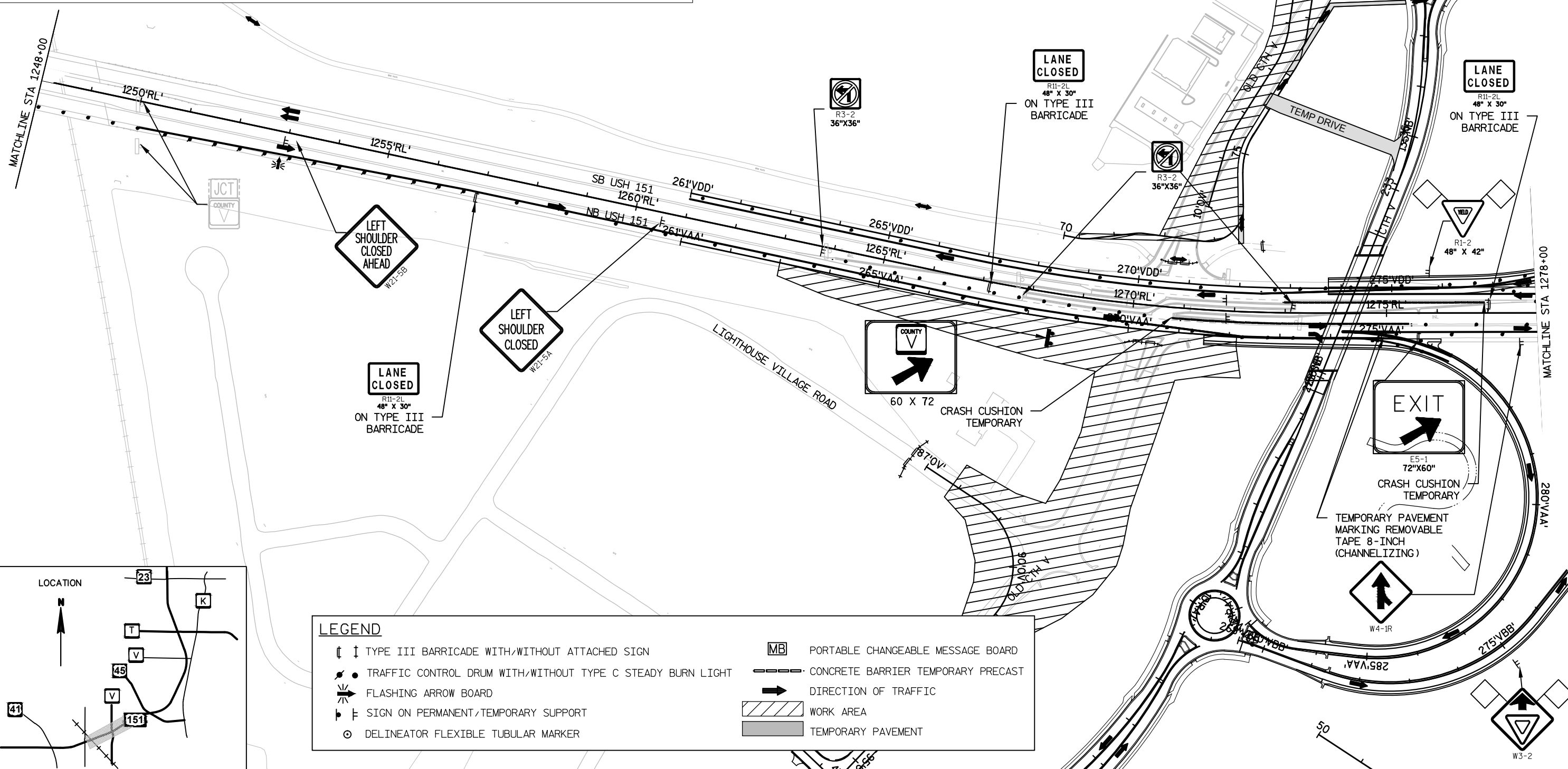
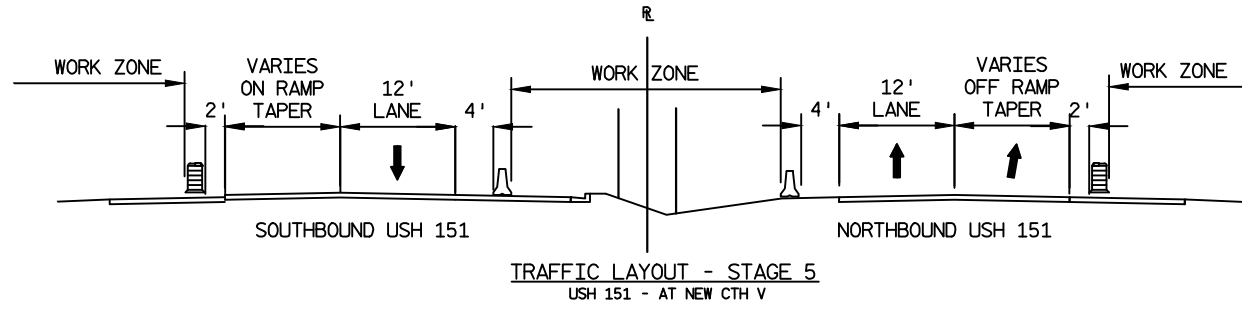
-  WORK ZONE - GRADING
-  WORK ZONE - PAVING





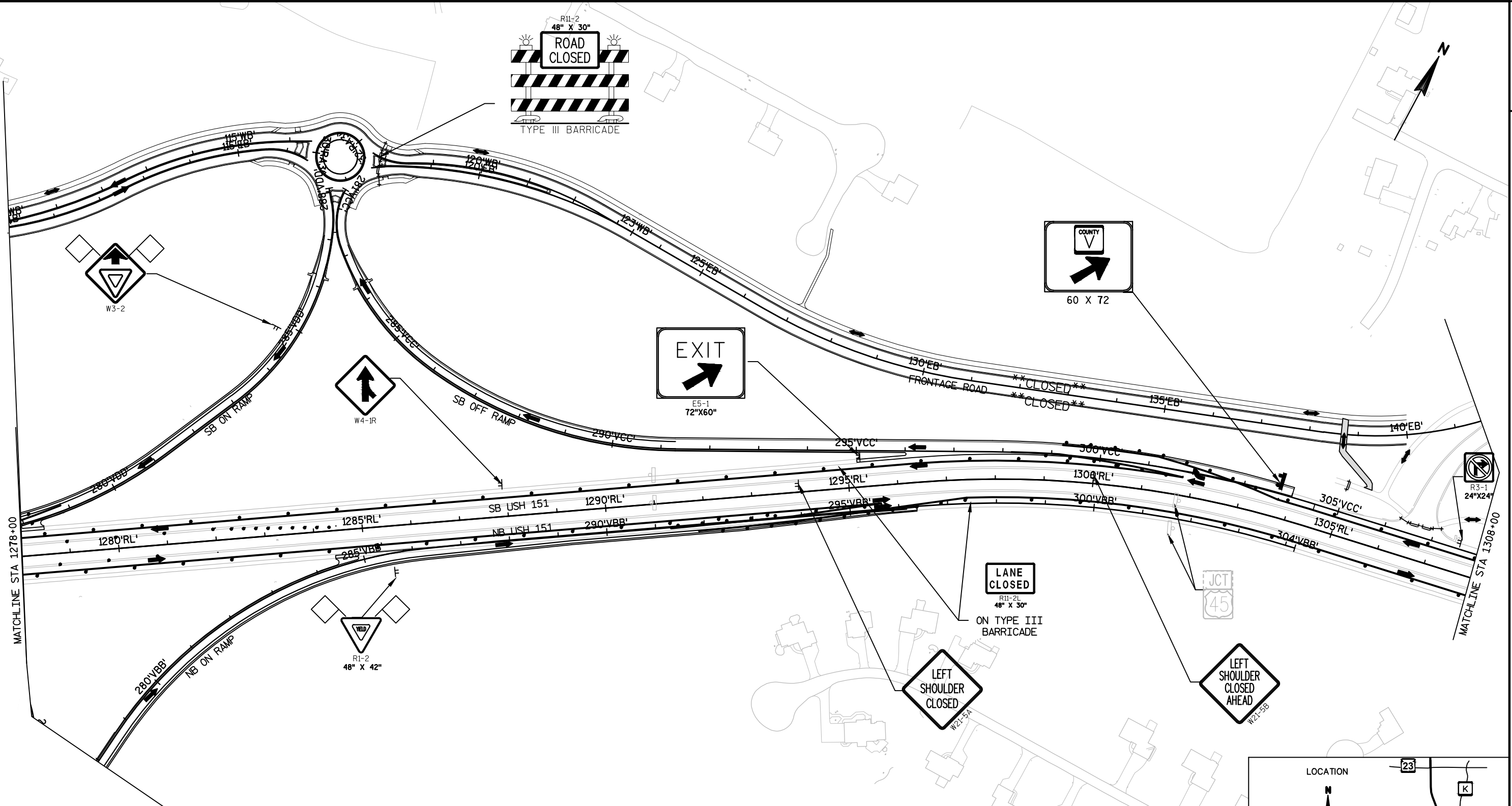
**LEGEND**

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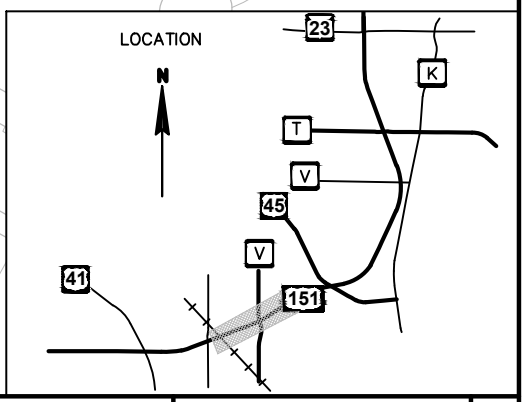
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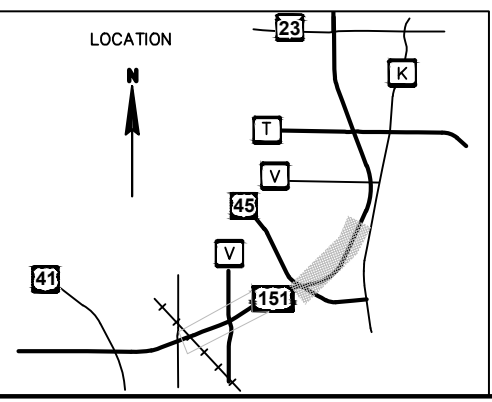
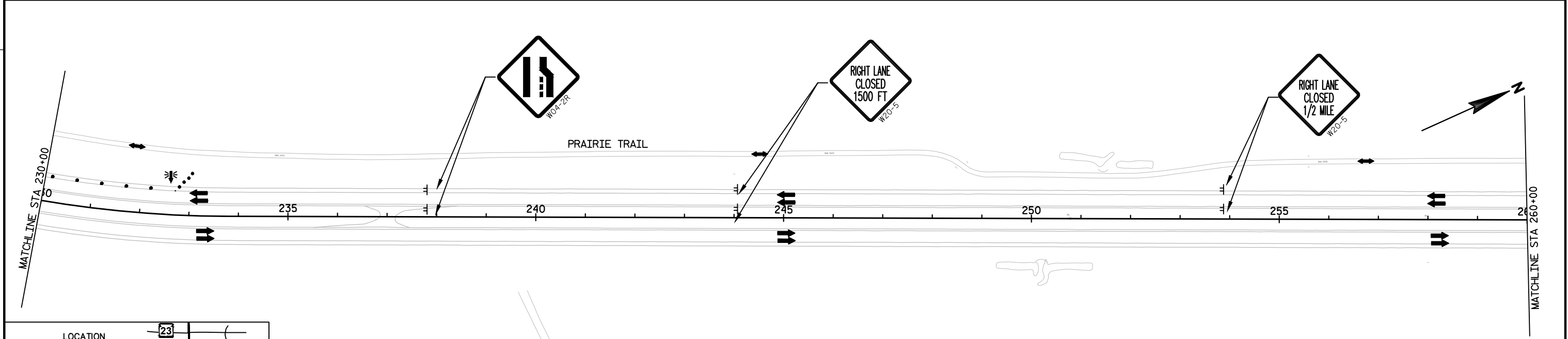
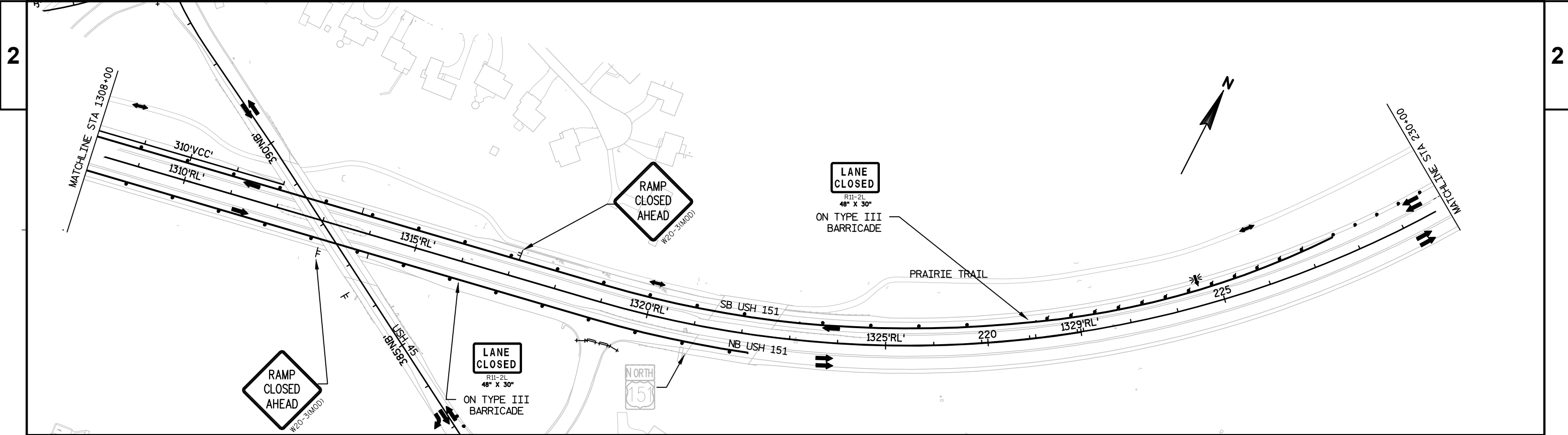
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**LEGEND**

<ul style="list-style-type: none"> <li>↑ ↓ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN</li> <li>● ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT</li> <li>↔ FLASHING ARROW BOARD</li> <li>⊥ ⊥ SIGN ON PERMANENT/TEMPORARY SUPPORT</li> <li>○ DELINEATOR FLEXIBLE TUBULAR MARKER</li> </ul>	<ul style="list-style-type: none"> <li>MB PORTABLE CHANGEABLE MESSAGE BOARD</li> <li>— CONCRETE BARRIER TEMPORARY PRECAST</li> <li>→ DIRECTION OF TRAFFIC</li> <li>▨ WORK AREA</li> <li>▭ TEMPORARY PAVEMENT</li> </ul>
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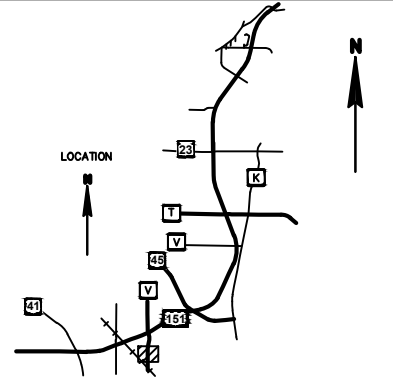
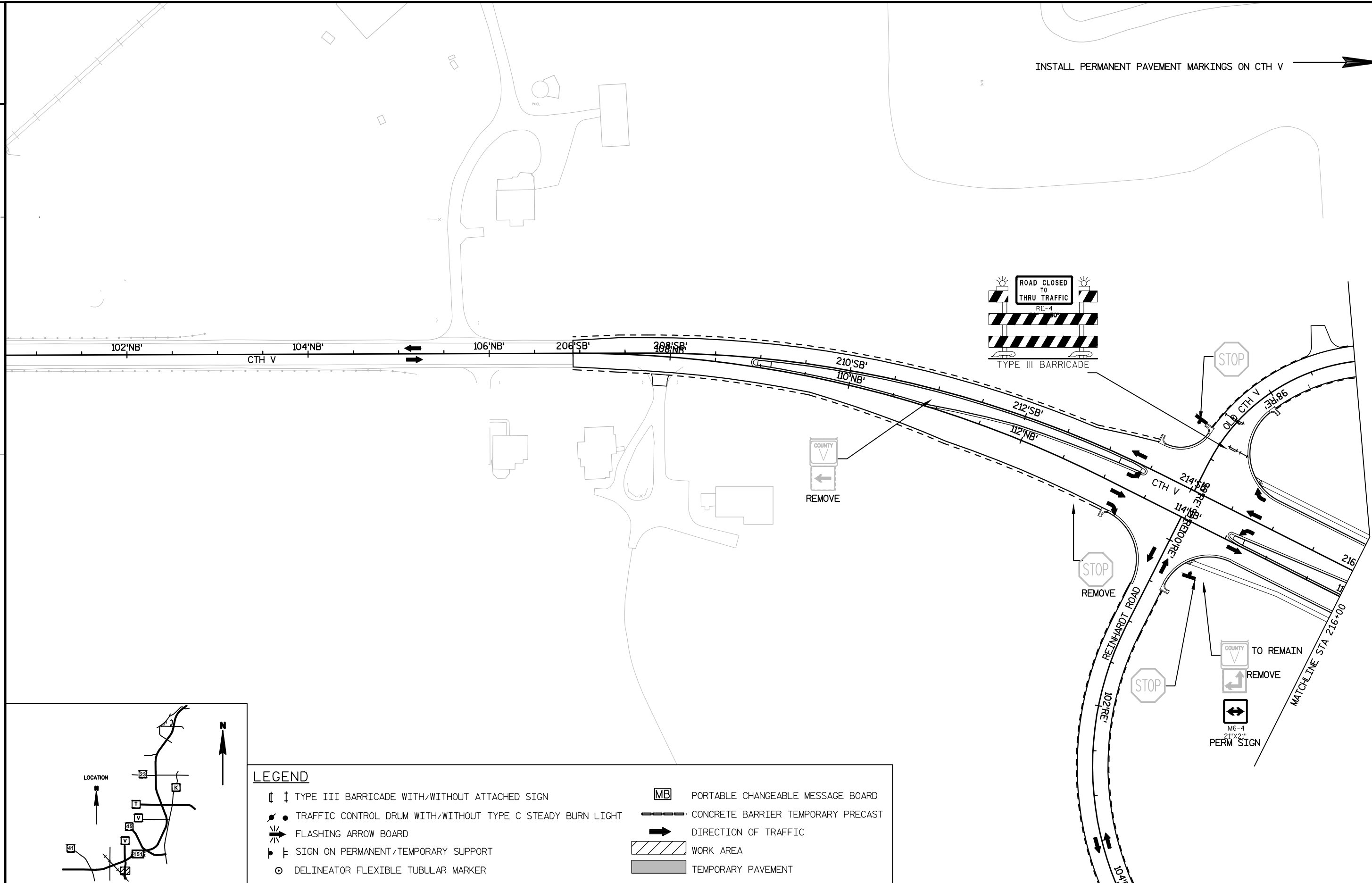




LEGEND	
↑ ↓	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
⊙	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
↔	FLASHING ARROW BOARD
⊥	SIGN ON PERMANENT/TEMPORARY SUPPORT
○	DELINEATOR FLEXIBLE TUBULAR MARKER
MB	PORTABLE CHANGEABLE MESSAGE BOARD
— — — —	CONCRETE BARRIER TEMPORARY PRECAST
→	DIRECTION OF TRAFFIC
▨	WORK AREA
■	TEMPORARY PAVEMENT

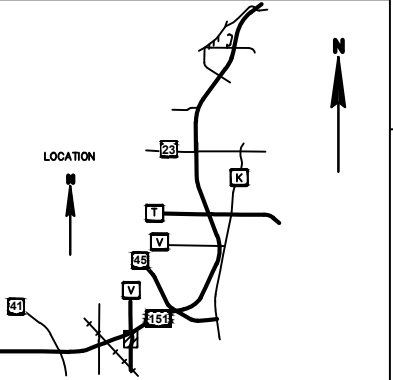
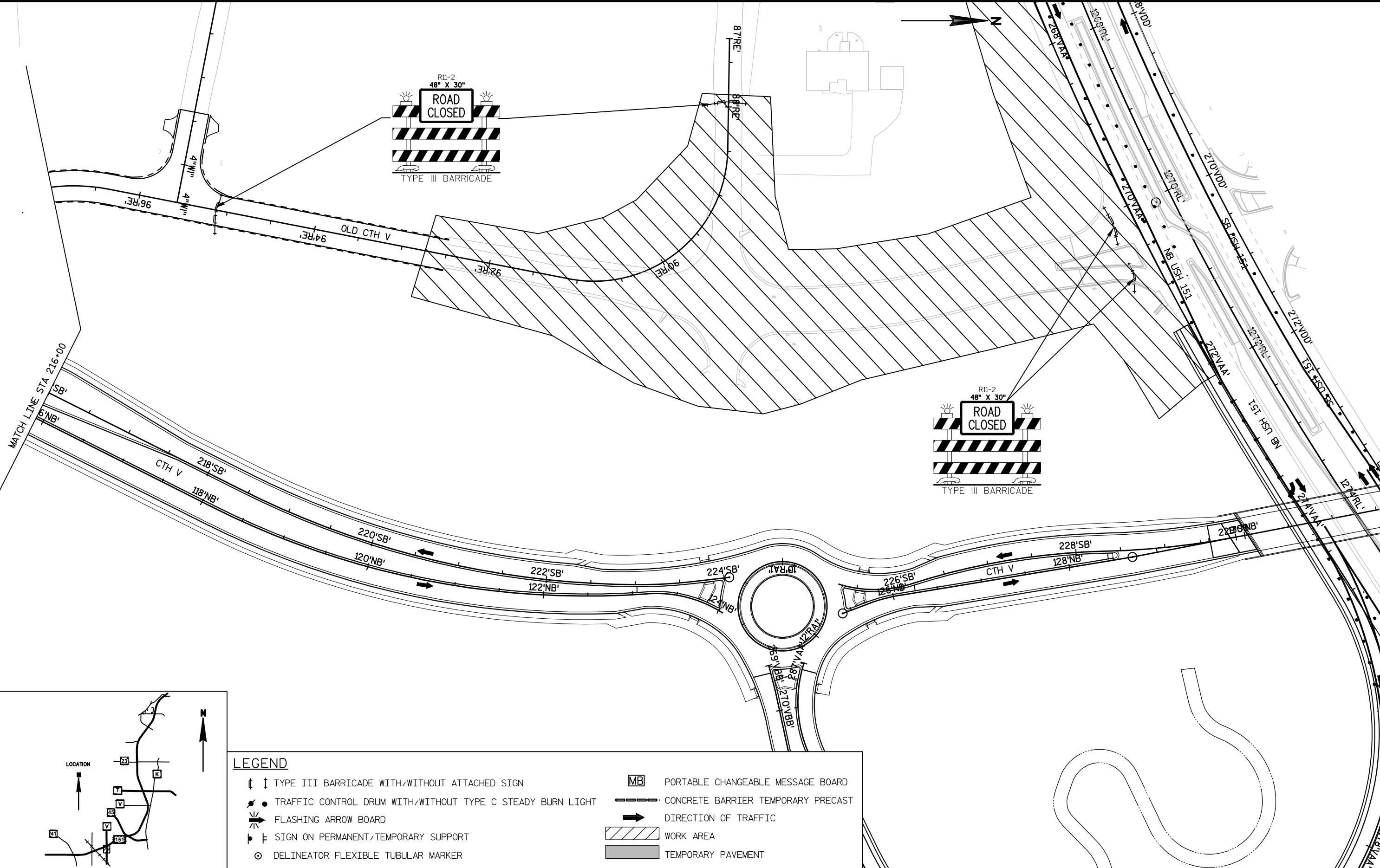
PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      TRAFFIC CONTROL - STAGE V5 - USH 151      SHEET      E

INSTALL PERMANENT PAVEMENT MARKINGS ON CTH V → N



**LEGEND**

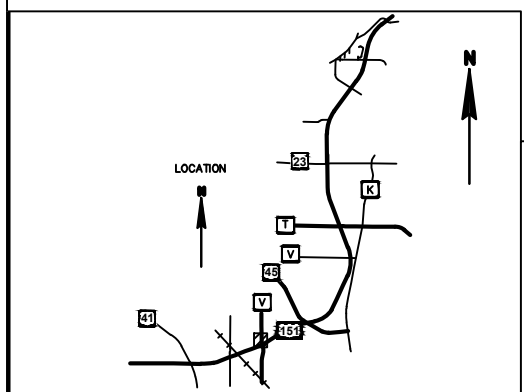
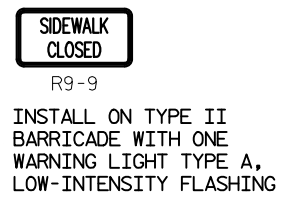
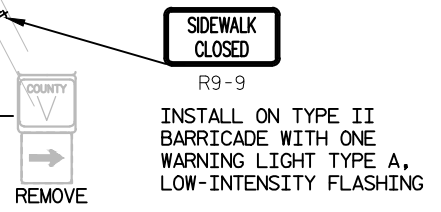
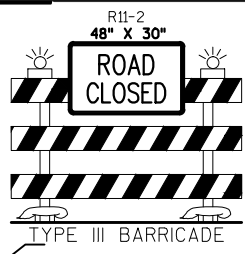
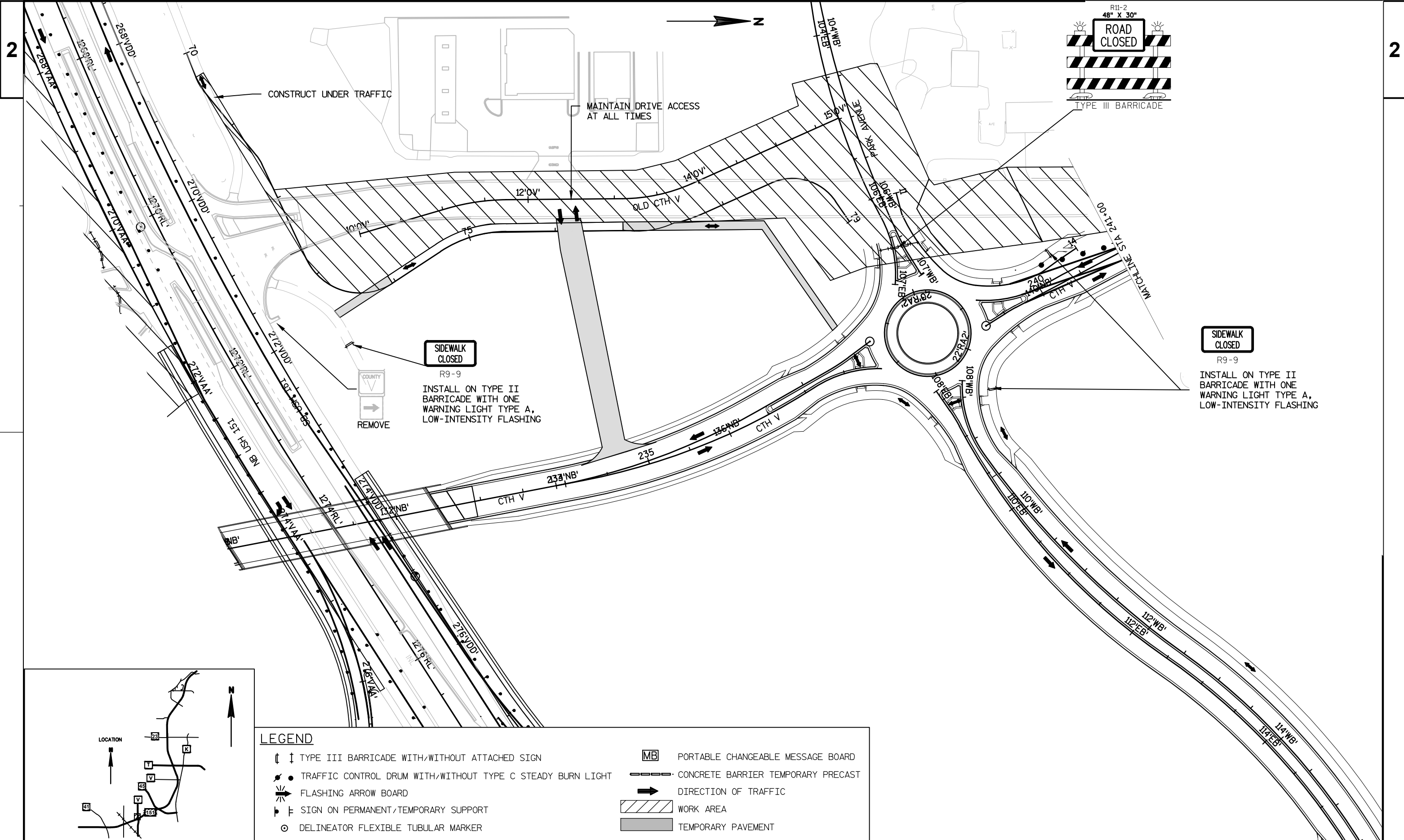
↑ ↓	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN	MB	PORTABLE CHANGEABLE MESSAGE BOARD
●	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT	— — —	CONCRETE BARRIER TEMPORARY PRECAST
↔	FLASHING ARROW BOARD	→	DIRECTION OF TRAFFIC
⊥	SIGN ON PERMANENT/TEMPORARY SUPPORT	▨	WORK AREA
○	DELINEATOR FLEXIBLE TUBULAR MARKER	■	TEMPORARY PAVEMENT



**LEGEND**

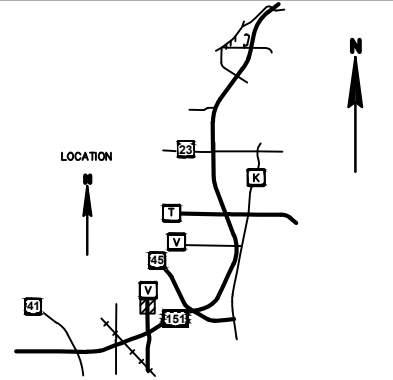
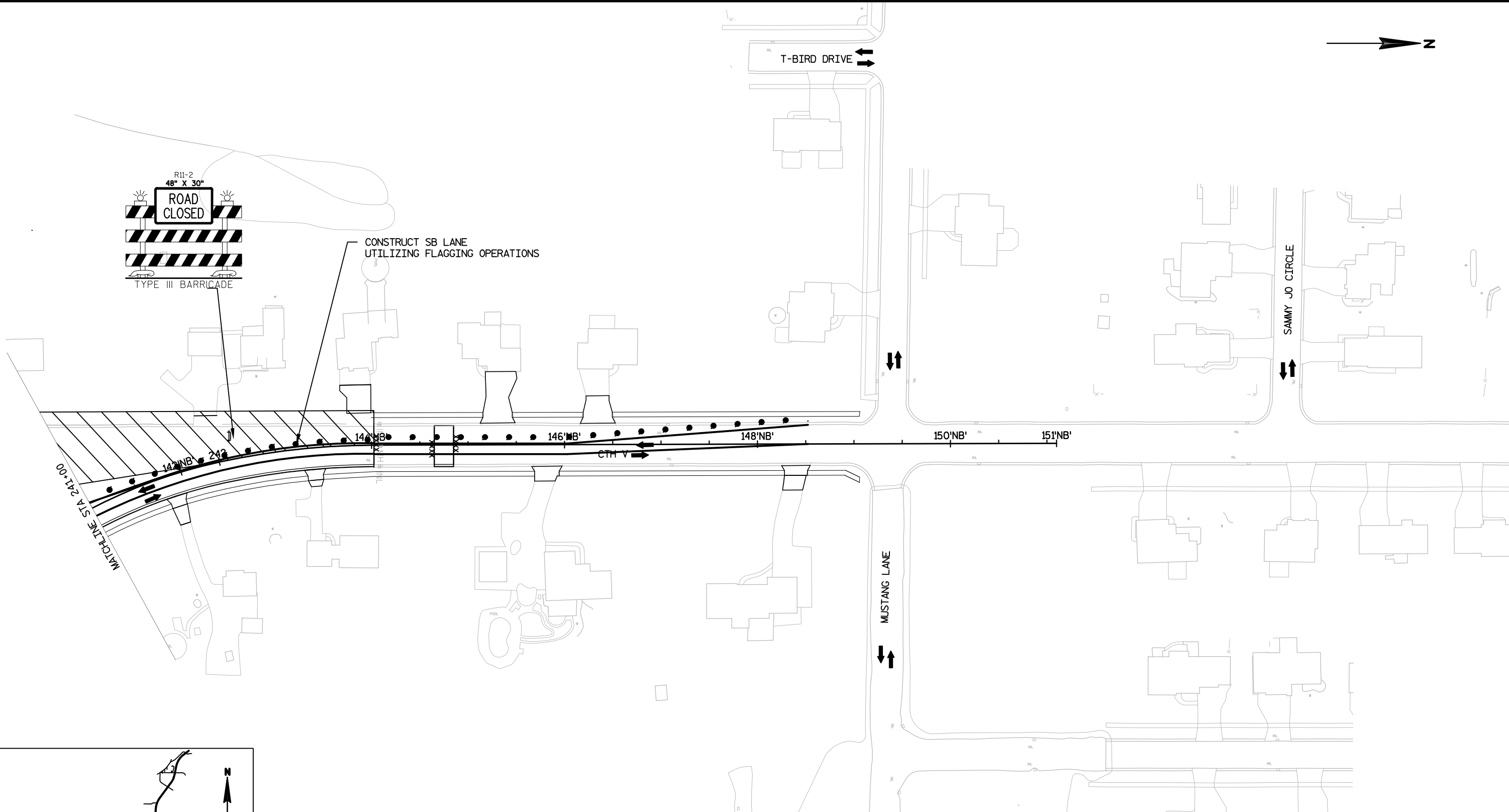
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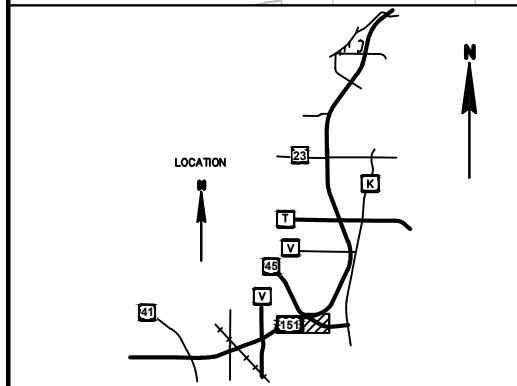
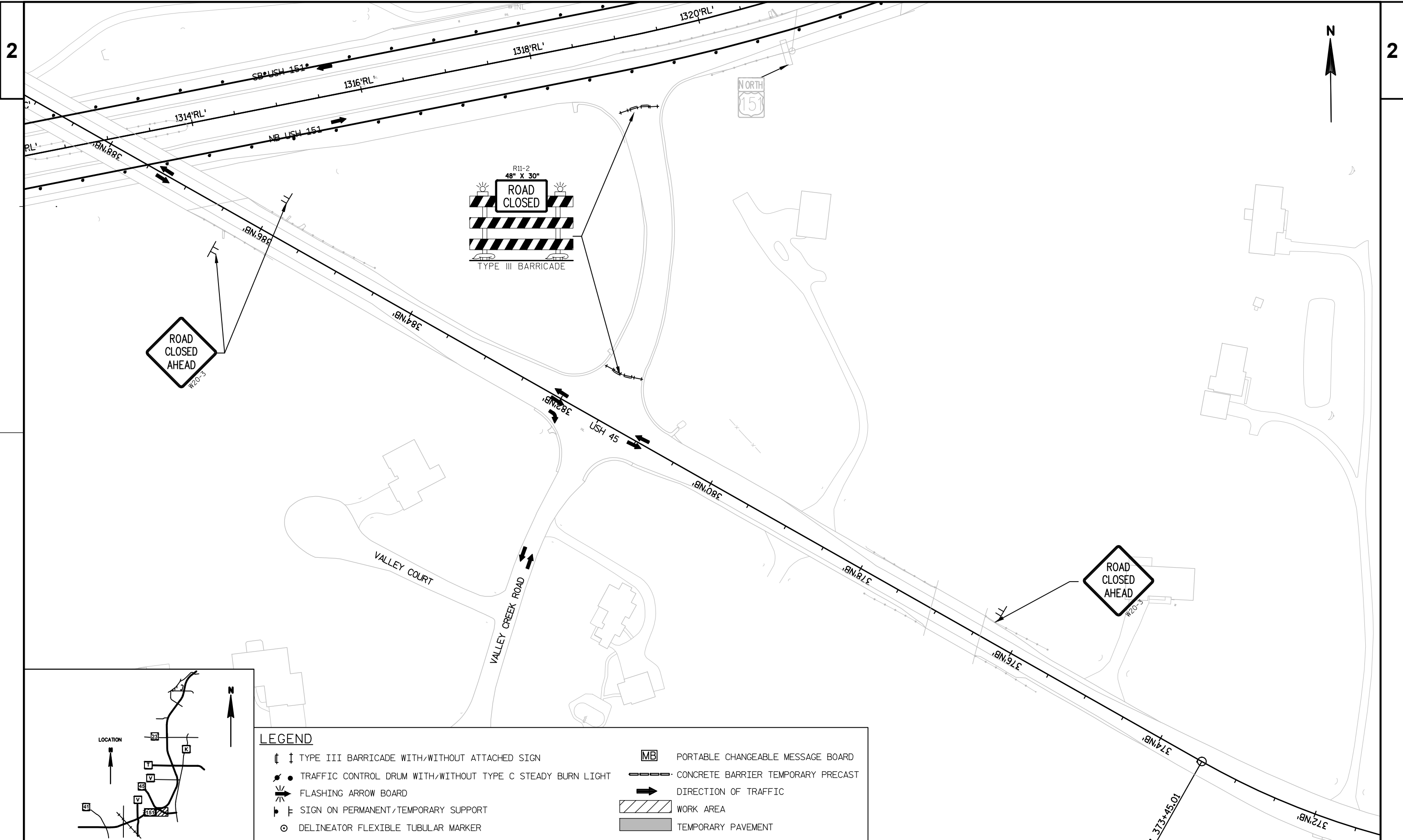
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**LEGEND**

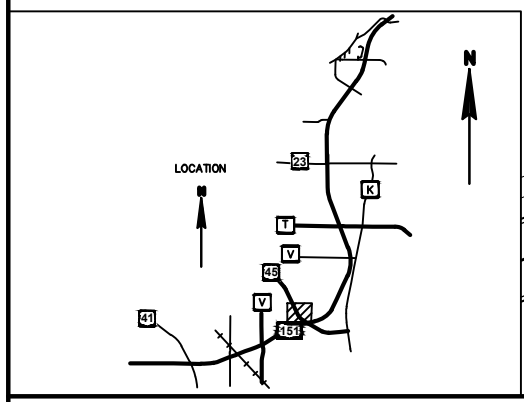
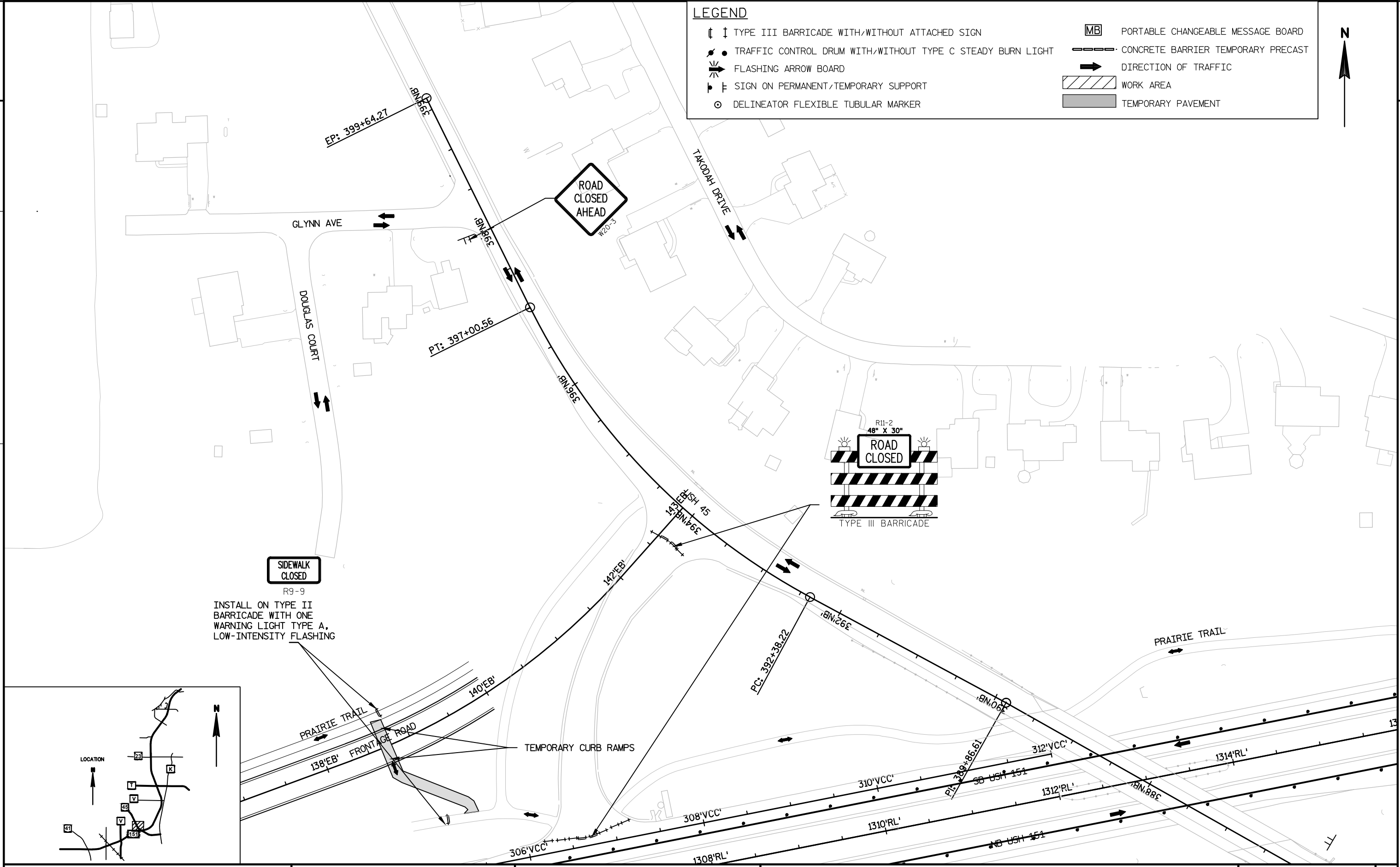
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	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT		CONCRETE BARRIER TEMPORARY PRECAST
	FLASHING ARROW BOARD		DIRECTION OF TRAFFIC
	SIGN ON PERMANENT/TEMPORARY SUPPORT		WORK AREA
	DELINEATOR FLEXIBLE TUBULAR MARKER		TEMPORARY PAVEMENT



LEGEND	
	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT/TEMPORARY SUPPORT
	DELINEATOR FLEXIBLE TUBULAR MARKER
	PORTABLE CHANGEABLE MESSAGE BOARD
	CONCRETE BARRIER TEMPORARY PRECAST
	DIRECTION OF TRAFFIC
	WORK AREA
	TEMPORARY PAVEMENT

LEGEND

- ⚡ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
- ⚡ FLASHING ARROW BOARD
- ⚡ SIGN ON PERMANENT/TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE TUBULAR MARKER
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- ➡ DIRECTION OF TRAFFIC
- ▨ WORK AREA
- ▭ TEMPORARY PAVEMENT




**2** STAGE V6  
**PURPOSE:**  
 COMPLETE FRONTAGE ROAD CONNECTION WITH USH 45  
 COMPLETE REHABILITATION OF USH 45 STRUCTURE APPROACHES  
 COMPLETE SB USH 151 ON AND OFF RAMP PARALLEL LANES AND SIGN BRIDGE  
 STAGE V6A-COMPLETE CONSTRUCTION OF PRAIRIE TRAIL


**TRAFFIC HANDLING:**  
 NORTHBOUND USH 151 TRAFFIC OPEN TO ONE LANE OF TRAFFIC.  
 SOUTHBOUND USH 151 TRAFFIC OPEN TO ONE LANE OF TRAFFIC.  
 CTH V TRAFFIC OPEN TO ONE LANE IN EACH DIRECTION ON NEW CTH V  
 USH 45 CLOSED TO THRU TRAFFIC AND DETOURED  
 CTH V ACCESS TO USH 151 USING INTERCHANGE RAMPS WITH TEMPORARY GORES FOR SB RAMPS  
 USH 45 RAMPS TO USH 151 PERMANENTLY CLOSED TO TRAFFIC (REMOVED IN THIS STAGE).

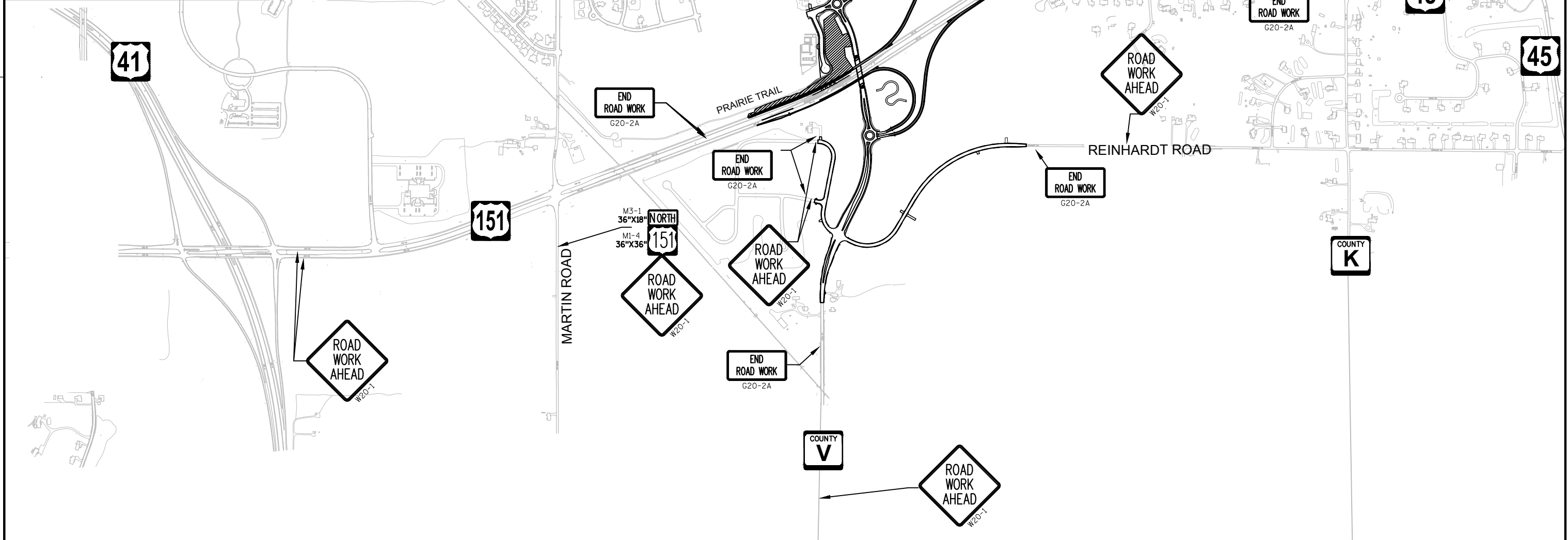
**RESTRICTIONS:**  
 NORTHBOUND USH 151 OUTSIDE LANE CLOSED  
 SOUTHBOUND USH 151 OUTSIDE LANE CLOSED  
 NORTHBOUND USH 151 INSIDE SHOULDER CLOSED AT CTH V.  
 SOUTHBOUND USH 151 INSIDE SHOULDER CLOSED AT CTH V.

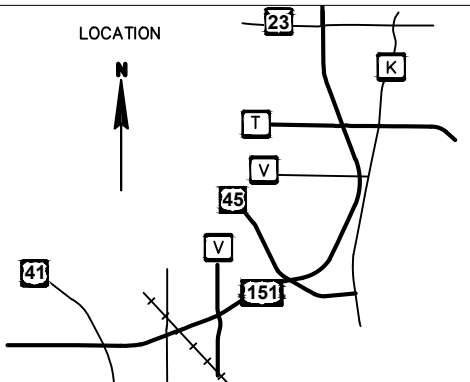
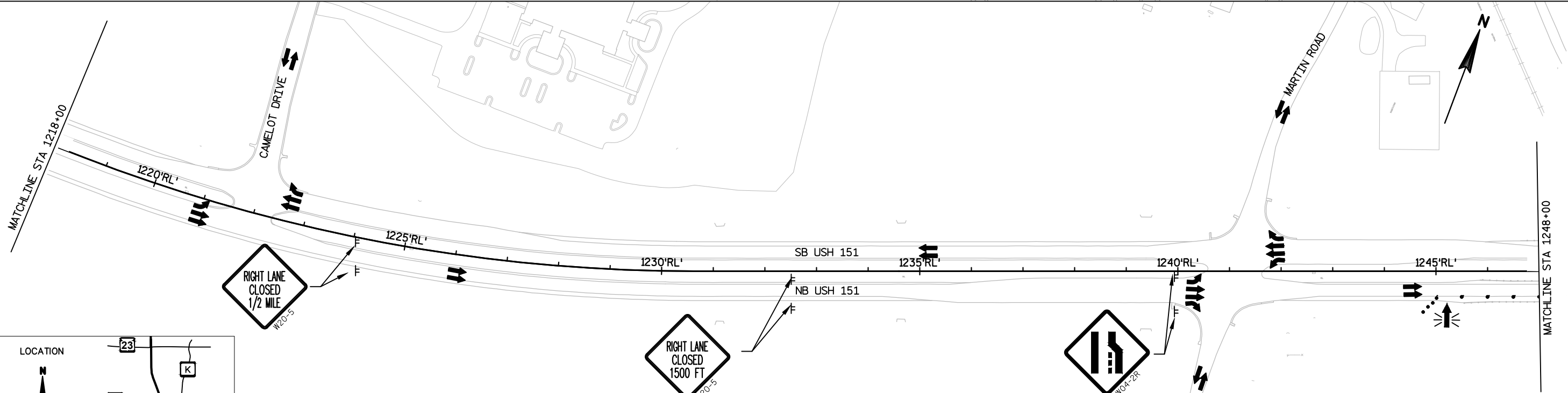
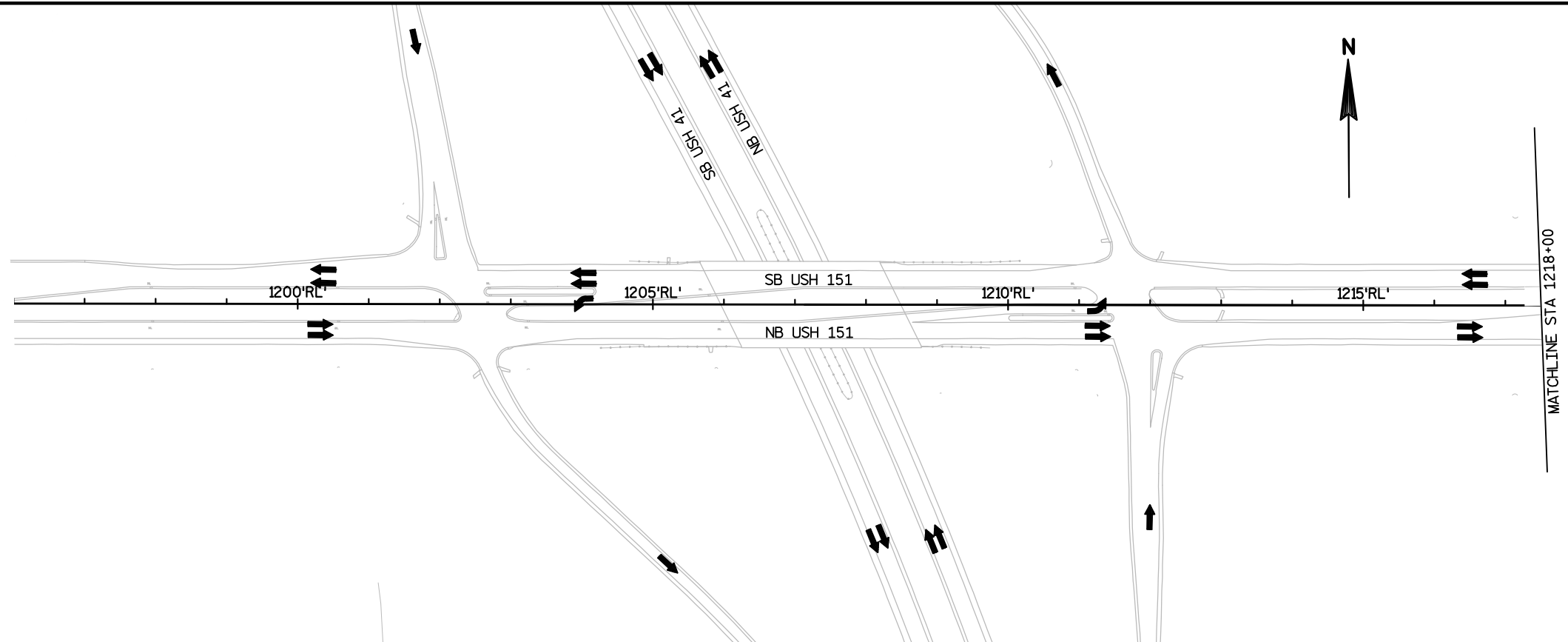
NOTE: SEE PROJECT 1420-23-71 FOR SOUTHBOUND ADVANCED WARNING SIGNS.

**LEGEND:**

 WORK ZONE - GRADING

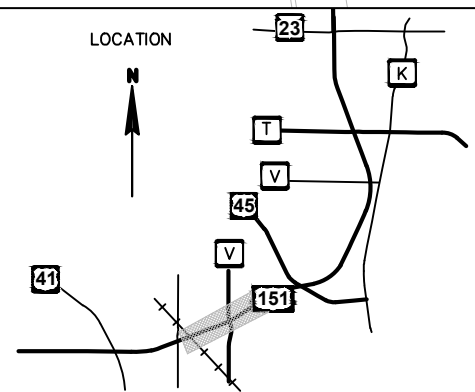
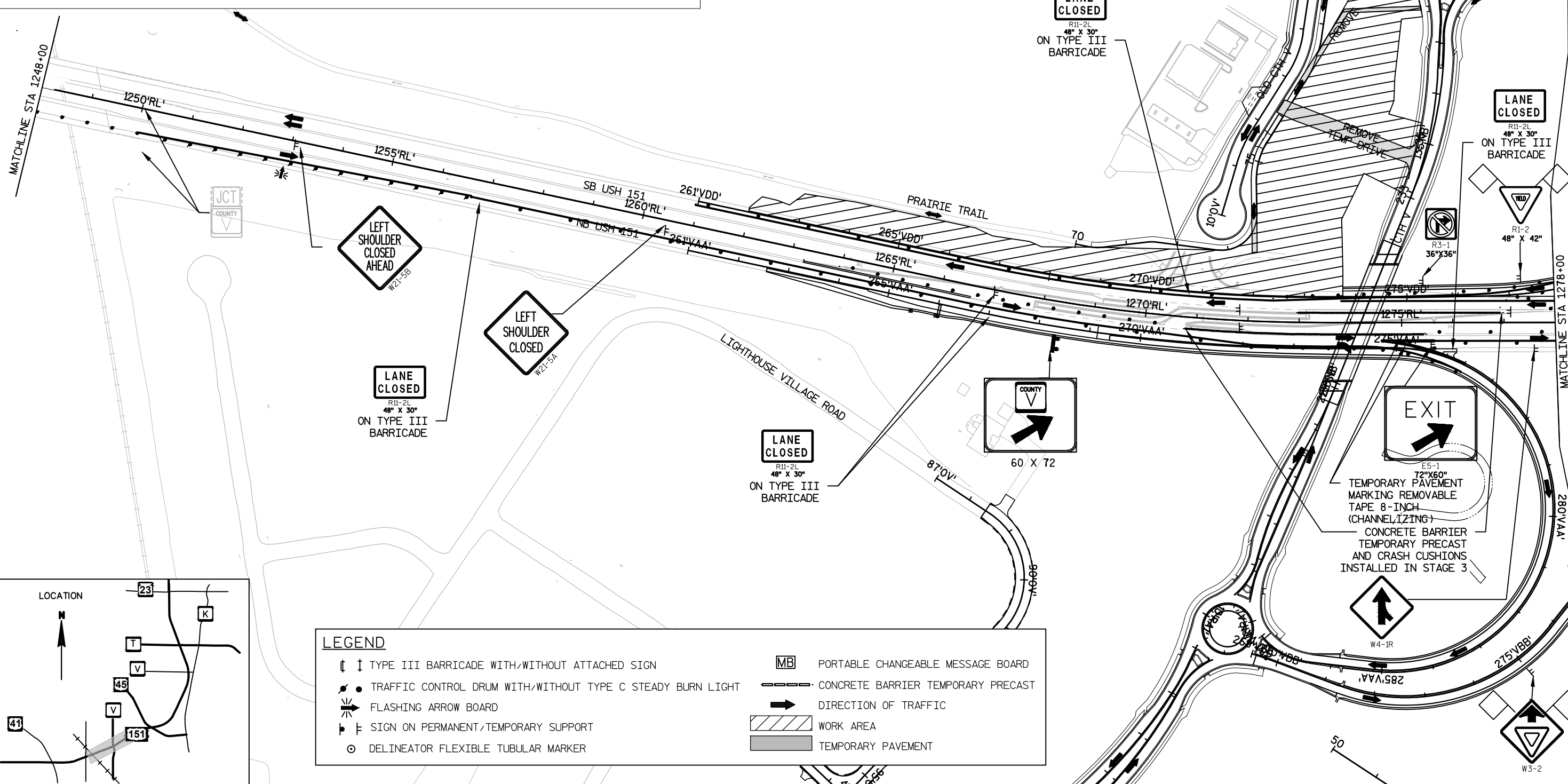
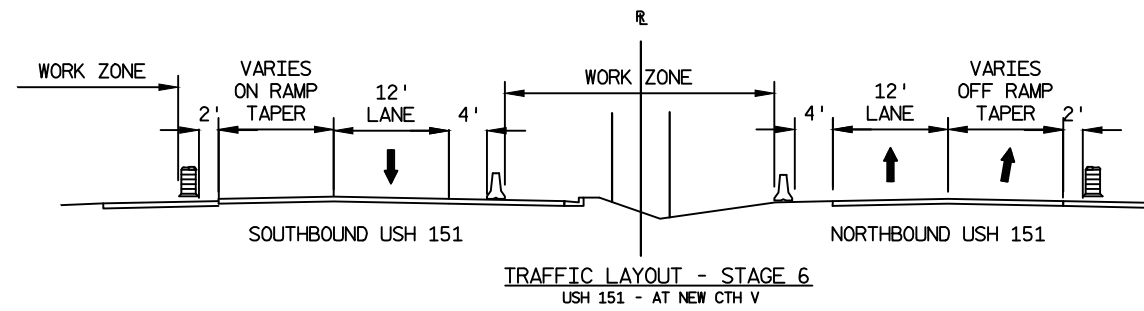
 WORK ZONE - PAVING



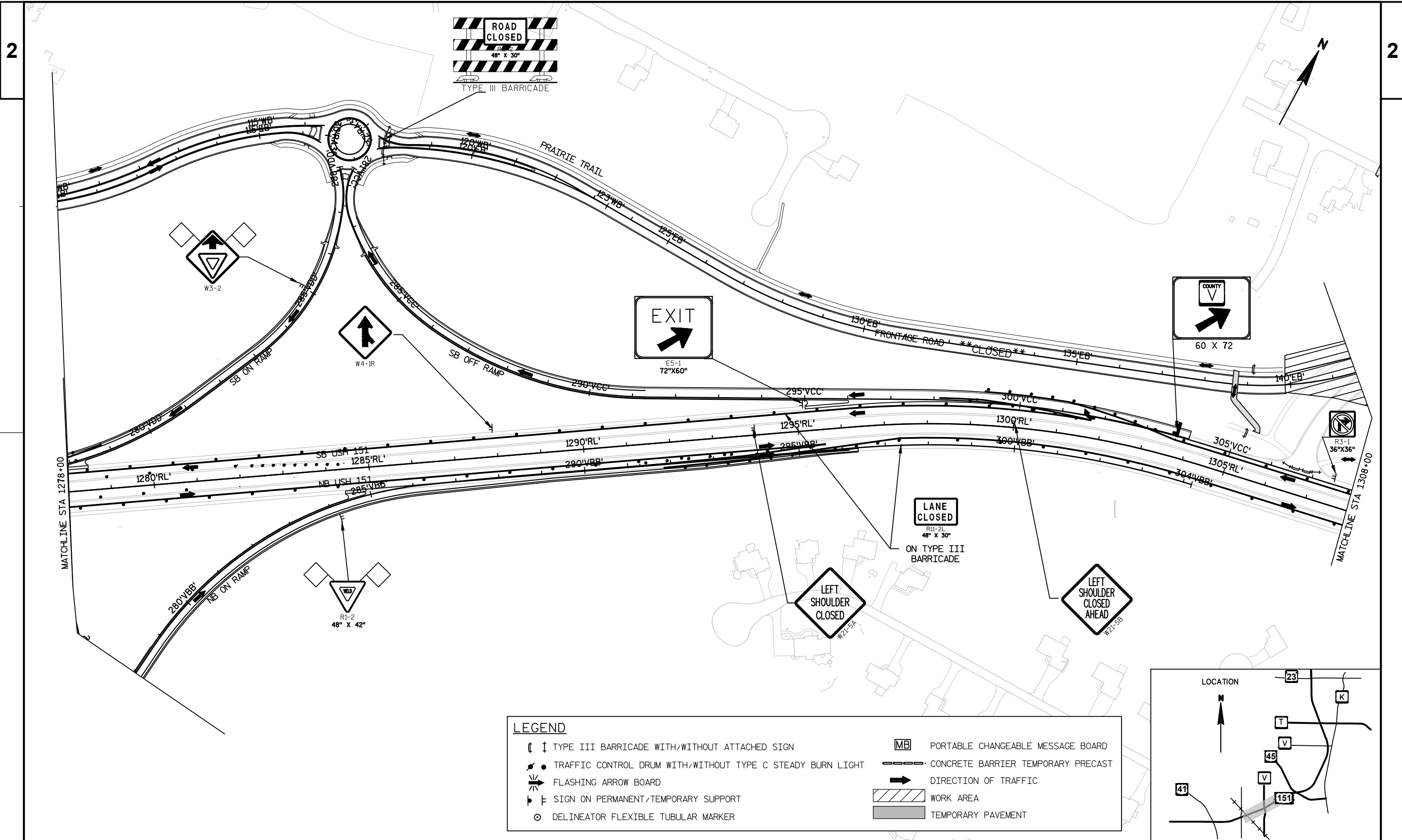


LEGEND

- ↑ ↓ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
- ↔ FLASHING ARROW BOARD
- ⊥ ⊥ SIGN ON PERMANENT/TEMPORARY SUPPORT
- ⊙ DELINEATOR FLEXIBLE TUBULAR MARKER
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- ▨ WORK AREA
- TEMPORARY PAVEMENT



LEGEND	
▬ ▬ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN	<span style="border: 1px solid black; padding: 2px;">MB</span> PORTABLE CHANGEABLE MESSAGE BOARD
● ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT	▬ CONCRETE BARRIER TEMPORARY PRECAST
↔ FLASHING ARROW BOARD	➔ DIRECTION OF TRAFFIC
▬ SIGN ON PERMANENT/TEMPORARY SUPPORT	▬ WORK AREA
○ DELINEATOR FLEXIBLE TUBULAR MARKER	▬ TEMPORARY PAVEMENT



PROJECT NO:1420-22-71

HWY:USH 151

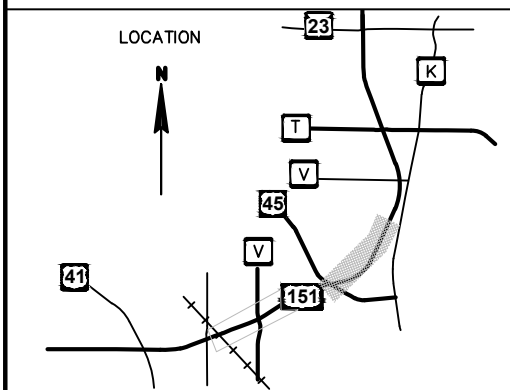
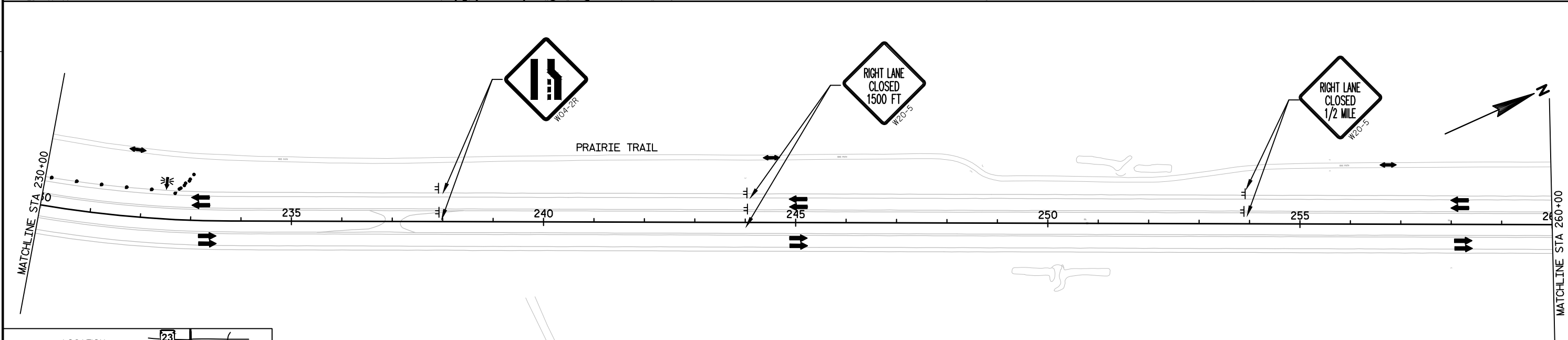
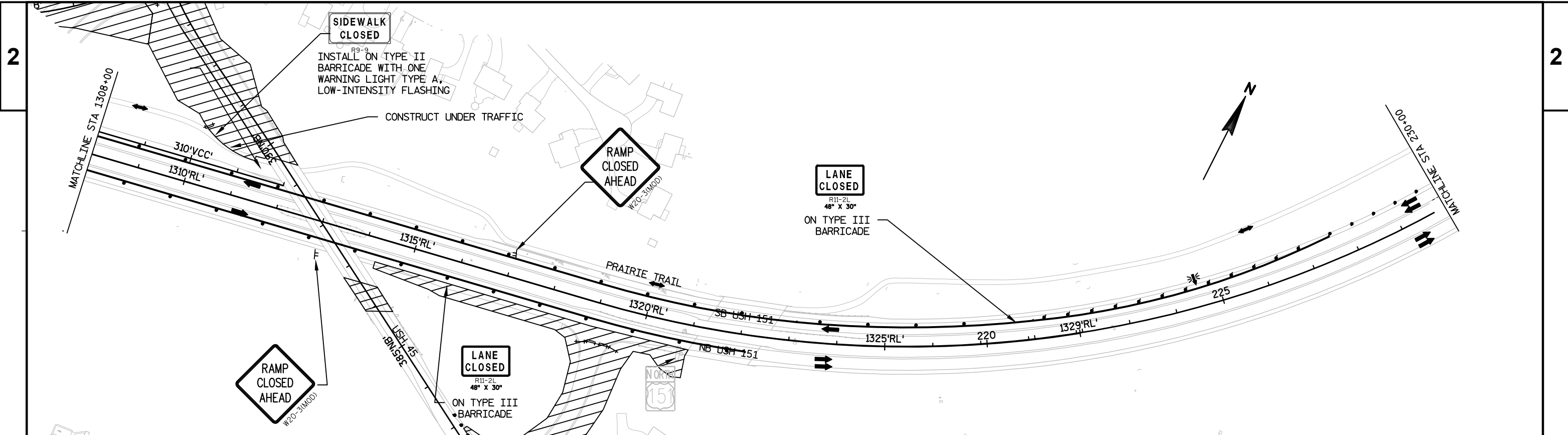
COUNTY:FOND DU LAC

TRAFFIC CONTROL - STAGE V6A - USH 151

SHEET

E





**LEGEND**

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT/TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE TUBULAR MARKER
- PORTABLE CHANGEABLE MESSAGE BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA
- TEMPORARY PAVEMENT

PROJECT NO:1420-22-71

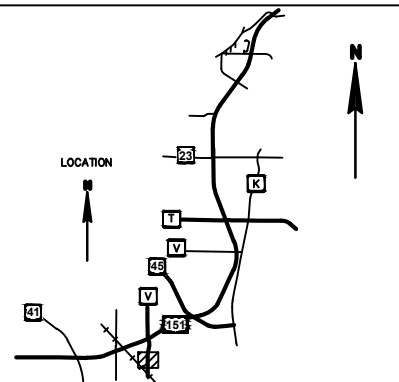
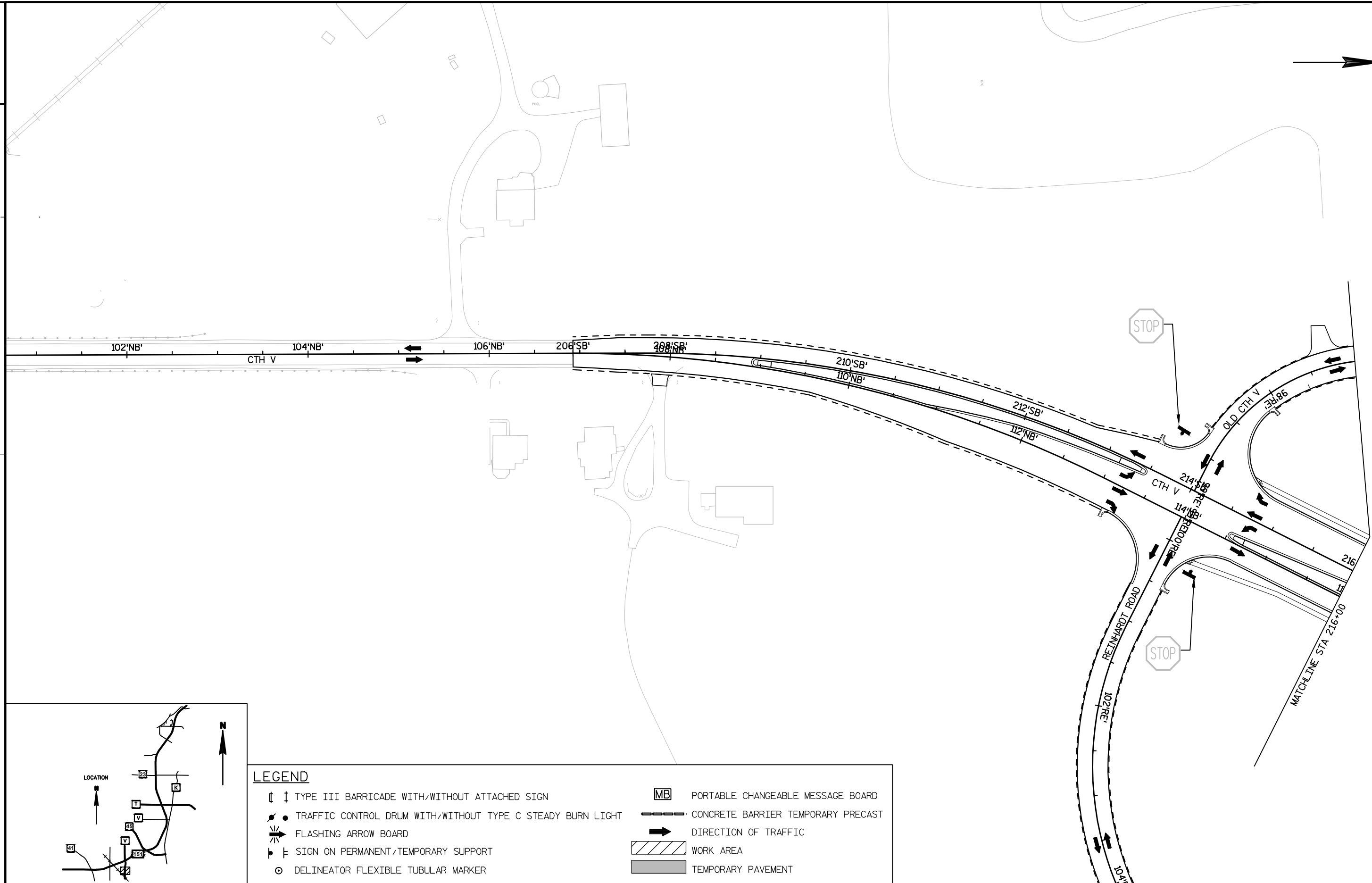
HWY: USH 151

COUNTY: FOND DU LAC

TRAFFIC CONTROL - STAGE V6A - USH 151

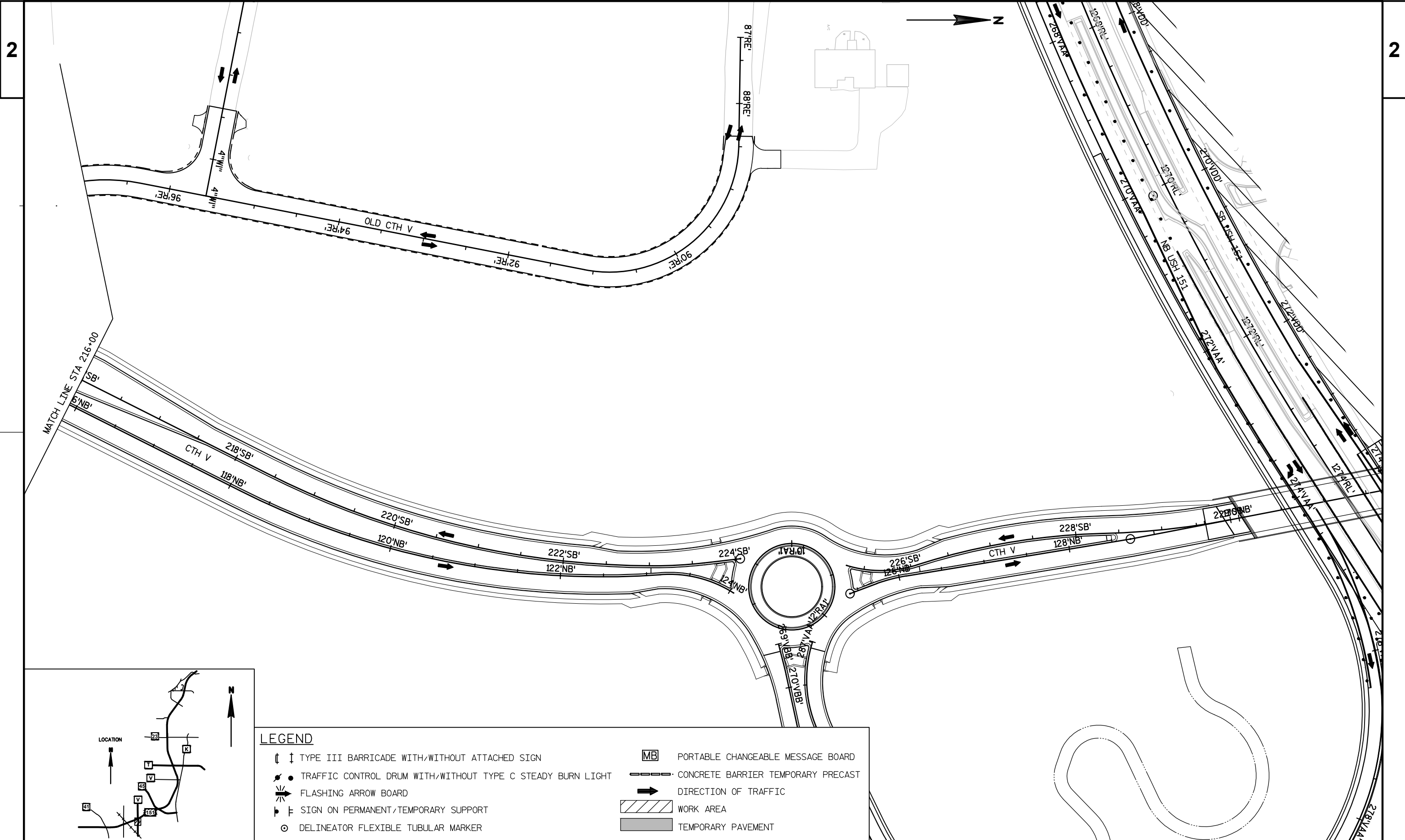
SHEET

E

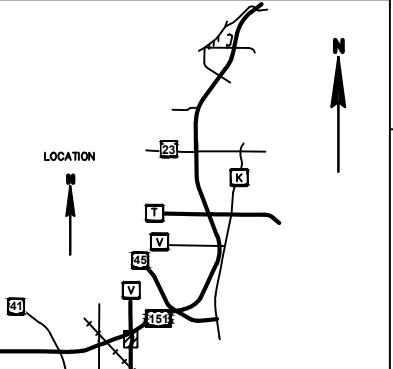


**LEGEND**

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>⚡ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN</li> <li>● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT</li> <li>⚡ FLASHING ARROW BOARD</li> <li>⚡ SIGN ON PERMANENT/TEMPORARY SUPPORT</li> <li>○ DELINEATOR FLEXIBLE TUBULAR MARKER</li> </ul> | <ul style="list-style-type: none"> <li><b>MB</b> PORTABLE CHANGEABLE MESSAGE BOARD</li> <li>— CONCRETE BARRIER TEMPORARY PRECAST</li> <li>➡ DIRECTION OF TRAFFIC</li> <li>▨ WORK AREA</li> <li>■ TEMPORARY PAVEMENT</li> </ul> |
|--|--|

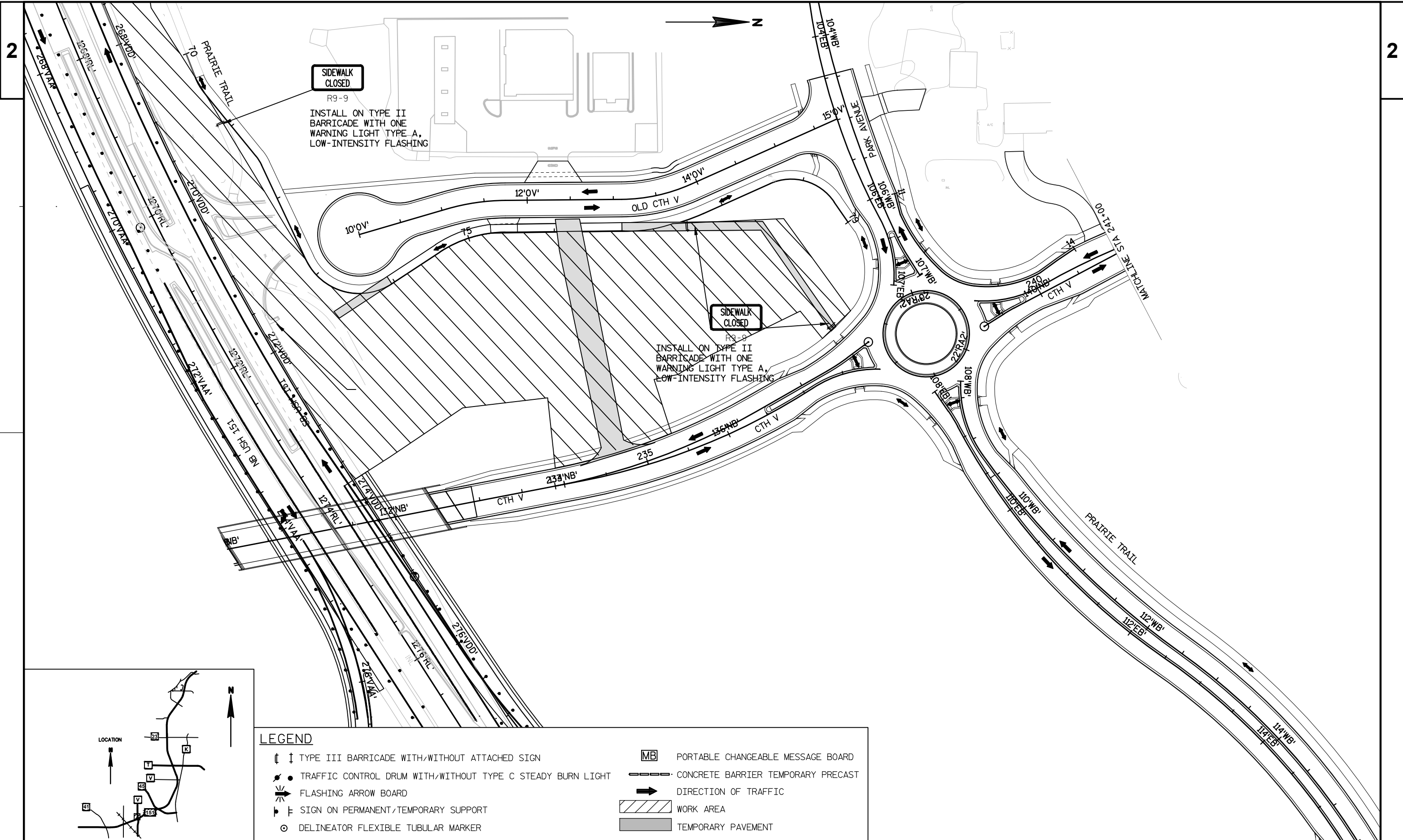


MATCH LINE STA 216+00



**LEGEND**

<ul style="list-style-type: none"> <li>⚡ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN</li> <li>● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT</li> <li>⚡ FLASHING ARROW BOARD</li> <li>⚡ SIGN ON PERMANENT/TEMPORARY SUPPORT</li> <li>○ DELINEATOR FLEXIBLE TUBULAR MARKER</li> </ul>	<ul style="list-style-type: none"> <li>MB PORTABLE CHANGEABLE MESSAGE BOARD</li> <li>--- CONCRETE BARRIER TEMPORARY PRECAST</li> <li>➔ DIRECTION OF TRAFFIC</li> <li>▨ WORK AREA</li> <li>■ TEMPORARY PAVEMENT</li> </ul>
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PROJECT NO:1420-22-71

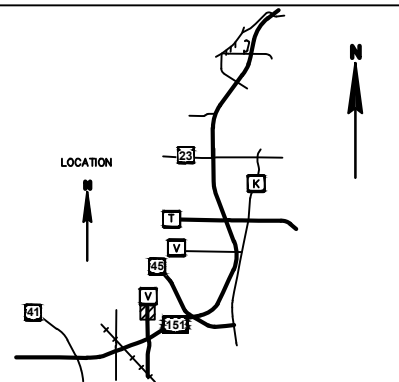
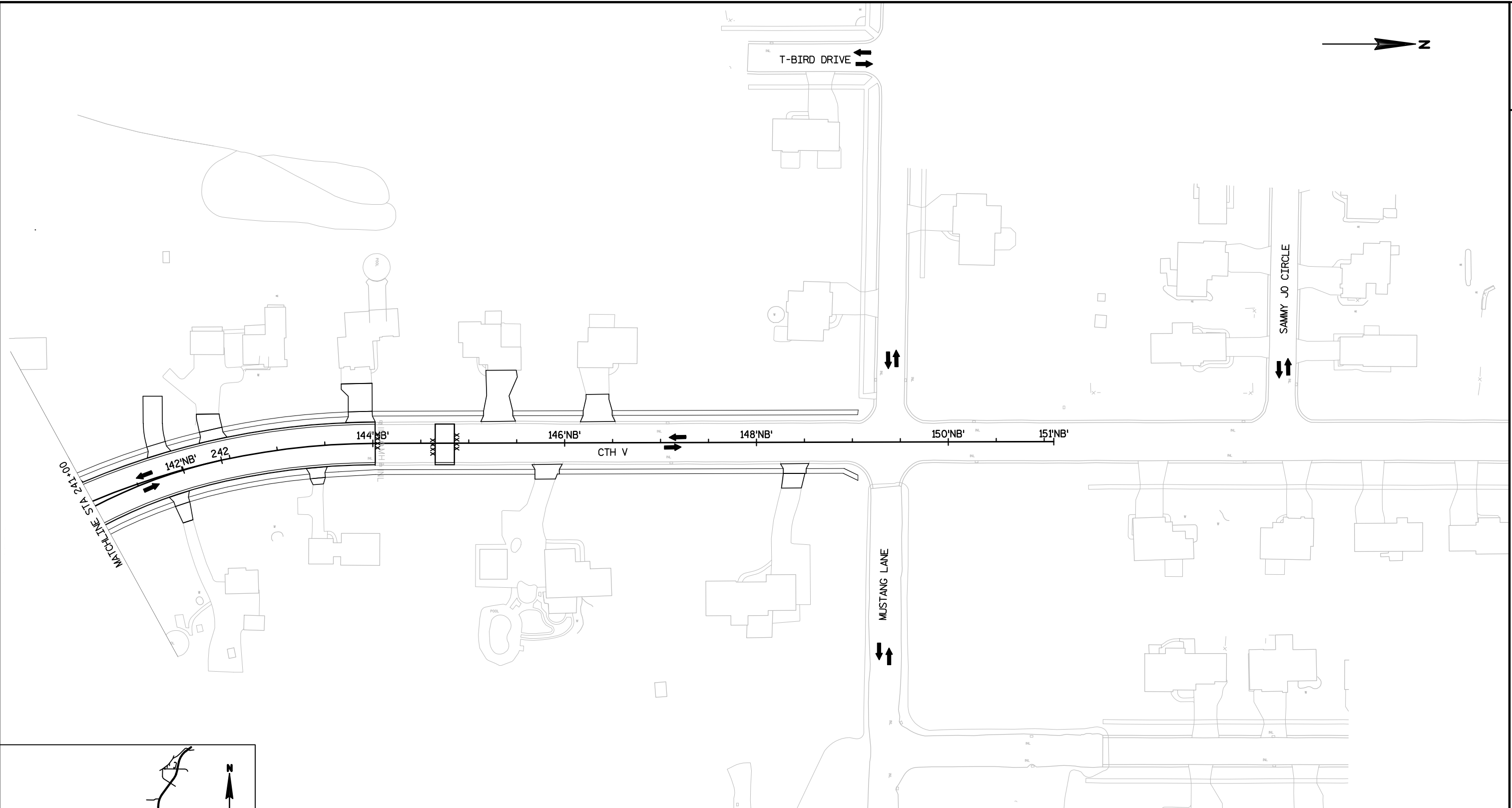
HWY:USH 151

COUNTY:FOND DU LAC

TRAFFIC CONTROL - STAGE V6A

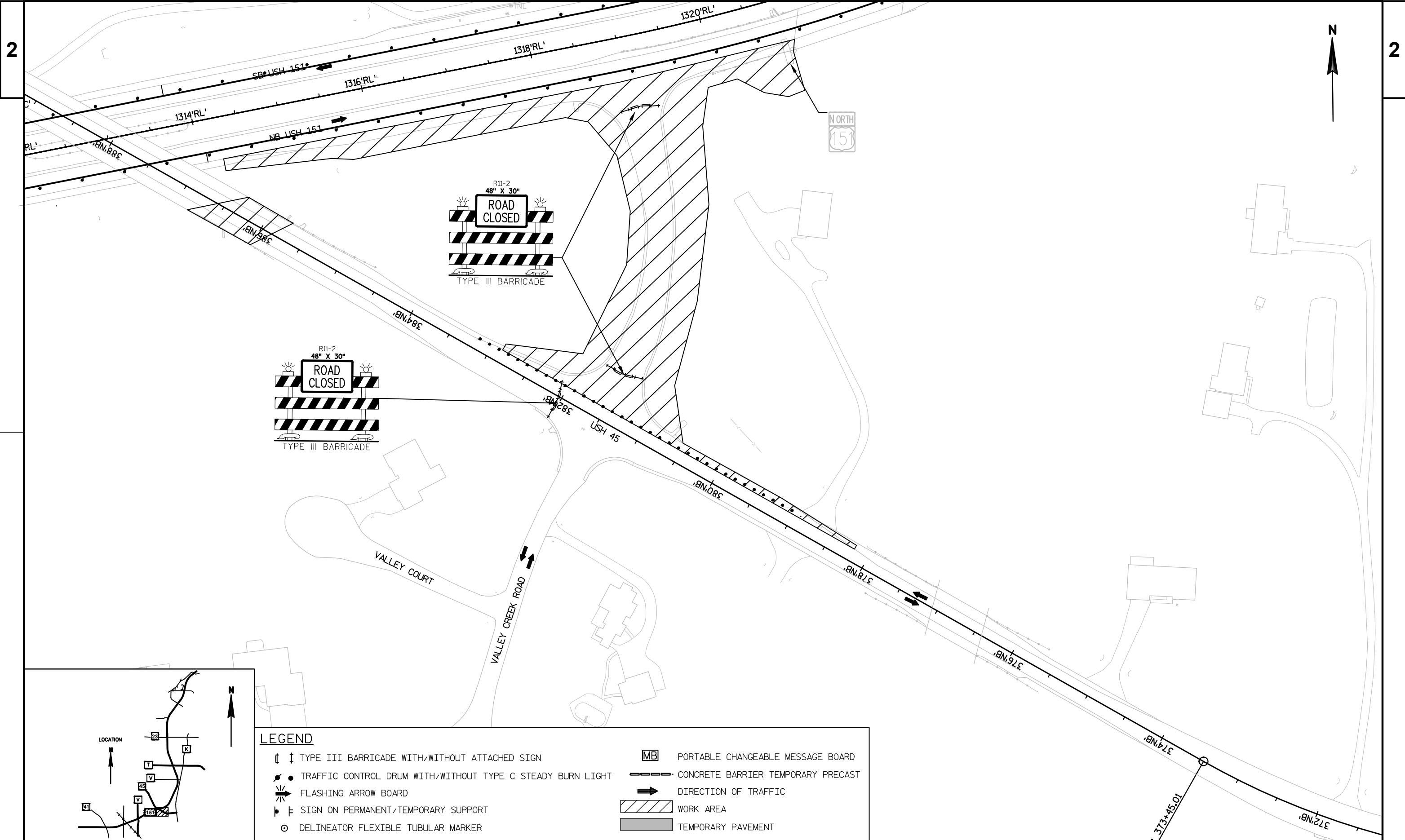
SHEET

E



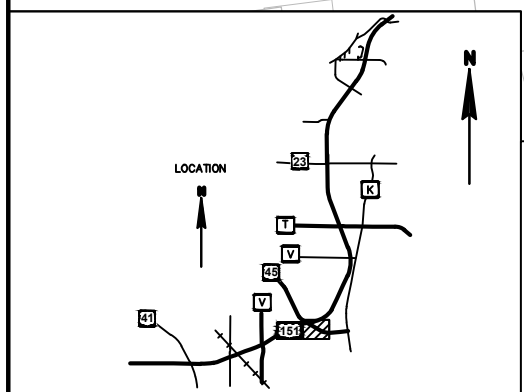
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2

2



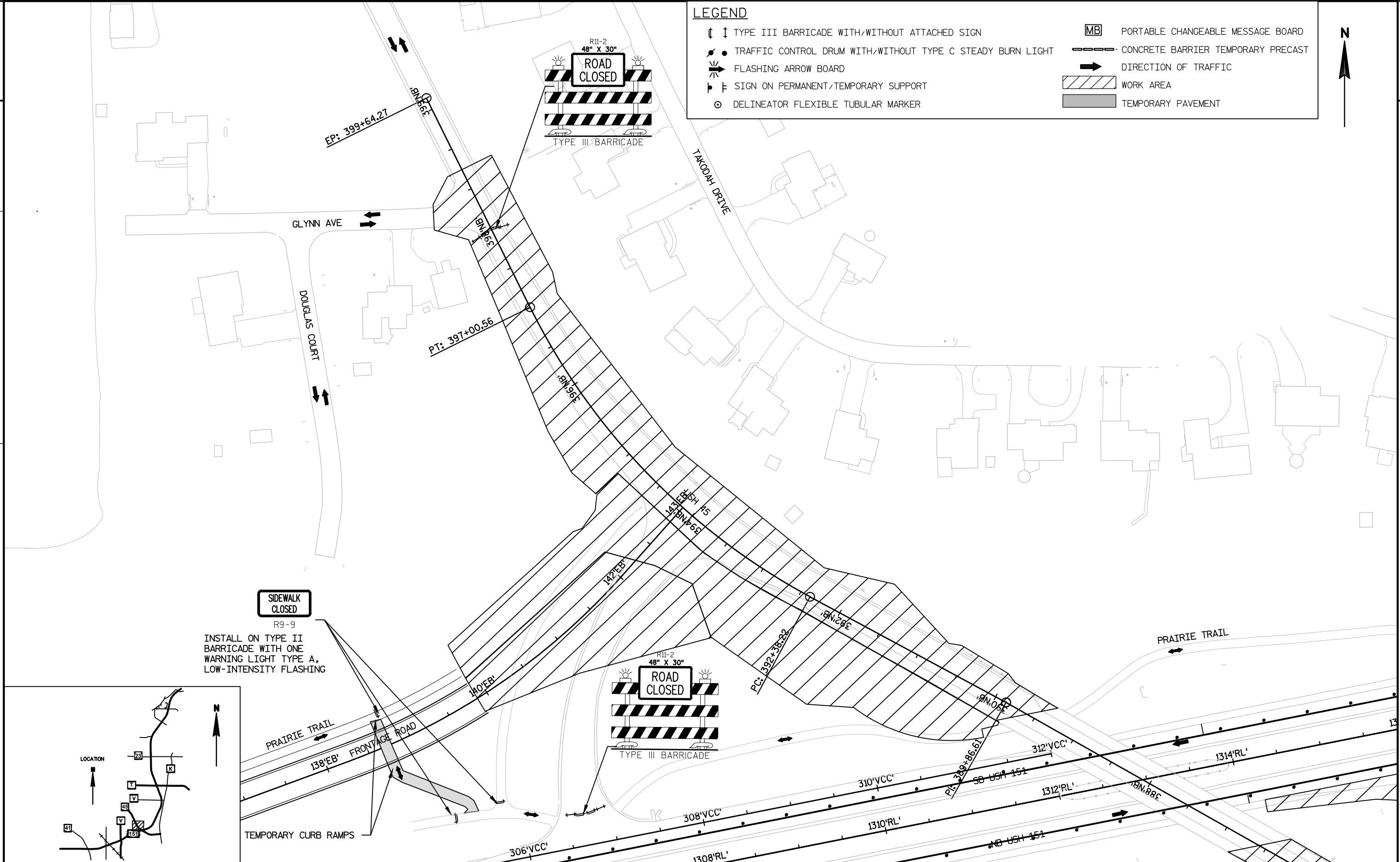
**LEGEND**

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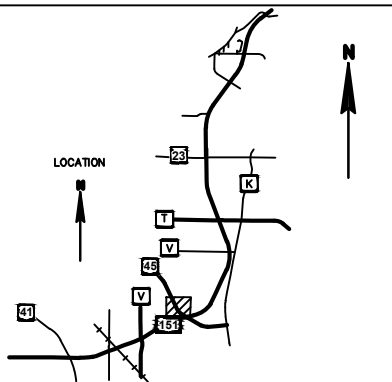
PROJECT NO:1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      TRAFFIC CONTROL - STAGE V6A      SHEET      E

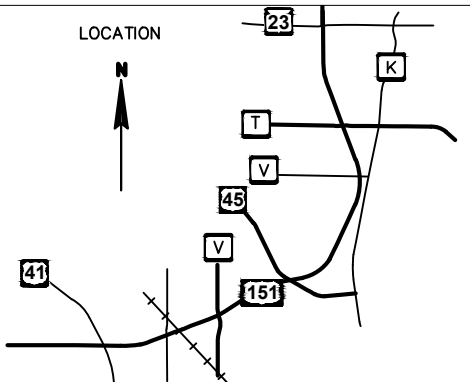
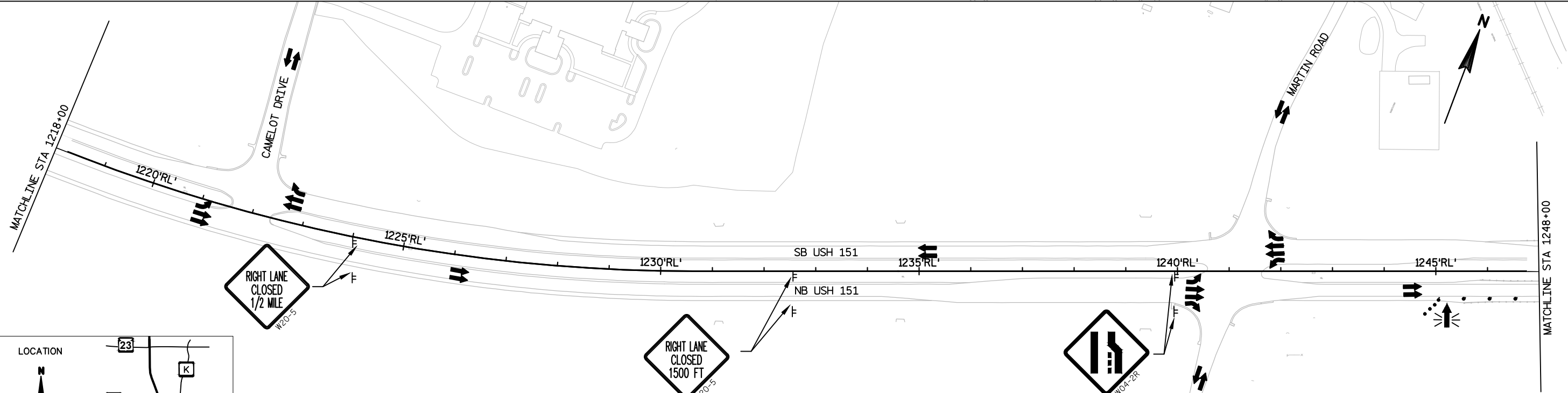
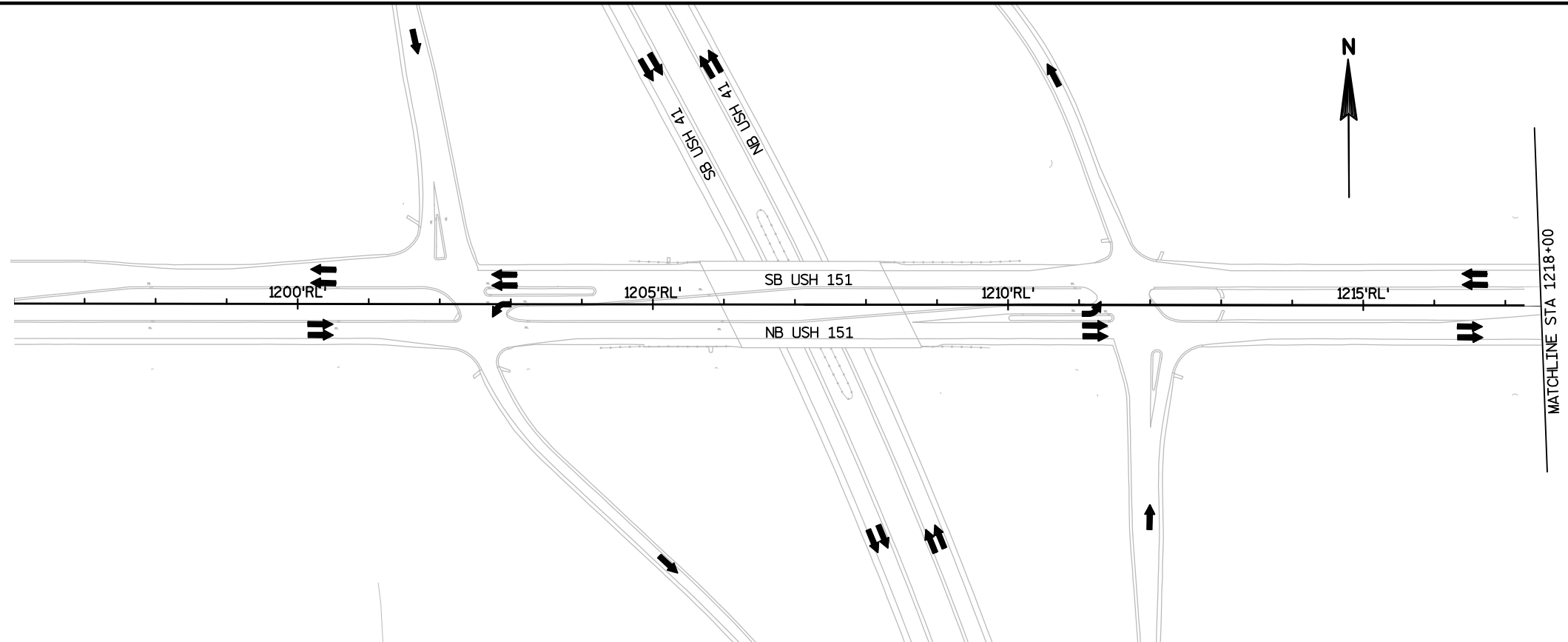
LEGEND

- ⚡ ⚡ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
- ⚡ FLASHING ARROW BOARD
- ⚡ SIGN ON PERMANENT/TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE TUBULAR MARKER
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- ➡ DIRECTION OF TRAFFIC
- ▨ WORK AREA
- ▭ TEMPORARY PAVEMENT



**SIDEWALK CLOSED**  
 R9-9  
 INSTALL ON TYPE II BARRICADE WITH ONE WARNING LIGHT TYPE A, LOW-INTENSITY FLASHING

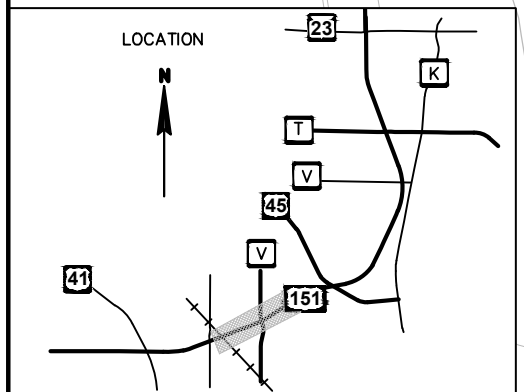
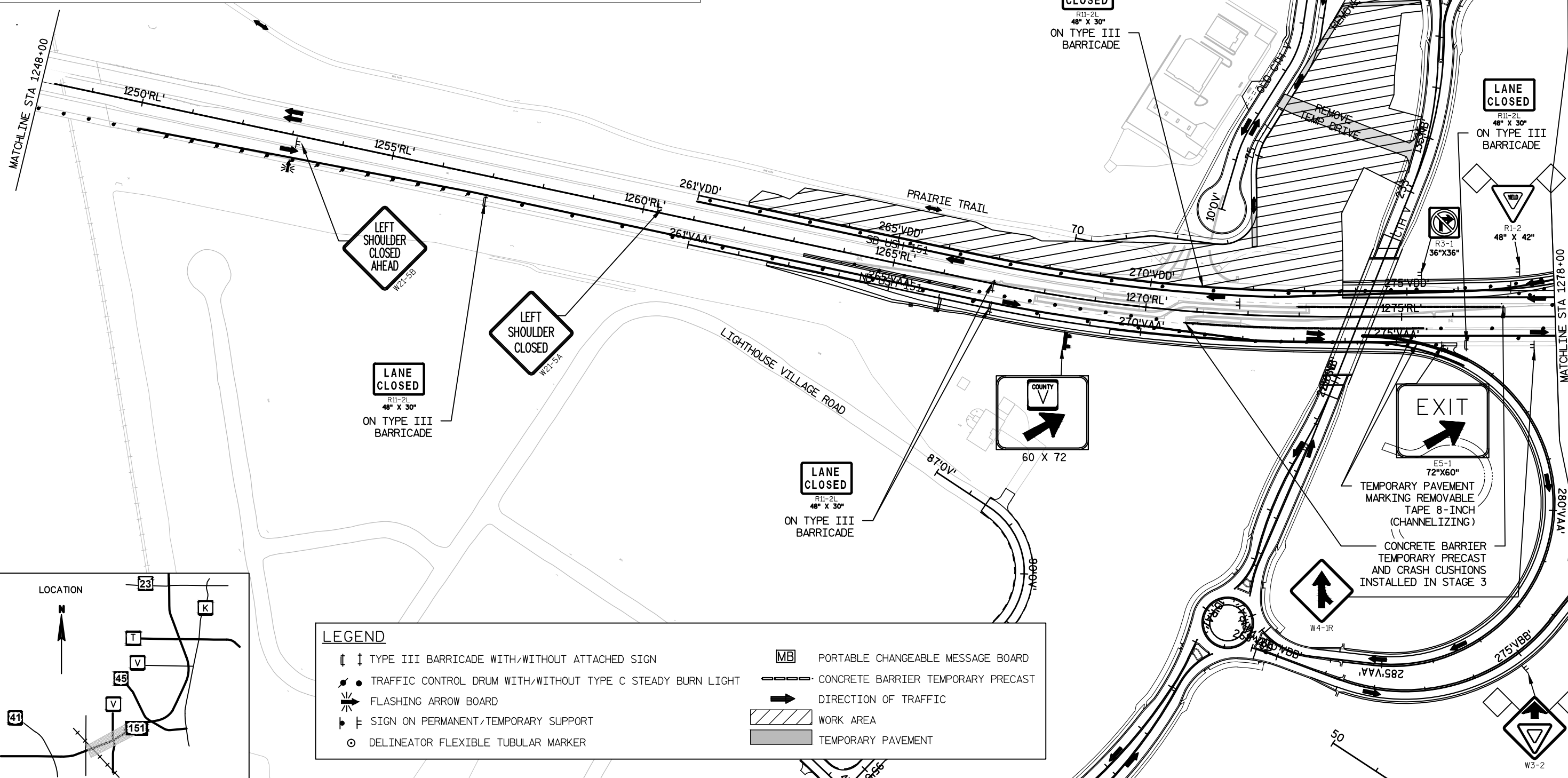
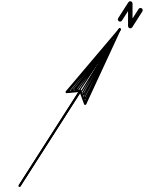
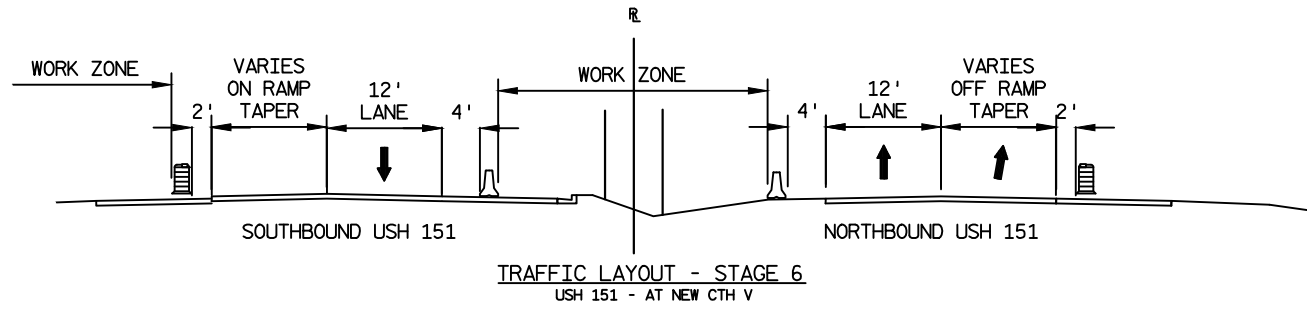




LEGEND

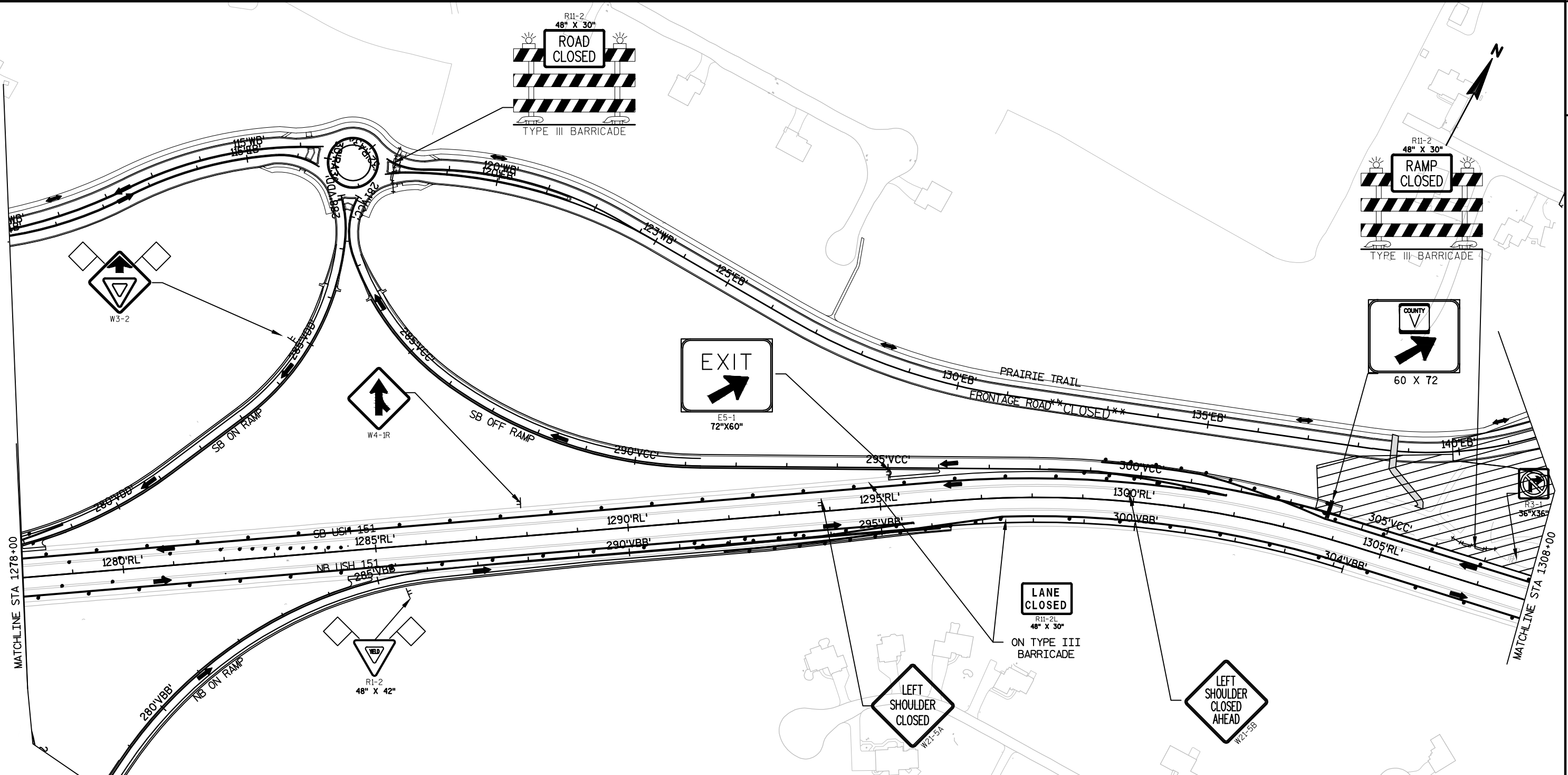
- ↑ ↓ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
- ↔ FLASHING ARROW BOARD
- ⊥ SIGN ON PERMANENT/TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE TUBULAR MARKER
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- ▨ WORK AREA
- TEMPORARY PAVEMENT





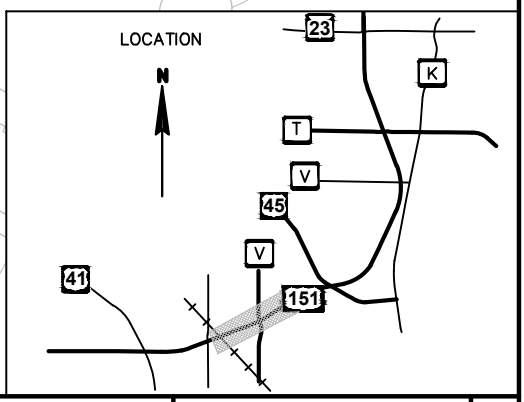
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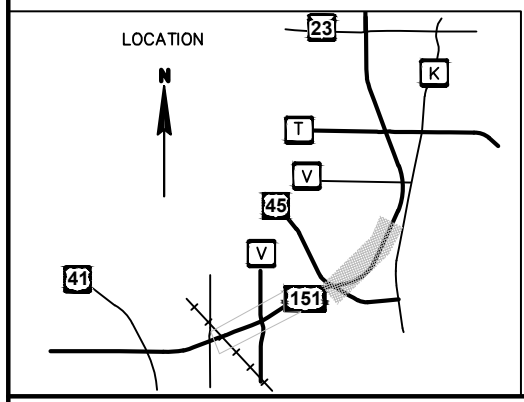
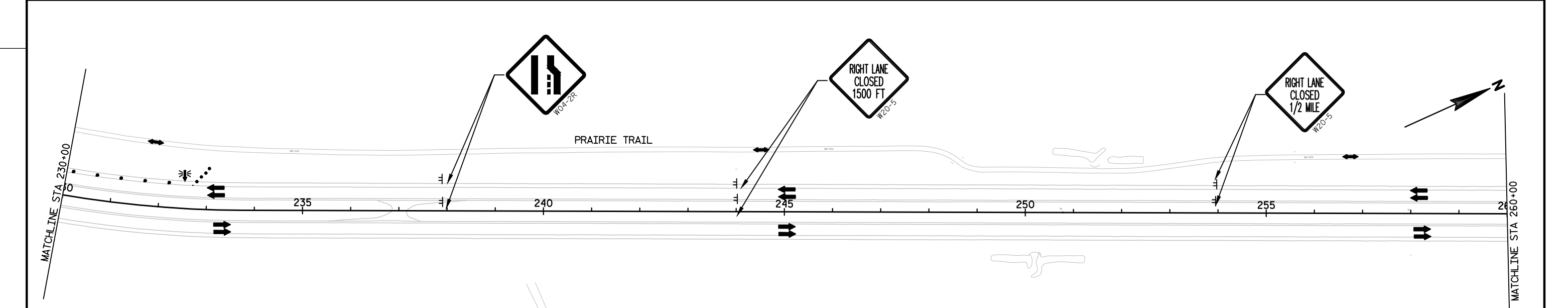
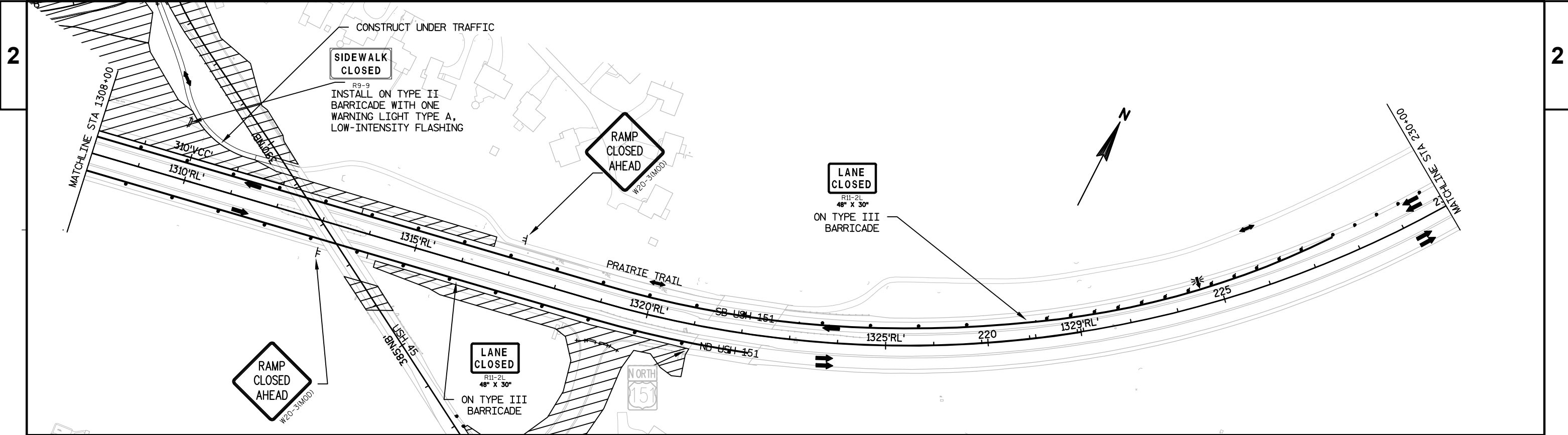
	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN		PORTABLE CHANGEABLE MESSAGE BOARD
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT		CONCRETE BARRIER TEMPORARY PRECAST
	FLASHING ARROW BOARD		DIRECTION OF TRAFFIC
	SIGN ON PERMANENT/TEMPORARY SUPPORT		WORK AREA
	DELINEATOR FLEXIBLE TUBULAR MARKER		TEMPORARY PAVEMENT



**LEGEND**

<ul style="list-style-type: none"> <li>↑ ↓ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN</li> <li>● ○ TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT</li> <li>↔ FLASHING ARROW BOARD</li> <li>⊥ SIGN ON PERMANENT/TEMPORARY SUPPORT</li> <li>○ DELINEATOR FLEXIBLE TUBULAR MARKER</li> </ul>	<ul style="list-style-type: none"> <li>MB PORTABLE CHANGEABLE MESSAGE BOARD</li> <li>--- CONCRETE BARRIER TEMPORARY PRECAST</li> <li>→ DIRECTION OF TRAFFIC</li> <li>▨ WORK AREA</li> <li>▩ TEMPORARY PAVEMENT</li> </ul>
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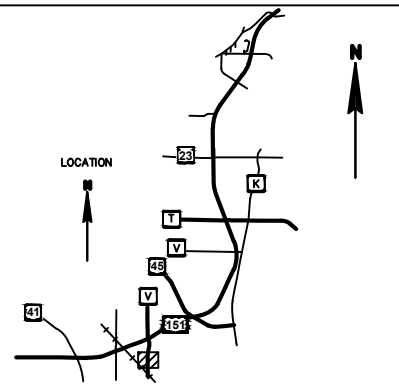
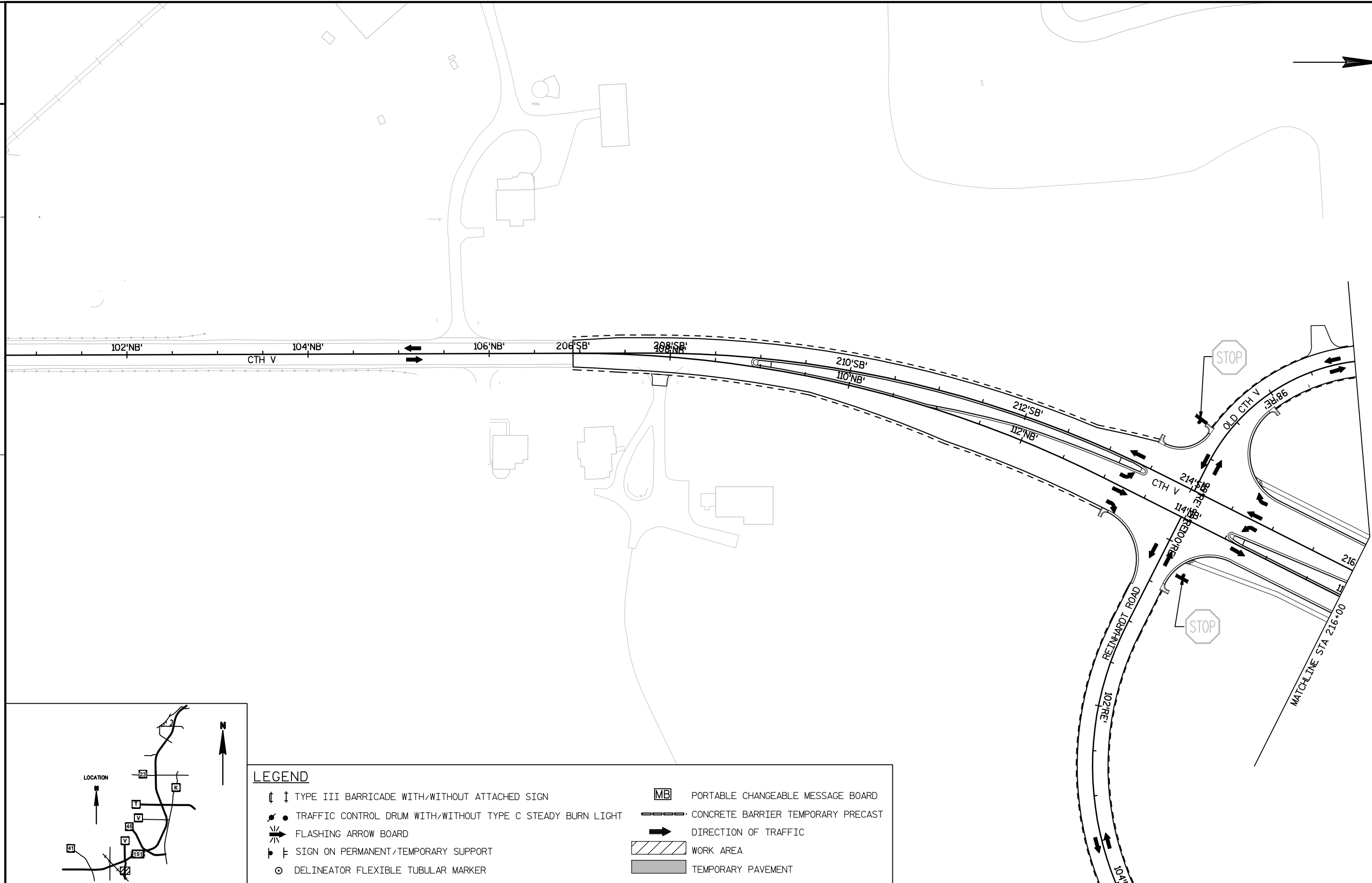




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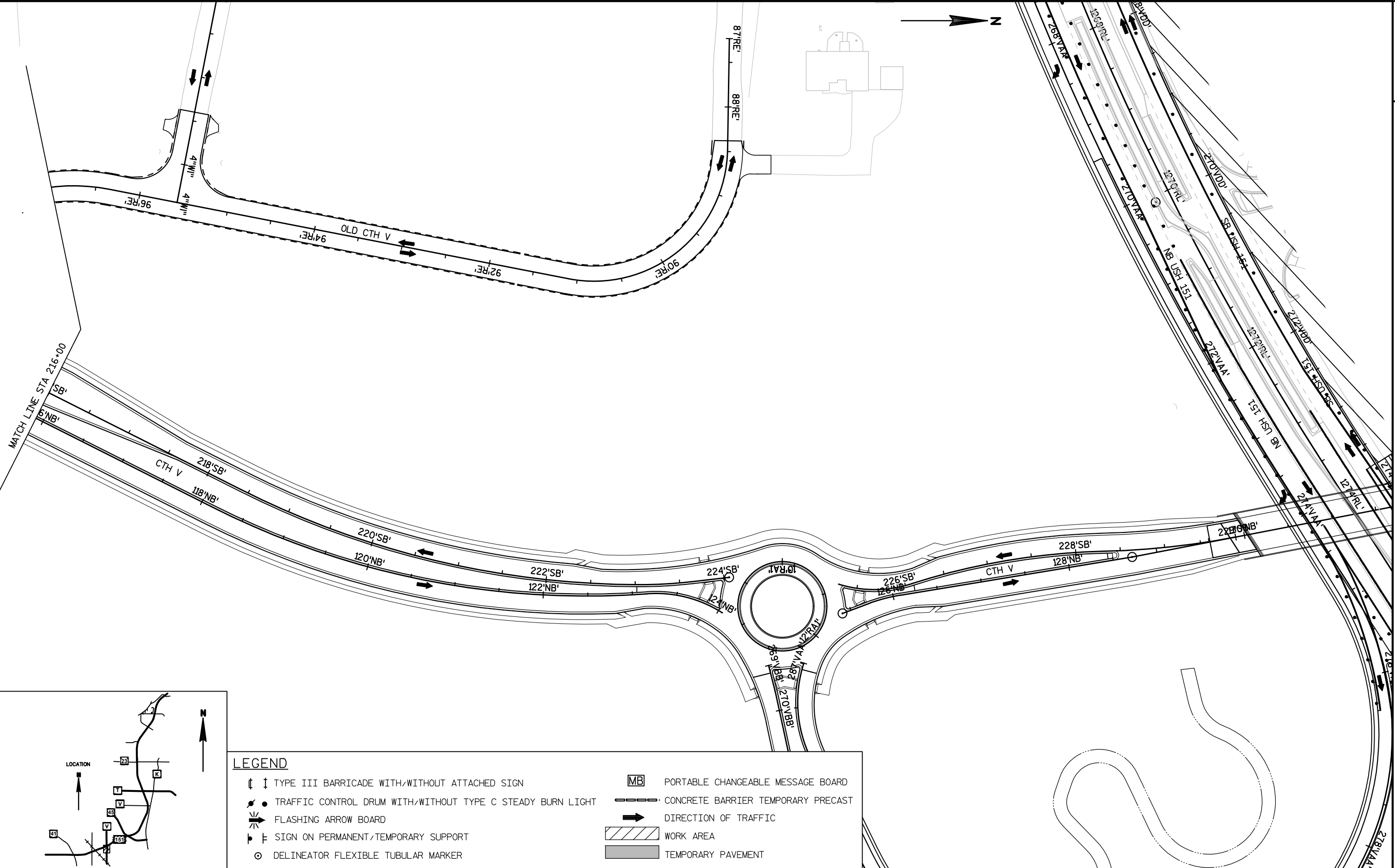
<ul style="list-style-type: none"> <li>⚡ ⚡ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN</li> <li>⚡ ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT</li> <li>⚡ → FLASHING ARROW BOARD</li> <li>⚡ ⚡ SIGN ON PERMANENT/TEMPORARY SUPPORT</li> <li>○ DELINEATOR FLEXIBLE TUBULAR MARKER</li> </ul>	<ul style="list-style-type: none"> <li><span style="border: 1px solid black; padding: 2px;">MB</span> PORTABLE CHANGEABLE MESSAGE BOARD</li> <li>▬▬▬ CONCRETE BARRIER TEMPORARY PRECAST</li> <li>➔ DIRECTION OF TRAFFIC</li> <li>▨ WORK AREA</li> <li>▭ TEMPORARY PAVEMENT</li> </ul>
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PROJECT NO:1420-22-71      HWY:USH 151      COUNTY:FOND DU LAC      TRAFFIC CONTROL - STAGE V6B - USH 151      SHEET      E

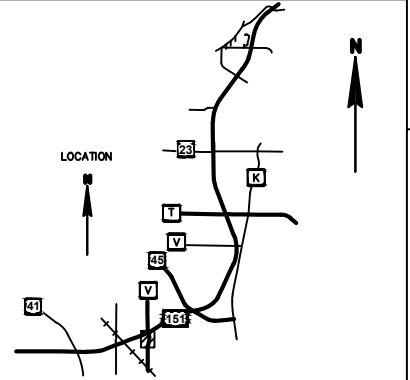


**LEGEND**

TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN	PORTABLE CHANGEABLE MESSAGE BOARD
TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT	CONCRETE BARRIER TEMPORARY PRECAST
FLASHING ARROW BOARD	DIRECTION OF TRAFFIC
SIGN ON PERMANENT/TEMPORARY SUPPORT	WORK AREA
DELINEATOR FLEXIBLE TUBULAR MARKER	TEMPORARY PAVEMENT

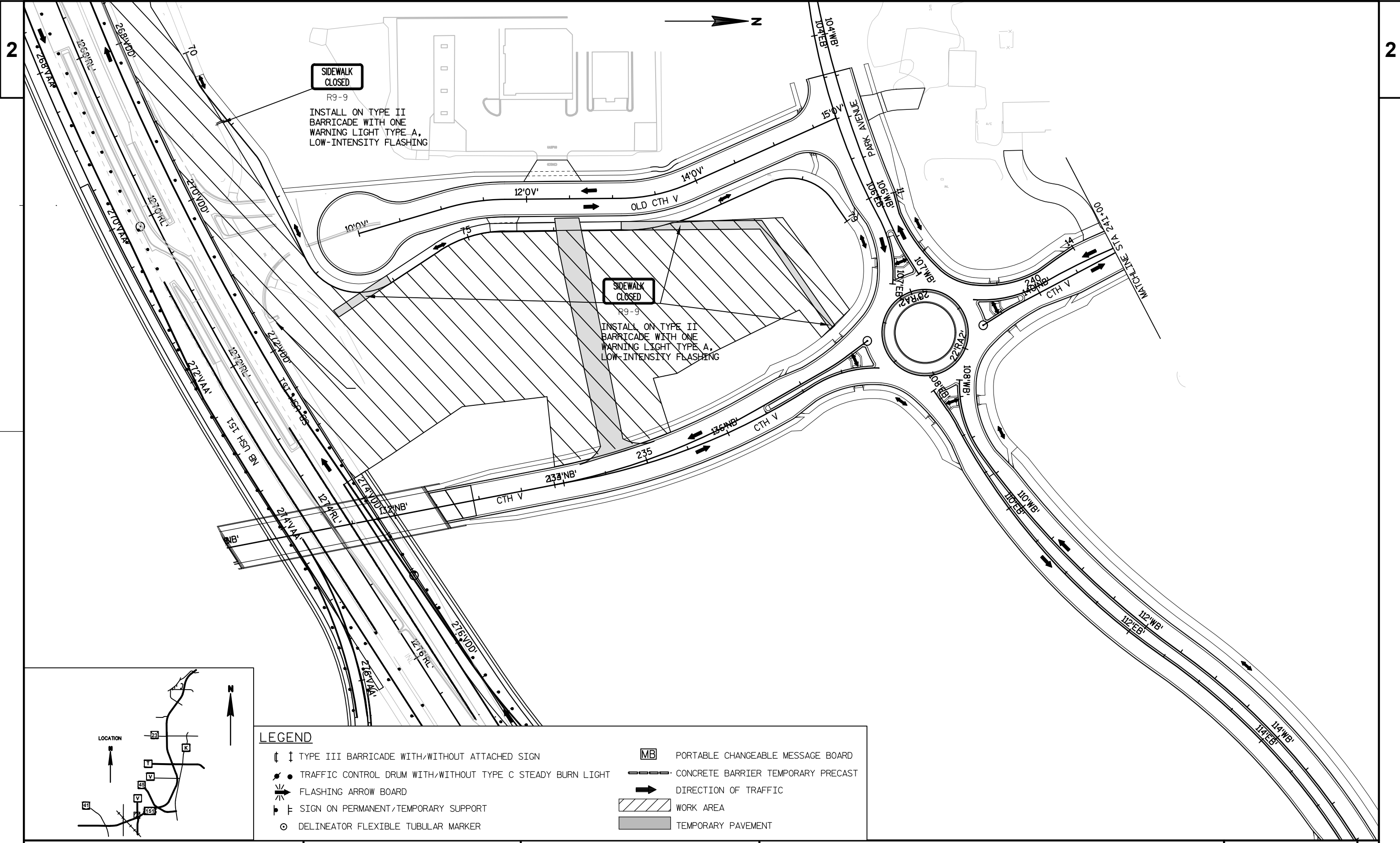


MATCH LINE STA 216+00



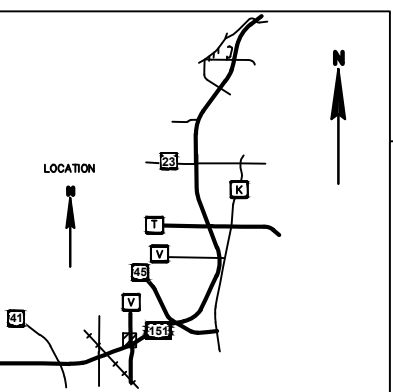
**LEGEND**

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT/TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE TUBULAR MARKER
- PORTABLE CHANGEABLE MESSAGE BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA
- TEMPORARY PAVEMENT



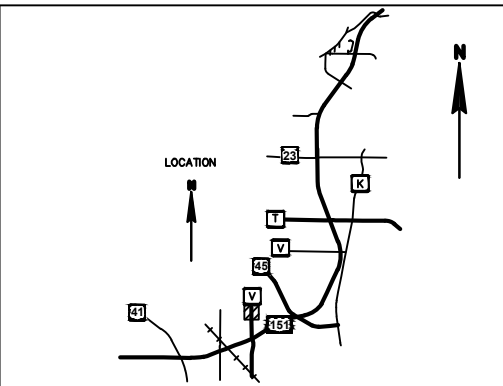
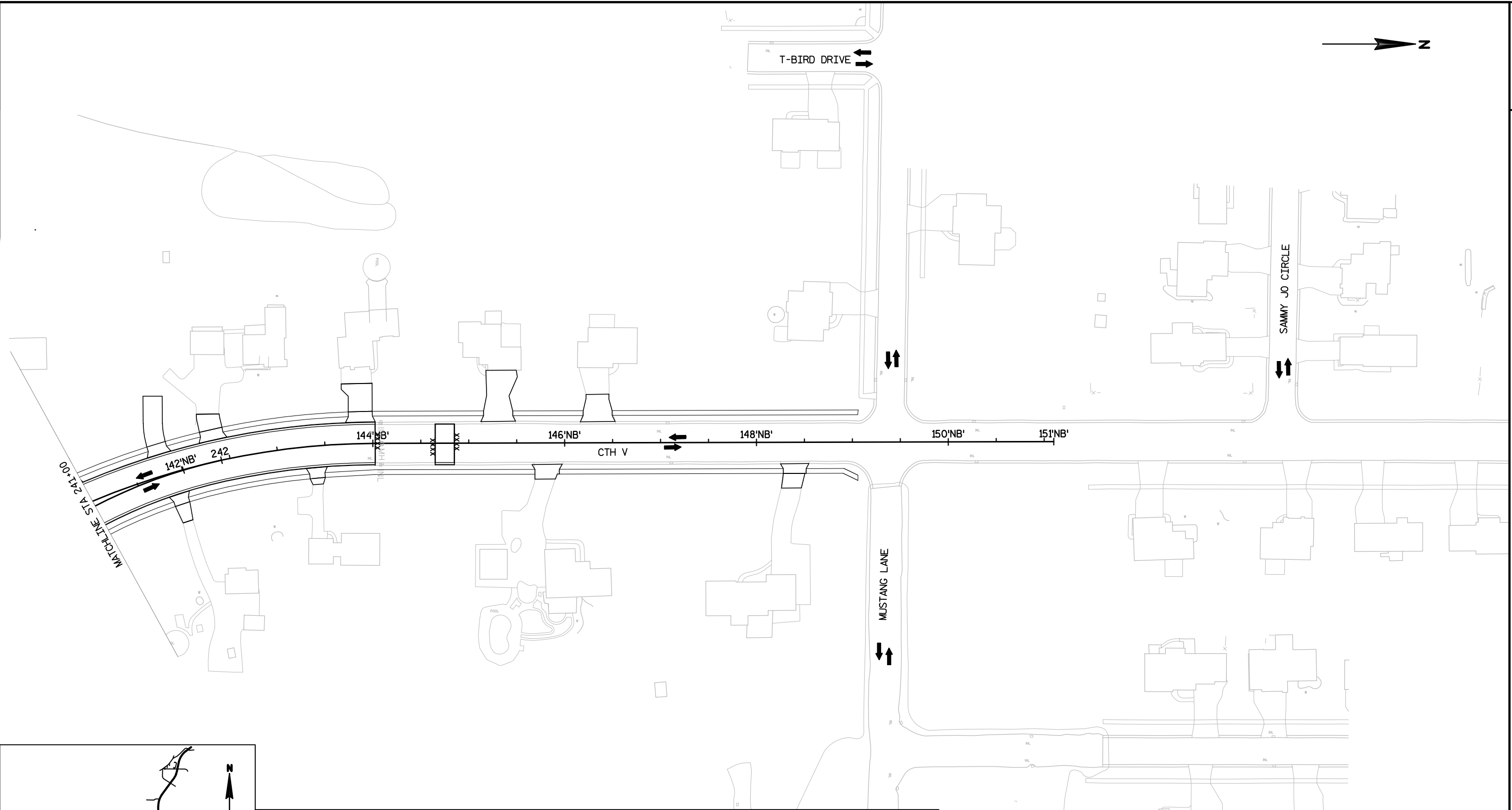
**SIDEWALK CLOSED**  
 R9-9  
 INSTALL ON TYPE II BARRICADE WITH ONE WARNING LIGHT TYPE A, LOW-INTENSITY FLASHING

**SIDEWALK CLOSED**  
 R9-9  
 INSTALL ON TYPE II BARRICADE WITH ONE WARNING LIGHT TYPE A, LOW-INTENSITY FLASHING



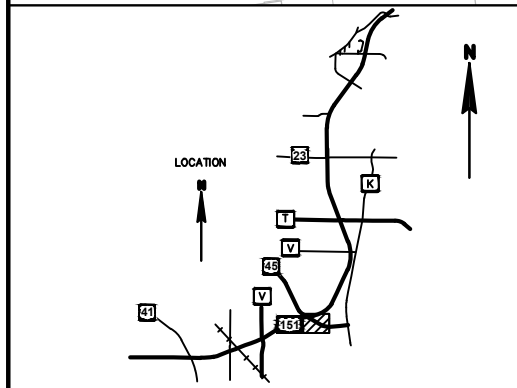
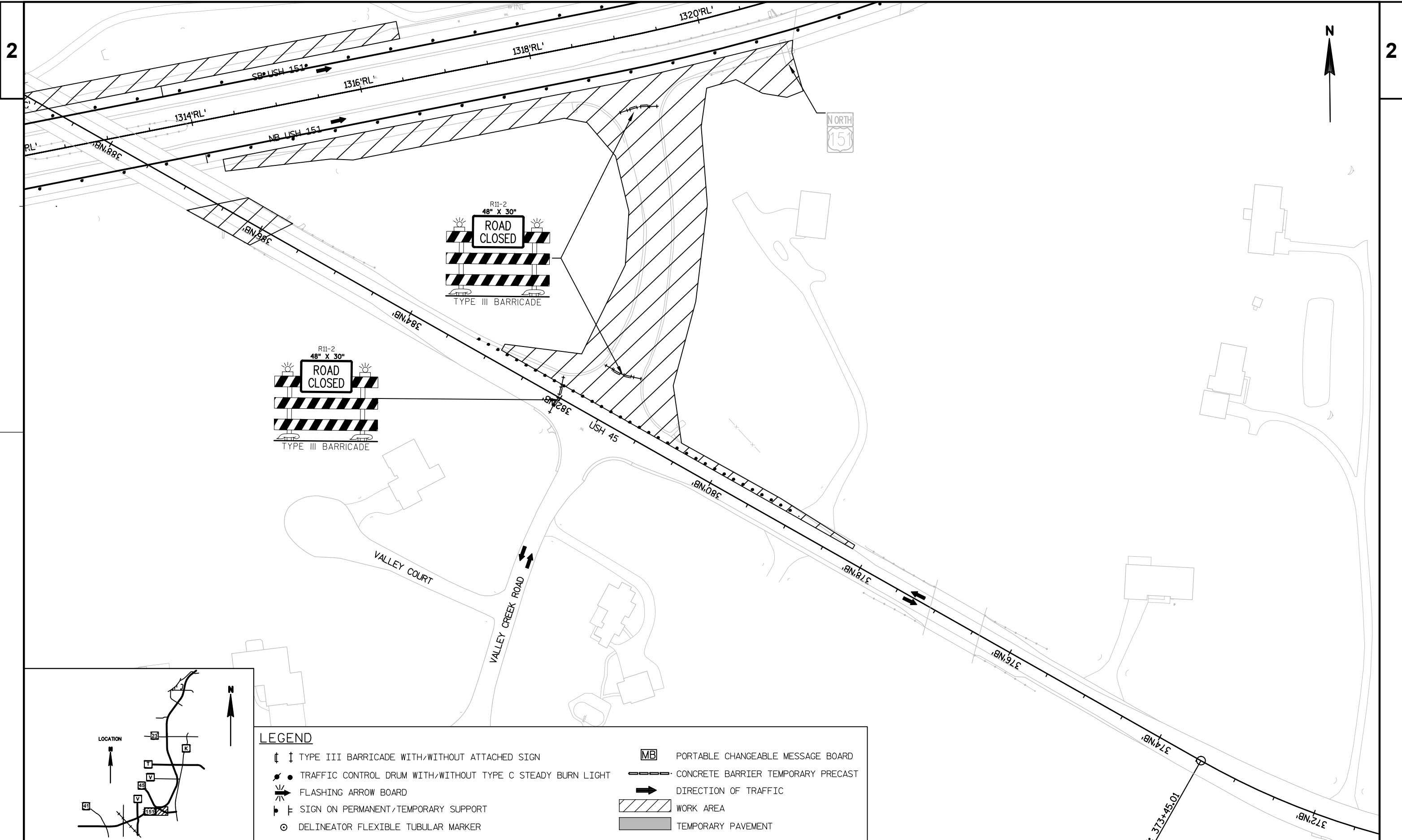
**LEGEND**

	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN		PORTABLE CHANGEABLE MESSAGE BOARD
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT		CONCRETE BARRIER TEMPORARY PRECAST
	FLASHING ARROW BOARD		DIRECTION OF TRAFFIC
	SIGN ON PERMANENT/TEMPORARY SUPPORT		WORK AREA
	DELINEATOR FLEXIBLE TUBULAR MARKER		TEMPORARY PAVEMENT



**LEGEND**

<ul style="list-style-type: none"> <li>↑ ↓ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN</li> <li>● ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT</li> <li>⚡ FLASHING ARROW BOARD</li> <li>⊠ SIGN ON PERMANENT/TEMPORARY SUPPORT</li> <li>○ DELINEATOR FLEXIBLE TUBULAR MARKER</li> </ul>	<ul style="list-style-type: none"> <li>MB PORTABLE CHANGEABLE MESSAGE BOARD</li> <li>▬ CONCRETE BARRIER TEMPORARY PRECAST</li> <li>➡ DIRECTION OF TRAFFIC</li> <li>▨ WORK AREA</li> <li>■ TEMPORARY PAVEMENT</li> </ul>
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**LEGEND**

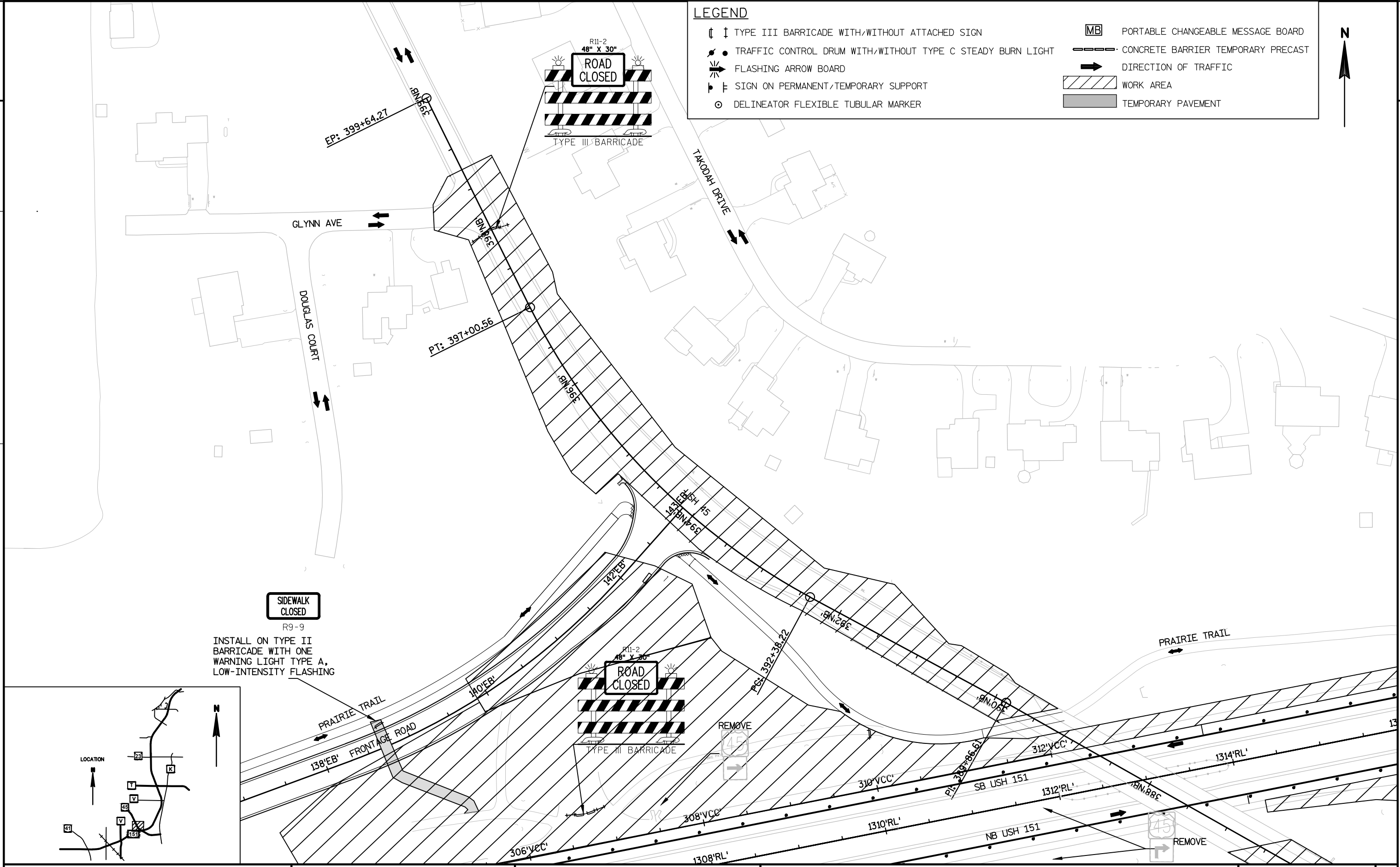
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PROJECT NO:1420-22-71      HWY:USH 151      COUNTY:FOND DU LAC      TRAFFIC CONTROL - STAGE V6B      SHEET      E



LEGEND

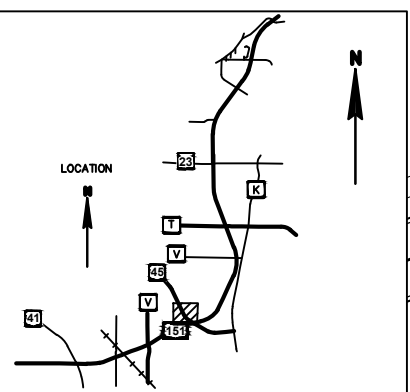
- ⚡ ⚡ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
- ⚡ FLASHING ARROW BOARD
- ⚡ SIGN ON PERMANENT/TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE TUBULAR MARKER
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- ➡ DIRECTION OF TRAFFIC
- ▨ WORK AREA
- ▭ TEMPORARY PAVEMENT



SIDEWALK CLOSED

R9-9

INSTALL ON TYPE II BARRICADE WITH ONE WARNING LIGHT TYPE A, LOW-INTENSITY FLASHING




**2** STAGE V7  
**PURPOSE:**  
 COMPLETE REMOVAL OF TURN LANES, RESTORATION OF MEDIAN, AND INSIDE SHOULDERS OF USH 151


**TRAFFIC HANDLING:**  
 NORTHBOUND USH 151 TRAFFIC OPEN TO ONE LANE OF TRAFFIC.  
 SOUTHBOUND USH 151 TRAFFIC OPEN TO ONE LANE OF TRAFFIC.  
 CTH V TRAFFIC OPEN TO ONE LANE IN EACH DIRECTION ON NEW CTH V.  
 USH 45 OPEN TO ONE LANE IN EACH DIRECTION.  
 CTH V ACCESS TO USH 151 USING INTERCHANGE RAMP .  
 USH 45 ACCESS TO USH 151 VIA FRONTAGE ROAD TO INTERCHANGE RAMP .

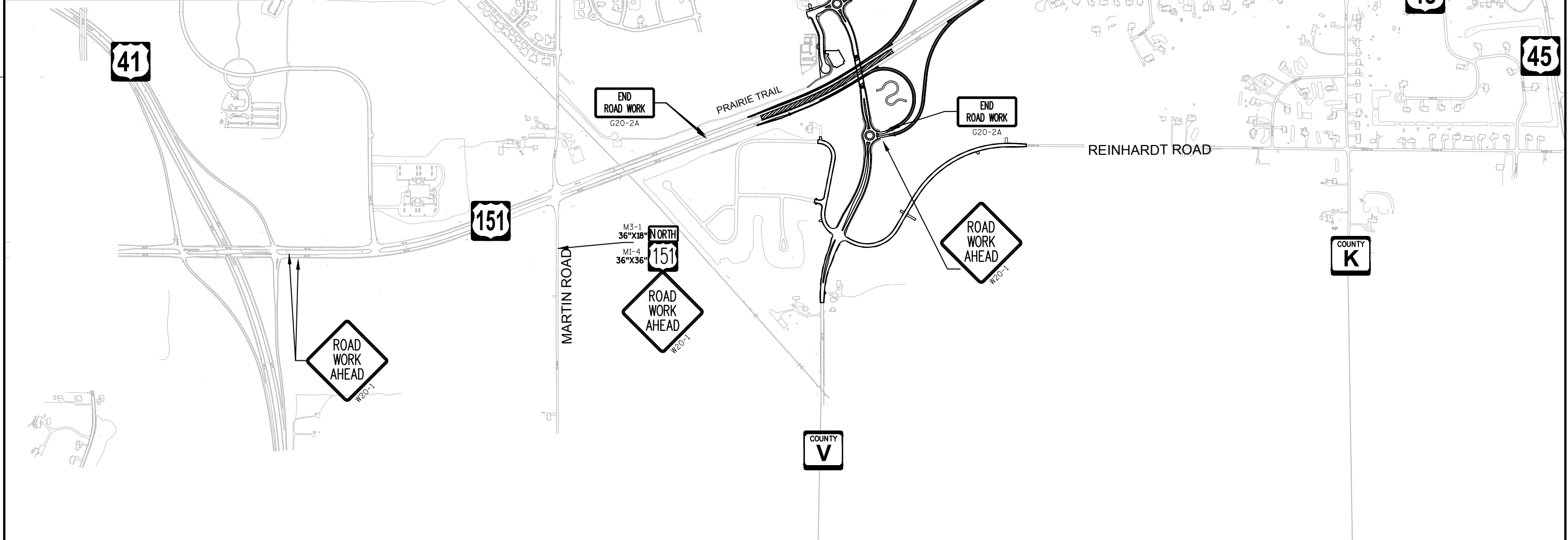
**RESTRICTIONS:**  
 NORTHBOUND USH 151 INSIDE LANE CLOSED.  
 SOUTHBOUND USH 151 INSIDE LANE CLOSED.

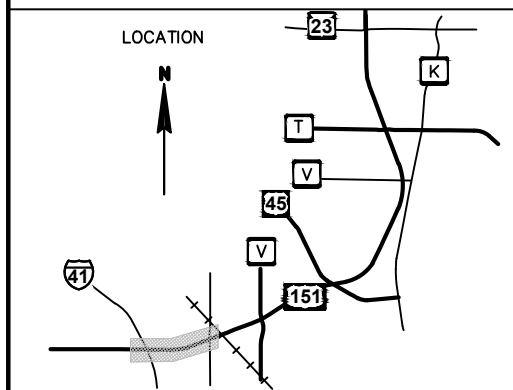
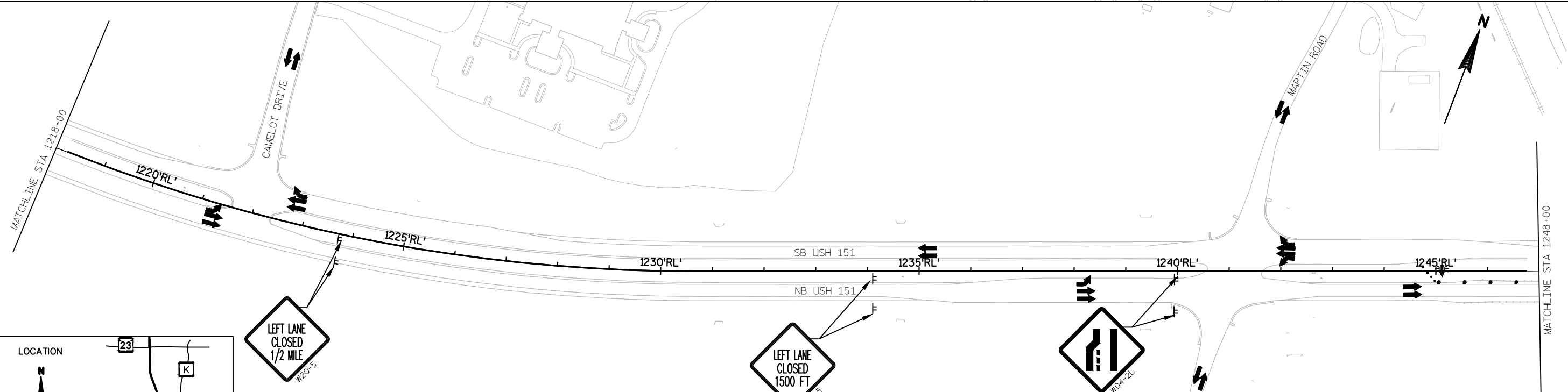
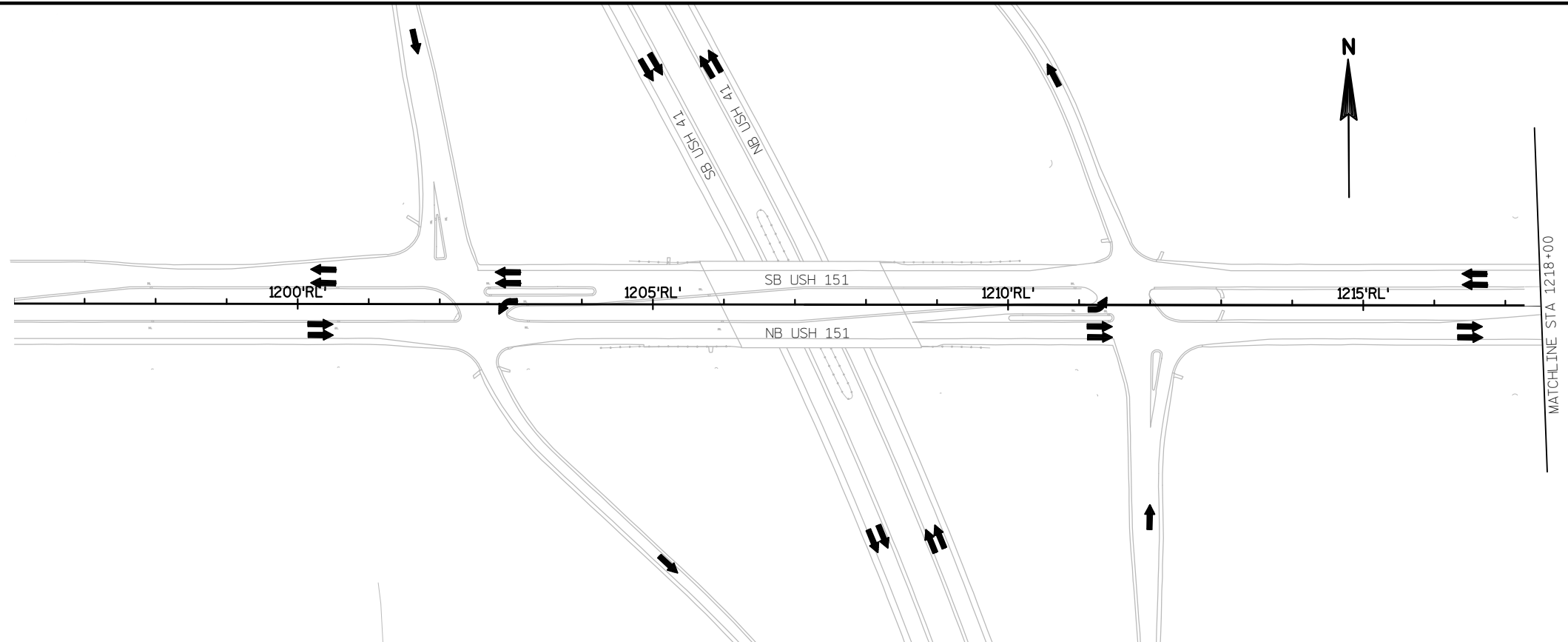
**NOTE:** SEE PROJECT 1420-23-71 FOR SOUTHBOUND ADVANCED WARNING SIGNS.

**LEGEND:**

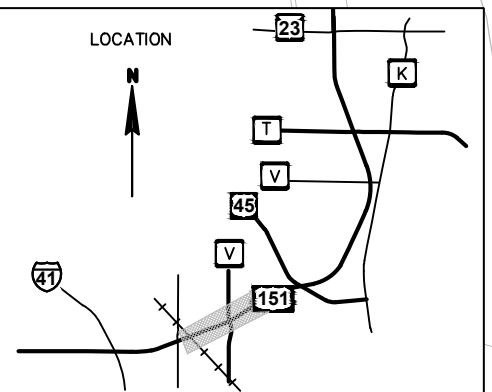
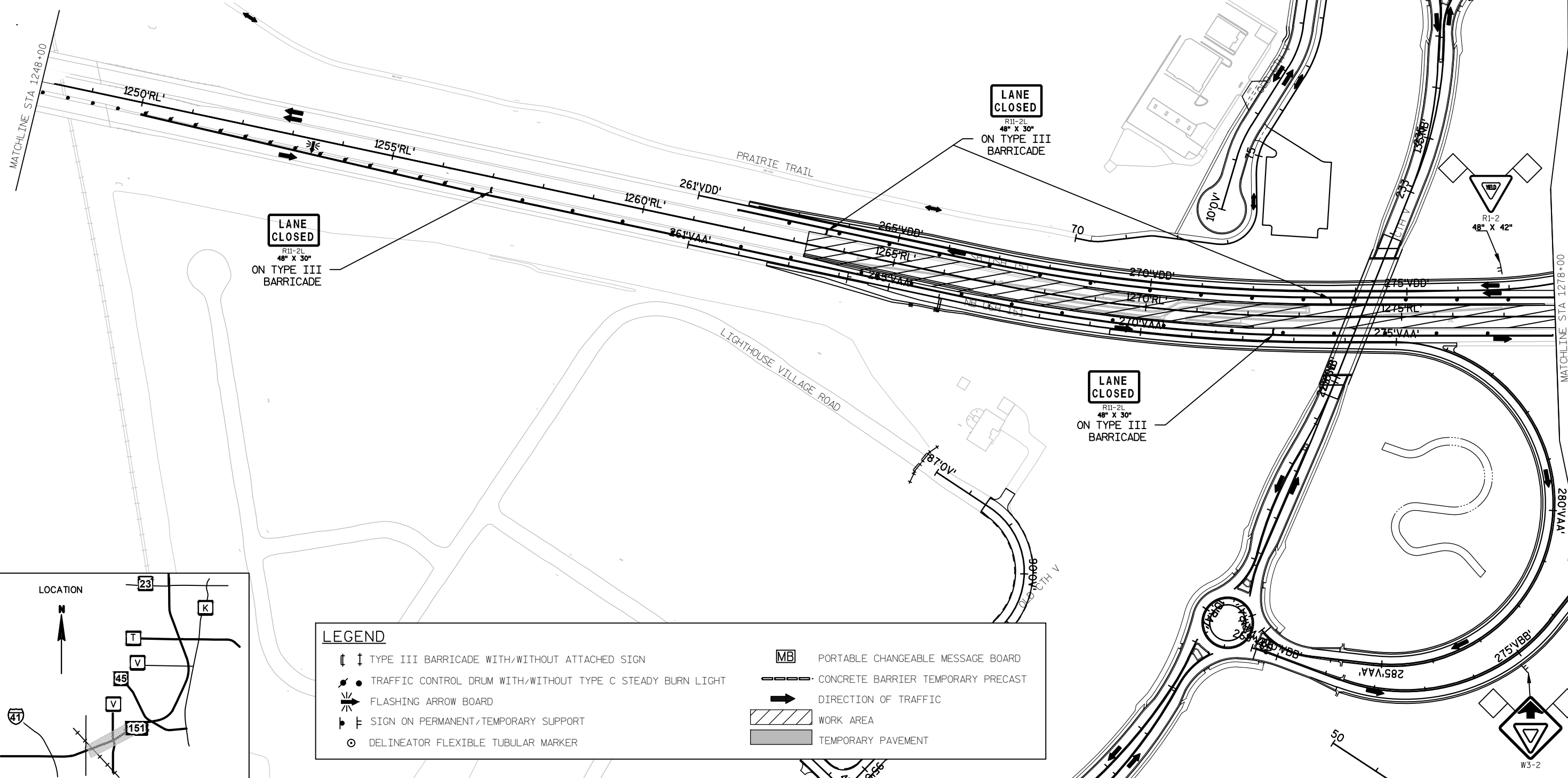
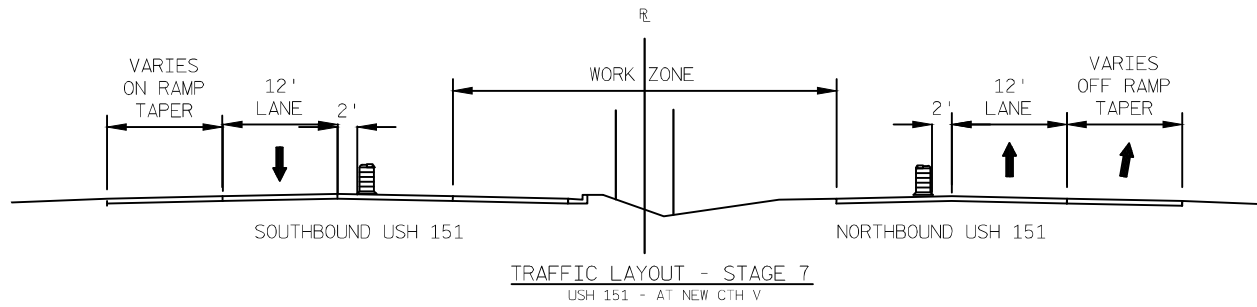
 WORK ZONE - GRADING

 WORK ZONE - PAVING



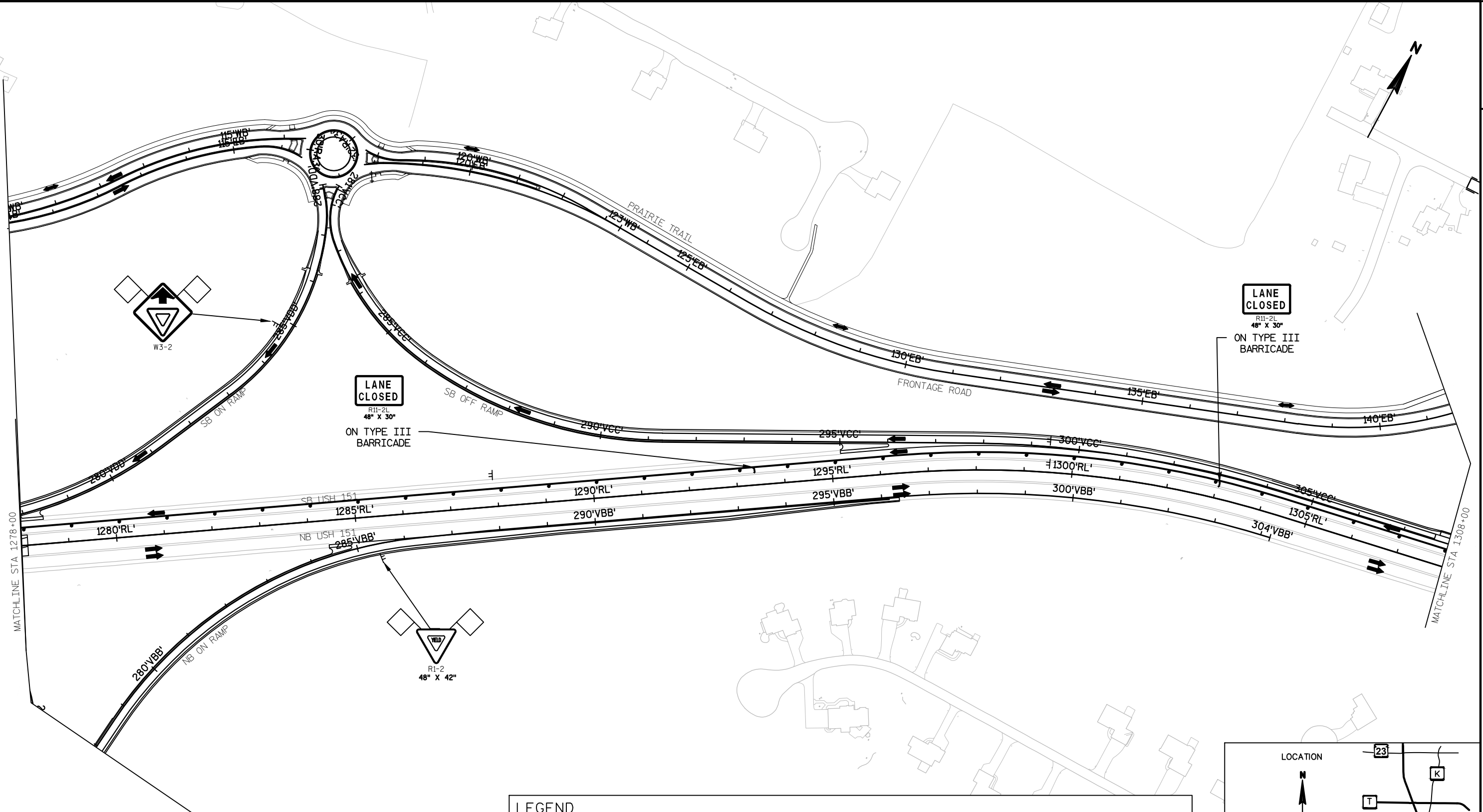


LEGEND	
	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT/TEMPORARY SUPPORT
	DELINEATOR FLEXIBLE TUBULAR MARKER
	PORTABLE CHANGEABLE MESSAGE BOARD
	CONCRETE BARRIER TEMPORARY PRECAST
	DIRECTION OF TRAFFIC
	WORK AREA
	TEMPORARY PAVEMENT



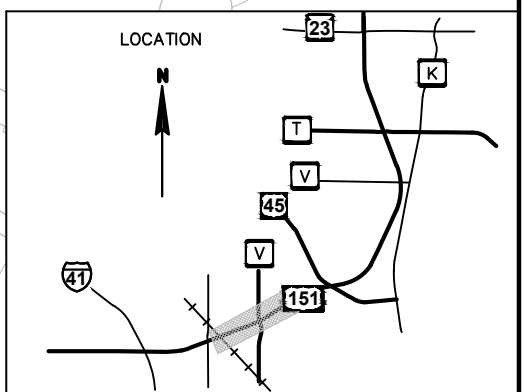
**LEGEND**

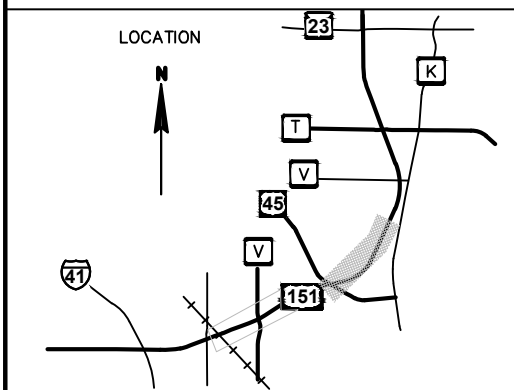
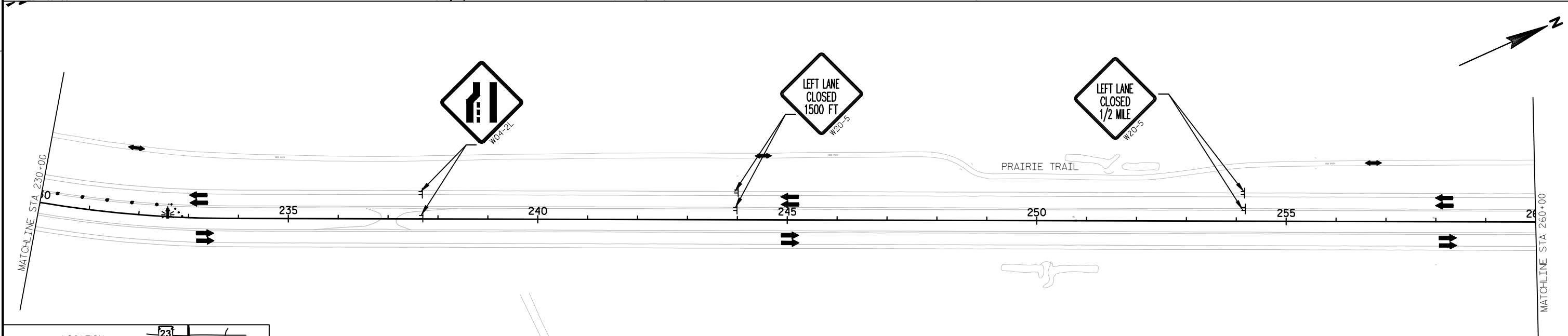
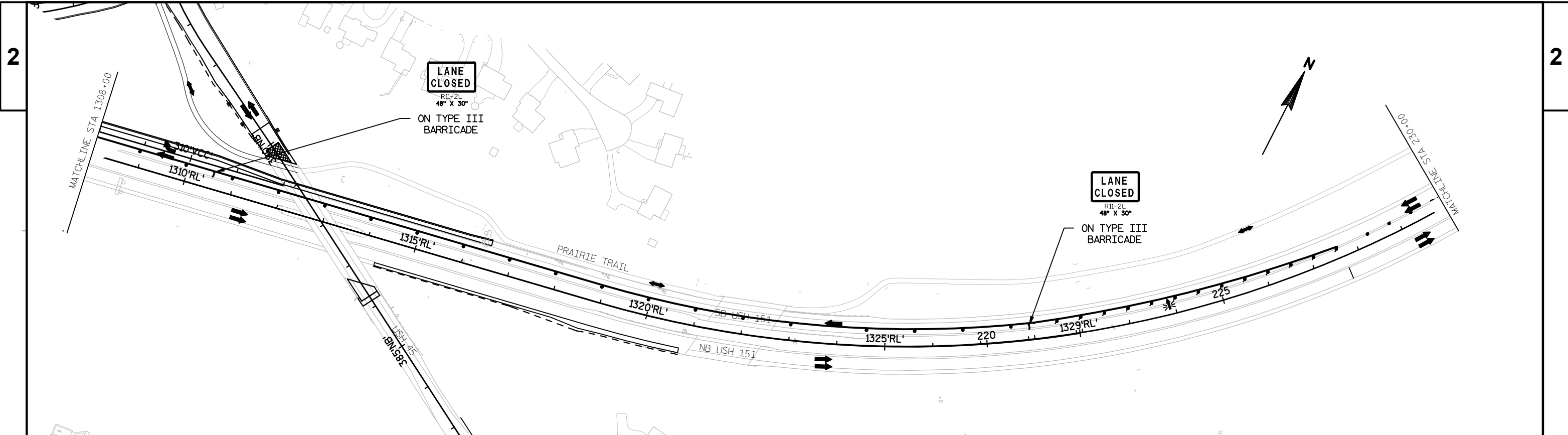
	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN		PORTABLE CHANGEABLE MESSAGE BOARD
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT		CONCRETE BARRIER TEMPORARY PRECAST
	FLASHING ARROW BOARD		DIRECTION OF TRAFFIC
	SIGN ON PERMANENT/TEMPORARY SUPPORT		WORK AREA
	DELINEATOR FLEXIBLE TUBULAR MARKER		TEMPORARY PAVEMENT



**LEGEND**

<ul style="list-style-type: none"> <li>↑ ↓ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN</li> <li>● ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT</li> <li>↔ FLASHING ARROW BOARD</li> <li>⊥ ⊥ SIGN ON PERMANENT/TEMPORARY SUPPORT</li> <li>○ DELINEATOR FLEXIBLE TUBULAR MARKER</li> </ul>	<ul style="list-style-type: none"> <li>MB PORTABLE CHANGEABLE MESSAGE BOARD</li> <li>--- CONCRETE BARRIER TEMPORARY PRECAST</li> <li>➔ DIRECTION OF TRAFFIC</li> <li>▨ WORK AREA</li> <li>▭ TEMPORARY PAVEMENT</li> </ul>
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**LEGEND**

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>⚡ ⚡ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN</li> <li>⚡ ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT</li> <li>⚡ → FLASHING ARROW BOARD</li> <li>⚡ ⊥ SIGN ON PERMANENT/TEMPORARY SUPPORT</li> <li>⊙ DELINEATOR FLEXIBLE TUBULAR MARKER</li> </ul> | <ul style="list-style-type: none"> <li><b>MB</b> PORTABLE CHANGEABLE MESSAGE BOARD</li> <li>— — — CONCRETE BARRIER TEMPORARY PRECAST</li> <li>➔ DIRECTION OF TRAFFIC</li> <li>▨ WORK AREA</li> <li>▭ TEMPORARY PAVEMENT</li> </ul> |
|--|--|

PROJECT NO:1420-22-71

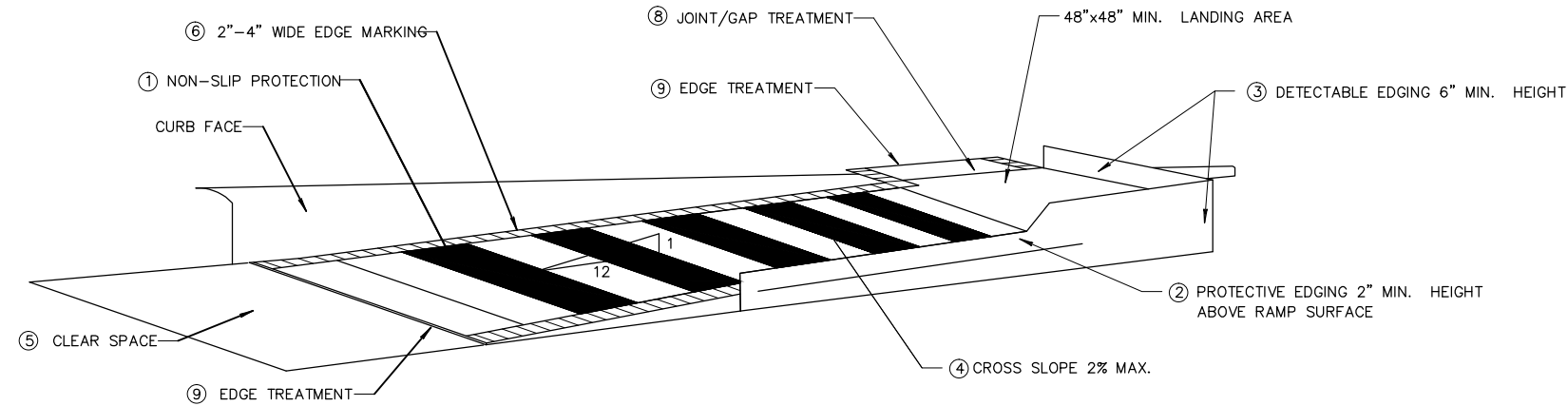
HWY:USH 151

COUNTY:FOND DU LAC

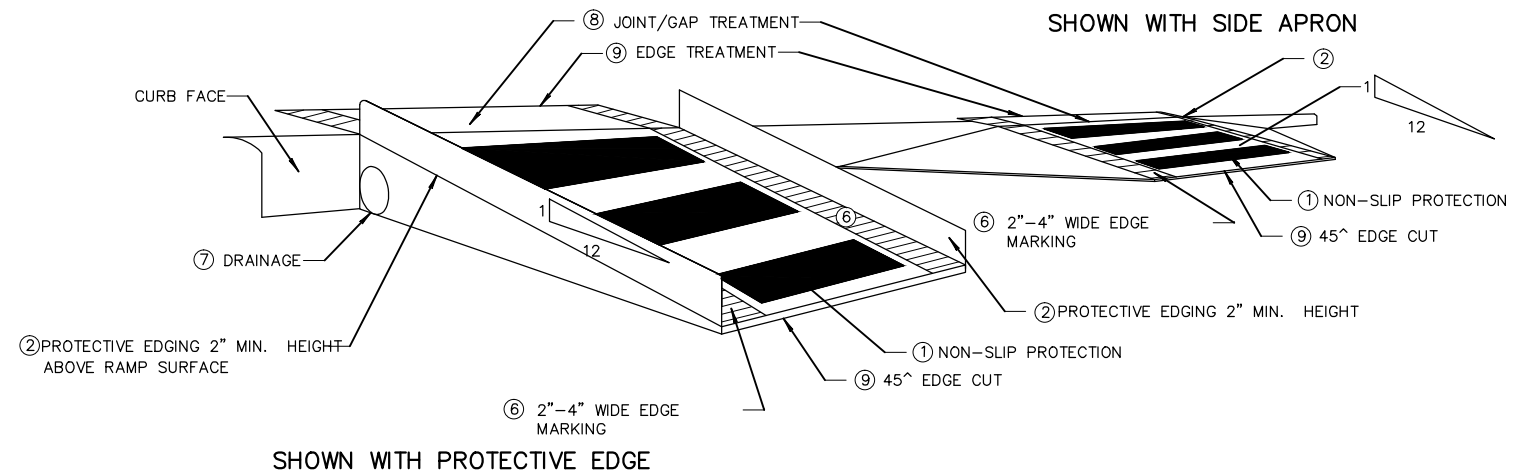
TRAFFIC CONTROL - STAGE V7 - USH 151

SHEET

E



TEMPORARY CURB RAMP  
PARALLEL TO CURB



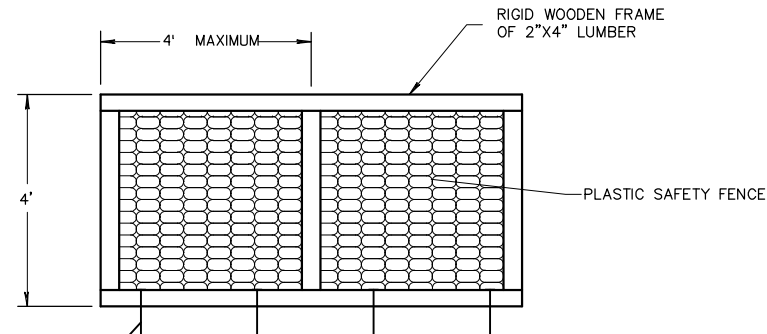
TEMPORARY CURB RAMP  
PERPENDICULAR TO CURB

GENERAL NOTES

GAP SIDEWALK WORK TO MAINTAIN PEDESTRIAN ACCESS WHERE APPLICABLE.

ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

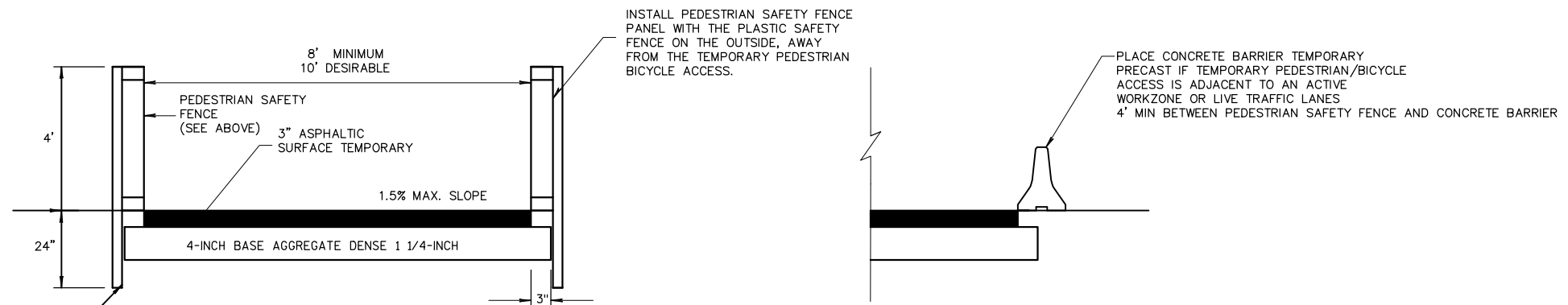
- ① CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.
- ② PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
- ③ DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
- ④ CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.
- ⑤ CLEAR SPACE OF 48"x48" MIN. SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
- ⑥ THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A YELLOW COLOR, 4" WIDE MARKING.
- ⑦ DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
- ⑧ LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.
- ⑨ CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES SHALL BE VERTICAL UP TO 1/4" HIGH, AND BEVELED AT 1:2 BETWEEN 1/4" AND 1/2".
- ⑩ 5' WIDE MIN. WITH FENCE TEMPORARY, 10' WIDE MIN. WITHOUT FENCE TEMPORARY.
- ⑪ MOVE EXISTING BUS STOP SIGN TO STEEL POST 2' X 2'.



FASTEN LOWER BEAM TO EXISTING SOLID SURFACE WITH 1/2"X5" SELF-THREADING ANCHOR BOLT SUCH AS RED HEAD LDT OR BLUE TIP STEEL WEDGE-BOLT+ SPACED AT 16" C-C. UPON REMOVAL OF PEDESTRIAN SAFETY FENCE, REMOVE ALL ANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES WITH A NON-COMMERCIAL GROUT OR EPOXY MATERIAL IDENTIFIED ON THE WISDOT APPROVED PRODUCTS LIST.

PEDESTRIAN SAFETY FENCE\*

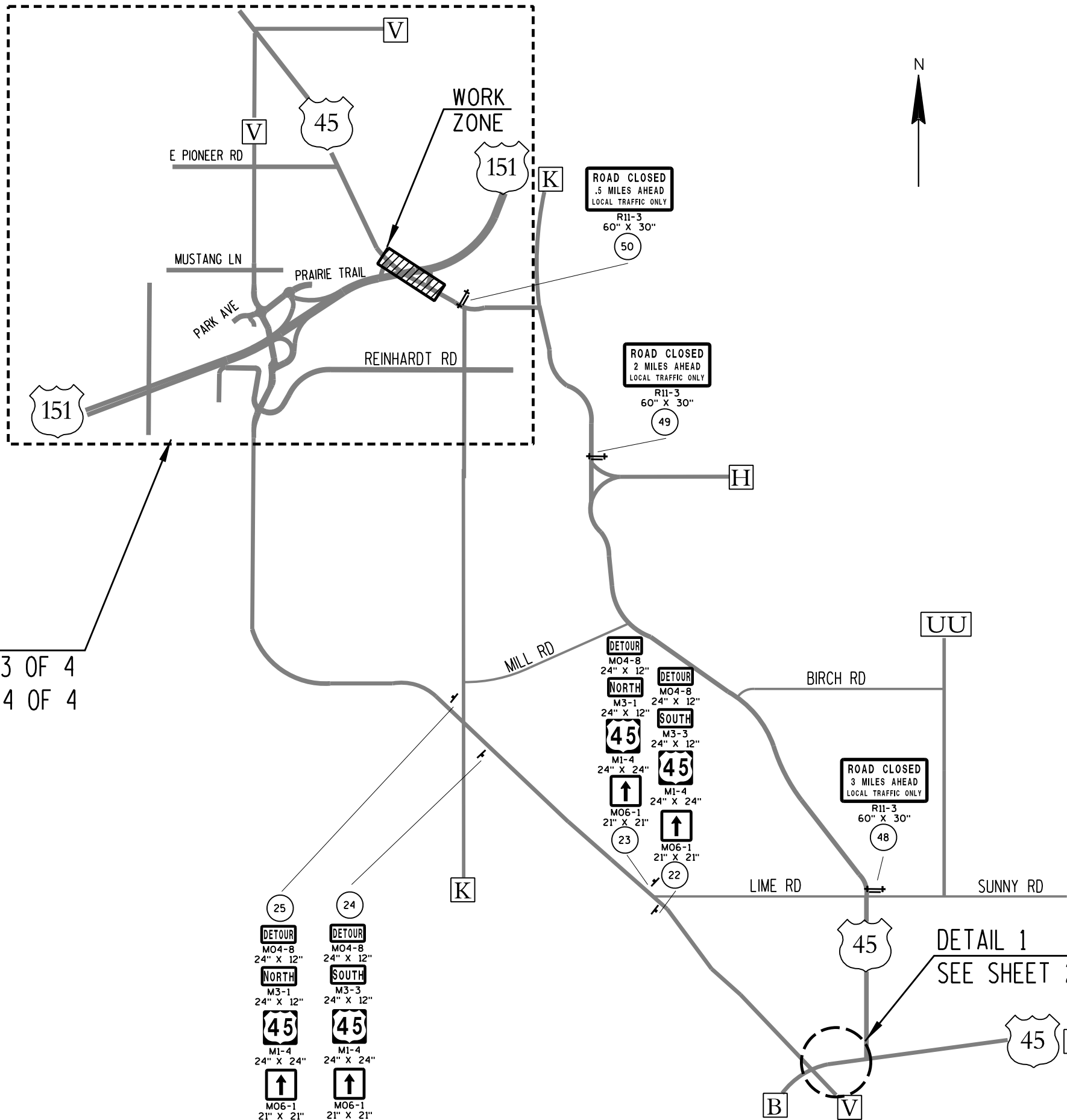
\*PEDESTRIAN FENCE PREVIOUSLY PLACED BY OTHERS. DETAIL SHOWN FOR ITEMS NECESSARY TO MAINTAIN/REMOVE PEDESTRIAN FENCE UNDER THE ITEM "MAINTAINING PEDESTRIAN SAFETY FENCE"



"T" OR "U" FENCE POSTS AT EACH VERTICAL 2X4 OR FASTEN LOWER BEAM TO EXISTING SOLID SURFACE WITH 1/2"X5" SELF-THREADING ANCHOR BOLT.

PRAIRIE TRAIL ADJACENT TO ABUTMENT CONSTRUCTION





DETAIL 2  
SEE SHEET 3 OF 4  
AND SHEET 4 OF 4

DETAIL 1  
SEE SHEET 2 OF 4

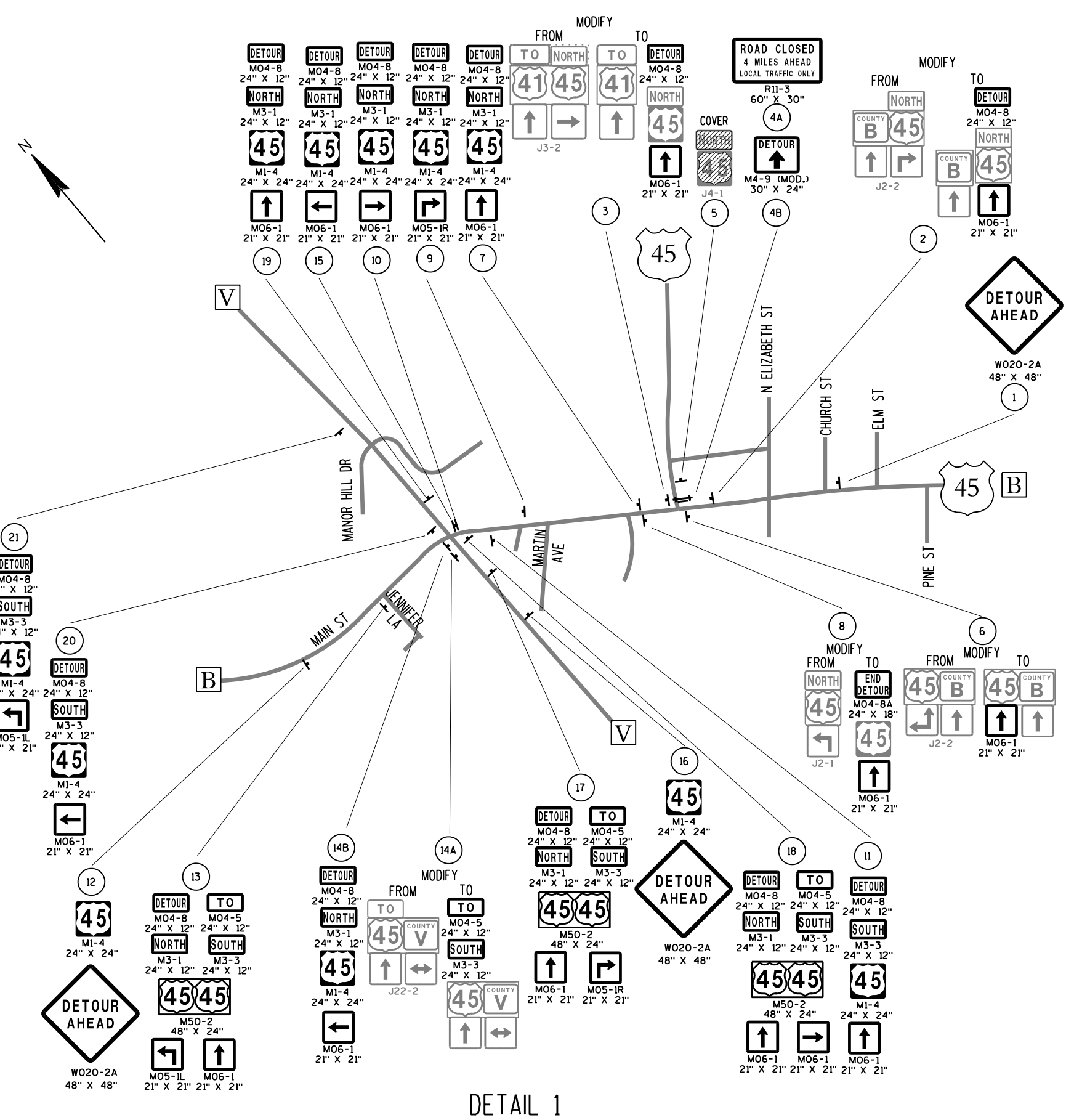
**LEGEND**

- (x) SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET
- ▲ PCMS (x) PORTABLE CHANGEABLE MESSAGE SIGN
- ⇄ SIGN MOUNTED ON TYPE III BARRICADE
- ⊥ POST MOUNTED SIGN

- 25 (x) DETOUR MO4-8 24" X 12"
- 24 (x) DETOUR MO4-8 24" X 12"
- (x) NORTH M3-1 24" X 12"
- (x) SOUTH M3-3 24" X 12"
- (x) 45 M1-4 24" X 24"
- (x) 45 M1-4 24" X 24"
- (x) ↑ MO6-1 21" X 21"
- (x) ↑ MO6-1 21" X 21"

SHEET 1 OF 4

PLAN SHEET PRODUCED BY WISDOT-NE REGION

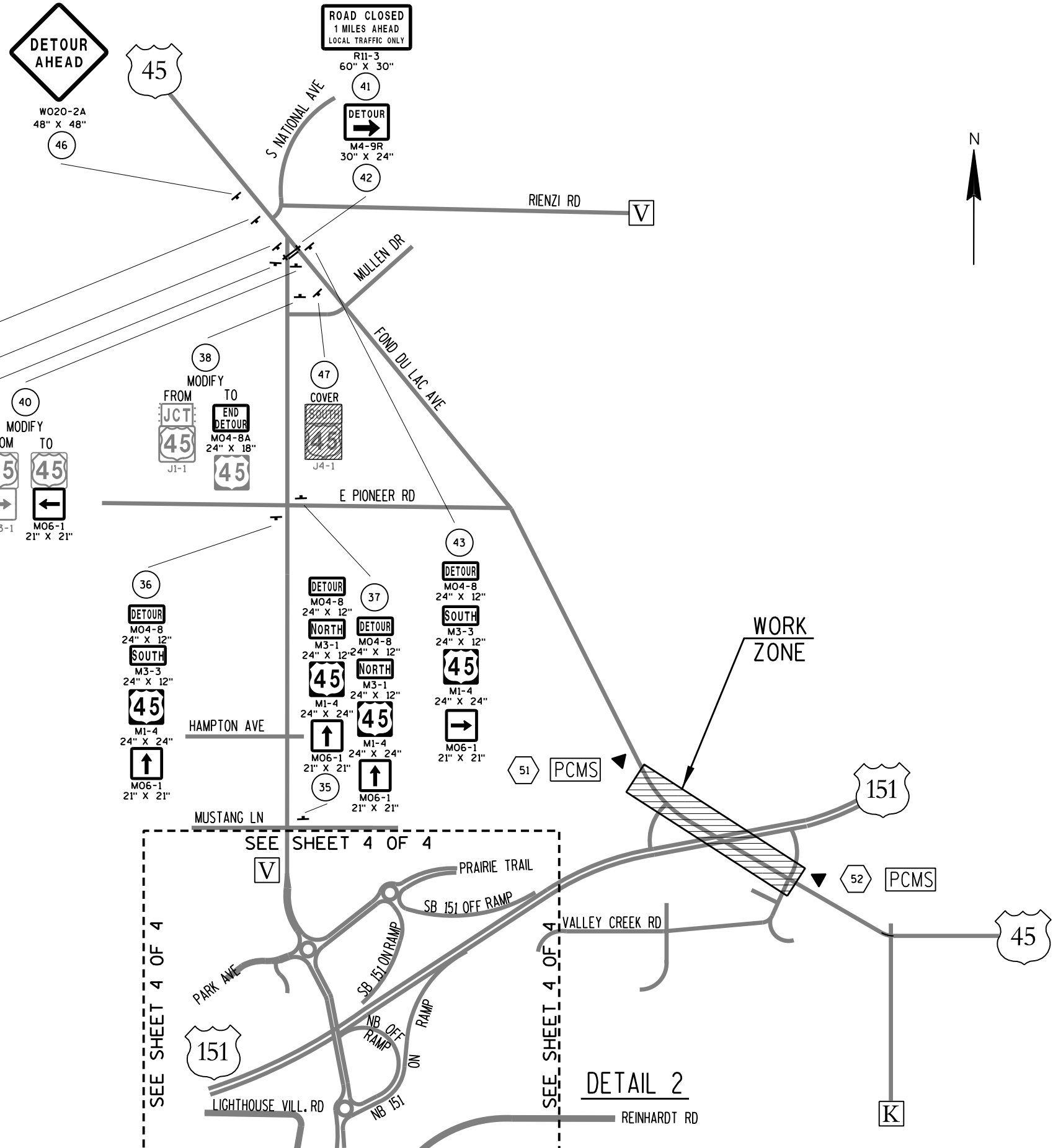


LEGEND

- SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET
- PORTABLE CHANGEABLE MESSAGE SIGN
- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

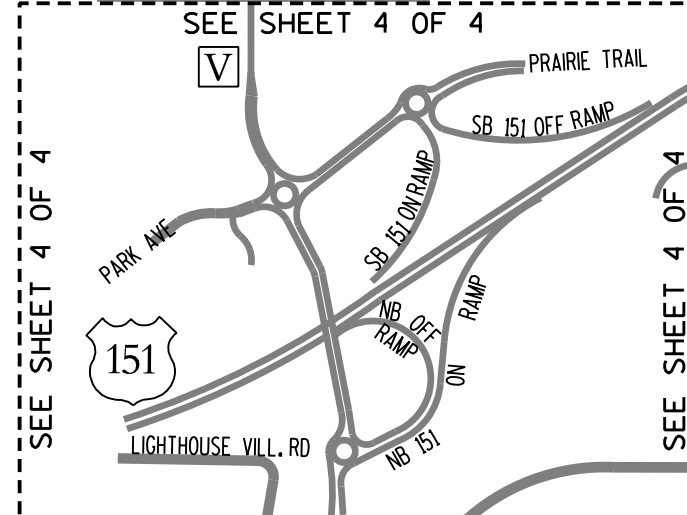
DETAIL 1

SHEET 2 OF 4  
 PLAN SHEET PRODUCED BY WISDOT-NE REGION

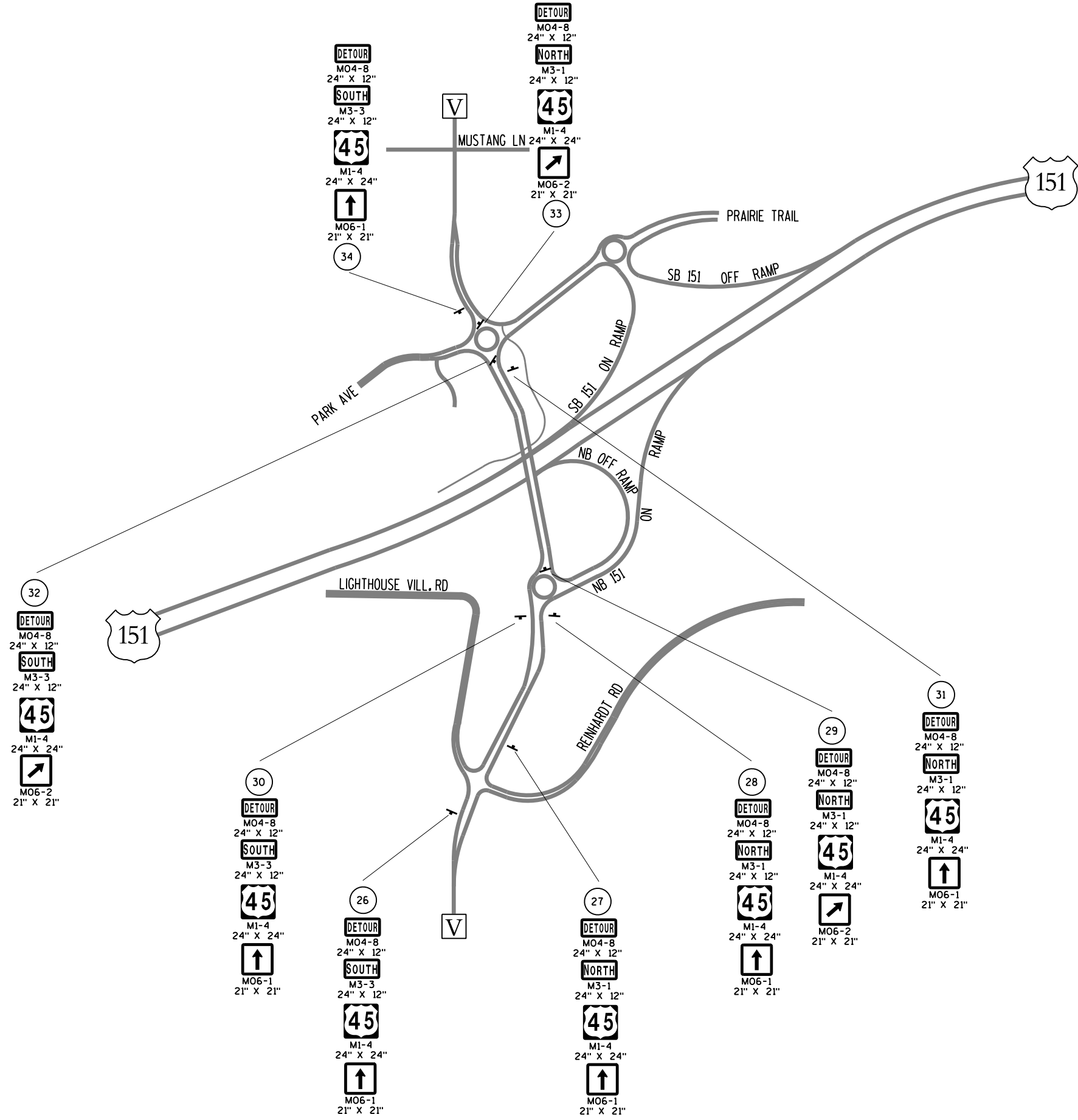


LEGEND

- (X) SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET
- ▲ PCMS (X) PORTABLE CHANGEABLE MESSAGE SIGN
- ⇄ SIGN MOUNTED ON TYPE III BARRICADE
- ⊥ POST MOUNTED SIGN



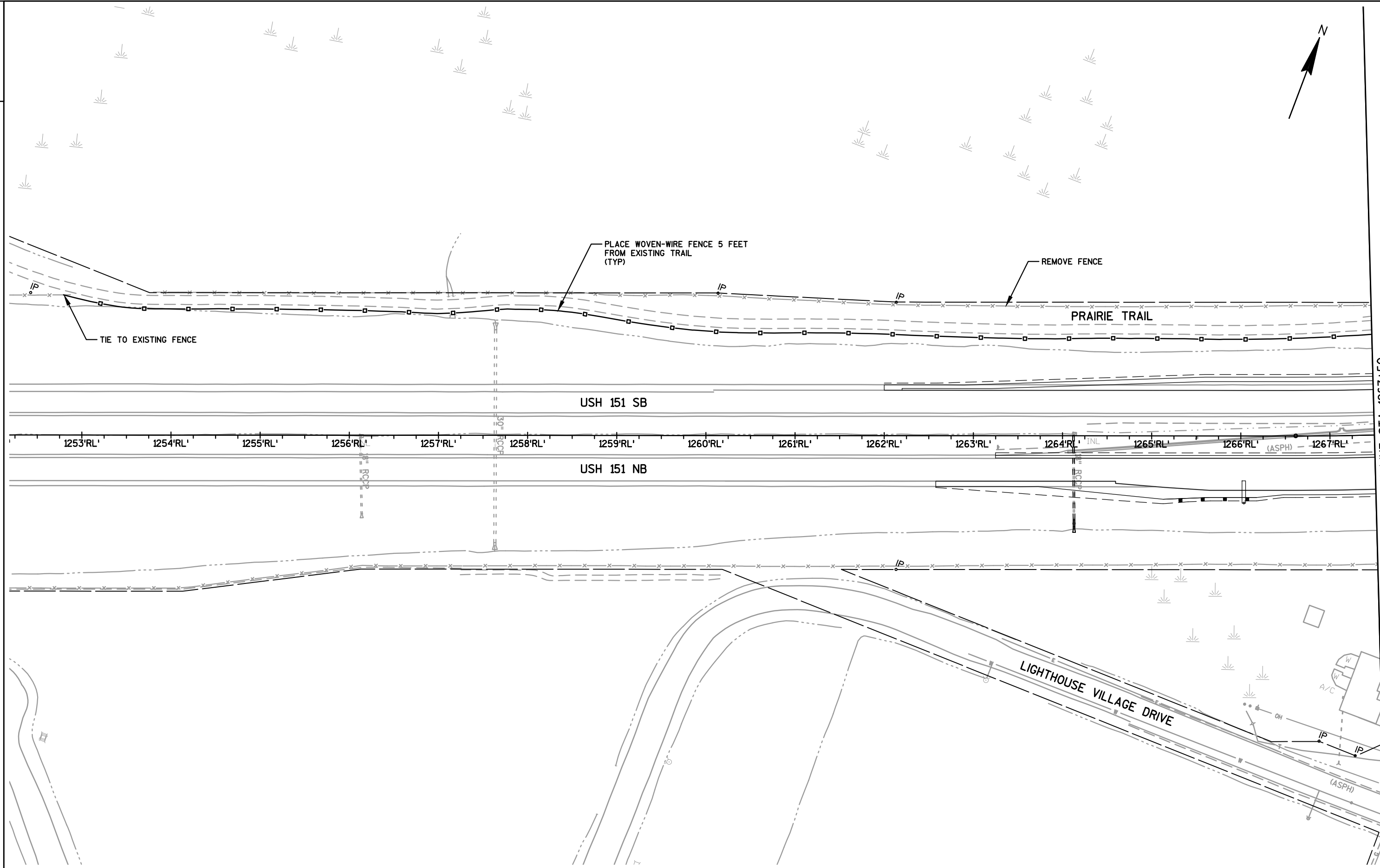
SHEET 3 OF 4  
 PLAN SHEET PRODUCED BY WISDOT-NE REGION



LEGEND

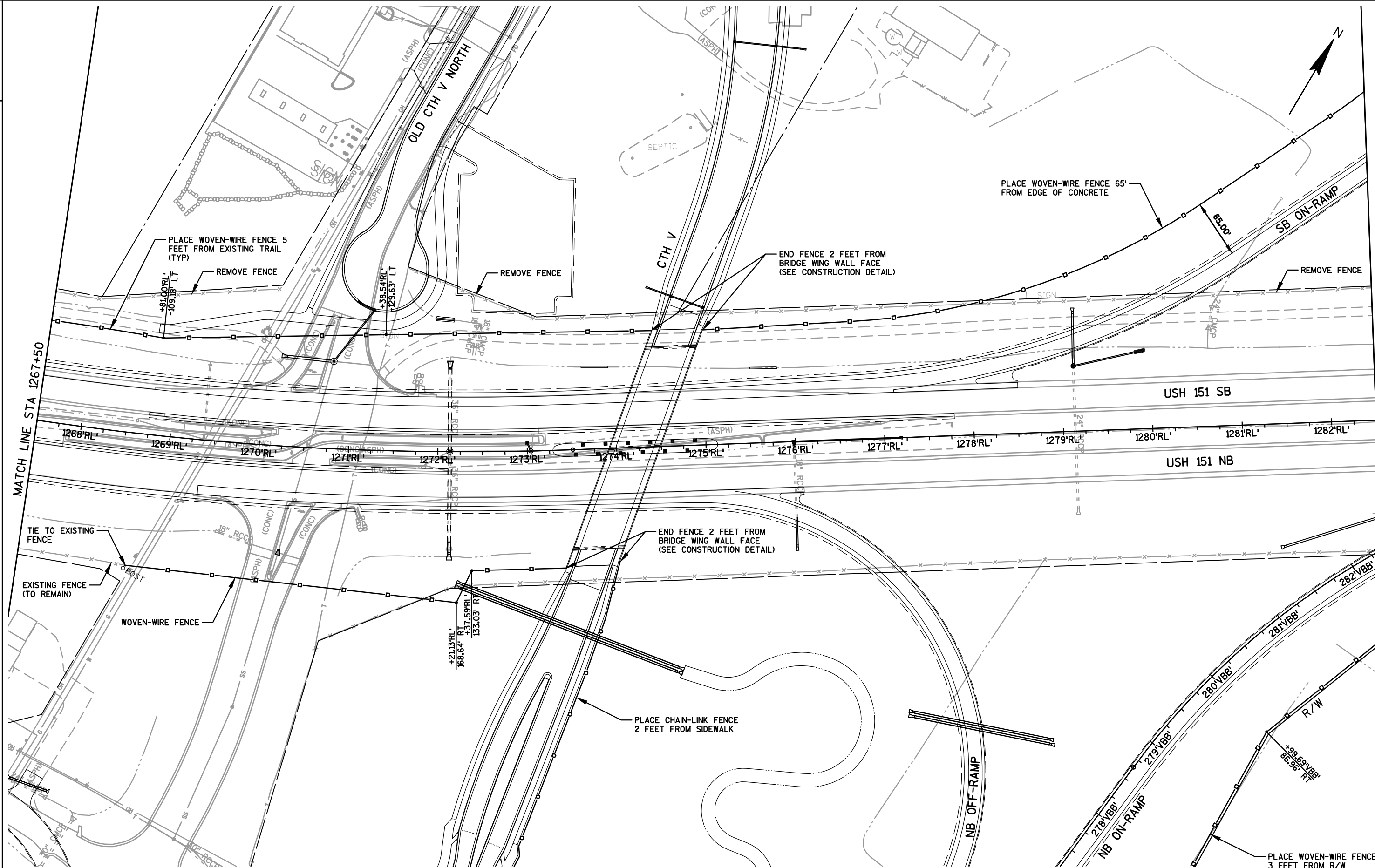
- (X) SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET
- ▲ PCMS (X) PORTABLE CHANGEABLE MESSAGE SIGN
- ⇄ SIGN MOUNTED ON TYPE III BARRICADE
- ⊥ POST MOUNTED SIGN

SHEET 4 OF 4  
 PLAN SHEET PRODUCED BY WISDOT-NE REGION



MATCH LINE STA 1267+50

PROJECT NO: 1420-22-71	HWY: USH 151	COUNTY: FOND DU LAC	FENCING: USH 151	SHEET	E
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PROJECT NO: 1420-22-71

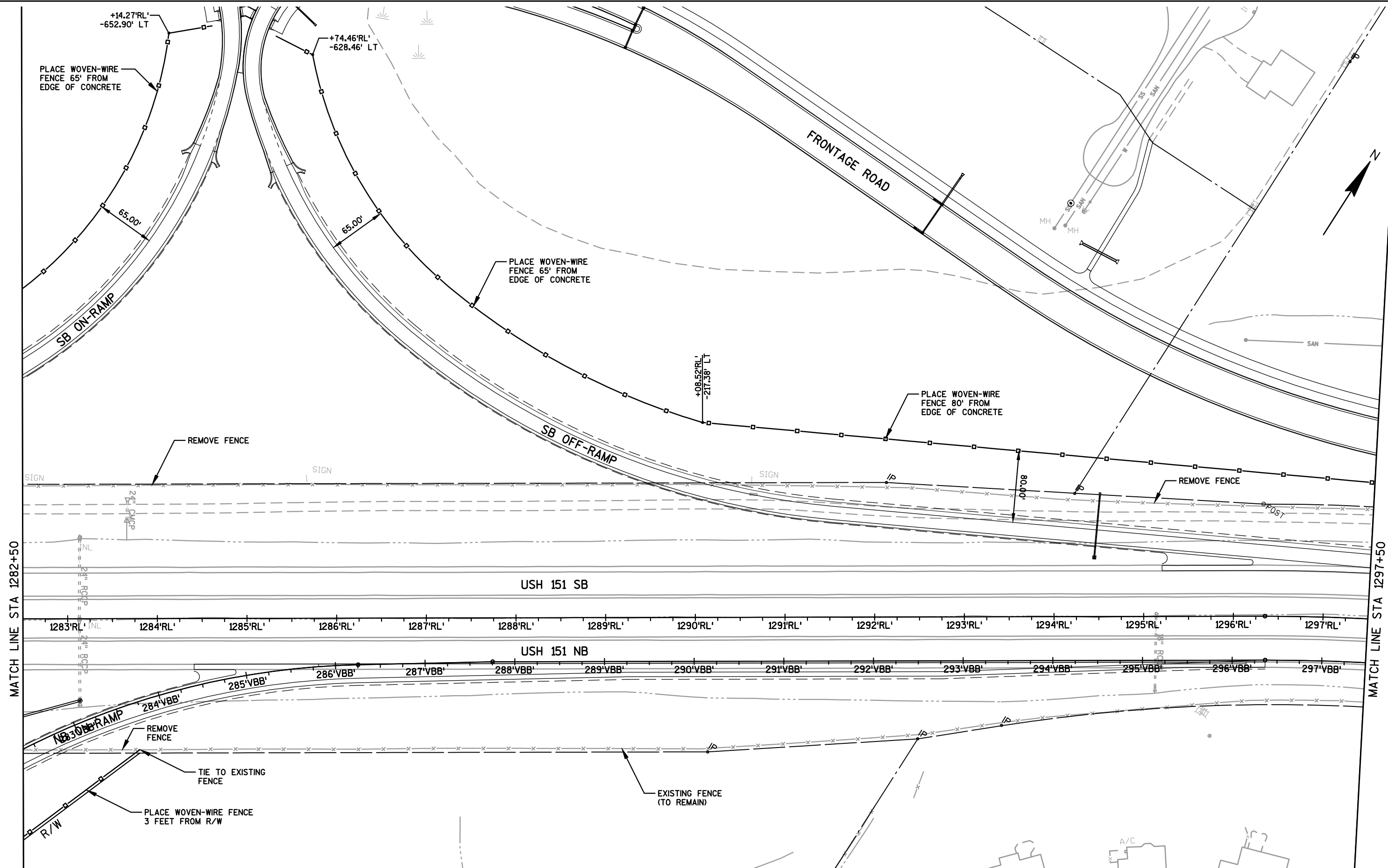
HWY: USH 151

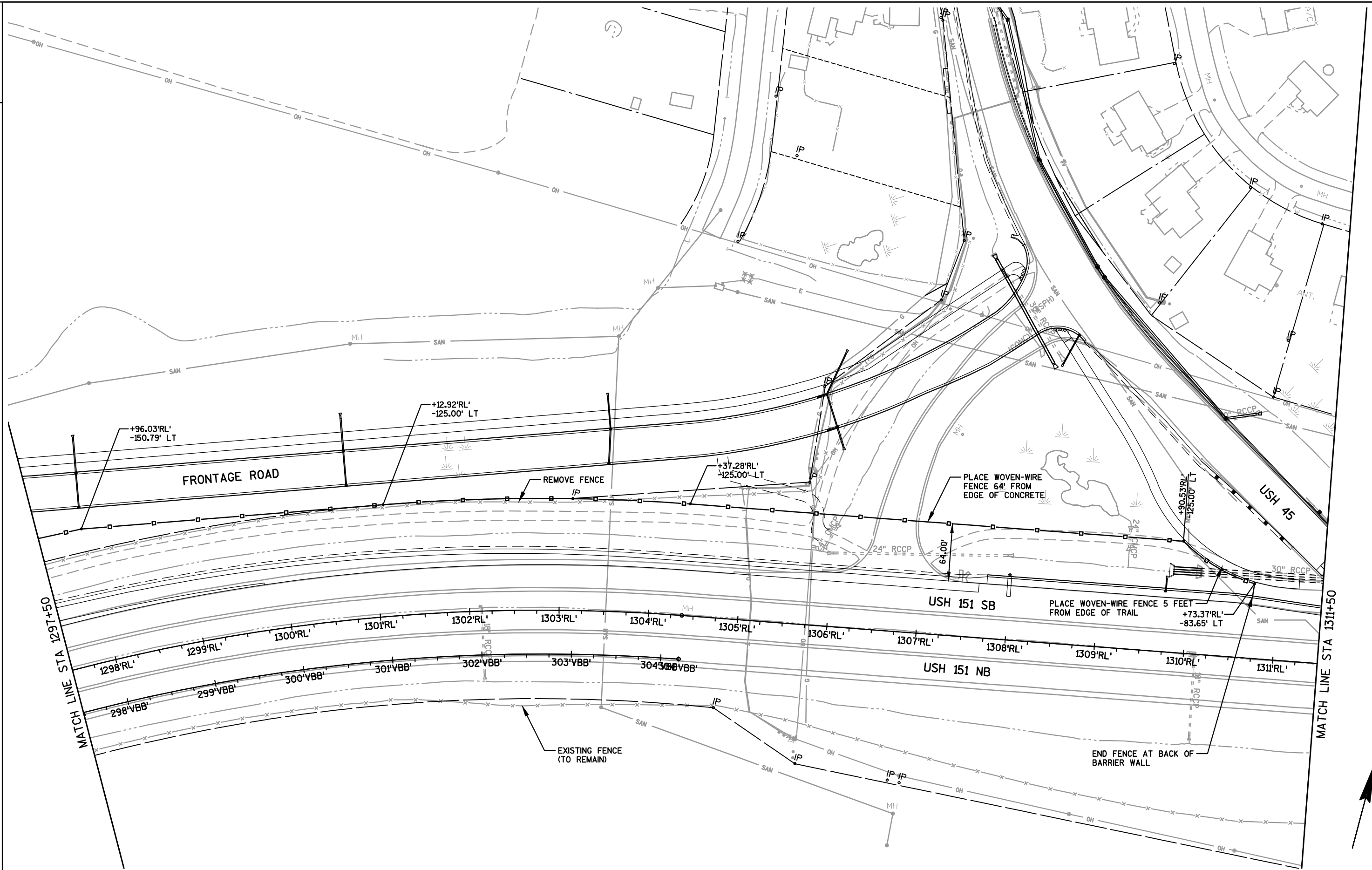
COUNTY: FOND DU LAC

FENCING: USH 151

SHEET

E

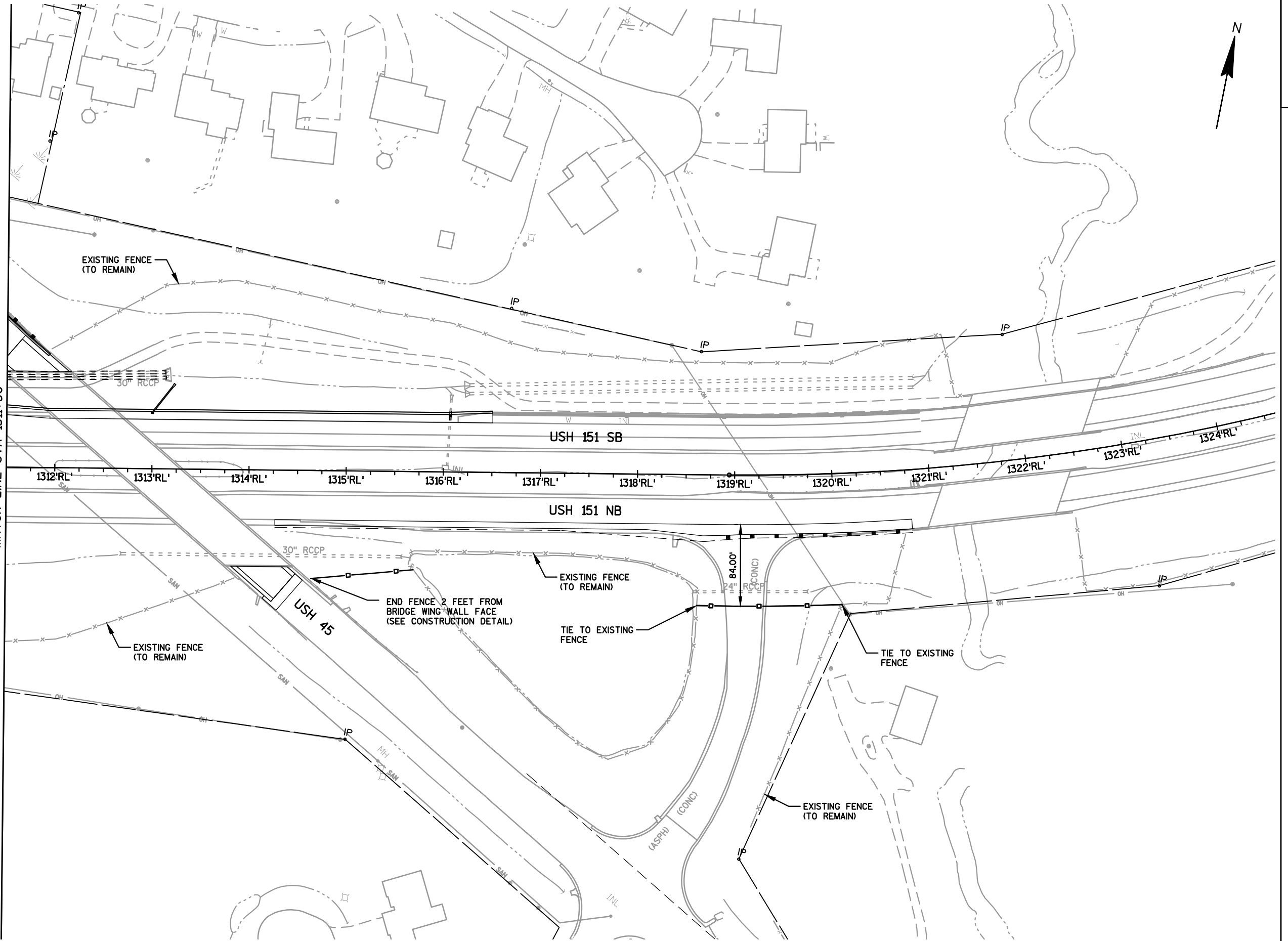


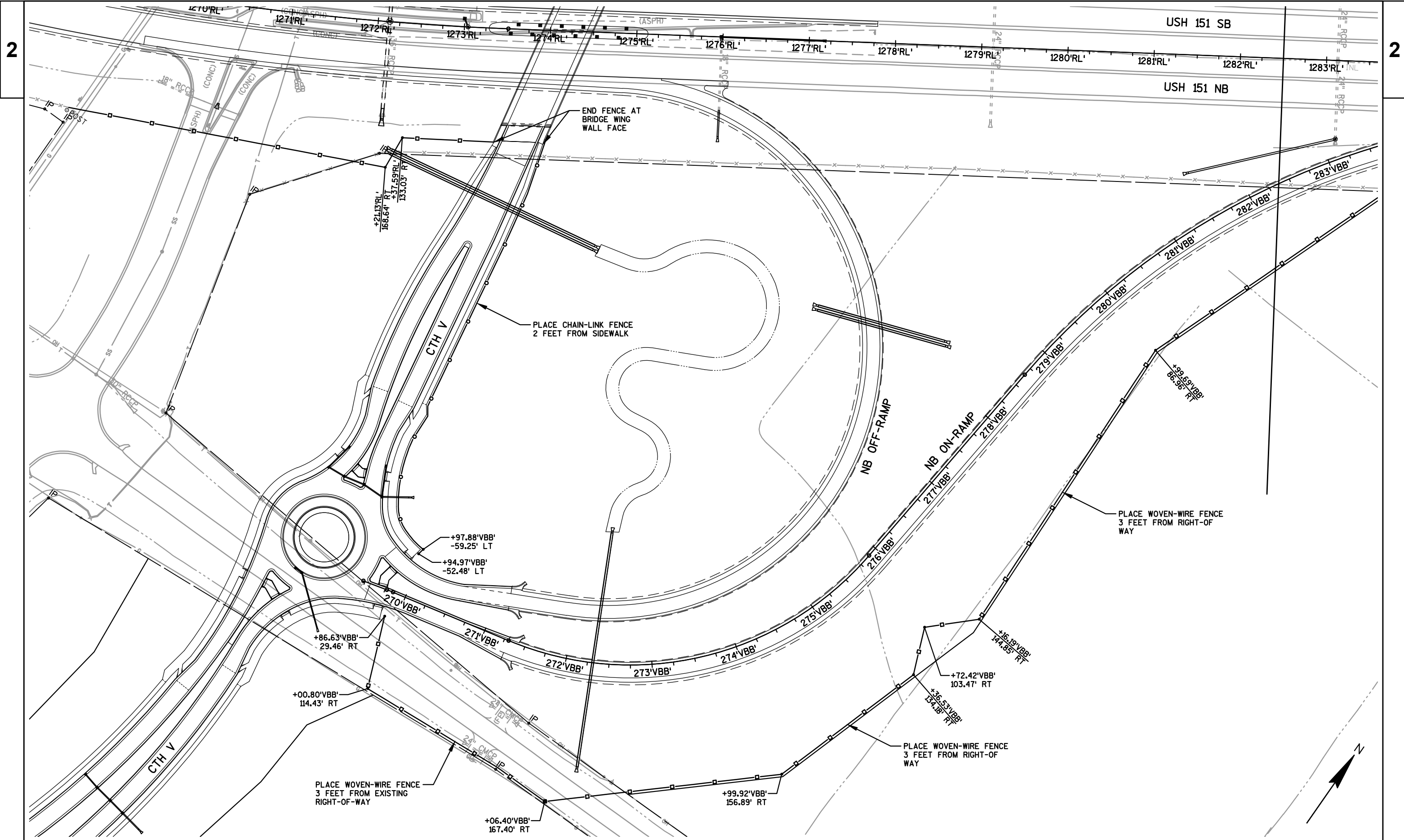






MATCH LINE STA 1311+50





PROJECT NO: 1420-22-71

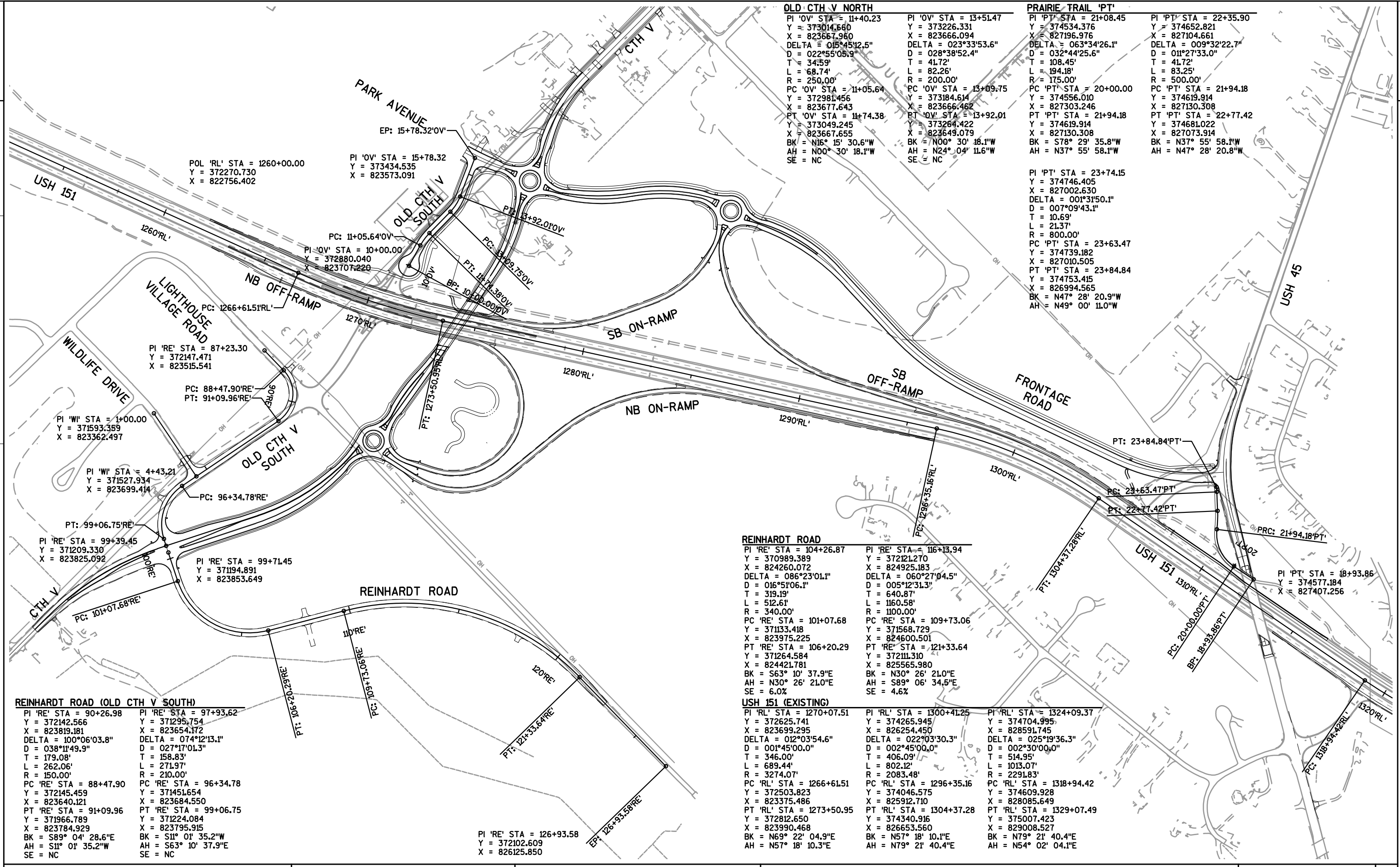
HWY: USH 151

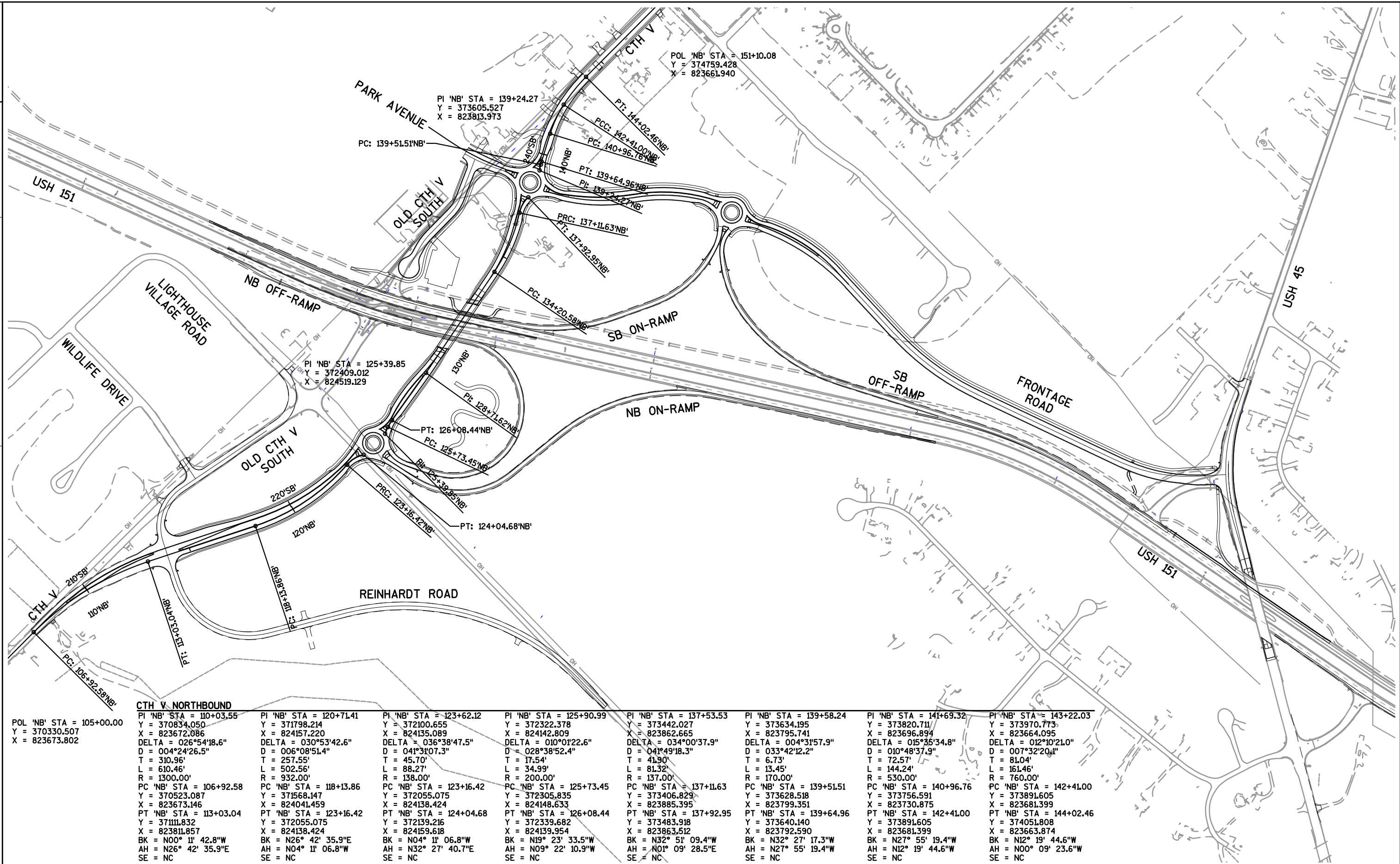
COUNTY: FOND DU LAC

FENCING: USH 151

SHEET

E





POL 'NB' STA = 151+10.08  
 Y = 374759.428  
 X = 823661.940

PARK AVENUE  
 PI 'NB' STA = 139+24.27  
 Y = 373605.527  
 X = 823813.973

PI 'NB' STA = 125+39.85  
 Y = 372409.012  
 X = 824519.129

**CTH V NORTHBOUND**

POL 'NB' STA = 105+00.00  
 Y = 370330.507  
 X = 823673.802

PI 'NB' STA = 110+03.55  
 Y = 370834.050  
 X = 823672.086  
 DELTA = 026°54'18.6"  
 D = 004°24'26.5"  
 T = 310.96'  
 L = 610.46'  
 R = 1300.00'  
 PC 'NB' STA = 106+92.58  
 Y = 370523.087  
 X = 823673.146  
 PT 'NB' STA = 113+03.04  
 Y = 371111.832  
 X = 823811.857  
 BK = N00° 11' 42.8"W  
 AH = N26° 42' 35.9"E  
 SE = NC

PI 'NB' STA = 120+71.41  
 Y = 371798.214  
 X = 824157.220  
 DELTA = 030°53'42.6"  
 D = 006°08'51.4"  
 T = 257.55'  
 L = 502.56'  
 R = 932.00'  
 PC 'NB' STA = 118+13.86  
 Y = 371568.147  
 X = 824041.459  
 PT 'NB' STA = 123+16.42  
 Y = 372055.075  
 X = 824138.424  
 BK = N26° 42' 35.9"E  
 AH = N04° 11' 06.8"W  
 SE = NC

PI 'NB' STA = 123+62.12  
 Y = 372100.655  
 X = 824135.089  
 DELTA = 036°38'47.5"  
 D = 041°31'07.3"  
 T = 45.70'  
 L = 88.27'  
 R = 138.00'  
 PC 'NB' STA = 123+16.42  
 Y = 372055.075  
 X = 824138.424  
 PT 'NB' STA = 124+04.68  
 Y = 372139.216  
 X = 824159.618  
 BK = N04° 11' 06.8"W  
 AH = N32° 27' 40.7"E  
 SE = NC

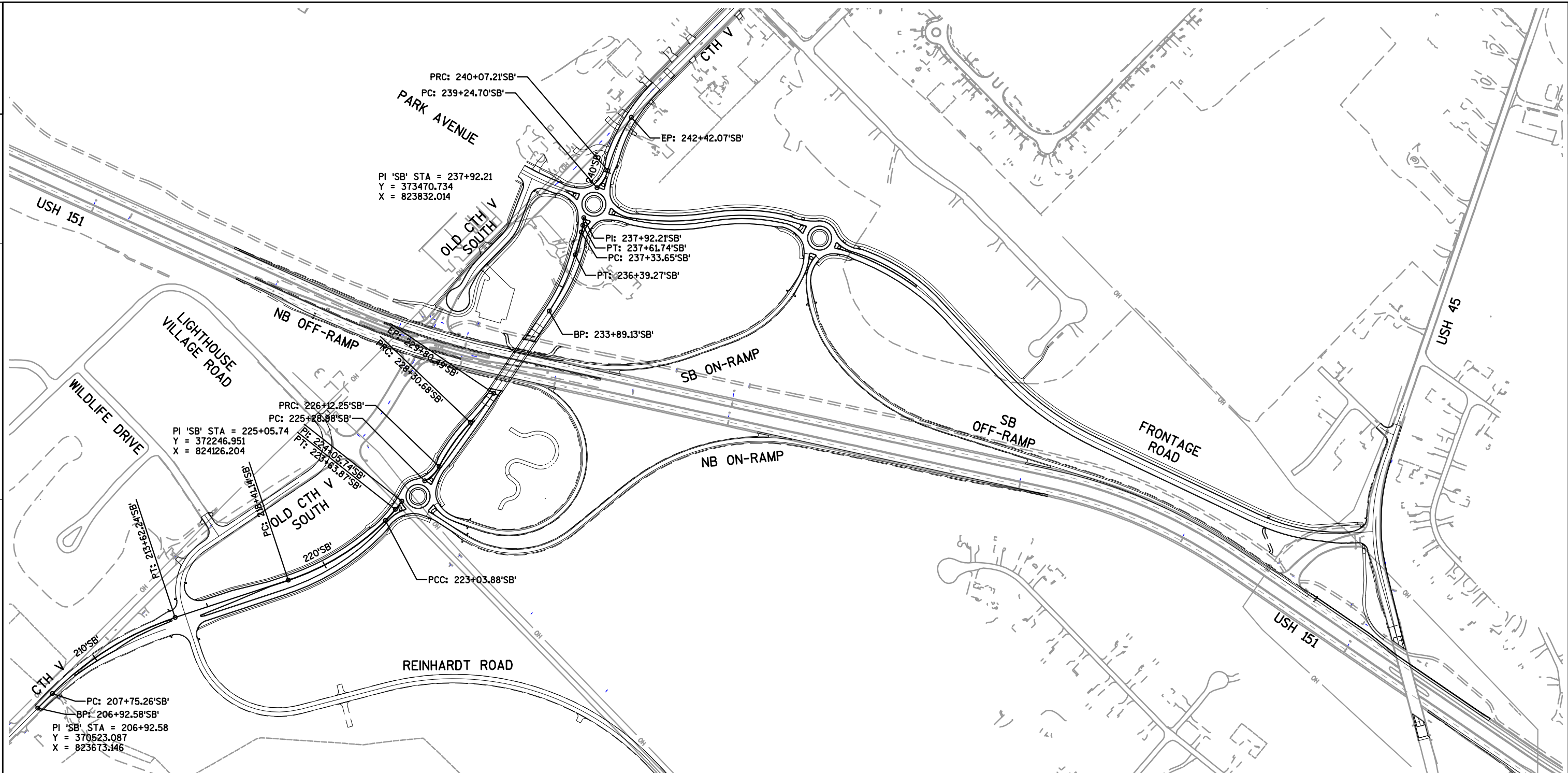
PI 'NB' STA = 125+90.99  
 Y = 372322.378  
 X = 824142.809  
 DELTA = 010°01'22.6"  
 D = 028°38'52.4"  
 T = 17.54'  
 L = 34.99'  
 R = 200.00'  
 PC 'NB' STA = 125+73.45  
 Y = 372305.835  
 X = 824148.633  
 PT 'NB' STA = 126+08.44  
 Y = 372339.682  
 X = 824139.954  
 BK = N19° 23' 33.5"W  
 AH = N09° 22' 10.9"W  
 SE = NC

PI 'NB' STA = 137+53.53  
 Y = 373442.027  
 X = 823862.665  
 DELTA = 034°00'37.9"  
 D = 041°49'18.3"  
 T = 41.90'  
 L = 81.32'  
 R = 137.00'  
 PC 'NB' STA = 137+11.63  
 Y = 373406.829  
 X = 823885.395  
 PT 'NB' STA = 137+92.95  
 Y = 373483.918  
 X = 823863.512  
 BK = N32° 51' 09.4"W  
 AH = N01° 09' 28.5"E  
 SE = NC

PI 'NB' STA = 139+58.24  
 Y = 373634.195  
 X = 823795.741  
 DELTA = 004°31'57.9"  
 D = 033°42'12.2"  
 T = 6.73'  
 L = 13.45'  
 R = 170.00'  
 PC 'NB' STA = 139+51.51  
 Y = 373628.518  
 X = 823799.351  
 PT 'NB' STA = 139+64.96  
 Y = 373640.140  
 X = 823792.590  
 BK = N32° 27' 17.3"W  
 AH = N27° 55' 19.4"W  
 SE = NC

PI 'NB' STA = 141+69.32  
 Y = 373820.711  
 X = 823696.894  
 DELTA = 015°35'34.8"  
 D = 010°48'37.9"  
 T = 72.57'  
 L = 144.24'  
 R = 530.00'  
 PC 'NB' STA = 140+96.76  
 Y = 373756.591  
 X = 823730.875  
 PT 'NB' STA = 142+41.00  
 Y = 373891.605  
 X = 823681.399  
 BK = N27° 55' 19.4"W  
 AH = N12° 19' 44.6"W  
 SE = NC

PI 'NB' STA = 143+22.03  
 Y = 373970.773  
 X = 823664.095  
 DELTA = 012°10'21.0"  
 D = 007°32'20.4"  
 T = 81.04'  
 L = 161.46'  
 R = 760.00'  
 PC 'NB' STA = 142+41.00  
 Y = 373891.605  
 X = 823681.399  
 PT 'NB' STA = 144+02.46  
 Y = 374051.808  
 X = 823663.874  
 BK = N12° 19' 44.6"W  
 AH = N00° 09' 23.6"W  
 SE = NC



**CTH V SOUTHBOUND**

PI 'SB' STA = 210+74.26  
 Y = 370904.766  
 X = 823671.846  
 DELTA = 026°54'18.5"  
 D = 004°35'01.2"  
 T = 299.00'  
 L = 586.98'  
 R = 1250.00'  
 PC 'SB' STA = 207+75.26  
 Y = 370605.763  
 X = 823672.864  
 PT 'SB' STA = 213+62.24  
 Y = 371171.864  
 X = 823806.240  
 BK = N00° 11' 42.7"W  
 AH = N26° 42' 35.9"E  
 SE = NC

PI 'SB' STA = 220+76.73  
 Y = 371810.115  
 X = 824127.386  
 DELTA = 026°30'46.1"  
 D = 005°43'46.5"  
 T = 235.59'  
 L = 462.74'  
 R = 1000.00'  
 PC 'SB' STA = 218+41.14  
 Y = 371599.667  
 X = 824021.496  
 PT 'SB' STA = 223+03.88  
 Y = 372045.700  
 X = 824128.197  
 BK = N26° 42' 35.9"E  
 AH = N00° 11' 49.8"E  
 SE = NC

PI 'SB' STA = 223+33.91  
 Y = 372075.731  
 X = 824126.300  
 DELTA = 006°52'27.1"  
 D = 011°27'33.0"  
 T = 30.03'  
 L = 59.99'  
 R = 500.00'  
 PC 'SB' STA = 223+03.88  
 Y = 372045.700  
 X = 824127.386  
 PT 'SB' STA = 223+63.87  
 Y = 372105.557  
 X = 824124.809  
 BK = N00° 11' 49.8"E  
 AH = N06° 40' 37.3"W  
 SE = NC

PI 'SB' STA = 225+71.95  
 Y = 372311.236  
 X = 824140.212  
 DELTA = 034°49'34.6"  
 D = 041°49'18.3"  
 T = 42.97'  
 L = 83.27'  
 R = 137.00'  
 PC 'SB' STA = 225+28.98  
 Y = 372270.143  
 X = 824127.659  
 PT 'SB' STA = 226+12.25  
 Y = 372352.138  
 X = 824127.048  
 BK = N16° 59' 09.4"E  
 AH = N17° 50' 25.2"W  
 SE = NC

PI 'SB' STA = 227+22.22  
 Y = 372456.822  
 X = 824093.356  
 DELTA = 016°28'01.8"  
 D = 007°32'20.1"  
 T = 109.97'  
 L = 218.43'  
 R = 760.00'  
 PC 'SB' STA = 226+12.25  
 Y = 372352.138  
 X = 824127.048  
 PT 'SB' STA = 228+30.68  
 Y = 372566.763  
 X = 824090.721  
 BK = N01° 22' 23.4"W  
 AH = N10° 54' 36.7"W  
 SE = NC

PI 'SB' STA = 229+05.76  
 Y = 372641.818  
 X = 824088.922  
 DELTA = 009°32'13.3"  
 D = 006°21'58.3"  
 T = 75.08'  
 L = 149.81'  
 R = 900.00'  
 PC 'SB' STA = 228+30.68  
 Y = 372566.763  
 X = 824090.721  
 PT 'SB' STA = 229+80.49  
 Y = 372715.538  
 X = 824074.712  
 BK = N10° 54' 36.7"W  
 AH = N29° 46' 05.9"W  
 SE = NC

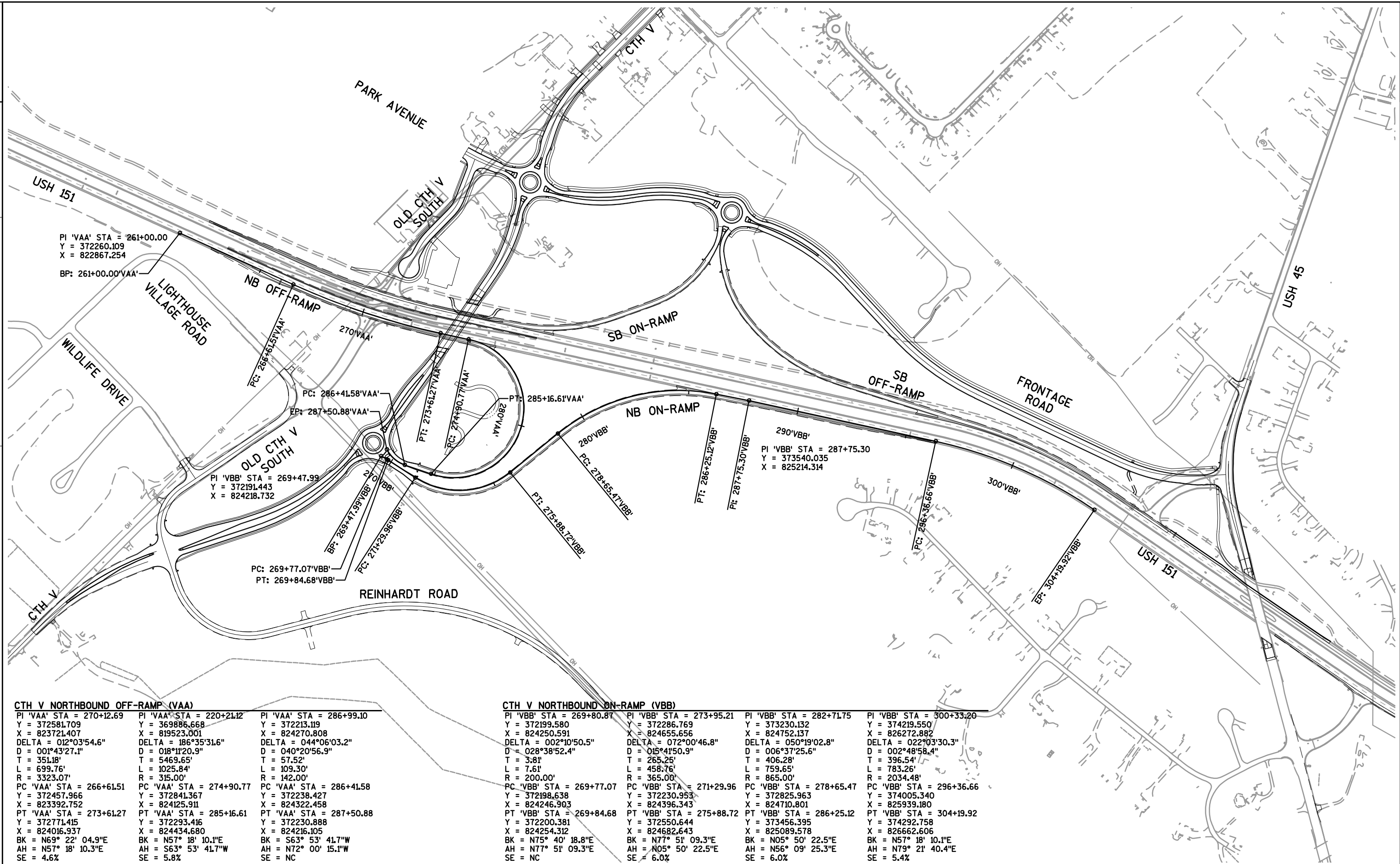
**CTH V SOUTHBOUND**

PI 'SB' STA = 235+15.34  
 Y = 373231.442  
 X = 823975.269  
 DELTA = 018°51'29.2"  
 D = 007°32'20.1"  
 T = 126.21'  
 L = 250.14'  
 R = 760.00'  
 PC 'SB' STA = 233+89.13  
 Y = 373107.510  
 X = 823999.158  
 PT 'SB' STA = 236+39.27  
 Y = 373341.001  
 X = 823912.605  
 BK = N10° 54' 36.7"W  
 AH = N29° 46' 05.9"W  
 SE = NC

PI 'SB' STA = 237+47.71  
 Y = 373435.131  
 X = 823858.765  
 DELTA = 007°09'09.1"  
 D = 025°27'53.2"  
 T = 14.06'  
 L = 28.09'  
 R = 225.00'  
 PC 'SB' STA = 237+33.65  
 Y = 373422.925  
 X = 823865.747  
 PT 'SB' STA = 237+61.74  
 Y = 373446.374  
 X = 823850.318  
 BK = N29° 46' 06.1"W  
 AH = N36° 55' 15.2"W  
 SE = NC

PI 'SB' STA = 239+67.23  
 Y = 373636.666  
 X = 823787.210  
 DELTA = 034°15'24.8"  
 D = 041°31'07.3"  
 T = 42.53'  
 L = 82.51'  
 R = 138.00'  
 PC 'SB' STA = 239+24.70  
 Y = 373594.252  
 X = 823784.079  
 PT 'SB' STA = 240+07.21  
 Y = 373673.485  
 X = 823765.923  
 BK = N04° 13' 19.3"E  
 AH = N30° 02' 05.5"W  
 SE = NC

PI 'SB' STA = 241+25.59  
 Y = 373775.962  
 X = 823706.675  
 DELTA = 017°42'20.8"  
 D = 007°32'20.1"  
 T = 118.37'  
 L = 234.86'  
 R = 760.00'  
 PC 'SB' STA = 240+07.21  
 Y = 373673.485  
 X = 823765.923  
 PT 'SB' STA = 242+42.07  
 Y = 373891.605  
 X = 823681.399  
 BK = N30° 02' 05.5"W  
 AH = N12° 19' 44.7"W  
 SE = NC

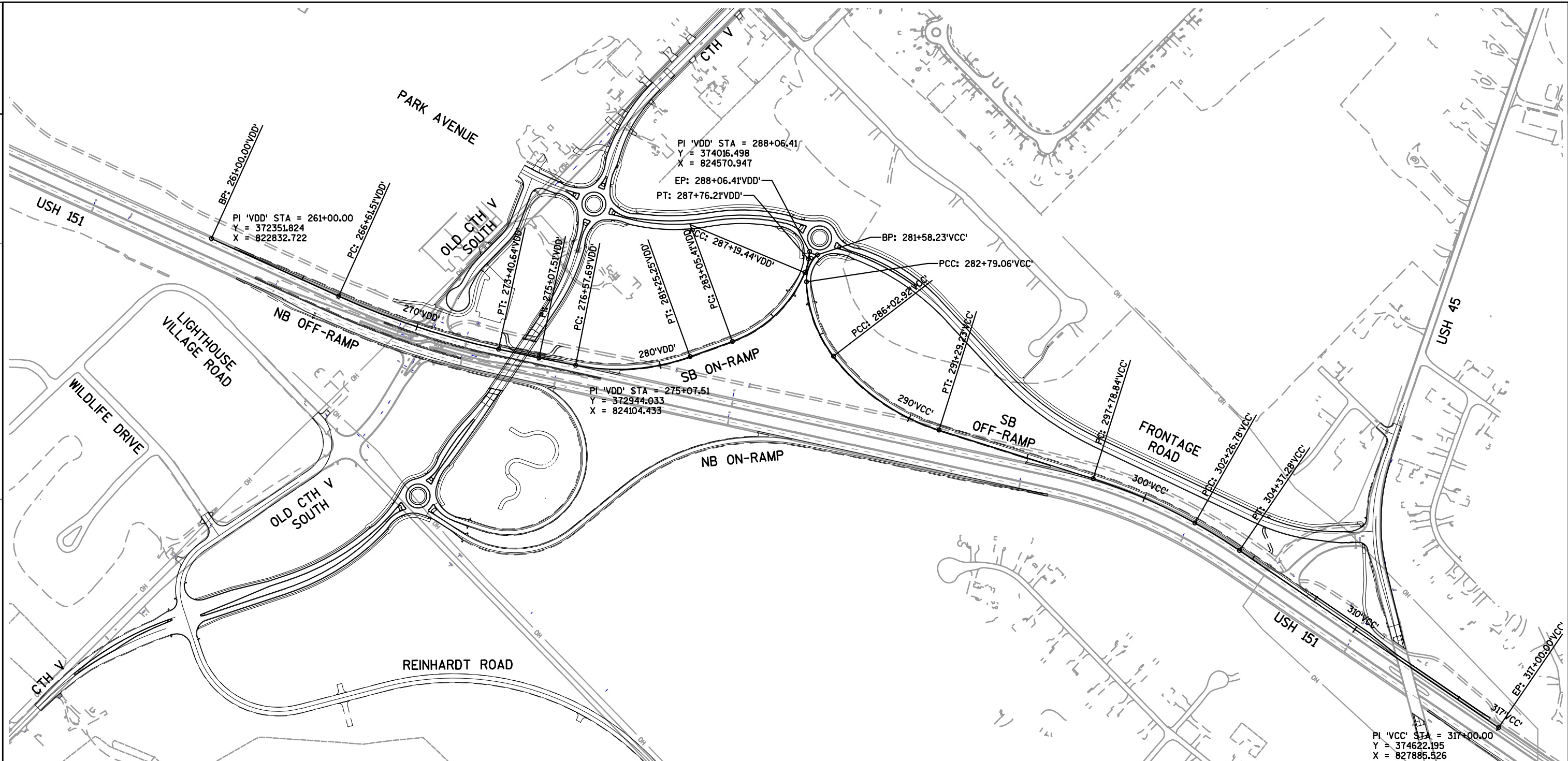


**CTH V NORTHBOUND OFF-RAMP (VAA)**

PI 'VAA' STA = 270+12.69 Y = 372581.709 X = 823721.407 DELTA = 012°03'54.6" D = 001°43'27.1" T = 351.18' L = 699.76' R = 3323.07' PC 'VAA' STA = 266+61.51 Y = 372457.966 X = 823392.752 PT 'VAA' STA = 273+61.27 Y = 372771.415 X = 824016.937 BK = N69° 22' 04.9"E AH = N57° 18' 10.3"E SE = 4.6%	PI 'VAA' STA = 220+21.12 Y = 369886.668 X = 819523.001 DELTA = 186°35'31.6" D = 018°11'20.9" T = 5469.65' L = 1025.84' R = 315.00' PC 'VAA' STA = 274+90.77 Y = 372841.367 X = 824125.911 PT 'VAA' STA = 285+16.61 Y = 372293.416 X = 824434.680 BK = N57° 18' 10.1"E AH = S63° 53' 41.7"W SE = 5.8%	PI 'VAA' STA = 286+99.10 Y = 372213.119 X = 824270.808 DELTA = 044°06'03.2" D = 040°20'56.9" T = 57.52' L = 109.30' R = 142.00' PC 'VAA' STA = 286+41.58 Y = 372238.427 X = 824322.458 PT 'VAA' STA = 287+50.88 Y = 372230.888 X = 824216.105 BK = S63° 53' 41.7"W AH = N72° 00' 15.1"W SE = NC
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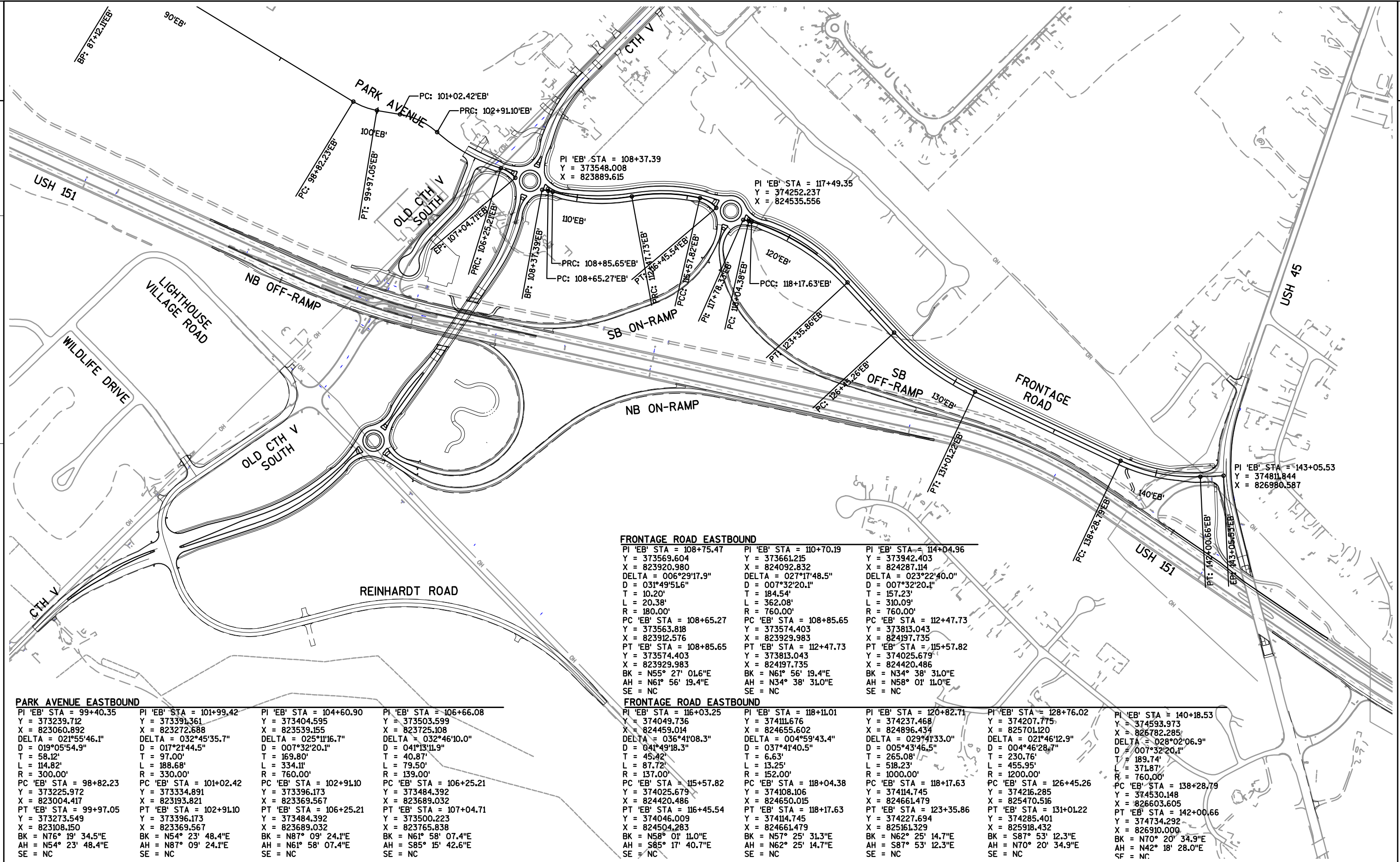
**CTH V NORTHBOUND ON-RAMP (VBB)**

PI 'VBB' STA = 269+80.87 Y = 372199.580 X = 824250.591 DELTA = 002°10'50.5" D = 028°38'52.4" T = 3.81' L = 7.61' R = 200.00' PC 'VBB' STA = 269+77.07 Y = 372198.638 X = 824246.903 PT 'VBB' STA = 269+84.68 Y = 372200.381 X = 824254.312 BK = N75° 40' 18.8"E AH = N77° 51' 09.3"E SE = NC	PI 'VBB' STA = 273+95.21 Y = 372286.769 X = 824655.656 DELTA = 072°00'46.8" D = 015°41'50.9" T = 265.25' L = 458.76' R = 365.00' PC 'VBB' STA = 271+29.96 Y = 372230.953 X = 824396.343 PT 'VBB' STA = 275+88.72 Y = 372550.644 X = 824682.643 BK = N77° 51' 09.3"E AH = N05° 50' 22.5"E SE = 6.0%	PI 'VBB' STA = 282+71.75 Y = 373230.132 X = 824752.137 DELTA = 050°19'02.8" D = 006°37'25.6" T = 406.28' L = 759.65' R = 865.00' PC 'VBB' STA = 278+65.47 Y = 372825.963 X = 824710.801 PT 'VBB' STA = 286+25.12 Y = 373456.395 X = 825089.578 BK = N05° 50' 22.5"E AH = N56° 09' 25.3"E SE = 6.0%	PI 'VBB' STA = 300+33.20 Y = 374219.550 X = 826272.882 DELTA = 022°03'30.3" D = 002°48'58.4" T = 396.54' L = 783.26' R = 2034.48' PC 'VBB' STA = 296+36.66 Y = 374005.340 X = 825939.180 PT 'VBB' STA = 304+19.92 Y = 374292.758 X = 826662.606 BK = N57° 18' 10.1"E AH = N79° 21' 40.4"E SE = 5.4%
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CTH V SOUTHBOUND ON-RAMP (VDD)			
PI 'VDD' STA = 270+02.33 Y = 372669.774 X = 823677.183 DELTA = 012°03'54.6" D = 001°46'35.7" T = 340.82' L = 679.12' R = 3225.07'	PI 'VDD' STA = 278+97.33 Y = 373161.131 X = 824428.204 DELTA = 030°58'12.0" D = 006°37'25.6" T = 239.64' L = 467.56' R = 865.00'	PI 'VDD' STA = 285+25.13 Y = 373739.848 X = 824700.367 DELTA = 047°26'40.3" D = 011°27'33.0" T = 219.72' L = 414.03' R = 500.00'	PI 'VDD' STA = 287+47.99 Y = 373969.610 X = 824606.334 DELTA = 047°47'04.9" D = 026°02'36.7" T = 28.54' L = 56.77' R = 220.00'
PC 'VDD' STA = 266+61.51 Y = 372549.680 X = 823358.220 PT 'VDD' STA = 273+40.64 Y = 372853.885 X = 823963.998 BK = N69° 22' 04.9"E AH = N57° 18' 10.3"E SE = 4.2%	PC 'VDD' STA = 276+57.69 Y = 373027.670 X = 824229.165 PT 'VDD' STA = 281+25.25 Y = 373377.988 X = 824530.189 BK = N56° 09' 25.3"E AH = N25° 11' 13.3"E SE = 6.0%	PC 'VDD' STA = 283+05.41 Y = 373541.021 X = 824606.862 PT 'VDD' STA = 287+19.44 Y = 373943.193 X = 824617.145 BK = N25° 11' 13.3"E AH = N22° 15' 27.0"W SE = 6.0%	PC 'VDD' STA = 287+19.44 Y = 373943.193 X = 824617.145 PT 'VDD' STA = 287+76.21 Y = 373992.393 X = 824589.140 BK = N22° 15' 27.0"W AH = N37° 02' 31.9"W SE = NC

CTH V SOUTHBOUND OFF-RAMP (VCC)			
PI 'VCC' STA = 282+22.52 Y = 373965.597 X = 824601.043 DELTA = 048°24'46.5" D = 040°04'01.1" T = 64.29' L = 120.83' R = 143.00'	PI 'VCC' STA = 284+46.33 Y = 373808.427 X = 824771.090 DELTA = 035°20'41.6" D = 010°54'48.5" T = 167.27' L = 323.86' R = 525.00'	PI 'VCC' STA = 288+74.51 Y = 373751.892 X = 825206.287 DELTA = 034°51'40.8" D = 006°37'25.6" T = 271.58' L = 526.31' R = 865.00'	PI 'VCC' STA = 300+03.64 Y = 374280.336 X = 826223.165 DELTA = 012°02'57.6" D = 002°41'23.8" T = 224.80' L = 447.94' R = 2130.00'
PC 'VCC' STA = 281+58.23 Y = 374029.870 X = 824602.344 PT 'VCC' STA = 282+79.06 Y = 373921.963 X = 824648.253 BK = S01° 09' 34.0"W AH = S47° 15' 12.5"E SE = NC	PC 'VCC' STA = 282+79.06 Y = 373921.963 X = 824648.253 PT 'VCC' STA = 286+02.92 Y = 373786.878 X = 824936.967 BK = S47° 15' 12.5"E AH = S82° 35' 54.1"E SE = 6.0%	PC 'VCC' STA = 286+02.92 Y = 373786.878 X = 824936.967 PT 'VCC' STA = 291+29.23 Y = 373877.125 X = 825447.272 BK = S82° 35' 54.1"E AH = N62° 32' 25.1"E SE = 6.0%	PC 'VCC' STA = 297+78.84 Y = 374176.675 X = 826023.692 PT 'VCC' STA = 302+26.78 Y = 374340.072 X = 826439.882 BK = N62° 32' 25.1"E AH = N74° 35' 22.7"E SE = 5.3%
			PI 'VCC' STA = 303+32.11 Y = 374369.627 X = 826540.987 DELTA = 005°39'20.9" D = 002°41'12.5" T = 105.34' L = 210.50' R = 2132.48'
			PC 'VCC' STA = 302+26.78 Y = 374340.072 X = 826439.882 PT 'VCC' STA = 304+37.28 Y = 374389.073 X = 826644.513 BK = N73° 42' 19.5"E AH = N79° 21' 40.4"E SE = 5.3%



**FRONTAGE ROAD EASTBOUND**

PI 'EB' STA = 108+75.47 Y = 373569.604 X = 823920.980 DELTA = 006°29'17.9" D = 031°49'51.6" T = 10.20' L = 20.38' R = 180.00'	PI 'EB' STA = 108+65.27 Y = 373563.818 X = 823912.576 PT 'EB' STA = 108+85.65 Y = 373574.403 X = 823929.983 BK = N55° 27' 01.6"E AH = N61° 56' 19.4"E SE = NC	PI 'EB' STA = 108+85.65 Y = 373574.403 X = 823929.983 PT 'EB' STA = 112+47.73 Y = 373813.043 X = 824197.735 BK = N61° 56' 19.4"E AH = N34° 38' 31.0"E SE = NC	PI 'EB' STA = 114+04.96 Y = 373942.403 X = 824287.114 DELTA = 023°22'40.0" D = 007°32'20.1" T = 157.23' L = 310.09' R = 760.00'	PI 'EB' STA = 112+47.73 Y = 373813.043 X = 824197.735 PT 'EB' STA = 115+57.82 Y = 374025.679 X = 824420.486 BK = N34° 38' 31.0"E AH = N58° 01' 11.0"E SE = NC
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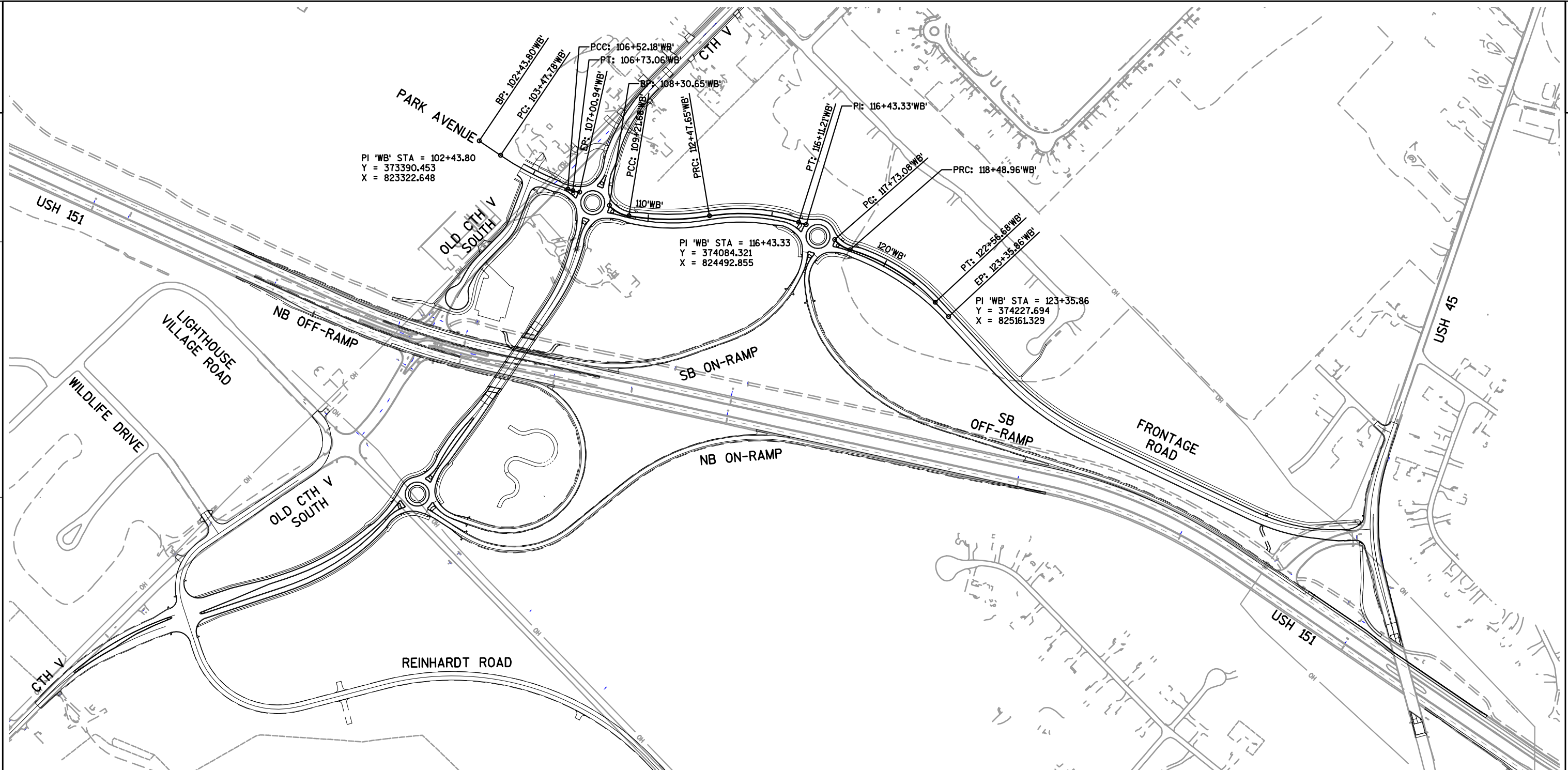
**FRONTAGE ROAD EASTBOUND**

PI 'EB' STA = 106+66.08 Y = 373503.599 X = 823725.108 DELTA = 032°46'10.0" D = 041°13'11.9" T = 40.87' L = 79.50' R = 139.00'	PI 'EB' STA = 106+25.21 Y = 373484.392 X = 823689.032 PT 'EB' STA = 107+04.71 Y = 37406.009 X = 824504.283 BK = N58° 01' 11.0"E AH = S85° 17' 40.7"E SE = NC	PI 'EB' STA = 116+03.25 Y = 374049.736 X = 824459.014 DELTA = 036°41'08.3" D = 041°49'18.3" T = 45.42' L = 87.72' R = 137.00'	PI 'EB' STA = 116+45.54 Y = 37406.009 X = 824504.283 BK = N58° 01' 11.0"E AH = S85° 17' 40.7"E SE = NC	PI 'EB' STA = 118+11.01 Y = 374111.676 X = 824655.602 DELTA = 004°59'43.4" D = 037°41'40.5" T = 6.63' L = 13.25' R = 152.00'	PI 'EB' STA = 118+04.38 Y = 374108.106 X = 824650.015 PT 'EB' STA = 118+17.63 Y = 374114.745 X = 824661.479 BK = N57° 25' 31.3"E AH = N62° 25' 14.7"E SE = NC	PI 'EB' STA = 118+17.63 Y = 374114.745 X = 824661.479 PT 'EB' STA = 123+35.86 Y = 374227.694 X = 825161.329 BK = N58° 25' 14.7"E AH = S87° 53' 12.3"E SE = NC	PI 'EB' STA = 120+82.71 Y = 374237.468 X = 824896.434 DELTA = 029°41'33.0" D = 005°43'46.5" T = 265.08' L = 518.23' R = 1000.00'	PI 'EB' STA = 128+76.02 Y = 374207.775 X = 825701.120 DELTA = 021°46'12.9" D = 004°46'28.7" L = 455.95' R = 1200.00'	PI 'EB' STA = 126+45.26 Y = 374216.285 X = 825470.516 PT 'EB' STA = 131+01.22 Y = 374285.401 X = 825918.432 BK = N87° 53' 12.3"E AH = N70° 20' 34.9"E SE = NC	PI 'EB' STA = 140+18.53 Y = 374593.973 X = 826782.285 DELTA = 028°02'06.9" D = 007°32'20.1" T = 189.74' L = 371.87' R = 760.00'	PI 'EB' STA = 138+28.79 Y = 374530.148 X = 826603.605 PT 'EB' STA = 142+00.66 Y = 374734.292 X = 826910.000 BK = N70° 20' 34.9"E AH = N42° 18' 28.0"E SF = NC
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**PARK AVENUE EASTBOUND**

PI 'EB' STA = 99+40.35 Y = 373239.712 X = 823060.892 DELTA = 021°55'46.1" D = 019°05'54.9" T = 58.12' L = 114.82' R = 300.00'	PI 'EB' STA = 101+99.42 Y = 373391.361 X = 823272.688 DELTA = 032°45'35.7" D = 017°21'44.5" T = 97.00' L = 188.68' R = 330.00'	PI 'EB' STA = 104+60.90 Y = 373404.595 X = 823539.155 DELTA = 025°11'16.7" D = 007°32'20.1" T = 169.80' L = 334.11' R = 760.00'	PI 'EB' STA = 102+91.10 Y = 373396.173 X = 823369.567 PT 'EB' STA = 102+91.10 Y = 373396.173 X = 823369.567 BK = N54° 23' 48.4"E AH = N87° 09' 24.1"E SE = NC
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**PARK AVENUE WESTBOUND**

PI 'WB' STA = 105+00.80  
 Y = 373439.741  
 X = 823574.877  
 DELTA = 014°32'01.6"  
 D = 004°46'28.7"  
 T = 153.02'  
 L = 304.39'  
 R = 1200.00'  
 PC 'WB' STA = 103+47.78  
 Y = 373410.395  
 X = 823424.698  
 PT 'WB' STA = 106+52.18  
 Y = 373505.836  
 X = 823712.885  
 BK = N78° 56' 35.2"E  
 AH = N64° 24' 33.6"E  
 SE = NC

PI 'WB' STA = 106+62.63  
 Y = 373510.352  
 X = 823722.315  
 DELTA = 006°38'52.4"  
 D = 031°49'51.6"  
 T = 10.45'  
 L = 20.88'  
 R = 180.00'  
 PC 'WB' STA = 106+52.18  
 Y = 373505.836  
 X = 823712.885  
 PT 'WB' STA = 106+73.06  
 Y = 373515.928  
 X = 823731.156  
 BK = N64° 24' 33.6"E  
 AH = N57° 45' 41.2"E  
 SE = NC

**FRONTAGE ROAD WESTBOUND**

PI 'WB' STA = 108+77.92  
 Y = 373576.067  
 X = 823924.572  
 DELTA = 038°04'12.3"  
 D = 041°49'18.3"  
 T = 47.27'  
 L = 91.03'  
 R = 137.00'  
 PC 'WB' STA = 108+30.65  
 Y = 373578.036  
 X = 823877.346  
 PT 'WB' STA = 109+21.68  
 Y = 373603.637  
 X = 823962.964  
 BK = S87° 36' 45.4"E  
 AH = N54° 19' 02.2"E  
 SE = NC

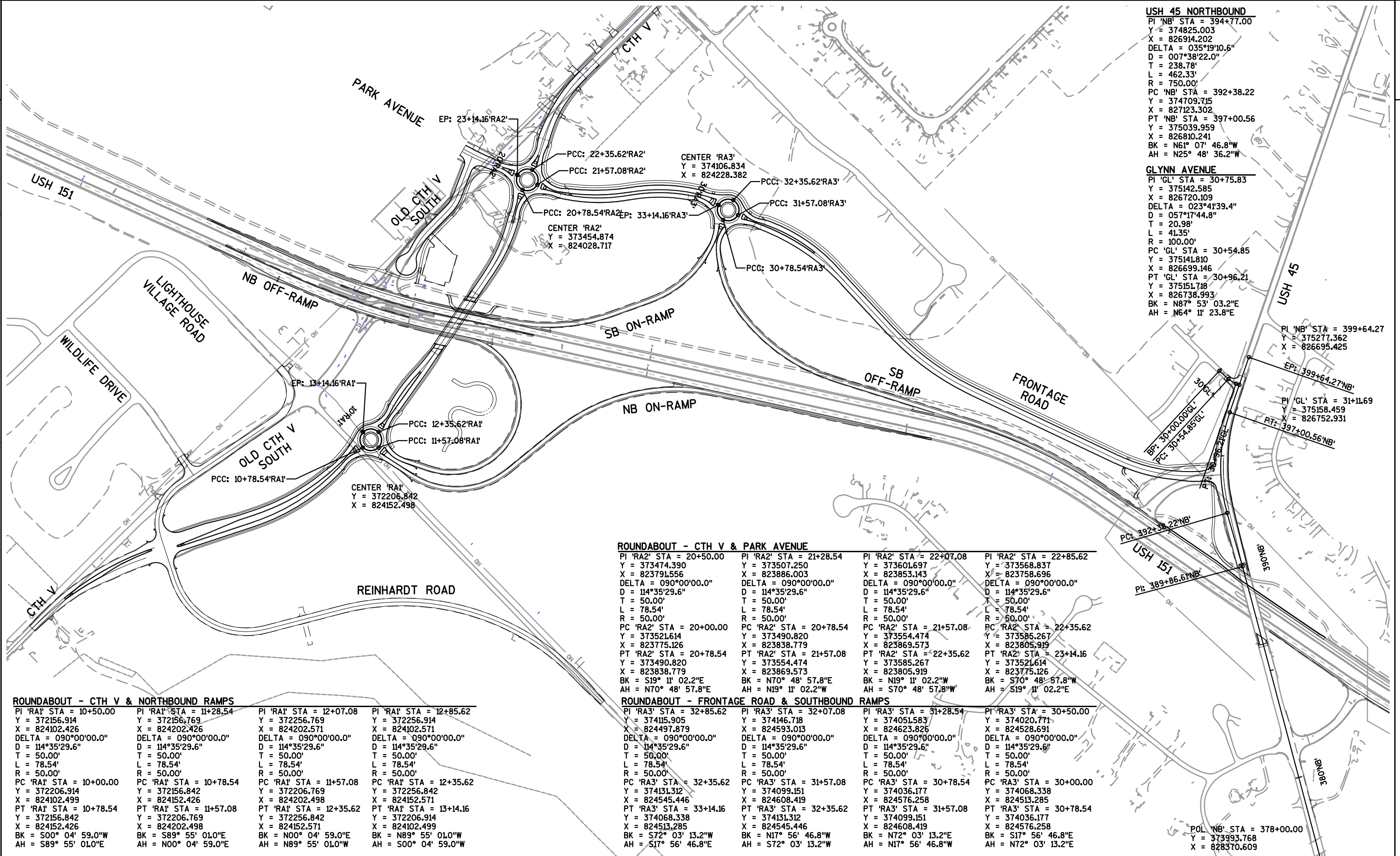
PI 'WB' STA = 110+86.12  
 Y = 373699.556  
 X = 824096.535  
 DELTA = 018°40'36.1"  
 D = 005°43'46.5"  
 T = 164.44'  
 L = 325.97'  
 R = 1000.00'  
 PC 'WB' STA = 109+21.68  
 Y = 373603.637  
 X = 823962.964  
 PT 'WB' STA = 112+47.65  
 Y = 373833.198  
 X = 824192.356  
 BK = N54° 19' 02.2"E  
 AH = N35° 38' 26.1"E  
 SE = NC

PI 'WB' STA = 114+32.83  
 Y = 373983.692  
 X = 824300.261  
 DELTA = 026°50'36.8"  
 D = 007°23'00.5"  
 T = 185.18'  
 L = 363.56'  
 R = 776.00'  
 PC 'WB' STA = 112+47.65  
 Y = 373833.198  
 X = 824192.356  
 PT 'WB' STA = 116+11.21  
 Y = 374069.245  
 X = 824464.495  
 BK = N35° 38' 26.1"E  
 AH = N62° 29' 02.9"E  
 SE = NC

**FRONTAGE ROAD WESTBOUND**

PI 'WB' STA = 118+12.06  
 Y = 374119.566  
 X = 824655.861  
 DELTA = 032°26'46.8"  
 D = 042°45'29.0"  
 T = 38.99'  
 L = 75.88'  
 R = 134.00'  
 PC 'WB' STA = 117+73.08  
 Y = 374122.164  
 X = 824616.958  
 PT 'WB' STA = 118+48.96  
 Y = 374138.244  
 X = 824690.085  
 BK = S86° 10' 40.4"E  
 AH = N61° 22' 32.8"E  
 SE = NC

PI 'WB' STA = 120+57.85  
 Y = 374238.317  
 X = 824873.447  
 DELTA = 030°44'14.9"  
 D = 007°32'20.4"  
 T = 208.89'  
 L = 407.72'  
 R = 760.00'  
 PC 'WB' STA = 118+48.96  
 Y = 374138.244  
 X = 824690.085  
 PT 'WB' STA = 122+56.68  
 Y = 374230.614  
 X = 825082.198  
 BK = N61° 22' 32.8"E  
 AH = S87° 53' 12.3"E  
 SE = NC



**USH 45 NORTHBOUND**  
 PI 'NB' STA = 394+77.00  
 Y = 374825.003  
 X = 826914.202  
 DELTA = 035°19'10.6"  
 D = 007°38'22.0"  
 T = 238.78'  
 L = 462.33'  
 R = 750.00'  
 PC 'NB' STA = 392+38.22  
 Y = 374709.715  
 X = 827123.302  
 PT 'NB' STA = 397+00.56  
 Y = 375039.959  
 X = 826810.241  
 BK = N61° 07' 46.8"W  
 AH = N25° 48' 36.2"W

**GLYNN AVENUE**  
 PI 'GL' STA = 30+75.83  
 Y = 375142.585  
 X = 826720.109  
 DELTA = 023°41'39.4"  
 D = 057°17'44.8"  
 T = 20.98'  
 L = 41.35'  
 R = 100.00'  
 PC 'GL' STA = 30+54.85  
 Y = 375141.810  
 X = 826699.146  
 PT 'GL' STA = 30+96.21  
 Y = 375151.718  
 X = 826738.993  
 BK = N87° 53' 03.2"E  
 AH = N64° 11' 23.8"E

PI 'NB' STA = 399+64.27  
 Y = 375277.362  
 X = 826695.425

EP: 399+64.27'NB'

PI 'GL' STA = 31+11.69  
 Y = 375158.459  
 X = 826752.931

PT: 397+00.56'NB'

BR: 30+00.00'GL'  
 PC: 30+54.85'GL'

PC: 392+38.22'NB'

PI: 389+86.6'NB'

PC: 392+38.22'NB'

PC: 392+38.22'NB'

PC: 392+38.22'NB'

PC: 392+38.22'NB'

PC: 392+38.22'NB'

PC: 392+38.22'NB'

POL 'NB' STA = 378+00.00  
 Y = 373993.768  
 X = 828370.609

**ROUNDABOUT - CTH V & PARK AVENUE**

PI 'RA2' STA = 20+50.00  
 Y = 373474.390  
 X = 823791.556  
 DELTA = 090°00'00.0"  
 D = 114°35'29.6"  
 T = 50.00'  
 L = 78.54'  
 R = 50.00'  
 PC 'RA2' STA = 20+00.00  
 Y = 373521.614  
 X = 823775.126  
 PT 'RA2' STA = 20+78.54  
 Y = 373490.820  
 X = 823838.779  
 BK = S19° 11' 02.2"E  
 AH = N70° 48' 57.8"E

PI 'RA2' STA = 21+28.54  
 Y = 373507.250  
 X = 823886.003  
 DELTA = 090°00'00.0"  
 D = 114°35'29.6"  
 T = 50.00'  
 L = 78.54'  
 R = 50.00'  
 PC 'RA2' STA = 20+78.54  
 Y = 373490.820  
 X = 823838.779  
 PT 'RA2' STA = 21+57.08  
 Y = 373554.474  
 X = 823869.573  
 BK = N70° 48' 57.8"E  
 AH = N19° 11' 02.2"W

PI 'RA2' STA = 22+07.08  
 Y = 373601.697  
 X = 823853.143  
 DELTA = 090°00'00.0"  
 D = 114°35'29.6"  
 T = 50.00'  
 L = 78.54'  
 R = 50.00'  
 PC 'RA2' STA = 21+57.08  
 Y = 373554.474  
 X = 823869.573  
 PT 'RA2' STA = 22+35.62  
 Y = 373585.267  
 X = 823805.919  
 BK = N19° 11' 02.2"W  
 AH = S70° 48' 57.8"W

PI 'RA2' STA = 22+85.62  
 Y = 373568.837  
 X = 823758.696  
 DELTA = 090°00'00.0"  
 D = 114°35'29.6"  
 T = 50.00'  
 L = 78.54'  
 R = 50.00'  
 PC 'RA2' STA = 22+35.62  
 Y = 373585.267  
 X = 823805.919  
 PT 'RA2' STA = 23+14.16  
 Y = 373521.614  
 X = 823775.126  
 BK = S70° 48' 57.8"W  
 AH = S19° 11' 02.2"E

**ROUNDABOUT - FRONTAGE ROAD & SOUTHBOUND RAMP**

PI 'RA3' STA = 32+85.62  
 Y = 374115.905  
 X = 824497.879  
 DELTA = 090°00'00.0"  
 D = 114°35'29.6"  
 T = 50.00'  
 L = 78.54'  
 R = 50.00'  
 PC 'RA3' STA = 32+35.62  
 Y = 374131.312  
 X = 824545.446  
 PT 'RA3' STA = 33+14.16  
 Y = 374068.338  
 X = 824513.285  
 BK = S72° 03' 13.2"W  
 AH = S17° 56' 46.8"E

PI 'RA3' STA = 32+07.08  
 Y = 374146.718  
 X = 824593.013  
 DELTA = 090°00'00.0"  
 D = 114°35'29.6"  
 T = 50.00'  
 L = 78.54'  
 R = 50.00'  
 PC 'RA3' STA = 31+57.08  
 Y = 374099.151  
 X = 824608.419  
 PT 'RA3' STA = 32+35.62  
 Y = 374131.312  
 X = 824545.446  
 BK = N17° 56' 46.8"W  
 AH = S72° 03' 13.2"W

PI 'RA3' STA = 31+28.54  
 Y = 374051.583  
 X = 824623.826  
 DELTA = 090°00'00.0"  
 D = 114°35'29.6"  
 T = 50.00'  
 L = 78.54'  
 R = 50.00'  
 PC 'RA3' STA = 30+78.54  
 Y = 374036.177  
 X = 824576.258  
 PT 'RA3' STA = 31+57.08  
 Y = 374099.151  
 X = 824608.419  
 BK = N72° 03' 13.2"E  
 AH = N17° 56' 46.8"W

PI 'RA3' STA = 30+50.00  
 Y = 374020.771  
 X = 824528.691  
 DELTA = 090°00'00.0"  
 D = 114°35'29.6"  
 T = 50.00'  
 L = 78.54'  
 R = 50.00'  
 PC 'RA3' STA = 30+00.00  
 Y = 374068.338  
 X = 824513.285  
 PT 'RA3' STA = 30+78.54  
 Y = 374036.177  
 X = 824576.258  
 BK = S17° 56' 46.8"E  
 AH = N72° 03' 13.2"E

**ROUNDABOUT - CTH V & NORTHBOUND RAMPS**

PI 'RA1' STA = 10+50.00  
 Y = 372156.914  
 X = 824102.426  
 DELTA = 090°00'00.0"  
 D = 114°35'29.6"  
 T = 50.00'  
 L = 78.54'  
 R = 50.00'  
 PC 'RA1' STA = 10+00.00  
 Y = 372206.914  
 X = 824102.499  
 PT 'RA1' STA = 10+78.54  
 Y = 372156.842  
 X = 824152.426  
 BK = S00° 04' 59.0"W  
 AH = S89° 55' 01.0"E

PI 'RA1' STA = 11+28.54  
 Y = 372156.769  
 X = 824202.426  
 DELTA = 090°00'00.0"  
 D = 114°35'29.6"  
 T = 50.00'  
 L = 78.54'  
 R = 50.00'  
 PC 'RA1' STA = 10+78.54  
 Y = 372156.842  
 X = 824152.426  
 PT 'RA1' STA = 11+57.08  
 Y = 372206.769  
 X = 824202.498  
 BK = S89° 55' 01.0"E  
 AH = N00° 04' 59.0"E

PI 'RA1' STA = 12+07.08  
 Y = 372256.769  
 X = 824202.571  
 DELTA = 090°00'00.0"  
 D = 114°35'29.6"  
 T = 50.00'  
 L = 78.54'  
 R = 50.00'  
 PC 'RA1' STA = 11+57.08  
 Y = 372206.769  
 X = 824202.498  
 PT 'RA1' STA = 12+35.62  
 Y = 372256.842  
 X = 824152.426  
 BK = N00° 04' 59.0"E  
 AH = N89° 55' 01.0"W

PI 'RA1' STA = 12+85.62  
 Y = 372256.914  
 X = 824102.571  
 DELTA = 090°00'00.0"  
 D = 114°35'29.6"  
 T = 50.00'  
 L = 78.54'  
 R = 50.00'  
 PC 'RA1' STA = 12+35.62  
 Y = 372256.842  
 X = 824152.426  
 PT 'RA1' STA = 13+14.16  
 Y = 372206.914  
 X = 824102.499  
 BK = N89° 55' 01.0"W  
 AH = S00° 04' 59.0"W

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## ESTIMATE OF QUANTITIES

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1420-22-71 QUANTITY
0010	201.0105	Clearing	STA	19.000	19.000
0020	201.0120	Clearing	ID	17.000	17.000
0030	201.0205	Grubbing	STA	19.000	19.000
0040	201.0220	Grubbing	ID	17.000	17.000
0050	203.0100	Removing Small Pipe Culverts	EACH	12.000	12.000
0060	204.0100	Removing Pavement	SY	8,259.000	8,259.000
0070	204.0110	Removing Asphaltic Surface	SY	3,518.000	3,518.000
0080	204.0150	Removing Curb & Gutter	LF	6,226.000	6,226.000
0090	204.0165	Removing Guardrail	LF	345.000	345.000
0100	204.0170	Removing Fence	LF	6,320.000	6,320.000
0110	204.0185	Removing Masonry	CY	4.000	4.000
0120	204.0190	Removing Surface Drains	EACH	14.000	14.000
0130	204.0210	Removing Manholes	EACH	12.000	12.000
0140	204.0220	Removing Inlets	EACH	24.000	24.000
0150	204.0245	Removing Storm Sewer (size) 01. 10-Inch	LF	34.000	34.000
0160	204.0245	Removing Storm Sewer (size) 02. 12-Inch	LF	316.000	316.000
0170	204.0245	Removing Storm Sewer (size) 03. 15-Inch	LF	119.000	119.000
0180	204.0245	Removing Storm Sewer (size) 04. 18-Inch	LF	374.000	374.000
0190	204.0245	Removing Storm Sewer (size) 05. 24-Inch	LF	213.000	213.000
0200	204.0245	Removing Storm Sewer (size) 06. 30-Inch	LF	759.000	759.000
0210	204.0245	Removing Storm Sewer (size) 07. 36-Inch	LF	16.000	16.000
0220	204.0270	Abandoning Culvert Pipes	EACH	1.000	1.000
0230	204.9060. S	Removing (item description) 01. Removing Crash Cushions	EACH	1.000	1.000
0240	204.9090. S	Removing (item description) 01. State Owned Barrier	LF	350.000	350.000
0250	205.0100	Excavation Common	CY	74,270.000	74,270.000
0260	206.1000	Excavation for Structures Bridges (structure) 01. B-20-226	LS	1.000	1.000
0270	208.0100	Borrow	CY	23,045.000	23,045.000
0280	210.0100	Backfill Structure	CY	385.000	385.000
0290	213.0100	Finishing Roadway (project) 01. 1420-22-71	EACH	1.000	1.000
0300	214.0100	Obliterating Old Road	STA	27.000	27.000
0310	305.0110	Base Aggregate Dense 3/4-Inch	TON	3,800.000	3,800.000
0320	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	68,840.000	68,840.000
0330	310.0115	Base Aggregate Open Graded	CY	1.000	1.000
0340	311.0110	Breaker Run	TON	10,700.000	10,700.000
0350	405.0100	Coloring Concrete Red	CY	319.000	319.000
0360	415.0080	Concrete Pavement 8-Inch	SY	74.000	74.000
0370	415.0085	Concrete Pavement 8 1/2-Inch	SY	9,598.000	9,598.000
0380	415.0100	Concrete Pavement 10-Inch	SY	5,472.000	5,472.000
0390	415.0410	Concrete Pavement Approach Slab	SY	403.000	403.000
0400	416.0160	Concrete Driveway 6-Inch	SY	664.000	664.000
0410	416.0170	Concrete Driveway 7-Inch	SY	202.000	202.000
0420	416.0512	Concrete Roundabout Truck Apron 12-Inch	SY	956.000	956.000
0430	416.0610	Drilled Tie Bars	EACH	1,945.000	1,945.000
0440	416.0620	Drilled Dowel Bars	EACH	24.000	24.000
0450	440.4410. S	Incentive IRI Ride	DOL	5,600.000	5,600.000
0460	455.0120	Asphaltic Material PG64-28	TON	768.000	768.000
0470	455.0605	Tack Coat	GAL	3,336.000	3,336.000
0480	460.1100	HMA Pavement Type E-0.3	TON	2,004.000	2,004.000
0490	460.1103	HMA Pavement Type E-3	TON	11,960.000	11,960.000
0500	460.2000	Incentive Density HMA Pavement	DOL	9,050.000	9,050.000

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## ESTIMATE OF QUANTITIES

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1420-22-71 QUANTITY
0510	460.4000	HMA Cold Weather Paving	TON	5,975.000	5,975.000
0520	460.4110.S	Reheating HMA Pavement Longitudinal Joints	LF	12,188.000	12,188.000
0530	465.0105	Asphaltic Surface	TON	1,191.000	1,191.000
0540	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	30.000	30.000
0550	465.0315	Asphaltic Flumes	SY	77.000	77.000
0560	502.0100	Concrete Masonry Bridges	CY	1,026.000	1,026.000
0570	502.3200	Protective Surface Treatment	SY	1,880.000	1,880.000
0580	503.0155	Prestressed Girder Type I 54W-Inch	LF	1,672.000	1,672.000
0590	504.0900	Concrete Masonry Endwalls	CY	4.000	4.000
0600	505.0405	Bar Steel Reinforcement HS Bridges	LB	11,740.000	11,740.000
0610	505.0605	Bar Steel Reinforcement HS Coated Bridges	LB	168,360.000	168,360.000
0620	505.0800.S	Bar Steel Reinforcement HS Stainless Structures	LB	1,870.000	1,870.000
0630	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	28.000	28.000
0640	506.4000	Steel Diaphragms (structure) 01. B-20-226	EACH	24.000	24.000
0650	516.0500	Rubberized Membrane Waterproofing	SY	31.000	31.000
0660	517.1015.S	Concrete Staining Multi-Color (structure) 01. B-20-226	SF	2,814.000	2,814.000
0670	517.1050.S	Architectural Surface Treatment (structure) 01. B-20-226	SF	2,814.000	2,814.000
0680	520.4018	Culvert Pipe Temporary 18-Inch	LF	40.000	40.000
0690	520.8000	Concrete Collars for Pipe	EACH	9.000	9.000
0700	521.0124	Culvert Pipe Corrugated Steel 24-Inch	LF	88.000	88.000
0710	521.1024	Apron Endwalls for Culvert Pipe Steel 24-Inch	EACH	4.000	4.000
0720	521.1615	Apron Endwalls for Culvert Pipe Sloped Side Drains Steel 15-Inch 10 to 1	EACH	1.000	1.000
0730	522.0118	Culvert Pipe Reinforced Concrete Class III 18-Inch	LF	8.000	8.000
0740	522.0130	Culvert Pipe Reinforced Concrete Class III 30-Inch	LF	196.000	196.000
0750	522.0136	Culvert Pipe Reinforced Concrete Class III 36-Inch	LF	12.000	12.000
0760	522.1012	Apron Endwalls for Culvert Pipe Reinforced Concrete 12-Inch	EACH	13.000	13.000
0770	522.1015	Apron Endwalls for Culvert Pipe Reinforced Concrete 15-Inch	EACH	10.000	10.000
0780	522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	EACH	2.000	2.000
0790	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	2.000	2.000
0800	522.1030	Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	EACH	6.000	6.000
0810	522.1036	Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch	EACH	1.000	1.000
0820	550.0600	Pile Redriving	EACH	8.000	8.000
0830	550.2126	Piling CIP Concrete 12 3/4 X 0.375-Inch	LF	4,505.000	4,505.000
0840	601.0405	Concrete Curb & Gutter 18-Inch Type A	LF	660.000	660.000
0850	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	1,111.000	1,111.000
0860	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	19,062.000	19,062.000
0870	601.0452	Concrete Curb & Gutter Integral 30-Inch Type D	LF	432.000	432.000

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## ESTIMATE OF QUANTITIES

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1420-22-71 QUANTITY
0880	601.0555	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type A	LF	32.000	32.000
0890	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	709.000	709.000
0900	601.0580	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type R	LF	906.000	906.000
0910	601.0600	Concrete Curb Pedestrian	LF	357.000	357.000
0920	602.0405	Concrete Sidewalk 4-Inch	SF	40,343.000	40,343.000
0930	602.0410	Concrete Sidewalk 5-Inch	SF	25,460.000	25,460.000
0940	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	800.000	800.000
0950	603.1156	Concrete Barrier Type S56	LF	825.000	825.000
0960	603.3213	Concrete Barrier Transition Type F32SF to S36	EACH	1.000	1.000
0970	603.3535	Concrete Barrier Transition Type S36 to S42	EACH	1.000	1.000
0980	603.3559	Concrete Barrier Transition Type S42 to S56	EACH	1.000	1.000
0990	603.8000	Concrete Barrier Temporary Precast Delivered	LF	900.000	900.000
1000	603.8125	Concrete Barrier Temporary Precast Installed	LF	900.000	900.000
1010	604.0500	Slope Paving Crushed Aggregate	SY	555.000	555.000
1020	606.0200	Riprap Medium	CY	110.000	110.000
1030	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	1,072.000	1,072.000
1040	608.0315	Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	LF	845.000	845.000
1050	608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	LF	29.000	29.000
1060	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	34.000	34.000
1070	608.0330	Storm Sewer Pipe Reinforced Concrete Class III 30-Inch	LF	60.000	60.000
1080	608.0412	Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	LF	503.000	503.000
1090	608.0415	Storm Sewer Pipe Reinforced Concrete Class IV 15-Inch	LF	334.000	334.000
1100	608.0418	Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch	LF	31.000	31.000
1110	608.0424	Storm Sewer Pipe Reinforced Concrete Class IV 24-Inch	LF	740.000	740.000
1120	611.0420	Reconstructing Manholes	EACH	4.000	4.000
1130	611.0430	Reconstructing Inlets	EACH	1.000	1.000
1140	611.0530	Manhole Covers Type J	EACH	9.000	9.000
1150	611.0612	Inlet Covers Type C	EACH	4.000	4.000
1160	611.0624	Inlet Covers Type H	EACH	50.000	50.000
1170	611.0627	Inlet Covers Type HM	EACH	2.000	2.000
1180	611.0636	Inlet Covers Type HM-S	EACH	2.000	2.000
1190	611.0639	Inlet Covers Type H-S	EACH	13.000	13.000
1200	611.0642	Inlet Covers Type MS	EACH	14.000	14.000
1210	611.0651	Inlet Covers Type S	EACH	3.000	3.000
1220	611.0652	Inlet Covers Type T	EACH	6.000	6.000
1230	611.2004	Manholes 4-FT Diameter	EACH	7.000	7.000
1240	611.2005	Manholes 5-FT Diameter	EACH	1.000	1.000
1250	611.2006	Manholes 6-FT Diameter	EACH	1.000	1.000

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## ESTIMATE OF QUANTITIES

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1420-22-71 QUANTITY
1260	611.3004	Inlets 4-FT Diameter	EACH	4.000	4.000
1270	611.3230	Inlets 2x3-FT	EACH	63.000	63.000
1280	611.3901	Inlets Median 1 Grate	EACH	10.000	10.000
1290	611.3904	Inlets Median 4 Grate	EACH	1.000	1.000
1300	611.8110	Adjusting Manhole Covers	EACH	1.000	1.000
1310	612.0106	Pipe Underdrain 6-Inch	LF	20.000	20.000
1320	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	195.000	195.000
1330	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
1340	614.0220	Steel Thrie Beam Bullnose Terminal	EACH	2.000	2.000
1350	614.0230	Steel Thrie Beam	LF	155.000	155.000
1360	614.0905	Crash Cushions Temporary	EACH	2.000	2.000
1370	614.2300	MGS Guardrail 3	LF	225.000	225.000
1380	614.2500	MGS Thrie Beam Transition	LF	118.000	118.000
1390	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
1400	614.2620	MGS Guardrail Terminal Type 2	EACH	1.000	1.000
1410	616.0100	Fence Woven Wire (height) 01. 4-FT	LF	8,565.000	8,565.000
1420	616.0204	Fence Chain Link 4-FT	LF	530.000	530.000
1430	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1420-22-71	EACH	1.000	1.000
1440	619.1000	Mobilization	EACH	1.000	1.000
1450	620.0300	Concrete Median Sloped Nose	SF	668.000	668.000
1460	624.0100	Water	MGAL	435.000	435.000
1470	625.0500	Salvaged Topsoil	SY	202,500.000	202,500.000
1480	627.0200	Mulching	SY	113,700.000	113,700.000
1490	628.1104	Erosion Bales	EACH	100.000	100.000
1500	628.1504	Silt Fence	LF	15,760.000	15,760.000
1510	628.1520	Silt Fence Maintenance	LF	15,760.000	15,760.000
1520	628.1905	Mobilizations Erosion Control	EACH	14.000	14.000
1530	628.1910	Mobilizations Emergency Erosion Control	EACH	8.000	8.000
1540	628.2002	Erosion Mat Class I Type A	SY	31,150.000	31,150.000
1550	628.2004	Erosion Mat Class I Type B	SY	29,950.000	29,950.000
1560	628.2006	Erosion Mat Urban Class I Type A	SY	27,800.000	27,800.000
1570	628.7005	Inlet Protection Type A	EACH	100.000	100.000
1580	628.7010	Inlet Protection Type B	EACH	20.000	20.000
1590	628.7015	Inlet Protection Type C	EACH	80.000	80.000
1600	628.7020	Inlet Protection Type D	EACH	20.000	20.000
1610	628.7504	Temporary Ditch Checks	LF	1,000.000	1,000.000
1620	628.7555	Culvert Pipe Checks	EACH	130.000	130.000
1630	628.7560	Tracking Pads	EACH	2.000	2.000
1640	628.7570	Rock Bags	EACH	100.000	100.000
1650	629.0210	Fertilizer Type B	CWT	128.000	128.000
1660	630.0120	Seeding Mixture No. 20	LB	395.000	395.000
1670	630.0130	Seeding Mixture No. 30	LB	3,535.000	3,535.000
1680	630.0140	Seeding Mixture No. 40	LB	120.000	120.000
1690	630.0160	Seeding Mixture No. 60	LB	100.000	100.000
1700	630.0200	Seeding Temporary	LB	2,725.000	2,725.000
1710	630.0300	Seeding Borrow Pit	LB	100.000	100.000
1720	632.0101	Trees (species) (size) (root) 01. Coffeetree, 'Espresso', B&B, 2.5" Cal.	EACH	3.000	3.000
1730	632.0101	Trees (species) (size) (root) 02. Elm, 'Frontier', B&B, 2.5" Cal.	EACH	6.000	6.000
1740	632.0101	Trees (species) (size) (root) 03. Elm, 'New Horizon', B&B, 2.5" Cal.	EACH	23.000	23.000

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## 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	1420-22-71 QUANTITY
1750	632.0101	Trees (species) (size) (root) 04. Elm, 'Princeton', B&B, 2.5" Cal.	EACH	8.000	8.000
1760	632.0101	Trees (species) (size) (root) 05. Hackberry, 'Prairie Pride', B&B, 2.5" Cal.	EACH	15.000	15.000
1770	632.0101	Trees (species) (size) (root) 06. Honeylocust, 'Skyline', B&B, 2.5" Cal.	EACH	4.000	4.000
1780	632.0101	Trees (species) (size) (root) 07. Linden, 'Redmond', B&B, 2.5" Cal.	EACH	3.000	3.000
1790	632.0101	Trees (species) (size) (root) 08. Maple, Freeman 'Celebration', B&B, 2.5" Cal.	EACH	16.000	16.000
1800	632.0101	Trees (species) (size) (root) 09. Maple, Freeman 'Marmo', B&B, 2.5" Cal.	EACH	17.000	17.000
1810	632.0101	Trees (species) (size) (root) 10. Maple, Sugar 'Legacy', B&B, 2.5" Cal	EACH	3.000	3.000
1820	632.0101	Trees (species) (size) (root) 11. Oak, Bur, B&B, 2.5" Cal.	EACH	3.000	3.000
1830	632.0101	Trees (species) (size) (root) 12. Oak, English 'Skymaster', B&B, 2.5" Cal.	EACH	14.000	14.000
1840	632.0101	Trees (species) (size) (root) 13. Oak, Swamp White, B&B, 2.5" Cal.	EACH	5.000	5.000
1850	632.0101	Trees (species) (size) (root) 14. Crabapple, 'Firebird', B&B, 2" Cal.	EACH	15.000	15.000
1860	632.0101	Trees (species) (size) (root) 15. Crabapple, 'Prairifire', B&B, 2" Cal	EACH	5.000	5.000
1870	632.0101	Trees (species) (size) (root) 16. Crabapplet, 'Snowdrift', B&B, 2" Cal	EACH	3.000	3.000
1880	632.0101	Trees (species) (size) (root) 17. Hawthorn, Thornless Cockspur (Shrub Form Tree), B&B, 8' HT	EACH	9.000	9.000
1890	632.0101	Trees (species) (size) (root) 18. Hawthorn, 'Winter King', B&B, 2" Cal	EACH	4.000	4.000
1900	632.0101	Trees (species) (size) (root) 19. Ironwood, B&B, 2" Cal.	EACH	3.000	3.000
1910	632.0101	Trees (species) (size) (root) 20. Pear, 'Korean Sun', B&B, 2" Cal.	EACH	3.000	3.000
1920	632.0201	Shrubs (species) (size) (root) 01. Juniper, Pfitzer 'Kallay's Compact', CONT, 24" Sp./#3	EACH	93.000	93.000
1930	632.9101	Landscape Planting Surveillance and Care Cycles	EACH	26.000	26.000
1940	633.0100	Delineator Posts Steel	EACH	131.000	131.000
1950	633.0500	Delineator Reflectors	EACH	139.000	139.000
1960	633.1000	Delineator Brackets	EACH	8.000	8.000
1970	633.5200	Markers Culvert End	EACH	37.000	37.000
1980	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	34.000	34.000
1990	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	55.000	55.000
2000	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	67.000	67.000
2010	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	20.000	20.000
2020	635.0200	Sign Supports Structural Steel HS	LB	1,348.000	1,348.000
2030	636.0100	Sign Supports Concrete Masonry	CY	18.400	18.400
2040	636.0500	Sign Supports Steel Reinforcement	LB	136.000	136.000
2050	636.1000	Sign Supports Steel Reinforcement HS	LB	1,960.000	1,960.000
2060	637.1220	Signs Type I Reflective SH	SF	370.000	370.000
2070	637.2210	Signs Type II Reflective H	SF	1,488.970	1,488.970
2080	637.2215	Signs Type II Reflective H Folding	SF	20.000	20.000
2090	637.2220	Signs Type II Reflective SH	SF	6.750	6.750

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## ESTIMATE OF QUANTITIES

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1420-22-71 QUANTITY
2100	637.2230	Signs Type II Reflective F	SF	252.750	252.750
2110	638.2602	Removing Signs Type II	EACH	103.000	103.000
2120	638.3000	Removing Small Sign Supports	EACH	109.000	109.000
2130	641.1200	Sign Bridge Cantilevered (structure) 01. S-20-41	LS	1.000	1.000
2140	641.1200	Sign Bridge Cantilevered (structure) 02. S-20-42	LS	1.000	1.000
2150	642.5201	Field Office Type C	EACH	1.000	1.000
2160	643.0200	Traffic Control Surveillance and Maintenance (project) 01. 1420-22-71	DAY	260.000	260.000
2170	643.0300	Traffic Control Drums	DAY	41,111.000	41,111.000
2180	643.0410	Traffic Control Barricades Type II	DAY	1,020.000	1,020.000
2190	643.0420	Traffic Control Barricades Type III	DAY	5,932.000	5,932.000
2200	643.0705	Traffic Control Warning Lights Type A	DAY	7,111.000	7,111.000
2210	643.0715	Traffic Control Warning Lights Type C	DAY	9,467.000	9,467.000
2220	643.0800	Traffic Control Arrow Boards	DAY	512.000	512.000
2230	643.0900	Traffic Control Signs	DAY	16,011.000	16,011.000
2240	643.0920	Traffic Control Covering Signs Type II	EACH	2.000	2.000
2250	643.1000	Traffic Control Signs Fixed Message	SF	60.000	60.000
2260	643.1050	Traffic Control Signs PCMS	DAY	70.000	70.000
2270	643.2000	Traffic Control Detour (project) 01. 1420-22-71	EACH	1.000	1.000
2280	643.3000	Traffic Control Detour Signs	DAY	4,770.000	4,770.000
2290	645.0111	Geotextile Fabric Type DF Schedule A	SY	11.000	11.000
2300	645.0120	Geotextile Fabric Type HR	SY	370.000	370.000
2310	646.0106	Pavement Marking Epoxy 4-Inch	LF	44,775.000	44,775.000
2320	646.0126	Pavement Marking Epoxy 8-Inch	LF	730.000	730.000
2330	646.0600	Removing Pavement Markings	LF	2,981.000	2,981.000
2340	646.0841.S	Pavement Marking Grooved Wet Reflective Contrast Tape 4-Inch	LF	3,530.000	3,530.000
2350	646.0843.S	Pavement Marking Grooved Wet Reflective Contrast Tape 8-Inch	LF	2,957.000	2,957.000
2360	647.0166	Pavement Marking Arrows Epoxy Type 2	EACH	8.000	8.000
2370	647.0206	Pavement Marking Arrows Bike Lane Epoxy	EACH	13.000	13.000
2380	647.0256	Pavement Marking Symbols Epoxy	EACH	3.000	3.000
2390	647.0306	Pavement Marking Symbols Bike Lane Epoxy	EACH	13.000	13.000
2400	647.0356	Pavement Marking Words Epoxy	EACH	2.000	2.000
2410	647.0358	Pavement Marking Words Preformed Thermoplastic	EACH	10.000	10.000
2420	647.0566	Pavement Marking Stop Line Epoxy 18-Inch	LF	26.000	26.000
2430	647.0606	Pavement Marking Island Nose Epoxy	EACH	4.000	4.000
2440	647.0656	Pavement Marking Parking Stall Epoxy	LF	1,192.000	1,192.000
2450	647.0726	Pavement Marking Diagonal Epoxy 12-Inch	LF	409.000	409.000
2460	647.0746	Pavement Marking Diagonal Epoxy 24-Inch	LF	163.000	163.000
2470	647.0766	Pavement Marking Crosswalk Epoxy 6-Inch	LF	225.000	225.000
2480	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	33,900.000	33,900.000
2490	649.0600	Temporary Pavement Marking Removable Tape 6-Inch	LF	738.000	738.000
2500	649.0801	Temporary Pavement Marking Removable Tape 8-Inch	LF	4,650.000	4,650.000
2510	650.4000	Construction Staking Storm Sewer	EACH	125.000	125.000
2520	650.4500	Construction Staking Subgrade	LF	28,566.000	28,566.000
2530	650.5000	Construction Staking Base	LF	17,744.000	17,744.000



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## ESTIMATE OF QUANTITIES

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1420-22-71 QUANTITY
2540	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	21,695.000	21,695.000
2550	650.6000	Construction Staking Pipe Culverts	EACH	8.000	8.000
2560	650.6500	Construction Staking Structure Layout (structure) 01. S-20-41	LS	1.000	1.000
2570	650.6500	Construction Staking Structure Layout (structure) 02. S-20-42	LS	1.000	1.000
2580	650.6500	Construction Staking Structure Layout (structure) 03. B-20-226	LS	1.000	1.000
2590	650.7000	Construction Staking Concrete Pavement	LF	10,650.000	10,650.000
2600	650.7500	Construction Staking Concrete Barrier	LF	875.000	875.000
2610	650.8500	Construction Staking Electrical Installations (project) 01. 1420-22-71	LS	1.000	1.000
2620	650.9910	Construction Staking Supplemental Control (project) 01. 1420-22-71	LS	1.000	1.000
2630	650.9920	Construction Staking Slope Stakes	LF	28,566.000	28,566.000
2640	652.0125	Conduit Rigid Metallic 2-Inch	LF	144.000	144.000
2650	652.0135	Conduit Rigid Metallic 3-Inch	LF	112.000	112.000
2660	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	6,637.000	6,637.000
2670	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	739.000	739.000
2680	653.0140	Pull Boxes Steel 24x42-Inch	EACH	34.000	34.000
2690	653.0222	Junction Boxes 18x12x6-Inch	EACH	5.000	5.000
2700	654.0105	Concrete Bases Type 5	EACH	32.000	32.000
2710	654.0224	Concrete Control Cabinet Bases Type L24	EACH	2.000	2.000
2720	655.0610	Electrical Wire Lighting 12 AWG	LF	4,644.000	4,644.000
2730	655.0615	Electrical Wire Lighting 10 AWG	LF	8,515.000	8,515.000
2740	655.0625	Electrical Wire Lighting 6 AWG	LF	12,373.000	12,373.000
2750	656.0200	Electrical Service Meter Breaker Pedestal (location) 01. USH 151 SB & CTH V	LS	1.000	1.000
2760	656.0200	Electrical Service Meter Breaker Pedestal (location) 02. USH 151 NB and CTH V	LS	1.000	1.000
2770	657.6005.S	Anchor Assemblies Light Poles on Structures	EACH	1.000	1.000
2780	659.2124	Lighting Control Cabinets 120/240 24-Inch	EACH	2.000	2.000
2790	690.0150	Sawing Asphalt	LF	900.000	900.000
2800	690.0250	Sawing Concrete	LF	3,000.000	3,000.000
2810	715.0415	Incentive Strength Concrete Pavement	DOL	1,390.000	1,390.000
2820	715.0502	Incentive Strength Concrete Structures	DOL	6,160.000	6,160.000
2830	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	2,400.000	2,400.000
2840	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	2,100.000	2,100.000
2850	SPV.0035	Special 02. Planting Mixture	CY	841.000	841.000
2860	SPV.0035	Special 03. Topsoil Special	CY	321.000	321.000
2870	SPV.0035	Special 04. Coloring Concrete Brown	CY	167.000	167.000
2880	SPV.0060	Special 05. Inlets 2x2.5-FT Special	EACH	9.000	9.000
2890	SPV.0060	Special 12. Temporary Slope Drains	EACH	2.000	2.000
2900	SPV.0060	Special 20. Adjusting Water Service Curb Stop	EACH	4.000	4.000
2910	SPV.0060	Special 21. Adjusting Water Valve Box	EACH	7.000	7.000
2920	SPV.0060	Special 23. Adjusting Sanitary Manhole Cover	EACH	4.000	4.000

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## ESTIMATE OF QUANTITIES

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1420-22-71 QUANTITY
2930	SPV. 0060	Special 24. Reconstruct Sanitary Sewer Manhole	EACH	2.000	2.000
2940	SPV. 0060	Special 31. Temporary Curb Ramp	EACH	2.000	2.000
2950	SPV. 0060	Special 40. Lighting Meter/Load Center	EACH	1.000	1.000
2960	SPV. 0060	Special 41. Municipal Light Poles	EACH	20.000	20.000
2970	SPV. 0060	Special 42. Municipal Mast Arms 6-FT	EACH	12.000	12.000
2980	SPV. 0060	Special 43. Municipal Mast Arms 12-FT	EACH	8.000	8.000
2990	SPV. 0060	Special 44. Municipal Transformer Bases	EACH	20.000	20.000
3000	SPV. 0060	Special 45. Municipal LED Luminaires Type 1	EACH	9.000	9.000
3010	SPV. 0060	Special 46. Municipal LED Luminaires Type 2	EACH	1.000	1.000
3020	SPV. 0060	Special 47. Municipal LED Luminaires Type 3	EACH	10.000	10.000
3030	SPV. 0060	Special 48. Parking Lot Concrete Bases	EACH	2.000	2.000
3040	SPV. 0060	Special 51. Poles Type 5- Aluminum Black	EACH	14.000	14.000
3050	SPV. 0060	Special 52. Transformer Bases Breakaway, 11 1/2-Inch Clamp 12-FT Black	EACH	14.000	14.000
3060	SPV. 0060	Special 53. Luminaire Arms Truss Type 4 4 1/2-Inch Clamp 12-FT Black	EACH	14.000	14.000
3070	SPV. 0060	Special 55. Luminaires Utility LED Category C Black	EACH	14.000	14.000
3080	SPV. 0060	Special 60. Coneflower, 'White Swan' CG, 1 Gal.	EACH	45.000	45.000
3090	SPV. 0060	Special 61. Little Bluestem, 'Blue Heaven' CG, 1 Gal.	EACH	552.000	552.000
3100	SPV. 0060	Special 62. Liatris, 'Kobold' CG, 1 Gal.	EACH	81.000	81.000
3110	SPV. 0060	Special 63. Prairie Dropseed 'Tara' CG, 1 Gal.	EACH	162.000	162.000
3120	SPV. 0075	Special 01. Street Sweeping	HRS	96.000	96.000
3130	SPV. 0090	Special 05. Pavement Marking Grooved Preformed Thermoplastic 18-Inch	LF	311.000	311.000
3140	SPV. 0090	Special 06. Pavement Marking Grooved Preformed Thermoplastic Crosswalk 6-Inch	LF	675.000	675.000
3150	SPV. 0090	Special 07. Railing Tubular Screening Galvanized B-20-226	LF	561.000	561.000
3160	SPV. 0090	Special 14. Maintaining Pedestrian Safety Fence	LF	600.000	600.000
3170	SPV. 0120	Special 01. Water for Seeded Areas	MGAL	3,418.000	3,418.000
3180	SPV. 0165	Special 03. Concrete Sidewalk 8-Inch	SF	517.000	517.000
3190	SPV. 0180	Special 01. Shredded Hardwood Bark Mulch	SY	1,342.000	1,342.000

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**CLEARING AND GRUBBING**

STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0120 CLEARING ID	201.0205 GRUBBING STA	201.0220 GRUBBING ID
PROJECT 1420-22-71 CATEGORY 0010							
267+00	-	268+00	NB OFF RAMP	1	---	1	---
290+00	-	292+00	SB OFF RAMP	2	---	2	---
296+00	-	299+00	SB OFF RAMP	2	8	2	8
278+00	-	280+00	SB ON RAMP	---	9	---	9
141+00	-	149+00	CTH V	8	---	8	---
12+00	-	14+00	OLD CTH V NORTH	2	---	2	---
106+00	-	107+00	PARK AVE	1	---	1	---
108+00	-	109+00	FRONTAGE RD	1	---	1	---
141+00	-	142+00	FRONTAGE RD	1	---	1	---
61+00	-	62+00	PARK & RIDE	1	---	1	---
PROJECT TOTALS				19	17	19	17

**REMOVING SMALL PIPE CULVERTS & SURFACE DRAINS**

STATION	DIR.	LOCATION	203.0100 REMOVING SMALL PIPE CULVERTS EACH	204.0190 REMOVING SURFACE DRAINS EACH
PROJECT 1420-22-71 CATEGORY 0010				
1267+14	LT	USH 151	---	1
1271+10	RT	USH 151	---	1
1271+75	LT	USH 151	---	1
1275+63	LT	USH 151	---	1
1307+47	LT	USH 151	---	1
1318+40	RT	USH 151	---	1
282+11	LT	USH 151 SB ON RAMP	1	---
306+44	LT	USH 151 SB OFF RAMP	---	1
306+73	LT	USH 151 SB OFF RAMP	1	---
88+64	LT	OLD CTH V SOUTH	1	---
89+20	LT	OLD CTH V SOUTH	1	---
89+25	LT	OLD CTH V SOUTH	---	1
90+20	LT	OLD CTH V SOUTH	---	1
142+32	RT	FRONTAGE RD	---	1
142+47	RT	FRONTAGE RD	1	---
380+66	RT	USH 45	---	1
381+75	RT	USH 45	---	1
398+34	LT	USH 45	1	---
		OLD REINHARDT RD	---	2
		OLD TRAIL	6	---
PROJECT TOTALS			12	14

**REMOVING PAVEMENT**

STATION	TO	STATION	LOCATION	204.0100 REMOVING PAVEMENT SY	204.0110 REMOVING ASPHALTIC SURFACE SY
PROJECT 1420-22-71 CATEGORY 0010					
1267+82	-	1273+20	USH 151 MEDIAN	1,168	---
1314+53	-	1320+79	USH 151 NB OUTSIDE	1,230	---
269+36	-	272+21	USH 151 NB OFF-RAMP	787	---
305+91	-	307+66	USH 151 SB OFF-RAMP	663	---
316+42	-	316+50	USH 151 SB OFF-RAMP	35	---
269+74	-	276+51	USH 151 SB ON-RAMP	1,565	---
143+70	-	146+53	CTH V	427	368
11+97	-	15+78	OLD CTH V NORTH	125	---
140+75	-	142+29	FRONTAGE RD	691	---
1277+75	-	1280+75	OLD PRAIRIE TRAIL	---	337
1288+00	-	1306+25	OLD PRAIRIE TRAIL	---	2,134
50+50	-	53+13	TEMP TRAIL WEST	---	205
9+48	-	11+06	TEMP TRAIL EAST	---	150
5+11	-	5+83	TEMP TRAIL NORTH	---	66
8+66	-	11+57	TEMP TRAIL NORTH	---	258
OBLITERATING OLD ROAD			USH 45 WEST CONNECTOR	571	---
OBLITERATING OLD ROAD			USH 45 EAST CONNECTOR	997	---
PROJECT TOTALS				8,259	3,518

**REMOVING CURB & GUTTER**

STATION	TO	STATION	DIRECTION	LOCATION	204.0150 REMOVING CURB & GUTTER LF
PROJECT 1420-22-71 CATEGORY 0010					
1264+06	-	1276+96	LT & RT	USH 151 MEDIAN	1,566
269+91	-	270+58	RT	USH 151 NB OFF-RAMP	153
138+50	-	144+03	LT & RT	CTH V	1,007
144+65	-	144+85	RT	CTH V	20
105+51	-	106+52	LT & RT	PARK AVE	269
10+00	-	15+17	LT & RT	OLD CTH V NORTH	1,056
142+29	-	142+84	LT & RT	FRONTAGE RD	149
89+49	-	90+32	LT	OLD CTH V SOUTH	121
389+62	-	397+30	RT	USH 45	751
OBLITERATING OLD ROAD			---	OLD CTH V SOUTH	813
OBLITERATING OLD ROAD			---	OLD CTH V NORTH	154
OBLITERATING OLD ROAD			---	USH 45 EAST CONNECTOR	167
PROJECT TOTAL					6,226

3

3

REMOVING GUARDRAIL

STATION	TO	STATION	DIRECTION	LOCATION	204.0165 REMOVING GUARDRAIL LF
PROJECT 1420-22-71 CATEGORY 0010					
1319+94	-	1320+94	RT	USH 151 NB	100
389+62	-	390+62	RT	USH 45	100
390+30	-	391+75	LT	USH 45	145

PROJECT TOTAL 345

REMOVING FENCE

STATION	TO	STATION	DIRECTION	LOCATION	204.0170 REMOVING FENCE LF
PROJECT 1420-22-71 CATEGORY 0010					
1253+80	-	1270+14	LT	USH 151	1,620
1270+78	-	1283+80	RT	USH 151	1,330
1276+09	-	1307+27	LT	USH 151	3,370

PROJECT TOTAL 6,320

REMOVING MASONRY

STATION	DIST.	DIR.	LOCATION	204.0185 REMOVING MASONRY CY
PROJECT 1420-22-71 CATEGORY 0010				
20+93	26	LT	PRAIRIE TRAIL EAST	4

PROJECT TOTAL 4

3

REMOVING STORM SEWER STRUCTURES

STATION	DIST.	DIR.	LOCATION	204.0210 REMOVING MANHOLES EACH	204.0220 REMOVING INLETS EACH
PROJECT 1420-22-71 CATEGORY 0010					
1268+63	14'	LT	USH 151	---	1
1269+38	1'	LT	USH 151	1	---
1269+86	0	LT	USH 151	1	---
1269+86	7'	LT	USH 151	---	1
1270+06	18'	RT	USH 151	---	1
1270+06	7'	RT	USH 151	---	1
1271+81	17'	RT	USH 151	---	1
1273+06	7'	RT	USH 151	---	1
1273+06	7'	LT	USH 151	---	1
1273+06	18'	LT	USH 151	---	1
1275+98	4'	RT	USH 151	---	1
126+55	69	LT	FRONTAGE RD	1	---
391+84	27'	RT	USH 45	1	---
394+11	30'	RT	USH 45	1	---
394+21	30'	RT	USH 45	1	---
395+63	26'	RT	USH 45	1	---
397+39	27'	RT	USH 45	---	1
			OLD CTH V SOUTH	3	4
			OLD CTH V NORTH	2	10

PROJECT TOTALS 12 24

REMOVING STATE OWNED BARRIER

STAGE	204.9090.S.01 LF
PROJECT 1420-22-71 CATEGORY 0010	
STA 1273+75-STA 1277+25 SB USH 151	350

PROJECT TOTALS 350

REMOVING STORM SEWER

STATION TO STATION	LOCATION	204.0245.01 10-INCH LF	204.0245.02 12-INCH LF	204.0245.03 15-INCH LF	204.0245.04 18-INCH LF	204.0245.05 24-INCH LF	204.0245.06 30-INCH LF	204.0245.07 36-INCH LF	204.0270 ABANDONING CULVERT PIPES EACH
PROJECT 1420-22-71 CATEGORY 0010									
1264+13 - 1316+07	USH 151	---	152	22	70	76	---	16	1
126+55 -	FRONTAGE RD	34	---	---	---	---	---	---	---
-	OLD CTH V SOUTH	---	59	---	75	---	409	---	---
-	OLD CTH V NORTH	---	105	97	55	---	81	---	---
391+62 - 397+42	USH 45	---	---	---	174	137	269	---	---

PROJECT TOTALS 34 316 119 374 213 759 16 1

OBLITERATING OLD ROAD

STATION	TO	STATION	DIR	REFERENCE	214.0100 STA	REMARKS
PROJECT 1420-22-71 CATEGORY 0010						
123+36	-	128+15	LT	CTH V NB	5	OLD CTH V
13+54	-	15+26	LT	OLD V NORTH	2	OLD CTH V/DWY
139+56	-	139+91	LT	CTH V NB	1	OLD CTH V
140+85	-	141+73	LT	CTH V NB	1	OLD CTH V
1275+75	-	1277+96	LT	USH 151	3	OLD PRAIRIE TRAIL
1280+72	-	1288+23	LT	USH 151	8	OLD PRAIRIE TRAIL
1307+26	-	1309+72	LT	USH 151	3	OLD PRAIRIE TRAIL
139+44	-	141+42	RT	FRONTAGE RD EB	2	TRAIL/USH 45 WEST CONNECTOR
1318+18	-	1319+28	RT	USH 151	2	USH 45 EAST CONNECTOR

PROJECT TOTAL 27

**EARTHWORK SUMMARY**

Location	From/To Station	Additional Location	Common Excavation (1)		Salvaged/Unusable Pavement Material (4)	Drainage Blanket (16)	Available Material (5)	Unexpanded Fill	Expanded Fill (13)		Mass Ordinate +/- (14)	Waste	Borrow	Comment:
			Cut (2)	(item # 205.0100) EBS Excavation (3)					Factor 1.10					
<b>Stage 3</b>														
S3_a_Frontage_EB.xml	108+50/116+25		172	0	0	0	172	15,226	16,749	-16,577				
S3_a_Frontage_WB.xml	108+50/109+00		0	0	0	0	0	697	767	-767				
S3_b_Frontage_EB.xml	118+00/140+00		13,317	1,500	0	0	13,317	7,286	8,014	5,303				
S3_b_Frontage_WB.xml	115+75/116+25		0	0	0	0	0	634	697	-697				
S3_c_Frontage_WB.xml	118+00/118+50		0	0	0	0	0	494	543	-543				
S3_Frontage_SB_RA.xml	30+40/33+14		68	0	0	0	68	6,623	7,286	-7,217				
S3_Frontage_V_RA.xml	20+38/23+14		60	0	0	0	60	6,363	7,000	-6,940				
S3_SB_OffRamp.xml	281+75+293+00		14,479	0	0	0	14,479	113	124	14,355				
S3_SB_OnRamp.xml	278+00/287+75		8,651	0	0	0	8,651	417	459	8,192				
S3_Temp_SW.xml	15+33/16+71		171	0	0	0	171	1	1	170				
S3_CTH_V_NB.xml	136+75/137+75		46	0	0	0	46	1,559	1,715	-1,669				
S3_CTH_V_SB.xml	236+75/237+75		6	0	0	0	6	1,173	1,290	-1,284				
CTH V - North of USH 151	---	Winter Settlement	0	0	0	0	0	348	383	-383				
CTH V & NB Ramps-South of USH 151	---	Winter Settlement	0	0	0	0	0	2,558	2,814	-2,814				
Stage 3 Subtotal			36,970	1,500	0	0	36,970	43,491	47,840	-10,870	0	10,870		
<b>Stage 4</b>														
S4_CTH_V_NB.xml	139+50/149+07		1,252	0	0	0	1,252	1,622	1,784	-532				
S4_CTH_V_SB.xml	239+50/240+00		42	0	0	0	42	283	311	-269				
S4_NB_OffRamp.xml	272+00/277+00		289	0	0	0	289	8,941	9,835	-9,546				
S4_NB_OnRamp.xml	283+00/296+37		743	0	0	0	743	1,931	2,124	-1,381				
S4_SB_OffRamp.xml	293+00/303+00		7,046	0	0	0	7,046	852	937	6,109				
S4_SB_OnRamp.xml	273+00/278+00		936	0	0	0	936	6,811	7,492	-6,556				
Stage 4 Subtotal			10,308	0	0	0	10,308	20,439	22,483	-12,175	0	12,175		
<b>Stage 5</b>														
S5_NB_OffRamp.xml	262+58/272+00		4,417	0	237	0	4,180	898	987	3,193				
S5_Old_V_North.xml	10+00/15+00		1,363	0	0	0	1,363	4,514	4,965	-3,602				
S5_Old_V_South.xml	88+38/94+00		1,944	0	0	0	1,944	350	385	1,559				
S5_Park_EB.xml	104+50/106+75		495	0	0	0	495	982	1,081	-585				
S5_Park_WB.xml	106+25/106+75		20	0	0	0	20	309	340	-320				
Stage 5 Subtotal			8,239	0	237	0	8,002	7,052	7,758	244	244	0		
<b>Stage 6</b>														
S6_Frontage_EB.xml	140+00/142+44		127	188	188	0	127	3,813	4,195	-4,068				
S6_SB_OffRamp.xml	303+00/316+50		2,425	0	167	0	2,258	270	297	1,961				
S6_SB_OnRamp.xml	262+20/273+00		2,774	0	402	0	2,372	932	1,026	1,346				
S6_USH_151at45.xml	1314+27/1320+93		1,921	0	379	0	1,541	1	1	1,540				
S6_USH_45_North.xml	390+00/398+72		6,487	0	0	0	6,487	3,852	4,237	2,250				
S6_USH_45_South.xml	378+06/383+09		428	0	0	0	428	0	0	427				
Stage 6 Subtotal			14,162	188	1,137	0	13,213	8,869	9,756	3,457	3,457	0		
<b>Stage 7</b>														
S7_USH_151Median.xml	1263+25/1279+50		2,904	0	799	0	2,104	84	92	2,012				
Stage 7 Subtotal			2,904	0	799	0	2,104	84	92	2,012	2,012	0		
<b>Grand Total</b>			<b>72,583</b>	<b>1,688</b>	<b>2,173</b>	<b>0</b>	<b>70,597</b>	<b>79,936</b>	<b>87,929</b>	<b>-17,332</b>	<b>5,713</b>	<b>23,045</b>		
Total Common Exc			74,270											

- 1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
- 2) Salvaged/Unusable Pavement Material is included in Cut.
- 3) EBS Excavation to be backfilled with Breaker Run.
- 4) Salvaged/Unusable Pavement Material included in proposed cut volumes. If existing pavement is below/outside proposed roadway excavation, volumes shown as EBS Excavation.
- 5) Available Material = Cut - Salvaged/Unusable Pavement Material
- 13) Expanded Fill. Factor = 1.10  
Depending on selections:  
 Or Expanded Fill = (Unexpanded Fill - Rock\* Rock Factor - Reduced Marsh - Reduced EBS) \* Fill Factor  
 Or Expanded Fill = (Unexpanded Fill - Rock\* Rock Factor - Reduced EBS) \* Fill Factor  
 Or Expanded Fill = (Unexpanded Fill - Rock\* Rock Factor - Reduced Marsh) \* Fill Factor  
 Or Expanded Fill = (Unexpanded Fill - Rock\* Rock Factor) \* Fill Factor
- 14) The Mass Ordinate + or - Qty calculated for the Stage. Plus quantity indicates an excess of material within the Stage. Minus indicates a shortage of material within the Stage.

