

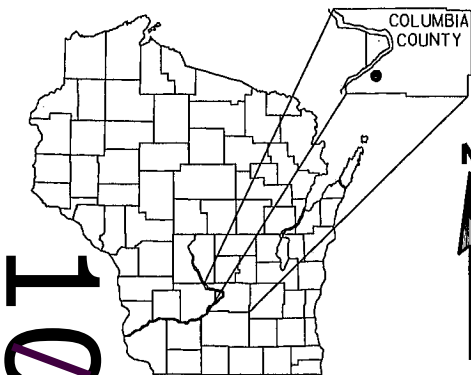
SWL

FEB 2015

ORDER OF SHEETS

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

TOTAL SHEETS = 168



DESIGN DESIGNATION

A.A.D.T. (2015)	=	1980
A.A.D.T. (2035)	=	2650
D.H.V. (2035)	=	380
D.D.	=	50/50
T.	=	5.7%
DESIGN SPEED	=	55 MPH
ESALS	=	321,200

CONVENTIONAL SYMBOLS

PLAN

CORPORATE LIMITS	
PROPERTY LINE	
LOT LINE	
LIMITED HIGHWAY EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	

SLOPE INTERCEPT

REFERENCE LINE

EXISTING CULVERT

PROPOSED CULVERT
(Box or Pipe)

