

MAD PROJECT ID: 5926-05-60 WITH: N/A COUNTY: DANE

NOVEMBER 2022

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 Plan
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 = 152

DESIGN DESIGNATION 5926-05-30

A.A.D.T. (2022) = 1,400

A.A.D.T. (2042) = 1,700

D.H.V. = 4.5%

D.D. = 60/40

T. = 9.3%

DESIGN SPEED = 60 MPH

ESALS = 300,000

CONVENTIONAL SYMBOLS

PLAN

CORPORATE LIMITS

PROPERTY LINE

LOT LINE

LIMITED HIGHWAY EASEMENT

EXISTING RIGHT OF WAY

PROPOSED OR NEW R/W LINE

SLOPE INTERCEPT

REFERENCE LINE

EXISTING CULVERT

PROPOSED CULVERT (Box or Pipe)

COMBUSTIBLE FLUIDS

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

ROCK

LABEL

95.36

E

FO

G

SAN

SS

T

W

CAUTION

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

MT. HOREB - BROOKLYN

E JCT CTH G TO STH 69

STH 92

DANE COUNTY

STATE PROJECT NUMBER

5926-05-60

BEGIN PROJECT

STA 2+87

X=747694.7447

Y=437331.7019

STRUCTURE B-13-0432

NET EXCEPTION TO CL LENGTH

STA 164+57 - STA 165+14

STRUCTURE B-13-0431

NET EXCEPTION TO CL LENGTH

STA 194+34 - STA 195+11

END PROJECT

STA 389+10

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, DANE COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

STATE PROJECT

FEDERAL PROJECT

PROJECT	CONTRACT
5926-05-60	WISC 2023023
	1

ORIGINAL PLANS PREPARED BY

FEHR GRAHAM

ENGINEERING & ENVIRONMENTAL

WISCONSIN

JESSE W. DUFF

43495-6

MONROE, WI

PROFESSIONAL ENGINEER

7/25/2022

(Date)

(Signature)

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor

Designer

Project Manager

Regional Examiner

Regional Supervisor

SW REGION

FEHR GRAHAM

JOSHUA NELSON, P.E.

SW REGION

KURT JOHNSON, P.E.

APPROVED FOR THE DEPARTMENT

DATE: 7/25/2022

Joshua B Nelson

(Signature)

E

FILE NAME : G:\C3D\20\20-473\59260530\59260530\DESIGN\CAD\SHETSPLAN\010101_T1.DWG

PLOT DATE : 7/27/2022 4:50 PM

PLOT BY : KODY KAISER

PLOT NAME :

2	STANDARD ABBREVIATIONS				GENERAL NOTES		GENERAL NOTES		2
	AP	ACCESS POINT	NOM	NOMINAL	NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.		FIELD VERIFY SUPERELEVATIONS BEFORE MILLING. MATCH EXISTING SUPERELEVATION CROSS SLOPES.		
	AC	ACRE	NC	NORMAL CROWN	DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE SEEDED, FERTILIZED, AND COVERED WITH EROSION MATTING AS DIRECTED BY THE ENGINEER. ALL OTHER DISTURBED AREAS SHALL BE SEEDED, FERTILIZED, AND COVERED WITH EROSION MATTING AT THE CONTRACTORS EXPENSE.		HAND MILLING OPERATIONS MAY BE NECESSARY TO ENSURE THAT SURVEY MONUMENTS ARE NOT DISTURBED DURING MILLING OPERATIONS. PAYMENT IS INCLUDED AS PART OF REMOVING ASPHALTIC SURFACE MILLING.		
	ADJ	ADJUST	N	NORTH					
	AECPRC	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE	Y	NORTH GRID COORDINATE					
	AH	AHEAD	NB	NORTHBOUND	THE LOCATION OF FIELD ENTRANCES WILL BE DETERMINED BY THE ENGINEER.		CONTRACTOR TO PROTECT DF9718 GPS, DF9721 GPS, AND DF9722 GPS AND KEEP CONSTRUCTION EQUIPMENT AT LEAST 10 FEET AWAY FROM DF9718 GPS, DF9721 GPS, AND DF9722 GPS.		
	AC	ASPHALT CEMENT	NO	NUMBER					
	ASPH	ASPHALTIC	OPT	OPTIONAL					
	ACP	ASPHALTIC PAVEMENT CONCRETE	OD	OUTSIDE DIAMETER	ALL CURB AND GUTTER RADII ARE MEASURED TO THE FLAG OF CURB UNLESS OTHERWISE NOTED.		ENSURE THAT DF9718 GPS, DF9721 GPS, AND DF9722 GPS IS/ARE NOT DISTURBED, BUMPED, OR MOVED DURING THE DURATION OF THE PROJECT. NOTIFY JACOB ROCKWEILER IMMEDIATELY IF DF9718 GPS, DF9721 GPS, OR DF9722 GPS IS/ARE DISTURBED, BUMPED, OR MOVED DURING OPERATIONS.		
	AVG	AVERAGE	PAVT	PAVEMENT					
	ADT	AVERAGE DAILY TRAFFIC	PLE	PERMANENT LIMITED EASEMENT					
	BK	BACK	PACS	PIPE ARCH CORRUGATED STEEL	THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLAN ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.		ORDER OF SECTION 2 SHEETS		
	BAD	BASE AGGREGATE DENSE	PT	POINT					
	BM	BENCH MARK	PC	POINT OF CURVATURE					
	CB	CATCH BASIN	PI	POINT OF INTERSECTION	SAWCUTS AS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS AND MAY BE ADJUSTED AT THE DISCRETION OF THE ENGINEER TO BETTER SUIT FIELD CONDITIONS		GENERAL NOTES PROJECT OVERVIEW TYPICAL SECTIONS CONSTRUCTION DETAILS PLAN DETAILS TRAFFIC CONTROL		
	C/L	CENTER LINE	PT	POINT OF TANGENCY					
	C/L CONST	CENTER LINE CONSTRUCTION	PVC	POINT OF VERTICAL CURVE					
	△	CENTRAL ANGLE OR DELTA	PVI	POINT OF VERTICAL INTERSECTION	THE RATE OF APPLICATION FOR TACK COAT IS 0.07 GAL/SY ON MILLED SURFACES AND 0.05 GAL/SY BETWEEN LAYERS OF HMA PAVEMENT, OR AS DIRECTED BY THE ENGINEER.		UTILITY CONTACTS		
	CL	CLASS	PVT	POINT OF VERTICAL TANGENCY					
	CONC	CONCRETE	PVC	POLYVINYL CHLORIDE					
	CONST	CONSTRUCTION	PCC	PORTLAND CEMENT CONCRETE	THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA PAVEMENT LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN DRIVING, TURNING, BIKE OR PARKING LANES.		WISDOT CONTACT:		
	CMCP	CORRUGATED METAL CULVERT PIPE	LB	POUND					
	CTH	COUNTY TRUNK HIGHWAY	PSF	POUNDS PER SQUARE FOOT					
	CABC	CRUSHED AGGREGATE BASE COURSE	PSI	POUNDS PER SQUARE INCH	EROSION CONTROL FEATURES AS SHOWN ON THE PLANS, SHALL BE ADJUSTED TO FIT EXISTING FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.		FRONTIER COMMUNICATIONS OF WI LCC - COMMUNICATION LINE RUSSELL RYAN 118 DIVISION ST PLYMOUTH, WI 53073 (920) 583-3275 RUSSELL.W.RYAN@FTR.COM		
	CFS	CUBIC FEET PER SECOND	PE	PRIVATE ENTRANCE					
	CY	CUBIC YARD	PGL	PROFILE GRADE LINE					
	CP	CULVERT PIPE	PL	PROPERTY LINE	GRADING IS NOT ALLOWED IN DELINEATED WETLAND AREAS. DO NOT STORE EQUIPMENT OR MATERIAL IN ENVIRONMENTALLY SENSITIVE AREAS, WETLANDS OR WATERWAYS.		CONSULTANT CONTACT:		
	CPCS	CULVERT PIPE CORRUGATED STEEL	Q100	100 YEAR FLOW RATE					
	CPRC	CULVERT PIPE REINFORCED CONCRETE	R	RADIUS					
	CPRCHE	CULVERT PIPE REINFORCED CONCRETE	RR	RAILROAD	NUMBER, LOCATIONS, AND SPACING OF TEMPORARY AND PERMANENT SIGNS AND DEVICES AS SHOWN ON THE PLANS, SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.		TDS TELECOM - COMMUNICATION LINE JERRY MYERS 525 JUNCTION RD MADISON, WI 53717 (608) 664-4404 JERRY.MYERS@TDSTELECOM.COM		
	C & G	HORIZONTAL ELLIPTICAL	R	RANGE					
	D	CURB AND GUTTER	R/L	REFERENCE LINE					
	DRV	DEGREE OF CURVE	REINF	REINFORCING OR REINFORCEMENT	FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, ALL SIGNS RELATING TO THE OPERATION SHALL BE REMOVED AND FACILITY RESTORED TO NORMAL OPERATIONS.		DNR CONTACT:		
	DIA	DESIGN HOUR VOLUME	REQD	REQUIRED					
	DD	DIAMETER	RT	RIGHT					
	DD	DIRECTIONAL DISTRIBUTION	R/W	RIGHT-OF-WAY	PAVING LIMITS AT INTERSECTIONS ARE TO BE DETERMINED IN FIELD BY THE ENGINEER.		THE LOCATION OF STOP LINES SHALL BE DETERMINED IN FIELD BY THE ENGINEER.		
	DWY	DRIVEWAY	RD	ROAD					
	E	EAST	RDWY	ROADWAY					
	X	EAST GRID COORDINATE	SEC	SECTION CORNER	EXISTING SHOULDER AGGREGATE SHALL BE INCORPORATED INTO THE NEW SHOULDERS UNLESS OTHERWISE DIRECTED BY THE ENGINEER IN THE FIELD.		Dial  or (800)242-8511		
	EB	EASTBOUND	SHLDR	SHOULDER					
	EL	ELEVATION	S	SOUTH					
	ESALS	EQUIVALENT SINGLE AXLE LOADS	SB	SOUTHBOUND	DO NOT STORE EQUIPMENT OR MATERIAL IN THE CLEAR ZONE, ENVIRONMENTALLY SENSITIVE AREAS, WETLANDS, OR WATERWAYS.		www.DiggersHotline.com		
	EXC	EXCAVATION	SQ	SQUARE					
	EBS	EXCAVATION BELOW SUBGRADE	SF	SQUARE FEET					
	EXIST	EXISTING	SW	SIDEWALK	THE LOCATION OF FIELD ENTRANCES WILL BE DETERMINED BY THE ENGINEER.		GENERAL NOTES		
	FPS	FEET PER SECOND	SY	SQUARE YARD					
	FERT	FERTILIZE	SDD	STANDARD DETAIL DRAWINGS					
	FE	FIELD ENTRANCE	STH	STATE TRUNK HIGHWAYS	PROJECT NO: 5926-05-60		HWY: STH 92		
	FL	FLOW LINE	STA	STATION					
	FL	FOOT	SS	STORM SEWER					
	FT	FOOT	SSPRC	STORM SEWER PIPE REINFORCED CONCRETE	COUNTY: DANE		SHEET		
	GN	GRID NORTH	ST	STREET					
	HES	HIGH EARLY STRENGTH	STR	STRUCTURE OR STRUCTURAL					
	HP	HIGH POINT	SE	SUPERELEVATION	GENERAL NOTES		SHEET		
	HW	HIGH WATER	T	TANGENT					
	HMA	HOT MIX ASPHALT	TEMP	TEMPORARY					
	CWA	HUNDREDWEIGHT	TI	TEMPORARY INTEREST	PROJECT NO: 5926-05-60		HWY: STH 92		
	HYD	HYDRANT	TLE	TEMPORARY LIMITED EASEMENT					
	INL	INLET	T	TON					
	ID	INSIDE DIAMETER	t	TOWN	COUNTY: DANE		SHEET		
	I	INTERSECTION ANGLE	T	TRANSIT LINE					
	INV	INVERT	T/L	TRUCKS (PERCENT OF)					
	IP	IRON PIPE OR PIN	T	TYPICAL	GENERAL NOTES		SHEET		
	JT	JOINT	TYP	UNITED STATES HIGHWAY					
	LT	LEFT	USH	VARIABLE					
	L	LENGTH OF CURVE	VAR	VELOCITY OF DESIGN SPEED	PROJECT NO: 5926-05-60		HWY: STH 92		
	LF	LINEAR FOOT	V	VERTICAL					
	LP	LOW POINT	VERT	VERTICAL CURVE					
	LS	LUMP SUM	VC	VOLUME	COUNTY: DANE		SHEET		
	MH	MANHOLE	VOL	WATER MAIN					
	MAX	MAXIMUM	WM	WATER VALVE					
	Mgal	MEGAGALLON	WV	WEST	GENERAL NOTES		SHEET		
	MPH	MILES PER HOUR	W	WESTBOUND					
	MIN	MINIMUM	WB	YARD					
	MON	MONUMENT	Y						

PROJECT NO: 5926-05-60

HWY: STH 92

COUNTY: DANE

GENERAL NOTES

SHEET 2

E

FILE NAME : G:\C3D\20\20-473\59260530\59260530\DESIGN\CAD\SHEETS\PLAN\020101-GN.DWG

LAYOUT NAME - Plan 1 IN 100 FT

PLOT DATE : 8/24/2022 11:27 AM

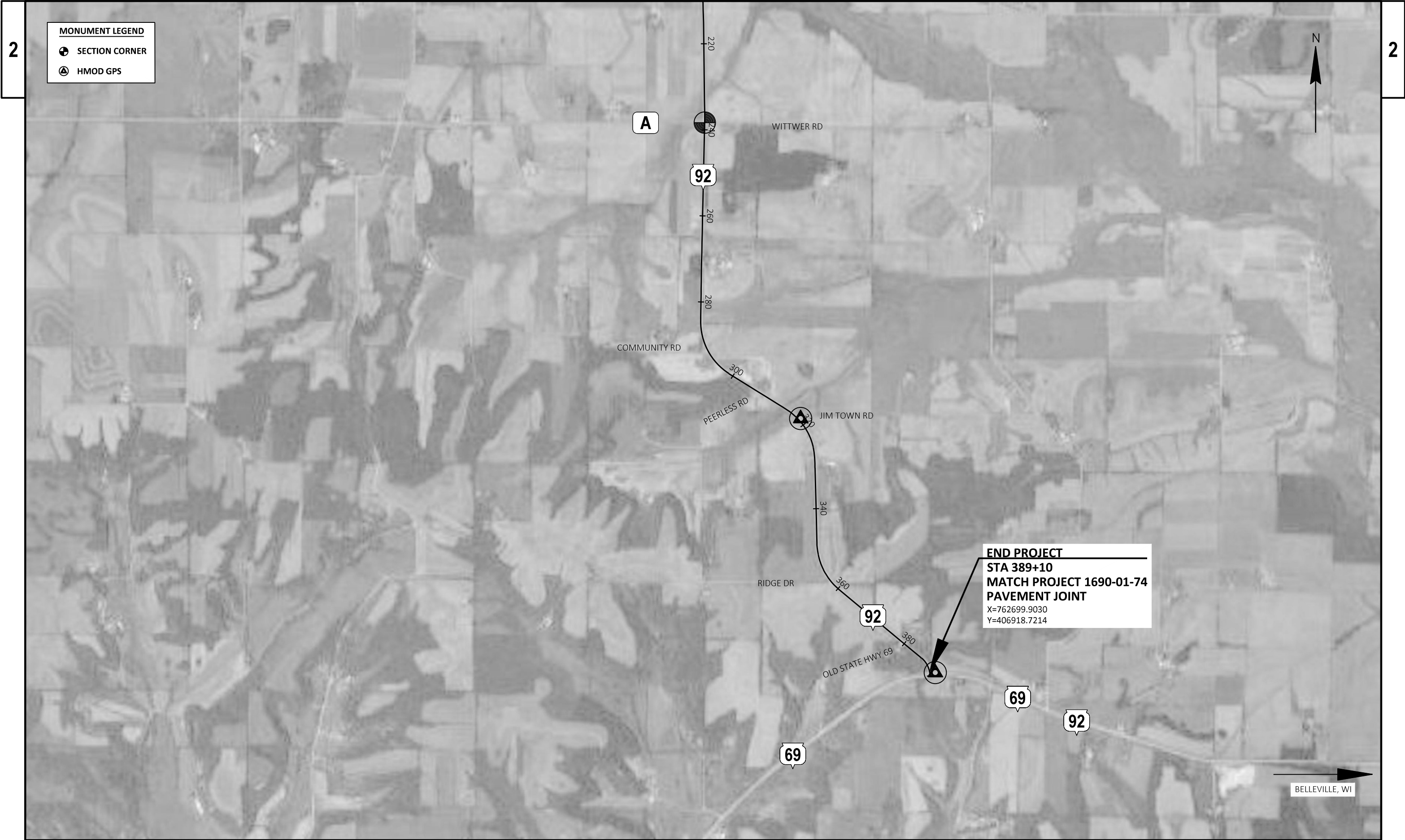
PLOT BY : KODY KAISER

PLOT NAME :

PLOT SCALE : Custom

WISDOT/CADD5 SHEET 42

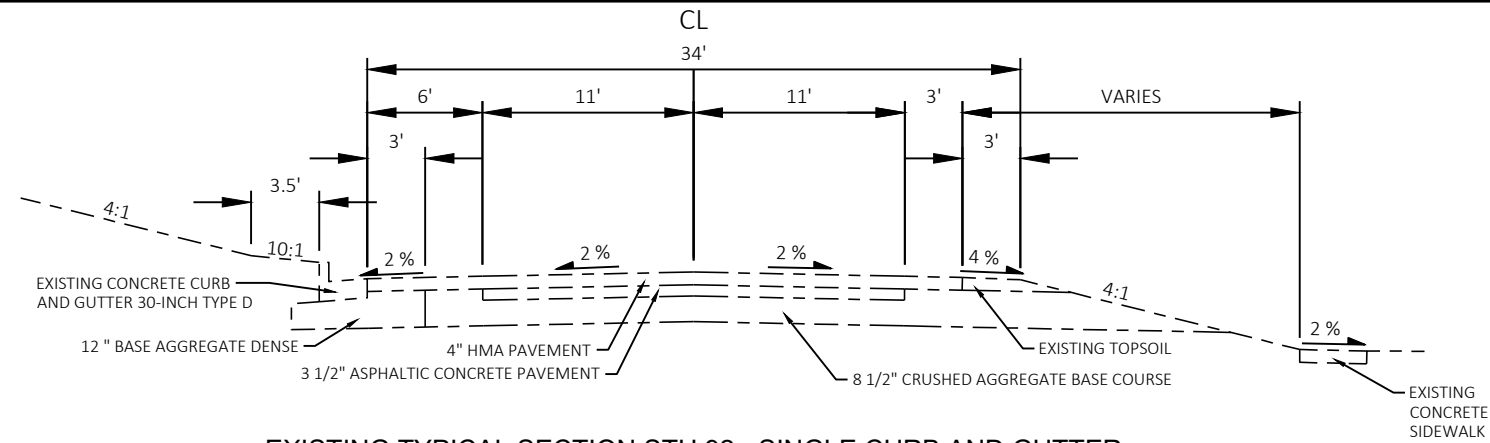




MONUMENT LEGEND

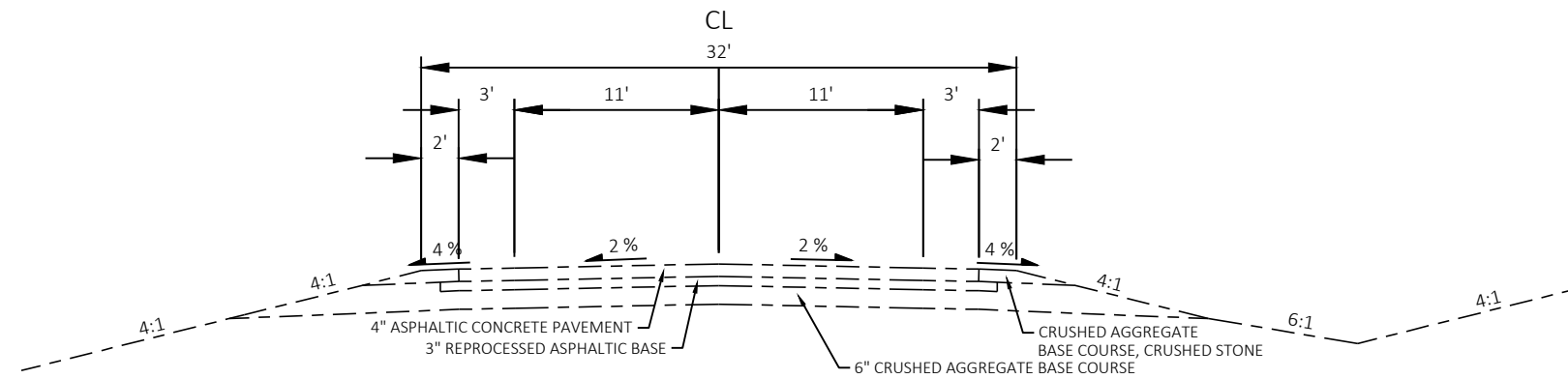
- SECTION CORNER
- HMOD GPS

END PROJECT
STA 389+10
MATCH PROJECT 1690-01-74
PAVEMENT JOINT
X=762699.9030
Y=406918.7214



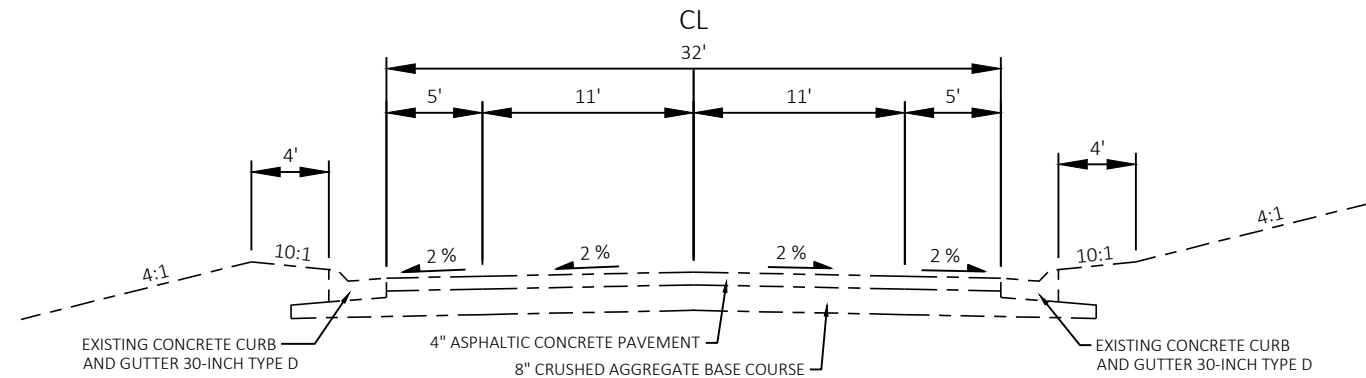
EXISTING TYPICAL SECTION STH 92 - SINGLE CURB AND GUTTER

STA 2+87 - STA 5+75, STA 14+97 - STA 22+12 (WITHOUT SIDEWALK)
STA 5+75 - STA 14+97 (WITH SIDEWALK)



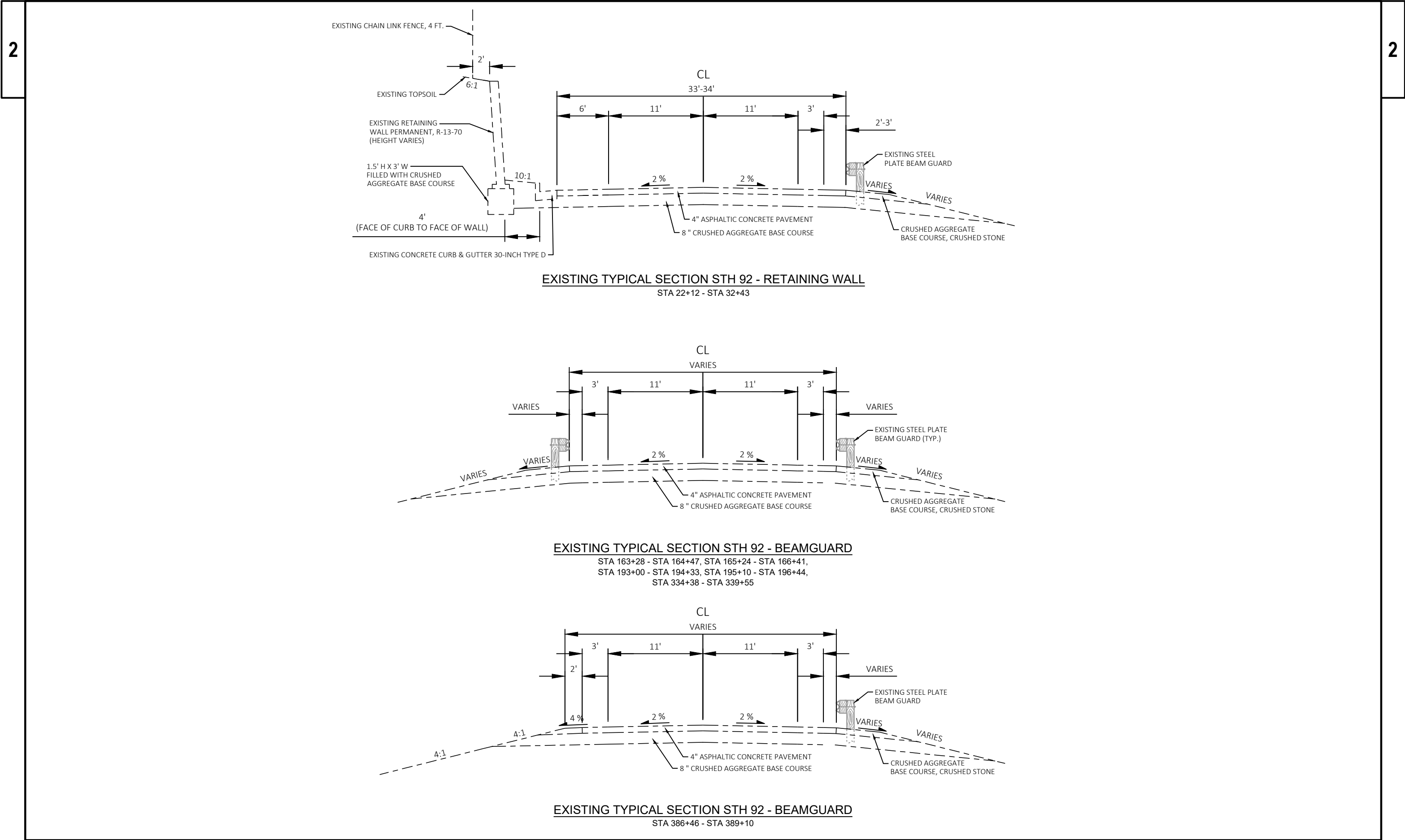
EXISTING TYPICAL SECTION STH 92 - RURAL

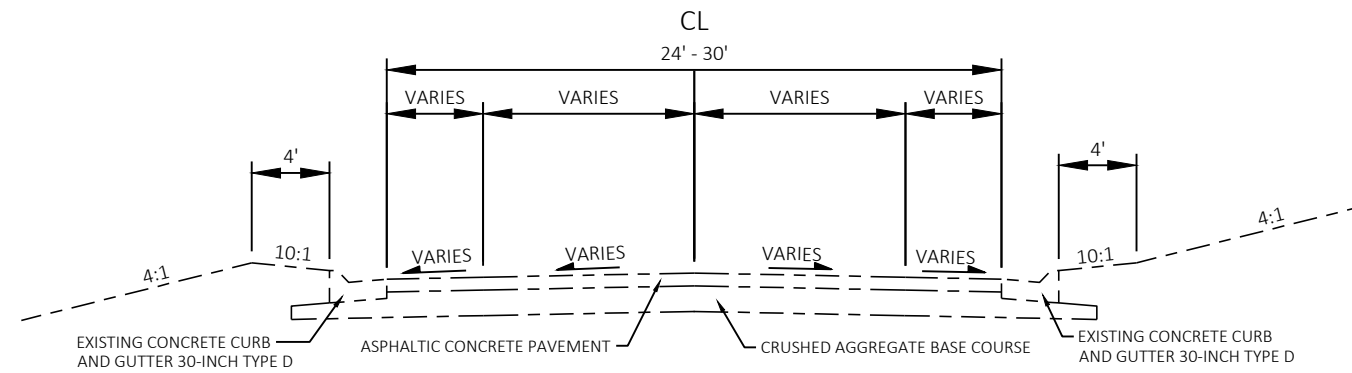
STA 32+43 - STA 140+19, STA 142+19 - STA 152+18,
STA 153+78 - STA 163+28, STA 166+41 - STA 193+00,
STA 196+44 - STA 334+38, STA 339+55 - STA 386+46



EXISTING TYPICAL SECTION STH 92 - RURAL CURB

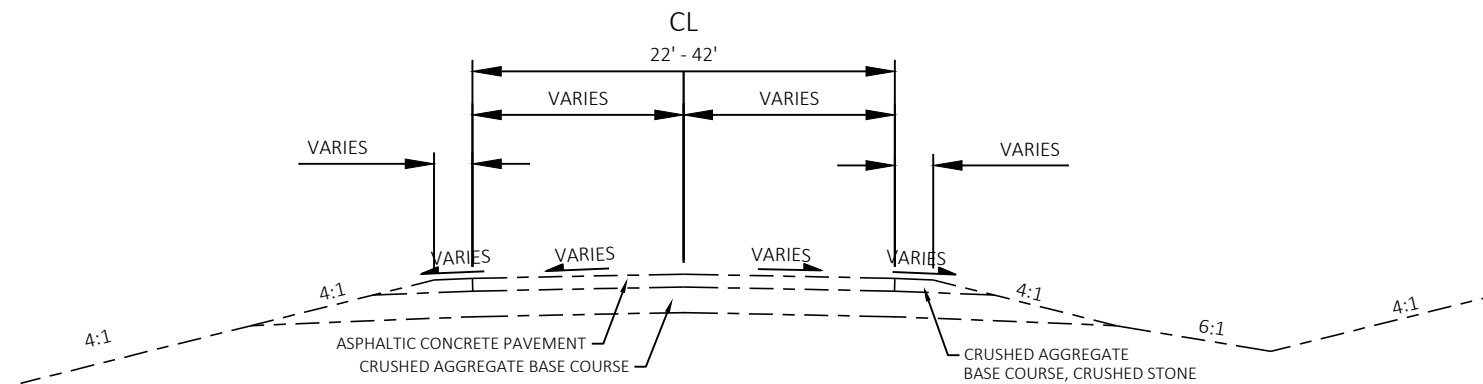
STA 140+19 - STA 142+19 (CURB ON BOTH SIDES),
STA 152+18 - STA 153+78 (CURB ON RT SIDE ONLY)





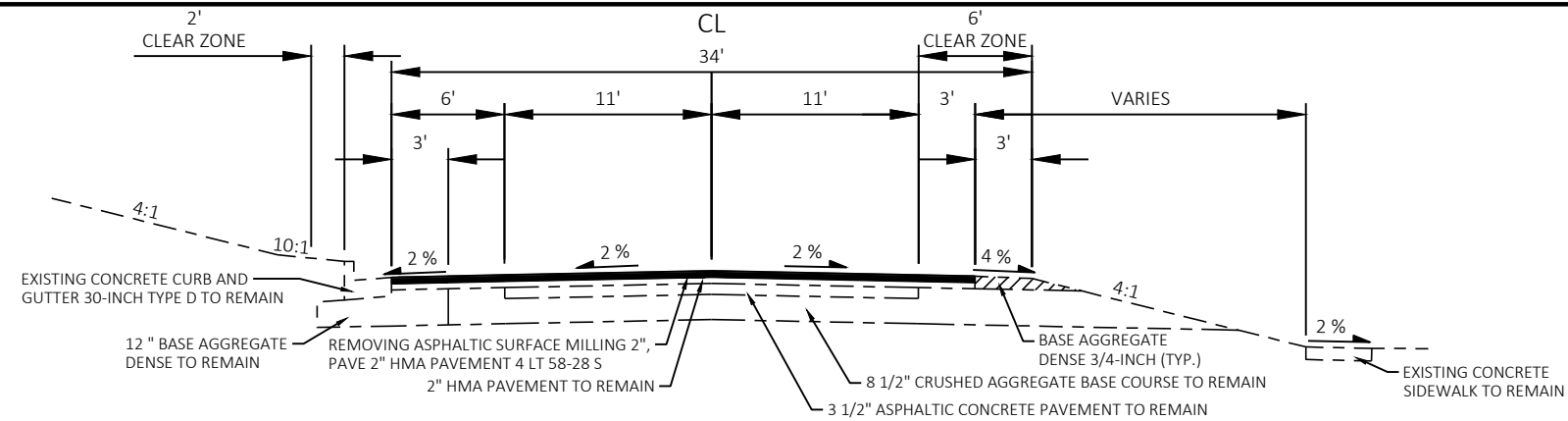
EXISTING TYPICAL SECTION STH 92 - SIDEROADS WITH CURB AND GUTTER

E CTH G, DAVIS ST, W ERFURTH RD,
N CTH U, S CTH U, E ERFURTH RD,
SPRING ROSE RD, E CTH A, W CTH A,
WITTWER RD, COMMUNITY RD, PEERLESS RD,
JIM TOWN RD, RIDGE DR, OLD STATE HWY 69



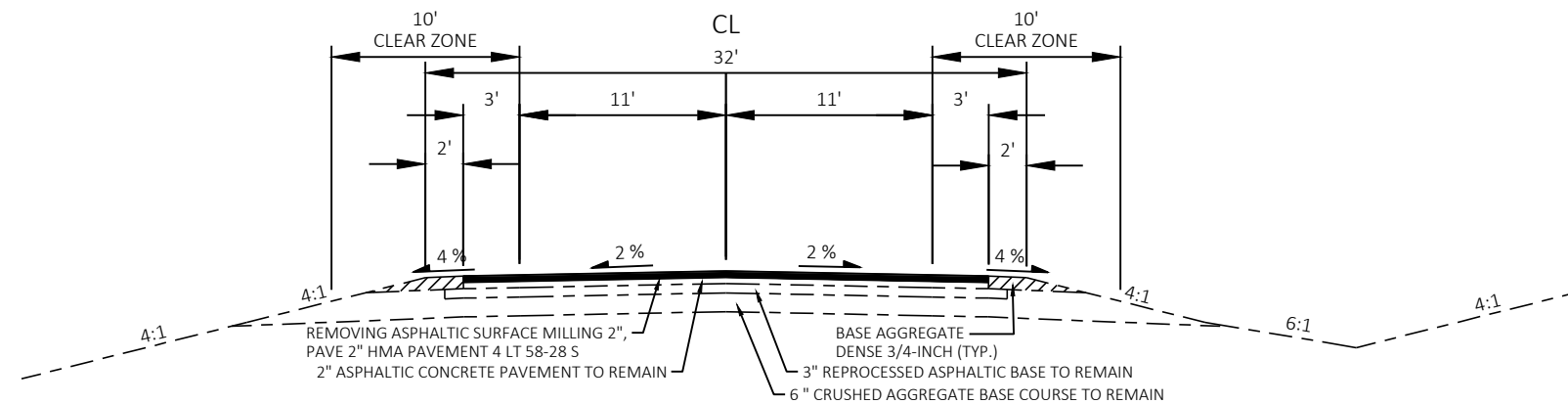
EXISTING TYPICAL SECTION STH 92 - SIDEORADS WITHOUT CURB AND GUTTER

W CTH G, JACKSON ST



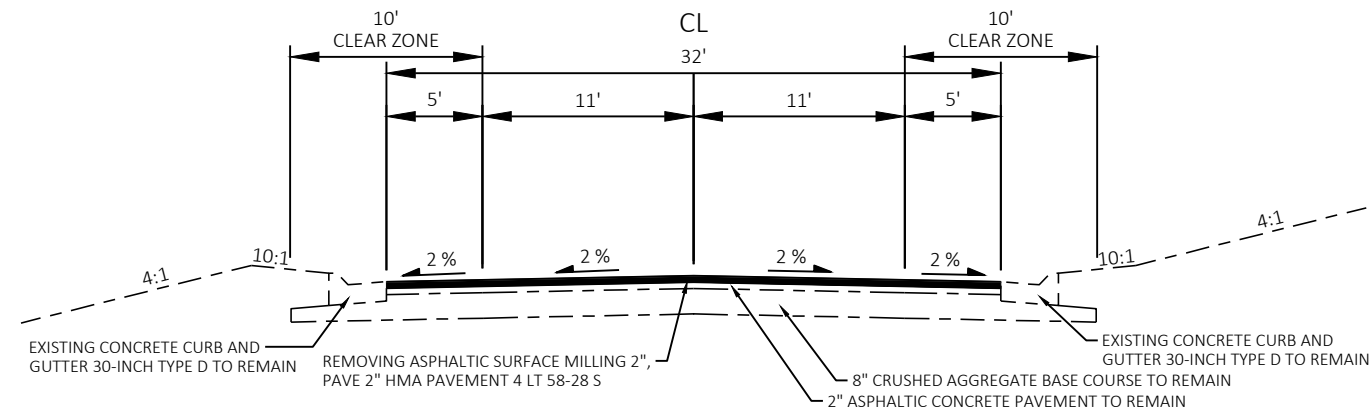
FINISHED TYPICAL SECTION STH 92 - SINGLE CURB AND GUTTER

STA 2+87 - STA 5+75, STA 14+97 - STA 22+12 (WITHOUT SIDEWALK)
STA 5+75 - STA 14+97 (WITH SIDEWALK)



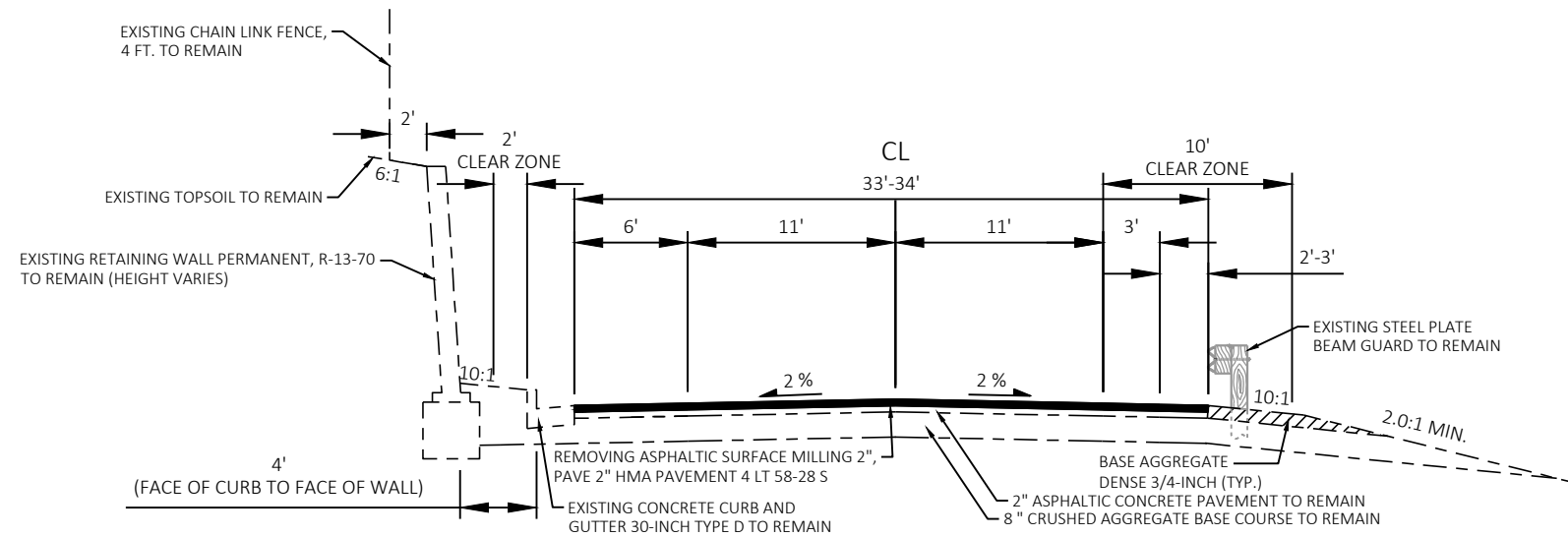
FINISHED TYPICAL SECTION STH 92 - RURAL

STA 32+43 - STA 140+19, STA 142+19 - STA 152+18,
STA 153+78 - STA 163+28, STA 166+41 - STA 193+00,
STA 196+44 - STA 334+38, STA 339+55 - STA 386+46

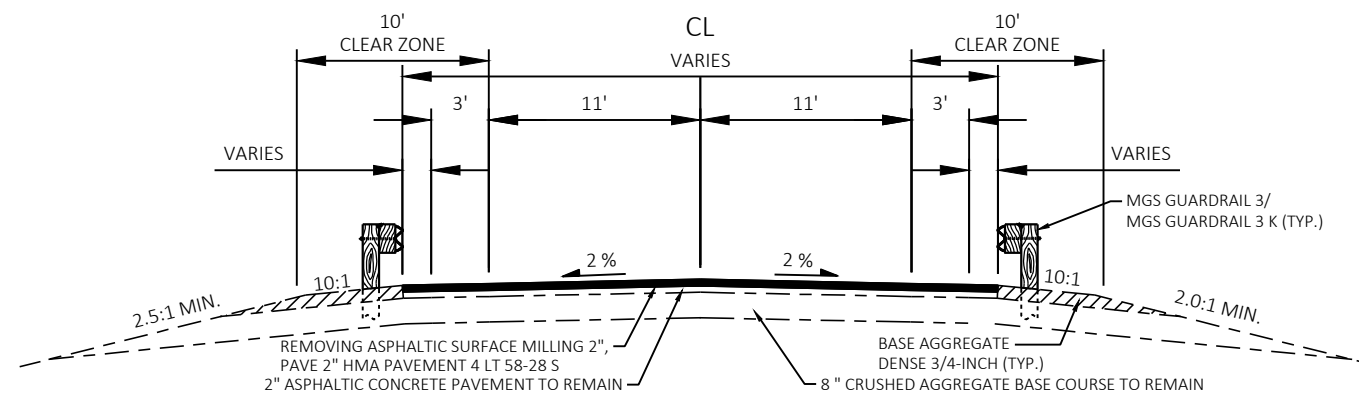
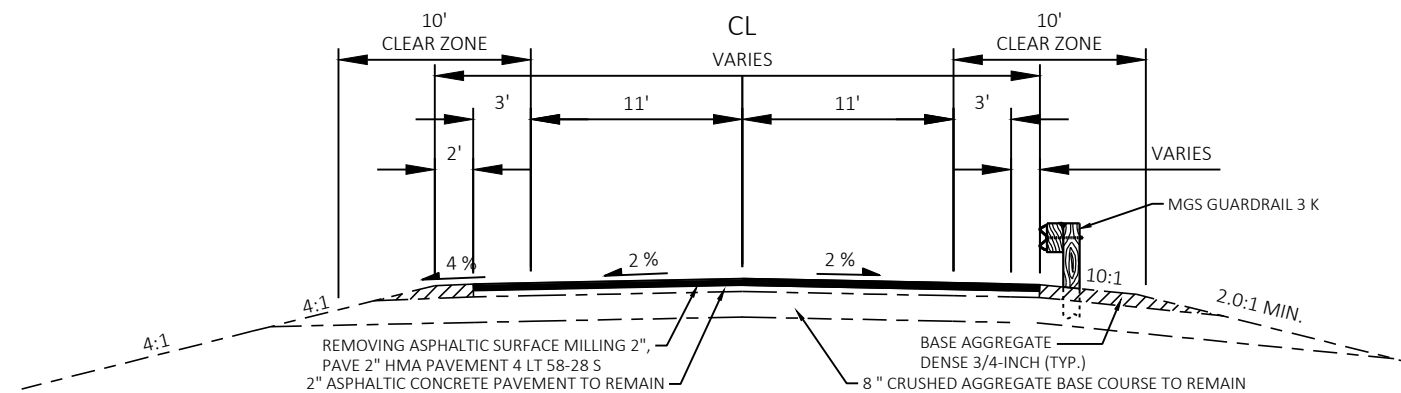


FINISHED TYPICAL SECTION STH 92 - RURAL CURB

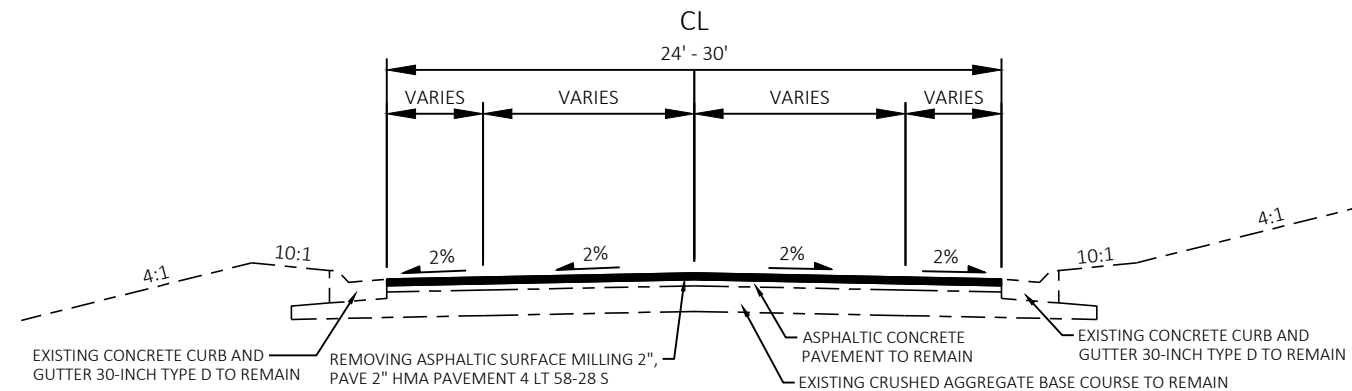
STA 140+19 - STA 142+19 (CURB ON BOTH SIDES),
STA 152+18 - STA 153+78 (CURB ON RT SIDE ONLY)

**FINISHED TYPICAL SECTION STH 92 - RETAINING WALL**

STA 22+12 - STA 32+43

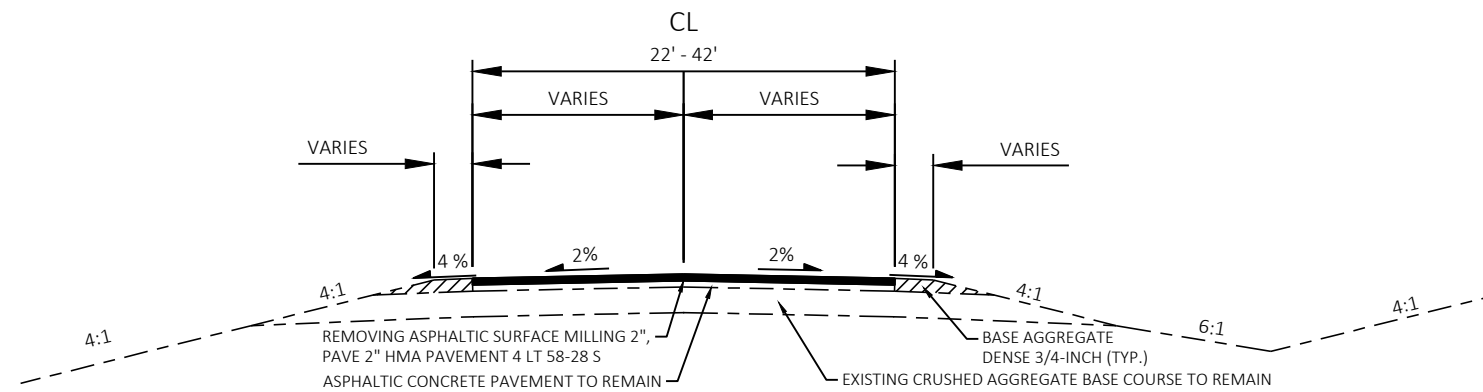
**FINISHED TYPICAL SECTION STH 92 - BEAMGUARD**STA 163+28 - STA 164+47, STA 165+24 - STA 166+41,
STA 193+00 - STA 194+33, STA 195+10 - STA 196+44,
STA 334+38 - STA 339+55**FINISHED TYPICAL SECTION STH 92 - BEAMGUARD**

STA 386+46 - STA 389+10



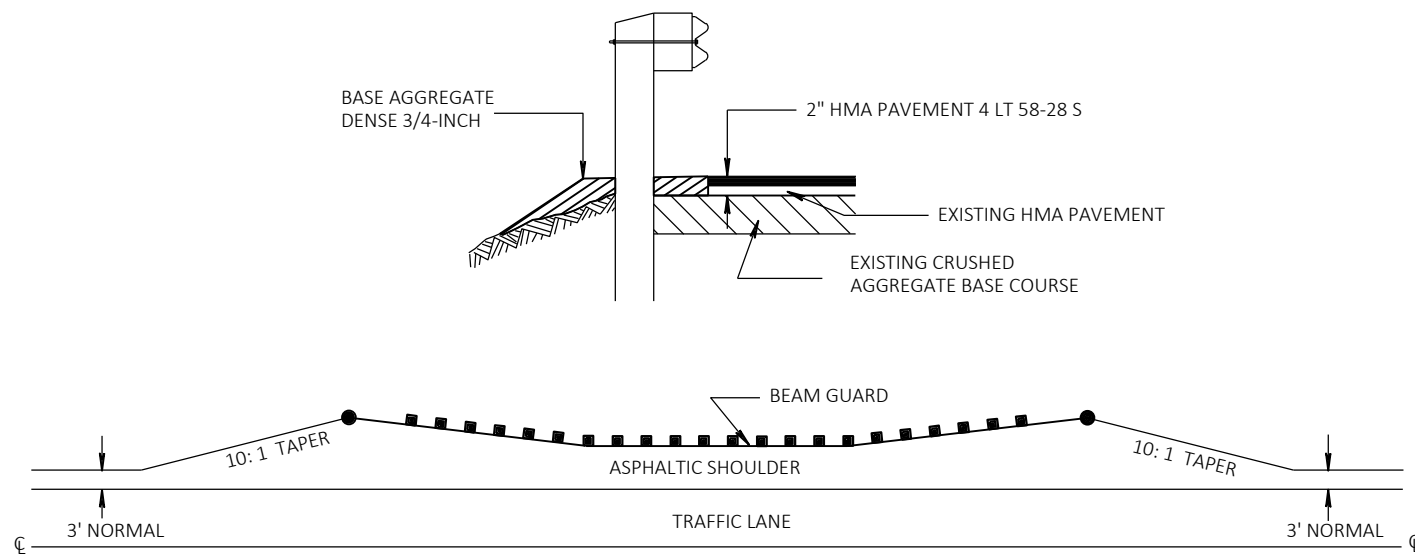
FINISHED TYPICAL SECTION STH 92 - SIDEROADS WITH CURB AND GUTTER

E CTH G, DAVIS ST, W ERFURTH RD,
N CTH U, S CTH U, E ERFURTH RD,
SPRING ROSE RD, E CTH A, W CTH A,
WITTWER RD, COMMUNITY RD, PEERLESS RD,
JIM TOWN RD, RIDGE DR, OLD STATE HWY 69

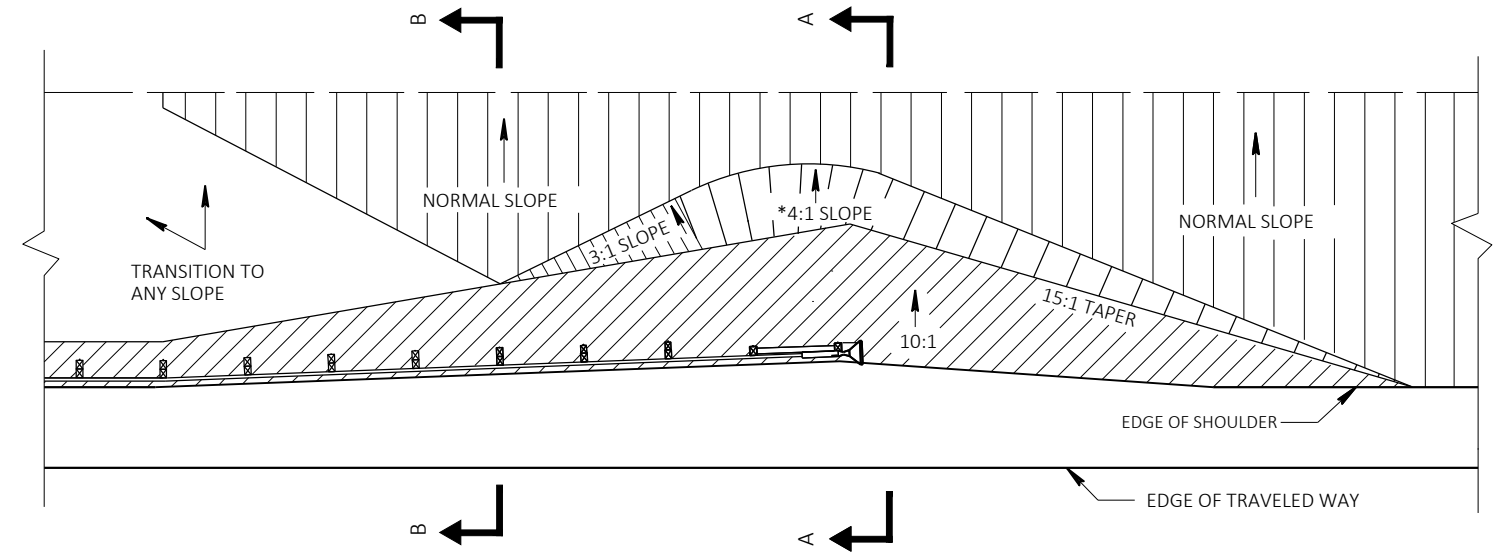


FINISHED TYPICAL SECTION STH 92 - SIDEROADS WITHOUT CURB AND GUTTER

W CTH G, JACKSON ST

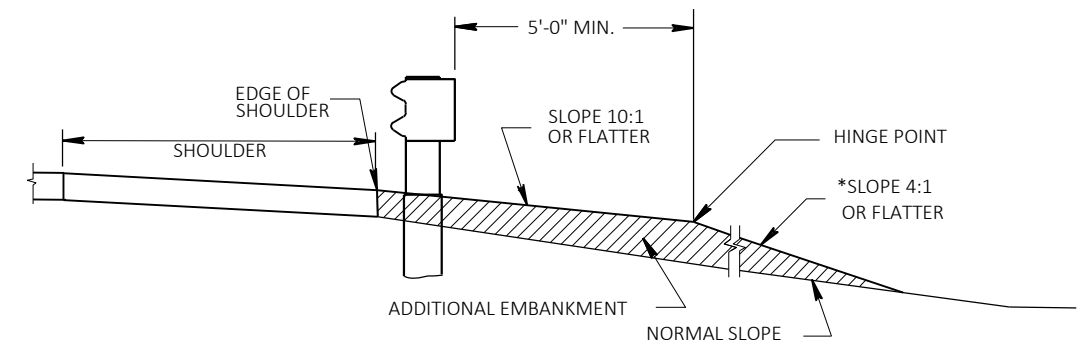


DETAIL FOR ASPHALTIC SHOULDER AT BEAM GUARD
NOT TO SCALE

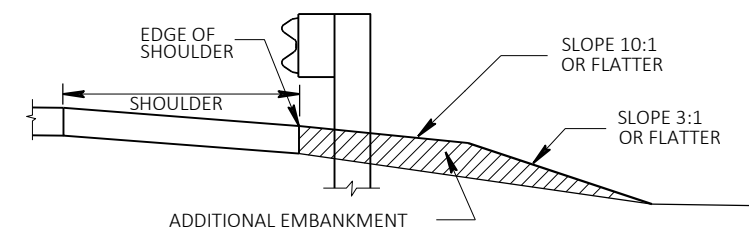


PLAN VIEW

*A 3:1 MAXIMUM SLOPE MAY BE USED FOR INSTALLATIONS ON EXISTING HIGHWAYS.

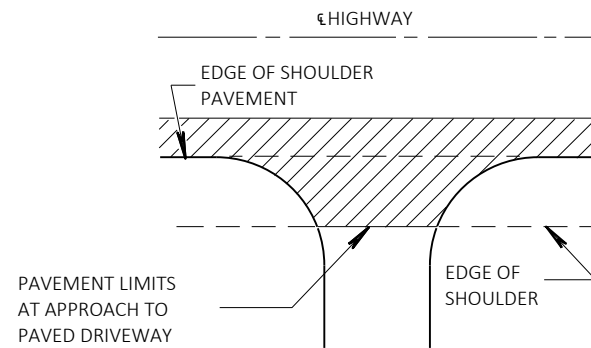


SECTION A-A

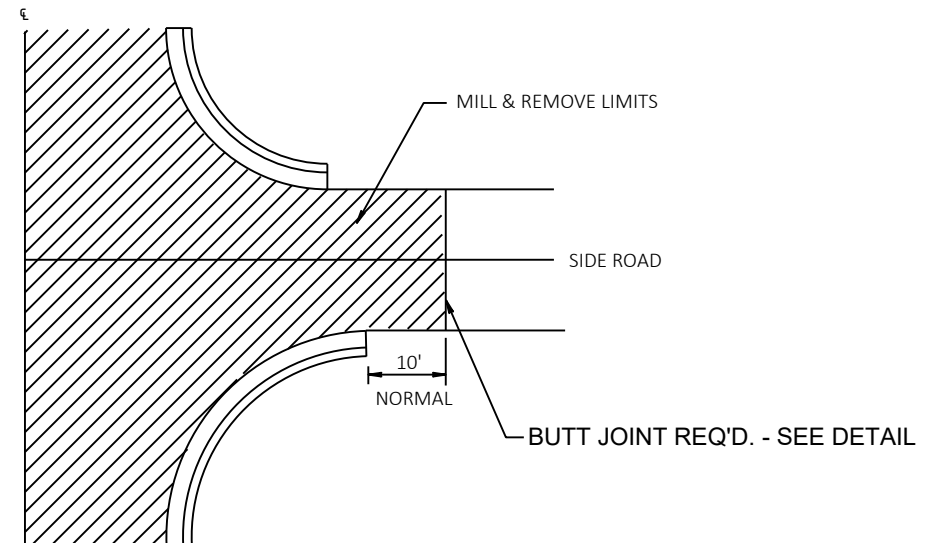


SECTION B-B

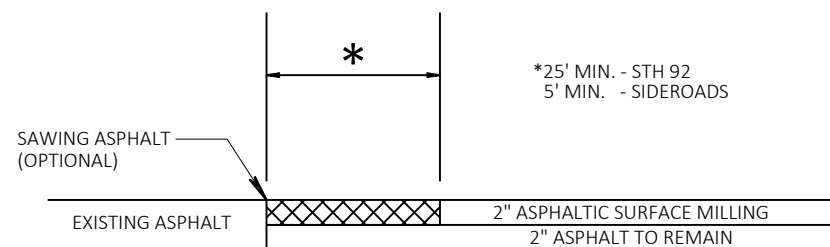
FILL AREA AT BEAM GUARD
NOT TO SCALE



PLAN VIEW
RURAL DRIVEWAY INTERSECTION DETAIL
NOT TO SCALE



SIDEROAD DETAIL - CURB & GUTTER TO REMAIN
NOT TO SCALE

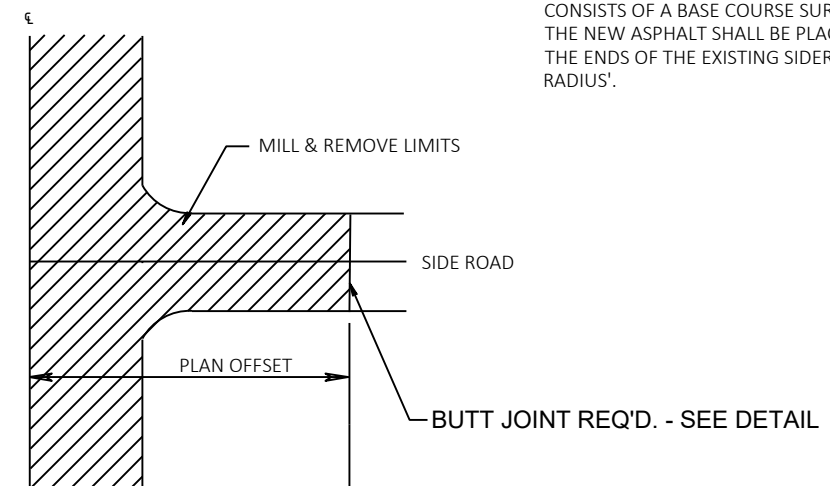


BUTT JOINT
NOT TO SCALE

PAID FOR AS REMOVING ASPHALTIC
SURFACE BUTT JOINTS

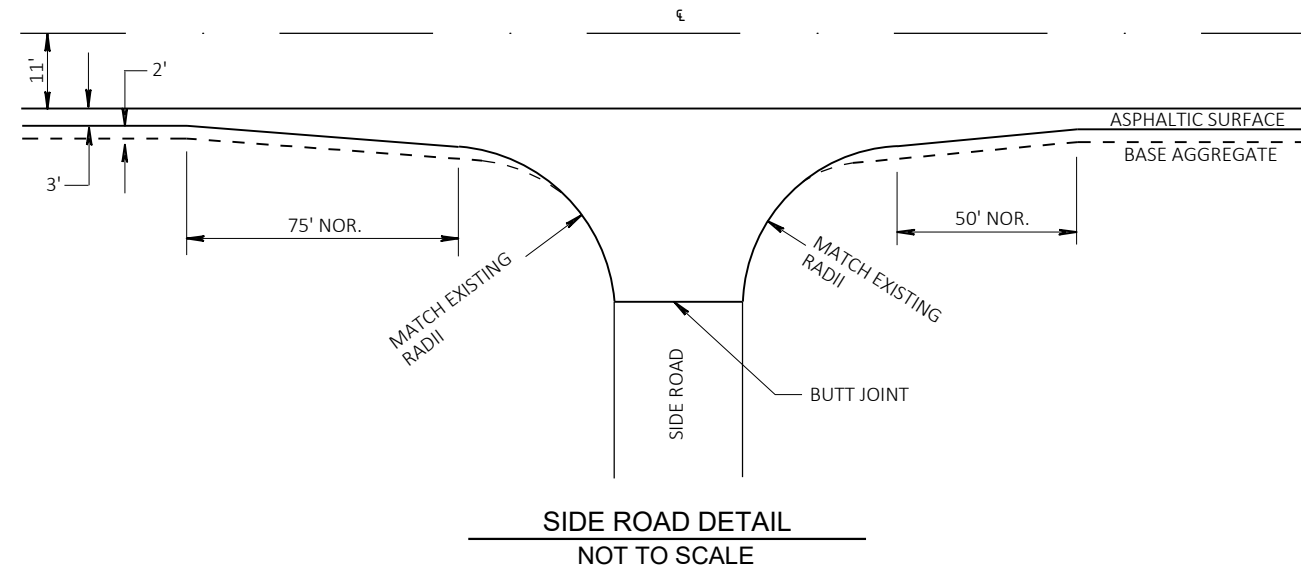
REQUIRED LOCATIONS:
BEGINNING OF PROJECT
E CTH G
DAVIS ST
W CTH G
JACKSON ST
W ERFURTH RD
N CTH U
S CTH U
E ERFURTH RD
SPRING ROSE RD
MT. VERNON CREEK BRIDGE
MT. VERNON CREEK BRIDGE
E CTH A
W BR SUGAR RIVER BRIDGE
W BR SUGAR RIVER BRIDGE
W CTH A
WITTWER RD
COMMUNITY RD
PEERLESS RD
JIM TOWN RD
RIDGE RD
OLD HWY 69
END OF PROJECT

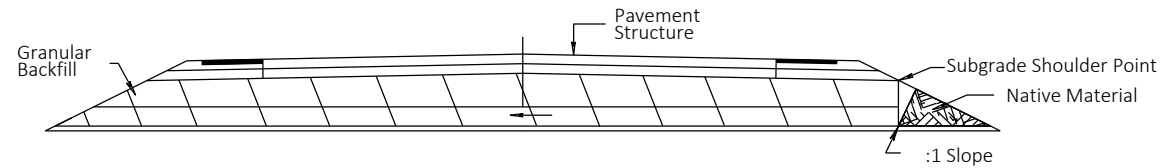
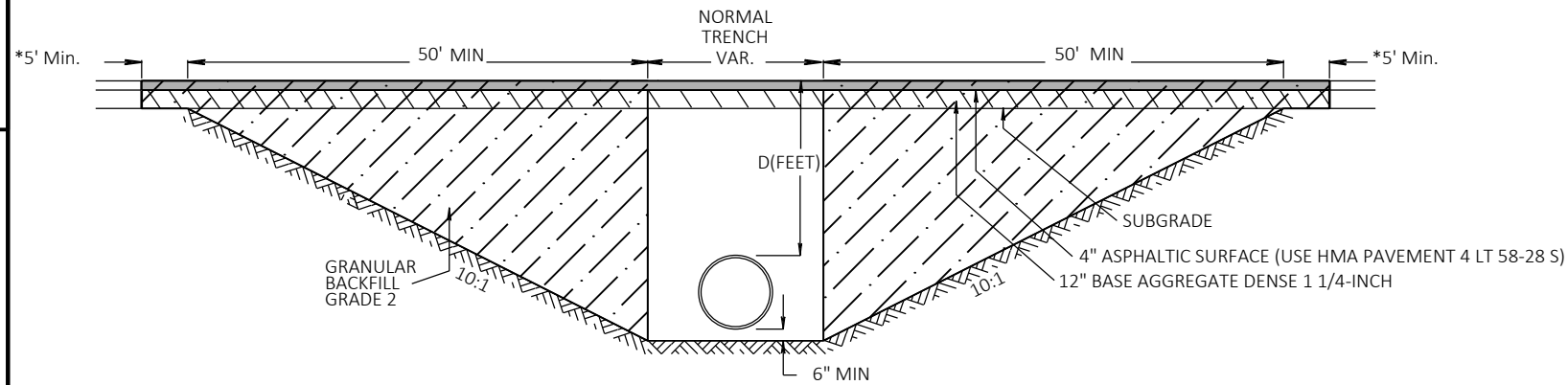
STA 2+87
STA 4+23 LT
STA 15+13 LT
STA 15+44 RT
STA 18+71 RT
STA 37+21 LT
STA 44+79 LT
STA 45+52 RT
STA 61+95 LT
STA 118+69 LT
STA 164+57
STA 165+13
STA 185+84 LT
STA 194+34
STA 195+10
STA 238+29 RT
STA 238+31 LT
STA 291+61 RT
STA 307+40 RT
STA 318+17 LT
STA 357+77 RT
STA 379+33 RT
STA 389+10



NOTE: IF THE EXISTING SIDEROAD
CONSISTS OF A BASE COURSE SURFACE,
THE NEW ASPHALT SHALL BE PLACED TO
THE ENDS OF THE EXISTING SIDEROAD
RADIUS'.

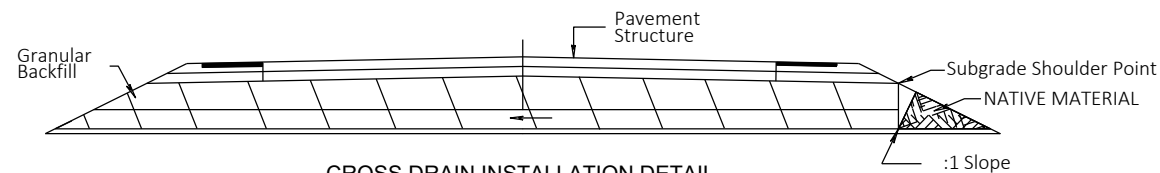
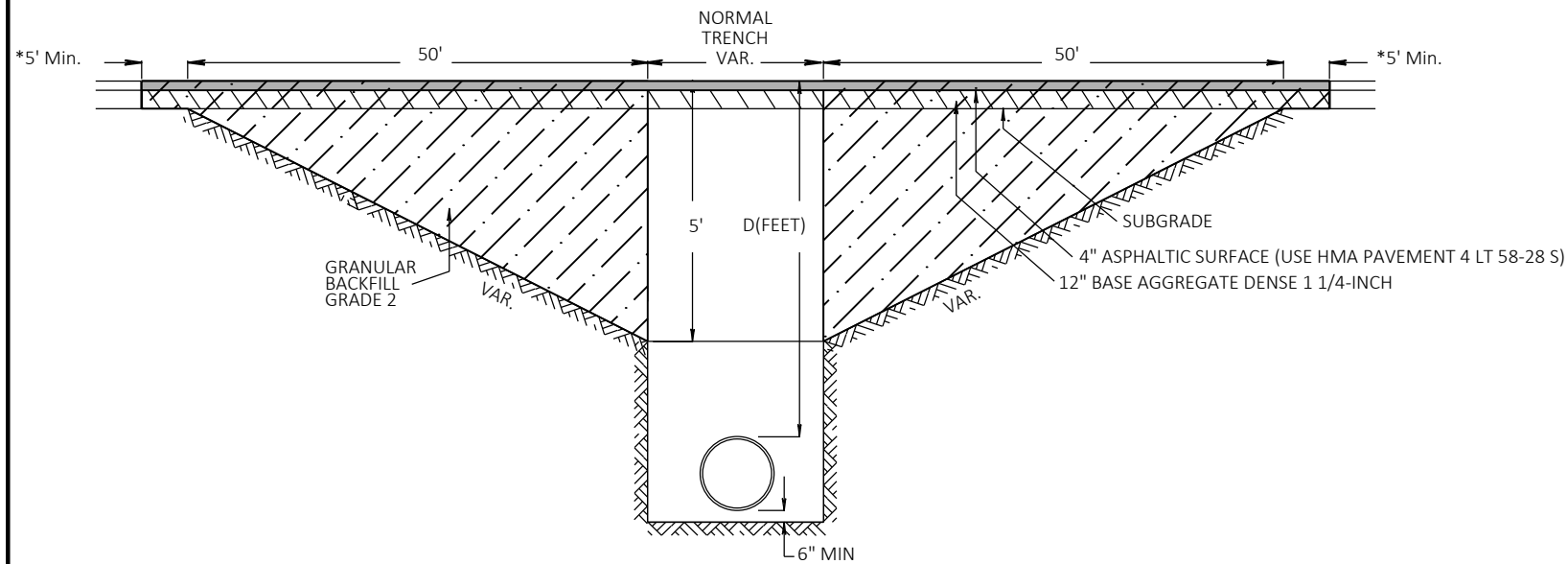
SIDEROAD DETAIL - NO CURB & GUTTER
NOT TO SCALE





CROSS DRAIN INSTALLATION DETAIL
FOR $D \leq 5'$
NOT TO SCALE

* Pavement Removal Limits (Typical)



CROSS DRAIN INSTALLATION DETAIL
FOR $D \geq 5'$
NOT TO SCALE

NOTES

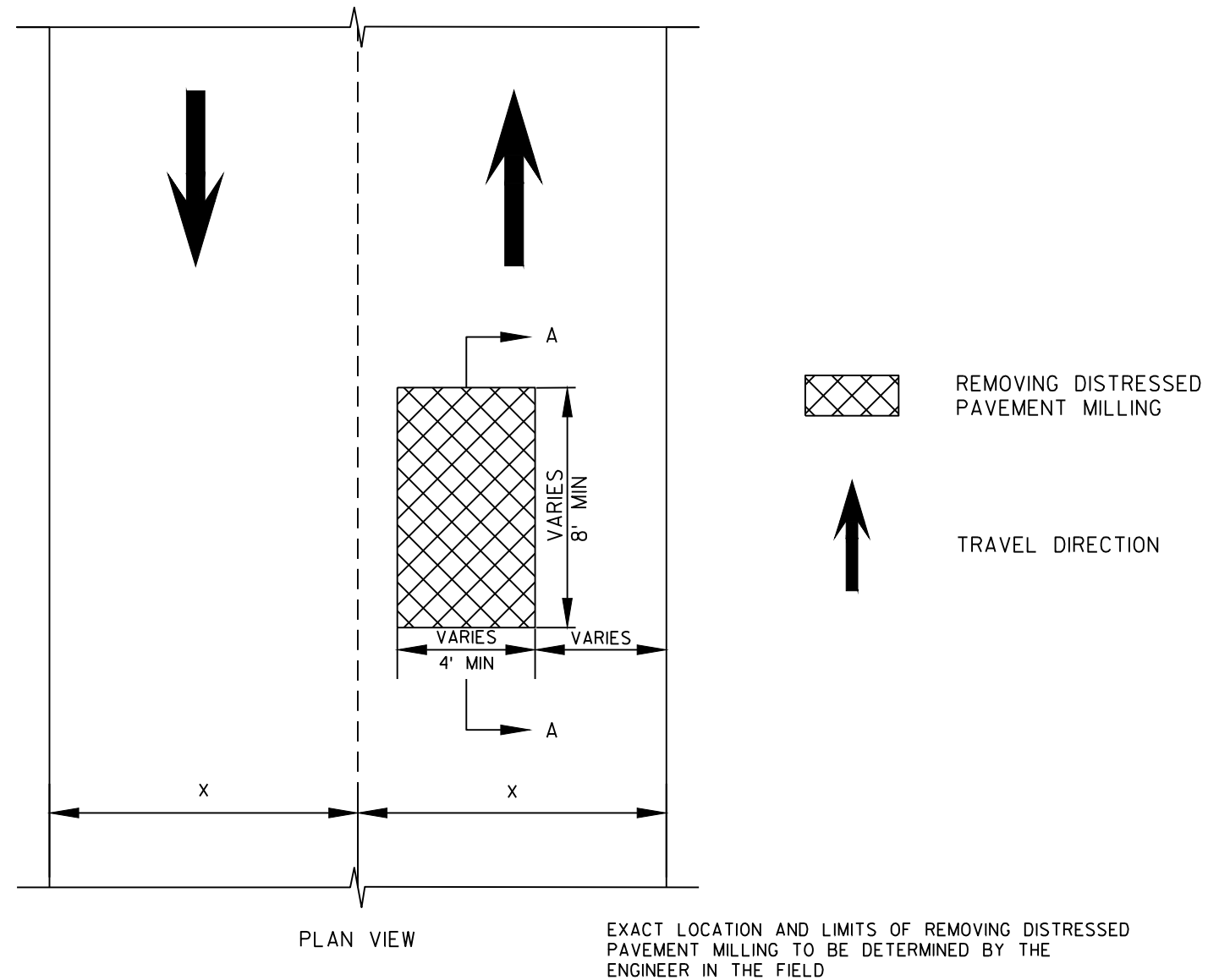
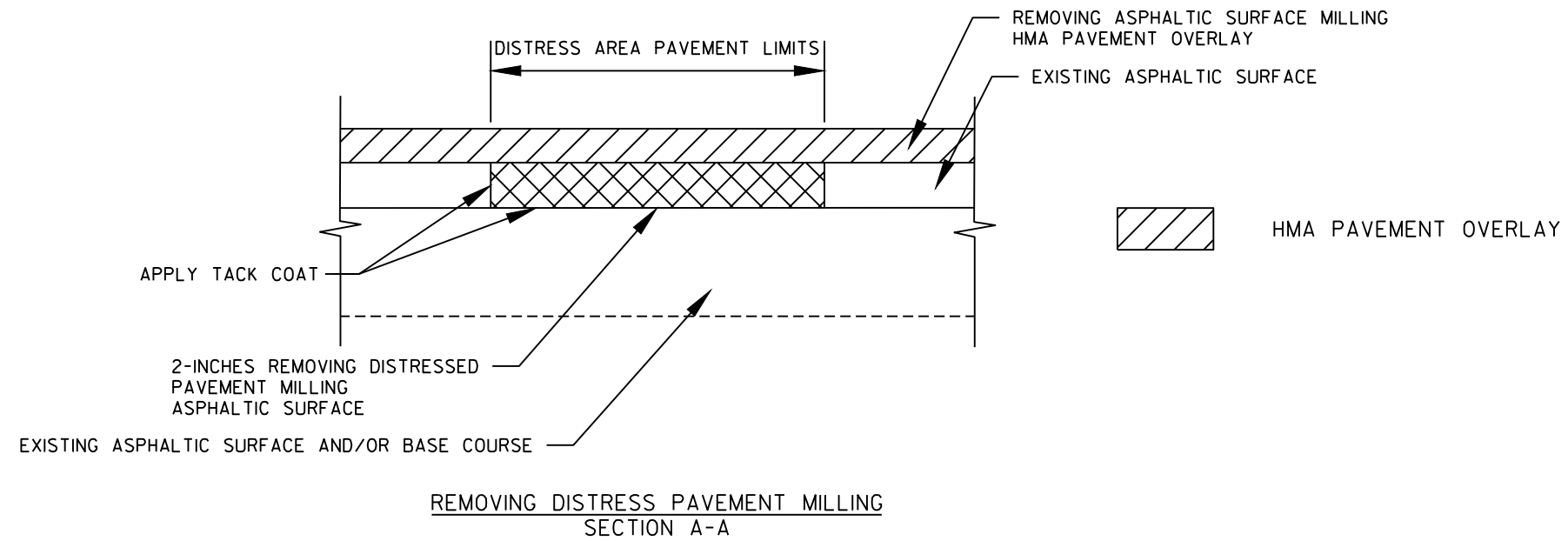
TRANSITION CUT IS PAID AS EXCAVATION COMMON.
TRANSITION CUT WIDTH IS FROM SUBGRADE SHOULDER POINT TO SUBGRADE SHOULDER POINT.
BACKFILL THE TRANSITION CUT AREAS WITH FOUNDATION AND TRENCH BACKFILL AS SPECIFIED IN STANDARD SPEC 520.
PERFORM CULVERT PIPE INSTALLATION BEFORE MAINLINE MILLING AND PAVING.
PLACE ASPHALTIC PAVEMENT AFTER CULVERT PIPE INSTALLATION AND BEFORE MILLING MAINLINE.