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BASE AGGREGATE DENSE

STATION	TO	STATION	LOCATION	DIRECTION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	311.0110 BREAKER RUN TON	624.0100 WATER MGAL
PROJECT 1420-22-71 CATEGORY 0010								
262+58	-	275+41	USH 151 NB OFF-RAMP	RT	157	2,502	---	16
285+81	-	296+37	USH 151 NB ON-RAMP	RT	109	2,164	---	14
299+66	-	307+75	USH 151 SB OFF-RAMP	LT	84	1,797	---	11
262+00	-	277+02	USH 151 SB ON-RAMP	LT	156	3,099	---	20
275+41	-	287+43	USH 151 NB OFF-RAMP	LT & RT	164	2,282	---	15
269+57	-	285+81	USH 151 NB ON-RAMP	LT & RT	238	3,228	---	21
281+66	-	299+66	USH 151 SB OFF-RAMP	LT & RT	275	3,628	---	23
277+02	-	287+97	USH 151 SB ON-RAMP	LT & RT	154	2,133	---	14
1268+74	-	1277+79	USH 151 INSIDE SHLDR	LT	94	334	---	3
1263+25	-	1272+11	USH 151 INSIDE SHLDR	RT	92	328	---	3
1307+75	-	1316+50	USH 151 OUTSIDE SHLDR	LT	---	700	1,125	4
1314+27	-	1320+79	USH 151 OUTSIDE SHLDR	RT	74	1,200	---	8
88+38	-	91+50	OLD CTH V SOUTH	LT & RT	27	763	---	5
115+00	-	122+80	CTH V	LT & RT	---	4,358	---	26
122+80	-	126+56	CTH V	LT & RT	---	1,396	---	8
126+56	-	129+94	CTH V	LT & RT	---	1,622	---	10
132+60	-	136+75	CTH V	LT & RT	---	1,900	---	11
136+75	-	140+57	CTH V	LT & RT	---	1,865	---	11
140+57	-	144+02	CTH V	LT & RT	---	1,684	---	10
10+00	-	15+50	OLD CTH V NORTH	LT & RT	---	1,730	---	10
60+00	-	62+06	PARK AND RIDE LOT	LT & RT	43	1,458	---	9
104+47	-	106+00	PARK AVE	LT & RT	---	528	---	3
109+36	-	115+18	FRONTAGE ROAD	LT & RT	---	3,040	---	18
115+18	-	118+78	FRONTAGE ROAD	LT & RT	---	1,229	---	7
118+78	-	142+82	FRONTAGE ROAD	LT & RT	---	10,842	---	65
378+06	-	383+09	USH 45	RT	86	368	209	3
386+14	-	386+79	USH 45	LT & RT	3	126	54	1
389+36	-	398+74	USH 45	LT & RT	160	5,253	5,190	32
70+30	-	79+73	PRAIRIE TRAIL WEST	LT	50	835	---	5
109+46	-	142+48	PRAIRIE TRAIL	LT	327	3,363	---	22
19+92	-	23+85	PRAIRIE TRAIL @ USH 45	LT	21	363	---	2
9+48	-	11+01	TEMPORARY TRAIL EAST	LT	---	133	---	1
5+11	-	11+57	TEMPORARY TRAIL NORTH	LT	---	289	---	2
---	-	---	COLORED SIDEWALK	---	---	537	---	3
---	-	---	SIDEWALK LEVELING COURSE	---	1194	---	---	7
---	-	---	CONC/ASPH DRIVEWAYS	---	---	364	---	2
---	-	---	GRAVEL DRIVEWAYS	---	210	---	---	1
---	-	---	UNDISTRIBUTED	---	82	1,059	4,122	8
PROJECT TOTALS					3,800	68,500	10,700	435

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CONCRETE PAVEMENT

STATION TO STATION		LOCATION	405.0100 COLORING CONCRETE RED CY	415.0080 CONCRETE PAVEMENT 8-INCH SY	415.0085 CONCRETE PAVEMENT 8 1/2-INCH SY	415.0100 CONCRETE PAVEMENT 10-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	416.0512 CONCRETE ROUNDBOUT TRUCK APRON 12-INCH SY	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH
PROJECT 1420-22-71		CATEGORY 0010								
275+41	-	287+43	USH 151 NB OFF-RAMP	---	---	1989	---	---	---	---
269+57	-	285+81	USH 151 NB ON-RAMP	---	---	2746	---	---	---	---
281+66	-	299+66	USH 151 SB OFF-RAMP	---	---	3015	---	---	---	---
277+02	-	287+97	USH 151 SB ON-RAMP	---	---	1849	---	---	---	---
269+40	-	275+41	USH 151 NB OFF-RAMP	---	---	---	719	---	240	8
285+81	-	296+16	USH 151 NB ON-RAMP	---	---	---	1088	---	414	---
299+66	-	307+66	USH 151 SB OFF-RAMP	---	---	---	1070	---	320	8
262+20	-	277+02	USH 151 SB ON-RAMP	---	---	---	1583	---	593	---
1307+75	-	1316+50	USH 151 OUTSIDE SHLDR	---	---	---	1011	---	350	8
129+64	-	129+94	CTH V	---	---	---	92	---	---	---
132+60	-	132+90	CTH V	---	---	---	91	---	---	---
386+24	-	386+79	USH 45	---	29	---	---	---	28	---
386+24	-	386+74	USH 45	---	---	---	110	---	---	---
389+44	-	389+94	USH 45	---	---	---	110	---	---	---
389+36	-	389+94	USH 45	---	44	---	---	---	---	---
10+00	-	13+14	CTH V RA SOUTH	106	---	---	---	319	---	---
20+00	-	23+14	CTH V RA NORTH	106	---	---	---	319	---	---
30+00	-	33+14	FRONTAGE RD RA	106	---	---	---	319	---	---
PROJECT TOTALS			319	74	9,598	5,472	403	956	1,945	24

CONCRETE DRIVEWAYS

STATION	LOCATION	DIR.	416.0160 6-INCH SY	416.0170 7-INCH SY
PROJECT 1420-22-71 CATEGORY 0010				
140+87	CTH V	LT	31	---
141+81	CTH V	LT	29	---
141+88	CTH V	RT	24	---
142+37	CTH V	LT	34	---
143+40	CTH V	RT	24	---
143+88	CTH V	LT	124	---
145+31	CTH V	LT	175	---
145+82	CTH V	RT	45	---
146+35	CTH V	LT	93	---
148+40	CTH V	RT	31	---
11+74	OLD CTH V NORTH	RT	---	60
12+30	OLD CTH V NORTH	LT	---	142
104+99	PARK AVE	LT	57	---
PROJECT TOTAL			664	202

CONCRETE MASONRY ENDWALLS

STATION	LOCATION	DIR	504.0900 CY	REMARKS
PROJECT 1420-22-71 CATEGORY 0010				
21+15	PRAIRIE TRAIL EAST	LT	4	UPSTREAM ENDWALL
PROJECT TOTAL			4	

ASPHALTIC ITEMS

STATION TO STATION	DIR	LOCATION	455.0120 ASPHALTIC MATERIAL PG 64-28 TON	455.0605 TACK COAT GAL	460.1100 HMA PAVEMENT TYPE E-0.3 TON	460.1103 HMA PAVEMENT TYPE E-3 TON	460.4000 HMA COLD WEATHER PAVING TON	460.4110.S REHEATING HMA PAVT. LOGITUDINAL JOINTS LF	465.0105 ASPHALTIC SURFACE TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS & FIELD ENT. TON	465.0315 ASPHALTIC FLUMES SY
PROJECT 1420-22-71 CATEGORY 0010											
262+58 - 285+84	RT	USH 151 NB OFF-RAMP	18	100	329	---	---	---	---	---	9
271+30 - 296+37	RT	USH 151 NB ON-RAMP	18	97	320	---	---	---	---	---	9
283+63 - 307+75	LT	USH 151 SB OFF-RAMP	17	94	308	---	---	---	---	---	9
262+00 - 286+25	LT	USH 151 SB ON-RAMP	17	93	306	---	---	---	---	---	9
275+41 - 285+84	LT	USH 151 NB OFF-RAMP	5	27	90	---	---	---	---	---	9
271+30 - 285+81	LT	USH 151 NB ON-RAMP	7	39	130	---	---	---	---	---	9
283+63 - 299+66	RT	USH 151 SB OFF-RAMP	9	50	165	---	---	---	---	---	9
277+02 - 286+24	RT	USH 151 SB ON-RAMP	5	27	90	---	---	---	---	---	9
1263+25 - 1272+11	RT	USH 151 NB INSIDE SHLDR	4	21	68	---	---	---	---	---	---
1268+74 - 1277+79	LT	USH 151 SB INSIDE SHLDR	4	21	69	---	---	---	---	---	---
1314+27 - 1320+79	RT	USH 151 NB OUTSIDE SHLDR	7	39	128	---	---	---	---	---	---
88+38 - 91+50	LT & RT	OLD CTH V SOUTH	15	82	---	270	150	624	---	15	---
115+00 - 122+80	LT & RT	CTH V	61	247	---	1,115	---	510	---	---	---
122+80 - 126+56	LT & RT	CTH V ROUNDABOUT SOUTH	52	130	---	937	---	---	---	---	---
126+56 - 129+64	LT & RT	CTH V	22	89	---	403	---	227	---	---	---
132+90 - 136+75	LT & RT	CTH V	29	118	---	532	---	770	---	---	---
136+75 - 140+57	LT & RT	CTH V ROUNDABOUT NORTH	75	191	---	1,369	---	---	---	---	---
140+57 - 144+85	LT & RT	CTH V	34	137	---	619	619	856	---	16	---
10+00 - 15+50	LT & RT	OLD CTH V NORTH	35	196	---	644	644	1,100	---	---	---
60+00 - 62+06	LT & RT	PARK AND RIDE LOT	---	165	---	---	---	---	543	---	---
104+47 - 106+00	LT & RT	PARK AVE	12	64	---	210	210	306	---	---	---
70+30 - 79+73	LT	PRAIRIE TRAIL WEST	---	---	---	---	---	---	117	---	---
109+36 - 115+18	LT & RT	FRONTAGE ROAD	37	166	---	680	---	---	---	---	---
115+18 - 118+78	LT & RT	FRONTAGE RD ROUNDABOUT	46	115	---	827	---	---	---	---	---
118+78 - 142+82	LT & RT	FRONTAGE ROAD	156	692	---	2,840	2,840	4,275	---	---	---
109+47 - 142+48	LT	PRAIRIE TRAIL	---	---	---	---	---	---	425	---	---
386+14 - 386+33	LT & RT	USH 45	1	3	---	16	16	---	---	---	---
389+94 - 398+74	LT & RT	USH 45	82	331	---	1,496	1,496	3,519	---	---	9
19+92 - 23+85	LT	PRAIRIE TRAIL @ USH 45	---	---	---	---	---	---	51	---	---
9+48 - 11+01	LT	TEMPORARY TRAIL EAST	---	---	---	---	---	---	17	---	---
5+11 - 5+83	LT	TEMPORARY TRAIL NORTH	---	---	---	---	---	---	8	---	---
8+66 - 11+57	LT	TEMPORARY TRAIL NORTH	---	---	---	---	---	---	30	---	---
PROJECT TOTALS			768	3,336	2,004	11,960	5,975	12,188	1,191	30	77



**CULVERT PIPES**

STA	LOCATION		520.4018 CULVERT PIPE TEMPORARY 18-INCH LF	521.0124 CULVERT PIPE CORRUGATED STEEL 24-INCH LF	521.1024 APRON ENDWALLS FOR CULVERT PIPE STEEL 24-INCH EACH	633.5200* MARKERS CULVERT END EACH	650.6000* CONSTRUC- TION STAKING PIPE CULVERTS EACH	INLET	OUTLET	STEEL THICKNESS INCH	**FOR INFO ONLY
PROJECT 1420-22-71 CATEGORY 0010											
127+15	FRONTAGE RD	LT	---	42	2	2	1	848.40	848.20	0.064	
88+61	OLD CTH V SOUTH	LT	---	46	2	---	---	850.88	849.11	0.064	
5+22	TEMP TRAIL NORTH	C/L	20	---	---	---	1	850.40	849.40	0.064	SKEW 7.5 DEG LHF
5+25	TEMP TRAIL NORTH	C/L	20	---	---	---	1	850.40	849.37	0.064	SKEW 8.3 DEG LHF
PROJECT TOTALS			40	88	4	2	3				

\*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

**REINFORCED CONCRETE CULVERT PIPES**

STA	LOCATION		522.0118 CULVERT PIPE REINFORCED CONCRETE CLASS III 18-INCH LF	522.0130 CULVERT PIPE REINFORCED CONCRETE CLASS III 30-INCH LF	522.0136 CULVERT PIPE REINFORCED CONCRETE CLASS III 36-INCH LF	522.1018* APRON ENDWALLS FOR CULVERT PIPE REIN. CONCRETE 18-INCH EACH	522.1030* APRON ENDWALLS FOR CULVERT PIPE REIN. CONCRETE 30-INCH EACH	522.1036 APRON ENDWALLS FOR CULVERT PIPE REIN. CONCRETE 36-INCH EACH	633.5200* MARKERS CULVERT END EACH	650.6000* CONSTRUC- TION STAKING PIPE CULVERTS EACH	INLET	OUTLET	**FOR INFO ONLY
PROJECT 1420-22-71 CATEGORY 0010													
264+13	USH 151 NB OFF-RAMP	RT	8	---	---	1	---	---	1	1	856.69	856.56	EXTENSION
272+21	USH 151 NB OFF-RAMP	RT	---	---	12	---	---	1	1	1	845.39	845.31	EXTENSION
142+44	FRONTAGE RD	LT/RT	---	132	---	---	2	---	2	1	839.30	838.66	SKEW 4.0 DEG LHF
20+83	PRAIRIE TRAIL EAST	LT	---	32	---	---	1	---	1	1	821.56	821.00	EXTENSION
20+95	PRAIRIE TRAIL EAST	LT	---	32	---	---	1	---	1	1	821.56	820.97	EXTENSION
PROJECT TOTALS			8	196	12	1	4	1	6	5			

\*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

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**CONCRETE CURB AND GUTTER**

STATION TO STATION	DIR	LOCATION	601.0405 18-INCH TYPE A LF	601.0409 30-INCH TYPE A LF	601.0411 30-INCH TYPE D LF	601.0452 INTEGRAL 30-INCH TYPE D LF	601.0555 6-INCH SLOPED 36-INCH TYPE A LF	601.0557 6-INCH SLOPED 36-INCH TYPE D LF	601.0580 4-INCH SLOPED 36-INCH TYPE R LF	601.0600 CONCRETE CURB PED. LF
PROJECT 1420-22-71 CATEGORY 0010										
285+84 - 287+43	LT & RT	USH 151 NB OFF-RAMP	---	195	---	113	---	---	---	---
269+57 - 271+30	LT & RT	USH 151 NB ON-RAMP	---	236	---	110	---	---	---	---
281+66 - 283+63	LT & RT	USH 151 SB OFF-RAMP	---	276	---	105	---	---	---	---
286+24 - 287+97	LT & RT	USH 151 SB ON-RAMP	---	234	---	105	---	---	---	---
115+00 - 122+80	LT & RT	CTH V	---	---	3,006	---	---	---	---	---
122+80 - 126+56	LT & RT	CTH V ROUNDABOUT	220	---	1,361	---	---	---	302	125
126+56 - 130+15	LT & RT	CTH V	---	86	1,001	---	---	---	---	---
132+39 - 136+75	LT & RT	CTH V	---	86	816	---	---	---	---	---
136+75 - 140+55	LT & RT	CTH V ROUNDABOUT	220	---	1,786	---	---	---	302	124
140+55 - 144+85	LT & RT	CTH V	---	---	712	---	---	---	---	---
10+00 - 15+50	LT & RT	OLD CTH V NORTH	---	---	1,275	---	---	---	---	---
104+47 - 106+00	LT & RT	PARK AVE	---	---	243	---	---	---	---	---
109+36 - 115+18	LT & RT	FRONTAGE ROAD	---	---	2,367	---	---	---	---	---
115+18 - 118+78	LT & RT	FRONTAGE RD ROUNDABOUT	220	---	1,130	---	---	---	302	108
118+78 - 142+81	LT & RT	FRONTAGE ROAD	---	---	5,367	---	---	---	---	---
389+63 - 397+03	RT	USH 45	---	---	---	---	32	709	---	---
PROJECT TOTALS			660	1,111	19,062	432	32	709	906	357

**CONCRETE SIDEWALK AND RAMPS**

STATION TO STATION	DIR	LOCATION	SPV.0035.04 COLORING CONCRETE BROWN CY	602.0405 CONCRETE SIDEWALK 4-INCH SF	602.0410 CONCRETE SIDEWALK 5-INCH SF	SPV.0165.03 CONCRETE SIDEWALK 8-INCH SF	602.0515 CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA SF
PROJECT 1420-22-71 CATEGORY 0010							
215+08 - 222+20	LT	CTH V SB	---	3,506	---	---	---
115+00 - 122+70	RT	CTH V NB	---	3,924	---	---	---
122+24 - 126+65	LT & RT	CTH V RA SOUTH	---	176	9,265	---	216
226+58 - 229+89	LT	CTH V SB	---	1,521	---	152	---
126+65 - 130+17	RT	CTH V NB	---	1,655	---	116	---
132+37 - 236+70	LT	CTH V SB	---	2,007	---	116	---
132+56 - 136+65	RT	CTH V NB	---	1,973	---	133	---
136+65 - 140+69	LT & RT	CTH V RA NORTH	---	394	11,478	---	288
140+69 - 149+07	LT	CTH V	---	3,434	---	---	---
140+53 - 149+06	RT	CTH V	---	3,749	---	---	---
104+46 - 105+48	LT	PARK AVE	---	374	---	---	---
104+47 - 105+59	RT	PARK AVE	---	319	---	---	16
10+00 - 15+41	LT	OLD CTH V NORTH	---	2,735	---	---	---
115+21 - 118+85	LT & RT	FRONTAGE RD RA	---	228	4,097	---	216
127+13 - 142+68	LT & RT	FRONTAGE RD	---	807	473	---	36
10+90 - 11+47	LT & RT	TEMP TRAIL EAST	---	---	147	---	28
CATEGORY 0010 SUBTOTALS			0	26,802	25,460	517	800
CATEGORY 0020							
123+05 - 128+50	LT & RT	CTH V	68	5,512	---	---	---
136+57 - 139+75	LT & RT	CTH V	44	3,602	---	---	---
116+26 - 121+42	LT & RT	FRONTAGE RD	55	4,427	---	---	---
CATEGORY 0020 SUBTOTALS			167	13,541	0	0	0
PROJECT TOTALS			167	40,343	25,460	517	800

**CONCRETE BARRIER TEMPORARY PRECAST**

STAGE		603.8000 DELIVERED LF	603.8125 INSTALLED LF
PROJECT 1420-22-71 CATEGORY 0010			
STAGE V3	USH 151	900	900
PROJECT TOTALS		900	900

**CONCRETE BARRIER**

STATION TO STATION	DIR	LOCATION	603.1156 CONCRETE BARRIER TYPE S56 LF	603.3559 CONCRETE BARRIER TRANSITION TYPE S42 TO S56 EACH	603.3535 CONCRETE BARRIER TRANSITION TYPE S36 TO S42 EACH	603.3213 CONCRETE BARRIER TRANSITION TYPE F32SF TO S36 EACH
PROJECT 1420-22-71 CATEGORY 0010						
307+75 - 316+00	-	USH 151 SB OFF RAMP	825	---	---	---
316+00 - 316+25	-	USH 151 SB OFF RAMP	---	1	---	---
316+25 - 316+35	-	USH 151 SB OFF RAMP	---	---	1	---
316+35 - 316+50	-	USH 151 SB OFF RAMP	---	---	---	1
PROJECT TOTALS			825	1	1	1

3

**STORM SEWER PIPE**

STRUCTURE		608.0312 REIN. CONC. CLASS III 12-INCH	608.0315 REIN. CONC. CLASS III 15-INCH	608.0318 REIN. CONC. CLASS III 18-INCH	608.0324 REIN. CONC. CLASS III 24-INCH	608.0330 REIN. CONC. CLASS III 30-INCH	608.0412 REIN. CONC. CLASS IV 12-INCH	608.0415 REIN. CONC. CLASS IV 15-INCH	608.0418 REIN. CONC. CLASS IV 18-INCH	608.0424 REIN. CONC. CLASS IV 24-INCH	520.8000 CONCRETE COLLARS FOR PIPE EACH
FROM	TO	LF	LF	LF	LF	LF	LF	LF	LF	LF	
PROJECT 1420-22-71 CATEGORY 0010											
4.2	4.1	---	25	---	---	---	---	---	---	---	---
4.3	4.2	21	---	---	---	---	---	---	---	---	---
4.4	4.3	29	---	---	---	---	---	---	---	---	---
4.5	4.4	21	---	---	---	---	---	---	---	---	---
5.2	5.1	---	26	---	---	---	---	---	---	---	---
5.3	5.2	21	---	---	---	---	---	---	---	---	---
5.4	5.3	21	---	---	---	---	---	---	---	---	---
5.5	5.4	21	---	---	---	---	---	---	---	---	---
6.2	6.1	65	---	---	---	---	---	---	---	---	---
6.3	6.2	9	---	---	---	---	---	---	---	---	---
7.2	7.1	---	31	---	---	---	---	---	---	---	---
7.3	7.2	36	---	---	---	---	---	---	---	---	---
7.4	7.2	25	---	---	---	---	---	---	---	---	---
7.5	7.4	25	---	---	---	---	---	---	---	---	---
7.6	7.5	21	---	---	---	---	---	---	---	---	---
7.7	7.6	33	---	---	---	---	---	---	---	---	---
8.2	8.1	23	---	---	---	---	---	---	---	---	---
8.3	8.2	39	---	---	---	---	---	---	---	---	---
9.2	9.1	27	---	---	---	---	---	---	---	---	---
9.3	9.2	47	---	---	---	---	---	---	---	---	---
10.2	10.1	---	33	---	---	---	---	---	---	---	---
10.3	10.2	21	---	---	---	---	---	---	---	---	---
10.4	10.3	25	---	---	---	---	---	---	---	---	---
10.5	10.4	26	---	---	---	---	---	---	---	---	---
11.4	11.1	---	54	---	---	---	---	---	---	---	---
11.2	11.4	69	---	---	---	---	---	---	---	---	---
11.3	11.2	10	---	---	---	---	---	---	---	---	---
12.2	12.1	---	33	---	---	---	---	---	---	---	---
12.3	12.2	---	---	---	---	---	---	47	---	---	---
12.4	12.3	---	50	---	---	---	---	---	---	---	---
13.1	EXISTING	---	---	16	---	---	---	---	---	---	2
13.2	13.1	---	---	---	---	---	42	---	---	---	---
14.1	EXISTING	---	16	---	---	---	---	---	---	---	2
14.2	14.1	---	61	---	---	---	---	---	---	---	---
15.1	14.1	---	28	---	---	---	---	---	---	---	---
15.2	15.1	---	---	---	---	---	---	28	---	---	---
SUBTOTALS		635	357	16	0	0	42	75	0	0	4

3

3

**STORM SEWER PIPE CONT'D**

STRUCTURE		608.0312 REIN. CONC. CLASS III 12-INCH LF	608.0315 REIN. CONC. CLASS III 15-INCH LF	608.0318 REIN. CONC. CLASS III 18-INCH LF	608.0324 REIN. CONC. CLASS III 24-INCH LF	608.0330 REIN. CONC. CLASS III 30-INCH LF	608.0412 REIN. CONC. CLASS IV 12-INCH LF	608.0415 REIN. CONC. CLASS IV 15-INCH LF	608.0418 REIN. CONC. CLASS IV 18-INCH LF	608.0424 REIN. CONC. CLASS IV 24-INCH LF	520.8000 CONCRETE COLLARS FOR PIPE EACH
FROM	TO										
PROJECT 1420-22-71 CATEGORY 0010											
16.1	15.1	---	---	---	---	---	---	100	---	---	---
16.2	16.1	---	---	---	---	---	---	30	---	---	---
16.3	16.1	---	---	---	---	---	---	26	---	---	---
16.4	16.3	---	---	---	---	---	---	15	---	---	---
16.5	16.4	25	---	---	---	---	---	---	---	---	---
17.2	17.1	---	21	---	---	---	---	---	---	---	---
17.3	17.2	---	---	---	---	---	21	---	---	---	---
17.4	17.3	---	---	---	---	---	15	---	---	---	---
17.5	17.4	---	---	---	---	---	21	---	---	---	---
18.2	18.1	---	19	---	---	---	---	---	---	---	---
18.3	18.2	---	---	---	---	---	10	---	---	---	---
18.4	18.2	---	---	---	---	---	---	21	---	---	---
18.5	18.4	---	---	---	---	---	---	28	---	---	---
18.6	18.5	---	---	---	---	---	21	---	---	---	---
18.7	18.6	---	---	---	---	---	10	---	---	---	---
19.2	19.1	---	---	---	---	---	70	---	---	---	---
19.3	19.2	---	---	---	---	---	9	---	---	---	---
20.2	20.1	---	36	---	---	---	---	---	---	---	---
20.3	20.2	---	---	---	---	---	21	---	---	---	---
20.4	20.3	---	---	---	---	---	7	---	---	---	---
20.5	20.4	---	---	---	---	---	21	---	---	---	---
21.2	21.1	---	35	---	---	---	---	---	---	---	---
21.3	21.2	---	---	---	---	---	10	---	---	---	---
21.4	21.2	---	---	---	---	---	39	---	---	---	---
21.5	21.4	---	---	---	---	---	10	---	---	---	---
22.2	22.1	---	36	---	---	---	---	---	---	---	---
22.3	22.2	---	---	---	---	---	39	---	---	---	---
23.2	23.1	---	36	---	---	---	---	---	---	---	---
23.3	23.2	---	---	---	---	---	39	---	---	---	---
24.2	24.1	34	---	---	---	---	---	---	---	---	---
24.3	24.2	---	---	---	---	---	39	---	---	---	---
25.2	25.1	---	20	---	---	---	---	---	---	---	---
25.3	25.2	---	---	---	---	---	10	---	---	---	---
25.4	25.2	---	---	---	---	---	39	---	---	---	---
25.5	25.4	---	---	---	---	---	10	---	---	---	---
25.6	25.4	49	---	---	---	---	---	---	---	---	---
26.2	EXISTING	---	---	---	---	8	---	---	---	---	1
26.3	26.2	---	---	---	---	52	---	---	---	---	---
26.4	26.2	---	73	---	---	---	---	---	---	---	---
26.5	26.4	20	---	---	---	---	---	---	---	---	---
27.2	27.1	---	26	---	---	---	---	---	---	---	---
27.3	27.2	---	---	---	---	---	---	39	---	---	---
27.4	27.3	19	---	---	---	---	---	---	---	---	---
28.2	28.1	10	---	---	---	---	---	---	---	---	---
SUBTOTALS		157	302	0	0	60	461	259	0	0	1

STORM SEWER PIPE CONT'D

STRUCTURE		608.0312 REIN. CONC. CLASS III 12-INCH LF	608.0315 REIN. CONC. CLASS III 15-INCH LF	608.0318 REIN. CONC. CLASS III 18-INCH LF	608.0324 REIN. CONC. CLASS III 24-INCH LF	608.0330 REIN. CONC. CLASS III 30-INCH LF	608.0412 REIN. CONC. CLASS IV 12-INCH LF	608.0415 REIN. CONC. CLASS IV 15-INCH LF	608.0418 REIN. CONC. CLASS IV 18-INCH LF	608.0424 REIN. CONC. CLASS IV 24-INCH LF	520.8000 CONCRETE COLLARS FOR PIPE EACH
FROM	TO										
PROJECT 1420-22-71 CATEGORY 0010											
EXISTING	29.1	---	---	---	---	---	---	---	31	---	1
29.2	EXISTING	---	---	5	---	---	---	---	---	---	1
29.3	29.2	---	116	---	---	---	---	---	---	---	---
31.2	31.1	66	---	---	---	---	---	---	---	---	---
40.1	40.0	---	---	---	34	---	---	---	---	---	---
40.2	40.1	---	---	---	---	---	---	---	---	208	---
40.3	40.2	---	---	---	---	---	---	---	---	14	---
40.4	40.3	---	---	---	---	---	---	---	---	136	---
40.5	40.4	---	---	---	---	---	---	---	---	161	---
40.6	40.5	---	---	---	---	---	---	---	---	162	---
41.2	41.1	34	---	---	---	---	---	---	---	---	---
42.2	42.1	---	---	---	---	---	---	---	---	59	---
42.3	42.1	---	70	---	---	---	---	---	---	---	---
43.2	43.1	11	---	---	---	---	---	---	---	---	---
44.2	44.1	31	---	---	---	---	---	---	---	---	---
45.2	EXISTING	---	---	8	---	---	---	---	---	---	2
46.1	46.0	47	---	---	---	---	---	---	---	---	---
47.1	47.0	91	---	---	---	---	---	---	---	---	---
SUBTOTALS		280	186	13	34	0	0	0	31	740	4
PROJECT TOTALS		1072	845	29	34	60	503	334	31	740	9

**STORM SEWER STRUCTURES**

STRUCTURE NUMBER	522.1012	522.1015	522.1018*	522.1024	522.1030*	521.1615	611.2004	611.2005	611.2006	611.0530	611.0612	611.0420	611.8110	633.5200*	650.4000*
	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE					AEW FOR CP SLOPED SIDE DRAIN STEEL 15-INCH 10:1 EACH	MANHOLES 4-FT EACH	MANHOLES 5-FT EACH	MANHOLES 6-FT EACH	MANHOLE COVERS TYPE J EACH	INLET COVERS TYPE C EACH	RECONSTRUCT-ING MANHOLES EACH	ADJUSTING MANHOLE COVERS EACH	MARKERS CULVERT END EACH	CONST. STAKING STORM SEWER EACH
	12-INCH EACH	15-INCH EACH	18-INCH EACH	24-INCH EACH	30-INCH EACH										
PROJECT 1420-22-71 CATEGORY 0010															
4.1	---	1	---	---	---	---	---	---	---	---	---	---	---	1	1
5.1	---	1	---	---	---	---	---	---	---	---	---	---	---	1	1
6.1	1	---	---	---	---	---	---	---	---	---	---	---	---	1	1
7.1	---	1	---	---	---	---	---	---	---	---	---	---	---	1	1
8.1	1	---	---	---	---	---	---	---	---	---	---	---	---	1	1
9.1	1	---	---	---	---	---	---	---	---	---	---	---	---	1	1
10.1	---	1	---	---	---	---	---	---	---	---	---	---	---	1	1
11.1	---	1	---	---	---	---	---	---	---	---	---	---	---	1	1
12.1	---	---	---	---	---	---	---	---	---	1	1	---	---	---	---
12.4	---	1	---	---	---	---	---	---	---	---	---	---	---	1	1
13.1	---	---	---	---	---	---	1	---	---	1	---	---	---	---	1
14.0	---	---	---	---	---	---	---	---	---	---	1	1	---	---	---
14.1	---	---	---	---	---	---	---	1	---	1	---	---	---	---	1
15.1	---	---	---	---	---	---	1	---	---	1	---	---	---	---	1
16.1	---	---	---	---	---	---	1	---	---	1	---	---	---	---	1
17.1	---	1	---	---	---	---	---	---	---	---	---	---	---	1	1
18.1	---	1	---	---	---	---	---	---	---	---	---	---	---	1	1
19.1	1	---	---	---	---	---	---	---	---	---	---	---	---	1	1
20.1	---	1	---	---	---	---	---	---	---	---	---	---	---	1	1
21.1	---	1	---	---	---	---	---	---	---	---	---	---	---	1	1
22.1	1	---	---	---	---	---	---	---	---	---	---	---	---	1	1
23.1	1	---	---	---	---	---	---	---	---	---	---	---	---	1	1
SUBTOTALS	6	10	0	0	0	0	3	1	0	4	2	2	0	16	20

**STORM SEWER STRUCTURES CONT'D**

STRUCTURE NUMBER	522.1012	522.1015	522.1018*	522.1024	522.1030*	521.1615 AEW FOR CP SLOPED SIDE DRAIN STEEL 15-INCH 10:1	611.2004 MANHOLES 4-FT	611.2005 MANHOLES 5-FT	611.2006 MANHOLES 6-FT	611.0530 MANHOLE COVERS TYPE J	611.0612 INLET COVERS TYPE C	611.0420 RECONSTRUCT- ING MANHOLES	611.8110 ADJUSTING MANHOLE COVERS	633.5200* MARKERS CULVERT END	650.4000* CONST. STAKING STORM SEWER
	12-INCH EACH	15-INCH EACH	18-INCH EACH	24-INCH EACH	30-INCH EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
PROJECT 1420-22-71 CATEGORY 0010															
24.1	1	---	---	---	---	---	---	---	---	---	---	---	---	1	1
25.1	1	---	---	---	---	---	---	---	---	---	---	---	---	1	1
25.6	1	---	---	---	---	---	---	---	---	---	---	---	---	1	1
26.1	---	---	---	---	1	---	---	---	---	---	---	---	---	1	1
26.2	---	---	---	---	---	---	---	---	1	1	---	---	---	---	1
26.3	---	---	---	---	1	---	---	---	---	---	---	---	---	1	1
27.1	---	---	---	---	---	---	1	---	---	1	---	---	---	---	1
28.1	---	---	---	---	---	---	---	---	---	1	---	1	---	---	---
28.3	---	---	---	---	---	---	---	---	---	1	---	1	---	---	---
29.1	---	---	1	---	---	---	---	---	---	---	---	---	---	1	1
29.3	---	---	---	---	---	1	---	---	---	---	---	---	---	1	1
31.1	1	---	---	---	---	---	---	---	---	---	---	---	---	1	1
40.0	---	---	---	1	---	---	---	---	---	---	---	---	---	1	1
41.1	1	---	---	---	---	---	---	---	---	---	---	---	---	1	1
42.1	---	---	---	---	---	---	1	---	---	---	1	---	---	---	1
42.2	---	---	---	1	---	---	---	---	---	---	---	---	---	1	1
43.1	1	---	---	---	---	---	---	---	---	---	---	---	---	1	1
44.1	1	---	---	---	---	---	---	---	---	---	---	---	---	1	1
46.0	---	---	---	---	---	---	1	---	---	1	---	---	---	---	1
48.0	---	---	---	---	---	---	1	---	---	---	1	---	---	---	1
49.0	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---
SUBTOTALS	7	0	1	2	2	1	4	0	1	5	2	2	1	13	18
PROJECT TOTALS	13	10	1	2	2	1	7	1	1	9	4	4	1	29	38

GENERAL NOTES: LOCATION FOR MANHOLES REFERS TO THE CENTER OF STRUCTURE  
 LOCATION FOR APRON ENDWALLS REFERS TO THE BEGINNING OF ENDWALL  
 ELEVATIONS (ON PLAN SHEETS) REFER TO THE CENTER OF STRUCTURE FOR MANHOLES  
 STRUCTURE DEPTH (ON PLAN SHEETS) EQUALS THE RIM ELEVATION MINUS THE INVERT ELEVATION  
 INVERTS OF EXISTING PIPE AND STRUCTURES SHOULD BE VERIFIED BY THE CONTRACTOR AND APPROVED  
 BY THE ENGINEER PRIOR TO ORDERING THE STRUCTURE

SPECIAL NOTES: 1. FLAT TOP REQUIRED ON MH  
 \* ADDITIONAL QUANTITIES SHOWN ELSEWHERE  
 \*\* FOR INFORMATION ONLY

**STORM SEWER INLETS**

STRUCTURE NUMBER	611.3004 INLETS 4-FT DIAMETER EACH	SPV.0060.05 INLETS 2x2.5-FT SPECIAL EACH	611.3230 INLETS 2x3-FT EACH	611.3901 INLETS MEDIAN 1 GRATE EACH	611.3902 INLETS MEDIAN 2 GRATE 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	611.0651 INLET COVERS TYPE S EACH	611.0652 INLET COVERS TYPE T EACH	611.0430 RECONSTRUCT- ING INLETS EACH	650.4000* CONST. STAKING STORM SEWER EACH
PROJECT 1420-22-71 CATEGORY 0010														
4.2	---	---	1	---	---	1	---	---	---	---	---	---	---	1
4.3	---	---	1	---	---	1	---	---	---	---	---	---	---	1
4.4	---	---	1	---	---	1	---	---	---	---	---	---	---	1
4.5	---	---	1	---	---	1	---	---	---	---	---	---	---	1
5.2	---	---	1	---	---	1	---	---	---	---	---	---	---	1
5.3	---	---	1	---	---	1	---	---	---	---	---	---	---	1
5.4	---	---	1	---	---	1	---	---	---	---	---	---	---	1
5.5	---	---	1	---	---	1	---	---	---	---	---	---	---	1
6.2	---	1	---	---	---	---	---	---	---	---	---	1	---	1
6.3	---	1	---	---	---	---	---	---	---	---	---	1	---	1
7.2	---	---	1	---	---	1	---	---	---	---	---	---	---	1
7.3	---	---	1	---	---	1	---	---	---	---	---	---	---	1
7.4	---	---	1	---	---	1	---	---	---	---	---	---	---	1
7.5	---	---	1	---	---	1	---	---	---	---	---	---	---	1
7.6	---	---	1	---	---	1	---	---	---	---	---	---	---	1
7.7	---	---	1	---	---	1	---	---	---	---	---	---	---	1
8.2	---	---	1	---	---	1	---	---	---	---	---	---	---	1
8.3	---	---	1	---	---	1	---	---	---	---	---	---	---	1
9.2	---	---	1	---	---	1	---	---	---	---	---	---	---	1
9.3	---	---	1	---	---	1	---	---	---	---	---	---	---	1
10.2	---	---	1	---	---	1	---	---	---	---	---	---	---	1
10.3	---	---	1	---	---	---	---	---	1	---	---	---	---	1
10.4	---	---	1	---	---	---	---	---	1	---	---	---	---	1
10.5	---	---	1	---	---	1	---	---	---	---	---	---	---	1
11.2	---	1	---	---	---	---	---	---	---	---	---	1	---	1
11.3	---	1	---	---	---	---	---	---	---	---	---	1	---	1
11.4	---	---	1	---	---	---	---	---	1	---	---	---	---	1
SUBTOTALS	0	4	23	0	0	20	0	0	3	0	0	4	0	27



**STORM SEWER INLETS CONT'D**

STRUCTURE NUMBER	611.3004 INLETS 4-FT DIAMETER EACH	SPV.0060.05 INLETS 2x2.5-FT SPECIAL EACH	611.3230 INLETS 2x3-FT EACH	611.3901 INLETS MEDIAN 1 GRATE EACH	611.3902 INLETS MEDIAN 2 GRATE 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	611.0651 INLET COVERS TYPE S EACH	611.0652 INLET COVERS TYPE T EACH	611.0430 RECONSTRUCT- ING INLETS EACH	650.4000* CONST. STAKING STORM SEWER EACH
PROJECT 1420-22-71 CATEGORY 0010														
12.2	---	---	1	---	---	1	---	---	---	---	---	---	---	1
12.3	---	---	1	---	---	1	---	---	---	---	---	---	---	1
13.2	---	---	---	1	---	---	---	---	---	1	---	---	---	1
14.2	---	---	1	---	---	1	---	---	---	---	---	---	---	1
15.2	---	---	1	---	---	1	---	---	---	---	---	---	---	1
16.2	---	---	1	---	---	1	---	---	---	---	---	---	---	1
16.3	---	---	1	---	---	---	---	---	1	---	---	---	---	1
16.4	---	---	1	---	---	1	---	---	---	---	---	---	---	1
16.5	---	---	---	1	---	---	---	---	---	1	---	---	---	1
17.2	---	---	1	---	---	1	---	---	---	---	---	---	---	1
17.3	---	---	1	---	---	1	---	---	---	---	---	---	---	1
17.4	---	---	1	---	---	1	---	---	---	---	---	---	---	1
17.5	---	---	1	---	---	1	---	---	---	---	---	---	---	1
18.2	---	---	1	---	---	---	---	---	1	---	---	---	---	1
18.3	---	---	1	---	---	1	---	---	---	---	---	---	---	1
18.4	---	---	1	---	---	1	---	---	---	---	---	---	---	1
18.5	---	---	1	---	---	1	---	---	---	---	---	---	---	1
18.6	---	---	1	---	---	---	---	---	1	---	---	---	---	1
18.7	---	---	1	---	---	1	---	---	---	---	---	---	---	1
19.2	---	1	---	---	---	---	---	---	---	---	---	1	---	1
19.3	---	1	---	---	---	---	---	---	---	---	---	1	---	1
20.2	---	---	1	---	---	1	---	---	---	---	---	---	---	1
20.3	---	---	1	---	---	1	---	---	---	---	---	---	---	1
20.4	---	---	1	---	---	1	---	---	---	---	---	---	---	1
20.5	---	---	1	---	---	1	---	---	---	---	---	---	---	1
21.2	---	---	1	---	---	---	---	---	1	---	---	---	---	1
21.3	---	---	1	---	---	1	---	---	---	---	---	---	---	1
21.4	---	---	1	---	---	---	---	---	1	---	---	---	---	1
21.5	---	---	1	---	---	1	---	---	---	---	---	---	---	1
22.2	---	---	1	---	---	1	---	---	---	---	---	---	---	1
22.3	---	---	1	---	---	1	---	---	---	---	---	---	---	1
23.2	---	---	1	---	---	1	---	---	---	---	---	---	---	1
23.3	---	---	1	---	---	1	---	---	---	---	---	---	---	1
SUBTOTALS	0	2	29	2	0	24	0	0	5	2	0	2	0	33

**STORM SEWER INLETS CONT'D**

STRUCTURE NUMBER	611.3004 INLETS 4-FT DIAMETER EACH	SPV.0060.05 INLETS 2x2.5-FT SPECIAL EACH	611.3230 INLETS 2x3-FT EACH	611.3901 INLETS MEDIAN 1 GRATE EACH	611.3904 INLETS MEDIAN 4 GRATE 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	611.0651 INLET COVERS TYPE S EACH	611.0652 INLET COVERS TYPE T EACH	611.0430 RECONSTRUCTING INLETS EACH	650.4000* CONST. STAKING STORM SEWER EACH
PROJECT 1420-22-71 CATEGORY 0010														
24.2	---	---	1	---	---	1	---	---	---	---	---	---	---	1
24.3	---	---	1	---	---	1	---	---	---	---	---	---	---	1
25.2	---	---	1	---	---	---	---	---	1	---	---	---	---	1
25.3	---	---	1	---	---	1	---	---	---	---	---	---	---	1
25.4	---	---	1	---	---	---	---	---	1	---	---	---	---	1
25.5	---	---	1	---	---	1	---	---	---	---	---	---	---	1
26.4	---	---	1	---	---	---	---	---	1	---	---	---	---	1
26.5	---	---	1	---	---	1	---	---	---	---	---	---	---	1
27.2	---	---	1	---	---	---	---	---	1	---	---	---	---	1
27.3	---	---	1	---	---	---	---	---	1	---	---	---	---	1
27.4	---	---	---	1	---	---	---	---	---	1	---	---	---	1
28.2	---	---	---	1	---	---	---	---	---	1	---	---	---	1
29.2	---	---	---	1	---	---	---	---	---	1	---	---	---	1
31.2	---	---	---	1	---	---	---	---	---	1	---	---	---	1
40.1	1	---	---	---	---	---	1	---	---	---	---	---	---	1
40.2	1	---	---	---	---	---	---	1	---	---	---	---	---	1
40.3	1	---	---	---	---	---	---	1	---	---	---	---	---	1
40.4	1	---	---	---	---	---	1	---	---	---	---	---	---	1
40.5	---	---	---	1	---	---	---	---	---	1	---	---	---	1
40.6	---	---	---	1	---	---	---	---	---	1	---	---	---	1
41.2	---	---	1	---	---	1	---	---	---	---	---	---	---	1
42.3	---	---	---	---	1	---	---	---	---	4	---	---	---	1
43.2	---	1	---	---	---	---	---	---	---	---	1	---	---	1
44.2	---	1	---	---	---	---	---	---	---	---	1	---	---	1
45.2	---	1	---	---	---	---	---	---	---	---	1	---	---	1
46.1	---	---	---	1	---	---	---	---	---	1	---	---	---	1
47.0	---	---	---	---	---	---	---	---	---	---	---	---	1	---
47.1	---	---	---	1	---	---	---	---	---	1	---	---	---	1
SUBTOTALS	4	3	11	8	1	6	2	2	5	12	3	0	1	27
PROJECT TOTALS	4	9	63	10	1	50	2	2	13	14	3	6	1	87

GENERAL NOTES: LOCATION FOR INLETS REFERS TO THE CENTER OF STRUCTURE  
 ELEVATIONS (ON PLAN SHEETS) REFER TO THE FLANGELINE FOR INLETS  
 STRUCTURE DEPTH (ON PLAN SHEETS) EQUALS THE FLANGE ELEVATION MINUS THE INVERT ELEVATION  
 INVERTS OF EXISTING PIPE AND STRUCTURES SHOULD BE VERIFIED BY THE CONTRACTOR AND APPROVED  
 BY THE ENGINEER PRIOR TO ORDERING THE STRUCTURE

SPECIAL NOTES: \* ADDITIONAL QUANTITIES SHOWN ELSEWHERE  
 \*\* FOR INFORMATION ONLY

3

PIPE UNDERDRAIN

STATION TO STATION	DIR	LOCATION	612.0106 PIPE UNDERDRAIN 6-INCH LF	310.0115 BASE AGGREGATE OPEN GRADED CY	645.0111 GEOTEXTILE FABRIC TYPE DF SCHEDULE A SY
PROJECT 1420-22-71 CATEGORY 0010					
144+65 - 144+85	RT	CTH V NB	20	1	11
PROJECT TOTALS			20	1	11

FENCE

STATION TO STATION	DIR	LOCATION	616.0100 FENCE WOVEN WIRE 4-FT LF	616.0204 FENCE CHAIN LINK 4-FT LF
PROJECT 1420-22-71 CATEGORY 0010				
1252+75 - 1274+40	LT	USH 151	2,145	---
274+90 - 287+75	LT	USH 151 SB ON-RAMP	1,195	---
281+92 - 310+73	LT	USH 151 SB OFF-RAMP	2,820	---
268+65 - 273+50	RT	USH 151 NB OFF-RAMP	520	---
125+20 - 129+96	RT	CTH V NB	---	530
269+82 - 283+61	RT	USH 151 NB ON-RAMP	1,625	---
1318+62 - 1320+06	RT	USH 151	260	---
PROJECT TOTALS			8,565	530

GUARDRAIL

STATION TO STATION	ROADWAY	SIDE	HAZARD	HAZARD TYPE	614.0220 STEEL THRIE BEAM BULLNOSE TERMINAL EA	614.0230 STEEL THRIE BEAM LF	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EA	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EA
PROJECT 1420-22-71 CATEGORY 0010										
265+13 - 266+18	USH 151 NB OFF RAMP	RT	S-20-41	SIGN	---	---	50	---	1	1
1273+29 - 1275+13	USH 151	LT & RT	B-20-226	PIER	2	155	---	---	---	---
1318+68 - 1320+81	USH 151	RT	B-20-148	BRIDGE	---	---	125	39	1	---
390+30 - 391+71	USH 45	LT		BRIDGE	---	---	50	39	1	---
389+62 - 390+54	USH 45	RT		BRIDGE	---	---	---	39	1	---
PROJECT TOTALS					2	155	225	118	4	1

CRASH CUSHION TEMPORARY

STAGE	LOCATION	614.0905 EACH	204.9060.S.01 REMOVING CRASH CUSHIONS	BACK WIDTH FT	OBJECT MARKING PATTERN	CRASH TEST LEVEL	TRAFFIC DIRECTION	TRAFFIC LOCATION	CRASH CUSHION SHIELDS
PROJECT 1420-22-71 CATEGORY 0010									
EXISTING	1277+25 SB	---	1	2	OM-3R	TL-3	UNIDIRECTIONAL	L	TEMP BARRIER ON SHOULDER
STAGE V3	1270+75 NB	1	---	2	OM-3L	TL-3	UNIDIRECTIONAL	R	TEMP BARRIER IN MEDIAN
STAGE V3	1277+00 SB	1	---	2	OM-3L	TL-3	UNIDIRECTIONAL	R	TEMP BARRIER IN MEDIAN
PROJECT TOTALS		2	1						

CONCRETE MEDIAN SLOPED NOSE

STATION	LOCATION	DIR	620.0300 SF	REMARKS
PROJECT 1420-22-71 CATEGORY 0010				
10+59	CTH V & NB RAMPS RA	RT	20	TYPE 2
10+79	CTH V & NB RAMPS RA	RT	17	TYPE 2
11+50	CTH V & NB RAMPS RA	RT	20	TYPE 2
11+70	CTH V & NB RAMPS RA	RT	17	TYPE 2
12+34	CTH V & NB RAMPS RA	RT	20	TYPE 2
12+50	CTH V & NB RAMPS RA	RT	17	TYPE 2
128+50	CTH V NB	LT	60	TYPE 1
136+57	CTH V NB	LT	59	TYPE 1
20+08	CTH V & FRONTAGE RA	RT	17	TYPE 2
20+74	CTH V & FRONTAGE RA	RT	20	TYPE 2
20+90	CTH V & FRONTAGE RA	RT	17	TYPE 2
21+52	CTH V & FRONTAGE RA	RT	20	TYPE 2
21+67	CTH V & FRONTAGE RA	RT	17	TYPE 2
22+29	CTH V & FRONTAGE RA	RT	20	TYPE 2
22+44	CTH V & FRONTAGE RA	RT	17	TYPE 2
23+07	CTH V & FRONTAGE RA	RT	20	TYPE 2
139+75	CTH V NB	LT	60	TYPE 1
106+50	PARK AVE EB	LT	60	TYPE 1
30+09	FRONTAGE & SB RAMPS RA	RT	17	TYPE 2
30+75	FRONTAGE & SB RAMPS RA	RT	20	TYPE 2
30+91	FRONTAGE & SB RAMPS RA	RT	17	TYPE 2
31+53	FRONTAGE & SB RAMPS RA	RT	20	TYPE 2
31+67	FRONTAGE & SB RAMPS RA	RT	17	TYPE 2
33+03	FRONTAGE & SB RAMPS RA	RT	20	TYPE 2
121+42	FRONTAGE RD EB	LT	59	TYPE 1

PROJECT TOTAL 668

3

**LANDSCAPING**

STATION	TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	628.2002 E-MAT CLASS I TYPE A SY	628.2004 E-MAT CLASS I TYPE B SY	628.2006 E-MAT URBAN CLASS I TYPE A SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIX NO. 20 LB	630.0130 SEEDING MIX NO. 30 LB	630.0140 SEEDING MIX NO. 40 LB	630.0160 SEEDING MIX NO. 60 LB	630.0200 SEEDING TEMPORARY LB	630.0300 SEEDING BORROW PIT LB	SPV.0120.01 WATER FOR SEEDED AREAS MGAL
PROJECT 1420-22-71 CATEGORY 0010																
1263+25	-	1277+79	USH 151 MEDIAN	2,900	2,900	---	---	---	1.8	---	50	---	---	40	---	49
1314+22	-	1320+87	USH 151 NB OUTSIDE	1,500	1,250	---	250	---	0.9	---	25	---	---	20	---	25
262+37	-	285+80	USH 151 NB OFF-RAMP	9,500	6,500	1,050	1,950	---	6.0	---	170	---	---	130	---	160
271+30	-	296+37	USH 151 NB ON-RAMP	11,300	6,900	3,300	1,100	---	7.1	---	205	---	---	150	---	190
281+92	-	316+50	USH 151 SB OFF-RAMP	19,400	12,750	---	6,400	300	12.2	---	350	---	---	260	---	327
287+75	-	262+00	USH 151 SB ON-RAMP	14,550	8,850	---	5,450	250	9.2	---	260	---	---	195	---	245
114+00	-	130+52	CTH V	18,100	1,000	12,700	100	4,350	11.4	---	325	---	---	245	---	305
132+18	-	138+50	CTH V	5,650	550	4,350	---	750	3.5	---	100	---	---	75	---	95
138+50	-	144+03	CTH V	6,150	1,000	---	---	5,150	3.9	---	---	95	---	85	---	104
104+47	-	107+05	PARK AVE	550	---	---	150	400	0.3	---	10	---	---	5	---	9
10+00	-	15+41	OLD CTH V NORTH	2,650	750	---	---	1,900	1.7	---	50	---	---	35	---	45
60+00	-	62+10	PARK N RIDE	1,550	450	---	---	1,150	1.0	---	30	---	---	20	---	26
108+37	-	143+02	FRONTAGE RD	35,150	20,750	---	6,400	8,000	22.1	---	635	---	---	475	---	592
88+21	-	91+50	OLD CTH V SOUTH	6,900	5,850	---	1,050	---	4.3	---	125	---	---	95	---	116
389+86	-	397+03	USH 45	5,250	850	3,500	850	---	3.3	---	95	---	---	70	---	88
	-		OBLITERATION AREAS	20,900	20,650	---	250	---	13.2	375	375	---	---	280	---	352
UNDISTRIBUTED				40,500	22,700	6,250	6,000	5,550	25.5	20	730	25	100	545	100	689
PROJECT TOTALS				202,500	113,700	31,150	29,950	27,800	128	395	3,535	120	100	2,725	100	3,418

**EROSION CONTROL**

STATION	TO	STATION	LOCATION	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE FABRIC TYPE HR SY	628.1104 EROSION BALES EACH	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINT. LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.7005 INLET PROTECTION TYPE A EA	628.7010 INLET PROTECTION TYPE B EA	628.7015 INLET PROTECTION TYPE C EA	628.7020 INLET PROTECTION TYPE D EA	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	628.7560 TRACKING PADS EACH	628.7570 ROCK BAGS EACH
PROJECT 1420-22-71 CATEGORY 0010																		
1263+25	-	1277+79	USH 151 MEDIAN	---	---	---	---	---	1	---	2	2	---	---	36	3	---	---
1314+27	-	1320+79	USH 151 NB OUTSIDE	---	---	---	440	440	---	---	---	---	---	---	24	---	---	4
261+95	-	285+80	USH 151 NB OFF-RAMP	---	---	---	---	---	1	---	---	---	---	---	48	12	---	---
271+30	-	296+37	USH 151 NB ON-RAMP	---	---	---	1,250	1,250	1	---	---	---	---	---	60	---	---	---
281+92	-	316+50	USH 151 SB OFF-RAMP	5	18	---	520	520	1	---	4	1	---	3	96	24	---	---
262+00	-	287+75	USH 151 SB ON-RAMP	---	---	---	250	250	1	---	2	2	---	---	132	30	---	---
114+00	-	130+52	CTH V	67	225	---	1,180	1,180	1	---	20	---	18	2	84	16	---	---
132+18	-	138+50	CTH V	32	110	---	870	870	1	---	8	---	8	---	60	---	---	---
138+50	-	149+07	CTH V	---	---	---	300	300	1	---	9	3	7	2	---	---	---	---
104+47	-	107+05	PARK AVE	---	---	---	100	100	1	---	6	2	4	---	---	---	---	---
10+00	-	15+41	OLD CTH V NORTH	---	---	---	---	---	1	---	5	1	4	---	---	6	1	---
108+37	-	143+02	FRONTAGE RD	---	---	---	3,760	3,760	1	---	30	---	28	2	180	10	1	---
88+37	-	91+50	OLD CTH V SOUTH	---	---	---	---	---	1	---	---	---	---	---	48	4	---	---
389+86	-	398+74	USH 45	---	---	---	1,130	1,130	1	---	8	3	1	4	---	---	---	---
	-		OBLITERATION AREAS	---	---	---	2,295	2,295	1	---	---	---	---	---	12	---	---	---
UNDISTRIBUTED				6	17	100	3,665	3,665	---	8	6	6	10	7	220	25	---	96
PROJECT TOTALS				110	370	100	15,760	15,760	14	8	100	20	80	20	1,000	130	2	100

**PLANTING MATERIALS**

STATION TO STATION	DIR	LOCATION	632.9101 LANDSCAPE PLANTING SURVEILLANCE AND CARE CYCLES EACH	SPV.0035.02 PLANTING MIXTURE CY	SPV.0035.03 TOPSOIL SPECIAL CY	SPV.0180.01 SHREDDED HARDWOOD BARK MULCH SY
PROJECT 1420-22-71 CATEGORY 0020						
-		ALL	26	-	321	490
-		CTH V & NB RAMPS - BED 1		275		284
-		CTH V & CTH PA - BED 2		274		284
-		CTH PA & SB RAMPS - BED 3		292		284
PROJECT TOTALS			26	841	321	1,342

**DELINEATORS**

STATION	TO	STATION	LOCATION	633.0100 DELINEATOR POSTS STEEL EACH	633.0500 DELINEATOR REFLECTORS EACH	633.1000 DELINEATOR BRACKETS EACH	REMARKS
PROJECT 1420-22-71 CATEGORY 0010							
1262+00	-	1276+00	USH 151 NB	14	14	--	
1276+00	-	1285+00	USH 151 NB	5	5	--	
1285+00	-	1296+00	USH 151 NB	11	11	--	
1296+00	-	1318+00	USH 151 NB	6	6	--	
1262+00	-	1278+00	USH 151 SB	16	16	--	
1278+00	-	1295+00	USH 151 SB	9	9	--	
1295+00	-	1308+00	USH 151 SB	13	13	--	
276+00	-	286+00	USH 151 NB OFF RAMP VAA	20	20	--	
271+00	-	275+00	USH 151 NB ON RAMP VBB	8	8	--	
275+00	-	285+00	USH 151 NB ON RAMP VBB	10	10	--	
278+00	-	286+00	USH 151 SB ON RAMP VDD	8	8	--	
284+00	-	296+00	USH 151 SB OFF RAMP VCC	12	12	--	
307+75	-	316+00	USH 151 SB OFF RAMP VCC	--	8	8	CONCRETE BARRIER WALL
PROJECT TOTALS				131	139	8	

**SUMMARY OF TYPE II SIGNS AND SUPPORTS**

SIGN NO.	LOCATION	SIGN CODE	W X H	637.2210 SIGNS TYPE II REFLECTIVE H S.F.	637.2215 FOLDING SIGNS TYPE II REFLECTIVE H S.F.	637.2220 SIGNS TYPE II REFLECTIVE SH S.F.	637.2230 SIGNS TYPE II REFLECTIVE F S.F.	634.0612 POSTS WOOD 4x6x12 EACH	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	634.0618 POSTS WOOD 4x6x18 EACH	REMARKS
1	CTH V, S. OF MUSTANG LN	J1-2	48" X 39"	13.00	---	---	---	---	1	---	---	JCT USH 45, JCT USH 151
2	"	W2-6	30" X 30"	---	---	---	6.25	---	---	1	---	
3	"	W13-1	18" X 18"	---	---	---	2.25	---	---	---	---	15 MPH, MOUNT BELOW SIGN #2
4	"	J2-3	72" X 57"	28.50	---	---	---	---	---	---	2	SOUTH USH 151, USH 45, NORTH USH 151, SEE PLAN SHEET
5	CTH V, N. OF CTH PA/PARK AVE	W3-2	36" X 36"	---	---	---	9.00	---	1	---	---	
6	"	R2-1	24" X 30"	5.00	---	---	---	---	1	---	---	35 MPH
7	"	J4-1	24" X 36"	6.00	---	---	---	---	1	---	---	NORTH CTH V
8	"	J3-3	72" X 57"	28.50	---	---	---	---	---	---	---	
9	"	R4-7	24" X 30"	5.00	---	---	---	---	1	---	---	
10	CTH V/CTH PA RAB	R1-2	36" X 31"	3.88	---	---	---	---	---	1	---	
11	"	R1-54	24" X 15"	2.50	---	---	---	---	---	---	---	MOUNT BELOW SIGN #10
12	"	R1-2	36" X 31"	3.80	---	---	---	---	---	1	---	
13	"	R6-2R	24" X 30"	5.00	---	---	---	---	---	---	---	MOUNT BELOW SIGN #12
14	"	R6-1R	36" X 12"	3.00	---	---	---	---	2	---	---	
15	"	R6-4B	60" X 24"	10.00	---	---	---	---	---	---	---	MOUNT BELOW SIGN #14
16	"	D1-1	42" X 30"	8.75	---	---	---	---	1	---	---	PARK AVE, SEE SIGN DETAIL SHEET
17	PARK AVENUE	W2-6	30" X 30"	---	---	---	6.25	---	---	1	---	
18	"	W13-1	18" X 18"	---	---	---	2.25	---	---	---	---	15 MPH, MOUNT BELOW SIGN #17
19	PARK AVE CUL DE SAC	R1-1	30" X 30"	5.18	---	---	---	---	1	---	---	
19A	"	D4-5	36" X 48"	12.00	---	---	---	---	---	1	---	
20	CTH V/CTH PA RAB	R4-7	24" X 30"	5.00	---	---	---	---	1	---	---	
20A	PARK AVENUE	D4-5	36" X 48"	12.00	---	---	---	---	---	1	---	
21	CTH V/CTH PA RAB	R1-2	36" X 31"	3.88	---	---	---	---	---	1	---	
22	"	R6-2R	24" X 30"	5.00	---	---	---	---	---	---	---	MOUNT BELOW SIGN #21
23	"	R1-2	36" X 31"	3.88	---	---	---	---	1	---	---	
24	"	R1-54	24" X 15"	2.50	---	---	---	---	---	---	---	MOUNT BELOW SIGN #23
25	"	R6-1R	36" X 12"	3.00	---	---	---	---	2	---	---	
26	"	R6-4B	60" X 24"	10.00	---	---	---	---	---	---	---	MOUNT BELOW SIGN #25
27	"	D1-3	84" X 42"	24.50	---	---	---	---	---	2	---	SEE SIGN DETAIL SHEET
27A	CTH V, S. OF CTH PA/PARK AVE	D4-5	36" X 48"	12.00	---	---	---	---	1	---	---	
28	CTH V/CTH PA RAB	R1-2	36" X 31"	3.88	---	---	---	---	---	1	---	
29	"	R6-2R	24" X 30"	5.00	---	---	---	---	---	---	---	MOUNT BELOW SIGN #28
30	"	R1-2	36" X 31"	3.88	---	---	---	---	---	1	---	
31	"	R1-54	24" X 15"	2.50	---	---	---	---	---	---	---	MOUNT BELOW SIGN #30
32	"	R6-1R	36" X 12"	3.00	---	---	---	---	2	---	---	
33	"	R6-4B	60" X 24"	10.00	---	---	---	---	---	---	---	MOUNT BELOW SIGN #32
34	"	D1-1	36" X 18"	4.50	---	---	---	1	---	---	---	CTH V, SEE SIGN DETAIL SHEET
35	"	R6-1R	36" X 12"	3.00	---	---	---	---	2	---	---	
36	"	R6-4B	60" X 24"	10.00	---	---	---	---	---	---	---	MOUNT BELOW SIGN #35
37	"	R1-2	36" X 31"	3.88	---	---	---	---	---	1	---	
38	"	R1-54	24" X 15"	2.50	---	---	---	---	---	---	---	MOUNT BELOW SIGN #37
PAGE SUBTOTALS				274.01	0.00	0.00	26.00	1	18	12	2	

PLAN SHEET PRODUCED  
BY WisDOT - NE REGION

**SUMMARY OF TYPE II SIGNS AND SUPPORTS**

SIGN NO.	LOCATION	SIGN CODE	W X H	637.2210	637.2215	637.2220	637.2230	634.0612	634.0614	634.0616	634.0618	REMARKS
				SIGNS TYPE II REFLECTIVE H S.F.	FOLDING SIGNS TYPE II REFLECTIVE H S.F.	SIGNS TYPE II REFLECTIVE SH S.F.	SIGNS TYPE II REFLECTIVE F S.F.	POSTS WOOD 4x6x12 EACH	POSTS WOOD 4x6x14 EACH	POSTS WOOD 4x6x16 EACH	POSTS WOOD 4x6x18 EACH	
39	CTH V/CTH PA RAB	R1-2	36" X 31"	3.88	---	---	---	---	---	1	---	
40	"	R6-2R	24" X 30"	5.00	---	---	---	---	---	---	---	MOUNT BELOW SIGN #39
41	"	D1-1	78" X 48"	26.00	---	---	---	---	---	2	---	SEE SIGN DETAIL SHEET
42	CTH PA, E. OF CTH V RAB	M1-54	24" X 24"	4.00	---	---	---	---	1	---	---	COUNTY PA
43	"	J3-2	48" X 57"	19.00	---	---	---	---	---	1	---	NORTH USH 151, CTH V, SEE PLAN SHEET
44	"	R2-1	24" X 30"	5.00	---	---	---	---	1	---	---	35 MPH
45	"	W3-2	36" X 36"	---	---	---	9.00	---	---	1	---	
46	CTH PA, W. OF USH 151 SB RAB RAMP TERMINI	D1-62	84" X 78"	45.50	---	---	---	---	---	---	3	SEE SIGN DETAIL SHEET
47	"	D1-62	132" X 60"	55.00	---	---	---	---	---	---	3	SEE SIGN DETAIL SHEET
48	"	W3-2	36" X 36"	---	---	---	9.00	---	---	1	---	
49	"	J1-1	24" X 39"	6.50	---	---	---	---	---	1	---	JCT CTH V
50	"	D1-1	60" X 15"	6.25	---	---	---	1	---	---	---	MADISON, SEE SIGN DETAIL SHEET
50A	"	D1-2	78" X 48"	26.00	---	---	---	---	---	2	---	SEE SIGN DETAIL SHEET
51	USH 151 SB RAB RAMP TERMINI	R1-2	36" X 31"	3.88	---	---	---	---	---	1	---	
52	"	R6-2R	24" X 30"	5.00	---	---	---	---	---	---	---	MOUNT BELOW SIGN #51
53	"	R1-2	36" X 31"	3.88	---	---	---	---	1	---	---	
54	"	R1-54	24" X 15"	2.50	---	---	---	---	---	---	---	MOUNT BELOW SIGN #53
55	"	R6-1R	36" X 12"	3.00	---	---	---	2	---	---	---	
56	"	R6-4B	60" X 24"	10.00	---	---	---	---	---	---	---	MOUNT BELOW SIGN #55
57	"	D1-1	42" X 30"	8.75	---	---	---	---	---	1	---	SOUTH USH 151, SEE SIGN DETAIL SHEET
58	"	R11-54F	48" X 30"	---	10.00	---	---	---	---	---	---	MOUNT BELOW SIGN #57
59	USH 151 SB ON-RAMP	R5-57	36" X 36"	9.00	---	---	---	---	1	---	---	
60	USH 151 SB RAB RAMP TERMINI	R5-1	36" X 36"	9.00	---	---	---	---	1	---	---	
61	"	R6-1R	36" X 12"	3.00	---	---	---	2	---	---	---	
62	"	R6-4B	60" X 24"	10.00	---	---	---	---	---	---	---	MOUNT BELOW SIGN #61
63	"	R1-2	36" X 31"	3.88	---	---	---	---	---	1	---	
64	"	R6-2R	24" X 30"	5.00	---	---	---	---	---	---	---	MOUNT BELOW SIGN #63
65	"	R1-2	36" X 31"	3.88	---	---	---	---	1	---	---	
66	"	R1-54	24" X 15"	2.50	---	---	---	---	---	---	---	MOUNT BELOW SIGN #65
67	USH 151 SB OFF-RAMP	R5-1A	36" X 24"	6.00	---	---	---	---	---	---	---	MOUNT ON BACK OF SIGN #67A
67A	"	D4-5	36" X 48"	12.00	---	---	---	---	1	---	---	
68	"	R5-1A	36" X 24"	6.00	---	---	---	1	---	---	---	
69	"	W3-2	36" X 36"	---	---	---	9.00	---	1	---	---	
70	"	D1-62	138" X 42"	40.25	---	---	---	---	---	---	3	SEE SIGN DETAIL SHEET
71	"	W2-6	36" X 36"	---	---	---	9.00	---	---	1	---	
72	"	W13-1	24" X 24"	---	---	---	4.00	---	---	---	---	15 MPH, MOUNT BELOW SIGN #71
73	"	E5-1	72" X 60"	30.00	---	---	---	---	---	2	---	
74	USH 151 NB, N. OF ON-RAMP	J4-1	36" X 54"	13.50	---	---	---	---	---	1	---	NORTH USH 151
75	"	R2-1	36" X 48"	12.00	---	---	---	---	---	1	---	55 MPH
76	USH 151 SB, BETWEEN OFF-RAMP AND ON-RAMP	W4-1	48" X 48"	---	---	---	16.00	---	---	2	---	

PAGE SUBTOTALS 405.15 10.00 0.00 56.00 6 8 19 9

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**SUMMARY OF TYPE II SIGNS AND SUPPORTS**

SIGN NO.	LOCATION	SIGN CODE	W X H	637.2210 SIGNS TYPE II REFLECTIVE H S.F.	637.2215 FOLDING SIGNS TYPE II REFLECTIVE H S.F.	637.2220 SIGNS TYPE II REFLECTIVE SH S.F.	637.2230 SIGNS TYPE II REFLECTIVE F S.F.	634.0612 POSTS WOOD 4x6x12 EACH	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	634.0618 POSTS WOOD 4x6x18 EACH	REMARKS
77	USH 151 SB RAB RAMP TERMINI	D1-2	54" X 18"	6.75	---	---	---	1	---	---	---	SEE SIGN DETAIL SHEET
78	"	R6-1R	36" X 12"	3.00	---	---	---	2	---	---	---	
79	"	R6-4B	60" X 24"	10.00	---	---	---	---	---	---	---	MOUNT BELOW SIGN #78
80	"	R1-2	36" X 31"	3.88	---	---	---	---	---	1	---	
81	"	R1-54	24" X 15"	2.50	---	---	---	---	---	---	---	MOUNT BELOW SIGN #80
82	"	R1-2	36" X 31"	3.88	---	---	---	---	---	1	---	
83	"	R6-2R	24" X 30"	5.00	---	---	---	---	---	---	---	MOUNT BELOW SIGN #82
84	CTH PA, E. OF USH 151 SB RAB RAMP TERMINI	D1-2	72" X 30"	15.00	---	---	---	---	2	---	---	MANITOWOC, MADISON, SEE SIGN DETAIL SHEET
85	"	W3-2	36" X 36"	---	---	---	9.00	---	---	1	---	
86	"	R4-7	24" X 30"	5.00	---	---	---	---	1	---	---	
87	"	D1-62	108" X 84"	63.00	---	---	---	---	---	---	3	SEE SIGN DETAIL SHEET
88	"	W2-6	30" X 30"	---	---	---	6.25	---	---	1	---	
89	"	W13-1	18" X 18"	---	---	---	2.25	---	---	---	---	15 MPH, MOUNT BELOW SIGN #88
90	"	J2-2	48" X 57"	19.00	---	---	---	---	---	1	---	NORTH USH 45, SOUTH USH 45, SEE PLAN SHEET
91	"	R2-1	24" X 30"	5.00	---	---	---	1	---	---	---	
92	"	W3-1	36" X 36"	---	---	---	9.00	---	---	1	---	
93	CTH PA, E. OF USH 45	M1-5A	24" X 24"	4.00	---	---	---	1	---	---	---	COUNTY PA
94	CTH PA, AT USH 45	R6-1R	36" X 12"	3.00	---	---	---	---	---	---	---	MOUNT ABOVE SIGN #95
95	"	R1-1	36" X 36"	7.46	---	---	---	---	---	---	1	
96	"	R6-3A	30" X 24"	5.00	---	---	---	---	---	---	---	MOUNT BELOW SIGN #95
97	"	J3-2	48" X 57"	19.00	---	---	---	---	---	1	---	NORTH USH 45, SOUTH USH 45, SEE PLAN SHEET
98	"	W1-7	48" X 24"	---	---	---	8.00	1	---	---	---	
99	USH 45, N. OF CTH PA	J13-2	48" X 45"	15.00	---	---	---	---	---	1	---	USH 151, CTH PA, SEE PLAN SHEET
100	"	S3-1	36" X 36"	---	---	---	9.00	---	1	---	---	
101	"	J4-1	24" X 36"	6.00	---	---	---	---	1	---	---	NORTH USH 45
102	"	D1-2	72" X 24"	12.00	---	---	---	---	2	---	---	MADISON, MANITOWOC, SEE SIGN DETAIL SHEET
103	GLYNN AVE	R1-1	30" X 30"	5.18	---	---	---	---	1	---	---	
104	USH 45, N. OF CTH PA	J12-2	48" X 45"	15.00	---	---	---	---	---	1	---	USH 151, CTH PA, SEE PLAN SHEET
105	"	J1-2	48" X 39"	13.00	---	---	---	---	1	---	---	JCT USH 151, JCT CTH PA
106	USH 45, S. OF CTH PA	J13-2	48" X 45"	15.00	---	---	---	---	---	1	---	USH 151, CTH PA, SEE PLAN SHEET
107	"	D1-2	72" X 24"	12.00	---	---	---	---	2	---	---	MADISON, MANITOWOC, SEE SIGN DETAIL SHEET
108	"	S3-1	36" X 36"	---	---	---	9.00	---	1	---	---	
109	"	M1-94	48" X 15"	5.00	---	---	---	1	---	---	---	HWY 151, SEE SIGN DETAIL SHEET
110	"	J12-2	48" X 45"	15.00	---	---	---	---	---	1	---	USH 151, CTH PA, SEE PLAN SHEET
111	"	M1-94	48" X 15"	5.00	---	---	---	1	---	---	---	HWY 151, SEE SIGN DETAIL SHEET
112	"	W1-2L	30" X 30"	---	---	---	6.25	1	---	---	---	
113	"	J1-2	48" X 39"	13.00	---	---	---	---	1	---	---	JCT USH 151, JCT CTH PA

PAGE SUBTOTALS

311.65      0.00      0.00      58.75      9      13      11      4

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**SUMMARY OF TYPE II SIGNS AND SUPPORTS**

SIGN NO.	LOCATION	SIGN CODE	W X H	637.2210	637.2215	637.2220	637.2230	634.0612	634.0614	634.0616	634.0618	REMARKS
				SIGNS TYPE II REFLECTIVE H S.F.	FOLDING SIGNS TYPE II REFLECTIVE H S.F.	SIGNS TYPE II REFLECTIVE SH S.F.	SIGNS TYPE II REFLECTIVE F S.F.	POSTS WOOD 4x6x12 EACH	POSTS WOOD 4x6x14 EACH	POSTS WOOD 4x6x16 EACH	POSTS WOOD 4x6x18 EACH	
114	CTH V, S. OF CTH PA RAB	J3-2	48" X 57"	19.00	---	---	---	---	---	1	---	USH 45, SOUTH USH 151, SEE PLAN SHEET
115	"	R4-7	24" X 30"	5.00	---	---	---	---	1	---	---	
116	"	D1-1	60" X 15"	6.25	---	---	---	1	---	---	---	MADISON, SEE SIGN DETAIL SHEET
117	"	J13-1	24" X 45"	7.50	---	---	---	---	---	1	---	CTH PA, SEE PLAN SHEET
118	"	J2-2	48" X 57"	19.00	---	---	---	---	---	1	---	USH 45, SOUTH USH 151, SEE PLAN SHEET
118A	"	M1-94	48" X 15"	5.00	---	---	---	1	---	---	---	HWY 151, SEE SIGN DETAIL SHEET
119	CTH V, N. OF USH 151 NB RAMP TERMINI RAB	J1-2	48" X 39"	13.00	---	---	---	---	---	1	---	JCT USH 45, JCT CTH PA
119A	"	M1-94	48" X 15"	5.00	---	---	---	1	---	---	---	HWY 151, SEE SIGN DETAIL SHEET
120	"	J2-2	48" X 57"	19.00	---	---	---	---	---	1	---	NORTH USH 151, CTH V, SEE PLAN SHEET
121	"	R4-7	24" X 30"	5.00	---	---	---	---	1	---	---	
122	"	D1-1	72" X 15"	7.50	---	---	---	1	---	---	---	MANITOWOC, SEE SIGN DETAIL SHEET
123	"	J3-2	48" X 57"	19.00	---	---	---	---	---	1	---	NORTH USH 151, CTH V, SEE PLAN SHEET
124	CTH V/USH 151 NB RAMP TERMINI RAB	R1-2	36" X 31"	3.88	---	---	---	---	---	1	---	
125	"	R1-54	24" X 15"	2.50	---	---	---	---	---	---	---	MOUNT BELOW SIGN #124
126	"	R1-2	36" X 31"	3.88	---	---	---	---	---	1	---	
127	"	R6-2R	24" X 30"	5.00	---	---	---	---	---	---	---	MOUNT BELOW SIGN #126
128	"	R6-1R	36" X 12"	3.00	---	---	---	2	---	---	---	
129	"	R6-4B	60" X 24"	10.00	---	---	---	---	---	---	---	MOUNT BELOW SIGN #128
130	"	D1-1	66" X 30"	13.75	---	---	---	---	2	---	---	SEE SIGN DETAIL SHEET
131	"	R6-1R	36" X 12"	3.00	---	---	---	2	---	---	---	
132	"	R6-4B	60" X 24"	10.00	---	---	---	---	---	---	---	MOUNT BELOW SIGN #131
133	"	R1-2	36" X 31"	3.88	---	---	---	---	---	1	---	
134	"	R1-54	24" X 15"	2.50	---	---	---	---	---	---	---	MOUNT BELOW SIGN #133
135	"	R1-2	36" X 31"	3.88	---	---	---	---	---	1	---	
136	"	R6-2R	24" X 30"	5.00	---	---	---	---	---	---	---	MOUNT BELOW SIGN #135
137	"	R5-1	36" X 36"	9.00	---	---	---	---	1	---	---	
138	USH 151 NB OFF-RAMP TO CTH V	R5-1A	36" X 24"	6.00	---	---	---	---	---	1	---	
138A	"	D4-5	36" X 48"	12.00	---	---	---	---	---	---	---	MOUNT ON BACK OF SIGN #138
139	"	R5-1A	36" X 24"	6.00	---	---	---	1	---	---	---	
140	"	W3-2	36" X 36"	---	---	---	9.00	---	1	---	---	
141	"	D1-62	138" X 42"	40.25	---	---	---	---	---	3	---	SEE SIGN DETAIL SHEET
142	"	W2-6	36" X 36"	---	---	---	9.00	---	---	---	1	
143	"	W13-1	24" X 24"	---	---	---	4.00	---	---	---	---	15 MPH, MOUNT BELOW SIGN #142
143A	"	W1-6	48" X 24"	---	---	---	8.00	---	1	---	---	
144	USH 151 NB, OFF-RAMP TO CTH V	E5-1	72" X 60"	30.00	---	---	---	---	---	---	2	
144A	"	W13-3	48" X 60"	---	---	---	20.00	---	---	---	2	POSTED SPEED TO BE DETERMINED IN THE FIELD AFTER RAMP IS BUILT
145	USH 151 NB, BETWEEN OFF-RAMP & ON-RAMP	W4-1	48" X 48"	---	---	---	16.00	---	---	2	---	
146	USH 151 SB, S. OF CTH V	R2-1	36" X 48"	12.00	---	---	---	---	---	1	---	55 MPH
147	"	J4-1	36" X 54"	13.50	---	---	---	---	---	1	---	SOUTH USH 151
148	CTH V/USH 151 NB RAMP TERMINI RAB	D1-2	66" X 42"	19.25	---	---	---	---	---	2	---	SEE SIGN DETAIL SHEET
149	"	R1-2	36" X 31"	3.88	---	---	---	---	---	1	---	
150	"	R6-2R	24" X 30"	5.00	---	---	---	---	---	---	---	MOUNT BELOW SIGN #149

PAGE SUBTOTALS

357.40      0.00      0.00      66.00      9      7      21      5

PLAN SHEET PRODUCED  
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**SUMMARY OF TYPE II SIGNS AND SUPPORTS**

SIGN NO.	LOCATION	SIGN CODE	W X H	637.2210 SIGNS TYPE II REFLECTIVE H S.F.	637.2215 FOLDING SIGNS TYPE II REFLECTIVE H S.F.	637.2220 SIGNS TYPE II REFLECTIVE SH S.F.	637.2230 SIGNS TYPE II REFLECTIVE F S.F.	634.0612 POSTS WOOD 4x6x12 EACH	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	634.0618 POSTS WOOD 4x6x18 EACH	REMARKS
151	CTH V/USH 151 NB RAMP TERMINI RAB	R1-2	36" X 31"	3.88	---	---	---	---	---	1	---	
152	"	R1-54	24" X 15"	2.50	---	---	---	---	---	---	---	MOUNT BELOW SIGN #151
153	"	R6-1R	36" X 12"	3.00	---	---	---	2	---	---	---	
154	"	R6-4B	60" X 24"	10.00	---	---	---	---	---	---	---	MOUNT BELOW SIGN #153
155	"	D1-1	42" X 30"	8.75	---	---	---	---	1	---	---	SEE SIGN DETAIL SHEET
156	"	R11-54F	48" X 30"	---	10.00	---	---	---	---	---	---	MOUNT BELOW SIGN #155
157	USH 151 NB ON-RAMP	R5-57	36" X 36"	9.00	---	---	---	---	1	---	---	
158	CTH V, S. OF USH 151 RAMP TERMINI RAB	J3-2	48" X 57"	19.00	---	---	---	---	---	1	---	SOUTH USH 151, NORTH USH 151, SEE PLAN SHEET
159	"	J4-1	24" X 36"	6.00	---	---	---	---	1	---	---	SOUTH CTH V
160	"	W3-2	36" X 36"	---	---	---	9.00	---	1	---	---	
161	"	R2-1	24" X 30"	5.00	---	---	---	---	1	---	---	35 MPH
162	"	D1-2	72" X 30"	15.00	---	---	---	---	2	---	---	MANITOWOC, MADISON, SEE SIGN DETAIL SHEET
163	"	J2-2	48" X 57"	19.00	---	---	---	---	---	1	---	SOUTH USH 151, NORTH USH 151, SEE PLAN SHEET
164	"	W2-6	30" X 30"	---	---	---	6.25	---	---	1	---	
165	"	W13-1	18" X 18"	---	---	---	2.25	---	---	---	---	MOUNT BELOW SIGN #164
166	"	J1-1	24" X 39"	6.50	---	---	---	---	1	---	---	JCT USH 151
167	CTH V, N. OF REINHARDT RD	R4-7	24" X 30"	5.00	---	---	---	---	1	---	---	
168	REINHARDT RD	R6-1R	36" X 12"	3.00	---	---	---	---	---	---	---	MOUNT ABOVE SIGN #169
169	VACANT	---	---	---	---	---	---	---	---	---	---	
170	REINHARDT RD	R6-3	30" X 24"	5.00	---	---	---	---	---	---	---	MOUNT BELOW SIGN #169
171	"	R6-1L	36" X 12"	3.00	---	---	---	---	---	---	---	MOUNT ON BACK OF SIGN #168
172	"	M6-4	21" X 21"	3.06	---	---	---	---	---	---	---	SIGN TO BE PLACED AND MOUNTED OVER EXISTING LT-AHEAD ASSEMBLY
173	LIGHTHOUSE VILLAGE RD	R6-1R	36" X 12"	3.00	---	---	---	---	---	---	---	MOUNT ABOVE SIGN #174
174	"	M6-4	21" X 21"	3.06	---	---	---	---	---	---	---	SIGN TO BE PLACED AND MOUNTED OVER EXISTING AHEAD-RT ASSEMBLY
175	"	R6-3	30" X 24"	5.00	---	---	---	---	---	---	---	MOUNT BELOW SIGN #174
176	"	R6-1L	36" X 12"	3.00	---	---	---	---	---	---	---	MOUNT ON BACK OF SIGN #173
177	VACANT	---	---	---	---	---	---	---	---	---	---	
178	PARK AVE CUL DU SAC	W5-56	18" X 18"	---	---	2.25	---	1	---	---	---	
179	"	W5-56	18" X 18"	---	---	2.25	---	1	---	---	---	
180	"	W5-56	18" X 18"	---	---	2.25	---	1	---	---	---	
181	LIGHTHOUSE VILLAGE RD	W1-2L	30" X 30"	---	---	---	6.25	1	---	---	---	
182	"	W1-6	48" X 24"	---	---	---	8.00	1	---	---	---	
183	"	W1-6	48" X 24"	---	---	---	8.00	1	---	---	---	
184	"	W1-2R	30" X 30"	---	---	---	6.25	1	---	---	---	
PAGE SUBTOTALS				140.76	10.00	6.75	46.00	9	9	4	0	
<b>PROJECT TOTALS</b>				<b>1488.97</b>	<b>20.00</b>	<b>6.75</b>	<b>252.75</b>	<b>34</b>	<b>55</b>	<b>67</b>	<b>20</b>	

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**REMOVING TYPE II SIGNS AND  
REMOVING SMALL SIGN SUPPORTS**

SIGN NO.	LOCATION	SIGN CODE	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
200	USH 151, S. OF CTH V	J1-1	1	1	
201	"	J1-1	1	1	
202	"	R3-20L	1	1	
203	"	J3-1	1	1	
204	"	R2-1	1	1	
205	"	R2-1	1	1	
206	"	J4-1	1	1	
207	"	R5-1A	1	1	
208	"	J3-1	1	1	
209	"	R5-1	---	---	PART OF REMOVAL FOR SIGN #208
210	USH 151, AT CTH V	R1-2	1	1	
211	"	R3-1	1	1	
212	"	R5-1	1	1	
213	"	R6-2R	1	1	
214	CTH V, AT USH 151	R3-2	1	1	
215	"	R1-1	1	1	
216	"	R1-1	1	1	
217	"	J3-1	1	1	
218	"	R4-7	1	1	
219	CTH V, S. OF USH 151	J4-1	1	1	
220	LIGHTHOUSE VILLAGE RD	R1-1	1	1	
221	CTH V	R1-1	1	---	POST TO REMAIN FOR REMAINING R4-7 SIGN
221A	"	R1-3P	---	---	PART OF REMOVAL FOR SIGN #221
222	"	R2-1	1	1	
222A	"	R1-3P	---	---	PART OF REMOVAL FOR SIGN #222
223	"	J1-1	1	1	
224	"	W3-1	1	1	
225	"	J13-1	1	1	
226	CTH V/LIGHTHOUSE VILLAGE RD	R1-3P	1	---	POST TO REMAIN
227	REINHARDT RD	R1-3P	1	---	POST TO REMAIN
228	VACANT	---	---	---	
229	CTH V	W1-4R	1	1	
230	CTH V, AT USH 151	J3-1	1	1	
231	"	R1-1	1	1	
232	"	R1-1	1	1	
233	"	R3-2	1	1	
234	CTH V	R4-7	1	1	
235	"	J4-1	1	1	
236	USH 151, AT CTH V	R6-2R	1	1	
237	"	R5-1	1	1	
238	"	R3-1	1	1	

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**REMOVING TYPE II SIGNS AND  
REMOVING SMALL SIGN SUPPORTS**

SIGN NO.	LOCATION	SIGN CODE	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
239	USH 151, AT CTH V	R1-2	1	1	
240	USH 151, N. OF CTH V	R5-1	1	1	
241	"	J3-1	---	---	PART OF REMOVAL FOR SIGN #240
242	"	R5-1A	1	1	
243	"	R2-1	1	1	
244	"	R2-1	1	1	
245	"	J3-1	1	1	
246	"	R3-20L	1	1	
247	CTH V	J1-1	1	1	
248	"	R2-1	1	1	
249	"	I2-3	1	2	
250	"	W1-4L	1	1	
251	"	W3-1	1	1	
252	USH 151, N. OF CTH V	J1-1	1	1	
253	"	J1-1	1	1	
254	"	J1-1	1	1	
255	USH 151, S. OF USH 45	J1-1	1	1	
256	"	J4-1	1	1	
257	USH 45 SB JUGHANDLE, AT USH 151	J3-1	1	1	
258	"	R1-1	1	1	
259	"	R6-2R	1	1	
260	USH 151, S. OF USH 45 OVERPASS	J13-1	1	1	
261	"	R5-1	1	1	
262	"	D1-2	1	2	
263	"	R5-1A	1	1	
264	"	J13-1	1	1	
265	"	J13-1	1	1	
266	USH 45 SB JUGHANDLE	D1-2	1	2	
267	"	R3-2	1	1	
268	"	W3-1	1	1	
269	"	R1-1	1	1	
270	"	J3-2	1	1	
271	USH 45, AT SB JUGHANDLE	W1-7	1	1	
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**REMOVING TYPE II SIGNS AND  
REMOVING SMALL SIGN SUPPORTS**

SIGN NO.	LOCATION	SIGN CODE	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
272	USH 45, AT SB JUGHANDLE	J3-1	1	1	
273	USH 45, N. OF SB JUGHANDLE	J3-2	1	1	
274	"	S3-1	1	1	
275	"	D1-3	1	2	
276	"	J4-1	1	1	
277	GLYNN AVE	R1-1	1	1	
278	USH 45, N. OF SB JUGHANDLE	J2-2	1	2	
279	"	J1-1	1	1	
280	USH 45, S. OF SB JUGHANDLE	R2-1	1	1	
281	"	S3-1	1	1	
282	"	D1-2	1	2	
283	USH 45, N. OF NB JUGHANDLE	J2-1	1	1	
284	"	D1-2	1	2	
285	"	W1-2R	1	1	
286	"	W1-2L	1	1	
287	"	J3-1	1	1	
288	USH 45 NB JUGHANDLE	J3-2	1	1	
289	"	R1-1	1	1	
290	"	W3-1	1	1	
291	USH 45, S. OF NB JUGHANDLE	J3-2	1	1	
292	USH 45, S. OF CTH K	J1-1	1	1	
293	USH 45 NB JUGHANDLE	R3-2	1	1	
294	"	D1-2	1	2	
295	USH 151, N. OF USH 45 OVERPASS	J12-1	1	1	
296	"	J12-1	1	1	
297	"	D1-2	1	2	
298	"	R5-1A	1	1	
299	"	R5-1	1	1	
299A	"	R6-2R	1	1	
299B	USH 45 NB JUGHANDLE	R1-1	1	1	
299C	"	J2-1	1	1	
299D	USH 151, N. OF USH 45 NB JUGHANDLE	J4-1	1	1	
299E	"	J1-1	1	1	
299F	"	J1-1	1	1	

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PROJECT TOTALS

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**ERECTION OF PERMANENT SIGNING, TYPE I AND SIGN SUPPORTS**

SIGN NO.	LOCATION	SIGN CODE	637.1220 SIGNS TYPE I REFLECTIVE SH		635.0200	636.0100	636.0500	TYPE/SIZE OF STEEL	INFO ONLY - POST LENGTH TO BE VERIFIED BY CONTRACTOR				REMARKS			
			W	X	H	S.F.	SIGN SUPPORTS STRUCT. STEEL HIGH-STRENGTH LB		SIGN SUPPORTS CONCRETE MASONRY CY	SIGN SUPPORTS STEEL REINFORCEMENT LB	SIGN BRIDGE CANTILEVERED LS	POST NO. 1 LENGTH FT		POST NO. 2 LENGTH FT	OFFSET DISTANCE FT	DISTANCE BETWEEN POSTS (S) FT
300	USH 151 NB, JUST NORTH OF MARTIN RD	E1-1A	156"	X	90"	97.50	652	1.2	68	2-TYPE A	---	20.2	21.5	30.0	9.0	STA.1235+70, USH 45, CTH V, EXIT 3/4 MILE, SEE SIGN DETAIL SHEET
301	USH 151 NB, AT PARALLEL EXIT FOR CTH V	E6-1	168"	X	60"	70.00	---	---	---	---	1	---	---	---	---	S-20-41, STA. 1266+03.5, USH 45, CTH V, SEE SIGN DETAIL SHEET
302	USH 151 SB, AT PARALLEL EXIT FOR CTH PA	E6-1	168"	X	90"	105.00	---	---	---	---	1	---	---	---	---	S-20-42, STA. 1308+00, USH 45, CTH V, SEE SIGN DETAIL SHEET
303	USH 151 SB, SOUTH OF RIENZI RD	E1-1A	156"	X	90"	97.50	696	1.2	68	2-TYPE A	---	21.5	23.8	30.0	9.0	STA. 1348+05, USH 45, CTH V, EXIT 1 MILE, SEE SIGN DETAIL SHEET
<b>PROJECT TOTALS</b>						<b>370.00</b>	<b>1348</b>	<b>2.4</b>	<b>136</b>							

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TRAFFIC CONTROL DETOUR SIGN SUMMARY

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SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD DAYS	643.3000 DETOUR SIGNS DAYS	643.0420* BARRICADES TYPE III DAYS	643.0705* WARNING LIGHTS TYPE A DAYS	643.1050* SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	643.0920 COVERING SIGNS		REMARKS
										NUMBER OF CYCLES	EACH	
1	50' E OF CHURCH ST INTERSECTION ON USH 45	WO 20-2-A	48"x48"	1	30	30						
2	MODIFY J 2-2 (B-AH; N-45-AH RT)	MO 4-8	24"x12"	1	30	30						
	"	M 3-1	EXISTING									
	"	M 1-4	EXISTING									45
	"	MO 6-1	21"x21"	1	30	30						AHEAD
3	MODIFY J 3-2 (TO -41-AH; N-45-RT)	MO 4-8	24"x12"	1	30	30						
	"	M 3-1	EXISTING									
	"	M 1-4	EXISTING									45
	"	MO 6-1	21"x21"	1	30	30						AHEAD
4A	NE QUAD OF USH 45/CTH B & USH 45 INTERSECTION	R 11-3	60"x30"	1	30	30	30	60				4 MILES
4B	BELOW SIGN 4A (ON BARRICADE)	M 4-9 (MOD)	30"x24"	1	30	30						AHEAD ARROW
5	J4-1 (NORTH 45)									1	1	NORTH 45
6	MODIFY J 2-2 (45-LT & AH; B-AH)	M 1-4	EXISTING									45
	"	MO 6-1	21"x21"	1	30	30						AHEAD
7	200' W OF STH 45 INTERSECTION ON WEST CTH B	MO 4-8	24"x12"	1	30	30						
	"	M 3-1	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 6-1	21"x21"	1	30	30						AHEAD
8	MODIFY J2-1 (N-45-AH LT)	MO 4-8-A	24"x18"	1	30	30						
	"	M 1-4	EXISTING									45
	"	MO 6-1	21"x21"	1	30	30						AHEAD
9	150' E OF W3-1 (STOP AHEAD) SIGN ON CTY B (WB)	MO 4-8	24"x12"	1	30	30						
	"	M 3-1	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 5-1-R	21"x21"	1	30	30						
10	RT OF J4-2 (TO-41-AH; V-LT& RT) ON CTY B (WB)	MO 4-8	24"x12"	1	30	30						
	"	M 3-1	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 6-1	21"x21"	1	30	30						RIGHT
11	200' E OF CTH V INTERSECTION ON CTH B (EB)	MO 4-8	24"x12"	1	30	30						
	"	M 3-3	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 6-1	21"x21"	1	30	30						AHEAD
12	300' W OF J1-1 (JCT V) ON CTY B (EB)	M 1-4	24"x24"	1	30	30						45
	"	WO 20-2-A	48"x48"	1	30	30						
13	LT OF J1-1 (JCT V) ON CTY B (EB)	MO 4-8	24"x12"	1	30	30						
	"	M 3-1	24"x12"	1	30	30						
	"	MO 4-5	24"x12"	1	30	30						
	"	M 3-3	24"x12"	1	30	30						
	"	M 50-2	48"x24"	1	30	30						45 / 45
	"	MO 5-1-L	21"x21"	1	30	30						
	"	MO 6-1	21"x21"	1	30	30						AHEAD
14A	MODIFY J4-2 (TO-45-AH; V-LT & RT) ON CTY B (EB)	MO 4-5	24"x12"	1	30	30						
	"	M 3-3	24"x12"	1	30	30						
	"	M 1-4	EXISTING									45
	"	MO 6-1	EXISTING									AHEAD

TRAFFIC CONTROL DETOUR SIGN SUMMARY-CONT'D

PLAN SHEET PRODUCED  
BY WisDOT - NE REGION

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 30 DAYS	643.3000 DETOUR SIGNS DAYS	643.0420* BARRICADES TYPE III DAYS	643.0705* WARNING LIGHTS TYPE A DAYS	643.1050* SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	643.0920 COVERING SIGNS		REMARKS
										NUMBER OF CYCLES	EACH	
14B	LT OF SIGN # 14A	MO 4-8	24"x12"	1	30	30						
	"	M 3-1	24"x12"	1	30	30						
	"	M 1-4	24"x24"									45
	"	MO 6-1	21"x21"									LEFT
15	BACK SIDE OF J4-2 (TO-41-AH; V-LT & RT) ON CTY B (WB)	MO 4-8	24"x12"	1	30	30						
	"	M 3-1	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 6-1	21"x21"	1	30	30						LEFT
16	200' S OF R 2-1 (SPEED LIMIT 35 MPH) ON CTY (NB)	M 1-4	24"x24"	1	30	30						45
	"	WO 20-2-A	48"x48"	1	30	30						
17	100' N OF D1-1 (EDEN-POPULATION) ON CTY V (NB)	MO 4-8	24"x12"	1	30	30						
	"	M 3-1	24"x12"	1	30	30						
	"	MO 4-5	24"x12"	1	30	30						
	"	M 3-3	24"x12"	1	30	30						
	"	M 50-2	48"x24"	1	30	30						45 / 45
	"	MO 6-1	21"x21"	1	30	30						AHEAD
	"	MO 5-1-R	21"x21"	1	30	30						
18	RT OF J4-2 (TO-41-LT; B-LT & RT) ON CTY V (NB)	MO 4-8	24"x12"	1	30	30						
	"	M 3-1	24"x12"	1	30	30						
	"	MO 4-5	24"x12"	1	30	30						
	"	M 3-3	24"x12"	1	30	30						
	"	M 50-2	48"x24"	1	30	30						45 / 45
	"	MO 6-1	21"x21"	1	30	30						AHEAD
	"	MO 6-1	21"x21"	1	30	30						RIGHT
19	250' N OF CTH B INTERSECTION ON CTH V (NB)	MO 4-8	24"x12"	1	30	30						
	"	M 3-1	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 6-1	21"x21"	1	30	30						AHEAD
20	RT OF J4-2 (B-LT & RT; TO-41-RT) ON CTY V (SB)	MO 4-8	24"x12"	1	30	30						
	"	M 3-3	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 6-1	21"x21"	1	30	30						LEFT
21	RT OF J1-1 (JCT B) ON CTY V (SB)	MO 4-8	24"x12"	1	30	30						
	"	M 3-3	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 5-1-L	21"x21"	1	30	30						
22	200' S OF LIME RD INTERSECTION OF CTH V (SB)	MO 4-8	24"x12"	1	30	30						
	"	M 3-3	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 6-1	21"x21"	1	30	30						AHEAD
23	200' N OF LIME RD INTERSECTION OF CTH V (NB)	MO 4-8	24"x12"	1	30	30						
	"	M 3-1	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 6-1	21"x21"	1	30	30						AHEAD
24	200' E OF CTY K INTERSECTION ON CTY V (SB)	MO 4-8	24"x12"	1	30	30						
	"	M 3-3	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 6-1	21"x21"	1	30	30						AHEAD



TRAFFIC CONTROL DETOUR SIGN SUMMARY-CONT'D

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SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 30 DAYS	643.3000	643.0420*	643.0705*	643.1050*	643.0920		REMARKS
						DETOUR SIGNS	BARRICADES TYPE III	WARNING LIGHTS TYPE A	SIGNS PORTABLE CHANGEABLE MESSAGE	COVERING SIGNS	NUMBER OF CYCLES	
25	200' W OF CTY K INTERSECTION ON CTY V (NB)	MO 4-8	24"x12"	1	30	30						
	"	M 3-1	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 6-1	21"x21"	1	30	30						AHEAD
26	200' S OF REINHART RD INTERSECTION ON CTY V (SB)	MO 4-8	24"x12"	1	30	30						
	"	M 3-3	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 6-1	21"x21"	1	30	30						AHEAD
27	200' N OF REINHART R INTERSECTION ON CTY V (NB)	MO 4-8	24"x12"	1	30	30						
	"	M 3-1	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 6-1	21"x21"	1	30	30						AHEAD
28	RT OF J3-2 (S-151-AH; N-151-RT) ON CTY V (NB)	MO 4-8	24"x12"	1	30	30						
	"	M 3-1	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 6-1	21"x21"	1	30	30						AHEAD
29	ABOVE D1-1 (S-151 & CTY V TILT RT) ON NORTH LEG SPLITTER ISLAND @ RAB FOR NB HWY 151 INTERCHANGE RAMP	MO 4-8	24"x12"	1	30	30						
	"	M 3-1	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 6-2	21"x21"	1	30	30						RIGHT
30	RT OF J4-1 (SOUTH-V) ON CTY V (SB)	MO 4-8	24"x12"	1	30	30						
	"	M 3-3	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 6-1	21"x21"	1	30	30						AHEAD
31	RT OF J3-2 (45-RT; S-151-RT) ON CTY V (NB)	MO 4-8	24"x12"	1	30	30						
	"	M 3-1	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 6-1	21"x21"	1	30	30						AHEAD
32	ABOVE D1-3 (TILT RT-45, 151-SOUTH; 151 NORTH, V TILT RT) ON SOUTH LEG SPLITTER ISLAND @ RAB FOR SB HWY 151 & FRONTAGE RD INTERCHANGE RAMP	MO 4-8	24"x12"	1	30	30						
	"	M 3-3	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 6-2	21"x21"	1	30	30						RIGHT
33	ABOVE D1-1 (CTY V-TILT RT) ON NORTH LEG SPLITTER ISLAND @ RAB FOR FRONTAGE RD & SB HWY 151 INTERCHANGE RAMP	MO 4-8	24"x12"	1	30	30						
	"	M 3-1	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 6-2	21"x21"	1	30	30						RIGHT
34	RT OF J3-3 (S-151-L; 45-L; N-151-AH) ON CTY V (SB)	MO 4-8	24"x12"	1	30	30						
	"	M 3-3	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 6-1	21"x21"	1	30	30						AHEAD

**TRAFFIC CONTROL DETOUR SIGN SUMMARY-CONT'D**

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 30 DAYS	643.3000	643.0420*	643.0705*	643.1050*	643.0920		REMARKS
						DETOUR SIGNS	BARRICADES TYPE III	WARNING LIGHTS TYPE A	SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	COVERING SIGNS	NUMBER OF CYCLES	
35	100' N OF MUSTANG LN INTERSECTION ON CTY V (NB)	MO 4-8	24"x12"	1	30	30						
	"	M 3-1	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 6-1	21"x21"	1	30	30						AHEAD
36	150' S OF CTY VV (PIONEER RD) INTERSECTION ON CTY V (SB)	MO 4-8	24"x12"	1	30	30						
	"	M 3-3	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 6-1	21"x21"	1	30	30						AHEAD
37	150' N OF CTY VV (PIONEER RD) INTERSECTION ON CTY V (NB)	MO 4-8	24"x12"	1	30	30						
	"	M 3-1	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 6-1	21"x21"	1	30	30						AHEAD
38	MODIFY J1-1 (JCT 45) ON CTY V (NB)	MO 4-8-A	24"x18"	1	30	30						
	"	M 1-4	EXISTING									45
39	100' S OF HWY 45 INTERSECTION ON CTY V (SB)	MO 4-8	24"x12"	1	30	30						
	"	M 3-3	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 6-1	21"x21"	1	30	30						AHEAD
40	MODIFY J13-1 (45 LT & RT) ON CTY V (NB)	M 1-4	EXISTING									45
	"	MO 6-1	21"x21"	1	30	30						LEFT
41	SW QUAD OF USH 45 & CTY V INTERSECTION	R 11-3	60"x30"	1	30	30	30	60				1 MILES
42	BELOW SIGN 41	M 4-9-R	30"x24"	1	30	30						
43	BACKSIDE OF J13-1 (V-LT & AH) ON HWY 45 (SB-FAR LT)	MO 4-8	24"x12"	1	30	30						
	"	M 3-3	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 6-1	21"x21"	1	30	30						RIGHT
44	RT OF J13-1 (V-TILT RT) ON HWY 45 (SB-NEAR RT)	MO 4-8	24"x12"	1	30	30						
	"	M 3-3	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 6-2	21"x21"	1	30	30						RIGHT
45	250' N OF J13-1 (V-LT & AH) ON HWY 45 (SB)	MO 4-8	24"x12"	1	30	30						
	"	M 3-3	24"x12"	1	30	30						
	"	M 1-4	24"x24"	1	30	30						45
	"	MO 5-1-R	21"x21"	1	30	30						
46	500' N OF SIGN # 45 ON HWY 45 (SB)	WO 20-2-A	48"x48"	1	30	30						
47	J4-1 (SOUTH 45) SOUTH OF HWY 45/CTY V INTERSECTION									1	1	SOUTH 45
48	NE QUAD OF USH 45 & CTY UU INTERSECTION ON HWY 45 (NB)	R 11-3	60"x30"	1	30	30	30	60				3 MILES
49	NE QUAD OF USH 45 & CTY H INTERSECTION ON HWY 45 (NB)	R 11-3	60"x30"	1	30	30	30	60				2 MILES
50	NW QUAD OF USH 45 & CTY K (WEST LEG) INTERSECTION ON HWY 45 (NB)	R 11-3	60"x30"	1	30	30	30	60				1/2 MILES
51	FIELD DETERMINED - HWY 45 (SB)	PCMS		1					7			PRIOR TO CONSTRUCTION
52	FIELD DETERMINED - HWY 45 (SB)	PCMS		1					7			PRIOR TO CONSTRUCTION
<b>TOTAL</b>					<b>161</b>		<b>4,770</b>	<b>150</b>	<b>300</b>	<b>14</b>	<b>2</b>	

\* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

**TRAFFIC CONTROL**

STAGE	DESCRIPTION	DAYS	643.0300 DRUMS		643.0410 BARRICADES TYPE II		643.0420* BARRICADES TYPE III		643.0705* WARNING LIGHTS TYPE A		643.0715 WARNING LIGHTS TYPE C		643.0800 ARROW BOARDS		643.0900 SIGNS		
			NUMBER	DAYS	NUMBER	DAYS	NUMBER	DAYS	NUMBER	DAYS	NUMBER	DAYS	NUMBER	DAYS	NUMBER	DAYS	NUMBER
PROJECT 1420-22-71 CATEGORY 0010																	
STAGE V3	USH 151	137	36	4932	---	---	---	---	---	---	---	---	---	---	---	37	5069
STAGE V3	LOCAL	137	20	2740	4	548	12	1644	18	2466	---	---	---	---	16	2192	
STAGE V4	USH 151	45	206	9270	---	---	7	315	---	---	49	2205	4	180	56	2520	
STAGE V4	LOCAL	45	65	2925	3	135	23	1035	30	1350	---	---	---	---	21	945	
STAGE V5	USH 151	19	273	5187	---	---	12	228	5	95	114	2166	4	76	60	1140	
STAGE V5	LOCAL	19	65	1235	3	57	50	950	64	1216	---	---	---	---	23	437	
STAGE V6A	USH 151	23	273	6279	1	23	12	276	8	184	114	2622	4	92	59	1357	
STAGE V6A	LOCAL	23	20	460	7	161	24	552	36	828	---	---	---	---	14	322	
STAGE V6B	USH 151	16	273	4368	1	16	13	208	8	128	114	1824	4	64	67	1072	
STAGE V6B	LOCAL	16	20	320	5	80	24	384	34	544	---	---	---	---	12	192	
STAGE V7	USH 151	15	137	2055	---	---	8	120	---	---	26	390	4	60	37	555	
STAGE V7	LOCAL	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
LANE CLOSURE	NB USH 151 INSIDE	10	45	450	---	---	2	20	---	---	12	120	2	20	9	90	
LANE CLOSURE	NB USH 151 OUTSIDE	---	54	---	---	---	4	---	---	---	24	---	2	---	14	---	
LANE CLOSURE	SB USH 151 INSIDE	10	89	890	---	---	5	50	---	---	14	140	2	20	12	120	
LANE CLOSURE	SB USH 151 OUTSIDE	---	105	---	---	---	4	---	---	---	24	---	2	---	12	---	
PROJECT TOTALS				41111		1020		5782		6811		9467		512		16011	

\* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

**TRAFFIC CONTROL**

PROJECT	643.0200.01 SURVEILLANCE AND MAINTAINANCE PROJECT DAY
PROJECT 1420-22-71 CATEGORY 0010	
1420-22-71	260
PROJECT TOTALS	260

**TRAFFIC CONTROL SIGNS FIXED MESSAGE**

NO.	INSTALL IN	STATION/LOCATION	MESSAGE	TO REMAIN		SIZE		643.1000 SF	NOTES
				FOR STAGE		IN	X IN		
PROJECT 1420-22-71 CATEGORY 0010									
T1	STAGE V5	STA 1268+00 NB USH 151 RT	V (EXIT ARROW)	5,6A, 6B	60	X	72	30	
T2	STAGE V5	STA 1304+00 SB USH 151 RT	V (EXIT ARROW)	5,6A, 6B	60	X	72	30	
PROJECT TOTALS								60	

**TRAFFIC CONTROL PAVEMENT MARKING**

STAGE		646.0600		649.0400		649.0600	649.0801	
		REMOVING PAVEMENT MARKING		TEMPORARY PAVEMENT MARKING REMOVABLE TAPE				
		4-INCH	8-INCH	4-INCH	4-INCH	6-INCH	8-INCH	8-INCH
			(2X 4-INCH)	WHITE	YELLOW	BLACK	BLACK	WHITE
		LF	LF	LF	LF	LF	LF	LF
PROJECT 1420-22-71 CATEGORY 0010								
STAGE V1AB	USH 151	---	---	---	---	---	---	---
STAGE V1AB	LOCAL	---	---	---	---	---	---	---
STAGE V1C	USH 151	---	---	---	---	---	---	---
STAGE V1C	LOCAL	---	---	---	---	---	---	---
STAGE V2	USH 151	---	---	---	---	---	---	---
STAGE V2	LOCAL	---	---	---	---	---	---	---
STAGE V3	USH 151	---	---	---	---	---	---	---
STAGE V3	LOCAL	---	---	---	---	---	---	---
STAGE V4	USH 151	---	---	12200	---	450	---	900
STAGE V4	LOCAL	281	---	1125	1125	---	---	---
STAGE V5	USH 151	2200	---	7000	---	288	---	3750
STAGE V5	LOCAL	500	---	2250	---	---	---	---
STAGE V6A	USH 151	---	---	---	---	---	---	---
STAGE V6A	LOCAL	---	---	---	---	---	---	---
STAGE V6B	USH 151	---	---	---	---	---	---	---
STAGE V6B	LOCAL	---	---	---	---	---	---	---
STAGE V7	USH 151	---	---	---	10200	---	---	---
STAGE V7	LOCAL	---	---	---	---	---	---	---
SUBTOTAL		2981	---	22575	11325	738	---	4650
PROJECT TOTALS		2981		33900		738	4650	

**TRAFFIC CONTROL SIGNS PCMS**

SIGN	2016 DAYS	643.105*	
		TRAFFIC CONTROL SIGNS PCMS NUMBER	DAYS
PROJECT 1420-22-71 CATEGORY 0010			
PCMS V1	7	1	7
PCMS V2	7	1	7
USH 45 RAMP CLOSURE ADV WARN (C3-C6)	7	4	28
USH 45 CLOSURE ADV WARN (C7-C8)	7	2	14
PROJECT TOTALS			56

\*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

**TEMPORARY CURB RAMPS**

STAGE	LOCATION	TEMPORARY CURB RAMP SPV.0060.31 LF	NOTES
PROJECT 1420-22-71 CATEGORY 0010			
STAGE V4	PRAIRIE TRAIL	2	TEMP CROSSING OF FRONTAGE ROAD STA 138+50; TO REMAIN FOR STAGE 5, 6A
PROJECT TOTALS		2	

**PEDESTRIAN SAFETY FENCE**

STAGE	LOCATION	MAINTAINING PEDESTRIAN SAFETY FENCE SPV.0090.14 LF	NOTES
PROJECT 1420-22-71 CATEGORY 0010			
EXISTING	PRAIRIE TRAIL	300	ALONG NORTH SIDE OF TRAIL STA 1273+50-1275+50
EXISTING	PRAIRIE TRAIL	300	ALONG SOUTH SIDE OF TRAIL STA 1273+50-1275+50
PROJECT TOTALS		600	

3

**PAVEMENT MARKING**

STATION TO	STATION	LOCATION	646.0106 PAVEMENT MARKING EPOXY 4-INCH (WHITE) LF	646.0106 PAVEMENT MARKING EPOXY 4-INCH (YELLOW) LF	646.0126 PAVEMENT MARKING EPOXY 8-INCH LF	646.0841.S PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH LF	646.0843.S PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH LF	647.0166 PAVEMENT MARKING ARROWS EPOXY TYPE 2 EACH	647.0206 PAVEMENT MARKING ARROWS BIKE LANE EPOXY EACH	647.0256 PAVEMENT MARKING SYMBOLS EPOXY EACH	647.0306 PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY EACH	647.0356 PAVEMENT MARKING WORDS EPOXY EACH	647.0566 PAVEMENT MARKING STOP LINE 18-INCH EPOXY LF	647.0606 PAVEMENT MARKING ISLAND NOSE EPOXY EACH	
PROJECT 1420-22-71 CATEGORY 0010															
1261+95	-	1321+00	USH 151	5319	1792	---	3530	1528	---	---	---	---	---	---	
274+91	-	286+39	USH 151 NB OFF-RAMP	1094	998	---	---	153	---	---	---	---	---	---	
270+75	-	288+25	USH 151 NB ON-RAMP	1756	1361	---	---	339	---	---	---	---	---	---	
282+81	-	301+46	USH 151 SB OFF-RAMP	1850	1211	---	---	598	---	---	---	---	---	---	
275+08	-	287+07	USH 151 SB ON-RAMP	1179	803	---	---	339	---	---	---	---	---	---	
114+50	-	123+03	CTH V	1496	---	504	---	---	4	5	---	5	2	---	
123+03	-	126+32	CTH V ROUNDABOUT	---	---	---	---	---	---	---	---	---	---	---	
126+32	-	137+06	CTH V	2065	2308	---	---	---	---	6	---	6	---	2	
137+06	-	139+72	CTH V ROUNDABOUT	---	---	---	---	---	---	---	---	---	---	---	
139+72	-	144+02	CTH V	722	1302	---	---	---	---	2	---	2	---	1	
10+00	-	15+50	OLD CTH V NORTH	---	930	---	---	---	---	---	---	---	---	---	
	-		PARK N RIDE	---	---	---	---	---	---	3	---	---	---	---	
104+47	-	106+53	PARK AVE	208	808	---	---	---	---	---	---	---	---	1	
87+89	-	91+50	OLD CTH V SOUTH	625	625	---	---	---	---	---	---	---	---	---	
109+13	-	115+85	FRONTAGE ROAD	1208	---	---	---	---	---	---	---	---	---	---	
115+85	-	118+54	FRONTAGE RD ROUNDABOUT	---	---	---	---	---	---	---	---	---	---	---	
118+54	-	142+67	FRONTAGE ROAD	4614	4548	75	---	---	2	---	---	---	26	---	
386+09	-	398+74	USH 45	2323	3630	151	---	---	2	---	---	---	---	---	
SUBTOTALS				24459	20316	730	3530	2957	8	13	3	13	2	26	4
PROJECT TOTALS				44775		730	3530	2957	8	13	3	13	2	26	4

PAVEMENT MARKING CONT'D

STATION TO STATION		LOCATION	647.0656 PAVEMENT MARKING PARKING STALL EPOXY (WHITE) 4-INCH LF	647.0726 PAVEMENT MARKING DIAGONAL EPOXY (YELLOW) 12-INCH LF	647.0726 PAVEMENT MARKING DIAGONAL EPOXY (WHITE) 12-INCH LF	647.0746 PAVEMENT MARKING DIAGONAL EPOXY 24-INCH LF	647.0766 PAVEMENT MARKING CROSSWALK EPOXY 6-INCH LF	SPV.0090.05 PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC 18-INCH LF	SPV.0090.06 PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH LF	647.0358 PAVEMENT MARKING WORDS PREFORMED THERMOPLASTIC EACH
PROJECT 1420-22-71 CATEGORY 0010										
1261+95	-	1321+00	USH 151	---	---	---	---	---	---	---
274+91	-	286+39	USH 151 NB OFF-RAMP	---	---	---	39	---	---	---
270+75	-	288+25	USH 151 NB ON-RAMP	---	---	---	---	---	---	---
282+81	-	301+46	USH 151 SB OFF-RAMP	---	---	---	124	---	---	---
275+08	-	287+07	USH 151 SB ON-RAMP	---	---	---	---	---	---	---
114+50	-	123+03	CTH V	---	---	51	---	---	---	---
123+03	-	126+32	CTH V ROUNDABOUT	---	---	---	---	87	206	3
126+32	-	137+06	CTH V	---	73	---	---	---	---	---
137+06	-	139+72	CTH V ROUNDABOUT	---	---	---	---	128	270	4
139+72	-	144+02	CTH V	---	55	---	---	---	---	---
10+00	-	15+50	OLD CTH V NORTH	---	---	---	---	91	---	---
	-		PARK N RIDE	1192	---	---	---	---	---	---
104+47	-	106+53	PARK AVE	---	---	---	---	---	---	---
87+89	-	91+50	OLD CTH V SOUTH	---	---	---	---	---	---	---
109+13	-	115+85	FRONTAGE ROAD	---	---	---	---	---	---	---
115+85	-	118+54	FRONTAGE RD ROUNDABOUT	---	---	---	---	96	199	3
118+54	-	142+67	FRONTAGE ROAD	---	48	---	---	134	---	---
386+09	-	398+74	USH 45	---	182	---	---	---	---	---
SUBTOTALS			1192	358	51	163	225	311	675	10
PROJECT TOTALS			1192		409	163	225	311	675	10

3

**CONSTRUCTION STAKING**

STATION	TO	STATION	REFERENCE LINE	650.4500 SUBGRADE LF	650.5000 BASE LF	650.5500 CURB, GUTTER & CURB AND GUTTER LF	650.6500 STRUCTURE LAYOUT LS	650.7000 CONCRETE PAVEMENT LF	650.7500 CONCRETE BARRIER LF	650.9910 SUPPLEMENTAL CONTROL LS	650.9920 SLOPE STAKES LF
PROJECT 1420-22-71 CATEGORY 0010											
1263+25	-	1277+79	USH 151	1,454	1,454	---	---	---	---	---	1,454
1314+27	-	1320+79	USH 151	652	652	---	---	---	---	---	652
262+58	-	287+43	USH 151 NB OFF RAMP	2,486	682	---	1	1,803	---	---	2,486
269+57	-	296+37	USH 151 NB ON RAMP	2,680	21	---	---	2,659	---	---	2,680
262+00	-	287+97	USH 151 SB ON RAMP	2,597	20	---	---	2,577	---	---	2,597
281+66	-	316+50	USH 151 SB OFF RAMP	3,485	9	---	1	3,476	875	---	3,485
115+00	-	124+05	CTH V NB	905	905	1,875	---	---	---	---	905
215+08	-	224+06	CTH V SB	898	898	1,815	---	---	---	---	898
10+00	-	13+14	RAB CTH V & NB RAMPS	314	314	719	---	---	---	---	314
125+40	-	129+87	CTH V NB	447	424	783	---	23	---	---	447
225+29	-	229+77	CTH V SB	448	425	823	---	23	---	---	448
132+67	-	137+93	CTH V NB	526	503	779	---	23	---	---	526
233+89	-	237+92	CTH V SB	403	403	775	---	---	---	---	403
20+00	-	23+14	RAB CTH V & FRONTAGE	314	314	722	---	---	---	---	314
139+24	-	149+07	CTH V NB	983	983	697	---	---	---	---	983
239+25	-	242+42	CTH V SB	317	317	678	---	---	---	---	317
104+47	-	107+05	PARK AVE EB	258	258	143	---	---	---	---	258
104+46	-	107+01	PARK AVE WB	255	255	194	---	---	---	---	255
108+37	-	116+46	FRONTAGE EB	809	809	1,557	---	---	---	---	809
108+31	-	116+43	FRONTAGE WB	812	812	1,570	---	---	---	---	812
30+00	-	33+14	RAB FRONTAGE & SB RAMPS	314	314	694	---	---	---	---	314
117+78	-	142+82	FRONTAGE EB	2,503	2,503	2,942	---	---	---	---	2,503
117+73	-	123+36	FRONTAGE WB	563	563	2,945	---	---	---	---	563
10+00	-	15+67	OLD CTH V NORTH	567	567	1,275	---	---	---	---	567
60+00	-	62+11	PARK N RIDE	211	211	---	---	---	---	---	211
88+38	-	91+50	OLD CTH V SOUTH	312	312	---	---	---	---	---	312
386+14	-	386+57	USH 45	43	10	---	---	33	---	---	43
389+61	-	398+74	USH 45	913	880	709	---	33	---	---	913
30+39	-	30+97	GLYNN AVE	58	58	---	---	---	---	---	58
70+30	-	79+73	PRAIRIE TRAIL WEST	943	943	---	---	---	---	---	943
19+92	-	23+96	PRAIRIE TRAIL @ USH 45	404	404	---	---	---	---	---	404
15+00	-	16+71	SIDEWALK CONNECTION	171	---	---	---	---	---	---	171
9+48	-	11+06	TEMP TRAIL EAST	158	158	---	---	---	---	---	158
5+11	-	5+83	TEMP TRAIL NORTH	73	73	---	---	---	---	---	73
8+66	-	11+57	TEMP TRAIL NORTH	291	291	---	---	---	---	---	291
---	-	---	PROJECT	---	---	---	---	---	---	1	---
PROJECT TOTALS				28,566	17,744	21,695	2	10,650	875	1	28,566

**CONDUIT**

FROM	TO	652.0225* CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF
PROJECT 1420-22-71 CATEGORY 0030			
BRIDGE	LPB51	116	---
LPB52	CAP	---	55
BRIDGE	LPB53	122	---
LPB54	CAP	---	58
BRIDGE	LPB57	122	---
LPB55	CAP	---	58
BRIDGE	LPB58	122	---
LPB56	CAP	---	58
PROJECT TOTALS		482	229

\* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

**PULL BOXES**

NO.	653.0140* PULL BOXES STEEL 24x42-INCH EACH
PROJECT 1420-22-71 CATEGORY 0030	
LPB51	1
LPB52	1
LPB53	1
LPB54	1
LPB55	1
LPB56	1
LPB57	1
LPB58	1

PROJECT TOTAL 8

\* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

3

**SAWING**

STATION	TO	STATION	DIR	LOCATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
PROJECT 1420-22-71 CATEGORY 0010						
1267+82	-	1272+12	RT	USH 151	---	432
1268+92	-	1273+13	LT	USH 151	---	419
1314+53	-	1320+79	RT	USH 151	---	640
269+40	-	272+21	RT	NB OFF RAMP	---	281
268+74	-	276+51	RT	SB ON RAMP	---	777
304+92	-	307+66	LT	SB OFF RAMP	---	284
316+50	-	---	LT	SB OFF RAMP	---	12
142+27	-	148+47	LT & RT	CTH V NB	96	87
88+38	-	91+50	LT & RT	OLD CTH V SOUTH	85	---
378+06	-	383+09	RT	USH 45 NB	504	---
386+14	-	---	LT & RT	USH 45 NB	42	---
398+74	-	---	LT & RT	USH 45 NB	30	---
30+39	-	---	LT & RT	GLYNN AVE	22	---
70+30	-	---	LT	PRAIRIE TRAIL	10	---
19+92	-	---	LT	PRAIRIE TRAIL	10	---
9+48	-	---	LT	TEMPORARY TRAIL	14	---
5+11	-	---	LT	TEMPORARY TRAIL	16	---
---	-	---	---	UNDISTRIBUTED	71	68
PROJECT TOTALS					900	3,000

**WATER & SANITARY SEWER**

STATION	O/S	DIR.	LOCATION	SPV.0060.20 ADJUSTING WATER SERVICE CURB STOP EACH	SPV.0060.21 ADJUSTING WATER VALVE BOX EACH	SPV.0060.23 ADJUSTING SANITARY MANHOLE COVER EACH	SPV.0060.24 RECONSTRUCT SANITARY SEWER MANHOLE EACH
PROJECT 1420-22-71 CATEGORY 0050							
269+13	43	RT	NB OFF RAMP	---	1	---	---
240+02	85	LT	CTH V SB	---	---	---	1
143+21	24	RT	CTH V NB	---	---	1	---
143+49	28	LT	CTH V NB	---	---	---	---
143+58	20	LT	CTH V NB	---	1	---	---
143+96	16	RT	CTH V NB	---	---	1	---
144+23	29	RT	CTH V NB	1	---	---	---
145+94	35	RT	CTH V NB	1	---	---	---
146+70	28	LT	CTH V NB	1	---	---	---
147+24	29	RT	CTH V NB	1	---	---	---
10+98	43	LT	OLD CTH V NORTH	---	---	---	---
11+05	38	LT	OLD CTH V NORTH	---	1	---	---
12+99	29	RT	OLD CTH V NORTH	---	---	1	---
13+08	25	LT	OLD CTH V NORTH	---	1	---	---
105+36	38	RT	PARK AVE EB	---	1	---	---
105+56	33	RT	PARK AVE EB	---	1	---	---
106+13	37	RT	PARK AVE EB	---	---	---	1
95+45	90	RT	OLD CTH V SOUTH	---	1	---	---
95+55	83	RT	OLD CTH V SOUTH	---	---	1	---
PROJECT TOTALS				4	7	4	2

3

**STREET SWEEPING**

LOCATION	SPV.0075.01 HRS
PROJECT 1420-22-71 CATEGORY 0010	
USH 151	24
CTH V	24
USH 45	24
SIDEROADS	24
PROJECT TOTAL	96

**TEMPORARY SLOPE DRAINS**

STATION	LOCATION	DIR	SPV.0060.12 EACH	REMARKS
PROJECT 1420-22-71 CATEGORY 0010				
132+61	CTH V NB	LT	1	SEE DETAILS
132+82	CTH V NB	RT	1	SEE DETAILS
PROJECT TOTAL			2	



3

3

Conduit Rigid Nonmetallic Schedule 40				
LOCATION		652.0225	652.0235	652.0615
USH 151 NB & V		2-Inch	3-Inch	3-Inch
				Special
FROM	TO	LF	LF	LF
CB1	PB1		10	
CB1	PB1		10	
PB1	PB2	30		
PB2	PB3	110		
PB2	LB1	20		
PB3	LB2	20		
PB3	PB4	80		
PB4	LB3	35		
PB4	PB5	100		
PB5	LB4	40		
PB5	PB6	60		
PB6	LB5	20		
PB6	PB7	110		
PB7	LB6	35		
PB7	PB8	100		
PB8	LB7	35		
PB8	PB2	60		
	TOTAL	855	20	0

Concrete Bases		
LOCATION	EACH	EACH
		654.0224
		Control Cabinet
		654.0105
		Type 5
USH 151 NB & V	7	1

Electric Service		
LOCATION	LS	EACH
		656.0200
		Meter Breaker Pedestal
		659.2124
		Lighting Control Cabinet
USH 151 NB & V	1	1

Electrical Wire Lighting					
		10AWG		12AWG	
LOCATION					655.0610
USH 151 NB & V			655.0615	655.0610	Equipment
			Ungrounded	Ungrounded	Grounding
			Conductor	Conductor	Conductor
			(see circuit color)	(Black)/(Red)	(Green)
Circuit	FROM	TO	LF	LF	LF
<b>A</b>	CB1	LB1	200		
<b>(Black)</b>	LB1	Luminaires		100	50
	LB1	LB2	380		
	LB2	Luminaires		100	50
<b>B</b>	CB1	LB3	650		
<b>(Red)</b>	LB3	Luminaires		100	50
	LB3	LB4	430		
	LB4	Luminaires		100	50
<b>C</b>	LB6	LB5	410		
<b>(Blue)</b>	LB5	Luminaire		100	50
	LB7	LB6	420		
	LB6	Luminaires		100	50
	CB1	LB7	370		
	LB7	Luminaires		100	50
<b>D</b>					
<b>(Brown)</b>					
<b>E</b>					
<b>(Orange)</b>					
		SUB-TOTALS	2,860	700	350
		TOTAL	2,860	1,050	

Electrical wire Lighting 10AWG		
LOCATION		655.0615
USH 151 NB & V		Equipment
		Grounding
		(240 VOLT SYSTEM)
		Conductor
		(Green)
FROM	TO	LF
CB1	LB1	100
CB1	PB1	30
LB1	LB2	190
LB1	PB2	40
LB2	PB3	40
LB2	LB3	175
LB3	PB4	55
LB3	LB4	215
LB4	PB5	60
LB4	LB5	160
LB5	PB6	40
LB5	LB6	205
LB6	PB7	55
LB6	LB7	210
LB7	PB8	55
LB7	CB1	185
	TOTAL	1,815

Pull Boxes Steel	
LOCATION	EACH
	653.0140
	24x42-Inch
USH 151 NB & V	8

Lighting Summary				
LOCATION	EACH	EACH	EACH	EACH
		SPV.0060.52	SPV.0060.51	SPV.0060.53
		Transformer Bases	Poles	Luminaire Arms
		Breakaway	Type 5	Truss Type
		11 1/2-Inch	(Aluminum)	4 1/2-Inch Clamp
		Bolt Circle		12-FT
USH 151 NB & V	7	7	7	7

\* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

Conduit Rigid Nonmetallic Schedule 40				
LOCATION		652.0225	652.0235	652.0615
USH 151 SB & V		2-Inch	3-Inch	3-Inch
				Special
FROM	TO	LF	LF	LF
CB1	PB1		10	
CB1	PB1		10	
PB1	PB2	60		
PB1	LB1	10		
PB2	LB2	30		
PB2	PB3	70		
PB3	LB3	20		
PB3	PB4	100		
PB4	LB4	20		
PB4	PB5	70		
PB5	LB5	40		
PB5	PB6	120		
PB6	LB6	20		
PB6	PB7	110		
PB7	LB7	20		
PB7	PB1	80		
	TOTAL	770	20	0

Concrete Bases		
LOCATION	EACH	EACH
USH 151 SB & V	7	1

Electric Service		
LOCATION	LS	EACH
USH 151 SB & V	1	1

Electrical Wire Lighting					
		10AWG	12AWG		655.0610
LOCATION					Equipment
USH 151 SB & V		655.0615	655.0610		Grounding
		Ungrounded	Ungrounded		Conductor
		(240 VOLT SYSTEM)	Conductor		(see Circuit color)
			(Black)/(Red)	(Green)	
Circuit	FROM	TO	LF	LF	LF
<b>A</b>	CB1	LB1	100		
<b>(Black)</b>	LB1	Luminaires		100	50
	LB1	LB2	280		
	LB2	Luminaires		100	50
<b>B</b>	CB1	LB3	420		
<b>(Red)</b>	LB3	Luminaires		100	50
	LB3	LB4	360		
	LB4	Luminaires		100	50
<b>C</b>	LB6	LB5	440		
<b>(Blue)</b>	LB5	Luminaire		100	50
	LB7	LB6	380		
	LB6	Luminaires		100	50
	CB1	LB7	300		
	LB7	Luminaires		100	50
		SUB-TOTALS	2,280	700	350
		TOTAL	2,280	1,050	

Electrical wire Lighting 10AWG		
LOCATION		655.0615
USH 151 SB & V		Equipment
		Grounding
		(240 VOLT SYSTEM)
		Conductor
		(Green)
FROM	TO	LF
CB1	LB1	50
CB1	PB1	30
LB1	LB2	140
LB2	PB2	50
LB2	LB3	160
LB3	PB3	40
LB3	LB4	180
LB4	PB4	40
LB4	LB5	170
LB5	PB5	60
LB5	LB6	220
LB6	PB6	40
LB6	LB7	190
LB7	PB7	40
LB7	CB1	150
	TOTAL	1,560

Pull Boxes Steel	
LOCATION	EACH
USH 151 SB & V	7

Lighting Summary				
LOCATION	EACH	EACH	EACH	EACH
USH 151 SB & V	7	7	7	7

\* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

3

LIGHTING BRANCH CIRCUIT WIRE AND CONDUIT QUANTITIES

CATEGORY	FROM	TO	652.0225*	655.0625	
			CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	ELECTRICAL WIRE LIGHTING 6 AWG	
			LF	LF	
0010	LPB4	METER/LOAD CENTER 'VA'	17	84	
	LPB4	LPB11	104		
	LPB4	DVA1	46	212	
	DVA1	CVA1	100	432	
	CVA1	LPB5	65	288	
	LPB5	DVA2	61	272	
	DVA2	CVA2	95	309	
	CVA2	LPB6	74		
	LPB6	DVA3	56		
	DVA3	CVA3	84	276	
	CVA3	LPB7	83	360	
	LPB7	DVA4	64	284	
	DVA4	CVA4	72	320	
	CVA4	LPB4	80	348	
	LPB10	FVA3	27	144	
	FVA3	EVA4	134	438	
	SUB-TOTALS			1162	3767
	0030	AVA1	LPB1	50	171
		LPB1	BVA1	185	576
		BVA1	LPB2	195	808
LPB2		AVA2	50	171	
LPB2		BVA2	185	768	
BVA2		LPB3	198	820	
LPB3		AVA3	54	183	
LPB3		LPB4	260	1064	
LPB4		METER/LOAD CENTER 'VA'	34	168	
LPB4		LPB11	105		
LPB4		EVA1	175	728	
EVA1		LPB8	68	300	
LPB8		FVA1	70	308	
FVA1		LPB9	181	752	
LPB9		EVA2	45	156	
LPB9		FVA2	214	884	
FVA2		LPB10	85	368	
LPB10	EVA3	120	381		
SUB-TOTALS			2274	8606	
TOTALS			3436	12373	

\*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

LIGHTING PULL BOX QUANTITIES

CATEGORY	NO.	653.0140*
		PULL BOXES STEEL 24X42-INCH EACH
0010	LPB4	1
	LPB5	1
	LPB6	1
	LPB7	1
	LPB11	1
	SUB-TOTAL	
0030	LPB1	1
	LPB2	1
	LPB2	1
	LPB8	1
	LPB9	1
	LPB10	1
SUB-TOTAL		6
TOTAL		11

\*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

LIGHTING CONTROL QUANTITIES

CATEGORY	LOCATION	650.8500	SPV.0060.40
		CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS LS	LIGHTING METER/ LOAD CENTER EACH
0010	PROJECT	1	
	METER/LOAD CENTER 'VA'		1
TOTALS		1	1

LIGHTING UNIT QUANTITIES

CATEGORY	NO.	654.0105* CONCRETE BASES TYPE 5 EACH	655.0610* ELECTRICAL WIRE LIGHTING 12 AWG LF	SPV.0060.41 MUNICIPAL LIGHT POLES EACH	SPV.0060.42 MUNICIPAL MAST ARMS 6-FT EACH	SPV.0060.43 MUNICIPAL MAST ARMS 12-FT EACH	SPV.0060.44 MUNICIPAL TRANSFORMER BASES EACH	SPV.0060.45 MUNICIPAL LED LUMINAIRES TYPE 1 EACH	SPV.0060.46 MUNICIPAL LED LUMINAIRES TYPE 2 EACH	SPV.0060.47 MUNICIPAL LED LUMINAIRES TYPE 3 EACH	SPV.0060.48 PARKING LOT CONCRETE BASES EACH
0010	DVA1	1	138	1		1	1			1	
	CVA2	1	120	1	1		1			1	
	DVA2	1	120	1	1		1			1	
	CVA3	1	138	1		1	1			1	
	DVA3	1	138	1		1	1			1	
	CVA4	1	138	1		1	1			1	
	DVA4	1	138	1		1	1			1	
	FVA3		138	1		1	1			1	1
	EVA4		138	1		1	1			1	1
	SUB-TOTALS	7	1206	9	2	7	9	0	0	9	2
0030	AVA1	1	120	1	1		1	1			
	BVA1	1	120	1	1		1	1			
	AVA2	1	120	1	1		1	1			
	BVA2	1	120	1	1		1	1			
	AVA3	1	120	1	1		1	1			
	CVA1	1	138	1		1	1			1	
	EVA1	1	120	1	1		1	1			
	FVA1	1	120	1	1		1	1			
	EVA2	1	120	1	1		1	1			
	FVA2	1	120	1	1		1	1			
	EVA3	1	120	1	1		1		1		
	SUB-TOTALS	11	1338	11	10	1	11	9	1	1	0
	TOTALS		18	2544	20	12	8	20	9	1	10

\* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

# STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

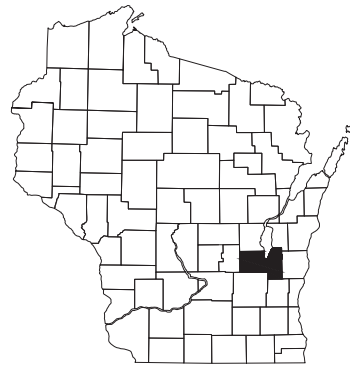
TRANSPORTATION PROJECT PLAT TITLE SHEET

## 1420-22-21

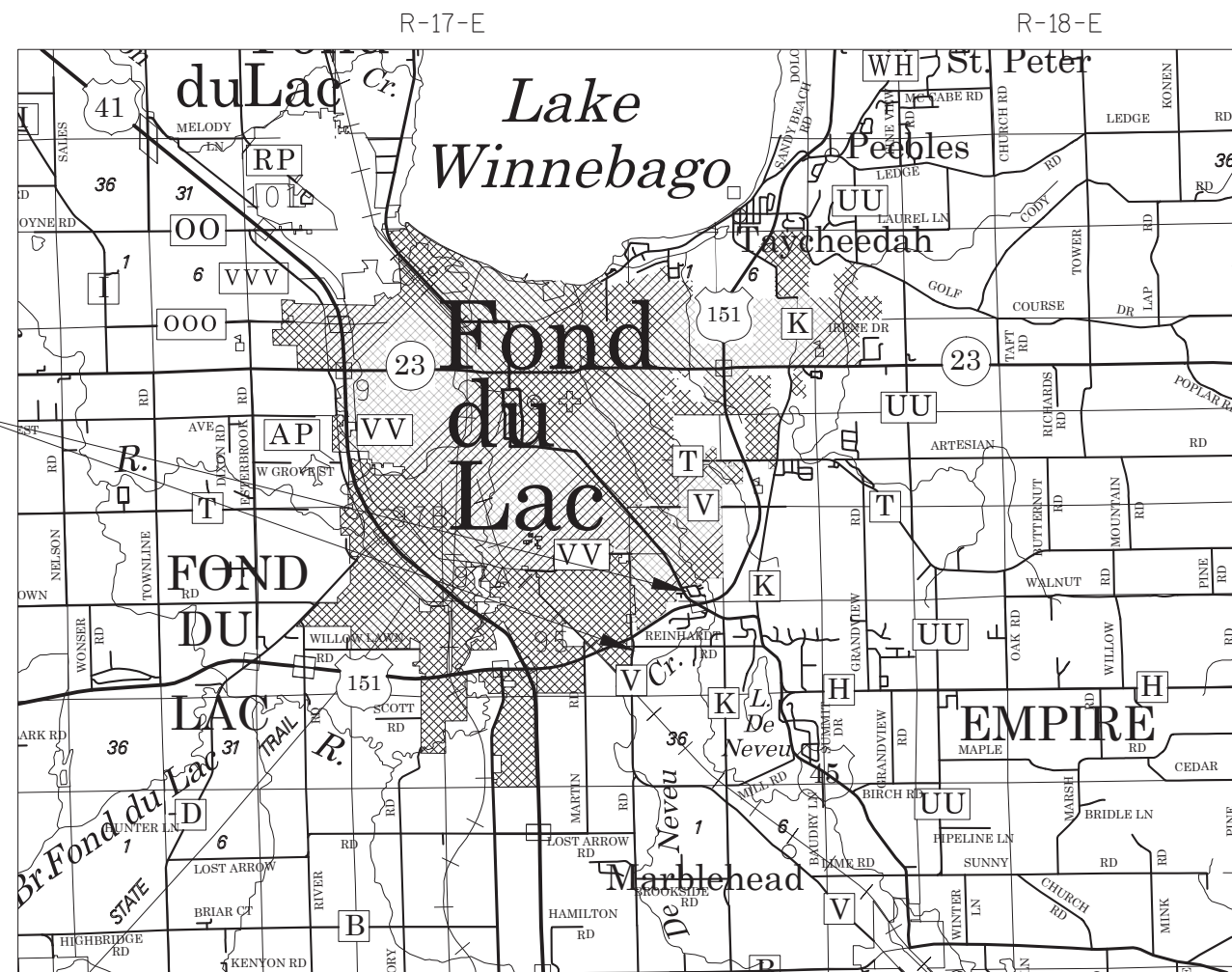
CTH V - USH 45 INTERCHANGE

### USH 151

### FOND DU LAC COUNTY



## PROJECT LOCATION



**NOTES:**

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, FOND DU LAC COUNTY, NAD 83 (1997) 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 MONUMENTS ARE TYPE 2 (TYPICALLY 1"X24" IRON PIPE) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

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".

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY 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 151 ESTABLISHED FROM PREVIOUS PROJECT 1420-05-20 REVISED APRIL 4TH, 2005 AND EXISTING HIGHWAY RIGHT-OF-WAY FOR SIDE ROADS ESTABLISHED FROM CENTERLINE OF EXISTING PAVEMENTS.  
EXISTING ACCESS CONTROL ALONG USH 151 ESTABLISHED FROM PREVIOUS PROJECTS 1420-05-20 REVISED APRIL 4TH, 2005.

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.

TRANS 233 RESTRICTIONS APPLY.

FOR THE LATEST ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN GREEN BAY.

PARCEL IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE SCHEDULE OF LANDS & INTERESTS REQUIRED.

THE NOTES, CONVENTIONAL SYMBOLS AND ABBREVIATIONS ARE ASSOCIATED WITH EACH TRANSPORTATION PROJECT PLAT FOR PROJECT NUMBER 1420-22-21.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

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	CDR.	TEMPORARY LIMITED EASEMENT TLE	TLE
DOCUMENT	DOC.	VOLUME	V.
EASEMENT	EASE.	CURVE DATA	
HIGHWAY EASEMENT	H.E.	LONG CHORD	LCH
LAND CONTRACT	LC	LONG CHORD BEARING	LCB
MONUMENT	MON.	RADIUS	R
PAGE	P.	DEGREE OF CURVE	D
PERMANENT LIMITED EASEMENT	PLE	CENTRAL ANGLE OR DELTA	DELTA
PROPERTY LINE	PL	LENGTH OF CURVE	L
RECORDED AS	(100')	TANGENT	TAN

CONVENTIONAL SYMBOLS			
FOUND IRON PIPE/PIN	(IF UNLESS NOTED)	PROPOSED R/W LINE	———
R/W MONUMENT	• (SET)	EXISTING H.E. LINE	———
R/W STANDARD	▲ (SET)	PROPERTY LINE	———
SIGN	ISIGN	LOT & TIE LINES	———
SECTION CORNER MONUMENT	■	SLOPE INTERCEPTS	———
SECTION CORNER SYMBOL	⊕	CORPORATE LIMITS	———
FEE (HATCH VARIES)	⊗	ACCESS RESTRICTED (BY PREVIOUS ACQUISITION/CONTROL)	———
TEMPORARY LIMITED EASEMENT	⊗	ACCESS RESTRICTED (BY ACQUISITION)	———
PERMANENT LIMITED EASEMENT	⊗	NO ACCESS (BY STATUTORY AUTHORITY)	———
R/W BOUNDARY POINT	⊗	SECTION LINE	———
PARCEL NUMBER	⊗	QUARTER LINE	———
UTILITY PARCEL NUMBER	⊗	SIXTEENTH LINE	———
SIGN NUMBER (OFF PREMISE)	⊗	EXISTING CENTERLINE	———
BUILDING	⊗	PROPOSED REFERENCE LINE	———
		PARALLEL OFFSET	———

CONVENTIONAL UTILITY SYMBOLS			
WATER	—W—	NON COMPENSABLE	⊗
GAS	—G—	COMPENSABLE	⊗
TELEPHONE	—T—		⊗
OVERHEAD TRANSMISSION LINES	—OH—		⊗
ELECTRIC	—E—		⊗
CABLE TELEVISION	—TV—		⊗
FIBER OPTIC	—FO—		⊗
SANITARY SEWER	—SAN—		⊗
STORM SEWER	—SS—		⊗
POWER POLE	⊗		⊗
TELEPHONE POLE	⊗		⊗
TELEPHONE PEDESTAL	⊗		⊗
ELECTRIC TOWER	⊗		⊗



**CE** COLEMAN ENGINEERING COMPANY  
635 CIRCLE DRIVE  
IRON MOUNTAIN, MICHIGAN 49801

RESERVED FOR REGISTER OF DEEDS  
PROJECT NUMBER 1420-22-21 - 4.01  
SHEET 2 OF 2  
AMENDMENT NO:...

TRANSPORTATION PROJECT PLAT NO: 1420-22-21 -4.02 AMENDMENT NO: 1 CITY

AMENDS PARCEL NO: 2 OF TRANSPORTATION PROJECT PLAT 1420-22-21-4.02 RECORDED AS DOCUMENT NO: 1035940

THAT PART OF THE SW 1/4 - NW 1/4 AND THE SE 1/4 - NW 1/4 OF SECTION 25, TOWNSHIP 15 NORTH, RANGE 17 EAST, TOWN OF FOND DU LAC, FOND DU LAC COUNTY, WISCONSIN.

RELOCATION ORDER USH 151 FOND DU LAC 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 PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SUBSECTIONS 84.02 (3), 84.09, AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS:

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.

SE-NE SEC 26

SEC1004 ALUM. MON. FOUND  
X = 823661.653  
Y = 374796.215

NOTE:  
EXISTING ACCESS CONTROL ALONG USH 151 ESTABLISHED FROM PREVIOUS PROJECTS 1420-05-20 REVISED APRIL 4TH, 2005.

PI STA = 269+80.87"NB"  
Y = 372199.580  
X = 824250.591  
DELTA = 2°10'50"  
D = 28°38'52"  
T = 3.81'  
L = 7.61'  
R = 200.00'  
PC STA = 269+77.07"NB"  
PT STA = 269+84.68"NB"

SW-NW SEC 25

14.460 ACRES BANDICOOT LIMITED PARTNERSHIP  
TAX ID. T09-15-17-25-07-001-00  
LOT 1, CSM 327, V. 3, P. 126, DOC. 262440

PI STA = 273+95.21"NB"  
Y = 372286.769  
X = 824655.656  
DELTA = 72°00'47"  
D = 15°41'51"  
T = 265.25'  
L = 458.76'  
R = 365.00'  
PC STA = 271+29.96"NB"  
PT STA = 275+88.72"NB"

PI STA = 282+71.75"NB"  
Y = 373230.132  
X = 824752.137  
DELTA = 50°19'03"1280  
D = 6°37'26"  
T = 406.28'  
L = 759.65'  
R = 865.00'  
PC STA = 278+65.47"NB"  
PT STA = 286+25.12"NB"

PI STA = 116+13.94"R"  
Y = 372121.270  
X = 824925.183  
DELTA = 60°27'04"  
D = 5°12'31"  
T = 640.87'  
L = 1160.58'  
R = 1100.00'  
PC STA = 109+73.06"R"  
PT STA = 121+33.64"R"

NE-SE SEC 26

SEC1003 ALUM. MON. FOUND  
X = 823669.966  
Y = 372144.790

SHERIDAN, ROSEMARY;  
SHERIDAN FAMILY INVESTMENTS LLC.  
TAX ID. T09-15-17-25-10-001-00  
DOC. 966442

FOND DU LAC

NW-SW SEC 25

NE-SW SEC 25

SCHEDULE OF LANDS & INTERESTS REQUIRED						
PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W NEW ACRES	R/W EXISTING ACRES	R/W TOTAL ACRES	PLE, TLE SF
2	BANDICOOT LIMITED PARTNERSHIP	FEE	15.004	---	15.004	---

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT.

SEE PLAT NO.-4.03

Curve Table

Curve #	Length	Radius	Delta
C1	360.896	865.000	23.9050

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	OWNER(S)	INTEREST REQUIRED
81	ALLIANT ENERGY	RELEASE OF RIGHTS
85	CHARTER COMMUNICATIONS - TELEPHONE	RELEASE OF RIGHTS
88	AT&T WISCONSIN	RELEASE OF RIGHTS

EASEMENTS OF RECORD

PARCEL #	UTILITY #	OWNERSHIP	RECORDING INFO
2	88	WISCONSIN BELL INC. DBA AT&T WISCONSIN	DOC. #842139
		WISCONSIN BELL INC. DBA AT&T WISCONSIN	VOL. 1102, PAGE 66 DOC. #520085
		WISCONSIN BELL INC. DBA AT&T WISCONSIN	VOL. 1078, PAGE 675 DOC. #509486
		WISCONSIN TELEPHONE COMPANY DBA AT&T WISCONSIN	VOL. 829, PAGE 448 DOC. #369722
2	81	WISCONSIN POWER AND LIGHT COMPANY DBA ALLIANT ENERGY	VOL. 272, PAGE 331 DOC. #24473
		0.544 ACRES BANDICOOT LIMITED PARTNERSHIP TAX ID. T09-15-17-25-08-001-00 DOC. 880968	

DOCS 1035297  
Recorded March 17, 2014 9:37 AM  
SHAWN KELLY  
REGISTER OF DEEDS  
FOND DU LAC COUNTY  
Fee Amount: \$25.88

RESERVED FOR REGISTER OF DEEDS  
PROJECT NUMBER 1420-22-21 - 4.02  
AMENDMENT NO:1

SCALE, FEET  
0 100 200

SE-NW SEC 25

LOCATION SKETCH (NOT TO SCALE)  
Lake Winnebago  
R-17-E R-18-E  
SHEET LOCATION

CTR51010 SURVEY SPIKE  
X = 826324.661  
Y = 372105.550

CE COLEMAN ENGINEERING COMPANY  
635 CIRCLE DRIVE  
IRON MOUNTAIN, MICHIGAN 49801

I, JAMES D. BLONDHEIM, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF WIS. DEPT. OF TRANSPORTATION, I HAVE SURVEYED TRANSPORTATION PROJECT PLAT 1420-22-21 - 4.02 AMENDMENT NO: 1 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

SIGNATURE: [Signature] DATE: 09/26/14  
JAMES D. BLONDHEIM, R.L.S. S-2800  
COLEMAN ENGINEERING COMPANY  
THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION, NORTHEAST REGION.  
SIGNATURE: [Signature] DATE: 09/10/14  
CURT VAN EREM

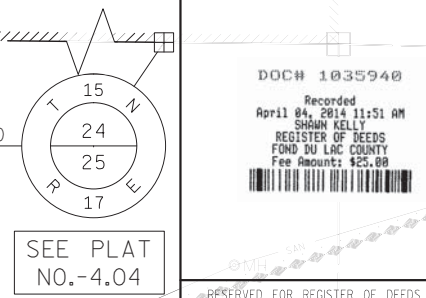
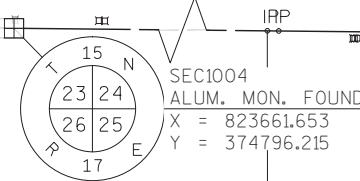
TRANSPORTATION PROJECT PLAT NO: 1420-22-21 - 4.03

THAT PART OF LOT 1, CSM 326, V. 3, PG. 125, LOCATED IN THE NW-NW OF SECTION 25; ALSO ALL OF LOT 1, CSM 6701, V. 46, PG. 97, LOCATED IN THE NW-NW AND THE SW-NW OF SECTION 25, T15N, R17E, TOWN OF FOND DU LAC; ALSO PART OF THE NW-NW OF SECTION 25, T15N, R17E, CITY OF FOND DU LAC, FOND DU LAC COUNTY, WISCONSIN.  
RELOCATION ORDER USH 151 FOND DU LAC COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, 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 PROJECT.

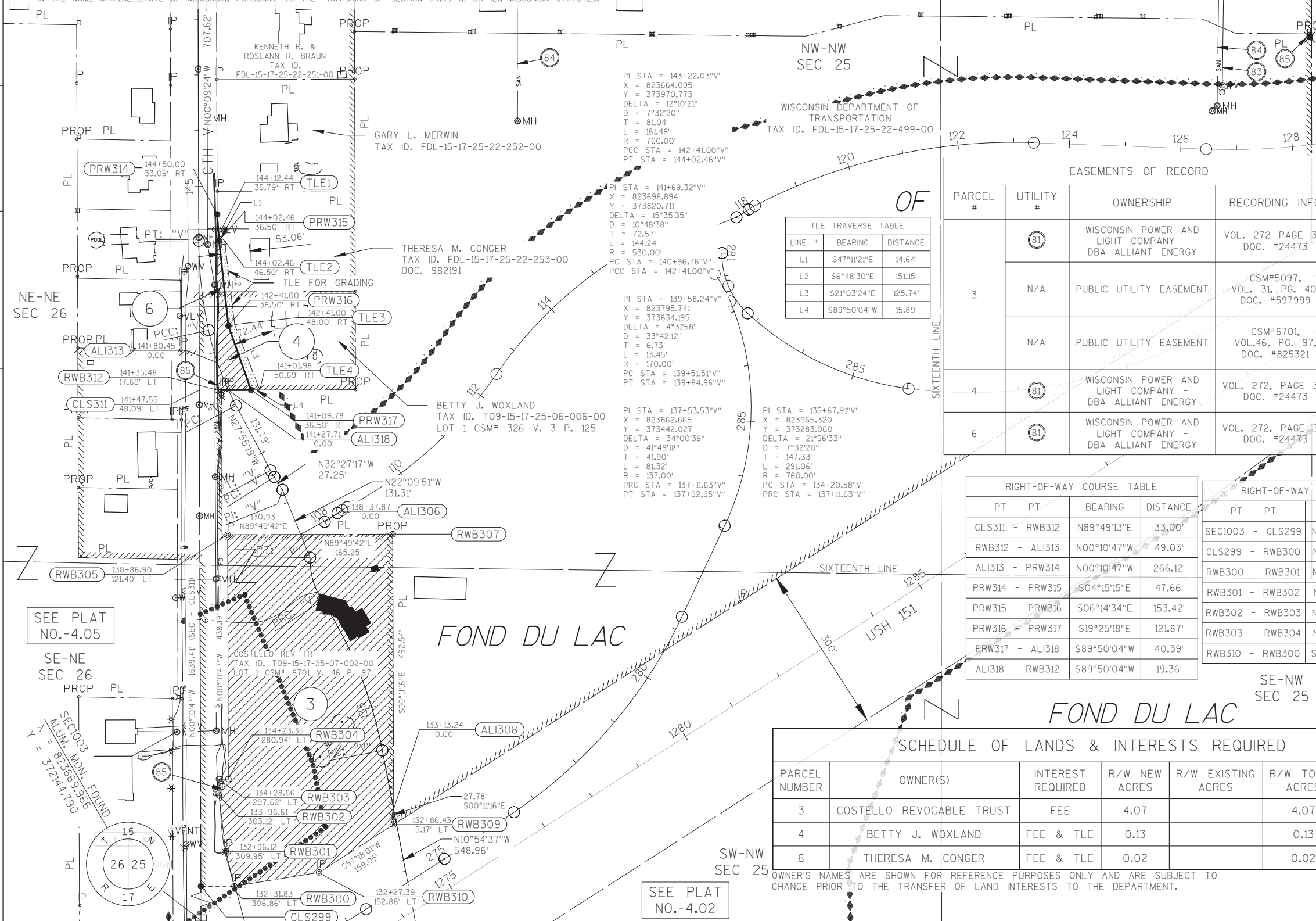
TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SUBSECTIONS 84.02 (3), 84.09, AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAYED 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.



DOCH# 1035940  
Recorded  
April 04, 2014 11:51 AM  
SHAWN KELLY  
REGISTER OF DEEDS  
FOND DU LAC COUNTY  
Fee amount: \$25.00

RESERVED FOR REGISTER OF DEEDS  
PROJECT NUMBER 1420-22-21 - 4.03  
AMENDMENT NO.:



UTILITY INTERESTS REQUIRED		
UTILITY NUMBER	OWNER(S)	INTEREST REQUIRED
81	ALLIANT ENERGY	RELEASE OF RIGHTS
83	CITY OF FOND DU LAC DEPARTMENT OF PUBLIC WORKS - WATER	RELEASE OF RIGHTS
84	FOND DU LAC SANITARY DISTRICT #4 - SEWER	RELEASE OF RIGHTS
85	CHARTER COMMUNICATIONS - TELEPHONE	RELEASE OF RIGHTS

EASEMENTS OF RECORD			
PARCEL #	UTILITY #	OWNERSHIP	RECORDING INFO
3	81	WISCONSIN POWER AND LIGHT COMPANY - DBA ALLIANT ENERGY	VOL. 272 PAGE 331 DOC. #24473
3	N/A	PUBLIC UTILITY EASEMENT	CSM#5097, VOL. 31, PG. 40, DOC. #597999
3	N/A	PUBLIC UTILITY EASEMENT	CSM#6701, VOL. 46, PG. 97, DOC. #825321
4	81	WISCONSIN POWER AND LIGHT COMPANY - DBA ALLIANT ENERGY	VOL. 272, PAGE 331 DOC. #24473
6	81	WISCONSIN POWER AND LIGHT COMPANY - DBA ALLIANT ENERGY	VOL. 272, PAGE 331 DOC. #24473

TLE TRAVERSE TABLE		
LINE #	BEARING	DISTANCE
L1	S47°11'21"E	14.64'
L2	S6°48'30"E	151.15'
L3	S21°03'24"E	125.74'
L4	S89°50'04"W	15.89'

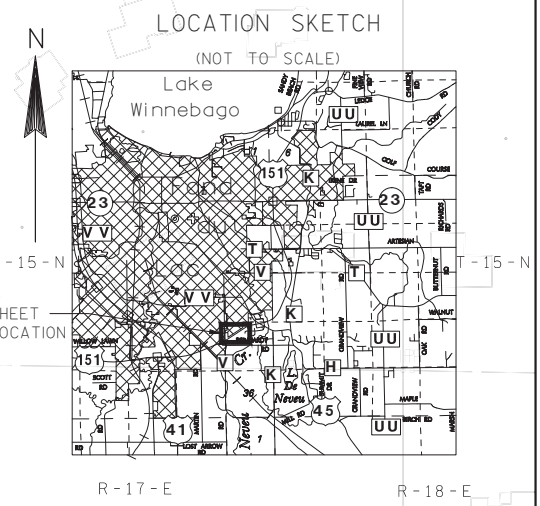
RIGHT-OF-WAY COURSE TABLE		
PT - PT	BEARING	DISTANCE
CLS311 - RWB312	N89°49'13"E	33.00'
RWB312 - ALI313	N00°10'47"W	49.03'
ALI313 - PRW314	N00°10'47"W	266.12'
PRW314 - PRW315	S04°15'15"E	47.66'
PRW315 - PRW316	S06°14'34"E	153.42'
PRW316 - PRW317	S19°25'18"E	121.87'
PRW317 - ALI318	S89°50'04"W	40.39'
ALI318 - RWB312	S89°50'04"W	19.36'

RIGHT-OF-WAY COURSE TABLE		
PT - PT	BEARING	DISTANCE
SEC1003 - CLS299	N00°10'47"W	750.00'
CLS299 - RWB300	N89°49'13"E	60.00'
RWB300 - RWB301	N13°39'24"W	64.36'
RWB301 - RWB302	N07°01'19"W	100.72'
RWB302 - RWB303	N00°10'47"W	29.40'
RWB303 - RWB304	N89°49'13"E	17.00'
RWB310 - RWB300	S80°44'32"W	154.07'

SCHEDULE OF LANDS & INTERESTS REQUIRED						
PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W NEW ACRES	R/W EXISTING ACRES	R/W TOTAL ACRES	PLE, TLE SF
3	COSTELLO REVOCABLE TRUST	FEE	4.07	-----	4.07	-----
4	BETTY J. WOXLAND	FEE & TLE	0.13	-----	0.13	2299.67
6	THERESA M. CONGER	FEE & TLE	0.02	-----	0.02	1006.67

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT.

NOTE: EXISTING ACCESS CONTROL ALONG USH 151 ESTABLISHED FROM PREVIOUS PROJECTS 1420-05-20 REVISED APRIL 4TH, 2005.



REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2, IN TRANSPORTATION PROJECT PLATS, AS DOCUMENT NO. 1035297, FOR ADDITIONAL INFORMATION.

**CE** COLEMAN ENGINEERING COMPANY  
635 CIRCLE DRIVE  
IRON MOUNTAIN, MICHIGAN 49801

I, JAMES D. BLONDHEIM, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF WIS. DEPT. OF TRANSPORTATION, I HAVE SURVEYED TRANSPORTATION PROJECT PLAT 1420-22-21 - 4.03 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.



SIGNATURE: *[Signature]* DATE 3/31/14  
JAMES D. BLONDHEIM, R.L.S. S-2800  
COLEMAN ENGINEERING COMPANY  
THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION, NORTHEAST REGION.  
SIGNATURE: *[Signature]* DATE 03/28/14  
CURT VAN EREM

TRANSPORTATION PROJECT PLAT NO: 1420-22-21 - 4.04 AMENDMENT NO: 1

AMENDS PARCELS NO: 7, 9, 11 AND 12 ALSO ADDS PARCEL NO: 14; REMOVES UTILITY #87 AND ADDS UTILITY #84 OF TRANSPORTATION PROJECT PLAT 1420-22-21-4.04 RECORDED AS DOCUMENT NO: 1036045

THAT PART OF LOTS 2, 3, 4 AND 5 OF THE PLAT OF BOWHOUSE'S SUBDIVISION V. 10 P. 41; PART OF LOTS 28, 29, 30, 31 AND 32 OF THE PLAT OF TAKODAH HEIGHTS SUBDIVISION V. 10 P. 31; LOCATED IN THE SW 1/4 - SE 1/4 OF SECTION 24, TOWNSHIP 15 NORTH, RANGE 17 EAST, TOWN OF FOND DU LAC, FOND DU LAC COUNTY, WISCONSIN.

RELOCATION ORDER USH 151 FOND DU LAC 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 PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SUBSECTIONS 84.02 (3), 84.09, AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT

- 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.
- 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.

NOTE:  
EXISTING ACCESS CONTROL ALONG USH 151  
ESTABLISHED FROM PREVIOUS PROJECTS  
1420-05-20 REVISED APRIL 4TH, 2005.

PT - PT	BEARING	DISTANCE
TLE1 - TLE2	S75°32'55"E	23.21'
TLE2 - TLE3	S21°24'41"E	65.19'
TLE3 - TLE4	S16°25'53"W	13.51'
TLE9 - TLE10	N31°42'21"E	21.34'



DOCN 1036044  
Recorded  
April 08, 2014 8:47 AM  
SHAWN KELLY  
REGISTER OF DEEDS  
FOND DU LAC COUNTY  
Fee Amount: \$25.00

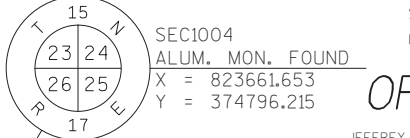
RESERVED FOR REGISTER OF DEEDS  
PROJECT NUMBER 1420-22-21 - 4.04  
AMENDMENT NO: 1

PI STA = 394+77.00"S"  
X = 826914.202  
Y = 374825.003  
DELTA = 35°19'11"  
D = 7°38'22"  
T = 238.78'  
L = 462.33'  
R = 750.00'  
PC STA = 392+38.22"S"  
PT STA = 397+00.56"S"

UTILITY NUMBER	OWNER(S)	INTEREST REQUIRED
80	ALLIANT ENERGY - GAS	RELEASE OF RIGHTS
81	ALLIANT ENERGY	RELEASE OF RIGHTS
84	TOWN OF FOND DU LAC SANITARY DISTRICT #4 - SEWER	RELEASE OF RIGHTS
85	CHARTER COMMUNICATIONS	RELEASE OF RIGHTS
88	AT&T WISCONSIN	RELEASE OF RIGHTS
89	AMERICAN TRANSMISSION COMPANY LLC.	RELEASE OF RIGHTS

PARCEL #	UTILITY #	OWNERSHIP	RECORDING INFO
7	81	WISCONSIN POWER AND LIGHT COMPANY - DBA ALLIANT ENERGY	VOL. 495, PAGE 311, DOC. #194591
7	N/A	TOWN OF FOND DU LAC	VOL. 1268, P. 542, DOC. #595082
7	89	AMERICAN TRANSMISSION COMPANY LLC.	DOC. #705430
7	81	WISCONSIN POWER AND LIGHT COMPANY - DBA ALLIANT ENERGY	
7	88	WISCONSIN BELL INC - DBA AT&T WISCONSIN	DOC. #769111
7	85	WISCONSIN AND CHARTER CABLE PARTNERS, LLC. - DBA CHARTER COMMUNICATIONS	
7	81	WISCONSIN POWER AND LIGHT COMPANY - DBA ALLIANT ENERGY	VOL. 388, PAGE 532, DOC. #134363
7	88	WISCONSIN TELEPHONE COMPANY - DBA AT&T WISCONSIN	
7	81	WISCONSIN POWER AND LIGHT COMPANY - DBA ALLIANT ENERGY	VOL. 388, PAGE 532, DOC. #134363
7	88	WISCONSIN TELEPHONE COMPANY - DBA AT&T WISCONSIN	
7	81	WISCONSIN POWER AND LIGHT COMPANY - DBA ALLIANT ENERGY	VOL. 388, PAGE 532, DOC. #134363
7	88	WISCONSIN TELEPHONE COMPANY - DBA AT&T WISCONSIN	
7	81	WISCONSIN POWER AND LIGHT COMPANY - DBA ALLIANT ENERGY	VOL. 388, PAGE 532, DOC. #134363
7	88	WISCONSIN TELEPHONE COMPANY - DBA AT&T WISCONSIN	
7	81	WISCONSIN POWER AND LIGHT COMPANY - DBA ALLIANT ENERGY	VOL. 388, PAGE 532, DOC. #134363
7	88	WISCONSIN TELEPHONE COMPANY - DBA AT&T WISCONSIN	
7	N/A	LOT 32 & 33 OF THE PLAT OF TAKODAH HEIGHTS SUBDIVISION	VOL. 983, PAGE 48, DOC. #458650

PT - PT	BEARING	DISTANCE
TLE5 - TLE6	S69°34'05"W	5.00'
TLE6 - TLE7	N20°25'55"W	50.00'
TLE7 - TLE8	N69°34'05"E	5.00'



SEC1004  
ALUM. MON. FOUND  
X = 823661.653  
Y = 374796.215

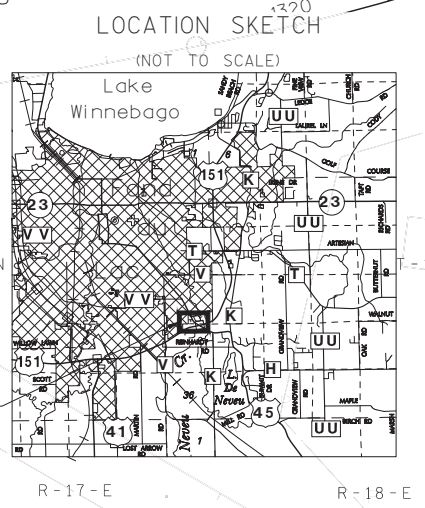
SEC1021  
ALUM. MON. FOUND  
X = 826325.542  
Y = 374768.766

PT - PT	BEARING	DISTANCE
PRW403 - PRW404	N46°20'04"E	28.42'
PRW404 - RWB405	N06°04'04"E	51.06'
RWB405 - RWB406	N20°25'55"W	247.47'
RWB406 - RWB407	N26°02'55"W	86.90'
RWB407 - ALI408	N64°11'24"E	33.44'
ALI408 - PRW409	N64°11'24"E	32.56'
PRW409 - PRW411	S33°27'55"E	100.90'
PRW411 - PRW412	S25°01'32"E	119.63'
PRW413 - PRW414	S46°57'33"E	100.00'
PRW414 - RWB415	S52°18'52"E	90.01'
RWB415 - RWB416	S71°11'33"E	164.25'
RWB416 - ALI417	N88°39'23"W	173.86'
ALI417 - RWB418	N88°39'23"W	213.16'
RWB418 - PRW403	N88°39'23"W	18.31'

CURVE	CHORD BEARING	CHORD DISTANCE	RADIUS	ARC LENGTH	PI Y	PI X
C1	S37°36'19"E	62.87'	818.51'	62.88	374947.950	826909.842
C2	N40°26'19"W	378.83'	750.00'	382.97	374863.729	826895.473

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W NEW ACRES	R/W EXISTING SF	R/W TOTAL SF	PLE, TLE SF
7	JEFFREY AND JESSICA BURMEISTER	FEE, ACCESS RIGHTS & TLE	0.004	----	185.18	250.00
8	JAMES A. AND JALAIN M. KARL	FEE	0.003	----	117.69	----
9	RICHARD N. AND CAROL A. MELKE	FEE	0.006	----	245.26	----
11	ROBERT J. EVANS	FEE	0.025	88.60	1094.40	----
12	HAROLD C. MANSKE	FEE & TLE	0.009	----	390.85	637.37
13	JEREMY L. MUELLENBACH AND-KIMBERLY D. SEARL	TLE	----	----	----	508.36
14	L&T INVESTMENTS, A WISCONSIN GENERAL PARTNERSHIP	TLE	----	----	----	180.50

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT.



REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2, IN TRANSPORTATION PROJECT PLATS, AS DOCUMENT NO. 1035297- FOR ADDITIONAL INFORMATION.

CE COLEMAN ENGINEERING COMPANY  
635 CIRCLE DRIVE  
IRON MOUNTAIN, MICHIGAN 49801



I, JAMES D. BLONDHEIM, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF WIS. DEPT. OF TRANSPORTATION, I HAVE SURVEYED TRANSPORTATION PROJECT PLAT 1420-22-21 - 4.04 AMENDMENT NO: 1 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.  
SIGNATURE: [Signature] DATE 6/2/14  
JAMES D. BLONDHEIM, R.L.S. S-2800  
COLEMAN ENGINEERING COMPANY  
THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION, NORTHEAST REGION.  
SIGNATURE: [Signature] DATE 04/01/14  
CURT VAN EREM



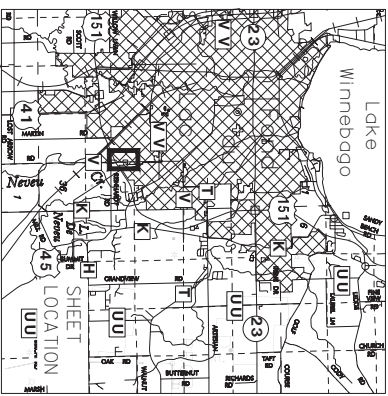
**TRANSPORTATION PROJECT PLAT NO.: 1420-22-21 - 4.05**

THA LOT 1 OF CSM 3986, V. 22, P. 65; ALSO THAT PART OF THE SE 1/4 - NE 1/4 AND THE NE 1/4 - NE 1/4 OF SECTION 26, TOWN OF FOND DU LAC COUNTY, WISCONSIN.

DOCH 1036045  
 Recorded  
 April 06, 2014 8:56 AM  
 SHAWN KELLY  
 REGISTER OF DEEDS  
 FOND DU LAC COUNTY  
 Fee Amount: \$25.00

TO PROTECT THE INTERESTS OF THE PUBLIC IN THE LANDS FOR THE ABOVE PROJECT, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT: TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SUBSECTIONS 84.02 (3), 84.09, AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT: TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SUBSECTIONS 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 LAYED OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN 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.



RESERVED FOR REGISTER OF DEEDS  
 PROJECT NUMBER 1420-22-21 - 4.05  
 AMENDMENT NO. ....  
 SIGNATURE: *Curt Van Erem* DATE 04/01/14  
 CURT VAN EREM

**EASEMENTS OF RECORD**

PARCEL #	UTILITY #	OWNERSHIP	RECORDING INFO
16	(81)	AMERICAN TRANSMISSION COMPANY LLC, WISCONSIN POWER AND LIGHT COMPANY	DOC. #863775
17	(82)	US SPRINT COMMUNICATIONS COMPANY LIMITED PARTNERSHIP	VOL. 1036, PAGE 830, DOC. #489235
18	(83)	WISCONSIN POWER AND LIGHT COMPANY DBA ALLIANT ENERGY	VOL. 574, PAGE 224, DOC. #226847
	(84)	WISCONSIN POWER AND LIGHT COMPANY DBA ALLIANT ENERGY	VOL. 574, PAGE 224, DOC. #226852

**UTILITY INTERESTS REQUIRED**

UTILITY NUMBER	OWNERSHIP	INTEREST REQUIRED	RELEASE OF RIGHTS
81	ALLIANT ENERGY	RELEASE OF RIGHTS	
82	CITY OF FOND DU LAC DEPARTMENT OF PUBLIC WORKS - SANITARY SEWER	RELEASE OF RIGHTS	
83	CITY OF FOND DU LAC DEPARTMENT OF PUBLIC WORKS - WATER	RELEASE OF RIGHTS	
89	AMERICAN TRANSMISSION COMPANY LLC, WISCONSIN POWER AND LIGHT COMPANY	RELEASE OF RIGHTS	
90	US SPRINT COMMUNICATIONS COMPANY LIMITED PARTNERSHIP	RELEASE OF RIGHTS	

**TILE TRAVERSE TABLE**

Line #	BEARING	DISTANCE
L21	S89°49'13"W	15.00'
L22	N0°10'47"W	30.00'
L23	N89°49'13"E	15.00'

**SCHEDULE OF LANDS & INTERESTS REQUIRED**

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W NEW ACRES	R/W EXISTING ACRES	R/W TOTAL SF	P.L.E. \$F
16	WHITE PINE RESOURCES	FEE & TILE	0.372	16205.67	1268,274	
17	WILLIAM E. & JUDITH D. LEE	FEE & TILE	0.036	15777.37	3632,67	
18	JAMES S. MALY	TILE	---	---	626,07	
19	AARON C. KLASSY AND CARMEN L. JEGLUM	TILE	---	---	668,68	

**WHITE PINE RESOURCES**

CURVE	CHORD BEARING	CHORD DISTANCE	ARC LENGTH	PI X	PI Y
C1	N1°30'58"E	113.27'	760.00'	113.37	823973.489

**AARON C. KLASSY & CARMEN L. JEGLUM**

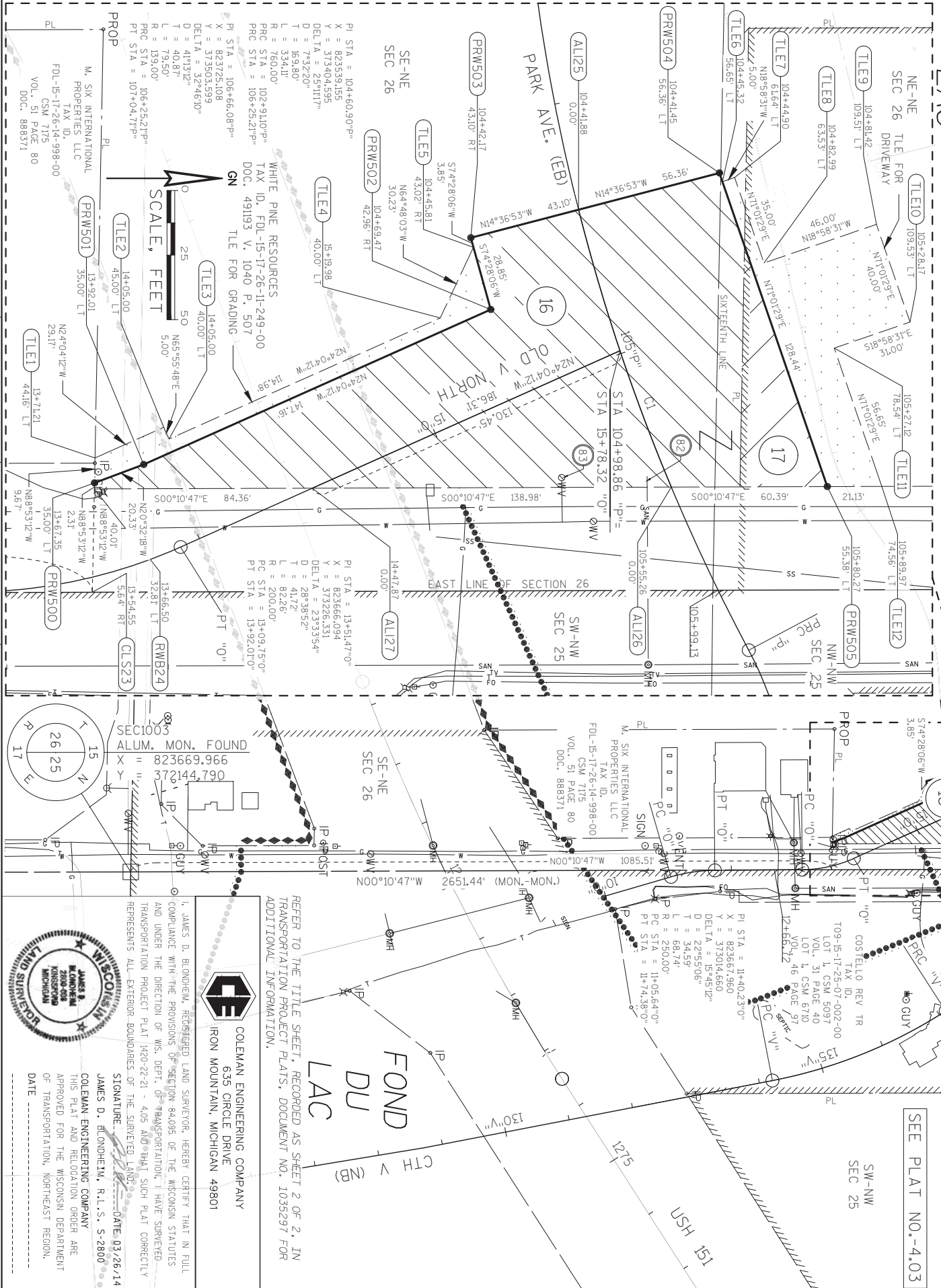
TAX ID.	F.D.L.	REV.	PAGE
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109-15-17-26-11-001-00	F.D.L.-15-17-26-11-001-00	22	66

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT.

**FOND DU LAC**

NOTE:  
 EXISTING ACCESS CONTROL ALONG USH 151  
 ESTABLISHED FROM PREVIOUS PROJECTS  
 1420-05-20 REVISED APRIL 4TH, 2005.

WILLIAM E. & JUDITH D. LEE  
 TAX ID. 109-15-17-26-11-002-00  
 DOC. 296650 V. 719 P. 304  
 DOC. 312496 V. 742 P. 71



COLEMAN ENGINEERING COMPANY  
 635 ORCLE DRIVE  
 IRON MOUNTAIN, MICHIGAN 49801

REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2, IN TRANSPORTATION PROJECT PLATS, DOCUMENT NO. 1035297 FOR ADDITIONAL INFORMATION.

I, JAMES D. BLONDEHM, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF MRS. DEPT. OF TRANSPORTATION, I HAVE SUPERVISED TRANSPORTATION PROJECT PLAT 1420-22-21 - 4.05 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LANDS.

JAMES D. BLONDEHM, R.L.S. #2800  
 DATE: 03/26/14  
 COLEMAN ENGINEERING COMPANY  
 THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION, NORTHEAST REGION.  
 DATE: \_\_\_\_\_

TRANSPORTATION PROJECT PLAT NO: 1420-22-21 - 4.06

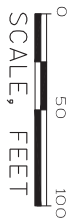
THAT PART OF THE LOT 3 OF CSM 4024, V. 22, P. 103 AND LOT 2 CSM 3986, V. 22, P. 65; ALSO THAT PART OF THE NE 1/4 - NE 1/4 OF SECTION 26, ALSO THAT PART OF LOT 1 CSM 127, V. 1 P. 127; ALSO THAT PART OF THE NW 1/4 - NW 1/4 OF SECTION 25, TOWN 15 NORTH, RANGE 17 EAST, CITY OF FOND DU LAC COUNTY, WISCONSIN RELOCATION ORDER USH 151 FOND DU LAC 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 PROJECT.

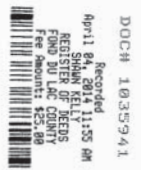
TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.05, AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT.

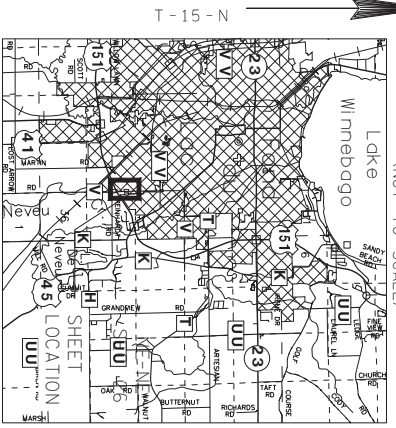
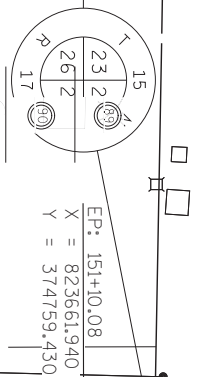
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (D OR (2), WISCONSIN STATUTES.



RESERVED FOR REGISTER OF DEEDS  
PROJECT NUMBER 1420-22-21 - 4.06  
AMENDMENT NO. ....



SECTION 04  
ALUM. MON. FOND  
X = 823661.653  
Y = 374796.215



SCHEDULE OF LANDS & INTERESTS REQUIRED							
PARCEL NUMBER	OWNERS)	INTEREST REQUIRED	R/W NEW ACRES	R/W EXISTING ACRES	R/W TOTAL ACRES	TILE SF	PLE SF
6	THERESA M. CONGER	FEE, PLE & TILE	0.019	---	0.019	262,150	645,98
22	GARY L. MERRIN	TILE	---	---	---	5120.83	---
23	KENNETH R. & ROSEANN R. BRAUN	PLE & TILE	---	---	---	2935.06	1333.66
24	MICHAEL T. KOEHN & ALYSON G. MUELLER	TILE	---	---	---	1829.02	---
26	ANTHONY S. & CATHELEN S. RODEN	TILE	---	---	---	400.79	---

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT.

PARCEL #	UTILITY	OWNERSHIP	RECORDING INFO
6	UTILITY	WISCONSIN POWER AND LIGHT COMPANY - DBA ALLIANT ENERGY	VOL. 272, PAGE 331 DOC. #24473

WHITE PINE RESOURCES  
TAX ID. FDL-15-17-26-11-249-00  
DOC. 49193 V. 1040 P. 507

TILE TRAVERSE TABLE			
Line #	BEARING	DISTANCE	
L12	S89°50'36"W	10.03	
L13	N00°09'24"W	40.00'	
L14	N89°50'36"E	10.01'	

ANTHONY S. & CATHELEN S. RODEN  
TAX ID. FDL-15-17-26-11-023-00  
PART OF LOT 3 CSM 4024, V. 22, P. 103

UTILITY NUMBER	OWNERS)	INTEREST REQUIRED	RELEASE OF RIGHTS
81	ALLIANT ENERGY		

MICHAEL T. KOEHN & ALYSON G. MUELLER  
TAX ID. FDL-15-17-26-11-004-00  
LOT 2 CSM 3986, V. 22, P. 65

TILE TRAVERSE TABLE			
Line #	BEARING	DISTANCE	
L9	N60°15'04"W	30.09'	
L10	N00°09'24"W	55.00'	
L11	N89°50'36"E	26.05'	

NE-NE  
SEC 26

TILE FROM 1420-22-21-4.05  
RECORDED AS DOC. #1035941

FOND DU LAC

TILE FROM 1420-22-21-4.05  
RECORDED AS DOC. #1035941

SEE PLAT NO.-4.05

SIGNATURE

PI STA = 143+22.03  
X = 373970.773  
Y = 823664.095  
DELTA = 12°10'21"  
D = 7°32'20"  
T = 81.04'  
L = 161.46'  
R = 760.00'  
PCC STA = 142+41.00  
PT STA = 144+02.46

TILE FROM 1420-22-21-4.05  
RECORDED AS DOC. #1035941

FOND DU LAC

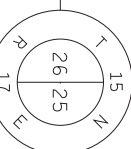
TILE FROM 1420-22-21-4.05  
RECORDED AS DOC. #1035941

TILE FROM 1420-22-21-4.05  
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RECORDED AS DOC. #1035941

TILE FROM 1420-22-21-4.05  
RECORDED AS DOC. #1035941

TILE FROM 1420-22-21-4.05  
RECORDED AS DOC. #1035941



SECTION 03  
ALUM. MON. FOND  
X = 823669.916  
Y = 372144.794

APPROXIMATE SIXTEENTH LINE SEC 26

DATE 03/26/14

DATE 09/30/14

DATE 09/30/14

DATE 09/30/14

DATE 09/30/14

DATE 09/30/14

DATE 09/30/14

DATE 09/30/14

RIGHT-OF-WAY COURSE TABLE			
PT - PT	BEARING	DISTANCE	
PRW314-PRW315	S41°15'E	47.66'	
PRW315-PRW600	S64°13.4'E	92.02'	
PRW600-RWB601	S89°41'16"W	13.11'	
RWB601-PRW314	N0°10'41.7"W	139.07'	

FOND DU LAC

SEE PLAT NO.-4.03

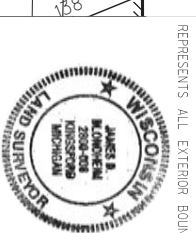
WISCONSIN DEPARTMENT OF TRANSPORTATION  
TAX ID. FDL-15-17-25-08-008-00  
LOT 1, CSM 326 V. 3, P. 125

NOTE:  
EXISTING ACCESS CONTROL ALONG USH 151 ESTABLISHED FROM PREVIOUS PROJECTS 1420-05-20 REVISED APRIL 4TH, 2005.

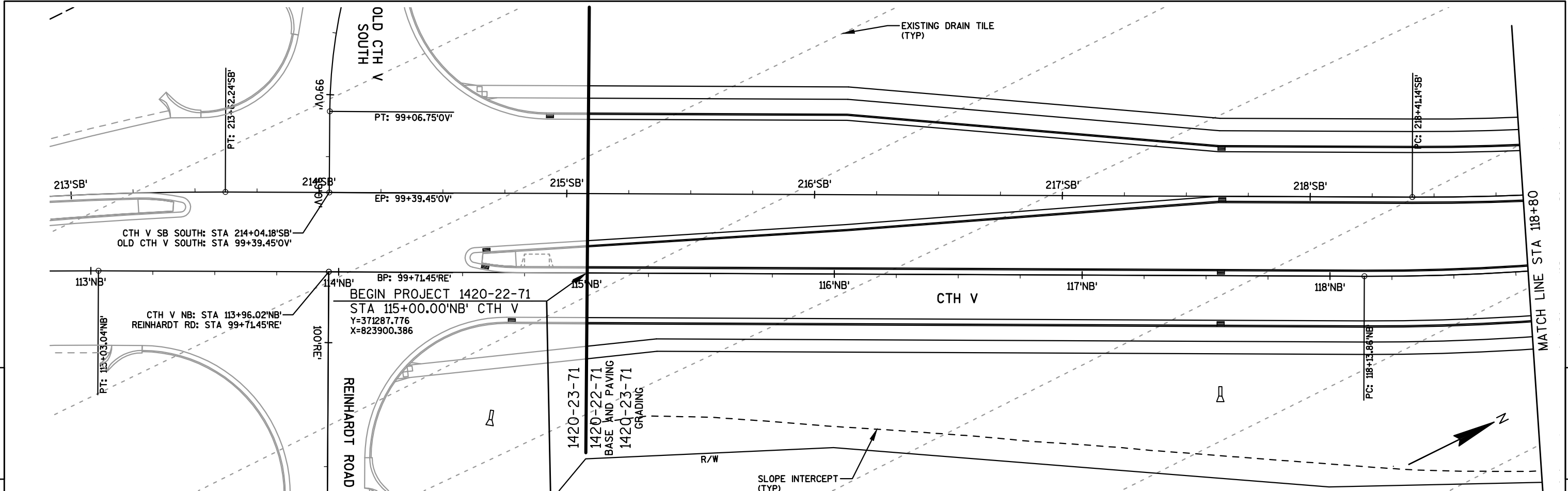
COLEMAN ENGINEERING COMPANY  
635 ORCLE DRIVE  
IRON MOUNTAIN, MICHIGAN 49801



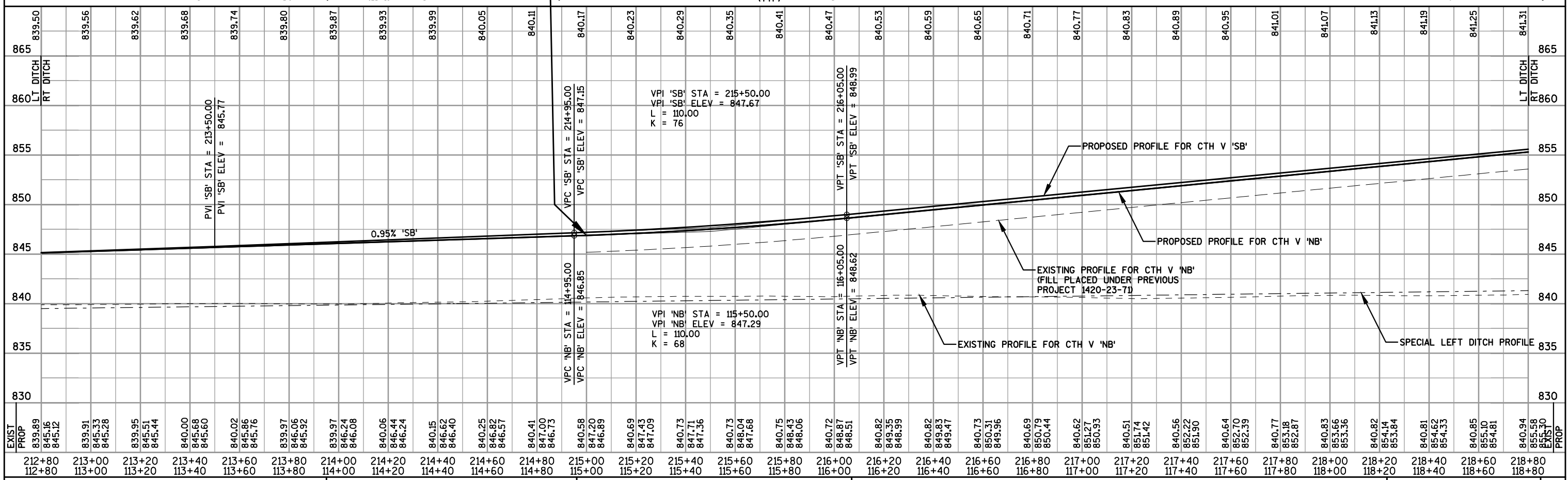
JAMES D. BLONDHEIM, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF MS. DEPT. OF TRANSPORTATION, I HAVE SURVEYED TRANSPORTATION PROJECT PLAT 1420-22-21 - 4.06 AND THAT SAID PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.  
SIGNATURE: [Signature] DATE 09/30/14  
JAMES D. BLONDHEIM, R.L.S., S-2800  
COLEMAN ENGINEERING COMPANY  
THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION, NORTHEAST REGION.  
SIGNATURE: [Signature] DATE 09/26/14



5

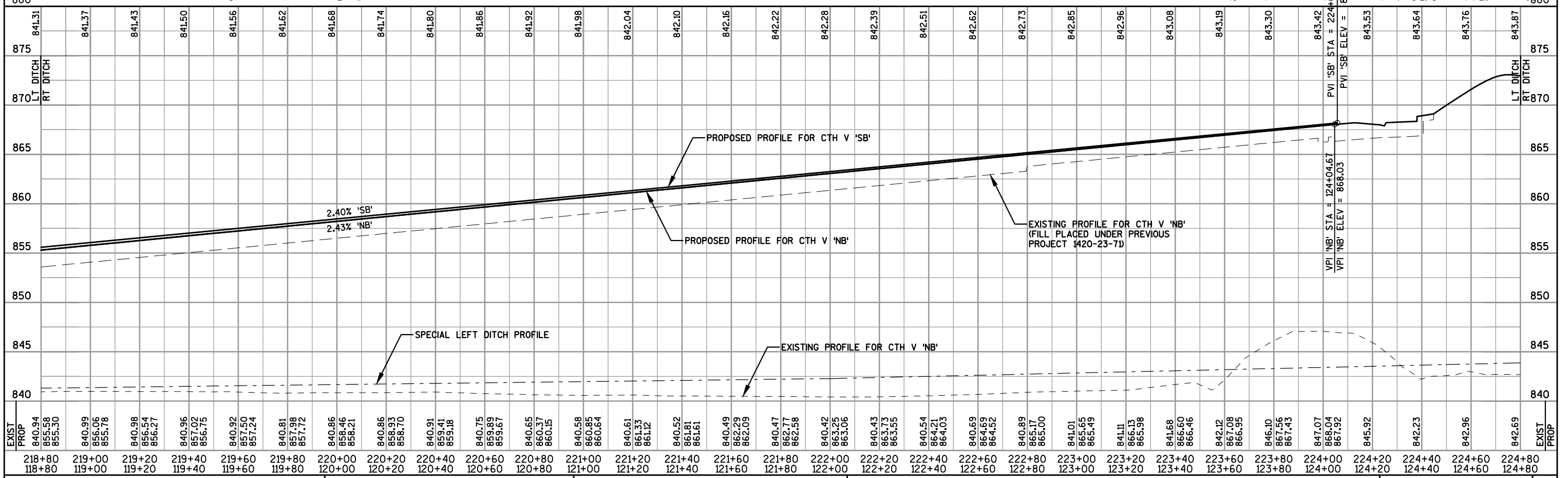
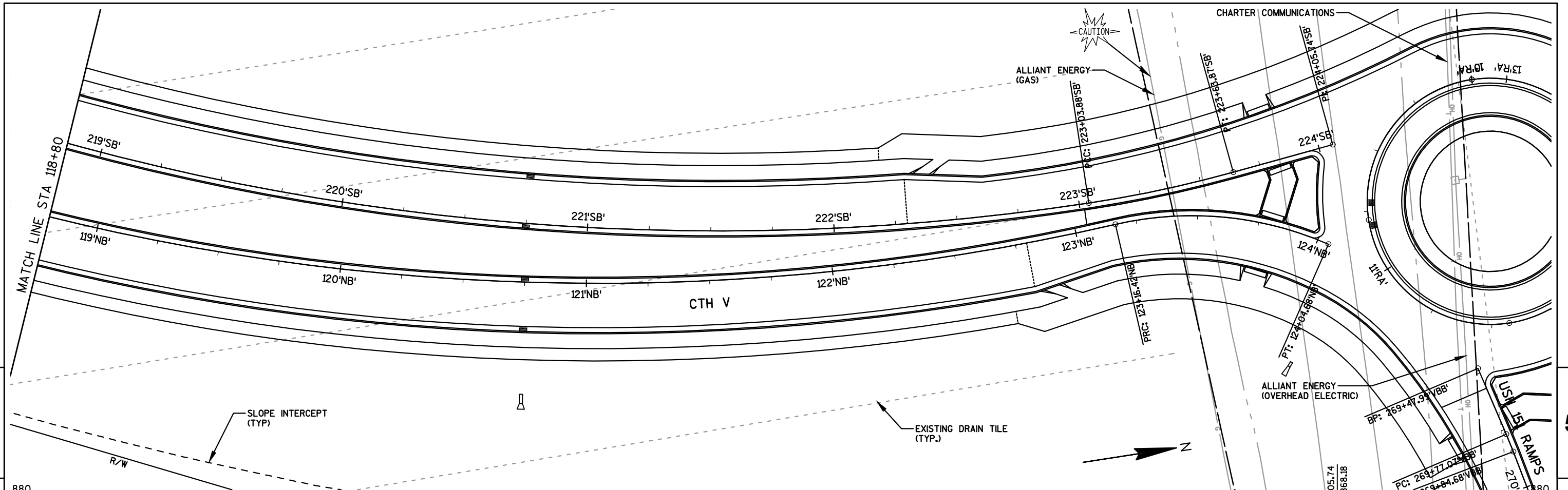


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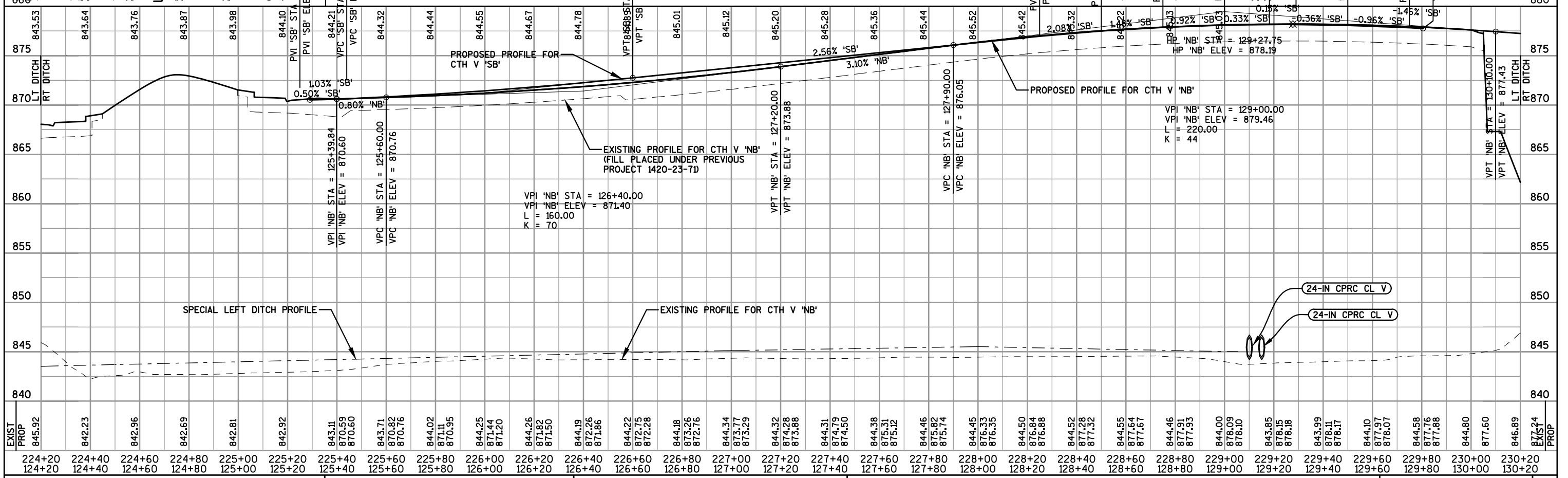
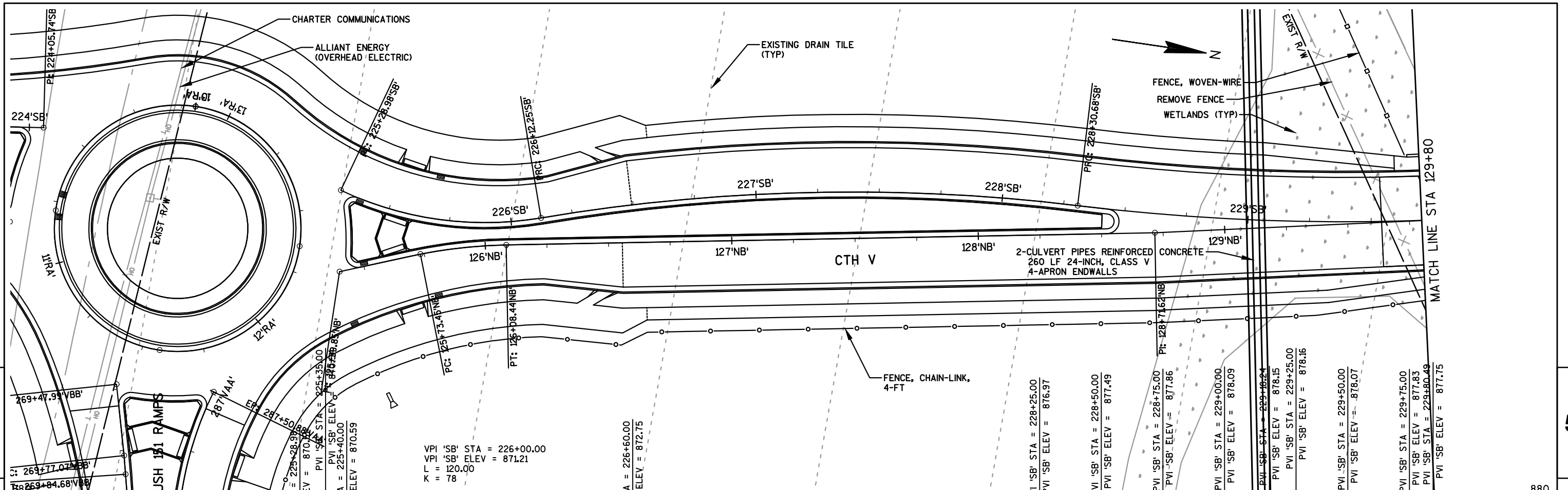
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	212+80 112+80	213+00 113+00	213+20 113+20	213+40 113+40	213+60 113+60	213+80 113+80	214+00 114+00	214+20 114+20	214+40 114+40	214+60 114+60	214+80 114+80	215+00 115+00	215+20 115+20	215+40 115+40	215+60 115+60	215+80 115+80	216+00 116+00	216+20 116+20	216+40 116+40	216+60 116+60	216+80 116+80	217+00 117+00	217+20 117+20	217+40 117+40	217+60 117+60	217+80 117+80	218+00 118+00	218+20 118+20	218+40 118+40	218+60 118+60	218+80 118+80	

PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      PLAN AND PROFILE: CTH V NORTHBOUND      SHEET      E



EXIST PROP	840.94	840.99	840.98	840.96	840.92	840.81	840.86	840.86	840.86	840.86	840.91	840.75	840.65	840.58	840.61	840.52	840.49	840.47	840.42	840.43	840.54	840.69	840.89	841.01	841.11	841.68	842.12	842.23	842.96	843.87	EXIST PROP	
	855.58	855.06	856.54	857.02	857.50	857.98	858.46	858.93	859.41	859.89	859.37	860.85	861.33	861.81	862.29	862.77	863.25	863.73	864.21	864.69	865.17	865.65	866.13	866.61	867.09	867.57	868.05	868.53	869.01	869.49	870.00	
	218+80	219+00	219+20	219+40	219+60	219+80	220+00	220+20	220+40	220+60	220+80	221+00	221+20	221+40	221+60	221+80	222+00	222+20	222+40	222+60	222+80	223+00	223+20	223+40	223+60	223+80	224+00	224+20	224+40	224+60	224+80	
	118+80	119+00	119+20	119+40	119+60	119+80	120+00	120+20	120+40	120+60	120+80	121+00	121+20	121+40	121+60	121+80	122+00	122+20	122+40	122+60	122+80	123+00	123+20	123+40	123+60	123+80	124+00	124+20	124+40	124+60	124+80	

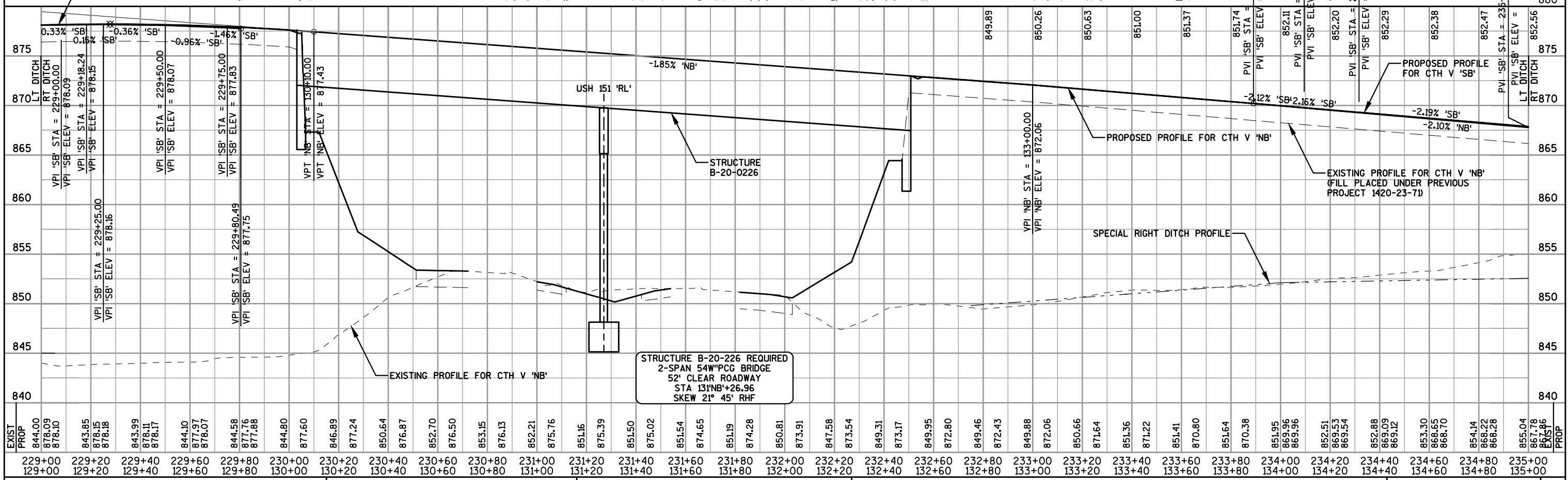
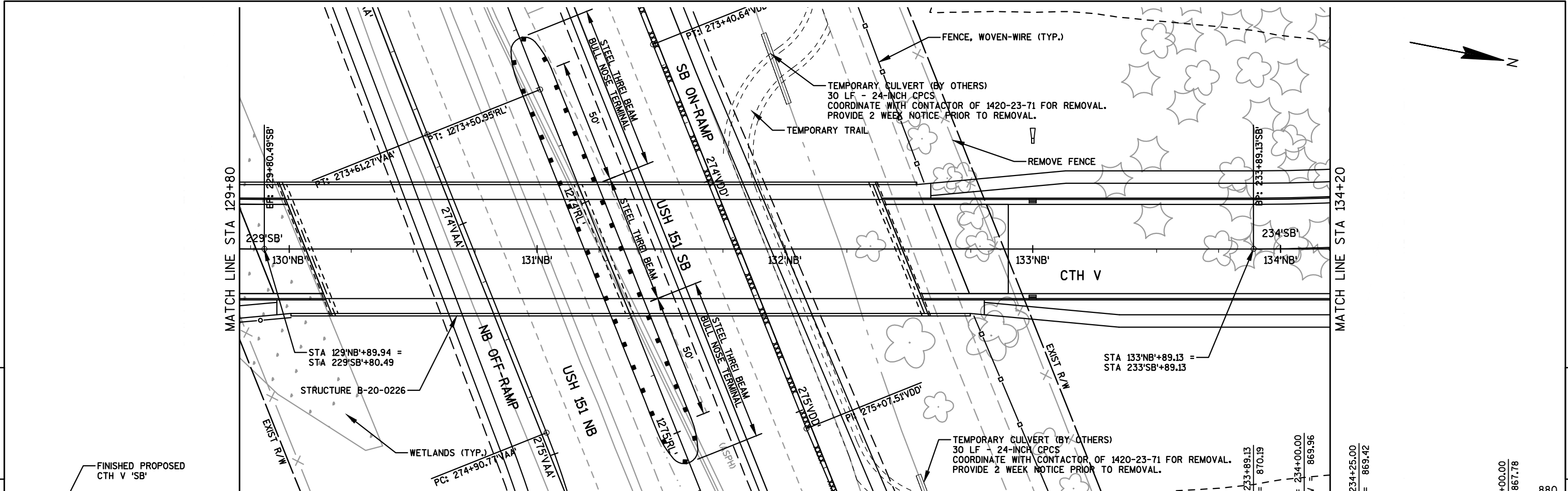
PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      PLAN AND PROFILE: CTH V NORTHBOUND      SHEET      E



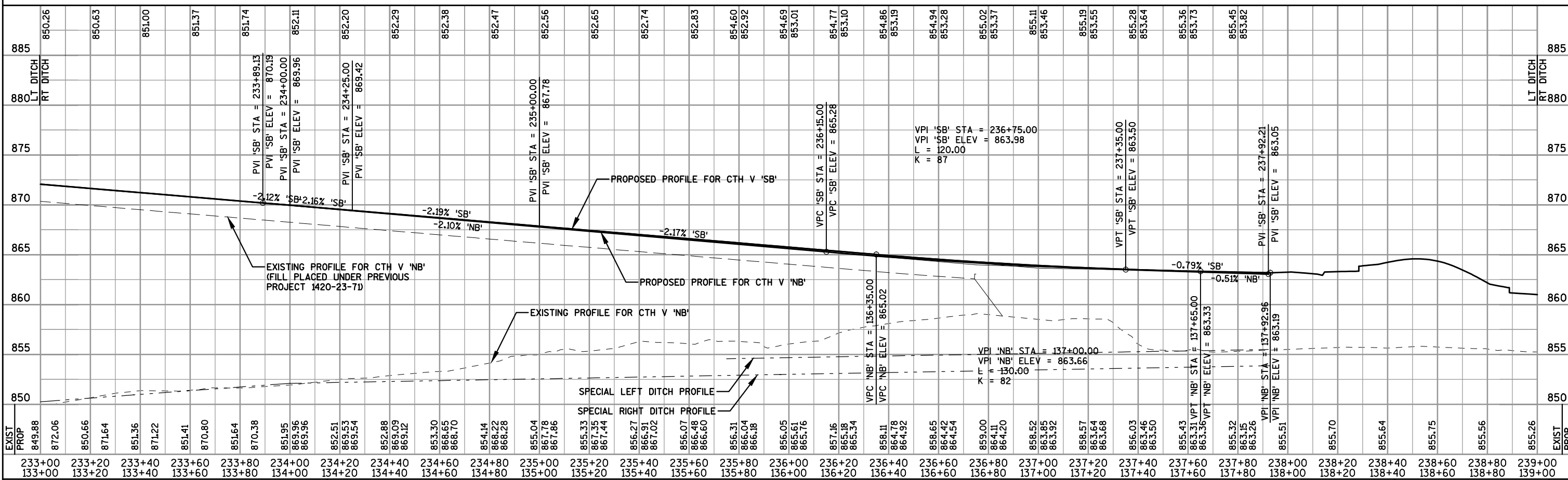
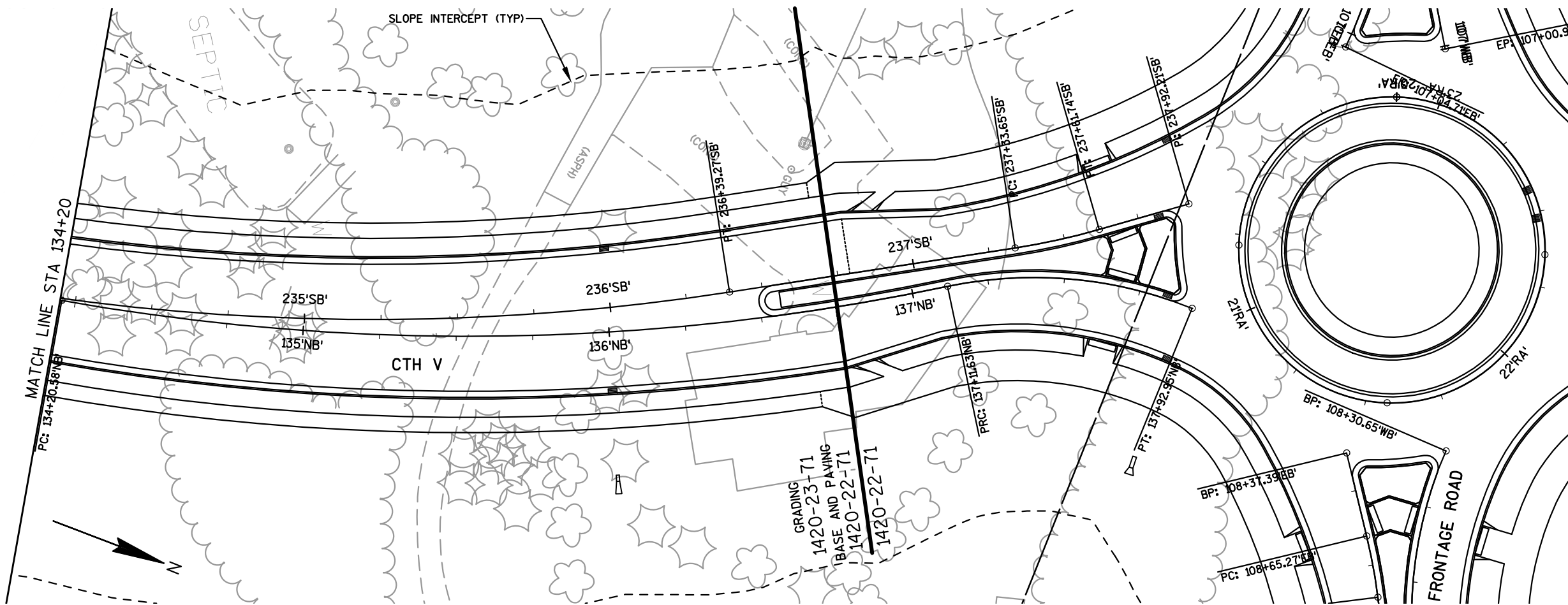
PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      PLAN AND PROFILE: CTH V NORTHBOUND      SHEET      E

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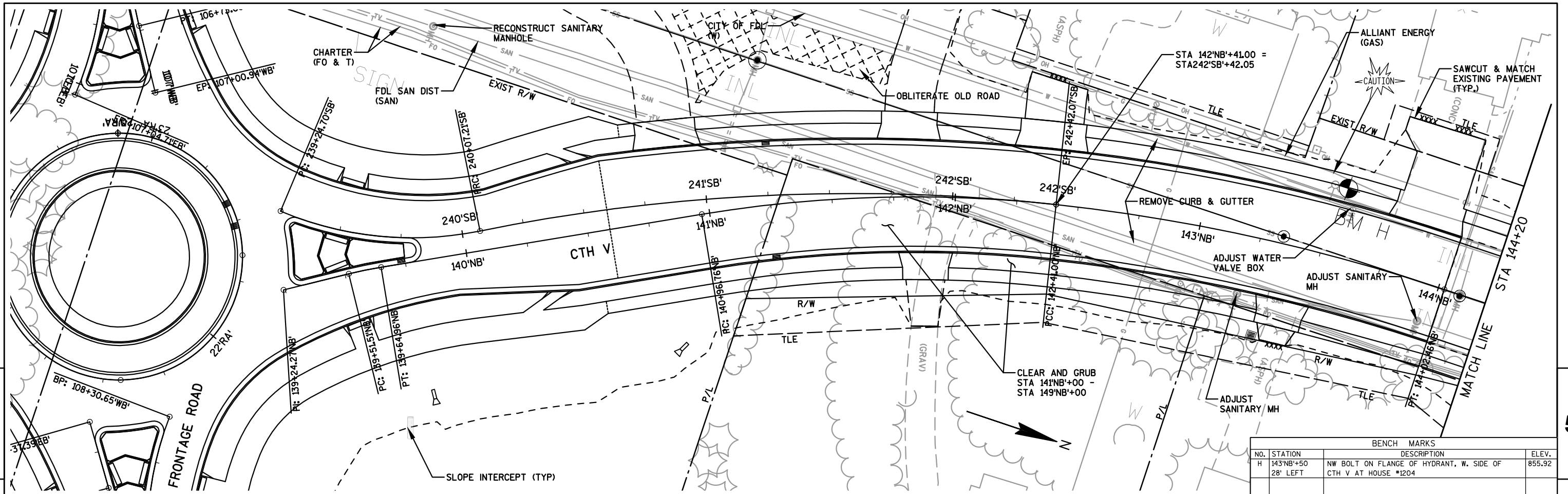
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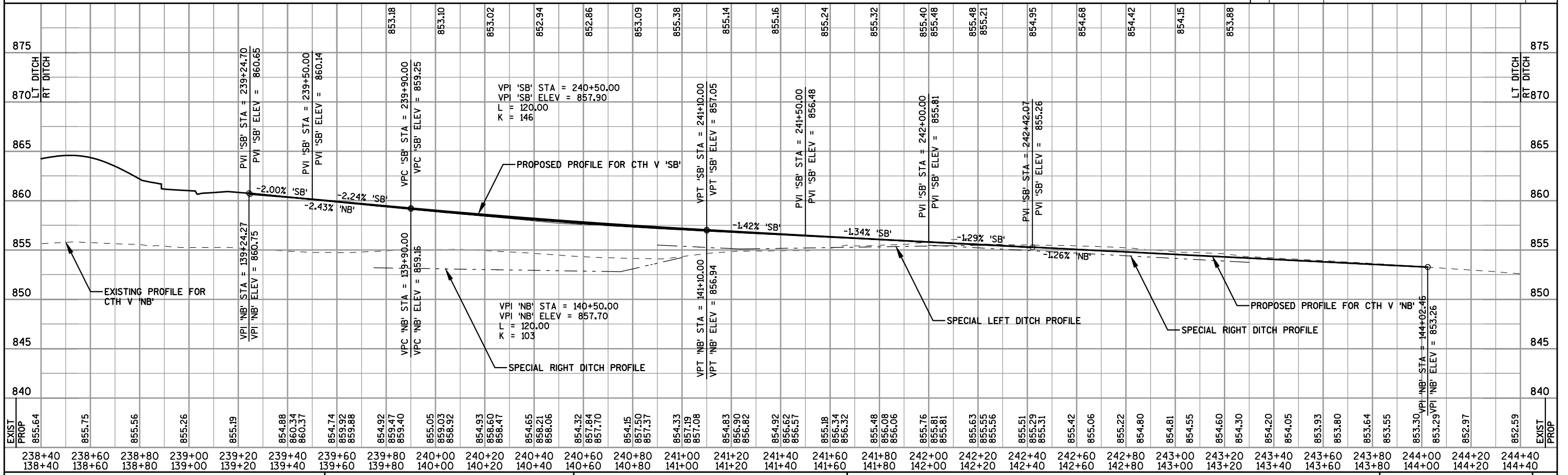
PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      PLAN AND PROFILE: CTH V NORTHBOUND      SHEET      E



PROJECT NO: 1420-22-71				HWY: USH 151				COUNTY: FOND DU LAC				PLAN AND PROFILE: CTH V NORTHBOUND				SHEET				E
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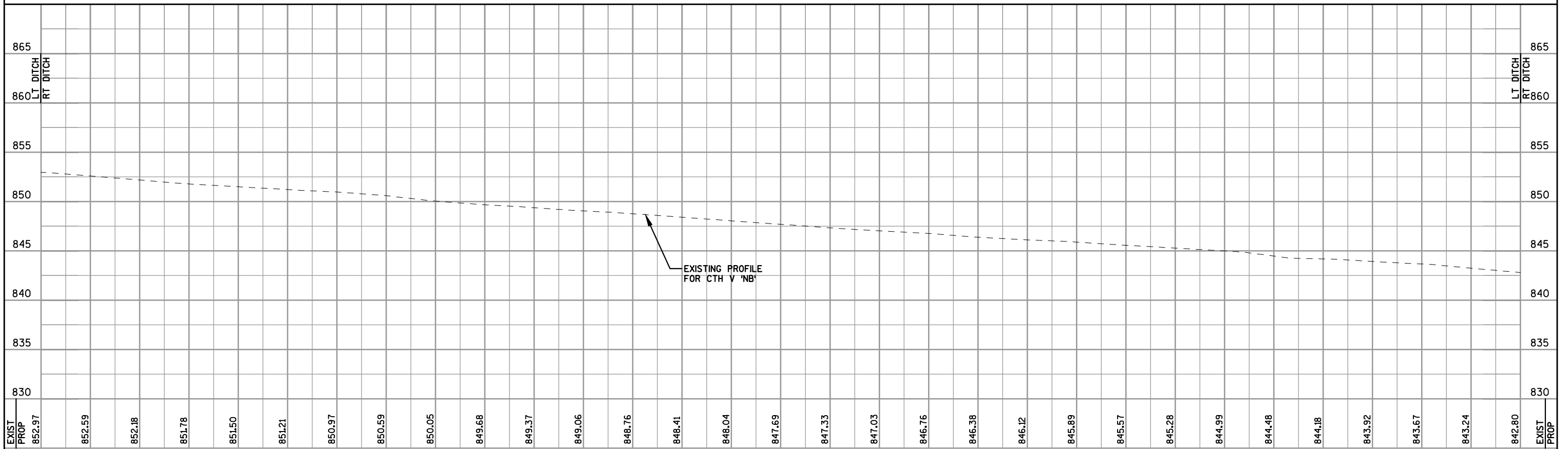
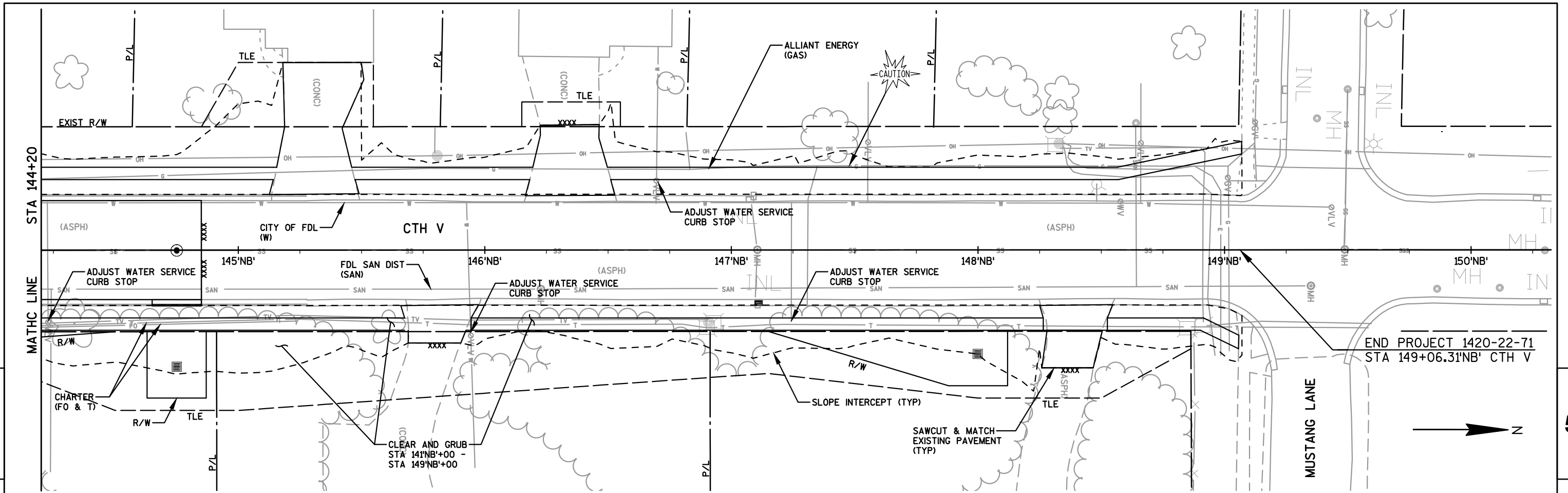


BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
H	143'NB'+50 28' LEFT	NW BOLT ON FLANGE OF HYDRANT, W. SIDE OF CTH V AT HOUSE #1204	855.92



PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      PLAN AND PROFILE: CTH V NORTHBOUND      SHEET      E

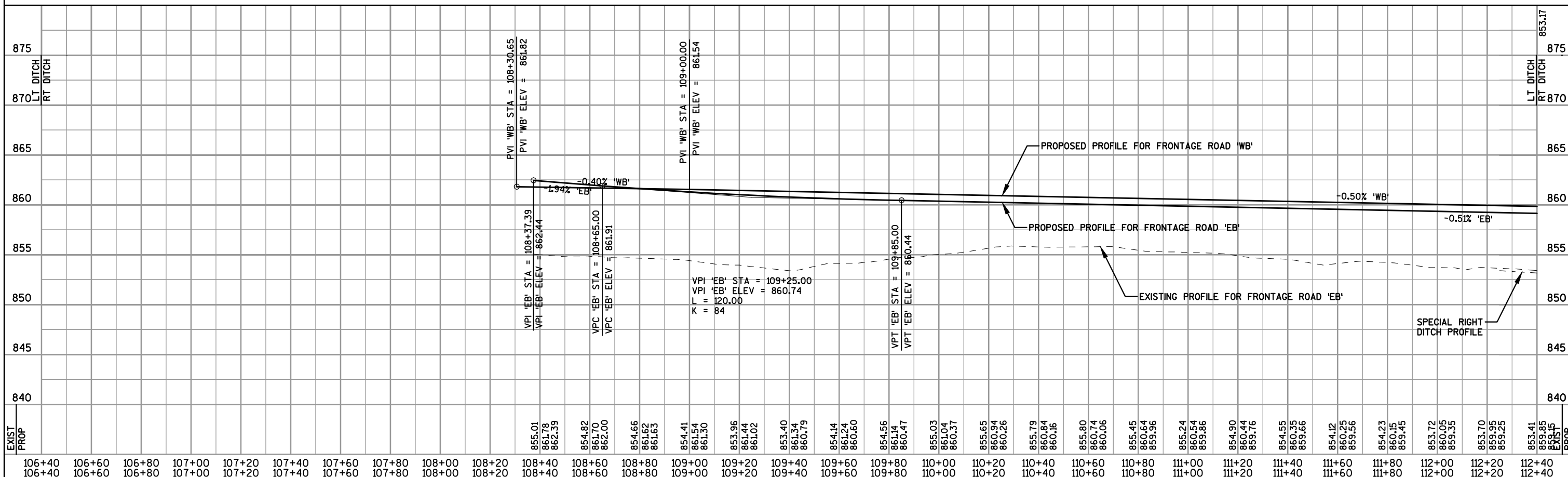
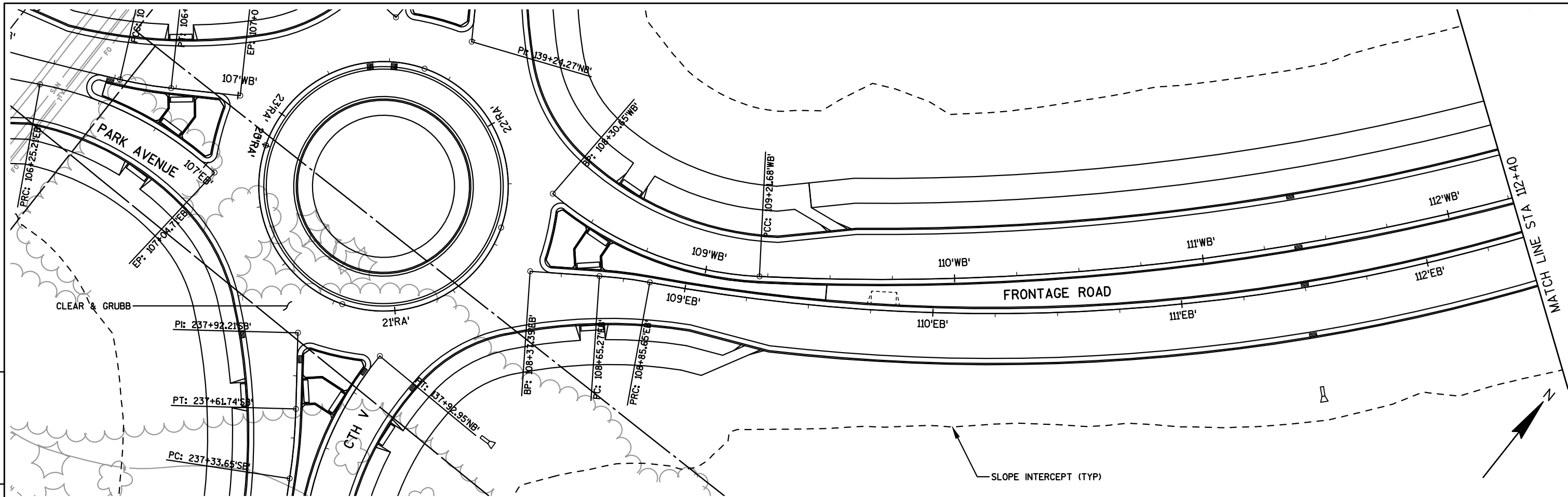




865	865
860	860
855	855
850	850
845	845
840	840
835	835
830	830

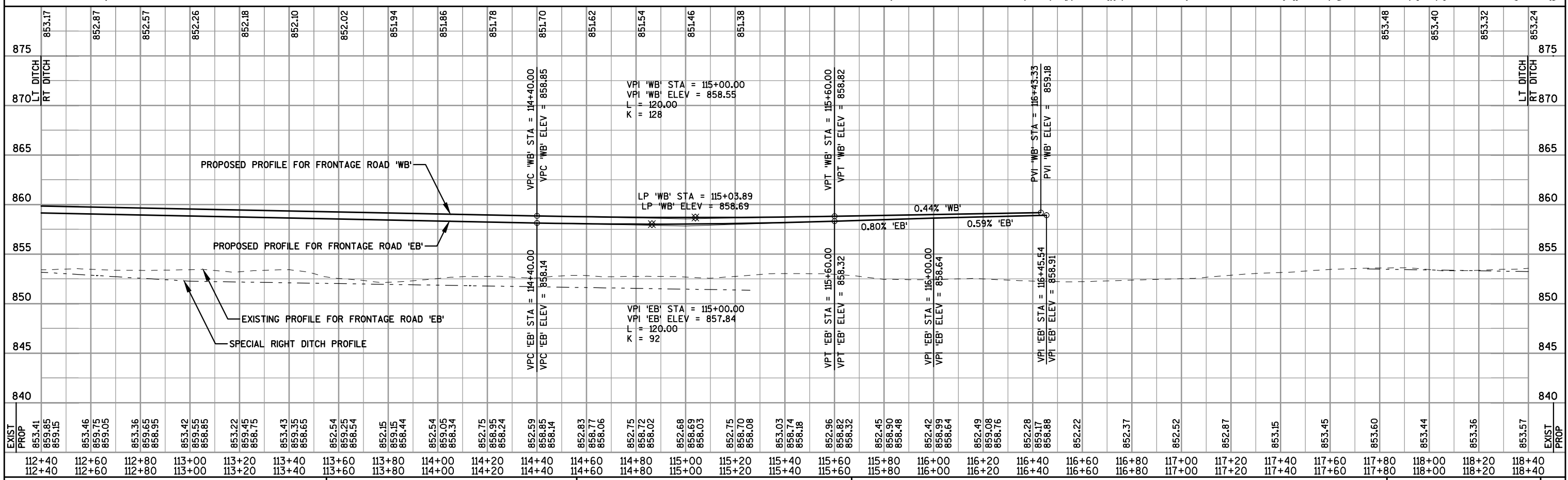
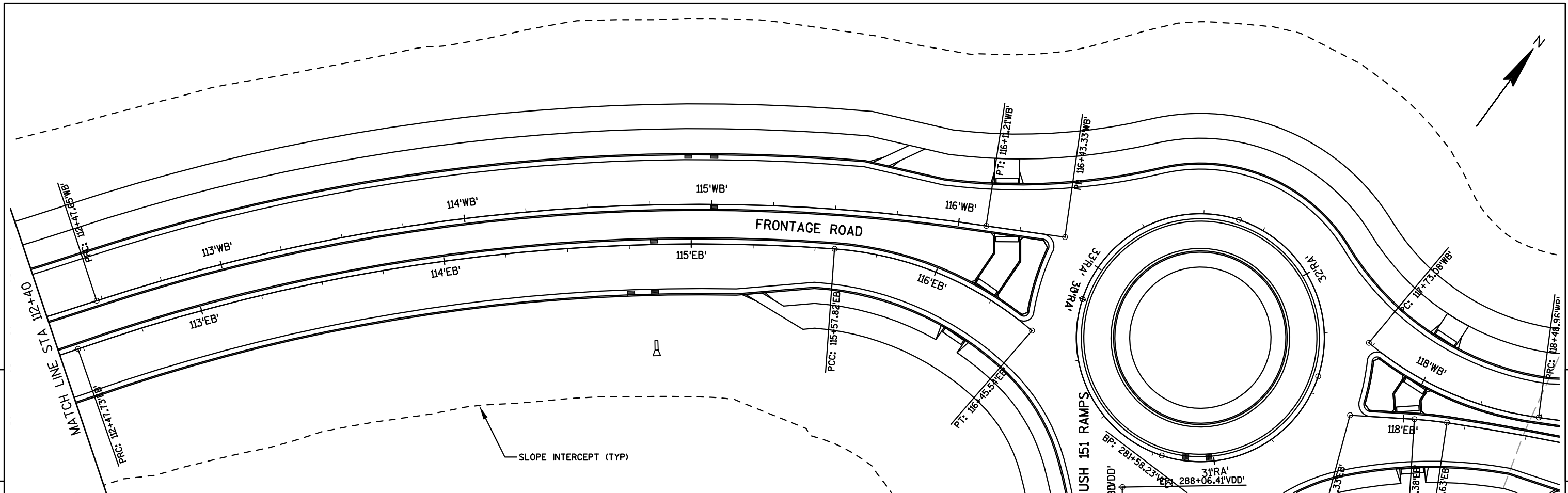
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	144+20	144+40	144+60	144+80	145+00	145+20	145+40	145+60	145+80	146+00	146+20	146+40	146+60	146+80	147+00	147+20	147+40	147+60	147+80	148+00	148+20	148+40	148+60	148+80	149+00	149+20	149+40	149+60	149+80	150+00	150+20	

PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      PLAN AND PROFILE: CTH V NORTHBOUND      SHEET      E



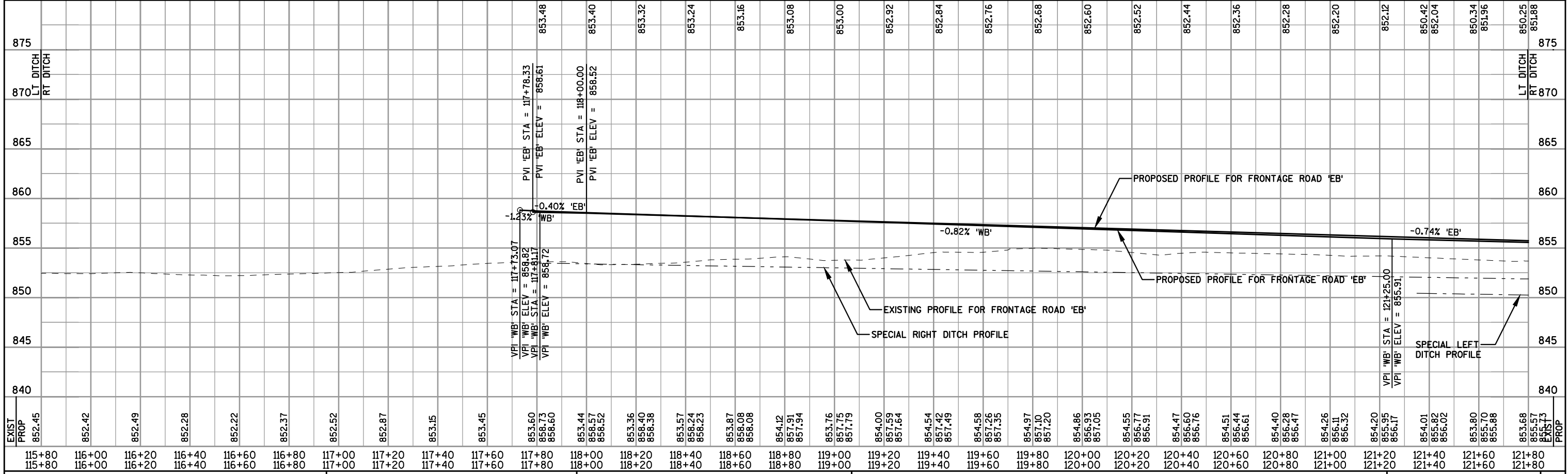
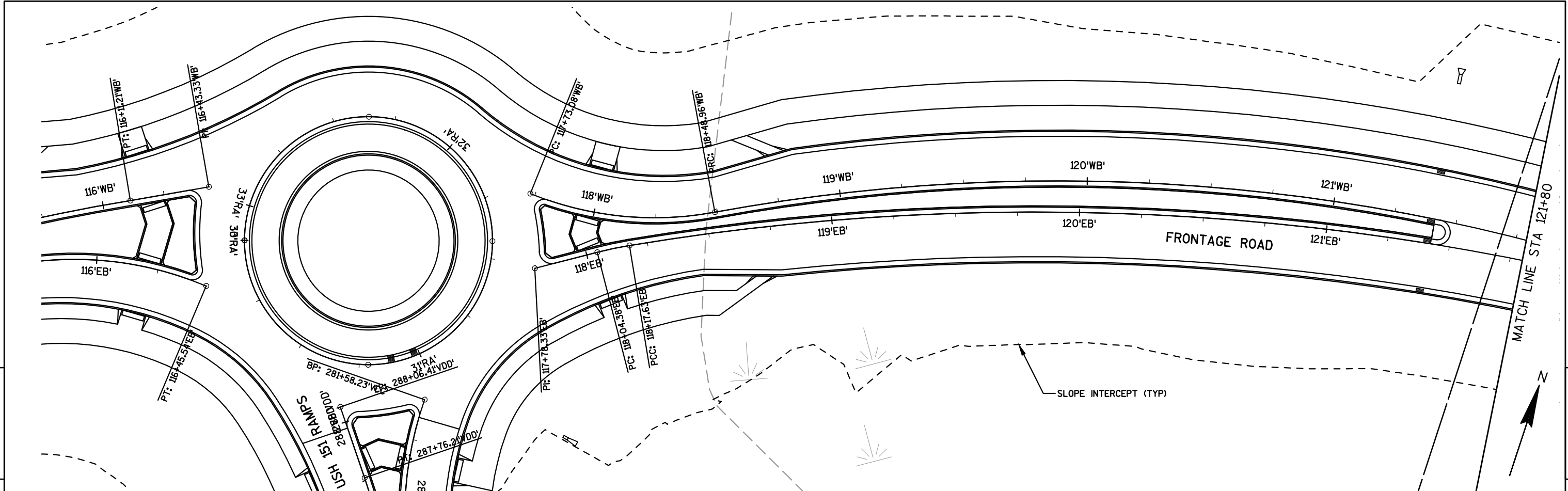
EXIST	106+40	106+60	106+80	107+00	107+20	107+40	107+60	107+80	108+00	108+20	108+40	108+60	108+80	109+00	109+20	109+40	109+60	109+80	110+00	110+20	110+40	110+60	110+80	111+00	111+20	111+40	111+60	111+80	112+00	112+20	112+40	853.17
PROP	106+40	106+60	106+80	107+00	107+20	107+40	107+60	107+80	108+00	108+20	108+40	108+60	108+80	109+00	109+20	109+40	109+60	109+80	110+00	110+20	110+40	110+60	110+80	111+00	111+20	111+40	111+60	111+80	112+00	112+20	112+40	853.17

PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      PLAN AND PROFILE: FRONTAGE ROAD      SHEET      E



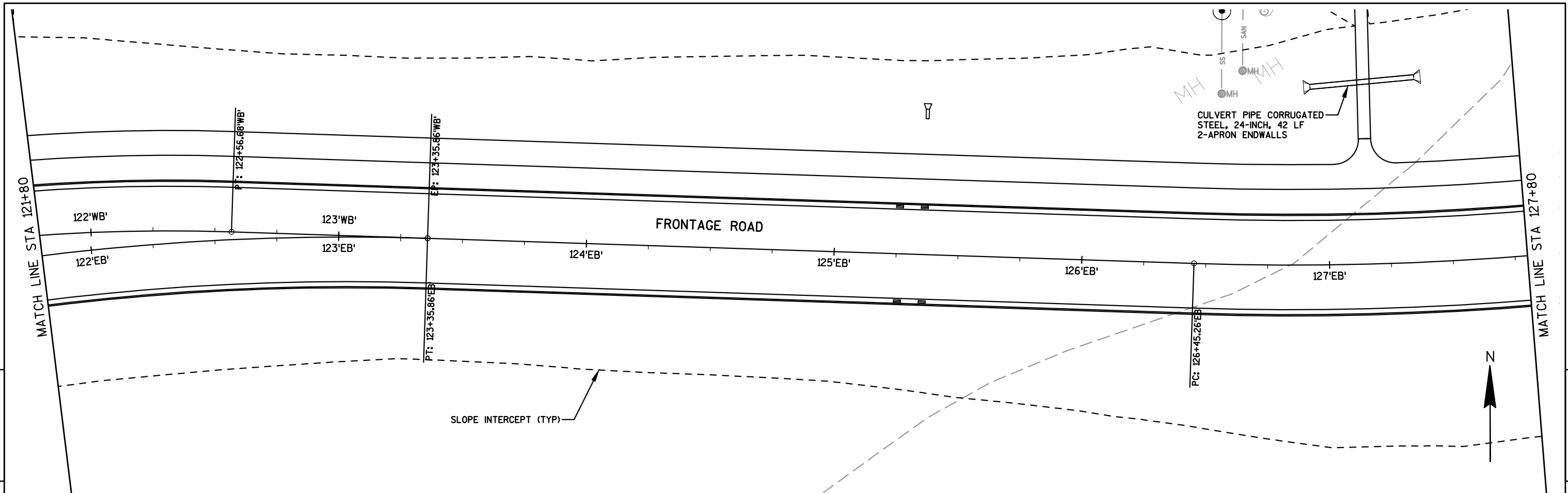
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870	RT DITCH																		LT DITCH
865																			
860																			
855																			
850																			
845																			
840																			
EXIST PROP	853.41	853.46	853.36	853.42	853.22	853.43	852.54	852.15	852.54	852.75	852.59	852.83	852.75	852.68	852.75	852.42	852.49	852.28	852.22
859.85	859.75	859.65	859.45	859.25	859.35	859.25	859.05	858.95	858.85	858.85	858.85	858.77	858.72	858.69	858.74	858.99	859.08	859.17	859.17
859.15	859.05	858.95	858.85	858.75	858.65	858.54	858.44	858.34	858.24	858.14	858.14	858.06	858.02	858.03	858.18	858.64	858.76	858.88	858.88
112+40	112+60	112+80	113+00	113+20	113+40	113+60	113+80	114+00	114+20	114+40	114+60	114+80	115+00	115+20	115+40	115+60	115+80	116+00	116+20
112+40	112+60	112+80	113+00	113+20	113+40	113+60	113+80	114+00	114+20	114+40	114+60	114+80	115+00	115+20	115+40	115+60	115+80	116+00	116+20

PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      PLAN AND PROFILE: FRONTAGE ROAD      SHEET      E



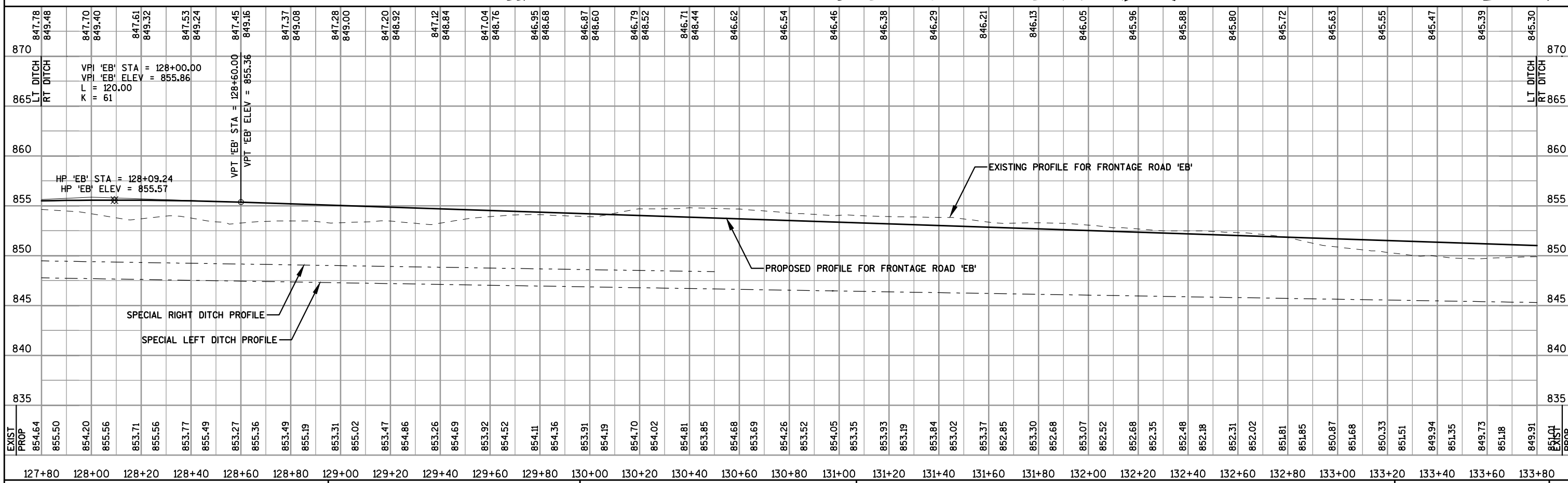
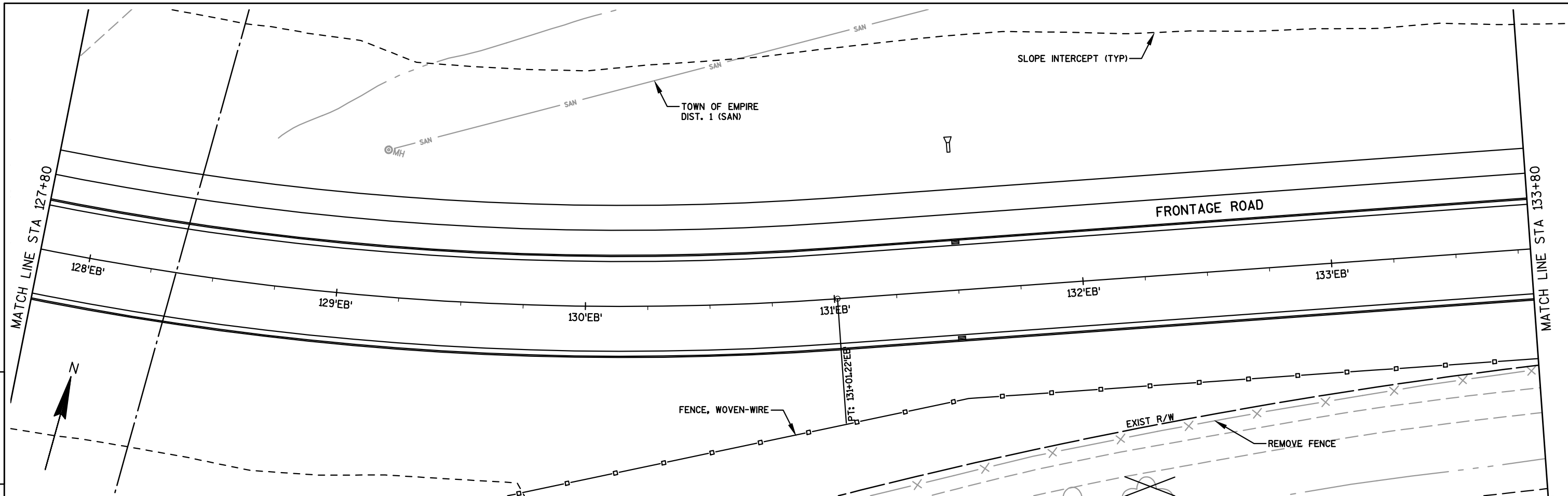
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115+80	116+00	116+20	116+40	116+60	116+80	117+00	117+20	117+40	117+60	117+80	118+00	118+20	118+40	118+60	118+80	119+00	119+20	119+40	119+60	119+80	120+00	120+20	120+40	120+60	120+80	121+00	121+20	121+40	121+60	121+80	115+80	116+00	116+20	116+40	116+60	116+80	117+00	117+20	117+40	117+60	117+80	118+00	118+20	118+40	118+60	118+80	119+00	119+20	119+40	119+60	119+80	120+00	120+20	120+40	120+60	120+80	121+00	121+20	121+40	121+60	121+80	121+80													

PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      PLAN AND PROFILE: FRONTAGE ROAD      SHEET      E



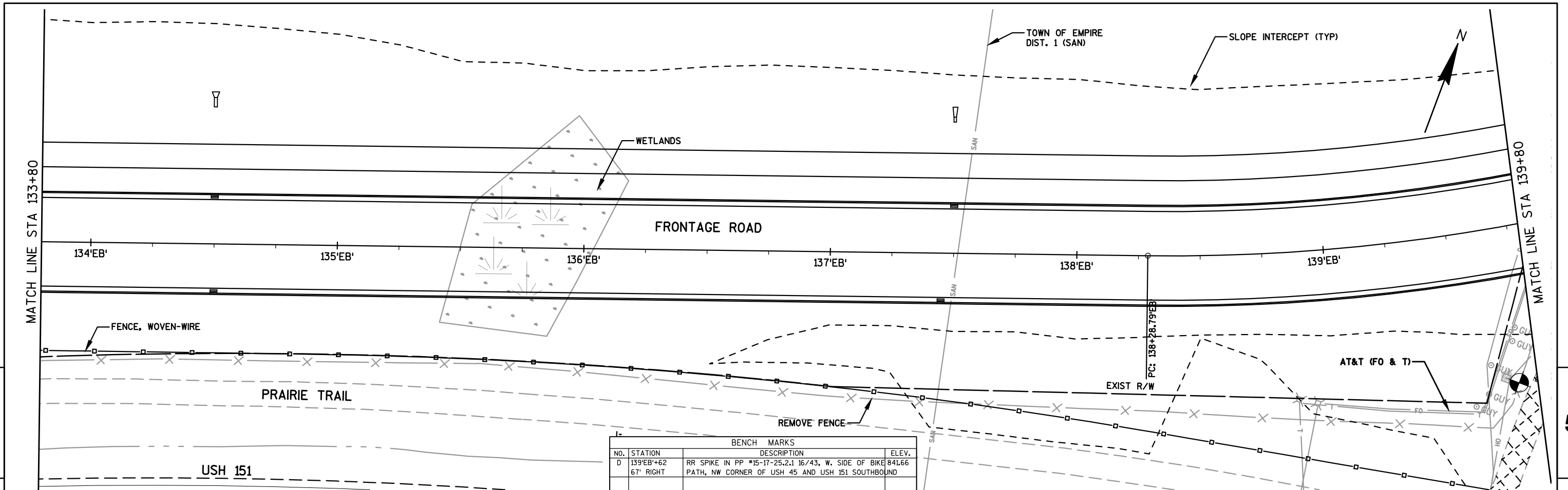
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875	851.88	851.80	851.72	851.64	851.56	851.48	851.40	851.32	851.24	851.16	851.08	851.00	850.92	850.84	850.76	850.68	850.60	850.52	850.44	850.36	850.28	850.20	850.12	850.04	849.96	849.88	849.80	849.72	849.64	849.56	849.48																														
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121+80	121+80	122+00	122+00	122+20	122+20	122+40	122+40	122+60	122+60	122+80	122+80	123+00	123+00	123+20	123+20	123+40	123+40	123+60	123+60	123+80	123+80	124+00	124+00	124+20	124+20	124+40	124+40	124+60	124+60	124+80	124+80	125+00	125+00	125+20	125+20	125+40	125+40	125+60	125+60	125+80	125+80	126+00	126+00	126+20	126+20	126+40	126+40	126+60	126+60	126+80	126+80	127+00	127+00	127+20	127+20	127+40	127+40	127+60	127+60	127+80	127+80

PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      PLAN AND PROFILE: FRONTAGE ROAD      SHEET      E

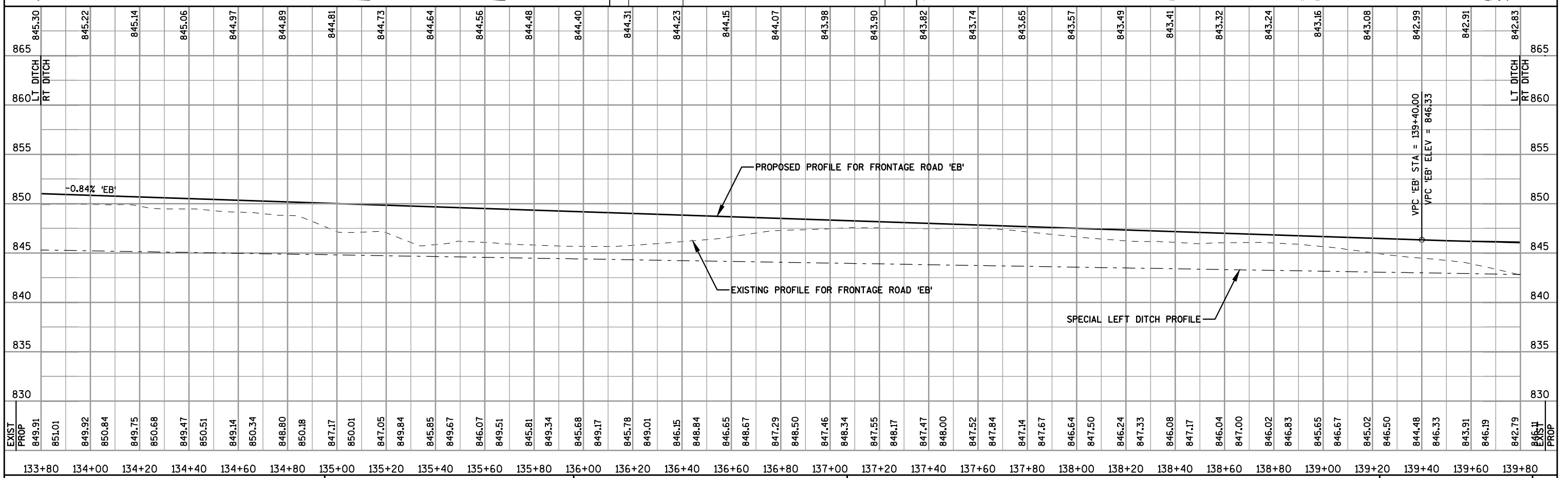


870	847.78	849.48	847.70	849.40	847.61	849.32	847.53	849.24	847.45	849.16	847.37	849.08	847.28	849.00	847.20	848.92	847.12	848.84	847.04	848.76	846.95	848.68	846.87	848.60	846.79	848.52	846.71	848.44	846.62	846.54	846.46	846.38	846.29	846.21	846.13	846.05	845.96	845.88	845.80	845.72	845.63	845.55	845.47	845.39	845.30	870	
865	RT DITCH		VPI 'EB' STA = 128+00.00 VPI 'EB' ELEV = 855.86 L = 120.00 K = 61		VPT 'EB' STA = 128+60.00 VPT 'EB' ELEV = 855.36		HP 'EB' STA = 128+09.24 HP 'EB' ELEV = 855.57				RT DITCH		LT DITCH		RT DITCH		LT DITCH		RT DITCH		LT DITCH		RT DITCH		LT DITCH		RT DITCH		LT DITCH		RT DITCH		LT DITCH		RT DITCH		LT DITCH		RT DITCH		LT DITCH		RT DITCH		LT DITCH		865

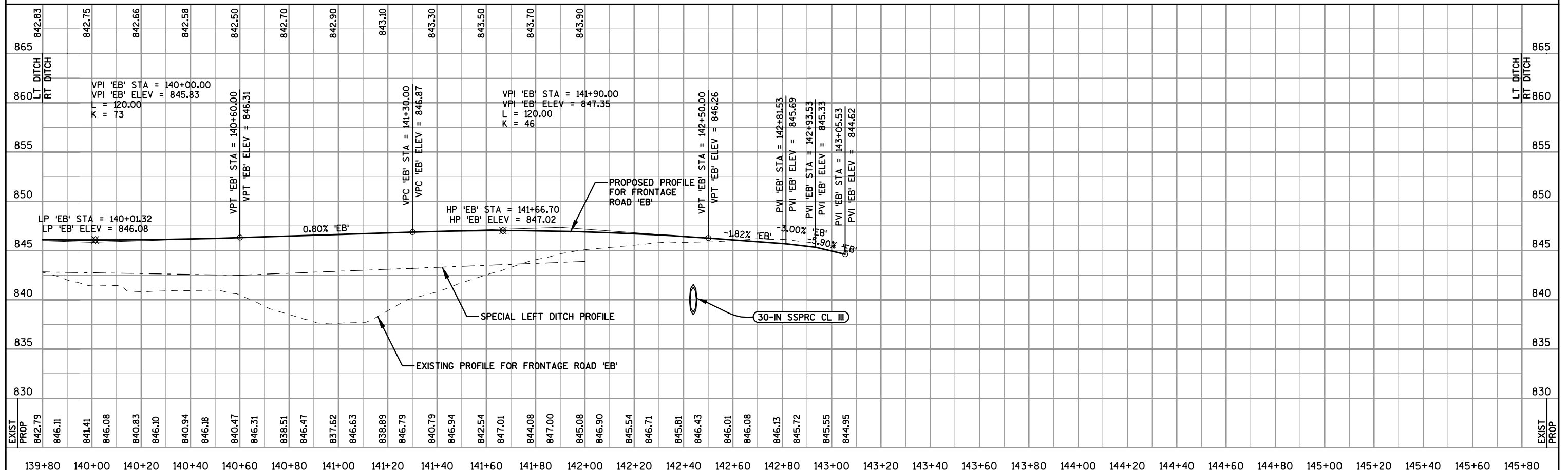
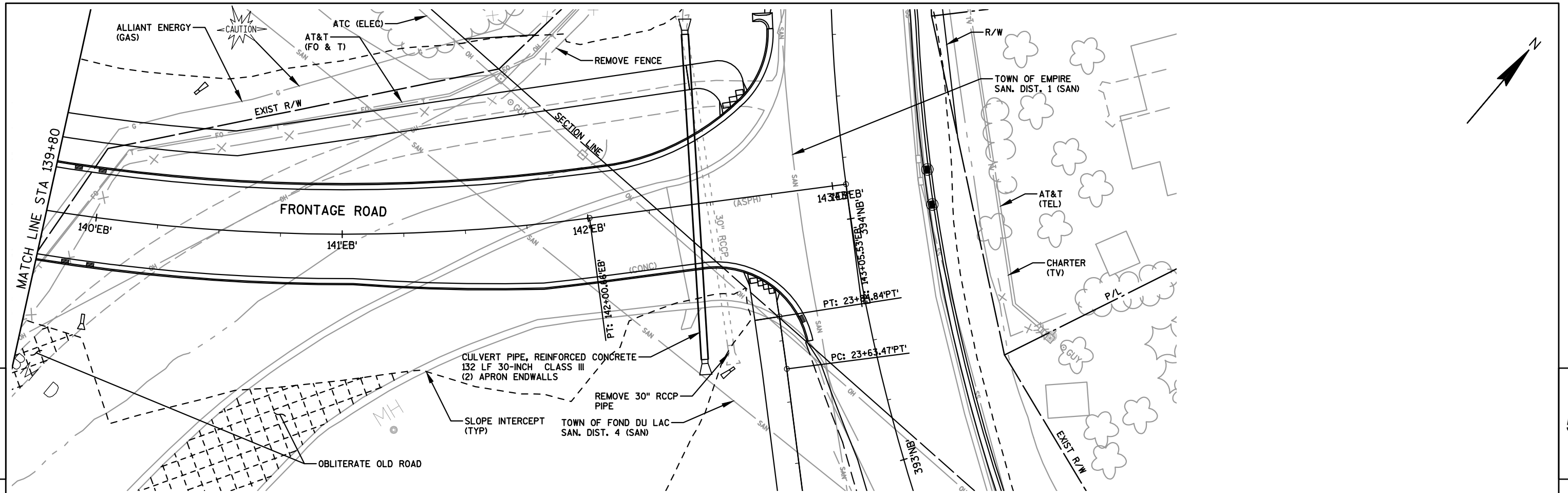
PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      PLAN AND PROFILE: FRONTAGE ROAD      SHEET      E



BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
D	139'EB'+62 67' RIGHT	RR SPIKE IN PP *15-17-25.2.1 16/43, W. SIDE OF BIKE PATH, NW CORNER OF USH 45 AND USH 151 SOUTHBOUND	841.66



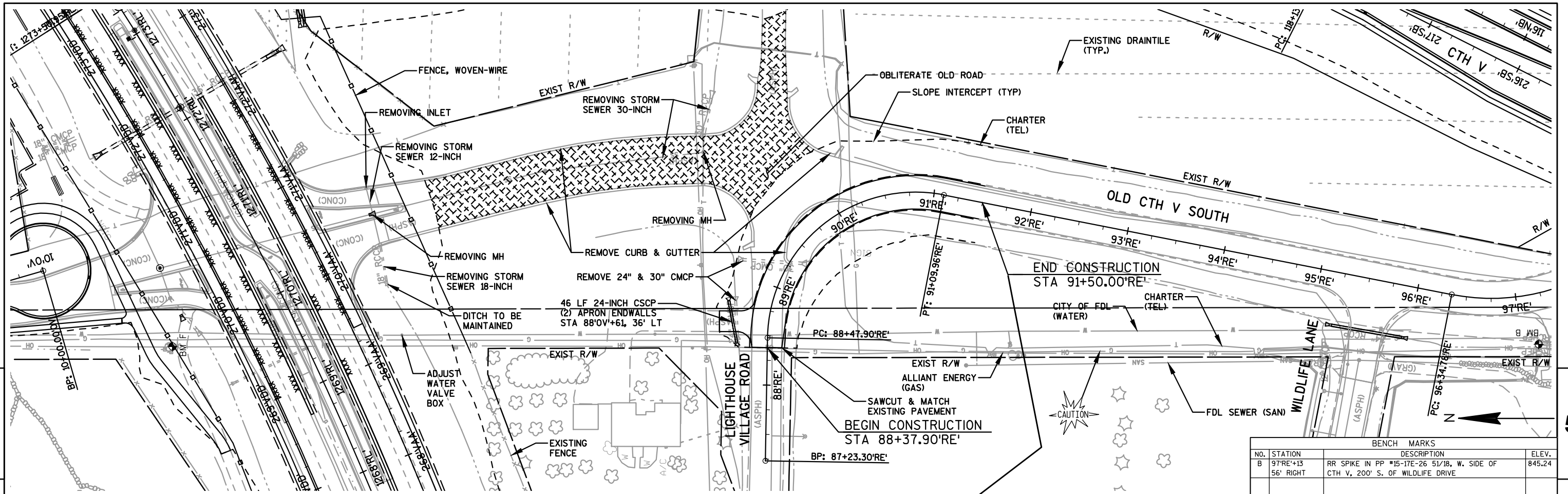
PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      PLAN AND PROFILE: FRONTAGE ROAD      SHEET      E



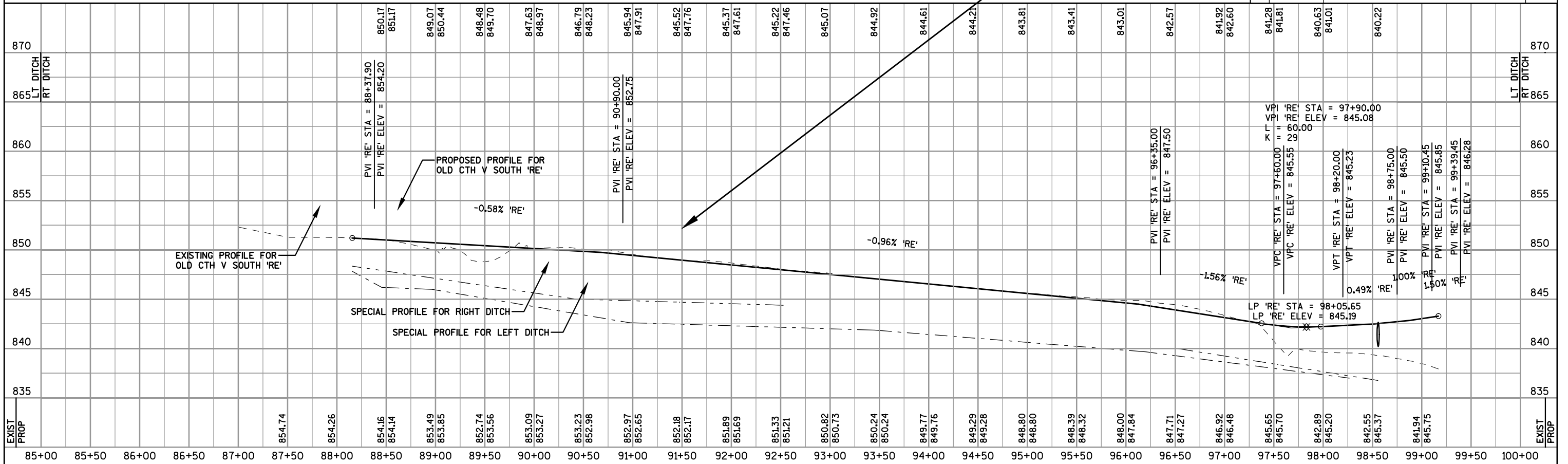
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	139+80	140+00	140+20	140+40	140+60	140+80	141+00	141+20	141+40	141+60	141+80	142+00	142+20	142+40	142+60	142+80	143+00	143+20	143+40	143+60	143+80	144+00	144+20	144+40	144+60	144+80	145+00	145+20	145+40	145+60	145+80				

PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      PLAN AND PROFILE: FRONTAGE ROAD      SHEET      E

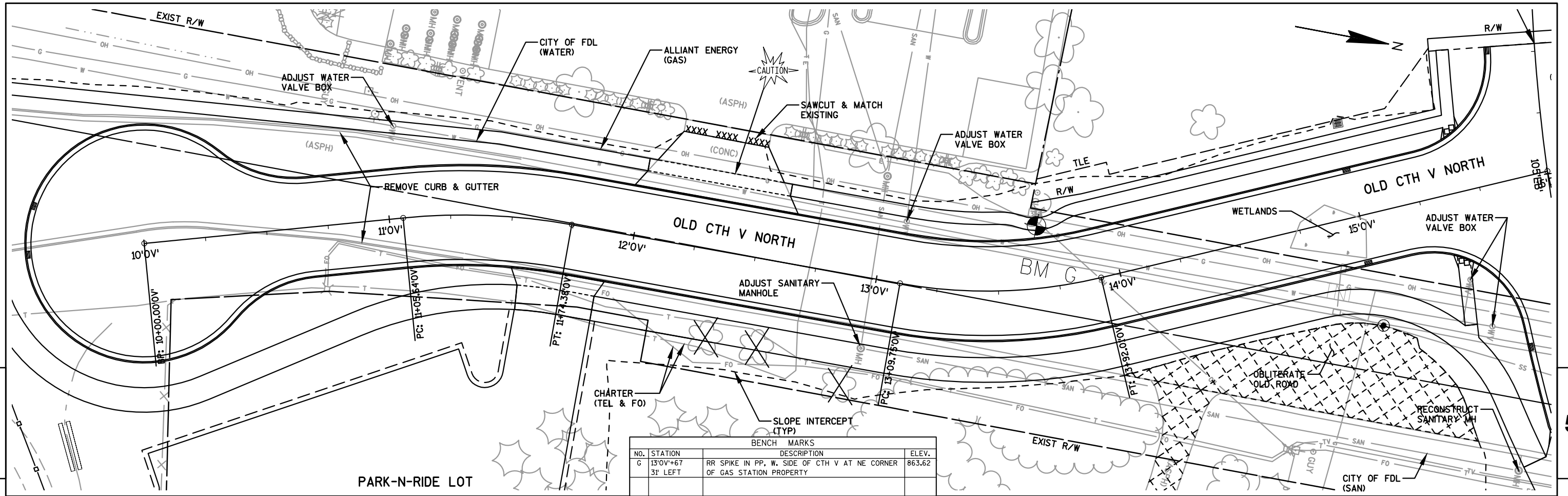




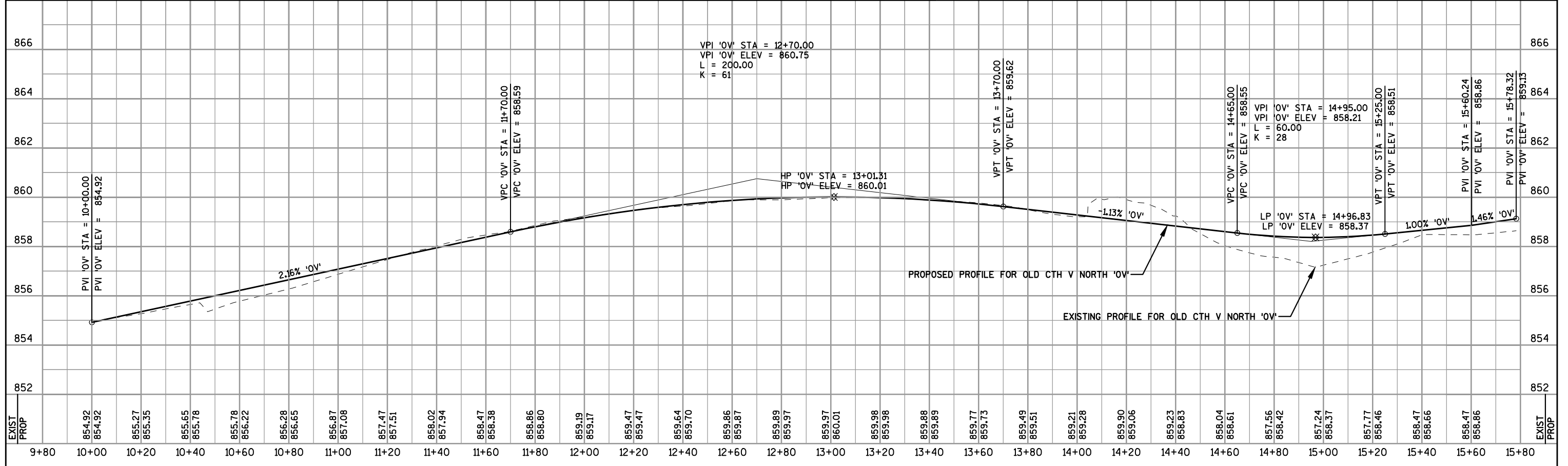
BENCH MARKS			ELEV.
NO.	STATION	DESCRIPTION	
B	97'RE+13 56' RIGHT	RR SPIKE IN PP #15-17E-26 5/1/18, W. SIDE OF CTH V, 200' S. OF WILDLIFE DRIVE	845.24



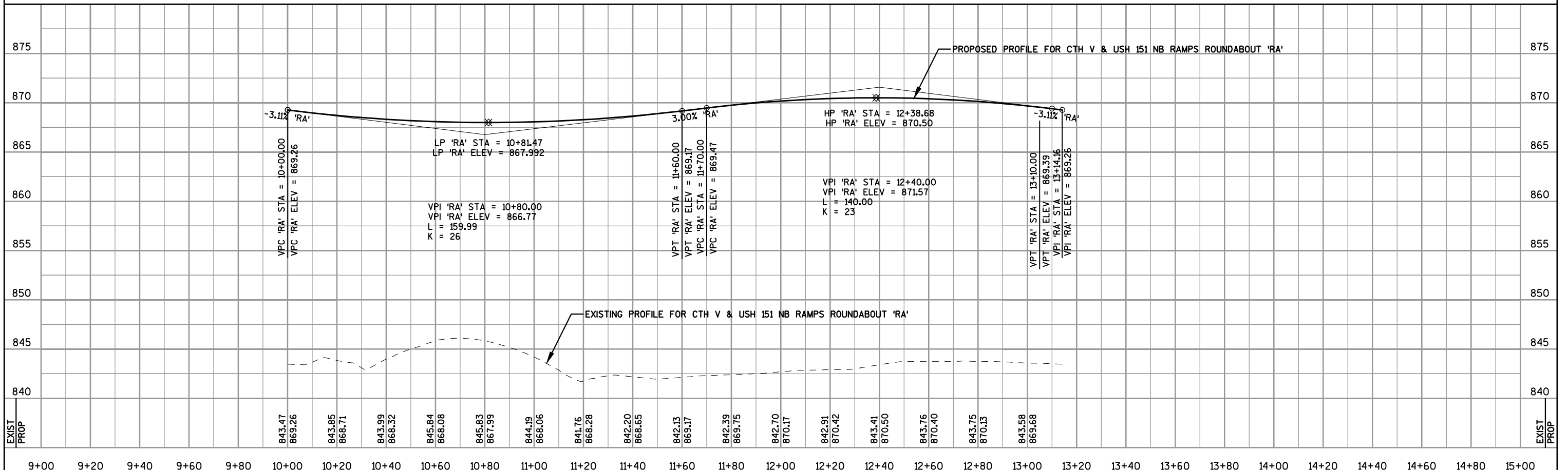
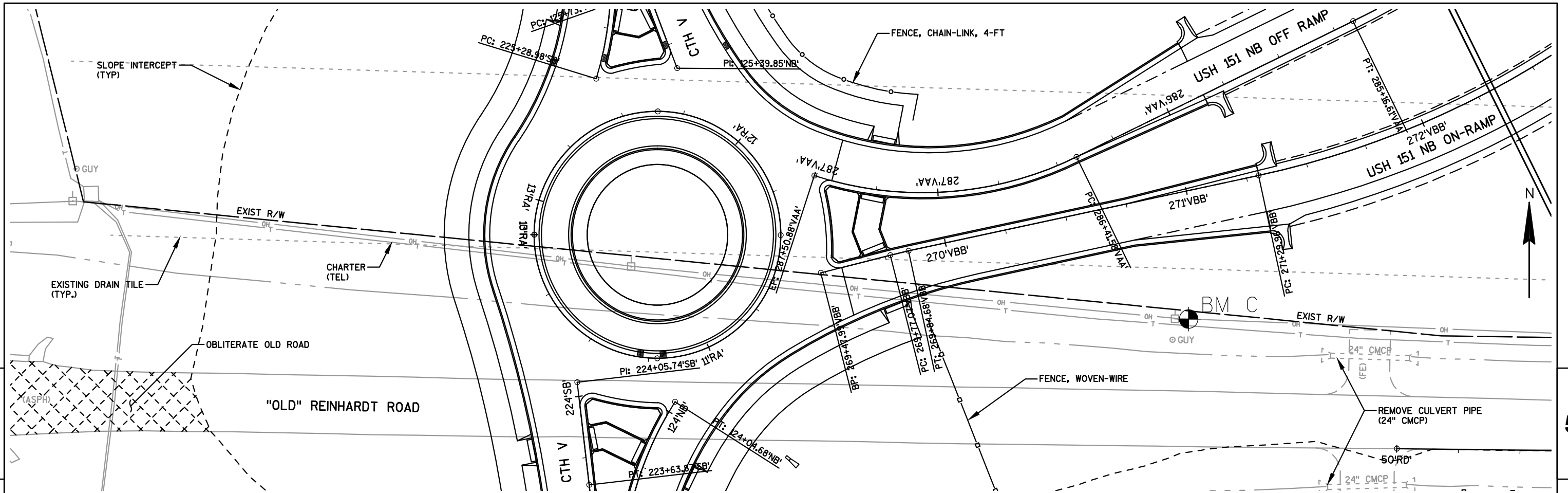
PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      PLAN AND PROFILE: OLD CTH V SOUTH      SHEET      E



BENCH MARKS		
NO.	STATION	DESCRIPTION
G	13'0V'+67 31' LEFT	RR SPIKE IN PP, W. SIDE OF CTH V AT NE CORNER OF GAS STATION PROPERTY
		ELEV. 863.62

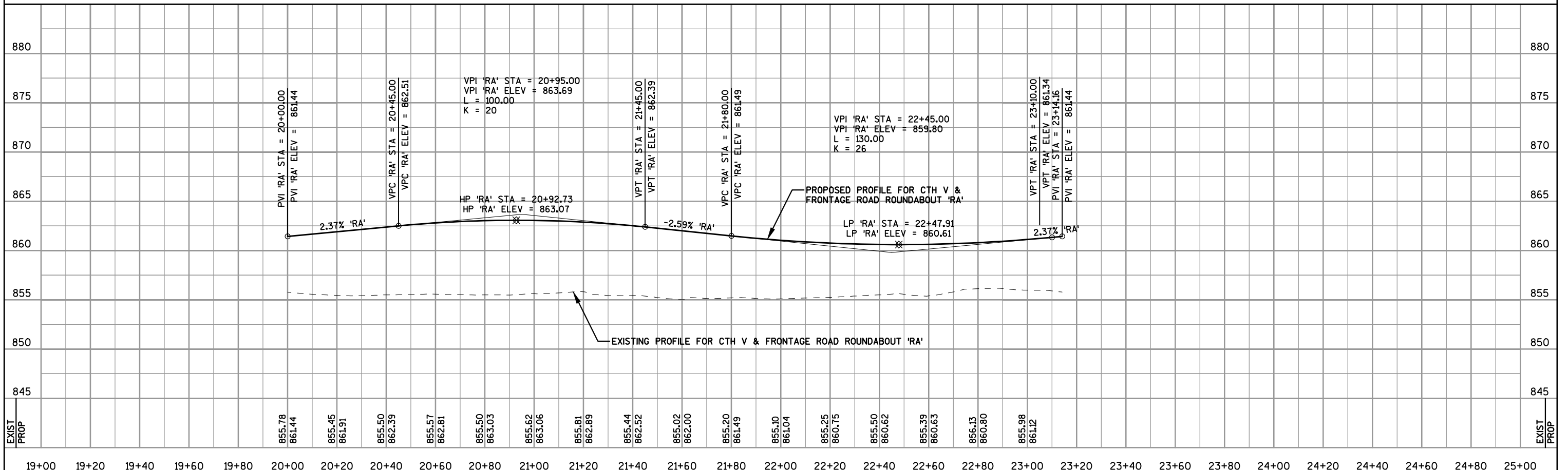
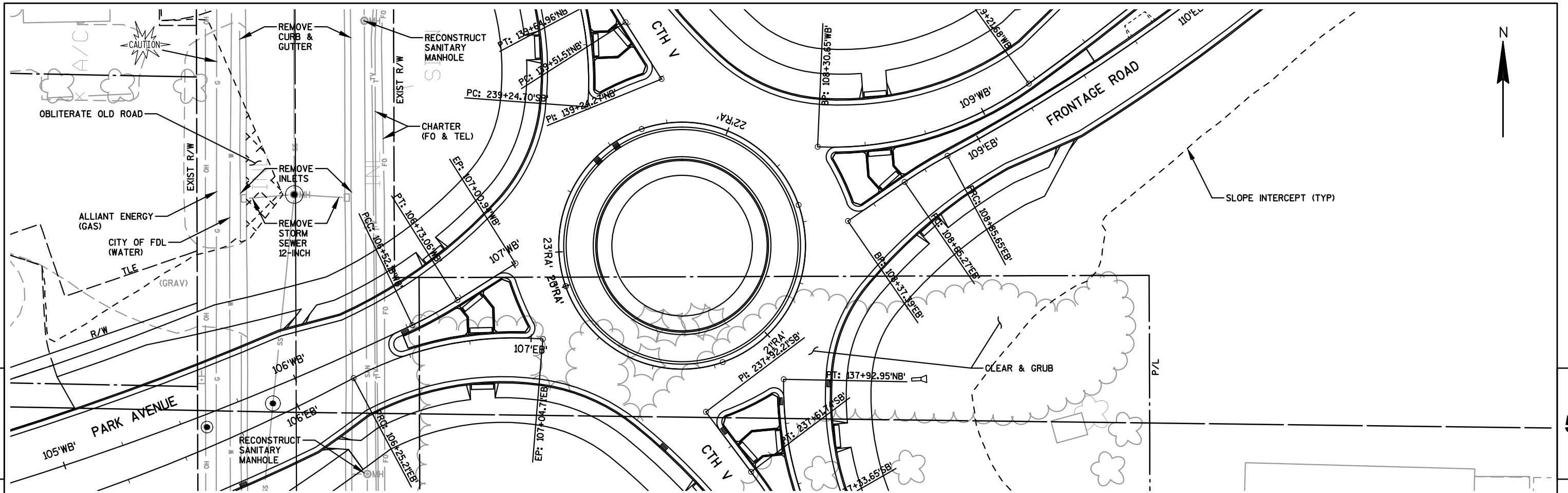


PROJECT NO: 1420-22-17      HWY: USH 151      COUNTY: FOND DU LAC      PLAN AND PROFILE: OLD CTH V NORTH      SHEET      E



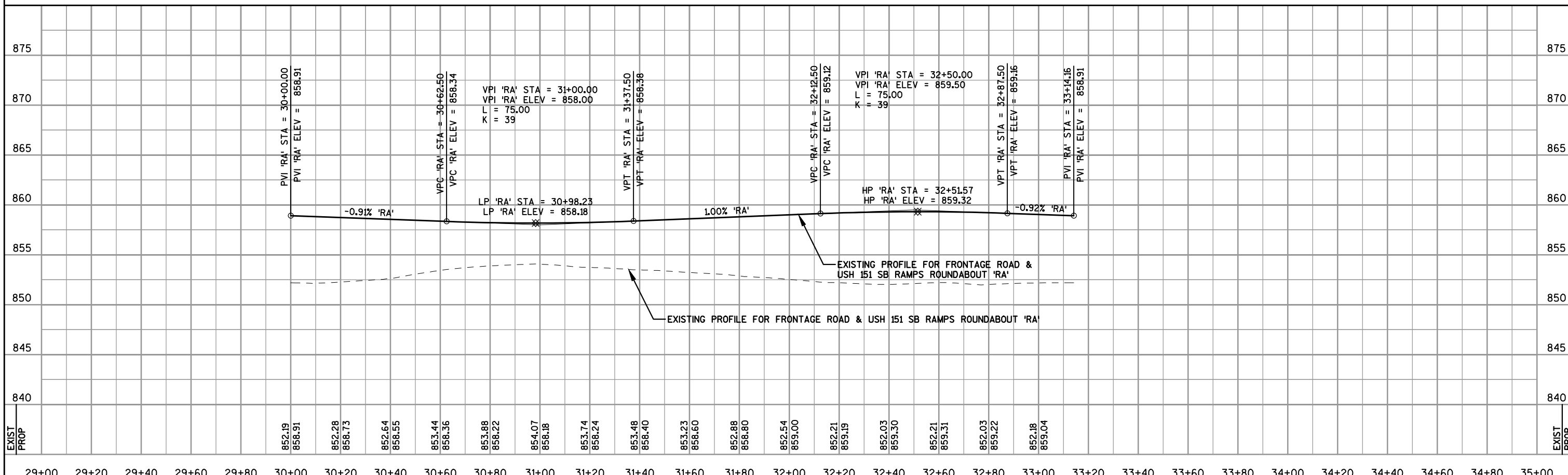
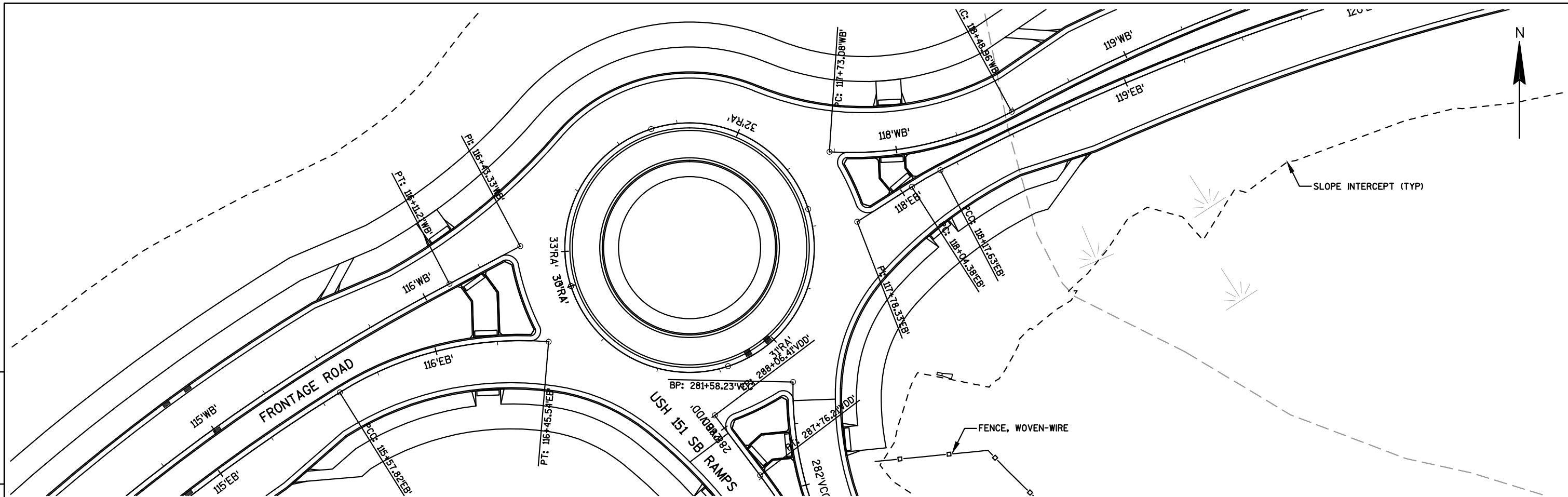
EXIST PROP	843.47	843.85	843.99	845.84	845.83	844.19	841.76	842.13	842.39	842.70	842.91	843.41	843.76	843.75	843.58	EXIST PROP															
	869.26	868.71	868.32	868.08	867.99	868.06	868.28	869.17	869.75	870.17	870.42	870.50	870.40	870.13	869.68																
	9+00	9+20	9+40	9+60	9+80	10+00	10+20	10+40	10+60	10+80	11+00	11+20	11+40	11+60	11+80	12+00	12+20	12+40	12+60	12+80	13+00	13+20	13+40	13+60	13+80	14+00	14+20	14+40	14+60	14+80	15+00

PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      PLAN AND PROFILE: ROUNDABOUT - CTH V & NB RAMPS      SHEET      E

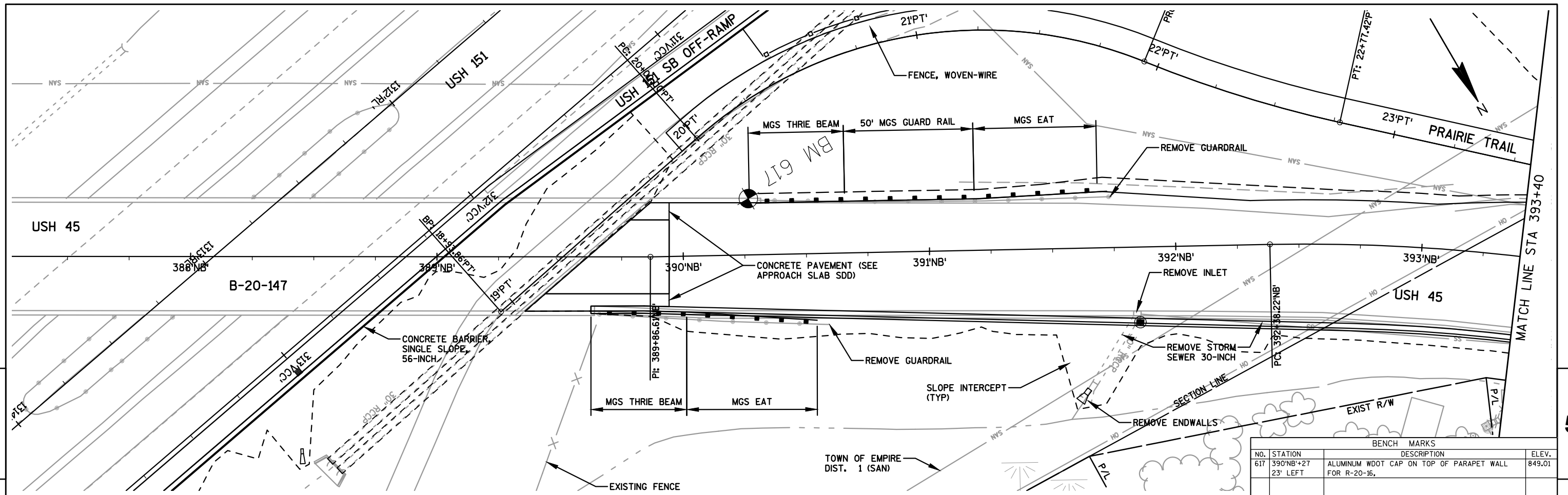


EXIST	PROF	855.78	861.44	855.45	861.91	855.50	862.39	855.57	862.81	855.50	863.03	855.62	863.06	855.81	862.89	855.44	862.52	855.02	862.00	855.20	861.49	855.10	861.04	855.25	860.75	855.50	860.62	855.39	860.63	856.13	860.80	855.98	861.12	EXIST	PROF
19+00	19+20	19+40	19+60	19+80	20+00	20+20	20+40	20+60	20+80	21+00	21+20	21+40	21+60	21+80	22+00	22+20	22+40	22+60	22+80	23+00	23+20	23+40	23+60	23+80	24+00	24+20	24+40	24+60	24+80	25+00					

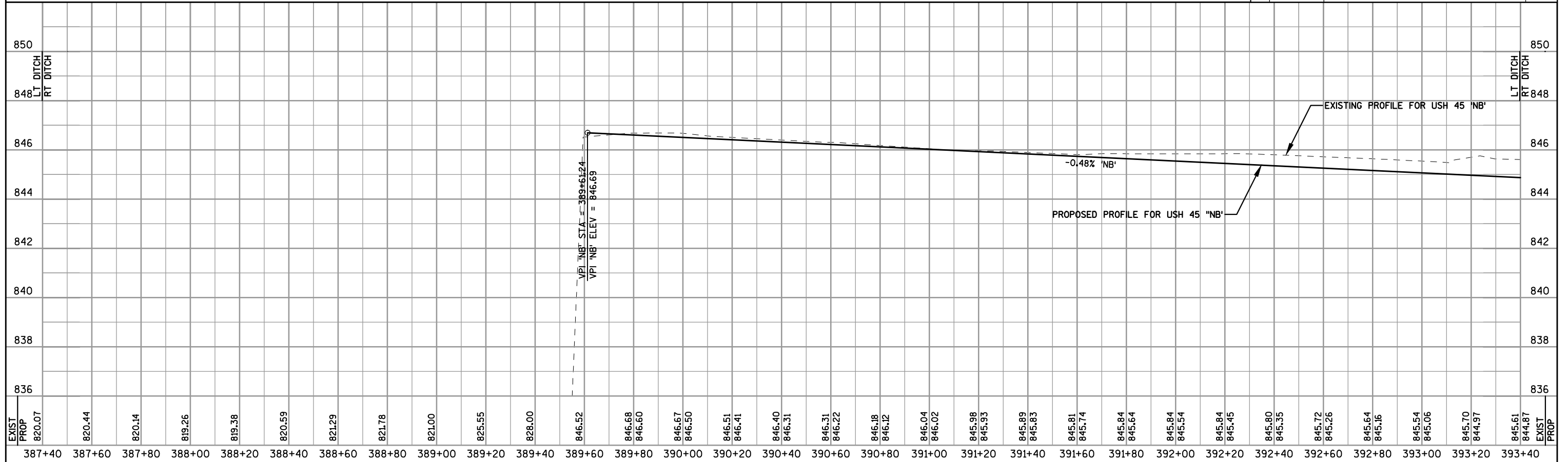
PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      PLAN AND PROFILE: ROUNDABOUT - CTH V & PARK AVENUE      SHEET      E



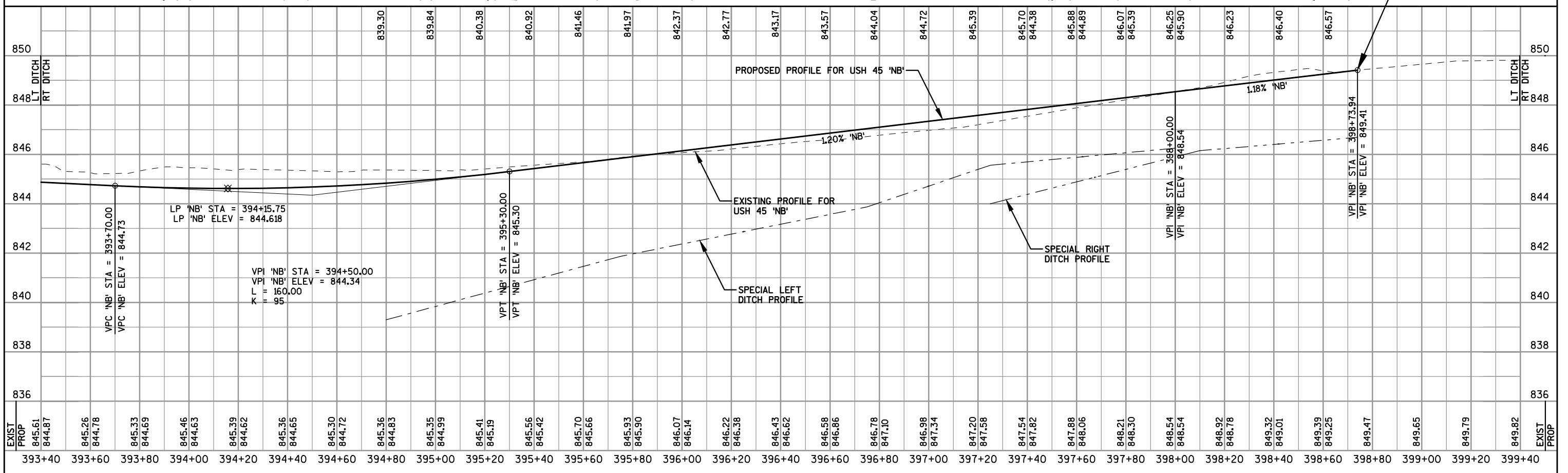
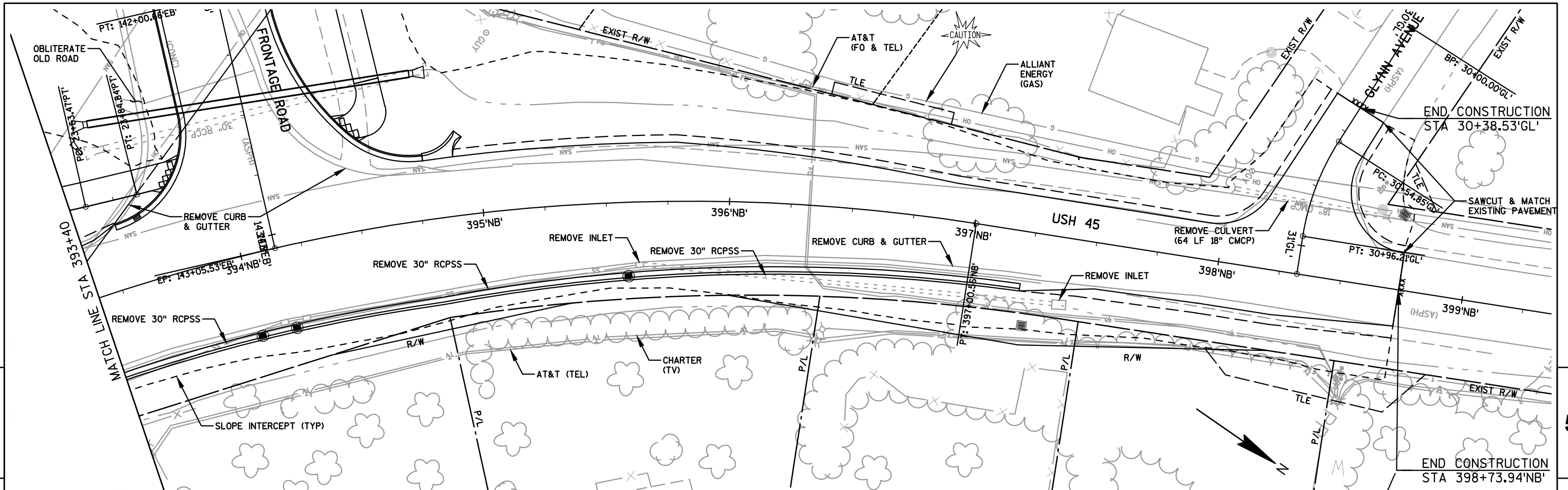
EXIST PROP	29+00	29+20	29+40	29+60	29+80	30+00	30+20	30+40	30+60	30+80	31+00	31+20	31+40	31+60	31+80	32+00	32+20	32+40	32+60	32+80	33+00	33+20	33+40	33+60	33+80	34+00	34+20	34+40	34+60	34+80	35+00	EXIST PROP
PROJECT NO: 1420-22-71						HWY: USH 151						COUNTY: FOND DU LAC						PLAN AND PROFILE: ROUNDABOUT - FRONTAGE ROAD & SB RAMPS						SHEET		E						



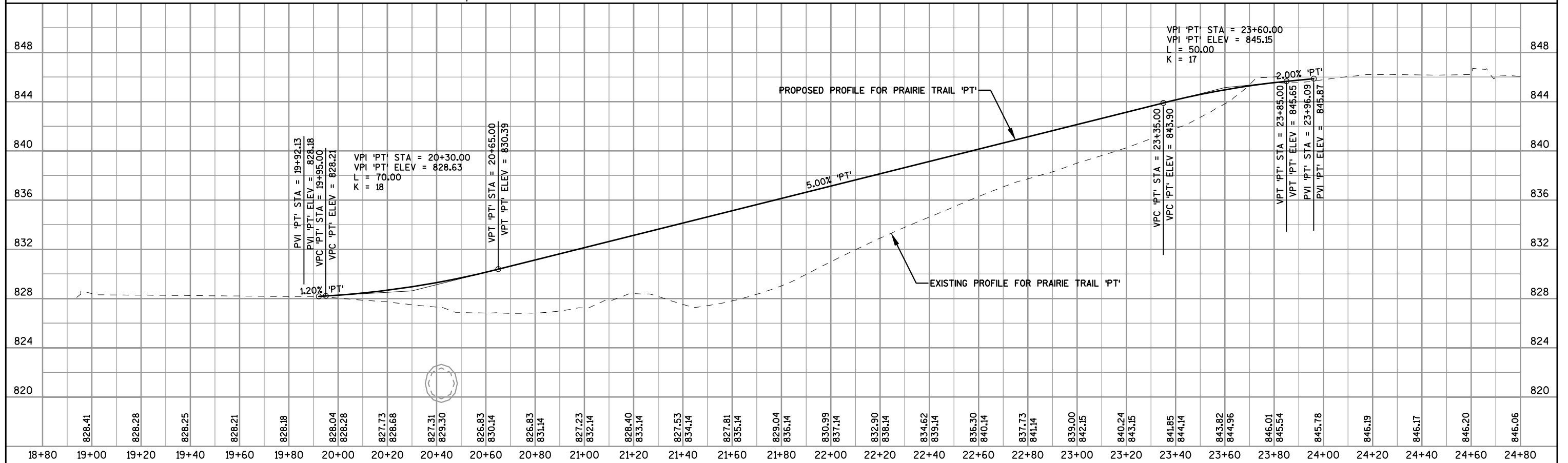
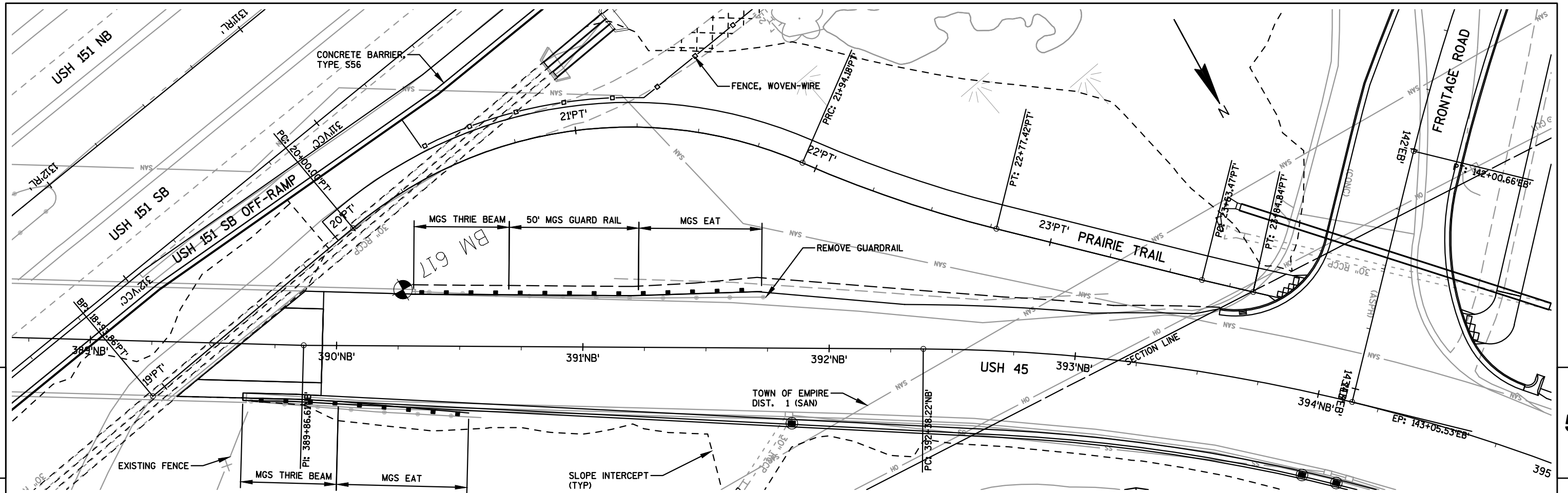
BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
617	390'NB+27 23' LEFT	ALUMINUM WDOT CAP ON TOP OF PARAPET WALL FOR R-20-16,	849.01



PROJECT NO: 1420-22-17      HWY: USH 151      COUNTY: FOND DU LAC      PLAN AND PROFILE: USH 45      SHEET      E

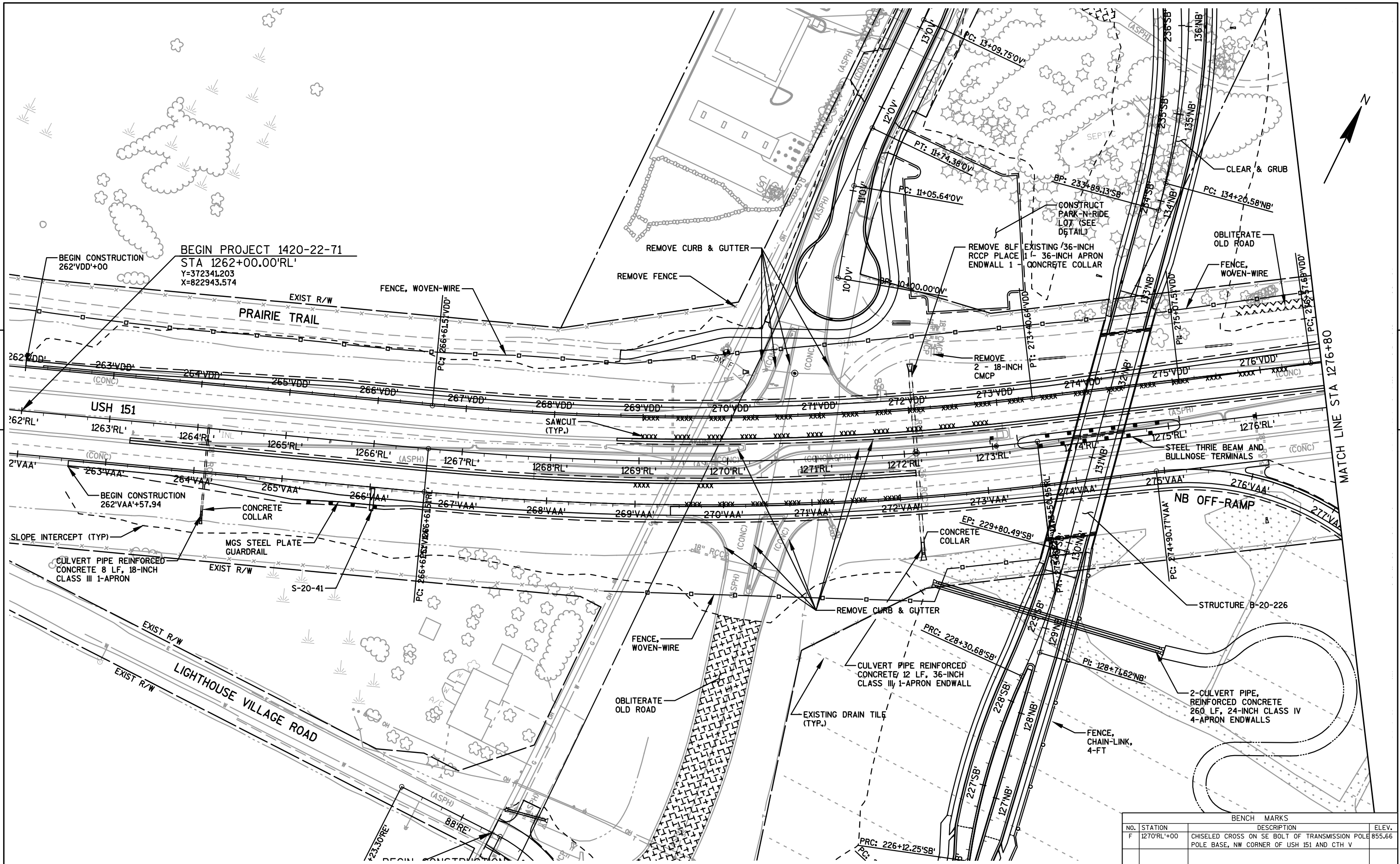


PROJECT NO: 1420-22-17      HWY: USH 151      COUNTY: FOND DU LAC      PLAN AND PROFILE: USH 45      SHEET      E



PROJECT NO: 1420-22-71	HWY: USH 151	COUNTY: FOND DU LAC	PLAN AND PROFILE: PRAIRIE TRAIL	SHEET	<b>E</b>
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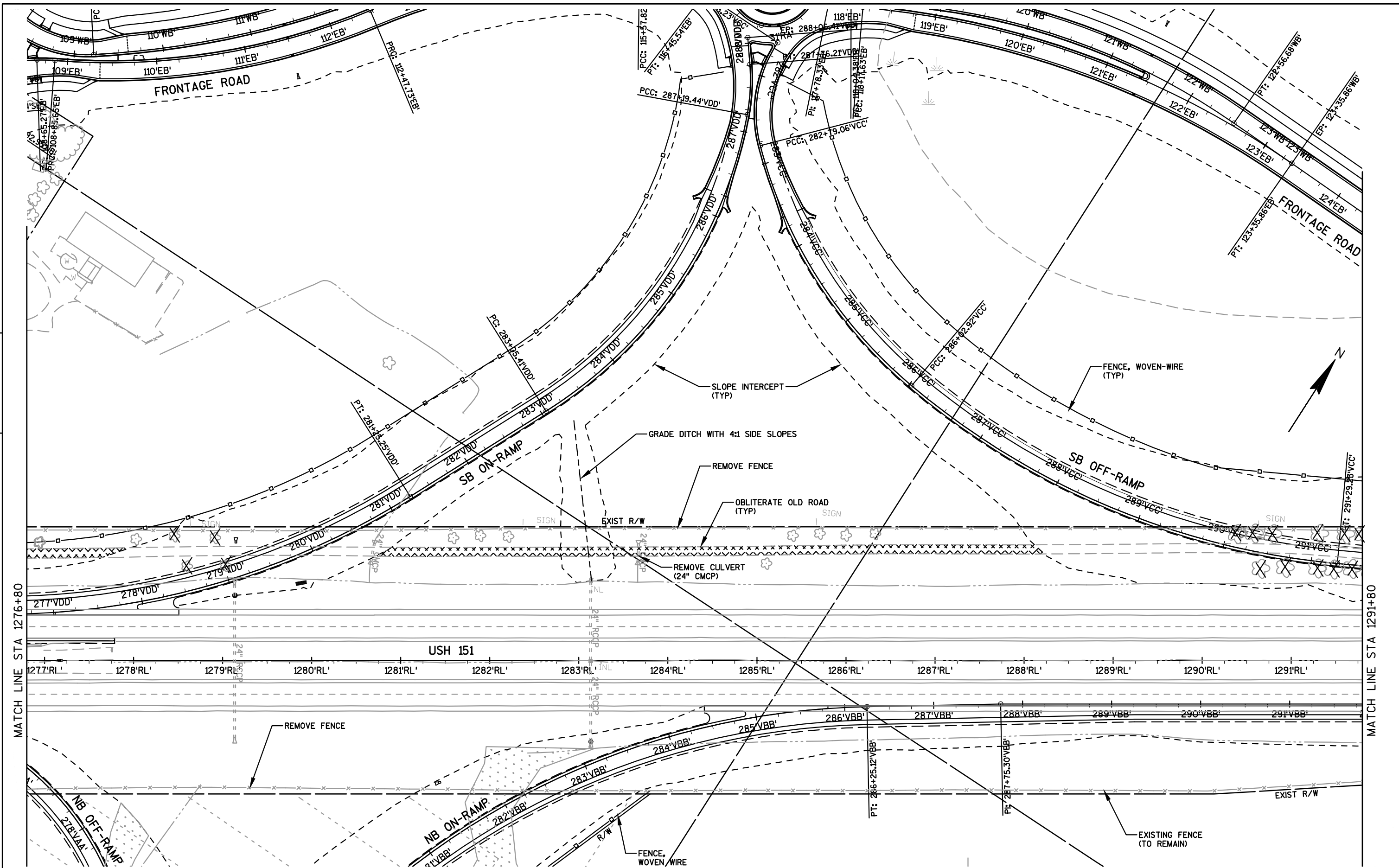


BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
F	1270'RL+00	CHISELED CROSS ON SE BOLT OF TRANSMISSION POLE POLE BASE, NW CORNER OF USH 151 AND CTH V	855.66

PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      PLAN: CTH V - USH 151      SHEET      E

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PROJECT NO: 1420-22-71

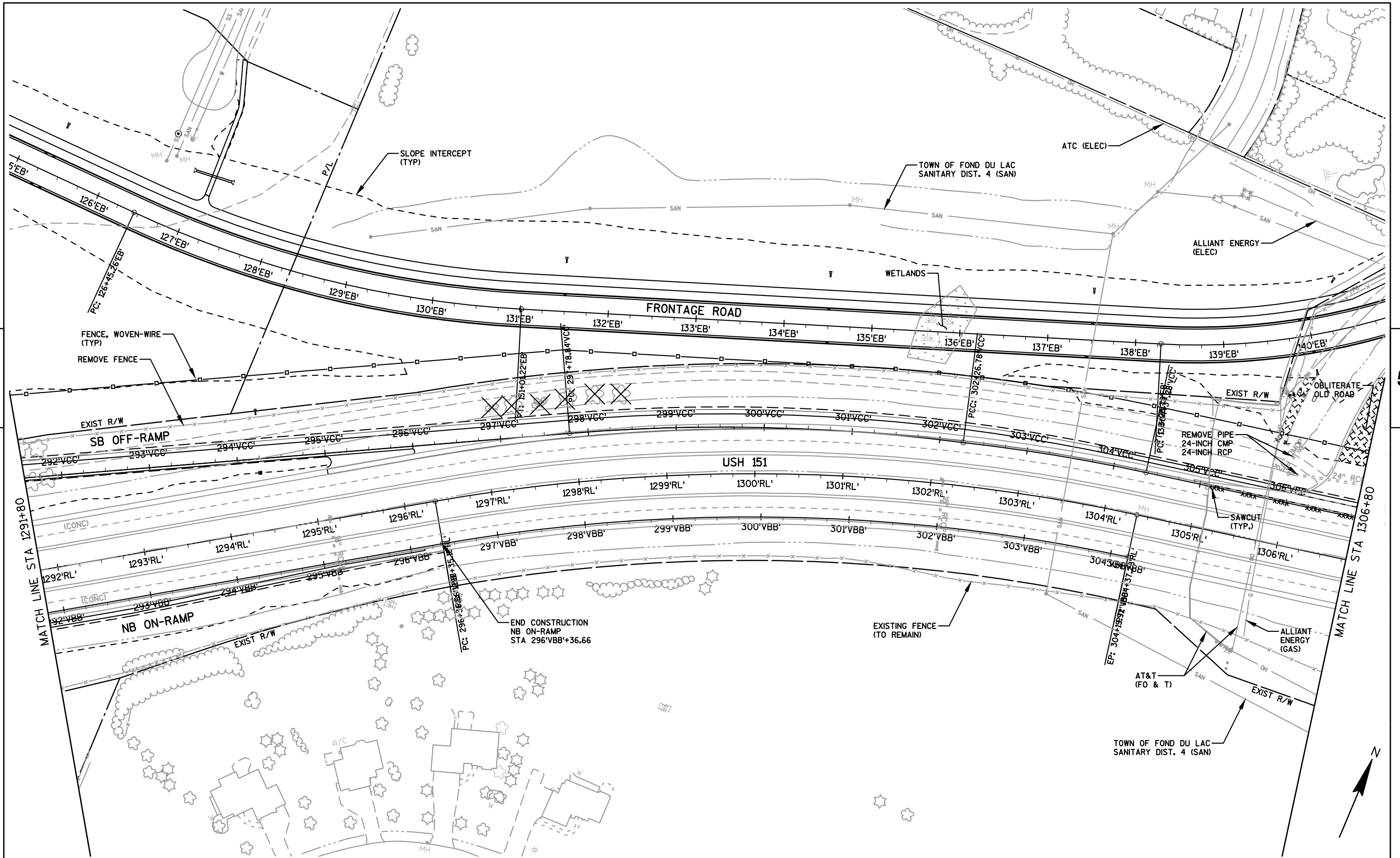
HWY: USH 151

COUNTY: FOND DU LAC

PLAN: CTH V - USH 151

SHEET

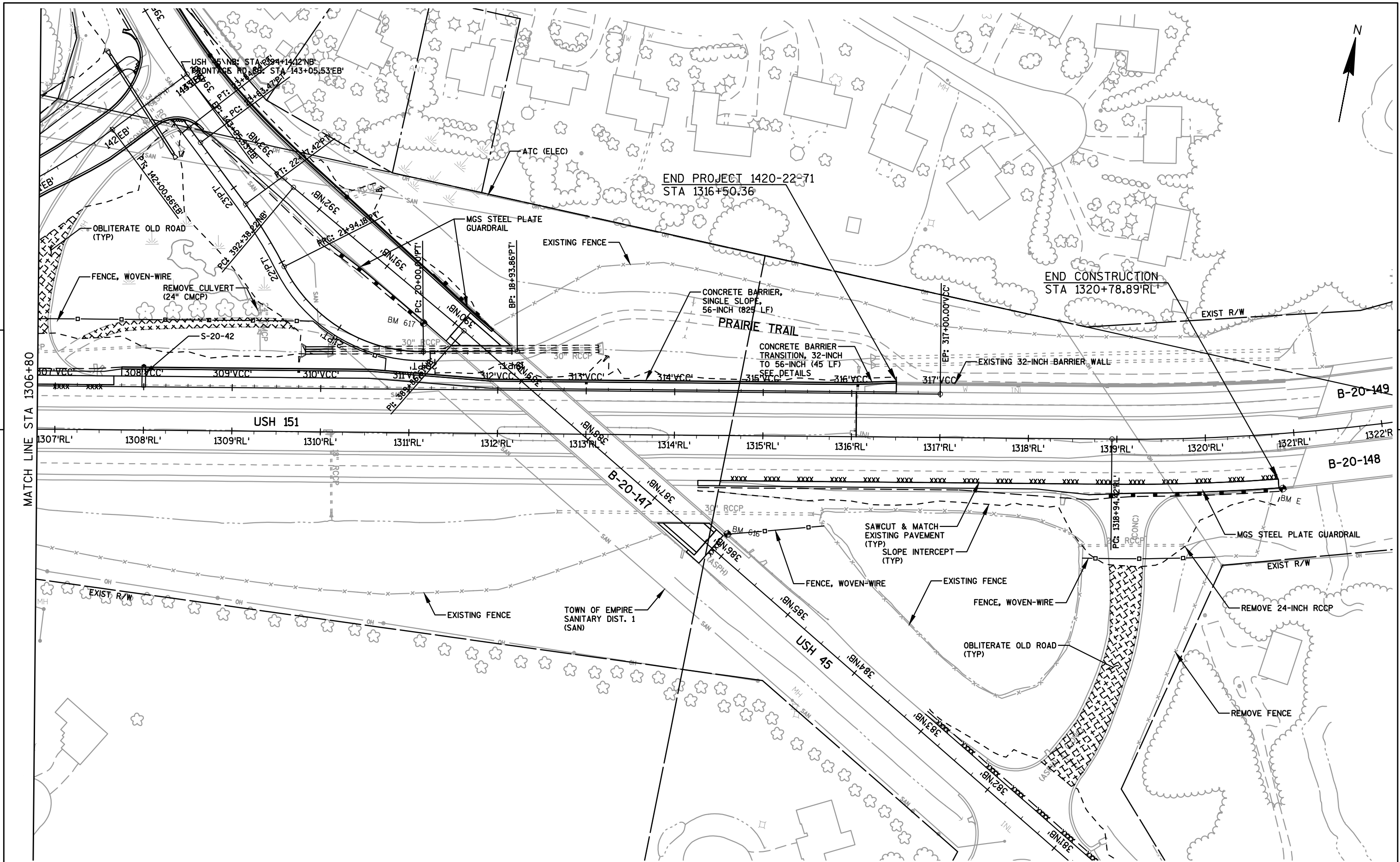
E



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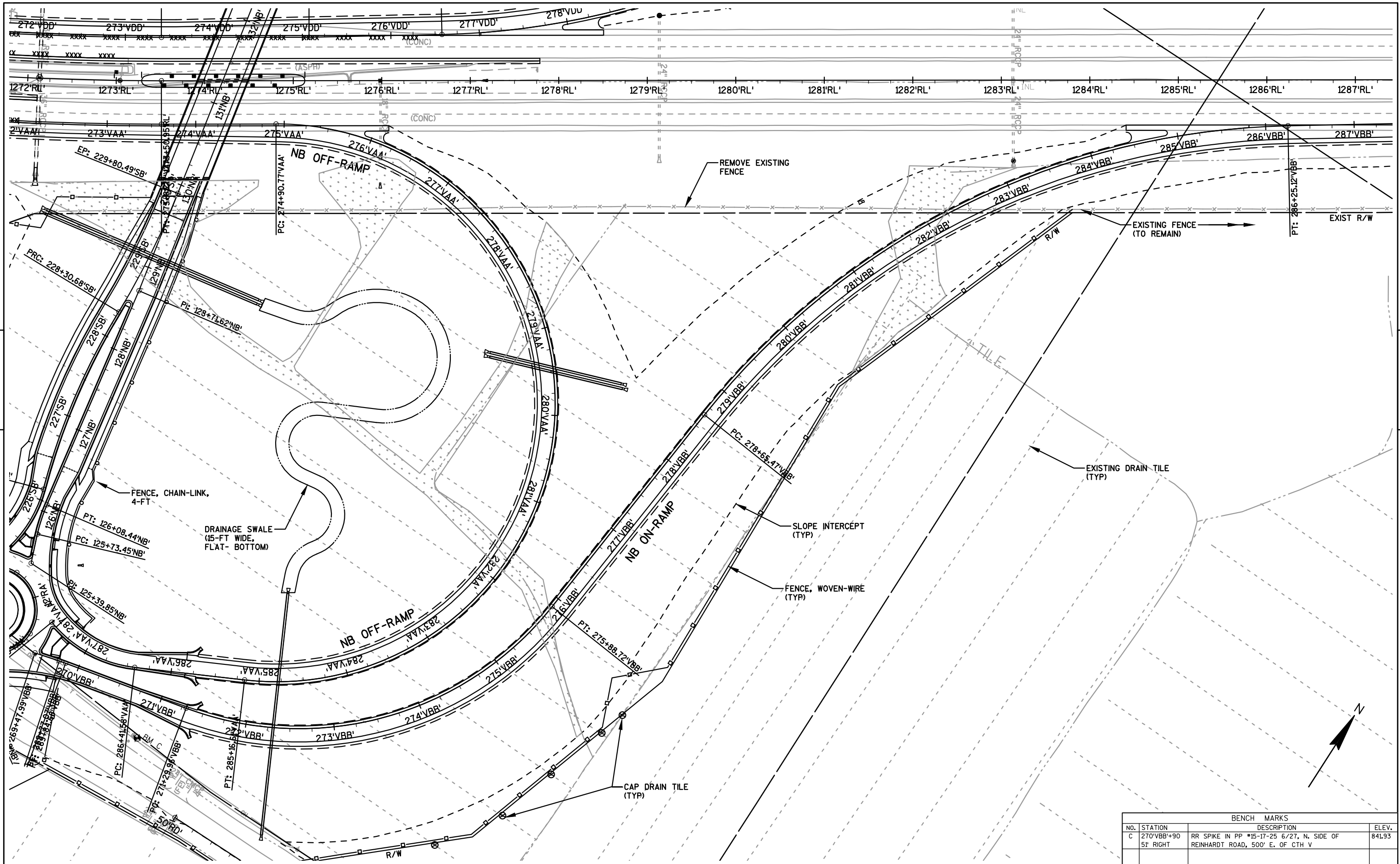
PROJECT NO: 1420-22-71	HWY: USH 151	COUNTY: FOND DU LAC	PLAN: CTH V - USH 151	SHEET	E
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PROJECT NO: 1420-22-71	HWY: USH 151	COUNTY: FOND DU LAC	PLAN: CTH V - USH 151	SHEET	<b>E</b>
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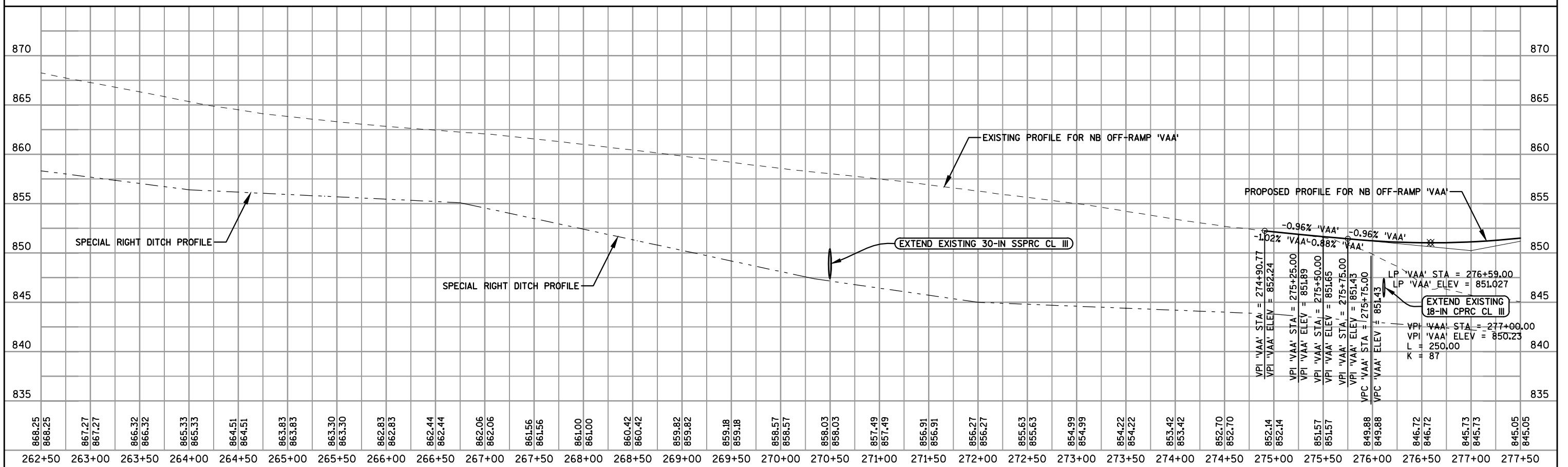
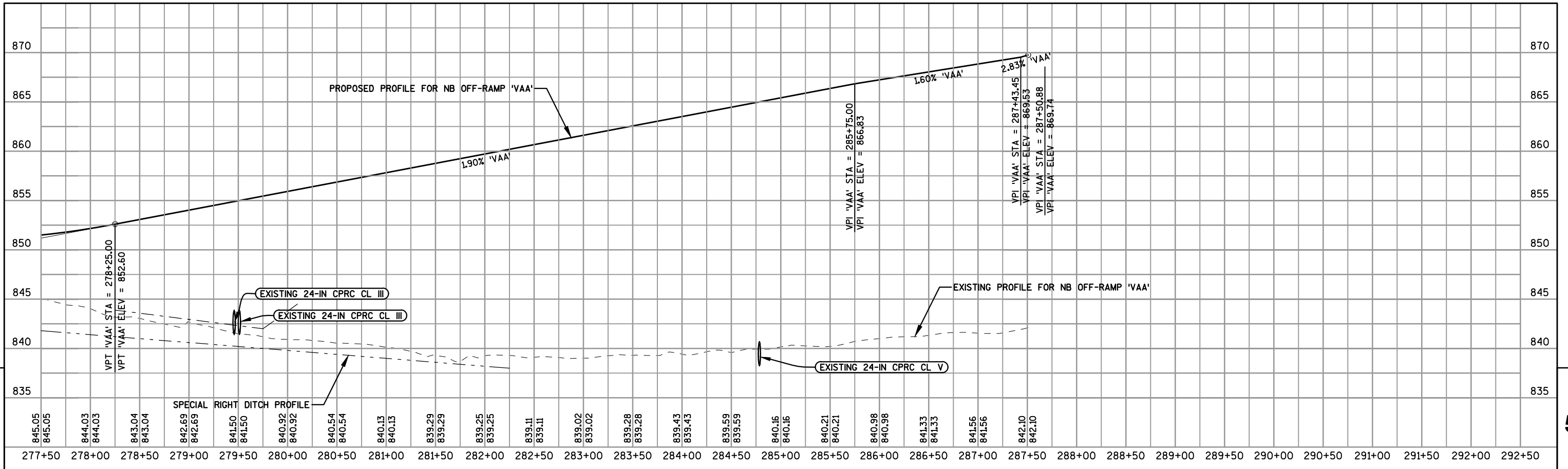


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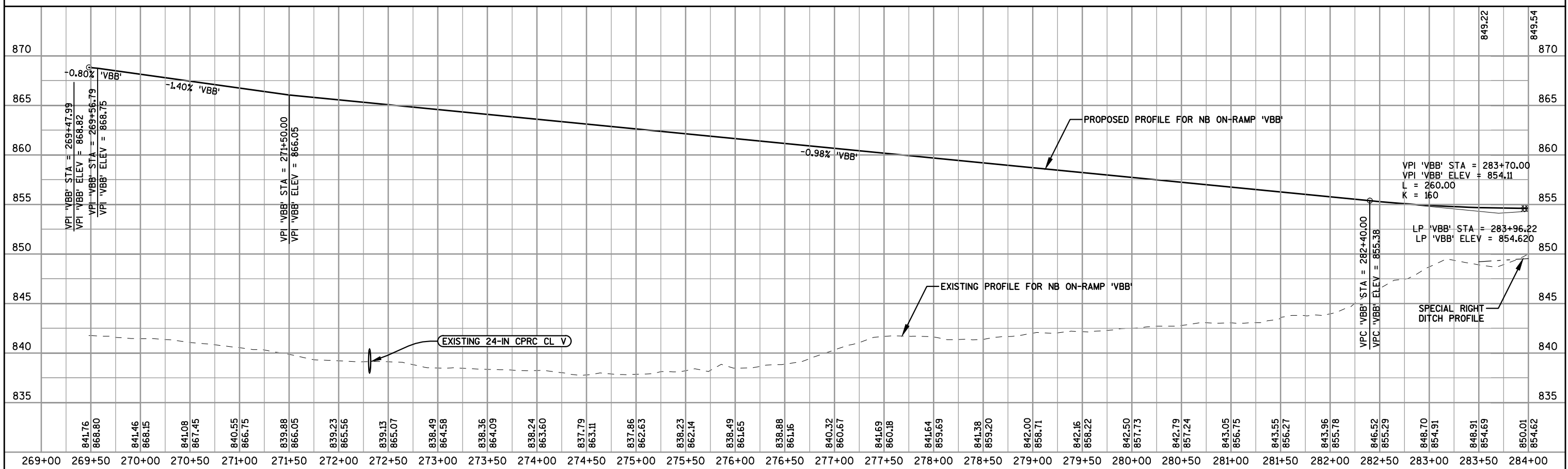
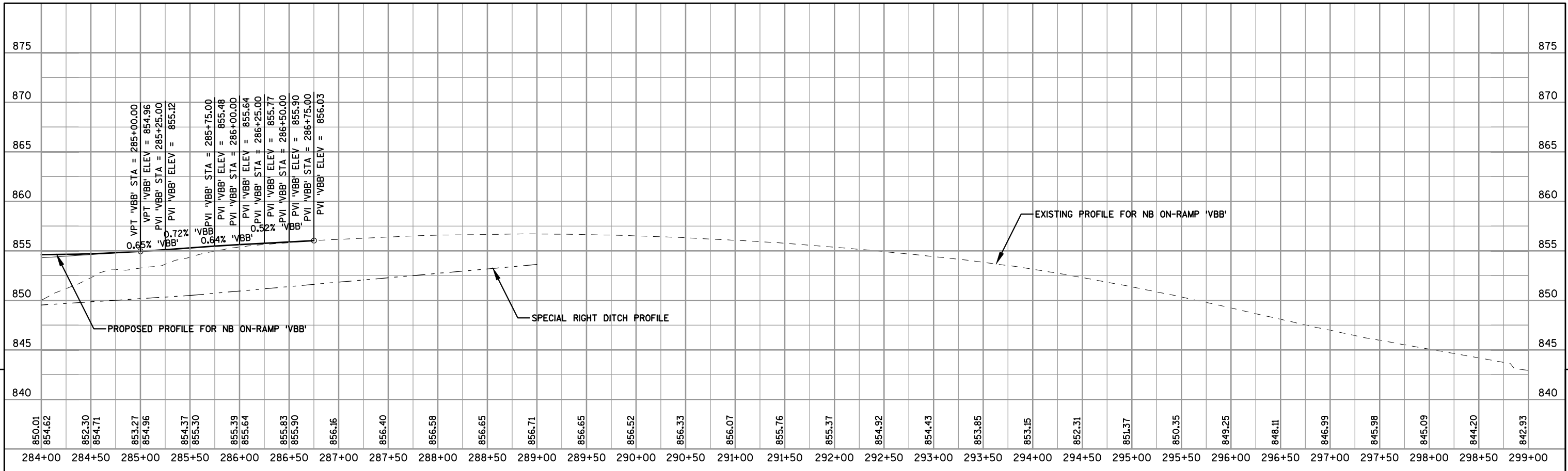
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BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
C	270'VBB'+90 5' RIGHT	RR SPIKE IN PP #15-17-25 6/27, N. SIDE OF REINHARDT ROAD, 500' E. OF CTH V	841.93

PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      PLAN: CTH V - USH 151      SHEET      E

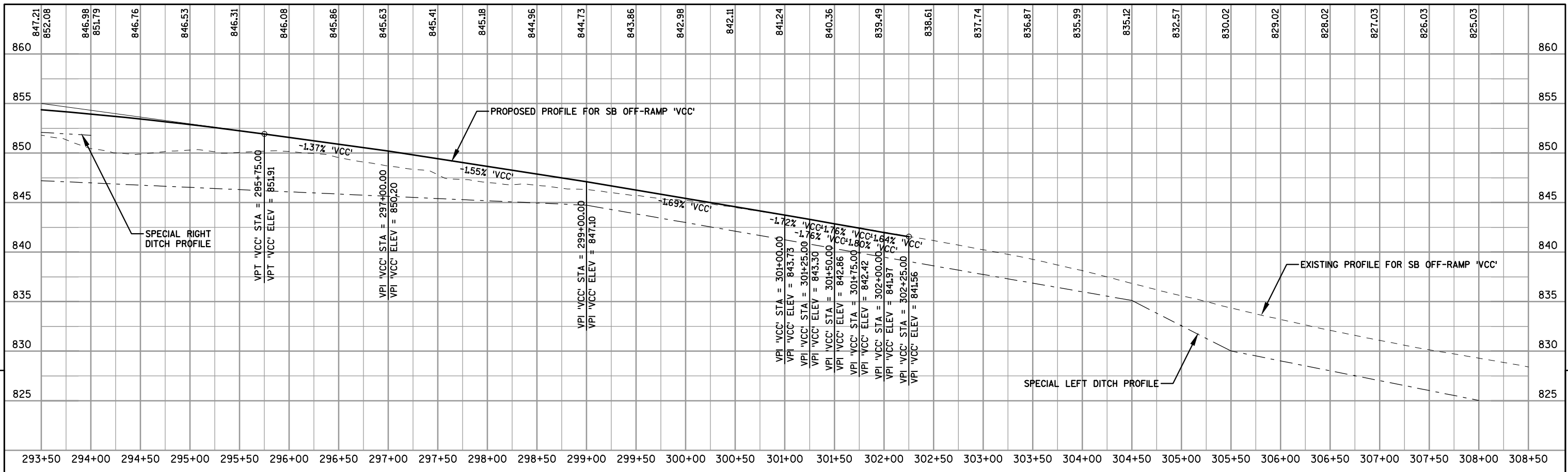


PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      PROFILE: NORTHBOUND OFF-RAMP (VAA)      SHEET      E

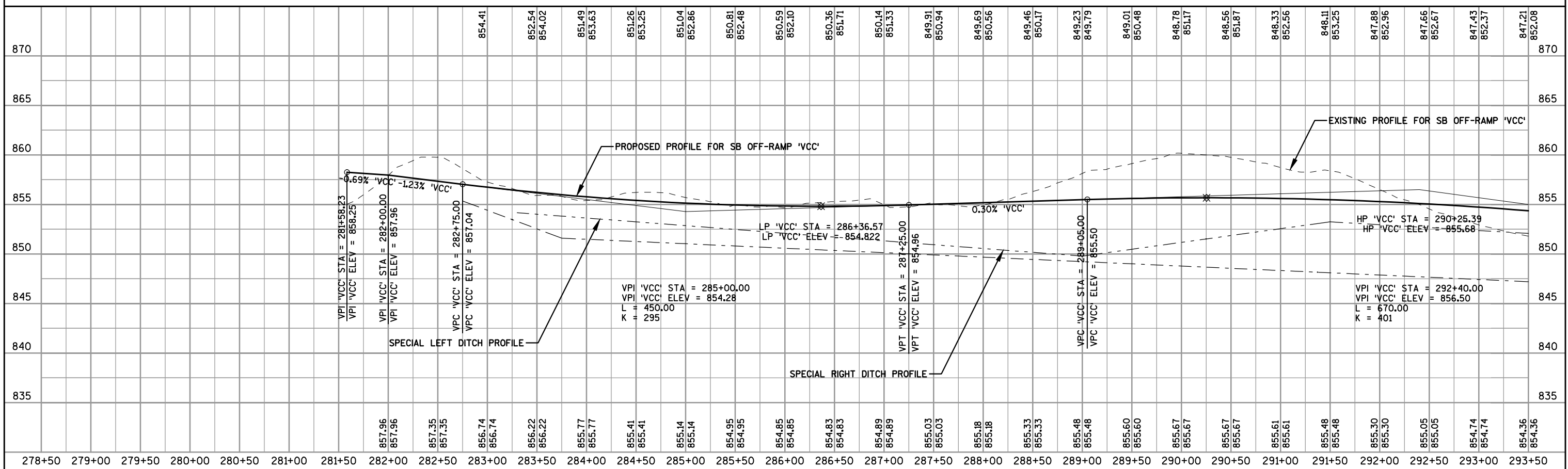


PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      PROFILE: NORTHBOUND ON-RAMP (VBB)      SHEET      E

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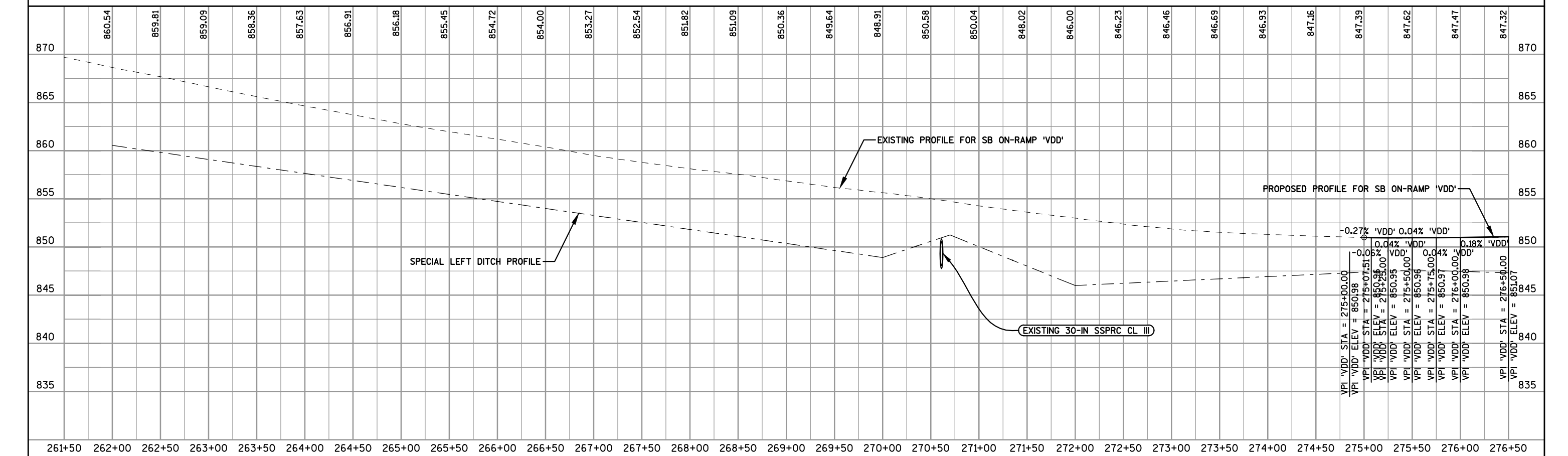
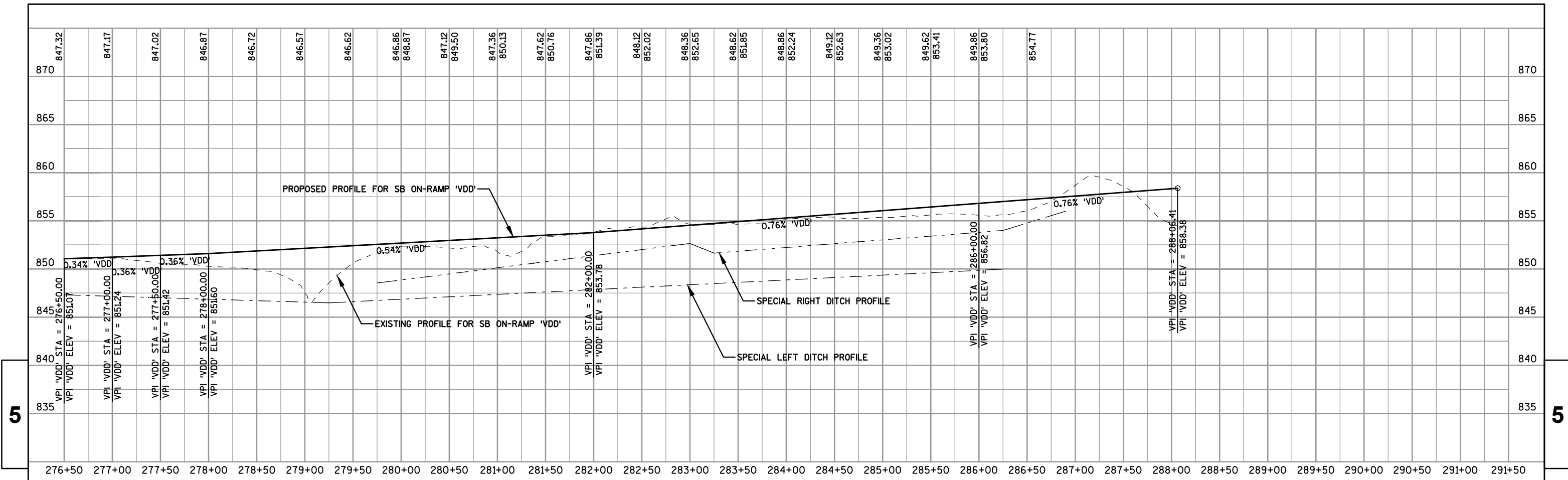


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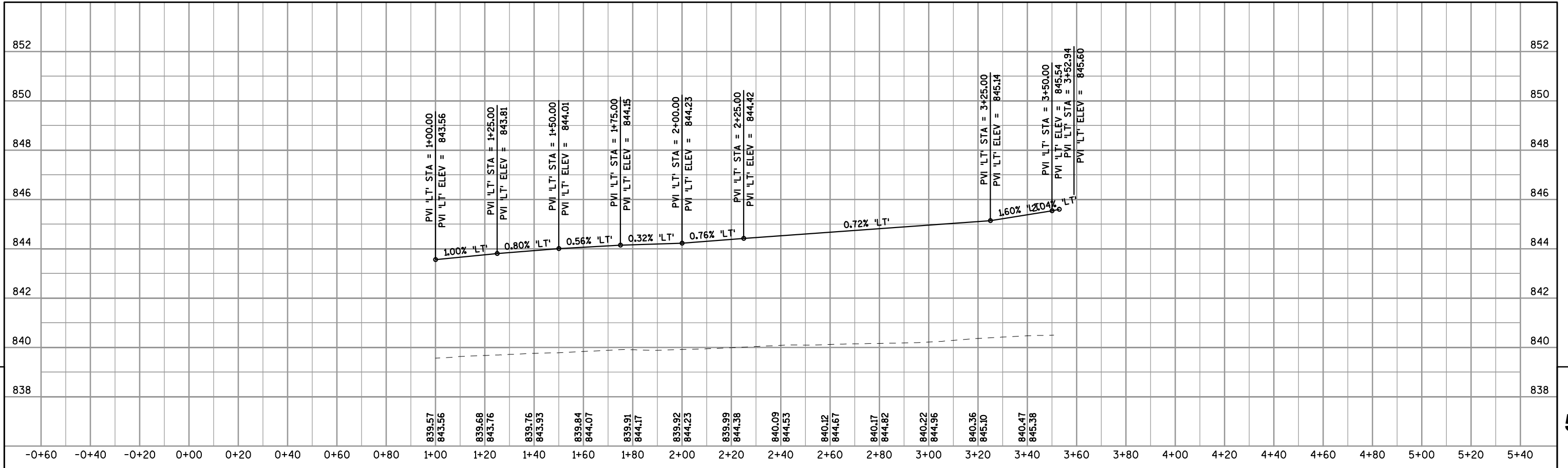
PROJECT NO: 1420-22-71	HWY: USH 151	COUNTY: FOND DU LAC	PROFILE: SOUTHBOUND OFF-RAMP (VCC)	SHEET	E
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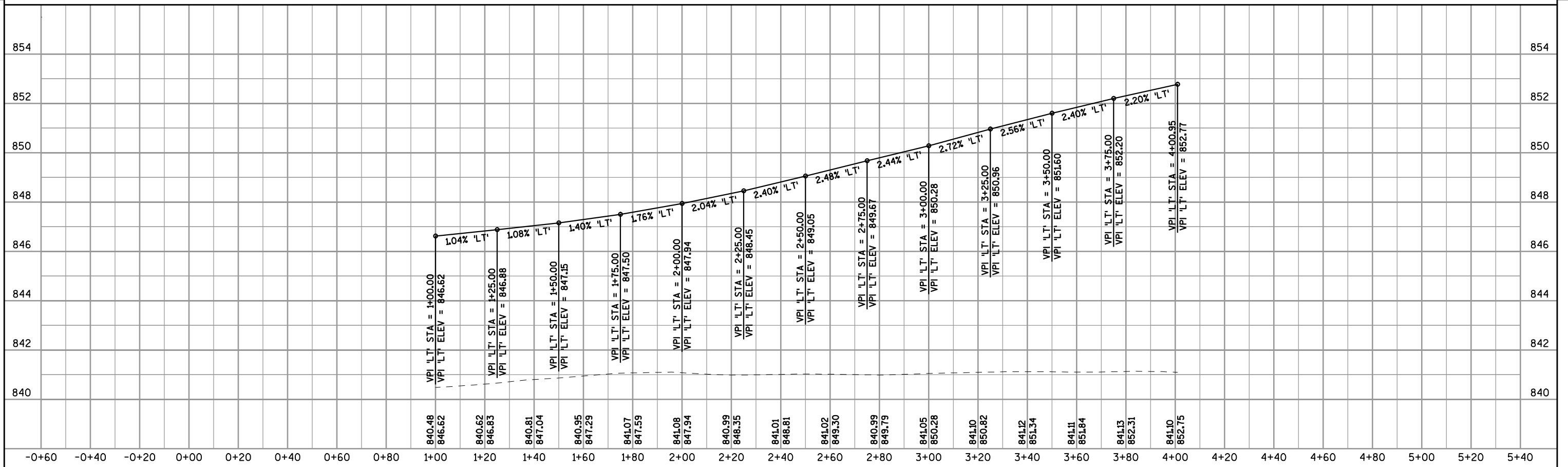


PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      PROFILE: SOUTHBOUND ON-RAMP (VDD)      SHEET      E

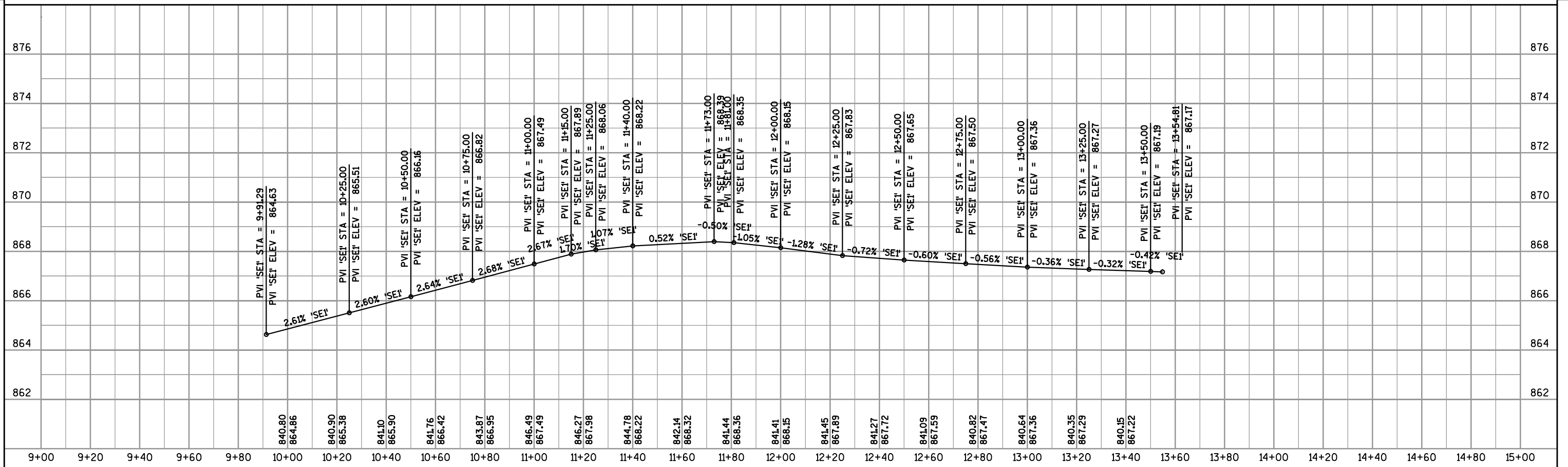
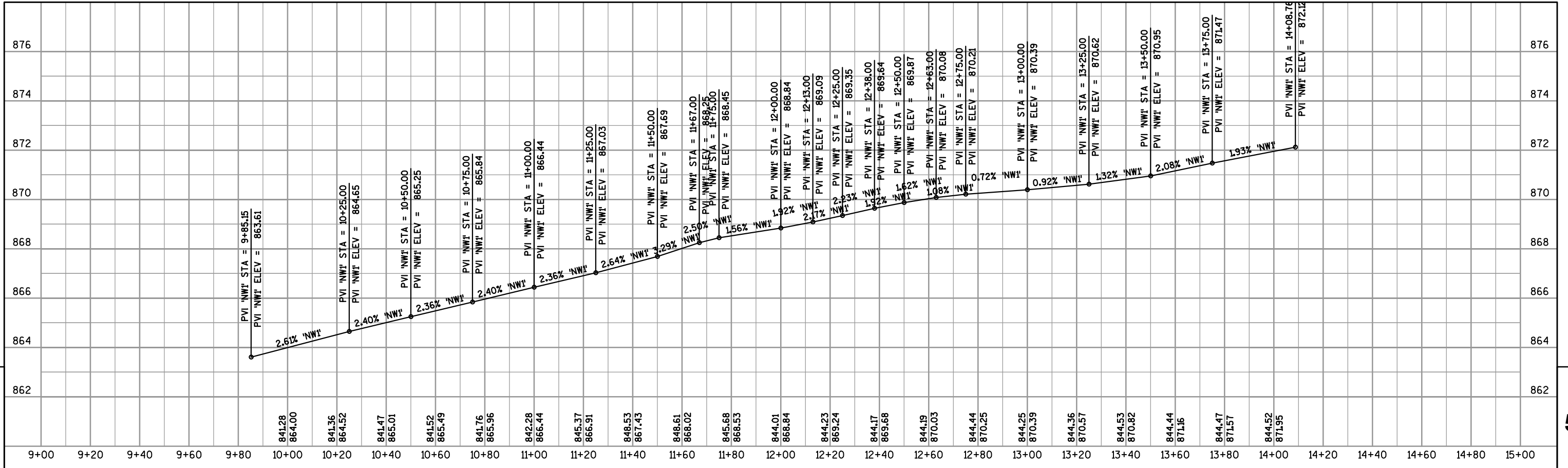
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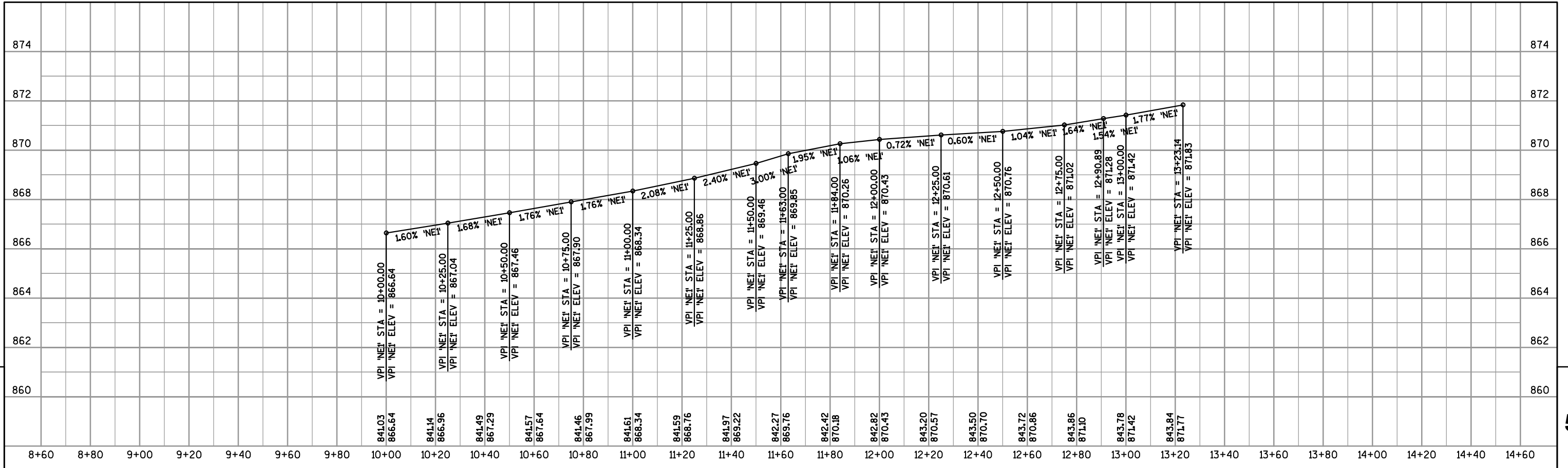
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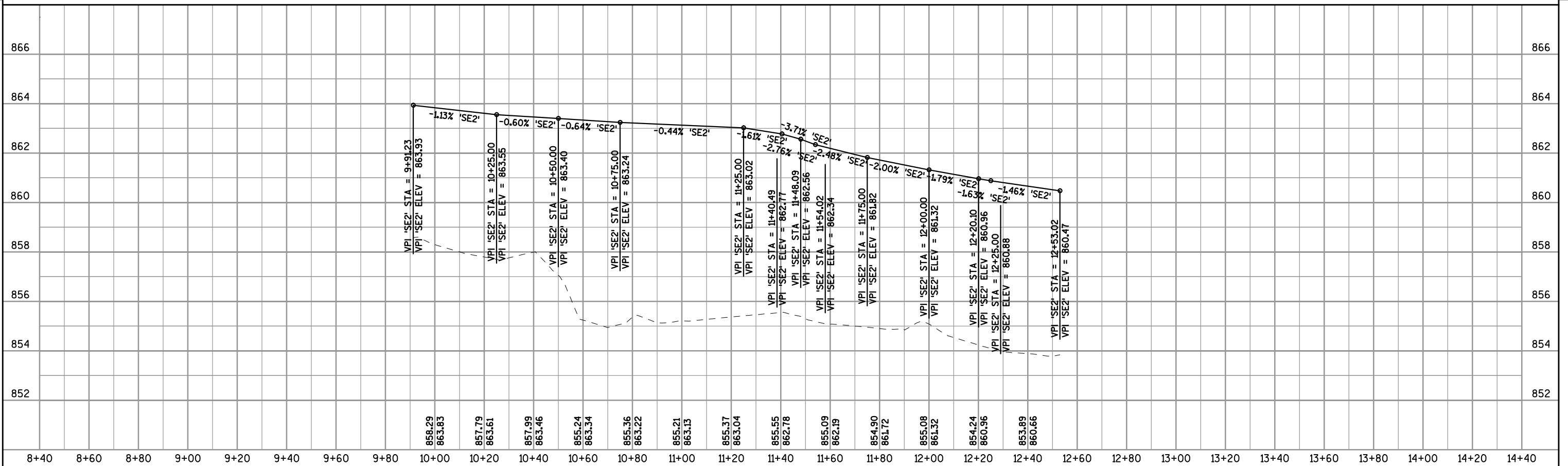
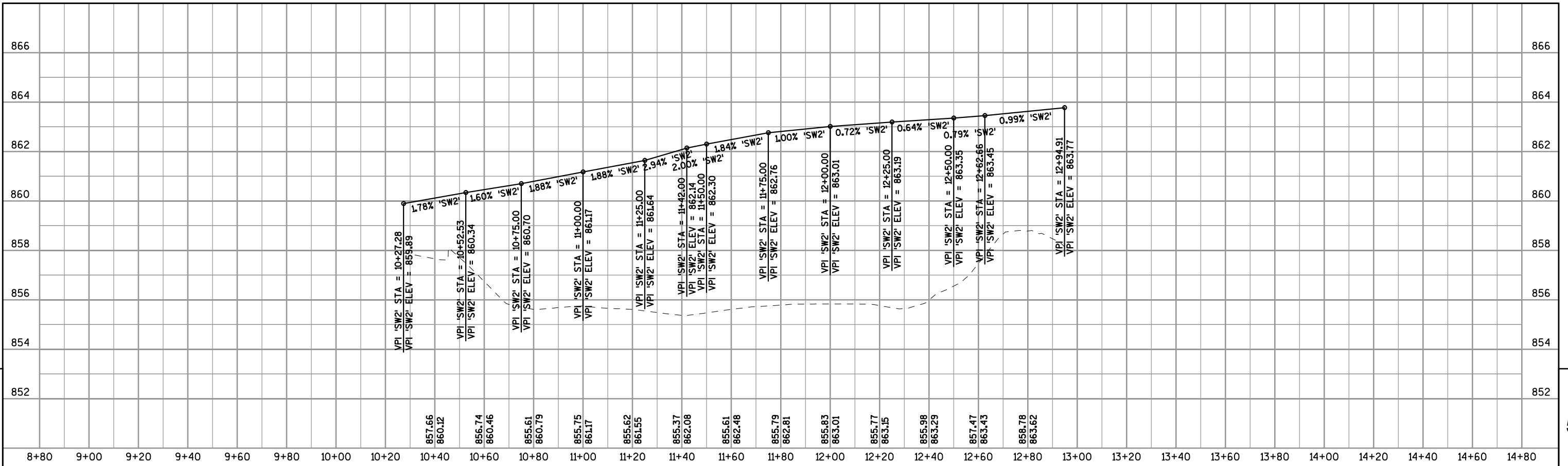
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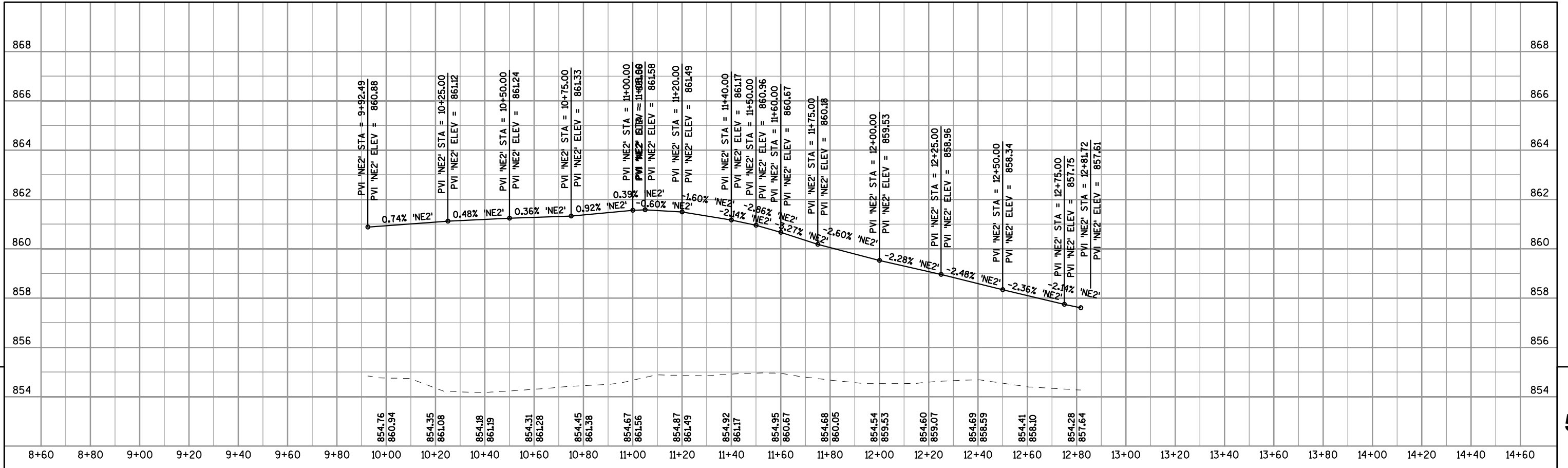
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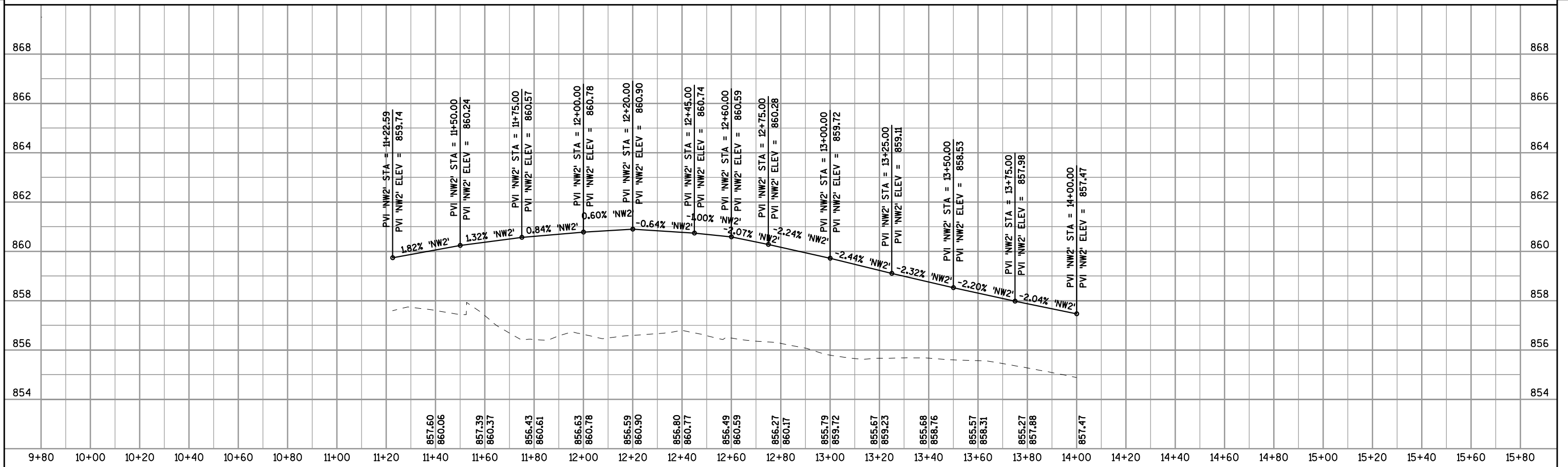
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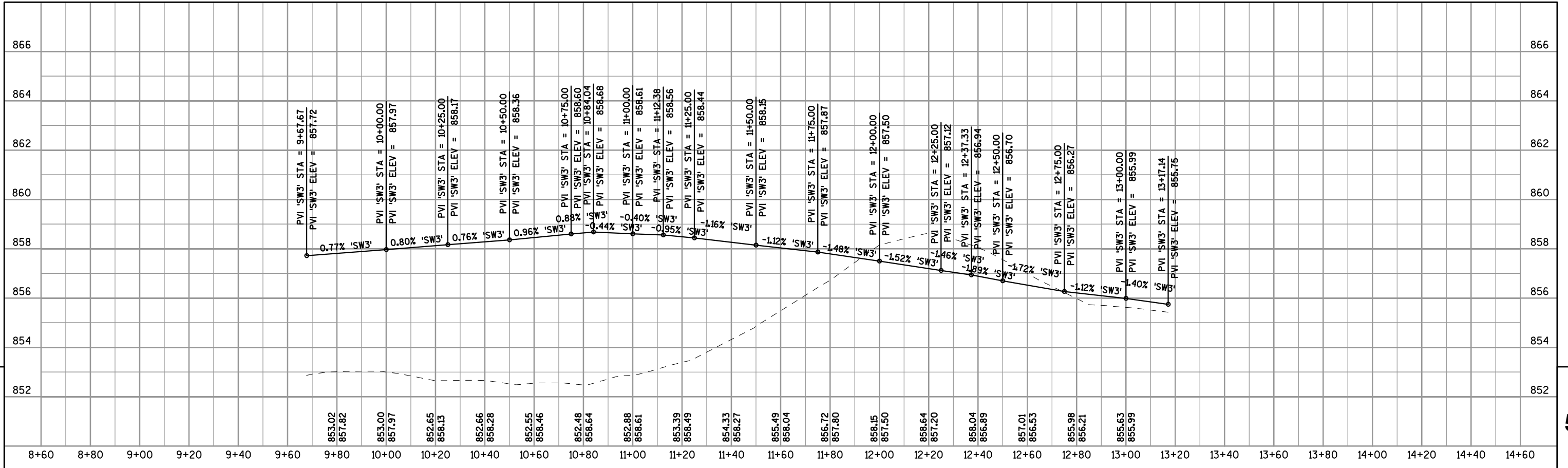


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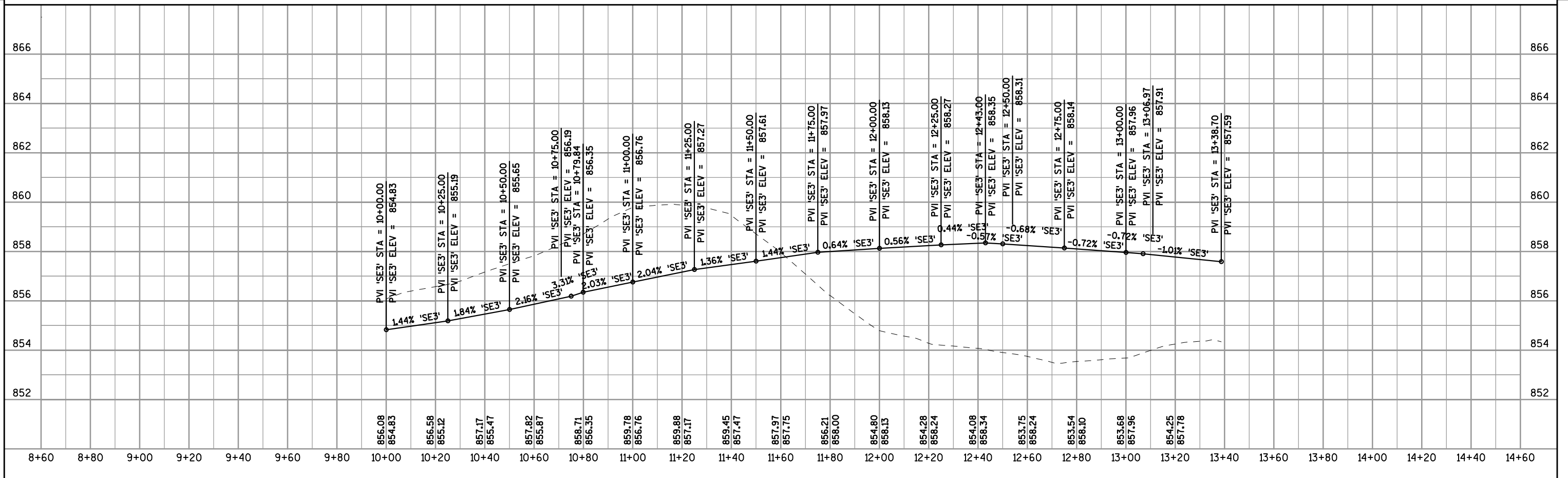


PROJECT NO: 1420-22-71	HWY: USH 151	COUNTY: FOND DU LAC	PROFILE: CURB & GUTTER - CTH V & FRONTAGE ROAD	SHEET	<b>E</b>
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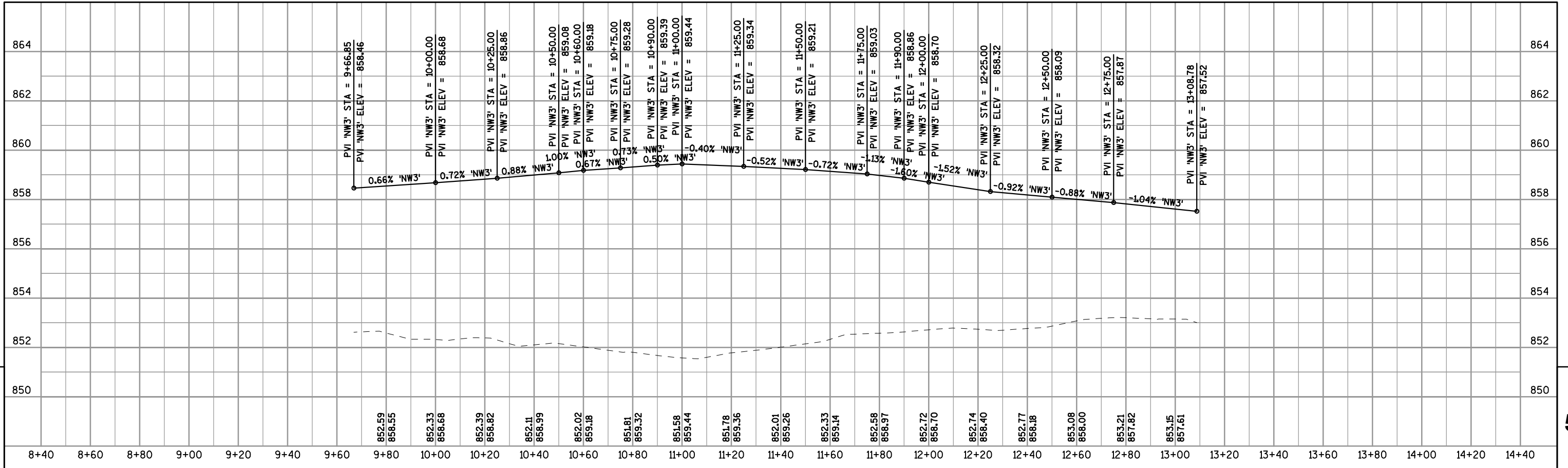


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PROJECT NO: 1420-22-71	HWY: USH 151	COUNTY: FOND DU LAC	PROFILE: CURB & GUTTER - CTH V & SB RAMPS	SHEET	<b>E</b>
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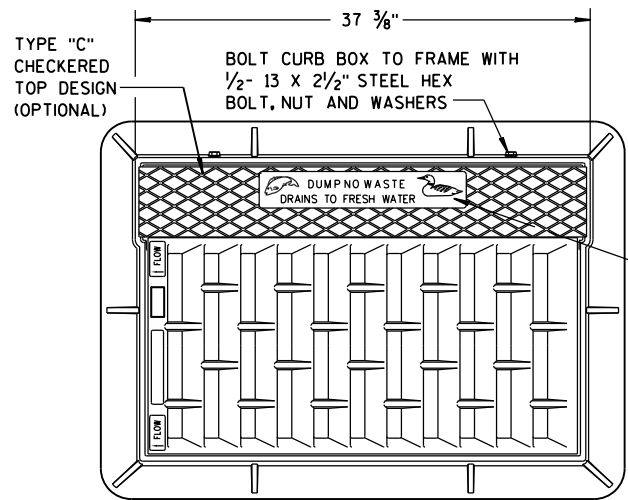


## Standard Detail Drawing List

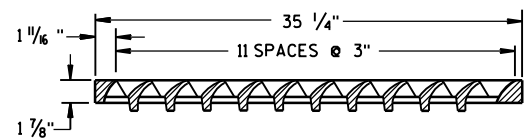
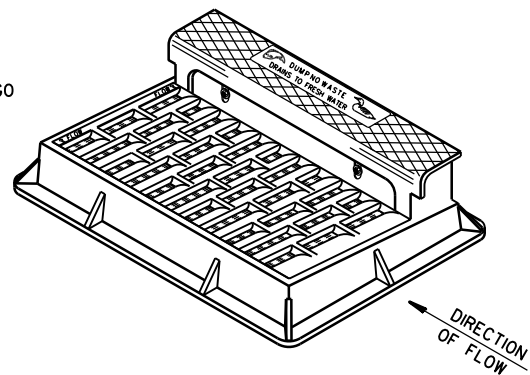
08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
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
08C09-01	INLETS MEDIAN 3 AND 4 GRATE
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D05-15A	CURB RAMPS TYPES 1 AND 1-A
08D05-15B	CURB RAMPS TYPES 2 AND 3
08D05-15C	CURB RAMPS TYPES 4A AND 4A1
08D05-15D	CURB RAMPS TYPE 4B AND 4B1
08D05-15E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F07-05	STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE FRAINS
08F10-01	CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH
09B02-08	CONDUIT
09B04-11	PULL BOX
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09C14-02	CONCRETE CONTROL CABINET BASE, TYPE L
09E01-14D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
11B02-02	CONCRETE MEDIAN NOSE
12A03-10	NAME PLATE (STRUCTURES)
12A04-03	STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES & OVERHEAD SIGN SUPPORTS & TRAFFIC SIGNALS
13B02-07A	CONCRETE BRIDGE APPROACH
13B02-07B	STRUCTURAL APPROACH SLAB AND CONCRETE BRIDGE APPROACH
13C01-17	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C04-16	URBAN NON-DOWELED CONCRETE PAVEMENT
13C11-11A	RURAL DOWELED CONCRETE PAVEMENT
13C11-11B	RURAL DOWELED CONCRETE PAVEMENT
13C17-01A	CONCRETE JOINT DETAIL FOR EXIT RAMP TERMINI
13C17-01B	CONCRETE JOINT DETAIL FOR ENTRANCE RAMP TERMINI
13C18-02A	CONCRETE PAVEMENT JOINTING
13C18-02B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-02C	CONCRETE PAVEMENT JOINT TIES
13C18-02D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
13C18-02E	CONCRETE PAVEMENT JOINTING AND STEEL REINFORCEMENT IN ROUNDABOUTS
14A01-03	TREE PRESERVATION DETAILS
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"
14B08-01A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B26-03A	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03B	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03C	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03D	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03E	STEEL THRIE BEAM BULLNOSE TERMINAL
14B32-03A	CONCRETE BARRIER SINGLE SLOPE (CBSS)

## Standard Detail Drawing List

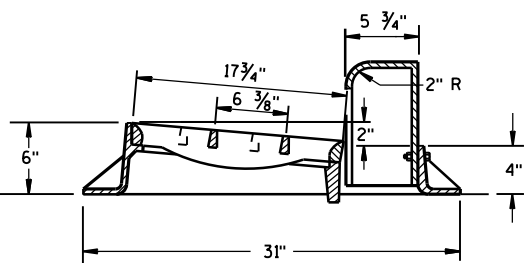
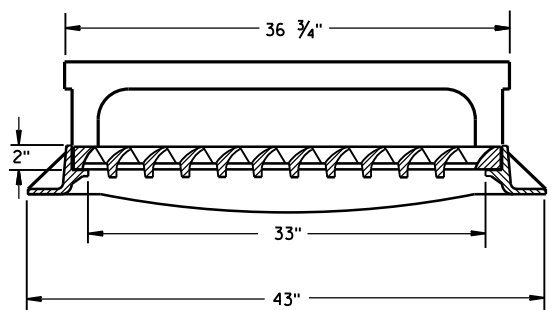
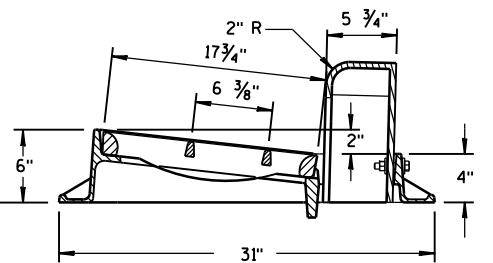
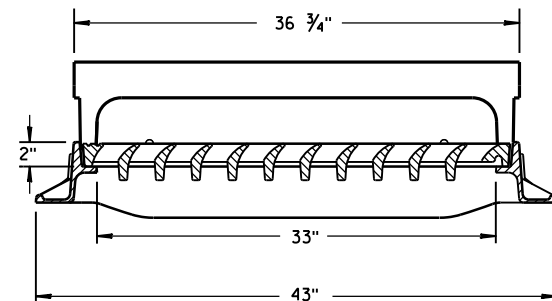
14B32-03B	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-03C	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-03D	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B34-01B	56" CONCRETE BARRIER SINGLE SLOPE CLASS B
14B39-01A	32-INCH SSCB TO 36-INCH SSCB HEIGHT TRANSITION
14B39-01C	36-INCH SSCB TO 42-INCH SSCB HEIGHT TRANSITION
14B39-01E	42-INCH SSCB TO 56-INCH SSCB HEIGHT TRANSITION
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)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-03D	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-03E	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-03F	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-03G	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-03H	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-03I	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-03J	MIDWEST GUARDRAIL SYSTEM THREE 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
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
15A06-02	DELINEATOR LAYOUT
15B01-08A	FENCE WOVEN WIRE
15B01-08B	FENCE WOVEN WIRE
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
15C02-05C	DETOUR SIGNING 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
15C05-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-12A	PAVEMENT MARKING SYMBOLS
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C07-12D	ROUNDBOUT ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C19-02A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C19-02C	MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15C29-03E	PAVEMENT MARKING FOR BIKE LANES
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D12-05A	TRAFFIC CONTROL, LANE CLOSURE
15D15-01	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D21-03	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH



**NOTE:  
GRATE IS REVERSIBLE.**

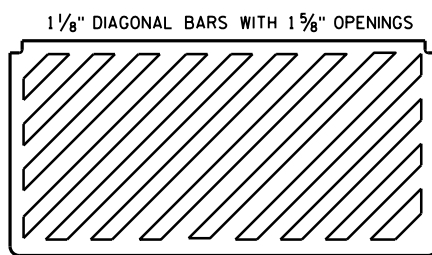


**NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"**

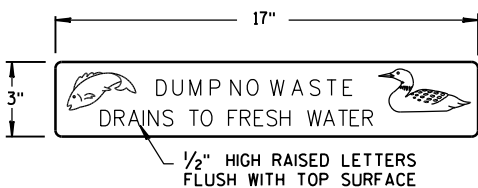


**TYPE "H"**

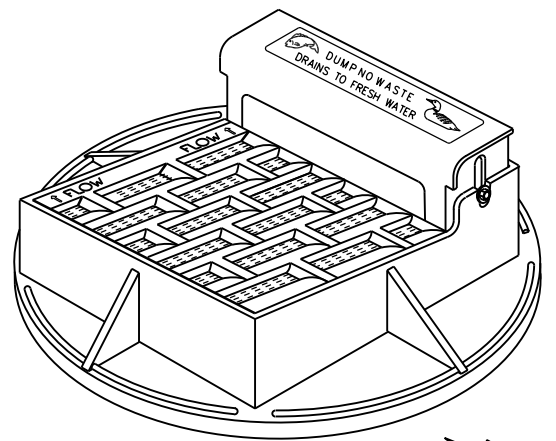
**NOTE: EITHER CASTING IS ACCEPTABLE**



**SPECIAL GRATE FOR  
TYPE "H" COVER**  
(MEASURES 35 1/4" X 17 3/4" X 2")  
(NOTED AS TYPE H-S ON DRAINAGE TABLE)

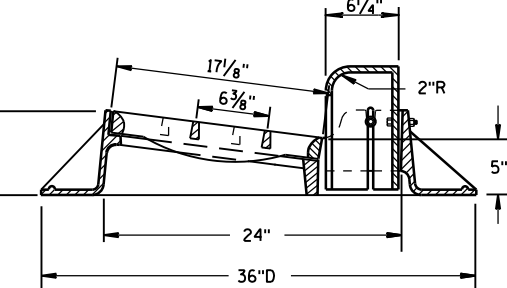
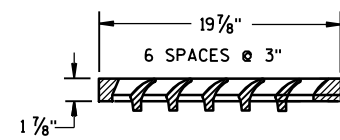
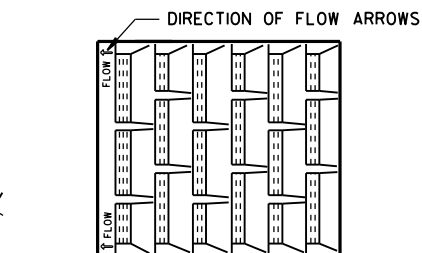
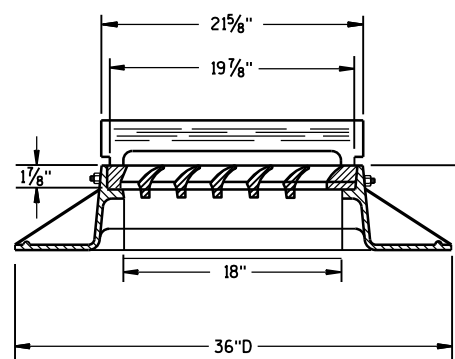


**LOGO DETAIL**



**NOTE: CURB BOX ADJUSTABLE 4" TO 9"**

**NOTE:  
GRATE IS REVERSIBLE.**



**TYPE "A"**

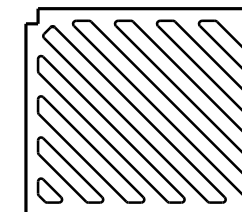
**GENERAL NOTES**

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.

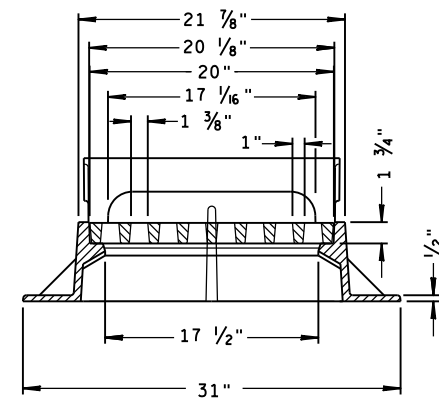
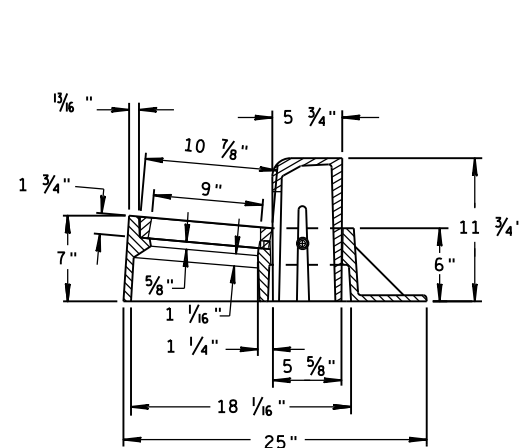
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

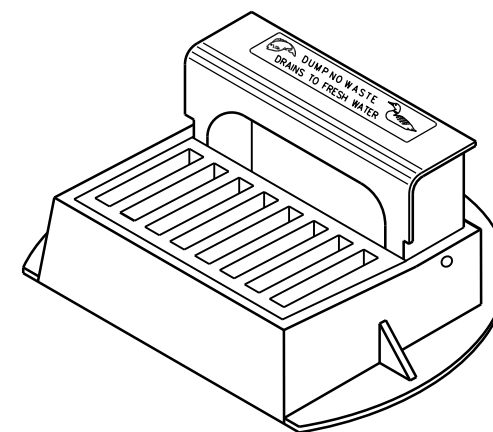
1" DIAGONAL BARS WITH 1 1/2" OPENINGS



**SPECIAL GRATE FOR  
TYPE "A" COVER**  
(MEASURES 19 3/4" X 17" X 1 1/8")  
(NOTED AS TYPE A-S ON DRAINAGE TABLE)



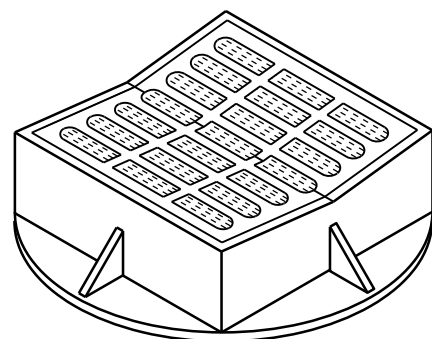
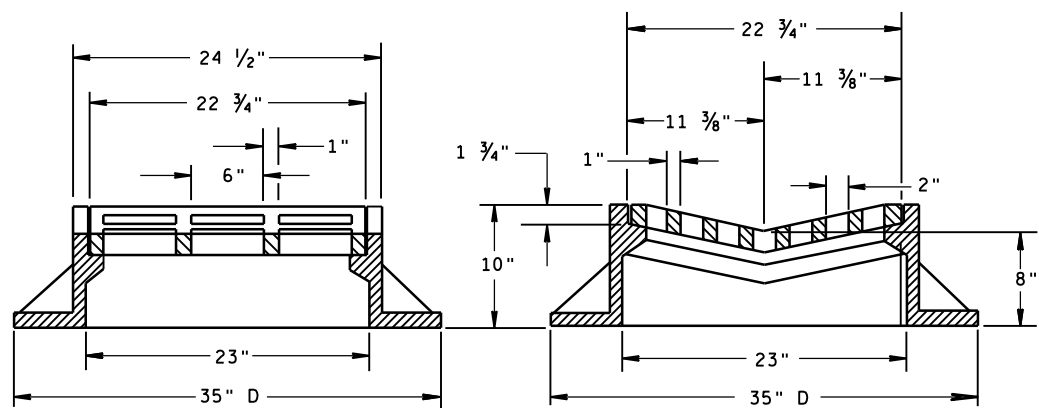
**TYPE "Z"**



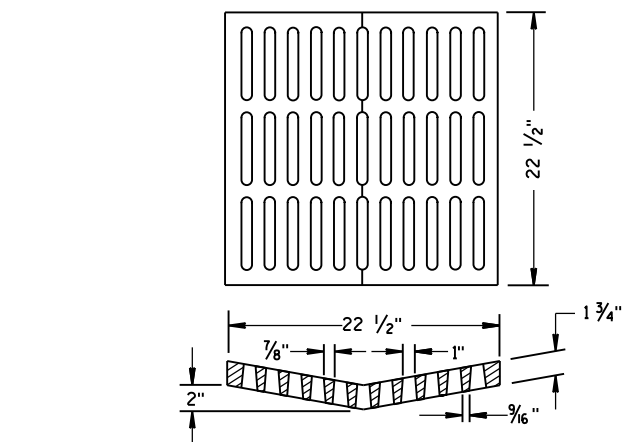
**INLET COVERS  
TYPE A, H, A-S, H-S & Z**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE: 11-27-13  
DATE: /S/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER  
FHWA

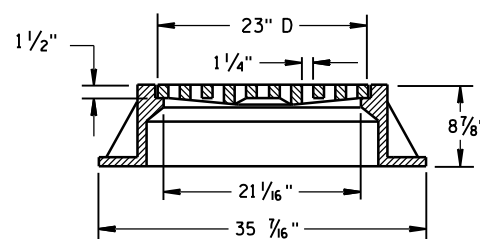
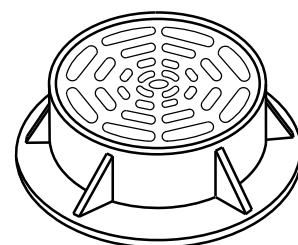
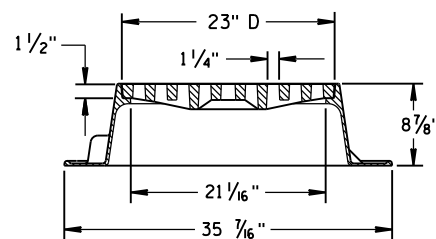
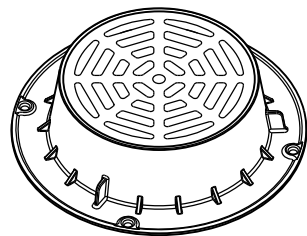


**TYPE "B"**



**ALTERNATIVE GRATE FOR TYPE "B" COVER**

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.  
NOTED AS TYPE B-A ON THE DRAINAGE TABLE



**TYPE "C"**

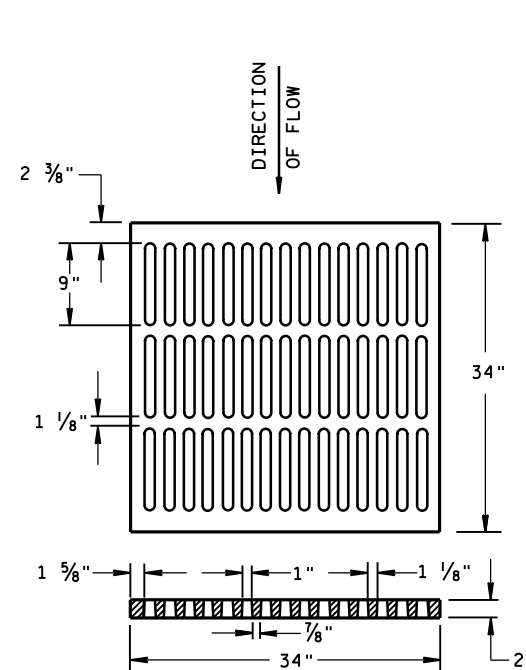
NOTE: EITHER CASTING IS ACCEPTABLE

**GENERAL NOTES**

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

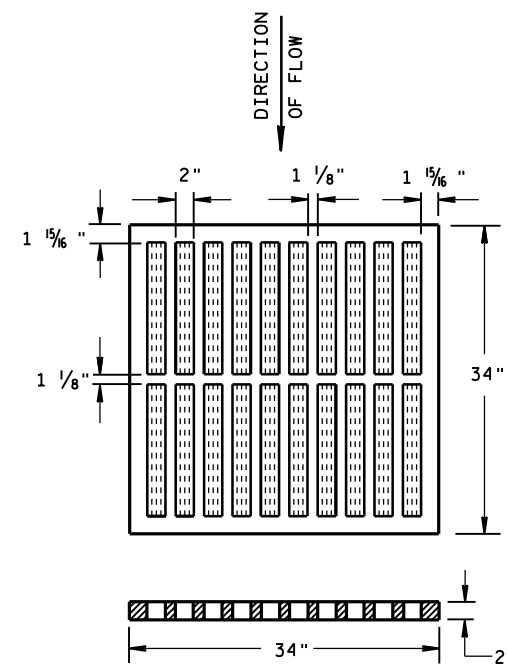
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



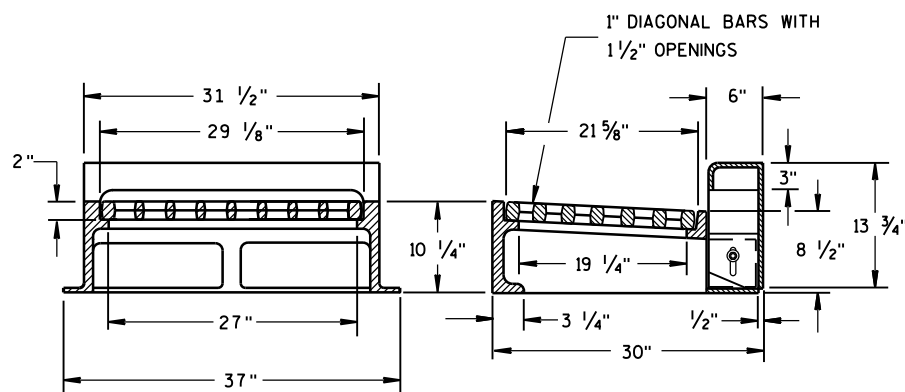
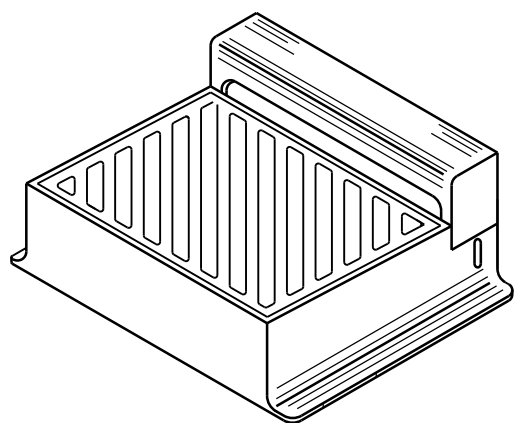
**ALTERNATIVE TYPE "MS"**

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED  
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE



**TYPE "MS"**

USE ON FREEWAYS AND EXPRESSWAYS  
NOTED AS TYPE MS ON DRAINAGE TABLE



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

**TYPE "WM"**

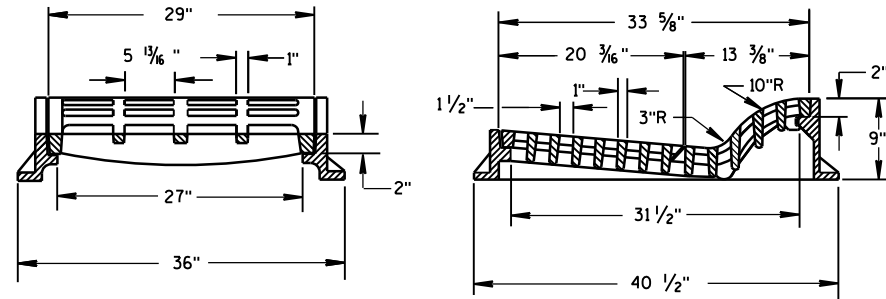
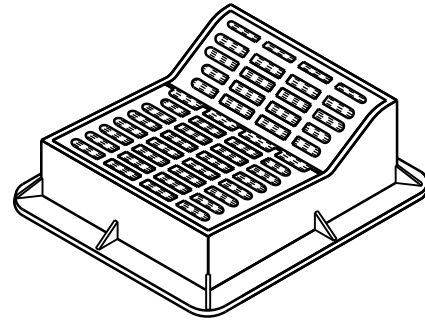
DIAGONAL SLOTS, SHALL BE ORIENTED TO THE DIRECTION OF FLOW AS ILLUSTRATED. GRATES ARE MANUFACTURED TO BE REVERSIBLE.