COMBUSTIBLE FLUIDS

MARSH AREA

WOODED OR SHRUB AREA

PROFILE

GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	

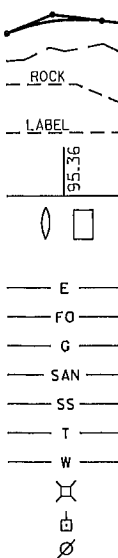
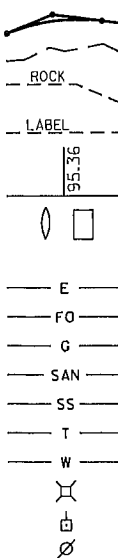
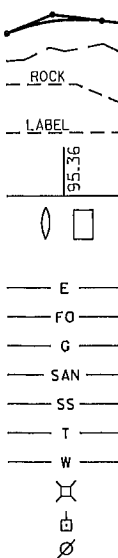
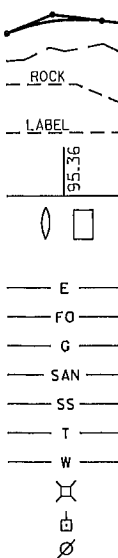
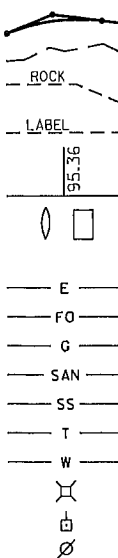
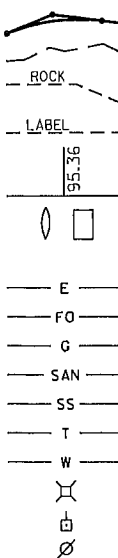
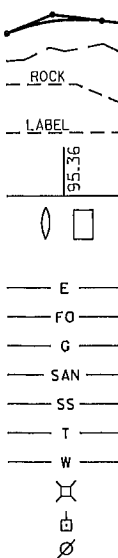
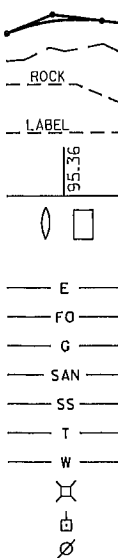
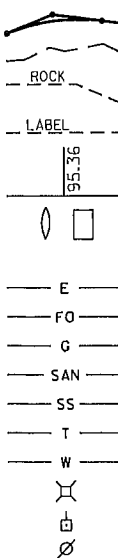
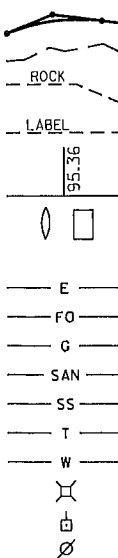
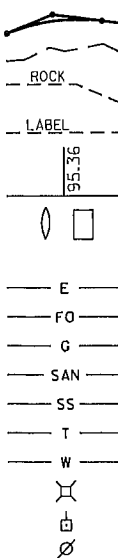
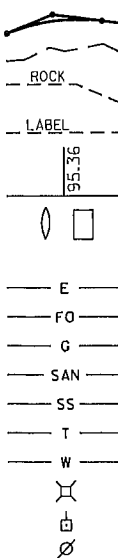
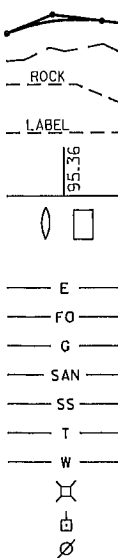
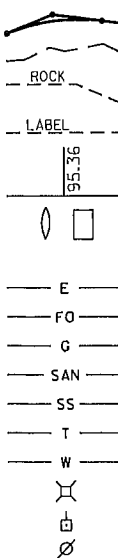
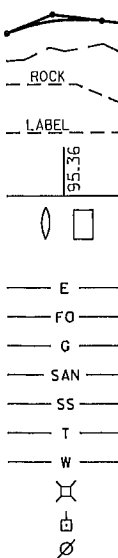
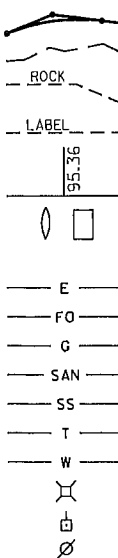
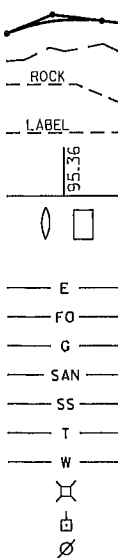
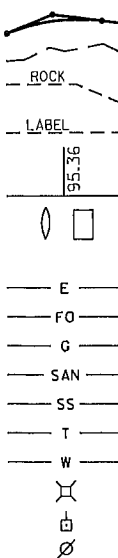
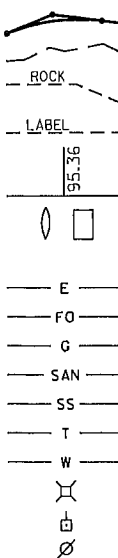
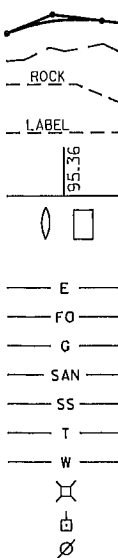
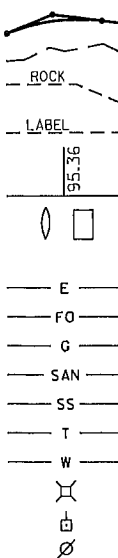
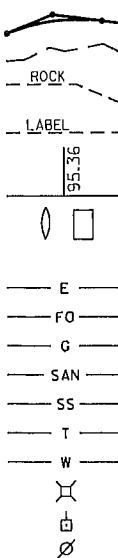
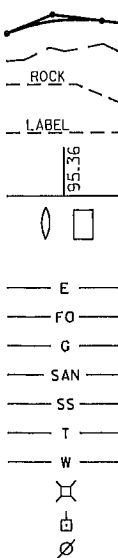
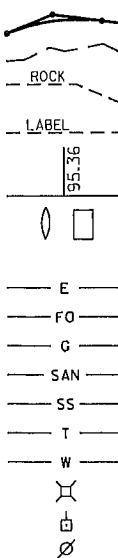
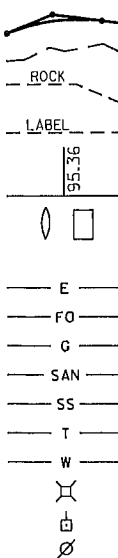
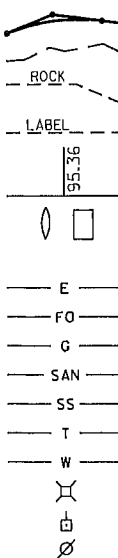