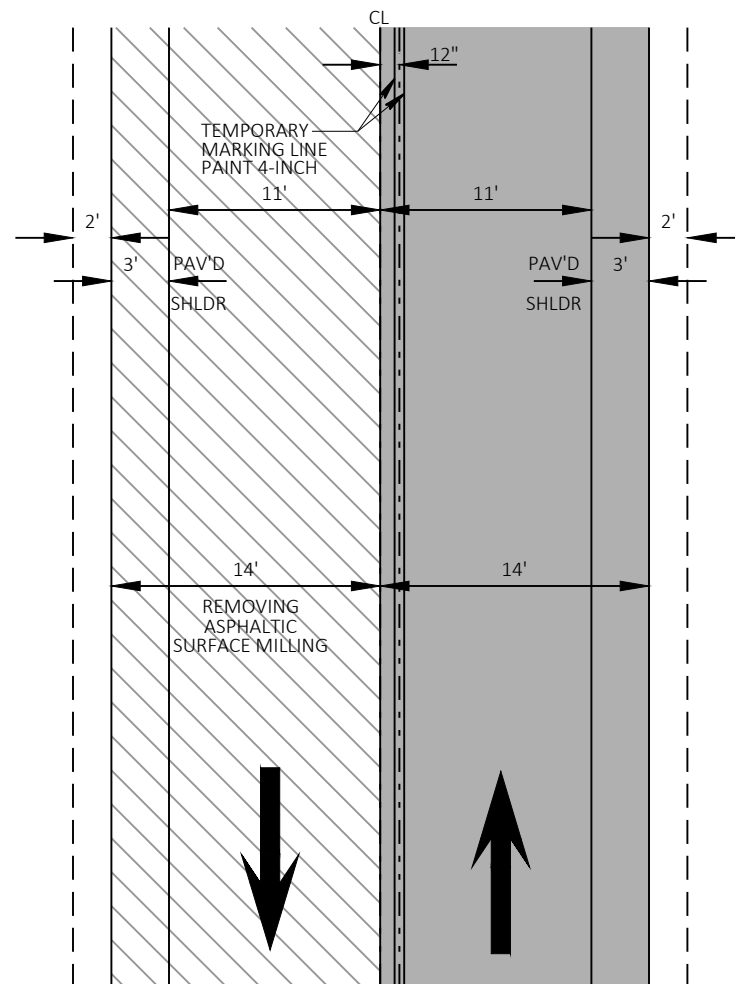
KEY



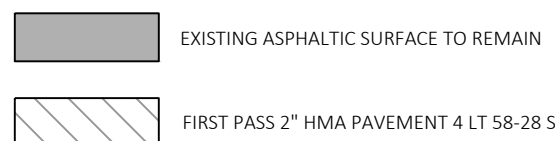
CULVERT PIPE TRANSITION

ROUTE	STA (CL)	DEPTH D (FT)	PIPE DIA (IN)	REMARKS
STH 11	282+40	4.7	24-INCH CSCP	NORTH COMMUNITY RD CULVERT
STH 11	388+86	7.9	24-INCH CSCP	STH 69 INTERSECTION CULVERT

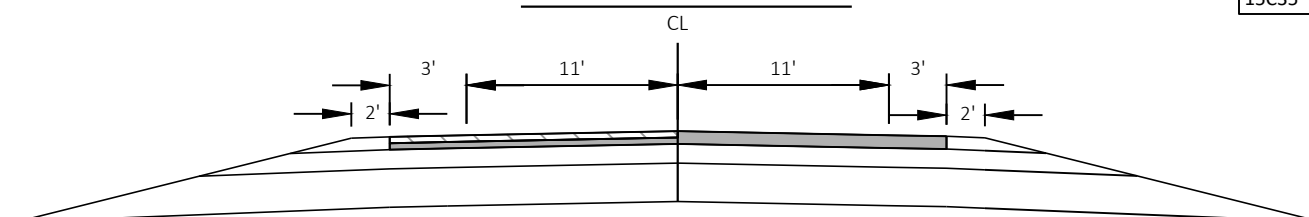




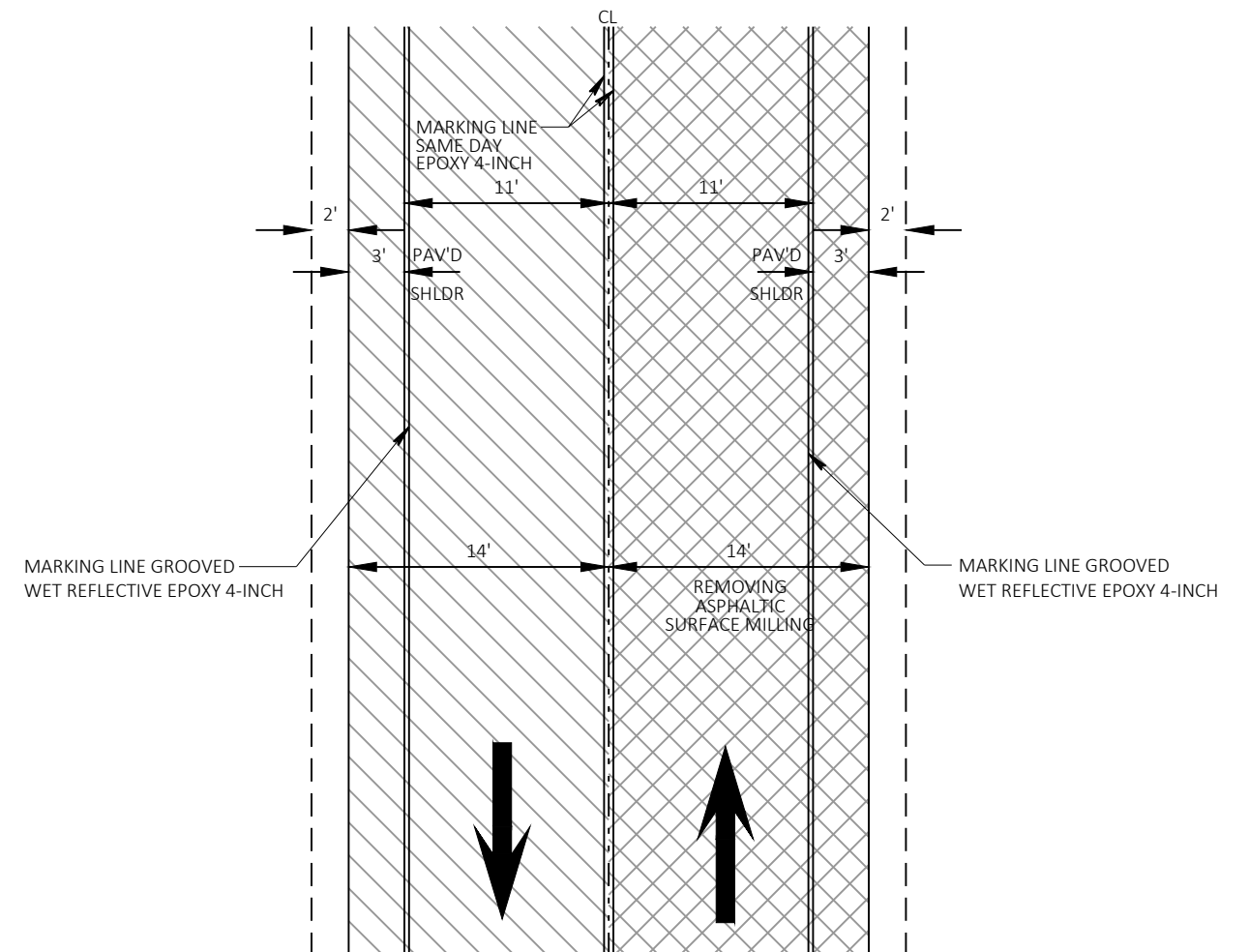
PLAN VIEW



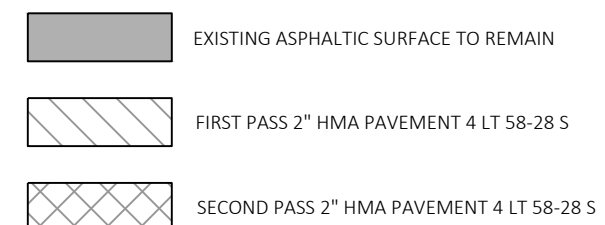
CROSS SECTION VIEW
FIRST PASS DETAIL



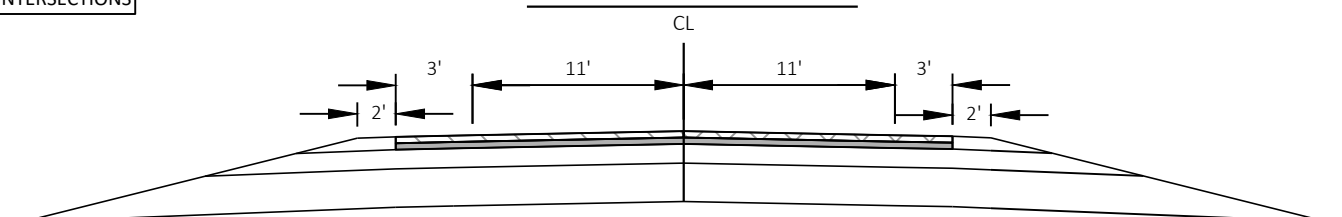
SEE PAVEMENT MARKING STANDARD DETAILS:	
15C06	SIGNING AND MARKING FOR TWO LANE BRIDGES
15C08	PAVEMENT MARKING, MAINLINE AND TURN LANES
15C33	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35	PAVEMENT MARKING, INTERSECTIONS

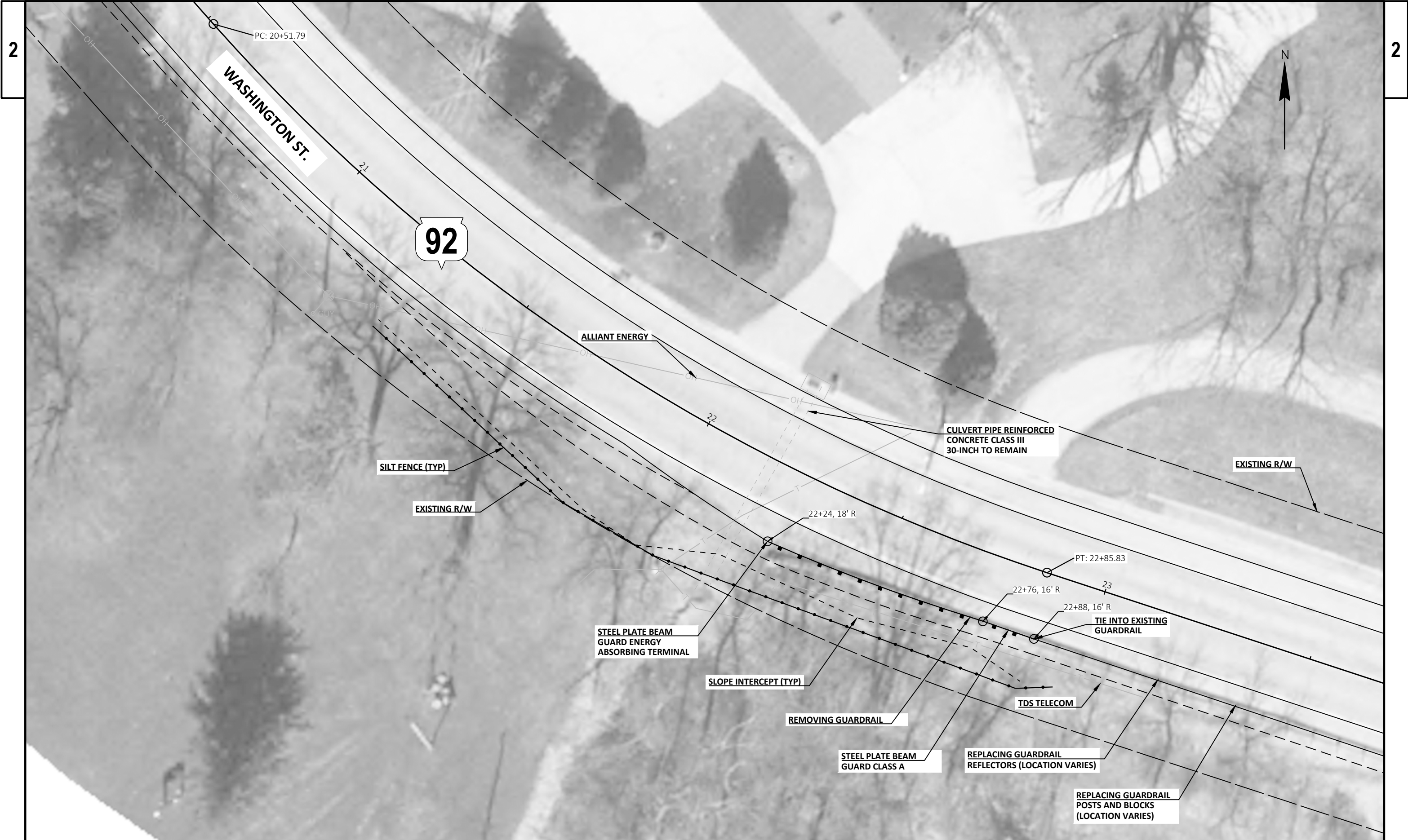


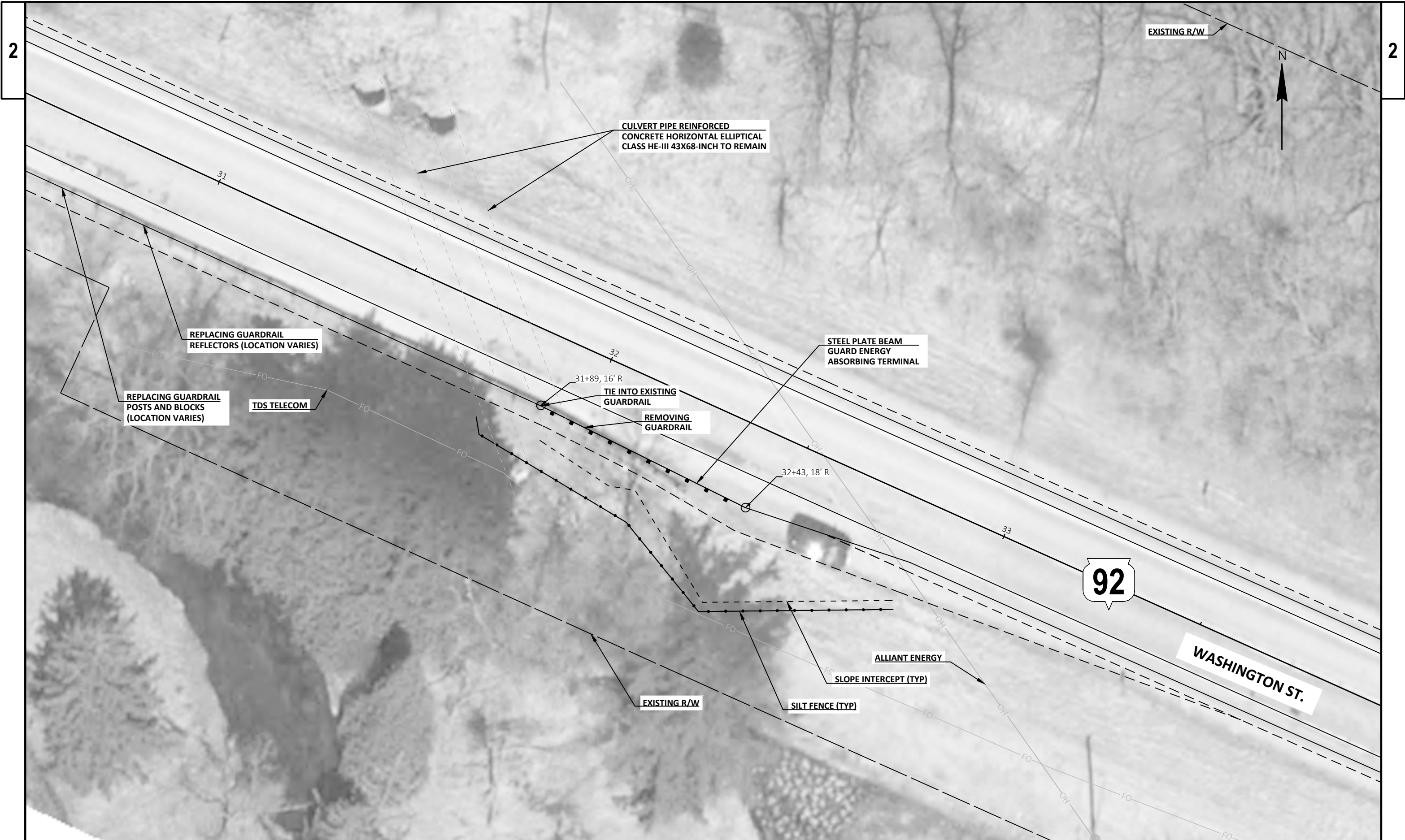
PLAN VIEW

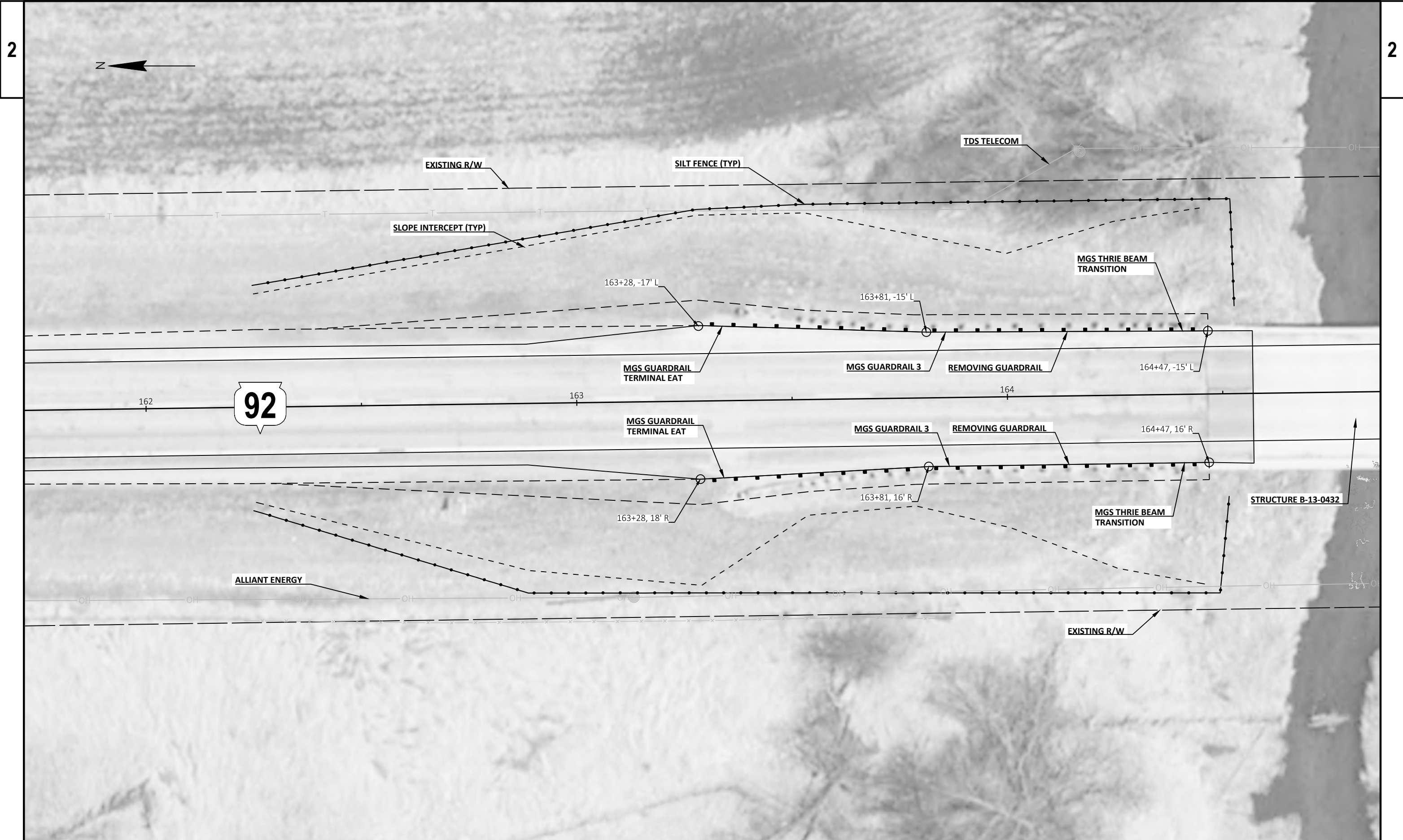


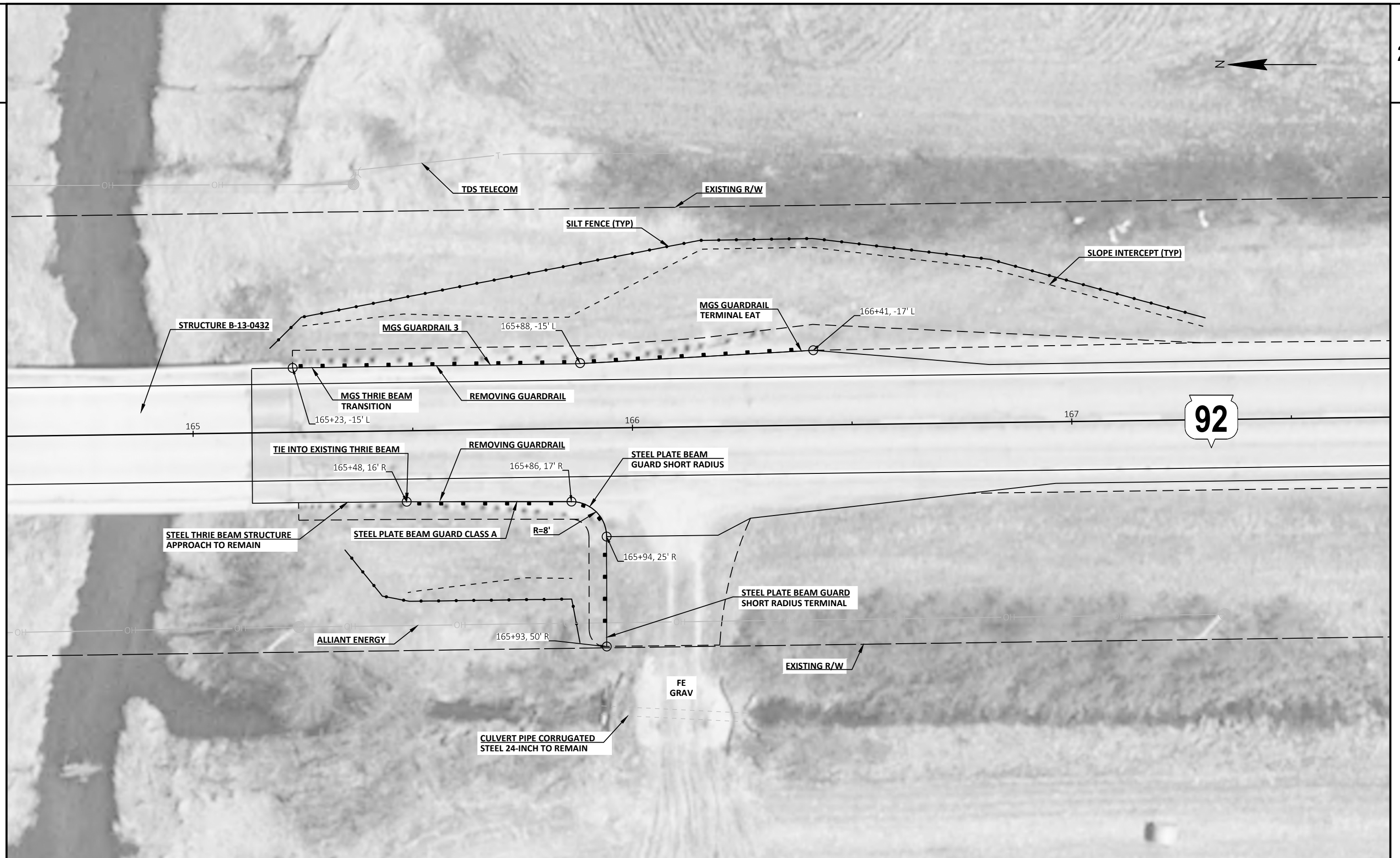
CROSS SECTION VIEW
SECOND PASS DETAIL











PROJECT NO: 5926-05-60

HWY: STH 92

COUNTY: DANE

GUARDRAIL DETAILS

SHEET

20

E

FILE NAME : G:\C3D\20\20-473\59260530\59260530\DESIGN\CAD\SHEETSPLAN\GUARDRAIL VIEWS.DWG
LAYOUT NAME - 021002-cd - 04

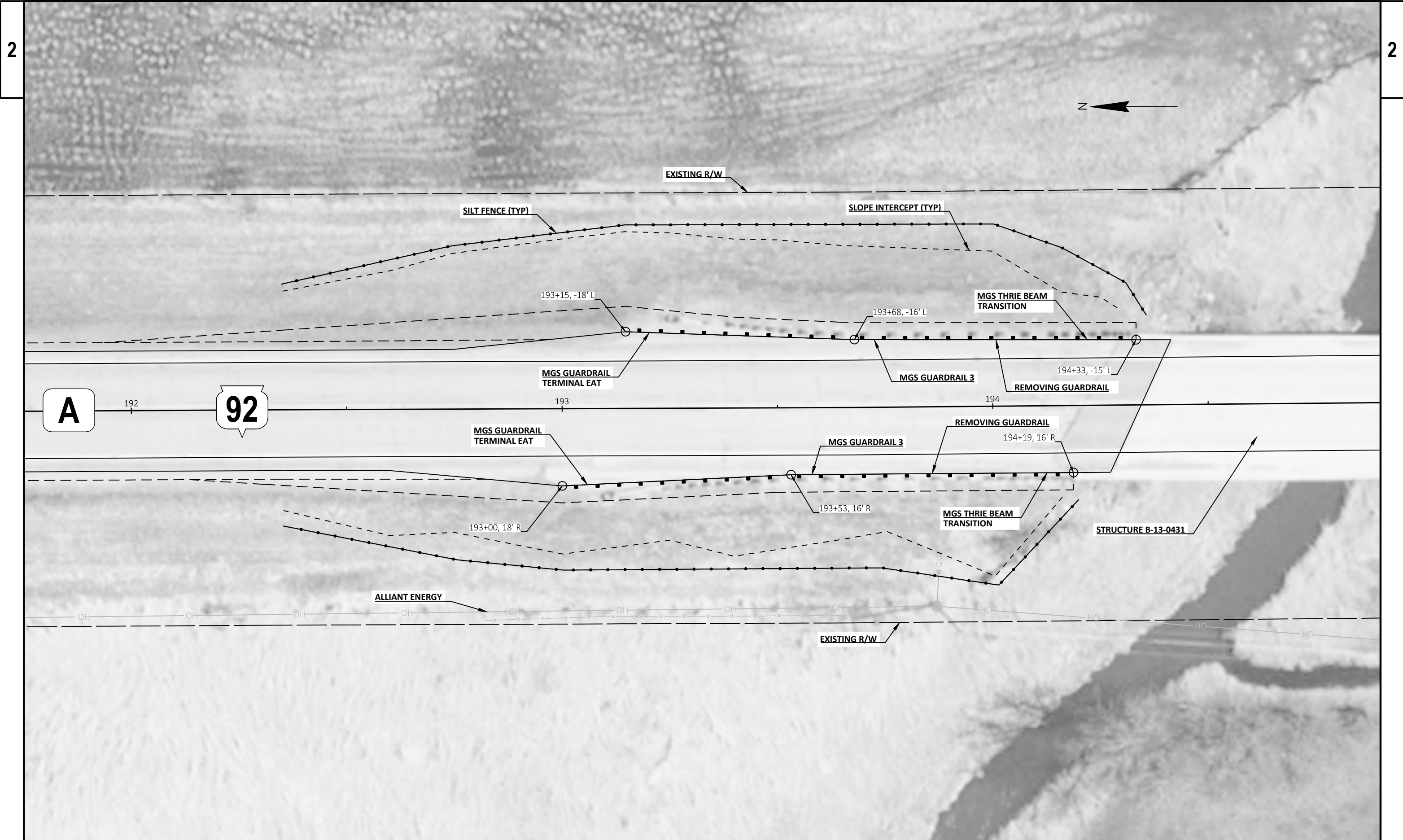
PLOT DATE : 7/25/2022 2:14 AM

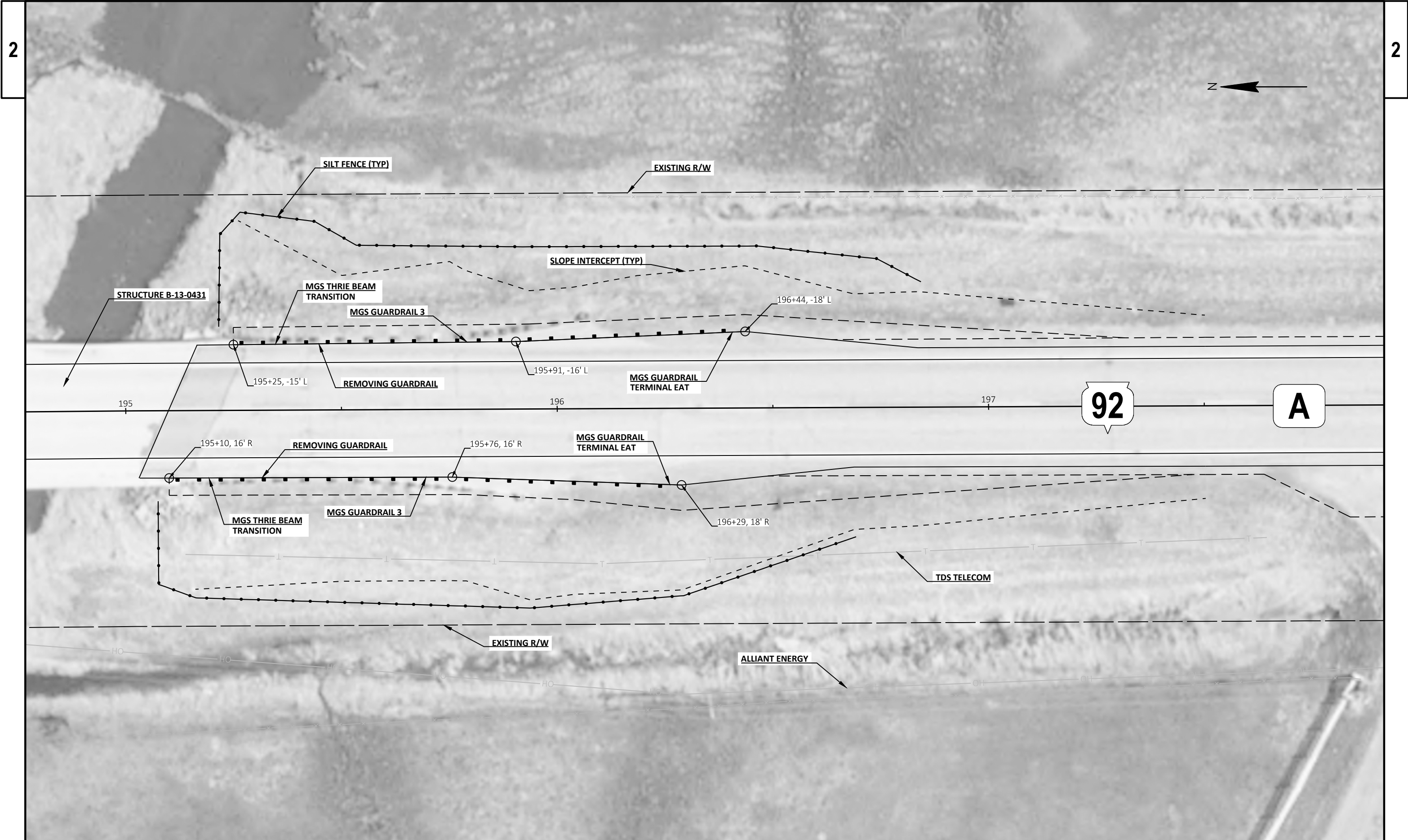
PLOT BY : KODY KAISER

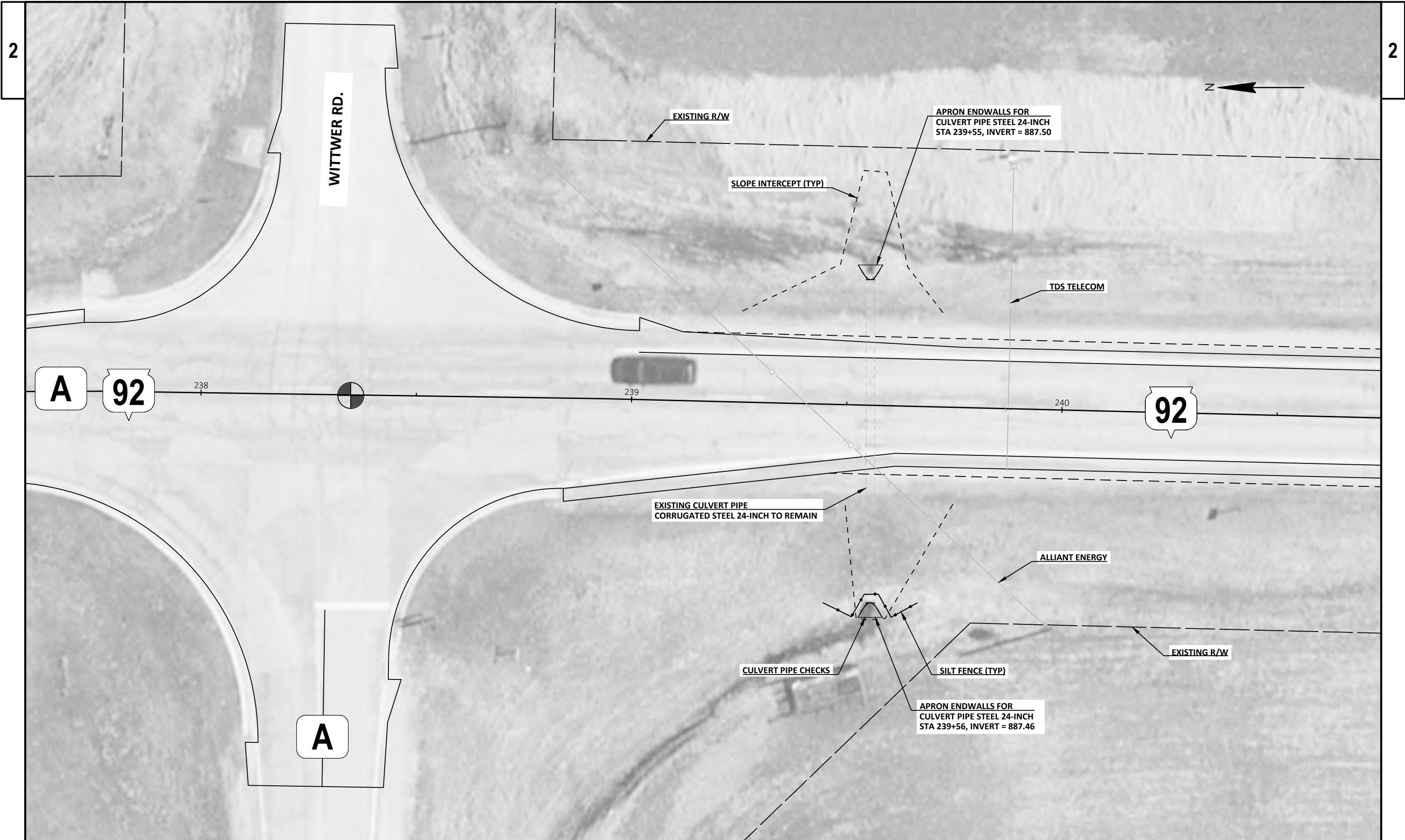
PLOT NAME :

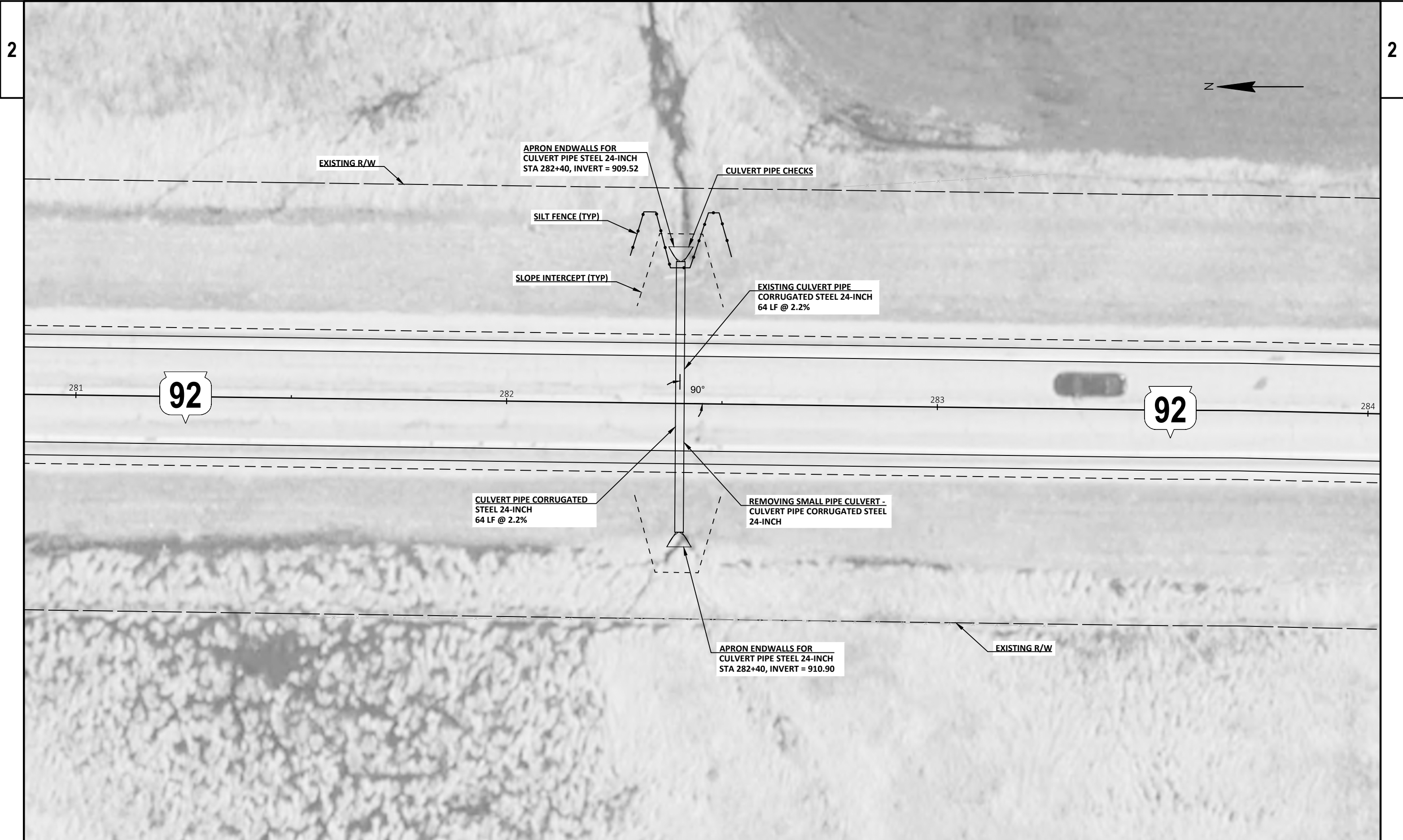
PLOT SCALE : 1 IN:20 FT

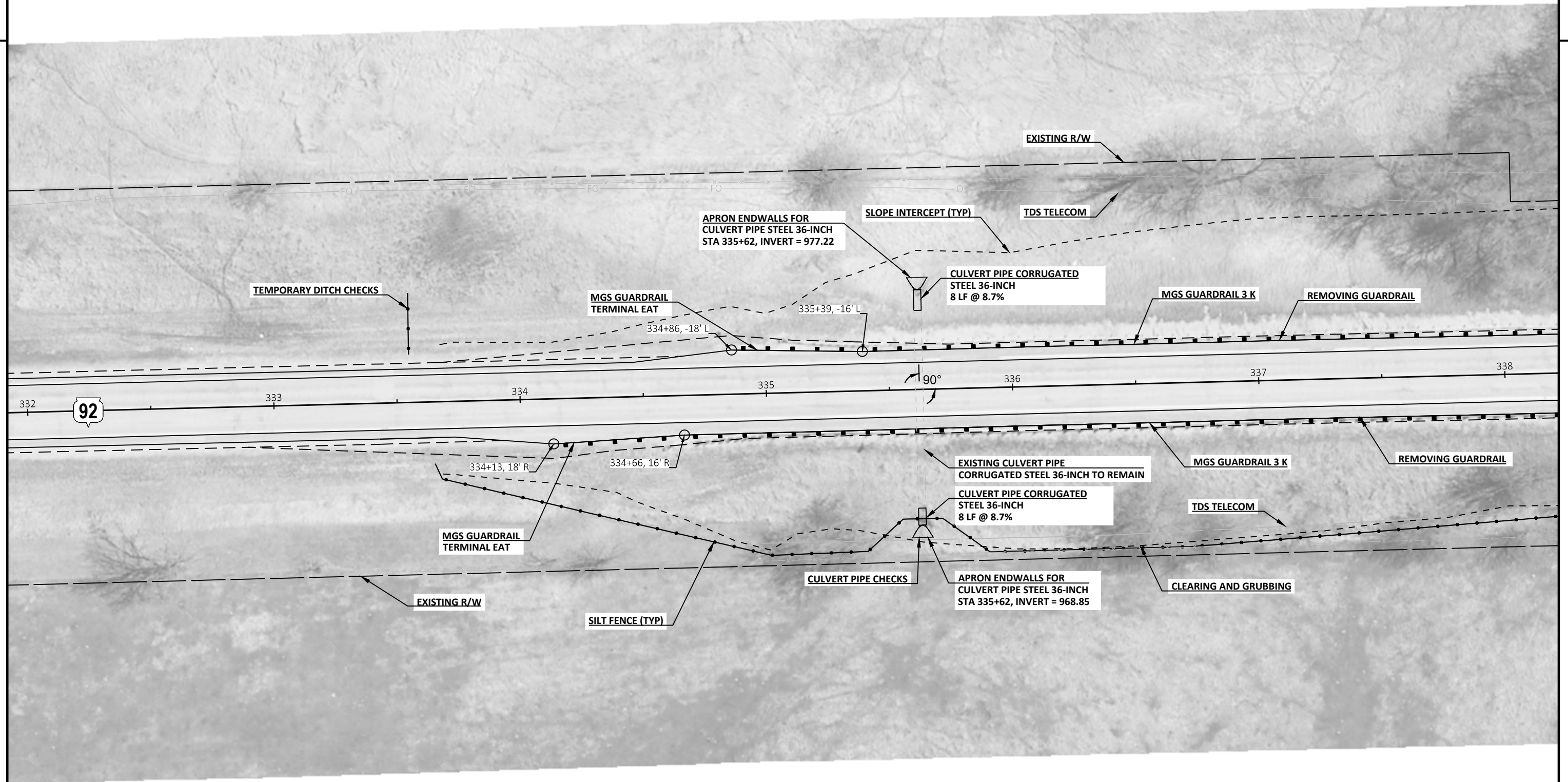
WISDOT/CADDs SHEET 42

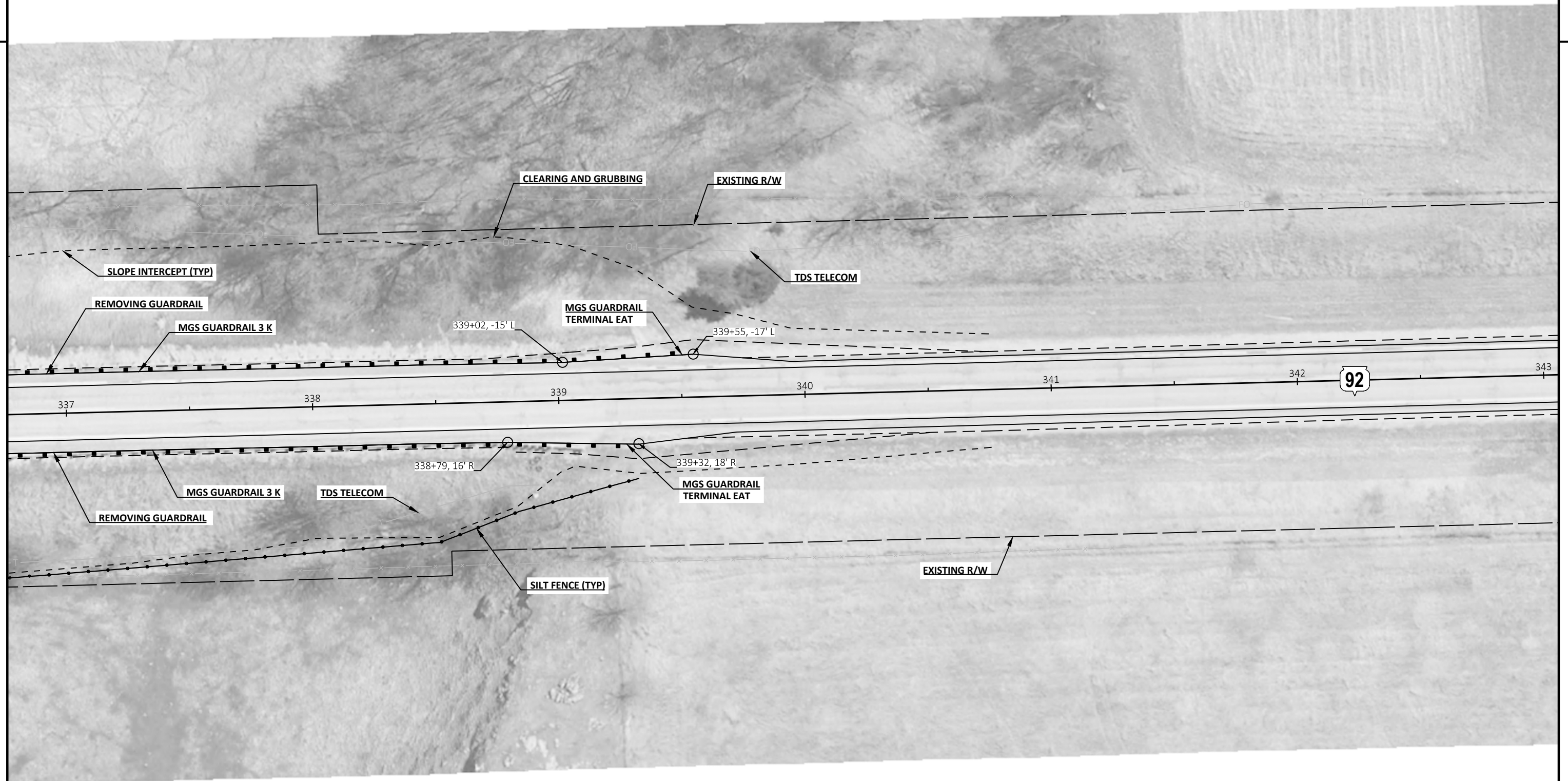












PROJECT NO: 5926-05-60

HWY: STH 92

COUNTY: DANE

GUARDRAIL DETAILS

SHEET

26

E

FILE NAME : G:\C3D\20\473\59260530\59260530\DESIGN\CAD\SHEETSPLAN\GUARDRAIL VIEWS.DWG
LAYOUT NAME - 021002-cd - 10

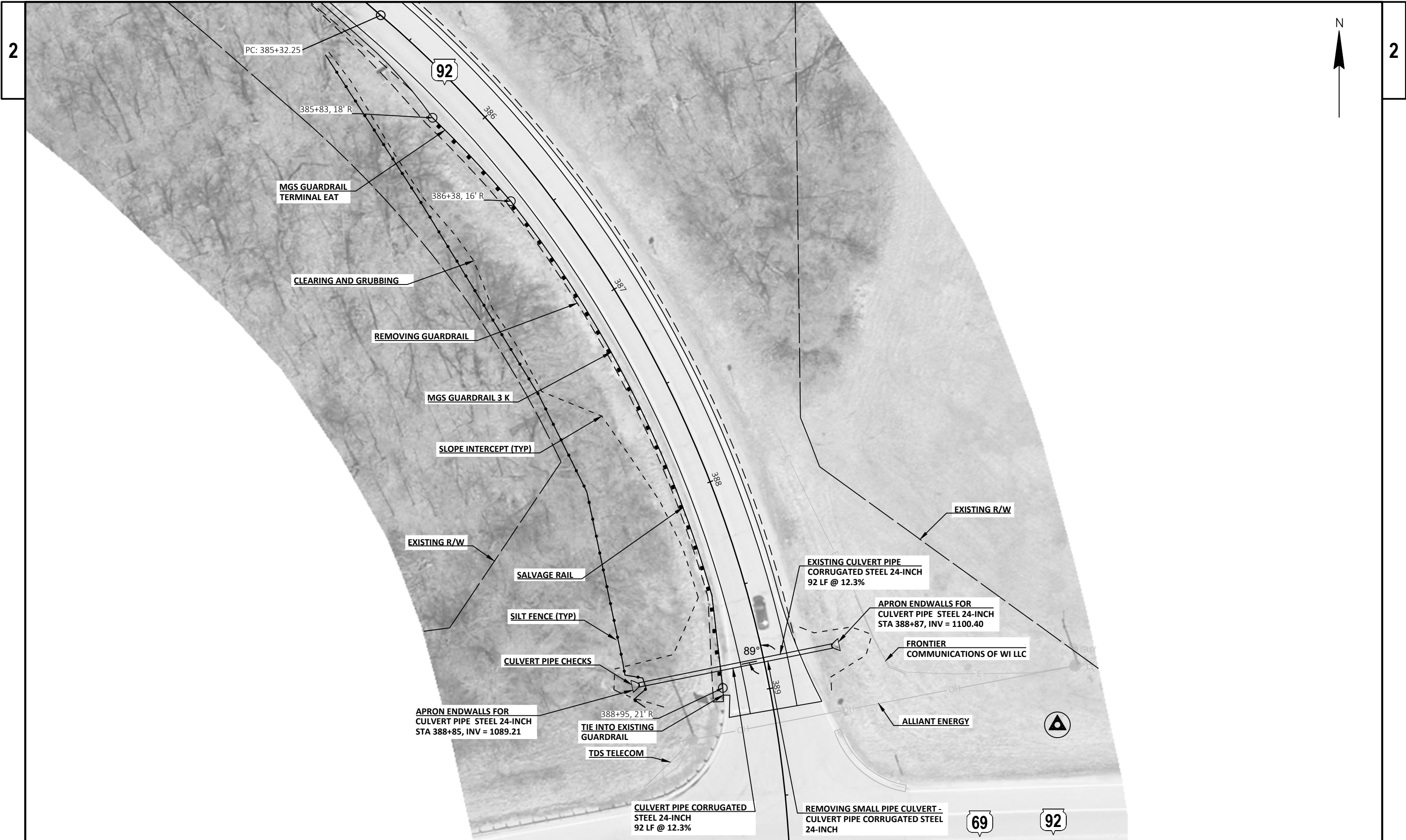
PLOT DATE : 7/25/2022 2:15 AM

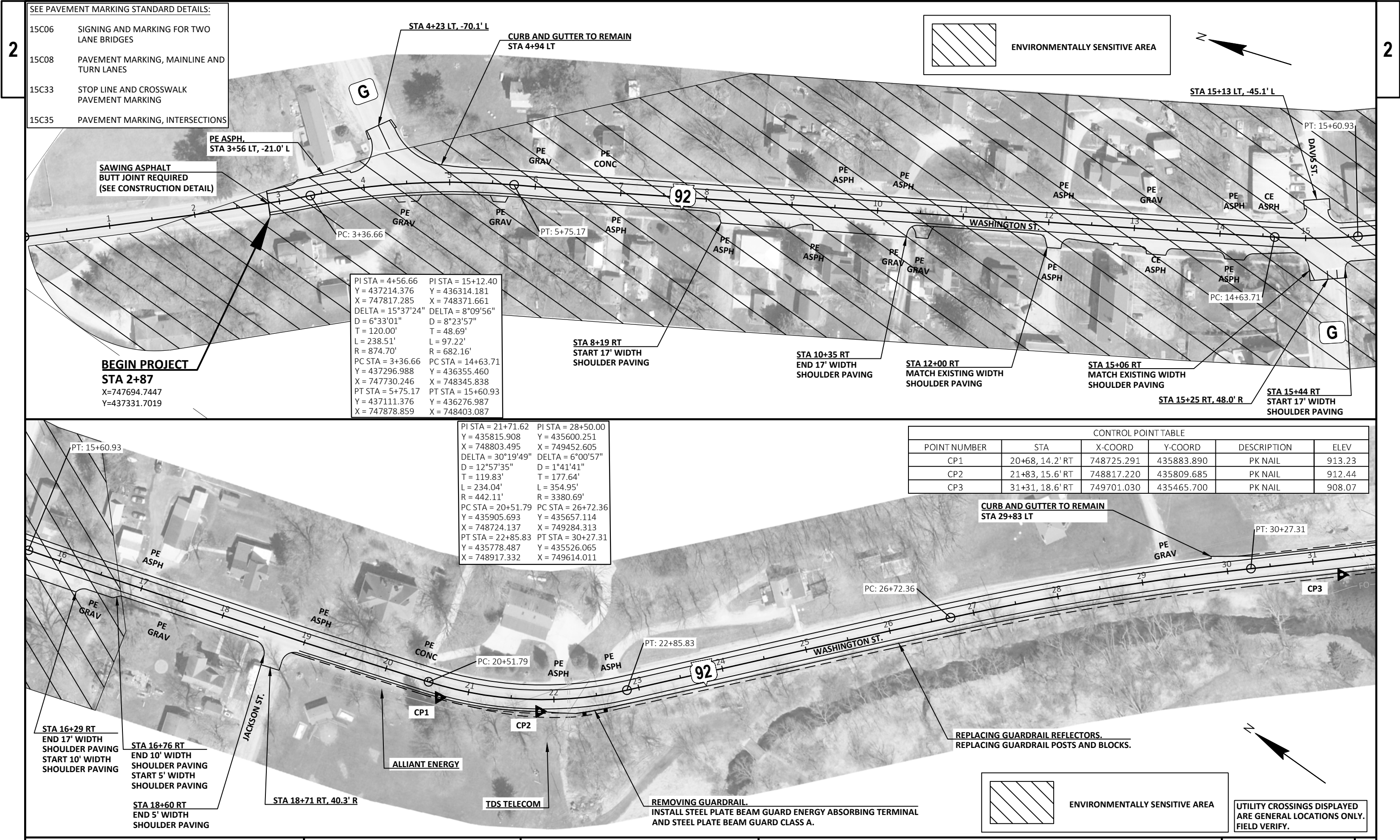
PLOT BY : KODY KAISER

PLOT NAME :

PLOT SCALE : 1 IN:40 FT

WISDOT/CADDs SHEET 42





- SEE PAVEMENT MARKING STANDARD DETAILS:
- 15C06 SIGNING AND MARKING FOR TWO LANE BRIDGES
 - 15C08 PAVEMENT MARKING, MAINLINE AND TURN LANES
 - 15C33 STOP LINE AND CROSSWALK PAVEMENT MARKING
 - 15C35 PAVEMENT MARKING, INTERSECTIONS

ENVIRONMENTALLY SENSITIVE AREA

PI STA = 4+56.66	PI STA = 15+12.40
Y = 437214.376	Y = 436314.181
X = 747817.285	X = 748371.661
DELTA = 15°37'24"	DELTA = 8°09'56"
D = 6°33'01"	D = 8°23'57"
T = 120.00'	T = 48.69'
L = 238.51'	L = 97.22'
R = 874.70'	R = 682.16'
PC STA = 3+36.66	PC STA = 14+63.71
Y = 437296.988	Y = 436355.460
X = 747730.246	X = 748345.838
PT STA = 5+75.17	PT STA = 15+60.93
Y = 437111.376	Y = 436276.987
X = 747878.859	X = 748403.087

CONTROL POINT TABLE					
POINT NUMBER	STA	X-COORD	Y-COORD	DESCRIPTION	ELEV
CP1	20+68, 14.2' RT	748725.291	435883.890	PK NAIL	913.23
CP2	21+83, 15.6' RT	748817.220	435809.685	PK NAIL	912.44
CP3	31+31, 18.6' RT	749701.030	435465.700	PK NAIL	908.07

PI STA = 21+71.62	PI STA = 28+50.00
Y = 435815.908	Y = 435600.251
X = 748803.495	X = 749452.605
DELTA = 30°19'49"	DELTA = 6°00'57"
D = 12°57'35"	D = 1°41'41"
T = 119.83'	T = 177.64'
L = 234.04'	L = 354.95'
R = 442.11'	R = 3380.69'
PC STA = 20+51.79	PC STA = 26+72.36
Y = 435905.693	Y = 435657.114
X = 748724.137	X = 749284.313
PT STA = 22+85.83	PT STA = 30+27.31
Y = 435778.487	Y = 435526.065
X = 748917.332	X = 749614.011

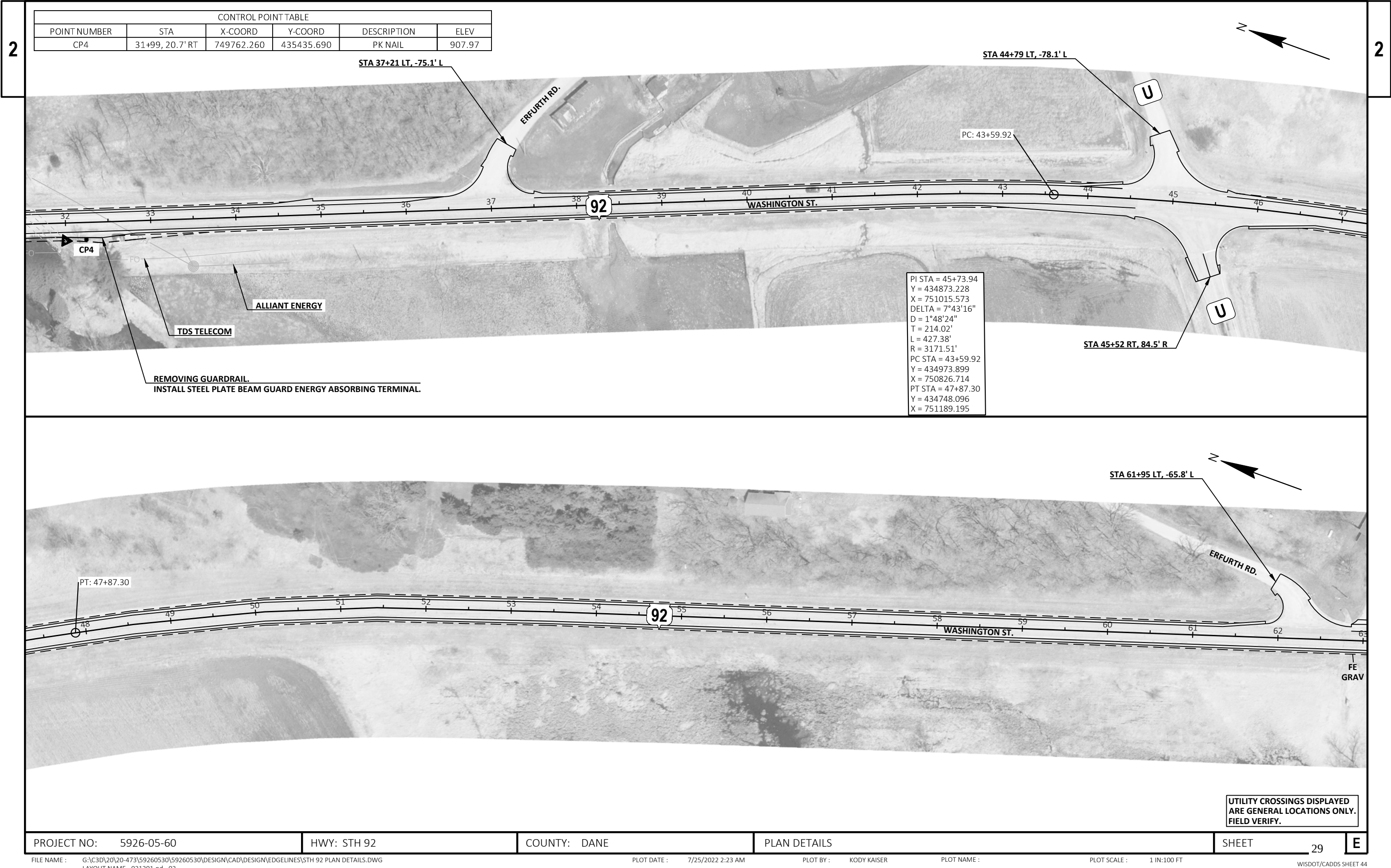
CURB AND GUTTER TO REMAIN
STA 29+83 LT

REPLACING GUARDRAIL REFLECTORS.
REPLACING GUARDRAIL POSTS AND BLOCKS.

REMOVING GUARDRAIL.
INSTALL STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
AND STEEL PLATE BEAM GUARD CLASS A.

ENVIRONMENTALLY SENSITIVE AREA

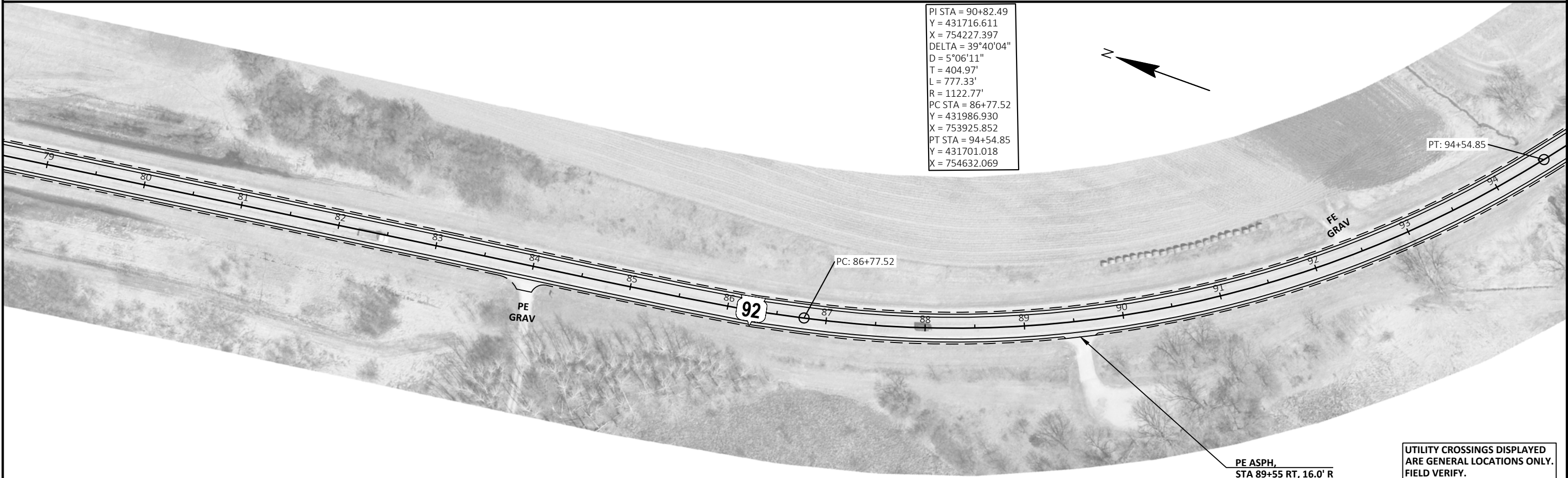
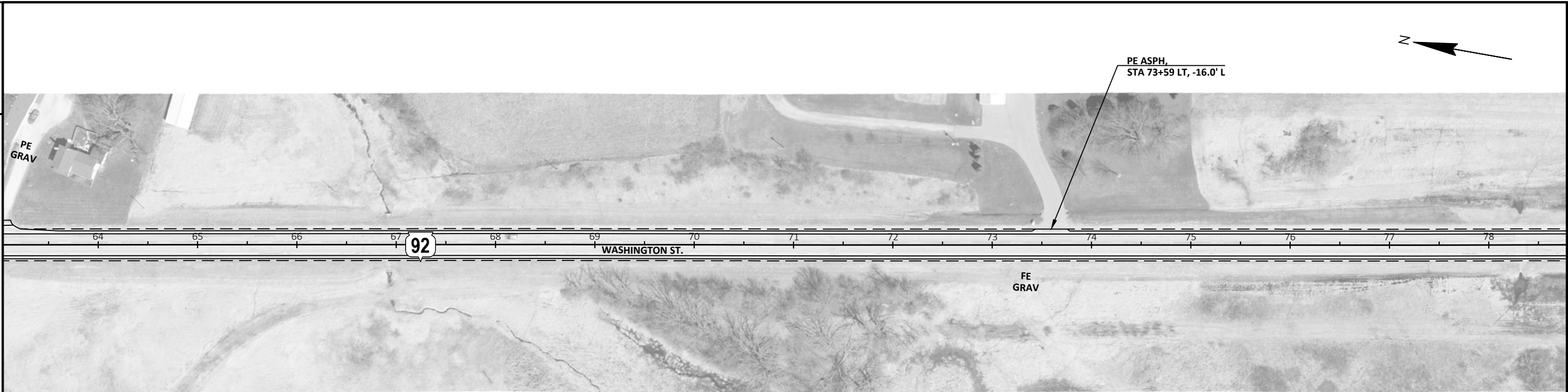
UTILITY CROSSINGS DISPLAYED
ARE GENERAL LOCATIONS ONLY.
FIELD VERIFY.

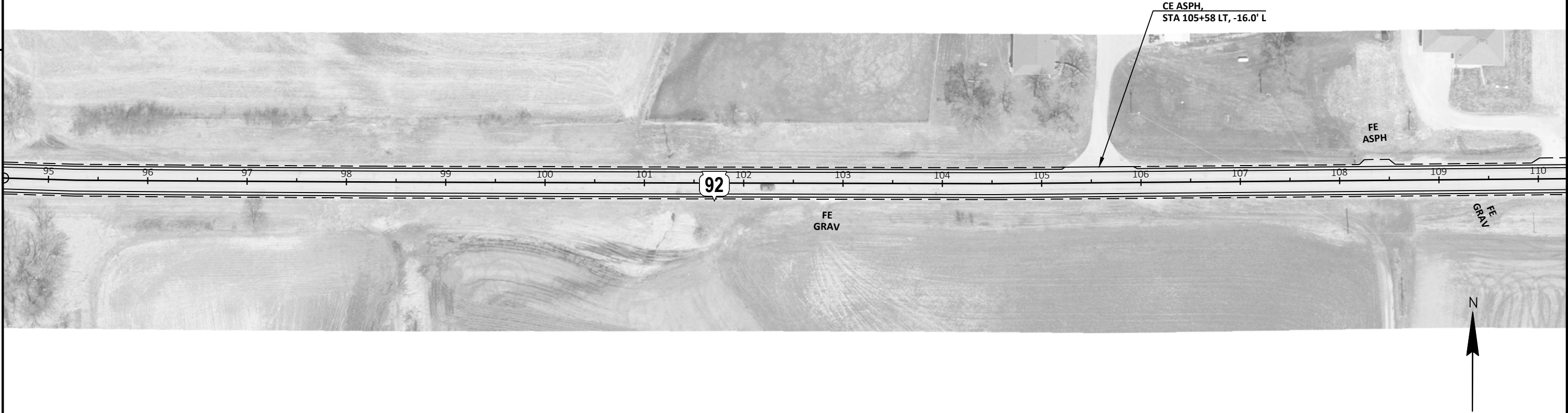


CONTROL POINT TABLE					
POINT NUMBER	STA	X-COORD	Y-COORD	DESCRIPTION	ELEV
CP4	31+99, 20.7' RT	749762.260	435435.690	PK NAIL	907.97

PI STA = 45+73.94
Y = 434873.228
X = 751015.573
DELTA = 7°43'16"
D = 1°48'24"
T = 214.02'
L = 427.38'
R = 3171.51'
PC STA = 43+59.92
Y = 434973.899
X = 750826.714
PT STA = 47+87.30
Y = 434748.096
X = 751189.195

UTILITY CROSSINGS DISPLAYED
ARE GENERAL LOCATIONS ONLY.
FIELD VERIFY.



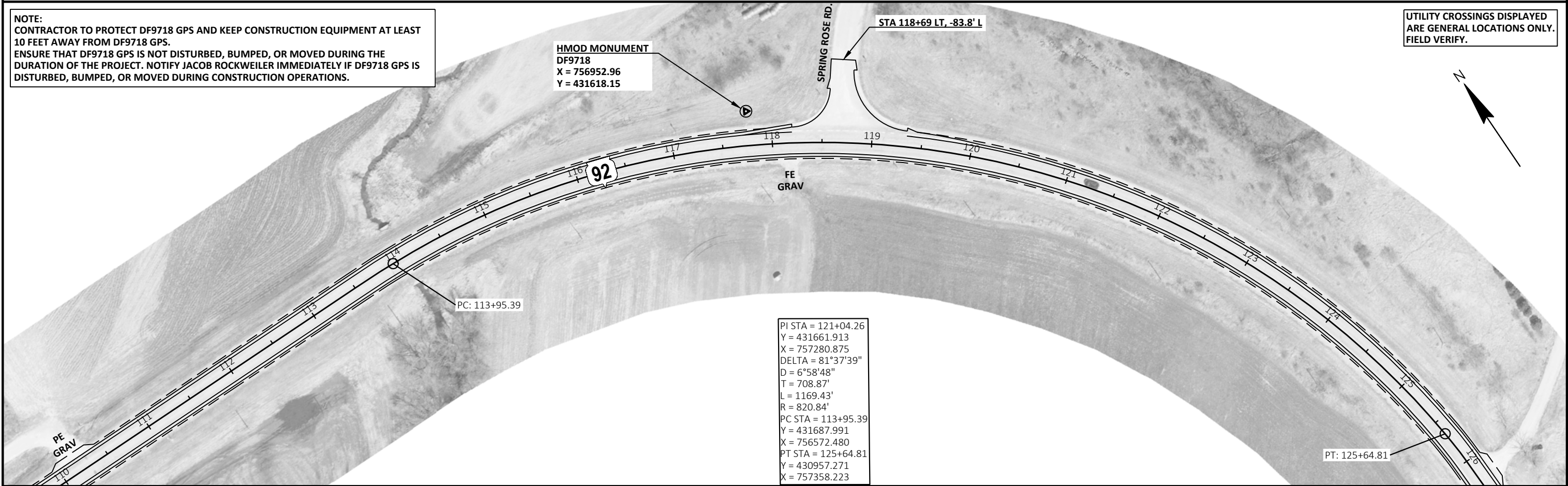


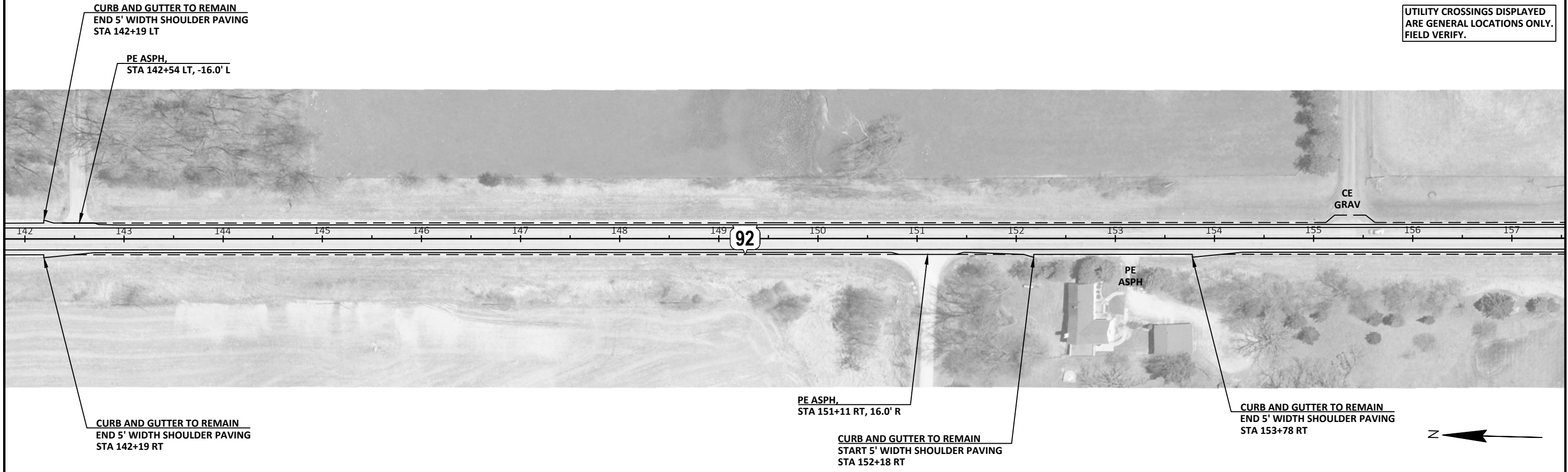
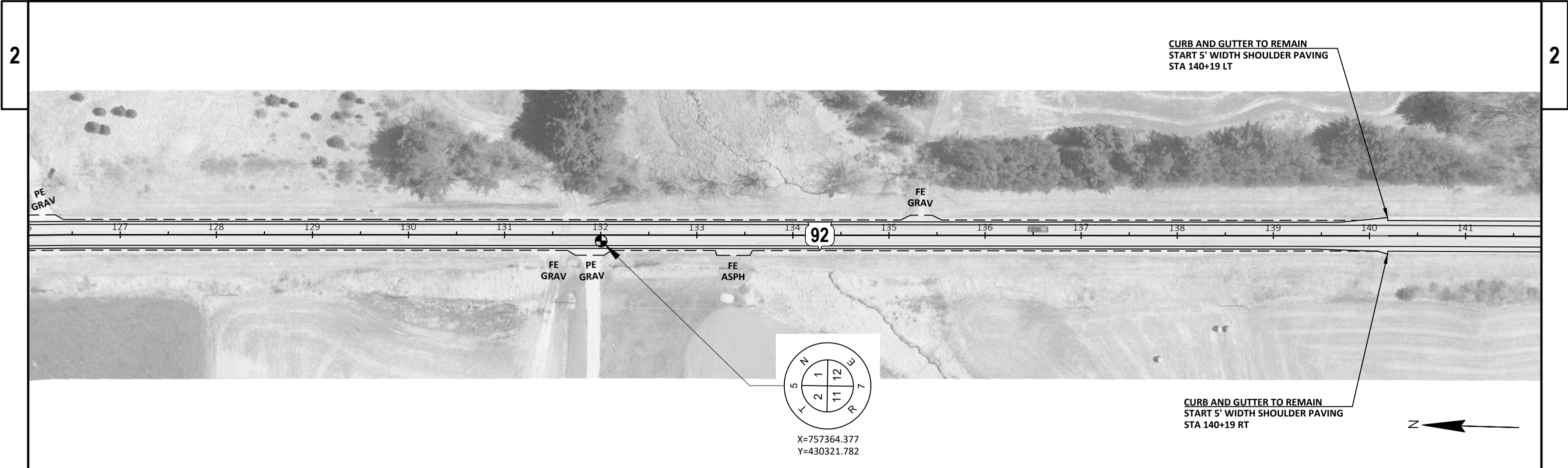
NOTE:
CONTRACTOR TO PROTECT DF9718 GPS AND KEEP CONSTRUCTION EQUIPMENT AT LEAST 10 FEET AWAY FROM DF9718 GPS.
ENSURE THAT DF9718 GPS IS NOT DISTURBED, BUMPED, OR MOVED DURING THE DURATION OF THE PROJECT. NOTIFY JACOB ROCKWEILER IMMEDIATELY IF DF9718 GPS IS DISTURBED, BUMPED, OR MOVED DURING CONSTRUCTION OPERATIONS.

HMOD MONUMENT
DF9718
X = 756952.96
Y = 431618.15

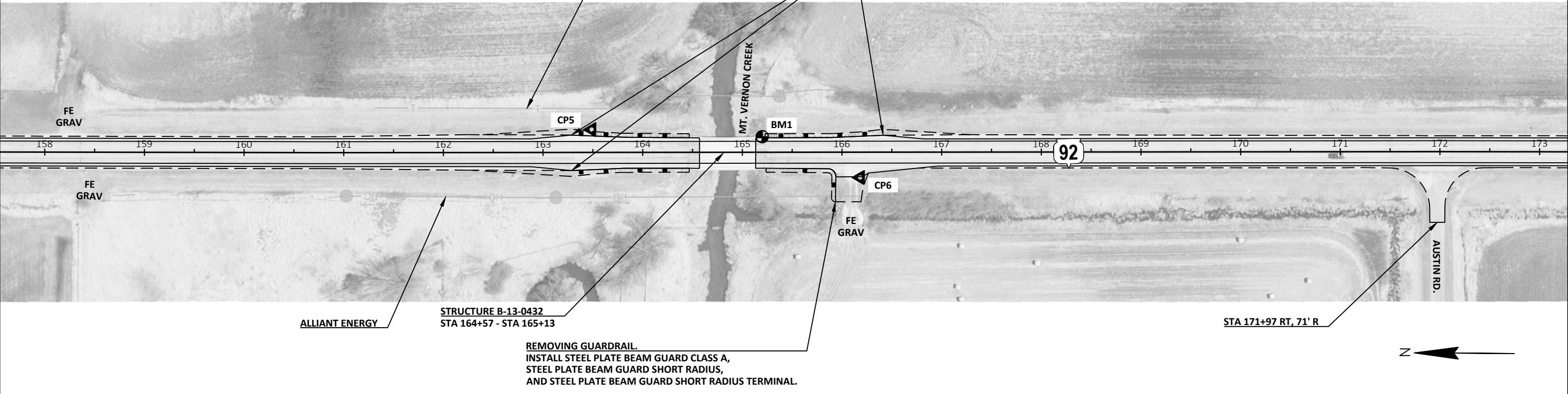
STA 118+69 LT, -83.8' L

UTILITY CROSSINGS DISPLAYED
ARE GENERAL LOCATIONS ONLY.
FIELD VERIFY.

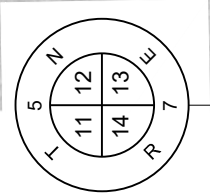
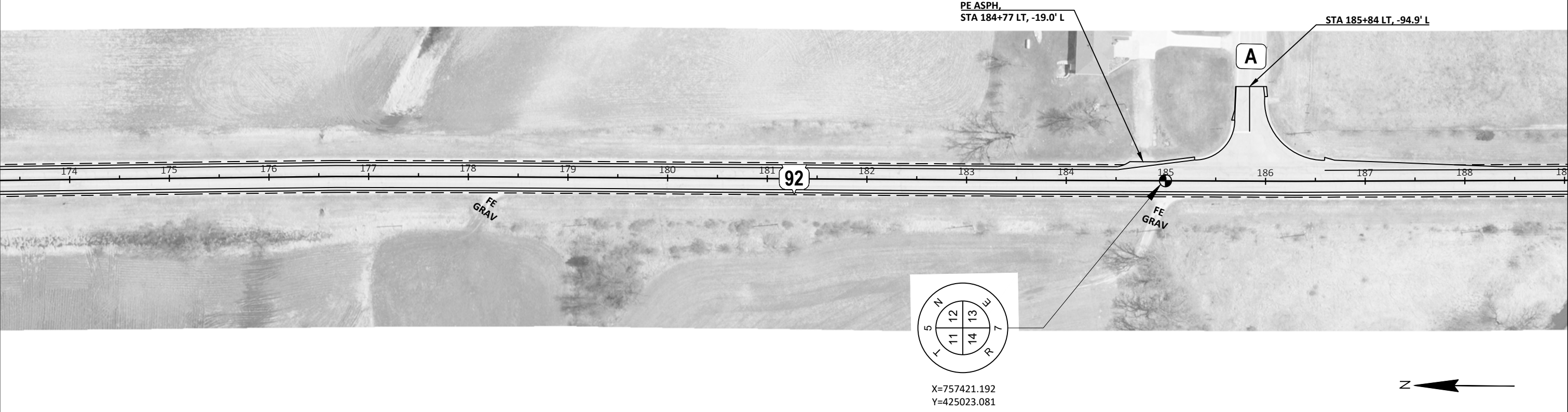




BENCHMARK & CONTROL POINT TABLE					
POINT NUMBER	STA	X-COORD	Y-COORD	DESCRIPTION	ELEV
BM1	165+20, 15.6' LT	757426.943	427002.808	ALUMINUM DISK	887.15
CP5	163+49, 23.0' LT	757431.940	427174.090	PK NAIL	884.26
CP6	166+18, 25.4' RT	757387.270	426903.980	PK NAIL	883.15

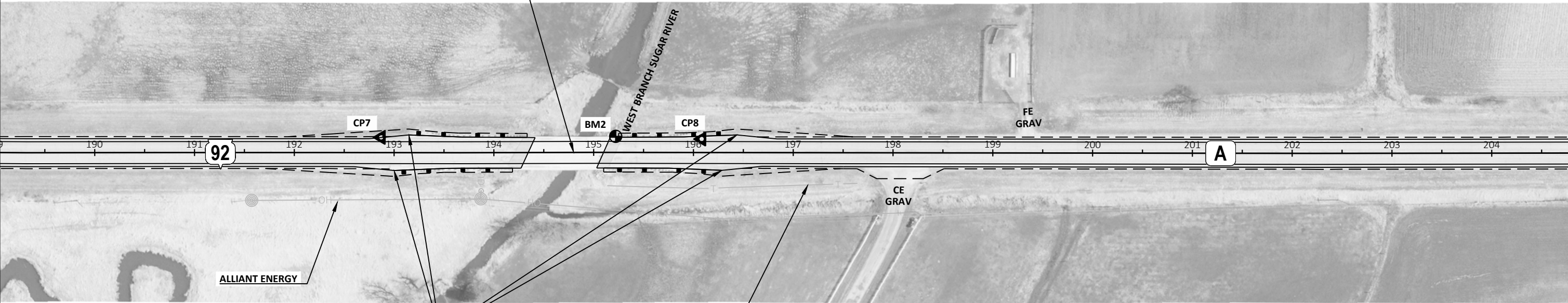


UTILITY CROSSINGS DISPLAYED
ARE GENERAL LOCATIONS ONLY.
FIELD VERIFY.



X=757421.192
Y=425023.081

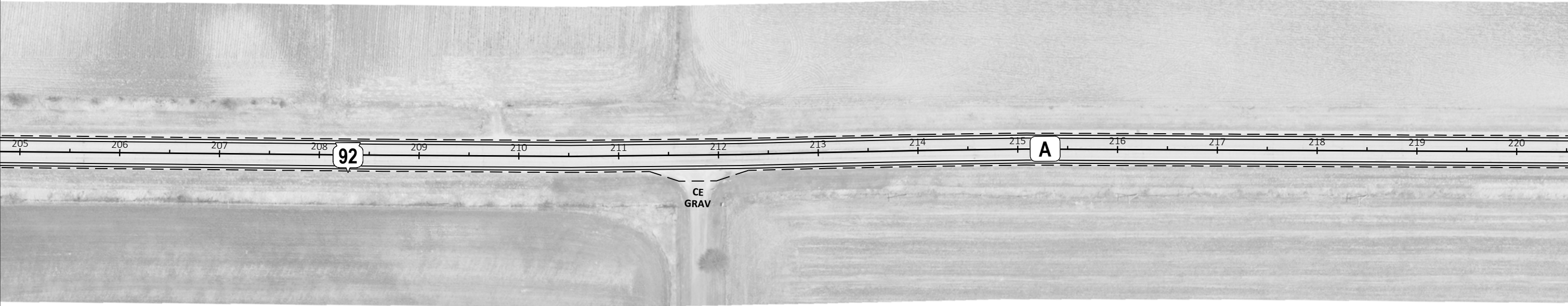
BENCHMARK & CONTROL POINT TABLE					
POINT NUMBER	STA	X-COORD	Y-COORD	DESCRIPTION	ELEV
BM2	195+22, 16.0' L	757441.411	424000.710	ALUMINUM DISK	884.50
CP7	192+87, 15.2' L	757438.890	424235.770	REBAR	880.52
CP8	196+08, 13.4' L	757439.200	423914.510	PK NAIL	881.14



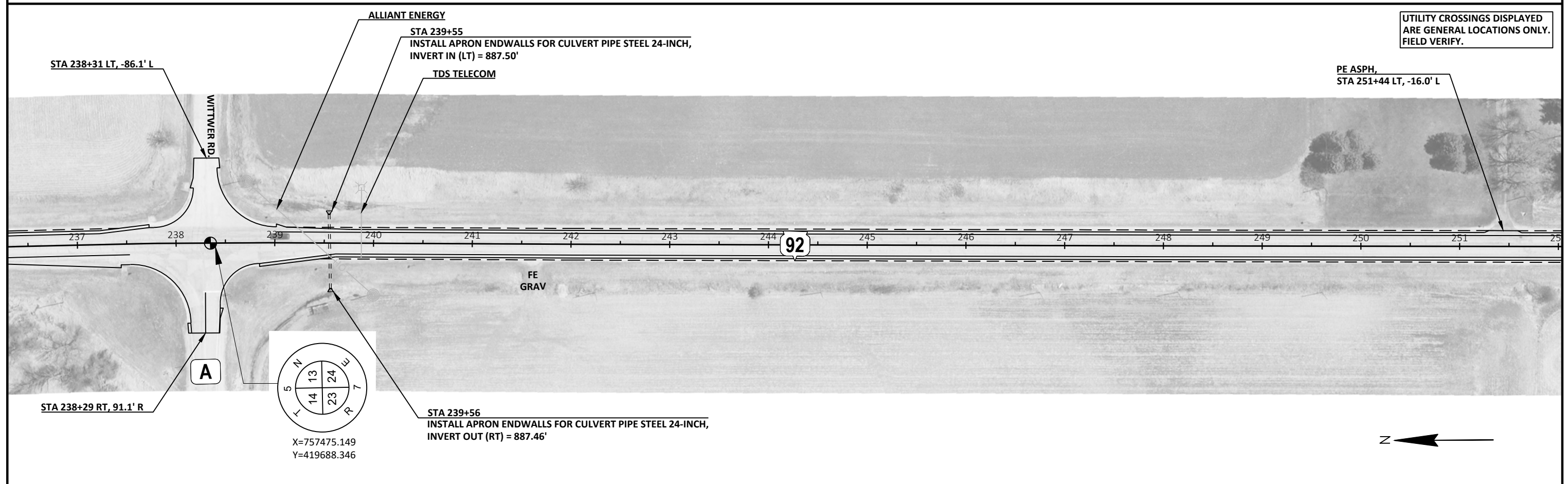
REMOVING GUARDRAIL,
INSTALL MGS GUARDRAIL 3,
MGS GUARDRAIL THRIE BEAM TRANSITION,
AND MGS GUARDRAIL TERMINAL EAT

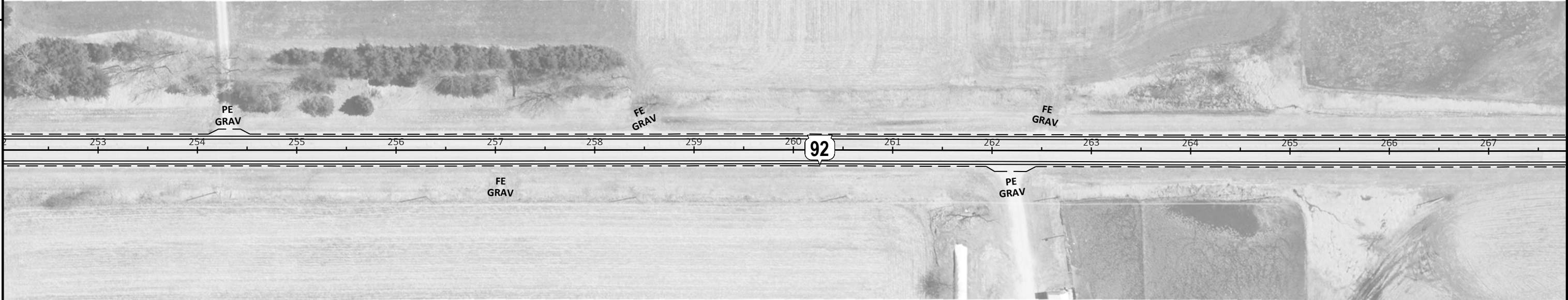
← Z

UTILITY CROSSINGS DISPLAYED
ARE GENERAL LOCATIONS ONLY.
FIELD VERIFY.



← Z

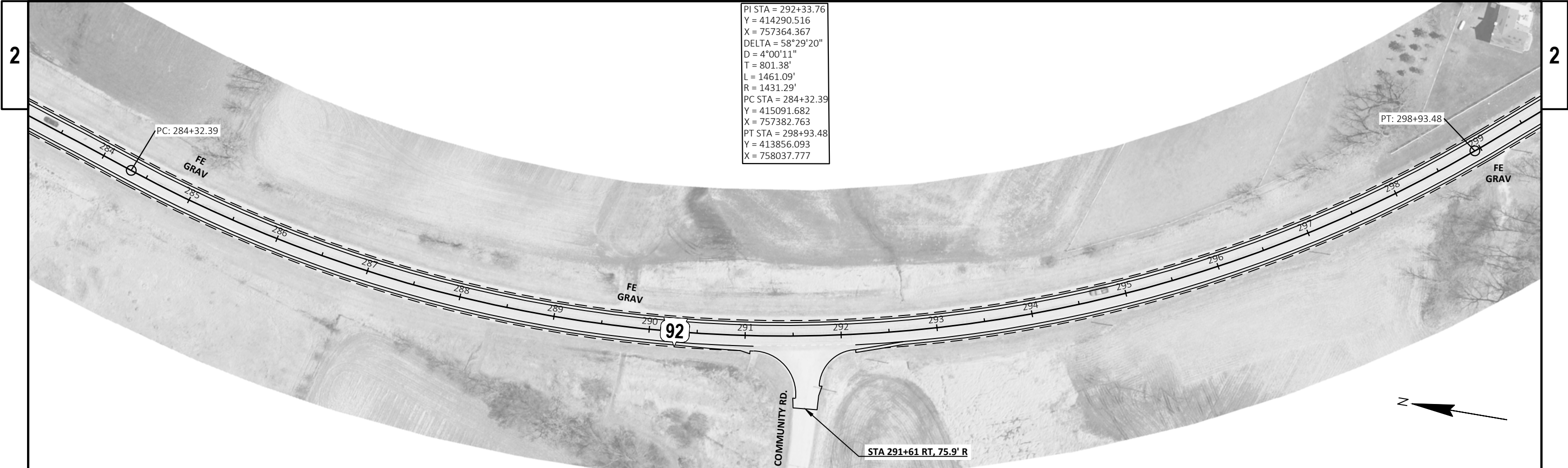




STA 282+40
REMOVING SMALL PIPE CULVERT
INSTALL CULVERT PIPE CORRUGATED STEEL 24-INCH,
64 LF @2.2%
INSTALL APRON ENDWALLS FOR CULVERT PIPE STEEL 24-INCH,
INVERT IN (RT) = 910.90'
INVERT OUT (LT) = 909.52'

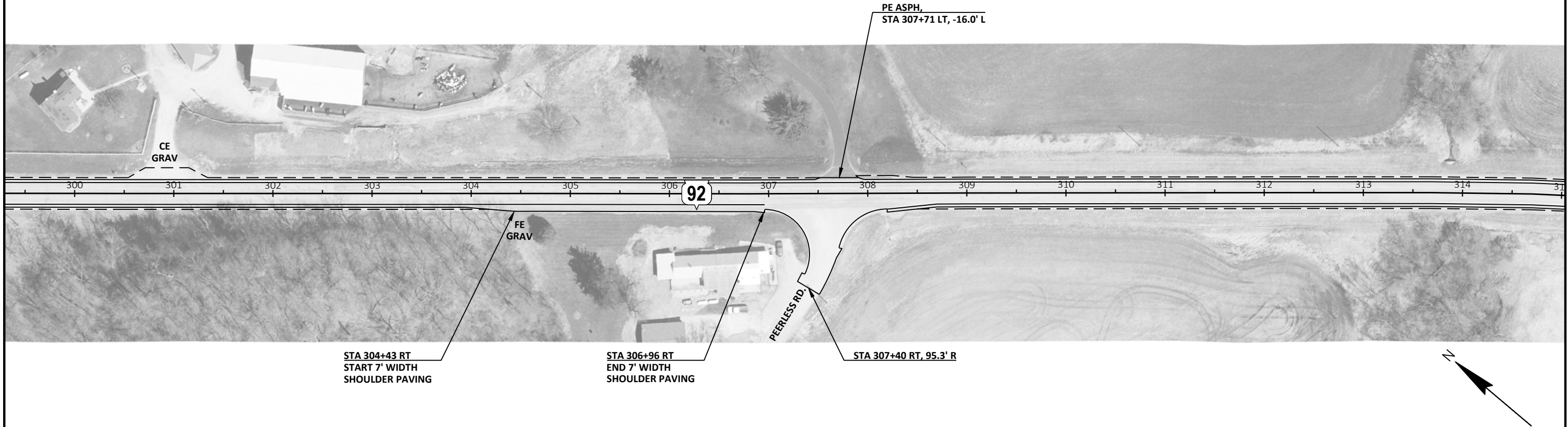
UTILITY CROSSINGS DISPLAYED
ARE GENERAL LOCATIONS ONLY.
FIELD VERIFY.





PI STA = 292+33.76
Y = 414290.516
X = 757364.367
DELTA = 58°29'20"
D = 4°00'11"
T = 801.38'
L = 1461.09'
R = 1431.29'
PC STA = 284+32.39
Y = 415091.682
X = 757382.763
PT STA = 298+93.48
Y = 413856.093
X = 758037.777

UTILITY CROSSINGS DISPLAYED
ARE GENERAL LOCATIONS ONLY.
FIELD VERIFY.