DIRECTION OF FLOW

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE 11/27/2013 /S/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT ENGINEER  
FHWA



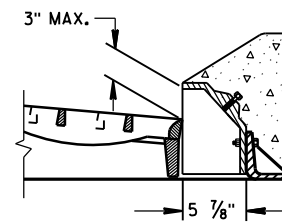
**TYPE "F"**

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

**GENERAL NOTES**

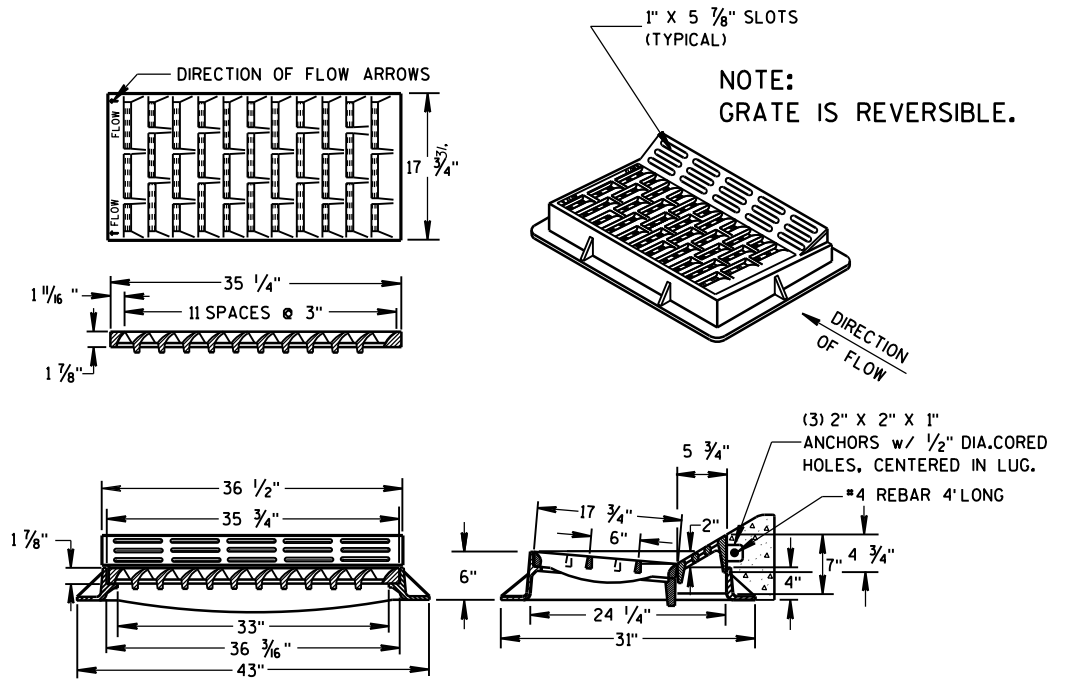
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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.



**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



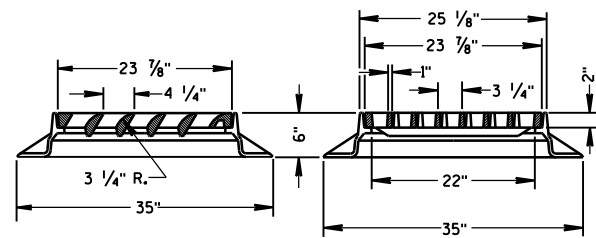
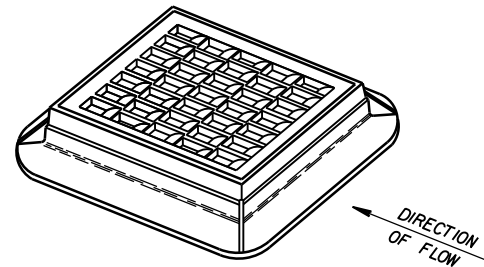
**TYPE "HM"**

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

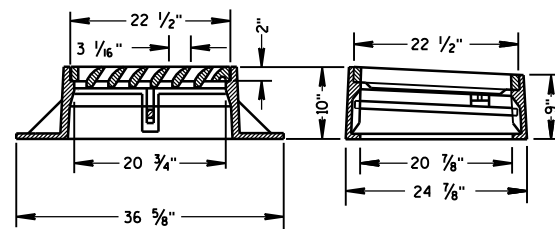
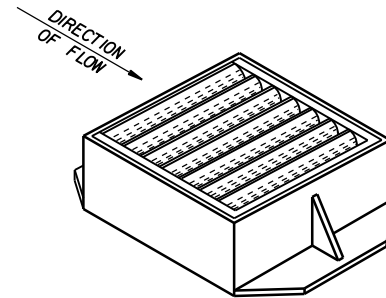
NOTE: SPECIAL GRATE FOR THE TYPE "H" COVER MAY ALSO BE USED FOR THE TYPE "HM" COVER NOTED AS TYPE HM-S ON DRAINAGE TABLE

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

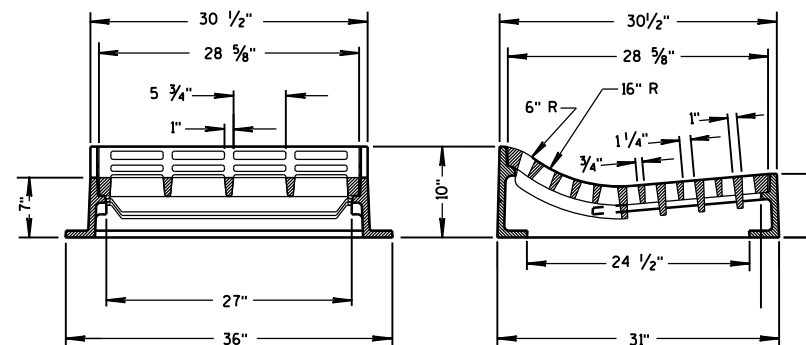
6



**TYPE "S"**

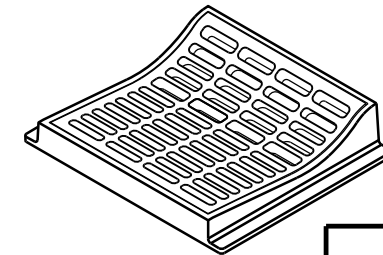


**TYPE "V"**



**TYPE "T"**

USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.



**INLET COVERS**  
TYPE F, HM, HM-S, S, T, V,  
HM-GJ, & HM-GJ-S

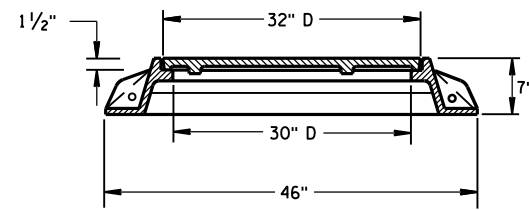
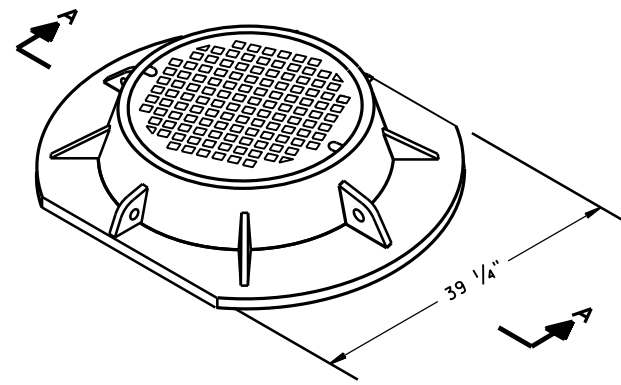
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
11/27/2013 DATE /s/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT ENGINEER  
FHWA

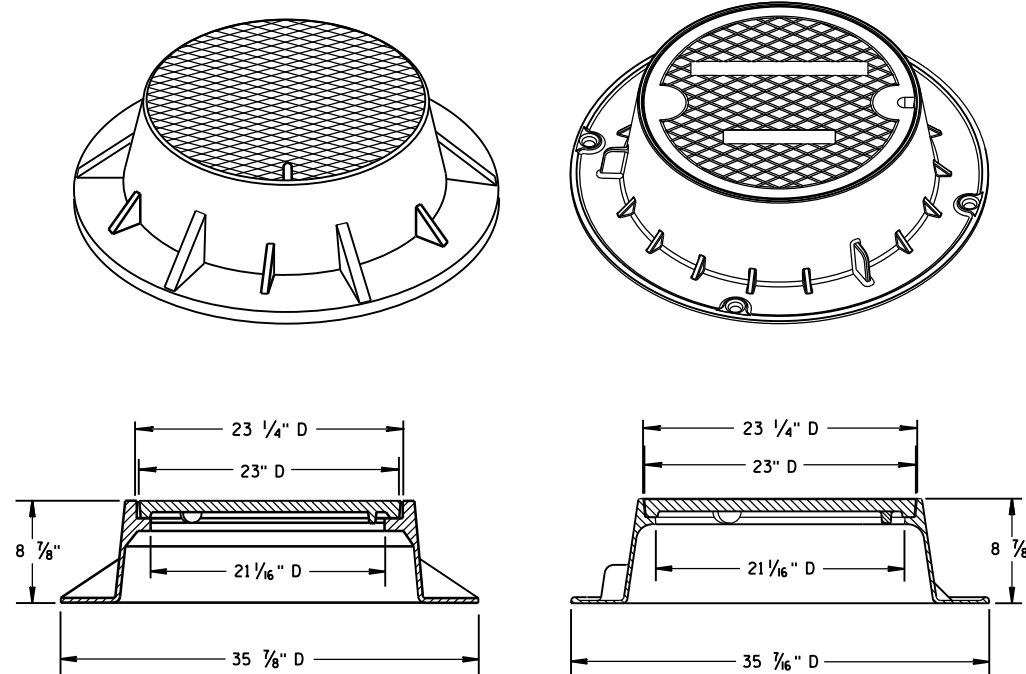
S.D.D. 8 A 5-19C

S.D.D. 8 A 5-19C

6

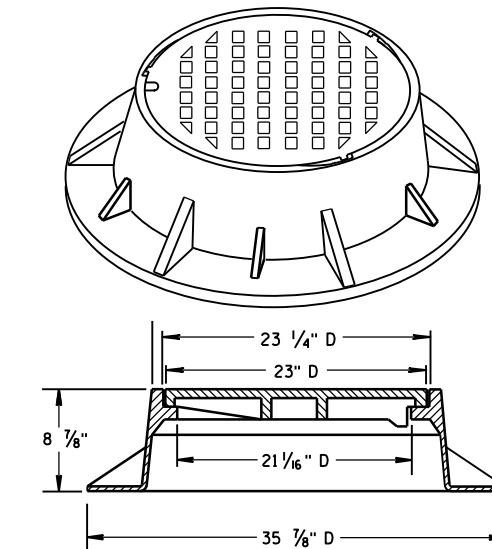
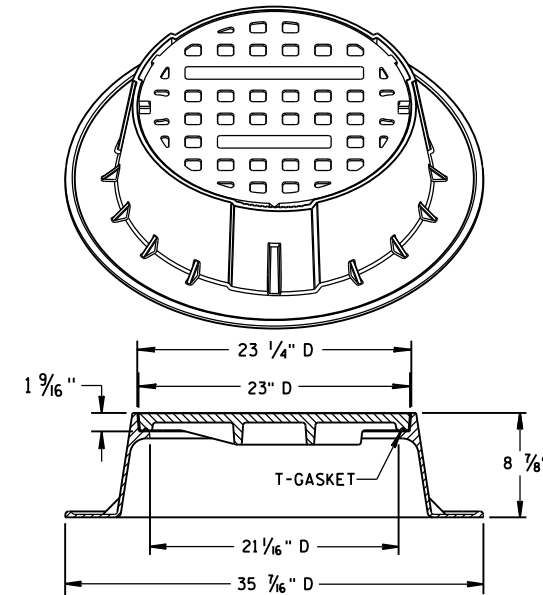


SECTION A-A  
TYPE "K"



TYPE "J"

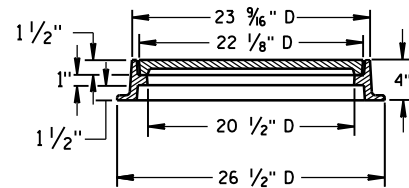
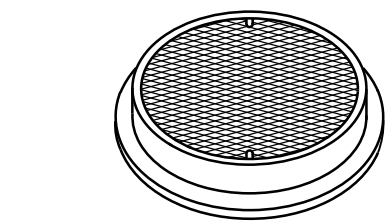
NOTE: EITHER CASTING IS ACCEPTABLE



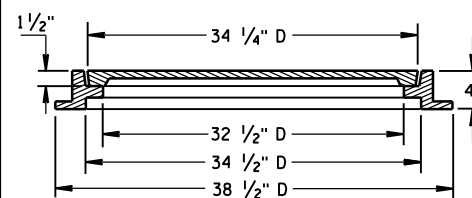
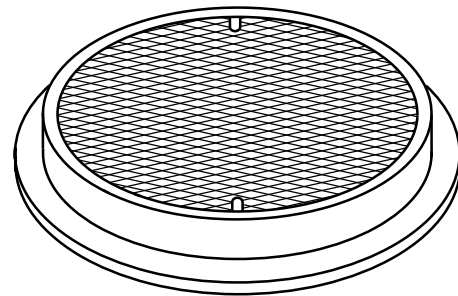
TYPE "J" SPECIAL

TYPE "B" NON-ROCKING SELF-SEAL LID  
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

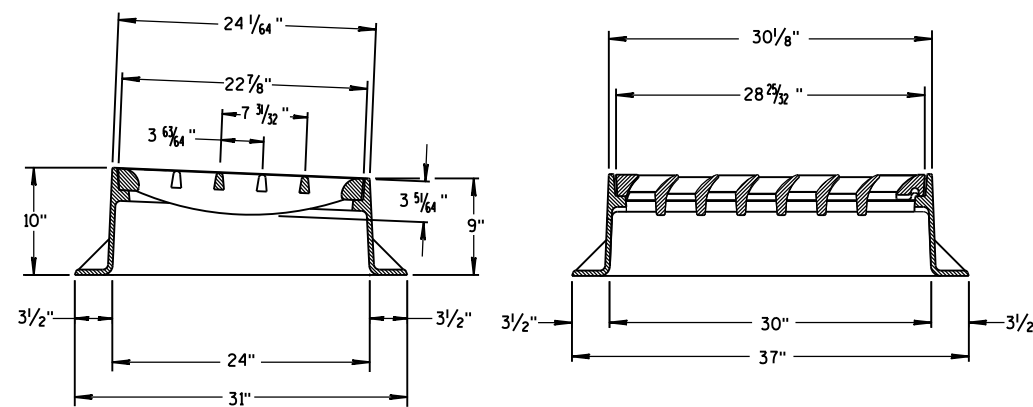
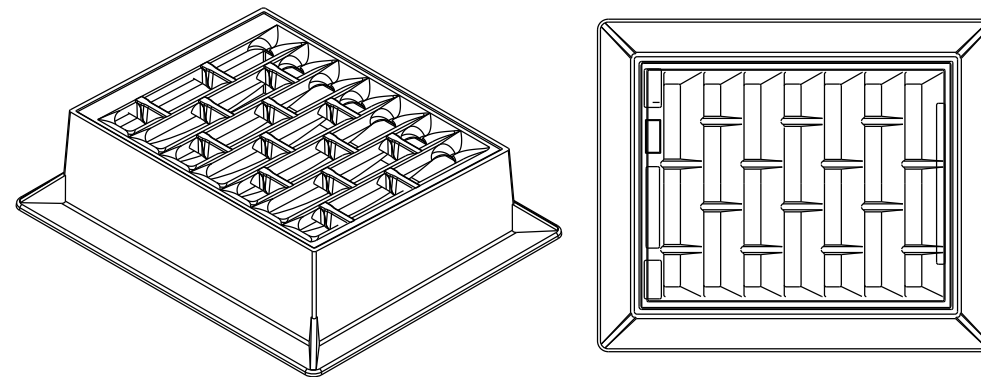
NOTE: EITHER CASTING IS ACCEPTABLE



TYPE "L"



TYPE "M"



INLET COVER TYPE "BW"

**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.

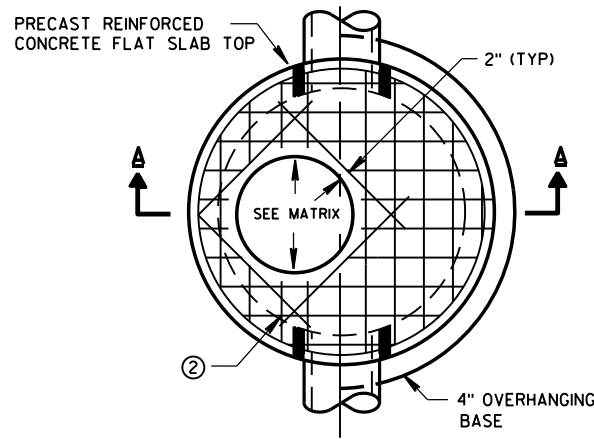
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

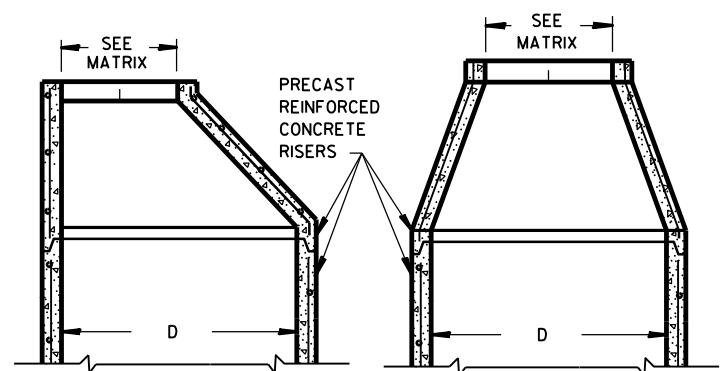
INLET COVER TYPE BW  
MANHOLE COVERS, TYPE K,  
J, J-S, L & M

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
11/27/2013 DATE /S/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER  
FHWA

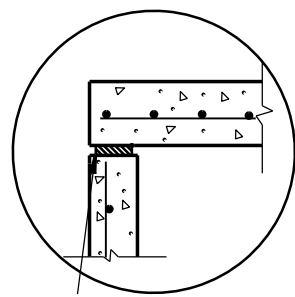


PLAN VIEW CIRCULAR OPENING

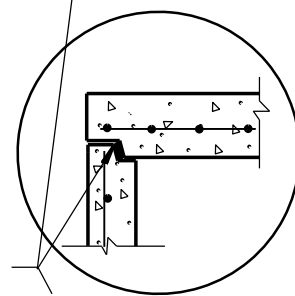


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

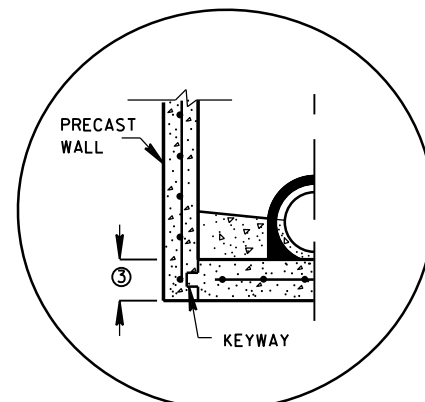
OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



TOP WITH PLAIN END JOINT

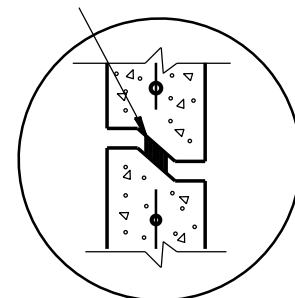


TOP WITH TONGUE AND GROOVE JOINT

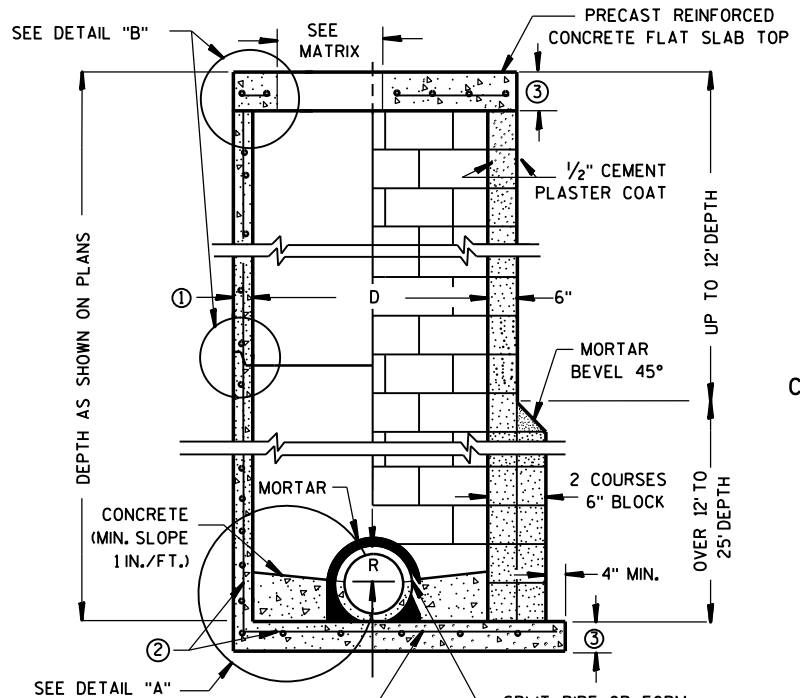


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

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

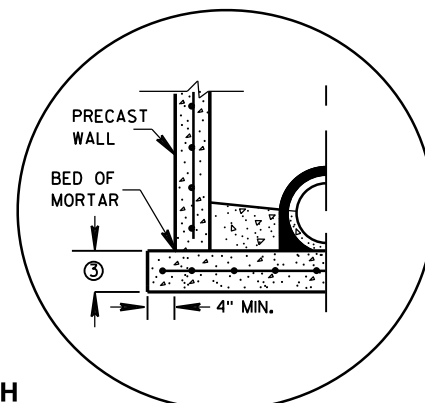


RISE WITH TONGUE AND GROOVE JOINT  
DETAIL "B"

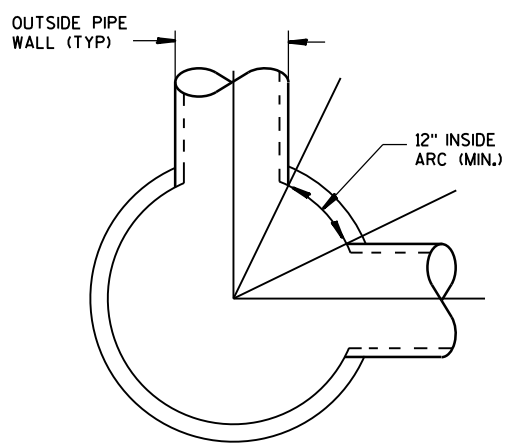


CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES

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



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 1/2" 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 PERMITTED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN. ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

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

- ① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.
- ② FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.
- ③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

**MANHOLE COVER OPENING MATRIX**

MANHOLE COVER TYPE	C	ALL J'S	K	L	M
OPENING SIZE (FT)					
2 DIA.	X	X		X	
3 DIA.			X		X

**PIPE MATRIX**

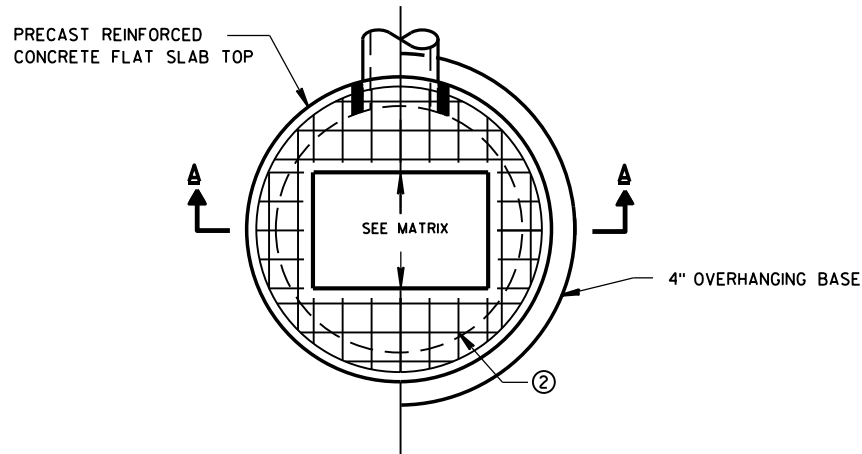
MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

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

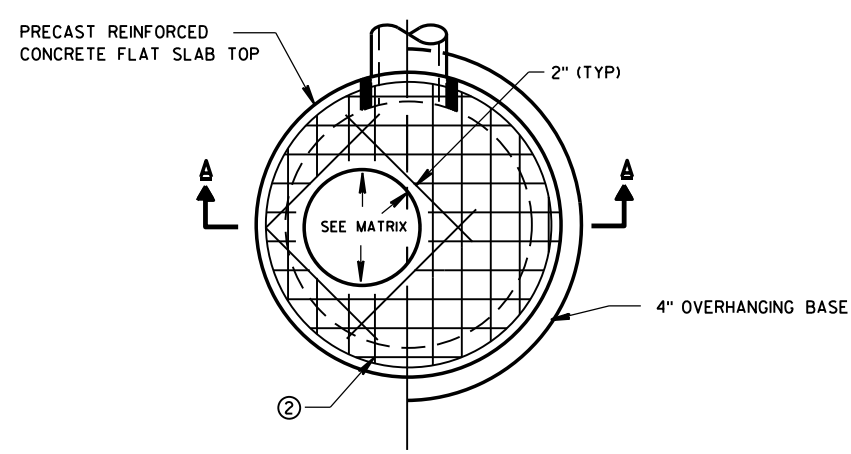
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

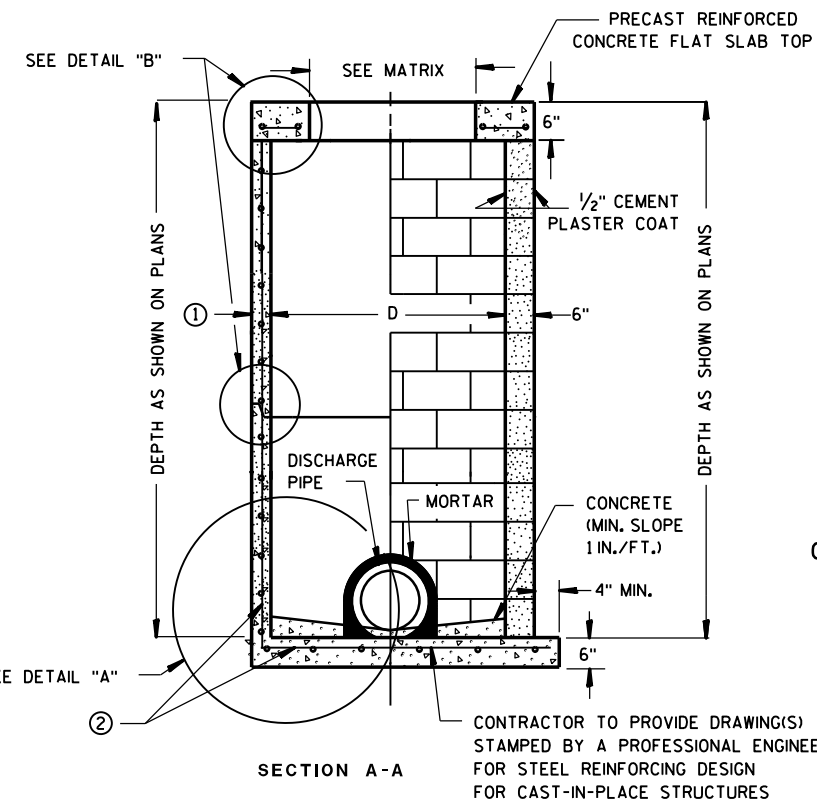
**MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER**



PLAN VIEW RECTANGULAR OPENING



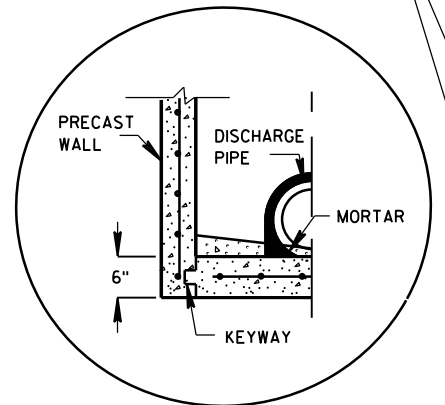
PLAN VIEW CIRCULAR OPENING



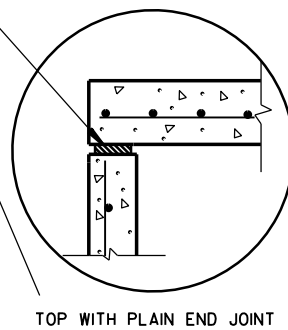
**PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE**      **CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②**

CIRCULAR INLETS W/ FLAT TOP

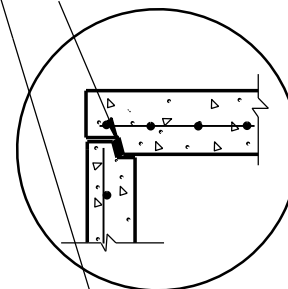
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)



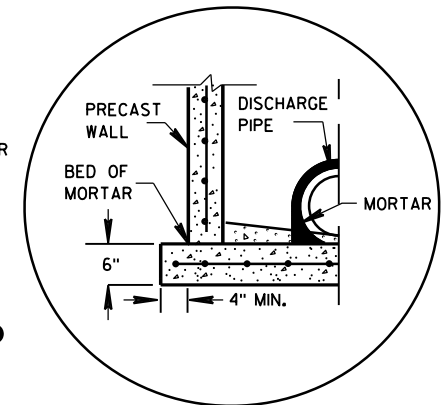
PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



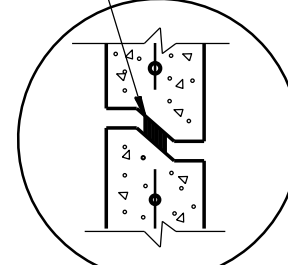
TOP WITH PLAIN END JOINT



TOP WITH TONGUE AND GROOVE JOINT



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "A"

DETAIL "B"

INLETS 3-FT AND 4-FT DIAMETER

**GENERAL NOTES**

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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.

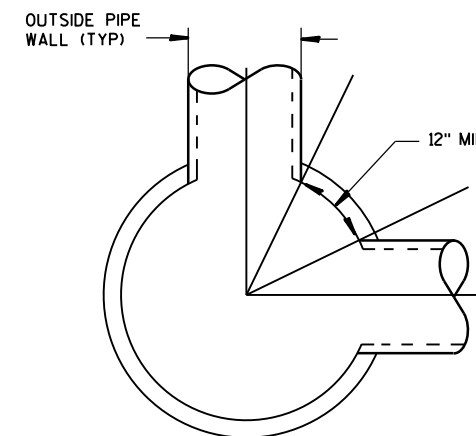
4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

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
3-FT	2 DIA.				X							X
	2X2	X	X					X		X		
4-FT	2 DIA.				X							X
	2X2	X	X					X	X	X	X	
	2X3						X					
	2.5X3					X						



DETAIL "C"

**PIPE MATRIX**

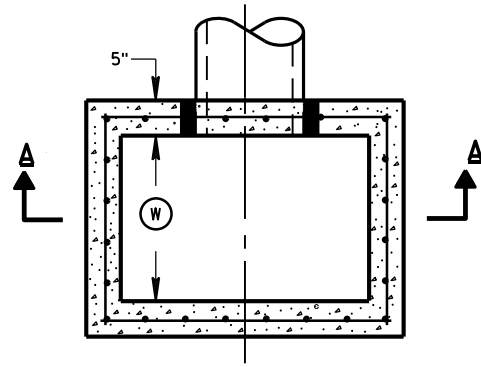
INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18

INLETS 3-FT AND 4-FT DIAMETER

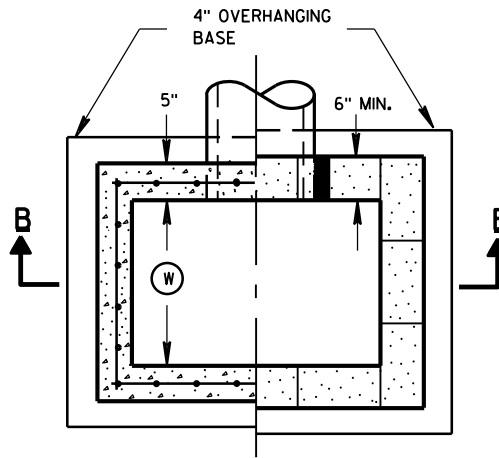
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

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



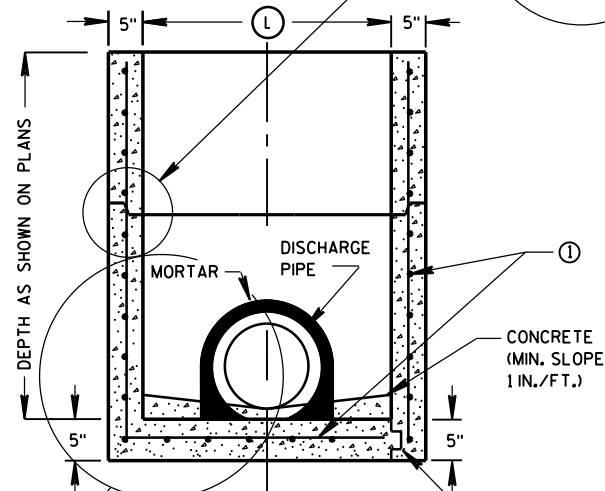
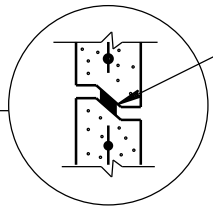


PLAN VIEW

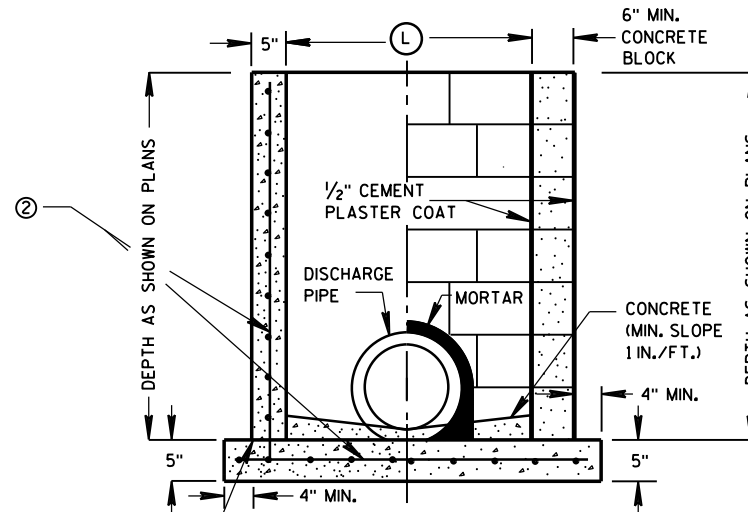


PLAN VIEW

RISER JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



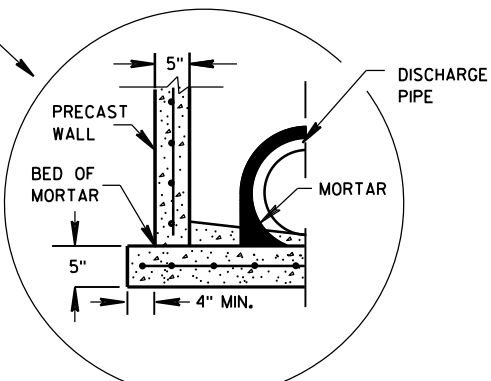
SECTION A-A



SECTION B-B

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE  
 PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE  
 KEYWAY

CONSTRUCTION JOINT  
 CAST-IN-PLACE REINFORCED CONCRETE  
 CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ①



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

**GENERAL NOTES**

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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.

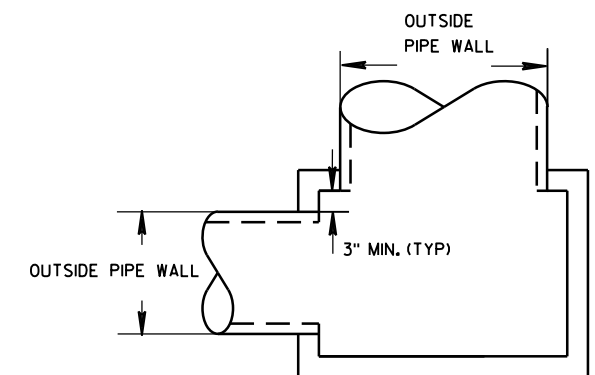
- ① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

**INLET COVER MATRIX**

INLET SIZE	INLET COVER TYPE		ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH ① (FT)	LENGTH ② (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



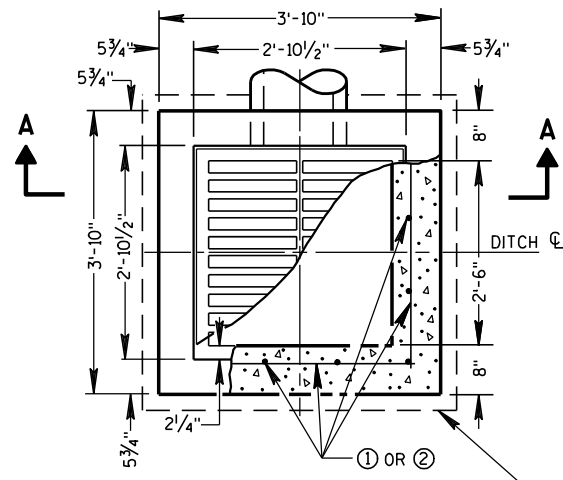
DETAIL "A"

**INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT**

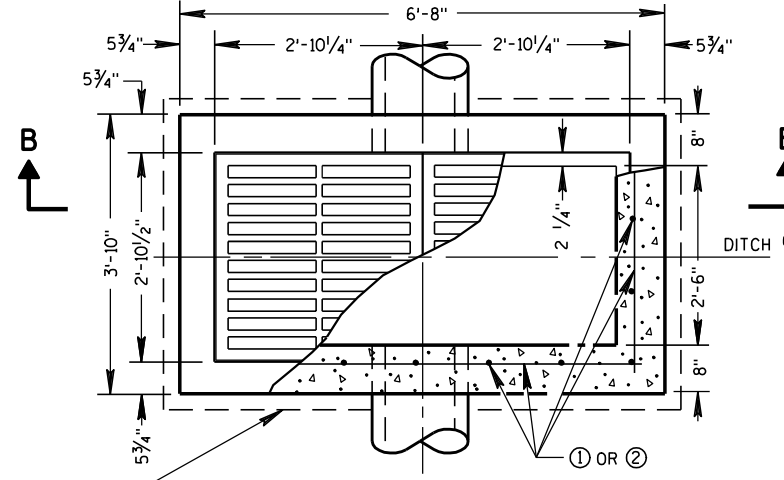
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

APPROVED  
 6/5/2012 /s/ Jerry H. Zogg  
 DATE ROADWAY STANDARDS DEVELOPMENT  
 FHWA ENGINEER

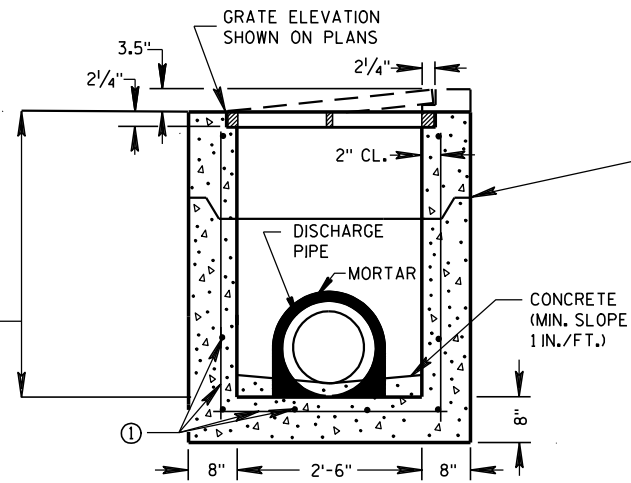


PLAN VIEW

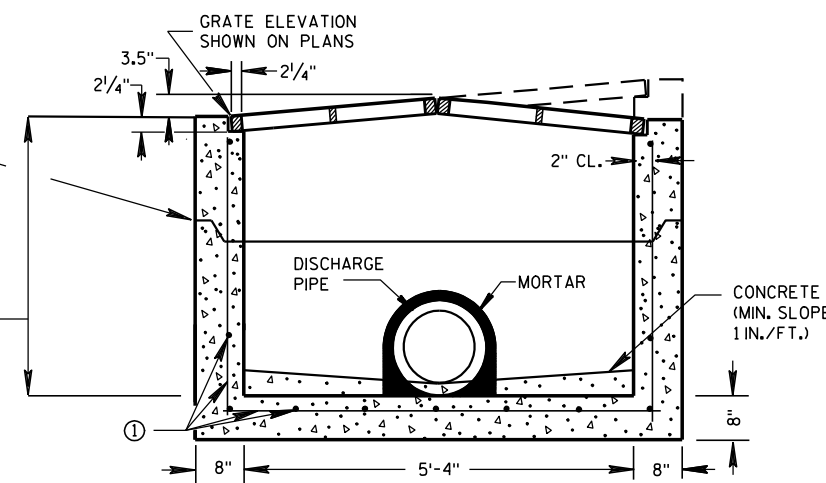


PLAN VIEW

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



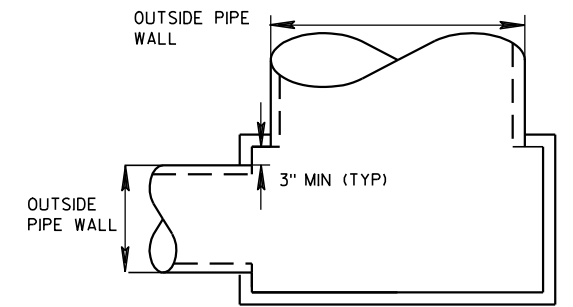
PRECAST REINFORCED CONCRETE SECTION A-A



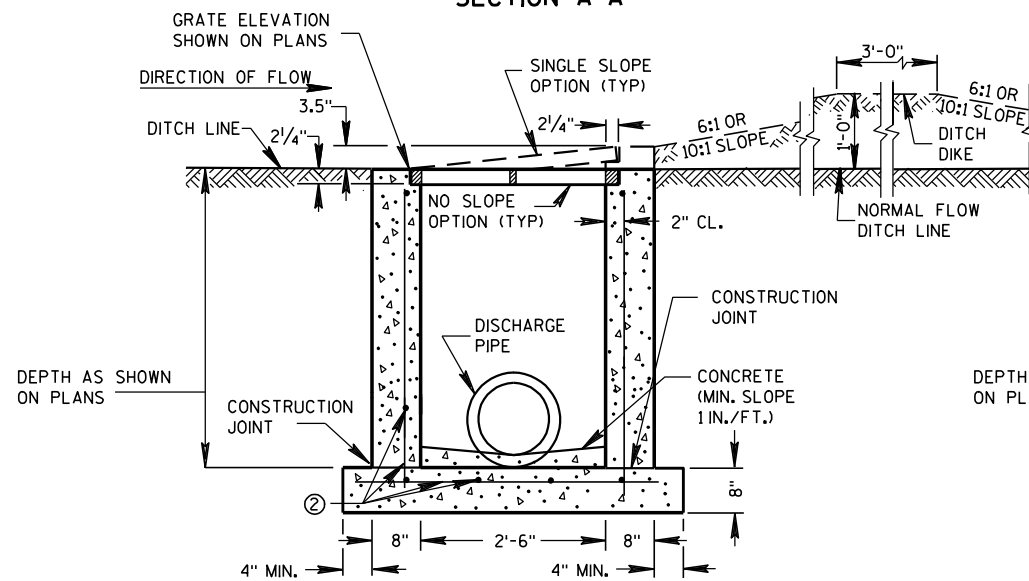
PRECAST REINFORCED CONCRETE SECTION B-B

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42

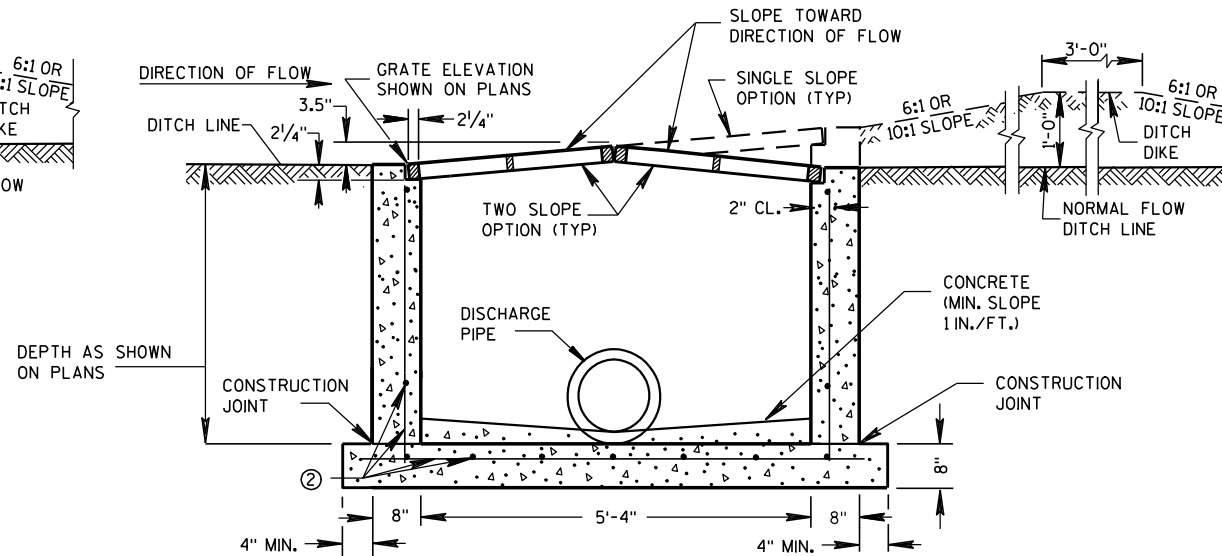


DETAIL "A"



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A

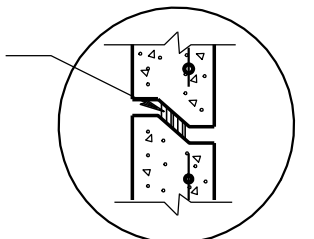
INLETS MEDIAN 1 GRATE



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

INLETS MEDIAN 2 GRATE

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



DETAIL "B"

INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

6/5/2012

DATE

FHWA

/s/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER

GENERAL NOTES

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ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, IG-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.

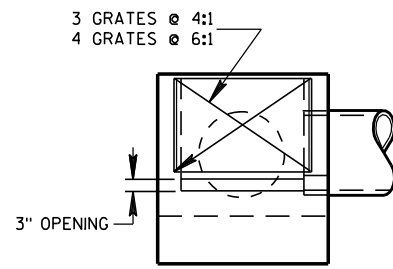
ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

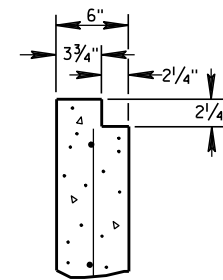
ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

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.

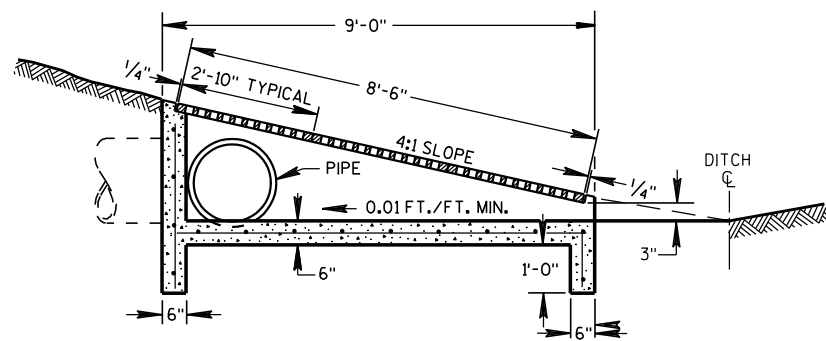
- ① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.



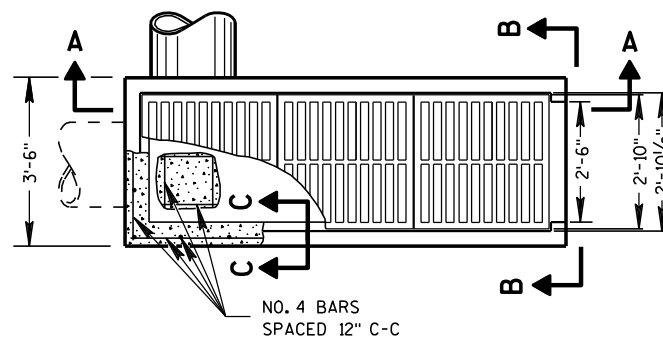
SECTION B-B



SECTION C-C

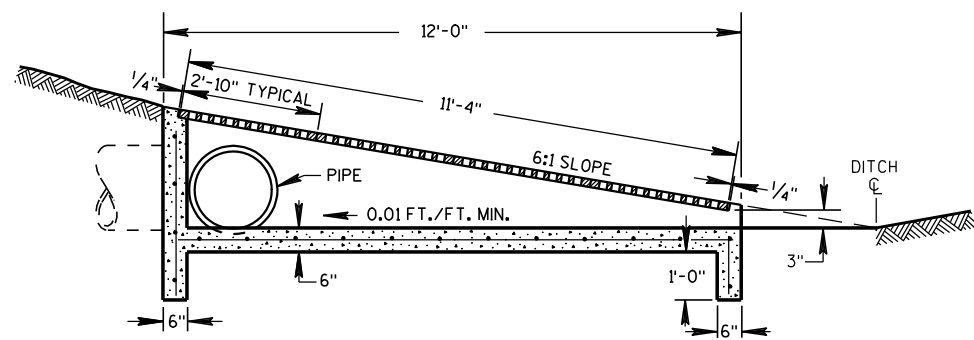


SECTION A-A

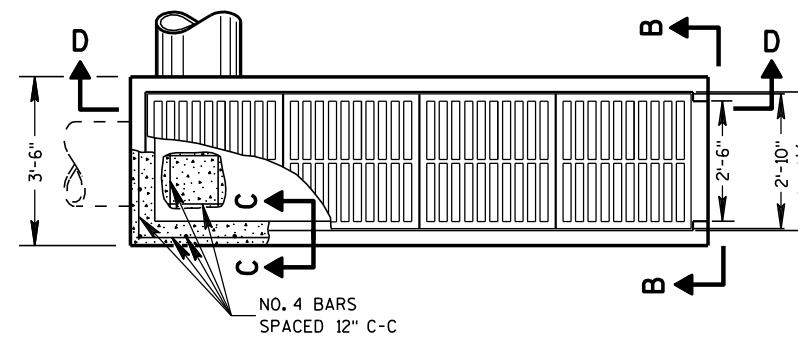


PLAN VIEW

INLETS MEDIAN 3 GRATE



SECTION D-D



PLAN VIEW

INLETS MEDIAN 4 GRATE

GENERAL NOTES

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ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, 3G-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.

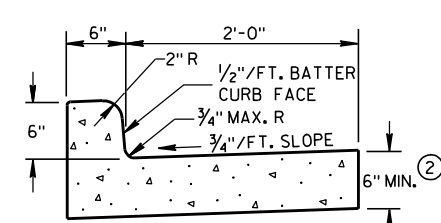
ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

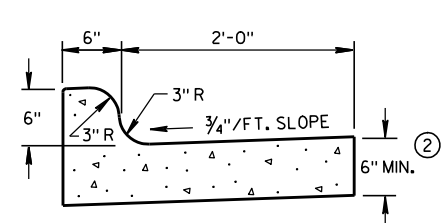
INLETS MEDIAN 3 AND 4 GRATE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

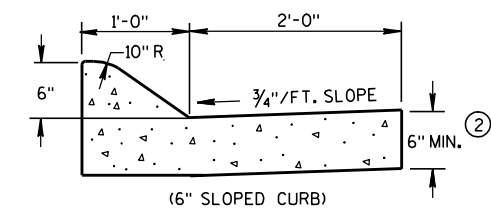
APPROVED  
6/5/2012 DATE /s/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT ENGINEER  
FHWA



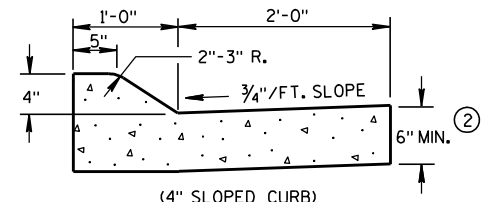
TYPES A & D ①



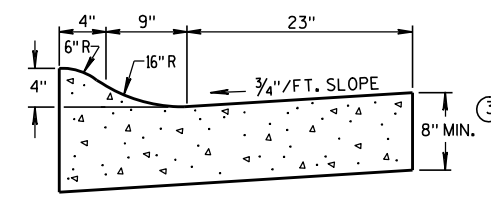
TYPES K & L ①



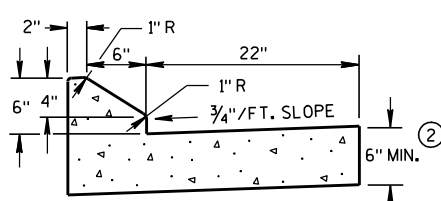
(6" SLOPED CURB)



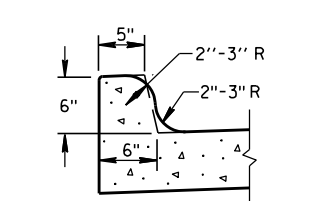
(4" SLOPED CURB)



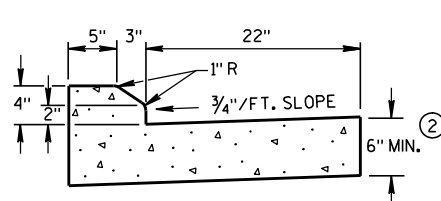
4" SLOPED CURB TYPES R & T ① ④



6" SLOPED CURB TYPES G & J ①

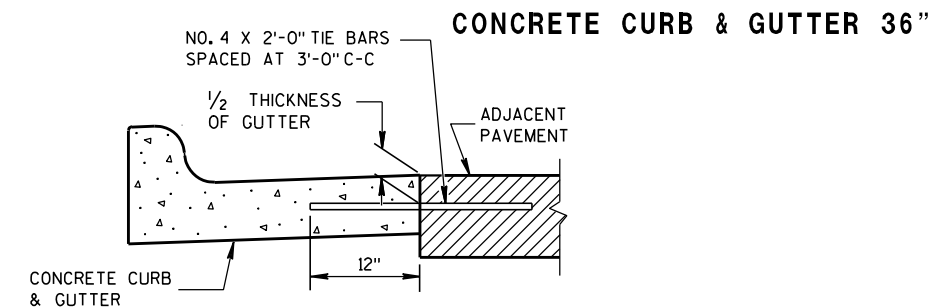


OPTIONAL CURB SHAPE FOR TYPES K & L ①

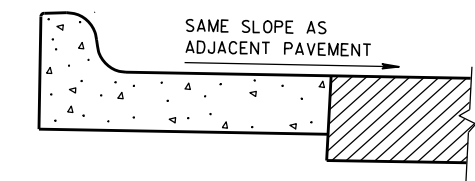


4" SLOPED CURB TYPES G & J ①

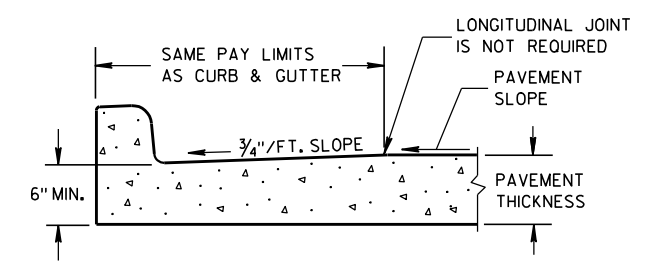
CONCRETE CURB & GUTTER 30"



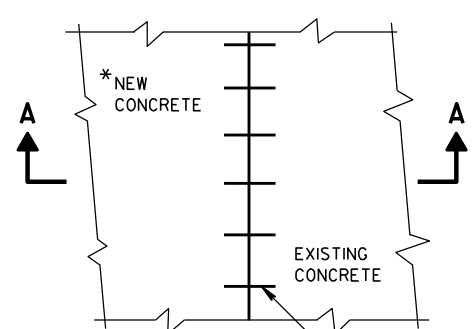
TYPICAL TIE BAR LOCATION ①



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



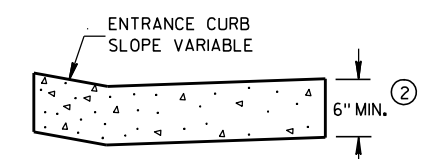
PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



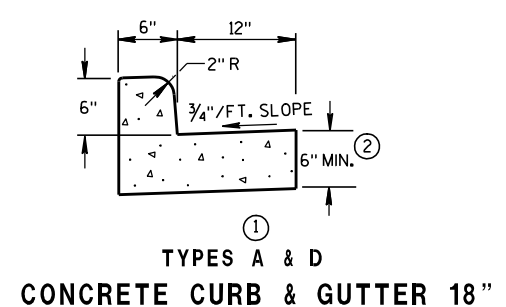
PLAN VIEW

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

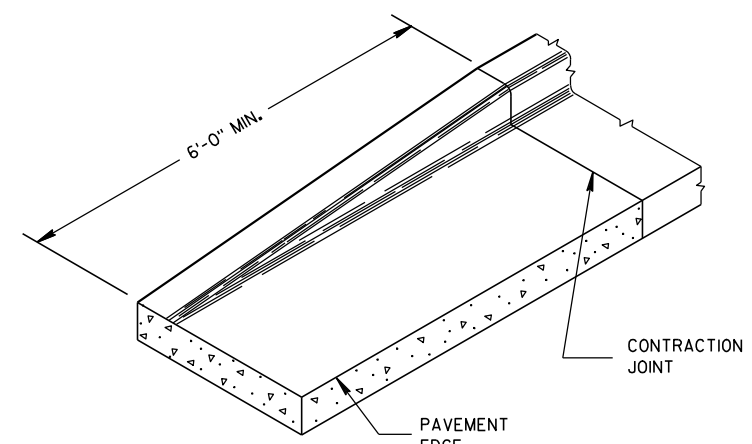
NO. 6 TIE BARS SPACED 2'-6" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT.



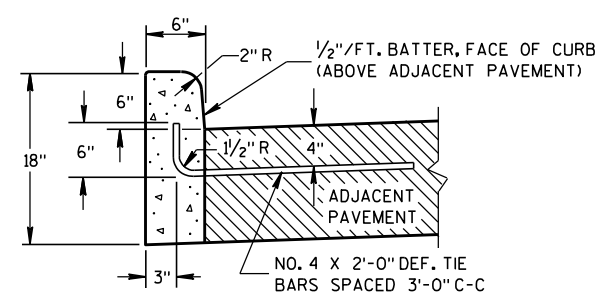
DRIVEWAY ENTRANCE CURB (WHEN DIRECTED BY THE ENGINEER)



TYPES A & D CONCRETE CURB & GUTTER 18"

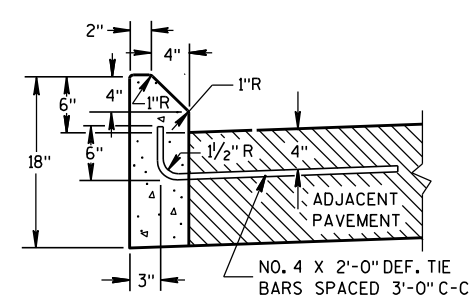


END SECTION CURB & GUTTER



TYPES A & D

CONCRETE CURB



TYPES G & J

**GENERAL NOTES**

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.  
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

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

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

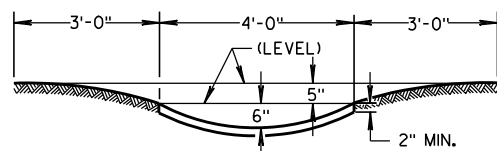
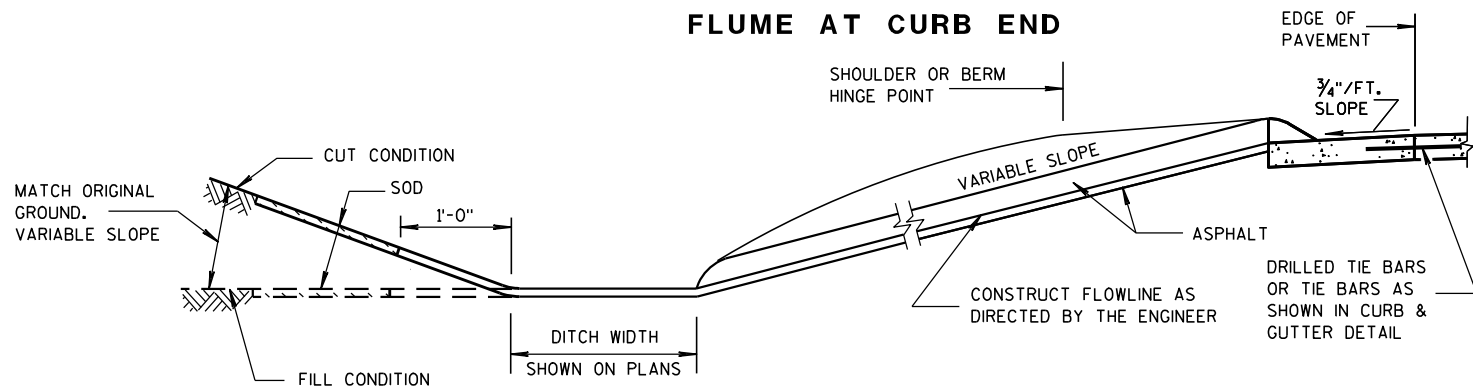
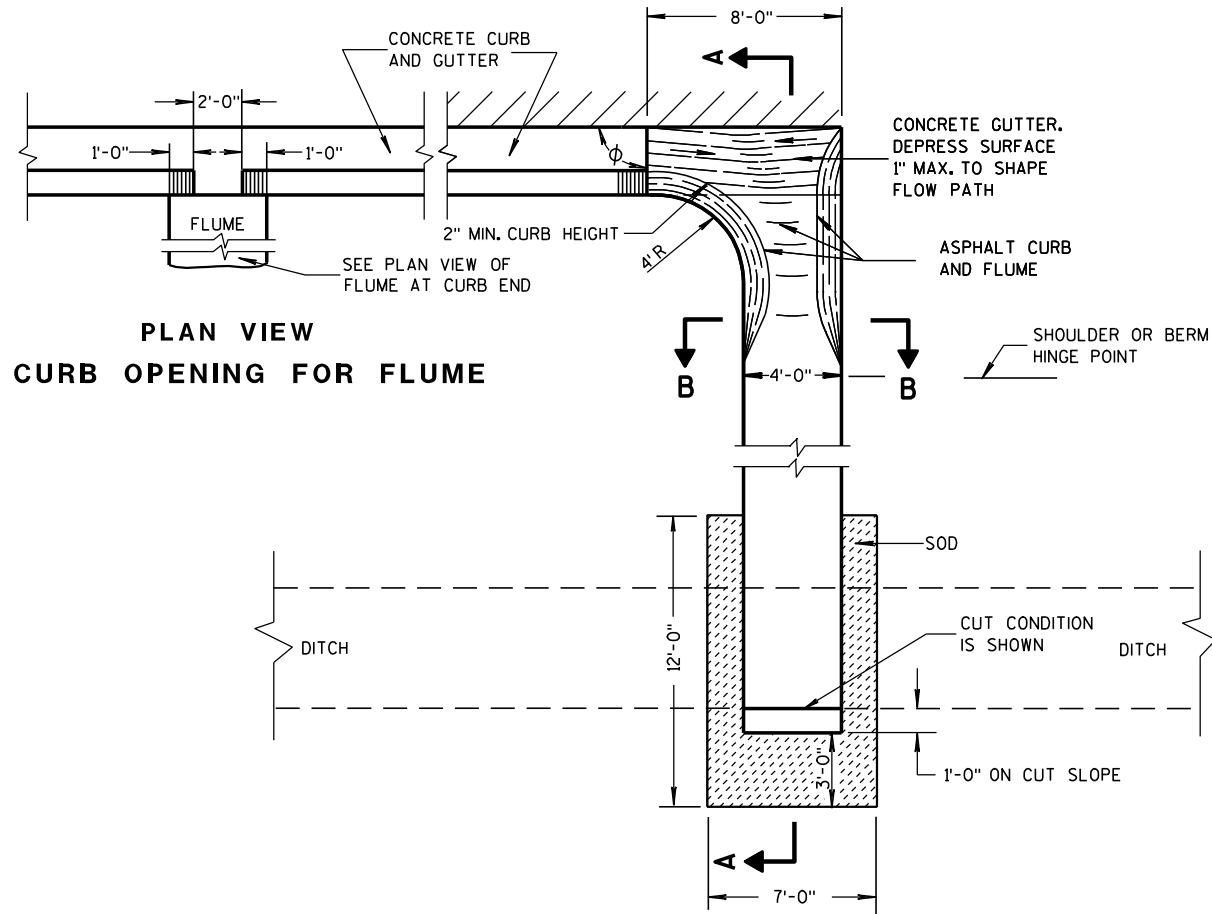
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ④ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑤ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

<b>CONCRETE CURB, CONCRETE CURB &amp; GUTTER AND TIES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 9/4/08 DATE	/s/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

### ASPHALTIC FLUME

NOTE: TAPER CURB ENDS TO GUTTER IN 1'-0"

INCREASE  $\phi$  FROM RIGHT ANGLE TO BEST FIT FIELD CONDITIONS



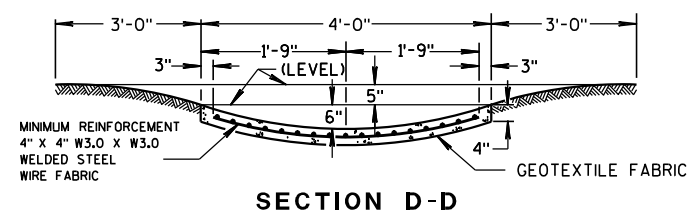
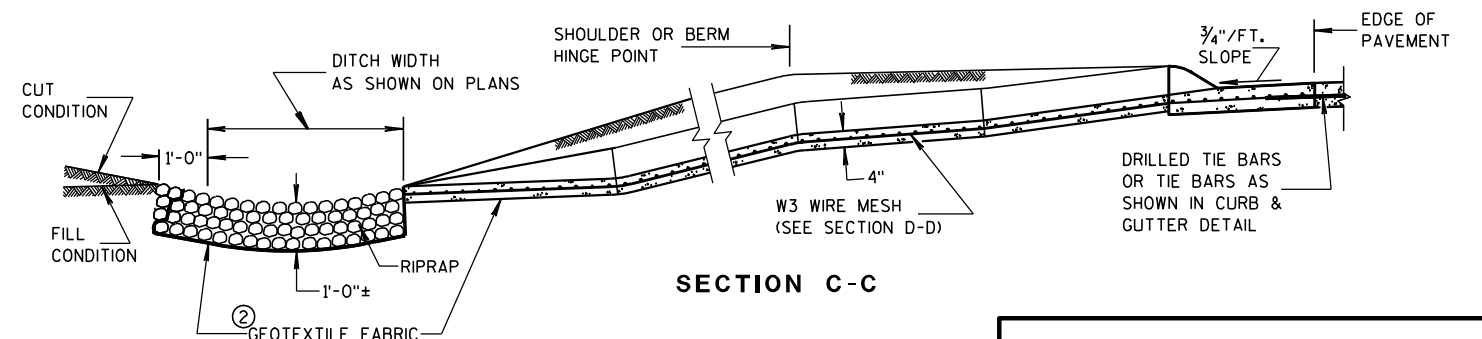
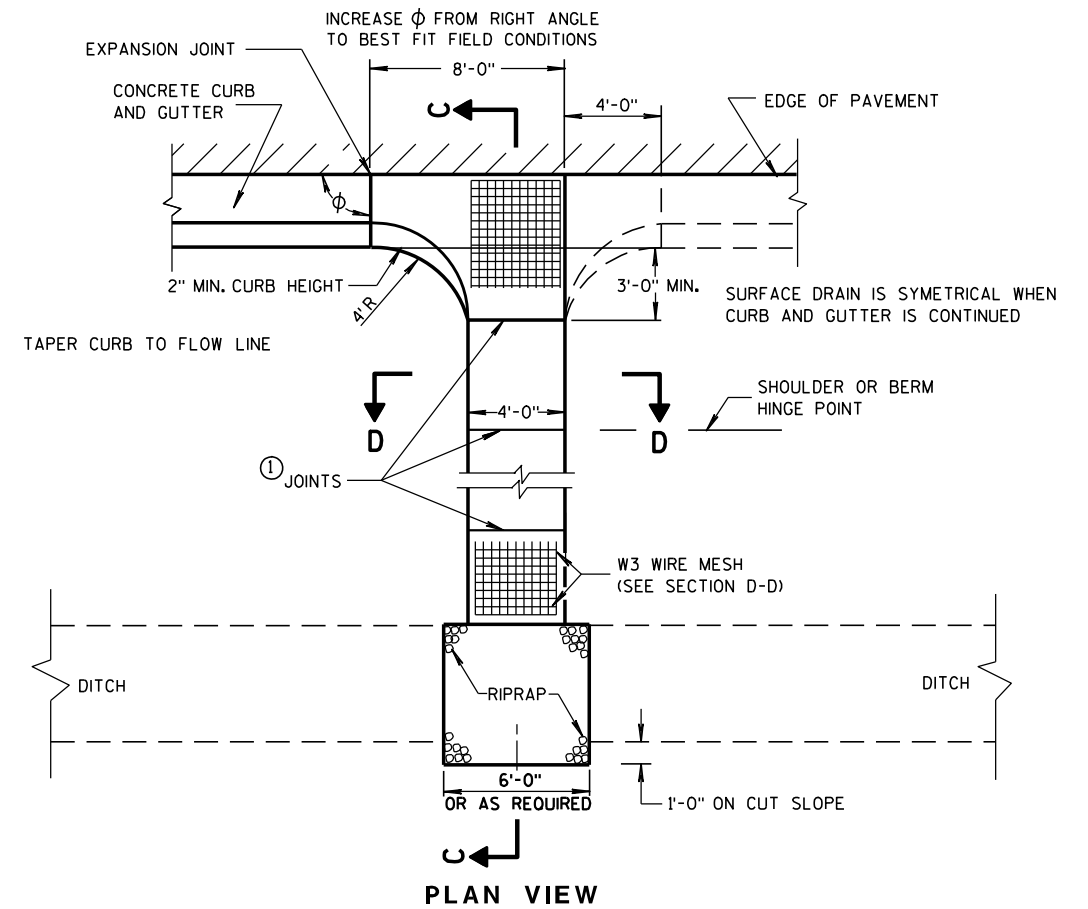
### GENERAL NOTES

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

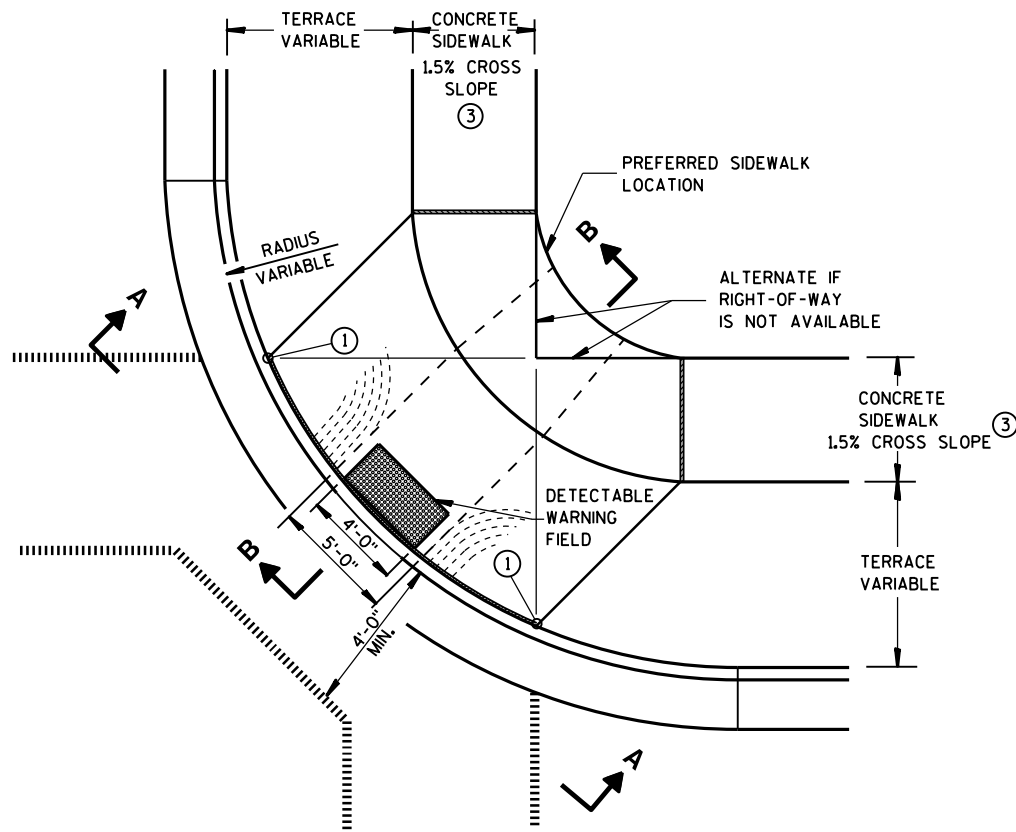
### ③ CONCRETE SURFACE DRAIN



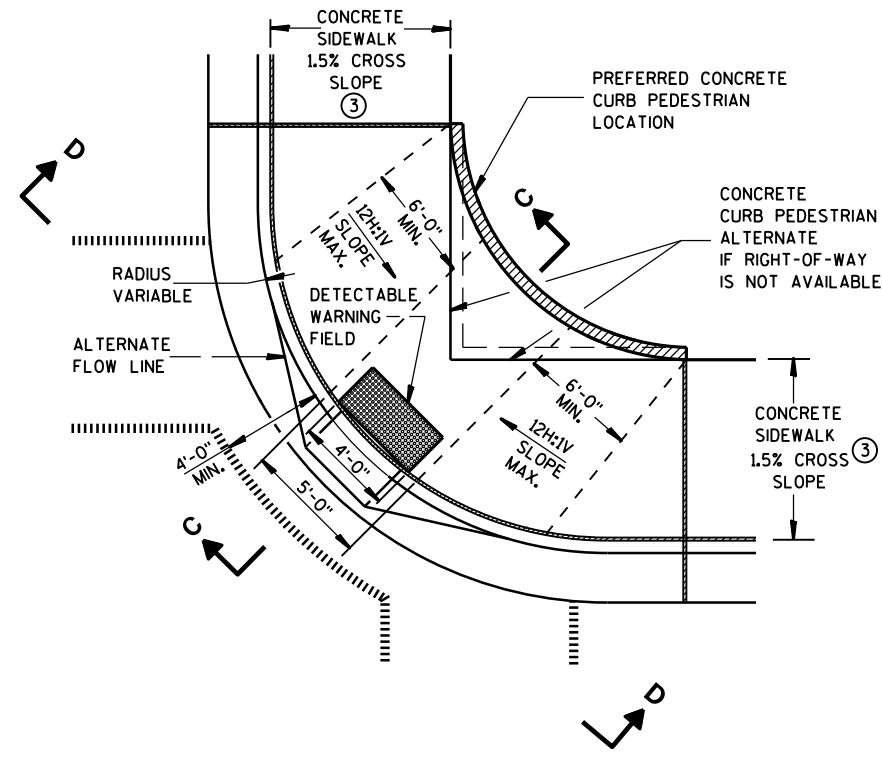
### CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

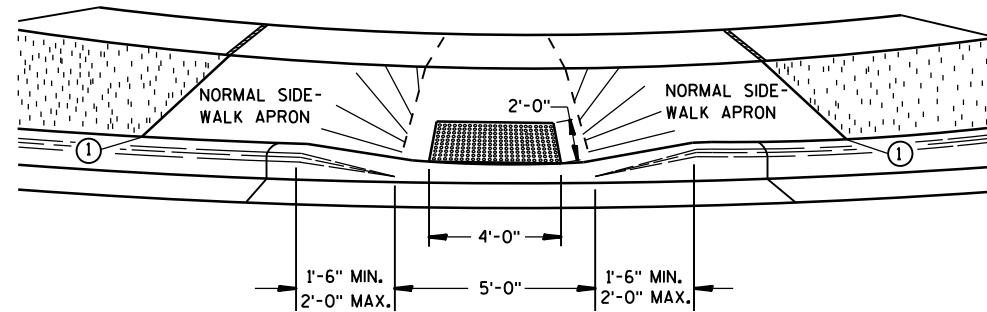
APPROVED  
9-4-08 /S/ Jerry H. Zogg  
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER  
FHWA



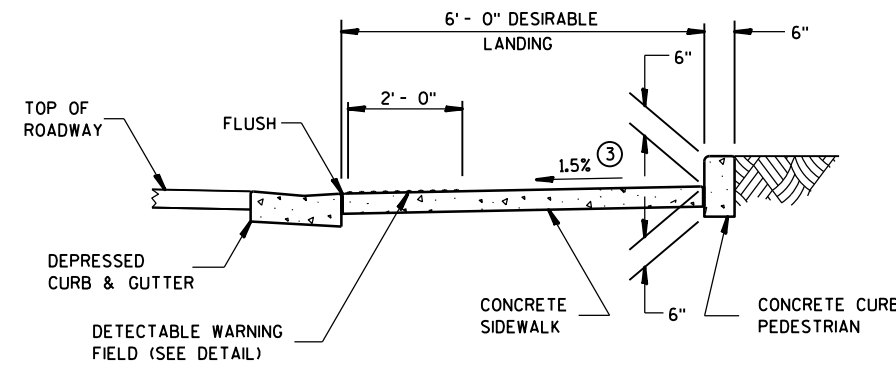
**PLAN VIEW  
TYPE 1 RAMP**  
(CENTER OF CORNER RADIUS)



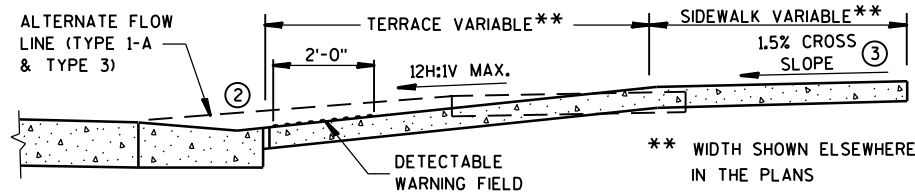
**PLAN VIEW  
TYPE 1-A RAMP**  
(NO TERRACE)



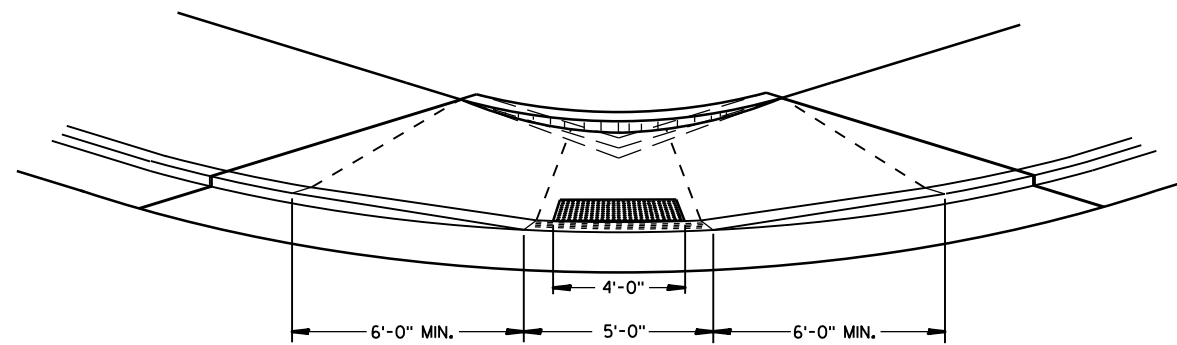
**VIEW A-A**



**SECTION C-C**



**SECTION B-B**



**VIEW D-D**

**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.

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. 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.

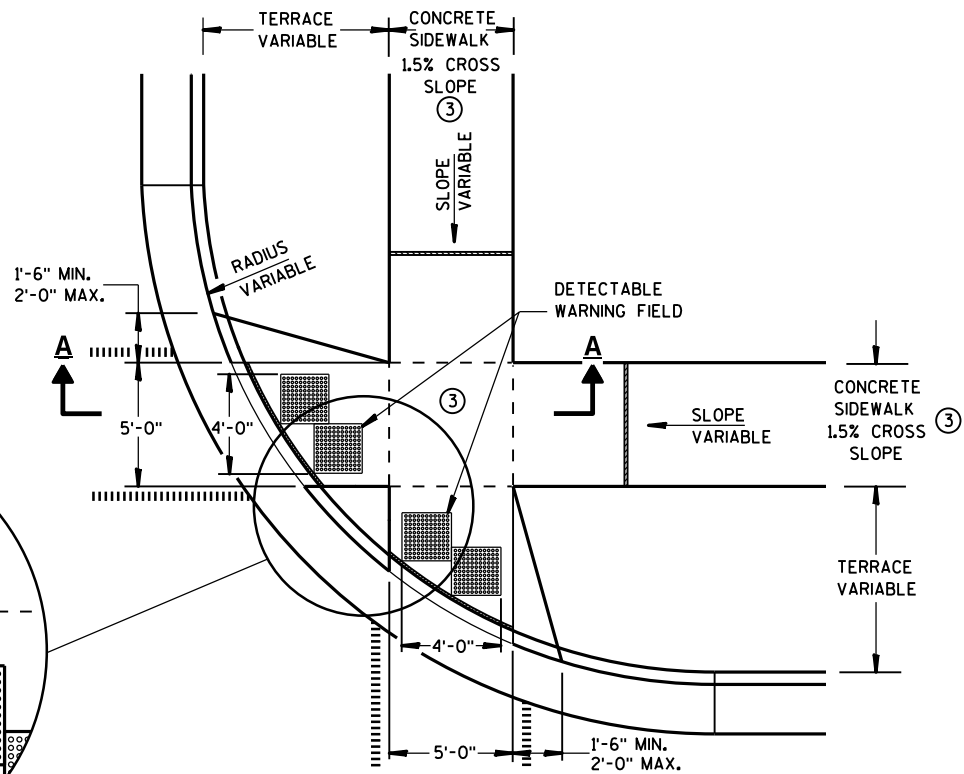
- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.
- ③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

**LEGEND**

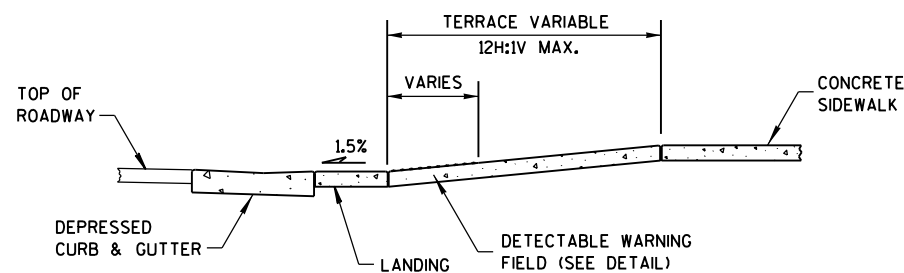
- 1/2" EXPANSION JOINT-SIDEWALK
- - - - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

**CURB RAMPS  
TYPES 1 AND 1-A**

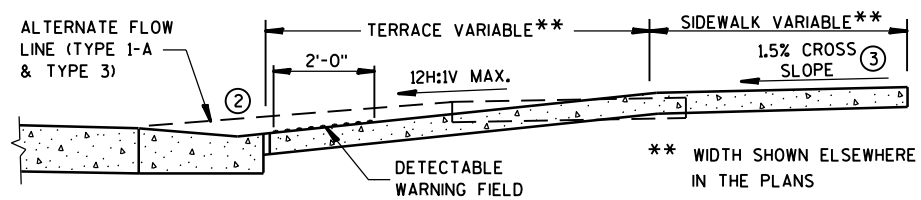
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**PLAN VIEW  
TYPE 2 RAMP**  
(ON LINE WITH SIDEWALK)



**SECTION A-A**



**SECTION B-B**

**GENERAL NOTES**

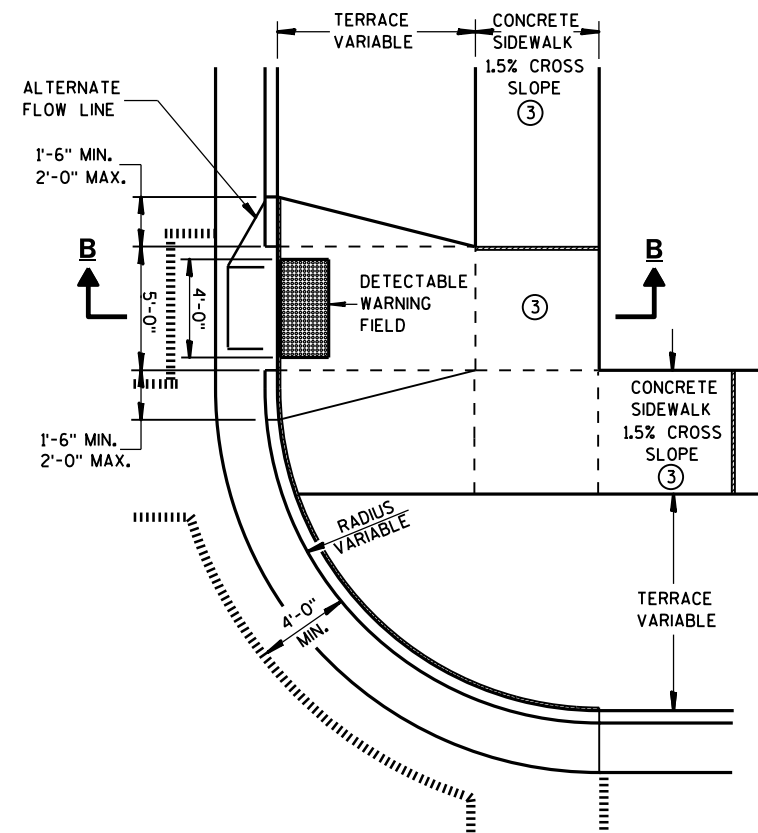
USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- ① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 1%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.
- ③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

**LEGEND**

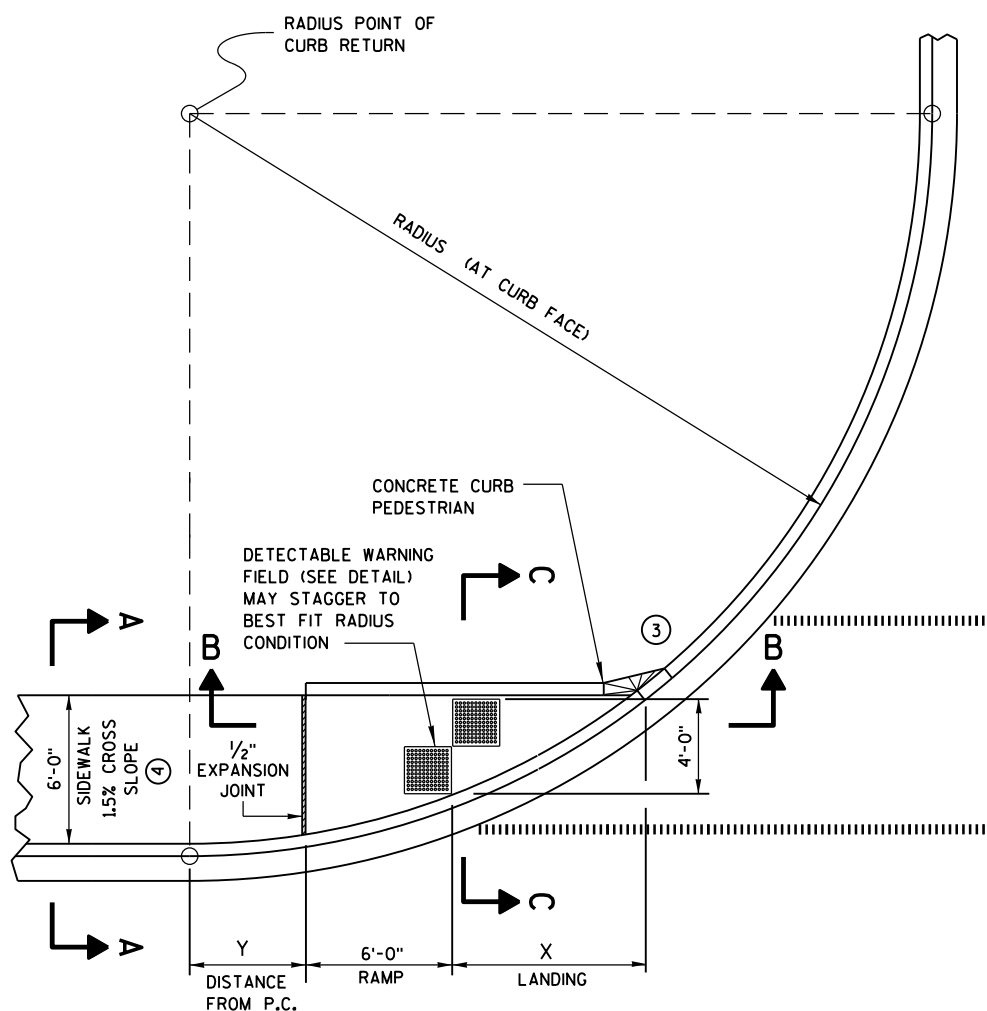
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



**PLAN VIEW  
TYPE 3 RAMP**  
(OUTSIDE OF CROSSWALK AREA)

**CURB RAMPS  
TYPES 2 AND 3**

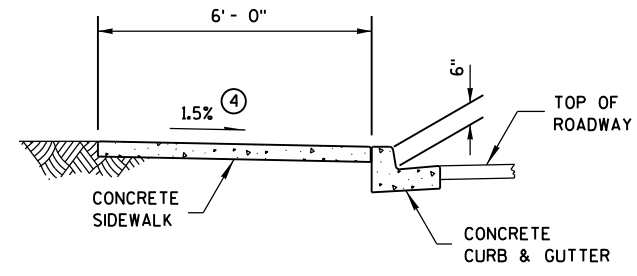
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



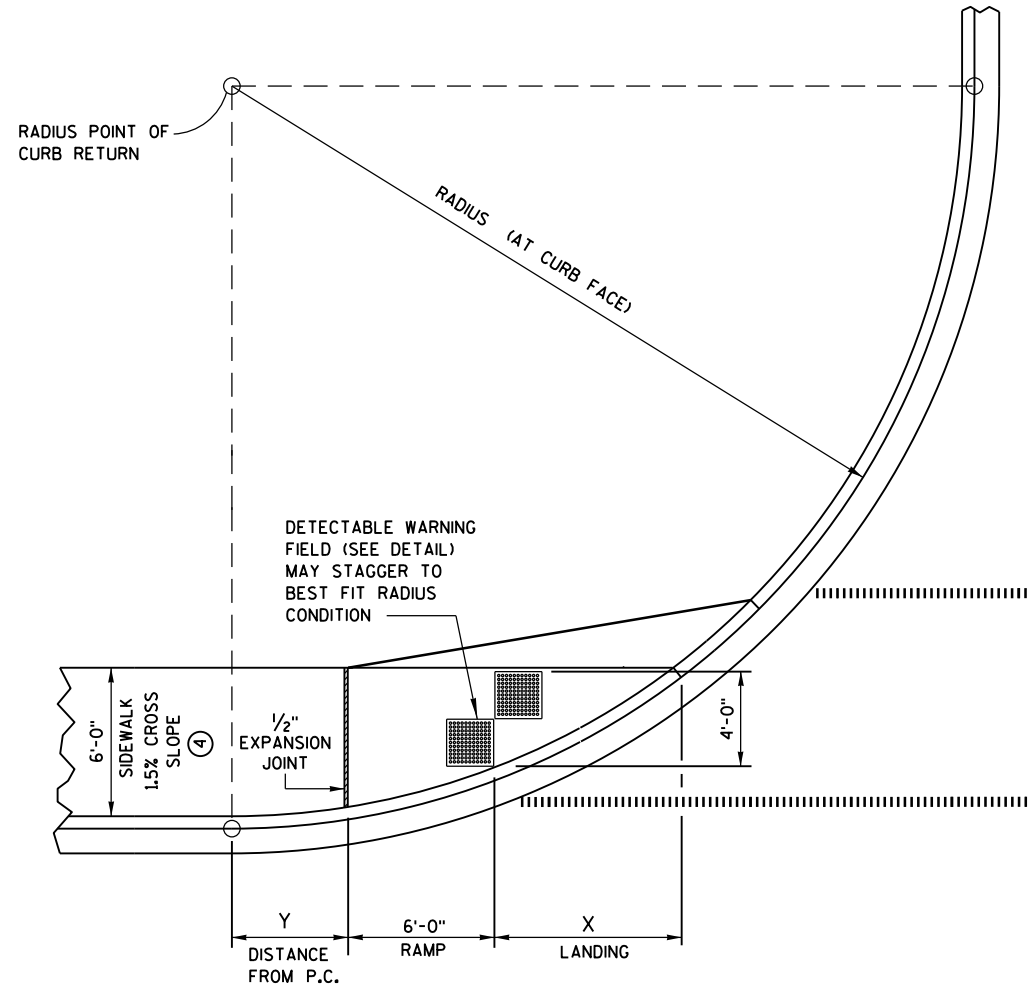
**CURB RAMP TYPE 4A**  
PLAN VIEW

RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-13/4"	2'-7/4"
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



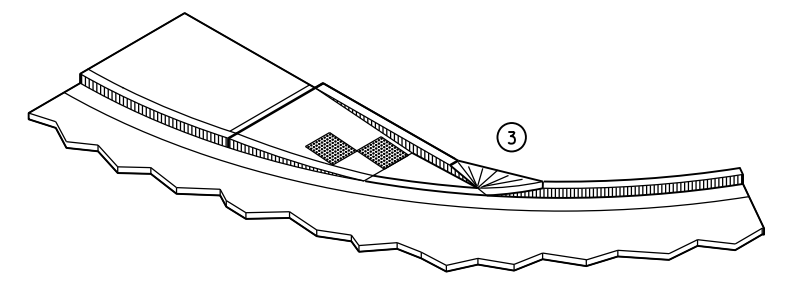
**SECTION A-A FOR TYPE 4A**



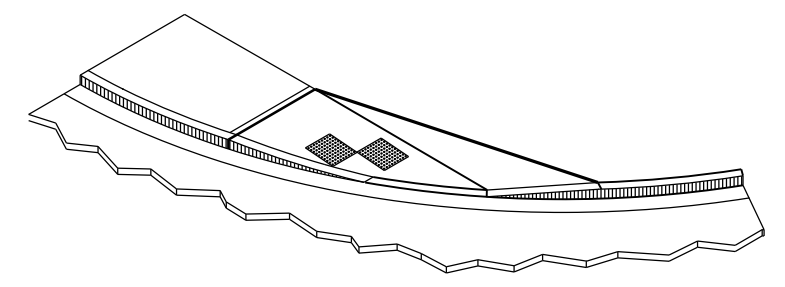
**CURB RAMP TYPE 4A1**  
PLAN VIEW

**GENERAL NOTES**

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- ③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



**ISOMETRIC VIEW FOR TYPE 4A**



**ISOMETRIC VIEW FOR TYPE 4A1**

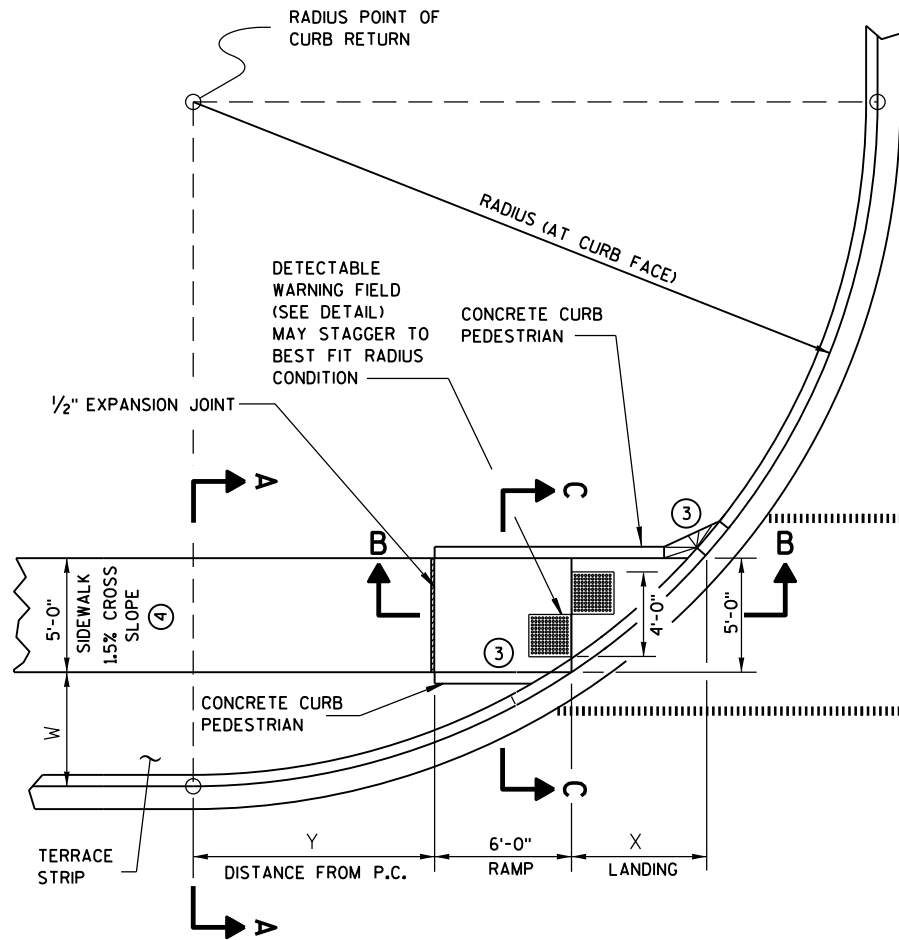
**LEGEND**

- 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



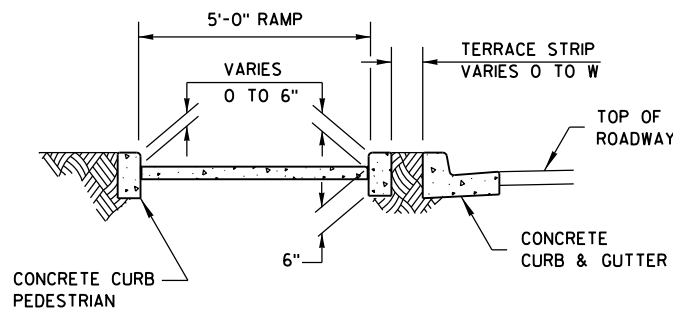


**LEGEND**

- 1/2" EXPANSION JOINT-SIDEWALK
- - - CONTRACTION JOINT FIELD LOCATED
- ▤ PAVEMENT MARKING CROSSWALK (WHITE)

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 1/4"	5'-11 1/2"	16'-7 1/4"
50 FEET	10'-3 1/4"	11'-3 1/4"	9'-1 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 1/4"	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"

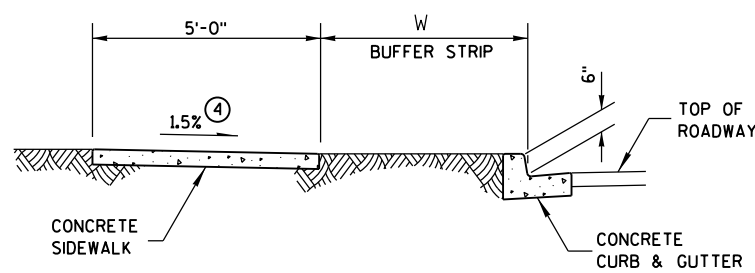
INTERMEDIATE RADII CAN BE INTERPOLATED



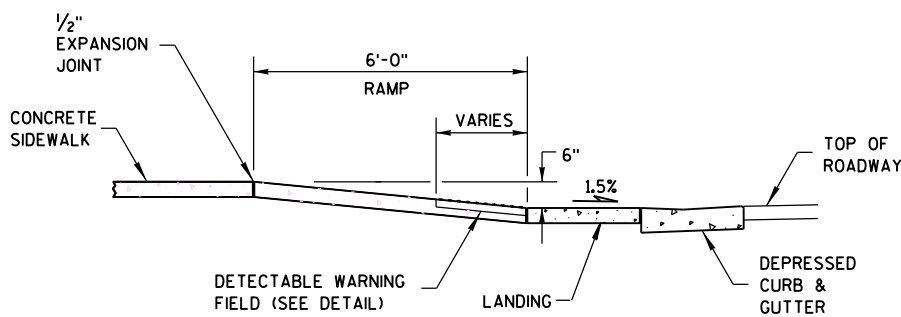
**SECTION C-C FOR TYPE 4B**

**GENERAL NOTES**

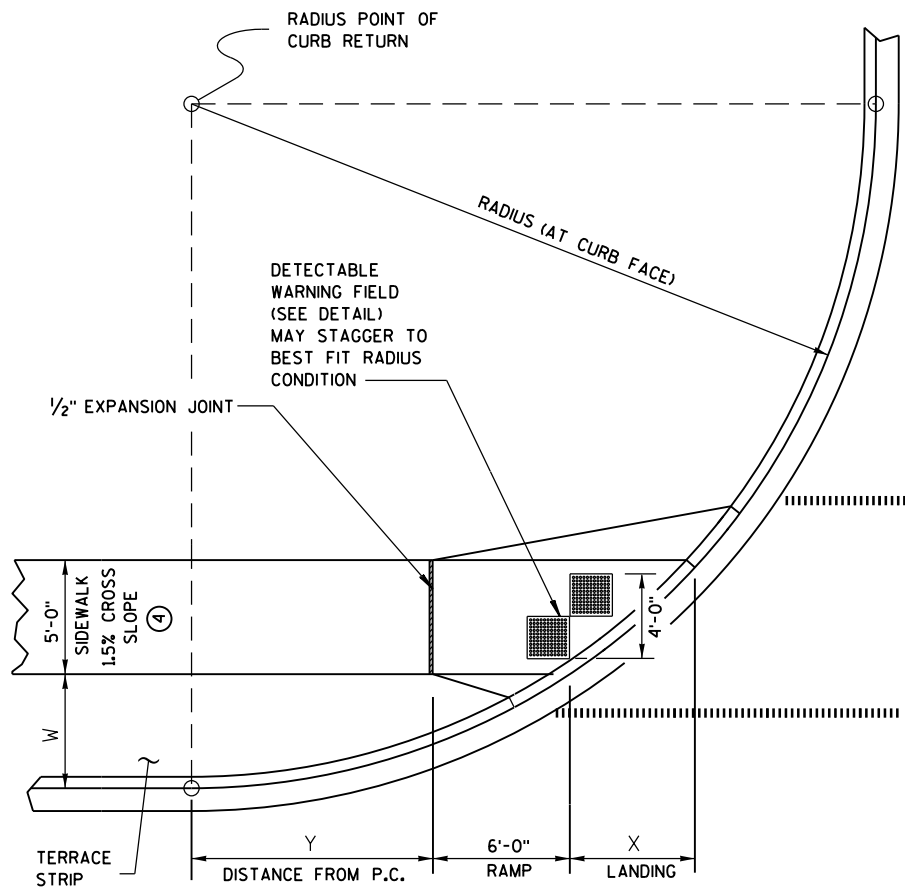
- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- ③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



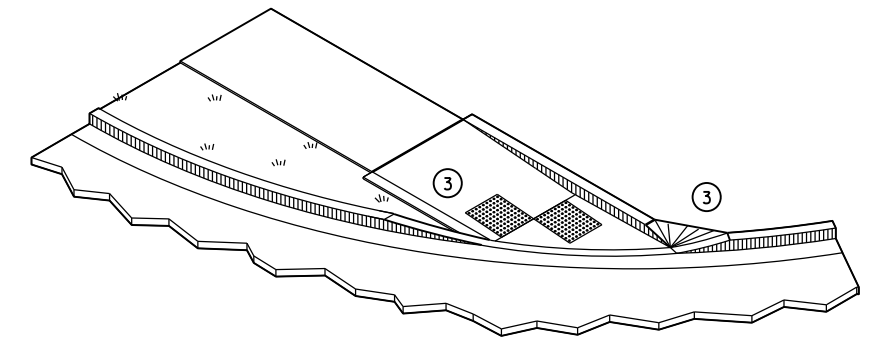
**SECTION A-A FOR TYPE 4B**



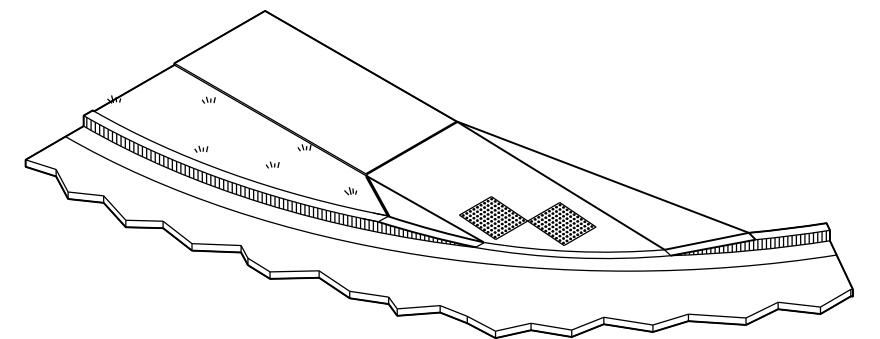
**SECTION B-B FOR TYPE 4B**



**CURB RAMP TYPE 4B1  
PLAN VIEW**



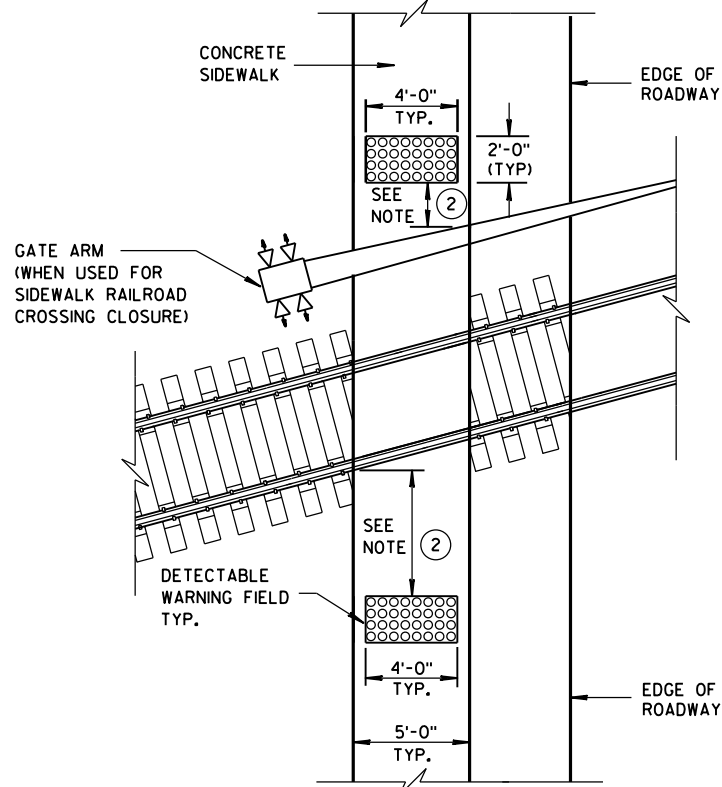
**ISOMETRIC VIEW FOR TYPE 4B**



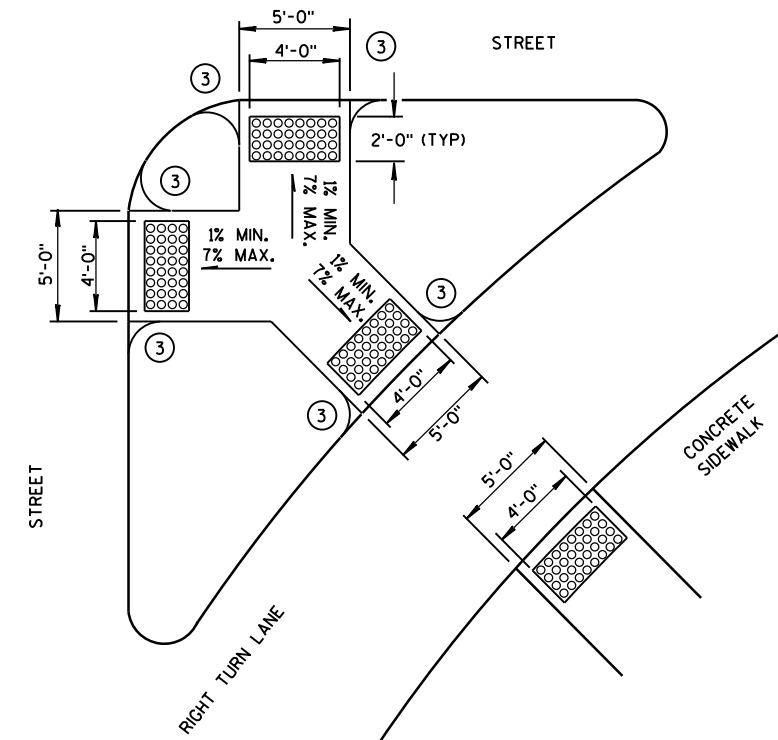
**ISOMETRIC VIEW FOR TYPE 4B1**

**CURB RAMPS  
TYPE 4B AND 4B1**

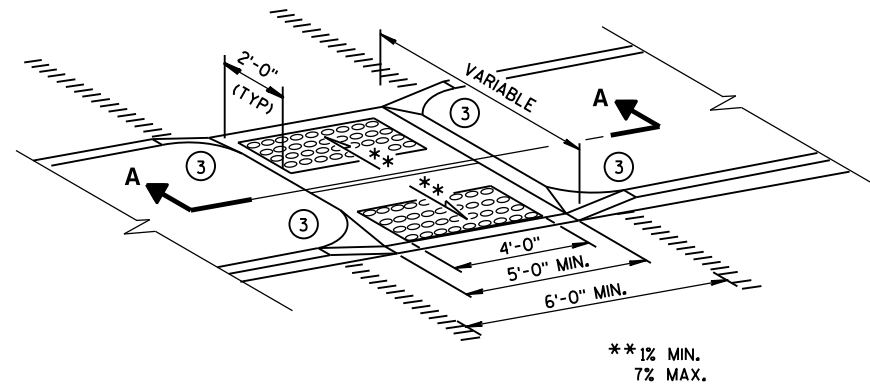
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



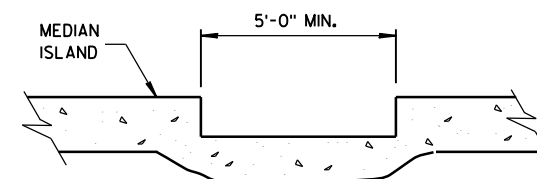
**TYPE 8  
DETECTABLE WARNINGS  
AT RAILROAD CROSSING**



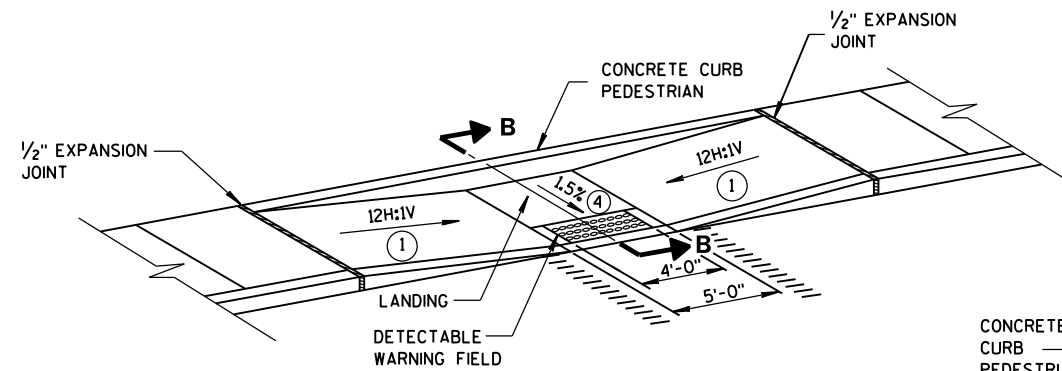
**TYPE 6  
DETECTABLE WARNING AT ISLANDS**



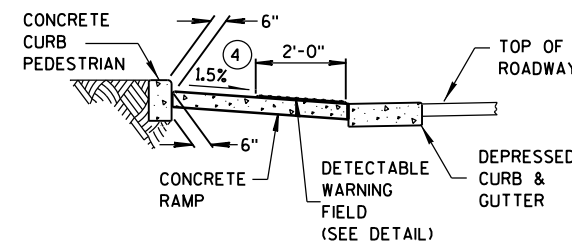
**MEDIAN ISLAND  
NON-ELEVATED CROSSING  
TYPE 5**



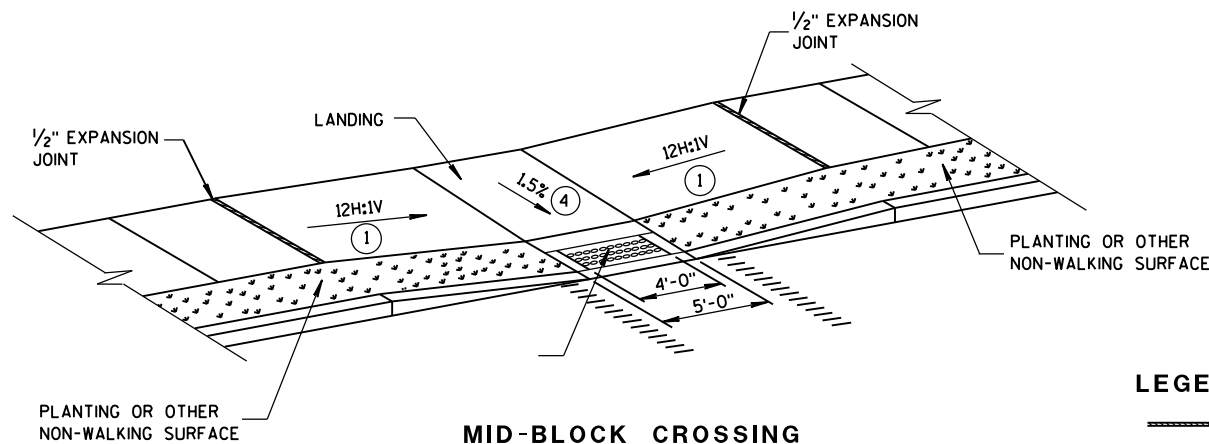
**SECTION A-A**



**MID-BLOCK CROSSING  
TYPE 7A**



**SECTION B-B**

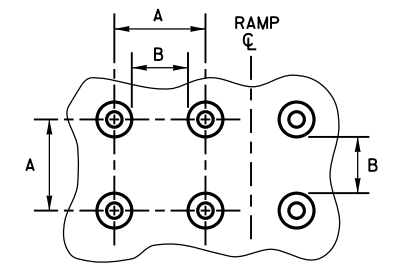


**MID-BLOCK CROSSING  
TYPE 7B**

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

**GENERAL NOTES**

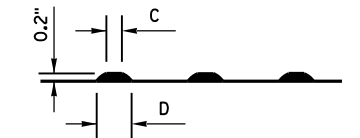
- SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- ① SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- ② THE EDGE OF THE DETECTABLE 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.
- ③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



**PLAN VIEW**

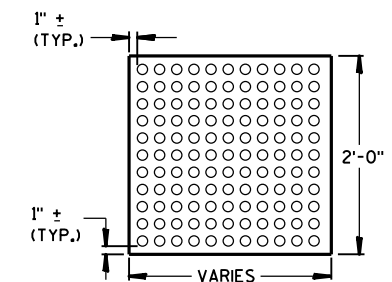
	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

\* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



**ELEVATION VIEW**

**TRUNCATED DOMES  
DETECTABLE WARNING  
PATTERN DETAIL**



**PLAN VIEW  
DETECTABLE WARNING  
FIELD (TYPICAL)**

**LEGEND**

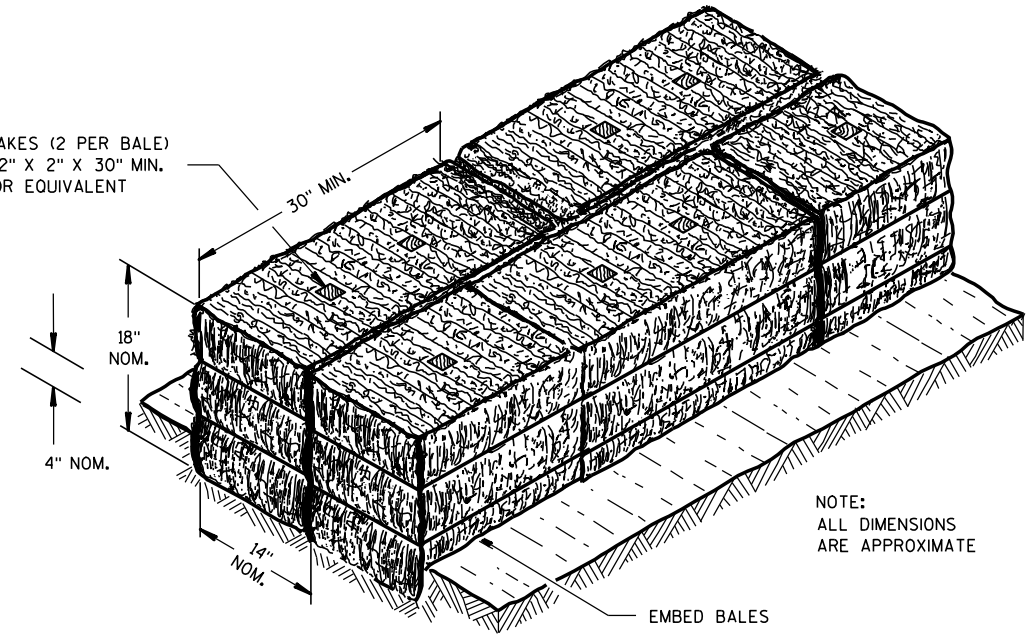
- 1/2" EXPANSION JOINT-SIDEWALK
- - - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)

**CURB RAMPS  
TYPES 5, 6, 7A, 7B & 8**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
2-6-2013 /S/ Jerry H. Zogg  
DATE ROADWAY STANDARDS DEVELOPMENT  
ENGINEER  
FHWA

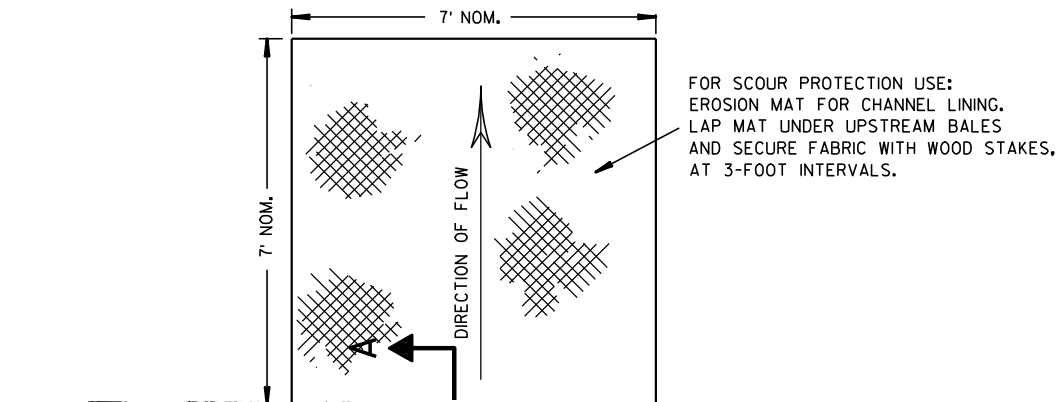
WOOD STAKES (2 PER BALE)  
NOMINAL 2" X 2" X 30" MIN.  
LENGTH OR EQUIVALENT



NOTE:  
ALL DIMENSIONS  
ARE APPROXIMATE

EMBED BALES

SECTION A-A

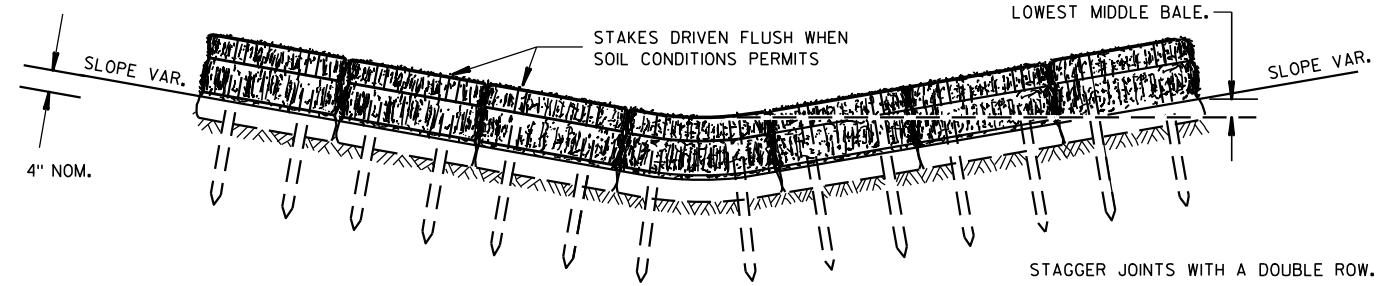


FOR SCOUR PROTECTION USE:  
EROSION MAT FOR CHANNEL LINING.  
LAP MAT UNDER UPSTREAM BALES  
AND SECURE FABRIC WITH WOOD STAKES,  
AT 3-FOOT INTERVALS.

PLAN VIEW

STAGGER JOINTS BETWEEN ADJACENT  
ROWS OF BALES.

BOTTOM ELEVATION OF END BALE SHALL  
BE EQUAL TO OR GREATER THAN TOP OF  
LOWEST MIDDLE BALE.



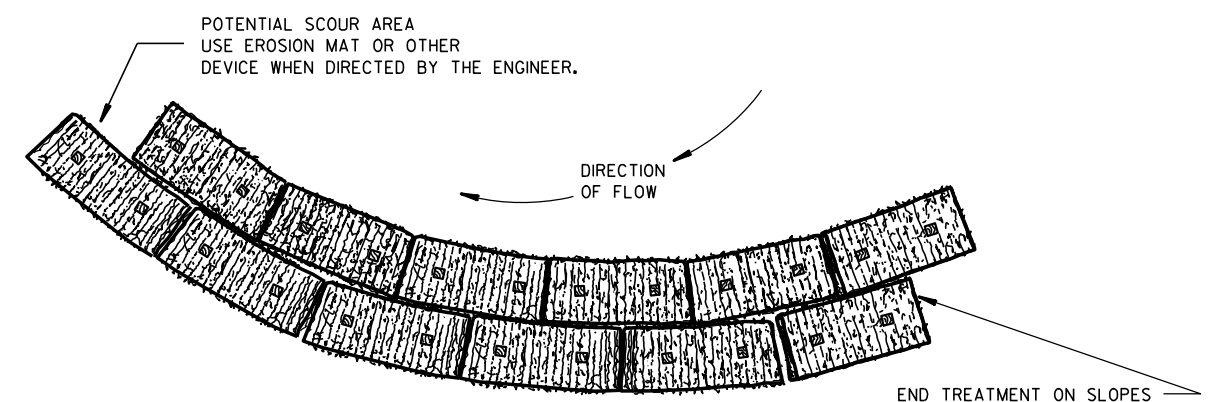
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

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

- ① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.



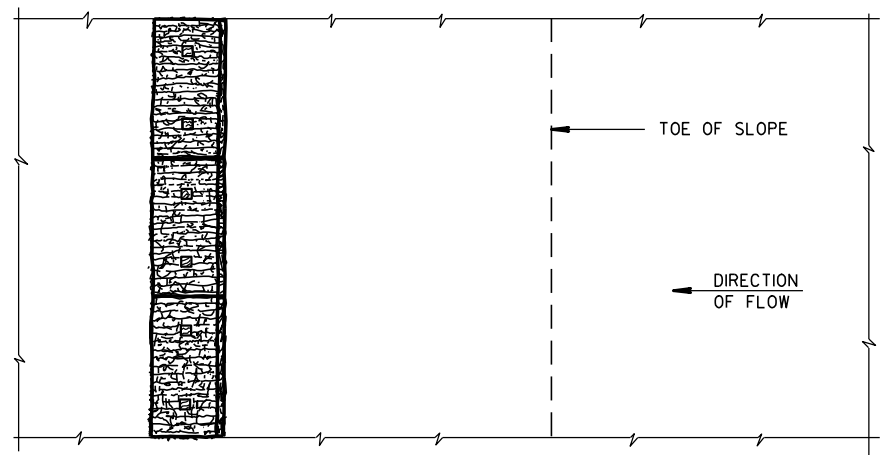
POTENTIAL SCOUR AREA  
USE EROSION MAT OR OTHER  
DEVICE WHEN DIRECTED BY THE ENGINEER.

DIRECTION  
OF FLOW

END TREATMENT ON SLOPES  
TO BE SIMILAR TO CHANNEL  
FLOW DETAIL.

PLAN VIEW

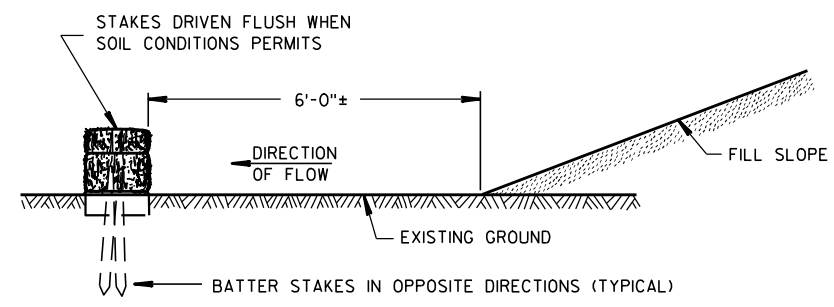
WHEN ALTERING THE DIRECTION OF FLOW



TOE OF SLOPE

DIRECTION  
OF FLOW

PLAN VIEW



STAKES DRIVEN FLUSH WHEN  
SOIL CONDITIONS PERMITS

6'-0"±

DIRECTION  
OF FLOW

FILL SLOPE

EXISTING GROUND

BATTER STAKES IN OPPOSITE DIRECTIONS (TYPICAL)

FRONT ELEVATION

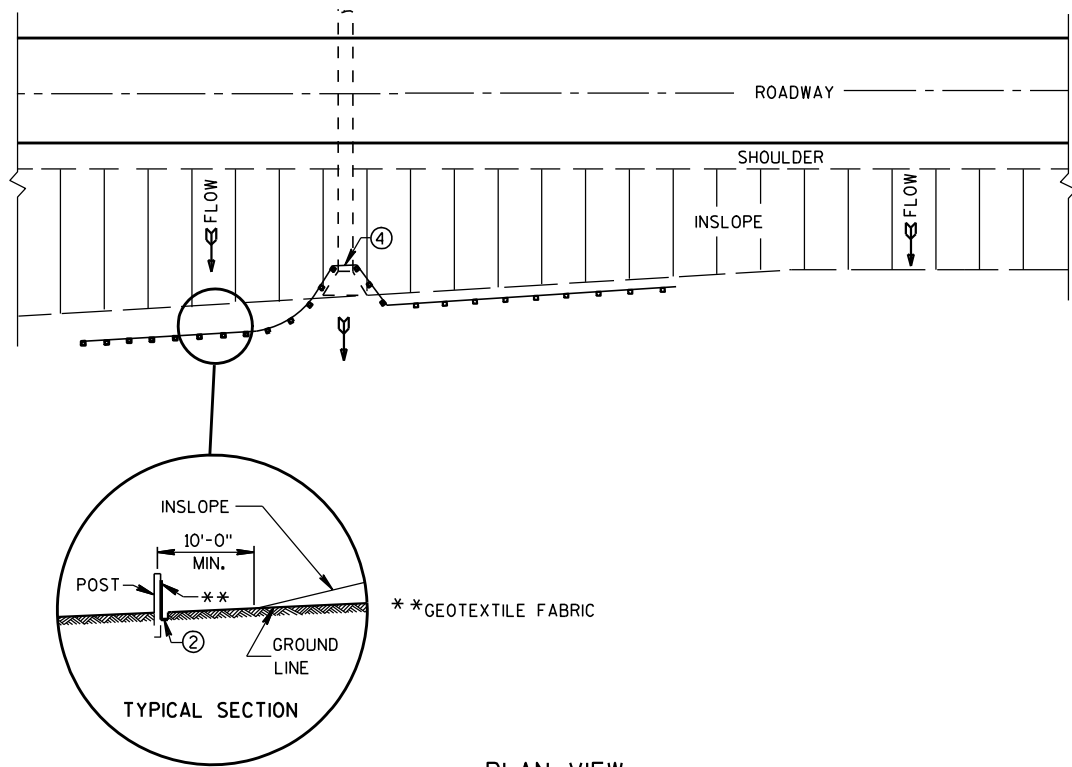
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

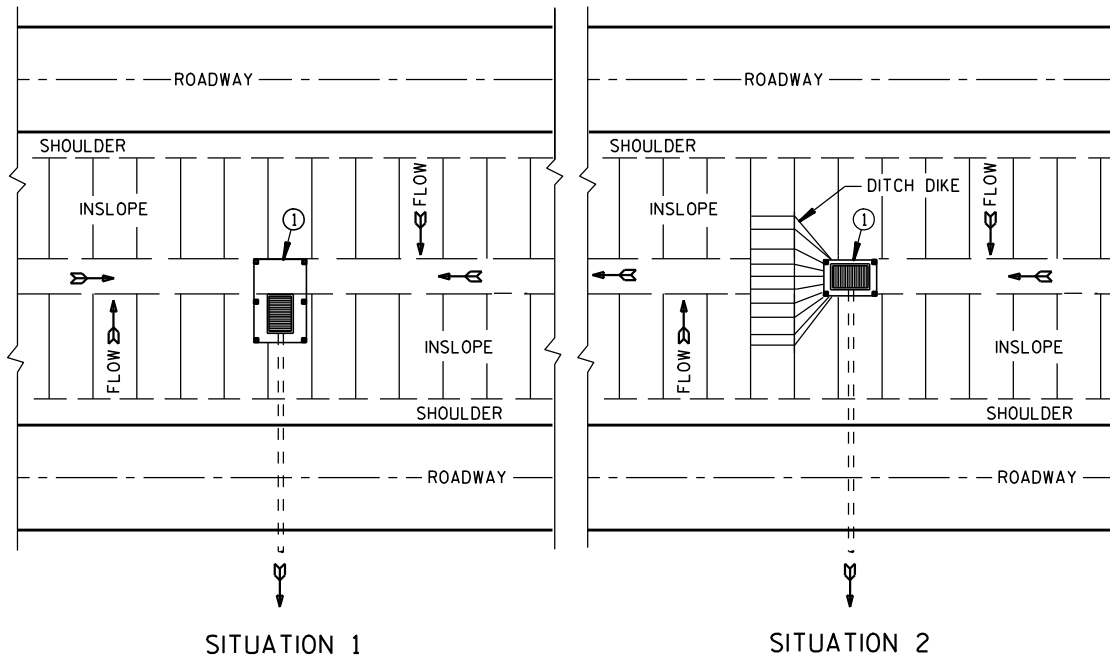
TYPICAL INSTALLATIONS OF  
EROSION BALES / TEMPORARY  
DITCH CHECKS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
 6/04/02 /S/ Beth Canestra  
 DATE CHIEF ROADWAY DEVELOPMENT ENGINEER  
 FHWA



PLAN VIEW  
TYPICAL APPLICATION OF SILT FENCE

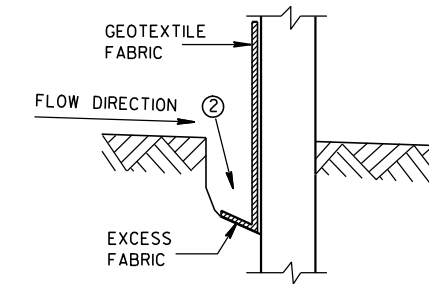


SITUATION 1 SITUATION 2  
PLAN VIEW  
SILT FENCE AT MEDIAN SURFACE DRAINS

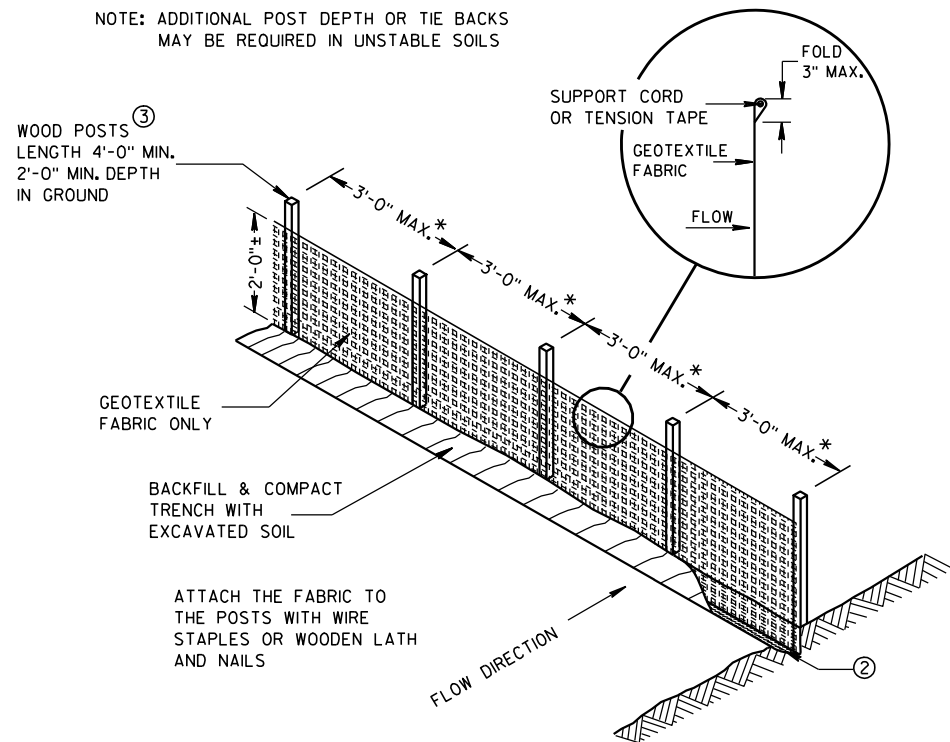
**GENERAL NOTES**

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

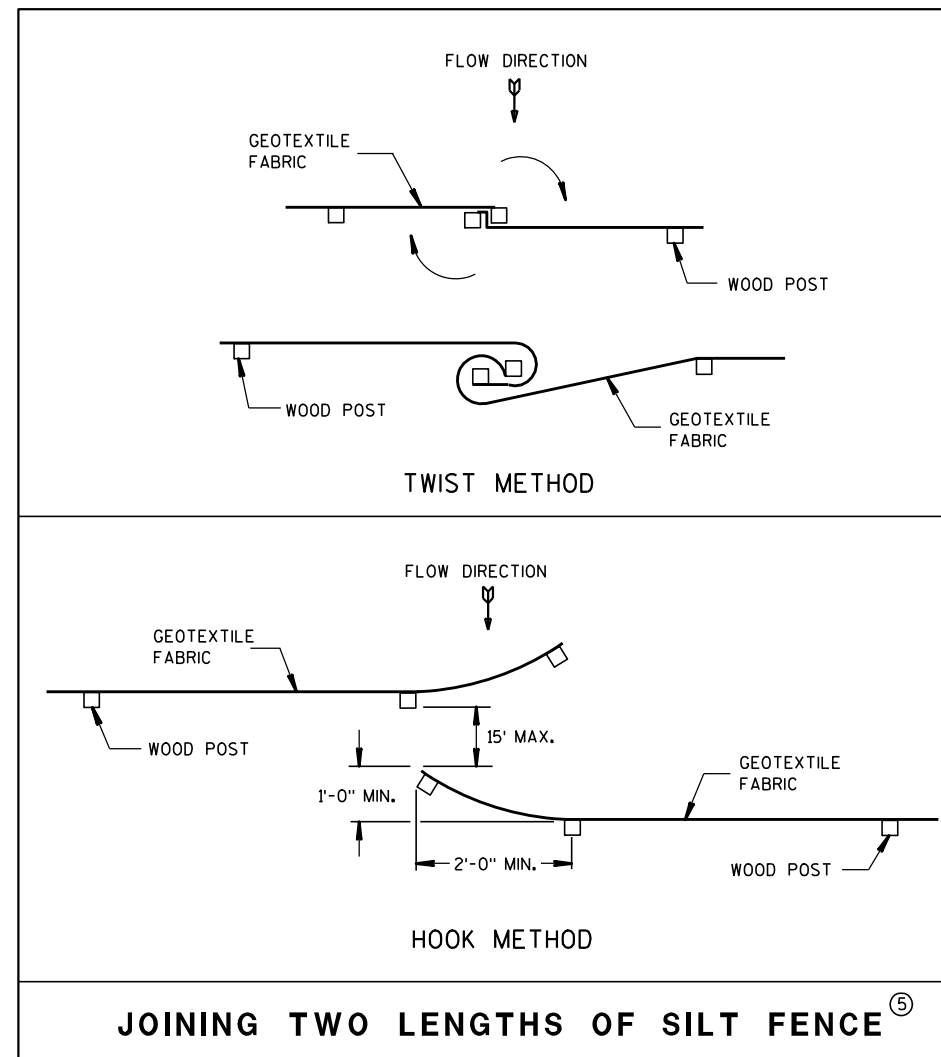
- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



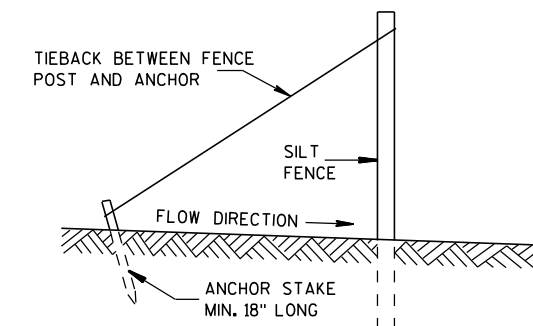
TRENCH DETAIL



SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE

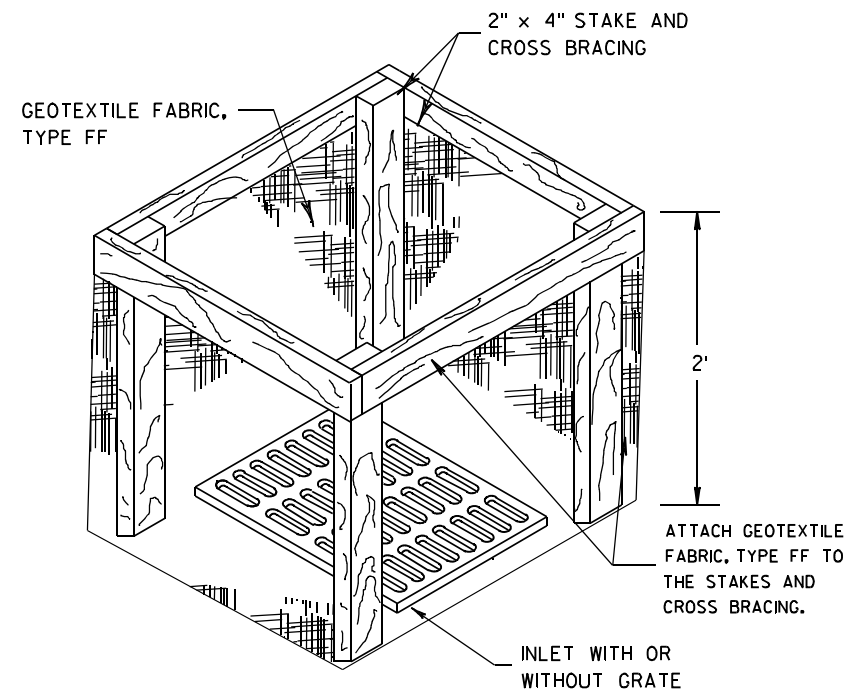
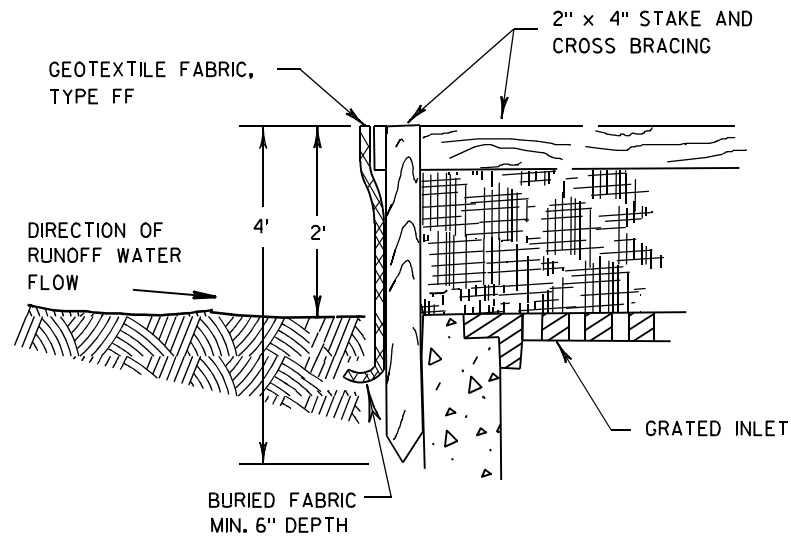


SILT FENCE TIE BACK  
(WHEN REQUIRED BY THE ENGINEER)

**SILT FENCE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



**INLET PROTECTION, TYPE A**

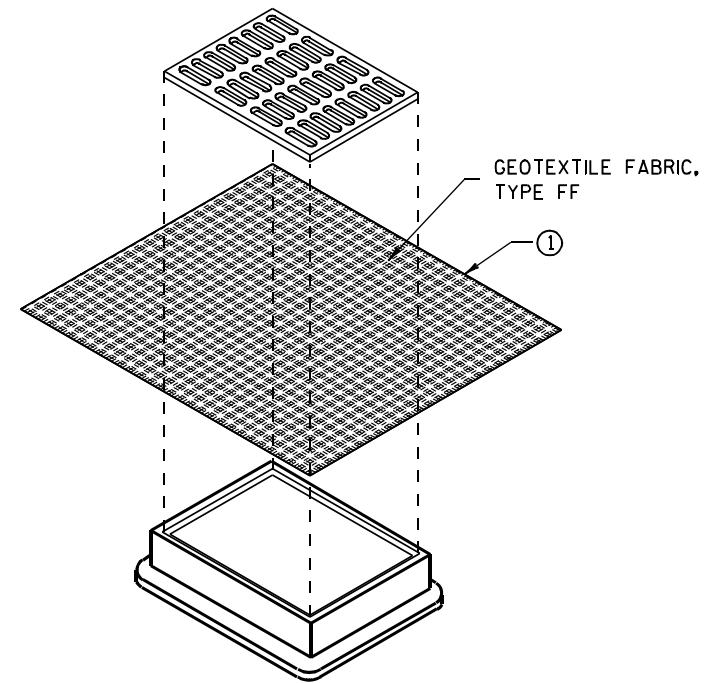
**GENERAL NOTES**

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.

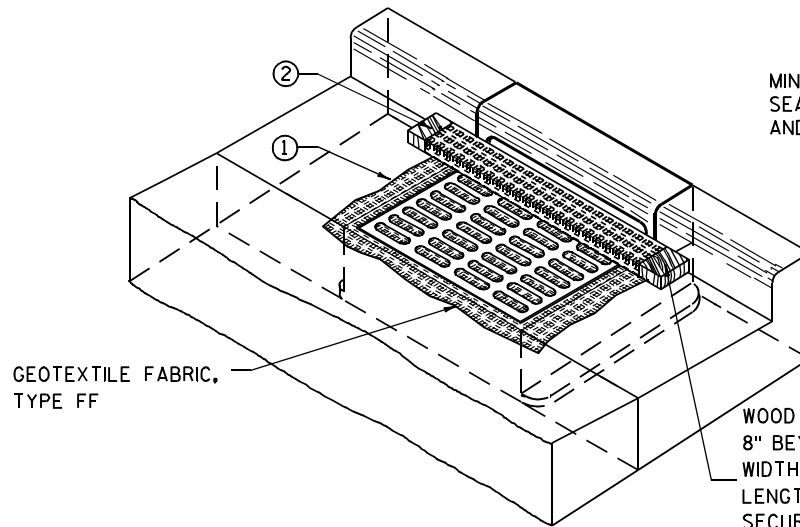
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.



**INLET PROTECTION, TYPE B  
(WITHOUT CURB BOX)**

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



**INLET PROTECTION, TYPE C (WITH CURB BOX)**

**INSTALLATION NOTES**

**TYPE B & C**

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

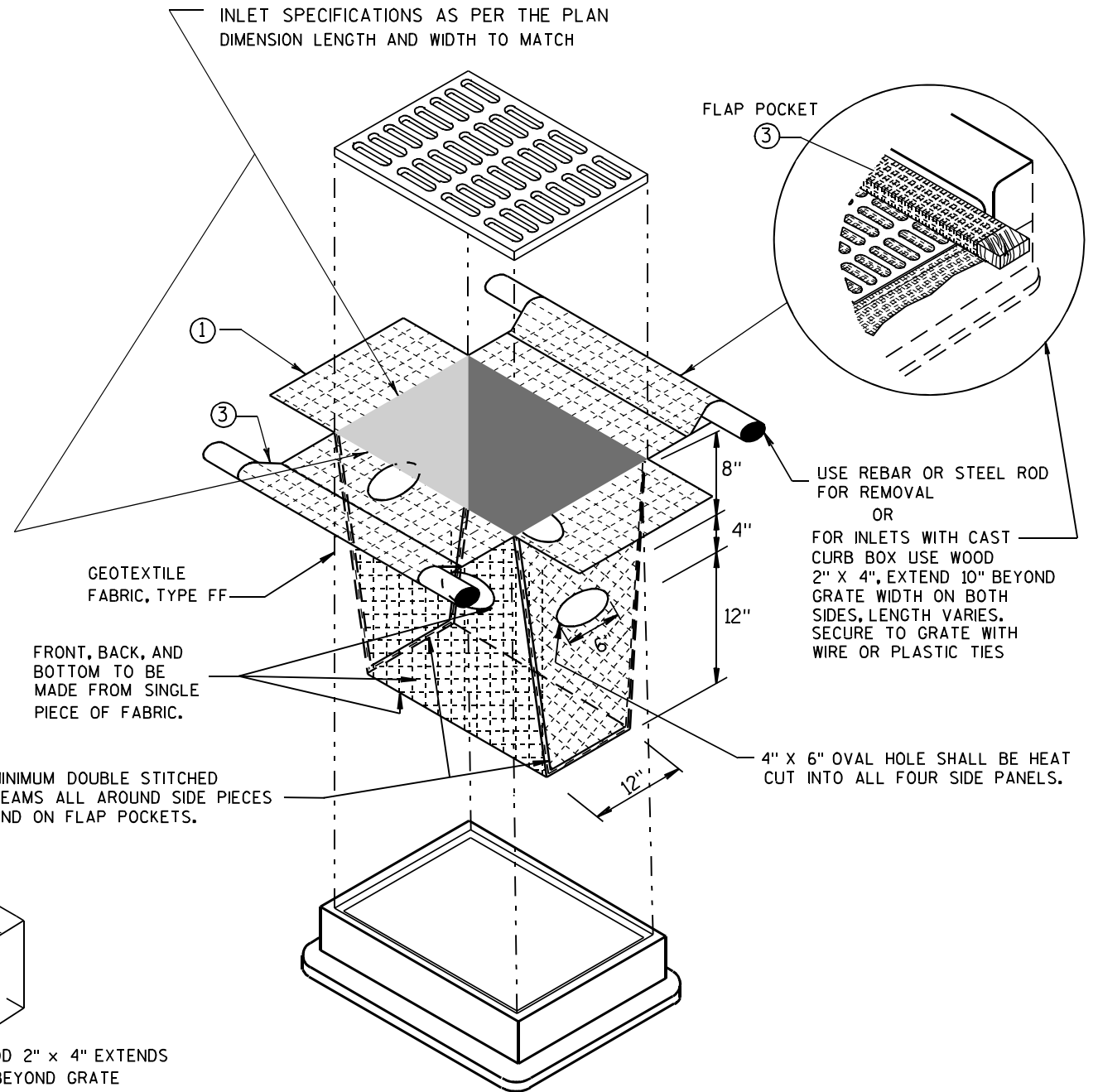
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

**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 D**

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

<b>INLET PROTECTION TYPE A, B, C, AND D</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/16/02 DATE	/s/ Beth Connestra 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.

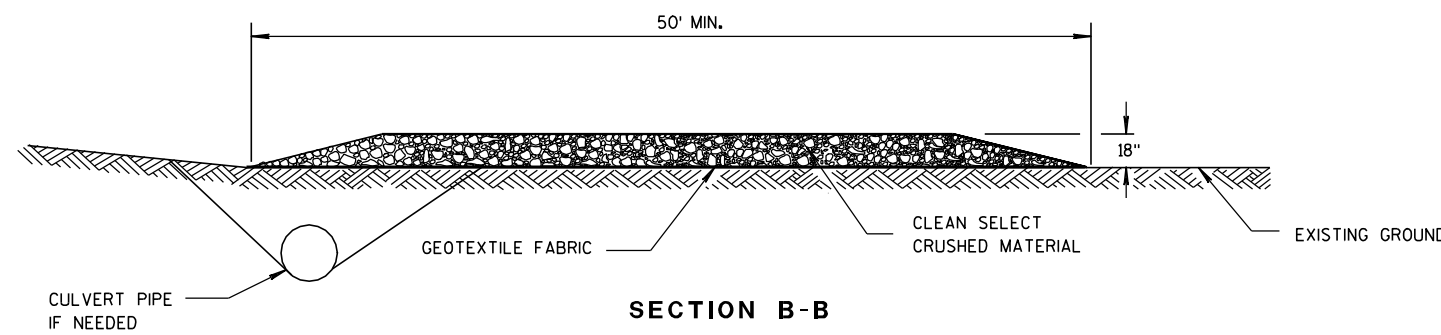
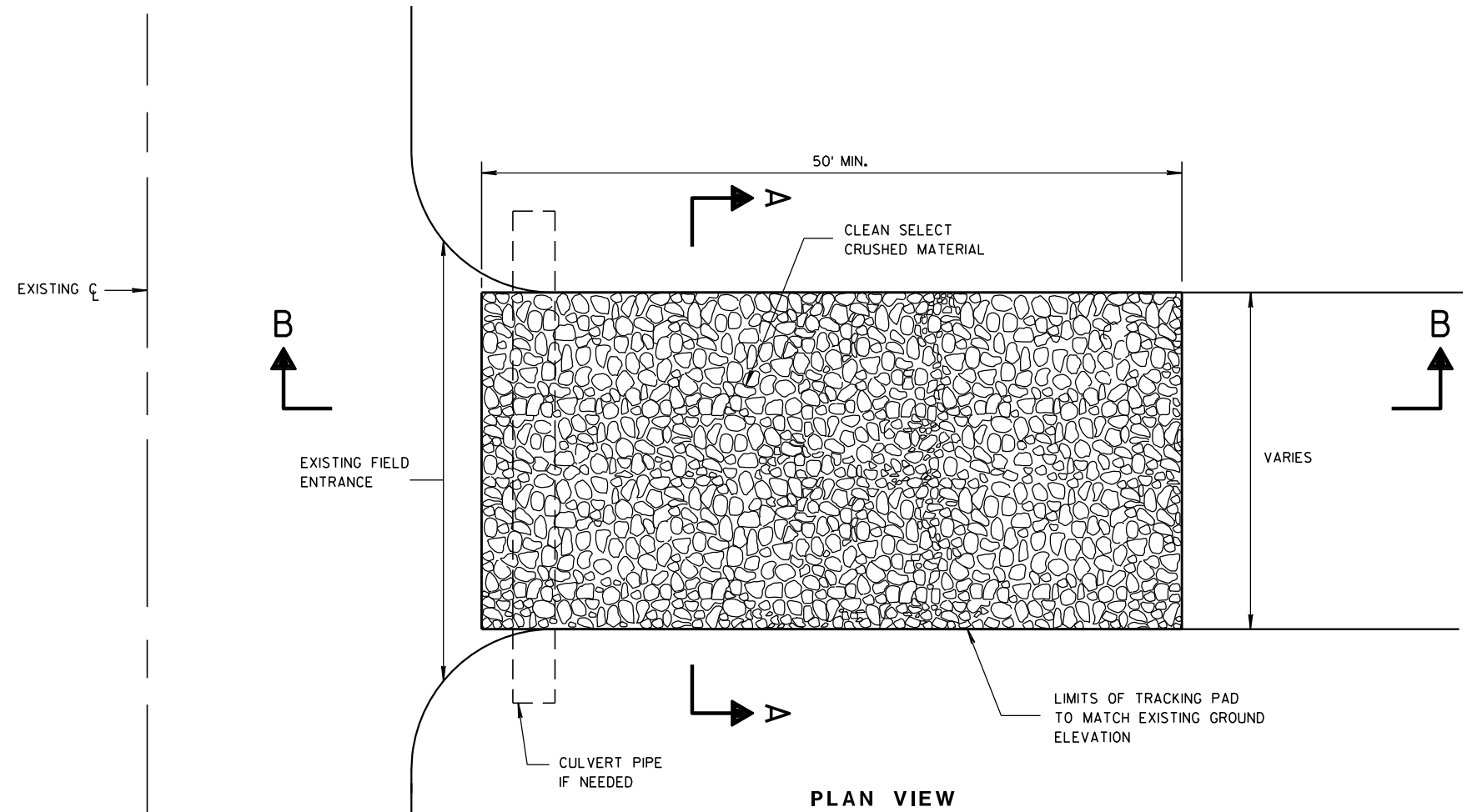
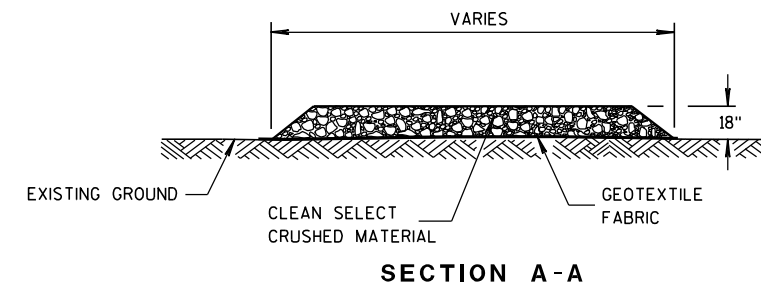
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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.



### TRACKING PAD

#### TRACKING PAD

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

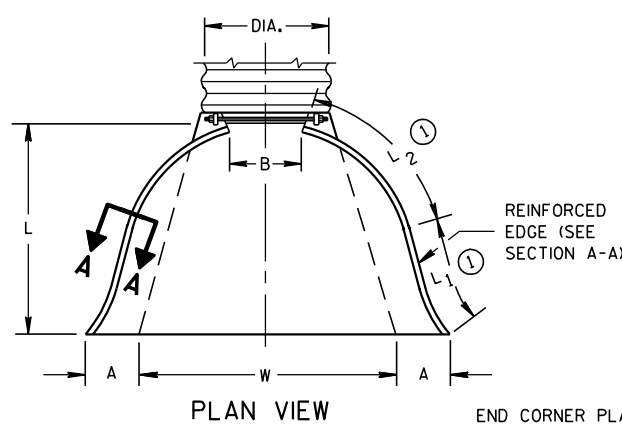
APPROVED  
DATE 3/24/2011 /S/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT ENGINEER  
FHWA

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")	L1	L2	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	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

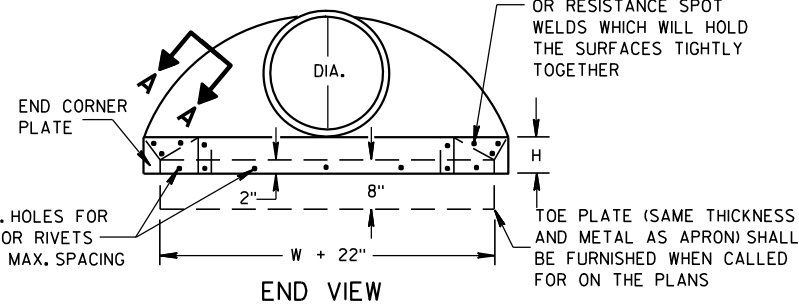
\* EXCEPT CENTER PANEL SEE GENERAL NOTES

REINFORCED CONCRETE APRON ENDWALLS									
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE	
	T	A	B	C	D	E	G		
12	2	4	24	48 1/8	72 1/8	24	2	3 to 1	
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1	
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1	
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1	
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1	
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1	
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1	
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1	
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1	
48	5	24	72	26	98	84	5	3 to 1	
54	5 1/2	27	65	33 1/4-35	98 1/4-100	90	5 1/2	2 1/2 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	

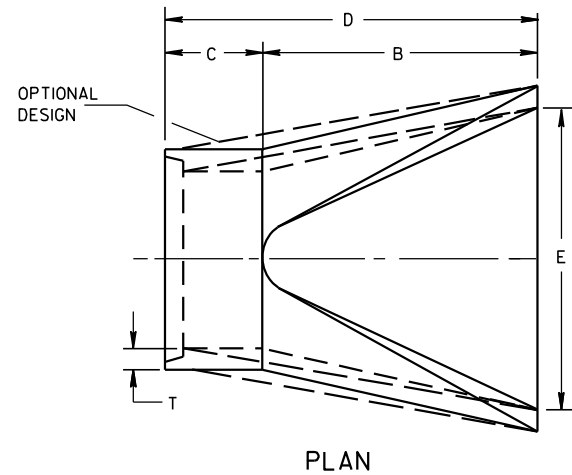
\*MINIMUM  
\*\*MAXIMUM



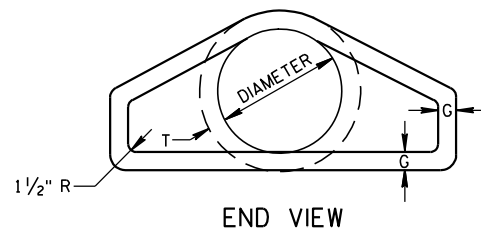
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



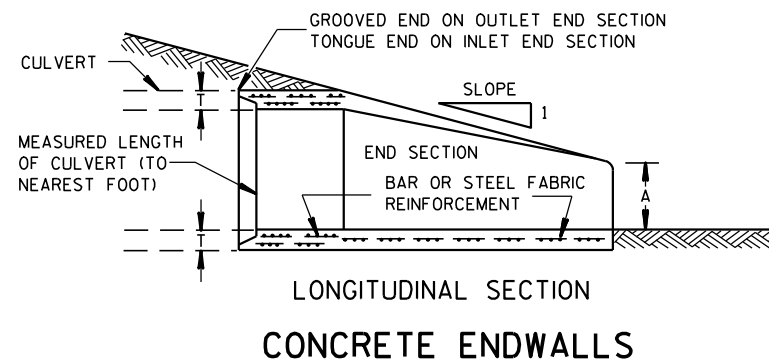
SIDE ELEVATION  
METAL ENDWALLS



PLAN

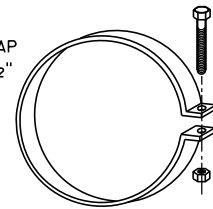


END VIEW

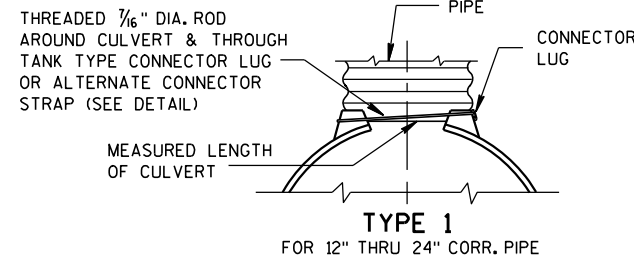


LONGITUDINAL SECTION  
CONCRETE ENDWALLS

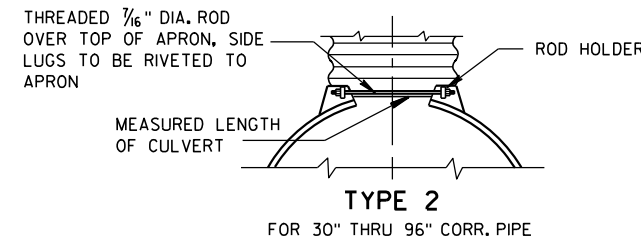
1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



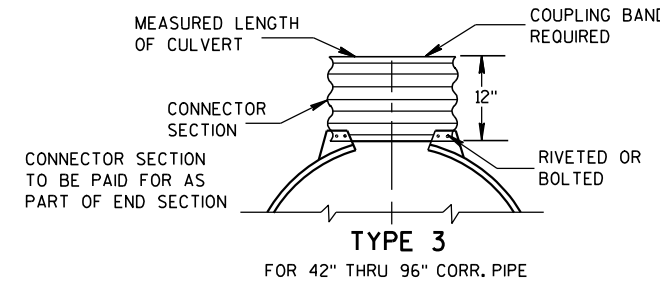
ALTERNATE FOR TYPE 1 CONNECTION  
END SECTION CONNECTOR STRAP



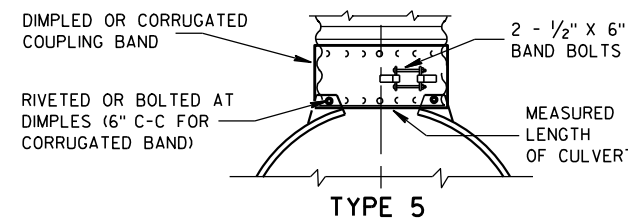
TYPE 1  
FOR 12" THRU 24" CORR. PIPE



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

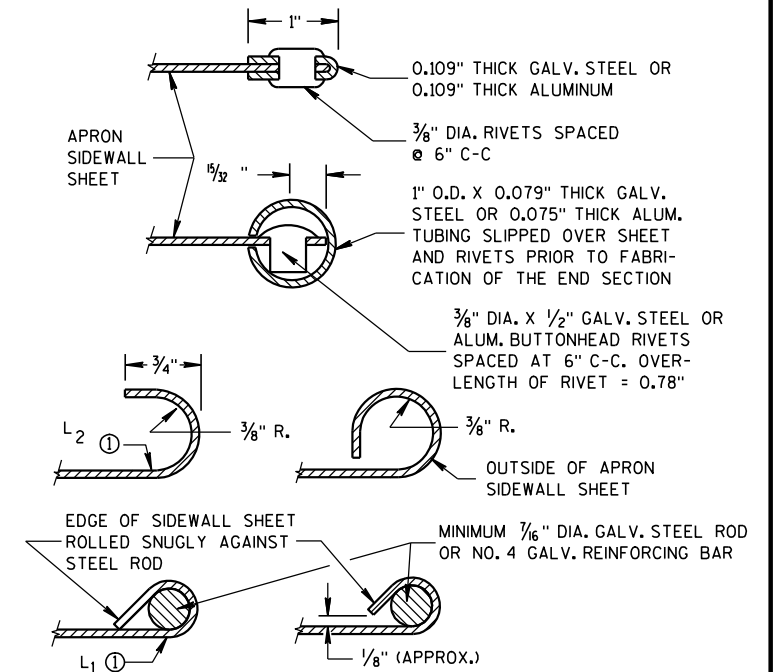
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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 VICE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

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

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

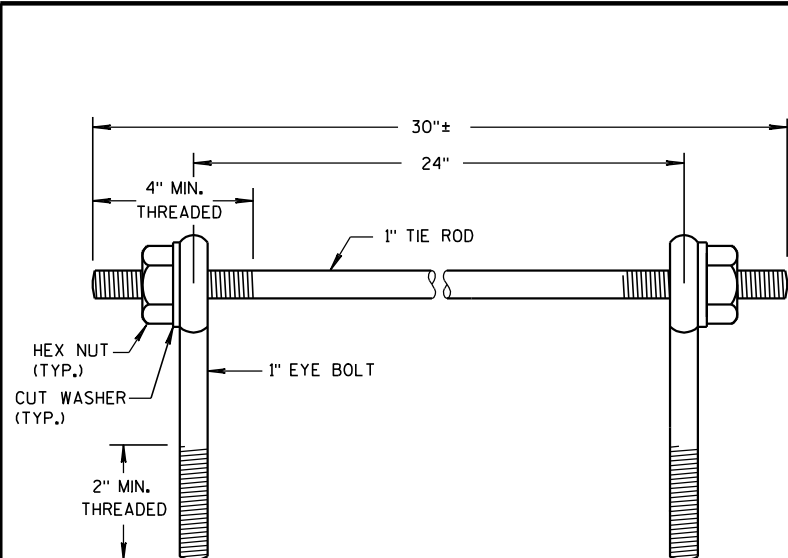
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

APRON ENDWALLS FOR  
CULVERT PIPE

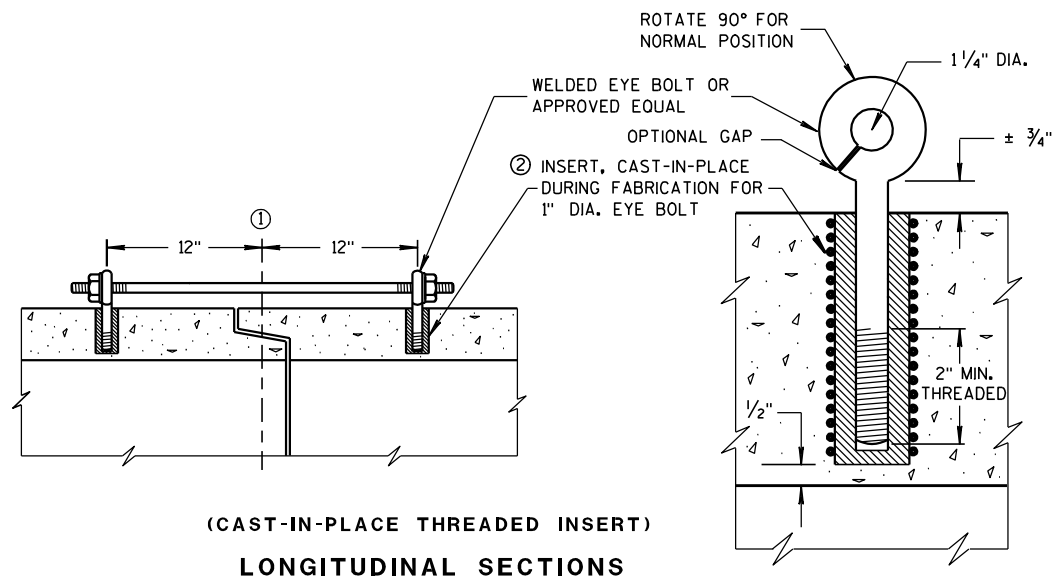
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



EYE BOLTS AND TIE ROD

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



(CAST-IN-PLACE THREADED INSERT) LONGITUDINAL SECTIONS

GENERAL NOTES

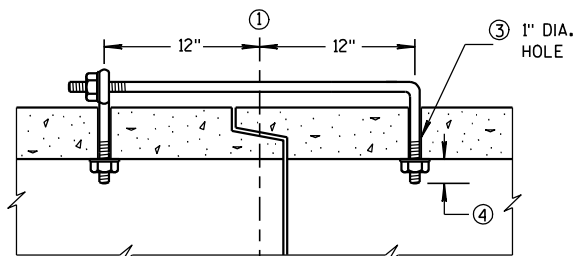
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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.

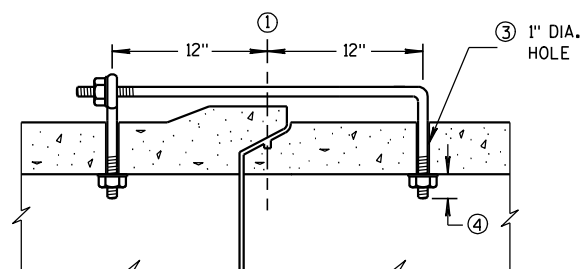
DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

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

- ①  $\phi$  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  $\phi$  OF TONGUE AND GROOVE.
- ④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
- ⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.
- ⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)



(MODIFIED BELL PIPE) LONGITUDINAL SECTION

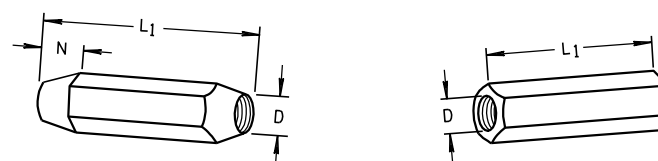
EYE BOLT DIMENSION TABLE

PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	

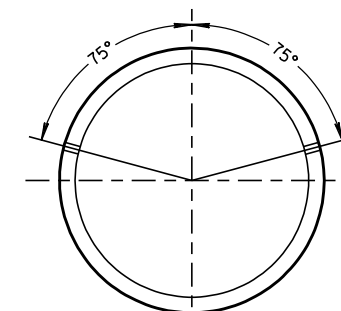
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L <sub>1</sub>	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/6

DIMENSIONS SHOWN ARE IN INCHES

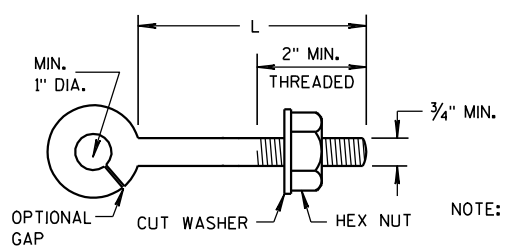


TAPERED PLAIN RIGHT AND LEFT THREADS SLEEVE NUTS



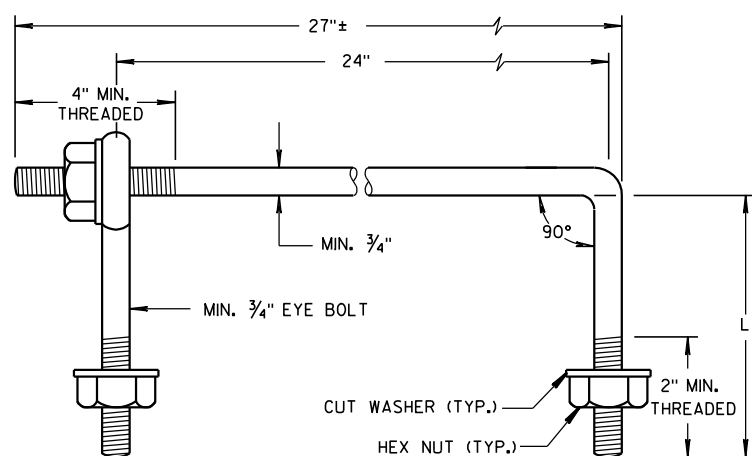
PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



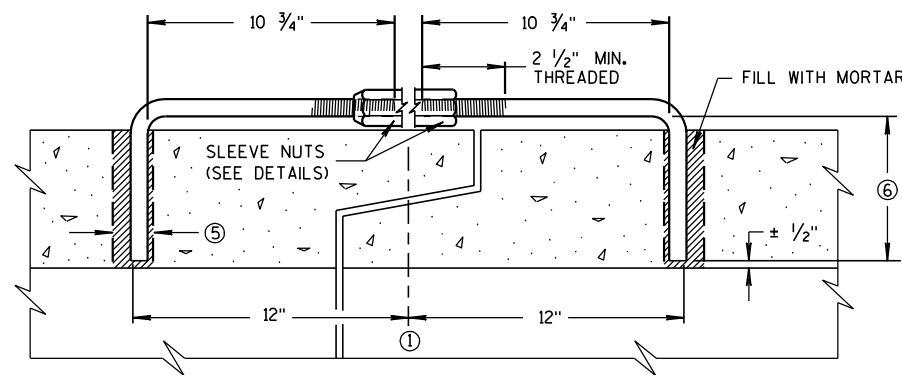
EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



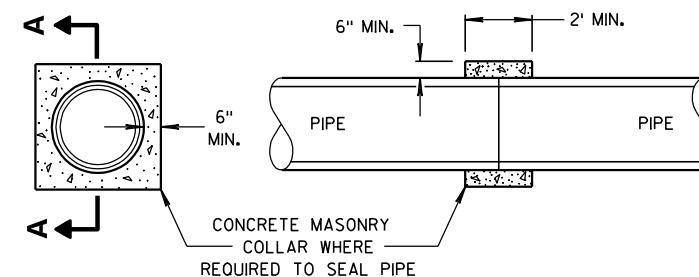
EYE BOLT AND TIE ROD

(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE) EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)



LONGITUDINAL SECTION

(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE) ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



SECTION A-A

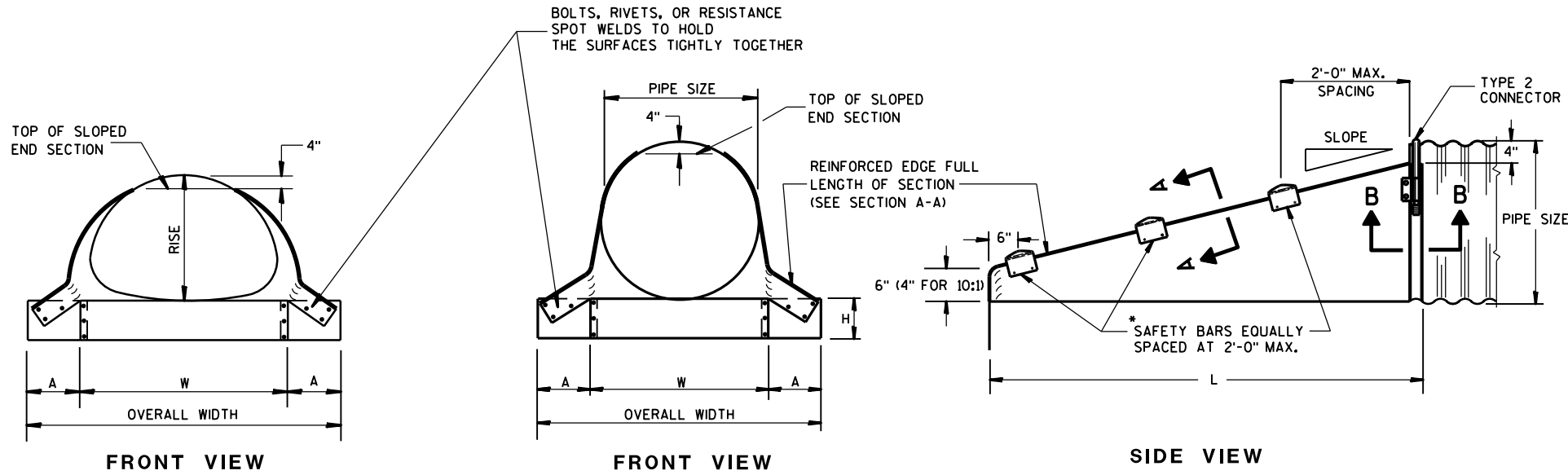
CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

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





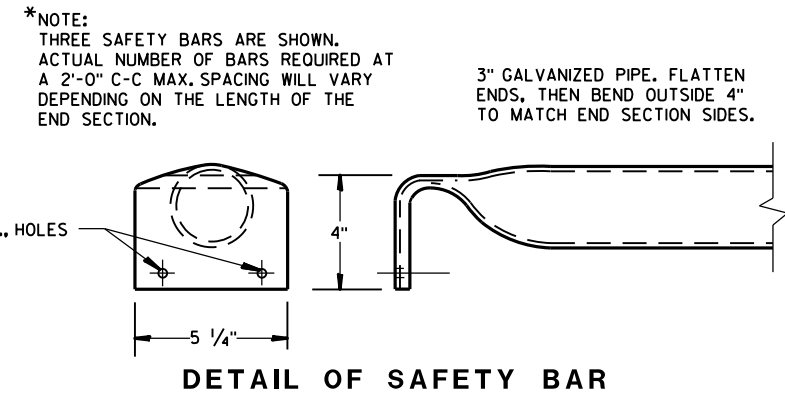
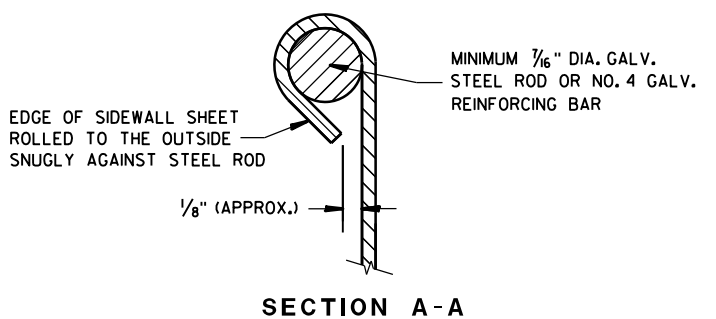
**GENERAL NOTES**

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.

SLOPED END SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, SECTION 521 FOR STEEL APRON ENDWALLS.

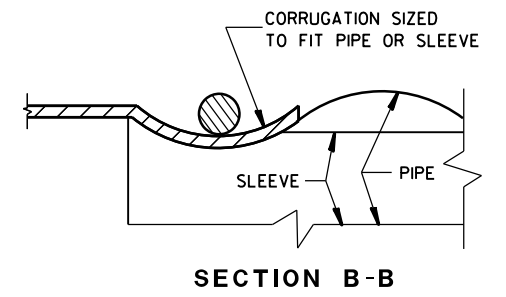
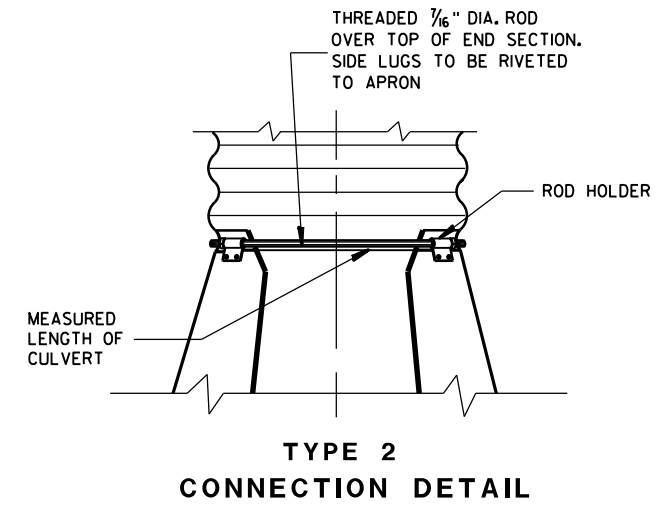
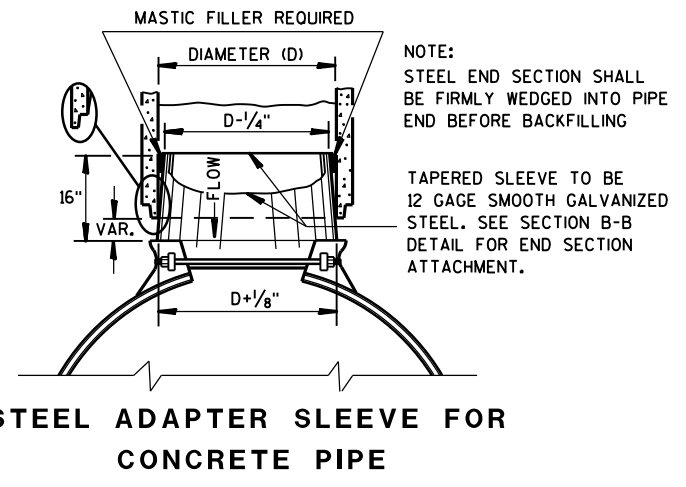
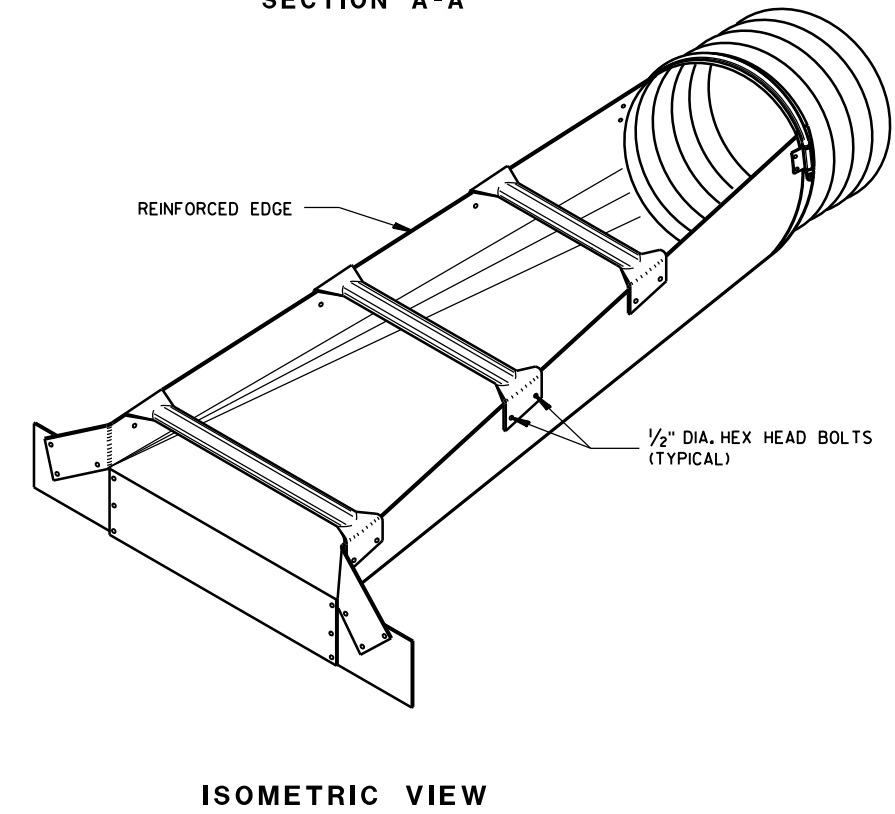
SAFETY BARS SHALL BE FABRICATED FROM GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A-53, GRADE B, SCHEDULE 40 OR APPROVED EQUAL.

STEEL APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)	DIMENSIONS (Inches)				L DIMENSIONS					
		A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
15	.064	8	6	21	37	4:1	20	6:1	30	10:1	70
18	.064	8	6	24	40	4:1	32	6:1	48	10:1	100
21	.064	8	6	27	43	4:1	44	6:1	66	10:1	130
24	.064	8	6	30	46	4:1	56	6:1	84	10:1	160
30	.109	12	9	36	60	4:1	80	6:1	120	10:1	220
36	.109	12	9	42	66	4:1	104	6:1	156	10:1	280
42	.109	16	12	48	80	4:1	128	6:1	192	—	—
48	.109	16	12	54	86	4:1	152	6:1	228	—	—
54	.109	16	12	60	92	4:1	176	6:1	264	—	—
60	.109	16	12	66	98	4:1	200	6:1	300	—	—



STEEL APRON ENDWALLS FOR PIPE ARCH SLOPED SIDE DRAINS													
EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches) ①	DIMENSIONS (Inches)				L DIMENSIONS					
	SPAN	RISE		A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
15	17	13	.064 *	7	6	30	44	4:1	19	6:1	30	10:1 ②	70
18	21	15	.064 *	8	6	27	43	4:1	20	6:1	30	10:1	70
21	24	18	.064 *	8	6	30	46	4:1	32	6:1	48	10:1	100
24	28	20	.064 *	8	6	34	50	4:1	40	6:1	60	10:1	120
30	35	24	.079 *	12	9	41	65	4:1	56	6:1	84	10:1	160
36	42	29	.109 *	12	9	48	72	4:1	76	6:1	114	10:1	210
42	49	33	.109	16	12	55	87	4:1	92	6:1	138	—	—
48	57	38	.109	16	12	63	95	4:1	112	6:1	168	—	—
54	64	43	.109	16	12	70	102	4:1	132	6:1	198	—	—

① \* MINIMUM THICKNESS OF ALL 10:1 SLOPED SIDE DRAINS IS 0.109".  
 ② ACTUAL SLOPE GREATER THAN 10:1.

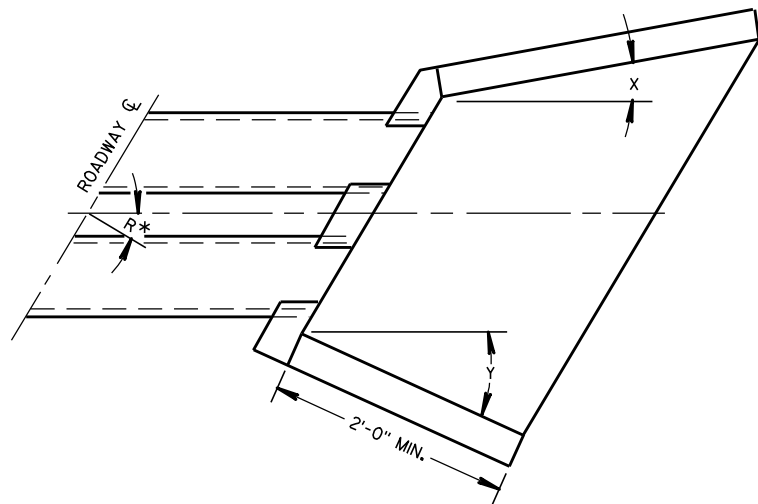


**STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE DRAINS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE 9/14/2012 /S/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA



**WINGWALL ANGLE DETAILS**

INLET			OUTLET		
R*	X	Y	R*	X	Y
0 - 7°	30°	30°	0 - 15°	15°	15°
8 - 22°	25°	"	16 - 45°	10°	"
23 - 37°	20°	"	46 - 75°	5°	"
38 - 52°	15°	"	OVER 75°	0°	"
53 - 67°	10°	"			
68 - 82°	5°	"			
OVER 82°	0°	"			

\*R = NUMBER OF DEGREES RIGHT OR LEFT HAND FORWARD

**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.

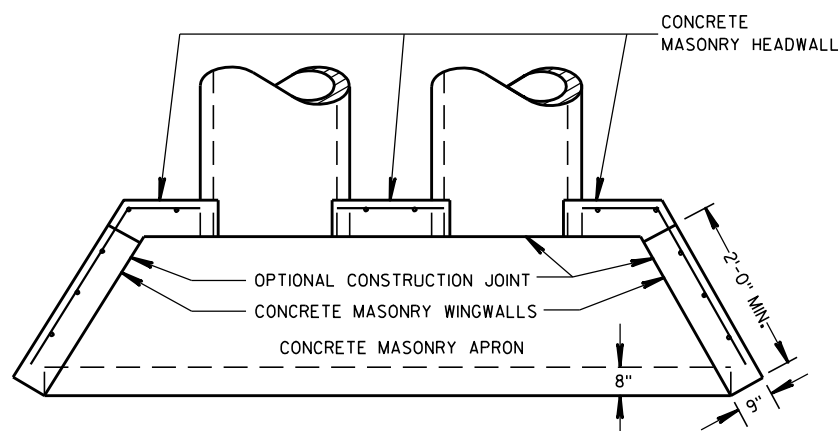
FILL SLOPES FLATTER THAN 2 1/2:1 SHALL BE WARPED TO MEET THE TOP OF THE WINGWALLS.

ALL STEEL REINFORCEMENT AND WELDED STEEL WIRE FABRIC SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE NOTED.

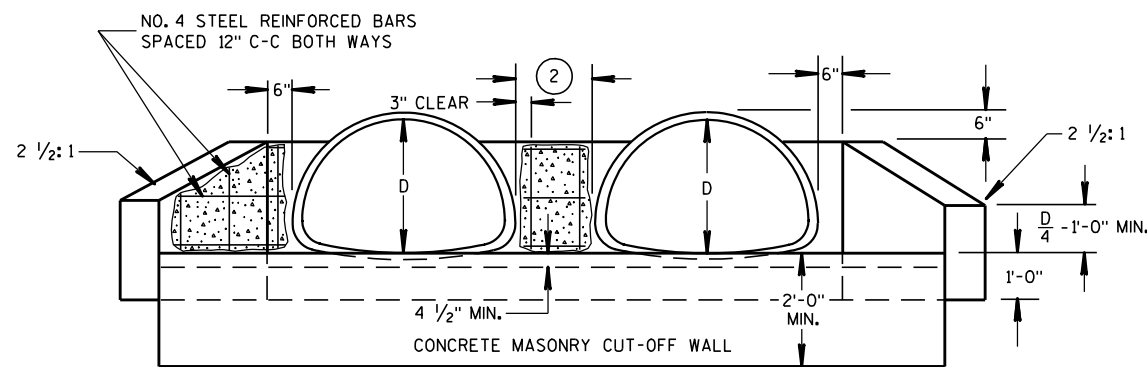
1 MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS SPACED 12" C-C IN BOTH DIRECTIONS.

2 THE SPACE BETWEEN PIPES SHALL BE AS FOLLOWS:

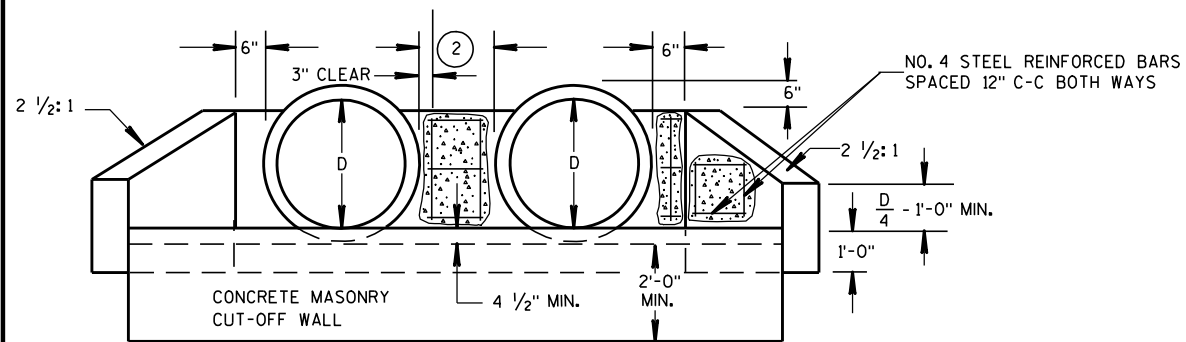
DIAMETER OR SPAN	SPACE
UP TO AND INCLUDING 48"	2'-0"
OVER 48" TO 72"	1/2 DIA. OR SPAN
OVER 72"	3'-0"



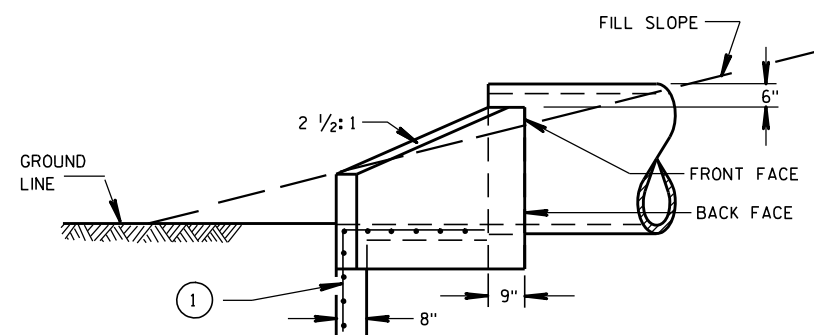
**PLAN VIEW  
CULVERT PIPE AND PIPE ARCH**



**END ELEVATION  
PIPE ARCH**



**END ELEVATION  
CULVERT PIPE**

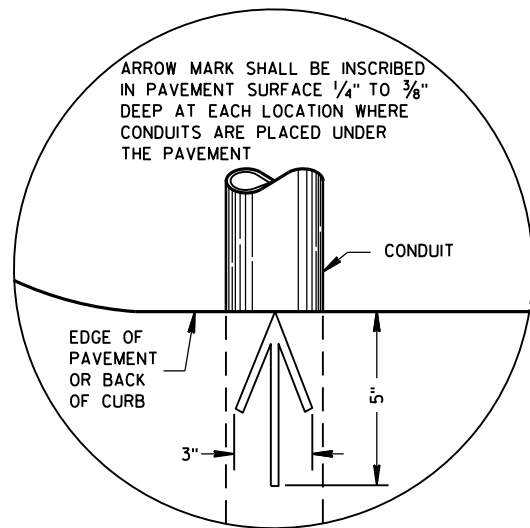


**SIDE ELEVATION  
CULVERT PIPE AND PIPE ARCH**

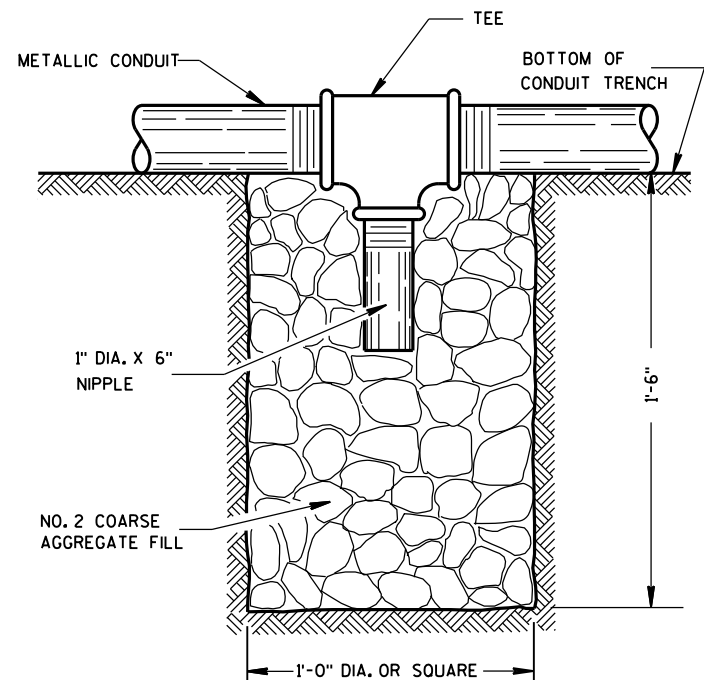
**CONCRETE MASONRY ENDWALLS  
FOR CULVERT PIPE AND  
PIPE ARCH**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
9/14/98 /S/ Rory L. Rhinesmith  
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER  
FHWA

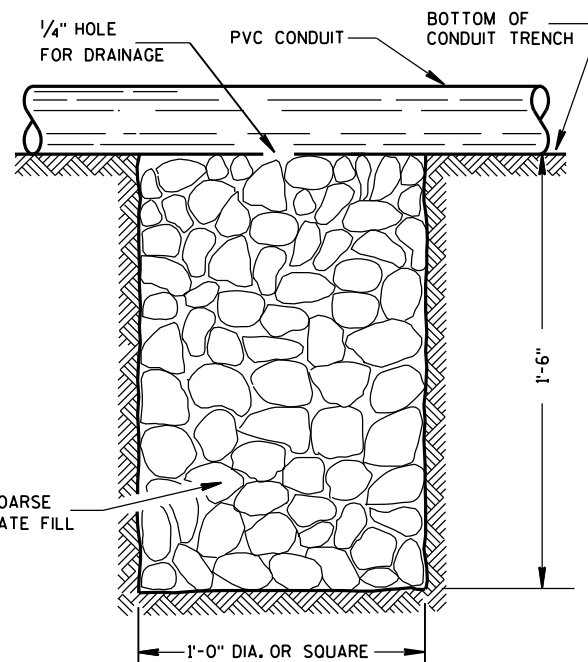


PLAN VIEW  
ARROW MARK



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

**GENERAL NOTES**

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

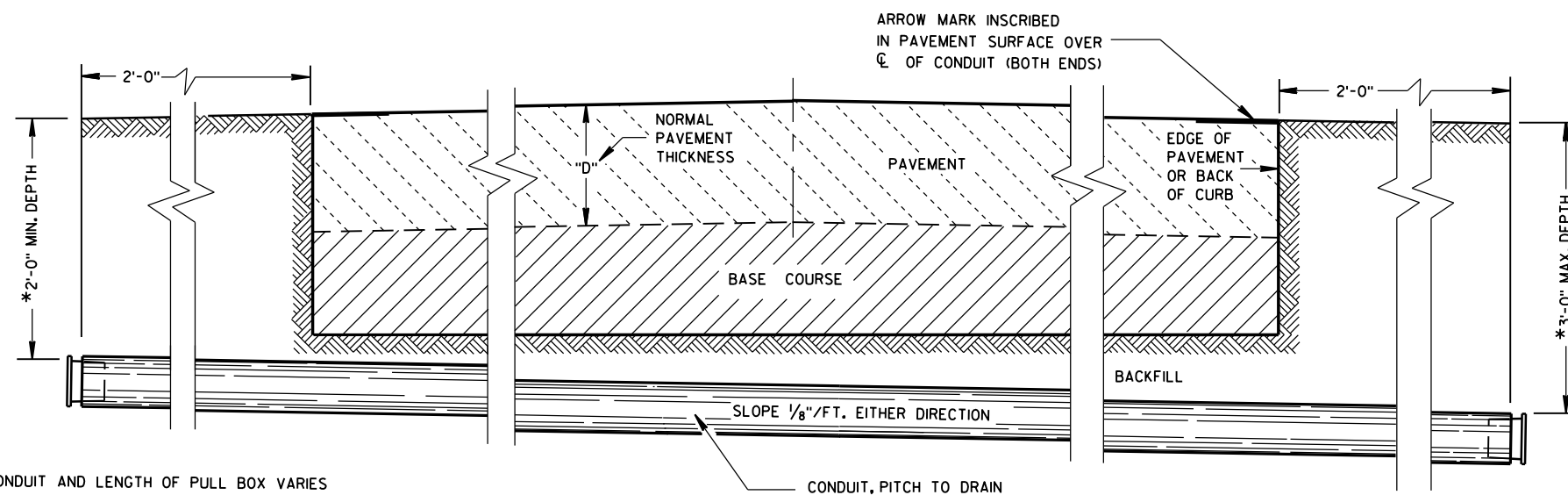
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

POLY ROPE OR A PULL WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.



SIDE ELEVATION  
DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

\*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

**CONDUIT**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

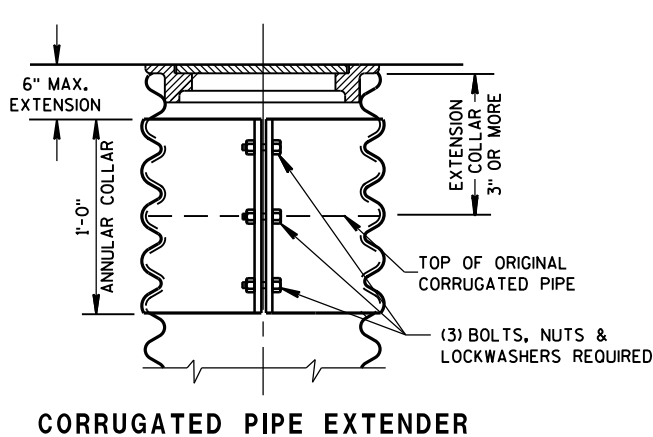
APPROVED  
DATE: Sep. 2014 /S/ Ahmet Demirbilek  
STATE ELECTRICAL ENGINEER  
FHWA

**TABLE OF NOMINAL DIMENSIONS AND WEIGHTS**

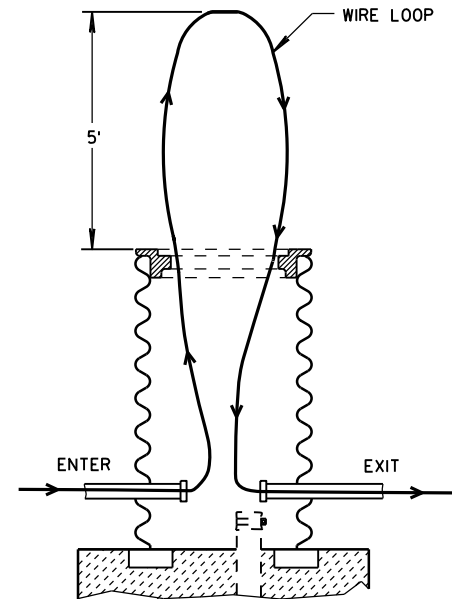
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
WEIGHT IN POUNDS *										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

\* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

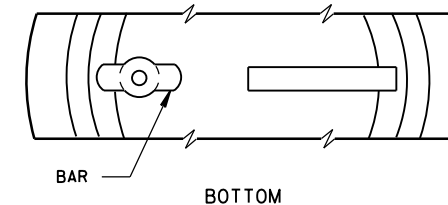
\*\* NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



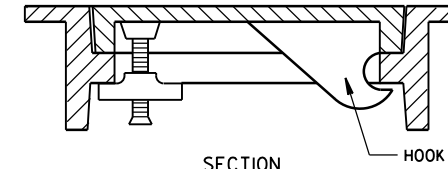
**CORRUGATED PIPE EXTENDER**



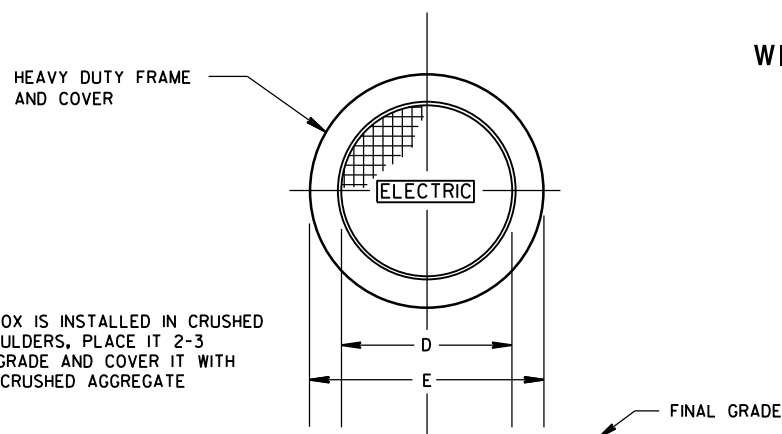
**MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX**



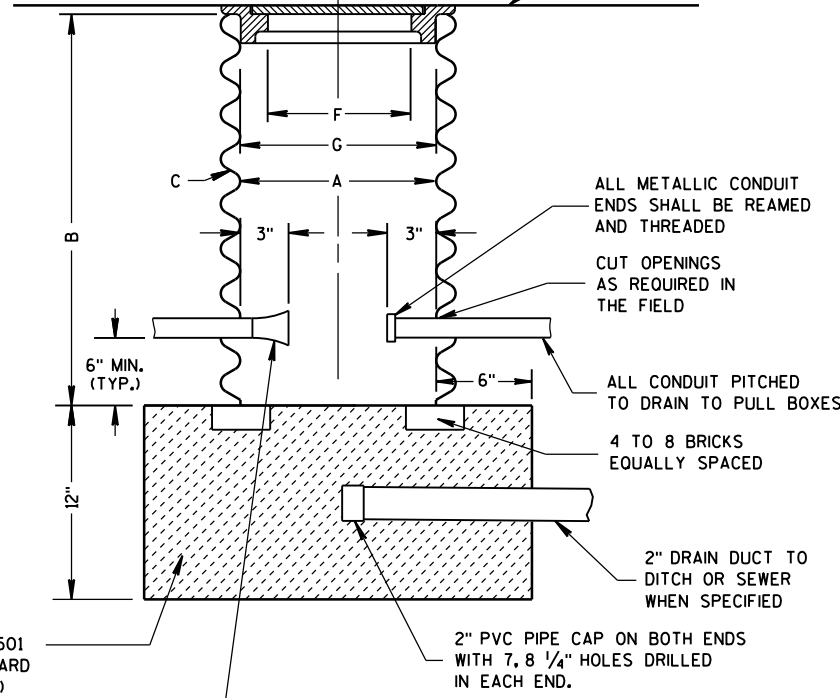
**ALTERNATE COVER (LOCKING)**



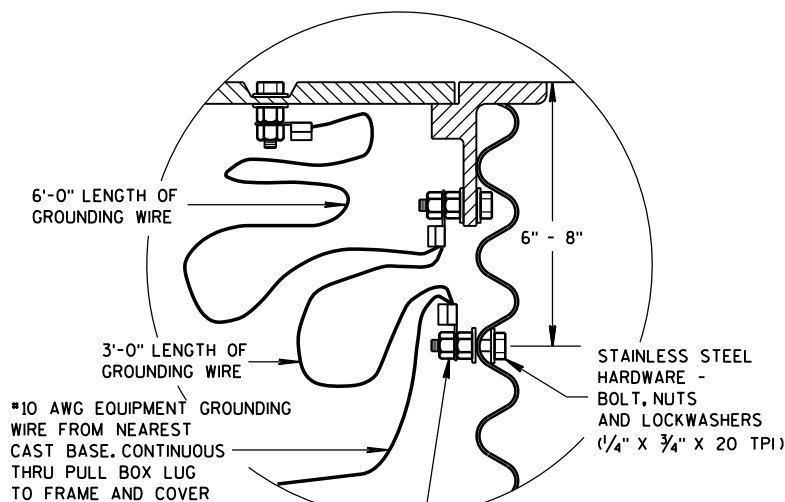
**TIGHTENING BAR TYPE**



WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE

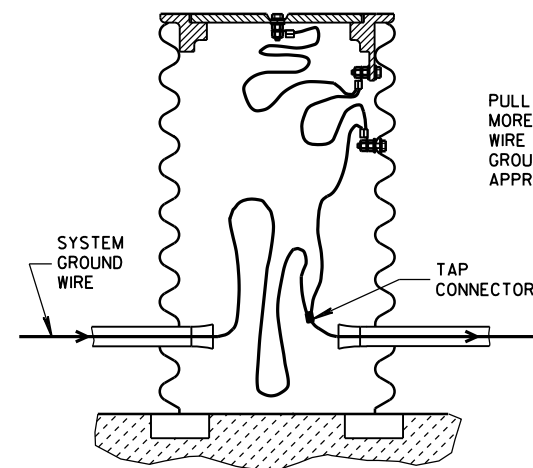


**PULL BOX**



NEMA APPROVED, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE.

**EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES**



**EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES**

PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

**GENERAL NOTES**

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

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

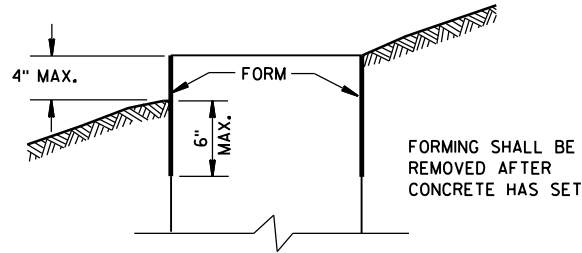
GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.

<b>PULL BOX</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE	/S/ Ahmet Demirelek STATE ELECTRICAL ENGINEER
FHWA	

FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE



**FORMING DETAIL**

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

**GENERAL NOTES**

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

**GENERAL NOTES (CONTINUED)**

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 1, TYPE 2, TYPE 5, AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

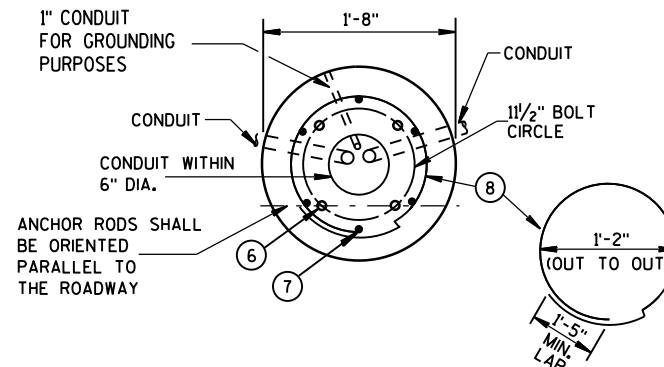
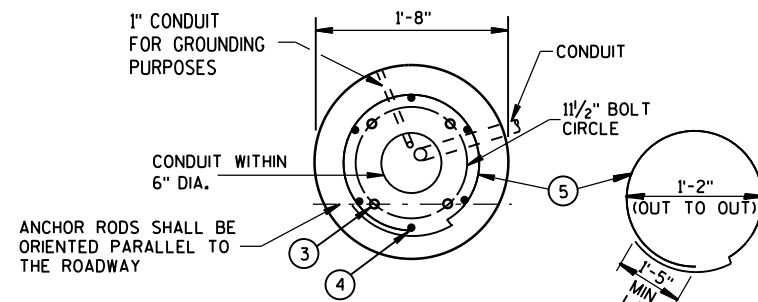
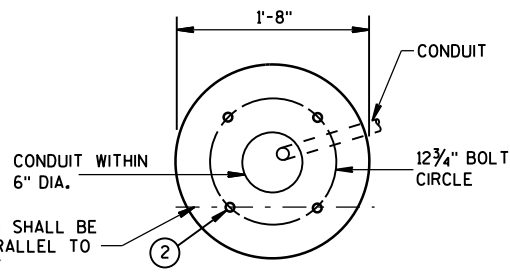
WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

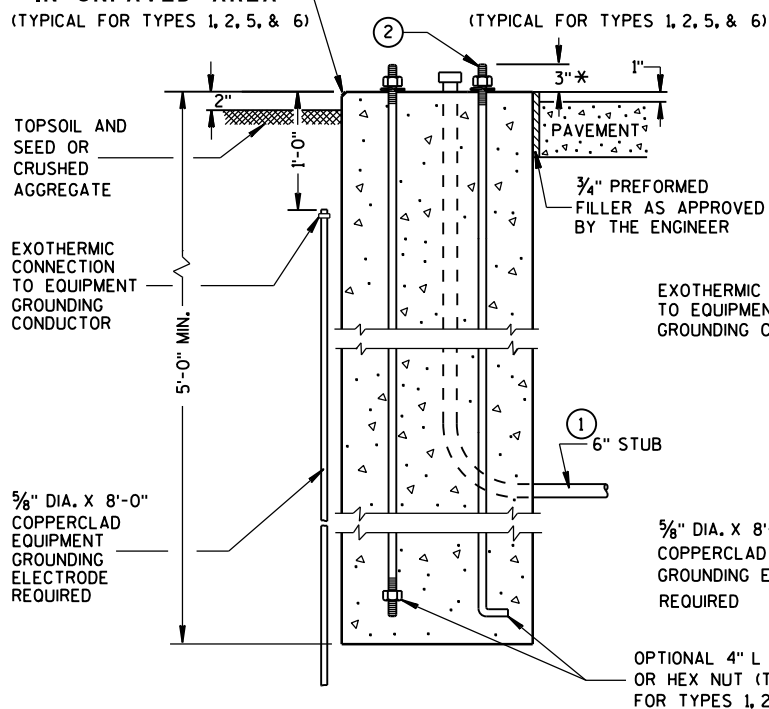
BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).



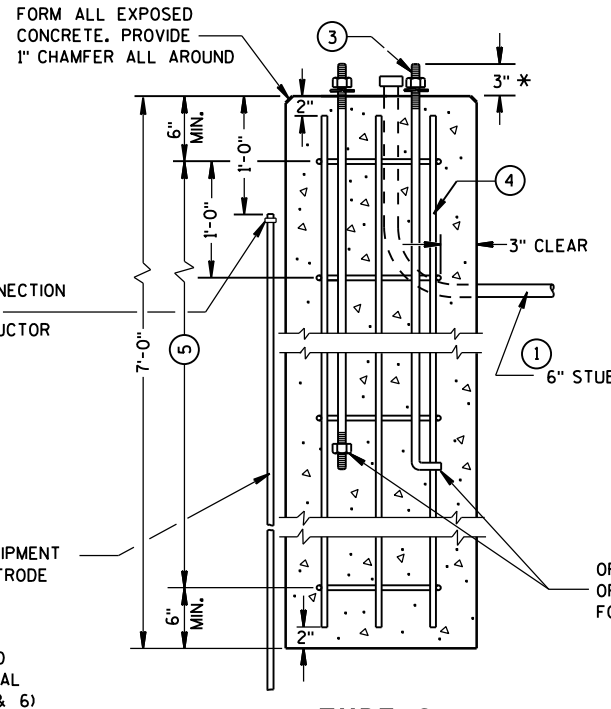
FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

**HALF SECTION IN UNPAVED AREA**  
(TYPICAL FOR TYPES 1, 2, 5, & 6)

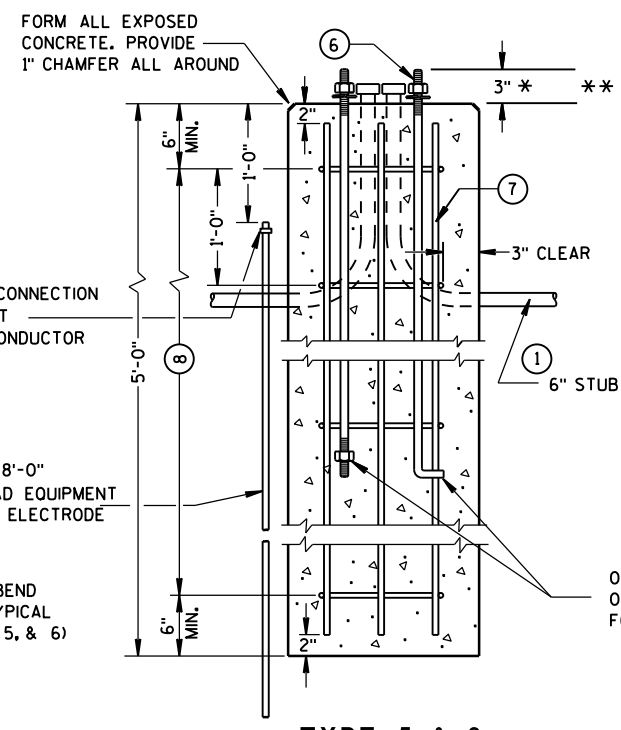
**HALF SECTION IN PAVEMENT**  
(TYPICAL FOR TYPES 1, 2, 5, & 6)



FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



**TYPE 2  
CONCRETE BASES**

**TYPE 5 & 6**

- ① THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.
- ② (4) 1" DIA. X 3'-6" ANCHOR RODS.
- ③ (4) 1" DIA. X 5'-0" ANCHOR RODS.
- ④ (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.
- ⑤ (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.
- ⑥ (4) 1" DIA. X 3'-6" ANCHOR RODS.
- ⑦ (6) NO. 4 X 4'-8" BAR STEEL REINFORCEMENT.
- ⑧ (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

\* ANY ANCHOR ROD PROJECTION SHORTER THAN 2 3/4" OR LONGER THAN 3 3/4" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

\*\* FOR NONBREAKAWAY INSTALLATIONS, 4 1/2" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

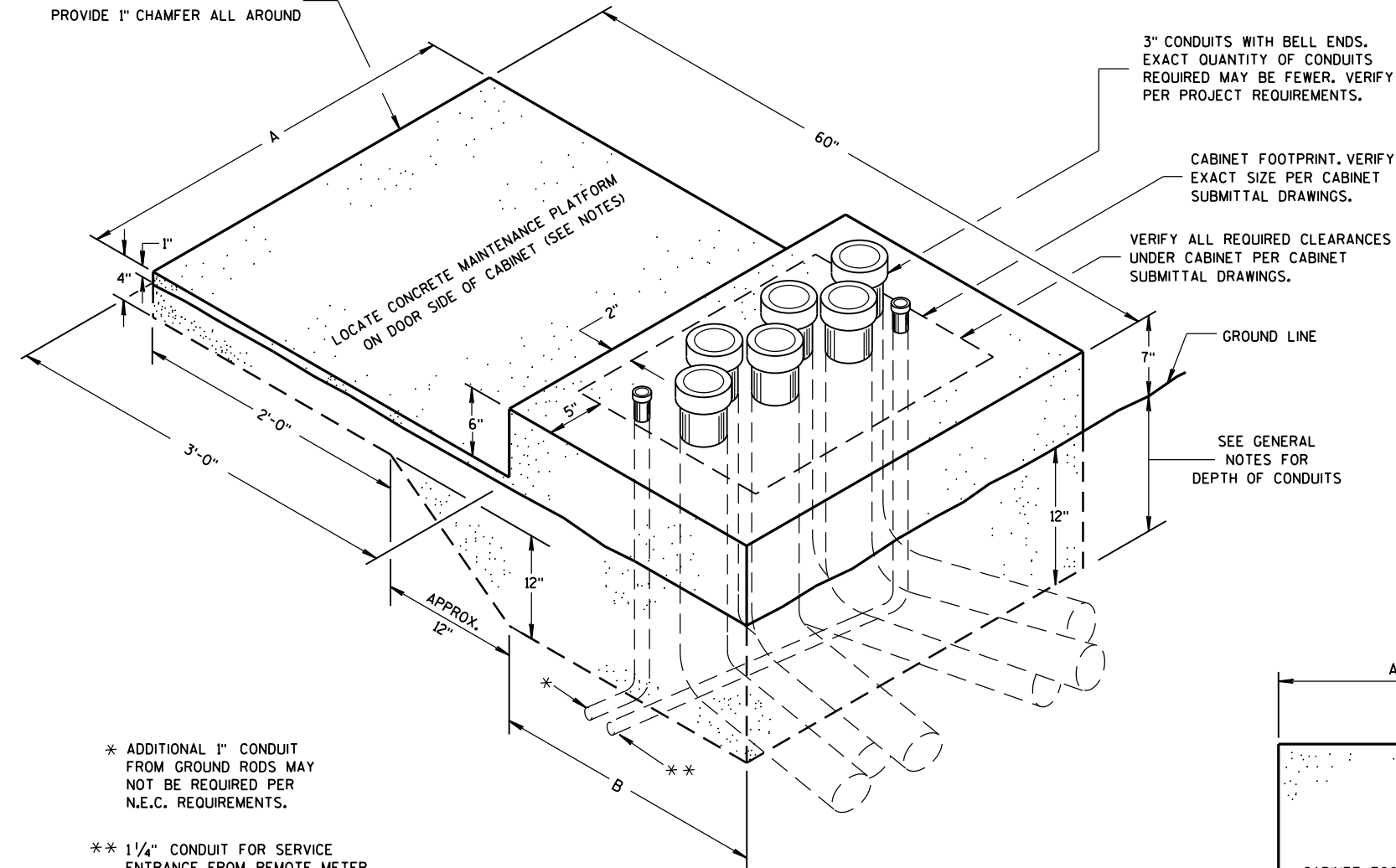
**CONCRETE BASES,  
TYPES 1, 2, 5, & 6**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
Sept. 2014 /S/ Ahmet Demirbilek  
DATE STATE ELECTRICAL ENGINEER  
FHWA



FORM ALL EXPOSED CONCRETE  
PROVIDE 1" CHAMFER ALL AROUND



3" CONDUITS WITH BELL ENDS.  
EXACT QUANTITY OF CONDUITS  
REQUIRED MAY BE FEWER. VERIFY  
PER PROJECT REQUIREMENTS.

CABINET FOOTPRINT. VERIFY  
EXACT SIZE PER CABINET  
SUBMITTAL DRAWINGS.

VERIFY ALL REQUIRED CLEARANCES  
UNDER CABINET PER CABINET  
SUBMITTAL DRAWINGS.

GROUND LINE

SEE GENERAL  
NOTES FOR  
DEPTH OF CONDUITS

LOCATE CONCRETE MAINTENANCE PLATFORM  
ON DOOR SIDE OF CABINET (SEE NOTES)

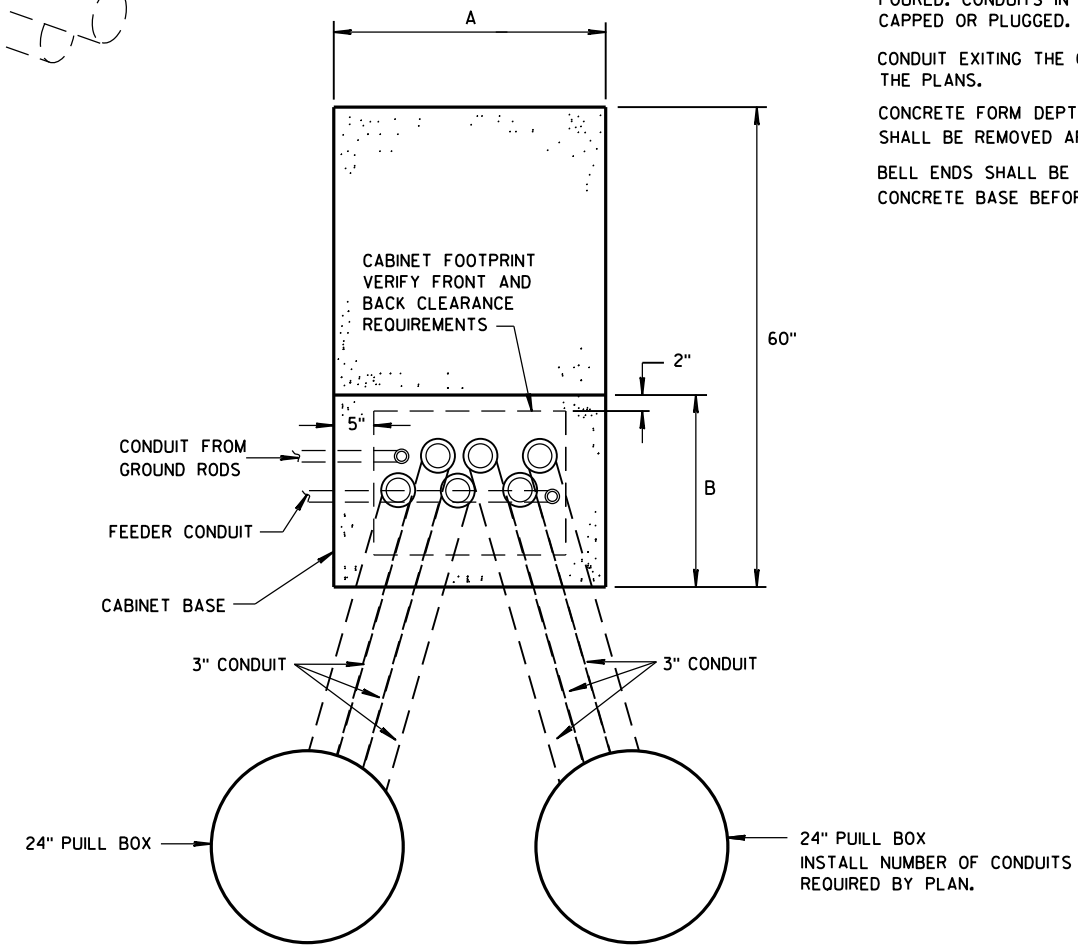
\* ADDITIONAL 1" CONDUIT  
FROM GROUND RODS MAY  
NOT BE REQUIRED PER  
N.E.C. REQUIREMENTS.

\*\* 1/4" CONDUIT FOR SERVICE  
ENTRANCE FROM REMOTE METER  
BREAKER PEDESTAL PER PROJECT  
REQUIREMENTS. VERIFY LOCATION OF  
CONDUIT DEPENDENT UPON LOCATION  
OF INCOMING FEEDER AND FOR EASE  
OF CONNECTION TO LOAD CENTER.

**ISOMETRIC VIEW  
CONCRETE CONTROL  
CABINET BASE, TYPE L**

(C.Y. CONCRETE = APPROX. 0.4 )

CONCRETE BASE TYPE	CABINET WIDTH	DIMENSIONS		MAXIMUM 3" CONDUITS
		A	B	
L24	24"	34"	24"	4
L30	30"	40"	24"	6



**PLAN VIEW  
CONCRETE CONTROL CABINET BASE, TYPE L**

**GENERAL NOTES**

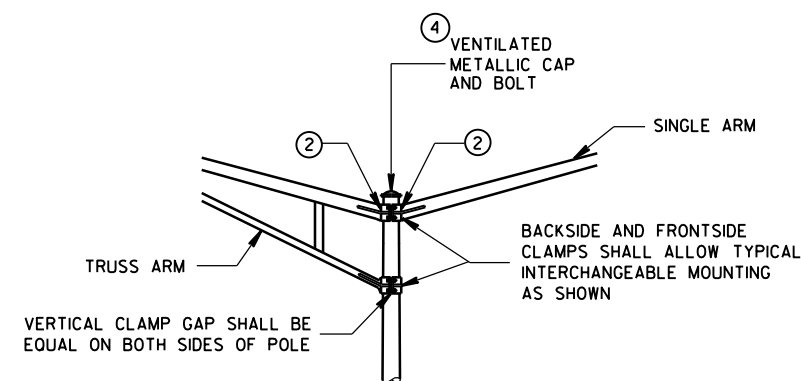
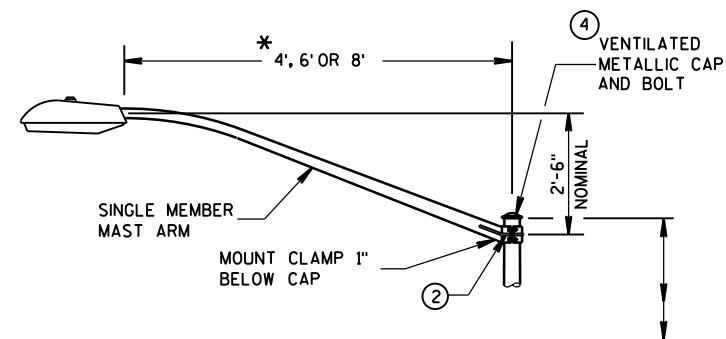
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.
- INSTALL FOUR STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS TO ANCHOR THE CABINET BASES. THE ANCHORS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.
- WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.
- CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.
- DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.
- DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.
- ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.
- CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.
- MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL.
- MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.
- MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.
- ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.
- CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.
- PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.
- ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.
- CONDUIT EXITING THE CONCRETE BASE SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.
- CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.
- BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

**CONCRETE CONTROL  
CABINET BASE, TYPE L**

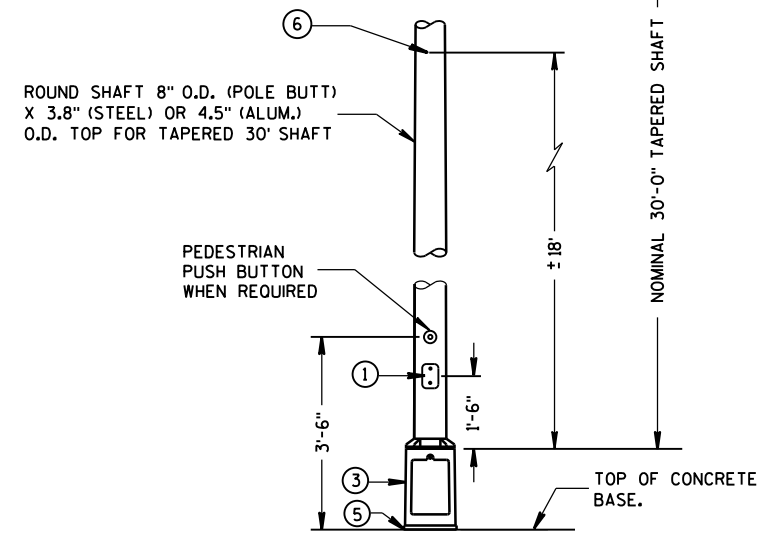
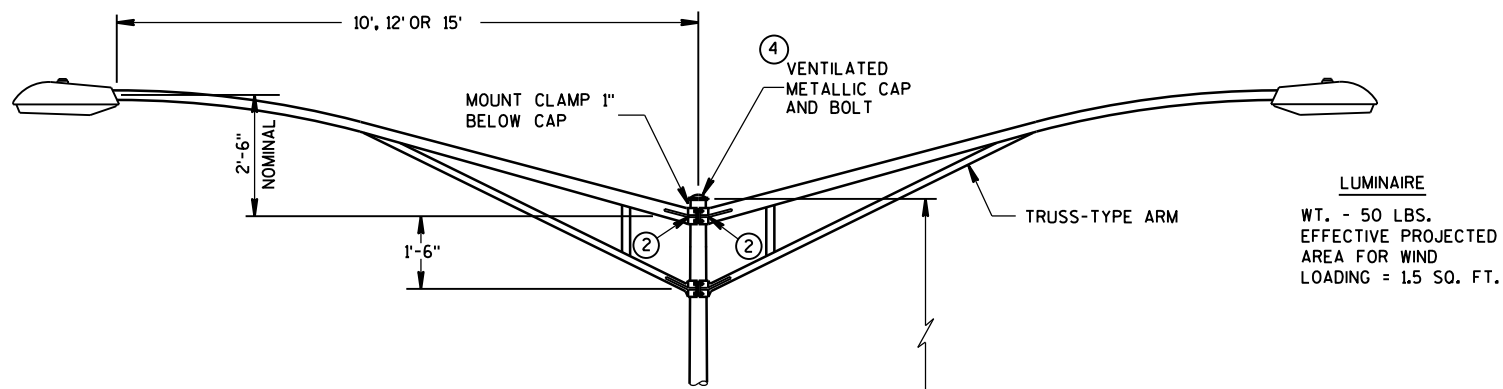
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
Nov. 2014 /S/ Thomas Goring  
DATE STATE LIGHTING ENGINEER FOR HWYS  
FHWA

\* RISE FOR 4' ARM SHALL BE 2'-0".



INTERCHANGEABLE MOUNTING DETAIL



TYPE 5 POLE MOUNTING CONFIGURATION  
(MAXIMUM LOAD)  
LIGHTING ONLY

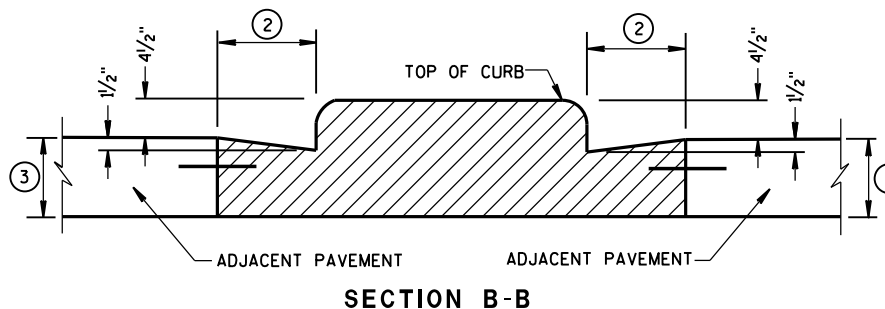
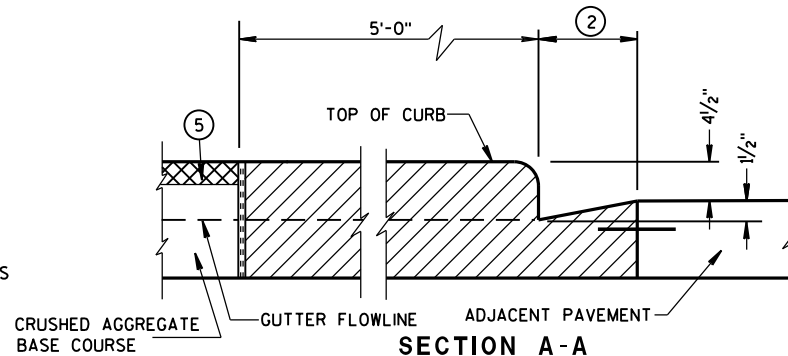
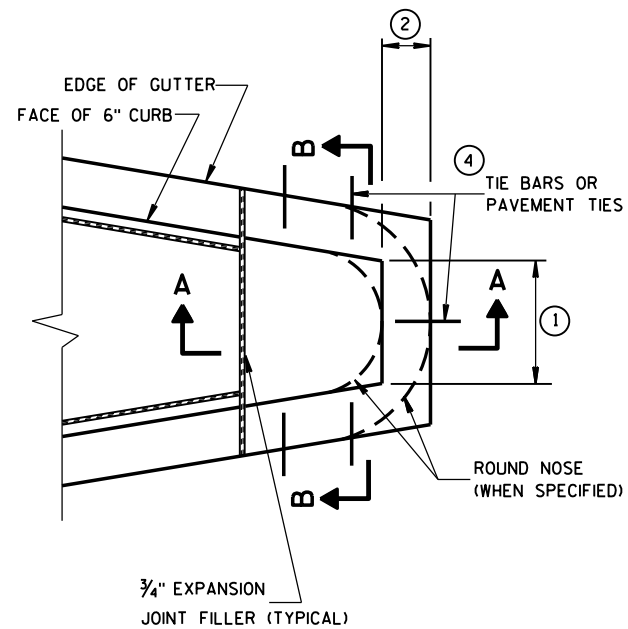
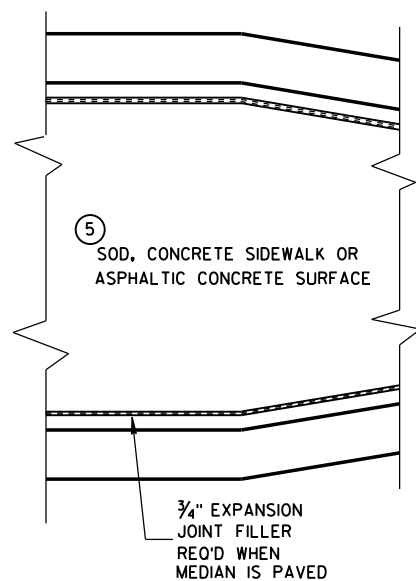
**GENERAL NOTES**

- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.
- ALL TYPE 5 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.
- POLES SHALL BE GALVANIZED STEEL OR ALUMINUM, AS CALLED FOR IN THE CONTRACT.
- TYPE 5 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.
- THE TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.188".
- TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").
- THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2 3/8 INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.
- WHEN TRANSFORMER BASES ARE USED, WIRE CONNECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.
- ① 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) 1/4" x 3/4" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.
  - ② GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1 3/8" HOLE IN POLE SHAFT FOR WIRING.
  - ③ CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.
  - ④ FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/4" x 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.
  - ⑤ SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.
  - ⑥ INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

POLE MONTINGS FOR  
LIGHTING UNITS, TYPE 5  
(30 FEET)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



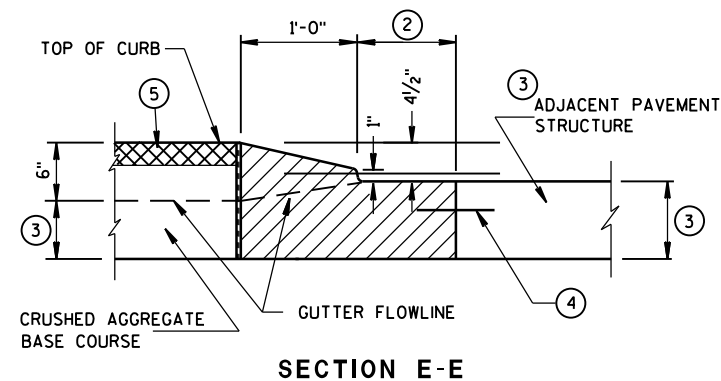
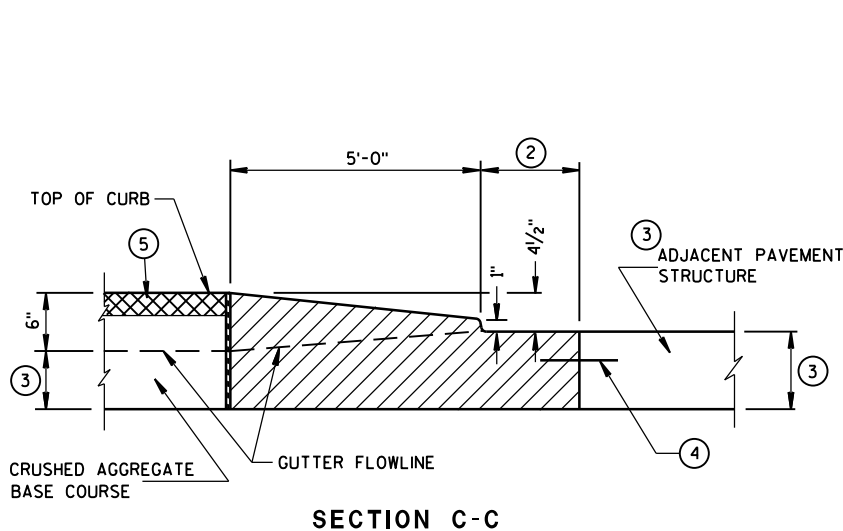
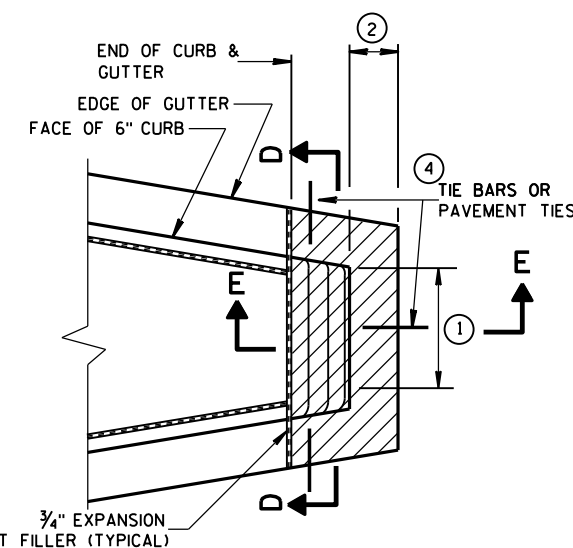


CONCRETE MEDIAN BLUNT NOSE DETAIL

**GENERAL NOTES**

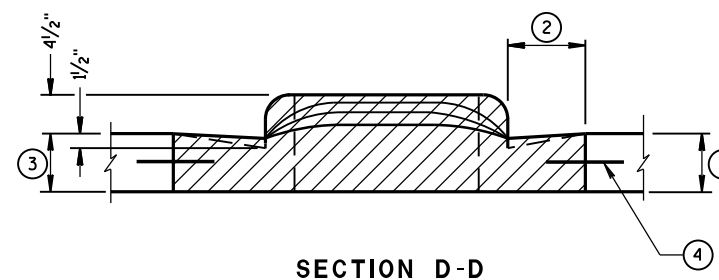
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- ① SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).
- ② WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.
- ③ DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:
  - (1) NEW OR EXISTING CONCRETE PAVEMENT.
  - (2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.
  - (3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.
- ④ TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.
- PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.
- ⑤ SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.



CONCRETE MEDIAN SLOPED NOSE TYPE 2

CONCRETE MEDIAN SLOPED NOSE TYPE 1



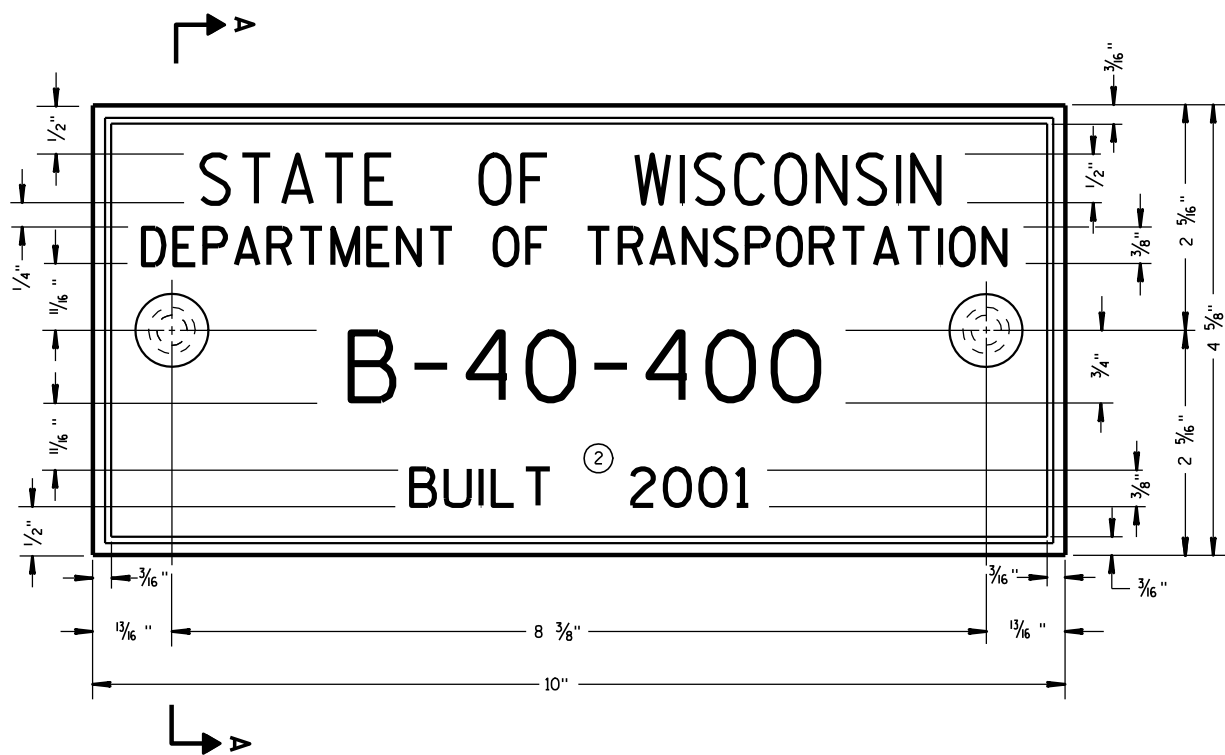
<b>CONCRETE MEDIAN NOSE</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 6/8/2006 DATE	/s/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

6

6

S.D.D. 11 B 2-2

S.D.D. 11 B 2-2



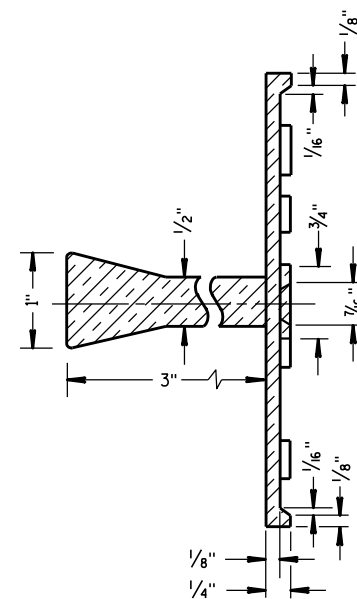
**TYPICAL NAME PLATE**  
(BRIDGES, CULVERTS, AND RETAINING WALLS)

**GENERAL NOTES**

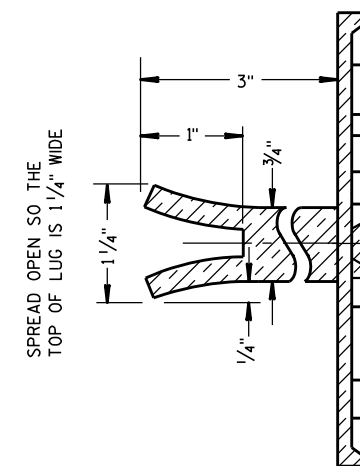
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

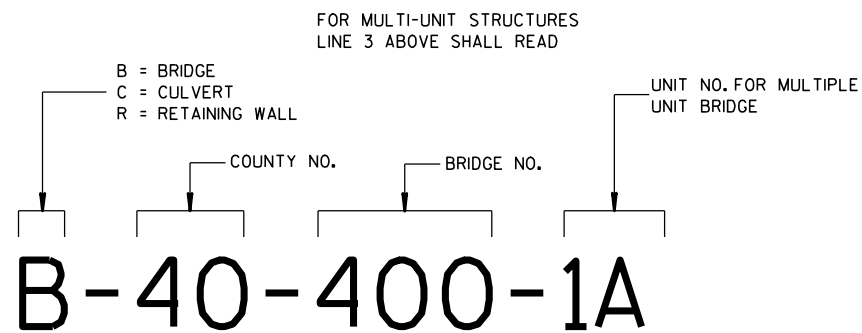
- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



**SECTION A-A**

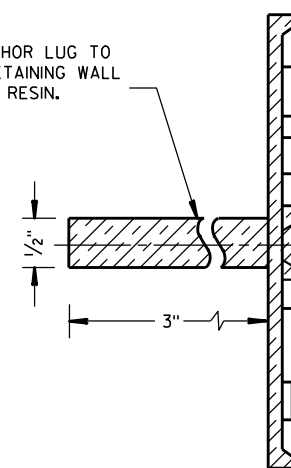


**ALTERNATE LUG**



**NUMBERING DESIGNATION  
MULTI-UNIT STRUCTURES**

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.

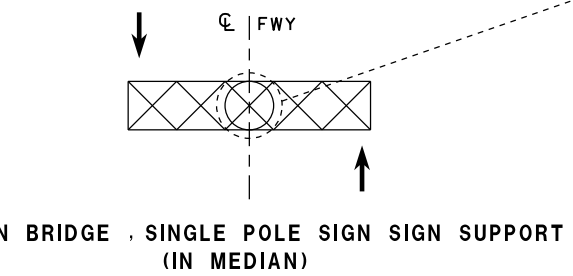
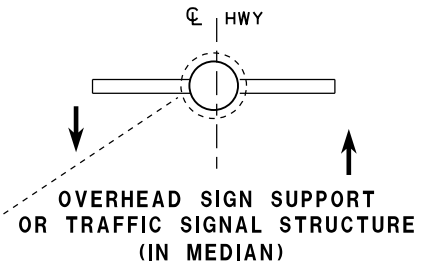
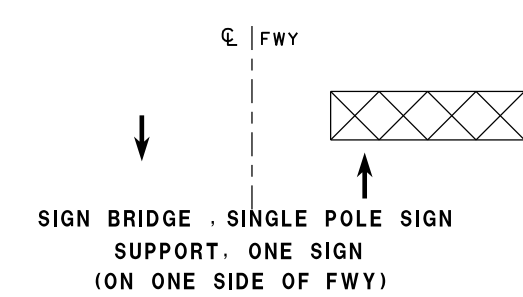
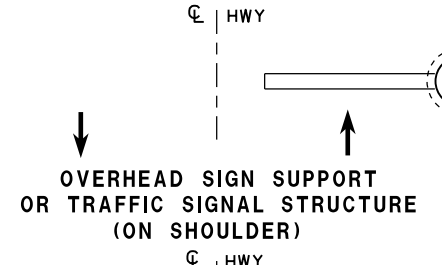
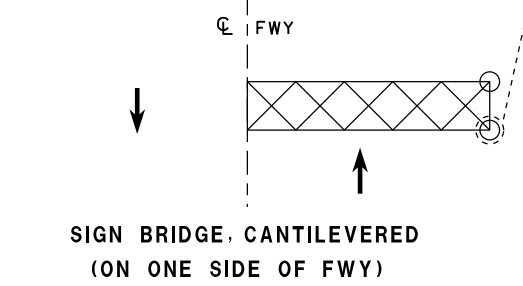
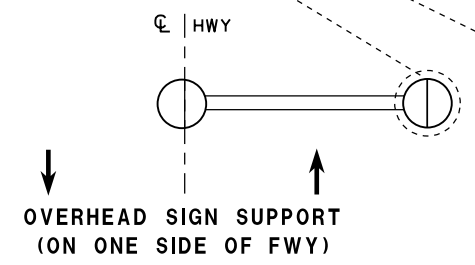
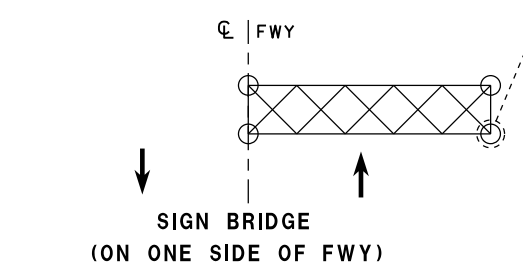
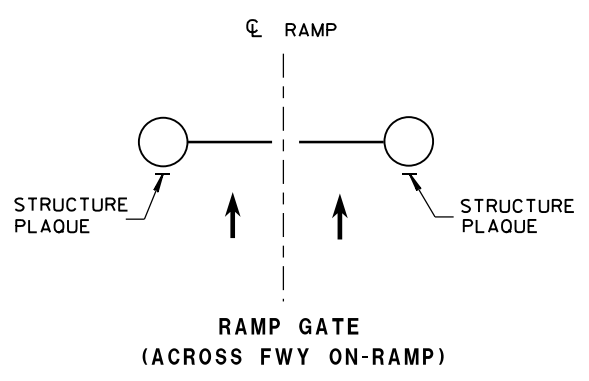
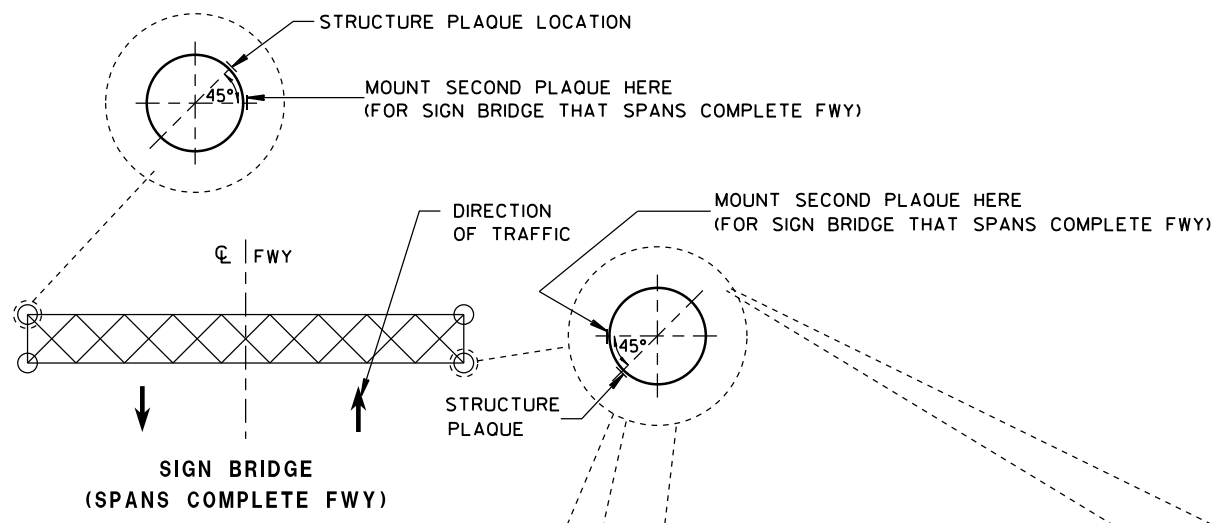


**ALTERNATE LUG**  
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE  
(STRUCTURES)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE 3/26/10 /S/ Scot Becker  
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.

**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

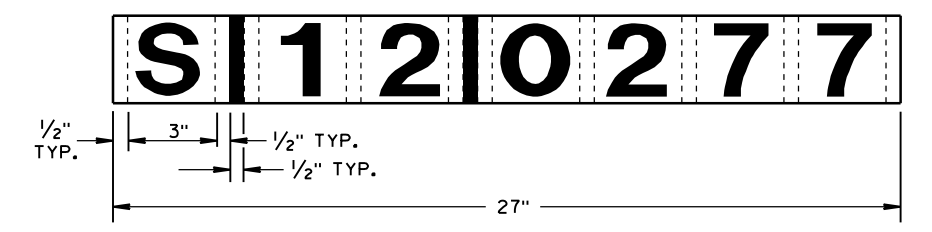
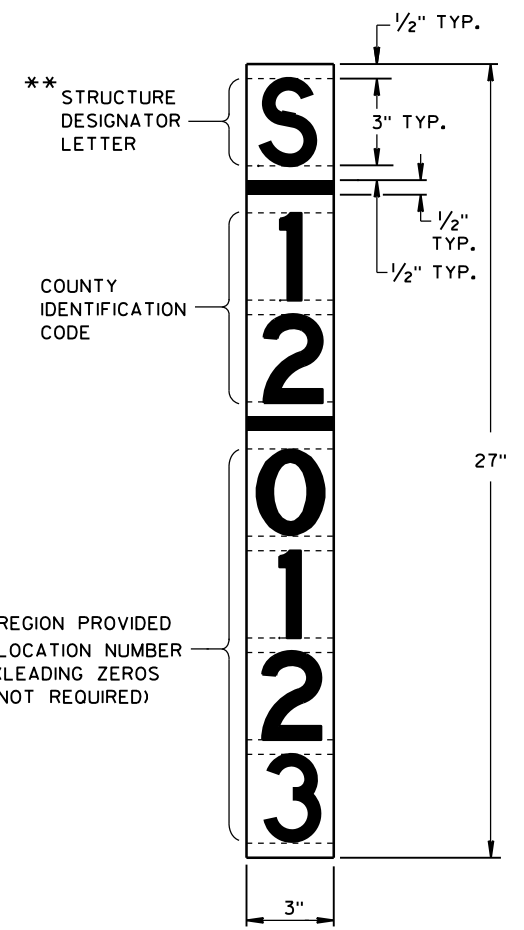
MOUNTING HEIGHT SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

**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.



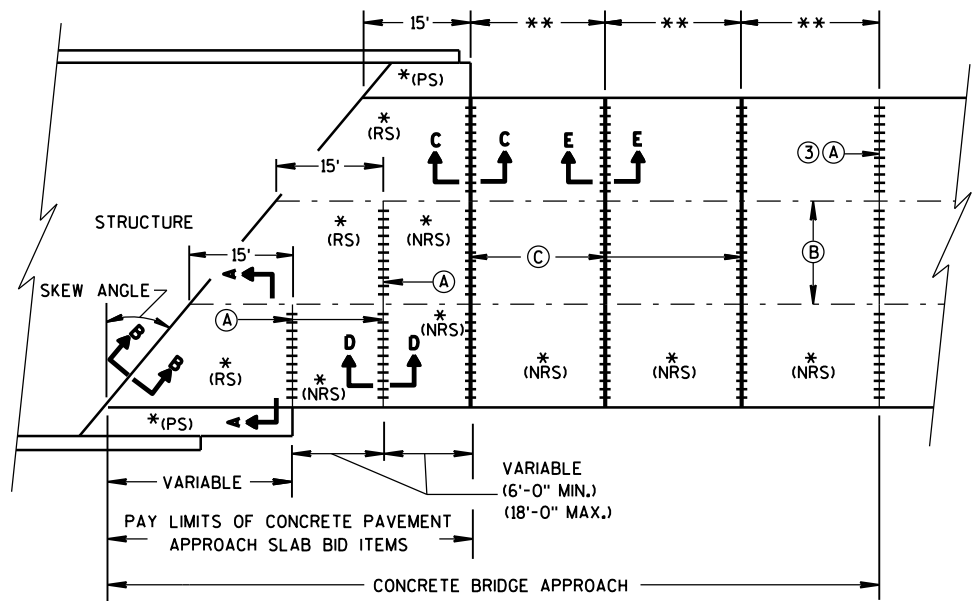
**IDENTIFICATION PLAQUE FOR SIGN BRIDGE, STRUCTURE MOUNTED**

\*\* LETTER "G" UTILIZED FOR RAMP GATES. LETTER "S" UTILIZED FOR SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, AND TRAFFIC SIGNALS.

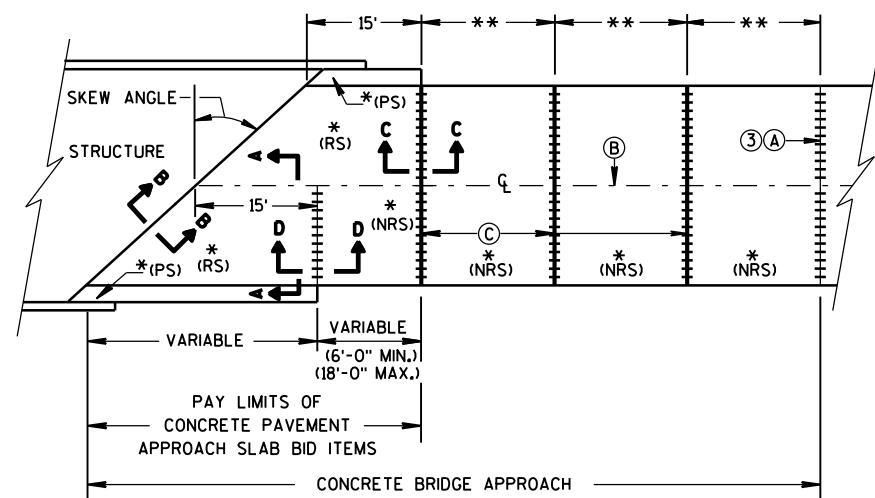
**LOCATION OF RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT & TRAFFIC SIGNAL STRUCTURE PLAQUES**

**RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT AND TRAFFIC SIGNAL STRUCTURE PLAQUE FOR SIGN BRIDGES AND OVERHEAD SIGN SUPPORT WHICH ARE NOT STRUCTURE MOUNTED**

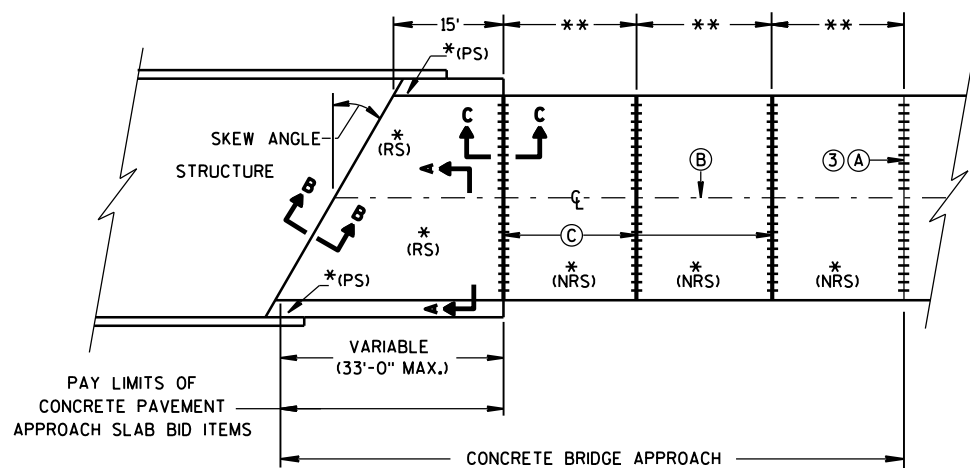
STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, & TRAFFIC SIGNALS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 12/4/2012 DATE	/s/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



**SKewed Approach  
(Pavement More Than 2 Lanes)**



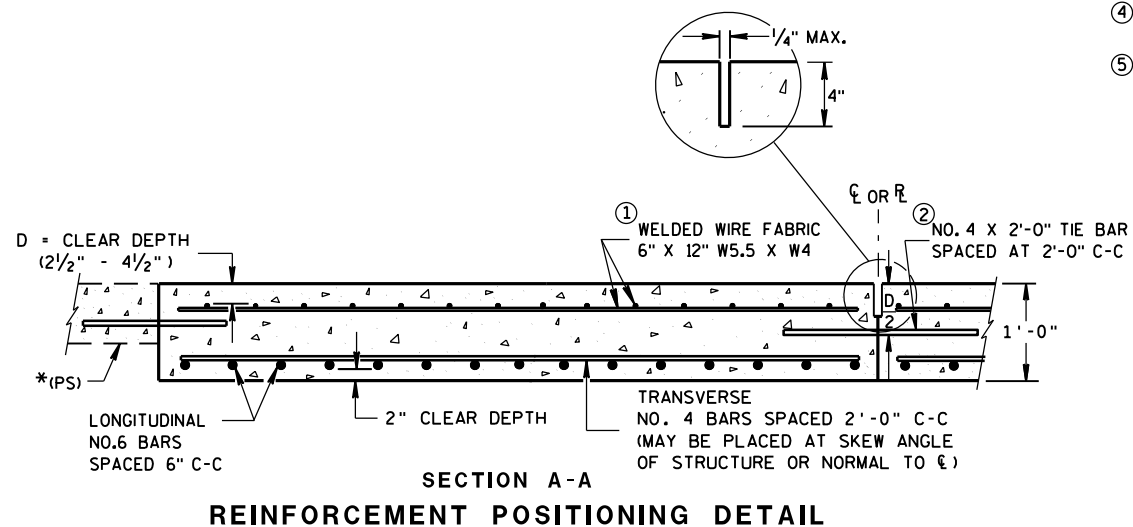
**Skews > 30°  
(Pavement Width ≤ 30')**



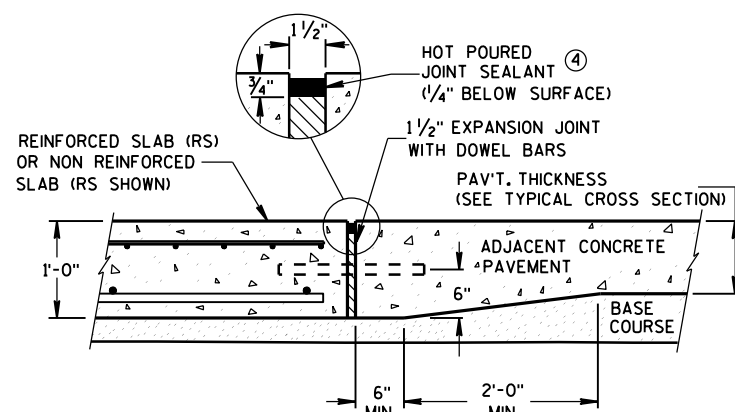
**Skews ≤ 30°  
(Pavement Width ≤ 30')  
Approach Slab and Adjacent Pavement**

- \*(RS) = REINFORCED CONCRETE SLAB
- \*(PS) = PAVED SHOULDER; CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN (SEE DETAILS ELSEWHERE IN THE PLAN)
- \*(NRS) = NON-REINFORCED CONCRETE SLAB
- \*\*STANDARD TRANSVERSE JOINT SPACING (SEE SDD 13C4, SDD 13C11, & SDD 13C13)
- \*\*\*STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11, & SDD 13C13)

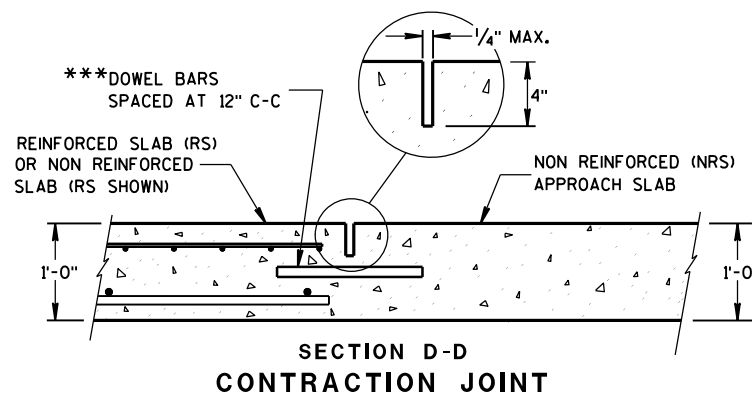
- (A) STANDARD CONTRACTION JOINT NORMAL TO  $R_L$  OR  $R_C$
- (B) STANDARD LONGITUDINAL JOINT AND TIE BARS.
- (C) 1/2" EXPANSION JOINT WITH DOWEL BARS NORMAL TO  $R_L$  OR  $R_C$



**SECTION A-A  
REINFORCEMENT POSITIONING DETAIL**



**SECTION C-C  
TRANSITION DETAIL  
APPROACH SLAB TO ADJACENT PAVEMENT**



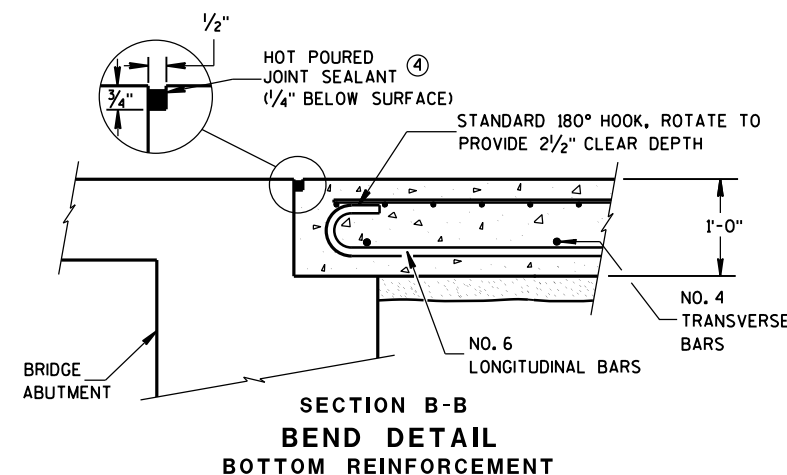
**SECTION D-D  
CONTRACTION JOINT**

**GENERAL NOTES**

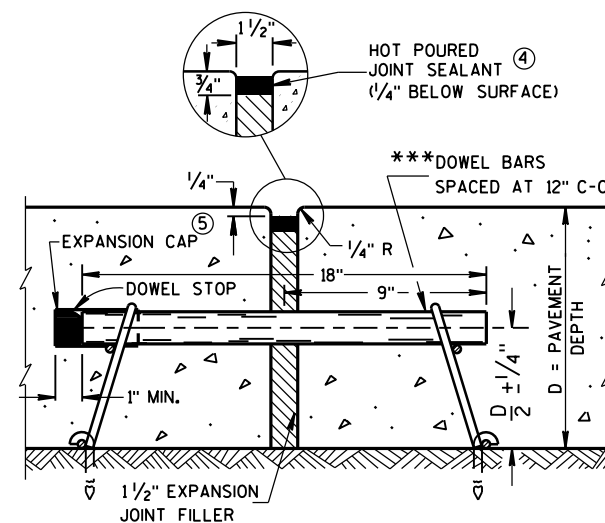
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

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 DOWEL A CONTRACTION JOINT THAT ABUTS 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**

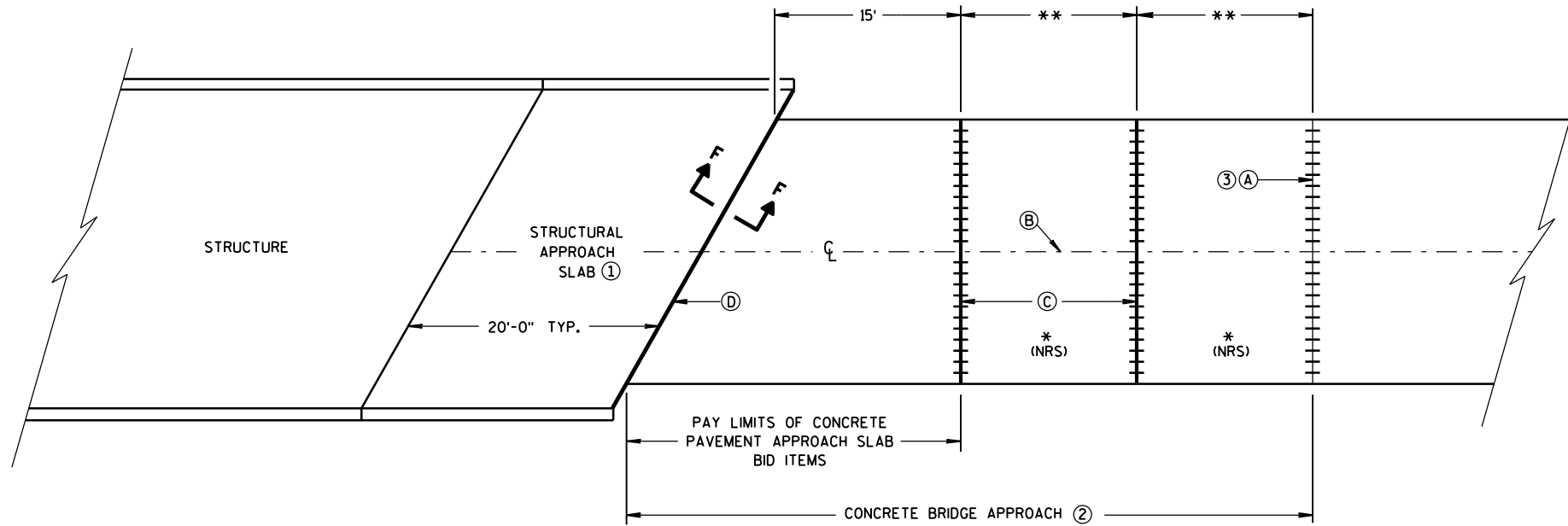


**SECTION E-E  
EXPANSION JOINT**

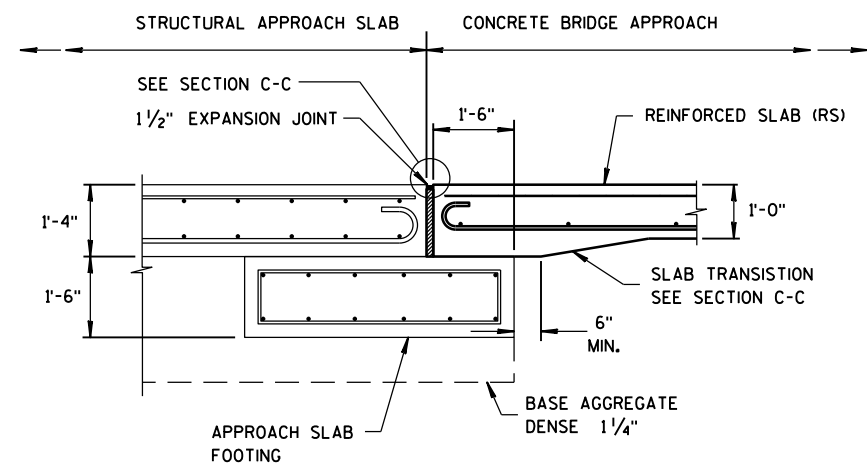
**CONCRETE BRIDGE  
APPROACH**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
June, 2014 /S/ Deb Bischoff  
DATE PAVEMENT POLICY & DESIGN ENGINEER  
FHWA



**BRIDGE APPROACHES**



**SECTION F-F**  
**FOOTING DETAIL**  
 STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

**GENERAL NOTES**

- ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE BRIDGE APPROACH.
- ① CONFORM TO APPLICABLE BRIDGE MANUAL STANDARD DRAWINGS FOR *STRUCTURAL APPROACH SLABS* (SEE CHAPTER 12 - ABUTMENTS).
  - ② CONFORM TO SHEET (a) OF THIS SET FOR *CONCRETE BRIDGE APPROACH* DETAILS, WITH ONE EXCEPTION—WHEN CONSTRUCTING A *CONCRETE BRIDGE APPROACH* NEXT TO A *STRUCTURAL APPROACH SLAB*, AS SHOWN IN THE DETAIL DRAWING, THE *CONCRETE BRIDGE APPROACH* WILL ONLY HAVE TWO EXPANSION JOINTS; THE THIRD EXPANSION JOINT IS AT THE END OF THE *STRUCTURAL APPROACH SLAB*.
  - ③ DO NOT DOWEL A CONTRACTION JOINT THAT ABUTS AN HMA PAVEMENT.

- \*(NRS) = NON-REINFORCED CONCRETE SLAB  
 \*\*STANDARD TRANSVERSE JOINT SPACING  
 (SEE SDD 13C4, SDD 13C11, & SDD 13C13)
- (A) STANDARD CONTRACTION JOINT NORMAL TO R<sub>L</sub> OR C<sub>L</sub>
  - (B) STANDARD LONGITUDINAL JOINT AND TIE BARS.
  - (C) 1 1/2" EXPANSION JOINT WITH DOWEL BARS NORMAL TO R<sub>L</sub> OR C<sub>L</sub>
  - (D) 1 1/2" EXPANSION JOINT (NO DOWELS)

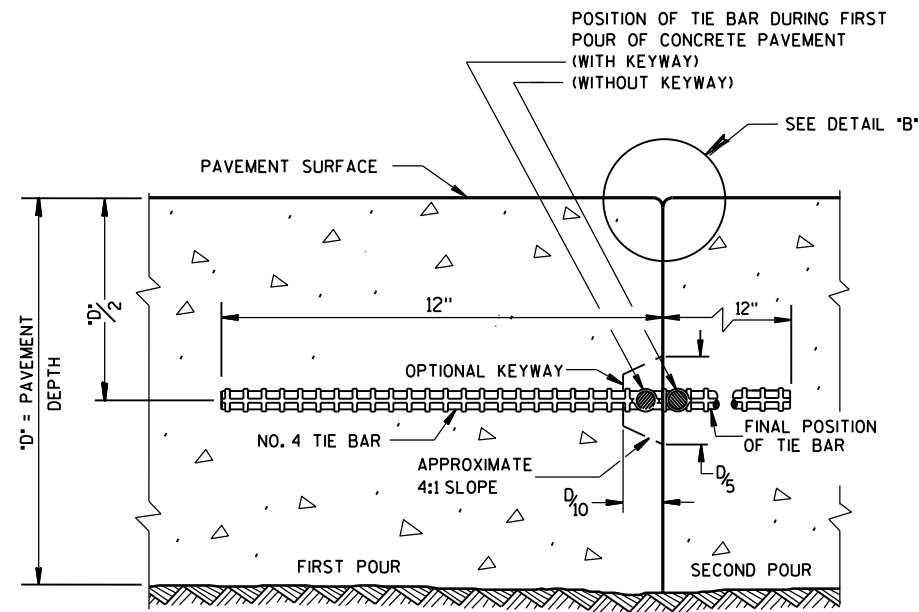
6

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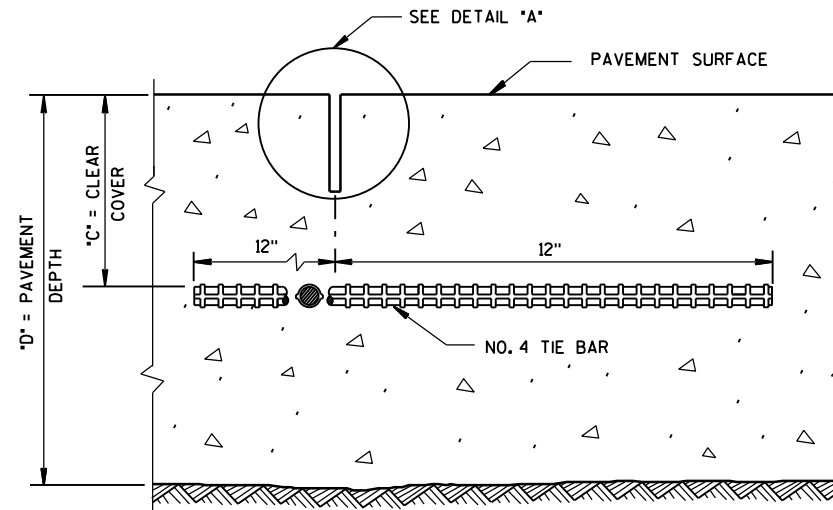
S.D.D. 13 B 2-7b

S.D.D. 13 B 2-7b

<b>STRUCTURAL APPROACH SLAB AND CONCRETE BRIDGE APPROACH</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June, 2014 DATE	/S/ Deb Bischoff PAVEMENT POLICY & DESIGN ENGINEER
FHWA	



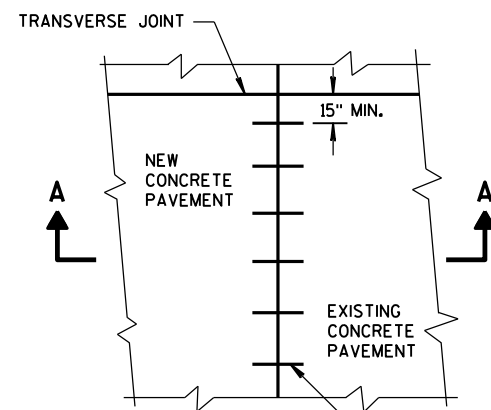
**CONSTRUCTION JOINT**



**SAWED JOINT**

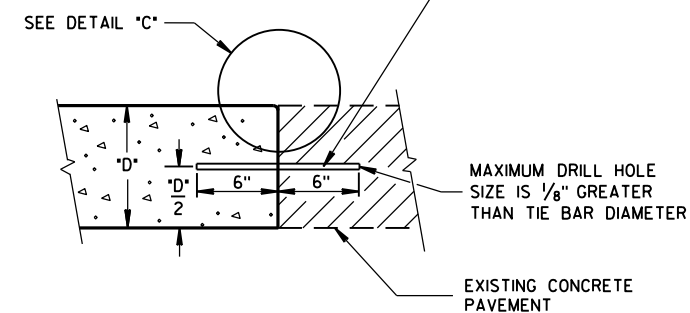
**GENERAL NOTES**

- 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.

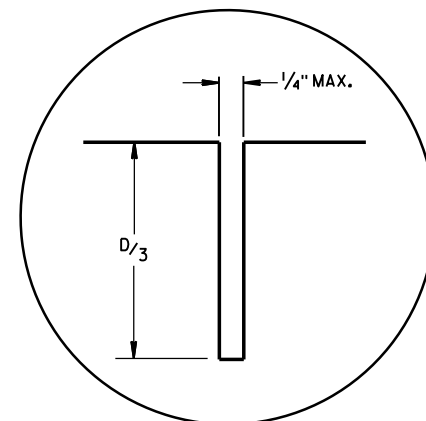


**PLAN VIEW**

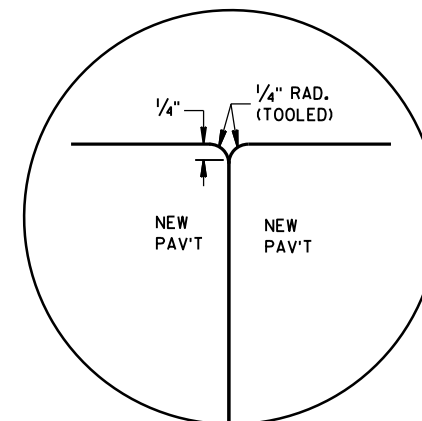
NO. 6 TIE BARS SPACED 30" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. ①



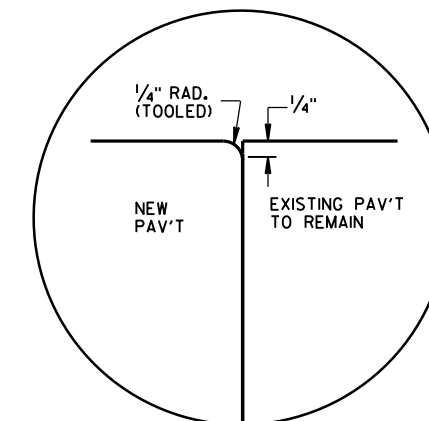
**SECTION A-A  
LONGITUDINAL CONSTRUCTION JOINT  
TIE BARS ANCHORED  
INTO EXISTING PAVEMENT**



**DETAIL "A"**



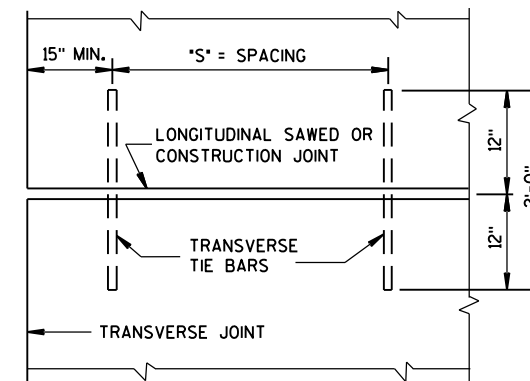
**DETAIL "B"**



**DETAIL "C"**

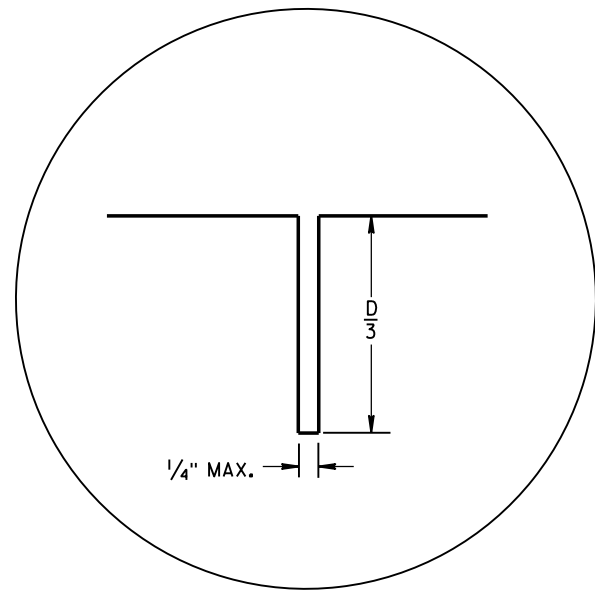
**TIE BAR TABLE**

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH 24' OR 26'	≥ 30'
6, 6 1/2"	3" ± 1/2"	48"	42"
7, 7 1/2"	3 1/4" ± 1"	45"	36"
8, 8 1/2"	3 3/4" ± 1"	39"	30"
9, 9 1/2"	4 1/4" ± 1"	33"	27"
10, 10 1/2"	4 3/4" ± 1"	30"	24"
11, 11 1/2"	5 1/4" ± 1"	27"	21"
12"	5 3/4" ± 1"	24"	21"



**PLAN VIEW  
SHOWING LOCATION OF TIE BARS**

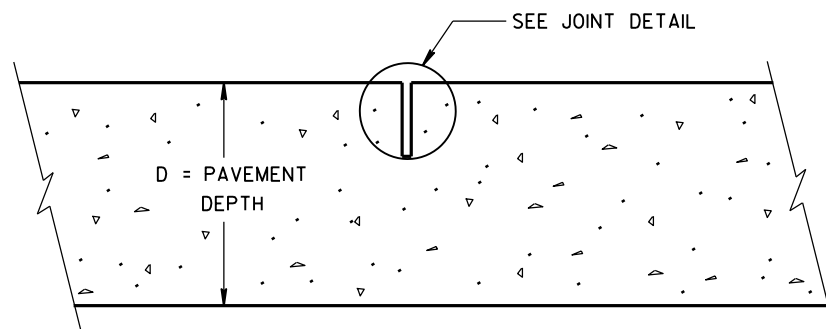
<b>CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 9/2014 DATE	/S/ Deb Bischoff PAVEMENT POLICY & DESIGN ENGINEER
FHWA	



**JOINT DETAIL**

**PAVEMENT DEPTH AND JOINT SPACING TABLE**

PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 1/2"	12'
7", 7 1/2"	14'
8" & ABOVE	15'



**CONTRACTION JOINT**

**GENERAL NOTES**

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE.

LOCATE AND ORIENT CONTRACTION JOINTS THROUGH INTERSECTIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

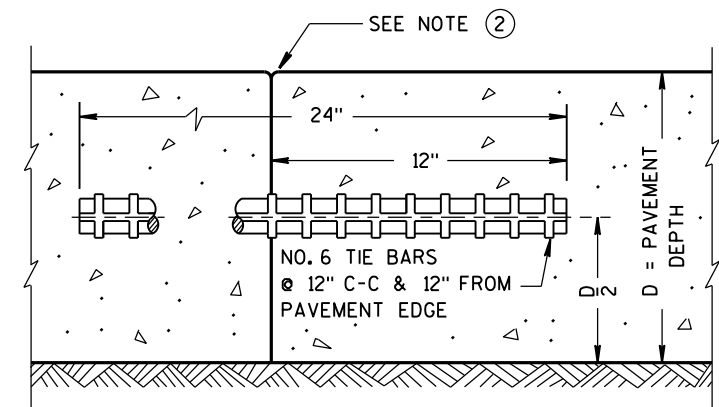
CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO THE CONTRACTION JOINTS.

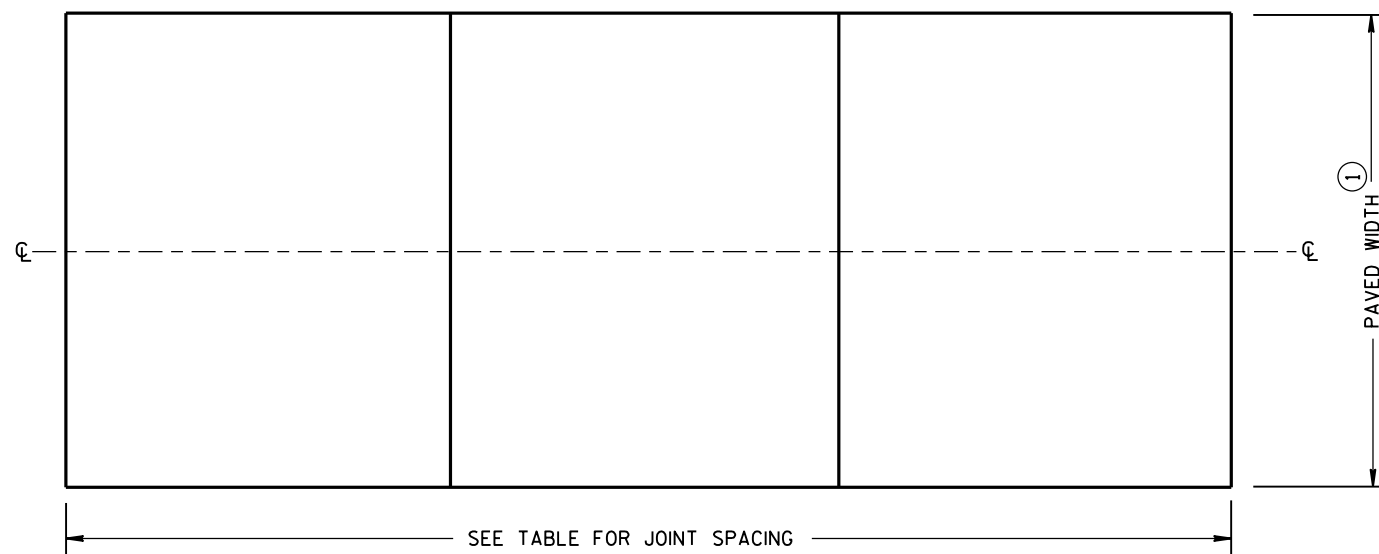
FORM OR SAW CONSTRUCTION JOINTS.

THE CONTRACTOR MAY INSERT TIE BARS THROUGH THE HEADER BOARD AFTER THE CONCRETE HAS BEEN PLACED.

- ① REFER TO TYPICAL CROSS SECTIONS FOR PAVED WIDTH AND LOCATION OF LONGITUDINAL JOINTS.
- ② PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.

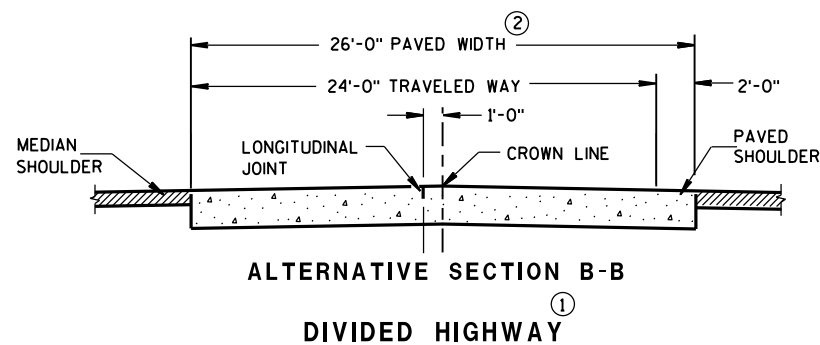
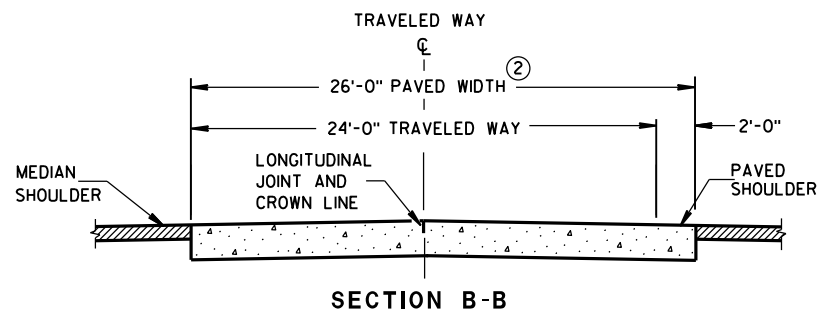
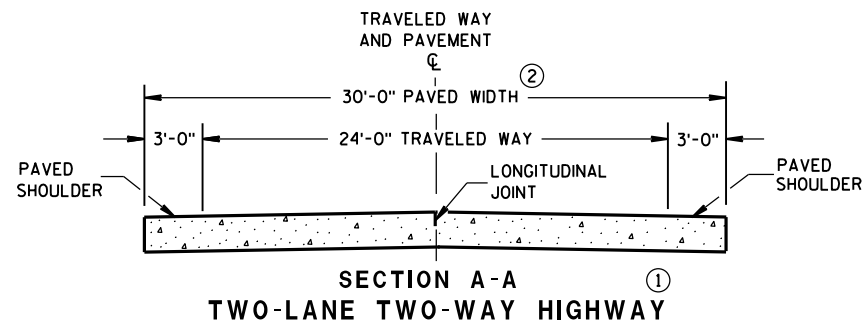


**TIED TRANSVERSE CONSTRUCTION JOINT**



**CONTRACTION JOINT LOCATIONS**

<b>URBAN NON-DOWELED CONCRETE PAVEMENT</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 5-3-2013 DATE	/S/ Deb Bischoff PAVEMENT POLICY & DESIGN ENGINEER
FHWA	



**GENERAL NOTES**

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

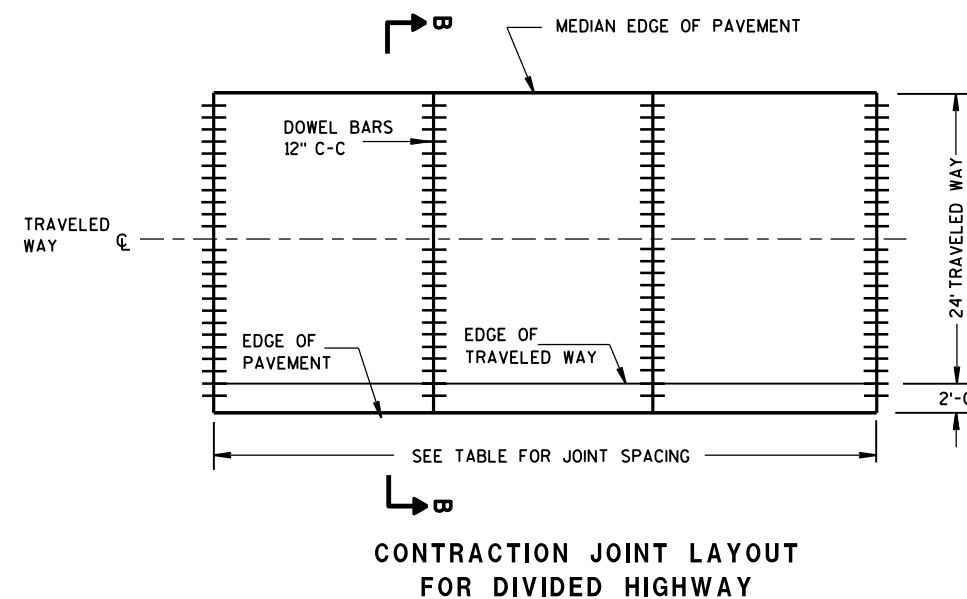
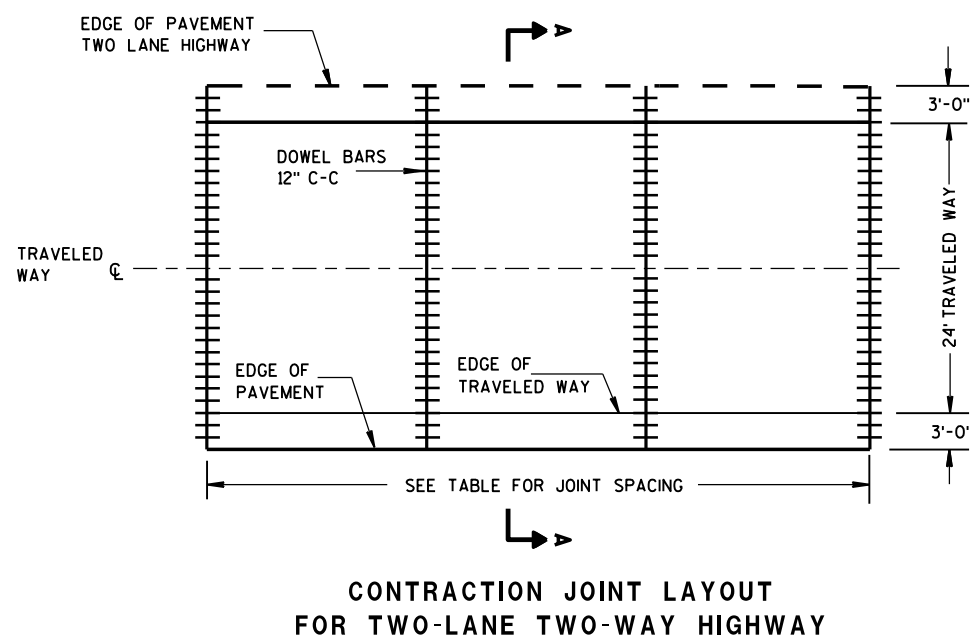
- ① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.
- ② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

**PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE**

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 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'

6

6

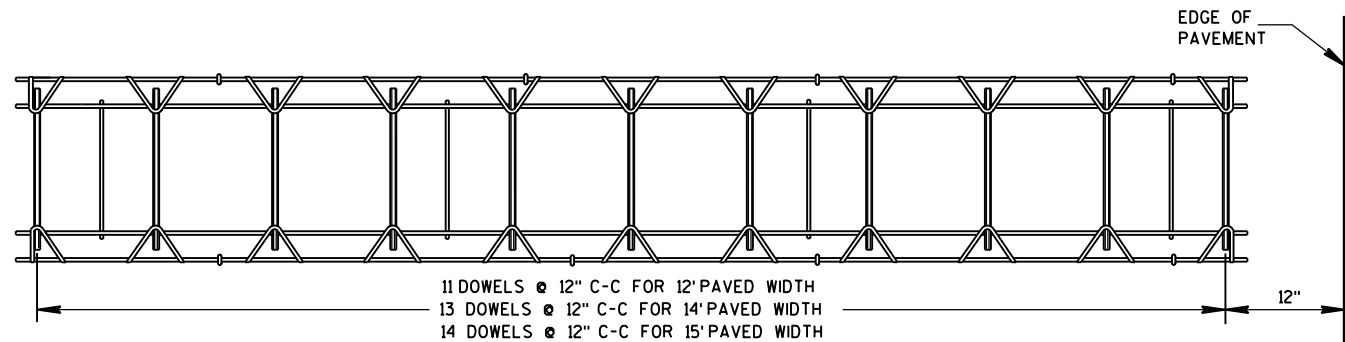


**RURAL DOWELED  
CONCRETE PAVEMENT**

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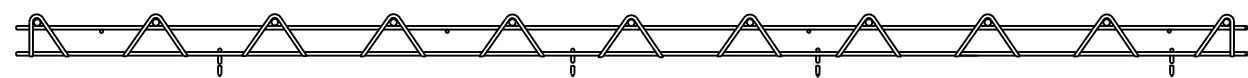
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION





11 DOWELS @ 12" C-C FOR 12' PAVED WIDTH  
 13 DOWELS @ 12" C-C FOR 14' PAVED WIDTH  
 14 DOWELS @ 12" C-C FOR 15' PAVED WIDTH

PLAN VIEW

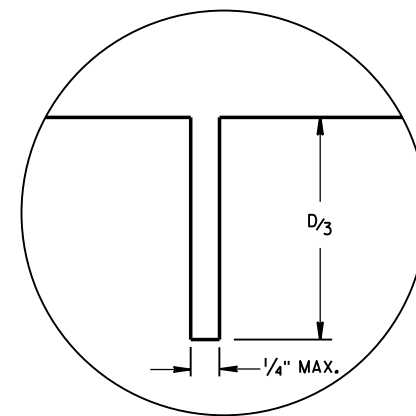


②

SIDE VIEW

(NORMAL TO CENTERLINE)

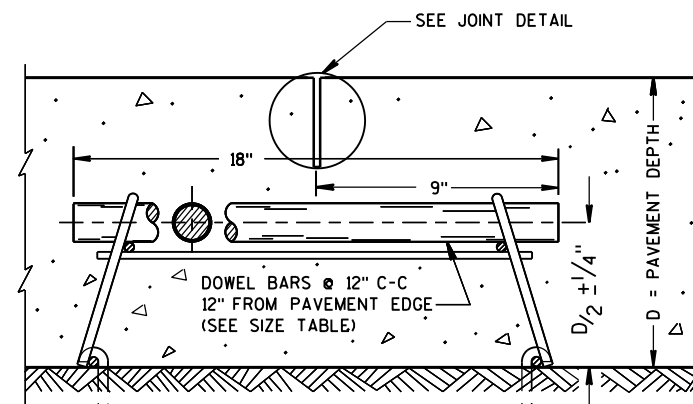
CONTRACTION JOINT DOWEL ASSEMBLY ①



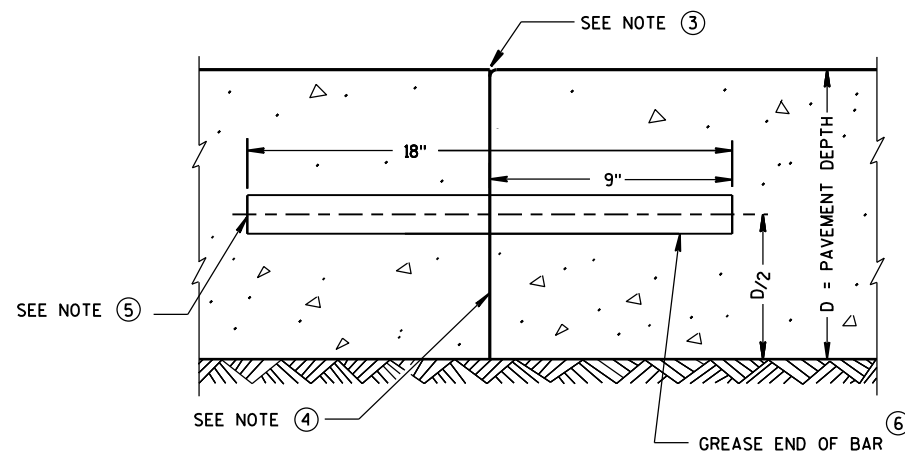
JOINT DETAIL

GENERAL NOTES

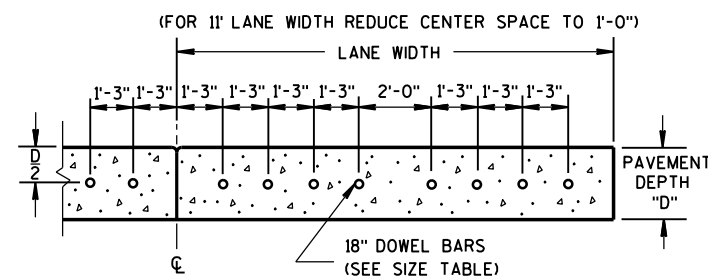
- ① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.
- ② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.
- ③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.
- ④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.
- ⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.
- ⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.
- ⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



DOWELED CONTRACTION JOINT

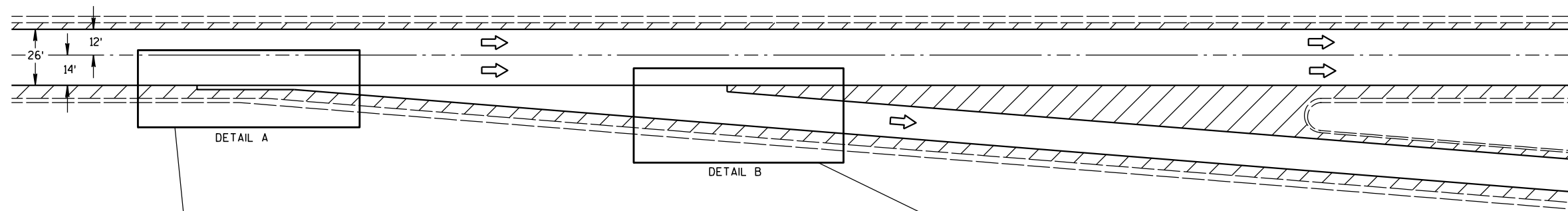


TRANSVERSE CONSTRUCTION JOINT

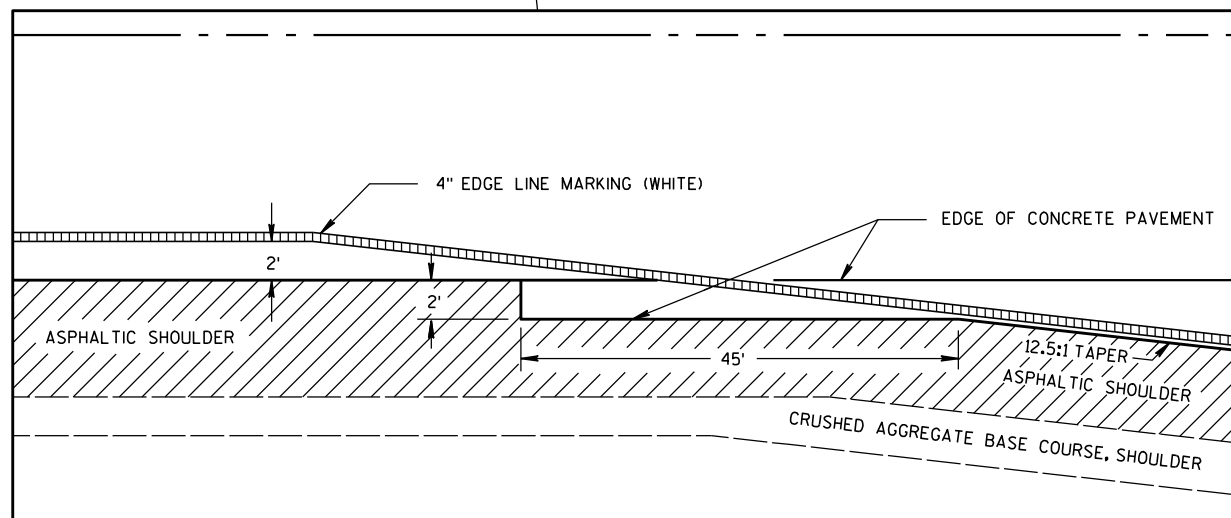


DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦

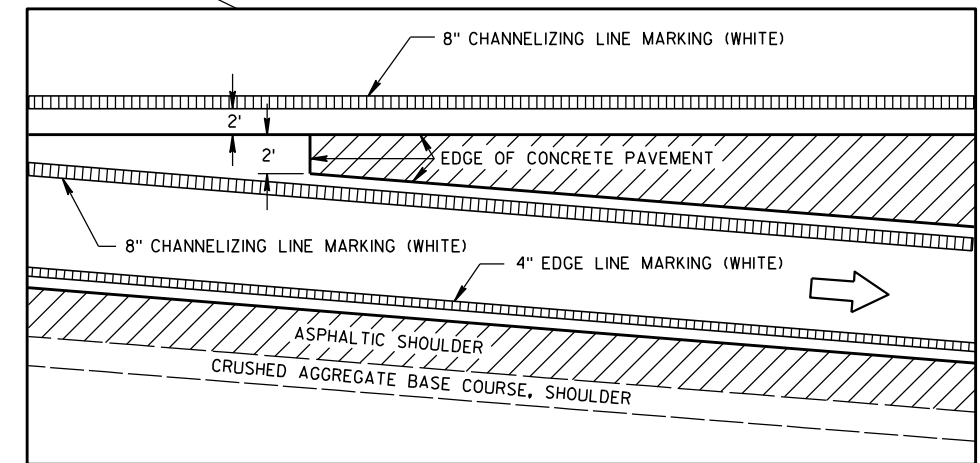
<b>RURAL DOWELED CONCRETE PAVEMENT</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 5/3/2013	/S/ Deb Bischoff PAVEMENT POLICY & DESIGN ENGINEER
FHWA	



EXIT RAMP DETAIL



DETAIL A



DETAIL B

CONCRETE JOINT PAVING DETAILS

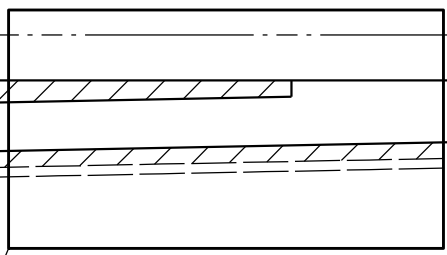
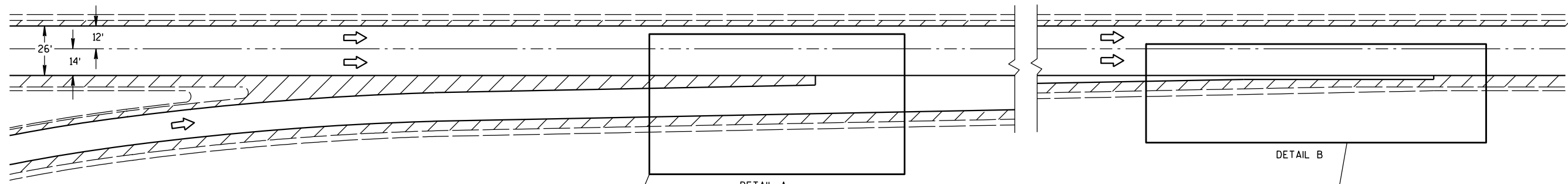
GENERAL NOTES

PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

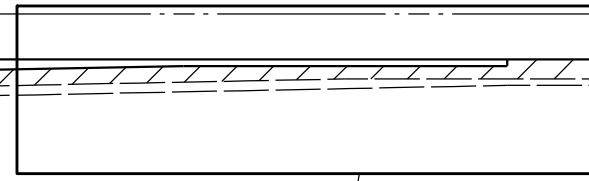
SEE SDD 13 A 4-4c OR SDD 13 A 5-1b FOR RAMP AND GORE RUMBLE STRIP LOCATION.

CONCRETE JOINT DETAIL FOR  
EXIT RAMP TERMINI

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

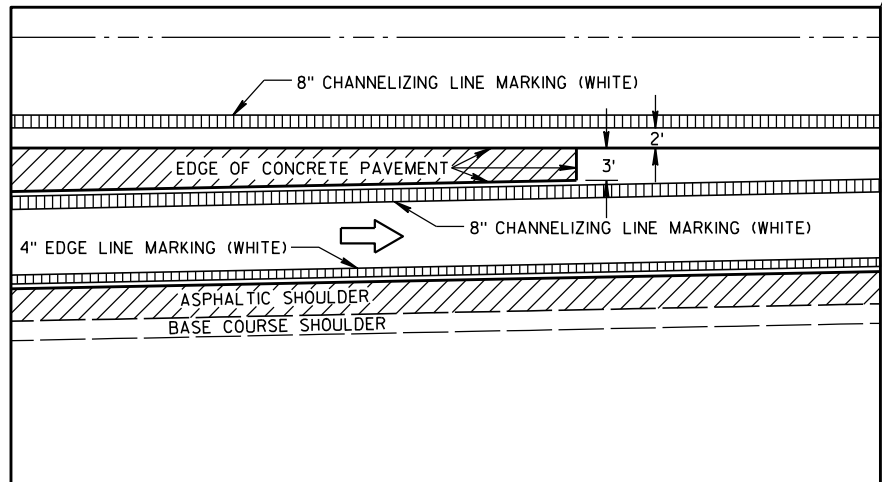


DETAIL A

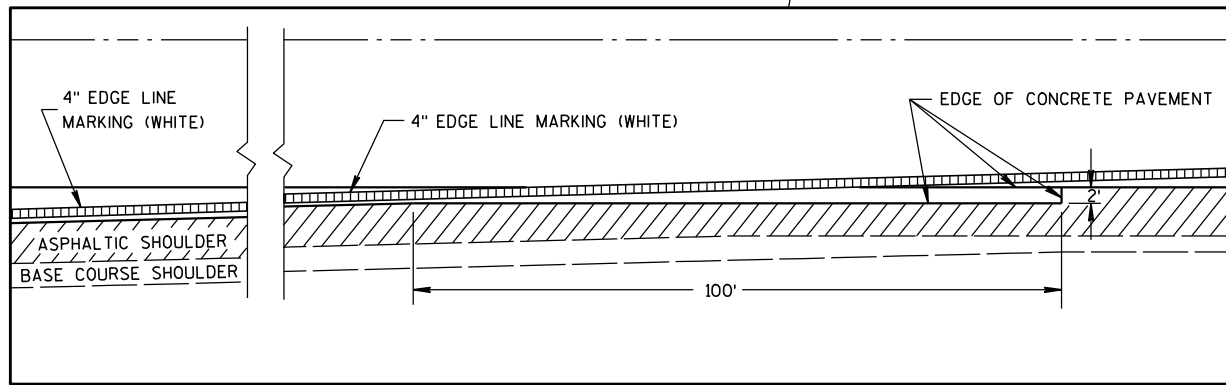


DETAIL B

ENTRANCE RAMP DETAIL



DETAIL A



DETAIL B

CONCRETE JOINT PAVING DETAILS

GENERAL NOTES

PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

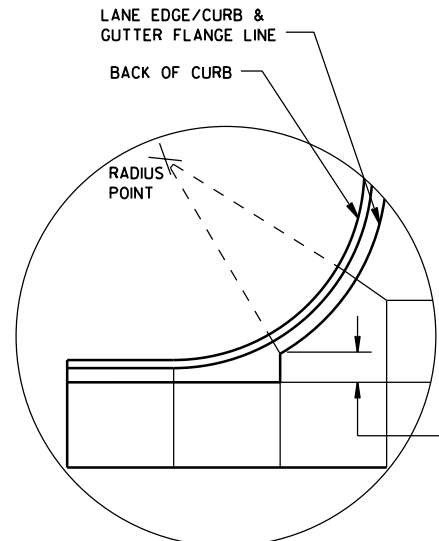
SEE SDD 13 A 4-4c OR SDD 13 A 5-1b FOR RAMP AND GORE RUMBLE STRIP LOCATION.

CONCRETE JOINT DETAIL FOR ENTRANCE RAMP TERMINI

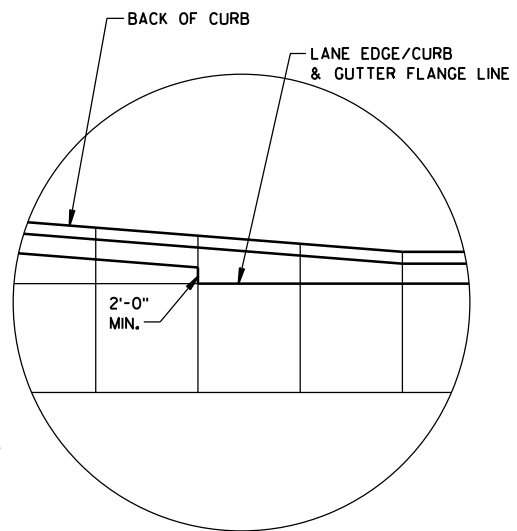
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
5/27/98 /S/ Rory L. Rhinesmith  
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER

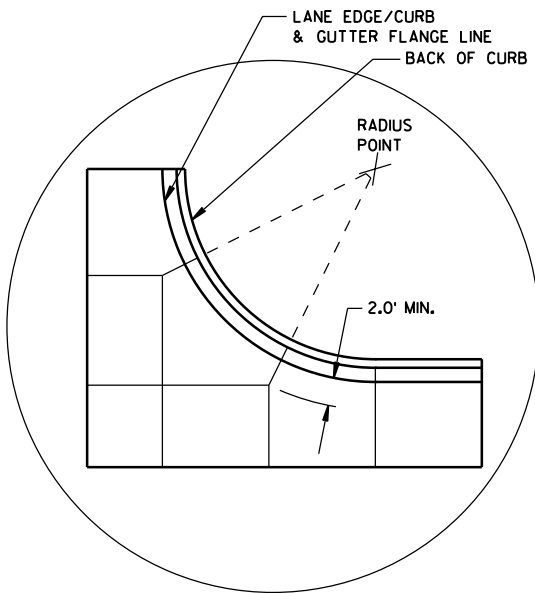
FHWA



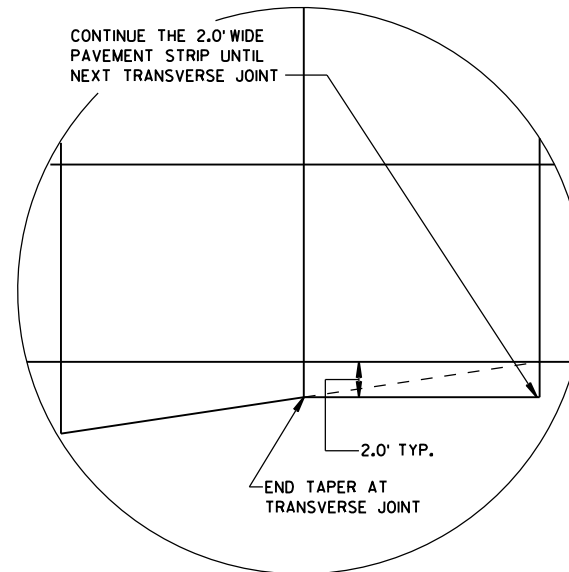
DETAIL "A"



DETAIL "B"



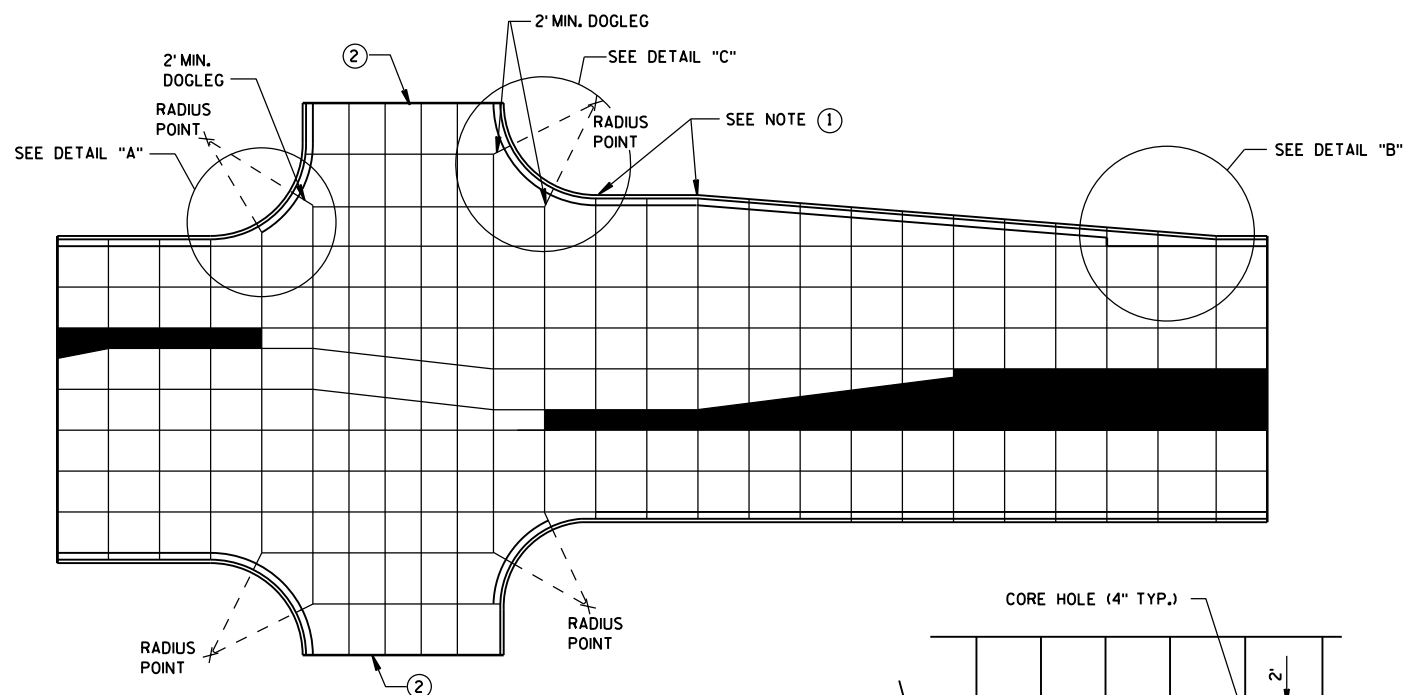
DETAIL "C"



DETAIL "D"

**GENERAL NOTES**

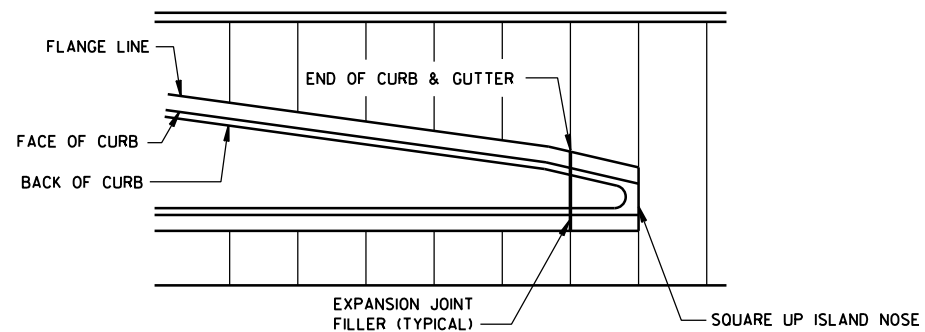
- THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.
- ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.
- CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.
- ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER 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.



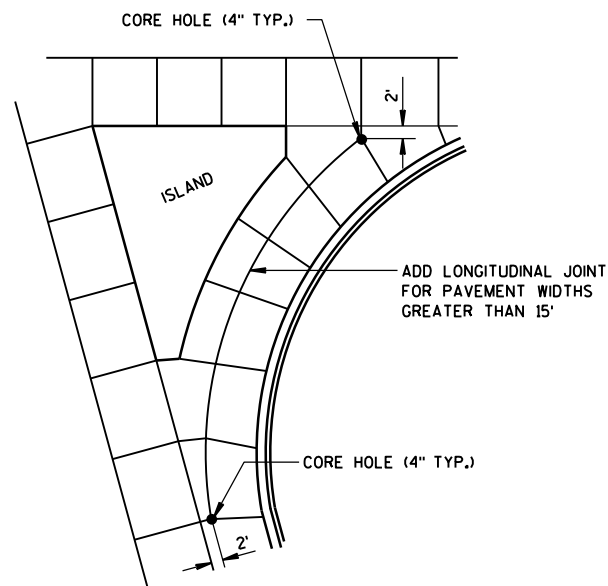
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

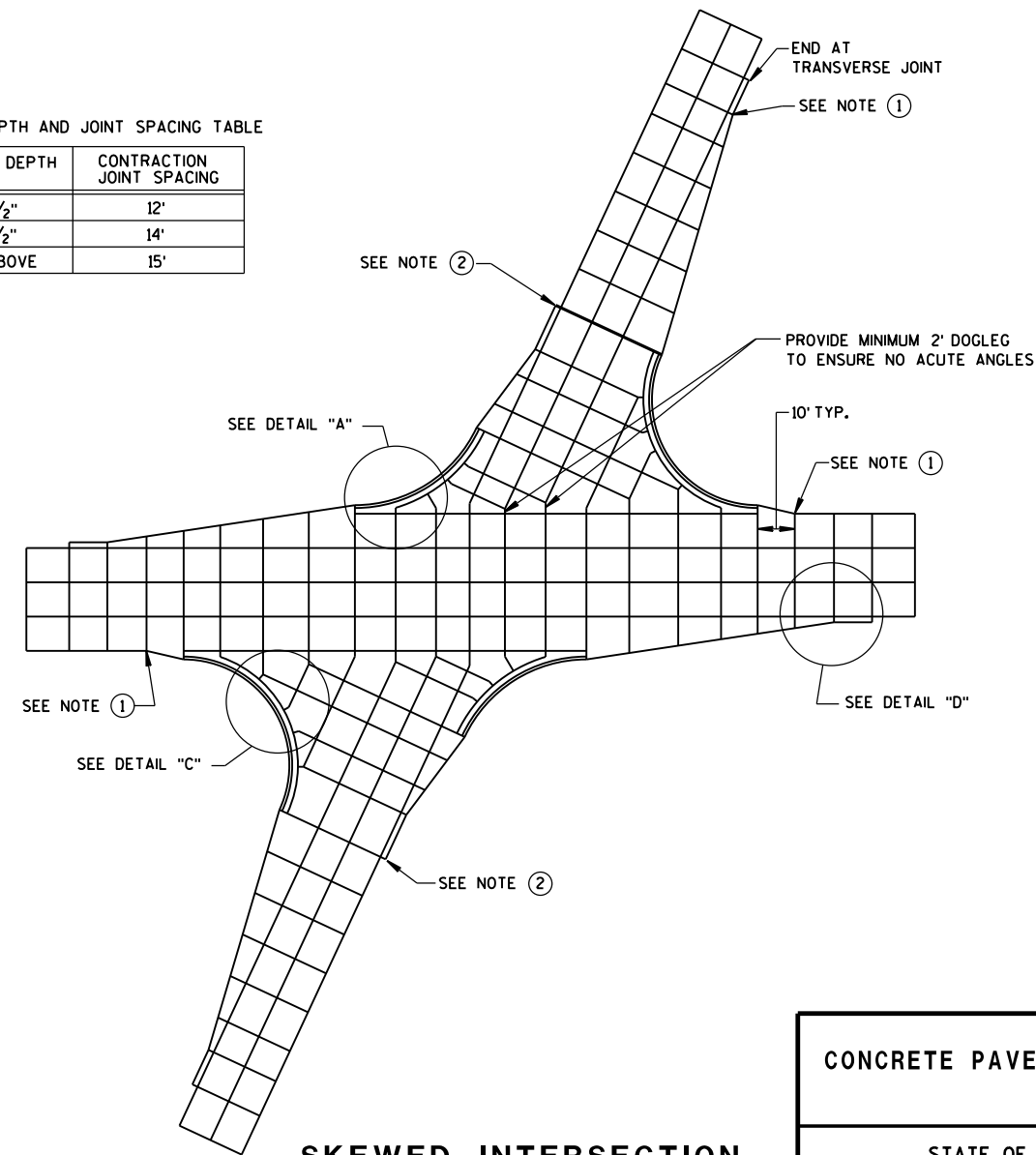
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 1/2"	12'
7", 7 1/2"	14'
8" & ABOVE	15'



APPROACH TO MEDIAN



LARGE RIGHT TURN



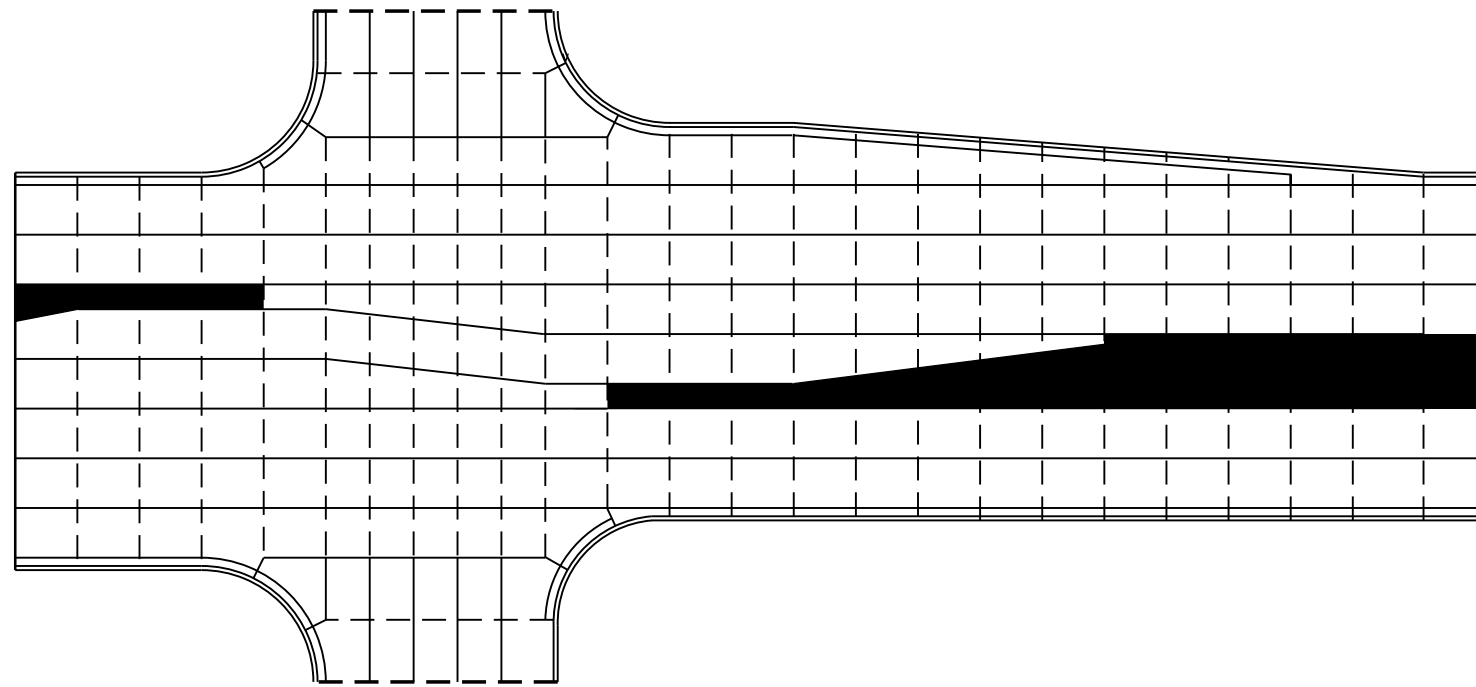
SKEWED INTERSECTION

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

**LEGEND**

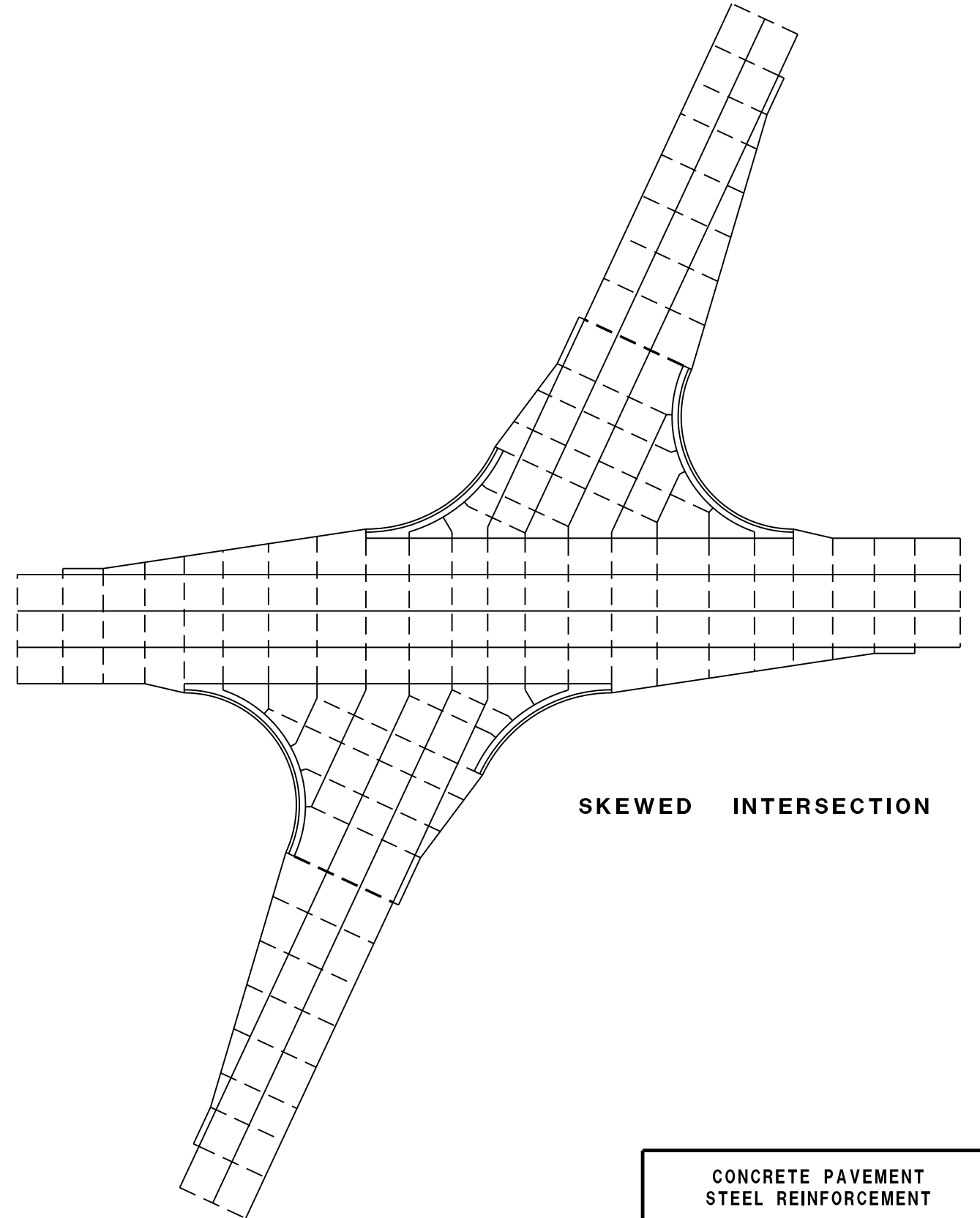
- POTENTIAL DOWELED EXPANSION JOINT
- - - - - DOWELED JOINT
- TIED JOINT



**STANDARD INTERSECTION**

**GENERAL NOTES**

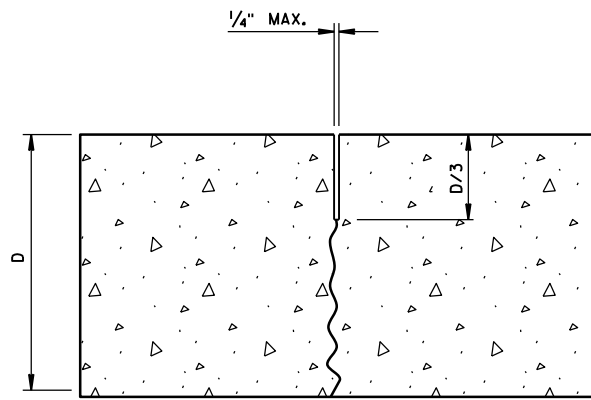
USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



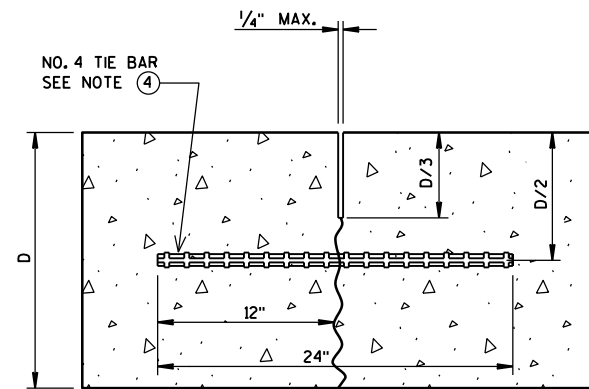
**SKewed INTERSECTION**

CONCRETE PAVEMENT  
STEEL REINFORCEMENT

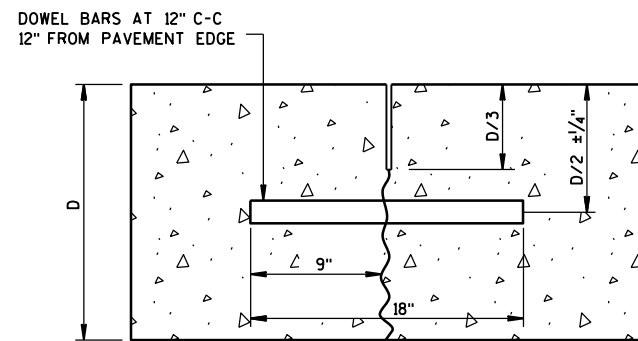
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



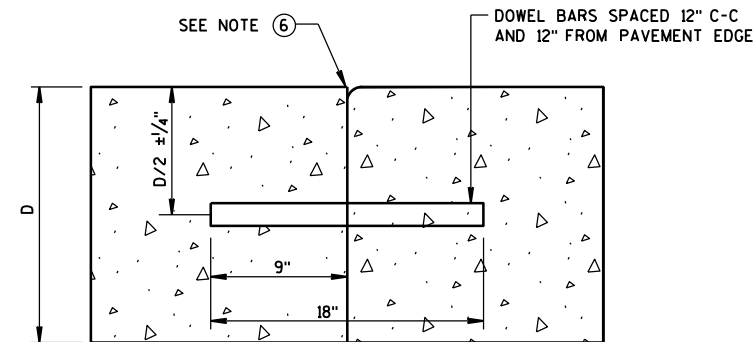
UNDOWELED-TRANSVERSE



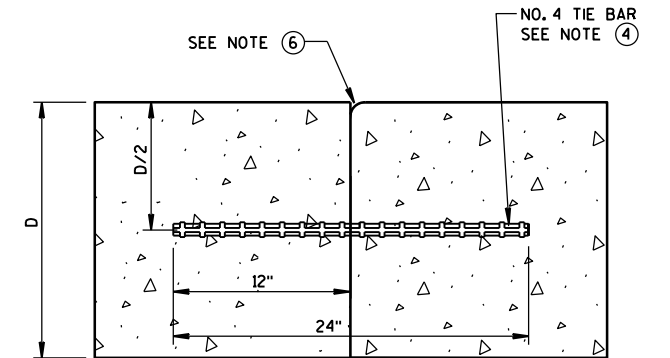
TIED LONGITUDINAL



DOWELED-TRANSVERSE



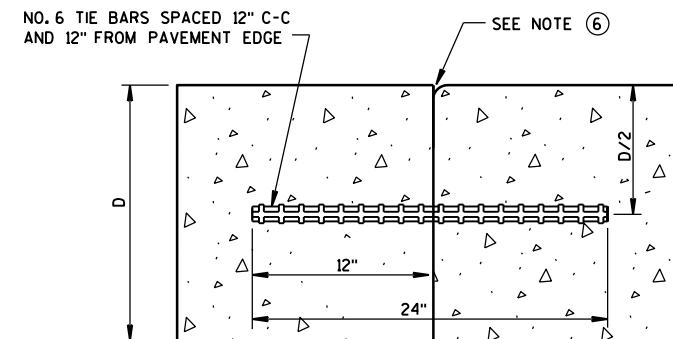
DOWELED TRANSVERSE



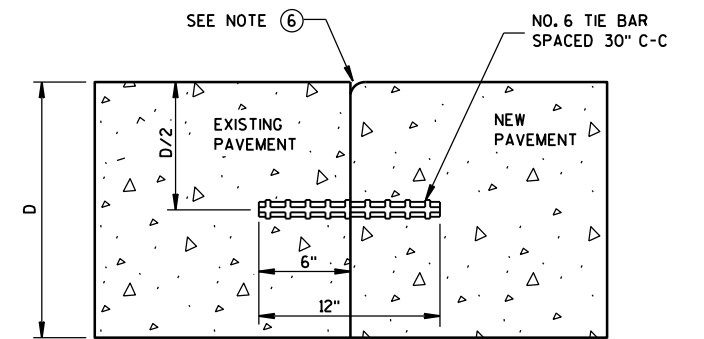
TIED LONGITUDINAL

CONTRACTION JOINTS

SEE NOTE ②



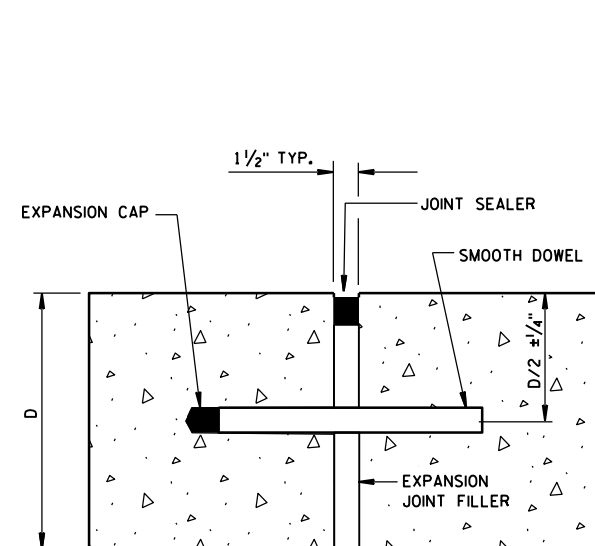
TIED TRANSVERSE  
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



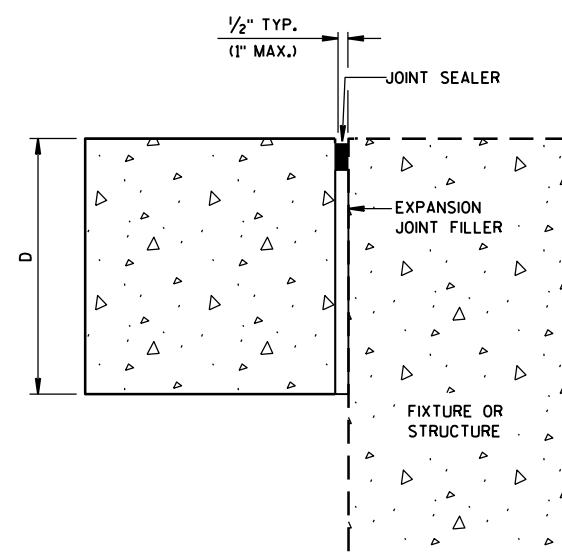
TIED LONGITUDINAL TO EXISTING

CONSTRUCTION JOINTS

SEE NOTE ⑤



DOWELED-TRANSVERSE  
SEE NOTE ①



UNTIED-LONGITUDINAL

EXPANSION 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. SPACE TIE BARS AT LONGITUDINAL CONSTRUCTION OR CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C1.
5. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
6. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.

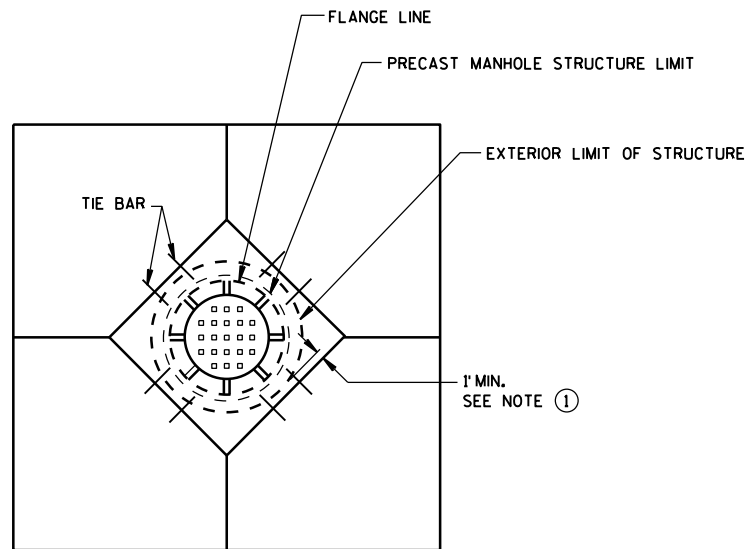
6

6

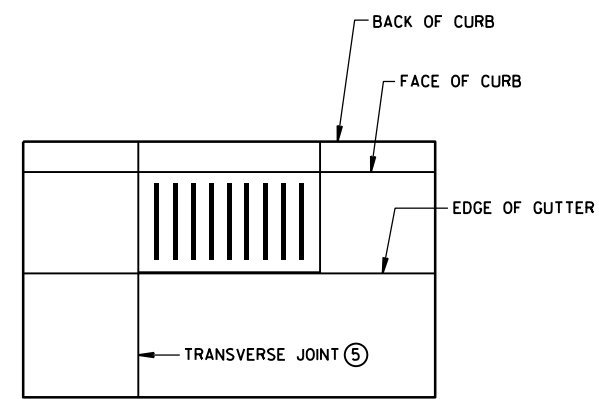
S.D.D. 13 C 18-2c

S.D.D. 13 C 18-2c

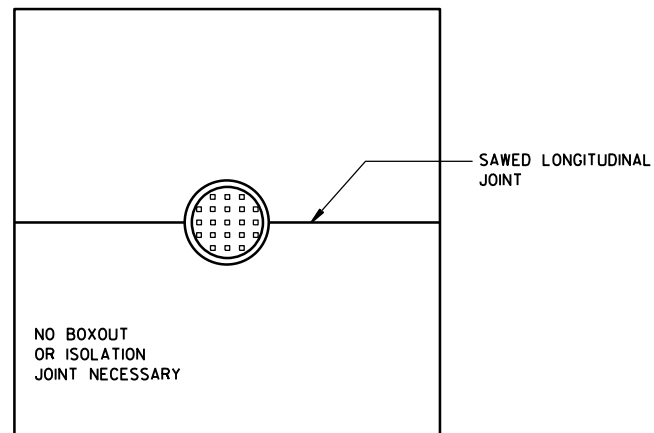
<p>CONCRETE PAVEMENT JOINT TYPES</p>
<p>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</p>



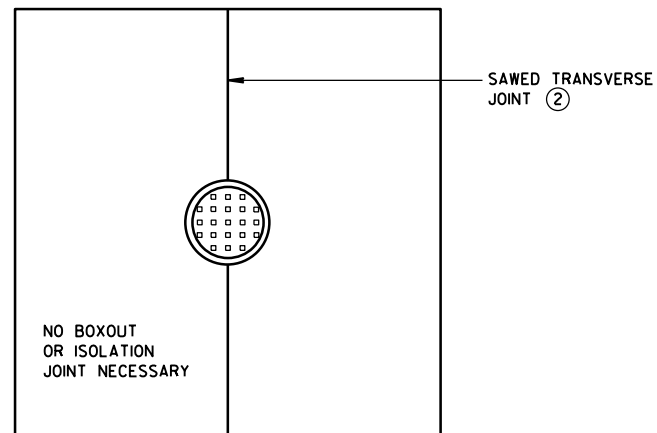
**DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS**



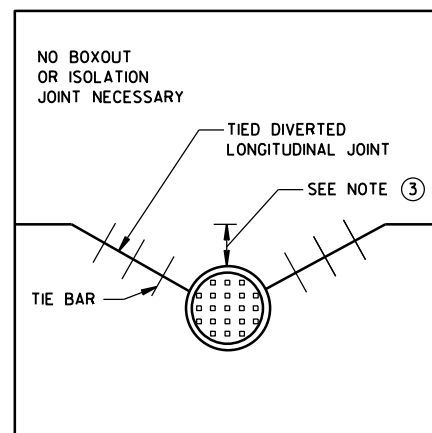
**INLET WITH TRANSVERSE JOINT**



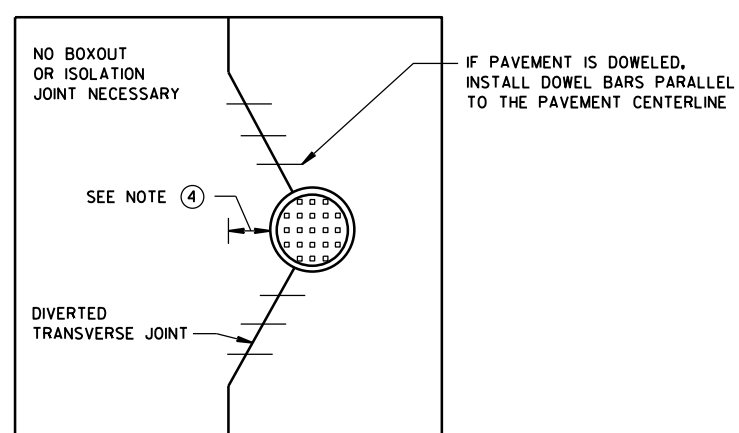
**MANHOLE WITH LONGITUDINAL JOINT**



**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 LONGITUDINAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE 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.

<b>CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 5-3-2013 DATE	/S/ Deb Bischoff PAVEMENT POLICY & DESIGN ENGINEER
FHWA	

**LEGEND**

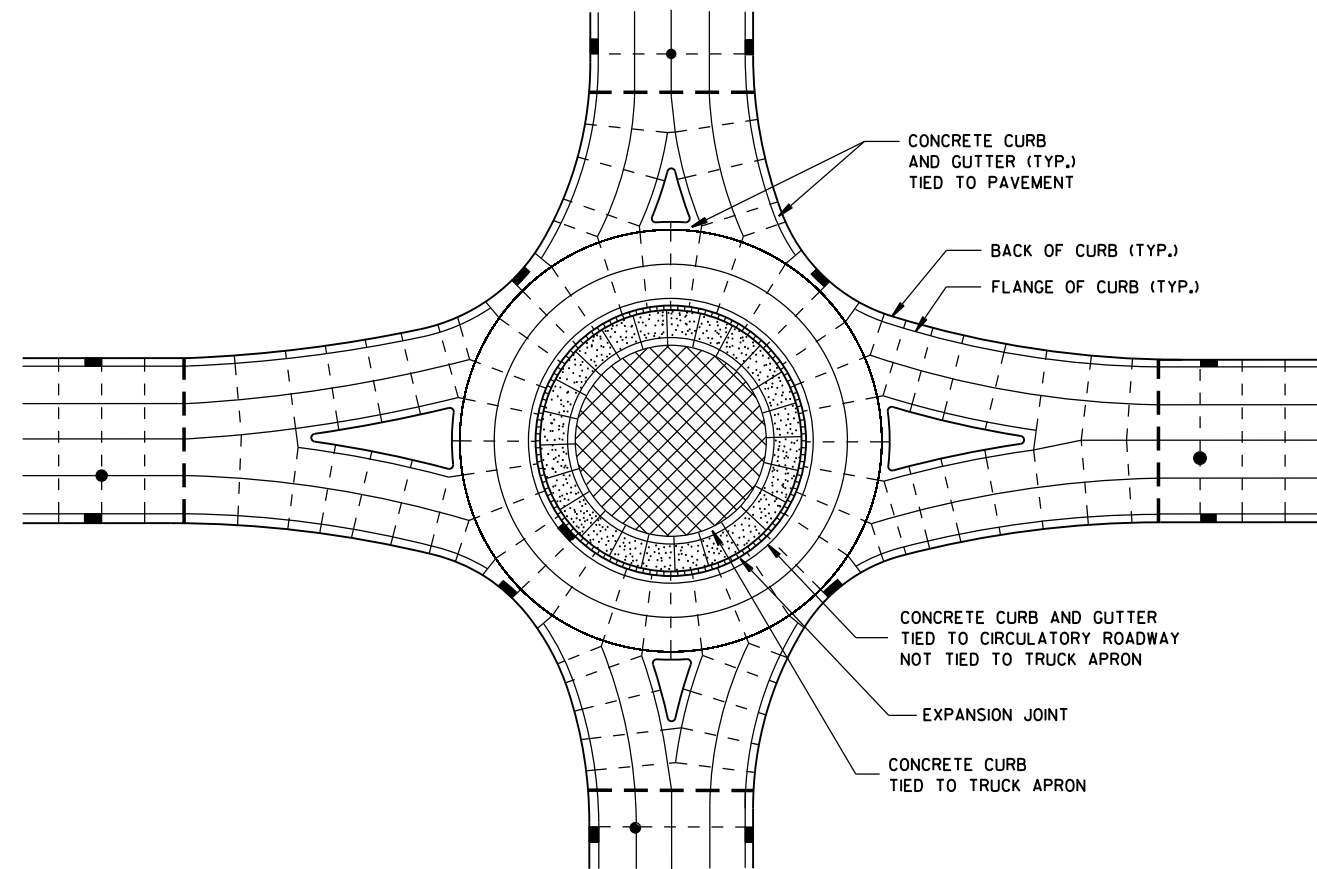
- — DOWELED JOINT
- TIED JOINT
- ▬▬▬ EXPANSION JOINT
- — POTENTIAL DOWELED EXPANSION JOINT
- ▨ TRUCK APRON
- ▩ CENTRAL ISLAND
- ● UTILITY STRUCTURES

**GENERAL NOTES**

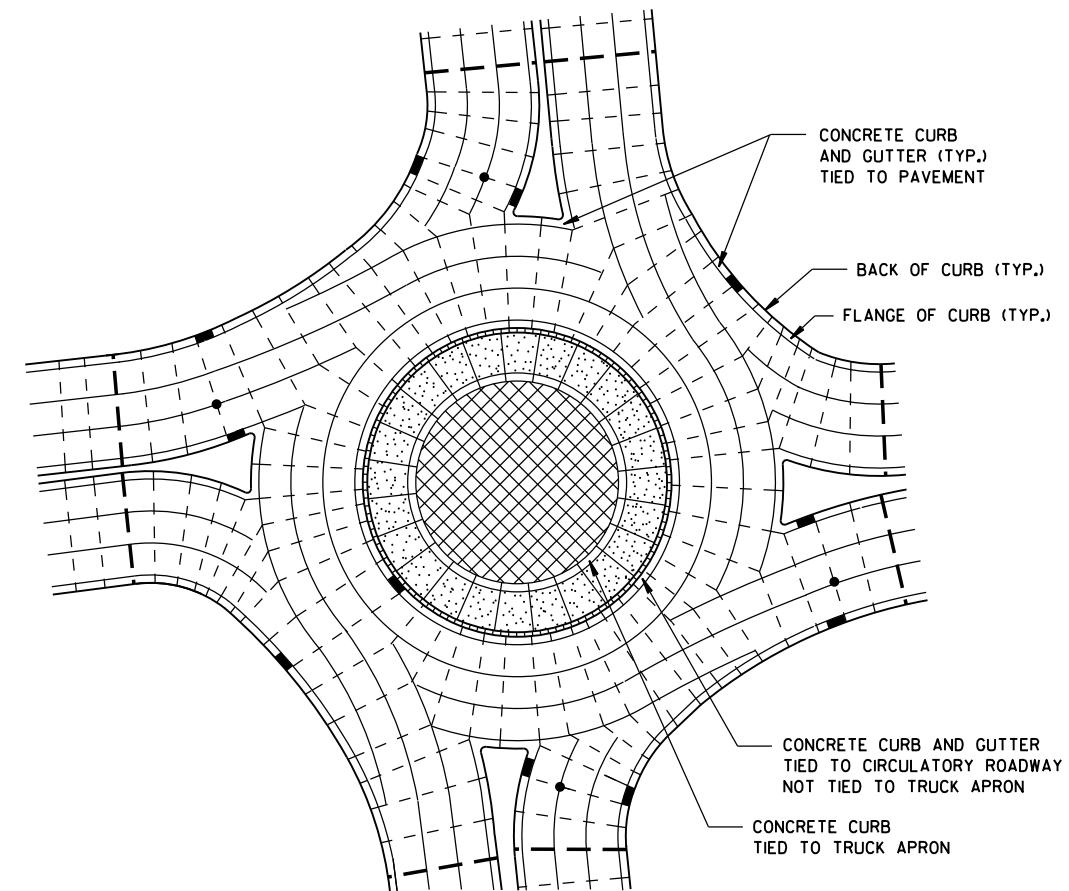
MAXIMUM JOINT SPACING IS IN ACCORDANCE WITH THE TABLE SHOWN ON SDD 13C18 SHEET "a".

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.

DO NOT DOWEL OR TIE THE TRUCK APRON TRANSVERSE JOINTS.



**ISOLATED CIRCLE JOINT LAYOUT FOR ROUNDABOUTS**



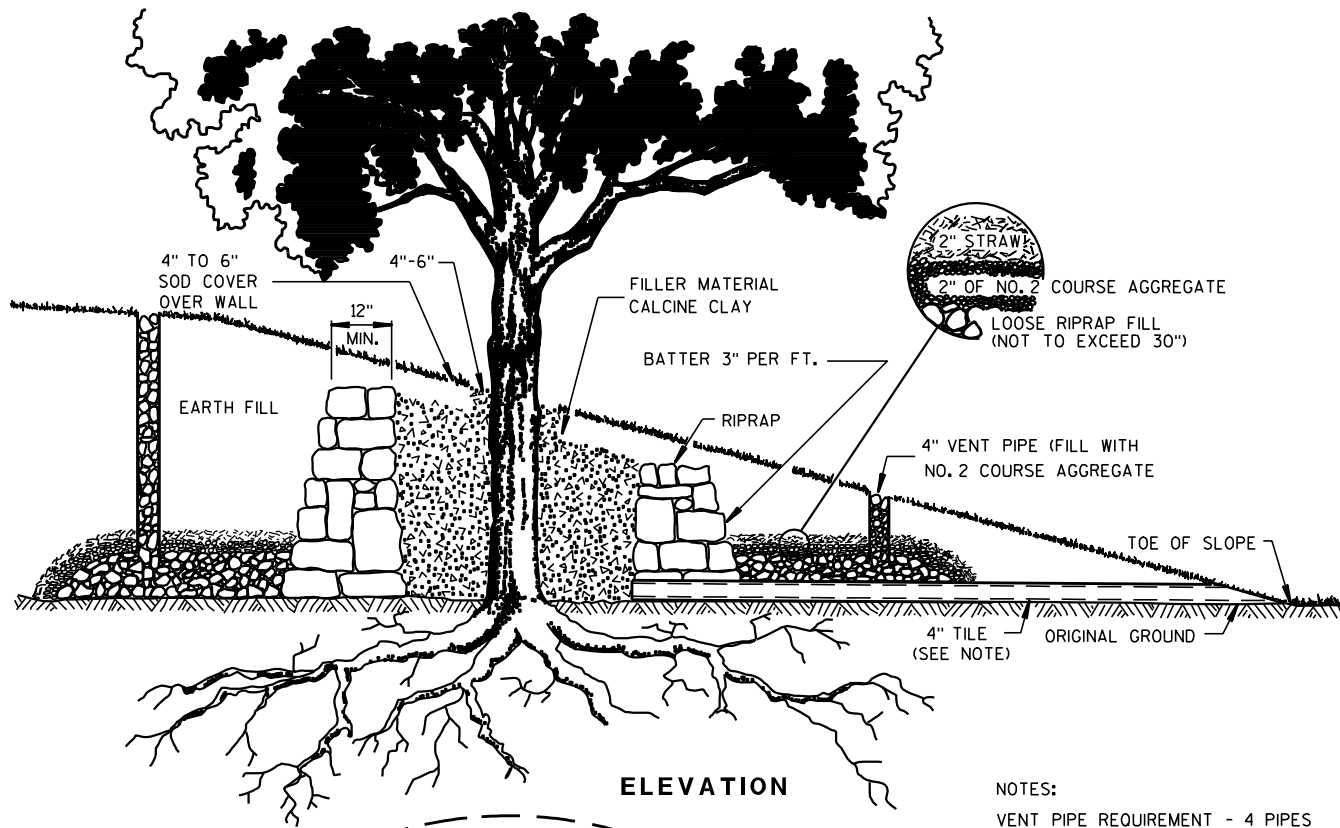
**PINWHEEL JOINT LAYOUT FOR ROUNDABOUTS**

6

6

<b>CONCRETE PAVEMENT JOINTING AND STEEL REINFORCEMENT IN ROUNDABOUTS</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 5-3-2013 DATE	/S/ Deb Bischoff PAVEMENT POLICY & DESIGN ENGINEER
FHWA	





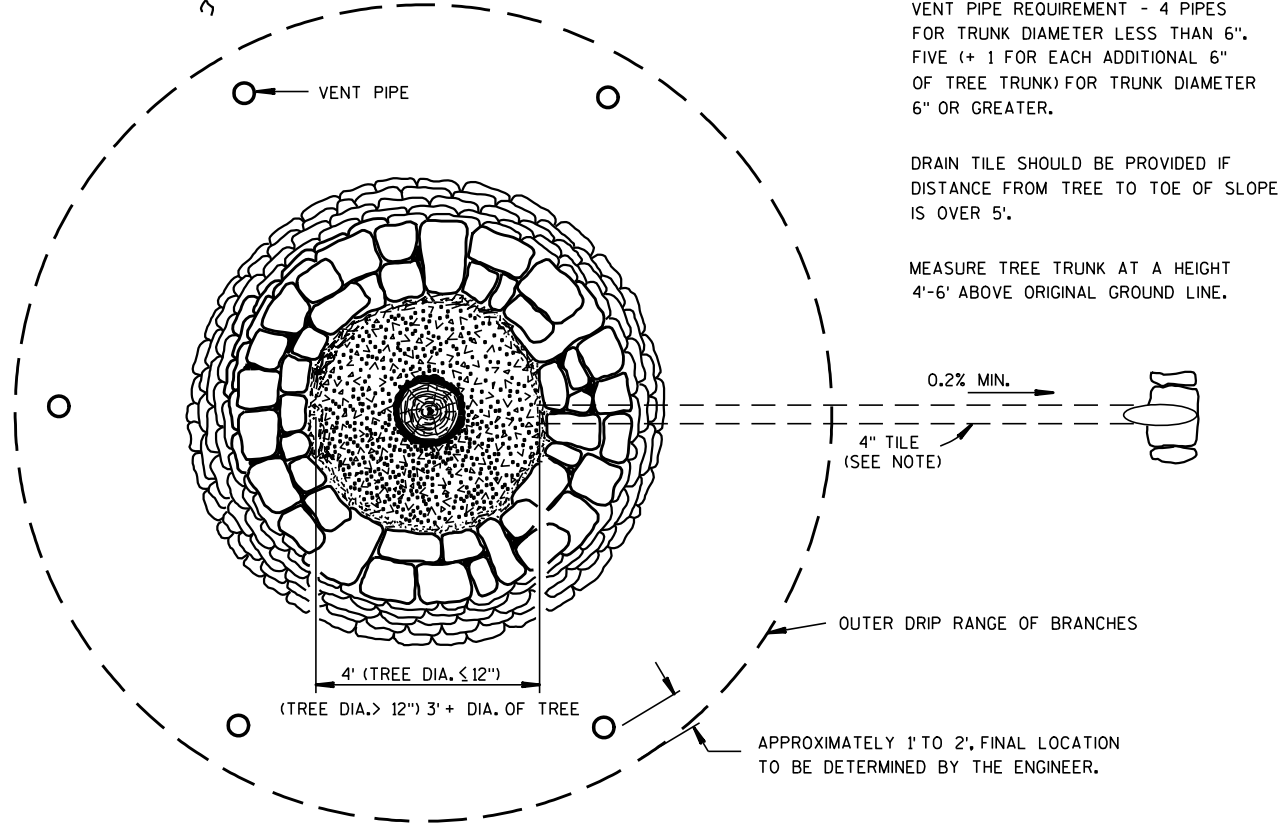
ELEVATION

NOTES:

VENT PIPE REQUIREMENT - 4 PIPES FOR TRUNK DIAMETER LESS THAN 6". FIVE (+ 1 FOR EACH ADDITIONAL 6" OF TREE TRUNK) FOR TRUNK DIAMETER 6" OR GREATER.

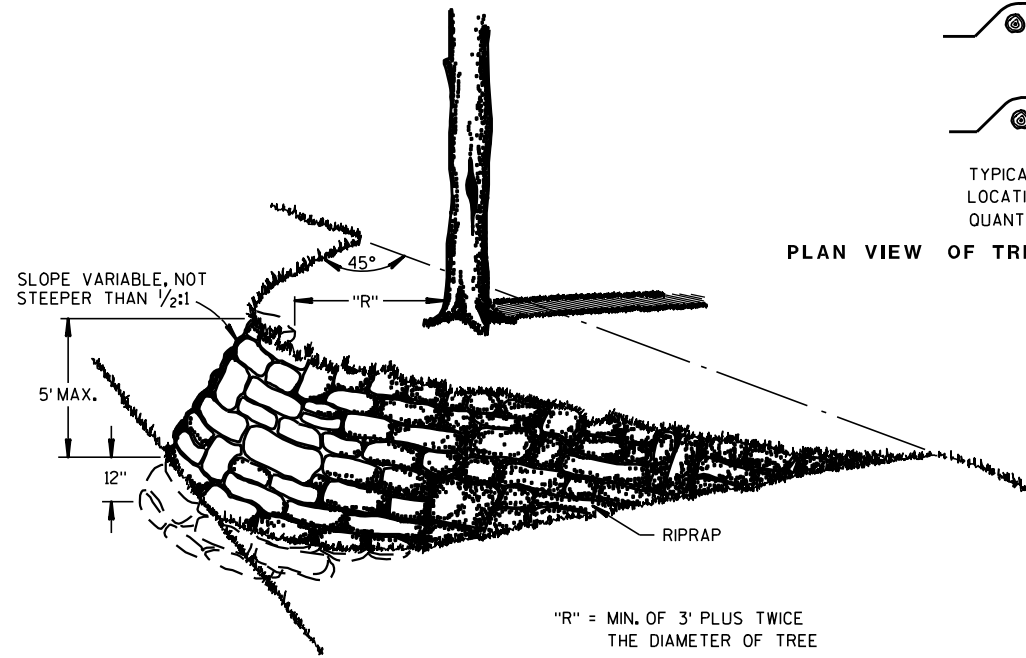
DRAIN TILE SHOULD BE PROVIDED IF DISTANCE FROM TREE TO TOE OF SLOPE IS OVER 5'.

MEASURE TREE TRUNK AT A HEIGHT 4'-6" ABOVE ORIGINAL GROUND LINE.



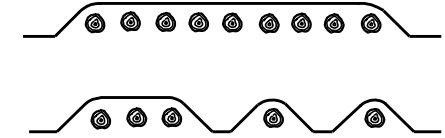
PLAN

FULL TREE WELL WITH RIPRAP WALL



DETAILS OF TREE ISLAND AND ROOT PROTECTION

"R" = MIN. OF 3' PLUS TWICE THE DIAMETER OF TREE



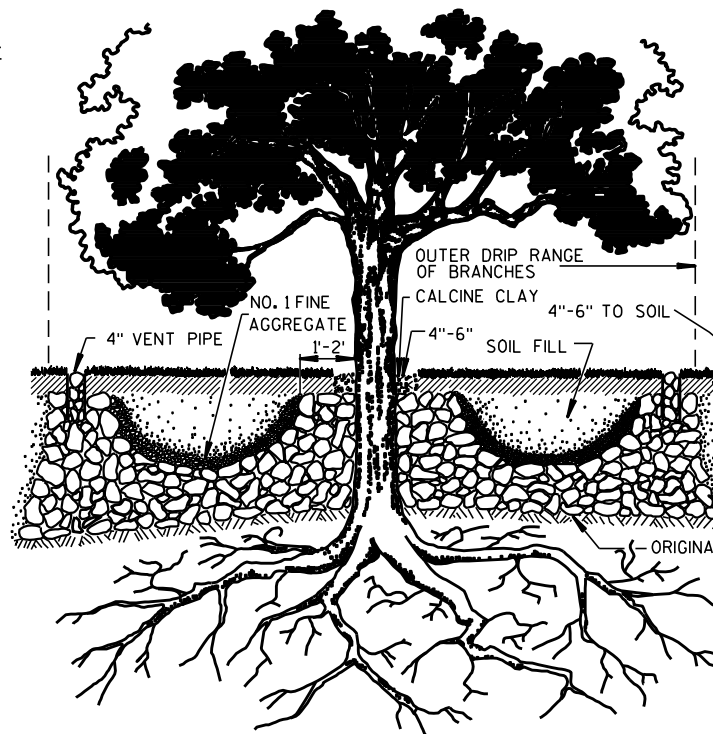
TYPICAL TREATMENTS OF ROOT PROTECTION. LOCATION SHOWN ON MISCELLANEOUS QUANTITIES SHEET.