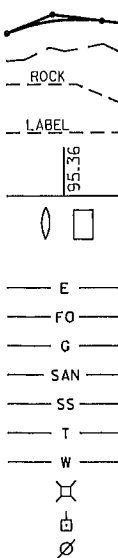
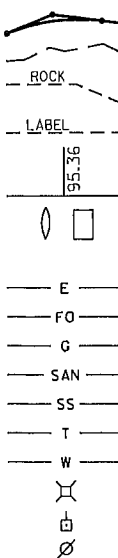
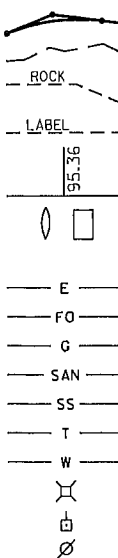
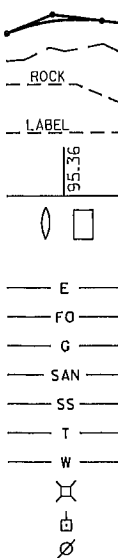
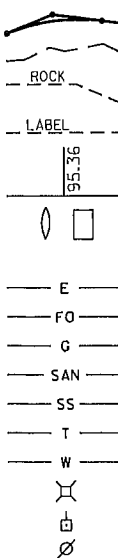
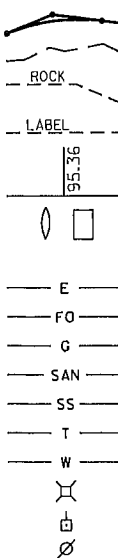
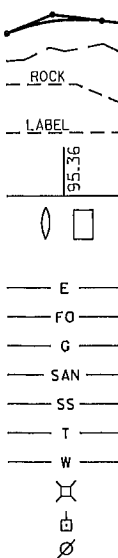
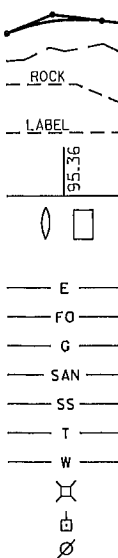
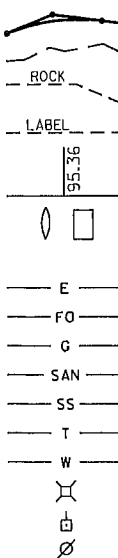
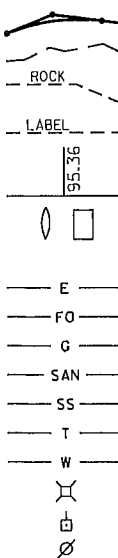
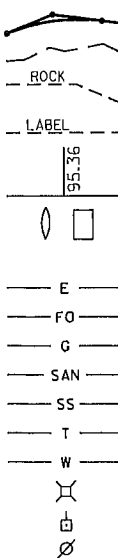
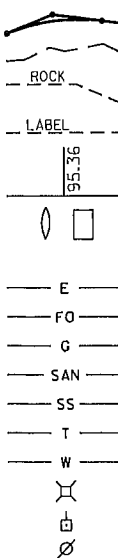
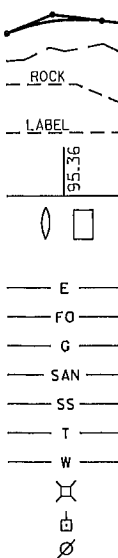
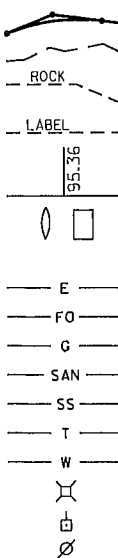
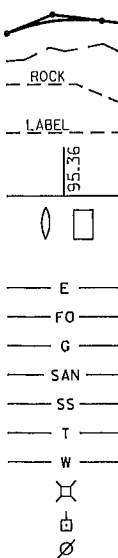
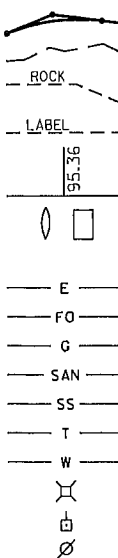
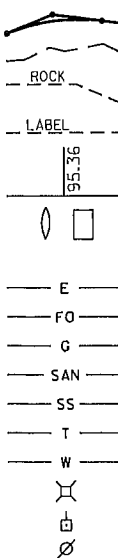
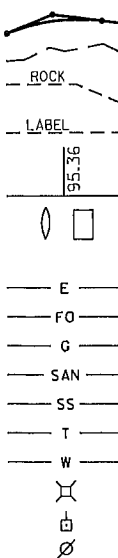
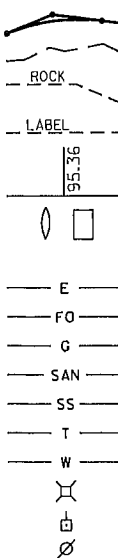
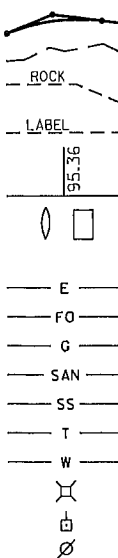
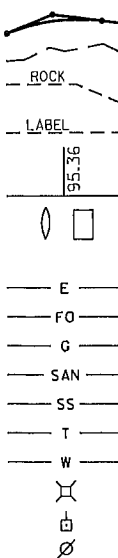
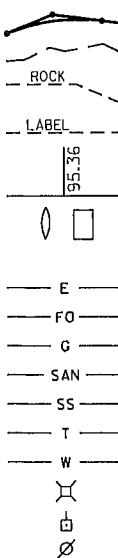
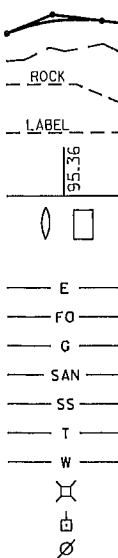
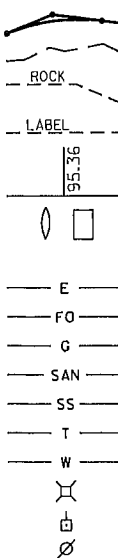
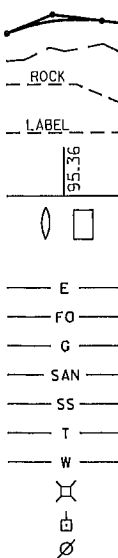
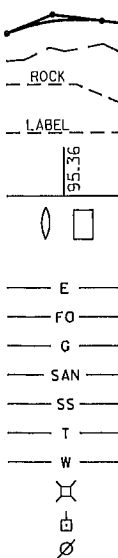
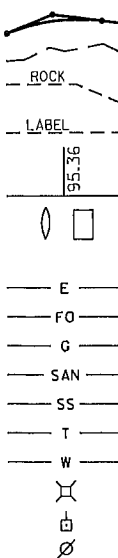
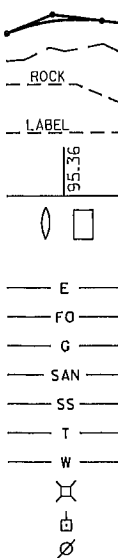