PROJECT NO: 5926-05-60	HWY: STH 92	COUNTY: DANE	PLAN DETAILS	SHEET 37	E
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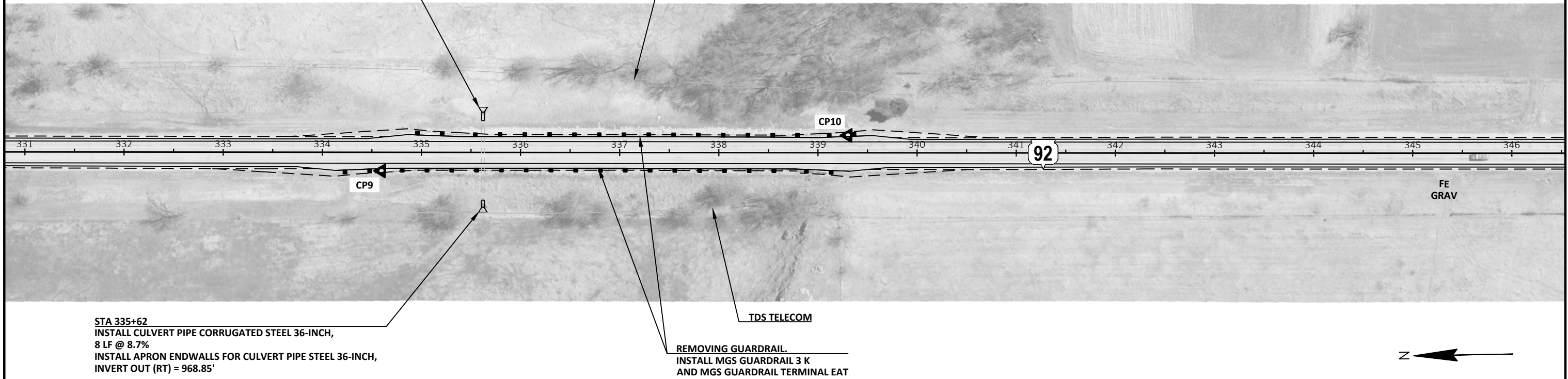
NOTE:
CONTRACTOR TO PROTECT DF9721 GPS AND KEEP CONSTRUCTION EQUIPMENT AT LEAST 10 FEET AWAY FROM DF9721 GPS.
ENSURE THAT DF9721 GPS IS NOT DISTURBED, BUMPED, OR MOVED DURING THE DURATION OF THE PROJECT. NOTIFY JACOB ROCKWEILER IMMEDIATELY IF DF9721 GPS IS DISTURBED, BUMPED, OR MOVED DURING CONSTRUCTION OPERATIONS.

PI STA = 322+48.92
Y = 412471.879
X = 759920.252
DELTA = 26°40'53"
D = 4°04'43"
T = 333.12'
L = 654.16'
R = 1404.74'
PC STA = 319+15.80
Y = 412728.497
X = 759707.847
PT STA = 325+69.95
Y = 412147.211
X = 759994.811

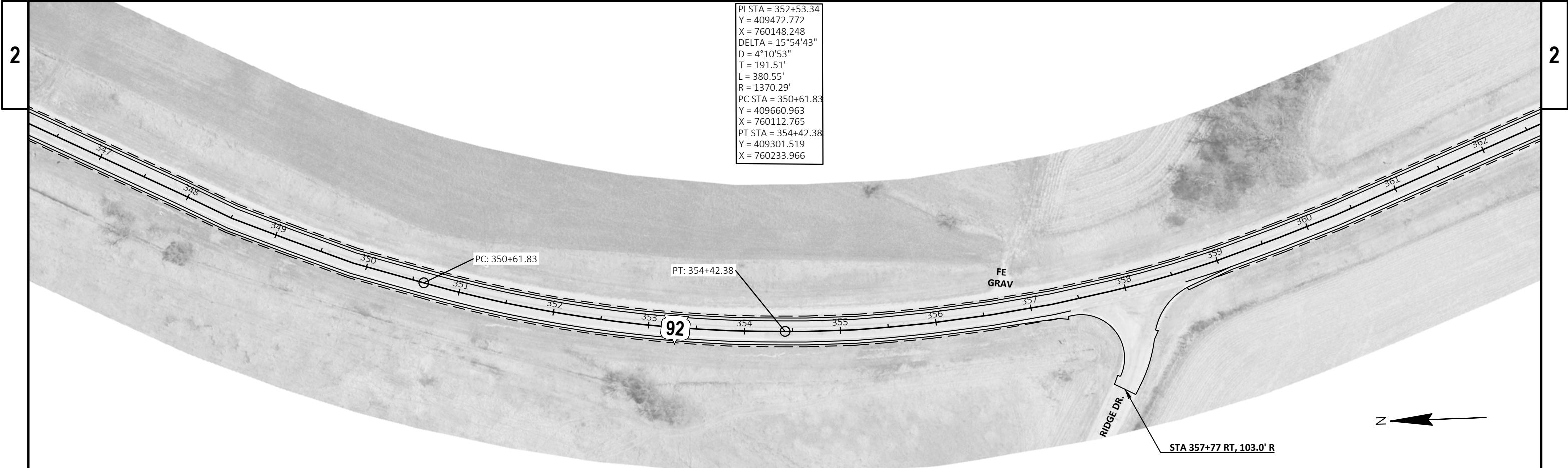
STA 335+62
INSTALL CULVERT PIPE CORRUGATED STEEL 36-INCH,
8 LF @ 8.7%
INSTALL APRON ENDWALLS FOR CULVERT PIPE STEEL 36-INCH,
INVERT IN (LT) = 977.22'

CONTROL POINT TABLE					
POINT NUMBER	STA	X-COORD	Y-COORD	DESCRIPTION	ELEV
CP9	334+59, 18.7' RT	760030.400	411260.100	PK NAIL	982.54
CP10	339+30, 17.5' LT	760078.580	410790.640	PK NAIL	1020.47

UTILITY CROSSINGS DISPLAYED
ARE GENERAL LOCATIONS ONLY.
FIELD VERIFY.



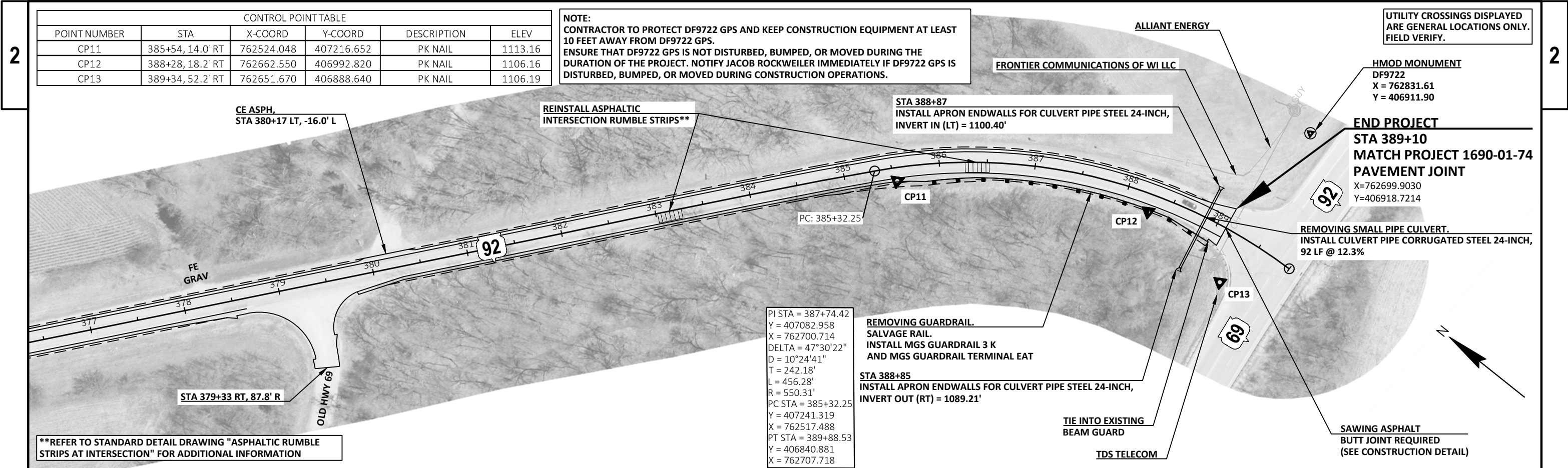
STA 335+62
INSTALL CULVERT PIPE CORRUGATED STEEL 36-INCH,
8 LF @ 8.7%
INSTALL APRON ENDWALLS FOR CULVERT PIPE STEEL 36-INCH,
INVERT OUT (RT) = 968.85'

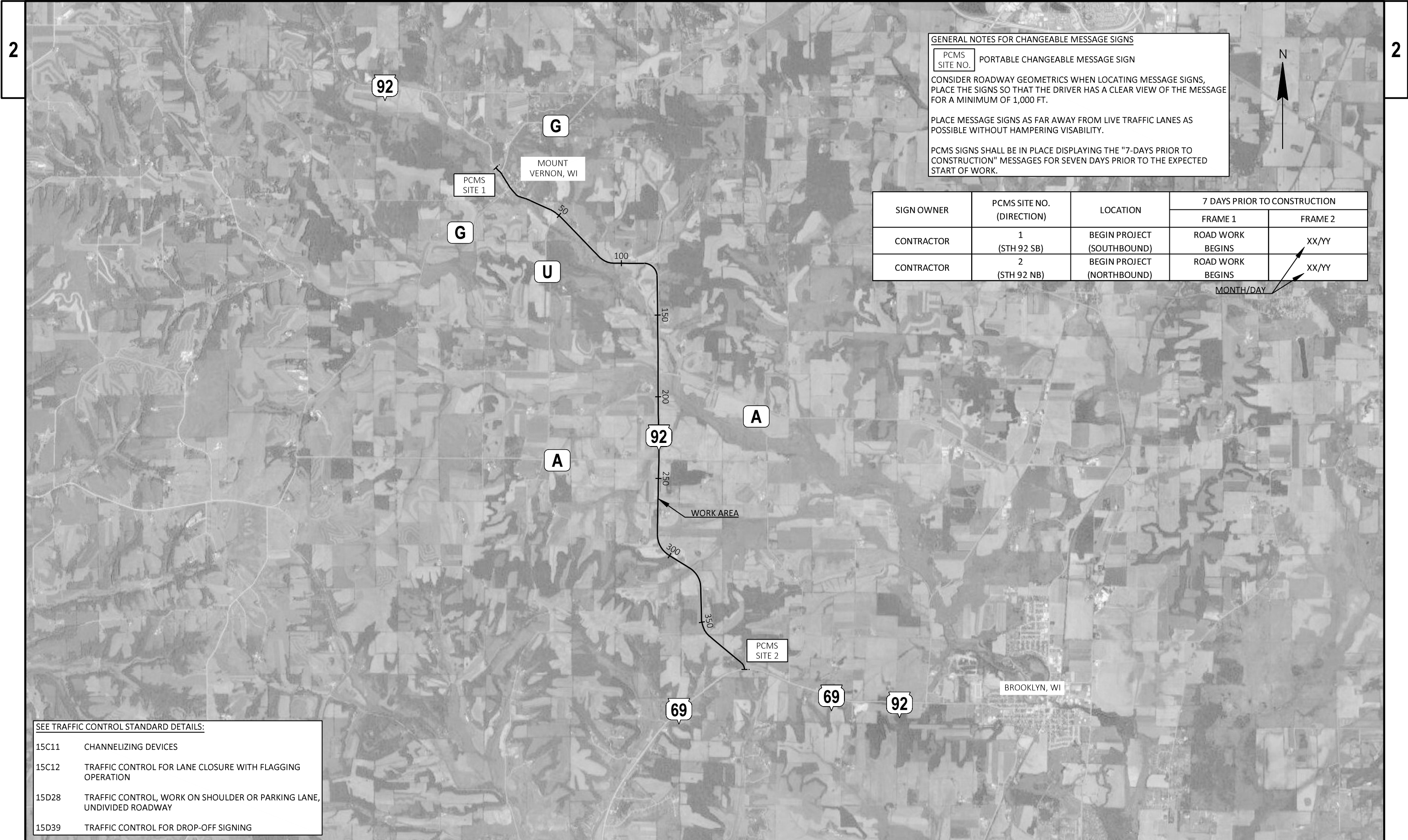


**REFER TO STANDARD DETAIL DRAWING "ASPHALTIC RUMBLE STRIPS AT INTERSECTION" FOR ADDITIONAL INFORMATION

UTILITY CROSSINGS DISPLAYED ARE GENERAL LOCATIONS ONLY. FIELD VERIFY.







GENERAL NOTES FOR CHANGEABLE MESSAGE SIGNS

PCMS SITE NO. PORTABLE CHANGEABLE MESSAGE SIGN

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING MESSAGE SIGNS, PLACE THE SIGNS SO THAT THE DRIVER HAS A CLEAR VIEW OF THE MESSAGE FOR A MINIMUM OF 1,000 FT.

PLACE MESSAGE SIGNS AS FAR AWAY FROM LIVE TRAFFIC LANES AS POSSIBLE WITHOUT HAMPERING VISABILITY.

PCMS SIGNS SHALL BE IN PLACE DISPLAYING THE "7-DAYS PRIOR TO CONSTRUCTION" MESSAGES FOR SEVEN DAYS PRIOR TO THE EXPECTED START OF WORK.

SIGN OWNER	PCMS SITE NO. (DIRECTION)	LOCATION	7 DAYS PRIOR TO CONSTRUCTION	
			FRAME 1	FRAME 2
CONTRACTOR	1 (STH 92 SB)	BEGIN PROJECT (SOUTHBOUND)	ROAD WORK BEGINS	XX/YY
CONTRACTOR	2 (STH 92 NB)	BEGIN PROJECT (NORTHBOUND)	ROAD WORK BEGINS	XX/YY

MONTH/DAY

SEE TRAFFIC CONTROL STANDARD DETAILS:

15C11	CHANNELIZING DEVICES
15C12	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15D28	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D39	TRAFFIC CONTROL FOR DROP-OFF SIGNING



SIGN SHALL BE IN PLACE AT THE SOUTH LEG OF THE STH 78/STH 92 INTERSECTION THROUGHOUT THE DURATION OF THE CLOSURE



GENERAL NOTES FOR CHANGEABLE MESSAGE SIGNS

PCMS SITE NO. PORTABLE CHANGEABLE MESSAGE SIGN

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING MESSAGE SIGNS, PLACE THE SIGNS SO THAT THE DRIVER HAS A CLEAR VIEW OF THE MESSAGE FOR A MINIMUM OF 1,000 FT.

PLACE MESSAGE SIGNS AS FAR AWAY FROM LIVE TRAFFIC LANES AS POSSIBLE WITHOUT HAMPERING VISABILITY.

PCMS SIGNS SHALL BE IN PLACE DISPLAYING THE "7-DAYS PRIOR TO CLOSURE" MESSAGES FOR SEVEN DAYS PRIOR TO THE EXPECTED START OF WORK.

PCMS SIGNS SHALL BE IN PLACE DISPLAYING THE "DURING CLOSURE" MESSAGES THROUGHOUT THE DURATION OF THE CLOSURE.

SIGN OWNER	PCMS SITE NO. (DIRECTION)	LOCATION	7 DAYS PRIOR TO CLOSURE		DURING CLOSURE	
			FRAME 1	FRAME 2	FRAME 1	FRAME 2
CONTRACTOR	1 (STH 92 EB)	BEGIN PROJECT (EASTBOUND)	WIS 92 TO CLOSE	XX/YY	WIS 92 CLOSED	USE ALTERNATE ROUTE

MONTH/DAY

LEGEND

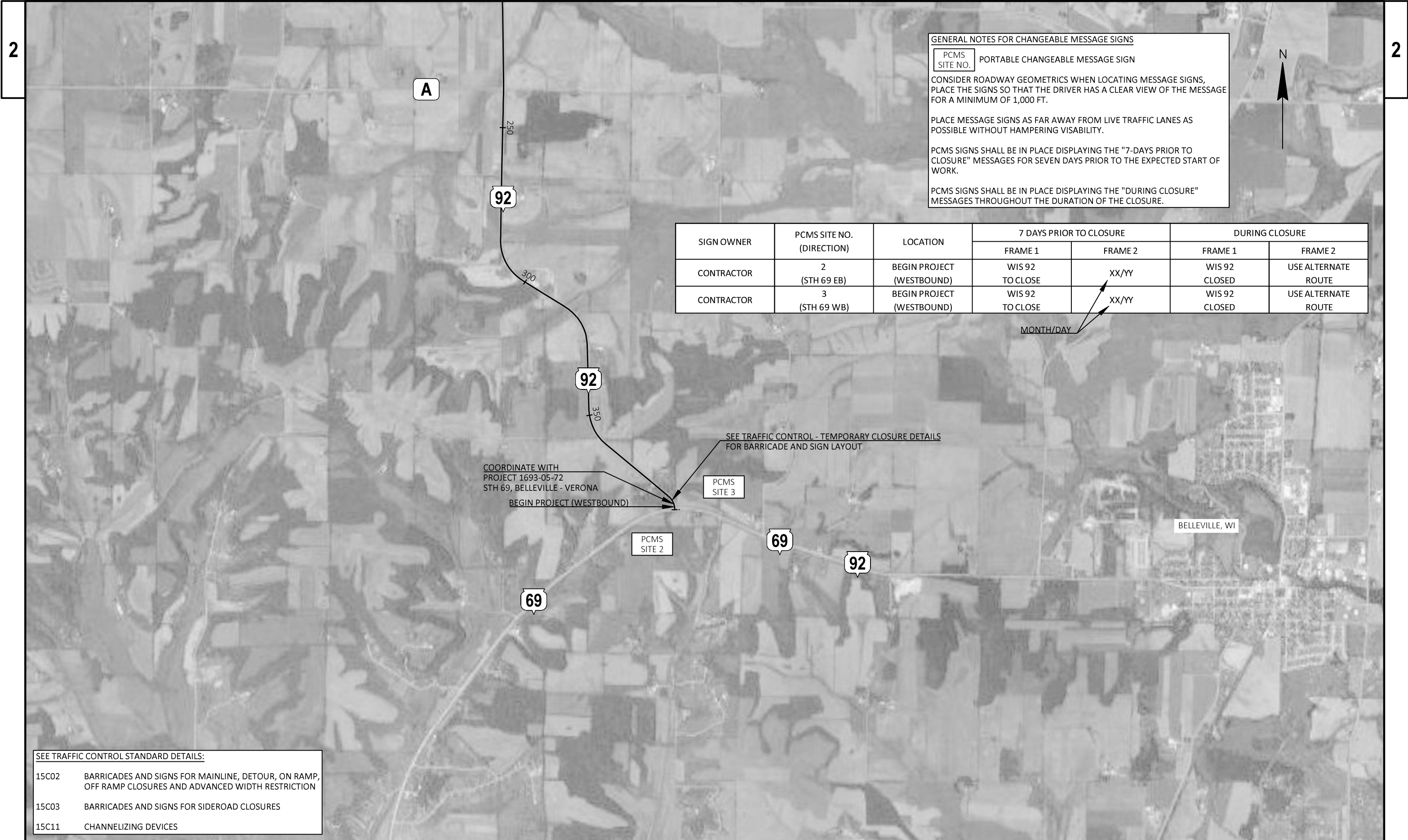
TYPE II / III BARRICADE WITH ATTACHED SIGN

SEE TRAFFIC CONTROL STANDARD DETAILS:

15C02 BARRICADES AND SIGNS FOR MAINLINE, DETOUR, ON RAMP, OFF RAMP CLOSURES AND ADVANCED WIDTH RESTRICTION

15C03 BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

15C11 CHANNELIZING DEVICES



GENERAL NOTES FOR CHANGEABLE MESSAGE SIGNS

PCMS SITE NO. PORTABLE CHANGEABLE MESSAGE SIGN

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING MESSAGE SIGNS, PLACE THE SIGNS SO THAT THE DRIVER HAS A CLEAR VIEW OF THE MESSAGE FOR A MINIMUM OF 1,000 FT.

PLACE MESSAGE SIGNS AS FAR AWAY FROM LIVE TRAFFIC LANES AS POSSIBLE WITHOUT HAMPERING VISABILITY.

PCMS SIGNS SHALL BE IN PLACE DISPLAYING THE "7-DAYS PRIOR TO CLOSURE" MESSAGES FOR SEVEN DAYS PRIOR TO THE EXPECTED START OF WORK.

PCMS SIGNS SHALL BE IN PLACE DISPLAYING THE "DURING CLOSURE" MESSAGES THROUGHOUT THE DURATION OF THE CLOSURE.

SIGN OWNER	PCMS SITE NO. (DIRECTION)	LOCATION	7 DAYS PRIOR TO CLOSURE		DURING CLOSURE	
			FRAME 1	FRAME 2	FRAME 1	FRAME 2
CONTRACTOR	2 (STH 69 EB)	BEGIN PROJECT (WESTBOUND)	WIS 92 TO CLOSE	XX/YY	WIS 92 CLOSED	USE ALTERNATE ROUTE
CONTRACTOR	3 (STH 69 WB)	BEGIN PROJECT (WESTBOUND)	WIS 92 TO CLOSE	XX/YY	WIS 92 CLOSED	USE ALTERNATE ROUTE

MONTH/DAY

COORDINATE WITH
PROJECT 1693-05-72
STH 69, BELLEVILLE - VERONA
BEGIN PROJECT (WESTBOUND)

SEE TRAFFIC CONTROL - TEMPORARY CLOSURE DETAILS
FOR BARRICADE AND SIGN LAYOUT

PCMS
SITE 3

PCMS
SITE 2

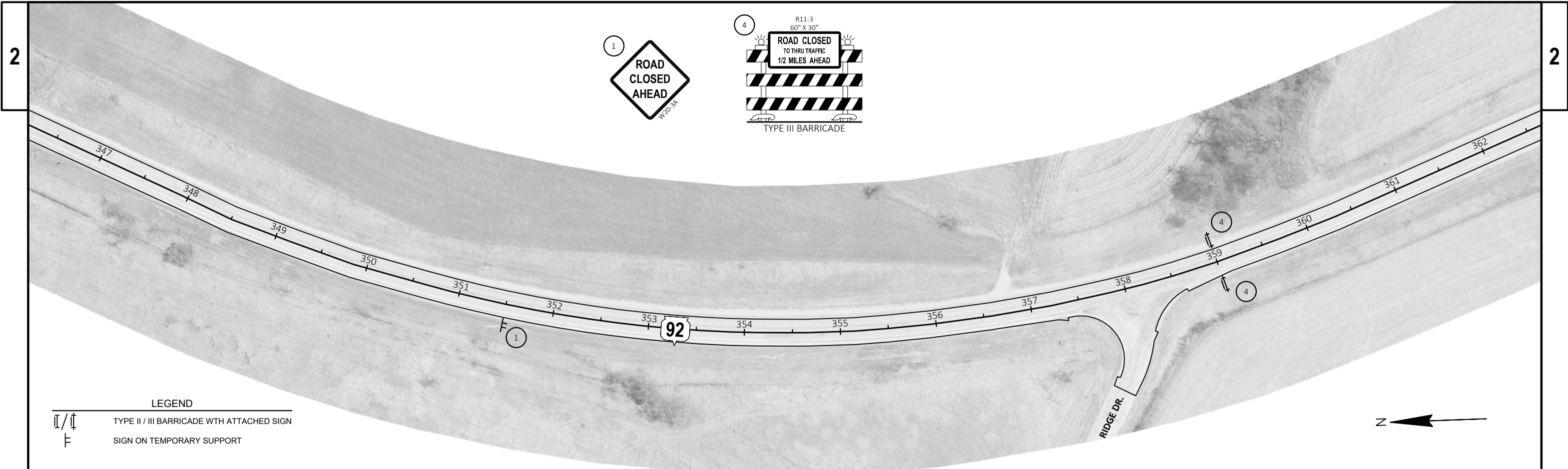
BELLEVILLE, WI

SEE TRAFFIC CONTROL STANDARD DETAILS:

15C02 BARRICADES AND SIGNS FOR MAINLINE, DETOUR, ON RAMP, OFF RAMP CLOSURES AND ADVANCED WIDTH RESTRICTION

15C03 BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

15C11 CHANNELIZING DEVICES



LEGEND

II / II TYPE II / III BARRICADE WTH ATTACHED SIGN

F SIGN ON TEMPORARY SUPPORT



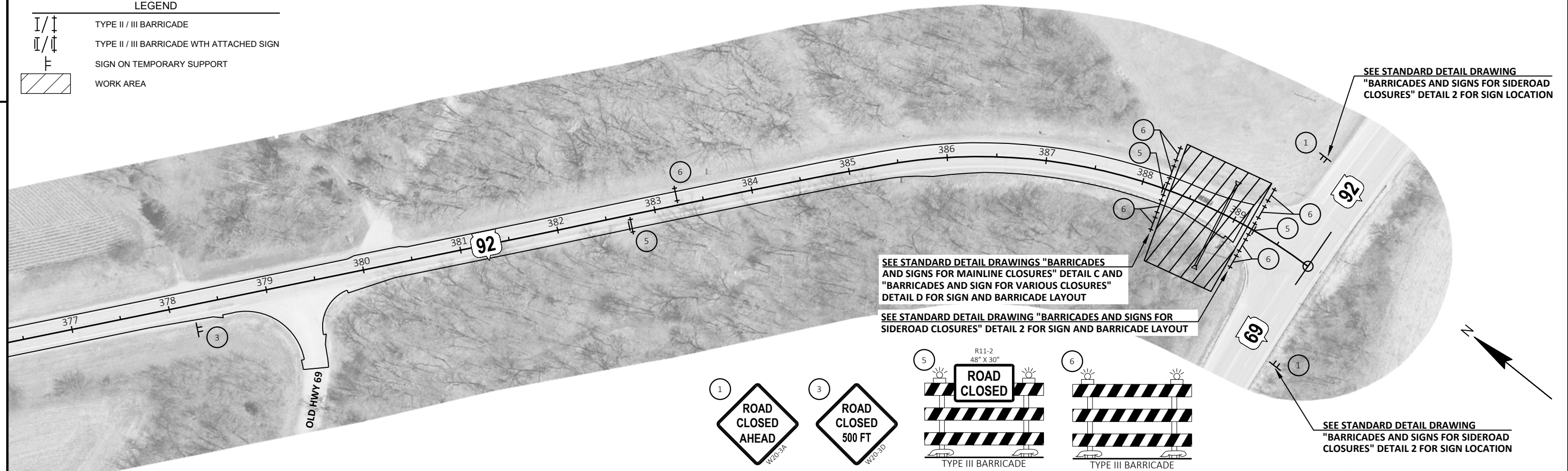
SEE STANDARD DETAIL DRAWING "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" DETAIL C FOR SIGN LAYOUT

LEGEND

F SIGN ON TEMPORARY SUPPORT



	TYPE I / III BARRICADE
	TYPE II / III BARRICADE WITH ATTACHED SIGN
	SIGN ON TEMPORARY SUPPORT
	WORK AREA



Estimate Of Quantities

5926-05-60

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	8.000	8.000
0004	201.0205	Grubbing	STA	8.000	8.000
0006	203.0100	Removing Small Pipe Culverts	EACH	2.000	2.000
0008	204.0115	Removing Asphaltic Surface Butt Joints	SY	800.000	800.000
0010	204.0120	Removing Asphaltic Surface Milling	SY	129,000.000	129,000.000
0012	204.0165	Removing Guardrail	LF	2,253.000	2,253.000
0014	205.0100	Excavation Common	CY	700.000	700.000
0016	209.2100	Backfill Granular Grade 2	CY	700.000	700.000
0018	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 5926-05-60	EACH	1.000	1.000
0020	213.0100	Finishing Roadway (project) 01. 5926-05-60	EACH	1.000	1.000
0022	305.0110	Base Aggregate Dense 3/4-Inch	TON	1,950.000	1,950.000
0024	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	610.000	610.000
0026	455.0605	Tack Coat	GAL	9,027.000	9,027.000
0028	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000
0030	460.2000	Incentive Density HMA Pavement	DOL	9,250.000	9,250.000
0032	460.2010	Incentive Air Voids HMA Pavement	DOL	14,450.000	14,450.000
0034	460.5224	HMA Pavement 4 LT 58-28 S	TON	14,450.000	14,450.000
0036	465.0105	Asphaltic Surface	TON	845.000	845.000
0038	465.0450	Asphaltic Intersection Rumble Strips	SY	66.000	66.000
0040	521.1024	Apron Endwalls for Culvert Pipe Steel 24-Inch	EACH	6.000	6.000
0042	521.1036	Apron Endwalls for Culvert Pipe Steel 36-Inch	EACH	2.000	2.000
0044	521.3124	Culvert Pipe Corrugated Steel 24-Inch	LF	156.000	156.000
0046	521.3136	Culvert Pipe Corrugated Steel 36-Inch	LF	16.000	16.000
0048	614.0010	Barrier System Grading Shaping Finishing	EACH	13.000	13.000
0050	614.0305	Steel Plate Beam Guard Class A	LF	50.000	50.000
0052	614.0345	Steel Plate Beam Guard Short Radius	LF	25.000	25.000
0054	614.0360	Steel Plate Beam Guard Temporary	LF	75.000	75.000
0056	614.0370	Steel Plate Beam Guard Energy Absorbing Terminal	EACH	2.000	2.000
0058	614.0390	Steel Plate Beam Guard Short Radius Terminal	EACH	1.000	1.000
0060	614.0950	Replacing Guardrail Posts and Blocks	EACH	14.000	14.000
0062	614.0952	Replacing Guardrail Reflectors	EACH	10.000	10.000
0064	614.2300	MGS Guardrail 3	LF	175.000	175.000
0066	614.2330	MGS Guardrail 3 K	LF	1,025.000	1,025.000
0068	614.2500	MGS Thrie Beam Transition	LF	276.000	276.000
0070	614.2610	MGS Guardrail Terminal EAT	EACH	12.000	12.000
0072	618.0100	Maintenance And Repair of Haul Roads (project) 01. 5926-05-60	EACH	1.000	1.000
0074	619.1000	Mobilization	EACH	1.000	1.000
0076	624.0100	Water	MGAL	26.000	26.000
0078	625.0500	Salvaged Topsoil	SY	330.000	330.000
0080	628.1504	Silt Fence	LF	3,100.000	3,100.000
0082	628.1520	Silt Fence Maintenance	LF	3,100.000	3,100.000
0084	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000
0086	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0088	628.2004	Erosion Mat Class I Type B	SY	330.000	330.000
0090	628.7015	Inlet Protection Type C	EACH	1.000	1.000
0092	628.7504	Temporary Ditch Checks	LF	25.000	25.000
0094	628.7555	Culvert Pipe Checks	EACH	28.000	28.000
0096	629.0210	Fertilizer Type B	CWT	1.000	1.000
0098	630.0130	Seeding Mixture No. 30	LB	8.000	8.000

Estimate Of Quantities

5926-05-60

Line	Item	Item Description	Unit	Total	Qty
0100	630.0500	Seed Water	MGAL	8.000	8.000
0102	642.5001	Field Office Type B	EACH	1.000	1.000
0104	643.0300	Traffic Control Drums	DAY	398.000	398.000
0106	643.0420	Traffic Control Barricades Type III	DAY	45.000	45.000
0108	643.0705	Traffic Control Warning Lights Type A	DAY	66.000	66.000
0110	643.0900	Traffic Control Signs	DAY	103.000	103.000
0112	643.1050	Traffic Control Signs PCMS	DAY	44.000	44.000
0114	643.3105	Temporary Marking Line Paint 4-Inch	LF	52,933.000	52,933.000
0116	643.5000	Traffic Control	EACH	1.000	1.000
0118	646.1020	Marking Line Epoxy 4-Inch	LF	166.000	166.000
0120	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	75,606.000	75,606.000
0122	646.4520	Marking Line Same Day Epoxy 4-Inch	LF	55,994.000	55,994.000
0124	646.6120	Marking Stop Line Epoxy 18-Inch	LF	114.000	114.000
0126	650.6000	Construction Staking Pipe Culverts	EACH	6.000	6.000
0128	650.8000	Construction Staking Resurfacing Reference	LF	38,623.000	38,623.000
0130	650.9911	Construction Staking Supplemental Control (project) 01. 5926-05-60	EACH	1.000	1.000
0132	650.9920	Construction Staking Slope Stakes	LF	180.000	180.000
0134	690.0150	Sawing Asphalt	LF	665.000	665.000
0136	740.0440	Incentive IRI Ride	DOL	29,160.000	29,160.000
0138	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	325.000	325.000
0140	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	250.000	250.000
0142	SPV.0060	Special 01. Landmark Reference Monuments	EACH	3.000	3.000
0144	SPV.0180	Special 01. Removing Distressed Pavement Milling	SY	6,450.000	6,450.000

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CLEARING AND GRUBBING							
				201.0105 CLEARING STA	201.0205 GRUBBING STA		
CATEGORY	STATION	TO	STATION	LOCATION		REMARKS	
				STH 92			
0010	335+00	-	340+00		5	5	RT & LT
	386+00	-	389+00		3	3	RT
				TOTAL 0010	8	8	

EARTHWORK							
				205.0100 EXCAVATION COMMON CY	209.2100 BACKFILL GRANULAR GRADE 2 CY		
CATEGORY	STATION	TO	STATION	LOCATION		REMARKS	
				STH 92			
0010	2+87	-	389+10		400	400	CPCS 24-INCH
	2+87	-	389+10		300	300	CPCS 24-INCH
				TOTAL 0010	700	700	

PREPARE FOUNDATION							
				211.0101 PREPARE FOUNDATION FOR ASPHALTIC PAVING (PROJECT) (01. 5926-05-60) EACH			
CATEGORY	STATION	TO	STATION	LOCATION		REMARKS	
0010	2+87	-	389+10	STH 92	1		
				TOTAL 0010	1		

FINISHING ROADWAY							
				213.0100 FINISHING ROADWAY (PROJECT) (01. 5926-05-60) EACH			
CATEGORY	STATION	TO	STATION	LOCATION		REMARKS	
0010	2+87	-	389+10	STH 92	1		
				TOTAL 0010	1		

PAVEMENT REMOVAL							
				204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY			
CATEGORY	STATION	LOCATION			REMARKS		
				STH 92			
0010	2+87			78	BEGINNING OF PROJECT		
	4+23	LT		18	E CTH G		
	15+13	LT		17	DAVIS ST		
	15+44	RT		23	W CTH G		
	18+71	RT		12	JACKSON ST		
	37+21	LT		14	W ERFURTH RD		
	44+79	LT		14	N CTH U		
	45+52	RT		17	S CTH U		
	61+95	LT		12	E ERFURTH RD		
	118+69	LT		14	SPRING ROSE RD		
	164+57			83	MT. VERNON CREEK BRIDGE		
	165+13			83	MT. VERNON CREEK BRIDGE		
	185+84	LT		17	E CTH A		
	194+34			83	W BRANCH SUGAR RIVER BRIDGE		
	195+10			83	W BRANCH SUGAR RIVER BRIDGE		
	238+29	RT		17	W CTH A		
	238+31	LT		14	WITTWER RD		
	291+61	RT		14	COMMUNITY RD		
	307+40	RT		14	PEERLESS RD		
	318+17	LT		15	JIM TOWN RD		
	357+77	RT		14	RIDGE RD		
	379+33	RT		14	OLD HWY 69		
	389+10			121	END OF PROJECT		
				TOTAL 0010	800		

PAVEMENT REMOVAL							
				204.0120 REMOVING ASPHALTIC SURFACE MILLING SY			
CATEGORY	STATION	TO	STATION	LOCATION		REMARKS	
				STH 92			
0010	2+87	-	100+00		34521	2" THICKNESS	
	100+00	-	164+57		20729	MILLING	
	165+13	-	194+34		9760		
	195+10	-	200+00		1591		
	200+00	-	300+00		32396		
	300+00	-	389+10		29,958		
				TOTAL 0010	129,000		

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BASE COURSE ITEMS						
CATEGORY	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	REMARKS
0010	2+87	-	6+86	STH 92	10	
	4+51			RT	3	DWY
	5+59			RT	2	DWY
	7+06	-	8+16	RT	3	
	10+38	-	11+97	RT	4	
	10+54			RT	3	DWY
	16+29	-	18+57	RT	3	
	18+90	-	43+08	RT	100	
	30+14	-	34+61	LT	11	
	37+60	-	44+11	LT	16	
	45+73	-	61+55	LT	40	
	46+55	-	89+40	RT	111	
	63+00			LT	2	DWY
	63+22	-	73+43	LT	26	
	73+76	-	105+24	LT	14	
	83+96			RT	3	DWY
	89+70	-	140+09	RT	102	
	105+92	-	117+94	LT	31	
	108+37			LT	2	DWY
	110+18			LT	3	DWY
	119+44	-	139+89	LT	53	
	126+19			LT	2	DWY
	131+89			RT	2	DWY
	133+38			RT	2	DWY
	135+34			LT	2	DWY
	142+49	-	150+82	RT	21	
	142+70	-	164+47	LT	67	DWY
	151+39	-	152+08	RT	1	
	154+08	-	164+47	RT	37	
	155+37			LT	4	DWY
	165+13	-	194+19	RT	85	
	165+23	-	184+58	LT	65	
	166+08			RT	13	DWY
	171+97			RT	20	DWY
	187+89	-	194+33	LT	25	
	195+10	-	236+07	RT	114	
	195+25	-	237+43	LT	118	
	198+07			RT	9	DWY
	211+79			RT	9	DWY
	239+11	-	251+30	LT	31	
	239+46	-	290+96	RT	133	
	251+59	-	307+52	LT	145	
	254+32			LT	2	DWY
	262+19			RT	3	DWY
	271+58			LT	9	DWY
	292+44	-	304+18	RT	30	
	300+93			LT	8	DWY
	307+88	-	317+36	LT	25	
	308+50	-	357+26	RT	141	
	318+94	-	379+94	LT	172	
	328+53			RT	3	DWY
	328+91			LT	4	DWY
	358+93	-	378+42	RT	50	
	380+12	-	389+02	RT	36	
	380+40	-	388+82	LT	22	
TOTAL 0010					1,950	

CULVERT BACKFILL							
CATEGORY	STATION	TO	STATION	LOCATION	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	465.0105 ASPHALTIC SURFACE TON	REMARKS
0010	281+82	-	282+98	STH 92	343	81	CPCS 24-INCH
	388+29	-	389+05		264	31	CPCS 24-INCH
TOTAL 0010					610	112	

HMA PAVEMENT ITEMS							
CATEGORY	STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	460.5224 HMA PAVEMENT 4 LT 58-28 S TON	REMARKS
0010	2+87	-	100+00	STH 92	2,416	3,866	
	100+00	-	164+57		1,451	2,322	
	165+13	-	194+34		683	1,093	
	195+10	-	200+00		111	178	
	200+00	-	300+00		2268	3628	
	300+00	-	389+10		2097	3355	
TOTAL 0010					9,027	14,450	

HMA PAVEMENT PWL			
CATEGORY	LOCATION	460.0105.S HMA PERCENT WITHIN LIMITS (PWL) TEST STRIP VOLUMETRICS EACH	REMARKS
0010	PROJECT - STH 92	1	4 LT 58-28 S
TOTAL 0010		1	

RUMBLE STRIPS						
CATEGORY	STATION	TO	STATION	LOCATION	465.0450 ASPHALTIC INTERSECTION RUMBLE STRIPS SY	REMARKS
0010		-	389+10	STH 92	66	
TOTAL 0010					66	

CULVERT REMOVAL				
CATEGORY	STATION	LOCATION	203.0100 REMOVING SMALL PIPE CULVERTS EACH	REMARKS
0010	282+40	STH 92	1	64 LF OF CORRUGATED STEEL 24-INCH
	388+86		1	92 LF OF CORRUGATED STEEL 24-INCH
TOTAL 0010			2	

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PWL MIXTURE USE TABLE

LOCATION	STATION FROM - TO	MIXTURE USE:	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	QUALITY MANAGEMENT PROGRAM TO BE USED FOR:	
							MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
2 X 11 FOOT DRIVING LANES	2+87 - 164+57	UPPER LAYER	MILLED EXISTING ASPHALTIC SURFACE	4 LT 58-28 S	4,427	2.00"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY HMA PAVEMENT 460.2000
3 FOOT SHOULDERS + INTERSECTIONS	2+87 - 164+57	UPPER LAYER	MILLED EXISTING ASPHALTIC SURFACE	4 LT 58-28 S	1,761	2.00"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY HMA PAVEMENT 460.2000
2 X 12 FOOT DRIVING LANES	165+13 - 194+34	UPPER LAYER	MILLED EXISTING ASPHALTIC SURFACE	4 LT 58-28 S	800	2.00"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY HMA PAVEMENT 460.2000
3 FOOT SHOULDERS + INTERSECTIONS	165+13 - 194+34	UPPER LAYER	MILLED EXISTING ASPHALTIC SURFACE	4 LT 58-28 S	293	2.00"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY HMA PAVEMENT 460.2000
2 X 12 FOOT DRIVING LANES	195+10 - 389+10	UPPER LAYER	MILLED EXISTING ASPHALTIC SURFACE	4 LT 58-28 S	5,311	2.00"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY HMA PAVEMENT 460.2000
3 FOOT SHOULDERS + INTERSECTIONS	195+10 - 389+10	UPPER LAYER	MILLED EXISTING ASPHALTIC SURFACE	4 LT 58-28 S	1,851	2.00"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY HMA PAVEMENT 460.2000

CULVERT ITEMS

CATEGORY	STATION	LOCATION	521.1024	521.1036	521.3124	521.3136	650.6000	REMARKS
			APRON ENDWALLS FOR CULVERT PIPE STEEL 24-INCH EACH	APRON ENDWALLS FOR CULVERT PIPE STEEL 36-INCH EACH	CULVERT PIPE CORRUGATED STEEL 24-INCH LF	CULVERT PIPE CORRUGATED STEEL 36-INCH LF	CONSTRUCTION STAKING PIPE CULVERTS EACH	
0010		STH 92						
	239+55		2	-	-	-	-	0.064" PIPE THICKNESS
	282+40		2	-	64	-	2	0.064" PIPE THICKNESS
	335+62		-	2	-	16	2	0.079" PIPE THICKNESS
	388+86		2	-	92	-	2	0.064" PIPE THICKNESS
TOTAL 0010			6	2	156	16	6	

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BEAM GUARD ITEMS

					204.0165	614.0010	614.0305	614.0345	614.0360	614.0370	614.0390	614.0950	614.0952	614.2300	614.2330	614.2500	614.2610	
					REMOVING	BARRIER	STEEL PLATE	STEEL PLATE	STEEL PLATE	STEEL PLATE	STEEL PLATE	REPLACING	REPLACING	MGS	MGS	MGS	MGS	
					GUARDRAIL	SYSTEM	BEAM	BEAM GUARD	BEAM GUARD	BEAM GUARD	BEAM GUARD	GUARDRAIL	GUARDRAIL	GUARDRAIL	GUARDRAIL 3 K	THRIE BEAM	GUARDRAIL	
					LF	GRADING	GUARD	SHORT	TEMPORARY	ENERGY	SHORT RADIUS	POSTS AND	REFLECTORS	3	LF	TRANSITION	TERMINAL	
CATEGORY	STATION	TO	STATION	LOCATION	LF	SHAPING	CLASS A	RADIUS	LF	ABSORBING	TERMINAL	LF	EACH	LF	LF	LF	EACH	REMARKS
STH 92																		
0010	22+24	-	32+43	RT	125.0	2	12.5	-	-	2	-	14	10	-	-	-	-	
	163+28	-	164+47	LT	132.6	1	-	-	-	-	-	-	-	25.0	-	39.4	1	
	163+28	-	164+47	RT	132.6	1	-	-	-	-	-	-	-	25.0	-	39.4	1	
	165+23	-	166+41	LT	132.6	1	-	-	-	-	-	-	-	25.0	-	39.4	1	
	165+48	-	165+93	RT	62.5	1	37.5	25	-	-	1	-	-	-	-	-	-	
	193+00	-	194+19	RT	132.6	1	-	-	-	-	-	-	-	25.0	-	39.4	1	
	193+15	-	194+33	LT	132.3	1	-	-	-	-	-	-	-	25.0	-	39.4	1	
	195+10	-	196+29	RT	95.1	1	-	-	-	-	-	-	-	25.0	-	39.4	1	
	195+25	-	196+44	LT	107.6	1	-	-	-	-	-	-	-	25.0	-	39.4	1	
	334+13	-	339+32	RT	500.0	1	-	-	-	-	-	-	-	-	412.5	-	2	
	334+86	-	339+55	LT	475.0	1	-	-	-	-	-	-	-	-	362.5	-	2	
	385+83	-	388+95	RT	225.0	1	-	-	75	-	-	-	-	-	250.0	-	1	
TOTAL 0010					2,253	13	50	25	75	2	1	14	10	175	1,025	276	12	

BARRIER SYSTEM GRADING SHAPING FINISHING (FOR INFORMATION PURPOSES ONLY)

										625.0500	628.2004	629.0210	630.0130	630.0140	630.05	650.9920		
										SALVAGED	EROSION MAT	FERTILIZER	SEEDING	SEEDING		CONSTRUCTION		
										TOPSOIL	CLASS I TYPE B	TYPE B	MIXTURE	MIXTURE	SEED WATER	STAKING SLOPE		
										SY	SY	CWT	NO. 30	NO. 40	MGAL	STAKES		
CATEGORY	STATION	TO	STATION	LOCATION									LB	LB		LF	REMARKS	
STH 92																		
0010	22+24	-	22+88	RT		128	128	0.08	0.9		1.4	2.9	70					
	31+89	-	32+43	RT		89	89	0.06	1.6		-	2.0	60					
	163+28	-	164+47	LT		419	419	0.26	7.6		-	9.4	120					
	163+28	-	164+47	RT		322	322	0.20	5.8		-	7.2	-					
	165+23	-	166+41	LT		267	267	0.17	4.8		-	6.0	120					
	165+48	-	165+93	RT		79	79	0.05	1.4		-	1.8	-					
	193+00	-	194+19	RT		233	233	0.15	4.2		-	5.2	140					
	193+15	-	194+33	LT		356	356	0.22	6.4		-	8.0	-					
	195+10	-	196+29	RT		389	389	0.25	7.0		-	8.7	140					
	195+25	-	196+44	LT		267	267	0.17	4.8		-	6.0	-					
	334+13	-	339+32	RT		2222	2,222	1.40	40.0		-	49.9	550					
	334+86	-	339+55	LT		2,227	2,227	1.40	40.1		-	50.0	-					
	385+83	-	388+95	RT		828	828	0.52	14.9		-	18.6	320					
TOTAL 0010						7,830	7,826	5	140		2	180	1,520					

PROJECT NO: 5926-05-60

HWY: STH 92

COUNTY: DANE

MISCELLANEOUS QUANTITIES

SHEET

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MAINTENANCE AND REPAIR OF HAUL ROADS

					618.0100 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) (01. 5926-05-60)	
CATEGORY	STATION	TO	STATION	LOCATION	EACH	REMARKS
0010	2+87	-	389+10	STH 92	1	
TOTAL 0010					1	

MOBILIZATIONS

619.1000						628.1905 MOBILIZATIONS EROSION CONTROL	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL	
CATEGORY	STATION	TO	STATION	LOCATION	MOBILIZATION EACH	EACH	EACH	REMARKS
0010	2+87	-	389+10	STH 92	1	1	1	
TOTAL 0010					1	1	1	

WATER

					624.0100	
					WATER	
CATEGORY	STATION	TO	STATION	LOCATION	MGAL	REMARKS
0010	2+87	-	389+10	STH 92	26	
TOTAL 0010					26	

SILT FENCE

628.1504						628.1520 SILT FENCE MAINTENANCE	
CATEGORY	STATION	TO	STATION	LOCATION	SILT FENCE LF	LF	REMARKS
0010	22+24	-	32+43	RT	300	300	
	163+28	-	164+47	LT	250	250	
	163+28	-	164+47	RT	250	250	
	165+23	-	166+41	LT	220	220	
	165+48	-	165+93	RT	70	70	
	193+00	-	194+19	RT	195	195	
	193+15	-	194+33	LT	210	210	
	195+10	-	196+29	RT	185	185	
	195+25	-	196+44	LT	190	190	
	239+56			RT	30	30	
	282+40			LT	60	60	
	334+13	-	339+32	RT	590	590	
	385+83	-	388+95	RT	350	350	
UNDISTRIBUTED					200	200	
TOTAL 0010					3,100	3,100	

RESTORATION ITEMS

			625.0500	628.2004 EROSION MAT CLASS I	628.7015 INLET PROTECTION	628.7504 TEMPORARY DITCH CHECKS	628.7555 CULVERT PIPE CHECKS	629.0210 FERTILIZER TYPE B	630.0130 SEEDING MIXTURE NO. 30	630.0500 SEED WATER	650.9920 CONSTRUCTION STAKING SLOPE	
CATEGORY	STATION	LOCATION	SY	SY	EACH	LF	EACH	CWT	LB	MGAL	LF	REMARKS
0010		STH 92										
	22+18	LT	-	-	1	-	-	-	-	-	-	
	239+55	LT	97	97	-	-	-	0.06	1.8	2.2	40	CPCS 24"
	239+56	RT	69	69	-	-	6	0.04	1.2	1.5	-	
	282+40	LT	43	43	-	-	6	0.03	0.8	1.0	40	CPCS 24"
	282+40	RT	42	42	-	-	-	0.03	0.8	0.9	-	
	335+62	LT	-	-	-	25	10	-	-	-	60	CPCS 36"
	388+87	RT	75	75	-	-	6	0.05	1.4	1.7	40	CPCS 24"
UNDISTRIBUTED			-	-	-	-	-	-	1.5	-	-	
TOTAL 0010			330	330	1	25	28	1	8	8	180	

3

FIELD OFFICE			
642.5001 FIELD OFFICE TYPE B			
CATEGORY	LOCATION	EACH	REMARKS
0010	PROJECT - STH 92	1	
TOTAL 0010		1	

PAVEMENT MARKING ITEMS									
					643.3105 TEMPORARY MARKING LINE PAINT 4-INCH (YELLOW)	646.1020 MARKING LINE EPOXY 4-INCH (WHITE)	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)	646.4520 MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)	
CATEGORY	STATION	TO	STATION	LOCATION	LF	LF	LF	LF	REMARKS
STH 92									
0010	2+87	-	389+10	CENTERLINE	52,933	-	-	55,711	
	2+87	-	389+10	EDGE LINE	-	-	75,605	-	
	2+87	-	389+10	SIDEROADS	-	166	-	283	
TOTAL 0010					52,933	166	75,606	55,994	

3

TRAFFIC CONTROL			
643.5000 TRAFFIC CONTROL			
CATEGORY	LOCATION	EACH	REMARKS
0010	PROJECT - STH 92	1	
TOTAL 0010		1	

PAVEMENT MARKING ITEMS				
646.6120 MARKING STOP LINE EPOXY 18-INCH				
CATEGORY	STATION	LOCATION	LF	REMARKS
STH 92				
0010	E CTH G		22	
	W CTH G		21	
	S CTH U		17	
	E CTH A		17	
	W CTH A		17	
STA 389+09			21	STH 69 INTERSECTION
TOTAL 0010			114	

CONSTRUCTION STAKING							
				650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE	650.9911 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (0.1 5926-05-60)		
CATEGORY	STATION	TO	STATION	LOCATION	LF	EACH	REMARKS
0010	2+87	-	389+10	STH 92	38,623	1	
TOTAL 0010					38,623	1	

TRAFFIC CONTROL ITEMS											
			643.0300 TRAFFIC CONTROL DRUMS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A	643.0900 TRAFFIC CONTROL SIGNS	643.1050 TRAFFIC CONTROL SIGNS PCMS				
CATEGORY	STATION	TO	STATION	LOCATION	DAYS	DAYS	DAYS	DAYS	DAYS	REMARKS	
0010	2+87	-	389+10	STH 92	150	45	66	33	30	TEMPORARY CLOSURE	
	2+87	-	389+10	STH 92	248	-	-	70	14		
TOTAL 0010					398	45	66	103	44		

PROJECT NO: 5926-05-60	HWY: STH 92	COUNTY: DANE	MISCELLANEOUS QUANTITIES	SHEET 53	E
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3

SAWING				
690.0150 SAWING ASPHALT				
CATEGORY	STATION	LOCATION	LF	REMARKS
0010	2+87	STH 92	28	BEGINNING OF PROJECT
	4+23	LT	32	E CTH G
	15+13	LT	30	DAVIS ST
	15+44	RT	42	W CTH G
	18+71	RT	22	JACKSON ST
	37+21	LT	25	W ERFURTH RD
	44+79	LT	24	N CTH U
	45+52	RT	30	S CTH U
	61+95	LT	21	E ERFURTH RD
	118+69	LT	25	SPRING ROSE RD
	185+84	LT	31	E CTH A
	238+29	RT	31	W CTH A
	238+31	LT	25	WITTWER RD
	281+82		28	CPCS 24-INCH TRENCH
	282+98		28	CPCS 24-INCH TRENCH
	291+61	RT	25	COMMUNITY RD
	307+40	RT	26	PEERLESS RD
	318+17	LT	26	JIM TOWN RD
	357+77	RT	25	RIDGE RD
	379+33	RT	26	OLD HWY 69
	388+28		29	CPCS 24-INCH TRENCH
	389+05		41	CPCS 24-INCH TRENCH
	389+10		44	END OF PROJECT
TOTAL 0010			665	

ON-THE-JOB TRAINING

ASP.1T0A ON-THE-JOB TRAINING APPRENTICE AT \$5.00/HR					ASP.1TOG ON-THE-JOB TRAINING GRADUATE AT \$5.00/HR				
CATEGORY	LOCATION	HRS			CATEGORY	LOCATION	HRS		REMARKS
0010	PROJECT - STH 92	325					250		
TOTAL 0010		325					250		

LANDMARK REFERENCE MONUMENT

					SPV.0060.01 SPECIAL (01. LANDMARK REFERENCE MONUMENTS)				
CATEGORY	STATION	LOCATION			CATEGORY	STATION	LOCATION	EACH	REMARKS
0010	132+00	STH 92						1	
	185+00							1	
	238+35							1	
	TOTAL 0010							3	

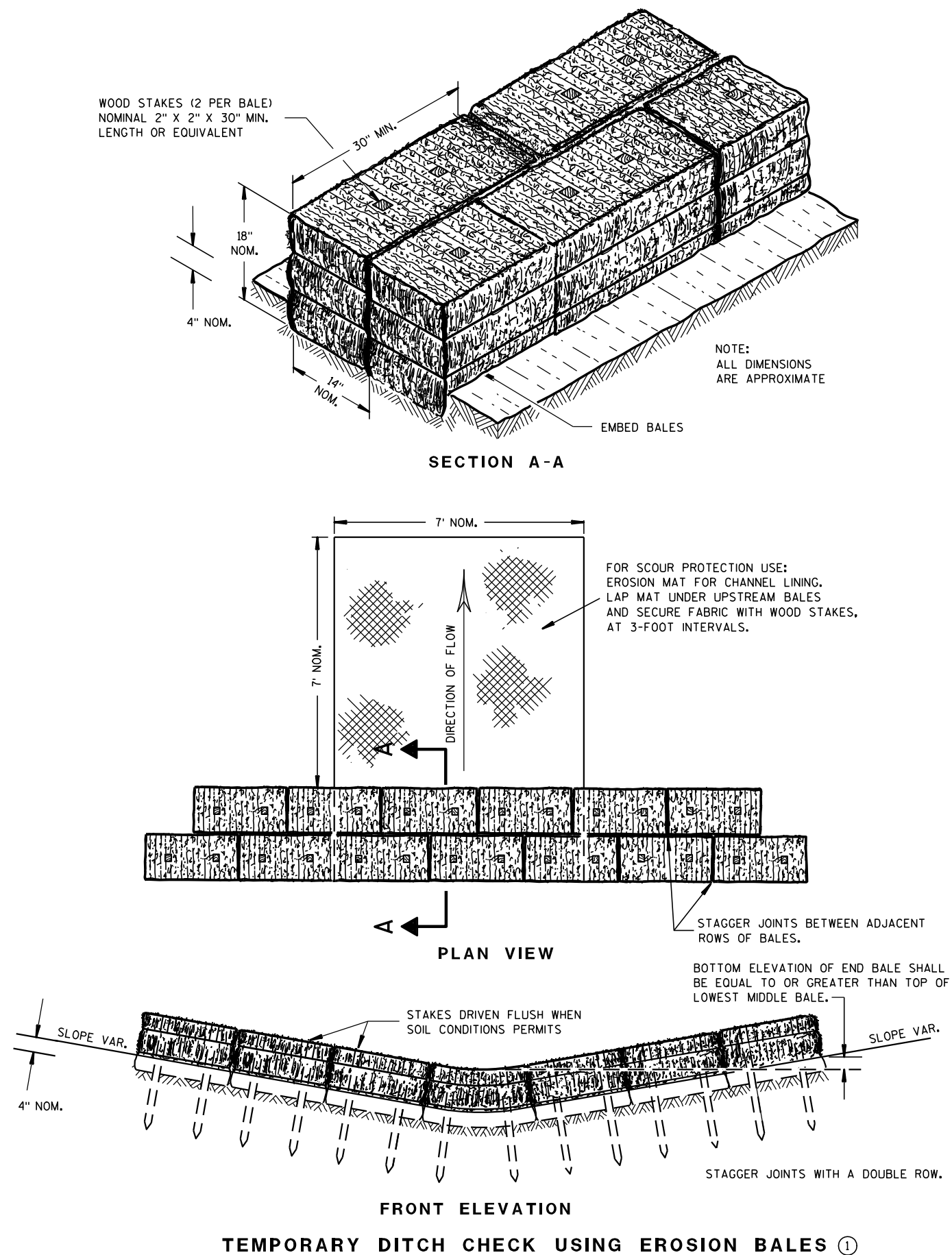
REMOVING DISTRESSED PAVEMENT MILLING

					465.0105 ASPHALTIC SURFACE TON		SPV.0180.01 SPECIAL (01. REMOVING DISTRESSED PAVEMENT MILLING) SY		REMARKS
CATEGORY	STATION	TO	STATION	LOCATION					
0010	2+87	-	389+10	STH 92	733		6,450		
TOTAL 0010					733		6,450		

3

Standard Detail Drawing List

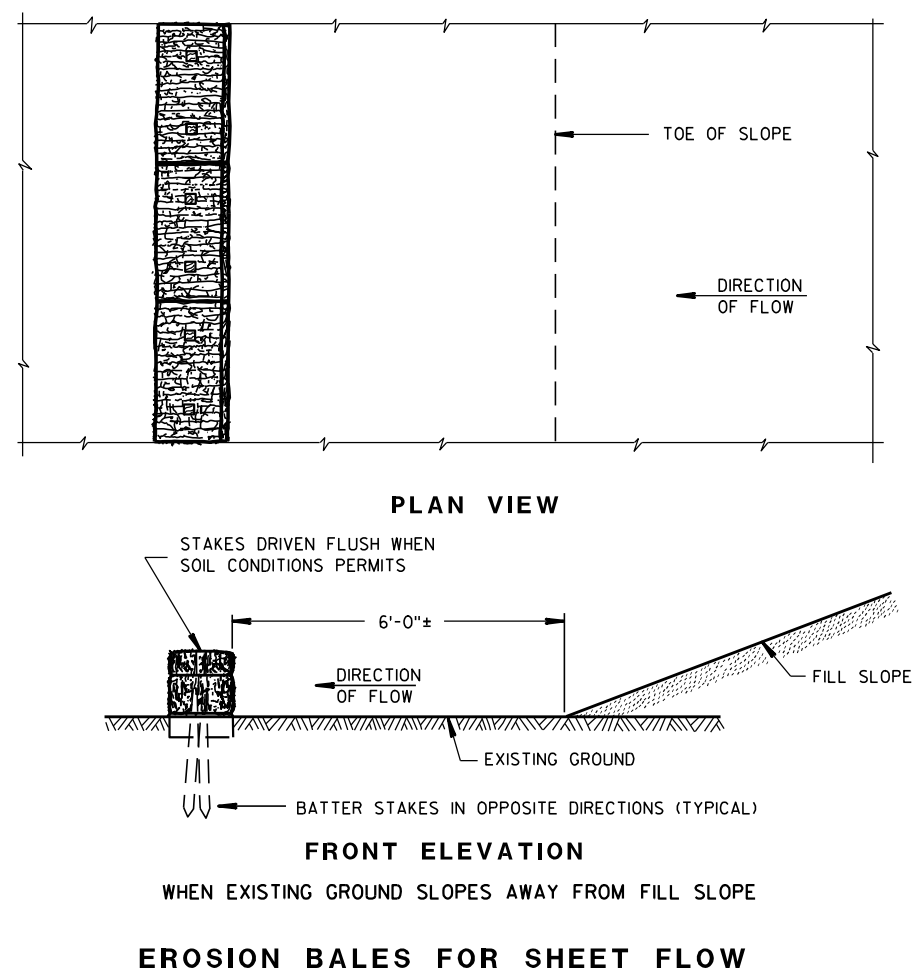
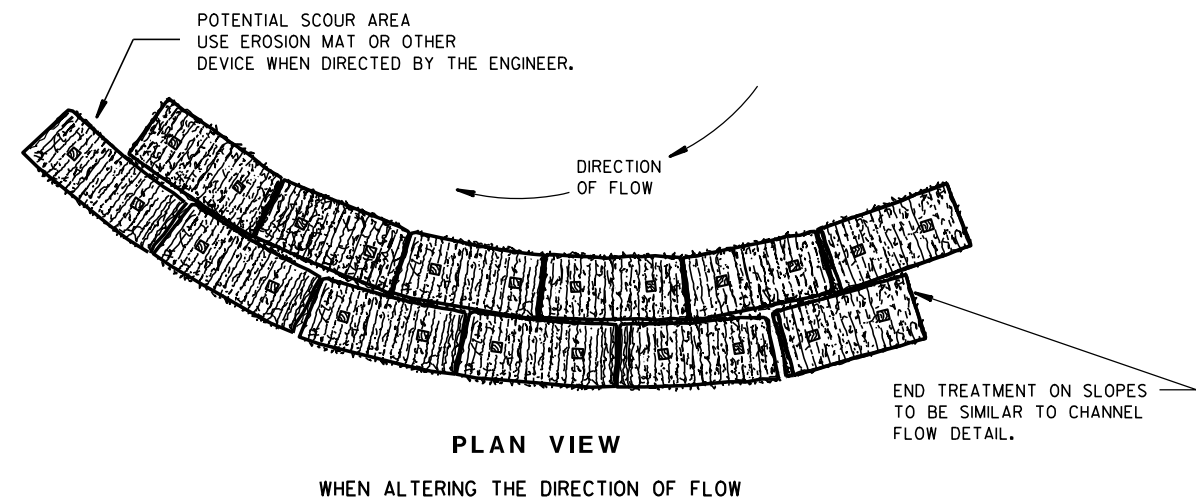
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
09A01-13B	AT-GRADE SIDE ROAD INTERSECTION, TYPE "A1" & "A2"
13A08-01	ASPHALTIC RUMBLE STRIPS AT INTERSECTION
13C19-03	HMA LONGITUDINAL JOINTS
14B15-11A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B24-09A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B27-01A	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01B	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01C	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B29-01	SAFETY EDGE
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15A04-07E	DELINEATOR POST WITH REFLECTIVE SHEETING
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C06-10	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-22A	LONGITUDINAL MARKING (MAINLINE)
15C08-22B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-07A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-05A	PAVEMENT MARKING (INTERSECTIONS)
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
16A01-07	LANDMARK REFERENCE MONUMENTS AND COVERS



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.

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

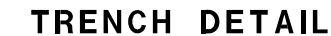
APPROVED

6/04/02
DATE/S/ Beth Conn-----
CHIEF ROADWAY DEVELOPER 56 ENGINEER

FHWA



- 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 1½" X 1½" 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.

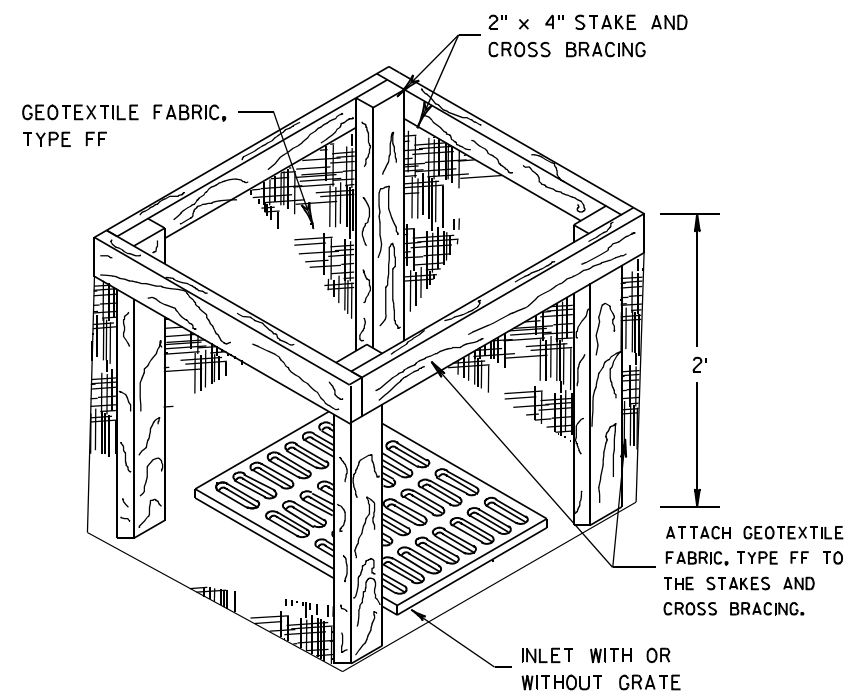
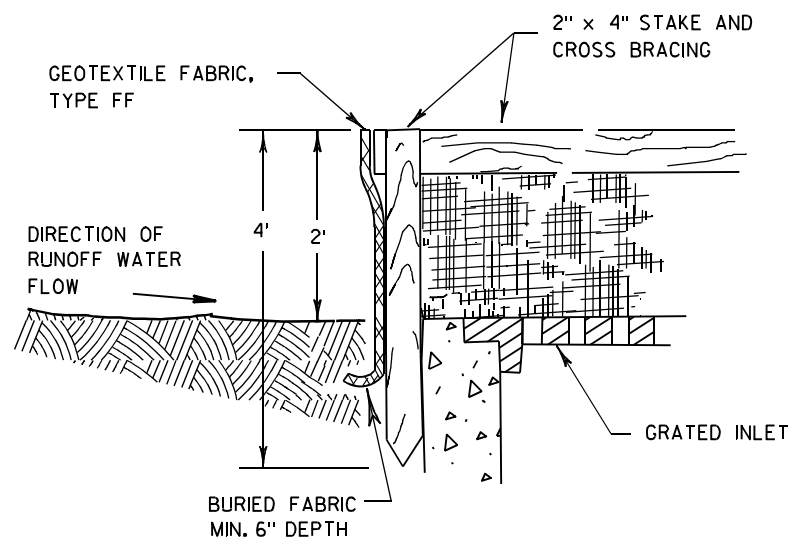


SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05
DATE /S/ Beth Connolly
CHIEF ROADWAY DEVELOPMENT 57 INCHES

FHWA



INLET PROTECTION, TYPE A

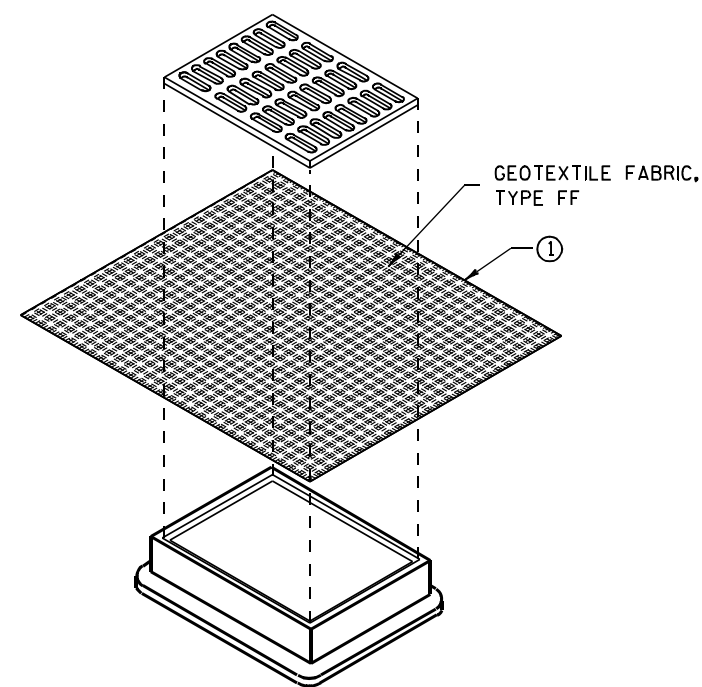
GENERAL NOTES

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.

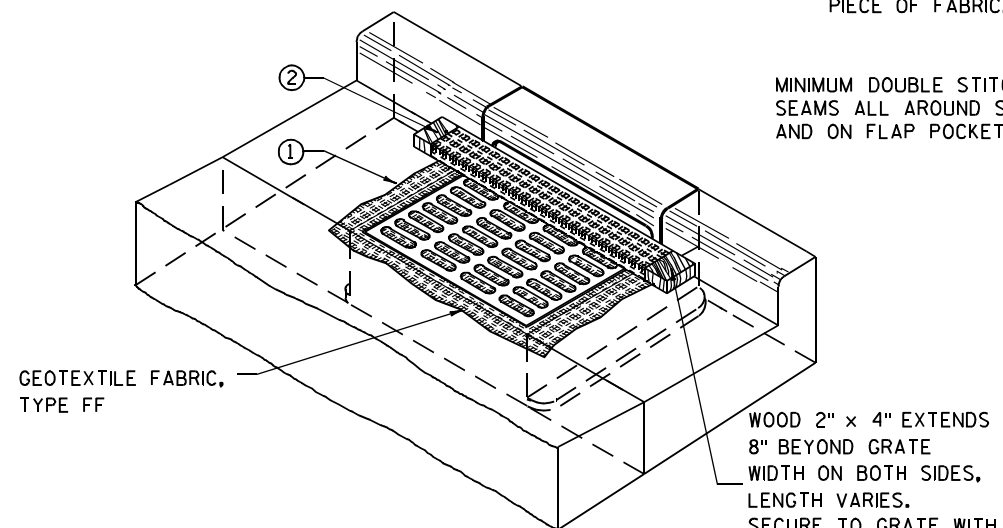
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.

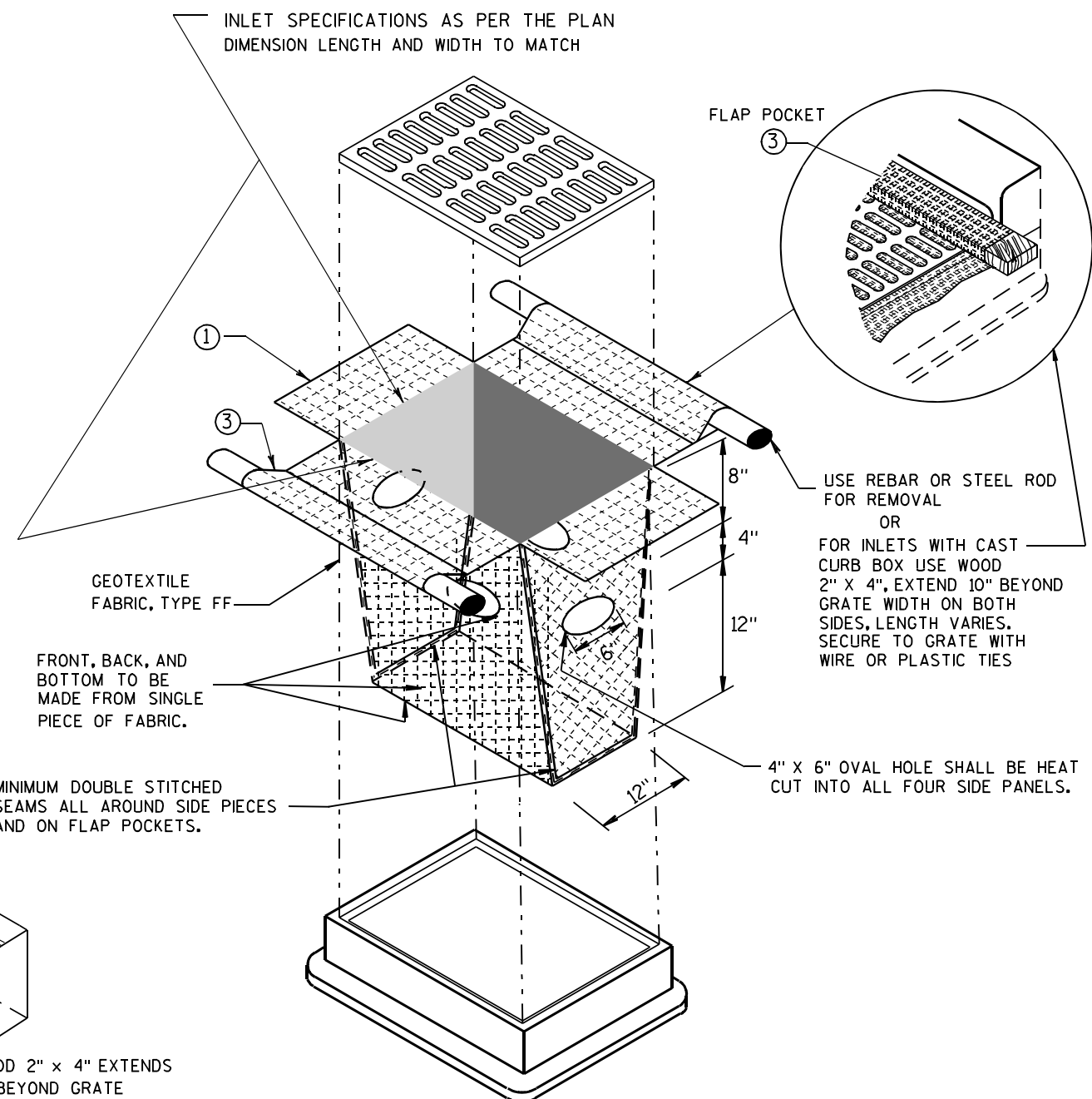
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

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.

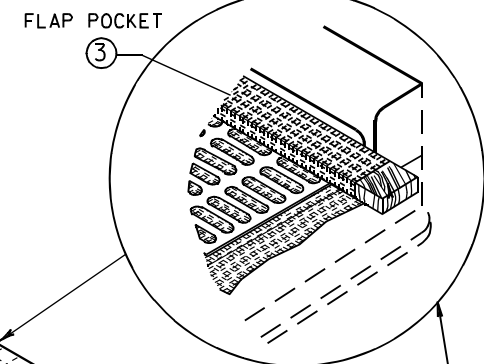
TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

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)

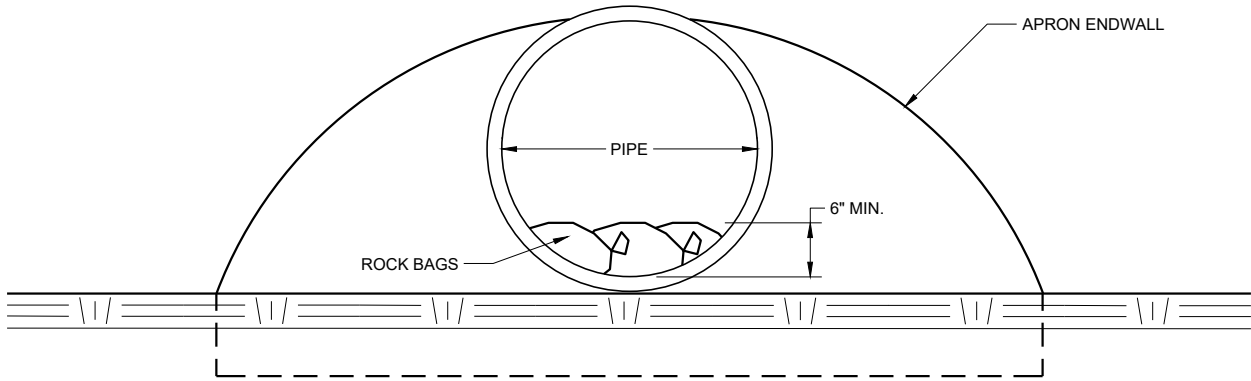


USE REBAR OR STEEL ROD FOR REMOVAL OR
FOR INLETS WITH CAST CURB BOX USE WOOD 2" X 4", EXTEND 10" BEYOND GRATE WIDTH ON BOTH SIDES, LENGTH VARIES. SECURE TO GRATE WITH WIRE OR PLASTIC TIES

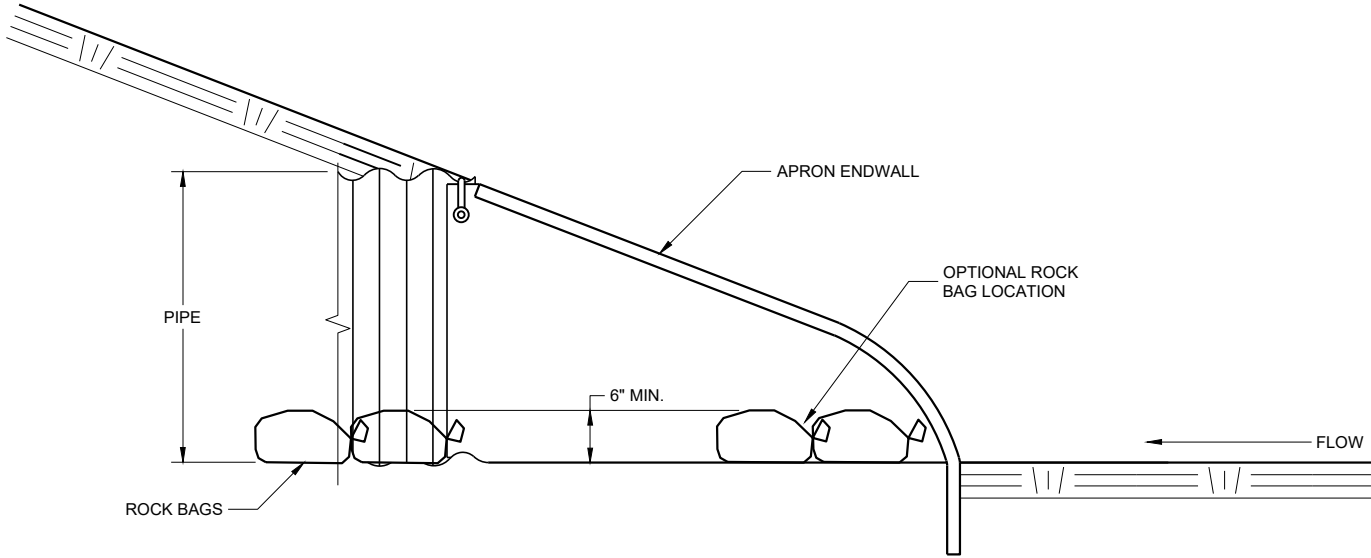
MINIMUM DOUBLE STITCHED SEAMS ALL AROUND SIDE PIECES AND ON FLAP POCKETS.

WOOD 2" X 4" EXTENDS 8" BEYOND GRATE WIDTH ON BOTH SIDES, LENGTH VARIES. SECURE TO GRATE WITH WIRE OR PLASTIC TIES

INLET PROTECTION TYPE A, B, C, AND D	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/16/02 DATE	/S/ Beth Connolly 58 CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	



END VIEW



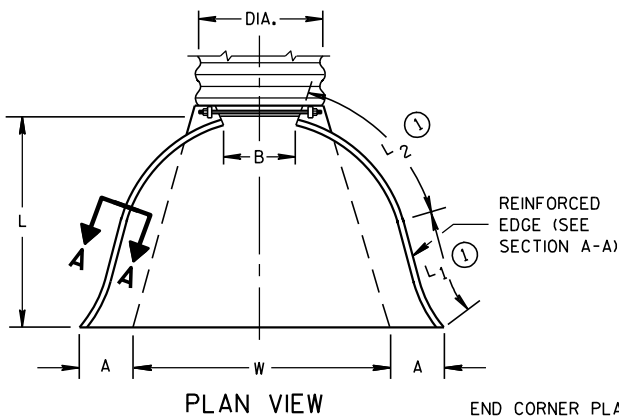
SIDE VIEW

CULVERT PIPE CHECK
(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
APPROVED May 2019 DATE	/S/ Daniel Schave EROSION CONTROL ENGI 59	
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")	L ₁ ①	L ₂ ①			W (±2")
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.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.

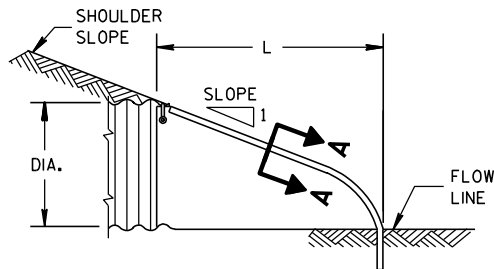
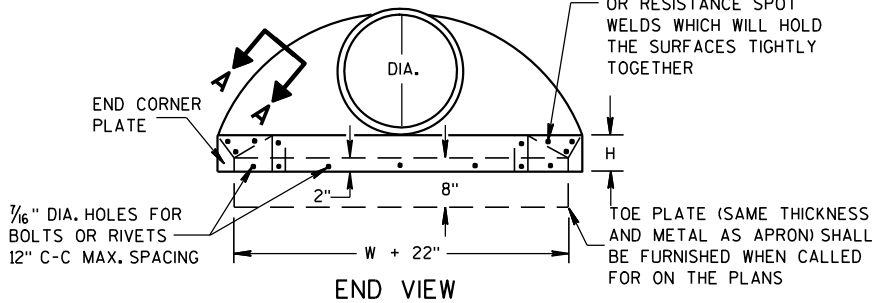
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



REINFORCED
EDGE (SEE
SECTION A-A)

END CORNER PLATES MAY
BE FASTENED TO APRON
PROPER BY BOLTS, RIVETS,
OR RESISTANCE SPOT
WELDS WHICH WILL HOLD
THE SURFACES TIGHTLY
TOGETHER

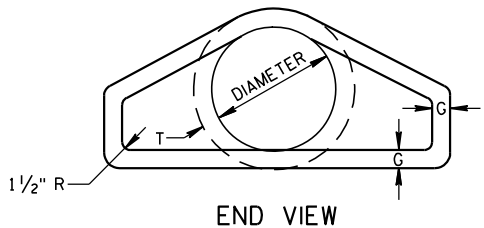
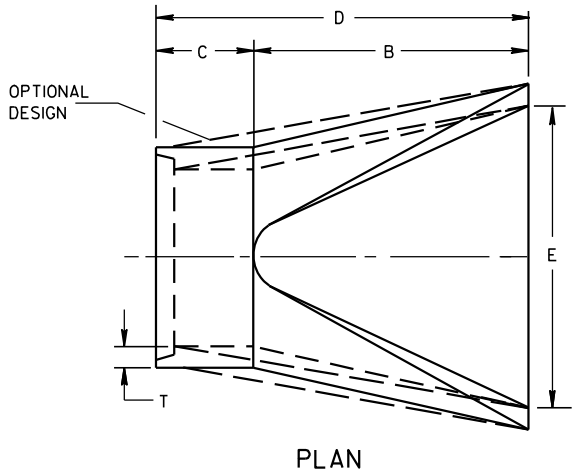
TOE PLATE (SAME THICKNESS
AND METAL AS APRON) SHALL
BE FURNISHED WHEN CALLED
FOR ON THE PLANS



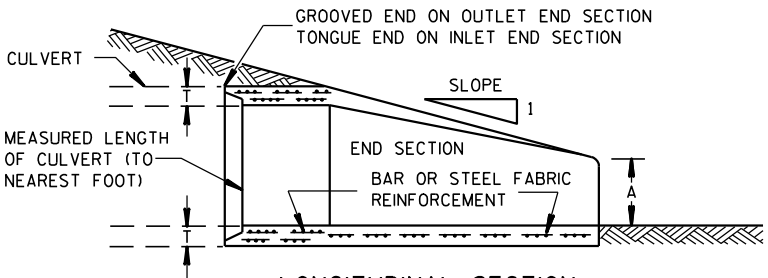
SIDE ELEVATION
METAL ENDWALLS

REINFORCED CONCRETE APRON ENDWALLS									
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE	
	T	A	B	C	D	E	G		
12	2	4	24	48 ⁷ / ₈	72 ⁷ / ₈	24	2	3 to 1	
15	2 ¹ / ₄	6	27	46	73	30	2 ¹ / ₄	3 to 1	
18	2 ¹ / ₂	9	27	46	73	36	2 ¹ / ₂	3 to 1	
21	2 ³ / ₄	9	36	37 ¹ / ₂	73 ¹ / ₂	42	2 ³ / ₄	3 to 1	
24	3	9 ¹ / ₂	43 ¹ / ₂	30	73 ¹ / ₂	48	3	3 to 1	
27	3 ¹ / ₄	10 ¹ / ₂	49 ¹ / ₂	24	73 ¹ / ₂	54	3 ¹ / ₄	3 to 1	
30	3 ¹ / ₂	12	54	19 ³ / ₄	73 ¹ / ₂	60	3 ¹ / ₂	3 to 1	
36	4	15	63	34 ³ / ₄	97 ³ / ₄	72	4	3 to 1	
42	4 ¹ / ₂	21	63	35	98	78	4 ¹ / ₂	3 to 1	
48	5	24	72	26	98	84	5	3 to 1	
54	5 ¹ / ₂	27	65	33 ¹ / ₄ -35	98 ¹ / ₄ -100	90	5 ¹ / ₂	2 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	

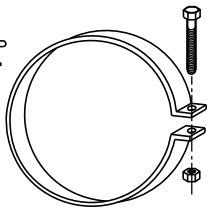
*MINIMUM
**MAXIMUM



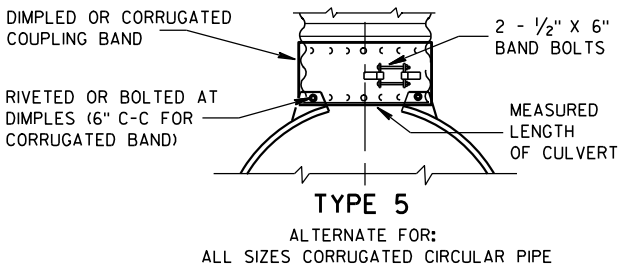
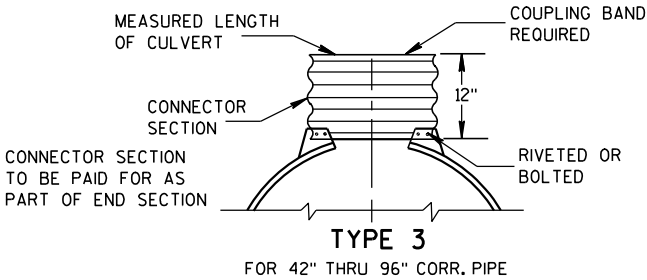
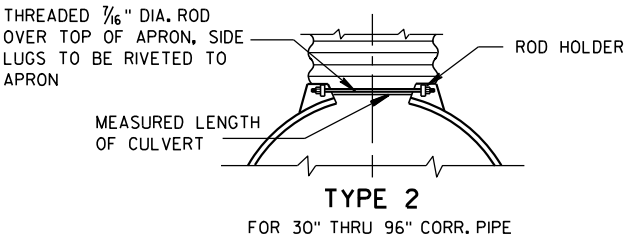
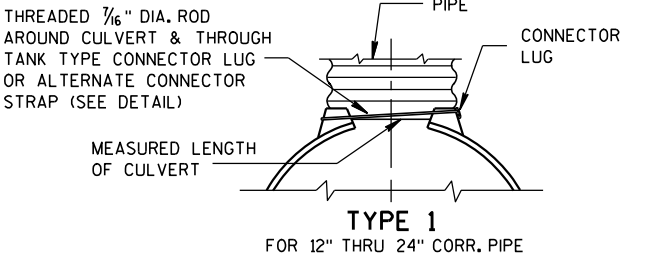
LONGITUDINAL SECTION
CONCRETE ENDWALLS



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



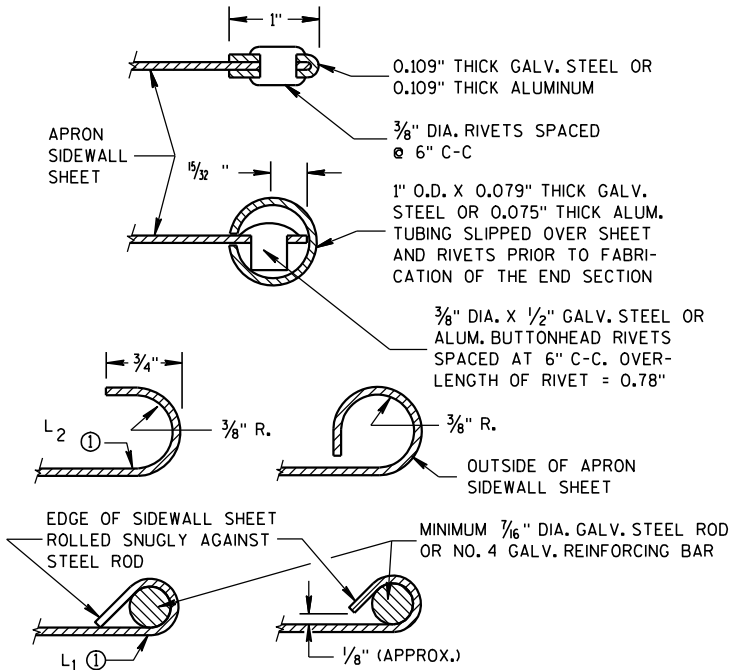
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL,
AND CORRUGATED BAND FITS INSIDE ENDWALL.
DIMPLED BAND MAY BE USED WITH HELICALLY
CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE
ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5
AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL
CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO
CIRCUMFERENTIAL CORRUGATIONS AT EACH END
USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL
OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR
ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE
OF THE SAME METAL.