PLAN VIEW OF TREE ISLANDS FOR ONE OR MORE TREES

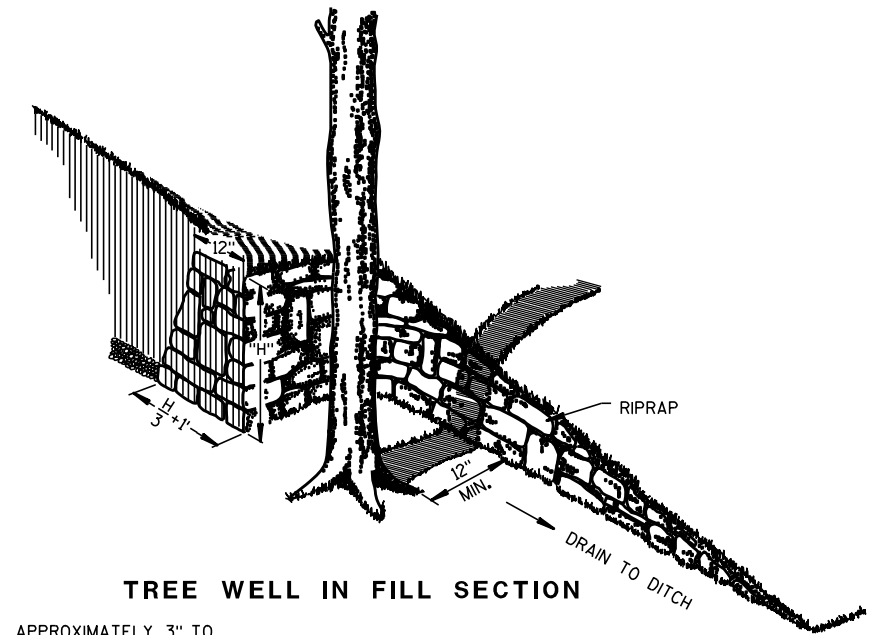
GENERAL NOTES

WALLS TO BE BUILT TO APPROXIMATE SHAPE AND DIMENSIONS SHOWN. STONE TO CONFORM TO SPECIFICATIONS FOR RIPRAP.

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



TREE WELL WITHOUT WALL



TREE WELL IN FILL SECTION

DETAILS FOR TREE WELLS

TREE PRESERVATION DETAILS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

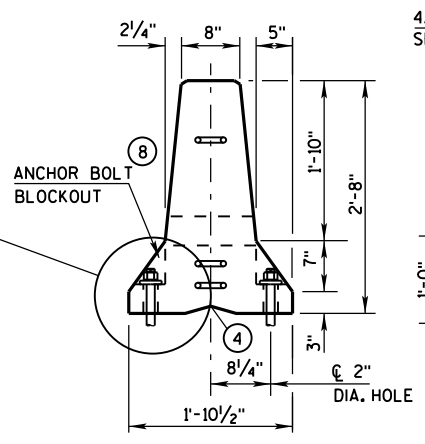
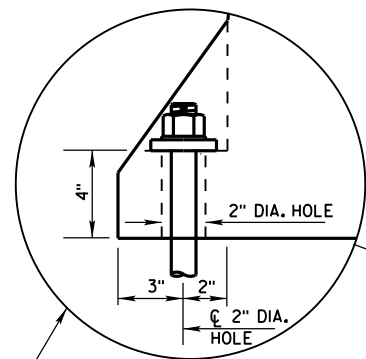
APPROVED

8/25/76

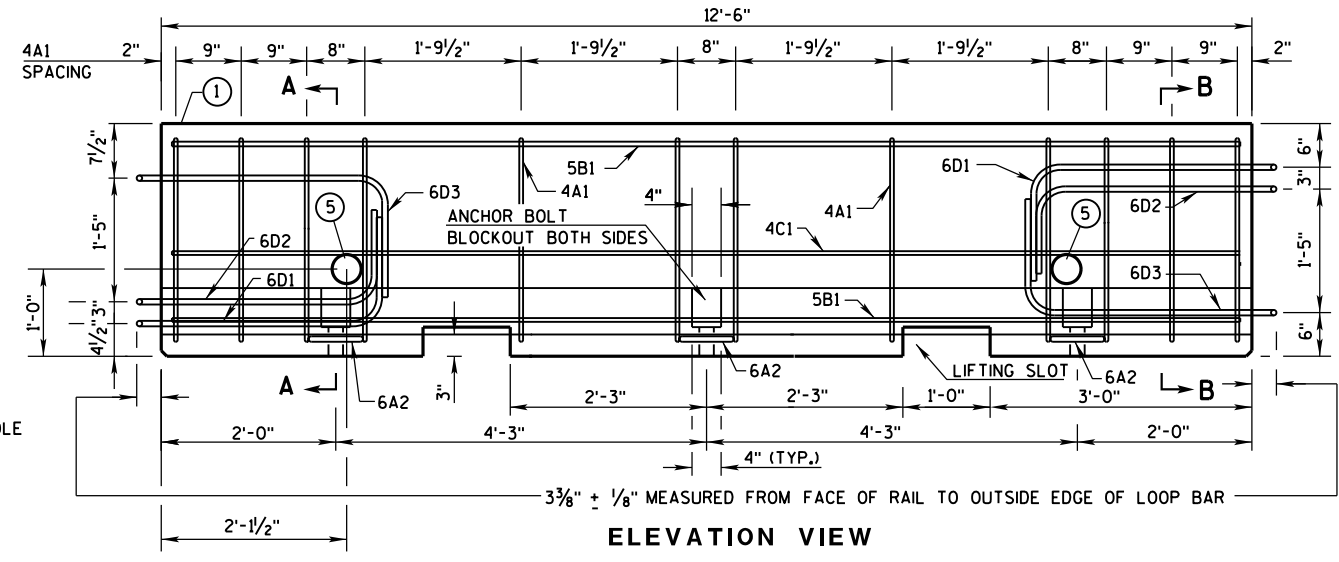
DATE

/S/ D. L. Strand  
STATE DESIGN ENGINEER FOR HWYS

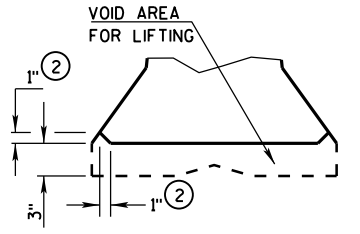
FHWA



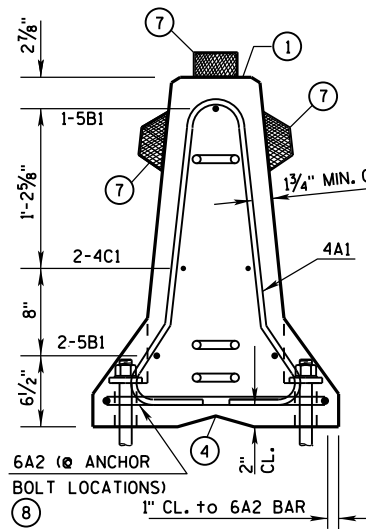
END VIEW



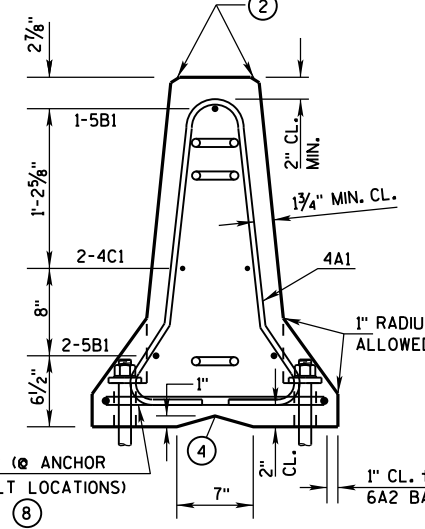
ELEVATION VIEW



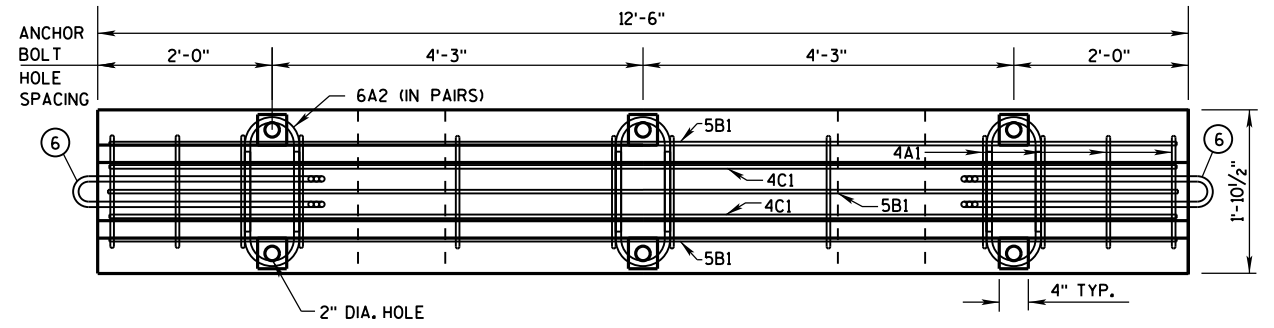
DETAIL "B"  
LIFTING SLOT DETAIL



SECTION A-A  
(STIRRUP PLACEMENT)



SECTION B-B  
(STIRRUP PLACEMENT)



PLAN VIEW

DETAILS OF BARRIER SECTION

GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-14(g) 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.

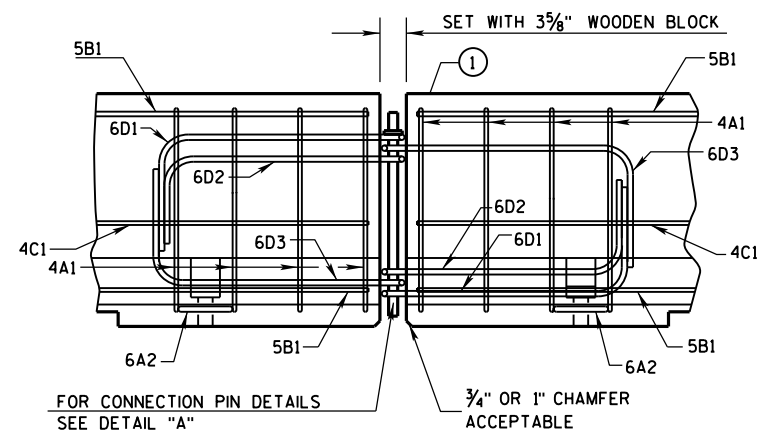
LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE 3/4" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-1/2" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN 1/8" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

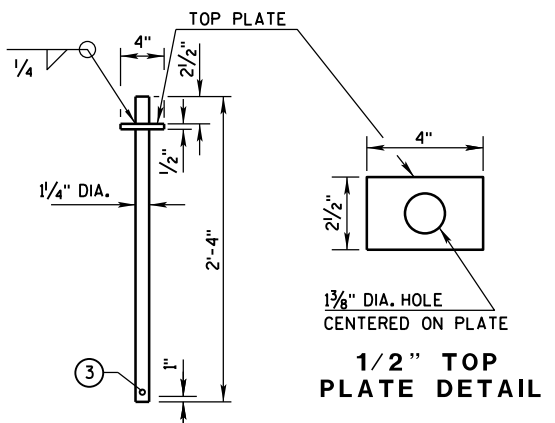
PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR ADHESIVE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

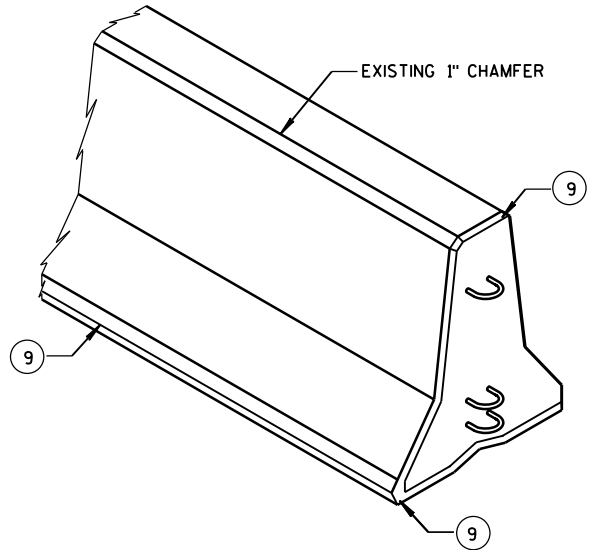
- ① MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
  - a. TYPE: W/CBTP
  - b. MANUFACTURER
  - c. DATE MANUFACTURED (MONTH AND YEAR)
- ② 1" CHAMFER TO PREVENT SPALLING.
- ③ A 3/8" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT 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 MANUFACTURER'S INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.
- ⑧ SEE SHEET D FOR ANCHORING CRITERIA.
- ⑨ 1" CHAMFER OPTIONAL.



DETAILS OF BARRIER CONNECTION



DETAIL "A"  
CONNECTION PIN  
(A36 STEEL (10.9 LB EACH))



CONCRETE BARRIER  
TEMPORARY PRCAST, 12'-6"

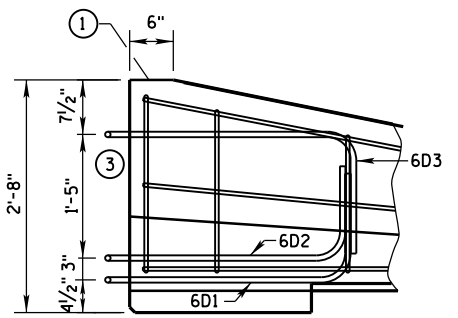
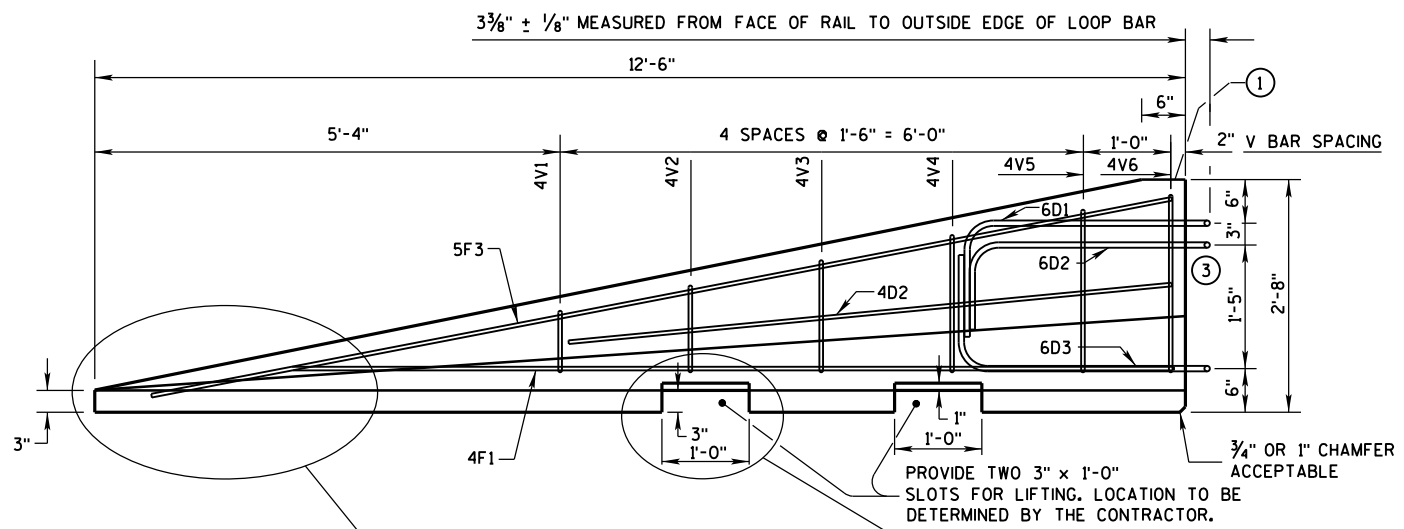
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

6

6

S.D.D. 14 B 7-14a

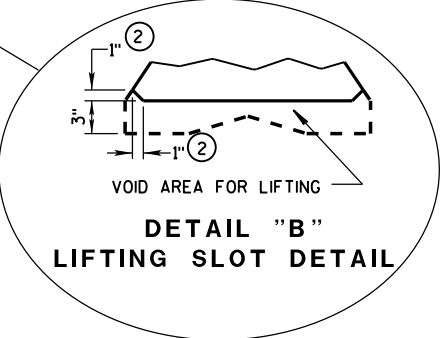
S.D.D. 14 B 7-14a



**GENERAL NOTES**

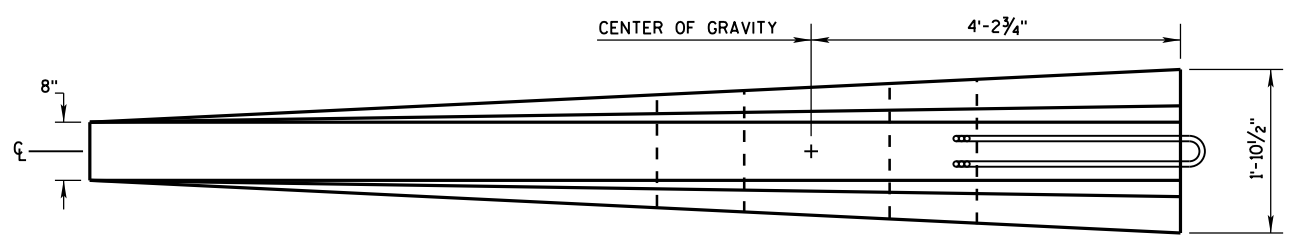
- ① MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:  
 a. TYPE WICBTP  
 b. MANUFACTURER  
 c. DATE MANUFACTURED (MONTH AND YEAR)
- ② 1" CHAMFER TO PREVENT SPALLING.
- ③ NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

**SIDE ELEVATION**  
 LOOP BAR ASSEMBLY INVERTED FOR OPPOSITE END.  
 (FOR CONNECTION TO RIGHT END OF BARRIER)

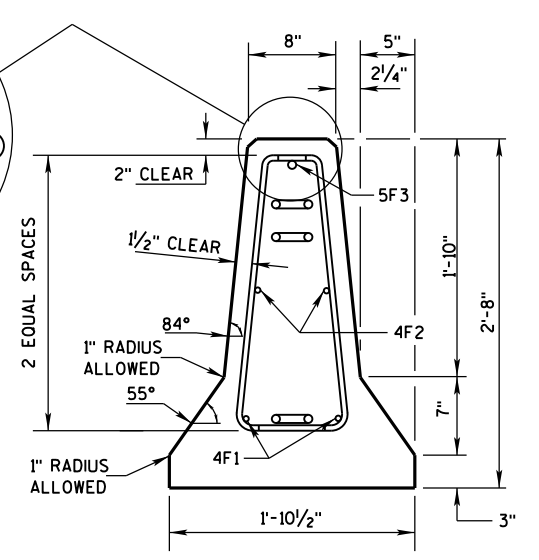
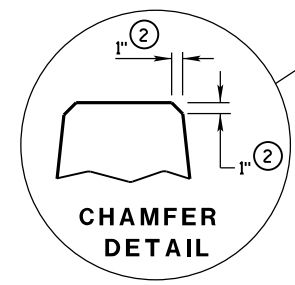


**SIDE ELEVATION**  
 (FOR CONNECTION TO LEFT END OF BARRIER)

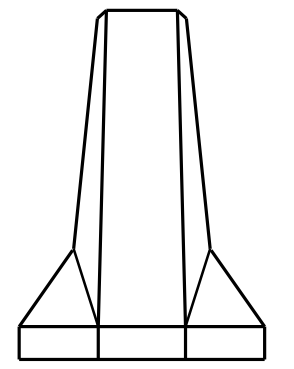
SEE DETAIL "C", BENT BAR DETAIL



**PLAN VIEW**

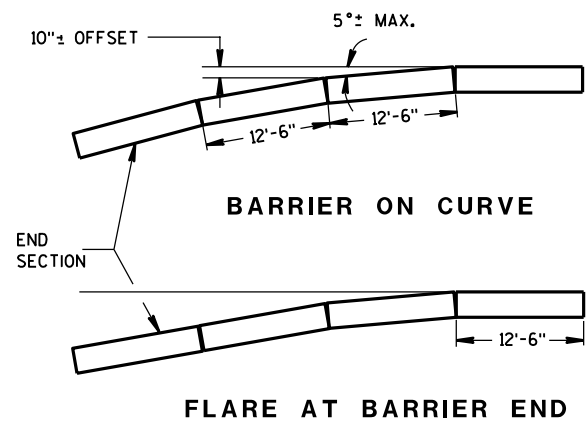


**END SECTION**



**FRONT ELEVATION**

**DETAILS OF BARRIER TAPER SECTION**



POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

**CONCRETE BARRIER  
 TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

**GENERAL NOTES**

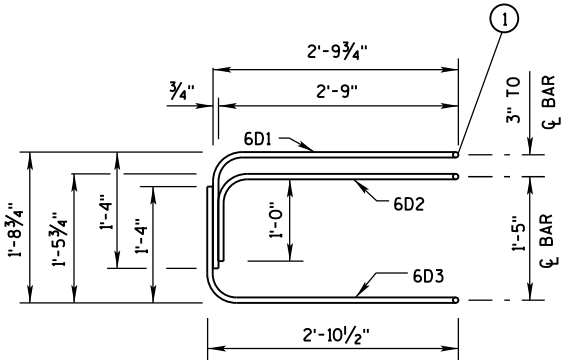
① NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

**BARRIER TAPER SECTION  
BILL OF MATERIALS**  
(PER 12'-6" BARRIER TAPER SECTION)

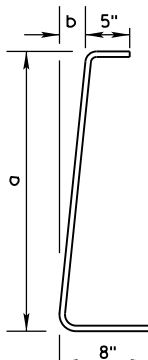
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"

LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"

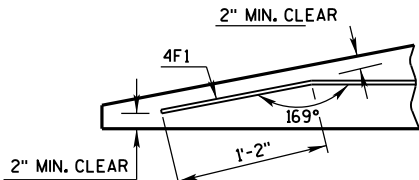


**ELEVATION  
LOOP BAR ASSEMBLY**



BAR	a	b
V1	10"	1"
V2	1'-1"	1/4"
V3	1'-5"	1 5/8"
V4	1'-8"	1 7/8"
V5	2'-0 1/2"	2 3/8"
V6	2'-3"	2 3/4"

**4V BARS**  
2 AT EACH SIZE REQUIRED FOR STIRRUP ASSEMBLY



**DETAIL "C"  
BENT BAR DETAIL**

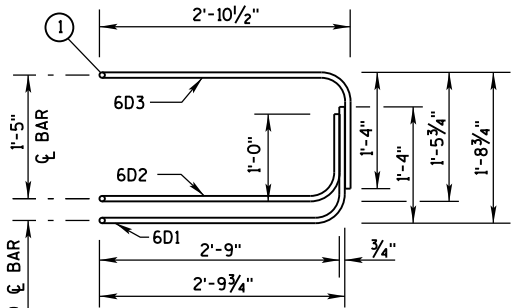
**TAPER BARRIER SECTION**

**BARRIER SECTION  
BILL OF MATERIALS**  
(PER 12'-6" BARRIER SECTION)

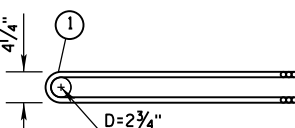
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"

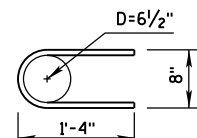
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



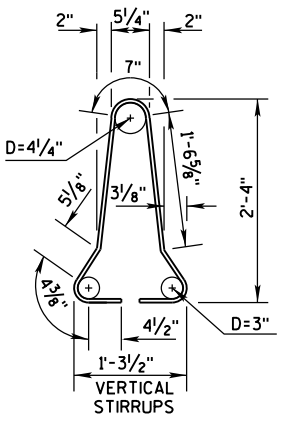
**ELEVATION VIEW**



**PLAN VIEW  
LOOP BAR ASSEMBLY**  
(MARKED END SHOWN, INVERT FOR OTHER END)



**6A2**

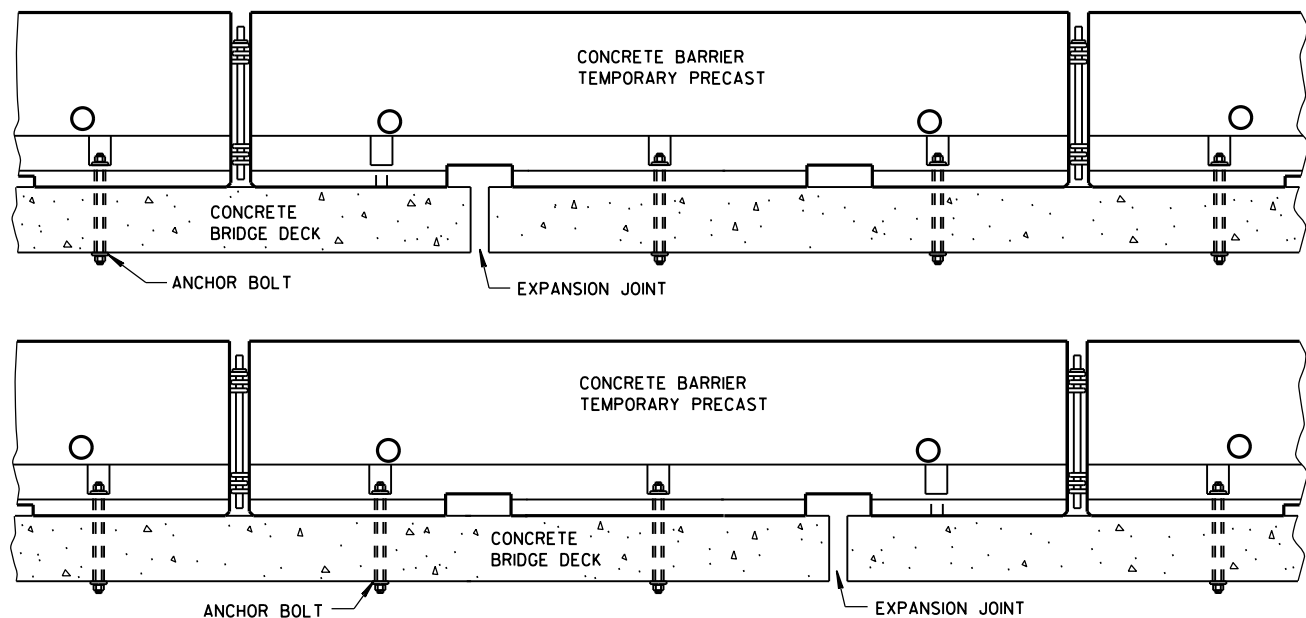


**4A1**

**BARRIER SECTION**

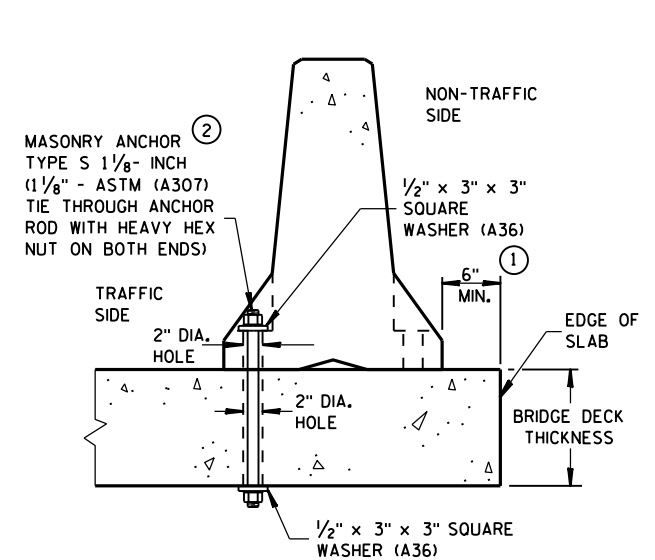
CONCRETE BARRIER  
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



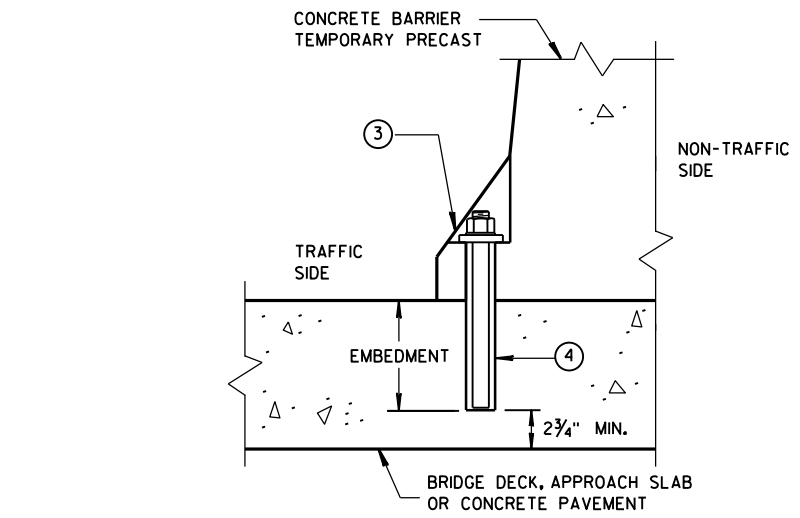
**TREATMENT AT BRIDGE DECK EXPANSION JOINTS**

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



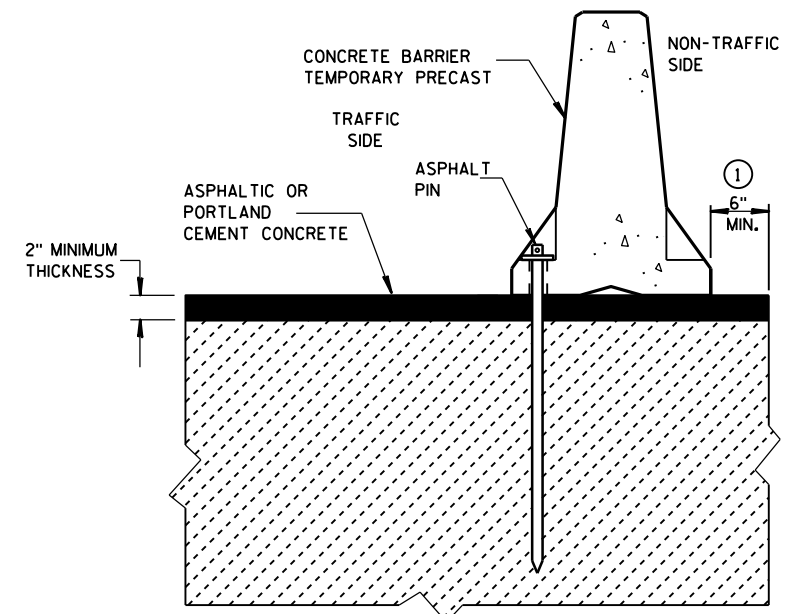
**THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK**

(DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



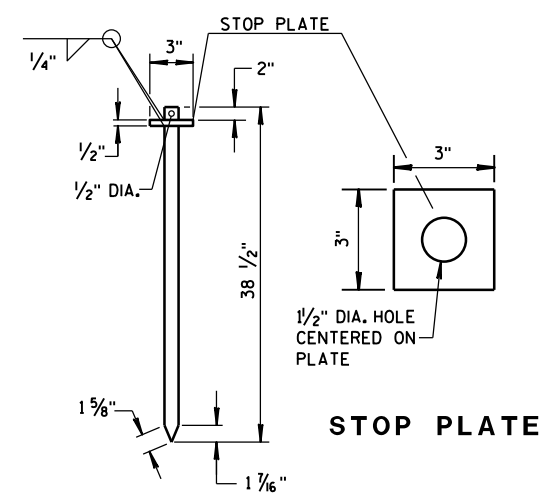
**REMOVABLE ADHESIVE BONDED ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT**

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)



**STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE**

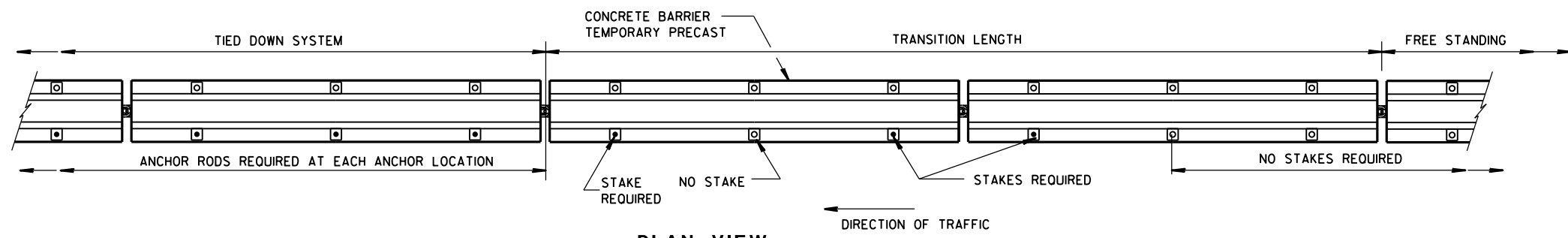
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



**ASPHALT PIN (ASTM A36 STEEL)**

**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 1 1/8-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 COMMERCIAL GROUT OR MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.
- ③ 1/8" DIAMETER A307 THREADED ROD, 1/2" 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 5/4" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.

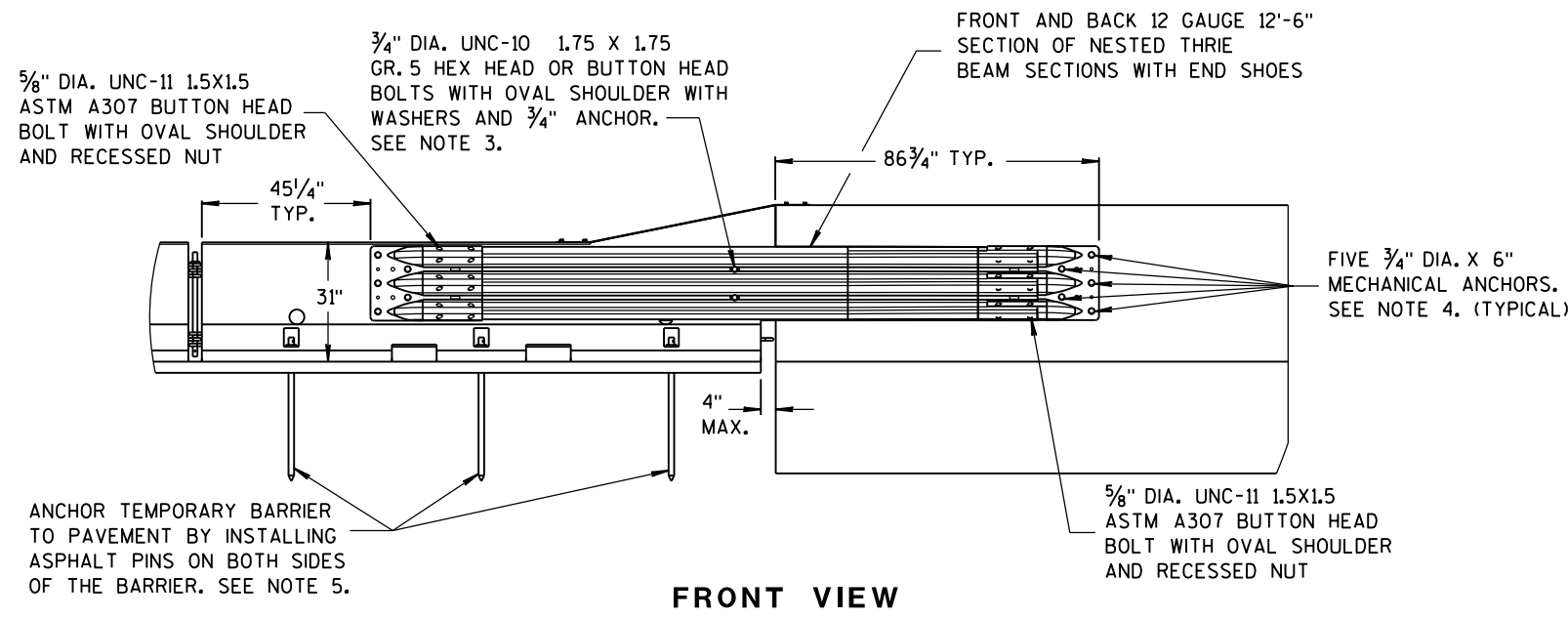


**FREE STANDING TRANSITION TO TIED-DOWN SYSTEM**

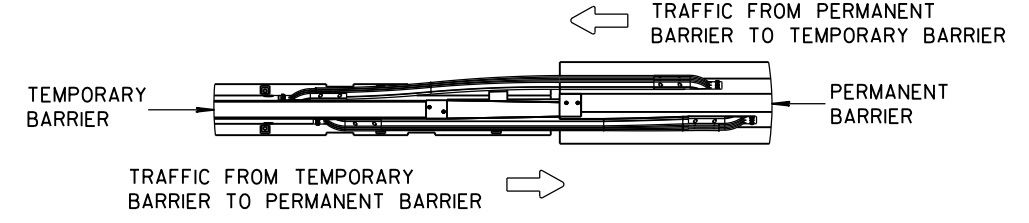
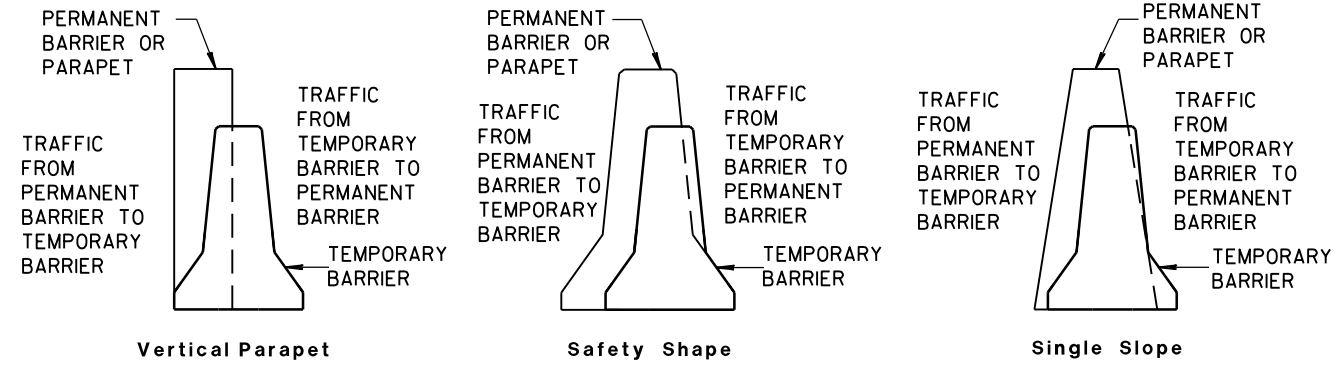
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

**CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



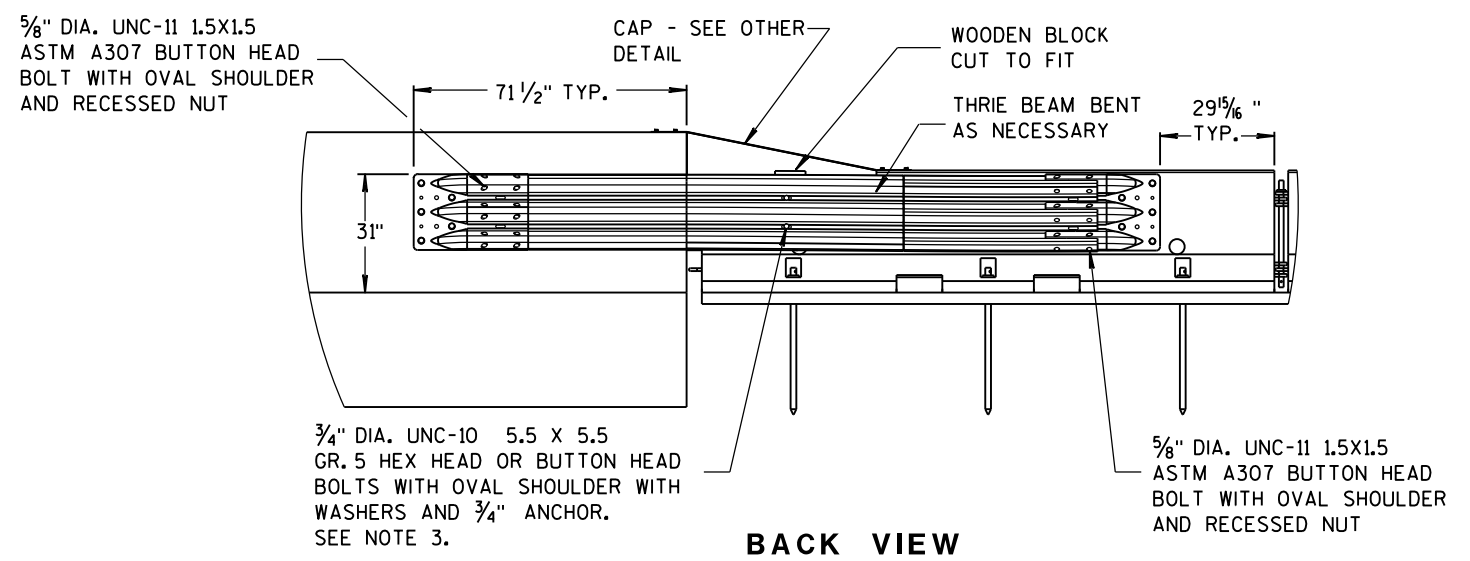
**FRONT VIEW**



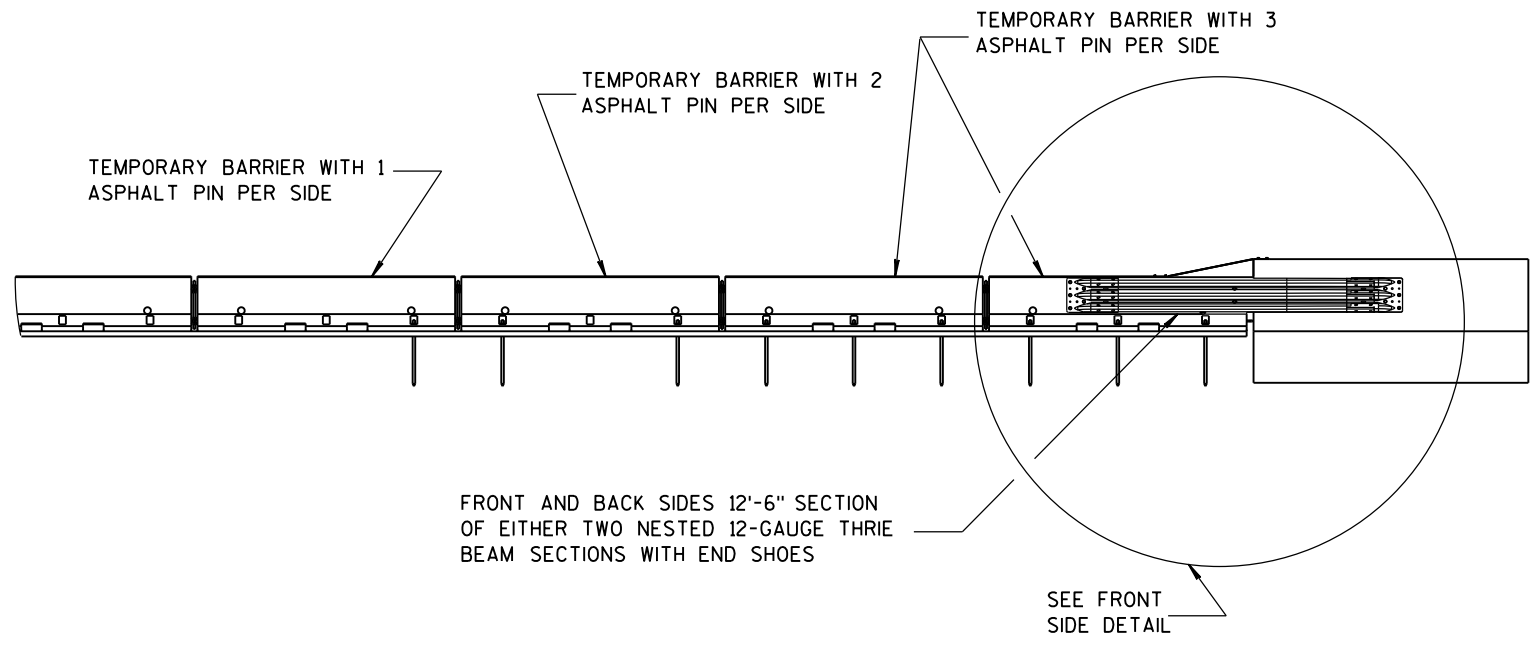
**TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM**

**NOTES**

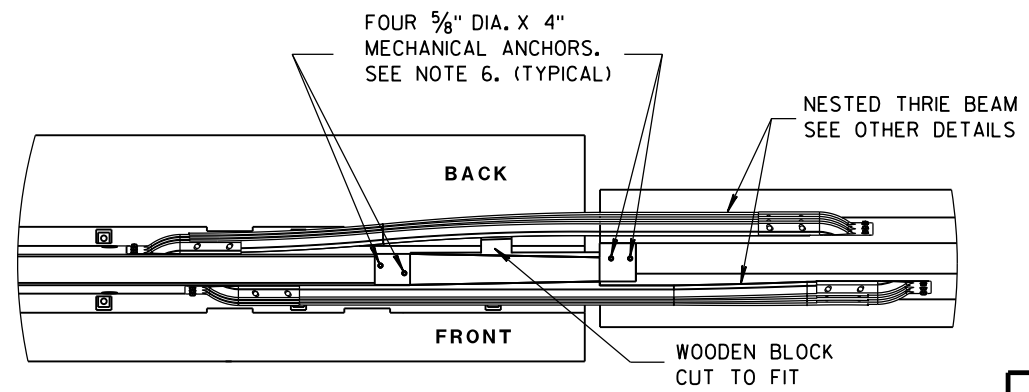
- NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.
- CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
  - THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
  - MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
  - MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
  - MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
  - MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.



**BACK VIEW**



**FRONT VIEW**

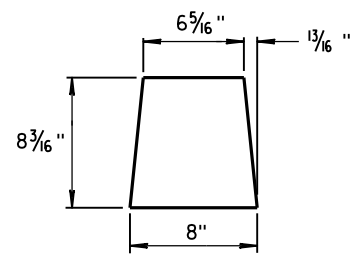


**PLAN VIEW**

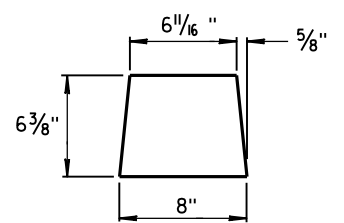
**BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM**

**CONCRETE BARRIER  
TEMPORARY PRECAST, 12'-6"**

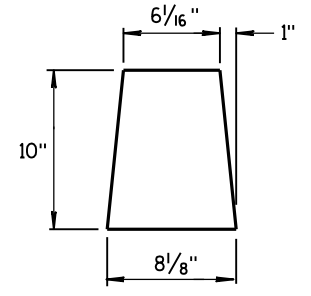
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



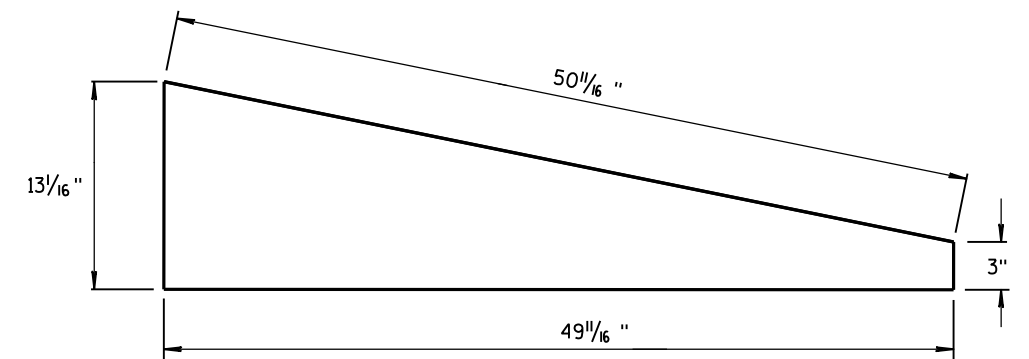
GUSSET 1



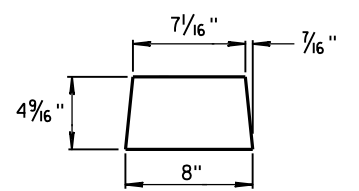
GUSSET 2



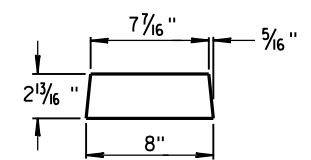
END PLATE



SIDE PLATE

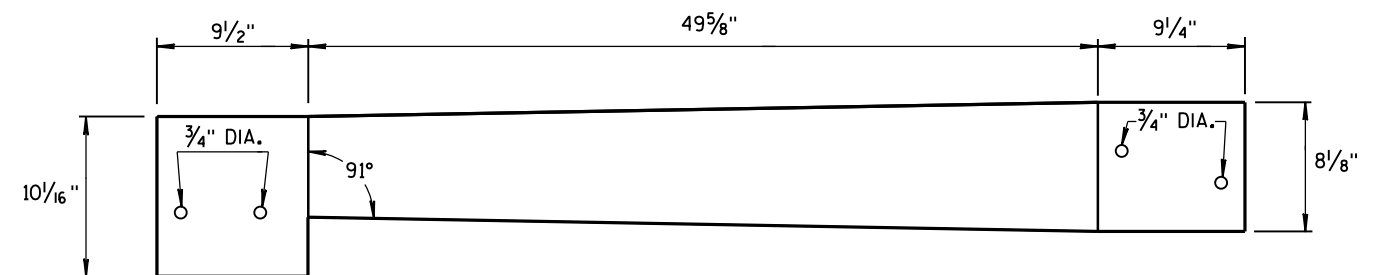


GUSSET 3

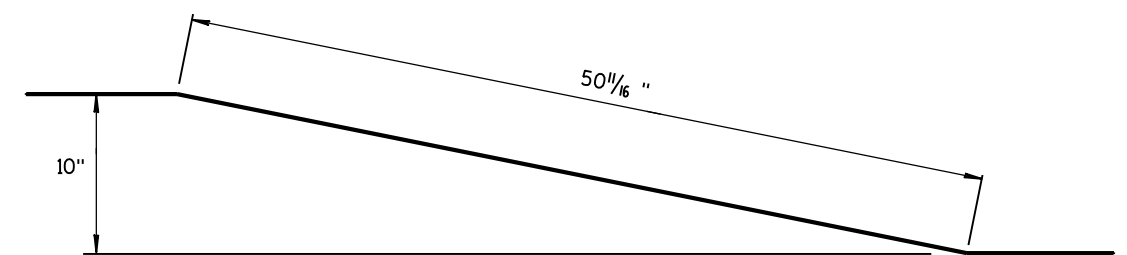


GUSSET 4

GUSSETS

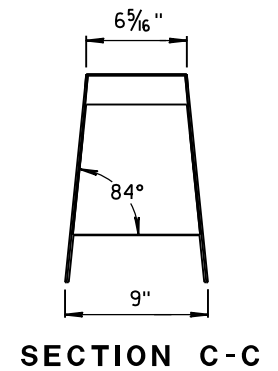
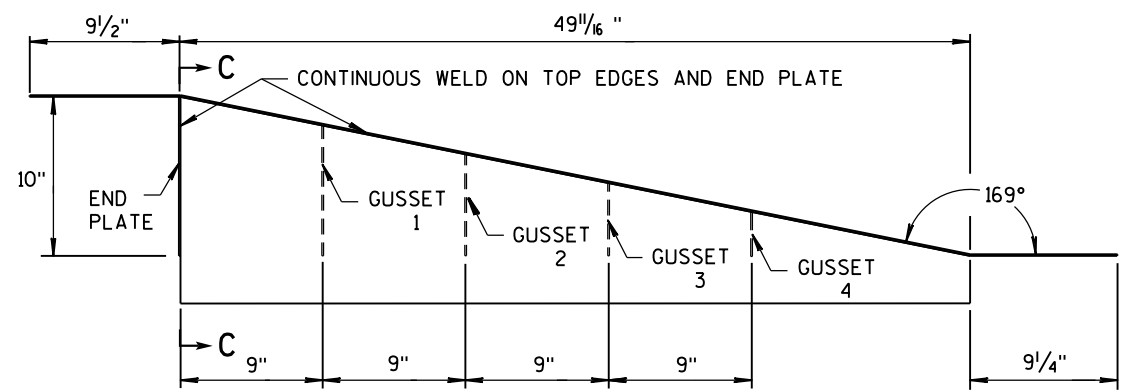
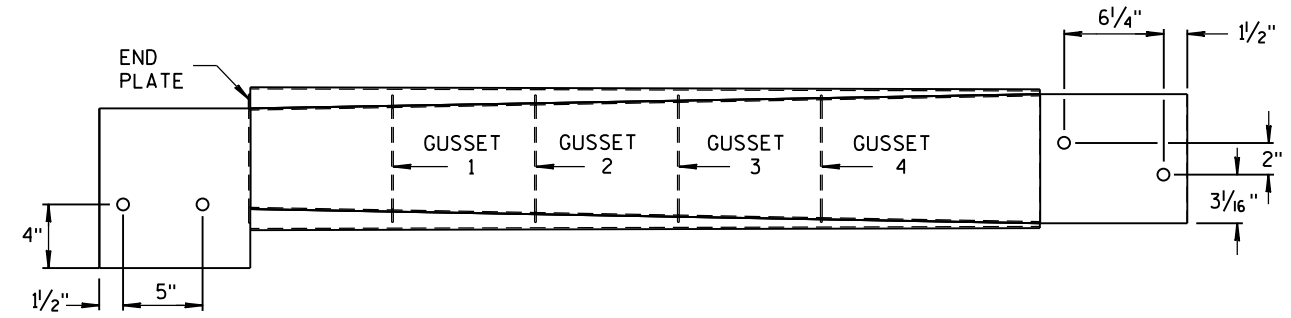


TOP PLATE



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

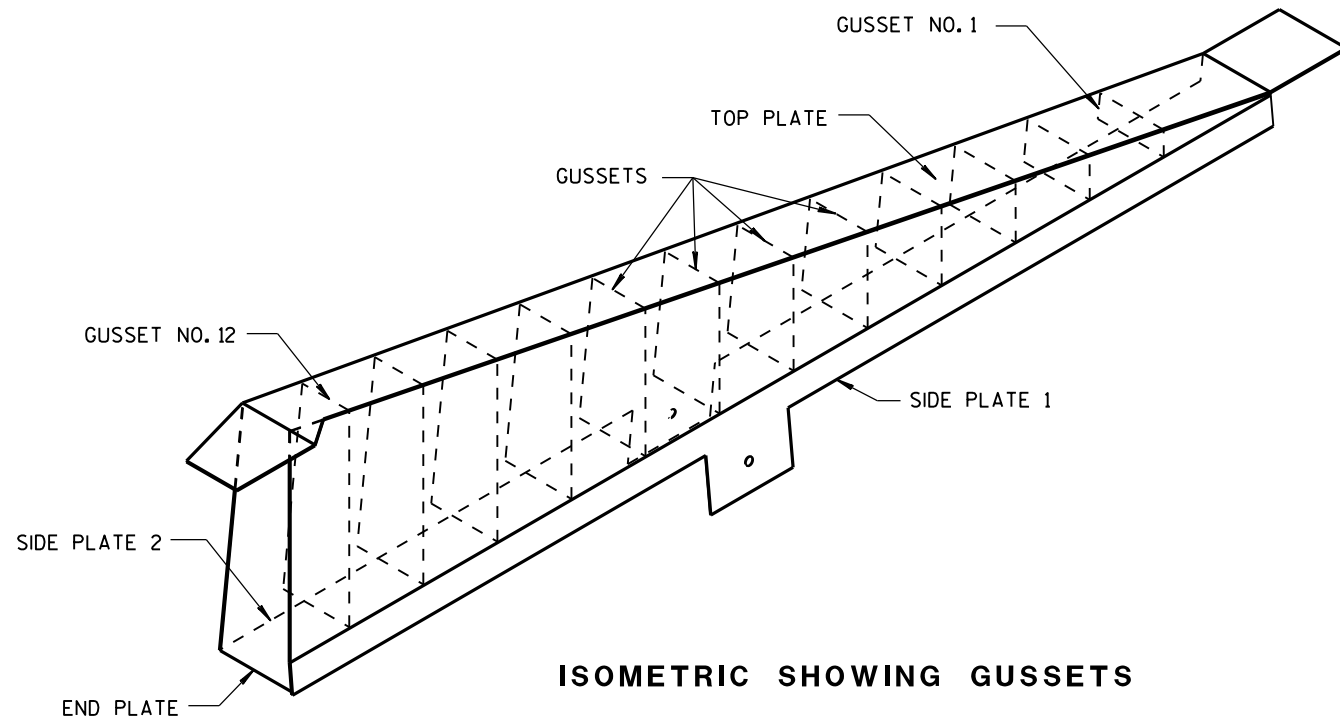
NOTES

- FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
- TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

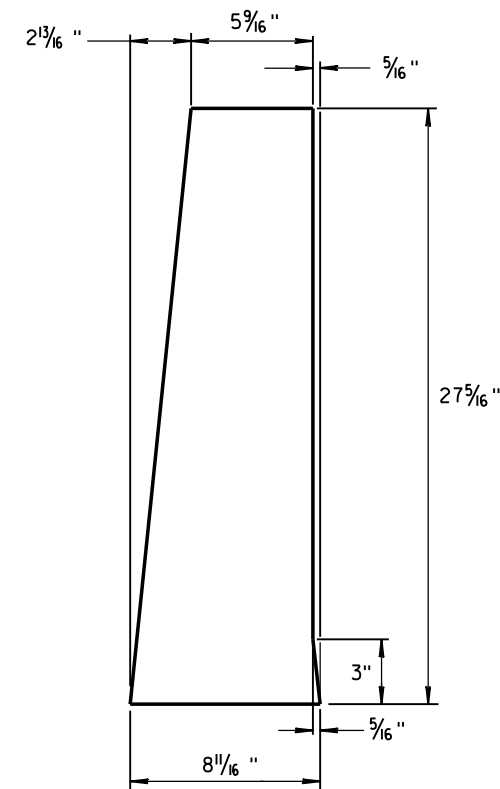
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER  
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

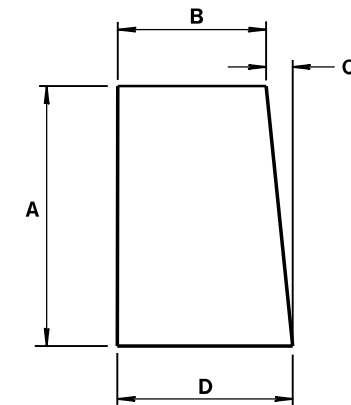


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



GUSSETS 1 - 12

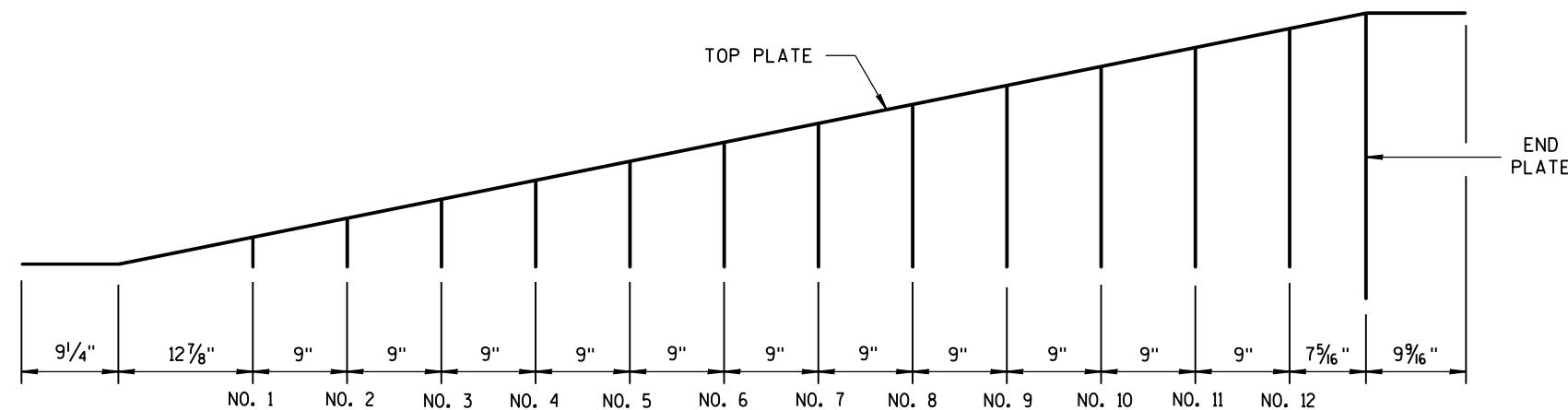
ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS

GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 1/16"	7 7/16"	1/2"	8
3	6 1/2"	7 3/8"	1 1/16"	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 5/16"	6 13/16"	1 1/4"	8 1/16"
7	13 3/4"	6 5/8"	1 7/16"	8 1/16"
8	15 3/16"	6 7/16"	1 9/16"	8 1/16"
9	17 3/8"	6 1/4"	1 13/16"	8 1/16"
10	19 3/16"	6 1/16"	1 15/16"	8 1/16"
11	21"	5 7/8"	2 3/16"	8 1/16"
12	22 13/16"	5 11/16"	2 5/16"	8 1/16"

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



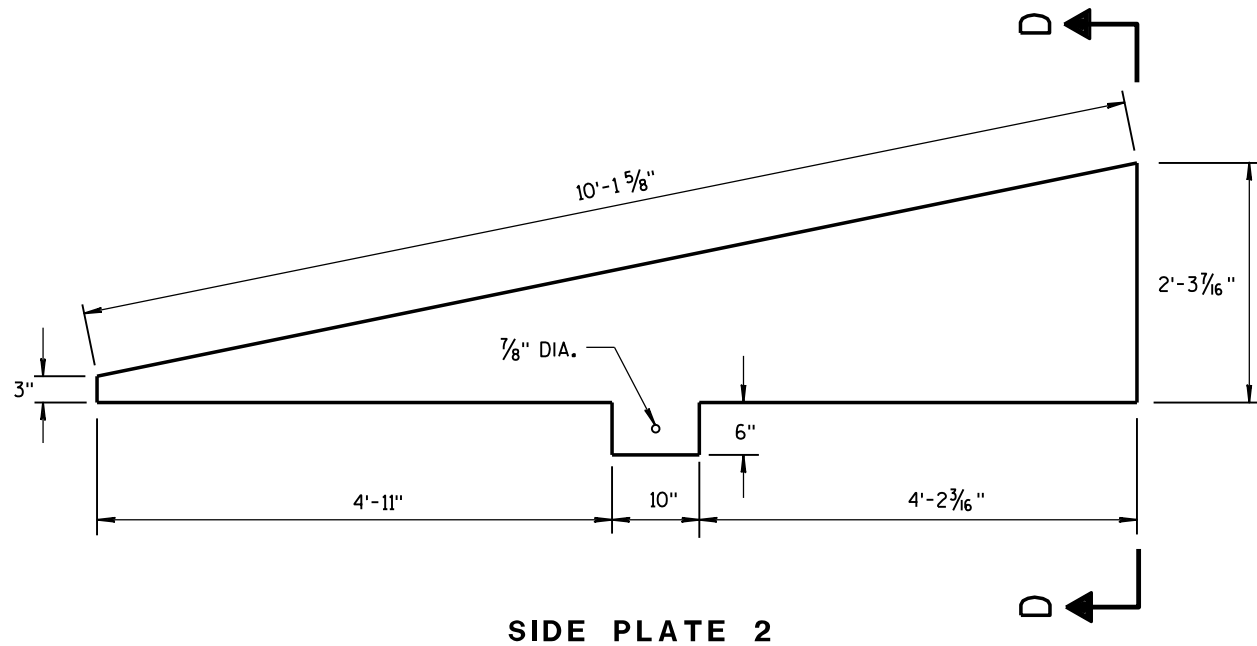
GUSSET LOCATION

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

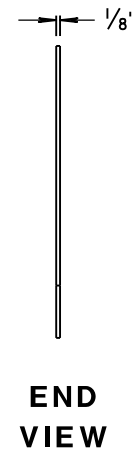
CONCRETE BARRIER  
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

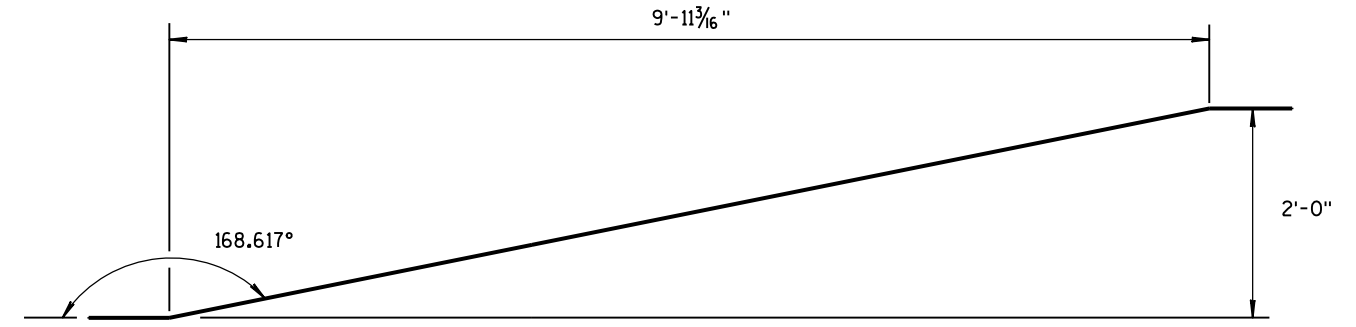




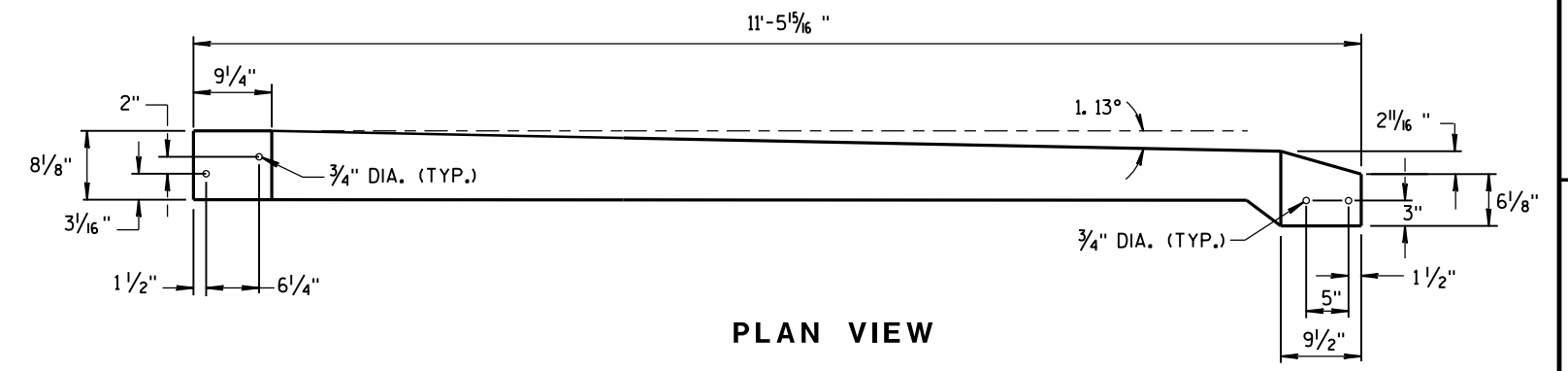
**SIDE PLATE 2**



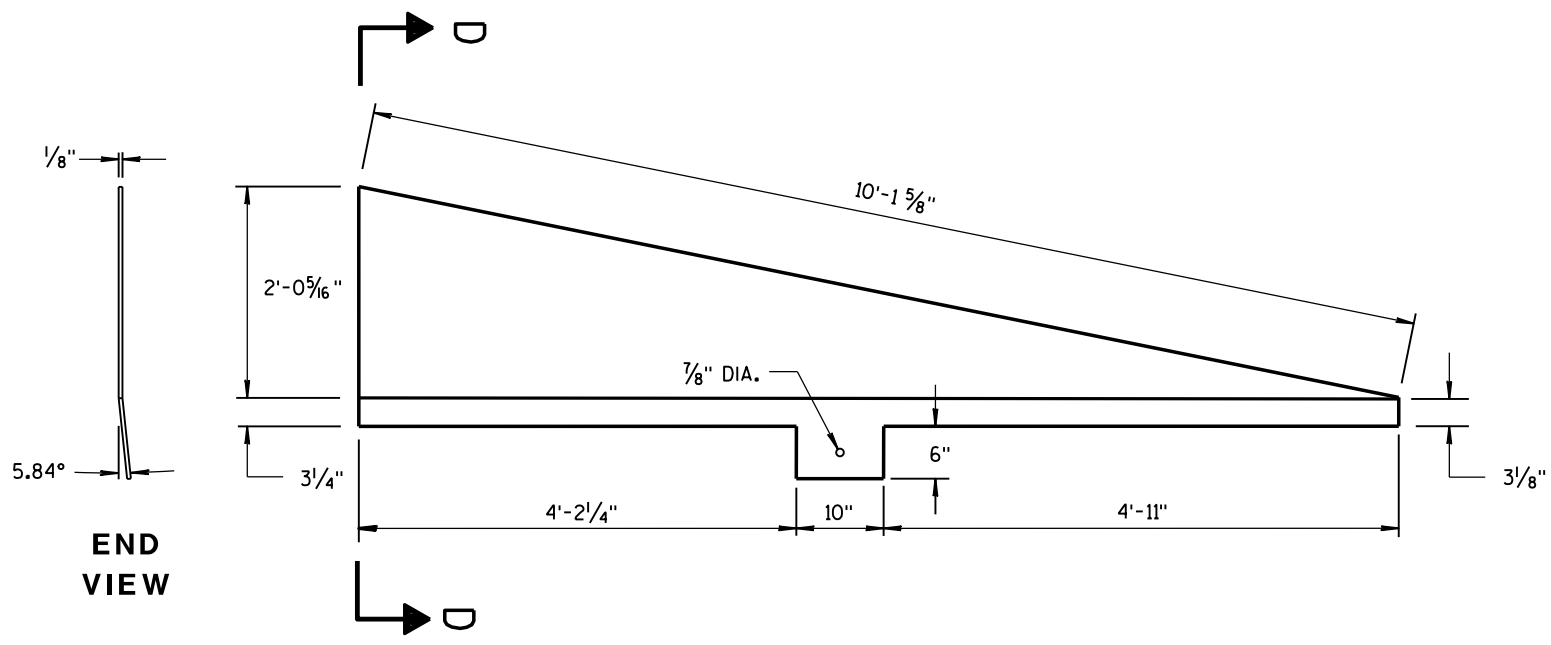
**END VIEW**



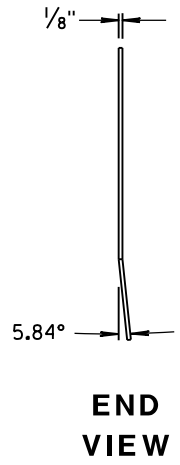
**SIDE VIEW  
TOP PLATE**



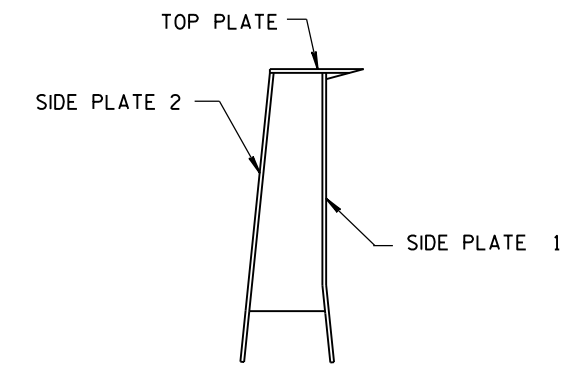
**PLAN VIEW  
TOP PLATE**



**SIDE PLATE 1**



**END VIEW**



**SECTION D-D**

**CAP DETAILS FOR TEMPORARY CONCRETE  
BARRIER TO 56" PERMANENT CONCRETE BARRIER**

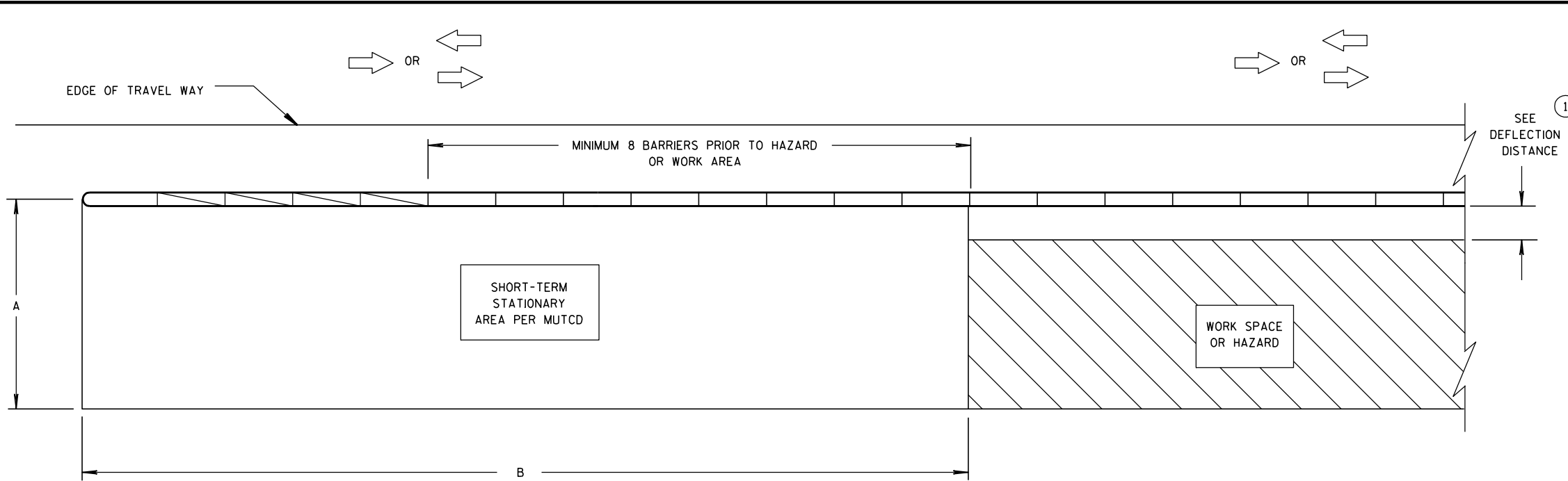
<b>CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2014 DATE	/s/ Jerry H. Zogg ROADWAY STANDARD DEVELOPMENT ENGINEER
FHWA	

6

6

S.D.D. 14 B 7-14h

S.D.D. 14 B 7-14h



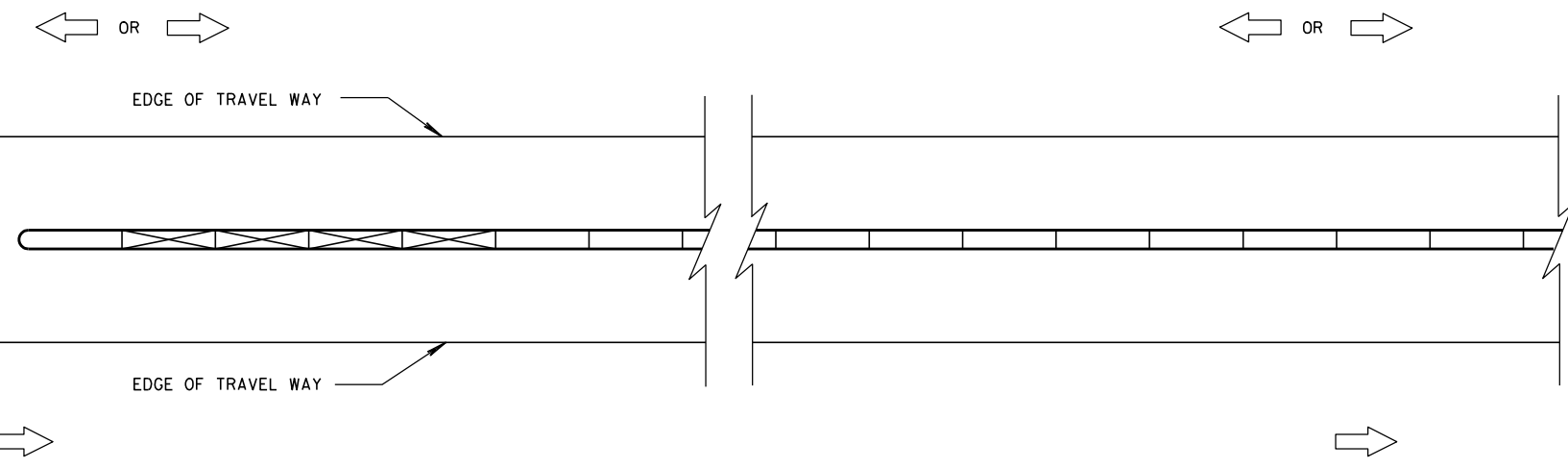
**DIMENSION A TABLE** <sup>(2)</sup>

FACILITY	POSTED SPEED MPH	DIMENSION A	
		MIN. FT	MAX. FT
FREEWAY/EXPRESSWAY	ALL	15	20
NON-FREEWAY/EXPRESSWAY	GREATER THAN OR EQUAL TO 45	10	15
NON-FREEWAY/EXPRESSWAY	LESS THAN 45	8	10
AADT LESS THAN 1,500	ALL	8	10

**CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER  
INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER**

**DIMENSION B TABLE** <sup>(2)</sup>

POSTED SPEEDS MPH	DIMENSION B FT
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645



**CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER  
INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER**

**LEGEND**

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

**GENERAL NOTES**

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

- ① FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.
- ② VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

**CRASH CUSHION/SAND BARREL  
ARRAY AND OTHER TEMPORARY  
BARRIER LAYOUT DETAILS**

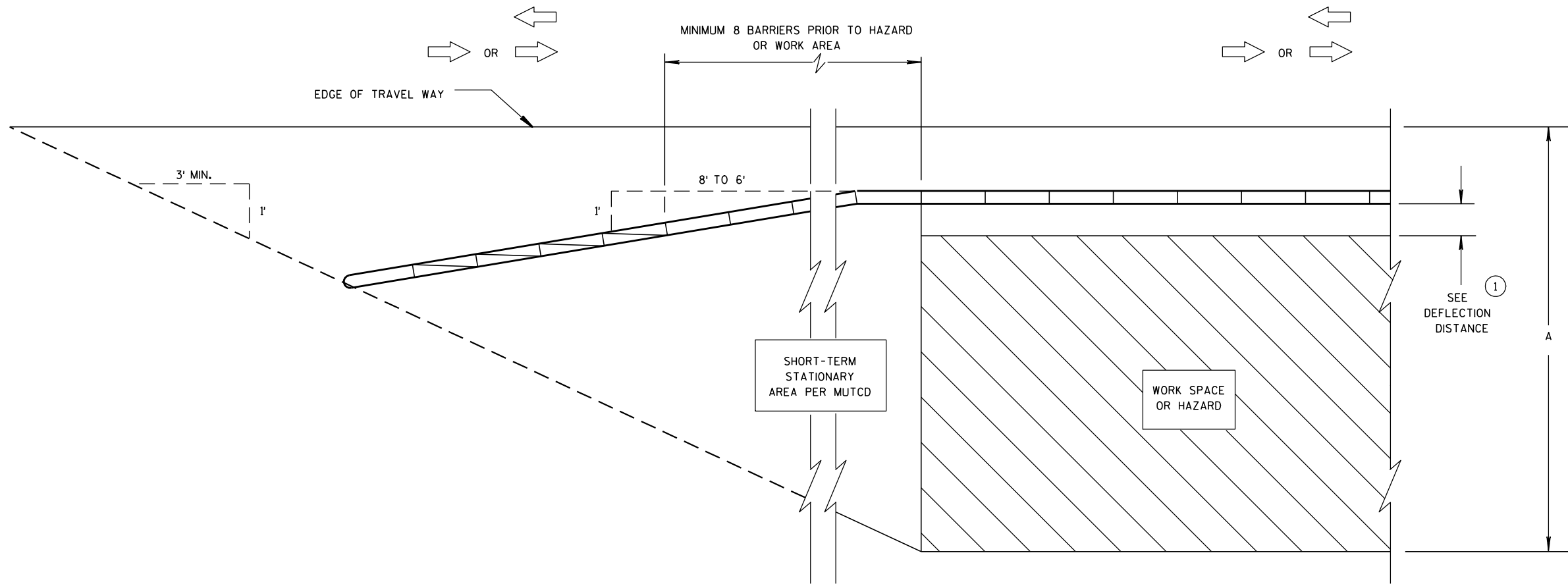
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

6

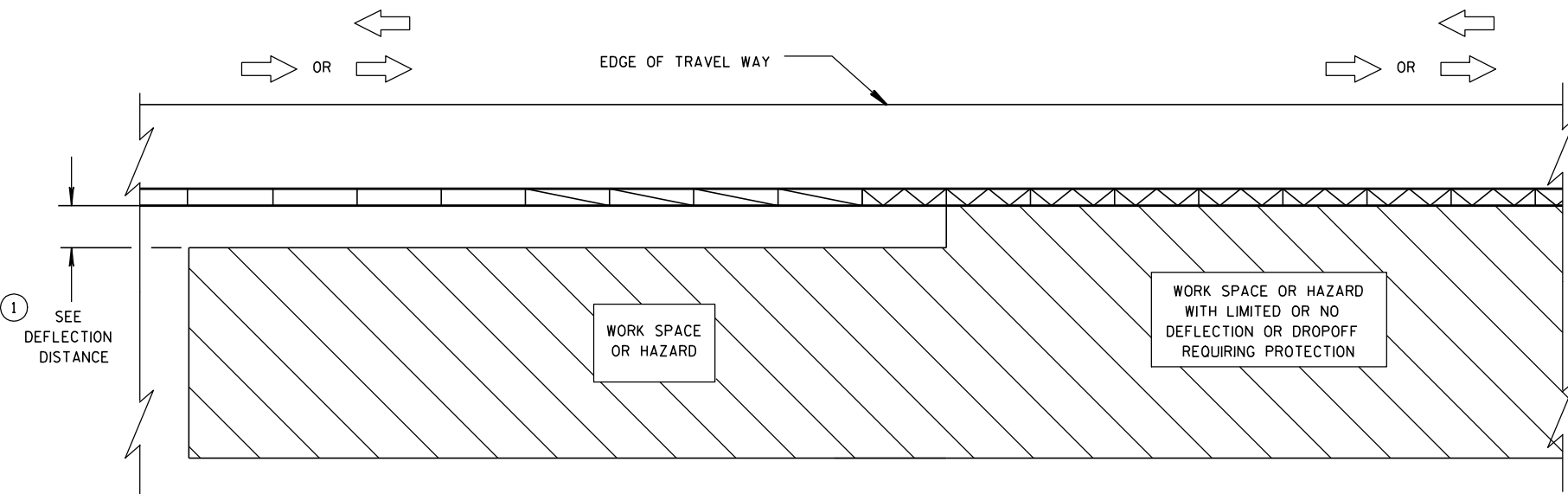
6

S.D.D. 14 B 8-1a

S.D.D. 14 B 8-1a



**CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER  
INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION**



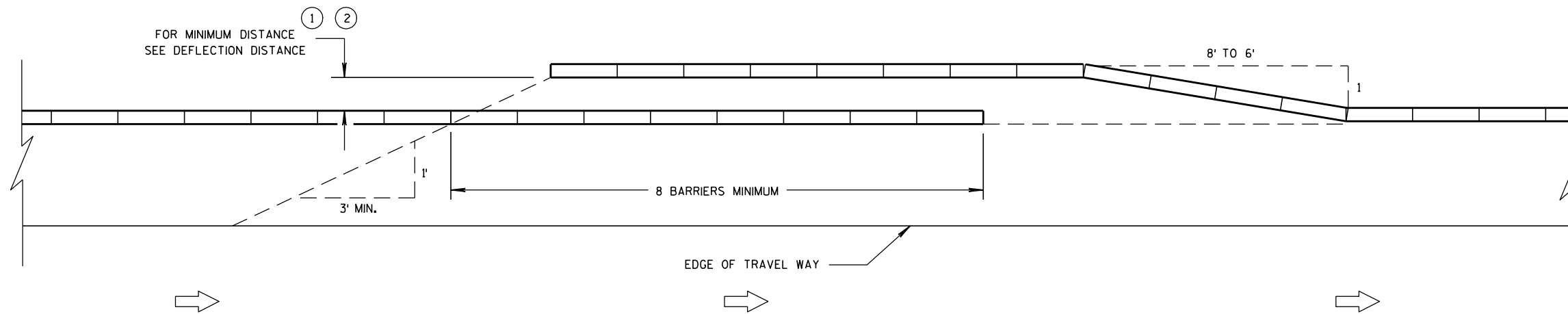
**TRANSITION FROM FREE STANDING TEMPORARY BARRIER  
TO ANCHORED BARRIER**

**LEGEND**

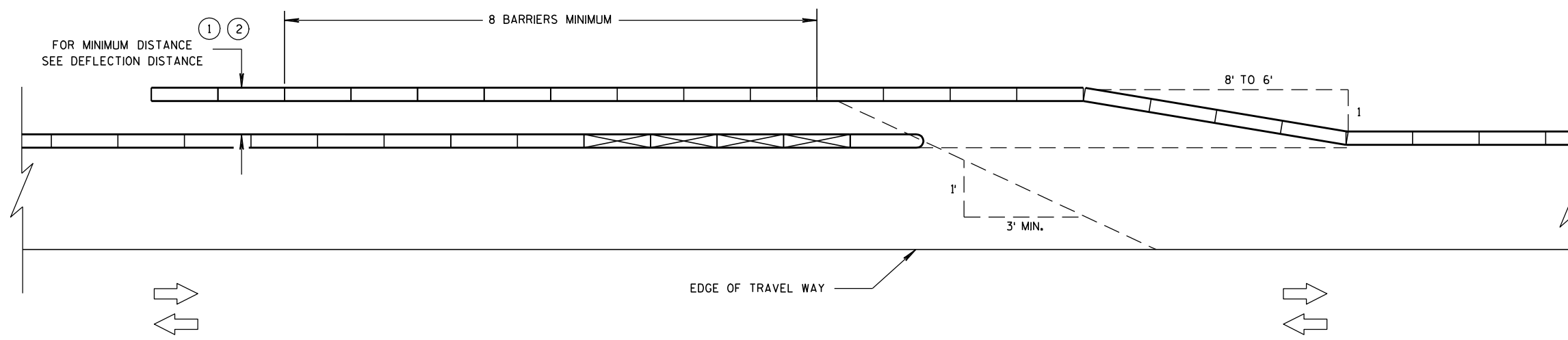
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

**CRASH CUSHION/SAND BARREL  
ARRAY AND OTHER TEMPORARY  
BARRIER LAYOUT DETAILS**

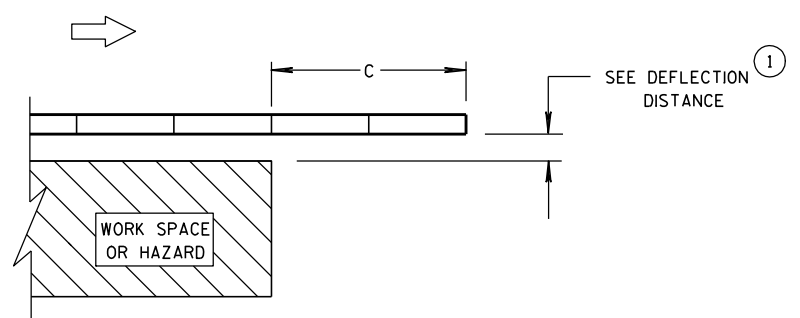
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



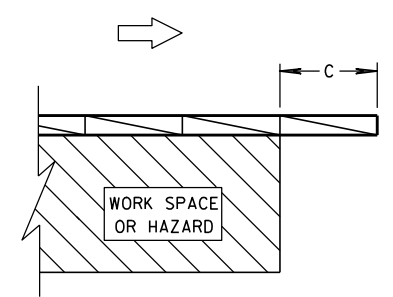
**TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC**



**TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC**



**ENDING TEMPORARY BARRIER  
DOWNSTREAM - UNANCHORED**



**ENDING TEMPORARY BARRIER  
DOWNSTREAM - ANCHORED**

**LEGEND**

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

**CRASH CUSHION/SAND BARREL  
ARRAY AND OTHER TEMPORARY  
BARRIER LAYOUT DETAILS**

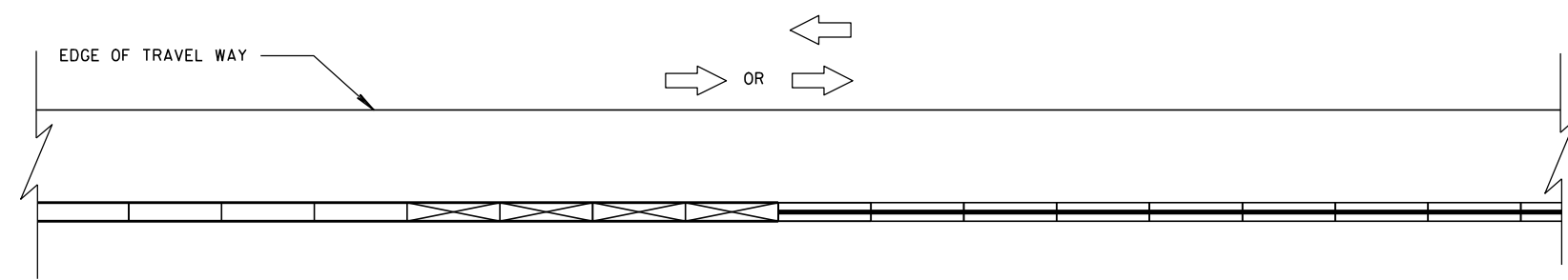
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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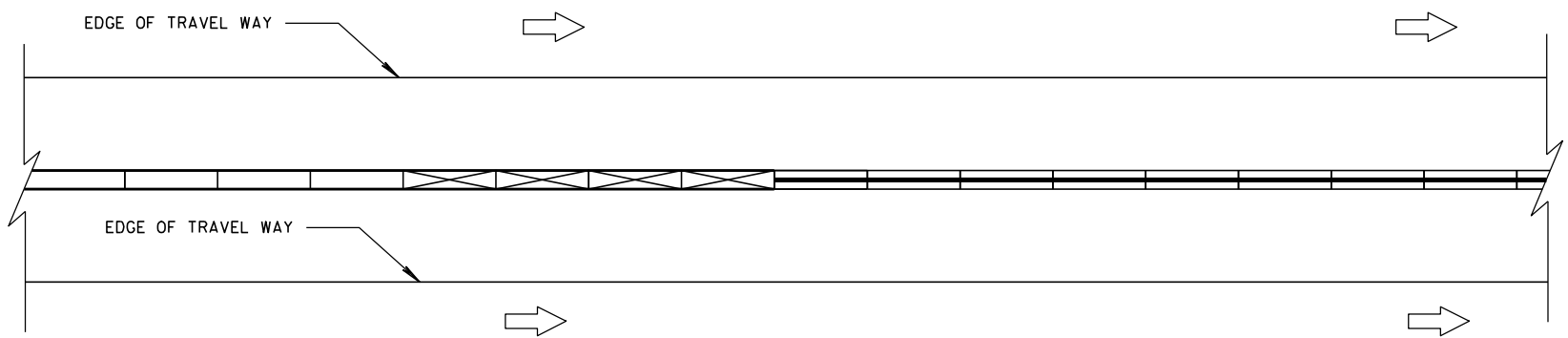
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S.D.D. 14 B 8-1c

S.D.D. 14 B 8-1c



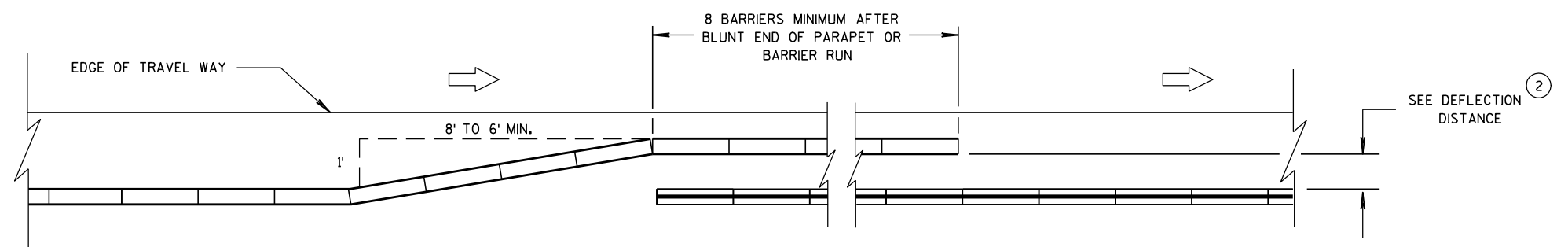
**CONNECTING TEMPORARY BARRIER TO PERMANENT  
CONCRETE BARRIER-TRAFFIC ON ONE SIDE**



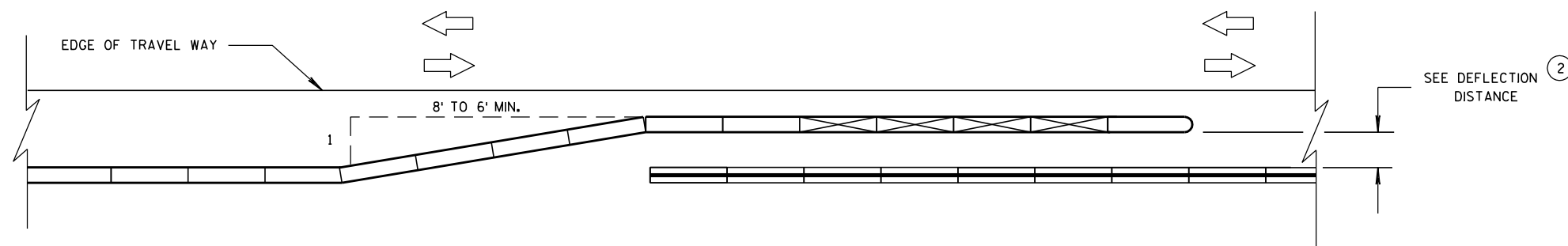
**CONNECTING TEMPORARY BARRIER TO PERMANENT  
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES**

**LEGEND**

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER



**OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -  
ONE WAY TRAFFIC**



**OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -  
TWO WAY TRAFFIC**

**CRASH CUSHION/SAND BARREL  
ARRAY AND OTHER TEMPORARY  
BARRIER LAYOUT DETAILS**

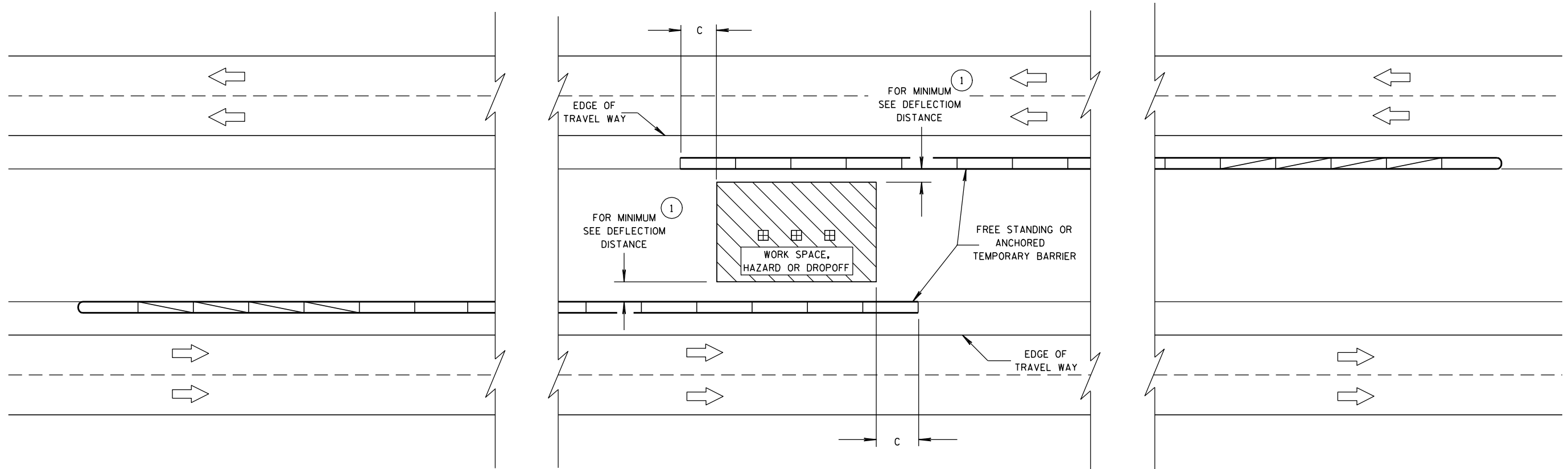
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

**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** <sup>2</sup>

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 8-1e

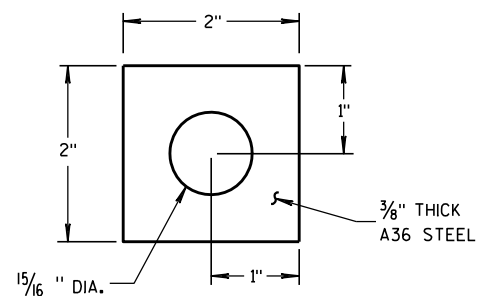
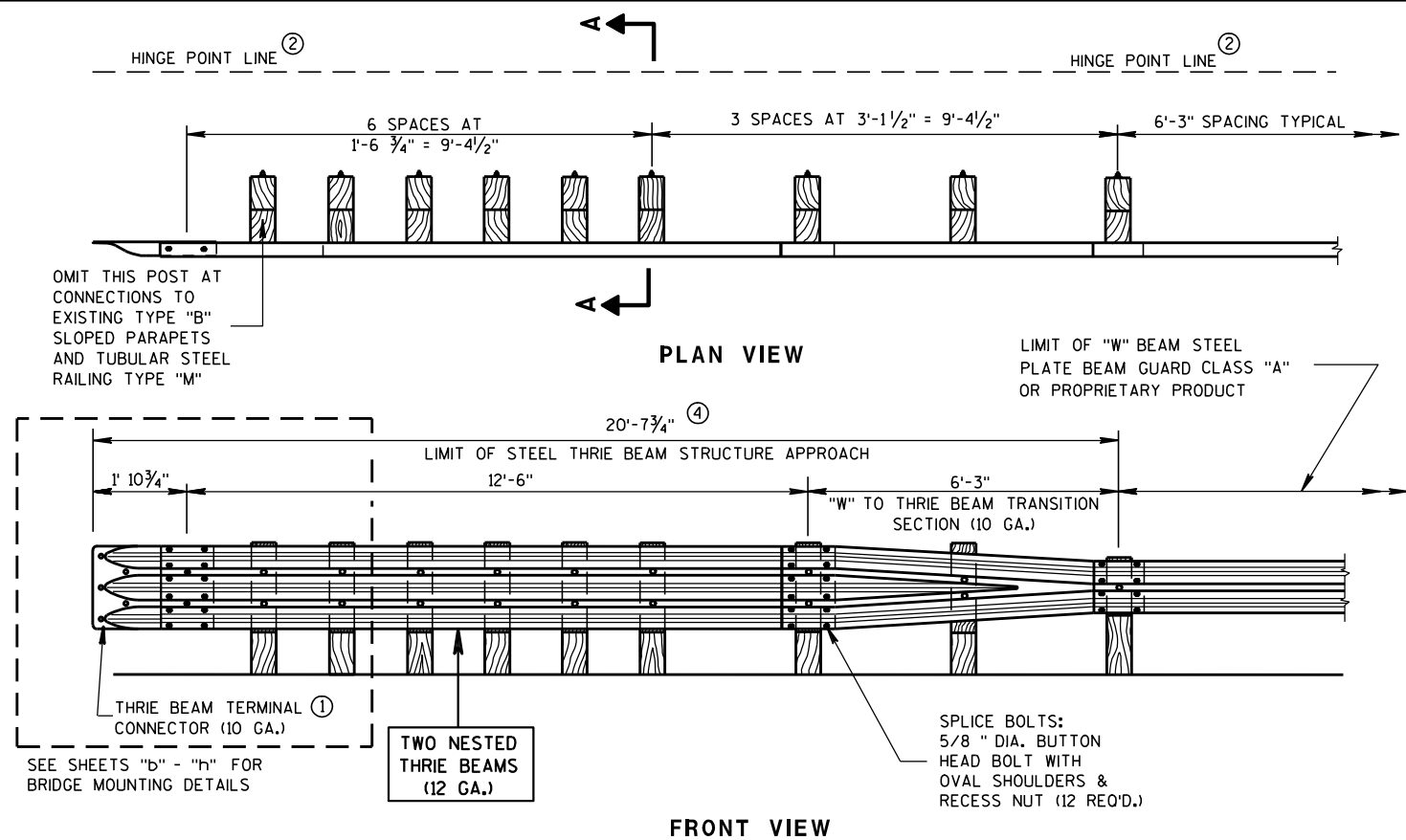
S.D.D. 14 B 8-1e

**CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

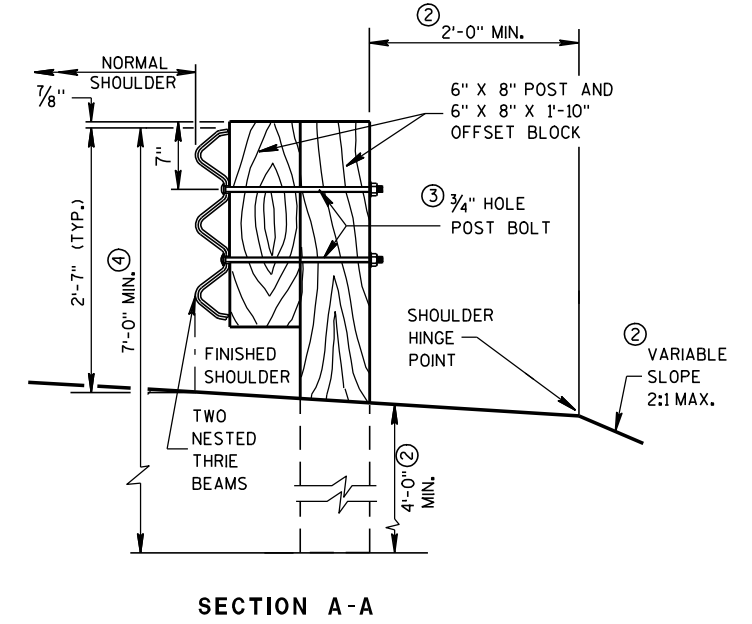
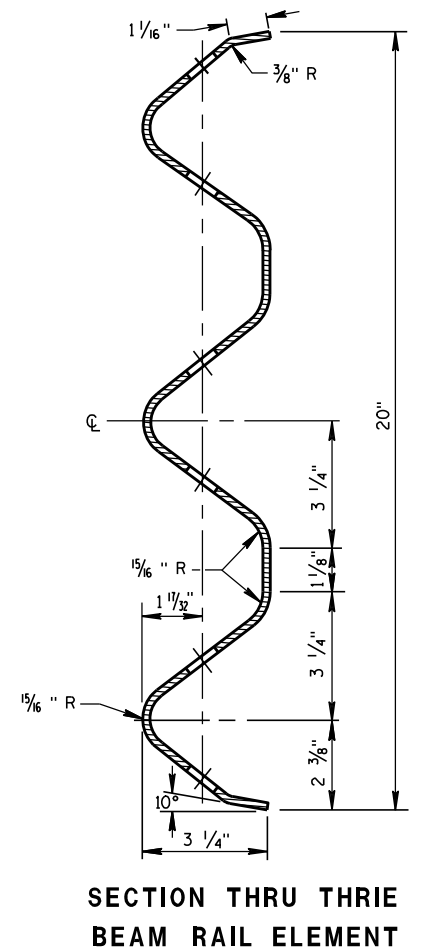
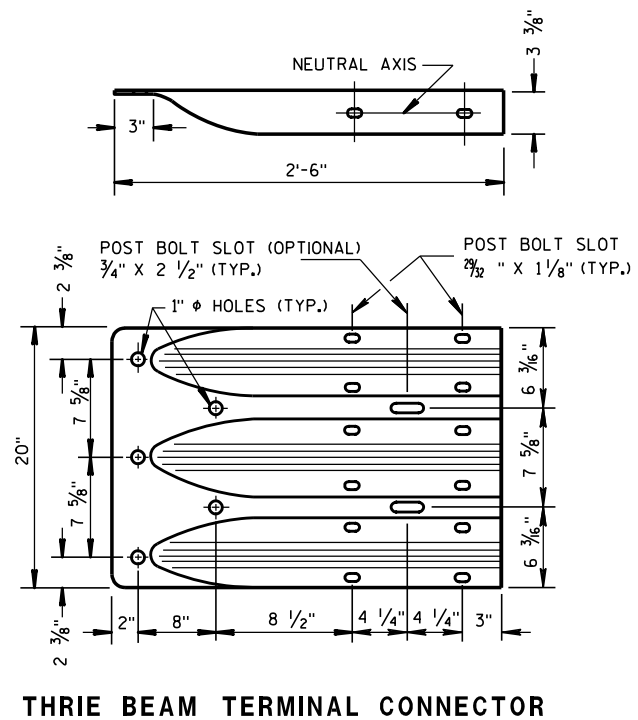
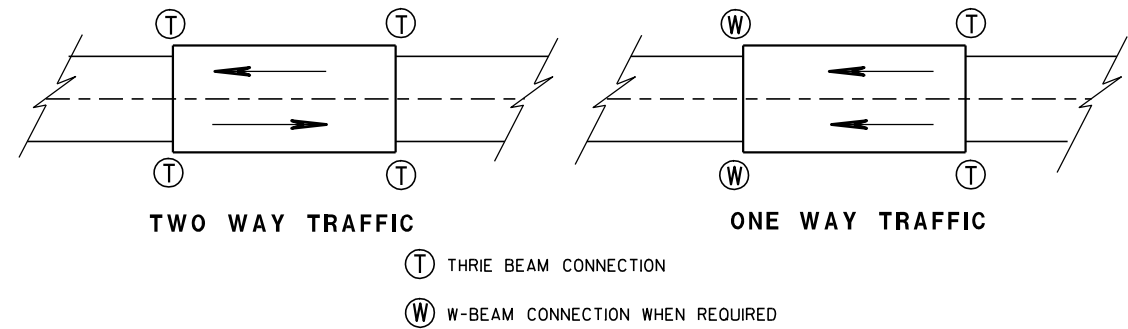
APPROVED  
8/31/2012 DATE /s/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA



**GENERAL NOTES**

- BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS, DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".
- DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.
- IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.
- BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.
  - MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.
  - POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.
  - ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



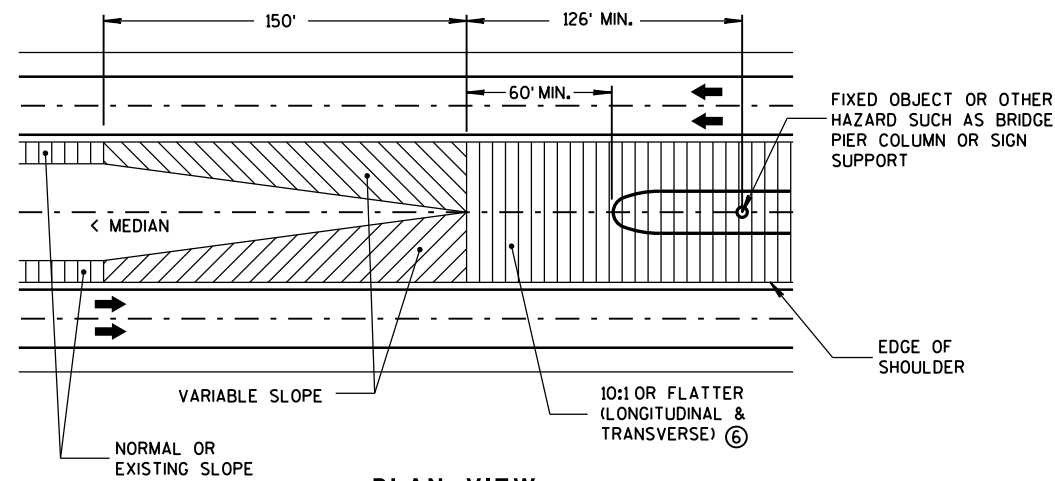
**STEEL THRIE BEAM STRUCTURE APPROACH**

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

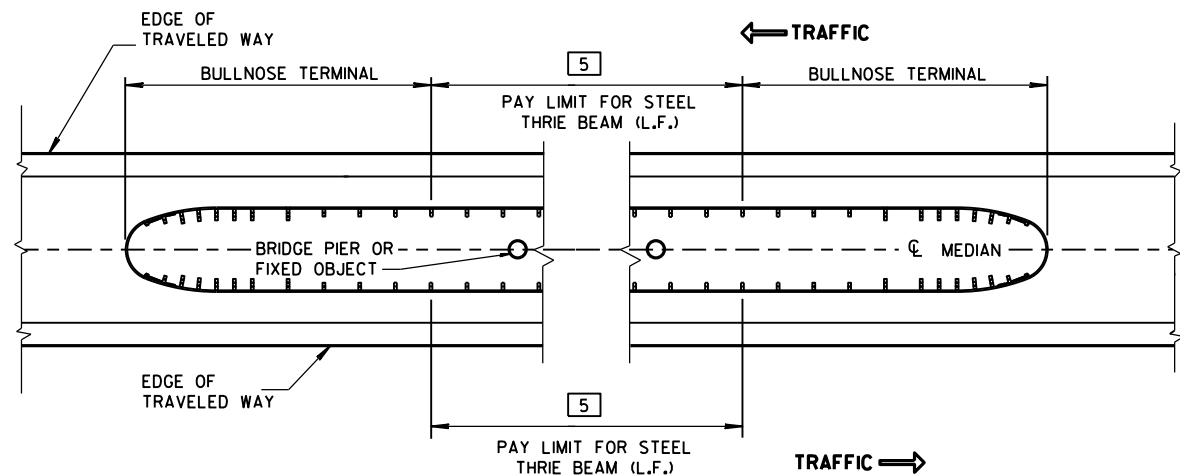
APPROVED 8/31/2012 DATE

/s/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER

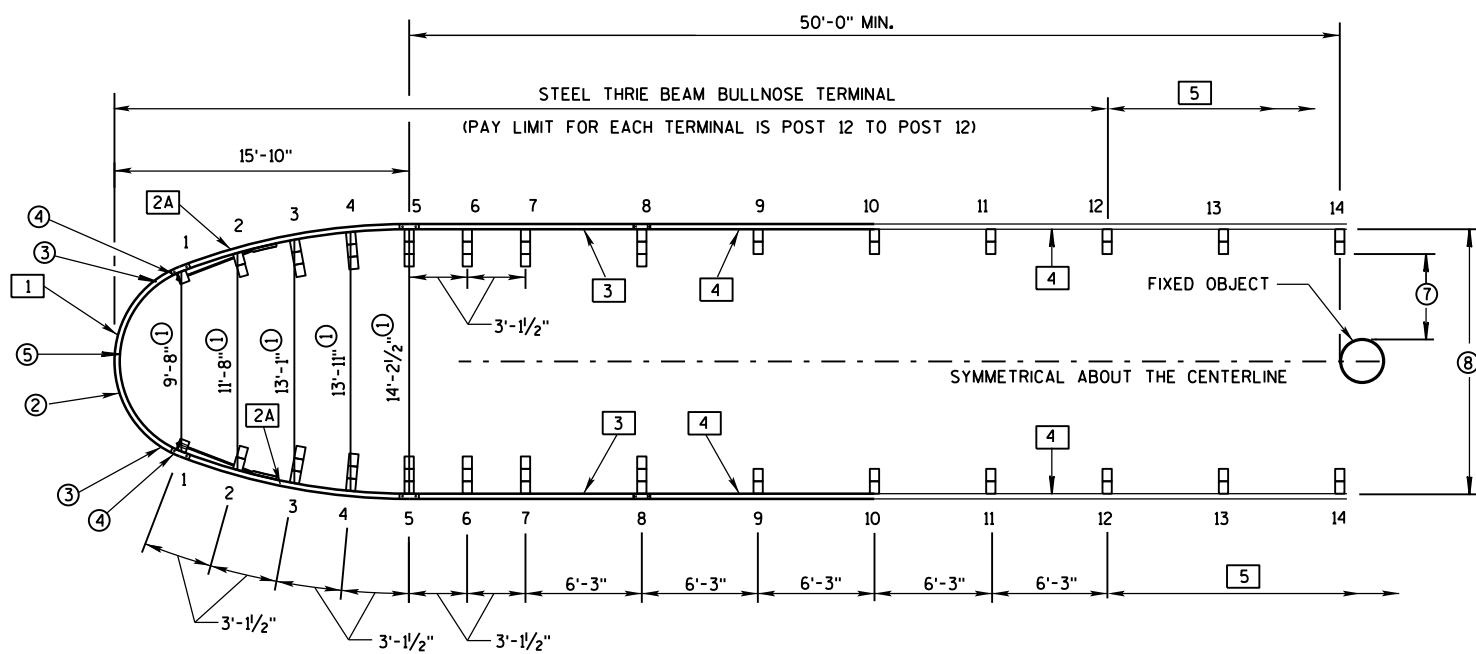
FHWA



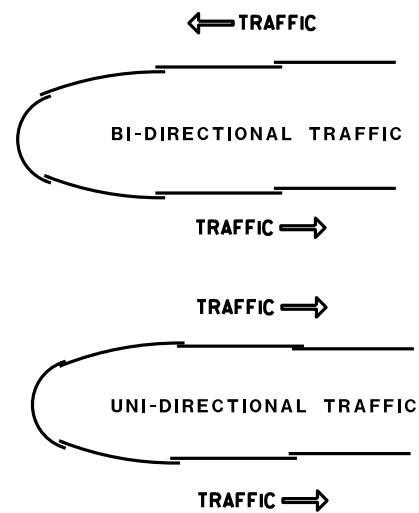
**PLAN VIEW  
GRADING AT BULLNOSE  
(ALL INSTALLATIONS)**



**MEDIAN HAZARD PROTECTION PAY LIMITS**



**PLAN VIEW  
TYPICAL BULLNOSE LAYOUT**



**LAPPING DETAIL  
(ALL INSTALLATIONS)**

**GENERAL NOTES**

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.

PUNCHING, DRILLING, CUTTING OR WELDING IS NOT PERMITTED ON ANY GALVANIZED THRIE BEAM ACCESSORY OR TERMINAL ACCESSORY.

OTHER ANCHOR CABLE ASSEMBLIES HAVING 40,000 LBS. MIN. BREAKING STRENGTH MAY BE USED.

FOR POSTS 2 THROUGH 14, IF POST CANNOT BE INSTALLED AT SPECIFIED LOCATION 1 EXTRA STANDARD WOOD BLOCK MAY BE ADDED.

THE USE OF STEEL POSTS ON THE BULLNOSE IS NOT ALLOWED.

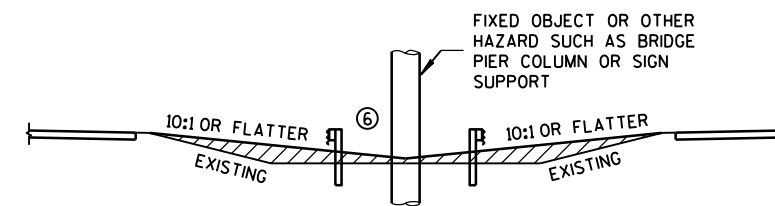
BOLTS AND ALL NECESSARY HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

ALL THRIE BEAM SHALL BE 12-GAUGE.

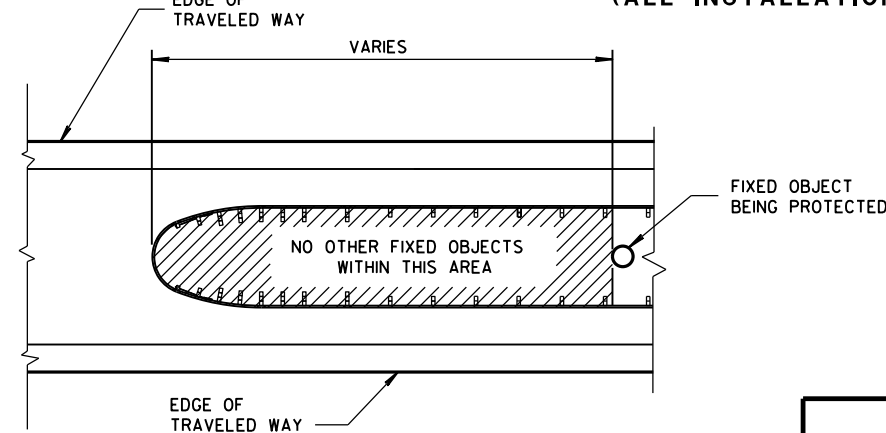
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2" AND 12" DIAMETER AROUND POST. SEE SDD 14B15 OR SDD 14B42 FOR MORE INFORMATION.

- 1 SLOTTED THRIE BEAM RAIL NO. 1. (POST 1 TO POST 1)
- 2A SLOTTED THRIE BEAM RAIL NO. 2A. (POST 1 TO POST 5)
- 3 SLOTTED THRIE BEAM RAIL NO. 3. (POST 5 TO POST 8)
- 4 UNBENT STANDARD THRIE-BEAM RAIL NO. 4. (POST 8 TO POST 10 & POST 10 TO POST 12)
- 5 BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.

- ① DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST OR BLOCK.
- ② U-BOLT CABLE CLIPS (3 PER CABLE) SPACED OUT ON NOSE, TO HOLD CABLE TO BACKSIDE OF THE RAIL.
- ③ NOSE CABLE W/SWAGGED END BUTTONS.
- ④ NOSE CABLE ANCHOR PLATE (BACKSIDE OF SPLICE).
- ⑤ THE SLACK IN THE NOSE CABLES SHALL BE EVENLY DISTRIBUTED BETWEEN THE CABLE CLIP FASTENERS AND POST NO. 1 ON EITHER SIDE OF THE NOSE.
- ⑥ PROVIDE SUITABLE DRAINAGE WHEN MEDIAN GRADING IMPEDES NORMAL FLOW.
- ⑦ 2'-6" MINIMUM LATERAL DISTANCE BETWEEN BACK OF POST AND FACE OF FIXED OBJECT.
- ⑧ MAXIMUM WIDTH OF SYSTEM IS 14'-2 1/2" MEASURED FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.



**MEDIAN GRADING SECTION  
(ALL INSTALLATIONS)**

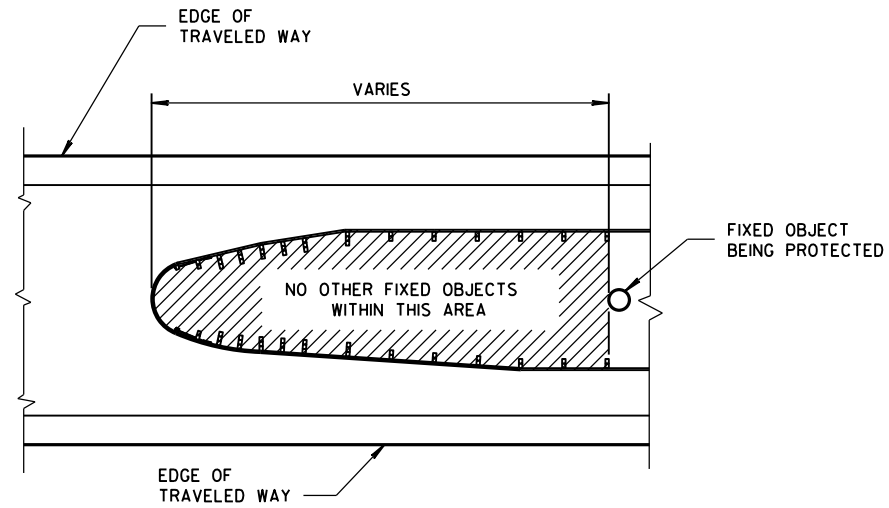


**HAZARD FREE  
AREA INSIDE BULLNOSE**

**STEEL THRIE BEAM  
BULLNOSE TERMINAL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION





**HAZARD FREE  
AREA INSIDE BULLNOSE**

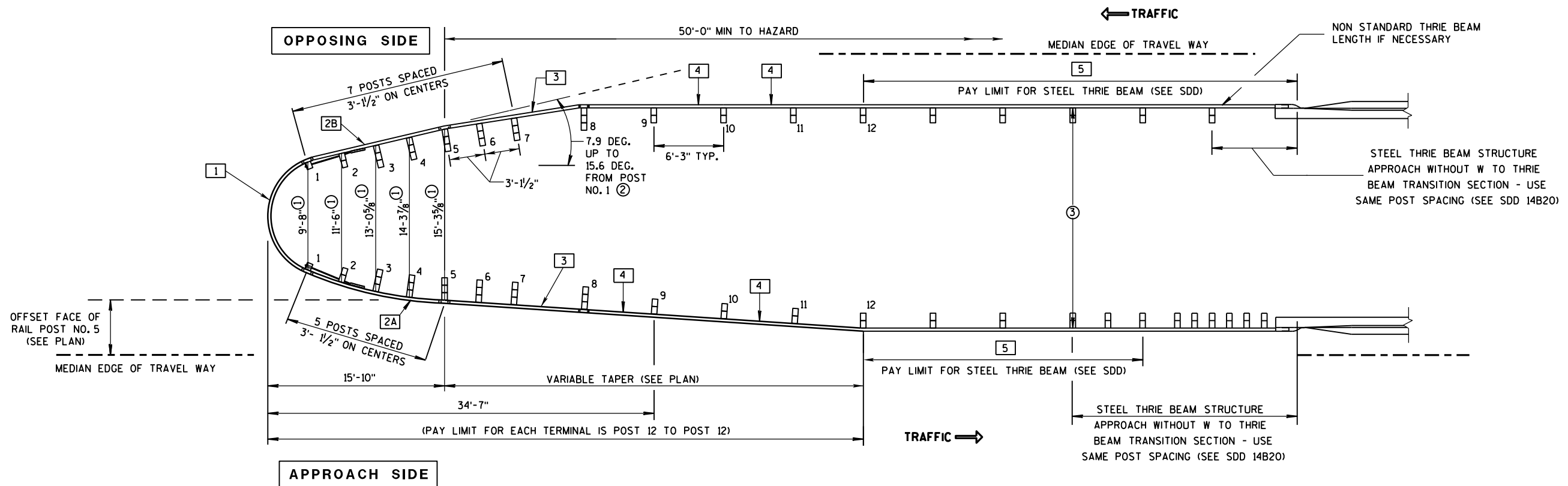
**GENERAL NOTES**

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.

FOR POSTS 2 THROUGH 14, IF POST CANNOT BE INSTALLED AT SPECIFIED LOCATION 1 EXTRA STANDARD WOOD BLOCK MAY BE ADDED.

- 1 SLOTTED THRIE BEAM RAIL NO. 1. ( POST 1 TO POST 1 )
- 2A SLOTTED THRIE BEAM RAIL NO. 2A, ( POST 1 TO POST 5 )
- 2B SLOTTED THRIE BEAM RAIL NO. 2B, ( POST 1 TO POST 5 )
- 3 SLOTTED THRIE BEAM RAIL NO. 3, ( POST 5 TO POST 8 )
- 4 UNBENT STANDARD THRIE-BEAM RAIL NO. 4, ( POST 8 TO POST 10 & POST 10 TO POST 12 )
- 5 BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.

- ① DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST.
- ② TAPER BEGINNING AT POST NO. 1 MUST CONTINUE TO POST NO. 5. PAST POST NO. 5 TAPER MAY END OR BE EXTENDED UP TO 15.6 DEGREES TO FIT VARIABLE MEDIAN WIDTHS. (SEE PLAN)
- ③ FOR MEDIANS WIDER THAN 14'-2 1/2" MEASURED FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.



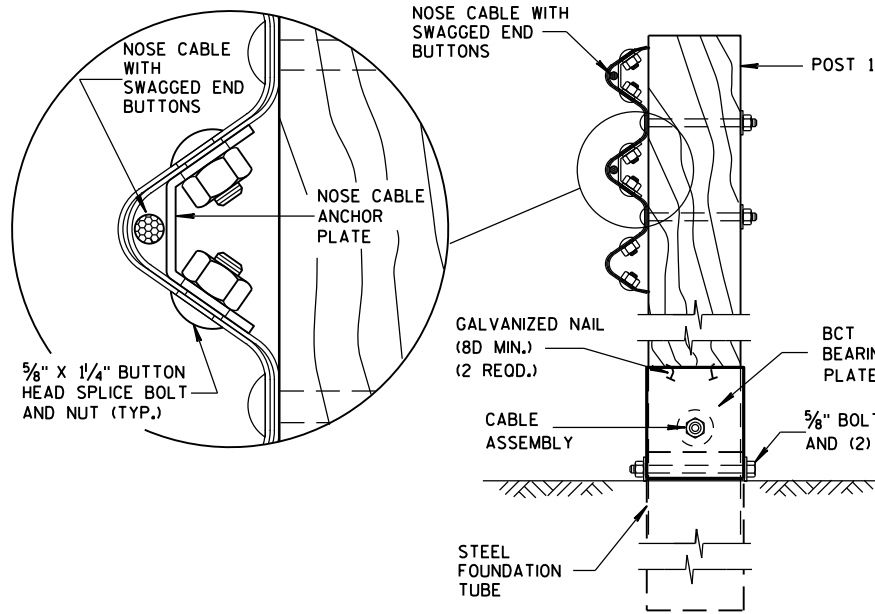
**PLAN VIEW**

**WIDENED BULLNOSE DESIGN**

( INSTALLATION AT TWIN BRIDGES WITH BI-DIRECTIONAL TRAFFIC SHOWN )

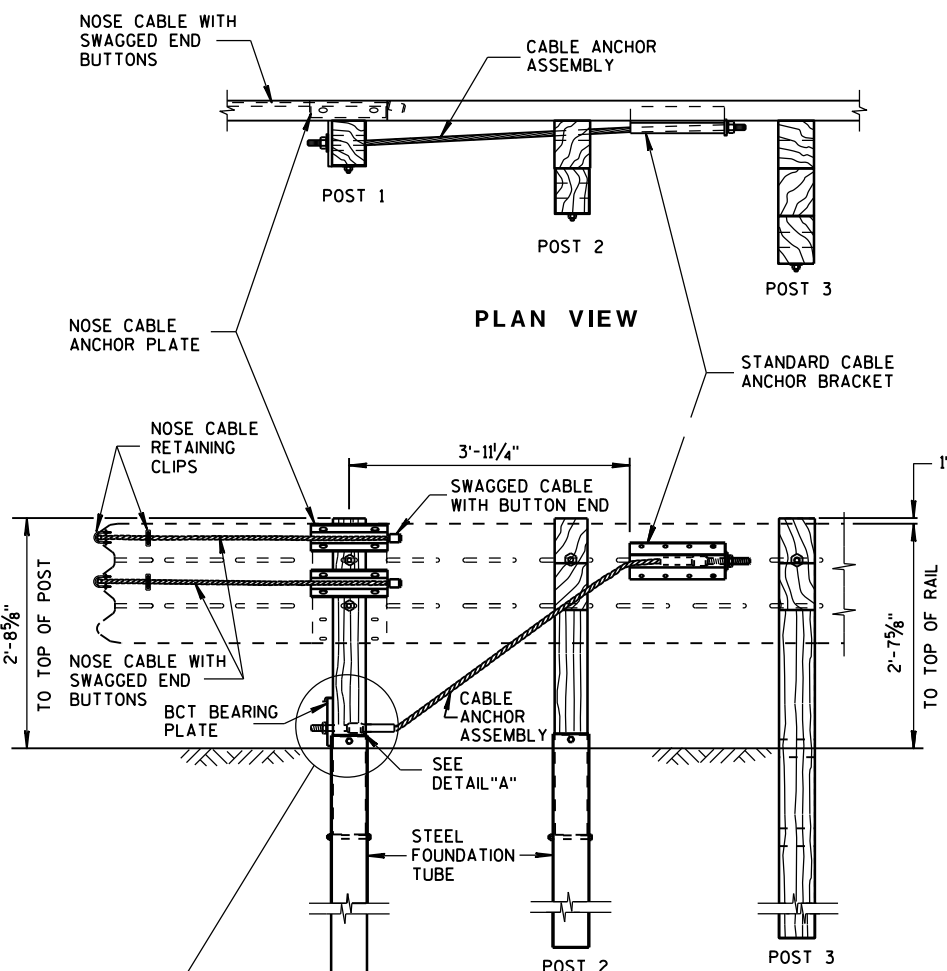
**STEEL THRIE BEAM  
BULLNOSE TERMINAL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



SIDE VIEW

NOSE CABLE ASSEMBLY AT POST NO. 1

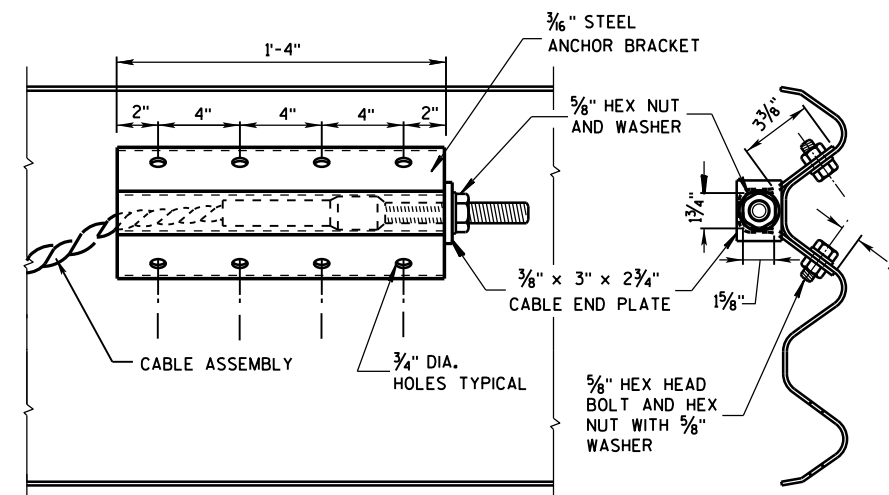


PLAN VIEW

FRONT VIEW  
NOSE CABLE ANCHOR AND  
STANDARD BRACKET ASSEMBLY

GENERAL NOTES

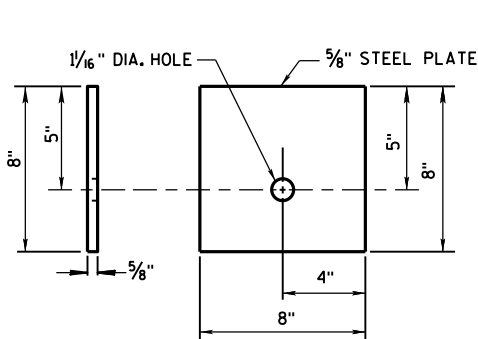
SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.



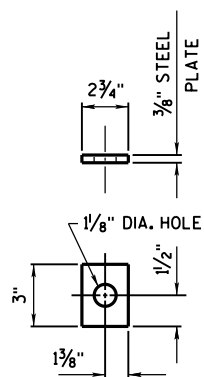
FRONT VIEW

END VIEW

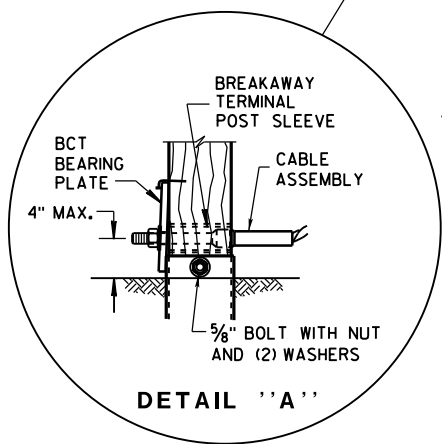
DETAILS OF CABLE ANCHOR BRACKET



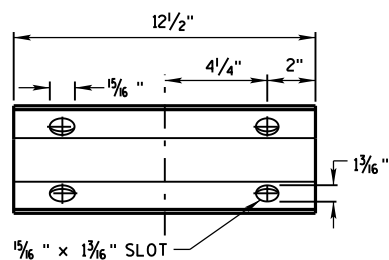
BCT BEARING PLATE



CABLE  
END PLATE



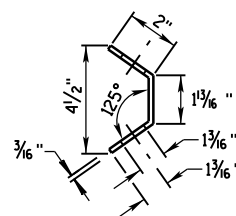
DETAIL "A"



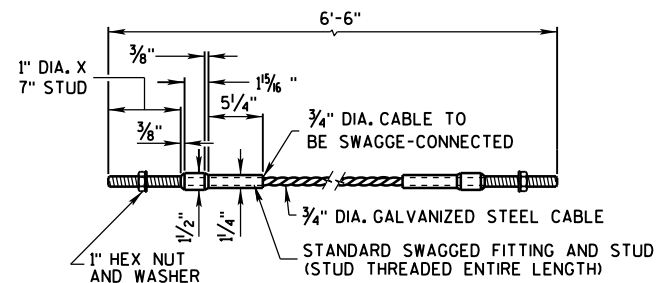
ELEVATION VIEW

NOSE CABLE ANCHOR PLATE

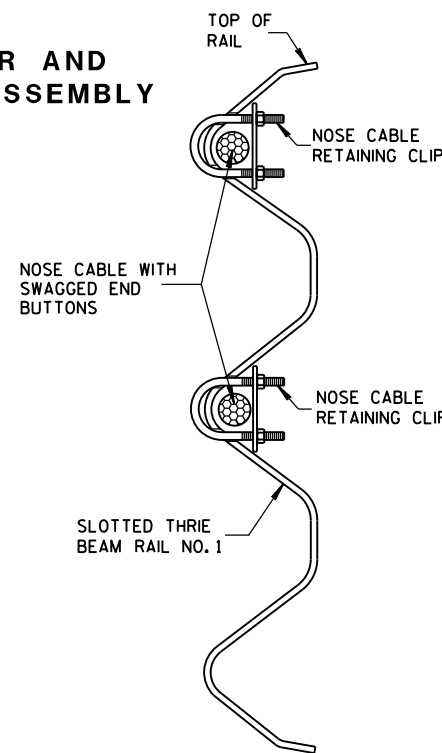
NOTE: 12 1/2" x 5 1/8" x 3/16" STEEL PLATE (A306)



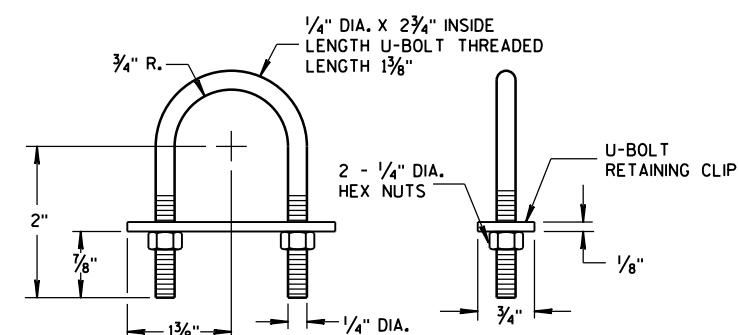
END VIEW



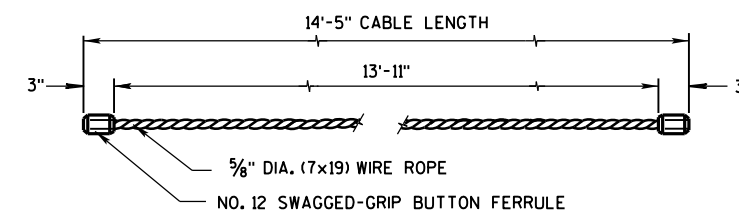
DETAILS OF CABLE ANCHOR ASSEMBLY



PLACEMENT OF NOSE  
CABLE RETAINING CLIP



NOSE CABLE RETAINING CLIP

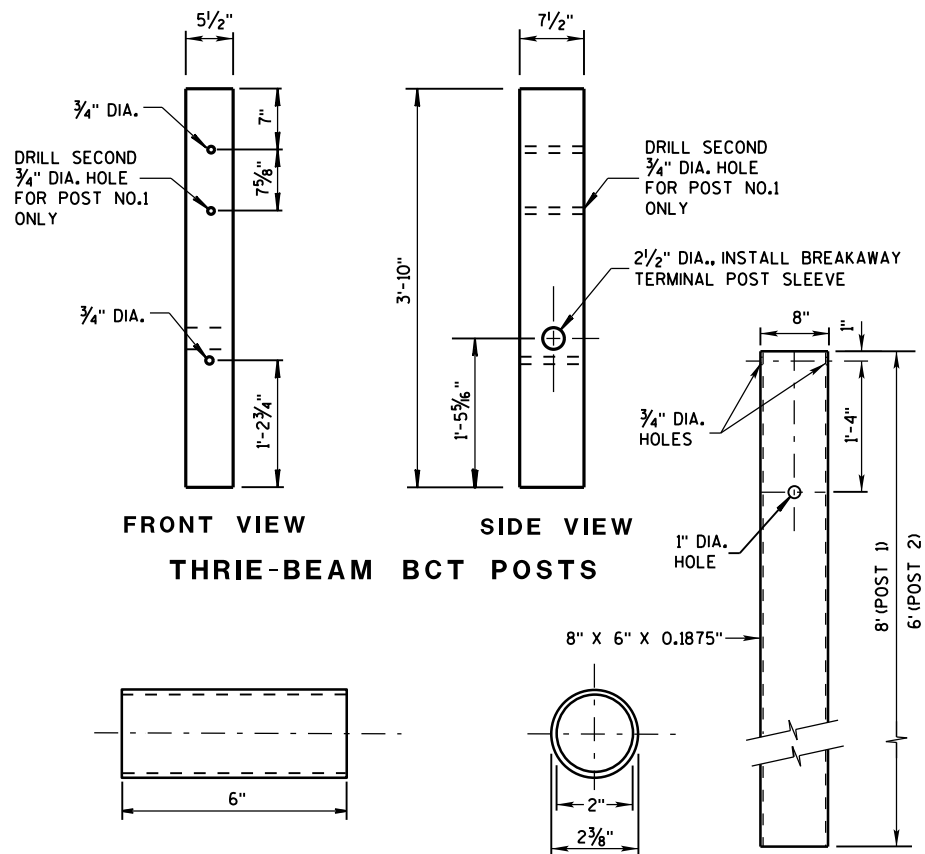


NOSE CABLE WITH  
SWAGGED END BUTTONS

TO PULL OFF SWAGGED GRIP BUTTON FERRULE FROM WIRE ROPE REQUIRES A FORCE EQUAL TO 98% OF THE WIRE ROPE'S BREAKING STRENGTH.

STEEL THRIE BEAM  
BULLNOSE TERMINAL

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

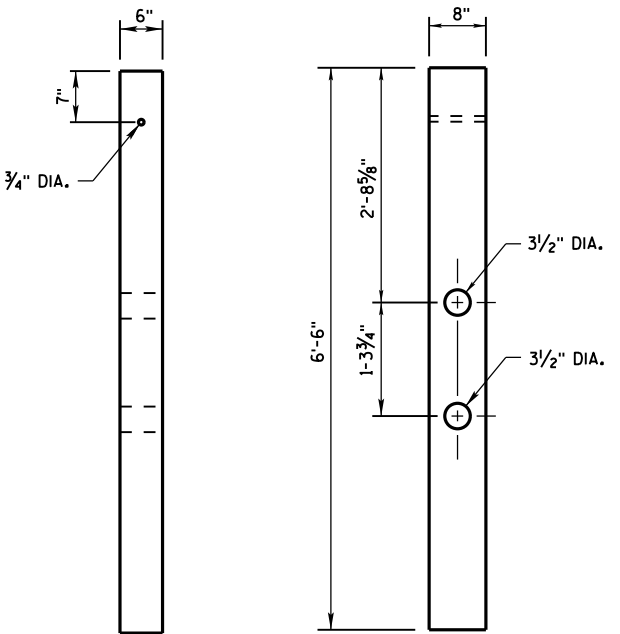


**FRONT VIEW  
THRIE-BEAM BCT POSTS**

**SIDE VIEW**

**BREAKAWAY TERMINAL  
POST SLEEVE**

**STEEL  
FOUNDATION TUBE**



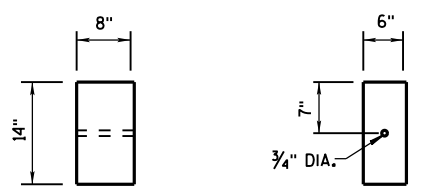
**FRONT VIEW**

**SIDE VIEW**

**THRIE-BEAM CRT WOOD POSTS**

**GENERAL NOTES**

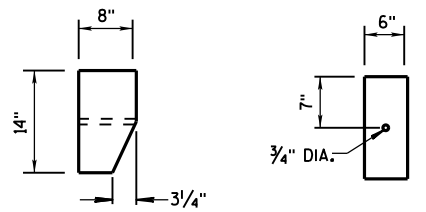
SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.



**SIDE VIEW**

**FRONT VIEW**

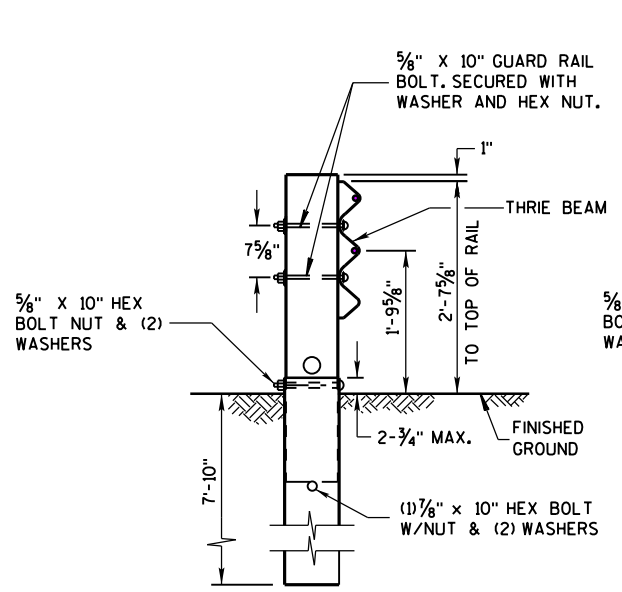
**STANDARD WOOD BLOCK**



**SIDE VIEW**

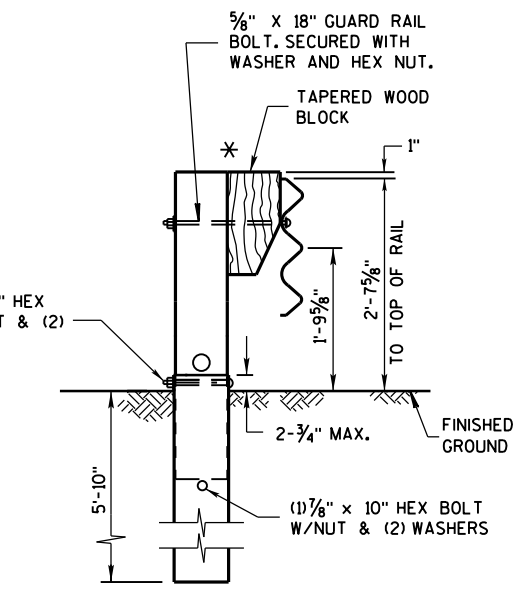
**FRONT VIEW**

**TAPERED WOOD BLOCK**



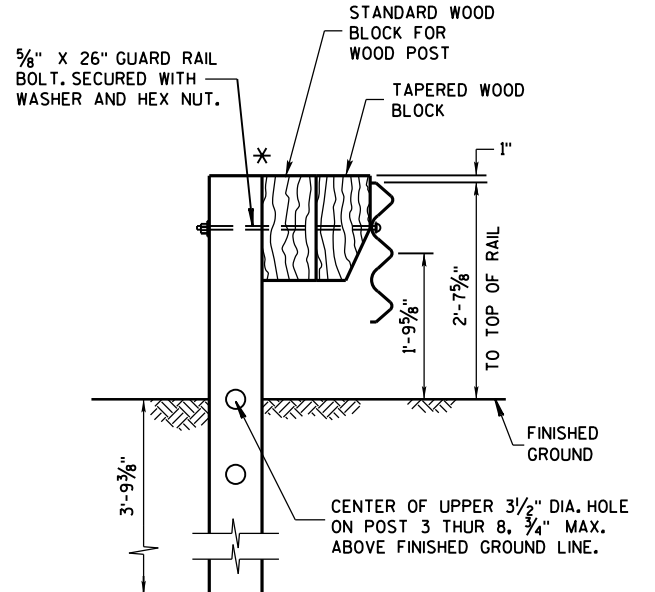
**THRIE-BEAM BCT POST  
(WITH 8'-0" FOUNDATION TUBE)**

POST NO. 1



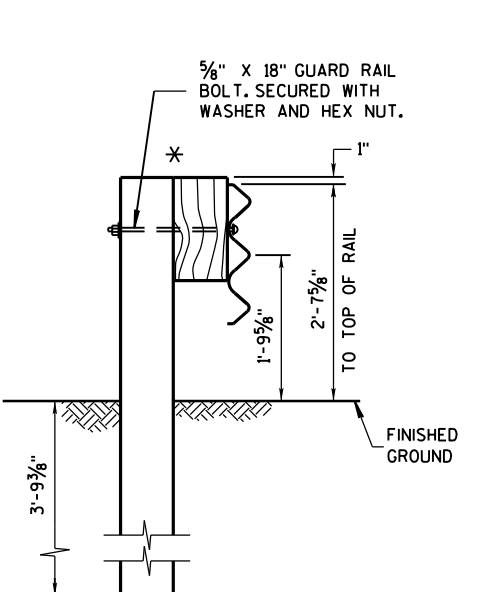
**THRIE-BEAM BCT POST  
(WITH 6'-0" FOUNDATION TUBE  
AND 1'-2" TAPERED BLOCK)**

POST NO. 2



**THRIE-BEAM CRT POST  
(6'-6" LONG POST WITH 1'-2" BLOCK  
AND 1'-2" TAPERED BLOCK)**

POST NO. 3, 4, 5, 6, 7, & 8



**THRIE-BEAM POST  
(6'-6" LONG POST  
WITH 1'-2" BLOCK)**

POST NO. 9, 10, 11, & 12  
(ALSO USE FOR STEEL  
THRIE BEAM BEYOND POST 12)

\* IF NEEDED DUE TO AN UNDERGROUND OBSTACLE ADD 1 ADDITIONAL STANDARD BLOCKOUT TO POST.

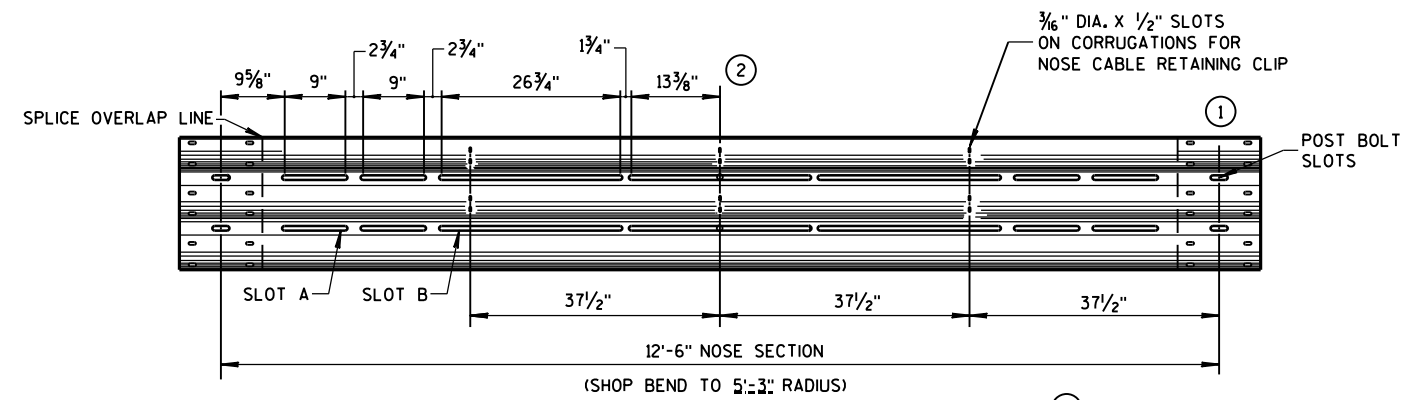
**STEEL THRIE BEAM  
BULLNOSE TERMINAL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

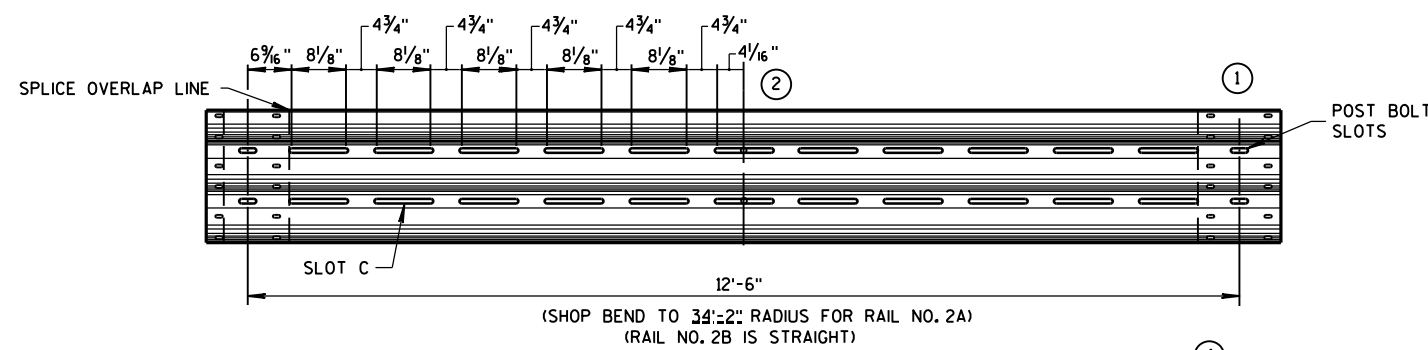
**GENERAL NOTES**

SEE STANADRD DETAIL DRAWINGS 14 B 26a-e.

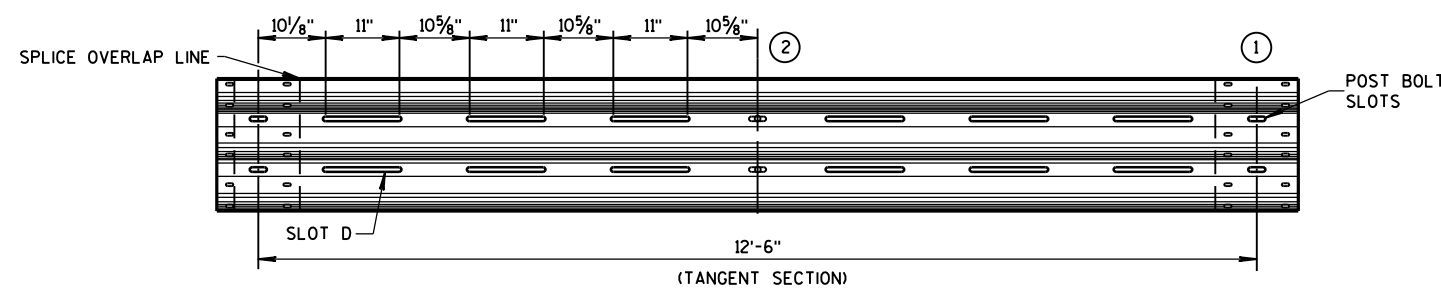
- ① SLOTTED THRIE BEAM RAIL DIMENSIONS SHOWN ARE BEFORE BENDING TO THE RADIUS SHOWN.
- ② SLOT SIZE AND SPACING SYMMETRIC.
- ③ SLOTTED THRIE BEAM RAIL NO. 1, 12'-6", SHOP BEND TO R=5'-3".
- ④ SLOTTED THRIE BEAM RAIL NO. 2A, 12'-6", SHOP BEND TO R=34'-2".  
SLOTTED THRIE BEAM RAIL NO. 2B, 12'-6", RAIL IS STRAIGHT.
- ⑤ SLOTTED THRIE BEAM RAIL NO. 3, 12'-6", TANGENT.



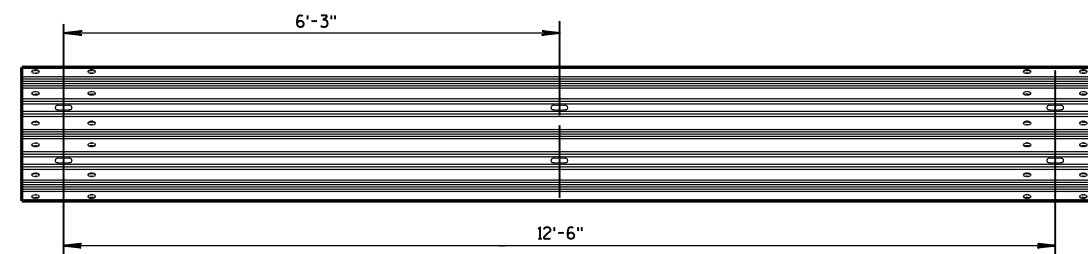
**SLOTTED THRIE BEAM RAIL NO. 1** ③



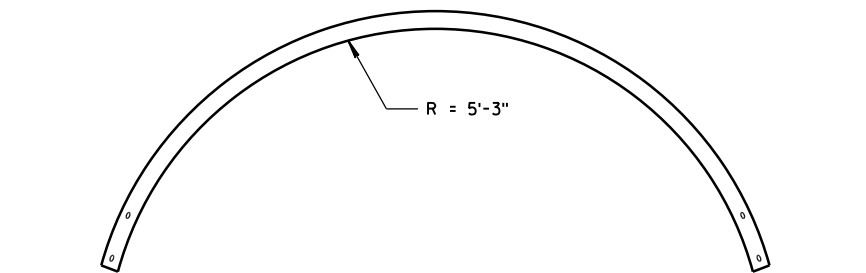
**SLOTTED THRIE BEAM RAILS NO. 2A AND NO. 2B** ④



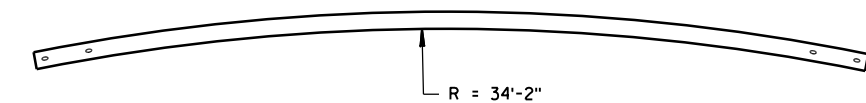
**SLOTTED THRIE BEAM RAIL NO. 3** ⑤



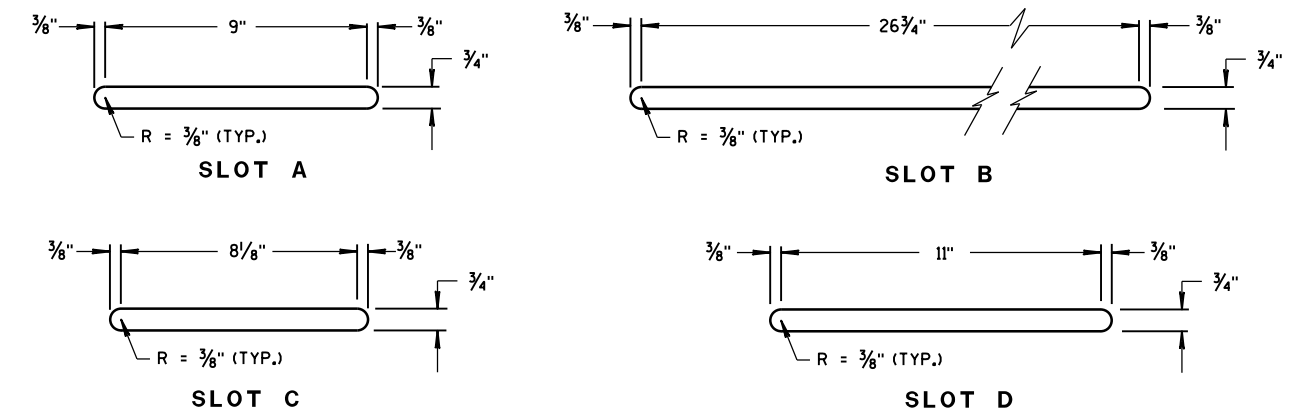
**UNBENT STANDARD THRIE BEAM RAIL NO. 4 AND NO. 5**



**PLAN VIEW  
SLOTTED THRIE BEAM RAIL NO. 1**



**PLAN VIEW  
SLOTTED THRIE BEAM RAIL NO. 2A**

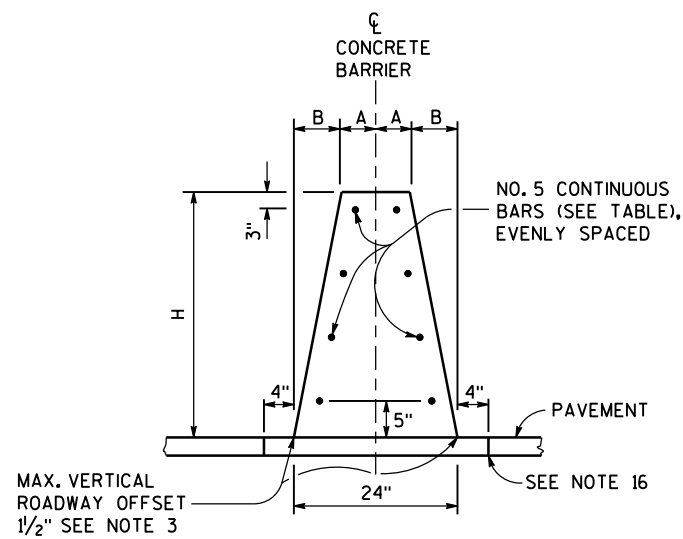


**SLOT DETAILS**

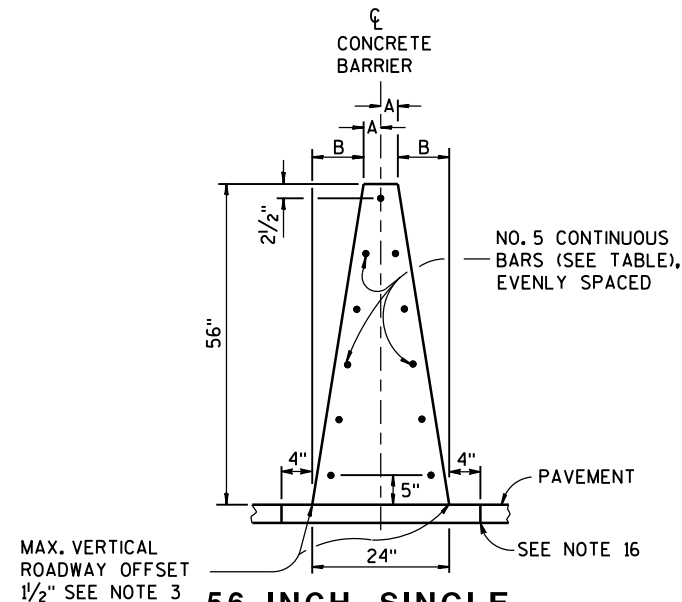
**STEEL THRIE BEAM  
BULLNOSE TERMINAL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

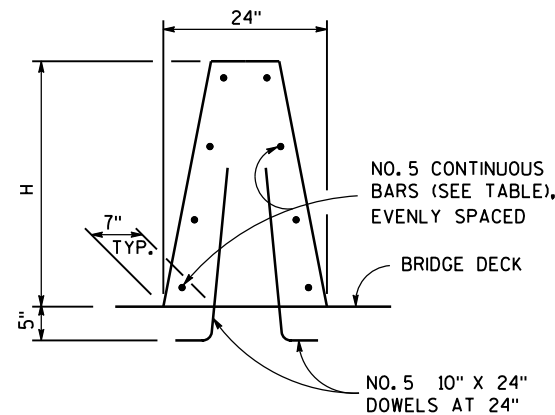
APPROVED  
June 2014 /S/ Jerry H. Zogg  
DATE ROADWAY STANDARDS DEVELOPMENT  
FHWA ENGINEER



**32-INCH, 36-INCH OR 42-INCH SINGLE SLOPE CONCRETE BARRIER (TYPE S32, TYPE S36, AND TYPE S42)**



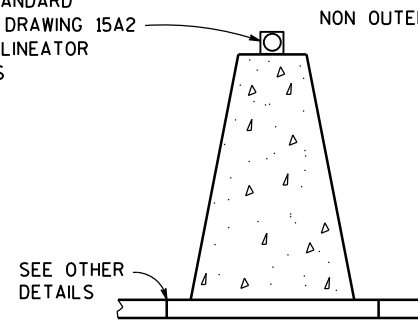
**56-INCH SINGLE SLOPE CONCRETE BARRIER (TYPE S56)**



**SINGLE SLOPE CONCRETE BARRIER ON BRIDGE**

BARRIER HEIGHT H INCHES	A INCHES	B INCHES	NUMBER OF NO. 5 BARS EACH
32	7	5	8
36	6 1/4	5 3/4	8
42	5 1/4	6 3/4	10
56	3	9	11

SEE STANDARD DETAIL DRAWING 15A2 FOR DELINEATOR DETAILS



**DELINEATION**

**GENERAL NOTES**

- WHERE THE CONCRETE BARRIER IS ADDED TO THE FACE OF EXISTING CONCRETE STRUCTURE, MATCH EXISTING WEEP HOLES.
- EXPANSION JOINTS IN CONCRETE BARRIER SHALL BE LOCATED AT ALL DECK, AND PRINCIPAL WALL JOINTS. EXPANSION JOINT FILLER MATERIAL SHALL BE THE SAME SIZE AS JOINT OR 1/2" MINIMUM.
- WHERE VERTICAL ROADWAY OFFSET IS GREATER THAN 1/2", USE TYPE A
- PLACE BARRIER PERPENDICULAR TO SHOULDER GRADE, UNLESS INDICATED IN PLAN.
- EXCEPT IN ANCHORS, VERTICAL REINFORCING STIRRUP NOT REQUIRED FOR ROADWAY OFFSETS LESS THAN 1'-0".
- FOR TYPE S32, TYPE S36, TYPE S42, AND S56 MONOLITHIC FOOTING OR DOWELED FOOTING WITH 2-\*8 x 8" @ 2'-0".
- STAGGER LAPPING OF LONGITUDINAL STEEL. MINIMUM OVERLAP OF STEEL 2 FEET. BARS AT LAPS TO BE FIRMLY TIED OR CONNECTED.
- 4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATION 501.
- WHEN SWITCHING BETWEEN SLIP FORM AND CAST-IN-PLACE OPERATIONS, EXTEND LONGITUDINAL STEEL 3 FEET BEYOND SLIP-FORMING CUT OFF POINT. EXPOSED STEEL INTO NEXT POURS REINFORCEMENT. LAPS TO BE FIRMLY TIED.
- USE 3/4" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS OTHERWISE NOTED.
- 2" CLEAR COVER TYPICAL.
- COLD-JOINTS MAY BE USED BETWEEN ANCHOR INSTALLATIONS. WHEN A COLD JOINT IS NEEDED, 3 FEET OF LAP OF LONGITUDINAL STEEL IS REQUIRED. LAPS TO BE FIRMLY TIED.
- IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 NO ADDITIONAL VERTICAL STEEL NEEDED. IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A REQUIRES VERTICAL STEEL. SEE OTHER DETAIL.

- IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 DEPTH OF FOOTING 10". IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A MATCH TOTAL HEIGHT OF SINGLE SLOPE BARRIER RETAINING WALL.
- FOR ALL BARRIER TYPES SHOWN, ANCHOR IS REQUIRED AT CONCRETE BARRIER ENDS AND AT INTERRUPTIONS IN CONCRETE BARRIER. ANCHOR MAY BE AS SHOWN ON DRAWING OR DETAILS SHOWN ON S.D.D. 14B33. ANCHORS INCIDENTAL TO CBSS.
- CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED FULL DEPTH. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.

**DELINEATOR SPACING ON HORIZONTAL CURVES**

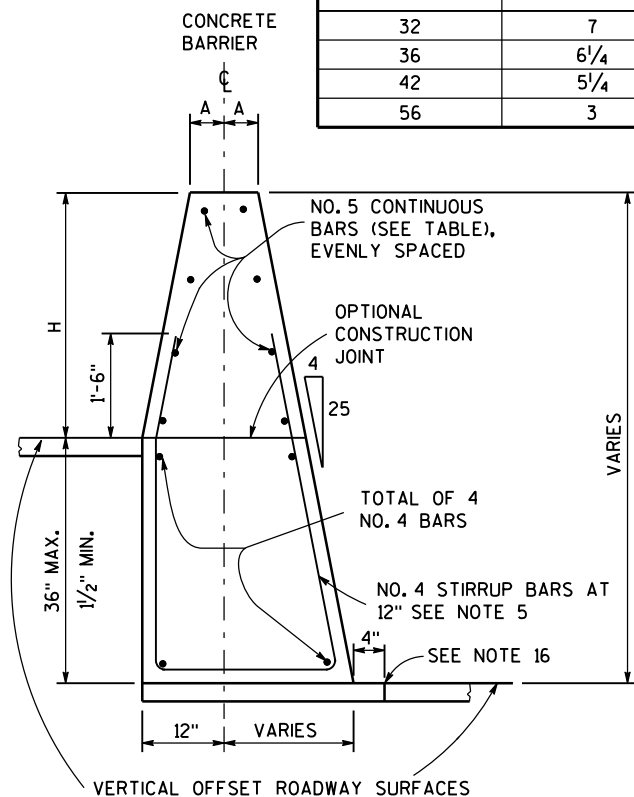
RADIUS OF CURVE	APPROXIMATE SPACING ON CURVE
50 FEET	20 FEET
115 FEET	25 FEET
180 FEET	35 FEET
250 FEET	40 FEET
300 FEET	50 FEET
400 FEET	55 FEET
500 FEET	65 FEET
600 FEET	70 FEET
700 FEET	75 FEET
800 FEET	80 FEET
900 FEET	85 FEET
1000 FEET	90 FEET

**DELINEATOR SPACING ON RADIUS GREATER THAN 1000 FEET OR TANGENT SECTIONS**

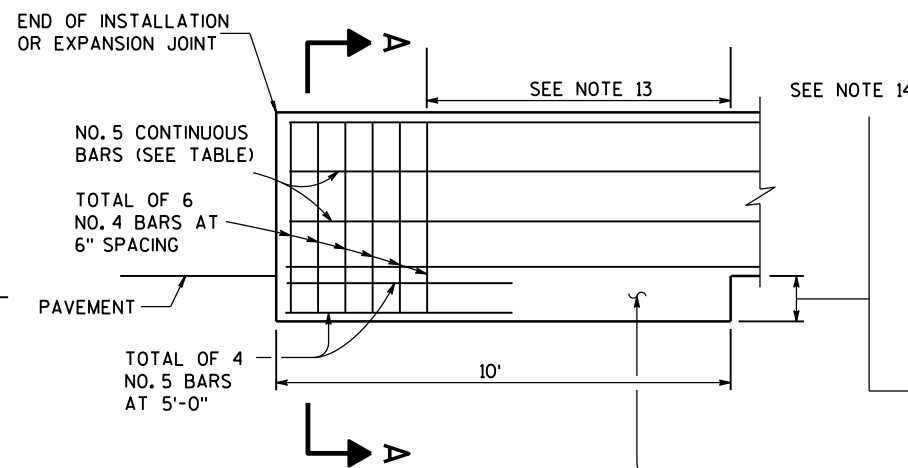
	LENGTH OF BARRIER	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2	

**CONCRETE BARRIER SINGLE SLOPE (CBSS)**

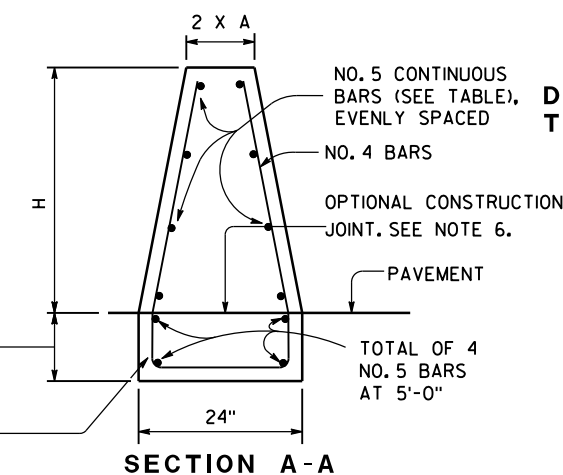
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION



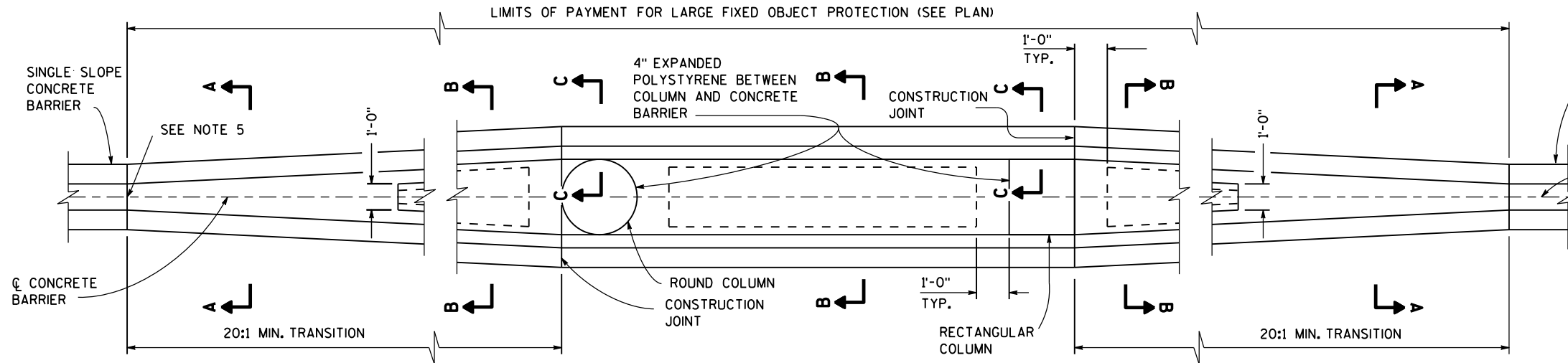
**SINGLE SLOPE CONCRETE BARRIER AND RETAINING WALL (TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A) (BETWEEN ADJACENT ROADWAYS)**



**END ANCHOR SINGLE SLOPE CONCRETE BARRIER AT CONSTRUCTION JOINT**



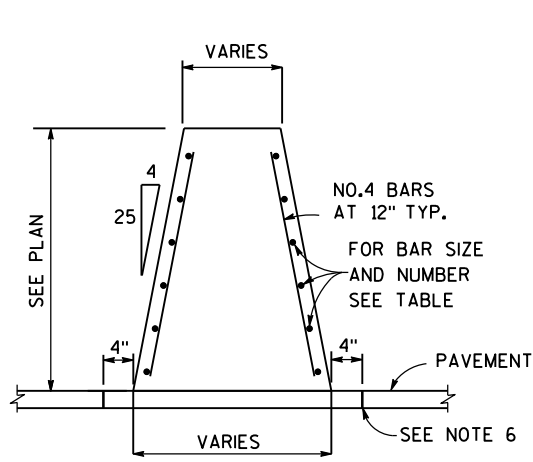
**SECTION A-A**



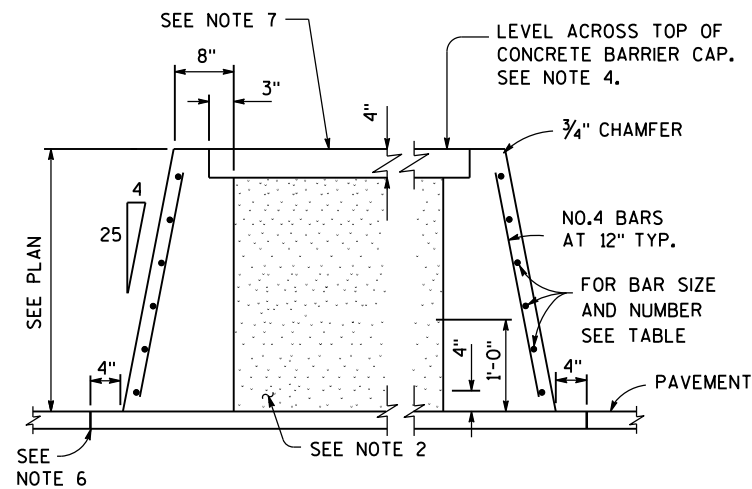
**LARGE FIXED OBJECTS PROTECTION**  
**TYPE S32, TYPE S36, TYPE S42, TYPE S56**

**GENERAL NOTES**

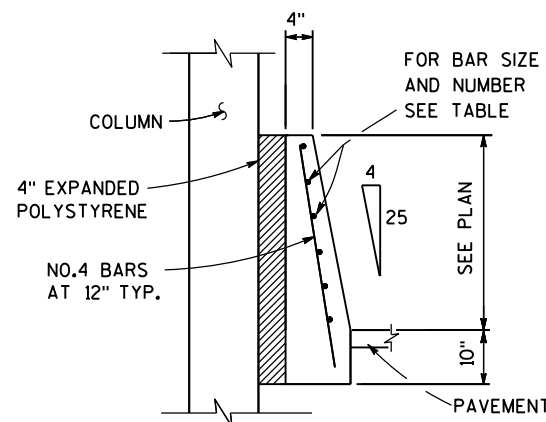
1. INSTALL 1-INCH DIAMETER DRAIN PIPE EVERY 20 FEET OF CROSS SECTION B-B. MINIMUM 1 DRAIN PER CAVITY.
2. BETWEEN CONCRETE BARRIER WALLS FILL WITH GRANULAR BACKFILL GRADE 2
3. REINFORCING STEEL SHALL EXTEND CONTINUOUS THROUGH CONSTRUCTION JOINTS.
4. ADJUST HEIGHT OF CONCRETE BARRIER WALL ON LOW SIDE OF OFFSET OR SUPERELEVATED ROADWAYS TO PROVIDE LEVEL GRADE ACROSS TOP OF CONCRETE CAP.
5. IF FIXED OBJECT PROTECTION IS INSTALLED FIRST, USE COLD JOINTS. IF CBSS PLACED FIRST, USE EXPANSION JOINT.
6. CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED FULL DEPTH. SAWING OF CONCRETE SHOULDER IS INCIDENTAL TO CONCRETE BARRIER BID ITEM. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.
7. USE NO. 3 BAR SPACED 12 INCHES CENTER TO CENTER (PLACED IN EACH DIRECTION) OR EQUIVALENT WIRE MESH.



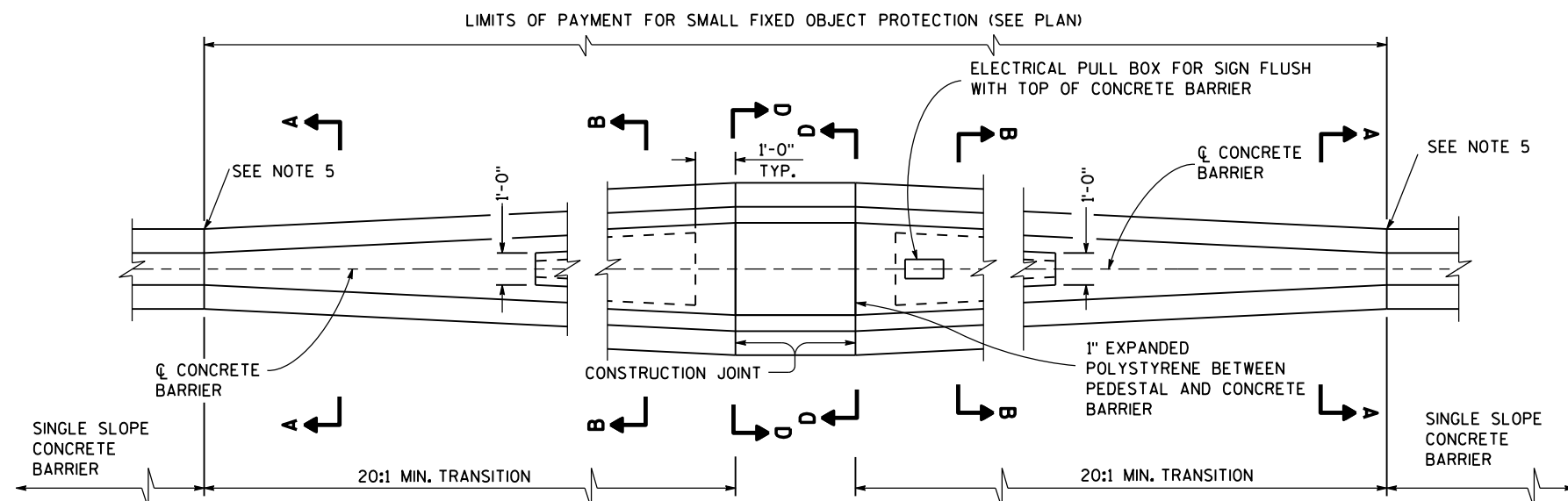
**SECTION A-A**



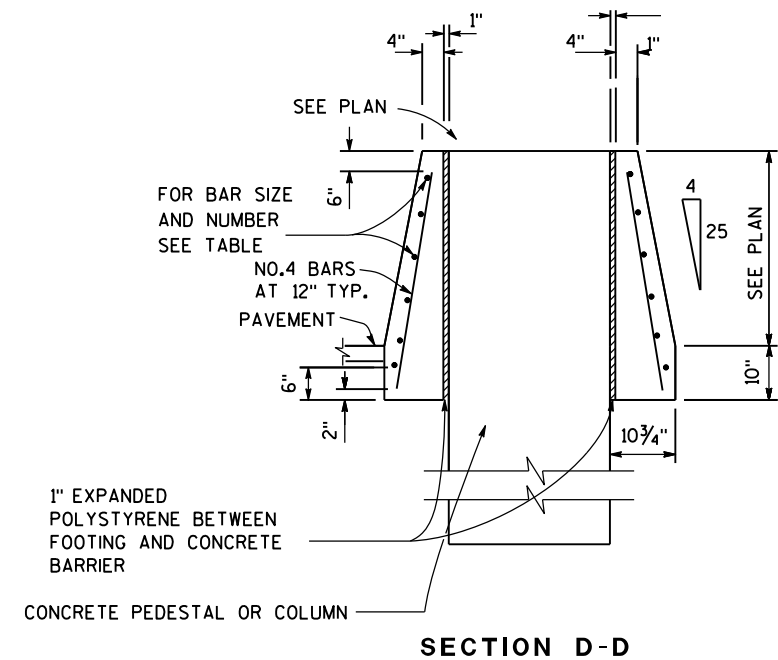
**SECTION B-B**



**SECTION C-C**



**SMALL FIXED OBJECTS PROTECTION**  
**TYPE S32, TYPE S36, TYPE S42, TYPE S56**

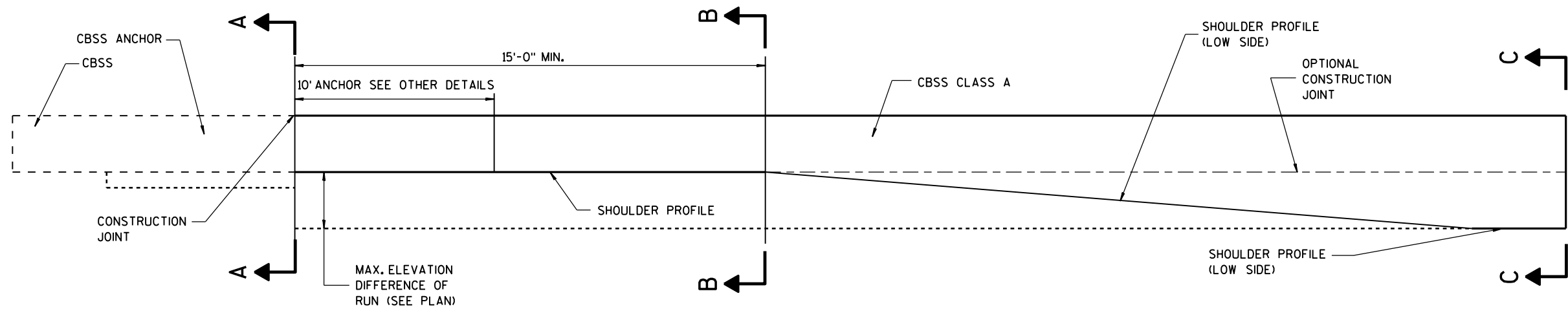


**SECTION D-D**

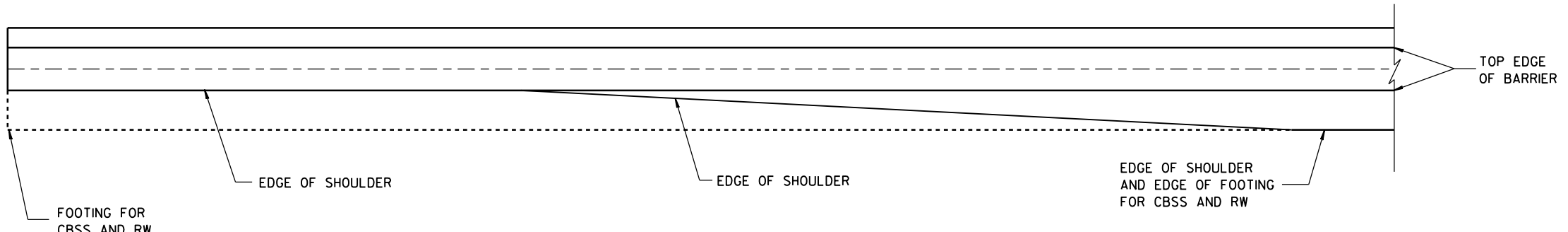
BARRIER HEIGHT H INCHES	BAR SIZE	NUMBER OF BARS EACH
32	4	6
36	4	6
42	5	6
56	5	9

**CONCRETE BARRIER SINGLE SLOPE (CBSS)**

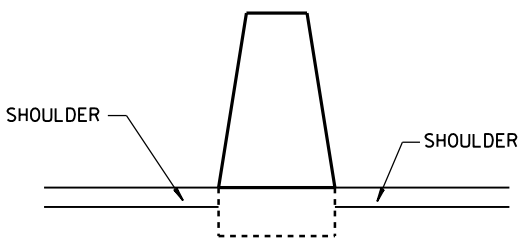
STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION



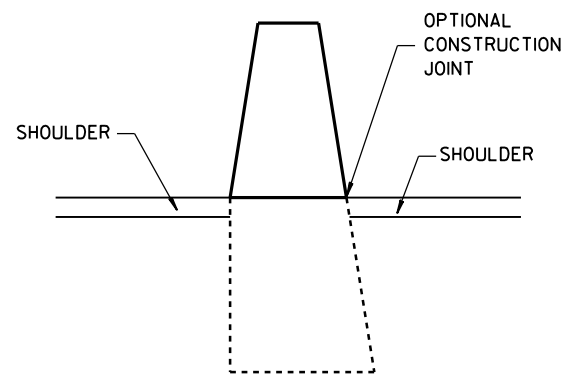
**ELEVATION VIEW  
TRANSITION TO CBSS CLASS A  
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)**



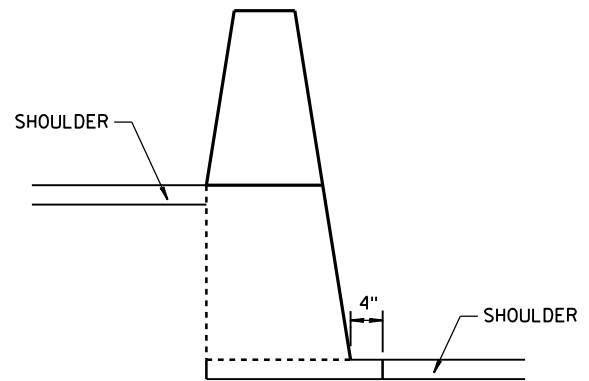
**PLAN VIEW  
TRANSITION TO CBSS CLASS A  
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)**



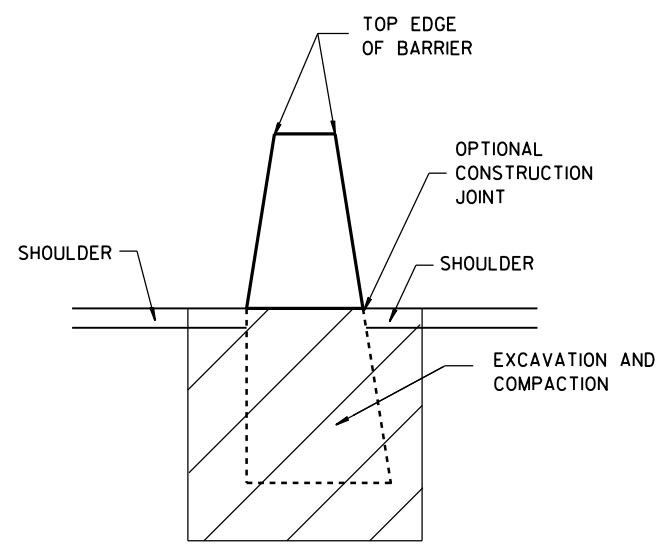
**SECTION A-A**



**SECTION B-B**



**SECTION C-C**



**CONCRETE BARRIER SINGLE SLOPE  
(CBSS)**

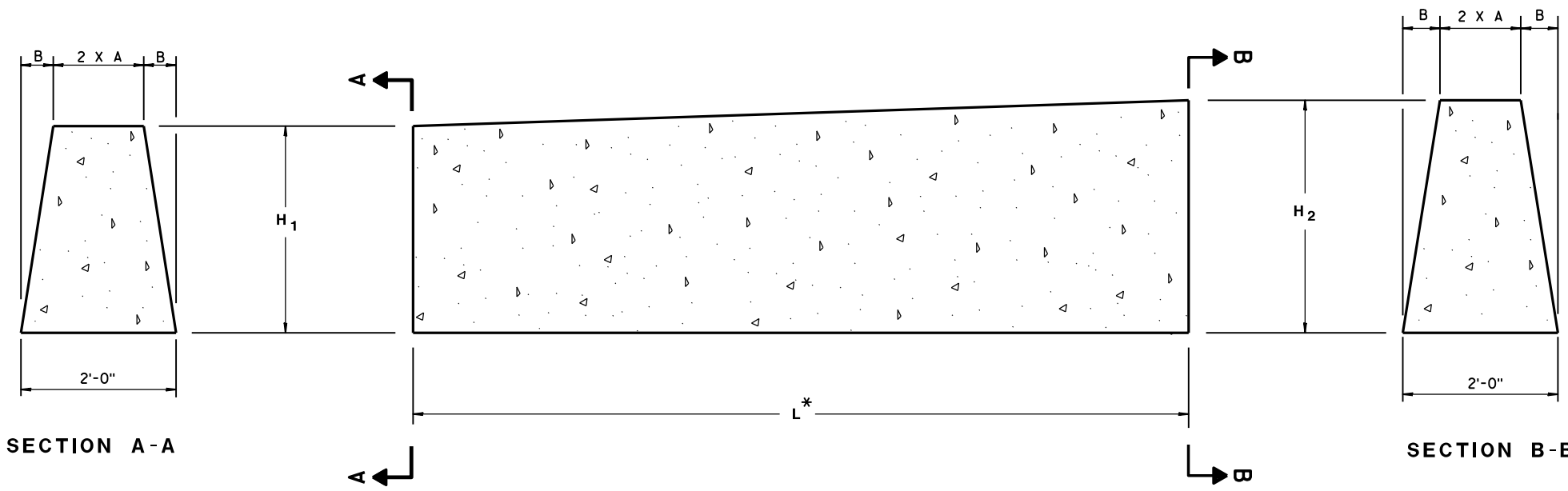
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

6

6

S.D.D. 14 B 32-3c

S.D.D. 14 B 32-3c



**BARRIER DIMENSIONS**

BARRIER HEIGHT INCHES	A INCHES	B INCHES
32	7	5
36	6 <sup>1</sup> / <sub>4</sub>	5 <sup>3</sup> / <sub>4</sub>
42	5 <sup>1</sup> / <sub>4</sub>	6 <sup>3</sup> / <sub>4</sub>
56	3	9

MULTIPLE HEIGHT TRANSITIONS MAY BE USED IN SEQUENCE TO GET TO APPROPRIATE HEIGHT.

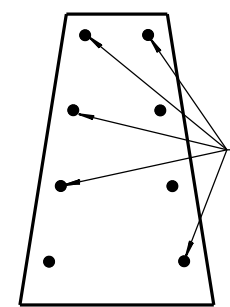
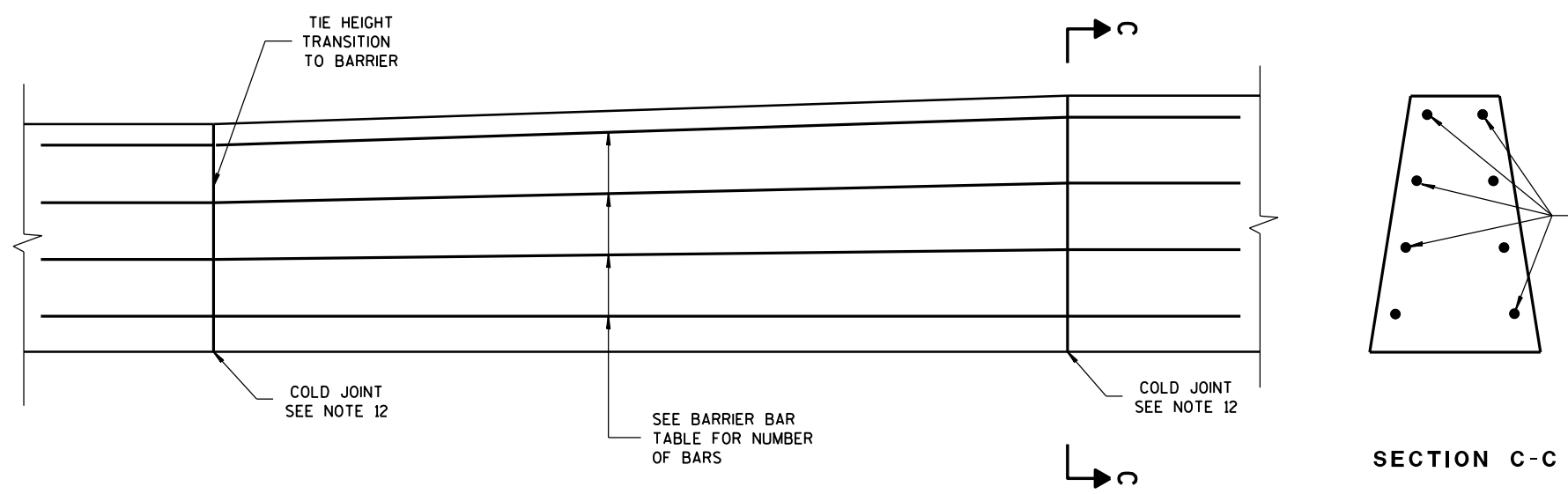
USE COLD JOINT TO CONNECT MULTIPLE HEIGHT TRANSITIONS.

**DOUBLE COLD JOINT HEIGHT TRANSITION**

**BARRIER BARS**

H <sub>1</sub>	H <sub>2</sub>	L*	NUMBER OF NO. 5 BARS
32"	36"	10'-0"	8
36"	42"	10'-6"	10
42"	56"	24'-6"	11

\* LENGTH OF DOUBLE COLD JOINT INCLUDED IN THE TOTAL LENGTH OF CBSS.



**SECTION C-C**

**STEEL REINFORCEMENT DETAIL**

<b>CONCRETE BARRIER SINGLE SLOPE</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2014 DATE	/s/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

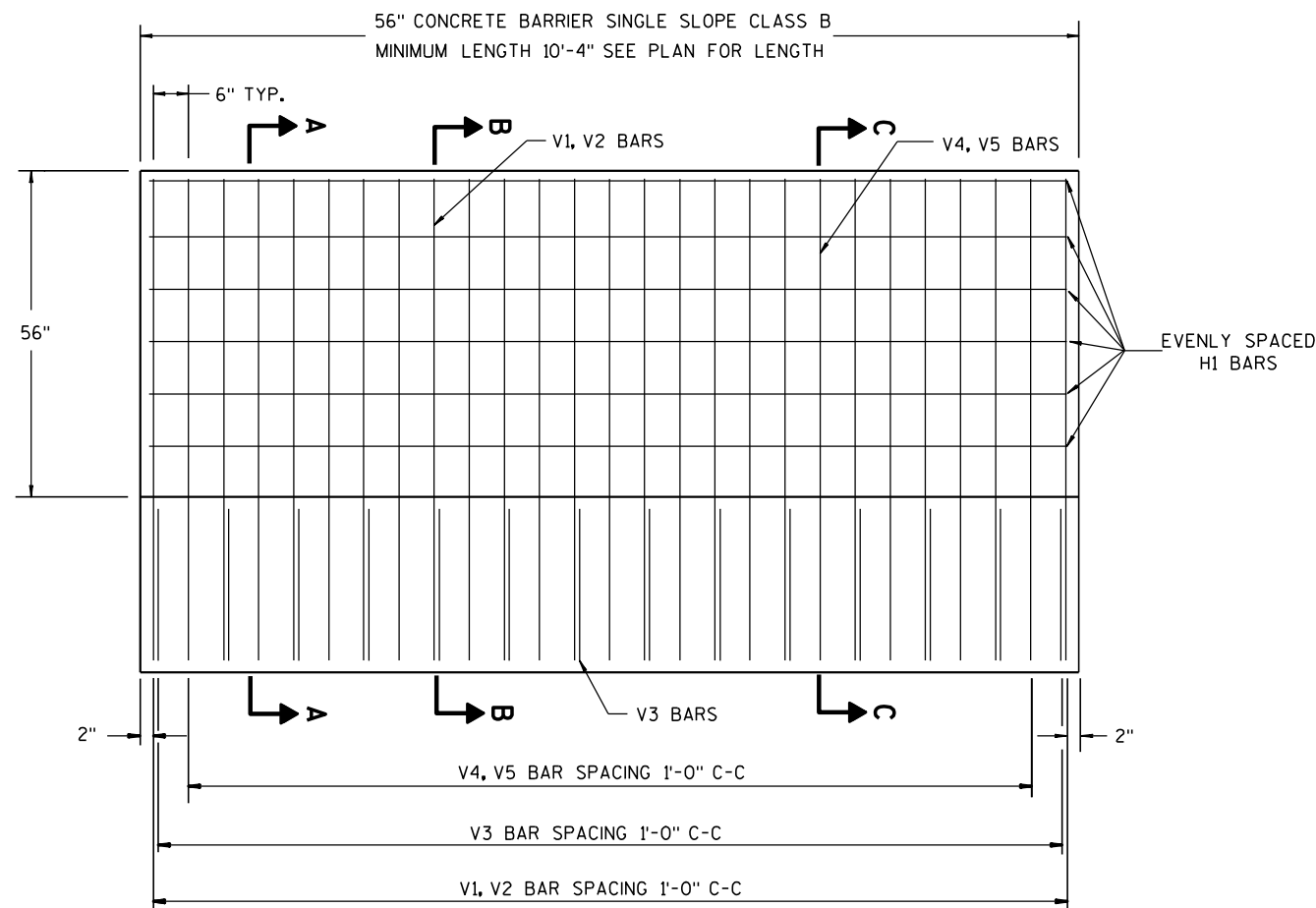
6

6

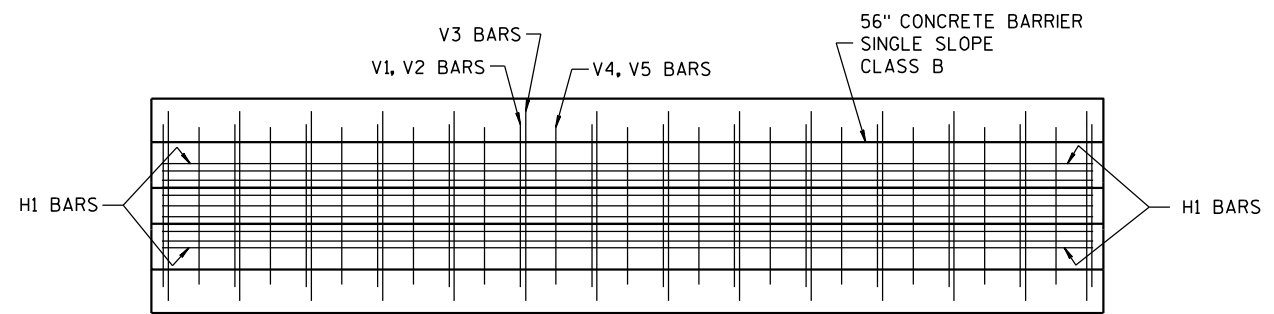
S.D.D. 14 B 32-3d

S.D.D. 14 B 32-3d

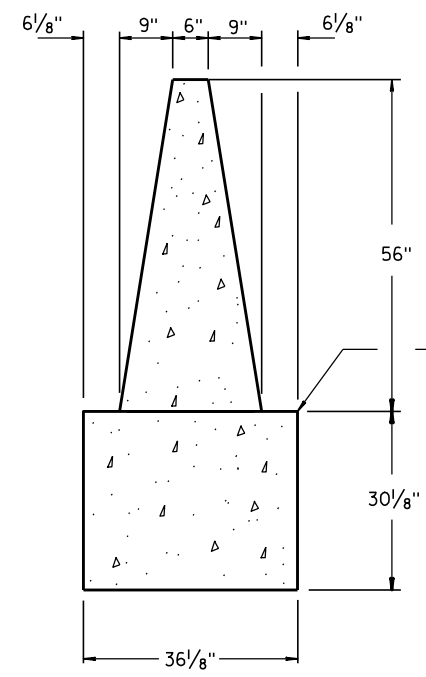




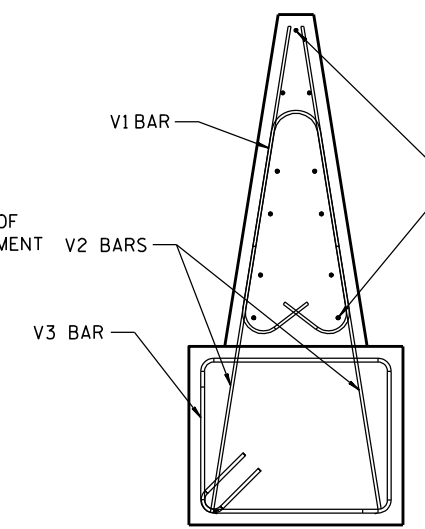
**ELEVATION VIEW**



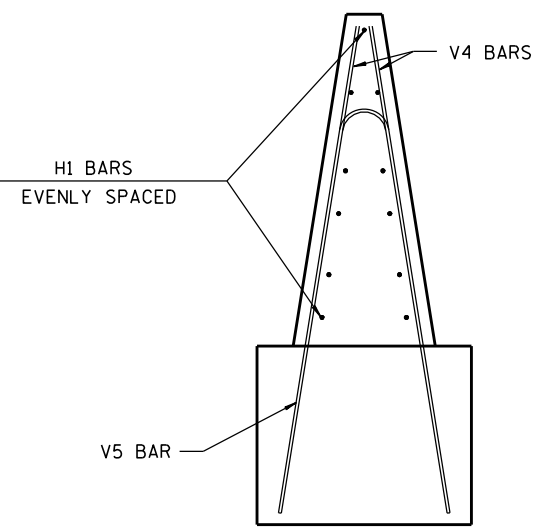
**PLAN VIEW**



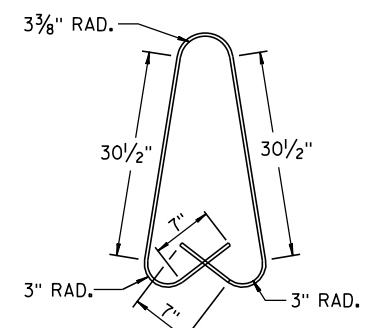
**SECTION A-A**



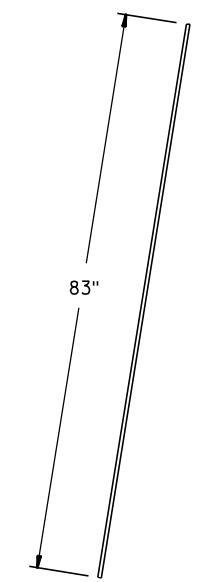
**SECTION B-B**



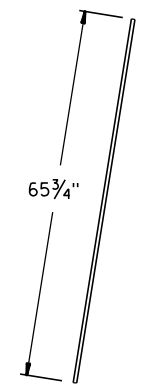
**SECTION C-C**



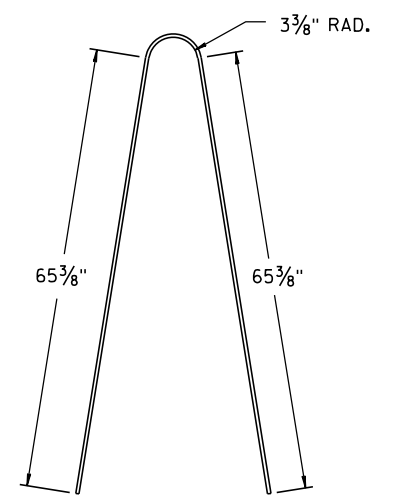
**V1 BAR BENDING DETAIL**  
V1 BARS ARE NO. 4 BARS



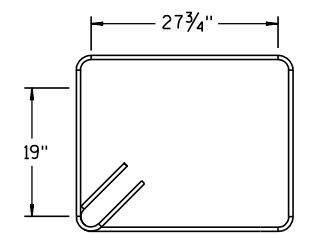
**V2 BAR BENDING DETAIL**  
V2 BARS ARE NO. 5 BARS



**V4 BAR BENDING DETAIL**  
V4 BARS ARE NO. 5 BARS



**V5 BAR BENDING DETAIL**  
V4 BARS ARE NO. 6 BARS



**V3 BAR BENDING DETAIL**  
V3 BARS ARE NO. 6 BARS

**GENERAL NOTES**

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2' LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE 3/4" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

WHERE THE CONCRETE BARRIER IS ADDED TO THE FACE OF EXISTING CONCRETE STRUCTURE, MATCH EXISTING WEEP HOLES.

PAVEMENT AND PRINCIPAL WALL JOINTS. EXPANSION JOINT FILLER MATERIAL

PLACE BARRIER PERPENDICULAR TO SHOULDER GRADE, UNLESS INDICATED IN PLAN.

WHEN SWITCHING BETWEEN SLIP FORM AND CAST-IN-PLACE OPERATIONS, EXTEND LONGITUDINAL STEEL 3 FEET BEYOND SLIP-FORMING CUT OFF POINT. EXPOSED STEEL INTO NEXT POURS REINFORCEMENT. LAPS TO BE FIRMLY TIED.

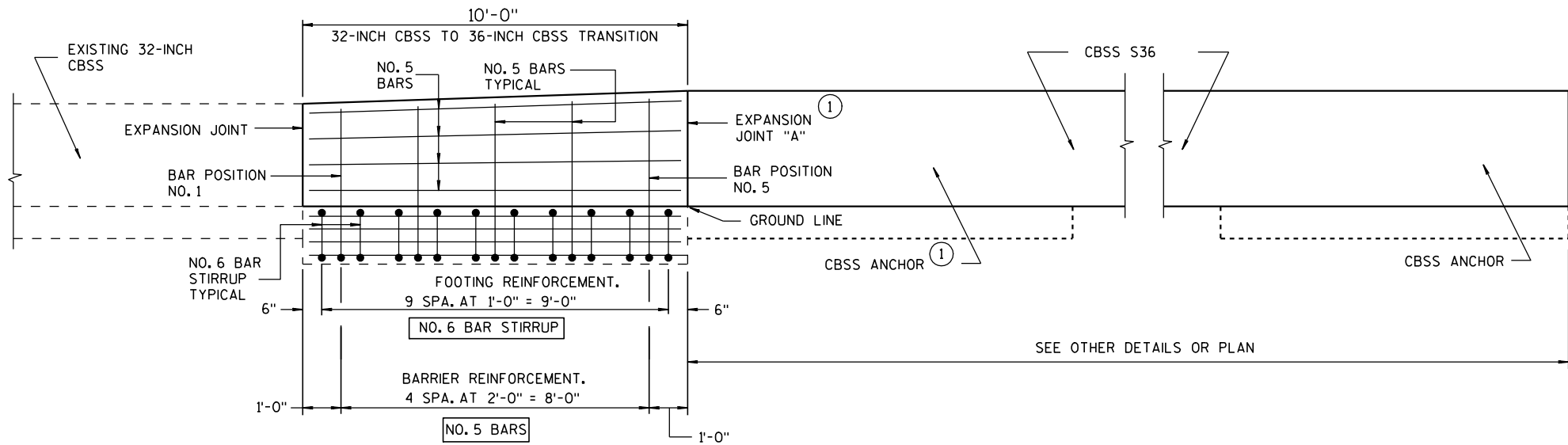
IF REQUIRED USE THRIE BEAM ANCHOR. NO OTHER ANCHOR REQUIRED.

**56" CONCRETE BARRIER  
SINGLE SLOPE CLASS B**

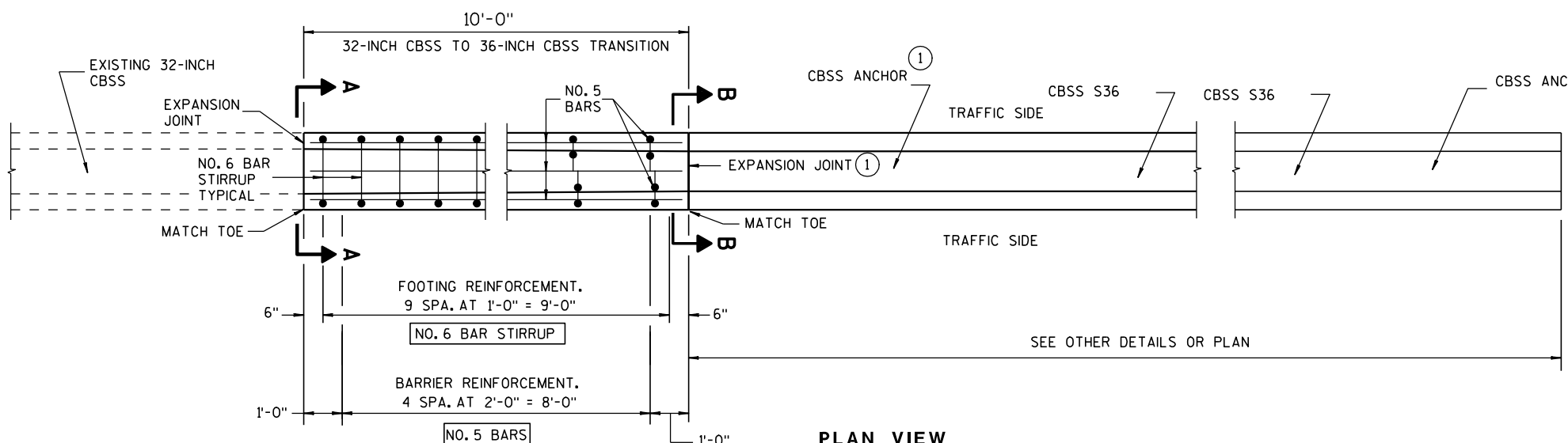
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

**GENERAL NOTES**

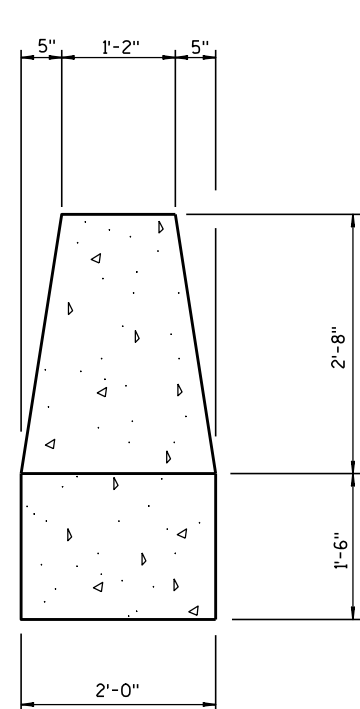
CONSTRUCT PER STANDARD SPECIFICATION 603.  
 SPLICES OF LONGITUDINAL BARS TO BE 2' LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.  
 4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.  
 USE 3/4" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.  
 THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.  
 2" CLEAR COVER TYPICAL.  
 ① EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.



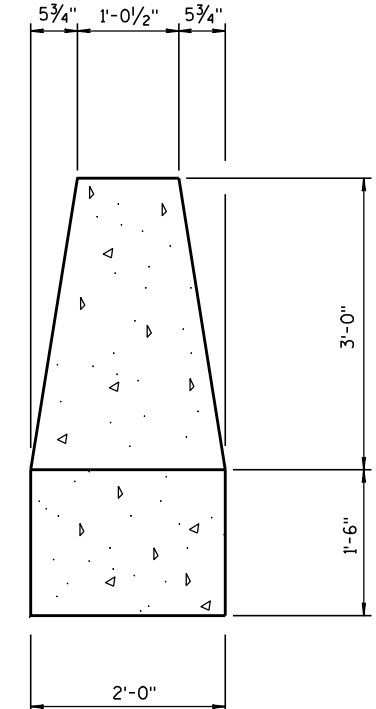
**ELEVATION VIEW**



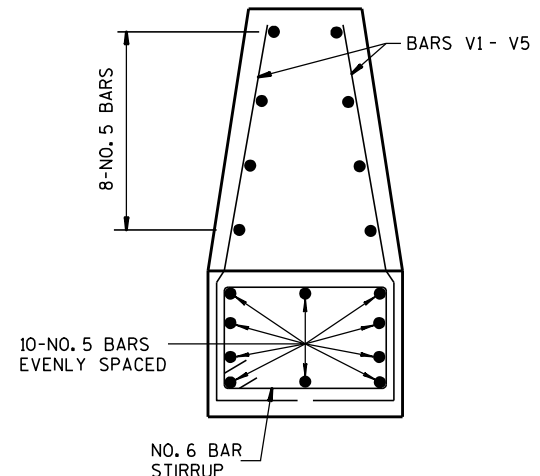
**PLAN VIEW**



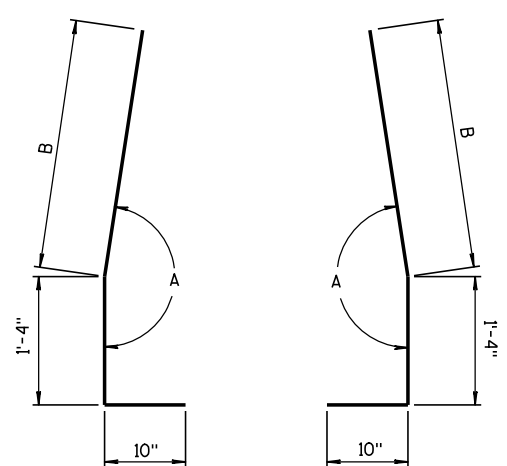
**SECTION A-A**



**SECTION B-B**



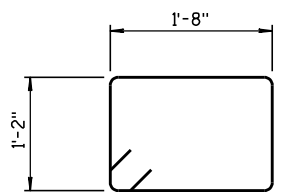
**BAR DETAIL  
 BAR POSITION NO. 1 - NO. 5**



**BAR BENDING DETAIL  
 FOR BARS V1 - V5**

**BAR CHART  
 SECTIONS V1 - V5**

BAR	A	B
V1	171°-10'	2'-6 1/2"
V2	171°-05'	2'-8"
V3	170°-55'	2'-9"
V4	170°-40'	2'-9 1/2"
V5	171°	2'-10"

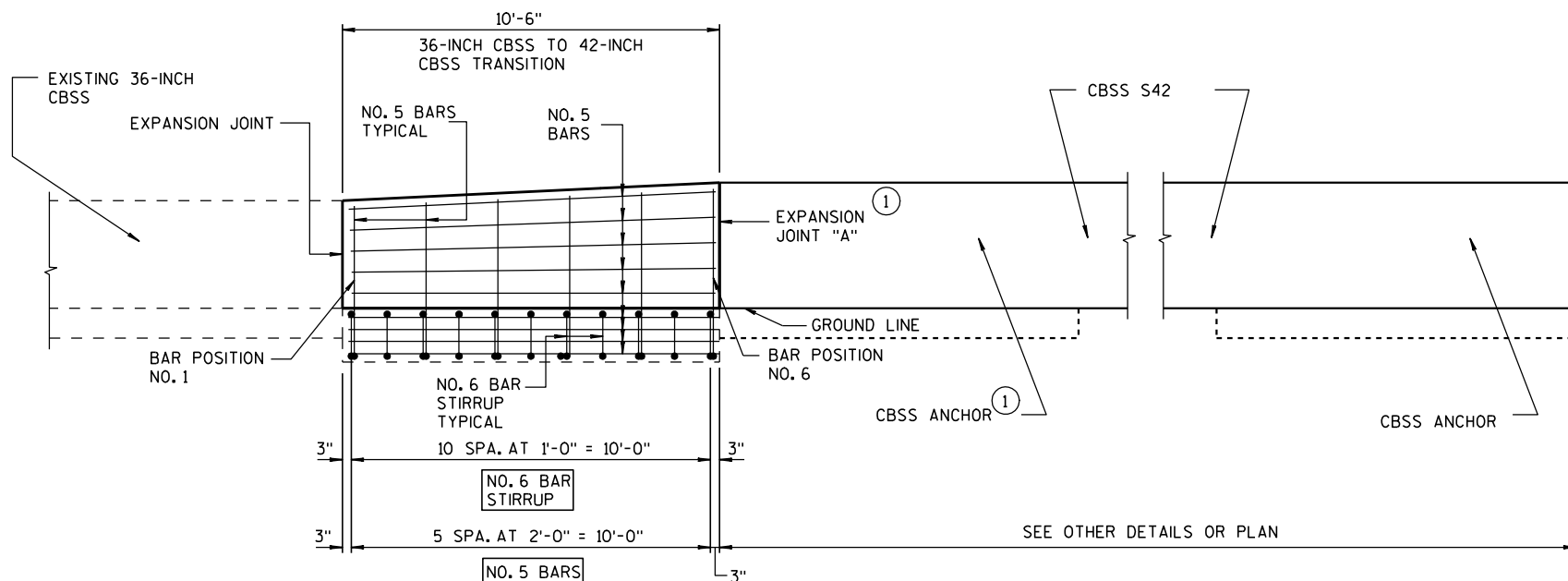


**STIRRUP BAR  
 BENDING DETAIL**

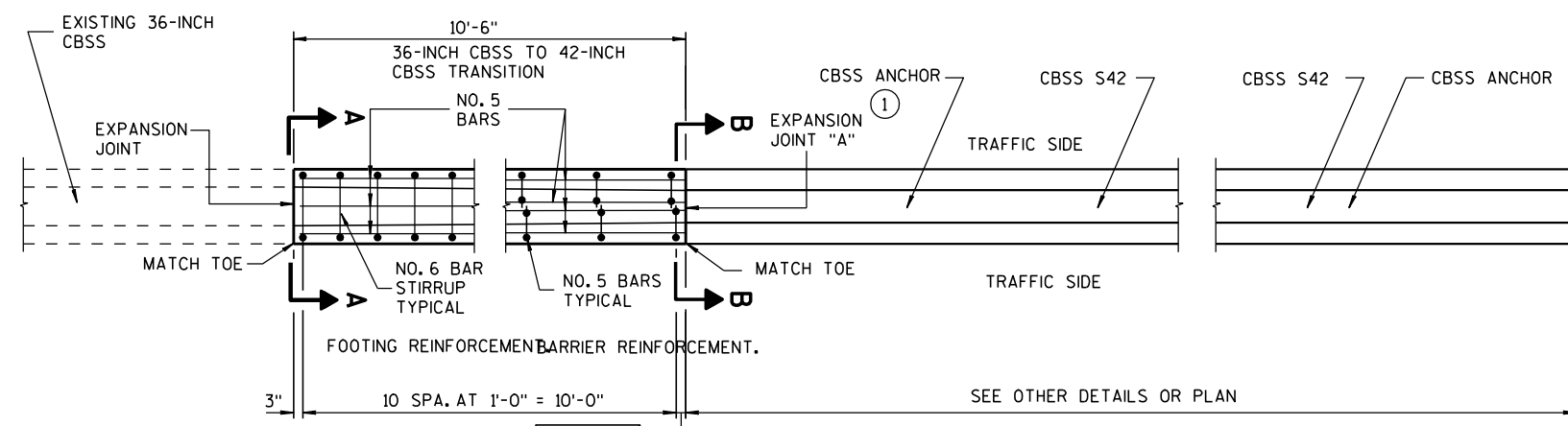
**32-INCH SINGLE SLOPE CONCRETE  
 BARRIER TO 36-INCH SINGLE SLOPE  
 CONCRETE BARRIER HEIGHT TRANSITION**

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

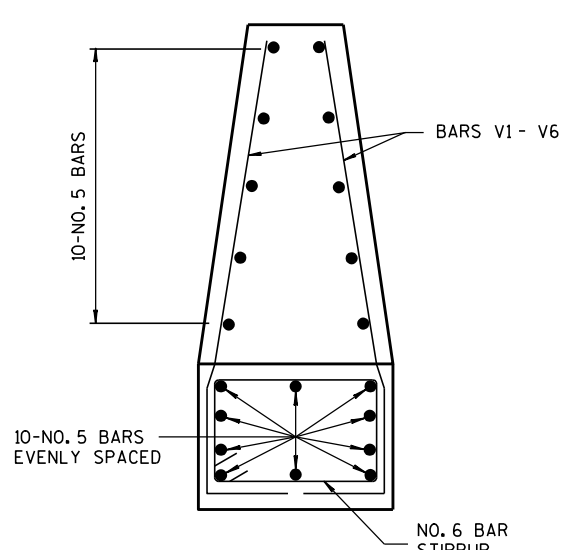
APPROVED  
 6-3-2010 DATE /S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER  
 FHWA



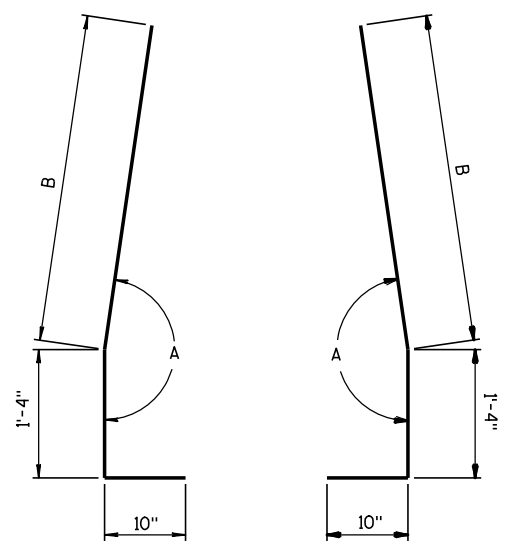
**ELEVATION VIEW**



**PLAN VIEW**



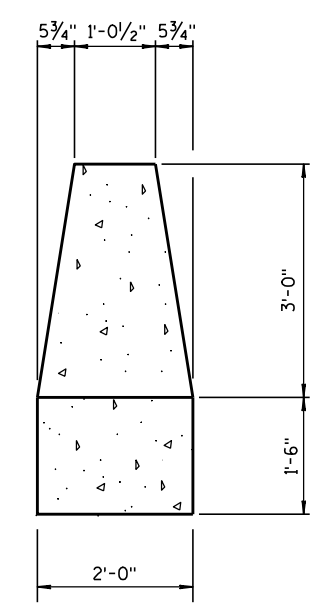
**BAR DETAIL  
BAR POSITION NO. 1 - NO. 6**



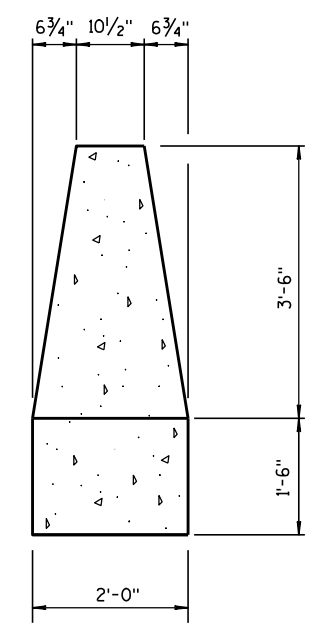
**BAR BENDING DETAIL  
FOR BARS V1 - V6**

**GENERAL NOTES**

- CONSTRUCT PER STANDARD SPECIFICATION 603.
- SPLICES OF LONGITUDINAL BARS TO BE 2' LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.
- 4000 PSICONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.
- USE 3/4" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.
- THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.
- 2" CLEAR COVER TYPICAL.
- ① EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED, IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.



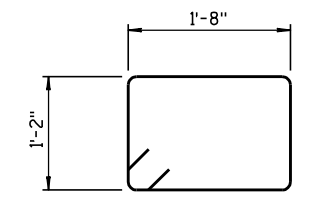
**SECTION A-A**



**SECTION B-B**

**BAR CHART  
SECTIONS V1 - V6**

BAR	A	B
V1	170°-55'	2'-10 1/2"
V2	171°-05'	3'-0"
V3	171°-20'	3'-1"
V4	171°-20'	3'-2"
V5	171°-35'	3'-3"
V6	171°-40'	3'-4 1/2"

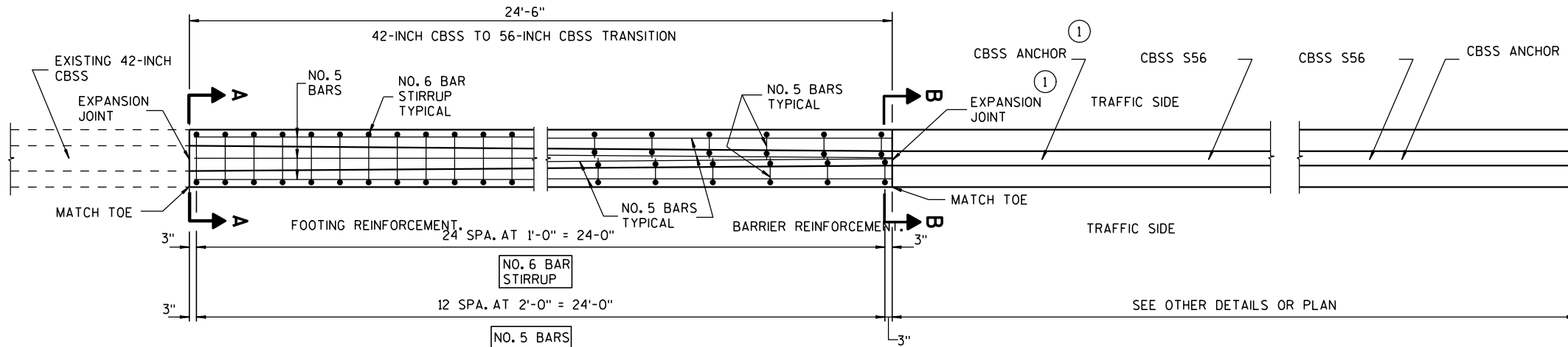
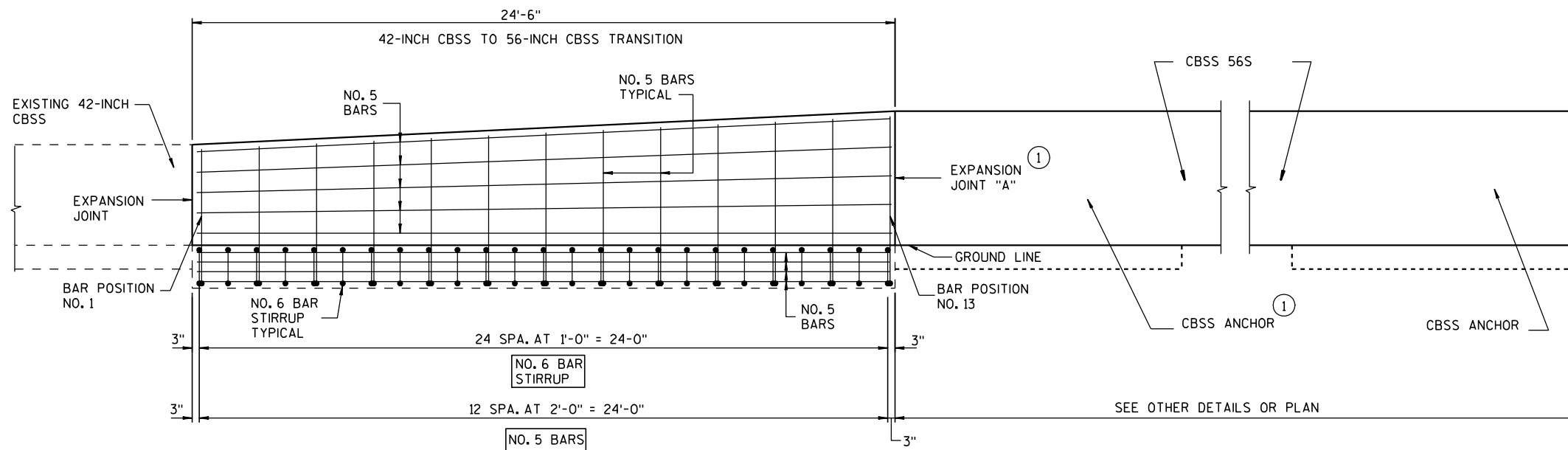


**STIRRUP BAR  
BENDING DETAIL**

**36-INCH SINGLE SLOPE CONCRETE  
BARRIER TO 42-INCH SINGLE SLOPE  
CONCRETE BARRIER HEIGHT TRANSITION**

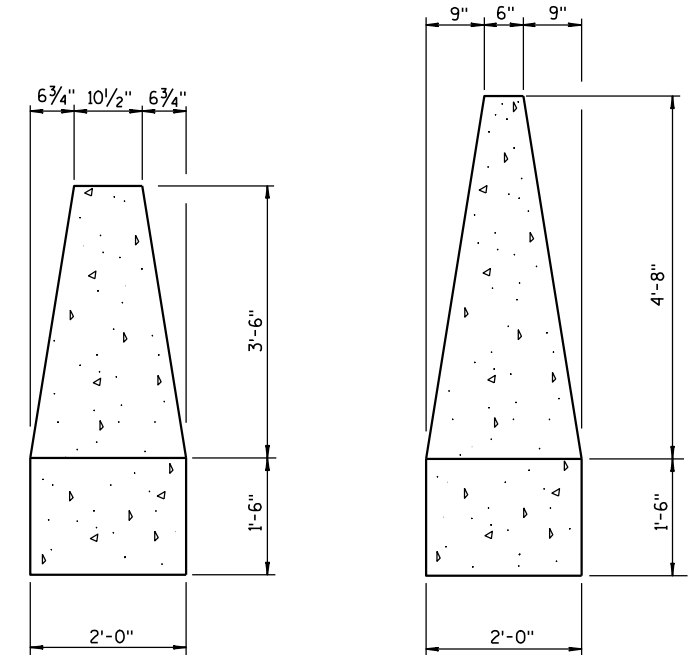
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
6-3-2010 /S/ Jerry H. Zogg  
DATE ROADWAY STANDARDS DEVELOPMENT  
ENGINEER  
FHWA



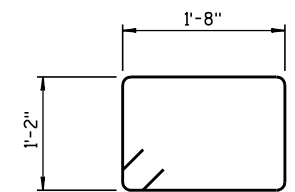
**GENERAL NOTES**

- CONSTRUCT PER STANDARD SPECIFICATION 603.
- SPLICES OF LONGITUDINAL BARS TO BE 2' LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.
- 4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.
- USE 3/4" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.
- THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.
- 2" CLEAR COVER TYPICAL.
- ① EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.



SECTION A-A

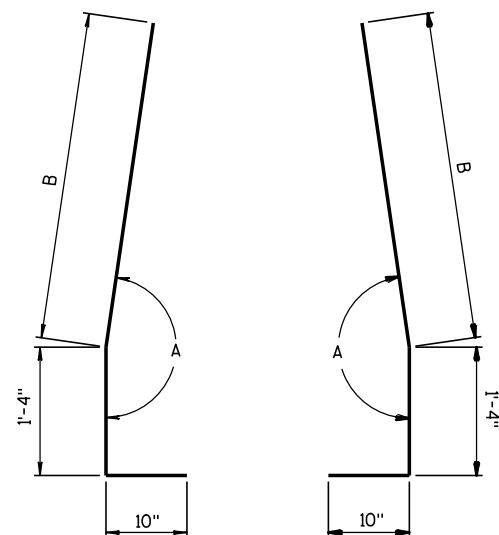
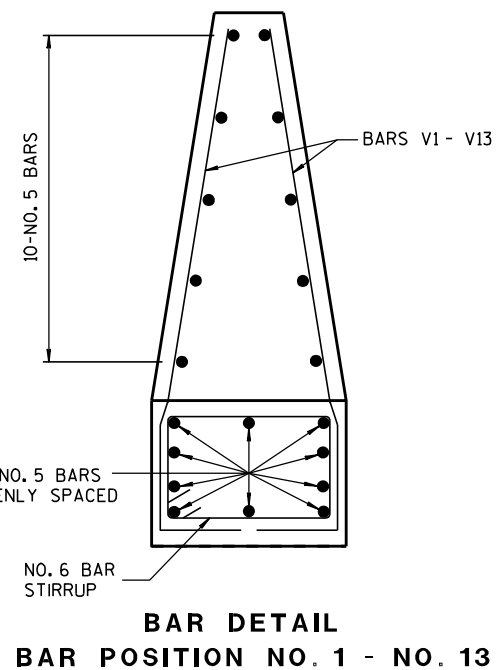
SECTION B-B



STIRRUP BAR BENDING DETAIL

**BAR CHART SECTIONS V1 - V13**

BAR	A	B	BAR	A	B
V1	170°-50'	3'-4 1/2"	V8	170°-55'	4'-0 1/2"
V2	170°-50'	3'-6"	V9	170°-50'	4'-2"
V3	170°-55'	3'-7"	V10	170°-50'	4'-3"
V4	171°	3'-8"	V11	170°-50'	4'-4 1/2"
V5	170°-55'	3'-9 1/2"	V12	170°-55'	4'-5 1/2"
V6	170°-50'	3'-10 1/2"	V13	170°-50'	4'-6 1/2"
V7	170°-50'	3'-11 1/2"			



BAR BENDING DETAIL FOR BARS V1 - V13

**42-INCH SINGLE SLOPE CONCRETE BARRIER TO 56-INCH SINGLE SLOPE CONCRETE BARRIER HEIGHT TRANSITION**

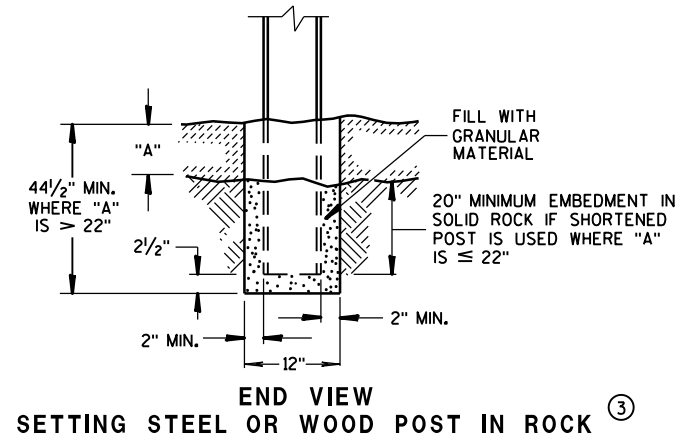
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
6-3-2010 /S/ Jerry H. Zogg  
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER

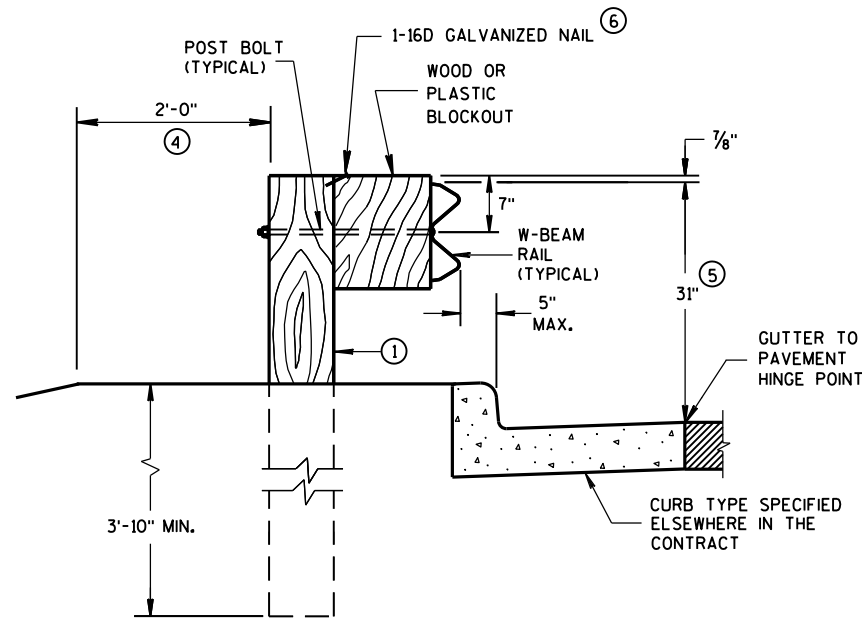
FHWA

**GENERAL NOTES**

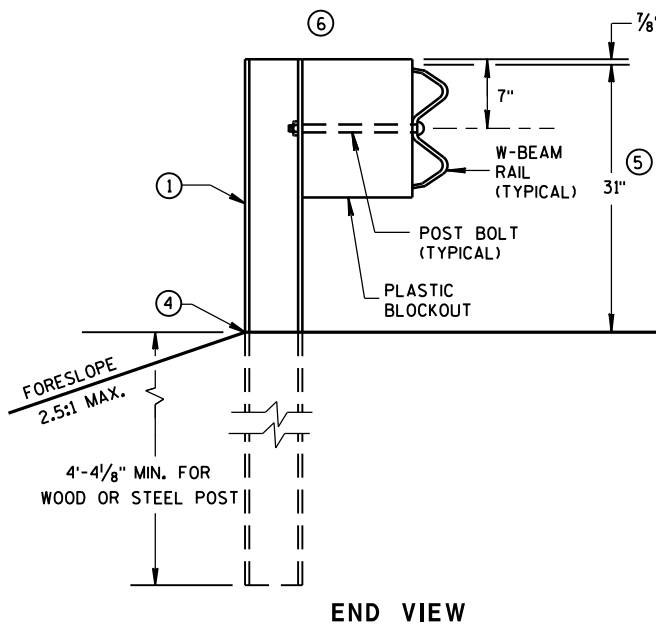
- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. 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 AND 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.



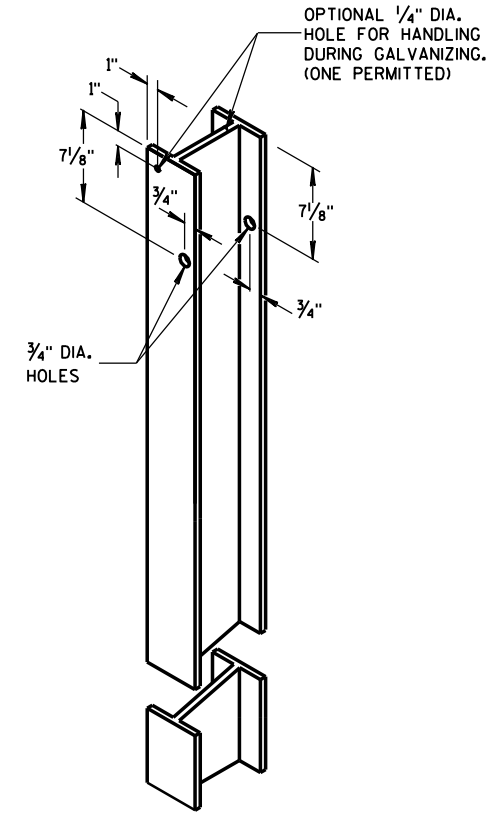
**END VIEW SETTING STEEL OR WOOD POST IN ROCK ③**



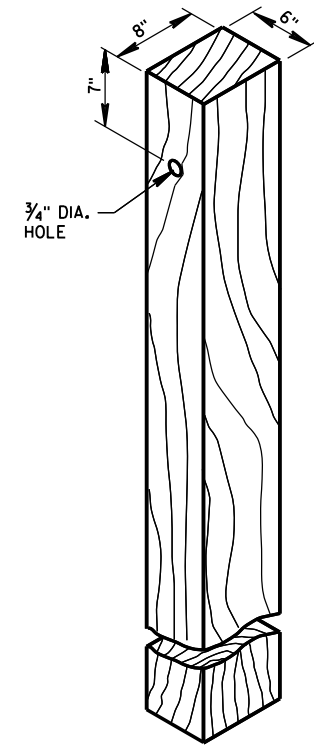
**END VIEW LOCATED ALONG A CURBED ROADWAY**



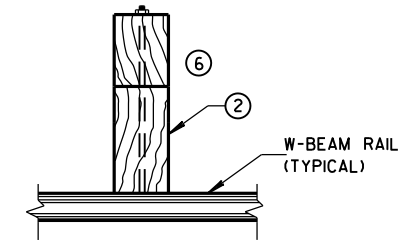
**END VIEW MGS LONGER POST AT HALFPST SPACING W BEAM (K)**



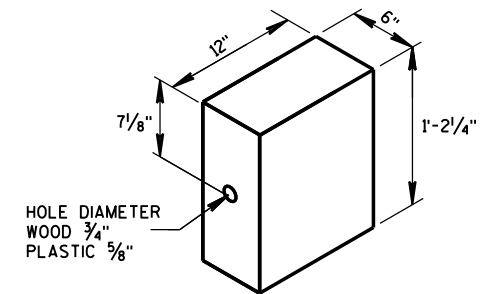
**STEEL POST & HOLE PUNCHING DETAIL (w6X9) ①**



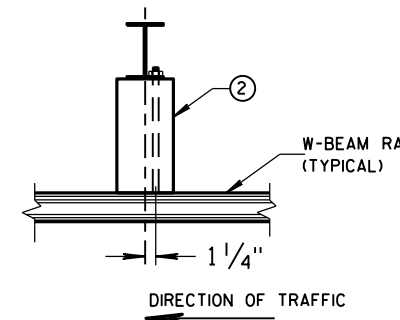
**WOOD POST (6" X 8") NOMINAL ①**



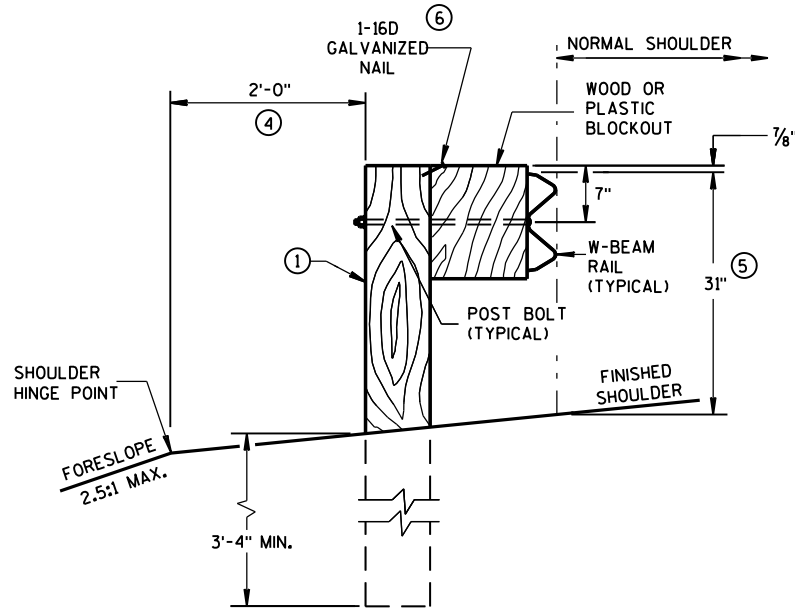
**PLAN VIEW WOOD POST, BLOCKOUT & BEAM**



**WOOD OR PLASTIC BLOCKOUT ②**



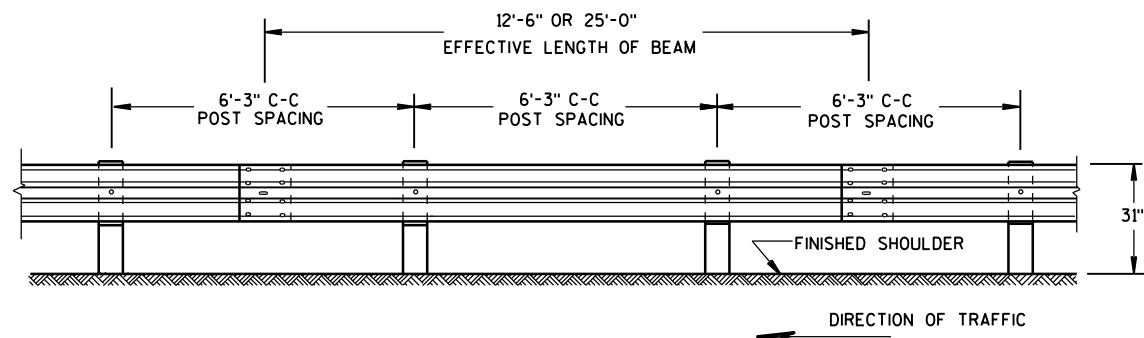
**PLAN VIEW STEEL POST, PLASTIC BLOCKOUT & BEAM**



**END VIEW LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION**

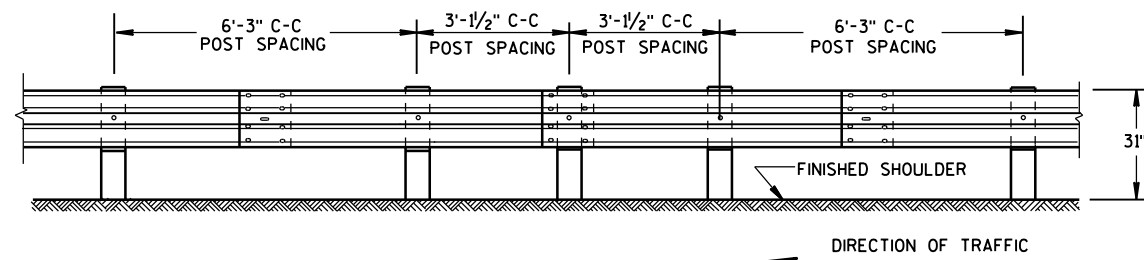
6

6



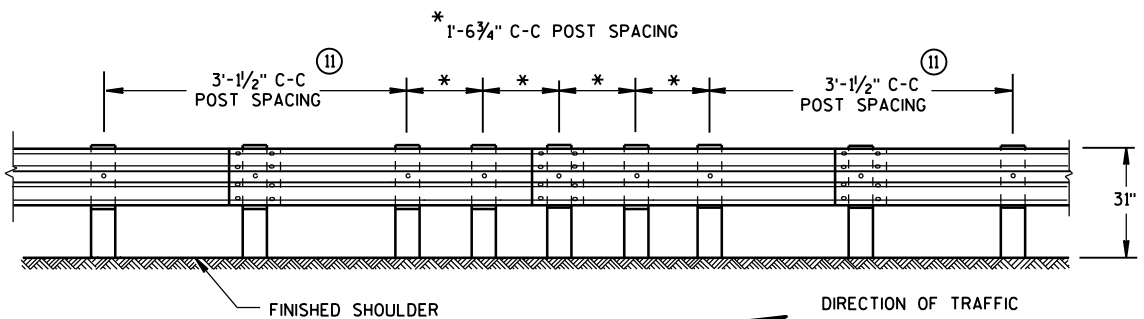
FRONT VIEW

POST SPACING STANDARD INSTALLATION



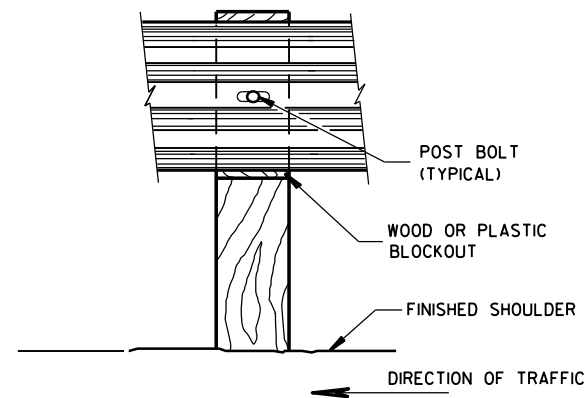
FRONT VIEW

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

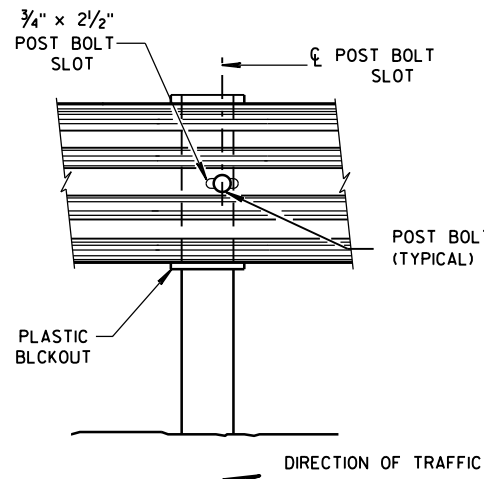


FRONT VIEW

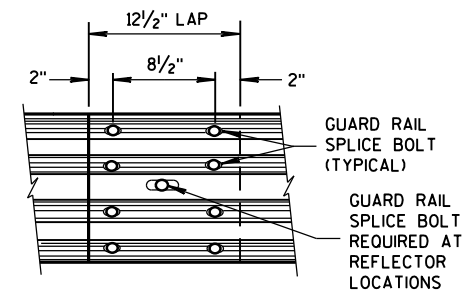
QUARTER POST SPACING (QS)



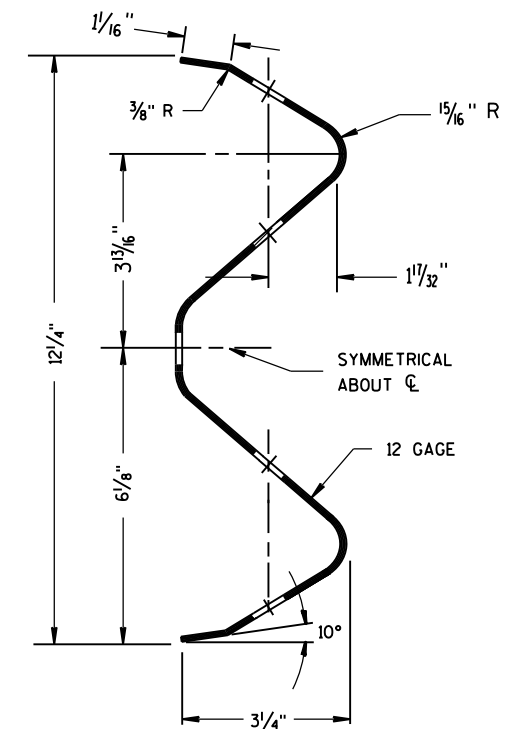
FRONT VIEW AT WOOD POST



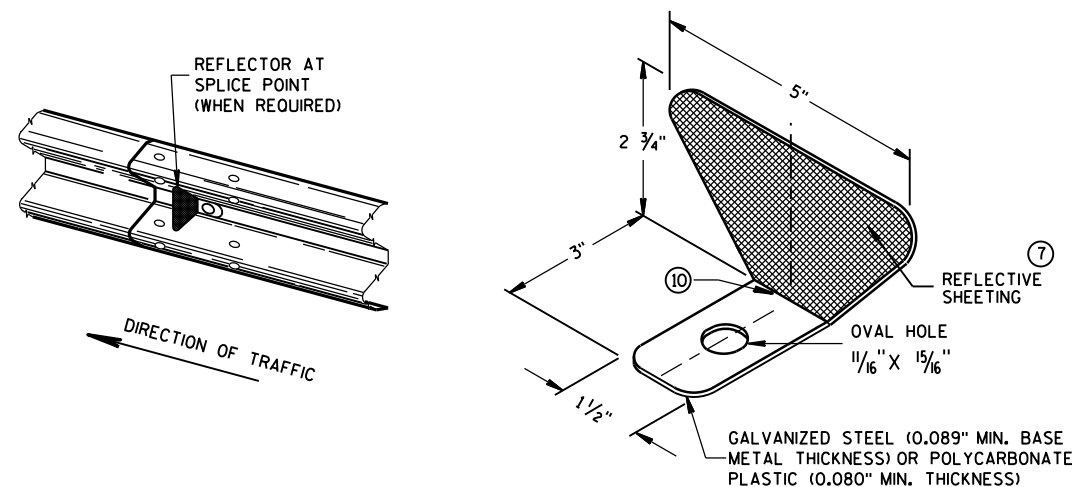
FRONT VIEW AT STEEL POST



FRONT VIEW  
MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

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  $90^\circ \pm 1^\circ$  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  $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES  $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND  $\frac{5}{8}$ " DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

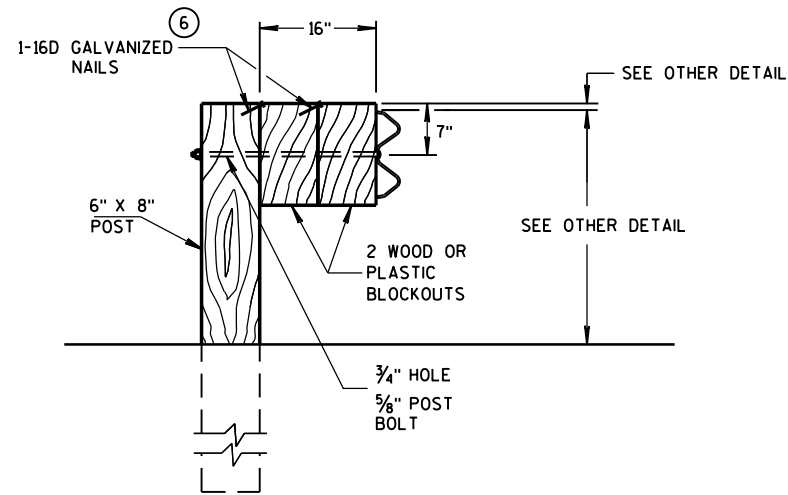
GUARD RAIL SPLICE BOLTS ARE A  $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES  $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

REFLECTOR SPACING

	BEAM GUARD RAIL LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 ⑨	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2 ⑩	3
	> 200'	100' C-C	2	

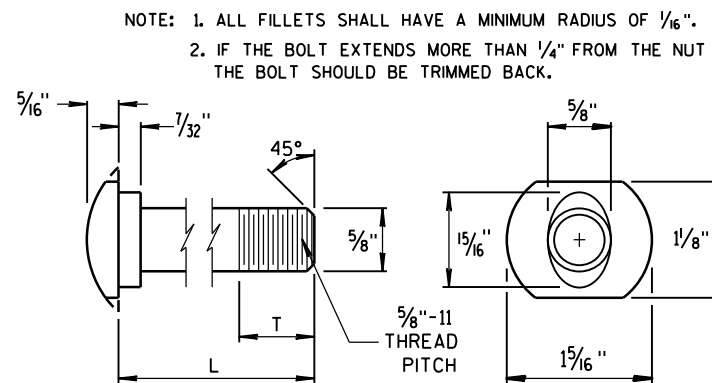
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



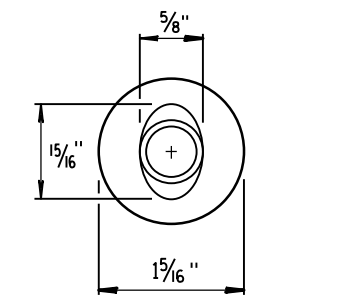
**DETAIL FOR 16" BLOCKOUT DEPTH**

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.

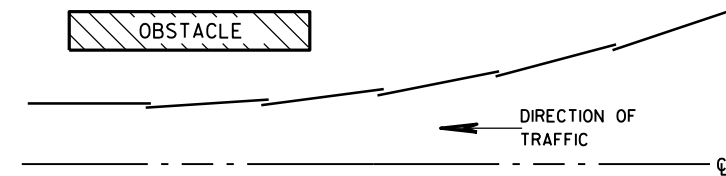


**POST BOLT TABLE**

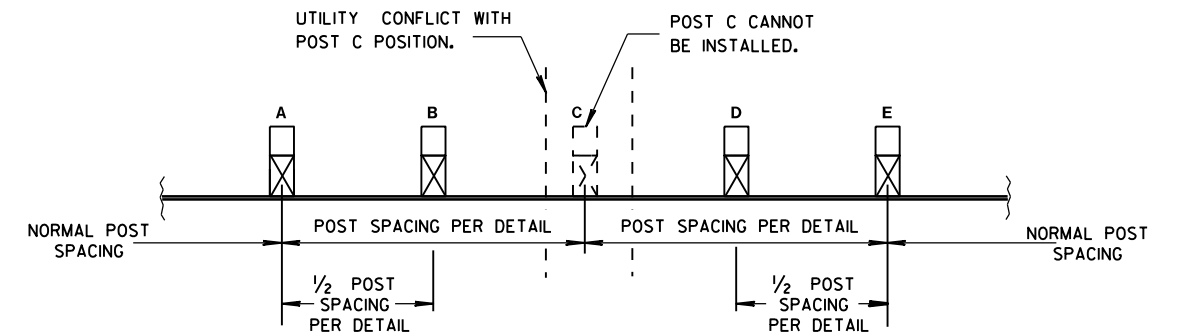
L	T (MIN.)
1/4"	1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



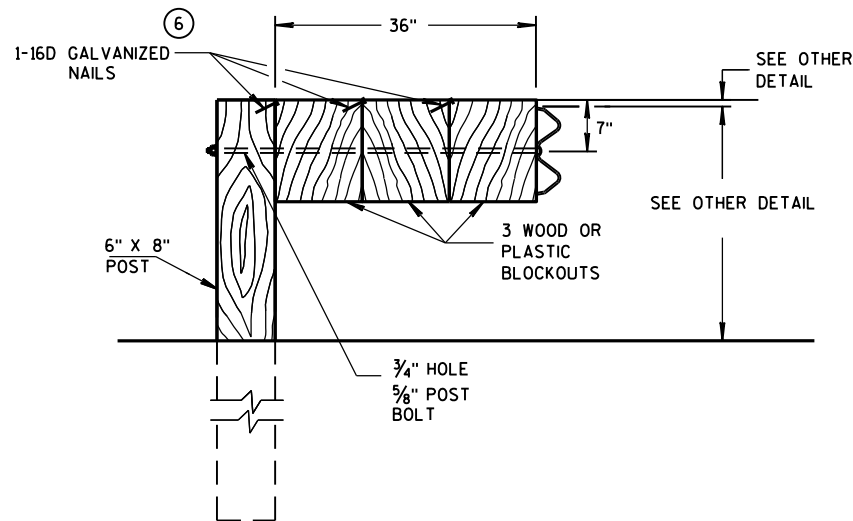
**ALTERNATE BOLT HEAD**



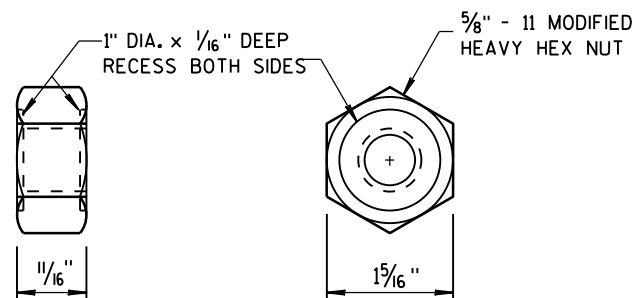
**PLAN VIEW  
BEAM LAPPING DETAIL**



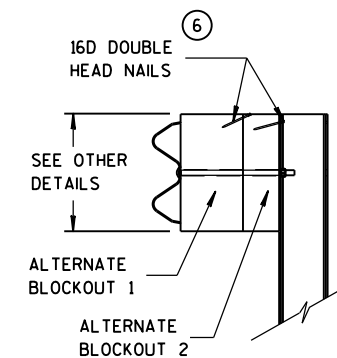
**POST DRIVING FOR CONTINUOUS  
UNDERGROUND OBSTRUCTION**



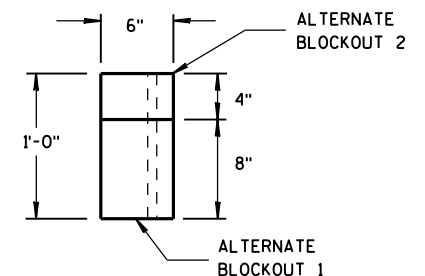
**DETAIL FOR 36" BLOCKOUT DEPTH**



**POST BOLT  
AND RECESS NUT**



**SIDE VIEW**



**TOP VIEW**

**ALTERNATE WOOD  
BLOCKOUT DETAIL**

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

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

**MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

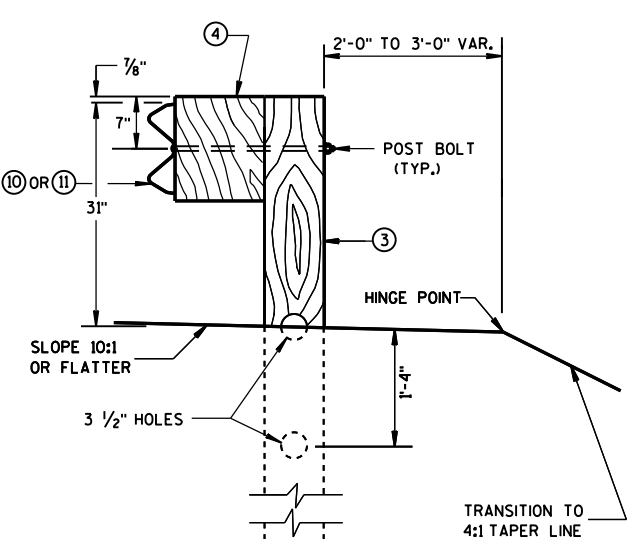
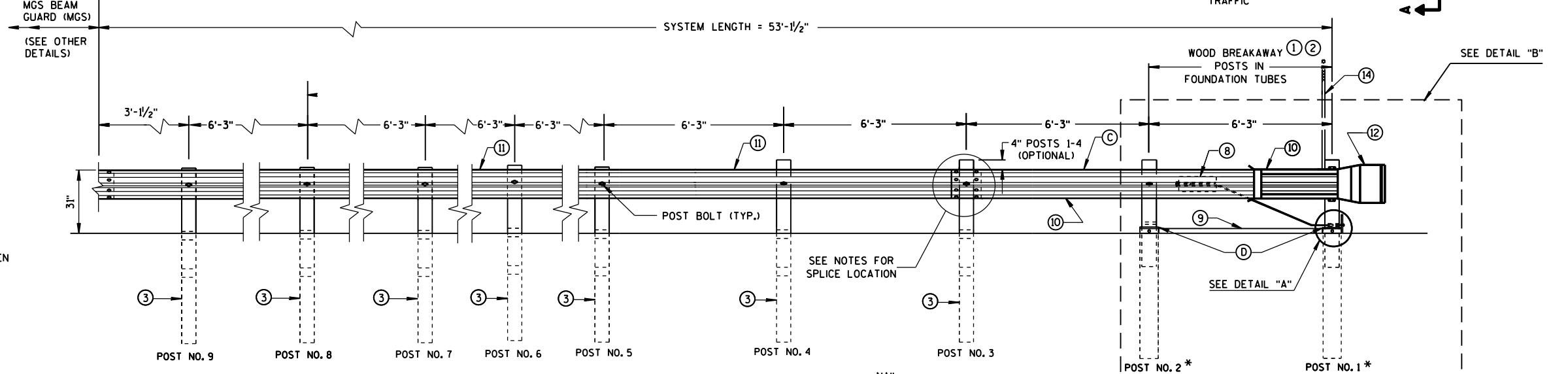
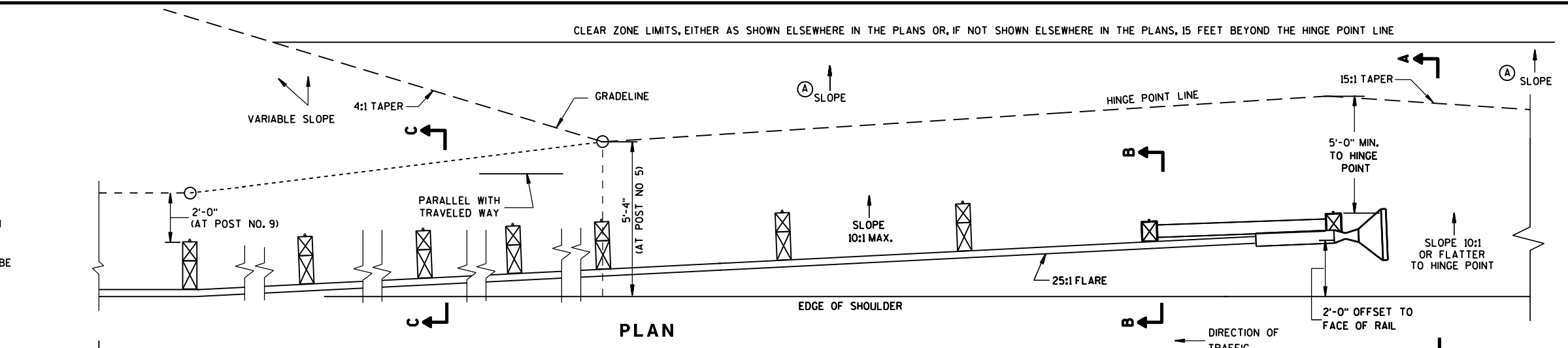
APPROVED  
June 2014 /S/ Jerry H. Zogg  
DATE ROADWAY STANDARDS DEVELOPMENT  
FHWA ENGINEER

**GENERAL NOTES**

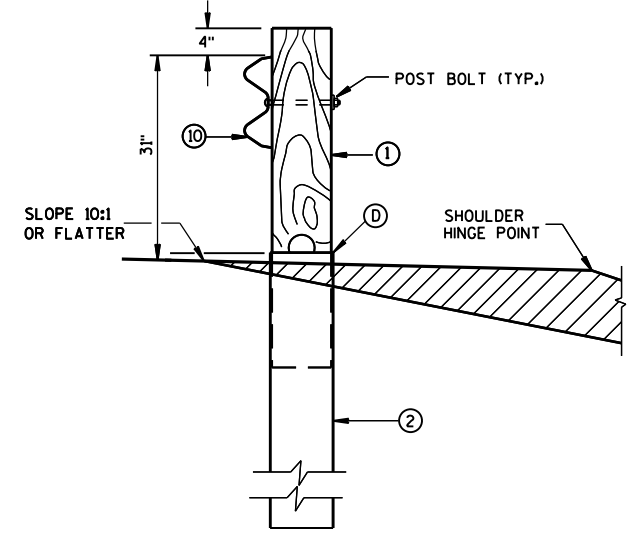
- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.
- (C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURE'S INFORMATION.
- (D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.
- (E) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS, ONE SCREW PER CORNER.
- (G) 1/2" DIAMETER X 3" LONG LAG BOLT AND WASHER.
- (H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.
- (I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

SEE SDD 14B42 FOR MORE INFORMATION.  
 \* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.  
 DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.  
 W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.  
 THE CENTER OF THE UPPER 3/2" 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.

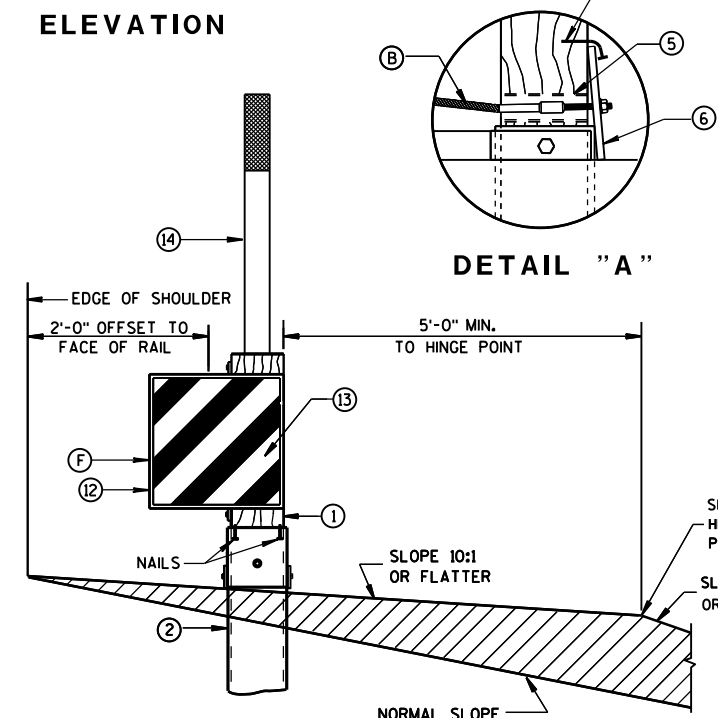
CLEAR ZONE LIMITS, EITHER AS SHOWN ELSEWHERE IN THE PLANS OR, IF NOT SHOWN ELSEWHERE IN THE PLANS, 15 FEET BEYOND THE HINGE POINT LINE



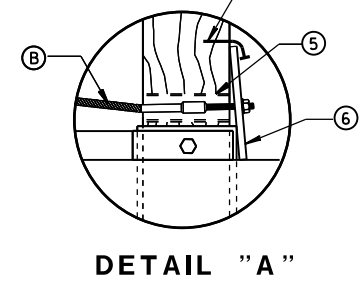
SECTION C-C  
TYPICAL AT POST NOS. 3-9



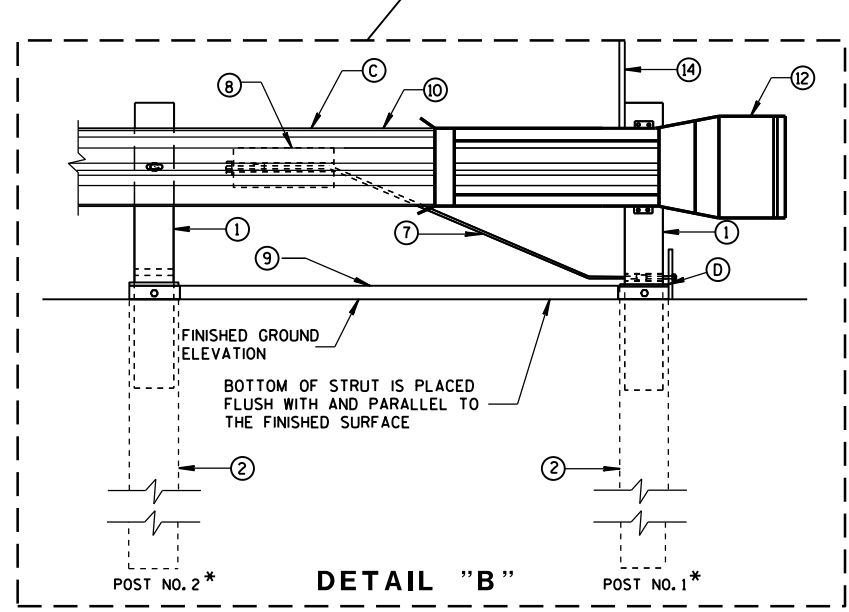
SECTION B-B  
TYPICAL AT POST NO. 2\*



SECTION A-A  
TYPICAL AT POST NO. 1\*



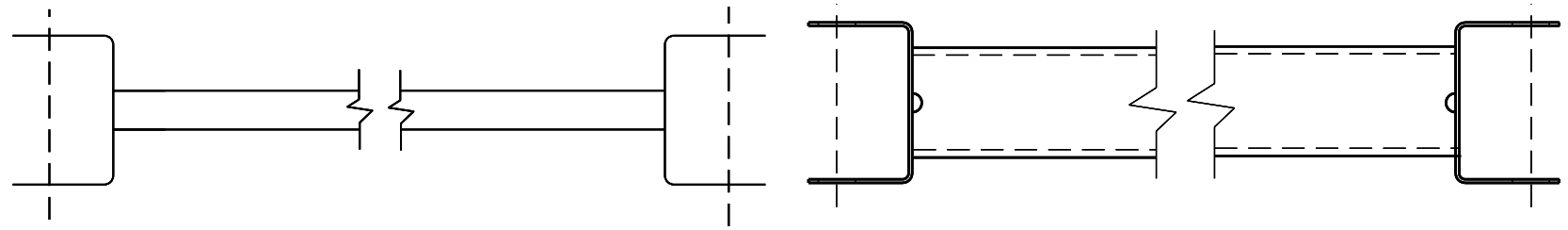
DETAIL "A"



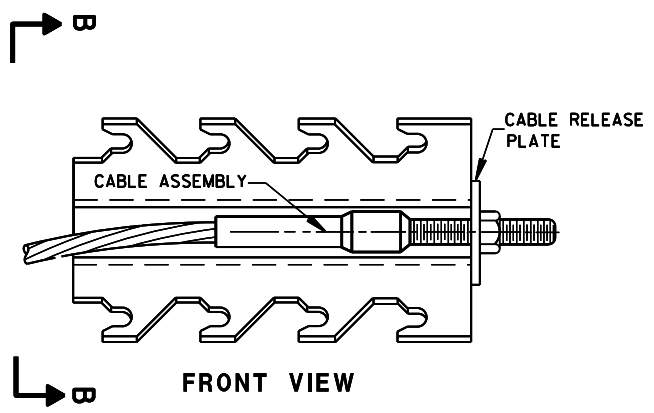
DETAIL "B"

**MIDWEST GUARDRAIL SYSTEM  
 ENERGY ABSORBING TERMINAL  
 (MGS)**  
 STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

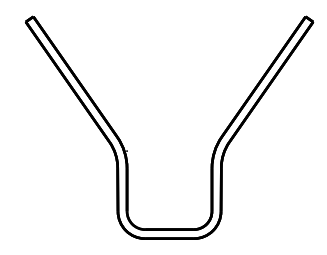




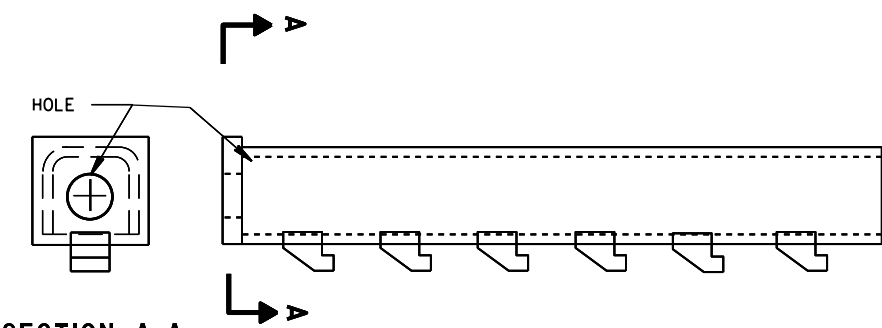
GENERIC GROUND STRUT (9) (H)



FRONT VIEW



SECTION B-B



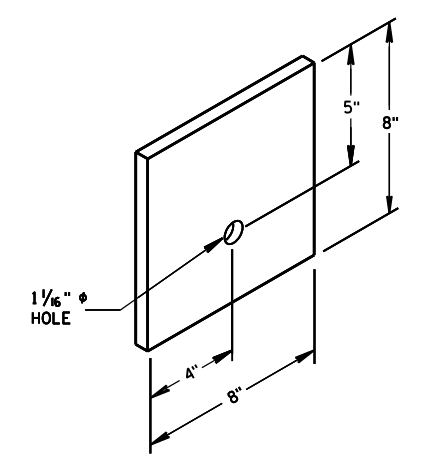
SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)

**BILL OF MATERIALS**

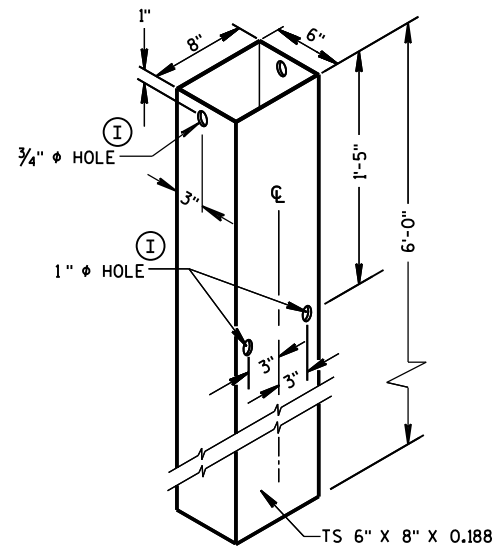
PART NO.	DESCRIPTION
MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.	
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR CABLE BOX
(9)	GROUND STRUT
(10)	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
(11)	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
(12)	END SECTION EAT
(13)	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



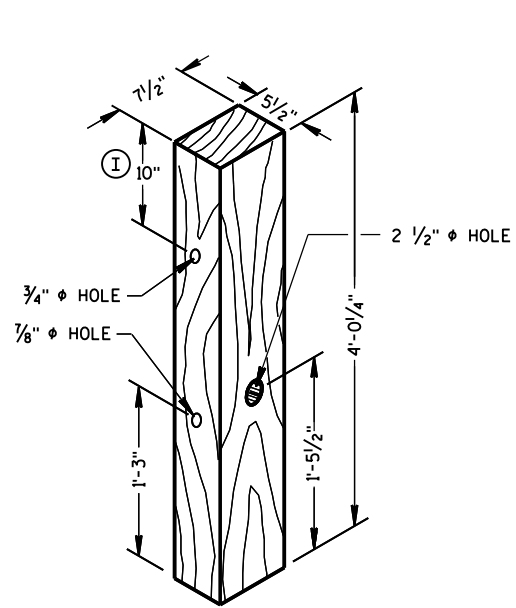
BEARING PLATE (6)

6

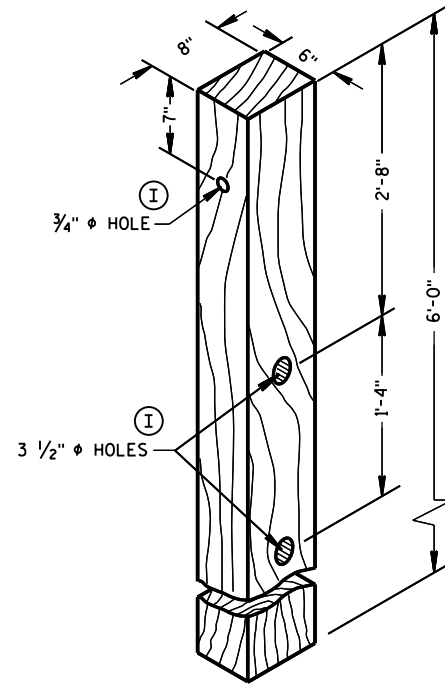
6



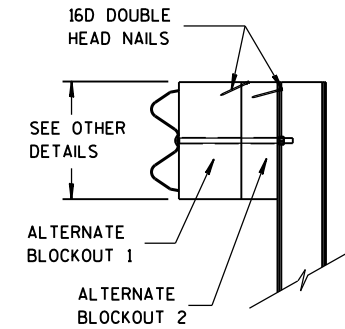
**FOUNDATION TUBE** ②



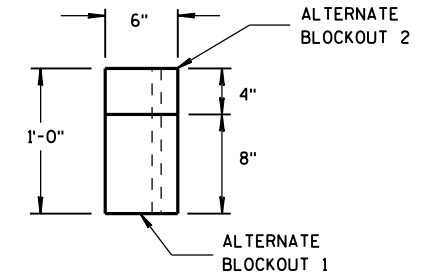
POSTS NUMBER 1 AND 2  
**WOOD BREAKAWAY POST** ①



POSTS NUMBER 3-9  
**WOOD CRT POST** ③

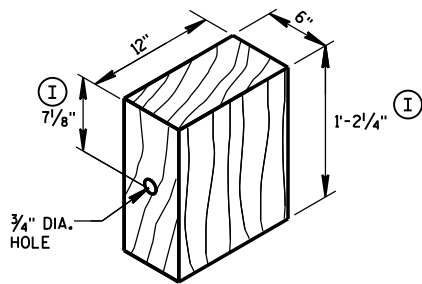


**SIDE VIEW**



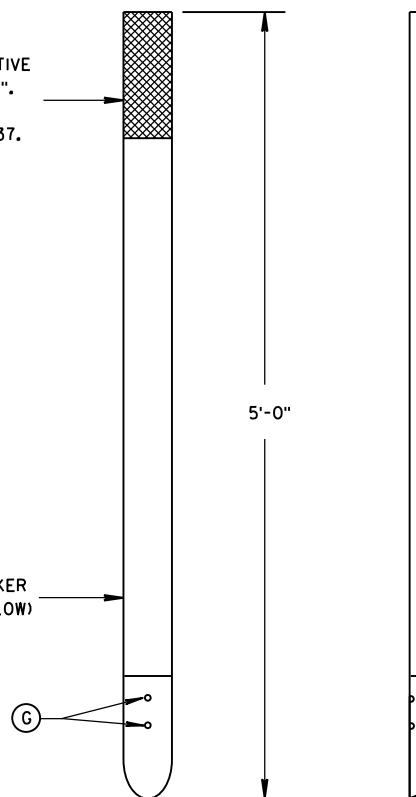
**TOP VIEW**

**ALTERNATE WOOD  
BLOCKOUT DETAIL**

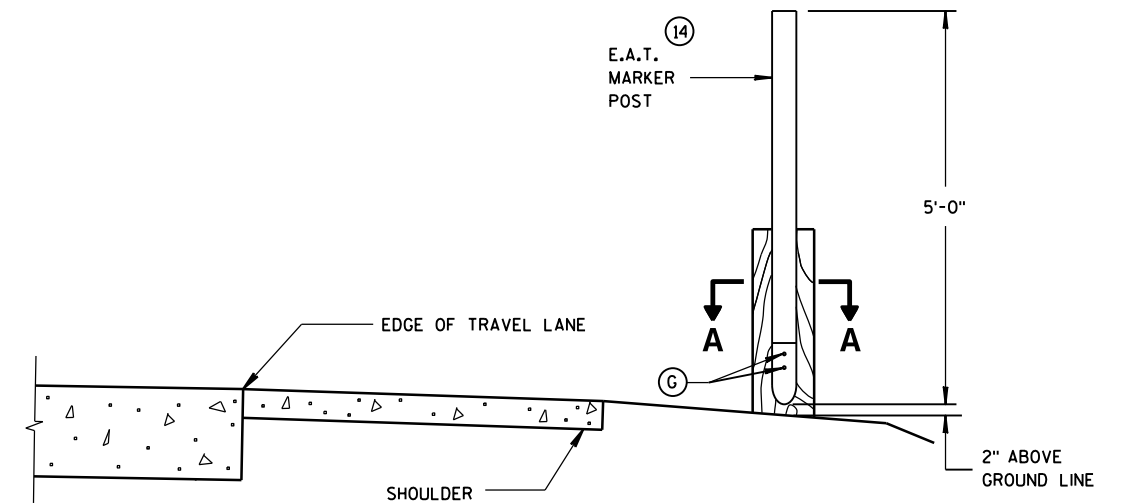


**WOOD BLOCKOUT** ④  
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

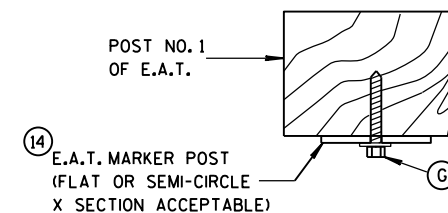
TYPE H  
YELLOW REFLECTIVE  
SHEETING 3" X 9".  
SEE STANDARD  
SPECIFICATION 637.



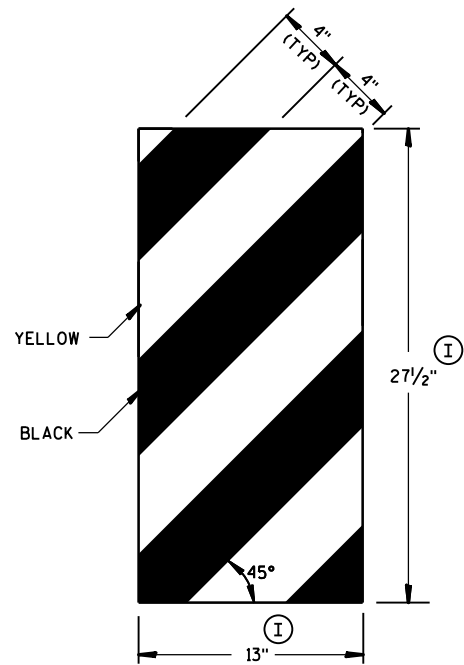
**FRONT VIEW** **SIDE VIEW**  
**E.A.T. MARKER POST** ⑭



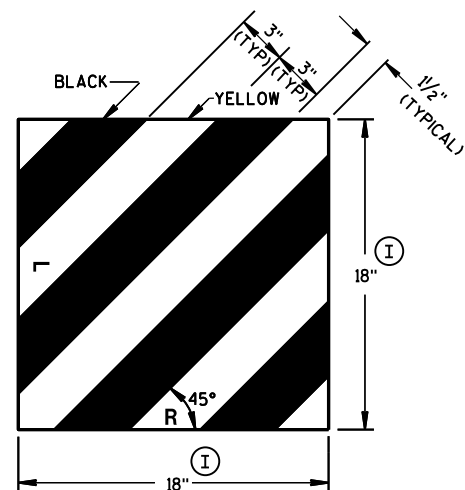
**TYPICAL INSTALLATION OF E.A.T.  
MARKER POST BACKSIDE OF POST NO. 1**  
(E.A.T. AND RAIL REMOVED FOR CLARITY)



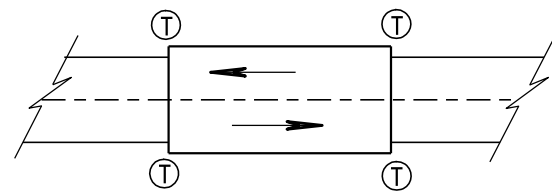
**SECTION A-A**



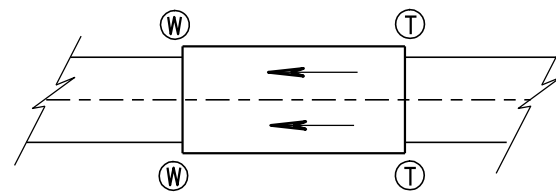
**GENERIC REFLECTIVE SHEETING** ⑬ ①



<b>MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2014 DATE	/s/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



TWO WAY TRAFFIC



ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

**GENERAL NOTES**

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

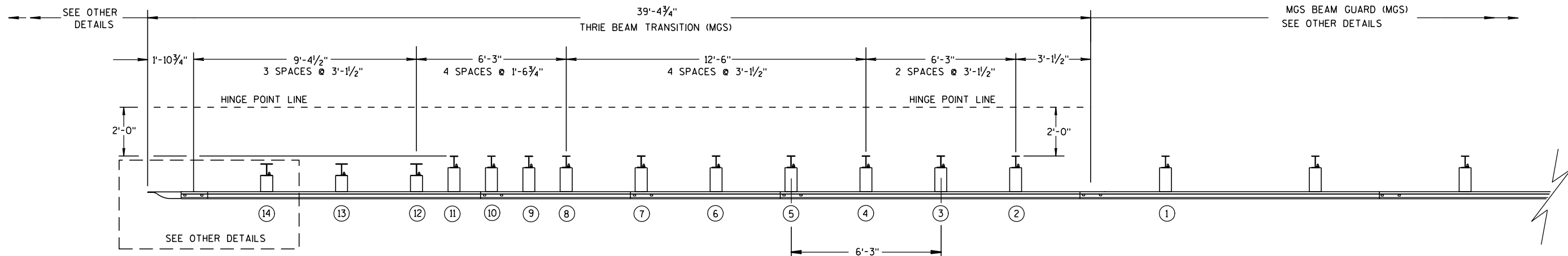
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

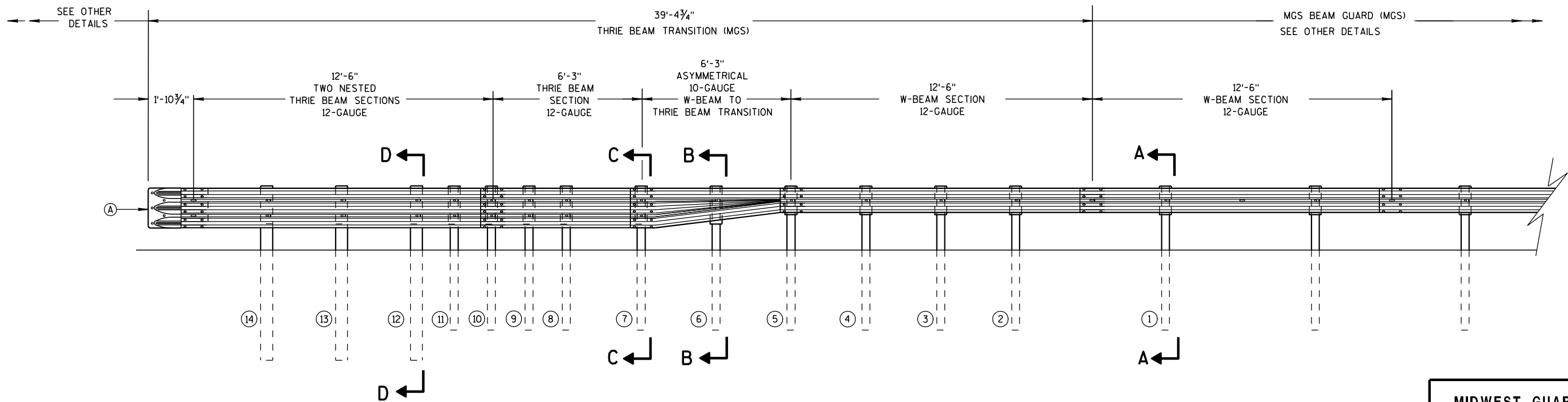
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

**TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE**



PLAN VIEW



ELEVATION VIEW

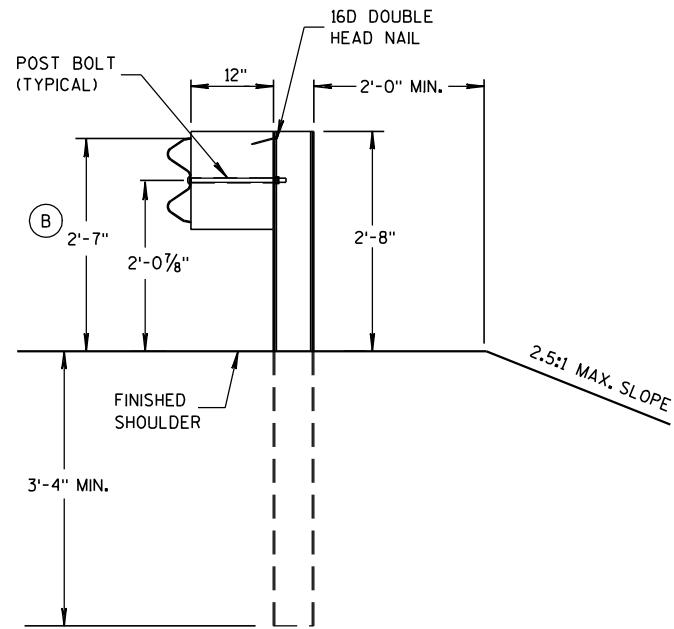
**MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION**

MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

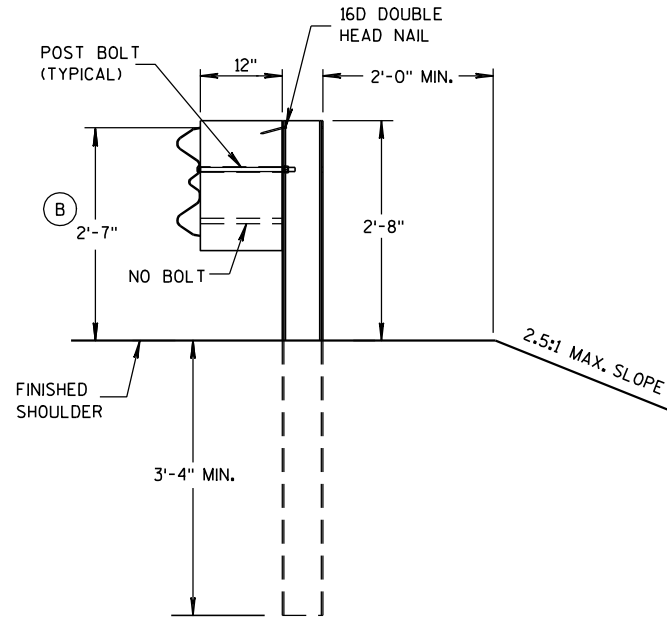
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

**GENERAL NOTES**

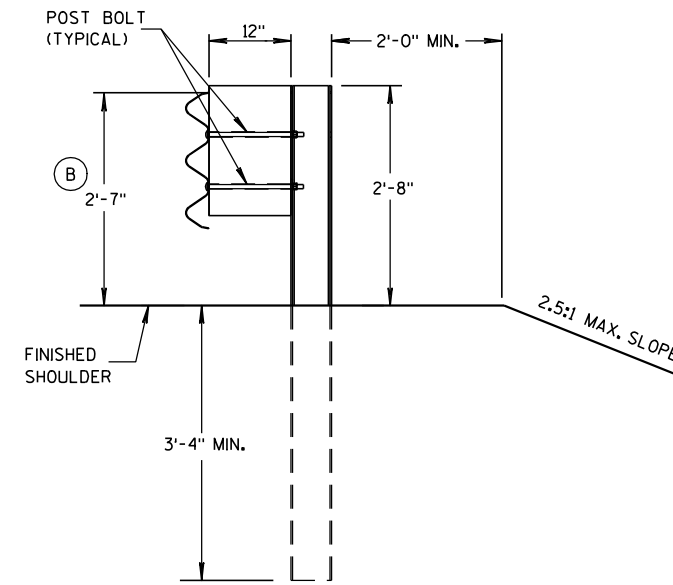
(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS  $\pm 1"$ .



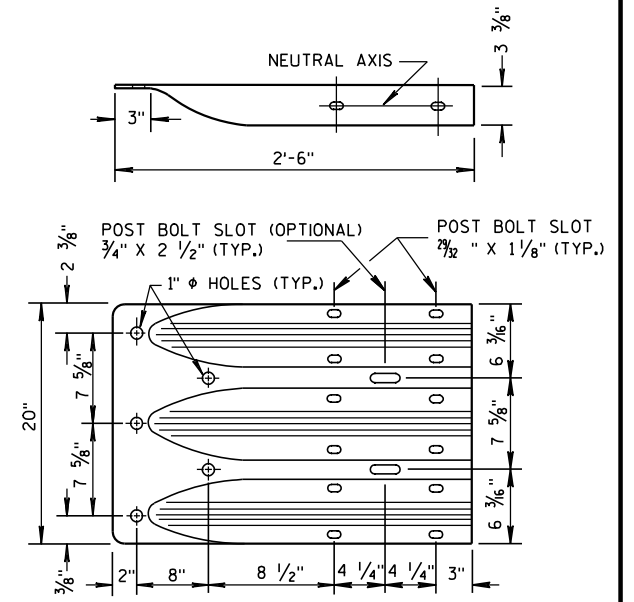
**SECTION A-A  
POSTS 1-5**



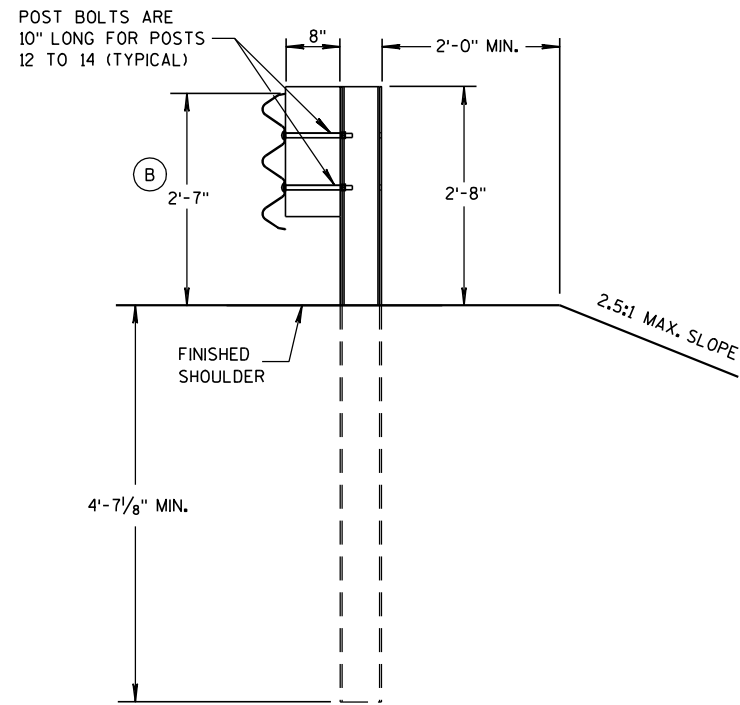
**SECTION B-B  
POST 6**



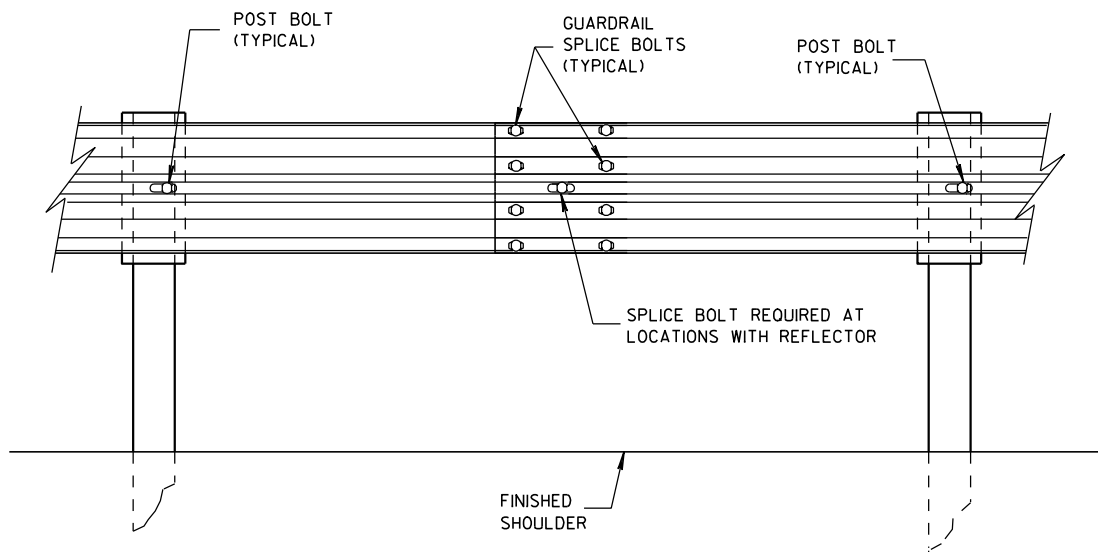
**SECTION C-C  
POSTS 7-11**



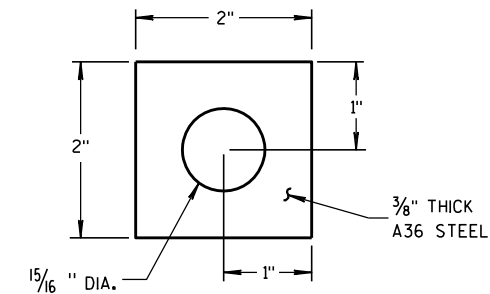
**THRIE BEAM  
TERMINAL CONNECTOR**



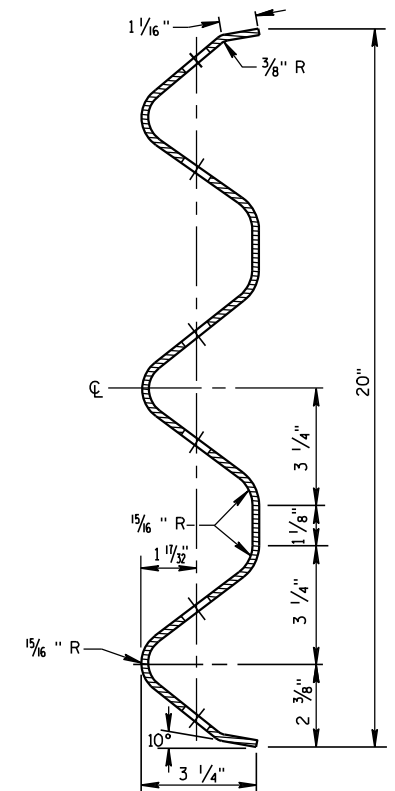
**SECTION D-D  
POSTS 12-14**



**SPlice DETAIL**



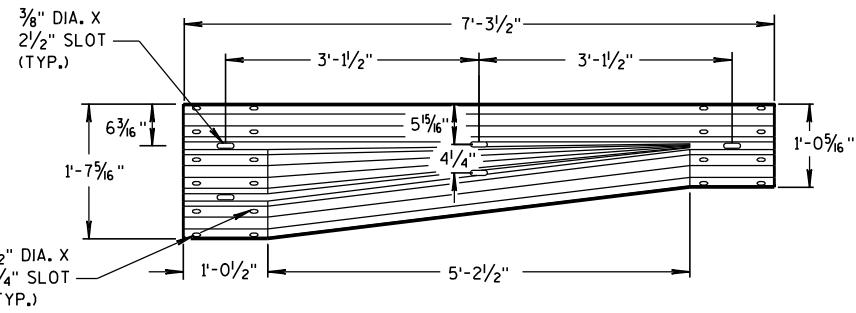
**PLATE WASHER DETAIL**



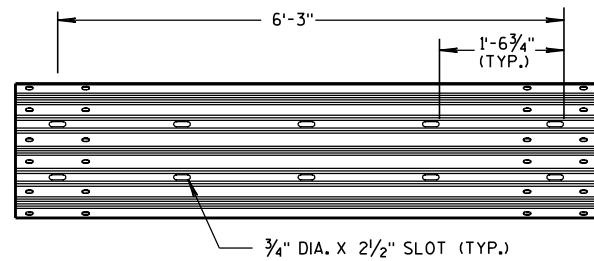
**SECTION THRU THRIE  
BEAM RAIL ELEMENT**

**MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)**

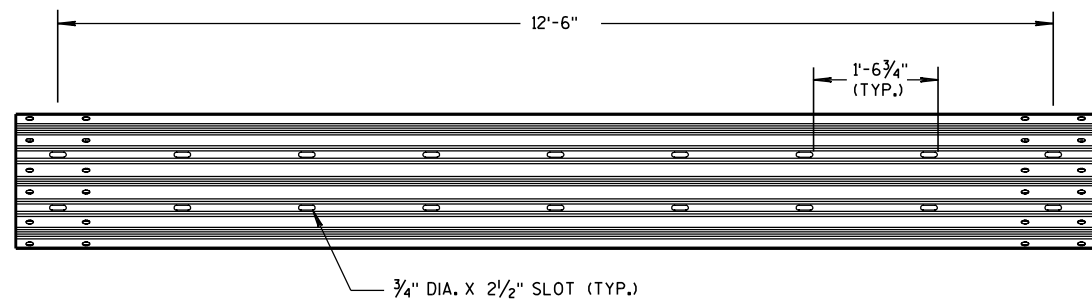
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



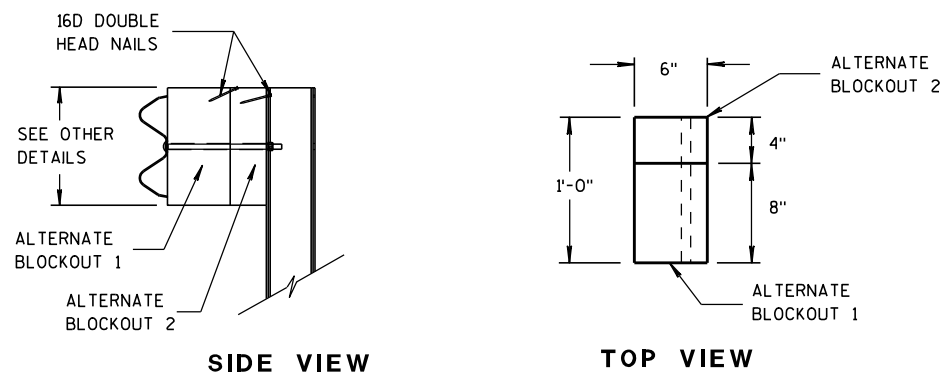
**W-BEAM TO THRIE BEAM TRANSITION SECTION**



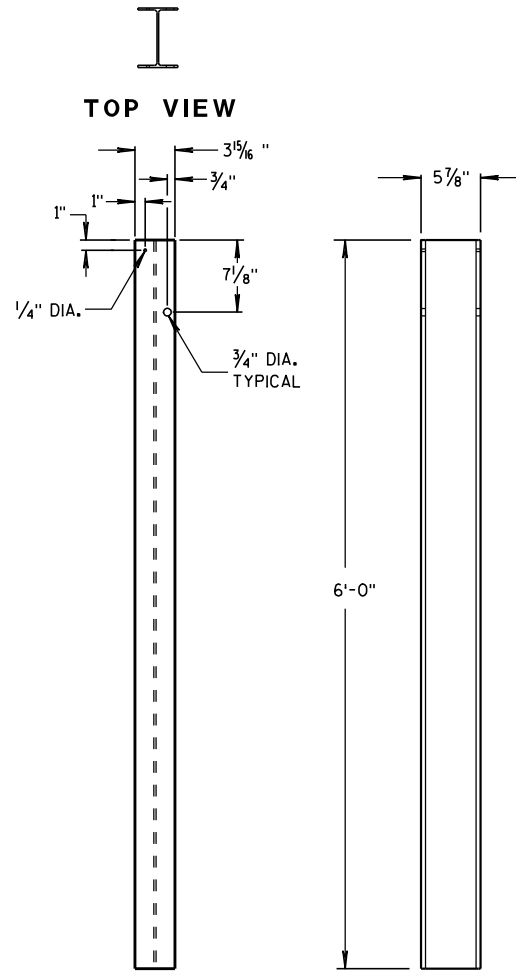
**6'-3\"/>**



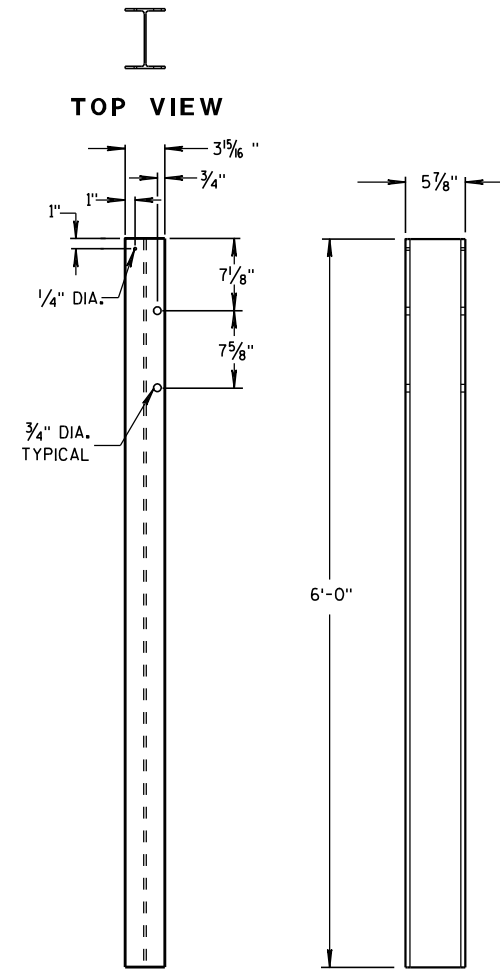
**12'-6\"/>**



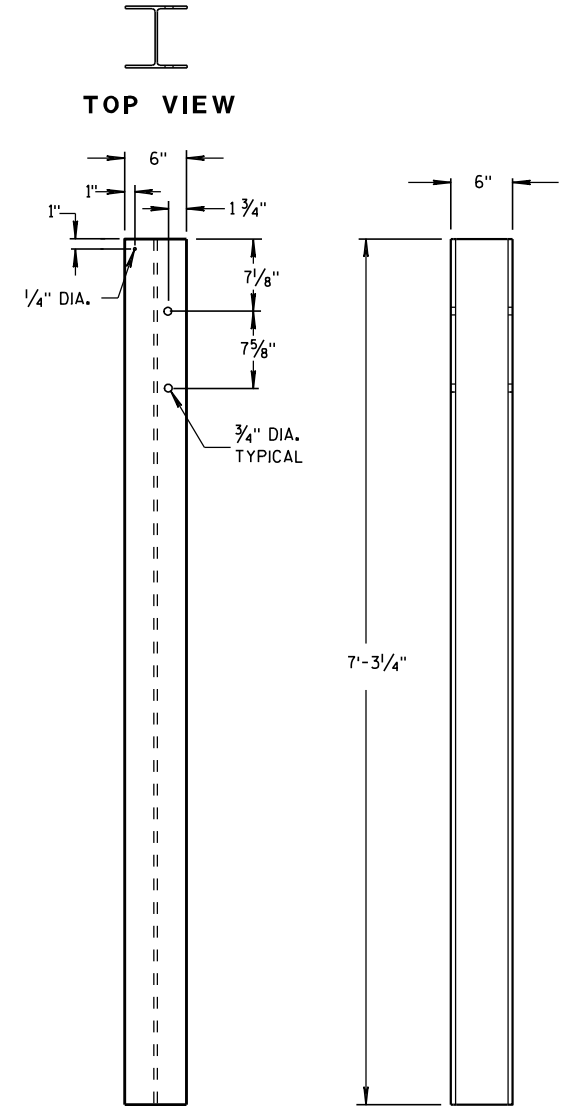
**ALTERNATE WOOD BLOCKOUT DETAIL**



**STEEL POSTS 1-5**

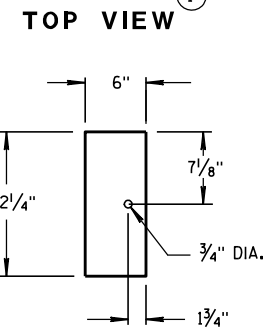
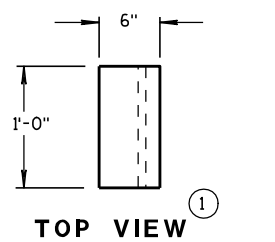


**STEEL POSTS 6-11**

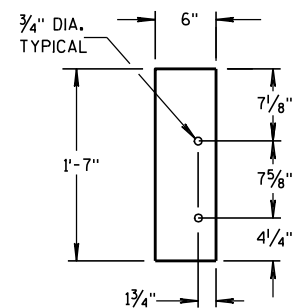
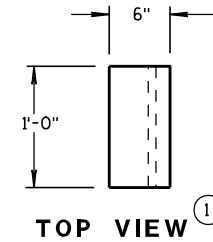


**STEEL POSTS 12-14**

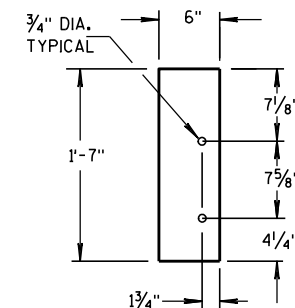
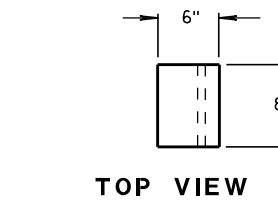
① WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.



**BLOCKOUT POSTS 1-5**



**BLOCKOUT POSTS 6-11**



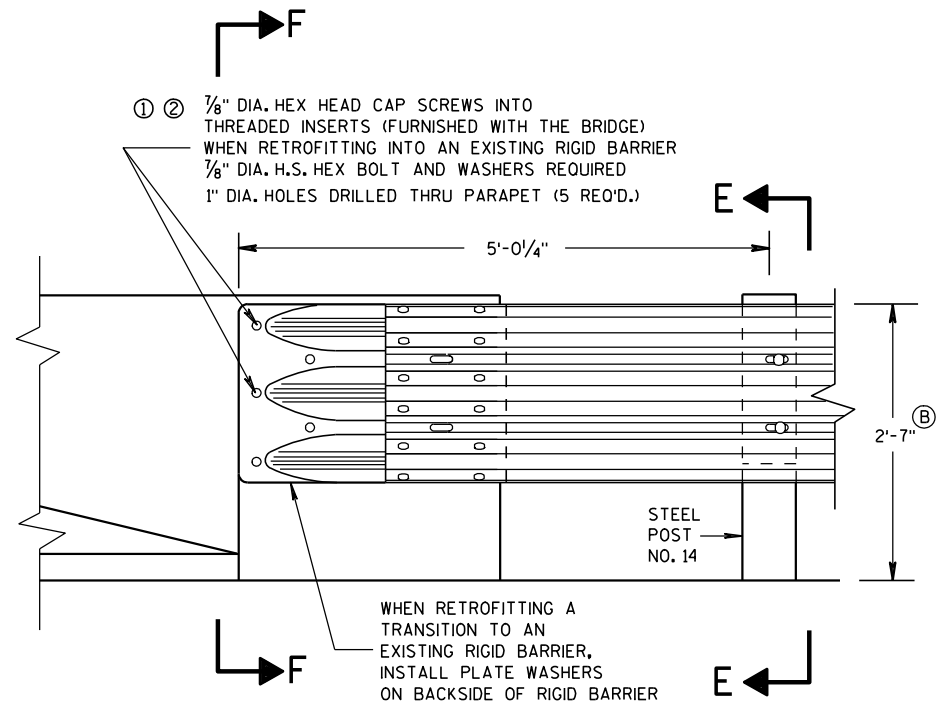
**BLOCKOUT POSTS 12-14**

**STEEL POST SIZES**

POST NUMBER	SECTION TYPE	LENGTH
①	W6x9	72"
②	W6x9	72"
③	W6x9	72"
④	W6x9	72"
⑤	W6x9	72"
⑥	W6x9	72"
⑦	W6x9	72"
⑧	W6x9	72"
⑨	W6x9	72"
⑩	W6x9	72"
⑪	W6x9	72"
⑫	W6x15	87 7/8"
⑬	W6x15	87 7/8"
⑭	W6x15	87 7/8"

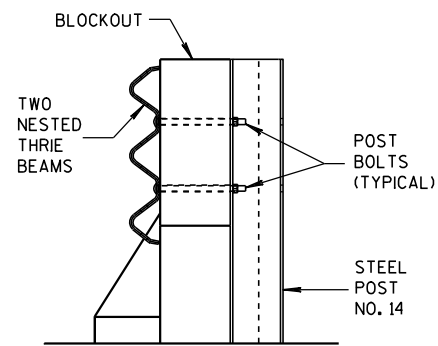
**MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



FRONT VIEW

**THRIE BEAM CONNECTION TO BRIDGE  
PARAPET WITH SQUARE ENDS**

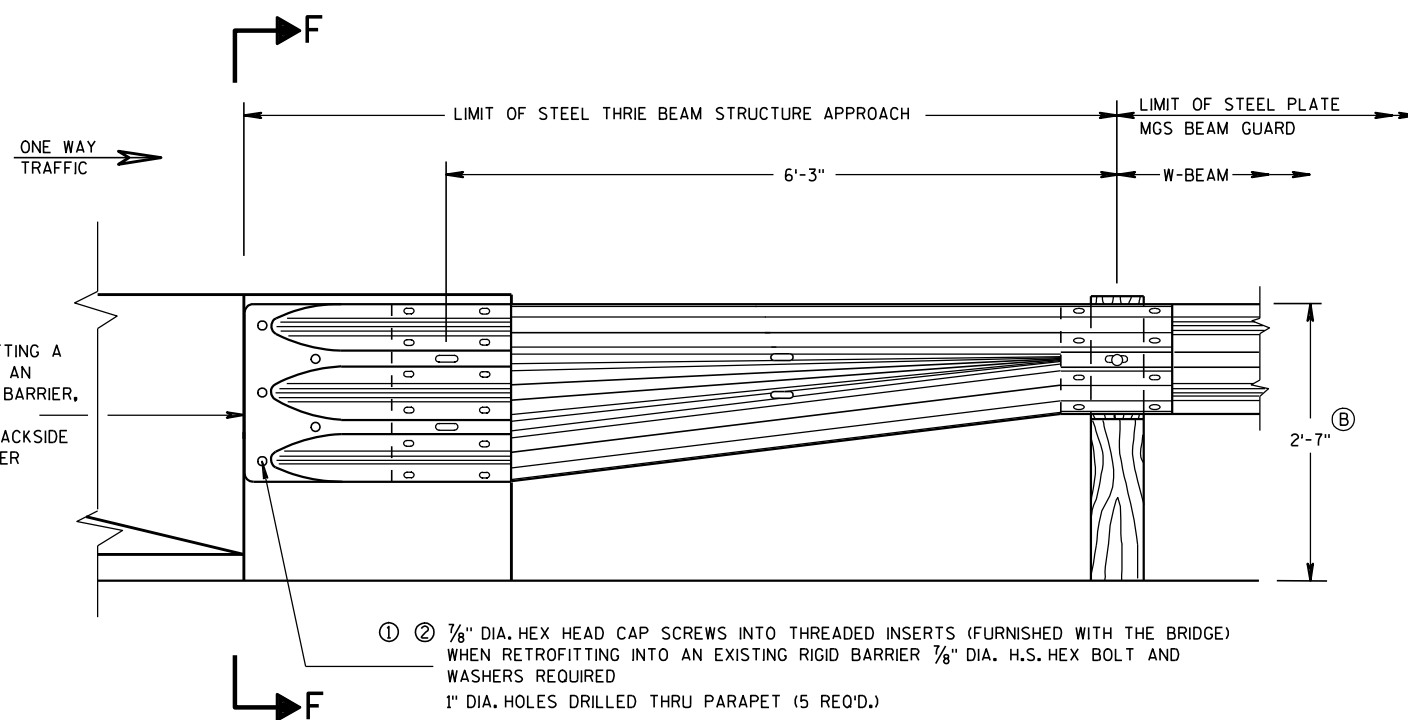


SECTION E-E

**GENERAL NOTES**

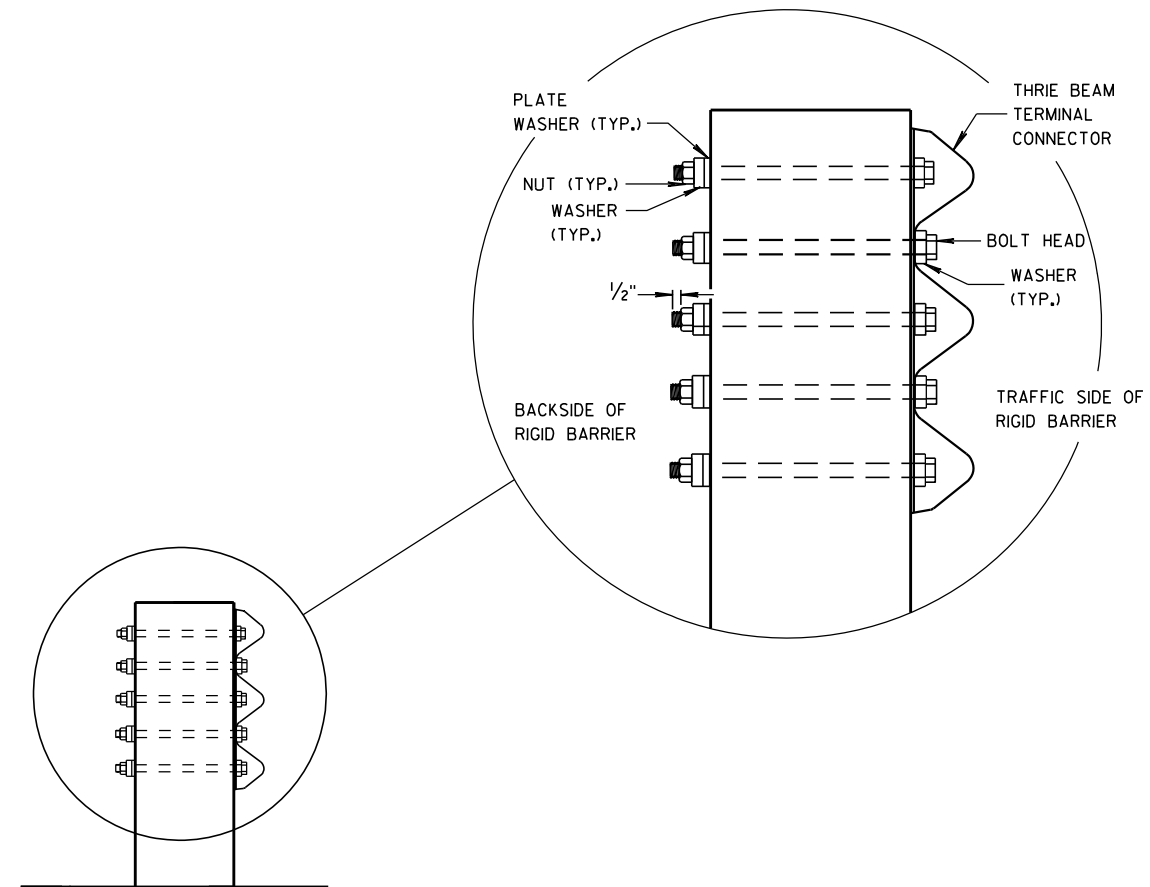
THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSITION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".
- (B) TOLERANCE FOR TOP OF BEAM IS ± 1".



FRONT VIEW

**W BEAM TRANSITION AND CONNECTION TO  
BRIDGE PARAPETS WITH SQUARE ENDS  
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)**



SECTION F-F

6

6

S.D.D. 14 B 45-3d

S.D.D. 14 B 45-3d

**MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012

DATE

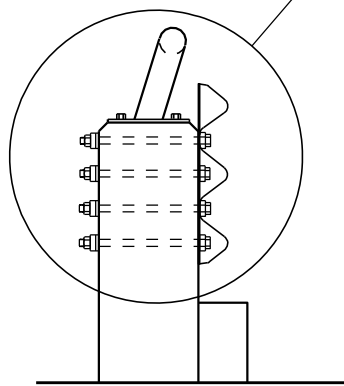
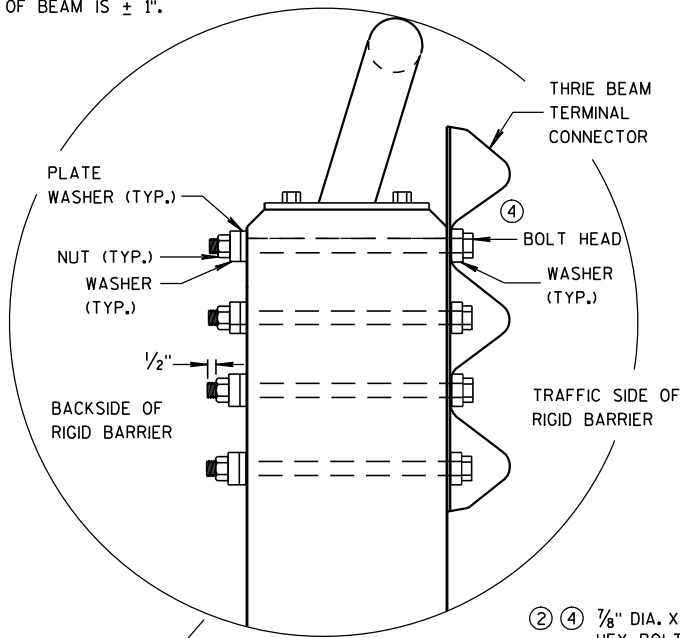
FHWA

/s/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER

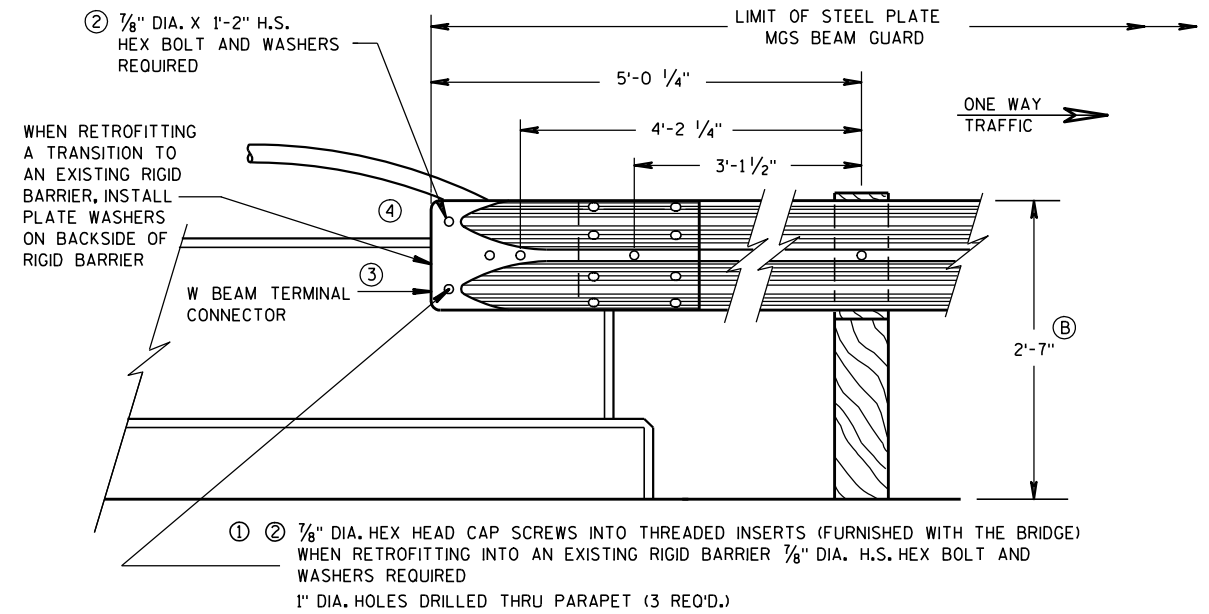
**GENERAL NOTES**

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSITION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

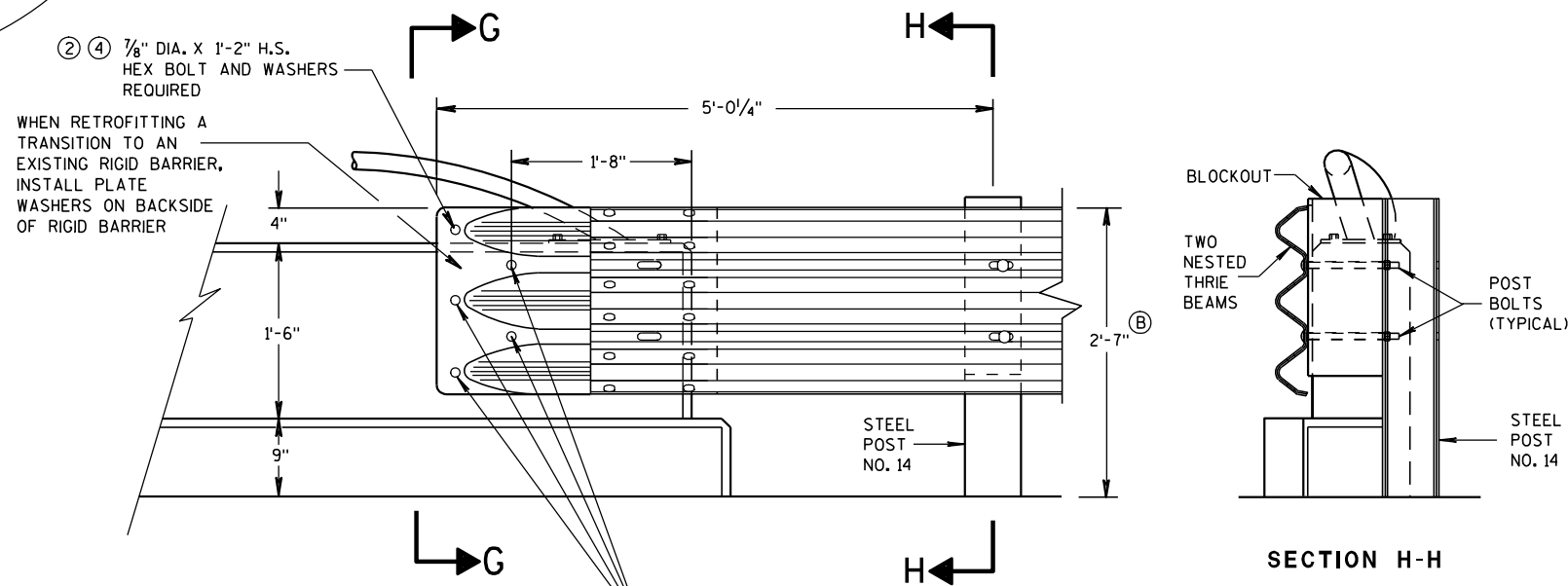
- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2". BLOCK IS INCIDENTAL TO THE CONTRACT.
- ④ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PARAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.
- ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".



SECTION G-G



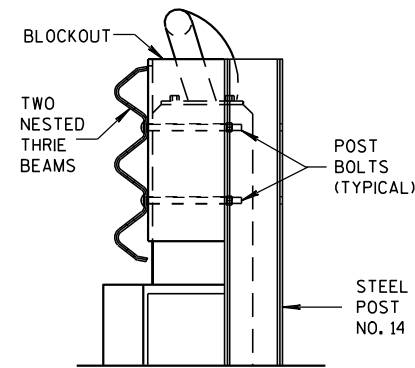
**FRONT VIEW**  
**W BEAM CONNECTION TO VERTICAL FACE PARAPET**  
 (USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



FRONT VIEW

**THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS**

- ① ② 1/8" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER 1/8" DIA. H.S. HEX BOLT AND WASHERS REQUIRED 1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)



SECTION H-H

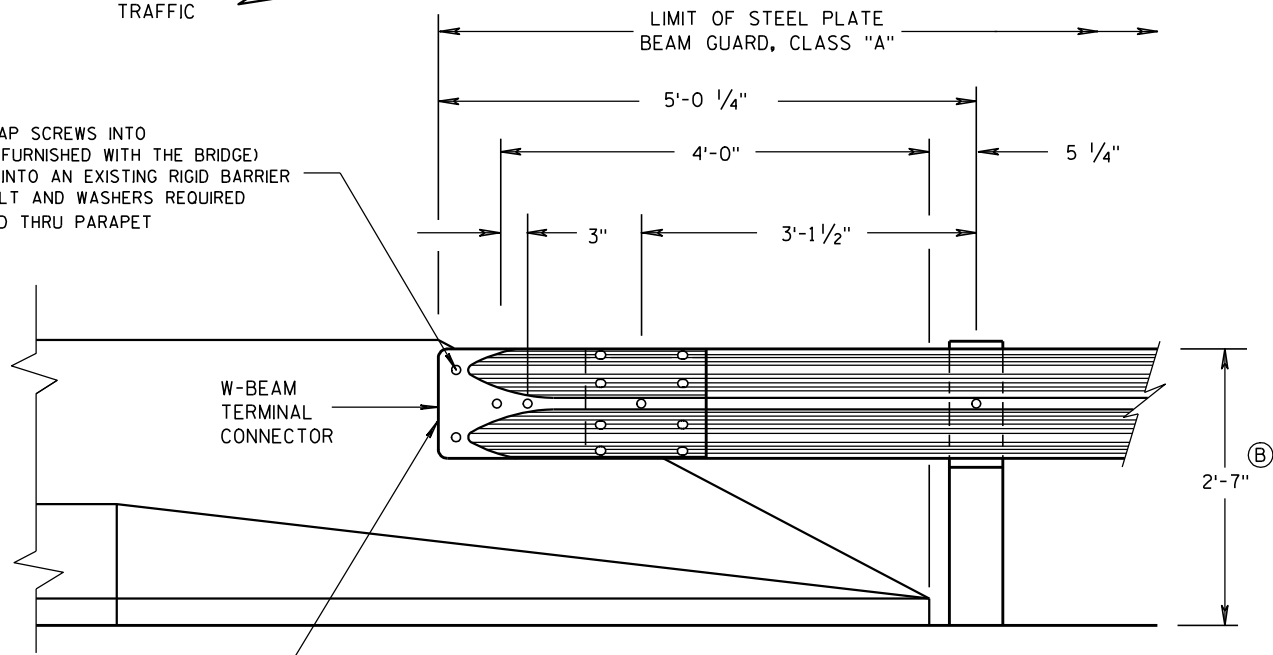
**MIDWEST GUARDRAIL SYSTEM**  
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

APPROVED  
 8-31-2012 /S/ Jerry H. Zogg  
 DATE ROADWAY STANDARDS DEVELOPMENT  
 FHWA ENGINEER

ONE WAY  
TRAFFIC →

① ② 7/8" DIA. HEX HEAD CAP SCREWS INTO  
THREADED INSERTS (FURNISHED WITH THE BRIDGE)  
WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER  
7/8" DIA. H.S. HEX BOLT AND WASHERS REQUIRED  
1" DIA. HOLES DRILLED THRU PARAPET  
(4 REQ'D.)



WHEN RETROFITTING A TRANSITION  
TO AN EXISTING RIGID BARRIER,  
INSTALL PLATE WASHERS ON  
BACKSIDE OF RIGID BARRIER.

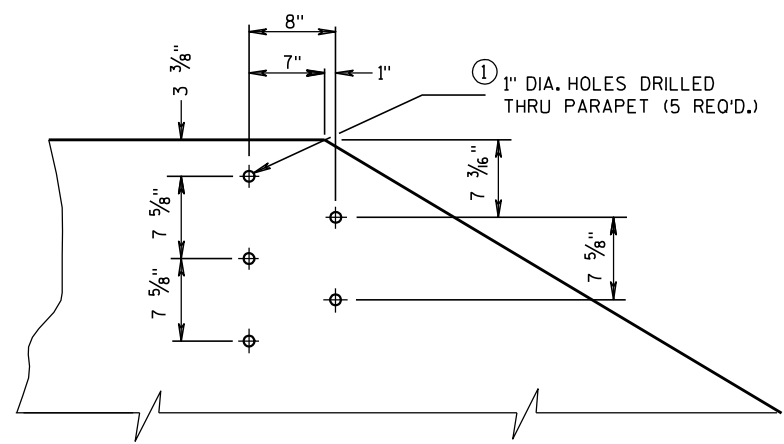
FRONT VIEW

**W BEAM CONNECTION TO  
PARAPETS WITH SLOPED ENDS**

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

**GENERAL NOTES**

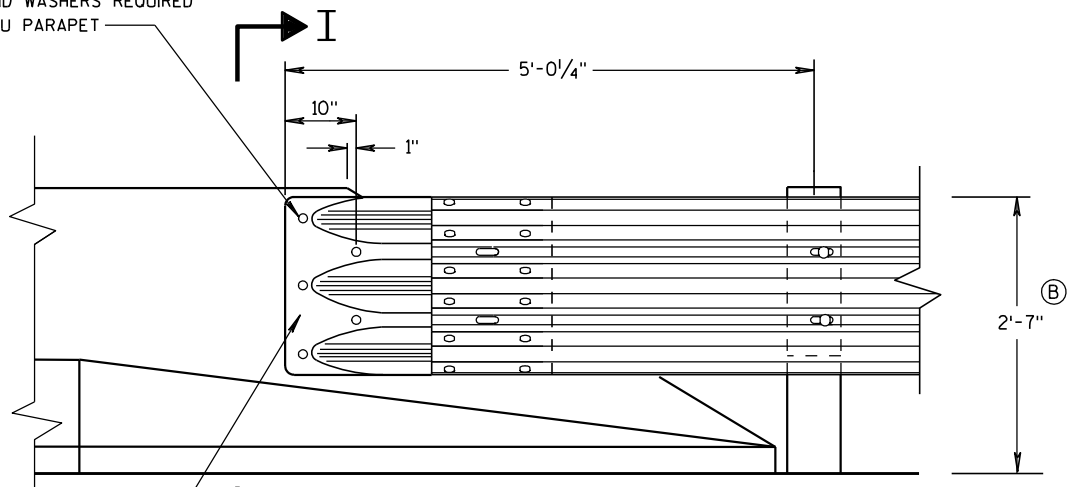
- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".



**DRILL HOLE LOCATION AND PATTERN  
FOR THRIE BEAM CONNECTION**

6

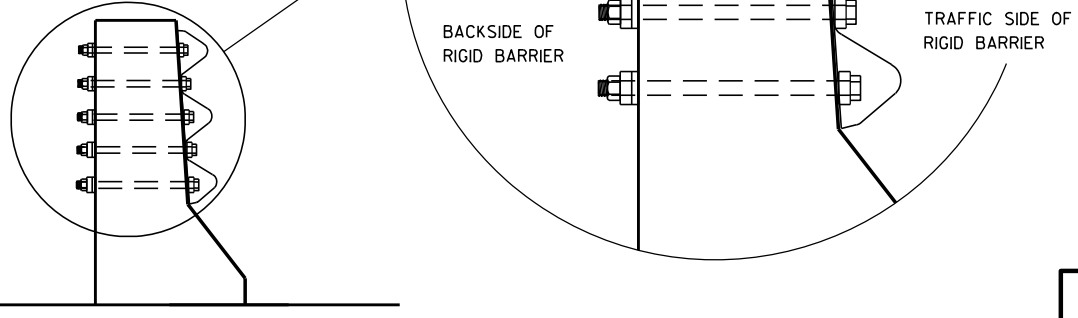
① ② 7/8" DIA. HEX HEAD CAP SCREWS INTO  
THREADED INSERTS (FURNISHED WITH THE BRIDGE)  
WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER  
7/8" DIA. H.S. HEX BOLT AND WASHERS REQUIRED  
1" DIA. HOLES DRILLED THRU PARAPET  
(5 REQ'D.)



WHEN RETROFITTING A TRANSITION  
TO AN EXISTING RIGID BARRIER,  
INSTALL PLATE WASHERS ON  
BACKSIDE OF RIGID BARRIER.

FRONT VIEW

**THRIE BEAM CONNECTION TO BRIDGE  
PARAPETS WITH SLOPED ENDS**



SECTION I-I

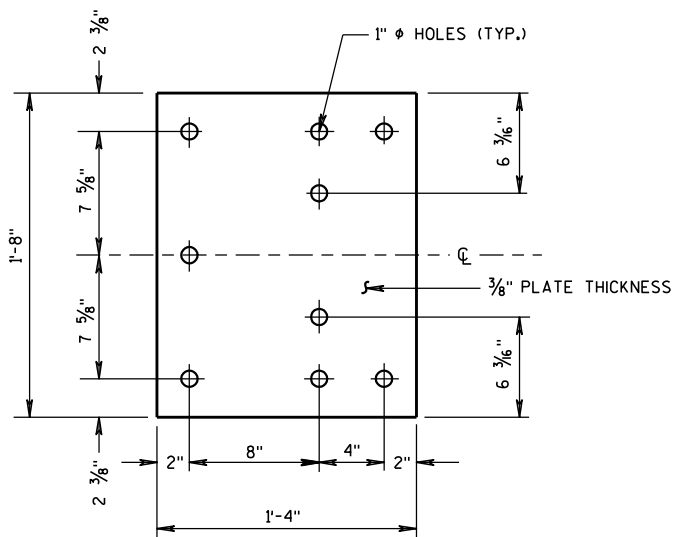
6

S.D.D. 14 B 45-3f

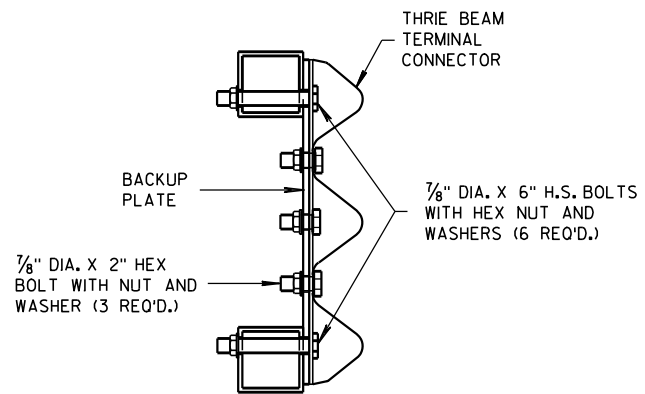
S.D.D. 14 B 45-3f

<b>MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/31/2012 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

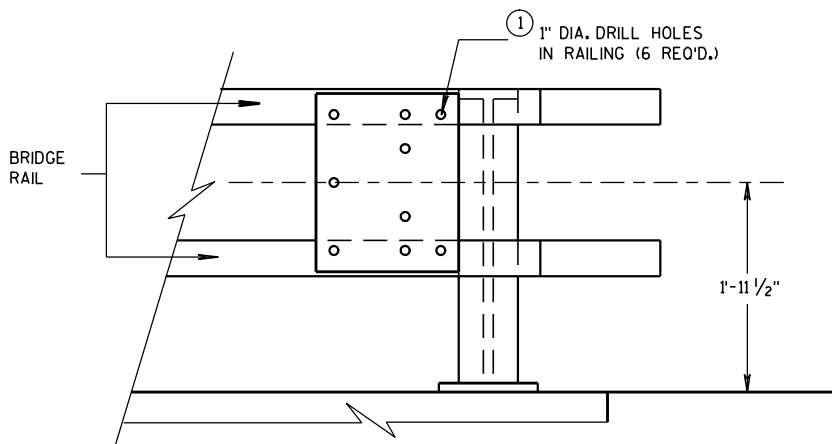




**BACK-UP PLATE DETAIL**



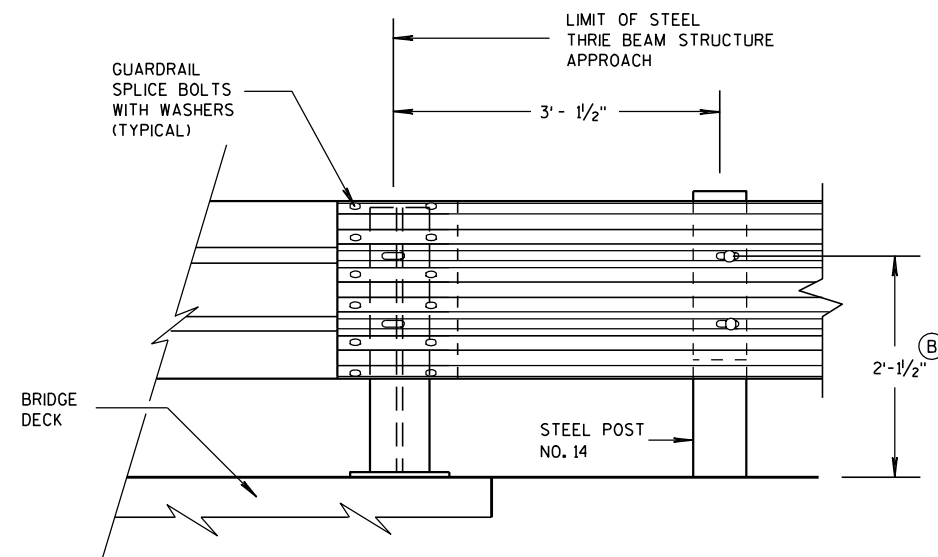
**SECTION J-J**



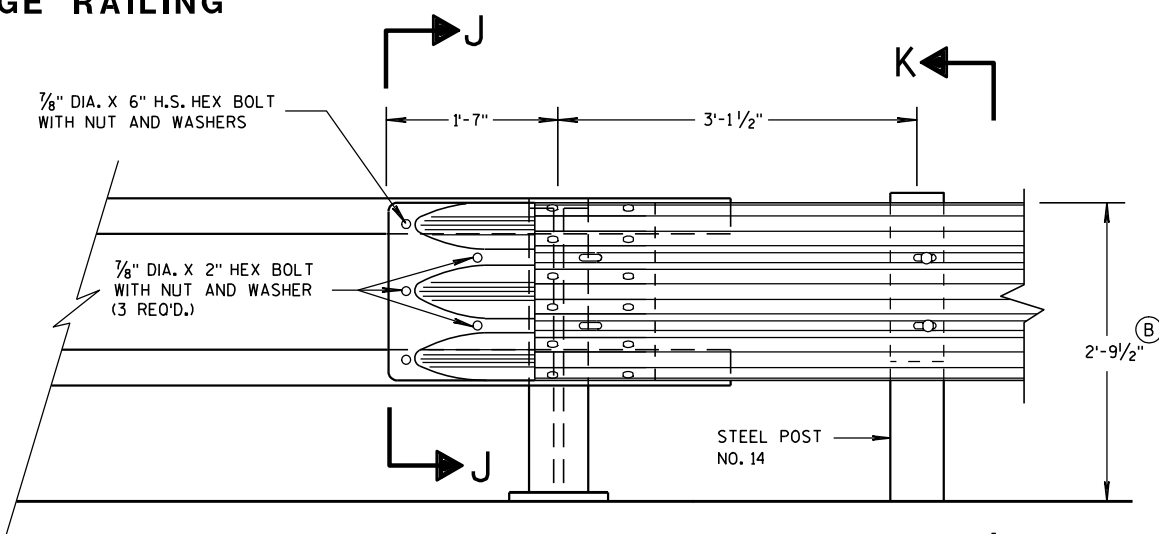
**BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING**

**GENERAL NOTES**

- ① DRILLING HOLES THROUGH THE PAPER, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .

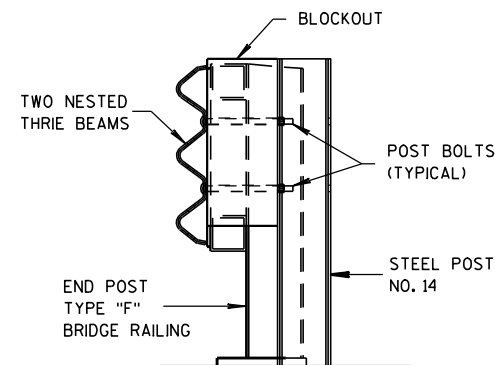


**FRONT VIEW THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"**



**FRONT VIEW**

**THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"**



**SECTION K-K**

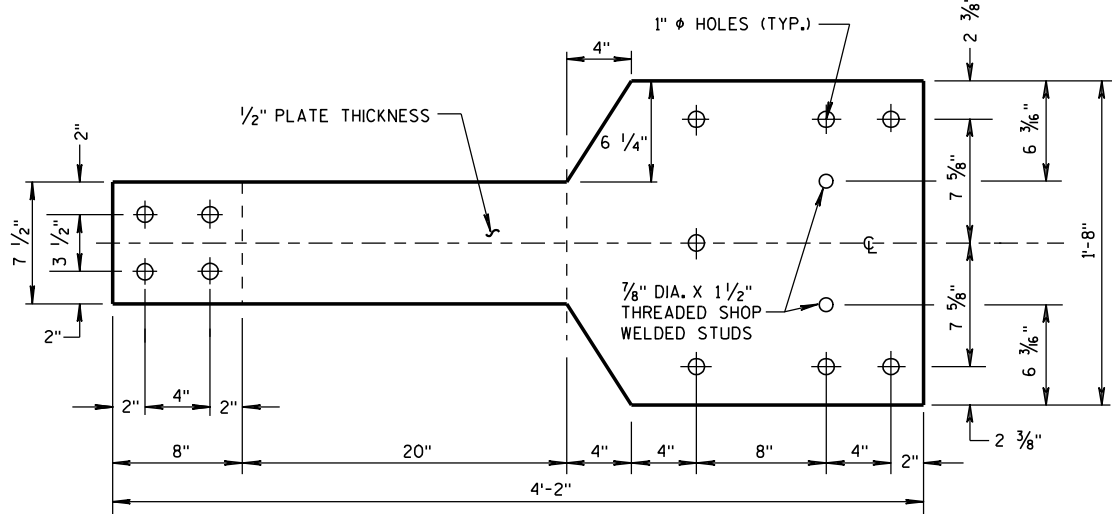
**MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

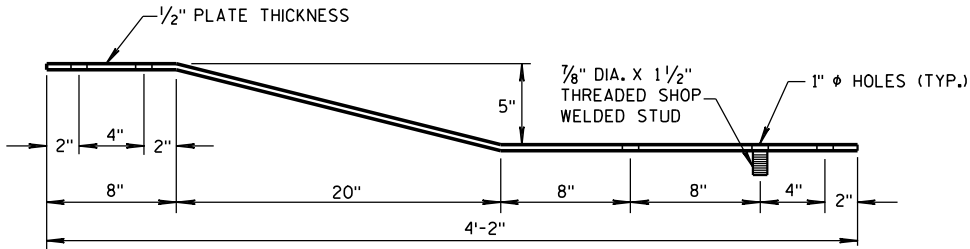
APPROVED  
8/31/2012 DATE /S/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT ENGINEER  
FHWA

**GENERAL NOTES**

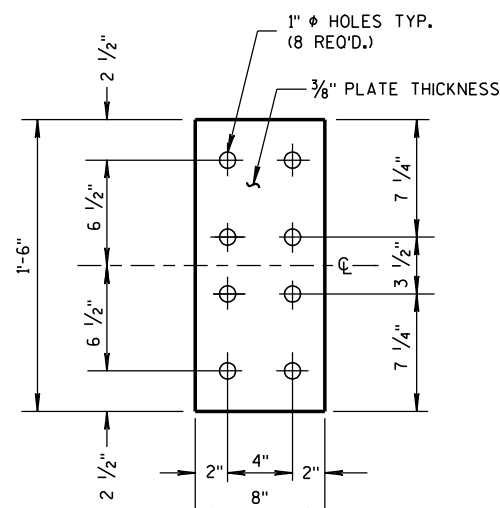
(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



**FRONT VIEW**

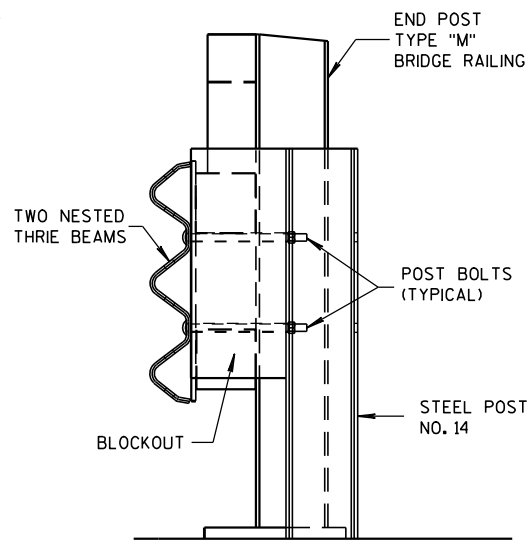


**PLAN VIEW  
BACK-UP PLATE DETAIL, TYPE "M"**

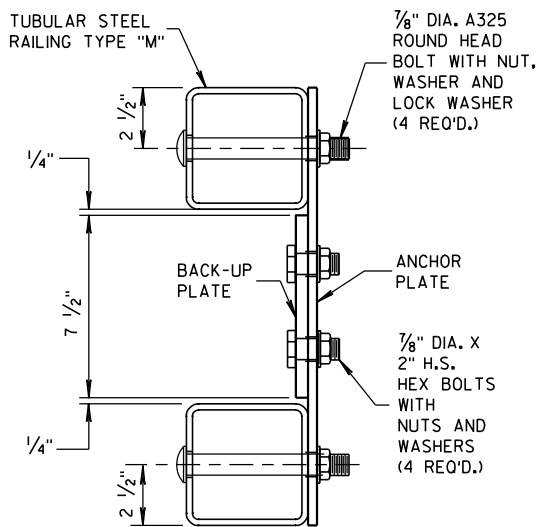


**FRONT VIEW**

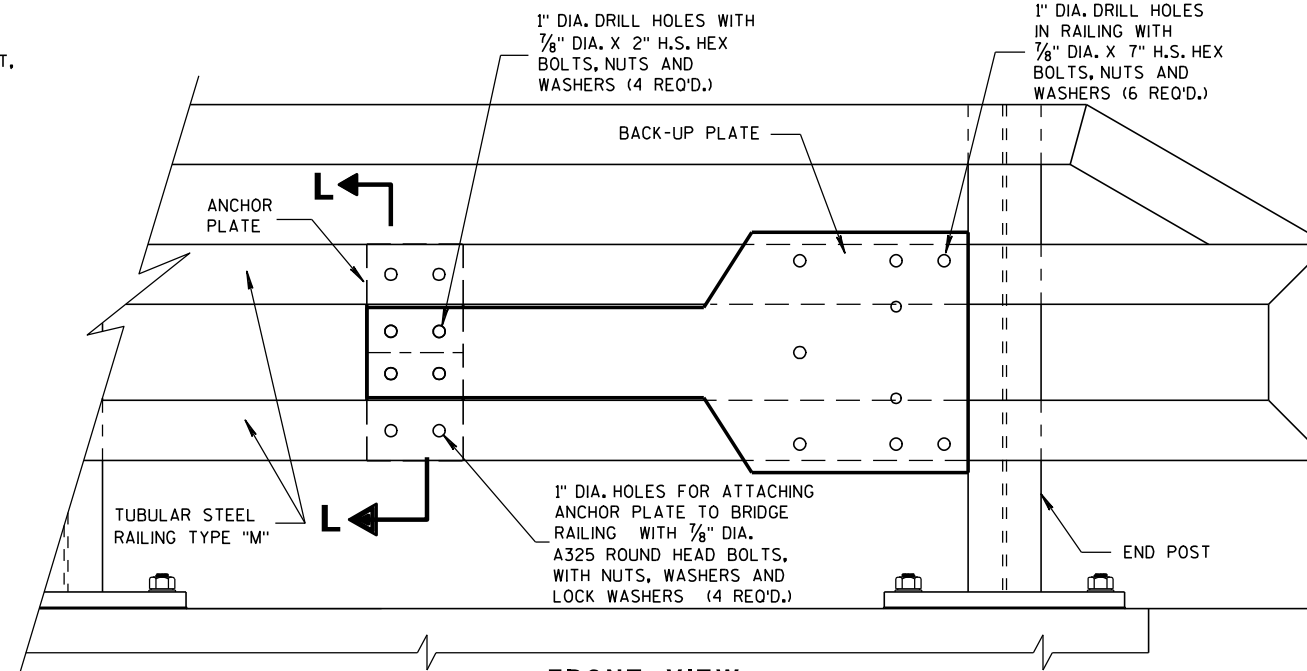
**ANCHOR  
PLATE DETAIL,  
TYPE "M"**



**SECTION M-M**

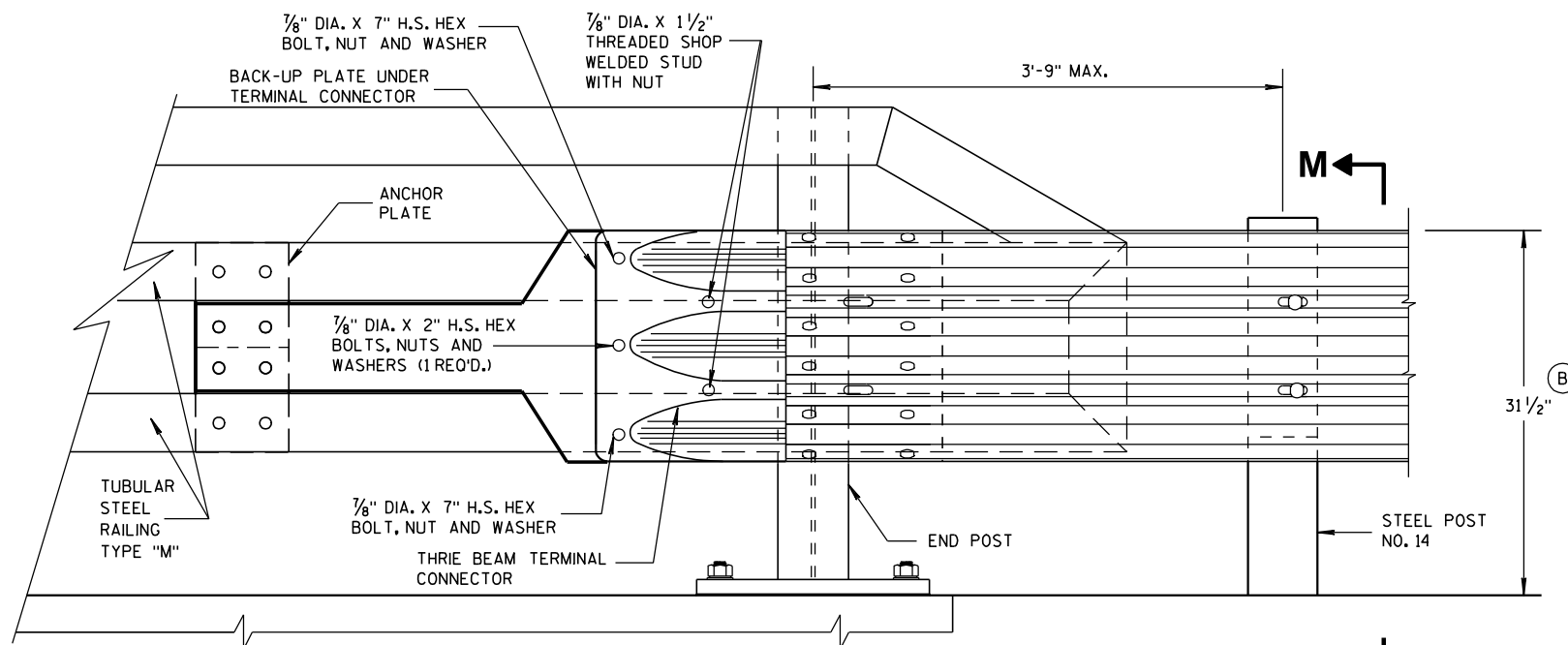


**SECTION L-L**

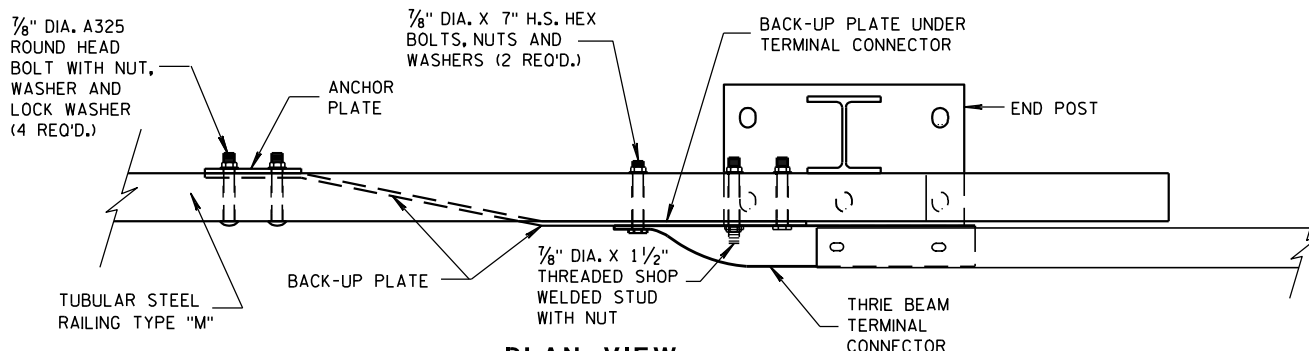


**FRONT VIEW**

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



**FRONT VIEW**



**PLAN VIEW**

**THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"**

6

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S.D.D. 14 B 45-3h

S.D.D. 14 B 45-3h

<b>MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8-31-2012 DATE	/s/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

### GENERAL NOTES

COVER PLATE PANELS ARE  $\frac{3}{16}$ " THICK.

ALL STIFFENERS ARE  $\frac{1}{4}$ " THICK.

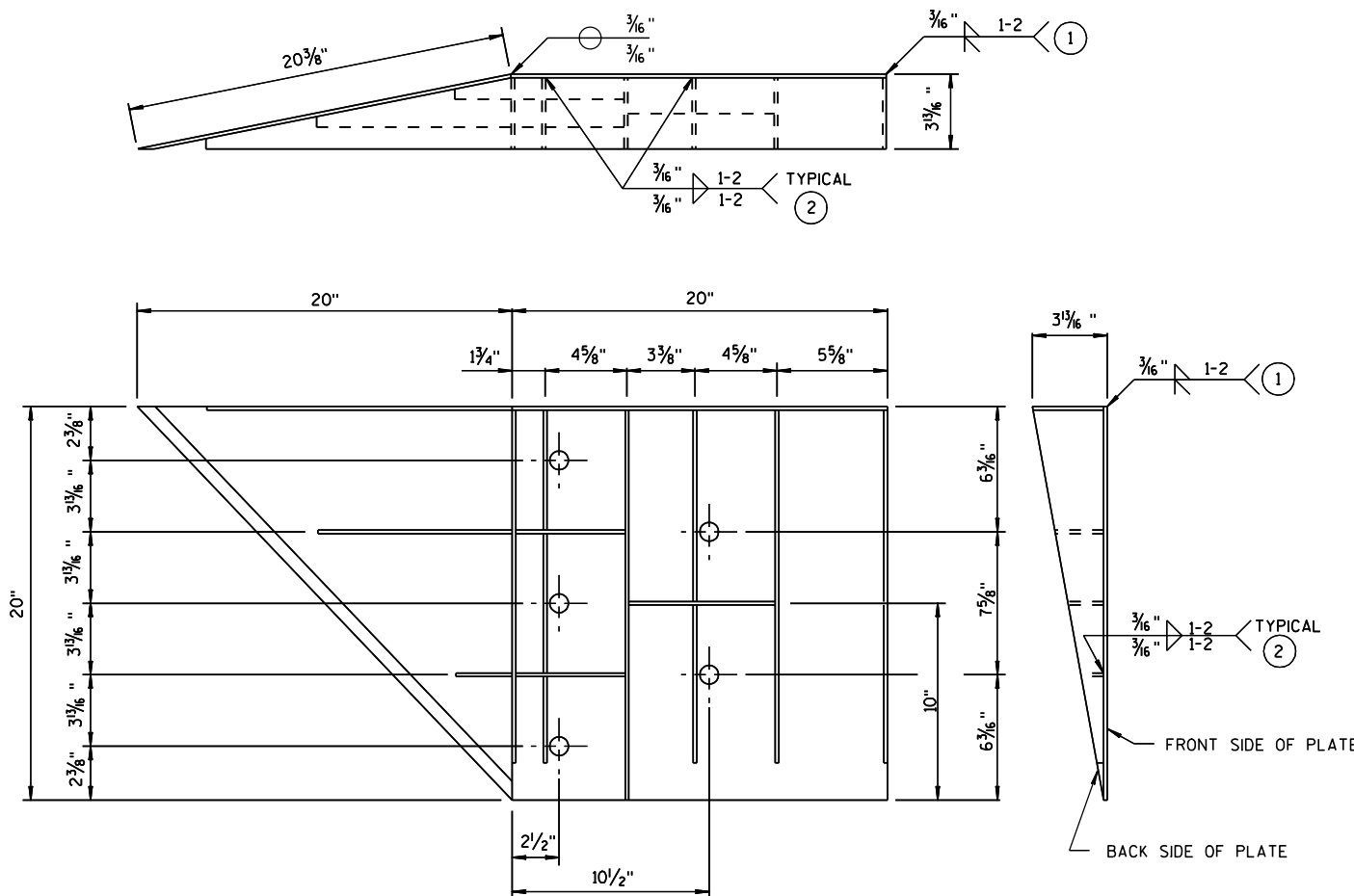
CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

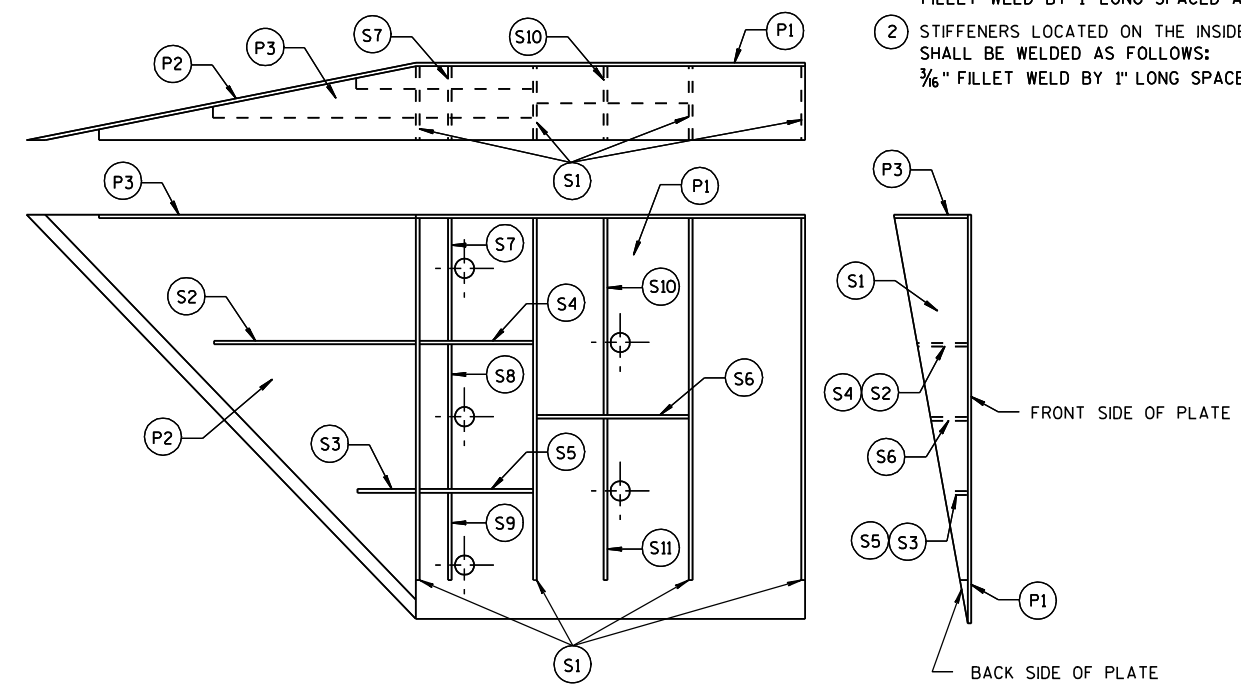
ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

- ① STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:  
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND  $\frac{3}{16}$ " FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.
- ② STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:  
 $\frac{3}{16}$ " FILLET WELD BY 1" LONG SPACED AT 2".