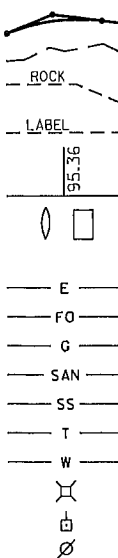
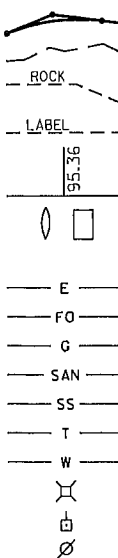
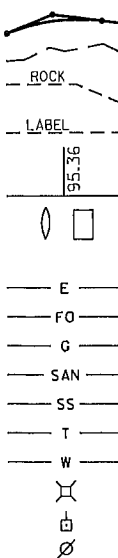
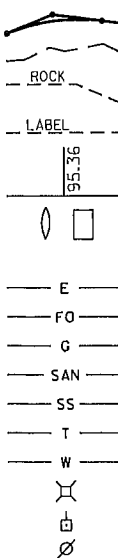
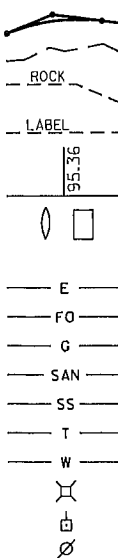
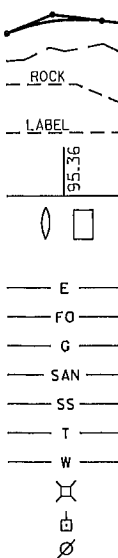
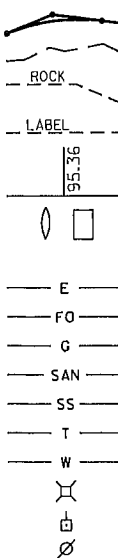
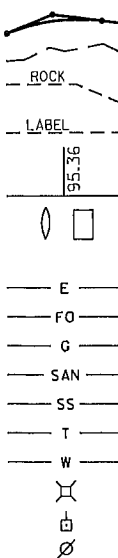
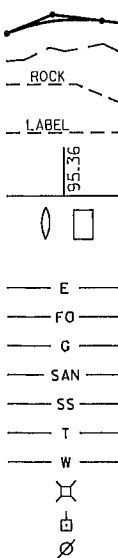
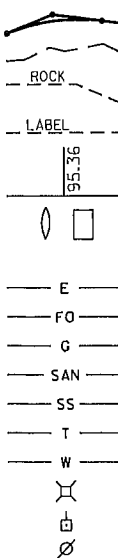
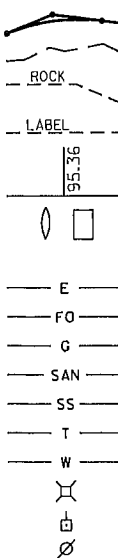
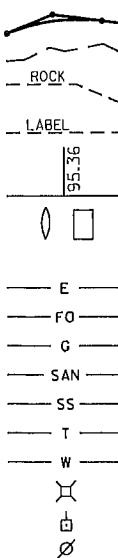
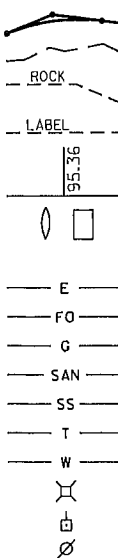
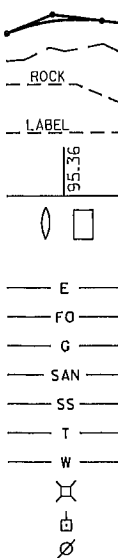
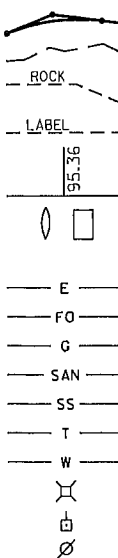
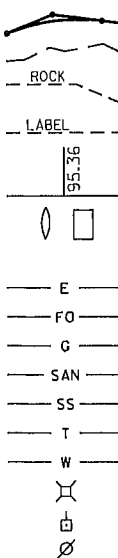
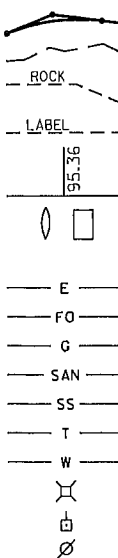
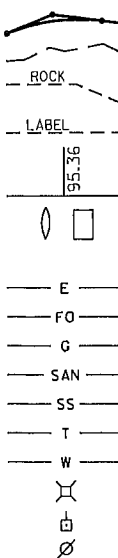
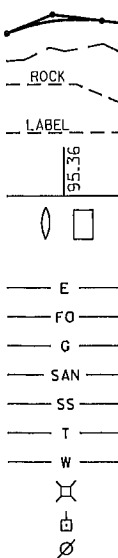
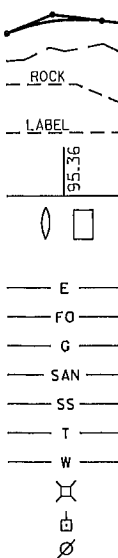
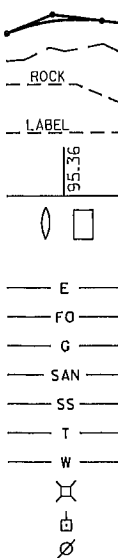
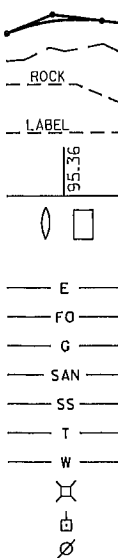
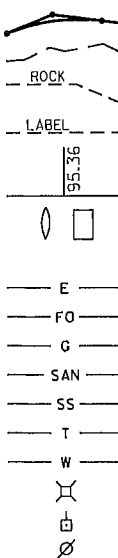
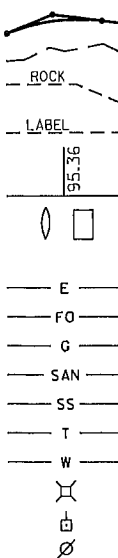
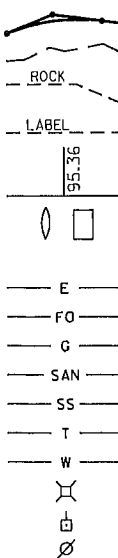
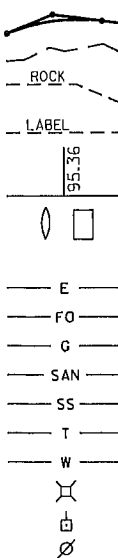
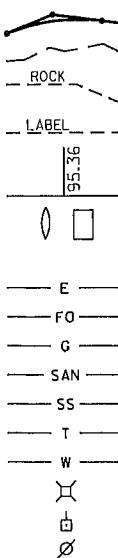
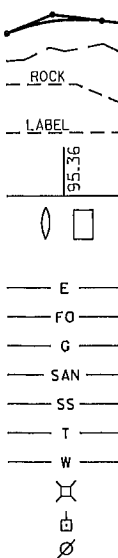