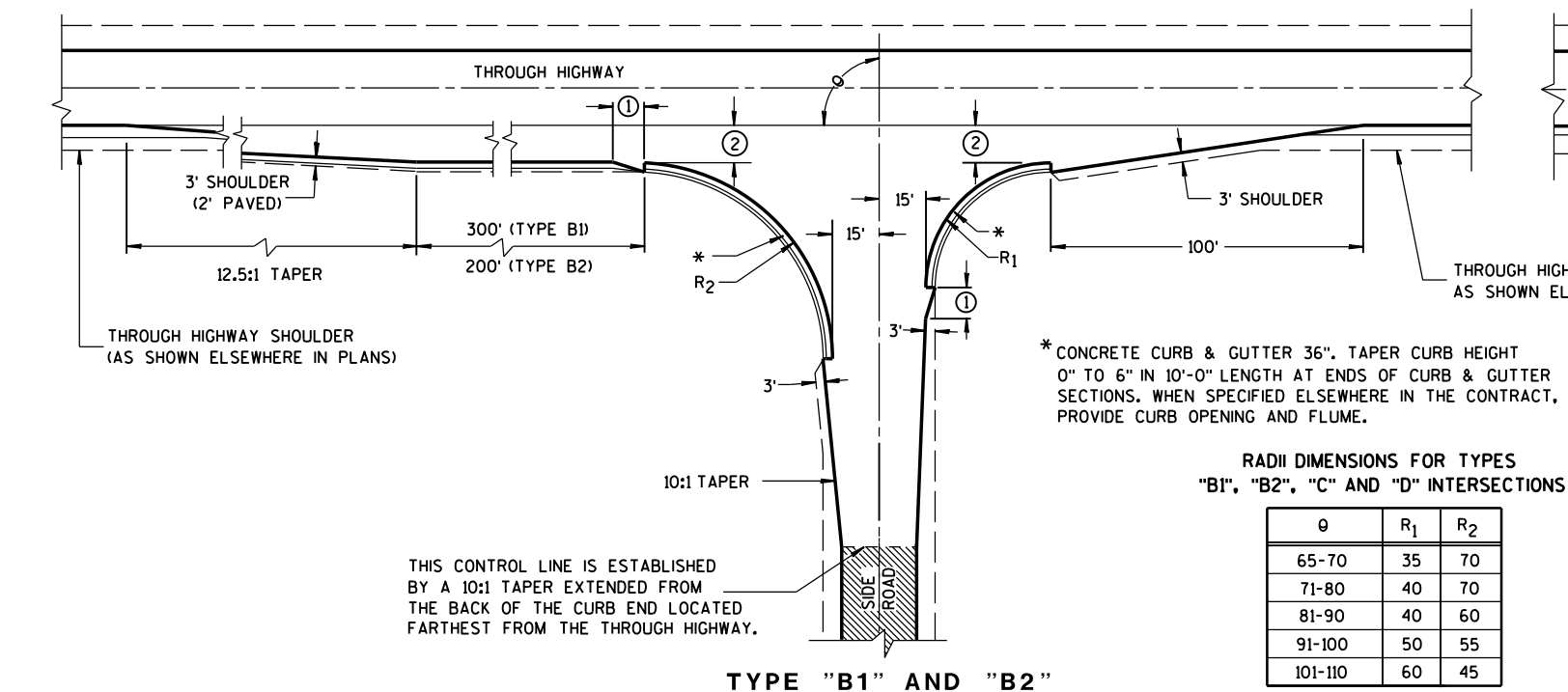
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND
LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL
THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND
LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH
OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE
PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS
FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS.
FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED
EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH
GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE
ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM
NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT
TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT
TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED
INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED 11/30/94 DATE	/S/ Rory L. Rhin... CHIEF ROADWAY DEVELOP 60	NEER	
FHWA			



GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

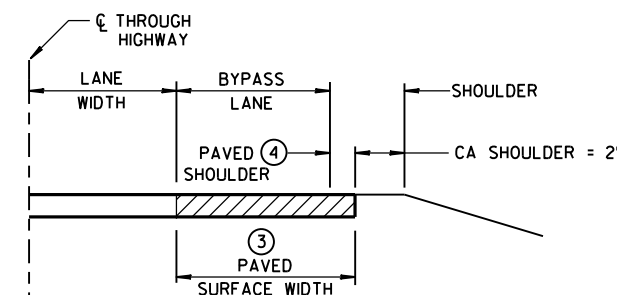
WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

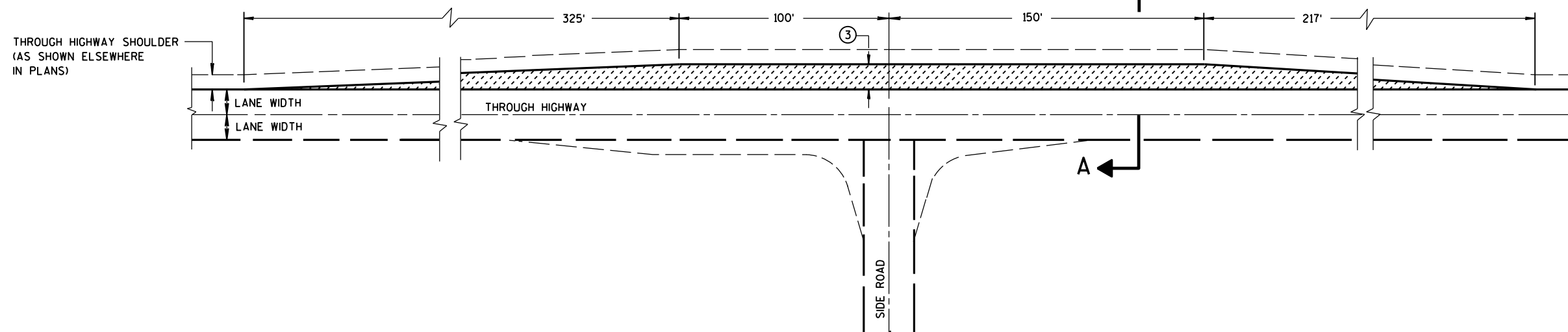
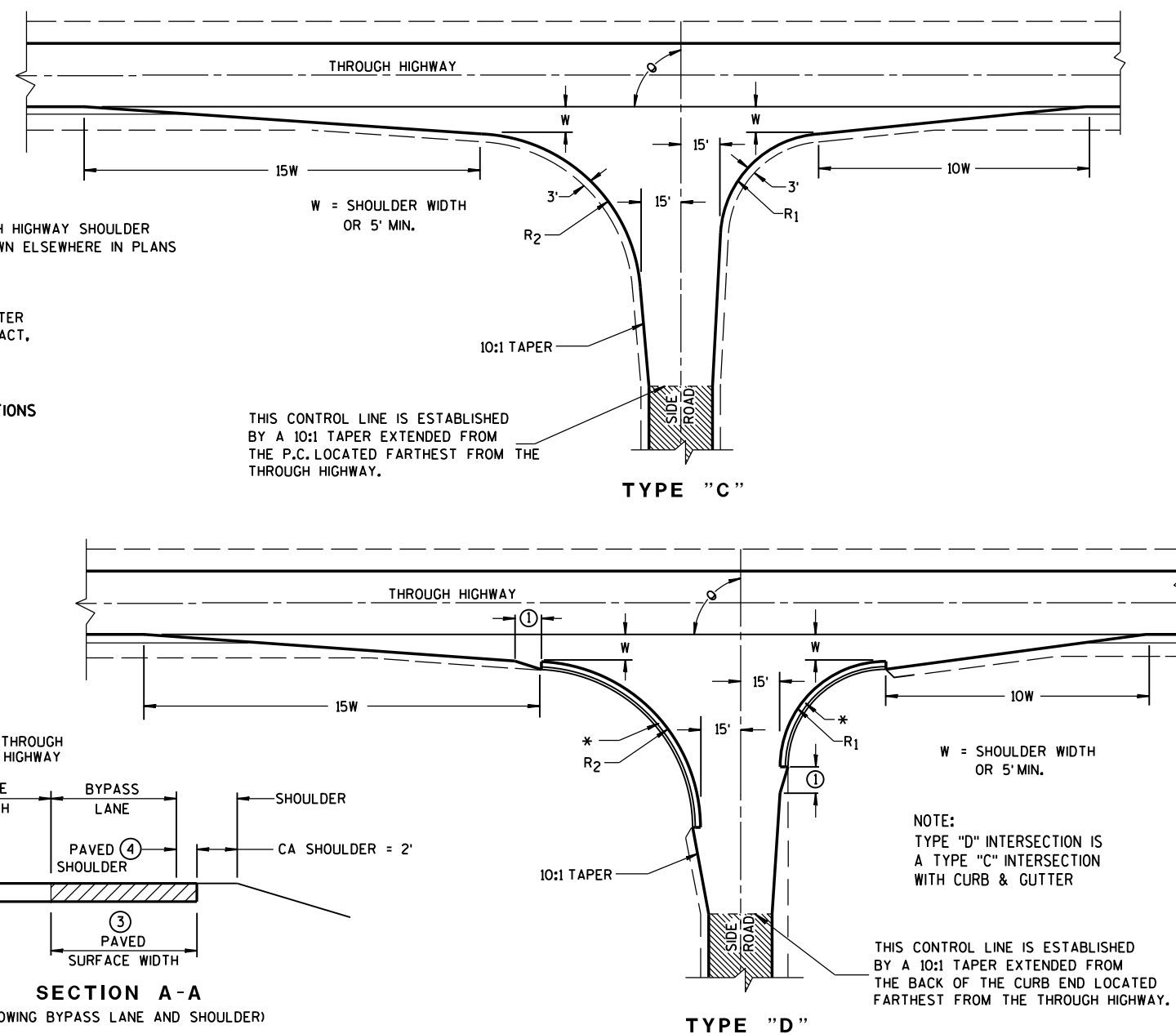
EXISTING PAVED SURFACE

BYPASS LANE

- ① 10-FT TYPICAL.
- ② 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.
- **10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.
- ③ BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.
- ④ BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



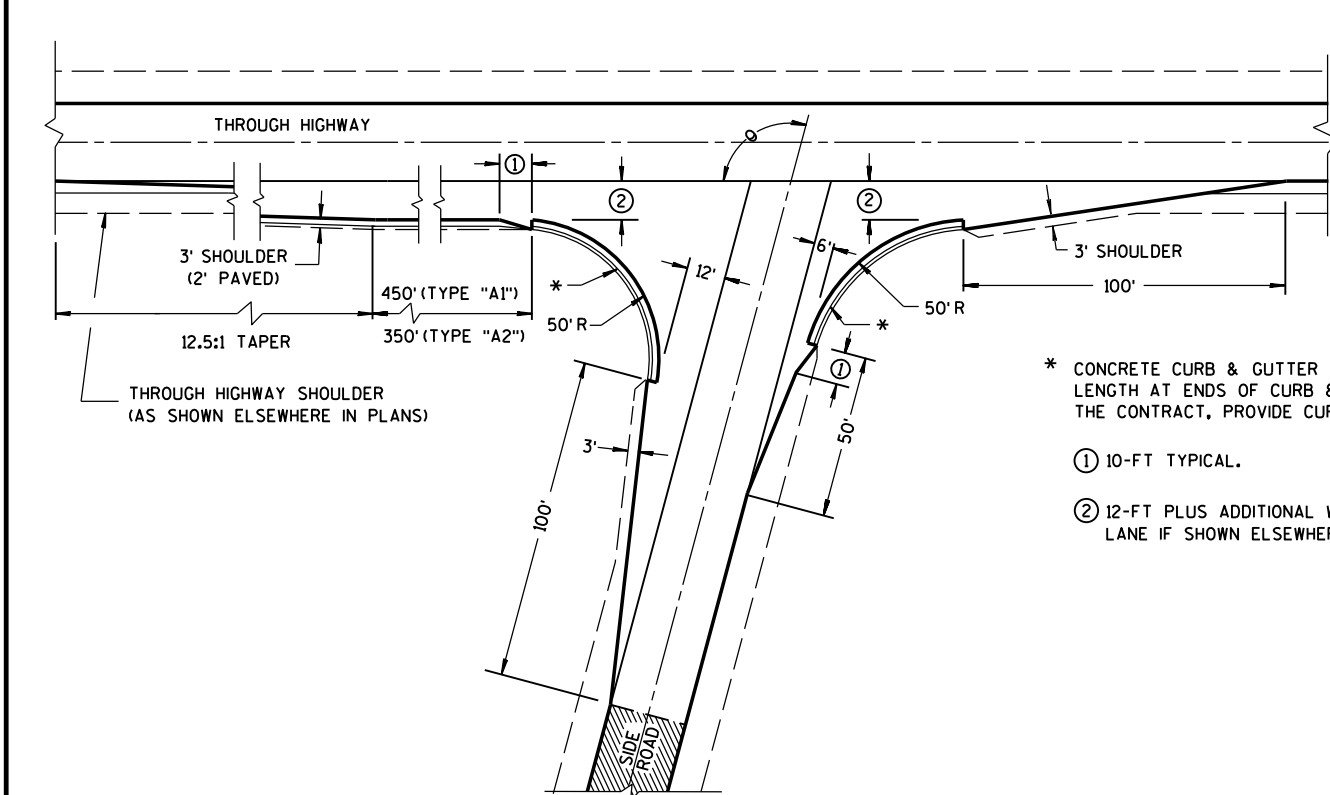
SECTION A-A
(SHOWING BYPASS LANE AND SHOULDER)



TEE INTERSECTION BYPASS LANE DETAIL

AT-GRADE SIDE ROAD
INTERSECTION, TYPES "B1", "B2",
"C" AND "D" AND TEE
INTERSECTION BYPASS LANE

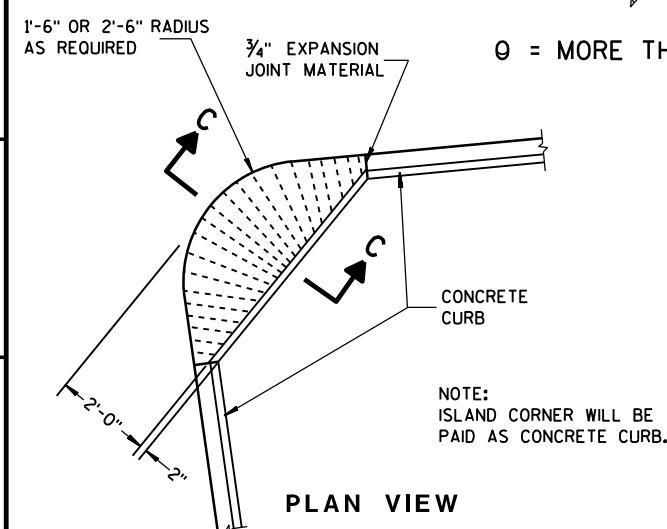
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



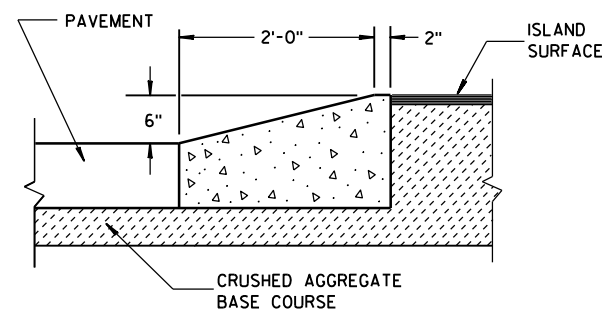
* CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

① 10-FT TYPICAL.

② 12-FT PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLANS.



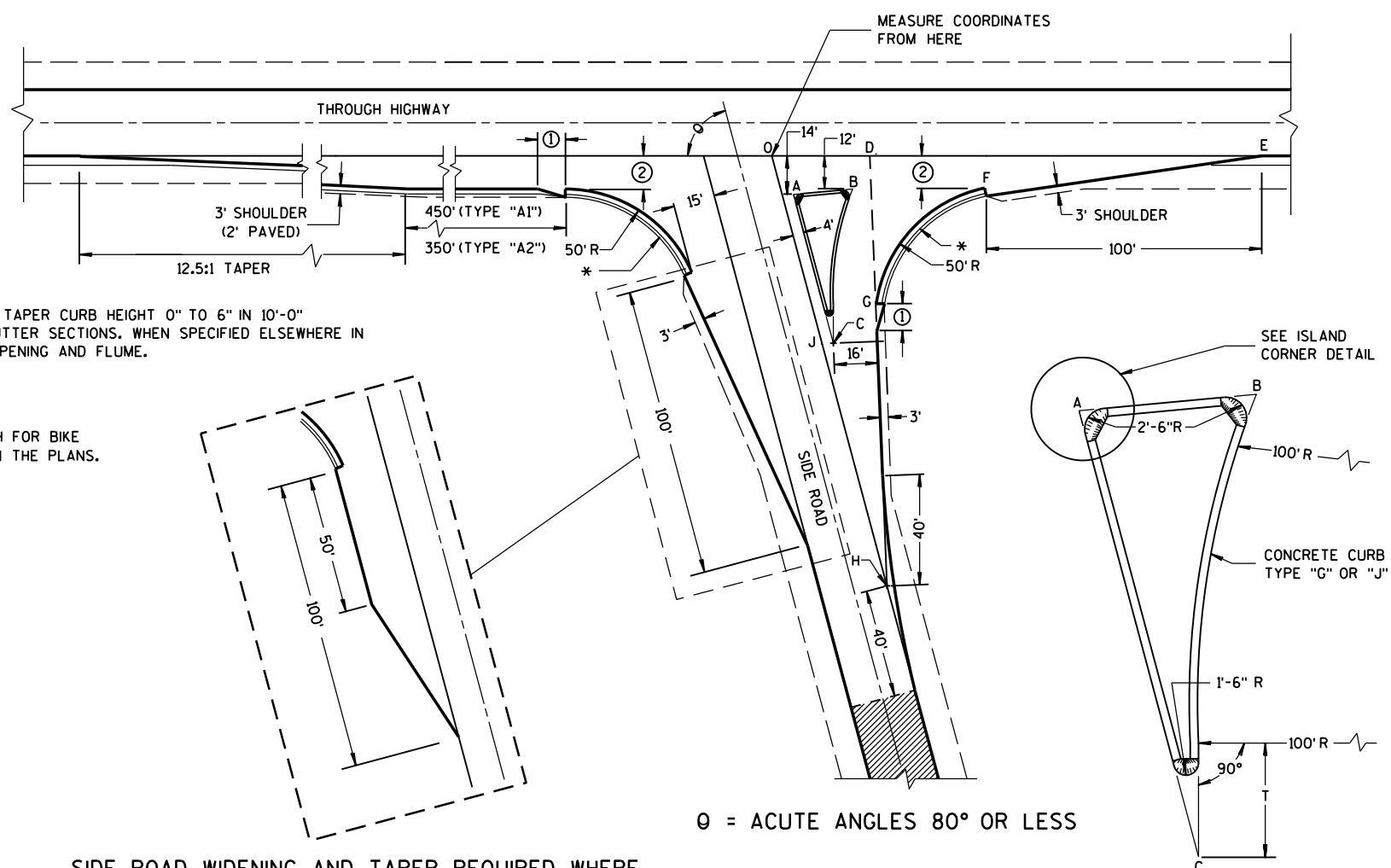
PLAN VIEW



SECTION C-C

ISLAND CORNER DETAIL

(TO BE CONSTRUCTED AT ALL ISLAND CORNERS)



SIDE ROAD WIDENING AND TAPER REQUIRED WHERE THE THROUGH HIGHWAY CARRIES TWO-WAY TRAFFIC
 θ = ACUTE ANGLES 70° OR LESS

TABLE OF DIMENSIONS FOR
 VARIABLE SIDE ROAD INTERSECTION ANGLES

(INTERPOLATE VALUES FOR ANGLES NOT SHOWN)

ANGLE θ DEGREES	COORDINATES IN FEET (MEASURED FROM POINT "O")								LENGTH IN FEET				
	A	B	C	D	E	F	G	H	AB	AC	T	OJ	OH
60	12.7	44.9	46.4	41.9	205.0	104.6	64.0	85.0	32.3	67.4	4.9	85.9	169.9
	-14.0	-12.0	-72.4	0.0	0.0	-12.0	-75.5	-147.1					
65	10.9	39.0	37.8	39.4	196.1	95.7	54.1	70.5	28.2	63.6	8.5	80.9	166.9
	-14.0	-12.0	-71.6	0.0	0.0	-12.0	-71.5	-151.3					
70	9.4	33.9	29.8	37.4	188.3	87.8	45.6	56.1	24.6	59.7	11.5	76.1	164.1
	-14.0	-12.0	-70.1	0.0	0.0	-12.0	-67.5	-154.2					
75	7.9	29.3	22.3	35.7	181.2	80.7	38.2	41.8	21.5	55.8	13.8	71.4	161.4
	-14.0	-12.0	-67.9	0.0	0.0	-12.0	-63.4	-155.9					
80	6.5	25.4	15.6	34.4	174.8	74.4	31.8	27.6	18.9	52.0	15.6	66.9	158.9
	-14.0	-12.0	-65.2	0.0	0.0	-12.0	-59.3	-156.5					

TYPE "A1" & "A2" SIDE ROAD INTERSECTION DETAILS

AT-GRADE SIDE ROAD
 INTERSECTION, TYPE "A1" & "A2"

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

APPROVED

12/18/12

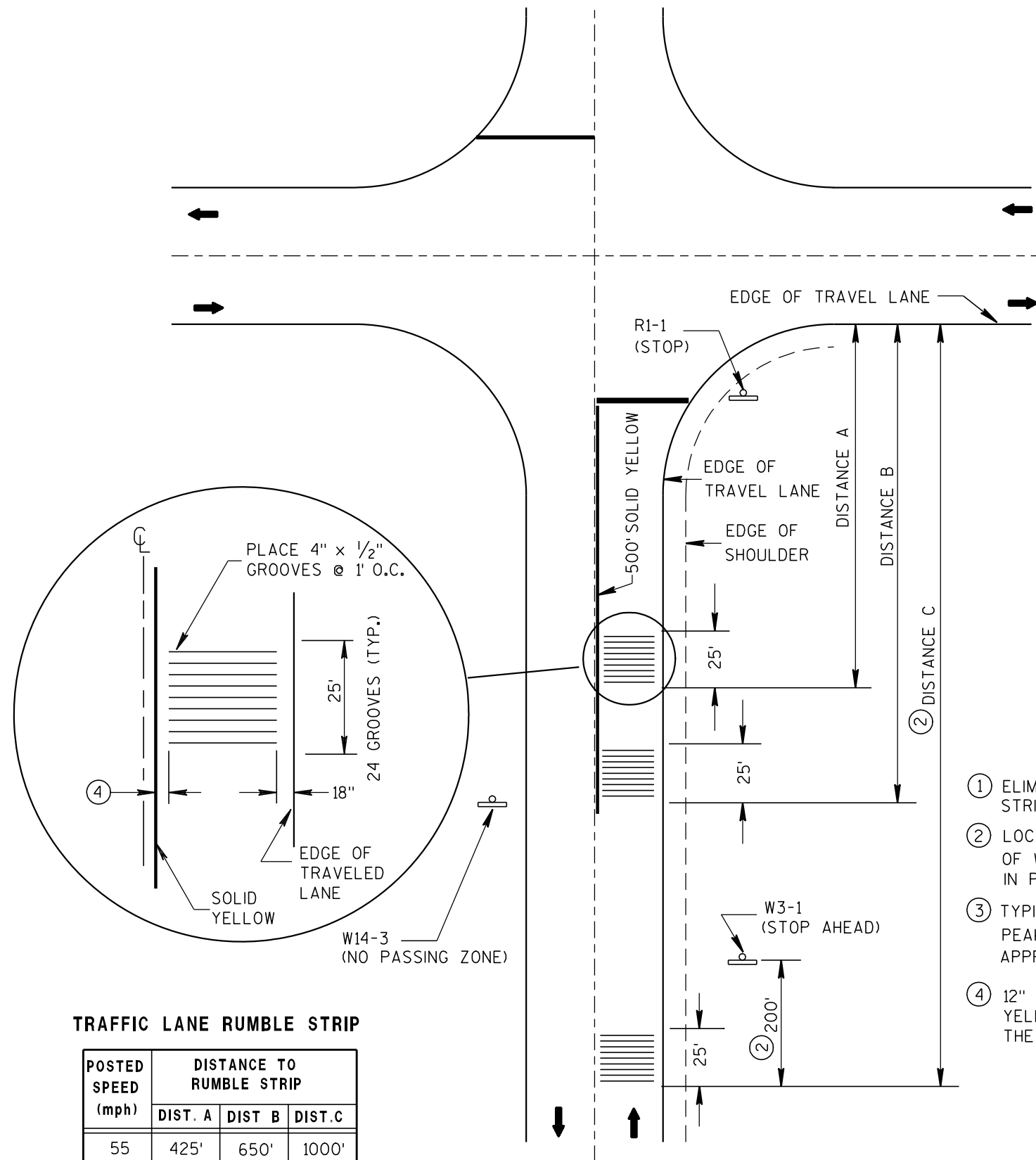
DATE

FHWA

/S/ Jerry H. Zogg

ROADWAY STANDARDS D 62

ENGINEER



TRAFFIC LANE RUMBLE STRIP

POSTED SPEED (mph)	DISTANCE TO RUMBLE STRIP		
	DIST. A	DIST. B	DIST. C
55	425'	650'	1000'
50	325'	450'	800'
45	275'	400'	650'
40	225'	①	550'
35	175'	①	475'
≤ 30	125'	①	425'

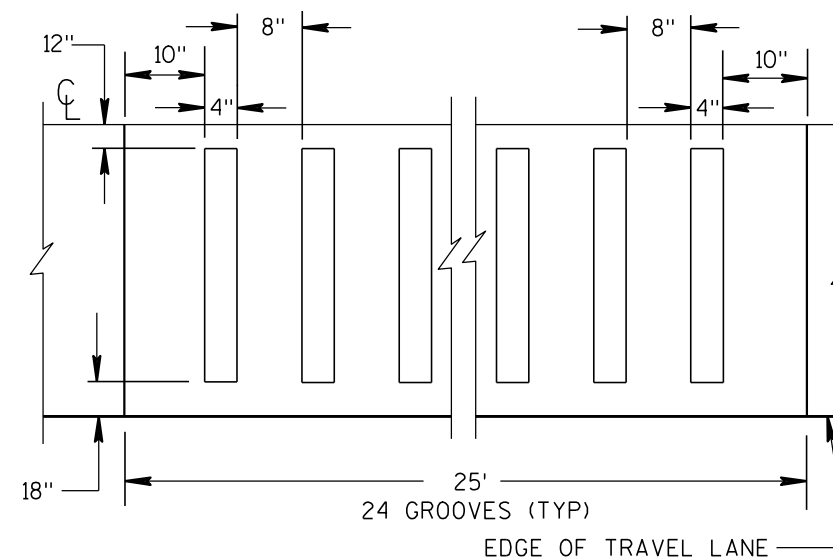
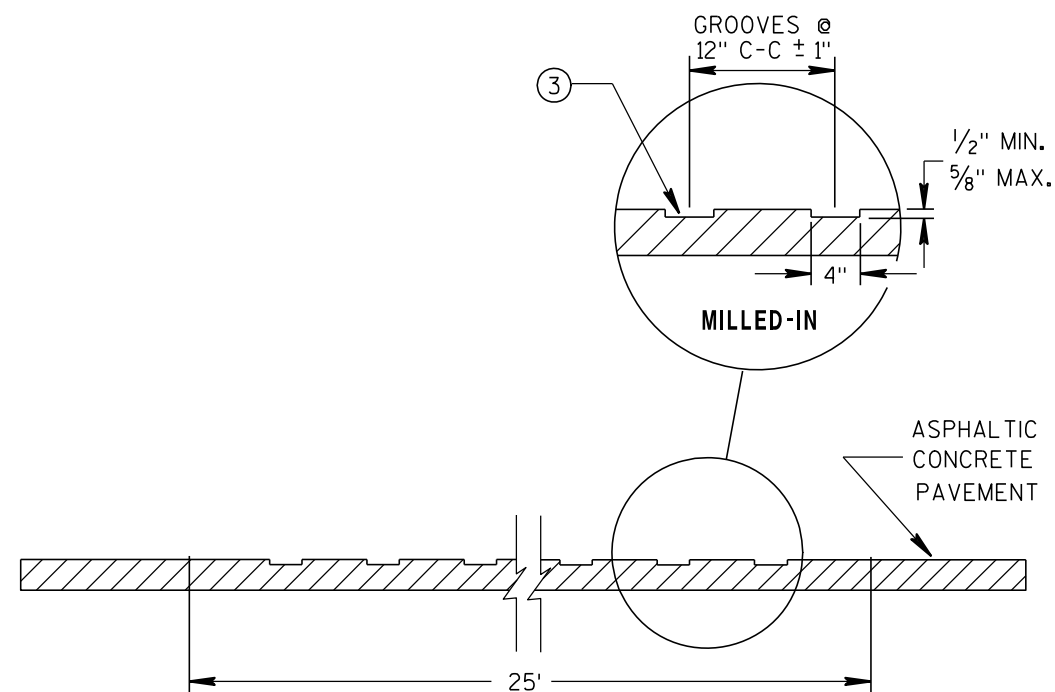
- ① ELIMINATE THE MIDDLE SET OF RUMBLE STRIPS.
- ② LOCATE RUMBLE STRIP 200' IN ADVANCE OF W3-1 SIGN AS SHOWN. IF W3-1 IS NOT IN PLACE, USE DISTANCE C.
- ③ TYPICAL VERTICAL VARIATION BETWEEN PEAKS AND VALLEYS WITHIN THE CUT APPROXIMATELY $\frac{1}{16}$ "
- ④ 12" CLEAR BETWEEN THE SOLID YELLOW LINE AND THE EDGE OF THE RUMBLE.

GENERAL NOTES

CONTRACTOR SHALL CONFIRM RUMBLE STRIP LOCATION WITH THE ENGINEER PRIOR TO INSTALLATION. THE ENGINEER MAY MODIFY THE RUMBLE STRIP LOCATION AS FIELD CONDITIONS DICTATE.

WHEN ASPHALTIC PAVEMENT IS NEW IN THE RUMBLE AREA THE CONTRACTOR SHALL ALLOW THE PAVEMENT TO CURE A MINIMUM OF 7 DAYS PRIOR TO RUMBLE INSTALLATION.

PAVEMENT MARKING AND SIGNING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

ASPHALTIC RUMBLE STRIPS
AT INTERSECTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/17/2011

DATE

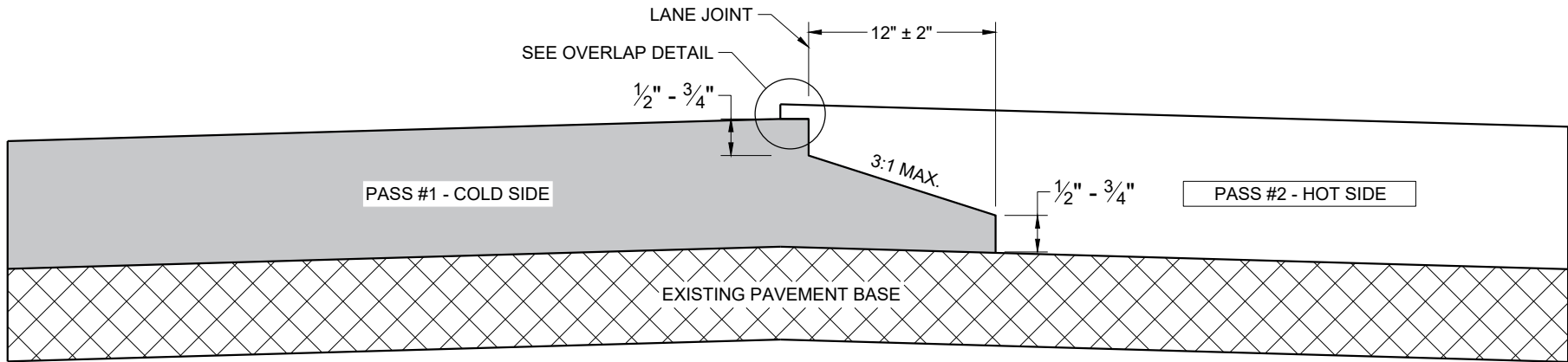
FHWA

/s/ Jerry H. Zogg

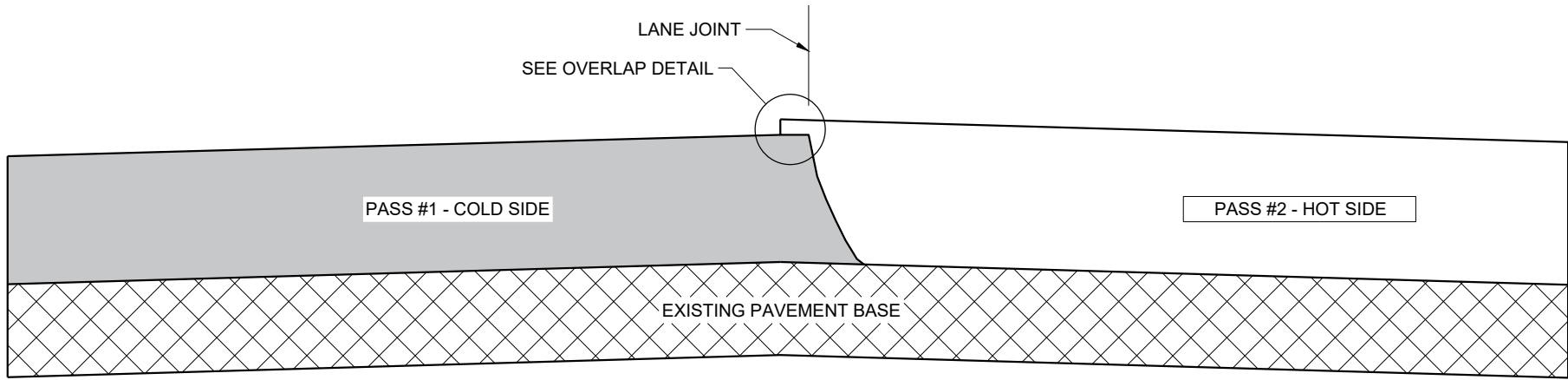
ROADWAY STANDARDS 163

ENGINEER

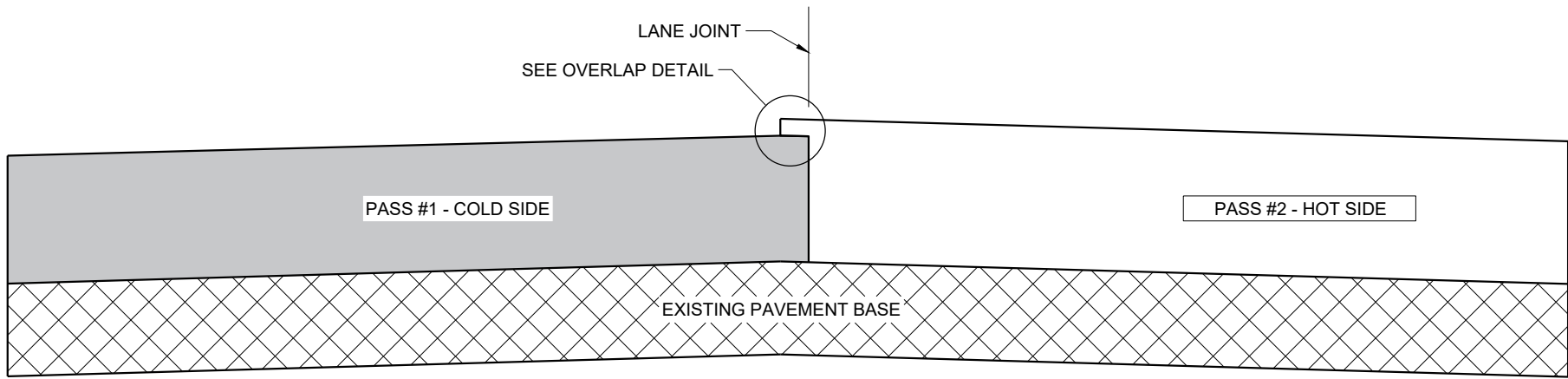
ENT



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

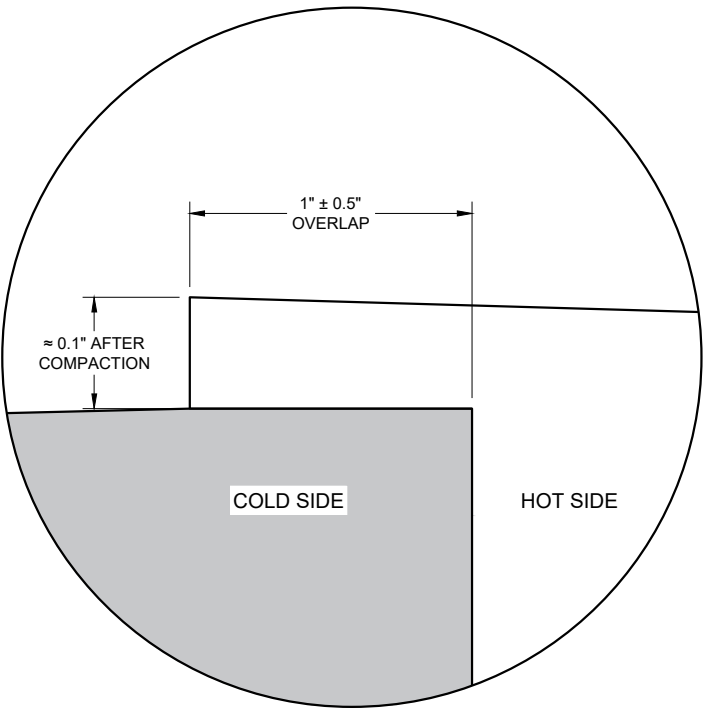
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020 /S/ Steven Hefel
DATE HMA PAVEMENT ENGIN 64
FHWA

6

- S.D.D. 14 B 15-11a**

S.D.D. 14 B 15-11a



6



S.D.D. 14 B 15-11a



6



6



S.D.D. 14 B 15-11a



6

6



6



6



6



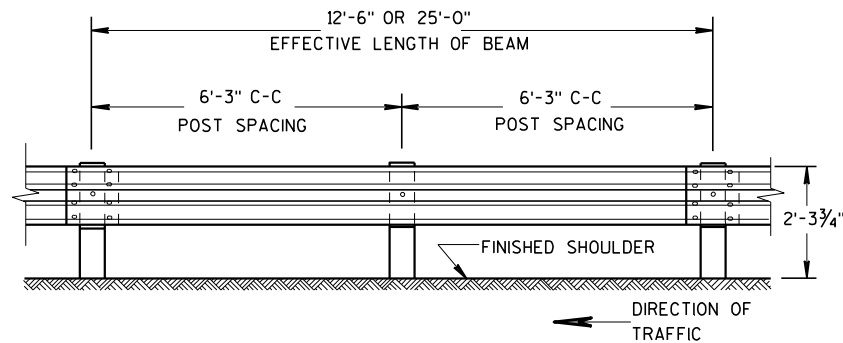
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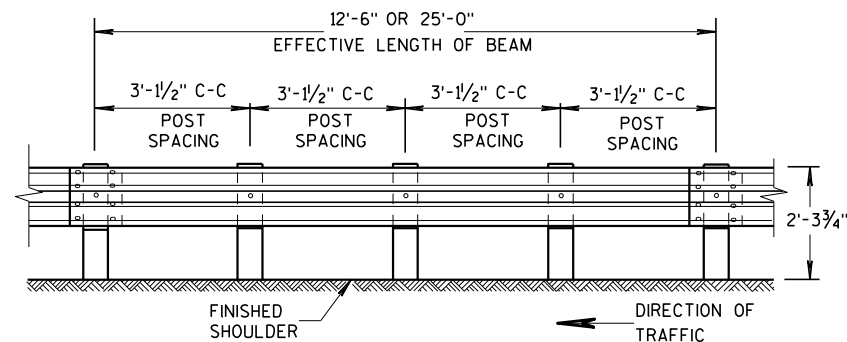
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6



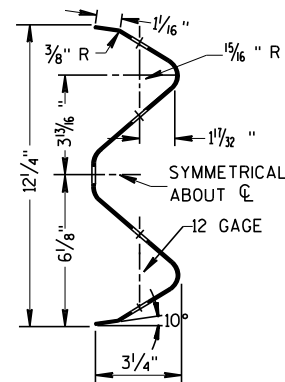
FRONT VIEW

POST SPACING STANDARD INSTALLATION

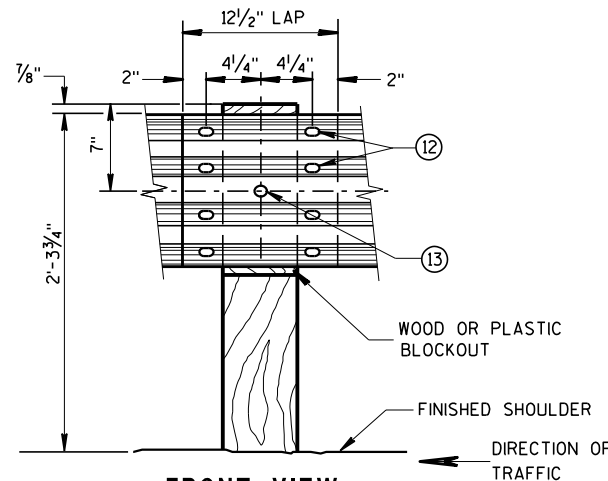


FRONT VIEW

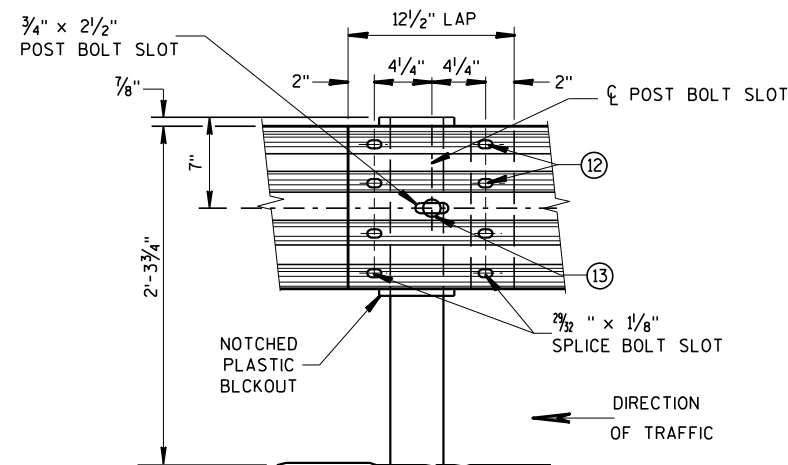
POST SPACING FOR LONGER POST
AT HALF POST SPACING W BEAM (LHW)



SECTION THRU W BEAM



FRONT VIEW
BEAM SPLICE AT WOOD POST
AND POST MOUNTING DETAIL

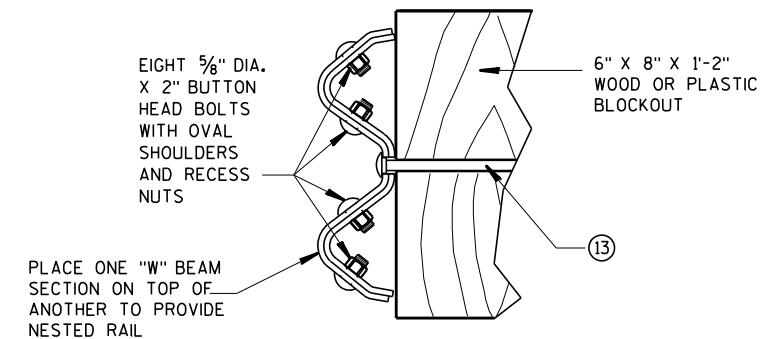


FRONT VIEW
BEAM SPLICE AT STEEL POST
TYPICAL SPlicing DETAILS
OF STEEL PLATE BEAM GUARD

GENERAL NOTES

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

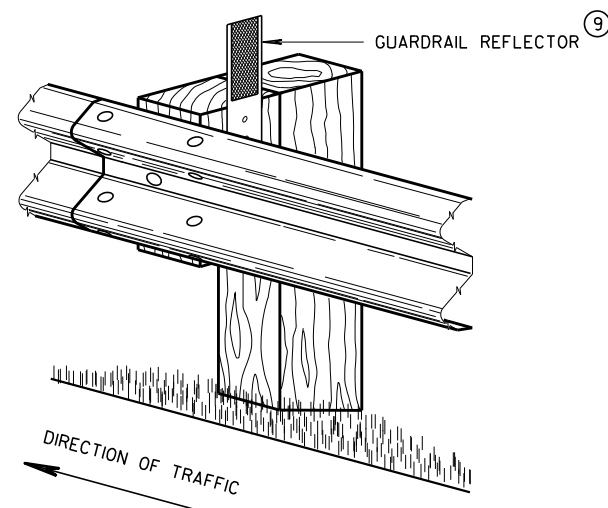
- ⑨ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.
- ⑫ 8 - 5/8" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.
- ⑬ 5/8" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH 5/8" DIA. F844 FLAT WASHER UNDER NUT.



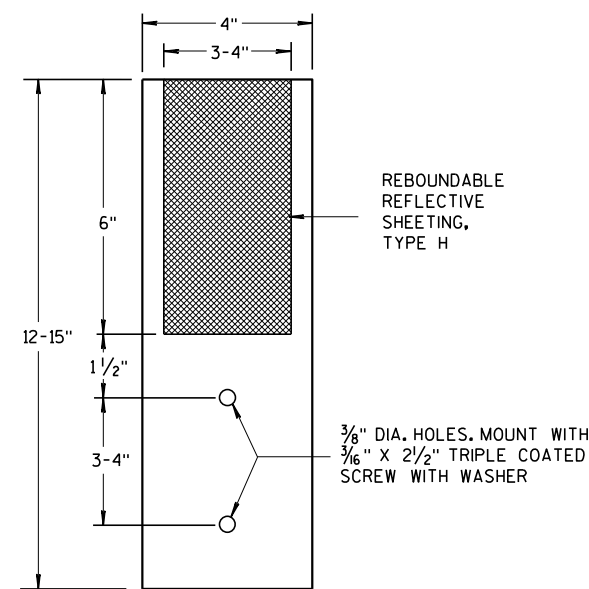
NESTED W BEAM (NW)

USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR
CONSTRUCTING NESTED W BEAM (NW)

* USE DOUBLE SIDED WHITE GUARDRAIL REFLECTORS ON ROADWAYS WITH BI-DIRECTIONAL TRAFFIC (NO MEDIAN). USE SINGLE SIDED WHITE (RIGHT SIDE) AND SINGLE SIDED YELLOW (LEFT SIDE) ON ROADWAYS WITH MEDIAN SEPARATION.



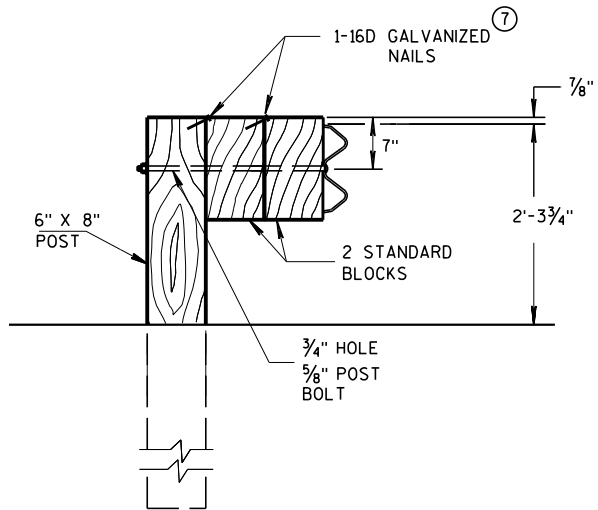
4" X 12" GUARDRAIL REFLECTOR DETAIL
AND TYPICAL INSTALLATION *



4"x 12" GUARDRAIL REFLECTOR

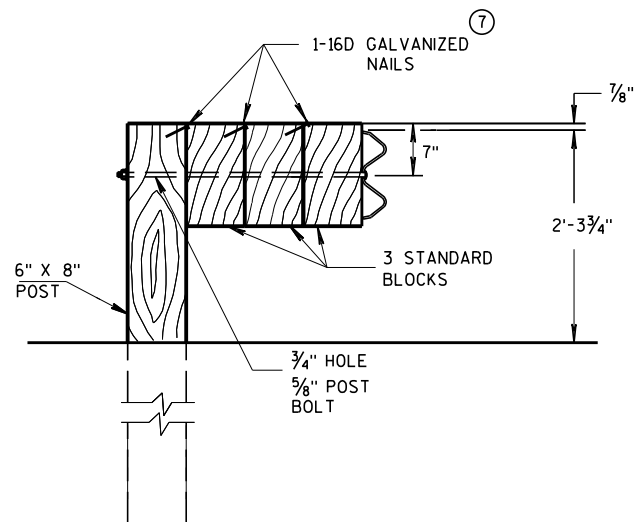
STEEL PLATE BEAM GUARD,
CLASS "A",
INSTALLATION & ELEMENTS

STATE OF WISCO⁶⁶
DEPARTMENT OF TRANSPORTATION



DETAIL FOR DOUBLE BLOCKS

THE NUMBER OF DOUBLE BLOCK POSTS
WITHIN A BARRIER RUN IS UNLIMITED

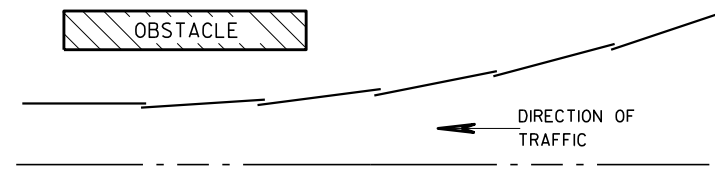


DETAIL FOR TRIPLE BLOCKS

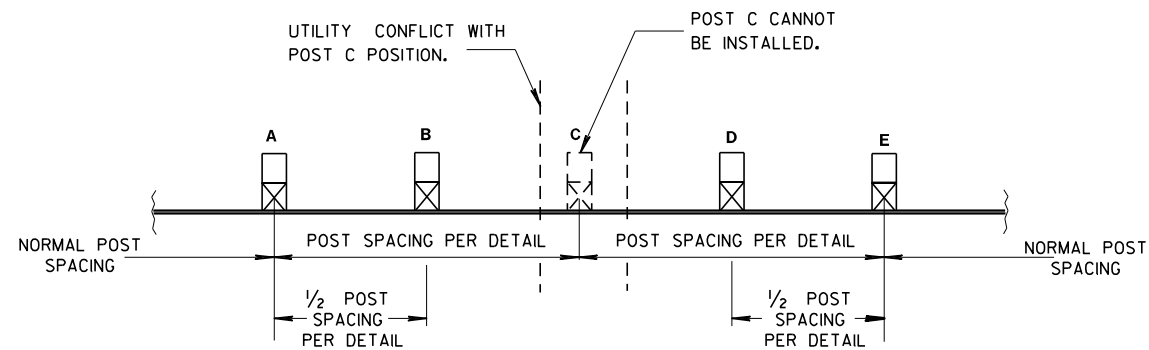
TRIPLE BLOCK DETAIL IS LIMITED TO ONE
LOCATION WITHIN A BEAM GUARD RUN.

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES
PREVENT THE POST FROM BEING INSTALLED.

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



PLAN VIEW BEAM LAPPING DETAIL

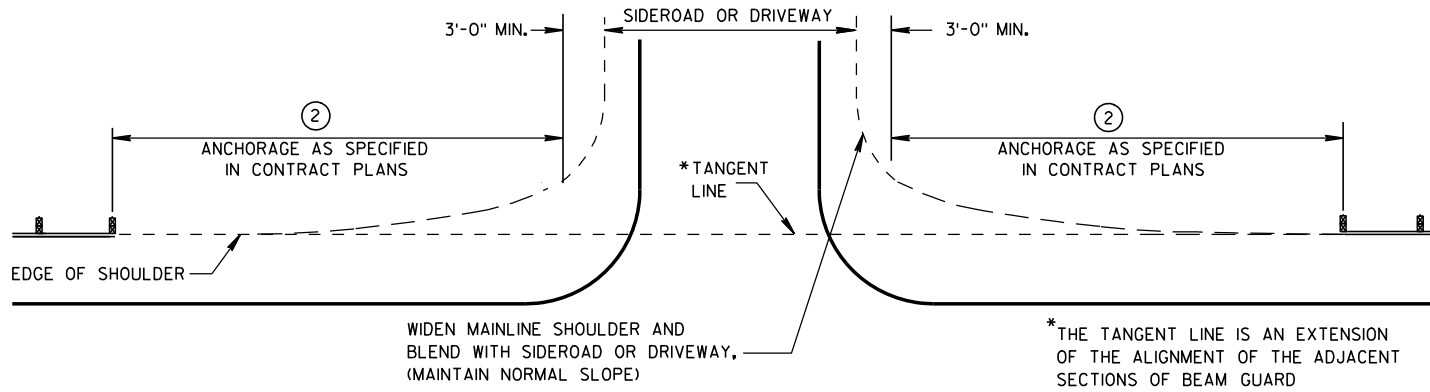


POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

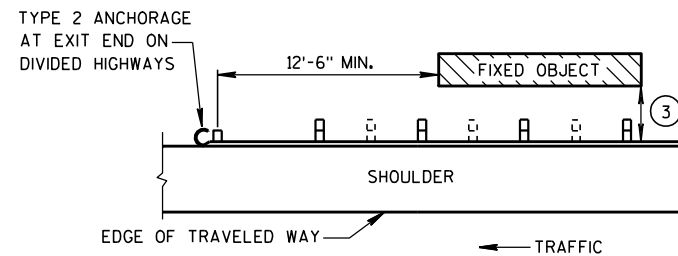
STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED	/S/ Rodney Taylor
June 2017	DATE
ROADWAY STANDARDS 67	UNIT SUPERVISOR
FHWA	MENT



BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC

GENERAL NOTES

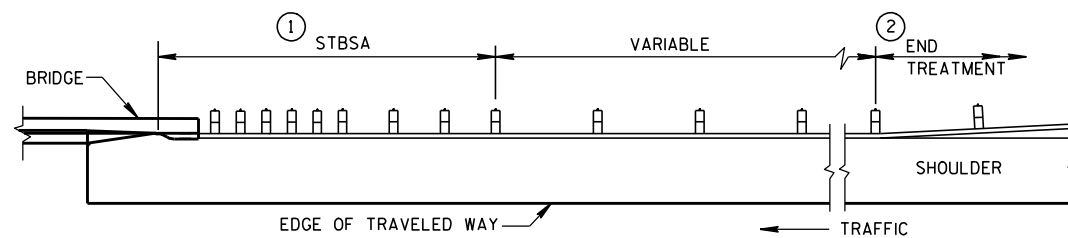
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

W6 X 9 OR W6 X 8.5 STEEL POSTS WITH NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

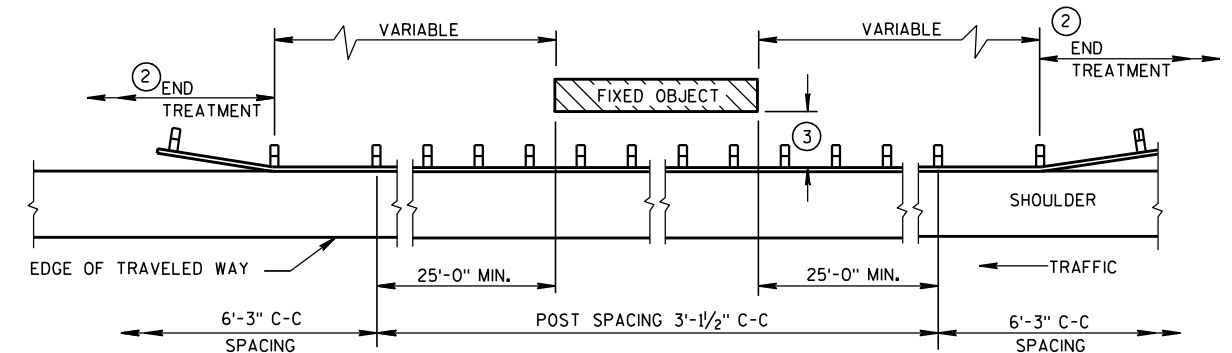
THE LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

- ① STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.
- ② USE AN APPROVED END TREATMENT FOR THE TRAFFIC APPROACH SIDE OF BRIDGE/OBSTACLES. USE TYPE 2 ANCHORAGE ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

MINIMUM LATERAL DISTANCE FROM FACE OF BEAM GUARD TO FIXED OBJECT	POST SPACING
3'-6"	3' - 1½"
4'-6"	6' - 3"



BEAM GUARD AT FULL WIDTH BRIDGES

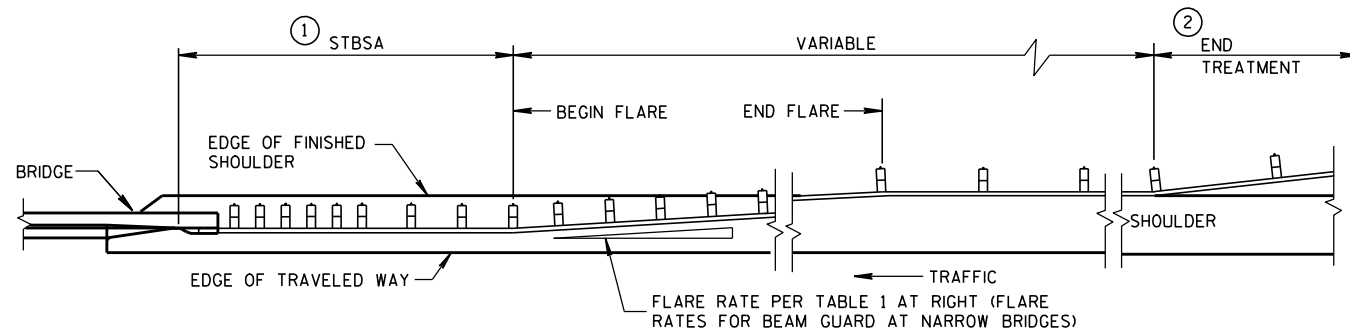


BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

(RAIL TO OBSTACLE CLEARANCE 3'-6" TO 4'-6")

TABLE 1
FLARE RATES FOR BEAM
GUARD AT NARROW BRIDGES

POSTED SPEED (MPH)	FLARE RATE
25	13:1
30	15:1
35	16:1
40	18:1
45	21:1
50	24:1
55	26:1
65	30:1



BEAM GUARD AT NARROW BRIDGES (FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)

STEEL PLATE BEAM GUARD
CLASS "A"
AT BRIDGES, OBSTACLES
AND SIDEROADS/DRIVEWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-21-07 /S/ Jerry H. Zoon
DATE ROADWAY STANDARDS (68 INT
FHWA ENGINEER

BILL OF MATERIALS

NOTE NO.	DESCRIPTION
①	WOOD BREAKAWAY TERMINAL POST: 5½" X 7½" X 3'-9"
②	STEEL TUBE TS 8" X 6" X 0.188", 6'-0"
④	WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0"
⑤	WOOD OFFSET BLOCKS: 6' X 8" X 1'-2"
⑥	PIPE SLEEVE: 2" X 5 ½" STANDARD PIPE
⑦	BEARING PLATE
⑧	BCT CABLE ASSEMBLY
⑨	CABLE ANCHOR BOX
⑩	STRUT & YOKE
⑪	STEEL PLATE BEAM, END PANEL 12 GA.
⑫	STEEL PLATE BEAM: 12 GA. 13'-6½"
⑬	IMPACT HEAD
⑭	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS

GENERAL NOTES

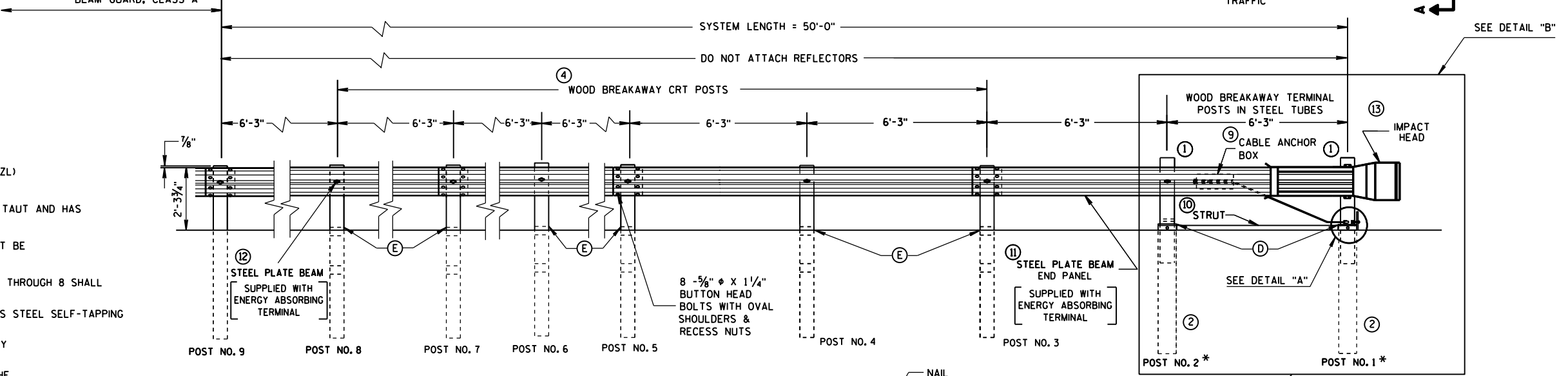
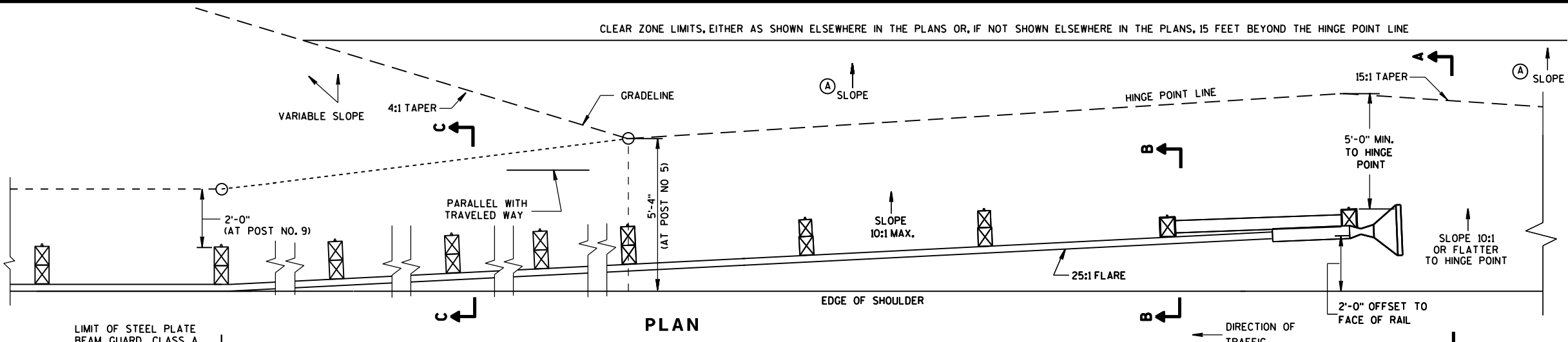
FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS.

- (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.
- (D) THE TOP OF THE STEEL TUBE ON POSTS 1 AND 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.
- (E) THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST 3 THROUGH 8 SHALL BE ¾" ABOVE THE FINISHED GROUND LINE.
- (F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS, ONE SCREW PER CORNER.

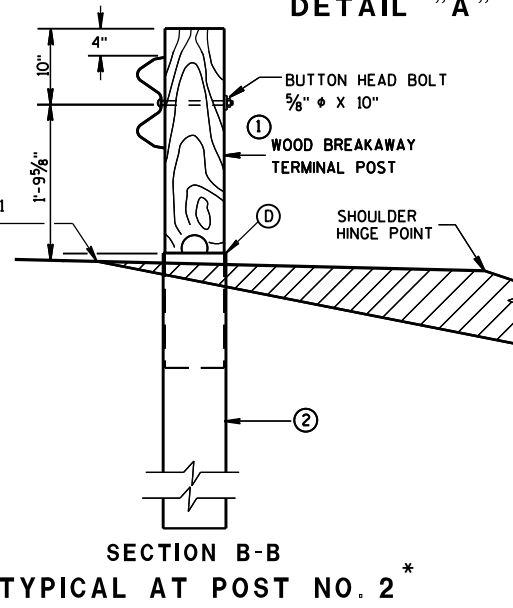
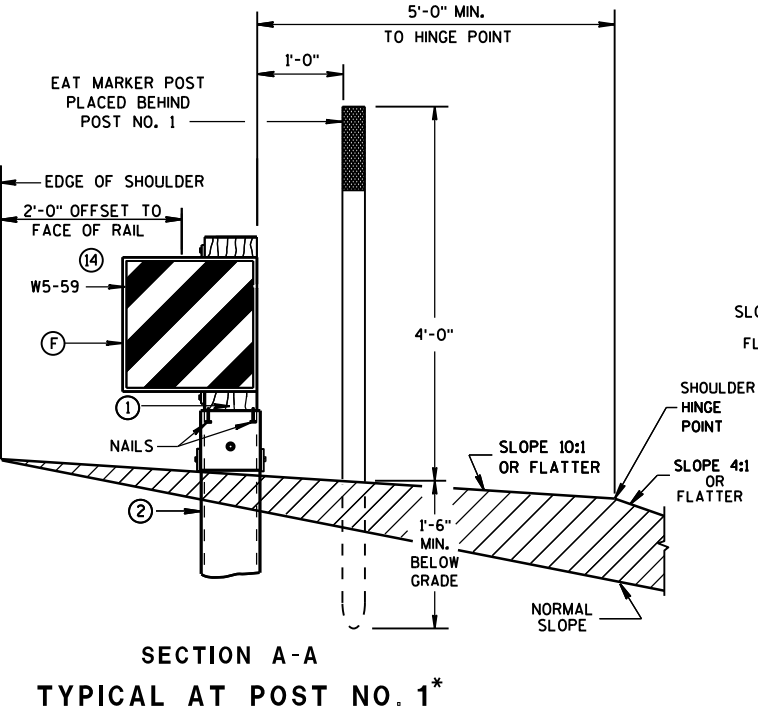
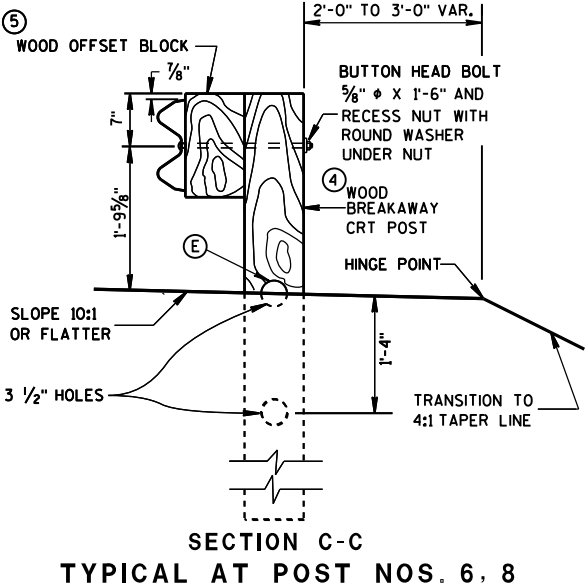
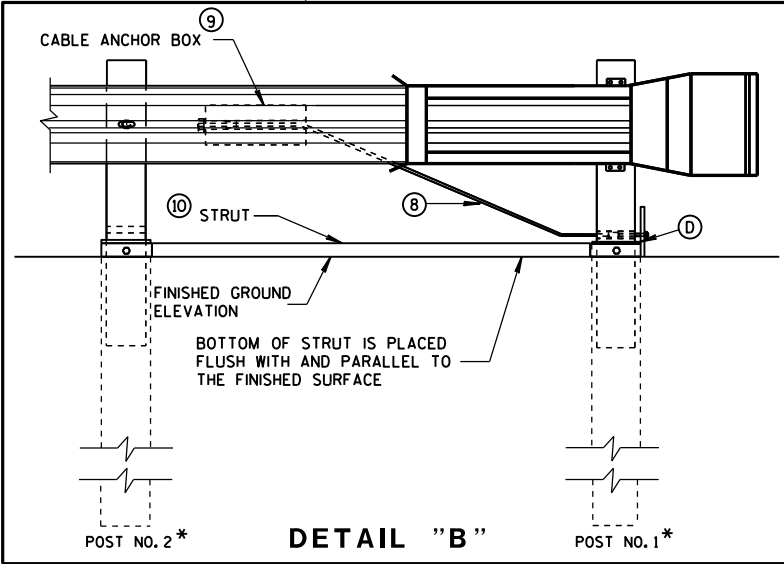
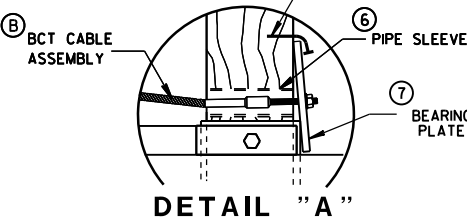
STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.

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

*DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

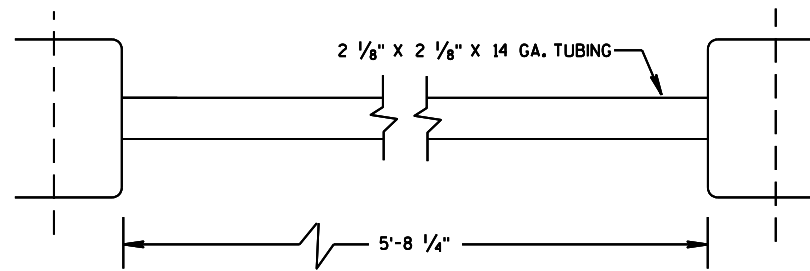


ELEVATION

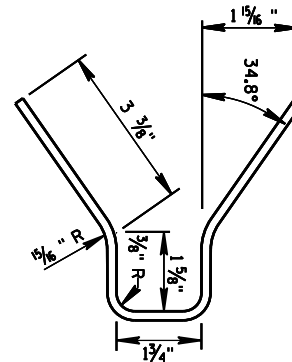
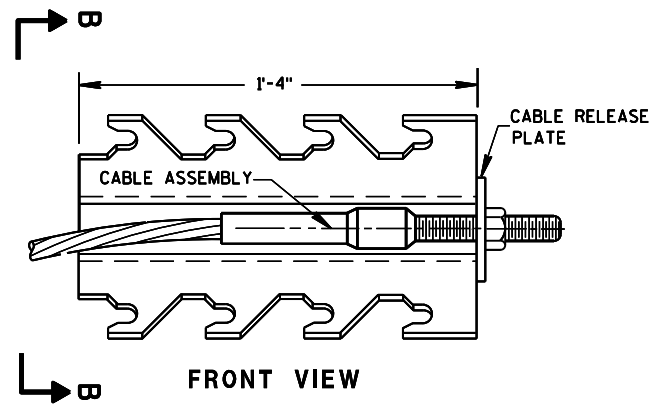


STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

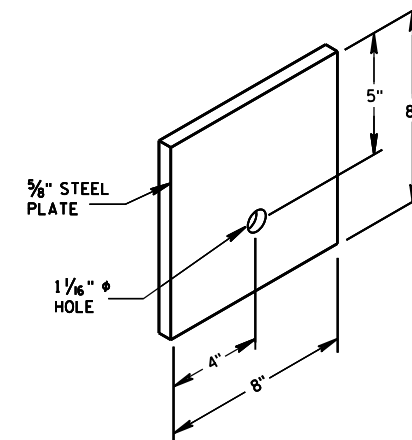
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



⑩ STRUT DETAIL



⑨ CABLE ANCHOR BOX

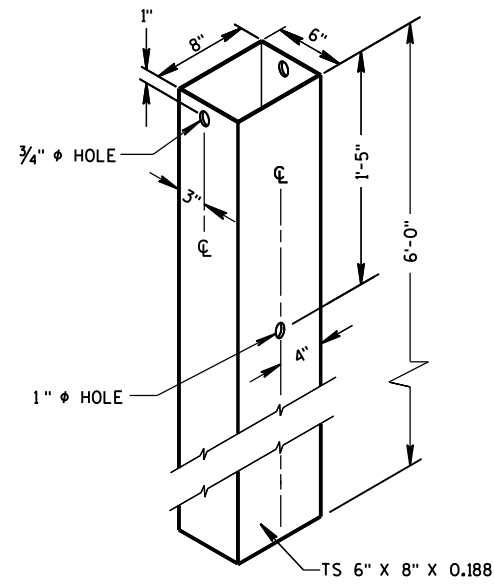


⑦ STEEL BEARING PLATE

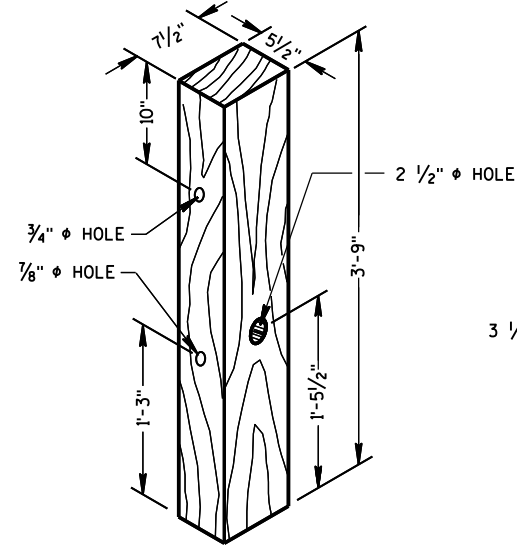
STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

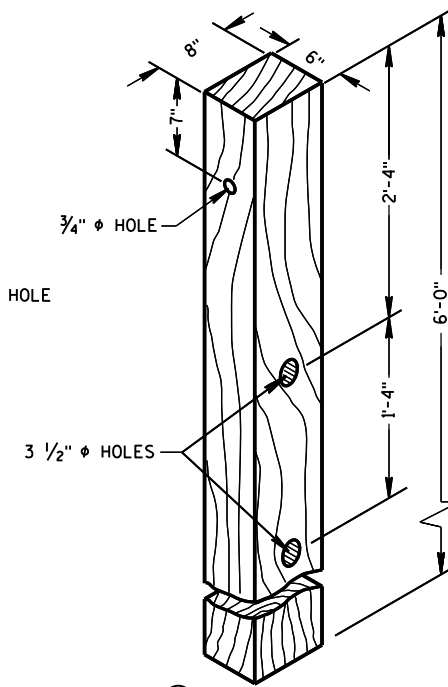
70



② **72" STEEL TUBE**
(POSTS NO. 1-2)



① **TERMINAL POST**

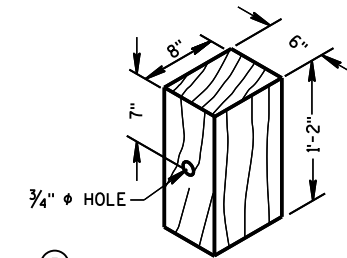


④ **CRT POST**
(POSTS NO'S 5-8)

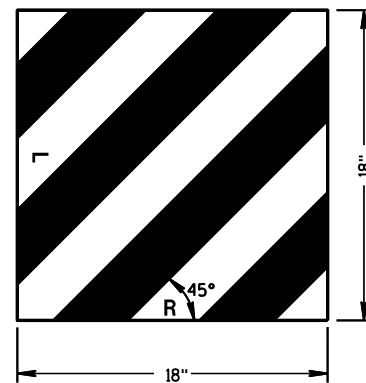
WOOD BREAKAWAY POSTS

GENERAL NOTES

WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 1/2" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.

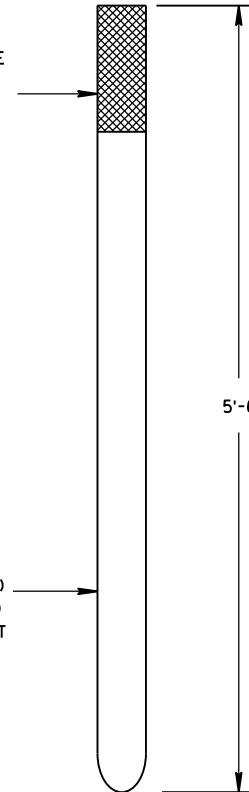


⑤ **WOOD OFFSET BLOCK**
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



⑭ **REFLECTIVE SHEETING DETAILS**

TYPE H
YELLOW REFLECTIVE
SHEETING 3" X 9".
SEE STANDARD
SPECIFICATION 637.



FRONT VIEW



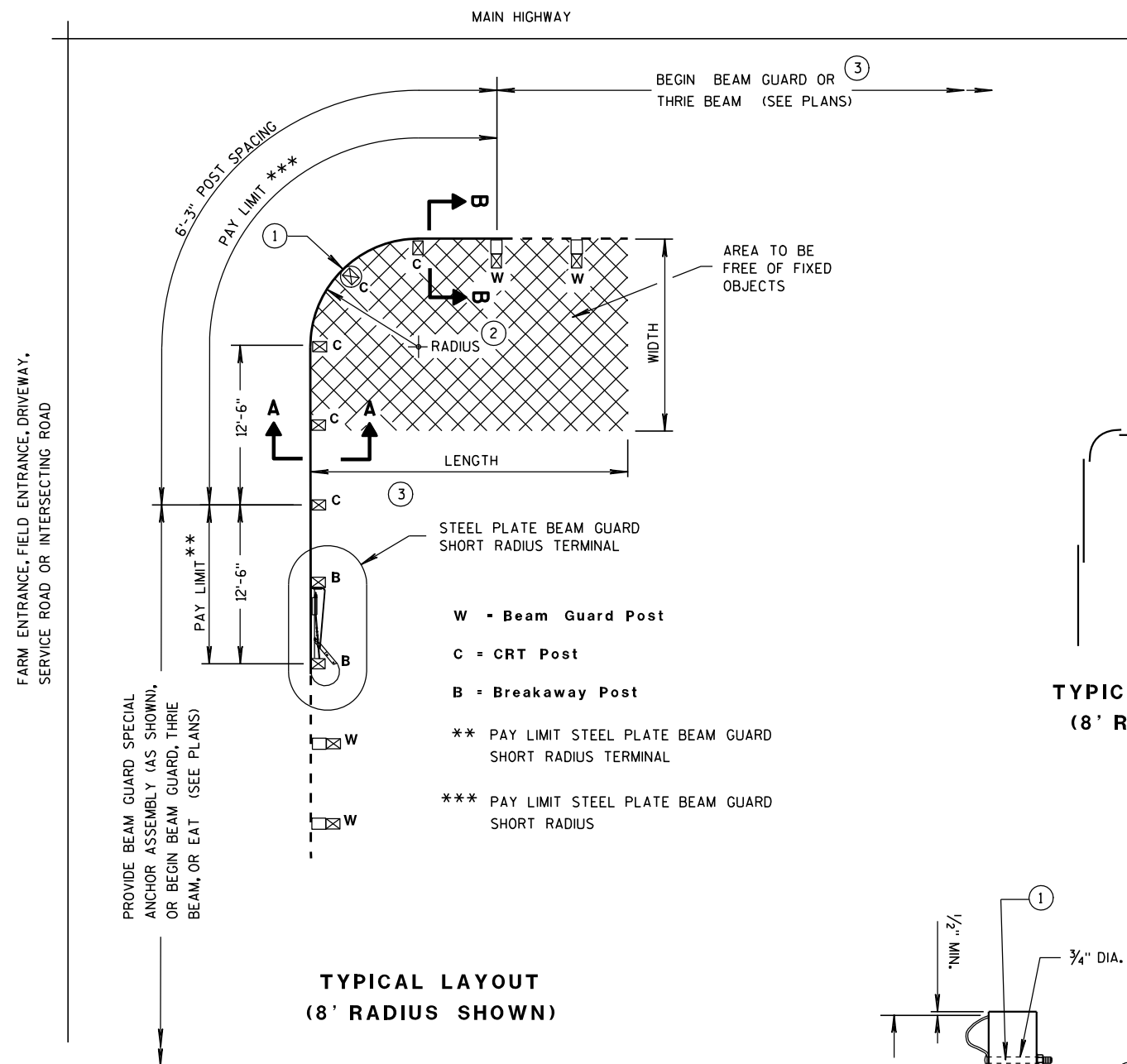
SIDE VIEW

E.A.T. MARKER POST

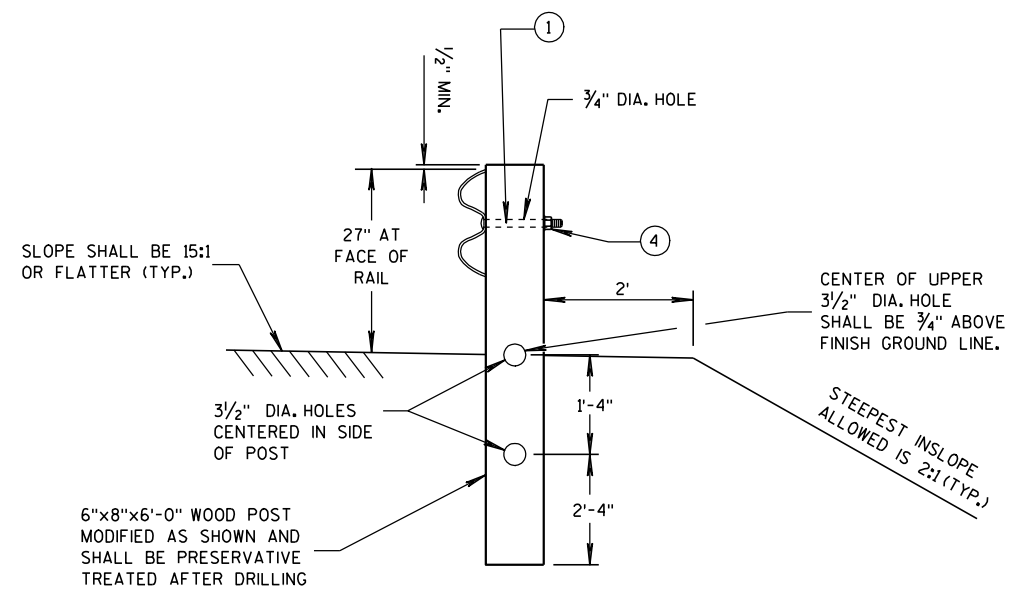
**STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 /S/ Rodney Taylor
DATE ROADWAY STANDARDS 71 ENT
FHWA UNIT SUPERVISOR



**TYPICAL LAYOUT
(8' RADIUS SHOWN)**



**SECTION A-A
(CRT POST)**

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

GENERAL NOTES

ALL ANGLES, CHANNELS, AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36 AND THE STRUCTURAL TUBING SHALL CONFORM TO ASTM A 500. WELDING SHALL MEET THE CURRENT REQUIREMENTS OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE ANSI/AWS D1.1. ALL STRUCTURAL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 123. PUNCHING, DRILLING, CUTTING, OR WELDING WILL NOT BE PERMITTED AFTER GALVANIZING. FURNISH AND INSTALL HARDWARE PER STANDARD SPECIFICATION 614.2, UNLESS NOTED OTHERWISE.

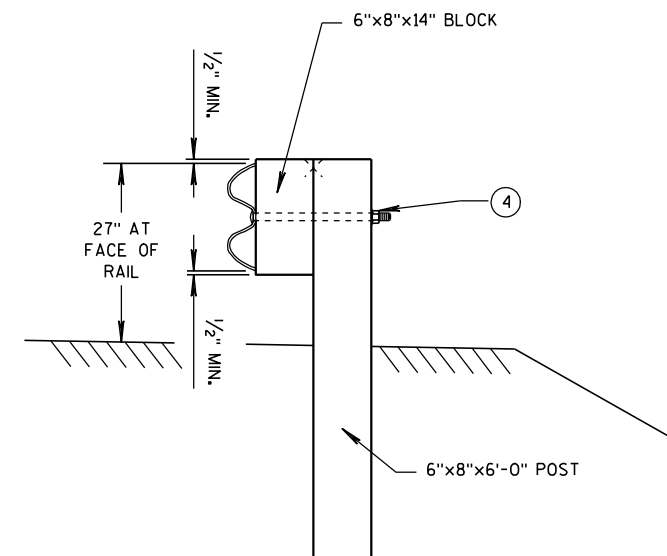
SHOP BEND CURVED RAIL SECTIONS.