**WELDING INSTRUCTION**  
(VIEWED FROM BACK SIDE OF PLATE)



**PLATE AND STIFFENER IDENTIFICATION**  
(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)				
PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	$\frac{3}{16}$ "
P2	1		20" x 20" x 28 $\frac{3}{16}$ "	$\frac{3}{16}$ "
P3	1		39" x 3 $\frac{5}{8}$ " x 20" x 19 $\frac{5}{16}$ "	$\frac{3}{16}$ "
S1	4		18 $\frac{1}{16}$ " x 3 $\frac{5}{8}$ " x 18 $\frac{3}{4}$ "	$\frac{1}{4}$ "
S2	1		10 $\frac{1}{4}$ " x 2 $\frac{1}{16}$ " x 10 $\frac{3}{8}$ " x $\frac{1}{2}$ "	$\frac{1}{4}$ "
S3	1		3" x 1 $\frac{1}{16}$ " x 3 $\frac{3}{8}$ " x $\frac{1}{2}$ "	$\frac{1}{4}$ "
S4	1		6 $\frac{1}{8}$ " x 2 $\frac{1}{16}$ "	$\frac{1}{4}$ "
S5	1		6 $\frac{1}{8}$ " x 1 $\frac{1}{16}$ "	$\frac{1}{4}$ "
S6	1		7 $\frac{3}{4}$ " x 1 $\frac{3}{4}$ "	$\frac{1}{4}$ "
S7	1		2 $\frac{3}{16}$ " x 6" x 3 $\frac{5}{8}$ " x 5 $\frac{1}{8}$ "	$\frac{1}{4}$ "
S8	1		1 $\frac{3}{32}$ " x 7 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ " x 7 $\frac{3}{8}$ "	$\frac{1}{4}$ "
S9	1		6 $\frac{1}{16}$ " x 6 $\frac{1}{16}$ " x 1 $\frac{1}{32}$ "	$\frac{1}{4}$ "
S10	1		1 $\frac{7}{8}$ " x 9 $\frac{7}{8}$ " x 3 $\frac{5}{8}$ " x 9 $\frac{1}{16}$ "	$\frac{1}{4}$ "
S11	1		8 $\frac{1}{2}$ " x 8 $\frac{3}{4}$ " x 1 $\frac{1}{16}$ "	$\frac{1}{4}$ "

**SINGLE SLOPE CONNECTION PLATE**

**MIDWEST GUARDRAIL SYSTEM  
THREE BEAM TRANSITION (MGS)**

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STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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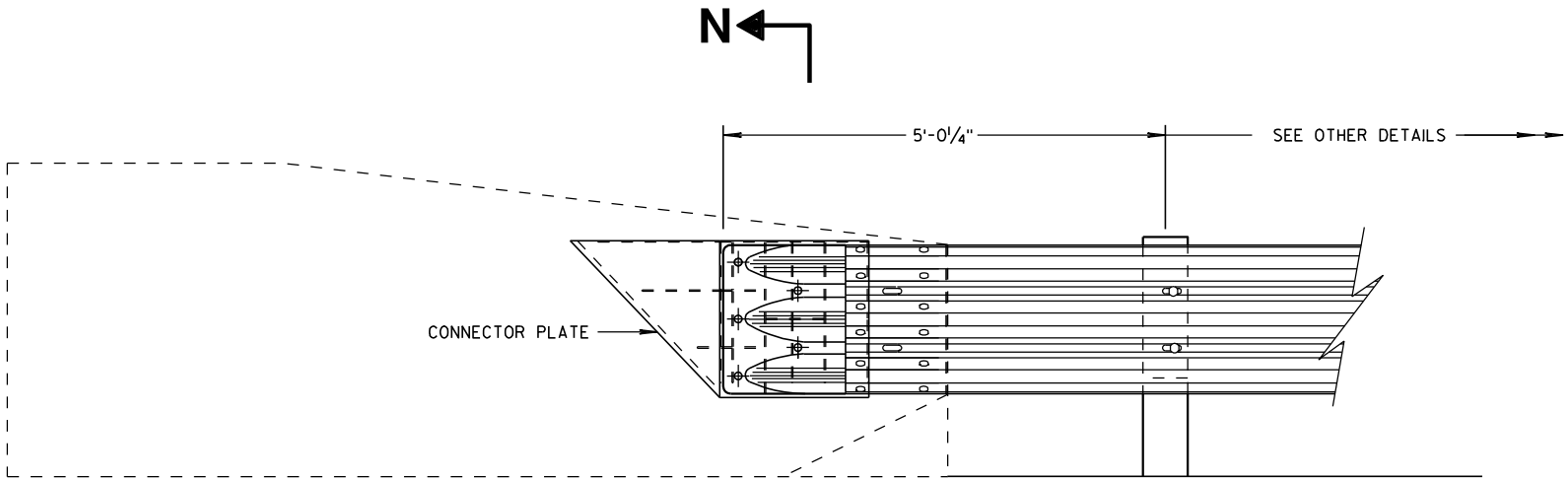
APPROVED  
8/31/2012 /S/ Jerry H. Zogg  
DATE ROADWAY STANDARDS DEVELOPMENT  
ENGINEER

FHWA

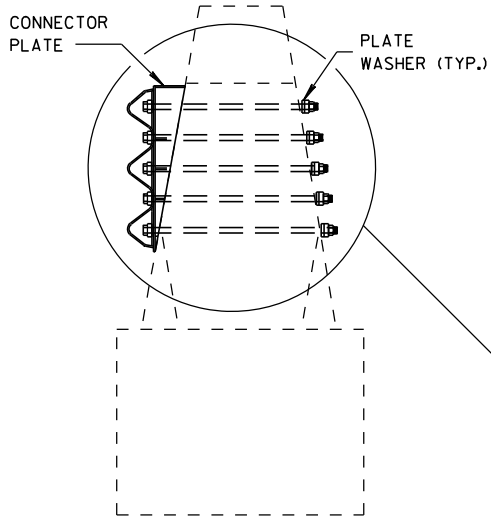
**GENERAL NOTES**

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

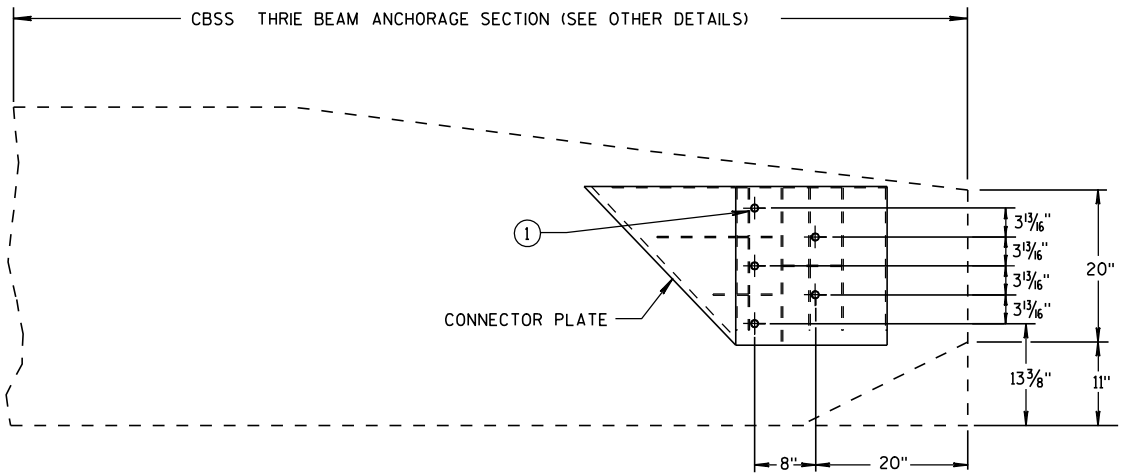
- ① BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



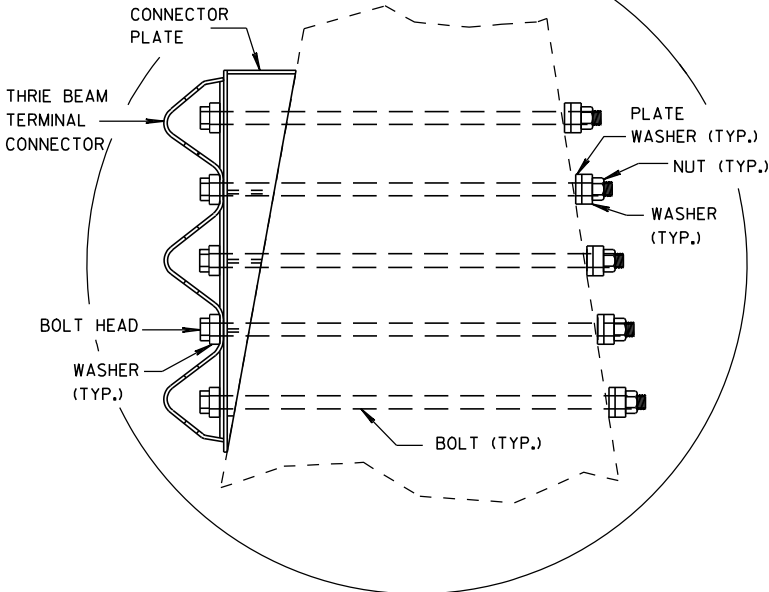
**THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER**



**SECTION N-N**



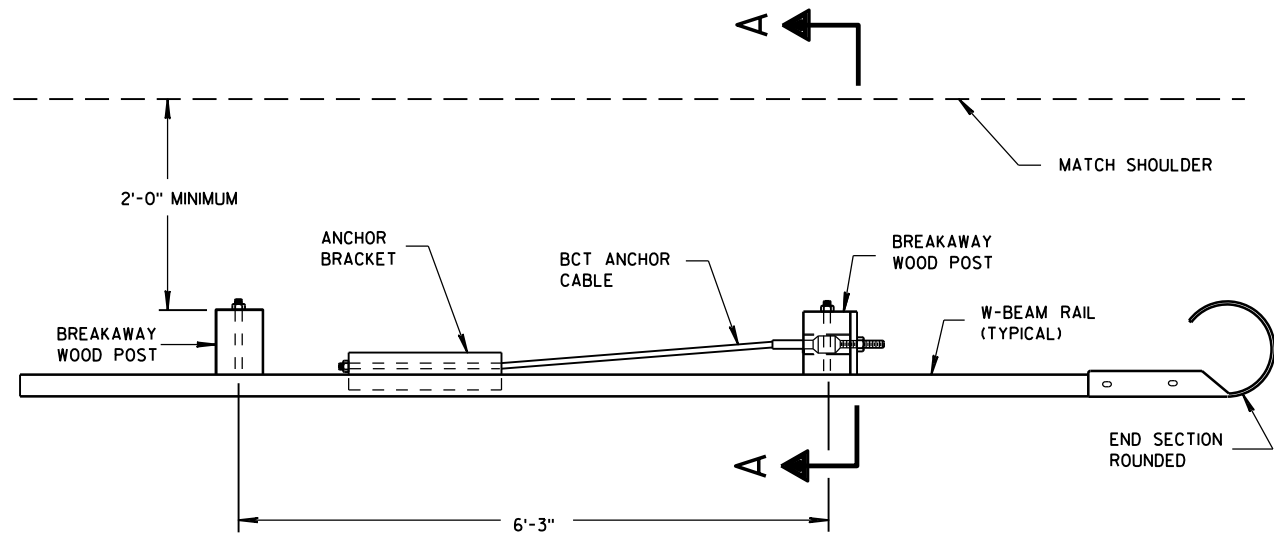
**SINGLE SLOPE CONNECTION PLATE PLACEMENT**



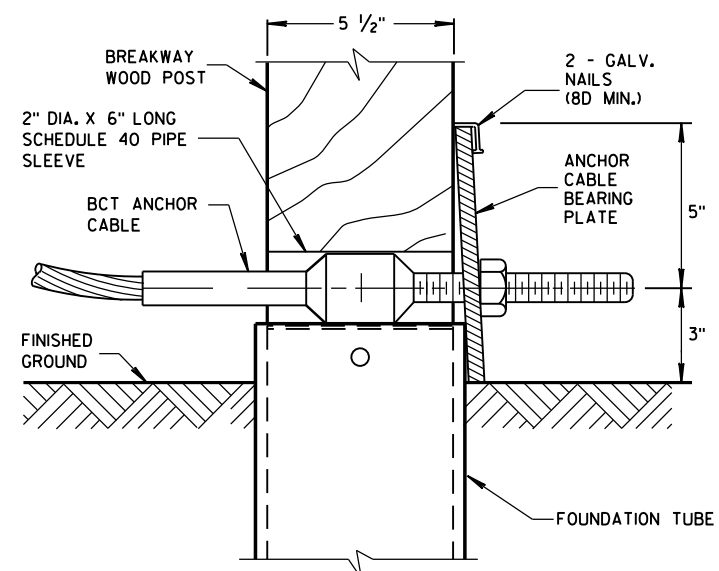
**MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
8/31/2012 DATE /S/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT ENGINEER  
FHWA



PLAN VIEW



DETAIL A

POST NO. 1  
GROUND STRUT NOT SHOWN FOR CLARITY.

**GENERAL NOTES**

SEE SDD 14 B 42 FOR MORE INFORMATION.

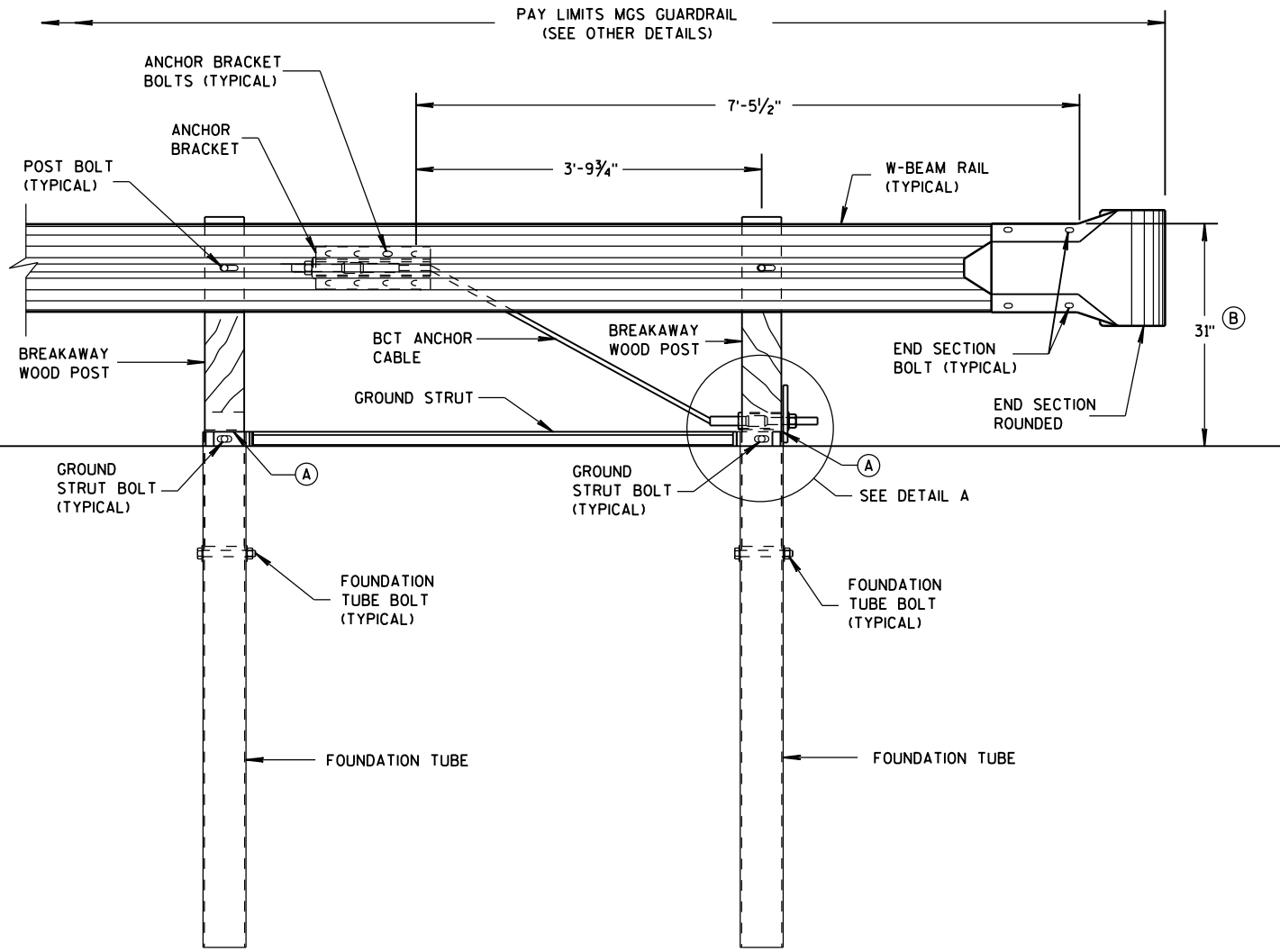
END SECTION BOLTS AND NUTS HAVE THE SAME MATERIAL REQUIREMENTS AS SPLICE BOLTS.

FOUNDATION TUBE BOLTS ARE 7/8" DIAMETER ASTM A307 HEX HEAD BOLT. FOUNDATION TUBE BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 7/8" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

ANCHOR BRACKET AND GROUND STRUT BOLTS ARE A 5/8" DIAMETER ASTM A307 HEX HEAD BOLT. ANCHOR BRACKET BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 5/8" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

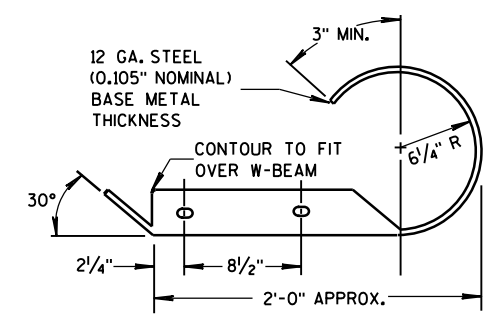
W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

- (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 27 3/4" TO 32" ± 1".

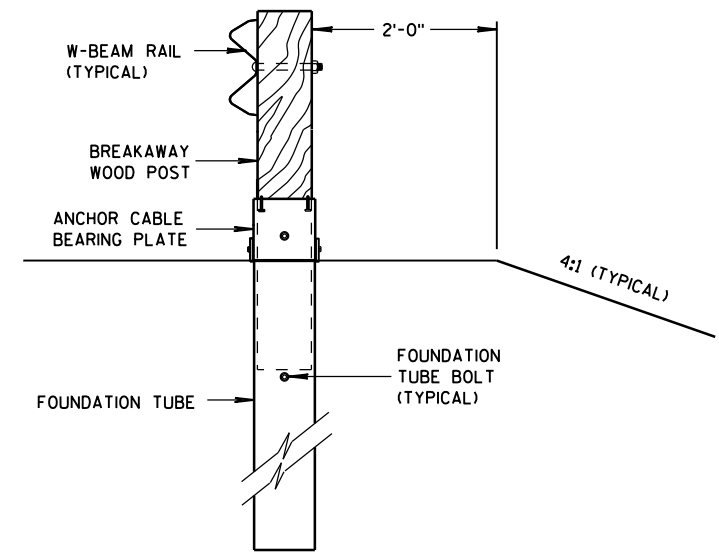


FRONT VIEW

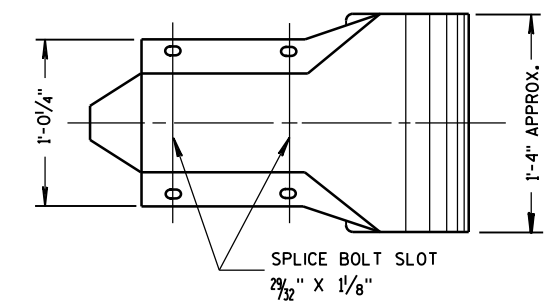
END RAIL DETAIL



PLAN VIEW



SECTION A-A

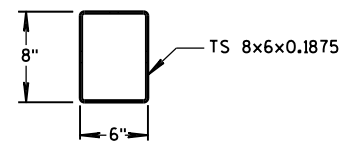


FRONT VIEW

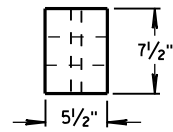
W BEAM END SECTION ROUNDED

MIDWEST GUARDRAIL  
SYSTEM (MGS) TYPE 2 TERMINAL

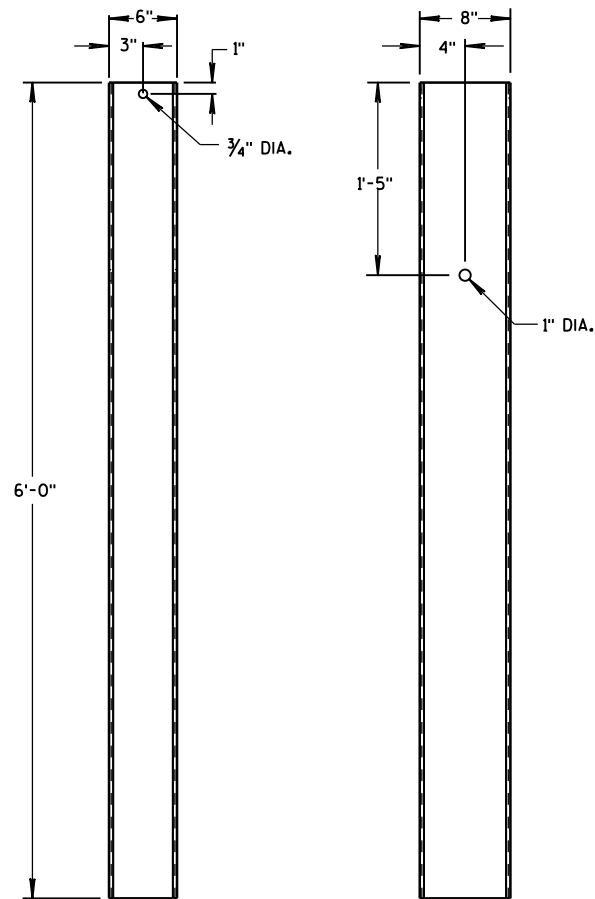
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



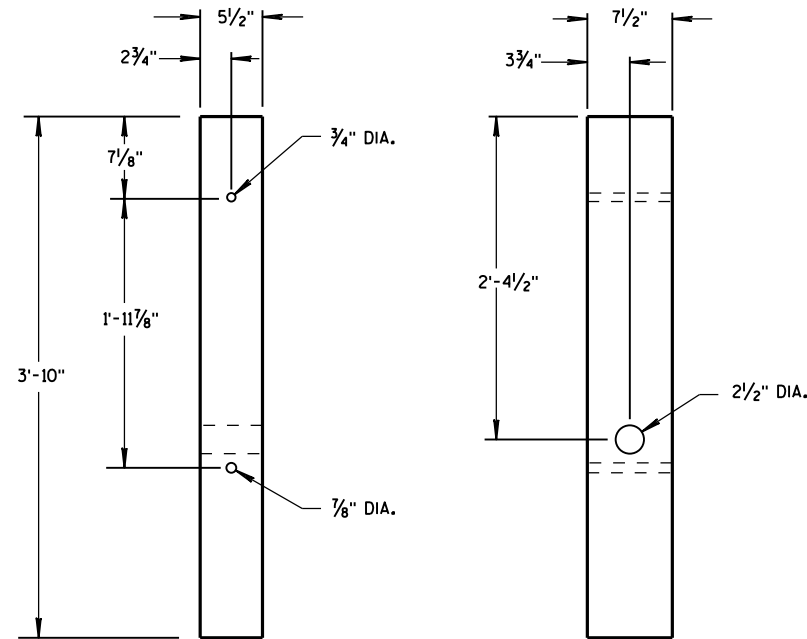
PLAN VIEW



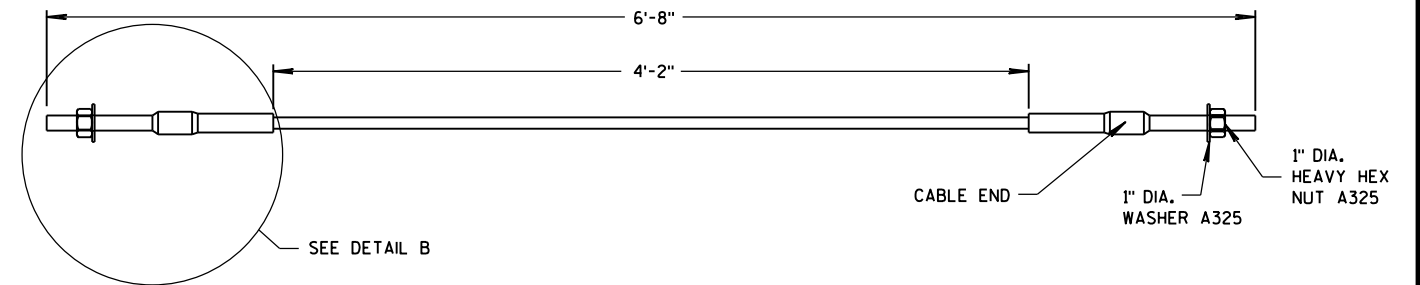
PLAN VIEW



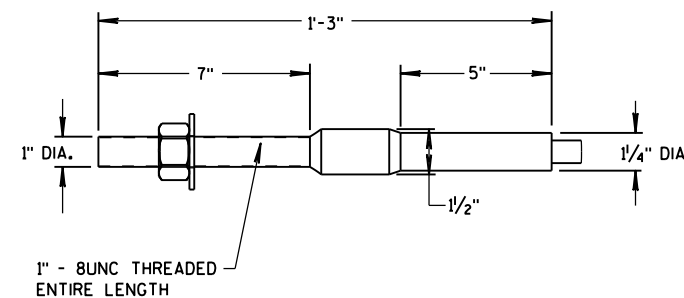
FRONT VIEW SIDE VIEW  
FOUNDATION TUBE



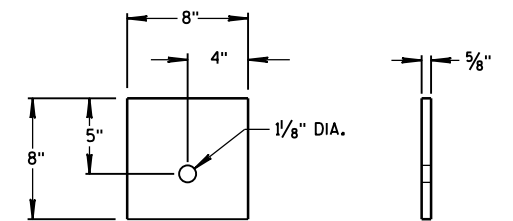
FRONT VIEW SIDE VIEW  
BREAKAWAY WOOD POST



BCT ANCHOR CABLE



DETAIL B



SIDE VIEW FRONT VIEW  
ANCHOR CABLE BEARING PLATE

**GENERAL NOTES**

BCT ANCHOR CABLE IS A 3/4" 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.

6

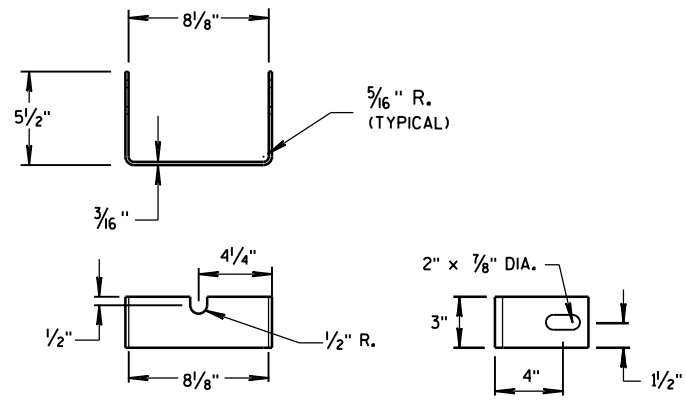
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S.D.D. 14 B 47-2b

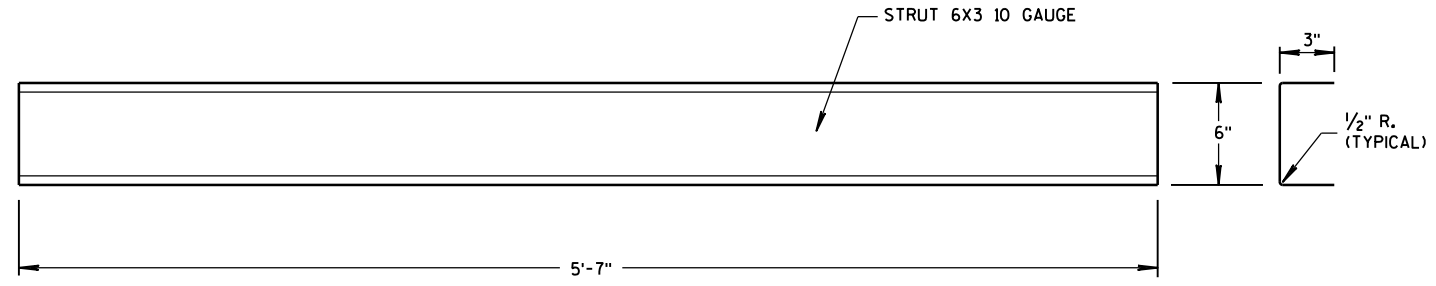
S.D.D. 14 B 47-2b

MIDWEST GUARDRAIL  
SYSTEM (MGS) TYPE 2 TERMINAL

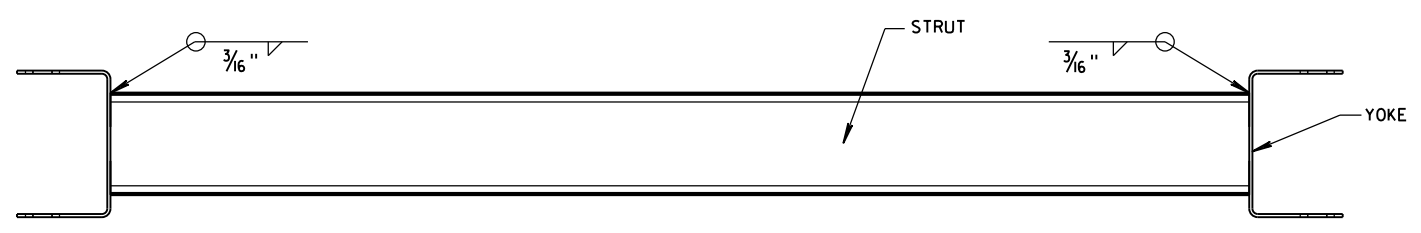
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



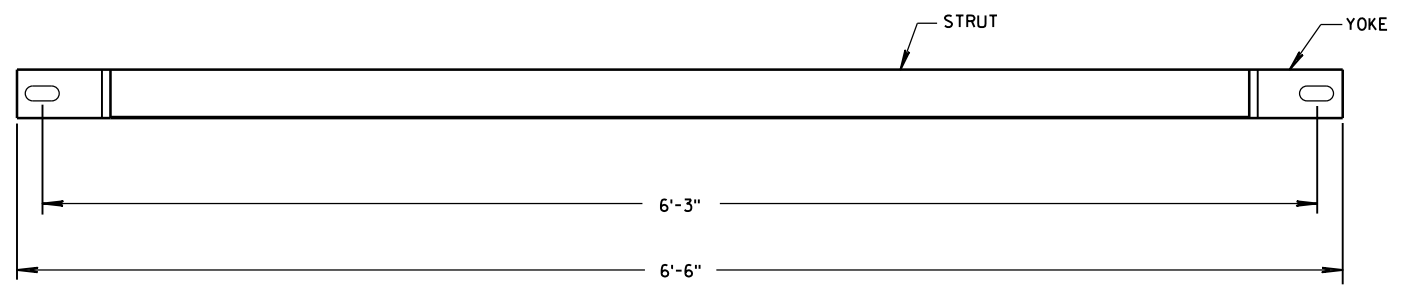
**YOKE DETAIL**



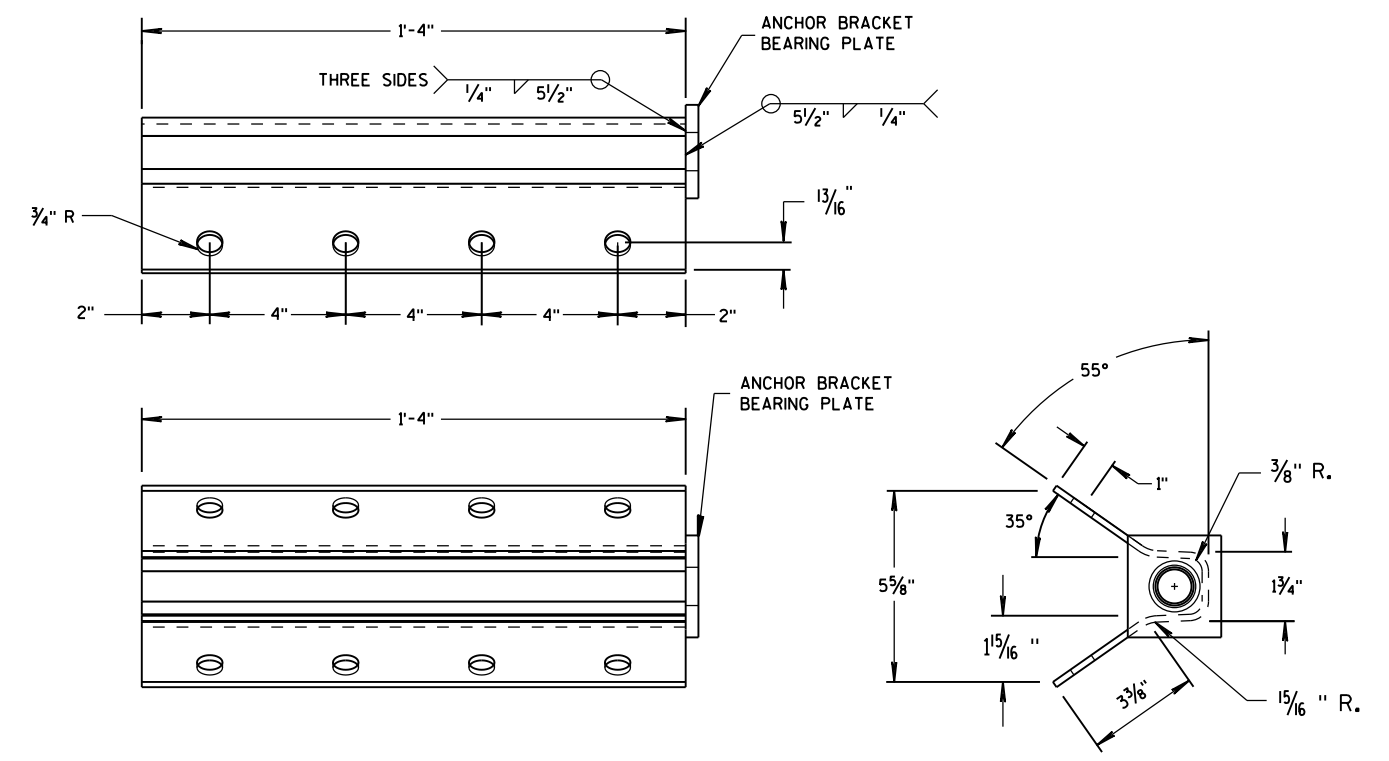
**STRUT DETAIL**



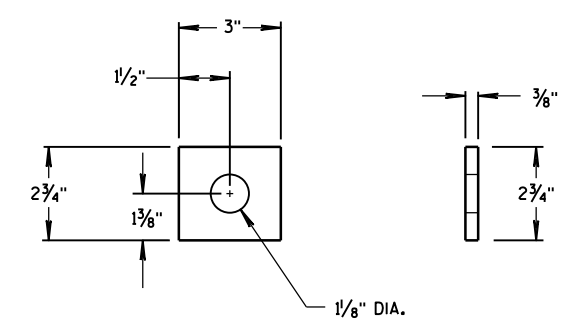
**PLAN VIEW**



**FRONT VIEW  
GROUND STRUT DETAIL**



**ANCHOR BRACKET**



**ANCHOR BRACKET  
BEARING PLATE**

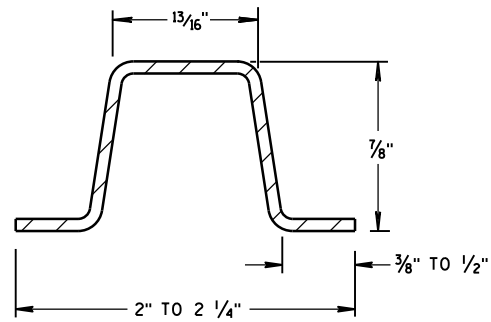
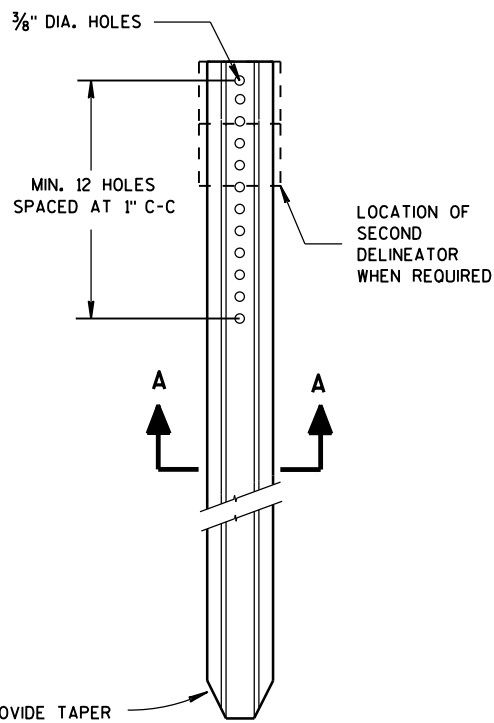
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6

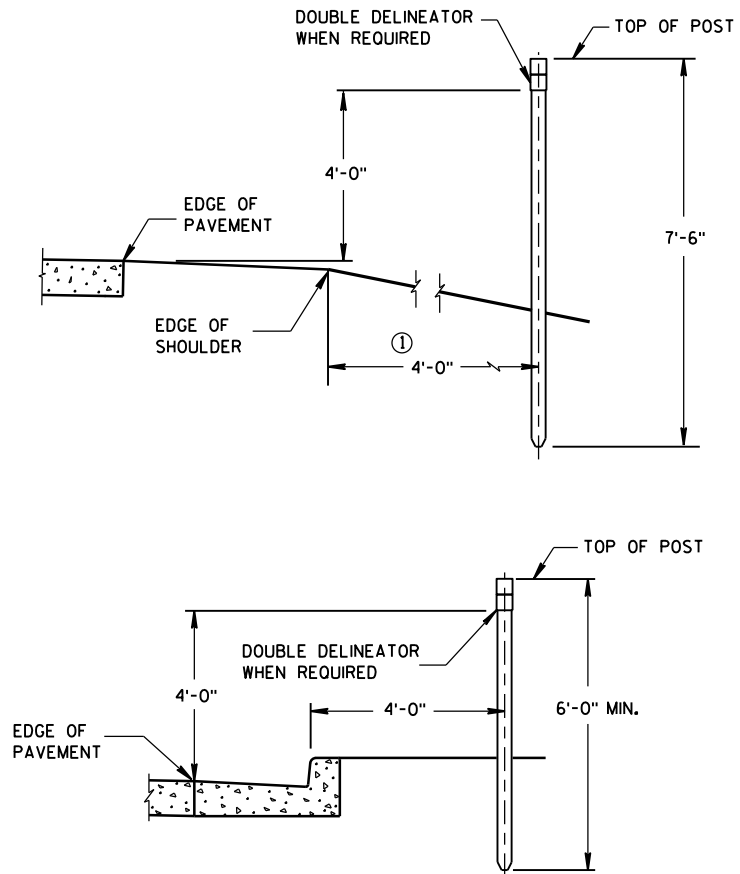
S.D.D. 14 B 47-2c

S.D.D. 14 B 47-2c

<b>MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2014 DATE	/s/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



**SECTION A-A**  
WEIGHT 1.12 LBS PER FT. ± 0.1 LB.

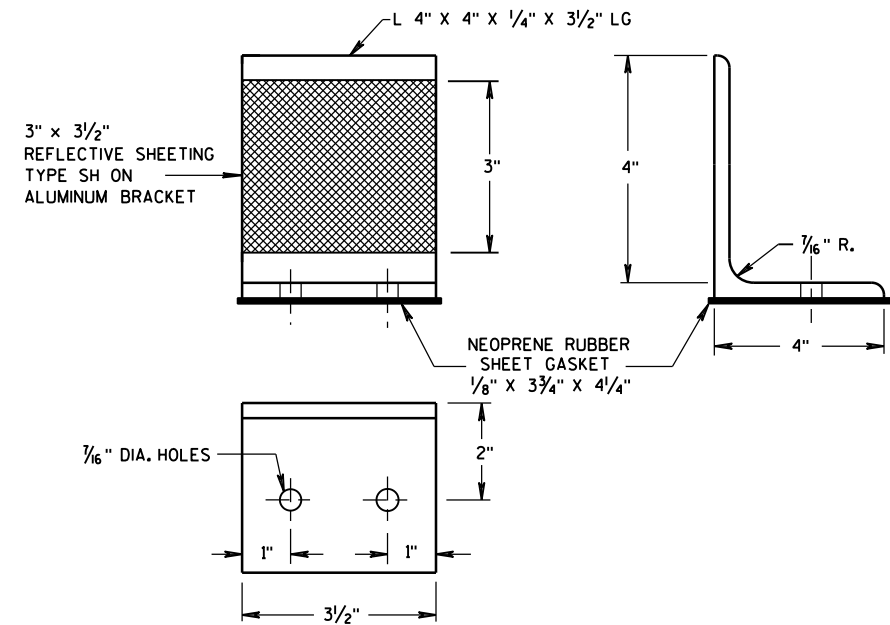


**TYPICAL INSTALLATIONS OF DELINEATOR POSTS**

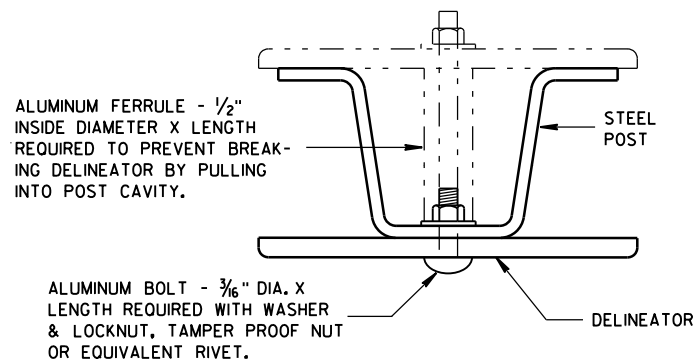
**GENERAL NOTES**

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

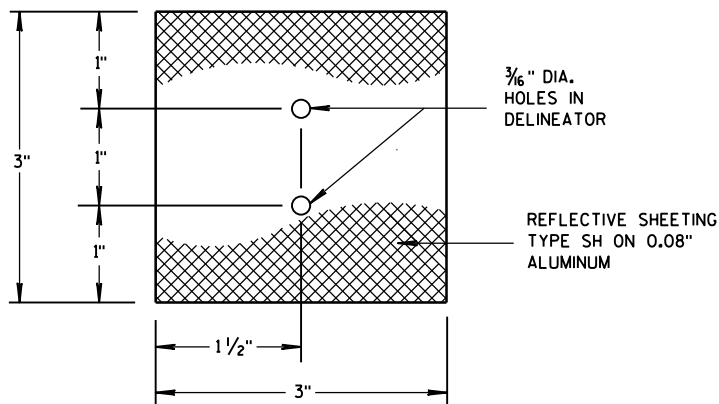
① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.



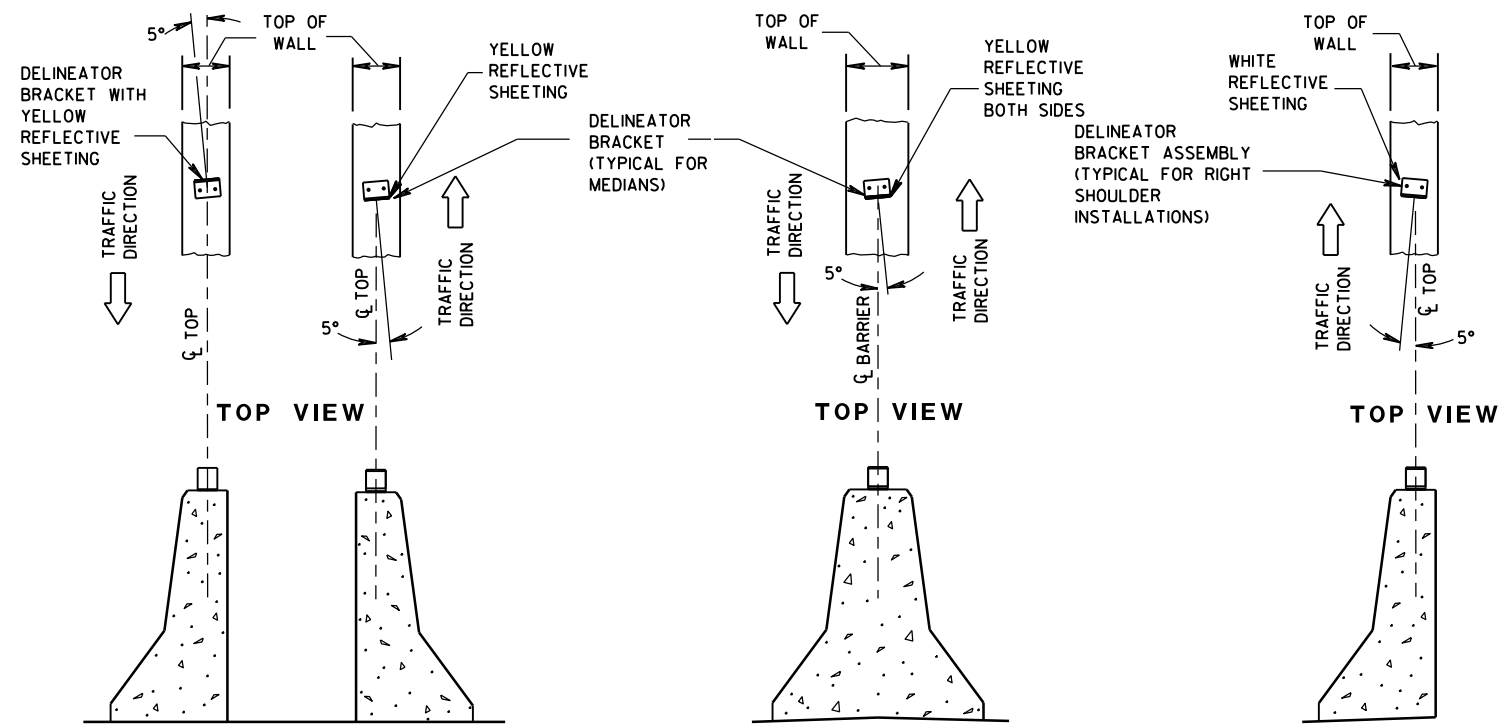
**DELINEATOR BRACKET**



**MOUNTING DETAIL FOR DELINEATOR**



**3" X 3" DELINEATOR**

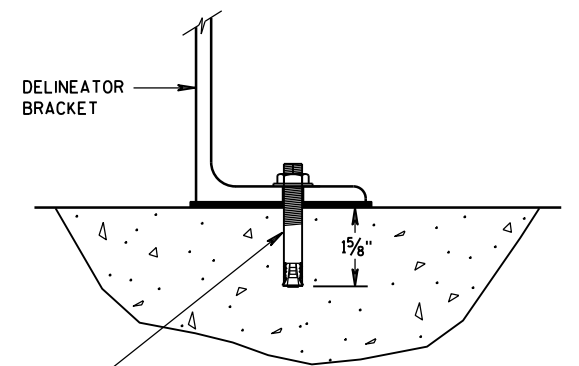


**DOUBLE BARRIERS IN MEDIAN**

**MEDIAN BARRIER**

**BARRIER LOCATED TO RT. OF TRAFFIC FLOW**

**LOCATION AND AIMING DETAILS FOR DELINEATOR BRACKETS MOUNTED ON CONCRETE BARRIERS**



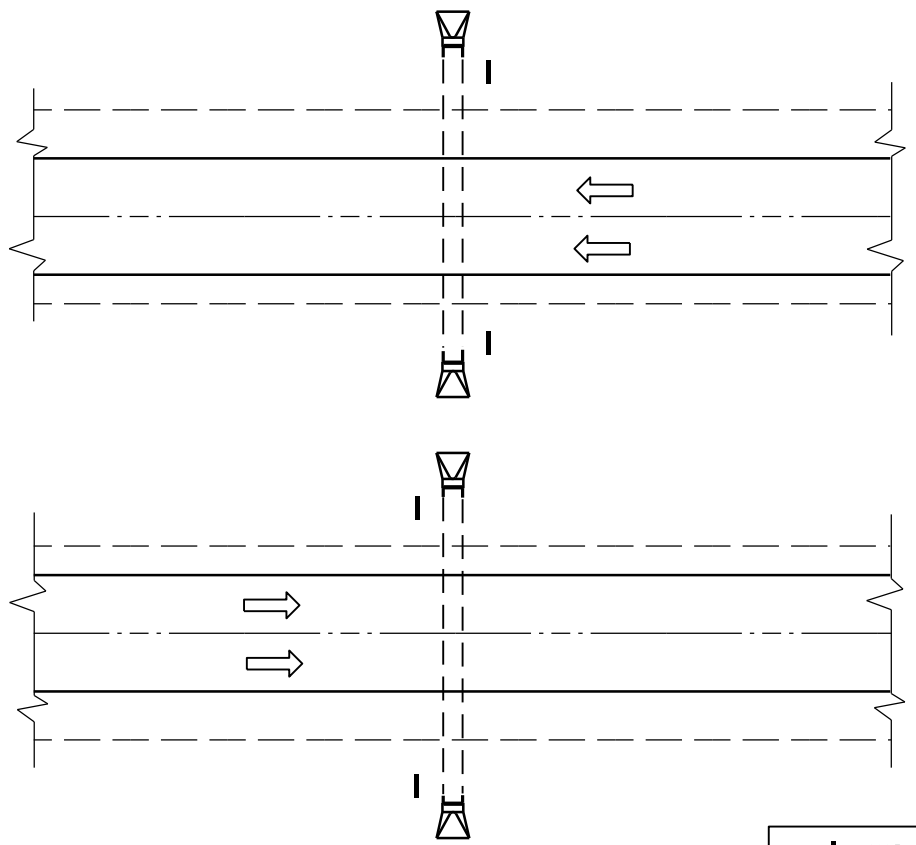
**DELINEATOR BRACKET MOUNTING DETAIL**

**DELINEATOR POST, DELINEATOR, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING**

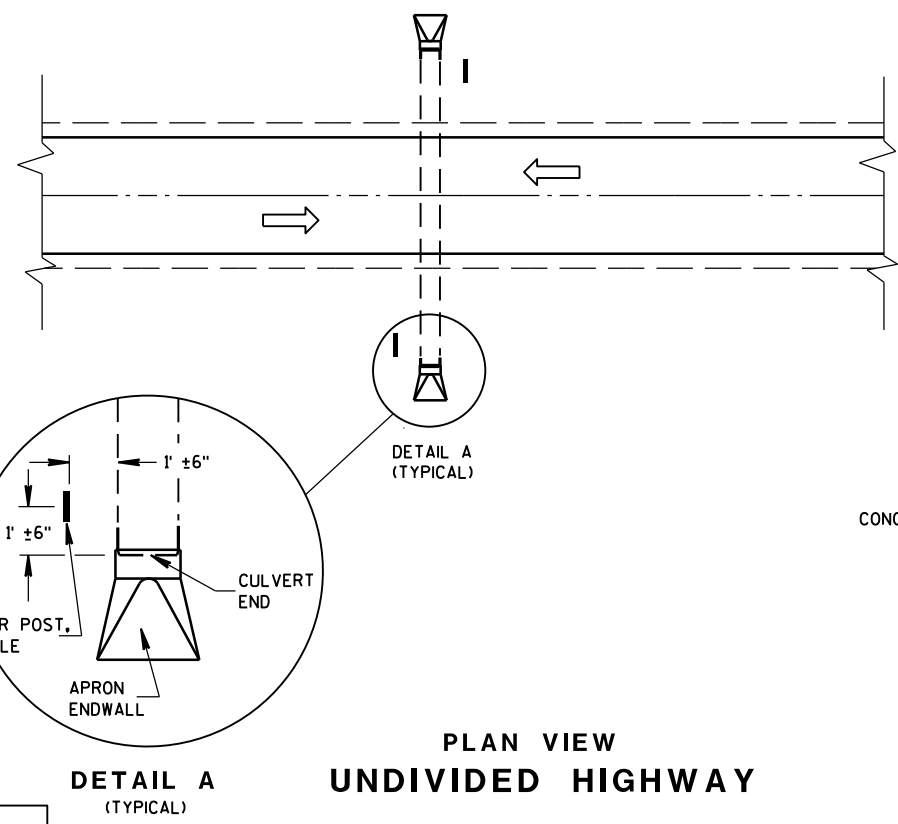
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
7/2013 DATE /s/ Travis Feltes  
STATE TRAFFIC ENGINEER  
FHWA





PLAN VIEW  
DIVIDED HIGHWAY

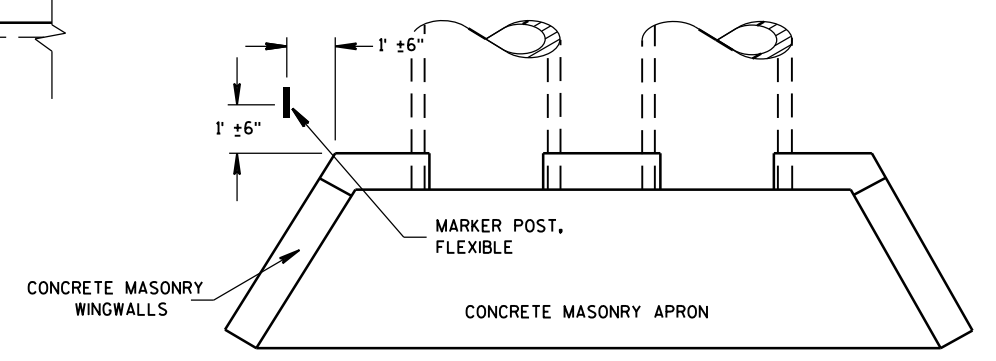


PLAN VIEW  
UNDIVIDED HIGHWAY

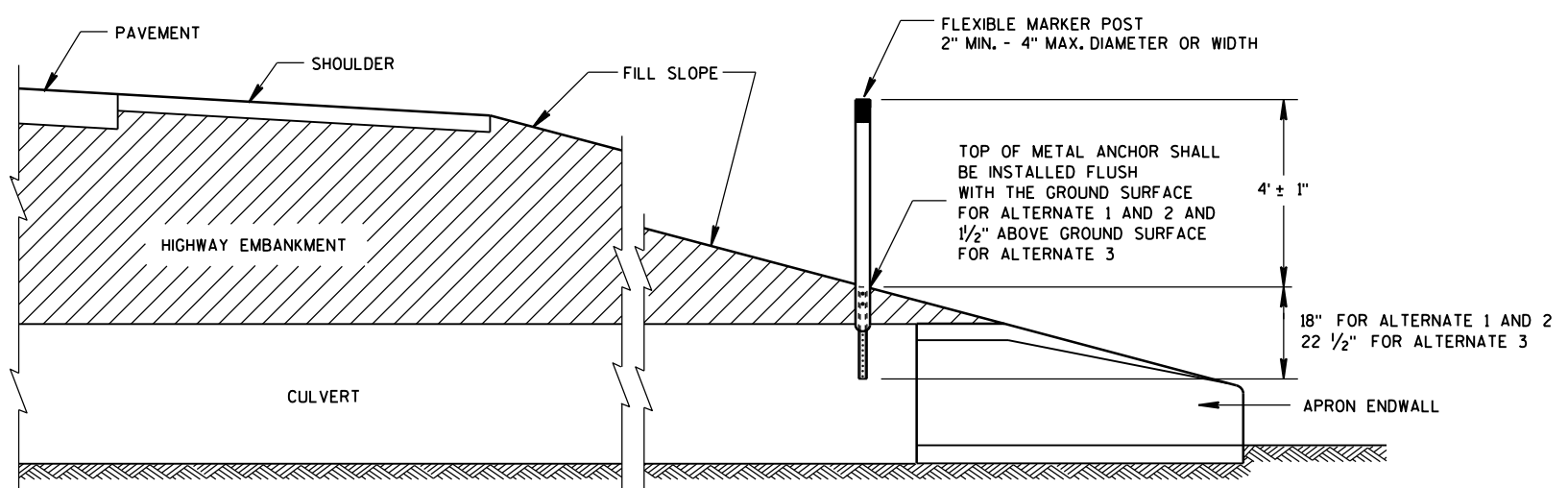
FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

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



PLAN VIEW  
CONCRETE MASONRY ENDWALLS FOR  
CULVERT PIPE AND PIPE ARCH



CROSS SECTION  
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST  
FOR CULVERT END

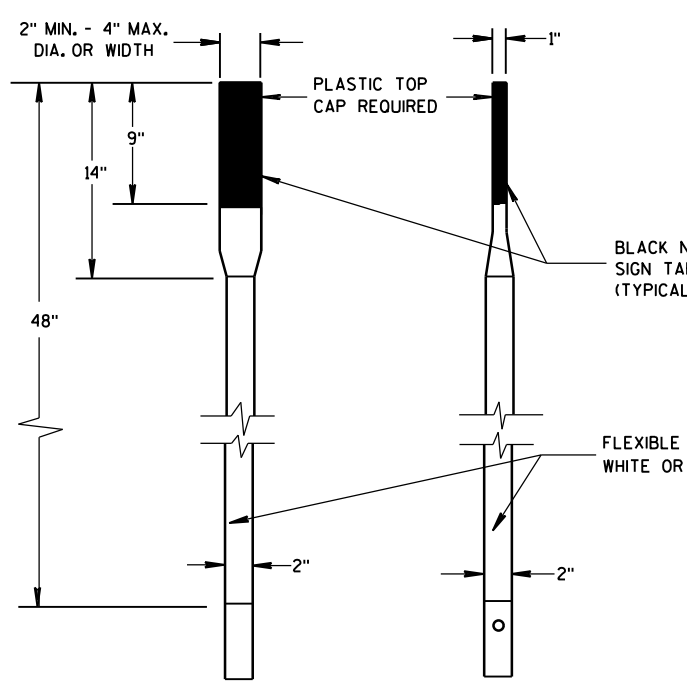
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

6

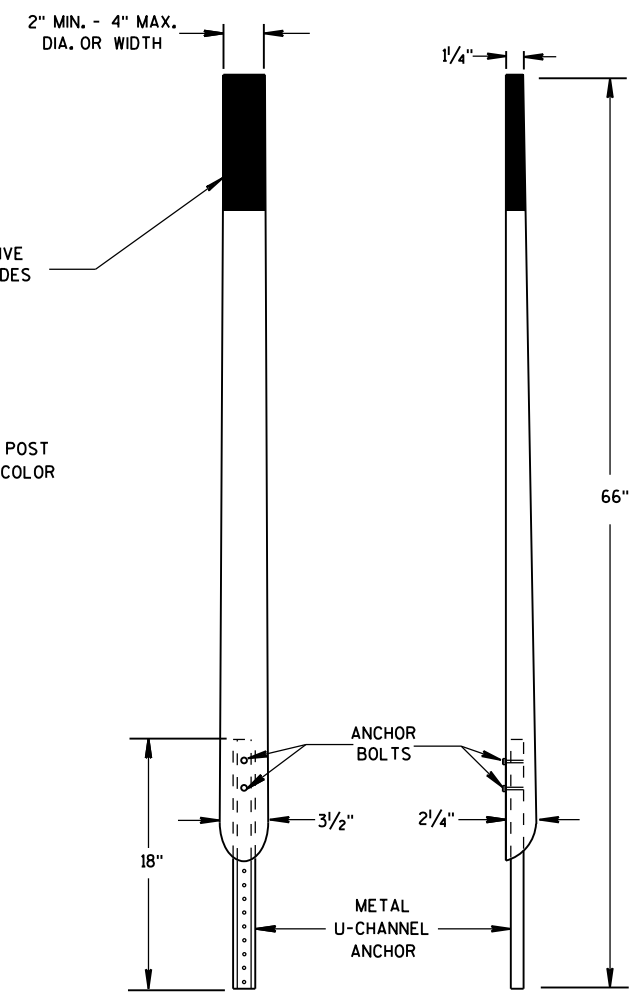
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S.D.D. 15 A 3-2a

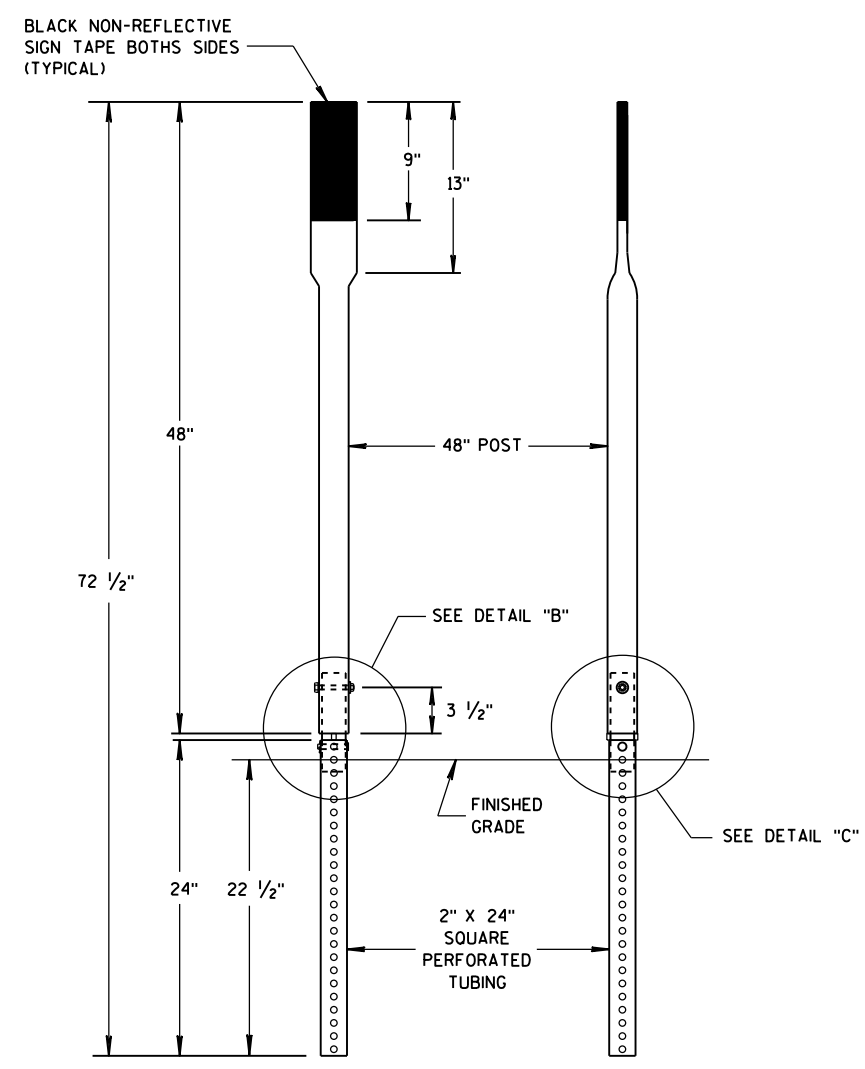
S.D.D. 15 A 3-2a



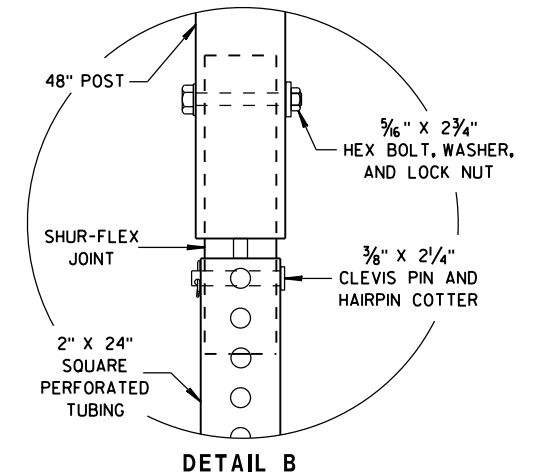
FRONT VIEW SIDE VIEW  
ALTERNATE 1



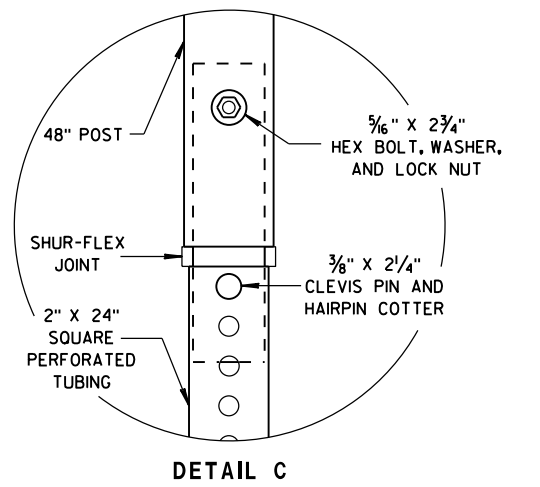
FRONT VIEW SIDE VIEW  
ALTERNATE 2



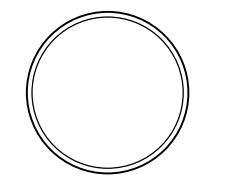
FRONT VIEW SIDE VIEW  
ALTERNATE 3



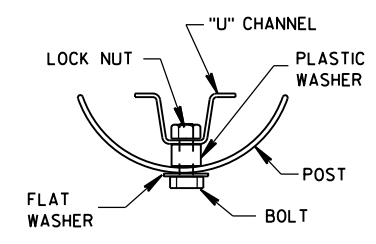
DETAIL B



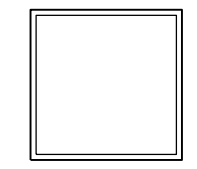
DETAIL C



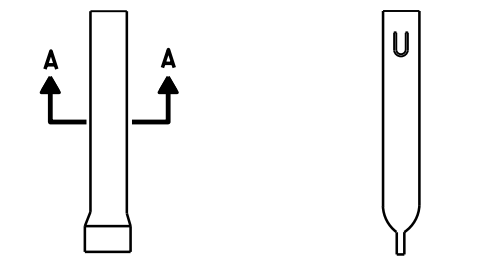
SECTION A-A



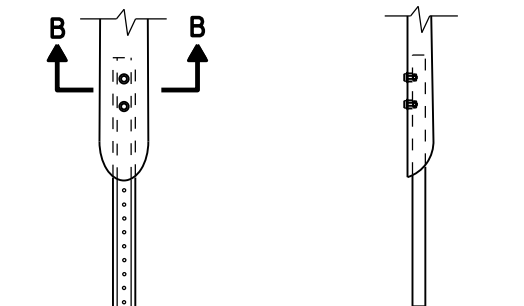
SECTION B-B



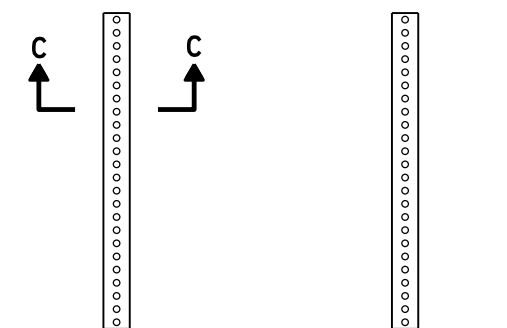
SECTION C-C



FRONT VIEW SIDE VIEW  
ALTERNATE 1



FRONT VIEW SIDE VIEW  
ALTERNATE 2



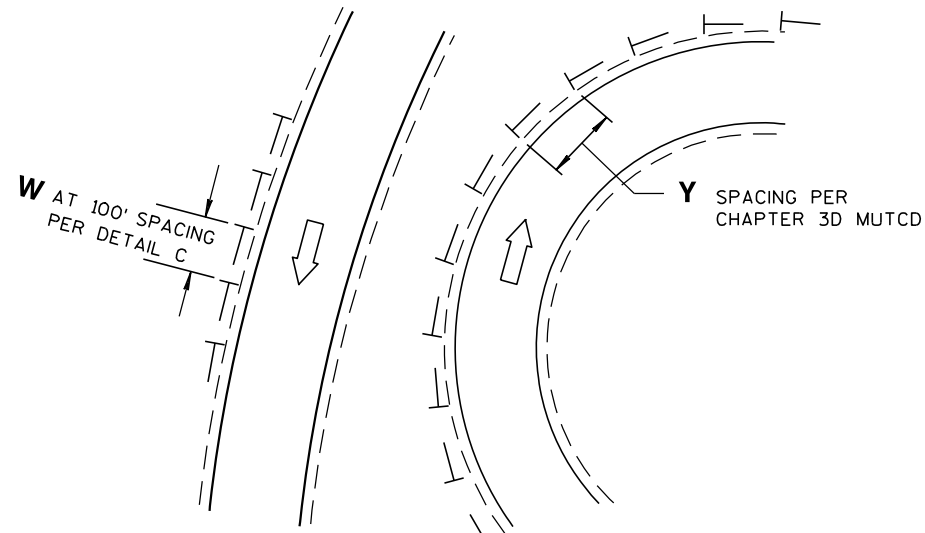
FRONT VIEW SIDE VIEW  
ALTERNATE 3

**FLEXIBLE MARKER POST ANCHORS**

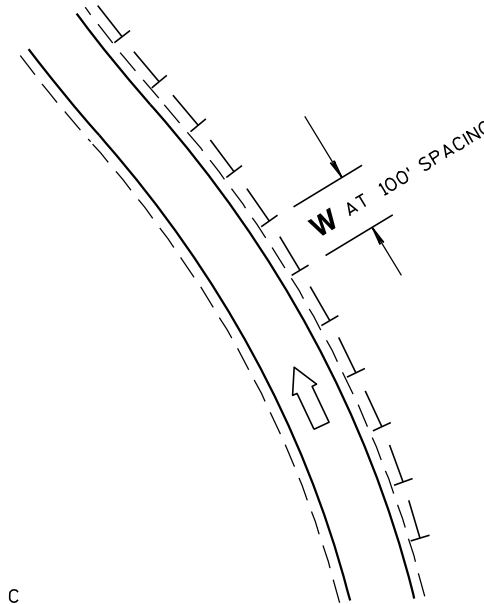
<b>FLEXIBLE MARKER POST FOR CULVERT END</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/1/2012 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

**GENERAL NOTES**

\* USE DOUBLE DELINEATOR ALONG ACCELERATION-DECELERATION LANES AND TAPERS.  
USE SINGLE DELINEATOR WHEN RAMP PAVEMENT IS FULL WIDTH.



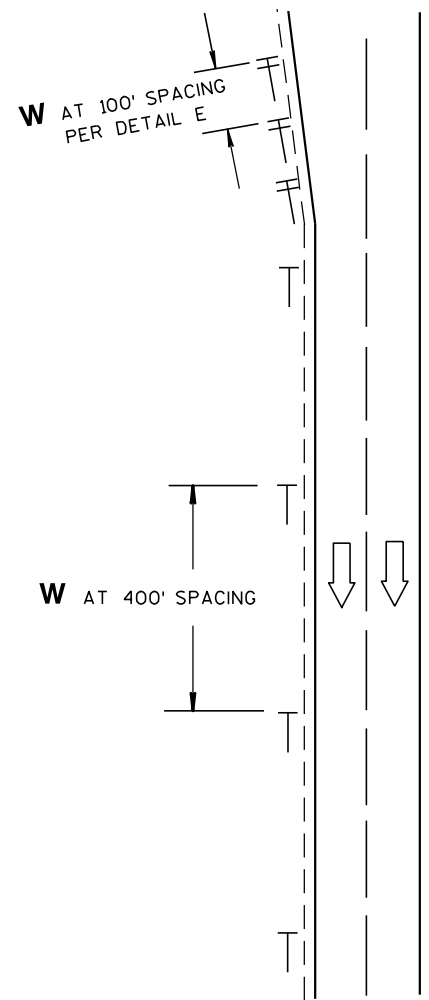
**DETAIL A  
DELINEATOR LAYOUT AT CURVED RAMP**



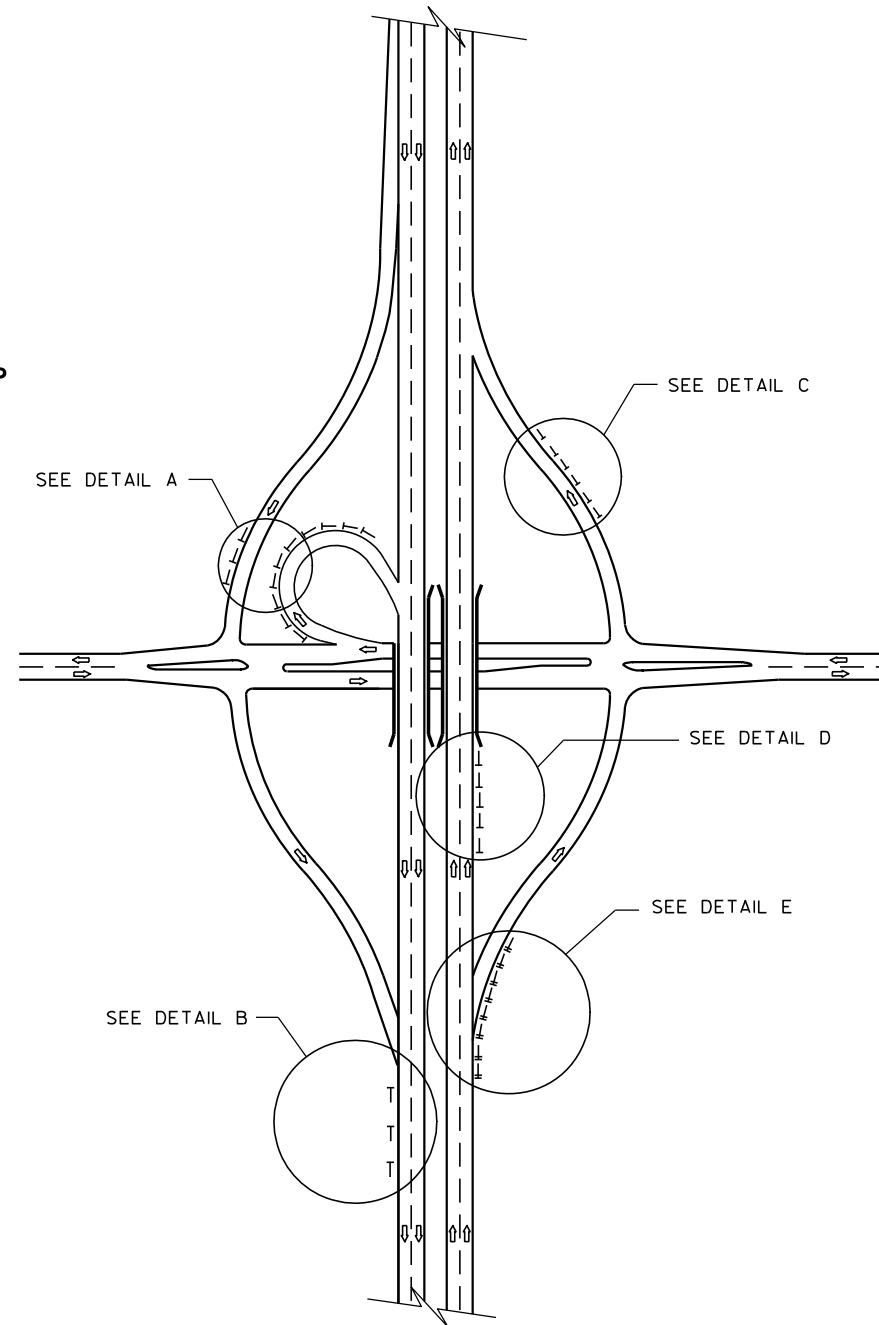
**DETAIL C  
DELINEATOR LAYOUT ALONG RAMP**

**LEGEND**

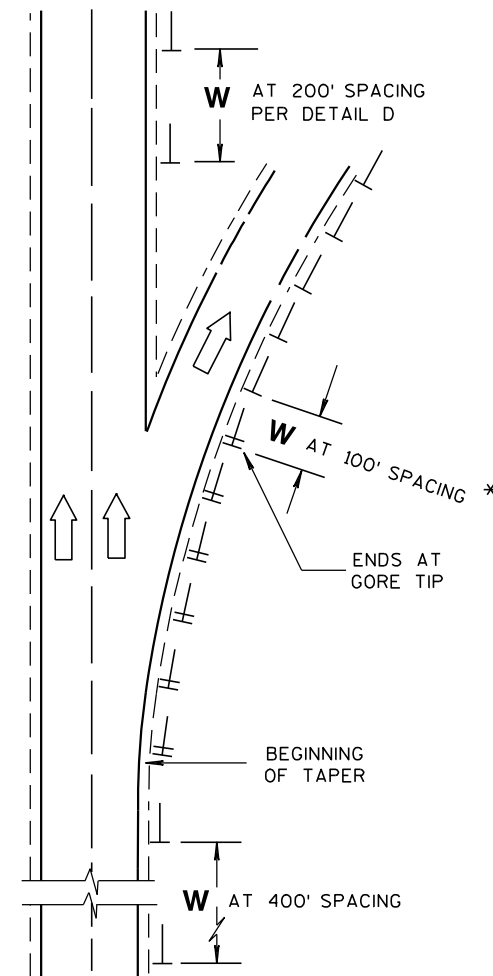
- DIRECTION OF TRAFFIC FLOW
- SINGLE DELINEATOR
- DOUBLE DELINEATOR
- W** WHITE
- Y** YELLOW



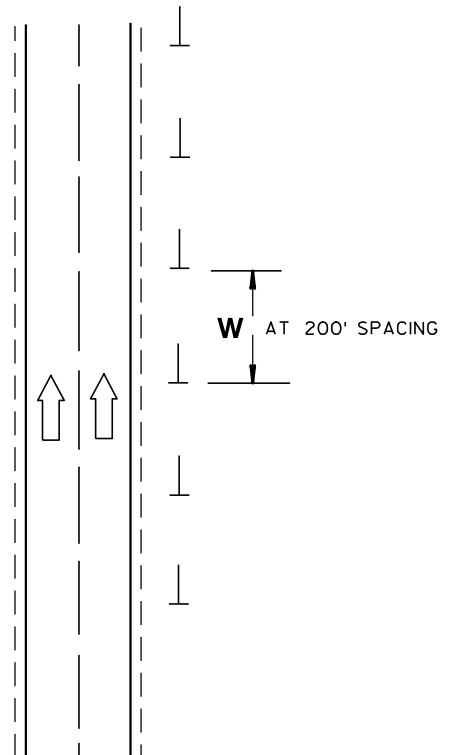
**DETAIL B  
DELINEATOR LAYOUT  
ALONG MAINLINE**



**DELINEATOR LAYOUT**



**DETAIL E  
DELINEATOR LAYOUT FOR ACCELERATION  
- DECELERATION LANES AND TAPERS AT RAMPS**



**DETAIL D  
DELINEATOR LAYOUT  
BETWEEN INTERCHANGE RAMPS**

**DELINEATOR LAYOUT**

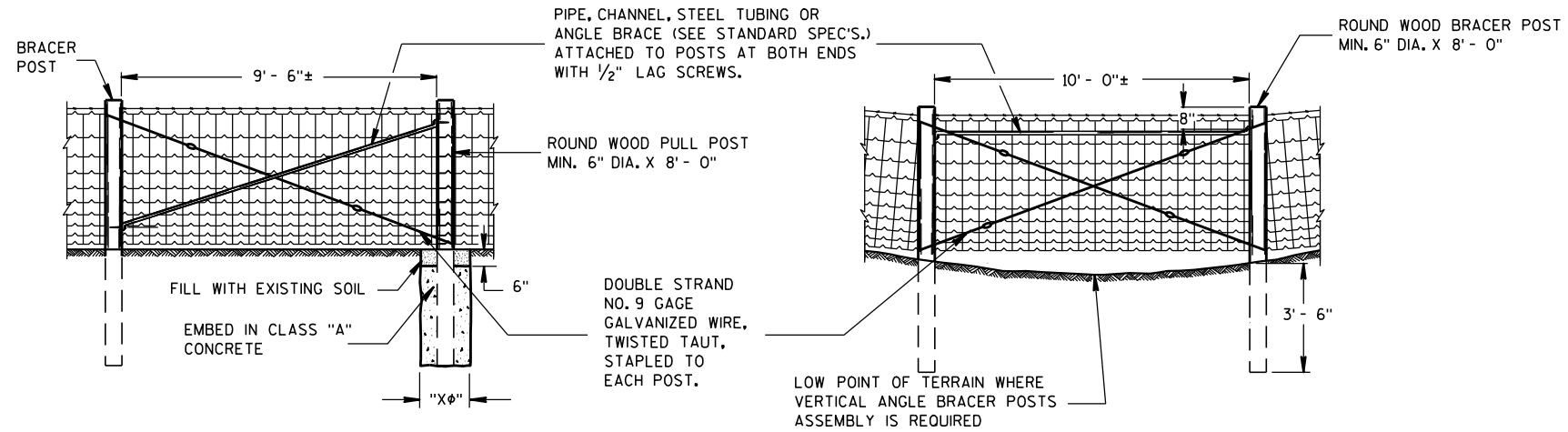
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
2/5/09 /S/ Thomas N. Notbohm  
DATE STATE TRAFFIC ENGINEER OF DESIGN

FHWA

NOTE: PULL OR STRETCHER POST ASSEMBLIES SHALL BE PLACED MIDWAY BETWEEN END POSTS AND CORNER POSTS WHERE A RUN OF FENCE EXCEEDS 660' BUT IS LESS THAN 1,320'. FOR RUNS OF FENCE IN EXCESS OF 1,320' MAXIMUM SPACING OF PULL OR STRETCHER POST ASSEMBLIES SHALL BE 660'± C-C.

ILLUSTRATION SHOWS POSITION OF STANDARD STEEL BRACE, DOUBLE STRAND GALVANIZED WIRE, AND THE POST TO BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM LEFT TO RIGHT. THE BRACES SHALL BE POSITIONED ON THE OPPOSITE DIAGONALS AND THE OPPOSITE POST SHALL BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM RIGHT TO LEFT.



**PULL OR STRETCHER POSTS ASSEMBLY**

**VERTICAL ANGLE BRACER POSTS ASSEMBLY**

**GENERAL NOTES**

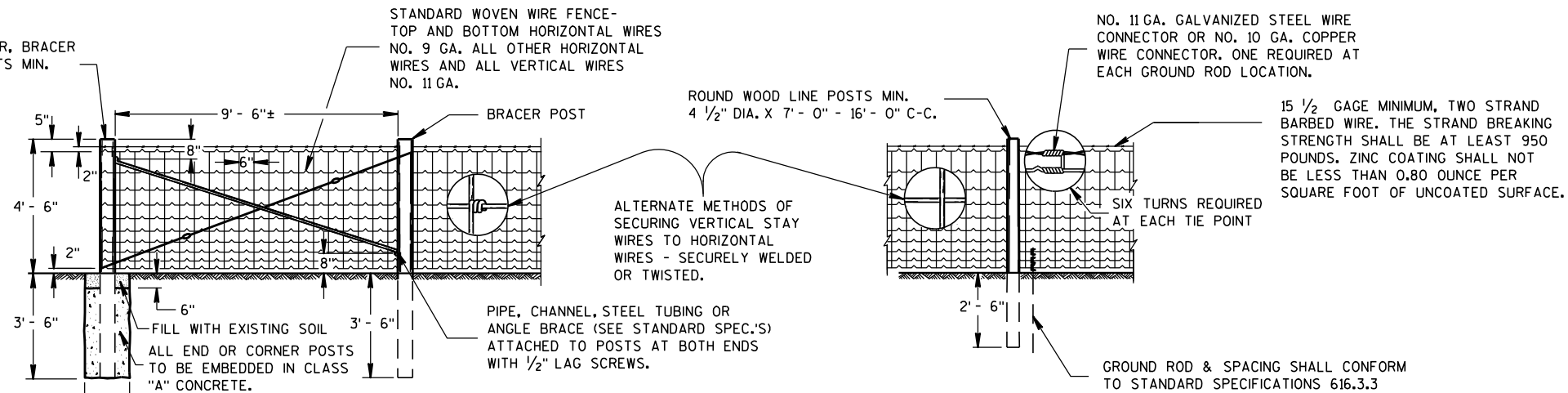
"Xφ" = DIAMETER OF THE POST PLUS 12".

FENCE STAPLES SHOULD NEVER BE DRIVEN VERTICALLY INTO WOOD POSTS (WITH BOTH LEGS PARALLEL WITH THE WOOD GRAIN). DOING SO CAN SEPARATE THE GRAIN AND SIGNIFICANTLY REDUCE THE HOLDING POWER. ROTATING THE STAPLES SLIGHTLY OFF VERTICAL STRADDLES THE GRAIN AND PROVIDES MORE RESISTANCE TO PULL-OUT.

DO NOT STAPLE WIRE TIGHT TO THE LINE POSTS. ALLOW MOVEMENT OF WIRE FOR EXPANSION AND CONTRACTION. STAPLE ARRANGEMENT SHALL BE THE SAME FOR ALL OTHER POSTS EXCEPT THAT THEY SHALL BE DRIVEN TIGHT TO POSTS. ALL STAPLES SHALL BE 2" X 9 GAGE AND SHALL BE MANUFACTURED FROM GALVANIZED WIRE OR HOT DIP GALVANIZED AFTER FORMING. STAPLES SHALL HAVE SLASH-CUT POINTS.

FENCE SHALL BE LOCATED 3'-0" INSIDE THE RIGHT OF WAY LINE UNLESS OTHERWISE INDICATED ON THE PLANS.

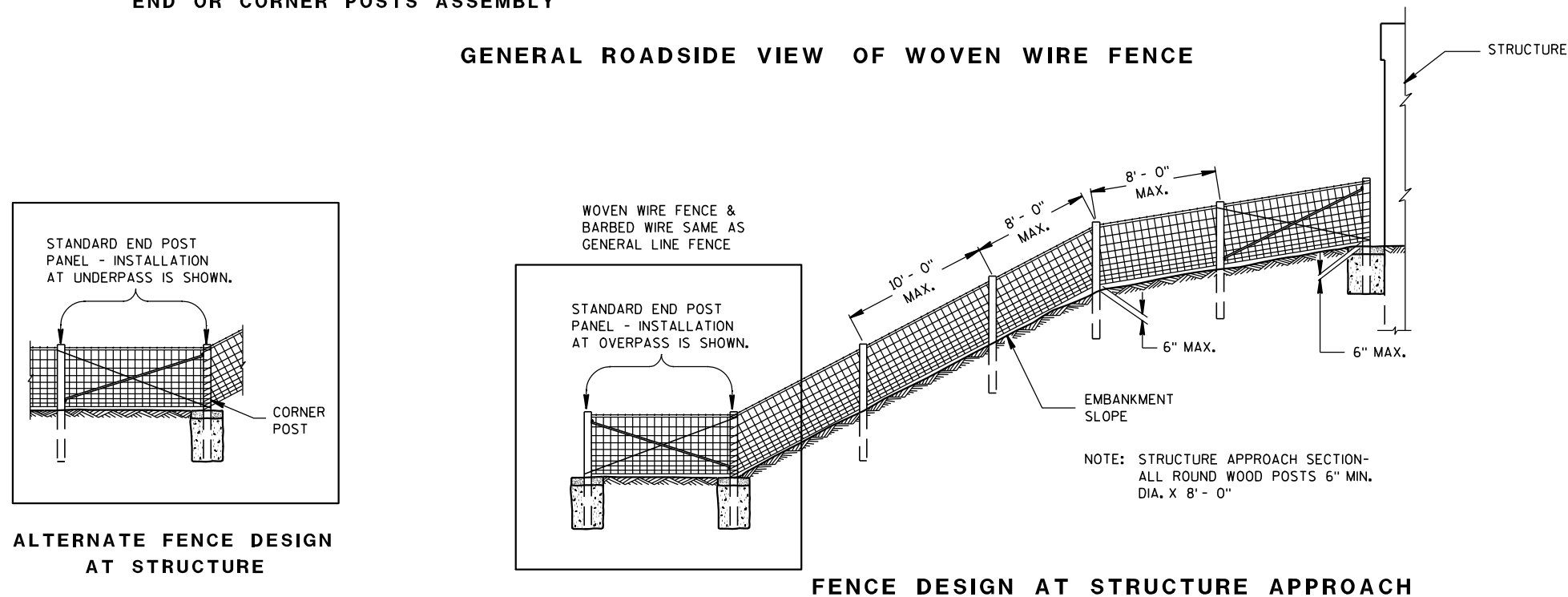
ROUND WOOD END, CORNER, BRACER OR VERTICAL ANGLE POSTS MIN. 6" DIA. X 8' - 0"



**END OR CORNER POSTS ASSEMBLY**

**LINE FENCE CONSTRUCTION**

**GENERAL ROADSIDE VIEW OF WOVEN WIRE FENCE**



**ALTERNATE FENCE DESIGN AT STRUCTURE**

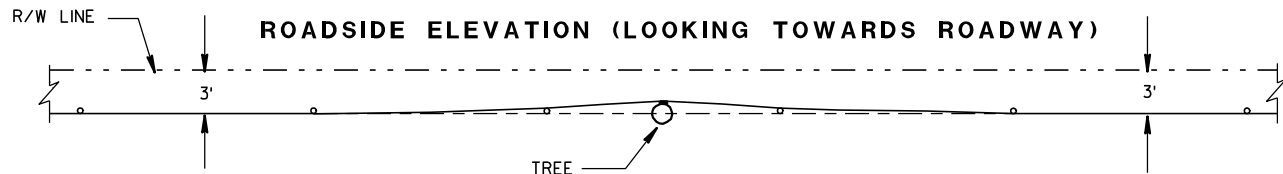
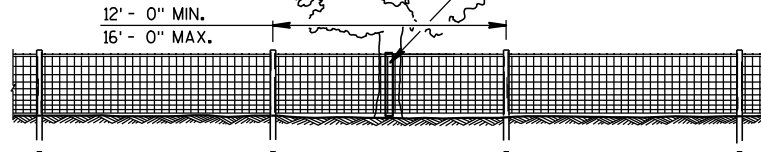
**FENCE DESIGN AT STRUCTURE APPROACH**

**FENCE WOVEN WIRE**

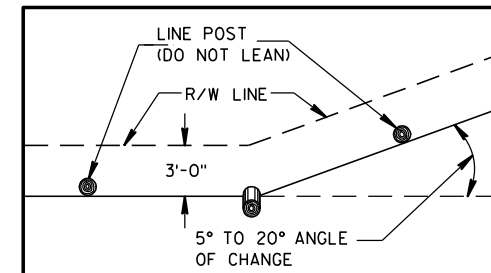
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

NOTE: TREE IN NORMAL FENCE LINE SPECIFICALLY ORDERED BY ENGINEER TO REMAIN IN PLACE.

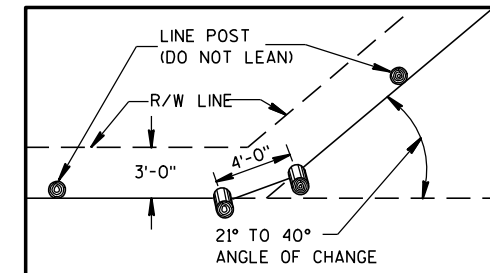
2" X 6" DOUGLAS FIR OR SO. YELLOW PINE PLACED BETWEEN TREE AND WOVEN WIRE FENCE. WOVEN WIRE FENCE AND BARBED WIRE TO BE STAPLED TO 2" X 6" LIKE AS TO LINE POST. 2" X 6" NOT FASTENED TO TREE.



PLAN VIEW  
FENCE DESIGN AT TREES REMAINING  
IN NORMAL FENCE LINE



PLAN VIEW  
SINGLE POST CORNER

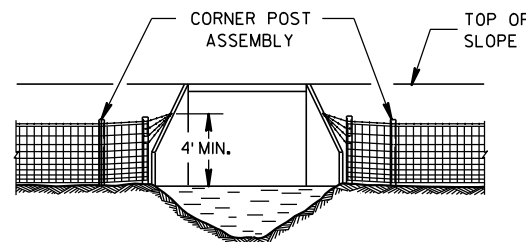


PLAN VIEW  
DOUBLE POST CORNER

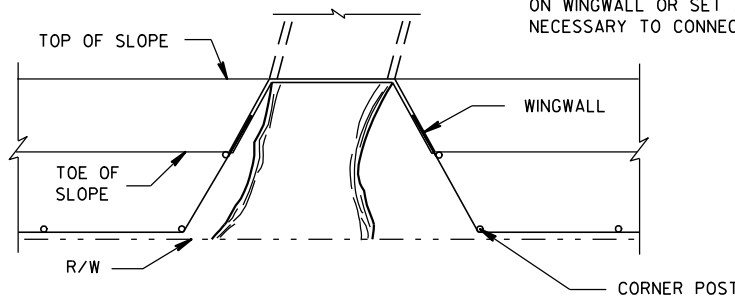
RIGHT OF WAY LINE CHANGE 40° AND LESS

NOTE: SINGLE AND DOUBLE POSTS SHALL BE A MIN. 6" DIA. X 8'-0" WITH A LEAN OF 4" TOWARD THE OUTSIDE OF THE CURVE.

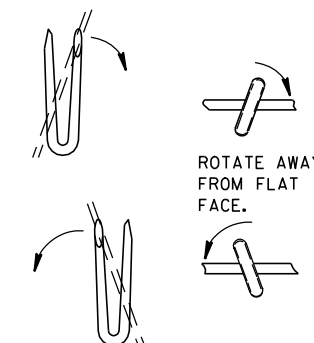
WHEN THE RIGHT OF WAY LINE CHANGE IS MORE THAN 40° USE THE CORNER OR STRETCHER POSTS ASSEMBLY.



NOTE: PLACE A MINIMUM OF 4 STRANDS OF BARBED WIRE, 6" MAXIMUM CENTERS IN FAN SHAPE CONNECTED TO AN EYE BOLT ON WINGWALL OR SET A LONE POST WHEN NECESSARY TO CONNECT BARBED WIRE.



FENCE INSTALLATION TO WINGWALLS



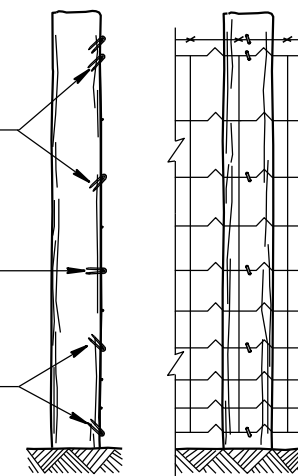
LINE POST

NOTE: WHEN POSTS ARE DRIVEN THE SMALL END SHALL BE DOWN.

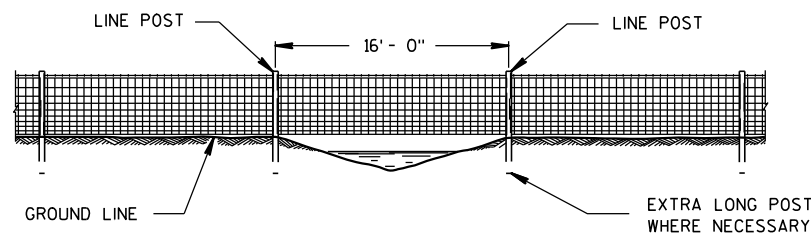
STAPLES SLOPED DOWNWARD FOR SUSTAINED GRADES AND OVER KNOLLS.

STAPLES LEVEL FOR LEVEL GROUND.

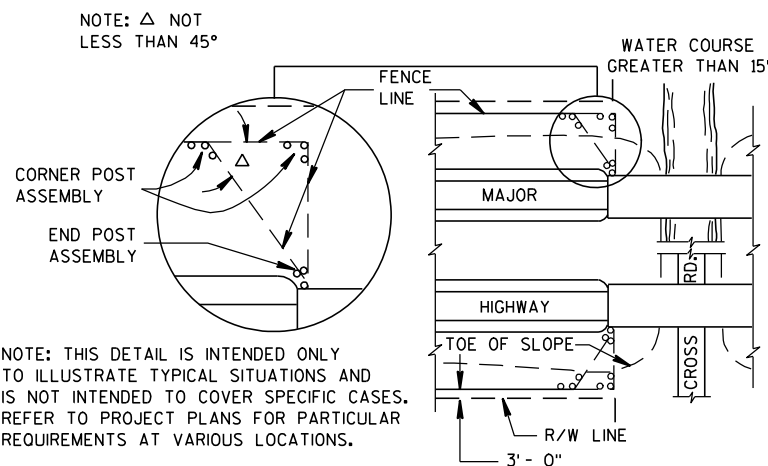
SLOPE UPWARDS WHEN FENCE TENDS TO LIFT.



END ELEVATION FARM SIDE ELEVATION  
FENCE MOUNTING DETAIL

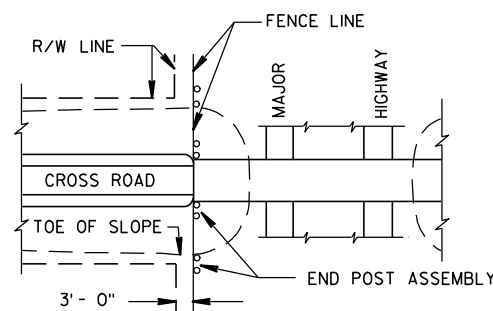


FENCE CONSTRUCTION OVER STREAM  
COURSES OF 15 FT. OR LESS IN WIDTH



NOTE: THIS DETAIL IS INTENDED ONLY TO ILLUSTRATE TYPICAL SITUATIONS AND IS NOT INTENDED TO COVER SPECIFIC CASES. REFER TO PROJECT PLANS FOR PARTICULAR REQUIREMENTS AT VARIOUS LOCATIONS.

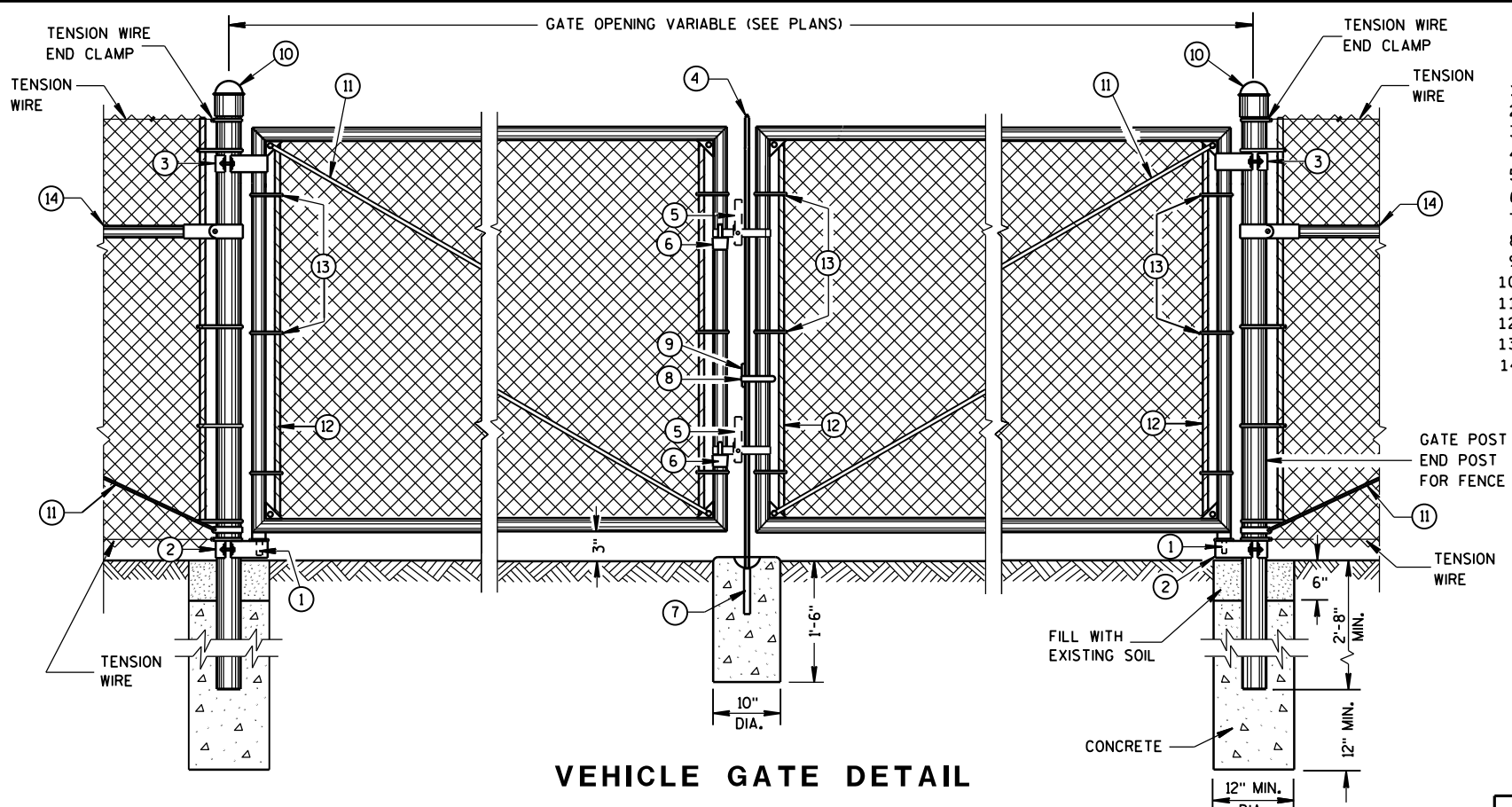
PLAN VIEW  
MAJOR HIGHWAY OVERPASS OR STREAM COURSE  
CROSSING OF GREATER THAN 15 FT. IN WIDTH



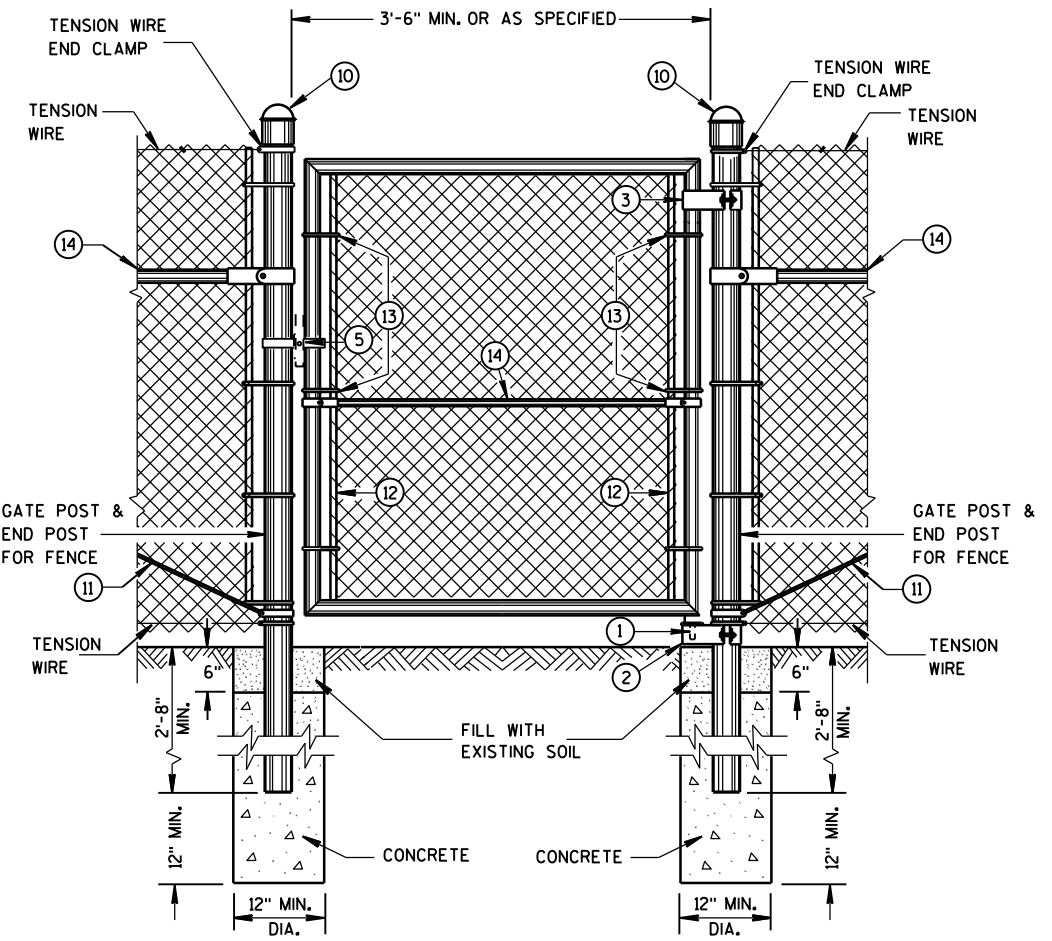
PLAN VIEW  
MAJOR HIGHWAY UNDERPASS

FENCE LOCATION AT STRUCTURES

<b>FENCE WOVEN WIRE</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4/4/2008 DATE	/s/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



**VEHICLE GATE DETAIL**



**PEDESTRIAN GATE DETAIL**

**LEGEND**

1. STRAIGHT PLUG
2. BOTTOM HINGE
3. TOP HINGE
4. PLUNGER ROD
5. FULCRUM LATCH
6. FORK CATCH \*
7. PLUNGER ROD CATCH
8. LOCK KEEPER GUIDE
9. LOCK KEEPER
10. DOME TOPS
11. TRUSS RODS
12. TENSION BAR
13. TENSION BANDS
14. BRACE RAIL

\*NOT REQUIRED ON SINGLE SWING PEDESTRIAN GATE

**GENERAL NOTES**

FENCE POSTS INSTALLED ON CONCRETE WALLS SHALL BE ANCHORED INTO EMBEDDED METAL SLEEVES OR CORED HOLE BY FILLING THE ANNULAR SPACE WITH PEA GRAVEL FOLLOWED BY AN EPOXY RESIN ADHESIVE. THE EPOXY RESIN ADHESIVE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 235, CLASS A, B OR C.

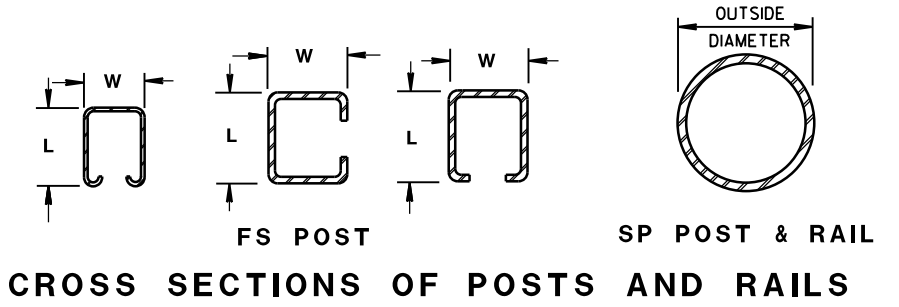
USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

FOR LEAF GATES GREATER THAN 8 FEET WIDE, INSTALL INTERIOR VERTICAL BRACE RAIL AT 8 FOOT INTERVALS.

FOR FABRIC HEIGHTS GREATER THAN 8 FEET, INSTALL INTERIOR HORIZONTAL BRACE RAILS TO LEAF GATE.

MAXIMUM SAG FOR OUTER GATE MEMBER SHALL NOT EXCEED THE GREATER OF 1% OF THE LEAF GATE WIDTH OR 2 INCHES.

USE TYPE 2, CLASS 3, MARCELLED/CRIMPED, TENSION WIRE PER ASTM A 817.



**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

**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 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

**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**

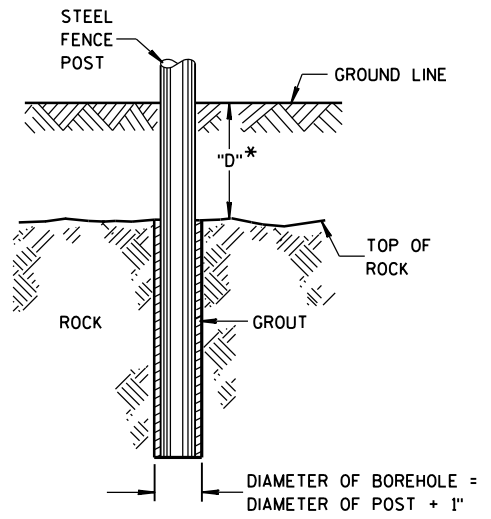
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

6

6

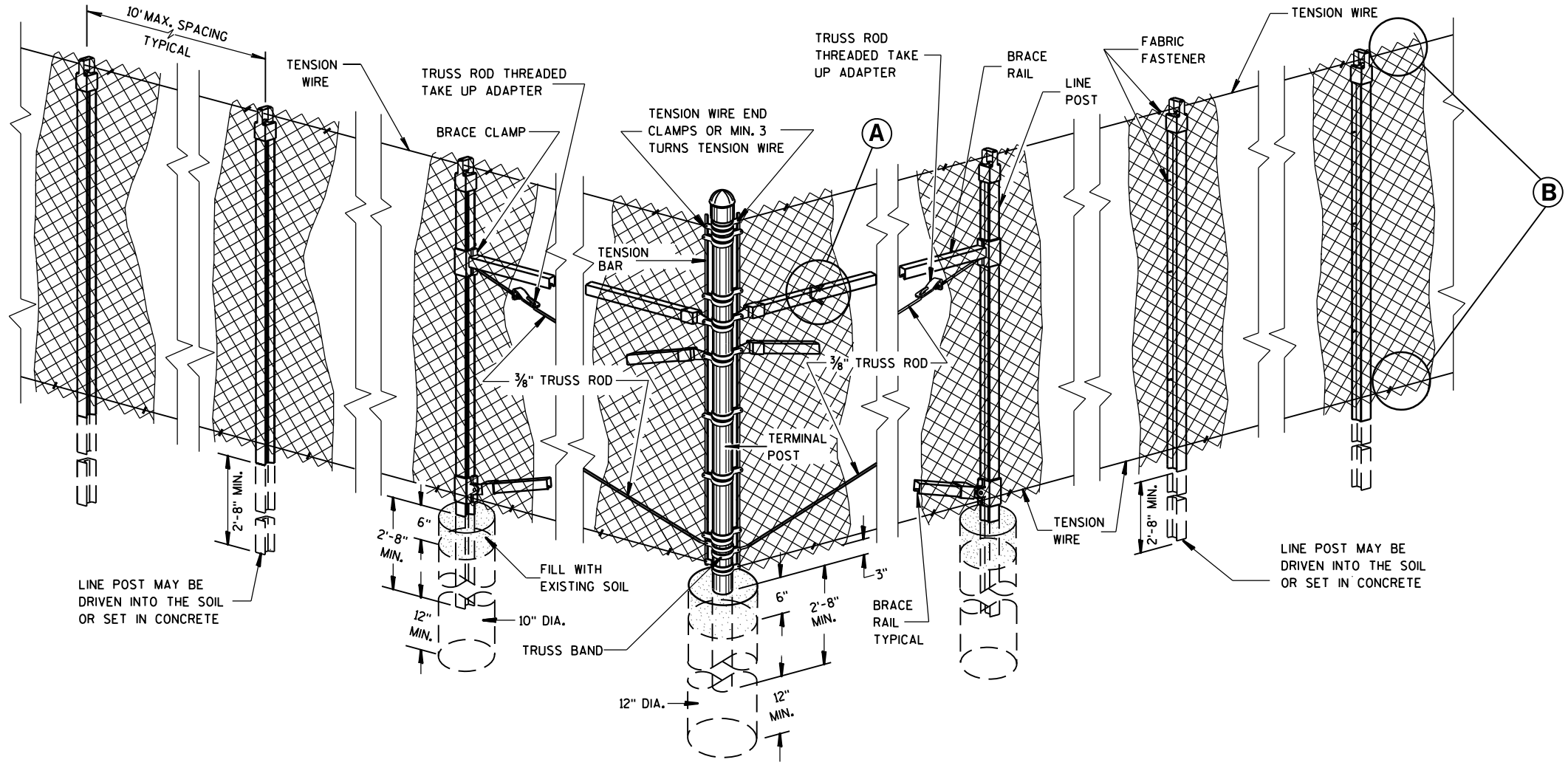
S.D.D. 15 B 3-15a

S.D.D. 15 B 3-15a

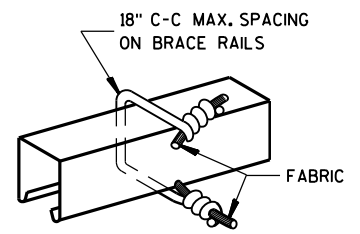


\* IF "D" IS LESS THAN 2'-6",  
DRILL ROCK AND INSTALL GROUT

**ROCK INSTALLATION  
OF LINE POST**

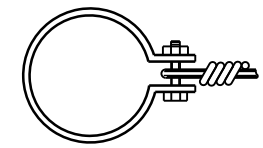


**END, CORNER, ANGLE  
INTERSECTION & INTERMEDIATE  
BRACED POSTS**

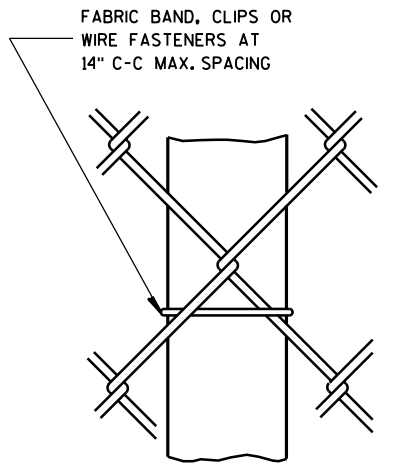


**BRACE RAIL  
FABRIC FASTENER**

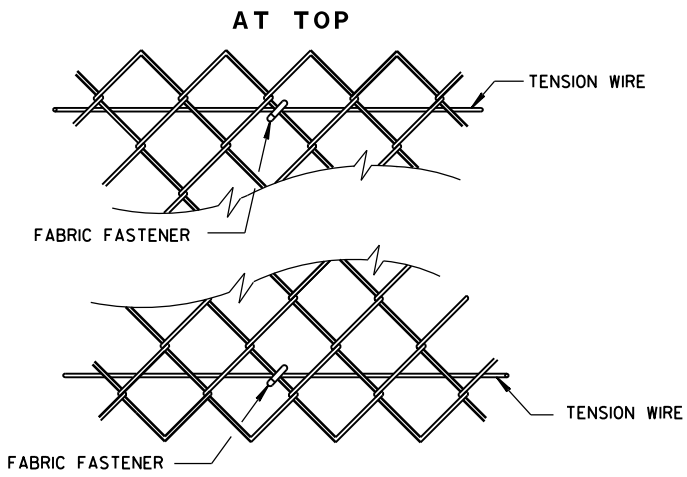
(A)



**TENSION WIRE END CLAMP**

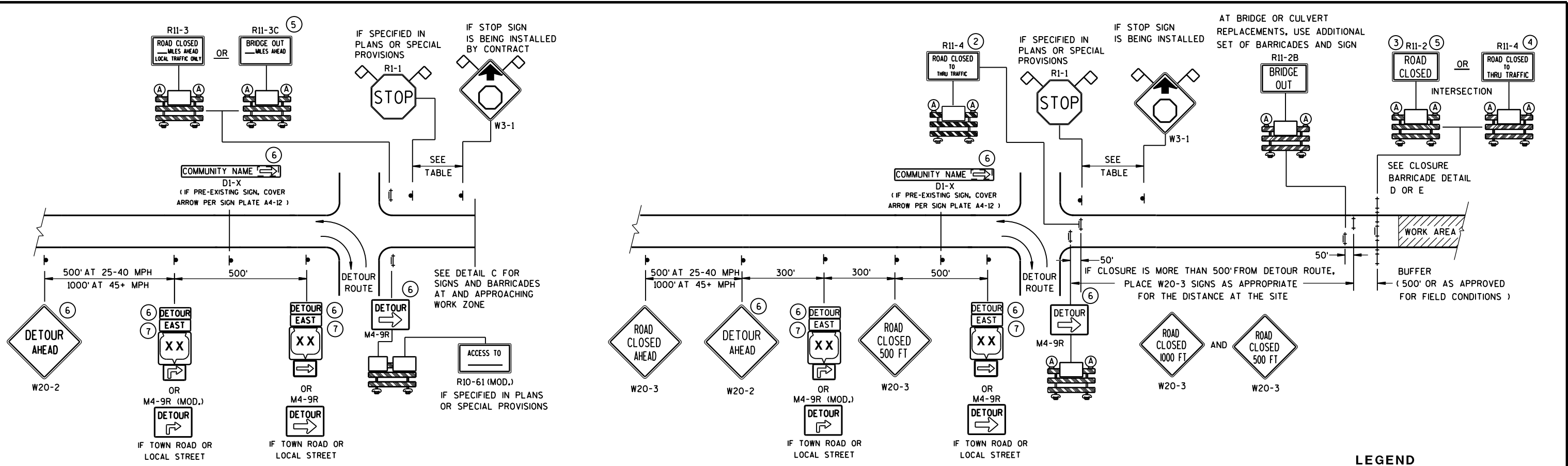


**LINE POST  
FABRIC FASTENER**



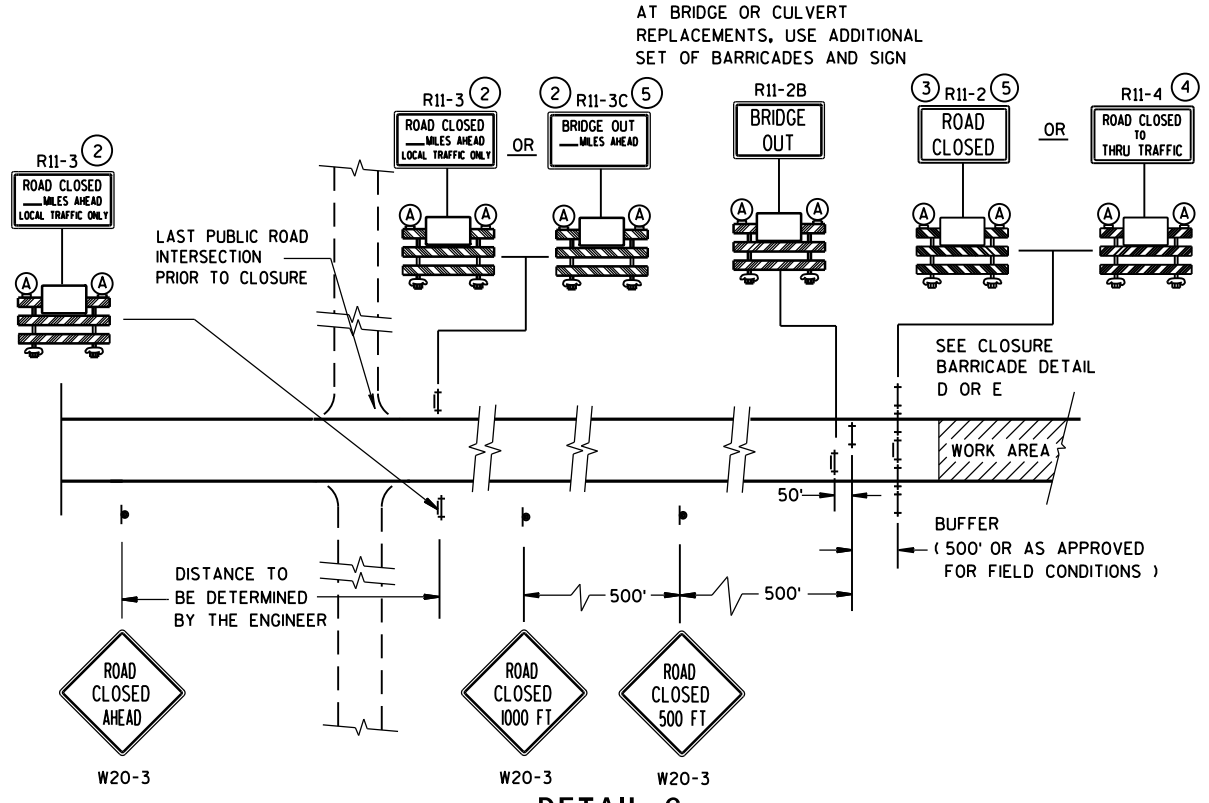
(B)

<b>FENCE CHAIN LINK</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED FEB. 2015 DATE	/s/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



**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)



**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

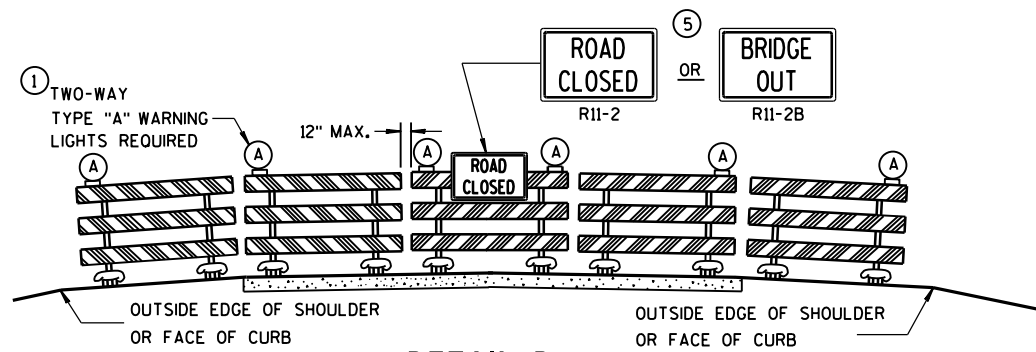
**BARRICADES AND SIGNS FOR MAINLINE CLOSURES**

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

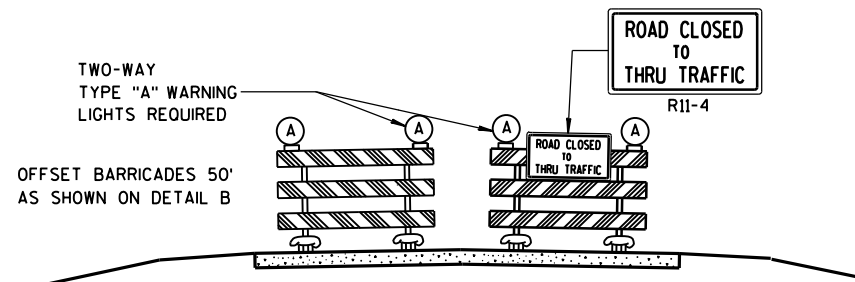
8/2013 DATE /S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN  
 FHWA

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





**DETAIL D**  
**ROAD CLOSURE BARRICADE DETAIL**  
 APPROACH VIEW



**DETAIL E**  
**LANE CLOSURE BARRICADE DETAIL**  
 APPROACH VIEW

SEE SDD 15C2-SHEET "a" FOR LEGEND

**GENERAL NOTES**

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).
- 2 THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.
- 3 FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.
- 4 FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.
- 5 FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.
- 6 INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- 7 "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

<b>BARRICADES AND SIGNS FOR MAINLINE CLOSURES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

**THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.**

**GENERAL NOTES**

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

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

SIGN SIZES SHALL BE AS FOLLOWS:

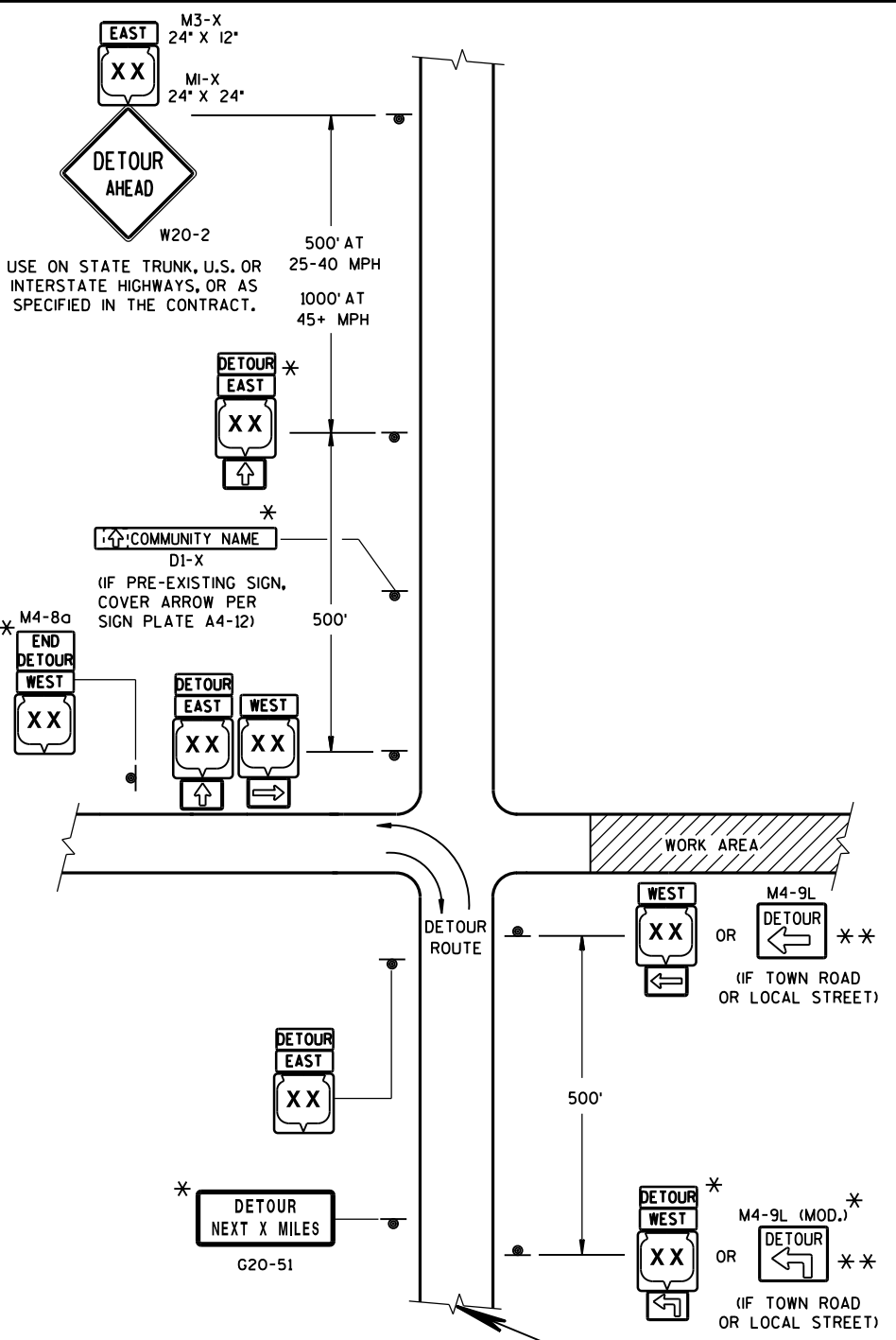
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- MI-4, MI-5A, AND MI-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- MO5-1 AND MO6-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 SHALL BE 48" X 48".
- DI-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

\* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

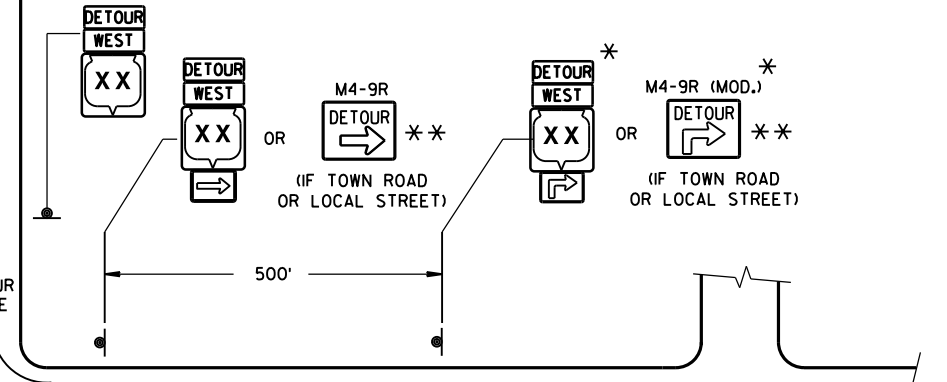
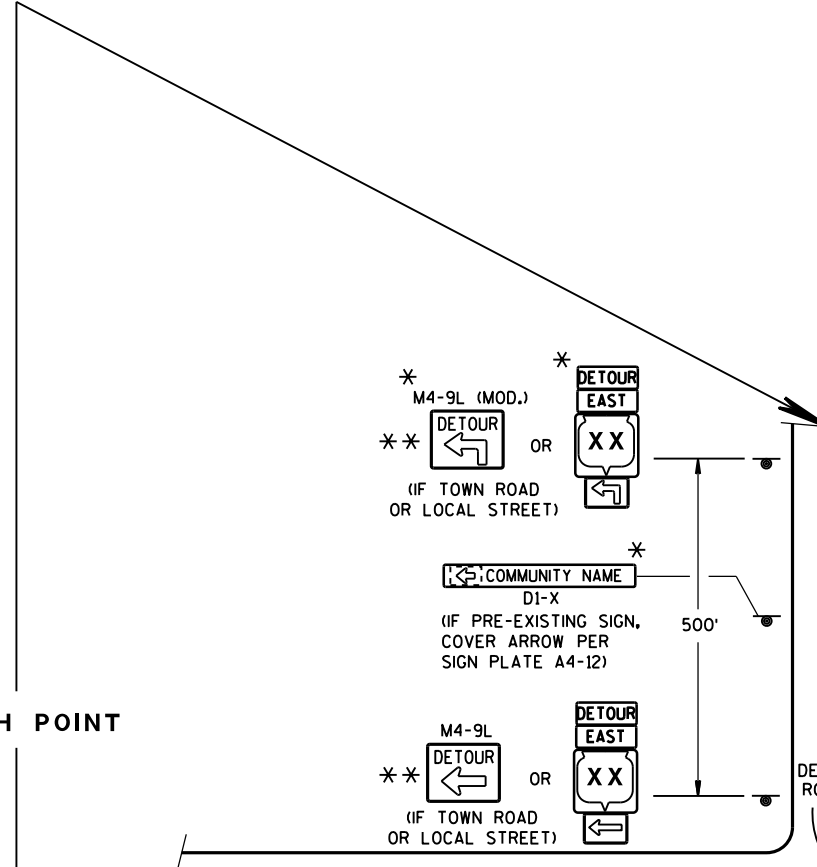
\*\* FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.

6

6



**MATCH POINT**

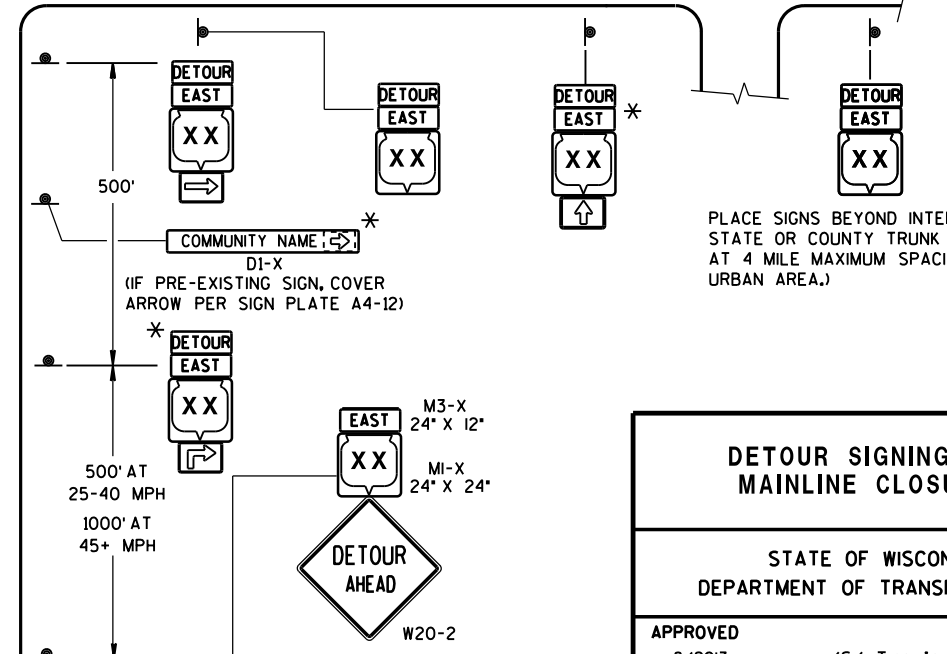
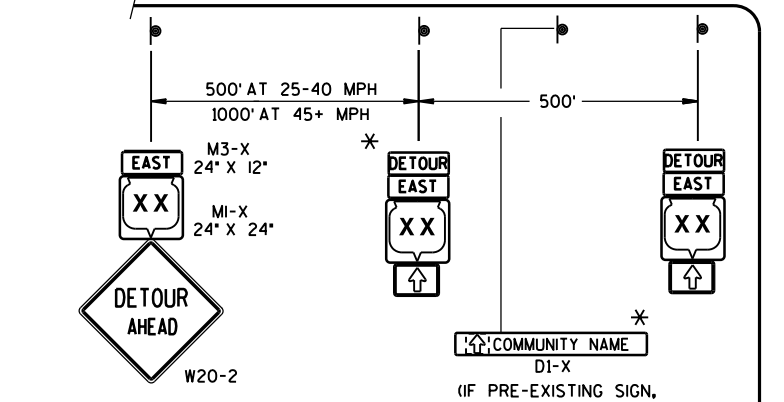


**LEGEND**

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- M4-8
- M3-X
- MI-4
- MI-5A
- MI-6
- MO5-1
- MO6-1
- MO6-1

SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD 15C2-SHEET "a"

**DETAIL F  
DETOUR SIGNING**



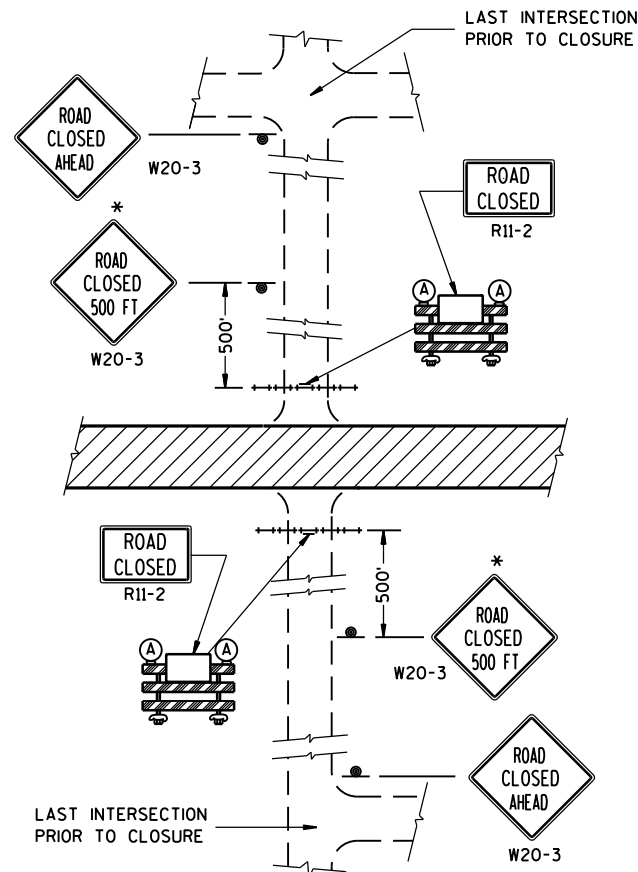
**DETOUR SIGNING FOR  
MAINLINE CLOSURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

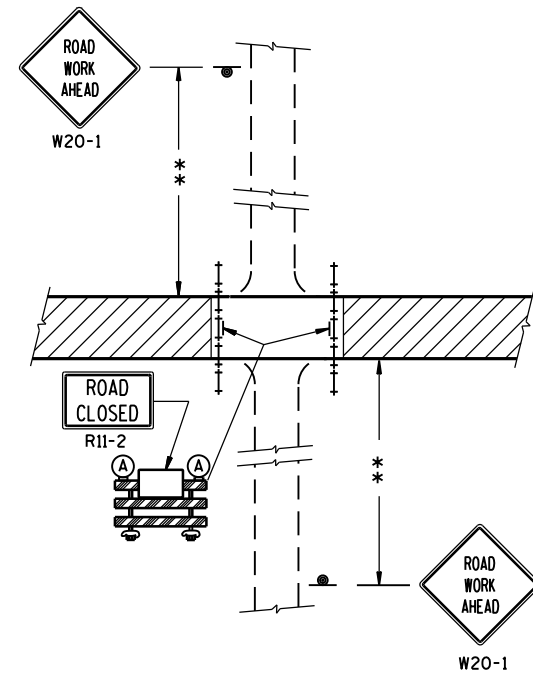
APPROVED  
8/2013 /s/ Travis Feltes  
DATE STATE TRAFFIC ENGINEER OF DESIGN  
FHWA

S.D.D. 15 C 2-5c

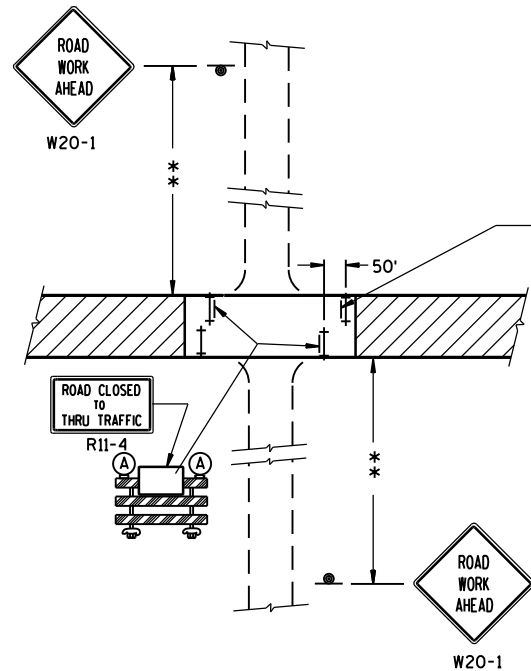
S.D.D. 15 C 2-5c



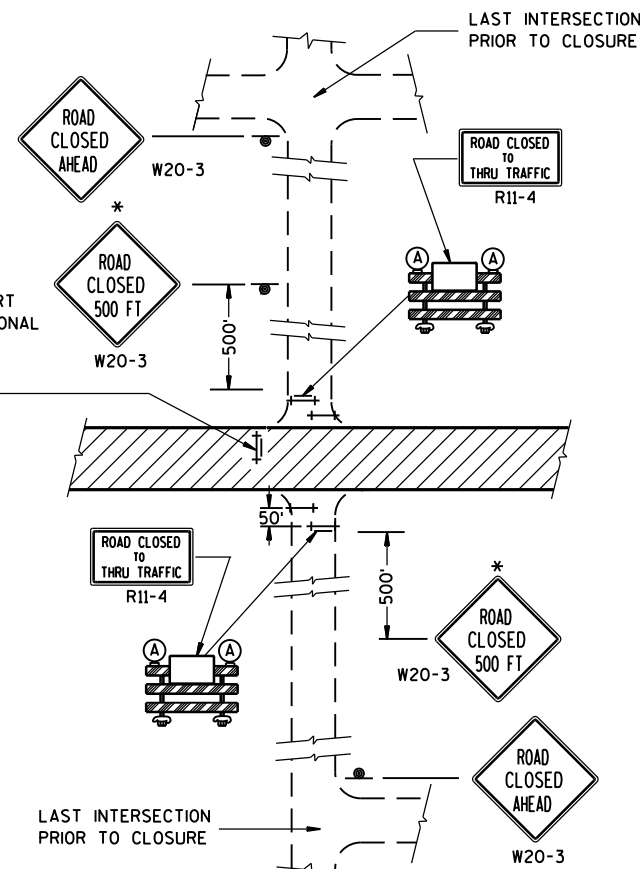
**DETAIL 1**  
(NO ACCESS TO PROJECT)



**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.

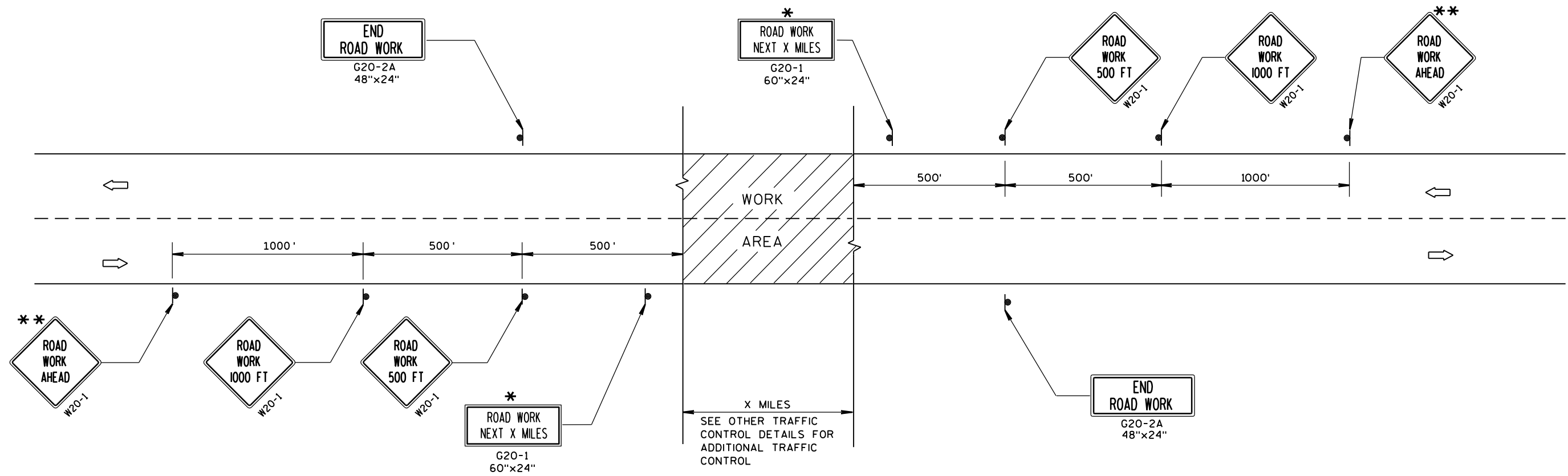
**LEGEND**

- ⊙ SIGN ON PERMANENT SUPPORT
- ⊥ TYPE III BARRICADE
- ⊥ TYPE III BARRICADE WITH ATTACHED SIGN
- Ⓐ TYPE "A" WARNING LIGHT (FLASHING)
- ▨ WORK AREA

**BARRICADES AND SIGNS  
FOR  
SIDEROAD CLOSURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
8/2013 /S/ Travis Feltes  
DATE STATE TRAFFIC ENGINEER OF DESIGN  
FHWA



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.

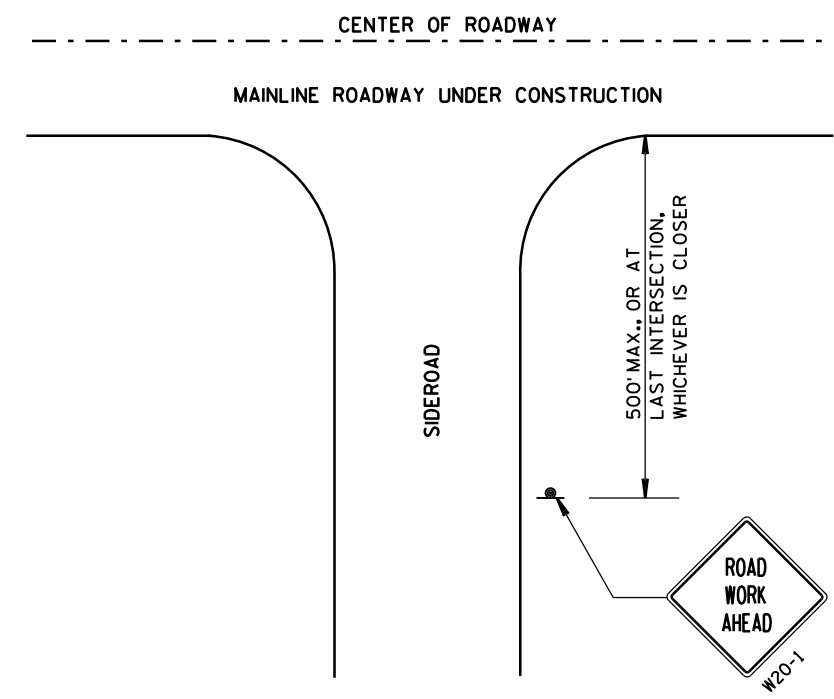
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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.

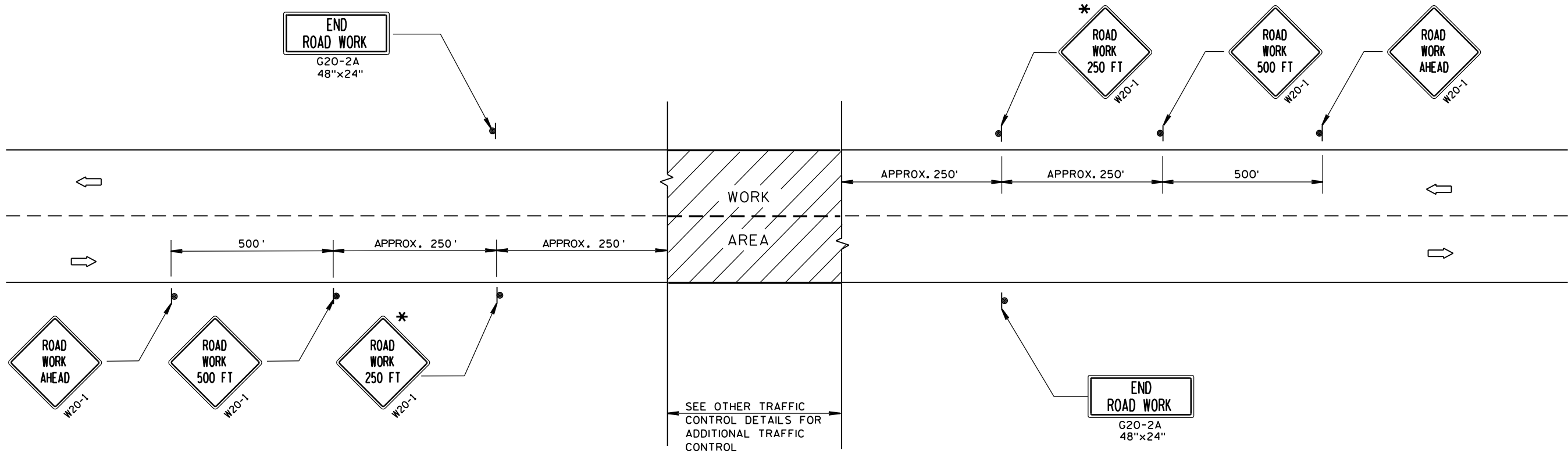
\*\* PLACE ADDITIONAL W20-1 "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



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 OF DESIGN
FHWA	



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

**GENERAL NOTES**

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

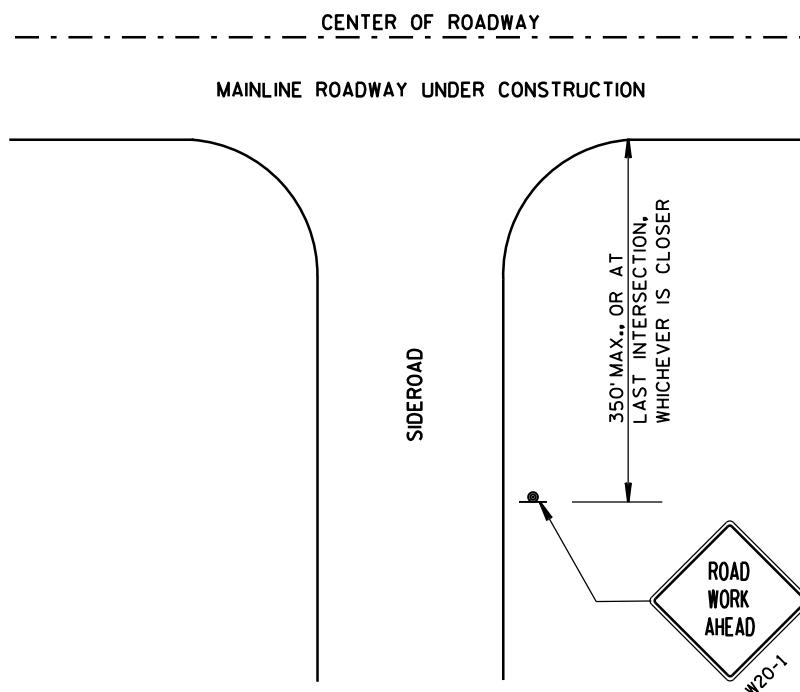
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS.

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

\* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FT" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



**LEGEND**

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

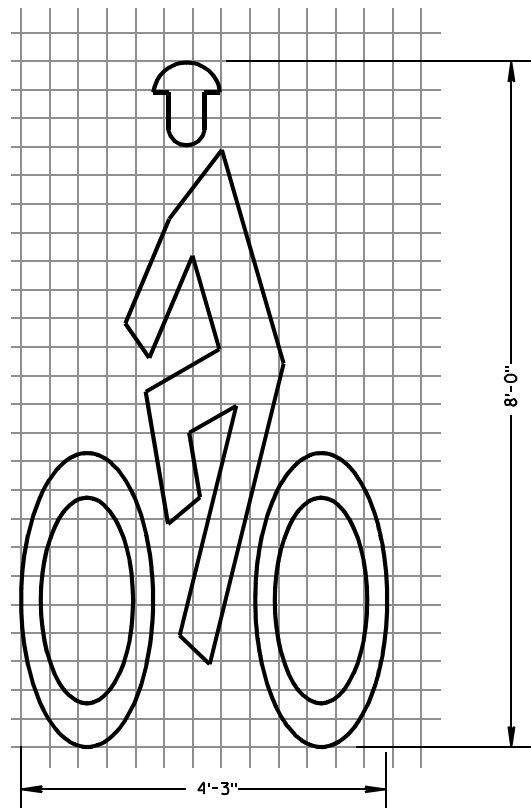
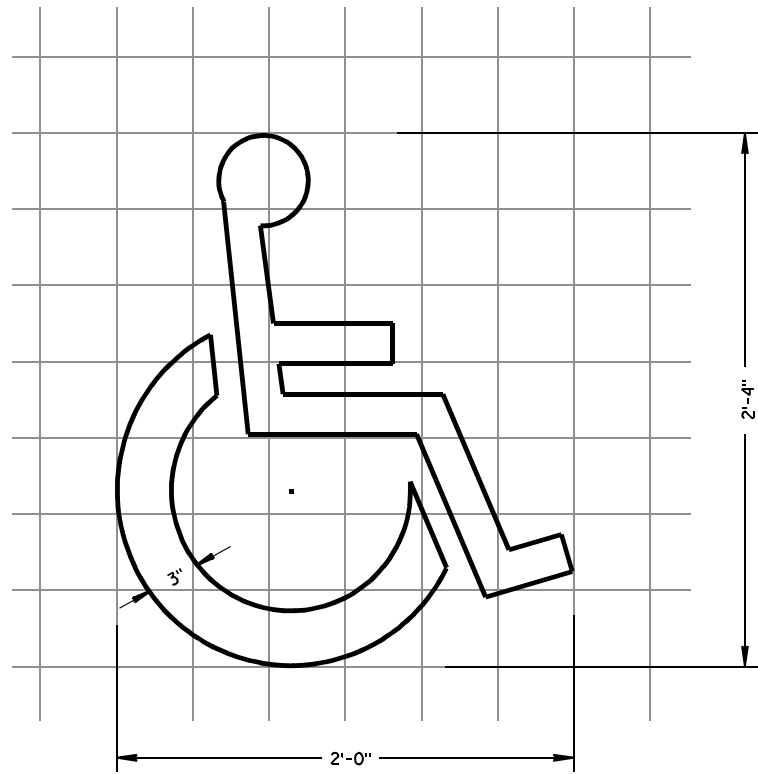
<b>TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

### GENERAL NOTES

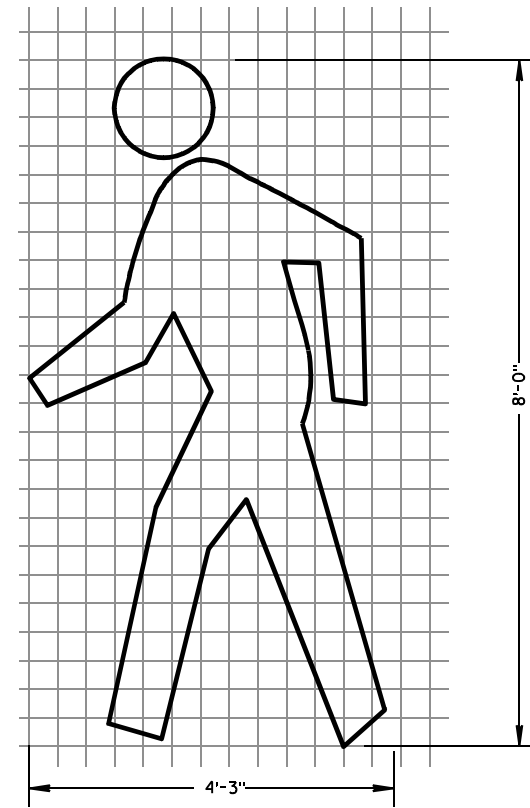
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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.

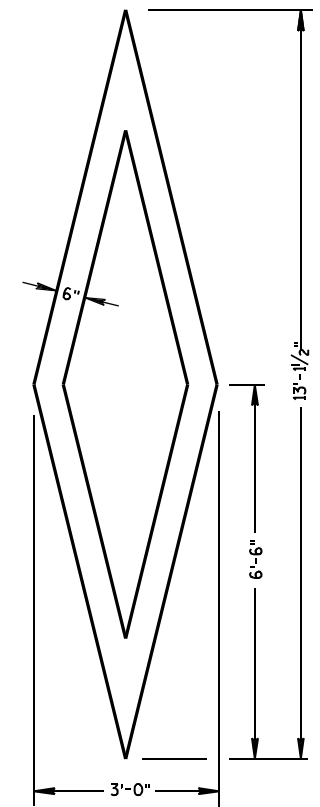
A DETAILED DRAWING OF THE HANDICAPPED PARKING SYMBOL IS ILLUSTRATED IN THE "STANDARD HIGHWAY SIGNS MANUAL" BY THE FEDERAL HIGHWAY ADMINISTRATION.



BIKE CROSSING SYMBOL



PEDESTRIAN SYMBOL



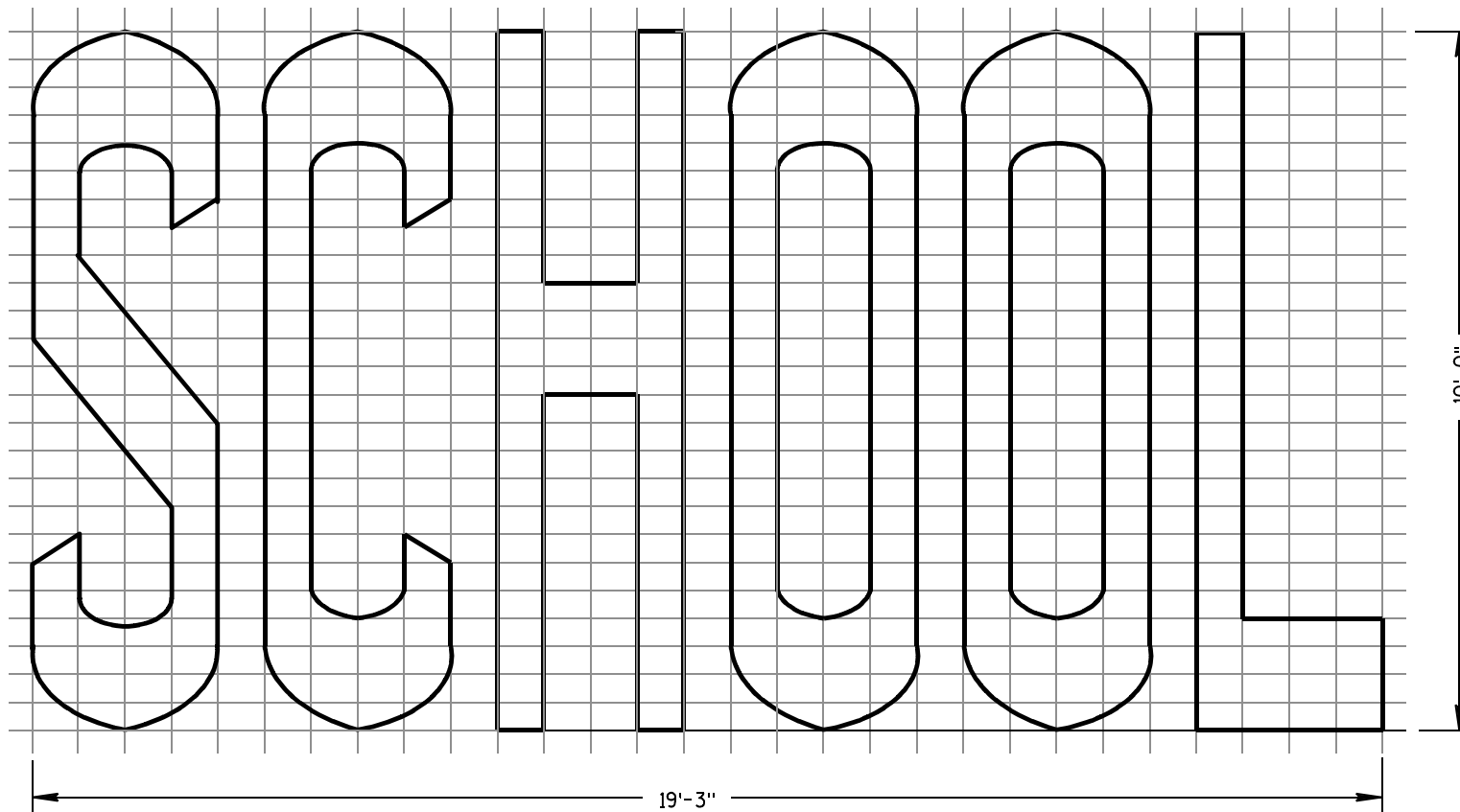
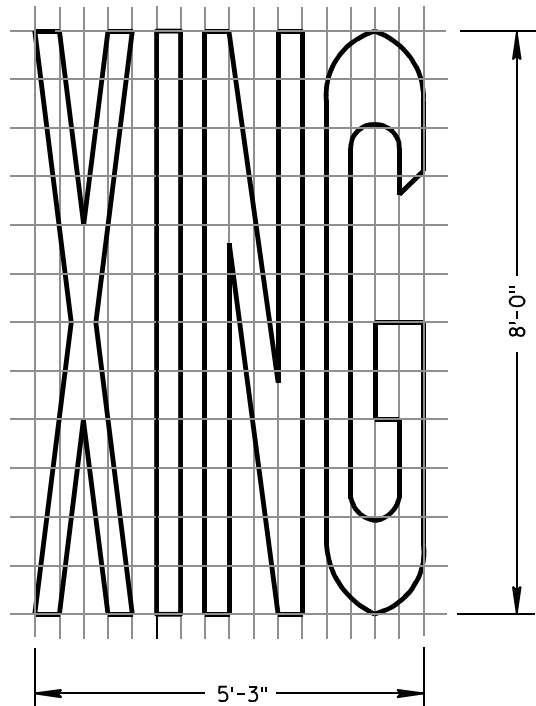
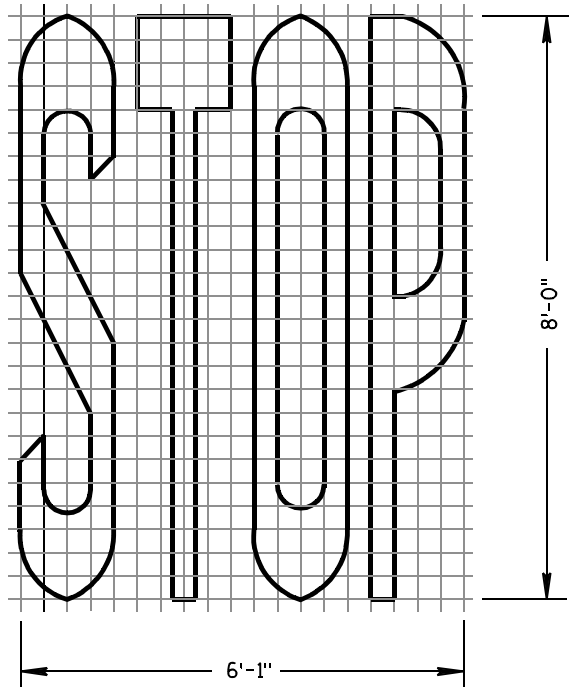
PREFERENTIAL LANE SYMBOL

<b>PAVEMENT MARKING SYMBOLS</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 7/1/11 DATE	/S/ Thomas N Notbohm STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

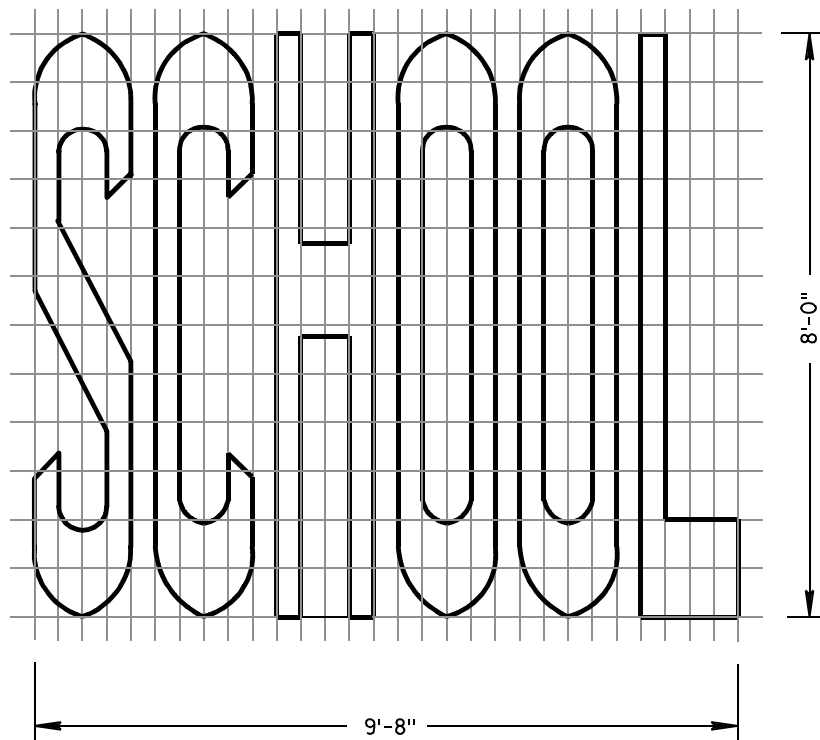
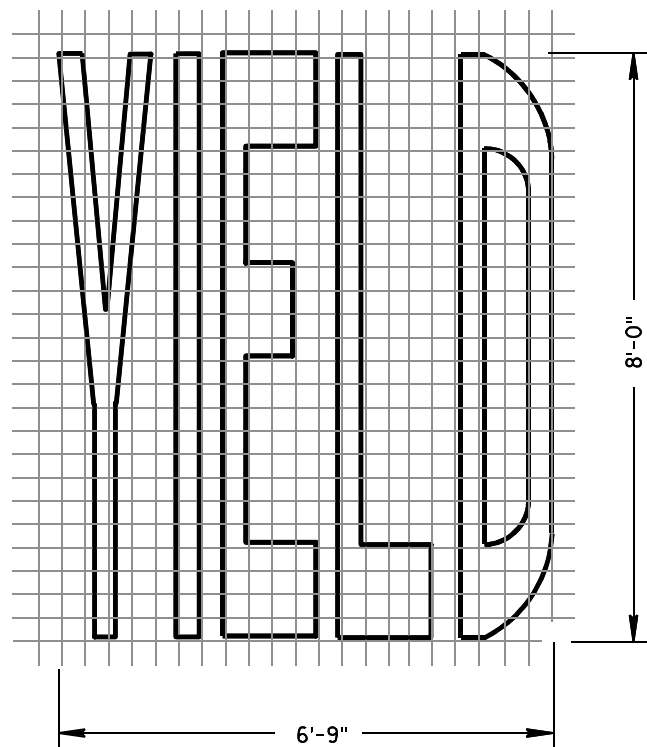
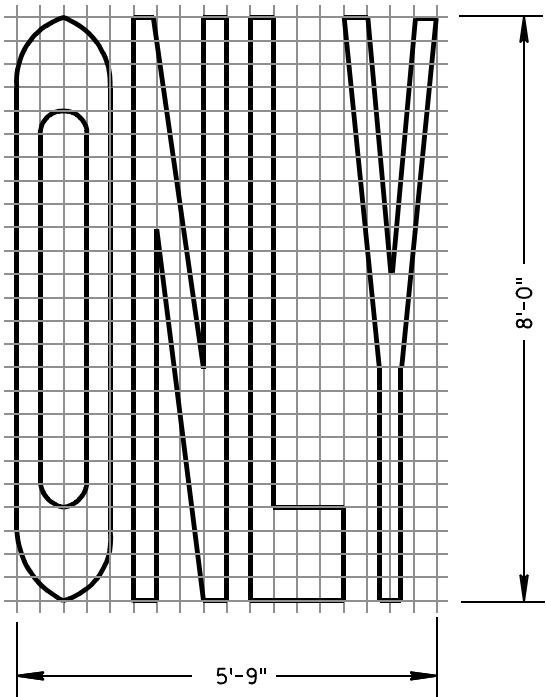
**GENERAL NOTES**

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.

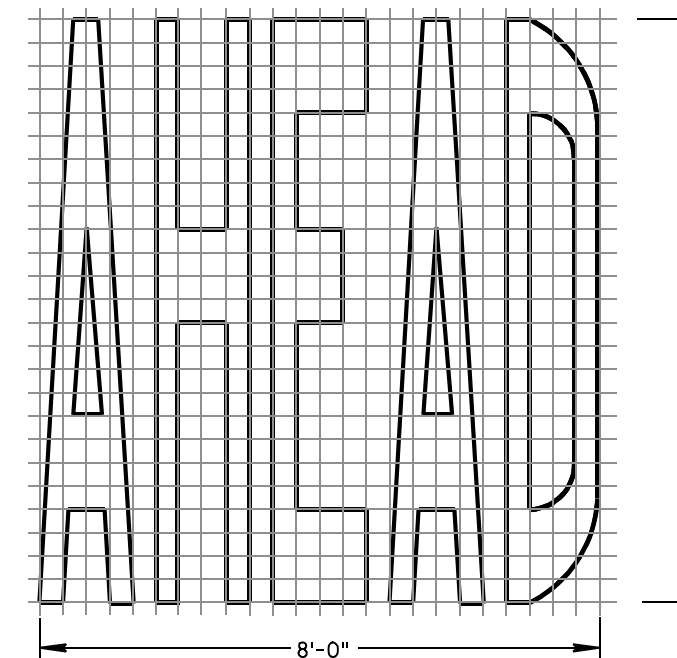
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



**TWO-LANE**



**SINGLE-LANE**



**PAVEMENT MARKING WORDS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

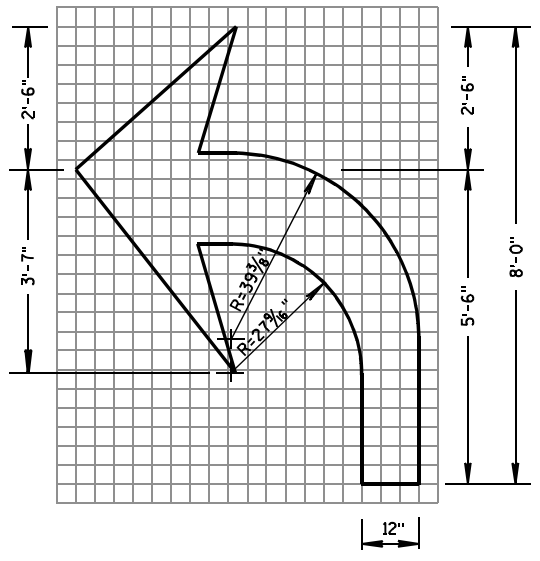
7-1-11 /S/ Thomas N. Notbohm  
DATE STATE TRAFFIC ENGINEER OF DESIGN

FHWA

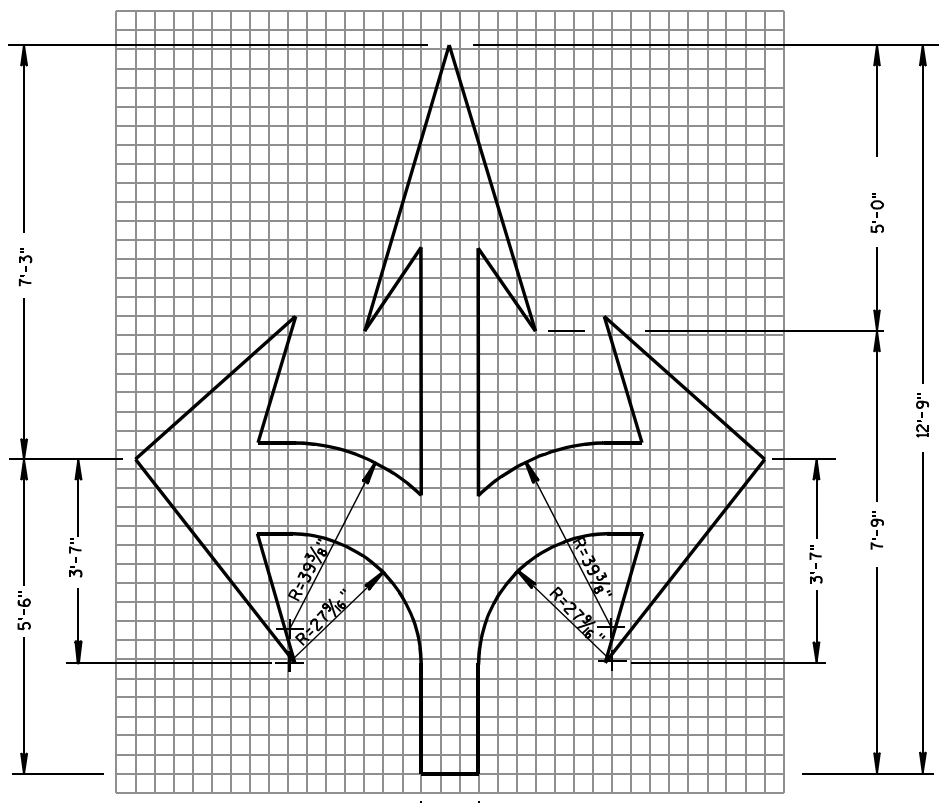
**GENERAL NOTES**

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.

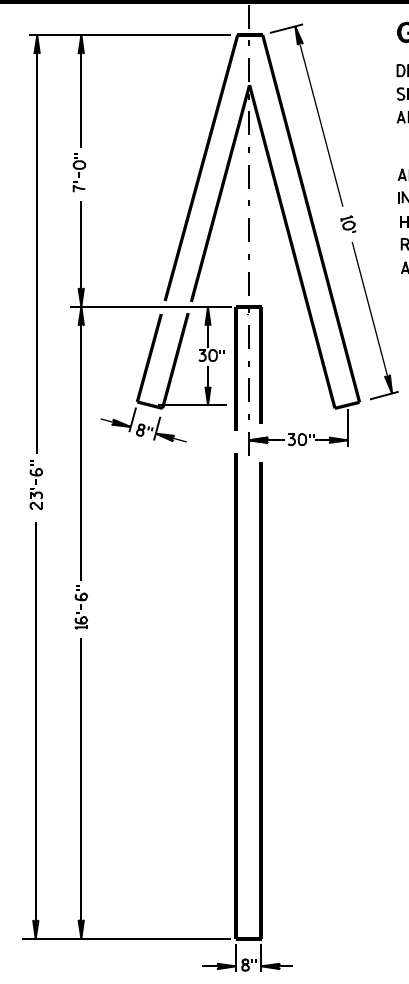
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



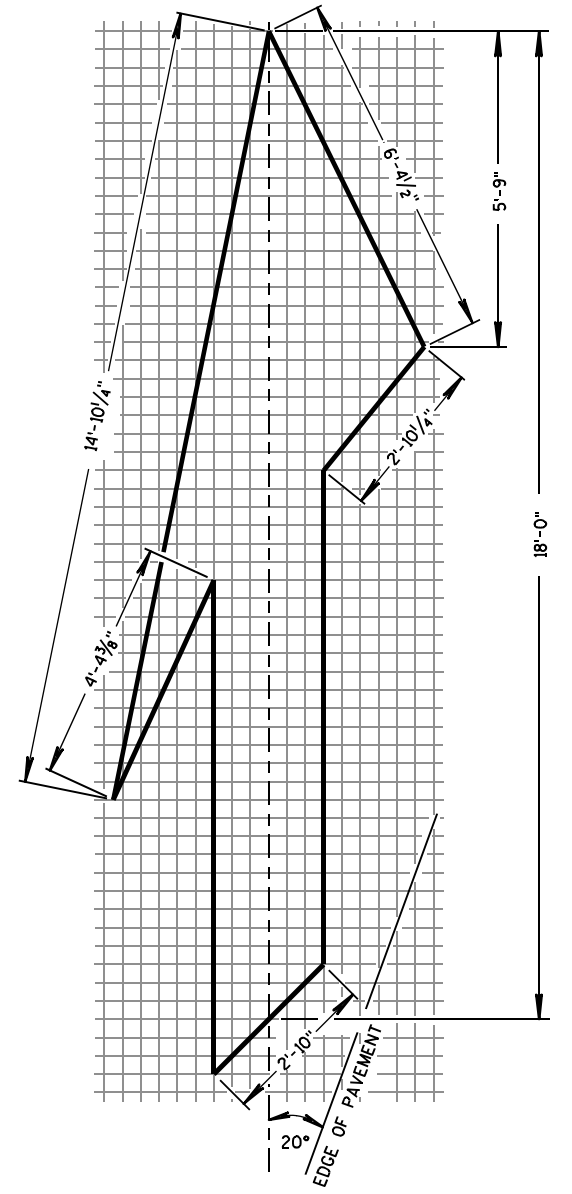
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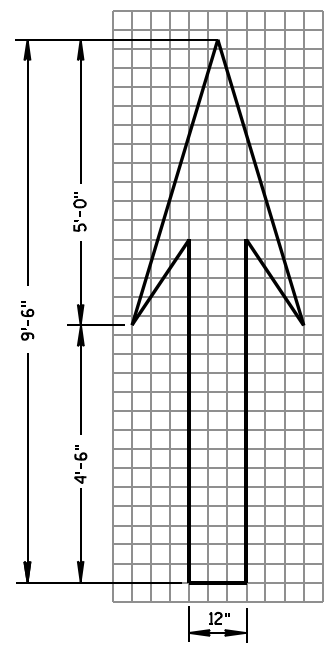
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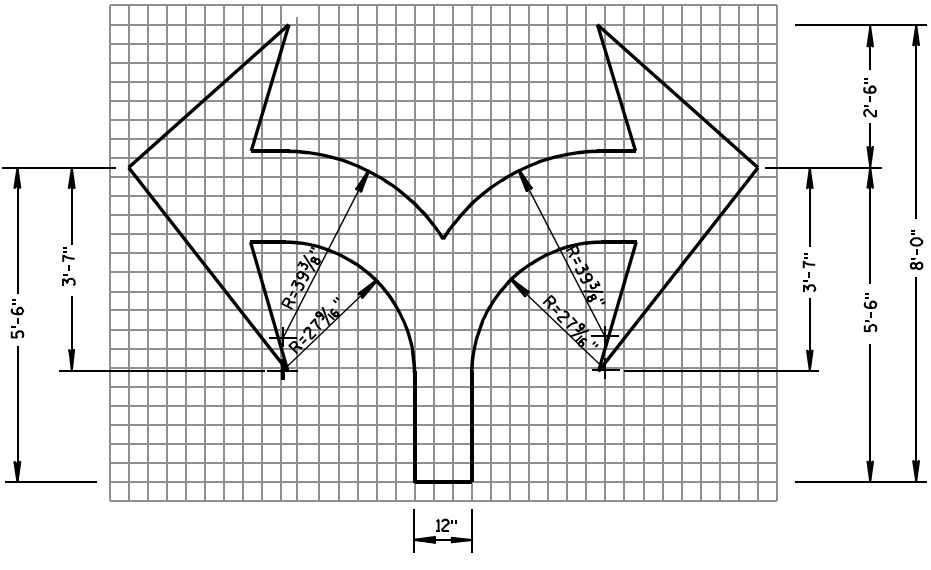
**TYPE 4**



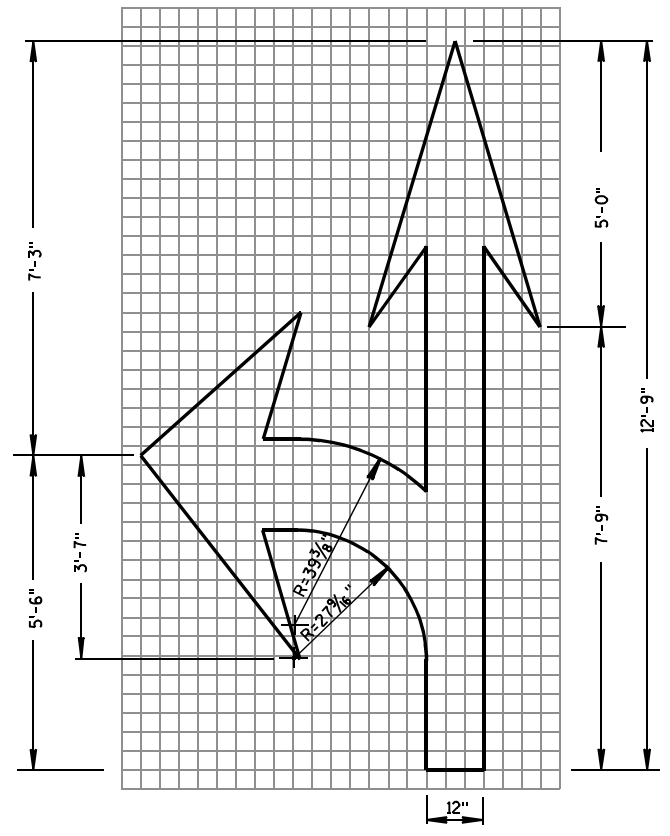
**TYPE 5 LANE DROP ARROW**



**TYPE 1**



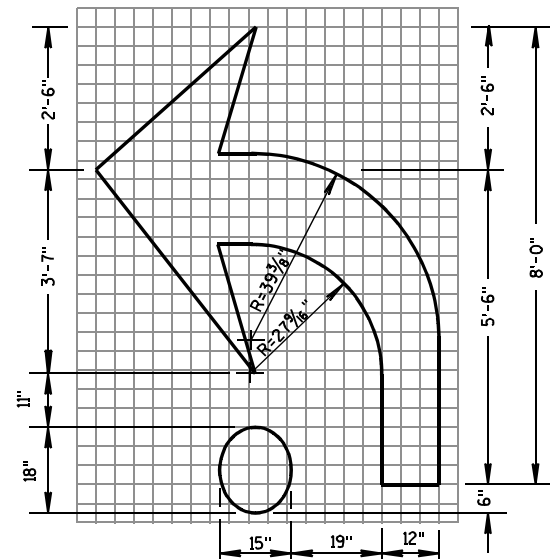
**TYPE 7**



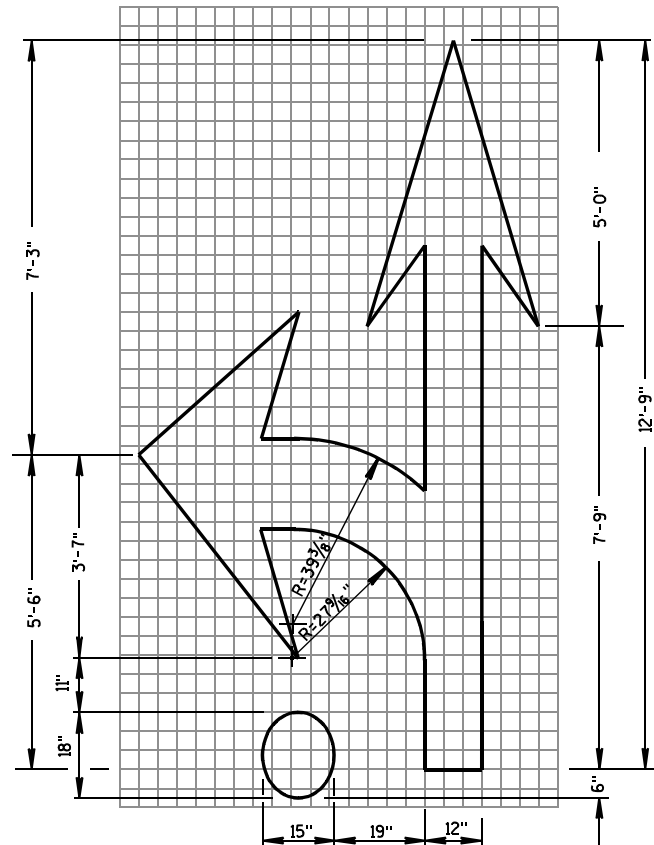
**TYPE 3**

<b>PAVEMENT MARKING ARROWS</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
7/1/11	/S/ Thomas N. Notbohm
DATE	STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

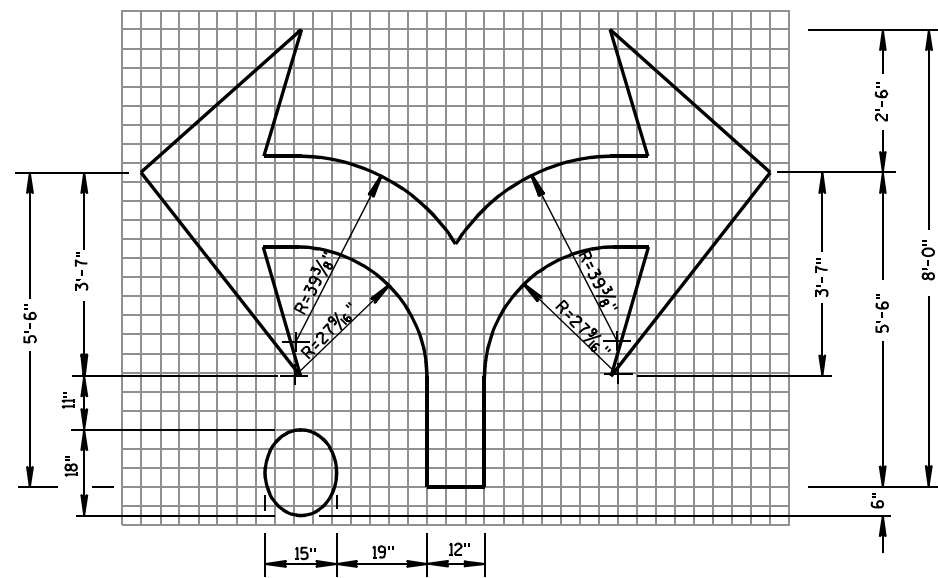




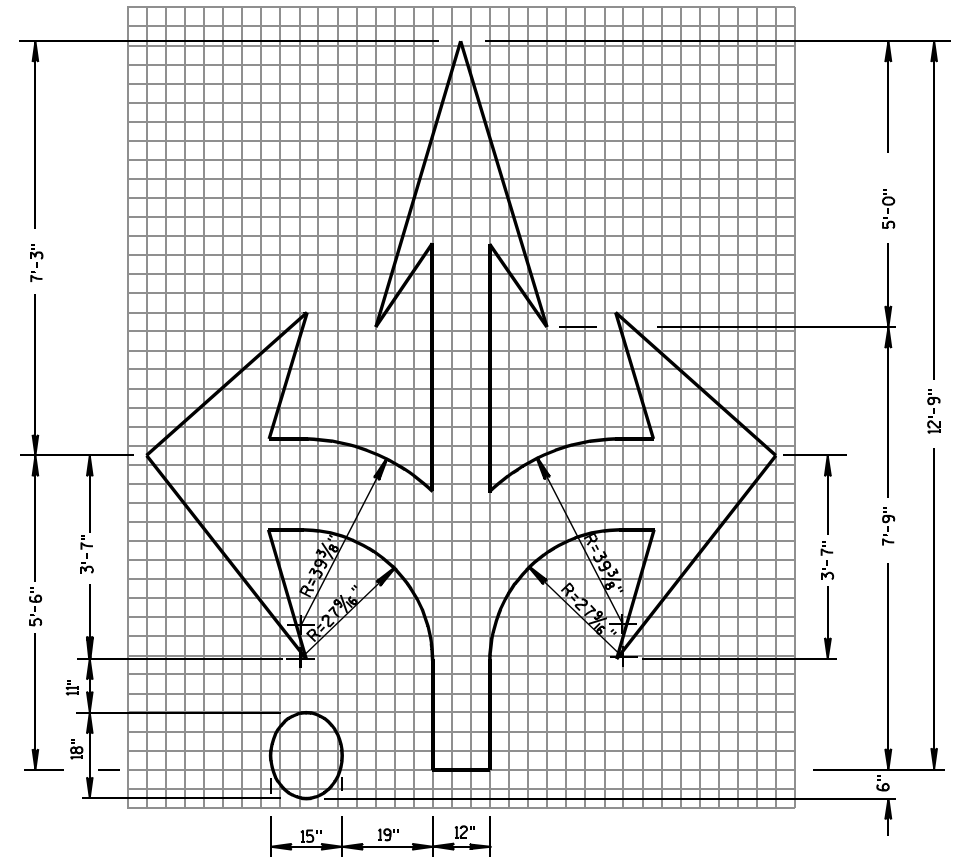
TYPE 2R



TYPE 3R



TYPE 7R



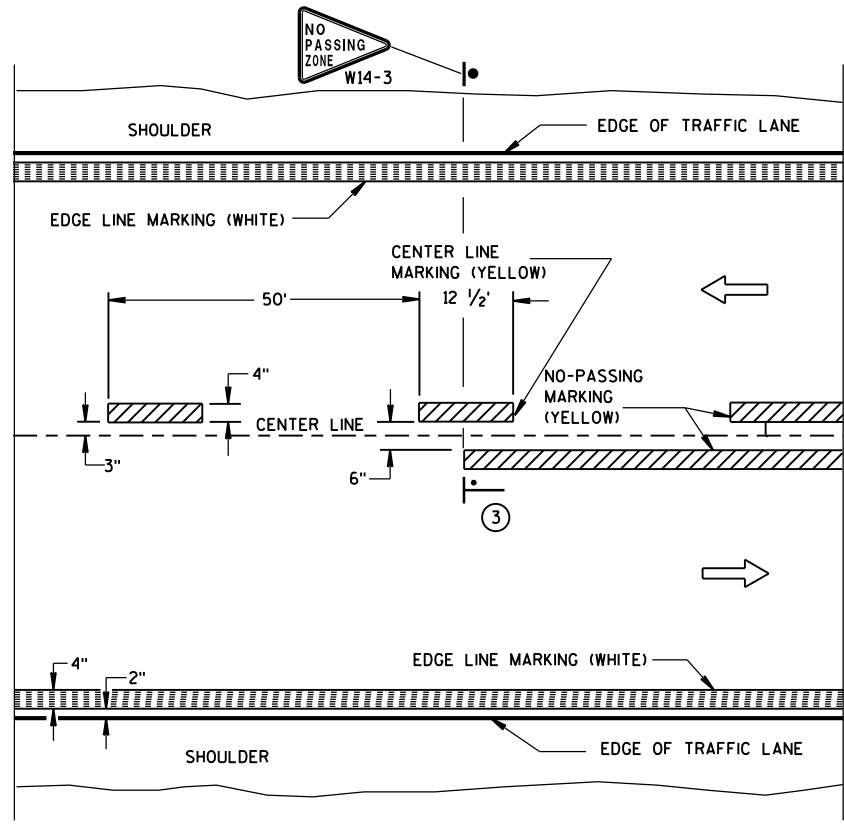
TYPE 6R

**GENERAL NOTES**

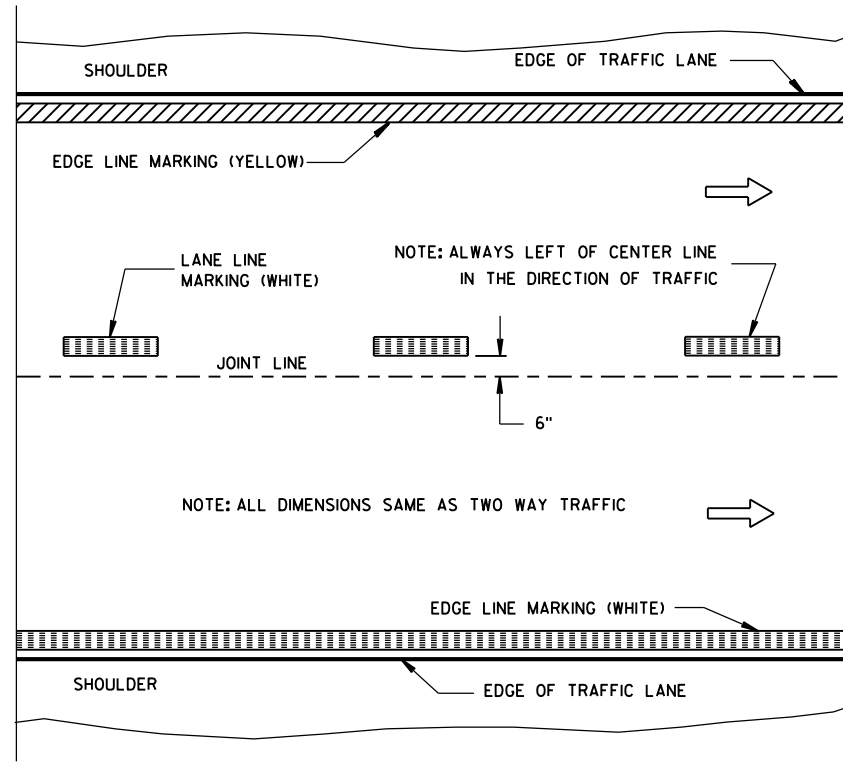
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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.

<b>ROUNDABOUT ARROWS</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
DATE	/S/ Thomas N. Notbohm STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

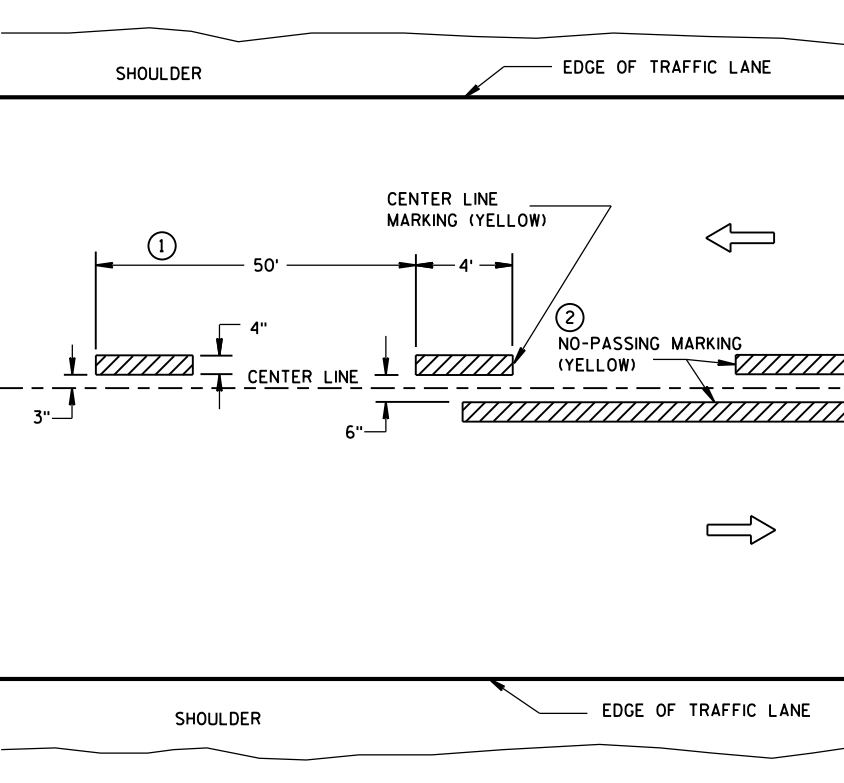


TWO WAY TRAFFIC

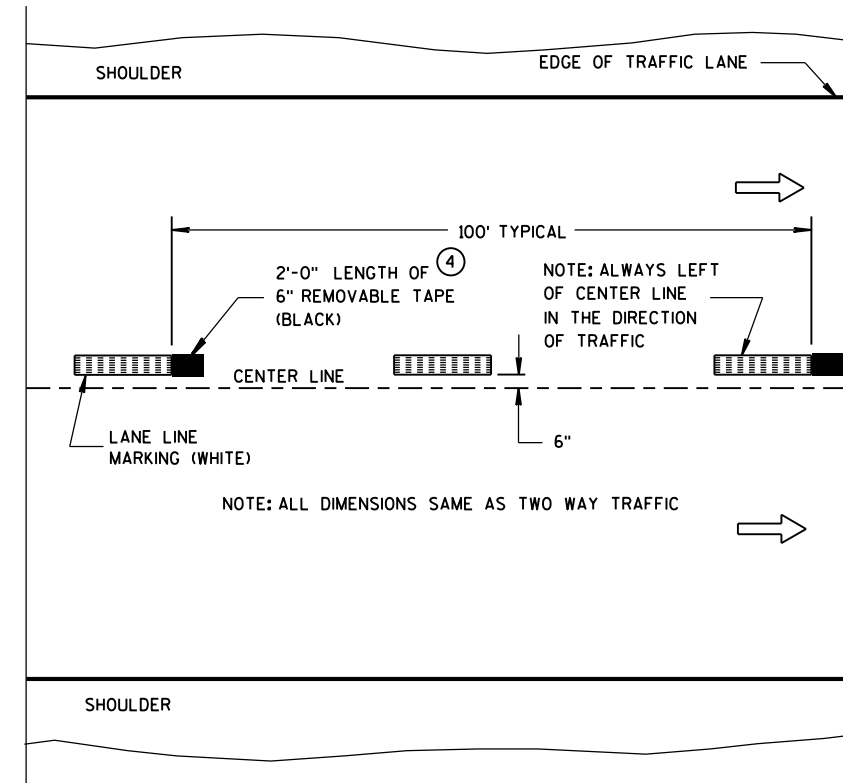


ONE WAY TRAFFIC

**PERMANENT PAVEMENT MARKING**



TWO WAY TRAFFIC



ONE WAY TRAFFIC

**TEMPORARY (INTERMEDIATE) PAVEMENT MARKING**  
(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

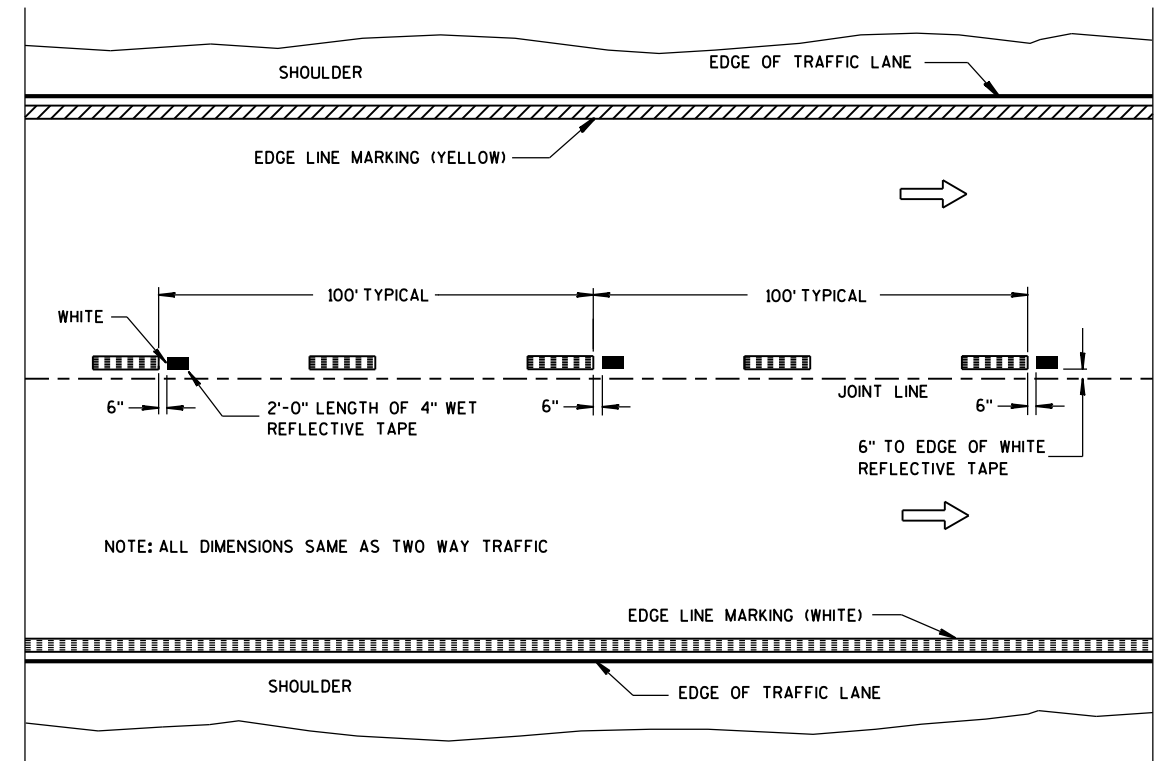
**GENERAL NOTES**

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**

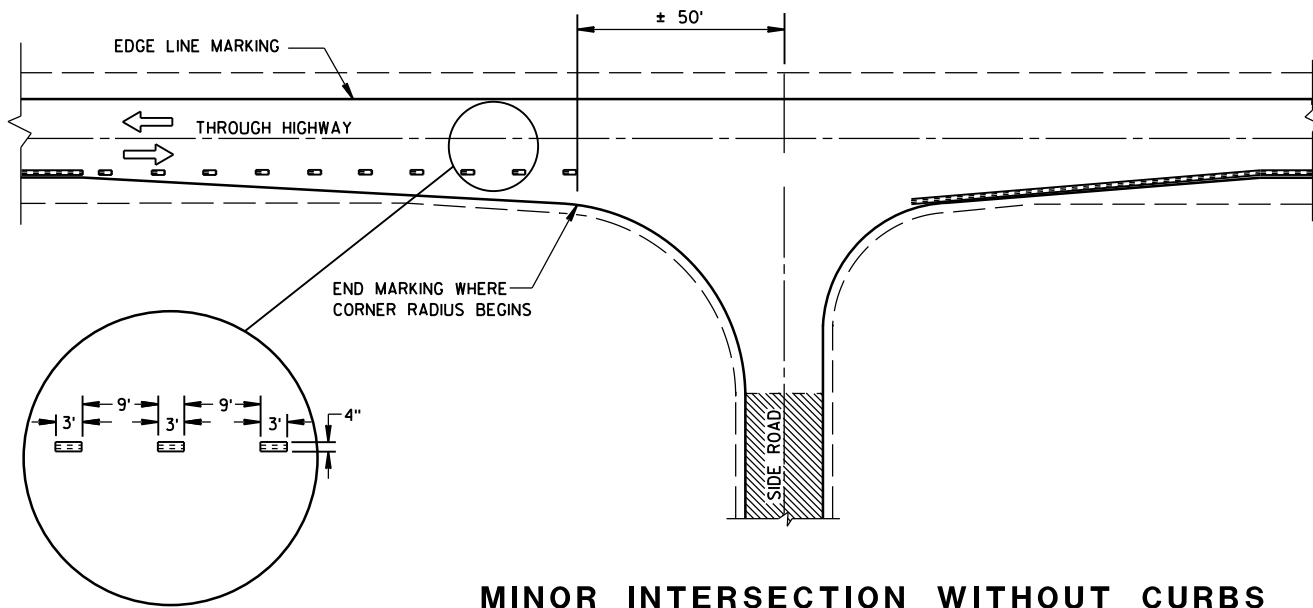
**LEGEND**

- "T" MARKING
- POST MOUNTED SIGN

**PAVEMENT MARKING  
(MAINLINE)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

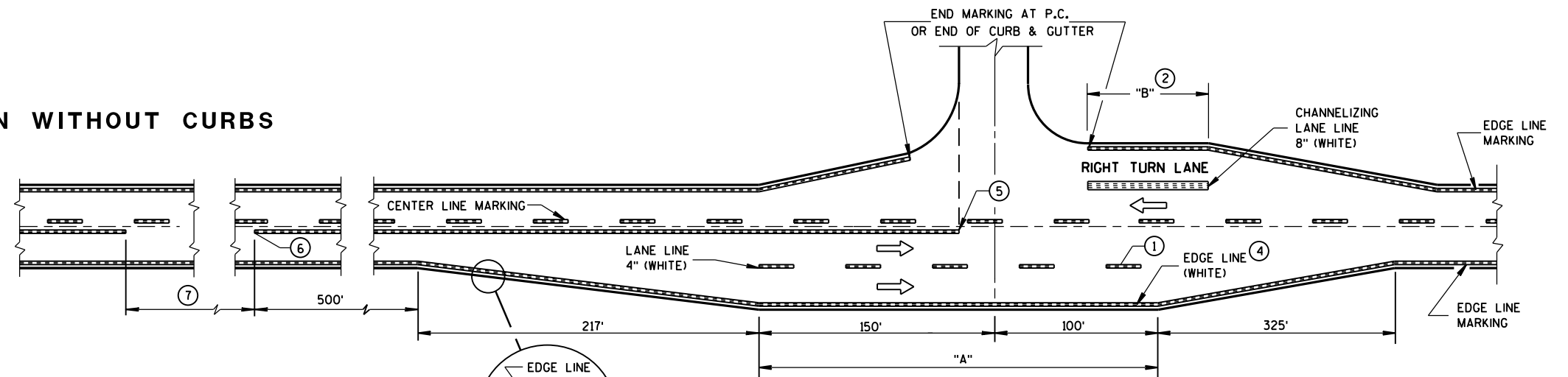
APPROVED  
5-13-2013 /S/ Travis Feltes  
DATE STATE TRAFFIC ENGINEER  
FHWA



**MINOR INTERSECTION WITHOUT CURBS**

⑦

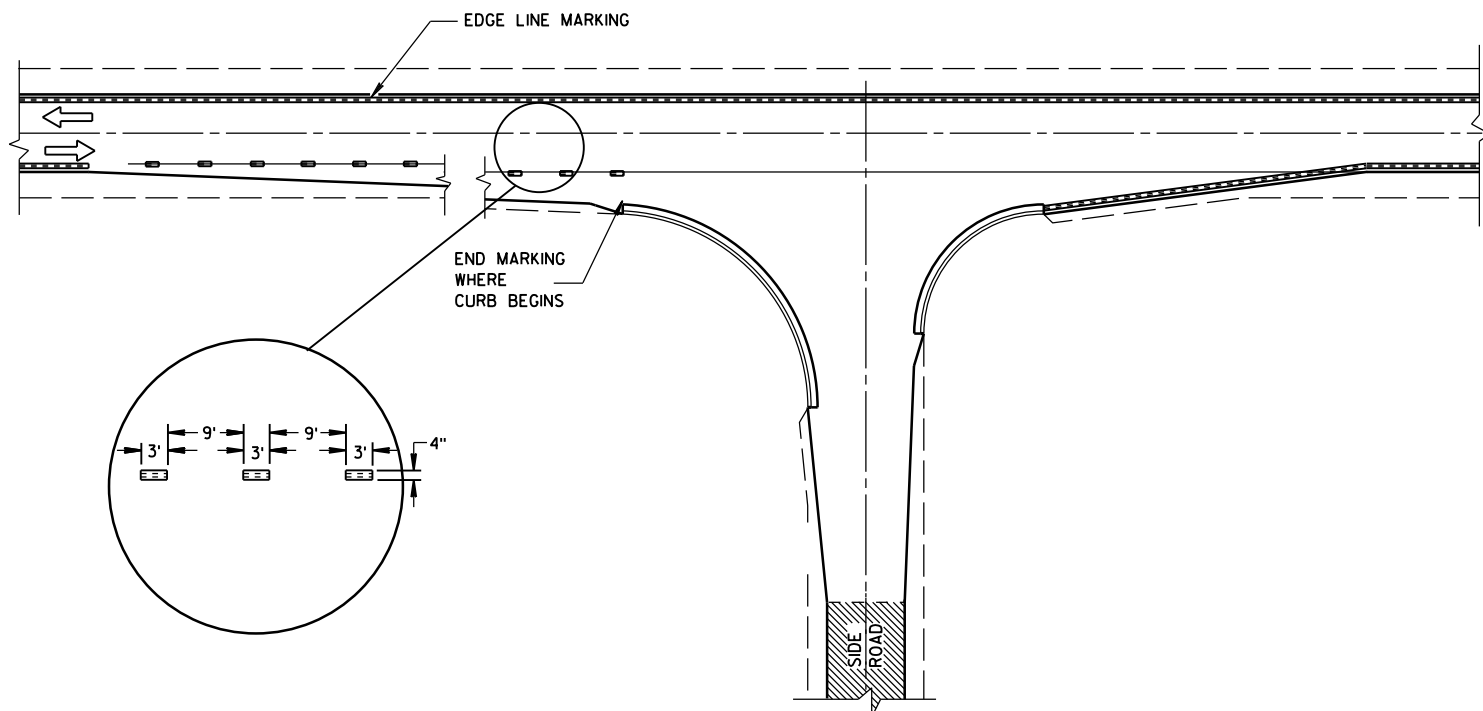
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



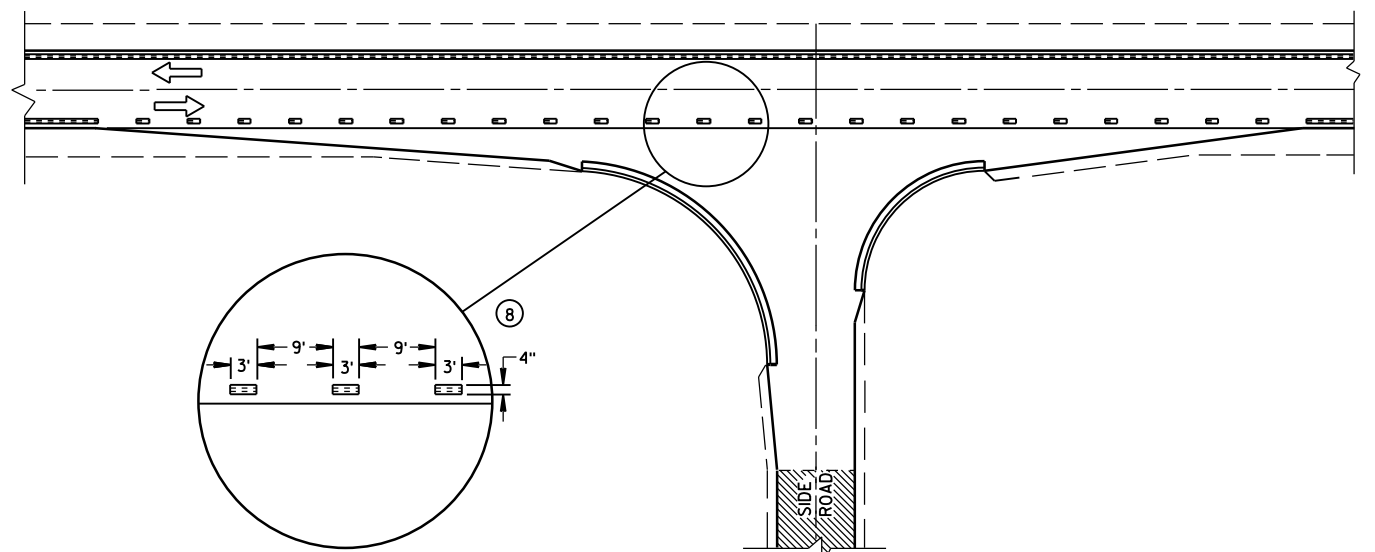
**MAJOR INTERSECTIONS  
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)**

**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



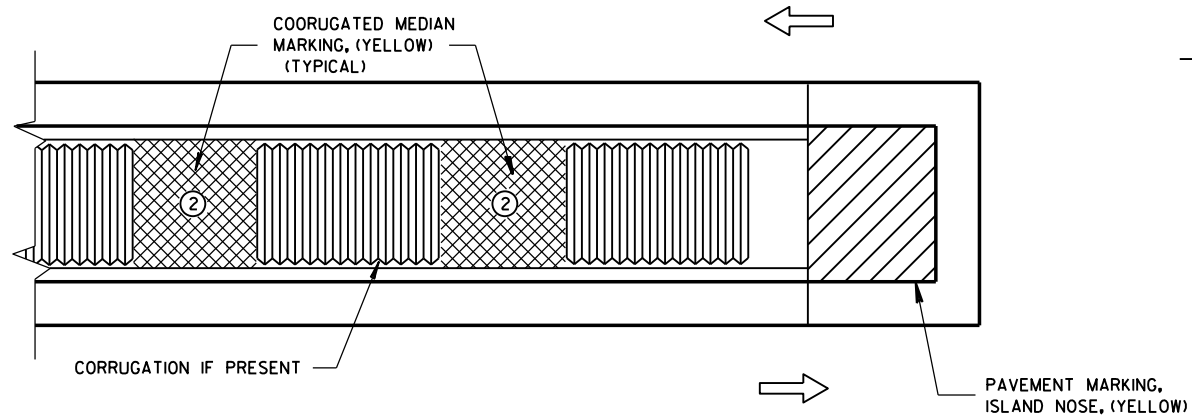
**MINOR INTERSECTION WITH CURBS  
(TYPICAL MARKING)**



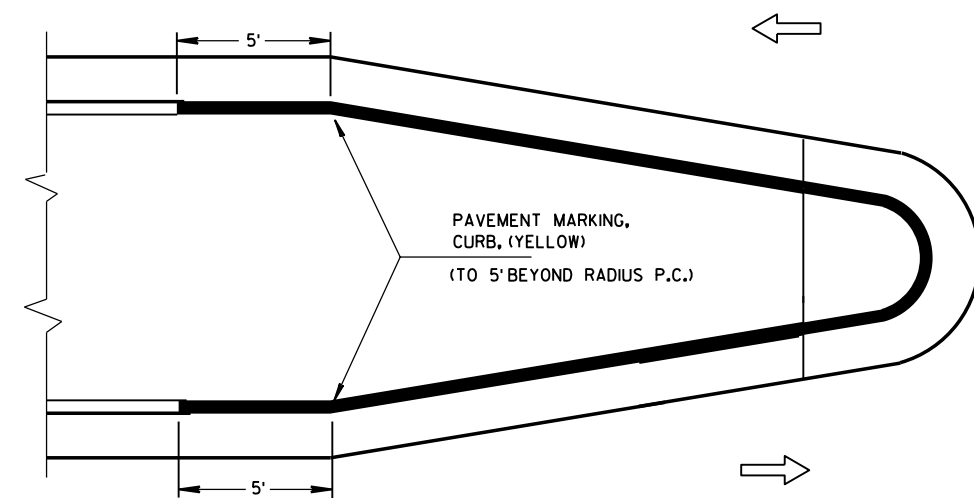
**MINOR INTERSECTION WITH CURBS  
③ (FOR SPECIAL CONDITIONS AS SPECIFIED)**

**PAVEMENT MARKING  
(INTERSECTIONS)**

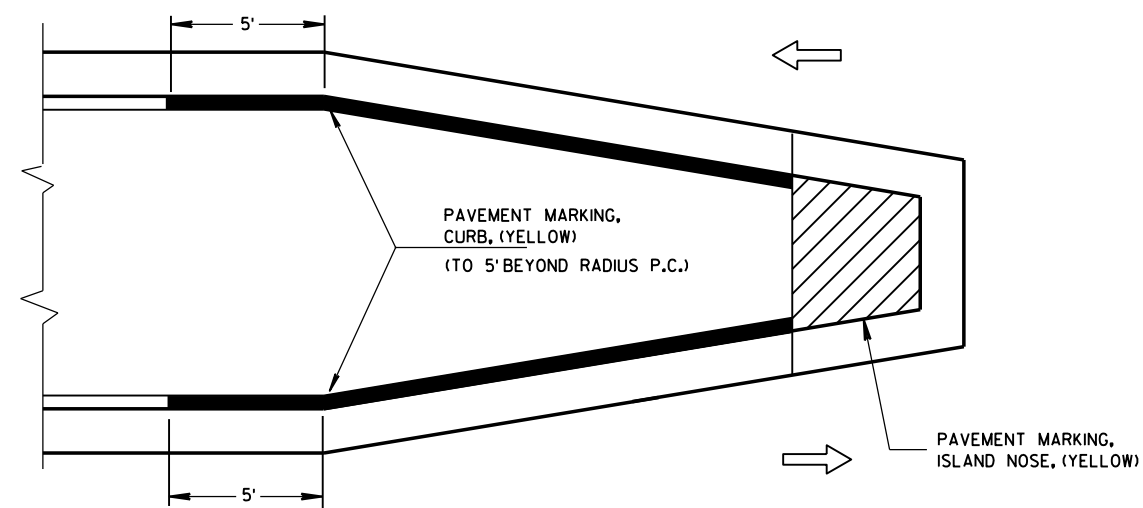
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**MEDIAN ISLAND WITH SQUARE BLUNT NOSE**

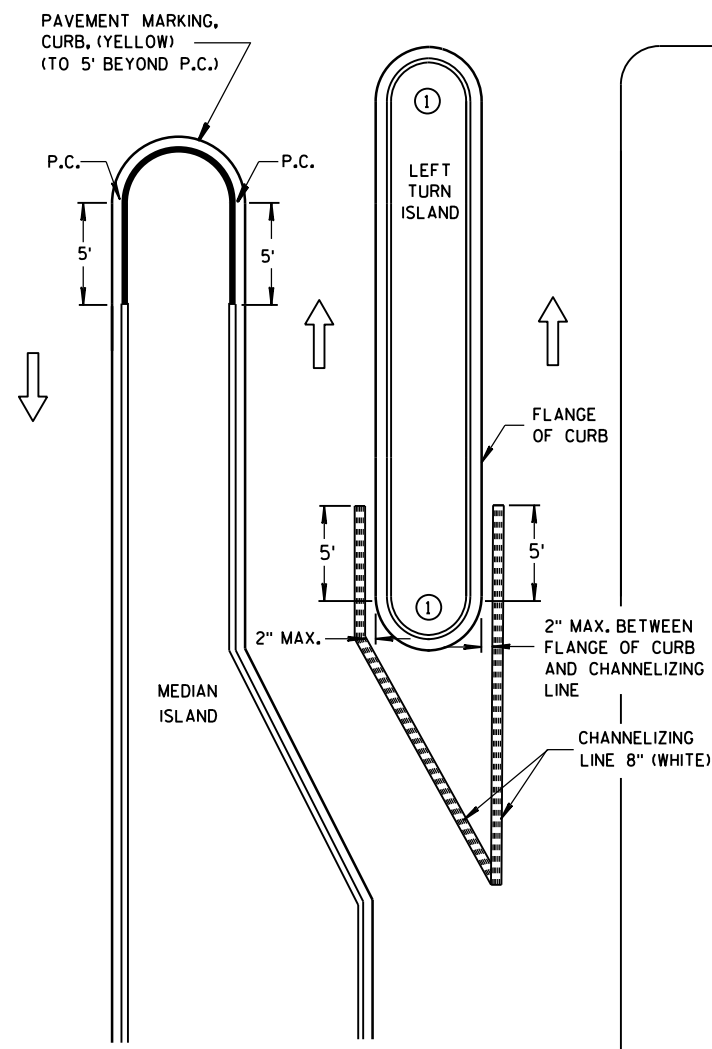


**MEDIAN ISLAND WITH ROUND BLUNT NOSE**



**MEDIAN ISLAND WITH SLOPED NOSE**

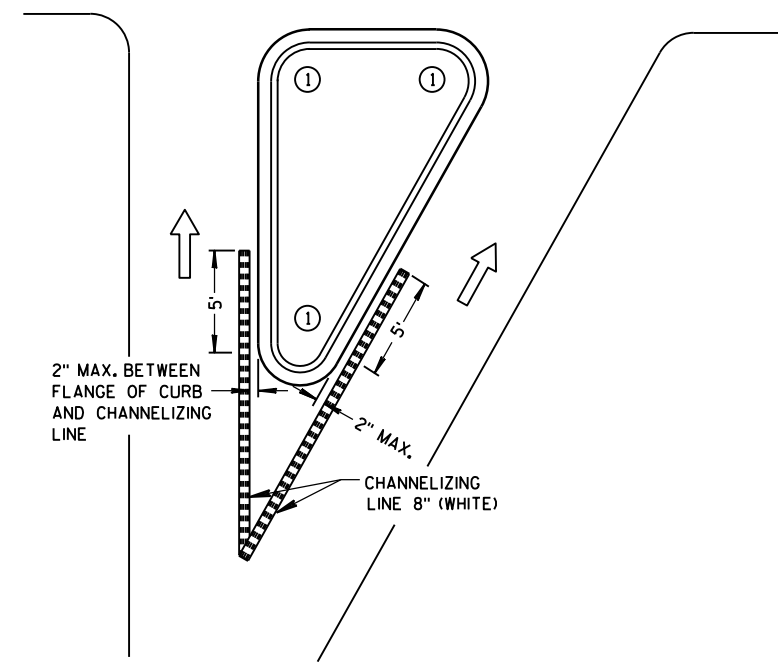
**TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS**



**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 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

**LEGEND**

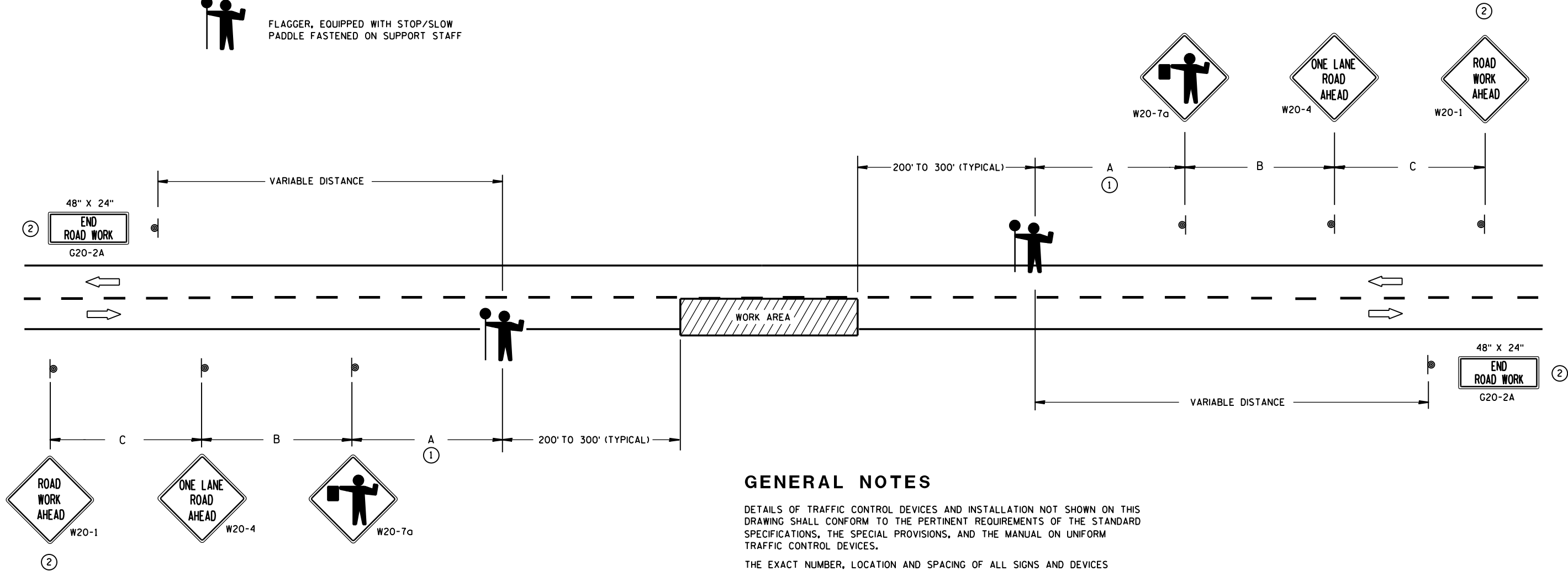
-  SIGN ON PORTABLE OR PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

**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.



**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.

- 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.

**TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE: 8/2013 /S/ Travis Feltes  
STATE TRAFFIC ENGINEER OF DESIGN

FHWA

### GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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

IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.



ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.






THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

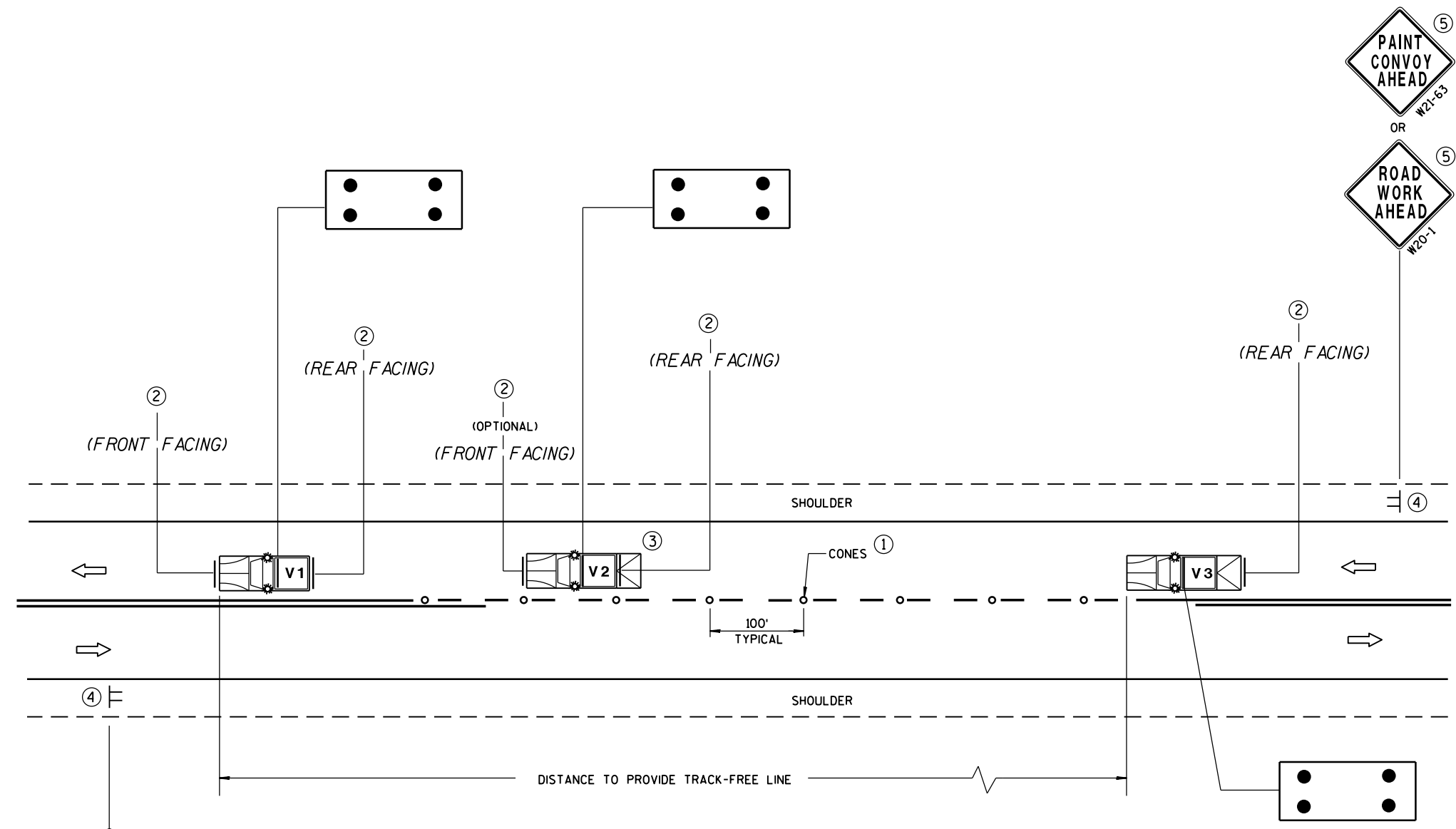
THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

- ① CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.
- ② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.  
 OR   
W21-64 W21-64
- ③ OPTIONAL TRUCK-MOUNTED ATTENUATOR.
- ④ SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.
- ⑤ IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

### LEGEND

- V1** LEAD VEHICLE
- V2** SHADOW VEHICLE
- V3** TRAIL VEHICLE WITH TMA
-  **TMA** TRUCK-MOUNTED ATTENUATOR
-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC
-  CONES
-  FLASHING ARROW PANEL (CAUTION)



## MOVING PAVEMENT MARKING OPERATIONS TWO-LANE TWO-WAY ROADWAY

<b>MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER
FHWA	

**GENERAL NOTES**

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.  
 ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.  
 ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.  
 IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.  
 ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

WHEN WORK ACTIVITY BLOCKS THE LEFT LANE, REVERSE TRAFFIC CONTROL.  
 WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.  
 FOR EDGELINE MARKING OR IF CONES ARE NOT USED, POSITION THE REARMOST SHADOW VEHICLE ON THE SHOULDER AS SHOWN IN THE MUTCD IF THE SHOULDER HAS ADEQUATE WIDTH. USE DOUBLE ARROWS WHEN CONVOY IS IN CENTER LANE ONLY.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

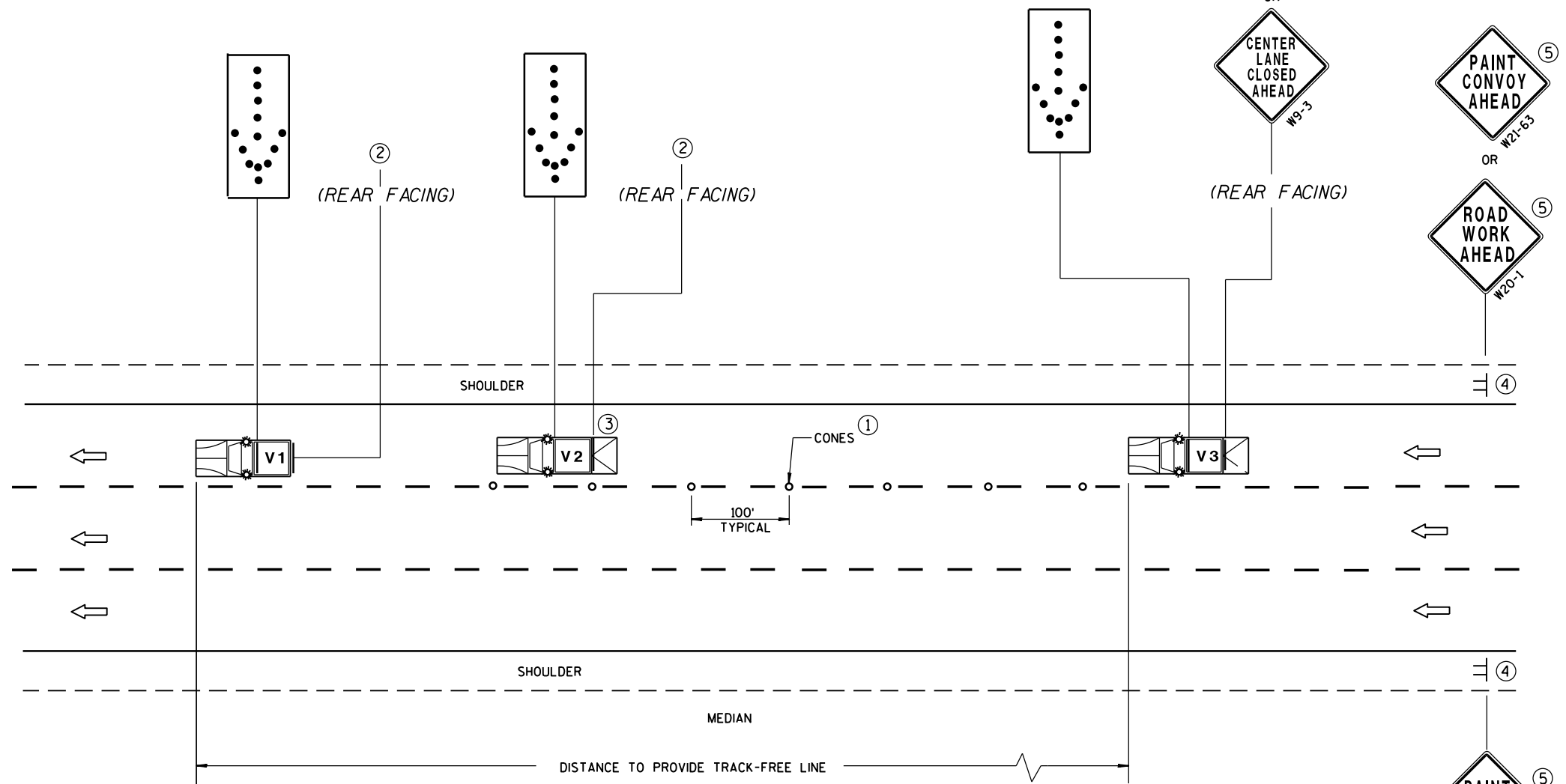
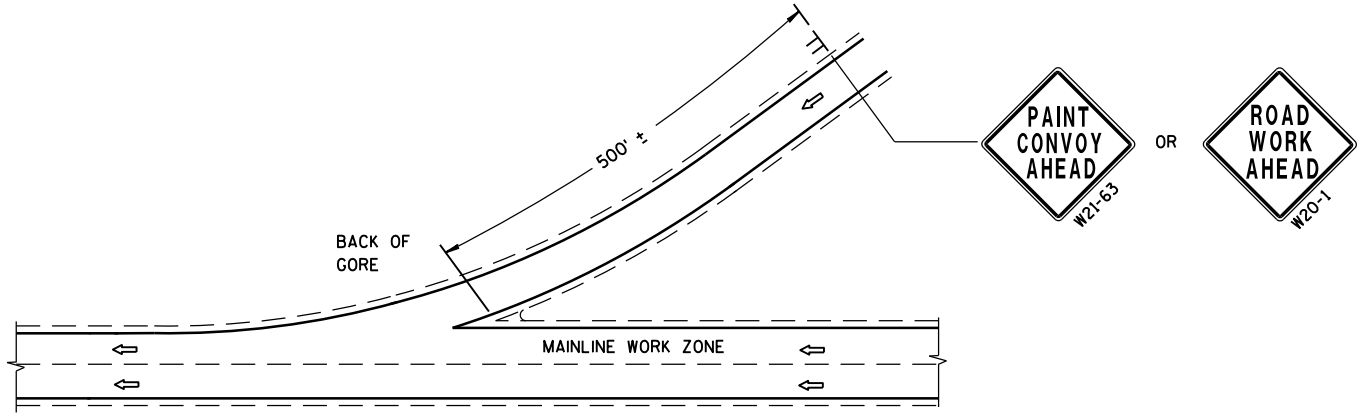
THIS DRAWING SHALL BE USED FOR EDGELINE OR LANELINE MARKING FOR MULTILANE DIVIDED ROADWAYS.

- ① CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.
  - ② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.
- OR

W21-64      W21-64
- ③ OPTIONAL TRUCK-MOUNTED ATTENUATOR.
  - ④ SIGNS SHALL BE REPEATED AFTER EVERY ON RAMP OR EVERY THREE MILES.
  - ⑤ IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

**LEGEND**

- V 1** LEAD VEHICLE
- V 2** SHADOW VEHICLE
- V 3** TRAIL VEHICLE WITH TMA
- TMA** TRUCK-MOUNTED ATTENUATOR
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- CONES
- FLASHING ARROW PANEL (MERGE)



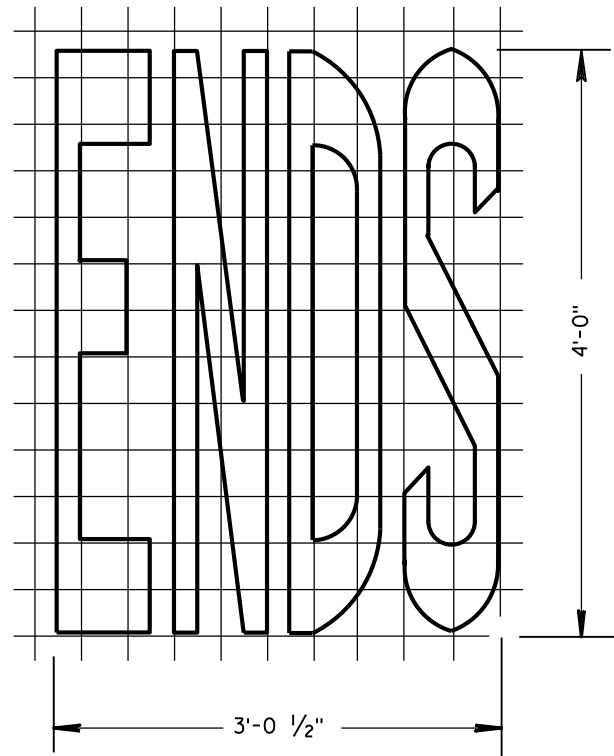
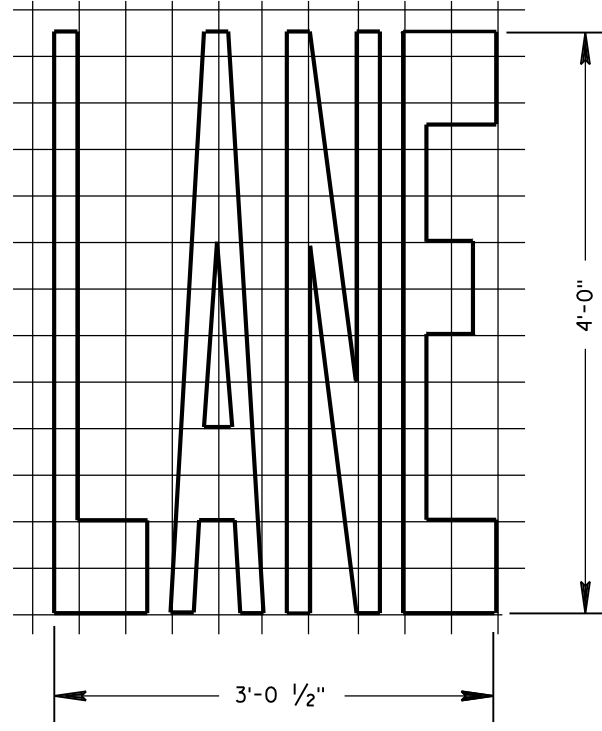
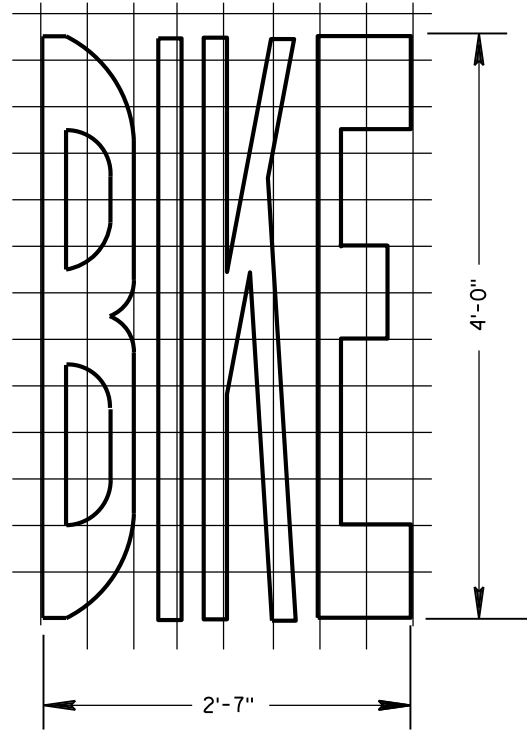
**MOVING PAVEMENT MARKING OPERATIONS  
 MULTI-LANE DIVIDED ROADWAY**

<b>MOVING PAVEMENT MARKING          OPERATION          MULTI-LANE DIVIDED ROADWAY</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 5/3/2013 DATE	/s/ Travis Feltes STATE TRAFFIC ENGINEER
<small>FHWA</small>	

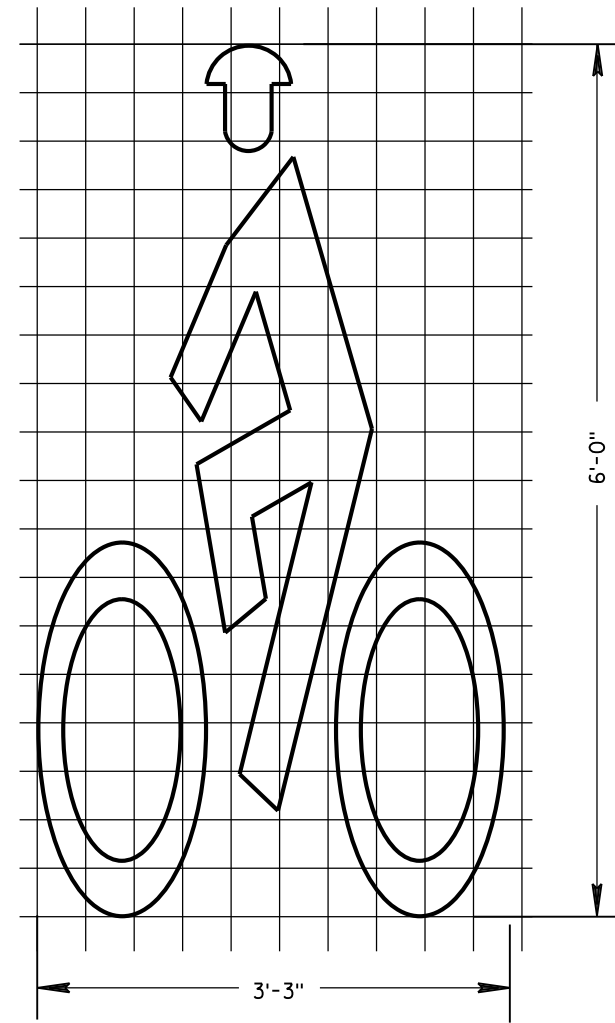
**GENERAL NOTES**

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.

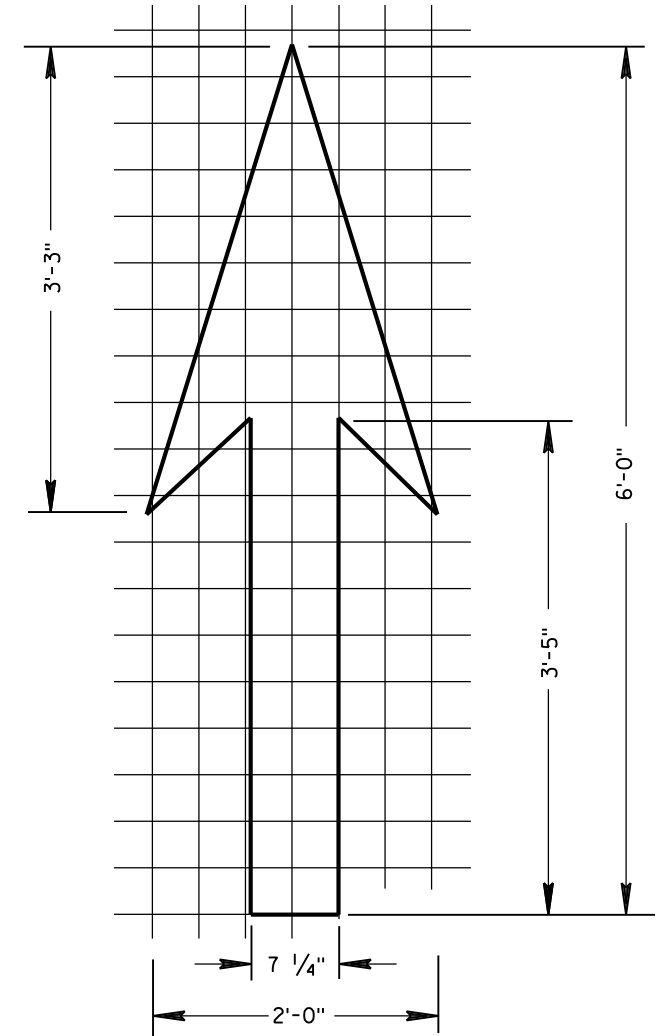
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



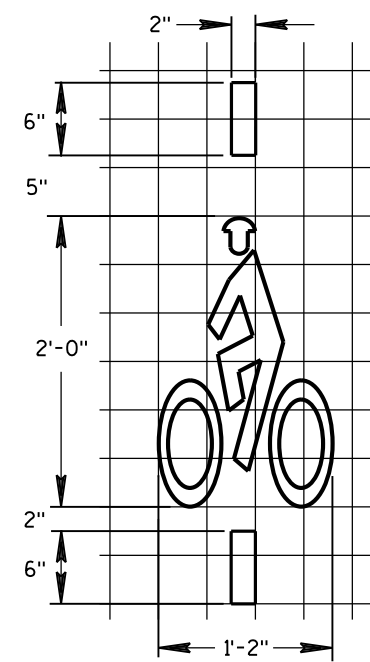
**BIKE LANE WORDS**



**BIKE LANE SYMBOL**



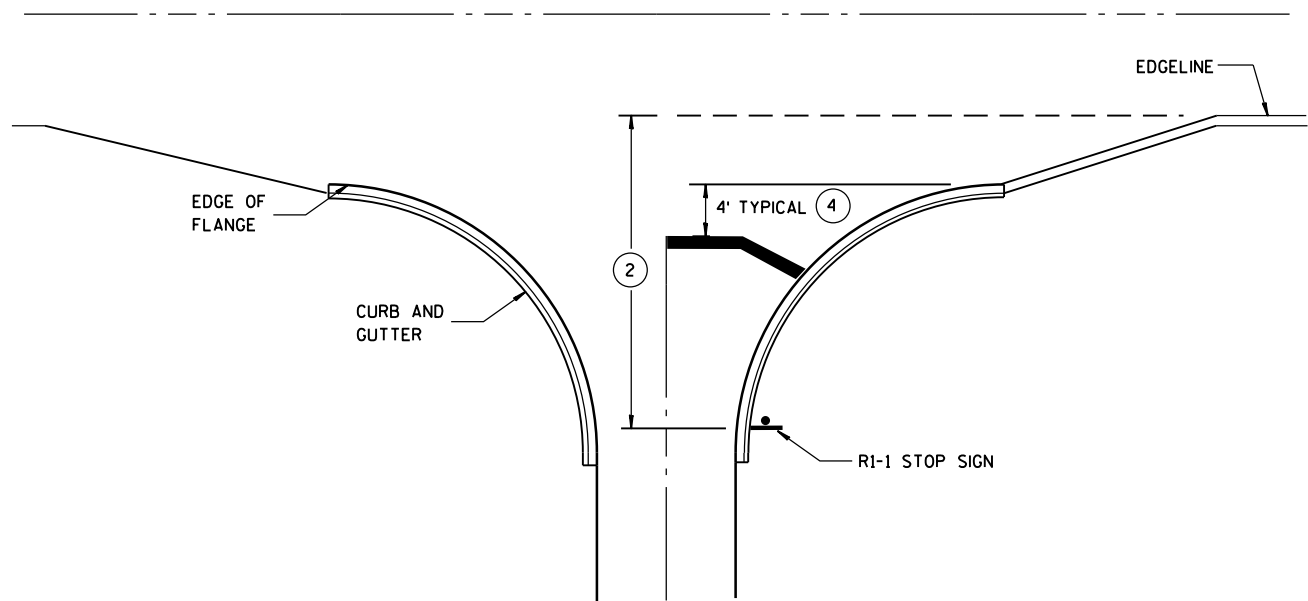
**BIKE LANE ARROW**



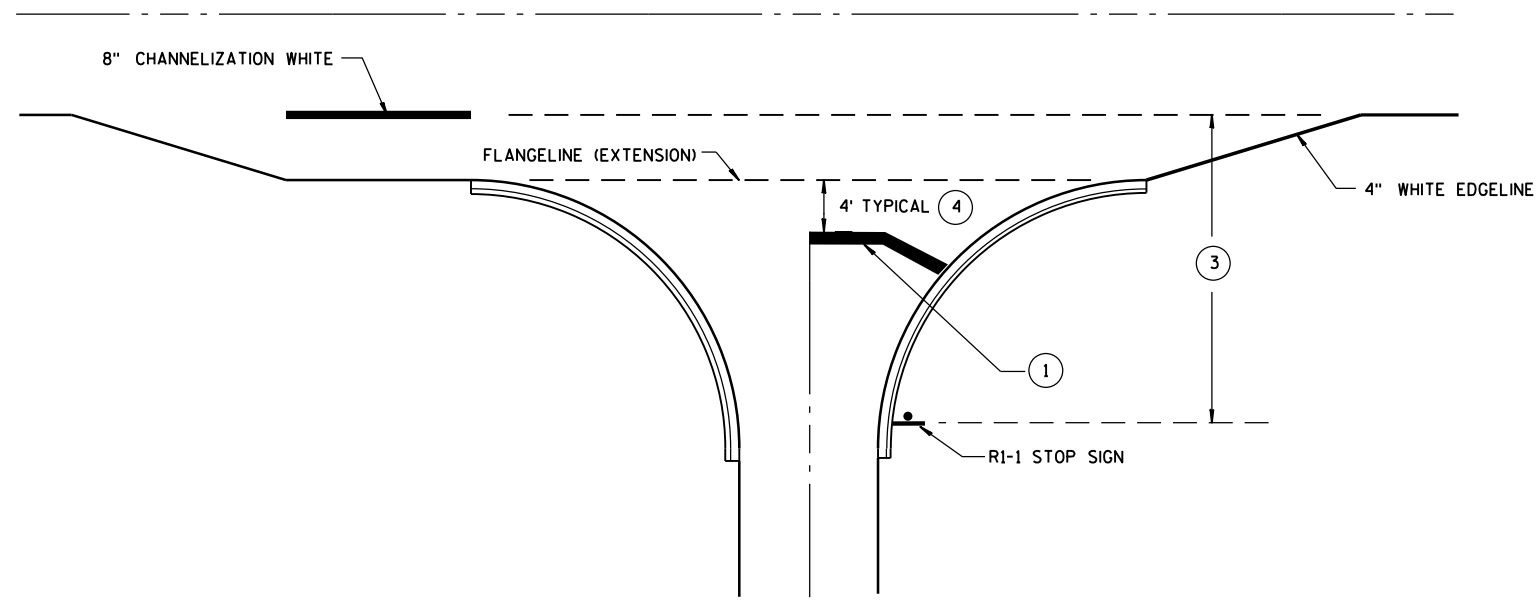
**BICYCLE DETECTOR PAVEMENT MARKING**

<b>PAVEMENT MARKING FOR BIKE LANES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-30-2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER
FHWA	

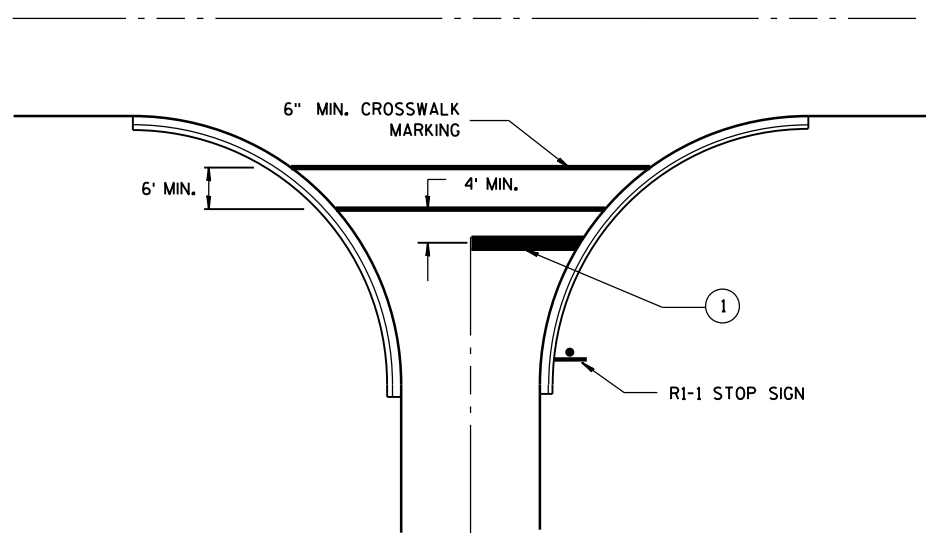




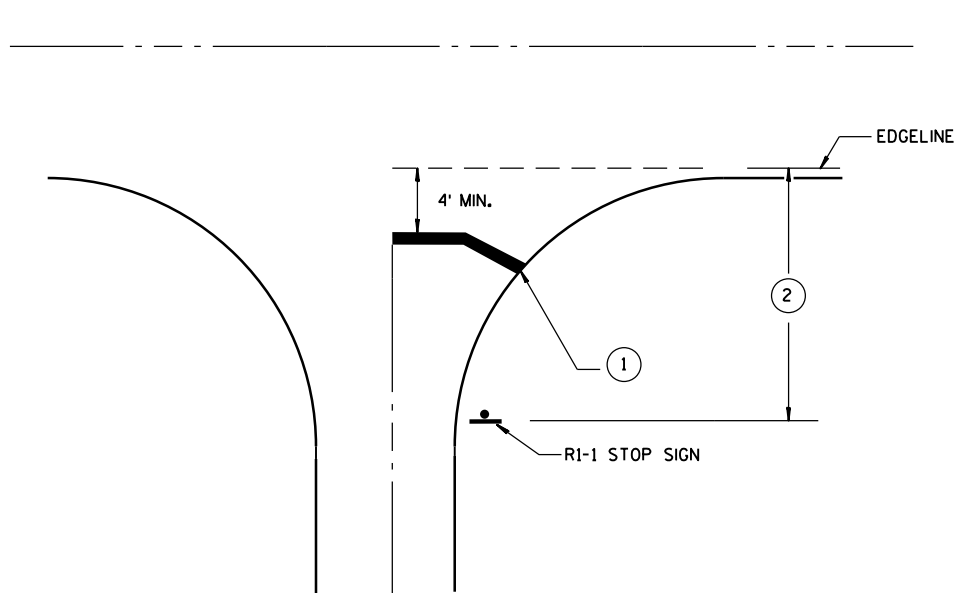
**TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER**



**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  
DATE 4/30/2013 /S/ Travis Feltes  
STATE TRAFFIC ENGINEER  
FHWA

**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
-  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.

"W0" 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.

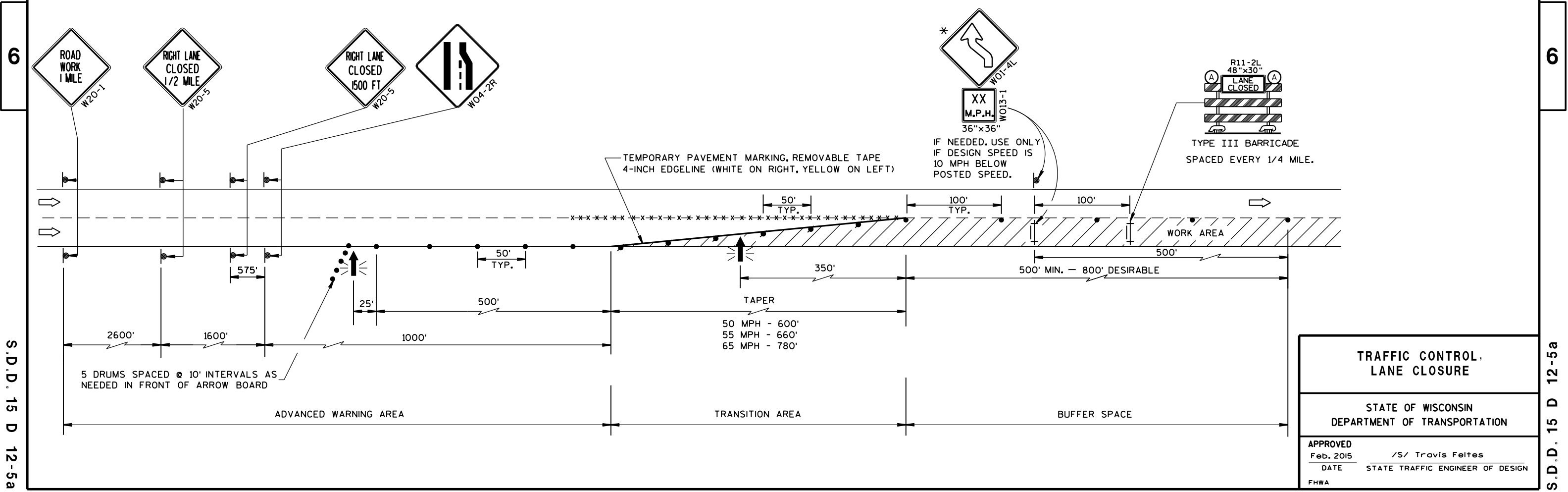
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

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.

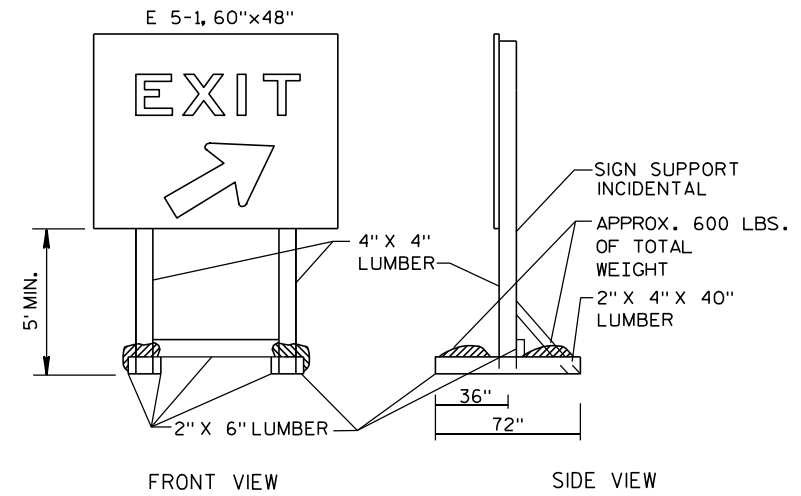
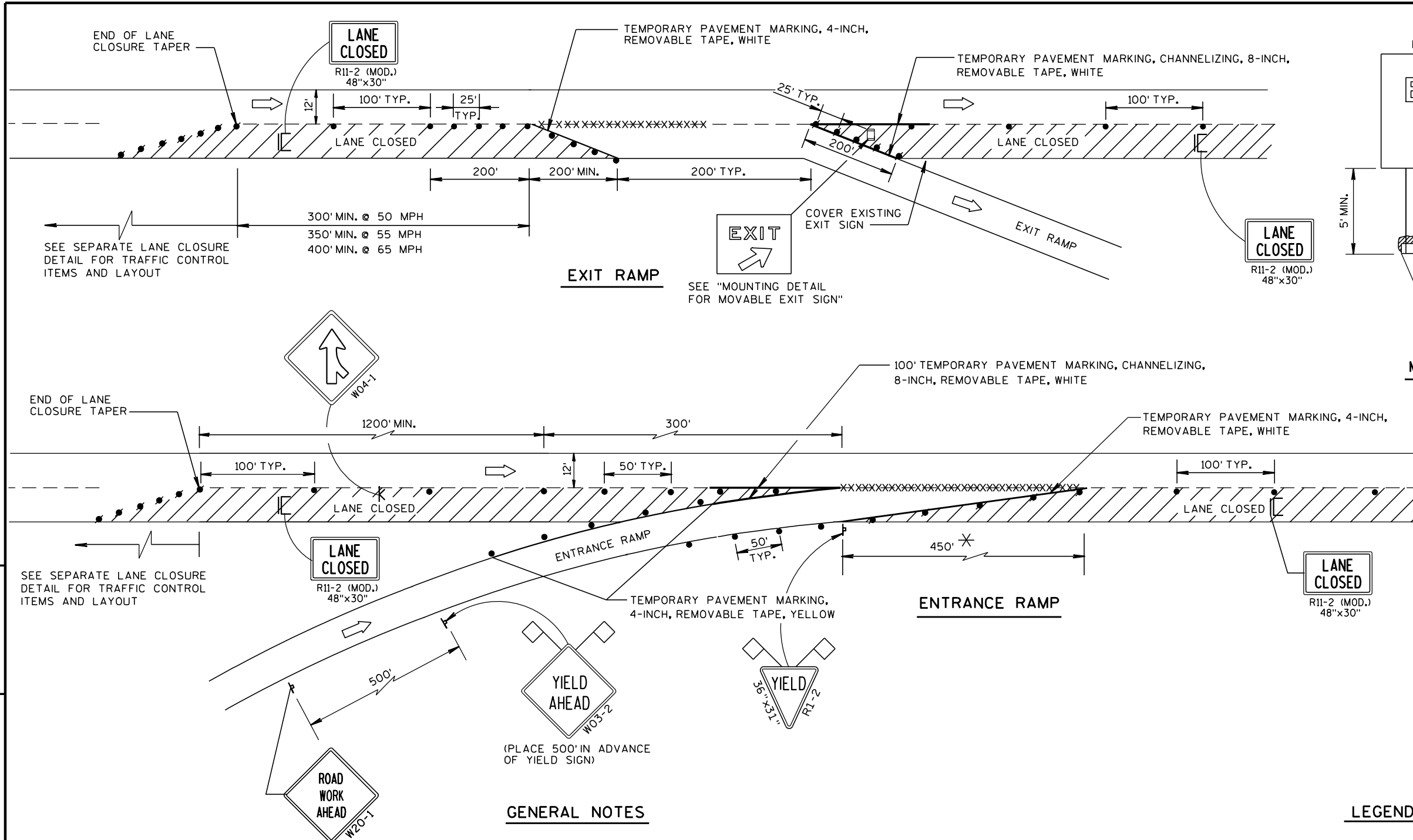
ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT 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 (W01-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.



S.D.D. 15 D 12-5a

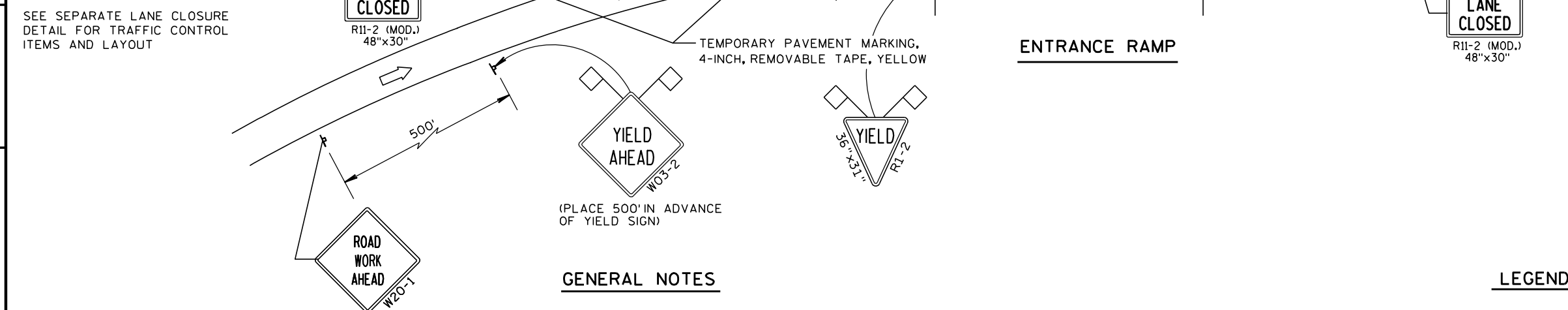
S.D.D. 15 D 12-5a



FRONT VIEW SIDE VIEW  
NOTE: ALL LUMBER DIMENSIONS ARE NOMINAL  
**MOUNTING DETAIL FOR MOVABLE EXIT SIGN**

SEE SEPARATE LANE CLOSURE DETAIL FOR TRAFFIC CONTROL ITEMS AND LAYOUT

6



THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"W0" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2 (MOD.) "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

S.D.D. 15 D 15-1

**GENERAL NOTES**

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

\* LENGTH OF OPENING MAY BE REDUCED TO 150 FEET DURING STAGING OF WORK IN IMMEDIATE AREA OF RAMP TAPER.

**LEGEND**

- † POST MOUNTED SIGN
- ⌋ SIGN ON PORTABLE SUPPORT
- TRAFFIC CONTROL, DRUM
- ⚡ TRAFFIC CONTROL, DRUM WITH WARNING LIGHT, TYPE C (STEADY-BURN)
- \*\*\* REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- ⌈ TYPE III BARRICADE (8' EQUIVALENT) WITH SIGN
- ◇ FLAGS, 16"x16" MIN., ORANGE
- ➔ DIRECTION OF TRAFFIC FLOW

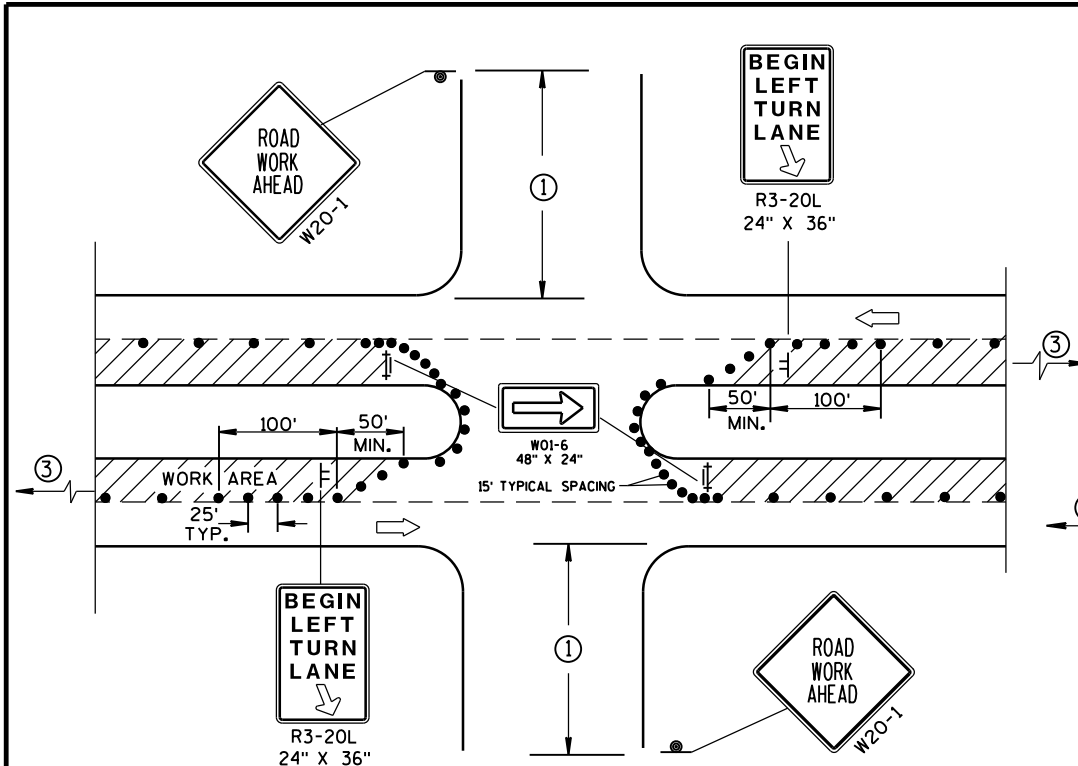
**TRAFFIC CONTROL,  
EXIT AND ENTRANCE RAMP  
WITHIN LANE CLOSURE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
5/24/2000 /S/ Chester J. Spang  
DATE CHIEF SIGNS AND MARKING ENGINEER  
FHWA

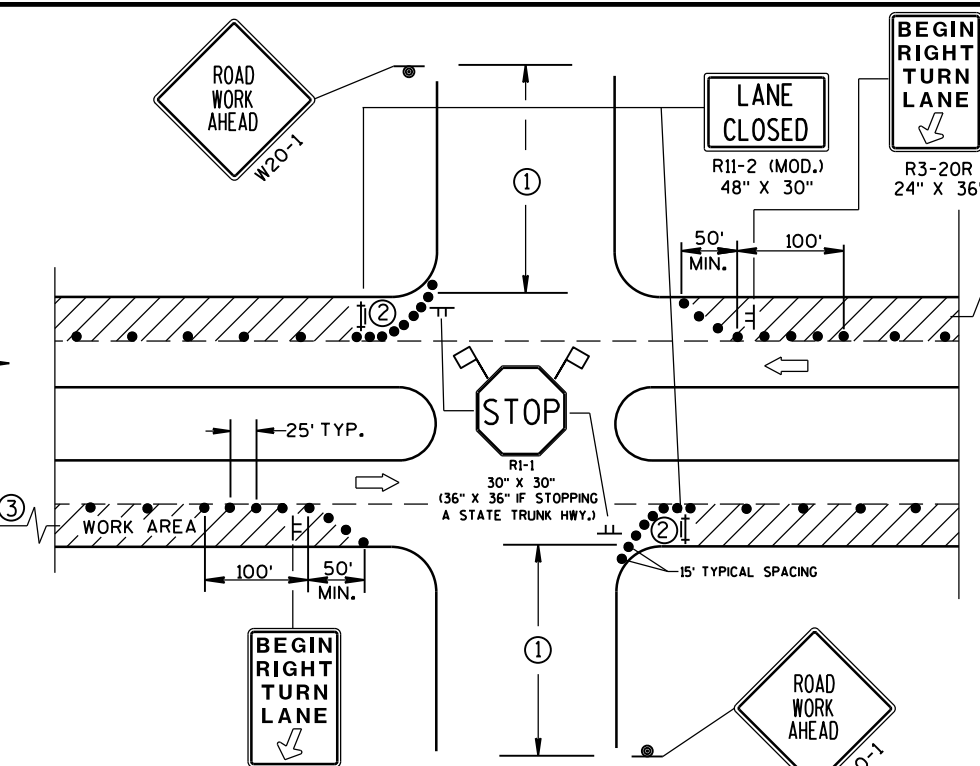
6

S.D.D. 15 D 15-1



**DETAIL A**  
**FOR LEFT LANE CLOSURE AT**  
**INTERSECTION OR MEDIAN OPENING**

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.



**DETAIL B**  
**FOR RIGHT LANE CLOSURE**  
**AT INTERSECTION**

**GENERAL NOTES**

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

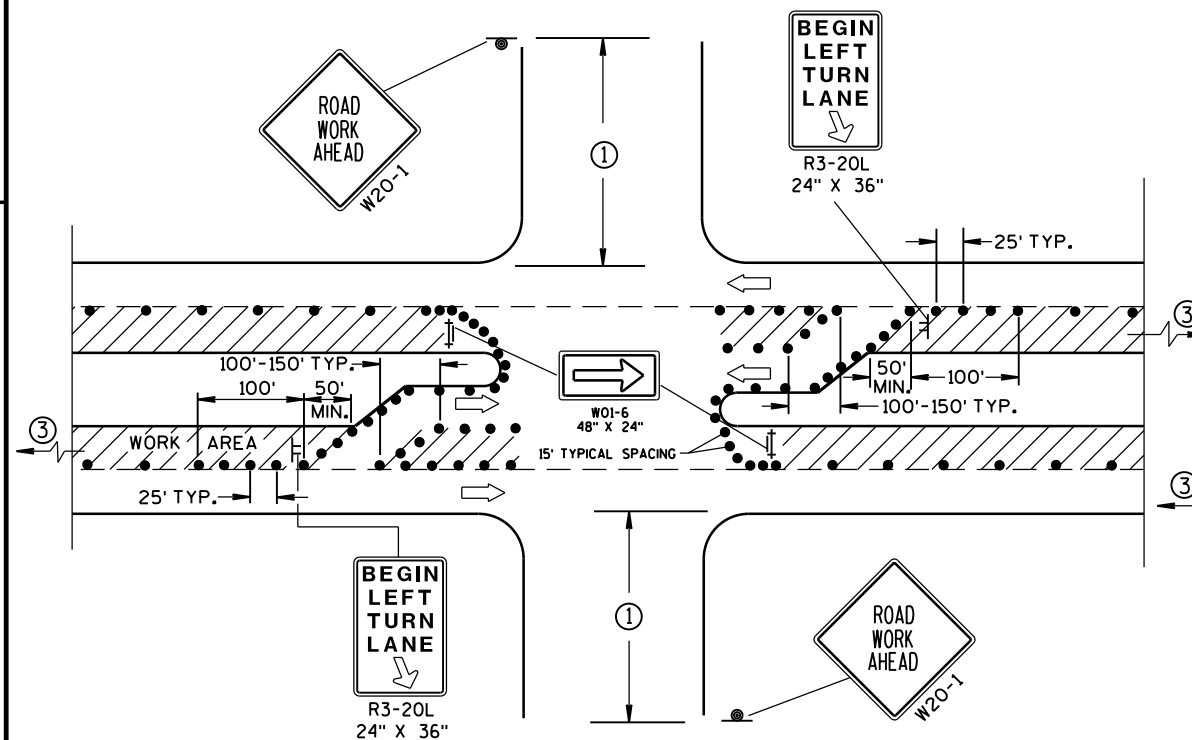
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

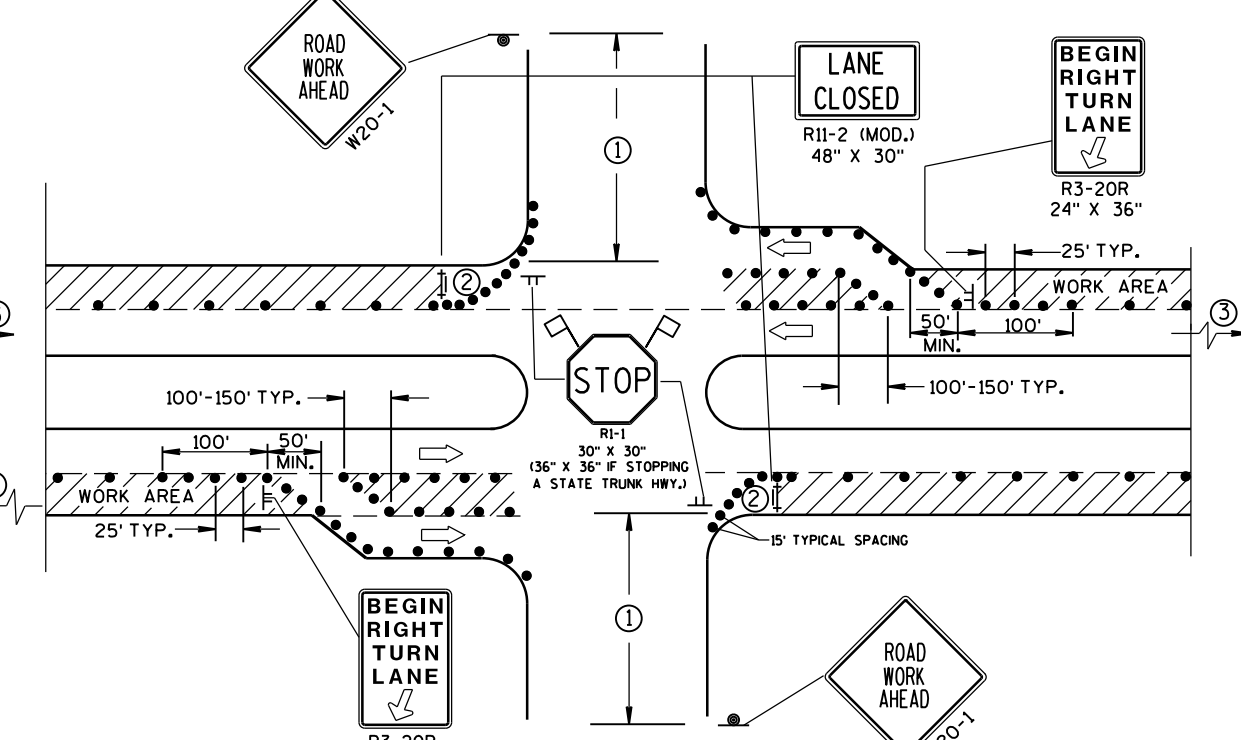
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

- ① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER. 350' IF 35-40 MPH. 200' IF 25-30 MPH.
- ② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.
- ③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.



**DETAIL C**  
**FOR LEFT LANE CLOSURE AT INTERSECTION OR**  
**MEDIAN OPENING (WITH LEFT TURN BAY OPEN)**



**DETAIL D**  
**FOR RIGHT LANE CLOSURE AT INTERSECTION**  
**(WITH RIGHT TURN BAY OPEN)**

**LEGEND**

- TRAFFIC CONTROL DRUM
- ⊙ SIGN ON PERMANENT SUPPORT
- ⊞ SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- ⊞ TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- ➡ DIRECTION OF TRAFFIC
- 🚩 FLAGS, 16" X 16" MIN., (ORANGE)
- ▨ WORK AREA

**TRAFFIC CONTROL,**  
**INTERSECTION WITHIN**  
**SINGLE LANE CLOSURE**

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

APPROVED  
 Nov. 2014 /S/ Travis Feltes  
 DATE STATE TRAFFIC ENGINEER OF DESIGN

FHWA

### GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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

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

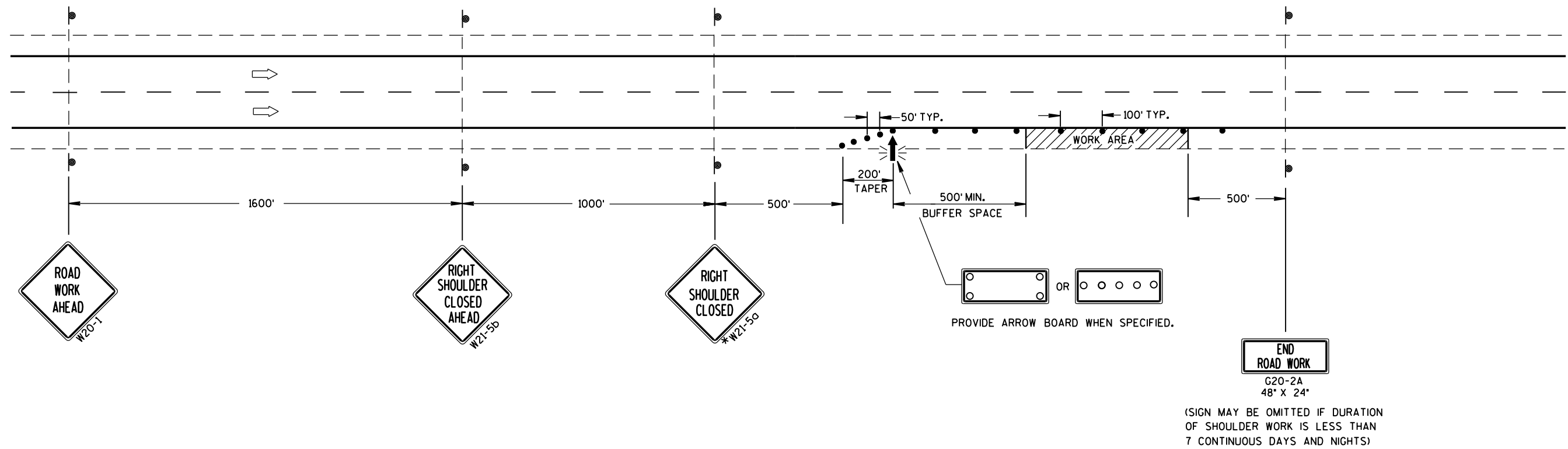
CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

\*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-50 SIGN MAY BE OMITTED.

### LEGEND

- TRAFFIC CONTROL DRUM
- ⊙ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ⚡➡ FLASHING ARROW BOARD
- ▨ WORK AREA



(SIGN MAY BE OMITTED IF DURATION OF SHOULDER WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS)

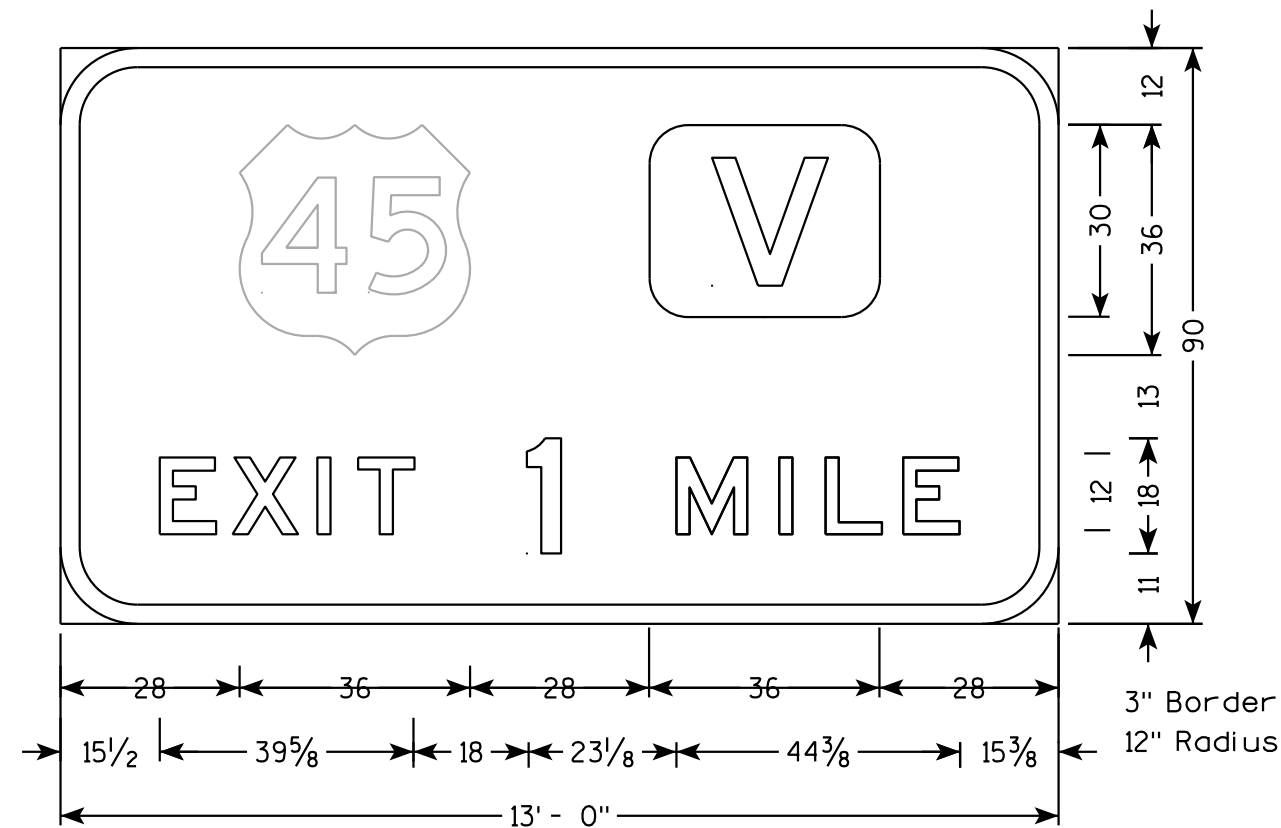
<b>TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

6

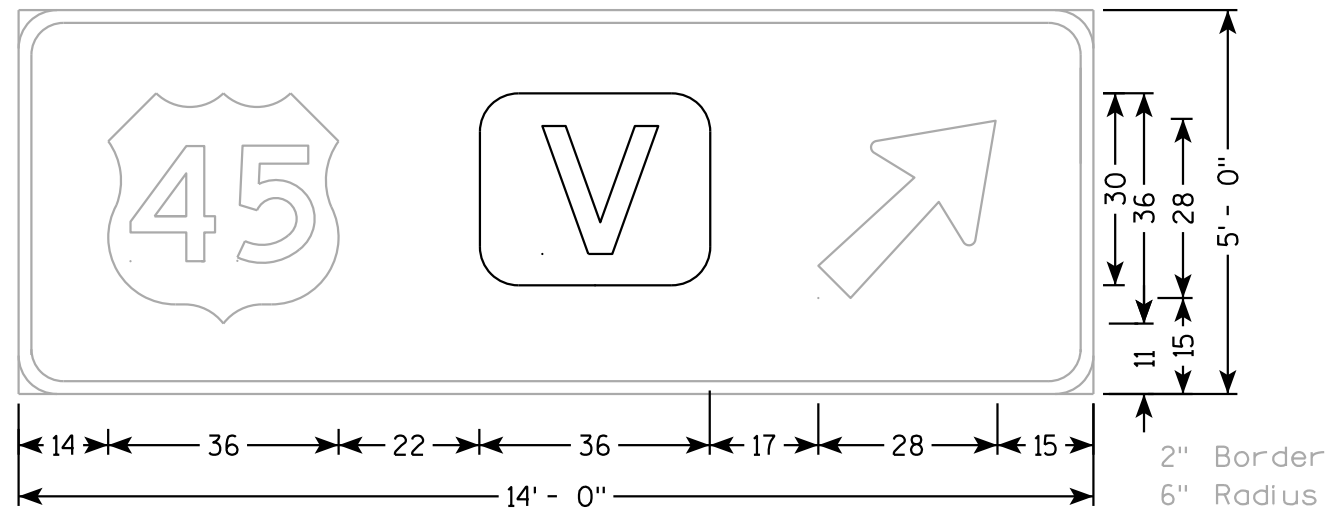
6

NOTES

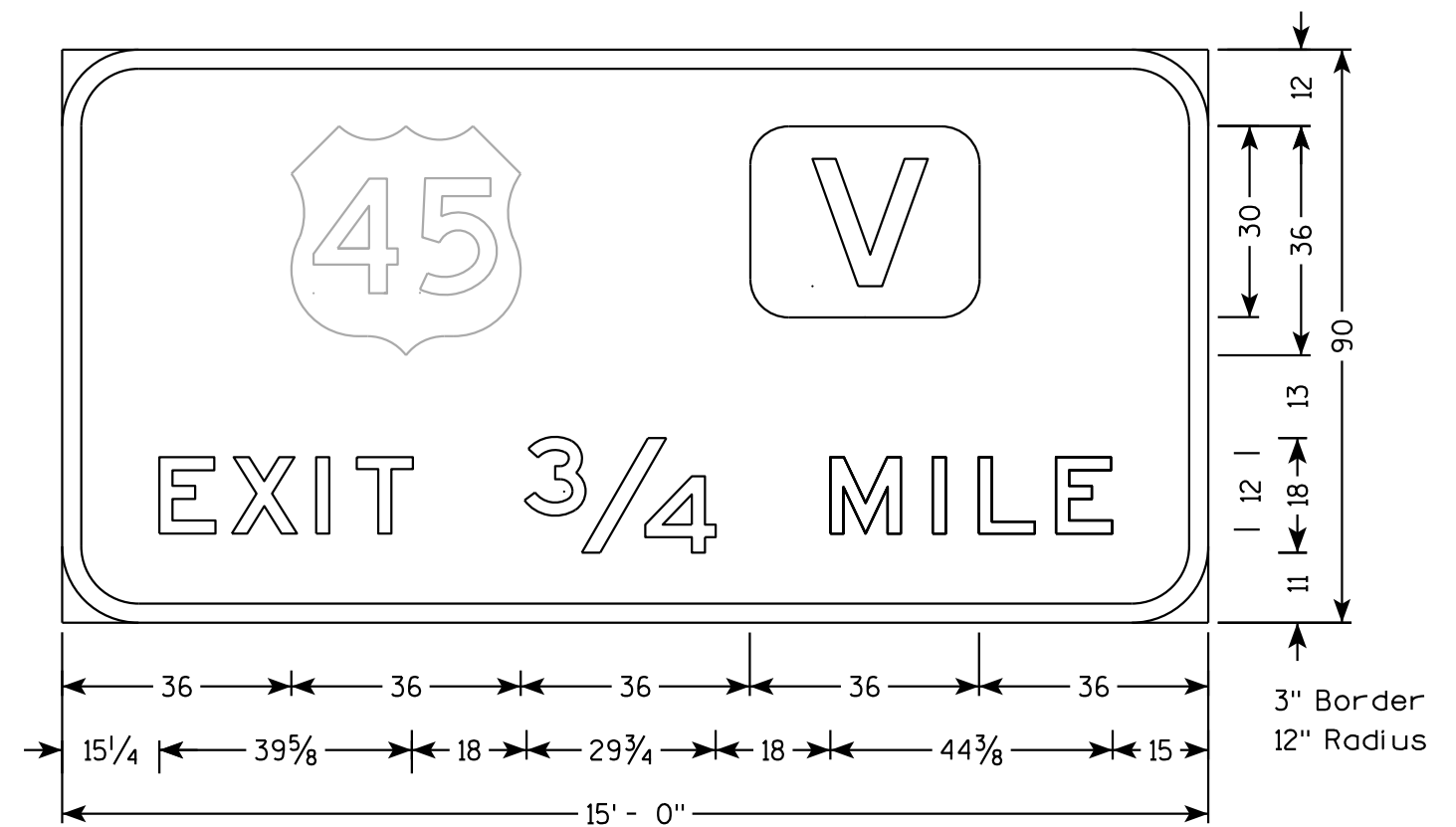
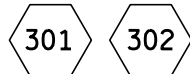
1. All Signs are Type I - Type SH Reflective
2. Color:  
Background - Green  
Message - White
3. Message Series - E Modified except all cap words are Series E



E1-1A



E6-1

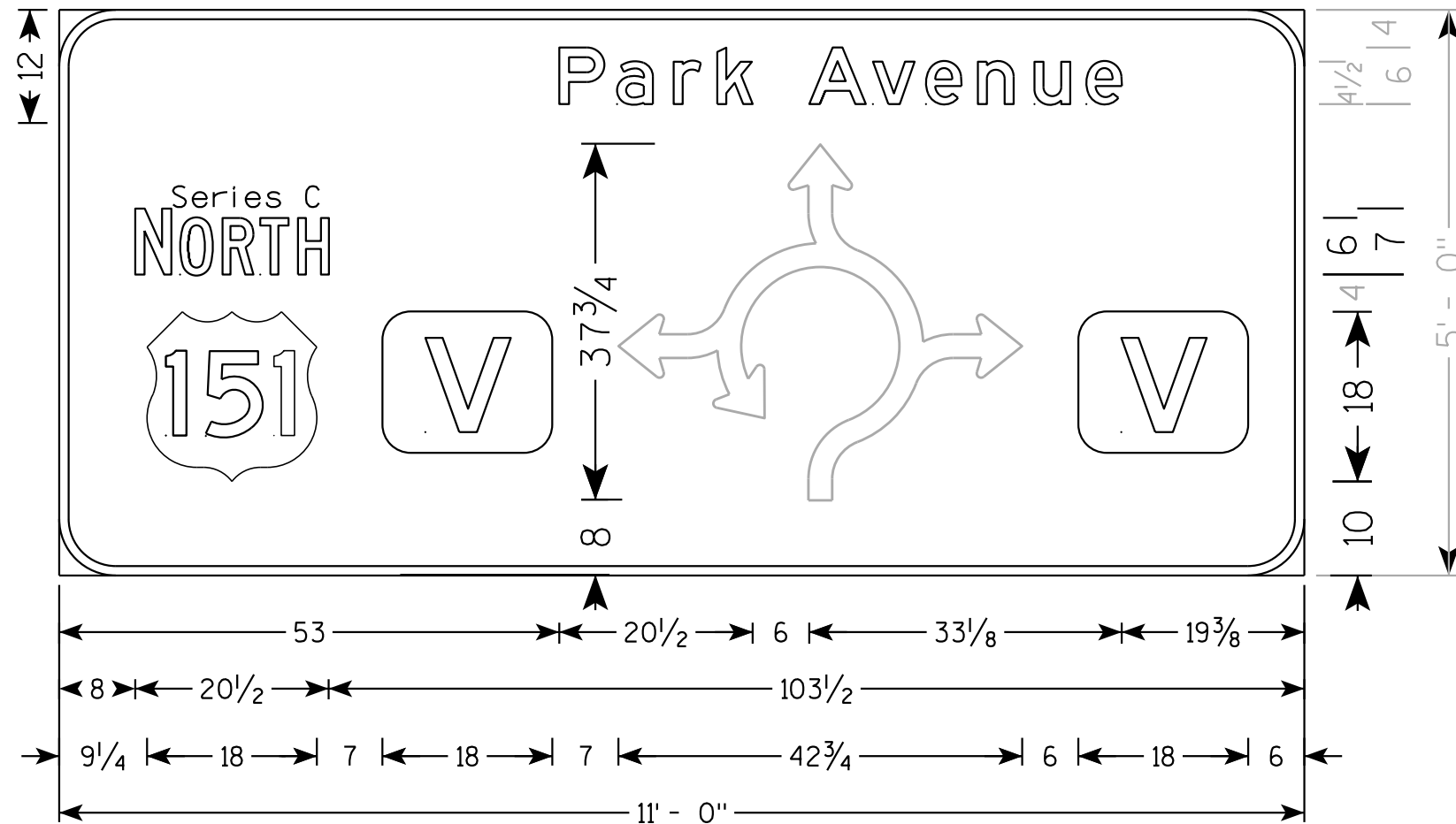


E1-1A

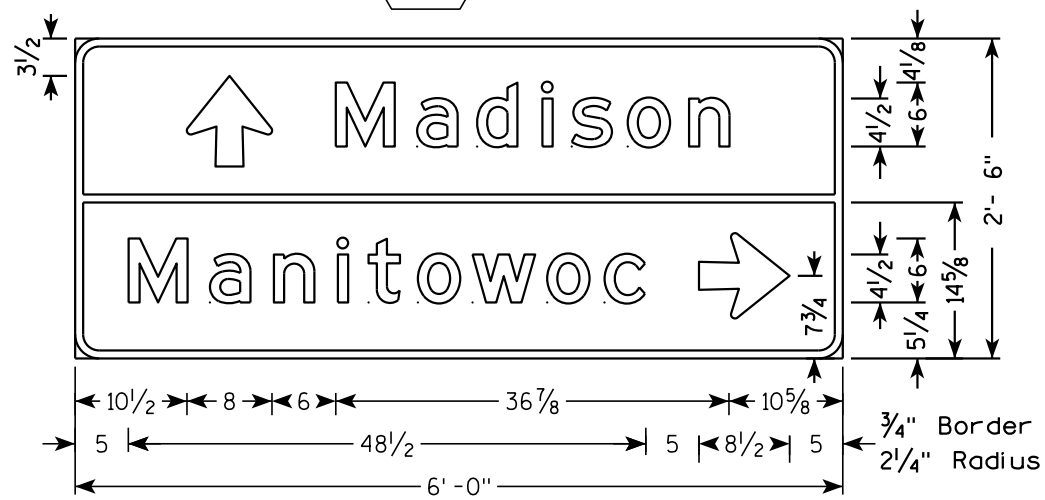


**NOTES**

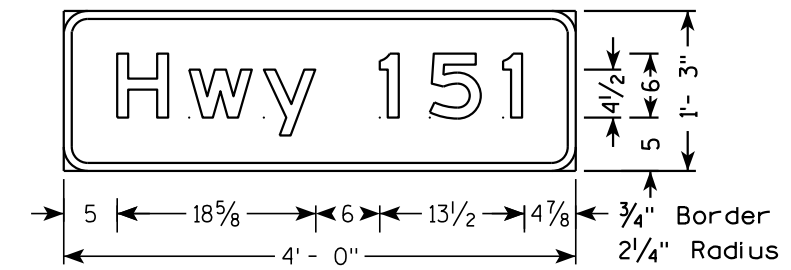
1. All Sign Type II - Type H Reflective
2. Color:  
Background - GREEN  
Message - WHITE
3. Message Series - E except as Shown



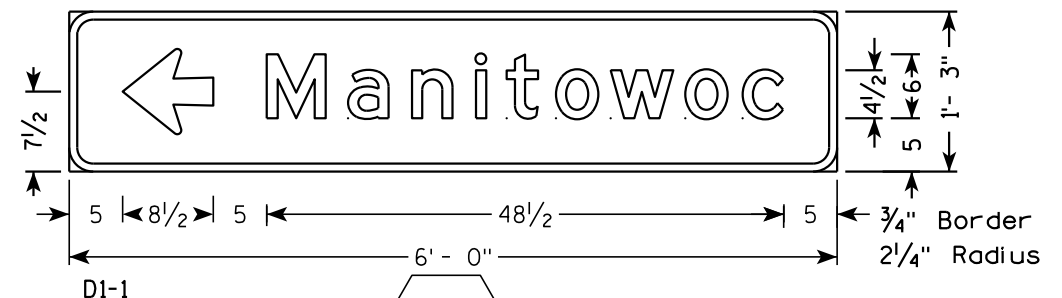
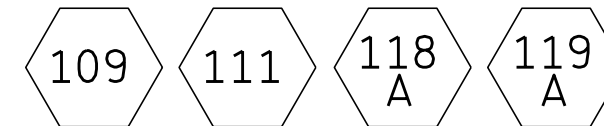
D1-62



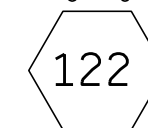
D1-2



MI-94

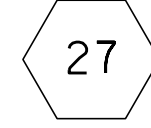
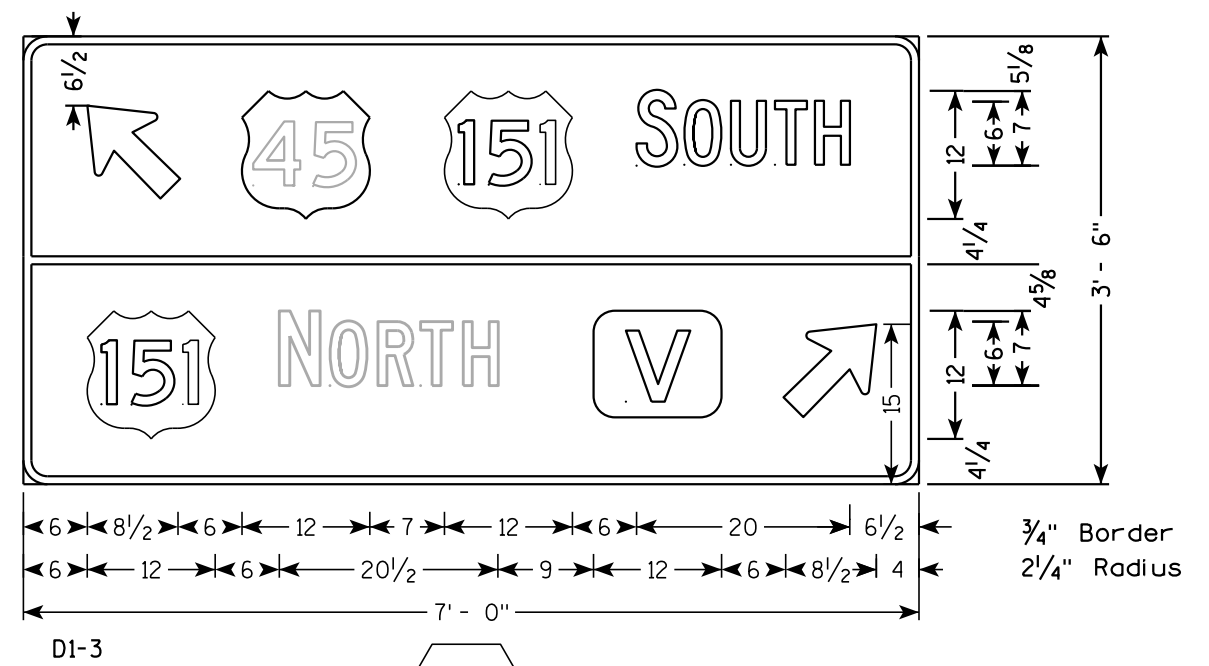
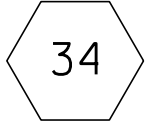
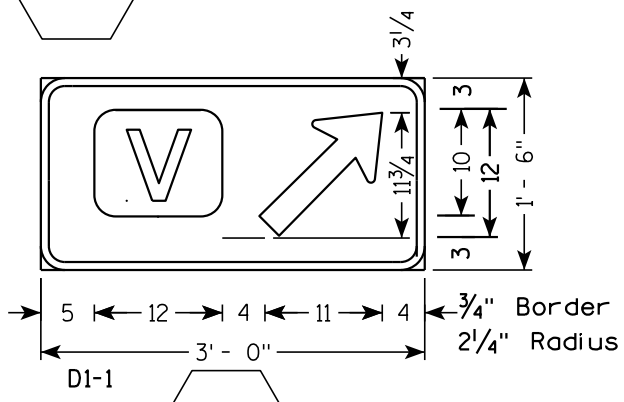
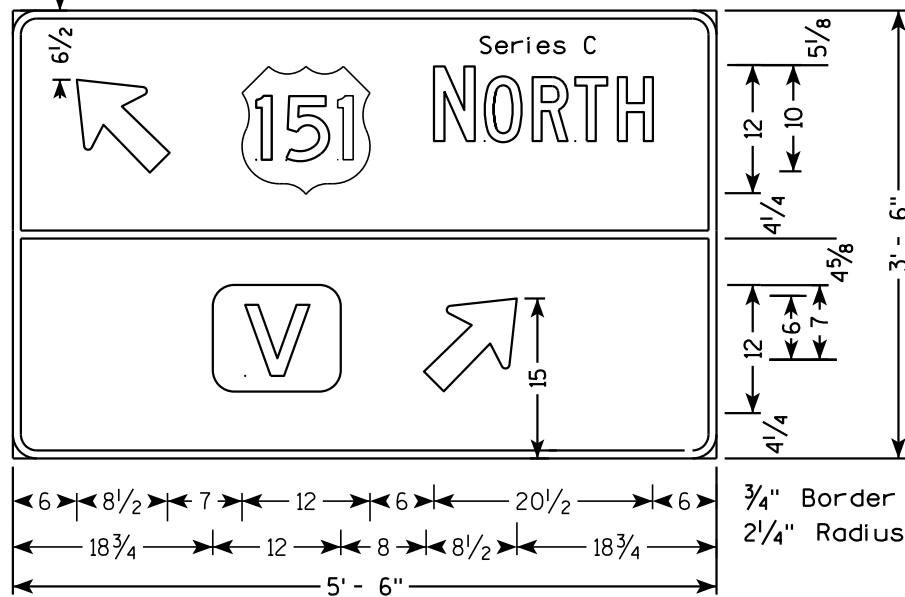
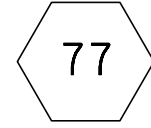
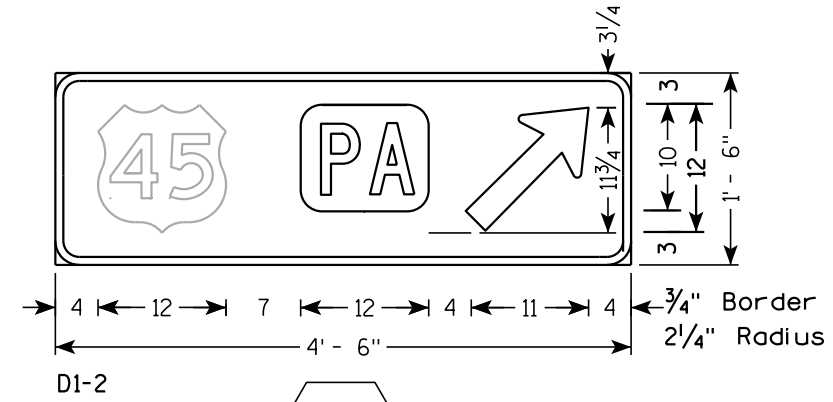
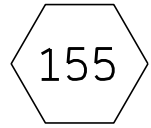
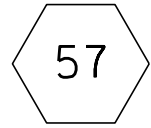
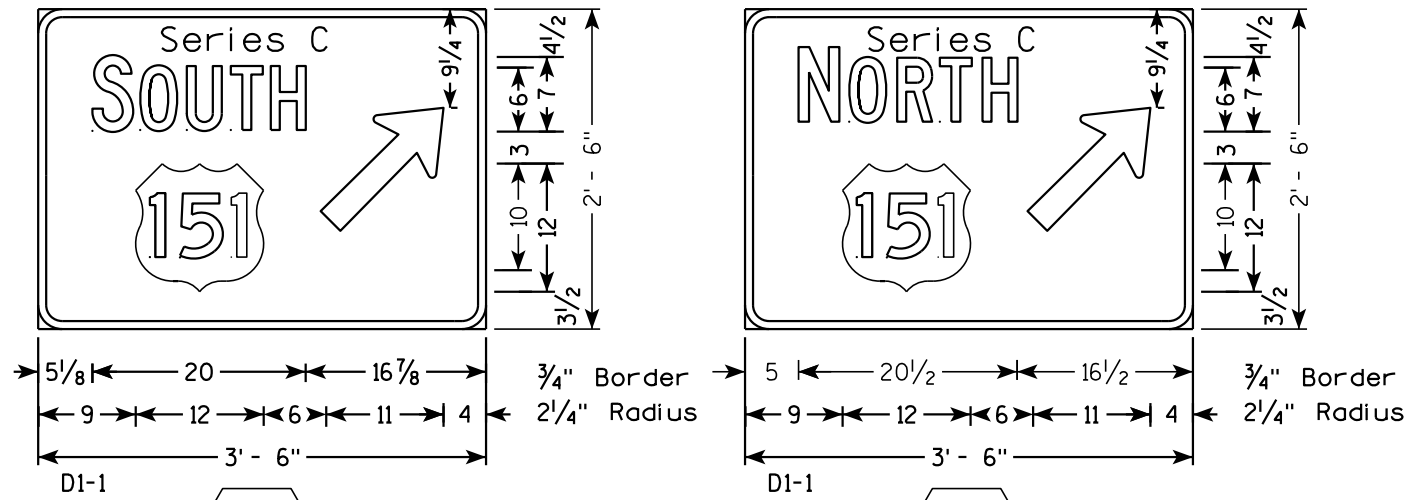


D1-1



**NOTES**

1. All Sign Type II - Type H Reflective
2. Color:  
Background - GREEN  
Message - WHITE
3. Message Series - E except as Shown



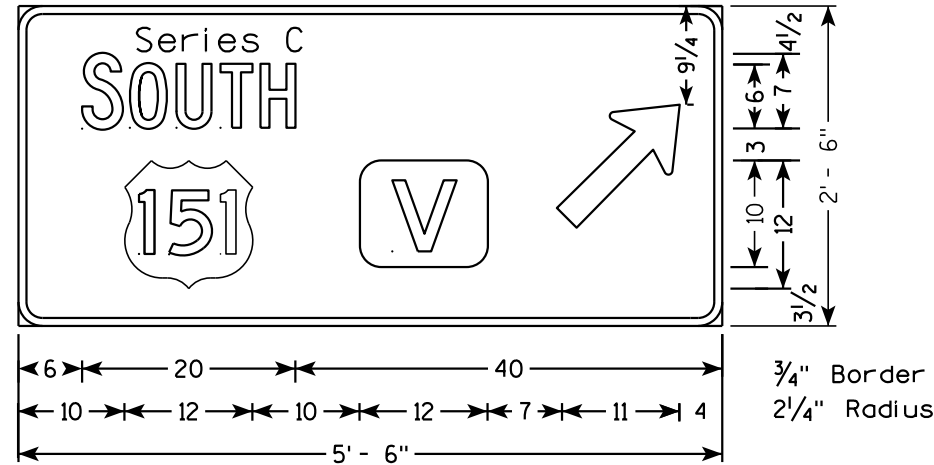
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7

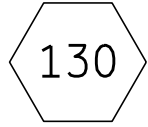


**NOTES**

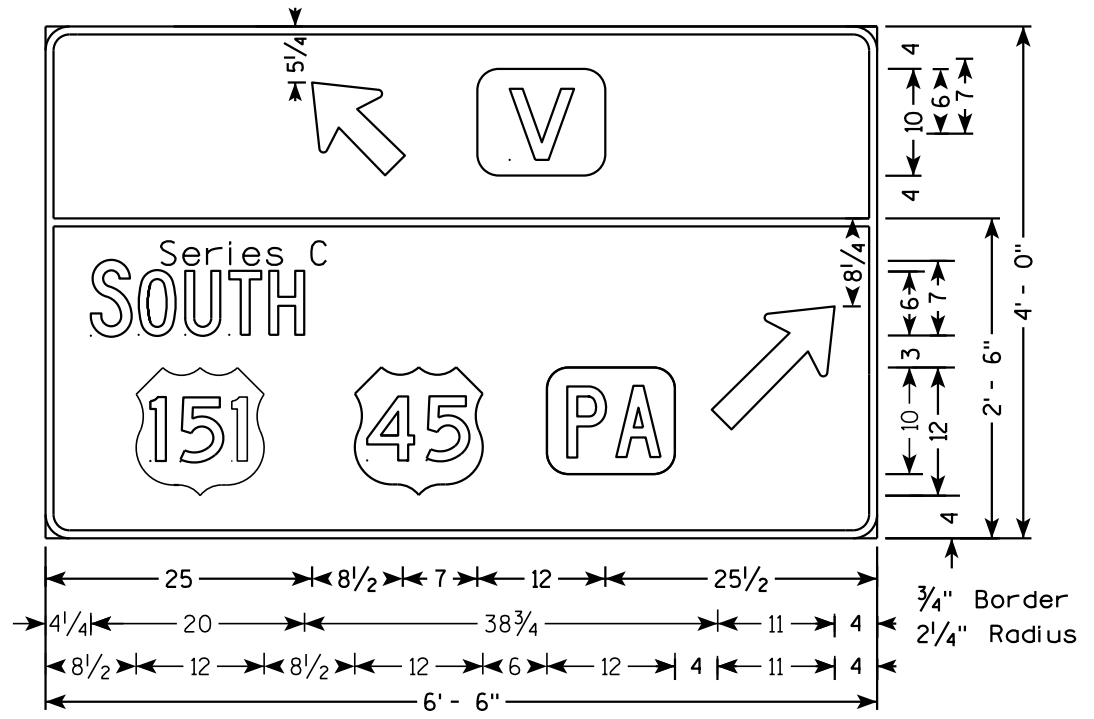
1. All Signs Type II - Type H Reflective
2. Color:  
Background - GREEN  
Message - WHITE
3. Message Series - E except as Shown



D1-2



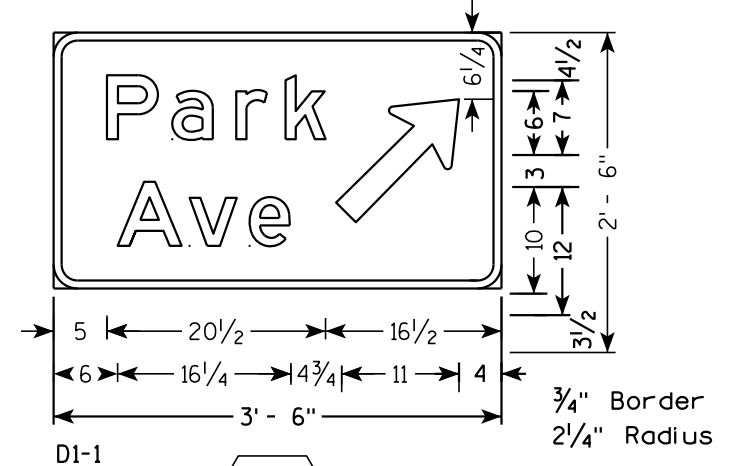
3/4" Border  
2 1/4" Radius



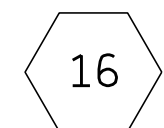
D1-2



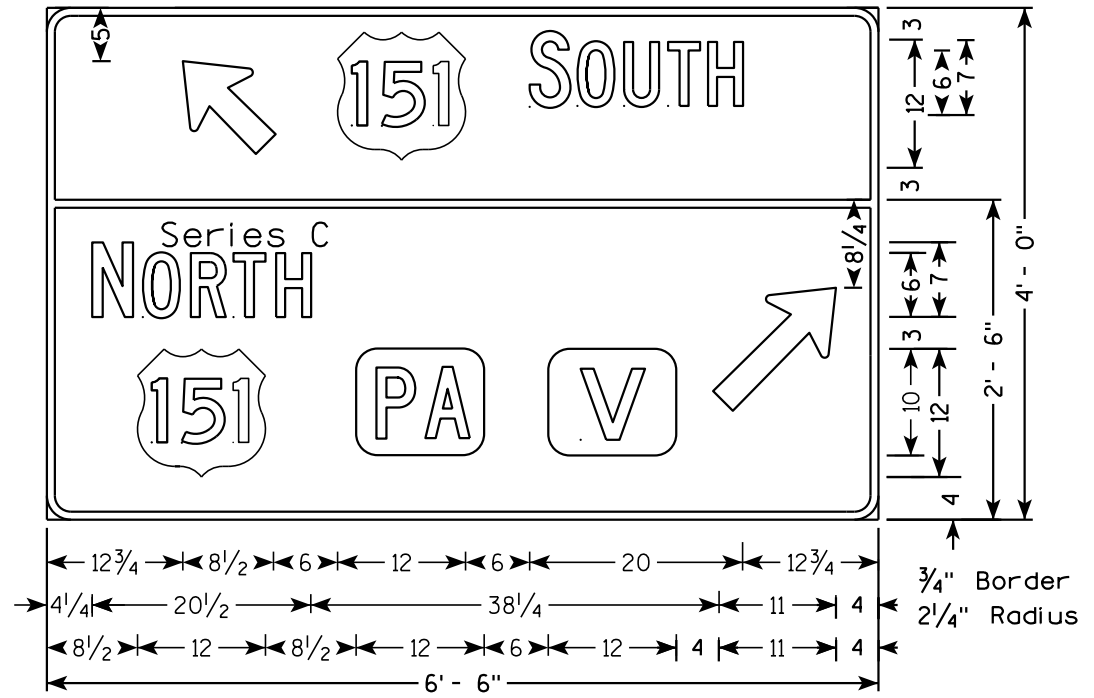
3/4" Border  
2 1/4" Radius



D1-1



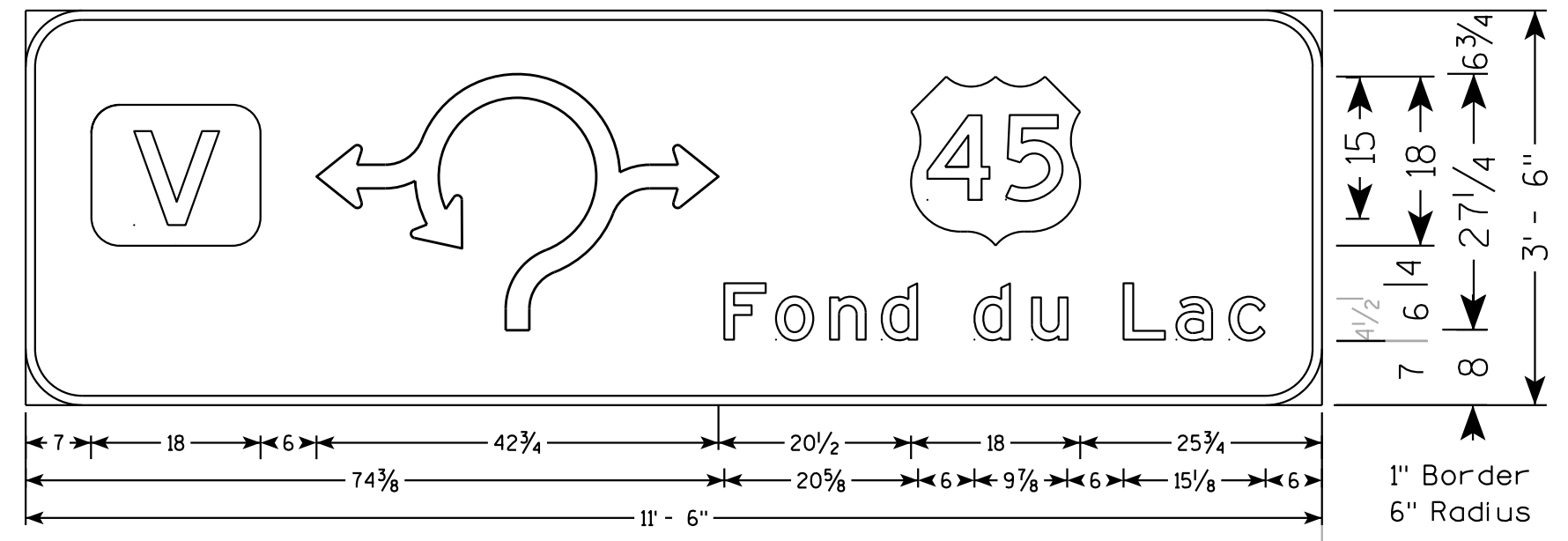
3/4" Border  
2 1/4" Radius



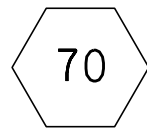
D1-2



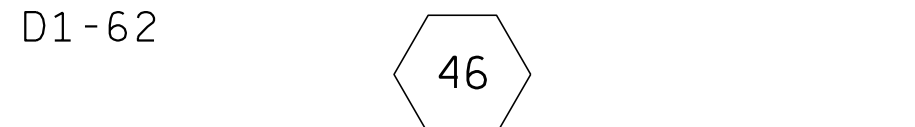
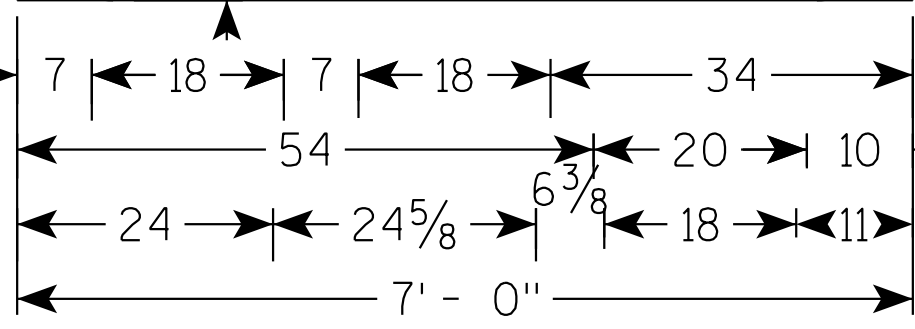
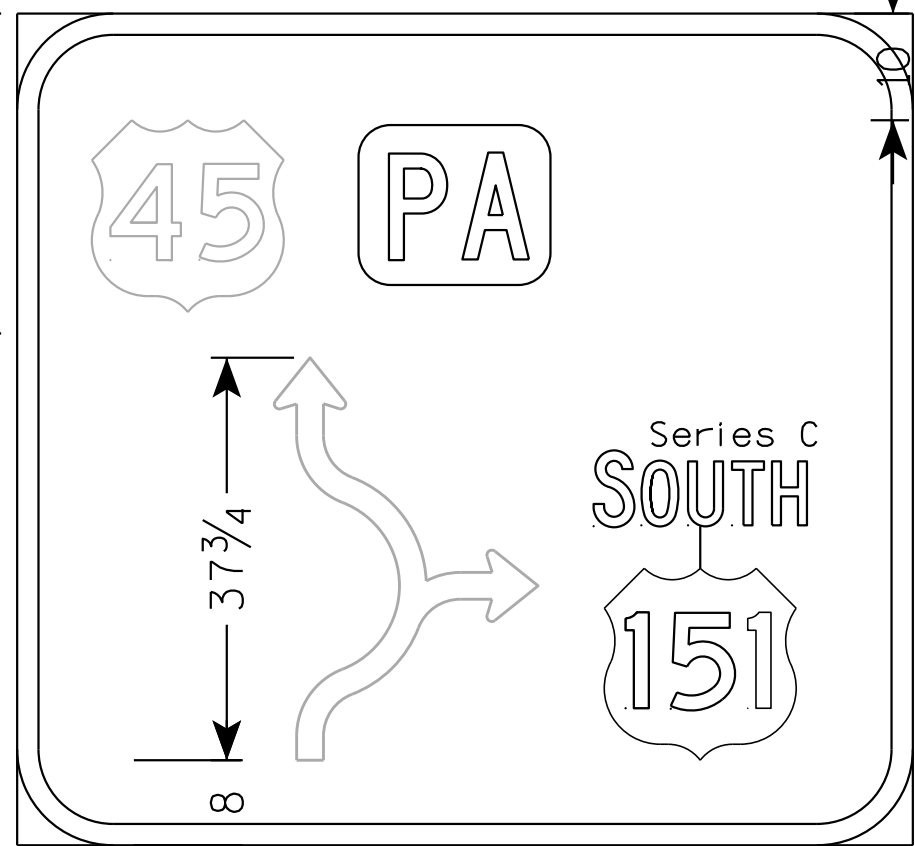
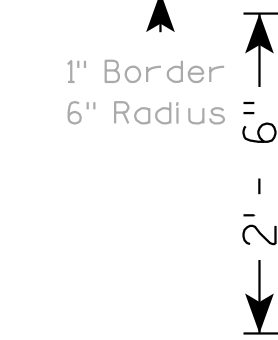
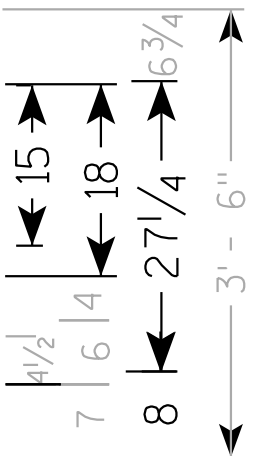
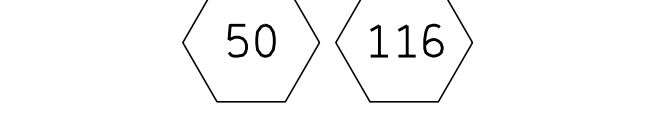
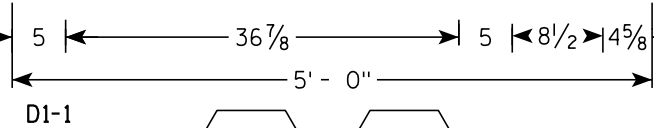
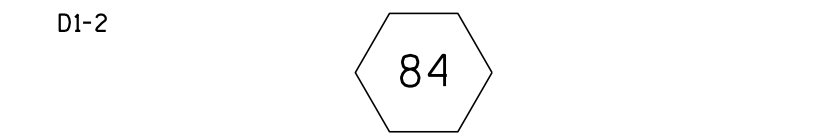
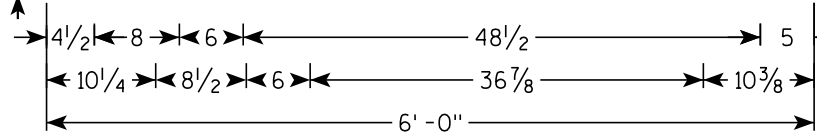
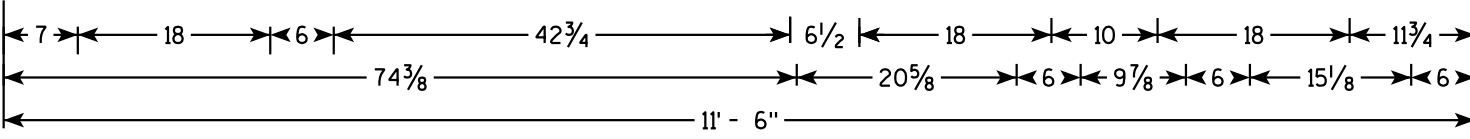
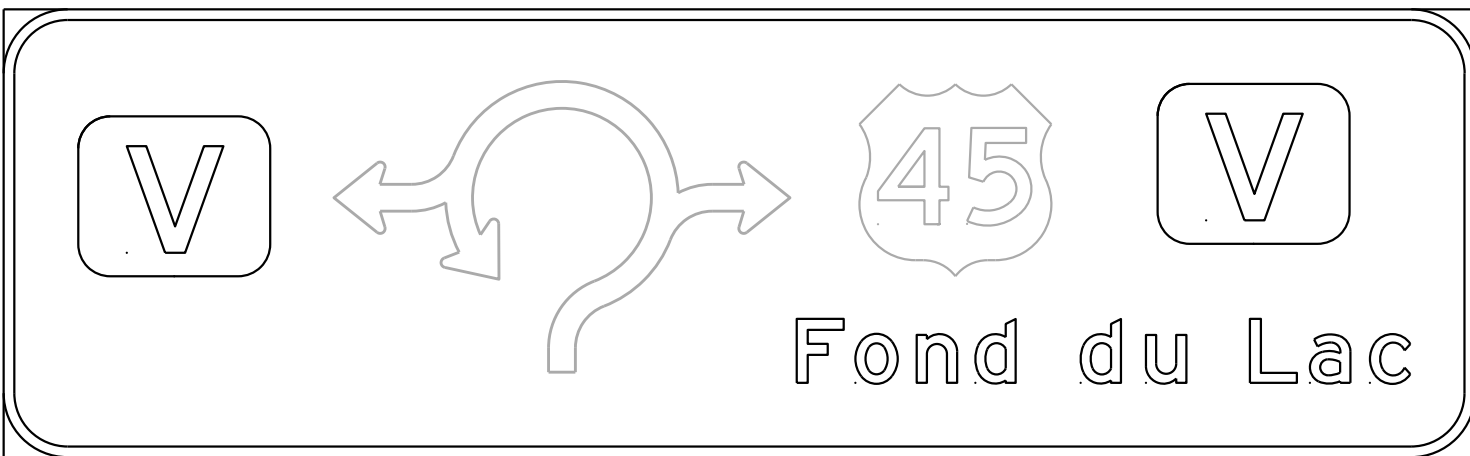
3/4" Border  
2 1/4" Radius



D1-62

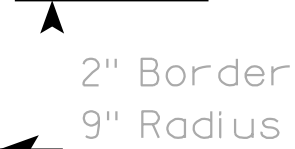
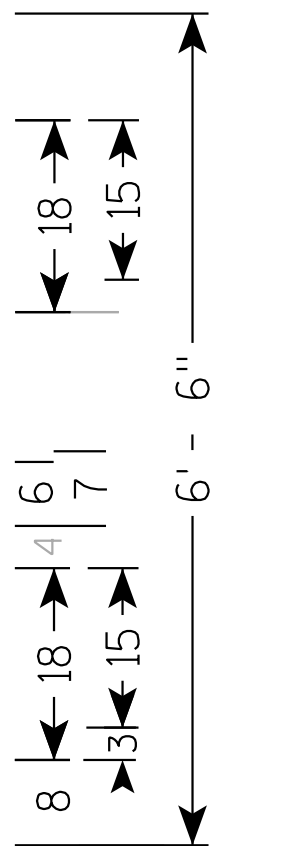


1" Border  
6" Radius



**NOTES**

1. All SignType II - Type H Reflective
2. Color:  
Background - GREEN  
Message - WHITE
3. Message Series - E except as Shown



7

7

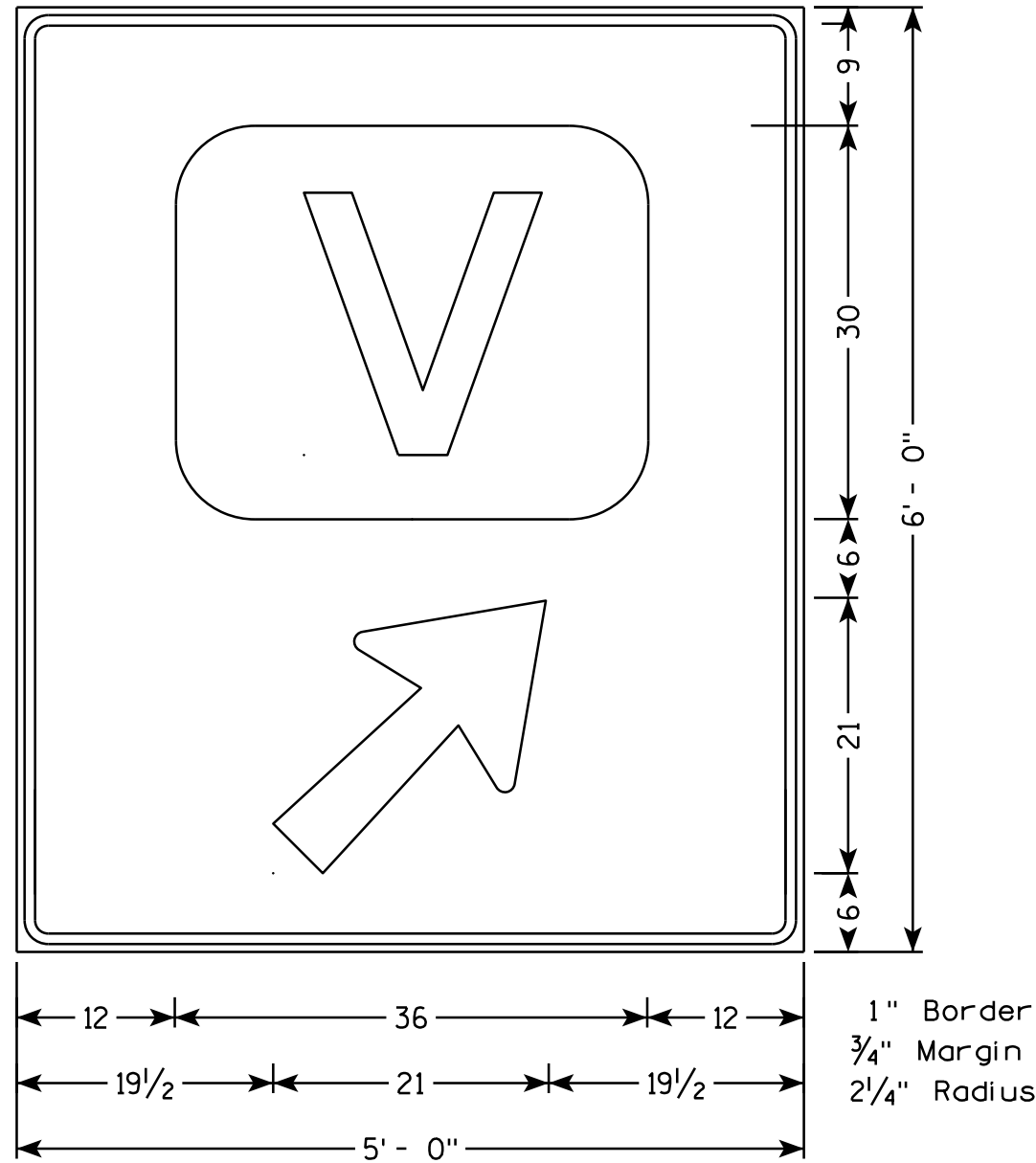
NOTES

1. Sign Is Type II - Type F Reflective

2. Color:

Background - ORANGE

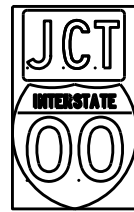
Message - BLACK



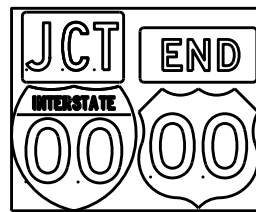
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7

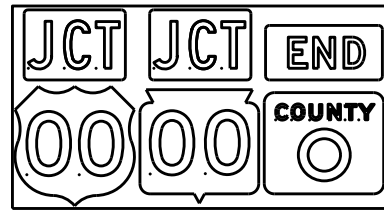
**TYPICAL ASSEMBLIES**



J1-1



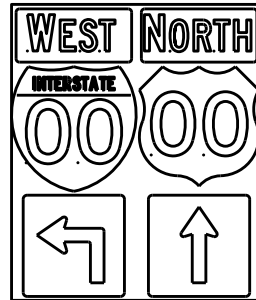
J1-2



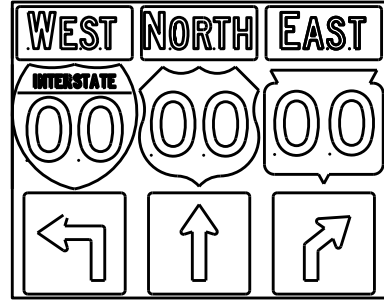
J1-3



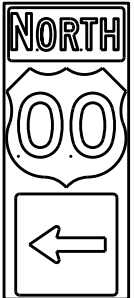
J2-1



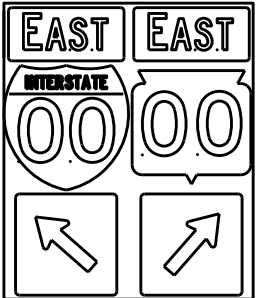
J2-2



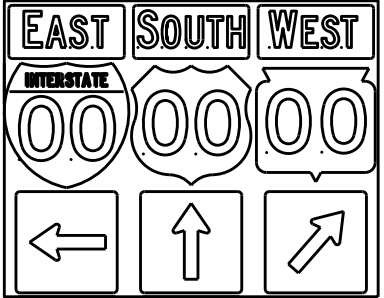
J2-3



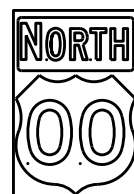
J3-1



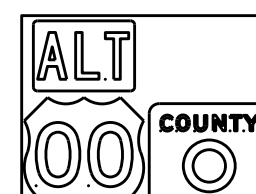
J3-2



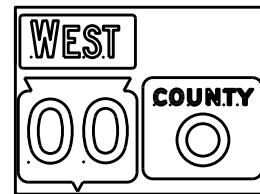
J3-3



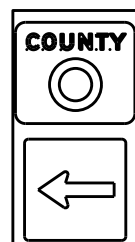
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1



J23-1

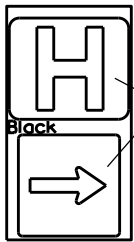


J22-1



JV

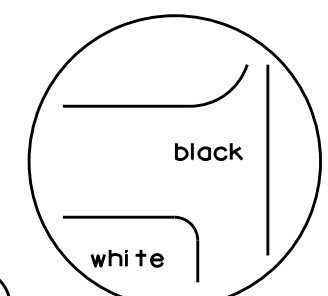
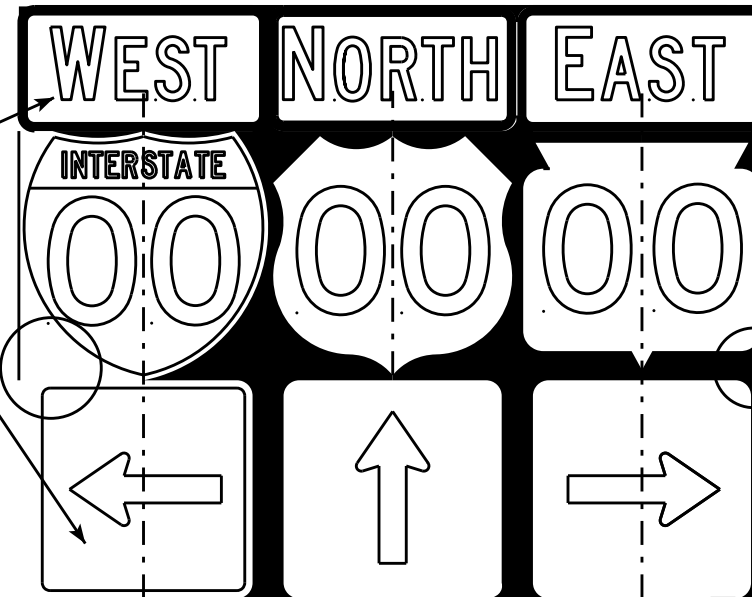
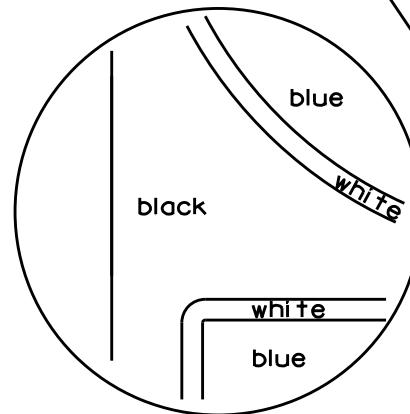
(Typical Vertical J-Assembly See Note 10 and 11)



JH-1

Blue Background

[blue background with interstate]



[black background]

**NOTES**

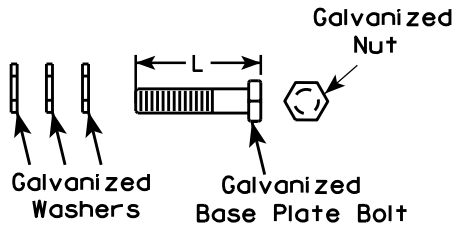
- Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
  - Background - Black Non-reflective
  - Message - see Note 5
- Message Series - See Note 5
- Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
- The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
- Certain marker heads require the component pieces to be the same color. As an example, all the components used with an MI-1 Interstate marker shall be blue.
- 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.
- 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.
- Route assemblies that have 36 inch shields and have dimensions greater than 48 inches (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.
- All Vertical J Assemblies are given a Sign Code of JV
- 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

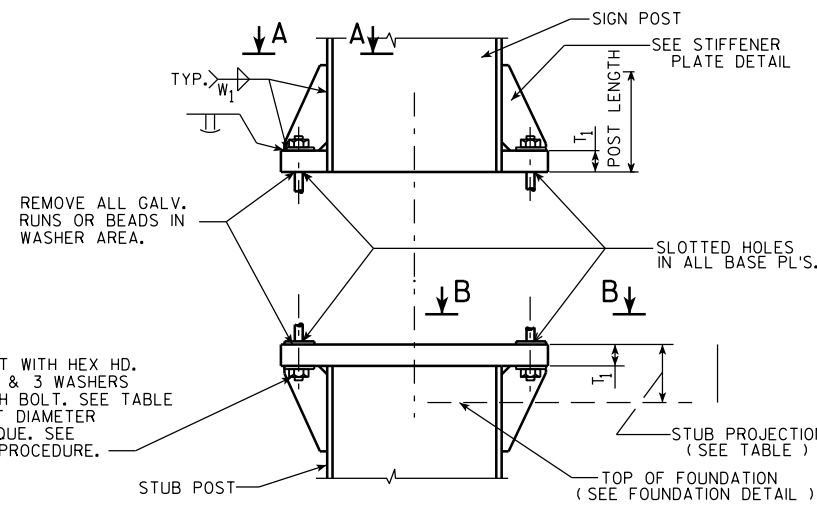


**DESIGN DATA**

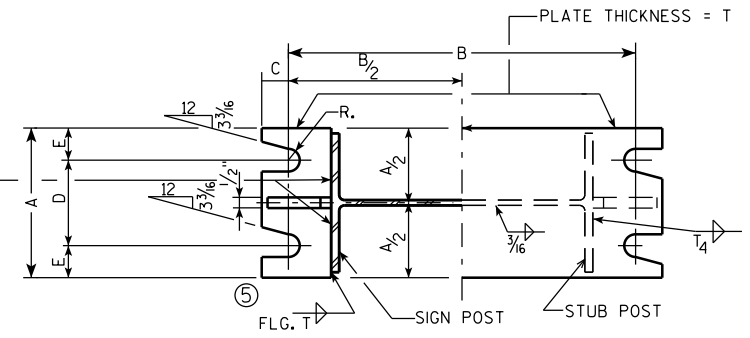
WIND PRESSURE = 75 M.P.H.  
 WIND COMPONENTS - NORMAL = 1.0 TRANSVERSE = 0.0  
 ICE LOAD = 3 P.S.F.  
 GROUP LOADS PERCENT OF ALLOWABLE STRESS  
 1. DEAD 100  
 2. DEAD & WIND 140  
 3. DEAD, ICE & 1/2 WIND 140 <sup>A</sup>25 P.S.F. MIN.  
 ALLOWABLE SOIL PRESSURE = 1/2 T / SQ. FT.  
 WIND LOAD WAS APPLIED TO THE AREA OF THE SIGN AND TO THE SUPPORTING MEMBERS.  
 ICE LOAD WAS APPLIED TO ONE FACE OF THE SIGN AND AROUND THE SURFACE OF THE SUPPORTING MEMBERS.

**GENERAL NOTES**

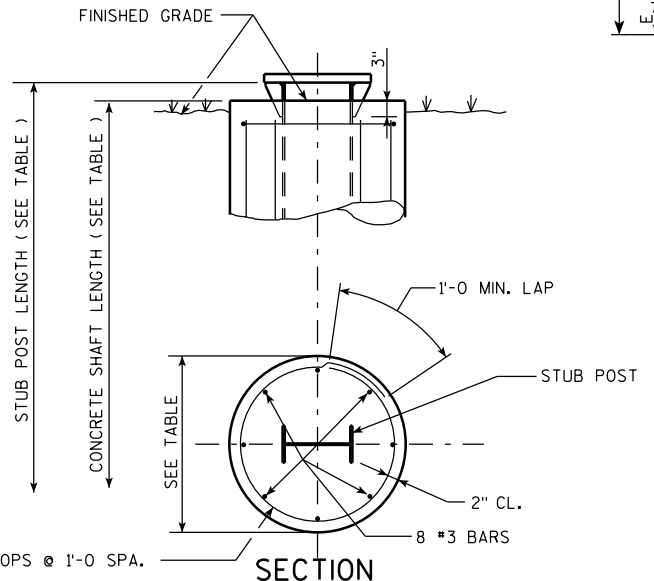
DRAWINGS SHALL NOT BE SCALED.  
 DESIGN CONFORMS WITH A.A.S.H.T.O. SPECIFICATIONS 1985.  
 ALL POSTS, POST STUBS & ATTACHMENTS SHALL BE A.S.T.M. A709 GRADE 50.  
 THE POST, BASE PLATES, UPPER SIX INCHES OF STUB POST FLANGE SPLICE PLATE AND FUSE PLATE SHALL BE GALVANIZED AFTER FABRICATION.  
 H.S. BOLTS, WASHERS & NUTS SHALL BE A325 GALVANIZED WHEN POSTS, POST STUBS AND ATTACHMENTS ARE A709 GRADE 50 AND GALVANIZED.



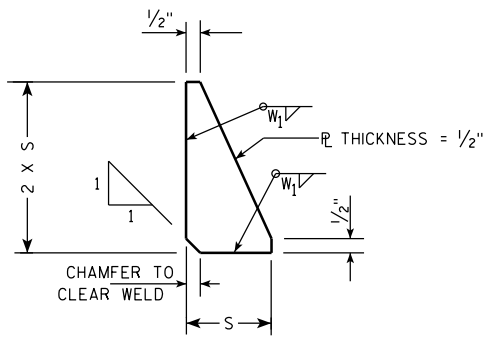
**SIGN POST AND STUB POST ELEVATION**



**SECTION A-A SECTION B-B**



**SHAFT PLACEMENT**



**STIFFENER PLATE DETAIL**

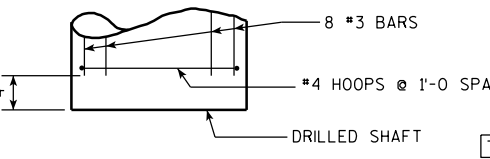
(SEE TABLE FOR DIMENSIONS)

FURNISH 2 @ .012" ± THICK AND 2 @ .032" ± THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO A.S.T.M.- B36.

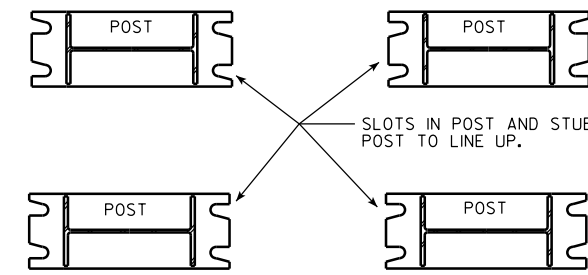
**SHIM DETAIL**

QUANTITIES FOR 1 FOOTING		
	CONC. MASONRY C.Y.	REINF. STEEL LBS.
A	0.6	34
B	0.8	49
C	0.9	50
D	0.9	56
E	1.0	62

REINF.	TYPE #3		TYPE #4	
A	8 @ 4'-5"		5 @ 6'-3"	
B	8 @ 6'-5"		7 @ 6'-3"	
C	8 @ 6'-11"		7 @ 6'-3"	
D	8 @ 7'-5"		8 @ 6'-3"	
E	8 @ 7'-11"		9 @ 6'-3"	



**FOUNDATION DETAIL**



**POST SLOT ORIENTATION**

L	X	TYPE	DIMENSION POST SIZE	BOLT SIZE & TORQUE	BASE CONNECTION DATA TABLE										FOUNDATION DATA				K
					A	B	C	D	E	T <sub>1</sub>	T <sub>4</sub>	W <sub>1</sub>	R	S	STUB LENGTH	STUB PROJECTION	SHAFT DIAMETER	SHAFT LENGTH	
3 3/4	(4)	A	W10"x12.0 #/FT.	3/4" φ @ 75#-FT.	5/4"	1'-0 3/8"	7/8"	3 1/2"	7/8"	1"	3/16"	5/16"	15/32"	2 1/8"	3'-6"	3"	2'-0 φ	5'-0"	76.0#
4 3/4	(4)	B	W12"x16.0 #/FT.	7/8" φ @ 85#-FT.	5/2"	1'-4 1/4"	1"	3 1/2"	1"	1 1/4"	5/16"	5/16"	15/32"	3"	5'-6"	3"	2'-0 φ	7'-0"	146.5#
5		C	W12"x19.0 #/FT.	7/8" φ @ 85#-FT.	5/2"	1'-4 1/4"	1"	3 1/2"	1"	1 1/2"	5/16"	5/16"	15/32"	3"	6'-0"	3"	2'-0 φ	7'-6"	182.1#
5		D	W12"x22.0 #/FT.	7/8" φ @ 85#-FT.	5/2"	1'-4 1/4"	1"	3 1/2"	1"	1 1/2"	3/8"	5/16"	15/32"	3"	6'-6"	3"	2'-0 φ	8'-0"	210.5#
5	(3)	E	W12"x26.0 #/FT.	1" φ @ 90#-FT.	7"	1'-4 1/4"	1 1/4"	4"	1 1/2"	1 1/2"	3/8"	5/16"	17/32"	3"	7'-0"	3"	2'-0 φ	8'-6"	293.0#

STRUCTURAL CARBON STEEL PAY WTS. (1POST) = K + (POST LENGTH X POST WT.)  
 "K" INCLUDES STUB, BASE PLATES, STIFFS., BOLTS, AND WASHERS.

**BOLTING PROCEDURE - BASE CONNECTION**

- ASSEMBLE SIGN POST TO STUB POST WITH BOLTS AND ONE OF THE FLAT WASHERS ON EACH BOLT BETW. PLATES.
  - SHIM AS REQ'D. TO PLUMB POST.
  - PRIOR TO BOLT TIGHTENING LUBRICATE BASE CONNECTION BOLTS WITH BEESWAX OR OTHER HIGH-WAX LUBRICANT.
  - TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE WITH 12" OR 15" WRENCH TO BED WASHERS & SHIMS AND TO CLEAN BOLT THREADS, THEN LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE. (SEE TABLE)
  - BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.
- NOTE:  
TIGHTEN THE HIGH STRENGTH BOLTS TO THE TORQUE SHOWN. DO NOT OVERTIGHTEN.

7

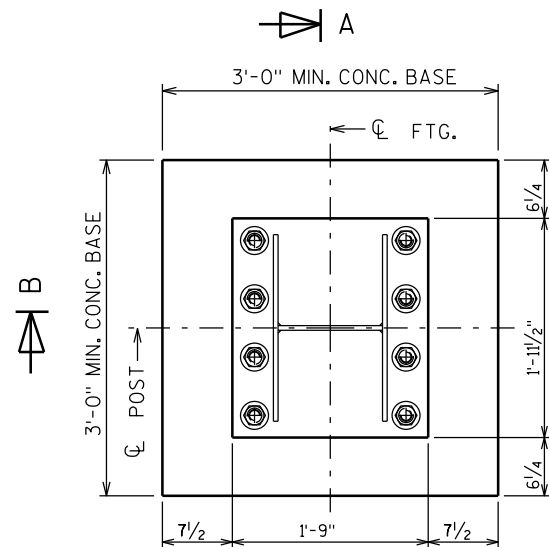
7

WISCONSIN DEPT OF TRANSPORTATION  
 APPROVED *Matthew R Rauch*  
 for State Traffic Engineer  
 DATE 6/30/14 PLATE NO. A3-1.15

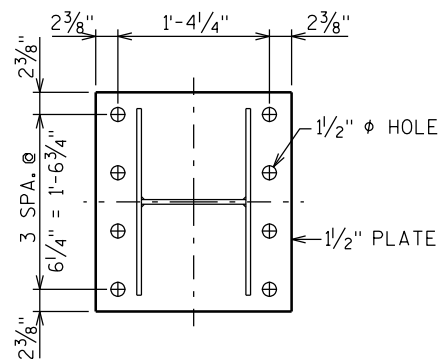
NO.	DATE	REVISION
(10)	1-21-14	LUBRICATION OF BASE BOLTS
(9)	4-26-11	REMOVE NON-GALVANIZED
(8)	10-30-96	NOT GALVANIZED/GALVANIZED
(7)	10-30-92	QUANT., A588 EXCEPT., ADD SLOT VIEW
(6)	8-24-87	BASE CONN. WELD
(5)	10-13-81	BASE CONN. WELD & FUSE PLATE WASHERS
(4)	10-19-79	POST A & B, A572 GR. 50, & K
(2)	11-28-78	"K" (3) 4-23-79 TYPE "E"
(1)	5-4-78	T <sub>1</sub> · T <sub>2</sub> & W <sub>1</sub>

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 TYPE A, B, C, D, & E  
 CONST. SPEC. 2011 DRAWN BY JPH PLANS CK'D.  
 FTG. & SIGN SUPPORT DETAILS  
 GROUND MOUNT  
 BREAK-AWAY SIGNS

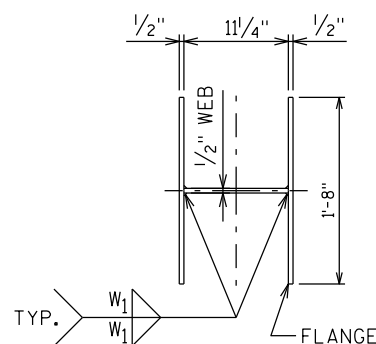
**STUB AND MASONRY ANCHOR DETAILS**



**STUB SECTION**

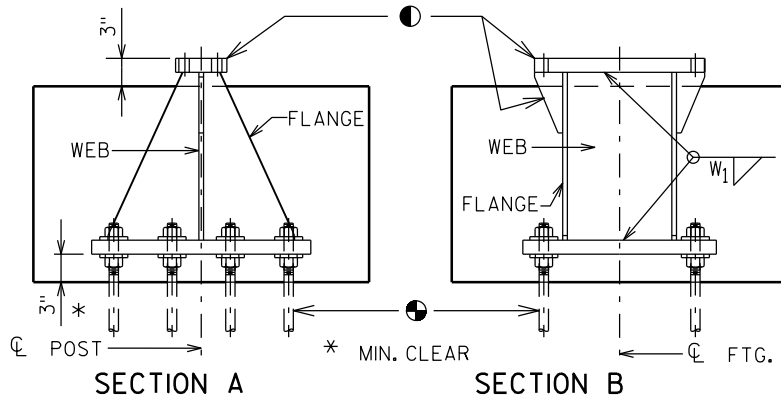


**BASE PLATE**



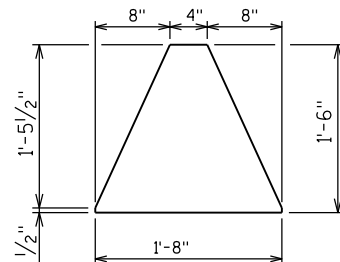
**STUB**

- SEE PLATE NO. A3-1 FOR DETAILS
- MASONRY ANCHORS TYPE S 1/4-INCHES (ADHESIVE). ALLOWABLE PULL OUT CAPACITY 14,995 KIPS. EMBED 1'-3" IN ROCK.



**SECTION A**

**SECTION B**



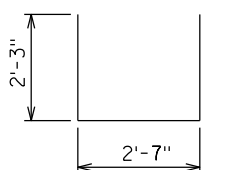
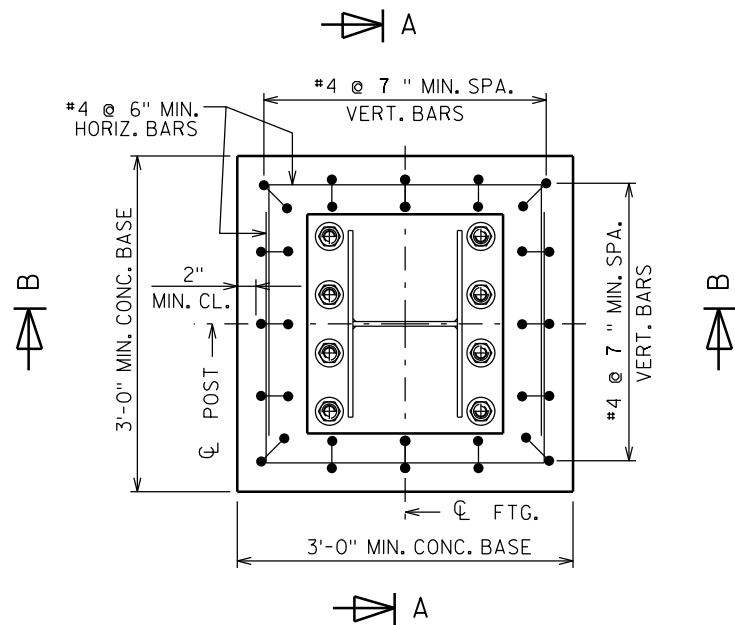
**FLANGE**

**GENERAL NOTES**

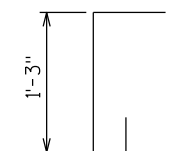
1. Quantities per Base:
  - REINFORCING BAR STEEL = 62 LBS
  - CONCRETE = 0.6 C.Y.
  - STEEL WEIGHT = 335 LBS
2. All materials, except anchor rod, nuts and washers, are to be A.S.T.M. A709 grade 50. All materials to be galvanized after fabrication.
3. If the contractor encounters rock before reaching the footing depth, per the A3-1 Sign Detail, determine the pull-out capacity of a test adhesive anchor installed in the rock. If the test result equals or exceeds the pull-out capacity of 14,995 KIPS, the contractor may install the breakaway stub for rock, according to this detail.

**CONCRETE BASE AND REINFORCING STEEL DETAILS**

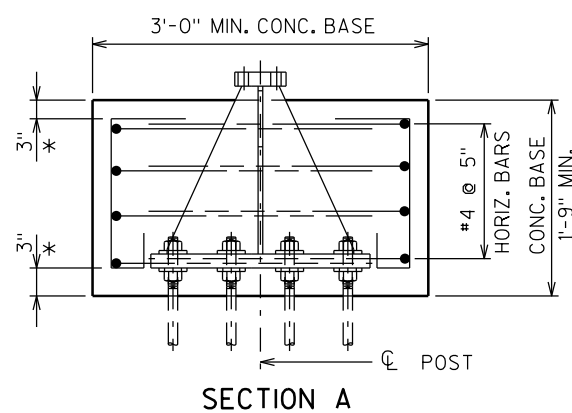
**CONCRETE BASE SECTION**



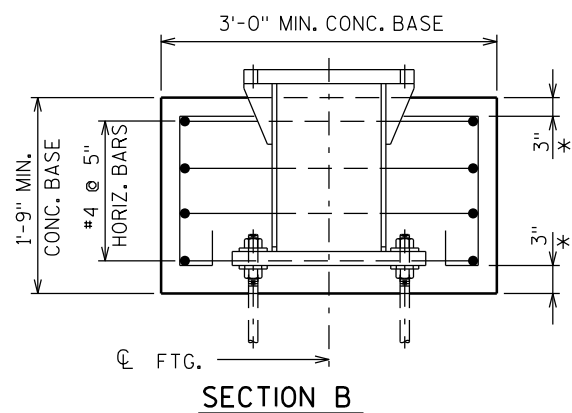
**HORIZONTAL BAR**  
8 BARS @ 6'-11" LENGTH



**VERTICAL BARS**  
16 BARS @ 2'-4" LENGTH  
MAY BE PLACED IN SKEW  
FOR CLEARANCE NEED



**SECTION A**



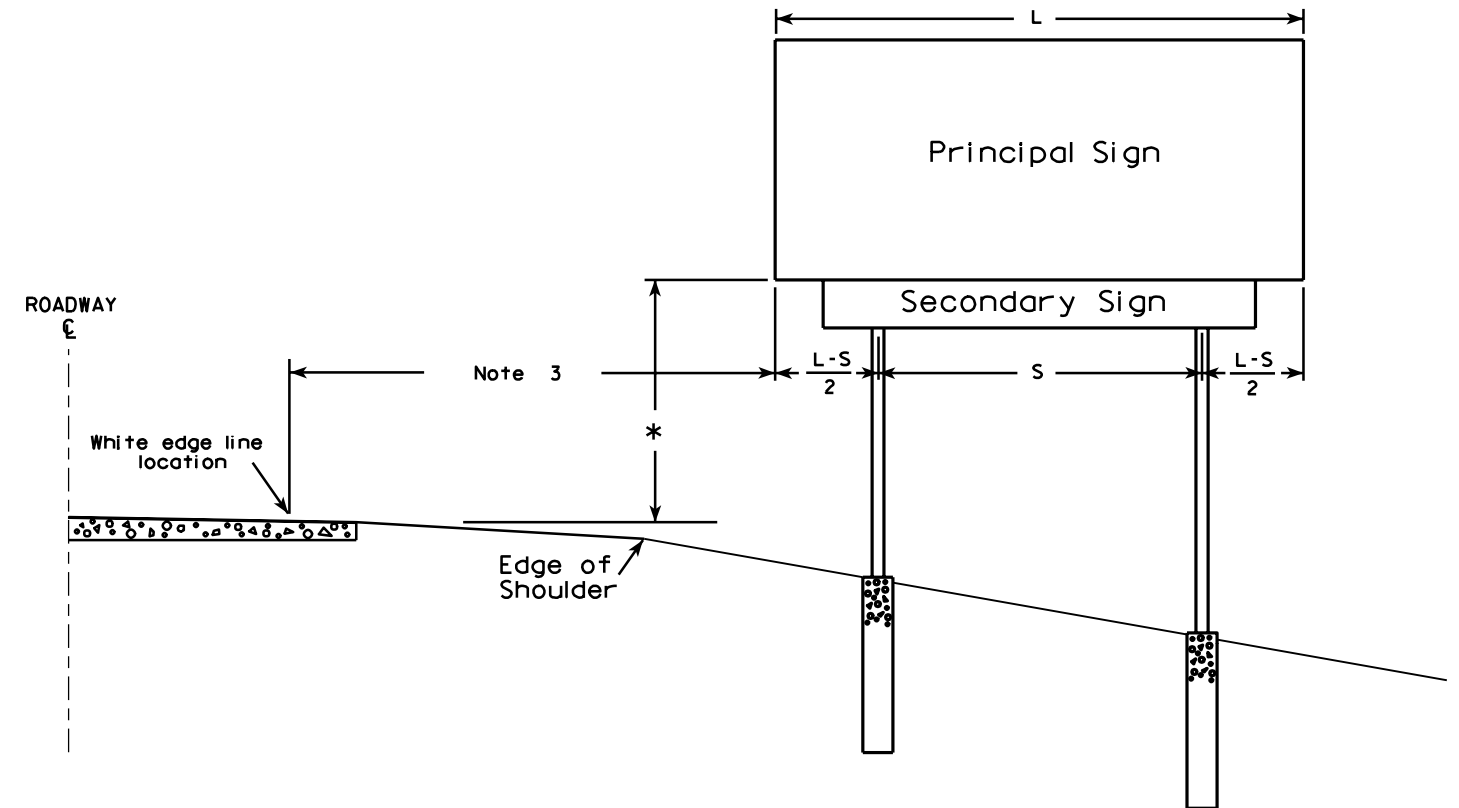
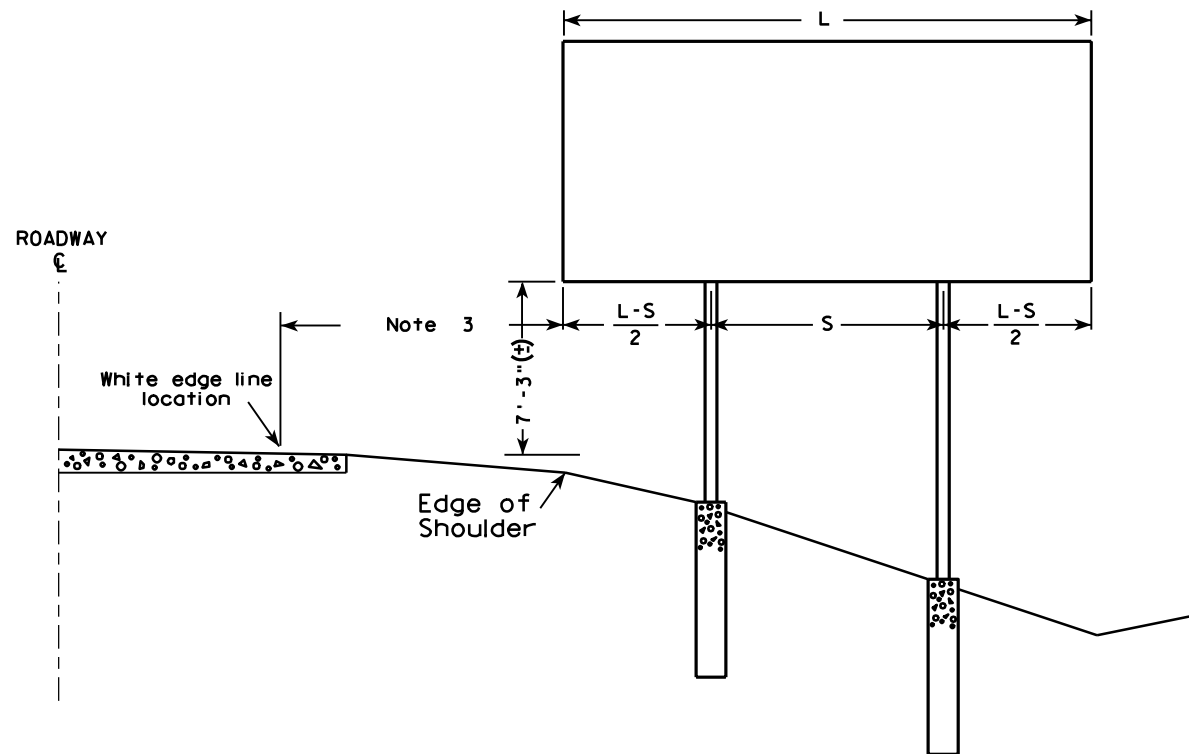
**SECTION B**

**ALTERNATE BREAK-AWAY  
BASE ON ROCK  
A3-1M**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 2/06/2014 PLATE NO. A3-1M.1



**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" (±).

**TYPICAL INSTALLATION OF TYPE I SIGNS**

WISCONSIN DEPT OF TRANSPORTATION

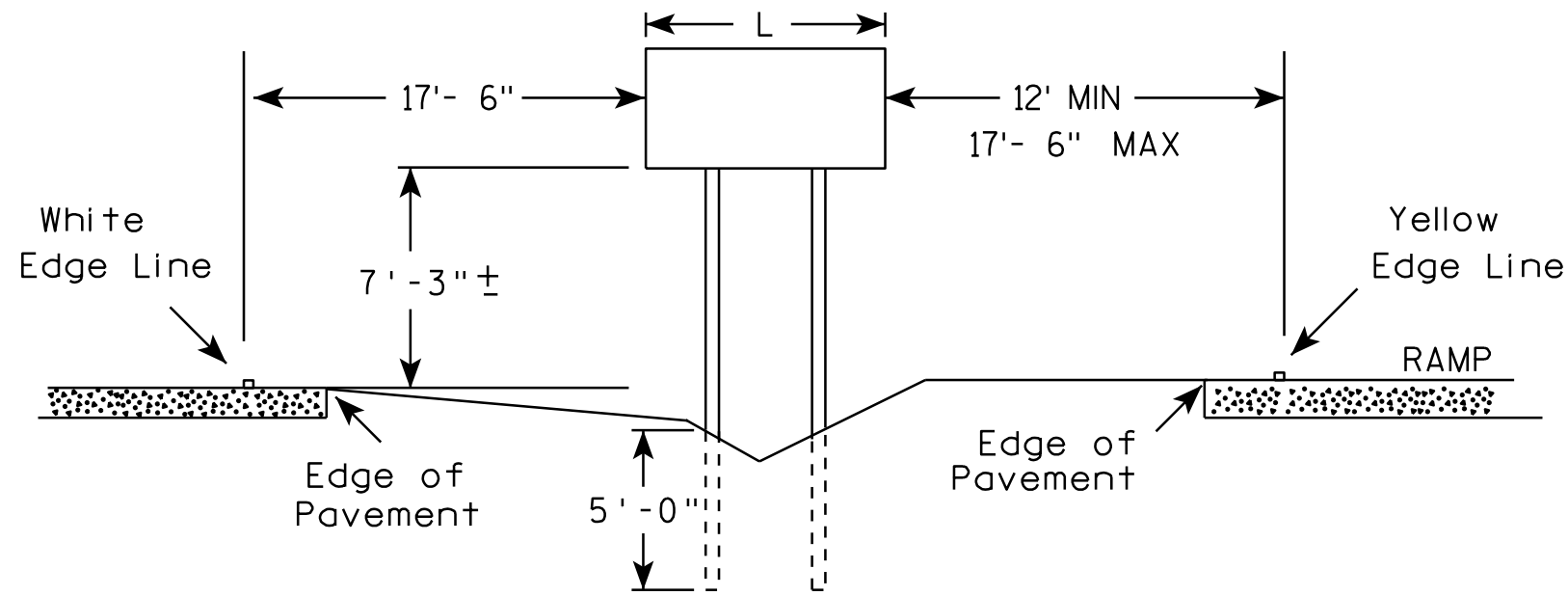
APPROVED *Matthew R. Raush*  
for State Traffic Engineer

DATE 4/02/08 PLATE NO. A4-1.9

PROJECT NO:

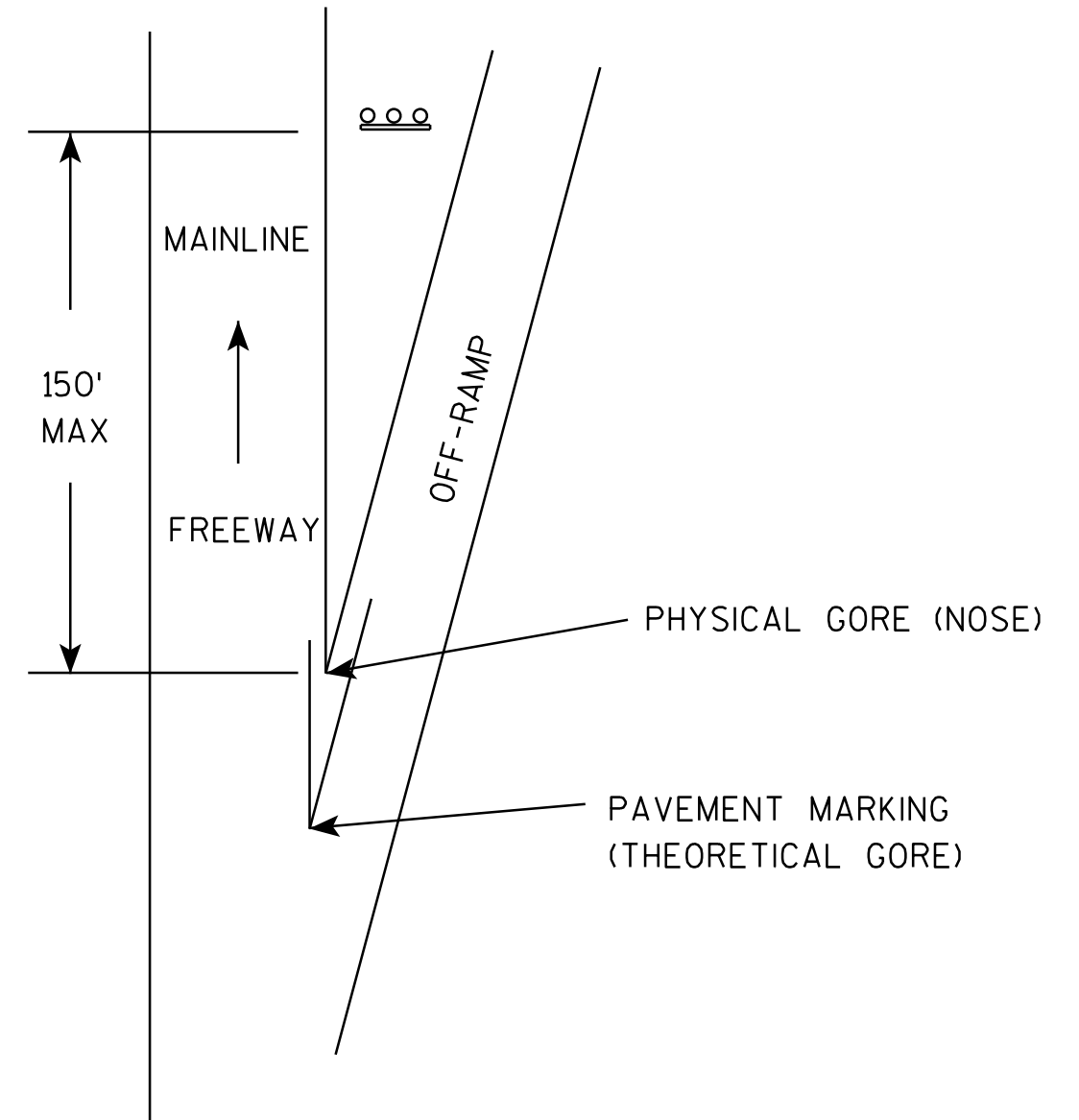
SHEET NO:

E



GENERAL NOTES

1. The 150 foot distance from the physical gore (where pavement ends) will normally provide the offsets as shown.
2. If roadway geometrics permit, the sign may be closer than the 150 foot distance as long as the offsets are maintained.
3. At no time shall the location be greater than 150 feet. If the normal offsets cannot be maintained, they can be reduced to 6 feet from the edge of the paved shoulder (both freeway and ramp).
4. The offset from edge of sign to the yellow edge line on the ramp is shown as a minimum of 12 feet and a maximum of 17 feet, 6 inches. Preference is adhering to the maximum rather than the minimum dimension.
5. When L is equal to or exceeds 10 feet, use 3 posts as per A4-4.
6. The ( $\bar{\pm}$ ) tolerance for the mounting height is 3 inches.