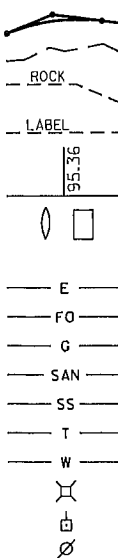
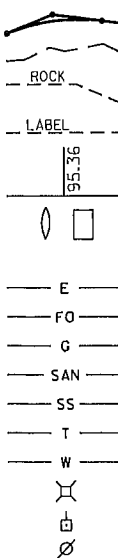
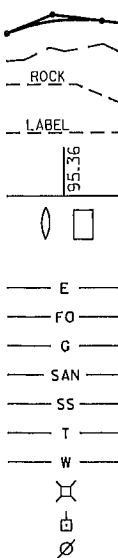
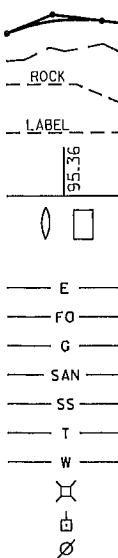
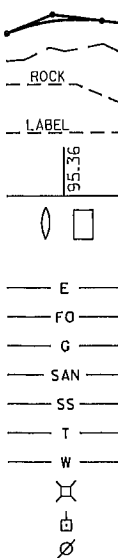
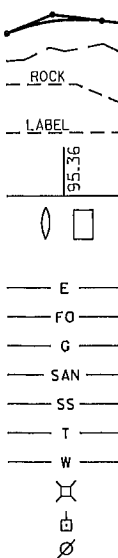
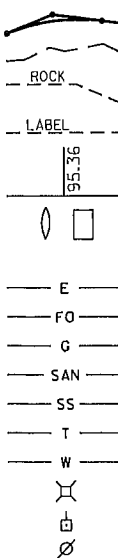
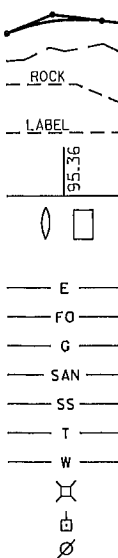
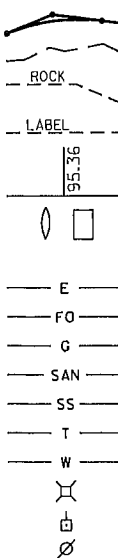
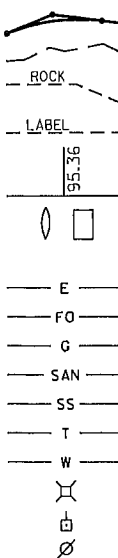
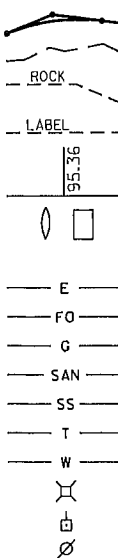
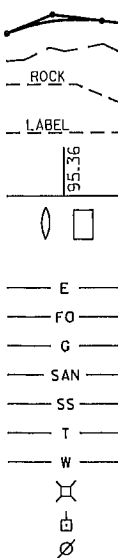
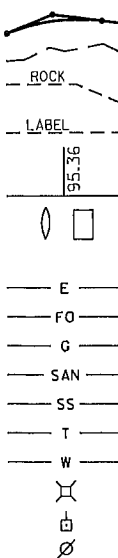
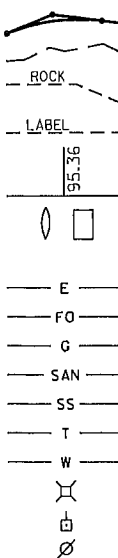
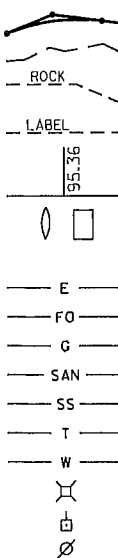
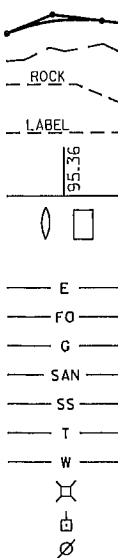
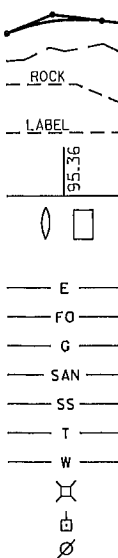
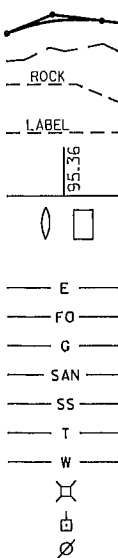
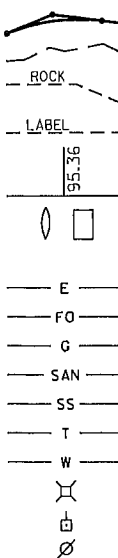
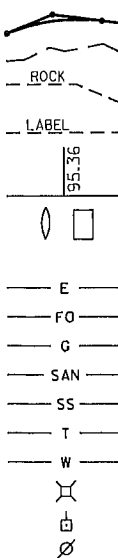
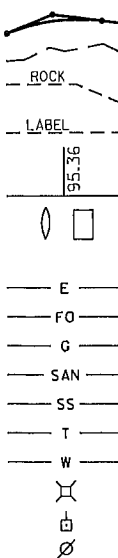
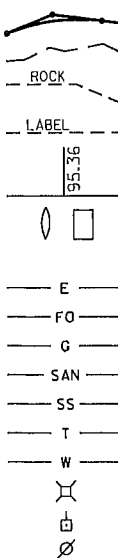
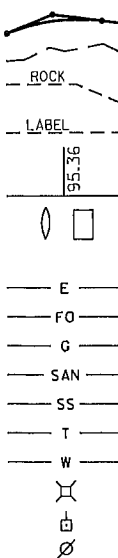
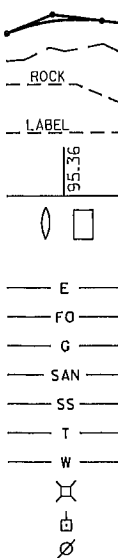
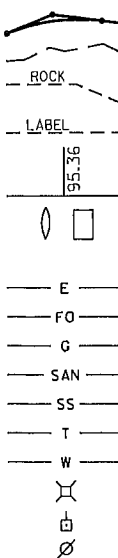
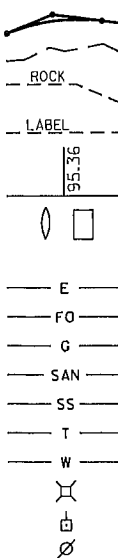
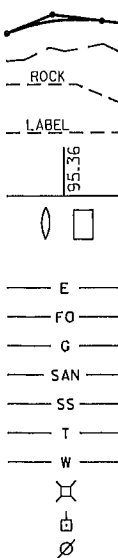
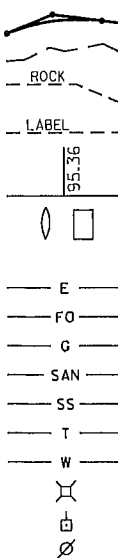
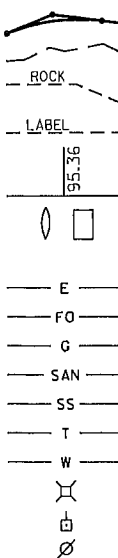