SEE STANDARD DETAIL DRAWING 14 B 15 FOR OTHER DETAIL.

- ① ON THE 8 FOOT RADIUS INSTALLATION, DO NOT INSTALL BUTTON HEAD BOLT AT CENTER CRT POST.
- ② RADIUS FROM 8' - 36'. SEE PLAN.
- ③ HEIGHT TRANSITION MAY BE REQUIRED. SEE PLAN OR PROJECT ENGINEER.
- ④ 5/8" ϕ X 1'-6" BUTTON HEAD BOLT AND RECESS NUT WITH ROUND WASHER UNDER NUT.

RADIUS	NUMBER OF CRT POSTS	*NUMBER AND LENGTH OF CURVED RAILS	REQUIRED AREA FREE OF FIXED OBJECTS (LENGTH x WIDTH)
8'	5	1 at 12.5'	25' x 15'
16'	7	1 at 25'	30' x 15'
24'	9	1 at 25' and 1 at 12.5'	40' x 20'
32'	11	2 at 25'	50' x 20'

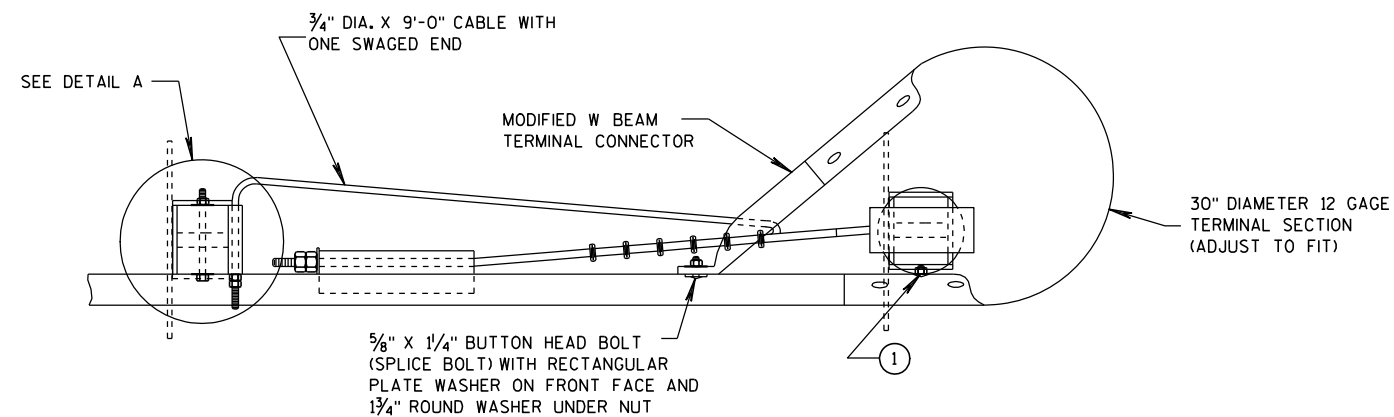
* THE NUMBER OF RAILS IS BASED ON A 90° INTERSECTION. SEE PLAN FOR NON 90° INSTALLATIONS.



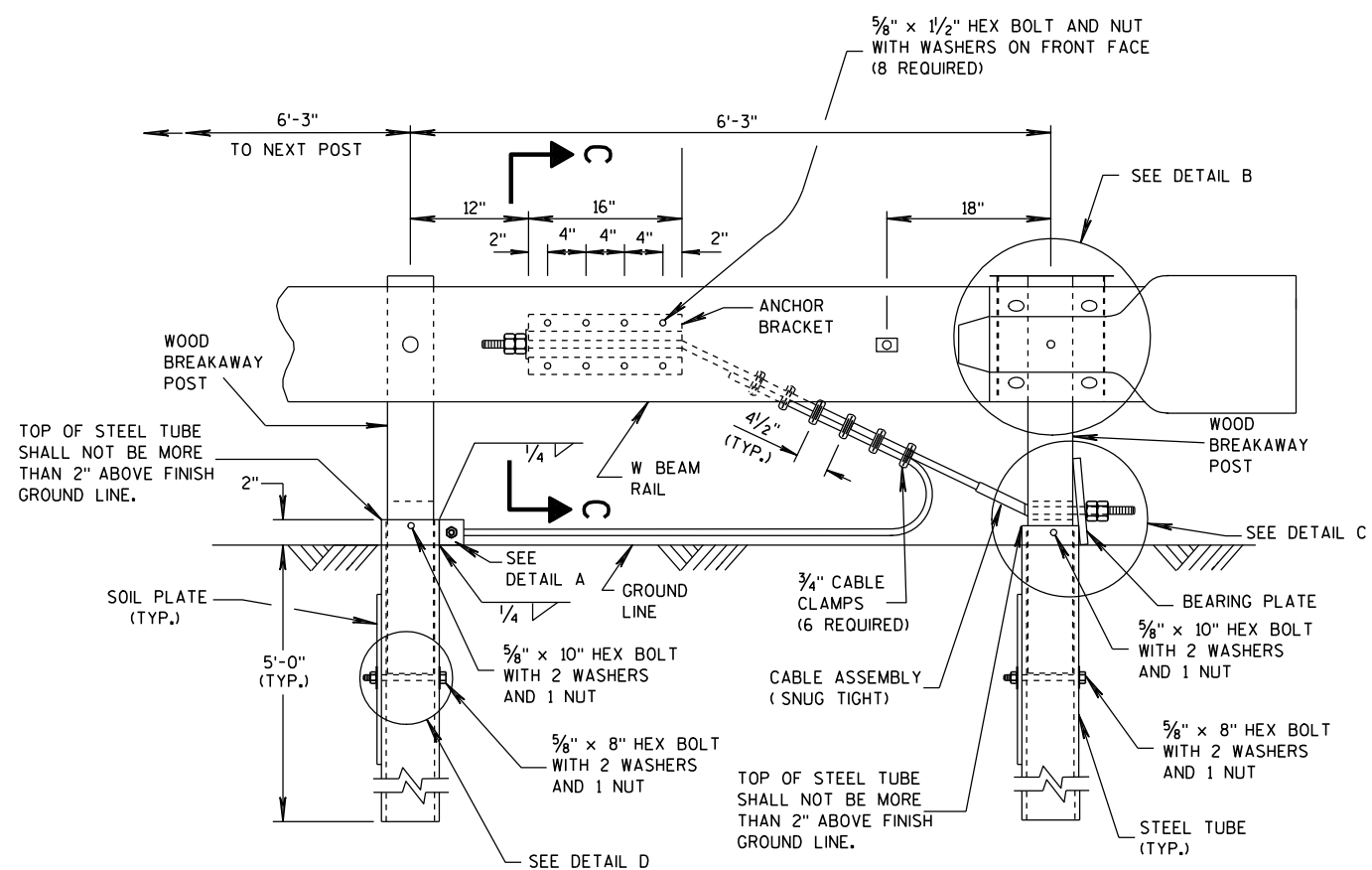
**SECTION B-B
(BEAM GUARD POST)**

**STEEL PLATE BEAM GUARD
SHORT RADIUS TERMINAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



PLAN VIEW

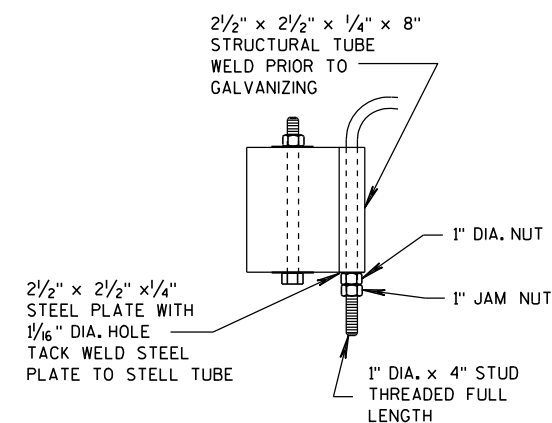


ELEVATION VIEW

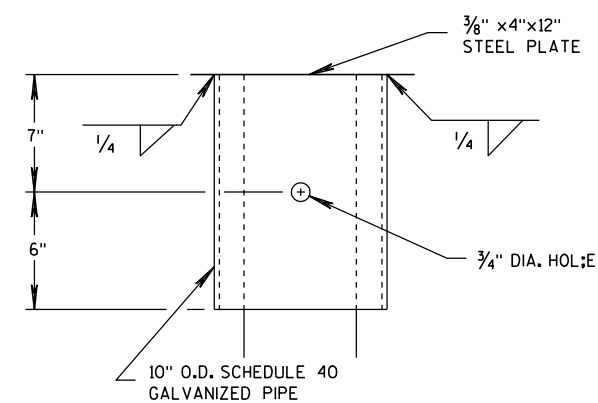
STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

GENERAL NOTES

- ① ATTACH W BEAM RAIL TO THE STEEL PIPE WITH A $\frac{5}{8}$ " X 2" BUTTON HEAD BOLT WITH NO WASHER. CONNECTION TO THE POST IS NOT REQUIRED.
- INSTALL GALVANIZED $\frac{3}{4}$ " (6X19) PREFORMED WIRE OR INDEPENDENT WIRE ROPE CORE CONFORMING TO AASHTO M 30. MANUFACTURE WIRE ROPE OUT OF IMPROVED PLOW STEEL WITH A MINIMUM BREAKING STRENGTH OF 42,800 PSI.



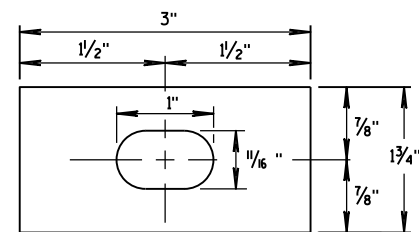
DETAIL A



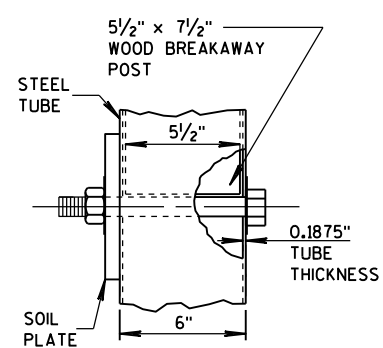
DETAIL B

(BEAM GUARD AND TERMINAL SECTION NOT SHOWN)

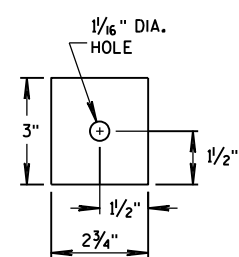
STEEL PLATE BEAM GUARD
SHORT RADIUS TERMINALSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



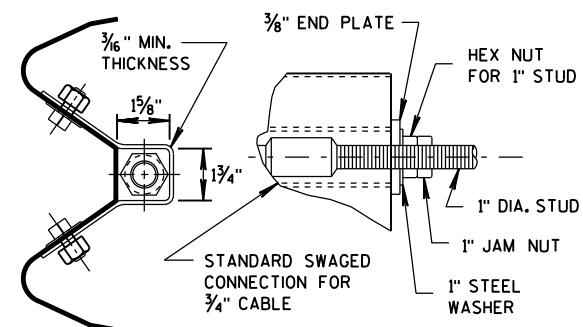
RECTANGULAR PLATE WASHER



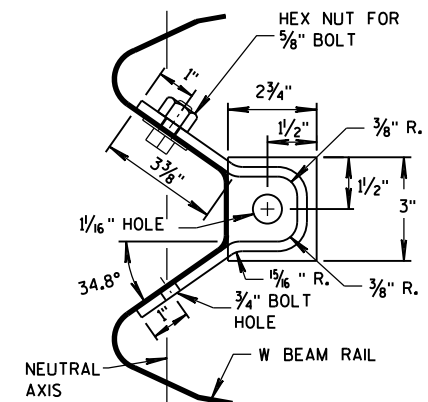
DETAIL D



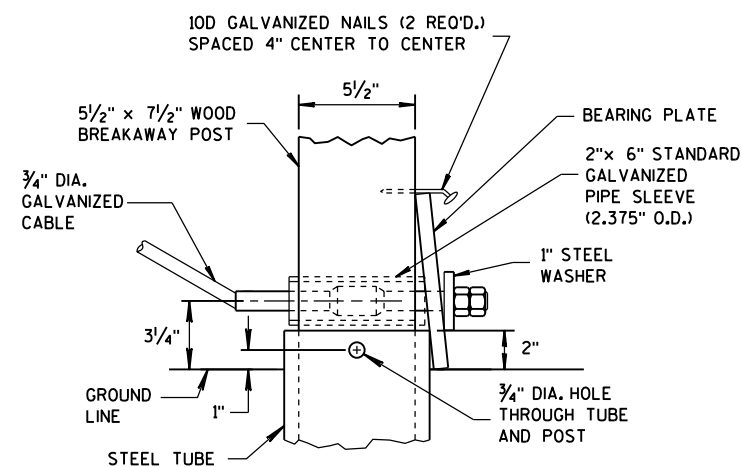
END PLATE



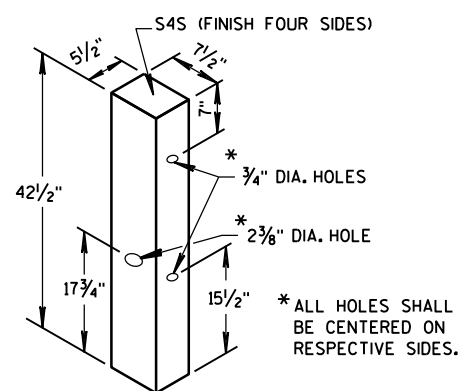
SECTION C-C
(END PLATE REMOVED)



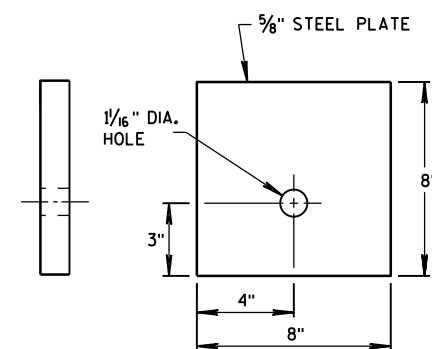
ANCHOR BRACKET



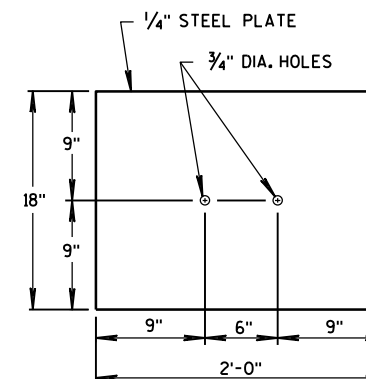
DETAIL C



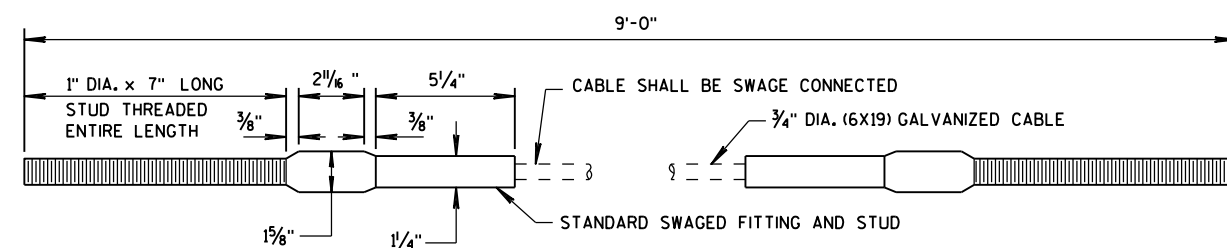
WOOD BREAKAWAY POST



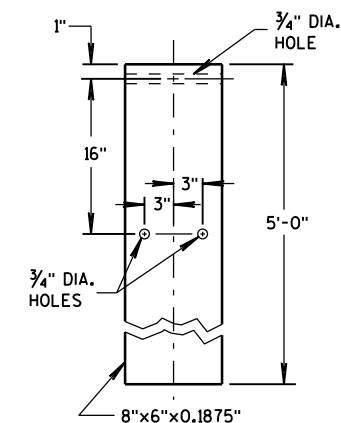
BEARING PLATE



SOIL PLATE



CABLE ASSEMBLY



STEEL TUBE

STEEL PLATE BEAM GUARD
SHORT RADIUS TERMINAL

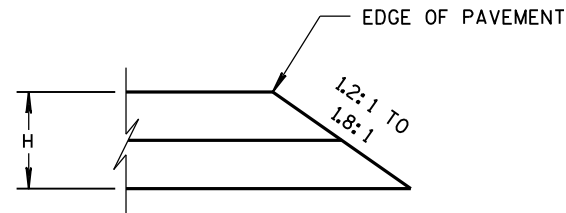
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/18/08
DATE

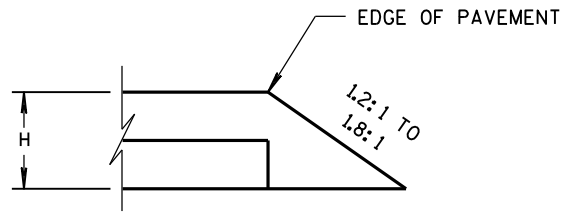
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER 74

INT

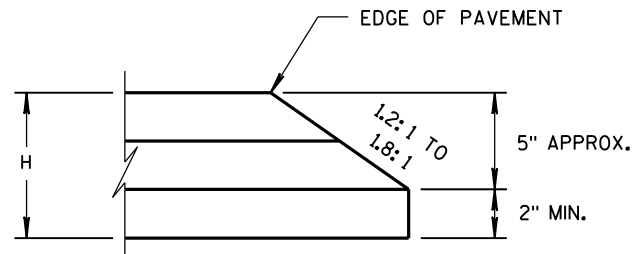
FHWA



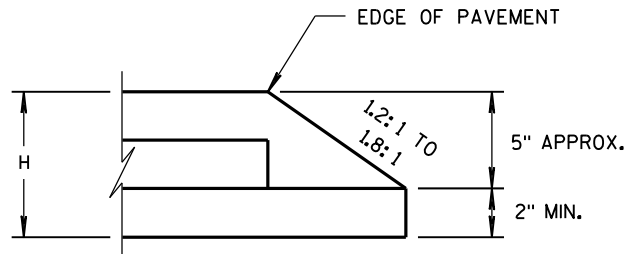
CONSTRUCTED WITH FINAL TWO LAYERS
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER
FOR H 5" OR LESS

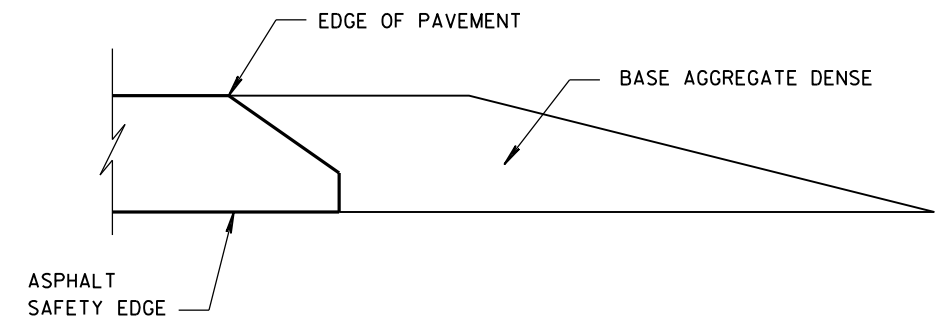


CONSTRUCTED WITH FINAL TWO LAYERS
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER
FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

SAFETY EDGE_{SM}

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

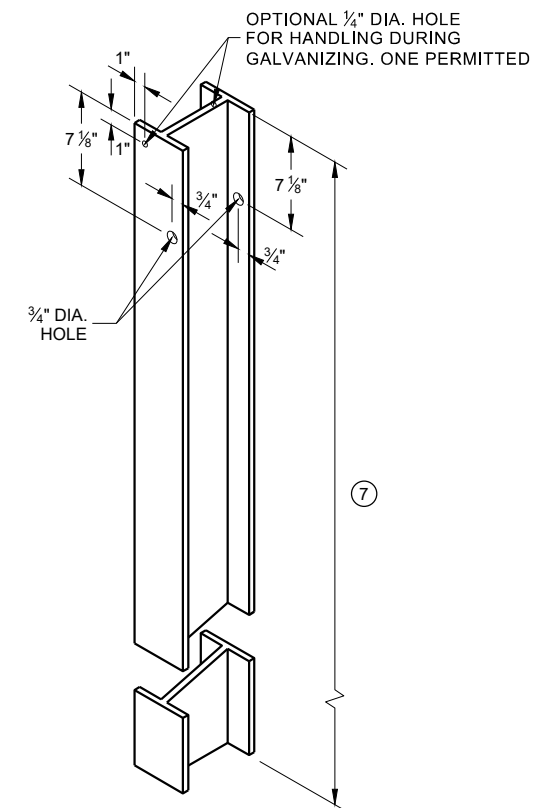
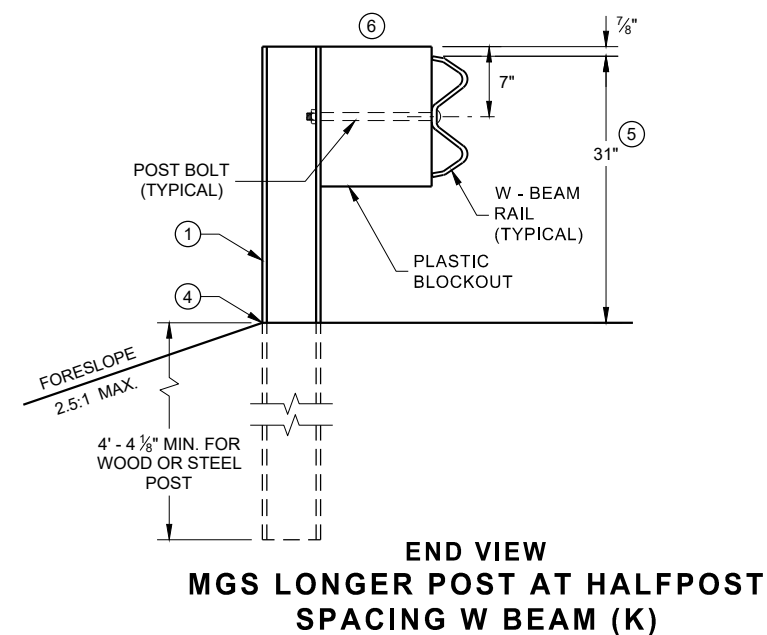
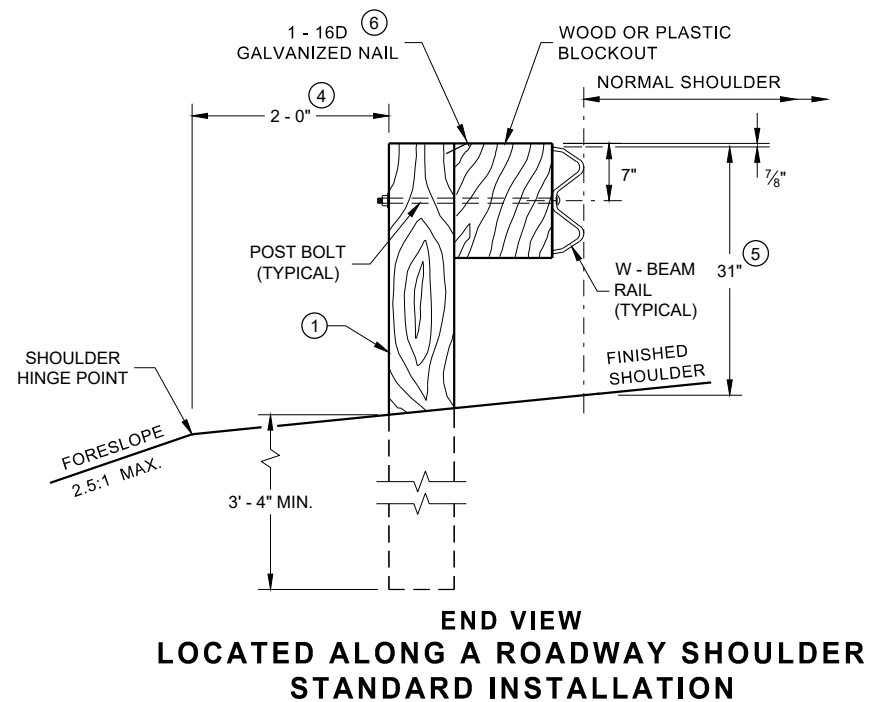
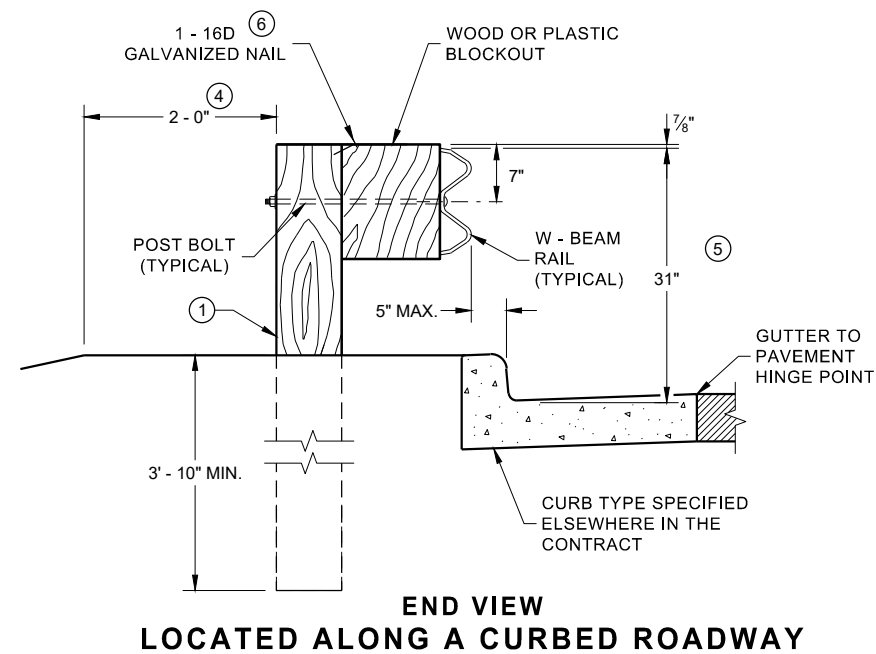
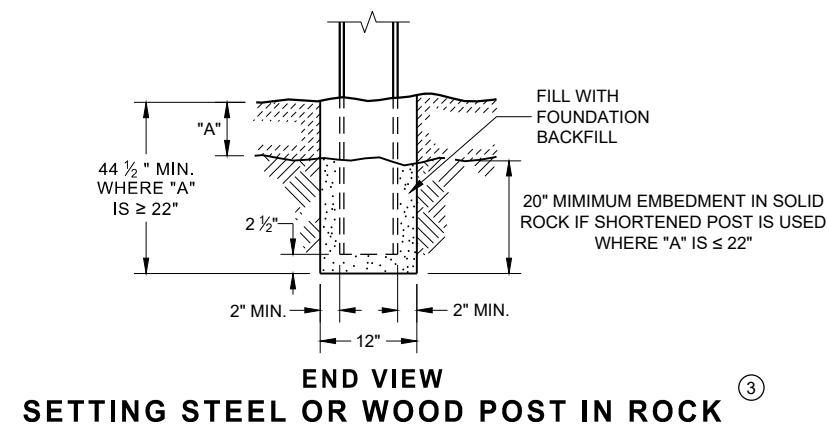
11/30/2012
DATE

FHWA

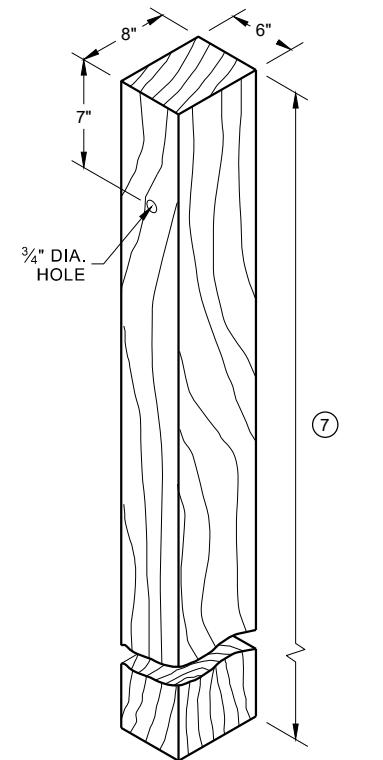
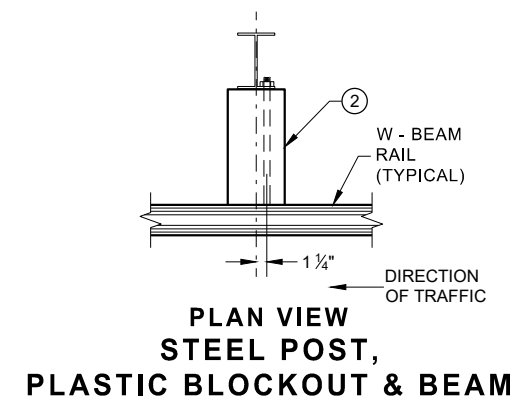
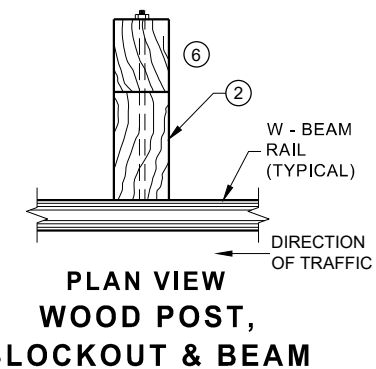
/s/ Jerry H. Zoaga
ROADWAY STANDARDS
ENGINEER

ENT

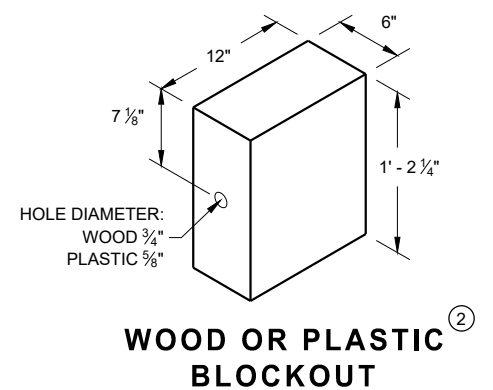
- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- ③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH 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 $\pm 1"$. FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 3/4" TO 32".
- ⑥ WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- ⑦ TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".

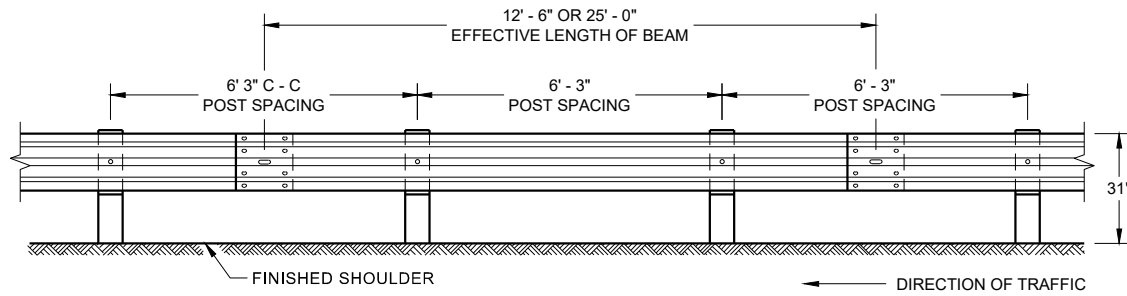


**STEEL POST & HOLE
PUNCHING DETAIL
(W 6 X 9) ①**

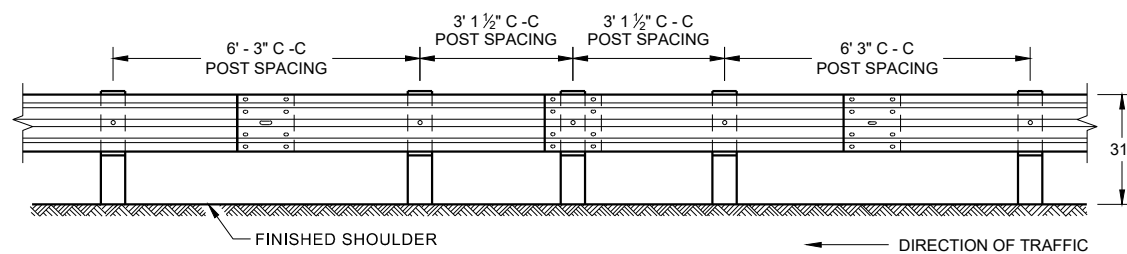


WOOD POST (6" X 8") NOMINAL ⁽¹⁾

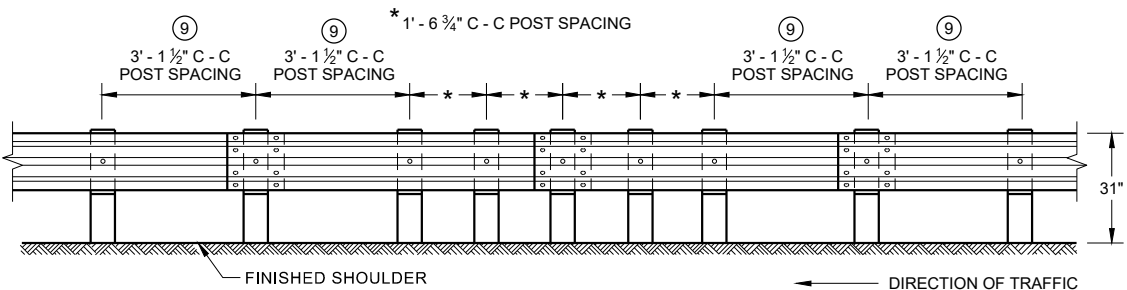




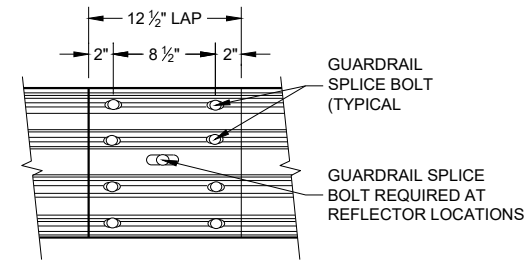
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



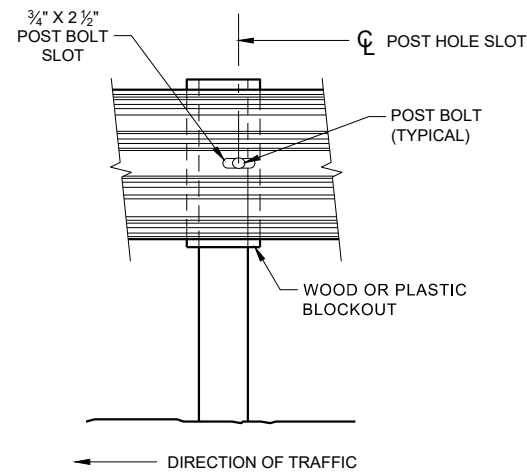
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



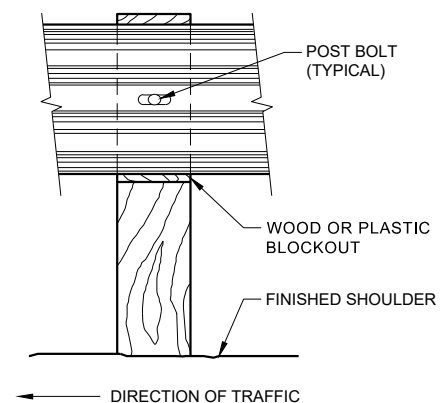
**FRONT VIEW
QUARTER POST SPACING (QS)**



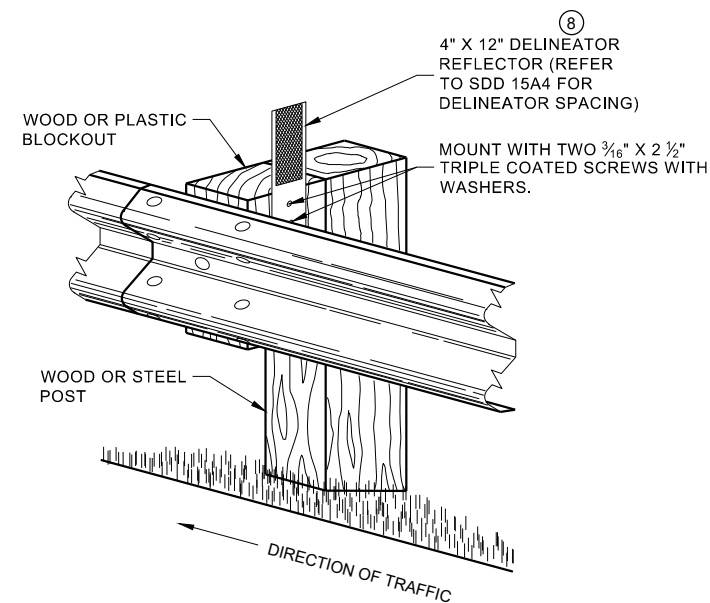
**FRONT VIEW
MID-SPAN BEAM SPLICE**



FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



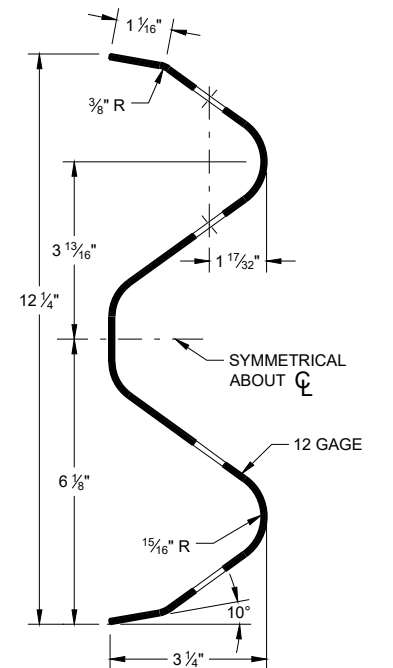
**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

GENERAL NOTES

- 8 DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
- 9 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 3/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

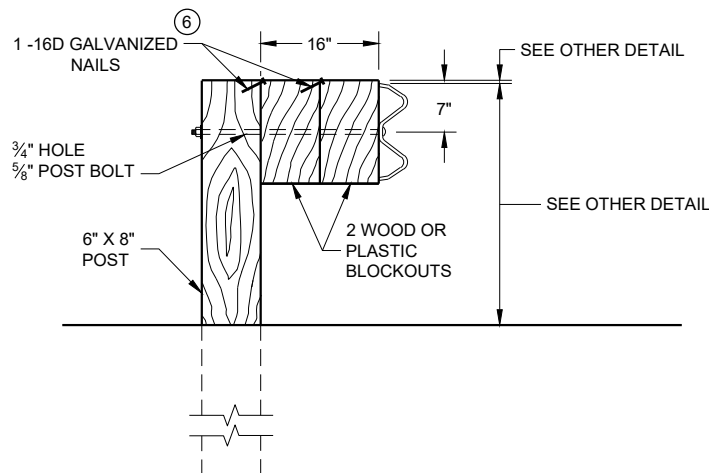
GUARD RAIL SPLICE BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



SECTION THRU W-BEAM RAIL

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

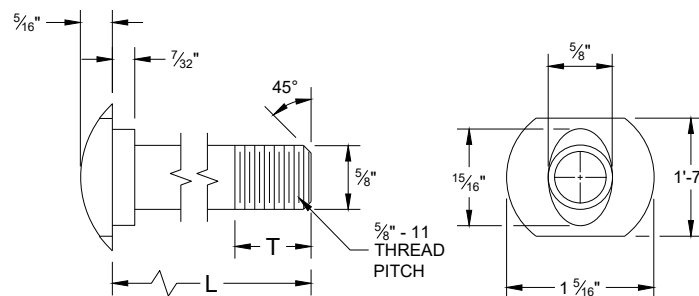
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 77



DETAIL FOR 16" BLOCKOUT DEPTH

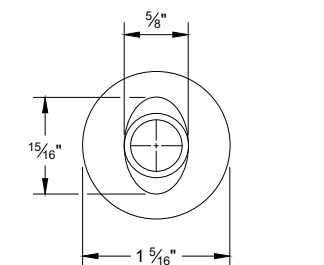
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

- NOTE:
1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF $\frac{3}{16}$ ".
 2. IF THE BOLT EXTENDS MORE THAN $\frac{1}{4}$ " FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

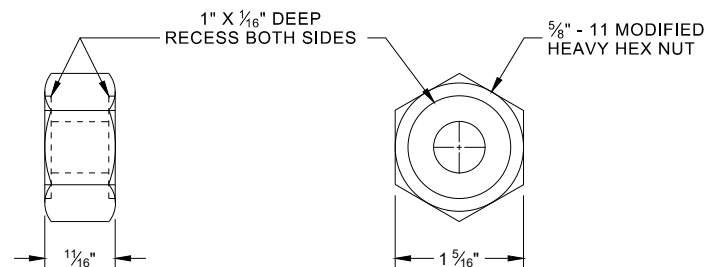


POST BOLT TABLE

L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"

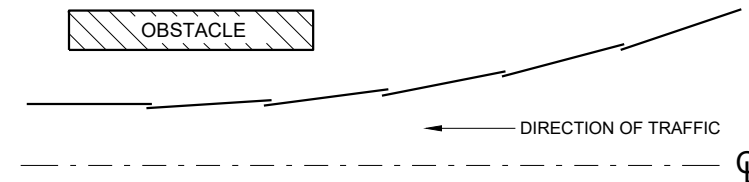


ALTERNATE BOLT HEAD

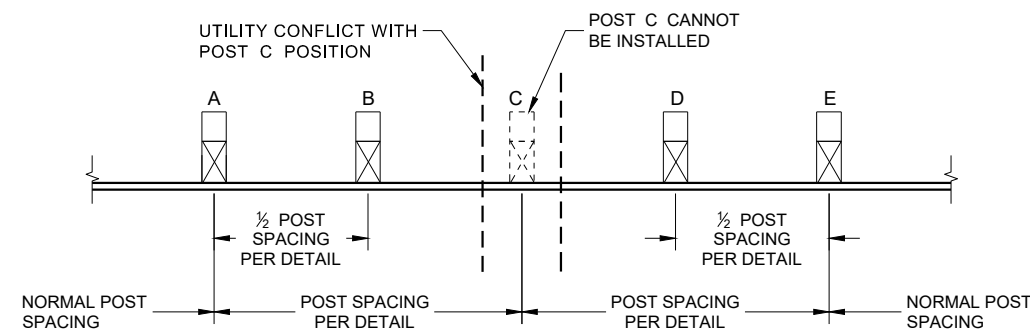


POST BOLT, SPLICE BOLT
AND RECESS NUT

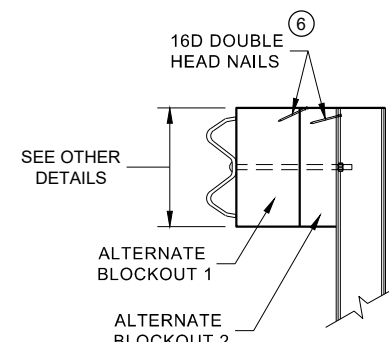
- ⑥ WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



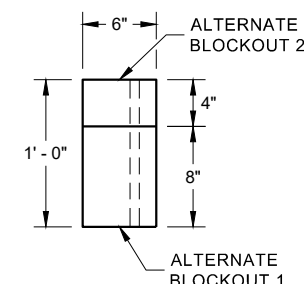
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW



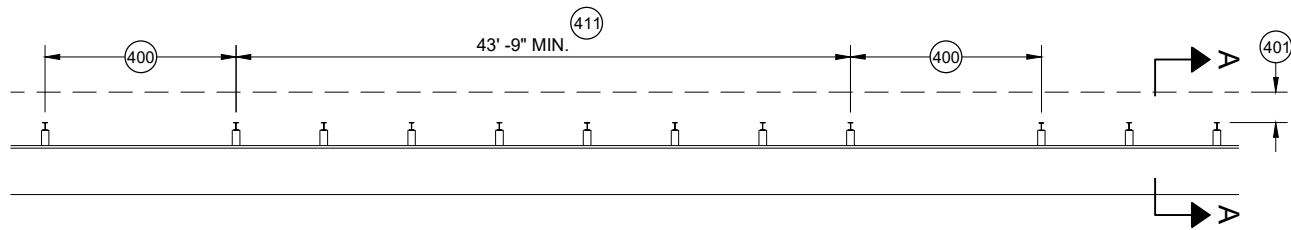
PLAN VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

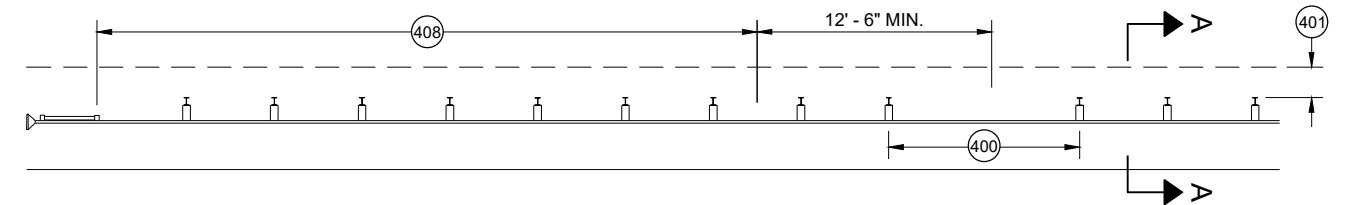
- NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.
- DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

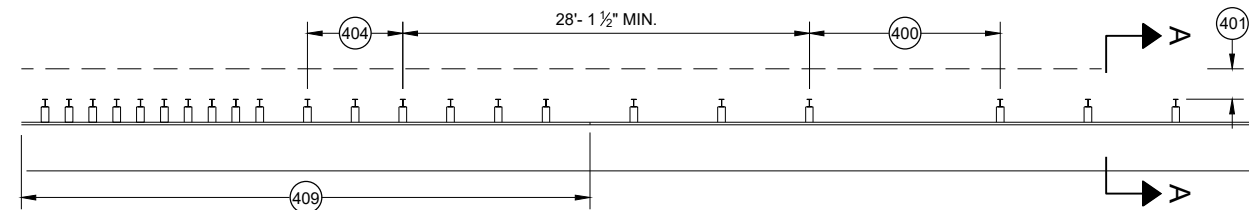
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



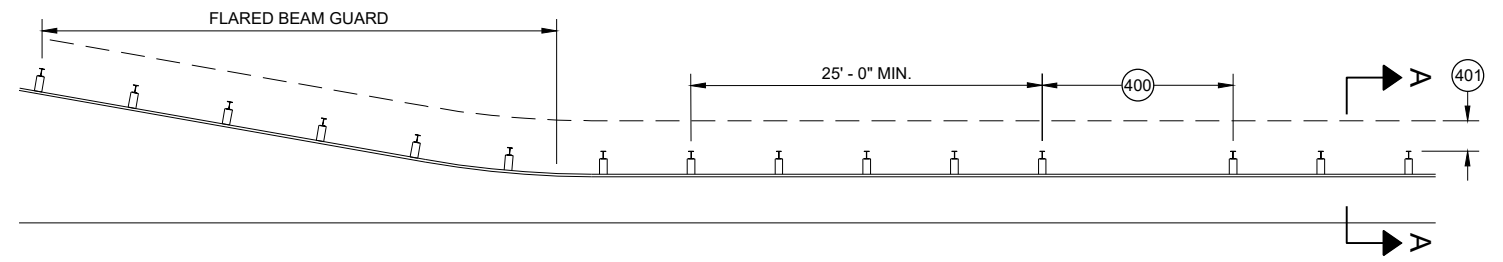
MISSING POST IN MGS GUARDRAIL



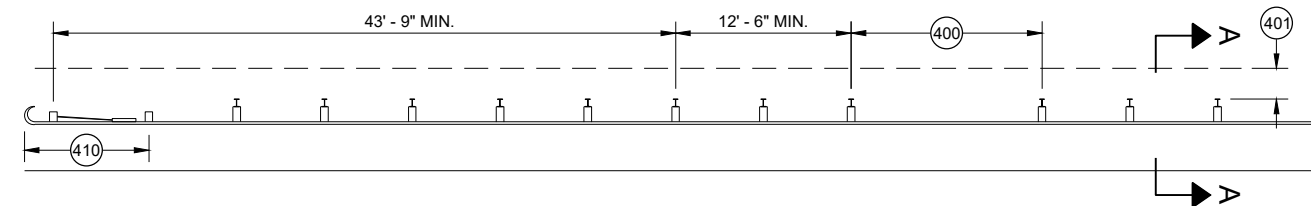
MISSING POST IN MGS GUARDRAIL NEAR EAT



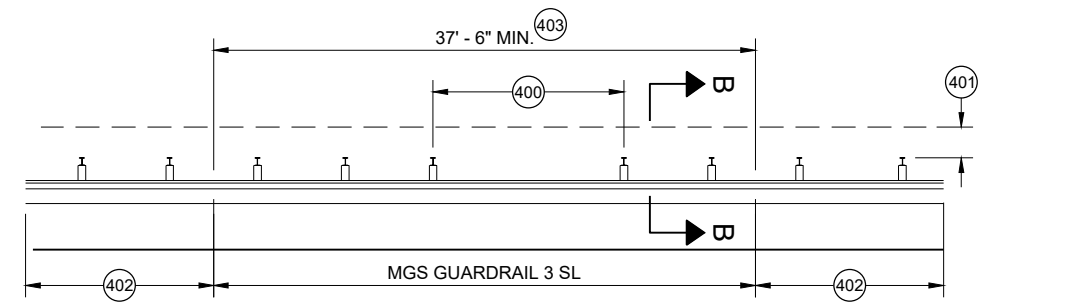
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

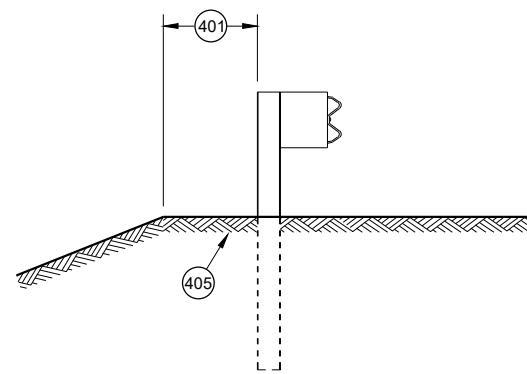


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

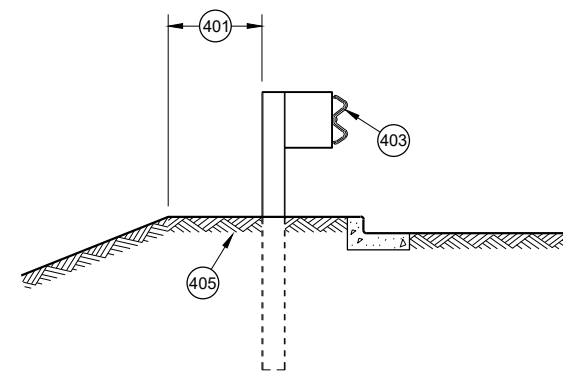


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)

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



SECTION A - A



SECTION B - B

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

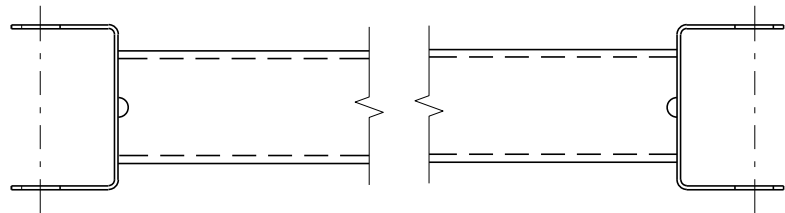
- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED
- (C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.
- (D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS, ONE SCREW PER CORNER.
- (E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.

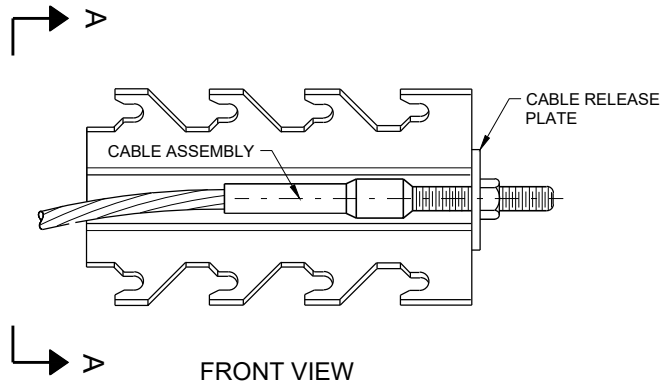


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 80

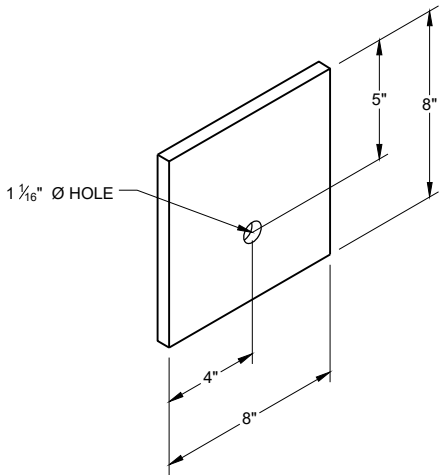
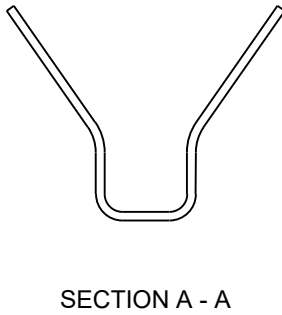


GENERIC GROUND STRUT⁹ E

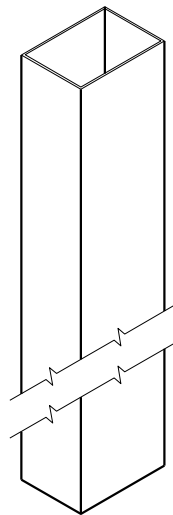
BILL OF MATERIALS	
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



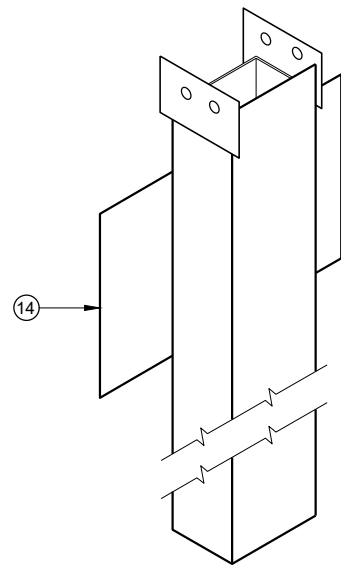
GENERIC ANCHOR CABLE BOX⁹ E



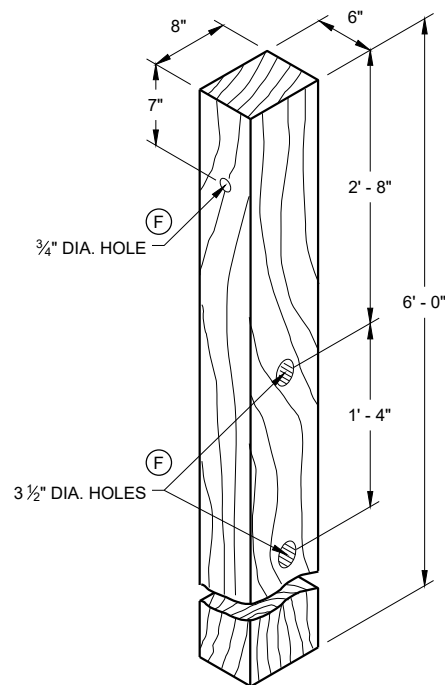
BEARING PLATE⁶ E



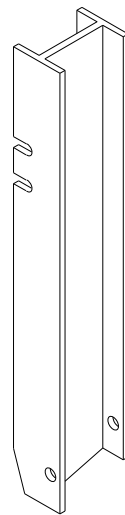
UPPER POST NO. 1 ⁽¹⁾ (E)



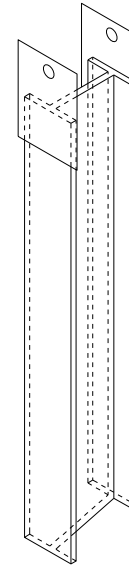
LOWER POST NO. 1 ⁽²⁾ (E)



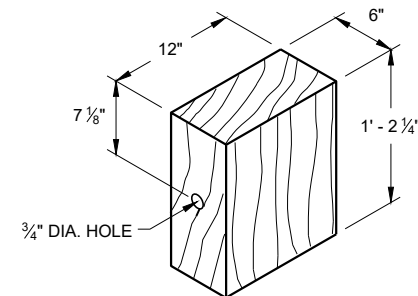
WOOD CRT POST ⁽³⁾ (E)
POSTS NUMBER 3-9



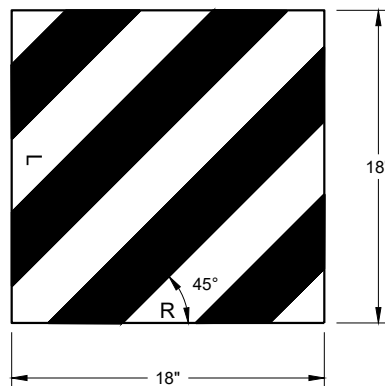
UPPER POST NO. 2 ⁽¹⁵⁾ (E)



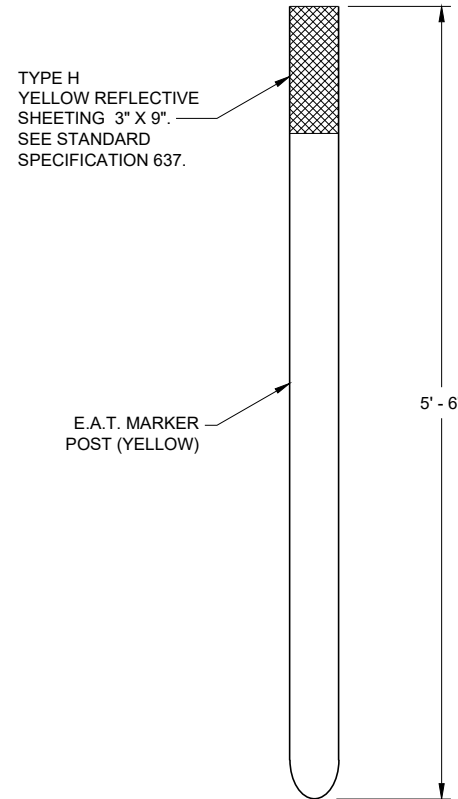
LOWER POST NO. 2 ⁽¹⁶⁾ (E)



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



REFLECTIVE SHEETING DETAIL ^(E)

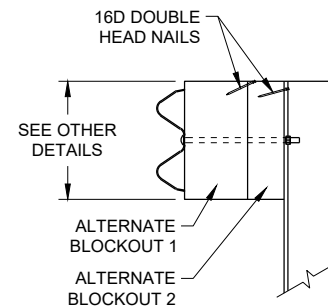


FRONT VIEW

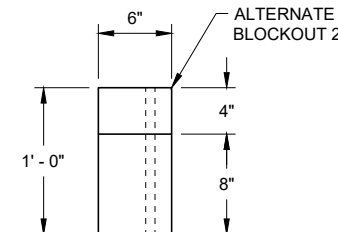


SIDE VIEW

E.A.T. MARKER POST ⁽¹³⁾



SIDE VIEW



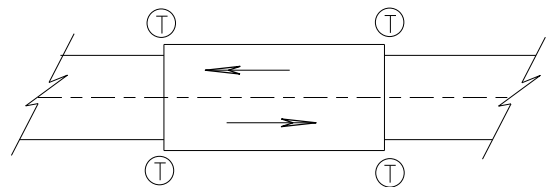
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

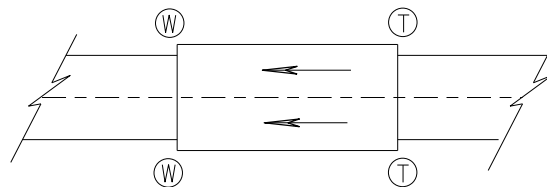
**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
82
FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

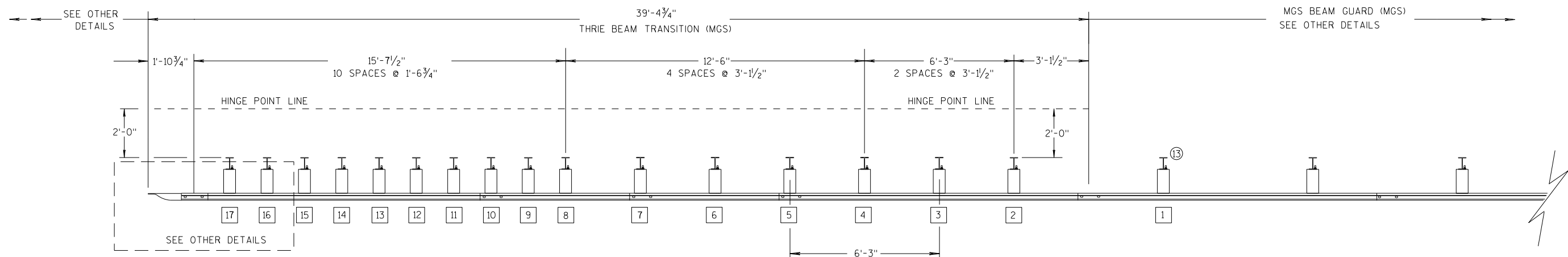
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

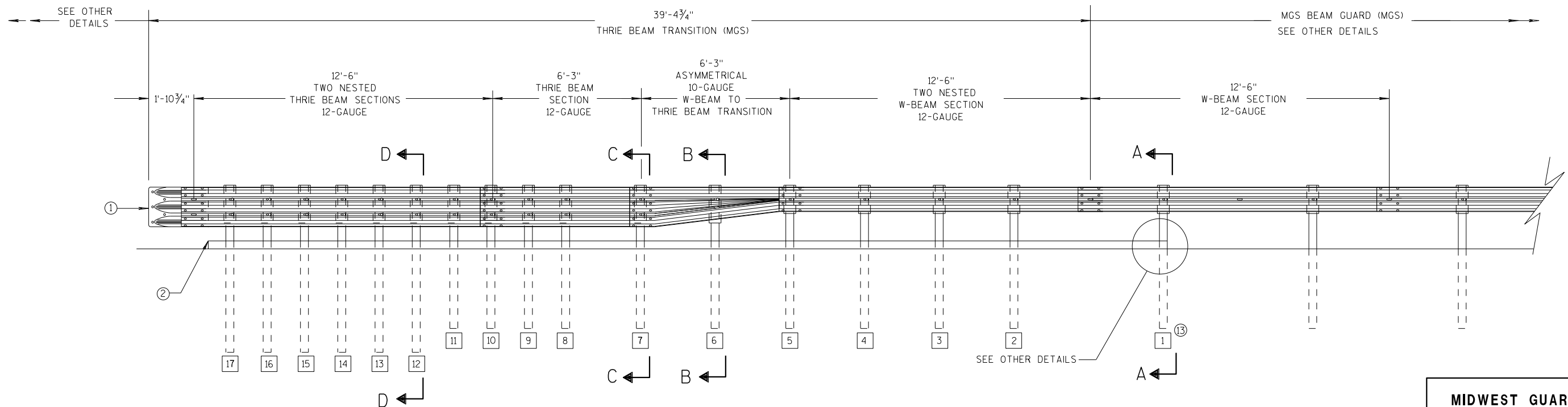
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

- ① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

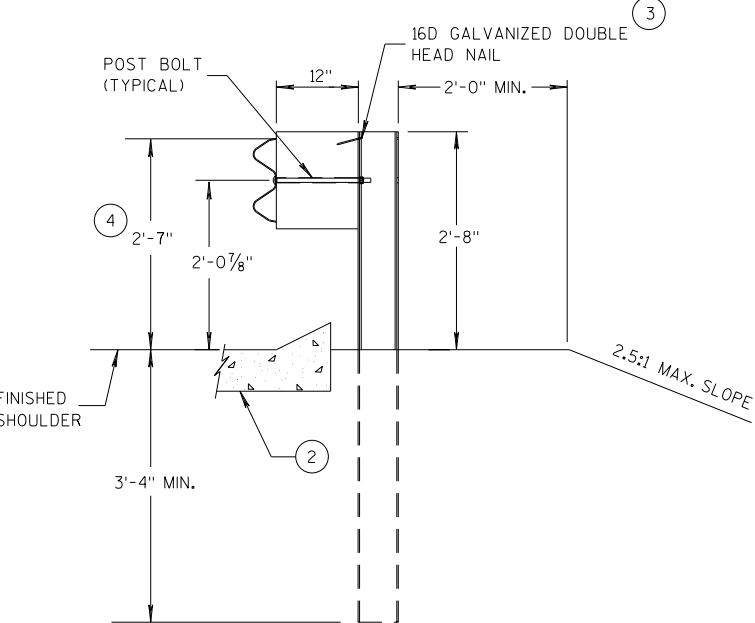
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

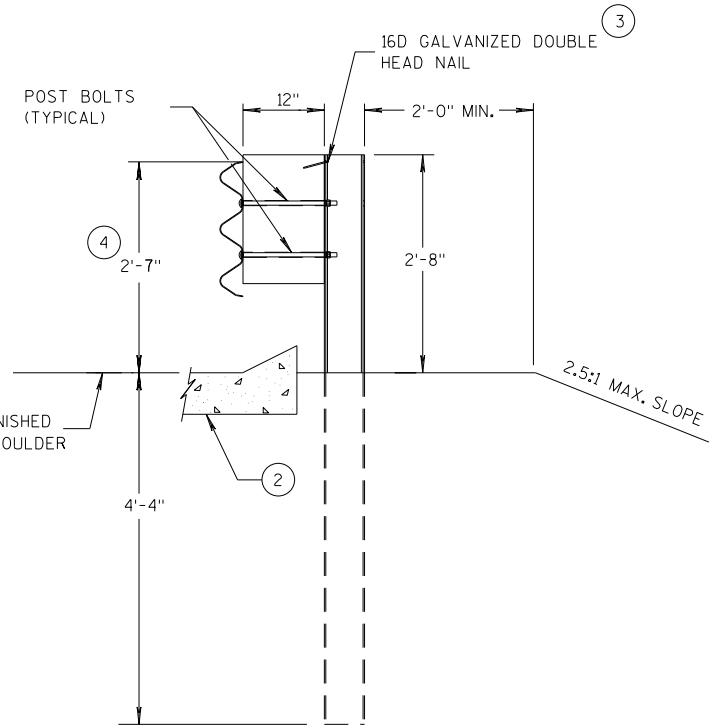
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

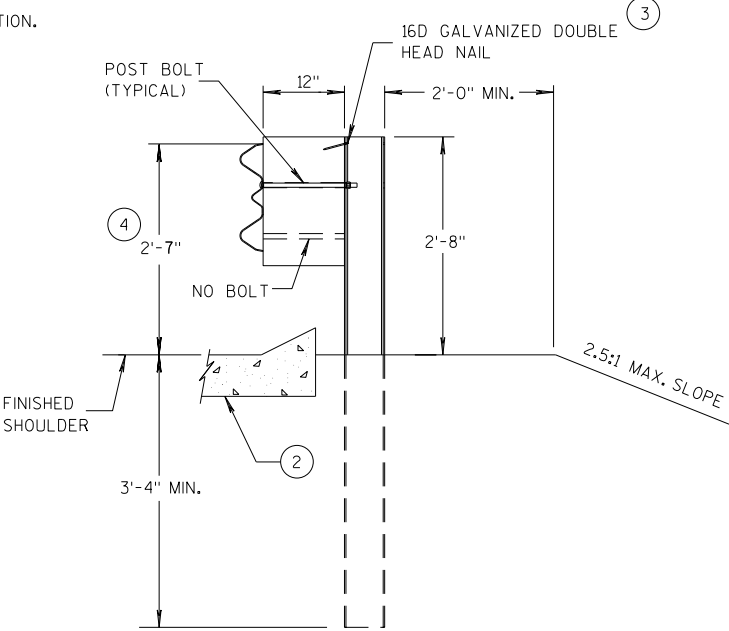
- 2 OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- 3 WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- 4 TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.
- 13 STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



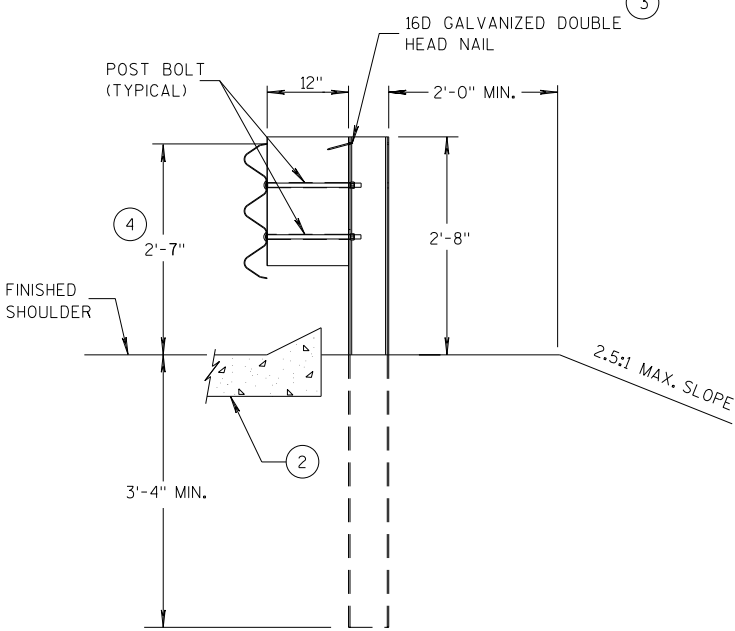
SECTION A-A
POSTS 1-5



SECTION D-D
POSTS 12-17



SECTION B-B
POST 6



SECTION C-C
POSTS 7-11

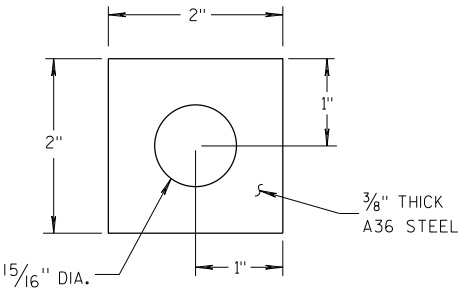
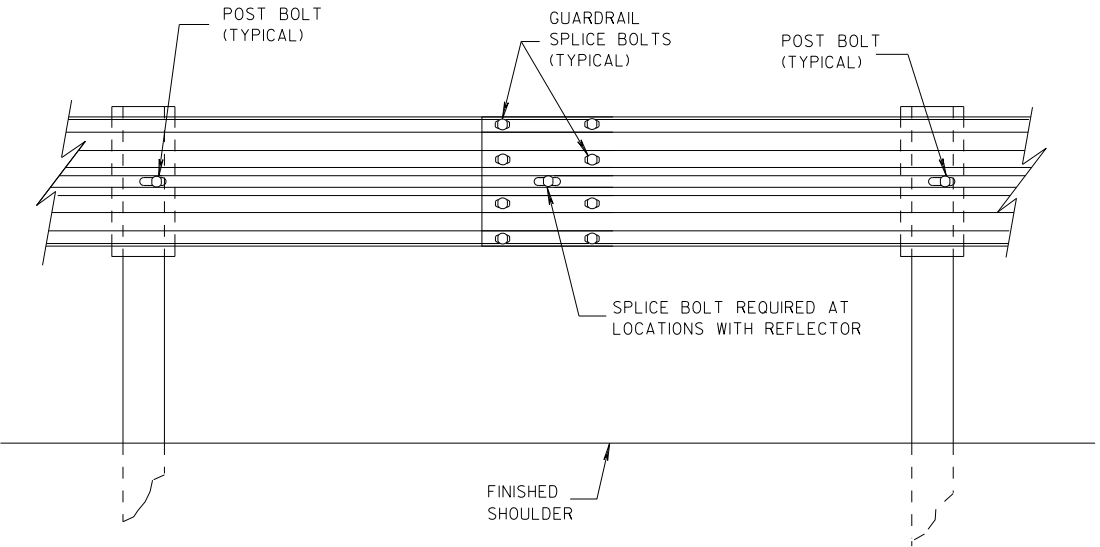
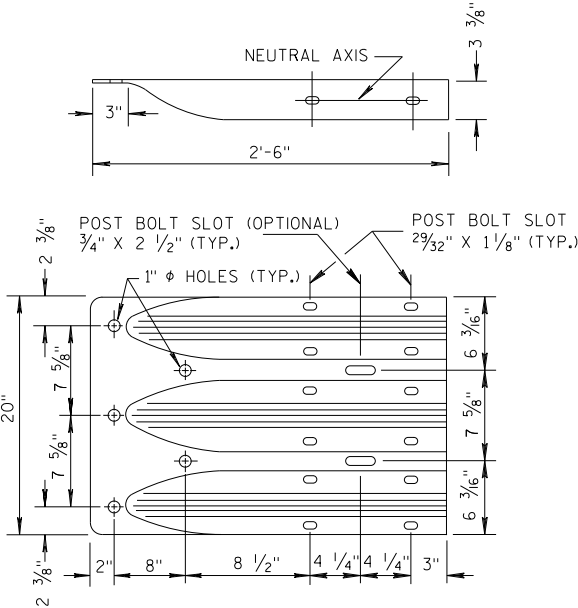


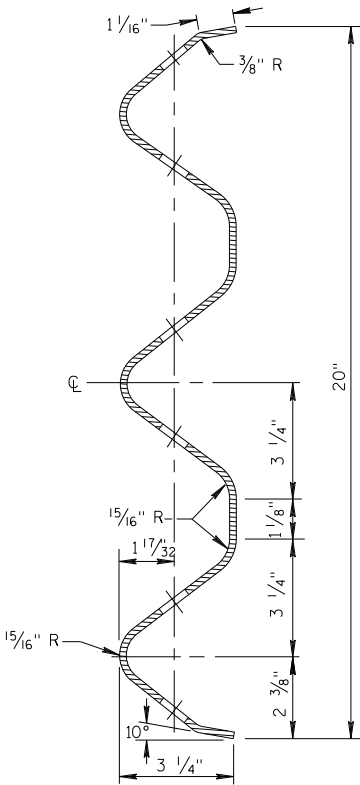
PLATE WASHER DETAIL



SPLICE DETAIL



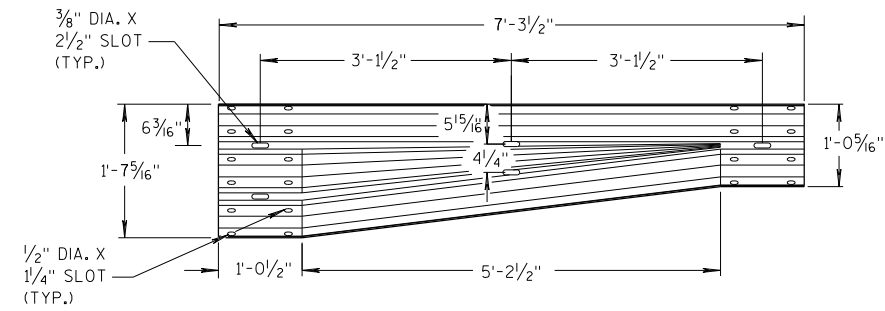
THRIE BEAM
TERMINAL CONNECTOR



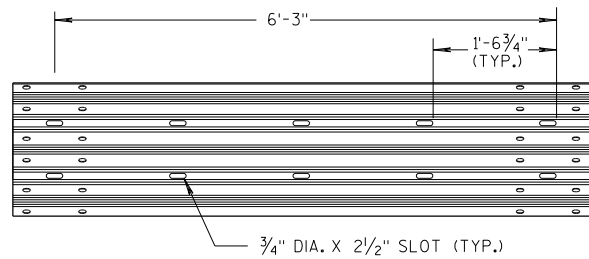
SECTION THRU THRIE
BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

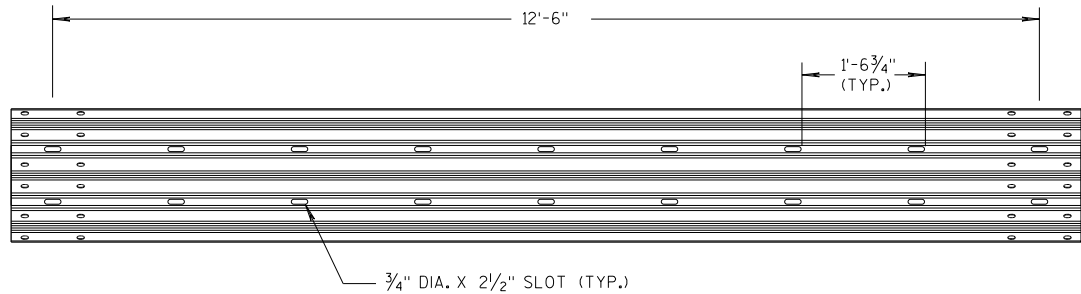
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



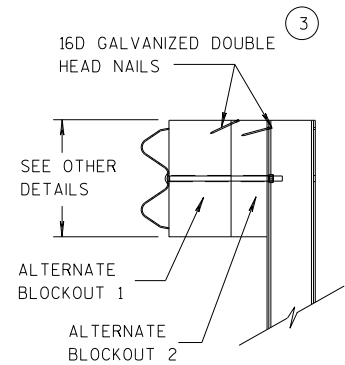
W-BEAM TO THRIE BEAM TRANSITION SECTION



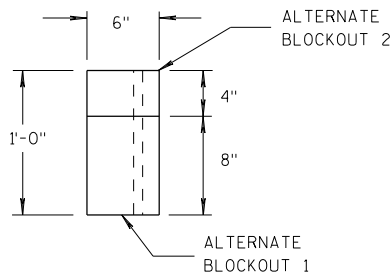
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

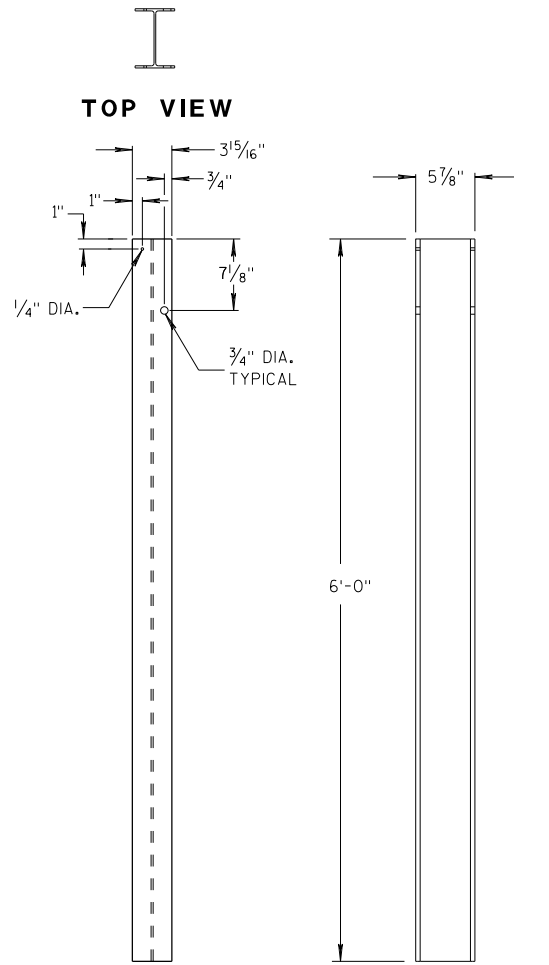


SIDE VIEW



TOP VIEW

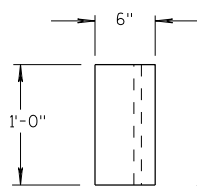
ALTERNATE WOOD BLOCKOUT DETAIL



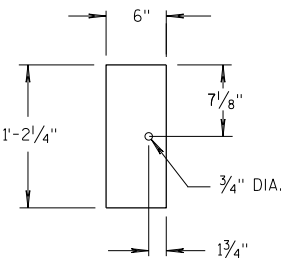
FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5

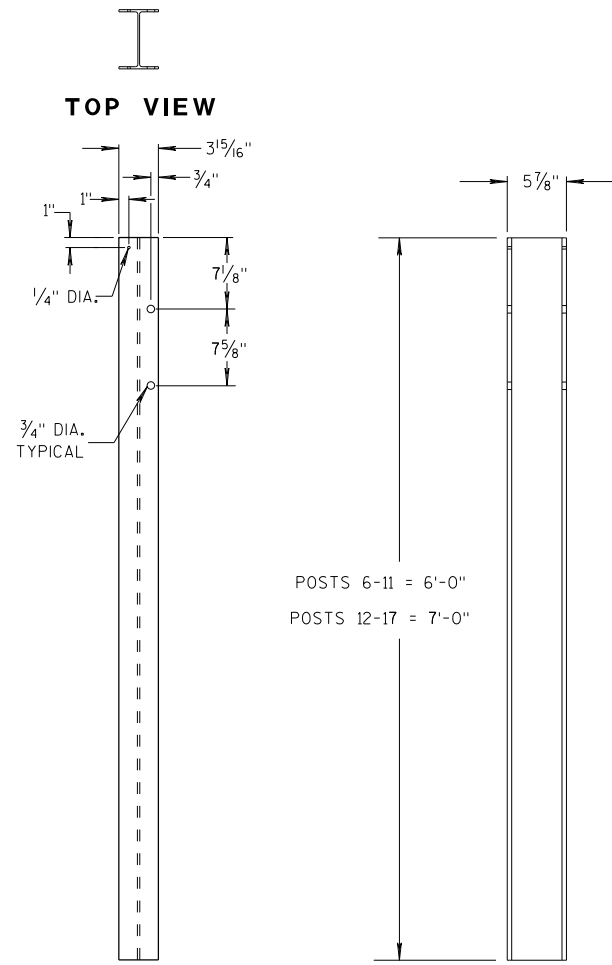


TOP VIEW



FRONT VIEW

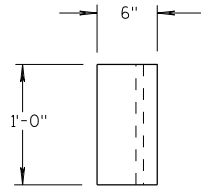
BLOCKOUT POSTS 1-5



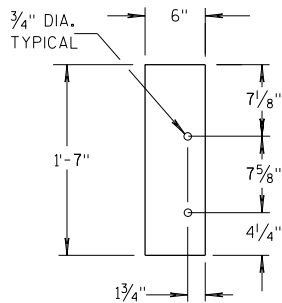
FRONT VIEW

SIDE VIEW

STEEL POSTS 6-17



TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

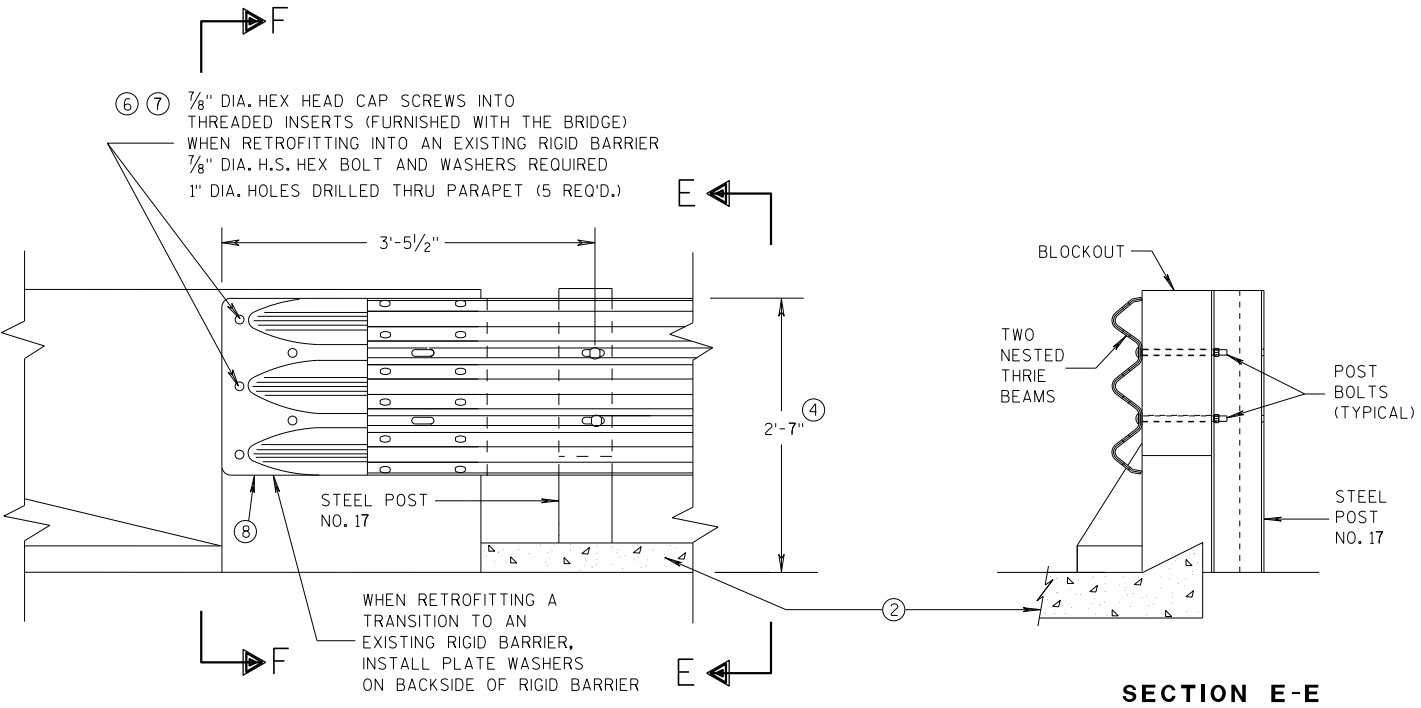
③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