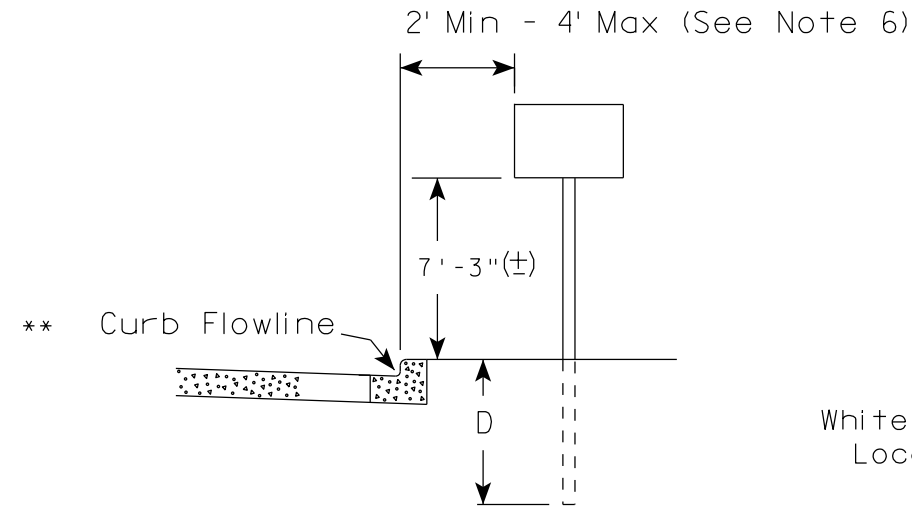
7

7

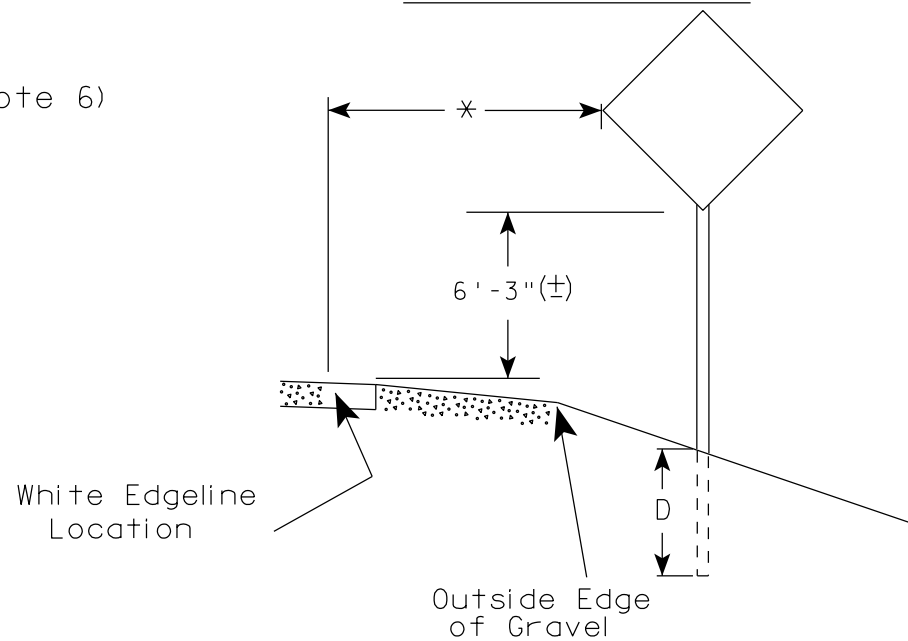
TYPICAL INSTALLATION OF TYPE II SIGNS ON WOOD POSTS IN GORE	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Raush</i> for State Traffic Engineer
DATE 2/06/14	PLATE NO. A4-2.3



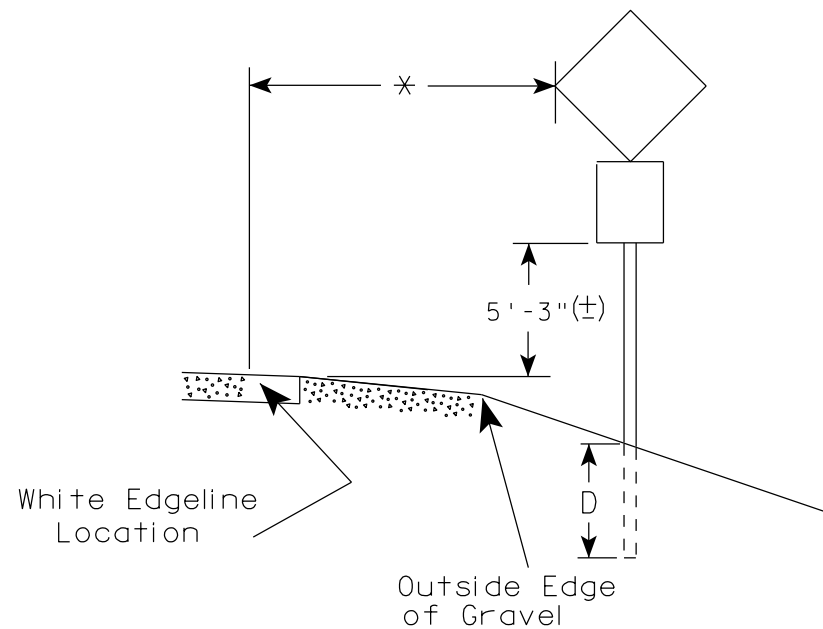
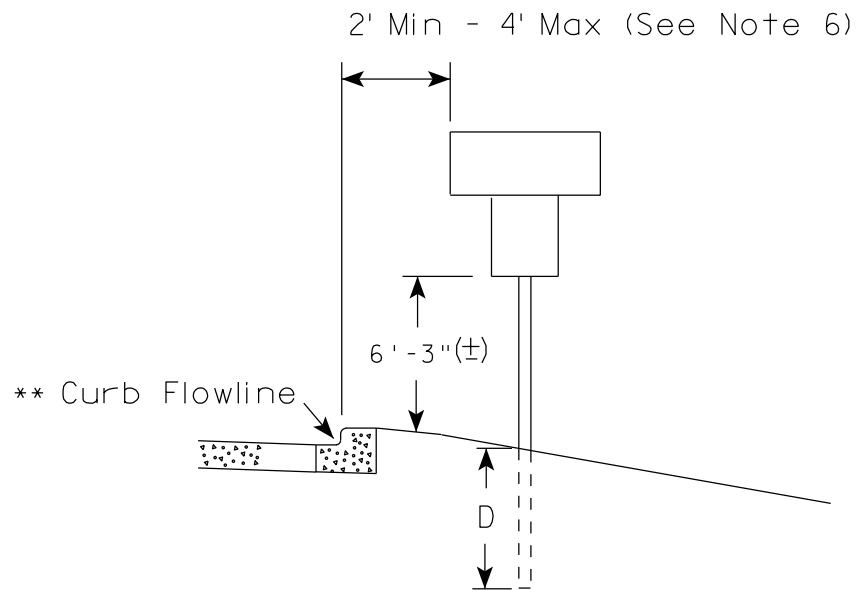
URBAN AREA



RURAL AREA (See Note 2)



URBAN AREA



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 directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), 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.

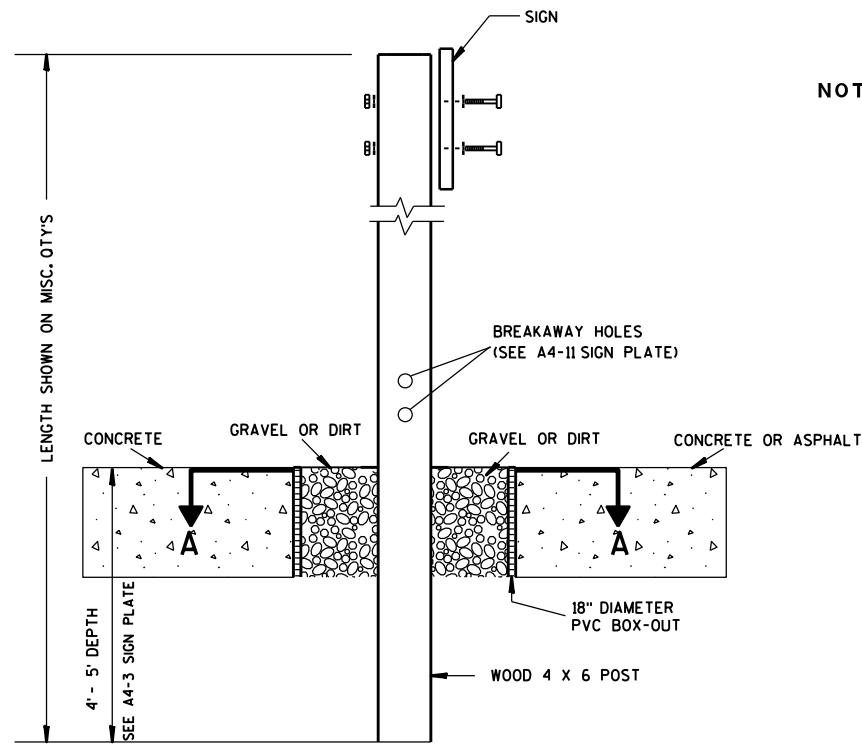
\* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

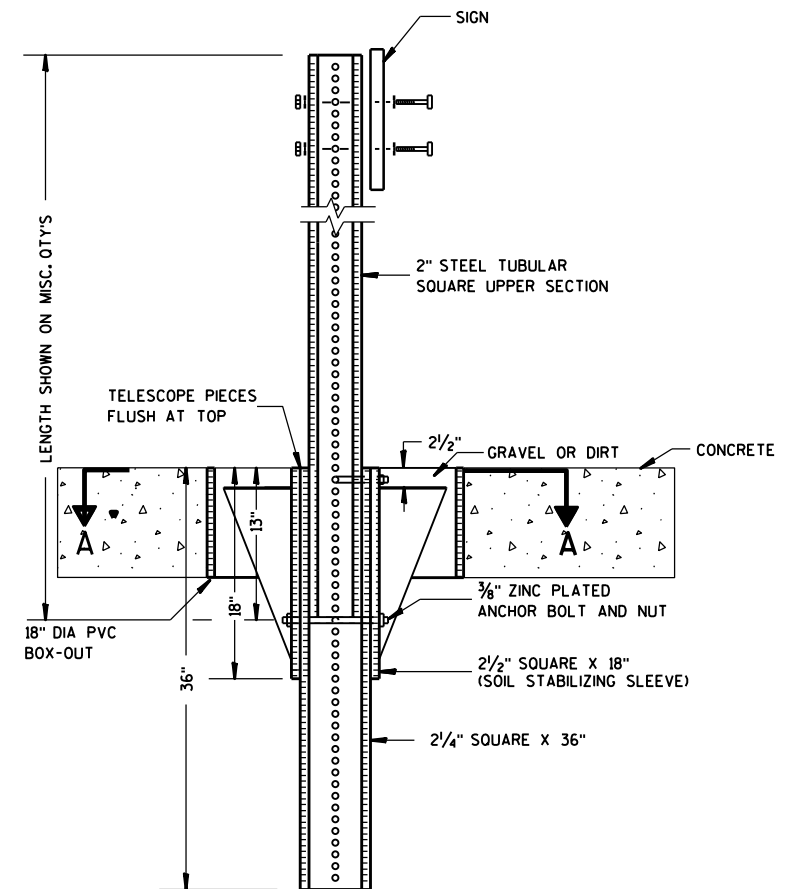
DATE 7/23/15 PLATE NO. A4-3.20



**ELEVATION VIEW**

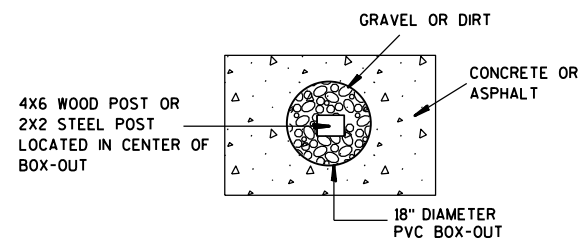
**DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT**

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



**ELEVATION VIEW**

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



**PLAN VIEW**

**FOR NEW CONCRETE/ ASPHALT INSTALLATIONS**

**SIGN POST  
BOX-OUTS  
A4-3B**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

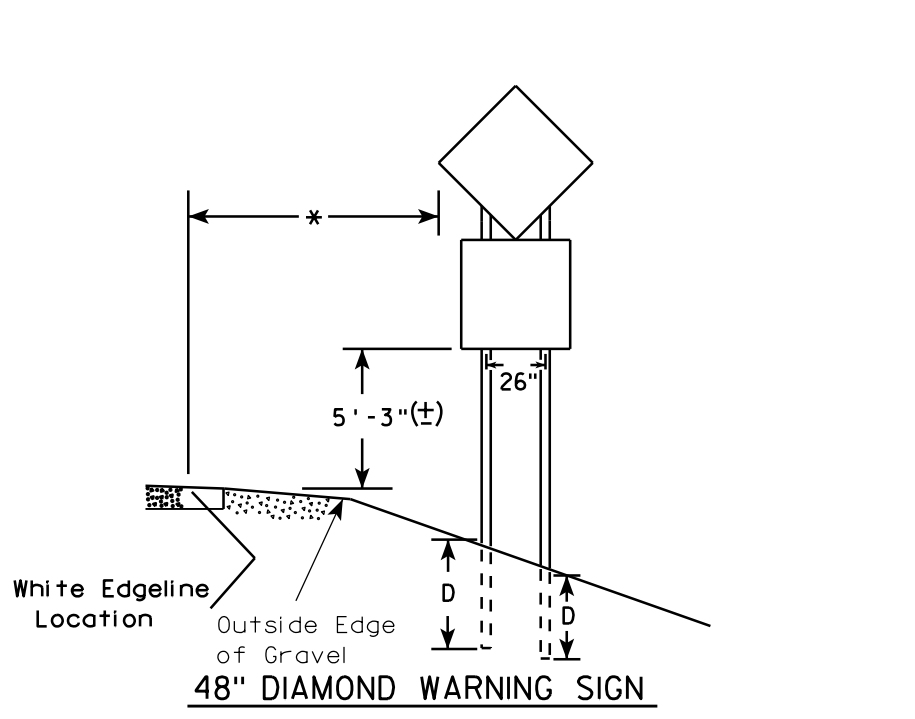
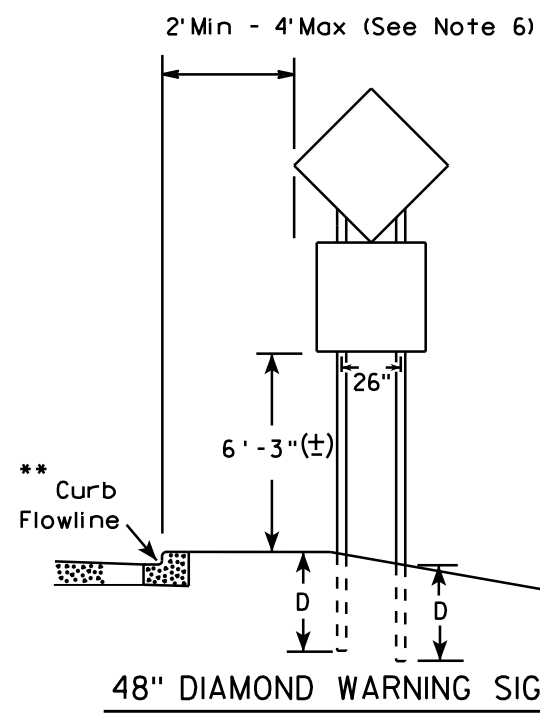
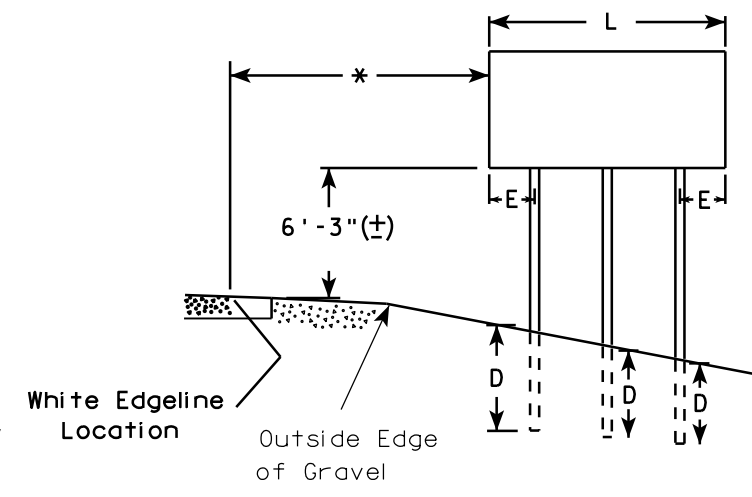
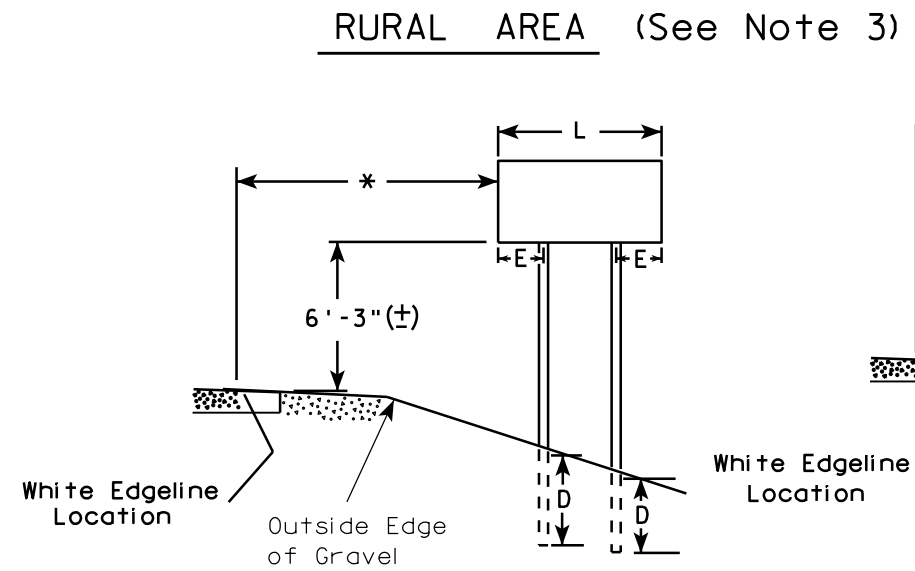
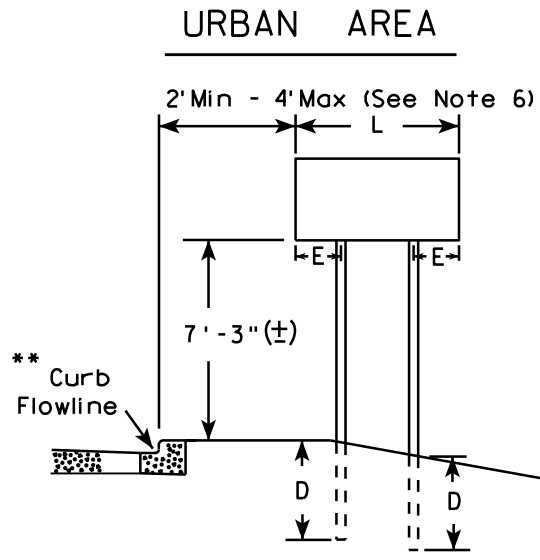
DATE 1/27/14 PLATE NO. A4-3B.1

7

7

**GENERAL NOTES**

- For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
- See tables below for required number of posts.
- For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
- The (±) tolerance for mounting height is 3 inches.
- Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
- 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'

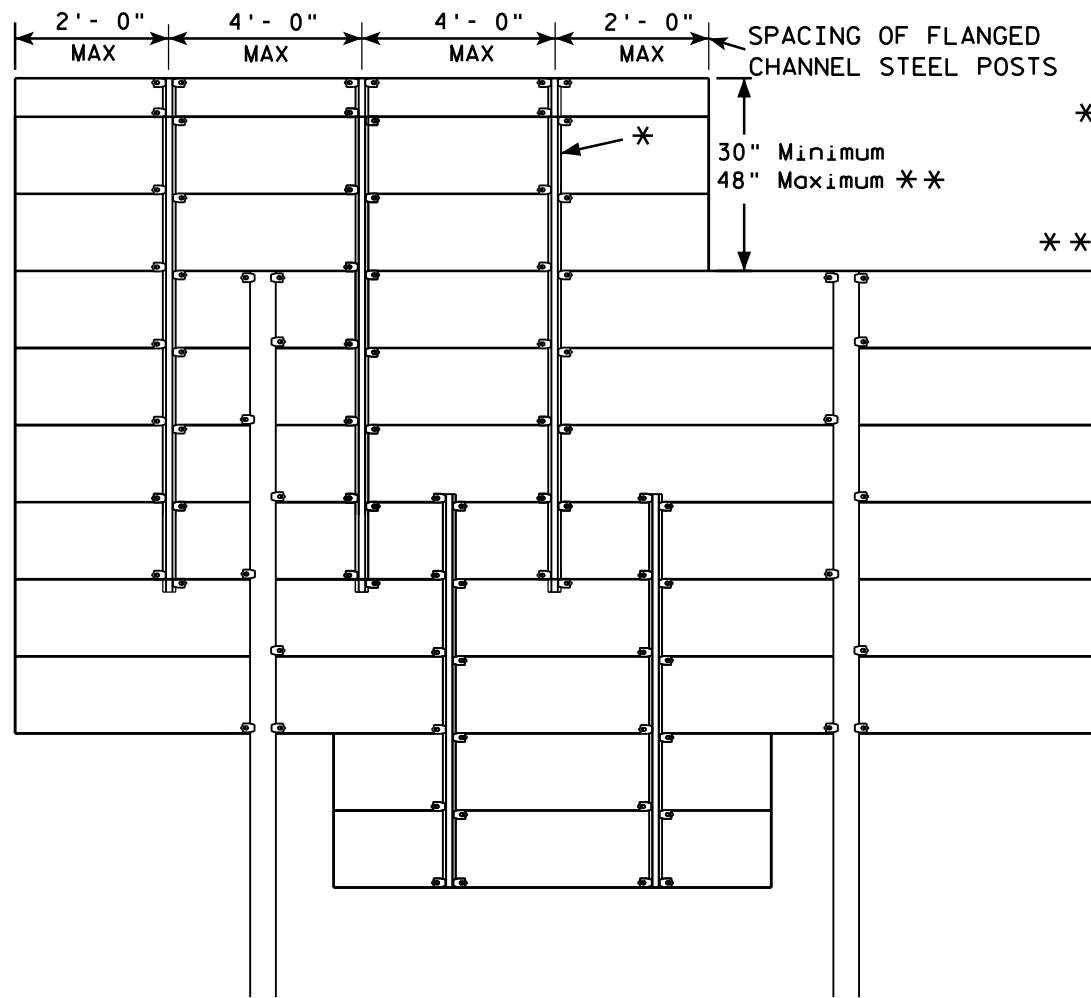
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-4.14

GROUND MOUNTED SIGN

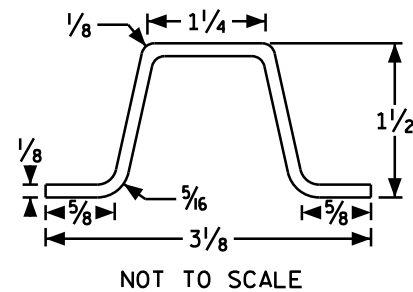


\* = 2.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

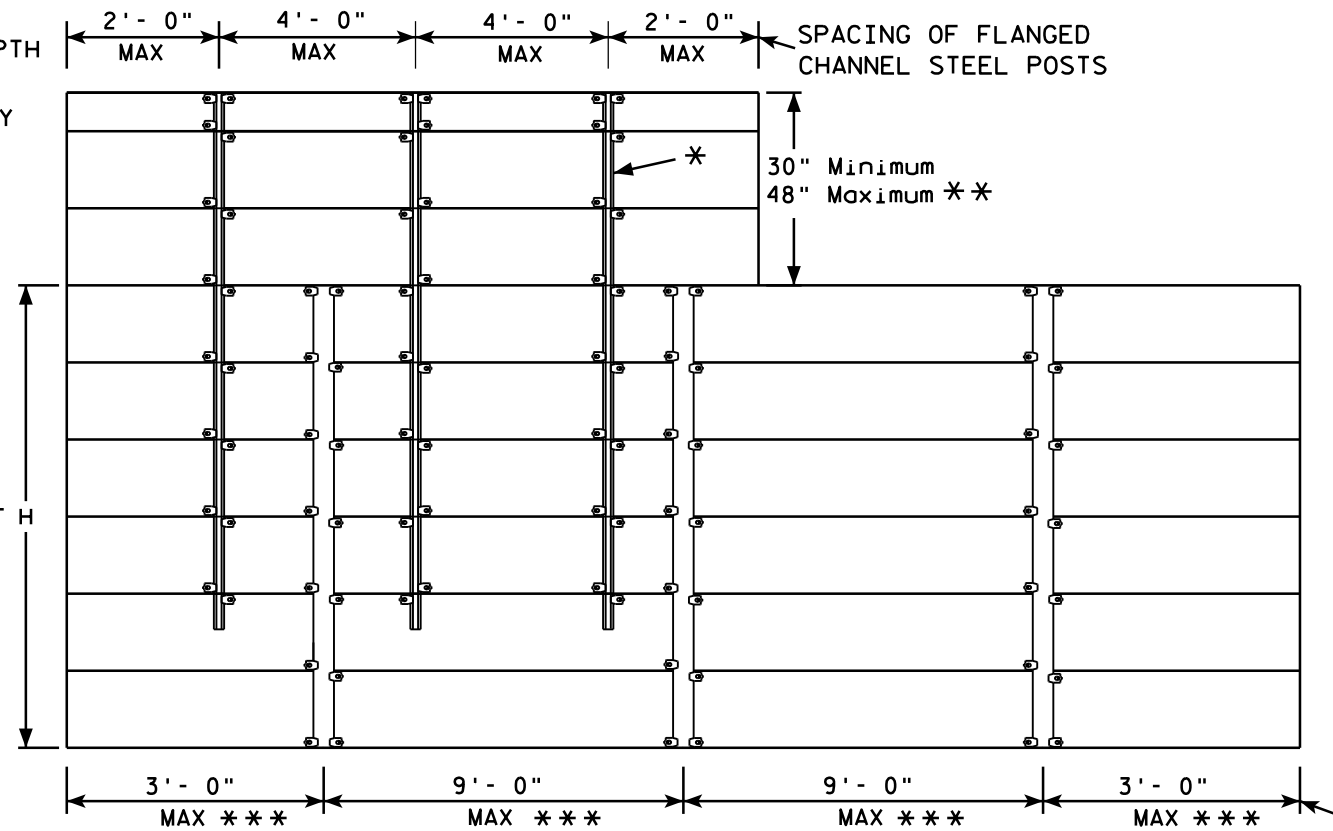
\*\* = FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

\*\*\* 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



SIGN BRIDGE MOUNTED SIGN



SPACING OF ALUMINUM SIGN SUPPORTS 5" X 3.5" X 3.7 LBS./ft.

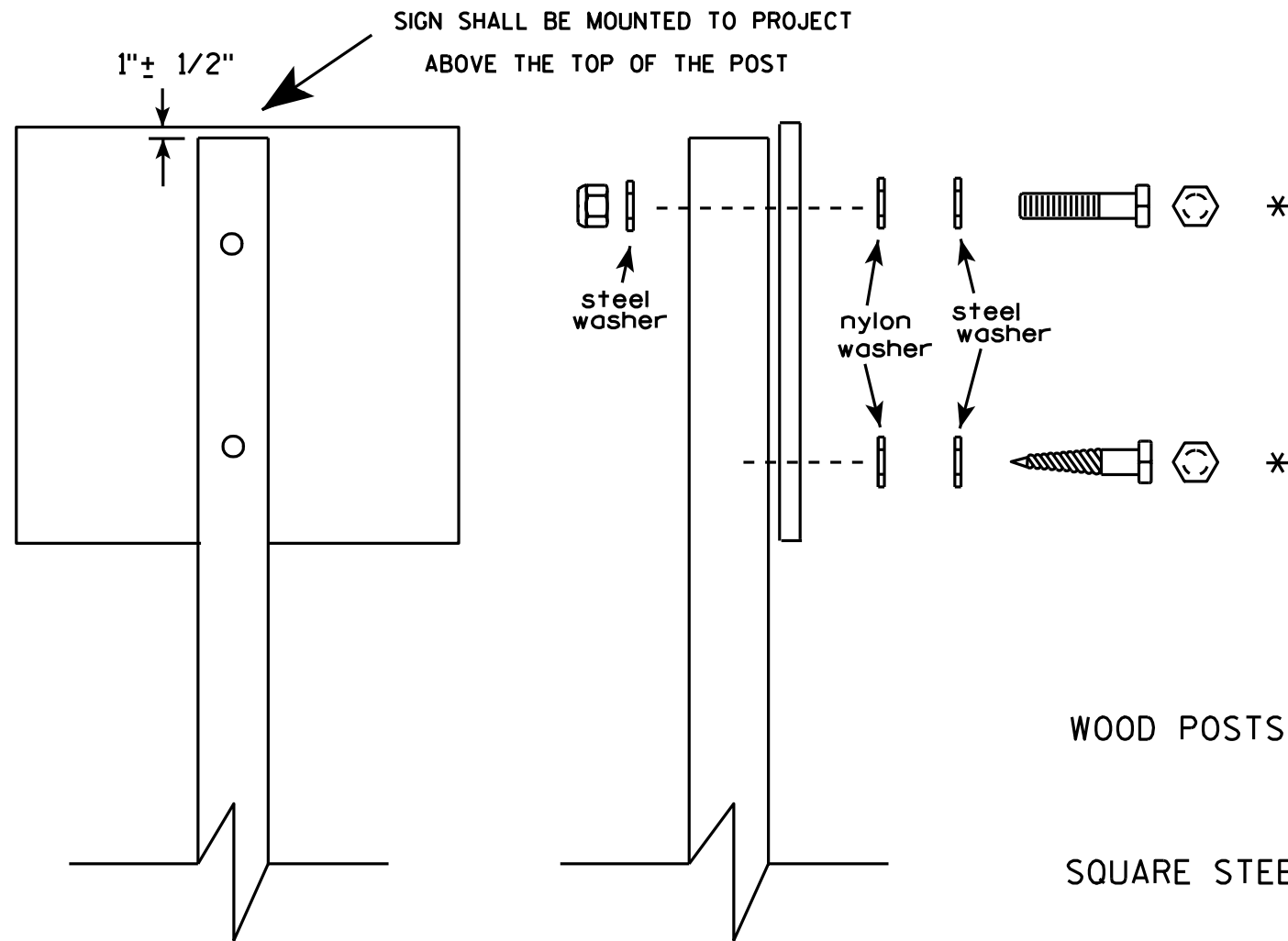
GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:  
 PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS  
 PANEL LENGTH 9'-0" - 12'-0" = 3 CHANNELS  
 PANEL LENGTH 13'-0" OR MORE = 4 CHANNELS  
 If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.

3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)
6. Structural steel sign supports shall extend to the top of the main signs, as shown on the above details.

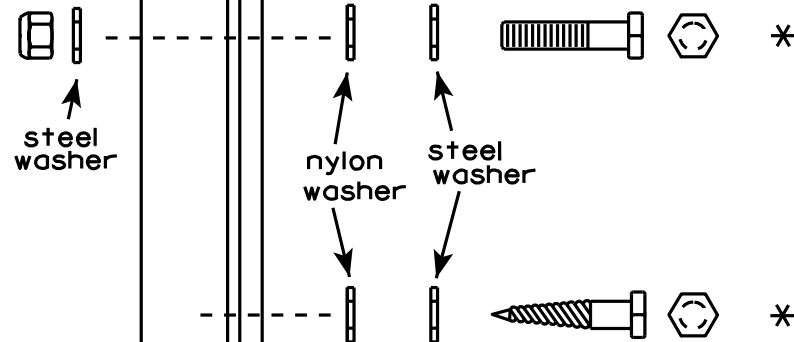
ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

WISCONSIN DEPT OF TRANSPORTATION  
 APPROVED *Matthew R. Rauch*  
 for State Traffic Engineer  
 DATE 12/05/13 PLATE NO. A4-6.12



SIGN SHALL BE MOUNTED TO PROJECT  
ABOVE THE TOP OF THE POST

1" ± 1/2"



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

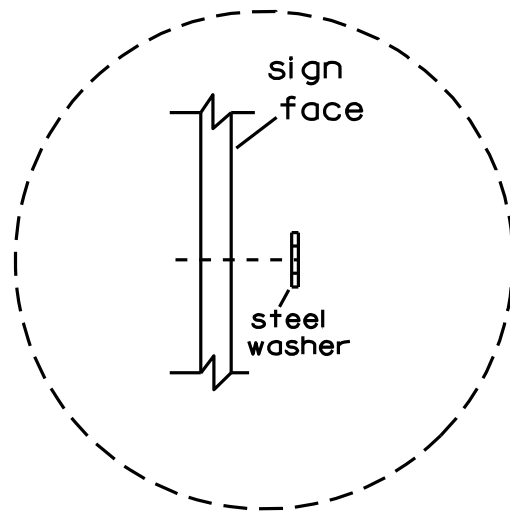
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL

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

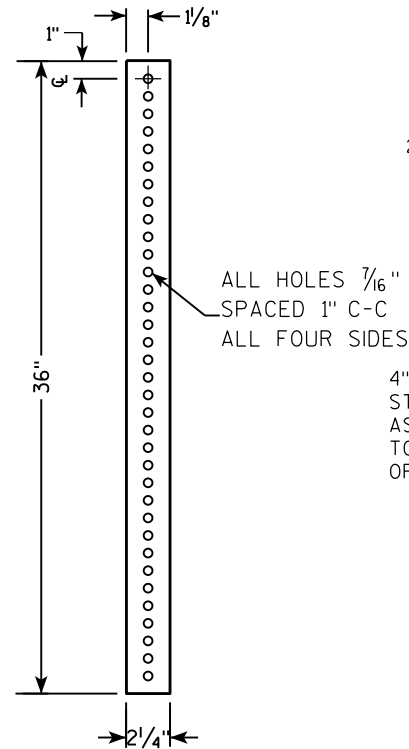
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*  
For State Traffic Engineer

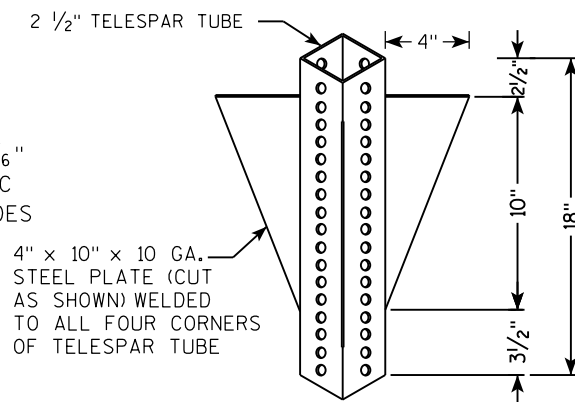
DATE 3/23/10 PLATE NO. A4-8.7

**TELESCOPIC TUBING ANCHORS  
TWO PIECE SYSTEM**

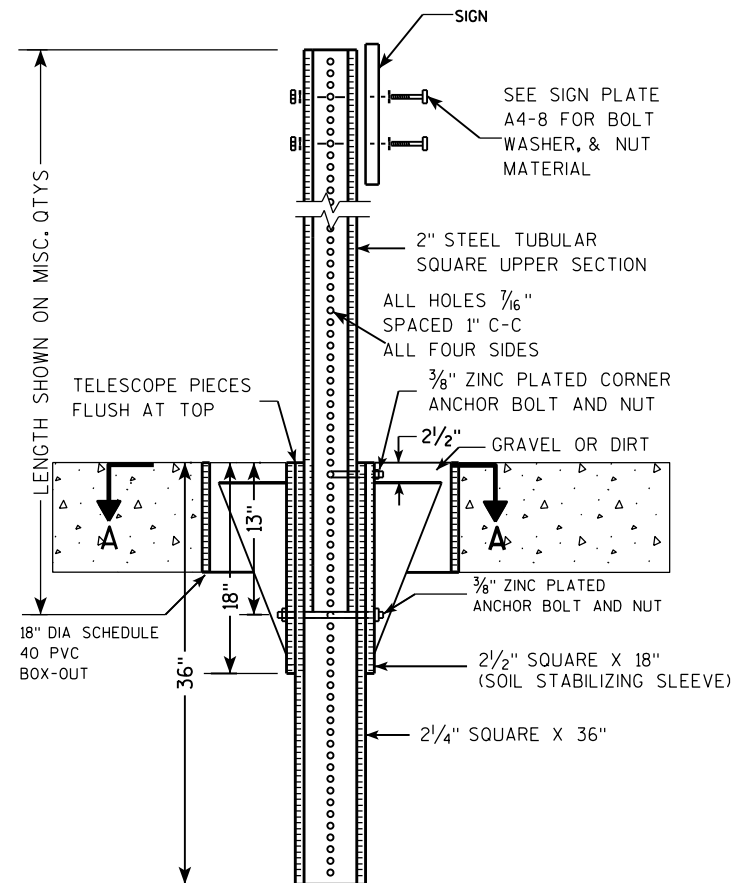
2 1/4" SQUARE  
12 GAUGE  
PERFORATED  
GALVANIZED FINISH



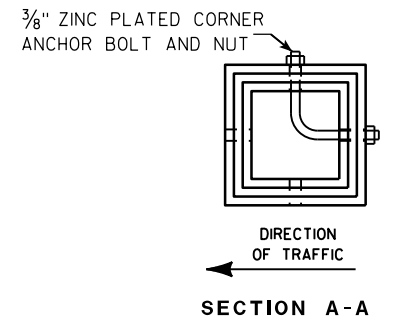
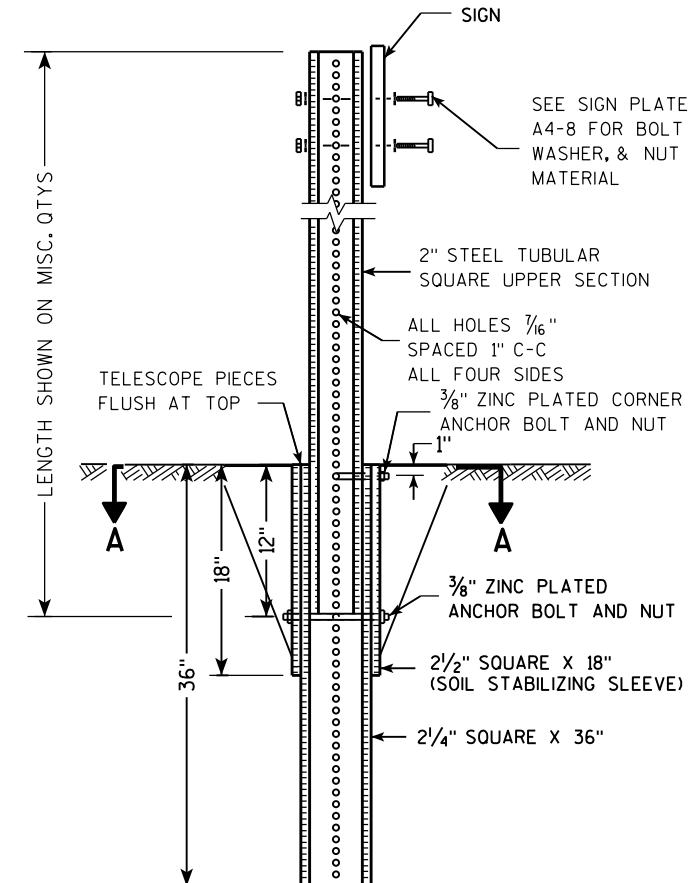
2 1/2" SQUARE  
12 GAUGE  
OMNI-DIRECTIONAL  
PERFORATED  
SOIL STABILIZING SLEEVE  
GALVANIZED FINISH



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



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



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

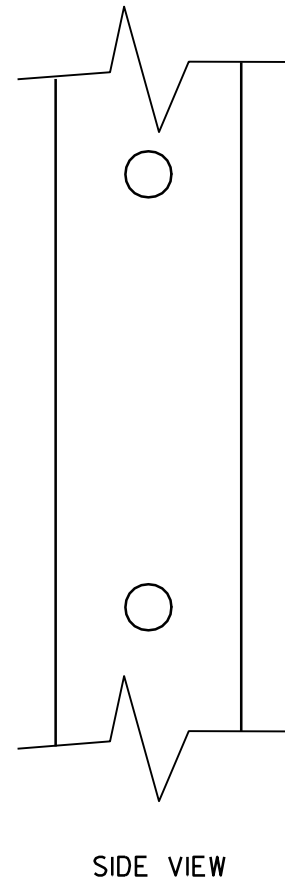
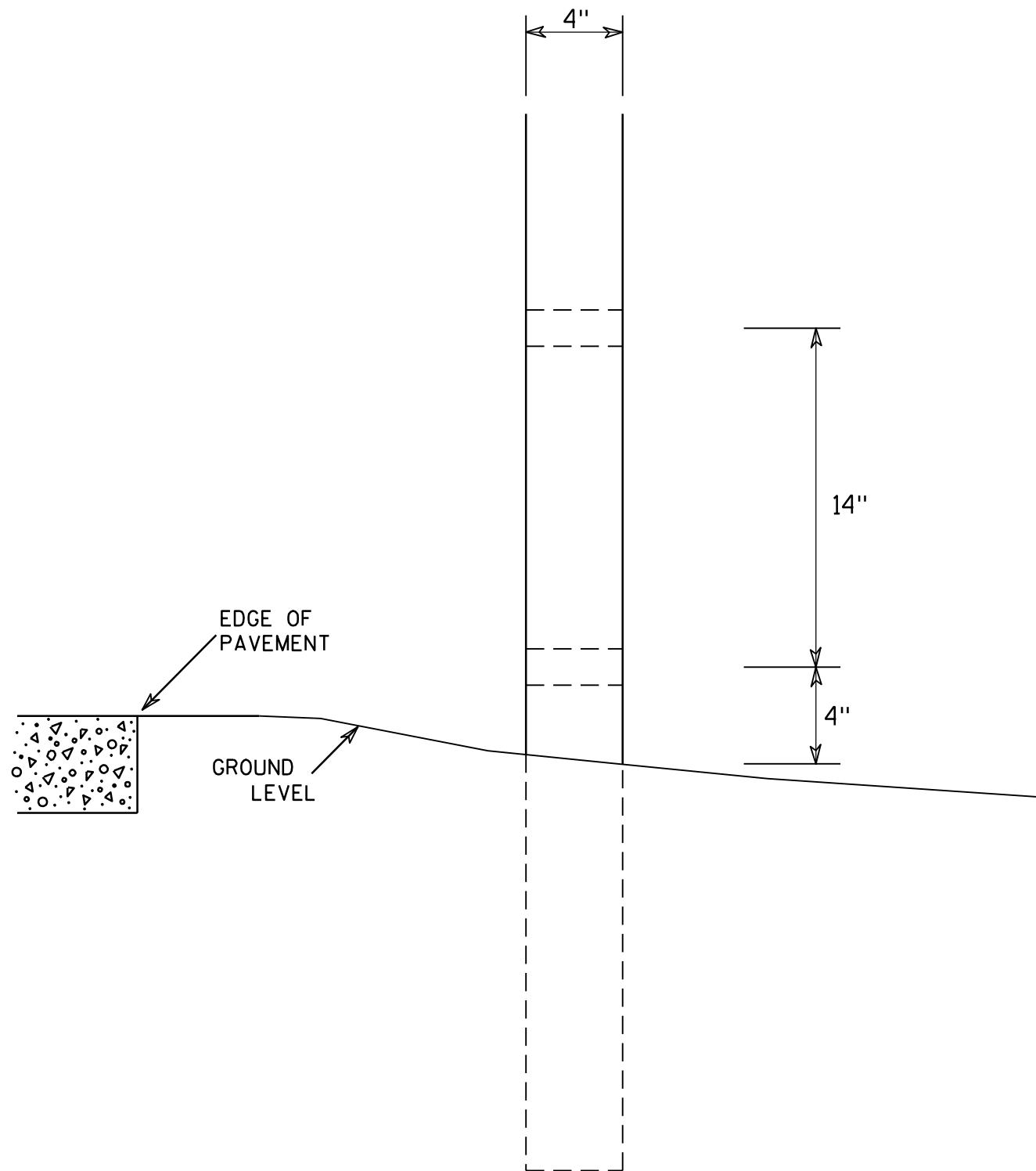
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

**TUBULAR STEEL  
SIGN POST  
A4-9**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9



GENERAL NOTES

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

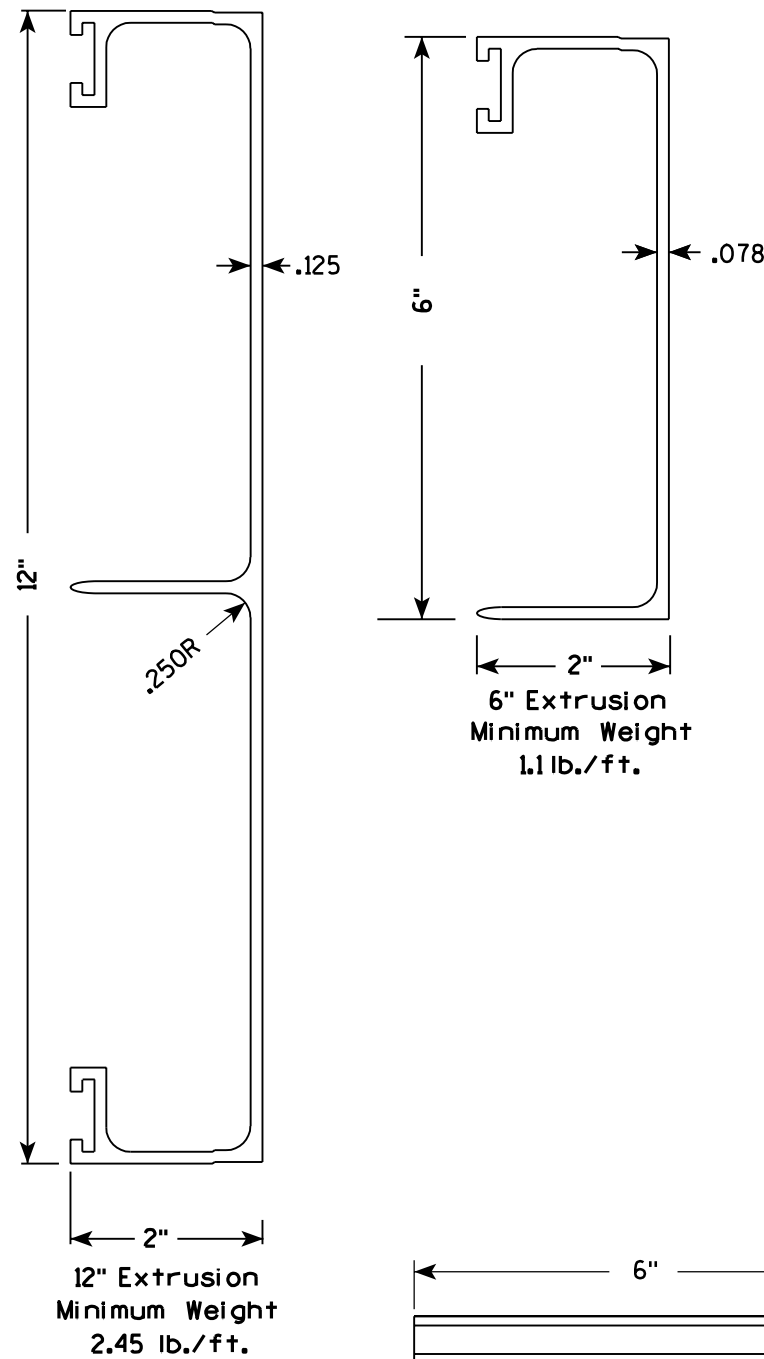
7

7

<b>4 X 6 WOOD POST MODIFICATIONS</b>	
<i>WISCONSIN DEPT OF TRANSPORTATION</i>	
APPROVED	<i>Chester J. Spang</i> for State Traffic Engineer
DATE <u>3/27/97</u>	PLATE NO. <u>A4-11.2</u>

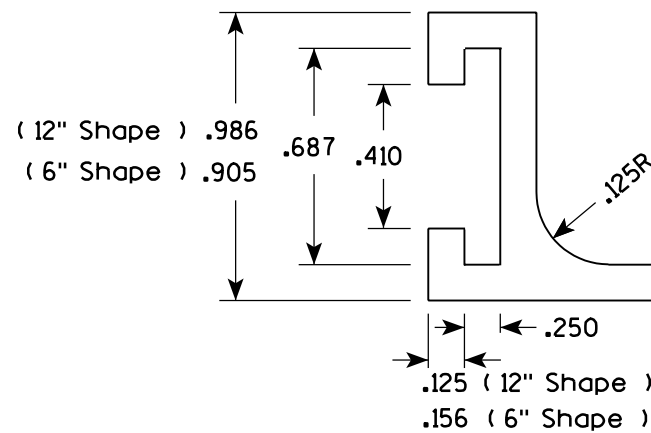
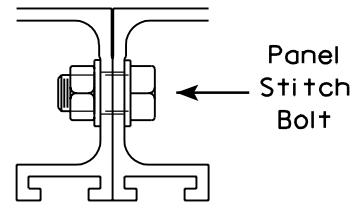
Extruded Shape

Hardware



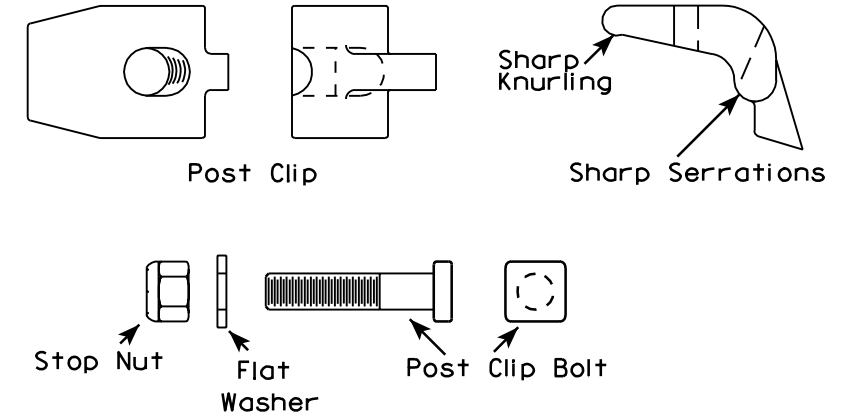
STITCH BOLT, WASHER & NUT

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



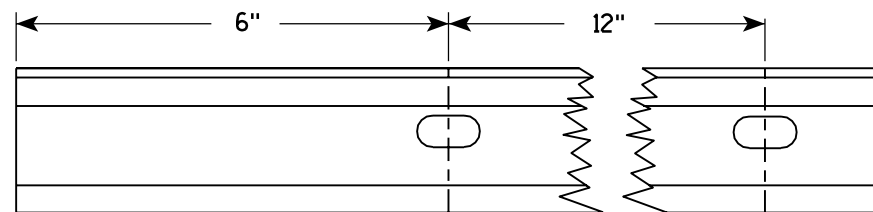
POST CLIP, POST CLIP BOLT, WASHER & NUT

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.

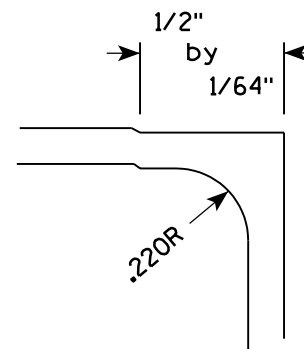


NOTES

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.



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.



ALUMINUM EXTRUSIONS FOR  
 TYPE I SIGNS

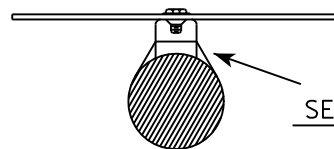
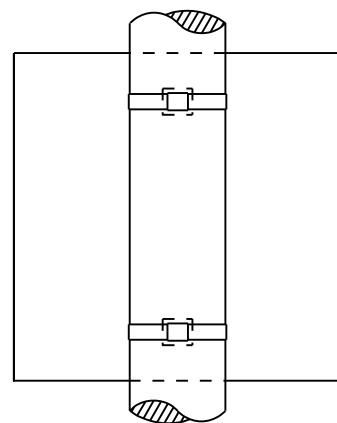
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Chester J. Spang*  
 for State Traffic Engineer  
 DATE 11/18/99 PLATE NO. A5-2.9



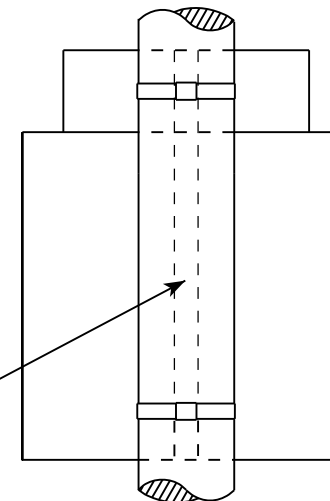
# BANDING

SINGLE SIGN

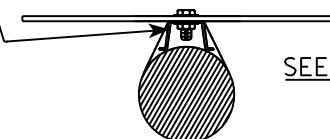


SEE DETAIL A

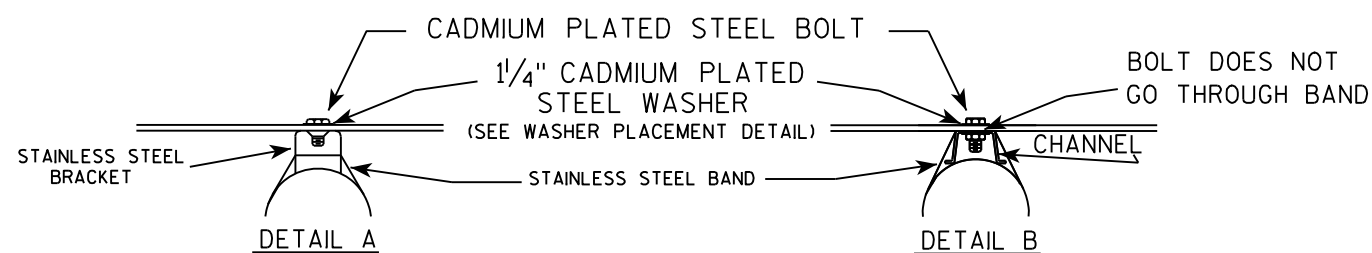
"J" ASSEMBLY



CHANNEL  
SEE TYPICAL PANEL  
INSTALLATION SHEET



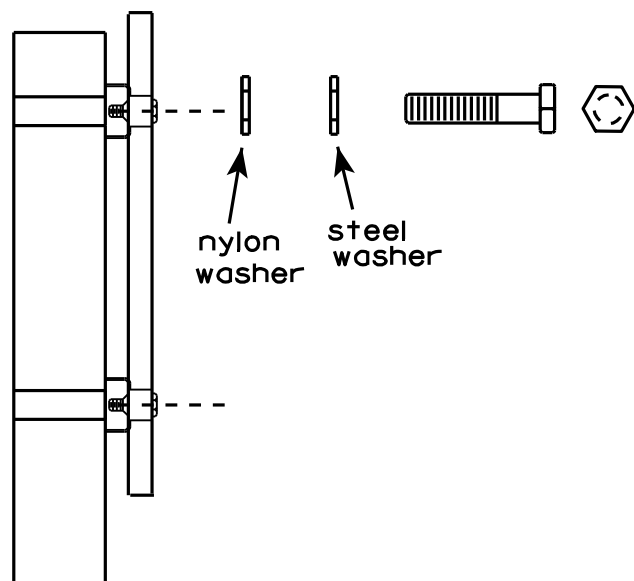
SEE DETAIL B



GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.

WASHER PLACEMENT



WASHERS (ALL POSTS) -  
 1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL  
 1-1/4" O.D. X 3/8" I.D. X .080 NYLON  
 FOR ALL TYPE H SIGNS

STANDARD SIGN  
 SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
 for State Traffic Engineer

DATE 8/16/13 PLATE NO. A5-9.3

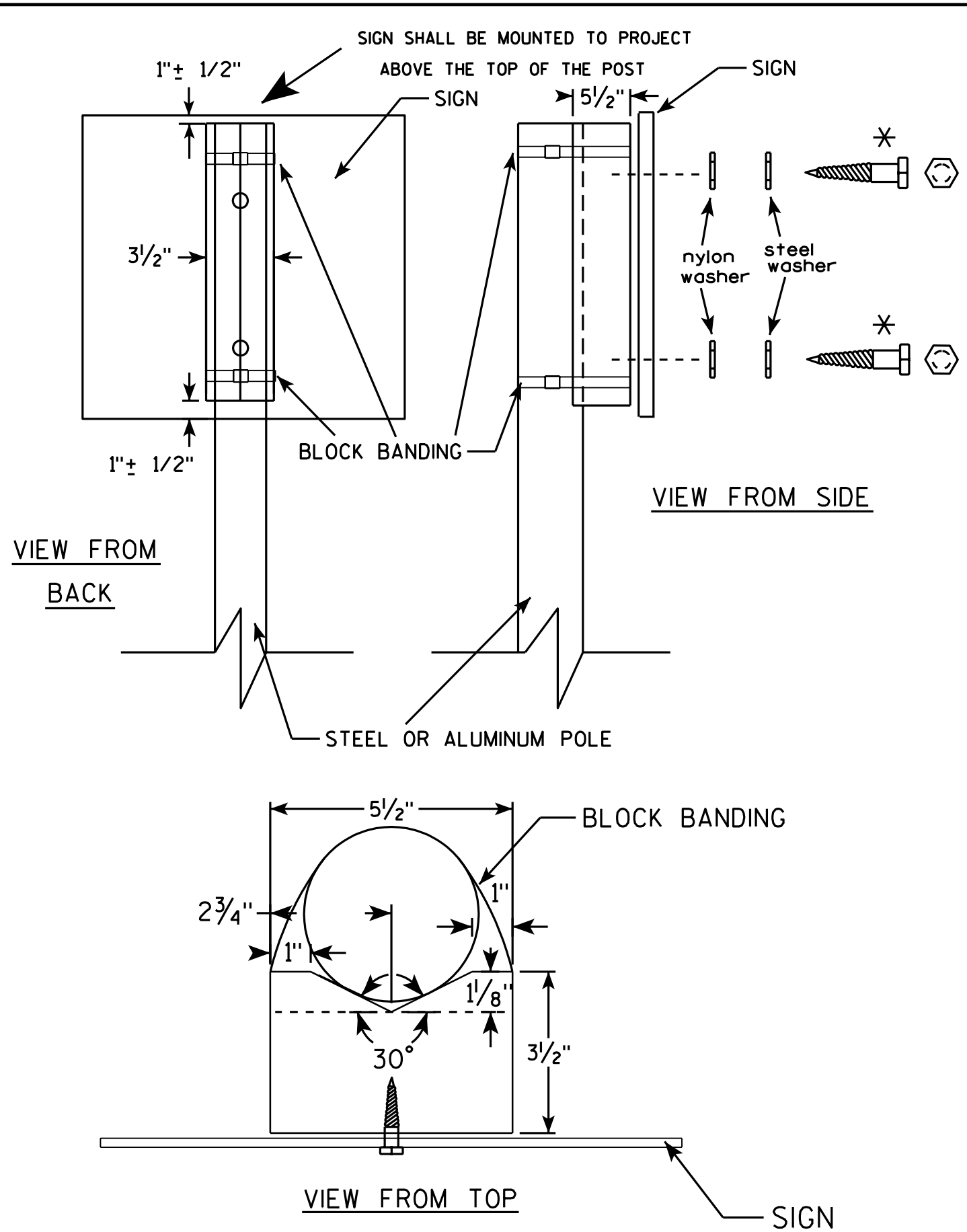
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

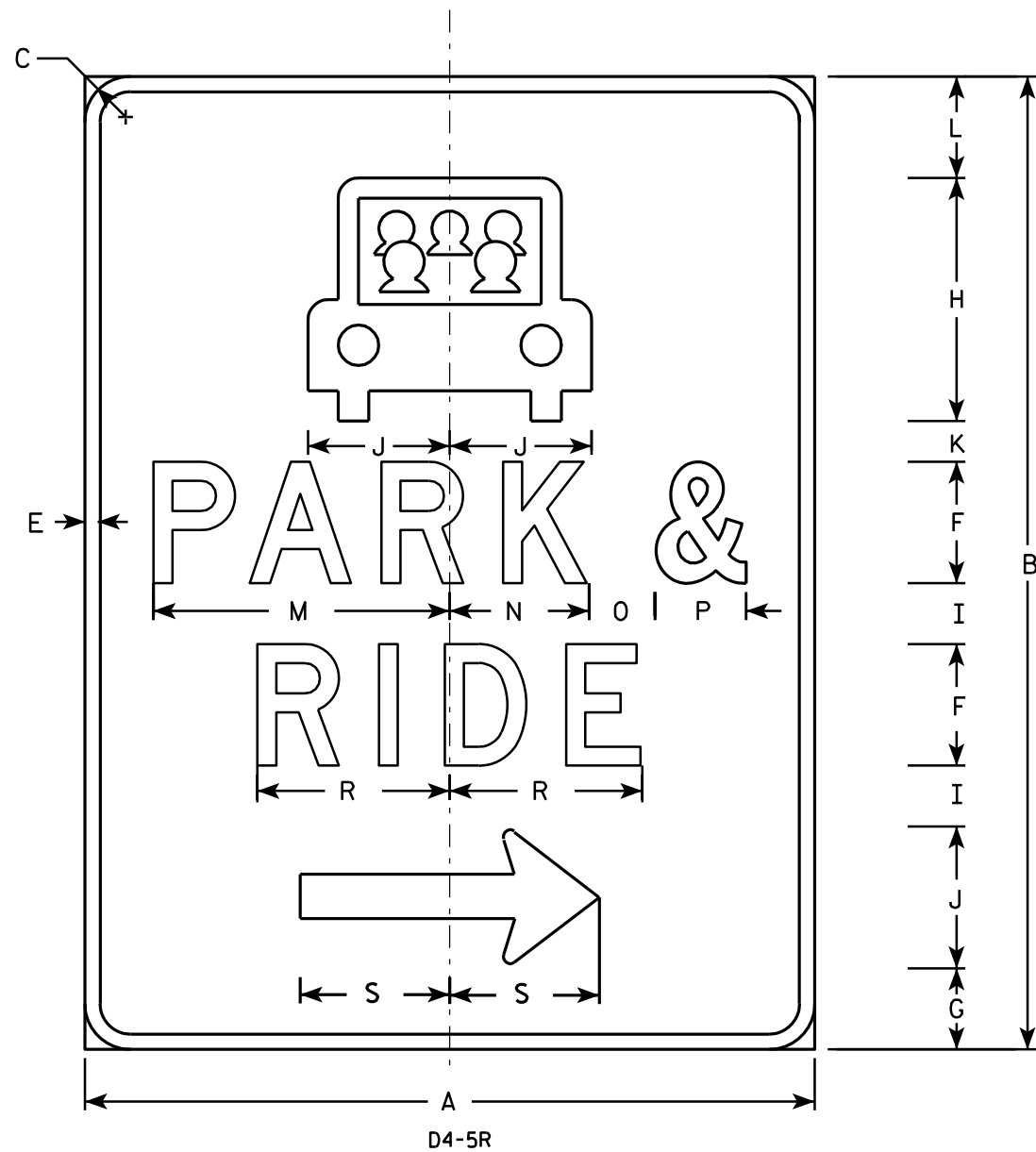


GENERAL NOTES

1. WOOD 4"x6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WISDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, 3/4" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
  - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D, or
  - b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
  - c. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1/4" O.D. X 3/8" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1/4" O.D. X 3/8" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

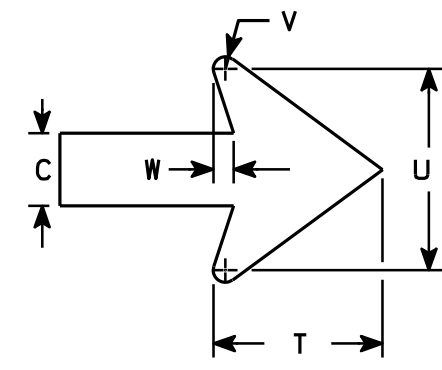
\* LAG BOLTS SHALL BE 3/8" X 2 1/2"

BLOCK BANDING DETAIL ( V-BLOCK OPTION )	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 7/12/07	PLATE NO. A5-10.1



**NOTES**

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Green  
Message - White - Type H Reflective
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The D4-5L is the same as a D4-5R except the arrow is reversed.



Arrow Detail

7

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																											
2	30	36	1 3/8		5/8	5	1 3/8	9	2	5	1 5/8	5	11 3/4	5 1/2	2 3/4	3 3/4		8	6 1/8	4	4 3/8	3/8	1/2				7.50
3	36	48	2 1/4		3/4	6	4	12	3	7	2	5	14 5/8	6 7/8	3 1/4	4 1/2		9 1/2	7 1/2	5 1/4	6 1/4	3/8	5/8				12.0
4																											
5																											

**STANDARD SIGN**  
**D4-5 L&R**

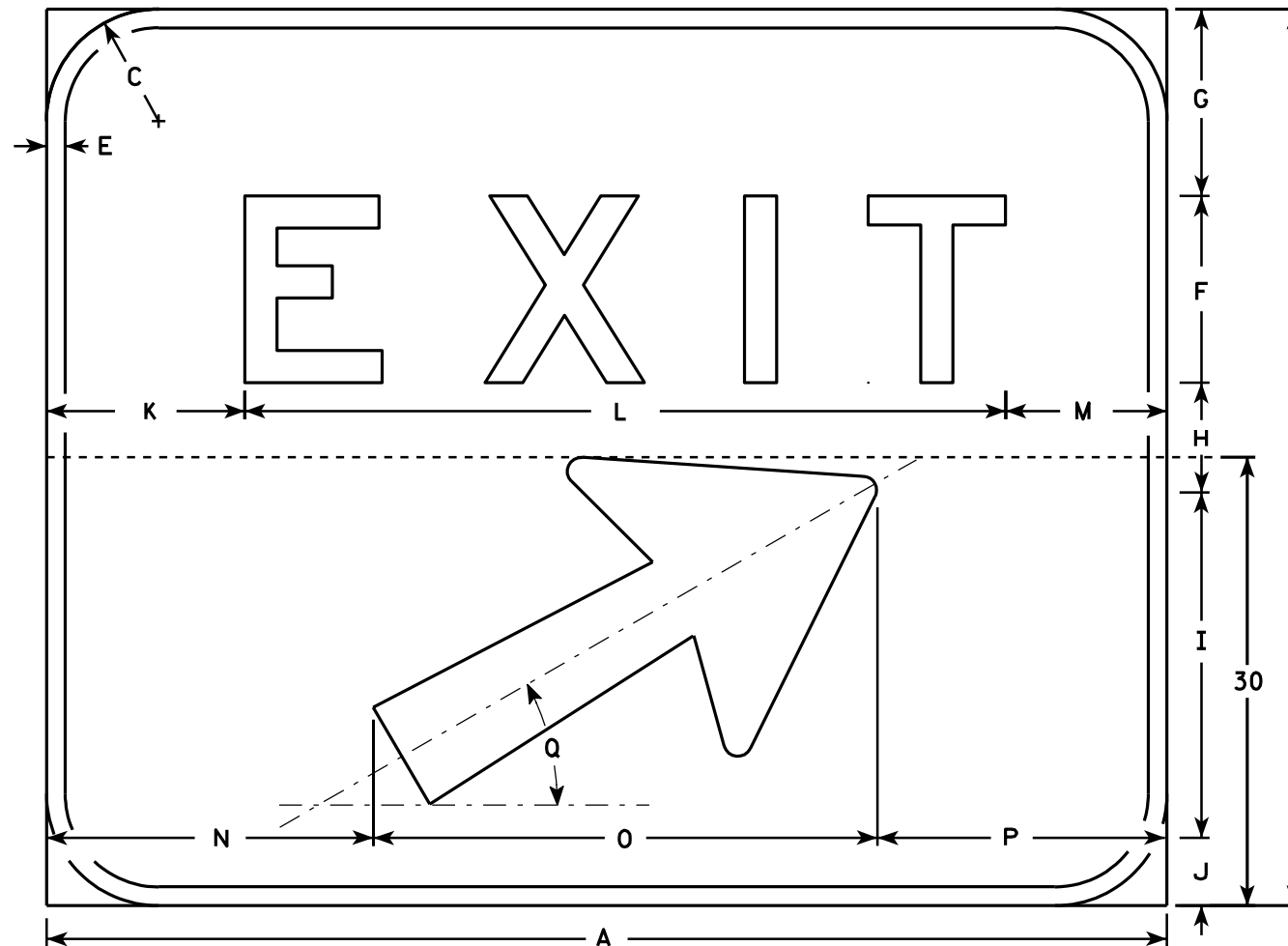
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 11/15/10 PLATE NO. D4-5.2

**NOTES**

1. Sign is Type II - Type H reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Green  
Message - White (Type H reflective)
3. Message Series - E
4. Corners may be square or rounded but borders shall be rounded as shown.
5. Base material for this sign shall be plywood and shall be split into two separate pieces for the 72 x 60 size as shown on the detail by the dashed line (-----).
6. Arrow is Type "A" from sign plate A1-1.
7. As per the Standard Spec's, this sign shall not have a vertical joint.



E5-1

Metric equivalent for this sign is:

SIZE	
1	
2	
3	
4	1500 mm X 1200 mm
5	1800 mm X 1500 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m <sup>2</sup>
1																												
2																												
3																												
4	60	48	6		1	10	10	5 7/8	18 1/2	3 5/8	10 5/8	40 3/4	8 5/8	17 1/2	27	15 1/2	30°									20.0	1.80	
5	72	60	6		1	12	12	10	18 1/2	7 1/2	13 1/4	48 1/2	10 1/4	23 1/2	27	21 1/2	30°									30.0	2.70	

**STANDARD SIGN**  
E5 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*Chester J. Spang*  
for State Traffic Engineer

DATE 6/22/00 PLATE NO. E5-1.8

PROJECT NO:

HWY:

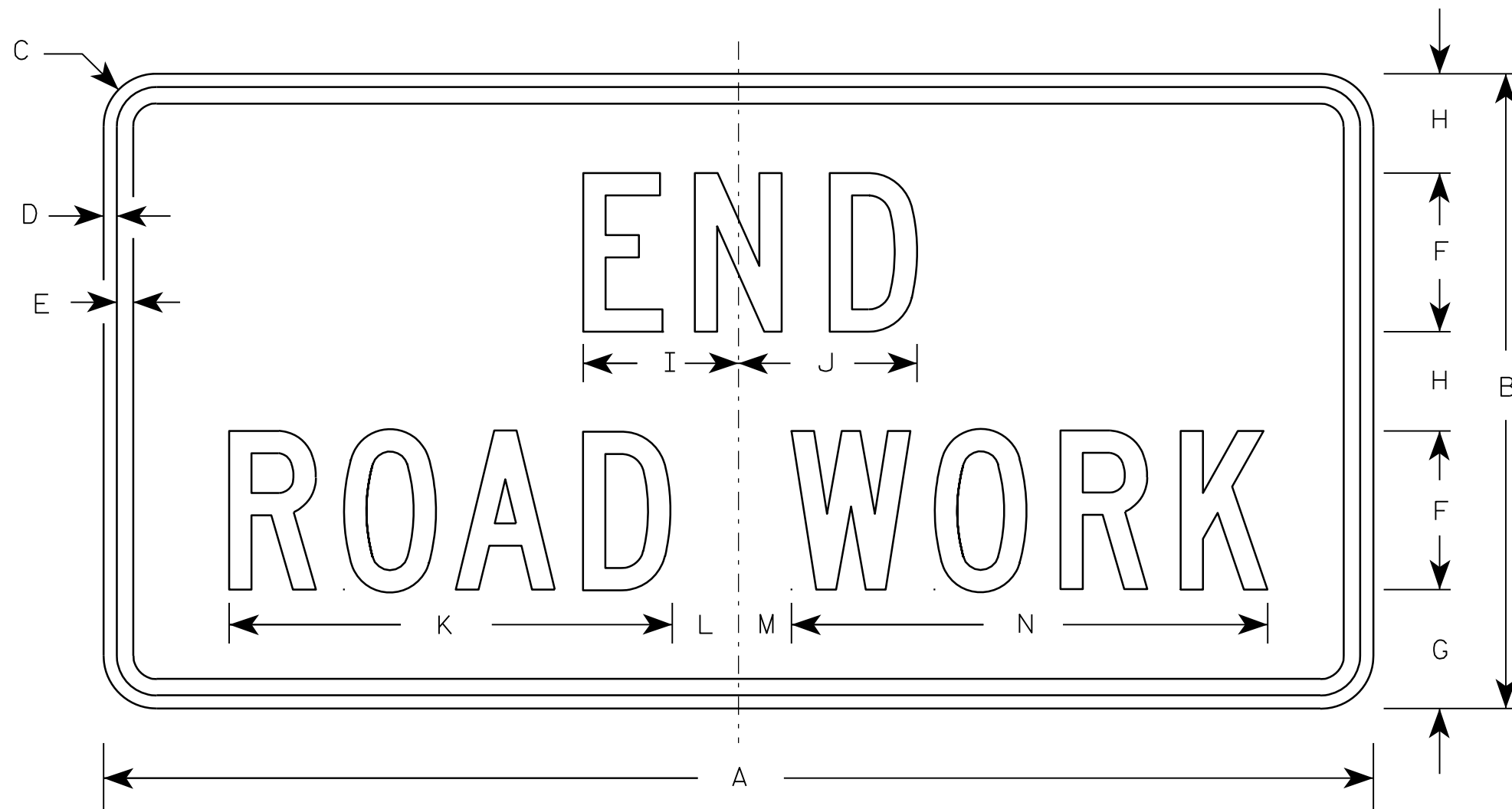
COUNTY:

SHEET NO:

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. 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.



G20-2A

7

7

Metric equivalent for this sign is:

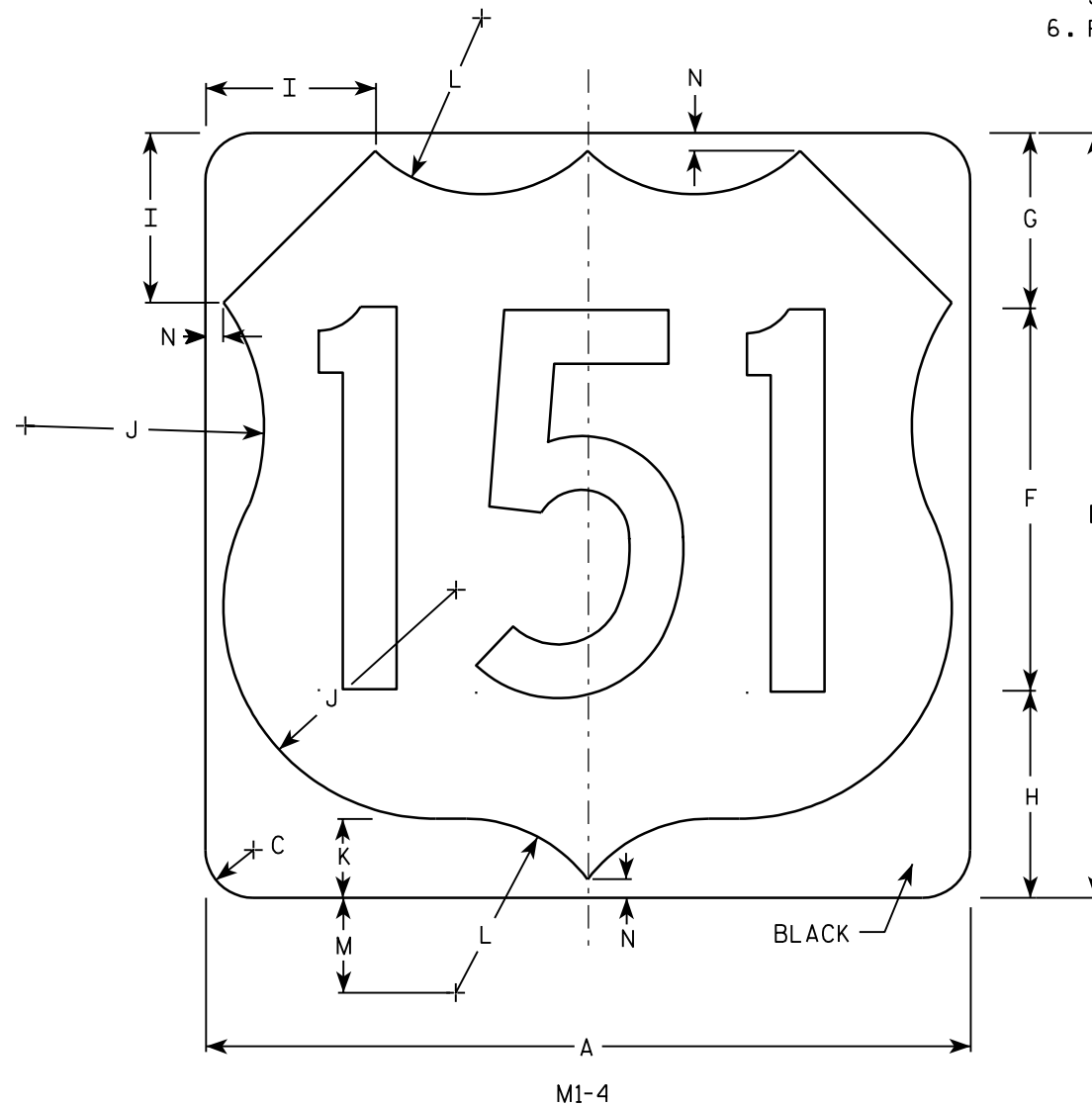
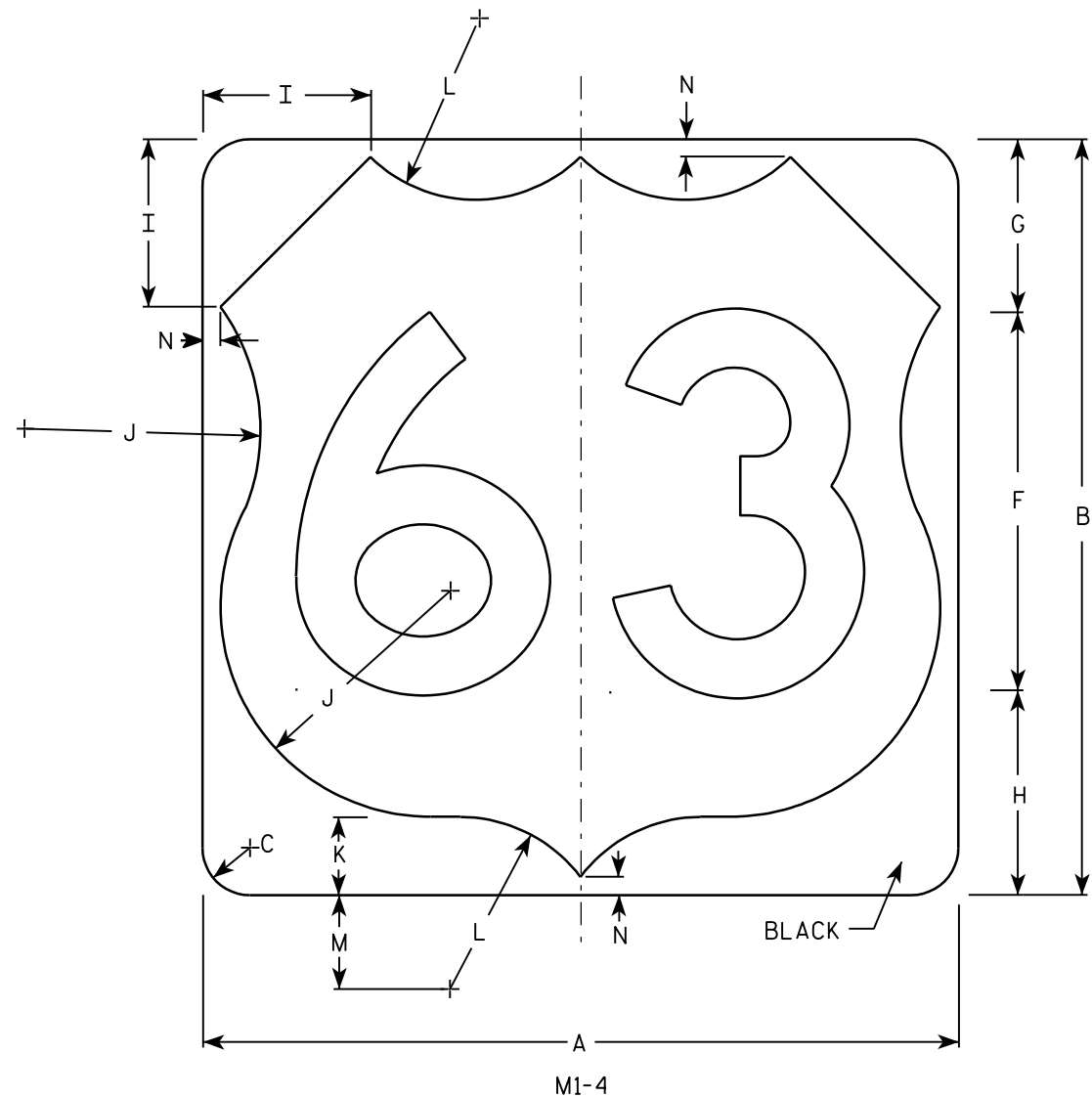
SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

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 sq. m.
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	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 9/30/09	PLATE NO. G20-2A.8

**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 m <sup>2</sup>
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

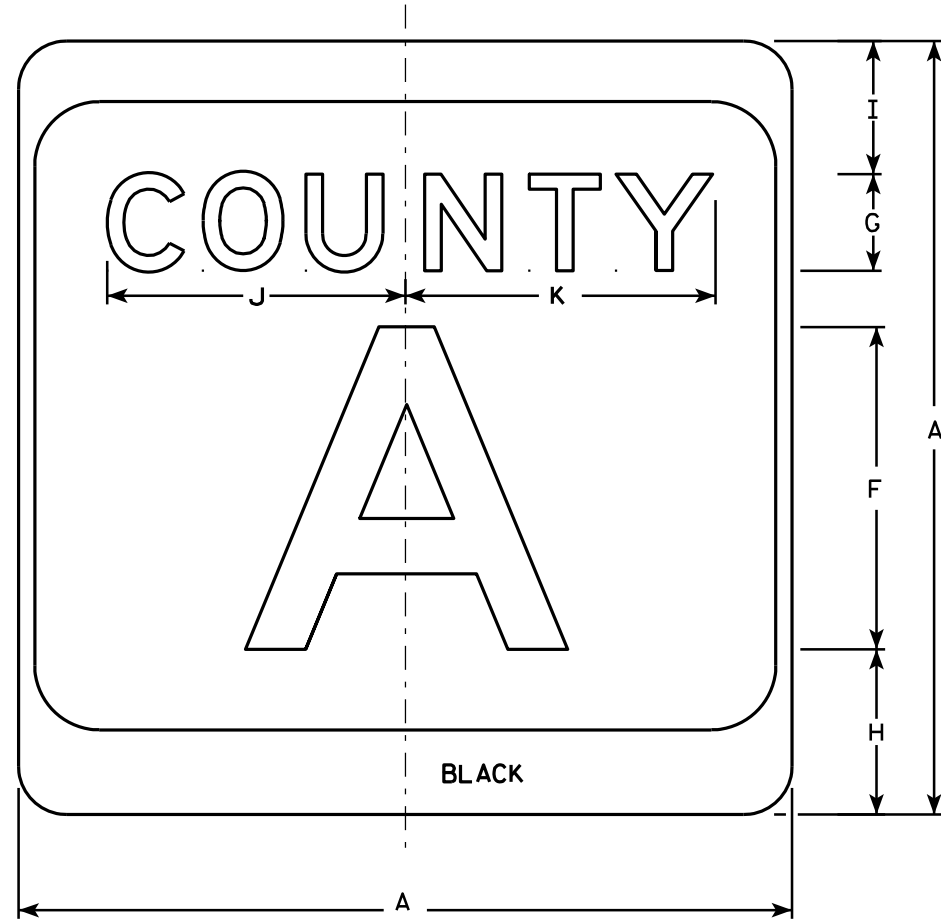
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

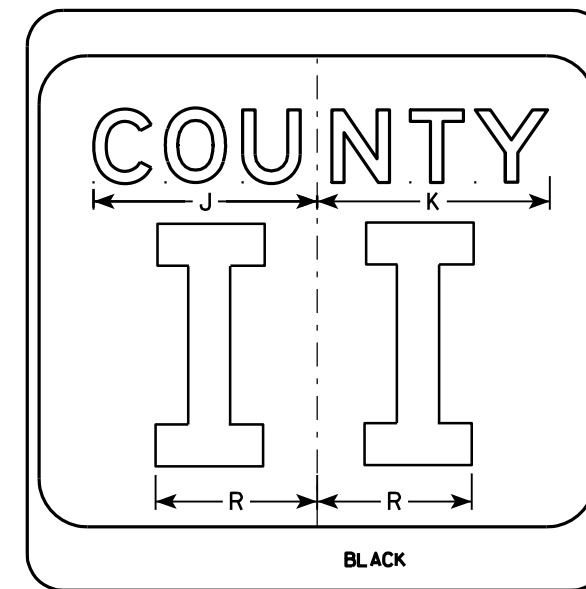
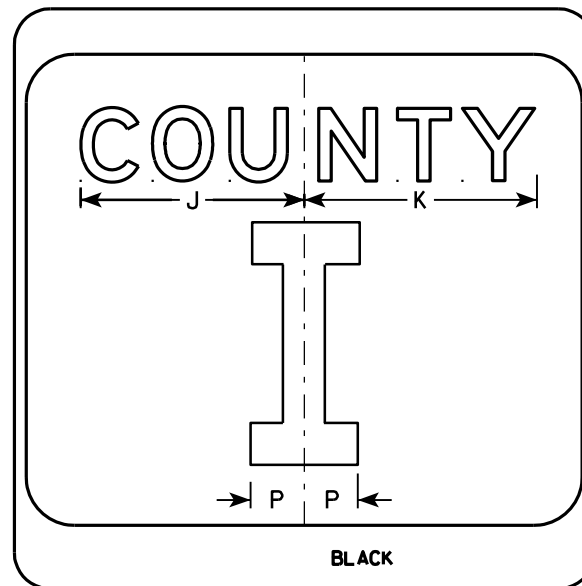
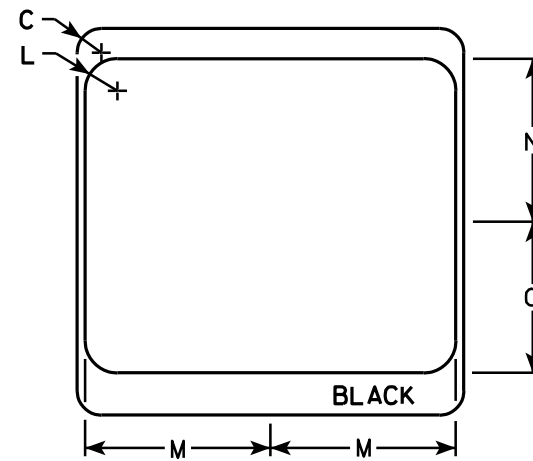
DATE 08/25/05 PLATE NO. M1-4.9

**NOTES**

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White & Black - See Note 7  
Message - Black
3. Message Series - see Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Message Series E for 1 letter.  
Message Series D for 2 letters unless message is too big then Series C.  
Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs  
Background - Type H Reflective  
Detour or temporary Signs  
Background - Reflective



M1-5A



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																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

**CTH MARKER**  
**M1-5A FOR ASSEMBLIES**

WISCONSIN DEPT OF TRANSPORTATION

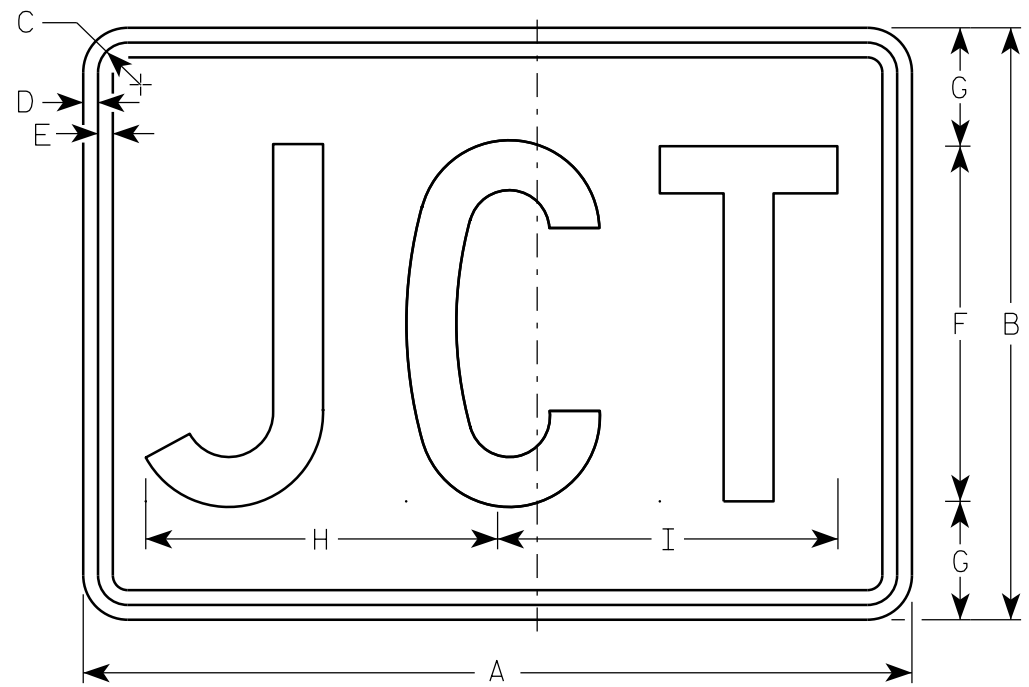
APPROVED *Matthew R. Raub*  
For State Traffic Engineer

DATE 9/27/11 PLATE NO. MI-5A.8

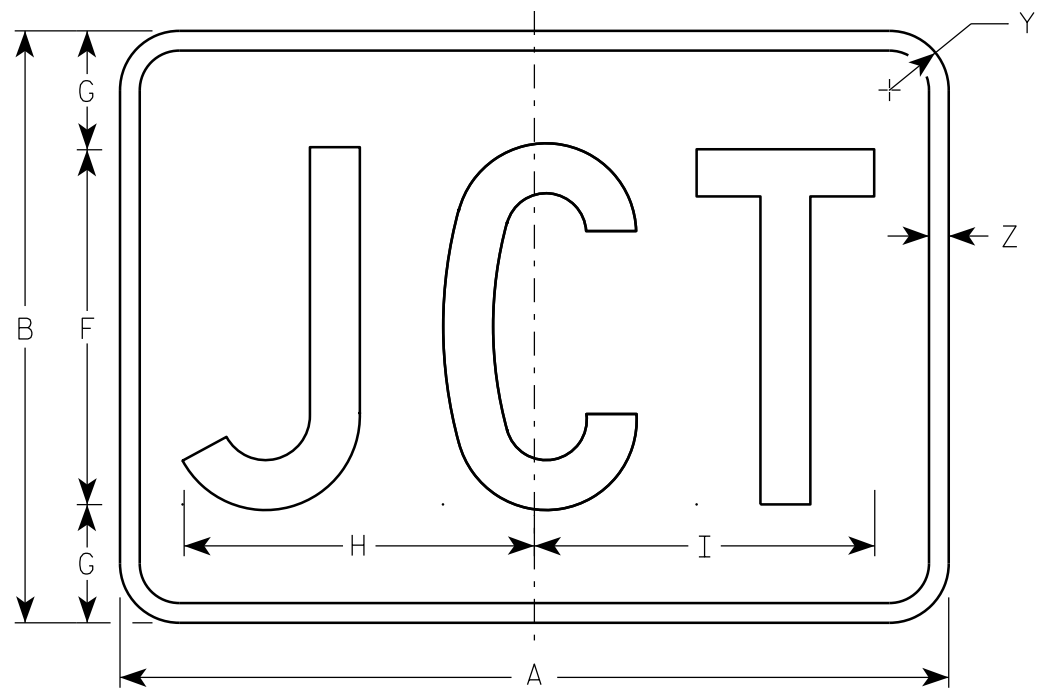
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

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  
 MR2-1 Background - Brown  
 Message - Yellow



M2-1  
 MK2-1  
 MM2-1  
 MN2-1  
 MR2-1



MB2-1

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
5	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40

STANDARD SIGN  
M2-1

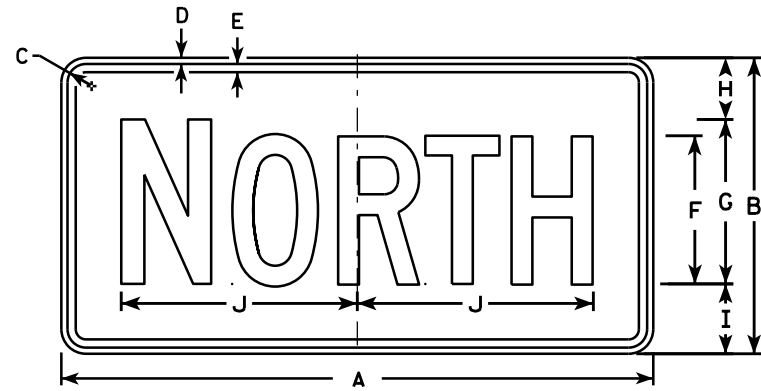
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
 For State Traffic Engineer

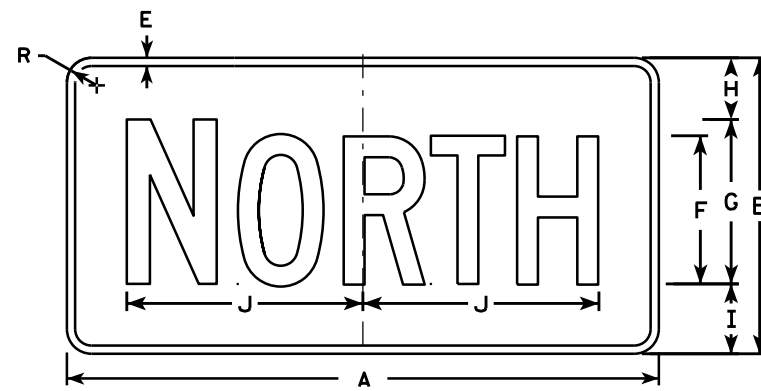
DATE 6/30/14 PLATE NO. M2-1.11

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**





M3-1  
MK3-1  
MM3-1  
MN3-1



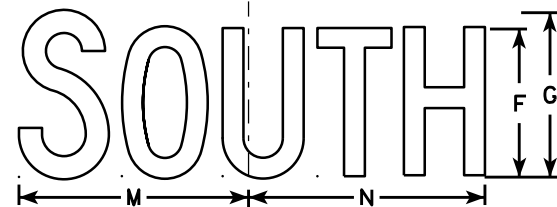
MB3-1



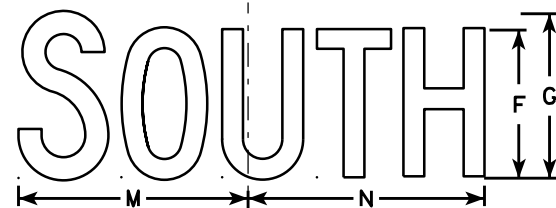
M3-2  
MK3-2  
MM3-2  
MN3-2



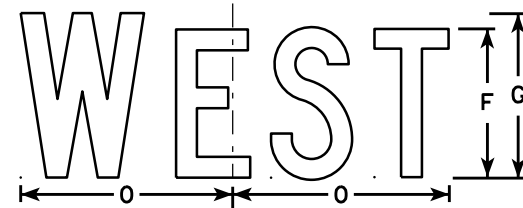
MB3-2



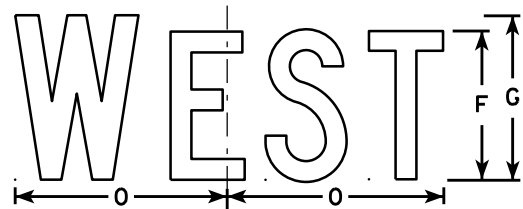
M3-3  
MK3-3  
MM3-3  
MN3-3



MB3-3



M3-4  
MK3-4  
MM3-4  
MN3-4



MB3-4

NOTES

- All Signs Type II - Type H
- Color:  
Background - See note 5  
Message - See note 5
- Message Series - C
- 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.
- 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
- Note the first letter of each direction is larger than the remainder of the message.

7

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																											
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

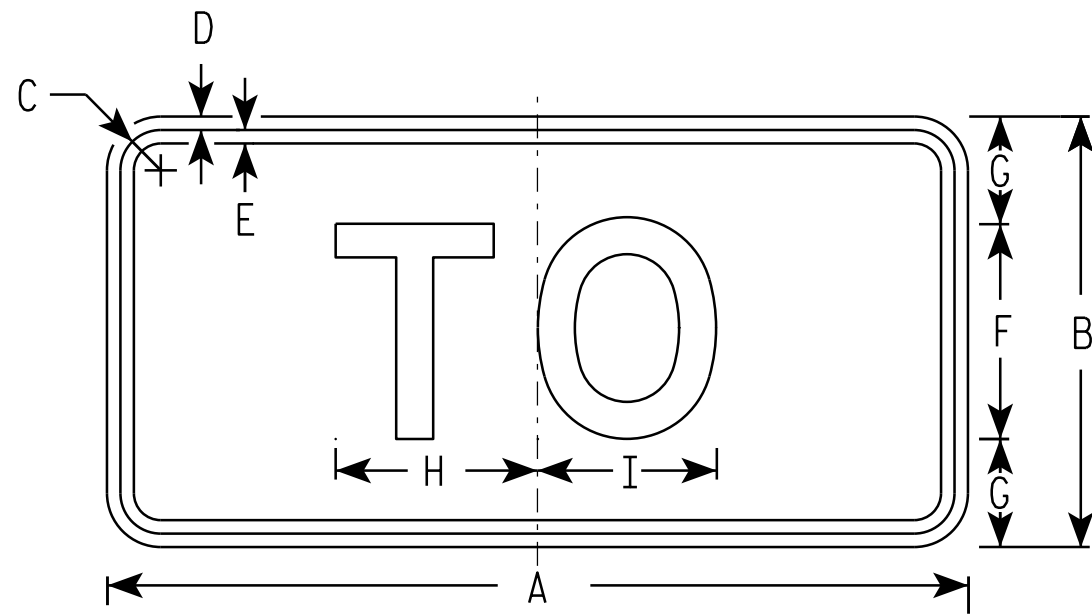
STANDARD SIGNS  
M3-1 thru M3-4  
SERIES

WISCONSIN DEPT OF TRANSPORTATION

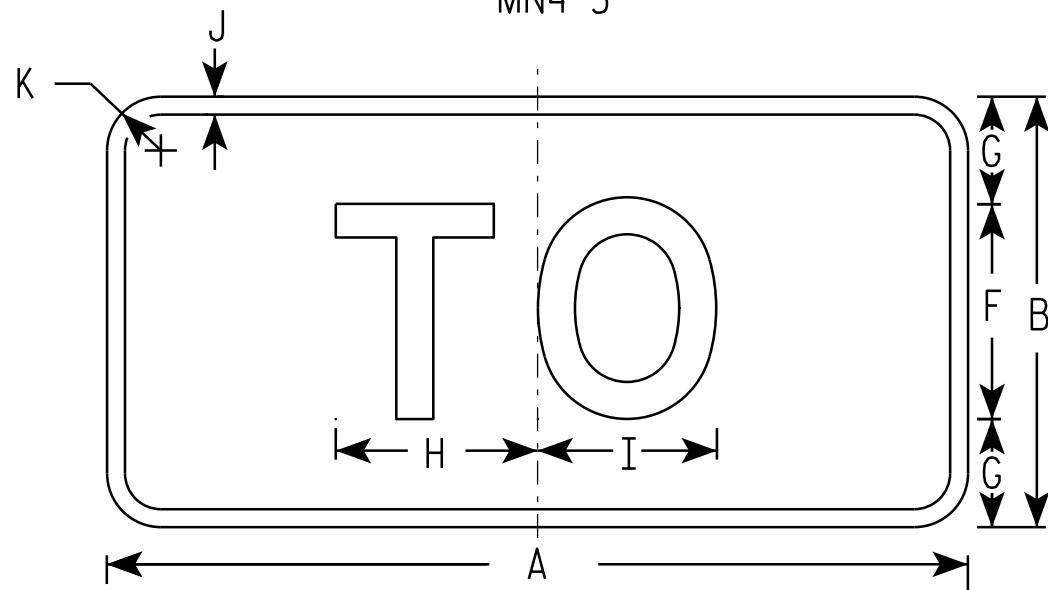
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 6/30/14 PLATE NO. M3-1.13

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



M4-5  
MK4-5  
MM4-5  
MN4-5



MB4-5

NOTES

1. Sign is Type II - Type H
2. Color:  
Background - See note 5  
Message - See note 5
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-5 Background - White  
Message - Black  
MB4-5 Background - Blue  
Message - White  
MK4-5 Background - Green  
Message - White  
MM4-5 Background - White  
Message - Green  
MN4-5 Background - Brown  
Message - White

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																											
2	24	12	1 1/8	3/8	3/8	6	3	5 3/8	5 1/4	1/2	1 1/2																2.00
3	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
4	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
5	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5

**STANDARD SIGN**  
M4-5

WISCONSIN DEPT OF TRANSPORTATION

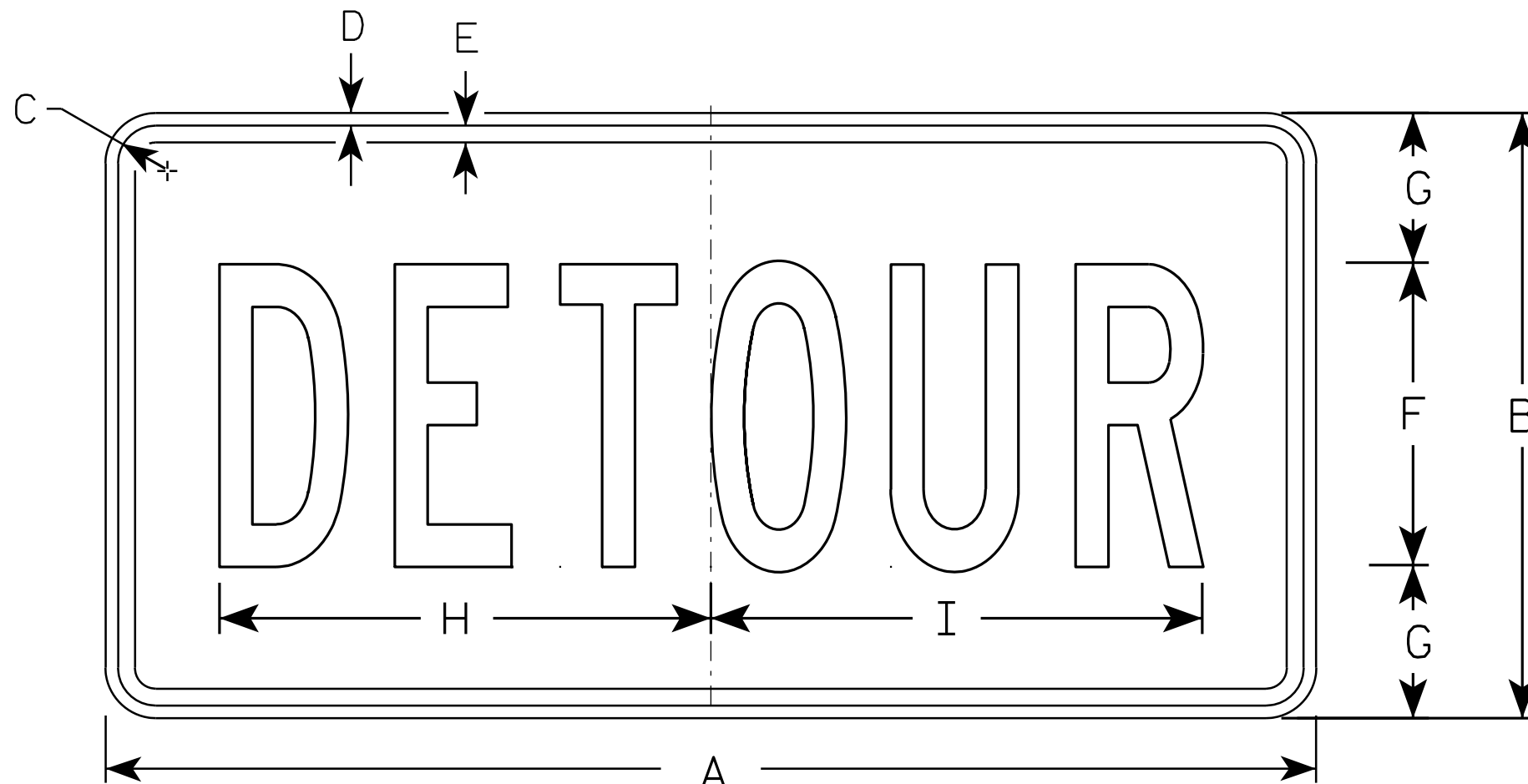
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 6/30/14 PLATE NO. M4-5.7

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Orange  
Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



M4-8

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																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

STANDARD SIGN  
M4-8

WISCONSIN DEPT OF TRANSPORTATION

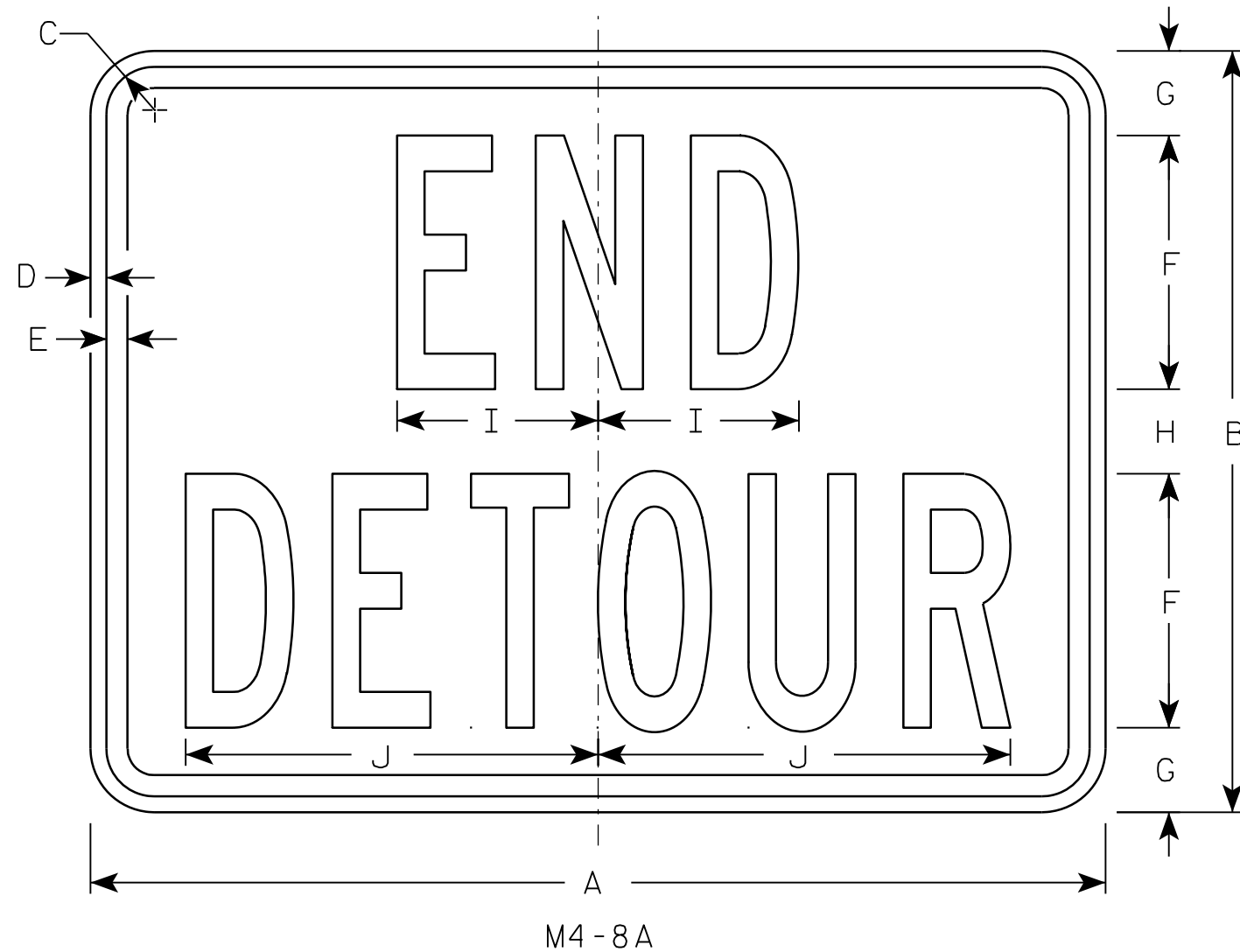
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **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. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



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																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

STANDARD SIGN  
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

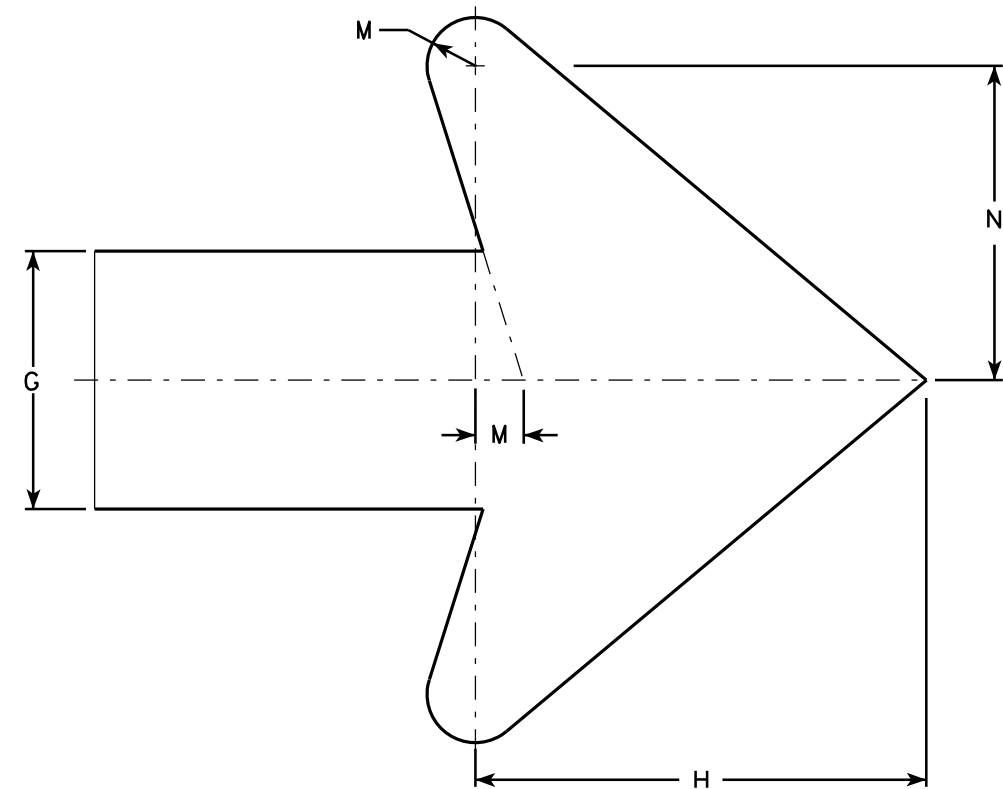
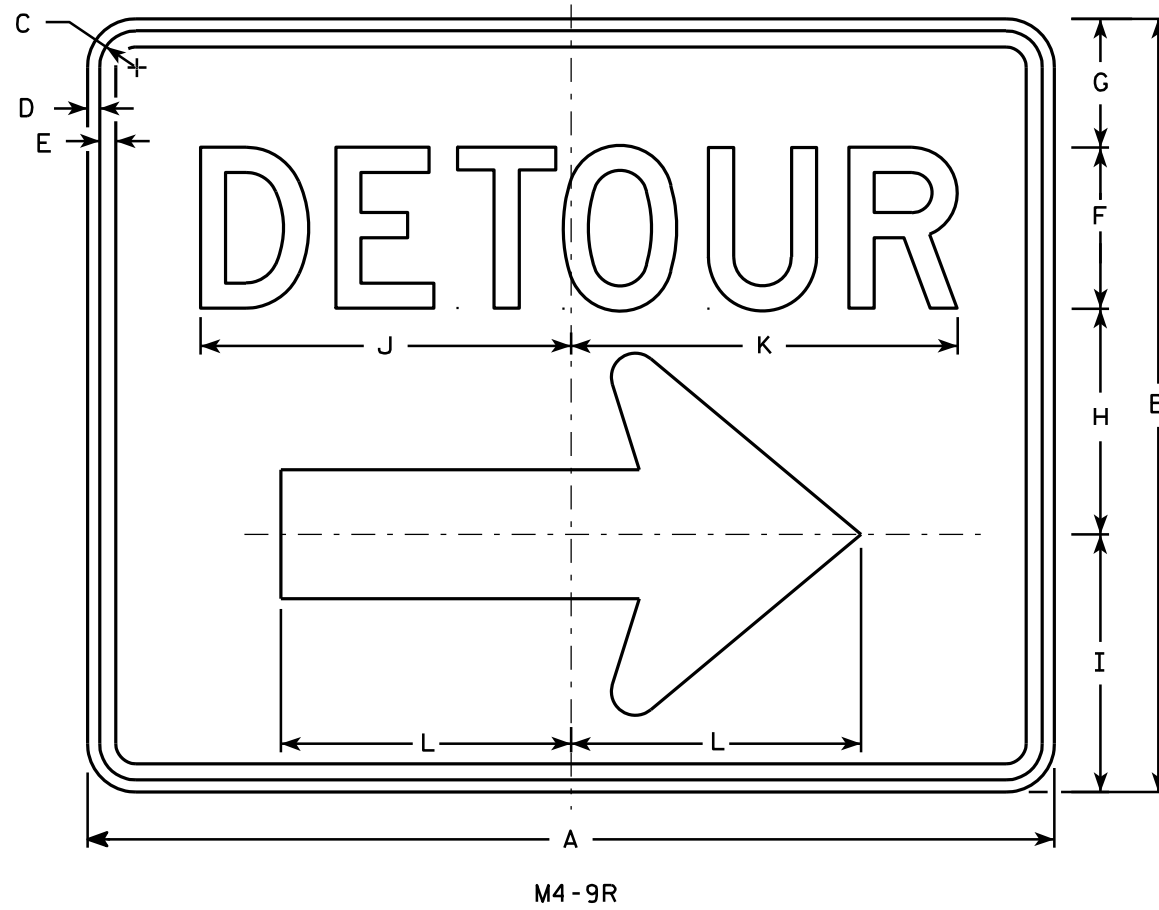
APPROVED *Matthew R Rauch*  
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **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. 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. M4-9L is the same as M4-9R except the arrow is reversed.



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																											
2	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

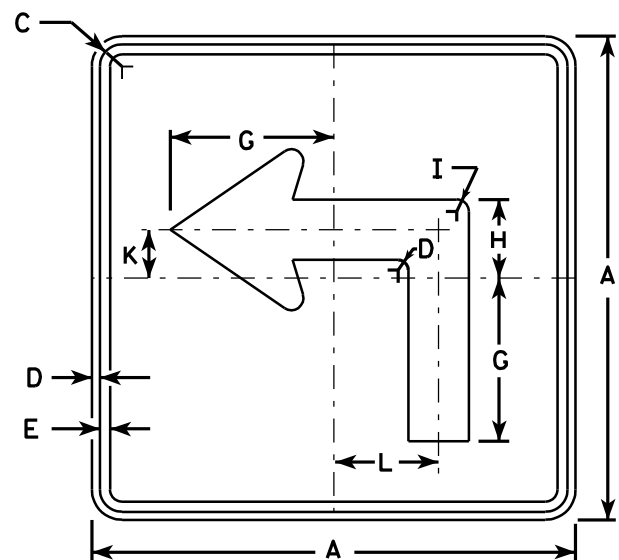
**STANDARD SIGN**  
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

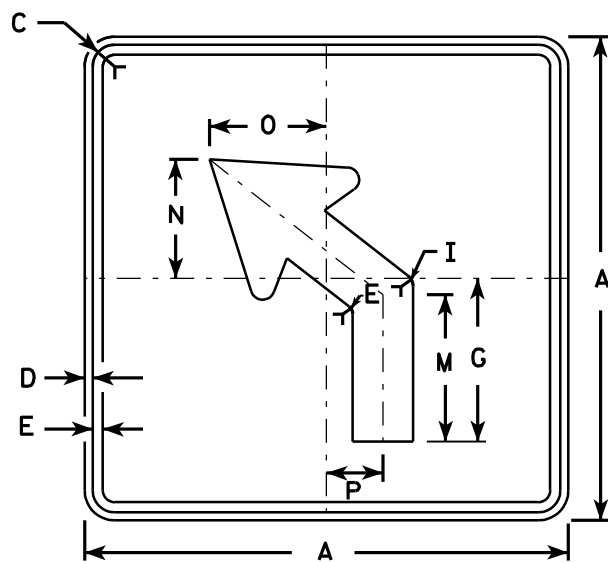
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-9R.4

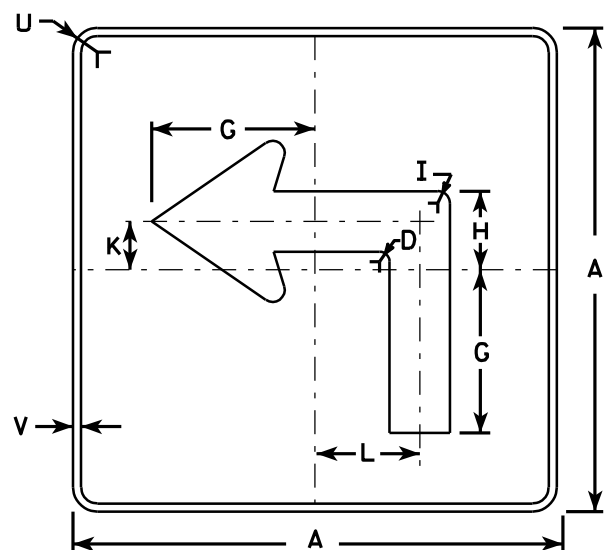
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**



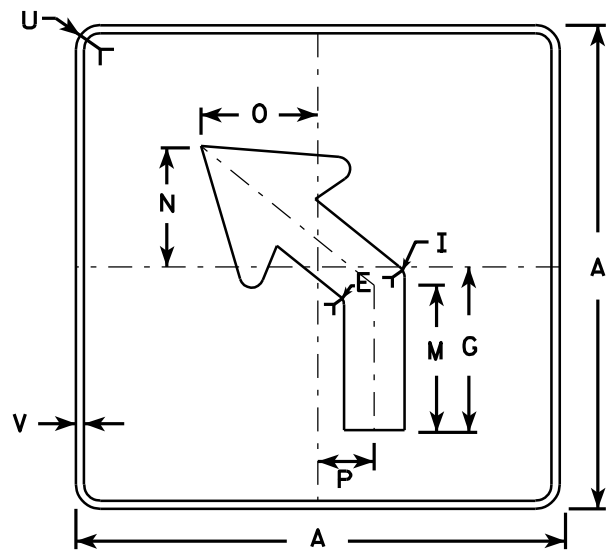
M5-1L  
MK5-1L  
MM5-1L  
M05-1L  
MP5-1L  
MR5-1L



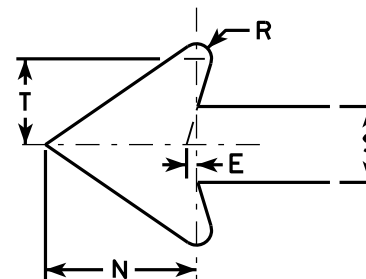
M5-2L  
MK5-2L  
MM5-2L  
M05-2L  
MP5-2L  
MR5-2L



MB5-1L  
MG5-1L  
MN5-1L



MB5-2L  
MG5-2L  
MN5-2L



**NOTES**

- Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:  
Background - See note 4  
Message - See note 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.
- |                 |   |
|-----------------|---|
| M5-1 and M5-2   | Background - White - Type H Reflective  |
|                 | Message - Black                         |
| MB5-1 and MB5-2 | Background - Blue                       |
|                 | Message - White - Type H Reflective     |
| MG5-1 and MG5-2 | Background - Green                      |
|                 | Message - White - Type H Reflective     |
| MK5-1 and MK5-2 | Background - Green                      |
|                 | Message - White Type H Reflective       |
| MM5-1 and MM5-2 | Background - White - Type H Reflective  |
|                 | Message - Green                         |
| MN5-1 and MN5-2 | Background - Brown                      |
|                 | Message - White - Type H Reflective     |
| M05-1 and M05-2 | 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 - Type H Reflective    |
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

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																											
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

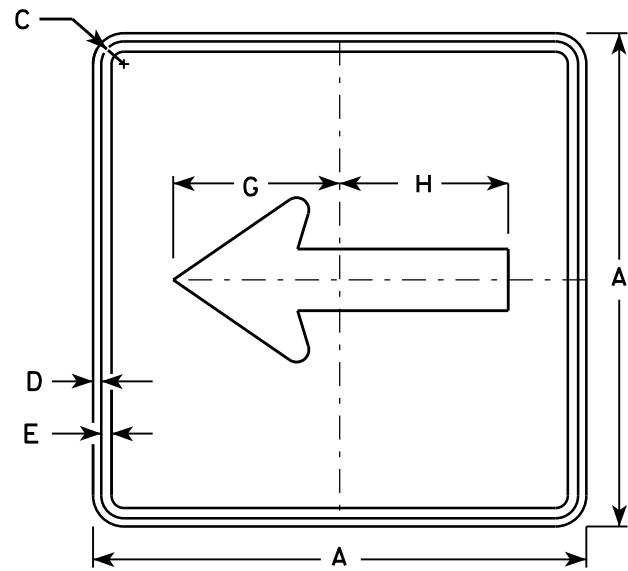
**STANDARD SIGN**  
**M5-1 & M5-2**

WISCONSIN DEPT OF TRANSPORTATION

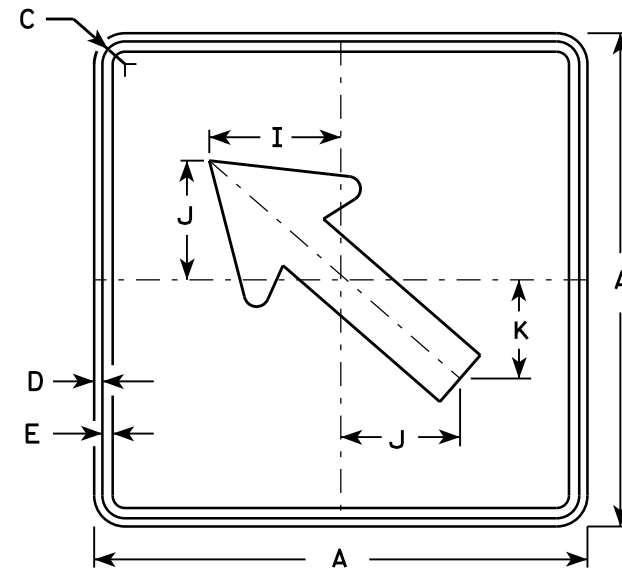
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 7/29/13 PLATE NO. M5-1.12

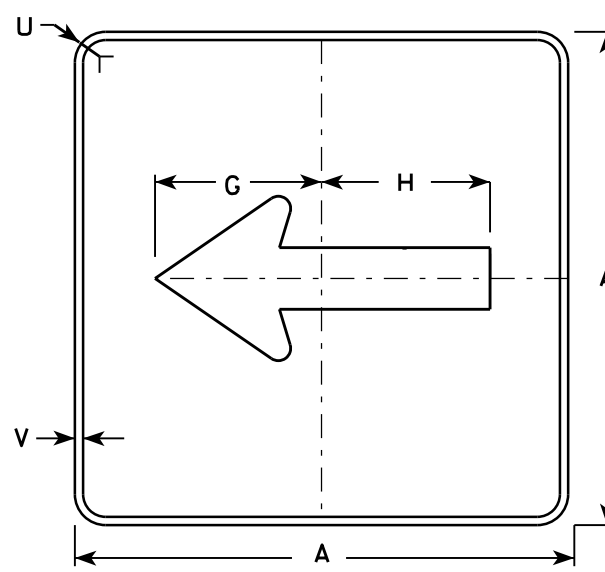
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**



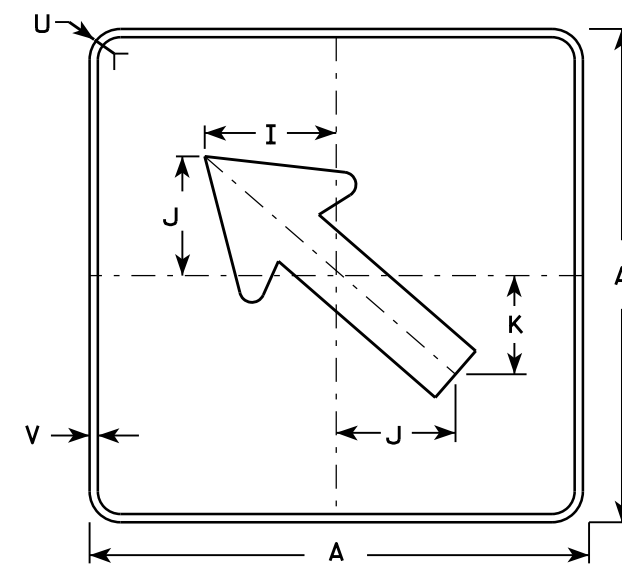
M6-1  
MK6-1  
MM6-1  
MN6-1  
M06-1  
MP6-1  
MR6-1



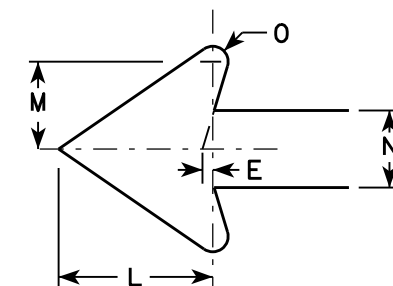
M6-2  
MK6-2  
MM6-2  
MN6-2  
M06-2  
MP6-2  
MR6-2



MB6-1



MB6-2



NOTES

- Signs are Type II - Type H except as Shown
- Color:  
Background - See note 4  
Message - See note 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.
- M6-1 and M6-2 Background - White  
Message - Black  
MB6-1 and MB6-2 Background - Blue  
Message - White  
MG6-1 and MG6-2 Background - Green  
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  
M06-1 and M06-2 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

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																											
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

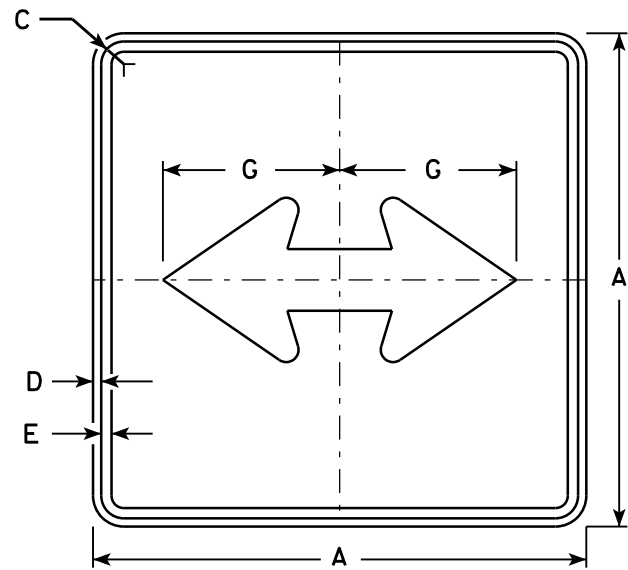
STANDARD SIGN  
M6-1 & M6-2  
SERIES

WISCONSIN DEPT OF TRANSPORTATION

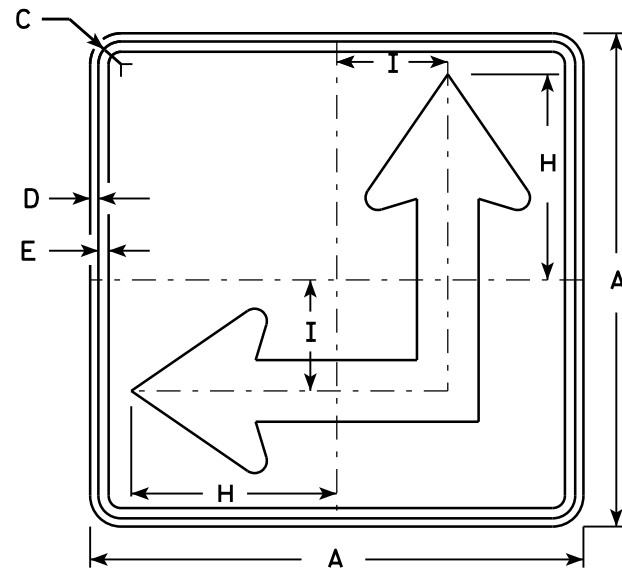
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 7/03/14 PLATE NO. M6-1.14

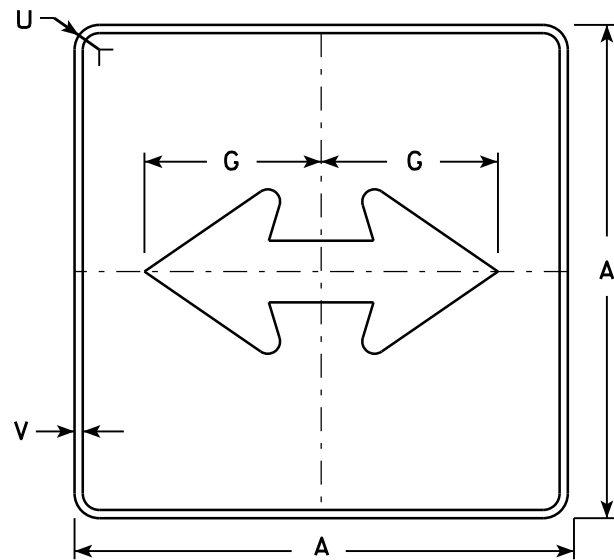
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**



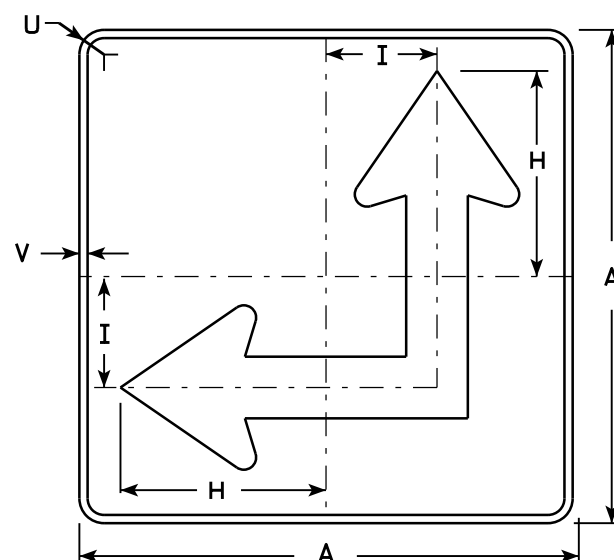
M6-4  
MK6-4  
MM6-4  
MN6-4  
M06-4  
MP6-4  
MR6-4



M6-6  
MK6-6  
MM6-6  
MN6-6  
M06-6  
MP6-6  
MR6-6



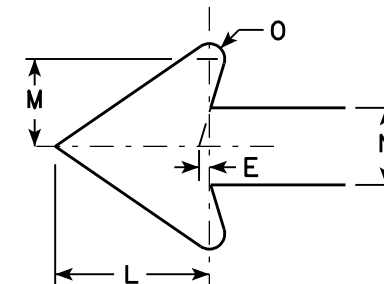
MB6-4



MB6-6

NOTES

- Signs are Type II - Type H except as Shown
- Color:  
Background - See Note 4  
Message - See Note 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.
- M6-4 and M6-6 Background - White  
Message - Black  
MB6-4 and MB6-6 Background - Blue  
Message - White  
MK6-4 and MK6-6 Background - Green  
Message - White  
MM6-4 and MM6-6 Background - White  
Message - Green  
MN6-4 and MN6-6 Background - Brown  
Message - White  
M06-4 and M06-6 Background - Orange - Type F Reflective  
Message - Black  
MP6-4 and MP6-6 Background - White  
Message - Blue  
MR6-4 and MR6-6 Background - Brown  
Message - Yellow
- M6-6R same as M6-6L except arrow points ahead and right.



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																											
2	21		1 1/8	3/8	3/8		7 1/2	8 3/4	4 1/4			5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

STANDARD SIGN  
M6-4 & M6-6  
SERIES

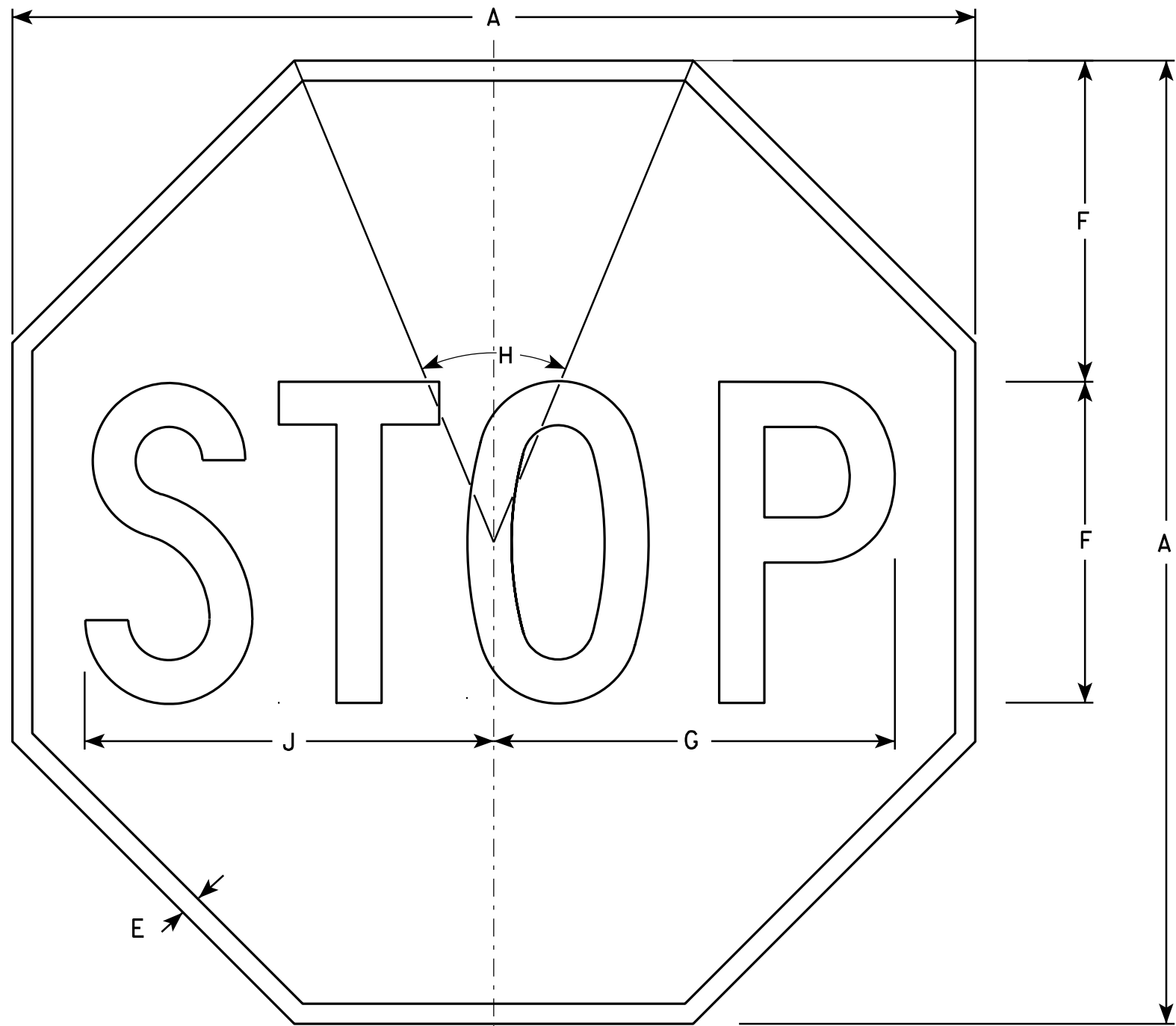
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 7/03/14 PLATE NO. M6-4.9

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

7

7

R1-1

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

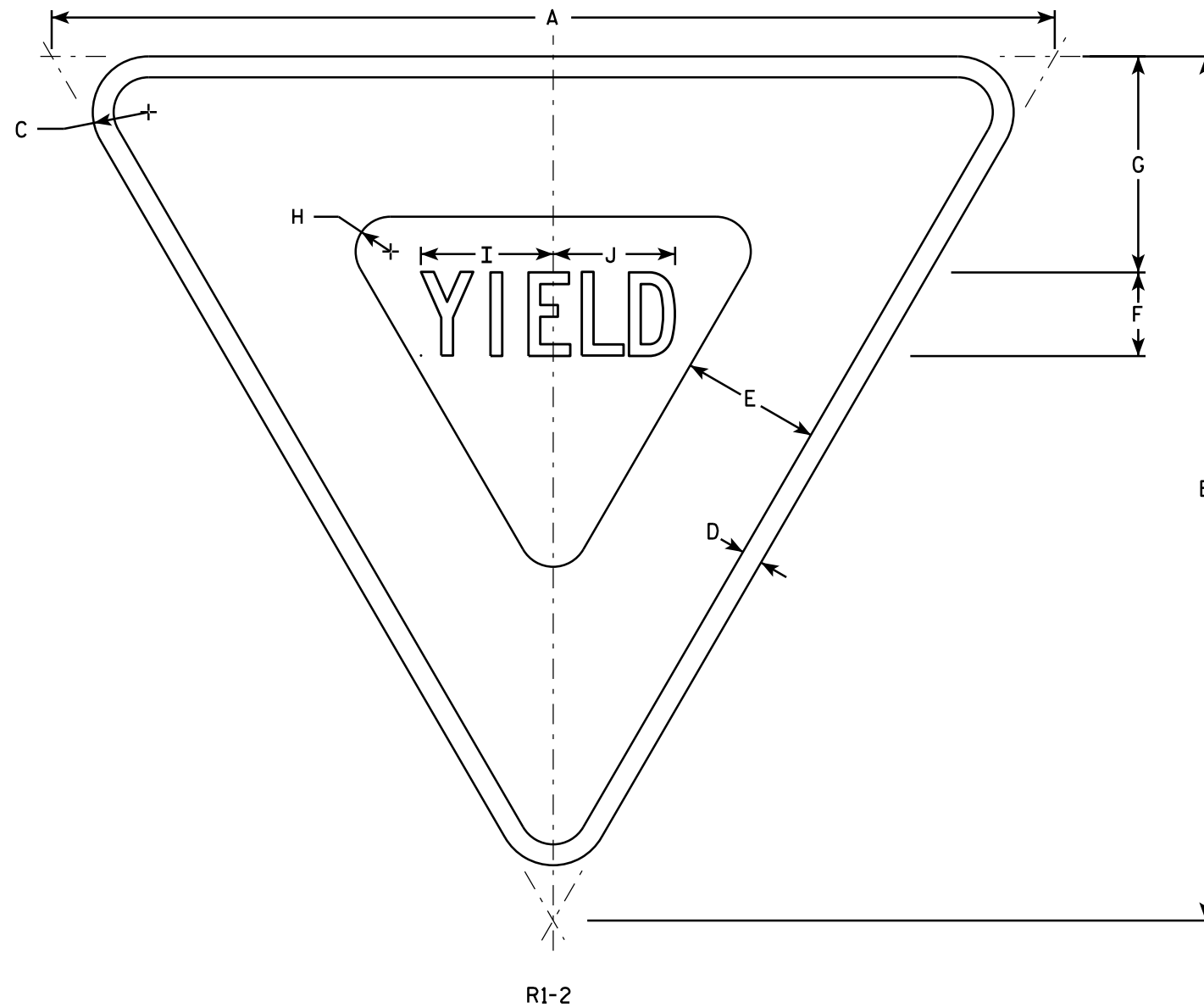
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1.12

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 - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The border strip and word message are reflectorized red.



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	30	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6																											
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

**STANDARD SIGN**  
R1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 10/13/14 PLATE NO. R1-2.12

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
3. Message Series - B



R1-54

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																											
2S	24	15	1 1/8	3/8	3/8	4	2 5/8	1 3/4	3 3/4	2	4 1/8	9 3/4	8 7/8	5/8	1 7/8	7 3/4											2.5
2M	24	15	1 1/8	3/8	3/8	4	2 5/8	1 3/4	3 3/4	2	4 1/8	9 3/4	8 7/8	5/8	1 7/8	7 3/4											2.5
3																											
4																											
5																											

STANDARD SIGN  
R1-54

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-54.2

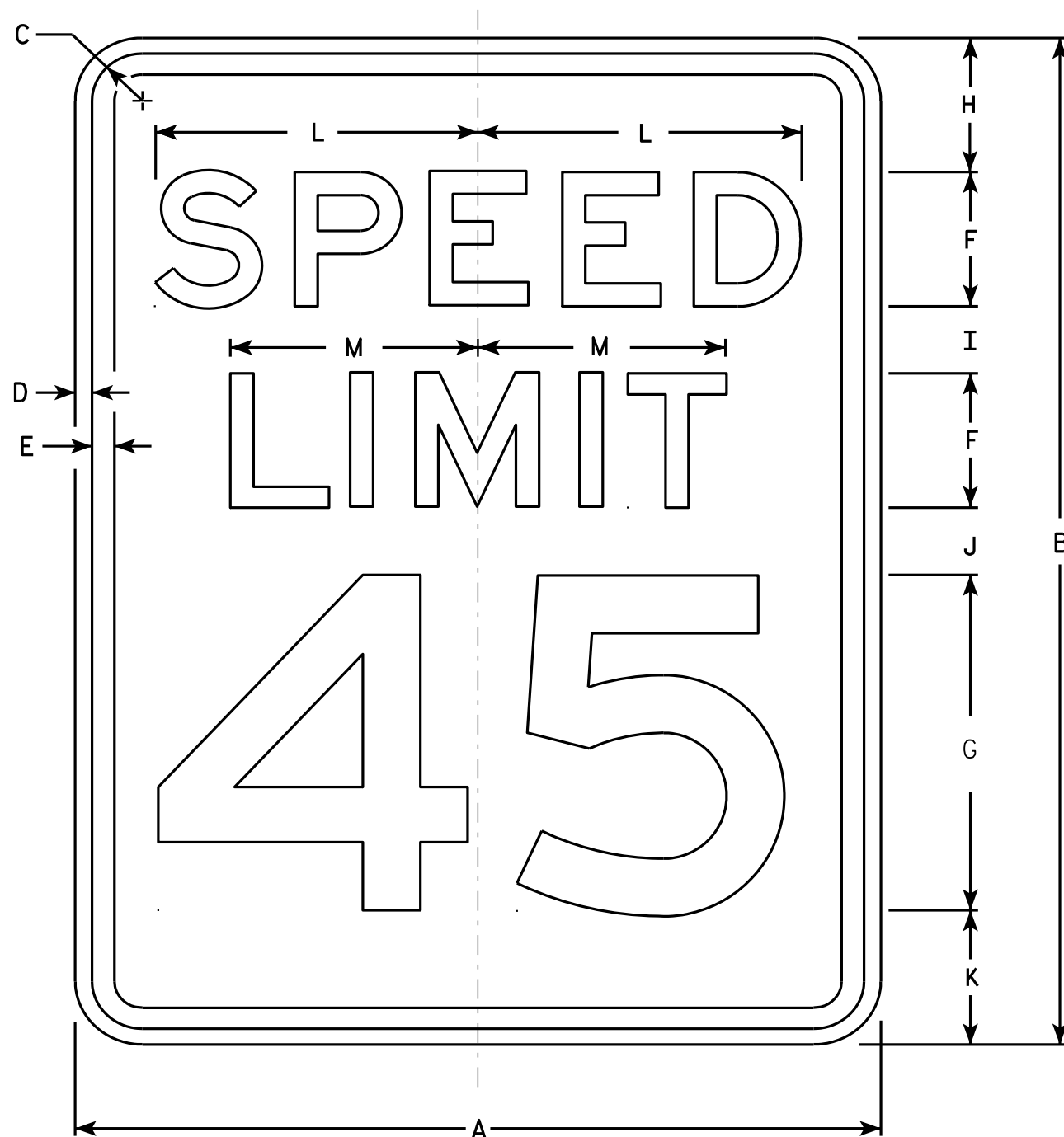
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



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.

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	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

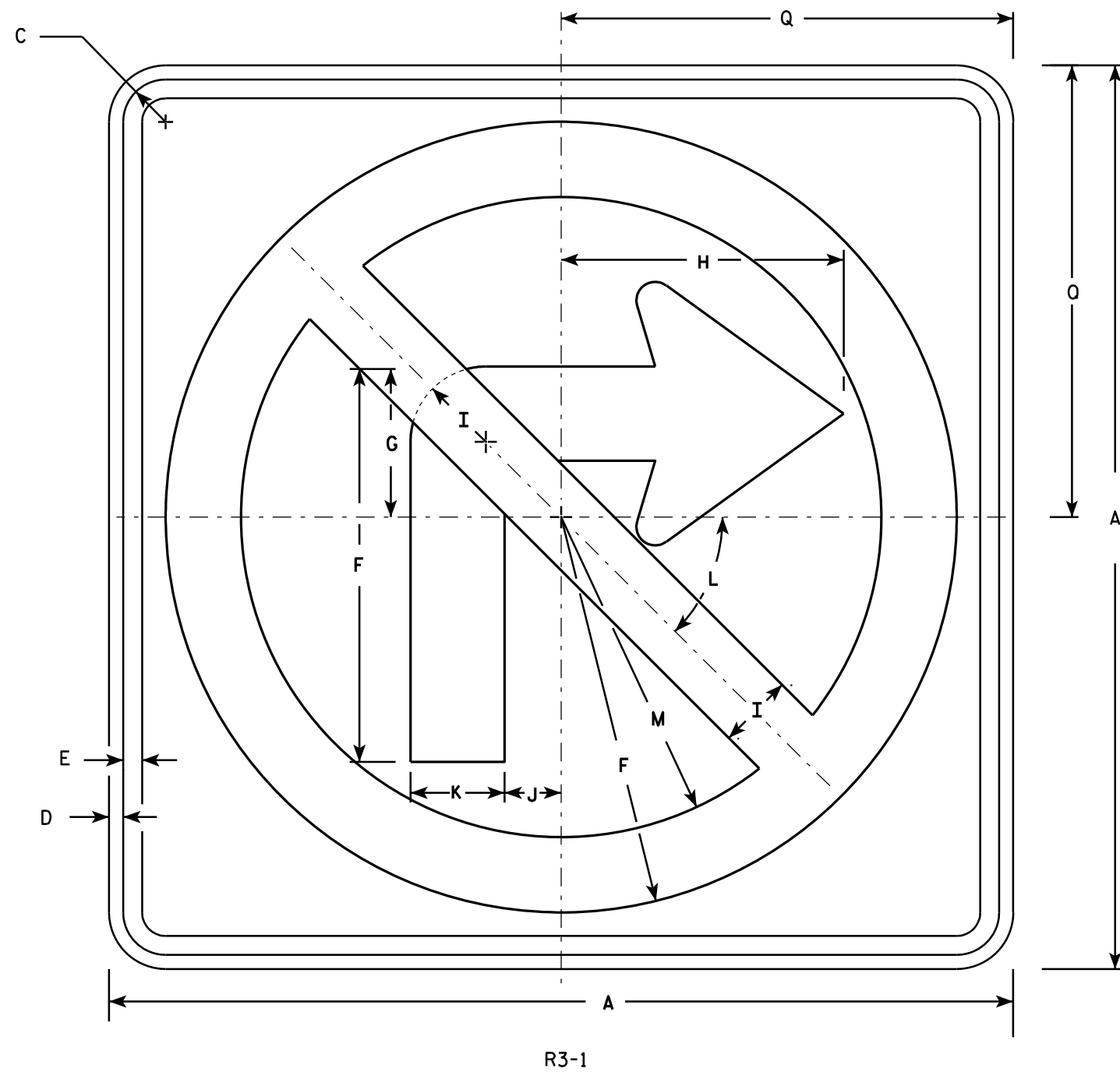
STANDARD SIGN  
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

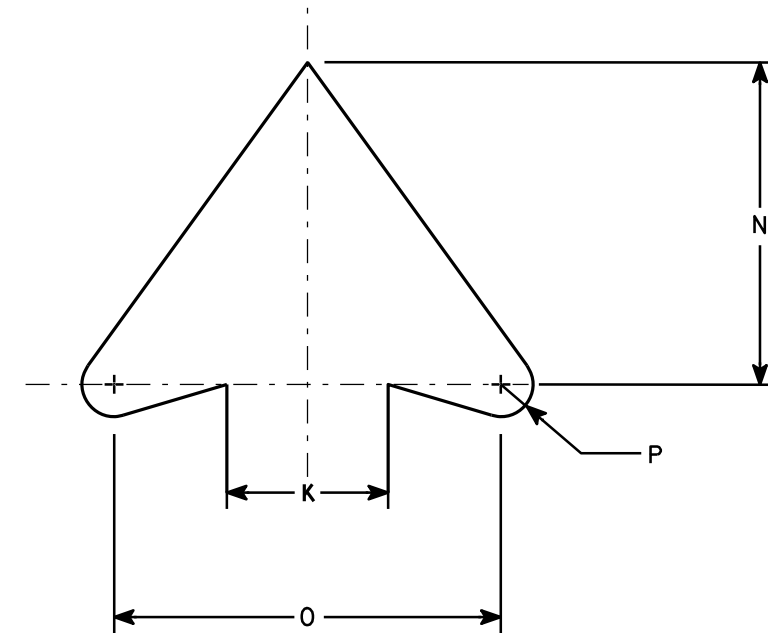
DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ 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 - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45	8 1/2	5	6	1/2	12										4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2	12										4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4	18										9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1	24										16.0

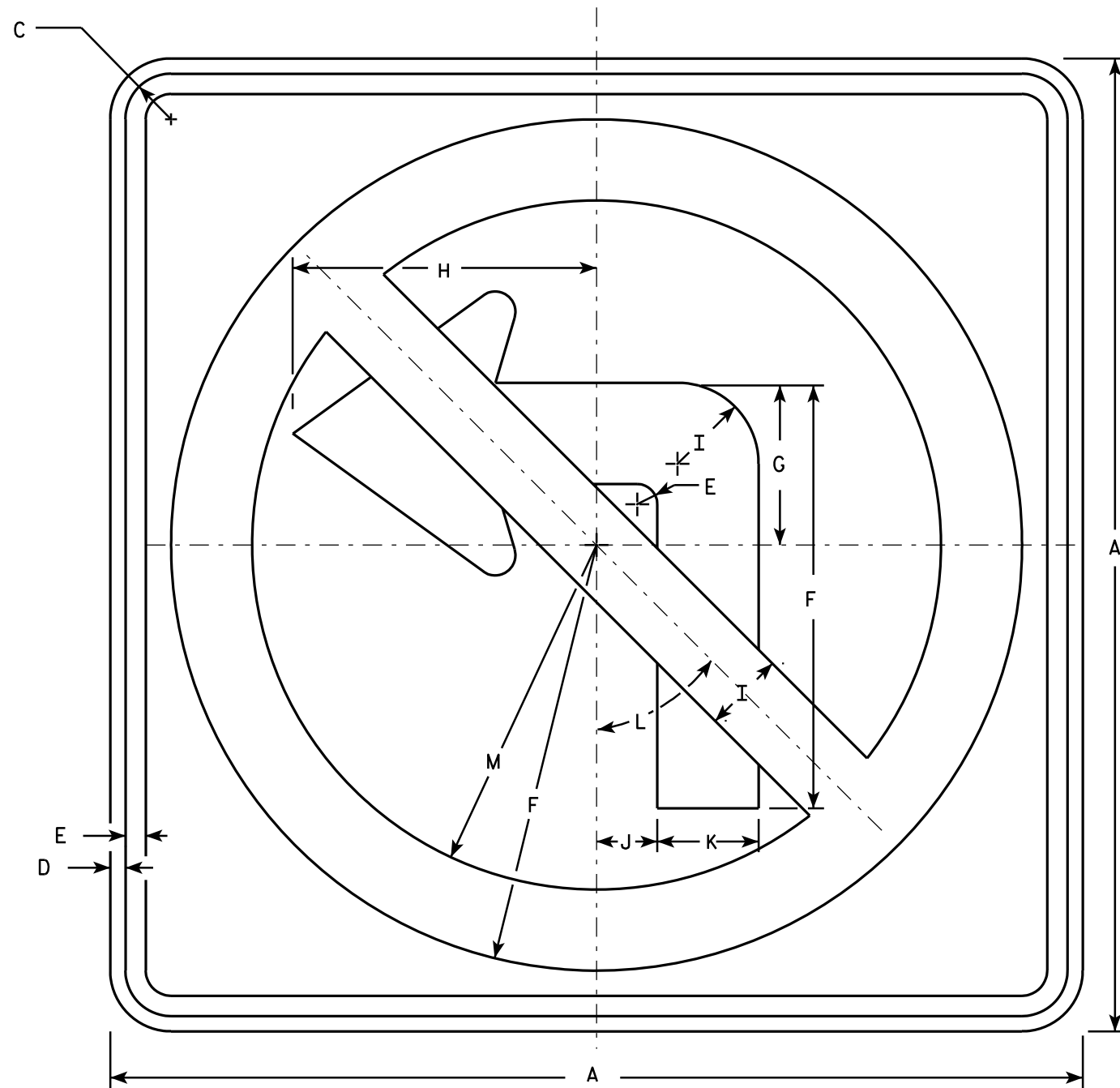
**STANDARD SIGN**  
**R3-1**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-1.5

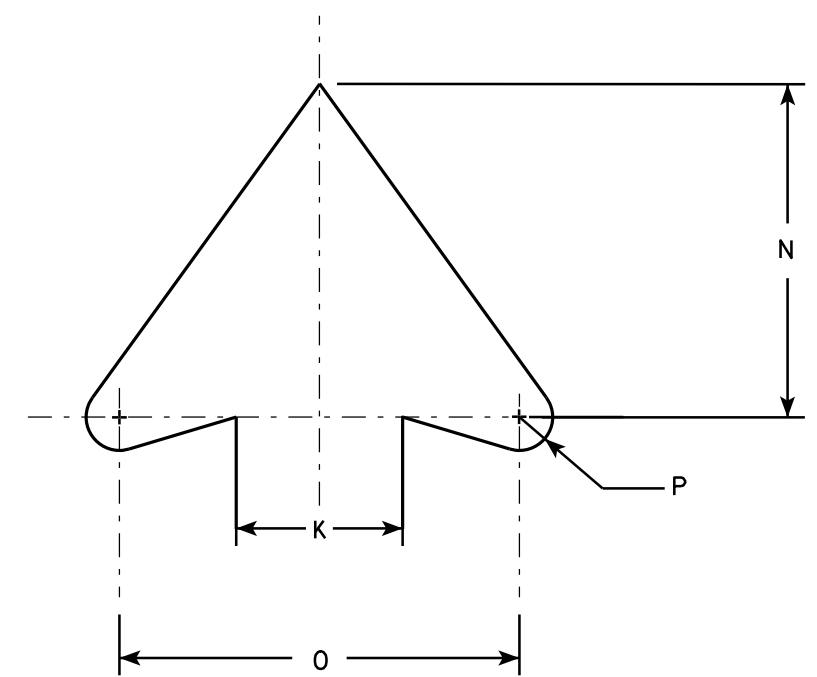
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



R3-2

**NOTES**

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. Ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

**STANDARD SIGN**  
**R3-2**

WISCONSIN DEPT OF TRANSPORTATION

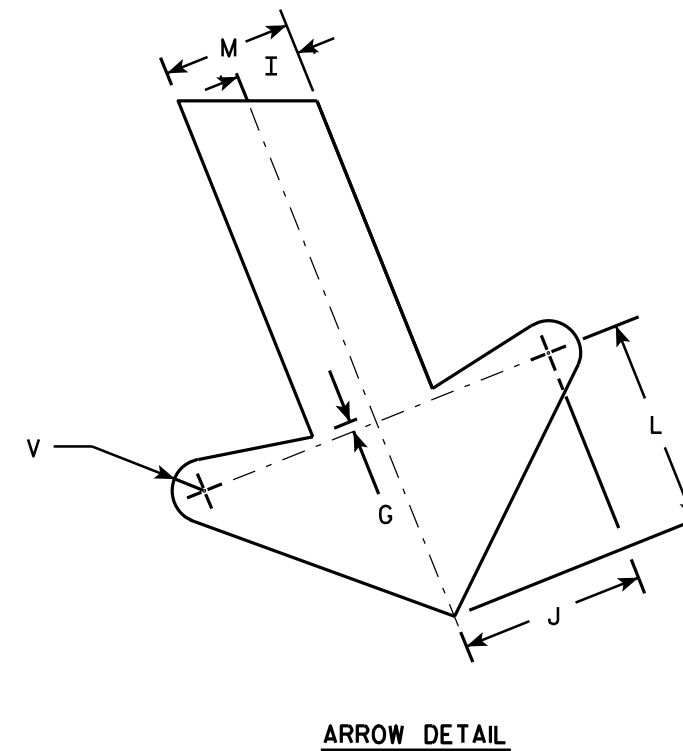
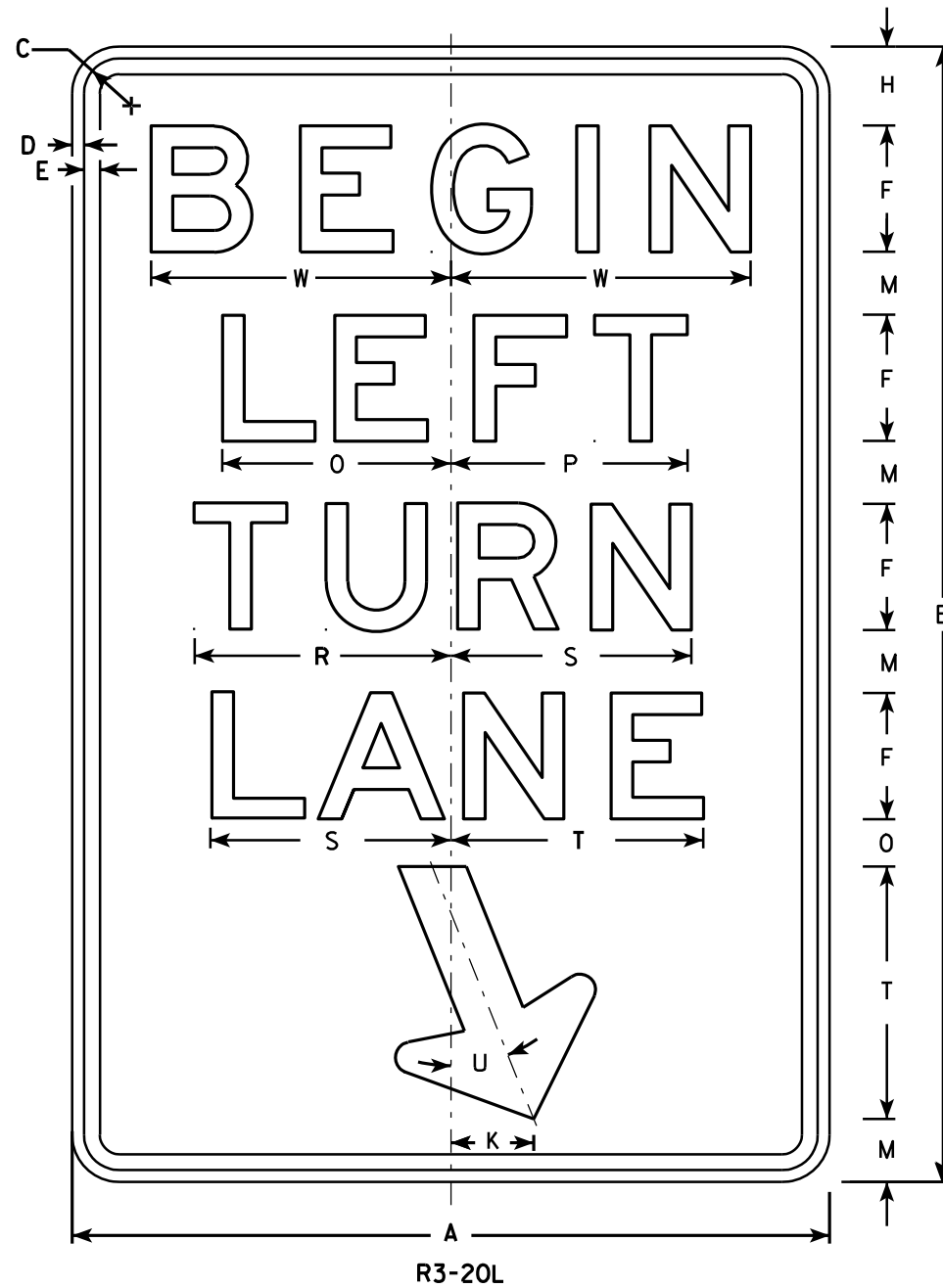
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

**NOTES**

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - Black
3. Message Series - 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.



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																											
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																											

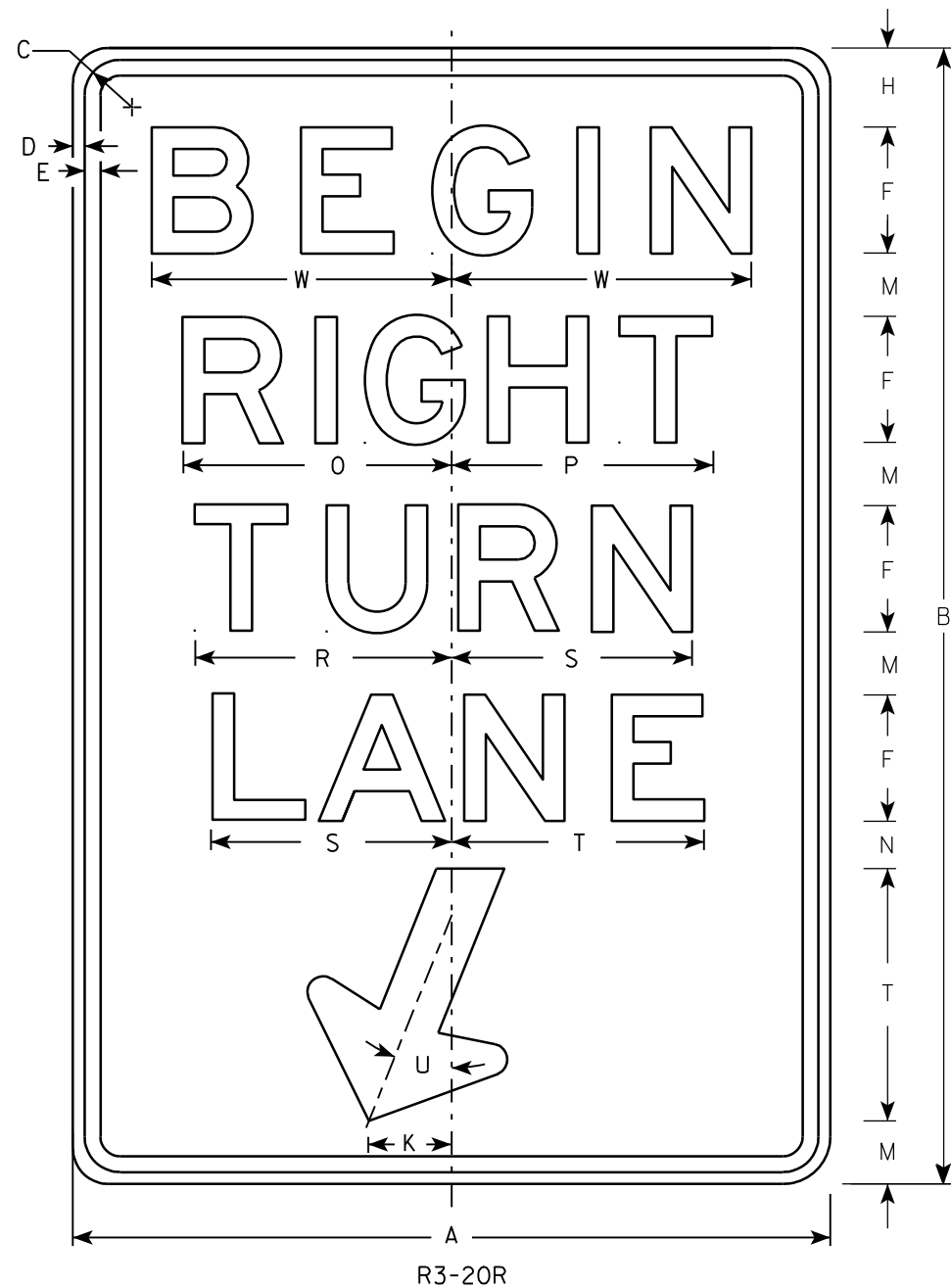
**STANDARD SIGN**  
**R3-20L**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20L.7

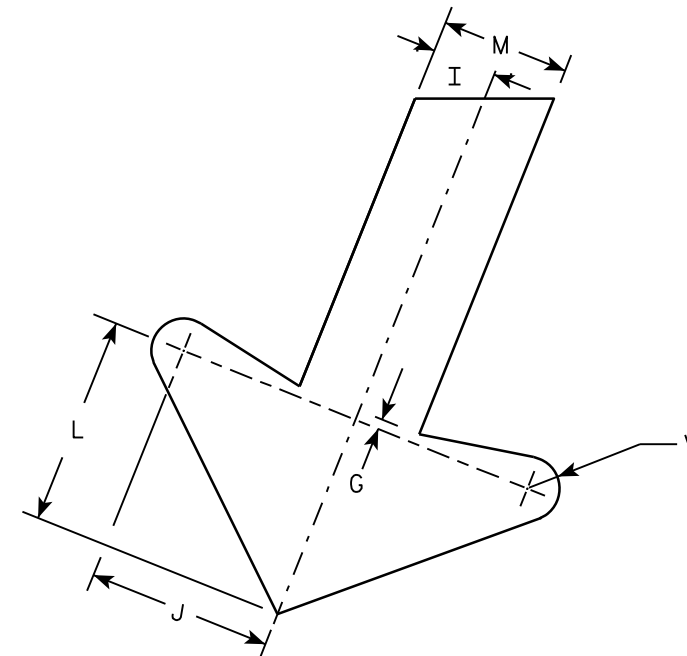
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



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

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																												
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

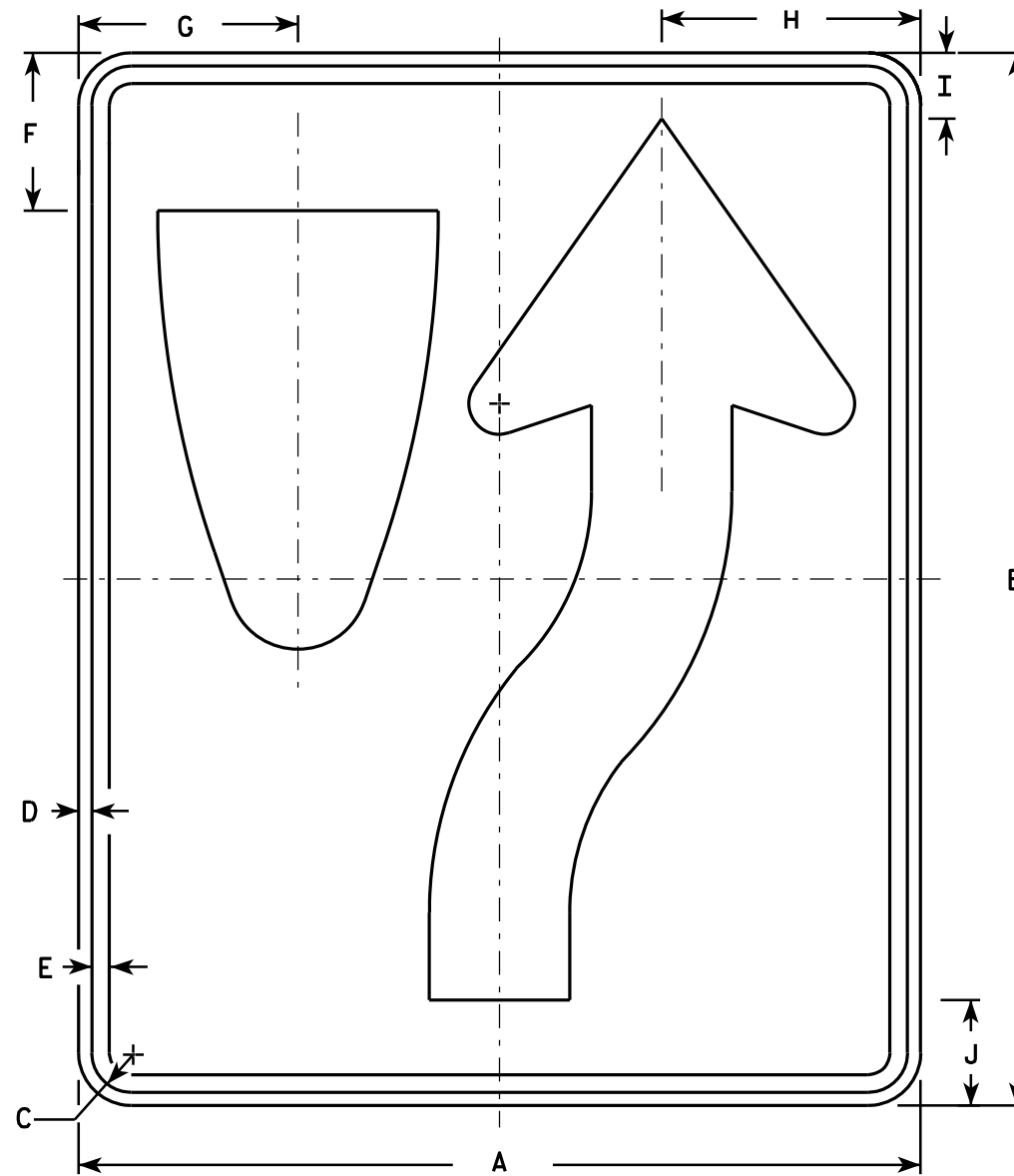
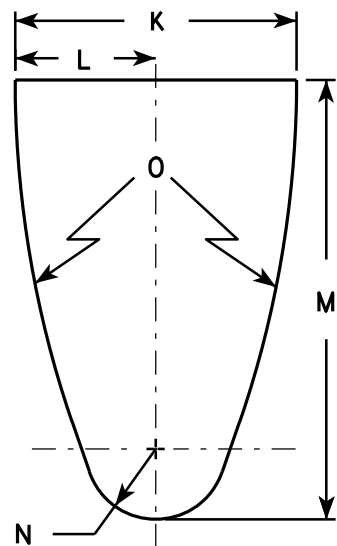
DATE 10/18/10 PLATE NO. R3-20R.6

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

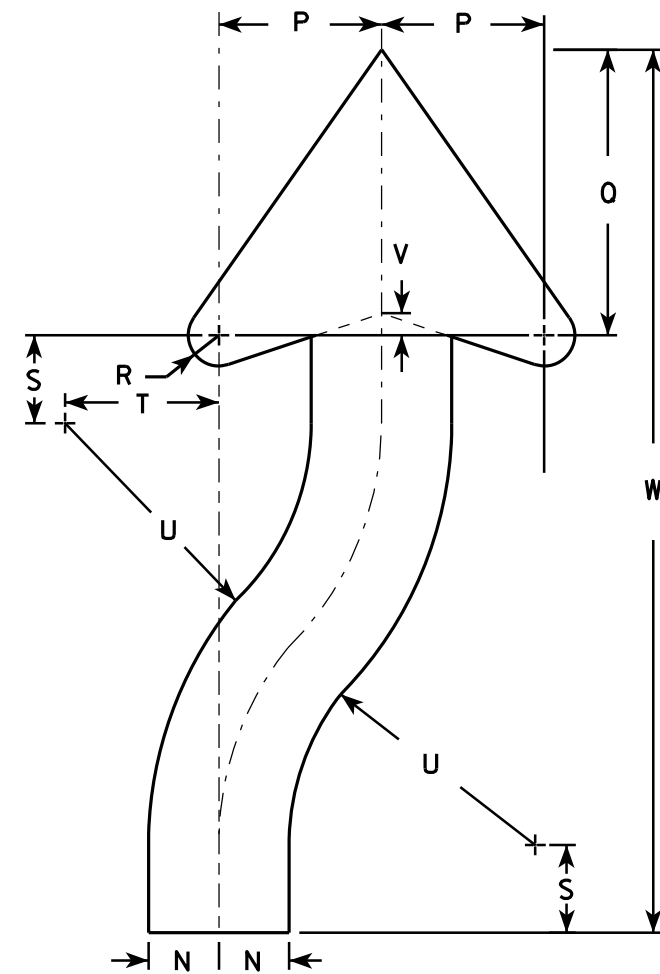


**NOTES**

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.



R4-7



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

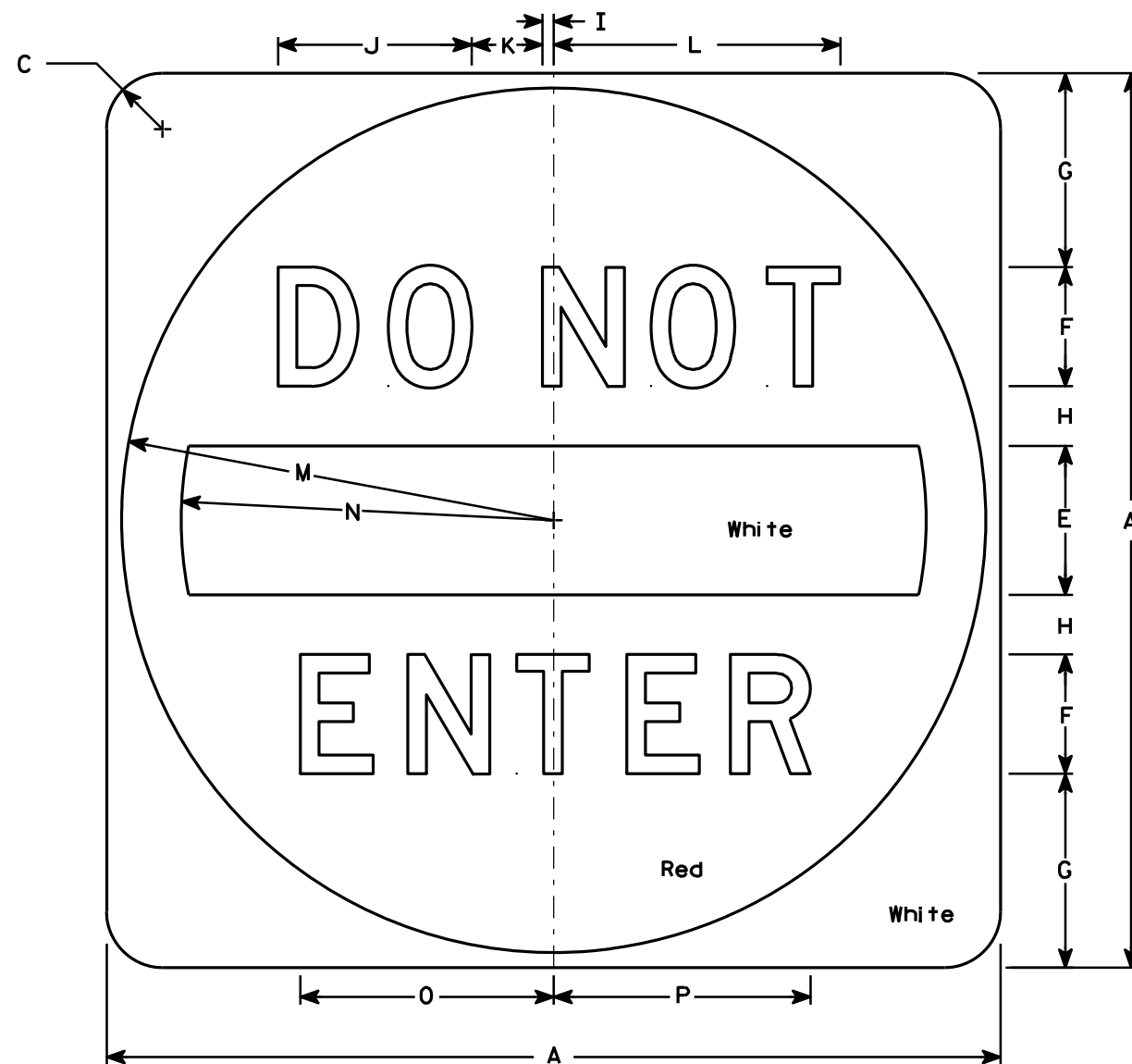
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ 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 - 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 corners shall be rounded.



R5-1

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																											
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

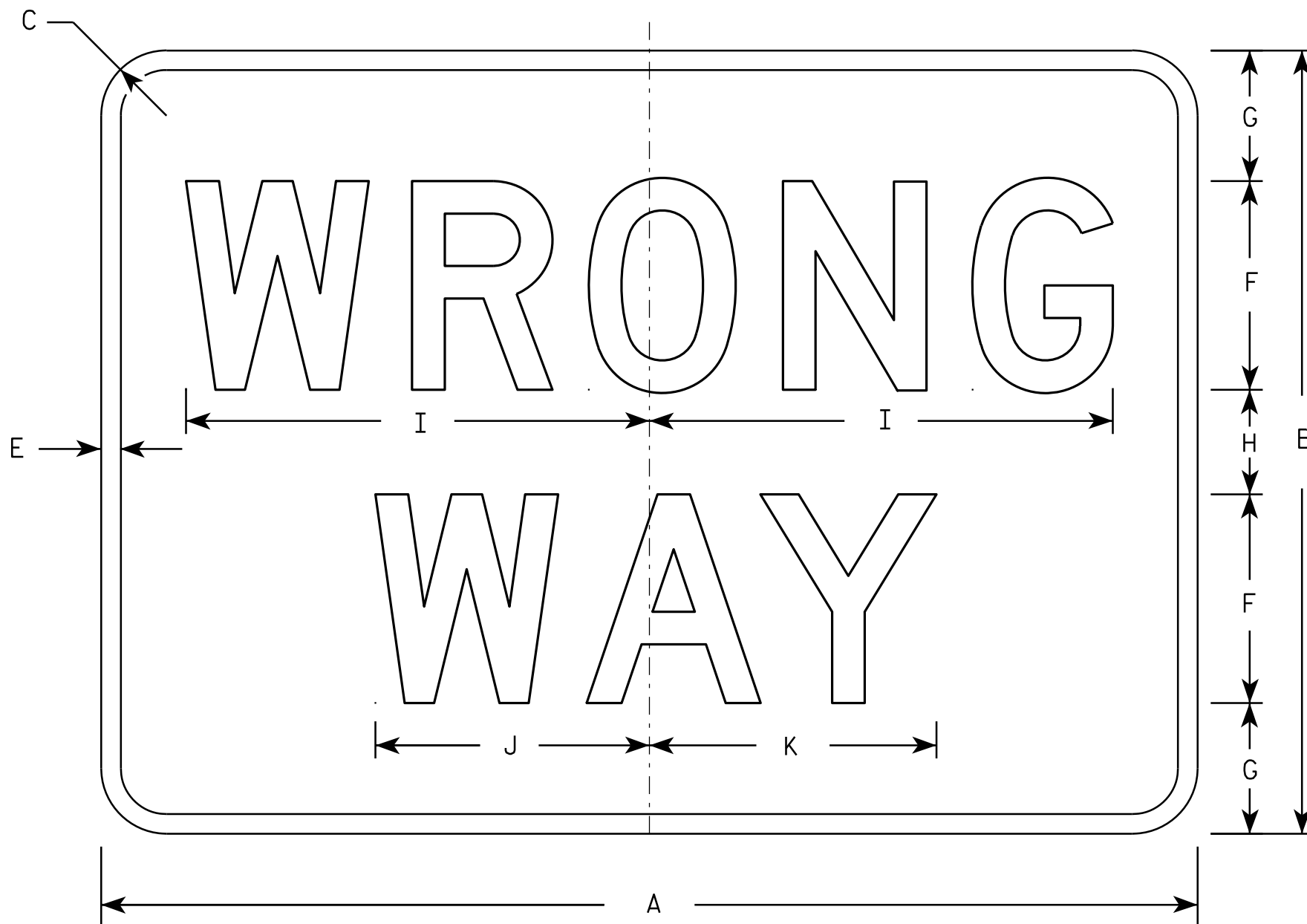
**STANDARD SIGN**  
**R5-1**

*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: \_\_\_\_\_ 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 - 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.

7

7

R5-1A

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	1 1/2		1/2	5	3	2	11	6 1/2	6 7/8																3.75
2S	36	24	2		5/8	6	4 1/2	3	13 1/4	7 7/8	8 1/4																6.00
2M	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
3	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
4	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
5	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75

**STANDARD SIGN**  
R5-1A

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1A.2

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



NOTES

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

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																											
2S																											
2M																											
3																											
4	36		1 5/8	5/8	3/4	4	3	2	3 1/2	14 1/4	14 7/8	11	11 1/2	4 3/4	1 3/4	9		1 3/8	10	11	2 1/2	1 3/4	15 1/2	13	13 5/8	9.0	
5	36		1 5/8	5/8	3/4	4	3	2	3 1/2	14 1/4	14 7/8	11	11 1/2	4 3/4	1 3/4	9		1 3/8	10	11	2 1/2	1 3/4	15 1/2	13	13 5/8	9.0	

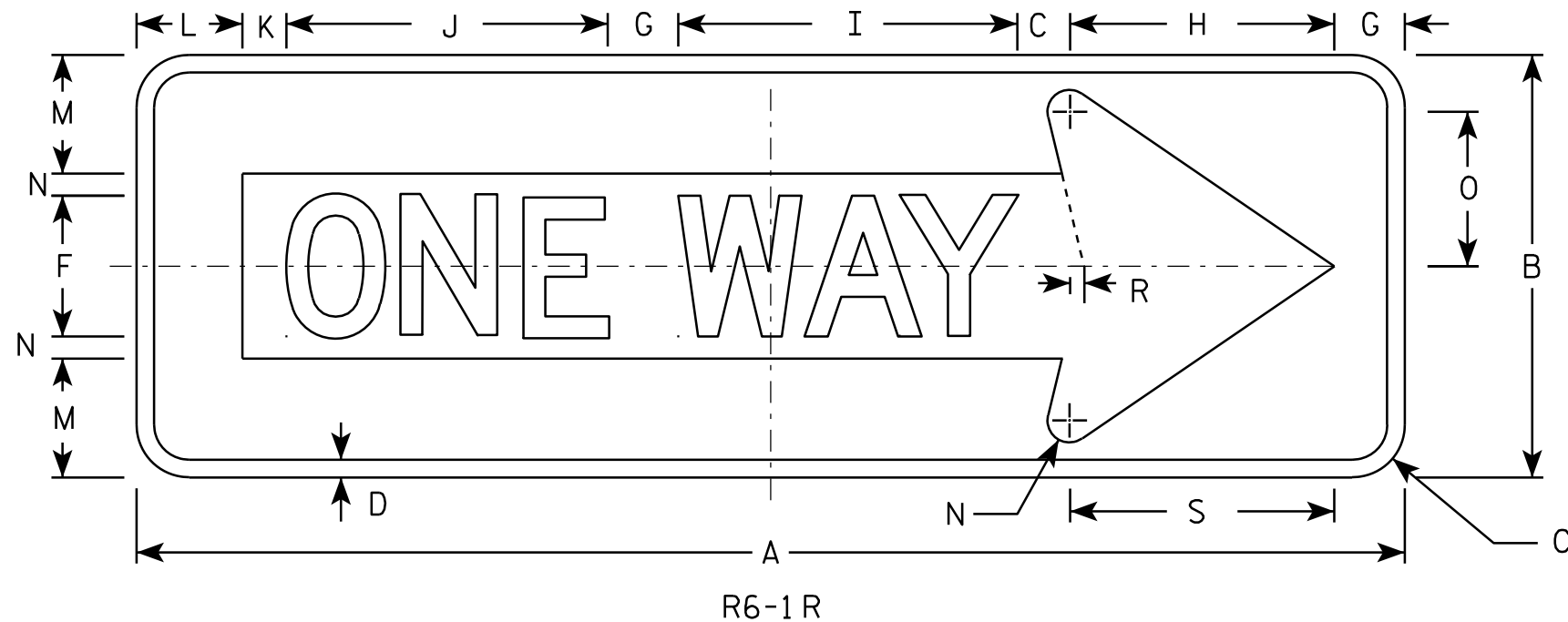
STANDARD SIGN  
R5-57

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

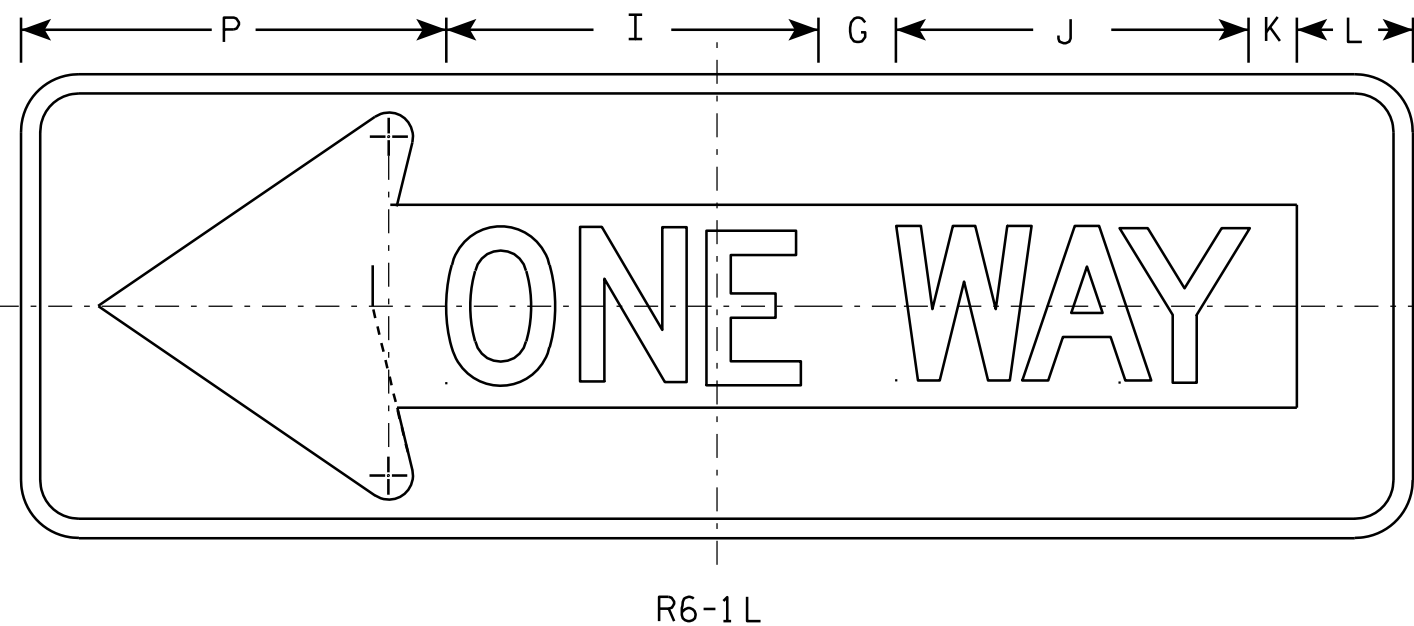
DATE 3/29/2011 PLATE NO. R5-57.10

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 - 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.



7

7

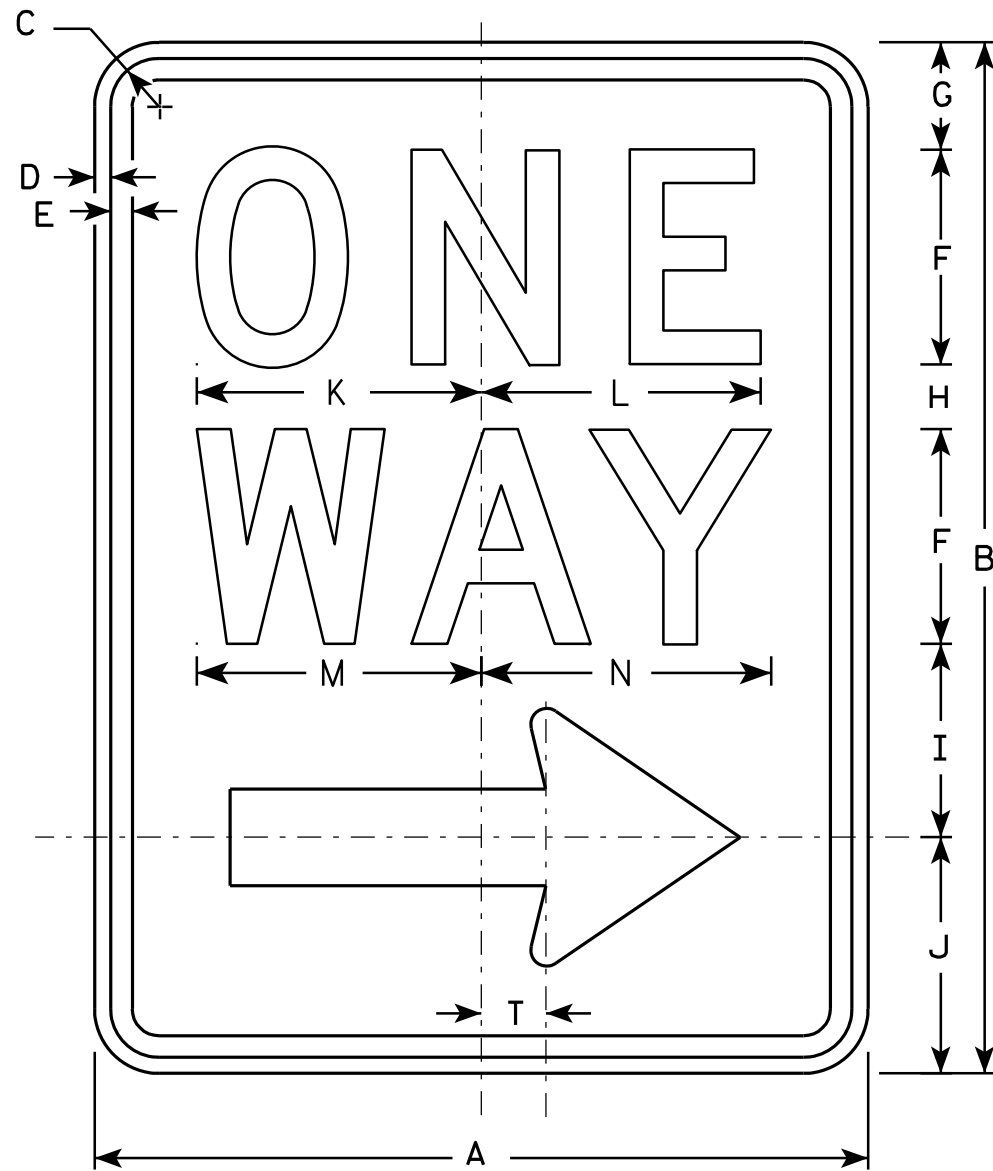
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36	12	1 1/2	1/2		4	2	7 1/2	9 5/8	9 1/8	1 1/4	3	3 3/8	5/8	4 3/8	11		3/8	7 1/2							3.0	
2M	54	18	2 1/4	3/4		6	3	11 1/4	14 1/2	13 5/8	1 7/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4							6.75	
3	54	18	2 1/4	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

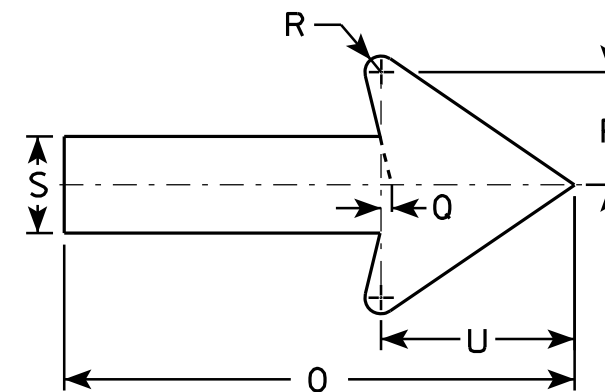
DATE 12/17/10 PLATE NO. R6-1.2



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.



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
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*

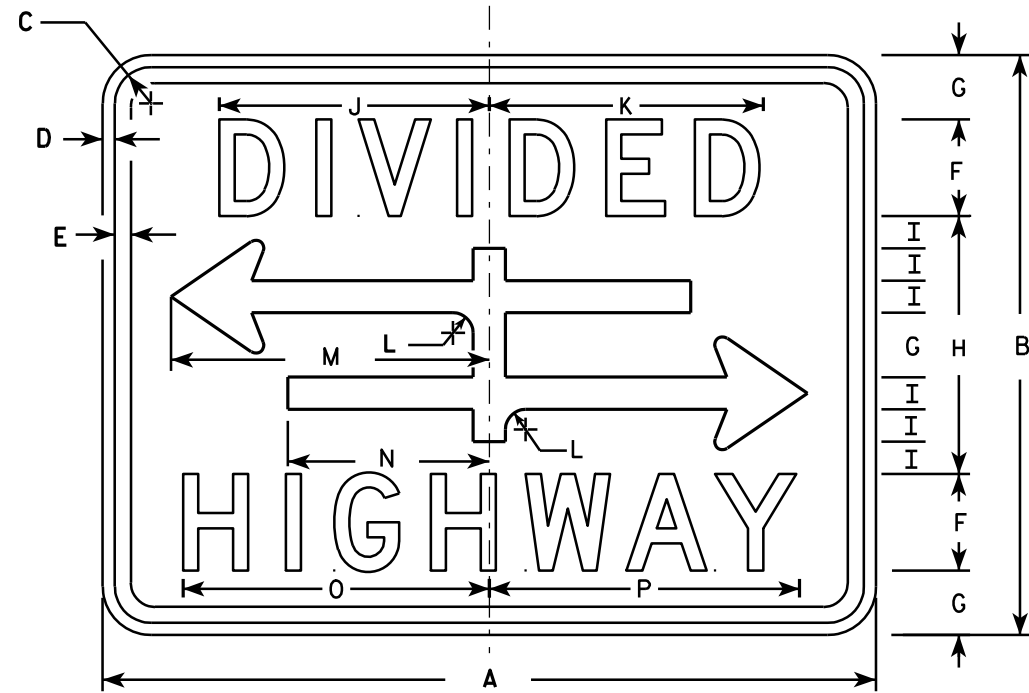
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 11/2/10 PLATE NO. R6-2.8

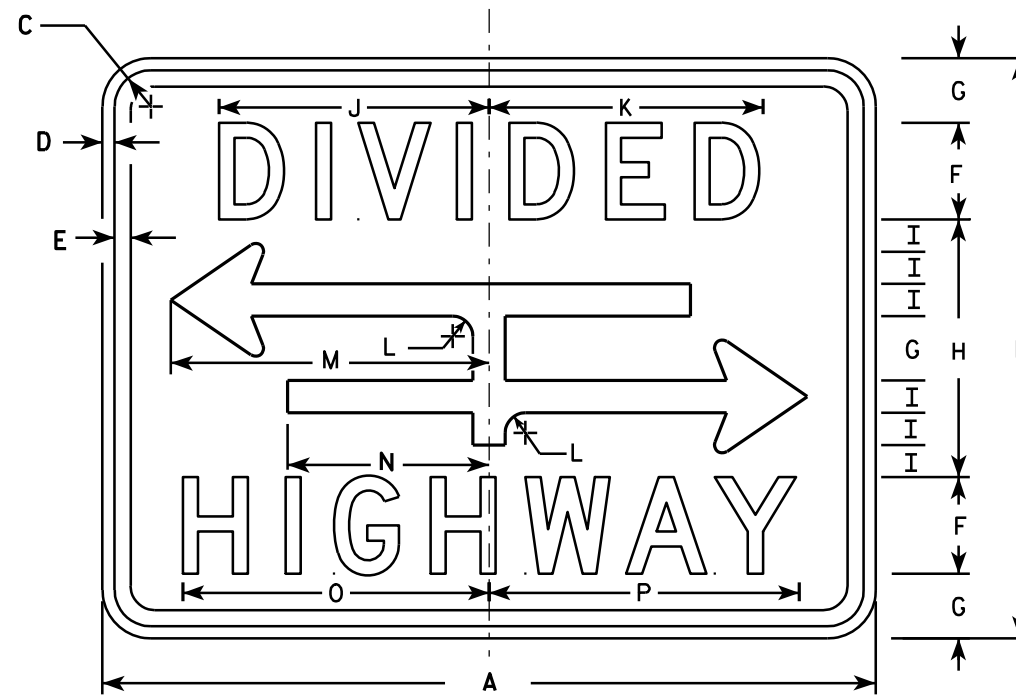
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

**NOTES**

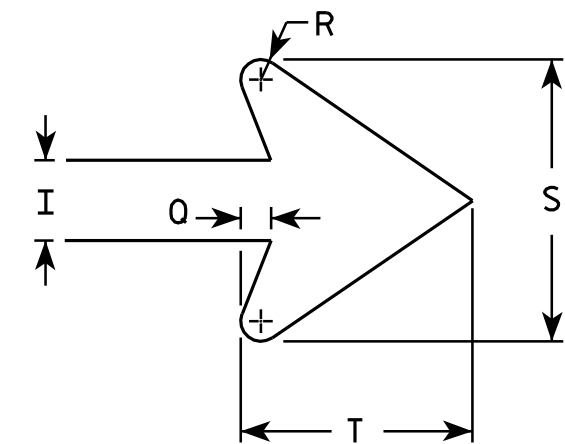
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



R6-3



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	1/8	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	1/8	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	1/8	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**

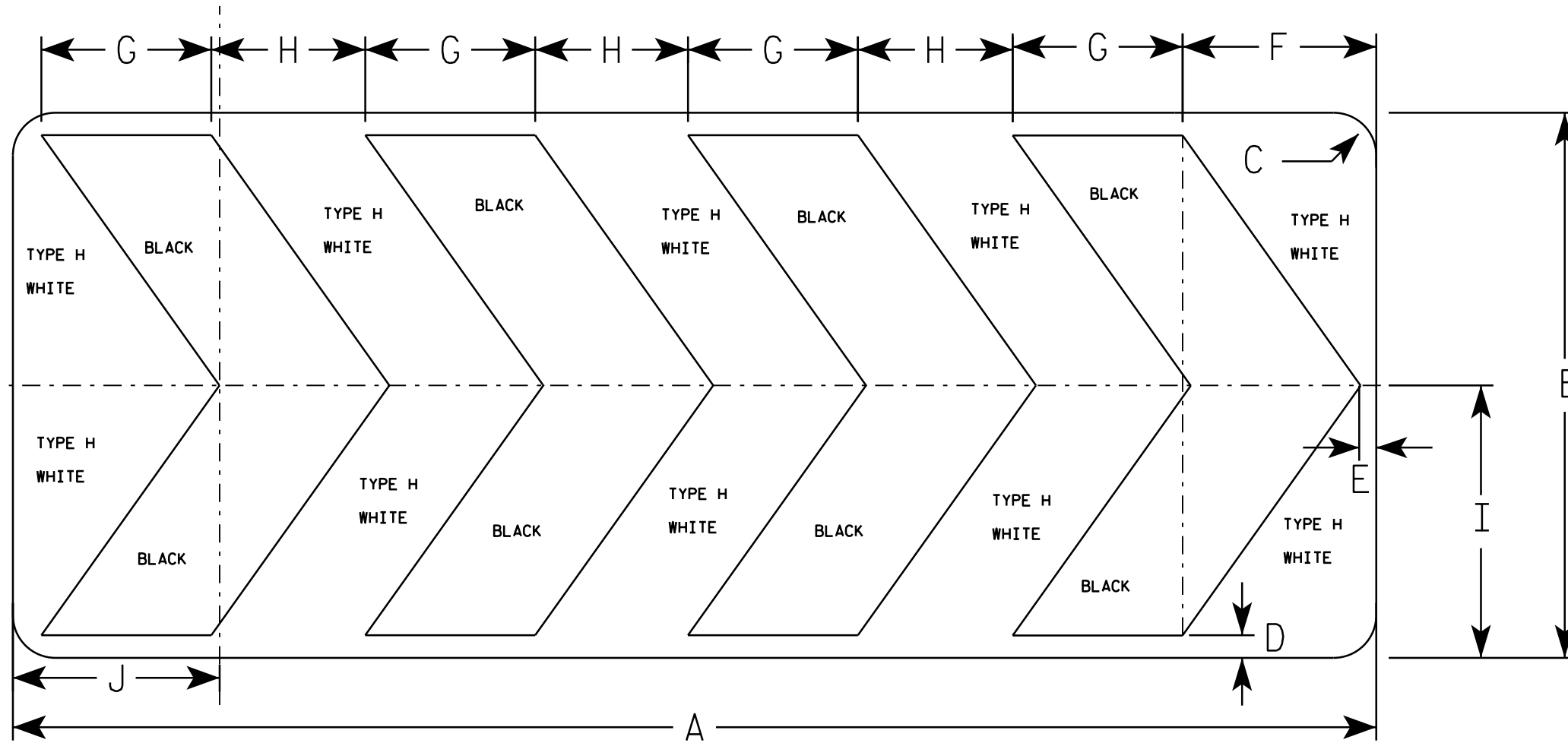
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R6-3.5

**NOTES**

1. Sign is Type II - Type H Reflective
2. Color:  
Background - WHITE  
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.



R6-4B

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	60	24	1 7/8	1	3/4	8 1/2	7 1/2	6 3/4	12	9 1/8																	10.0
2M	60	24	1 7/8	1	3/4	8 1/2	7 1/2	6 3/4	12	9 1/8																	10.0
3																											
4																											
5																											

**STANDARD SIGN**  
**R6-4B**

WISCONSIN DEPT OF TRANSPORTATION

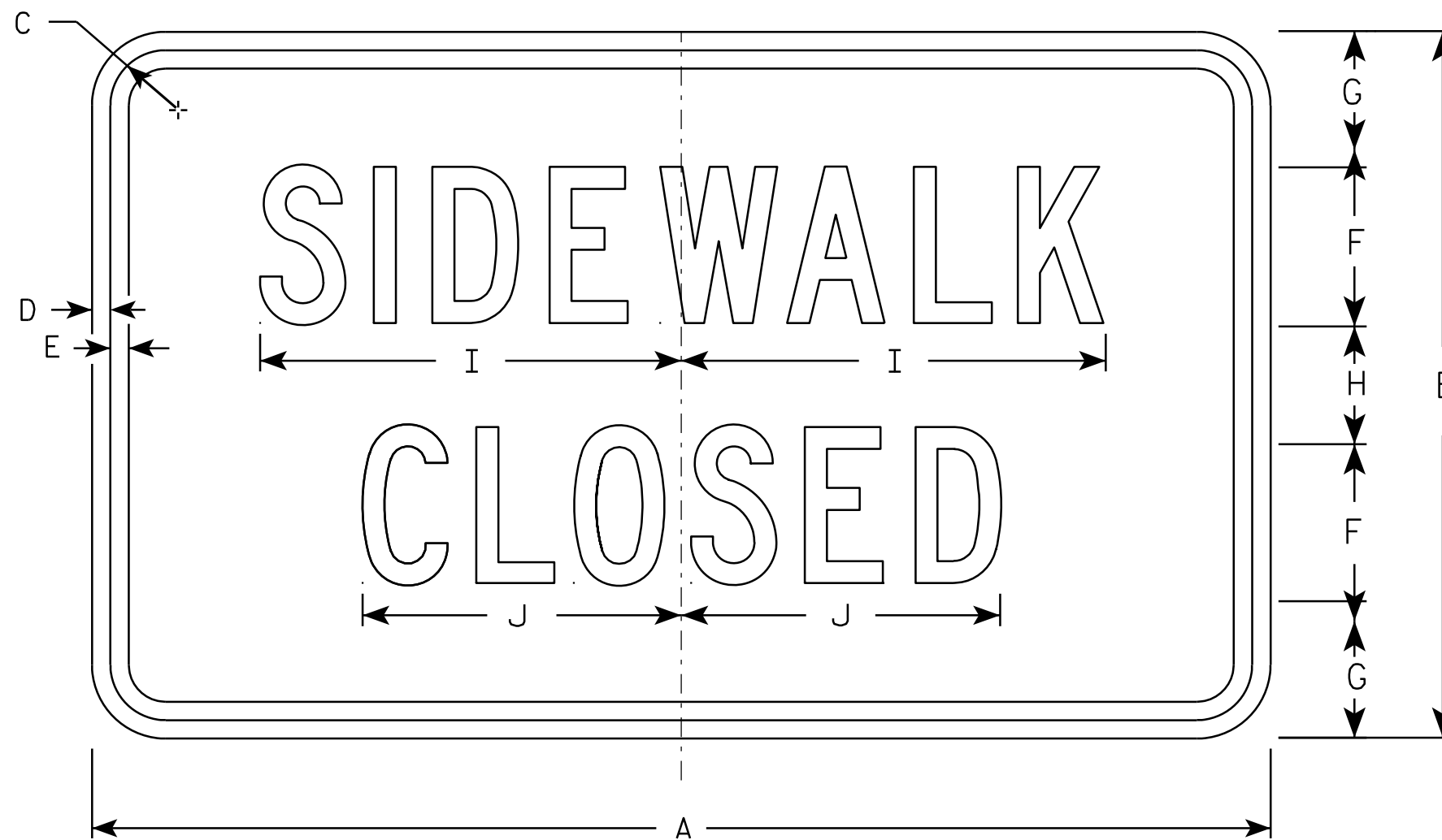
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 8/21/14 PLATE NO. R6-4.3



**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 - 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.



R9-9

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																											
2S	30	18	1 3/4	1/2	1/2	4	3 1/2	3	10 3/4	8 1/8																	3.75
2M	30	18	1 3/4	1/2	1/2	4	3 1/2	3	10 3/4	8 1/8																	3.75
3																											
4																											
5																											

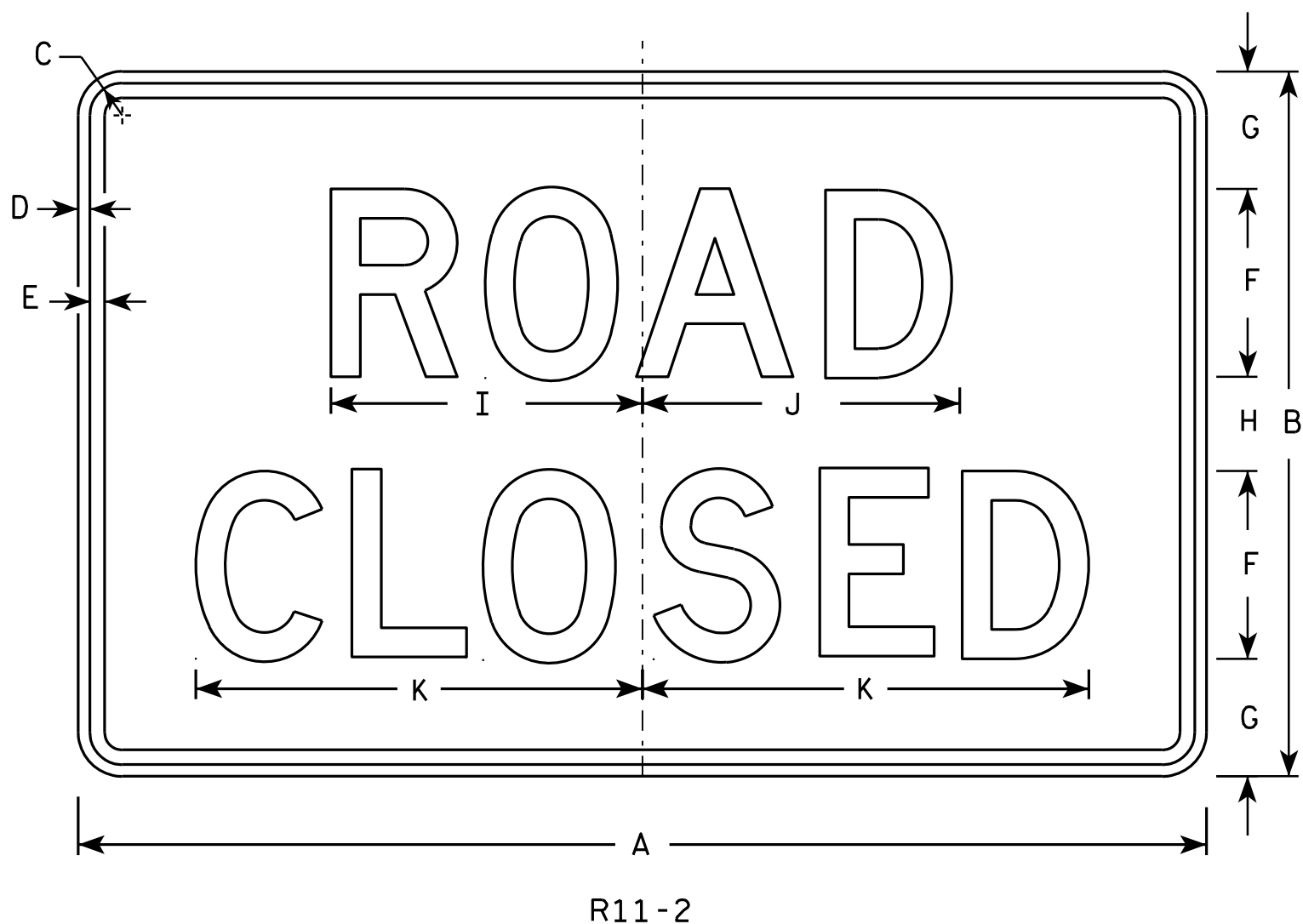
**STANDARD SIGN**  
R9-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Raush*  
for State Traffic Engineer

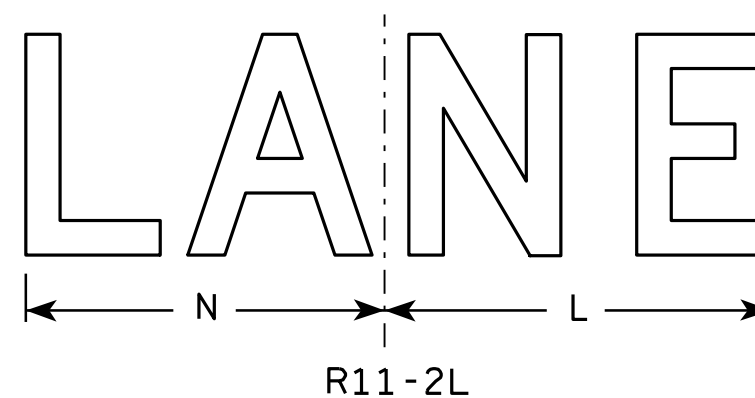
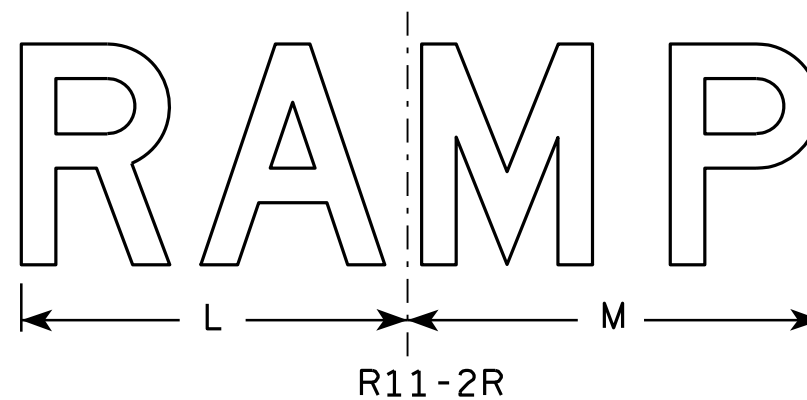
DATE 4/1/2011 PLATE NO. R9-9.5

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
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.



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																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13												10.0	
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13												10.0	
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13												10.0	
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13												10.0	
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13												10.0	

**STANDARD SIGN**  
R11-2

*WISCONSIN DEPT OF TRANSPORTATION*

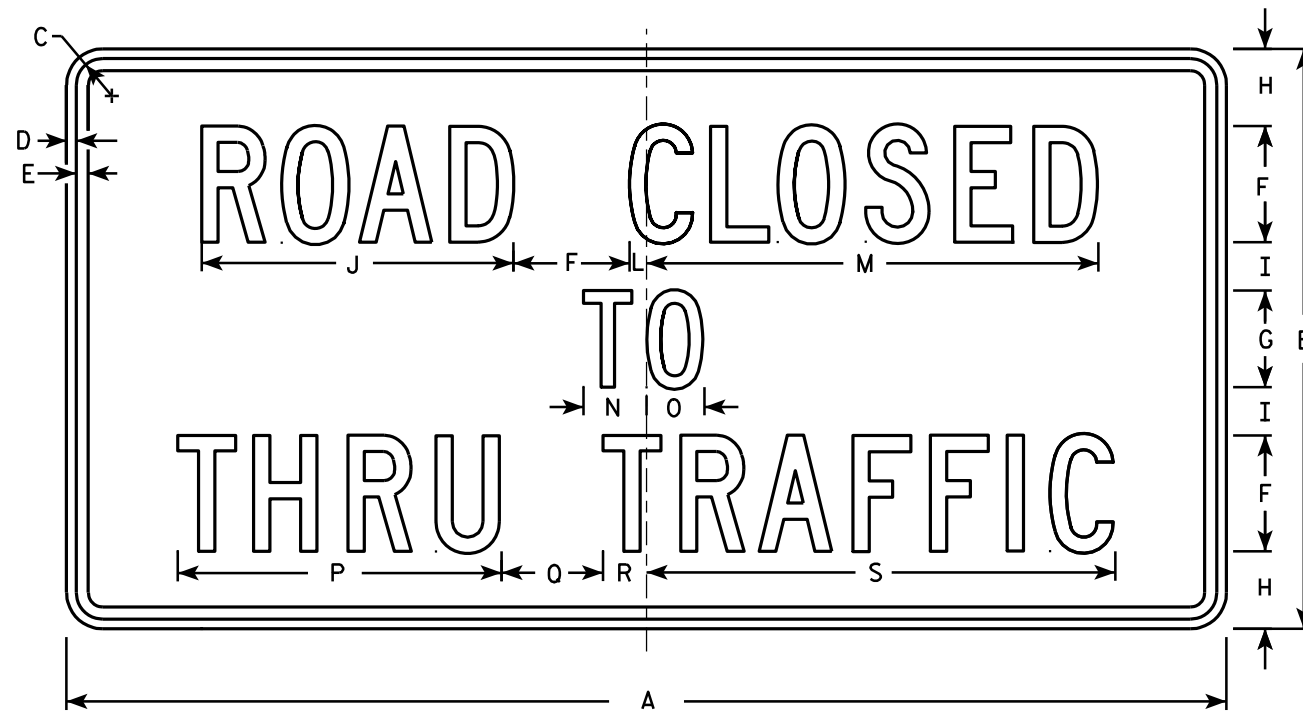
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - Black
3. Message Series - 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.



R11-4

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																											
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

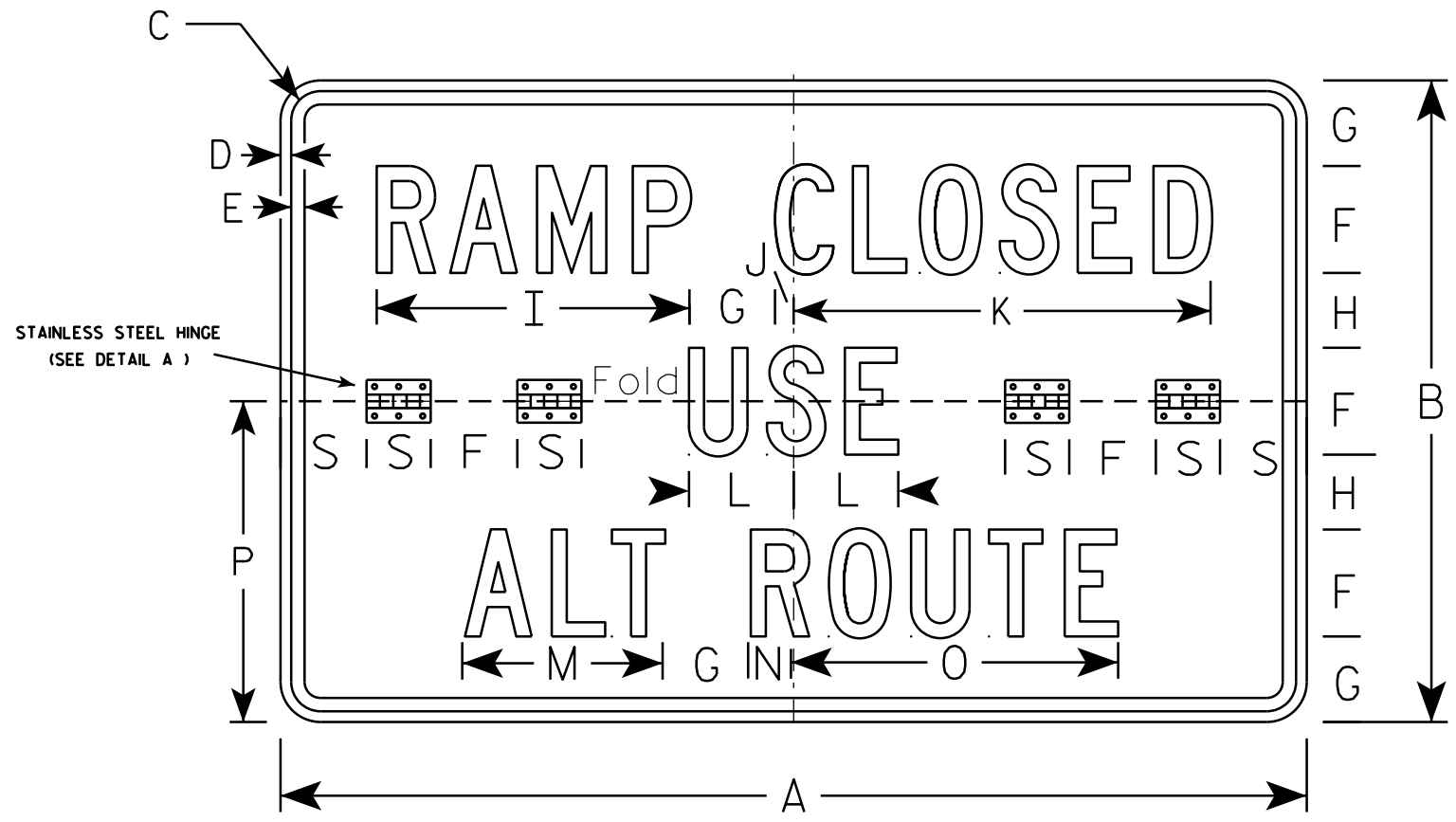
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*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED *Matthew R. Raush*  
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-4.3

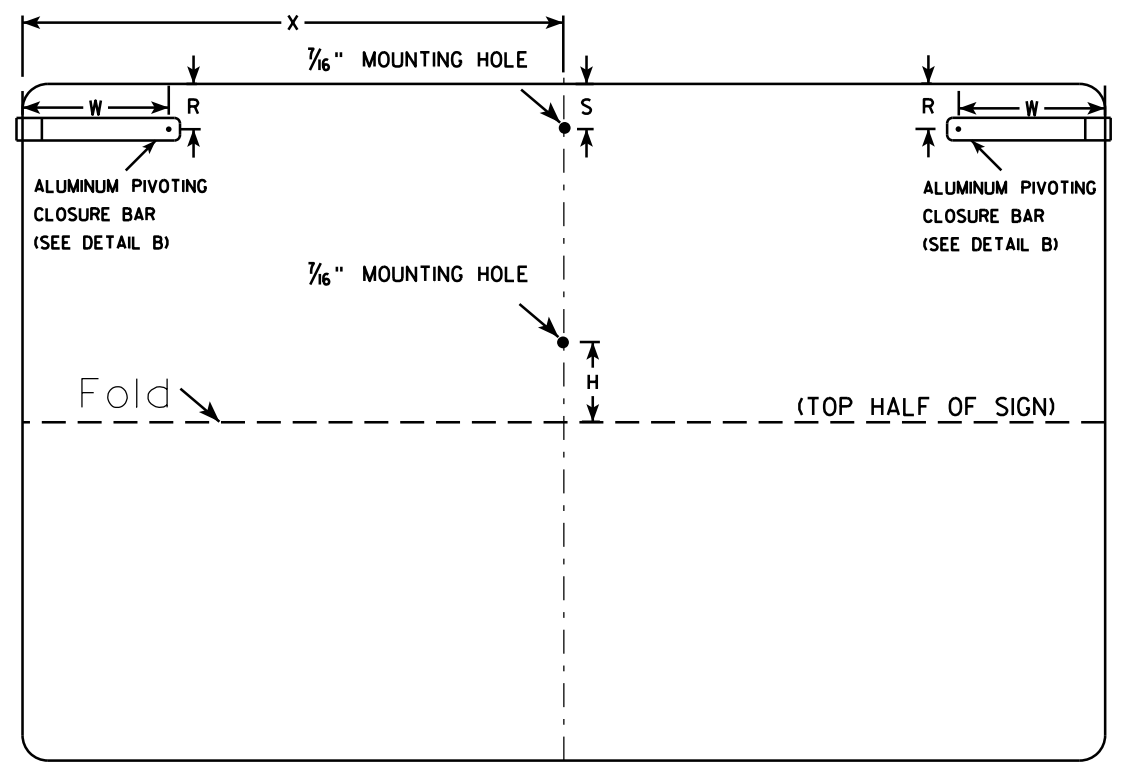
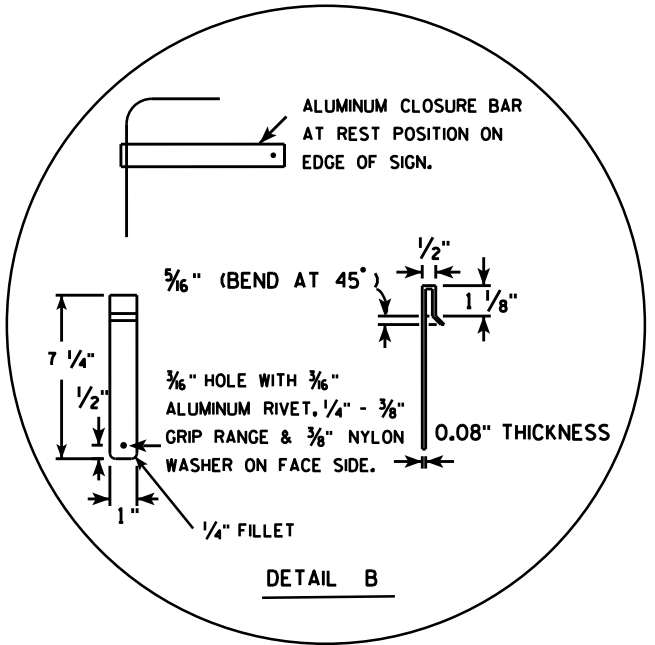
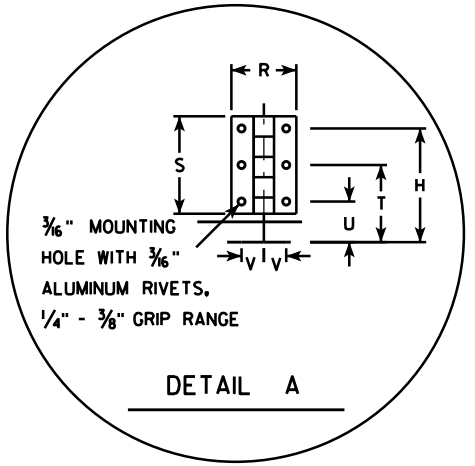
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



**NOTES**

1. Sign is Type II - Type H Reflective
2. Color:  
Background - WHITE  
Message - BLACK
3. Message Series - C
4. Sign Base Material shall be aluminum, corners and borders shall be rounded.
5. All hardware used on the folding sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.
6. Refer to plate A5-3A for sign blank layout.

R11-54F



(BACK VIEW)

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	5	4	3 1/2	14 5/8	7/8	19 1/2	4 7/8	9 3/8	2	15 1/4	15		2	3	2 5/8	1 1/4	11/16	6 1/2	24			10.0
2M	48	30	1 3/8	1/2	5/8	5	4	3 1/2	14 5/8	7/8	19 1/2	4 7/8	9 3/8	2	15 1/4	15		2	3	2 5/8	1 1/4	11/16	6 1/2	24			10.0
3																											
4																											
5																											

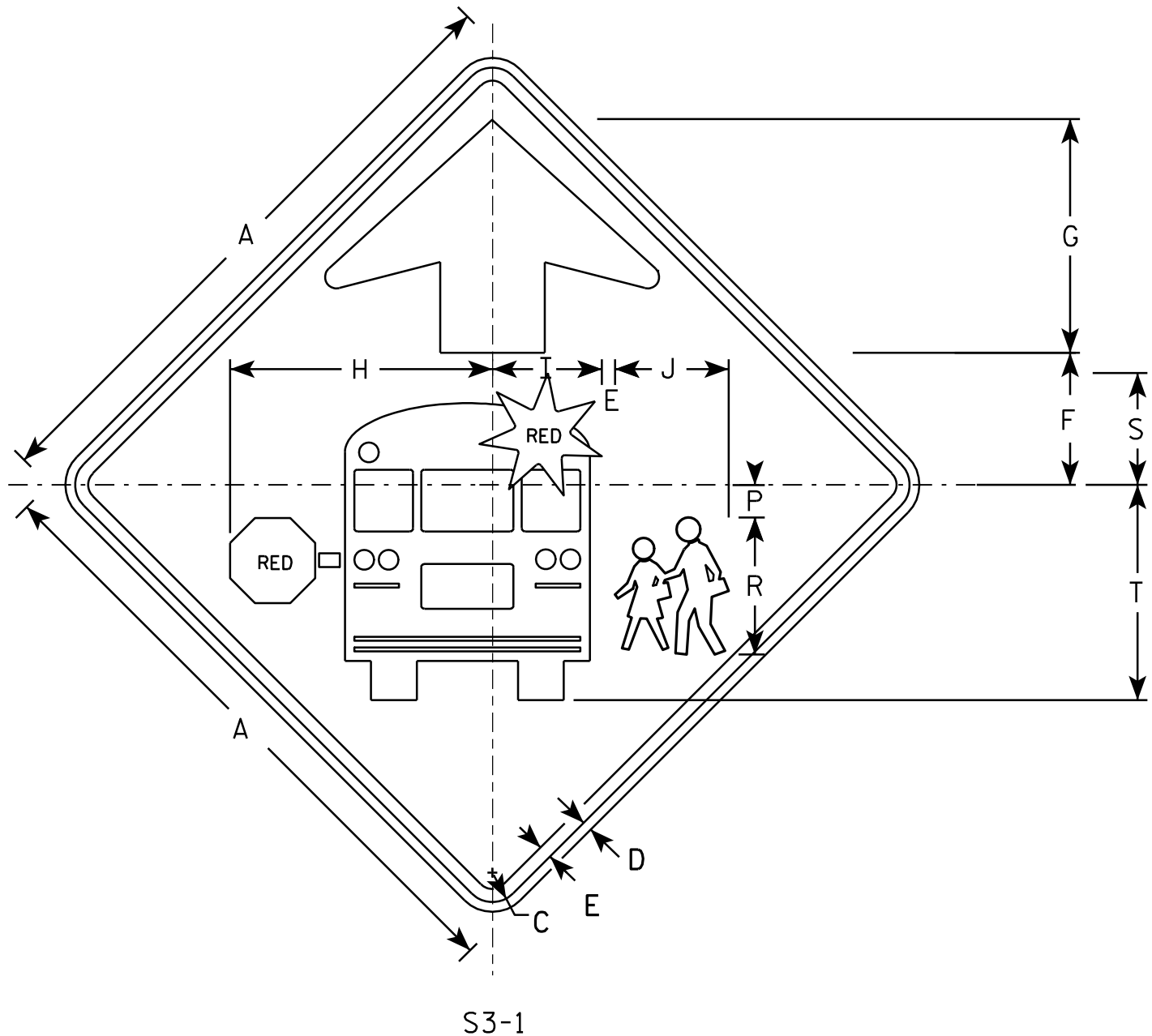
**STANDARD SIGN**  
R11-54F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/28/14 PLATE NO. R11-54F.3

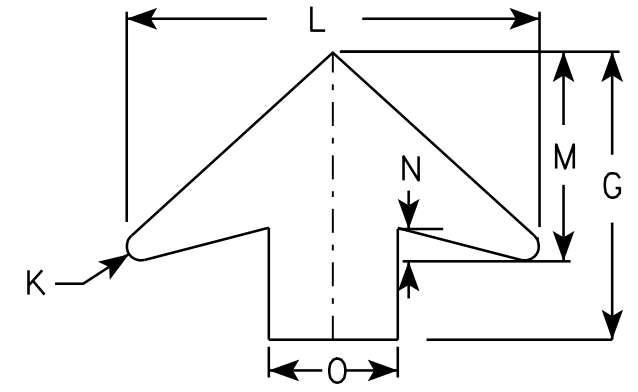
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**



S3-1

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-GREEN  
 Message - BLACK except as noted  
 Circles except PEDS- RED BACKGROUND
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	30		1 3/8	1/2	5/8	6 1/4	11 1/4	12 1/2	5 1/4	5 1/2	1/2	16	8	1 1/4	5	1 1/2		6 5/8	5 3/8	10 3/8							6.25
2	36		1 5/8	5/8	3/4	7 1/2	13 1/2	15 1/8	6 1/4	6 1/2	5/8	19 1/4	9 3/4	1 5/8	6	1 7/8		7 1/8	6 3/8	12 3/8							9.0
3	48		2 1/4	3/4	1	10	17 7/8	20 1/8	8 3/8	8 3/4	7/8	25 5/8	13	2	8	2 1/2		10 1/2	8 1/2	16 1/2							16.0
4	48		2 1/4	3/4	1	10	17 7/8	20 1/8	8 3/8	8 3/4	7/8	25 5/8	13	2	8	2 1/2		10 1/2	8 1/2	16 1/2							16.0
5																											

**STANDARD SIGN**  
S3-1

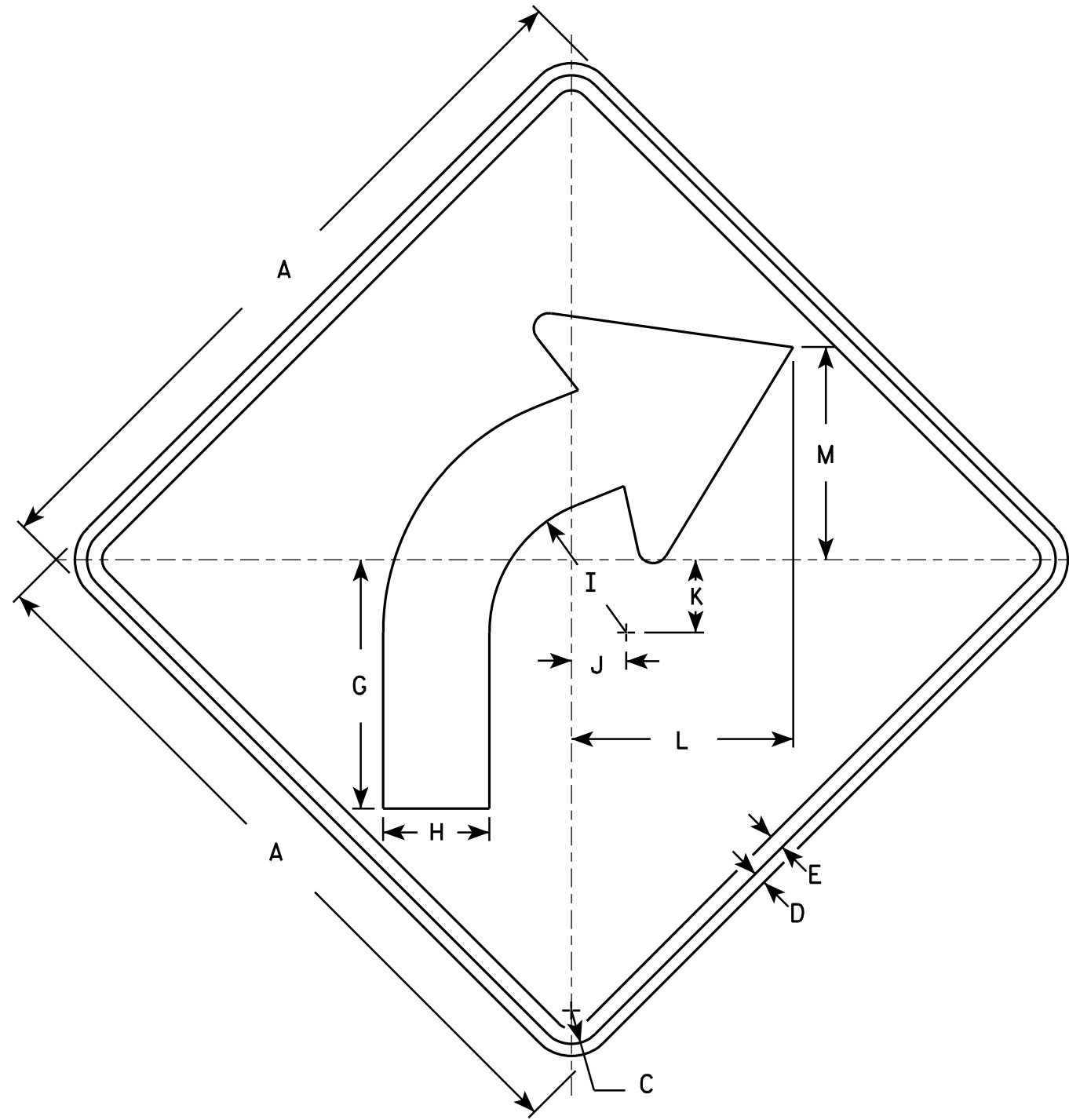
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

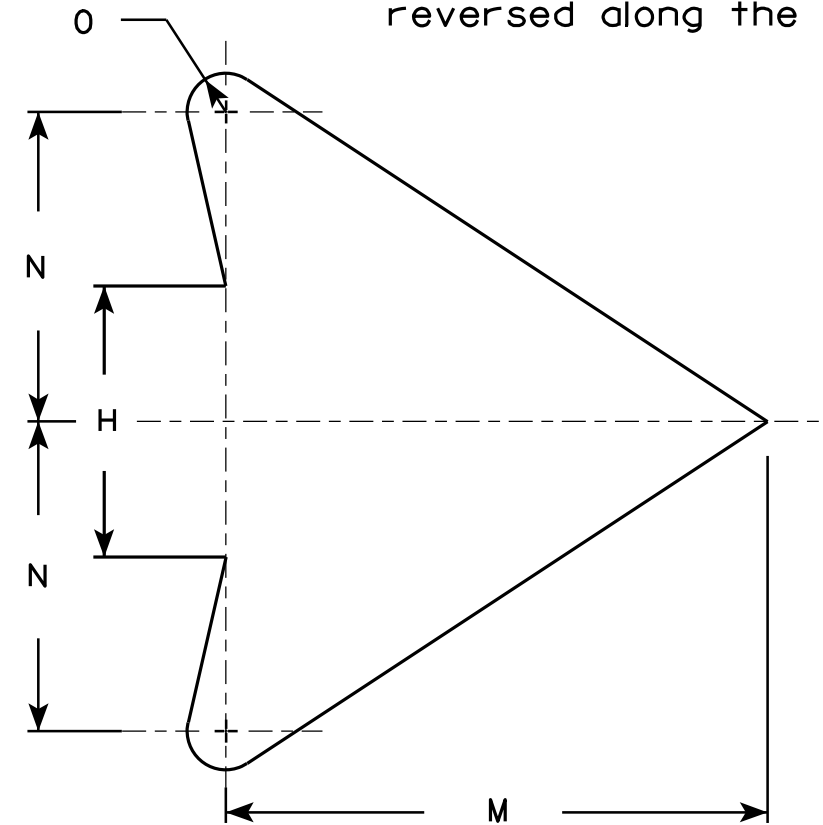
DATE 6/8/10 PLATE NO. S3-1.6

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W1-2L is the same as W1-2R except the arrow is reversed along the vertical centerline.



W1-2R



ARROW DETAIL

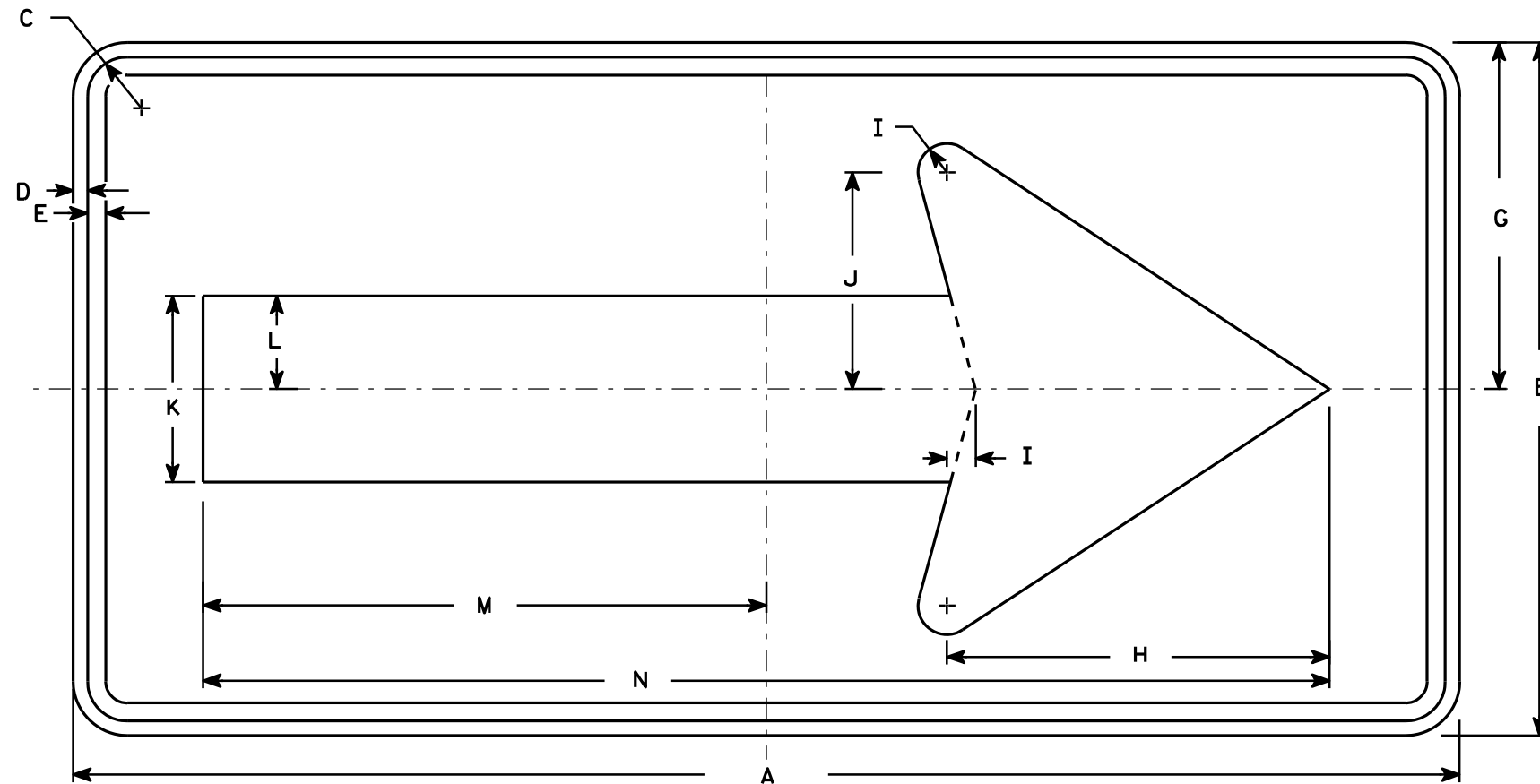
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2		8 1/4	3 1/2	4 1/2	1 3/4	2 3/8	7 1/4	7	4	1/2												4.0
2S	30		1 3/8	1/2	5/8		10 1/4	4 3/8	5 5/8	2 1/4	3	9 1/8	8 3/4	5	5/8												6.25
2M	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
3	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
4	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
5	48		2 1/4	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0

STANDARD SIGN  
W1-2

WISCONSIN DEPT OF TRANSPORTATION  
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer  
DATE 5/15/12 PLATE NO. W1-2.10

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W1-6

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	18	1 1/8	3/8	3/8		9	10	3/4	5 5/8	4 3/4	2 3/8	14 5/8	29 1/4													4.5
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	96	48	2 1/4	3/4	1		24	26 1/2	2	15	13	6 1/2	39	78													32.0

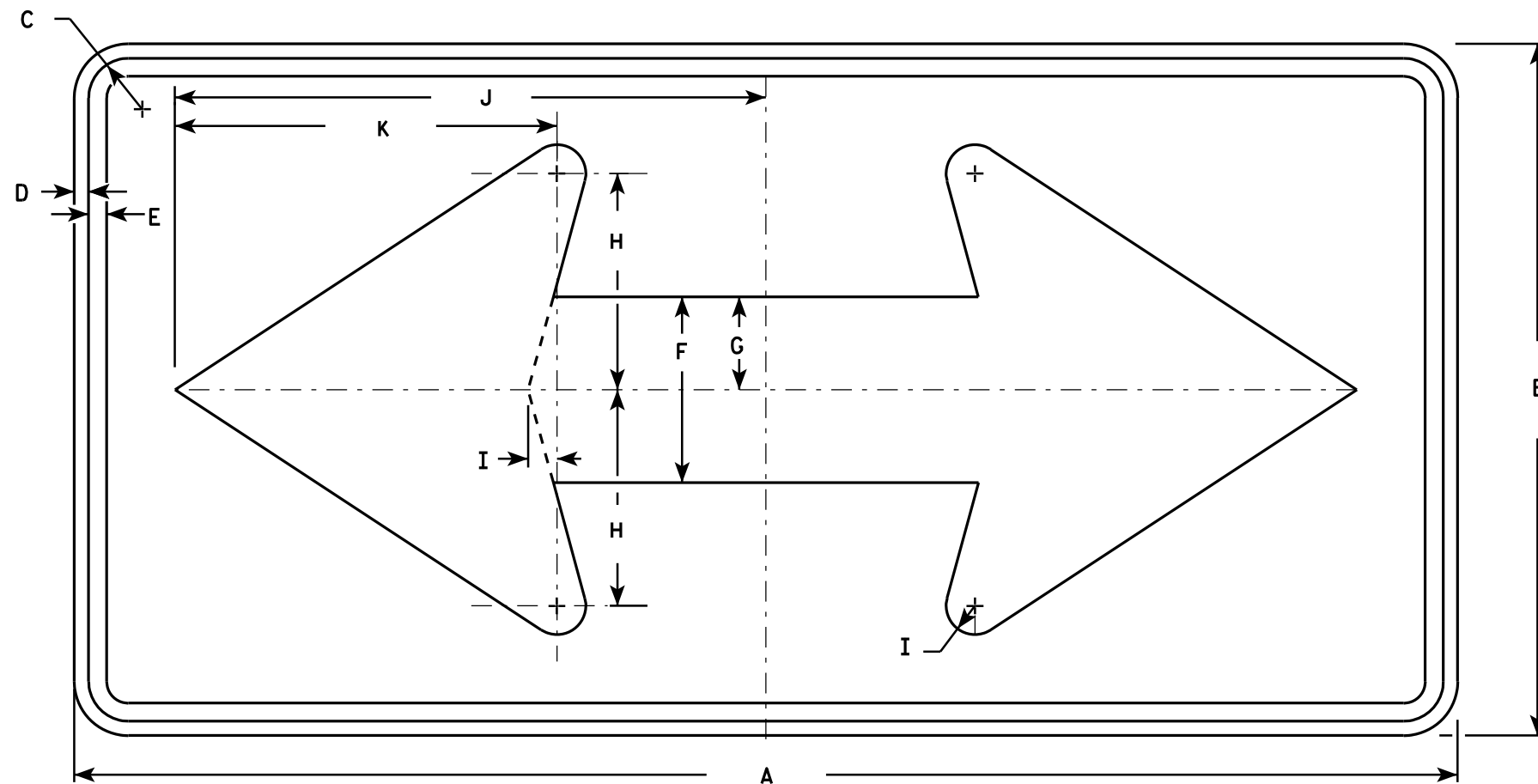
STANDARD SIGN  
W1-6

WISCONSIN DEPT OF TRANSPORTATION  
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer  
DATE 6/7/10 PLATE NO. W1-6.8

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_

**NOTES**

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W1-7

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	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

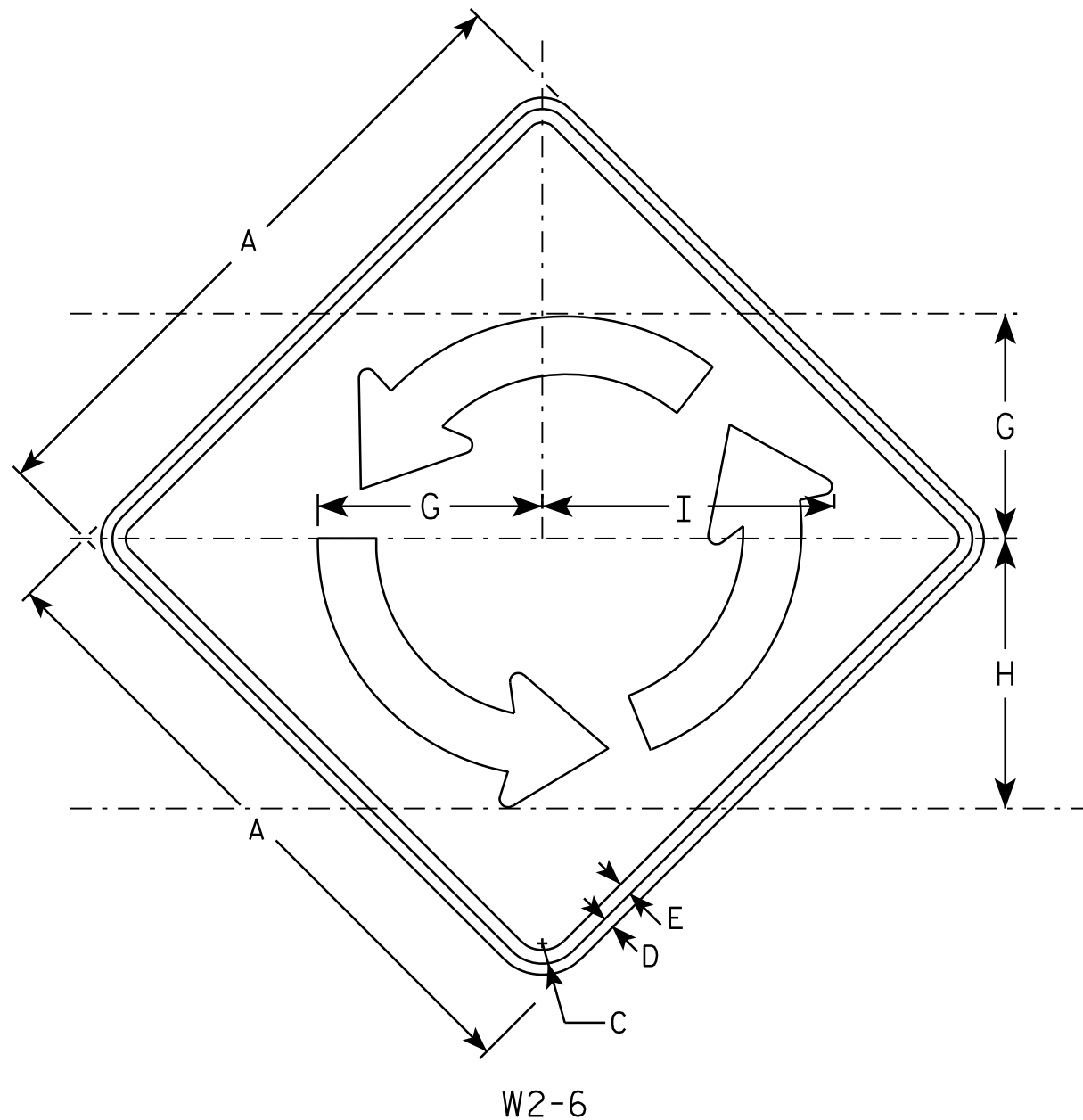
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-7.7

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E

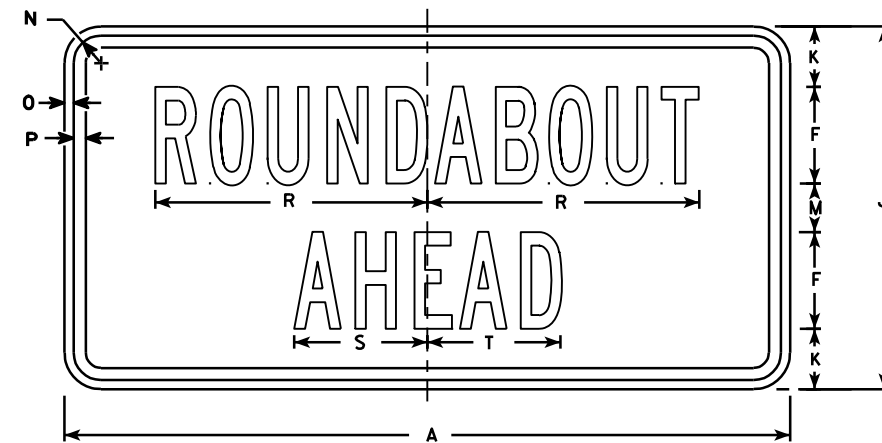




W2-6

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - YELLOW  
Message - BLACK
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W2-6P

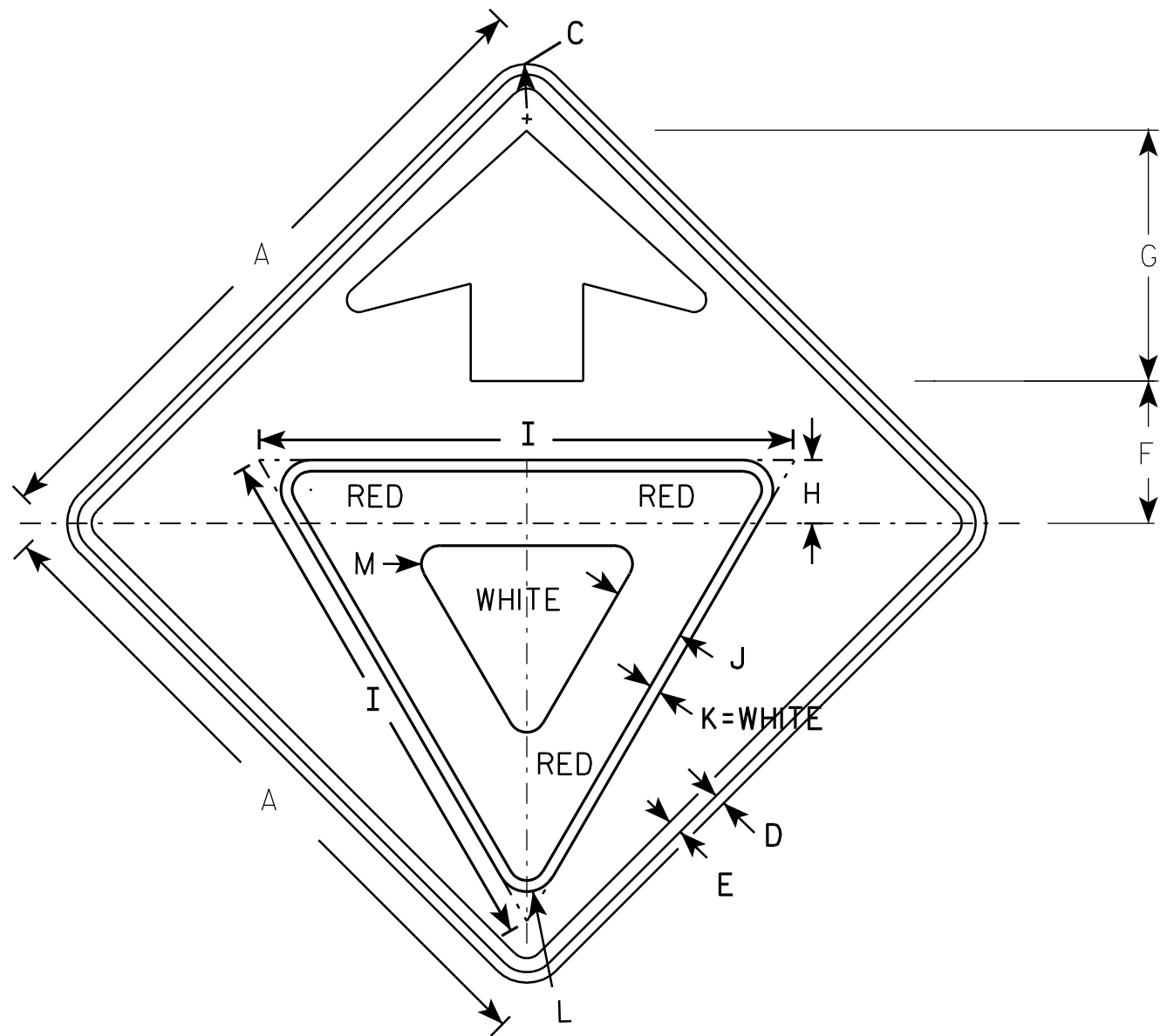
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	W2-6 Area sq. ft.	W2-6P Area sq. ft.
1																										
2S	30		1 3/8	1/2	5/8	4	10 3/8	12 1/2	13 1/2	15	2 1/2		2	1 1/8	3/8	1/2		11 1/4	5 1/2	5 1/2					6.25	3.12
2M	30		1 3/8	1/2	5/8	4	10 3/8	12 1/2	13 1/2	15	2 1/2		2	1 1/8	3/8	1/2		11 1/4	5 1/2	5 1/2					6.25	3.12
3	36		1 5/8	5/8	3/4	5	12 1/2	15	16 1/4	18	2 5/8		2 3/4	1 1/8	3/8	1/2		14	7	6 3/4					9.00	4.50
4	48		2 1/4	3/4	1	6	16 5/8	20	16 1/4	24	4 3/8		3 5/8	1 3/8	1/2	5/8		17	8 1/4	8 1/4					16.0	8.0
5																										

**STANDARD SIGN**  
**W2-6**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

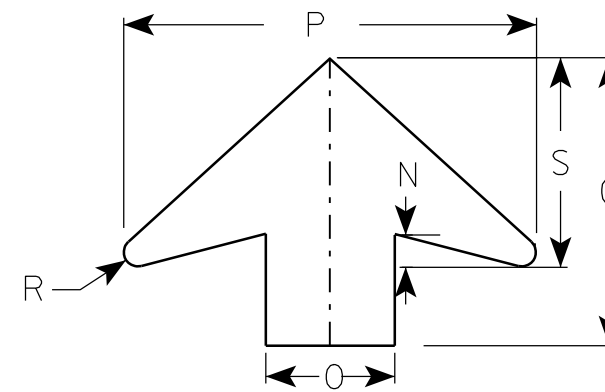
DATE 6/29/12 PLATE NO. W2-6.5



W3-2

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
 Background - YELLOW  
 Arrow & Border - BLACK  
 Yield 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	30		1 3/8	1/2	5/8	6 1/4	11 1/4	3	25	3 3/8	1/2	1 3/8	7/8	1 1/4	5	16		1/2	8								6.25
2S	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
2M	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
3	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0

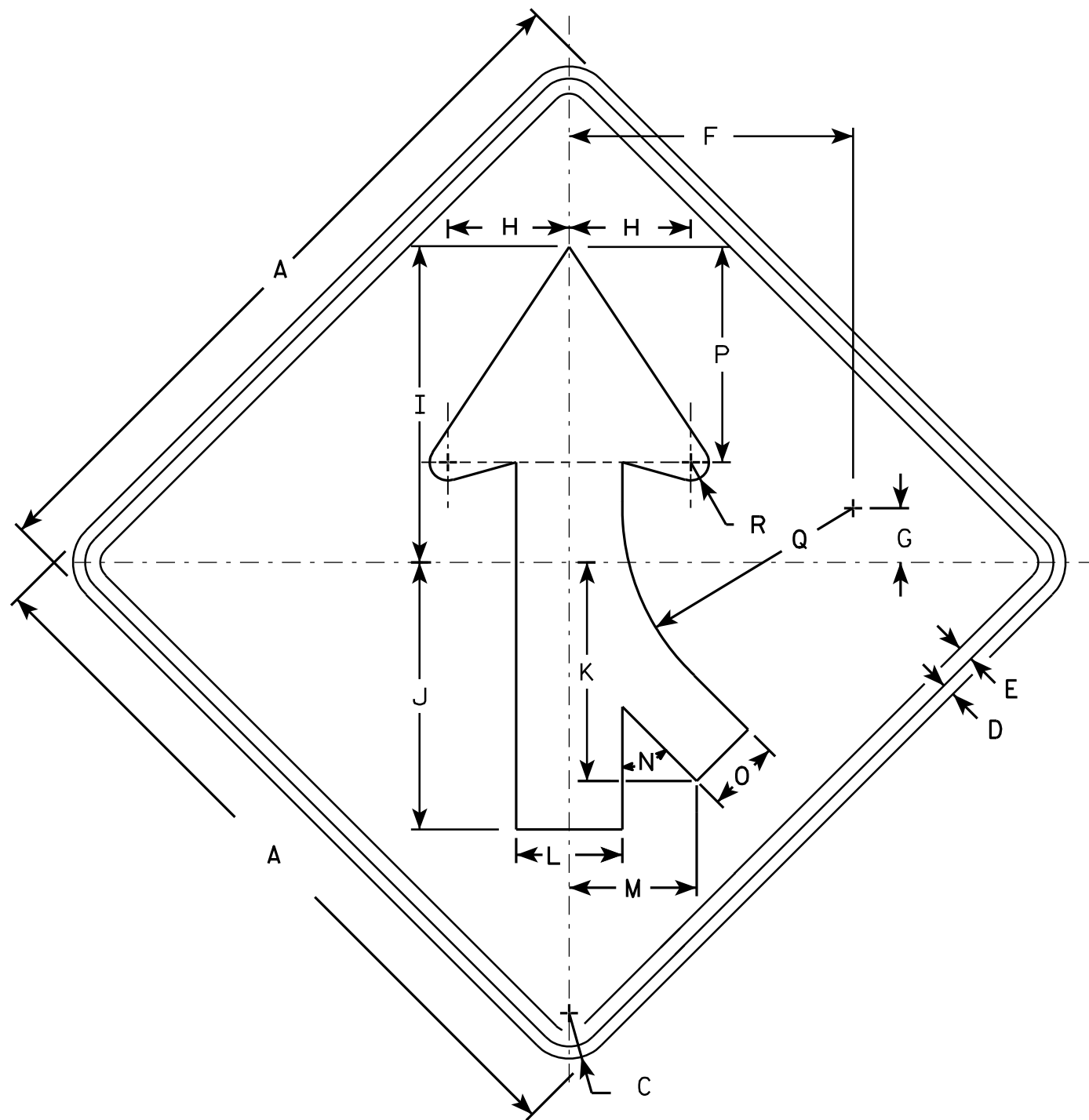
**STANDARD SIGN**  
W3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-2..9

PROJECT NO: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



W4-1R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W4-1L is the same as W4-1R except the arrow is reversed along the vertical centerline.

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	30		1 3/8	1/2	5/8	11 5/8	2 1/2	5	13	11	9	4 3/8	5 1/4	45°	3	8 7/8	9 1/2	3/4									6.25
2S	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
2M	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
3	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
4	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
5	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0

**STANDARD SIGN**  
W4-1

*WISCONSIN DEPT OF TRANSPORTATION*

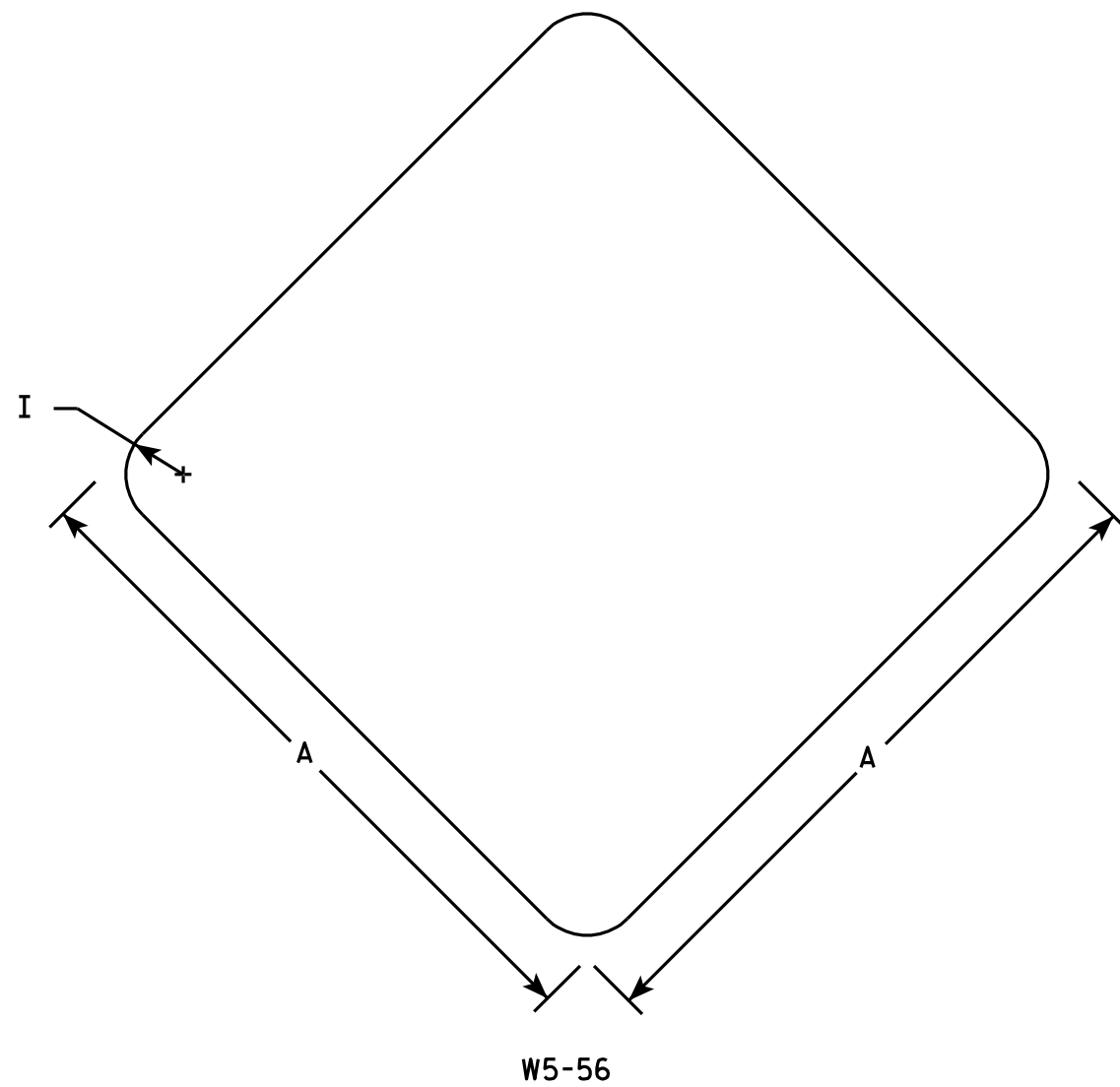
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W4-1.14

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ **E**

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.



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	12								1																		1.0
2S	18								1 1/2																		2.25
2M	18								1 1/2																		2.25
3																											
4																											
5																											

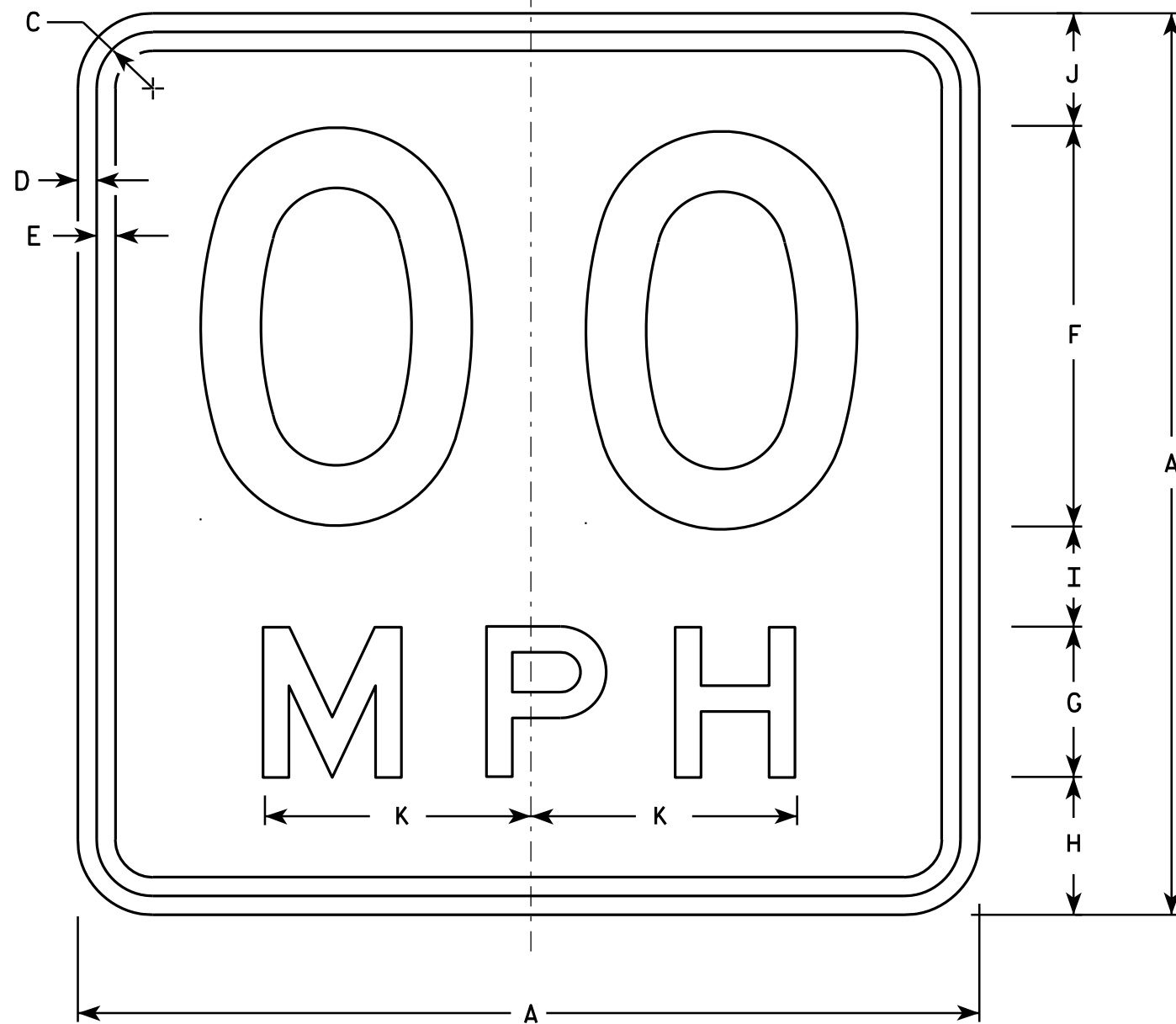
**STANDARD SIGN**  
**W5-56**

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: **E**



**NOTES**

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
Message - Black
3. Message Series - See Note 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

W13-1

\* For 30" x 30" Warning Signs, use 18" x 18" W13-1 signs.  
For 36" x 36" Warning Signs, use 24" x 24" W13-1 signs.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
* 2S	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
* 2M	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
3	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	6 5/8																4.00
4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

STANDARD SIGN

W13-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-1.16

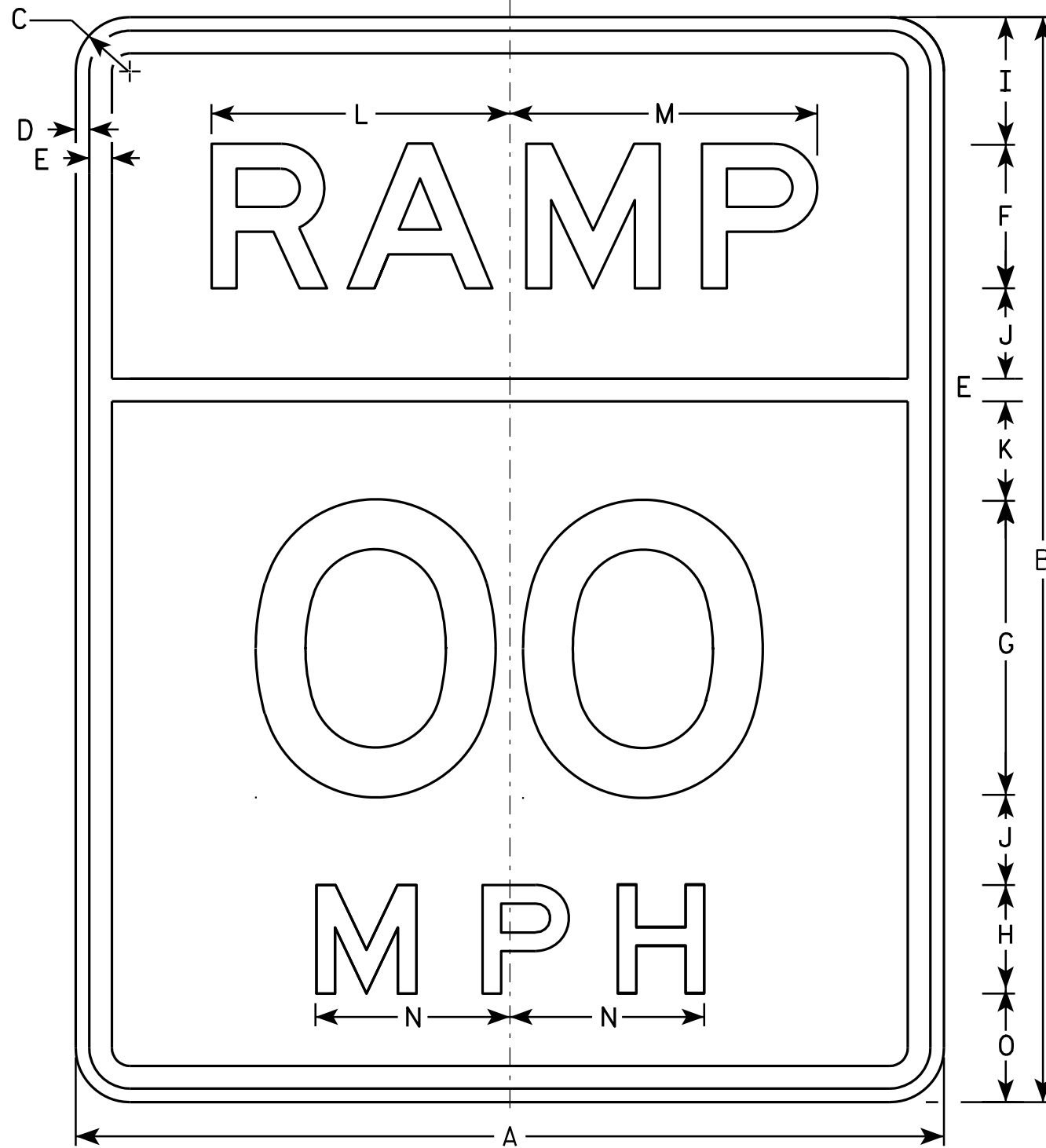
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



W13-3

**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. 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 space about centerline to achieve proper balance.

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	24	30	1 1/8	3/8	5/8	4	8	3	3 1/2	2 1/2	2 7/8	8 1/4	8 1/2	5 3/8	3												5.0
2S	24	30	1 1/8	3/8	5/8	4	8	3	3 1/2	2 1/2	2 7/8	8 1/4	8 1/2	5 3/8	3												5.0
2M	24	30	1 1/8	3/8	5/8	4	8	3	3 1/2	2 1/2	2 7/8	8 1/4	8 1/2	5 3/8	3												5.0
3																											
4	36	48	1 5/8	5/8	7/8	6	12	4	6	4 1/8	5 1/8	13 1/2	13 5/8	7 1/8	6												12.0
5	48	60	2 1/4	3/4	1 1/4	8	16	6	7	5	5 3/4	16 1/2	17	10 5/8	6												20.0

**STANDARD SIGN**  
W13-3

WISCONSIN DEPT OF TRANSPORTATION

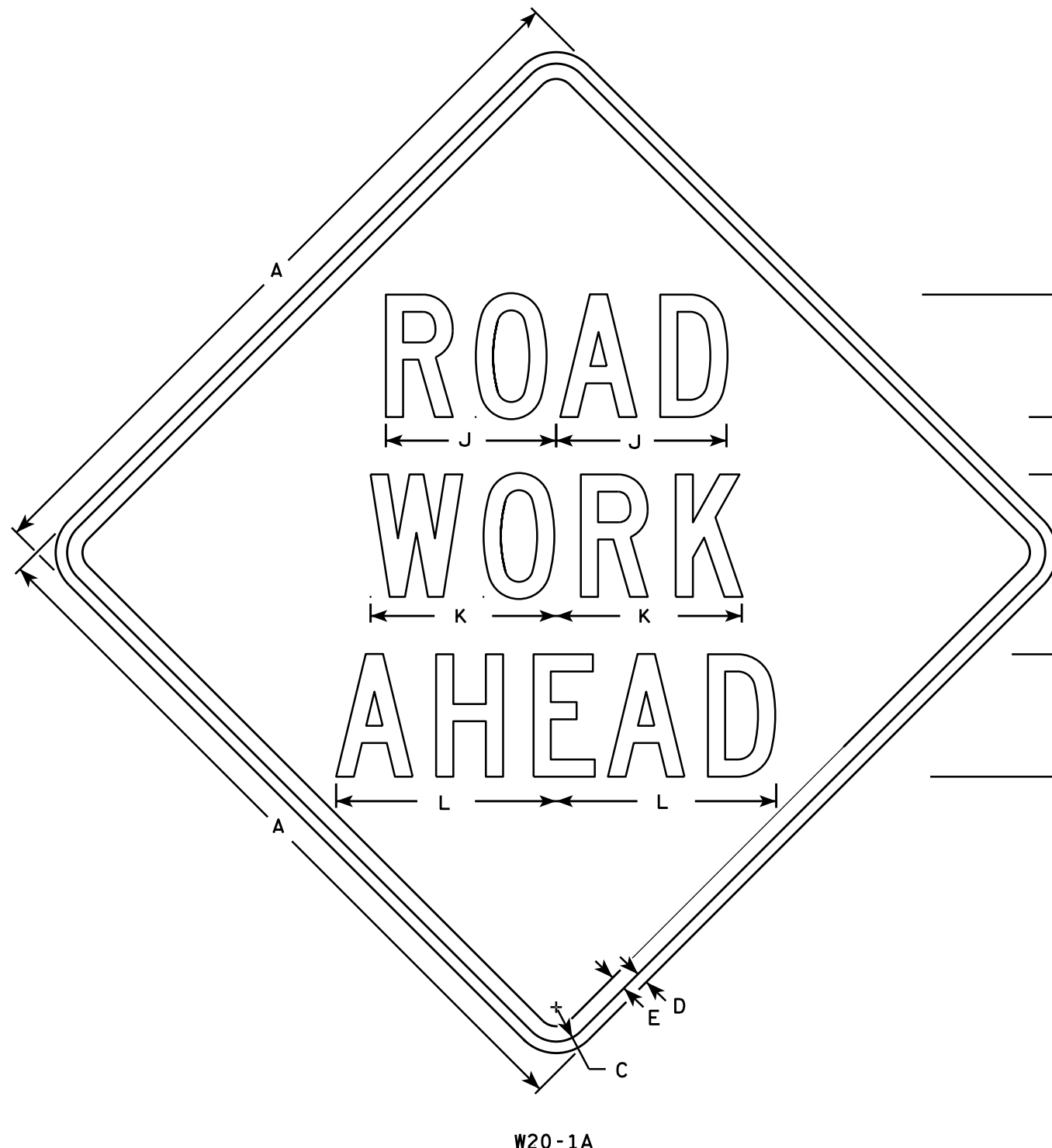
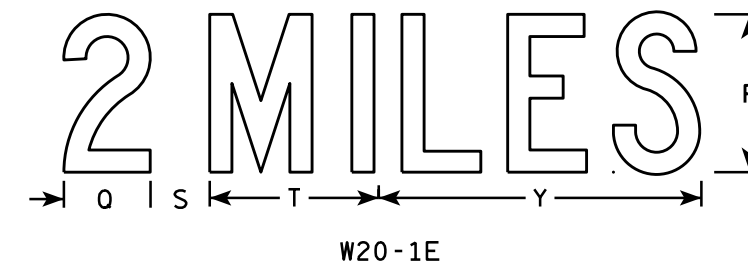
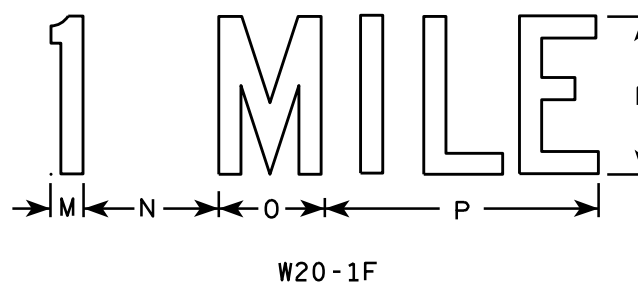
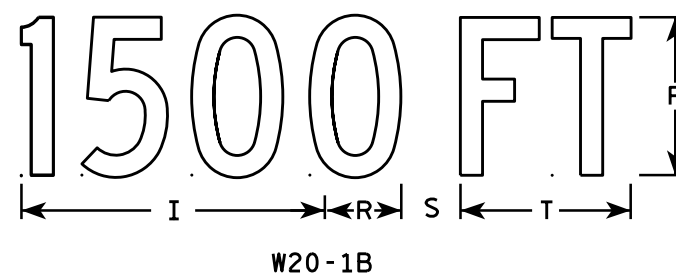
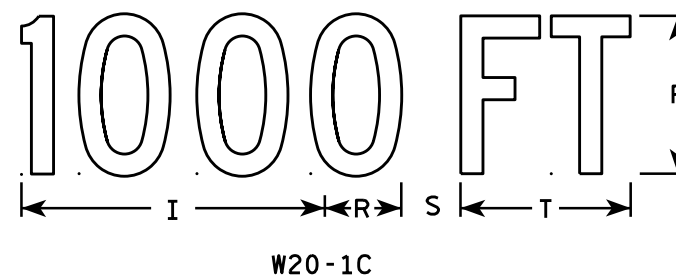
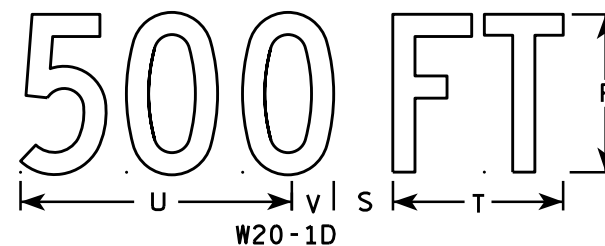
APPROVED *Matthew R. Raub*  
for State Traffic Engineer

DATE 6/13/13 PLATE NO. W13-3.9

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E

NOTES

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



W20-1A

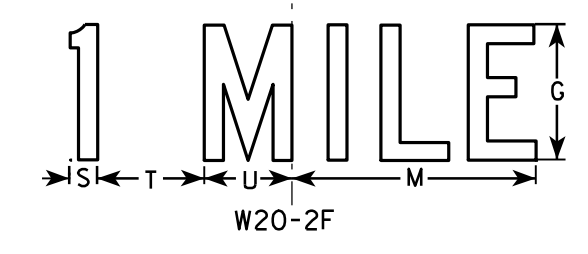
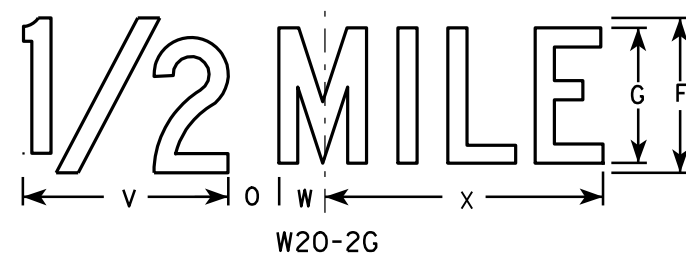
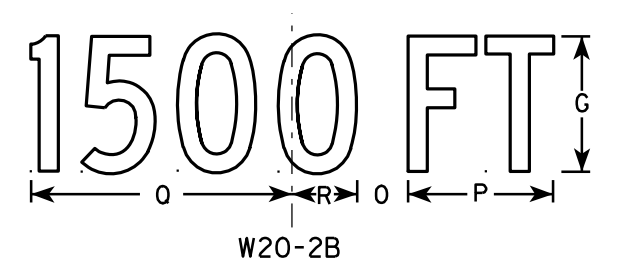
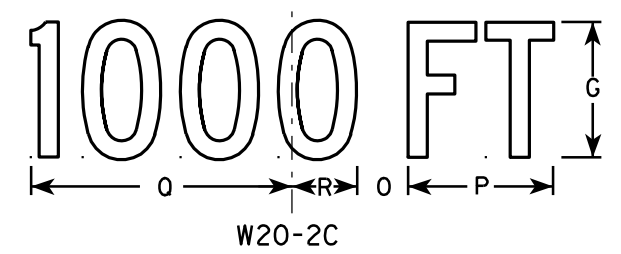
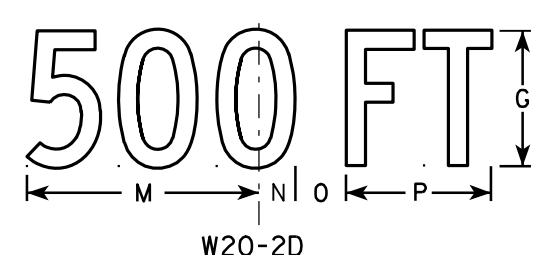
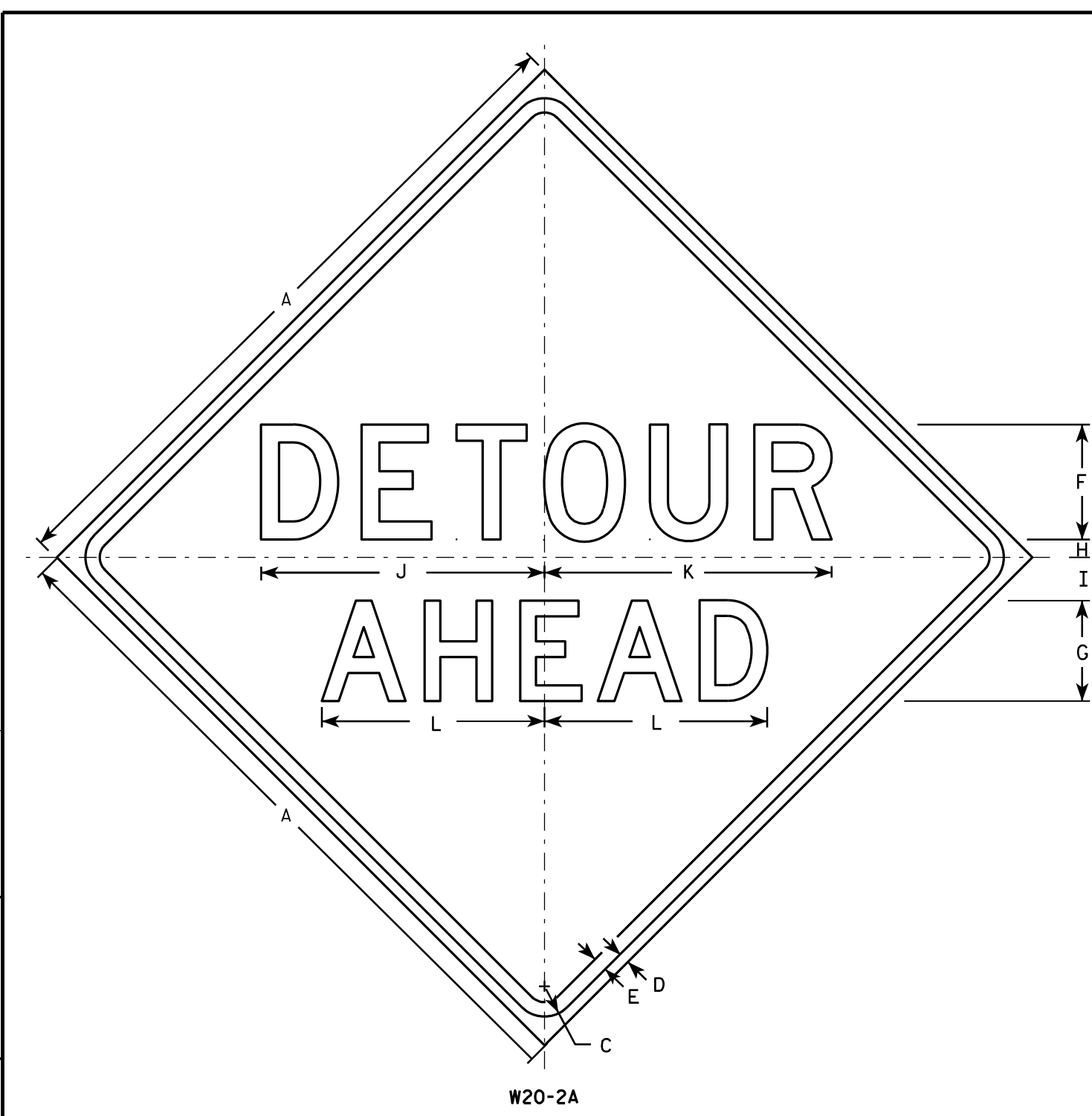
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 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



**NOTES**

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

7

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SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN  
W20-2A, B, C, D, F & G

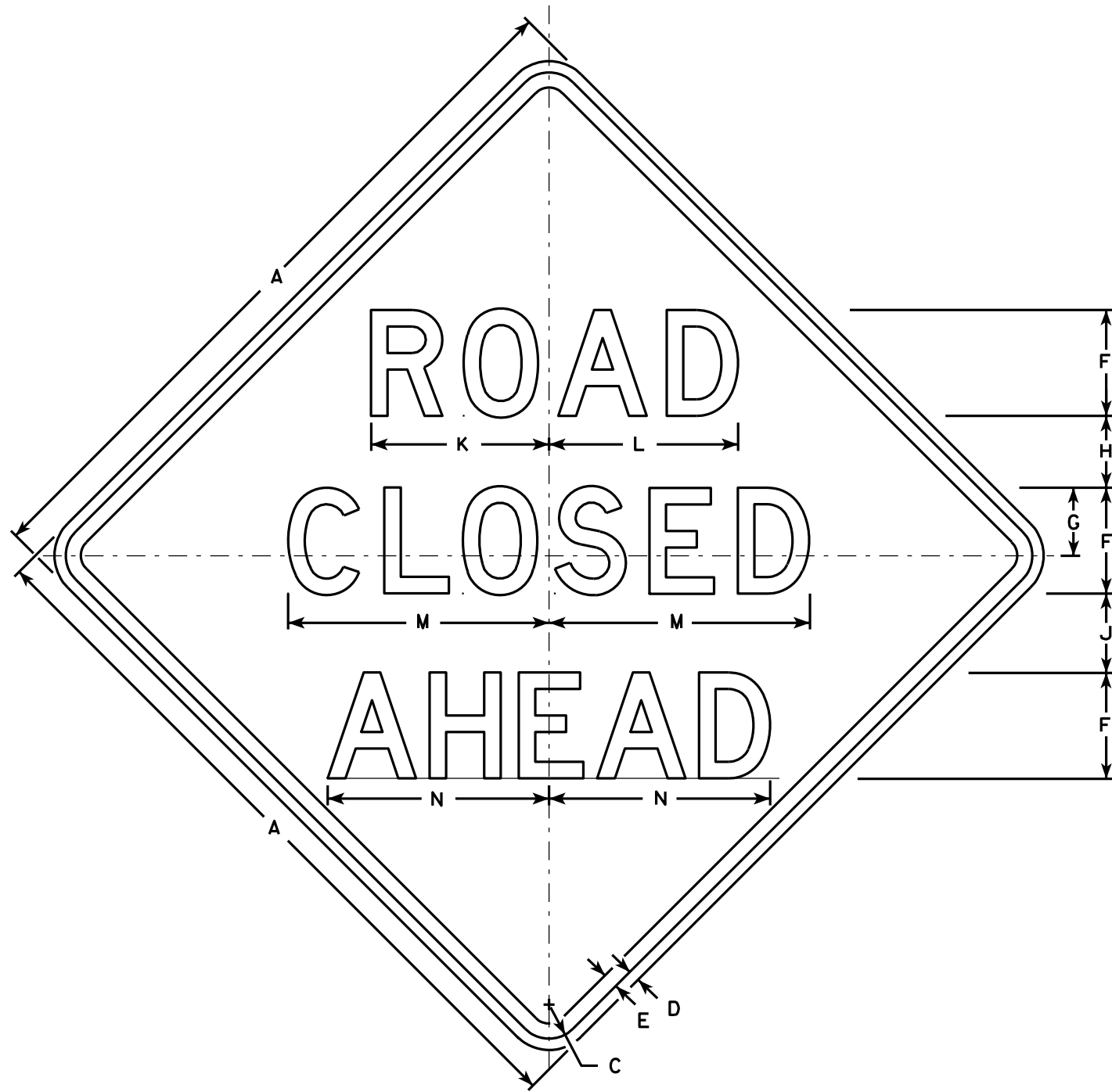
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Raub*  
for State Traffic Engineer

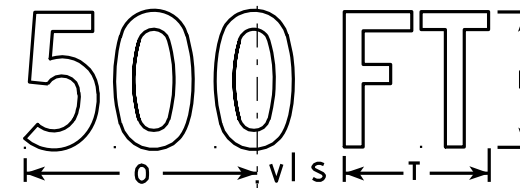
DATE 3/18/11 PLATE NO. W20-2.6

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E

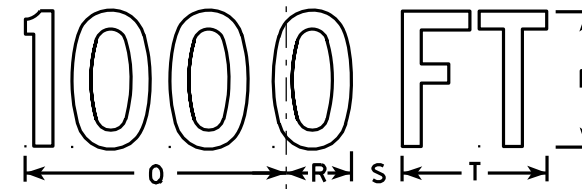




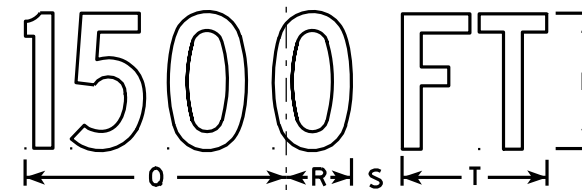
W20-3A



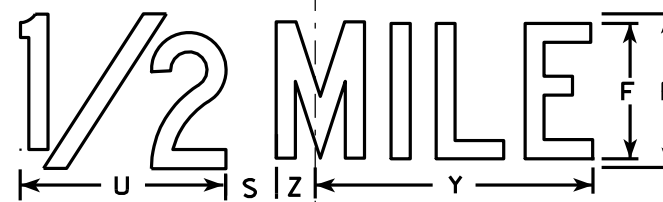
W20-3D



W20-3C



W20-3B



W20-3G



W20-3F

**NOTES**

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

7

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

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

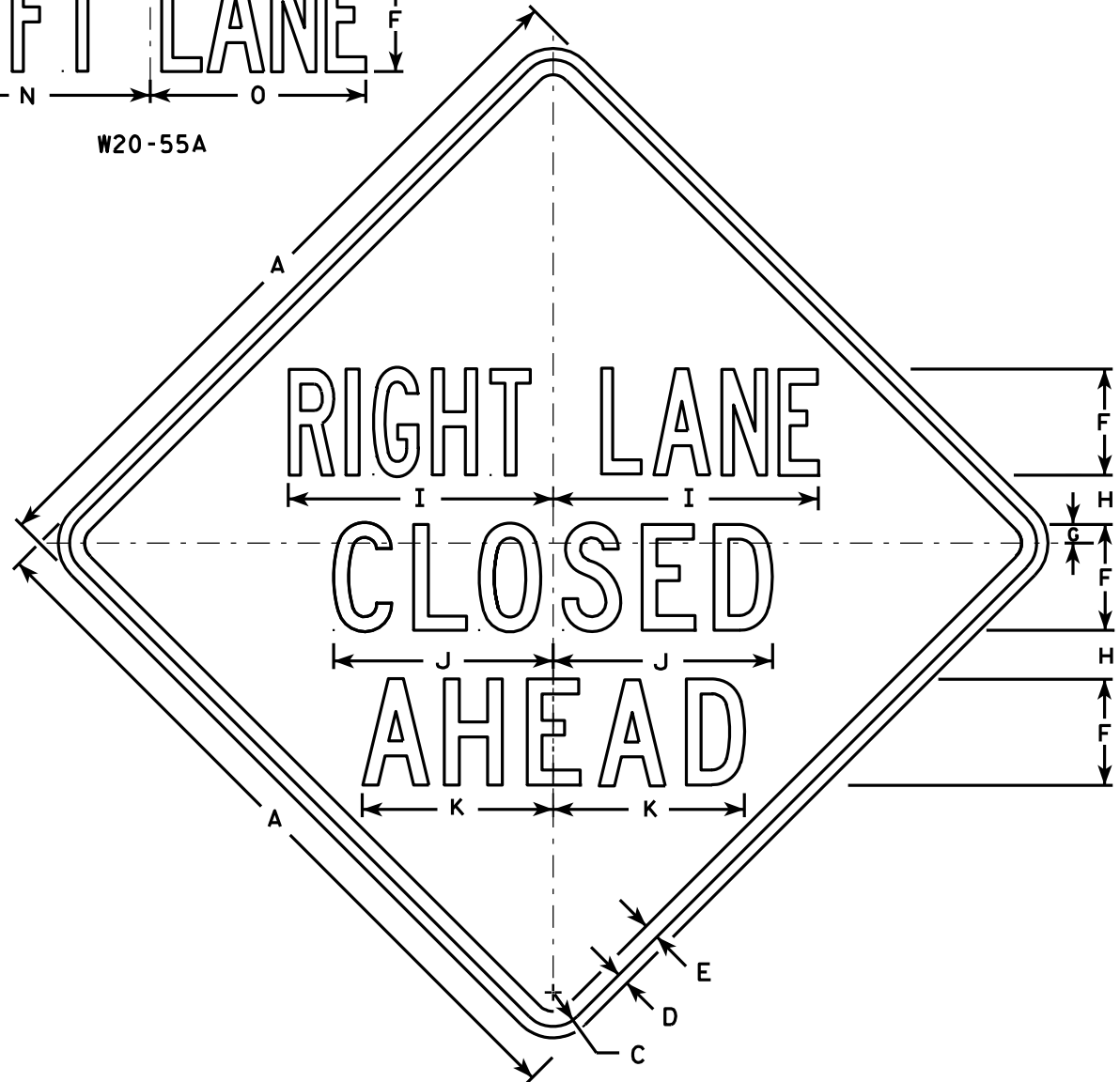
DATE 3/18/11 PLATE NO. W20-3.7

CENTER LANE

W20-56A

LEFT LANE

W20-55A



W20-5A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Orange  
Message - Black
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. "-----LANE" is Series B.  
All other copy is Series C.

500 FT

W20-5D

1000 FT

W20-5C

1500 FT

W20-5B

1/2 MILE

W20-5G

1 MILE

W20-5F

7

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SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	6	1 5/8	5/8	3/4	5	7/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 7/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

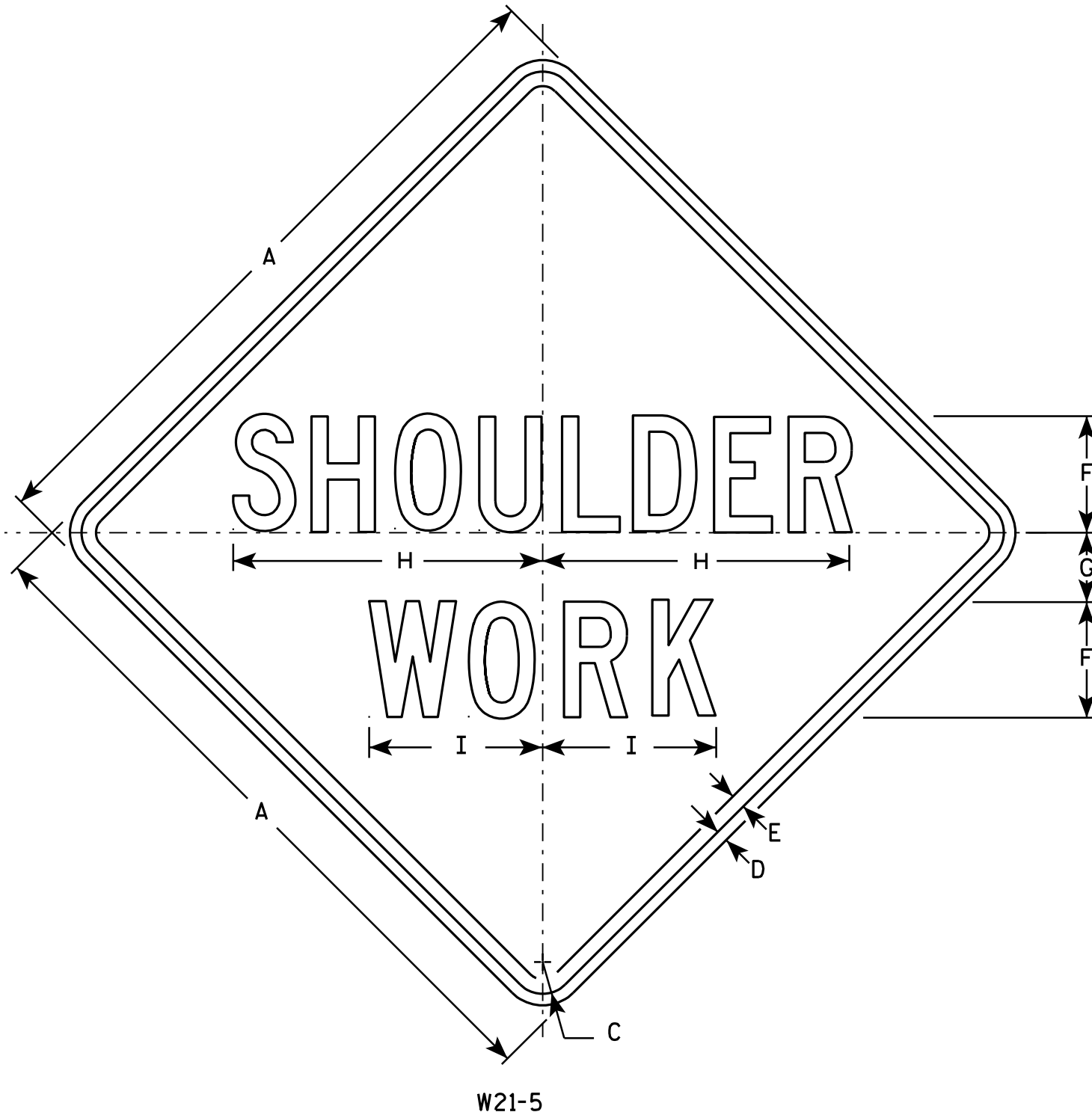
STANDARD SIGN  
W20-5A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-5.11

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **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. 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

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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	4	2 1/2	10 3/4	6																		4.0
2S	30		1 3/8	1/2	5/8	5	3	13 3/8	7 1/2																		6.25
2M	30		1 3/8	1/2	5/8	5	3	13 3/8	7 1/2																		6.25
3	36		1 5/8	5/8	3/4	6	3 1/2	16	9																		9.0
4	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0
5	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0

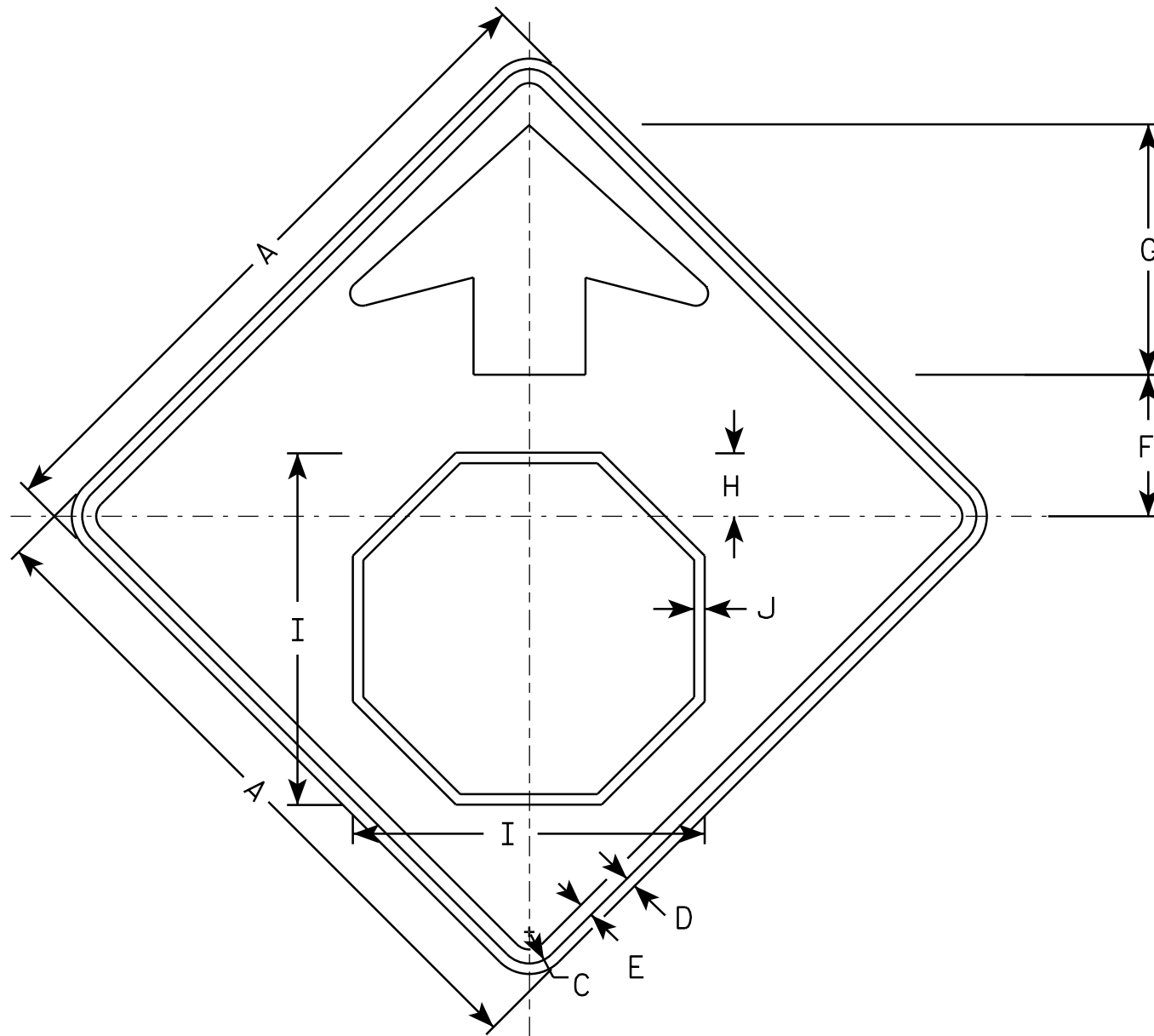
**STANDARD SIGN**  
**W21-5**

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED *Matthew R Rauch*  
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-5.5

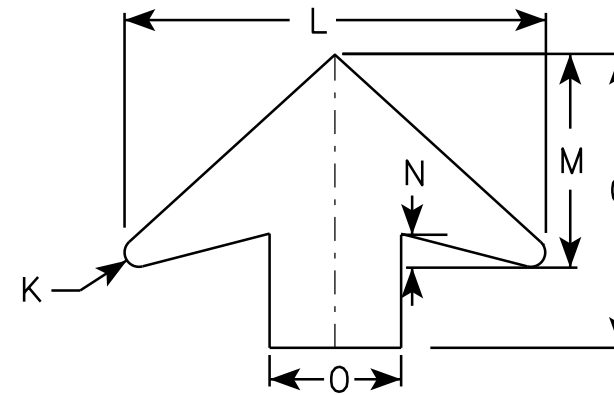
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**



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

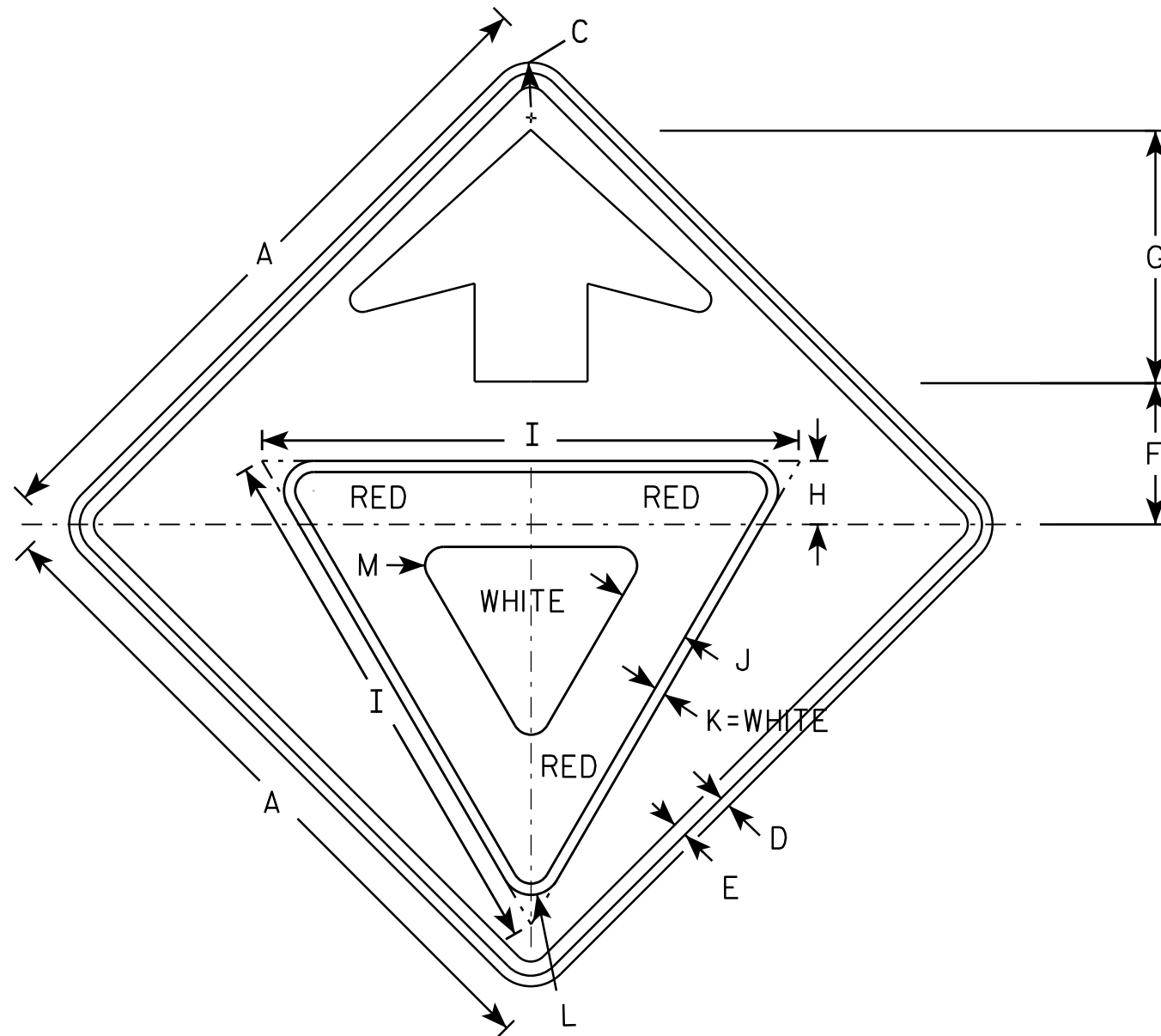
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
2S	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
2M	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												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

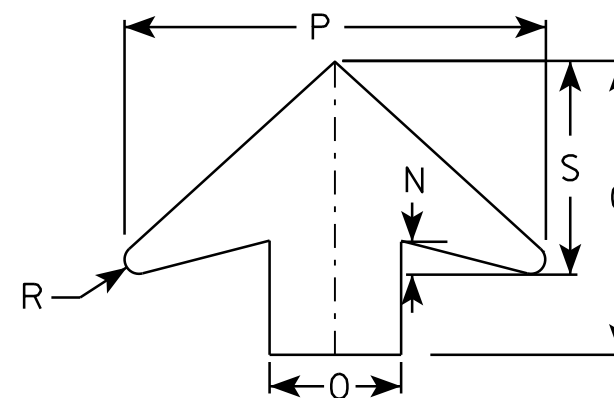
DATE 11/20/13 PLATE NO. W03-1.1



W03-2

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
 Background - ORANGE  
 Arrow & Border - BLACK  
 Yield Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
2S	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
2M	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
3	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0

STANDARD SIGN  
W03-2

WISCONSIN DEPT OF TRANSPORTATION

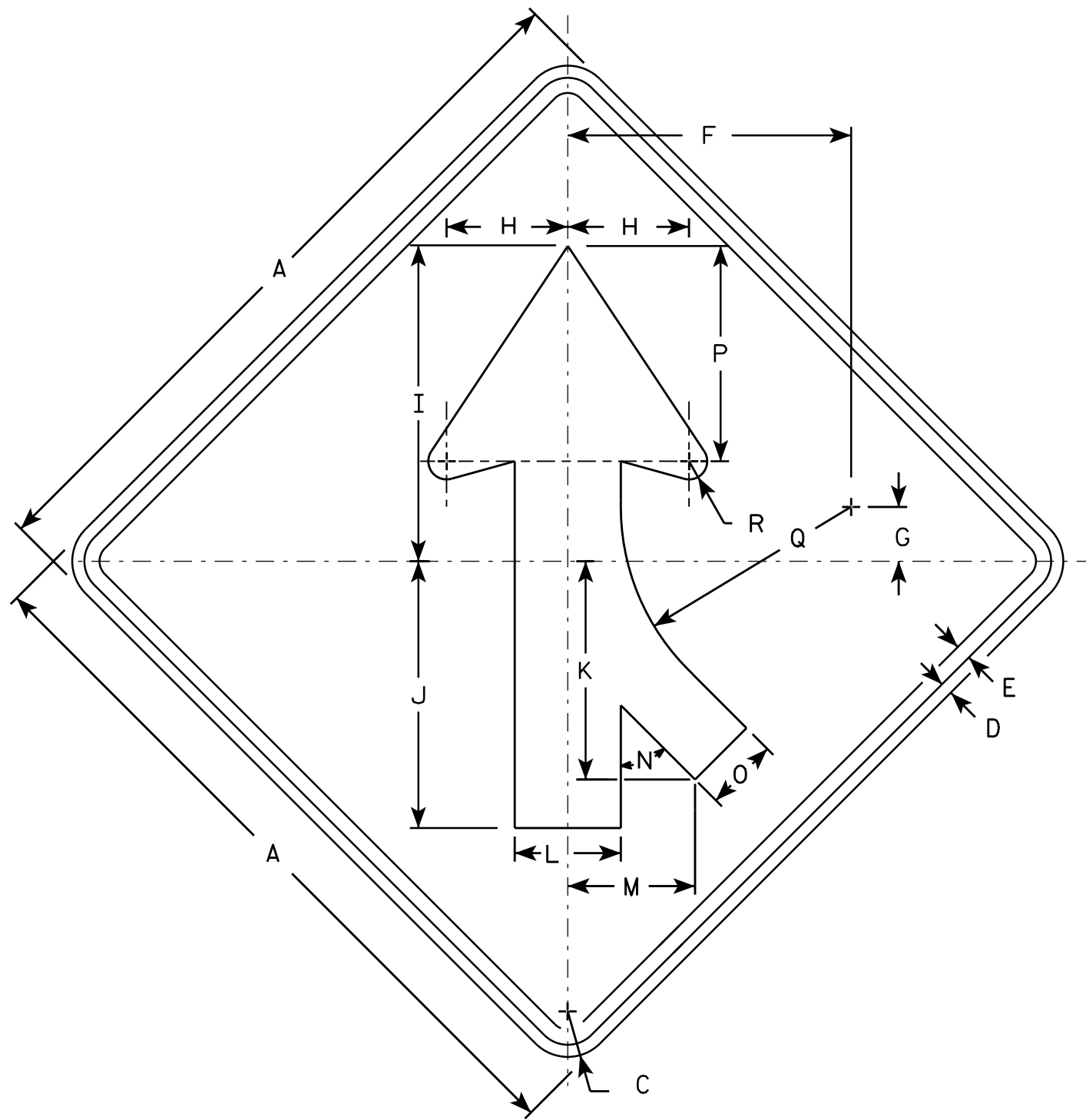
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 11/20/13 PLATE NO. W03-2.1

PROJECT NO:

SHEET NO:

E



W04-1R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Orange  
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W4-1L is the same as W4-1R except the arrow is reversed along the vertical centerline.

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	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
2S	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
2M	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
3	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
4	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
5	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0

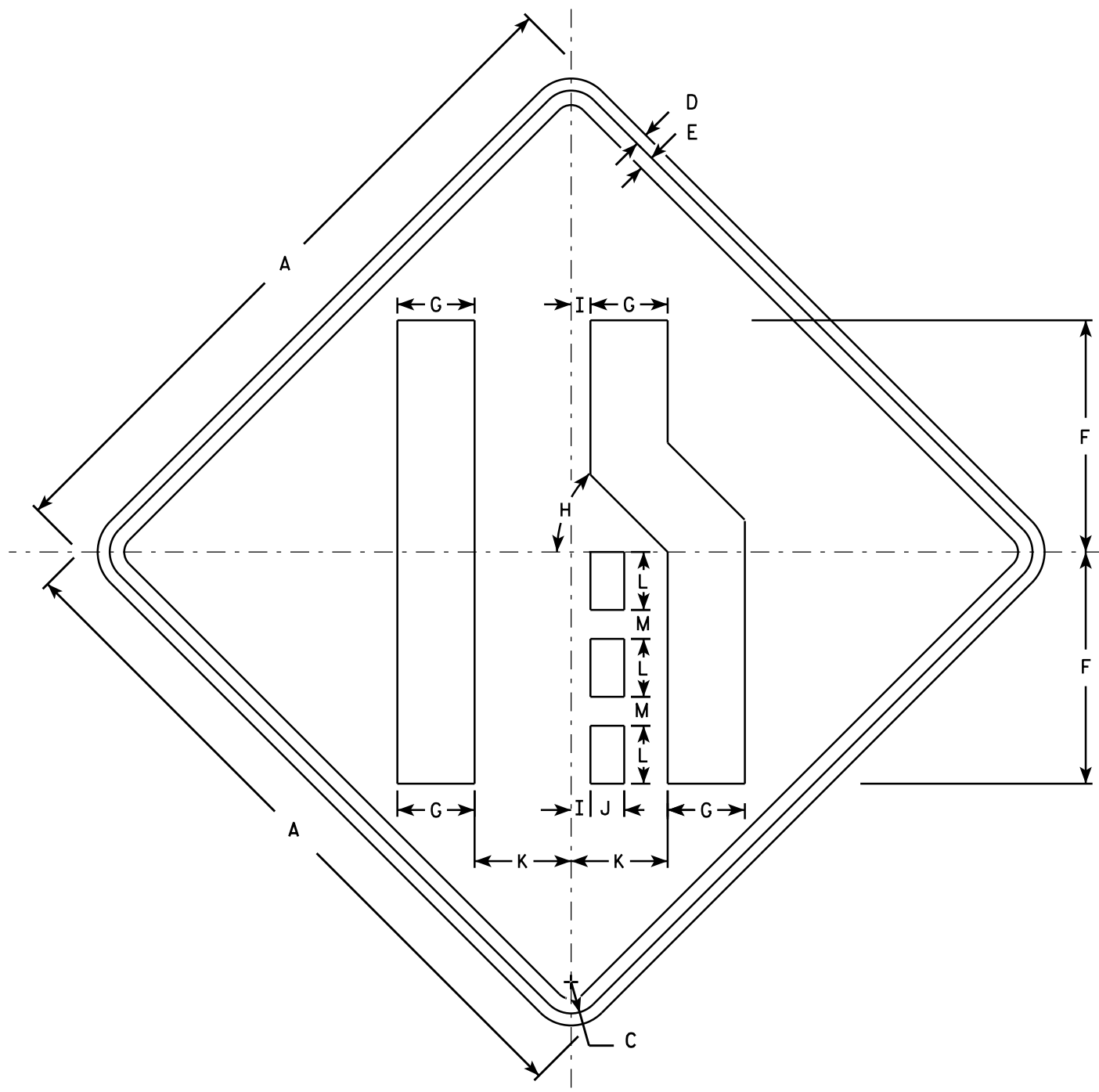
**STANDARD SIGN**  
W04-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 11/20/13 PLATE NO. W04-1.1

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**



W04-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Orange  
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W04-2L is the same as W04-2R except the symbols is reversed along the vertical centerline.

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	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

**STANDARD SIGN**  
**W04-2**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 11/20/13 PLATE NO. W04-2.1

DESIGN DATA

LIVE LOAD:  
 DESIGN LOADING: HL-93  
 INVENTORY RATING FACTOR: RF=1.09  
 OPERATING RATING FACTOR: RF=1.42  
 WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 235 (KIPS)  
 STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

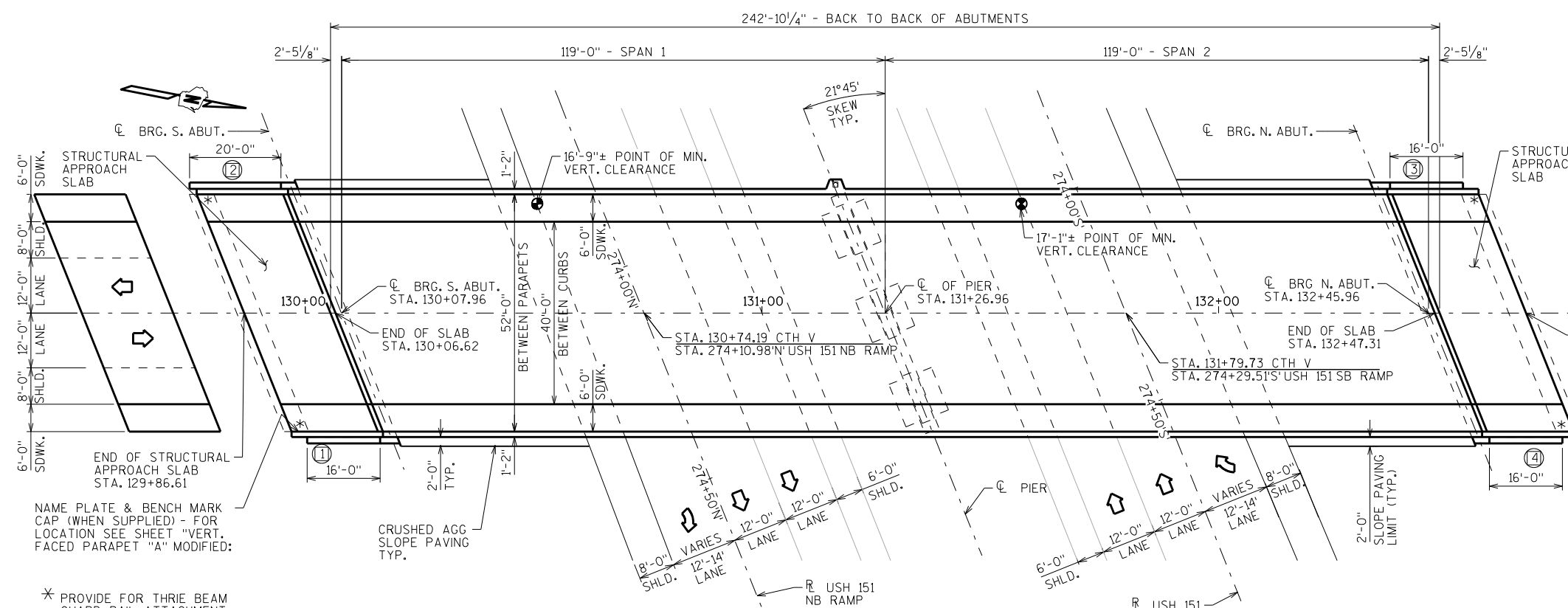
ULTIMATE DESIGN STRESSES:  
 CONCRETE MASONRY DECK  $f'_c = 4,000$  P.S.I.  
 ALL OTHER  $f'_c = 3,500$  P.S.I.  
 BAR STEEL REINFORCEMENT, GRADE 60  $f_y = 60,000$  P.S.I.  
 54W" PRESTRESSED GIRDERS, CONCRETE MASONRY  $f'_c = 8000$  P.S.I.  
 STRANDS- 0.6" DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.

FOUNDATION DATA

SOUTH AND NORTH ABUTMENTS TO BE SUPPORTED ON CIP CONCRETE  $12\frac{3}{4} \times 0.375$ -INCH PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 210 TONS \*\* PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 95' AND 90' LONG RESPECTIVELY.

PIER TO BE SUPPORTED ON CIP CONCRETE  $12\frac{3}{4} \times 0.375$ -INCH PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 210 TONS \*\* PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 75' LONG.

\*\* 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.

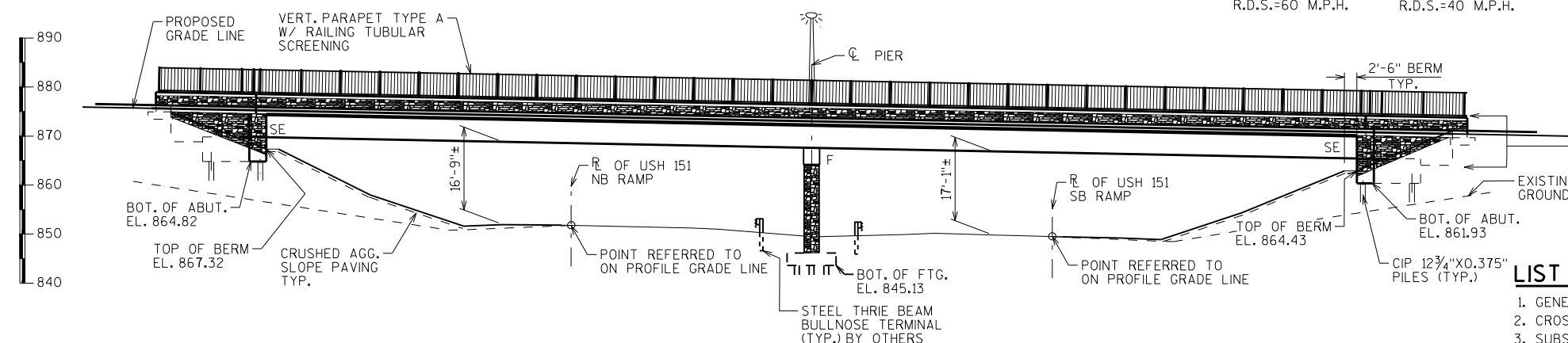


PLAN

2 SPAN - 54W" PRESTRESSED CONCRETE GIRDER BRIDGE

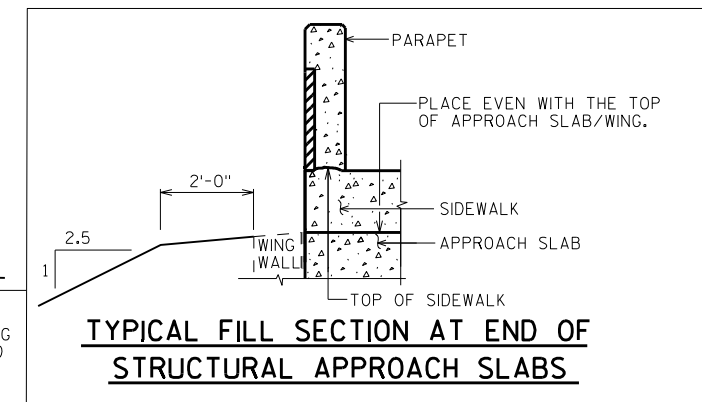
TRAFFIC VOLUME

USH 151 NB & SB      CTH V  
 A.D.T.=13,400 (2038)    A.D.T.=3,700 (2038)  
 R.D.S.=60 M.P.H.      R.D.S.=40 M.P.H.



ELEVATION

(NORMAL TO USH 151, LOOKING WEST)



TYPICAL FILL SECTION AT END OF STRUCTURAL APPROACH SLABS

LIST OF DRAWINGS

- GENERAL PLAN
- CROSS SECTION & QUANTITIES
- SUBSURFACE EXPLORATION
- SOUTH ABUTMENT
- SOUTH ABUTMENT DETAILS
- NORTH ABUTMENT
- NORTH ABUTMENT DETAILS
- PIER
- PIER DETAILS
- 54W" PRESTRESSED GIRDER DETAILS 1
- 54W" PRESTRESSED GIRDER DETAILS 2
- STEEL DIAPHRAGM
- SUPERSTRUCTURE
- SUPERSTRUCTURE DETAILS 1
- SUPERSTRUCTURE DETAILS 2
- LIGHTING STD. & CONDUIT DETAILS
- VERT. FACED PARAPET "A" MODIFIED
- SOUTH STRUCTURAL APPROACH SLAB
- NORTH STRUCTURAL APPROACH SLAB
- RAILING TUBULAR SCREENING
- RAILING TUBULAR SCREENING DETAILS
- AESTHETIC DETAILS
- SLOPE PAVING
- ALTERNATE CONSTRUCTION JOINT

STRUCTURE DESIGN CONTACTS:  
 STEVEN DOOCY (608) 261-6063  
 AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY

Plans Prepared By **WISDOT**  
**BUREAU OF STRUCTURES**  
 ACCEPTED *William C. Dehner* **1/21/15**  
 CHIEF STRUCTURES DESIGN ENGINEER DATE

**STRUCTURE B-20-226**

CTH V OVER USH 151

COUNTY FOND DU LAC TOWN/CITY/VILLAGE FOND DU LAC

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY SAD DESIGN CK'D. EMK DRAWN BY SAD PLANS CK'D. EMK

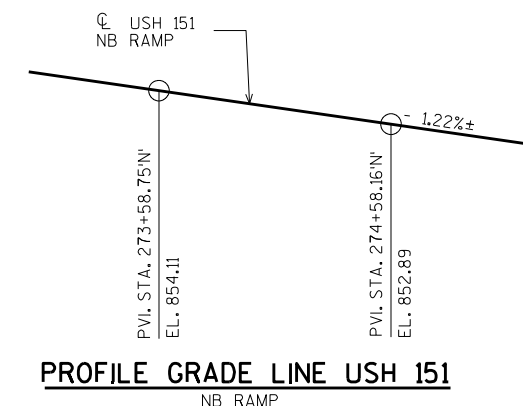
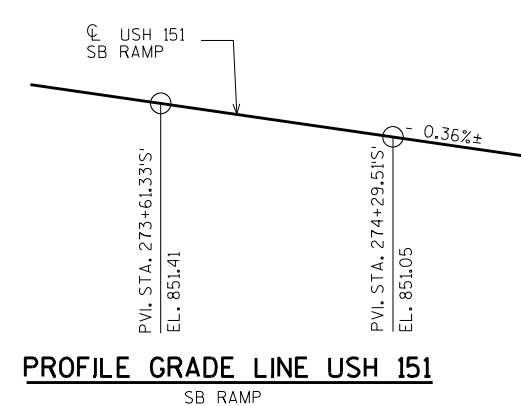
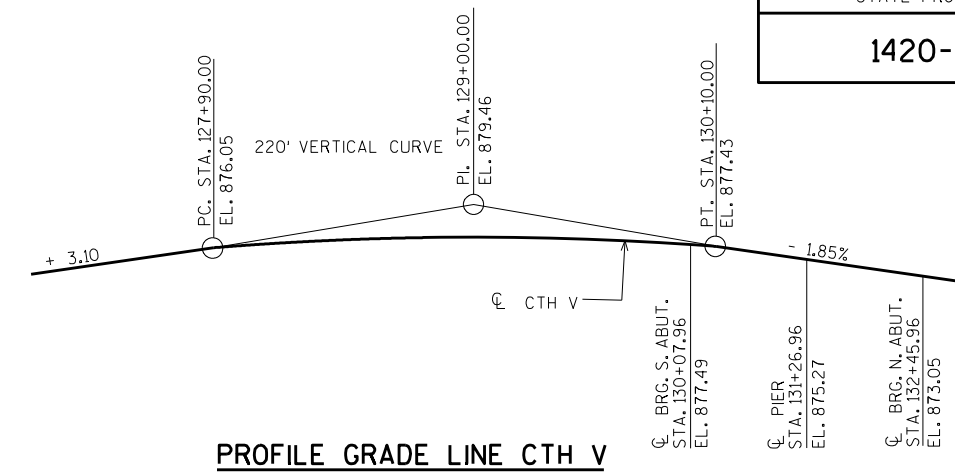
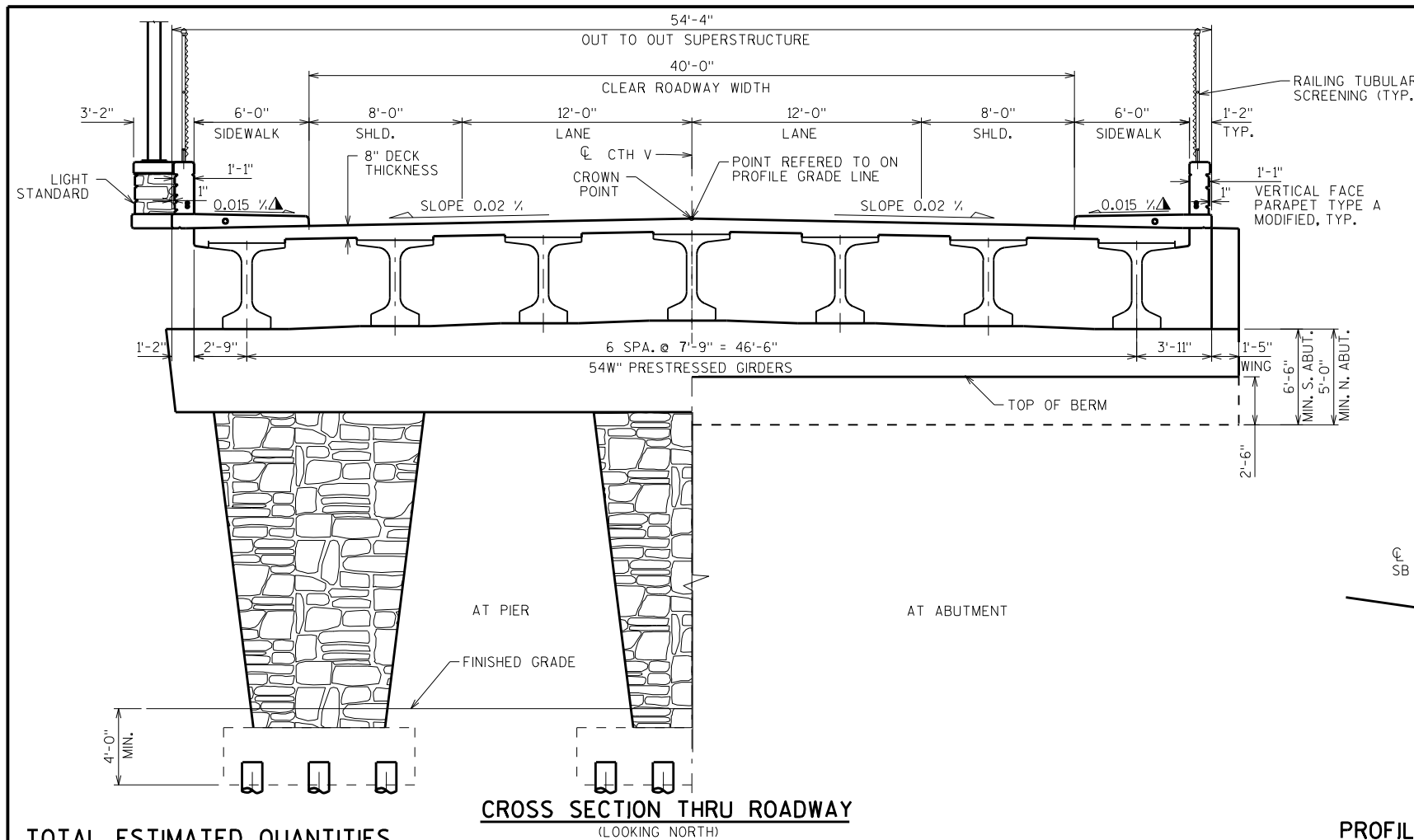
**GENERAL PLAN** SHEET 1 OF 24

8

8

SCALE: 1/5





TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER.	SOUTH APPROACH SLAB	SOUTH ABUT.	PIER	NORTH ABUT.	NORTH APPROACH SLAB	TOTALS
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-20-226	LS							1
210.0100	BACKFILL STRUCTURE	CY			210		175		385
305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON		170				170	340
502.0100	CONCRETE MASONRY BRIDGES	CY	600	80	86	115	65	80	1026
502.3200	PROTECTIVE SURFACE TREATMENT	SY	1610	135				135	1880
503.0155	PRESTRESSED GIRDER TYPE I 54W-INCH	LF	1672						1672
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB			5335	2335	4070		11,740
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	117,190	13,480	2665	19,560	1985	13,480	168,360
505.0800.S	BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES	LB	1870						1870
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH			7	14	7		28
506.4000	STEEL DIAPHRAGMS B-20-226	EACH	24						24
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY			16		15		31
517.1015.S	CONCRETE STAINING MULTI-COLOR B-20-226	SF	969	80	257	1224	204	80	2814
517.1050.S	ARCHITECTURAL SURFACE TREATMENT B-20-226	SF	969	80	257	1224	204	80	2814
550.2126	PILING CIP CONCRETE 12 3/4 X 0.375	LF			1235	2100	1170		4505
550.0600	PILE REDRIVING	EACH			2	4	2		8
604.0500	SLOPE PAVING CRUSHED AGGREGATE	SY			280		275		555
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF			100		95		195
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH		2				2	4
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF			72		72		144
652.0135	CONDUIT RIGID METALLIC 3-INCH	LF	12	50				50	112
652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	944	75				75	1094
652.0235	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	LF	470						470
653.0222	JUNCTION BOXES 18X12X6-INCH	EACH	5						5
657.6005.S	ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES	EACH	1						1
SPV.0090.07	RAILING TUBULAR SCREENING GALVANIZED B-20-226	LF	481	40				40	561
	NON-BID ITEMS								
	FILLER	SIZE							1/2", 3/4", & 1/2"
	PLASTIC OR ZINC PLATE	SIZE							1/8"

GENERAL NOTES

- DRAWINGS SHALL NOT BE SCALED.
- BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
- THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.
- AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE OR "BASE AGGREGATE DENSE 1 1/4-INCH" SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.
- ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.
- THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.
- THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIER.
- PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE EXPOSED TOP OF DECK, TOP OF APPROACH SLAB SURFACES, SIDEWALK, AS WELL AS THE INSIDE AND TOP OF PARAPETS SURFACES ON BOTH DECK AND APPROACH SLABS.
- BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE SHOWN OR NOTED.
- THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING MATERIAL TO THE EXTENT SHOWN ON SHEET 1 AND ON THE 'SLOPE PAVING' SHEET AND ON THE ABUTMENT DETAILS SHEETS.
- ARCHITECTURAL SURFACE TREATMENT TO BE APPLIED TO BACKS OF PARAPETS, WINGWALLS, AND PIER SHAFTS. FINISHED STAIN IS TO RESEMBLE WEATHERED LIMESTONE. SEE AESTHETICS SHEET AND SPECIAL PROVISIONS FOR ARCHITECTURAL SURFACE TREATMENT.
- ALL RAILINGS, POSTS AND ASSOCIATED HARDWARE SHALL BE FINISHED AS SHOWN ON "RAILING TUBULAR SCREENING" SHEET. IF TOUCH UP PAINTING IS REQUIRED AFTER INSTALLATION IS COMPLETE, ALL TOUCH UP PAINTING IS TO BE DONE TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST.