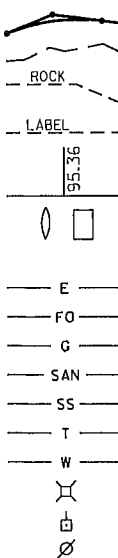
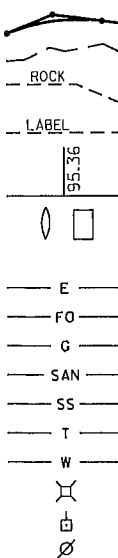
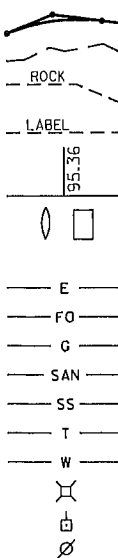
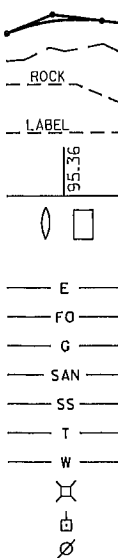
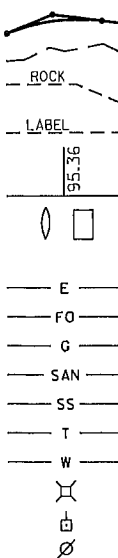
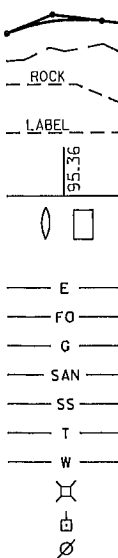
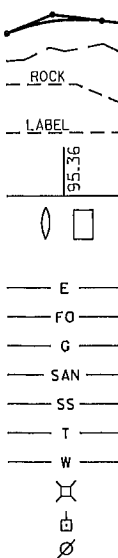
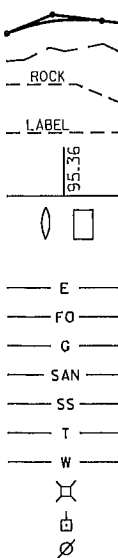
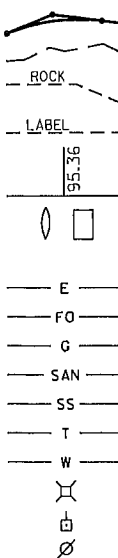
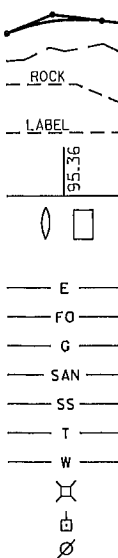
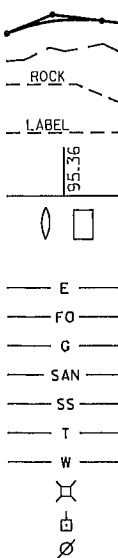
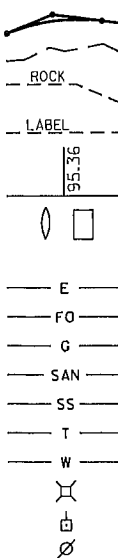
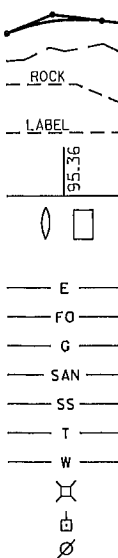
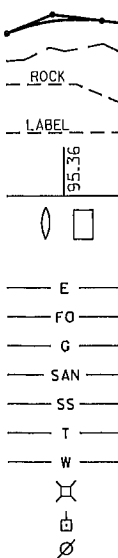
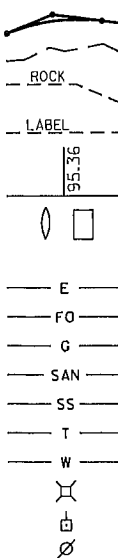
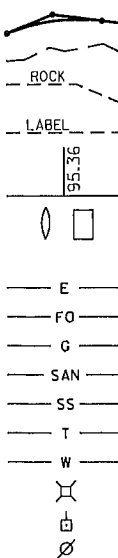
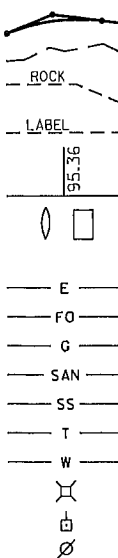
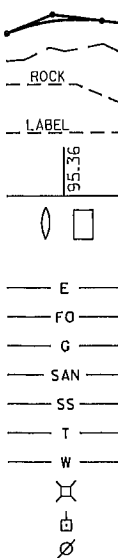
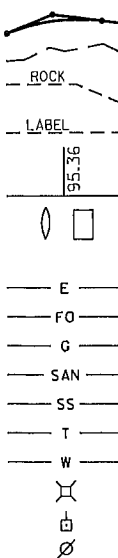
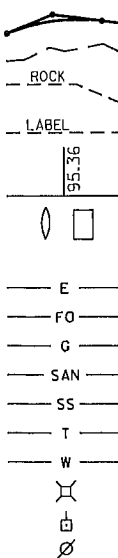
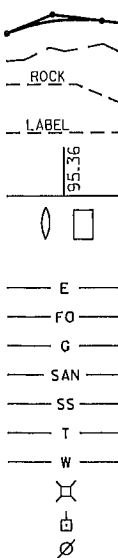
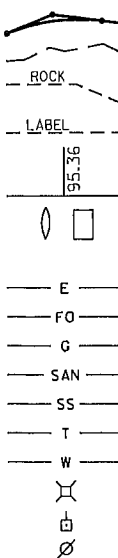
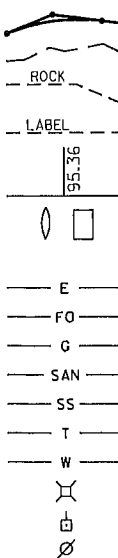
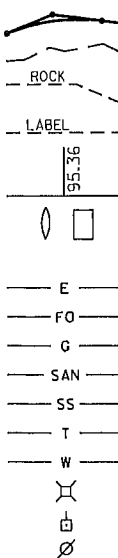
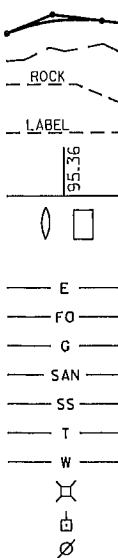
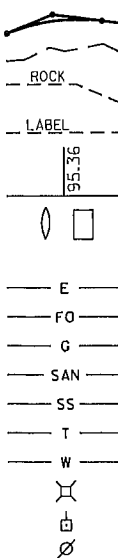
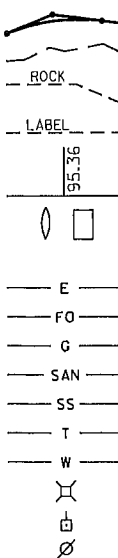
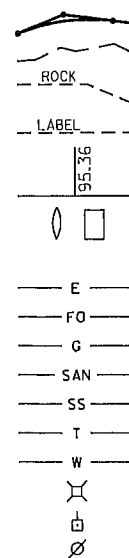
GRADE ELEVATION