⑤ WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

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

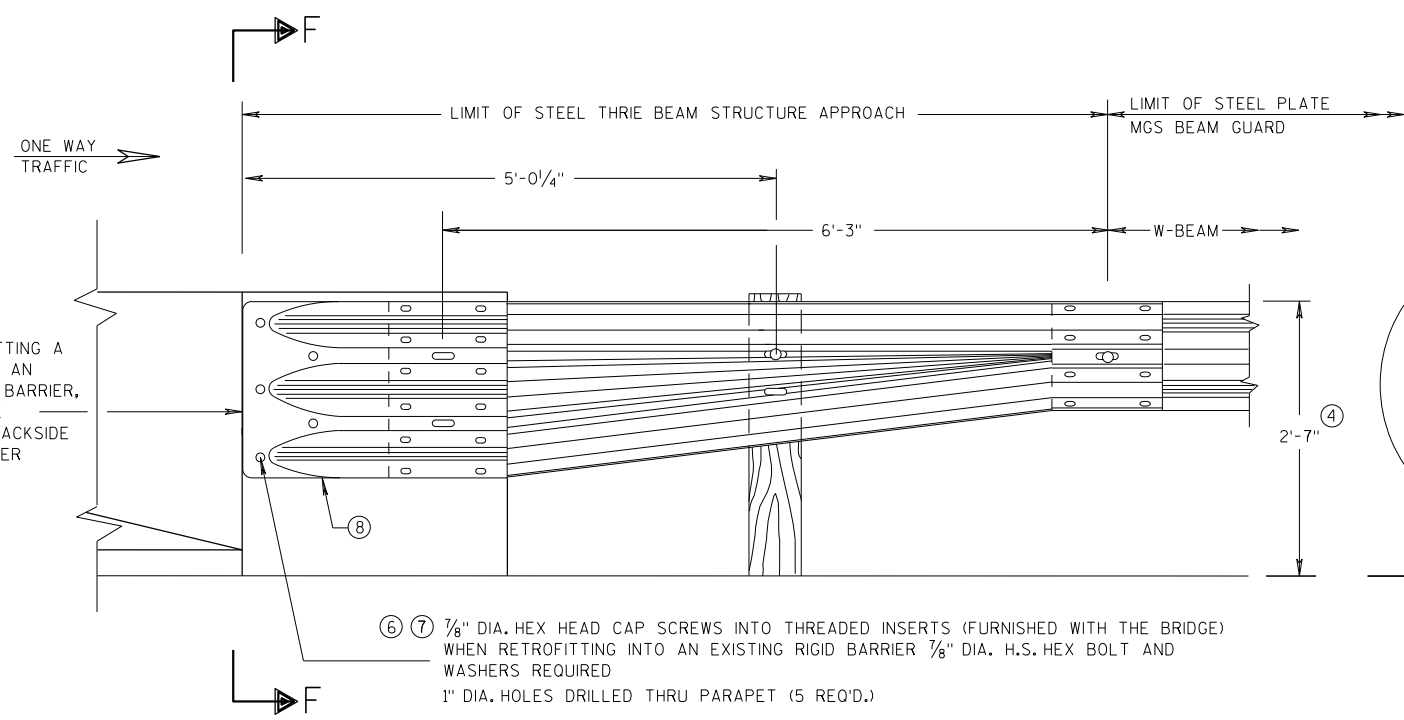
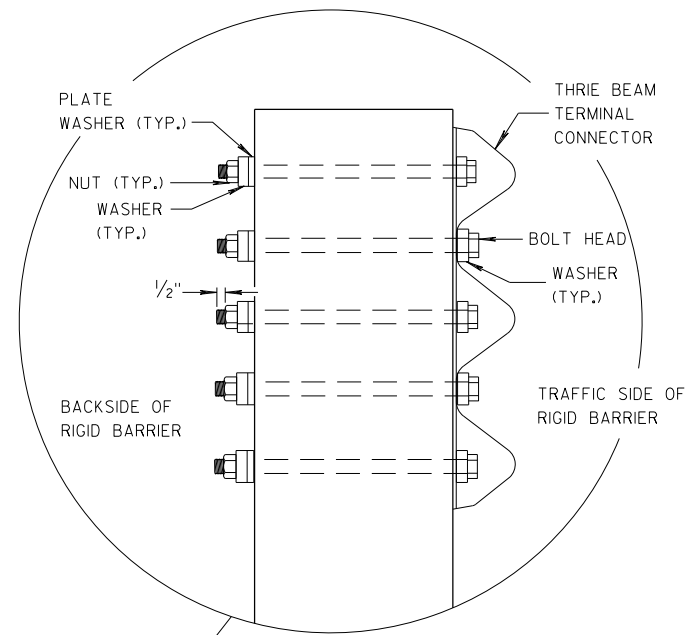
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

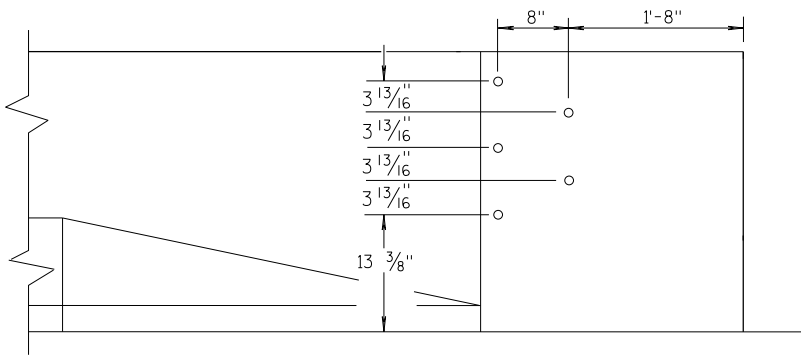


GENERAL NOTES

- THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

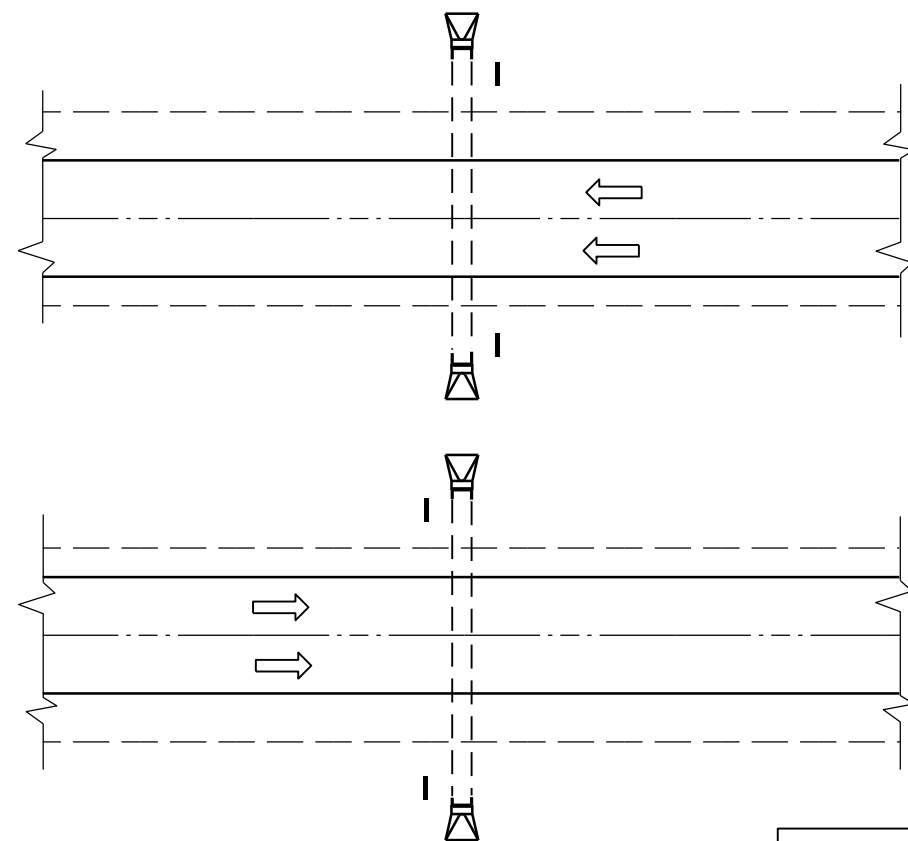


SECTION F-F

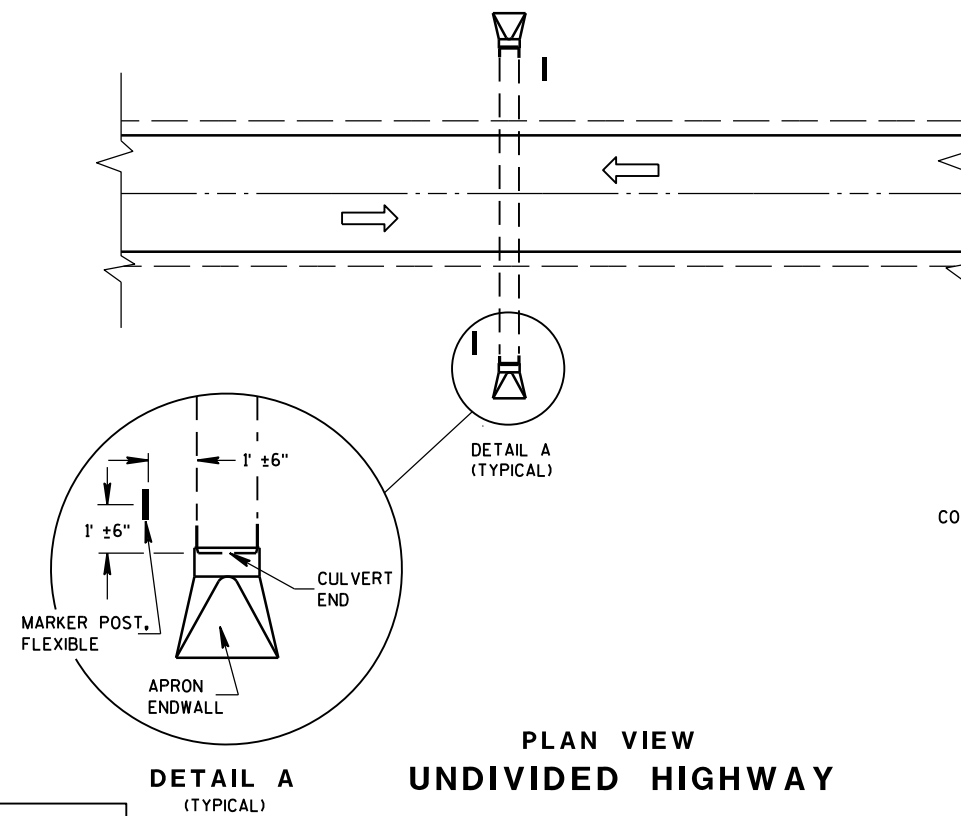
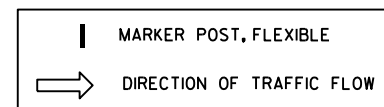


DRILL HOLE LOCATION

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED 07/2018 DATE	/S/ Rodney Taylor ROADWAY STANDARDS UNIT SUPERVISOR		
FHWA	86	NT	



PLAN VIEW
DIVIDED HIGHWAY

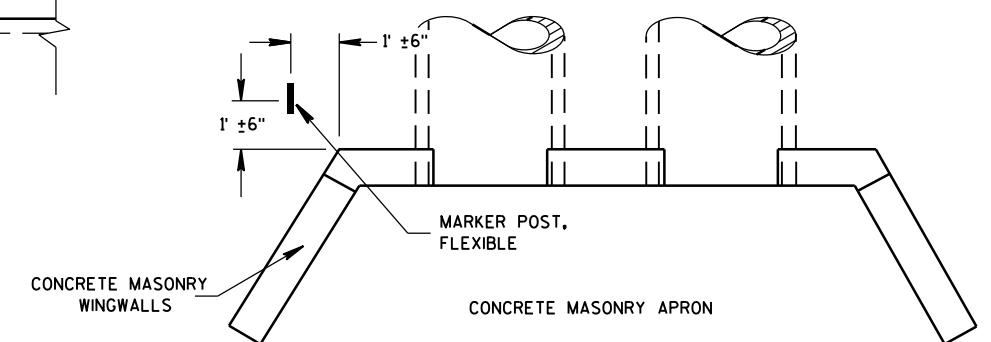


PLAN VIEW
UNDIVIDED HIGHWAY

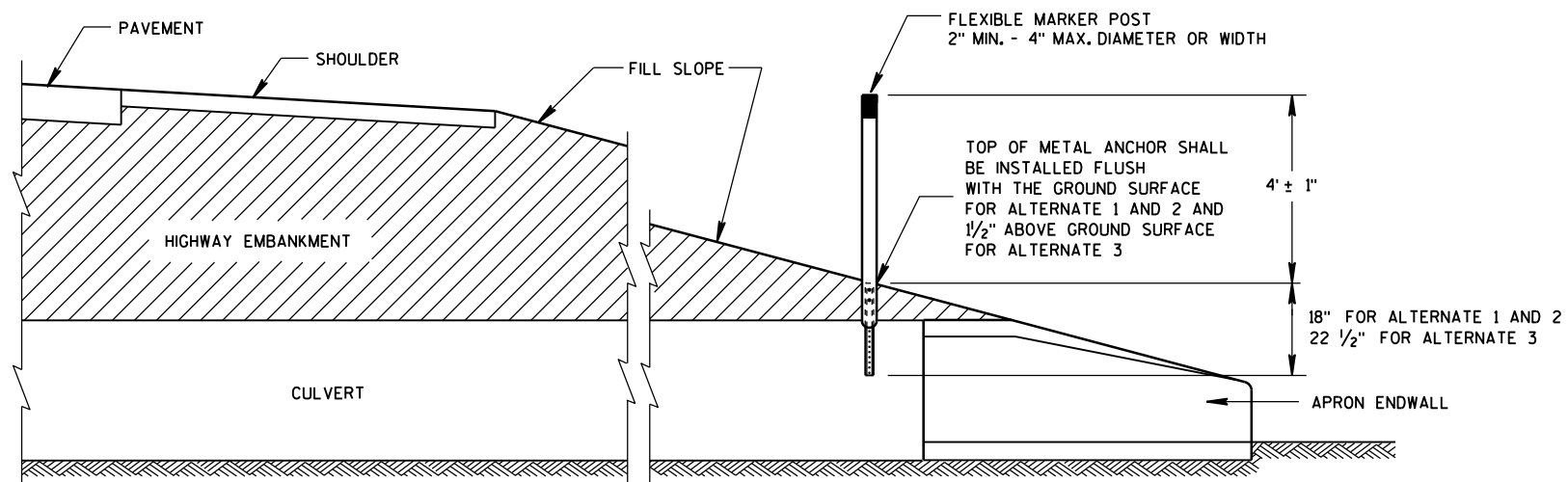
FLEXIBLE MARKER POST LOCATION

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.



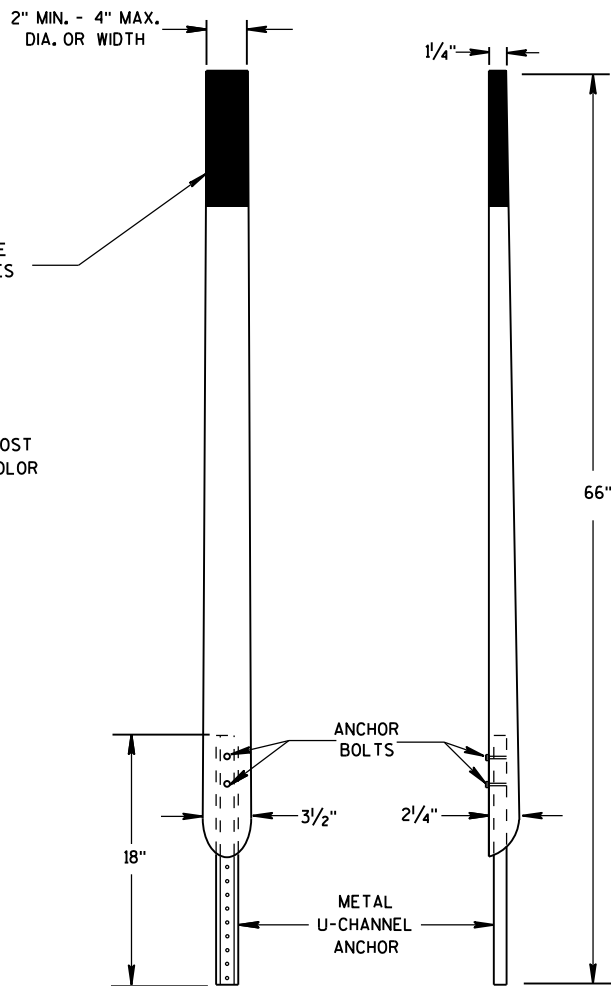
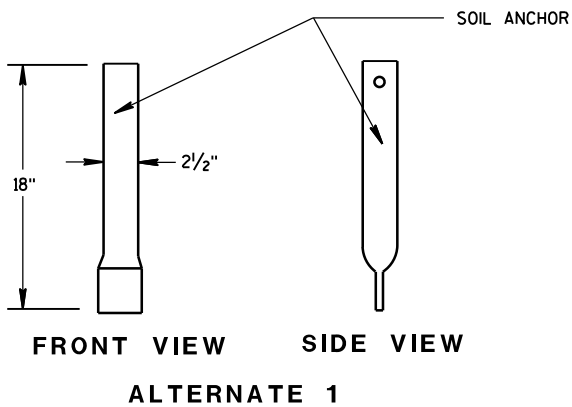
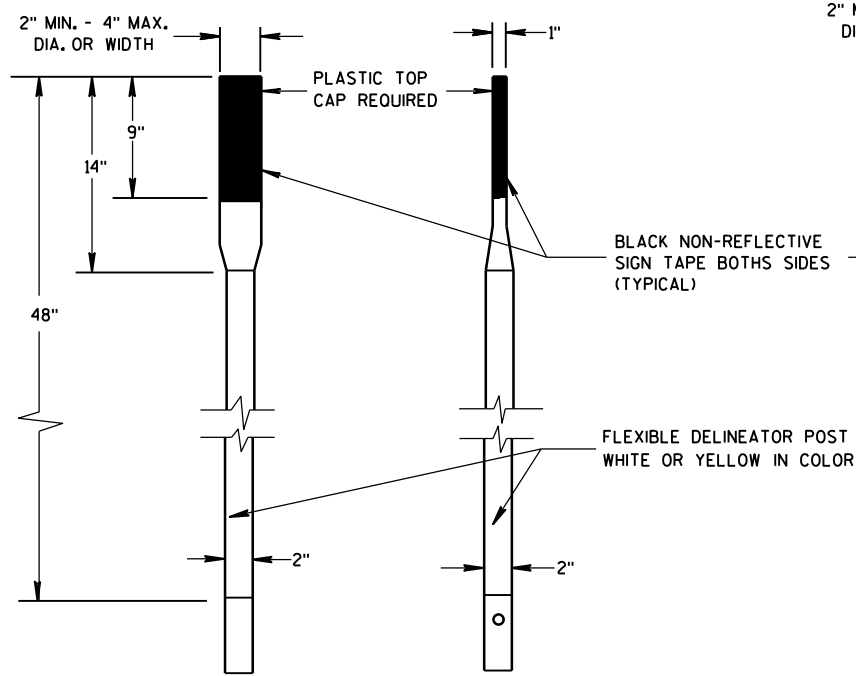
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



CROSS SECTION
FLEXIBLE MARKER POST

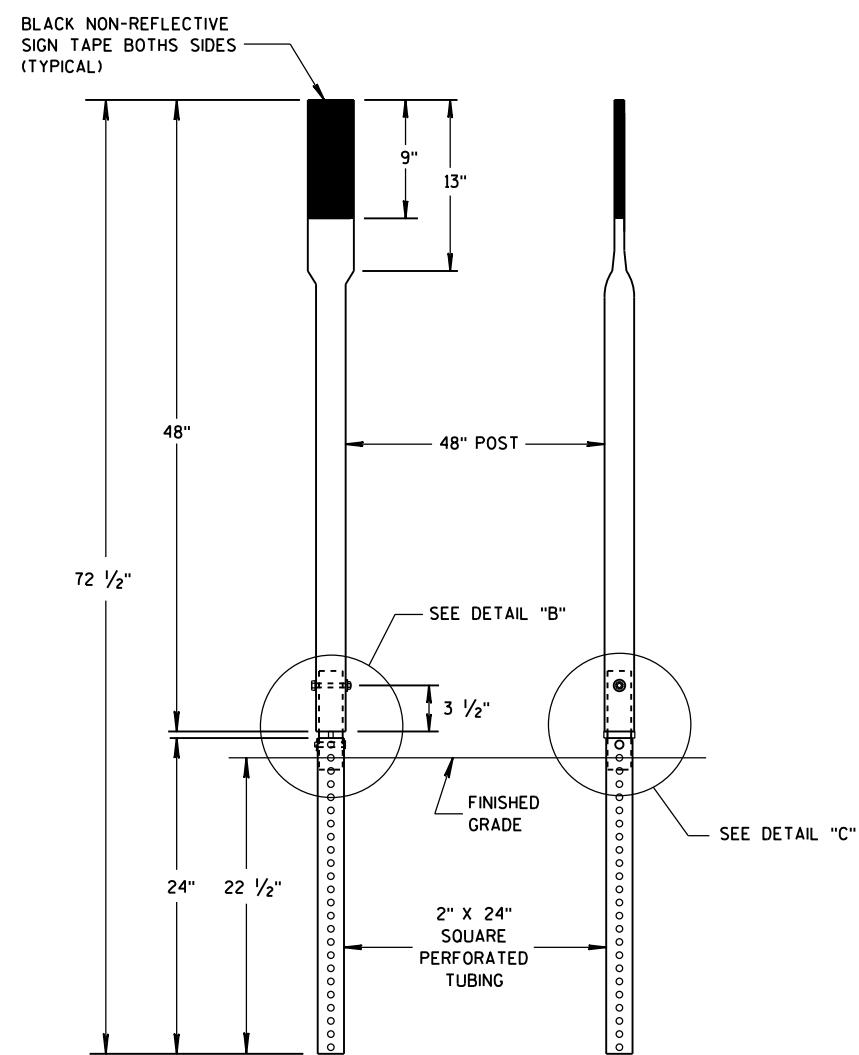
FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION⁸⁷

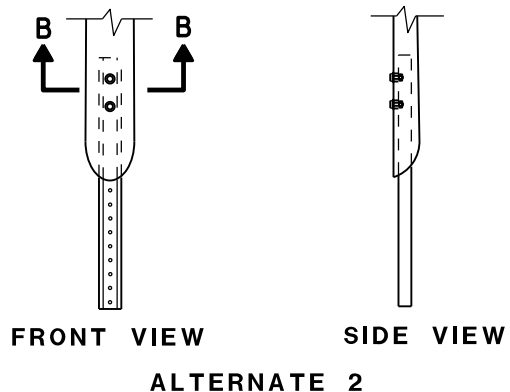
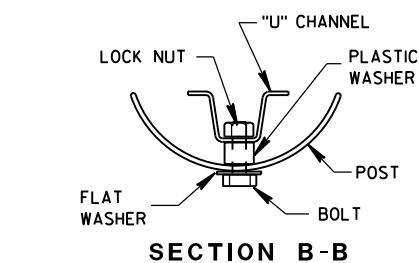
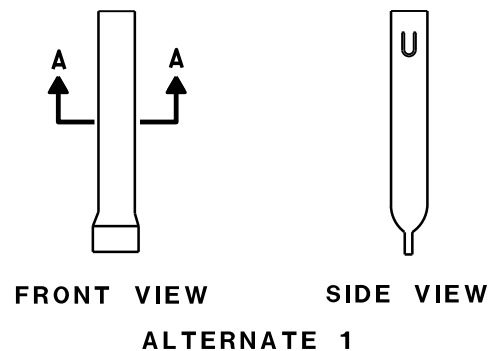
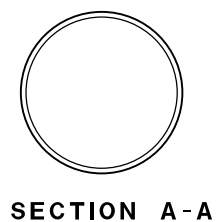
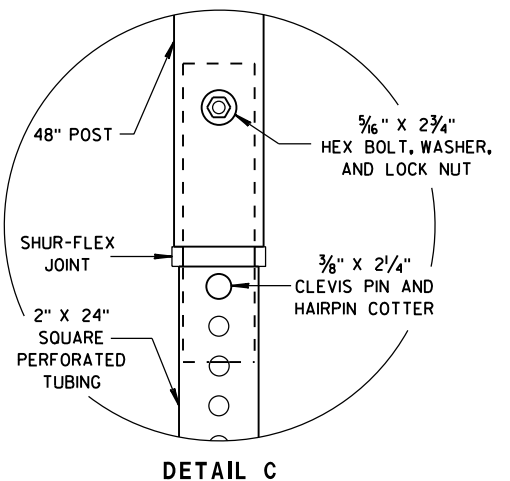
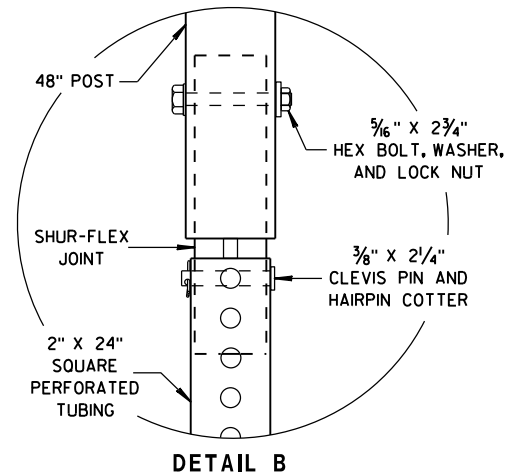
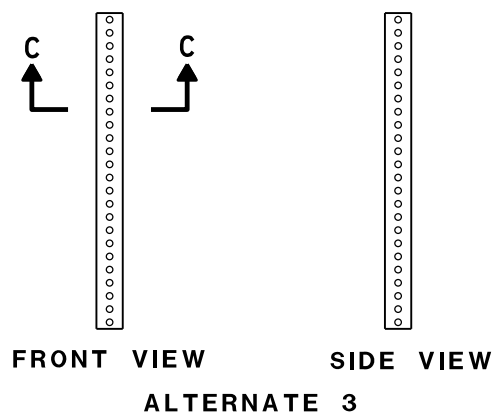
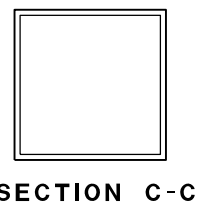


FRONT VIEW SIDE VIEW
ALTERNATE 2

FLEXIBLE MARKER POSTS



FRONT VIEW SIDE VIEW
ALTERNATE 3

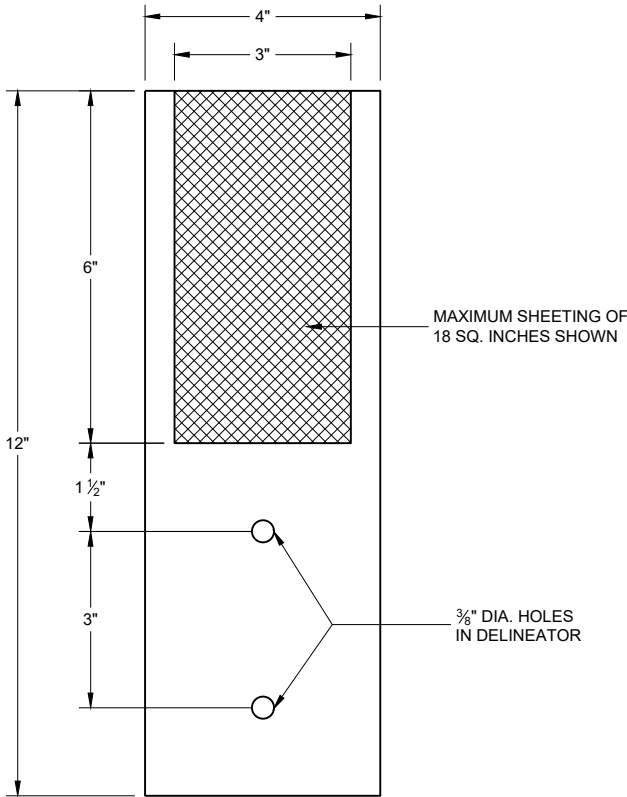


FLEXIBLE MARKER POST ANCHORS

FLEXIBLE MARKER POST
FOR CULVERT END

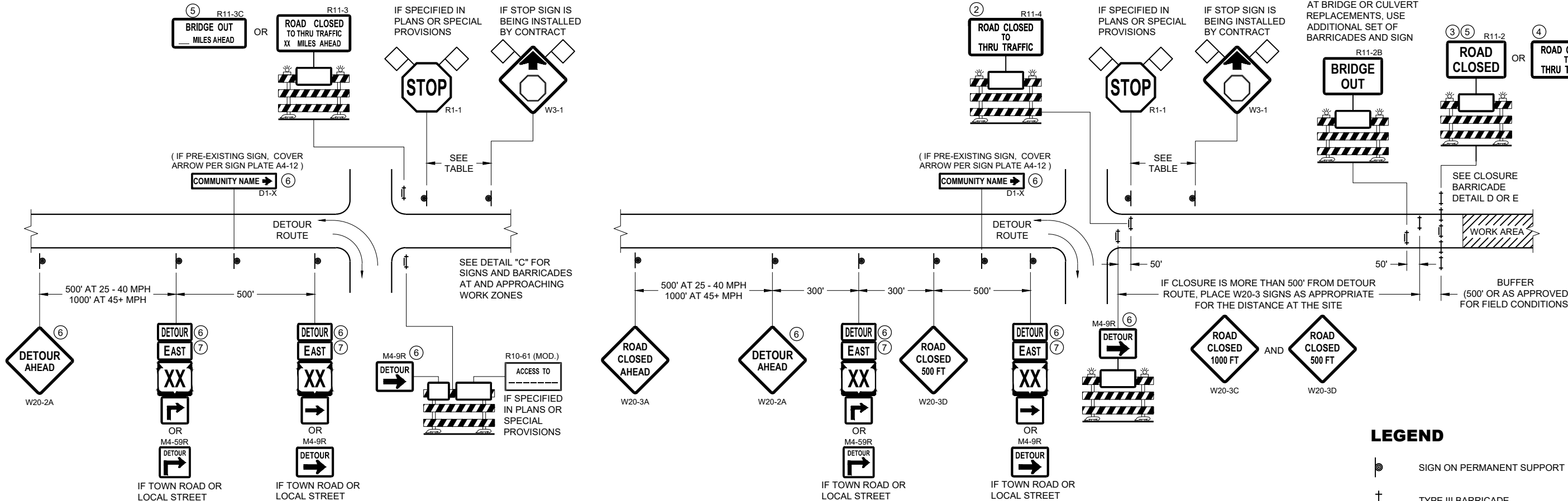
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER 88 IGN
FHWA



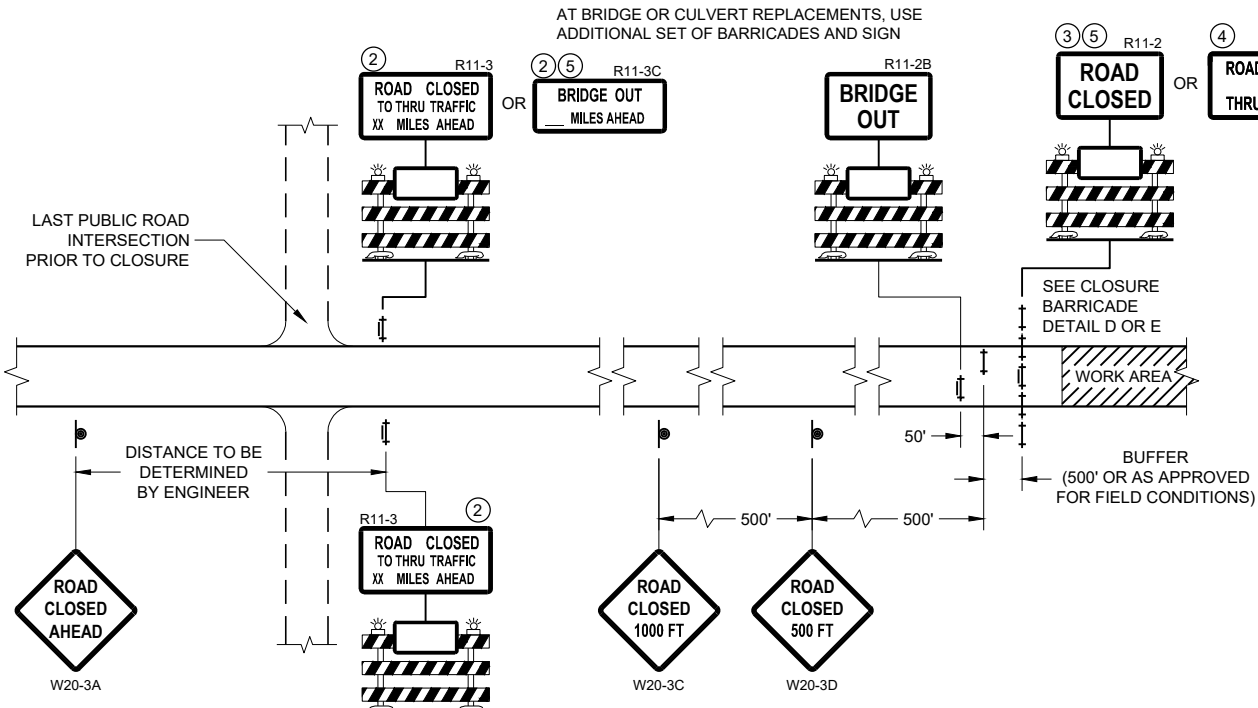
**4" x 12" DELINEATOR
WITH REFLECTIVE SHEETING**

DELINEATOR WITH REFLECTIVE SHEETING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2021 DATE	/S/ Matthew Rauch STATE SIGNING AND MAP ENGINEER 89
FHWA	



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN OR EQUAL TO 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

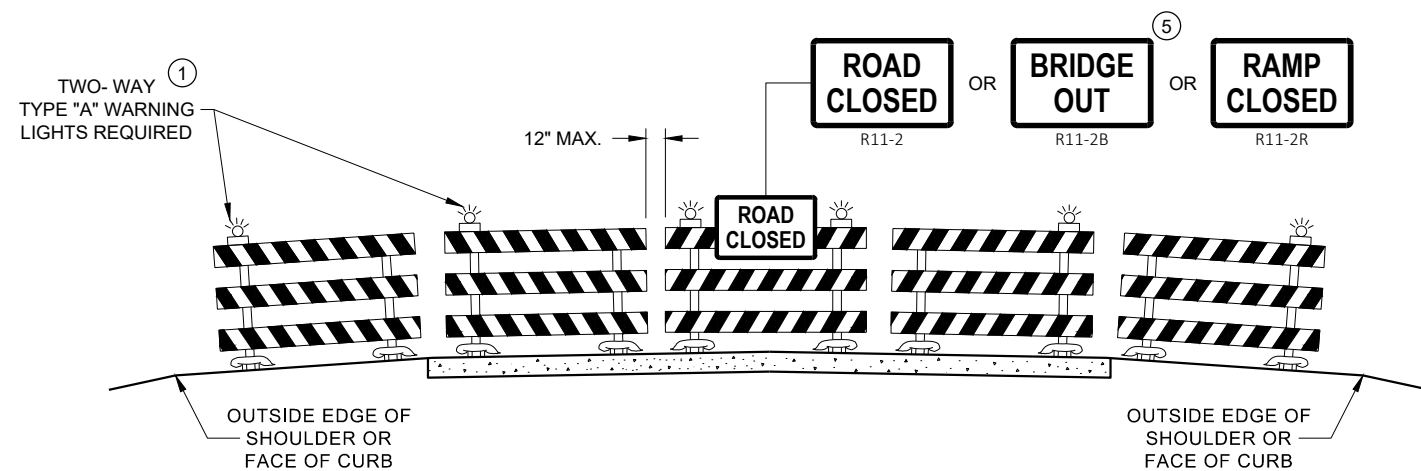
SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

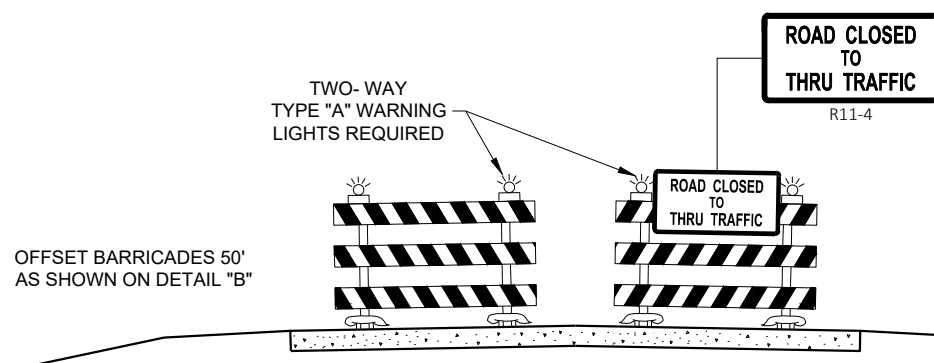
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 90

FHWA



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

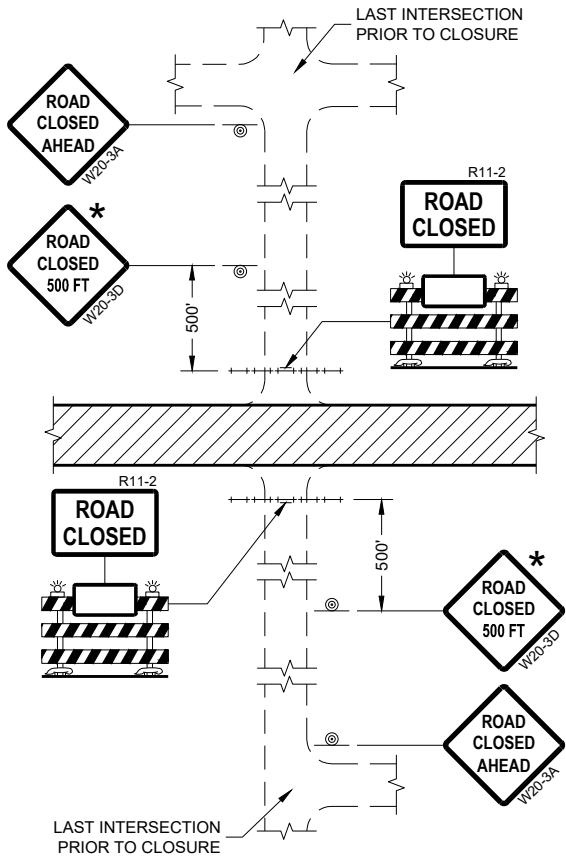
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24"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

- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- 2 THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- 3 FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- 4 FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
- 5 FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
- 6 INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- 7 "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

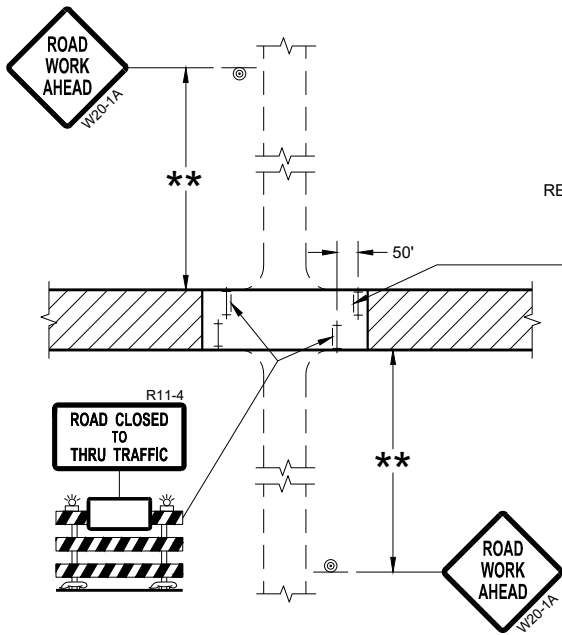
BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

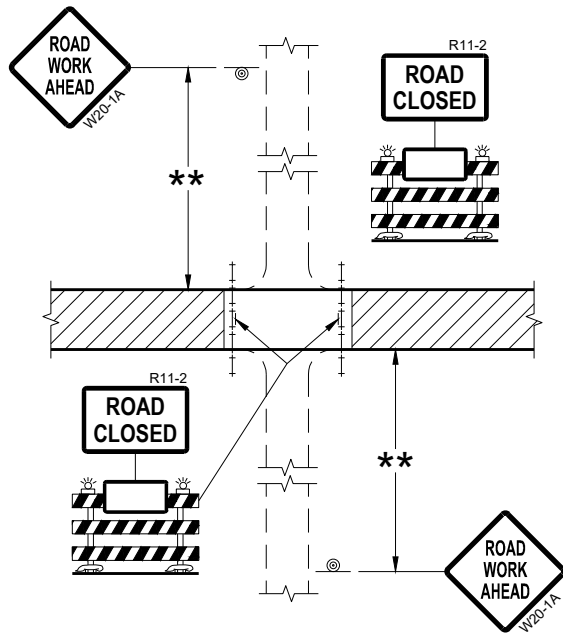
APPROVED
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 91
FHWA



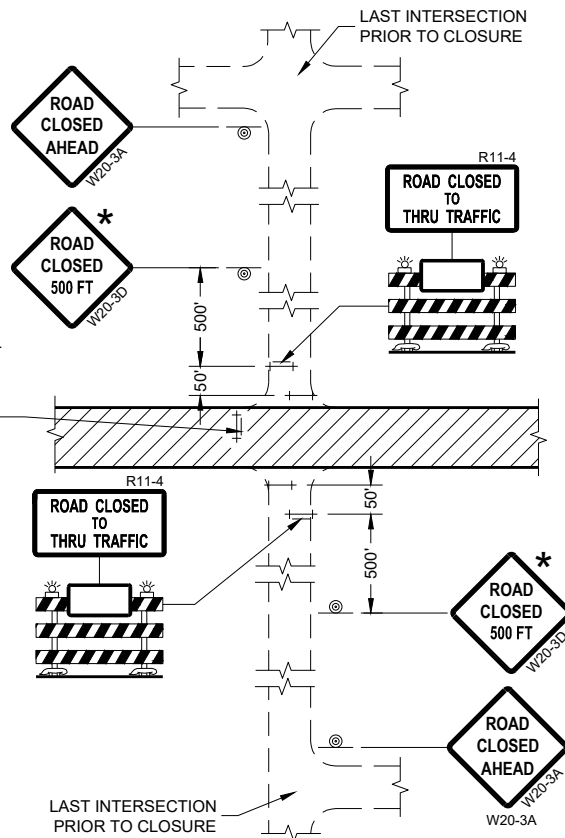
DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT)



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 (500 FEET DESIRABLE) 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 REESTABLISHED.

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

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN 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 FEET OR LESS FROM THE WORK ZONE.
- ** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.

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
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 92

FHWA

GENERAL NOTES

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

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

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

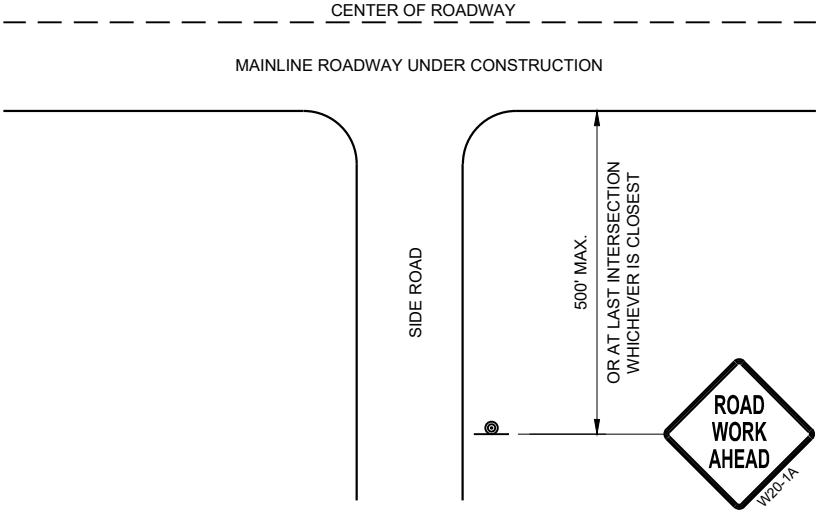
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

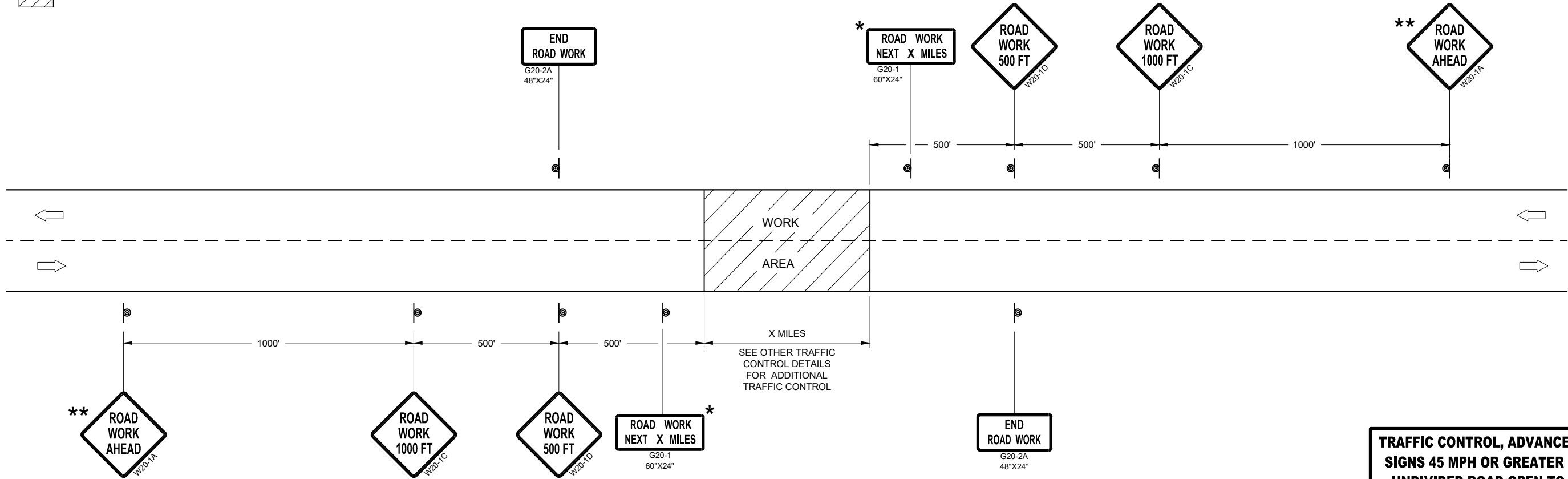
- * OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- ** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA



TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

TRAFFIC CONTROL, ADVANCE WARNING
SIGNS 45 MPH OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 93
FHWA

GENERAL NOTES

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

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED INSTEAD OF 48" X 48" SIGNS.

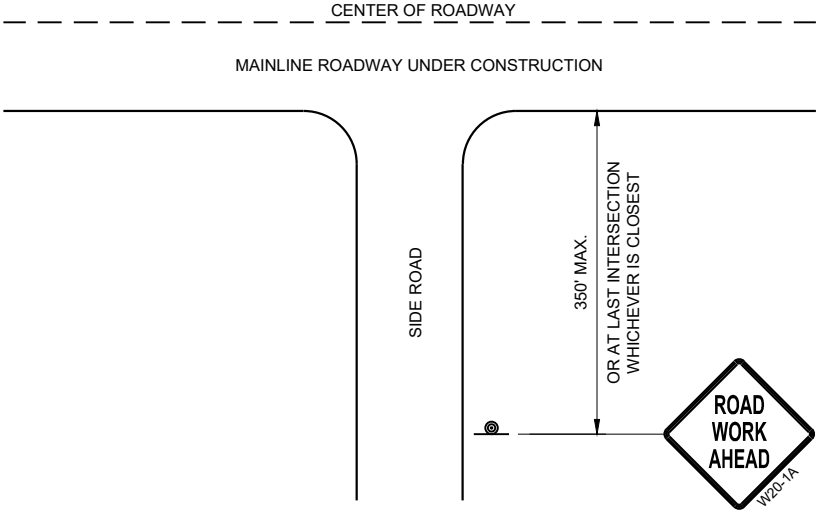
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

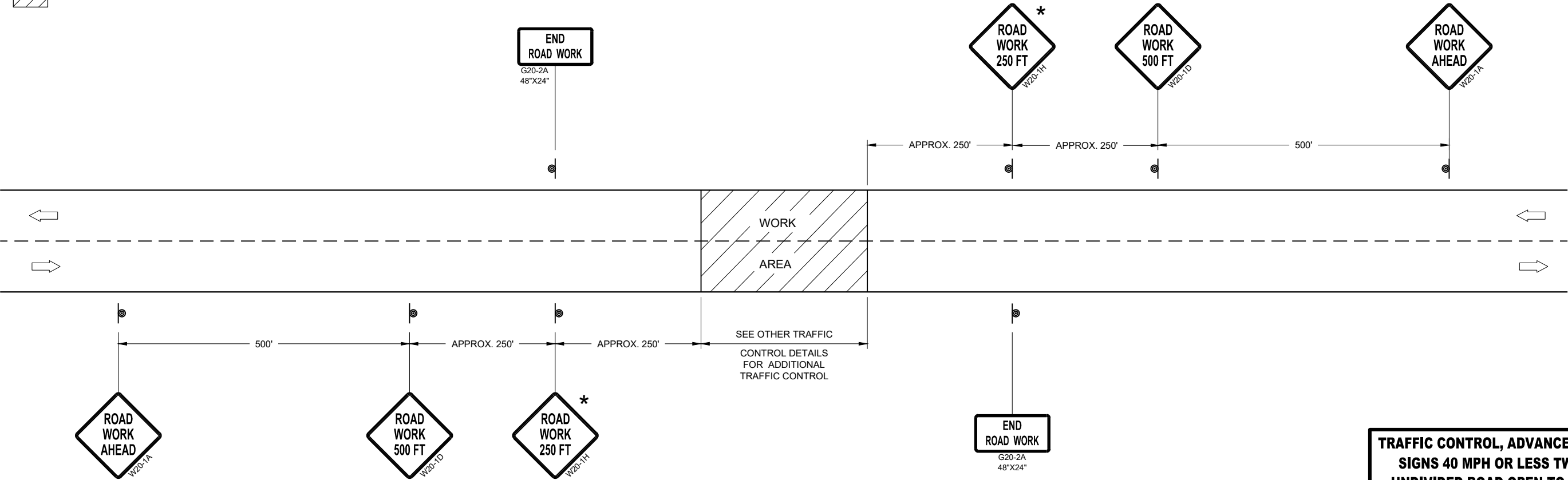
* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA



TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL



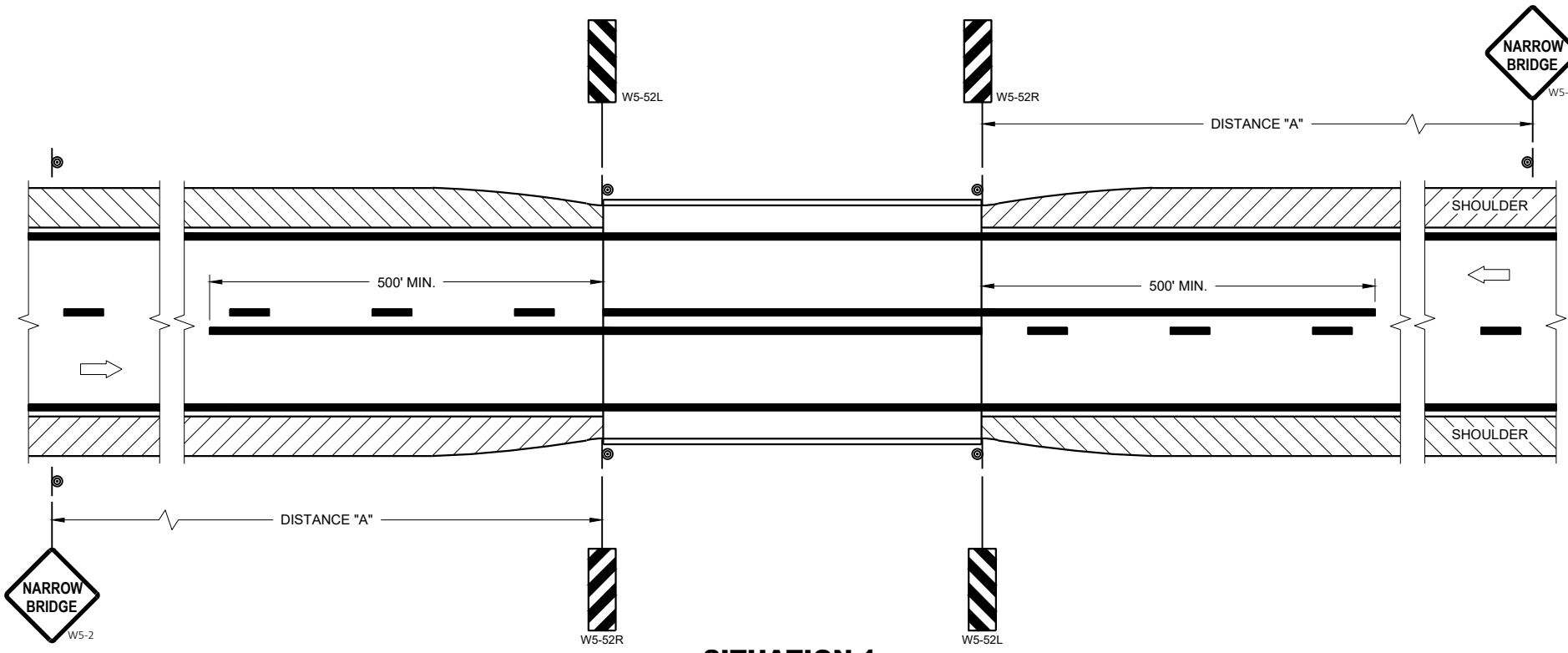
TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

TRAFFIC CONTROL, ADVANCE WARNING
SIGNS 40 MPH OR LESS TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

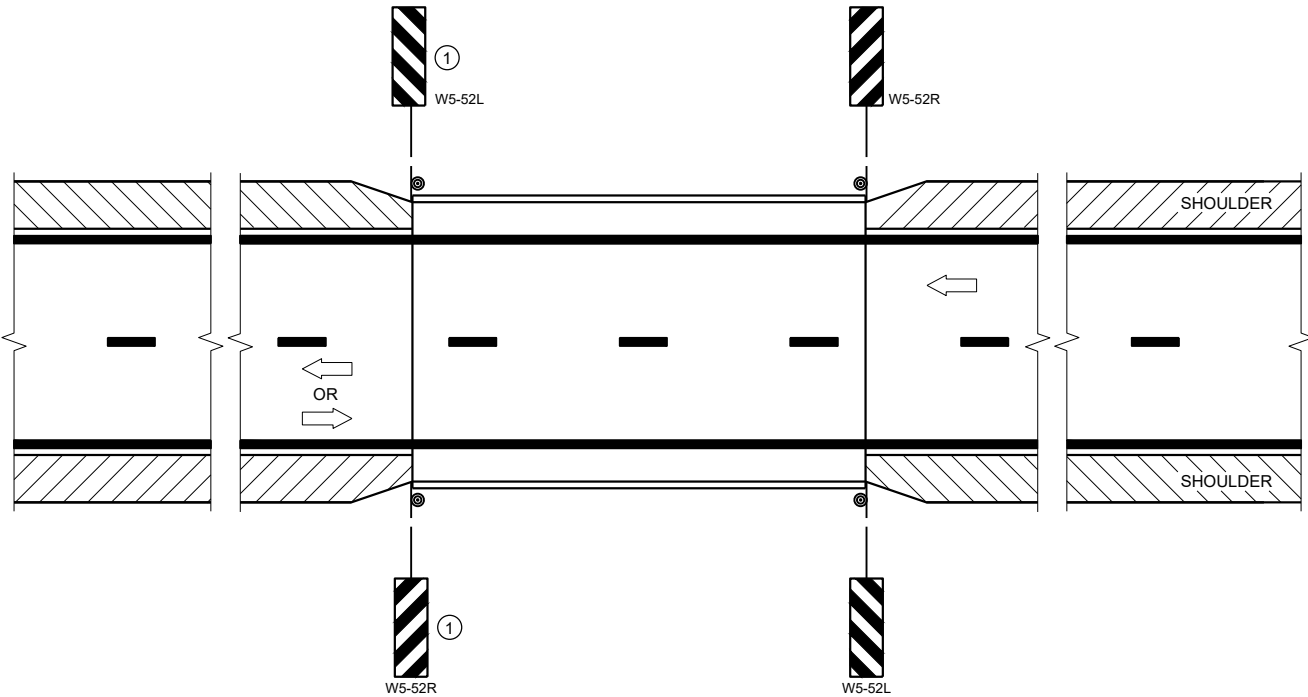
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 94

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SITUATION 1
WARRANTING CRITERIA:
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.



SITUATION 2
WARRANTING CRITERIA:
1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THE DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

① OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

- SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC

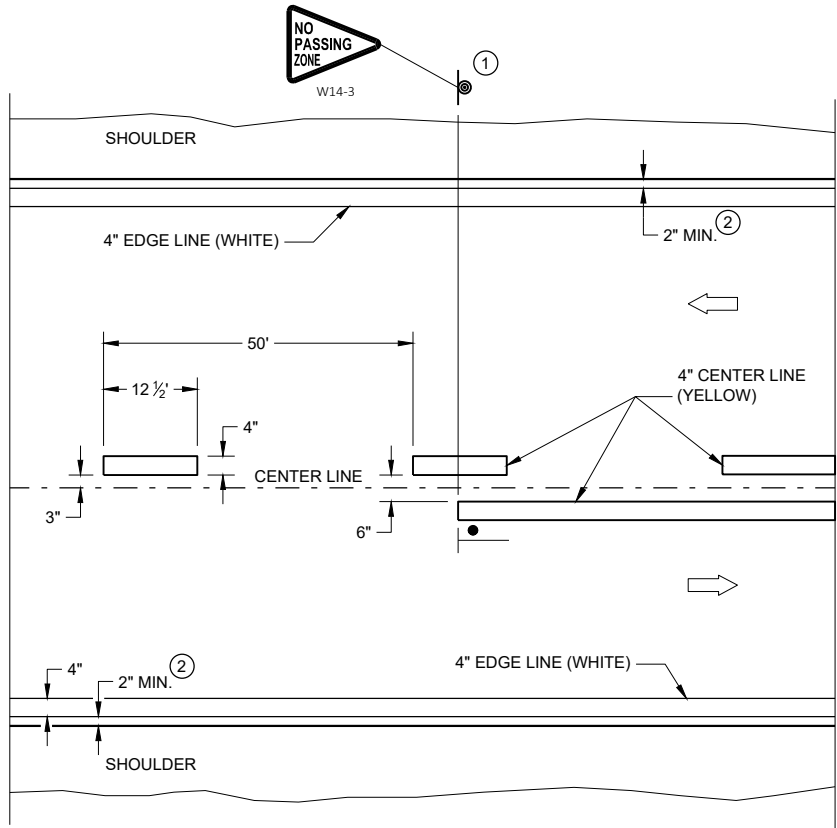
DISTANCE TABLE

POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	700'

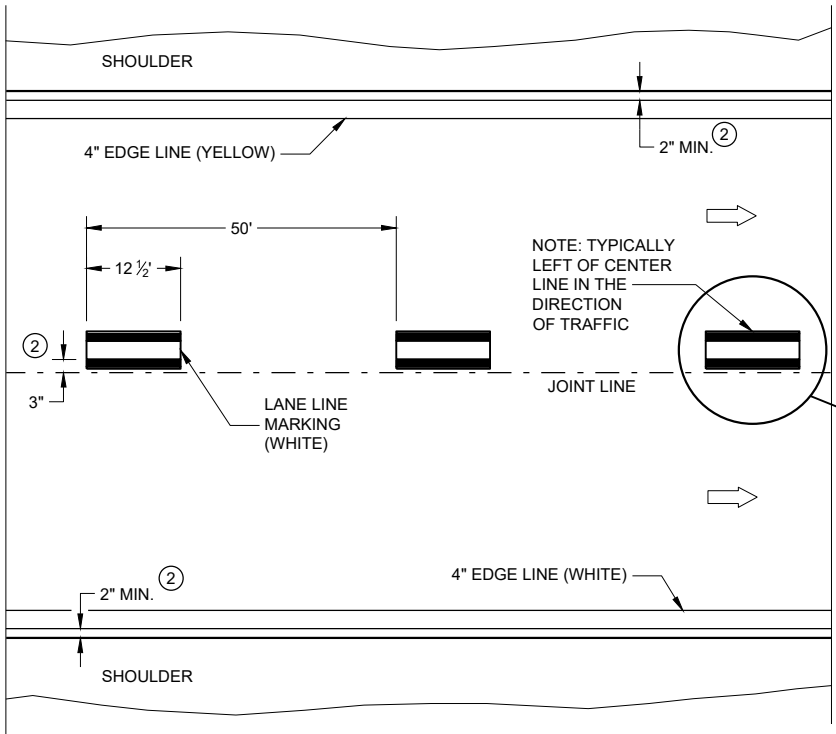
**SIGNING AND MARKING
FOR TWO LANE BRIDGES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 /S/ Jeannie Silver
DATE STATE SIGNING AND MAP ENGINEER 95
FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

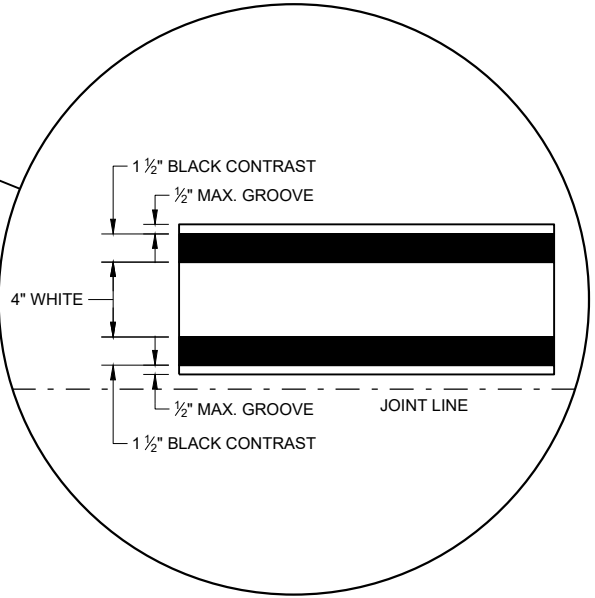
GENERAL NOTES

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

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

LEGEND

- "T" MARKING
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC

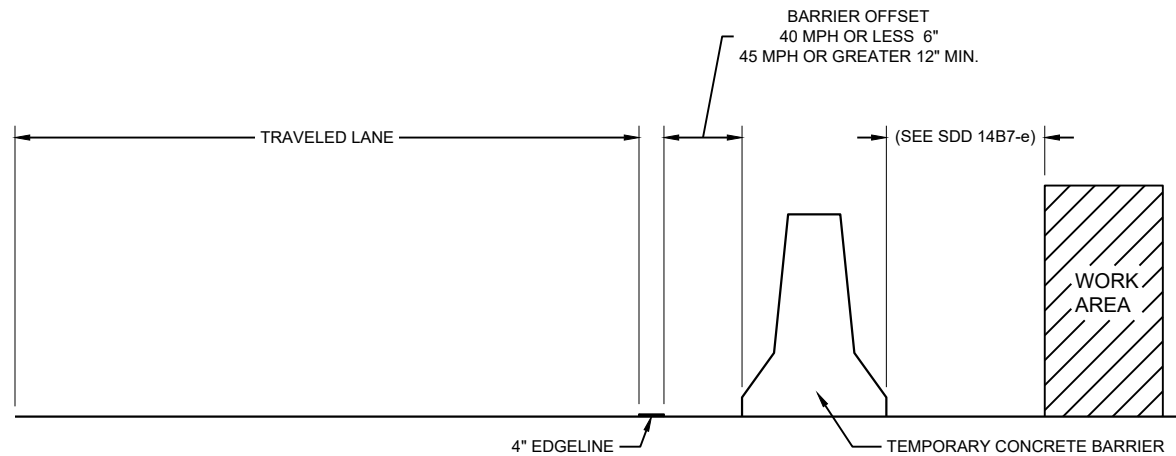


PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE
/S/ Jeannie Silver
STATEWIDE SIGNING AND MARKING
ENGINEER

FHWA



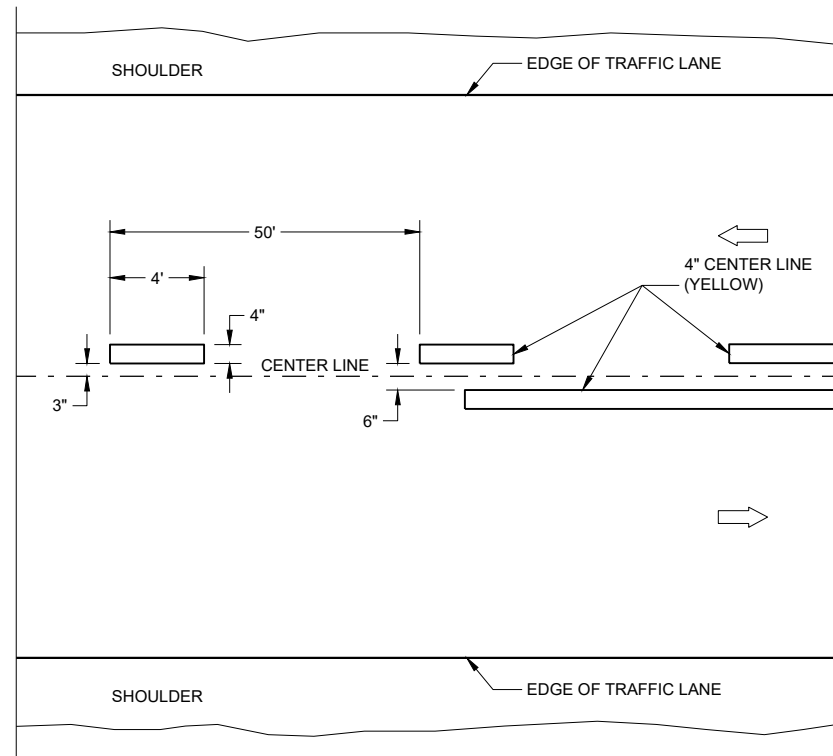
TEMPORARY BARRIER OFFSET FROM EDGE LINE

GENERAL NOTES

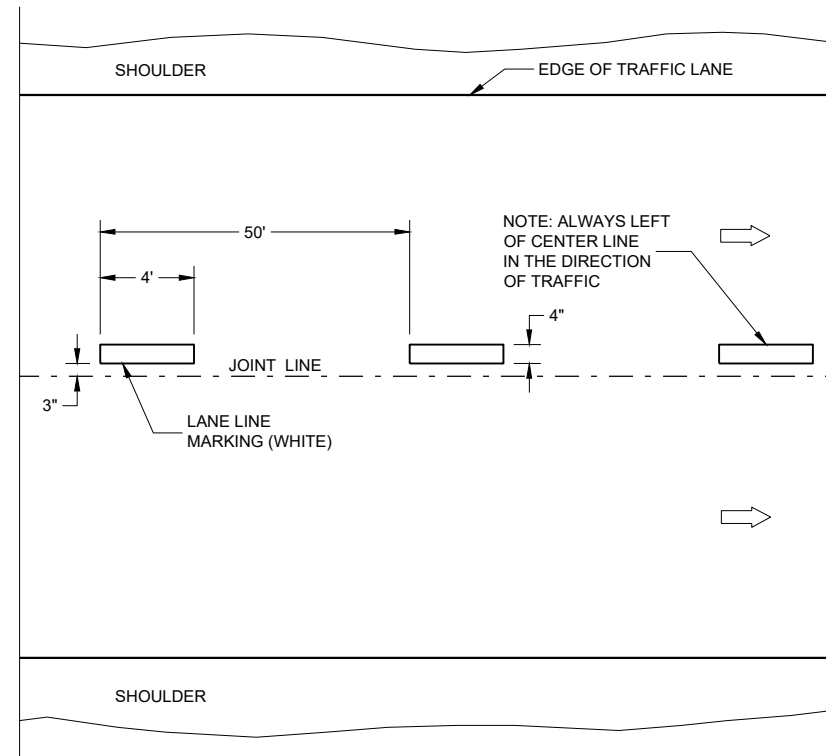
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

LEGEND

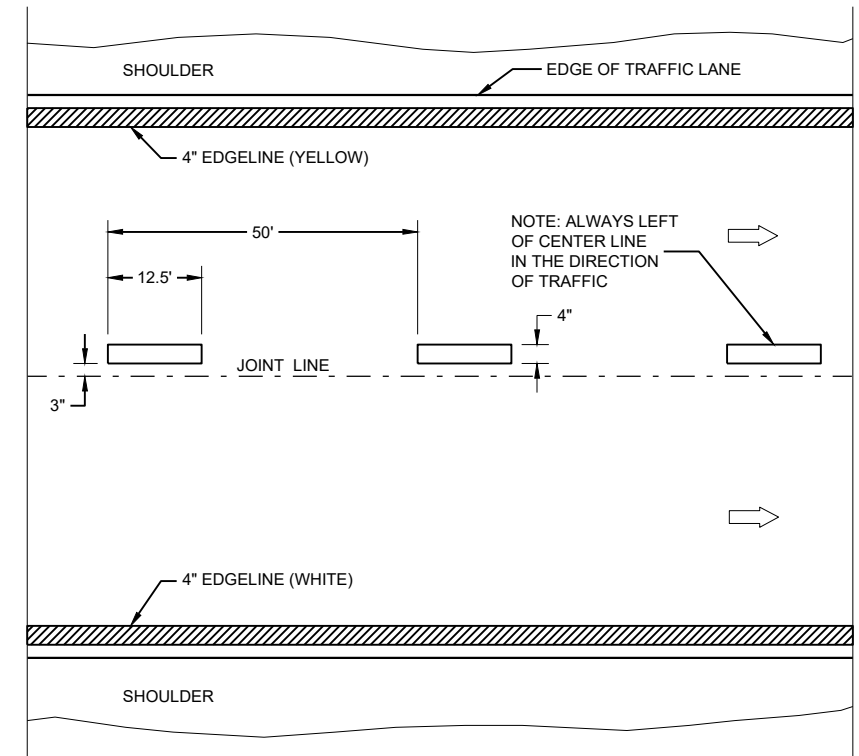
DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC



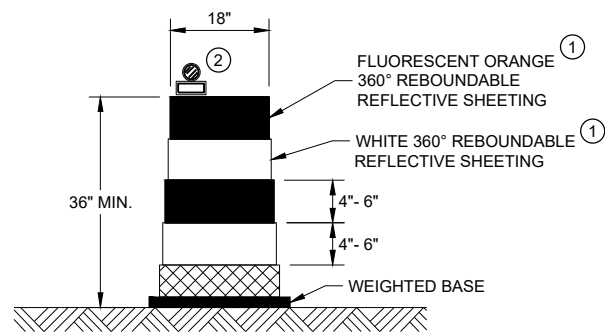
FREEWAYS AND EXPRESSWAYS

TEMPORARY PAVEMENT MARKING

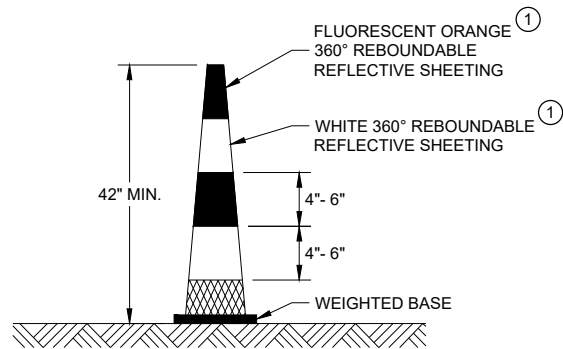
TEMPORARY LONGITUDINAL PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE
/S/ Jeannie Silver
STATEWIDE SIGNING AND MARKING ENGINEER
97
FHWA

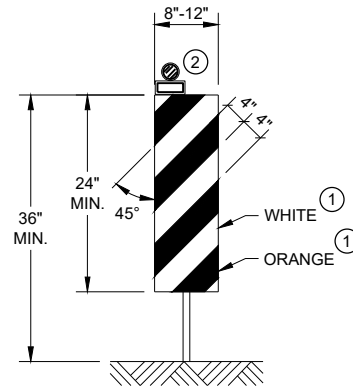


DRUM



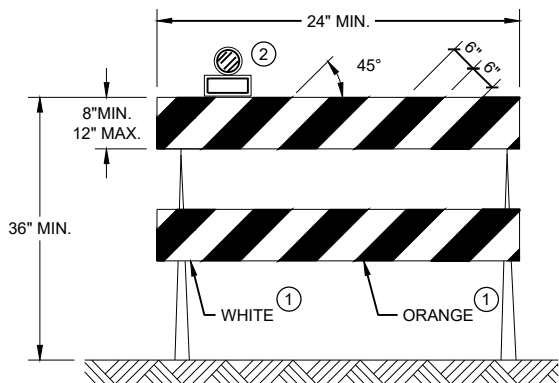
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



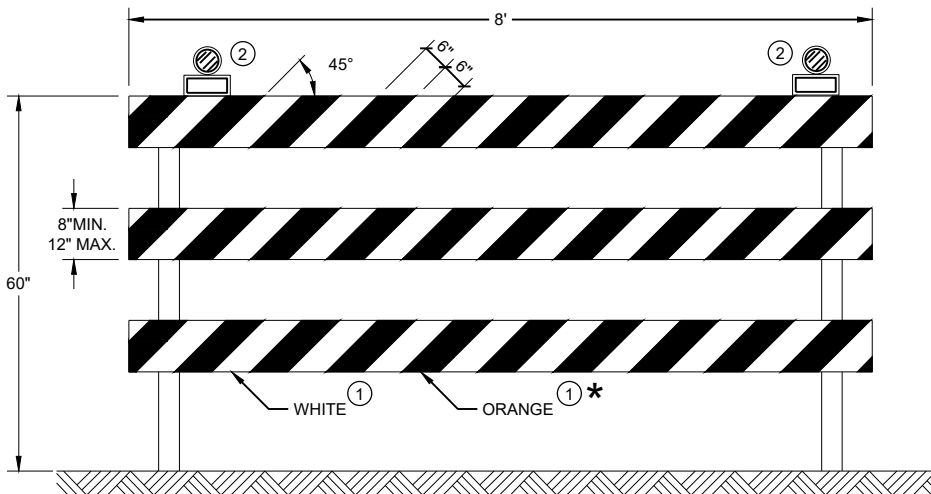
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

GENERAL NOTES

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

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 98
FHWA

LEGEND

-  SIGN ON PORTABLE OR PERMANENT SUPPORT
-  TEMPORARY PORTABLE RUMBLE STRIP ARRAY
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

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

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGING

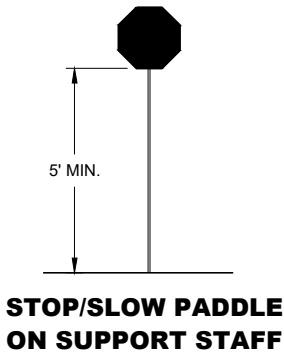
FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

- ① FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

- UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER
- ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.
- INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.
- PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.
- DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

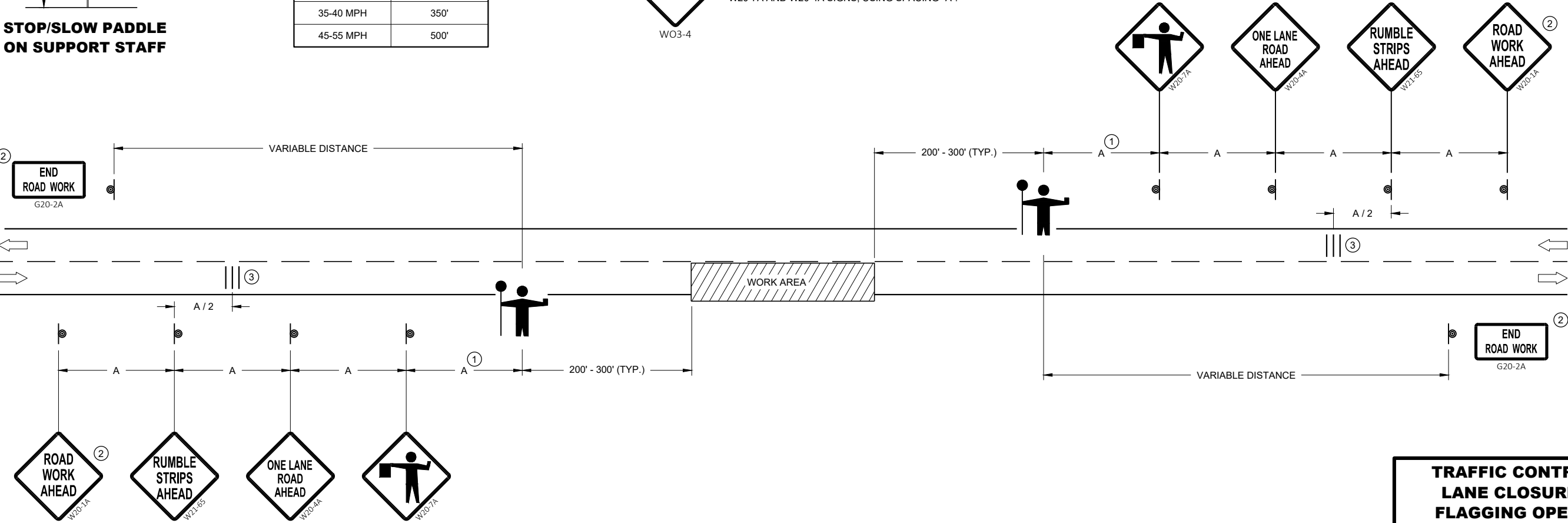


SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



USE OF W03-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



**TRAFFIC CONTROL FOR
LANE CLOSURE WITH
FLAGGING OPERATION**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 99

FHWA

LEGEND

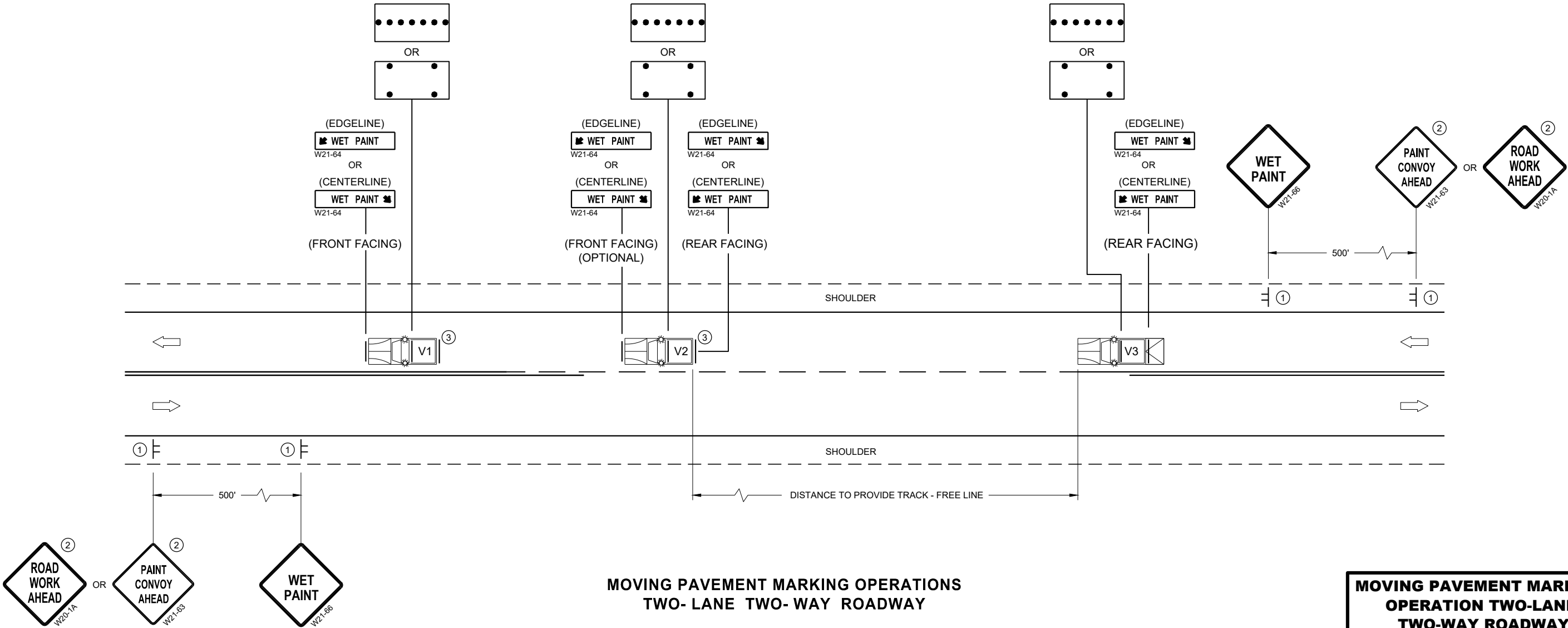
- V1 LEAD VEHICLE
- V2 MARKING VEHICLE
- V3 SHADOW VEHICLE
-  TRUCK MOUNTED ATTENUATOR (TMA)
-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC
-  FLASHING ARROW PANEL (CAUTION)

GENERAL NOTES

- ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.
- ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.
- DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.
- THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

- WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.
- CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.
- CONES SHALL BE A MINIMUM OF 28" FOR WET PAVEMENT MARKING .

- ① SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.
- ② IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.
- ③ V1 AND V2 CAN BE SWITCHED SO THAT THE MARKER IS THE LEAD VEHICLE.