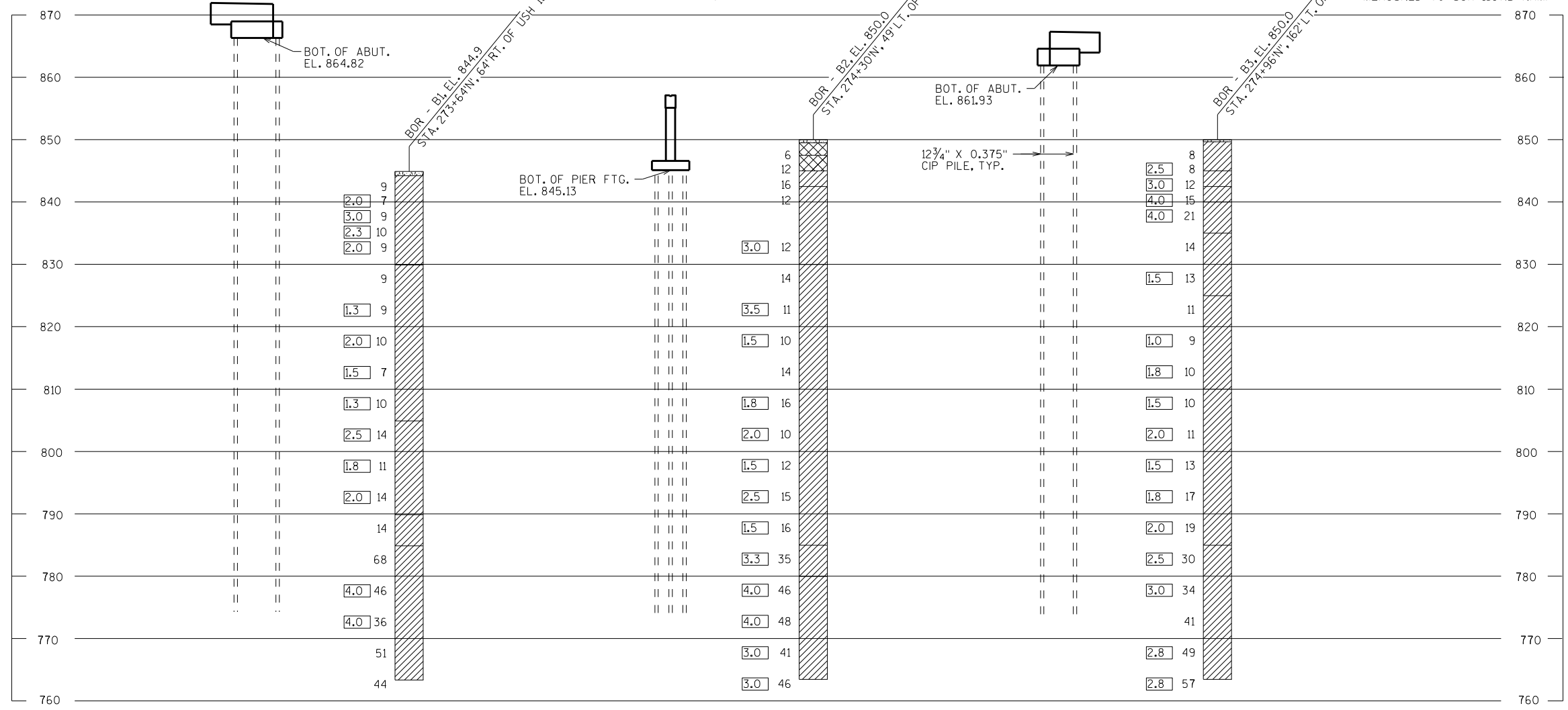
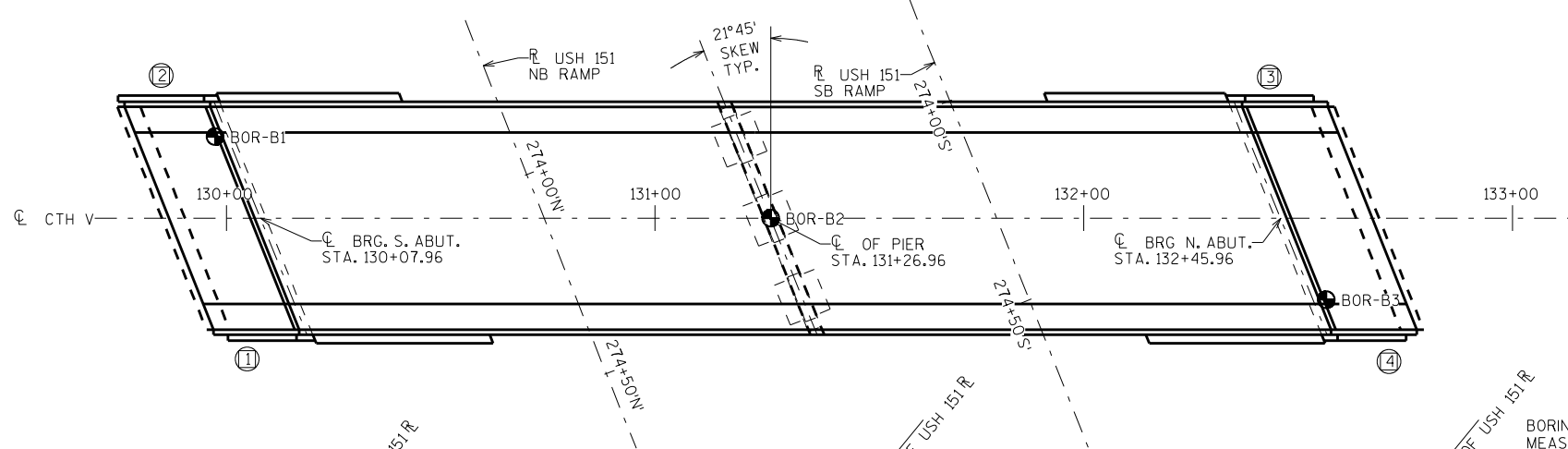
▲ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
<b>STRUCTURE B-20-226</b>			
		DRAWN BY SAD	PLANS CK'D. EMK
<b>CROSS SECTION &amp; QUANTITIES</b>			SHEET 2

FOND DU LAC BYPASS  
CTH V OVER USH 151

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	7/24/2013	372719.2326	824054.6499
2	7/30/2013	372850.0807	824048.7782
3	7/30/2013	372980.9289	824042.9064

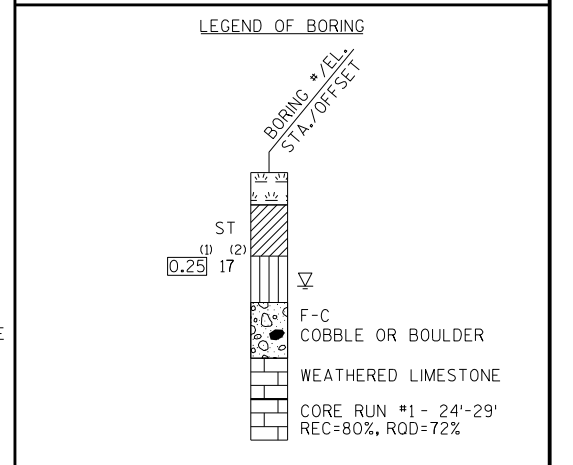
BORINGS COMPLETED BY: GEOTECHNICAL DRILLING CONTRACTORS, INC.  
REPORT COMPLETED BY: OMNI  
ALL COORDINATES REFERENCED TO WCCS NAD 83(9) FOND DU LAC COUNTY



STATE PROJECT NUMBER  
**1420-22-71**

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/META



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)  
(2) UNLESS OTHERWISE SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION  
▽ AT TIME OF DRILLING  
▼ END OF DRILLING  
▽ AFTER DRILLING

ABBREVIATIONS  
F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION  
STRUCTURES DESIGN SECTION

**STRUCTURE B-20-226**

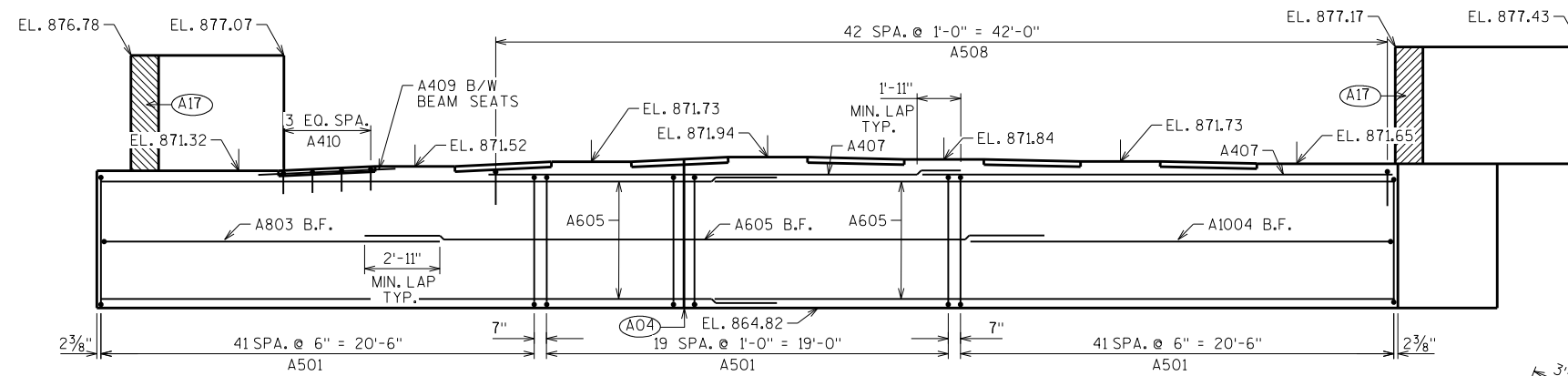
DRAWN BY PR/SAD PLANS CKD. **EMK**

**SUBSURFACE EXPLORATION** SHEET 3

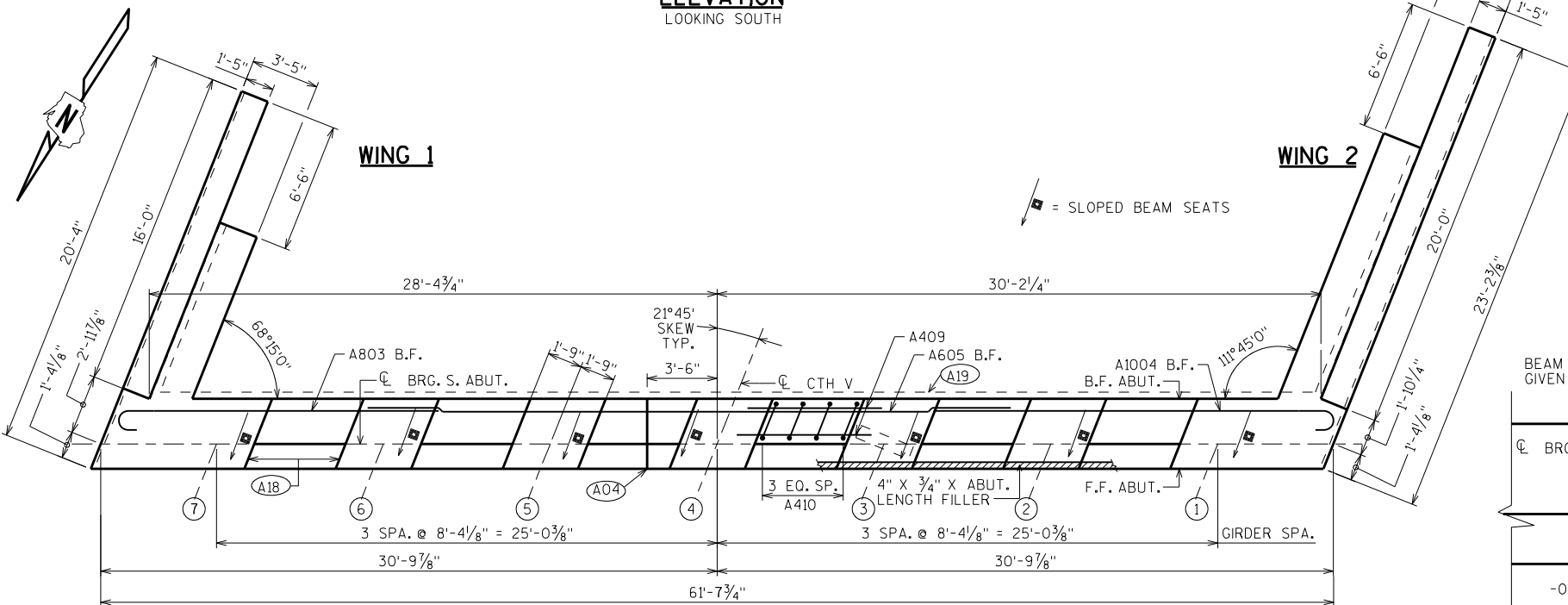
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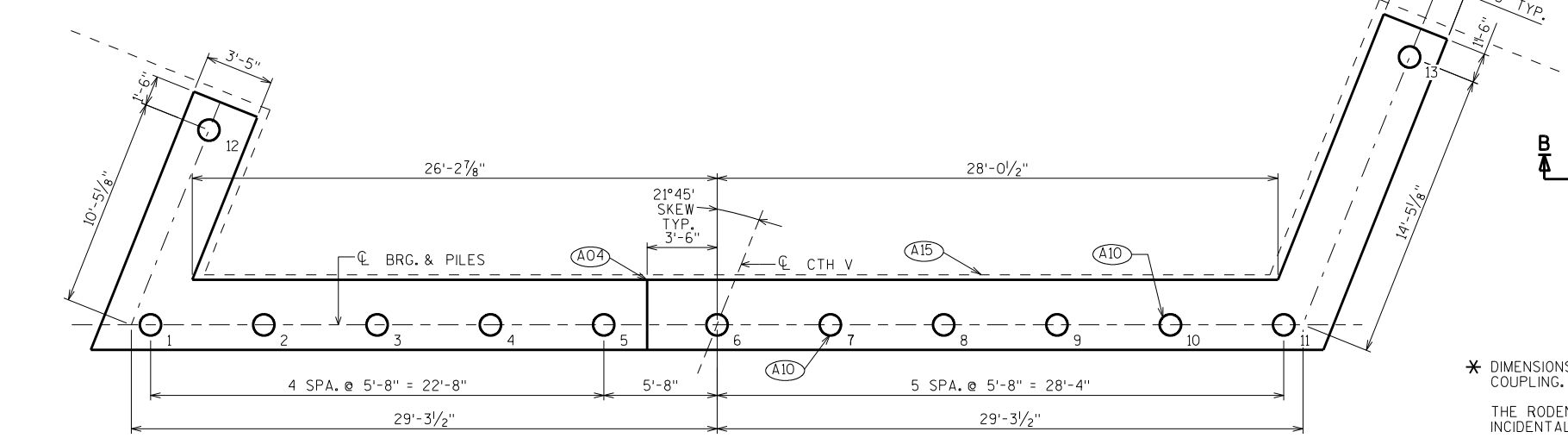
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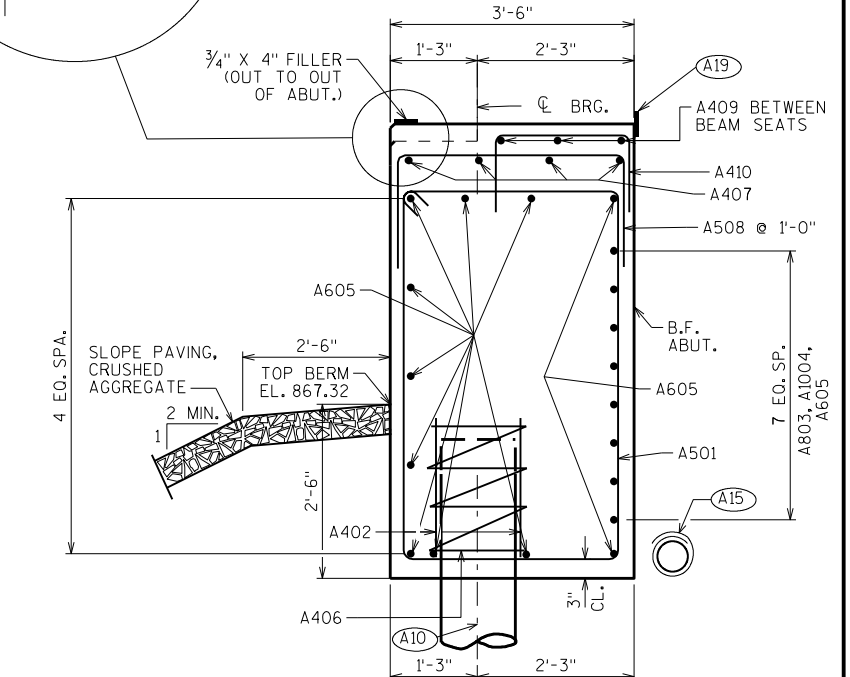
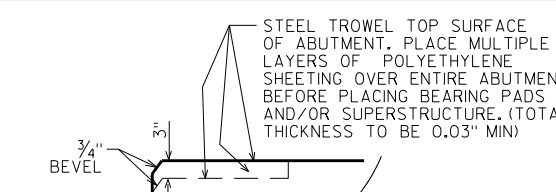
**ELEVATION**  
LOOKING SOUTH



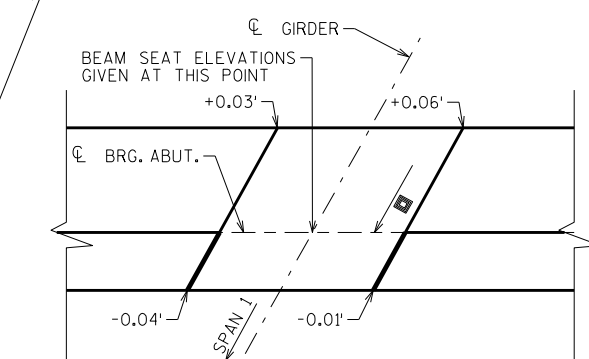
**PLAN**



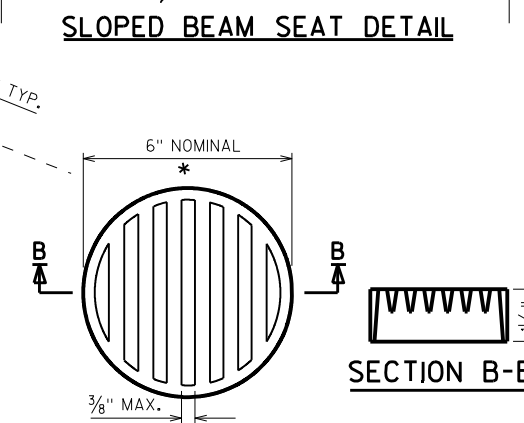
**PILE PLAN**



**SECTION THRU BODY**



**SLOPED BEAM SEAT DETAIL**



**RODENT SHIELD DETAIL**

- (A04) VERT. CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2 x 8. 3/4" "V" GROOVE @ THE FRONT FACE AND 18" R.M.W. @ BACKFACE. FOR OPTIONAL DETAILS SEE "ALTERNATE CONSTRUCTION JOINT" SHEET.
- (A10) SUPPORT ABUTMENT ON 12 3/4" x 0.375" CAST-IN-PLACE CONCRETE PILING, ESTIMATED 95'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 210 TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SCREEN REQUIRED.
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A18) 3/4" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

\* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

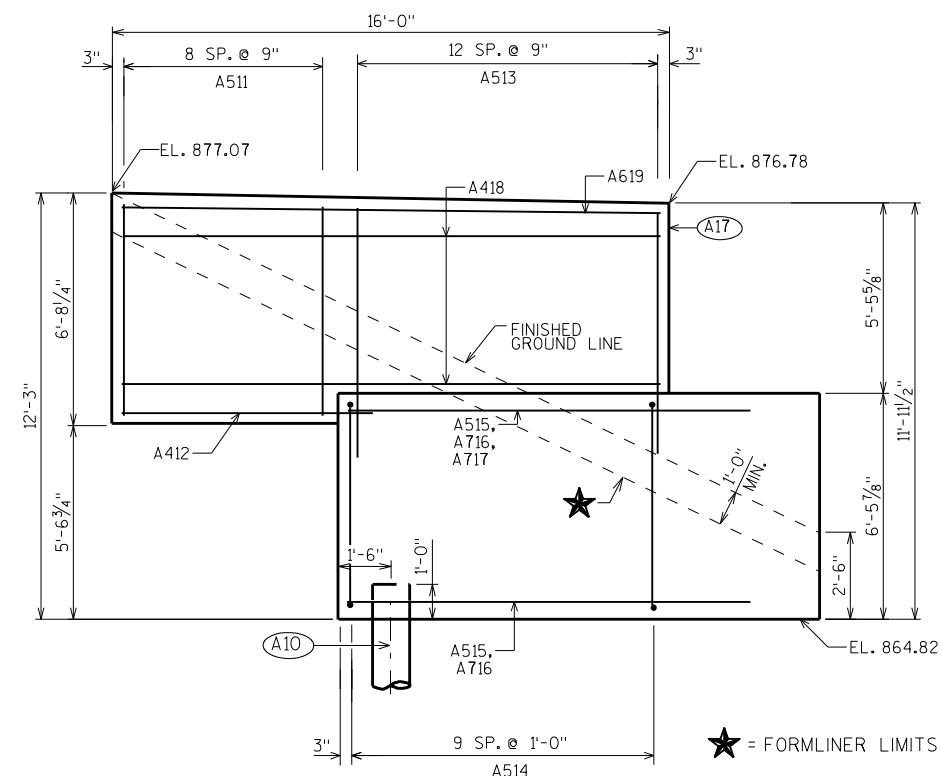
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
<b>STRUCTURE B-20-226</b>			
DRAWN BY SAD		PLANS CKD. EMK	
<b>SOUTH ABUTMENT</b>			SHEET 4

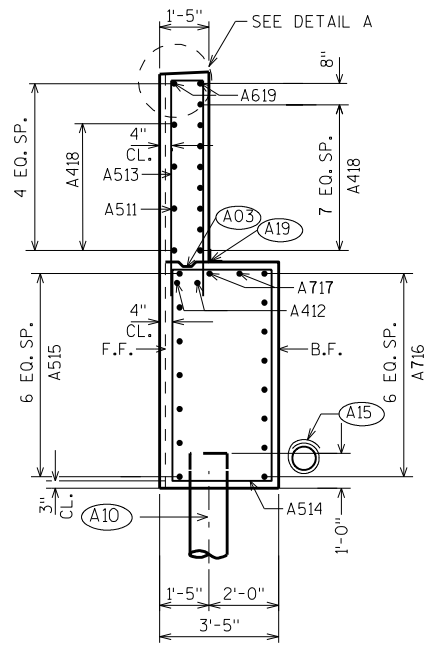
**BILL OF BARS**

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

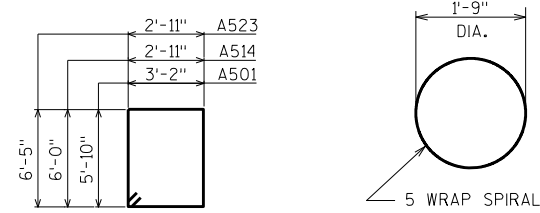
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
A501		104	18'-8"	X	BODY-STIRRUPS
A402		22	2'-3"		PILES- 2 PER PILE
A803		8	16'-11"	X	BODY-HORIZONTAL
A1004		8	21'-5"	X	BODY-HORIZONTAL
A605		30	32'-2"		BODY-HORIZONTAL
A406		11	28'-0"	X	PILES-1 PER PILE
A407		8	22'-0"		BODY-HORZ. OVER GIRS. 1-5
A508		43	6'-3"	X	BODY-TOP OVER GIRS. 1-5
A409		12	6'-10"		BODY-HORZ. BETWEEN BEAM SEATS
A410		24	4'-2"	X	BODY-BETWEEN BEAM SEATS
A511	X	9	12'-10"	X	WING 1-VERTICAL
A412	X	2	7'-9"		WING 1-HORIZONTAL
A513	X	13	15'-8"	X	WING 1-VERTICAL
A514	X	10	18'-6"	X	WING 1-STIRRUP
A515	X	7	12'-9"		WING 1-HORIZONTAL
A716	X	7	11'-4"		WING 1-HORIZONTAL
A717	X	2	12'-2"		WING 1-HORIZONTAL
A418	X	12	15'-8"		WING 1-HORIZONTAL
A619	X	2	15'-8"		WING 1-HORIZONTAL
A520	X	9	12'-4"	X	WING 2-VERTICAL
A421	X	2	7'-9"		WING 2-HORIZONTAL
A522	X	18	15'-10"	X	WING 2-VERTICAL
A523	X	14	19'-4"	X	WING 2-STIRRUP
A524	X	8	15'-9"		WING 2-HORIZONTAL
A925	X	8	17'-3"	X	WING 2-HORIZONTAL
A926	X	2	16'-9"	X	WING 2-HORIZONTAL
A427	X	12	19'-8"		WING 2-HORIZONTAL
A628	X	2	19'-8"		WING 2-HORIZONTAL



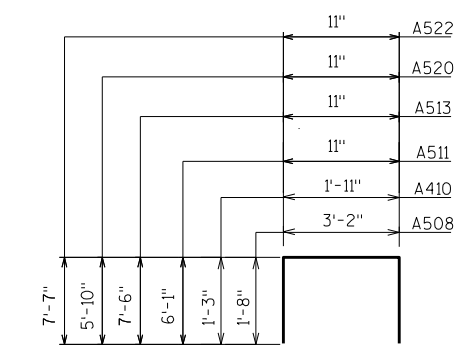
**WING 1 ELEVATION**



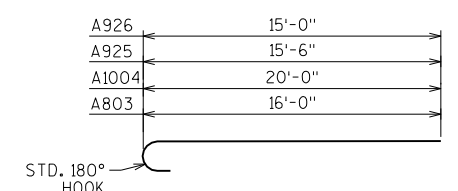
**WING 1 SECTION**



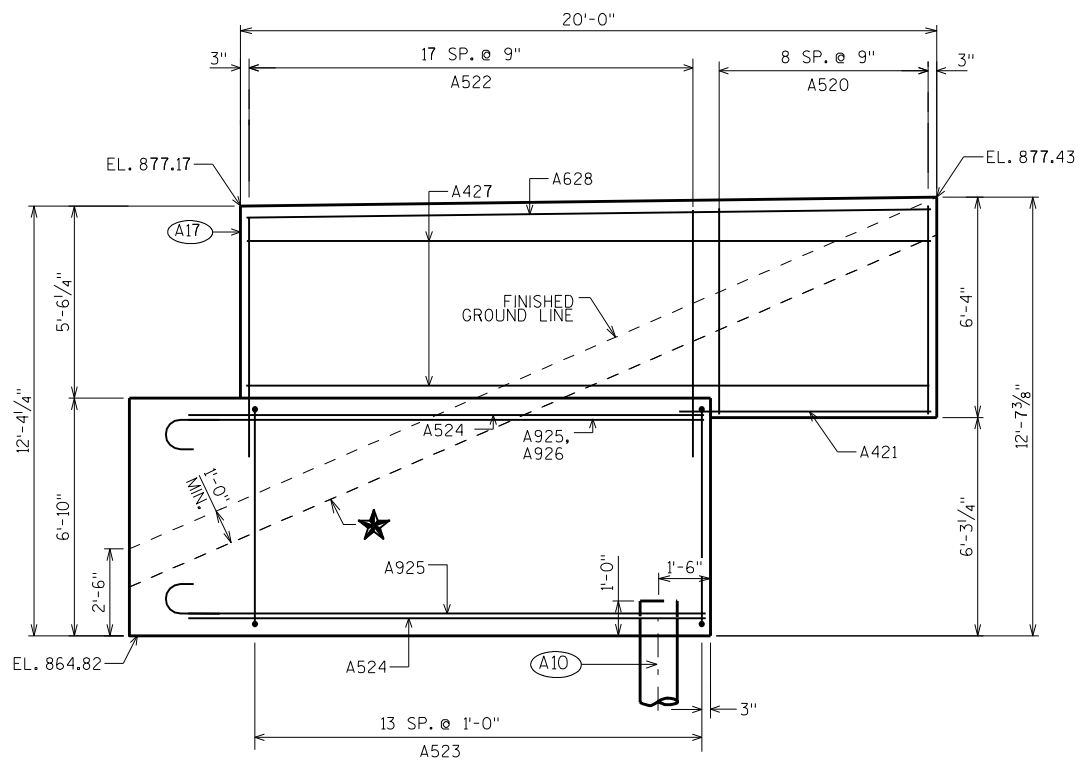
**A501, A514, A523 A406**



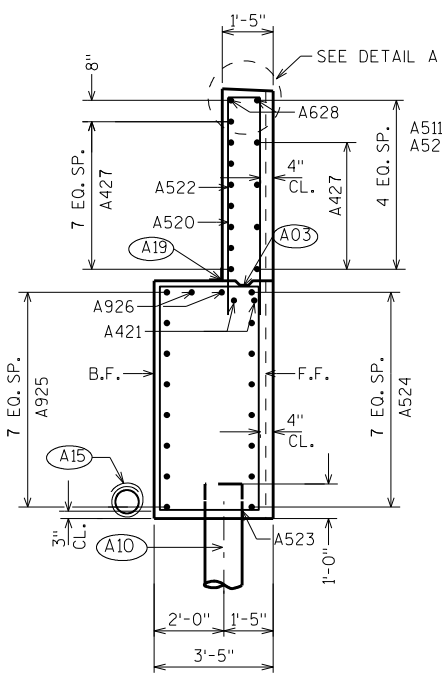
**A508, A410, A511, A513, A520, A522**



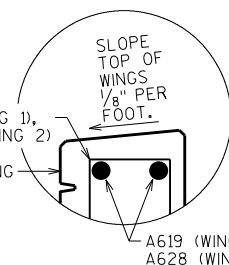
**A803, A1004, A925, A926**



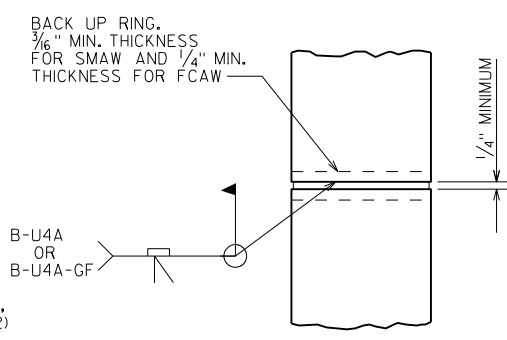
**WING 2 ELEVATION**



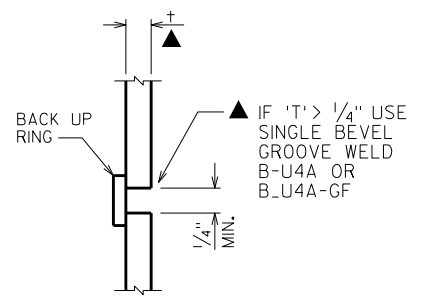
**WING 2 SECTION**



**DETAIL A**



**CAST-IN-PLACE 'PIPE PILE'**

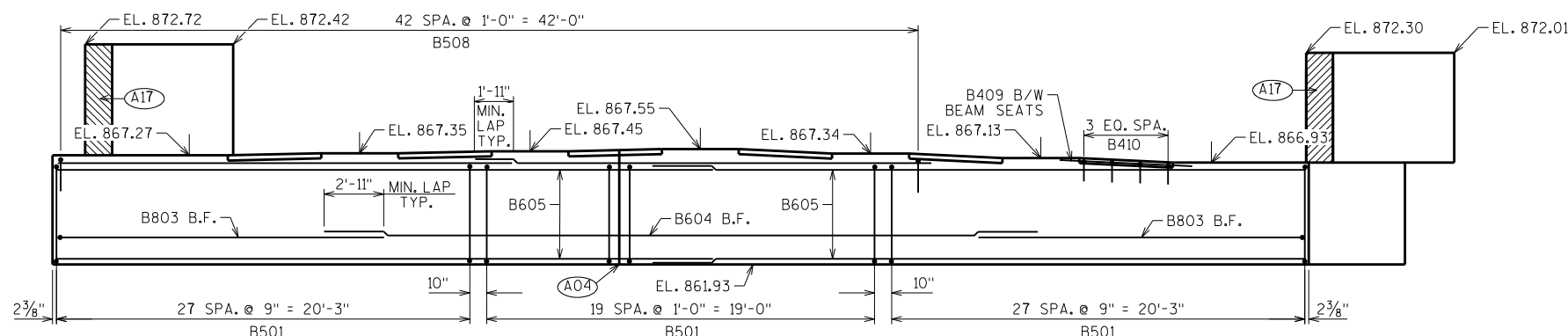


**C.I.P. PILE WELD DETAIL**

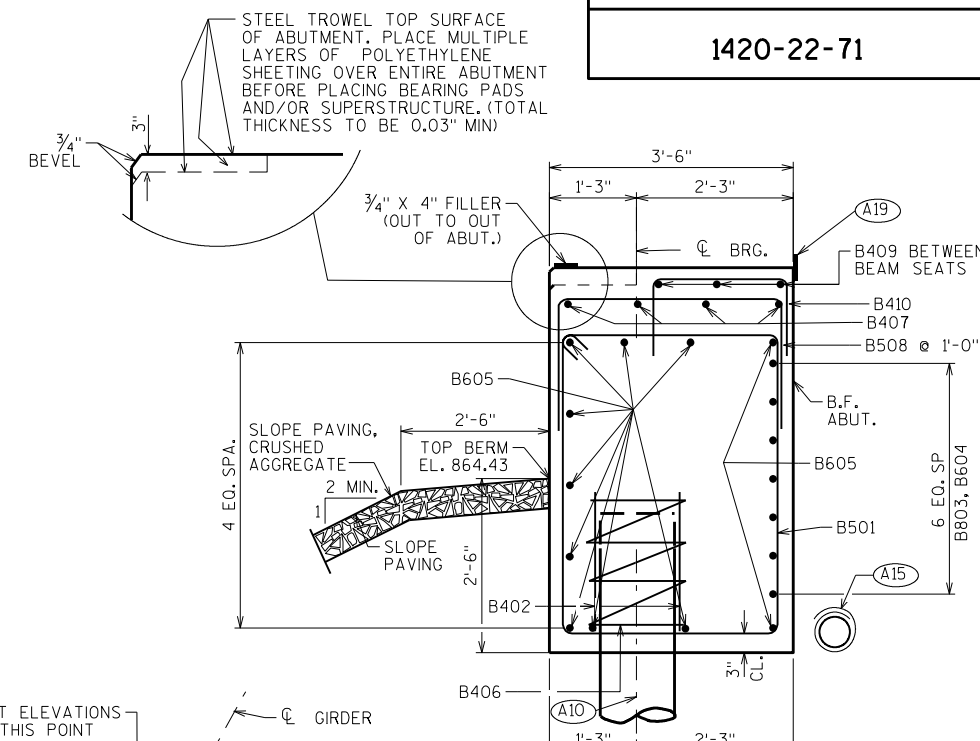
- (A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 X 6, (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).
- (A10) SUPPORT ABUTMENT ON 12 3/4" X 0.375" CAST-IN-PLACE CONCRETE PILING, ESTIMATED 95 FT. LONG WITH A REQUIRED DRIVING RESISTANCE OF 210 TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE), EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

**PILE DETAILS**

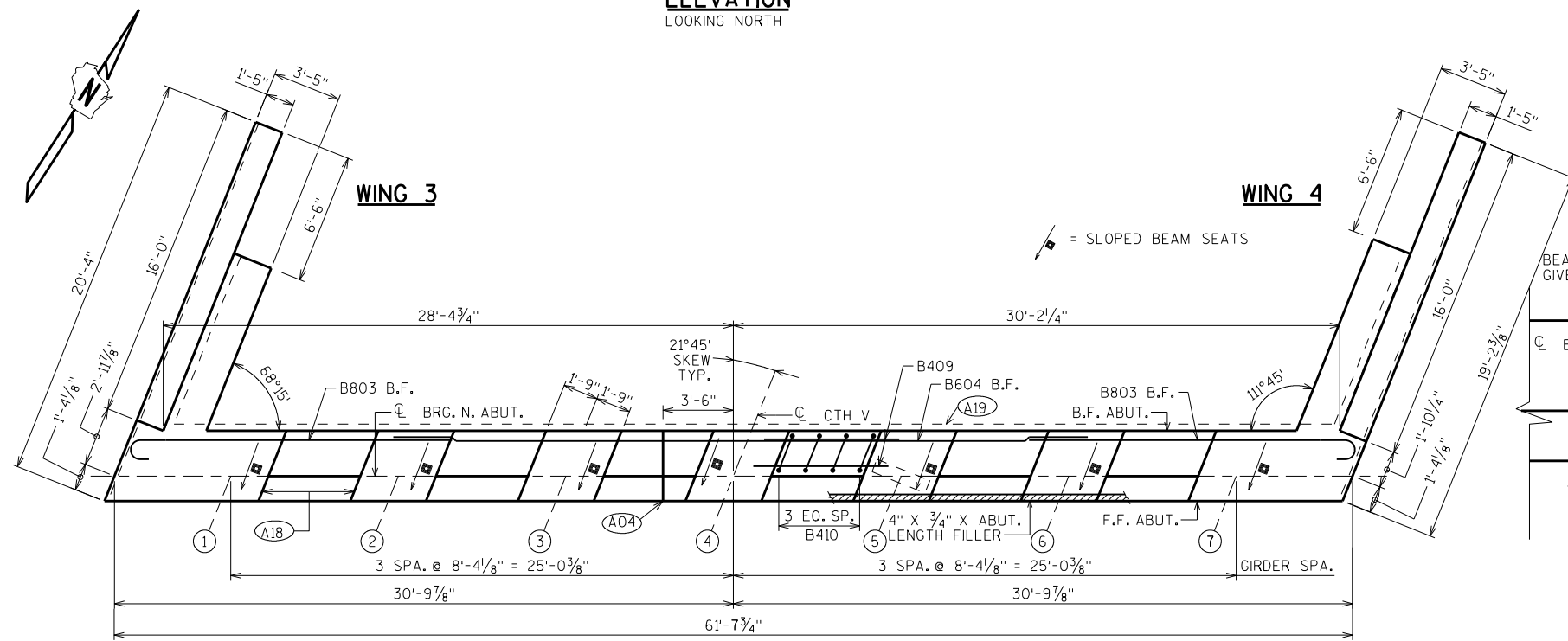
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION <b>STRUCTURES DESIGN SECTION</b>			
<b>STRUCTURE B-20-226</b>			
DRAWN BY SAD		PLANS CKD. EMK	
<b>SOUTH ABUTMENT DETAILS</b>			SHEET 5



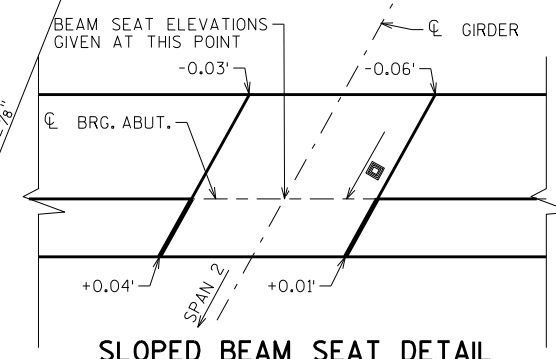
**ELEVATION**  
LOOKING NORTH



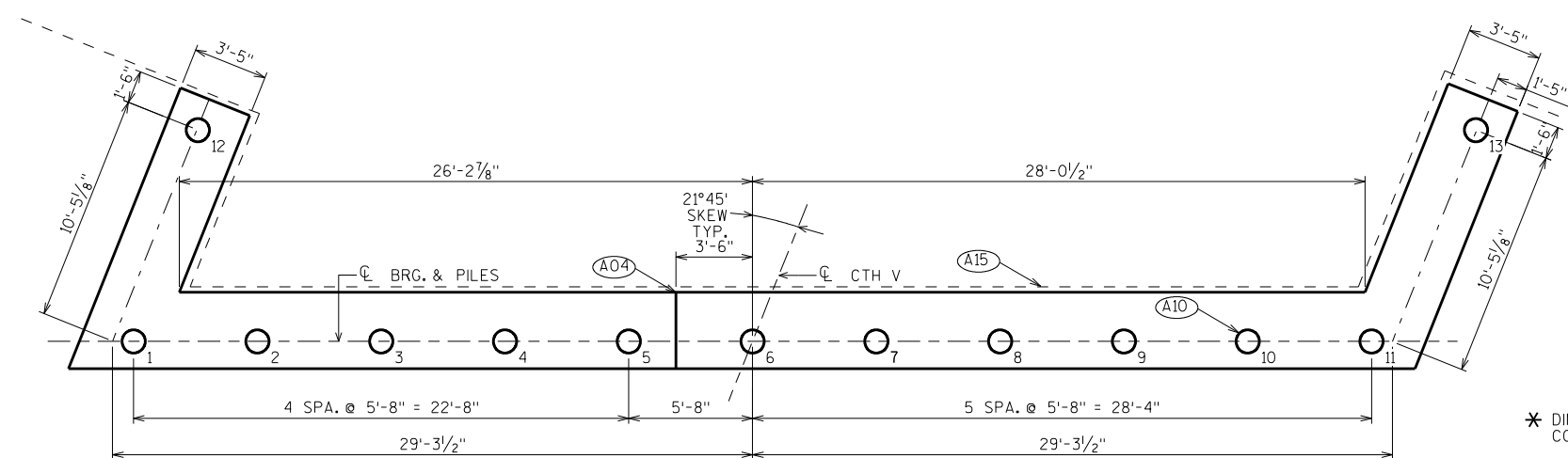
**SECTION THRU BODY**



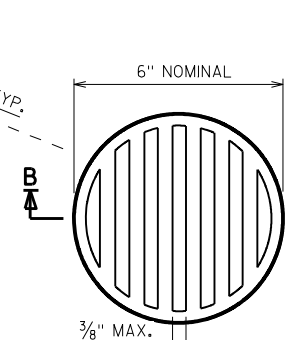
**PLAN**



**SLOPED BEAM SEAT DETAIL**



**PILE PLAN**



**RODENT SHIELD DETAIL**

**SECTION B-B**

- (A04) VERT. CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2 x 8, 3/4" "V" GROOVE @ THE FRONT FACE AND 18" R.M.W. @ BACKFACE. FOR OPTIONAL DETAILS SEE "ALTERNATE CONSTRUCTION JOINT" SHEET.
- (A10) SUPPORT ABUTMENT ON 12 3/4" x 0.375" CAST-IN-PLACE CONCRETE PILING, ESTIMATED 90'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 210 TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SCREEN REQUIRED.
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH); SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A18) 3/4" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

\* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

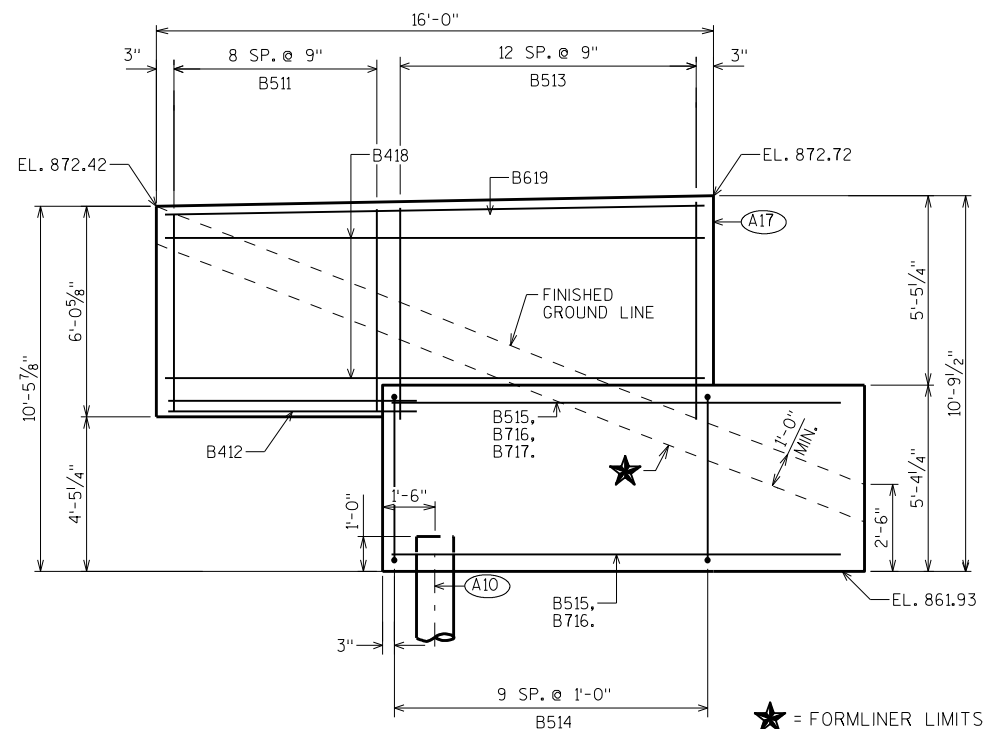
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

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DRAWN BY SAD		PLANS CKD. EMK	
<b>NORTH ABUTMENT</b>			SHEET 6

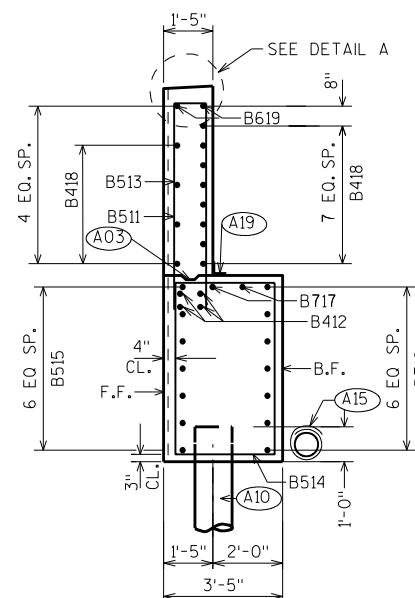
**BILL OF BARS**

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

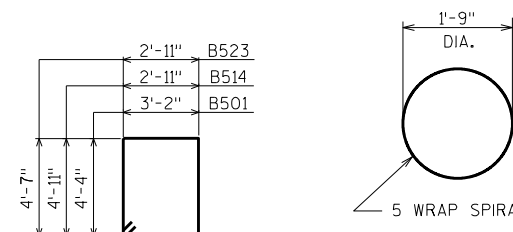
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
B501		76	15'-8"	X	BODY-STIRRUPS
B402		22	2'-3"		PILES- 2 PER PILE
B803		14	16'-11"	X	BODY-HORIZONTAL
B604		7	35'-2"		BODY-HORIZONTAL
B605		22	32'-2"		BODY-HORIZONTAL
B406		11	28'-0"	X	PILES-1 PER PILE
B407		8	22'-0"		BODY-HORZ. OVER GIRS. 1-5
B508		43	6'-3"	X	BODY-TOP OVER GIRS. 1-5
B409		12	6'-10"		BODY-BETWEEN BEAM SEATS
B410		24	4'-2"	X	BODY-HORZ. BETWEEN BEAM SEATS
B511	X	9	11'-10"	X	WING 3-VERTICAL
B412	X	4	7'-9"		WING 3-HORIZONTAL
B513	X	13	15'-4"	X	WING 3-VERTICAL
B514	X	10	16'-4"	X	WING 3-STIRRUP
B515	X	7	12'-9"		WING 3-HORIZONTAL
B716	X	7	11'-6"		WING 3-HORIZONTAL
B717	X	2	12'-2"		WING 3-HORIZONTAL
B418	X	12	15'-8"		WING 3-HORIZONTAL
B619	X	2	15'-8"		WING 3-HORIZONTAL
B520	X	9	11'-10"	X	WING 4-VERTICAL
B421	X	2	7'-9"		WING 4-HORIZONTAL
B522	X	13	15'-2"	X	WING 4-VERTICAL
B523	X	10	15'-8"	X	WING 4-STIRRUP
B524	X	6	11'-11"		WING 4-HORIZONTAL
B725	X	7	12'-10"		WING 4-HORIZONTAL
B726	X	2	12'-1"		WING 4-HORIZONTAL
B427	X	14	15'-8"		WING 4-HORIZONTAL
B628	X	2	15'-8"		WING 4-HORIZONTAL



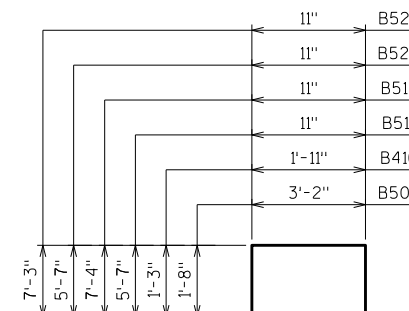
**WING 3 ELEVATION**



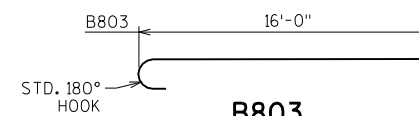
**WING 3 SECTION**



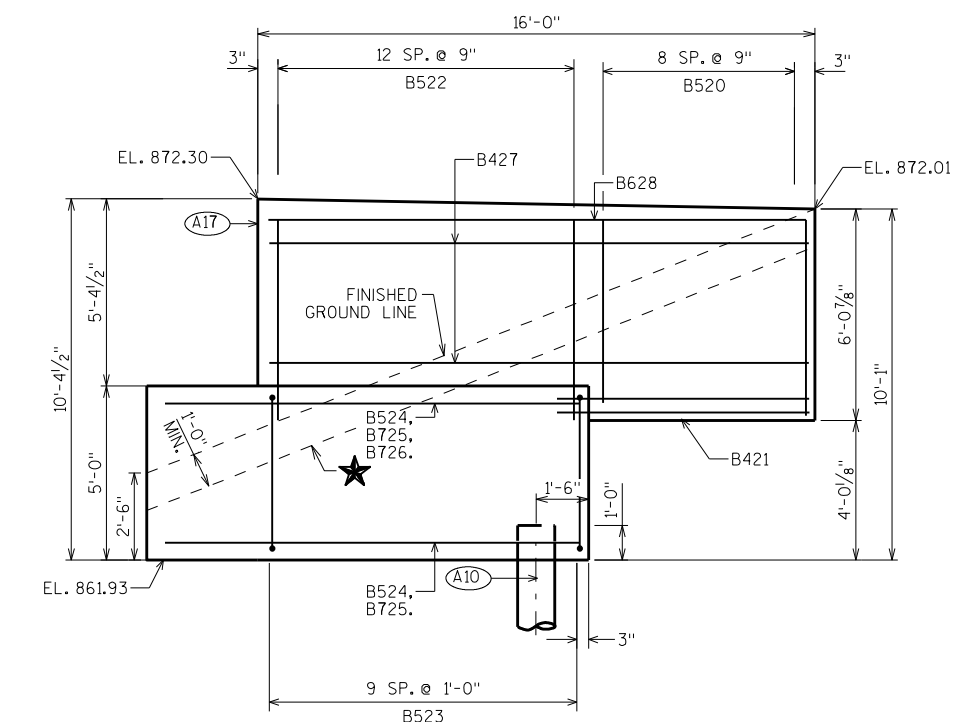
**B501, B514, B523**



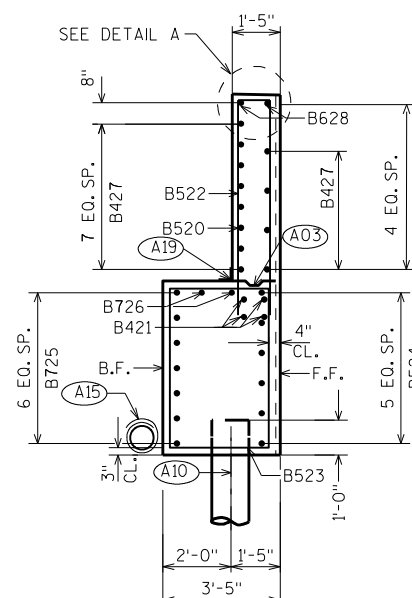
**B508, B410, B511, B513, B520, B522**



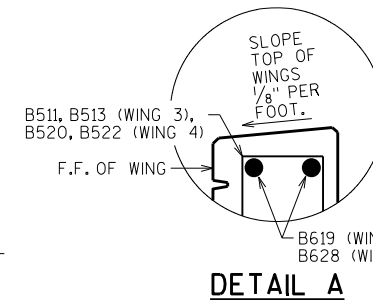
**B803**



**WING 4 ELEVATION**



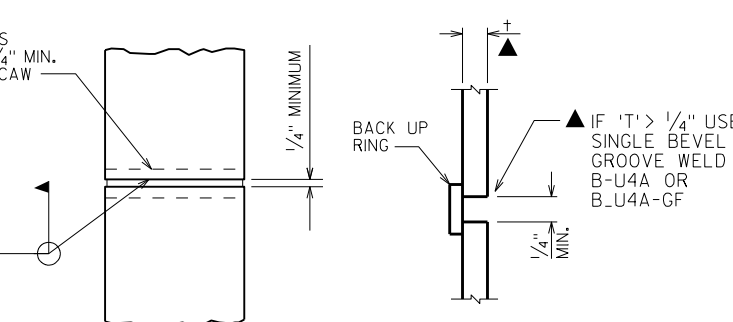
**WING 4 SECTION**



**DETAIL A**

BACK UP RING. 3/16" MIN. THICKNESS FOR SMAW AND 1/4" MIN. THICKNESS FOR FCAW

B-U4A OR B-U4A-GF

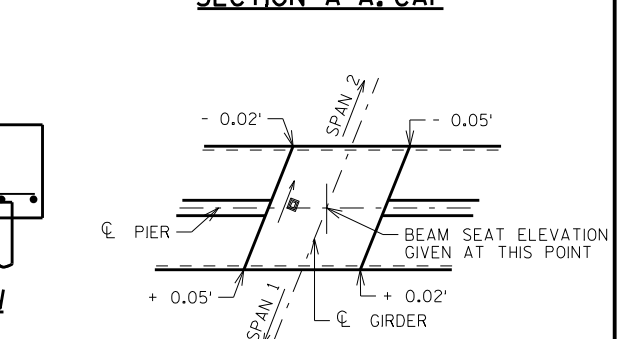
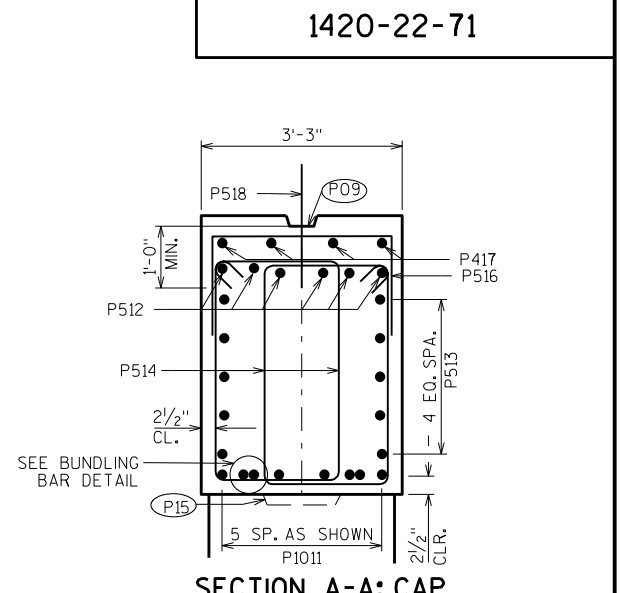
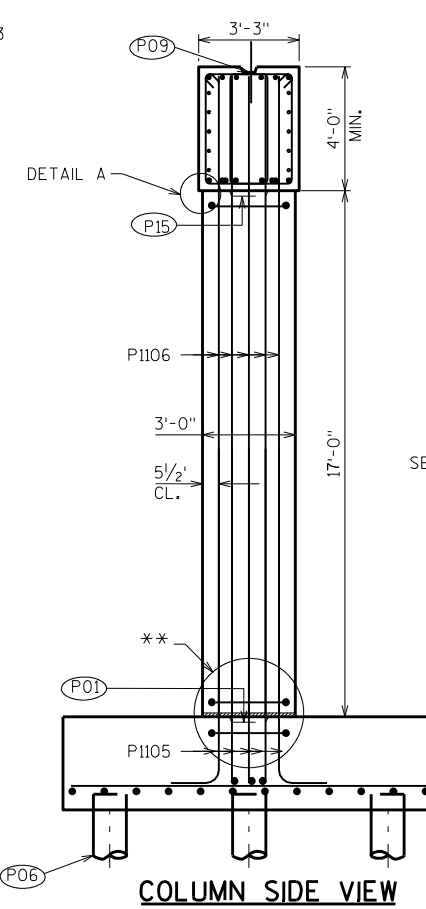
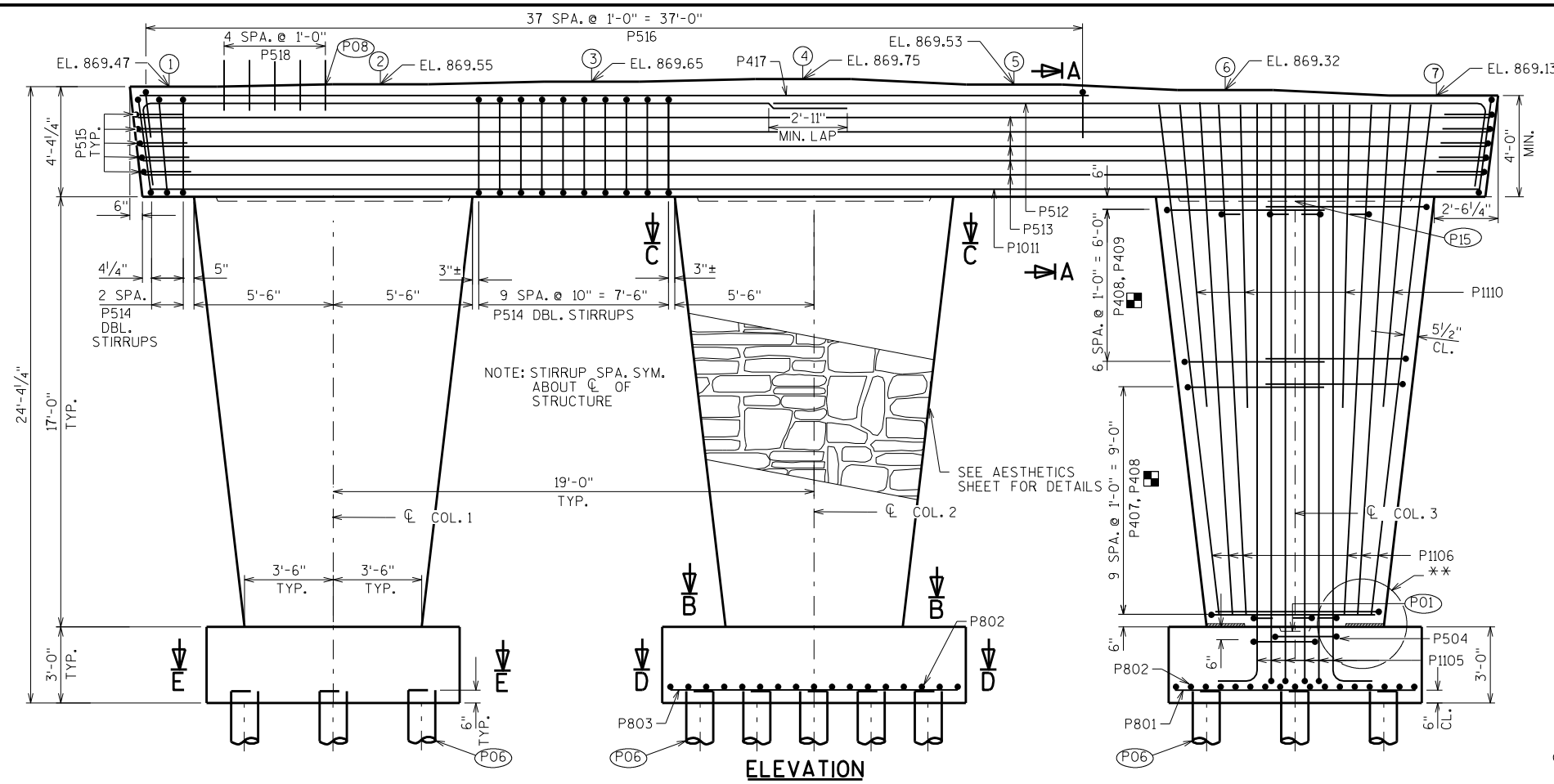


**CAST-IN-PLACE 'PIPE PILE' C.I.P. PILE WELD DETAIL**

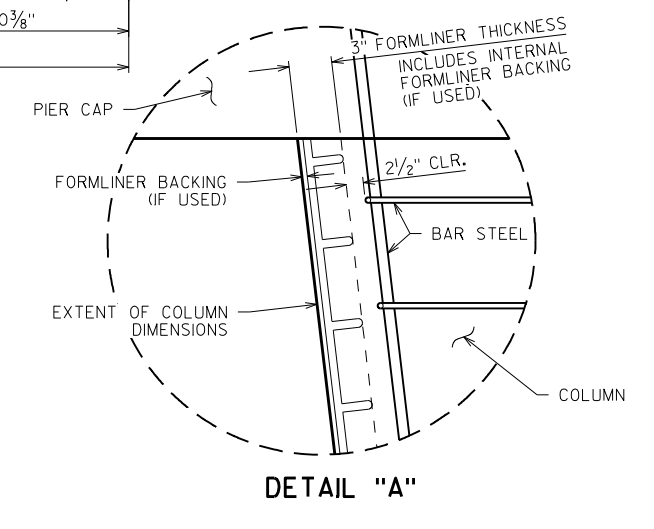
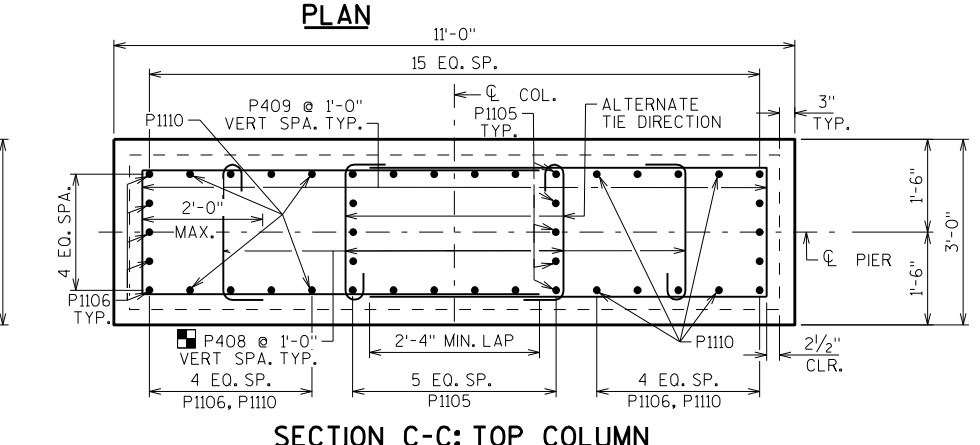
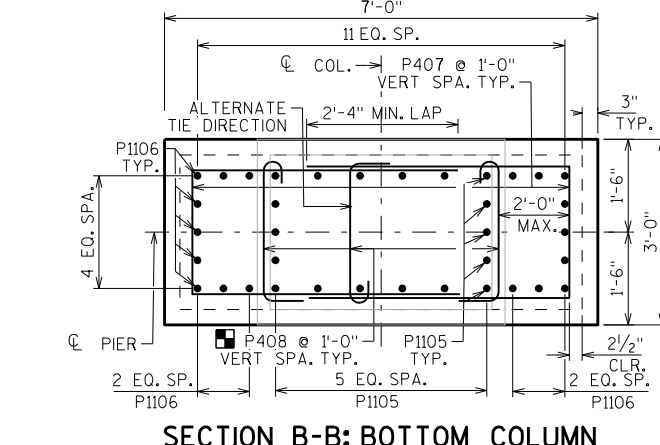
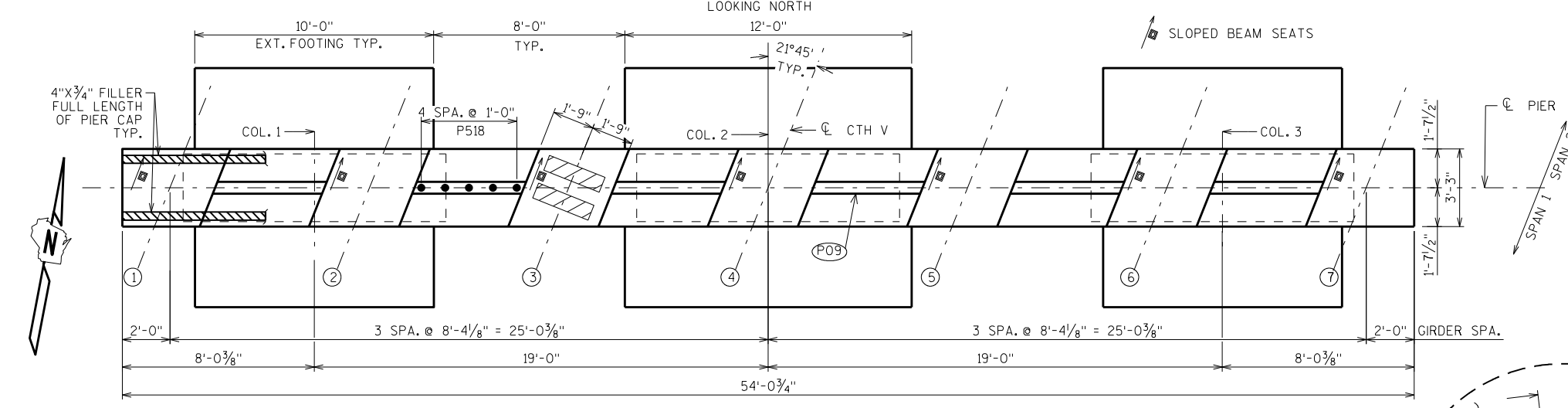
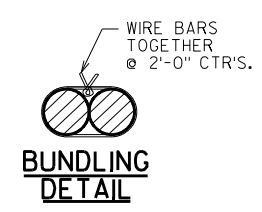
**PILE DETAILS**

- (A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 X 6, (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).
- (A10) SUPPORT ABUTMENT ON 12 3/4" X 0.375" CAST-IN-PLACE CONCRETE PILING, ESTIMATED 90 FT. LONG WITH A REQUIRED DRIVING RESISTANCE OF 210 TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH); SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

NO.	DATE	REVISION	BY
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DRAWN BY SAD		PLANS CKD. EMK	
<b>NORTH ABUTMENT DETAILS</b>			SHEET 7



\*\* SEE "PIER DETAILS" SHEET FOR COMPRESSIBLE FILLER DETAILS



NOTE: FOR SECTION VIEWS D AND E SEE "PIER DETAILS" SHEET.

- P408 TIES 1'-0" VERTICAL SPACING 2'-0" MAX HORIZONTAL SPACING. SEE SECTION B-B AND SECTION C-C FOR DETAILS.
- P01 3'-0" X 1'-0" X 4" CONST. JOINT SHALL BE FORMED BY A BEVELED KEYWAY
- P06 SUPPORT PIER ON 12 3/4" X 0.375 INCH CAST-IN-PLACE CONCRETE PILING, ESTIMATED 75'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 210 TONS PER PILE.
- P08 P518 BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)
- P09 KEYED CONSTRUCTION JOINT-FORMED BY BEVELED 2 X 6 BETWEEN BEAM SEATS.
- P15 7'-0" X 1'-1" X 4" DEEP CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.

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<b>STRUCTURE B-20-226</b>			
DRAWN BY SAD		PLANS CK'D. EMK	
<b>PIER</b>		SHEET 8	

**BILL OF BARS**

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

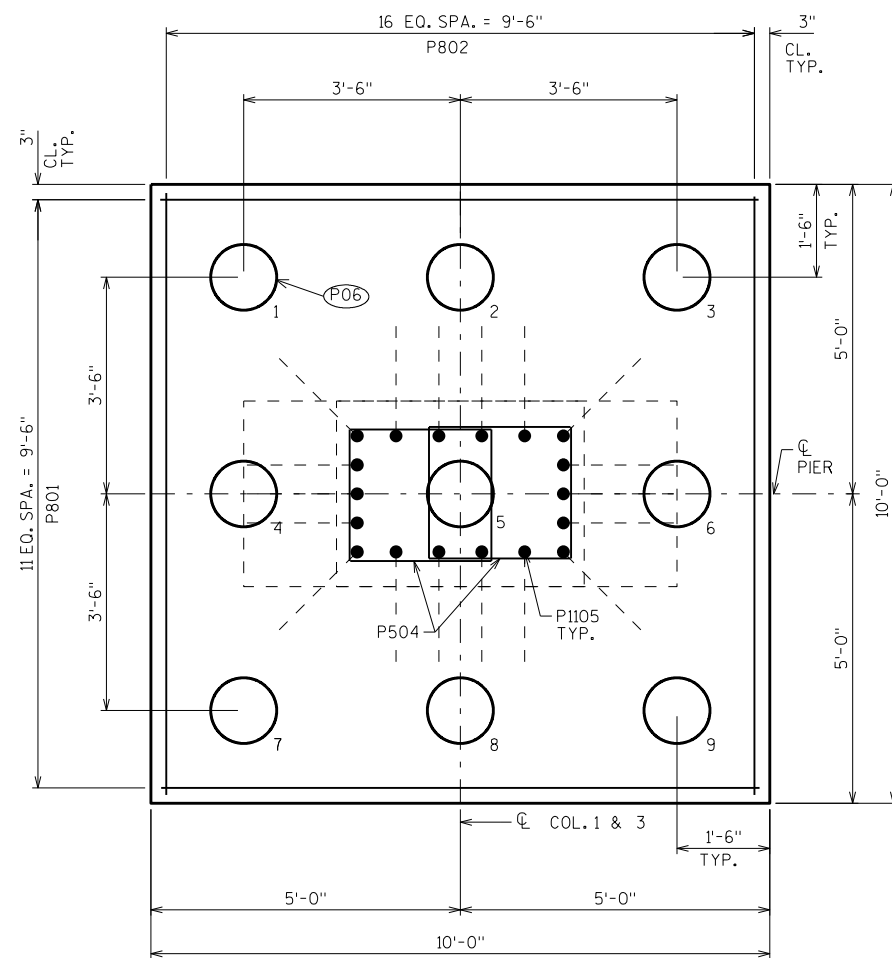
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
P801		24	9'-6"			FOOTINGS - EXTERIOR
P802		51	9'-6"			FOOTINGS - INTERIOR & EXTERIOR
P803		14	11'-6"			FOOTING - INTERIOR
P504	X	6	9'-2"	X		COLUMN BASE STIRRUP
P1105	X	54	24'-6"	X		FOOTING DOWEL - COLUMN VERT.
P1106	X	54	20'-2"			COLUMN - VERT.
P407	X	60	12'-9"	X		COLUMN STIRRUP
P408	X	174	3'-4"	X		COLUMN - HORIZ. TIE
P409	X	42	14'-5"	X		COLUMN STIRRUP
P110	X	24	12'-0"			COLUMN - VERT.
P1011	X	8	52'-6"			CAP - HORIZ. BOTTOM
P512	X	12	31'-0"	X		CAP - HORIZ. TOP
P513	X	10	53'-1"		▲	CAP - HORIZ. SIDE
P514	X	52	11'-10"	X		CAP STIRRUP
P515	X	10	5'-11"	X		CAP - HORIZ. END U-BAR
P516	X	37	6'-1"	X		CAP - VERT. U-BAR GIR. 1-5
P417	X	4	37'-6"			CAP - HORIZ. GIR. 1-5
P518	X	30	2'-0"			CAP - DOWEL BARS

▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

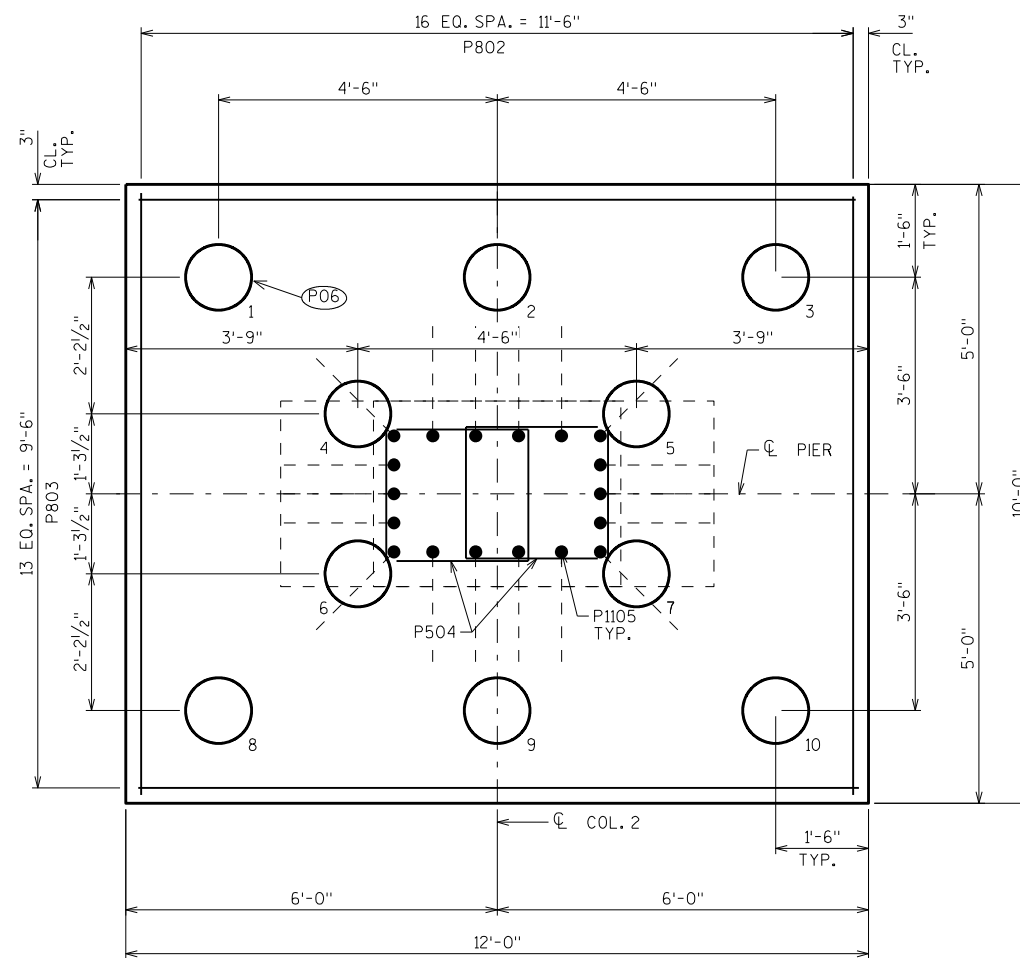
**BAR SERIES TABLE**

MARK	NO. REQ'D.	LENGTH
P513	2 SERIES OF 5	52'-10" TO 53'-4"

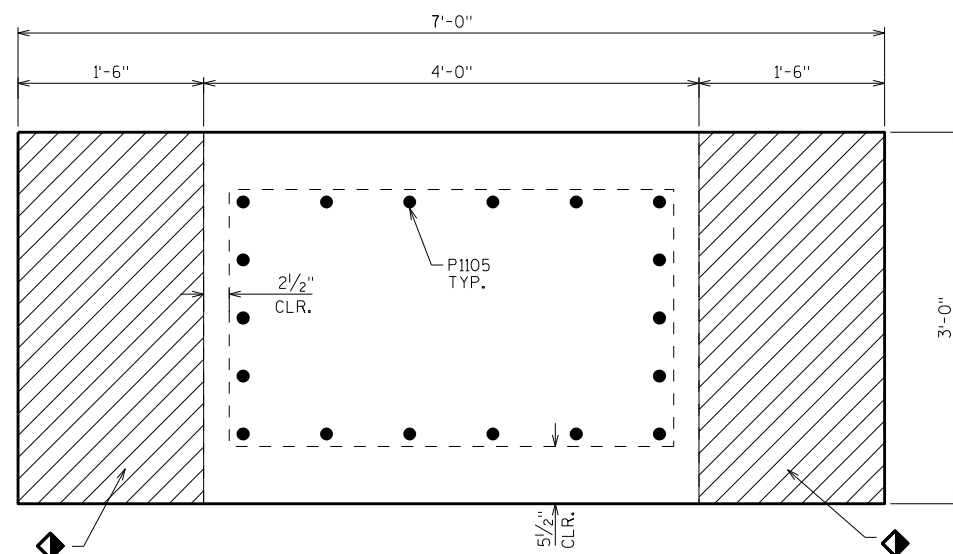
BUNDLE AND TAG EACH SERIES SEPARATELY.



**SECTION E-E: EXTERIOR FOOTING**

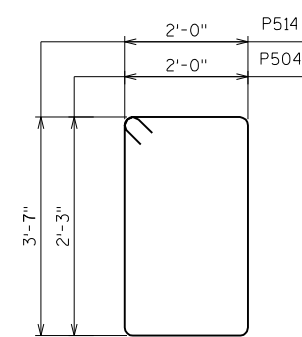


**SECTION D-D: INTERIOR FOOTING**

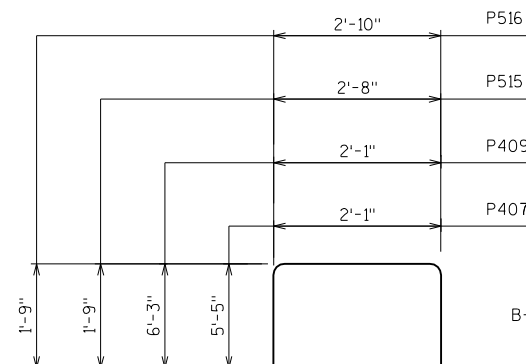


**COMPRESSIBLE FILLER DETAIL**  
TOP OF FOOTING/BASE OF COLUMN

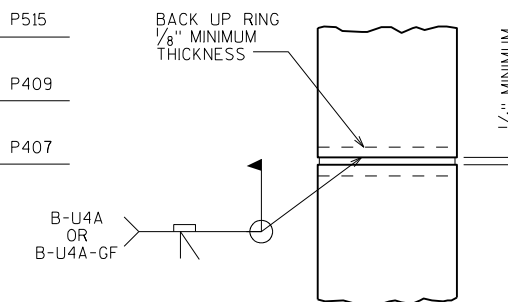
◆ 1/2" X 1'-6" X 3'-0" COMPRESSIBLE FILLER BETWEEN TOP OF FOOTING AND BASE OF COLUMN.



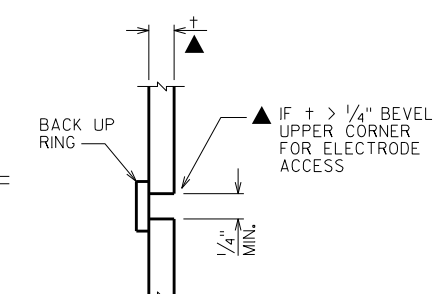
**P504, P514**



**P407, P409, P515, P516**

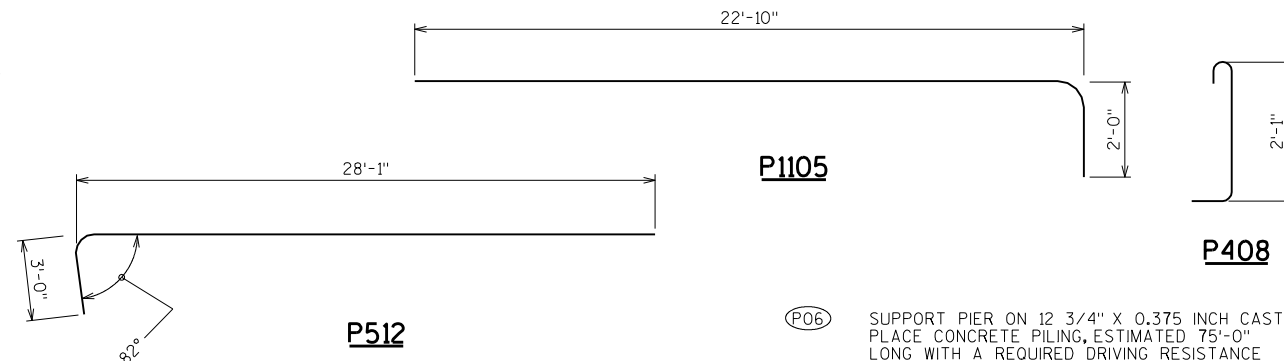


**CAST-IN-PLACE 'PIPE PILE'**



**C.I.P. PILE WELD DETAIL**

**PILE DETAILS**



**P512**

(P06) SUPPORT PIER ON 12 3/4" X 0.375 INCH CAST-IN-PLACE CONCRETE PILING, ESTIMATED 75'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 210 TONS PER PILE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION  
STRUCTURES DESIGN SECTION

**STRUCTURE B-20-226**

DRAWN BY SAD PLANS CK'D. EMK

**PIER DETAILS** SHEET 9



**NOTES**

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 15" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH, AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 15" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER, FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO APPLICATION OF THE SEALER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

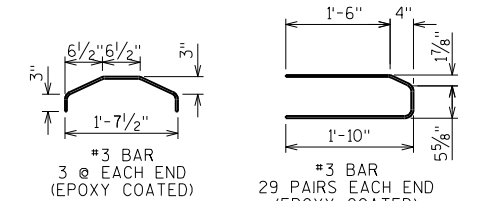
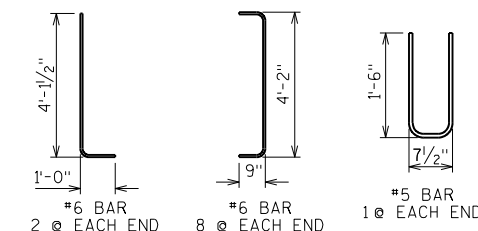
SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, ONE OPTION IS AVAILABLE:

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

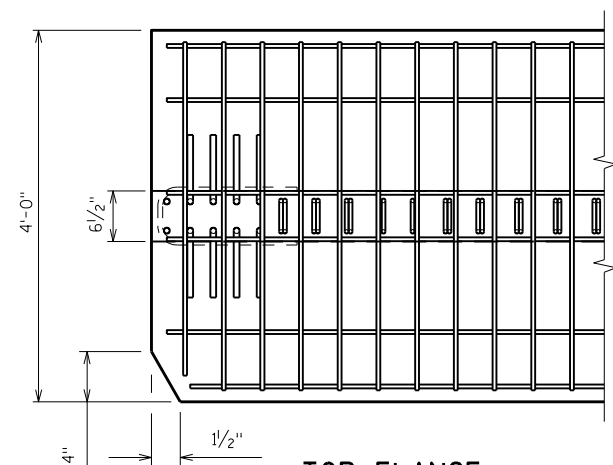
AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

PRESTRESSING STRANDS SHALL BE 0.6" DIA.-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

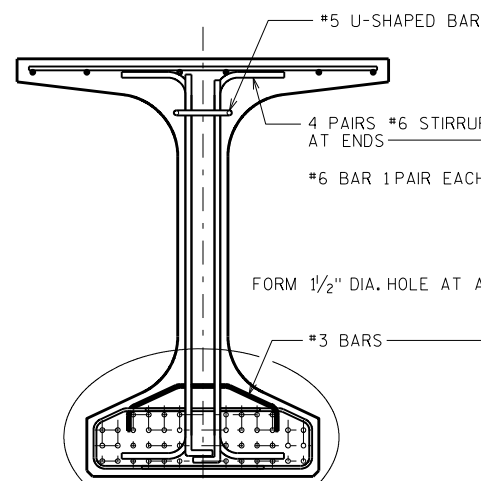
FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.



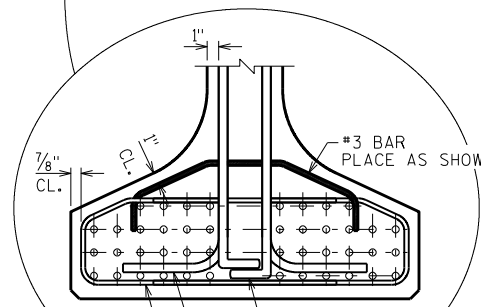
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE		B-20-226	
DRAWN BY		PLANS CKD.	
SAD		EMK	
54W" PRESTRESSED GIRDER DETAILS 1			SHEET 10



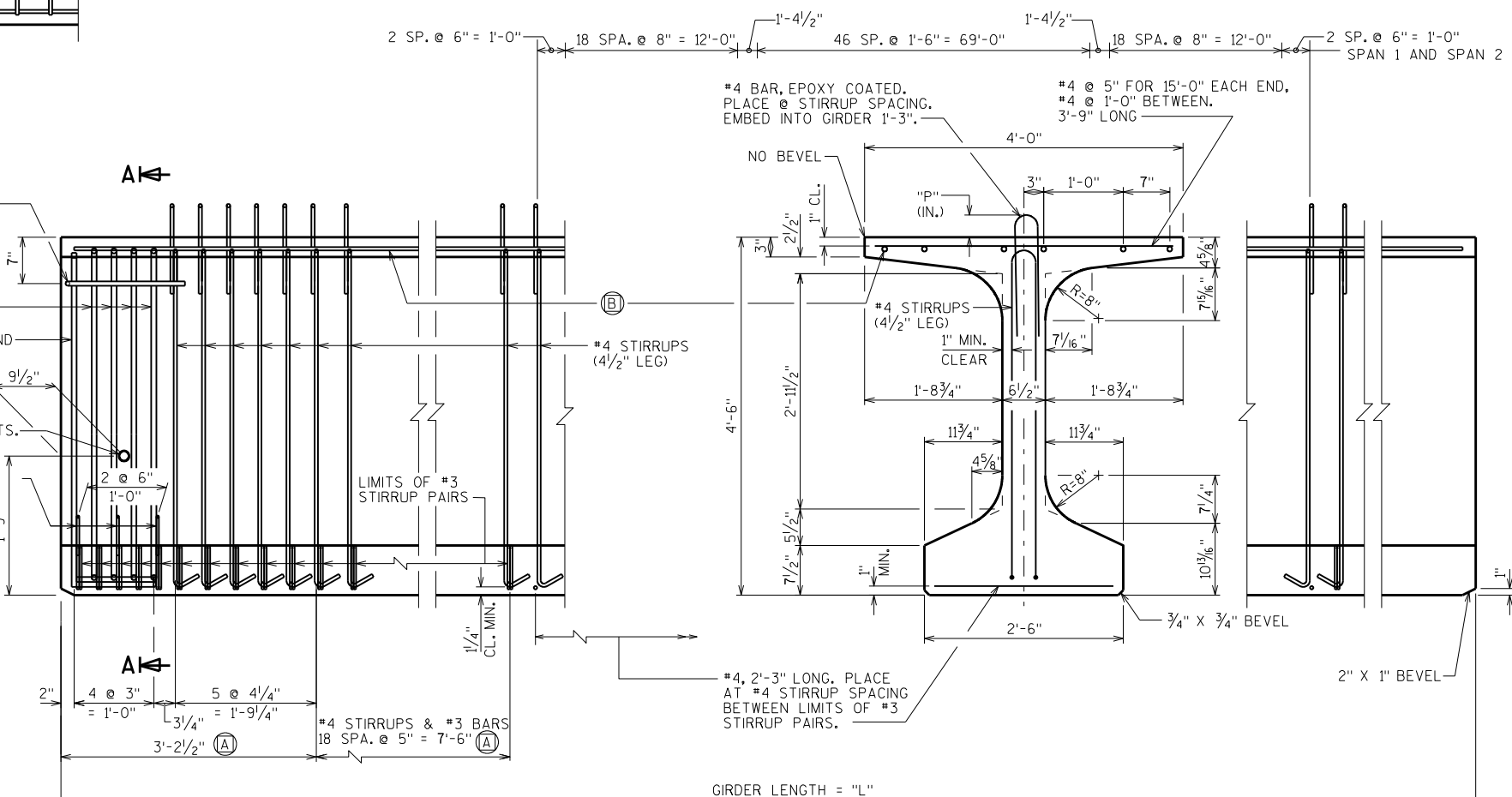
**TOP FLANGE**



**SECTION A-A**



**BOTTOM FLANGE**



**SIDE VIEW & TYP. SECTION IN SPAN**

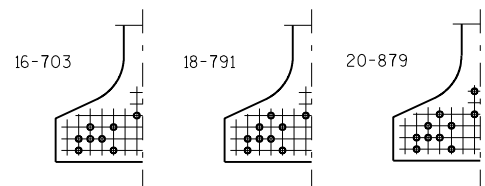
- (A) DETAIL TYP. AT EACH END
- (B) (SPAN 1) 6 #4, FULL LENGTH 1'-11" MIN. LAP  
(SPAN 2) 6 #4, FULL LENGTH 1'-11" MIN. LAP

\* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.)										CONC. STRGTH. f'c (p.s.i.)	"P" 1ST 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN (IN.)					UNDRAPED PATTERN	
			1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	10/10						TOTAL NO. OF STRANDS	f'ci (P.S.I.) *					
			"A"	"B" MIN.	"B" MAX.	"C"	TOTAL NO. OF STRANDS	f'ci (P.S.I.) *																
1	ALL	119.38	0.7	1.3	1.8	2.1	2.2	2.1	1.8	1.3	0.7	8000	8"	7"	8"	0.6	36	6800	49.0	16.0	19.0	5.0		
2	ALL	119.38	0.7	1.3	1.8	2.1	2.2	2.1	1.8	1.3	0.7	8000	8"	7"	8"	0.6	36	6800	49.0	16.0	19.0	5.0		

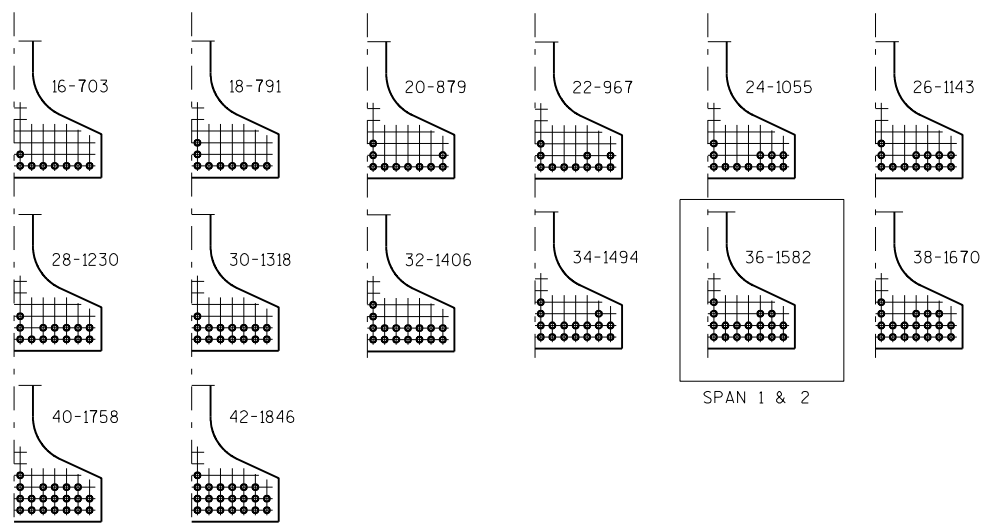
8

8



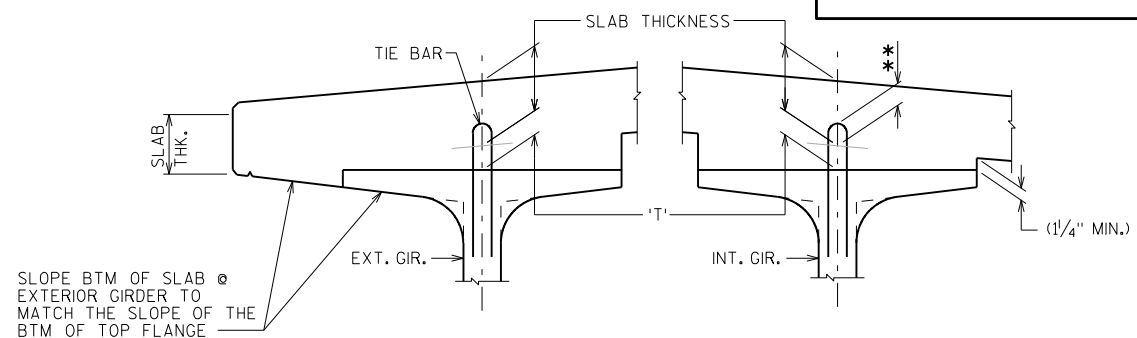
**STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF STRANDS**

0.6"φ STRANDS



**ARRANGEMENT AT CL SPAN - FOR GIRDERS WITH DRAPED STRANDS**

0.6"φ STRANDS



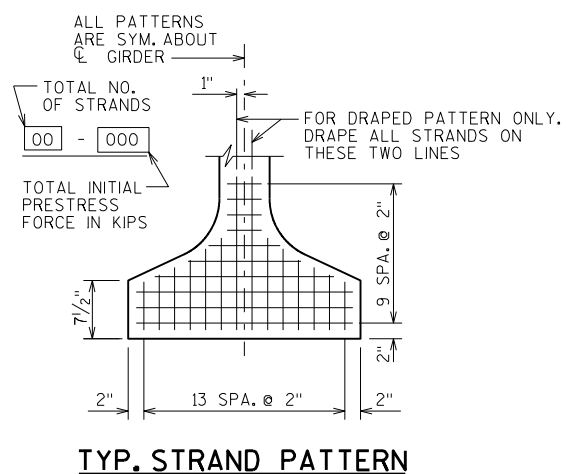
**SLAB HAUNCH DETAIL**

IF 1/4" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/2" OR, \*\* IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

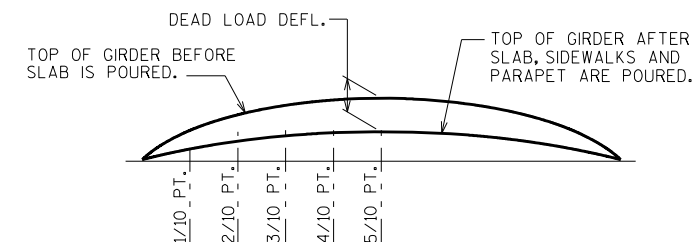
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT CL OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

- TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
- + DEAD LOAD DEFLECTION
- SLAB THICKNESS
- 
- = HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3.16" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

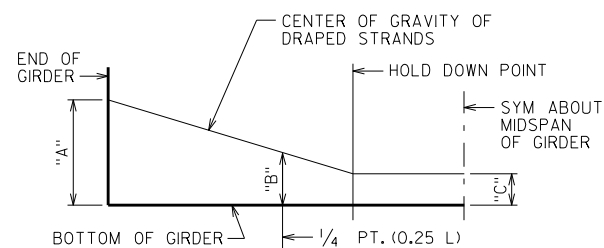


**TYP. STRAND PATTERN**



**DEAD LOAD DEFLECTION DIAGRAM**

8



**DRAPED STRAND PROFILE**

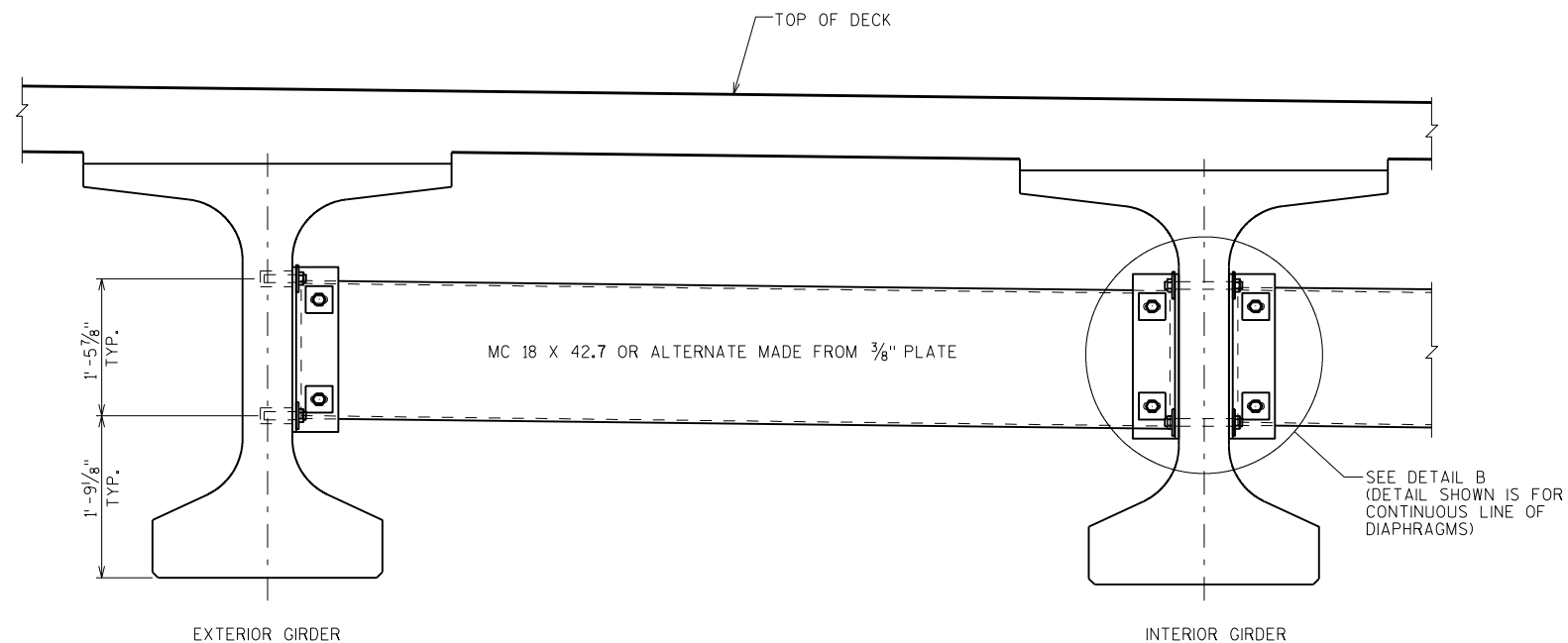
\* THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1	3.54
2	3.54

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE		B-20-226	
DRAWN BY		PLANS CK'D.	
SAD		EMK	
54W" PRESTRESSED GIRDER DETAILS 2		SHEET 11	



**PART TRANSVERSE SECTION AT DIAPHRAGM**

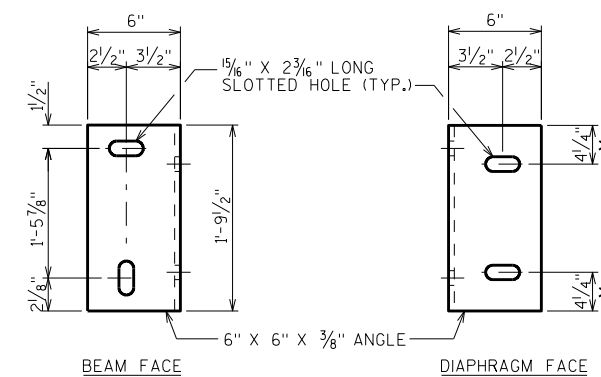
**NOTES**

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-20-226", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

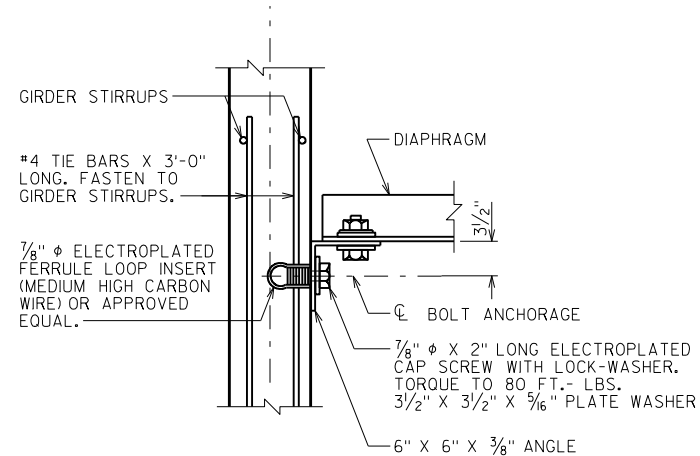
ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.



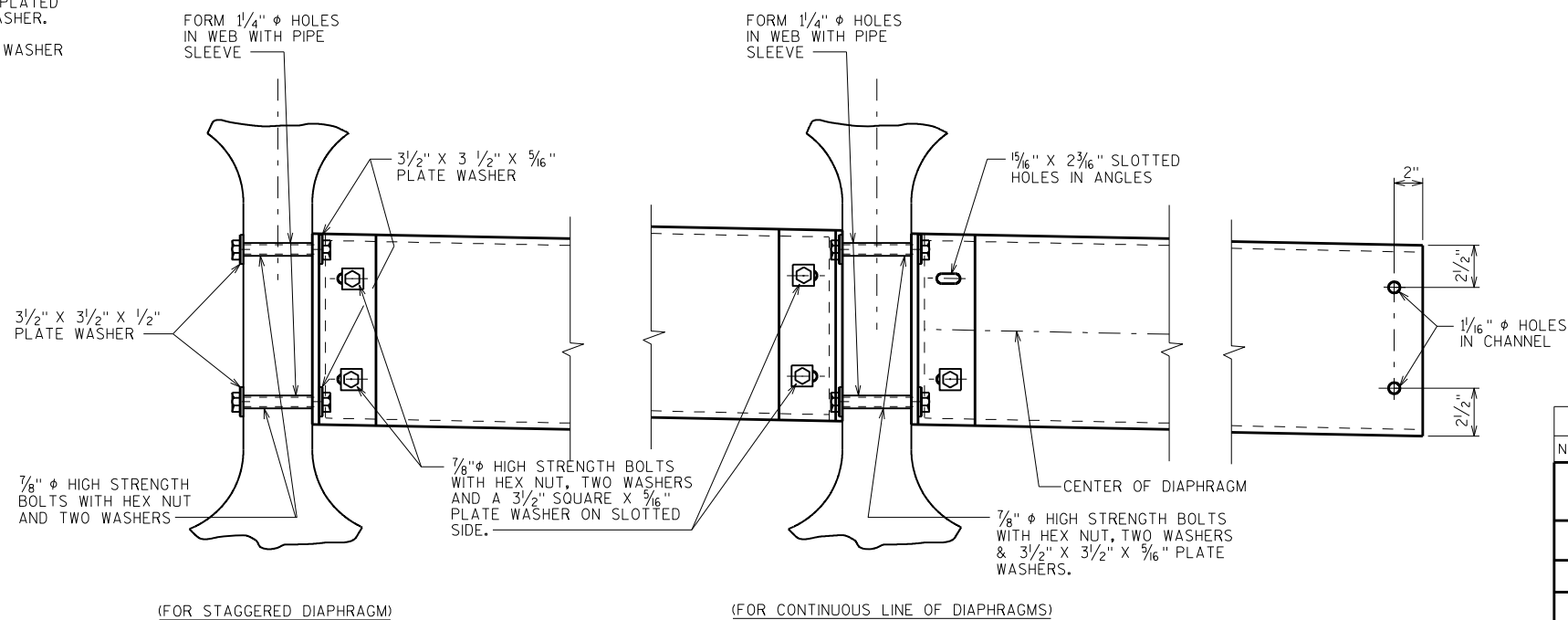
**DIAPHRAGM SUPPORT**

\* 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM



**SECTION A-A**

(FOR EXTERIOR ATTACHMENT)

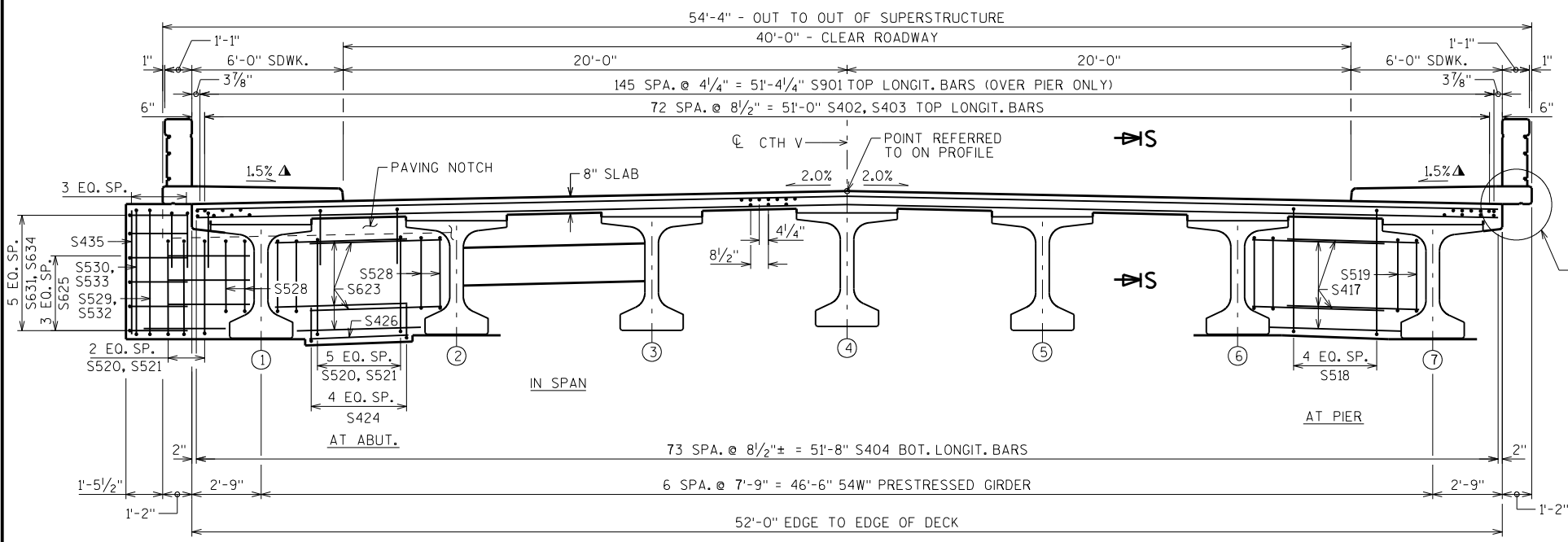


**DETAIL B**

(FOR STAGGERED DIAPHRAGM)

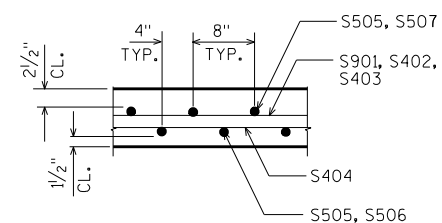
(FOR CONTINUOUS LINE OF DIAPHRAGMS)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
<b>STRUCTURE</b>		<b>B-20-226</b>	
DRAWN BY SAD		PLANS CK'D. EMK	
<b>STEEL DIAPHRAGM</b>			SHEET 12

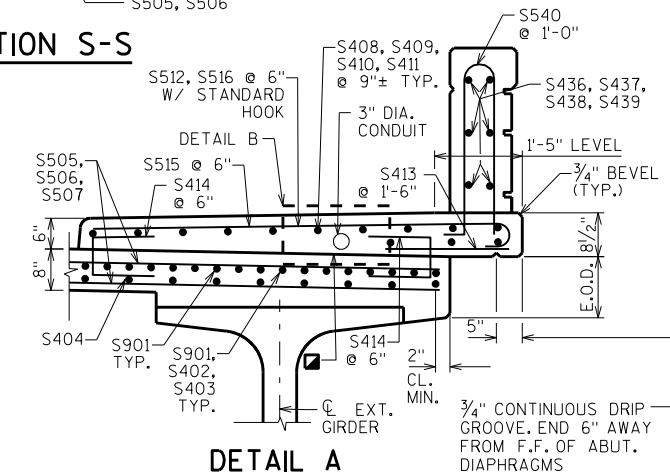


**CROSS SECTION THRU ROADWAY**

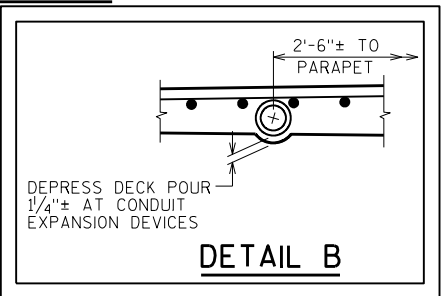
(LOOKING NORTH)



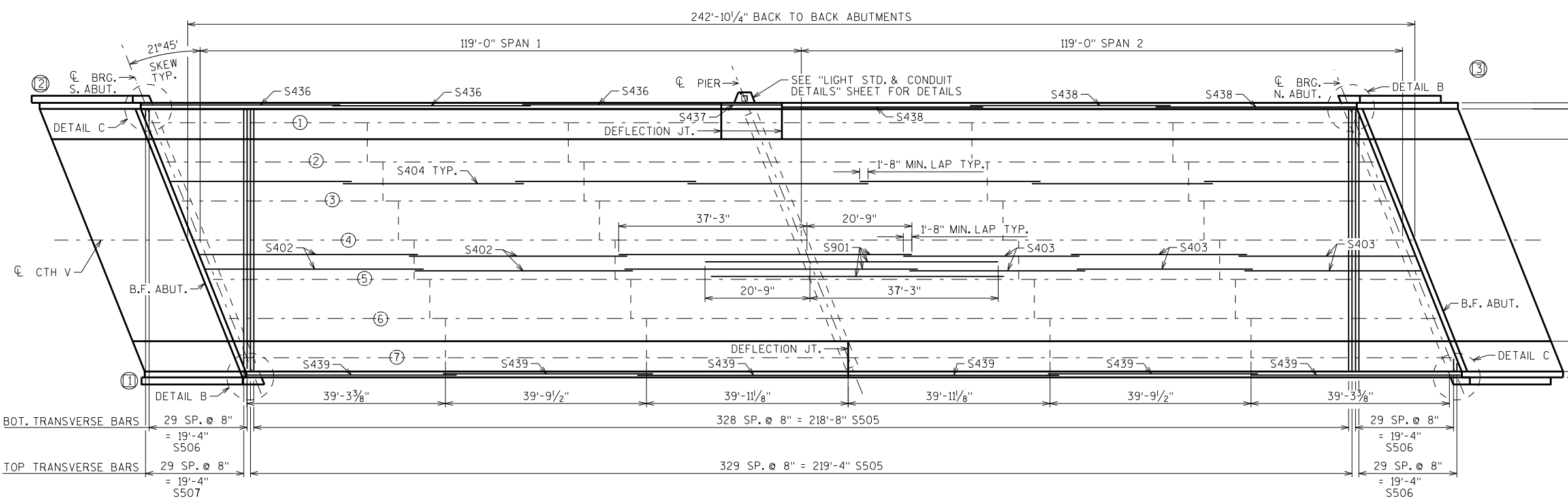
**SECTION S-S**



**DETAIL A**



**DETAIL B**

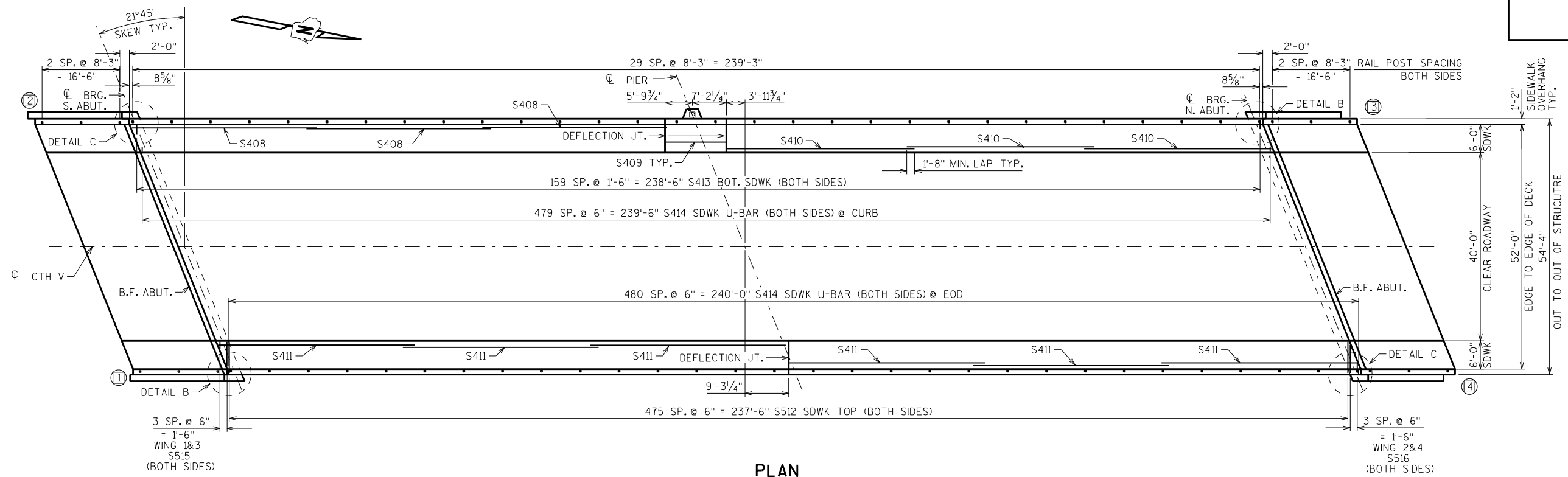


**PLAN**

▲ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

NOTE: FOR DETAILS B AND C, SIDEWALK BARS AND RAIL POST SPACING, SEE "SUPERSTRUCTURE DETAILS 1" SHEET.

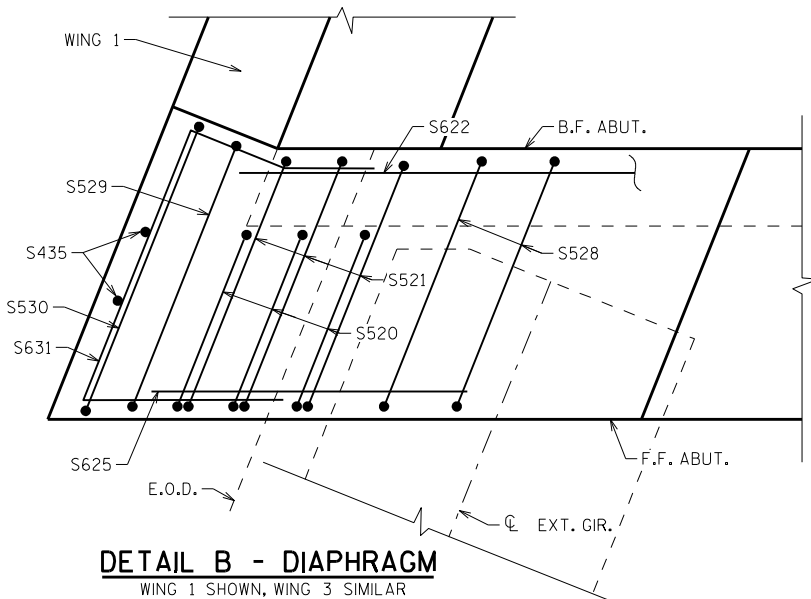
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
<b>STRUCTURE B-20-226</b>			
DRAWN BY SAD		PLANS CKD. EMK	
<b>SUPERSTRUCTURE</b>			SHEET 13



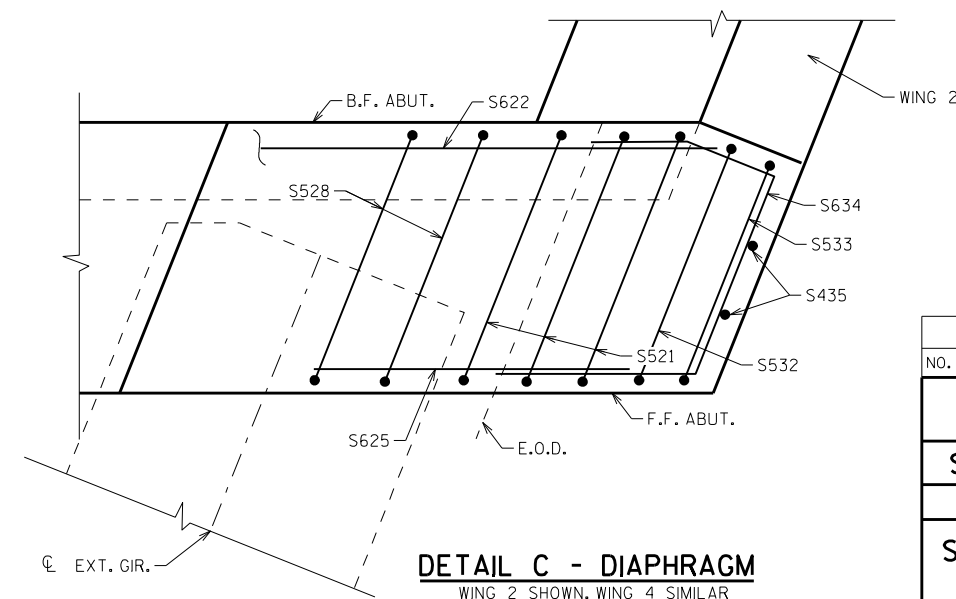
PLAN

TOP OF DECK ELEVATIONS

	S. ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	PIER 1	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	N. ABUT.
EOD	877.11	876.91	876.69	876.47	876.25	876.03	875.81	875.59	875.37	875.15	874.93	874.71	874.49	874.27	874.05	873.83	873.61	873.39	873.17	872.94	872.72
GIR. 1	877.15	876.94	876.73	876.51	876.29	876.07	875.85	875.62	875.40	875.18	874.96	874.74	874.52	874.30	874.08	873.86	873.64	873.42	873.20	872.98	872.76
GIR. 2	877.26	877.05	876.83	876.61	876.39	876.17	875.95	875.73	875.51	875.29	875.07	874.84	874.62	874.40	874.18	873.96	873.74	873.52	873.30	873.08	872.86
GIR. 3	877.36	877.15	876.93	876.71	876.49	876.27	876.05	875.83	875.61	875.39	875.17	874.95	874.73	874.51	874.29	874.07	873.85	873.62	873.40	873.18	872.96
CL/GIR. 4	877.47	877.25	877.03	876.81	876.59	876.37	876.15	875.93	875.71	875.49	875.27	875.05	874.83	874.61	874.39	874.17	873.95	873.73	873.51	873.29	873.07
GIR. 5	877.25	877.03	876.81	876.59	876.37	876.15	875.93	875.71	875.49	875.27	875.05	874.83	874.61	874.39	874.17	873.95	873.73	873.51	873.29	873.07	872.85
GIR. 6	877.03	876.81	876.59	876.37	876.15	875.93	875.71	875.49	875.27	875.05	874.83	874.61	874.39	874.17	873.95	873.73	873.51	873.29	873.07	872.85	872.63
GIR. 7	876.81	876.59	876.37	876.15	875.93	875.71	875.49	875.27	875.05	874.83	874.61	874.39	874.17	873.95	873.73	873.51	873.29	873.07	872.85	872.63	872.41
EOD	876.73	876.51	876.29	876.07	875.85	875.63	875.41	875.19	874.97	874.75	874.53	874.31	874.09	873.87	873.65	873.43	873.21	872.99	872.77	872.55	872.33



DETAIL B - DIAPHRAGM  
WING 1 SHOWN, WING 3 SIMILAR



DETAIL C - DIAPHRAGM  
WING 2 SHOWN, WING 4 SIMILAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION  
STRUCTURES DESIGN SECTION

STRUCTURE B-20-226

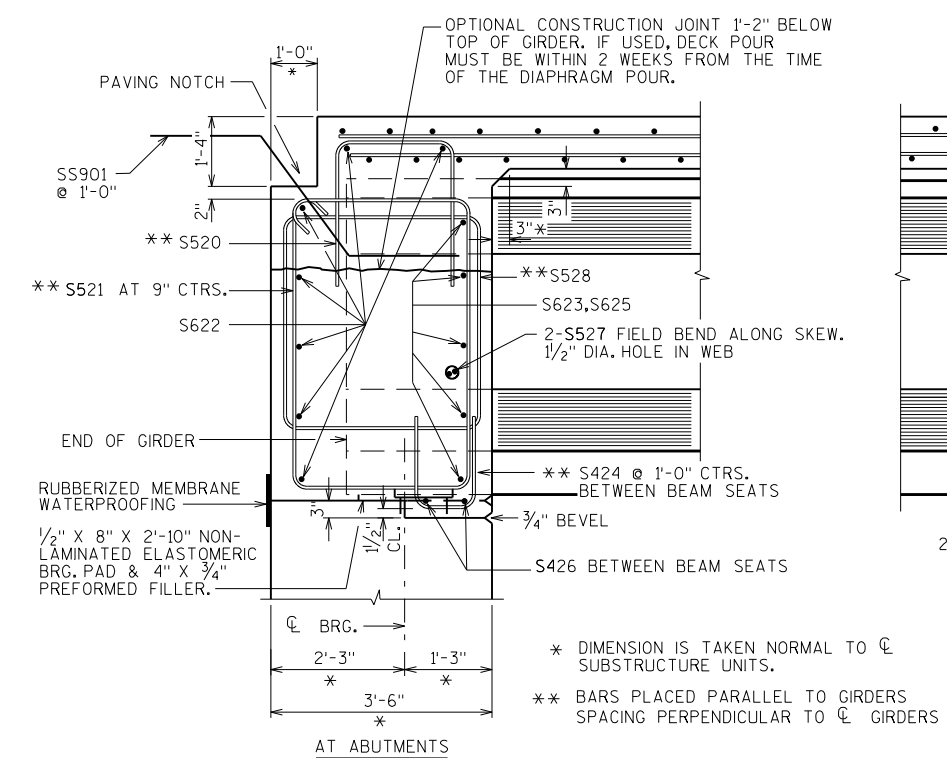
DRAWN BY SAD PLANS CK'D. EMK

SUPERSTRUCTURE DETAILS 1 SHEET 14

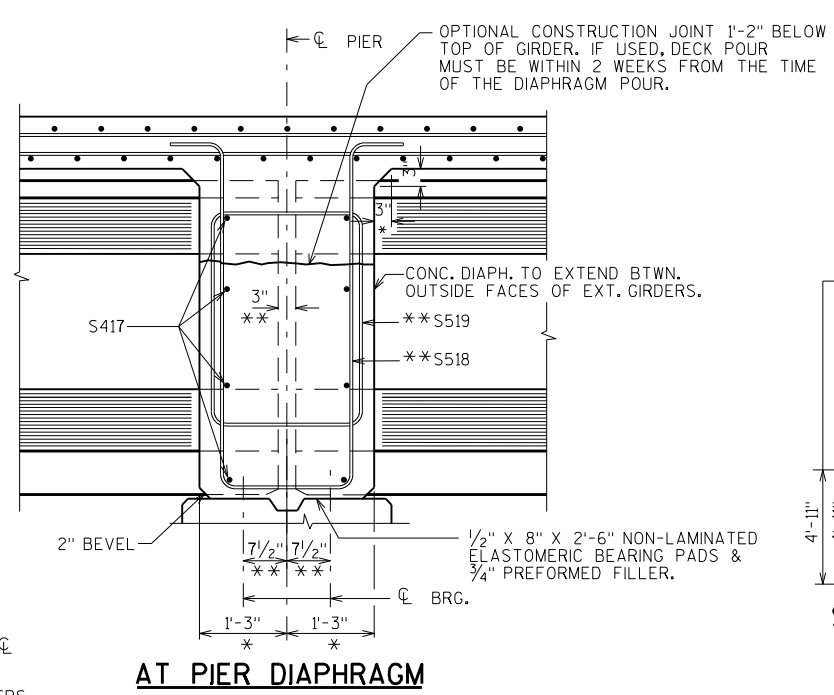
**BILL OF BARS**

▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

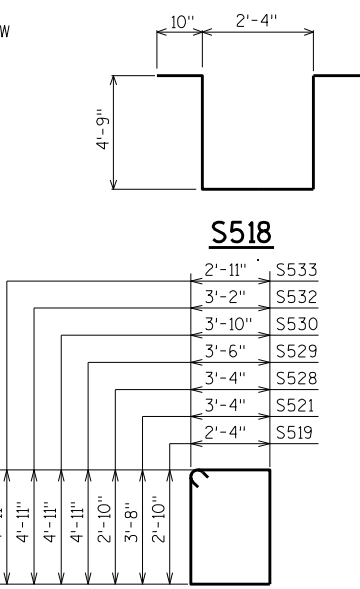
BAR MARK	COEF.	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S901	X	146	58'-0"			LONGITUDINAL CONTINUITY
S402	X	146	43'-2"			LONGITUDINAL TOP
S403	X	219	34'-10"			LONGITUDINAL TOP
S404	X	518	35'-10"			LONGITUDINAL BOT.
S505	X	659	51'-8"			TRANSVERSE TOP AND BOTTOM
▲ S506	X	60	27'-1"	▲		TRANSVERSE BOTTOM
▲ S507	X	60	26'-3"	▲		TRANSVERSE TOP
S408	X	39	38'-11"			LONGITUDINAL SIDEWALK
S409	X	13	12'-8"			LONGITUDINAL SIDEWALK
S410	X	39	39'-9"			LONGITUDINAL SIDEWALK
S411	X	78	41'-7"			LONGITUDINAL SIDEWALK
S512	X	952	7'-3"	X		TRANSVERSE SIDEWALK TOP
S413	X	320	2'-0"			TRANSVERSE SIDEWALK BOTTOM
S414	X	1922	2'-8"	X		SIDEWALK U-BAR
▲ S515	X	8	3'-5"	▲		TRANSVERSE SIDEWALK TOP
▲ S516	X	8	4'-8"	X	▲	TRANSVERSE SIDEWALK TOP
S417	X	84	5'-3"			PIER DIAPHRAGM HORIZ.
S518	X	30	13'-0"	X		PIER DIAPHRAGM STIRRUP
S519	X	24	11'-0"	X		PIER DIAPHRAGM STIRRUP
S520	X	84	6'-5"	X		ABUT. DIAPHRAGM DECK U-BAR
S521	X	84	14'-8"	X		ABUT. DIAPHRAGM STIRRUP
S622	X	28	31'-9"			ABUT. DIAPHRAGM HORIZ. B.F.
S623	X	108	5'-3"			ABUT. DIAPHRAGM HORIZ. F.F.
S424	X	60	3'-5"	X		ABUT. DIAPHRAGM U-BAR B/W SEATS
S625	X	20	3'-10"			ABUT. DIAPHRAGM HORIZ. END
S426	X	24	4'-2"			ABUT. DIAPHRAGM HORIZ. B/W SEATS
S527	X	28	6'-0"			ABUT. DIAPHRAGM HORIZ. THRU GIRDERS
S528	X	56	13'-0"	X		ABUT. DIAPHRAGM STIRRUP
S529	X	2	17'-8"	X		ABUT. DIAPHRAGM STIRRUP WING 1 & 3
S530	X	2	18'-2"	X		ABUT. DIAPHRAGM STIRRUP WING 1 & 3
S631	X	12	8'-0"	X		ABUT. DIAPHRAGM HORIZ. WING 1 & 3
S532	X	2	16'-10"	X		ABUT. DIAPHRAGM STIRRUP WING 2 & 4
S533	X	2	16'-4"	X		ABUT. DIAPHRAGM STIRRUP WING 2 & 4
S634	X	12	6'-11"	X		ABUT. DIAPHRAGM HORIZ. WING 2 & 4
S435	X	8	5'-0"			ABUT. DIAPHRAGM VERT. END
S436	X	18	38'-11"			PARAPET HORIZ.
S437	X	6	12'-8"			PARAPET HORIZ.
S438	X	18	39'-9"			PARAPET HORIZ.
S439	X	36	41'-7"			PARAPET HORIZ.
S540	X	482	6'-8"	X		PARAPET VERT.
S641	X	12	4'-9"			LIGHT STD. TRANSVERSE BOT.
S542	X	12	7'-3"	X		LIGHT STD. TRANSVERSE TOP
S543	X	4	7'-8"	X		LIGHT STD. VERT.
S644	X	6	10'-4"	X		LIGHT STD. HORIZ.
S545	X	4	6'-5"	X		LIGHT STD. VERT.
S546	X	2	3'-2"	X		LIGHT STD. VERT.
S547	X	2	3'-4"	X		LIGHT STD. VERT.
S548	X	12	3'-11"	X		PARAPET VERT. - AT ABUT. JUNCTION BOX
S549	X	12	2'-4"			PARAPET VERT. - AT ABUT. JUNCTION BOX
SS901	X	110	5'-0"	X		CONC. ABUT. DIA. TO APPROACH SLAB



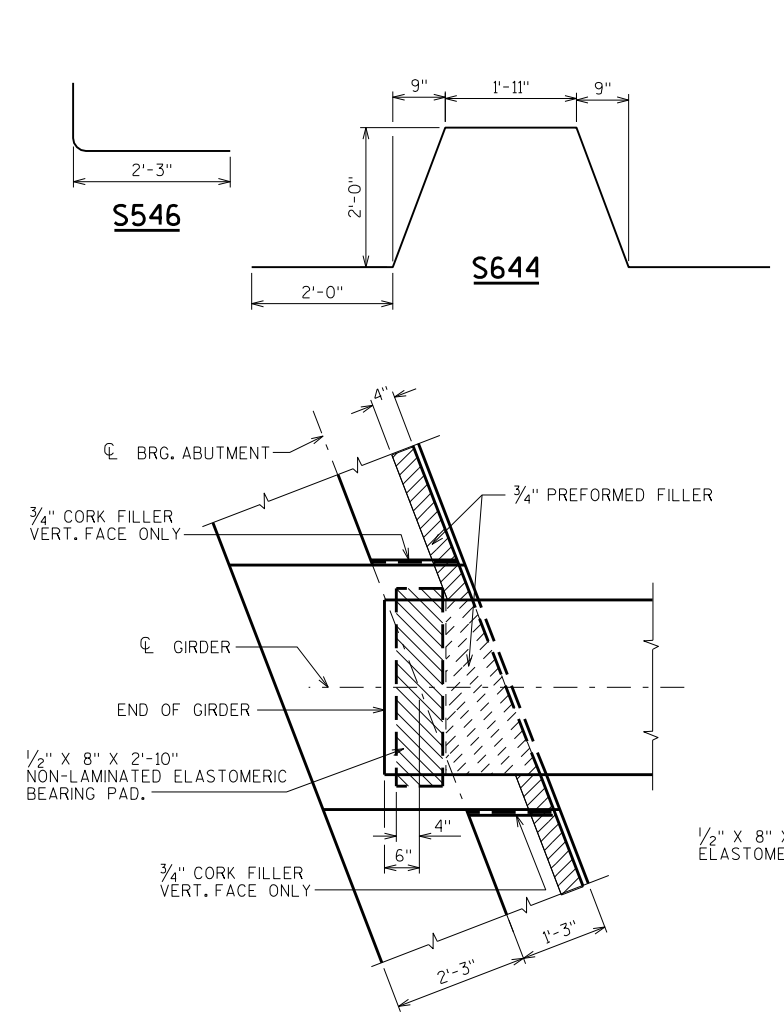
**PART LONGIT. SECTION**



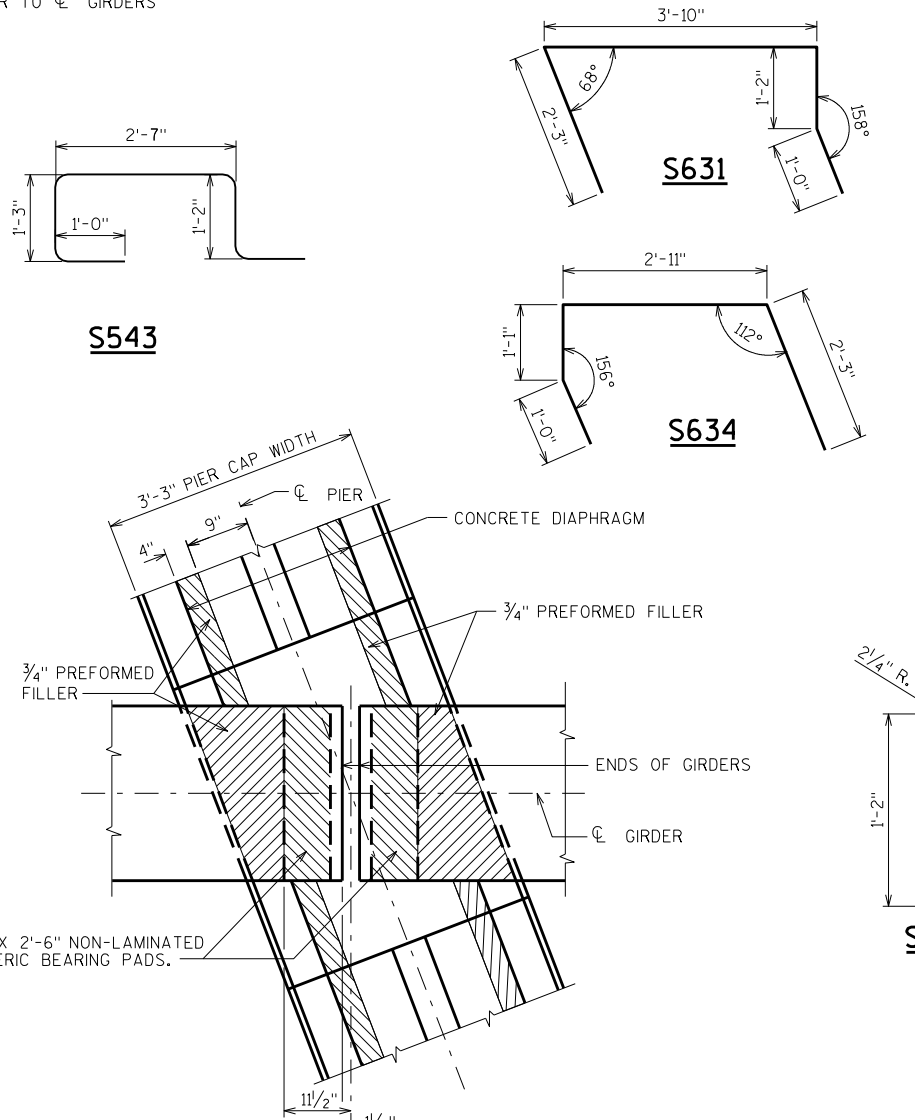
**AT PIER DIAPHRAGM**



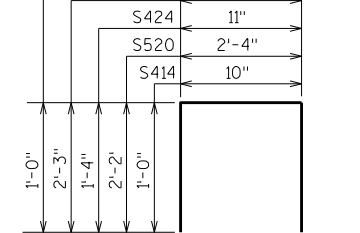
**S518  
S519, S521, S528, S529,  
S530, S532, S533**



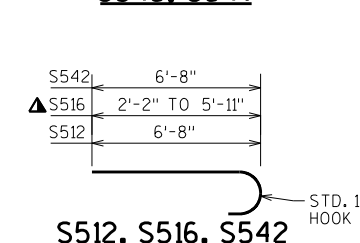
**BEARING PAD DETAIL**



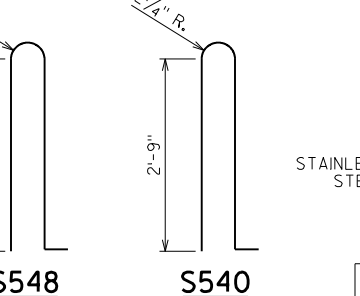
**S631  
S634**



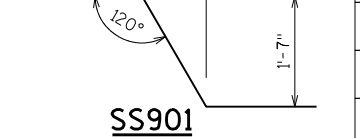
**S414, S520, S424,  
S545, S547**



**S512, S516, S542**



**S548  
S540**

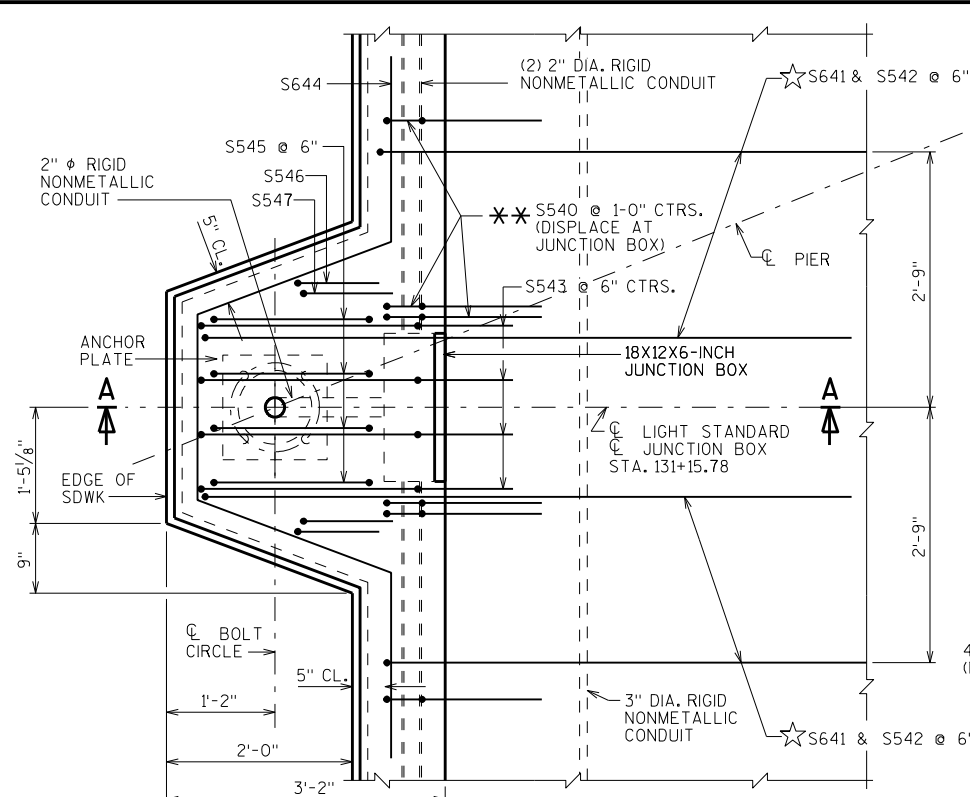


**SS901**

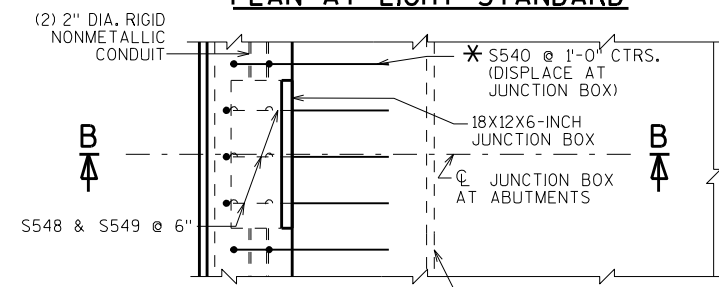
**BAR SERIES TABLE**  
BUNDLE AND TAG EACH SERIES SEPARATELY

MARK	NO. REQ'D.	LENGTH
S506	2 SERIES OF 30	2'-10" TO 51'-3"
S507	2 SERIES OF 30	2'-0" TO 50'-5"
S515	2 SERIES OF 4	1'-6" TO 5'-3"
S516	2 SERIES OF 4	2'-9" TO 6'-6"

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-20-226			
DRAWN BY SAD		PLANS CKD. EMK	
SUPERSTRUCTURE DETAILS 2			SHEET 15



PLAN AT LIGHT STANDARD



PLAN AT ABUTMENT JUNCTION BOX

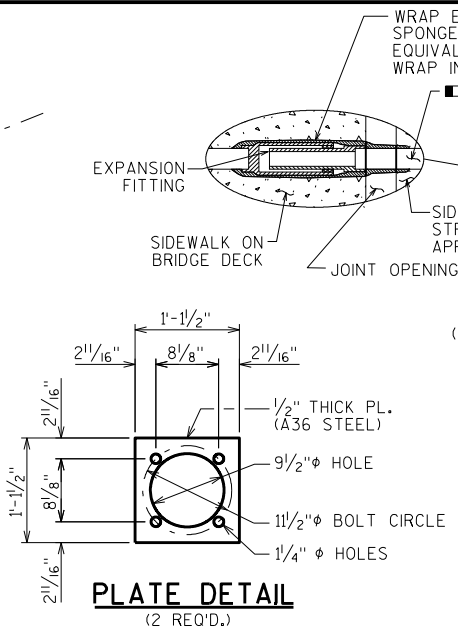
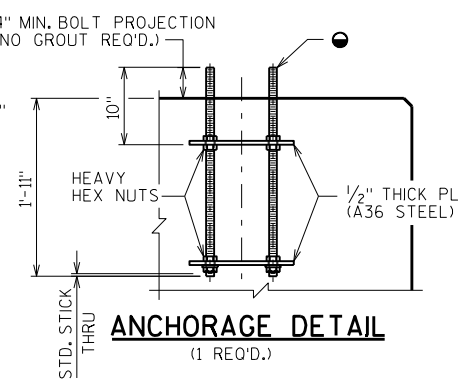
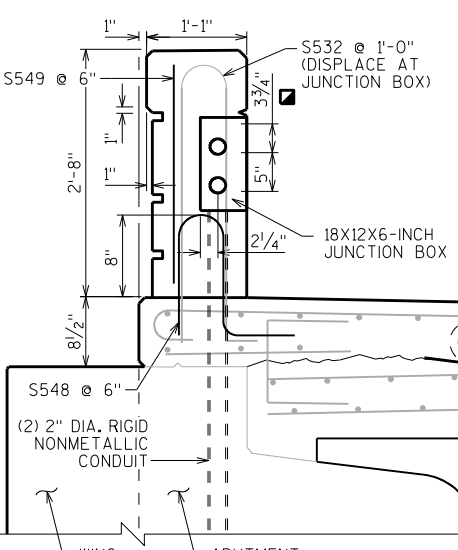


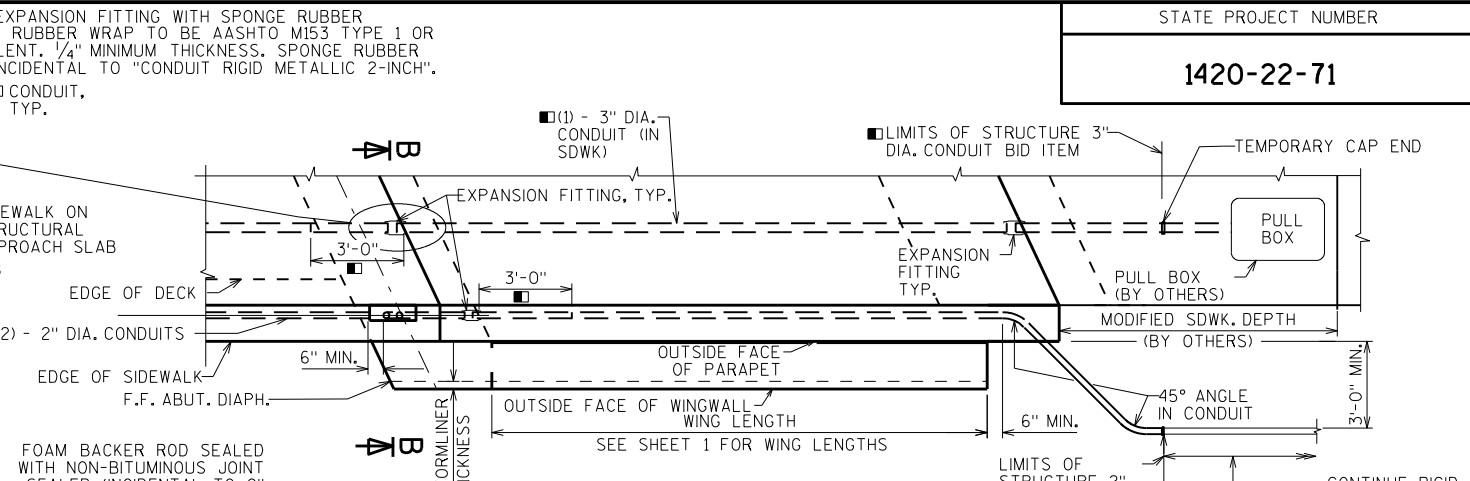
PLATE DETAIL  
(2 REQ'D.)



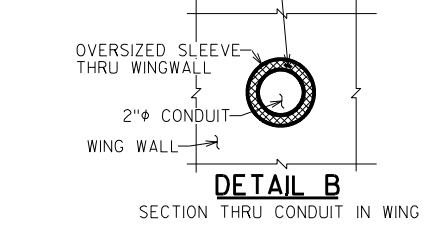
ANCHORAGE DETAIL  
(1 REQ'D.)



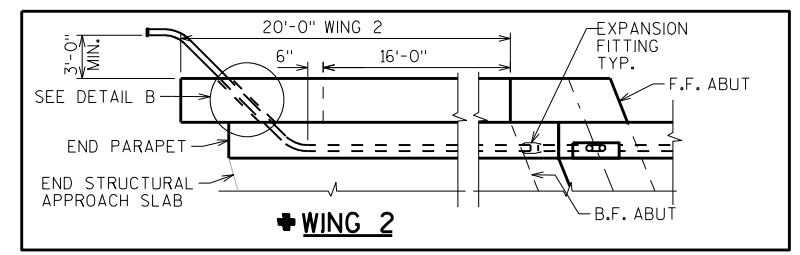
SECTION B-B  
TYPICAL AT ALL ABUTMENT CORNERS



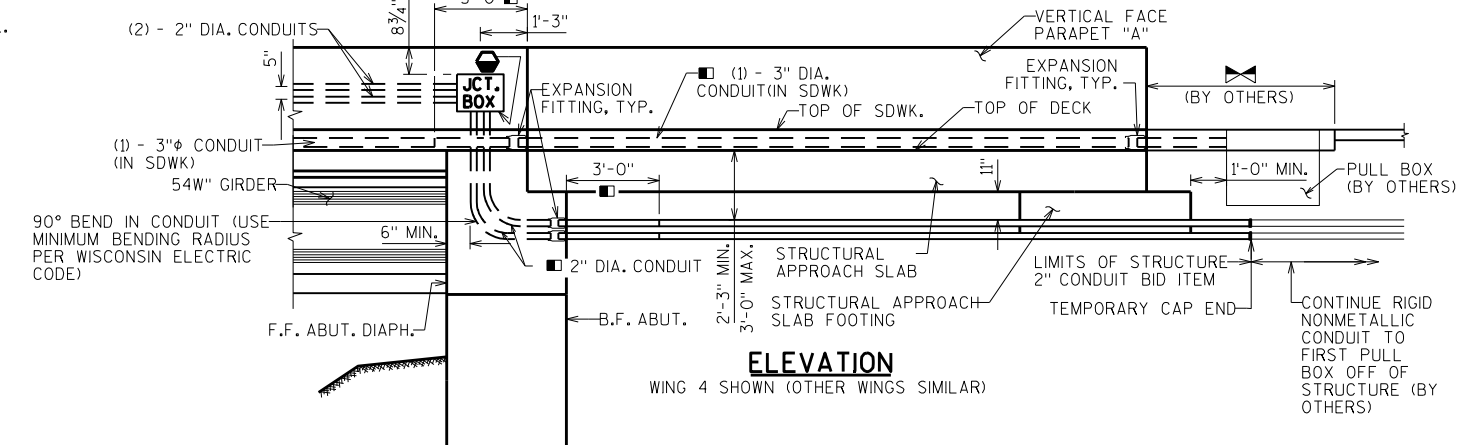
PLAN OF PARAPET AT WINGWALL  
WING 4 SHOWN (WINGS 1 & 3 SIMILAR)



DETAIL B  
SECTION THRU CONDUIT IN WING



WING 2



ELEVATION  
WING 4 SHOWN (OTHER WINGS SIMILAR)

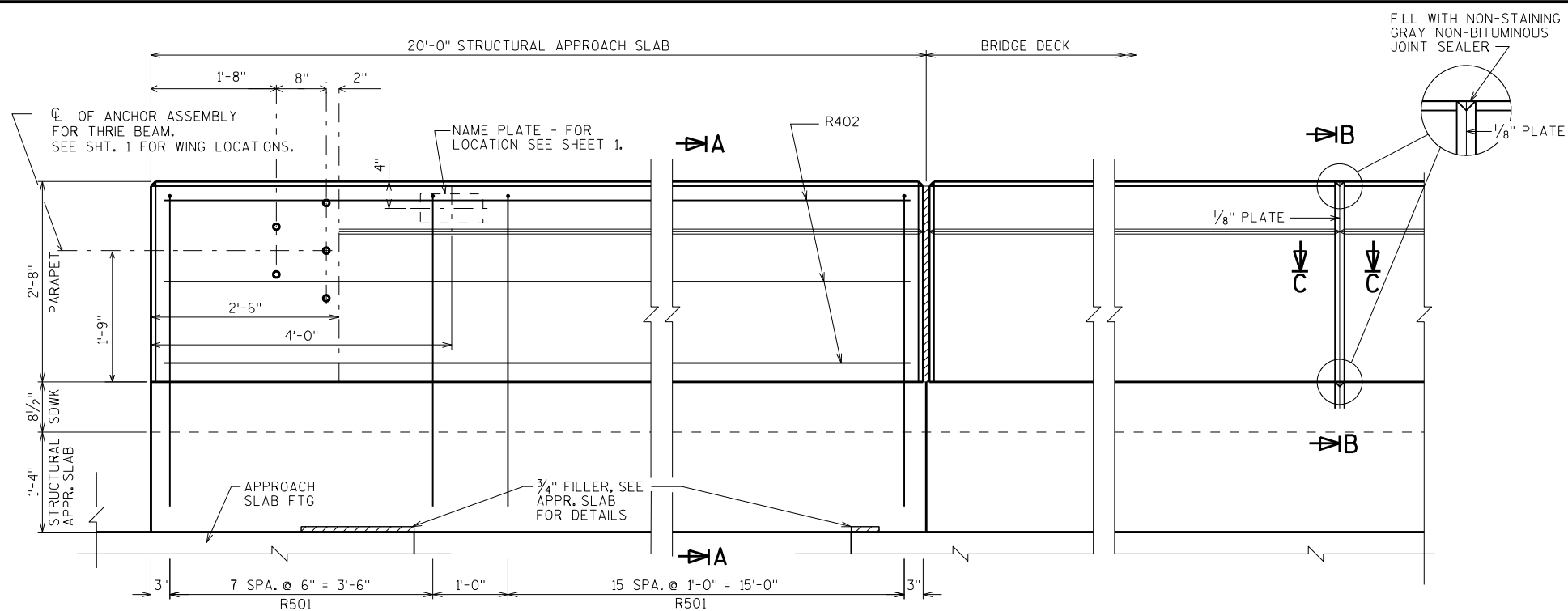
**NOTES**

- BID ITEMS SHALL BE:  
 "JUNCTION BOXES 18X12X6-INCH", EACH.  
 "CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"  
 "CONDUIT RIGID METALLIC 2-INCH"  
 "CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH"  
 "CONDUIT RIGID METALLIC 3-INCH"  
 "ANCHOR ASSEMBLIES LIGHT POLES", EACH
- APPROVED MANUFACTURERS - JUNCTION BOXES:  
 SEE APPROVED MATERIAL LIST.
- APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:  
 O-Z/GEDNEY TYPE AX-200 AND BONDING JUMPER (4" TOTAL CONDUIT MOVEMENT).
- EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL  
 TO "CONDUIT RIGID METALLIC 2-INCH" AND "CONDUIT RIGID METALLIC 3-INCH".
- WHEN CONNECTING NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY  
 ADAPTER FITTINGS U.L. LISTED FOR ELECTRICAL USE SHALL BE USED.

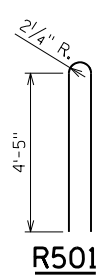
- ⚡ MODIFIED SIDEWALK DEPTH OFF STRUCTURE FOR EMBEDDED 3" DIA. CONDUIT (BY OTHERS)
- ⊕ FOR WING 2 ONLY - SLEEVE CONDUIT THROUGH WING 2. SEE DETAIL B
- ⊖ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX TO ALLOW FOR DRAINAGE.
- ⊠ LOCATION OF CONDUIT MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.
- \* TEMPORARY END CAP
- \*\* SEE "VERT. FACE PARAPET 'A' MODIFIED" SHEET FOR ADDITIONAL STEEL DETAILS.
- SEE "SUPERSTRUCTURE" SHEET FOR ADDITIONAL SIDEWALK AND DECK STEEL DETAILS.
- ☆ BARS ARE IN ADDITION TO STANDARD TRANSVERSE BARS IN THE SIDEWALK
- ⊞ CONSTRUCTION JOINT - STRIKE OFF AS SHOWN

NOTE: DEPRESS FINISH SURFACE OF DECK POUR AT DEFLECTION JOINTS AND PAVING NOTCH TO ALLOW EXPANSION FITTING TO FIT IN SIDEWALK.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
<b>STRUCTURE B-20-226</b>			
DRAWN BY SAD		PLANS CKD. EMK	
<b>LIGHTING STD &amp; CONDUIT DETAILS</b>			SHEET 16

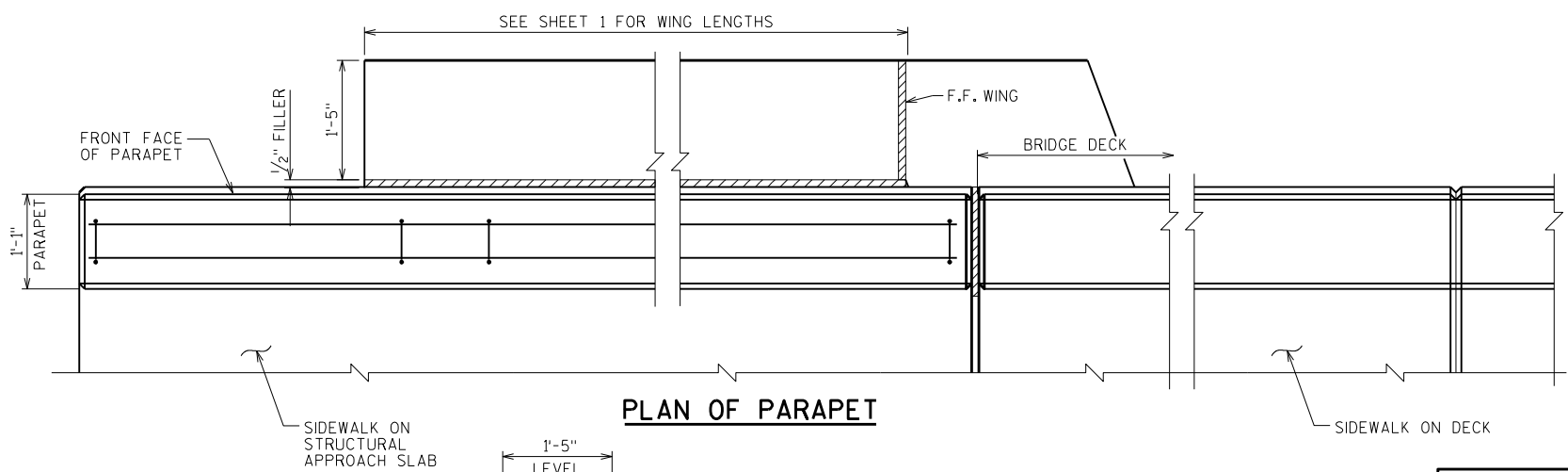


ELEVATION OF PARAPET

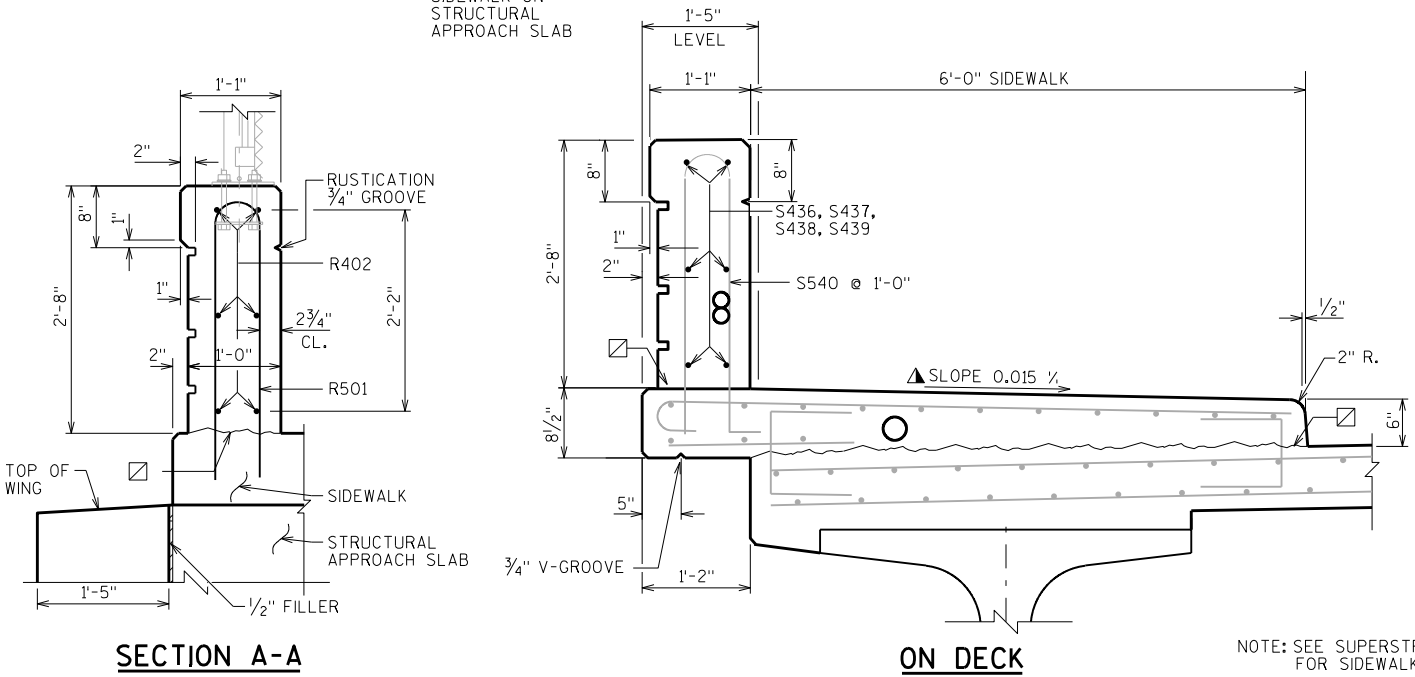


BILL OF BARS

BAR MARK	COAT	SOUTH APPROACH SLAB	NORTH APPROACH SLAB	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	48	48	9'-5"	X		PARAPET VERT.
R402	X	12	12	19'-8"			PARAPET HORIZ.



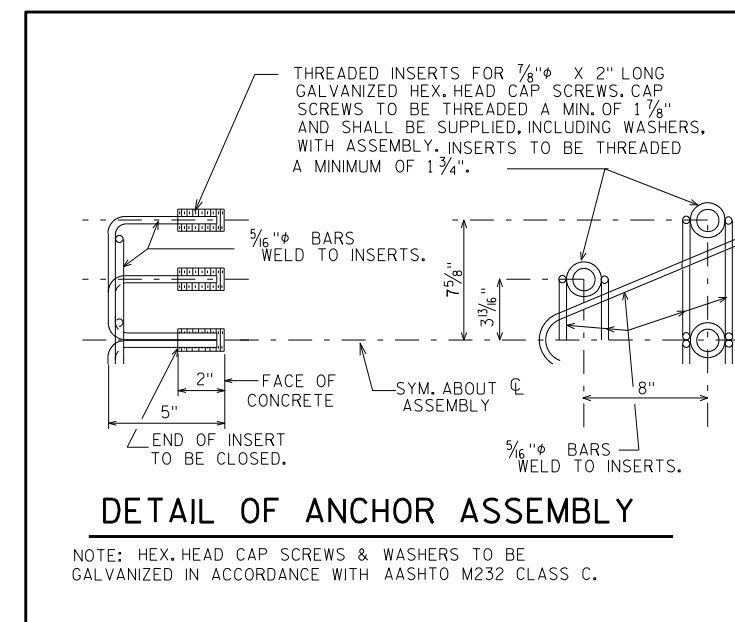
PLAN OF PARAPET



SECTION A-A

ON DECK

NOTE: SEE SUPERSTRUCTURE SHEET FOR SIDEWALK STEEL DETAILS



SEE "RAILING TUBULAR SCREENING" SHEET FOR RAILING DETAILS.

±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH. FOR DECK POUR, MATCH BRIDGE X-SLOPE.

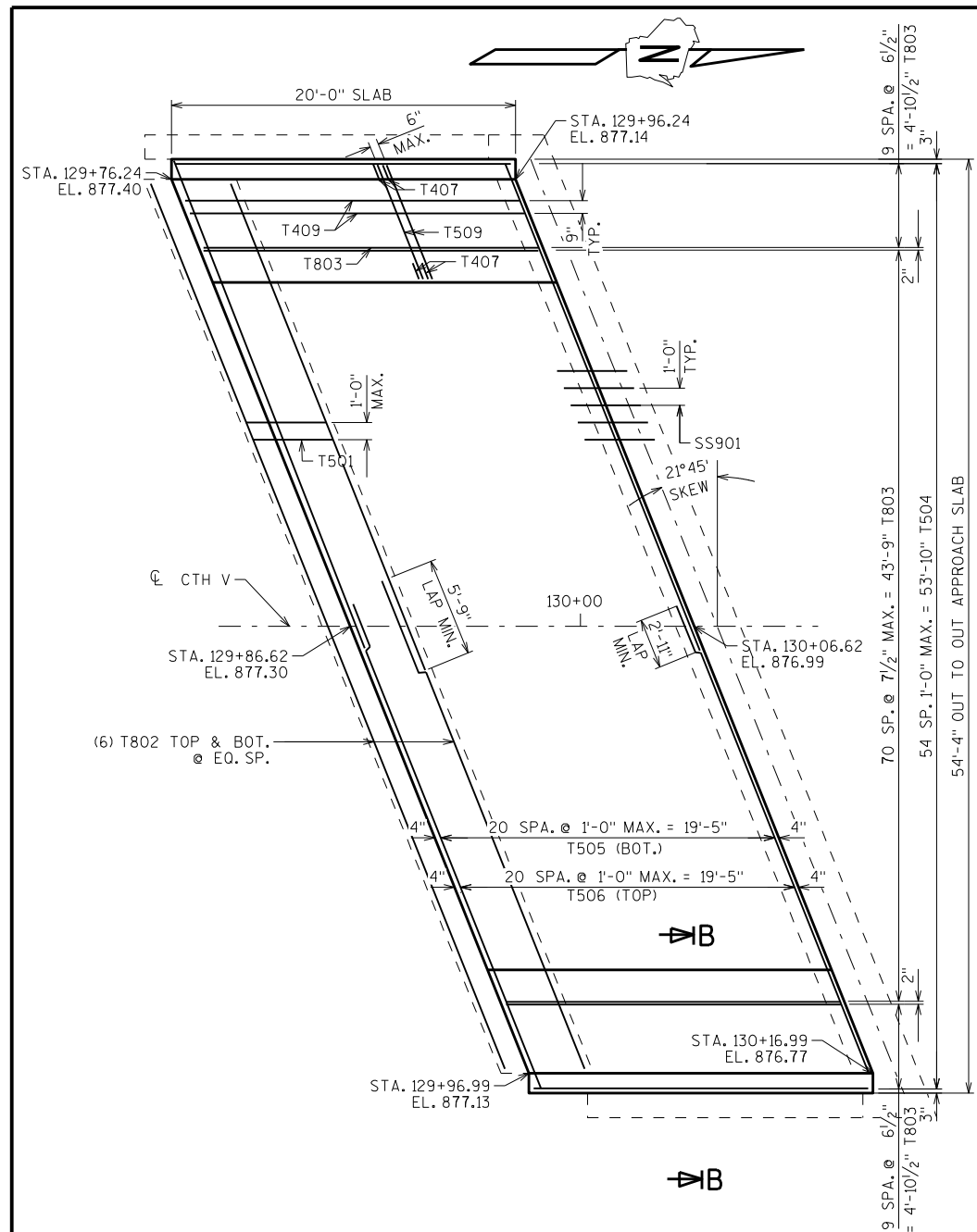
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-20-226			
DRAWN BY SAD		PLANS CKD. EMK	
VERTICAL FACE PARAPET "A" MODIFIED			SHEET 17



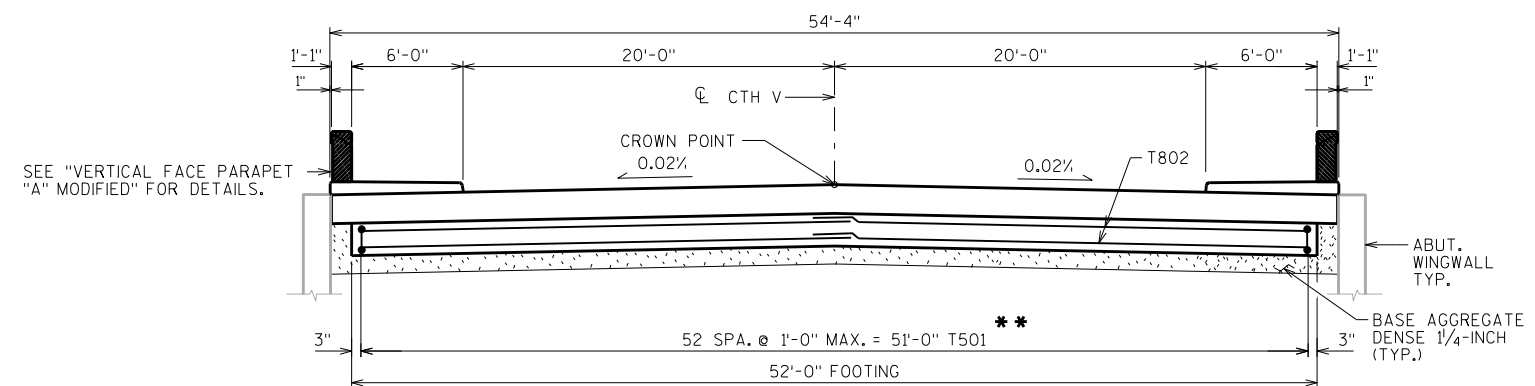
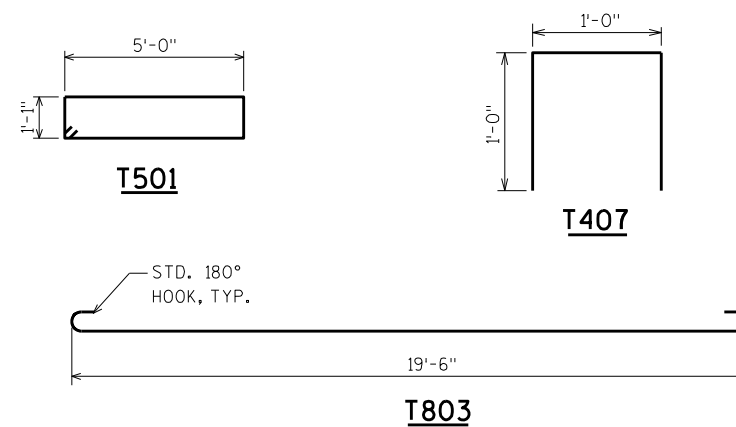
**BILL OF BARS**

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

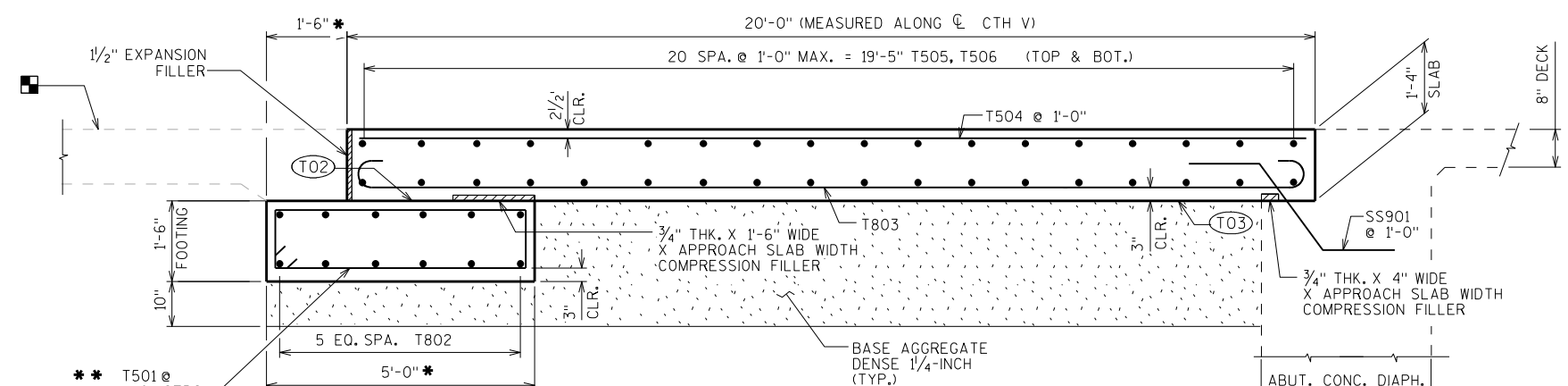
BAR MARK	COY.	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
T501	X	53	12'-10"	X		APPROACH SLAB FTG. - STIRRUP
T802	X	24	30'-9"			APPROACH SLAB FTG. - TRANS.
T803	X	91	21'-4"	X		APPROACH SLAB - LONG. - BOT.
T504	X	55	19'-6"			APPROACH SLAB - LONG. - TOP
T505	X	42	30'-7"			APPROACH SLAB - TRANS - BOT.
T506	X	42	30'-7"			APPROACH SLAB - TRANS - TOP.
T407	X	164	2'-10"	X		SIDEWALK - U-BAR
T408	X	20	19'-8"			SIDEWALK - LONG.
T509	X	82	7'-2"			SIDEWALK - TRANS.



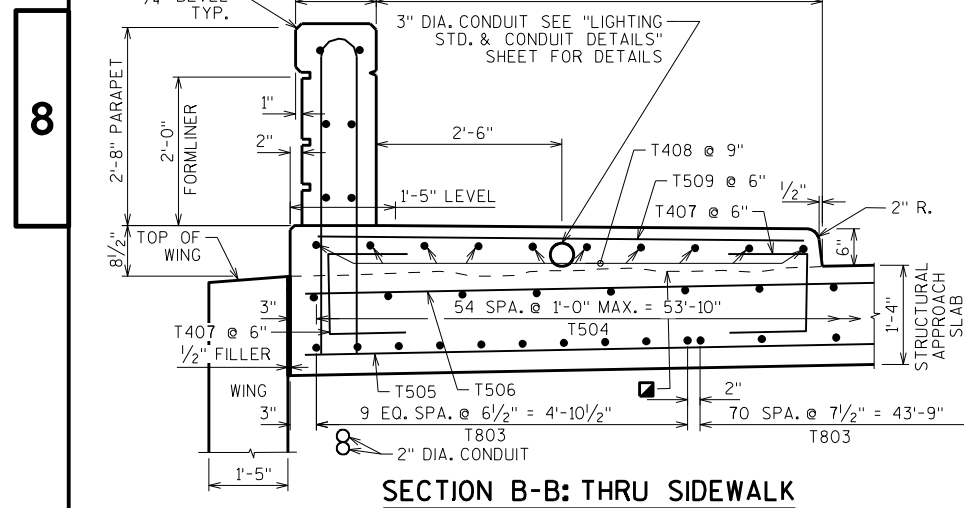
**SOUTH STRUCTURAL APPROACH SLAB PLAN**



**CROSS SECTION THRU ROADWAY - LOOKING WEST**  
(SHOWING FOOTING STEEL ONLY)



**SECTION THRU STRUCTURAL APPROACH SLAB**



**SECTION B-B: THRU SIDEWALK**

- ☑ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- \* MEASURED NORMAL TO SUBSTRUCTURE
- \*\* BARS PLACED PARALLEL TO R SPACING PERPENDICULAR TO R
- ☑ CONCRETE PAVEMENT APPROACH SLAB. SEE ROADWAY PLANS FOR DETAILS.

APPLY PROTECTIVE SURFACE TREATMENT TO PAVING NOTCH SURFACES PRIOR TO POURING STRUCTURAL APPROACH SLAB.

(T02) STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF FOOTING.

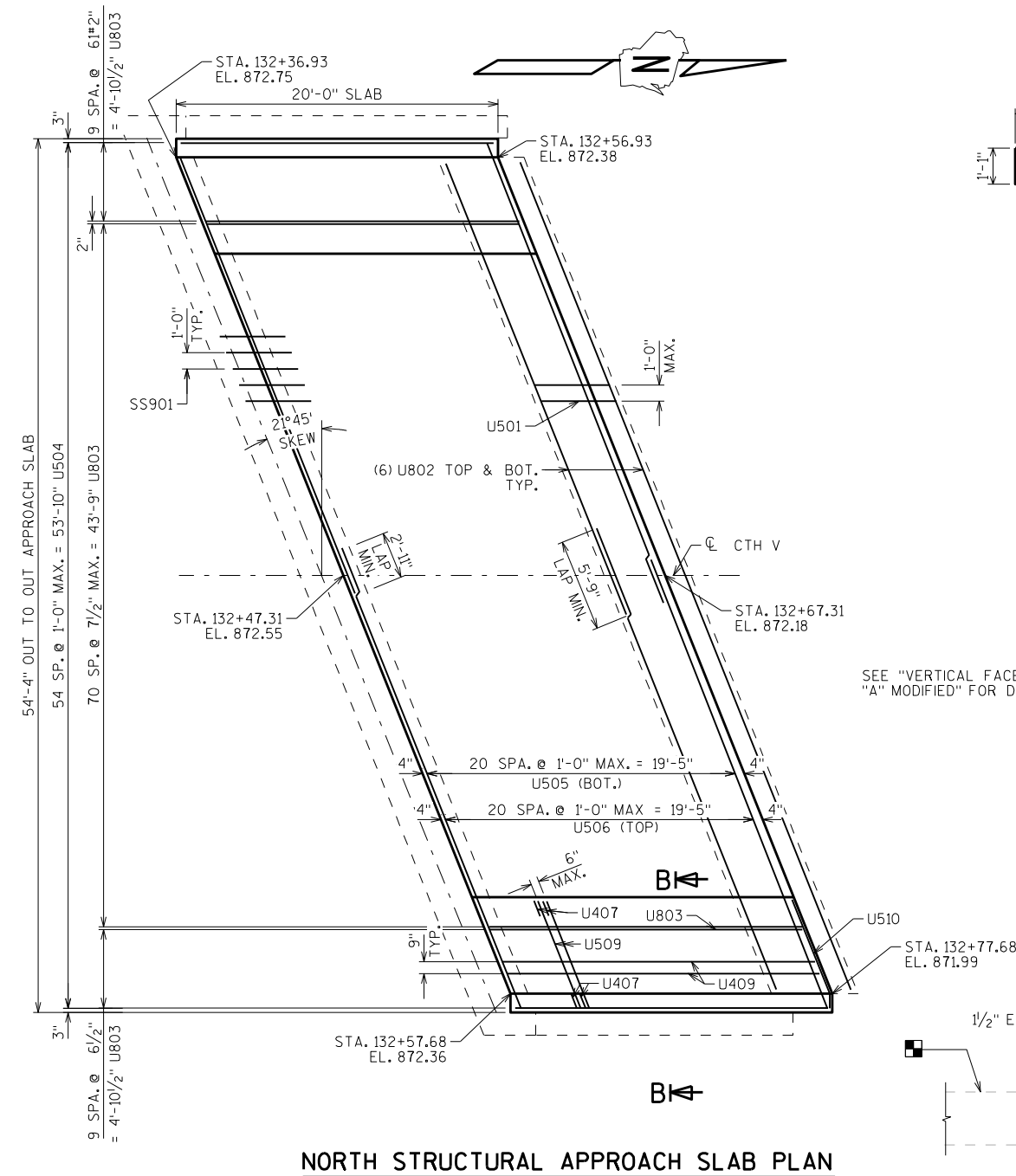
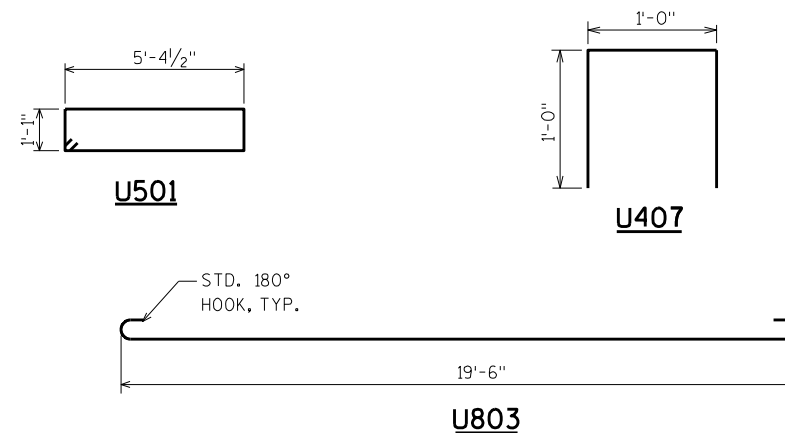
(T03) PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF SUBGRADE BENEATH SLAB.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
<b>STRUCTURE B-20-226</b>			
DRAWN BY SAD		PLANS CK'D. EMK	
<b>SOUTH STRUCTURAL APPROACH SLAB</b>			SHEET 18

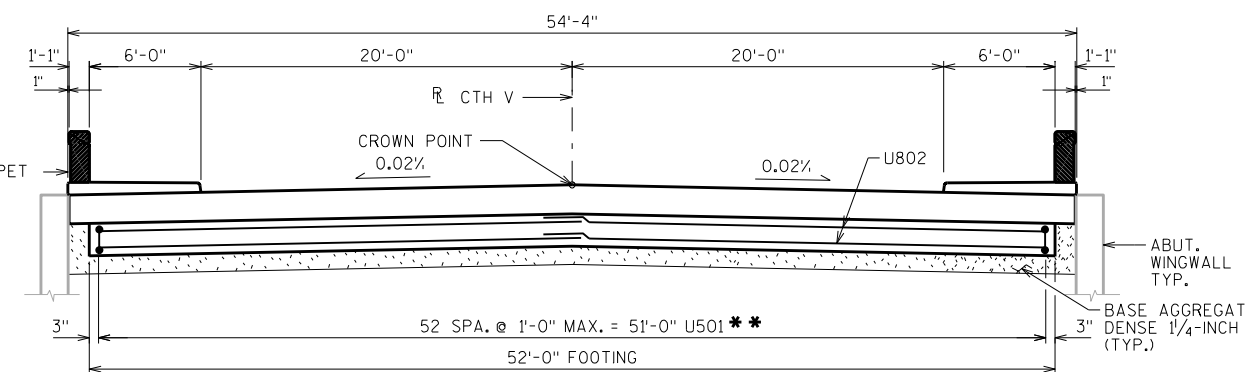
**BILL OF BARS**

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
U501	X	53	12'-10"	X		APPROACH SLAB FTG. - STIRRUP
U802	X	24	30'-9"			APPROACH SLAB FTG. - TRANS.
U803	X	91	21'-4"	X		APPROACH SLAB - LONG. - BOT.
U504	X	55	19'-6"			APPROACH SLAB - LONG. - TOP
U505	X	42	30'-7"			APPROACH SLAB - TRANS - BOT.
U506	X	42	30'-7"			APPROACH SLAB - TRANS - TOP.
U407	X	164	2'-10"	X		SIDEWALK - U-BAR
U408	X	20	19'-8"			SIDEWALK - LONG.
U509	X	82	7'-2"			SIDEWALK - TRANS.

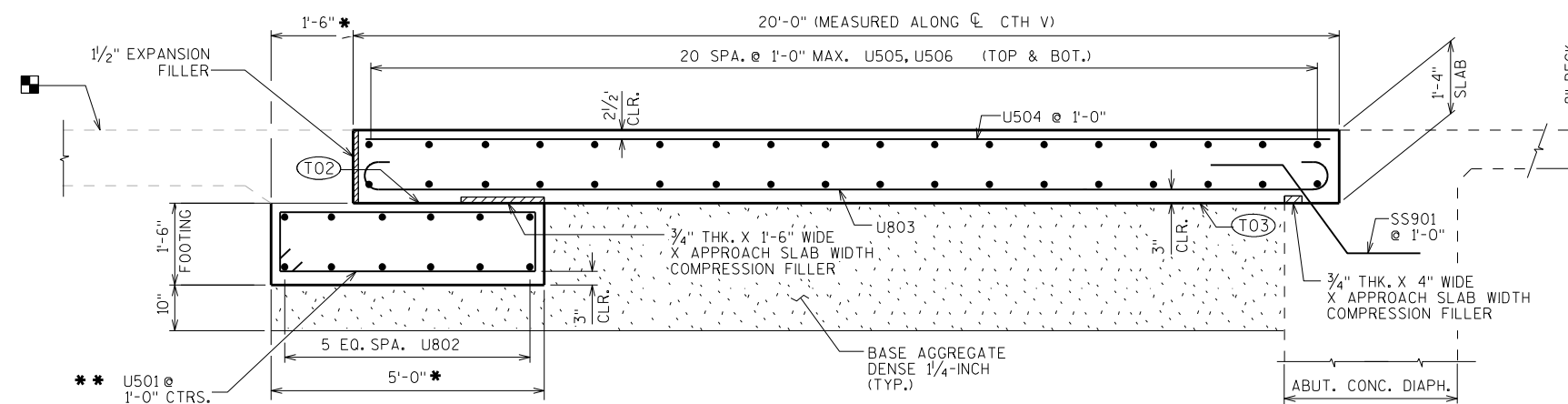


SEE "VERTICAL FACE PARAPET "A" MODIFIED" FOR DETAILS.



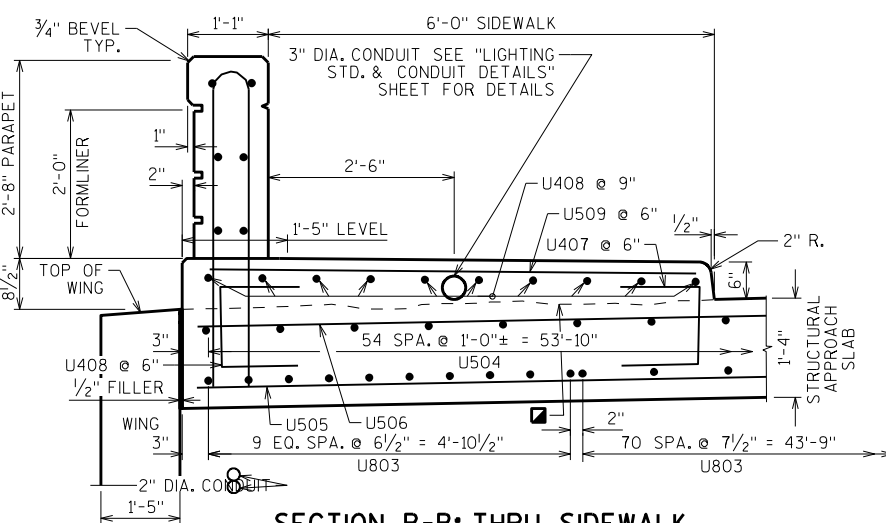
**CROSS SECTION THRU ROADWAY - LOOKING WEST**

(SHOWING FOOTING STEEL ONLY)



**SECTION THRU STRUCTURAL APPROACH SLAB**

8



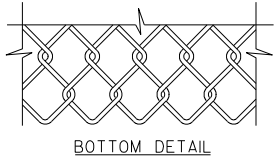
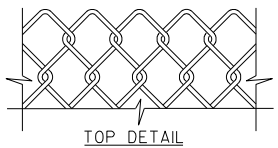
**SECTION B-B: THRU SIDEWALK**

- ☑ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- \* MEASURED NORMAL TO SUBSTRUCTURE
- \*\* BARS PLACED PARALLEL TO R SPACING PERPENDICULAR TO R
- ☑ CONCRETE PAVEMENT APPROACH SLAB. SEE ROADWAY PLANS FOR DETAILS.

APPLY PROTECTIVE SURFACE TREATMENT TO PAVING NOTCH SURFACES PRIOR TO POURING STRUCTURAL APPROACH SLAB.

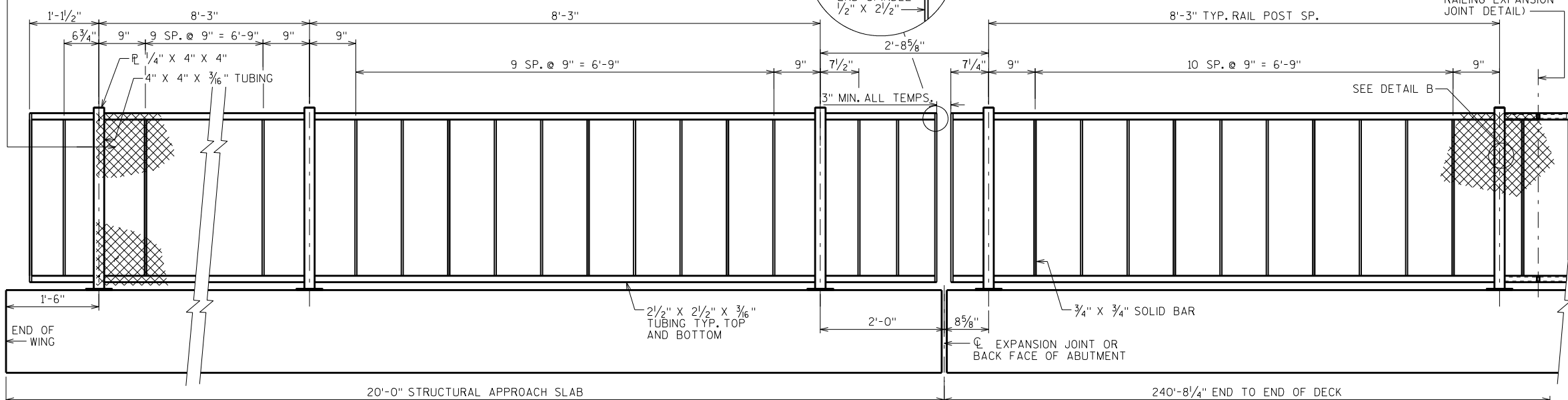
- (T02) STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF FOOTING.
- (T03) PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF SUBGRADE BENEATH SLAB.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION <b>STRUCTURES DESIGN SECTION</b>			
<b>STRUCTURE B-20-226</b>			
DRAWN BY SAD		PLANS CK'D. EMK	
<b>NORTH STRUCTURAL APPROACH SLAB</b>			SHEET 19

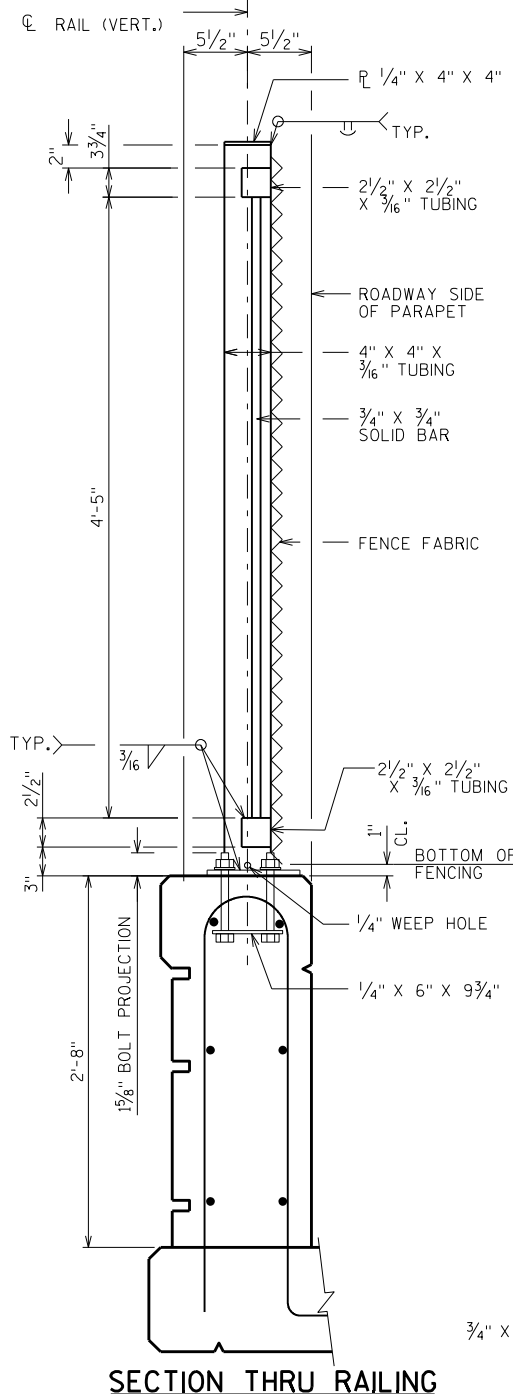


FENCE FABRIC

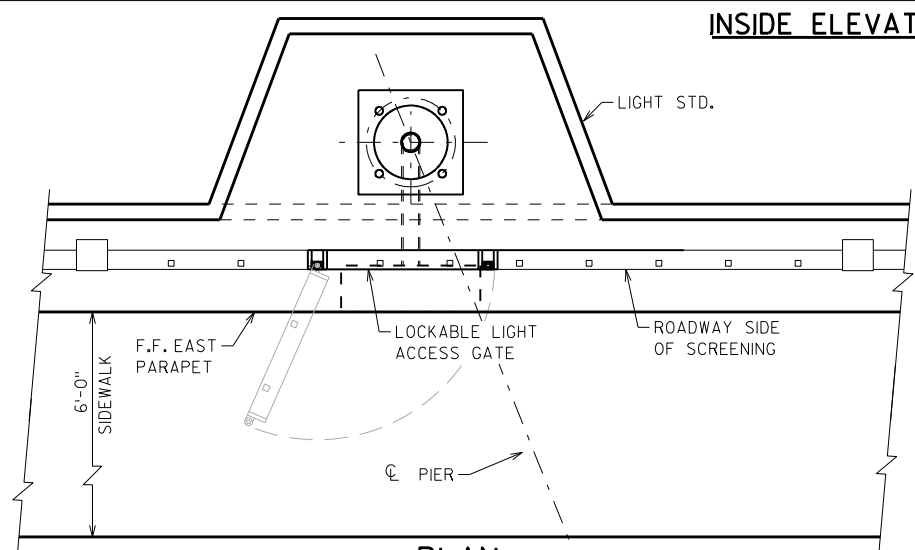
5'-0" VINYL COATED FENCE FABRIC WOVEN OF 9-GAUGE WIRE IN 2" DIAMOND PATTERN MESH WITH BOTH THE TOP AND BOTTOM SELVAGES KNUCKLED.



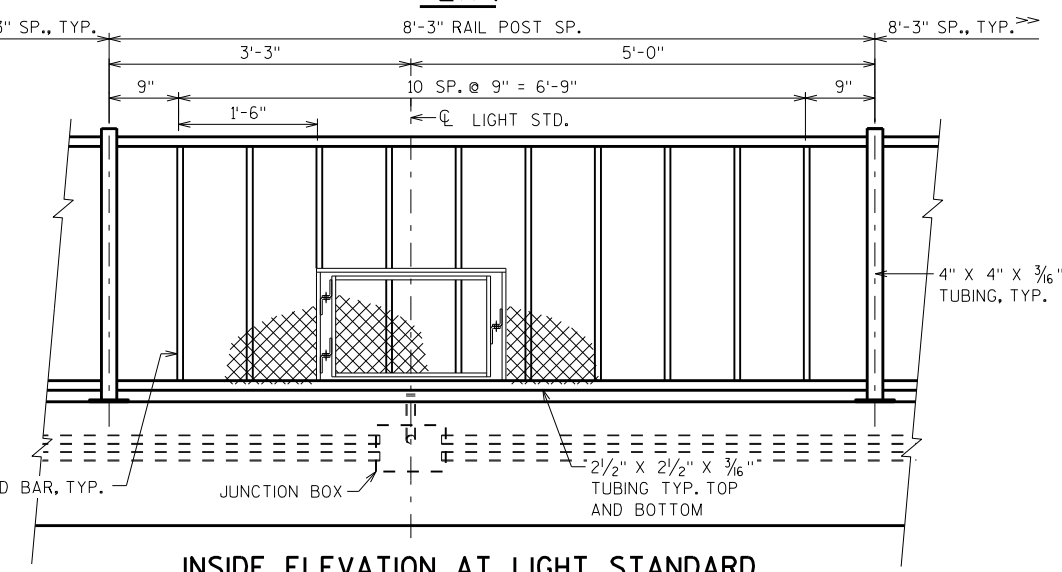
INSIDE ELEVATION OF RAILING



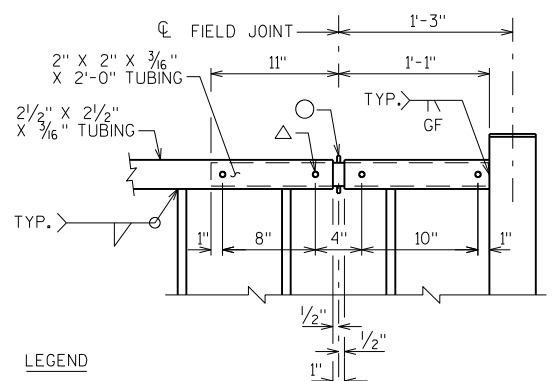
SECTION THRU RAILING



PLAN



INSIDE ELEVATION AT LIGHT STANDARD



RAILING EXPANSION JOINT DETAIL

LEGEND  
○ 5/16" x 3/8" WELDED STUDS  
△ WELD BEAD ON EACH SIDE OF TUBE. GRIND BEADS SO THAT SLEEVE FITS FREELY INSIDE THE 2 1/2" x 2 1/2" TUBE.

THE BID ITEM SHALL BE "RAILING TUBULAR SCREENING GALVANIZED B-20-226" WHICH SHALL INCLUDE ALL ITEMS SHOWN.

THE STEEL WIRE MESH SHALL BE ATTACHED TO THE LIGHT ACCESS GATE BY MEANS OF TACK WELDING AT ALL LOCATIONS WHERE THE STEEL WIRE MESH MEETS THE LIGHT ACCESS GATE 1/2" X 2 1/2" SOLID BAR GATE FRAME AND 3/4" X 3/4" SOLID BARS. THE STEEL WIRE MESH SHALL BE WELDED TO THE ROADWAY SIDE OF THE 3/4" X 3/4" SOLID BARS.

ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING ALL STEEL RAILING POSTS AND STEEL TUBING SHALL BE GIVEN A #6 BLAST CLEANING BY SSPC SPECIFICATIONS. PAINT OVER GALVANIZING WITH APPROVED TIE COAT AND TOPCOAT.

THE END OF THE FABRIC SHALL BE ATTACHED TO THE POST BY MEANS OF A TENSION BAR THREADED THROUGH THE END LOOPS OF THE FABRIC AND SECURED TO THE POST WITH CLAMPS & BOLT. THE FABRIC SHALL BE STRETCHED TO REMOVE ALL SLACK.

SEE "RAILING TUBULAR SCREENING DETAILS" SHEET FOR SECTIONS, FABRIC, AND GATE DETAILS.

NOTES

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

RAILS AND POSTS TO BE ASTM A500, GRADE B. BASE PLATES AND SHIMS TO BE ASTM A709, GRADE 36. ALL GALVANIZED AFTER FABRICATION.

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING. SET POSTS NORMAL TO GRADE.

ALL POST SPA. ARE TAKEN HORIZ. ALONG CENTER LINE OF RAILING AT BASE OF POST.

SHIMS SHALL BE USED UNDER BASE PLATES WHERE REQUIRED FOR ALIGNMENT.

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

CUT BOTTOM OF POST TO MAKE VERTICAL IN TRANSVERSE DIRECTION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE EITHER STAINLESS STEEL OR ASTM 307. IF 307 IS USED, ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED.

FABRIC SHALL CONFORM TO ASTM F668, CALSS 2B. STEEL RAILS, POSTS, AND POST SLEEVES SHALL CONFORM TO ASTM F1083. STANDARD WEIGHT PIPE (SCHEDULE 40). FITTINGS SHALL CONFORM TO ASTM 626. SEE THE "BRIDGE SPECIAL PROVISIONS" FOR ADDITIONAL DETAILS.

THE COLOR OF POLYMER-COATING FOR THIS STRUCTURE SHALL BE BLACK IN ACCORDANCE WITH ASTM F934.

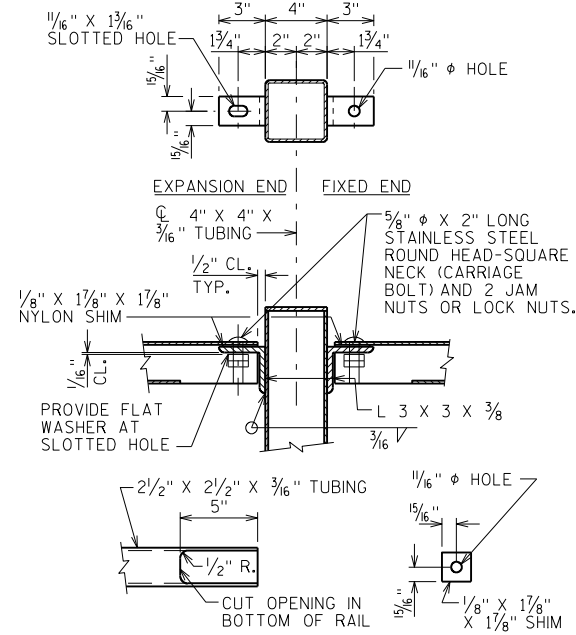
RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE NOT MORE THAN 3 POSTS.

VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING.

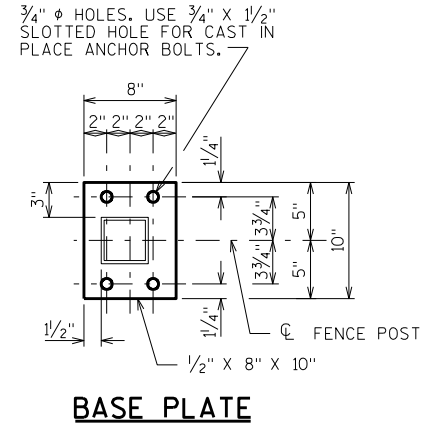
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
<b>STRUCTURE B-20-226</b>			
DRAWN BY SAD		PLANS CKD. EMK	
<b>RAILING TUBULAR SCREENING</b>			SHEET 20

8

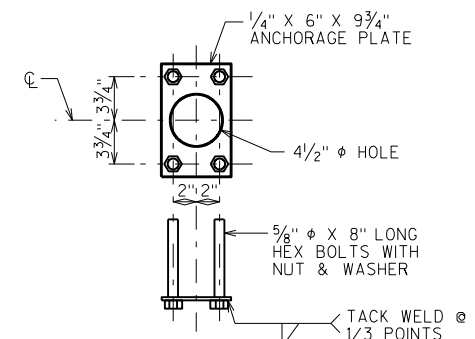
8



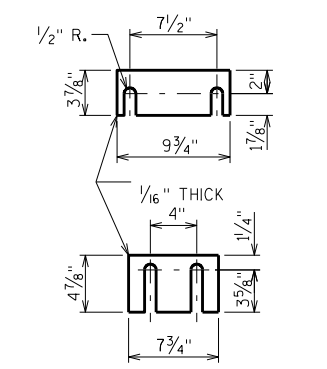
BOTTOM VIEW RAIL NOTCH | NYLON SHIM  
**TOP RAIL CONNECTION FOR FENCE W/ BENT TOP**



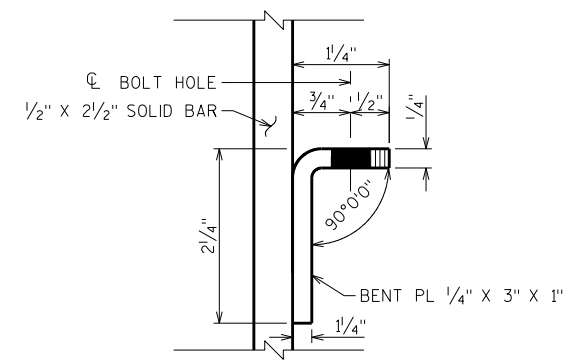
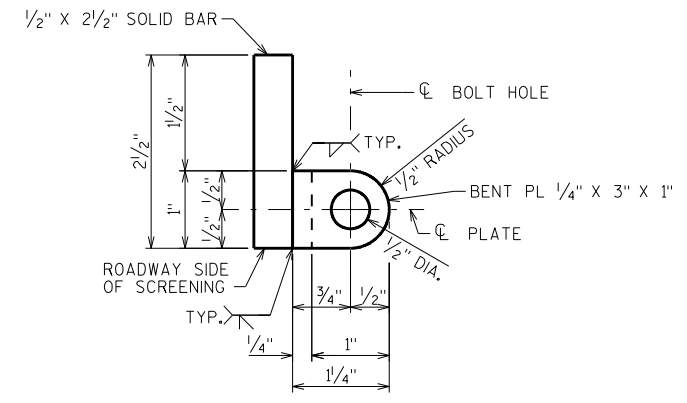
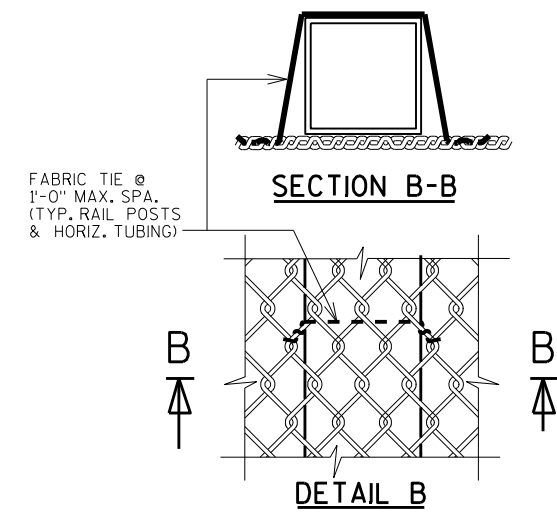
**BASE PLATE**



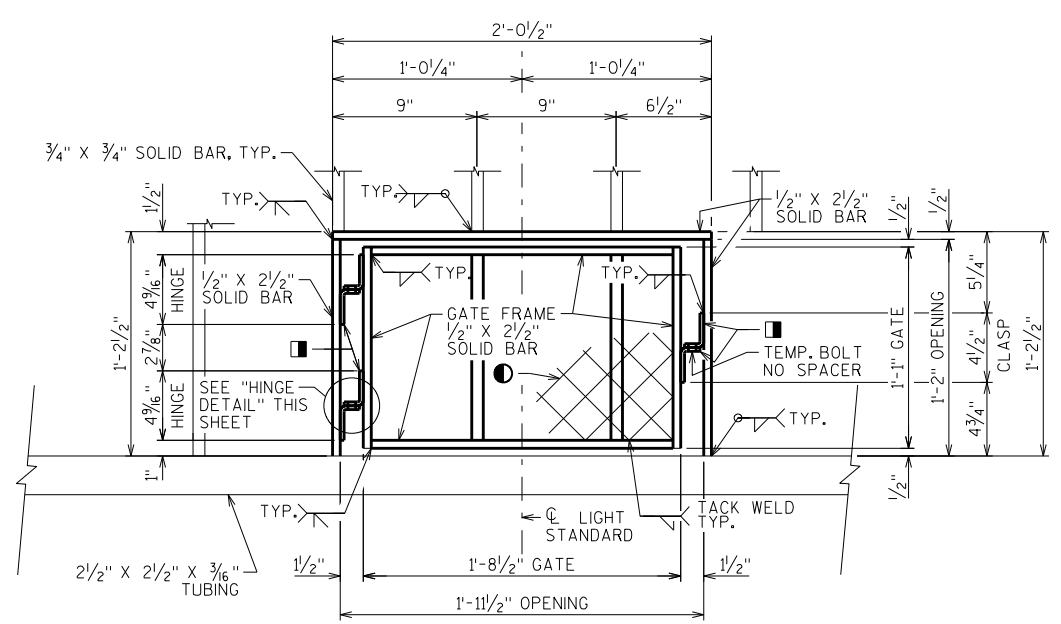
**ANCHORAGE DETAIL**  
 5/8" CAST-IN-PLACE ANCHOR BOLTS. MASONRY ANCHORS MAY BE SUBSTITUTED FOR C.I.P. ANCHOR BOLTS. ANCHORAGE PLATE NOT REQUIRED WHEN TYPE S ANCHORS ARE USED.  
 MASONRY ANCHOR TYPE S 5/8-INCH. EMBED 7" IN CONCRETE.



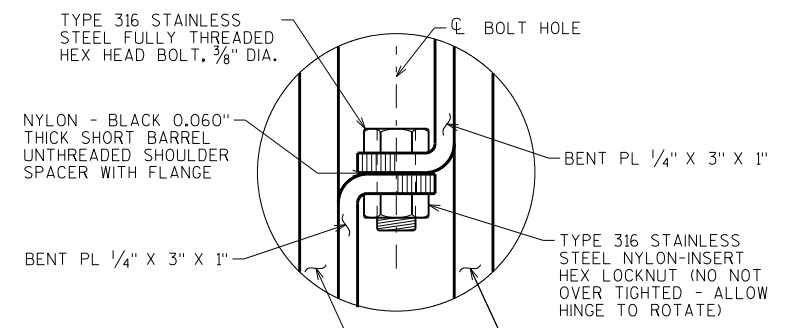
**SHIM PLATE DETAILS**  
 TWO SHIMS OF EACH SIZE REQUIRED PER POST



**STEEL PLATE DETAIL**



**LIGHT ACCESS GATE DETAIL**

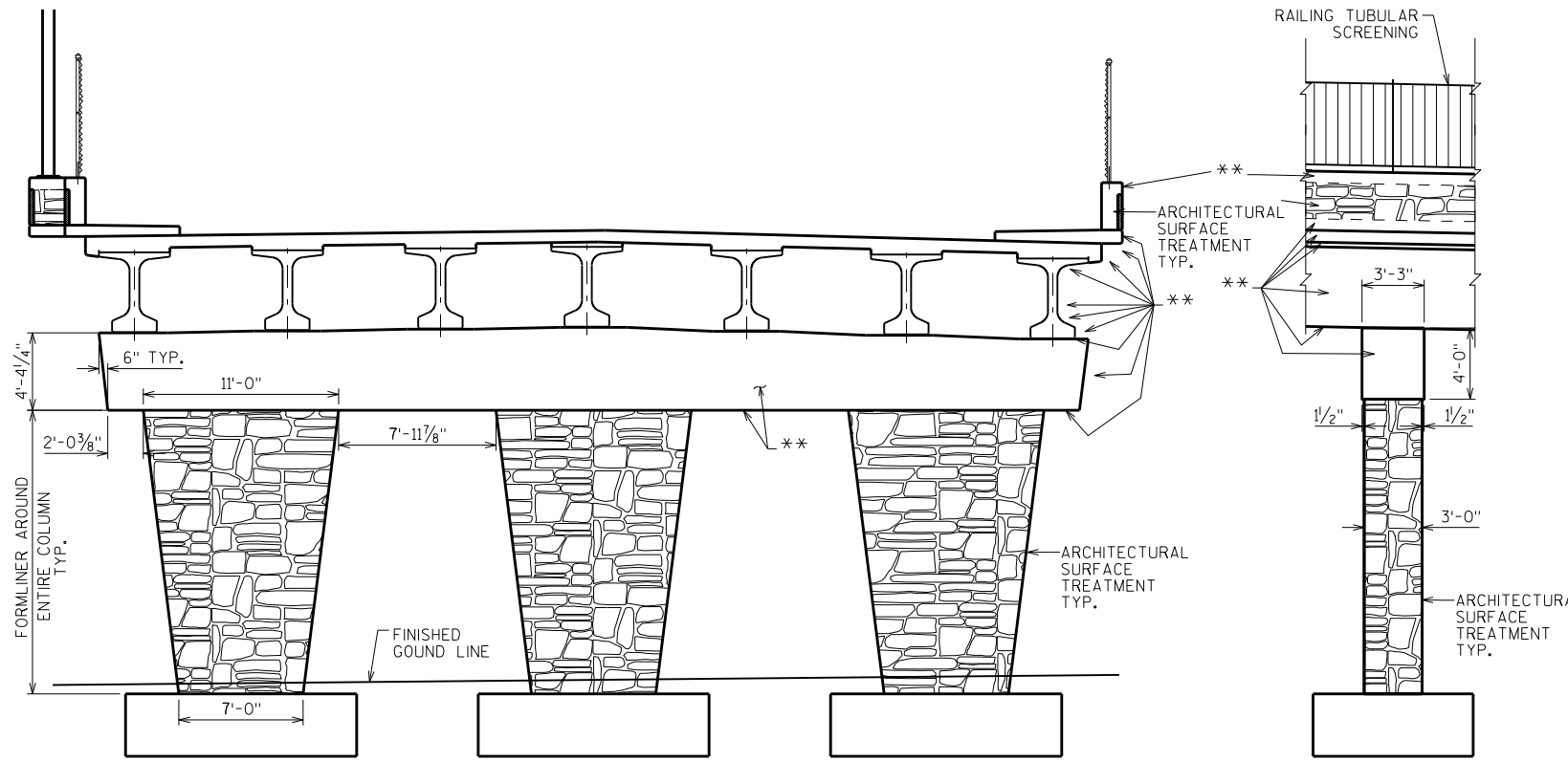


**HINGE DETAIL**

PROVIDE (1) ADDITIONAL STAINLESS STEEL FULLY THREADED HEX HEAD BOLT, 3/8" DIA. AND (1) STAINLESS STEEL NYLON-INSERT HEX LOCKNUT - FINGER TIGHTEN TO TEMPORARILY LOCK GATE.

- MCNICHOLS STEEL WIRE MESH WITH OPENING SIZE 2" X 2" SQUARE, 1/4" DIA. WIRE, ITEM NO. 3293920148 (OR EQUIVALENT)
- BENT STEEL PL 1/4" X 3" X 1". SEE "STEEL PLATE DETAIL" THIS SHEET.

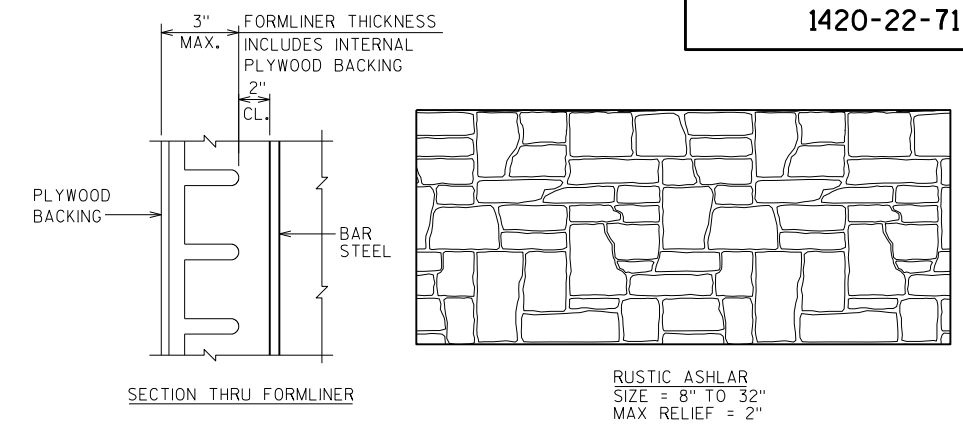
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
<b>STRUCTURE B-20-226</b>			
DRAWN BY SAD		PLANS CKD. EMK	
RAILING TUBULAR SCREENING DETAILS			SHEET 21



**PIER ELEVATION**  
LOOKING NORTH

**PIER COLUMN SIDE VIEW**  
LOOKING WEST

\*\* PLAIN CONCRETE, NO STAIN



**FORMLINER DETAILS**

**ABUTMENT NOTES**

FORMLINER COURSING ON WINGS SHALL BE LEVEL.  
THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS CONSTRUCTION JOINTS.

**PIER NOTES**

FORMLINER COURSING ON PIERS SHALL BE LEVEL.  
THE FORMLINER COURSING ON ALL FACES OF EACH COLUMN SHALL BE VERTICALLY ALIGNED.

**FORMLINER ON PARAPET**  
TYP.

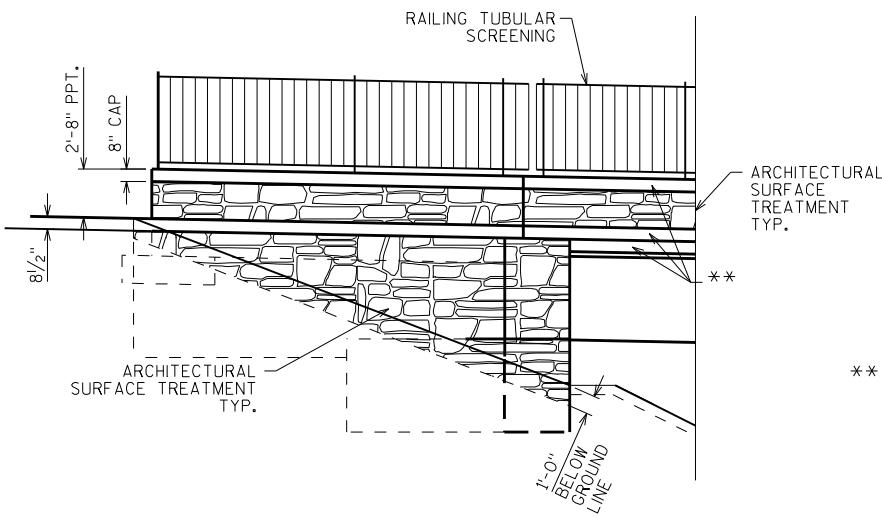
SPACE ADJACENT PORTIONS OF FORMLINER ON SLOPED FACE SO THAT COURSING IS ALIGNED VERTICALLY WITH COURSING ON VERTICAL FACE.

THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS CONSTRUCTION JOINTS.  
WRAP AROUND/MATCH FORMLINER PATTERN AT CORNERS.

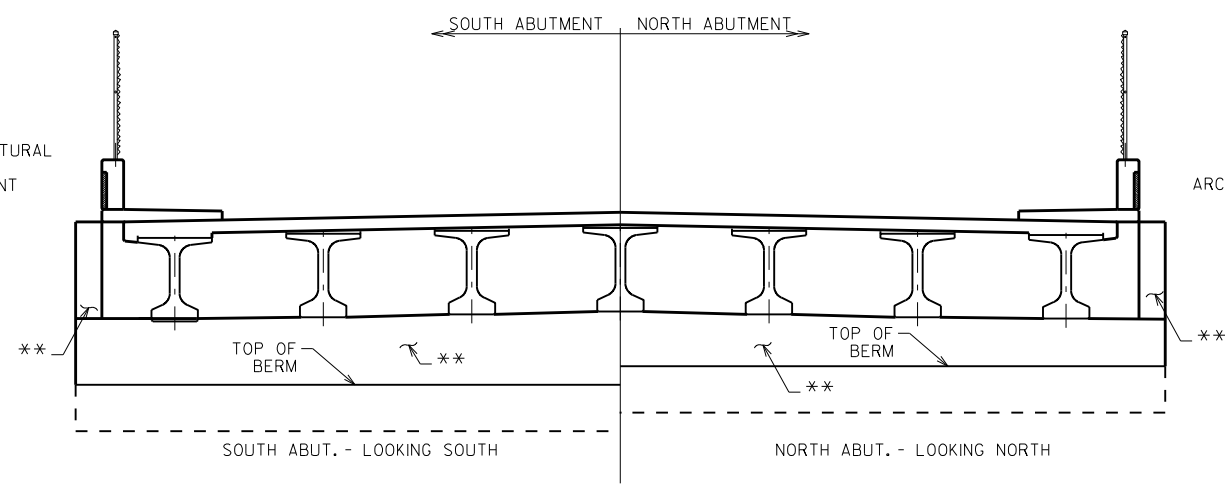
**PARAPET NOTES**

FORMLINER COURSING ON PARAPETS SHALL BE PARALLEL TO TOP OF PARAPET.

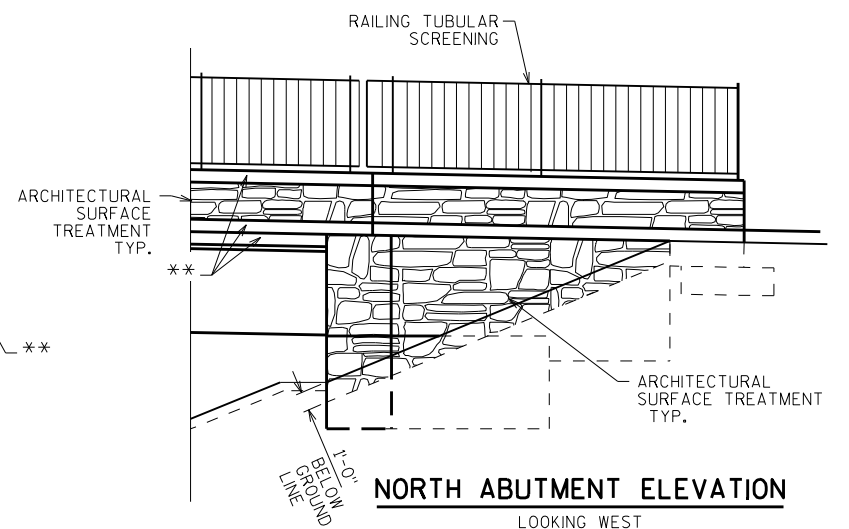
NOTE: MULTI-COLOR STAIN TO LOOK SIMILAR TO WEATHERED LIMESTONE.  
SIMILAR TO EXISTING BRIDGE B-20-3832.



**SOUTH ABUTMENT ELEVATION**  
LOOKING WEST



**ABUTMENT ELEVATION**

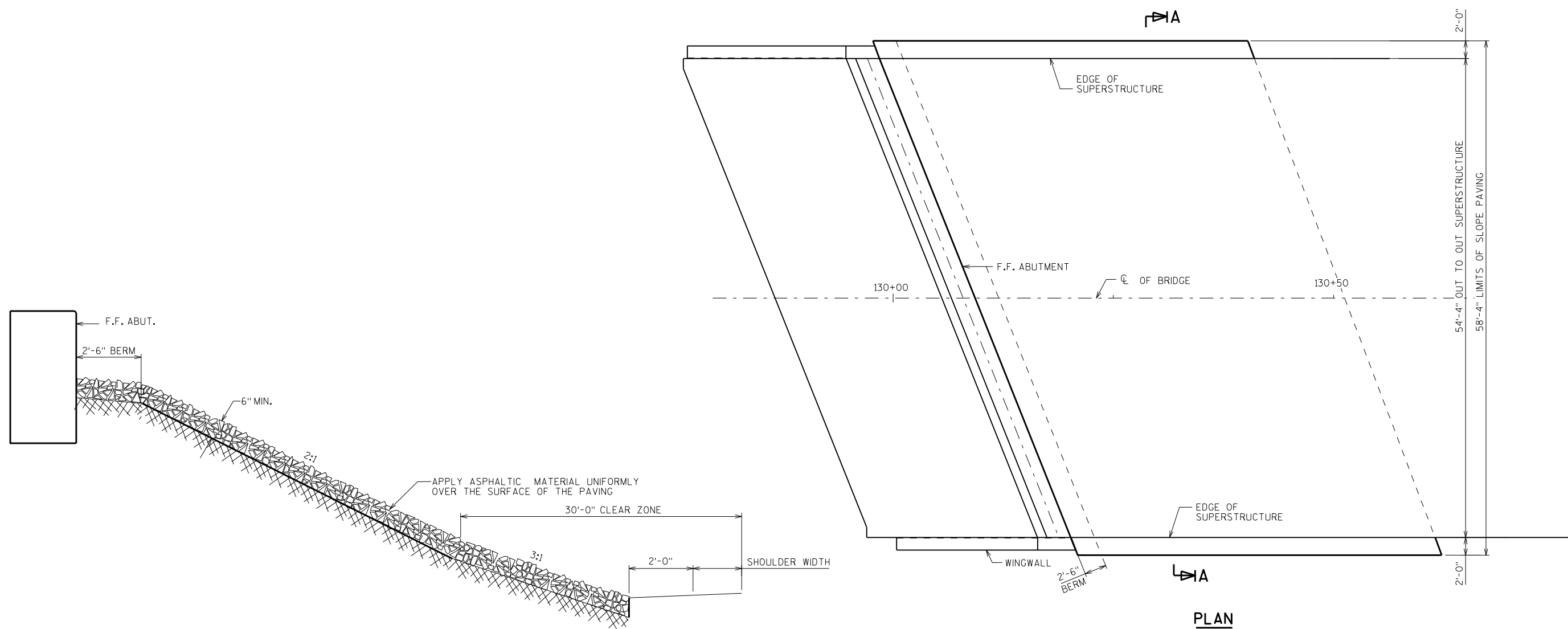


**NORTH ABUTMENT ELEVATION**  
LOOKING WEST

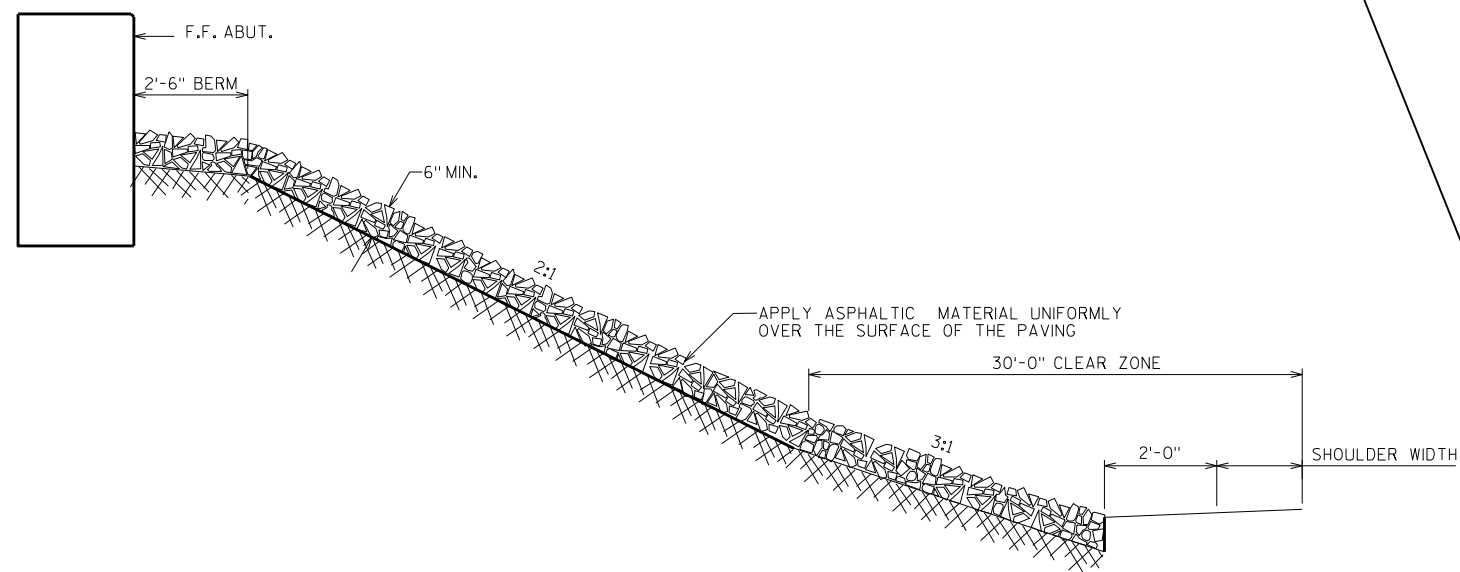
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
<b>STRUCTURE B-20-226</b>			
DRAWN BY SAD		PLANS CK'D. EMK	
<b>AESTHETIC DETAILS</b>			SHEET 22

8

8

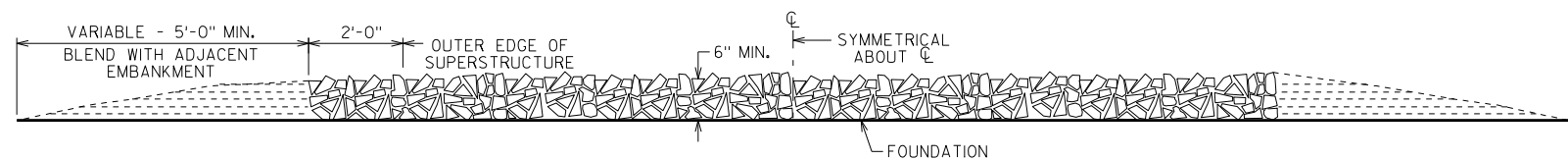


PLAN



STANDARD CROSS SECTION

ROUND STONE WILL NOT BE ACCEPTED



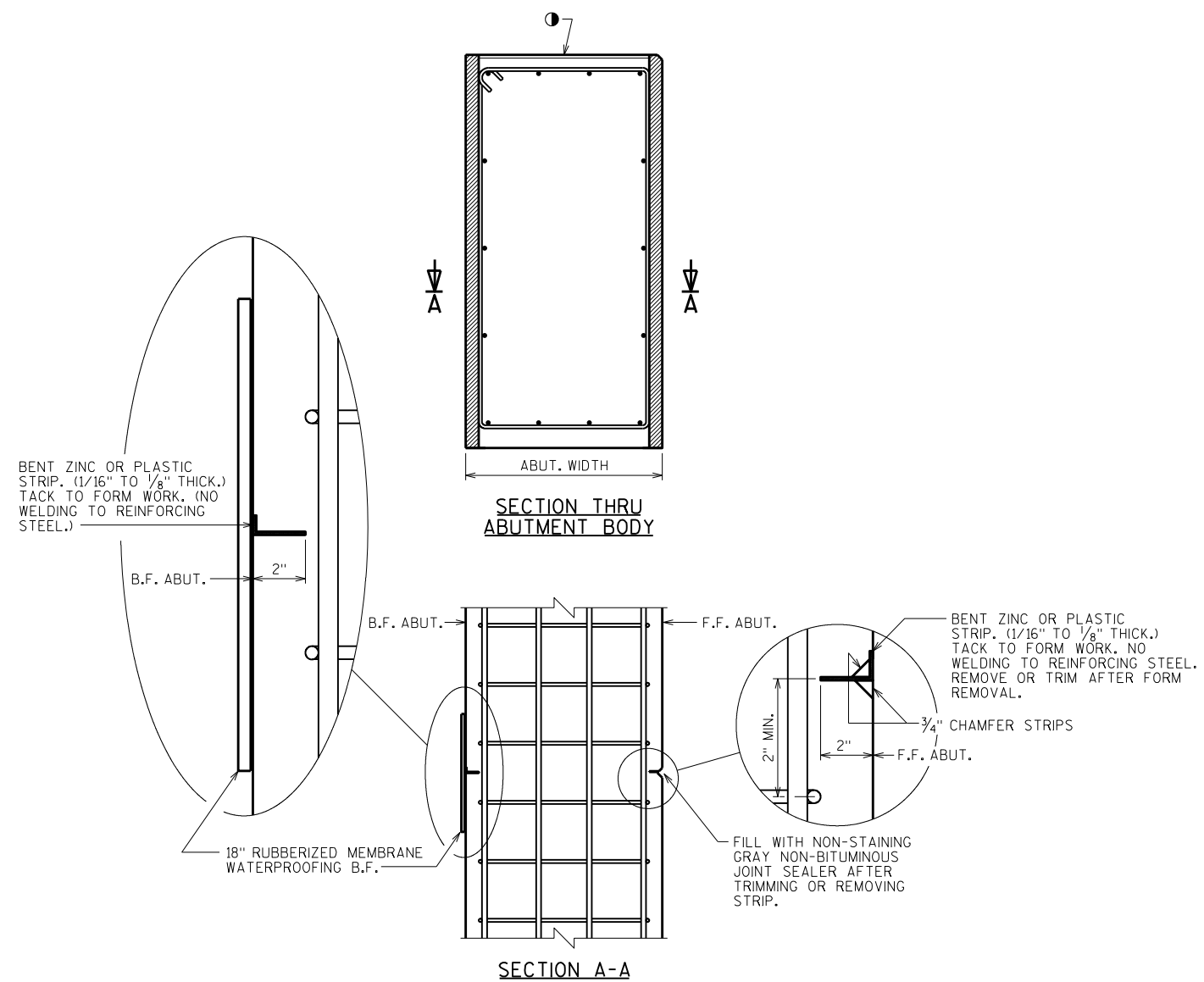
SECTION A-A

GENERAL NOTES

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

WOOD FORMS MAY BE LEFT IN PLACE WHEN OF A QUALITY ACCEPTABLE TO THE ENGINEER.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-20-226			
DRAWN BY SAD		PLANS CK'D. EMK	
SLOPE PAVING (CRUSHED AGGREGATE)			SHEET 23



**ALTERNATE CONSTRUCTION JOINT AT ABUTMENT**

**NOTES**

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

● USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY 1/2" DEEP.

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<b>STRUCTURE B-20-226</b>			
DRAWN BY	SAD	PLANS CK'D.	EMK
<b>ALTERNATE CONSTRUCTION JOINT</b>			SHEET 24

**GENERAL NOTES**

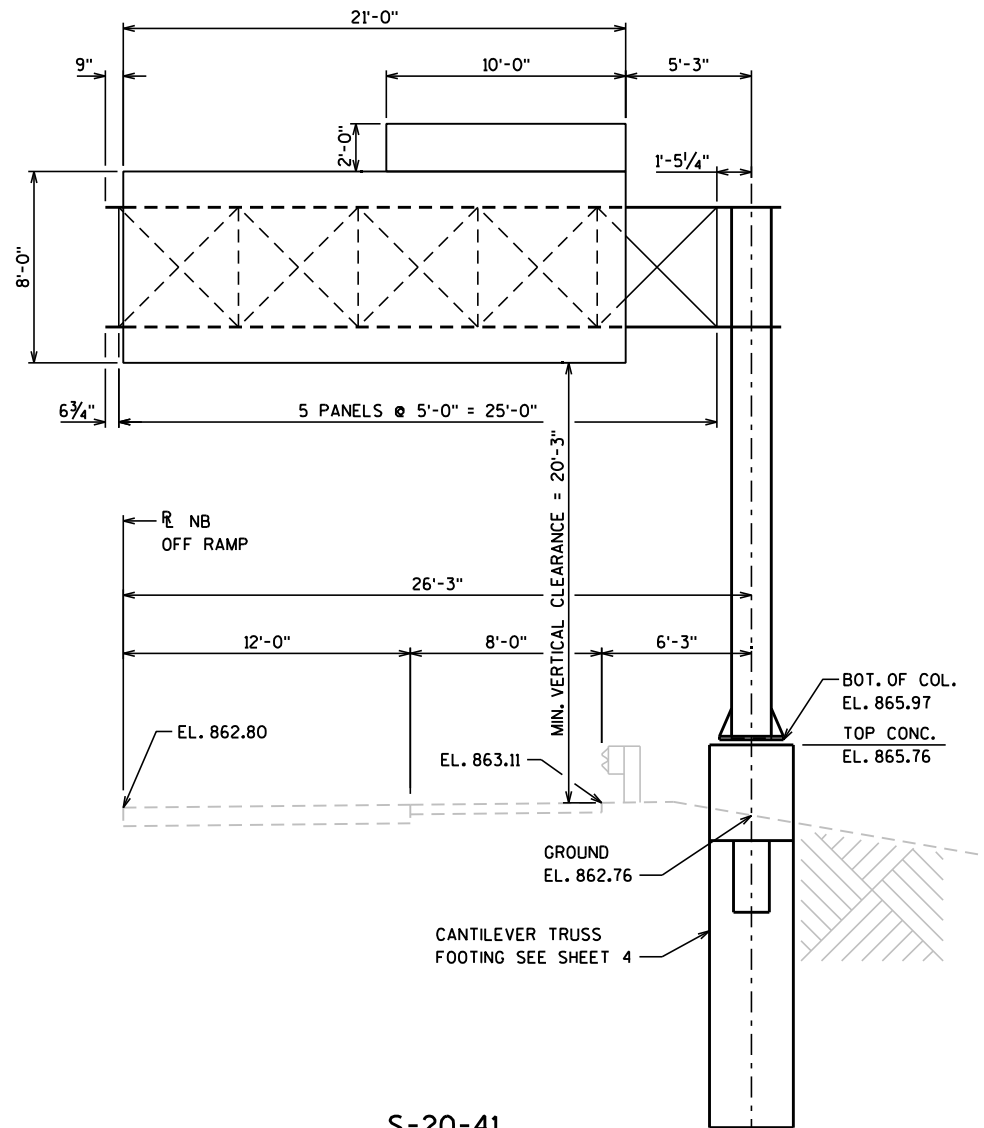
- EACH LOCATION OF THE SIGN BRIDGE SHALL BE DIRECTED BY THE ENGINEER.
- ALTERNATE DESIGNS ARE NOT ALLOWED.
- DRAWINGS SHALL NOT BE SCALED.
- DESIGNED ACCORDING TO A.A.S.H.T.O STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS.
- BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR UNLESS DETAILED OTHERWISE.
- THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.
- CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.
- PROVIDE SIGN BRIDGE IDENTIFICATION PLAQUE, INCIDENTAL TO SIGN BRIDGE.
- HANDHOLES ARE NOT REQUIRED.

**LIST OF DRAWINGS**

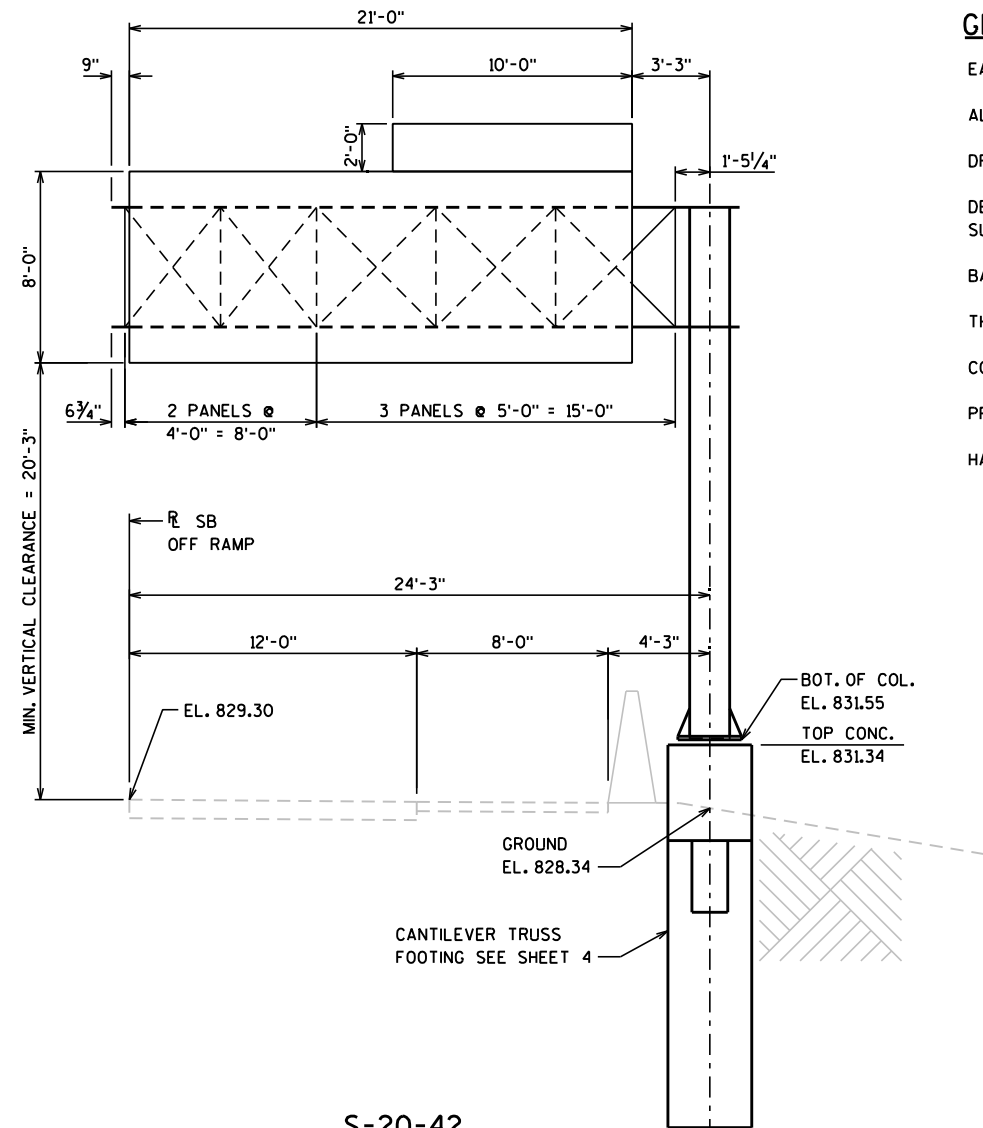
1. SIGN BRIDGE LAYOUTS
2. GALVANIZED STEEL CANTILEVER SIGN TRUSS
3. GALVANIZED STEEL CANTILEVER SIGN TRUSS DETAILS
4. CANTILEVER TRUSS FOOTING

**ESTIMATED QUANTITIES**

641.1200	SIGN BRIDGE CANTILEVER	S-20-41	1 L.S.
641.1200	SIGN BRIDGE CANTILEVER	S-20-42	1 L.S.
636.0100	SIGN SUPPORTS CONCRETE MASONRY		16 C.Y.
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT		1960 LB.



**S-20-41**  
**STA 266+03.50 VAA**  
(NB OFF-RAMP)  
LOOKING EAST  
26'-3" RT OF  
R/L USH 151 NB OFF RAMP



**S-20-42**  
**STA 308+00 VCC**  
(SB OFF-RAMP)  
LOOKING WEST  
24'-3" LT OF  
R/L USH 151 SB OFF RAMP

**DESIGN DATA**

SIGN STRUCTURE	PROPOSED SIGN SIZE FT X FT	MAX. DESIGN SIGN AREA SF	MAX. SIGN DEPTH FT
S-20-41	8'-0" X 21'-0"	264	12'
S-20-42	8'-0" X 21'-0"	264	12'

NO LIGHTS, NO CATWALK



11/13/14

**CONSULTANT CONTACT**

KRISTOFER OLSON  
OMNI ASSOCIATES, INC.  
(920) 735-6900

**BRIDGE OFFICE CONTACT**

WILLIAM DREHER  
(608) 266-8489

NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY			
<b>OMNI ASSOCIATES</b>			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	William C. Dreher, P.E.		07/30/15
	CHIEF STRUCTURES DESIGN ENGINEER		DATE
<b>STRUCTURE S-20-41 &amp; S-20-42</b>			
USH 151			
COUNTY	FOND DU LAC	TOWN	FOND DU LAC
DESIGN SPEC.	AASHTO LRFD DESIGN SPEC. 4th EDITION	LOAD	90 MPH WIND
DESIGNED BY	BRE	DESIGN CK'D.	KRO
DRAWN BY	BRE	PLANS CK'D.	KRO
<b>SIGN BRIDGE LAYOUTS</b>			SHEET 1 OF 4



**GENERAL NOTES**

DRAWINGS SHALL NOT BE SCALED.

DESIGNED ACCORDING TO A.A.S.H.T.O. "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC "SIGNALS"

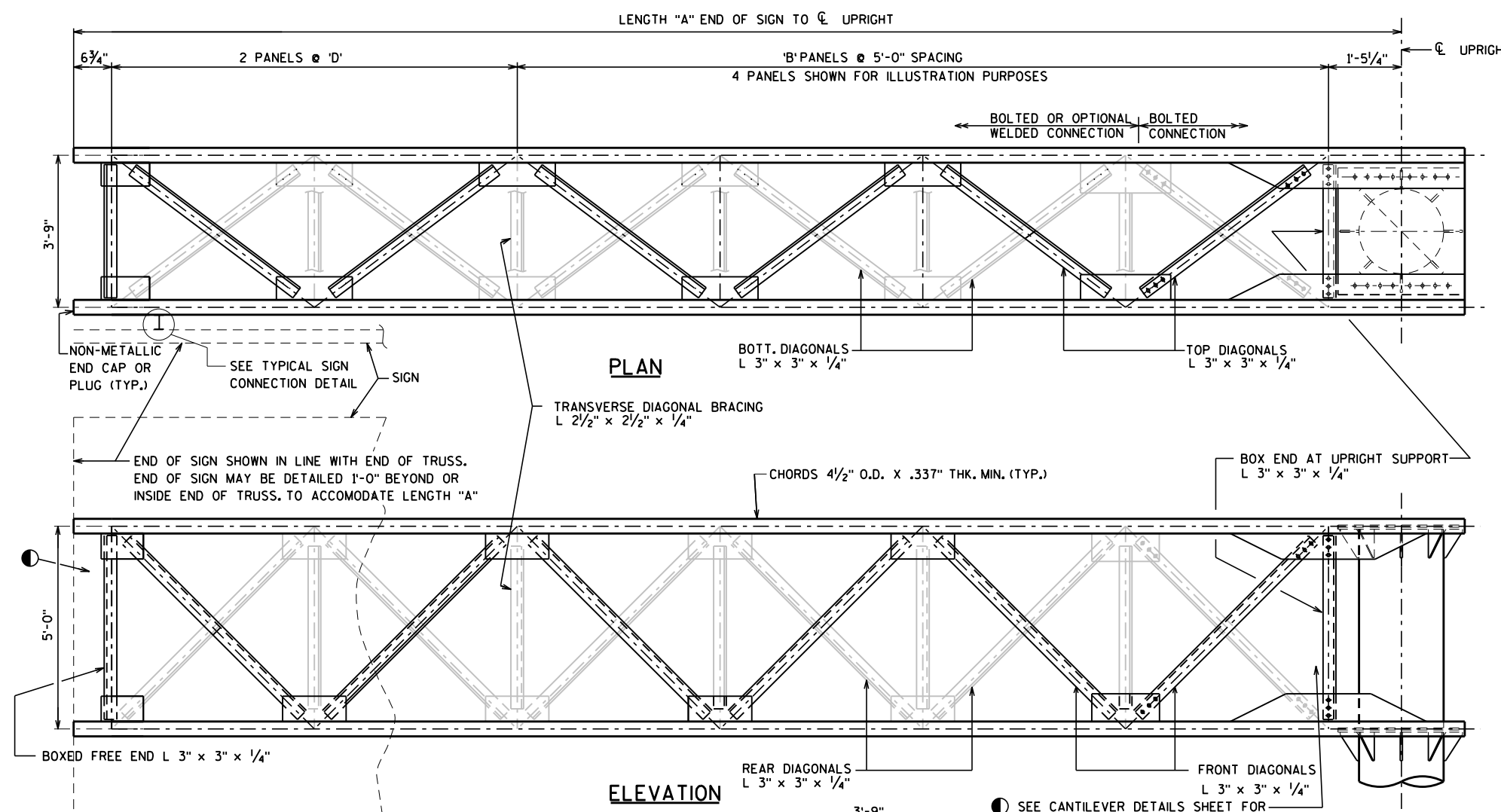
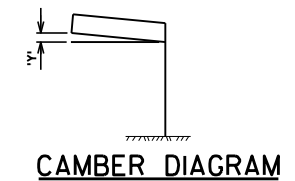
WIND VELOCITY = 90 M.P.H. (3-SECOND GUST SPEED)

PREFABRICATE CAMBER INTO THE HORIZONTAL SUPPORT PROVIDING AN AMOUNT "Y" AT END OF TRUSS SHOWN IN "CAMBER DIAGRAM". DO NOT RAKE VERTICAL UPRIGHT BY ADJUSTMENT OF LEVELING NUTS.

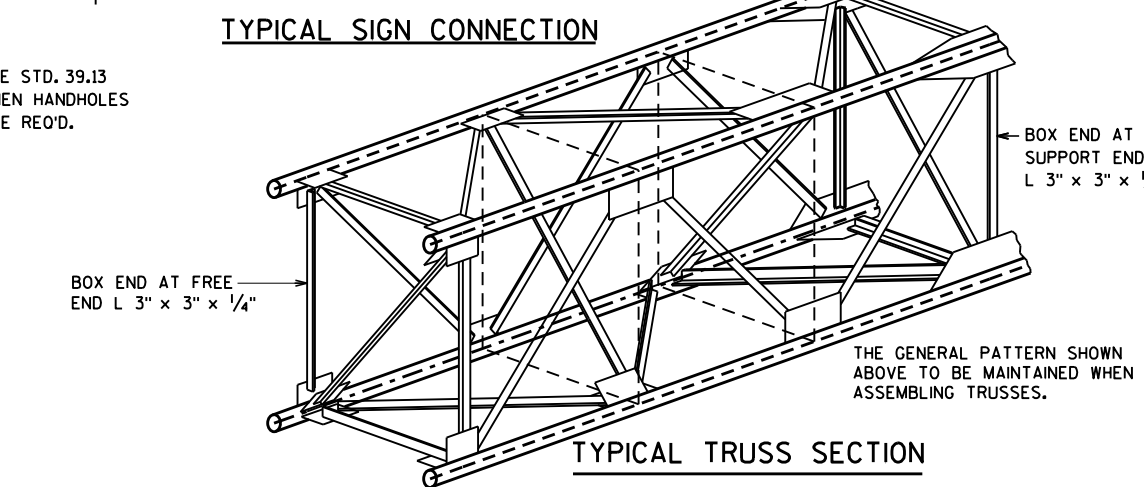
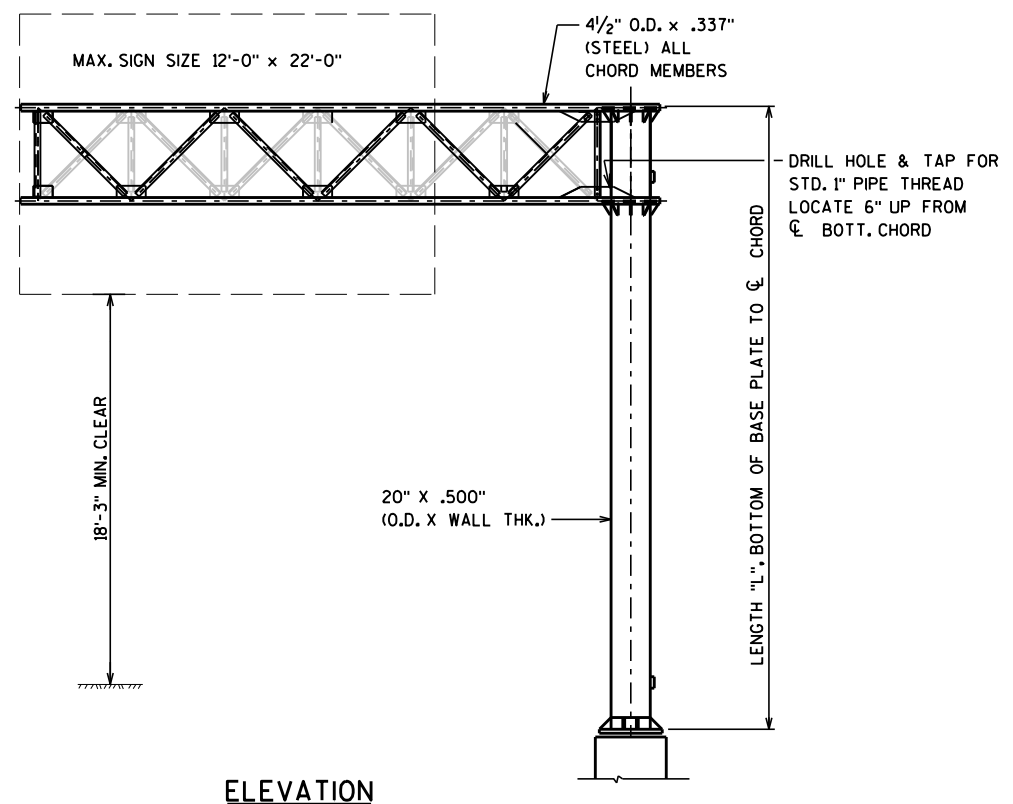
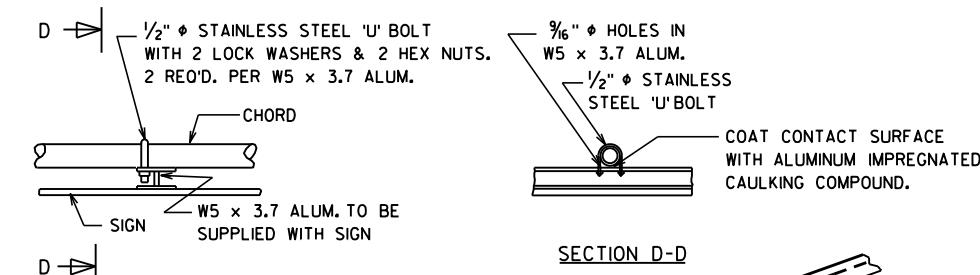
**ALLOWABLE DESIGN STRESSES**

CHORDS & COLUMN (INCLD. HANDHOLE)	API-5L-X42	fy=42,000 P.S.I.
STRUCTURAL ANGLES	A.S.T.M. A709 GRADE 36	fy=36,000 P.S.I.
PLATES & BARS	A.S.T.M. A709 GRADE 36	fy=36,000 P.S.I.
ANCHOR BOLTS	A.A.S.H.T.O. M314	fy=55,000 P.S.I.
HIGH STRENGTH BOLTS	A325	fy=92,000 P.S.I.
STRUCTURAL MEMBERS GALVANIZED	A123	
HARDWARE GALVANIZED	A153 CLASS C	

STRUCTURE	"A"	"L"	"B"	"D"	"Y"
S-20-41	26'-3"	23'-10 3/4"	5	---	1/2"
S-20-42	24'-3"	24'-6"	3	4'-0"	1/4"



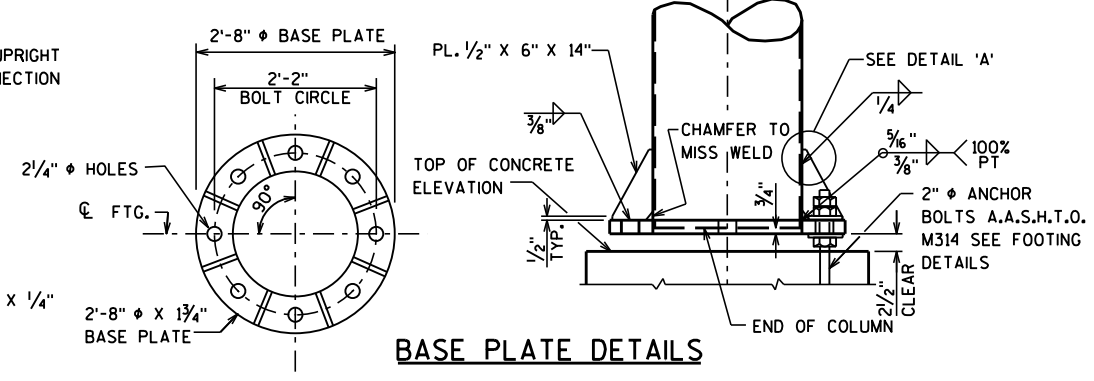
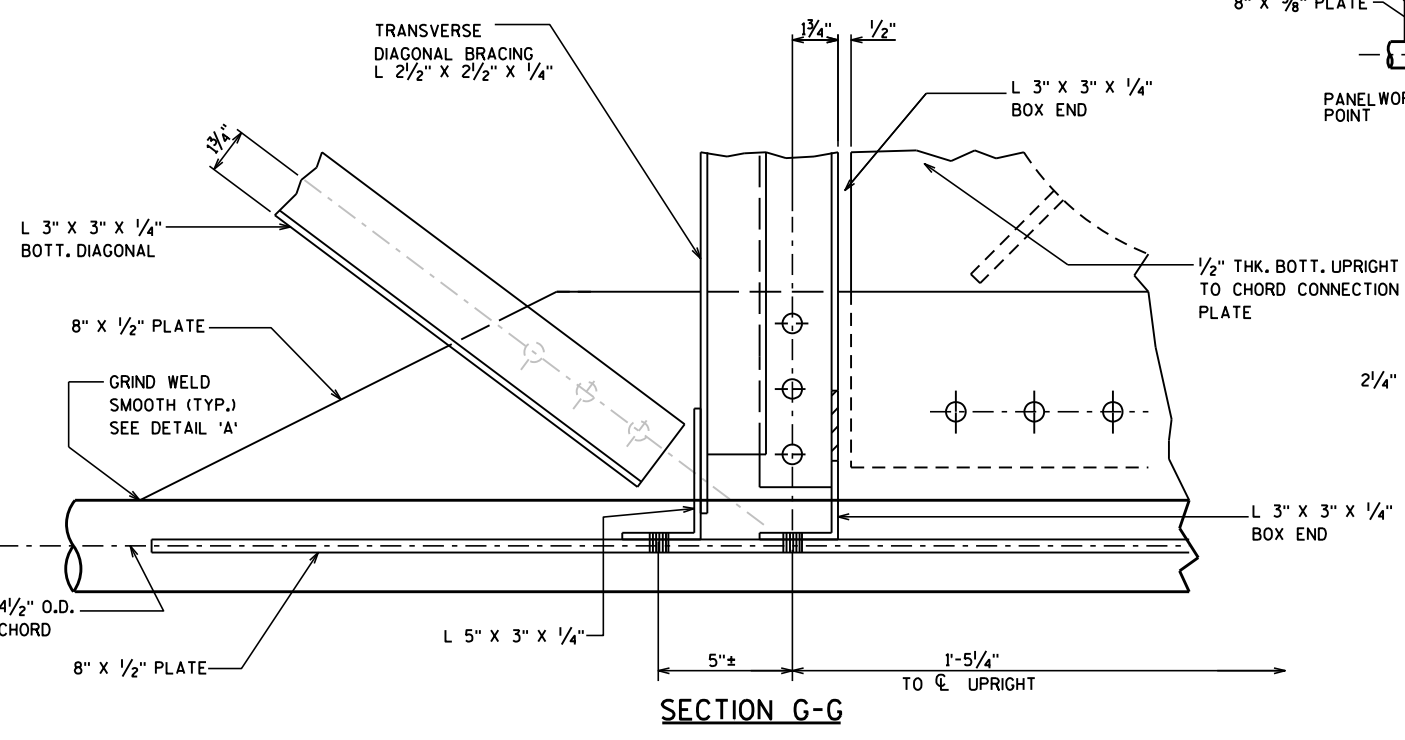
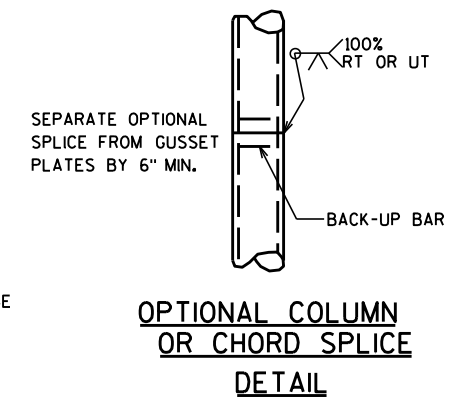
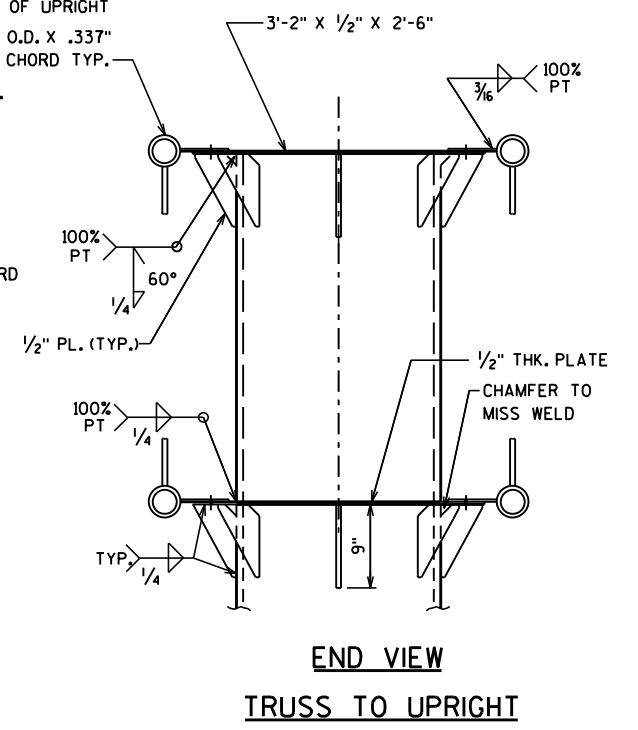
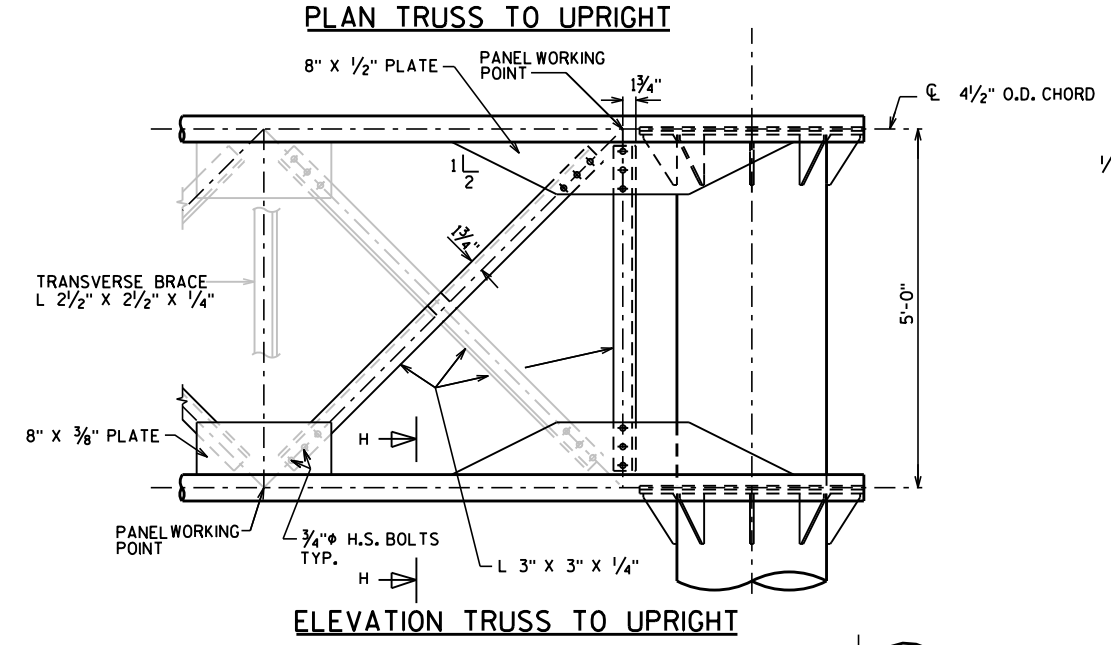
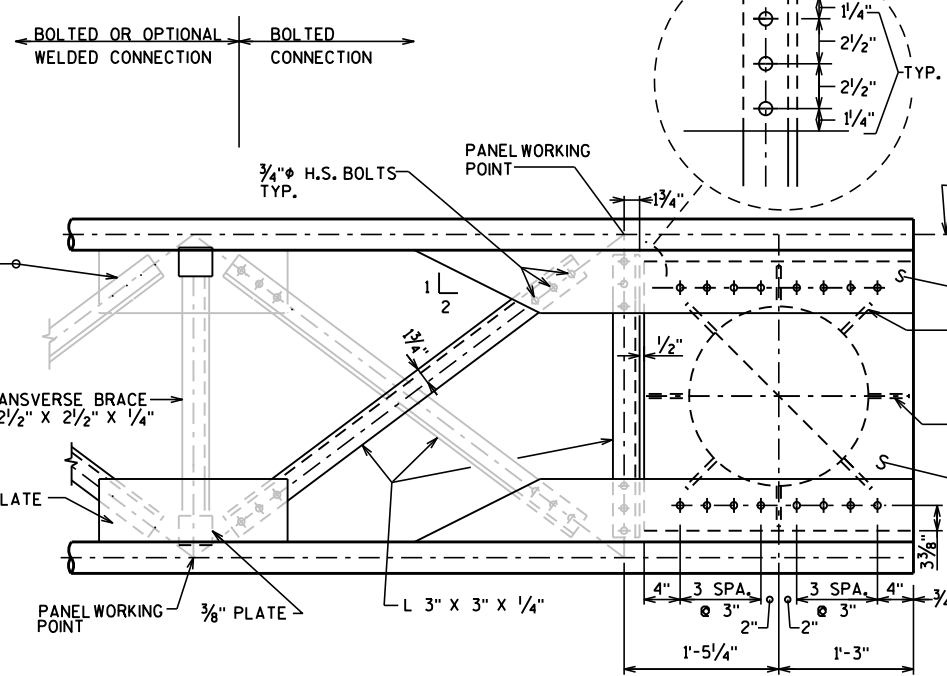
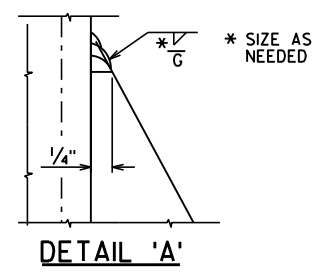
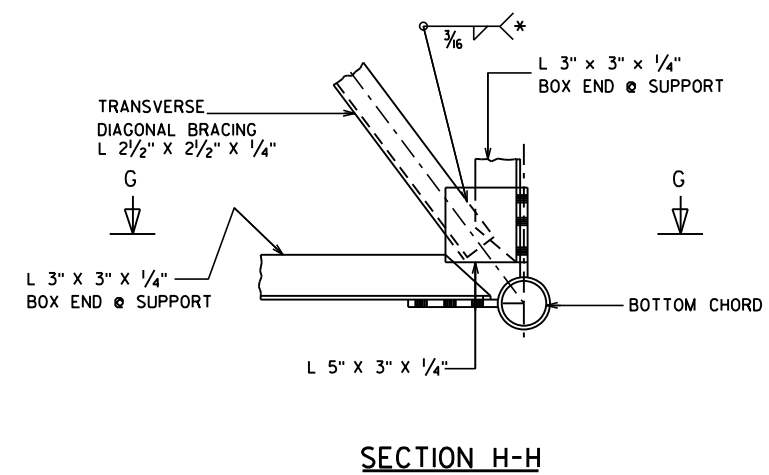
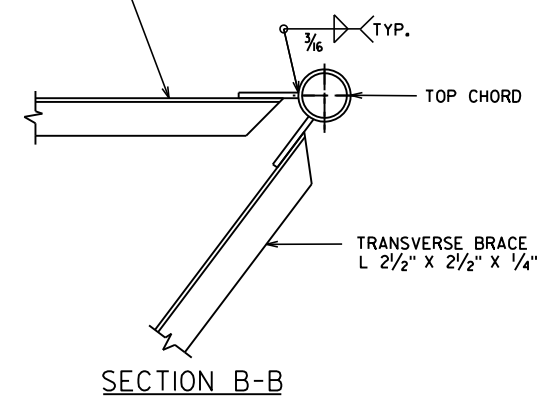
SEE CANTILEVER DETAILS SHEET FOR CONNECTION OF TRANSVERSE DIAGONAL BRACING AT UPRIGHT SUPPORT AND FREE END



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE S-20-41 &amp; S-20-42</b>			
		DRAWN BY BRE	PLANS CK'D. CAB
<b>GALVANIZED STEEL CANTILEVER SIGN TRUSS</b>			SHEET 2 OF 4

\* ANGLE  
L 2 1/2" X 2 1/2" X 1/4" 7"  
L 3" X 3" X 1/4" 8"

WELD LENGTH (MIN.)  
7"  
8"



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE S-20-41 & S-20-42			
DRAWN BY		BRE	PLANS CK'D. CAB
GALVANIZED STEEL CANTILEVER SIGN TRUSS DETAILS		SHEET 3 OF 4	

8

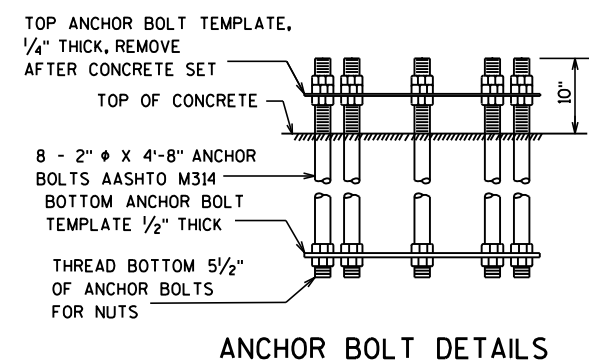
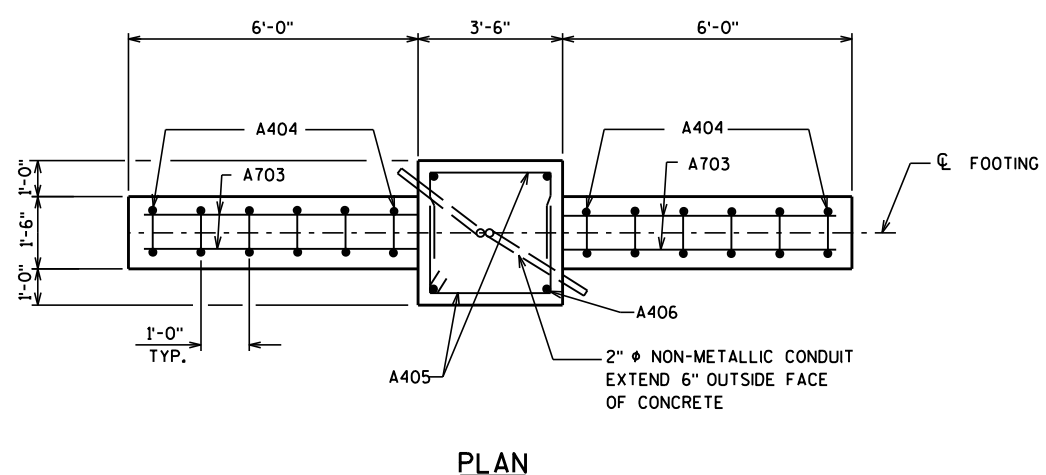
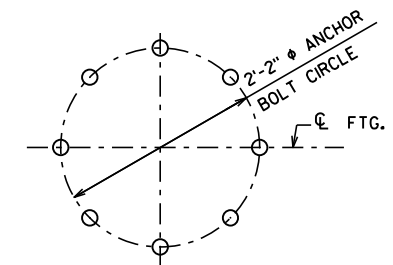
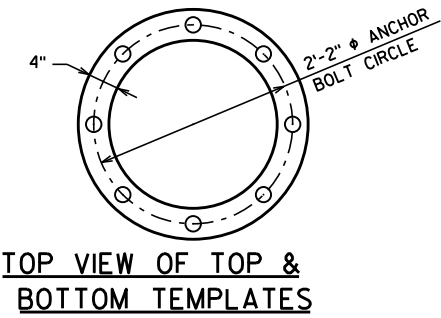
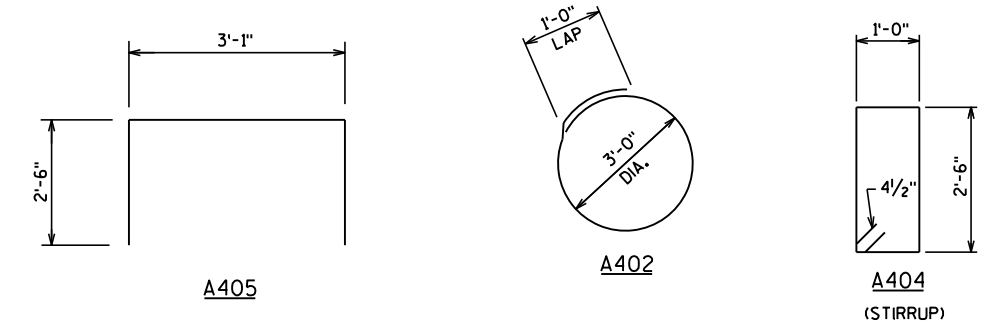
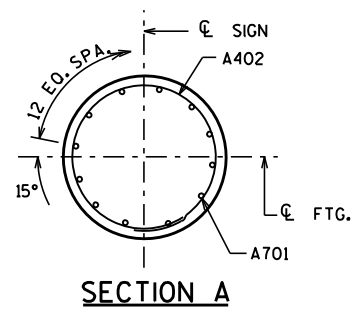
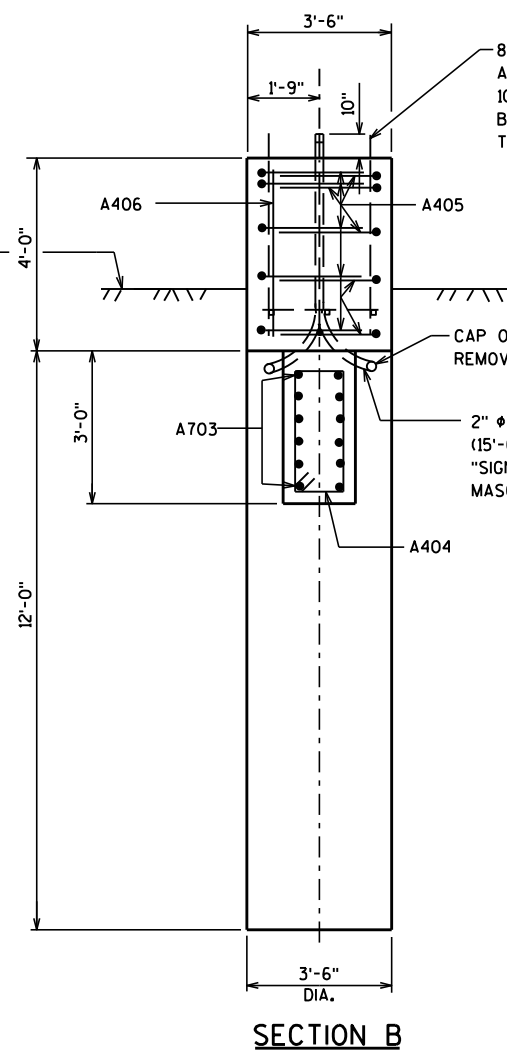
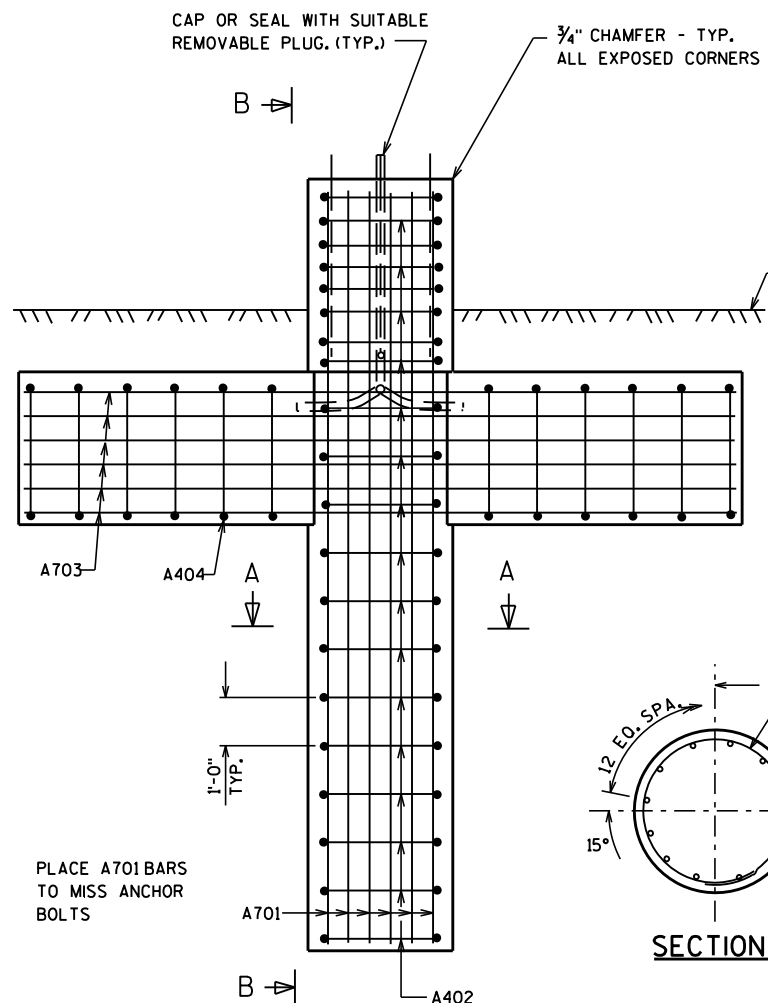
8

NOTE:  
THE FIRST OR FIRST TWO DIGITS OF A  
BAR MARK SIGNIFIES THE BAR SIZE.

**BILL OF BARS**

980 LB.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	CUT. DIAG.	BUN-DLE	LOCATION
A701		12	15'-6"				FOOTING - COLUMN/TOP
A402		16	10'-6"	X			FOOTING - COLUMN/TOP
A703		12	15'-0"				FOOTING - WINGS
A404		12	7'-6"	X			FOOTING - WINGS
A405		10	7'-11"	X			FOOTING - TOP
A406		4	3'-6"				FOOTING - TOP - COLUMNS



**GENERAL NOTES**

DRAWINGS SHALL NOT BE SCALED.  
BAR STEEL REINFORCEMENT SHALL  
BE EMBEDDED 3" CLEAR UNLESS  
DETAILED OTHERWISE.

**ALLOWABLE DESIGN STRESSES**

CONCRETE MASONRY  $f'_c=3,500$  P.S.I.  
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60  $f_y=60,000$  P.S.I.  
ANCHOR BOLTS A.A.S.H.T.O. M314  $f_y=55,000$  P.S.I.

**FOUNDATION DATA**

ALLOWABLE SOIL BEARING PRESSURE = 2T/SO. FT.

**TOTAL ESTIMATED QUANTITIES**

SIGN SUPPORTS CONCRETE MASONRY 8 C.Y.  
SIGN SUPPORTS STEEL REINFORCEMENT HS 980 LB.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE S-20-41 &amp; S-20-42</b>			
DRAWN BY		KRO	PLANS CAB
CANTILEVER TRUSS FOOTING		SHEET 4 OF 4	

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate Note 8
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Cut 1.00 Note 1	Expanded Fill 1.10		
108+50	10850.00	0.00	6.21	0.00	575.21	0	0	0	0	0	0.00	
108+75	10875.00	25.00	5.00	0.00	422.47	5	0	462	5	508	-502.89	
109+00	10900.00	25.00	4.57	0.00	370.38	4	0	367	10	912	-902.22	
109+50	10950.00	50.00	0.00	0.00	604.43	4	0	903	14	1,905	-1,890.86	
110+00	11000.00	50.00	0.00	0.00	478.92	0	0	1,003	14	3,008	-2,994.28	
110+50	11050.00	50.00	0.00	0.00	438.67	0	0	850	14	3,943	-3,928.86	
111+00	11100.00	50.00	0.00	0.00	505.76	0	0	874	14	4,905	-4,890.78	
111+50	11150.00	50.00	0.00	0.00	561.96	0	0	989	14	5,992	-5,978.27	
112+00	11200.00	50.00	0.00	0.00	614.63	0	0	1,089	14	7,191	-7,176.66	
112+50	11250.00	50.00	1.81	0.00	591.37	2	0	1,117	16	8,419	-8,403.32	
113+00	11300.00	50.00	6.38	0.00	561.39	8	0	1,067	23	9,593	-9,569.84	
113+50	11350.00	50.00	5.27	0.00	562.83	11	0	1,041	34	10,738	-10,704.08	
114+00	11400.00	50.00	6.58	0.00	575.24	11	0	1,054	45	11,897	-11,852.26	
114+50	11450.00	50.00	9.39	0.00	580.67	15	0	1,070	60	13,074	-13,014.79	
115+00	11500.00	50.00	11.02	0.00	573.17	19	0	1,068	79	14,250	-14,171.11	
115+50	11550.00	50.00	15.83	0.00	588.53	25	0	1,076	103	15,433	-15,329.47	
115+75	11575.00	25.00	23.86	0.00	338.32	18	0	429	122	15,905	-15,783.11	
116+00	11600.00	25.00	26.24	0.00	400.26	23	0	342	145	16,281	-16,136.04	
116+25	11625.00	25.00	31.70	0.00	517.79	27	0	425	172	16,749	-16,576.74	

S3 FRONTAGE RD EB SUBTOTALS: 172 0 15,226

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate Note 8
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Cut 1.00 Note 1	Expanded Fill 1.10		
108+50	10850.00	0.00	0.00	0.00	390.30	0	0	0	0	0	0.00	
108+75	10875.00	25.00	0.00	0.00	375.45	0	0	355	0	390	-389.96	
109+00	10900.00	25.00	0.00	0.00	364.06	0	0	342	0	767	-766.56	

S3 FRONTAGE RD WB SUBTOTALS: 0 0 697

9

9

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Expanded Fill		
											Note 1	
118+00	11800.00	0.00	13.21	0.00	319.56	0	0	0	0	0	0.00	
118+25	11825.00	25.00	3.61	0.00	251.78	8	0	265	8	291	-283.17	
118+50	11850.00	25.00	3.77	0.00	196.91	3	0	208	11	519	-508.25	
119+00	11900.00	50.00	4.55	0.00	372.57	8	0	527	19	1,099	-1,080.57	
119+50	11950.00	50.00	11.34	0.00	260.61	15	0	586	34	1,744	-1,710.76	
120+00	12000.00	50.00	11.74	0.00	155.25	21	0	385	55	2,168	-2,112.95	
120+50	12050.00	50.00	38.21	0.00	123.27	46	0	258	101	2,452	-2,350.39	
121+00	12100.00	50.00	38.38	0.00	89.05	71	0	197	172	2,668	-2,495.72	
121+50	12150.00	50.00	77.05	0.00	63.93	107	0	142	279	2,824	-2,544.66	
122+00	12200.00	50.00	94.99	0.00	36.35	159	0	93	438	2,926	-2,487.50	
122+50	12250.00	50.00	49.14	0.00	73.02	133	0	101	572	3,037	-2,465.44	
123+00	12300.00	50.00	33.73	0.00	103.48	77	0	163	649	3,217	-2,568.49	
123+50	12350.00	50.00	34.20	0.00	92.22	63	0	181	711	3,416	-2,704.92	
124+00	12400.00	50.00	68.49	0.00	49.97	95	0	132	806	3,561	-2,754.66	
124+50	12450.00	50.00	115.44	0.00	26.86	170	0	71	977	3,639	-2,662.60	
125+00	12500.00	50.00	174.15	0.00	5.89	268	0	30	1,245	3,673	-2,427.82	
125+50	12550.00	50.00	192.52	0.00	6.48	340	0	11	1,584	3,685	-2,100.90	
126+00	12600.00	50.00	249.40	0.00	2.99	409	0	9	1,994	3,695	-1,701.36	
126+50	12650.00	50.00	265.75	0.00	17.53	477	0	19	2,471	3,716	-1,245.27	
127+00	12700.00	50.00	304.49	0.00	3.85	528	0	20	2,999	3,738	-739.05	
127+50	12750.00	50.00	378.46	0.00	6.64	632	0	10	3,631	3,748	-117.37	
128+00	12800.00	50.00	302.54	0.00	32.71	631	0	36	4,262	3,788	473.11	
128+50	12850.00	50.00	236.11	0.00	76.58	499	0	101	4,760	3,900	860.55	
129+00	12900.00	50.00	252.59	0.00	52.64	452	0	120	5,213	4,031	1,181.44	
129+50	12950.00	50.00	282.91	0.00	39.36	496	0	85	5,709	4,125	1,583.57	
130+00	13000.00	50.00	460.64	0.00	2.50	688	0	39	6,397	4,168	2,229.41	
130+50	13050.00	50.00	434.64	0.00	0.00	829	0	2	7,226	4,170	3,055.82	
131+00	13100.00	50.00	451.49	0.00	0.26	820	0	0	8,047	4,171	3,876.05	
131+50	13150.00	50.00	442.92	0.00	0.17	828	0	0	8,875	4,171	4,703.76	
132+00	13200.00	50.00	405.66	0.00	3.33	786	0	3	9,660	4,175	5,485.92	
132+50	13250.00	50.00	337.30	0.00	10.64	688	0	13	10,348	4,189	6,159.62	
133+00	13300.00	50.00	266.33	0.00	14.52	559	0	23	10,907	4,214	6,692.92	
133+50	13350.00	50.00	234.19	0.00	29.79	463	0	41	11,371	4,260	7,111.23	
134+00	13400.00	50.00	192.82	0.00	34.51	395	0	60	11,766	4,325	7,441.13	
134+50	13450.00	50.00	189.20	0.00	49.79	354	0	78	12,120	4,411	7,708.99	
135+00	13500.00	50.00	102.04	0.00	95.07	270	0	134	12,389	4,558	7,831.12	
135+50	13550.00	50.00	24.70	0.00	203.75	117	0	277	12,507	4,863	7,644.13	
136+00	13600.00	50.00	13.52	0.00	197.46	35	0	371	12,542	5,271	7,270.88	
136+50	13650.00	50.00	32.64	0.00	102.75	43	0	278	12,585	5,577	7,007.86	
137+00	13700.00	50.00	91.13	0.00	17.99	115	0	112	12,700	5,700	6,999.49	
137+50	13750.00	50.00	93.91	0.00	14.27	171	0	30	12,871	5,733	7,137.97	
138+00	13800.00	50.00	78.62	0.00	20.10	160	0	32	13,031	5,768	7,262.71	
138+50	13850.00	50.00	51.55	0.00	32.05	121	0	48	13,151	5,821	7,330.12	
139+00	13900.00	50.00	51.36	0.00	37.19	95	0	64	13,246	5,892	7,354.89	
139+50	13950.00	50.00	11.80	0.00	78.58	58	0	107	13,305	6,010	7,295.46	
140+00	14000.00	50.00	1.48	0.00	269.69	12	0	322	13,317	6,364	6,953.04	
S3			FRONTAGE RD EB SUBTOTALS:			13,317	0	5,786				

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.10	Note 8	
						Note 1	Note 2	Note 3	Note 1		Note 8	
115+75	11575.00	0.00	0.00	0.00	323.12	0	0	0	0	0	0.00	
116+00	11600.00	25.00	0.00	0.00	335.72	0	0	305	0	336	-335.52	
116+25	11625.00	25.00	0.00	0.00	374.89	0	0	329	0	697	-697.40	

S3 FRONTAGE RD WB SUBTOTALS: 0 0 634

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.10	Note 8	
						Note 1	Note 2	Note 3	Note 1		Note 8	
118+00	11800.00	0.00	0.00	0.00	292.24	0	0	0	0	0	0.00	
118+25	11825.00	25.00	0.00	0.00	265.51	0	0	258	0	284	-284.04	
118+50	11850.00	25.00	0.00	0.00	242.74	0	0	235	0	543	-542.87	

S3 FRONTAGE RD WB SUBTOTALS: 0 0 494

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.10	Note 8	
						Note 1	Note 2	Note 3	Note 1		Note 8	
30+40	3040.00	0.00	42.80	0.00	626.38	0	0	0	0	0	0.00	
30+83	3083.00	43.00	0.00	0.00	466.66	34	0	870	34	957	-923.34	
31+20	3120.00	37.00	23.99	0.00	493.05	16	0	658	51	1,681	-1,630.24	
31+60	3160.00	40.00	0.00	0.00	536.45	18	0	763	68	2,520	-2,451.33	
32+00	3200.00	40.00	0.00	0.00	770.38	0	0	968	68	3,584	-3,516.15	
32+25	3225.00	25.00	0.00	0.00	832.27	0	0	742	68	4,401	-4,332.31	
32+50	3250.00	25.00	0.00	0.00	860.61	0	0	784	68	5,263	-5,194.43	
32+75	3275.00	25.00	0.00	0.00	843.85	0	0	789	68	6,131	-6,062.44	
33+14.15	3314.15	39.15	0.00	0.00	604.06	0	0	1,050	68	7,286	-7,217.22	

S3 FRONTAGE RD/SB RAMPS R-A-B SUBTOTALS: 68 0 6,623

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STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.10		
											Note 1	
20+38	2038.00	0.00	7.05	0.00	717.83	0	0	0	0	0	0.00	
20+82	2082.00	44.00	0.00	0.00	614.57	6	0	1,086	6	1,194	-1,188.48	
21+19	2119.00	37.00	5.77	0.00	809.47	4	0	976	10	2,268	-2,257.83	
21+59	2159.00	40.00	0.00	0.00	530.51	4	0	993	14	3,359	-3,345.40	
21+96	2196.00	37.00	0.00	0.00	717.23	0	0	855	14	4,300	-4,285.83	
22+36	2236.00	40.00	0.00	0.00	527.04	0	0	922	14	5,314	-5,299.68	
22+74	2274.00	38.00	31.91	0.00	505.67	22	0	727	36	6,113	-6,076.61	
23+14.15	2314.15	40.15	0.00	0.00	578.35	24	0	806	60	7,000	-6,939.56	

S3 FRONTAGE RD/CTH V R-A-B SUBTOTALS: 60 0 6,363

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.10		
											Note 1	
281+75	28175.00	0.00	0.15	0.00	29.51	0	0	0	0	0	0.00	
282+00	28200.00	25.00	39.73	0.00	0.00	18	0	14	18	15	3.43	
282+25	28225.00	25.00	93.84	0.00	0.00	62	0	0	80	15	65.27	
282+50	28250.00	25.00	103.67	0.00	0.00	91	0	0	172	15	156.71	
283+00	28300.00	50.00	141.69	0.00	0.04	227	0	0	399	15	383.87	
284+00	28400.00	100.00	138.77	0.00	0.00	519	0	0	918	15	903.17	
285+00	28500.00	100.00	211.55	0.00	0.00	649	0	0	1,567	15	1,551.90	
286+00	28600.00	100.00	193.58	0.00	0.00	750	0	0	2,317	15	2,302.13	
287+00	28700.00	100.00	239.23	0.00	0.00	802	0	0	3,119	15	3,103.63	
288+00	28800.00	100.00	340.78	0.00	0.00	1,074	0	0	4,193	15	4,177.72	
289+00	28900.00	100.00	736.73	0.00	0.00	1,995	0	0	6,188	15	6,173.11	
290+00	29000.00	100.00	644.41	0.00	0.00	2,558	0	0	8,746	15	8,730.78	
291+00	29100.00	100.00	600.76	0.00	1.23	2,306	0	2	11,052	18	11,034.16	
292+00	29200.00	100.00	450.59	0.00	12.22	1,947	0	25	12,999	45	12,953.71	
293+00	29300.00	100.00	348.76	0.00	26.46	1,480	0	72	14,479	124	14,355.20	

S3 151 SB OFF-RAMP SUBTOTALS: 14,479 0 113

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.10		
											Note 1	
278+00	27800.00	0.00	93.55	0.00	4.93	0	0	0	0	0	0	0.00
279+00	27900.00	100.00	205.30	0.00	62.72	553	0	125	553	138	415.63	
279+25	27925.00	25.00	230.81	0.00	69.20	202	0	61	755	205	550.36	
280+00	28000.00	75.00	219.39	0.00	0.55	625	0	97	1,381	312	1,069.09	
281+00	28100.00	100.00	188.06	0.00	14.96	755	0	29	2,135	343	1,792.02	
282+00	28200.00	100.00	242.39	0.00	0.00	797	0	28	2,932	374	2,558.67	
283+00	28300.00	100.00	505.47	0.00	0.00	1,385	0	0	4,317	374	3,943.62	
284+00	28400.00	100.00	276.23	0.00	0.00	1,448	0	0	5,765	374	5,391.22	
285+00	28500.00	100.00	241.32	0.00	0.66	958	0	1	6,723	375	6,348.30	
286+00	28600.00	100.00	183.39	0.00	5.39	787	0	11	7,510	387	7,122.49	
286+50	28650.00	50.00	123.99	0.00	10.86	285	0	15	7,794	404	7,390.54	
287+00	28700.00	50.00	223.05	0.00	0.00	321	0	10	8,116	415	7,700.81	
287+50	28750.00	50.00	204.02	0.00	2.38	395	0	2	8,511	417	8,093.82	
287+75	28775.00	25.00	98.24	0.00	79.23	140	0	38	8,651	459	8,192.19	
S3			151 SB ON-RAMP SUBTOTALS:			8,651	0	417				

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.10		
											Note 1	
15+33	1533.00	0.00	302.16	0.00	0.00	0	0	0	0	0	0	0.00
15+50	1550.00	17.00	80.03	0.00	0.19	120	0	0	120	0	120.25	
15+75	1575.00	25.00	5.43	0.00	0.00	40	0	0	160	0	159.72	
16+00	1600.00	25.00	2.92	0.00	0.03	4	0	0	164	0	163.57	
16+25	1625.00	25.00	2.56	0.00	0.14	3	0	0	166	0	166.02	
16+50	1650.00	25.00	2.34	0.00	0.41	2	0	0	169	1	168.01	
16+71	1671.00	21.00	4.05	0.00	0.00	2	0	0	171	1	170.32	
S3			TEMP. SIDEWALK CONNECTION SUBTOTALS:			171	0	1				

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STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.10		
											Note 1	
136+75	13675.00	0.00	37.66	0.00	297.02	0	0	0	0	0	0.00	
137+00	13700.00	25.00	10.74	0.00	328.38	22	0	290	22	318	-296.08	
137+50	13750.00	50.00	7.16	0.00	493.06	17	0	761	39	1,155	-1,116.16	
137+75	13775.00	25.00	8.36	0.00	606.54	7	0	509	46	1,715	-1,668.96	

S3 CTH V NB SUBTOTALS: 46 0 1,559

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.10		
											Note 1	
236+75	23675.00	0.00	3.51	0.00	300.50	0	0	0	0	0	0.00	
237+00	23700.00	25.00	0.60	0.00	262.43	2	0	261	2	287	-284.77	
237+50	23750.00	50.00	1.40	0.00	363.18	2	0	579	4	924	-920.11	
237+75	23775.00	25.00	2.50	0.00	355.58	2	0	333	6	1,290	-1,284.34	

S3 CTH V SB SUBTOTALS: 6 0 1,173

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STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.10		
											Note 1	
139+50	13950.00	0.00	0.00	0.00	385.19	0	0	0	0	0	0.00	
140+00	14000.00	50.00	0.04	0.00	220.53	0	0	561	0	617	-616.90	
140+50	14050.00	50.00	31.28	0.00	238.89	29	0	425	29	1,085	-1,055.83	
140+88	14088.00	38.00	3.13	0.00	139.55	24	0	266	53	1,378	-1,324.56	
141+00	14100.00	12.00	0.34	0.00	127.12	1	0	59	54	1,443	-1,388.97	
141+50	14150.00	50.00	40.13	0.00	33.08	37	0	148	91	1,606	-1,514.68	
141+88	14188.00	38.00	93.34	0.00	9.90	94	0	30	185	1,639	-1,454.03	
142+00	14200.00	12.00	91.37	0.00	10.70	41	0	5	226	1,644	-1,418.02	
142+38	14238.00	38.00	122.85	0.00	2.76	151	0	9	377	1,655	-1,277.69	
142+50	14250.00	12.00	111.04	0.00	4.98	52	0	2	429	1,657	-1,227.61	
143+00	14300.00	50.00	111.19	0.00	1.67	206	0	6	635	1,664	-1,028.61	
143+38	14338.00	38.00	104.09	0.00	0.96	151	0	2	786	1,666	-879.15	
143+50	14350.00	12.00	99.29	0.00	2.49	45	0	1	832	1,666	-834.80	
143+88	14388.00	38.00	105.86	0.00	0.86	144	0	2	976	1,669	-693.03	
144+00	14400.00	12.00	86.33	0.00	2.25	43	0	1	1,019	1,670	-651.08	
144+50	14450.00	50.00	3.60	0.00	17.15	83	0	18	1,102	1,690	-587.57	
145+00	14500.00	50.00	26.16	0.00	11.20	28	0	26	1,130	1,718	-588.90	
145+32	14532.00	32.00	21.12	0.00	4.69	28	0	9	1,158	1,729	-571.24	
145+50	14550.00	18.00	3.96	0.00	5.62	8	0	3	1,166	1,733	-566.66	
145+78	14578.00	28.00	6.13	0.00	0.15	5	0	3	1,171	1,736	-564.71	
146+00	14600.00	22.00	4.75	0.00	1.65	4	0	1	1,176	1,737	-561.08	
146+34	14634.00	34.00	14.58	0.00	0.00	12	0	1	1,188	1,738	-550.06	
146+50	14650.00	16.00	24.51	0.00	0.00	12	0	0	1,199	1,738	-538.48	
147+00	14700.00	50.00	4.07	0.00	5.57	26	0	5	1,226	1,743	-517.69	
147+50	14750.00	50.00	7.20	0.00	1.92	10	0	7	1,236	1,751	-514.89	
148+00	14800.00	50.00	1.28	0.00	6.45	8	0	8	1,244	1,760	-515.56	
148+36	14836.00	36.00	1.77	0.00	6.87	2	0	9	1,246	1,769	-523.30	
148+50	14850.00	14.00	2.42	0.00	3.08	1	0	3	1,247	1,772	-525.05	
149+00	14900.00	50.00	2.38	0.00	6.89	4	0	9	1,252	1,782	-530.77	
149+06.9	14906.90	6.90	4.11	0.00	4.73	1	0	1	1,252	1,784	-531.57	

S4

CTH V NB SUBTOTALS:

1,252

0

1,622

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Cut 1.00 Note 1	Expanded Fill 1.10	Note 8	
239+50	23950.00	0.00	28.76	0.00	166.21	0	0	0	0	0	0.00	
240+00	24000.00	50.00	16.75	0.00	139.39	42	0	283	42	311	-269.12	

S4 CTH V SB SUBTOTALS: 42 0 283

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Cut 1.00 Note 1	Expanded Fill 1.10	Note 8	
272+00	27200.00	0.00	21.87	0.00	91.39	0	0	0	0	0	0.00	
272+21	27221.00	21.00	21.04	0.00	106.59	17	0	77	17	85	-68.07	
273+00	27300.00	79.00	11.76	0.00	539.06	48	0	945	65	1,124	-1,059.12	
274+00	27400.00	100.00	19.79	0.00	1687.60	58	0	4,123	123	5,660	-5,536.49	
275+00	27500.00	100.00	31.43	0.00	5.29	95	0	3,135	218	9,108	-8,890.10	
276+00	27600.00	100.00	4.84	0.00	60.74	67	0	122	285	9,242	-8,957.43	
276+39	27639.00	39.00	0.00	0.00	122.66	3	0	132	289	9,388	-9,099.63	
277+00	27700.00	61.00	0.00	0.00	236.76	0	0	406	289	9,835	-9,546.24	

S4 151 NB OFF-RAMP SUBTOTALS: 289 0 8,941

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STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate Note 8
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Cut 1.00 Note 1	Expanded Fill 1.10		
											283+00	
284+00	28400.00	100.00	14.25	0.00	114.35	26	0	914	26	1,005	-978.96	
285+00	28500.00	100.00	19.50	0.00	48.15	62	0	301	89	1,336	-1,247.49	
286+00	28600.00	100.00	19.25	0.00	11.85	72	0	111	161	1,459	-1,297.96	
287+00	28700.00	100.00	14.14	0.00	28.02	62	0	74	222	1,540	-1,317.33	
288+00	28800.00	100.00	14.50	0.00	18.02	53	0	85	275	1,634	-1,358.08	
289+00	28900.00	100.00	15.56	0.00	8.94	56	0	50	331	1,688	-1,357.32	
290+00	29000.00	100.00	14.59	0.00	13.45	56	0	41	387	1,734	-1,347.06	
291+00	29100.00	100.00	14.36	0.00	29.50	54	0	80	441	1,822	-1,380.94	
292+00	29200.00	100.00	15.82	0.00	28.56	56	0	108	496	1,940	-1,443.31	
293+00	29300.00	100.00	16.54	0.00	22.63	60	0	95	556	2,044	-1,487.65	
294+00	29400.00	100.00	14.64	0.00	4.00	58	0	49	614	2,098	-1,484.16	
295+00	29500.00	100.00	13.81	0.00	3.18	53	0	13	667	2,113	-1,446.10	
295+14	29514.00	14.00	14.63	0.00	1.51	7	0	1	674	2,114	-1,440.06	
296+00	29600.00	86.00	15.02	0.00	2.83	47	0	7	721	2,122	-1,400.44	
296+36.6	29636.60	36.60	17.50	0.00	0.01	22	0	2	743	2,124	-1,380.51	

S4 151 NB ON-RAMP SUBTOTALS: 743 0 1,931

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate Note 8
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Cut 1.00 Note 1	Expanded Fill 1.10		
											293+00	
294+00	29400.00	100.00	322.56	0.00	35.89	1,243	0	115	1,243	127	1,116.17	
295+00	29500.00	100.00	291.38	0.00	32.26	1,137	0	126	2,380	266	2,114.26	
296+00	29600.00	100.00	218.75	0.00	14.61	945	0	87	3,325	361	2,963.46	
297+00	29700.00	100.00	298.23	0.00	18.79	957	0	62	4,282	429	3,852.79	
298+00	29800.00	100.00	188.98	0.00	30.44	902	0	91	5,184	530	4,654.75	
299+00	29900.00	100.00	98.32	0.00	30.96	532	0	114	5,716	655	5,061.69	
300+00	30000.00	100.00	88.44	0.00	18.05	346	0	91	6,062	755	5,307.70	
301+00	30100.00	100.00	90.92	0.00	9.66	332	0	51	6,394	811	5,583.40	
302+00	30200.00	100.00	86.76	0.00	18.03	329	0	51	6,723	867	5,856.03	
303+00	30300.00	100.00	87.26	0.00	16.06	322	0	63	7,046	937	6,108.84	

S4 151 SB OFF-RAMP SUBTOTALS: 7,046 0 852

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STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate Note 8
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Cut 1.00 Note 1	Expanded Fill 1.10		
273+00	27300.00	0.00	62.41	0.00	28.05	0	0	0	0	0	0.00	
273+50	27350.00	50.00	78.62	0.00	0.19	131	0	26	131	29	101.83	
274+00	27400.00	50.00	32.07	0.00	604.64	102	0	560	233	645	-411.71	
274+50	27450.00	50.00	31.80	0.00	1534.97	59	0	1,981	292	2,824	-2,531.80	
275+00	27500.00	50.00	32.51	0.00	1003.16	60	0	2,350	352	5,409	-5,057.39	
276+00	27600.00	100.00	31.67	0.00	7.23	119	0	1,871	471	7,467	-6,996.76	
277+00	27700.00	100.00	62.98	0.00	0.00	175	0	13	646	7,482	-6,836.22	
278+00	27800.00	100.00	93.55	0.00	4.93	290	0	9	936	7,492	-6,556.40	
S4			151 SB ON-RAMP SUBTOTALS:			936	0	6,811				

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STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.10		
											Note 1	
262+57.94	26257.94	0.00	25.79	0.00	0.00	0	0	0	0	0	0	0.00
263+00	26300.00	42.06	37.07	0.00	17.41	49	0	14	49	15	34.04	
264+00	26400.00	100.00	41.78	0.00	9.84	146	0	50	195	70	124.55	
264+13	26413.00	13.00	45.54	0.00	15.80	21	0	6	216	77	138.78	
265+00	26500.00	87.00	26.68	0.00	22.02	116	0	61	332	144	188.12	
265+50	26550.00	50.00	16.41	0.00	16.63	40	0	36	372	184	188.66	
266+00	26600.00	50.00	17.50	0.00	18.07	31	0	32	404	219	184.72	
267+00	26700.00	100.00	12.88	0.00	34.53	56	0	97	460	326	133.83	
268+00	26800.00	100.00	36.14	0.00	29.34	91	0	118	551	456	94.49	
269+00	26900.00	100.00	57.48	0.00	70.03	173	0	184	724	659	65.42	
270+00	27000.00	100.00	628.68	50.55	0.00	1,271	94	130	1,995	801	1,099.82	
270+36	27036.00	36.00	734.76	30.49	0.00	909	54	0	2,904	801	1,954.76	
271+00	27100.00	64.00	198.13	15.25	0.00	1,106	54	0	4,009	801	3,006.21	
272+00	27200.00	100.00	21.87	3.56	91.39	407	35	169	4,417	987	3,192.62	
S5			151 NB OFF-RAMP SUBTOTALS:			4,417	237	898				

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.10		
											Note 1	
10+00	1000.00	0.00	107.96	0.00	431.04	0	0	0	0	0	0.00	
10+50	1050.00	50.00	58.40	0.00	660.19	154	0	1,010	154	1,111	-957.40	
11+00	1100.00	50.00	61.41	0.00	693.80	111	0	1,254	265	2,491	-2,225.53	
11+50	1150.00	50.00	69.57	0.00	606.09	121	0	1,204	386	3,814	-3,428.22	
11+69	1169.00	19.00	68.86	0.00	540.03	49	0	403	435	4,258	-3,823.11	
12+00	1200.00	31.00	56.69	0.00	300.88	72	0	483	507	4,789	-4,282.06	
12+17	1217.00	17.00	67.43	0.00	8.19	39	0	97	546	4,896	-4,350.01	
12+50	1250.00	33.00	51.73	0.00	9.19	73	0	11	619	4,908	-4,288.87	
12+79	1279.00	29.00	57.78	0.00	6.39	59	0	8	678	4,917	-4,239.25	
13+00	1300.00	21.00	63.12	0.00	7.61	47	0	5	725	4,923	-4,198.23	
13+50	1350.00	50.00	91.72	0.00	0.96	143	0	8	868	4,932	-4,063.58	
14+00	1400.00	50.00	141.59	0.00	0.27	216	0	1	1,084	4,933	-3,848.81	
14+50	1450.00	50.00	71.79	0.00	6.09	198	0	6	1,282	4,939	-3,657.71	
15+00	1500.00	50.00	16.17	0.00	19.03	81	0	23	1,363	4,965	-3,601.86	
S5			OLD CTH V NORTH SUBTOTALS:			1,363	0	4,514				

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STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.10		
											Note 1	
88+38.31	8838.31	0.00	39.64	0.00	1.99	0	0	0	0	0	0.00	
88+50	8850.00	11.69	71.64	0.00	3.11	24	0	1	24	1	22.88	
89+00	8900.00	50.00	67.87	0.00	21.98	129	0	23	153	27	126.50	
90+00	9000.00	100.00	232.80	0.00	44.91	557	0	124	710	163	547.04	
91+00	9100.00	100.00	68.92	0.00	22.26	559	0	124	1,269	300	968.95	
92+00	9200.00	100.00	73.98	0.00	9.71	265	0	59	1,533	365	1,168.45	
93+00	9300.00	100.00	73.77	0.00	0.00	274	0	18	1,807	385	1,422.29	
94+00	9400.00	100.00	0.00	0.00	0.00	137	0	0	1,944	385	1,558.91	

S5 OLD CTH V SOUTH SUBTOTALS: 1,944 0 350

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.10		
											Note 1	
104+50	10450.00	0.00	102.92	0.00	7.92	0	0	0	0	0	0.00	
105+00	10500.00	50.00	210.89	0.00	0.00	291	0	7	291	8	282.50	
105+50	10550.00	50.00	3.25	0.00	106.88	198	0	99	489	117	371.93	
106+00	10600.00	50.00	0.25	0.00	187.53	3	0	273	492	417	75.31	
106+25	10625.00	25.00	0.00	0.00	150.68	0	0	157	492	589	-96.81	
106+50	10650.00	25.00	1.11	0.00	244.91	1	0	183	493	790	-297.76	
106+75	10675.00	25.00	4.11	0.00	324.66	2	0	264	495	1,081	-585.41	

S5 PARK EB SUBTOTALS: 495 0 982

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.10		
											Note 1	
106+25	10625.00	0.00	4.67	0.00	114.70	0	0	0	0	0	0.00	
106+50	10650.00	25.00	13.70	0.00	173.95	9	0	134	9	147	-138.50	
106+75	10675.00	25.00	11.52	0.00	204.92	12	0	175	20	340	-319.77	

S5 PARK WB SUBTOTALS: 20 0 309

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Cut 1.00 Note 1	Expanded Fill 1.10		
											Note 8	
140+00	14000.00	0.00	1.48	0.00	269.69	0	0	0	0	0	0.00	
140+50	14050.00	50.00	0.09	0.00	576.75	1	0	784	1	862	-860.66	
141+00	14100.00	50.00	0.55	33.23	576.93	1	31	1,068	2	2,037	-2,065.87	
141+50	14150.00	50.00	2.57	32.38	416.51	3	61	920	5	3,049	-3,135.57	
142+00	14200.00	50.00	0.47	38.07	219.38	3	65	589	8	3,697	-3,845.65	
142+44	14244.00	44.00	145.74	0.00	105.81	119	31	265	127	3,988	-4,049.00	

S6 FRONTAGE EB SUBTOTALS: 127 188 3,626

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Cut 1.00 Note 1	Expanded Fill 1.10		
											Note 8	
303+00	30300.00	0.00	87.26	0.00	16.06	0	0	0	0	0	0.00	
304+00	30400.00	100.00	66.07	0.00	10.28	284	0	49	284	54	230.28	
305+00	30500.00	100.00	109.79	0.42	3.32	326	1	25	610	81	527.46	
306+00	30600.00	100.00	142.99	10.13	0.00	468	20	6	1,078	88	969.27	
307+00	30700.00	100.00	128.40	36.73	0.00	503	87	0	1,580	88	1,385.06	
307+66	30766.00	66.00	59.35	8.33	0.00	229	55	0	1,810	88	1,559.46	
308+00	30800.00	34.00	11.60	0.00	0.92	45	5	1	1,854	89	1,598.25	
309+00	30900.00	100.00	14.82	0.00	0.64	49	0	3	1,903	92	1,644.01	
310+00	31000.00	100.00	18.77	0.00	48.21	62	0	90	1,966	191	1,606.72	
311+00	31100.00	100.00	13.49	0.00	0.96	60	0	91	2,025	292	1,566.31	
312+00	31200.00	100.00	30.51	0.00	0.00	81	0	2	2,107	294	1,645.85	
313+00	31300.00	100.00	16.68	0.00	0.39	87	0	1	2,194	294	1,732.45	
314+00	31400.00	100.00	16.67	0.00	0.20	62	0	1	2,256	296	1,793.00	
315+00	31500.00	100.00	17.80	0.00	0.00	64	0	0	2,320	296	1,856.42	
316+00	31600.00	100.00	18.07	0.00	0.33	66	0	1	2,386	297	1,922.18	
316+50	31650.00	50.00	24.41	0.00	0.00	39	0	0	2,425	297	1,961.18	

S6 151 SB OFF-RAMP SUBTOTALS: 2,425 167 270

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STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate	
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.10			
											Note 1		Note 2
262+20.01	26220.01	0.00	22.98	0.00	0.00	0	0	0	0	0	0	0.00	
263+00	26300.00	79.99	20.29	0.00	16.45	64	0	24	64	27	37.29		
264+00	26400.00	100.00	24.00	0.00	28.13	82	0	83	146	118	28.50		
265+00	26500.00	100.00	30.15	0.00	30.16	100	0	108	246	236	10.04		
266+00	26600.00	100.00	21.88	0.00	37.62	96	0	126	343	374	-31.69		
267+00	26700.00	100.00	22.77	0.00	16.32	83	0	100	425	484	-58.87		
268+00	26800.00	100.00	24.17	0.00	16.49	87	0	61	512	551	-38.77		
269+00	26900.00	100.00	70.03	1.78	14.28	174	3	57	687	614	69.69		
269+33	26933.00	33.00	113.06	4.34	10.12	112	4	15	799	630	161.43		
270+00	27000.00	67.00	162.58	16.64	0.77	342	26	14	1,141	645	462.53		
270+50	27050.00	50.00	167.30	46.29	1.41	305	58	2	1,446	647	707.48		
271+00	27100.00	50.00	192.70	79.34	17.58	333	116	18	1,779	667	905.15		
272+00	27200.00	100.00	143.72	8.76	92.84	623	163	204	2,402	892	1,140.05		
272+05	27205.00	5.00	144.04	8.72	61.12	27	2	14	2,429	907	1,149.40		
273+00	27300.00	95.00	51.89	8.18	0.00	345	30	108	2,774	1,026	1,346.07		
S6			151 SB ON-RAMP SUBTOTALS:				2,774	402	932				

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate	
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.10			
											Note 1		Note 2
1314+27.07	131427.07	0.00	16.68	0.00	0.00	0	0	0	0	0	0	0.00	
1315+00	131500.00	72.93	17.35	3.08	0.20	46	4	0	46	0	41.52		
1316+00	131600.00	100.00	26.37	8.35	0.00	81	21	0	127	1	100.94		
1317+00	131700.00	100.00	26.54	8.22	0.00	98	31	0	225	1	168.25		
1318+00	131800.00	100.00	29.96	8.09	0.12	105	30	0	330	1	242.45		
1319+00	131900.00	100.00	306.91	82.58	0.00	624	168	0	953	1	698.17		
1319+50	131950.00	50.00	299.62	17.03	0.00	562	92	0	1,515	1	1,167.54		
1320+00	132000.00	50.00	40.40	6.71	0.00	315	22	0	1,830	1	1,460.39		
1320+50	132050.00	50.00	30.99	2.86	0.00	66	9	0	1,896	1	1,517.63		
1320+93	132093.00	43.00	0.00	0.07	0.00	25	2	0	1,921	1	1,539.97		
S6			USH 151 SUBTOTALS:				1,921	379	1				

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate Note 8
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Cut 1.00 Note 1	Expanded Fill 1.10		
390+00	39000.00	0.00	167.59	0.00	35.78	0	0	0	0	0	0.00	
390+50	39050.00	50.00	174.71	0.00	130.81	317	0	154	317	170	147.26	
391+00	39100.00	50.00	179.79	0.00	256.53	328	0	359	645	564	80.98	
391+50	39150.00	50.00	184.72	0.00	417.53	338	0	624	983	1,251	-268.05	
392+00	39200.00	50.00	188.74	0.00	448.14	346	0	802	1,328	2,132	-803.95	
392+50	39250.00	50.00	200.13	0.00	340.43	360	0	730	1,689	2,936	-1,247.06	
393+00	39300.00	50.00	214.50	0.00	263.02	384	0	559	2,072	3,550	-1,477.77	
393+50	39350.00	50.00	250.04	0.00	49.12	430	0	289	2,503	3,868	-1,365.56	
394+00	39400.00	50.00	327.15	0.00	0.00	534	0	45	3,037	3,918	-881.15	
394+14	39414.00	14.00	349.12	0.00	0.00	175	0	0	3,212	3,918	-705.82	
394+50	39450.00	36.00	299.87	0.00	3.95	433	0	3	3,645	3,921	-276.06	
395+00	39500.00	50.00	223.28	0.00	28.43	484	0	30	4,129	3,954	175.37	
395+50	39550.00	50.00	193.50	0.00	40.78	386	0	64	4,515	4,025	490.78	
396+00	39600.00	50.00	165.06	0.00	39.72	332	0	75	4,847	4,107	740.80	
396+50	39650.00	50.00	144.44	0.00	31.26	287	0	66	5,134	4,179	955.09	
397+00	39700.00	50.00	126.25	0.00	6.91	251	0	35	5,385	4,218	1,166.86	
397+50	39750.00	50.00	121.62	0.00	5.43	230	0	11	5,614	4,230	1,383.80	
398+00	39800.00	50.00	139.99	0.00	0.33	242	0	5	5,856	4,236	1,620.17	
398+36	39836.00	36.00	316.39	0.00	0.06	304	0	0	6,161	4,236	1,924.15	
398+50	39850.00	14.00	285.52	0.00	0.03	156	0	0	6,317	4,236	2,080.17	
398+72	39872.00	22.00	132.29	0.00	1.55	170	0	1	6,487	4,237	2,249.68	

S6 USH 45 SUBTOTALS: 6,487 0 3,852

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate Note 8
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Cut 1.00 Note 1	Expanded Fill 1.10		
378+06	37806.00	0.00	0.66	0.00	0.52	0	0	0	0	0	0.00	
378+50	37850.00	44.00	1.98	0.00	0.00	2	0	0	2	0	1.68	
379+00	37900.00	50.00	2.50	0.00	0.00	4	0	0	6	0	5.83	
379+50	37950.00	50.00	2.71	0.00	0.00	5	0	0	11	0	10.65	
380+00	38000.00	50.00	4.22	0.00	0.00	6	0	0	18	0	17.06	
380+50	38050.00	50.00	4.76	0.00	0.00	8	0	0	26	0	25.38	
381+00	38100.00	50.00	64.58	0.00	0.00	64	0	0	90	0	89.58	
381+50	38150.00	50.00	91.48	0.00	0.00	145	0	0	235	0	234.09	
382+00	38200.00	50.00	53.39	0.00	0.00	134	0	0	369	0	368.23	
382+50	38250.00	50.00	4.42	0.00	0.00	54	0	0	422	0	421.77	
383+00	38300.00	50.00	1.21	0.00	0.00	5	0	0	427	0	426.98	
383+09	38309.00	9.00	1.72	0.00	0.00	0	0	0	428	0	427.46	

S6 USH 45 SUBTOTALS: 428 0 0

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STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.10		
											Note 1	
1263+25	126325.00	0.00	23.99	0.18	1.69	0	0	0	0	0	0.00	
1263+50	126350.00	25.00	14.72	3.98	7.35	18	2	4	18	5	11.39	
1264+00	126400.00	50.00	11.52	5.78	13.16	24	9	19	42	25	5.76	
1265+00	126500.00	100.00	56.10	10.26	0.00	125	30	24	167	52	74.46	
1266+00	126600.00	100.00	63.74	16.37	0.00	222	49	0	389	52	247.07	
1267+00	126700.00	100.00	62.88	21.39	0.00	234	70	0	624	52	411.63	
1268+00	126800.00	100.00	52.37	14.94	0.00	213	67	0	837	52	557.77	
1269+00	126900.00	100.00	69.94	19.06	0.00	226	63	0	1,064	52	721.29	
1270+00	127000.00	100.00	89.23	20.90	0.00	295	74	0	1,359	52	942.04	
1271+00	127100.00	100.00	88.31	22.33	0.00	329	80	0	1,687	52	1,190.76	
1272+00	127200.00	100.00	63.29	18.54	0.00	281	76	0	1,968	52	1,395.80	
1273+00	127300.00	100.00	51.15	15.04	0.00	212	62	0	2,180	52	1,545.54	
1274+00	127400.00	100.00	38.49	20.79	0.02	166	66	0	2,346	52	1,645.15	
1275+00	127500.00	100.00	34.98	15.33	2.22	136	67	4	2,482	57	1,709.76	
1276+00	127600.00	100.00	35.69	9.90	1.61	131	47	7	2,613	65	1,786.12	
1277+00	127700.00	100.00	20.29	5.13	2.85	104	28	8	2,717	74	1,852.89	
1278+00	127800.00	100.00	25.34	0.00	0.71	85	10	7	2,801	81	1,920.64	
1279+00	127900.00	100.00	14.26	0.00	3.12	73	0	7	2,874	89	1,986.18	
1279+50	127950.00	50.00	17.20	0.00	0.00	29	0	3	2,904	92	2,012.13	

S7

USH 151 SUBTOTALS:

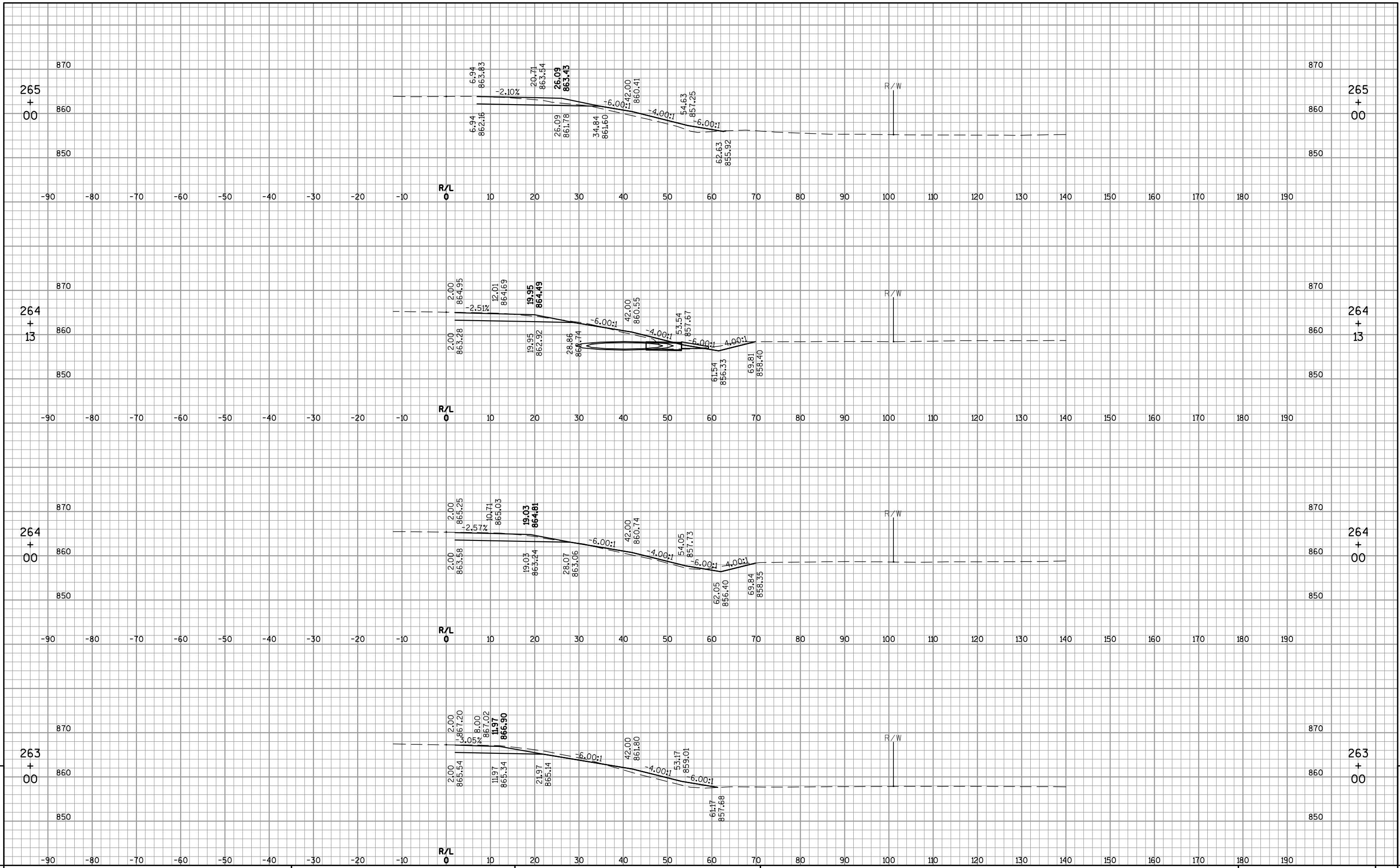
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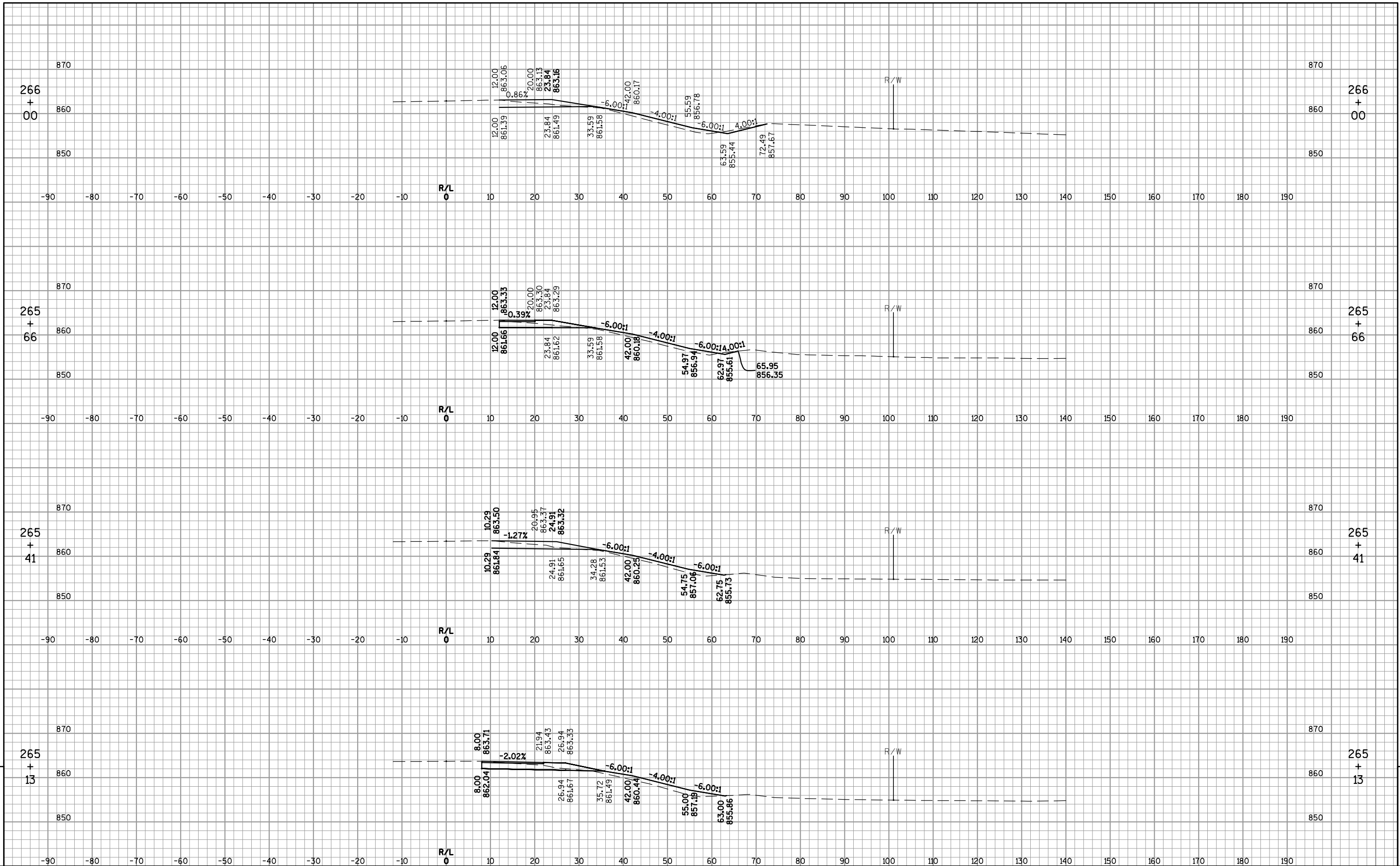
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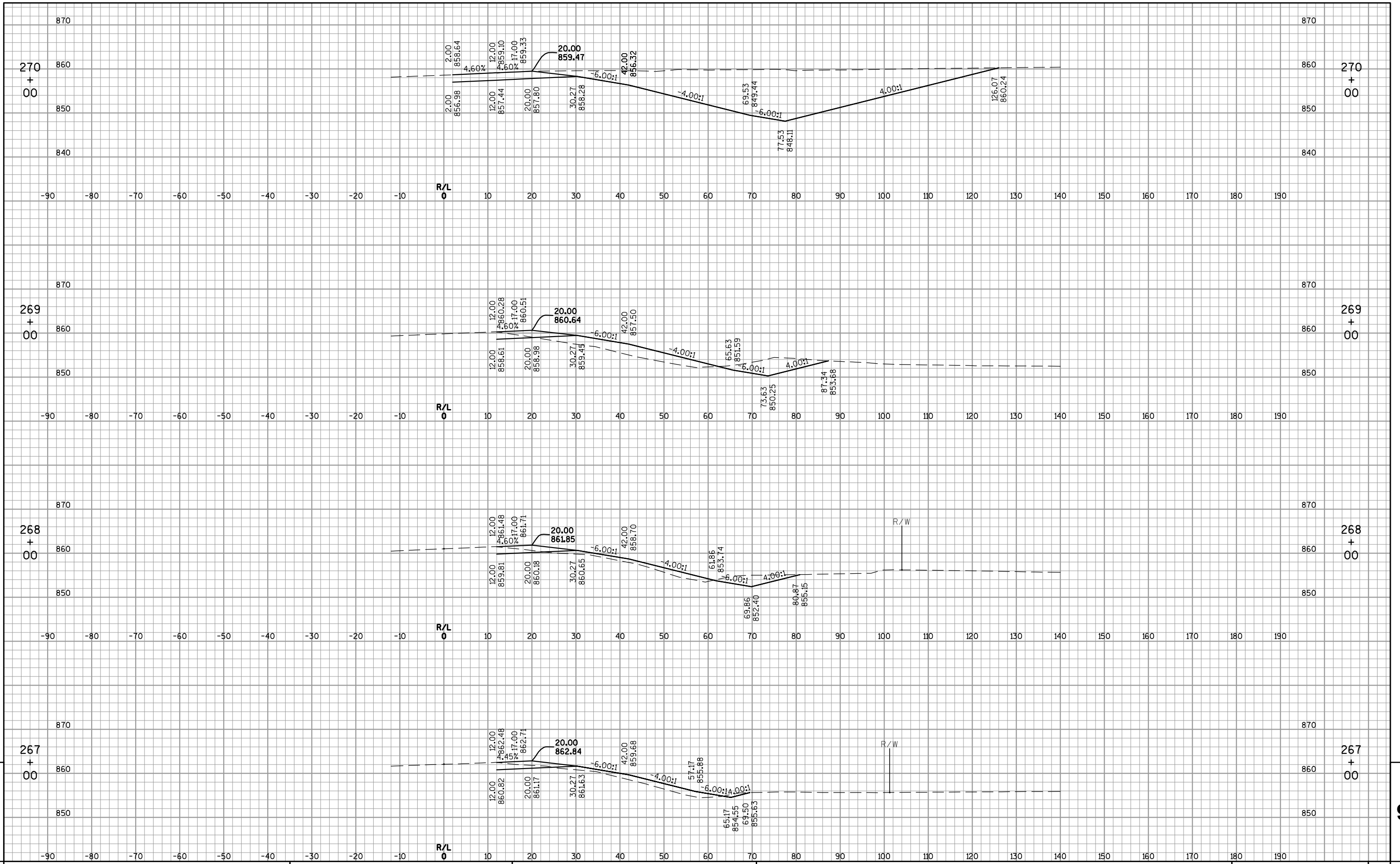
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PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: CTH V NB OFF-RAMP      SHEET      E

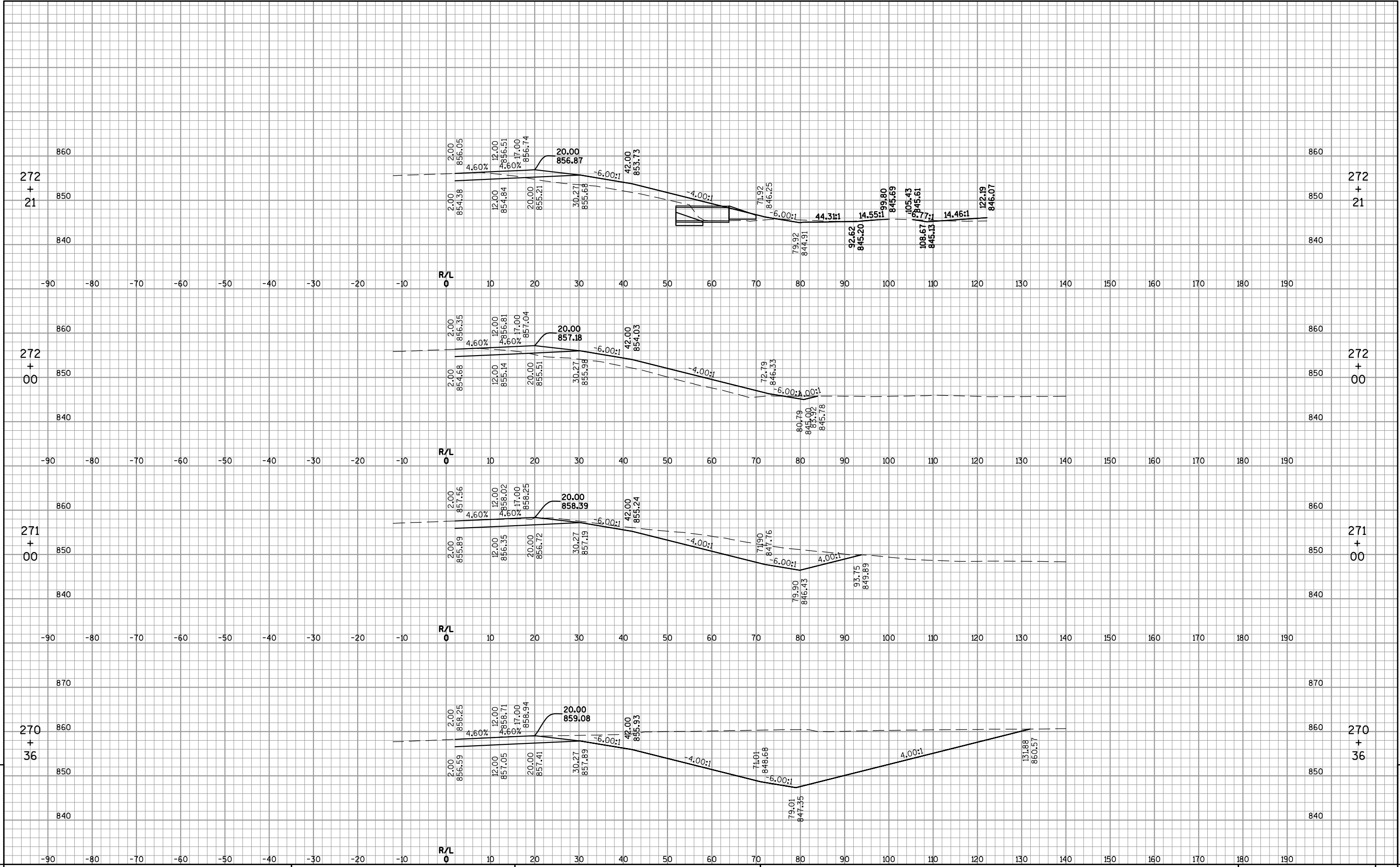


PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: CTH V NB OFF-RAMP      SHEET      E



PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: CTH V NB OFF-RAMP      SHEET      E

FILE NAME : F:\TR\JOBS\E2017A12\CIVIL 3D 2012\SHEETSPLAN\142022\_090200\_XS-RAMPS.DWG      PLOT DATE : 1/9/2015 1:44 PM      PLOT BY : OMNI ASSOCIATES, INC - CRAIG KNUTH

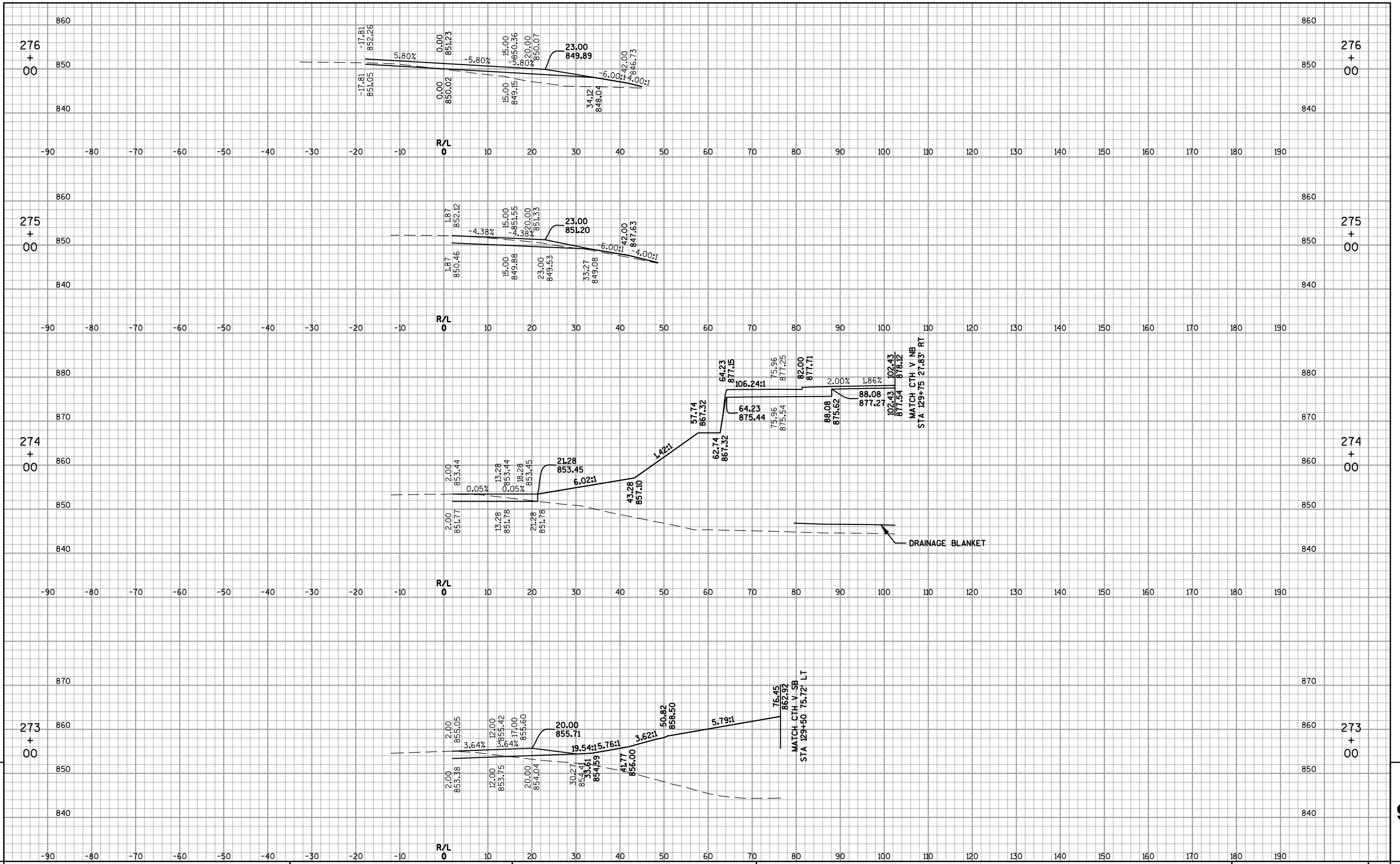


PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: CTH V NB OFF-RAMP      SHEET      E

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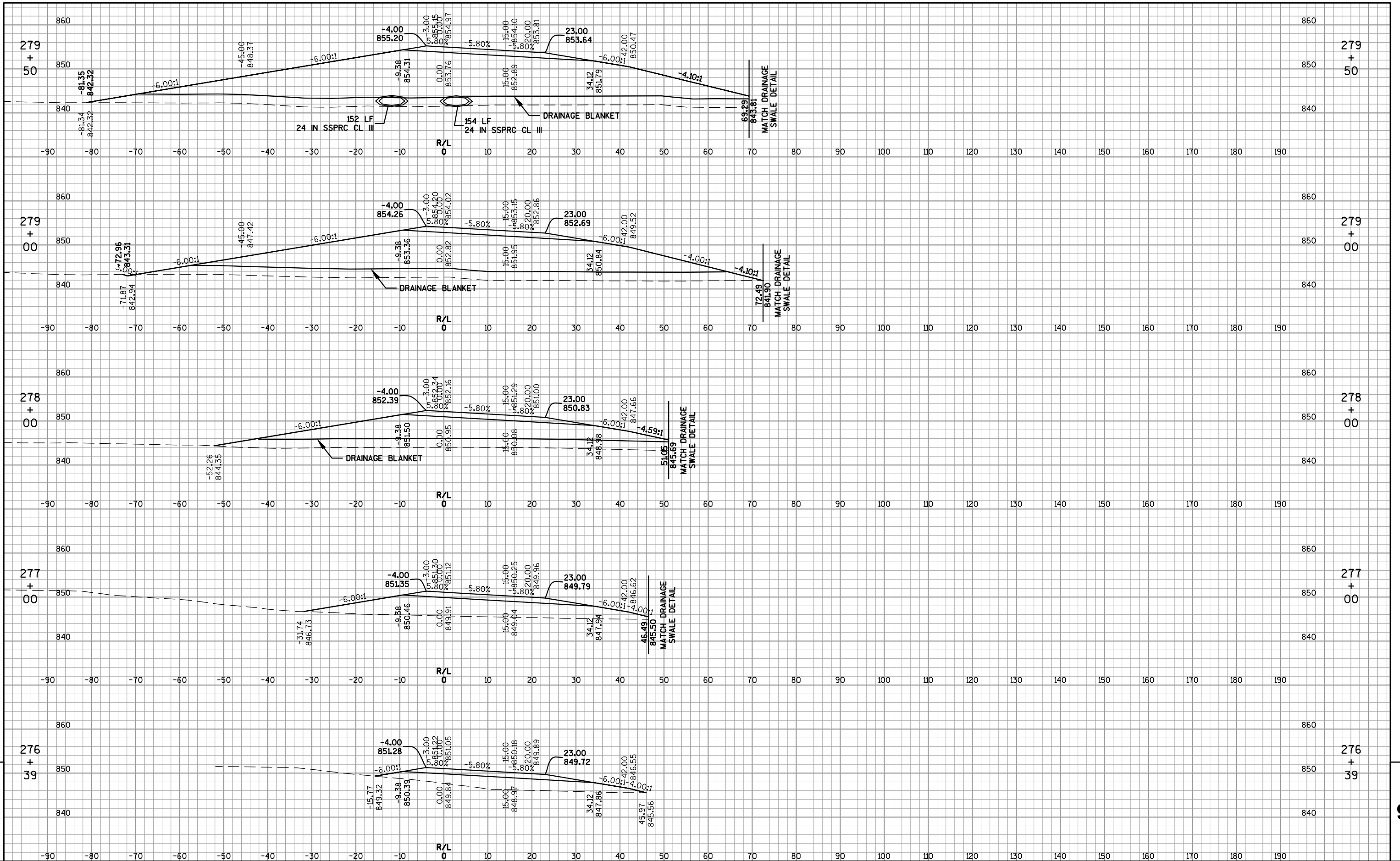


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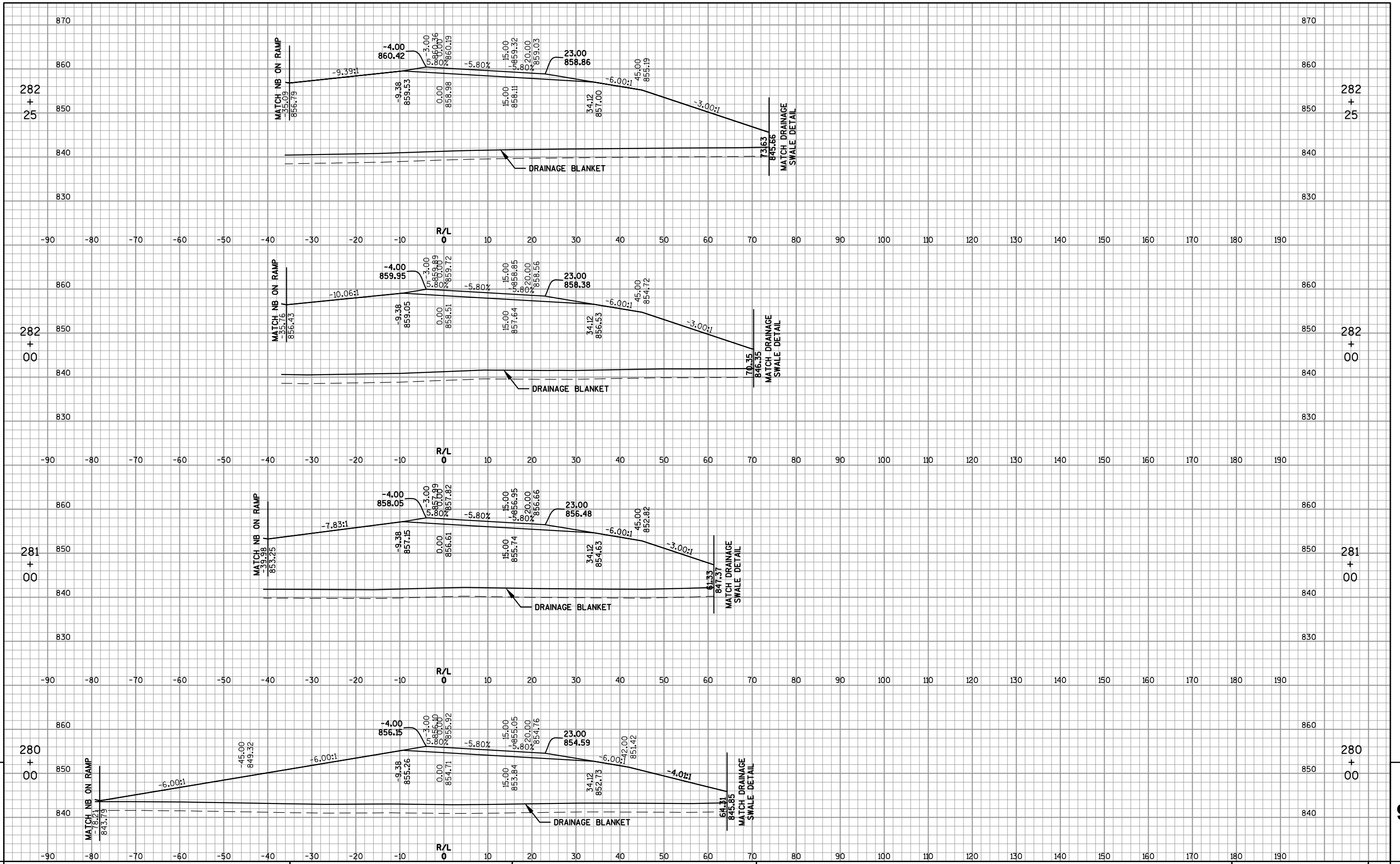
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PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: CTH V NB OFF-RAMP      SHEET      E



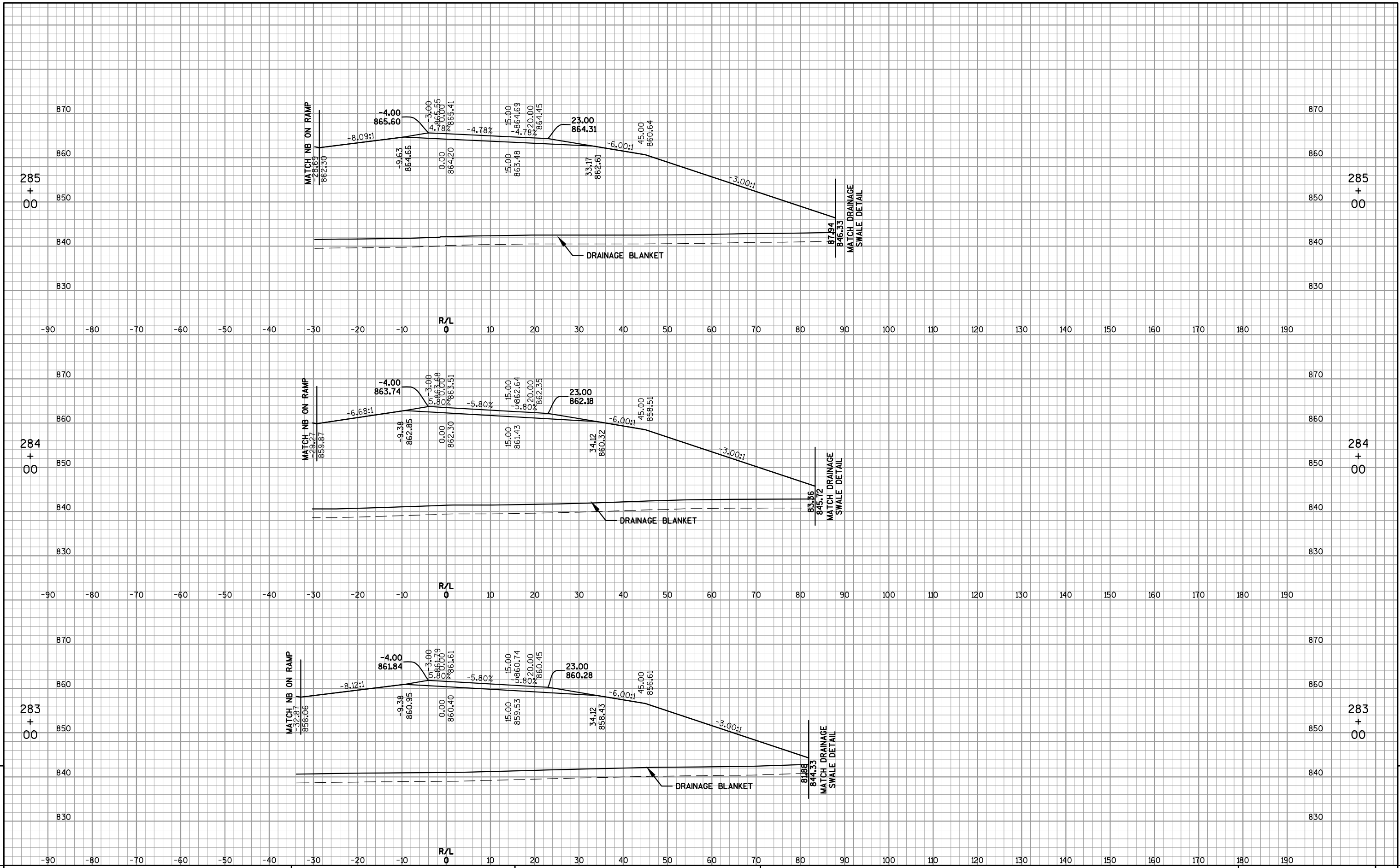


PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: CTH V NB OFF-RAMP      SHEET      E



PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: CTH V NB OFF-RAMP      SHEET      E

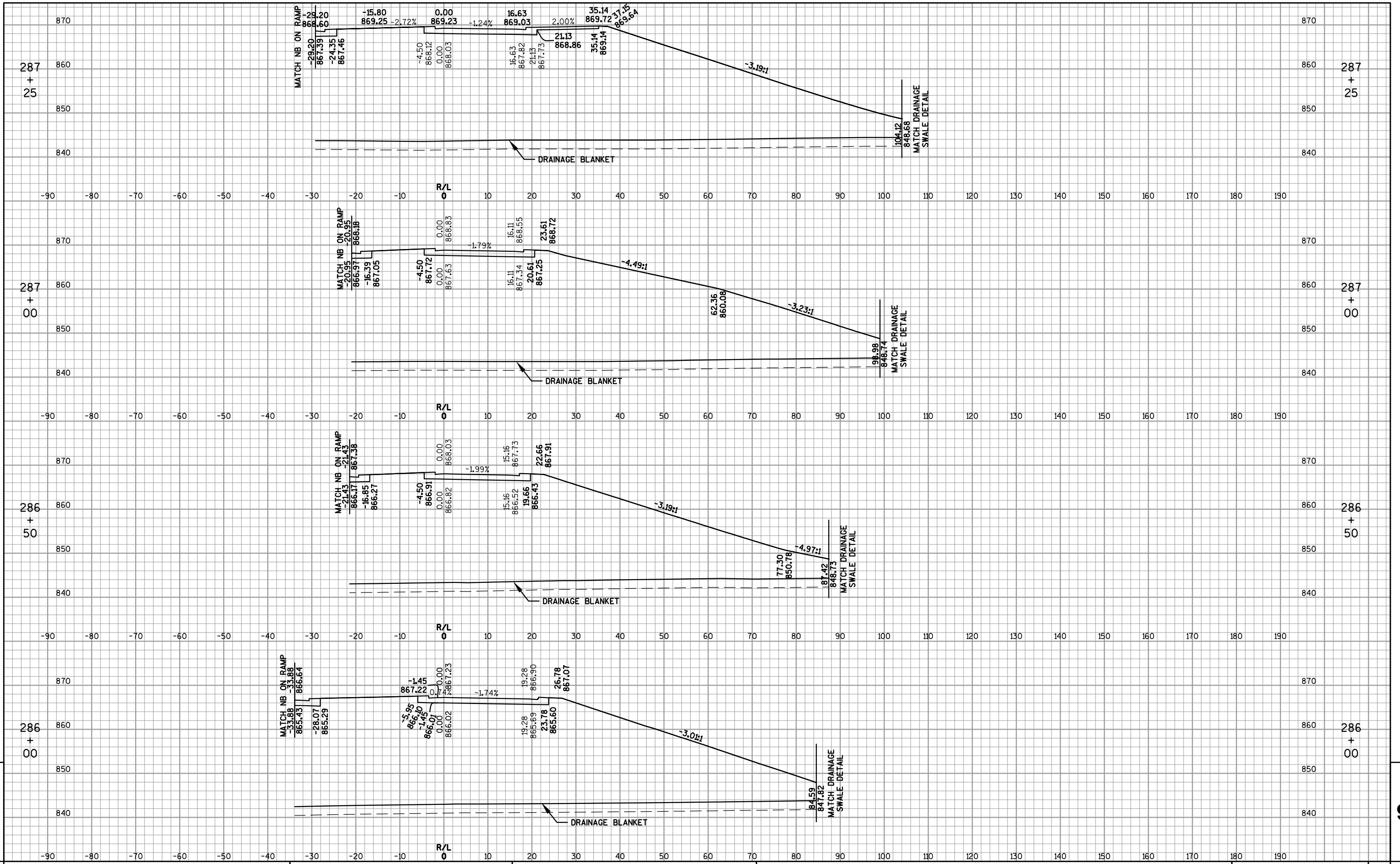
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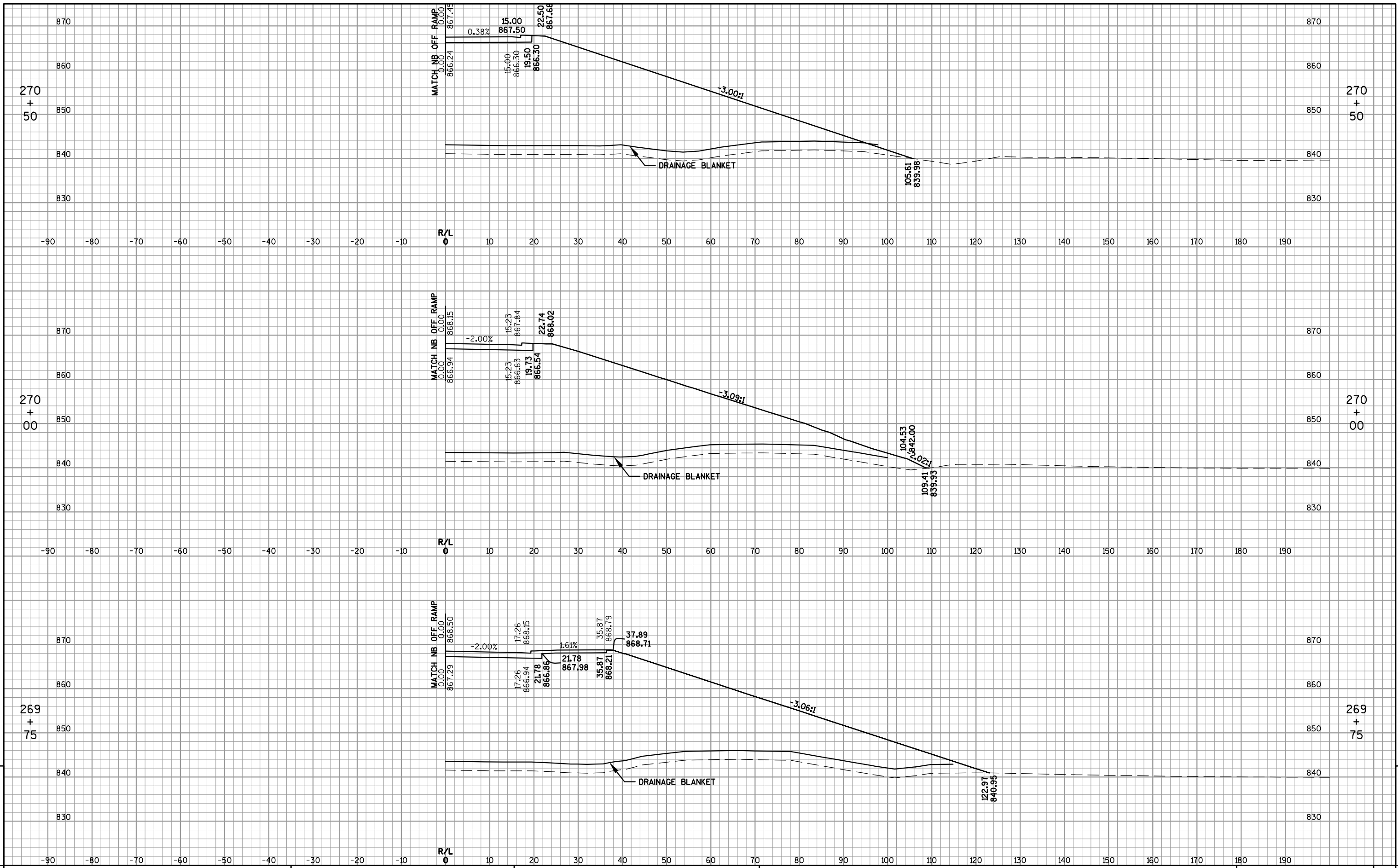
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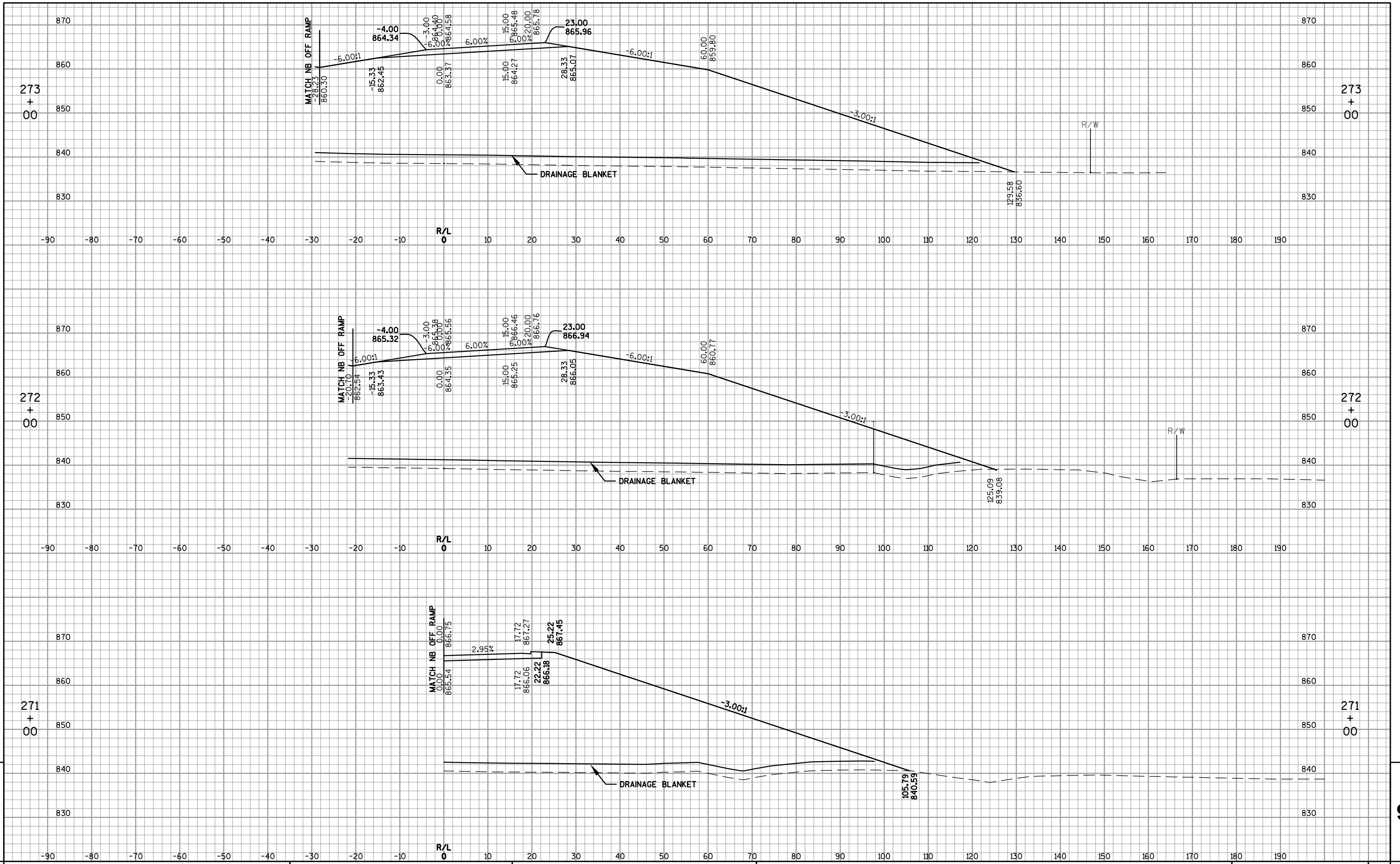
PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: CTH V NB OFF-RAMP      SHEET      E

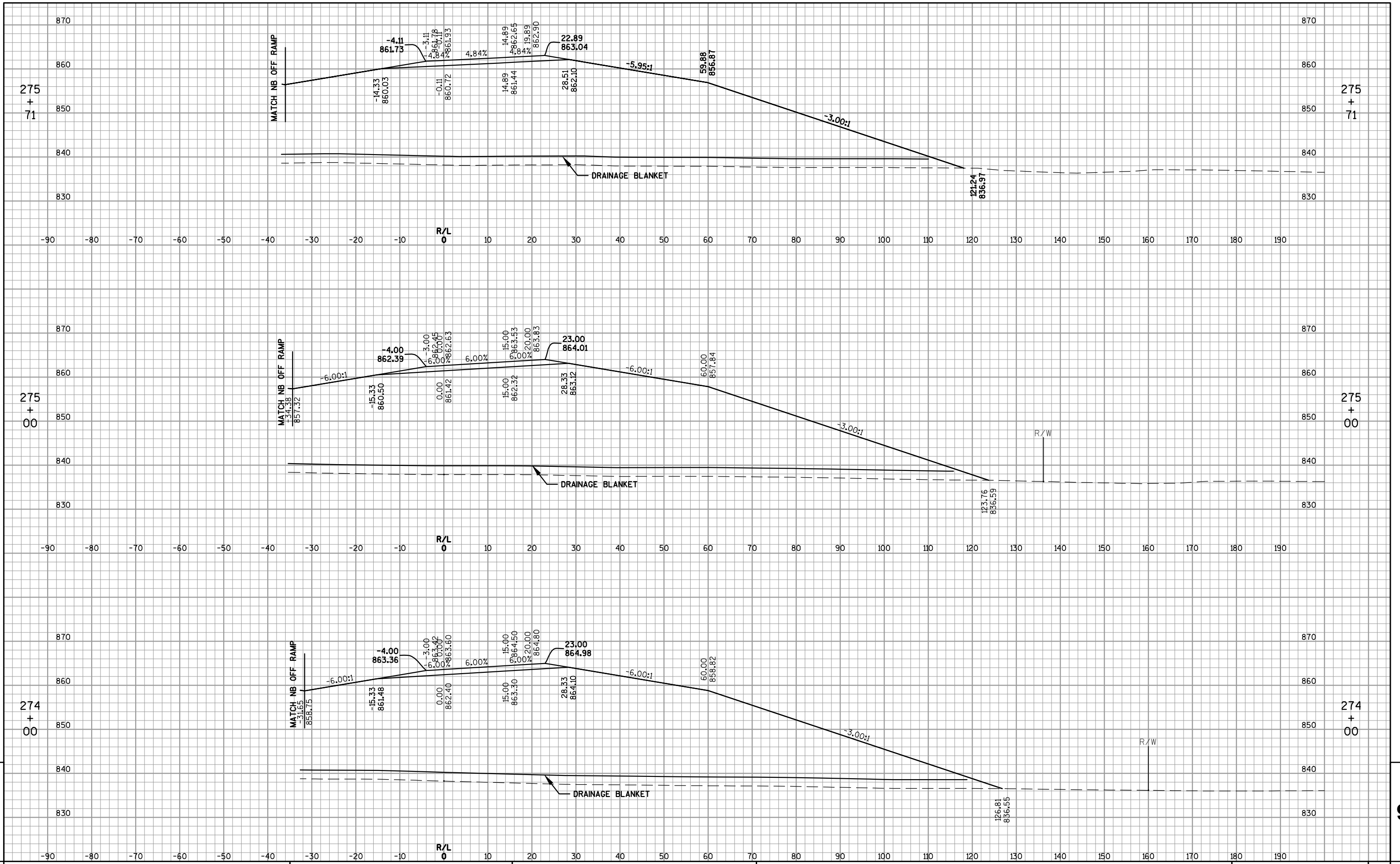


PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: CTH V NB OFF-RAMP      SHEET      E



PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: CTH V NB ON-RAMP      SHEET      E

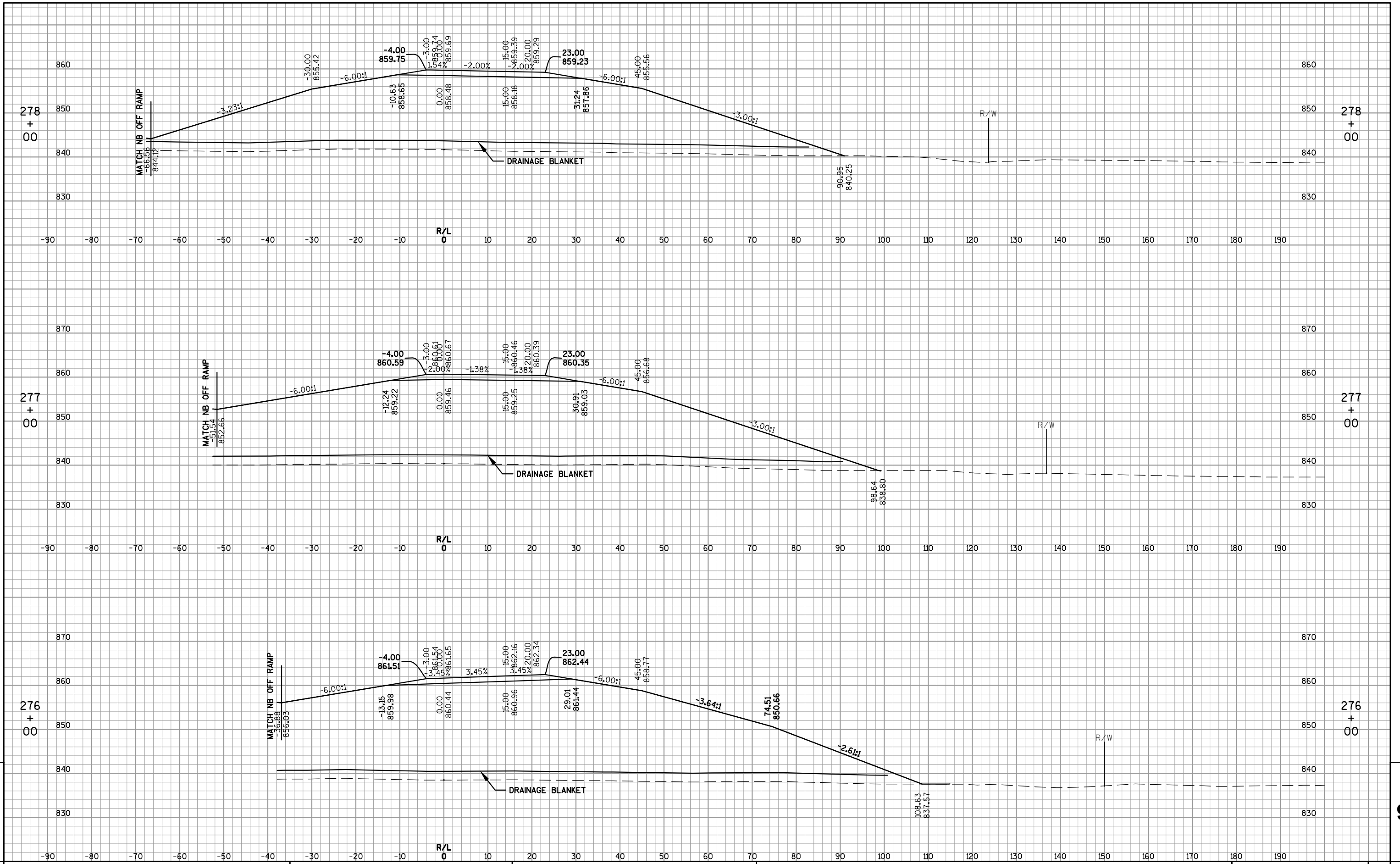




PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: CTH V NB ON-RAMP      SHEET      E

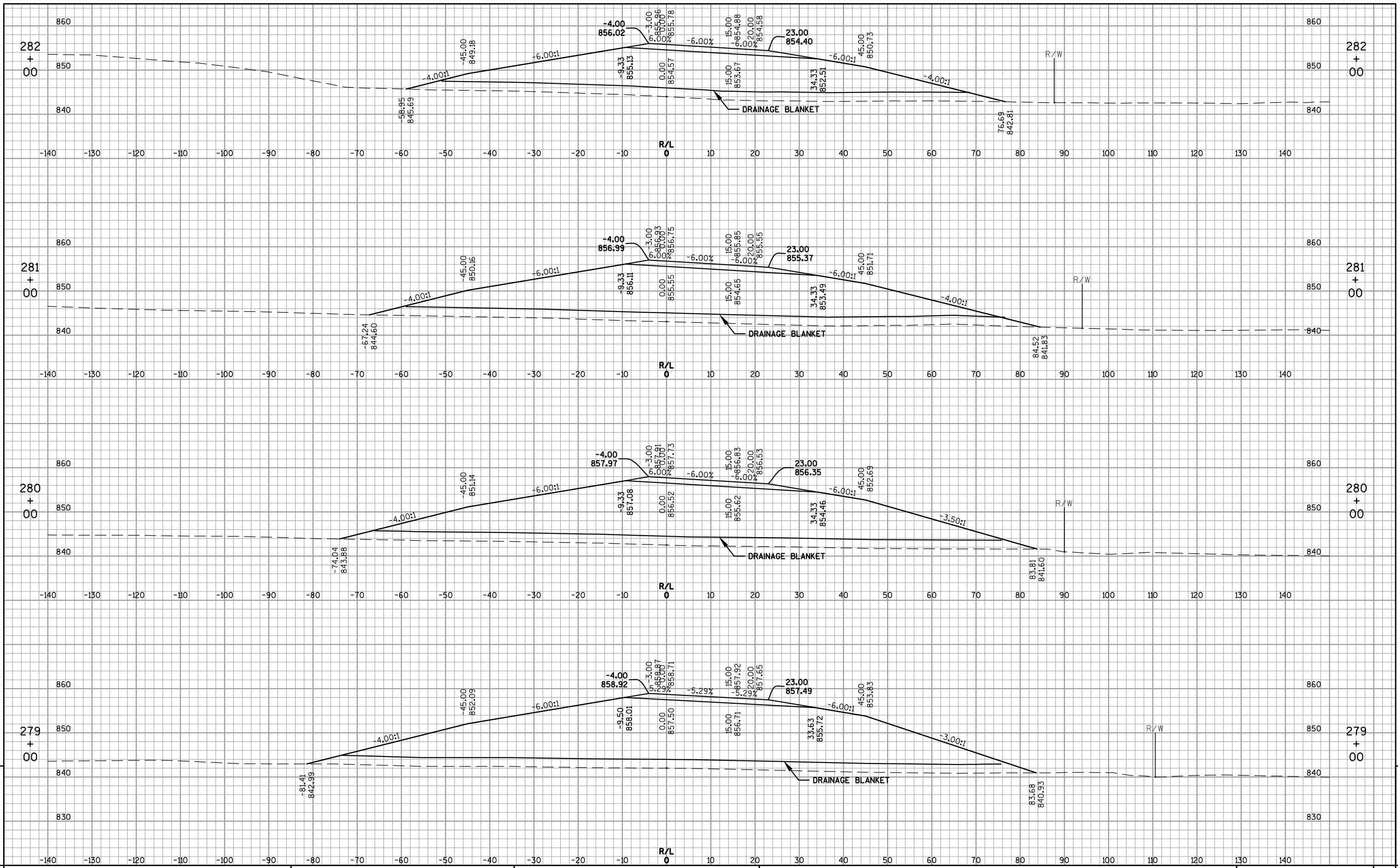
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142022\_0021



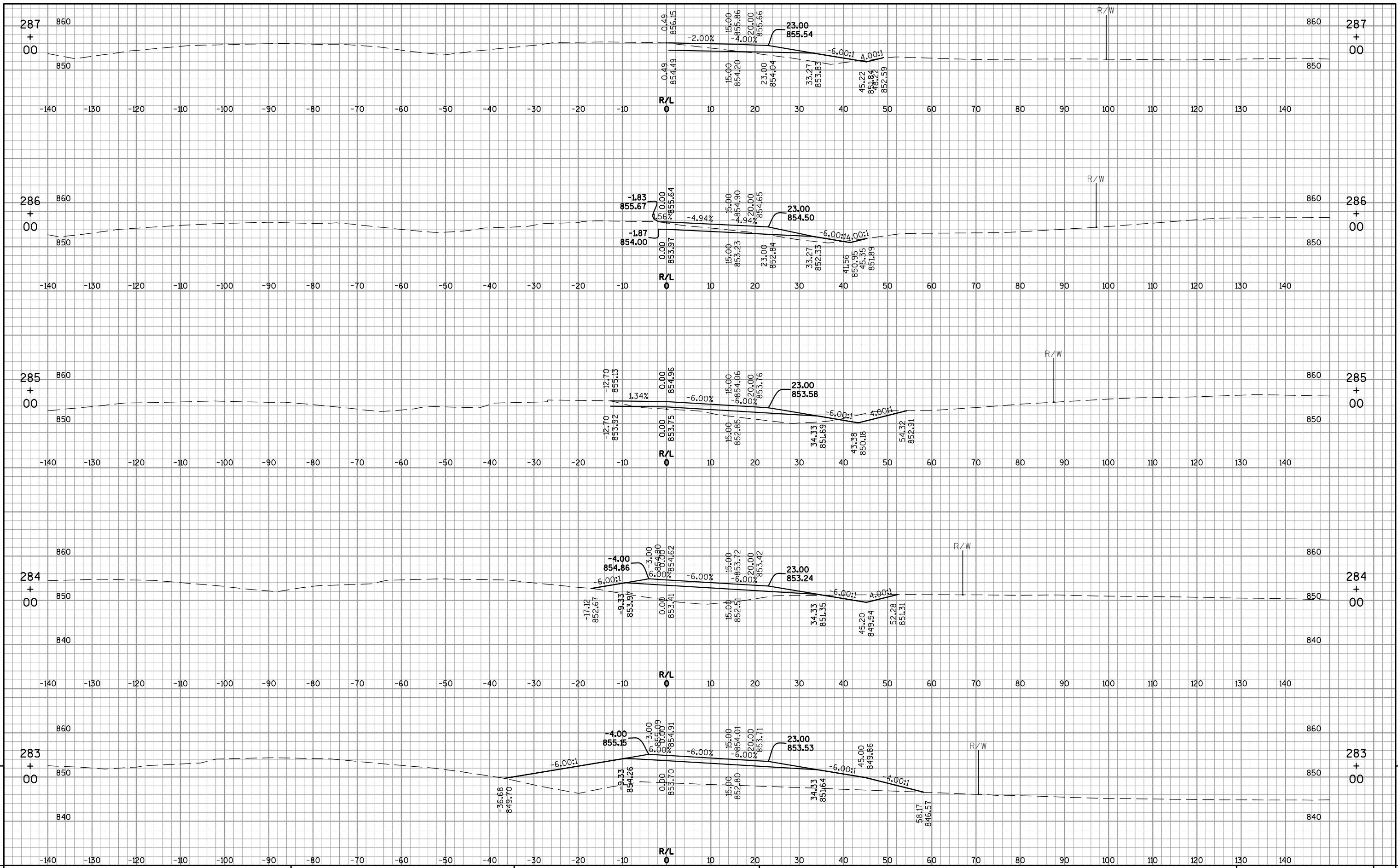
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PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: CTH V NB ON-RAMP      SHEET      E

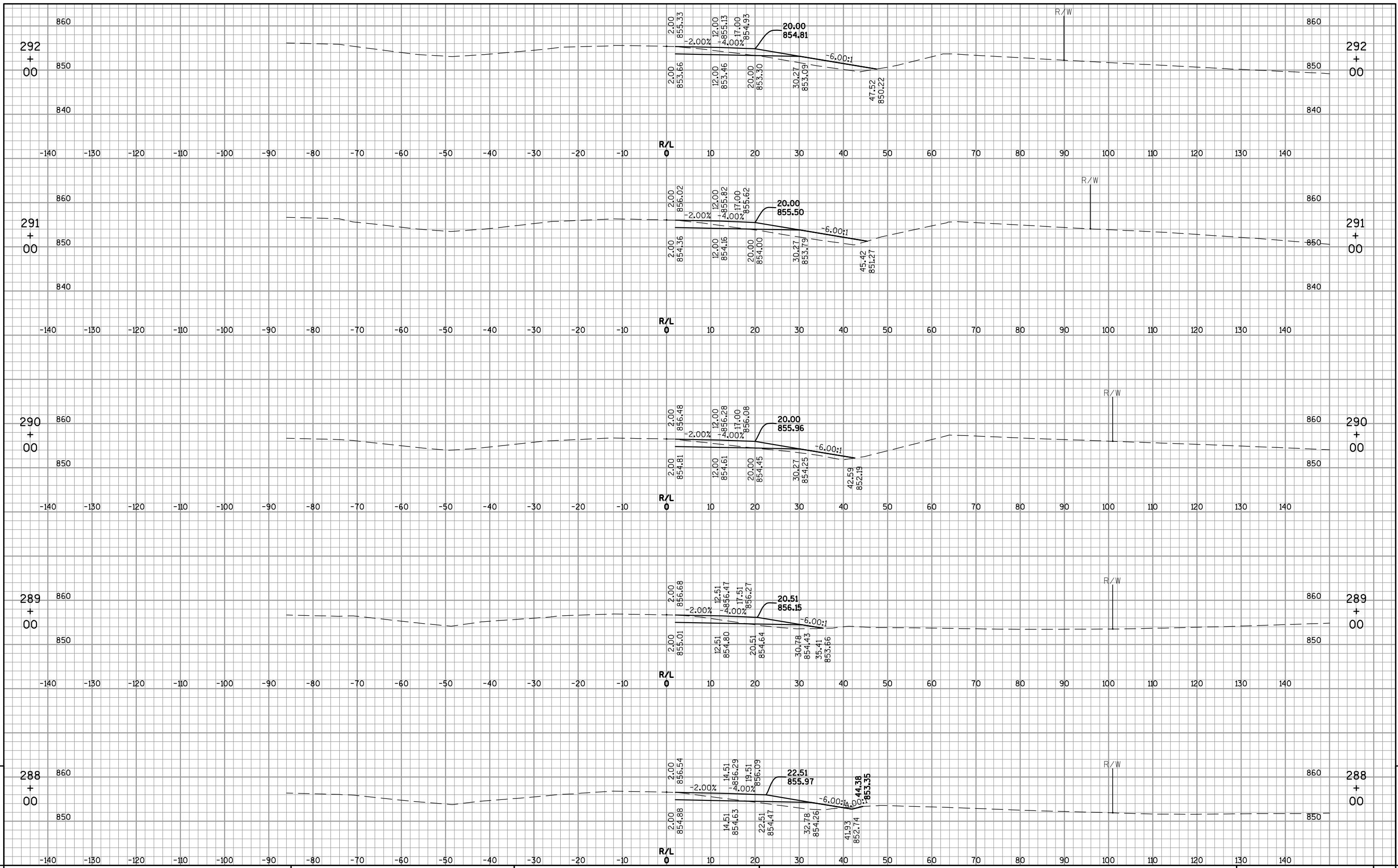
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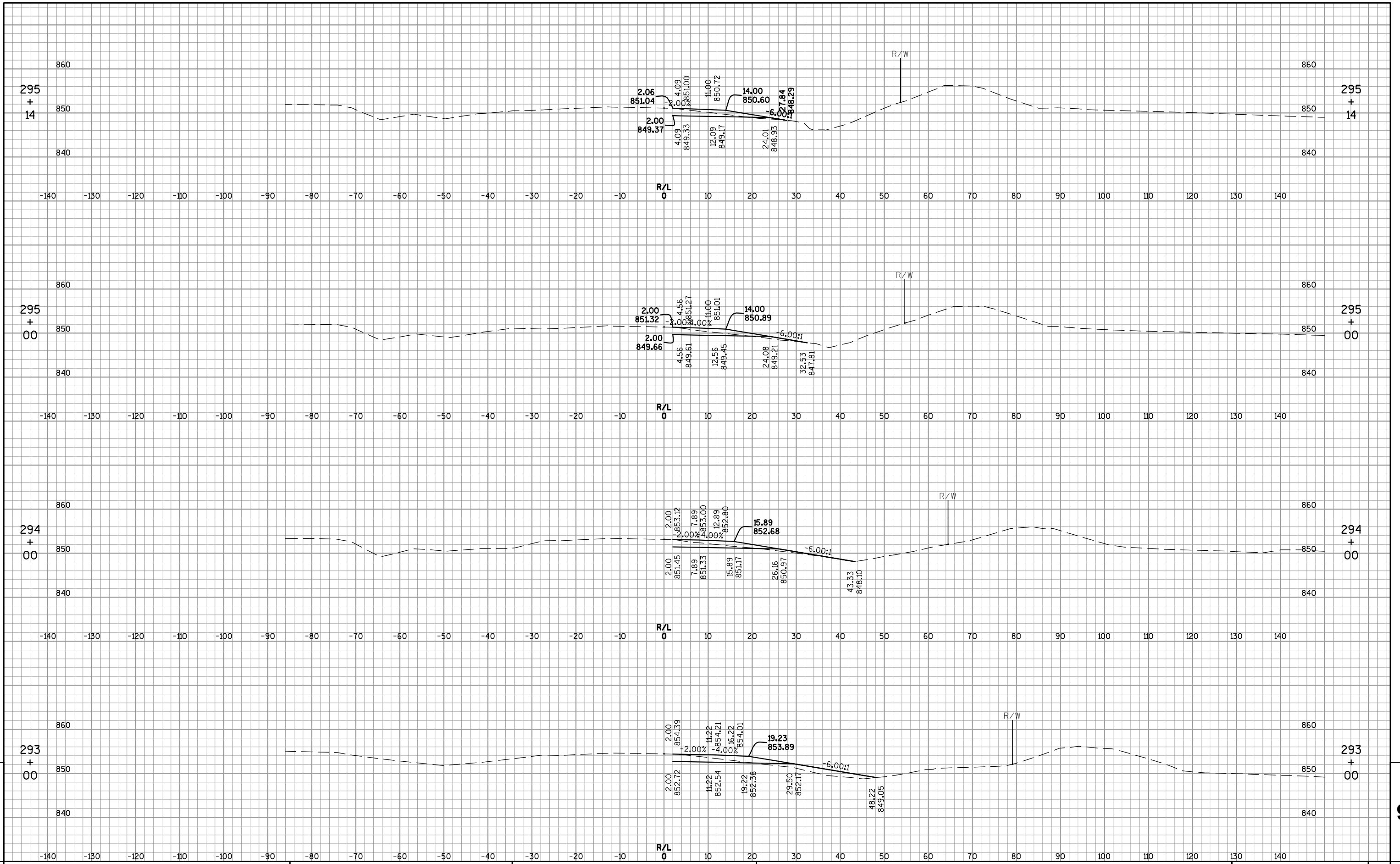
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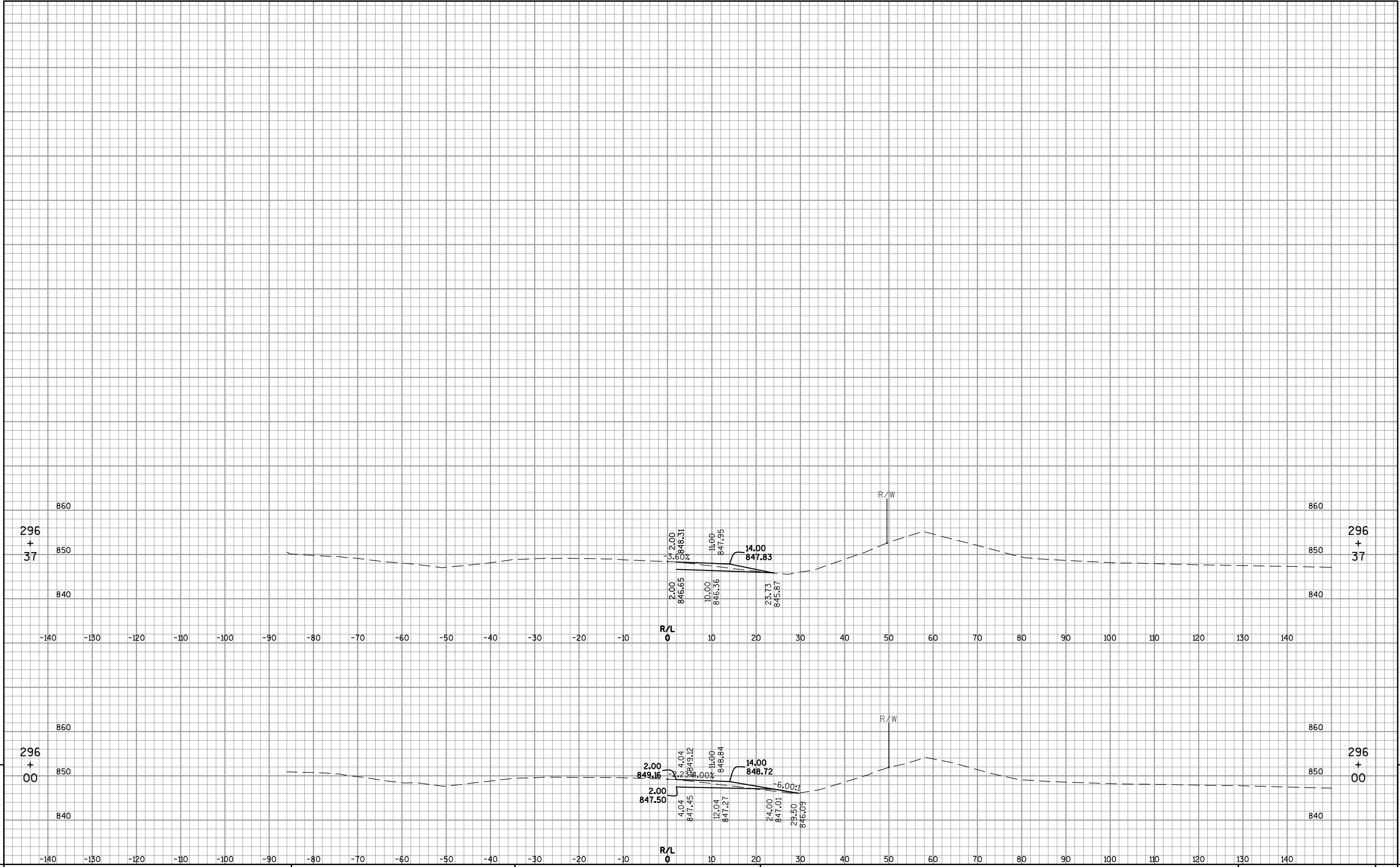
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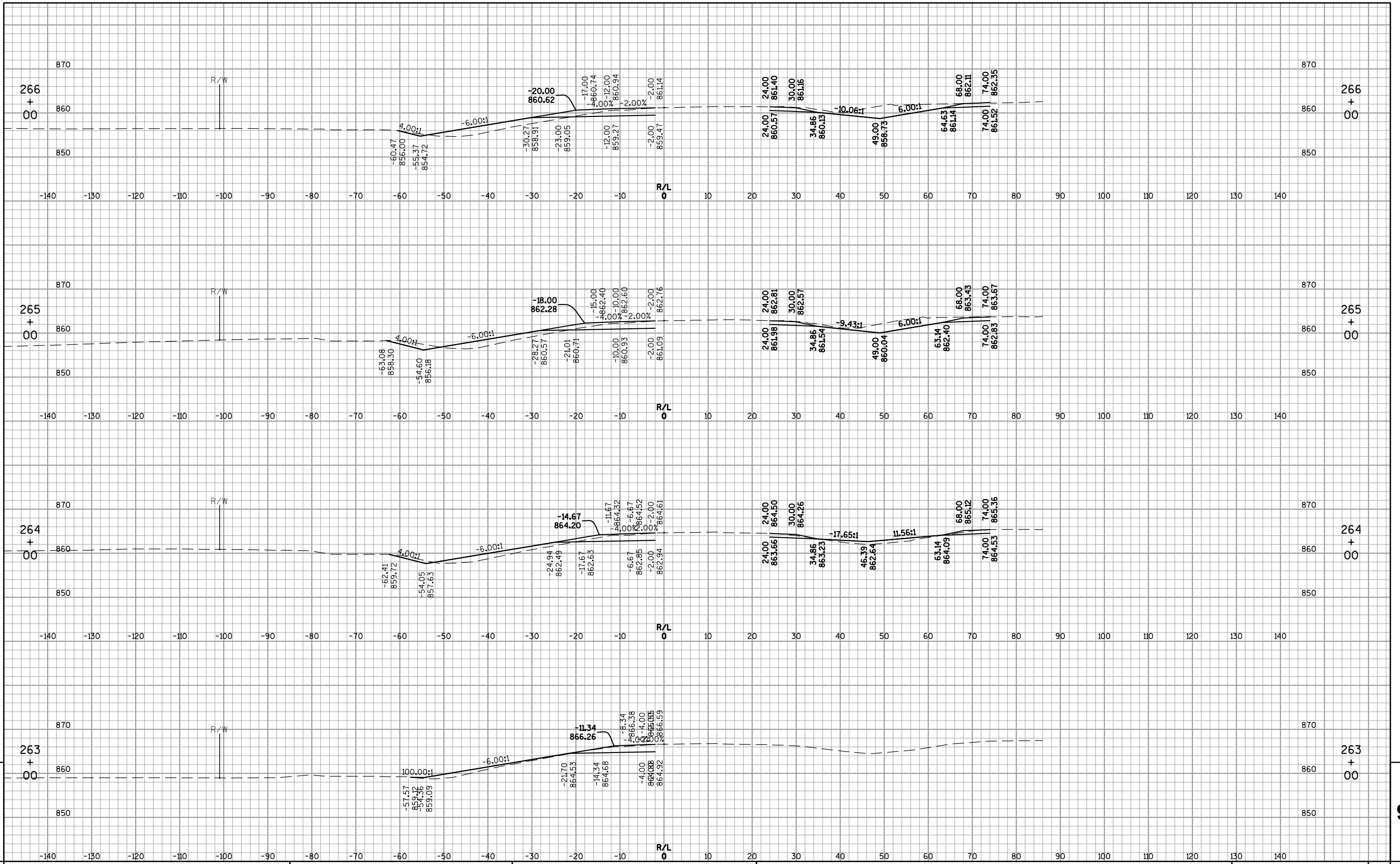
PROJECT NO: 1420-22-71 | HWY: USH 151 | COUNTY: FOND DU LAC | CROSS SECTIONS: CTH V NB ON-RAMP | SHEET | E