CULVERT (Profile View)

UTILITIES

ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	

BEGIN PROJECT
STA 253+50.00
N 326887.67
E 511869.91



GENERAL NOTES

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

EXACT LOCATION OF ALL DRIVEWAY ENTRANCES TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

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

SHRINKAGE OF EARTHWORK IS VARIABLE. AN AVERAGE FACTOR FOR EXCAVATION COMMON IS 25%.

CROSS DRAIN PIPE LOCATIONS AND ELEVATIONS AS SHOWN ON THE CROSS SECTION SHEETS ARE APPROXIMATE AND SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

DISTURBED AREAS WITHIN THE RIGHT OF WAY SHALL BE SALVAGED TOPSOIL, FERTILIZED, SEEDED, TEMPORARY SEEDED AND MULCHED AS DIRECTED BY THE ENGINEER.

SEED MIXTURE NO.20 SHALL BE USED THROUGHOUT THE PROJECT, EXCEPT LAWN AREAS WHERE NO.40 SHALL BE USED.

WHEN THE QUANTITY OF BASE AGGREGATE DENSE OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD THE DEPTH OF THICKNESS OF THE COURSE SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

EROSION MAT WILL BE REQUIRED FOR ALL SLOPES GREATER THAN 3:1.

5-INCH HMA PAVEMENT TYPE E-1 SHALL BE CONSTRUCTED WITH AN 2-INCH UPPER LAYER AND 3-INCH LOWER LAYER.

SPOT ELEVATIONS PROVIDED FOR CURB AND GUTTER ARE AT THE FLANGE LINE OF CURB AND GUTTER UNLESS OTHERWISE NOTED.

ORDER OF SECTION 2 DETAIL SHEETS

- GENERAL NOTES AND UTILITY CONTACTS
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- INTERSECTION DETAILS
- EROSION CONTROL
- PERMANENT SIGNING & PAVEMENT MARKING PLAN
- TRAFFIC CONTROL

UTILITIES

- * ALLIANT ENERGY - ELECTRIC DISTRIBUTION
520 COMMERCE AVENUE
BARABOO, WI 53913
ATTN: DAVID MCCOY
davidmccoy@alliantenergy.com
(608) 356-0609
- * ATC MANAGEMENT, INC - ELECTRIC TRANSMISSION
2489 RINDEN ROAD
COTTAGE GROVE, WI 53527
ATTN: DOUG VOSBERG
dvosberg@atcllc.com
(608) 877-7650
- * CHARTER COMMUNICATIONS - COMMUNICATIONS
2701 DANIELS STREET
MADISON, WI 53718
ATTN: BRANDON STORM
brandon.storm@charter.com
(608) 274-3822
- * FRONTIER COMMUNICATIONS OF WI LLC - COMMUNICATIONS
100 COMMUNICATIONS DRIVE
SUN PRAIRIE, WI 53590
ATTN: BRIAN VAN OOYEN
brian.vanooyen@ftr.com
(608) 837-1151
- * MADISON GAS AND ELECTRIC COMPANY - GAS
133 SOUTH BLAIR STREET
MADISON, WI 53788
ATTN: JOHN WICHERN
jwichern@mge.com
(608) 252-1563
- OKEE SANITARY SEWER DISTRICT
W10901 LAKE POINT DRIVE
LODI, WI 53555
ATTN: CONNIE SEARS, DISTRICT CLERK
hgokee@harmonygrove-okee.com
(608) 292-5795

* DENOTES DIGGERS HOTLINE MEMBER

DIGGERSHOTLINE

811

Dial or (800) 242-8511

www.DiggersHotline.com

DESIGN CONTACT

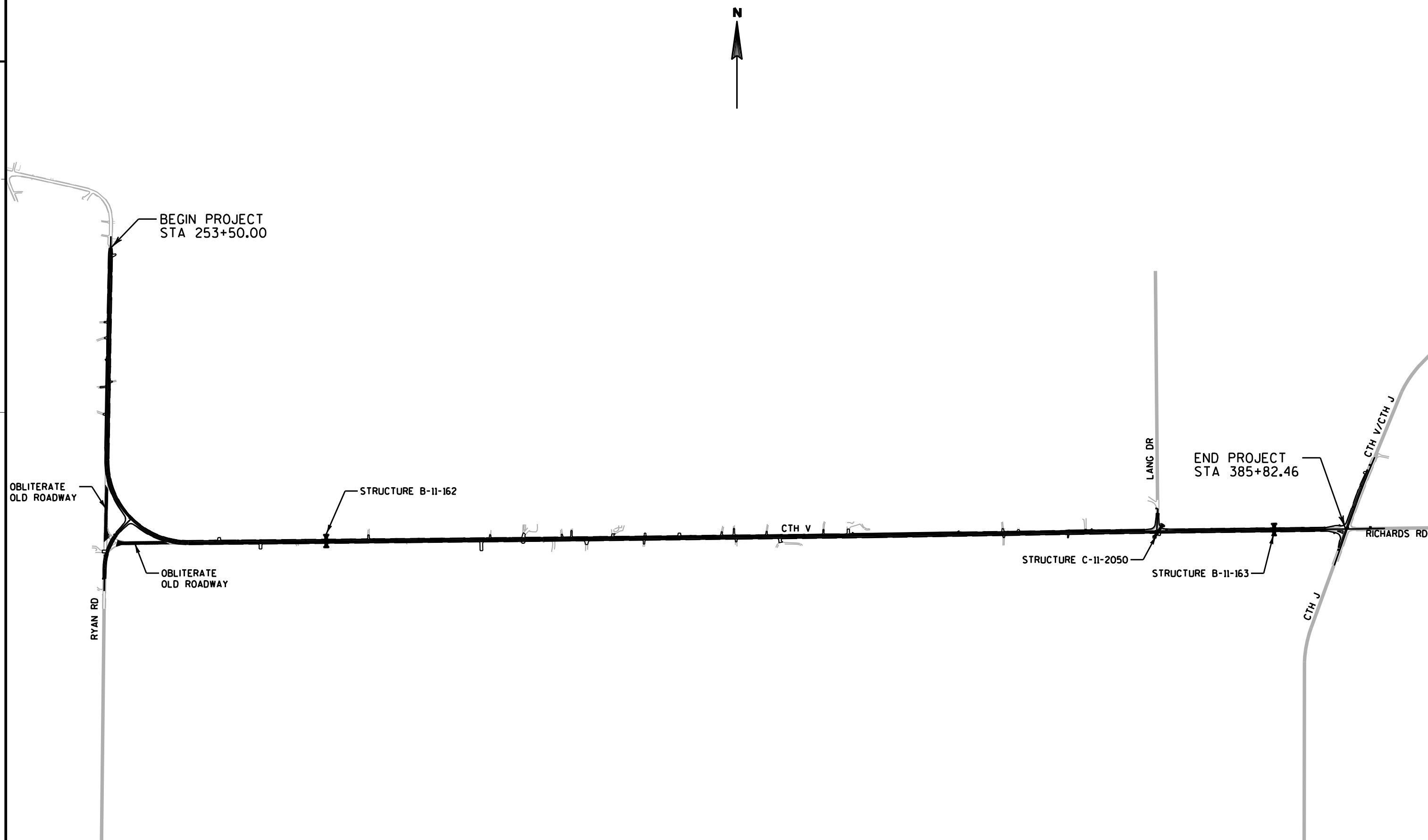
AYRES ASSOCIATES
3433 OAKWOOD HILLS PARKWAY
EAU CLAIRE, WI 54701
ATTN: ERIC SORENSEN, P.E.
sorensene@ayresassociates.com
(715) 834-3161