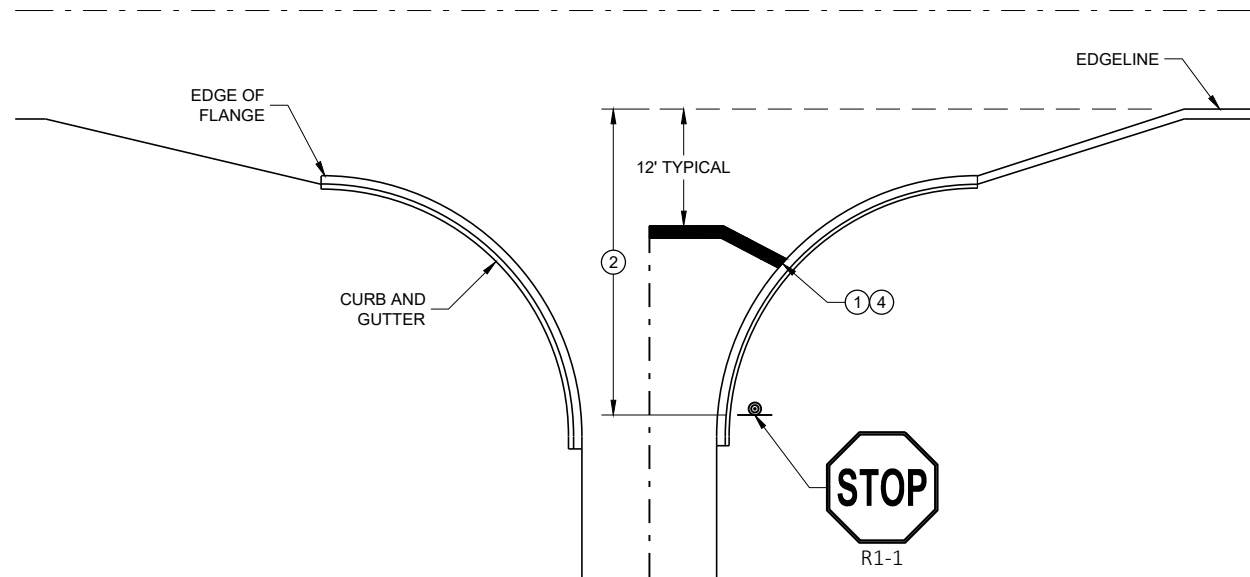


MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY ROADWAY

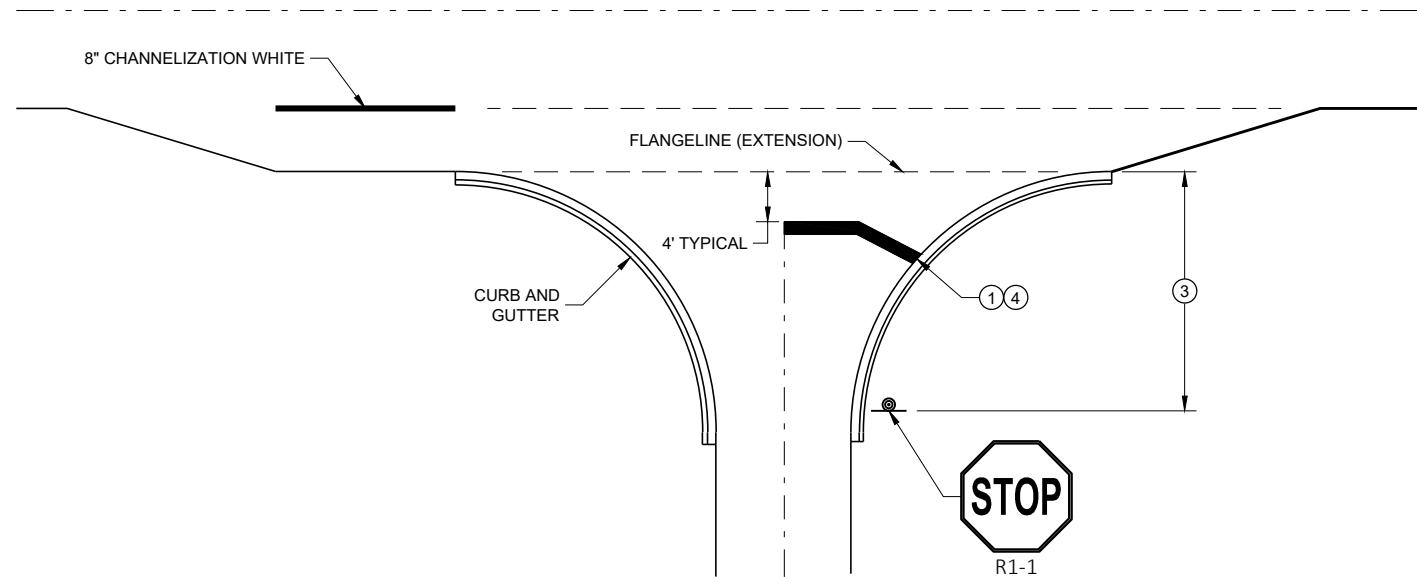
MOVING PAVEMENT MARKING
OPERATION TWO-LANE
TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

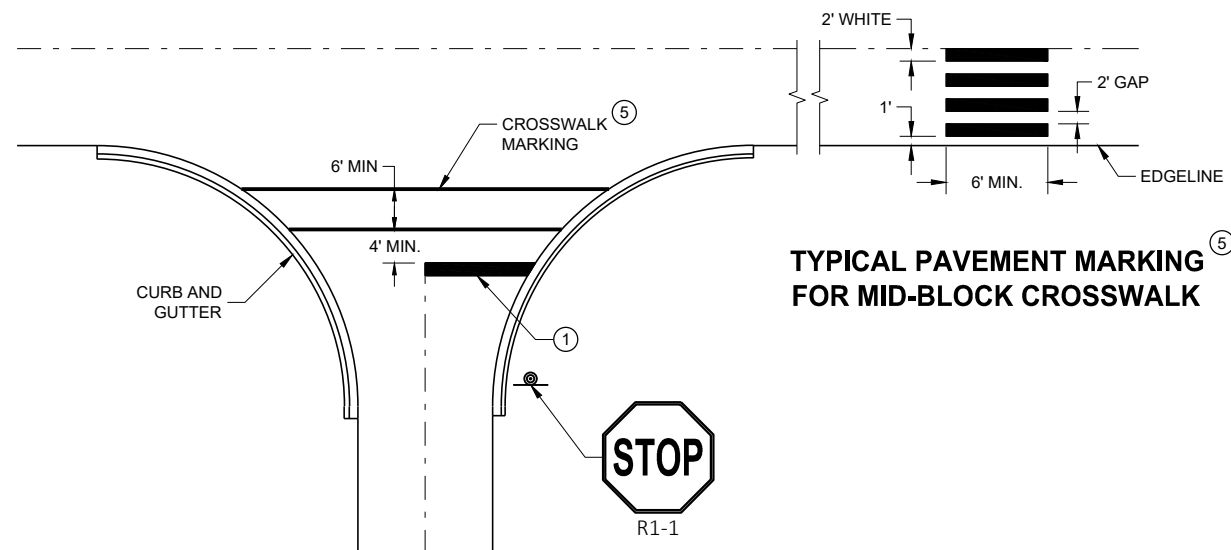
APPROVED
May 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 100
FHWA



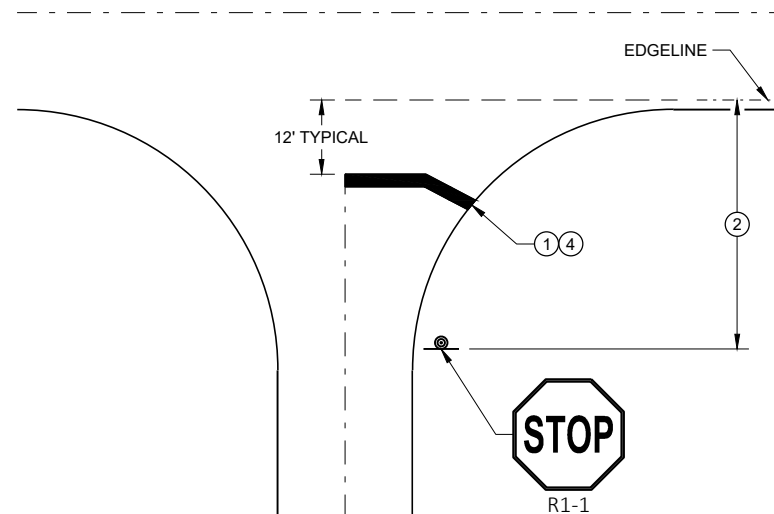
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



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

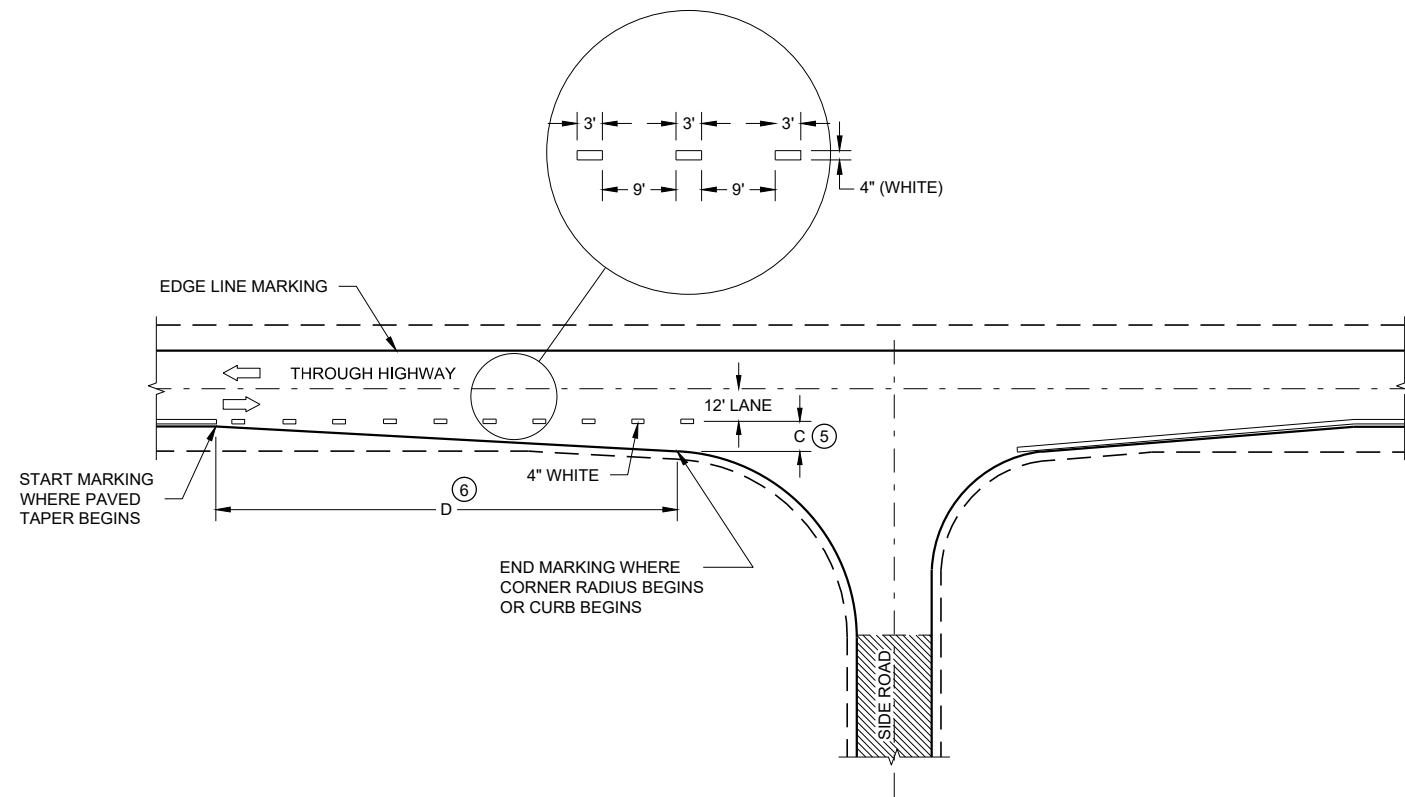
STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGE LINE LOCATION.

- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGE LINE.
- ③ NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGE LINE EXTENSION.
- ④ MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
- ⑤ LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES INSTEAD.

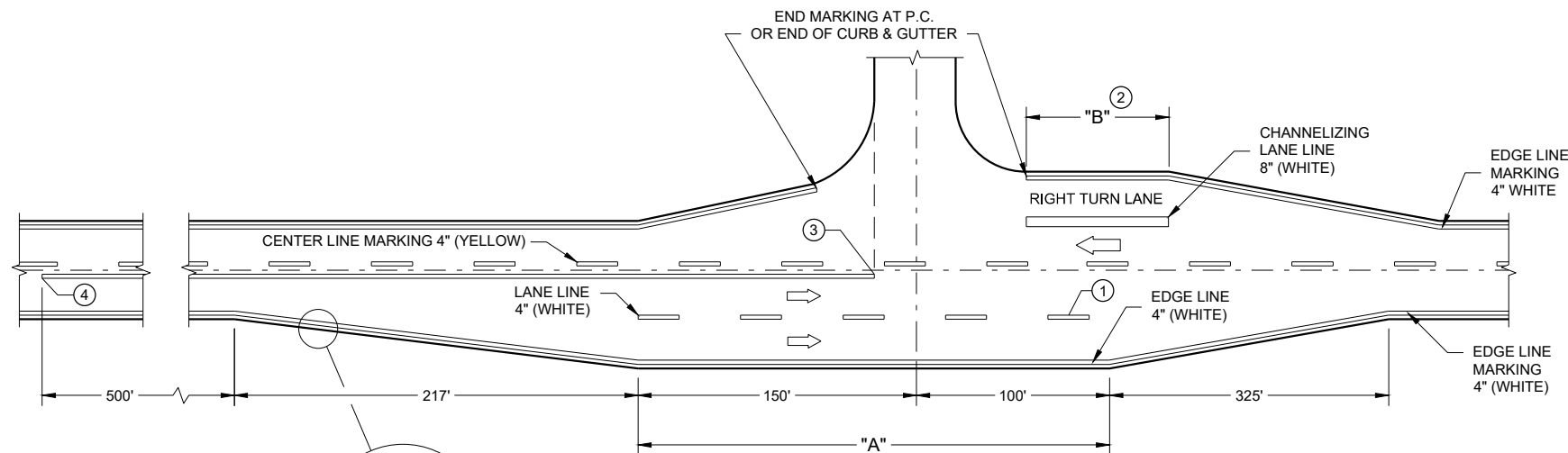
STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 /S/ Matthew Rauch
DATE STATE SIGNING AND MAP ENGINEER 101
FHWA



MINOR INTERSECTION



MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

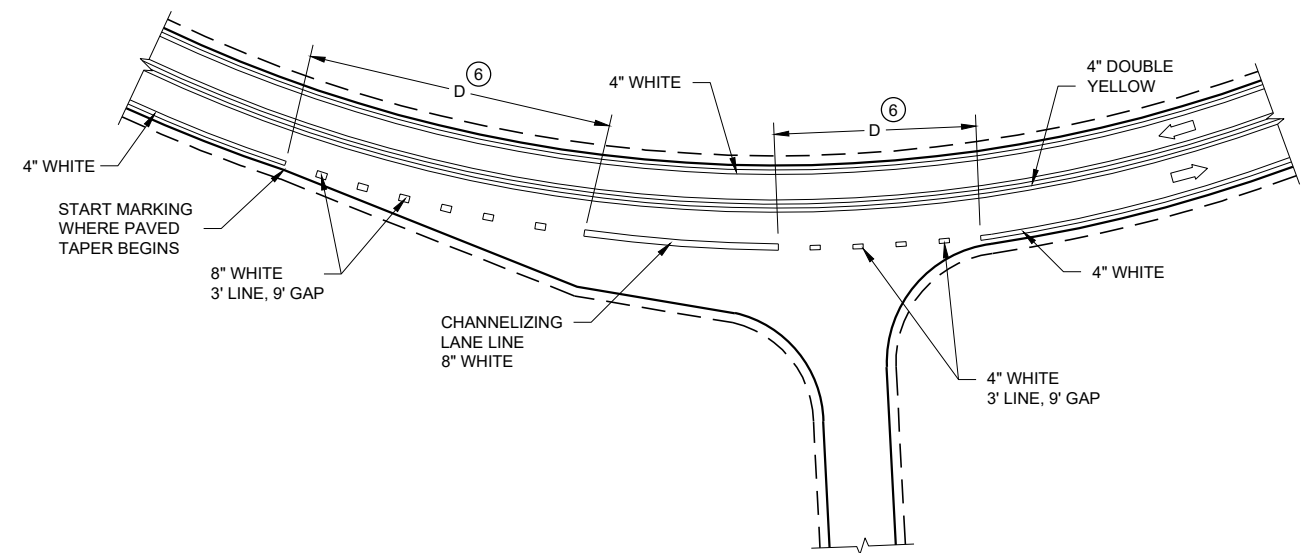
GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
- ④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
- ⑤ WHEN DISTANCE "C" IS LESS THAN 4 FEET, OMIT DOTTED EXTENSION.
- ⑥ WHEN DISTANCE "D" IS LESS THAN 50 FEET, OMIT DOTTED EXTENSION.

LEGEND

➡ DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 102

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  DIRECTION OF TRAFFIC
-  WORK ZONE

GENERAL NOTES

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 THE REGIONAL TRAFFIC UNIT.

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

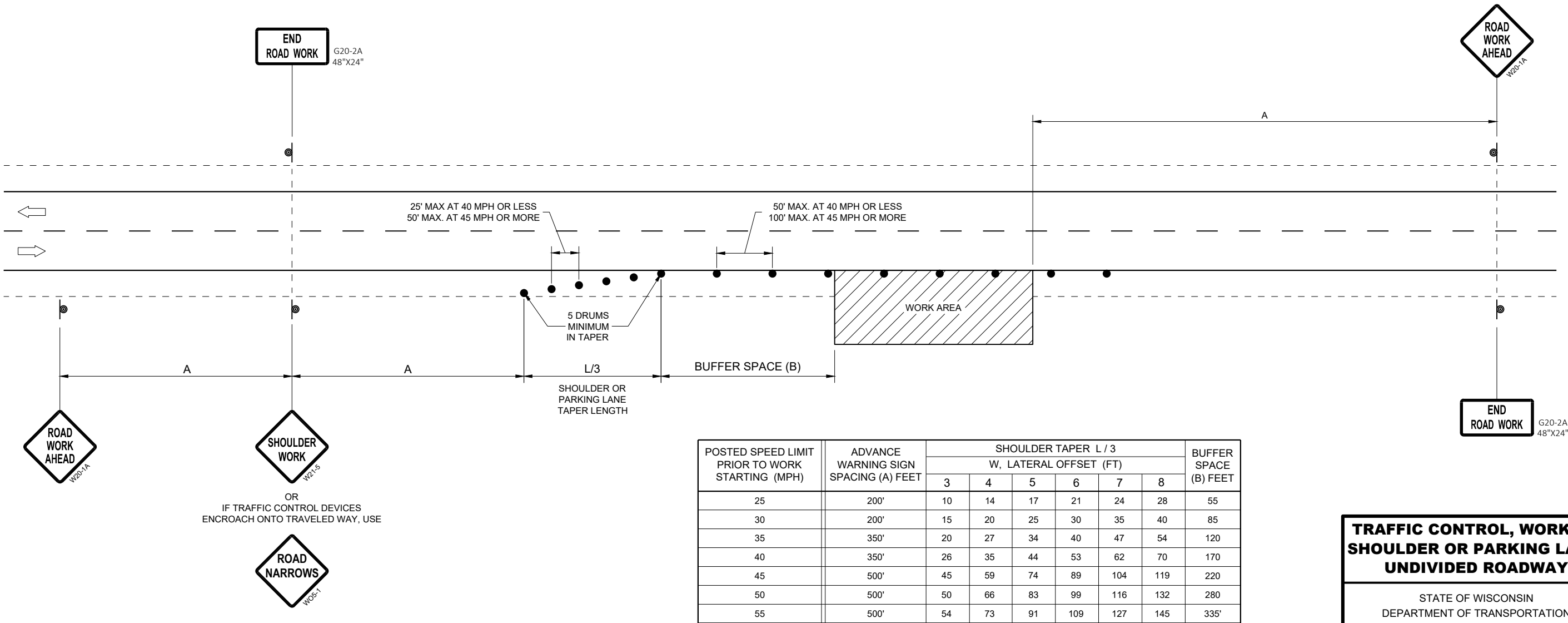
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

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

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

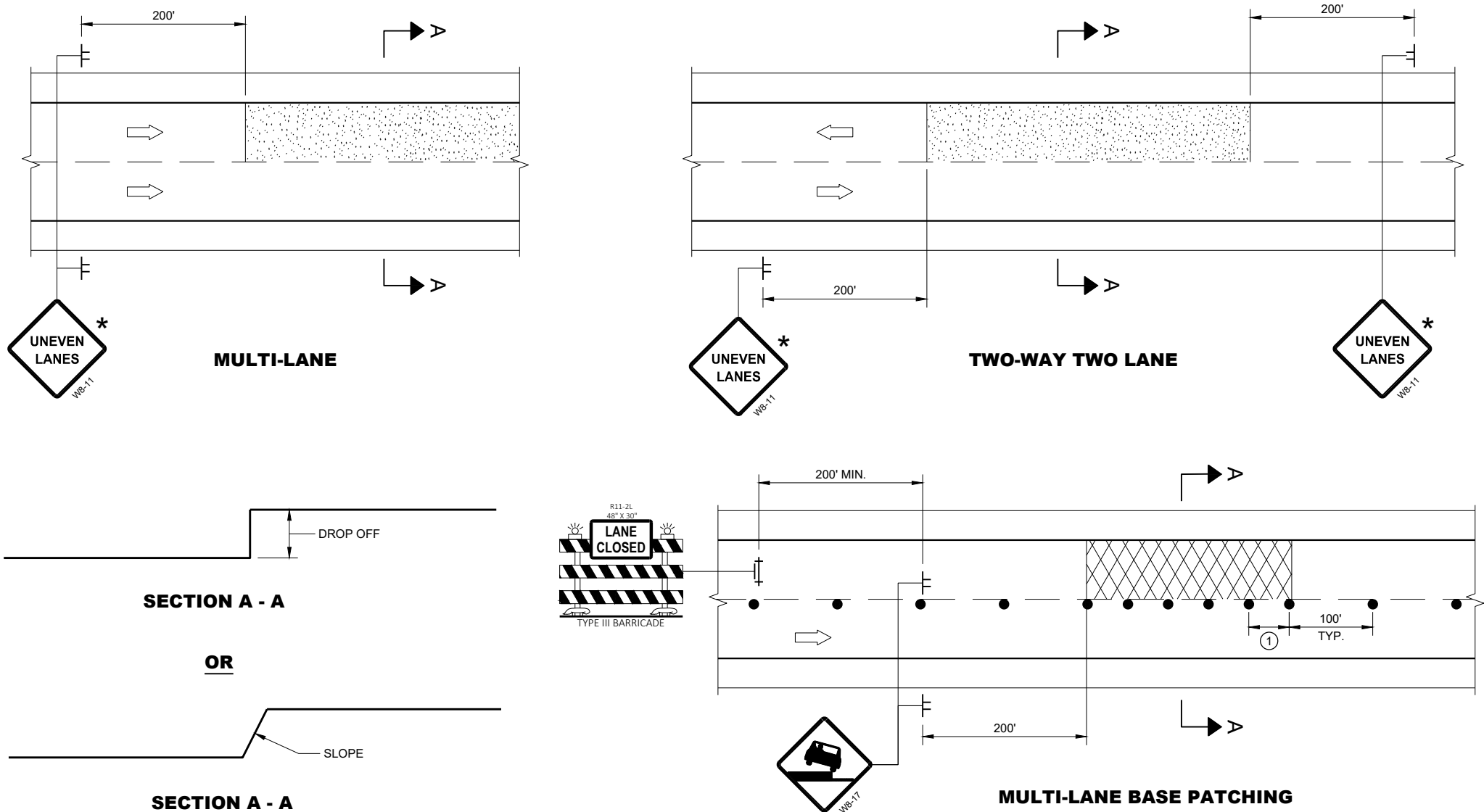


POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT)						BUFFER SPACE (B) FEET
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	55
30	200'	15	20	25	30	35	40	85
35	350'	20	27	34	40	47	54	120
40	350'	26	35	44	53	62	70	170
45	500'	45	59	74	89	104	119	220
50	500'	50	66	83	99	116	132	280
55	500'	54	73	91	109	127	145	335'

TRAFFIC CONTROL, WORK ON
SHOULDER OR PARKING LANE,
UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2020 /S/ Andrew Heidtke
DATE STATEWIDE WORK ZONE T SAFETY ENGINEER 103
FHWA

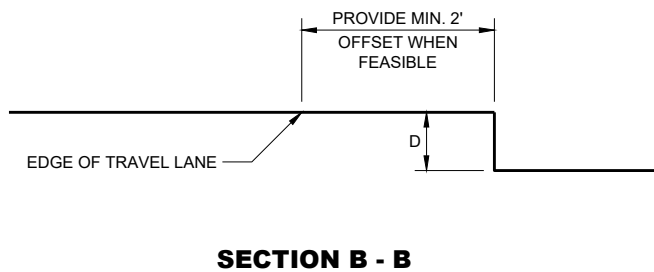
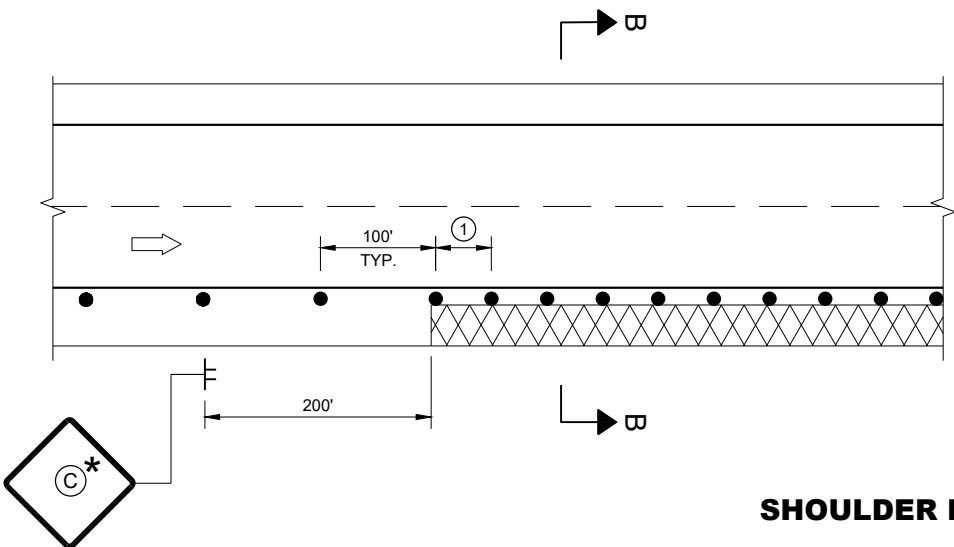


GENERAL NOTES

- FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
- "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.
- * IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.
- ① USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE



D	SIGN (C)
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER WO8-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	SHOULDER DROP - OFF W8-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT

**TRAFFIC CONTROL,
DROP-OFF SIGNING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 104

FHWA

GENERAL NOTES

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

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

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

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

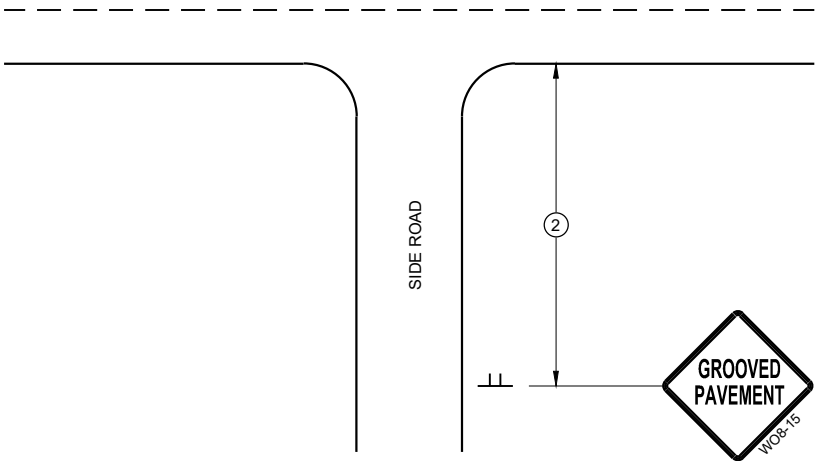
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

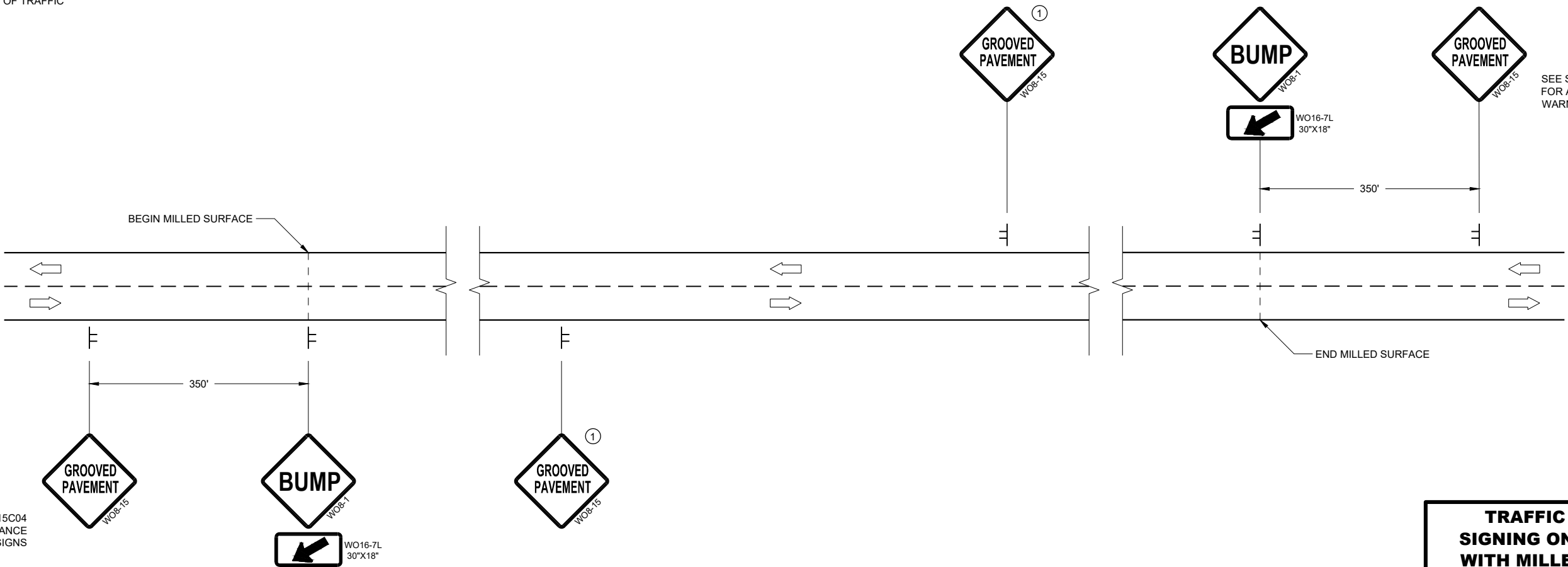
- ① PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH
SIGN DETAIL



SEE SDD15C04
FOR ADVANCE
WARNING SIGNS

SEE SDD15C04
FOR ADVANCE
WARNING SIGNS

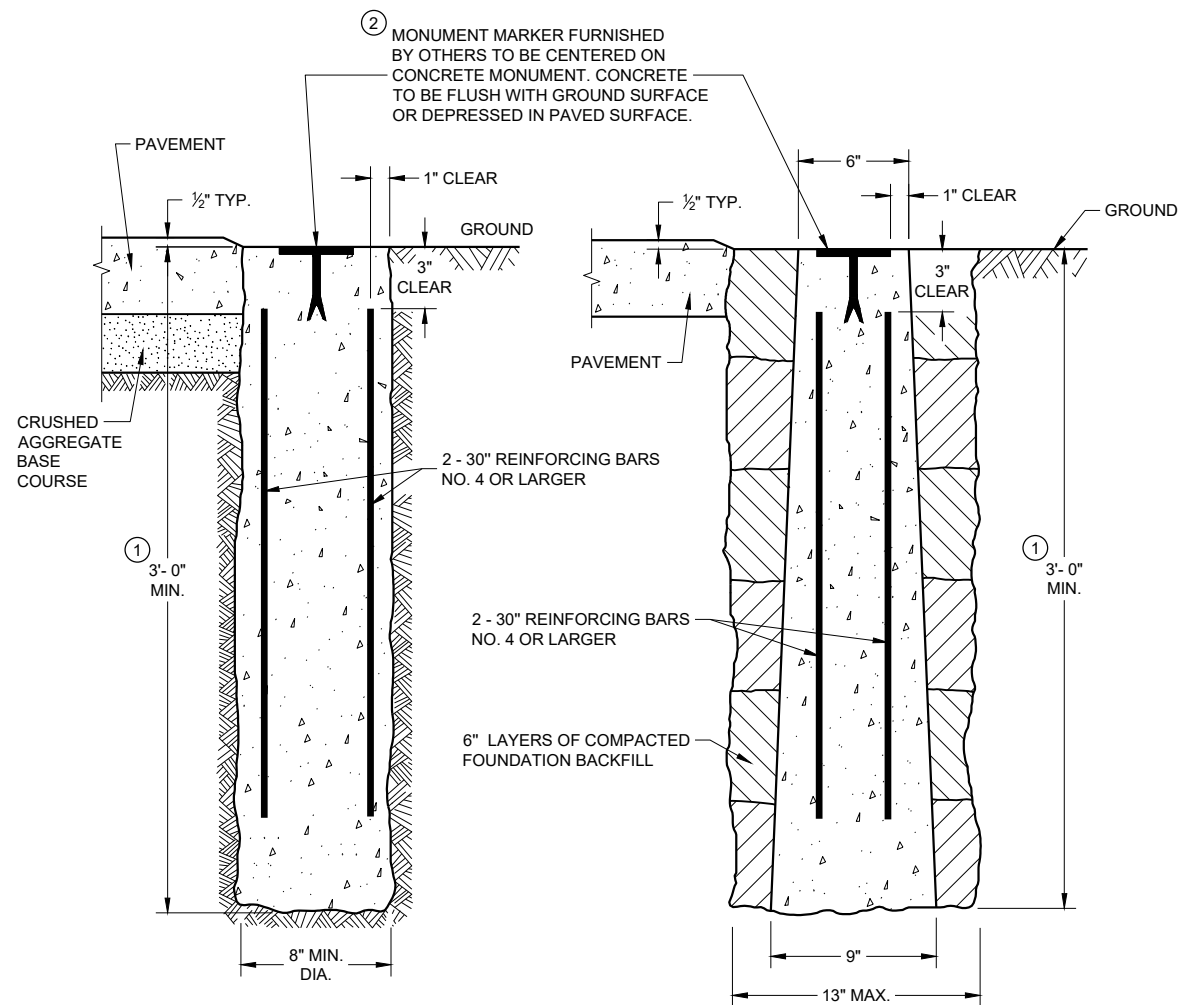
DETAIL FOR SIGNING ON MILLED SURFACES

TRAFFIC CONTROL,
SIGNING ON ROADWAYS
WITH MILLED SURFACES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 105

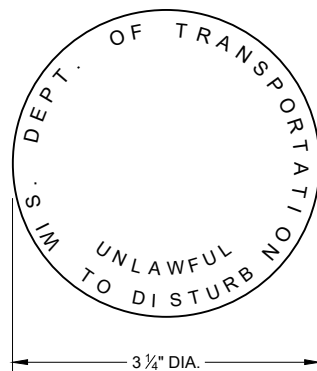
FHWA



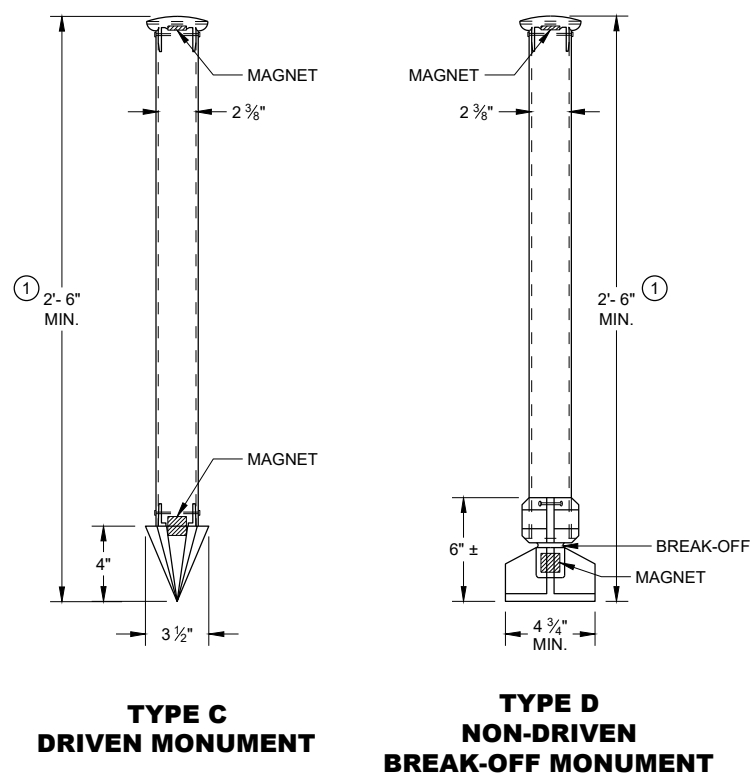
CAST-IN-PLACE

PRECAST

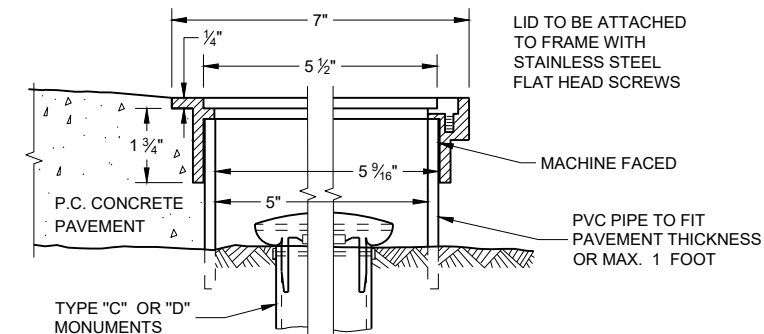
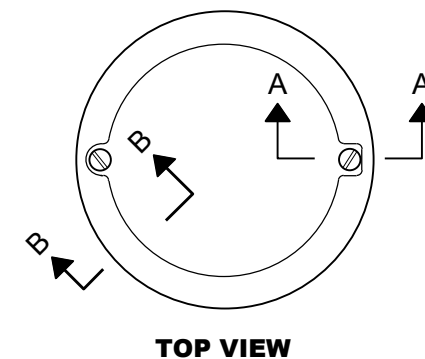
CONCRETE MONUMENTS TYPE A



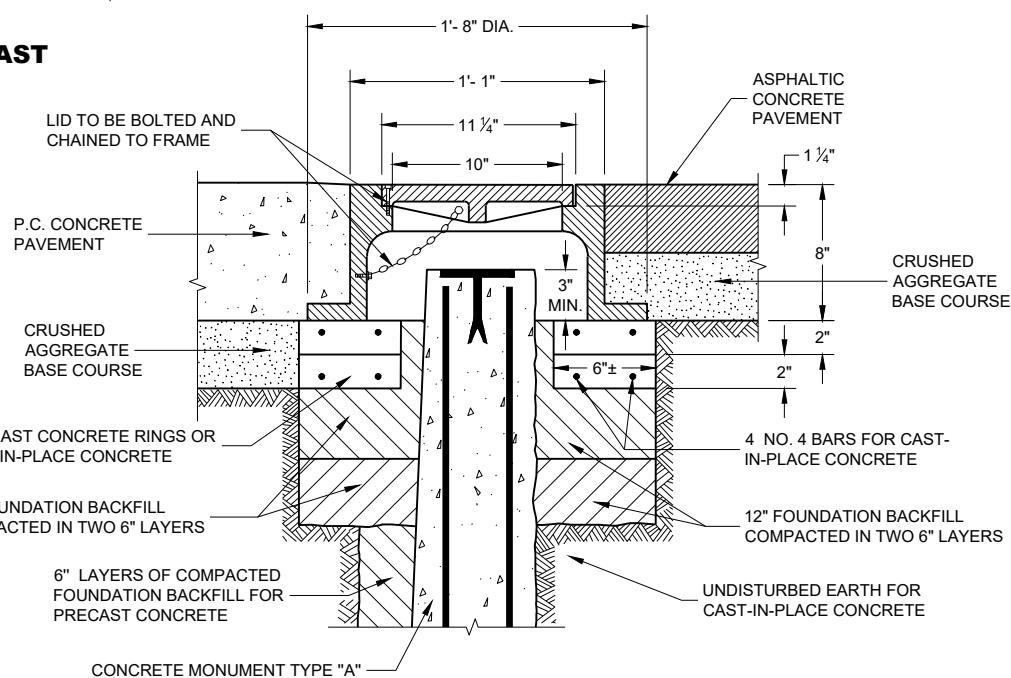
② **WIS DOT MONUMENT
MARKER LOGO**
FOR TYPES "A", "C" & "D"



ALUMINUM MONUMENTS (INCLUDES MARKER)



SECTION B-B **SECTION A-A**
ALUMINUM MONUMENT COVER
(APPROXIMATE WEIGHT 2 LBS)
(FOR CONCRETE PAVEMENT ONLY)



CAST IRON MONUMENT COVER
(APPROXIMATE WEIGHT 95 LBS)

GENERAL NOTES

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

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

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

THE CAST IRON MONUMENT COVER SHALL BE A "NON-ROCKING" TYPE. ADJUSTMENT OF THE COVER TO GRADE MAY BE ACCOMPLISHED BY THE USE OF MORTAR AND BRICK, OR BY EITHER PRECAST OR CAST-IN-PLACE REINFORCED CONCRETE GRADE RINGS.

MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE ENGINEER.

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

THE MONUMENT COVERS DETAILED ON THIS DRAWING ARE NOT EQUAL ALTERNATES. MONUMENT COVERS SHALL BE CAST IRON UNLESS ALUMINUM IS SPECIFIED ELSEWHERE IN THE CONTRACT.

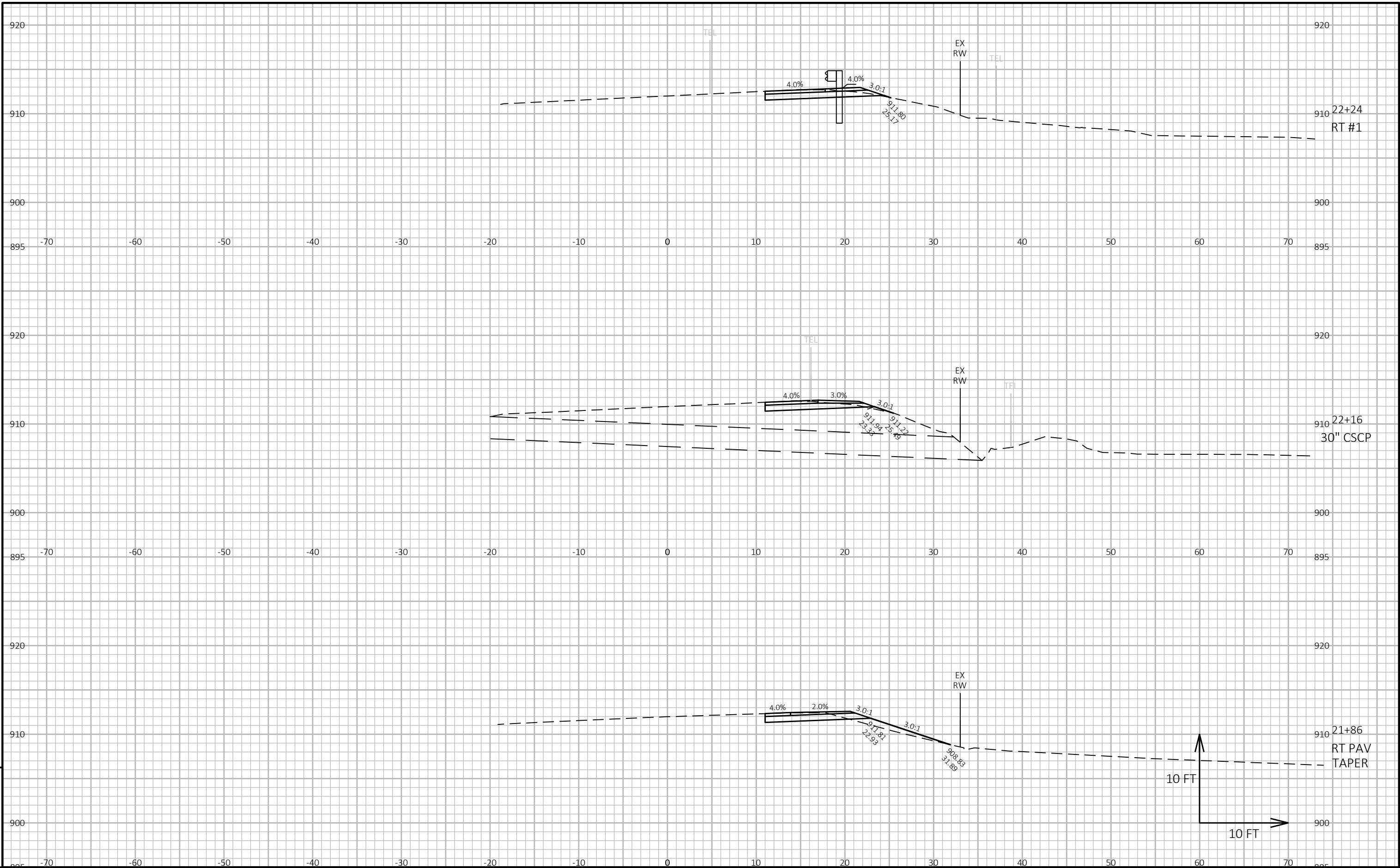
MONUMENT SHALL BE CAST-IN-PLACE CONCRETE UNLESS PRECAST CONCRETE OR ALUMINUM MONUMENTS ARE SPECIFIED IN THE CONTRACT OR PERMITTED BY THE ENGINEER.

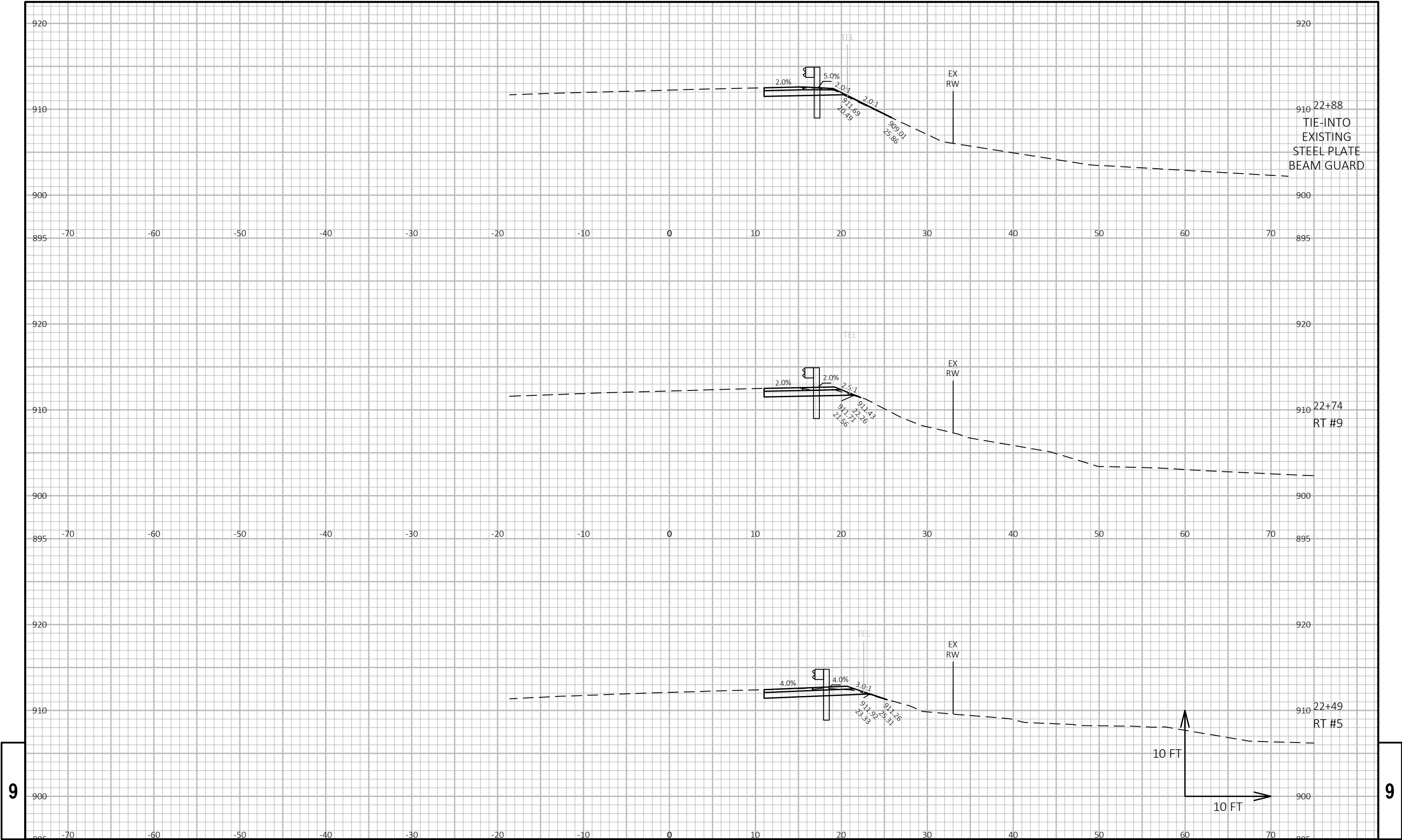
- ① MINIMUM LENGTH SHALL BE 4'-0" FOR MONUMENTS INSTALLED IN PAVED AREAS.
- ② AN OFFICIAL COUNTY MONUMENT MARKER SUPPLIED BY A COUNTY MAY BE REQUIRED FOR SOME SECTION CORNERS AND WITNESS MONUMENTS INSTEAD OF THIS WISDOT MARKER.

LANDMARK REFERENCE MONUMENTS AND COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

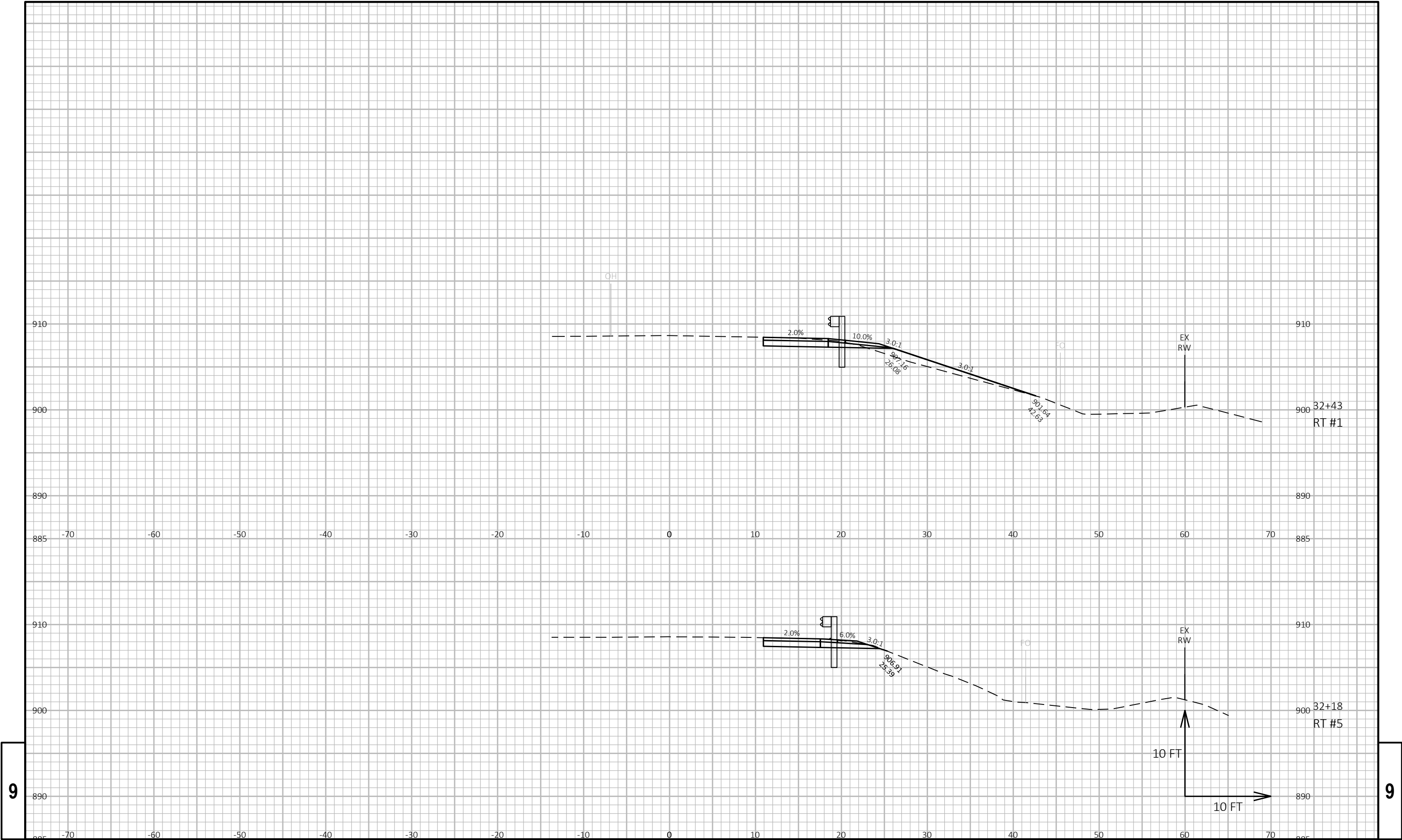
APPROVED
March 2018 /S/ Raymond A. Kumapavii
DATE CHIEF SURVEYING AND MAPPING ENGINEER 106
FHWA





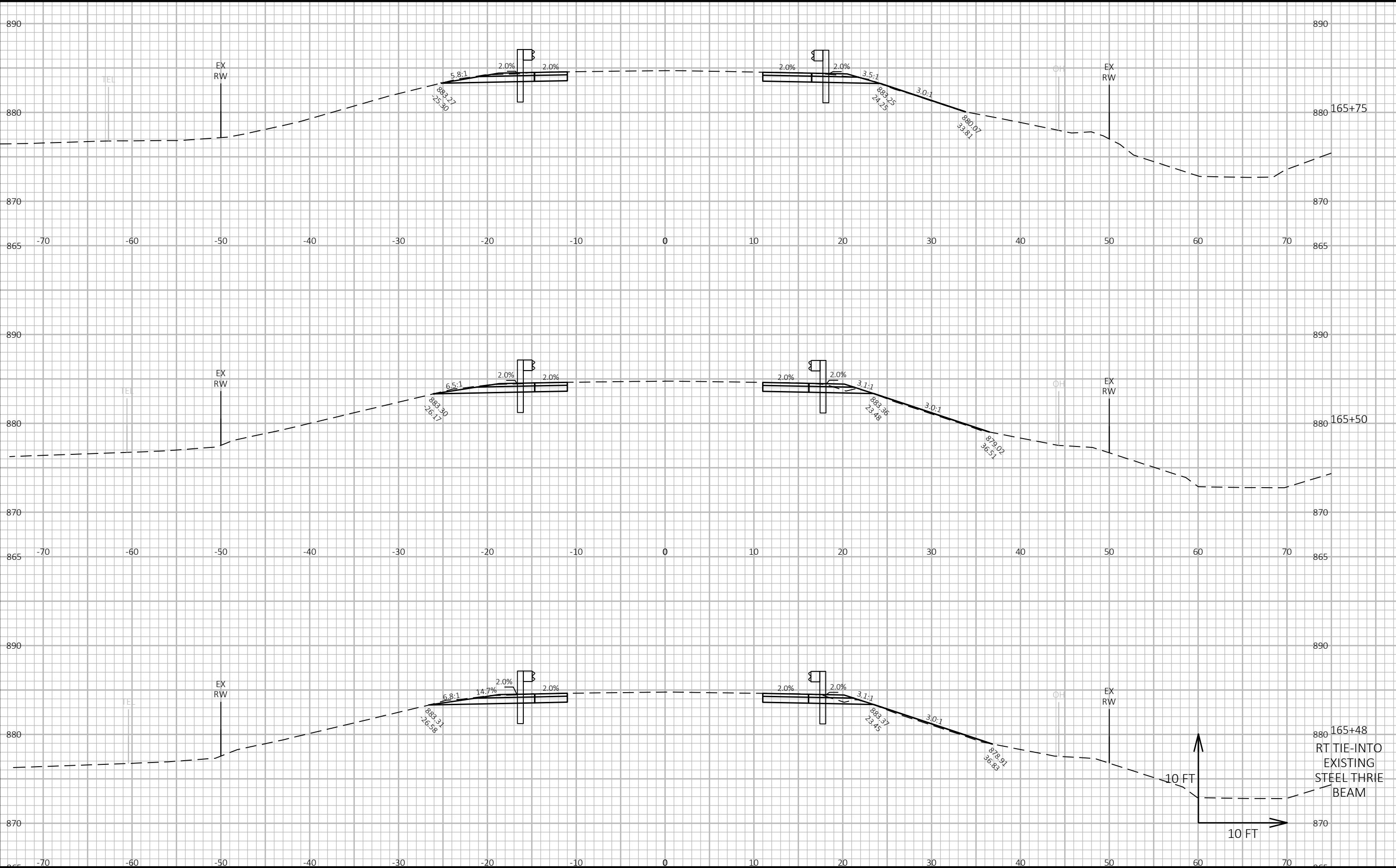
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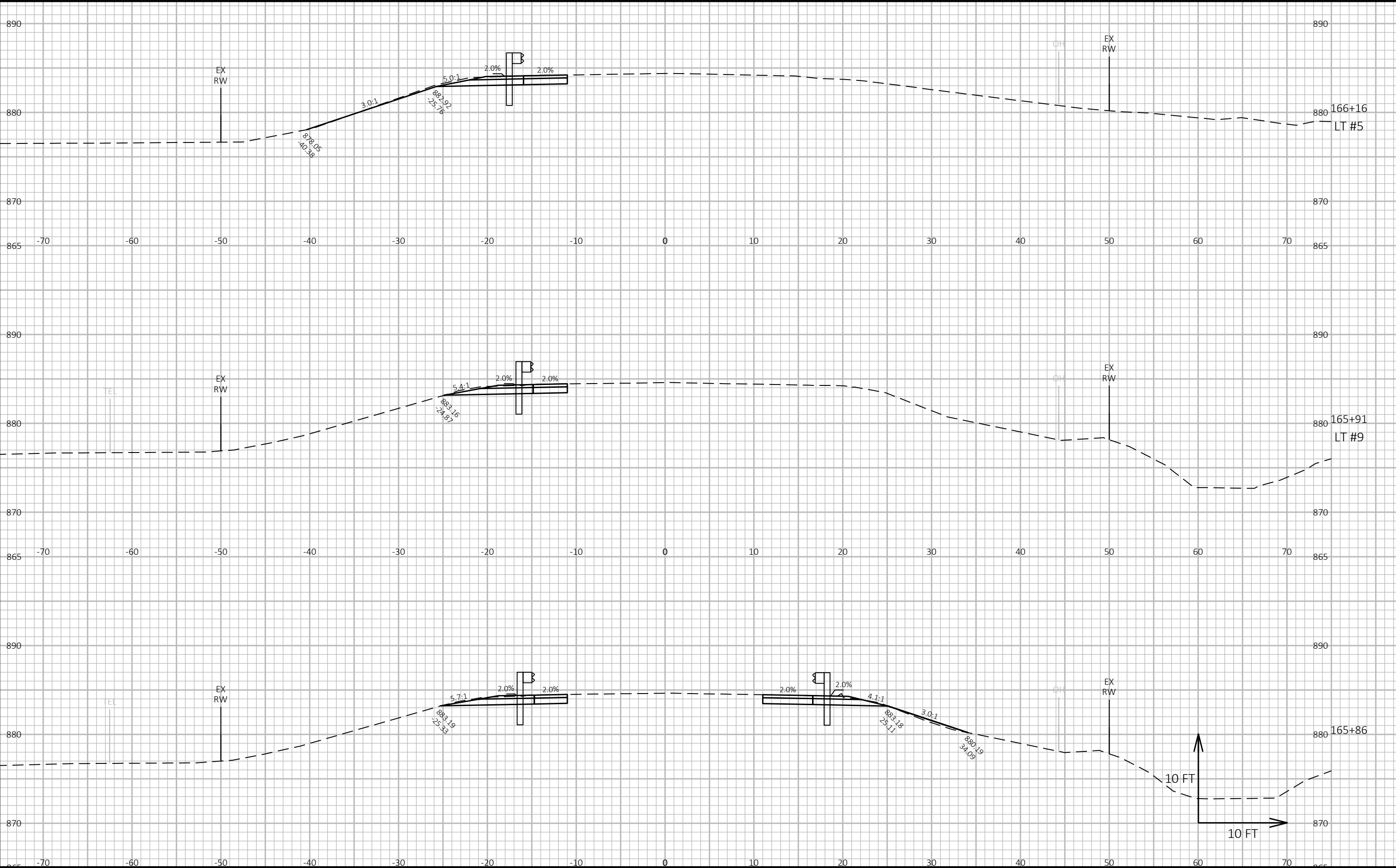
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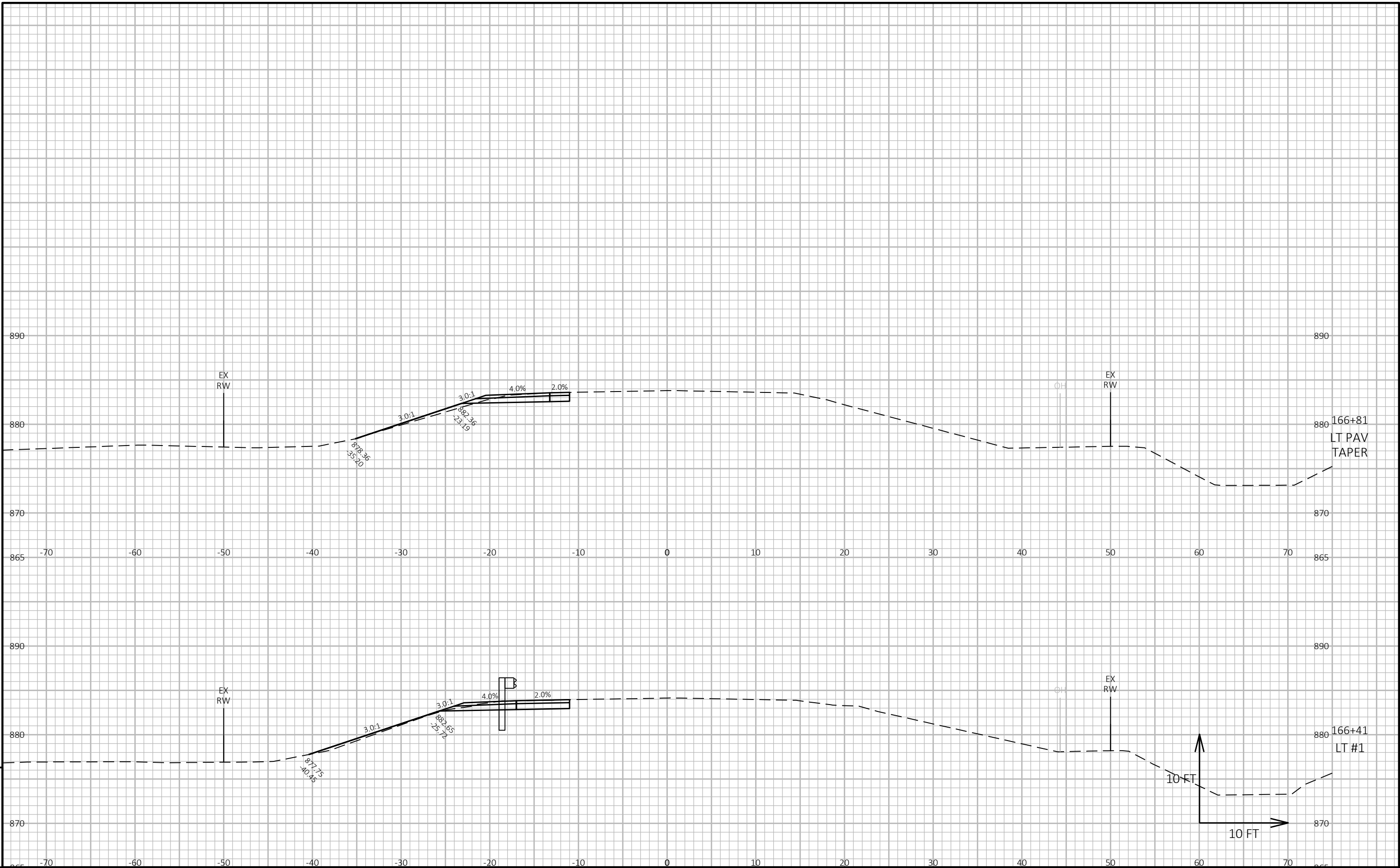


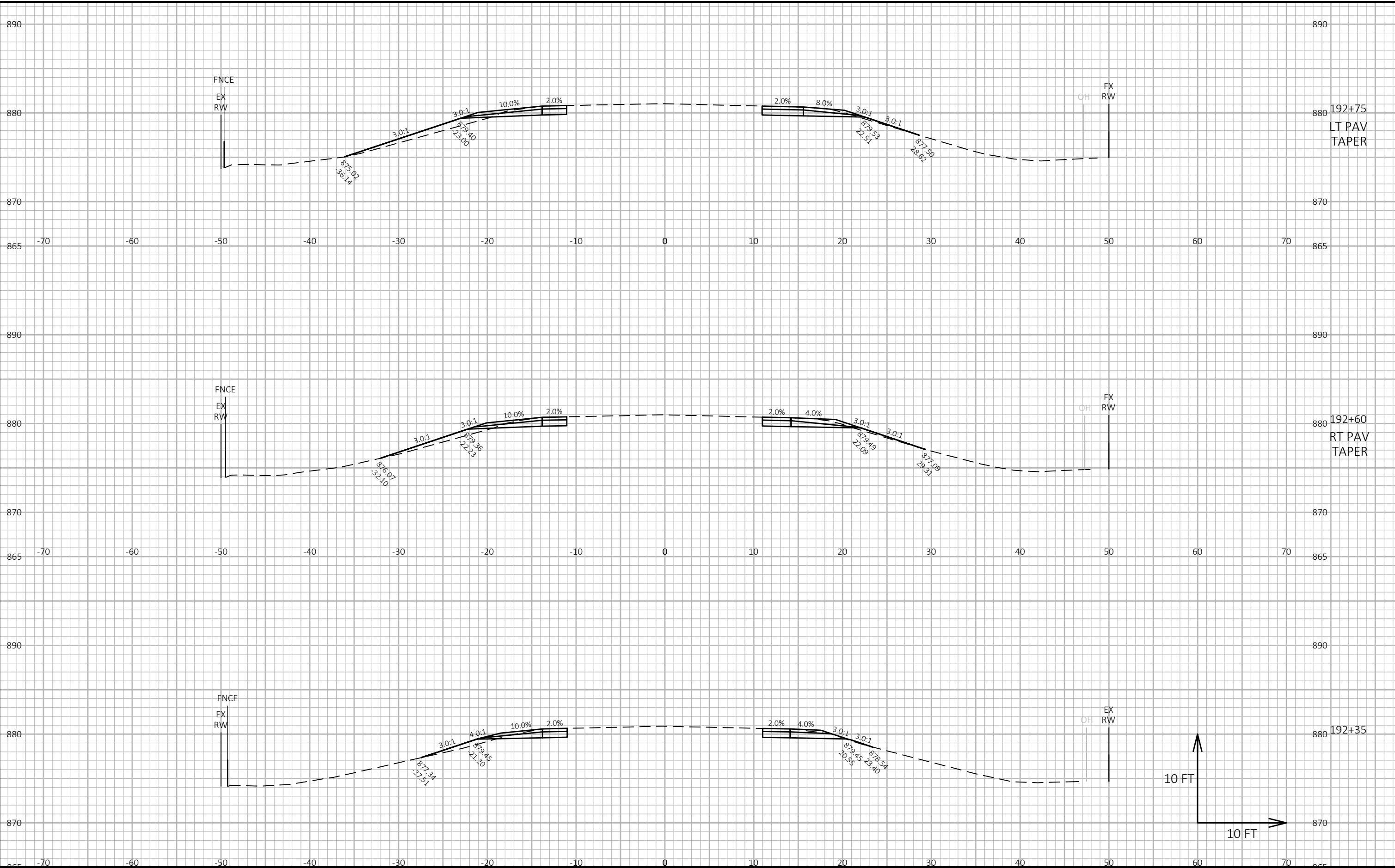
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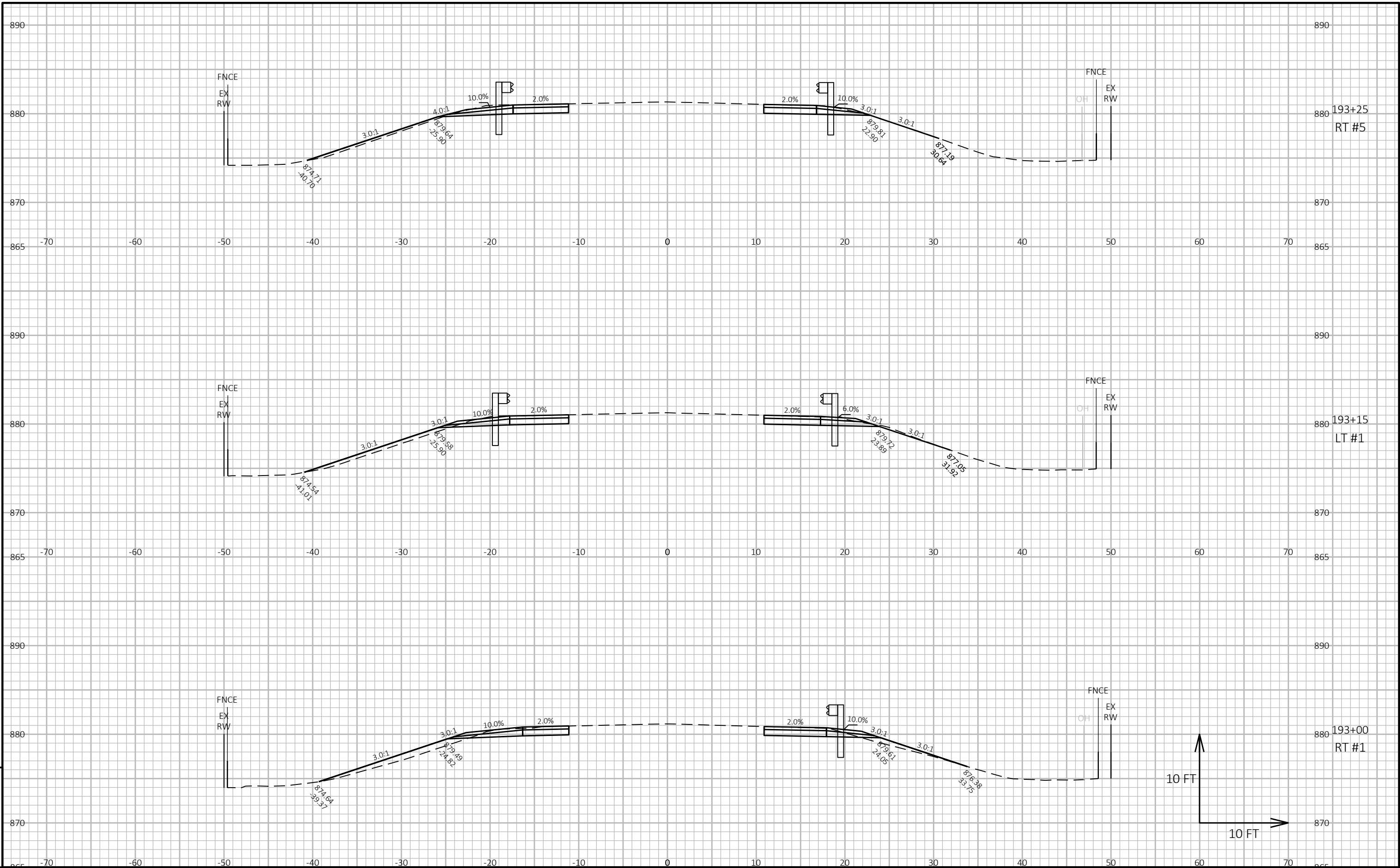


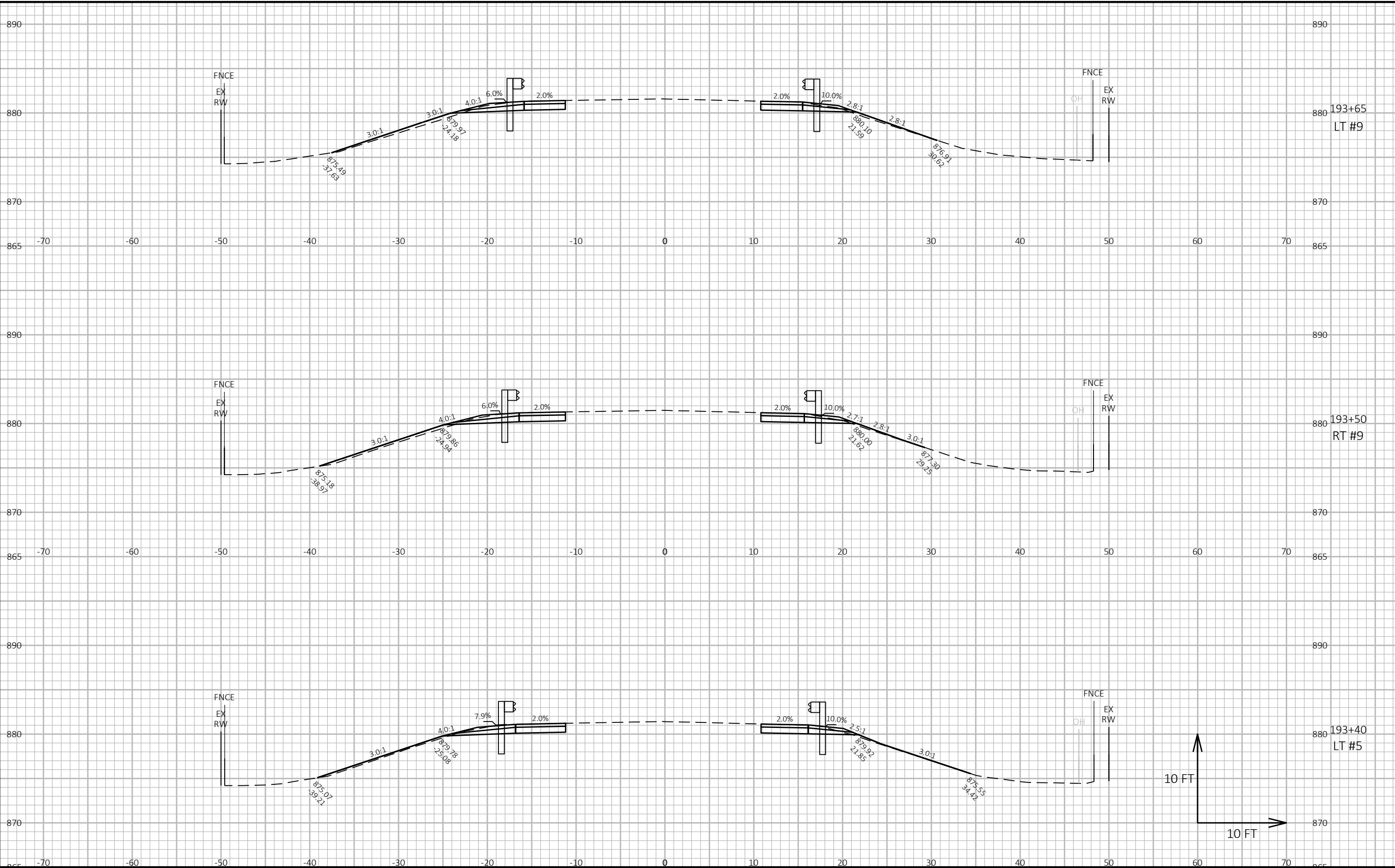


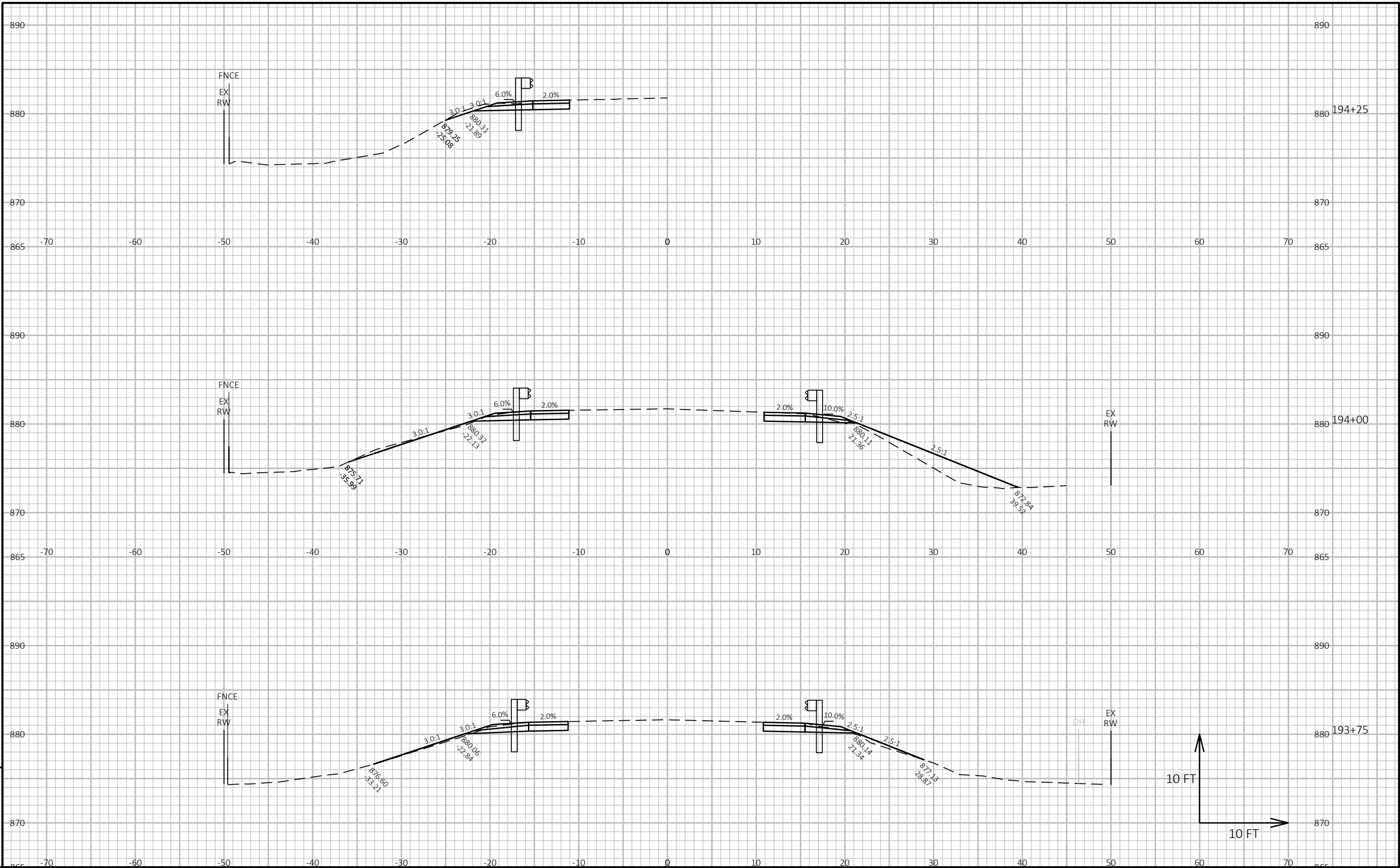


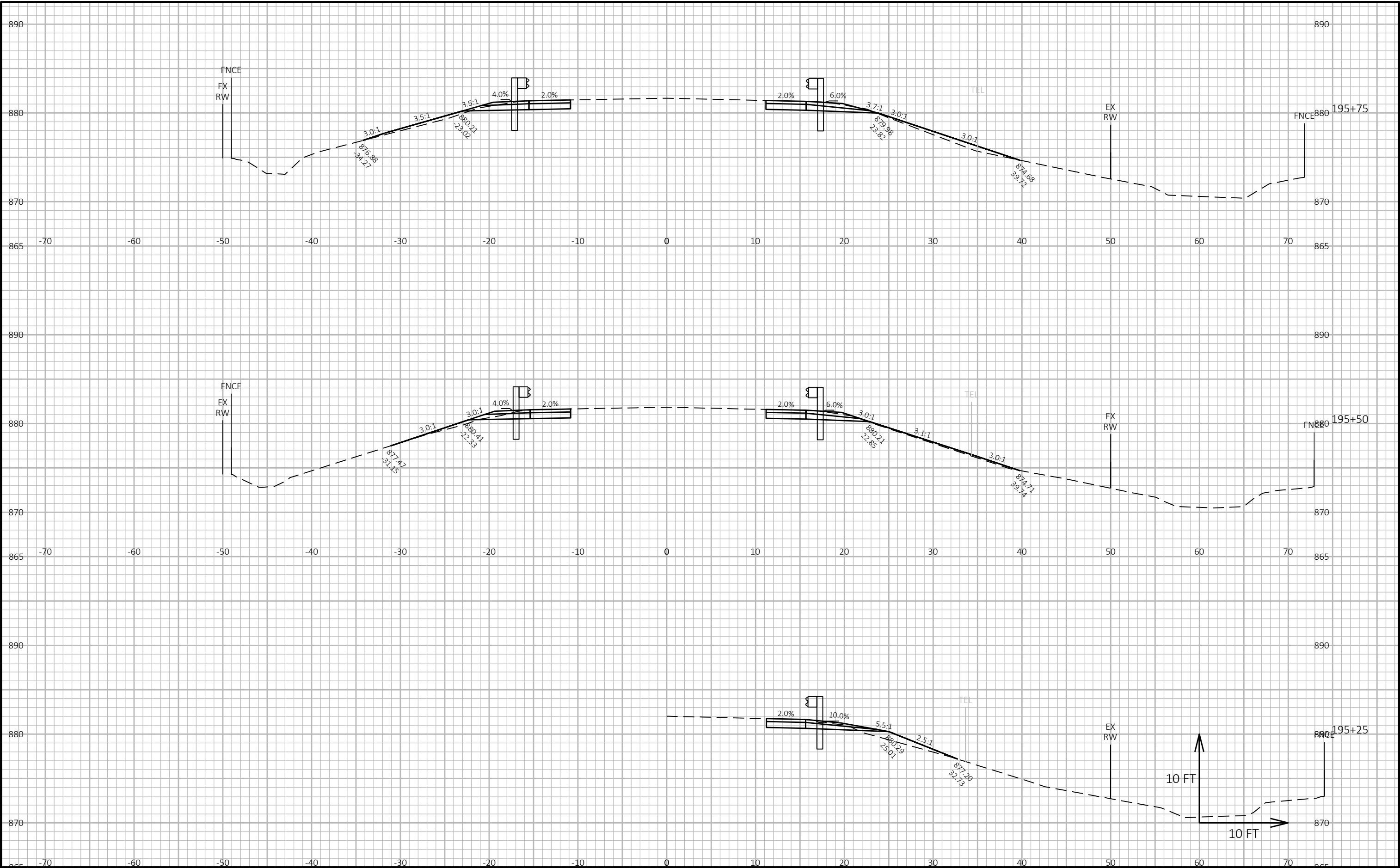
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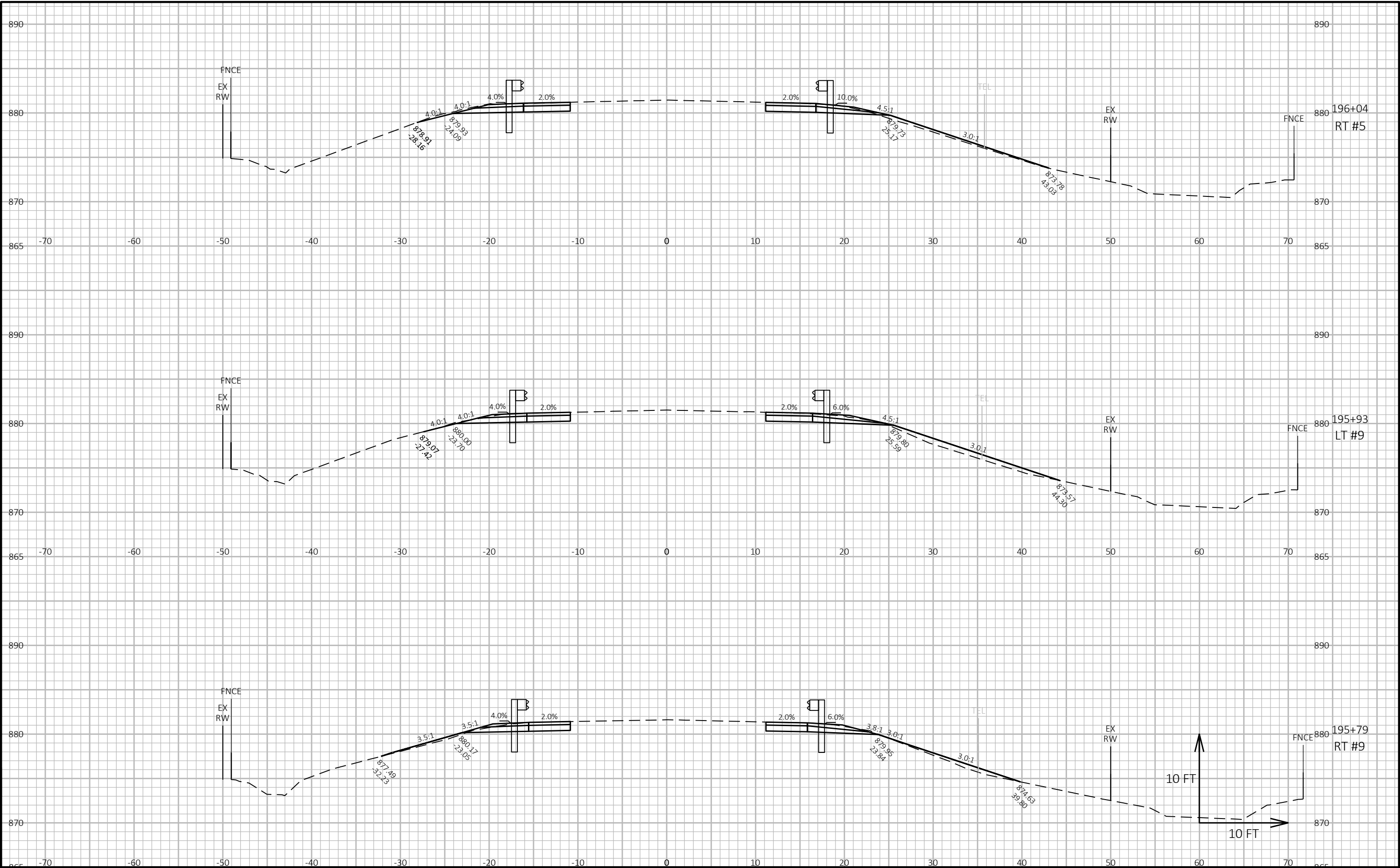
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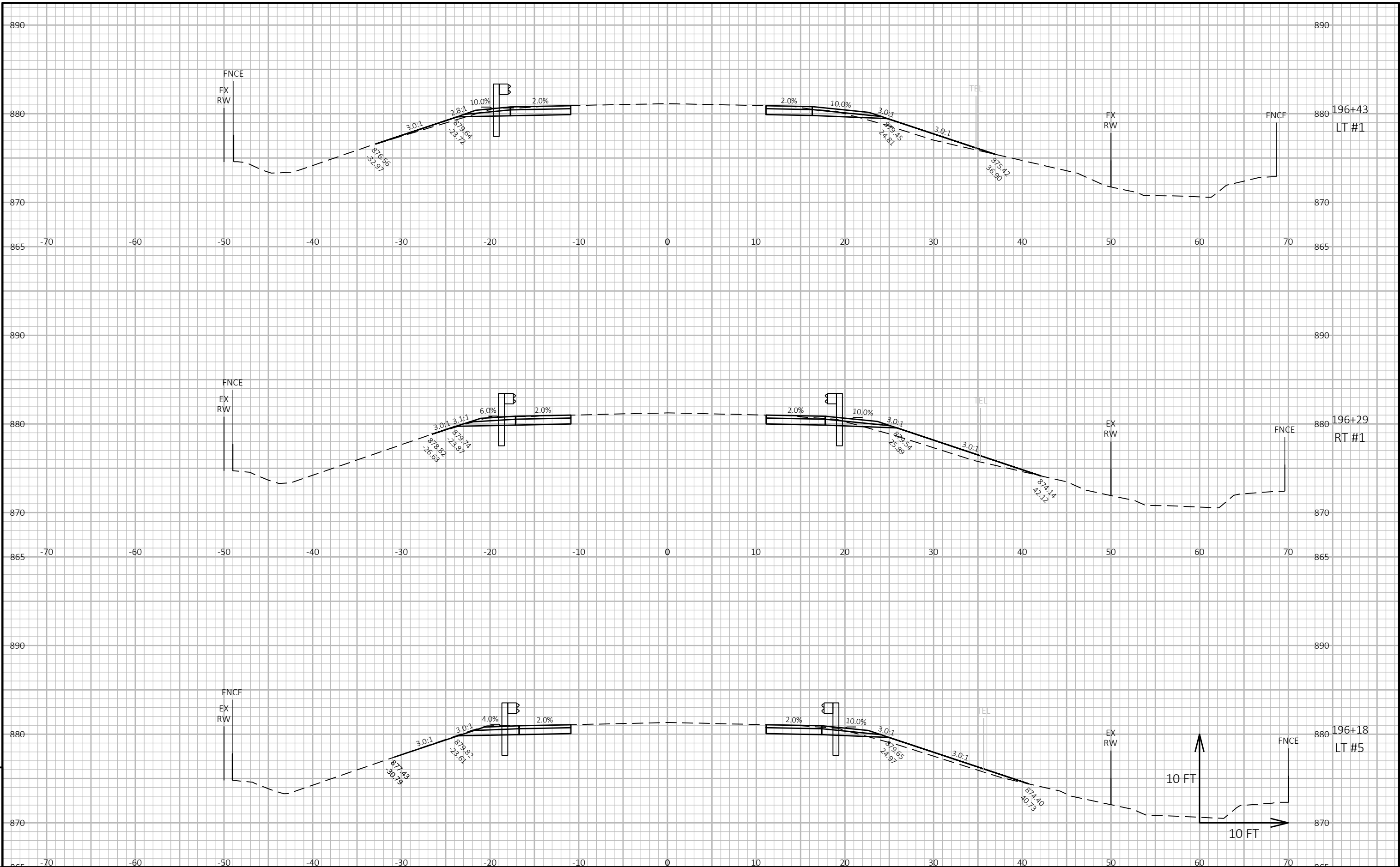