PROJECT NO: 1420-22-71 | HWY: USH 151 | COUNTY: FOND DU LAC | CROSS SECTIONS: CTH V NB ON-RAMP | SHEET | E



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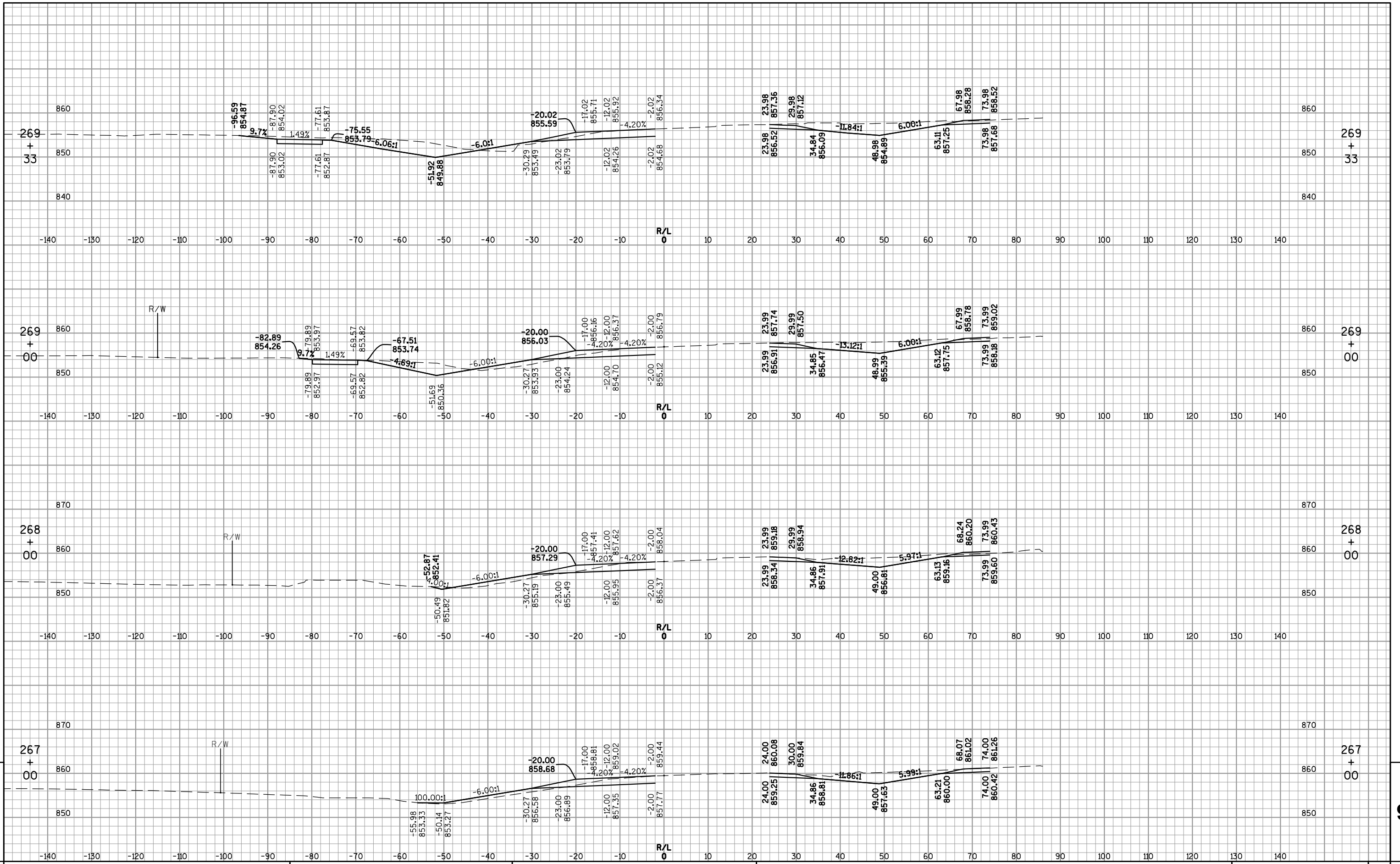


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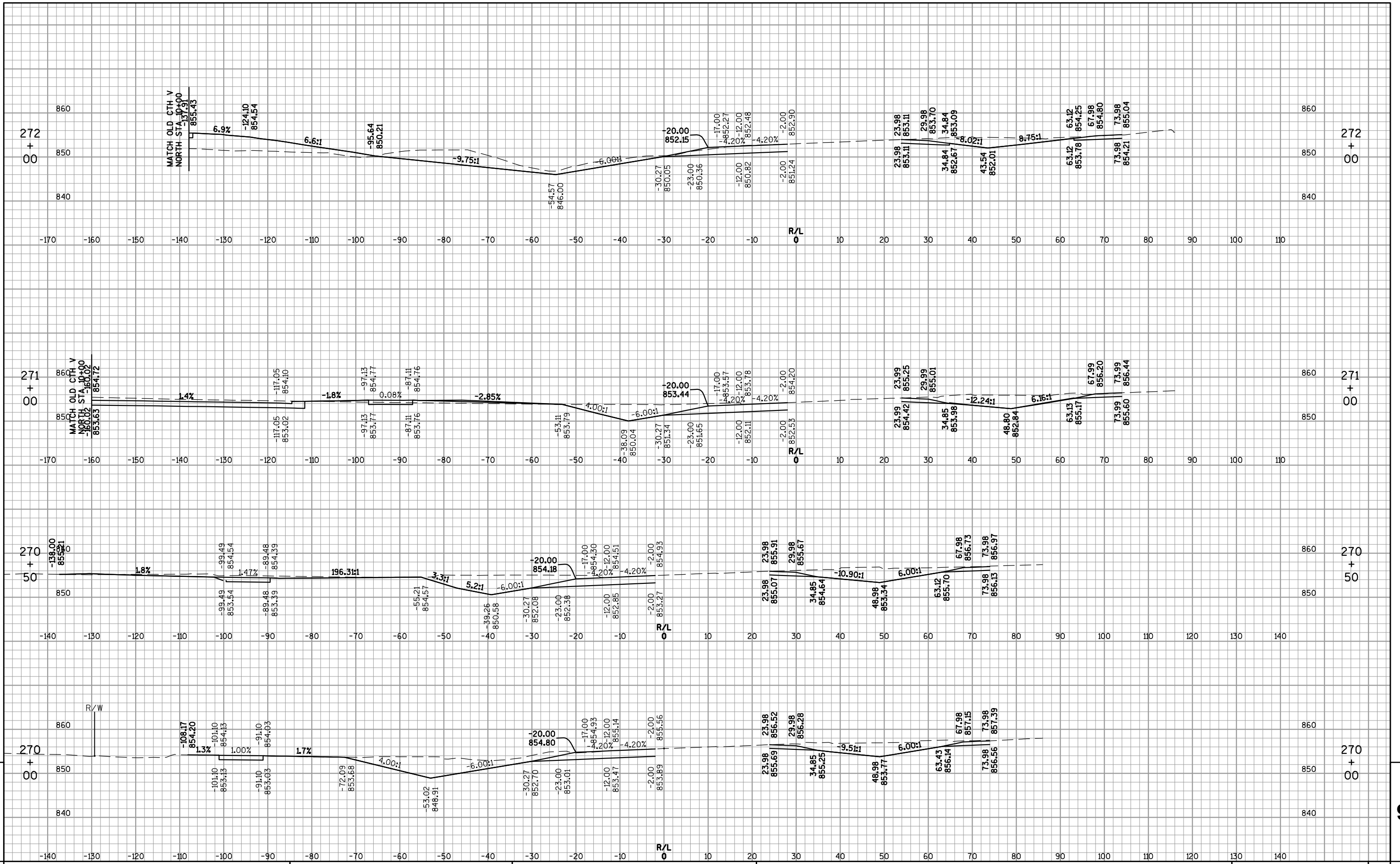
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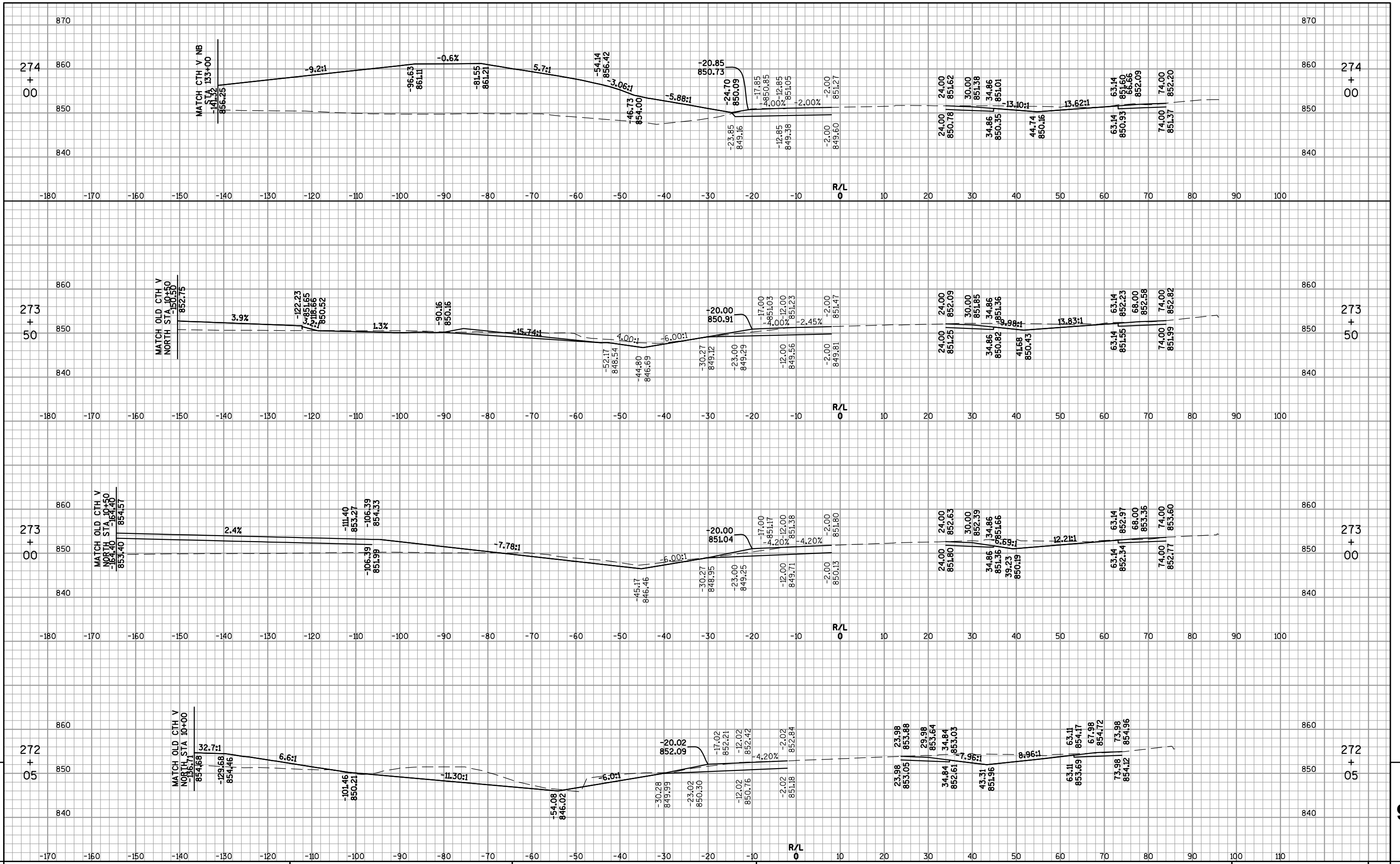


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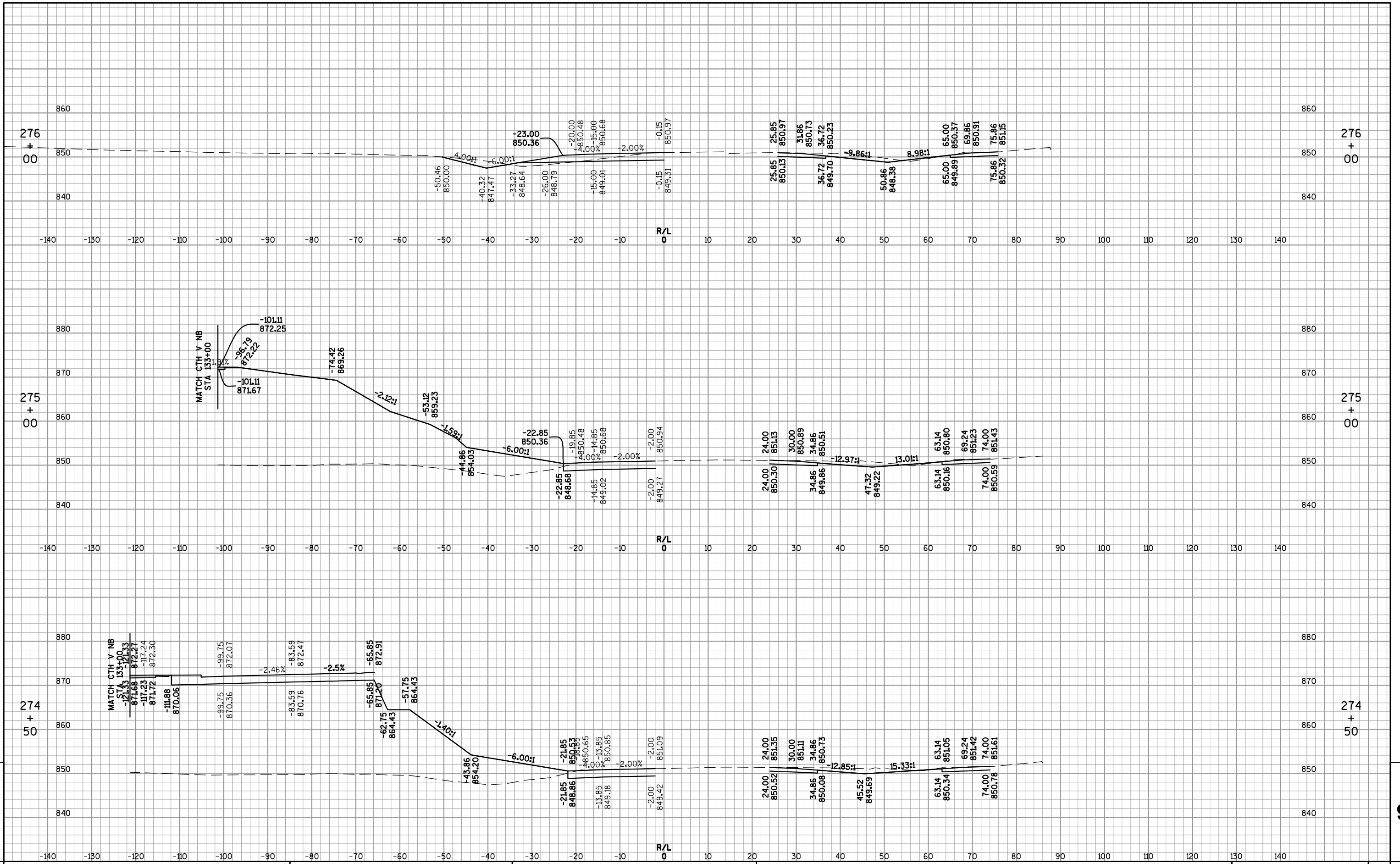


PROJECT NO: 1420-22-71 HWY: USH 151 COUNTY: FOND DU LAC CROSS SECTIONS: CTH V SB ON-RAMP SHEET E

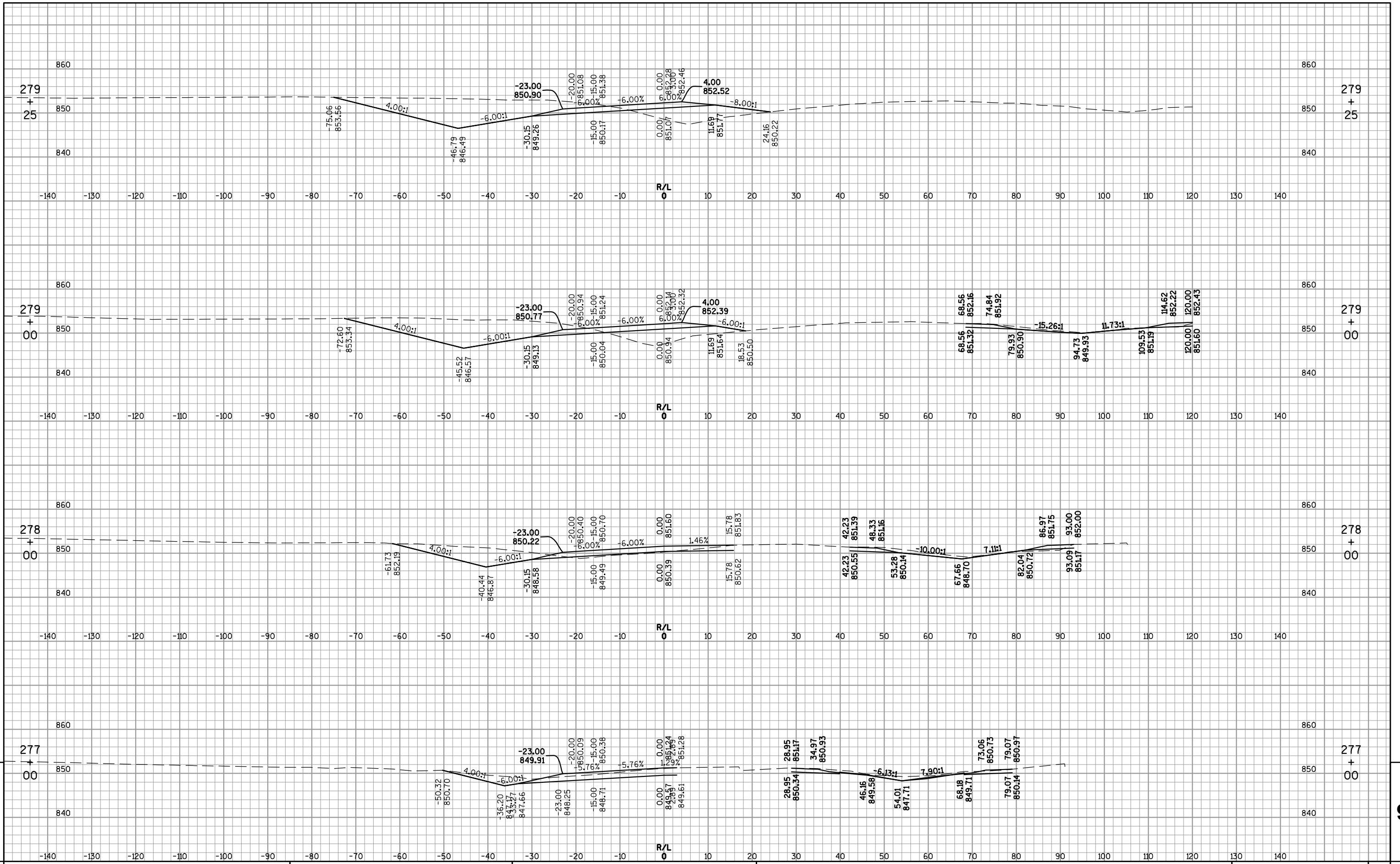




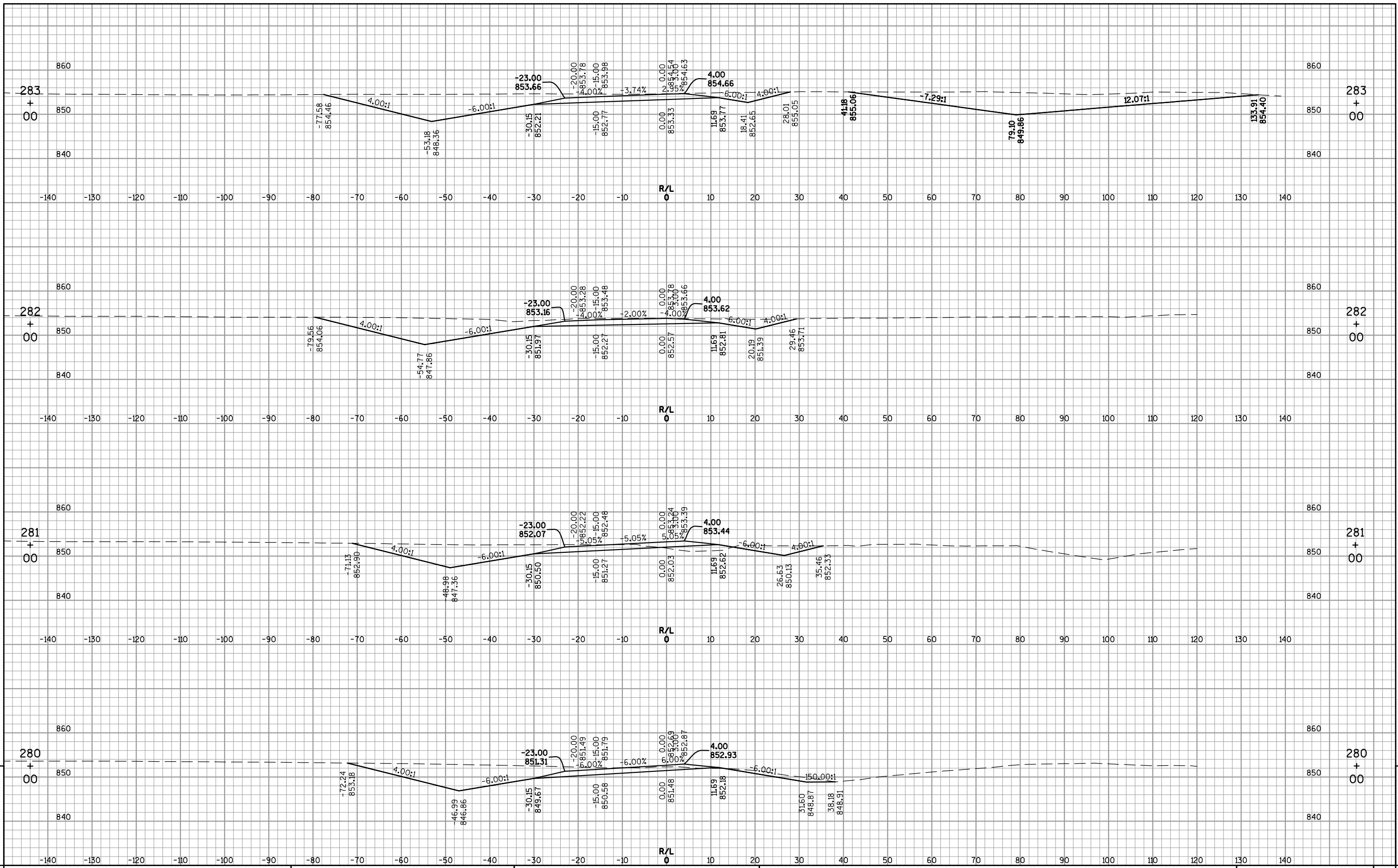
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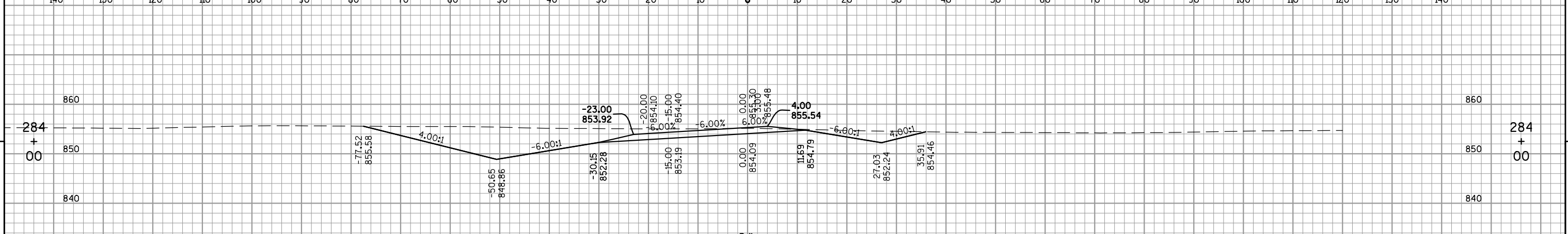
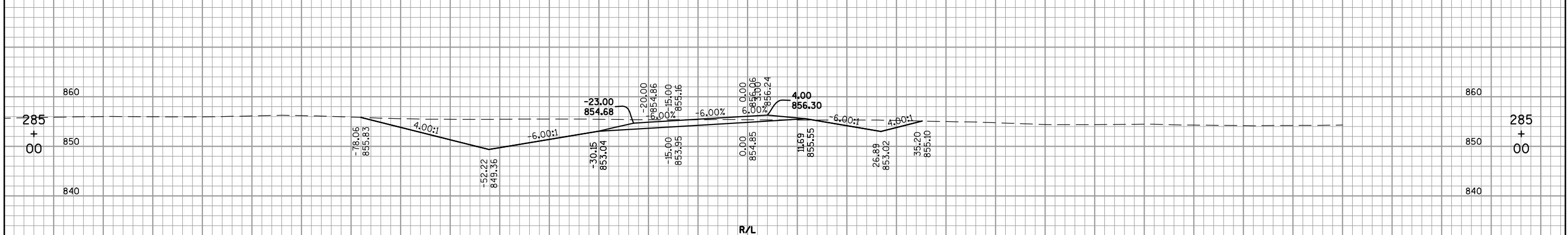
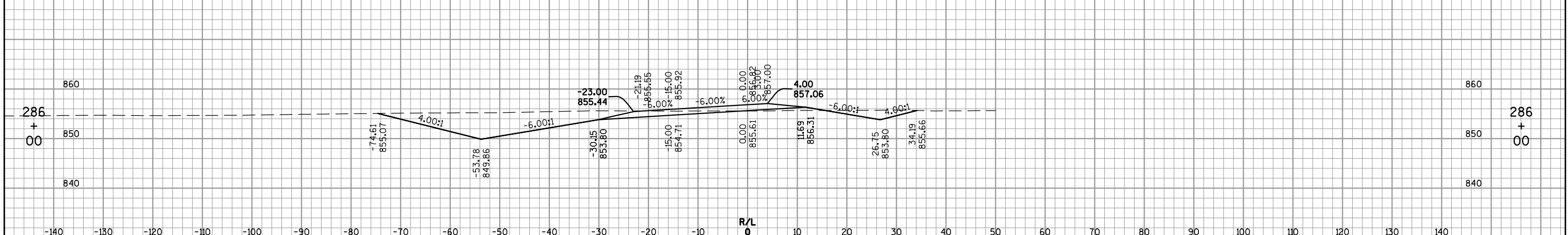
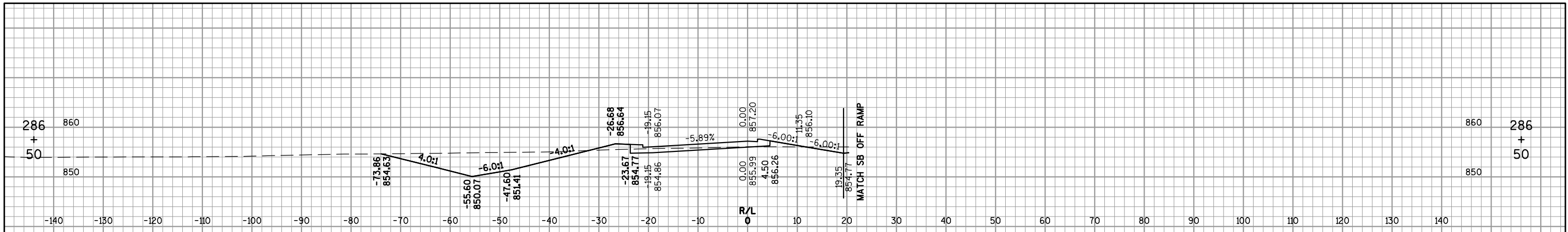
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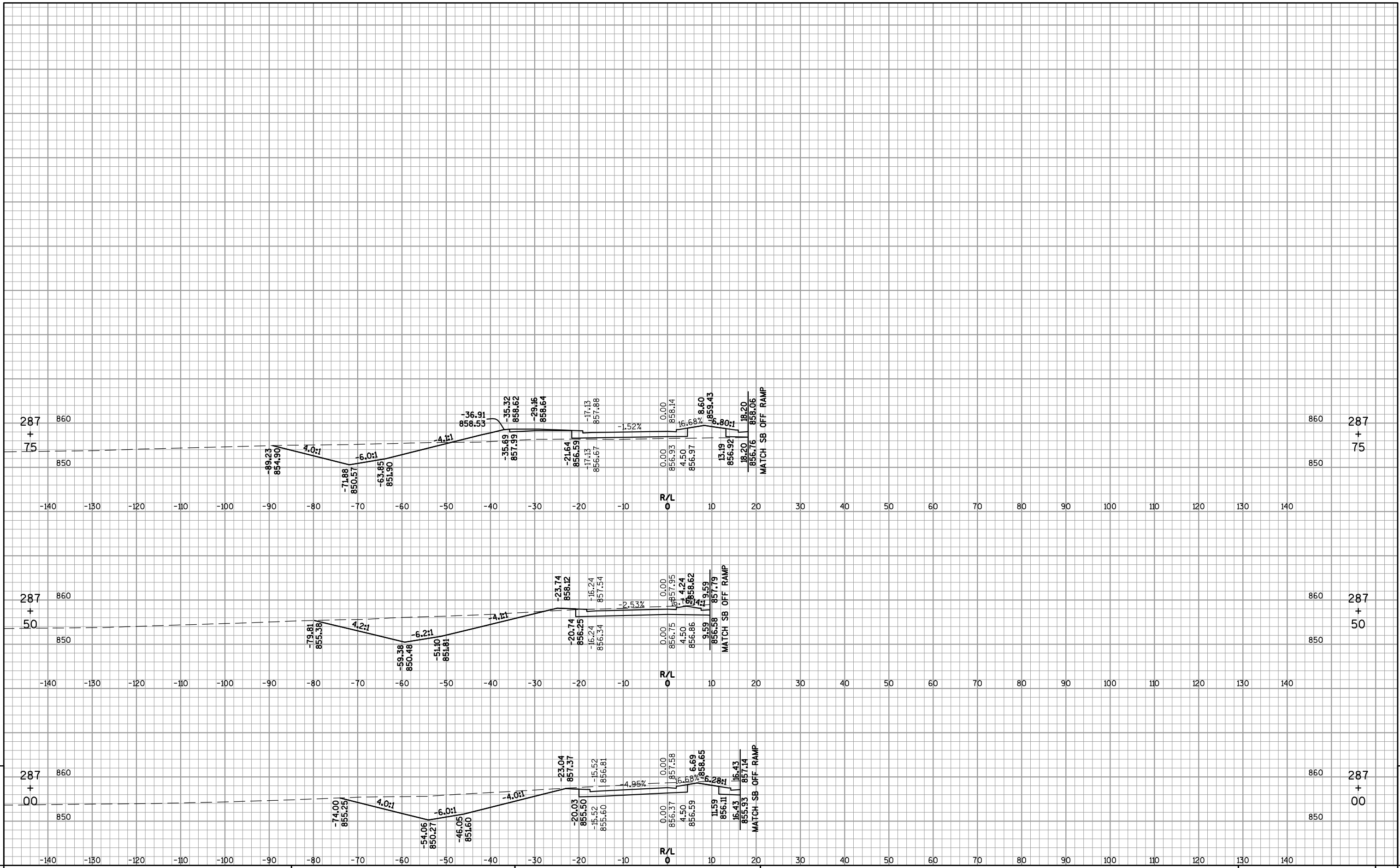
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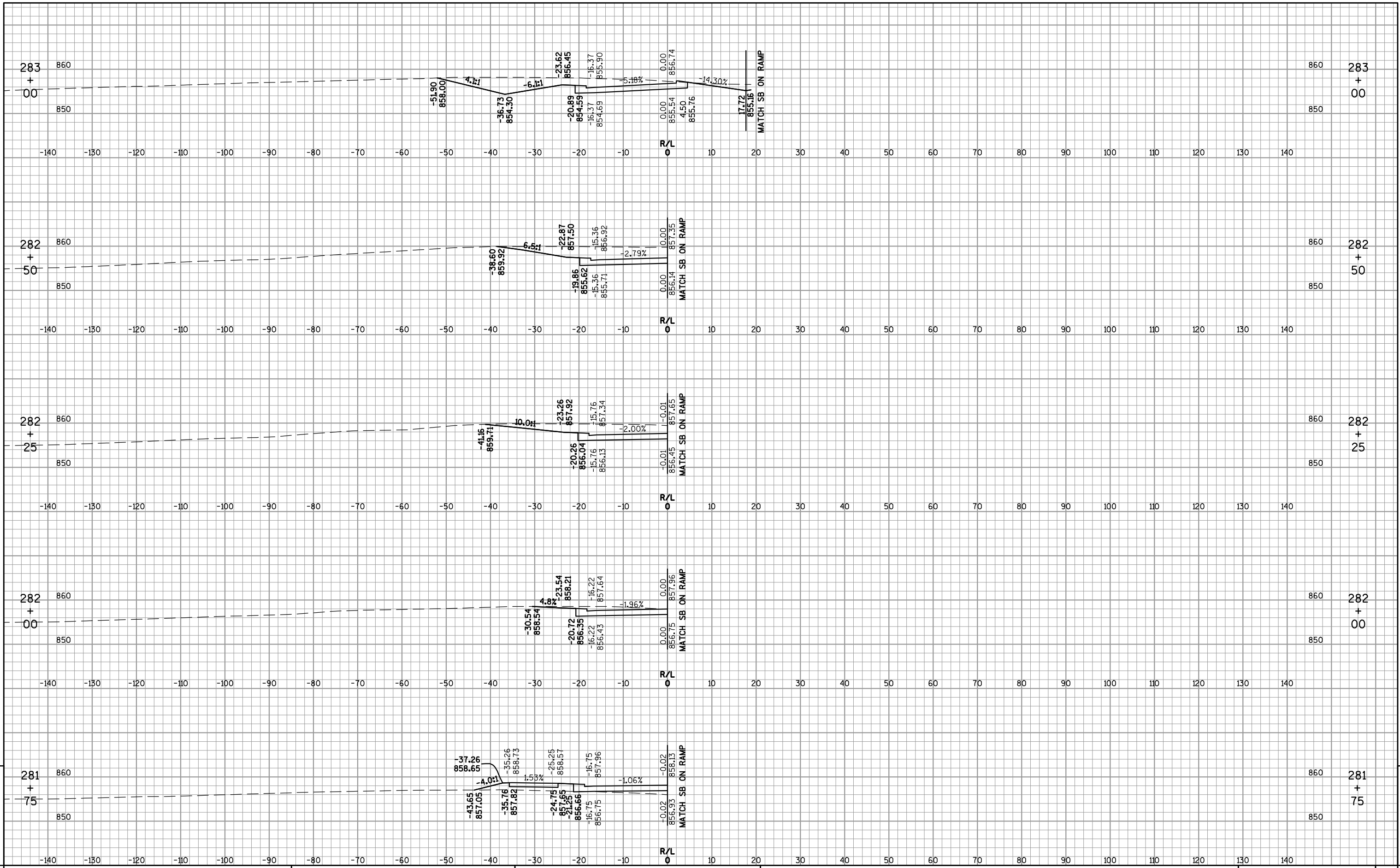
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PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: CTH V SB ON-RAMP      SHEET      E



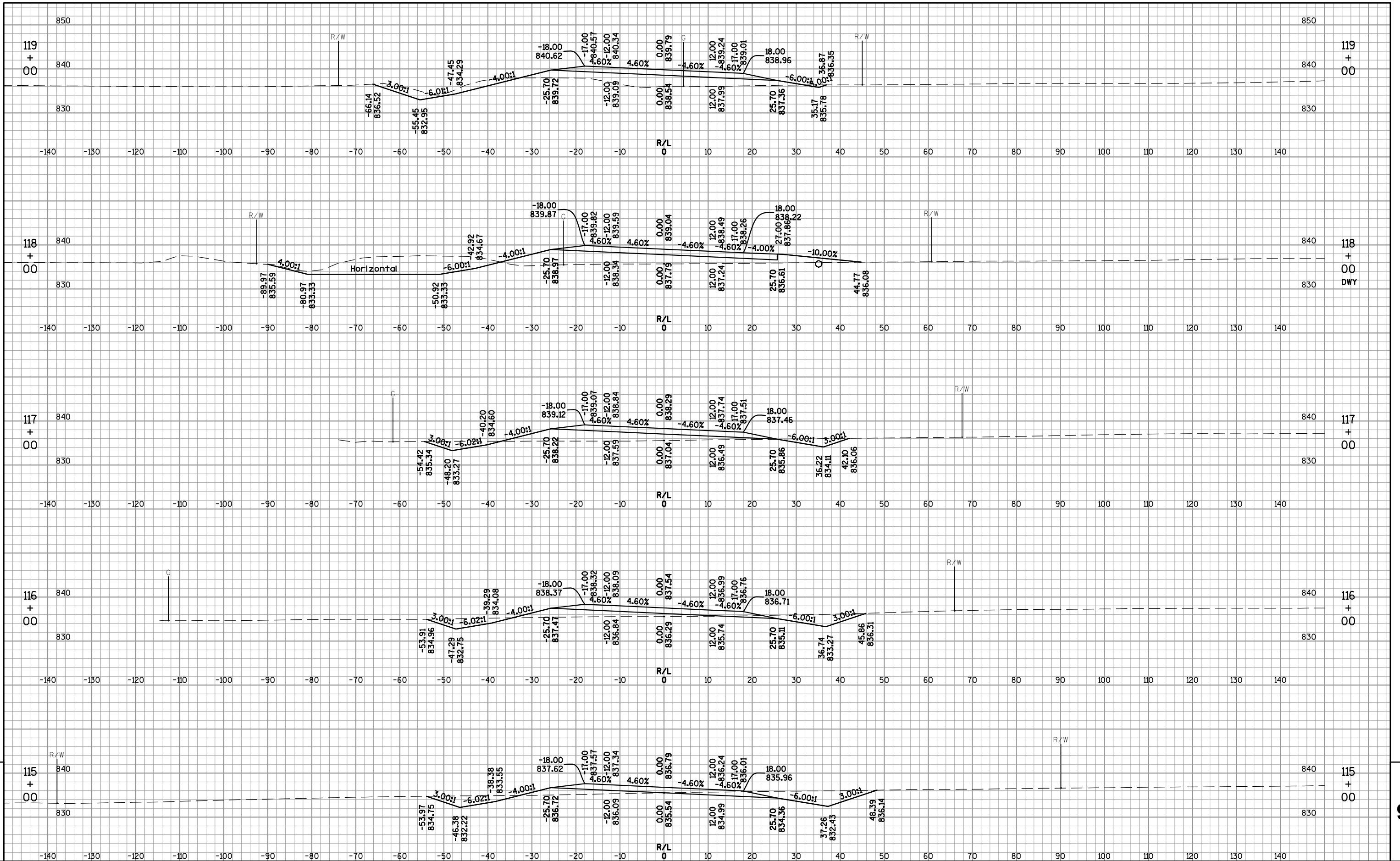
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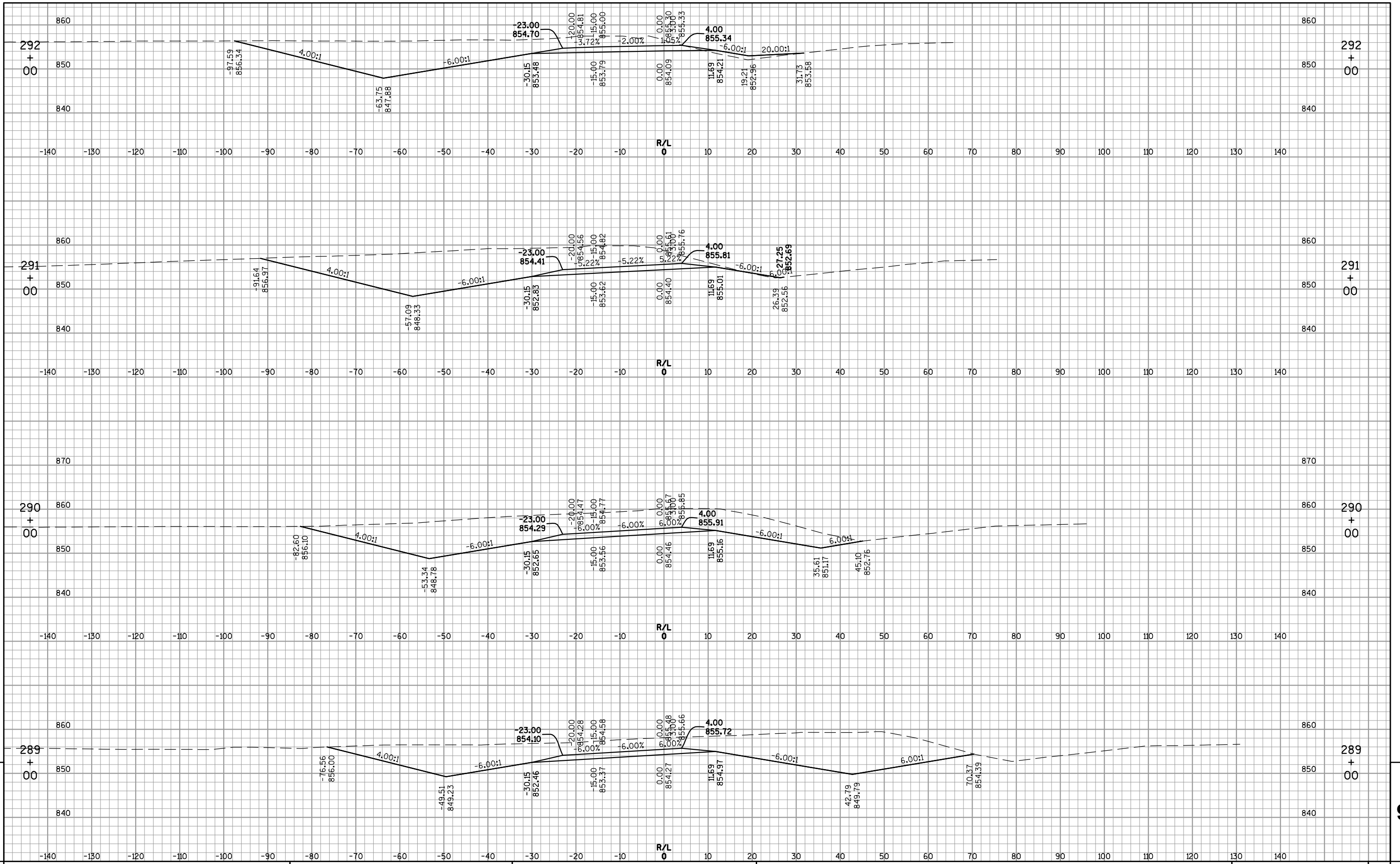
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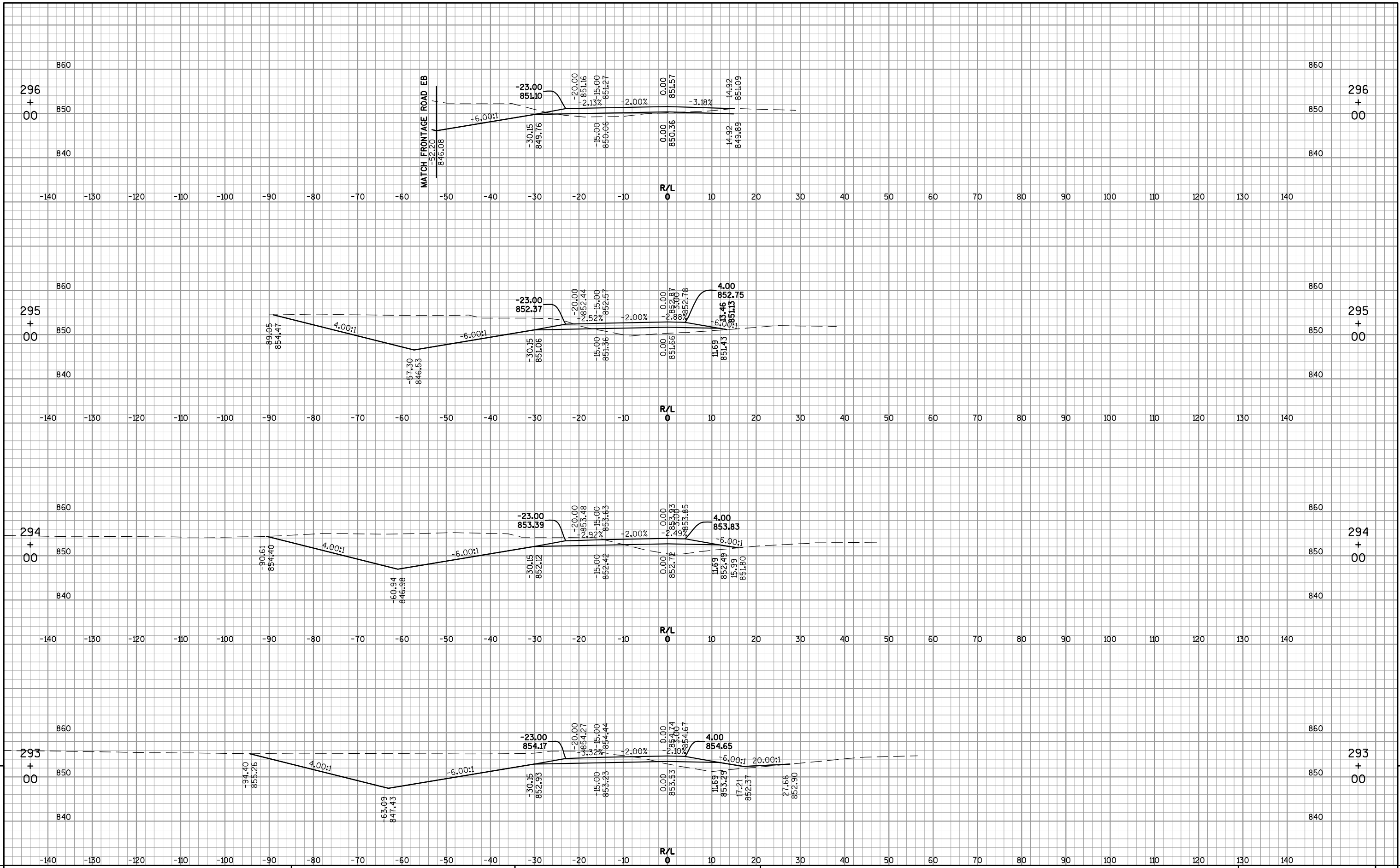


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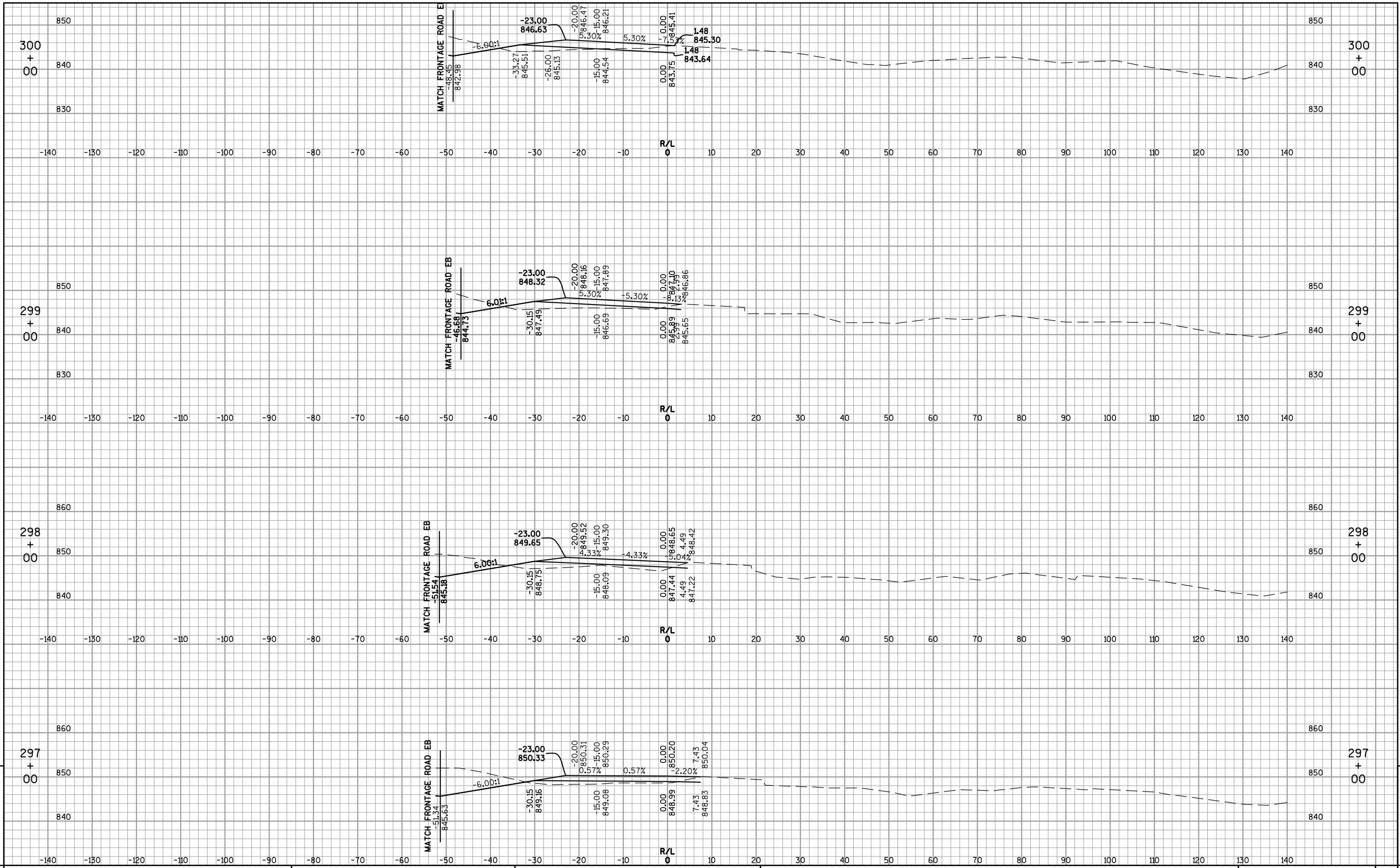


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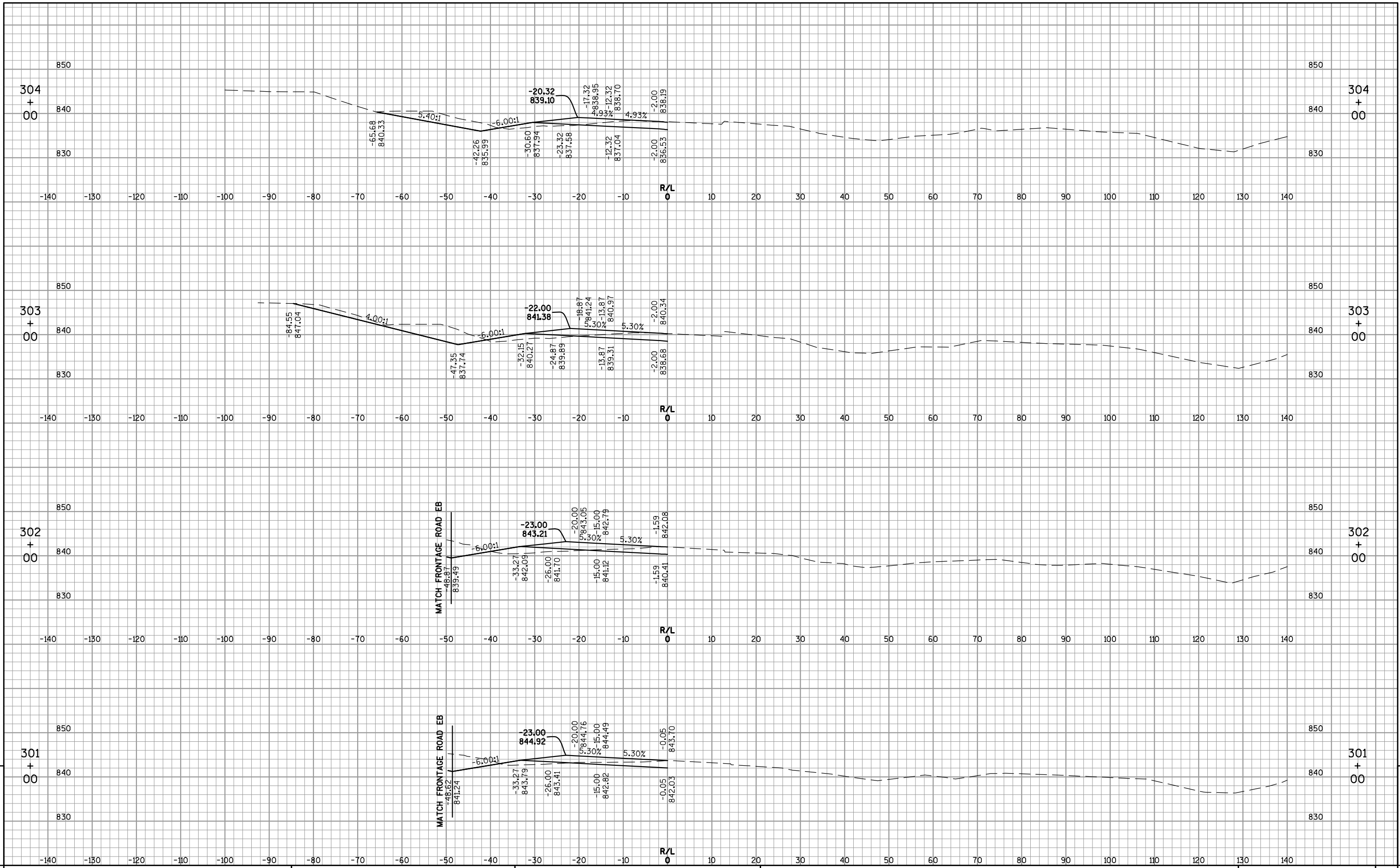
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FILE NAME : F:\TR\JOBS\E2017A12\CIVIL 3D 2012\SHEETSPLAN\142022\_090200\_XS-RAMPS.DWG      PLOT DATE : 1/9/2015 1:50 PM      PLOT BY : OMNI ASSOCIATES, INC - CRAIG KNUTH



PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: CTH V SB OFF-RAMP      SHEET      E

FILE NAME : F:\TR\JOBS\E2017A12\CIVIL 3D 2012\SHEETSPLAN\142022\_090200\_XS-RAMPS.DWG      PLOT DATE : 1/9/2015 1:51 PM      PLOT BY : OMNI ASSOCIATES, INC - CRAIG KNUTH

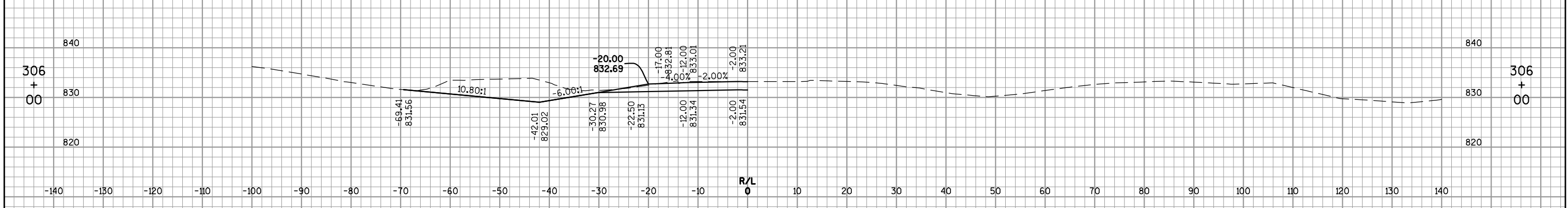
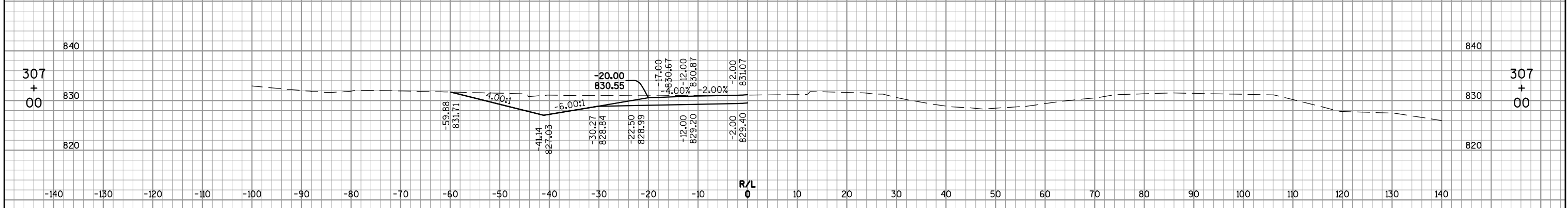
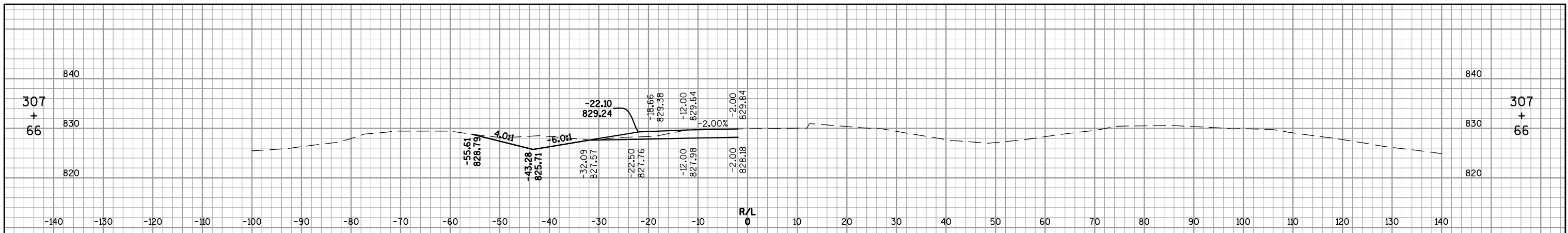


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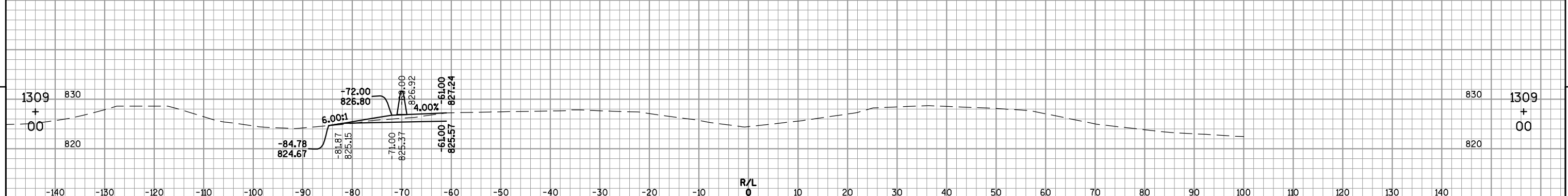
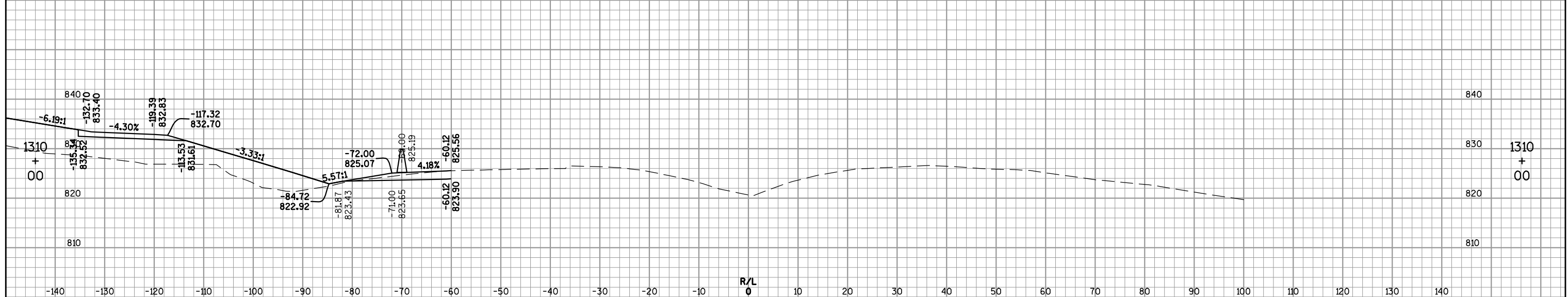
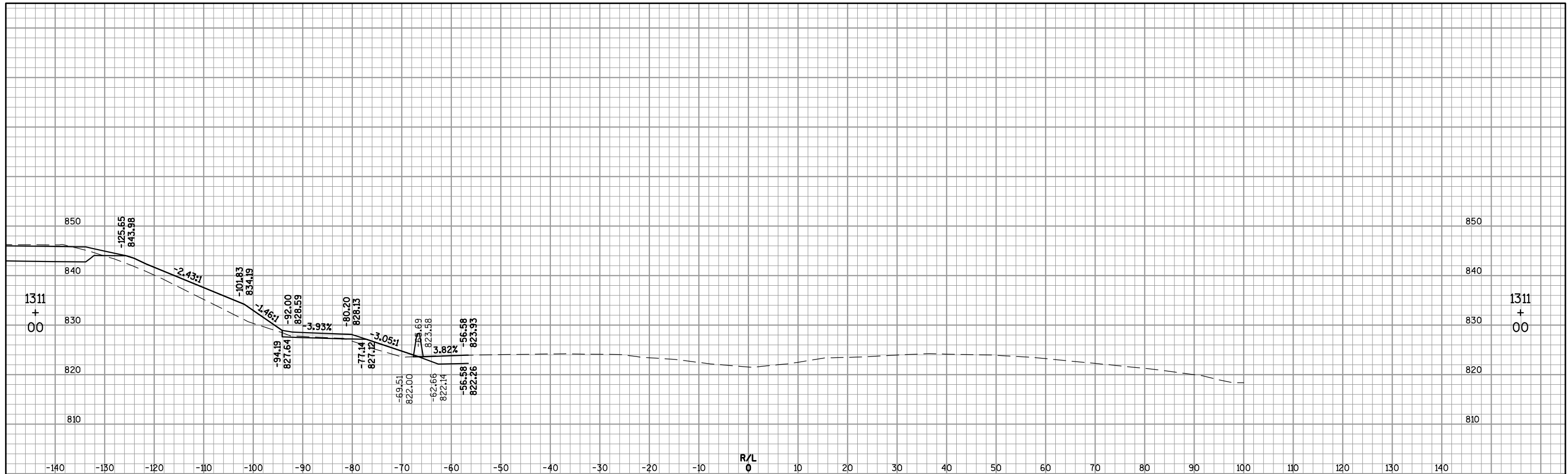
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WISDOT/CADD SHEET 49



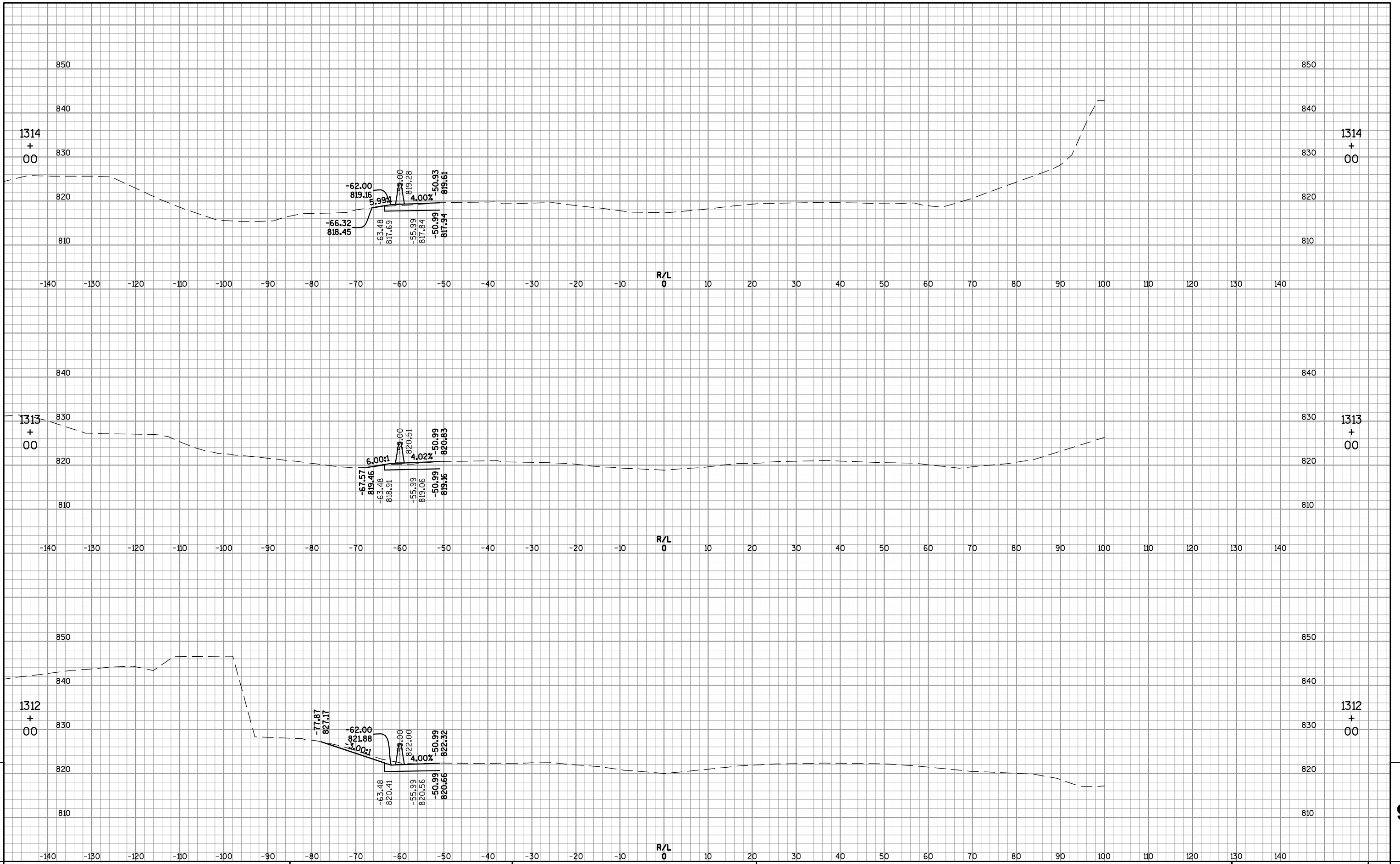
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PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: USH 151 (BARRIER WALL)      SHEET      E

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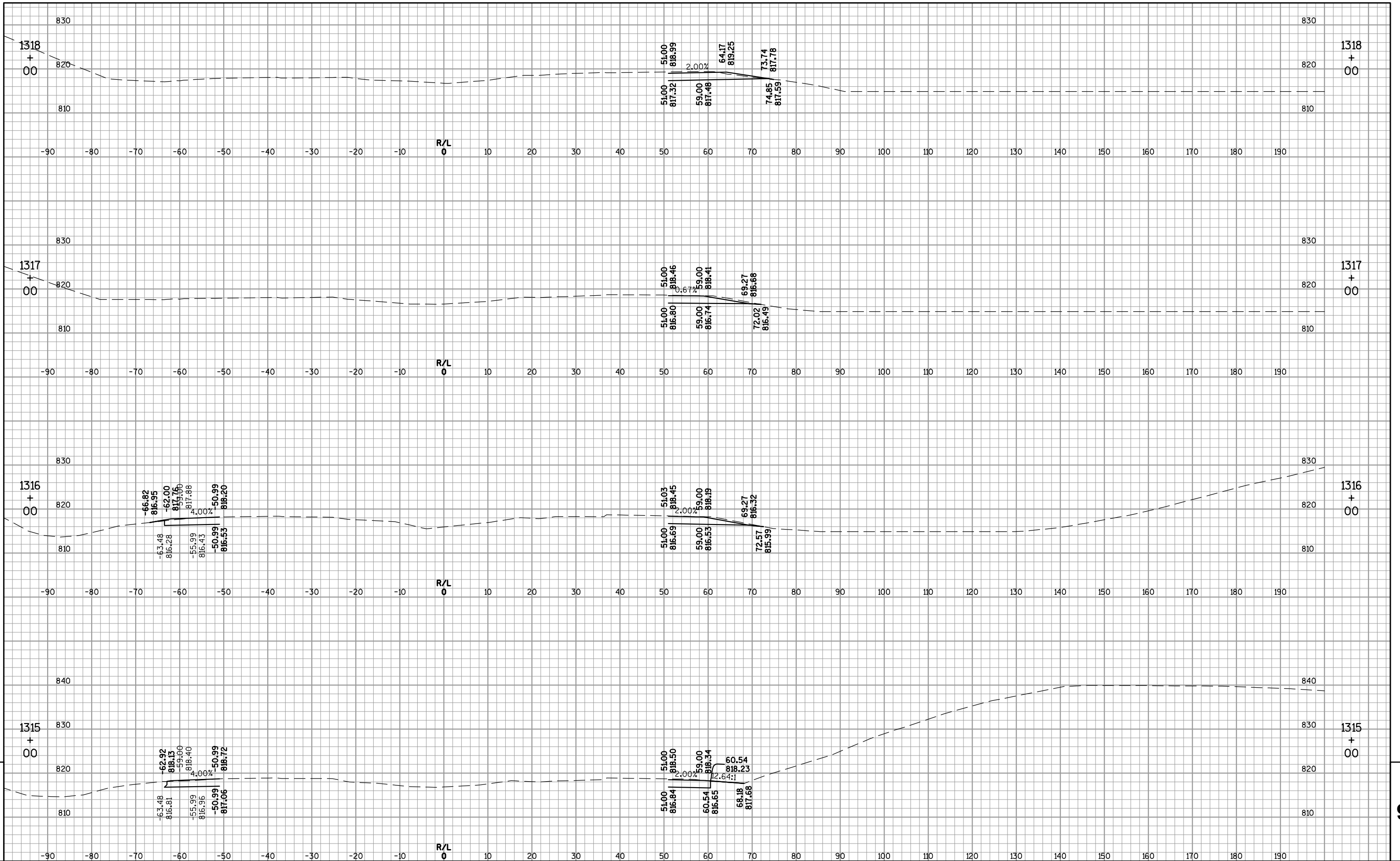
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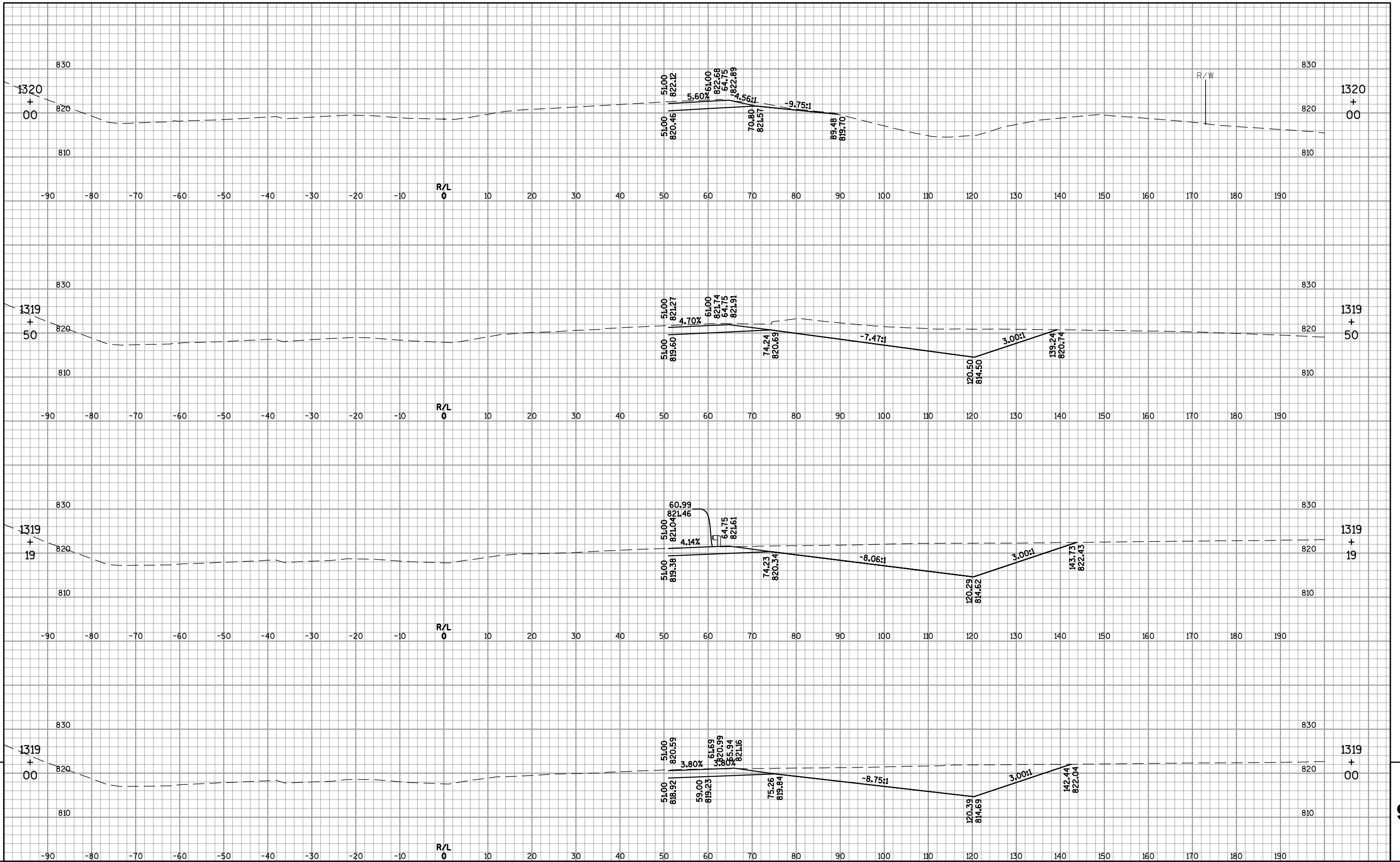
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PROJECT NO: 1420-22-71 | HWY: USH 151 | COUNTY: FOND DU LAC | CROSS SECTIONS: USH 151 (BARRIER WALL) | SHEET | E

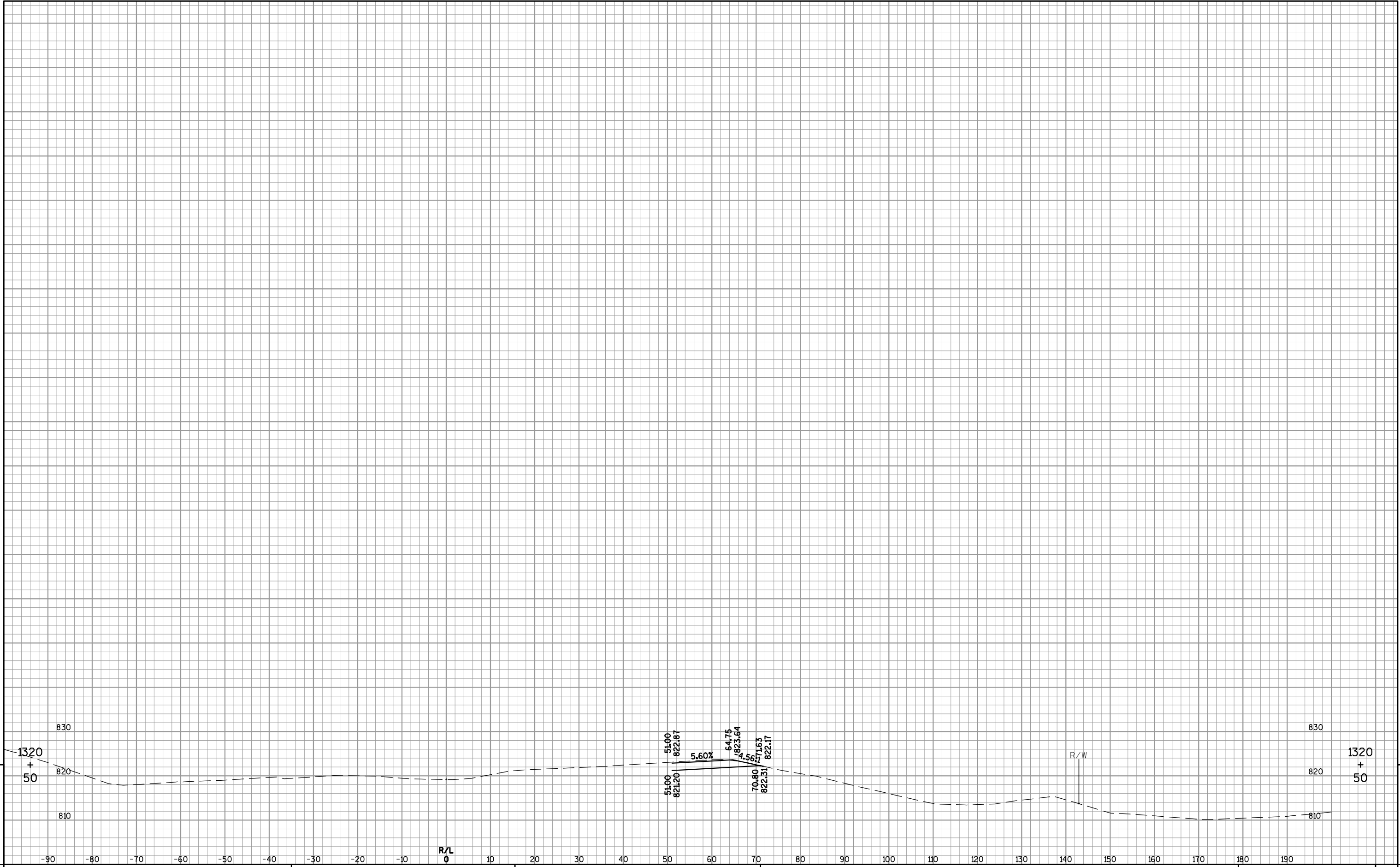


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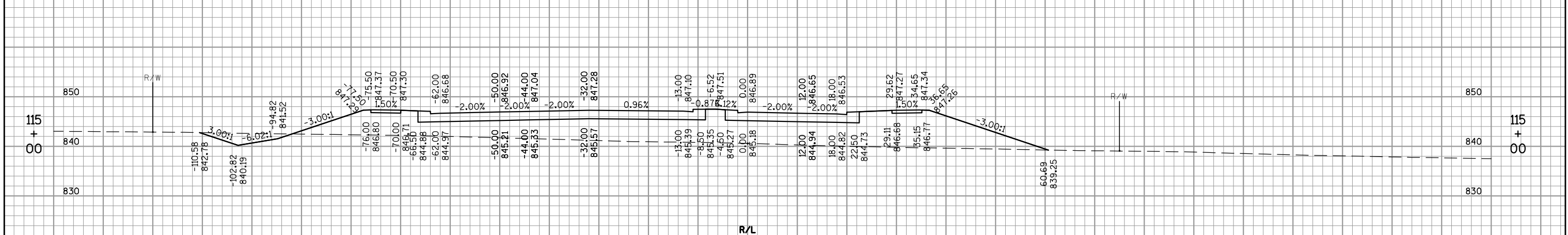
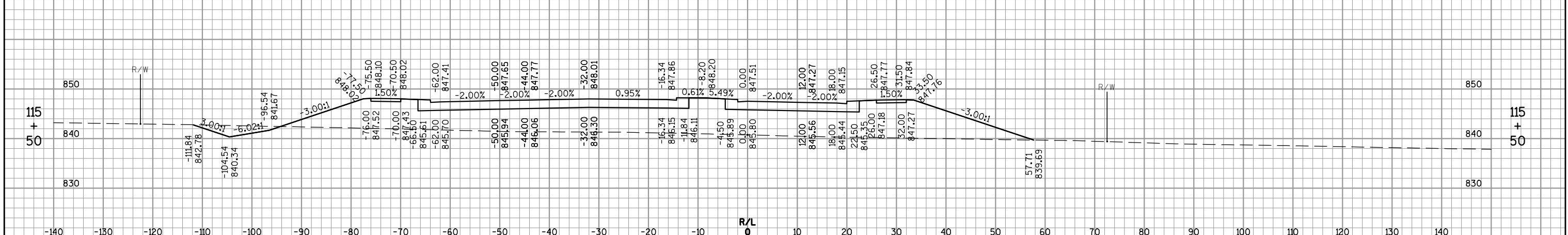
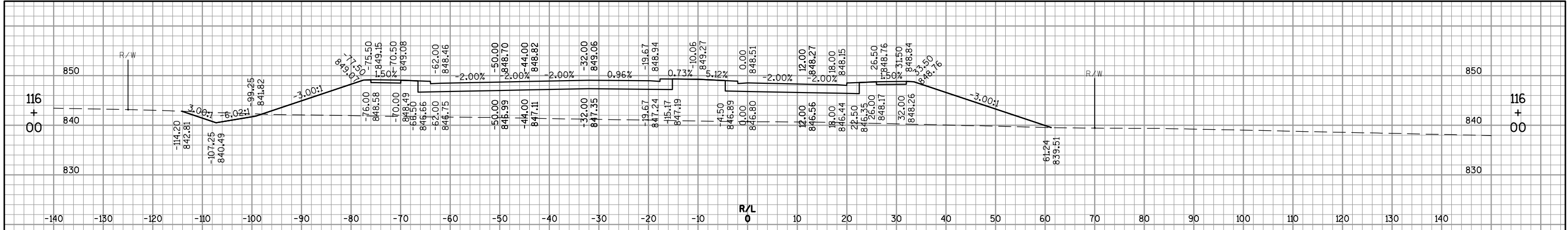




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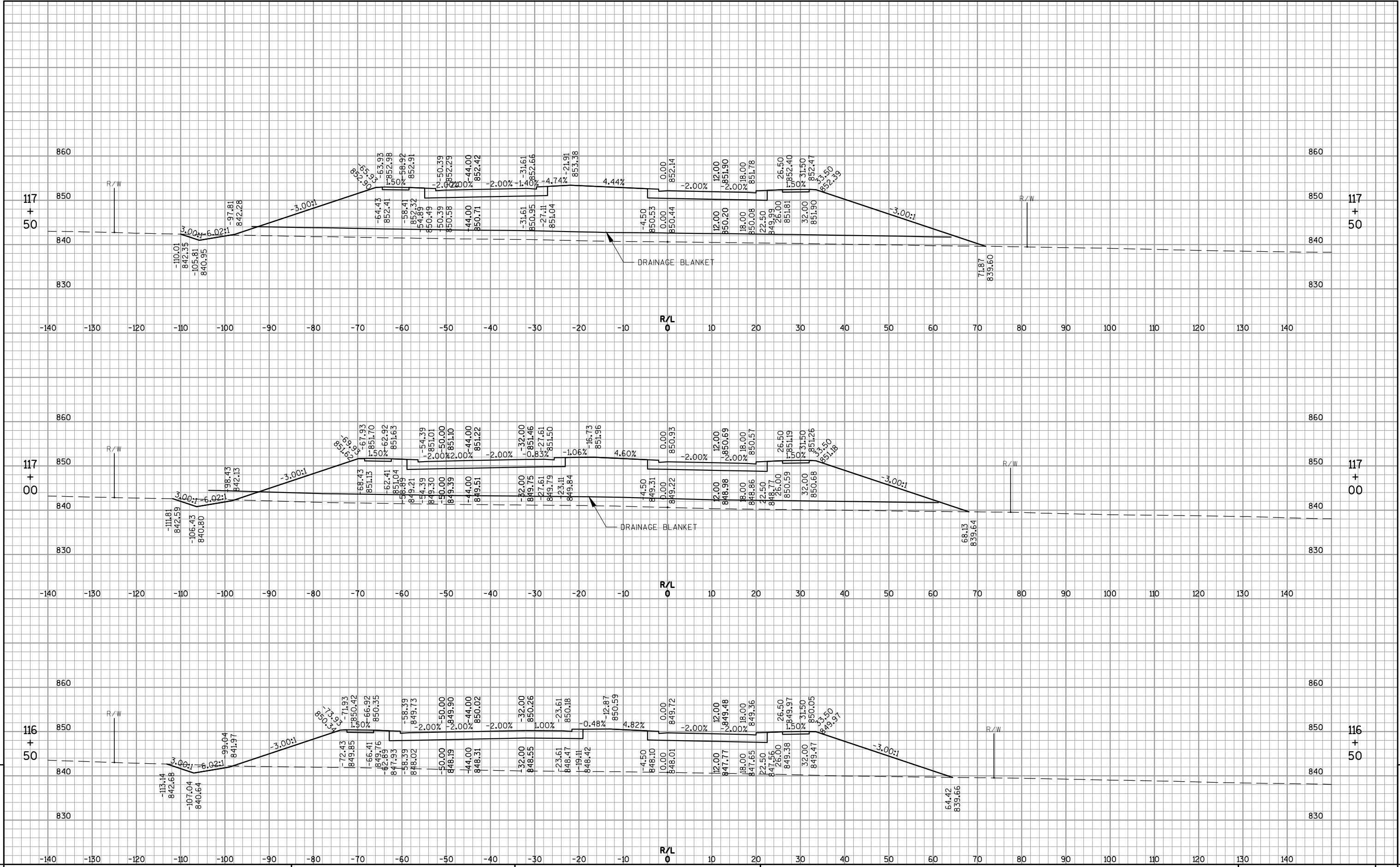
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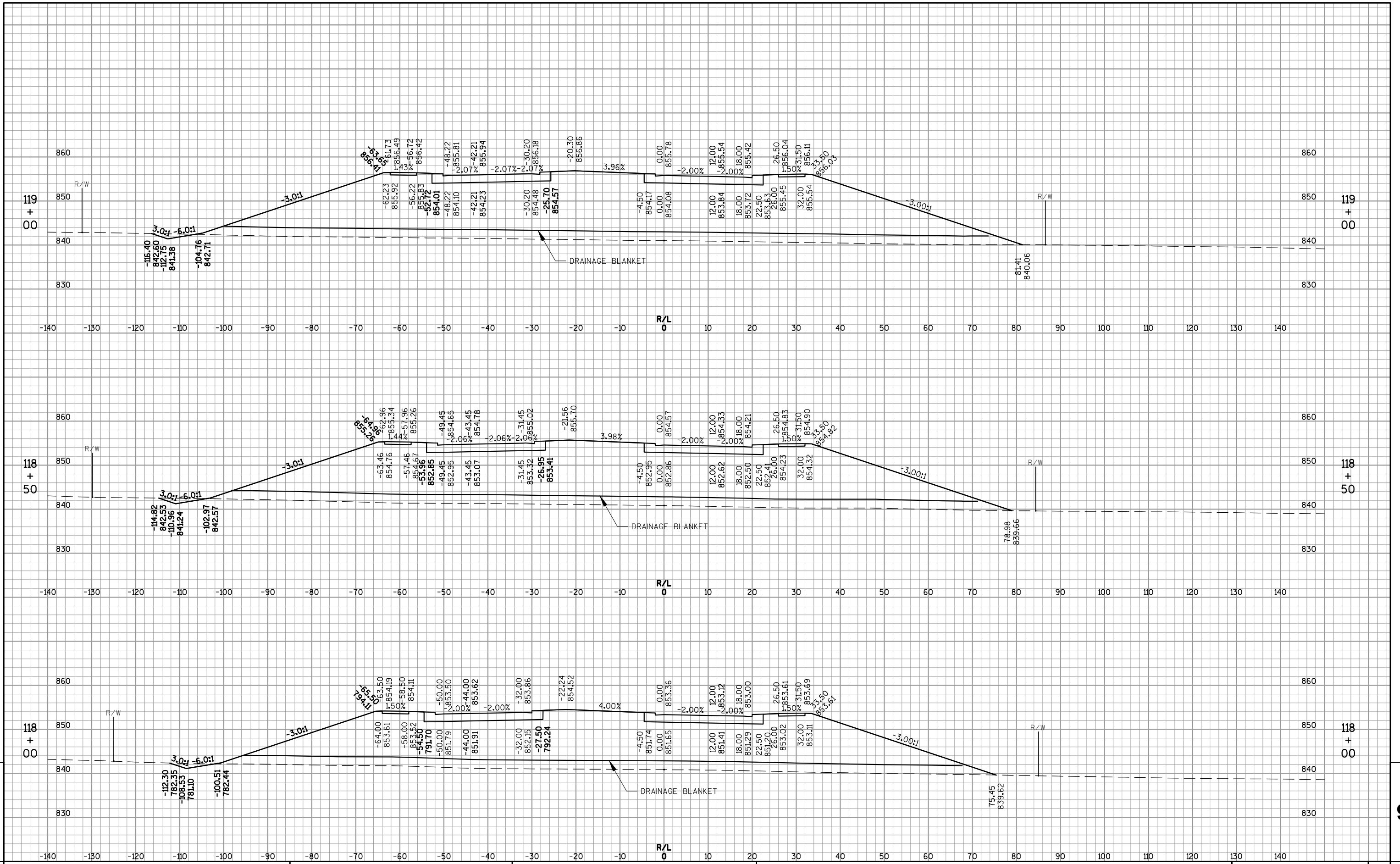
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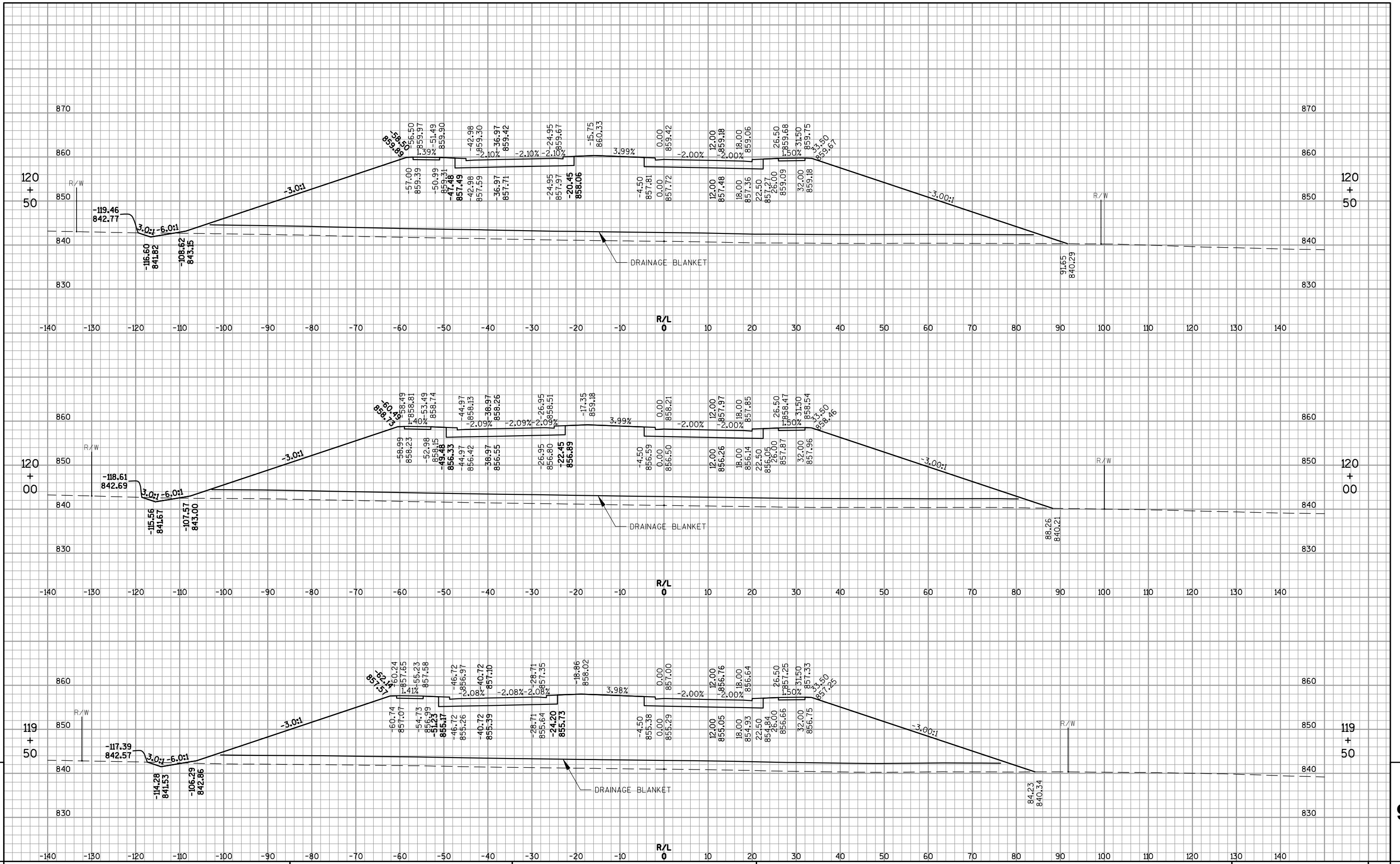
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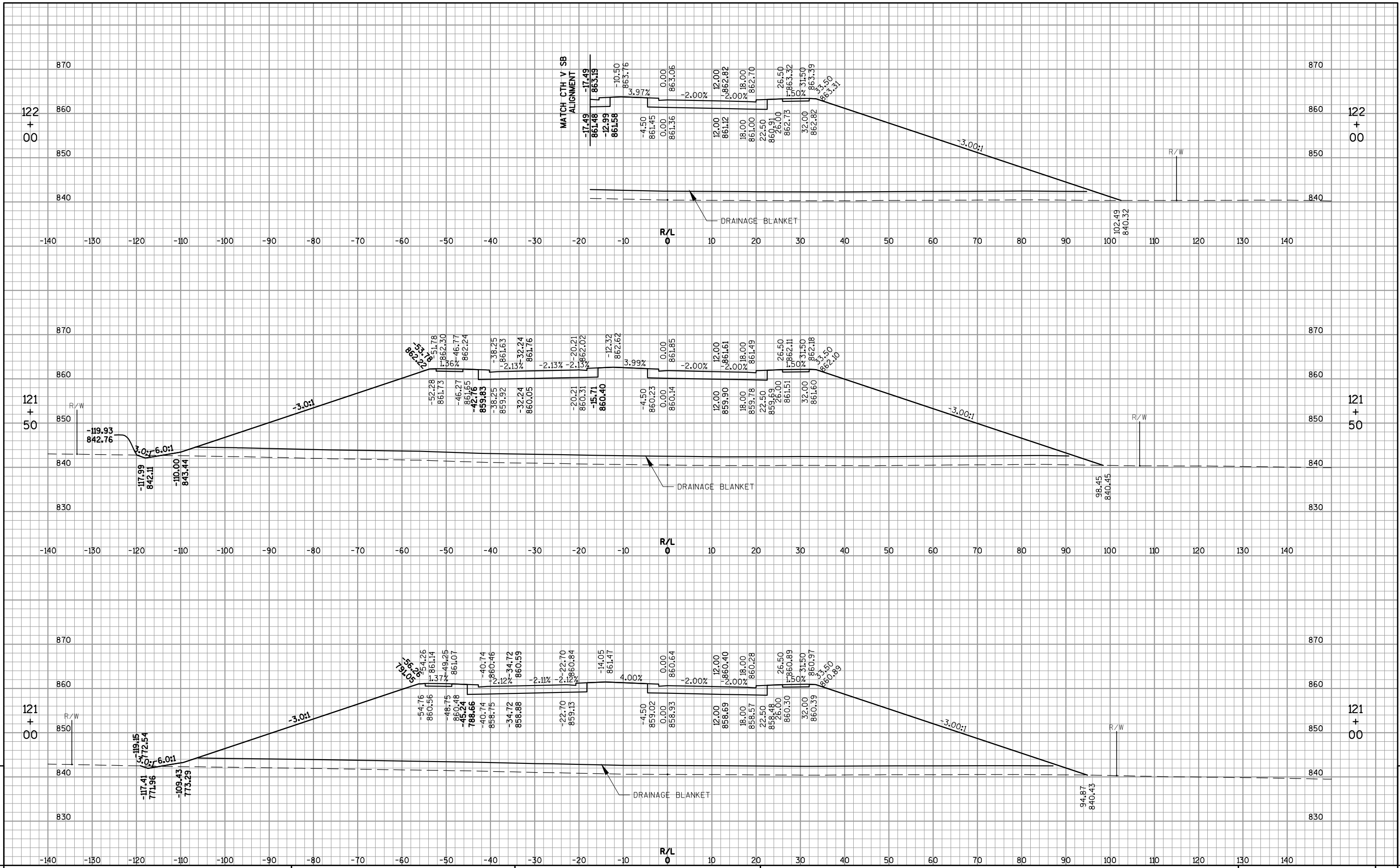


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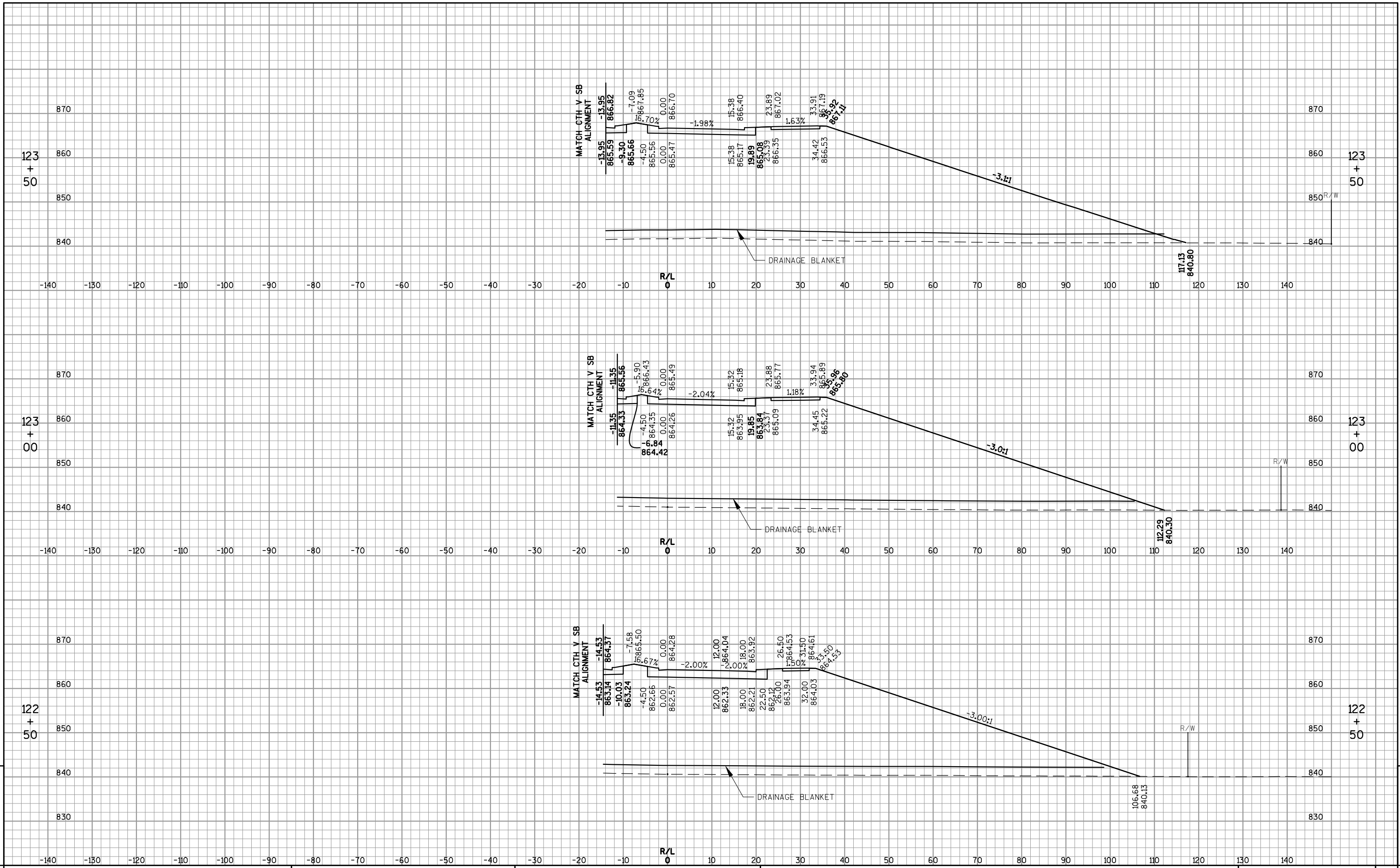


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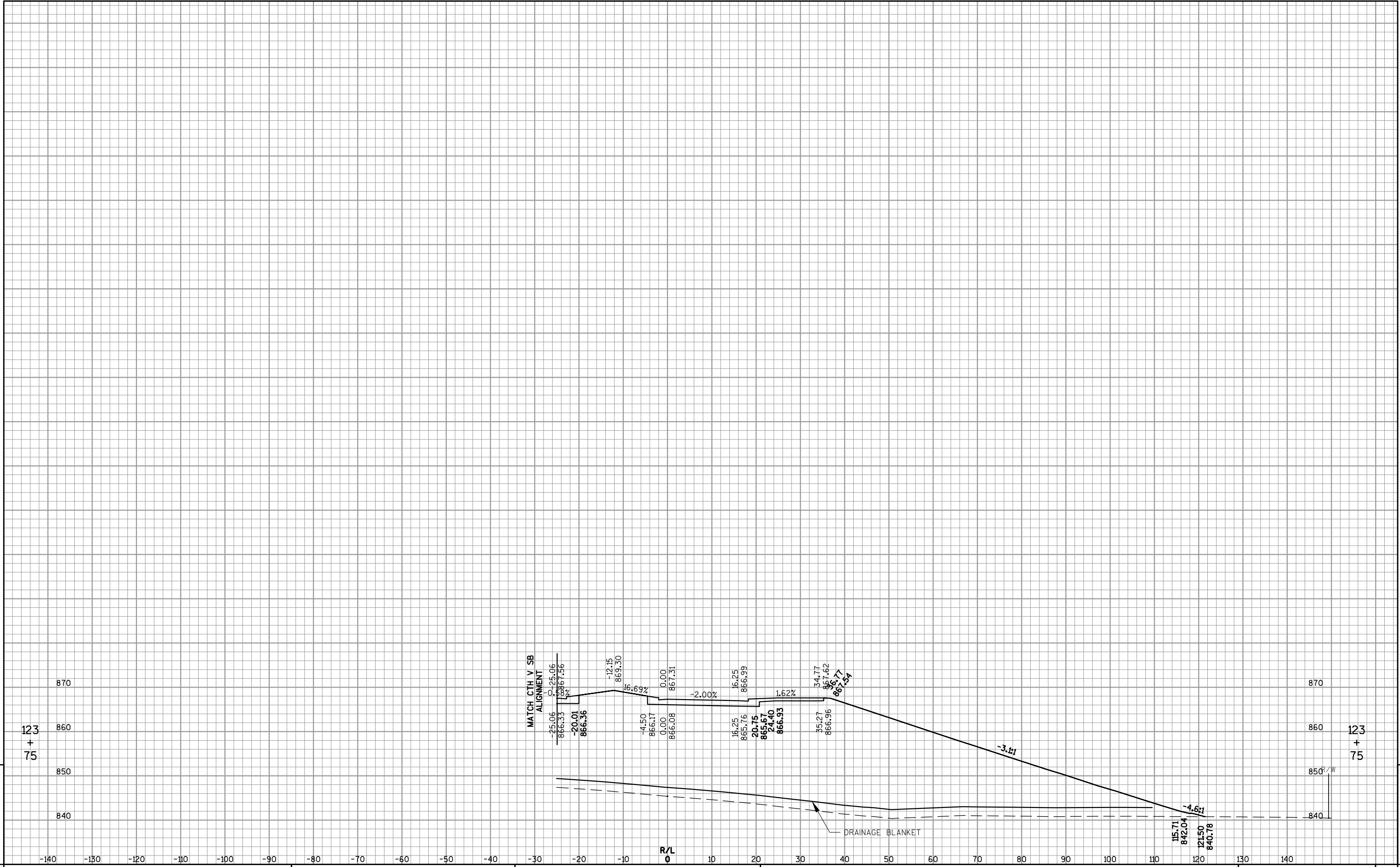
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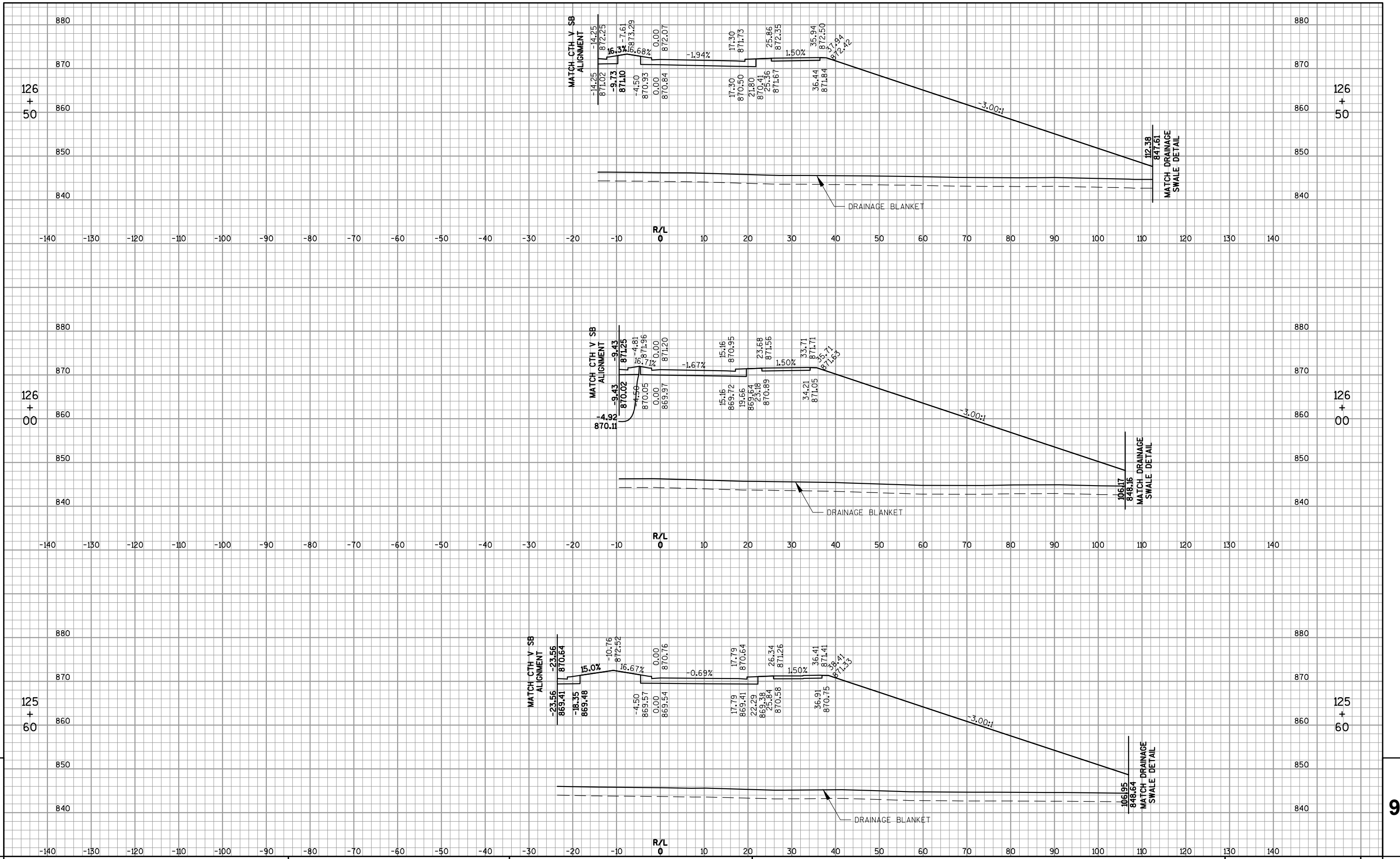
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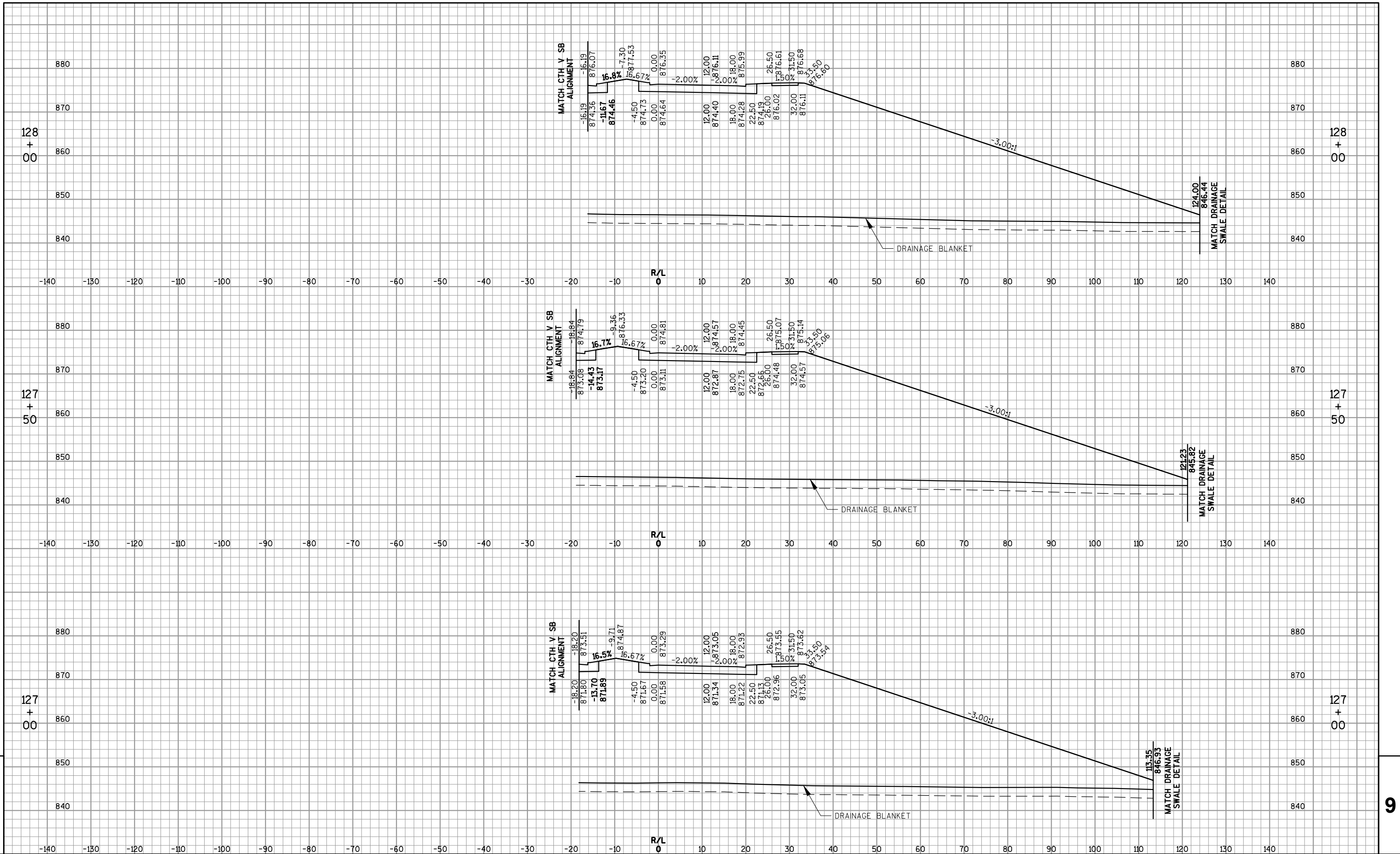






PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: CTH V NORTHBOUND      SHEET      E





PROJECT NO: 1420-22-71

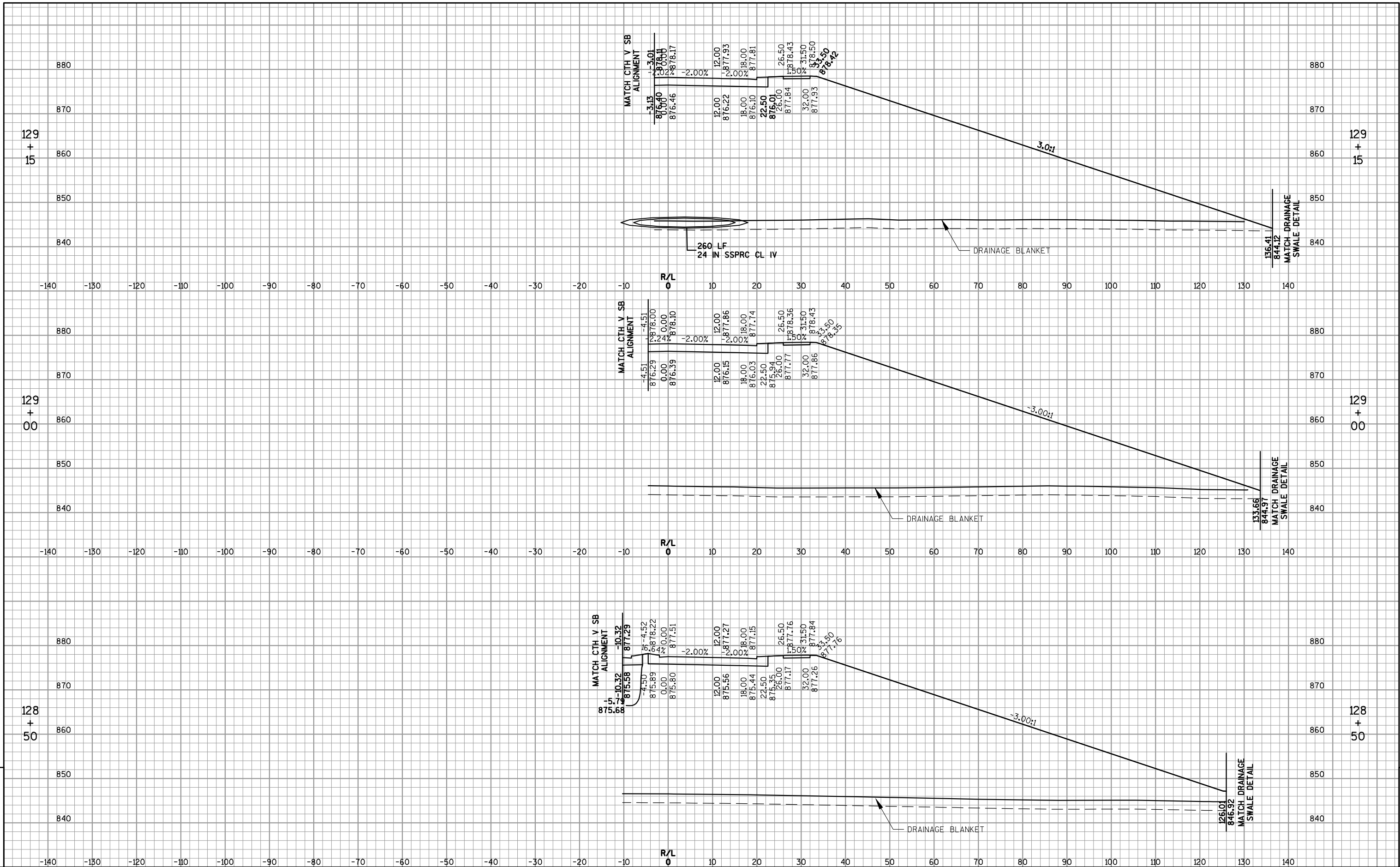
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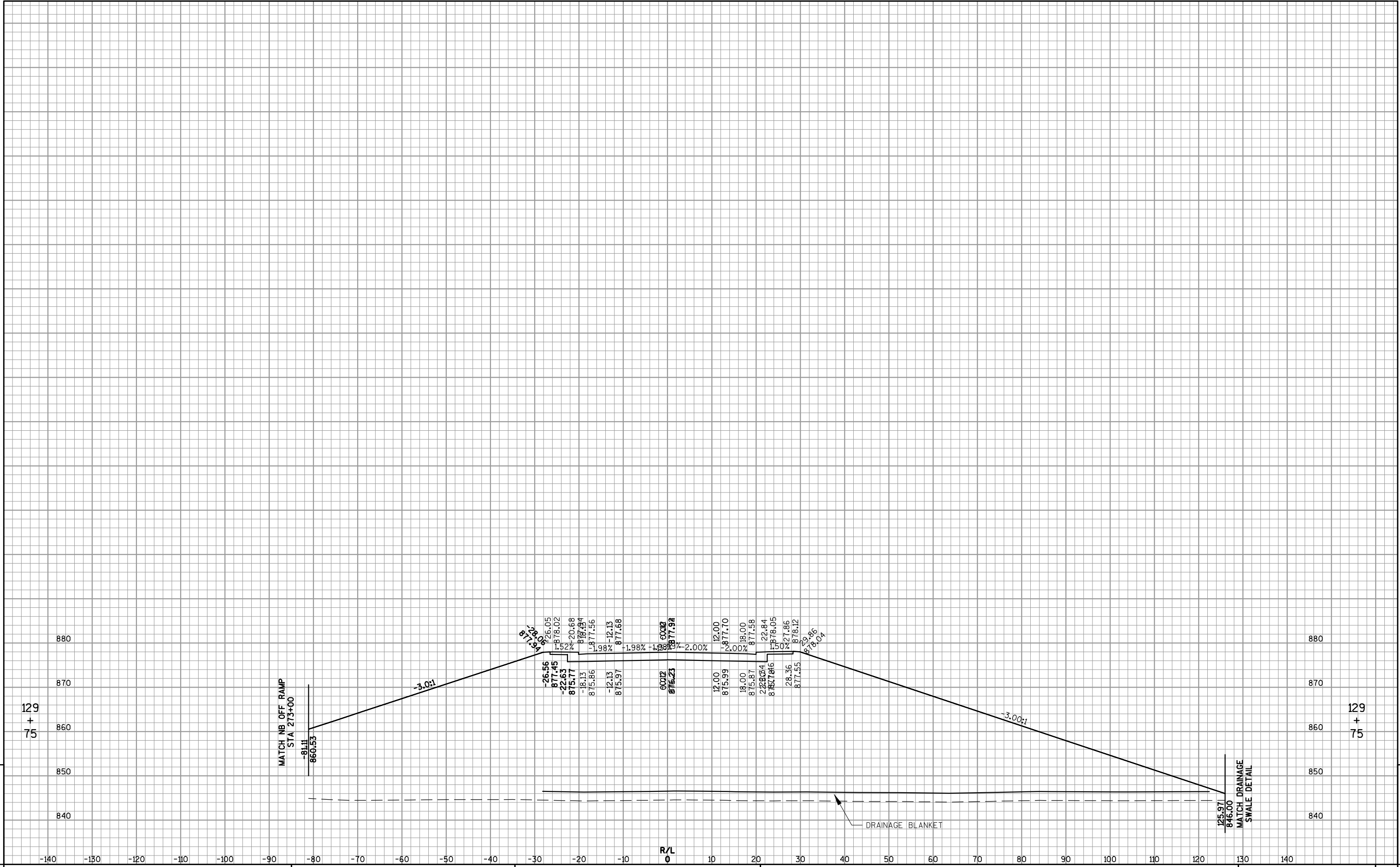
COUNTY: FOND DU LAC

CROSS SECTIONS: CTH V NORTHBOUND

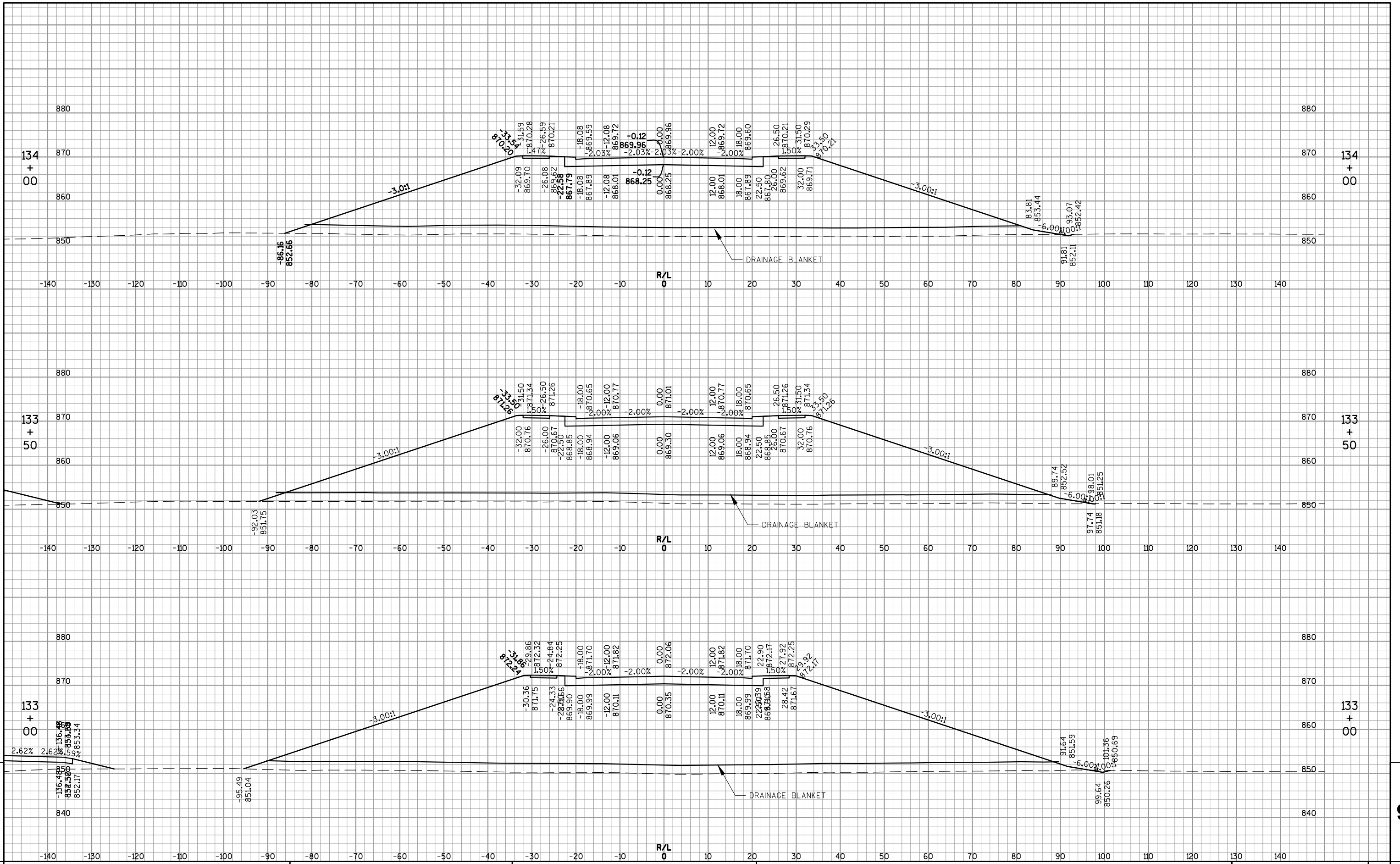
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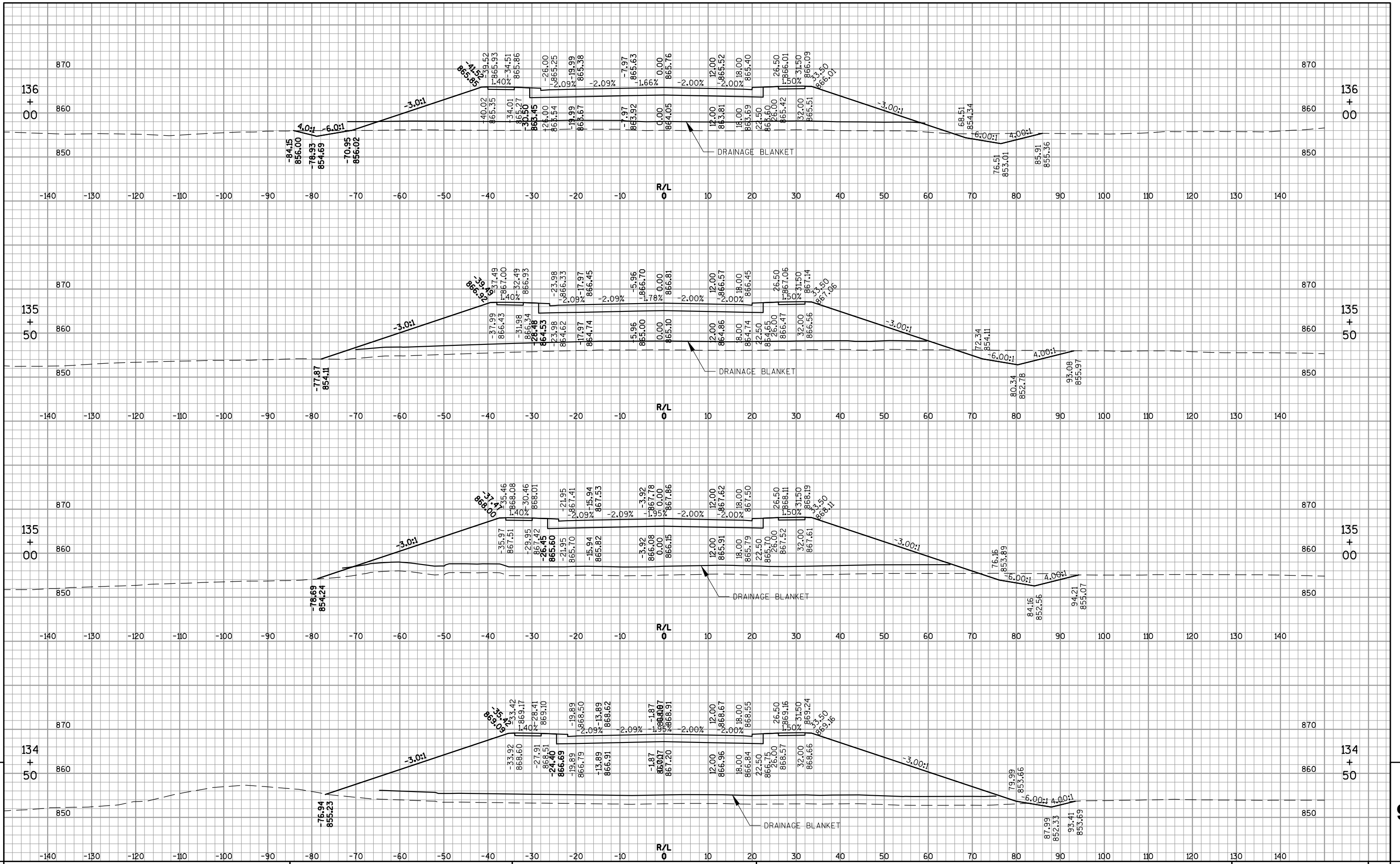


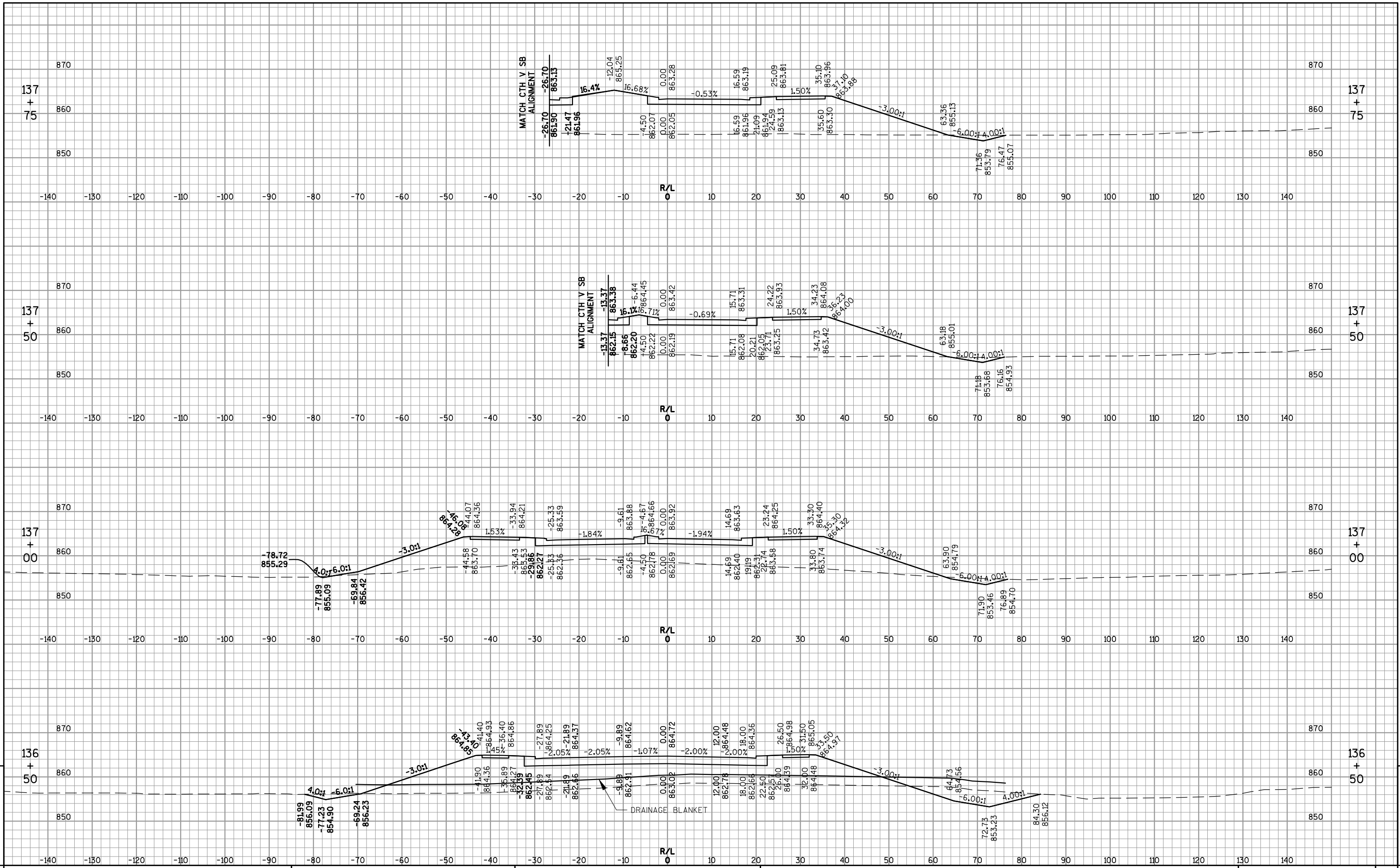


PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: CTH V NORTHBOUND      SHEET      E



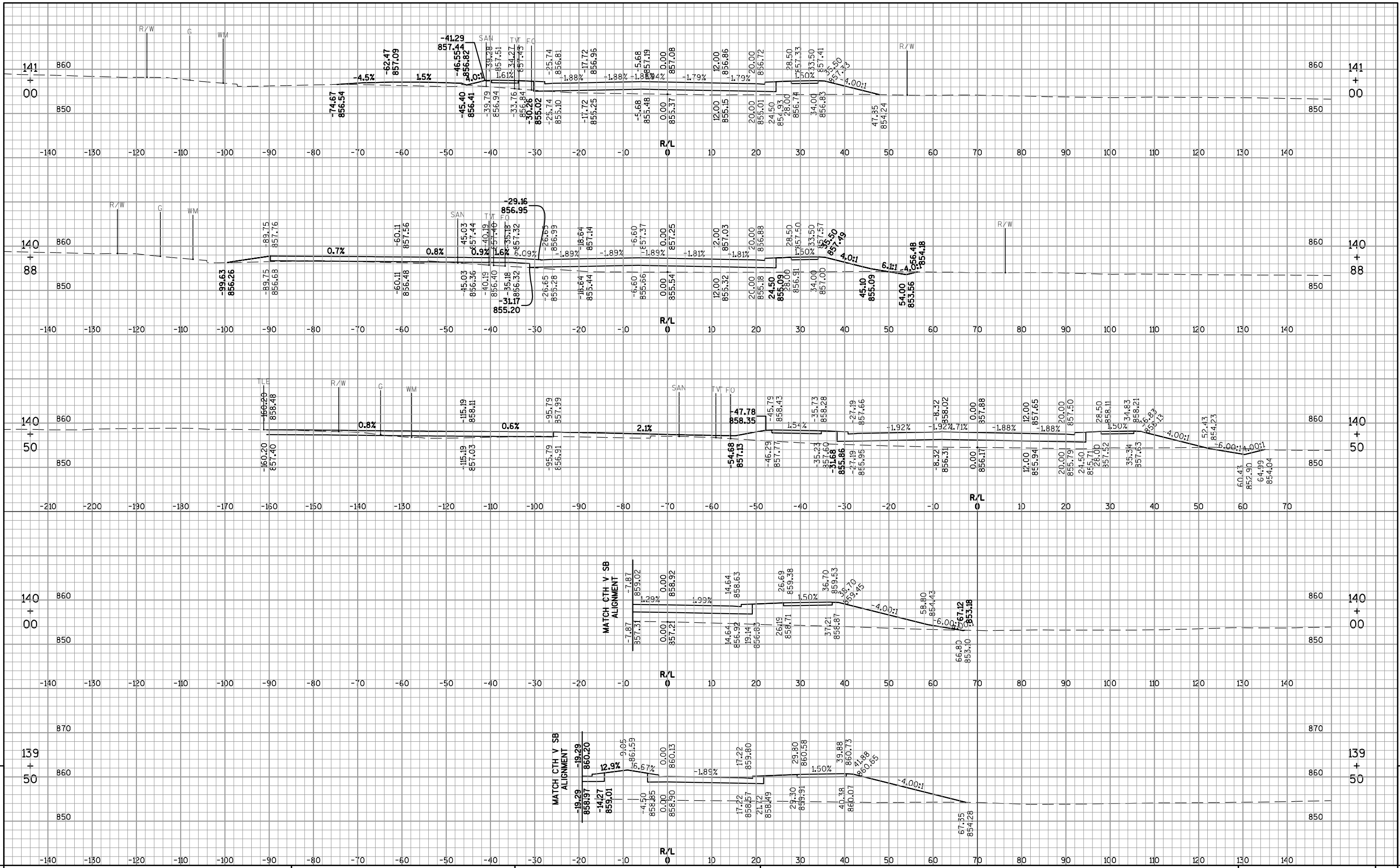
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PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: CTH V NORTHBOUND      SHEET      E

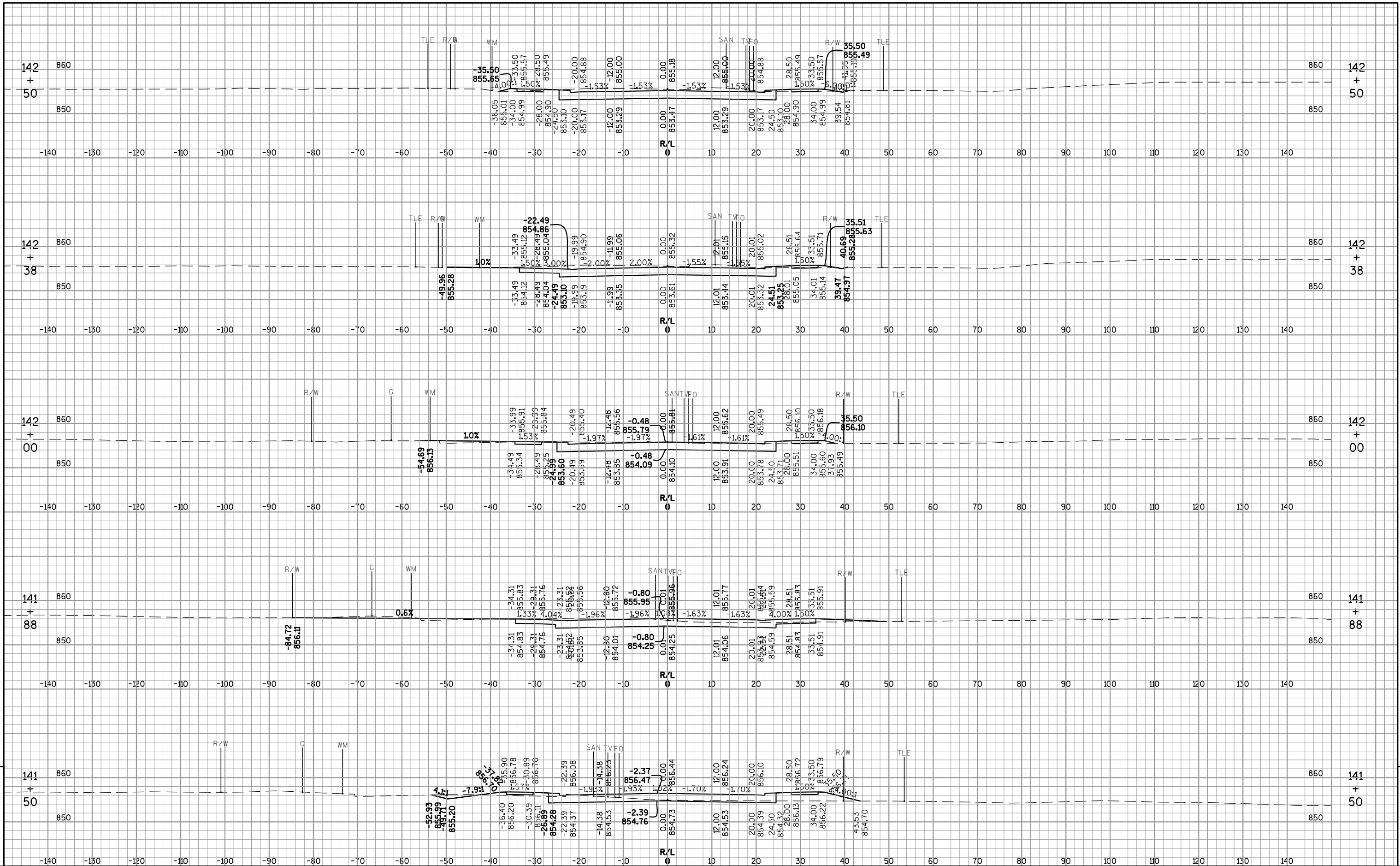




PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: CTH V NORTHBOUND      SHEET      E

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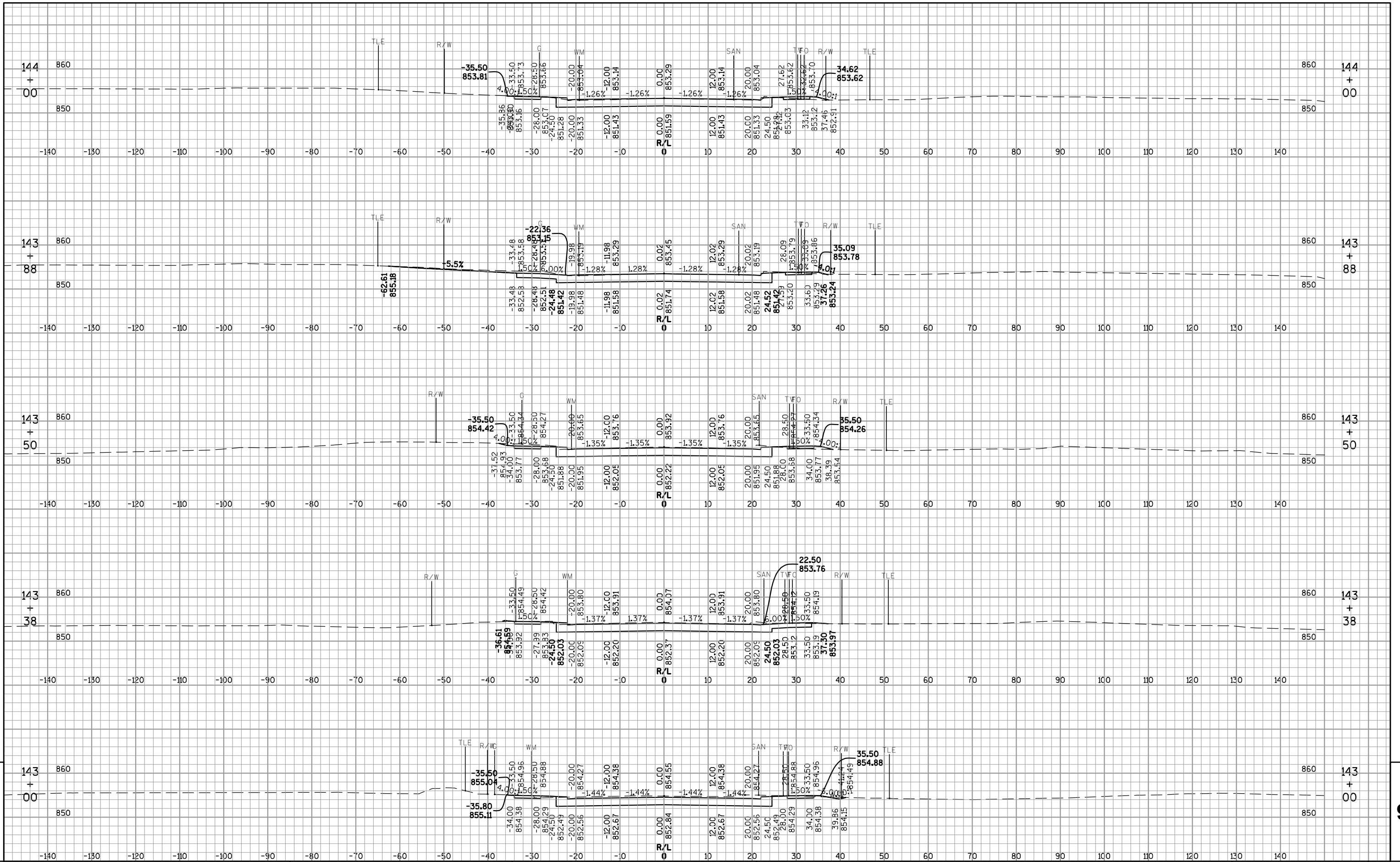
142022\_0002 □ □



PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: CTH V NORTHBOUND      SHEET      E

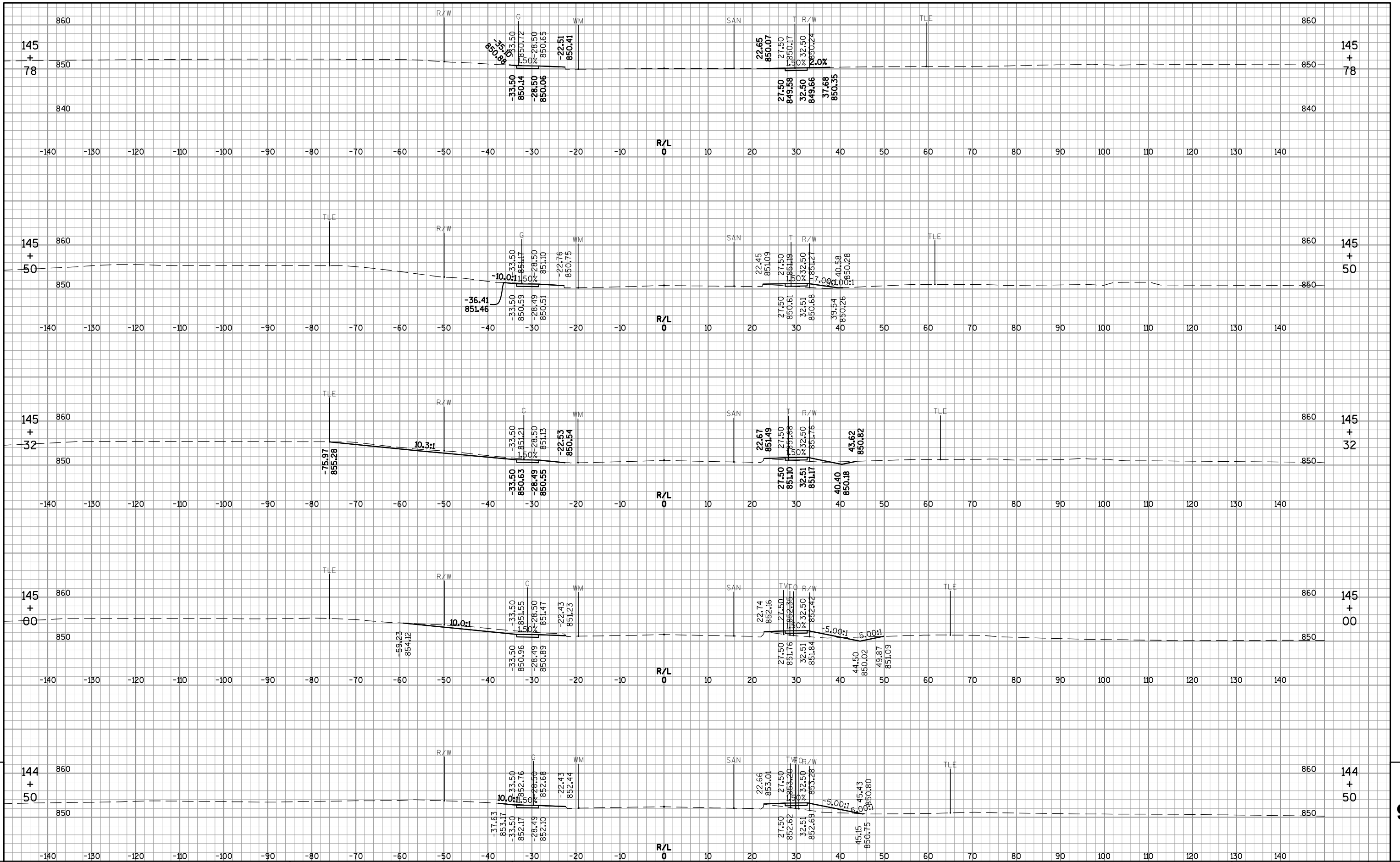
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142022\_0002□□



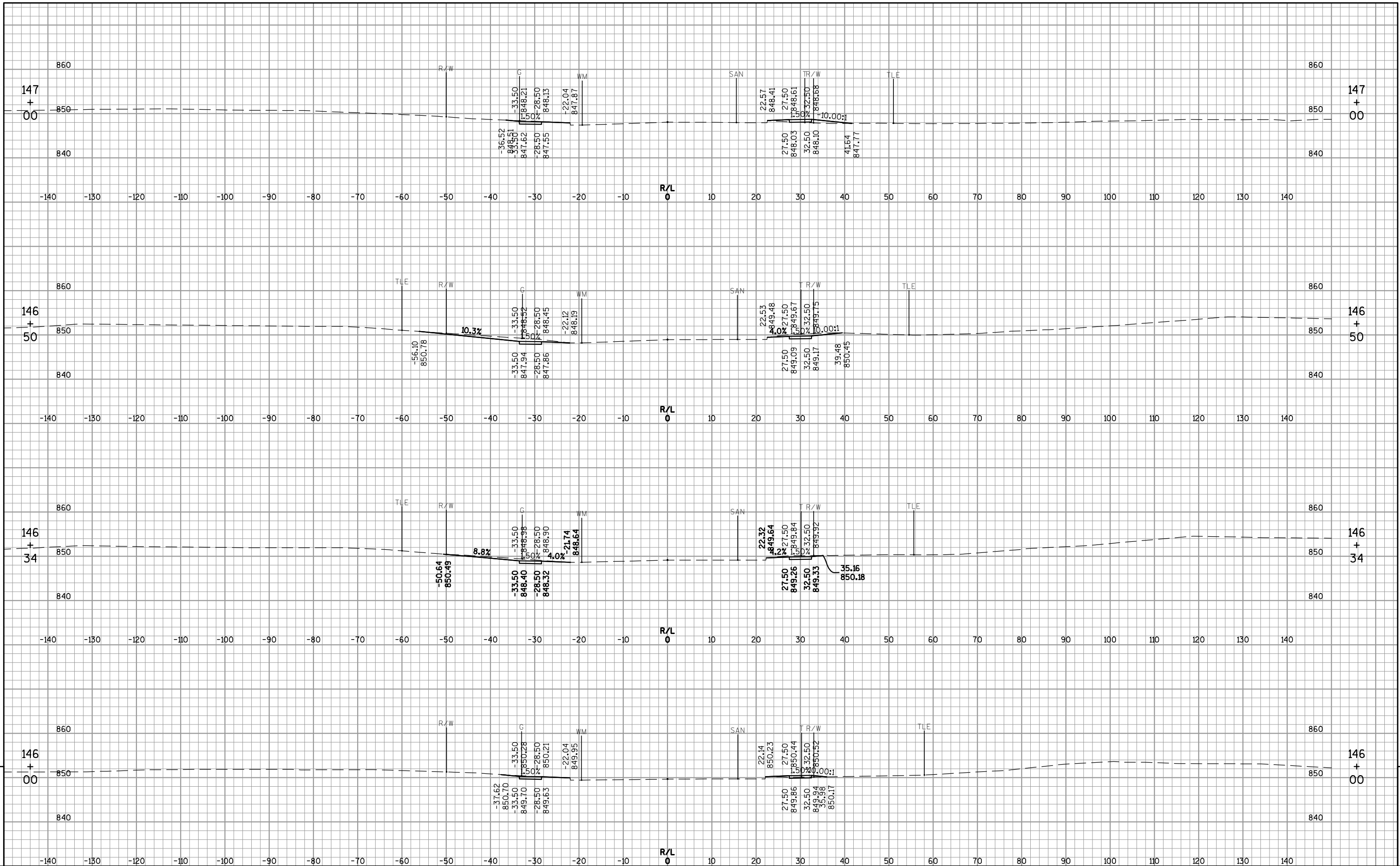
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PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: CTH V NORTHBOUND      SHEET      E

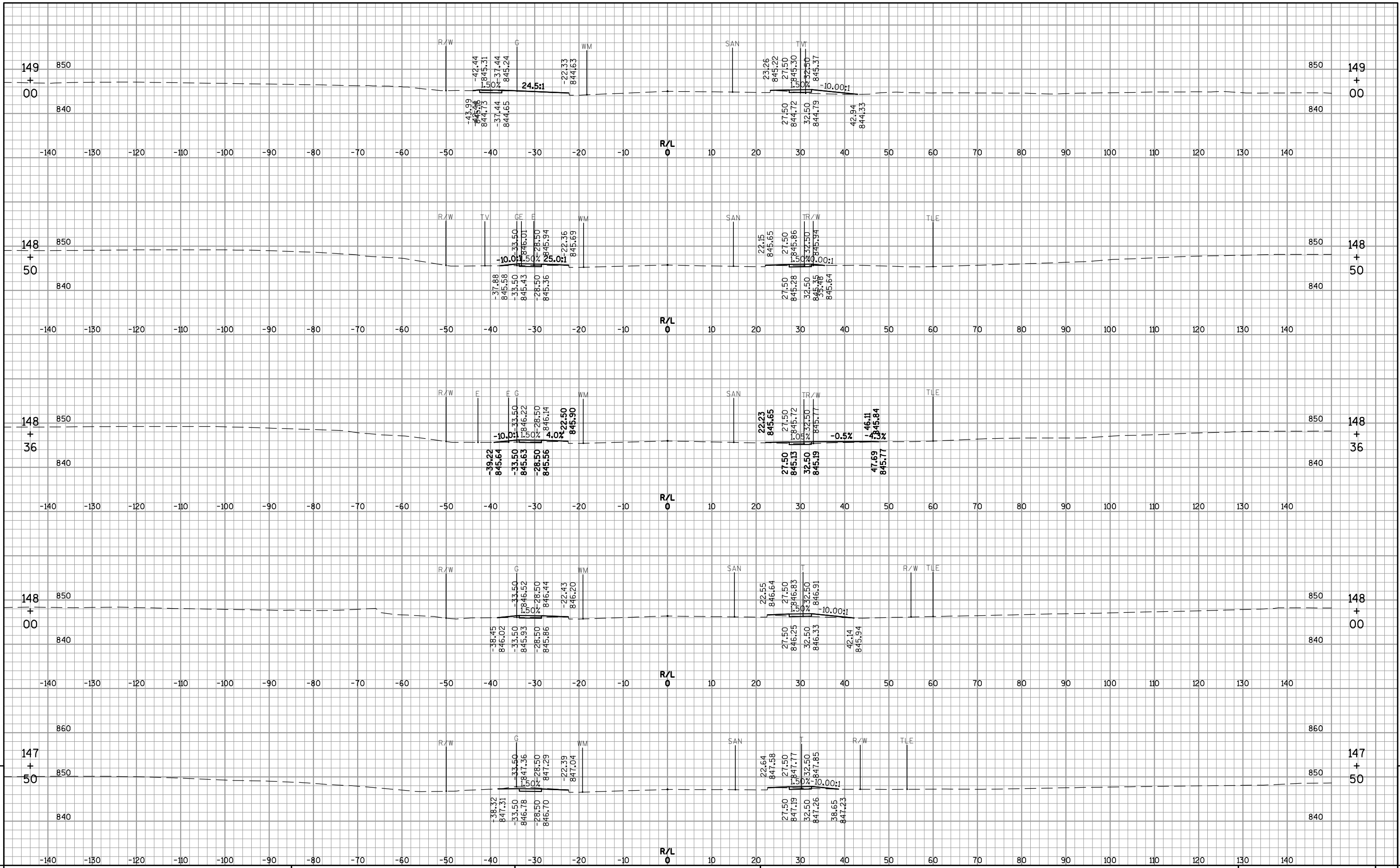
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PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: CTH V NORTHBOUND      SHEET      E

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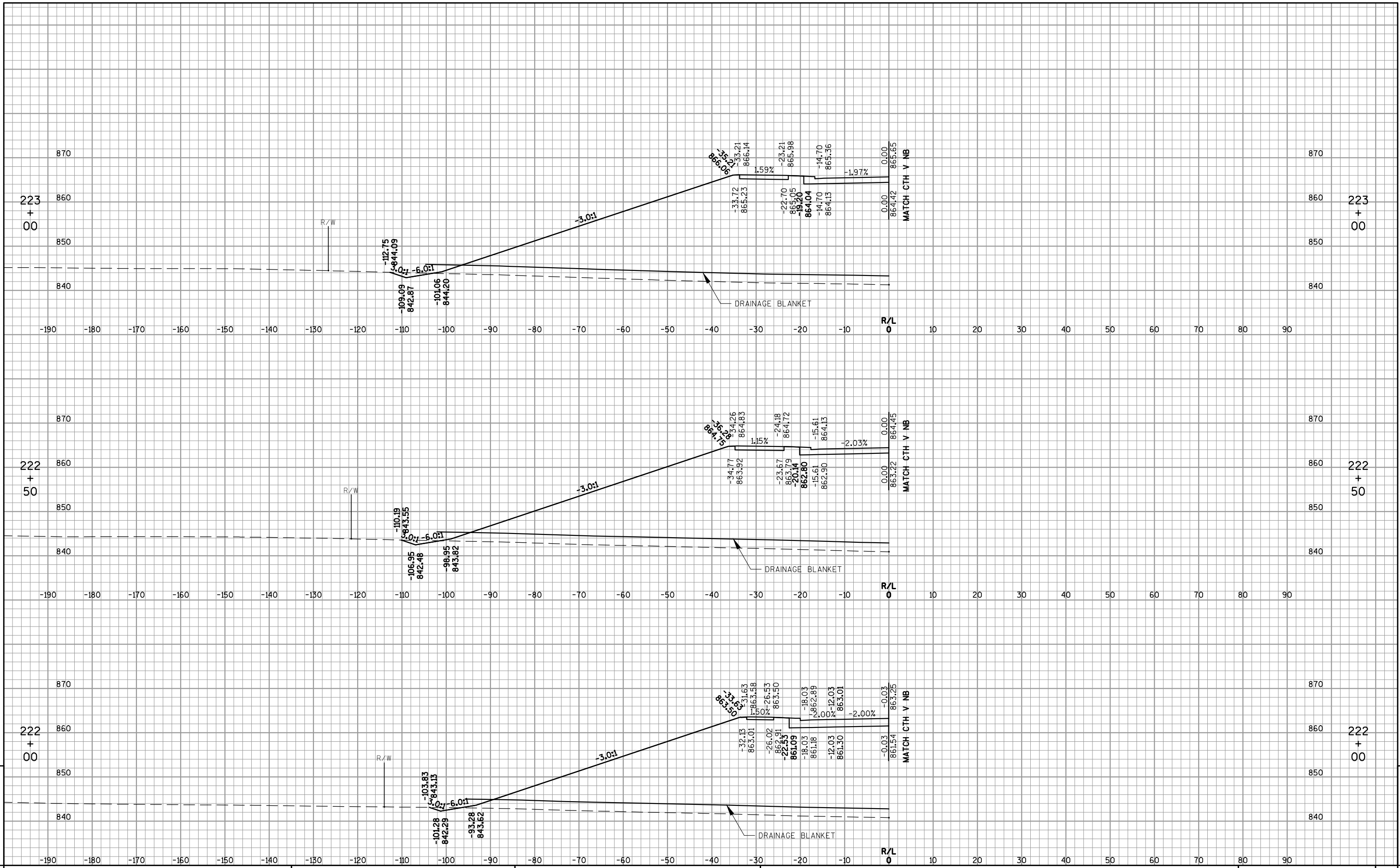


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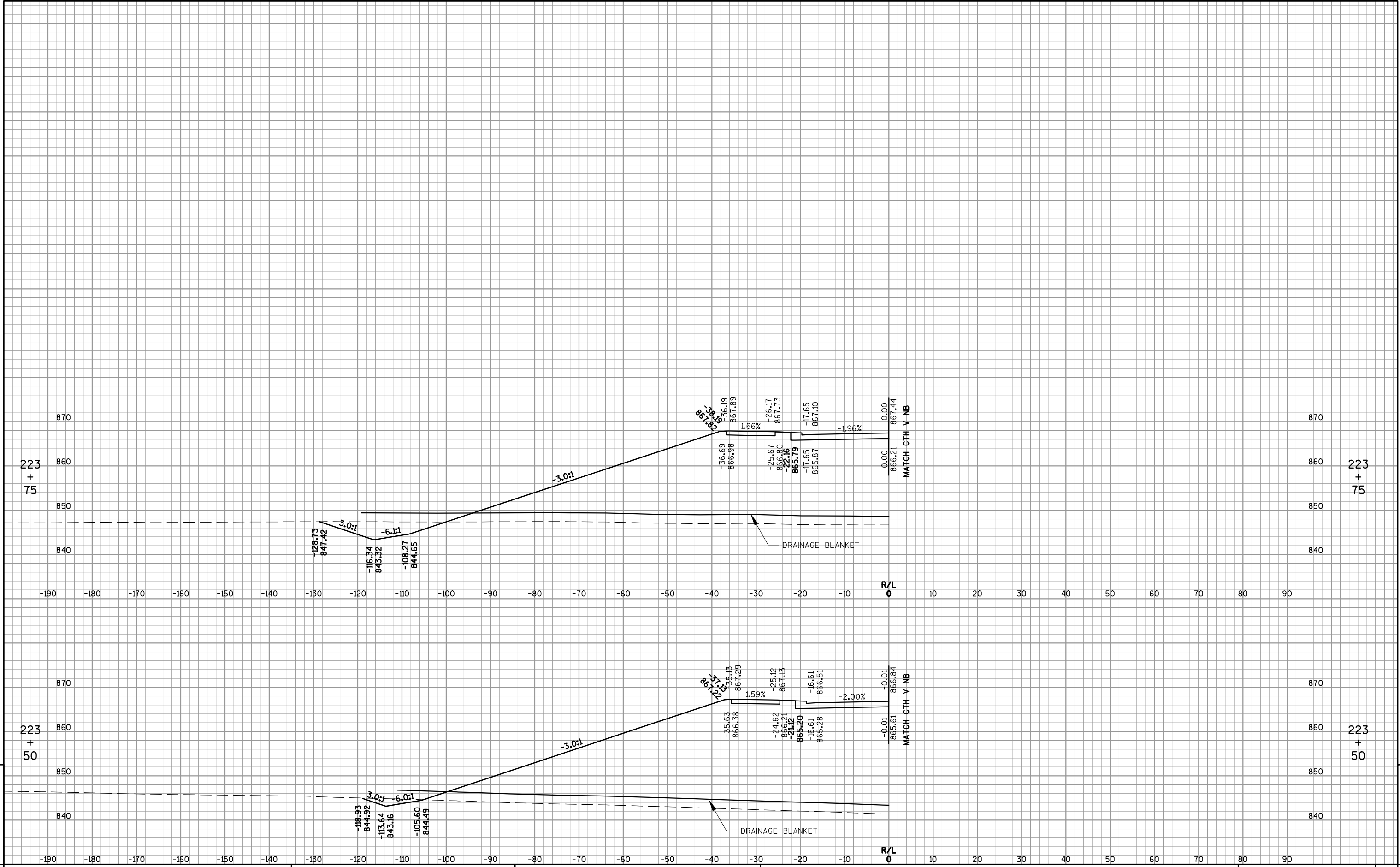
WISDOT/CADD SHEET 49



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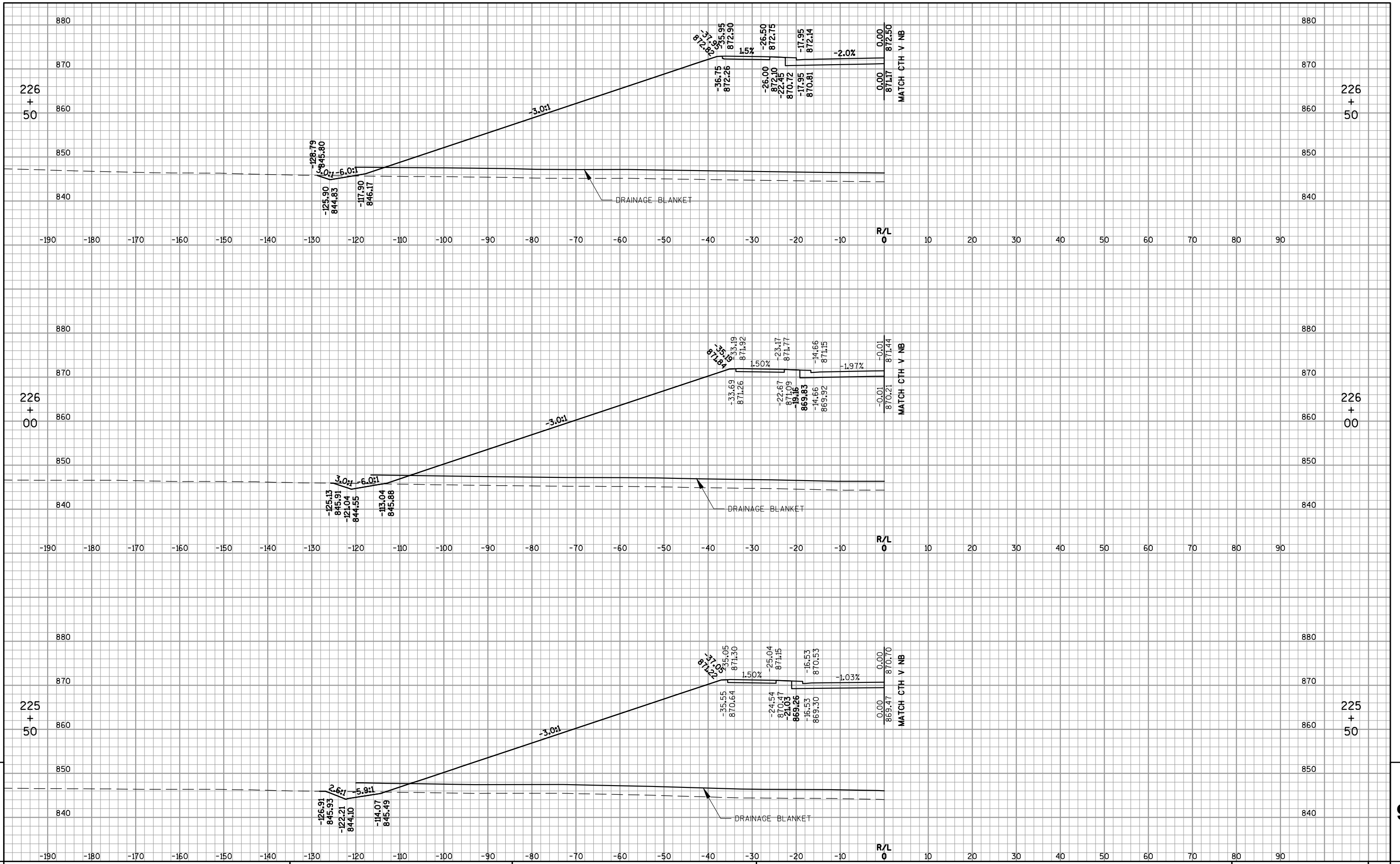
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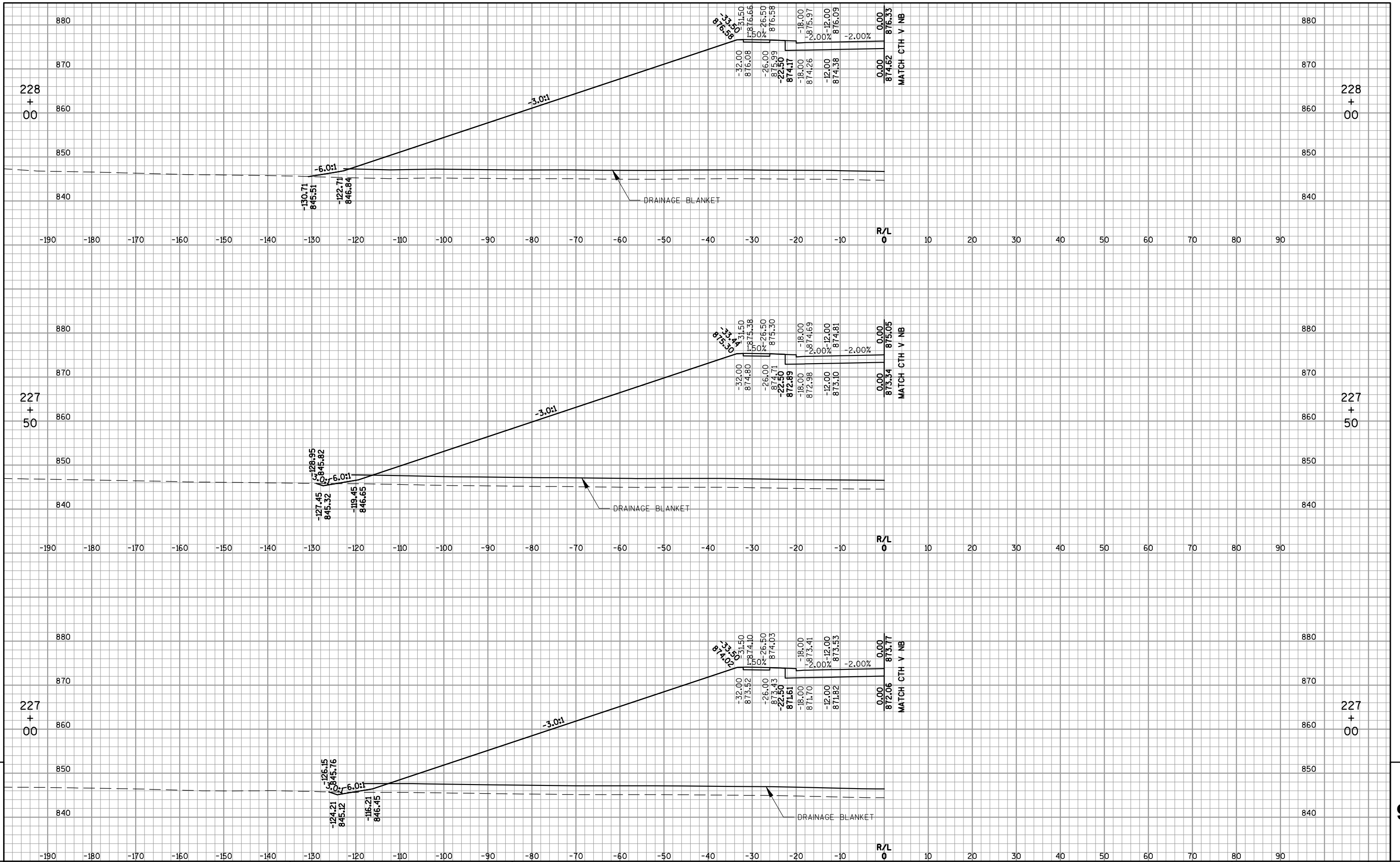


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PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: CTH V SOUTHBOUND      SHEET      E



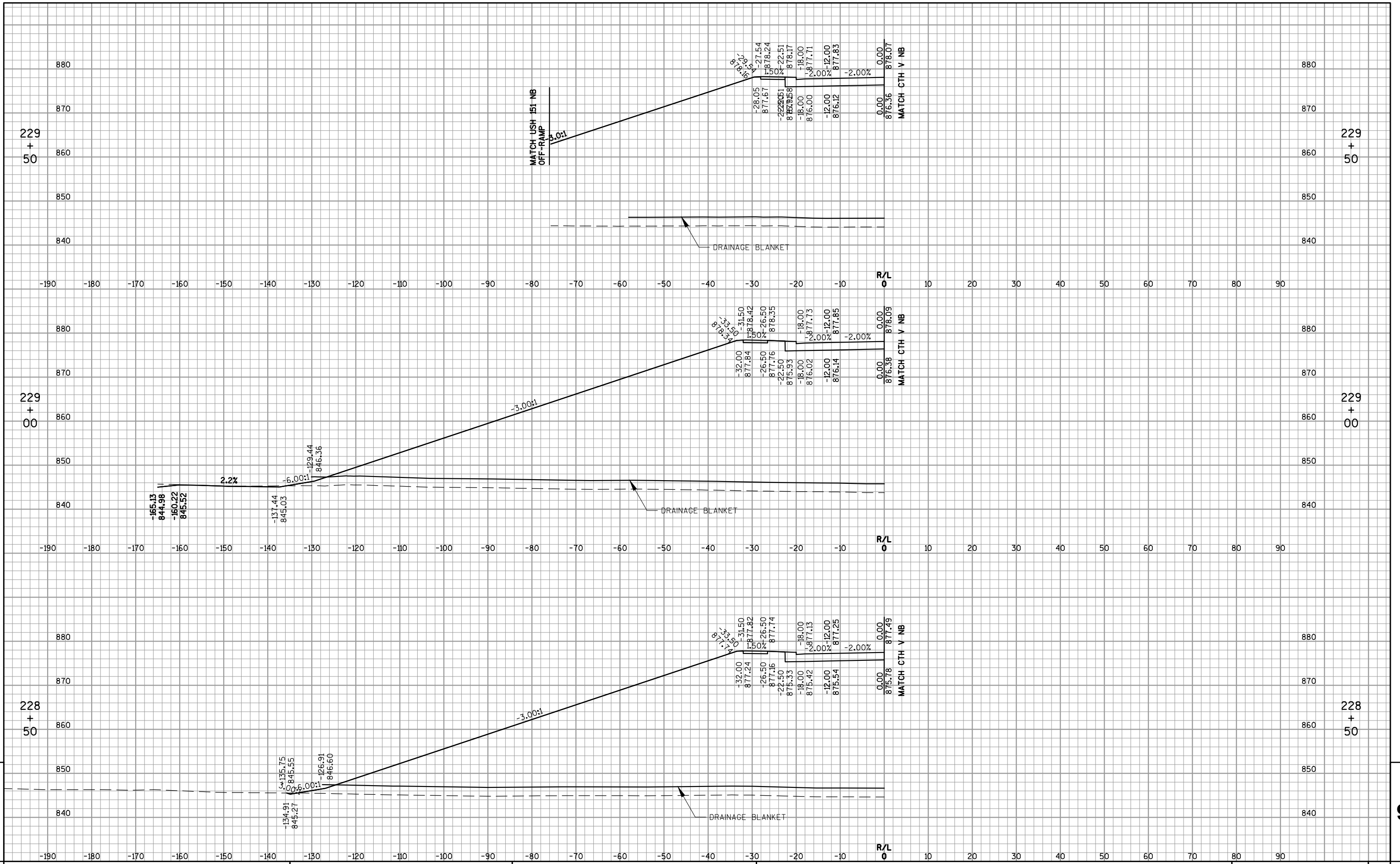
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PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: CTH V SOUTHBOUND      SHEET      E

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142022\_0002

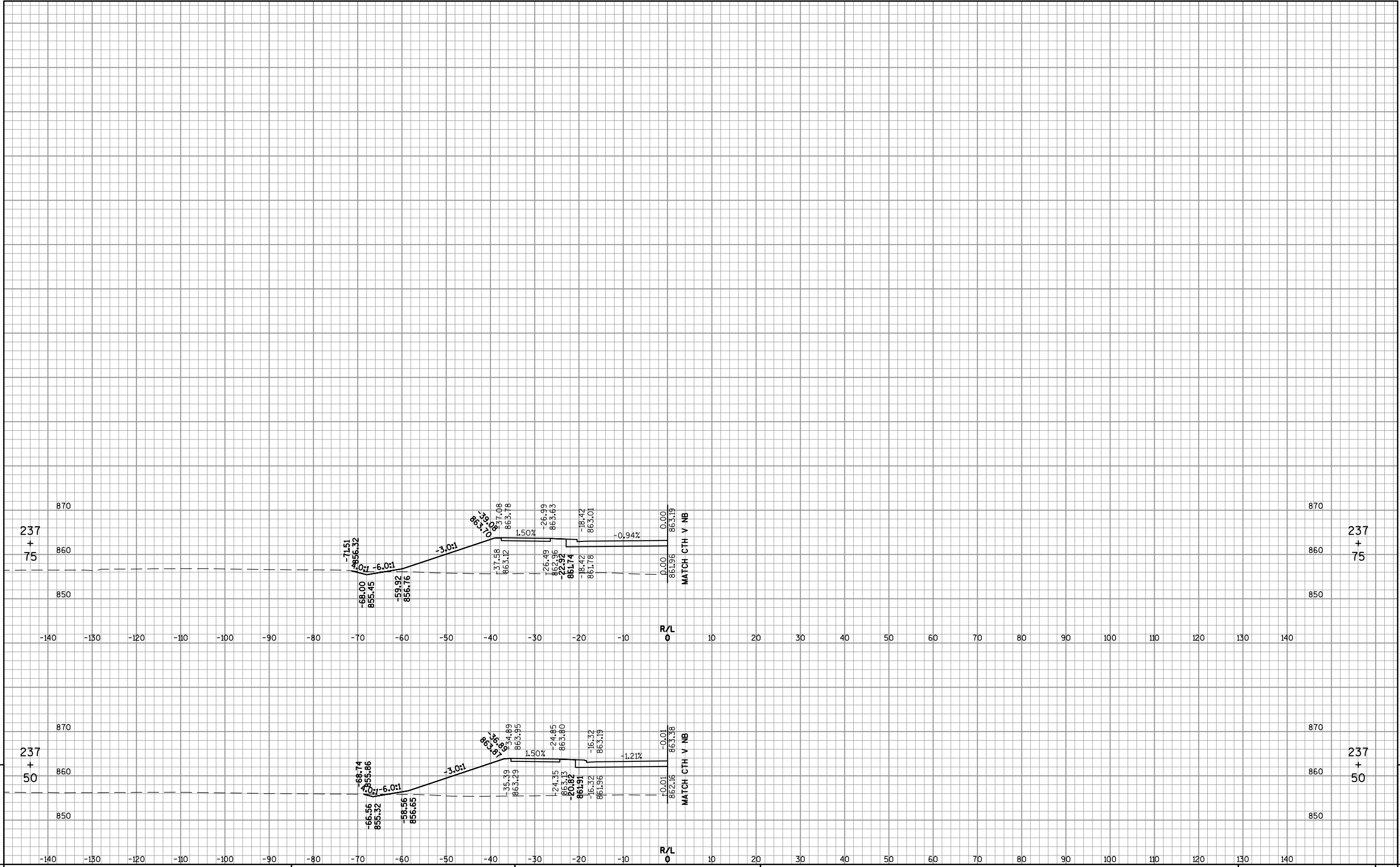


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142022\_0002

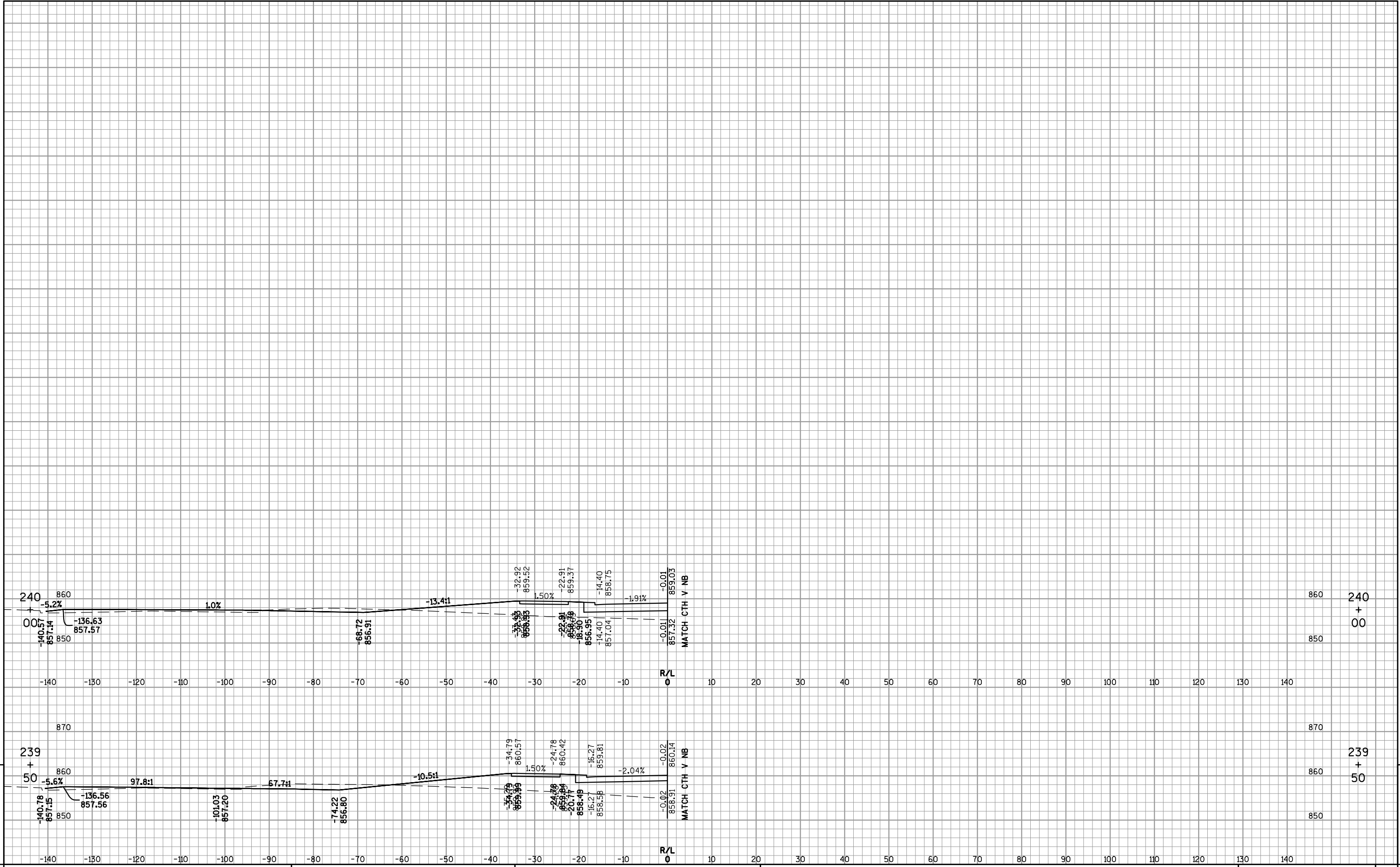
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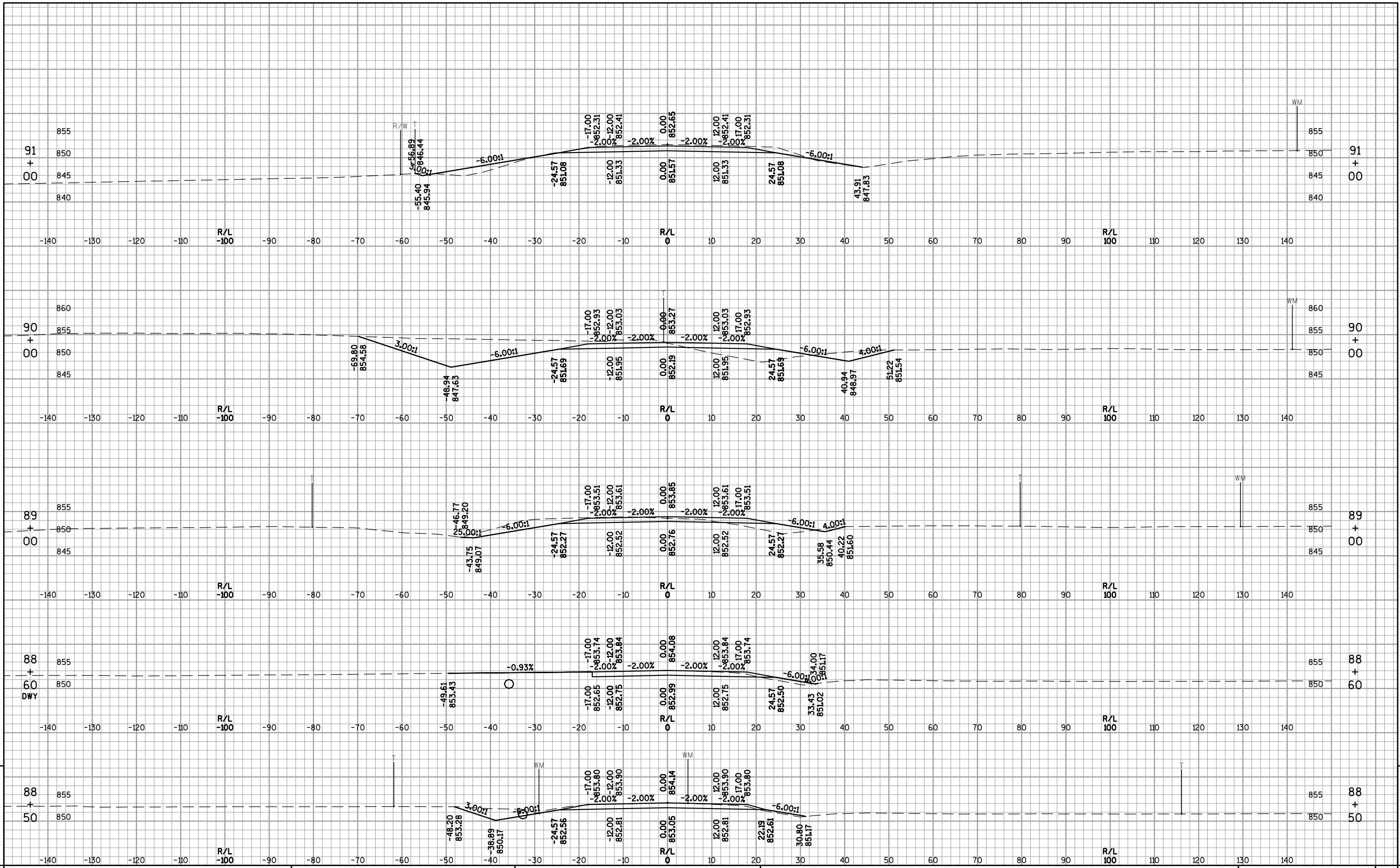
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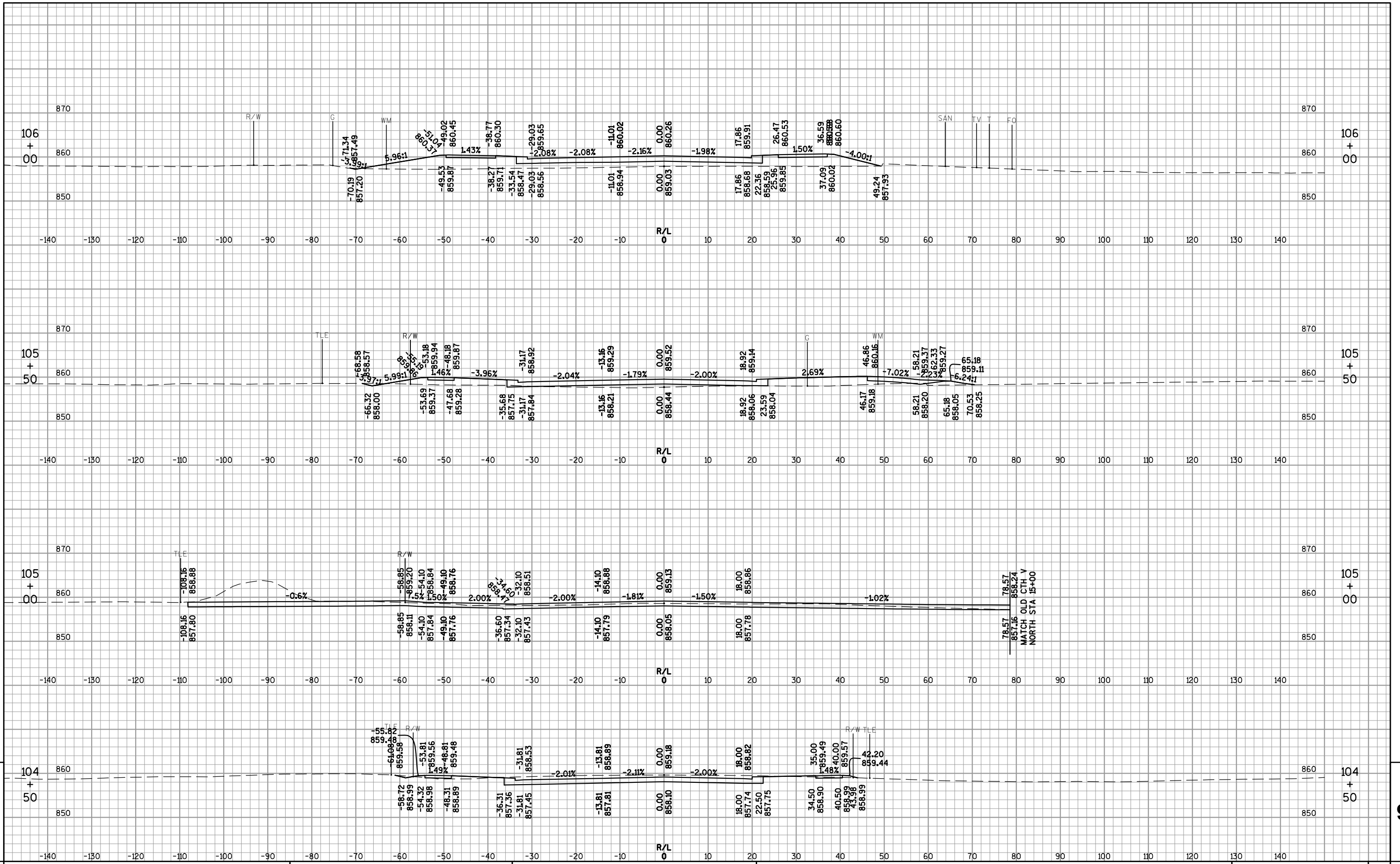
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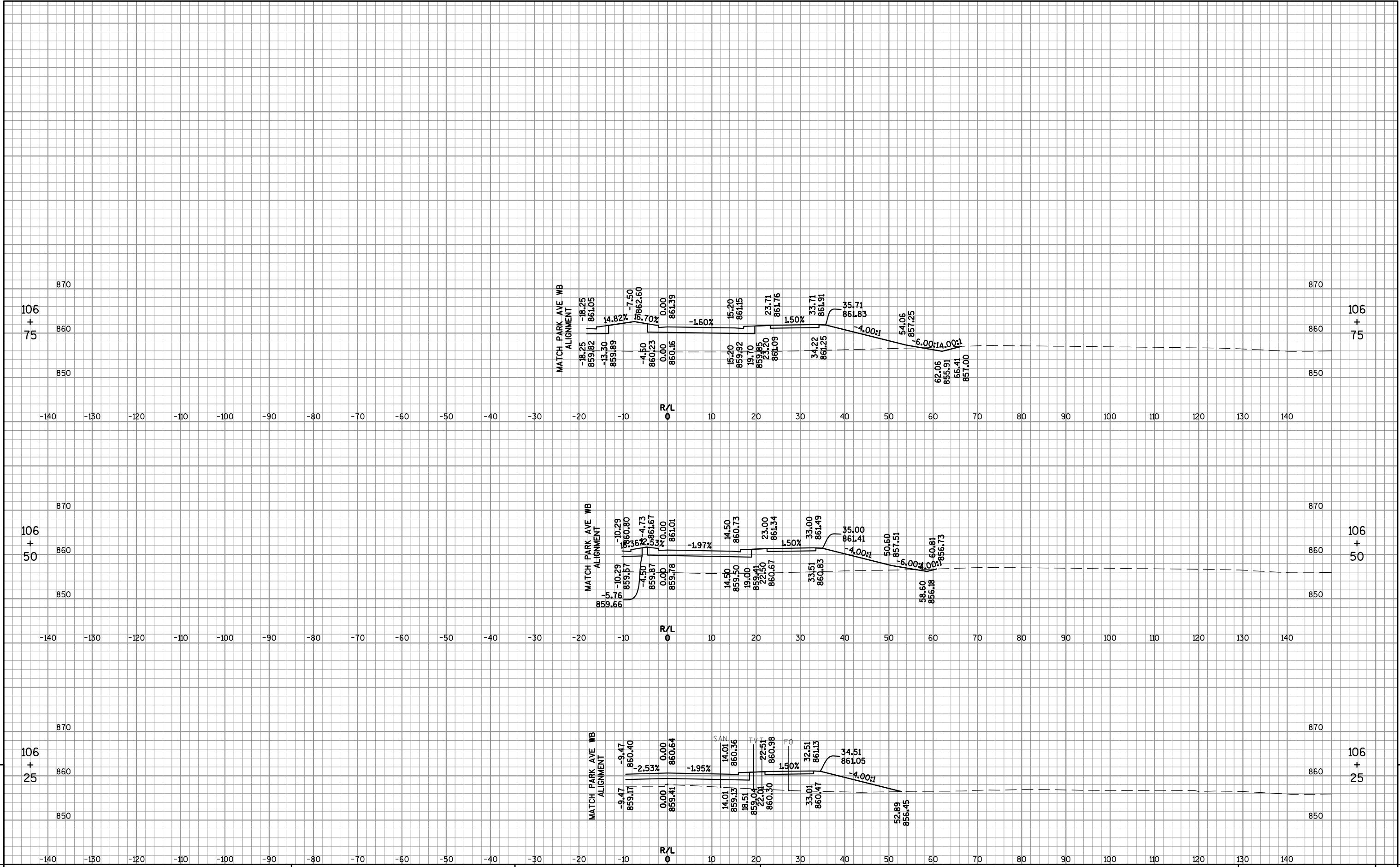
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PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: OLD CTH V SOUTH      SHEET      E



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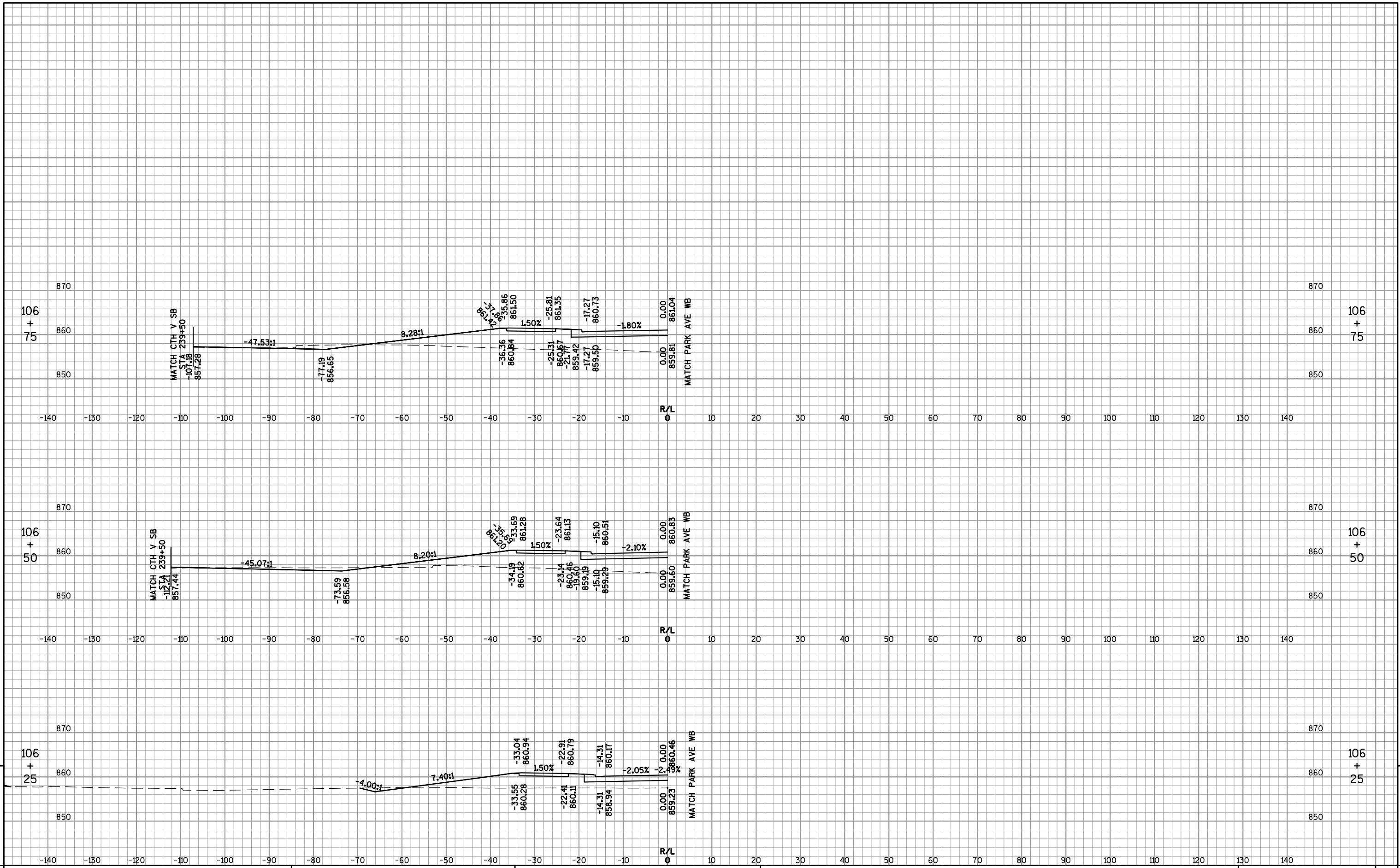


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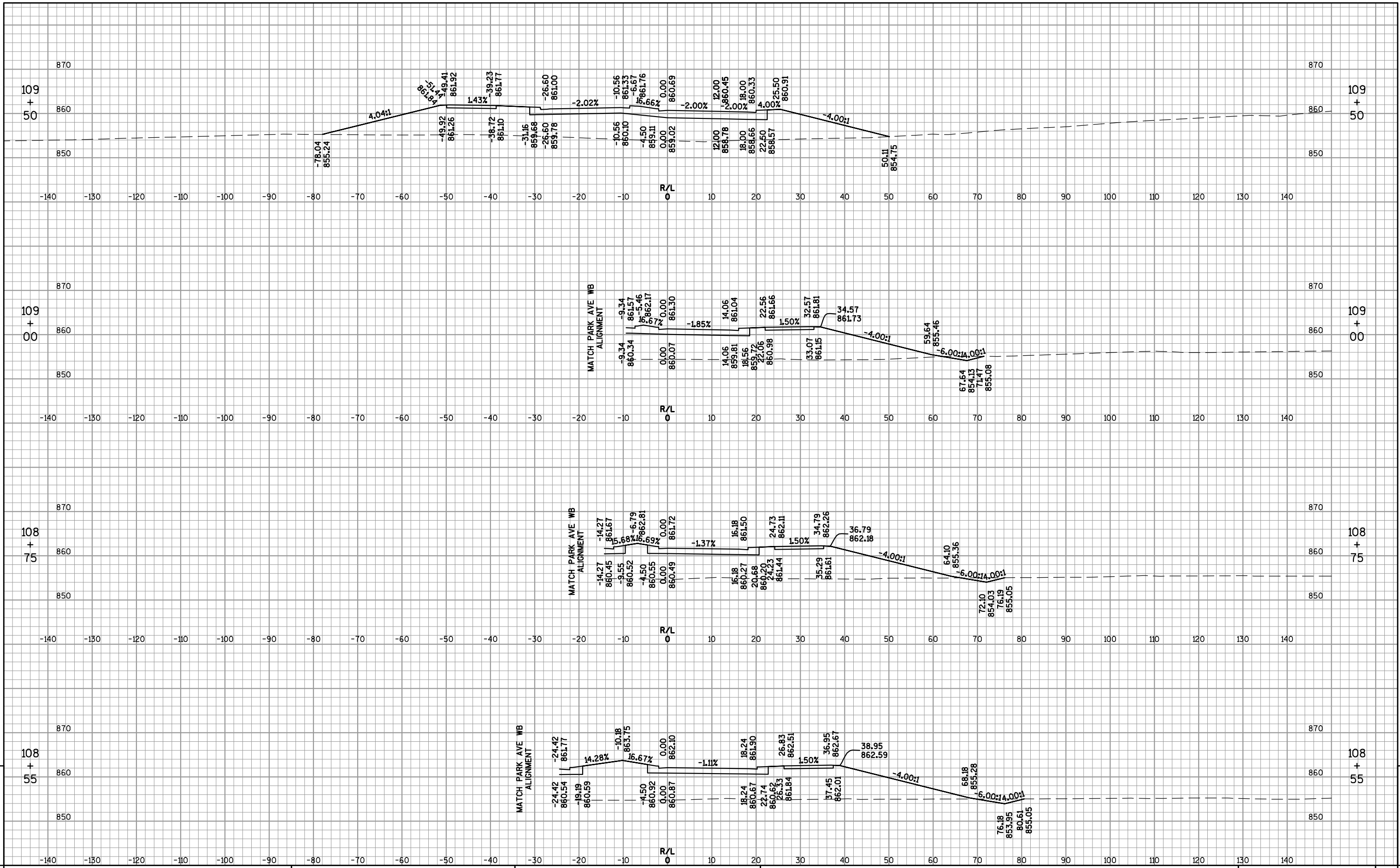
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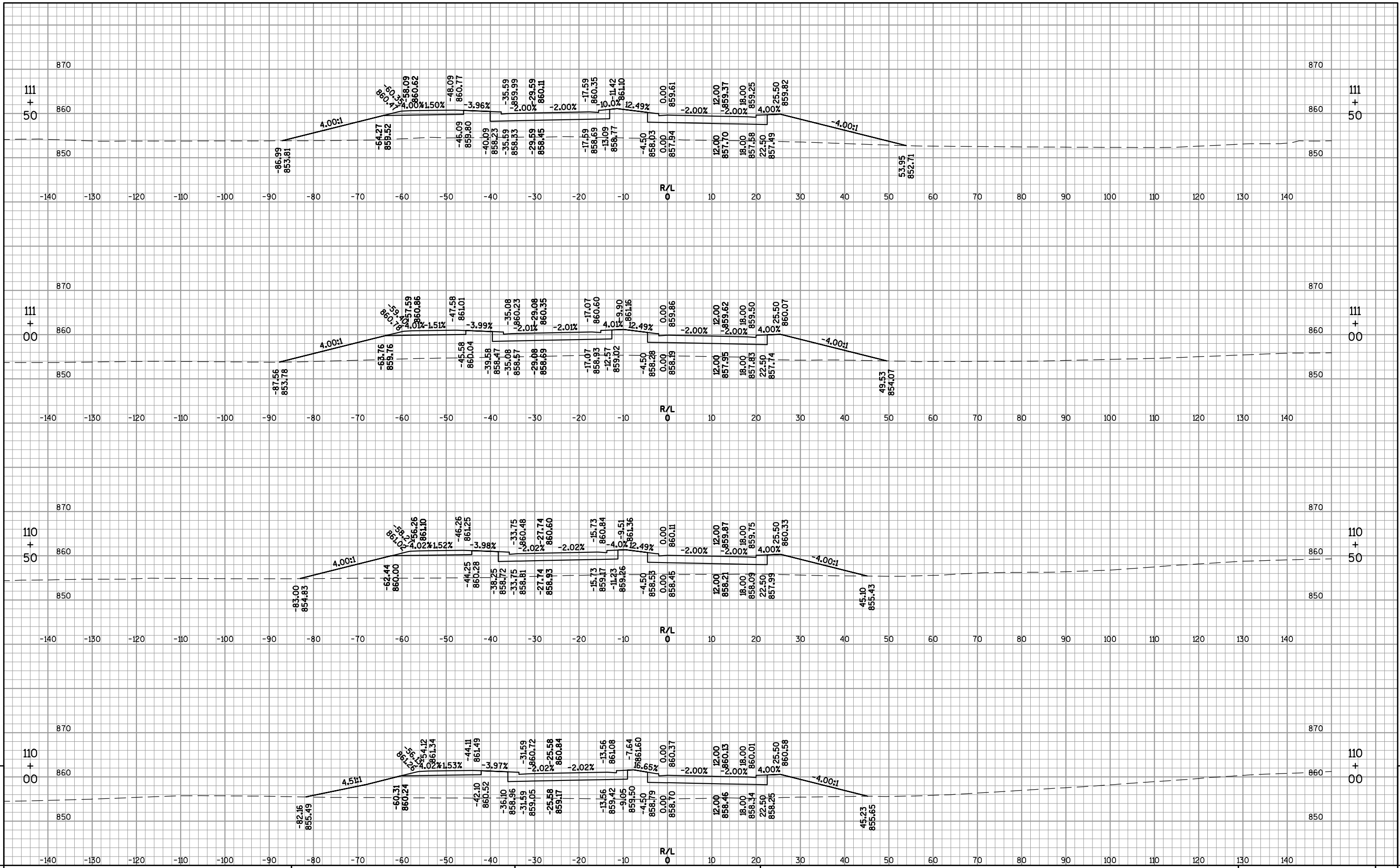




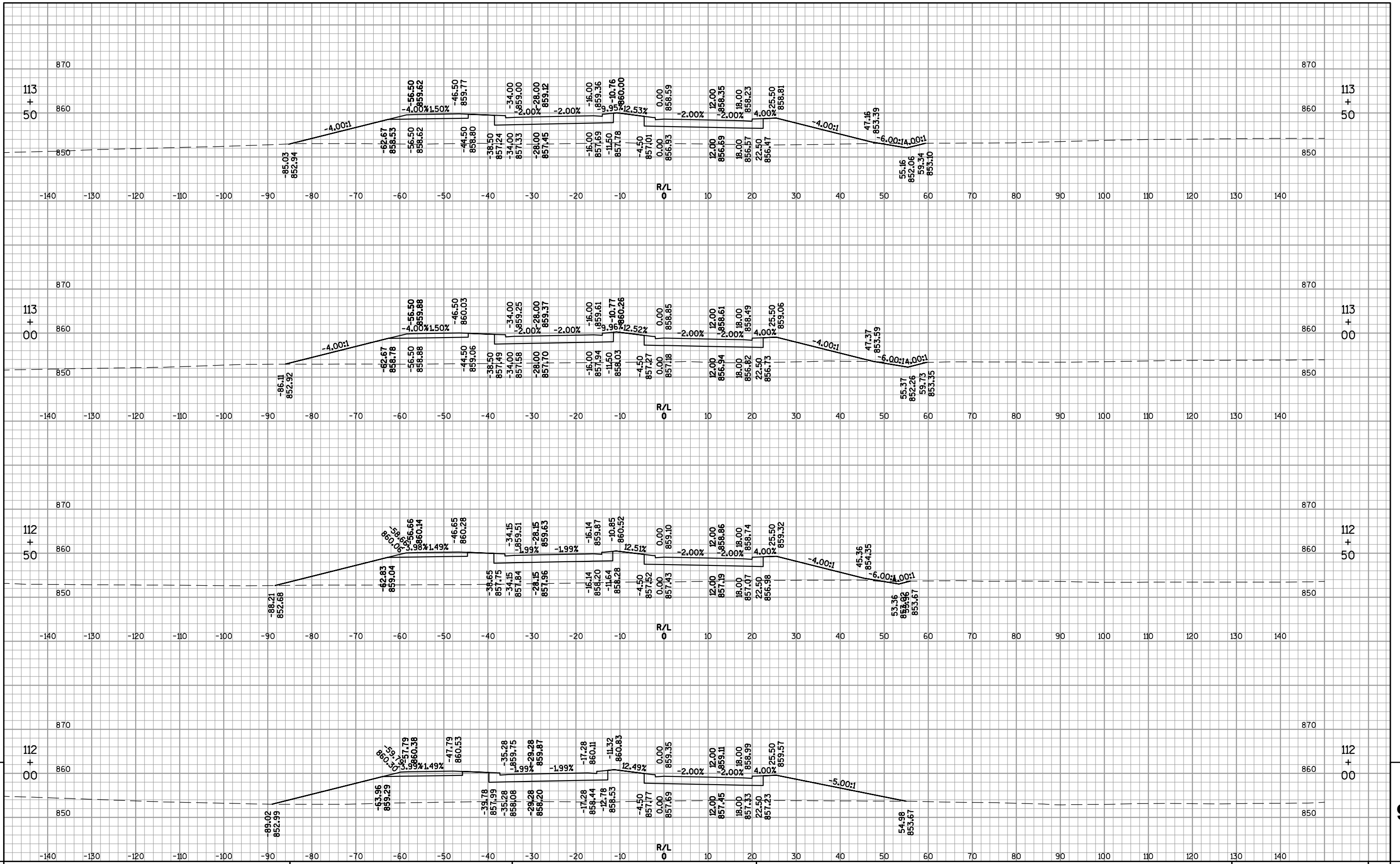
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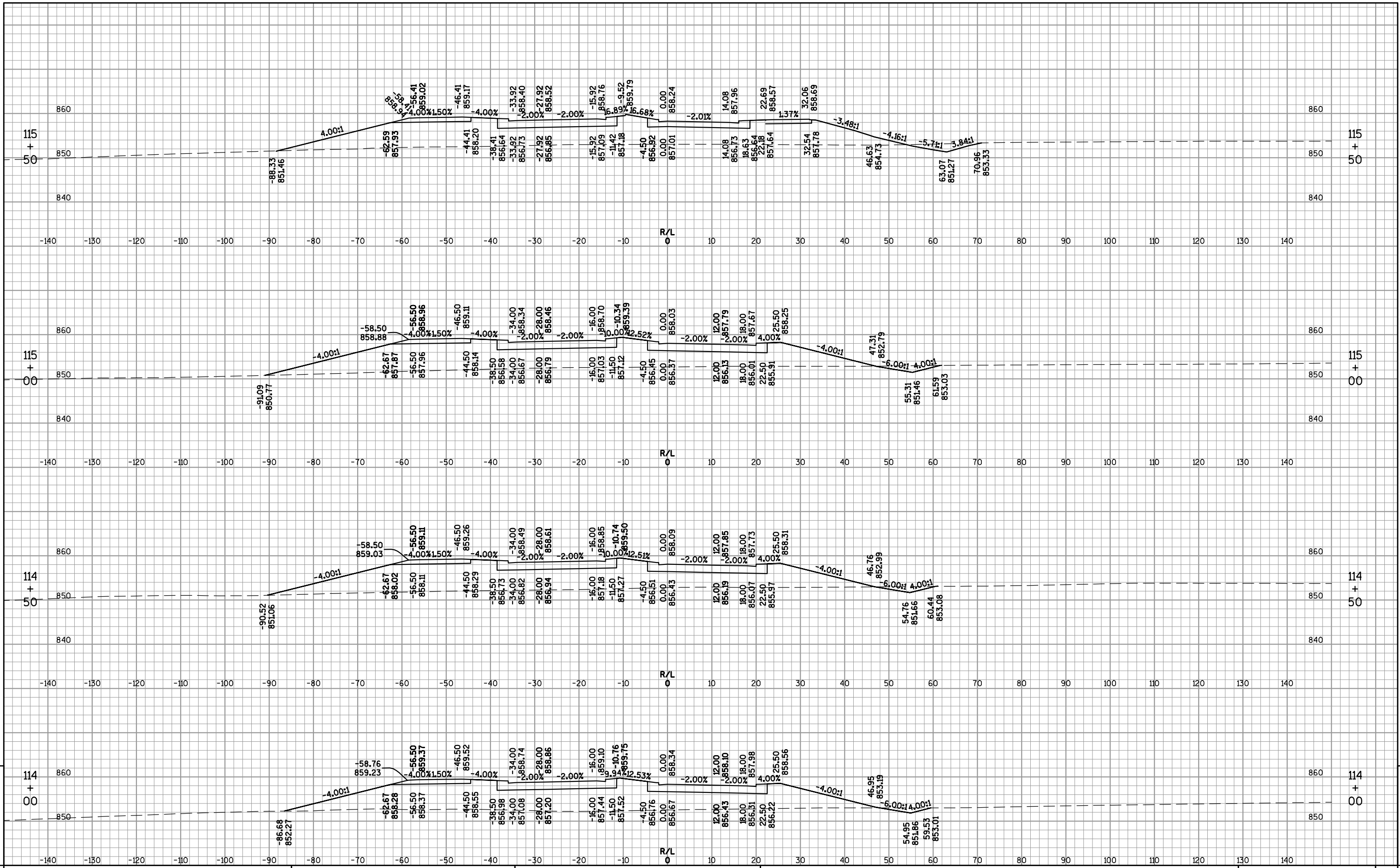
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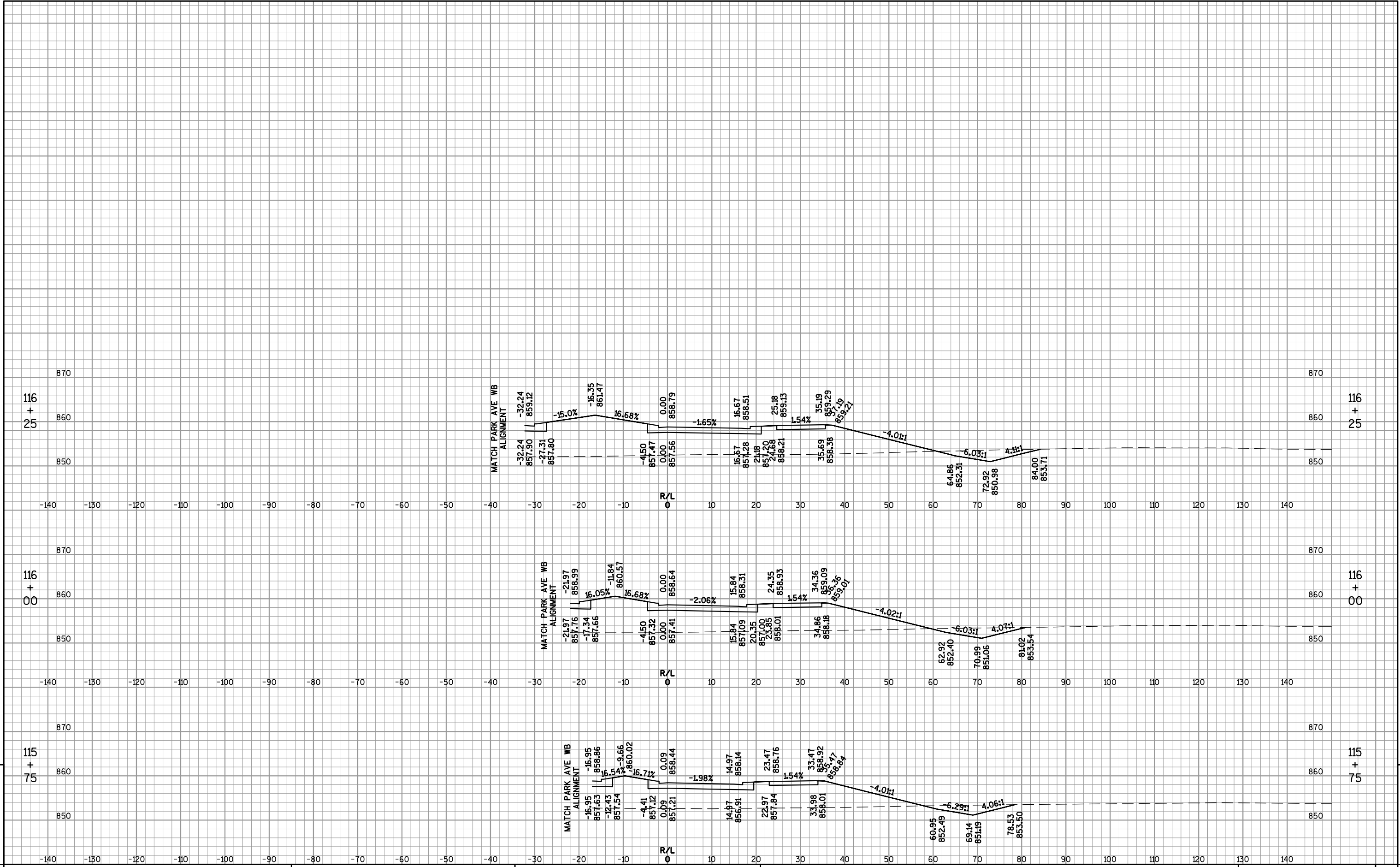
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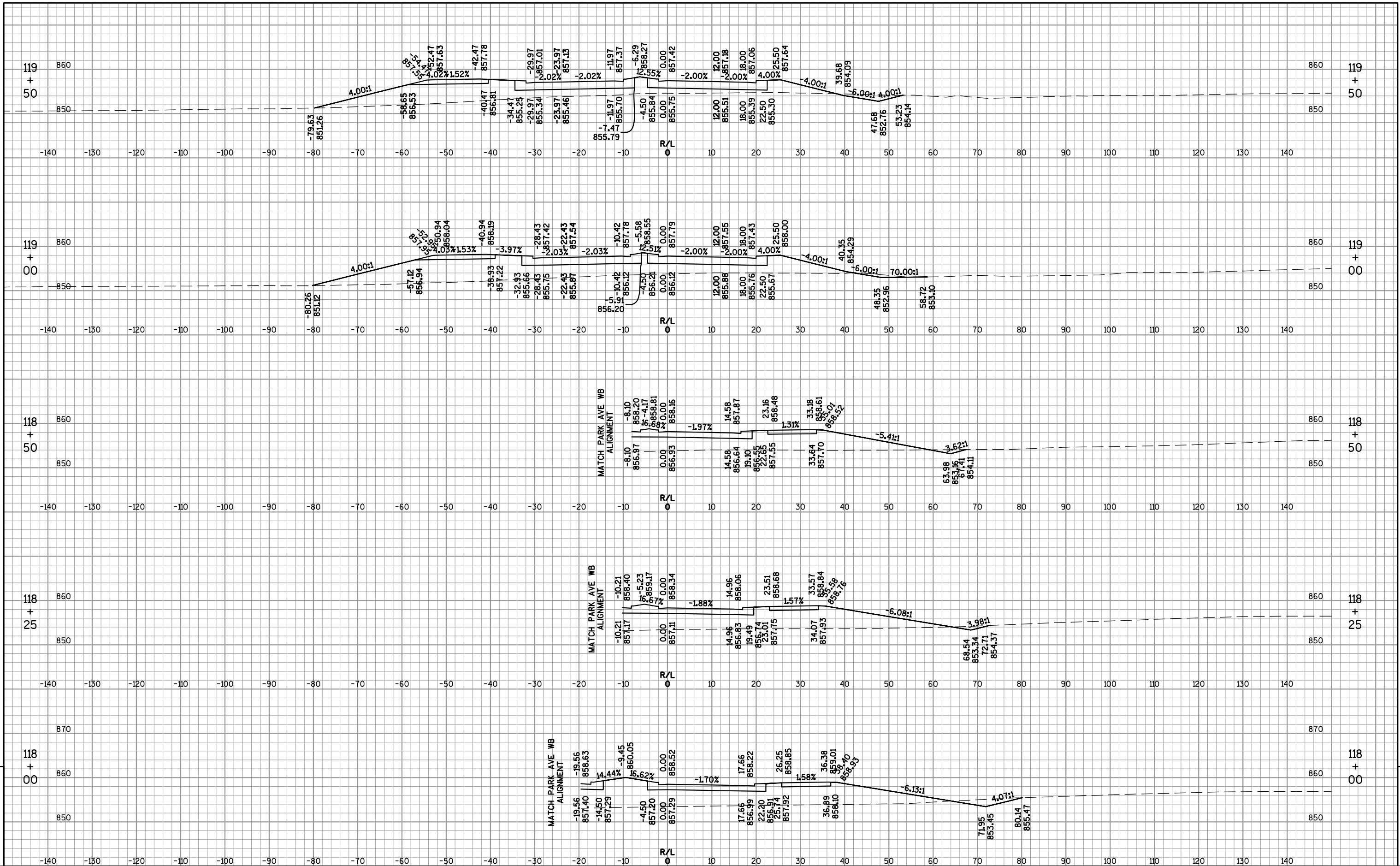
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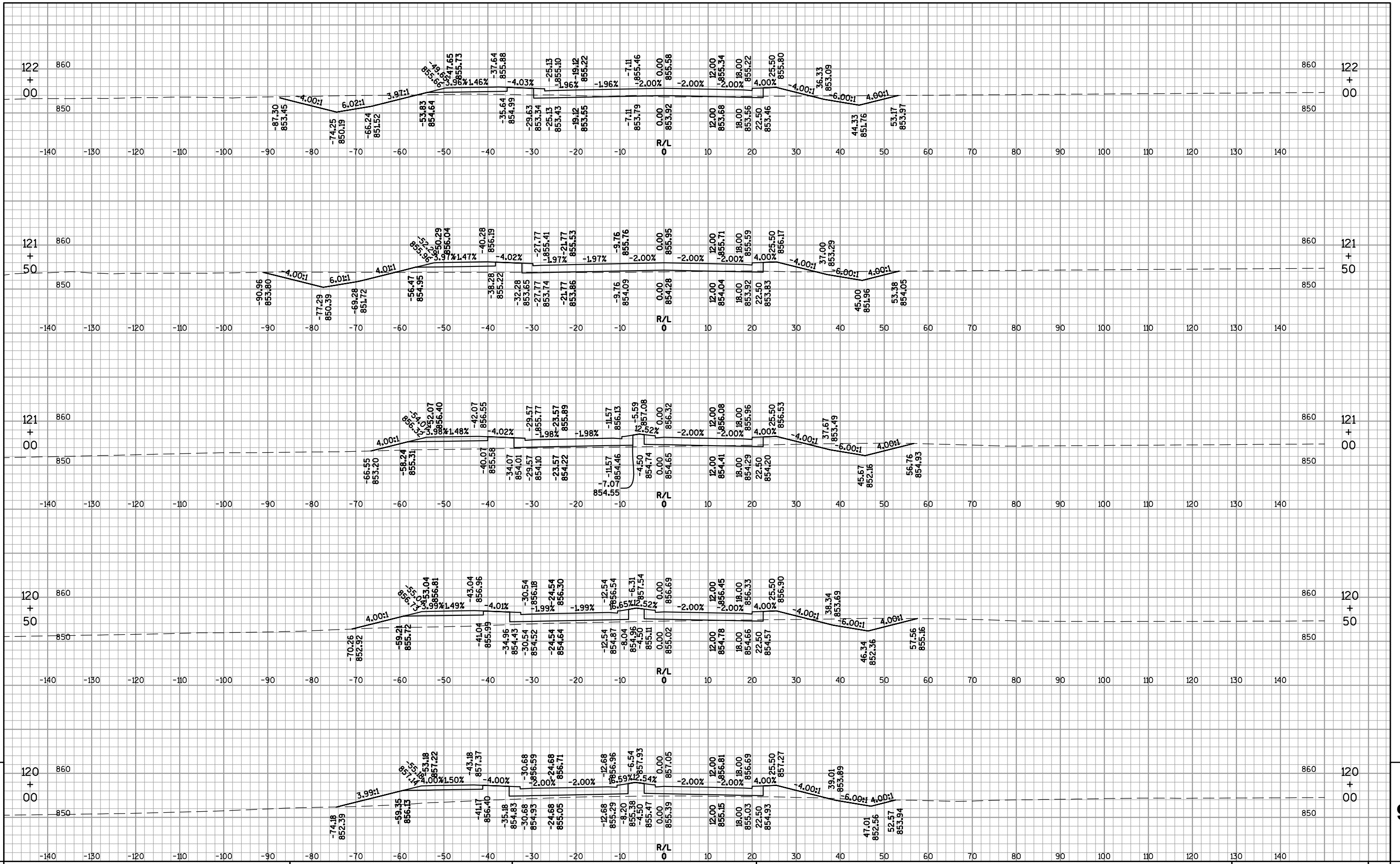
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PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: FRONTAGE ROAD EASTBOUND      SHEET      E



PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: FRONTAGE ROAD EASTBOUND      SHEET      E



PROJECT NO: 1420-22-71

HWY: USH 151

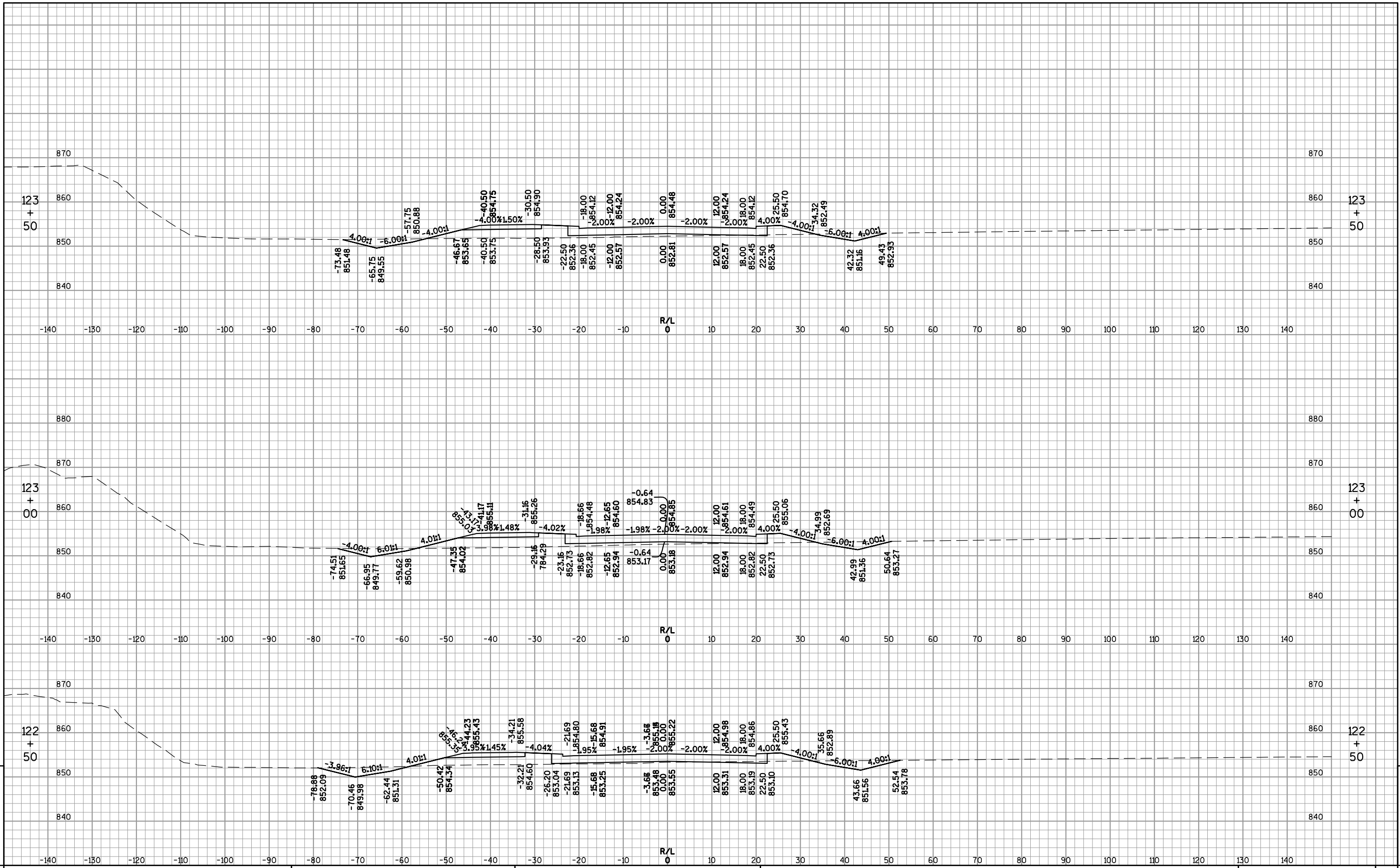
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CROSS SECTIONS: FRONTAGE ROAD EASTBOUND

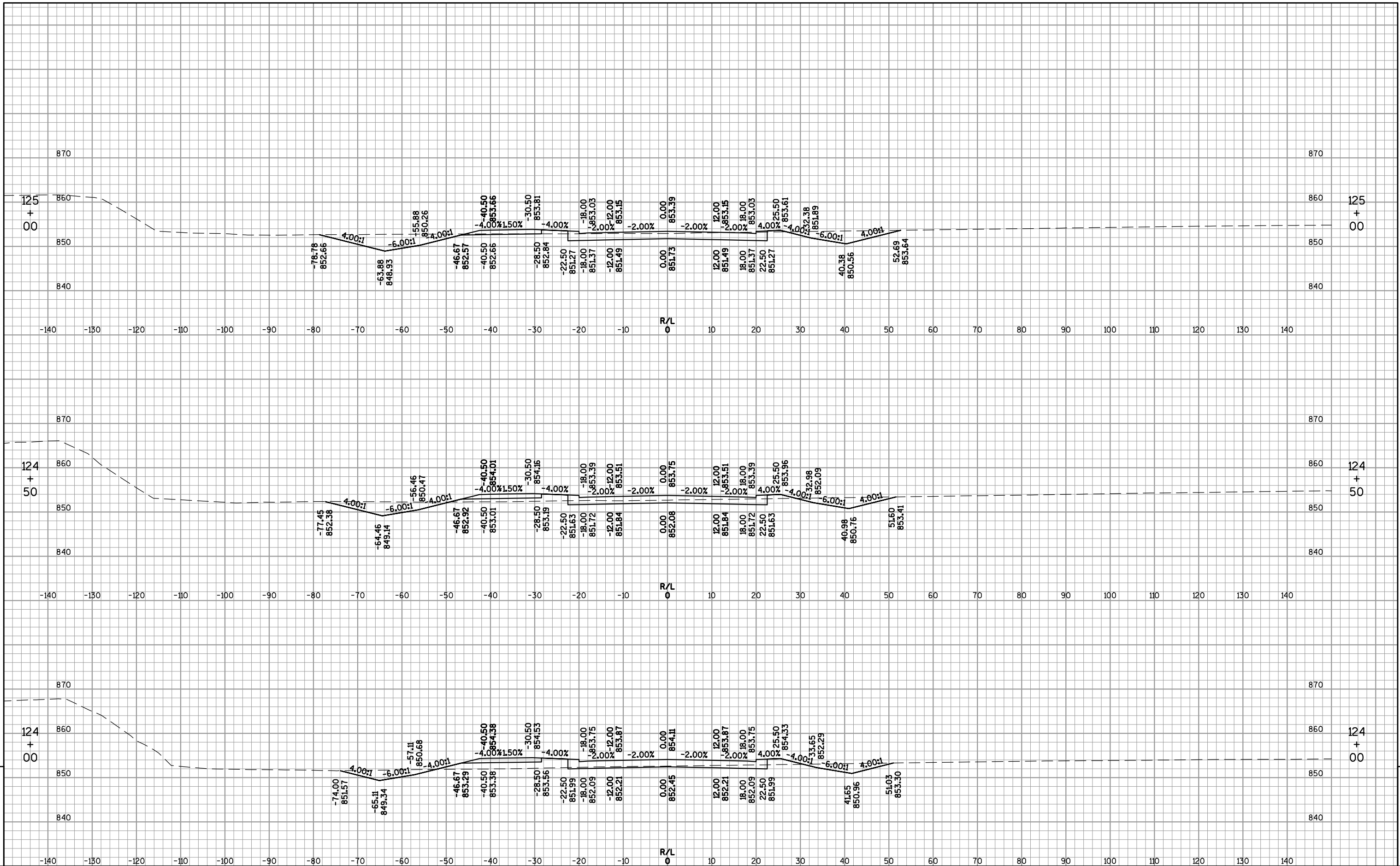
SHEET

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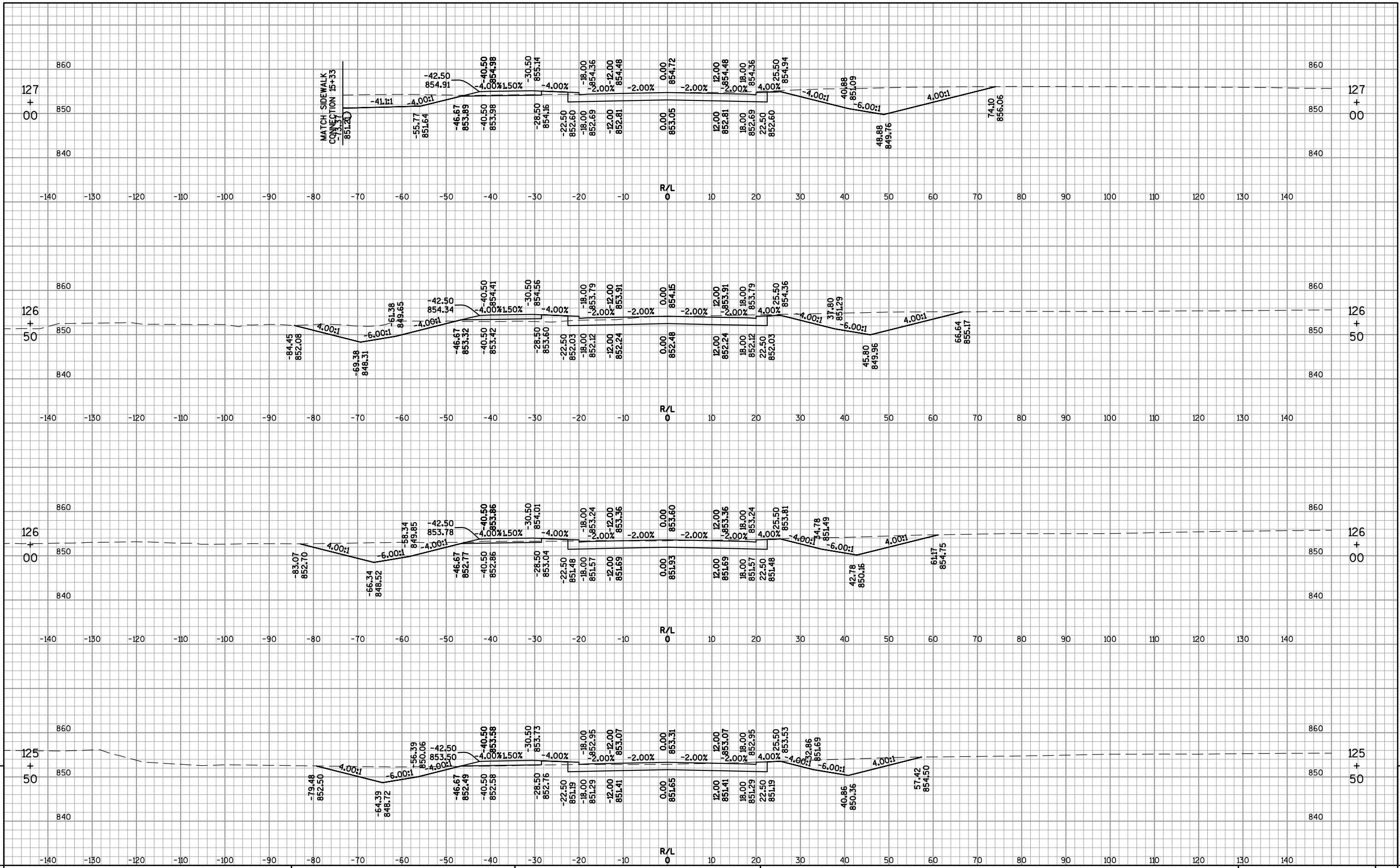




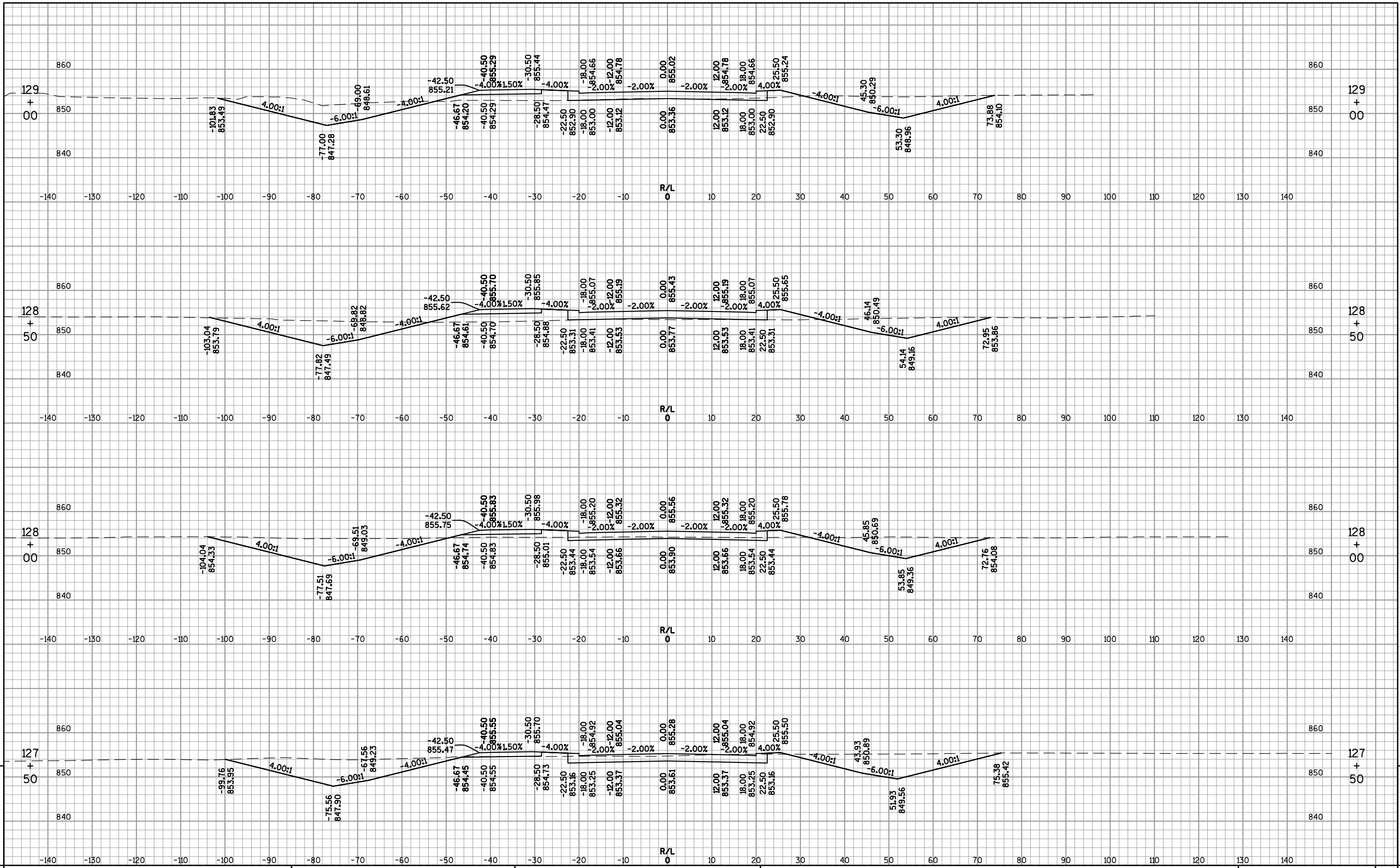
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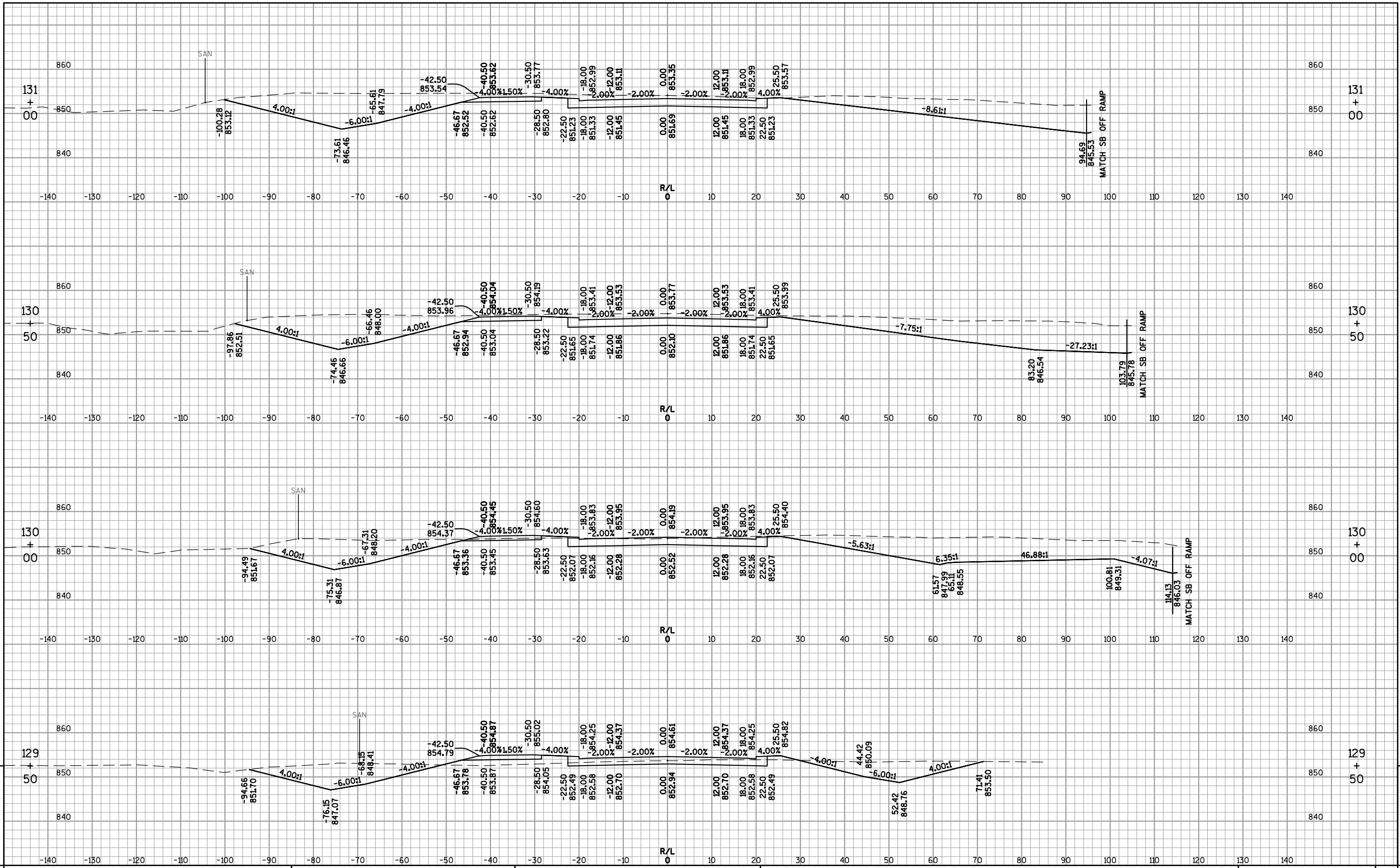
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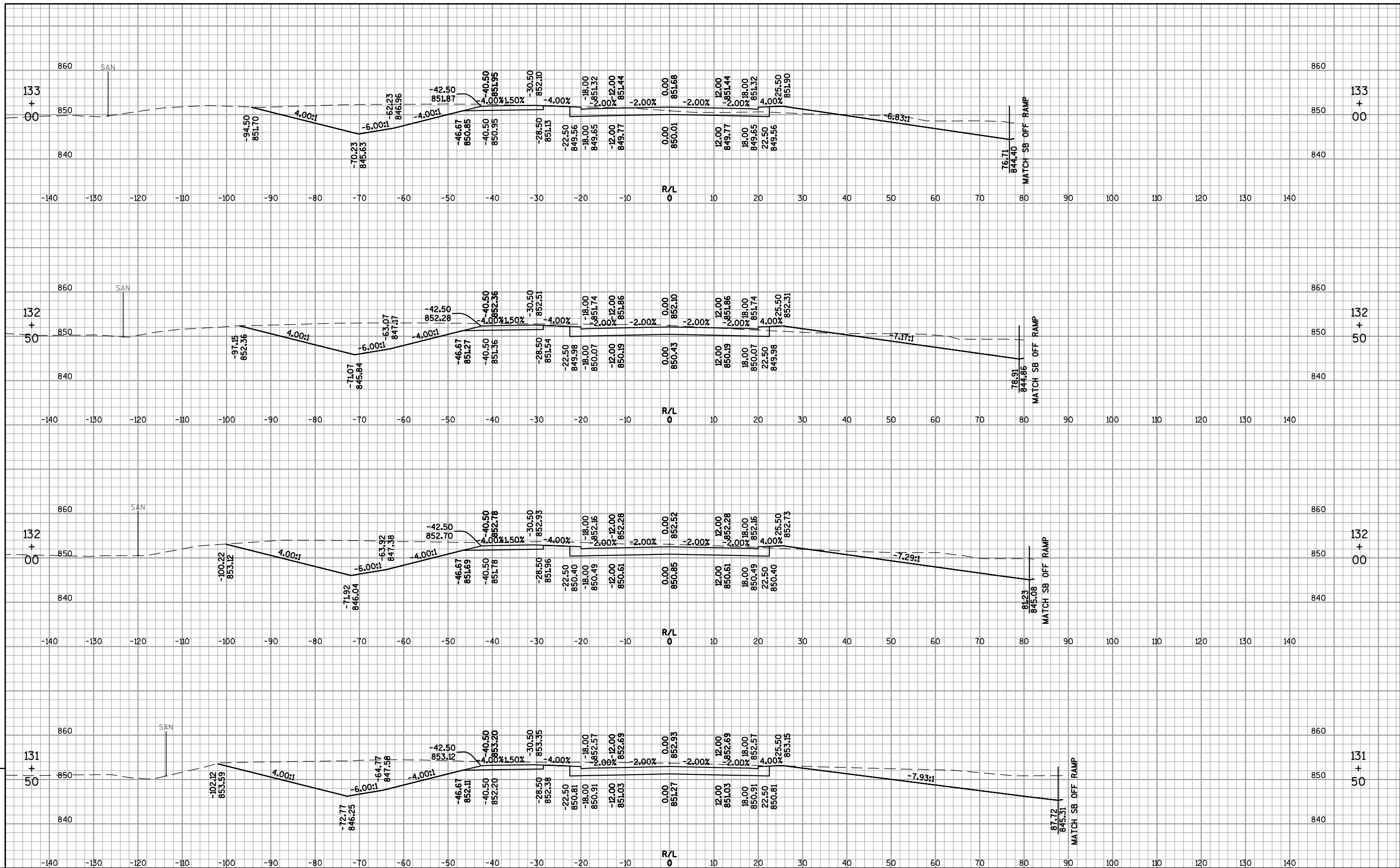


PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: FRONTAGE ROAD EASTBOUND      SHEET      E



PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: FRONTAGE ROAD EASTBOUND      SHEET      E

FILE NAME : F:\TR\JOBS\E2017A12\CIVIL 3D 2012\SHEETSPLAN\142022\_090200\_XS-SIDEROADS.DWG      PLOT DATE : 1/9/2015 2:15 PM      PLOT BY : OMNI ASSOCIATES, INC - CRAIG KNUTH



PROJECT NO: 1420-22-71

HWY: USH 151

COUNTY: FOND DU LAC

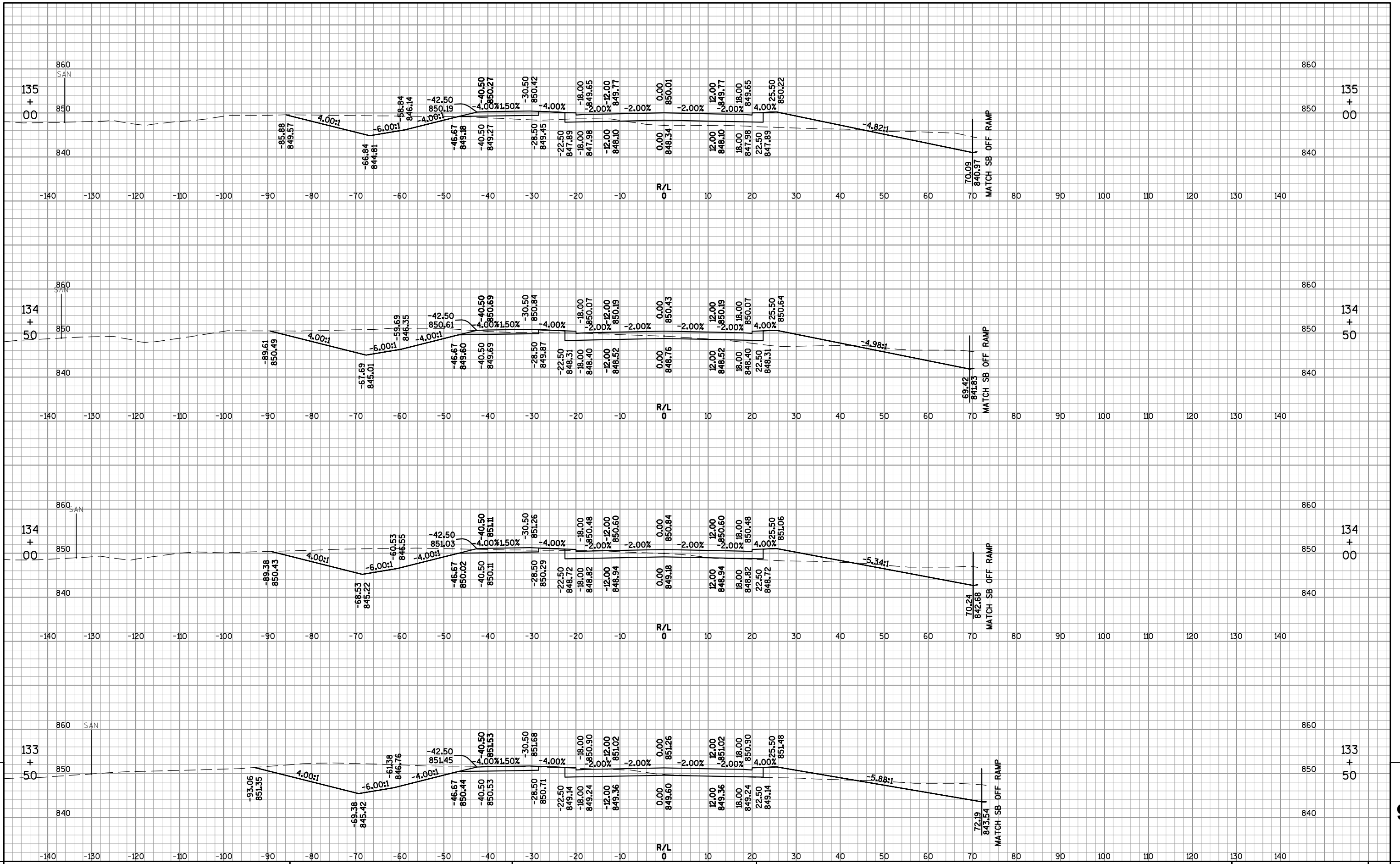
CROSS SECTIONS: FRONTAGE ROAD EASTBOUND

SHEET

E

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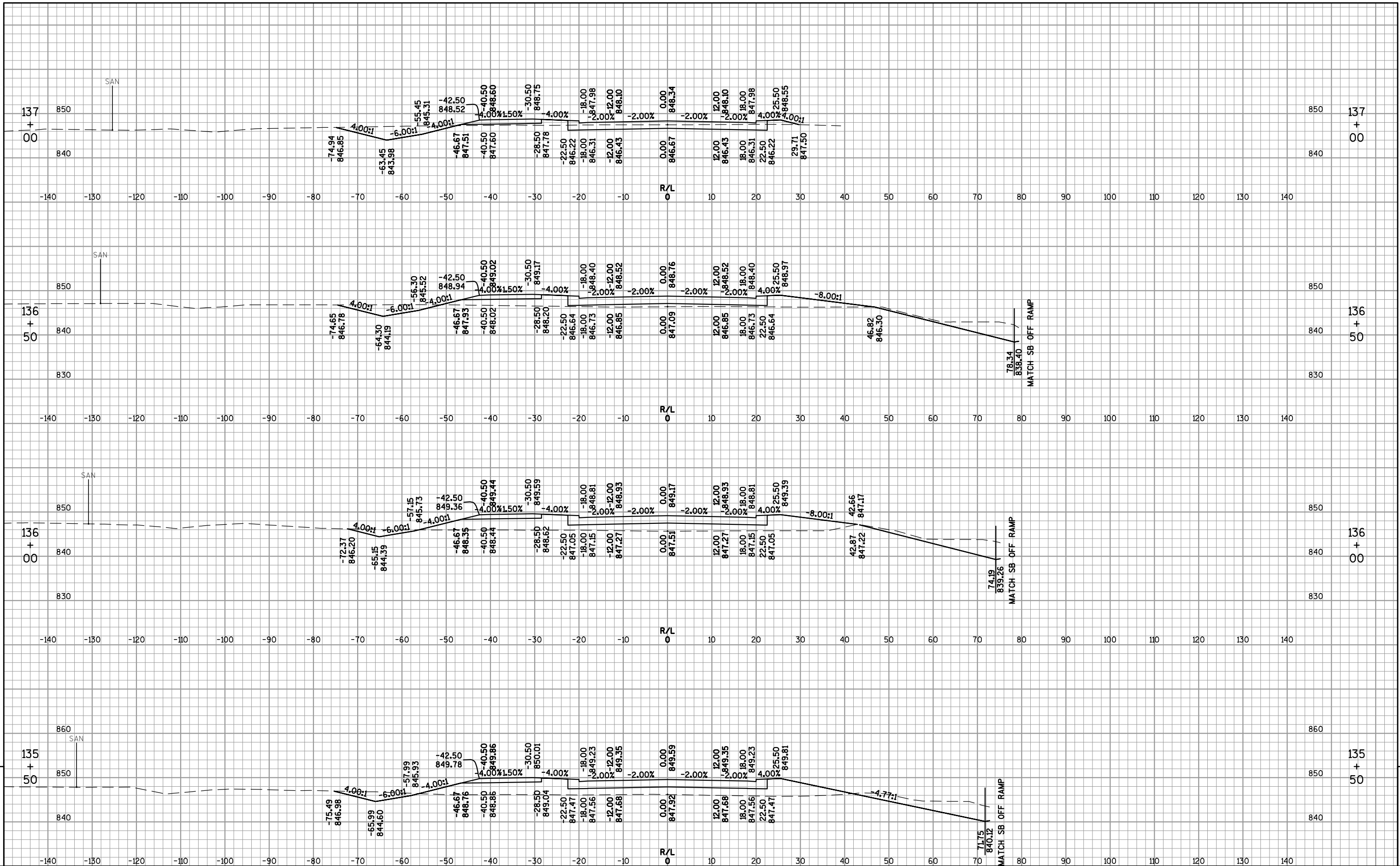
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PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: FRONTAGE ROAD EASTBOUND      SHEET      E

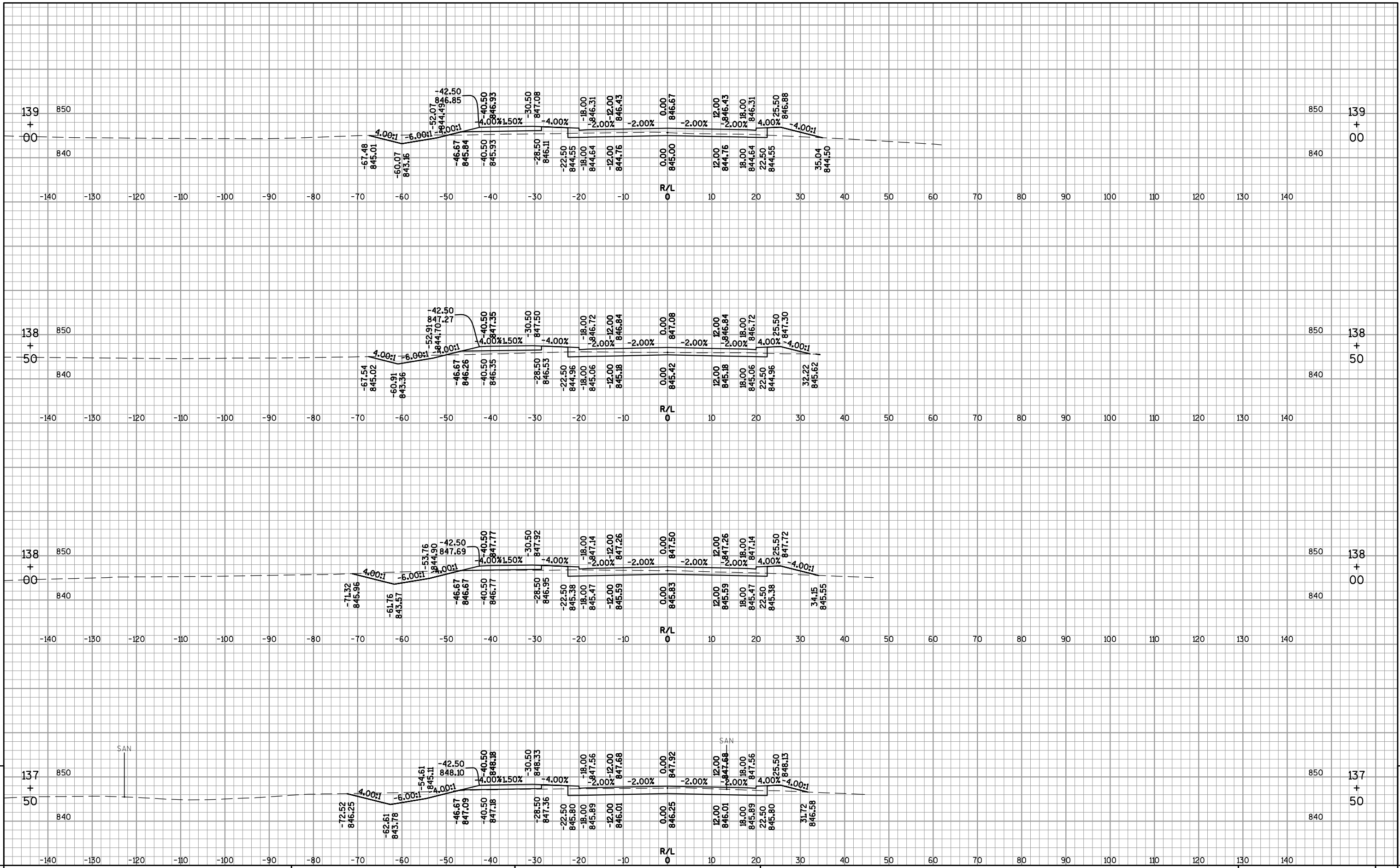
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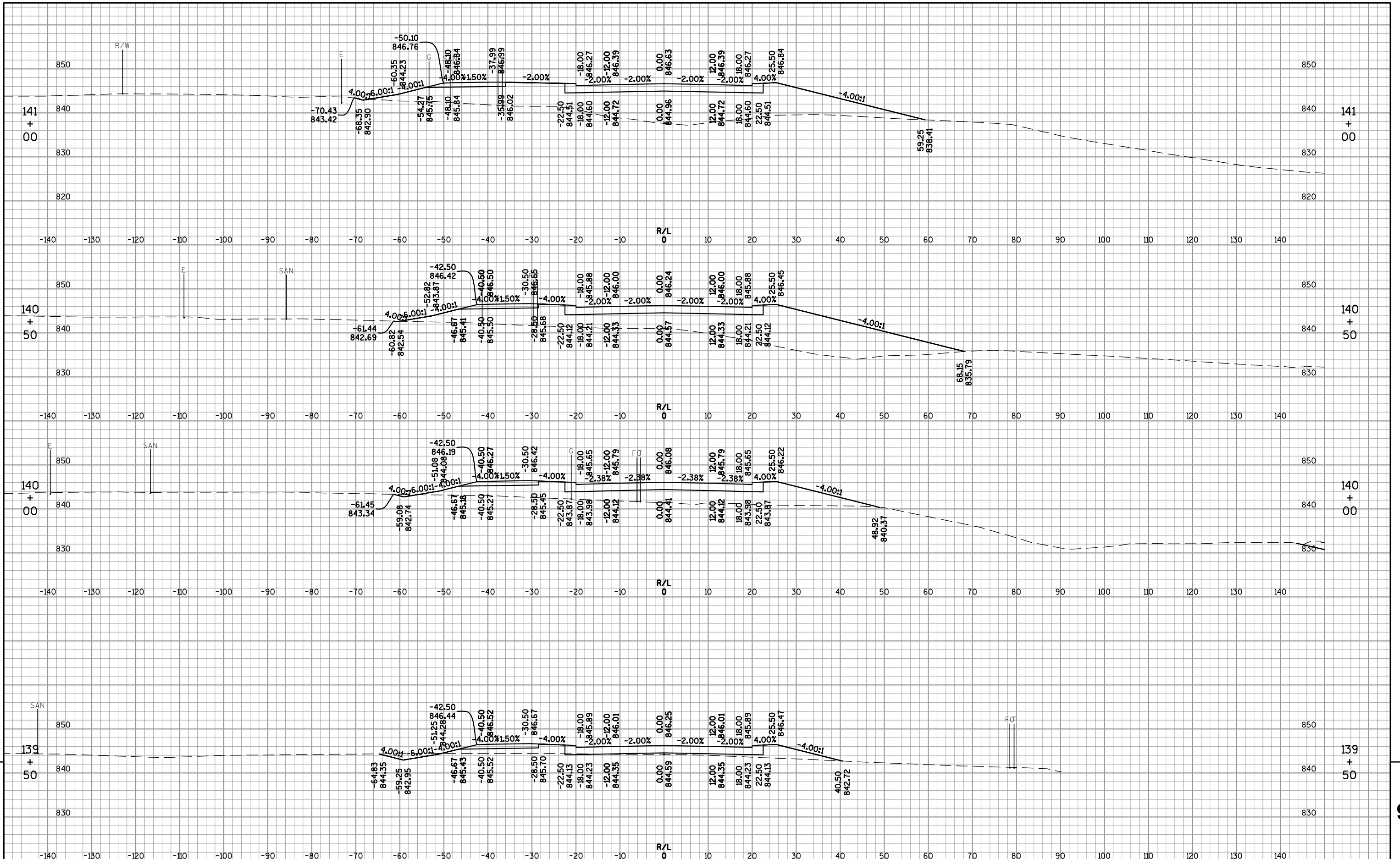


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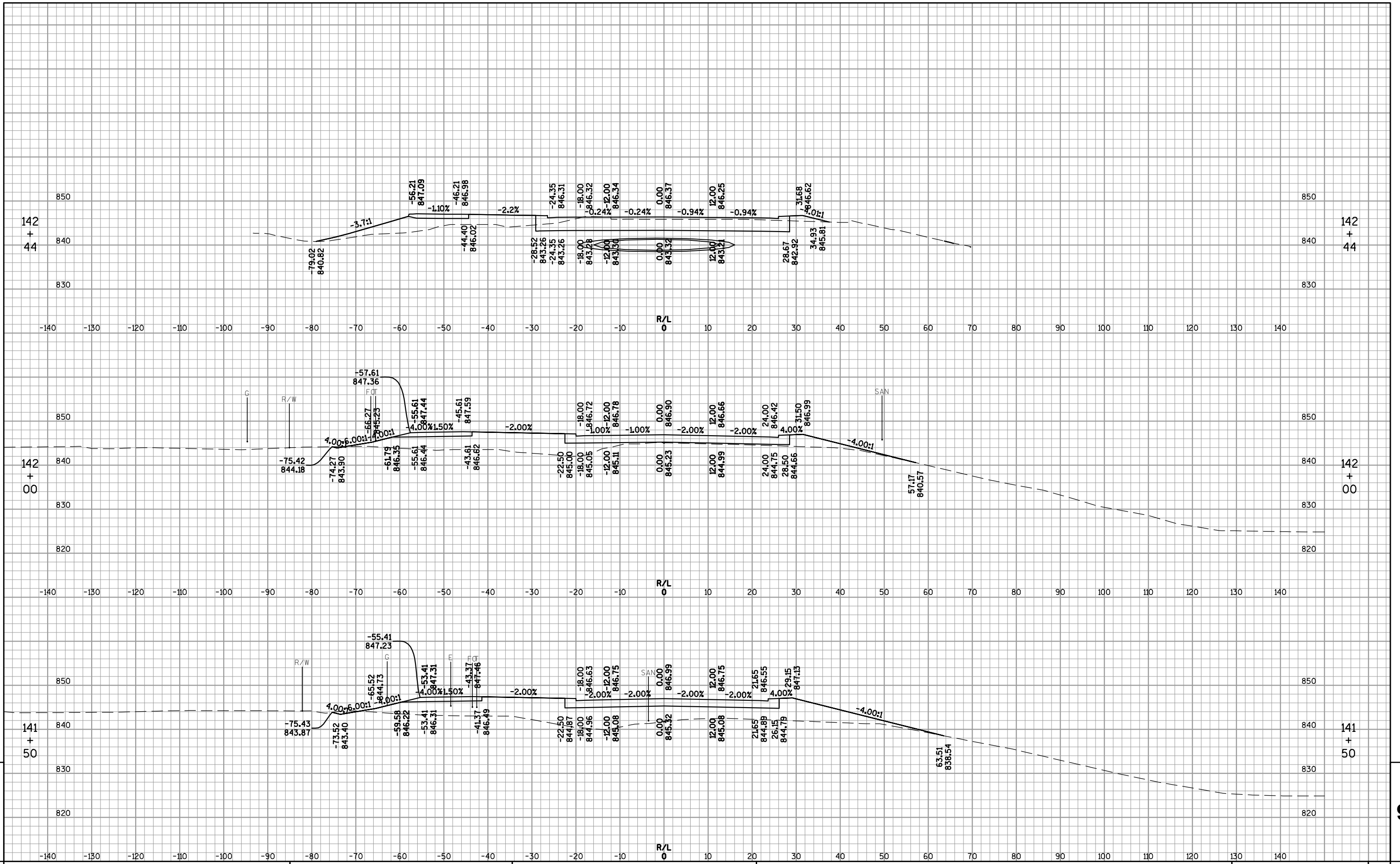




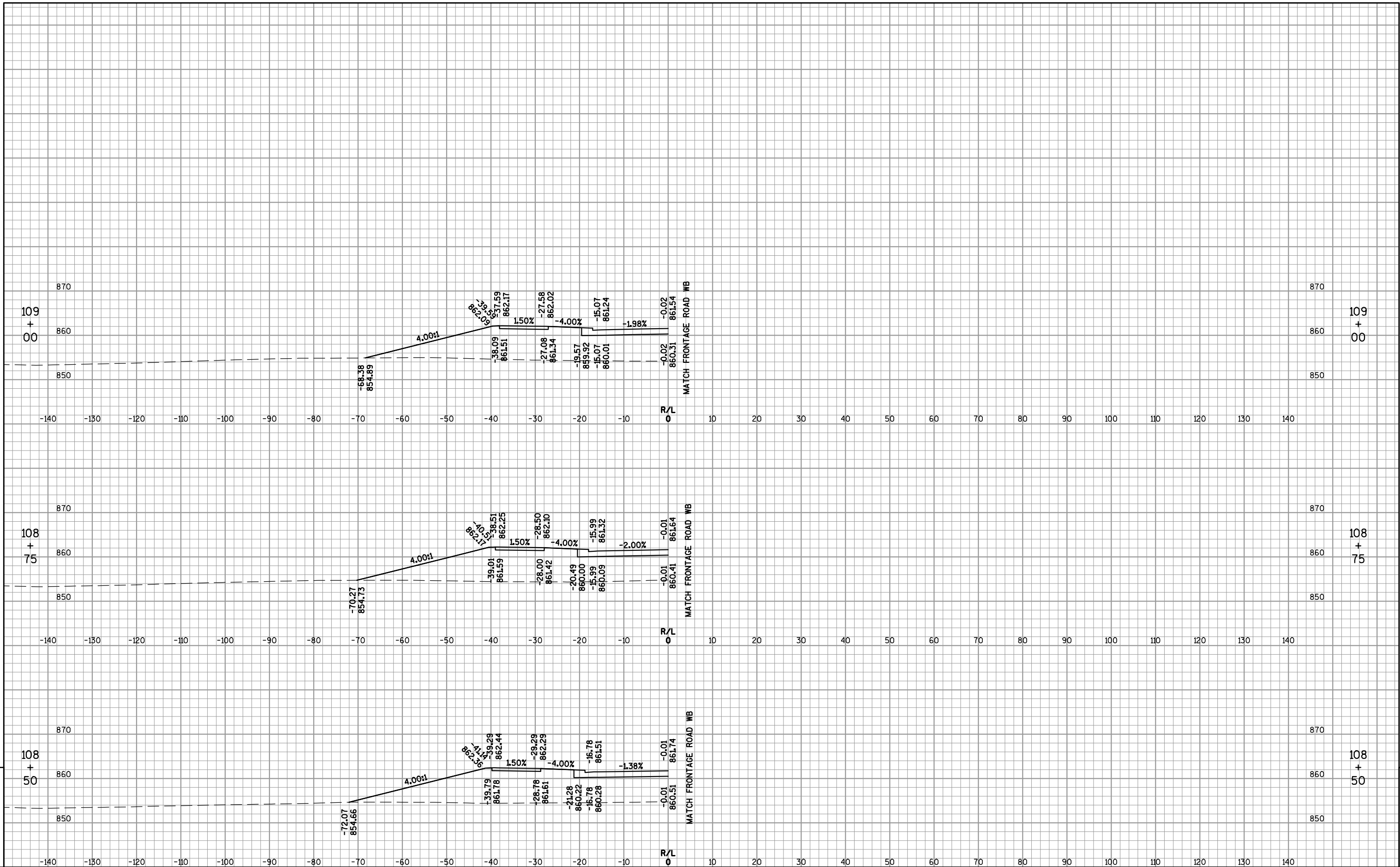
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PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: FRONTAGE ROAD EASTBOUND      SHEET      E



PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: FRONTAGE ROAD EASTBOUND      SHEET      E



PROJECT NO: 1420-22-71

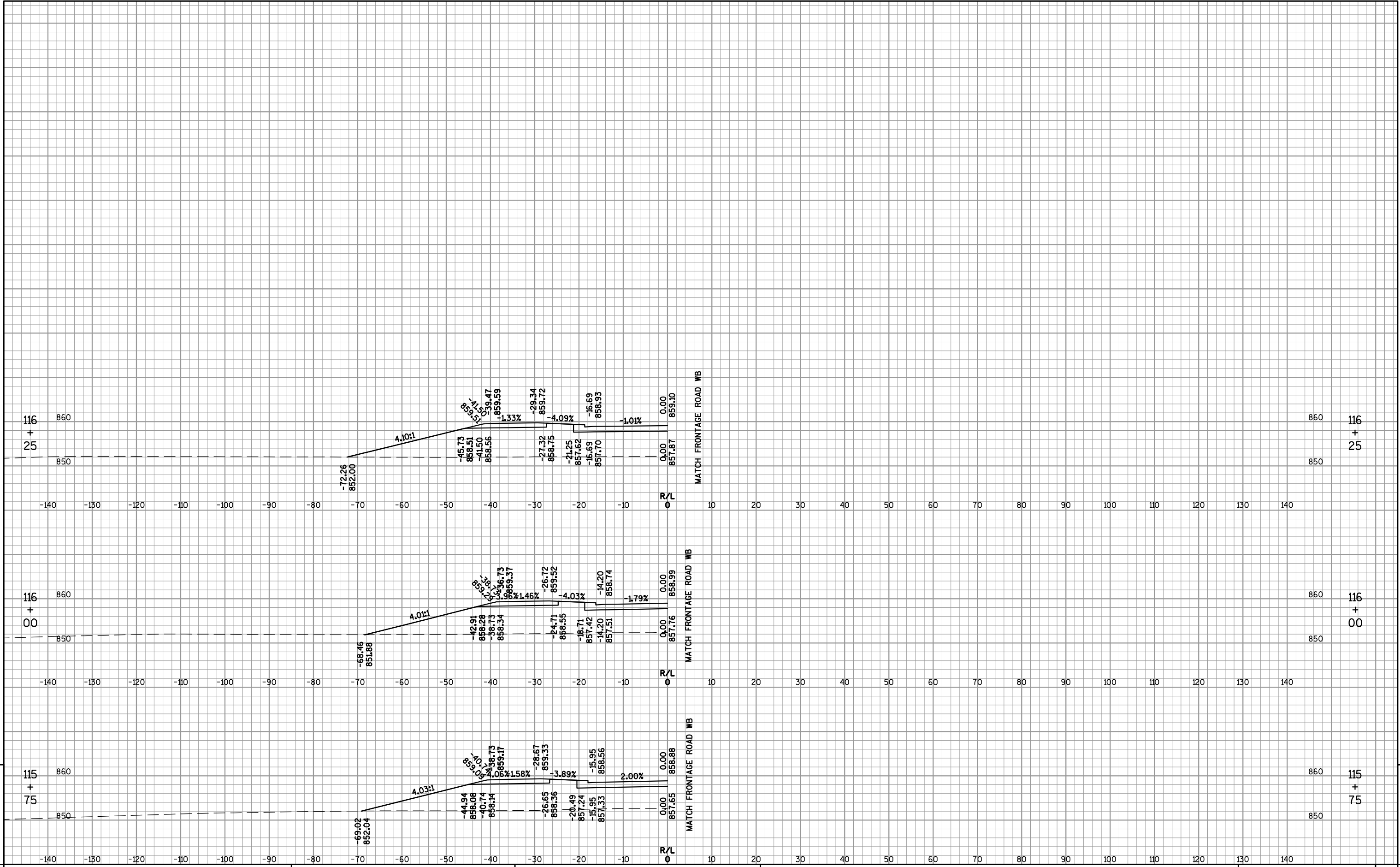
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COUNTY: FOND DU LAC

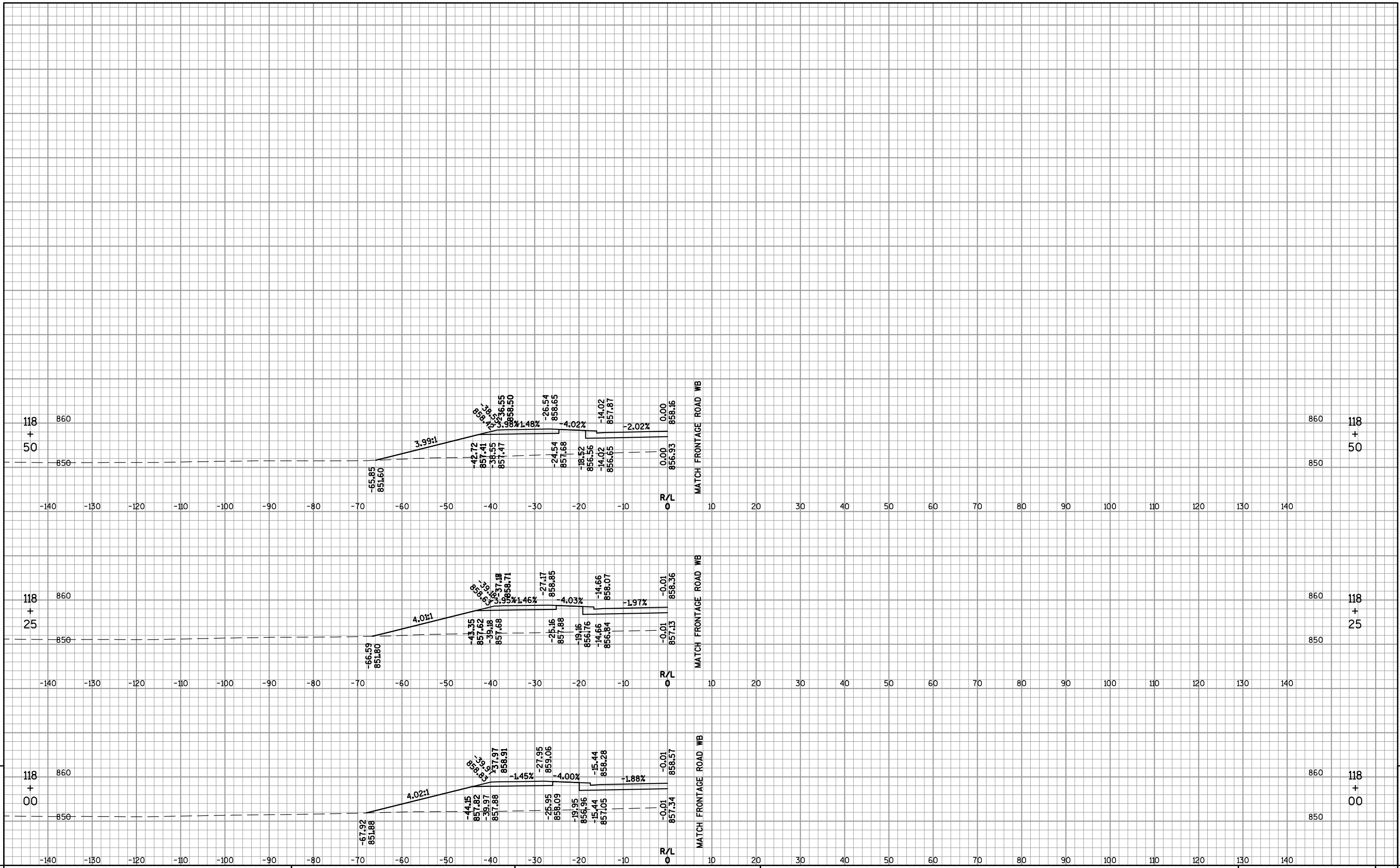
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SHEET

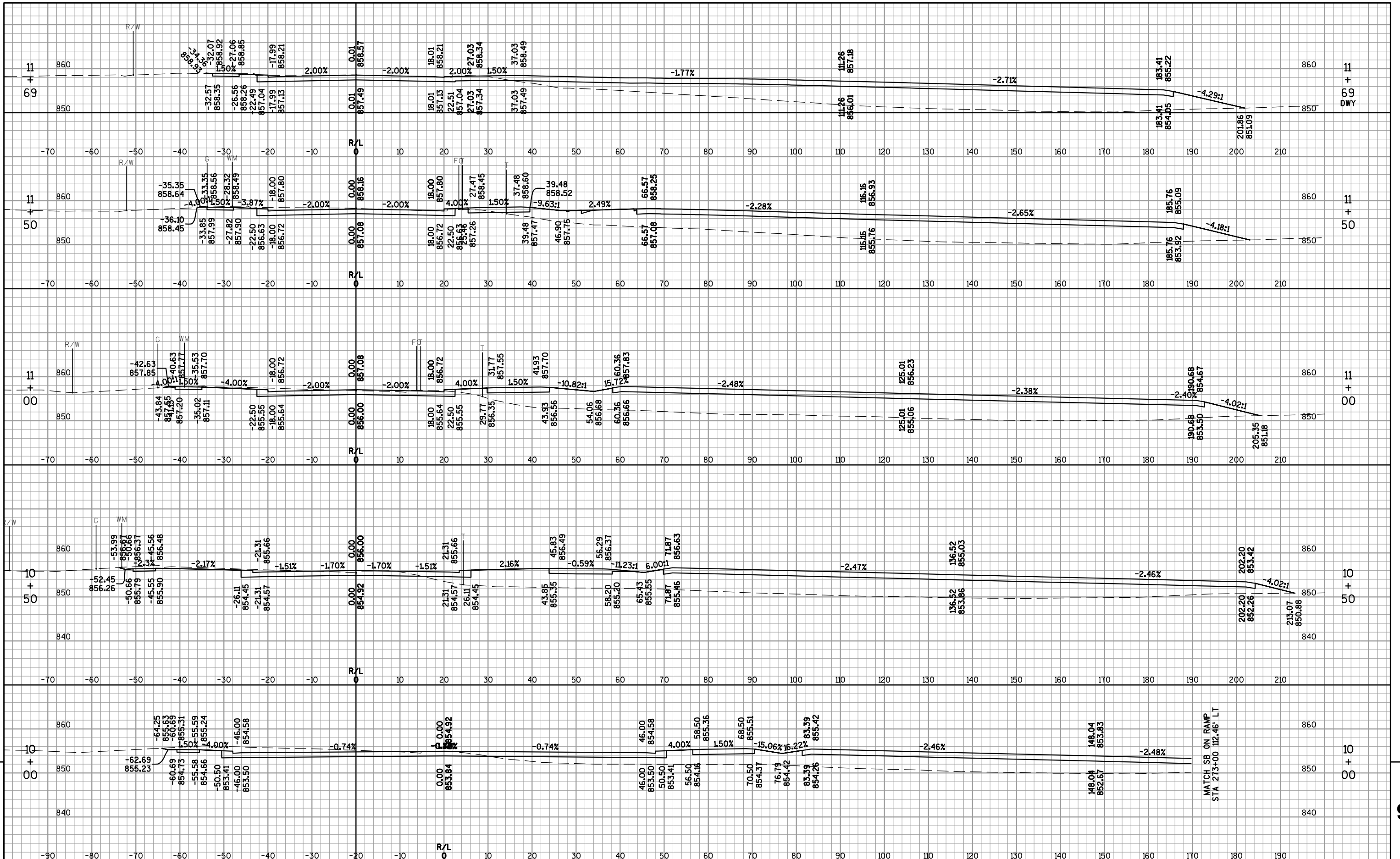
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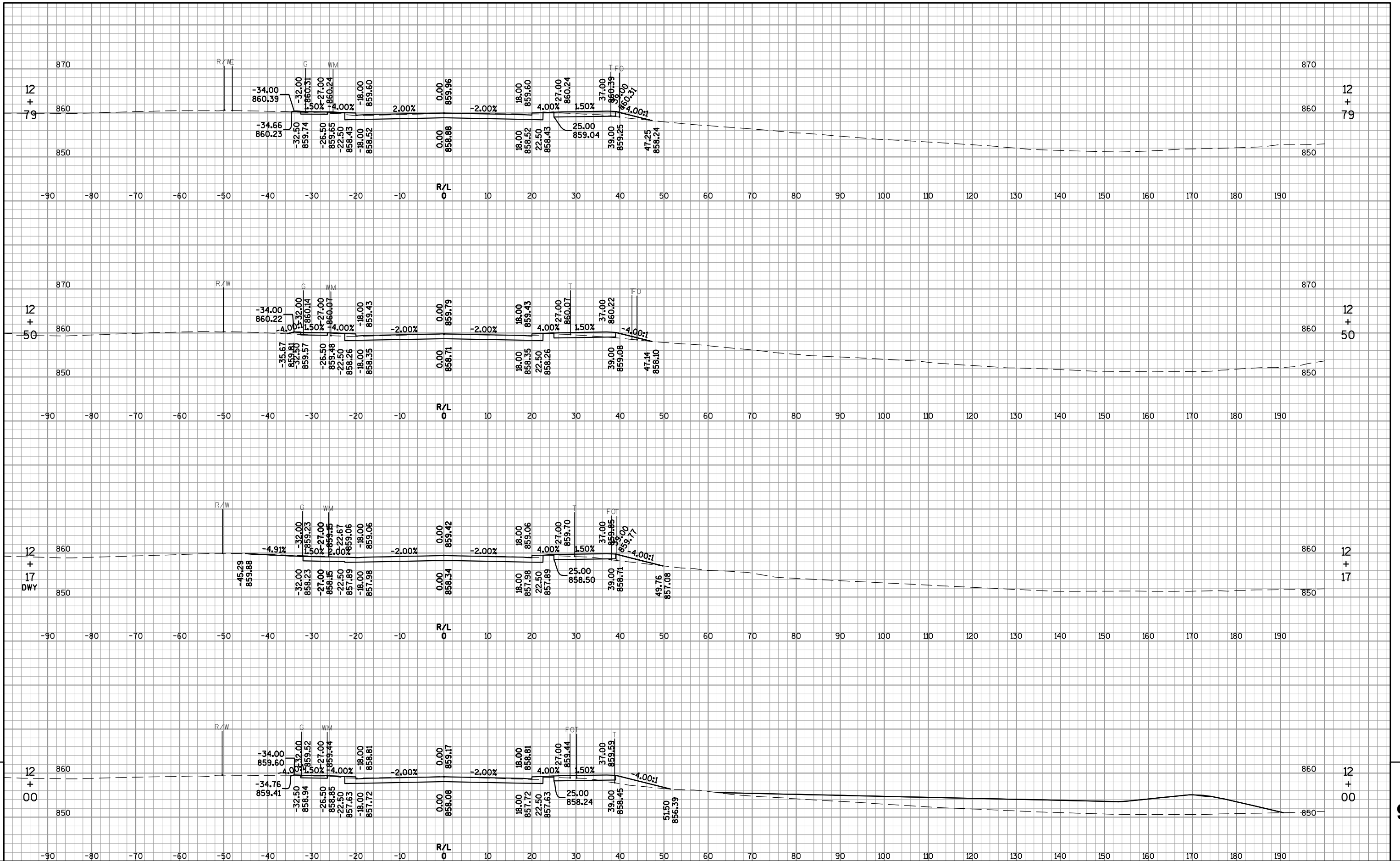
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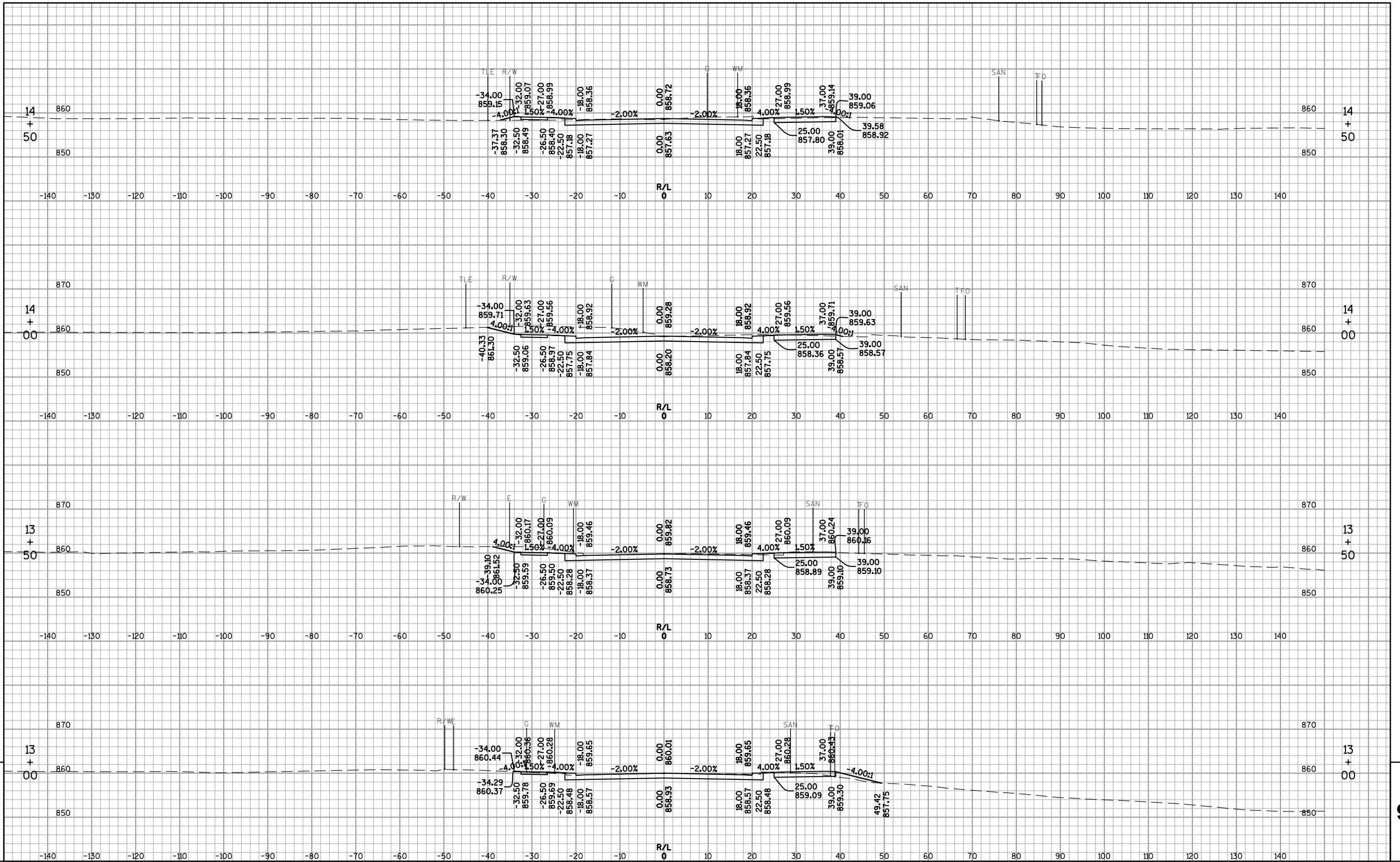


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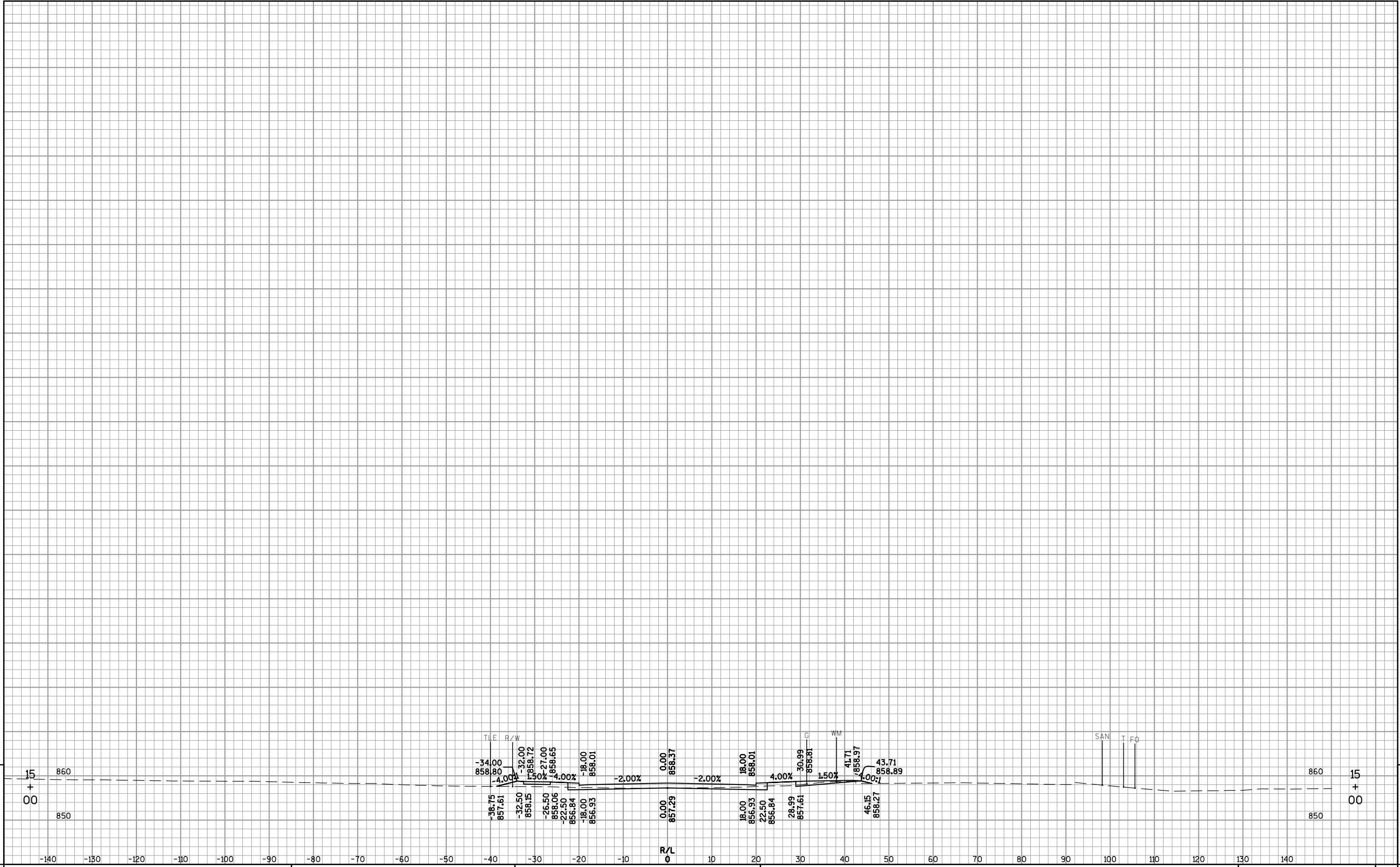


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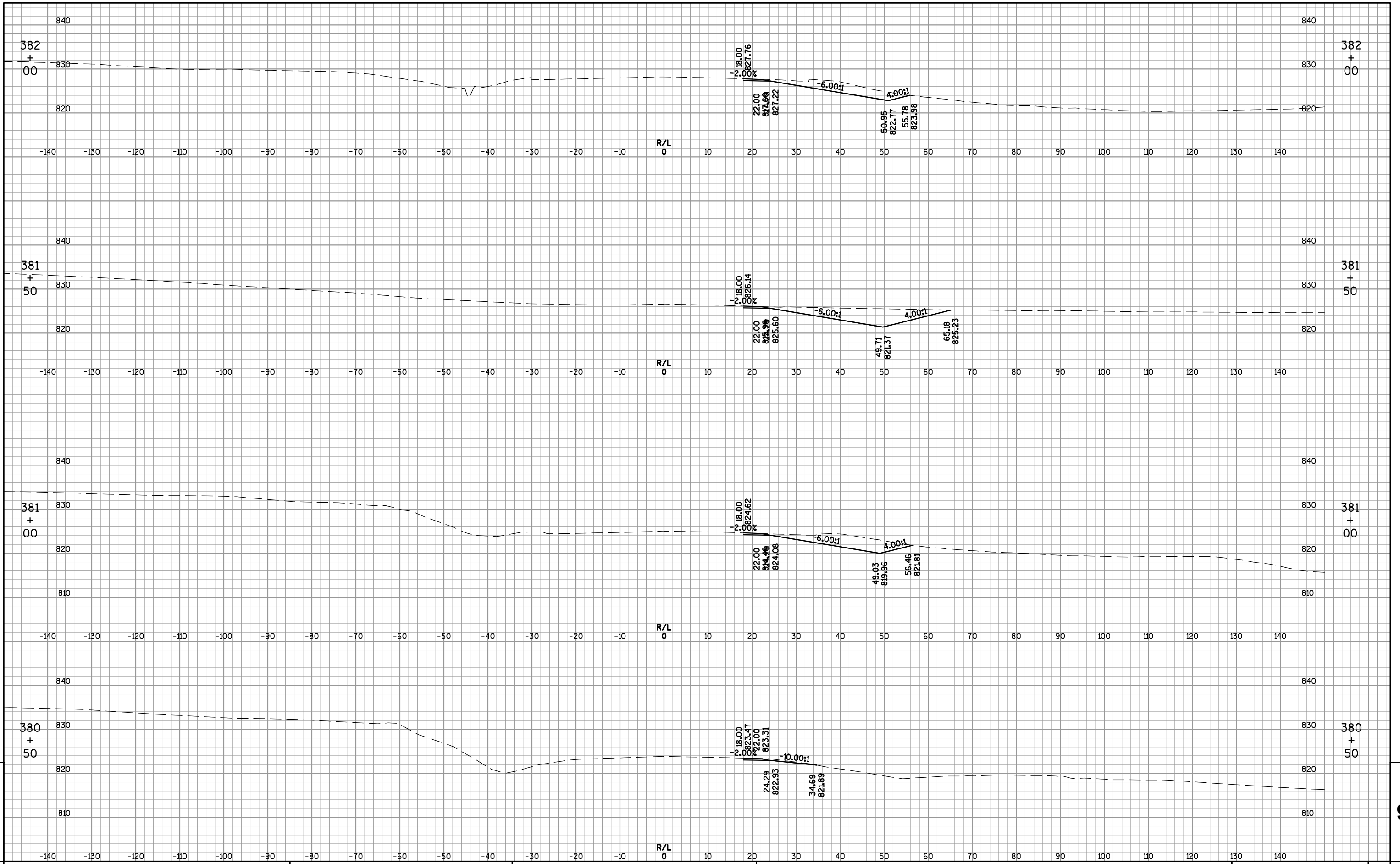
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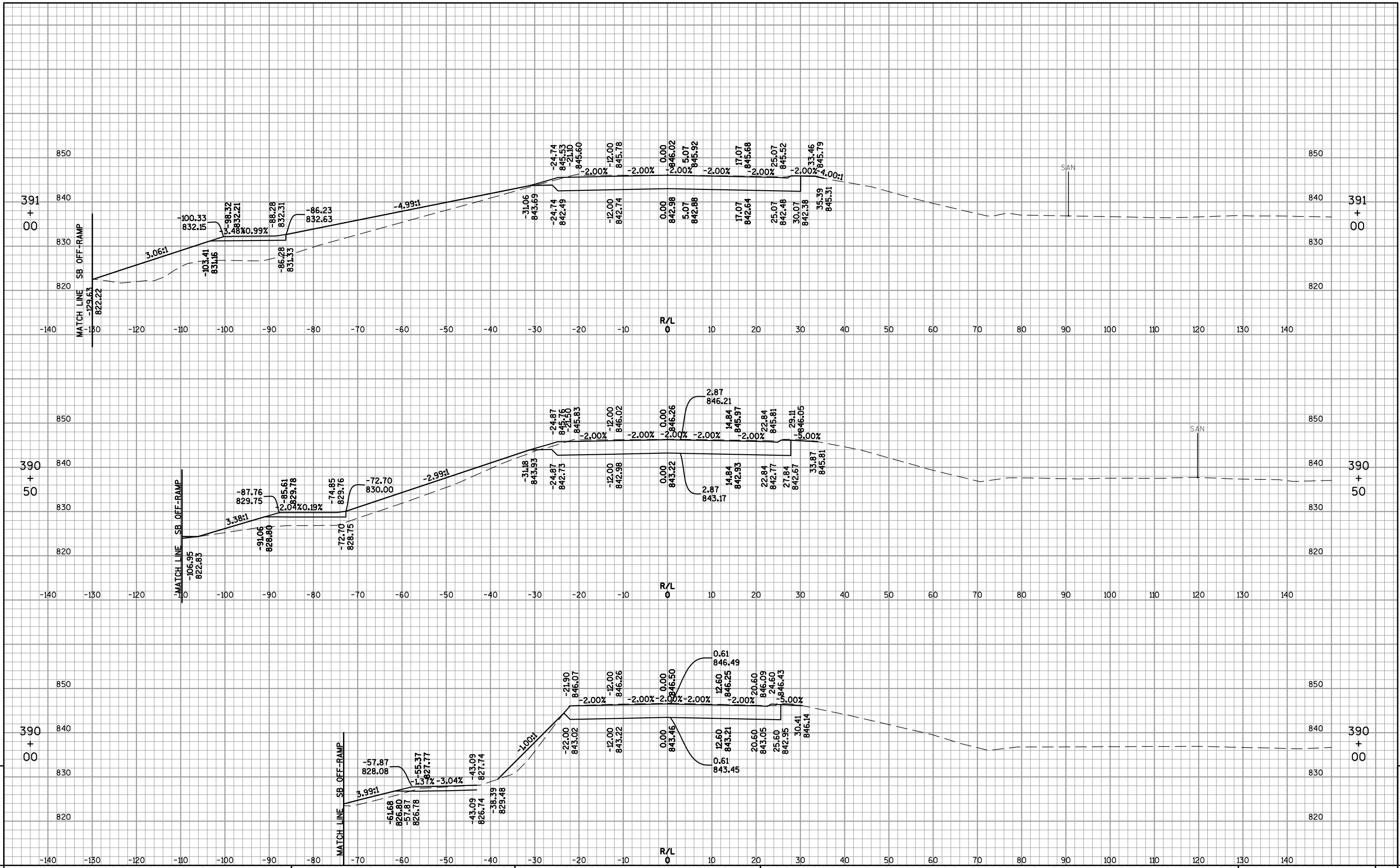
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PROJECT NO: 1420-22-71 | HWY: USH 151 | COUNTY: FOND DU LAC | CROSS SECTIONS: OLD CTH V NORTH | SHEET | E



PROJECT NO: 1420-22-71 | HWY: USH 151 | COUNTY: FOND DU LAC | CROSS SECTIONS: USH 45 | SHEET | E

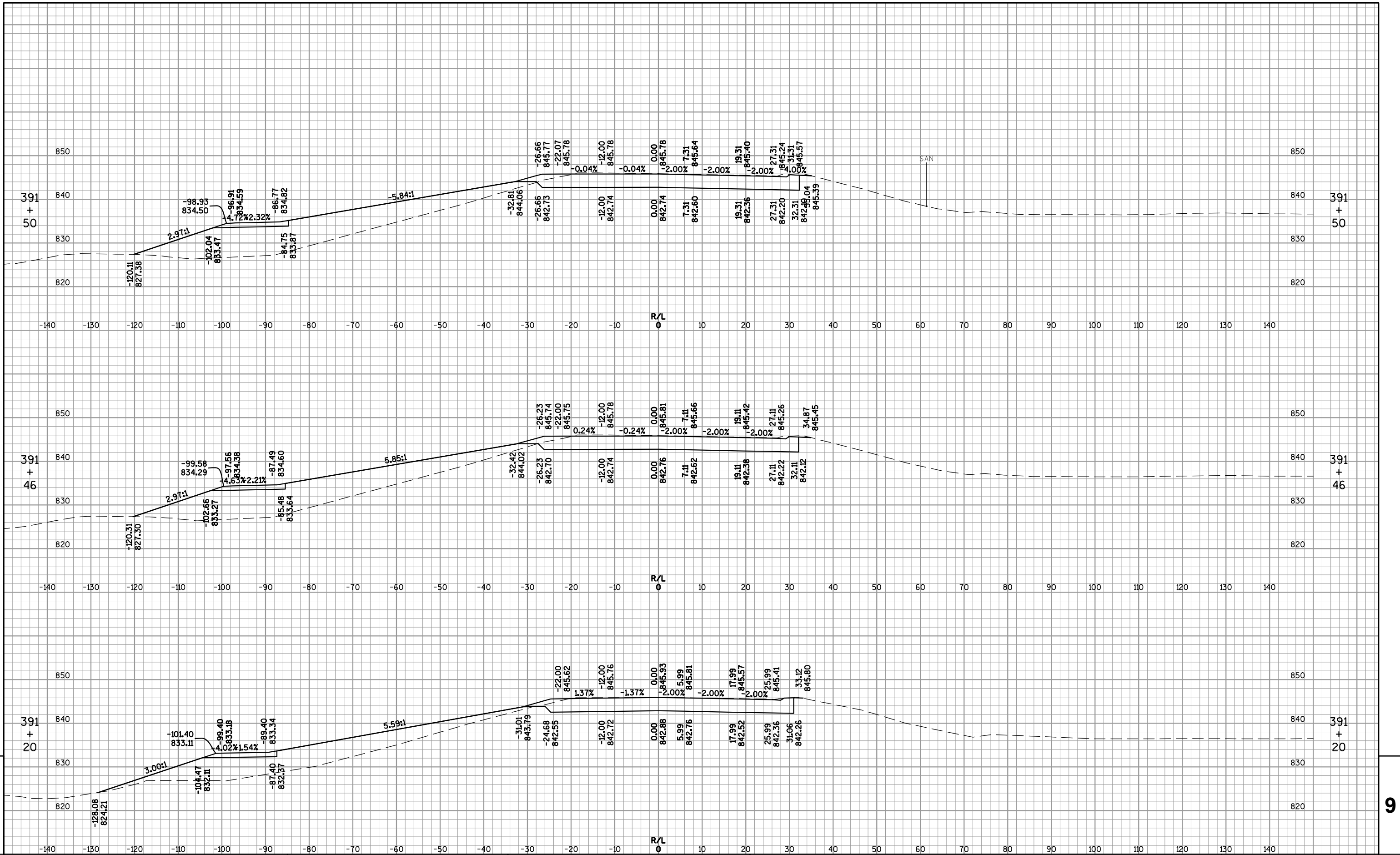


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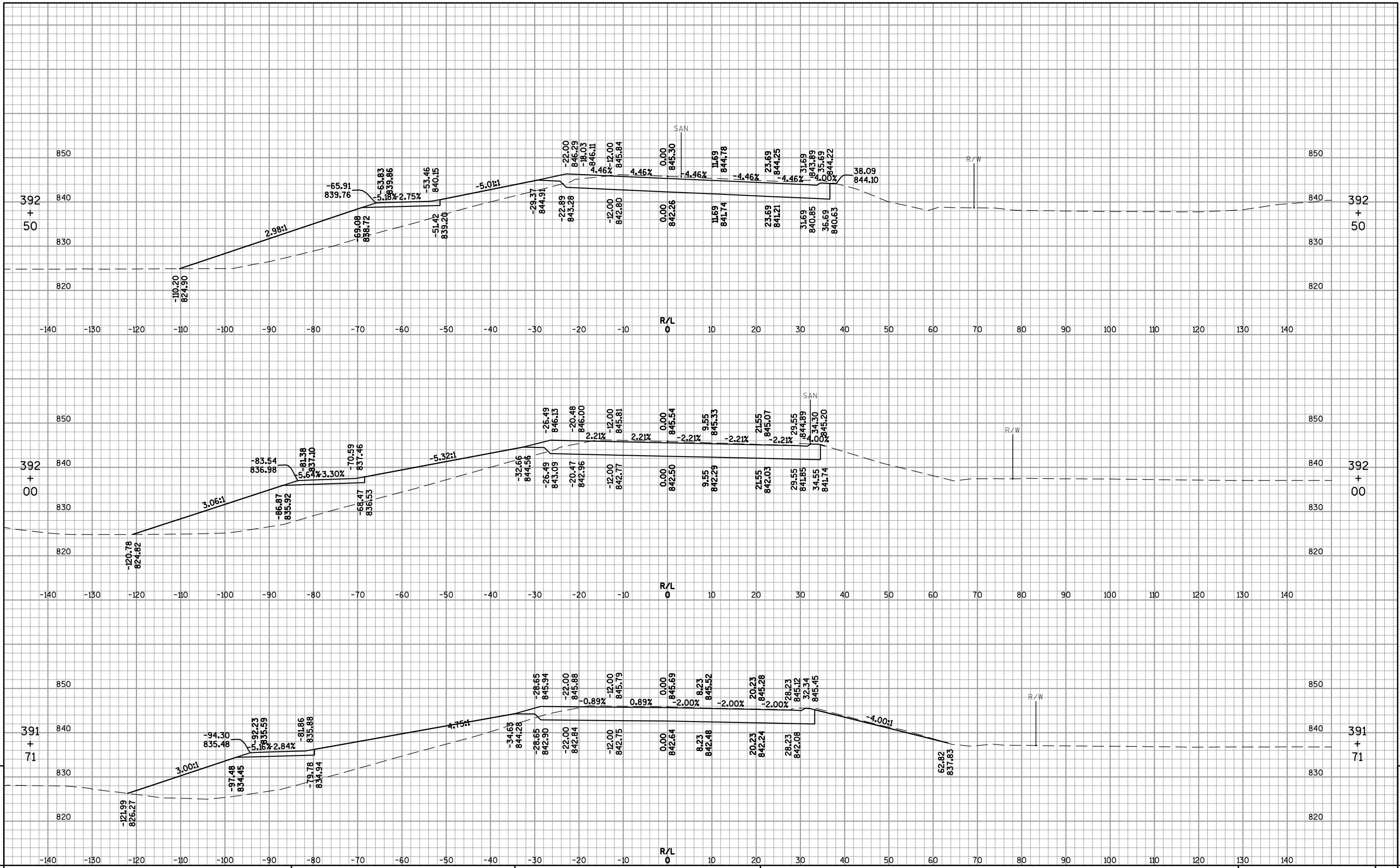
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PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: USH 45      SHEET      E

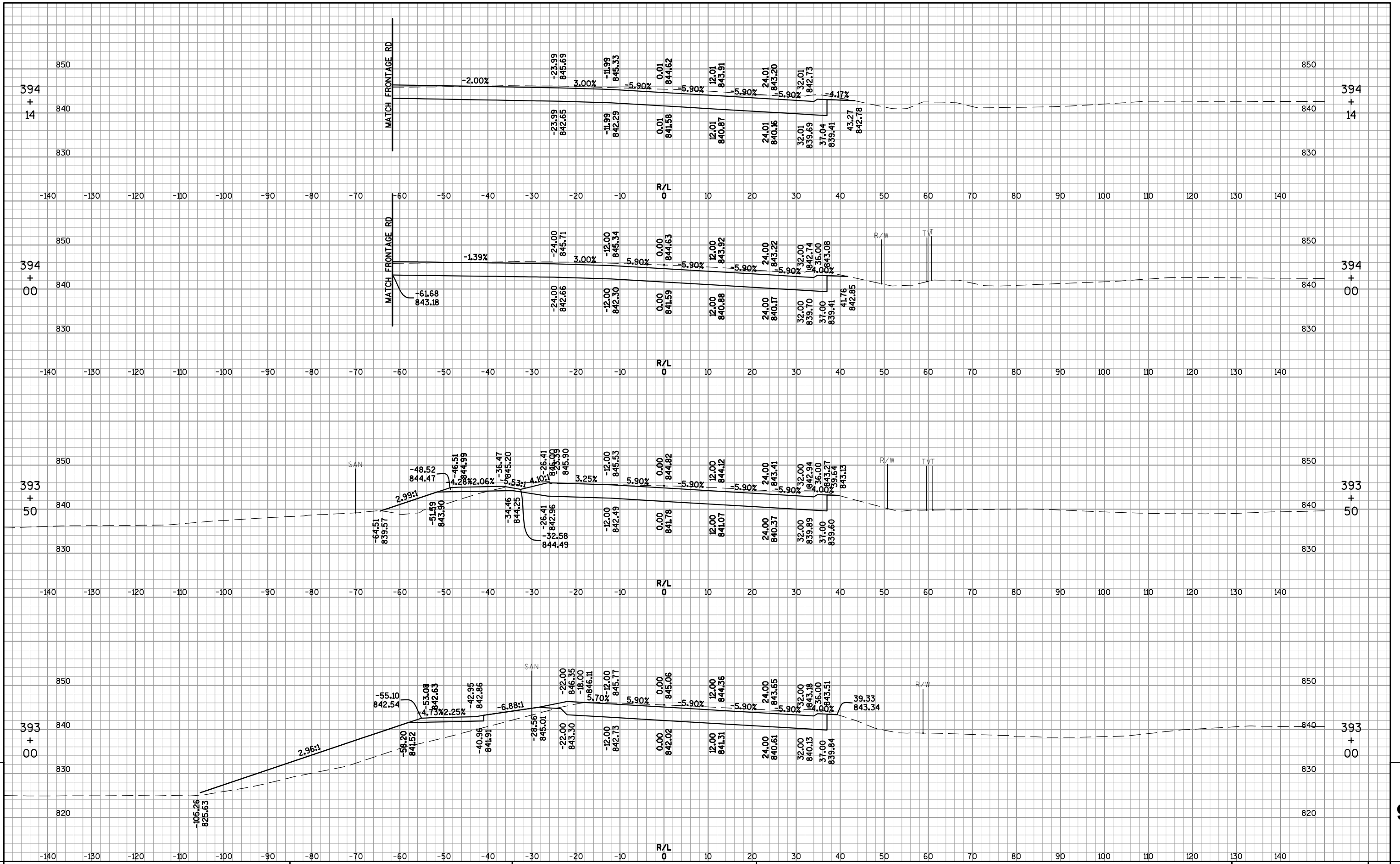
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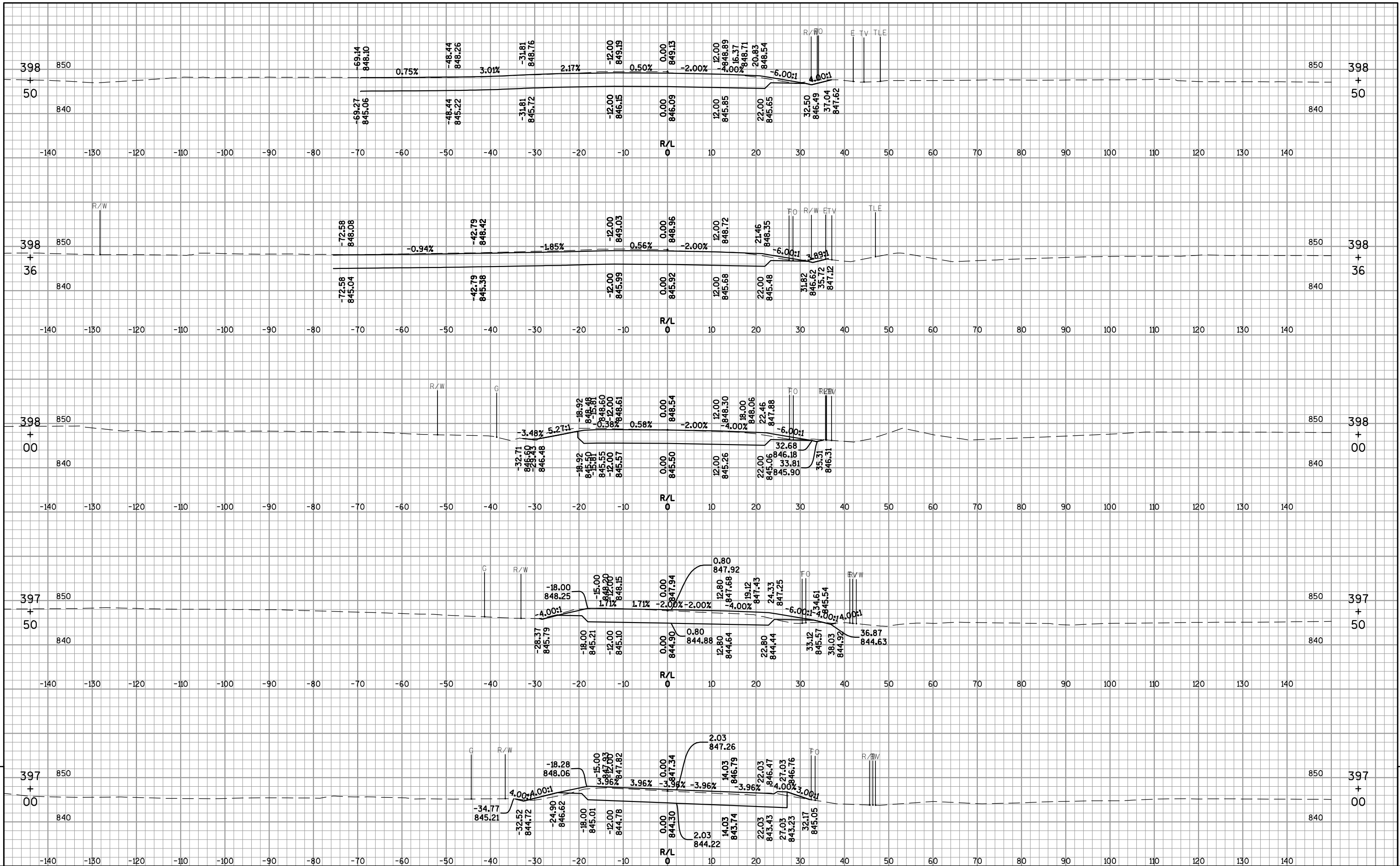
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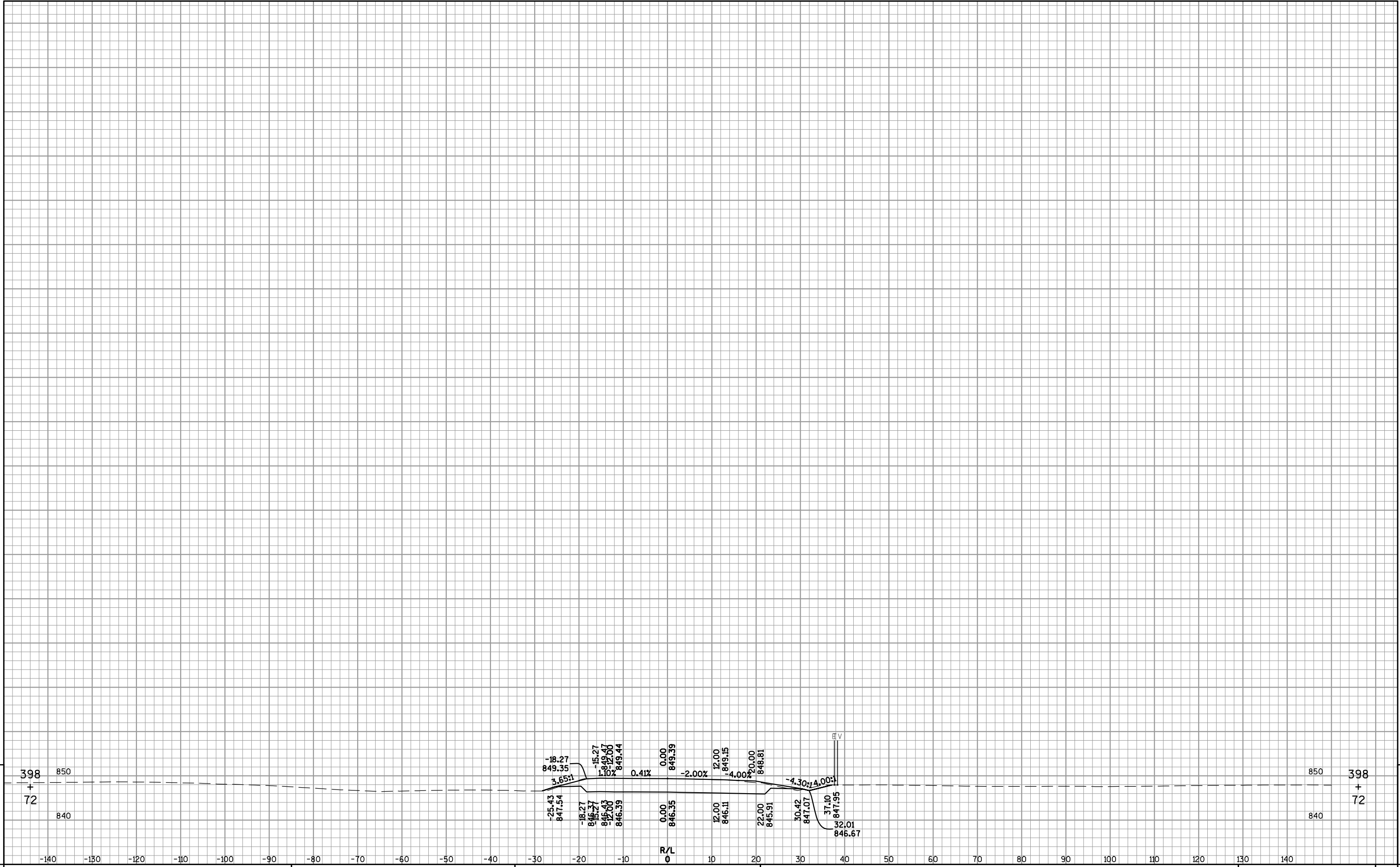


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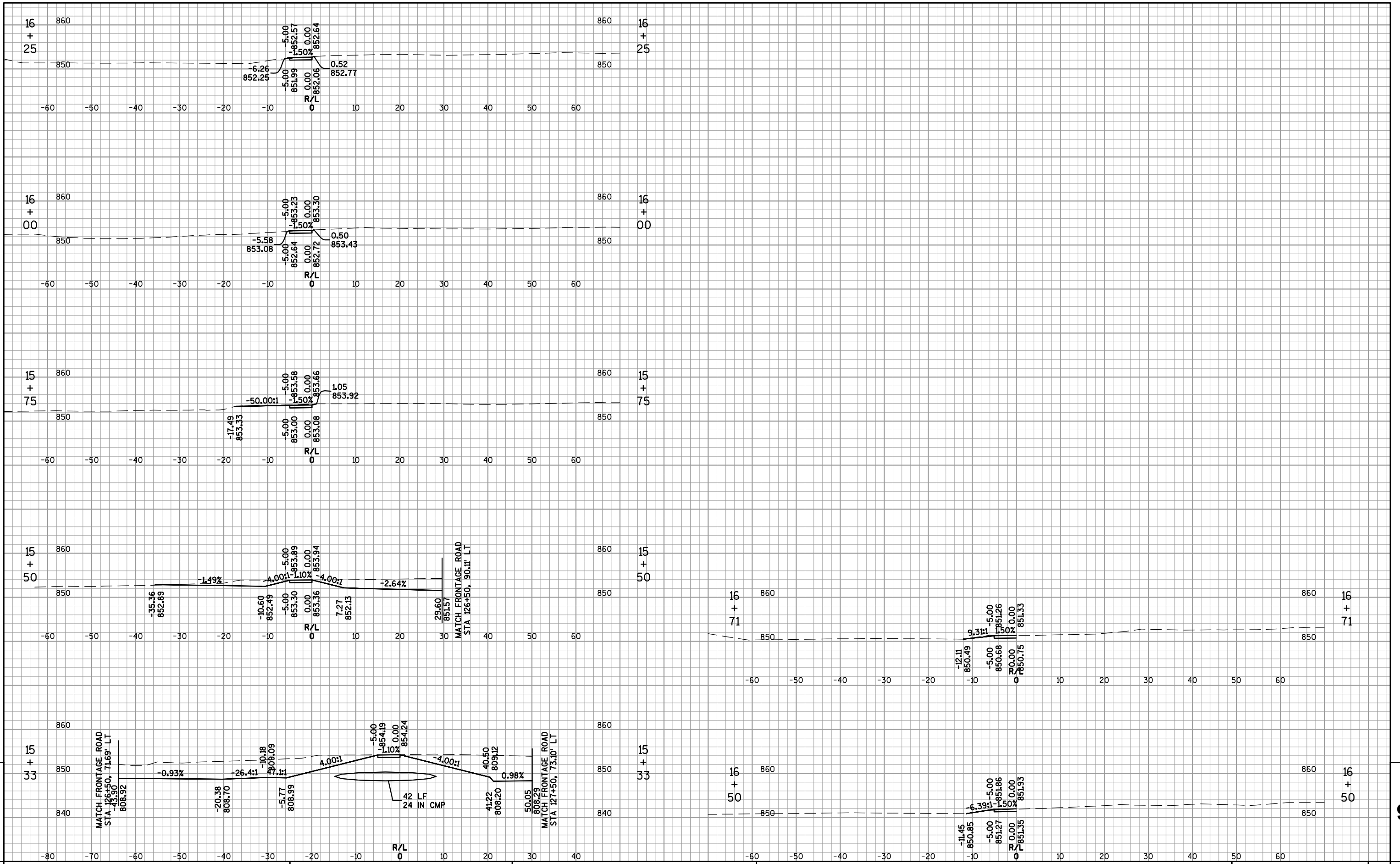




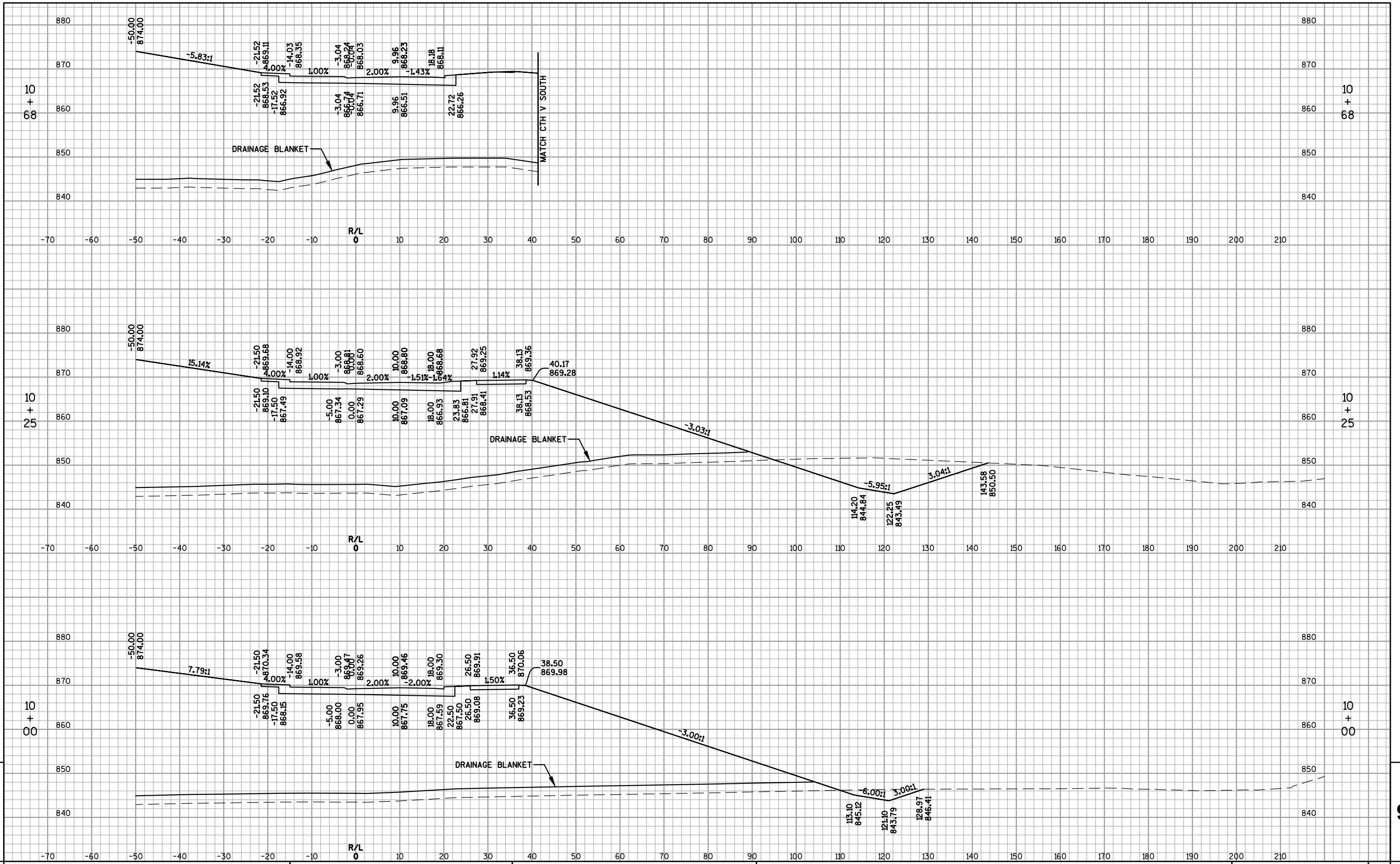
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PROJECT NO: 1420-22-71	HWY: USH 151	COUNTY: FOND DU LAC	CROSS SECTIONS: USH 45	SHEET	E
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PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: SIDEWALK - FRONTAGE RD TO MUSTANG LN      SHEET      E

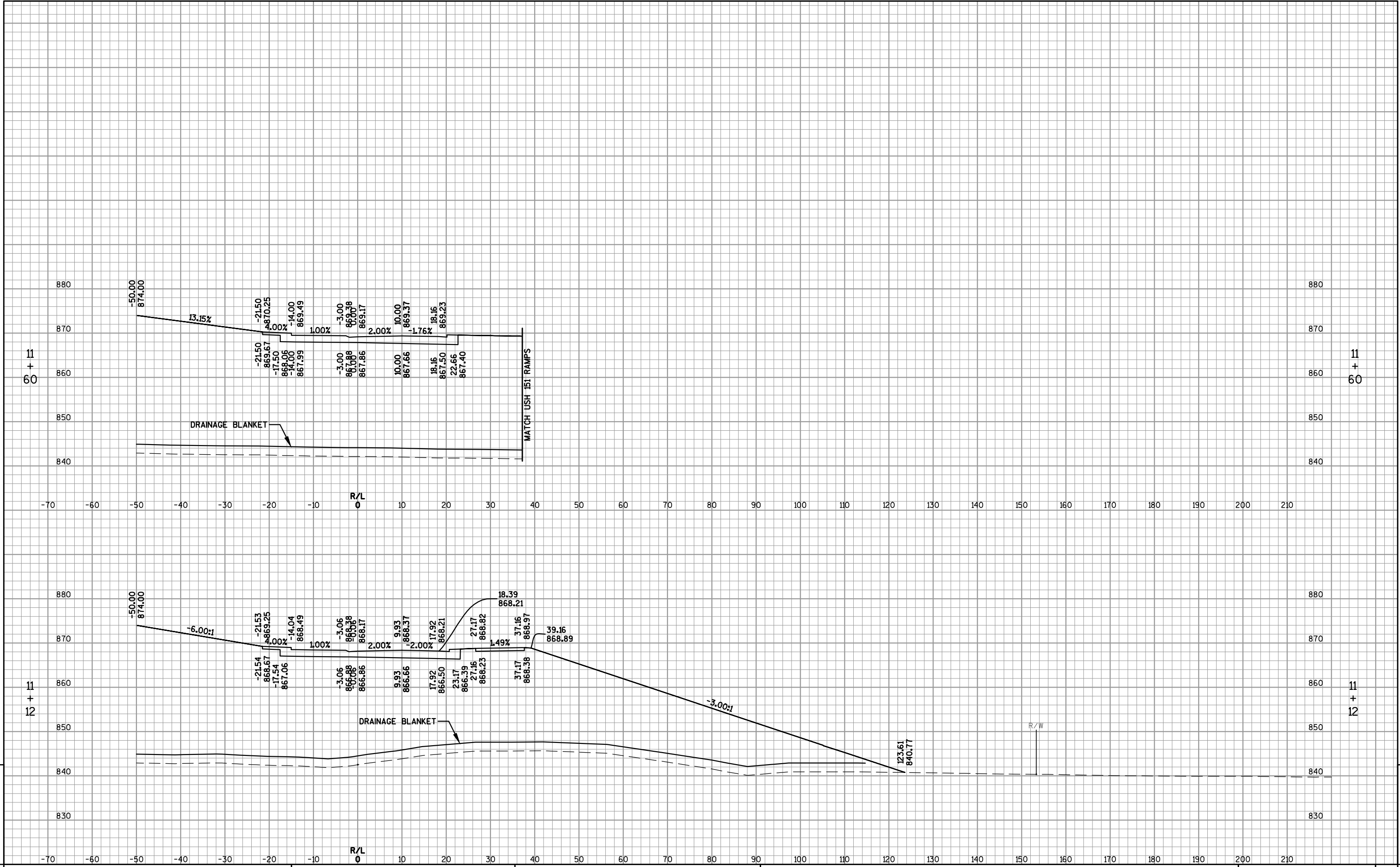


PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: ROUNDABOUT - CTH V & NB RAMPS      SHEET      E

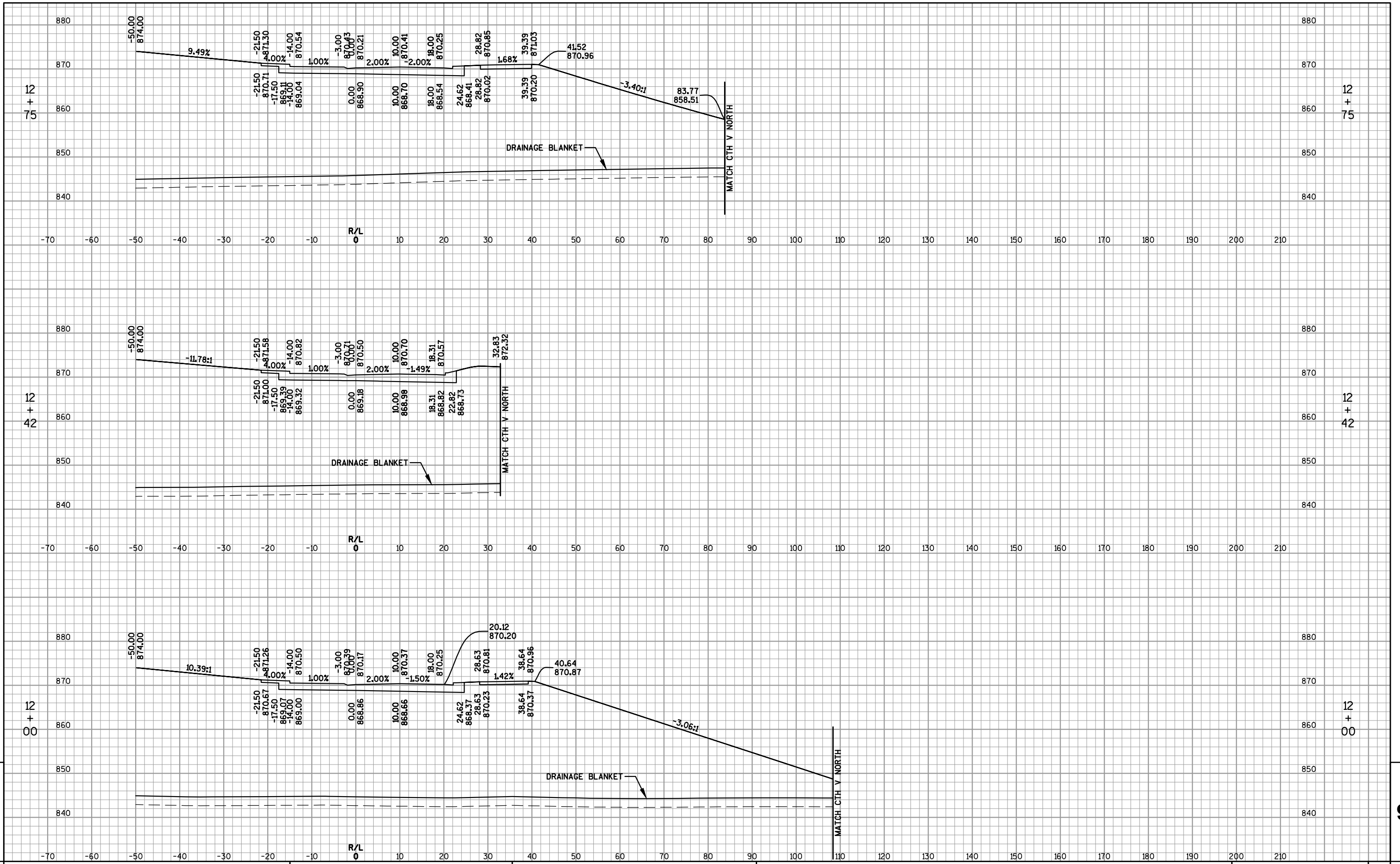
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142022\_00011 □

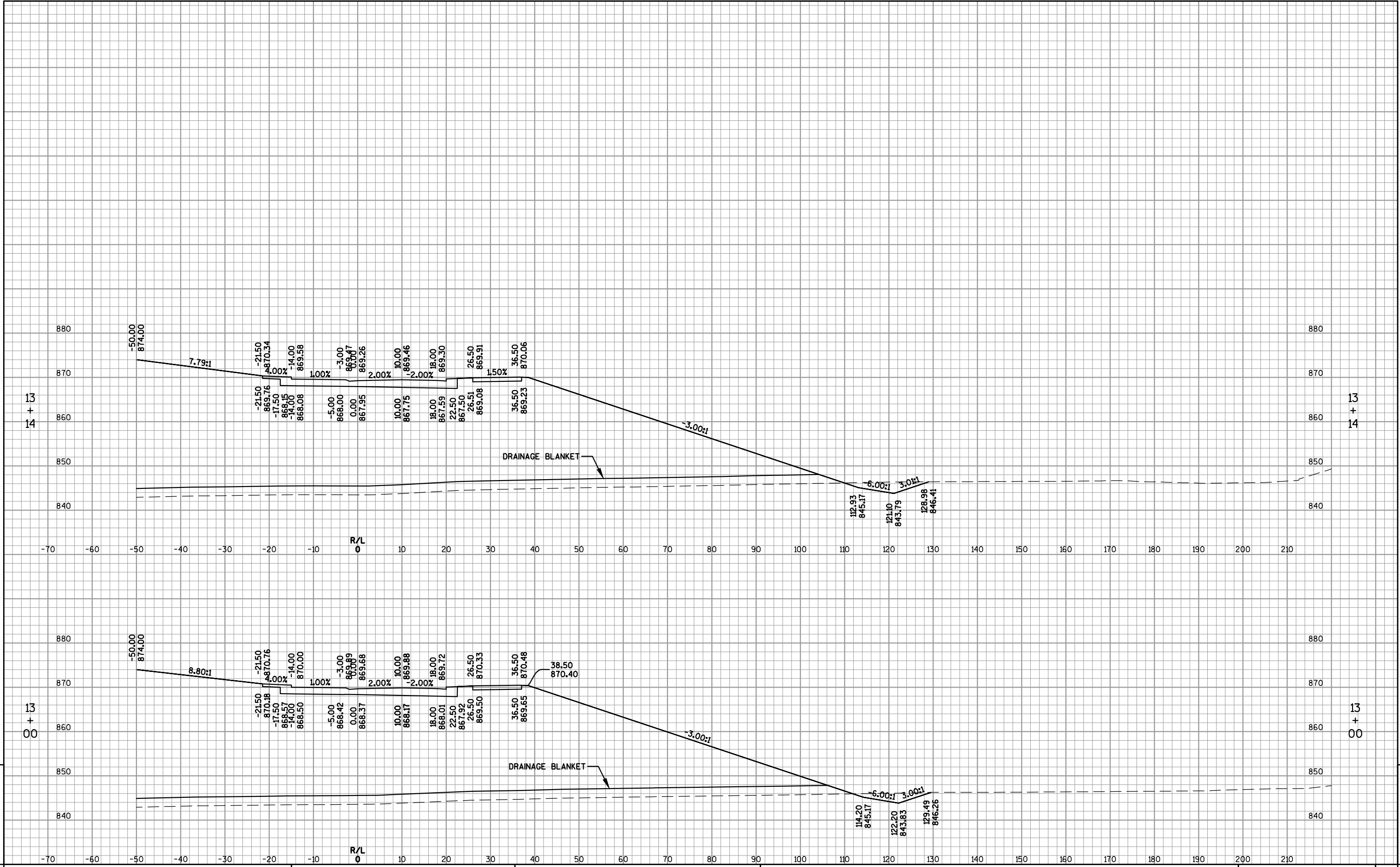
WISDOT/CADD SHEET 49



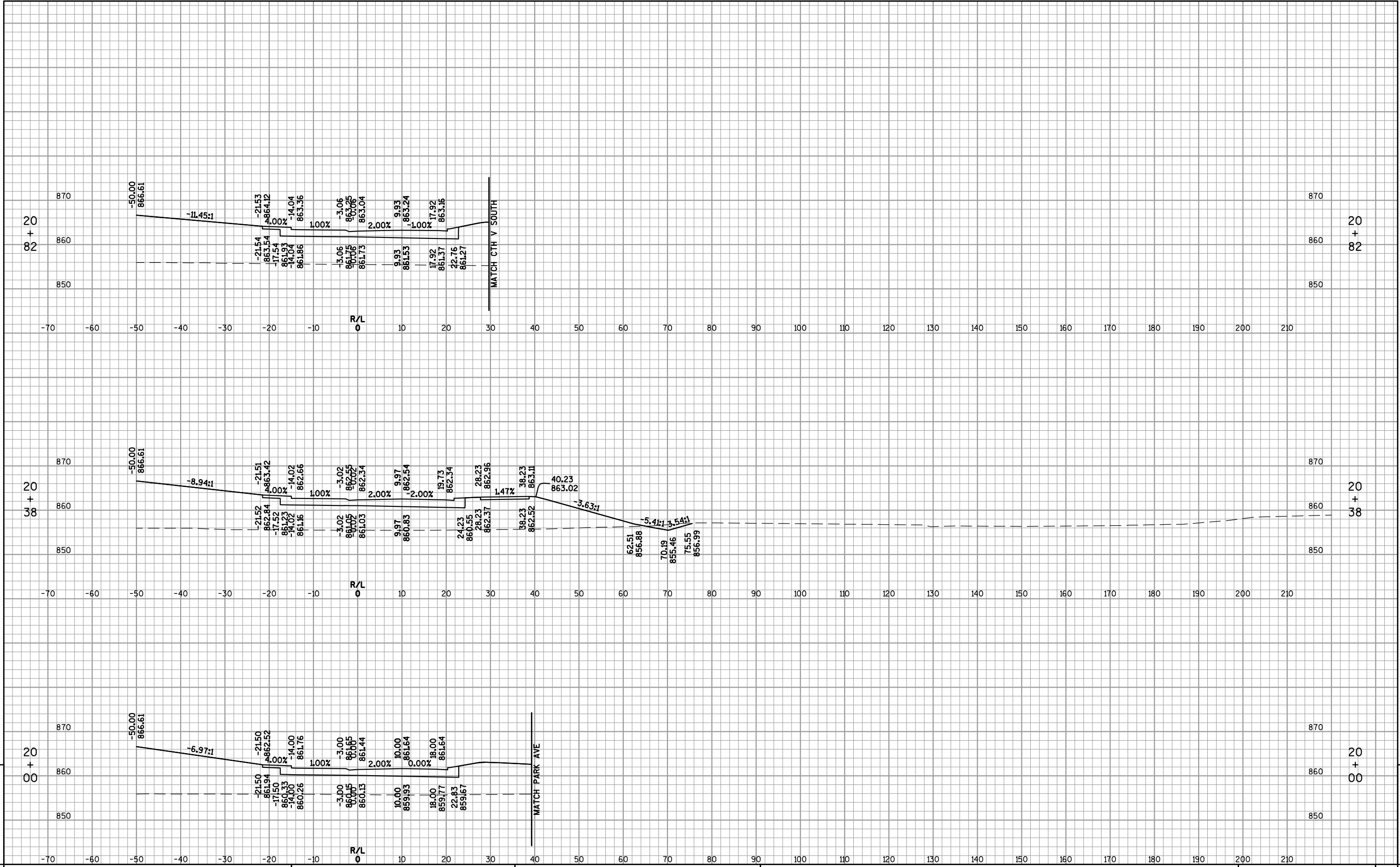
PROJECT NO: 1420-22-71 | HWY: USH 151 | COUNTY: FOND DU LAC | CROSS SECTIONS: ROUNDABOUT - CTH V & NB RAMPS | SHEET | E



PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: ROUNDABOUT - CTH V & NB RAMPS      SHEET      E



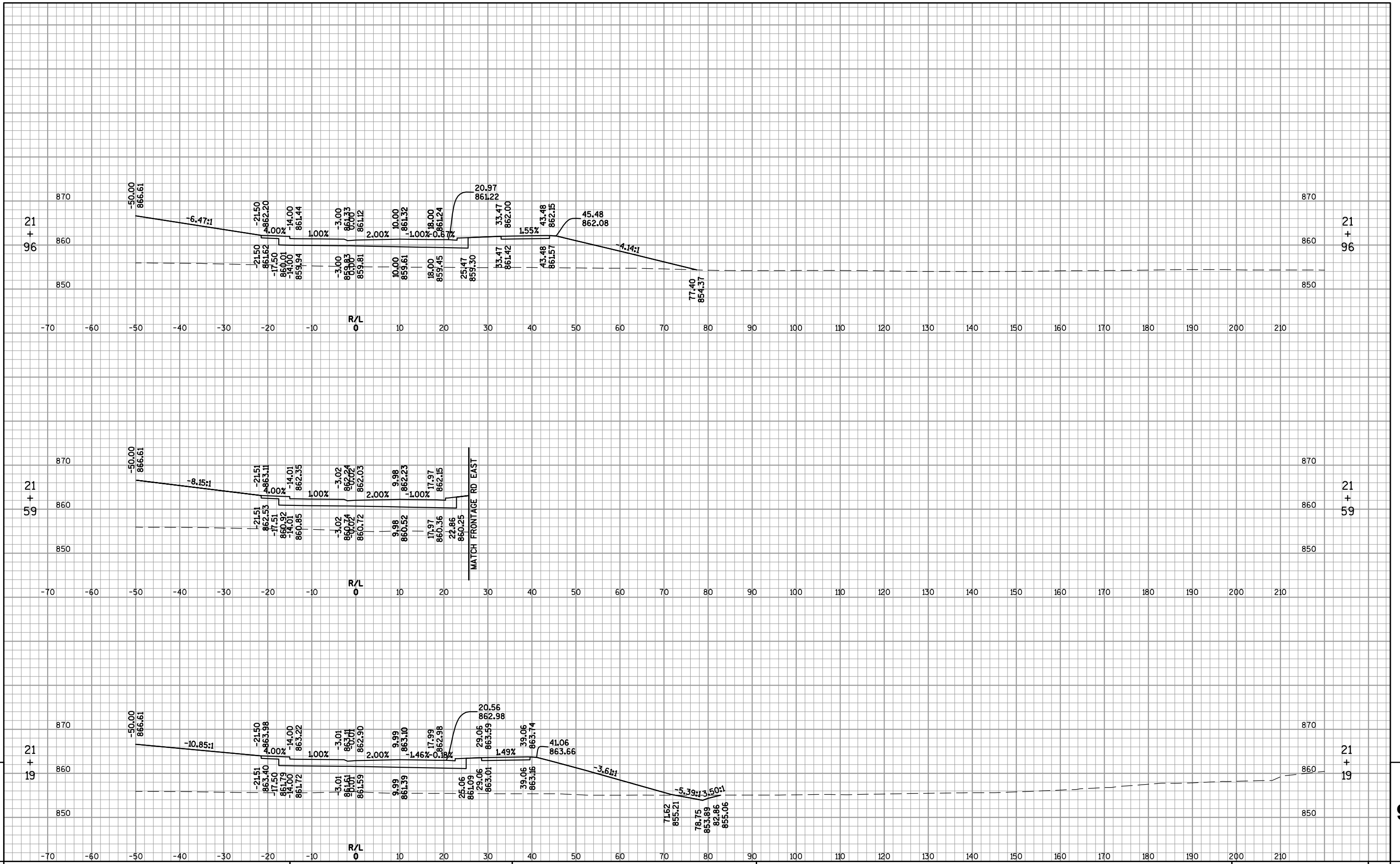
PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: ROUNDABOUT - CTH V & NB RAMPS      SHEET      E



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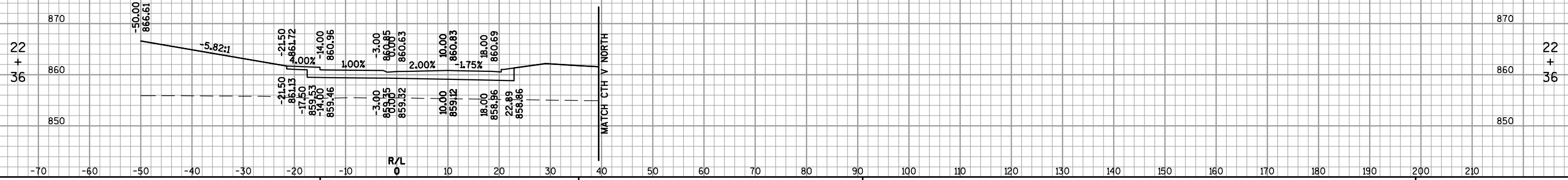
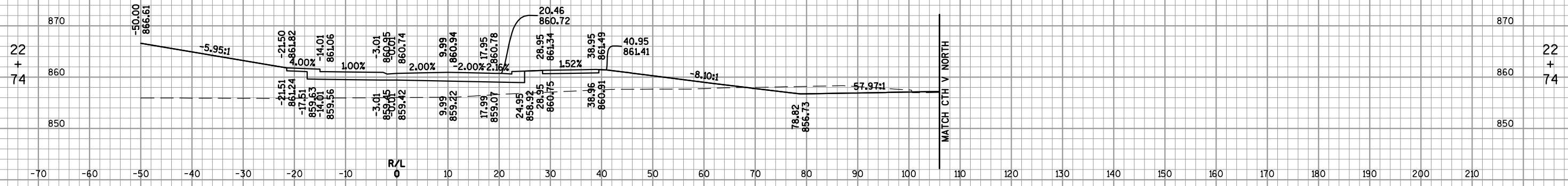
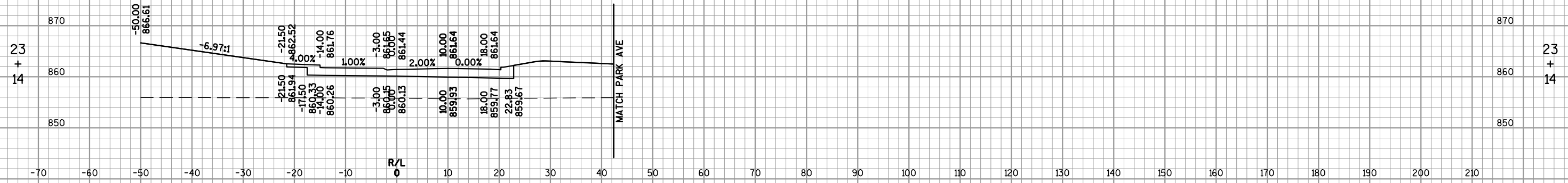
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PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: ROUNDABOUT - CTH V & PARK AVENUE      SHEET      E



PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: ROUNDABOUT - CTH V & PARK AVENUE      SHEET      E

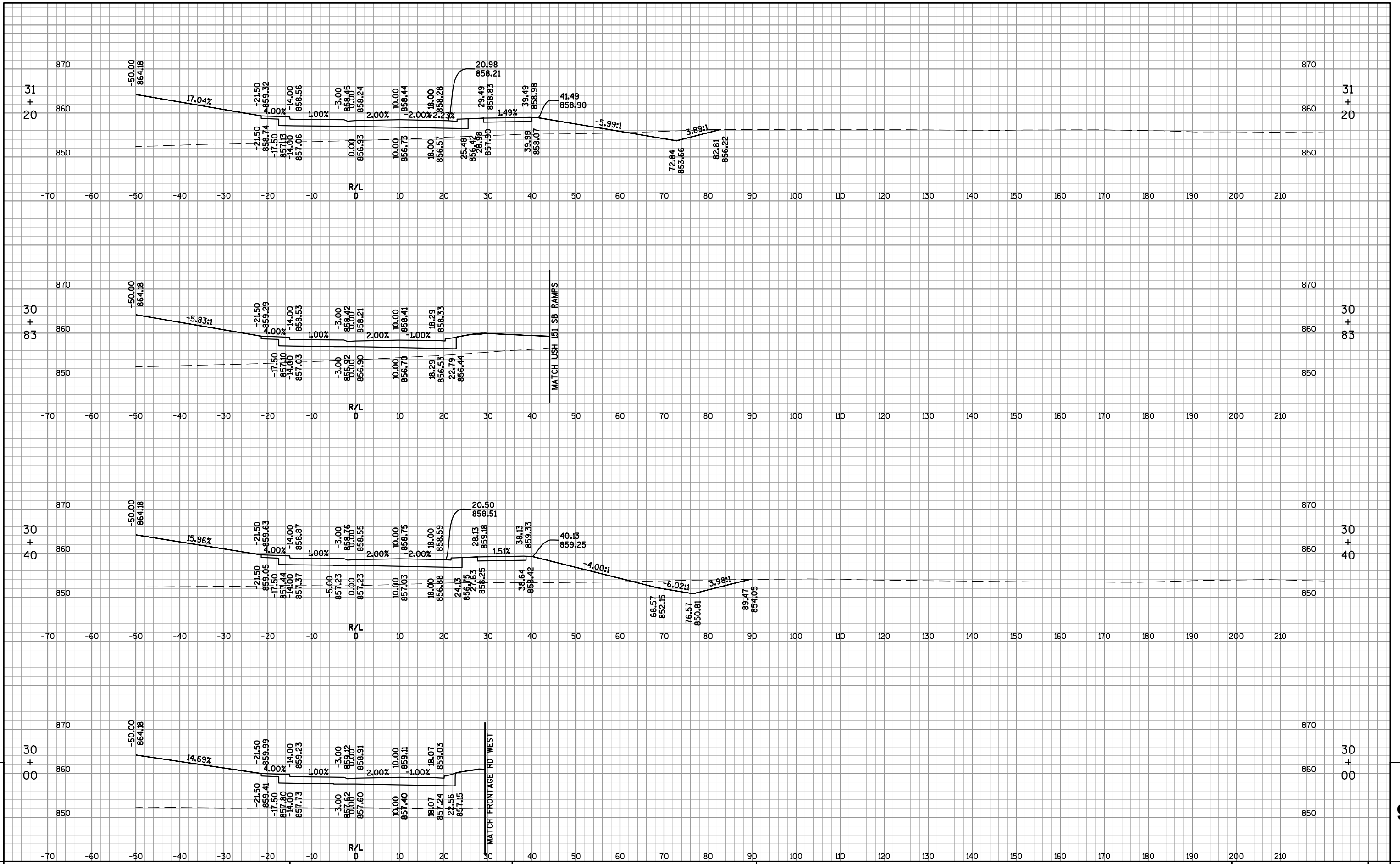




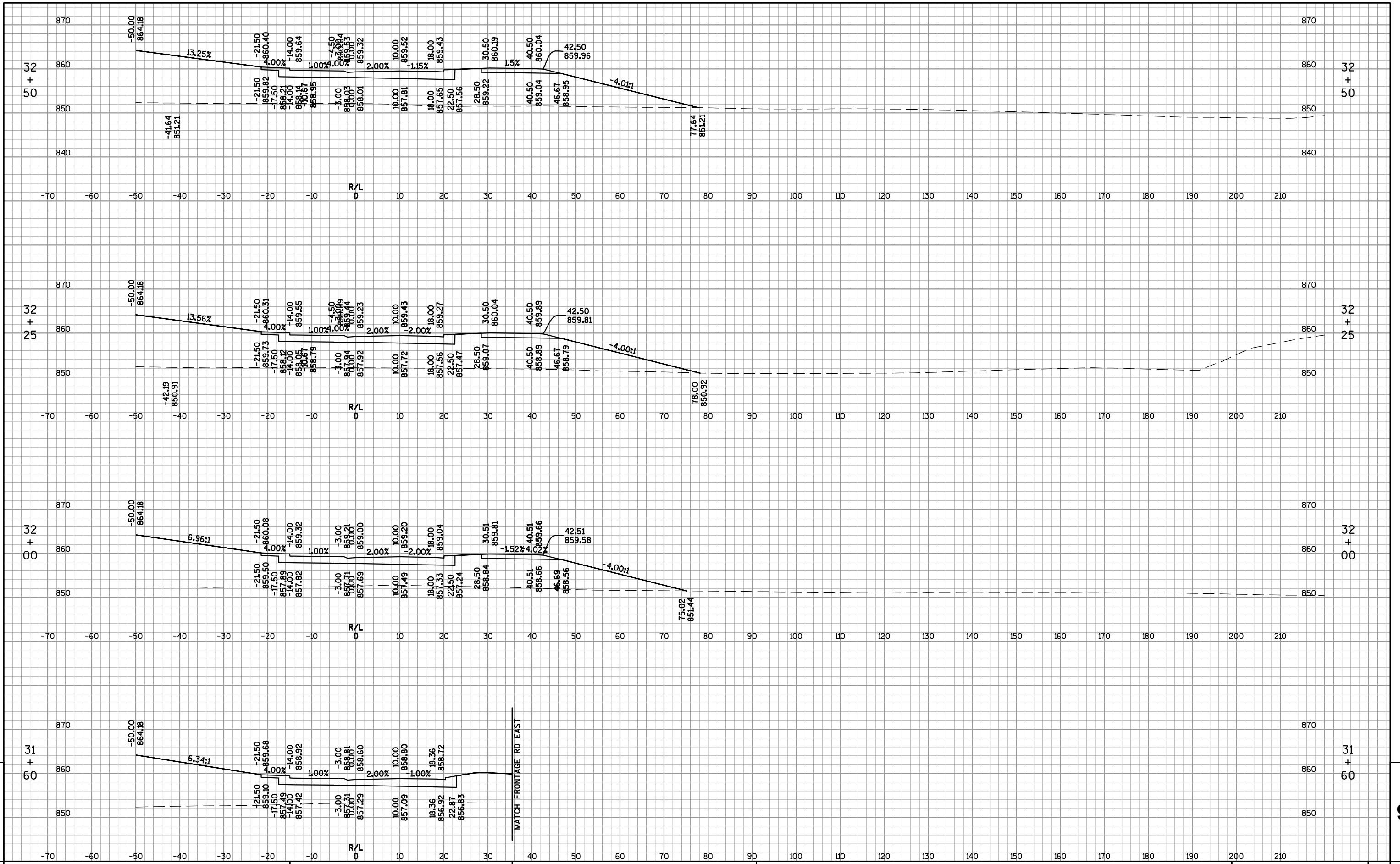
PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: ROUNDABOUT - CTH V & PARK AVENUE      SHEET      E

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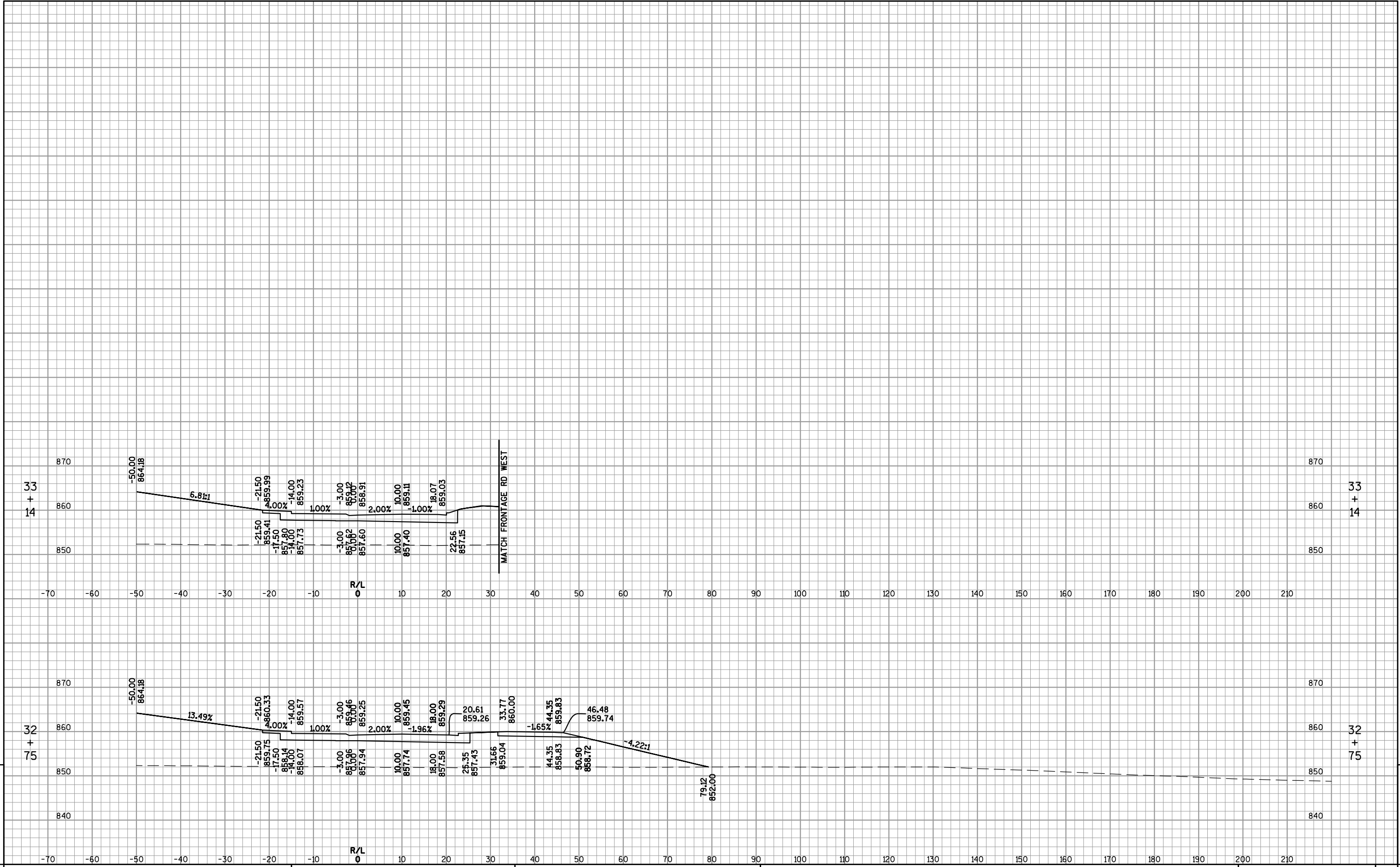
9



PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: ROUNDABOUT - FRONTAGE ROAD & SB RAMPS      SHEET      E



PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: ROUNDABOUT - FRONTAGE ROAD & SB RAMPS      SHEET      E



PROJECT NO: 1420-22-71      HWY: USH 151      COUNTY: FOND DU LAC      CROSS SECTIONS: ROUNDABOUT - FRONTAGE ROAD & SB RAMPS      SHEET      E

# Notes



## ***Wisconsin Department of Transportation***

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