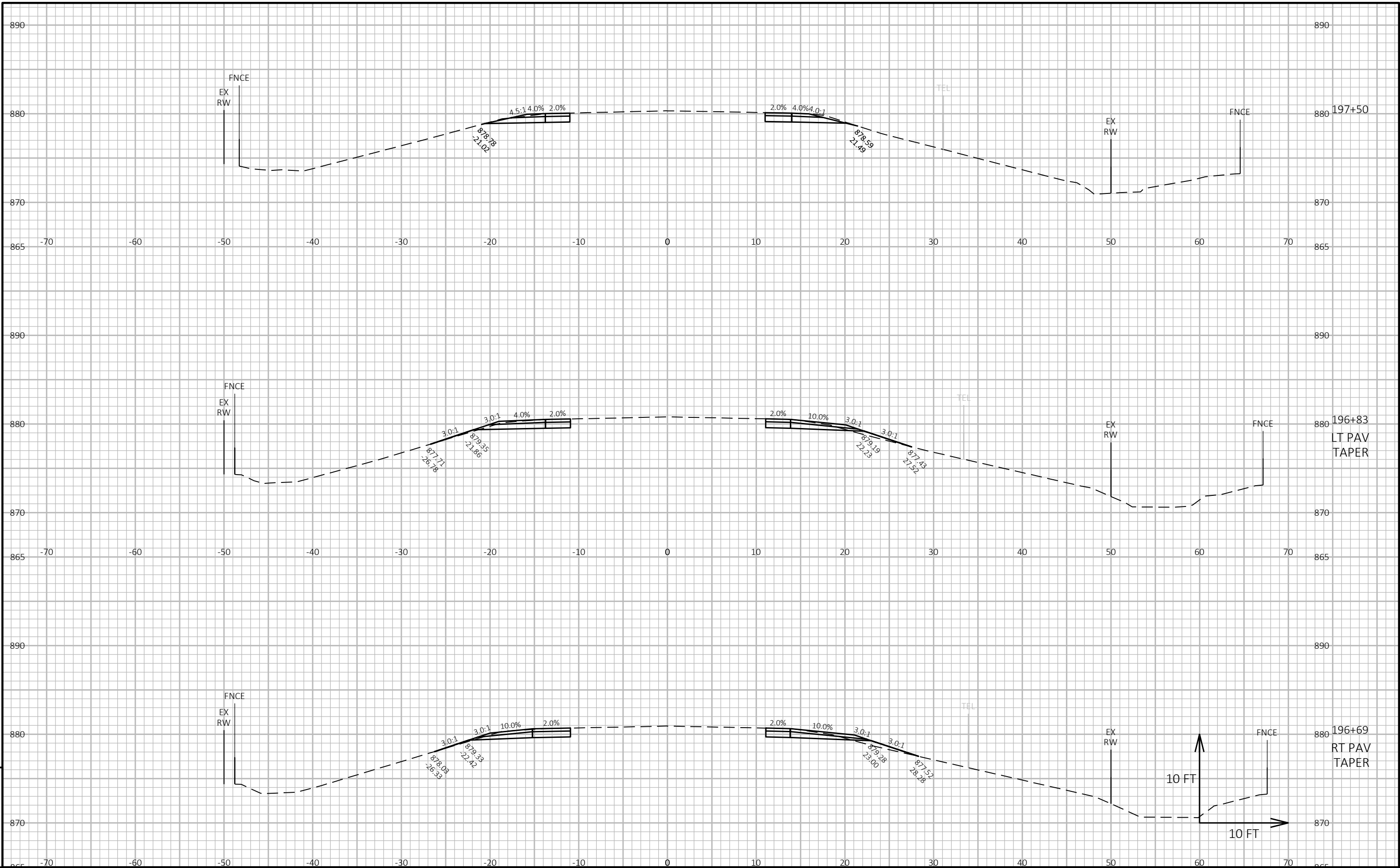


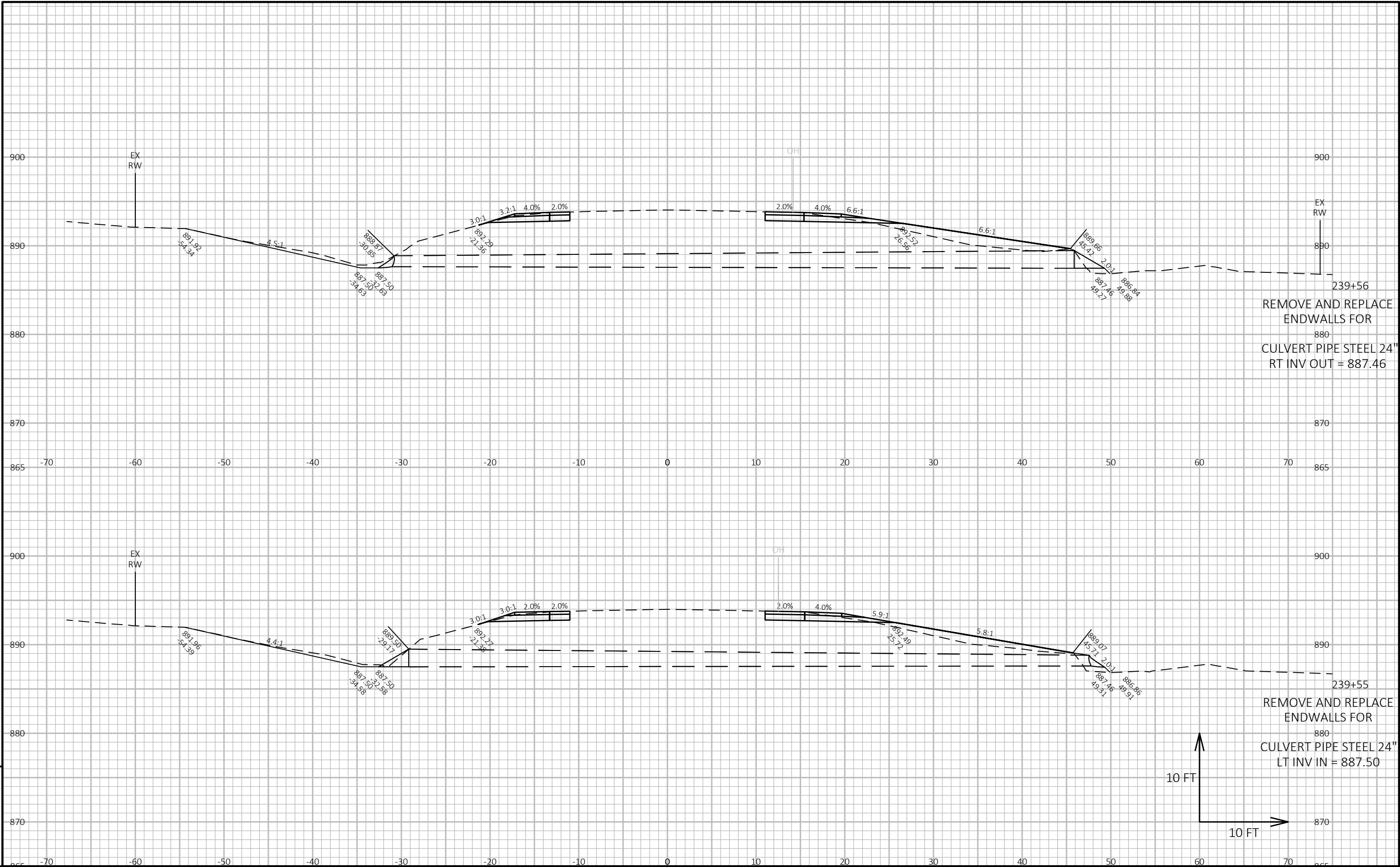


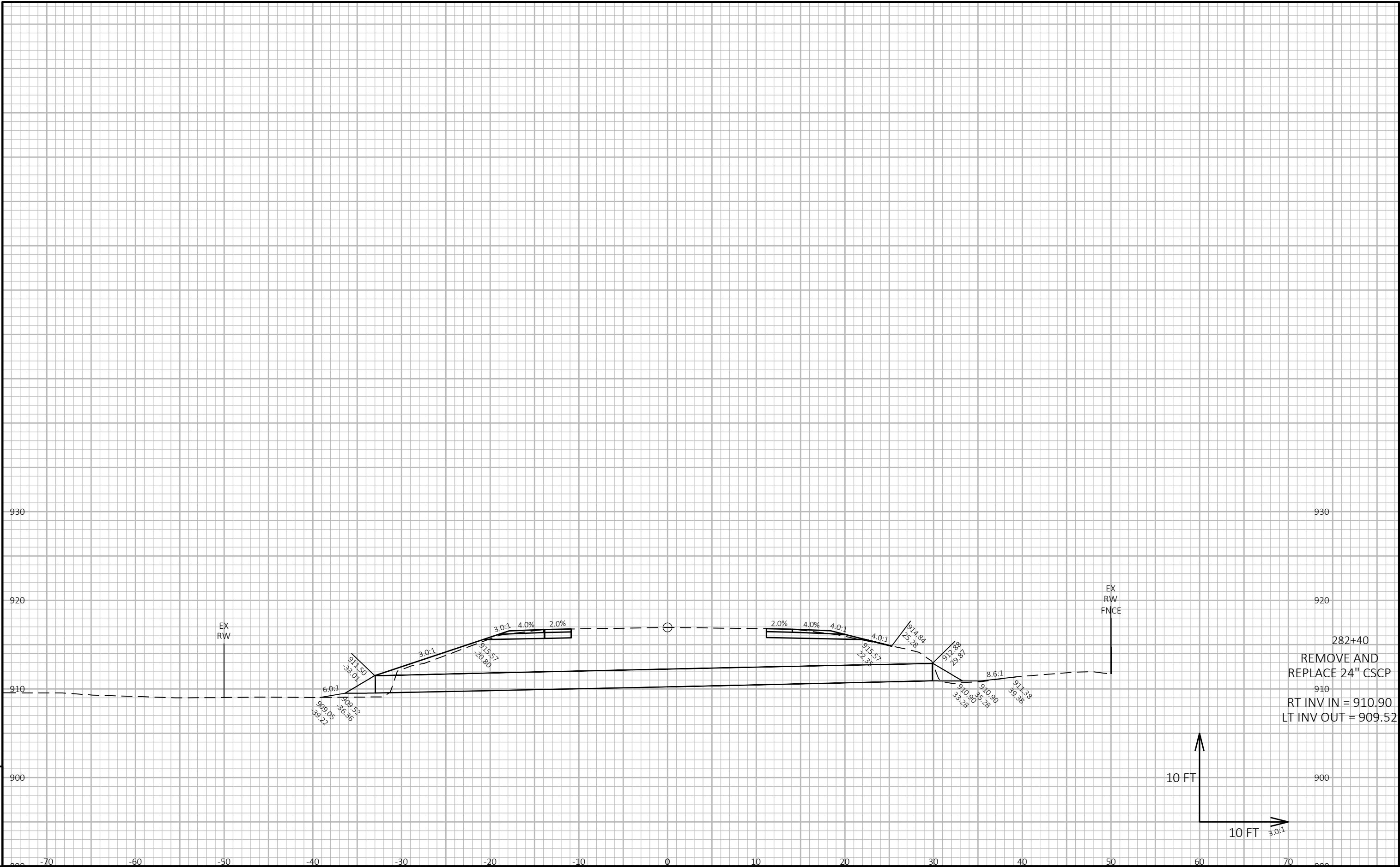


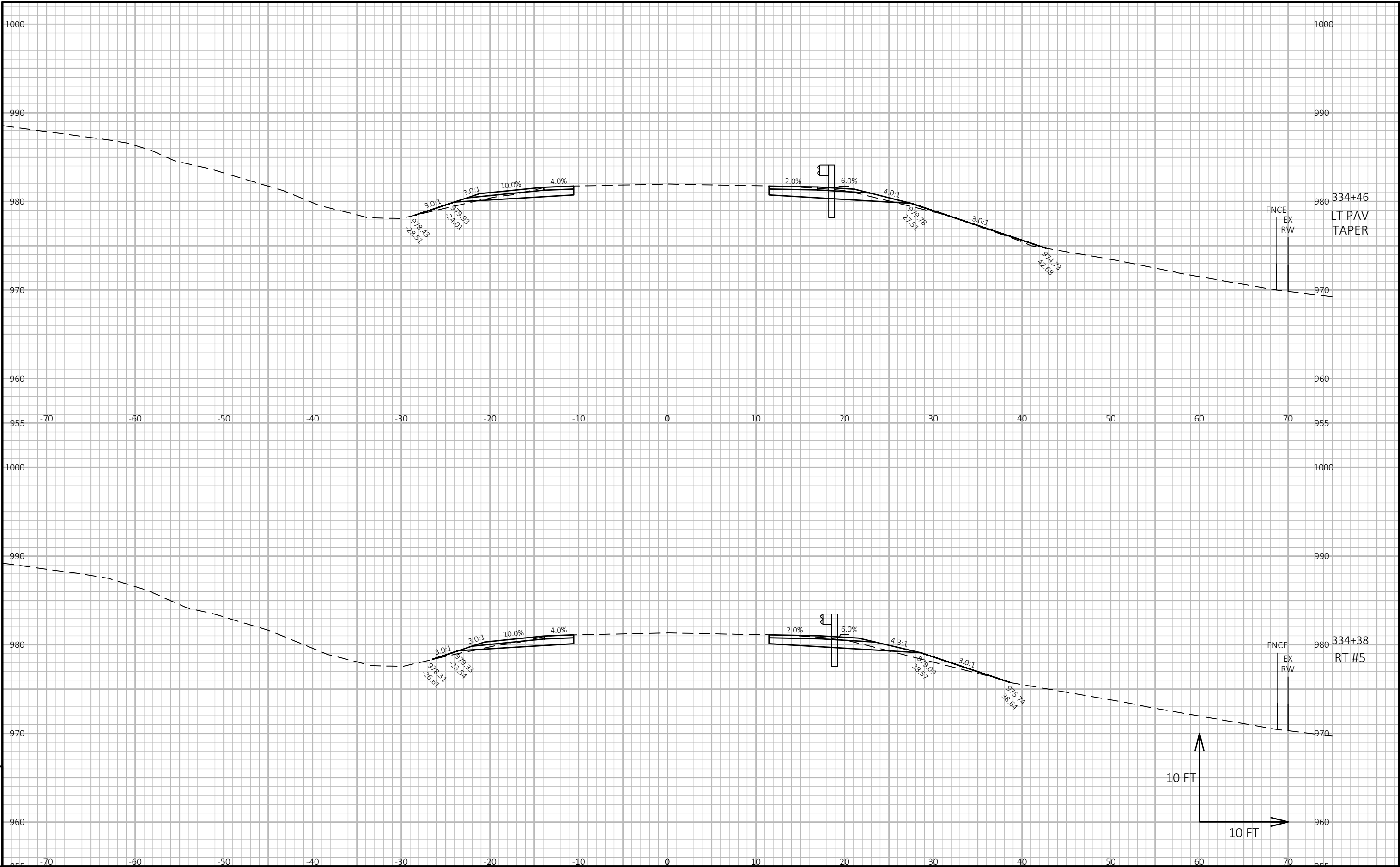


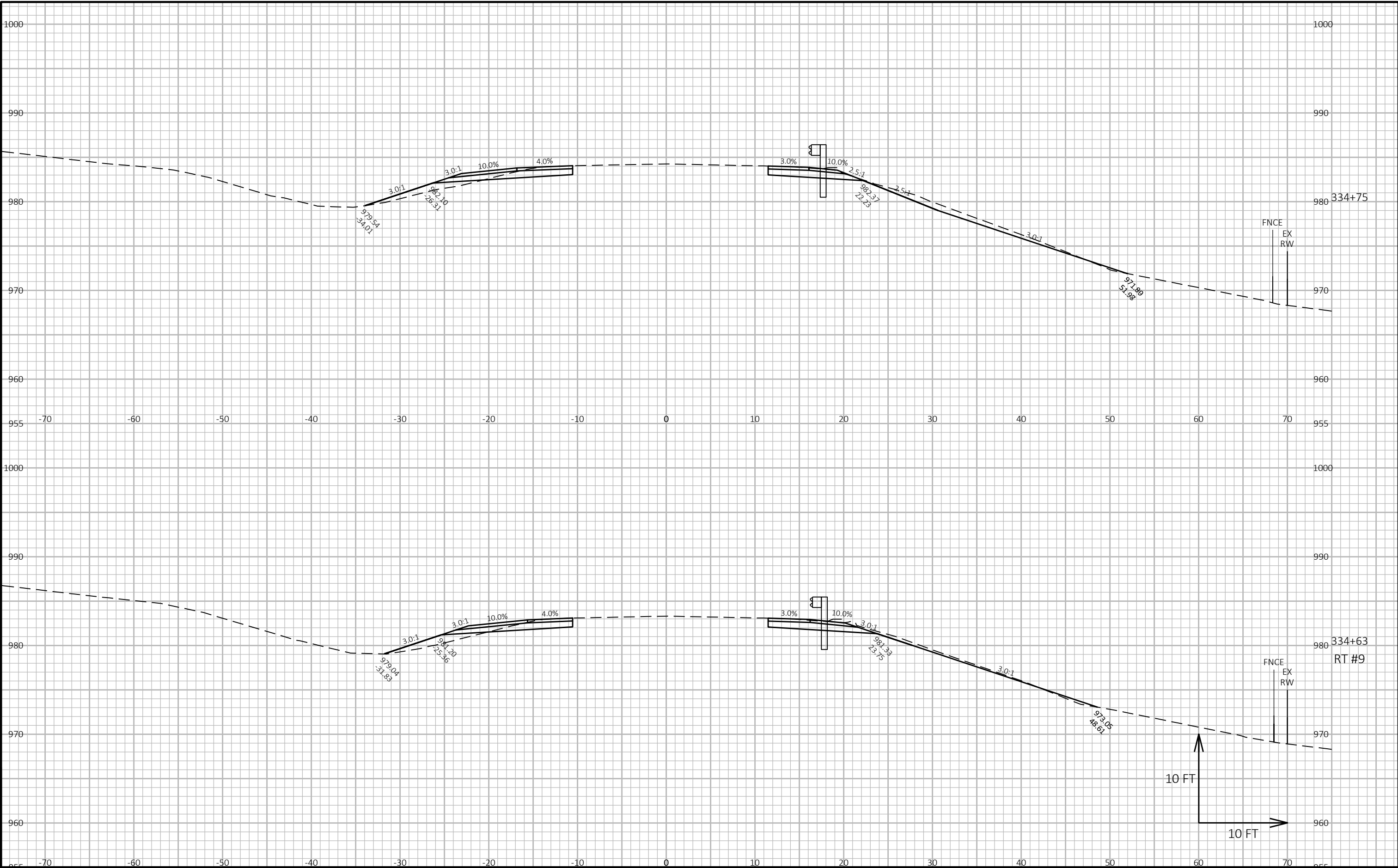


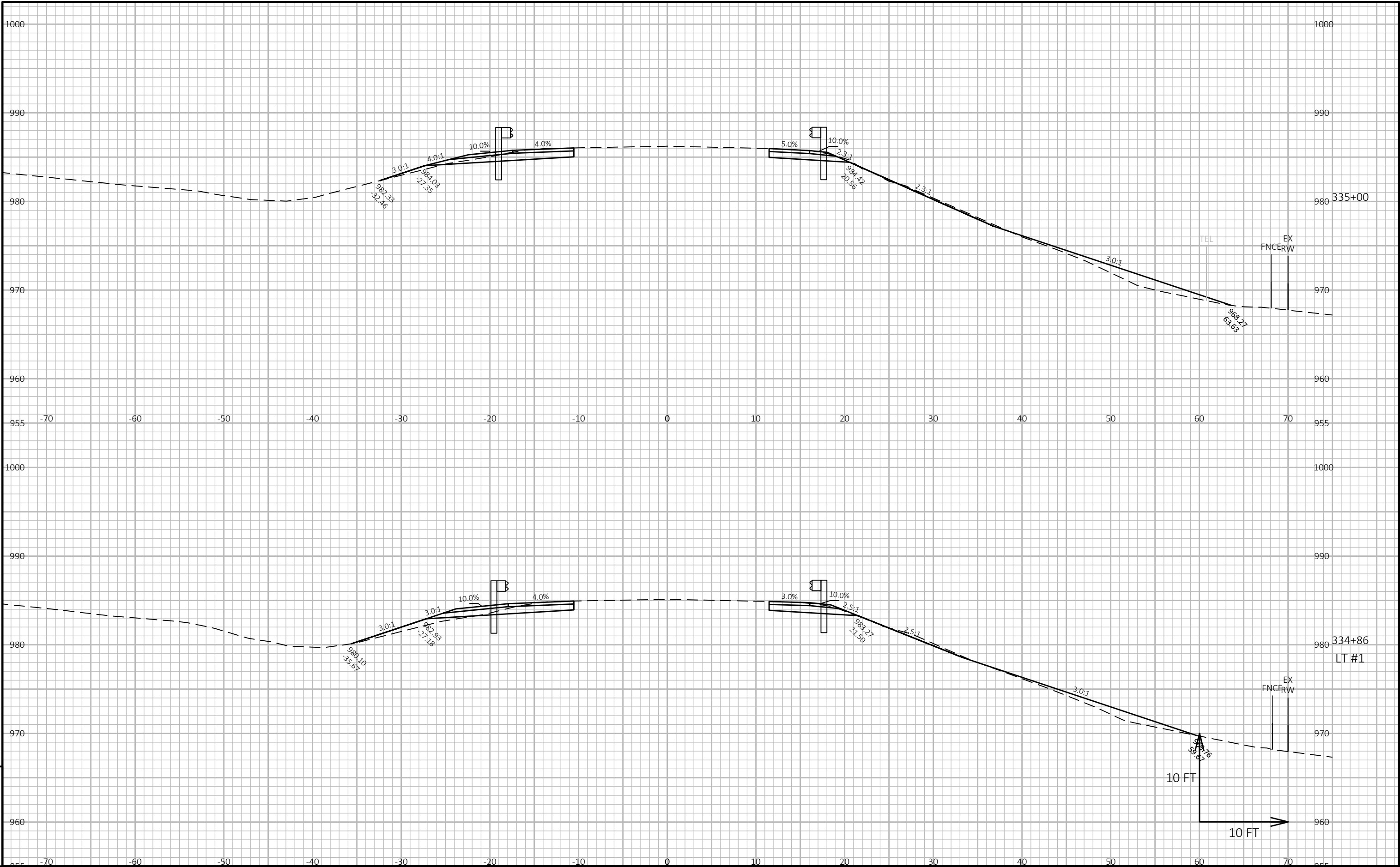






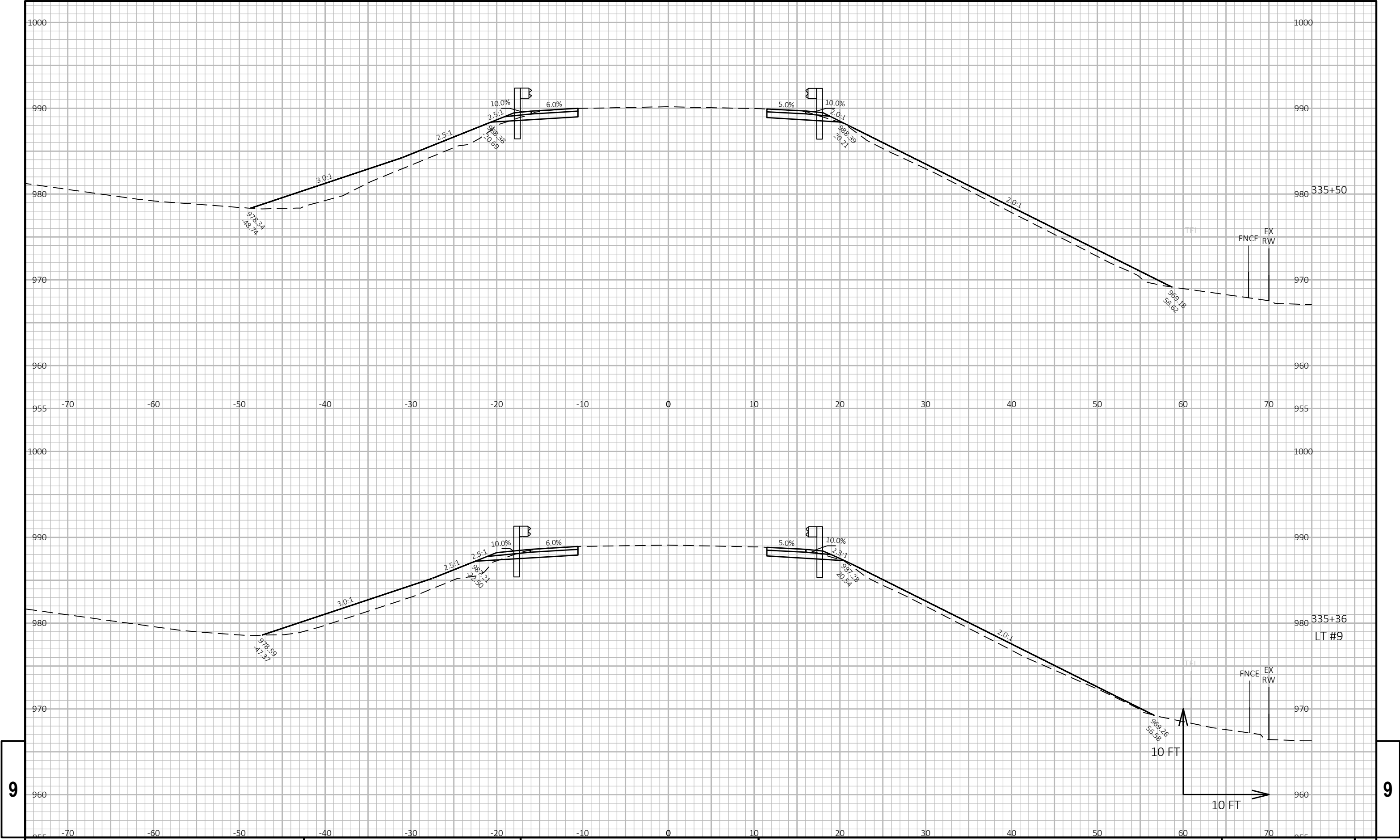






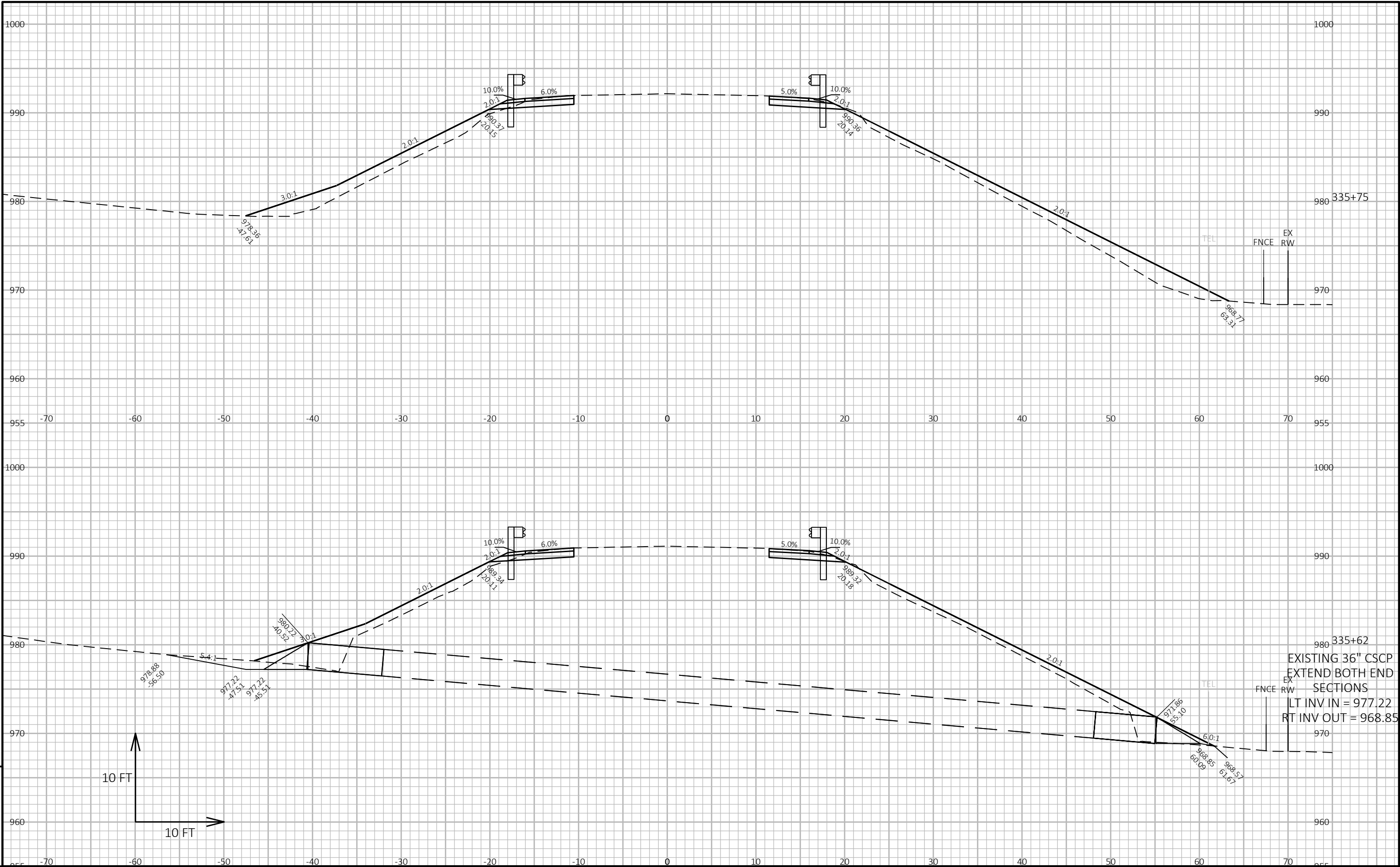
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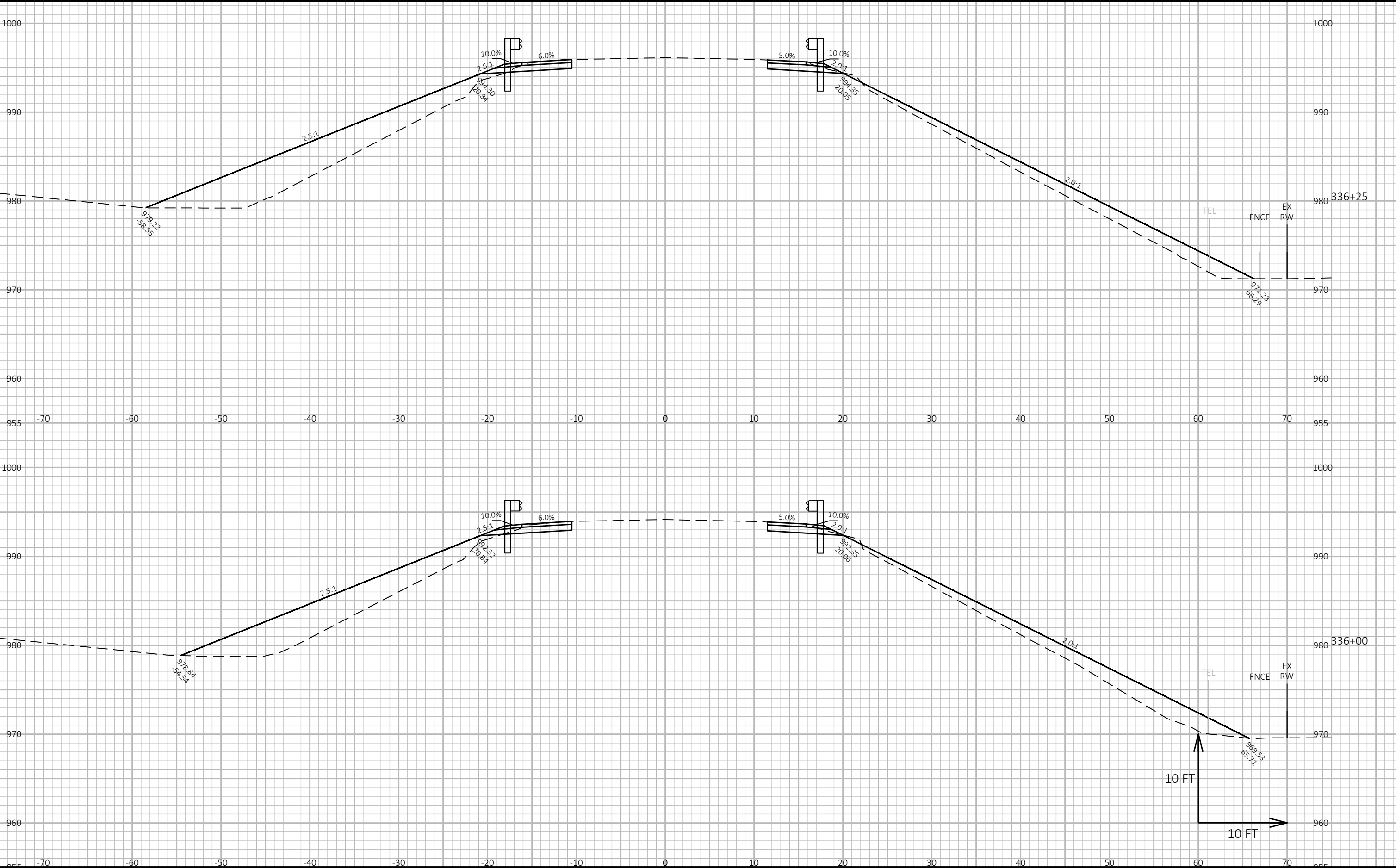
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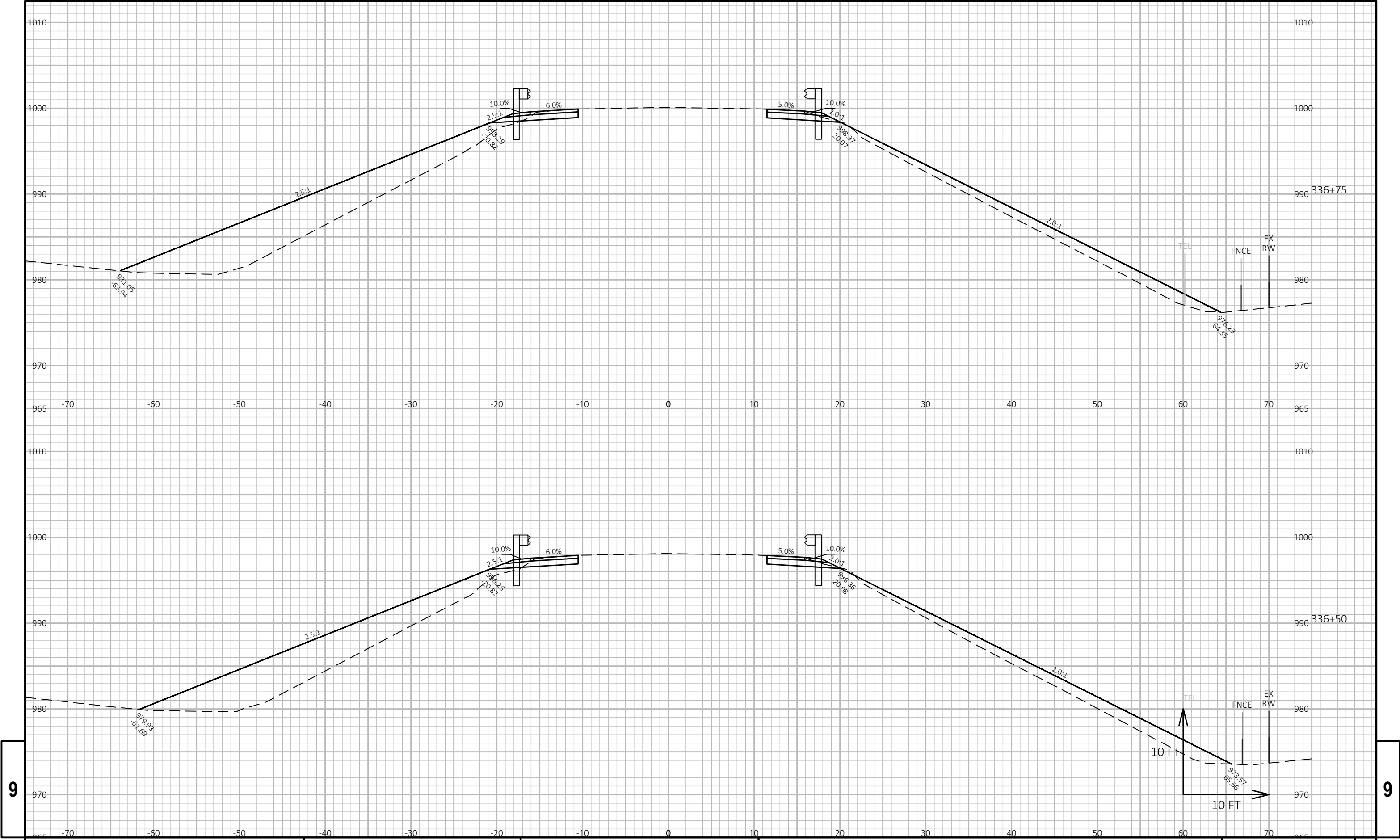
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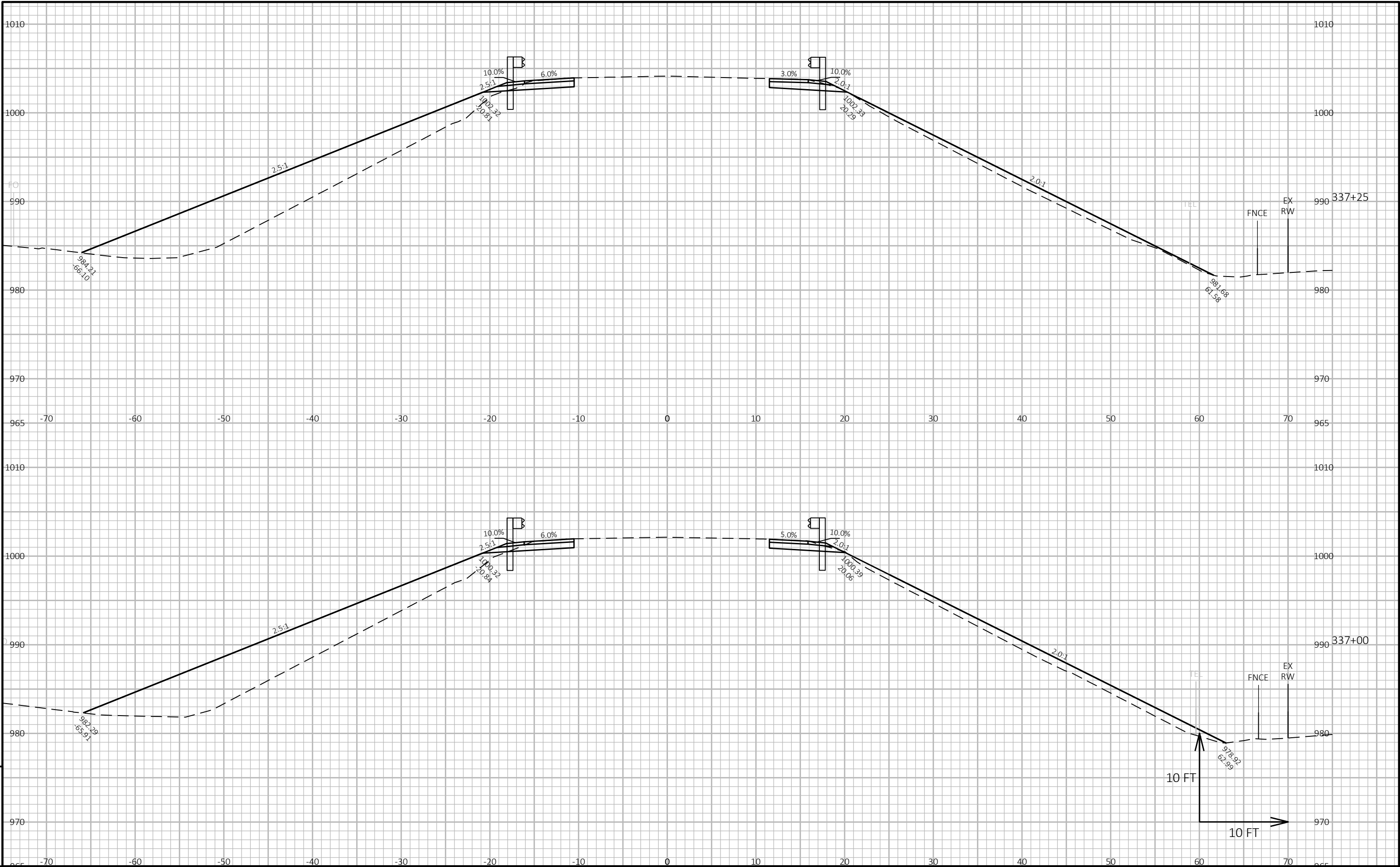
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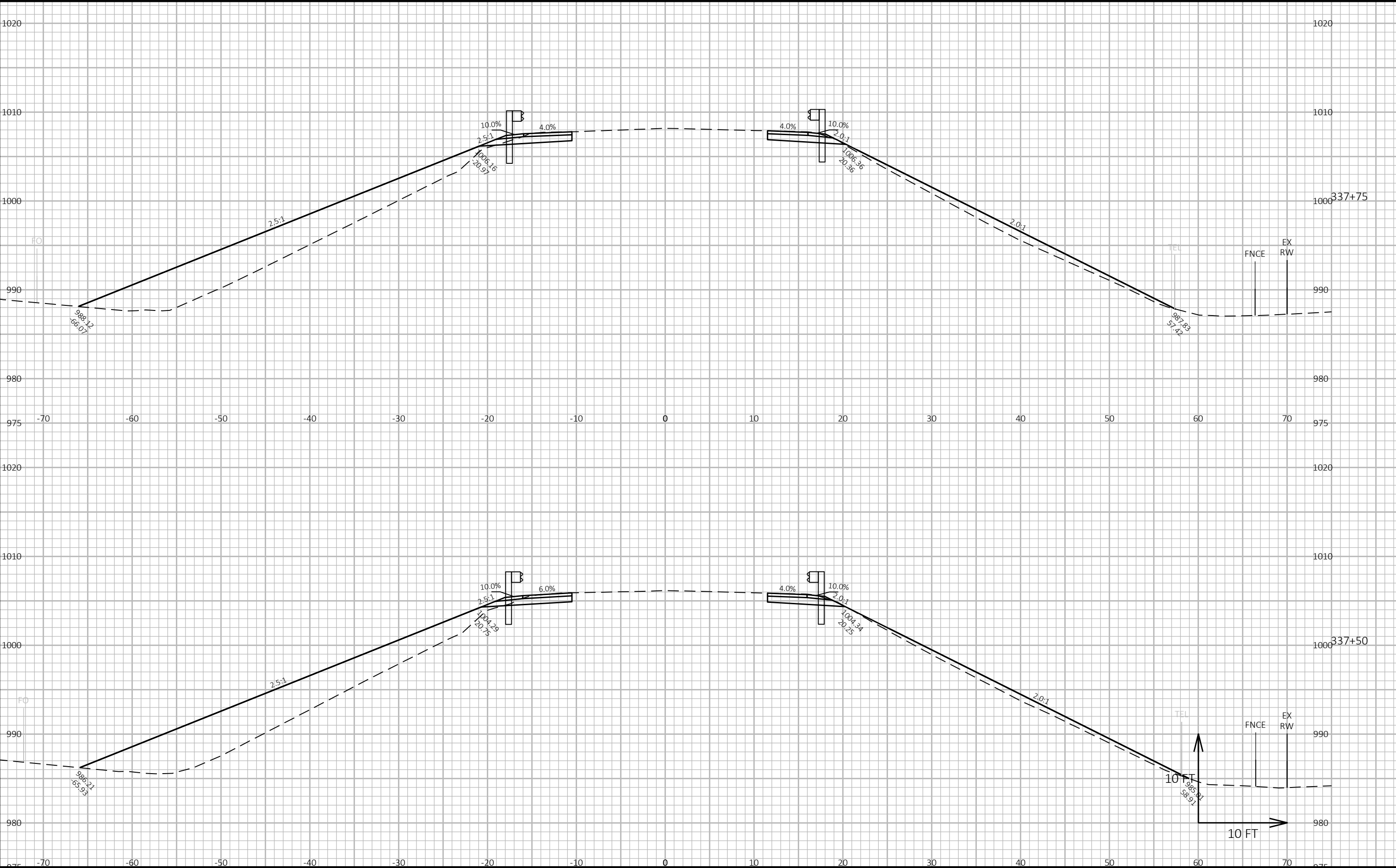
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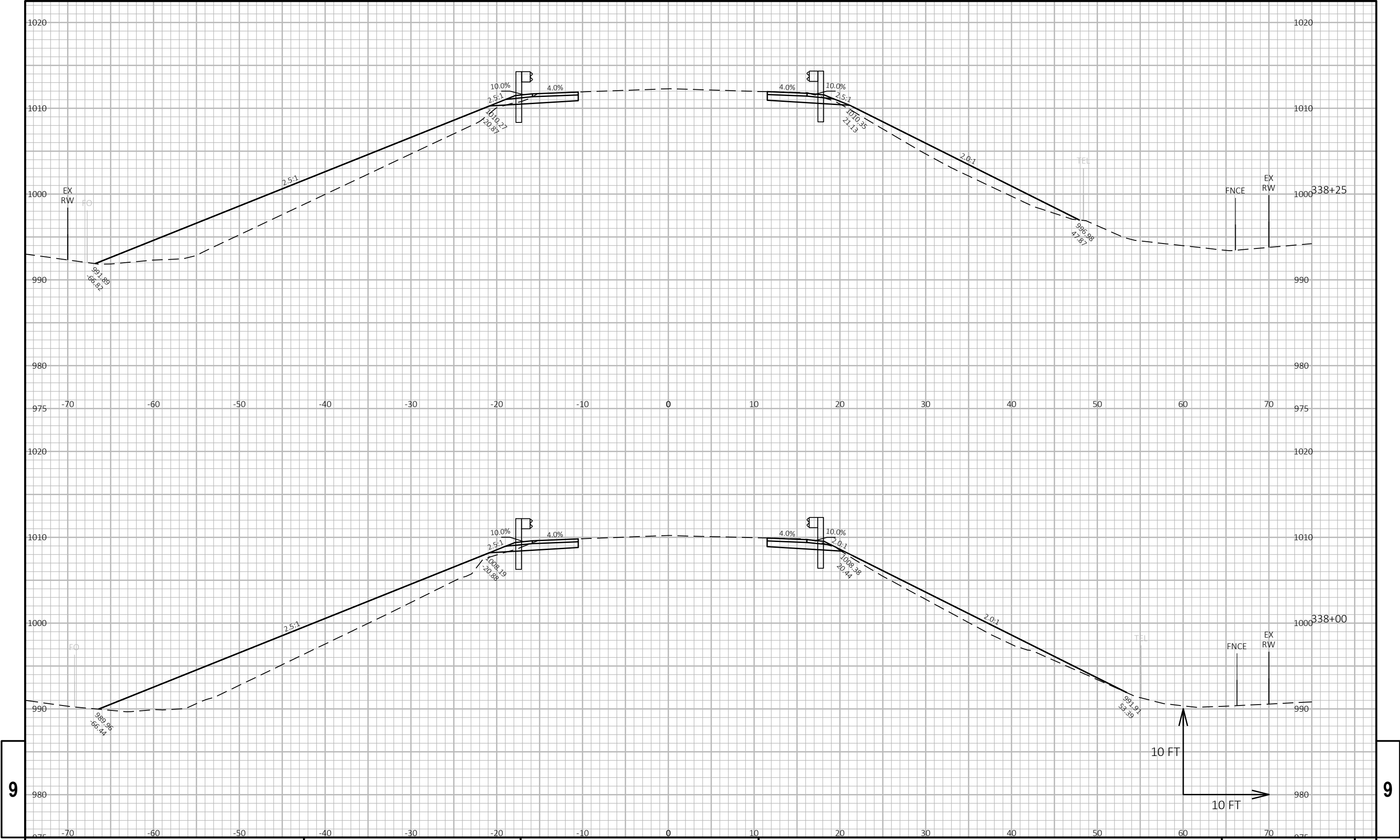
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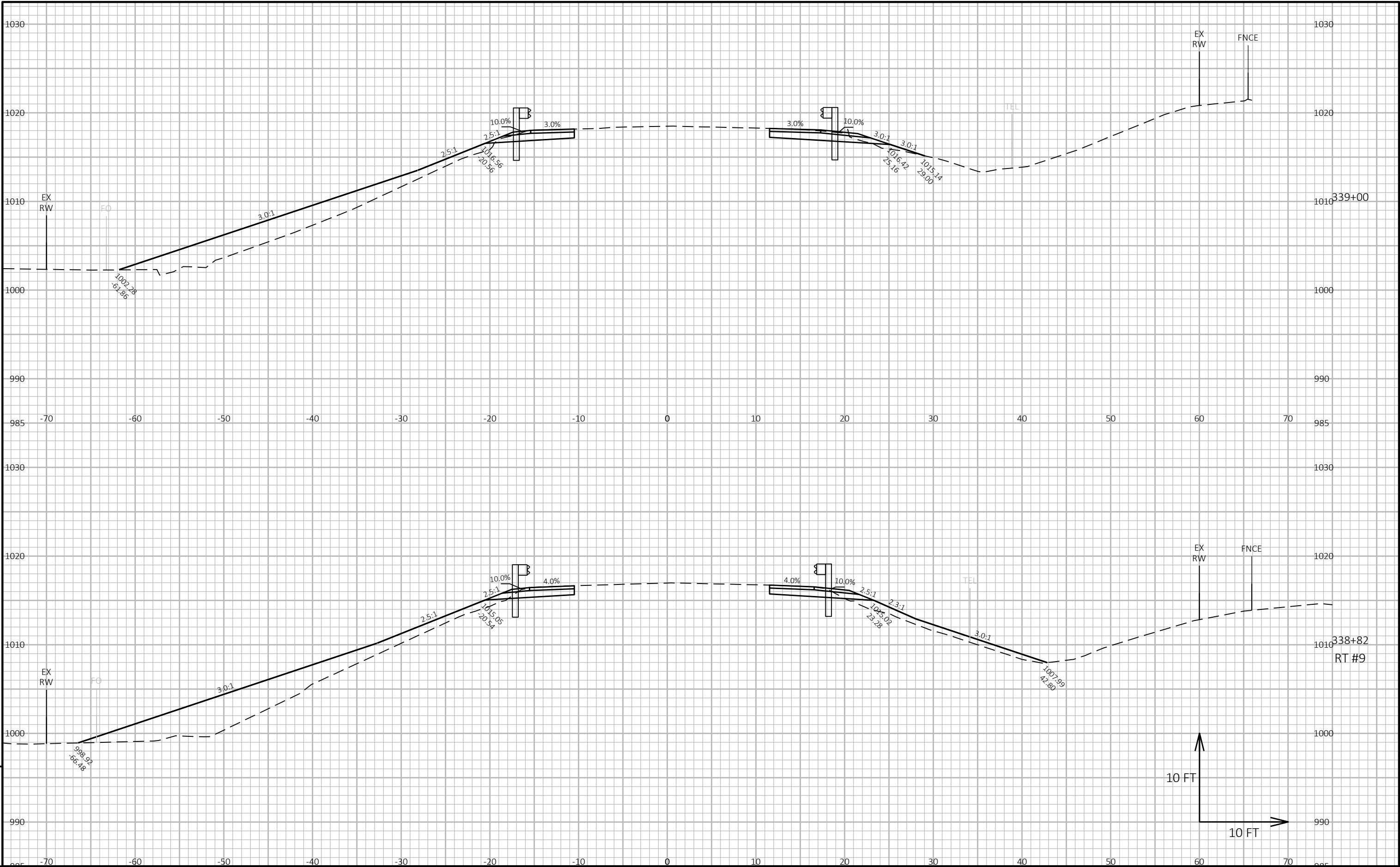
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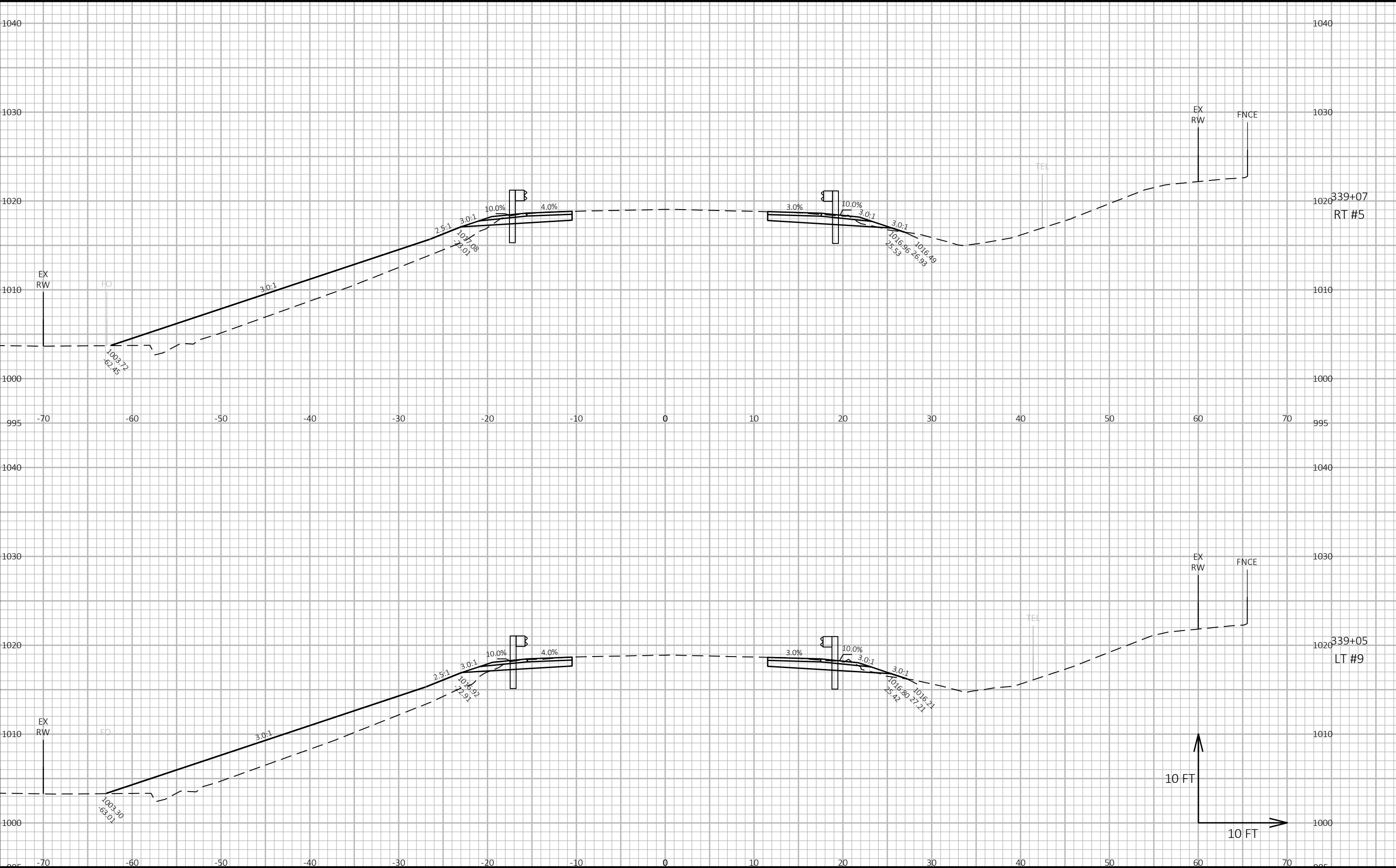
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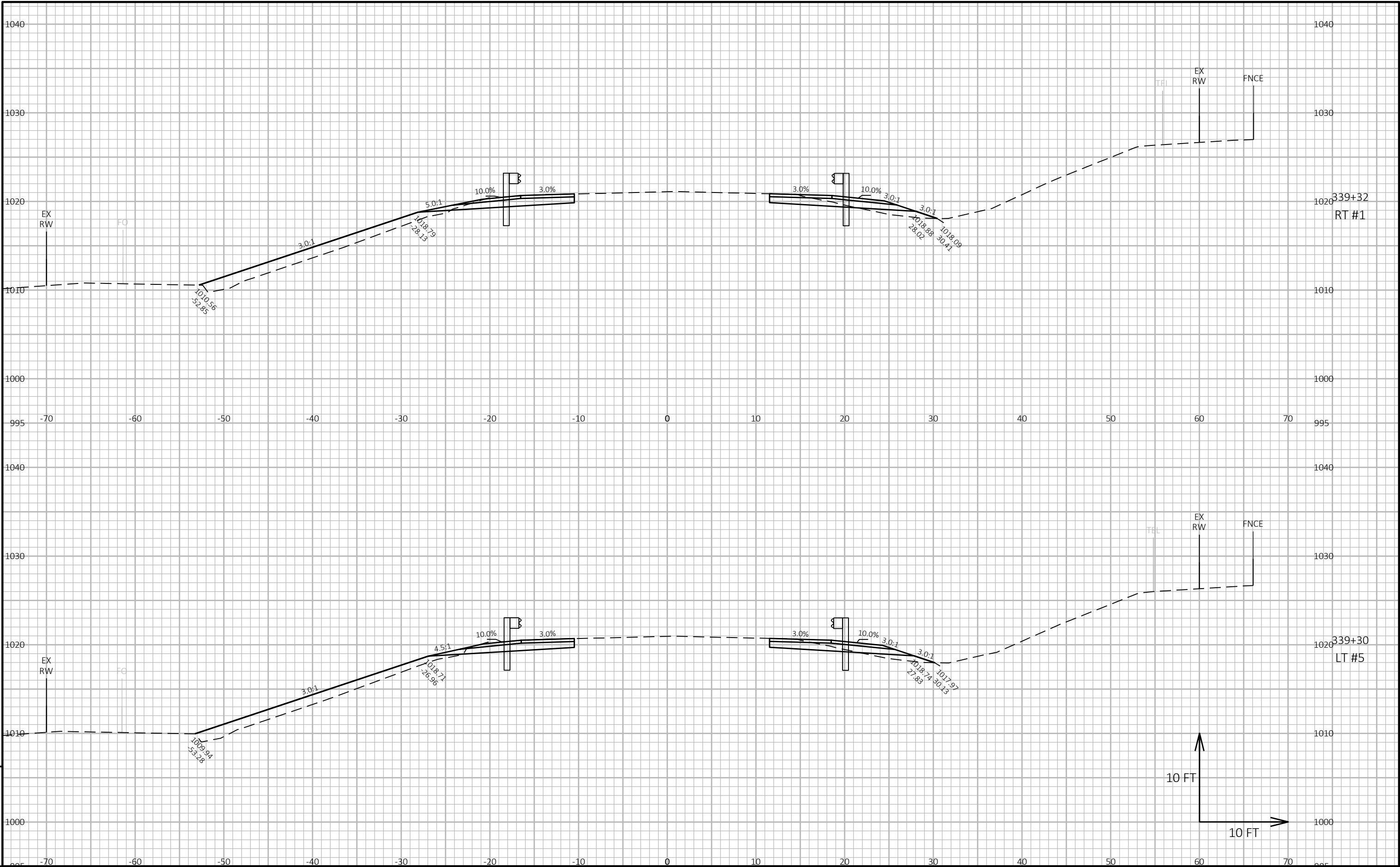
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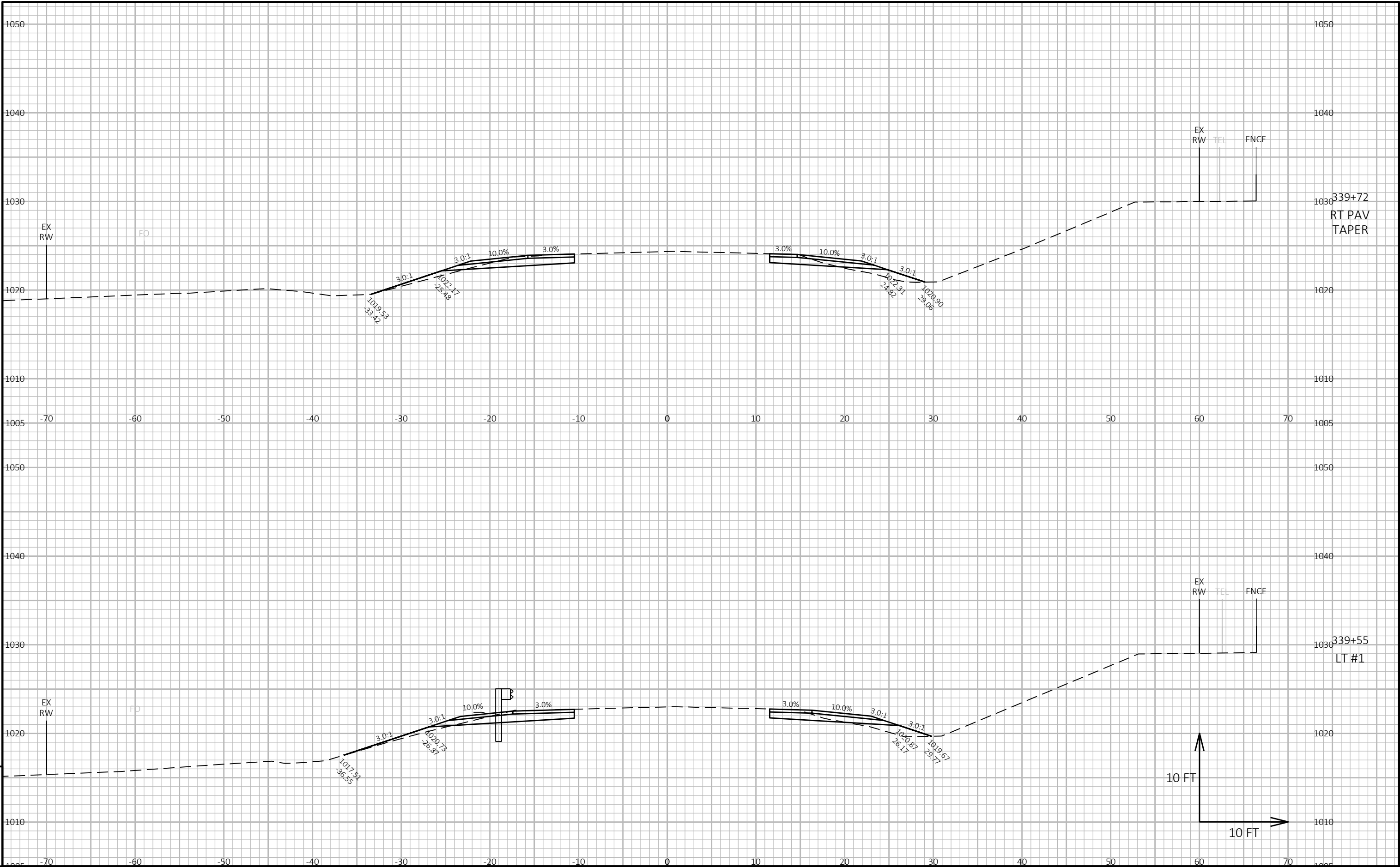
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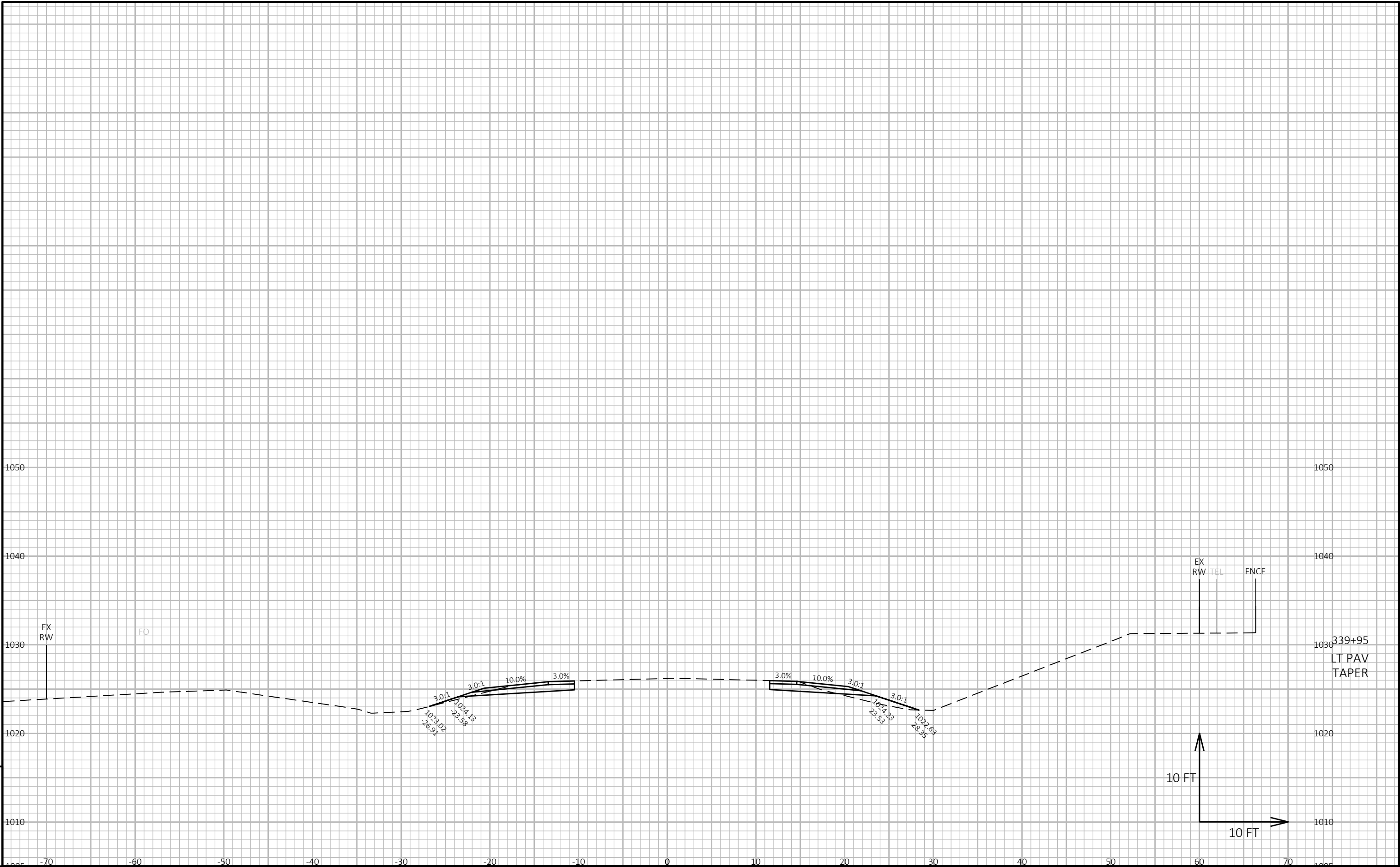


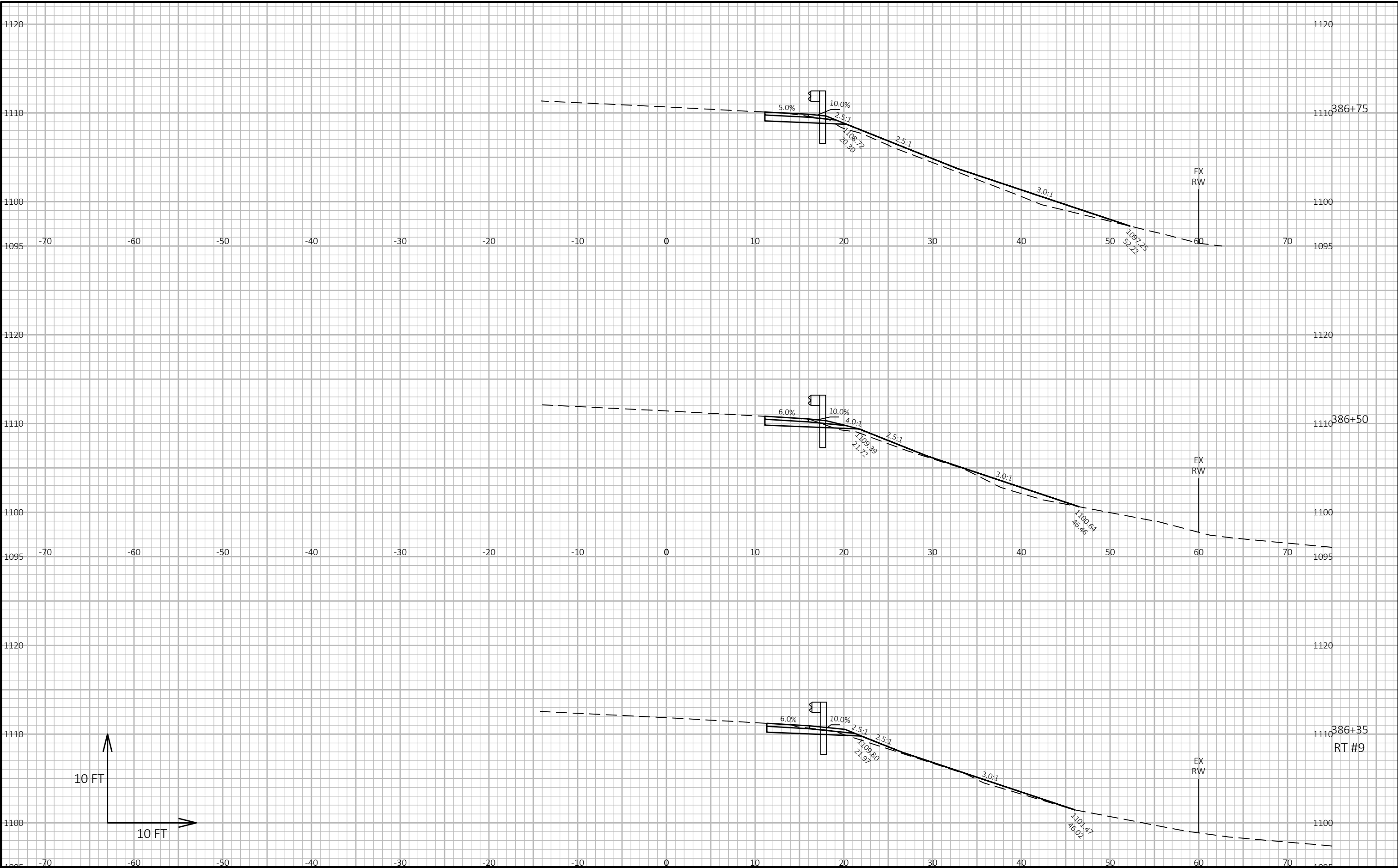


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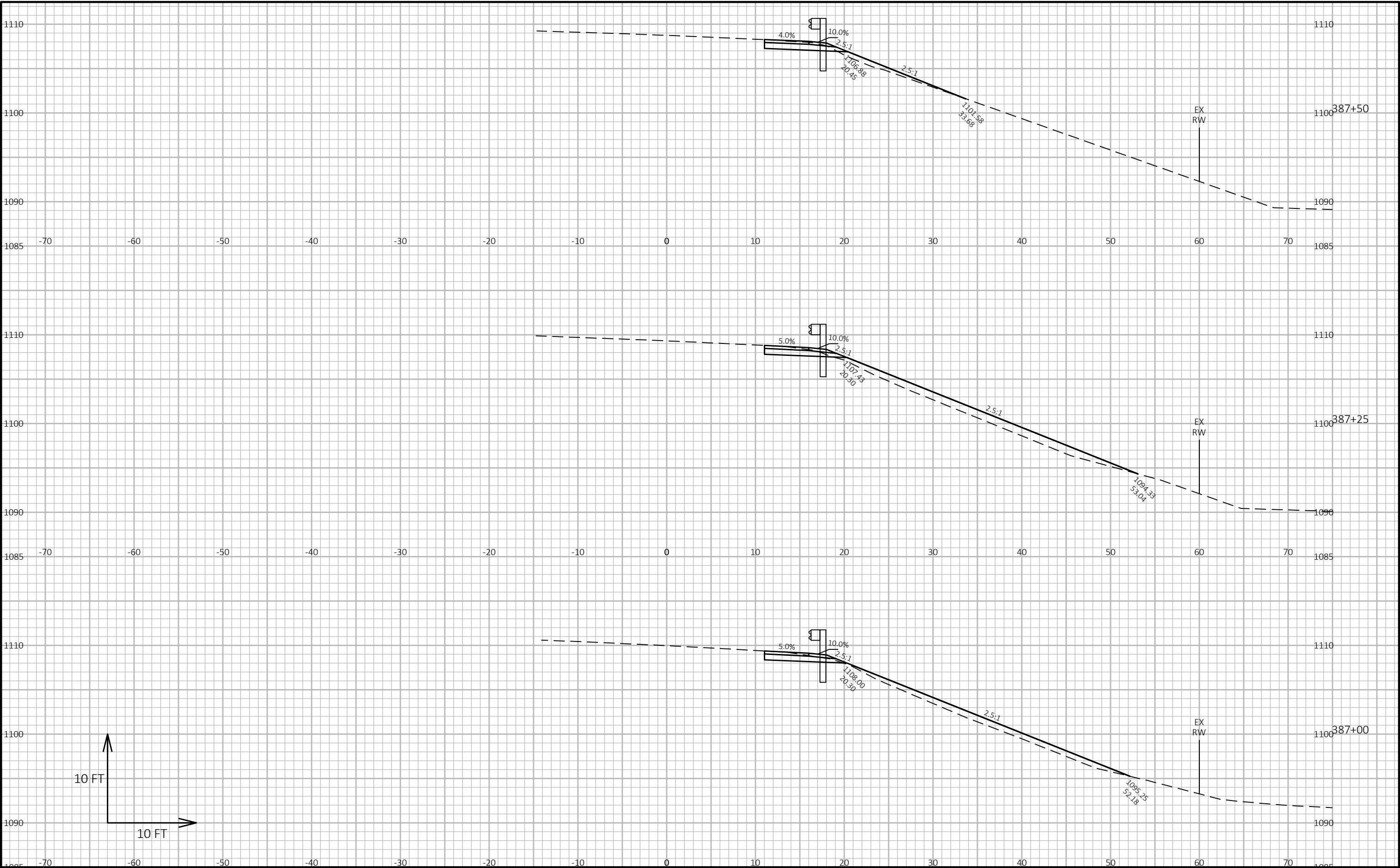






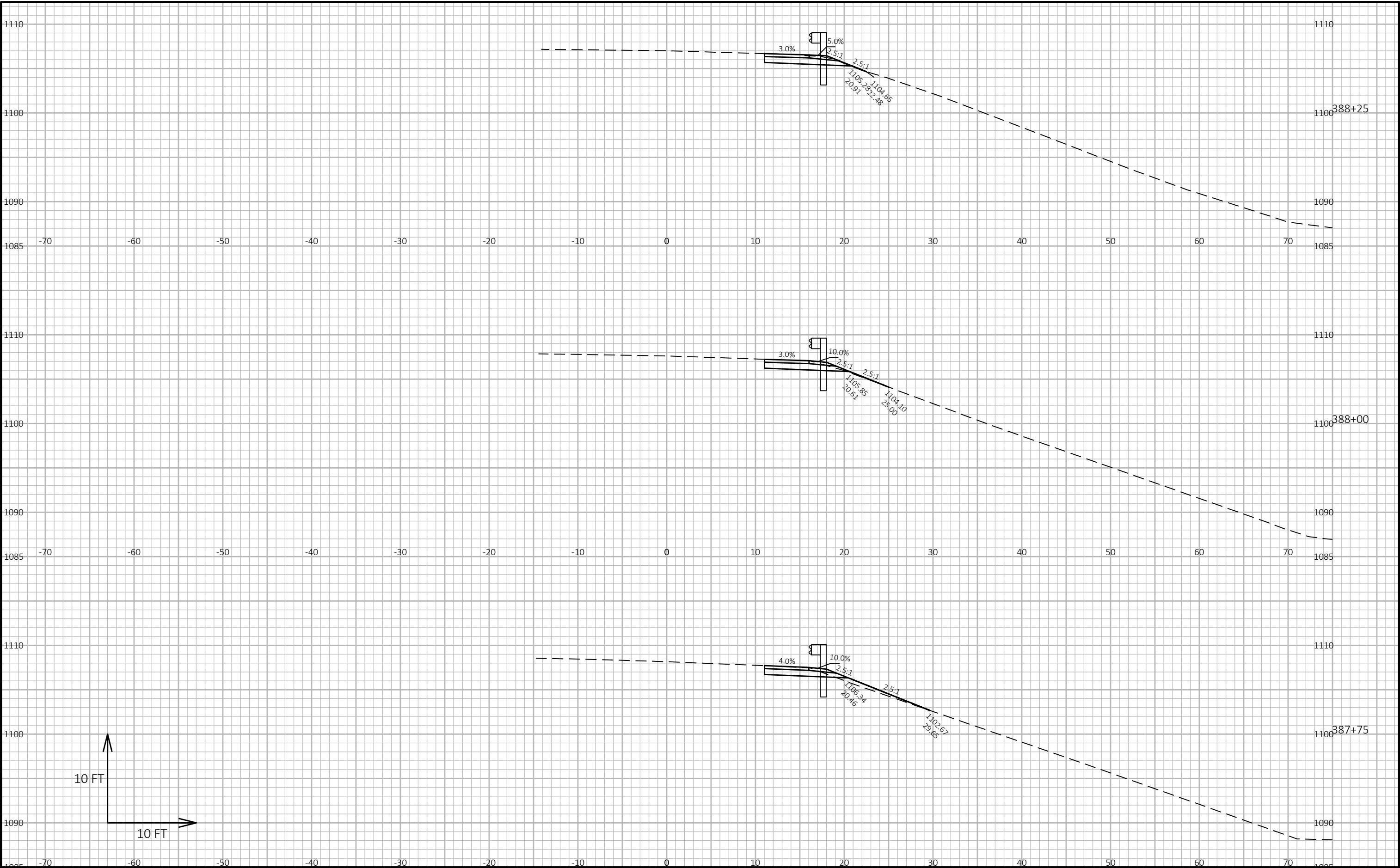
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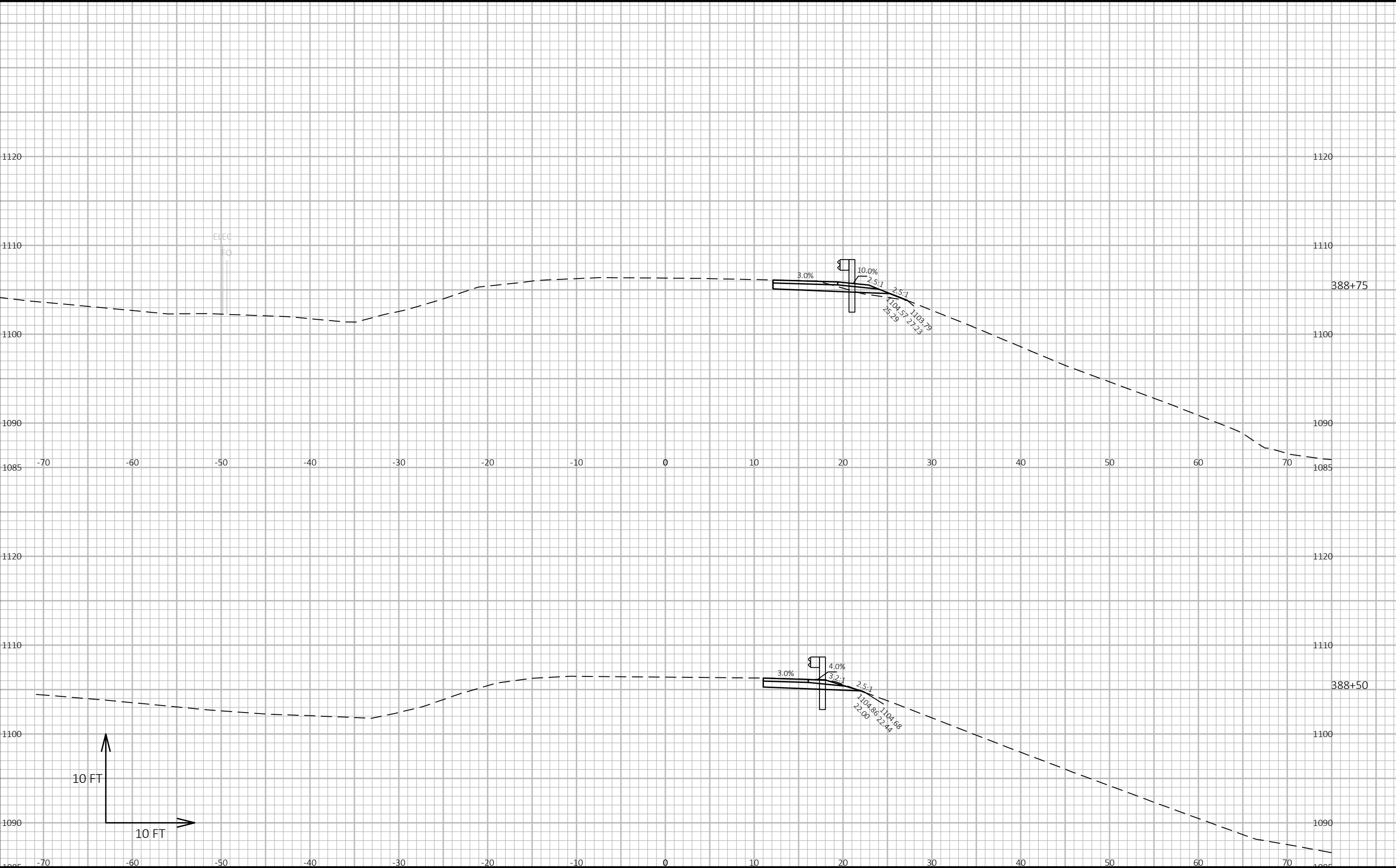
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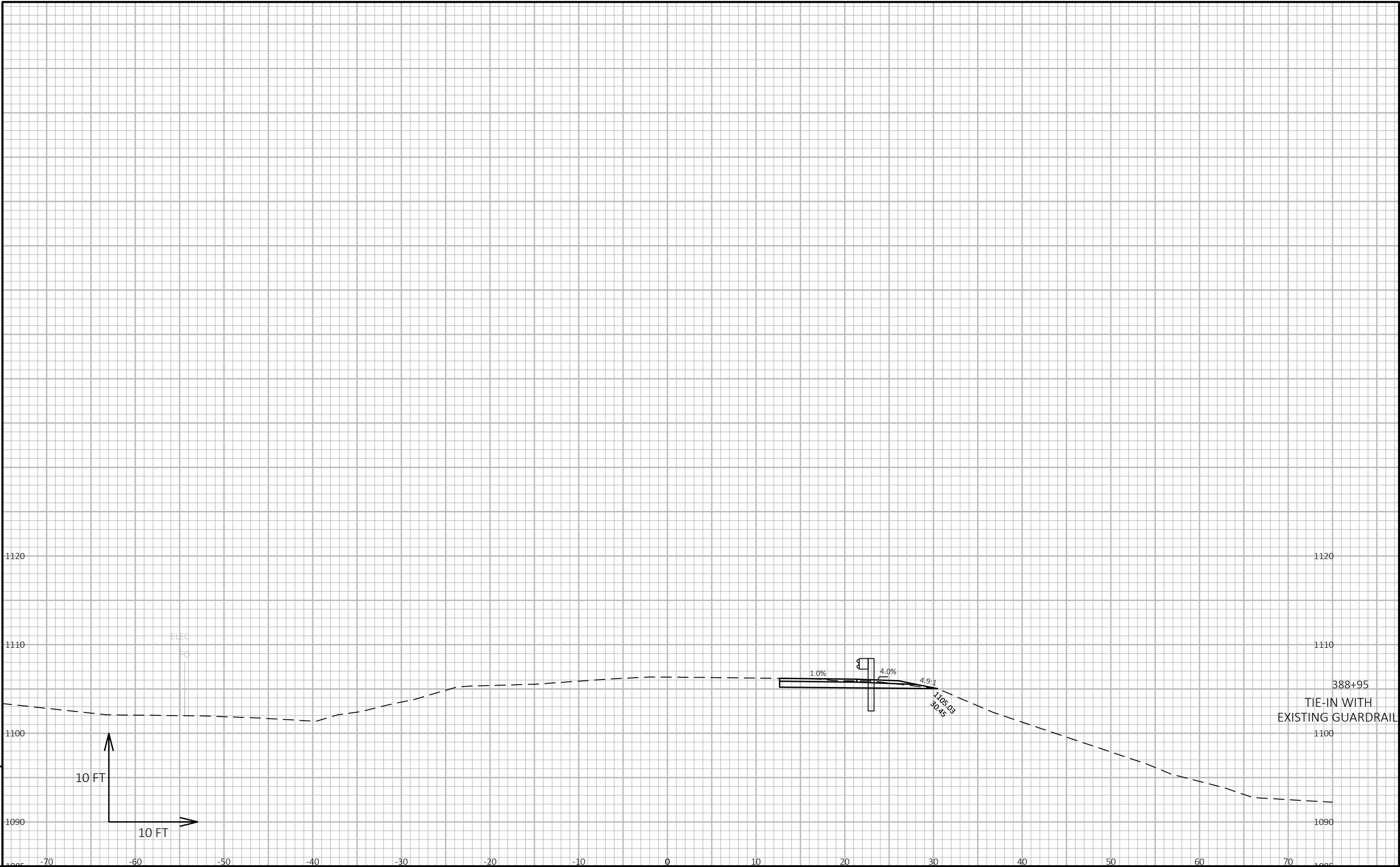
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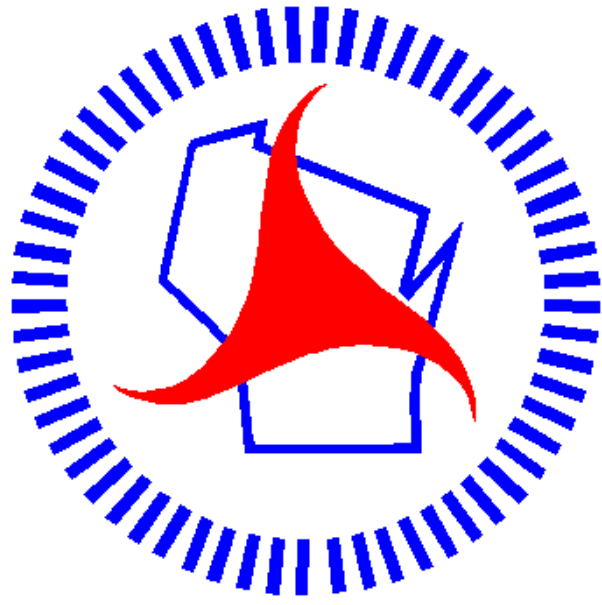
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PROJECT NO: 5926-05-60	HWY: STH 92	COUNTY: DANE	CROSS SECTIONS: STH 69 INTERSECTION BEAMGUARD	SHEET 148	E
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Notes



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