DNR CONTACT

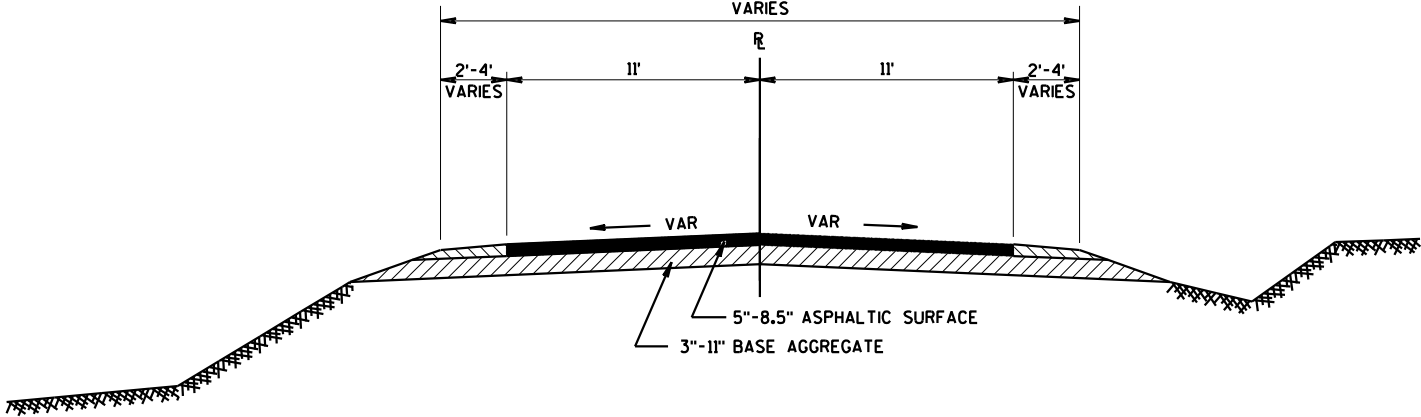
WISCONSIN DNR, SOUTHWEST REGION
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
ATTN: ERIC HEGGELUND
eric.heggelund@wisconsin.gov
(608) 275-3301

COUNTY CONTACT

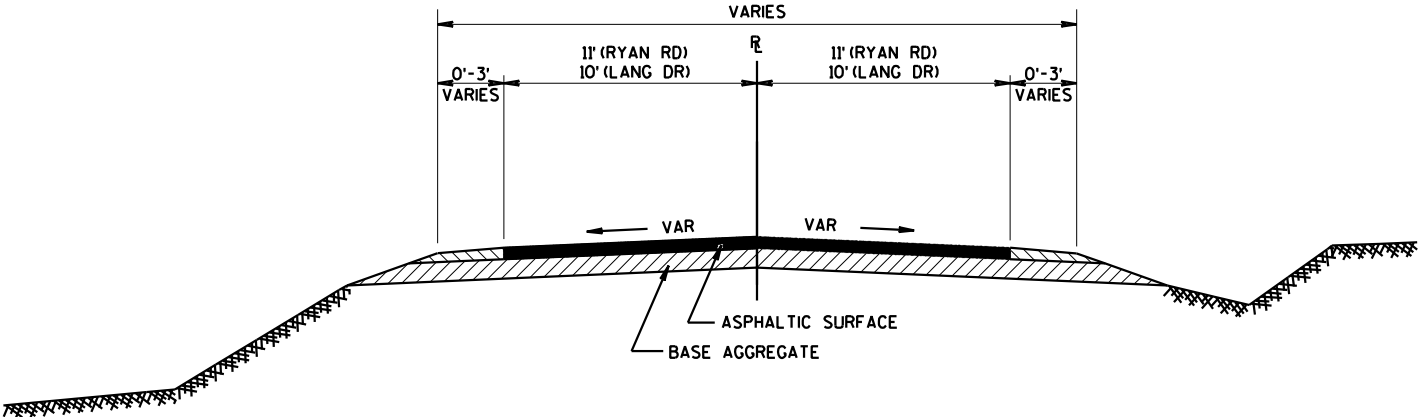
COLUMBIA COUNTY HIGHWAY
AND TRANSPORTATION DEPARTMENT
303 OLD HIGHWAY 16 WEST
WYOCENA, WI 53969-0875
ATTN: TOM LORFELD, P.E.
tom.lorfeld@co.columbia.wi.us
(608) 429-3750



PROJECT NO:5843-00-70	HWY:CTH V	COUNTY:COLUMBIA	PROJECT OVERVIEW	SHEET	E
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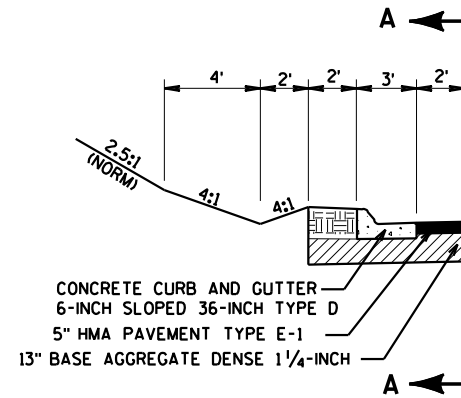


EXISTING TYPICAL SECTION - CTH V
STA 253+50.00 - STA 385+82.46



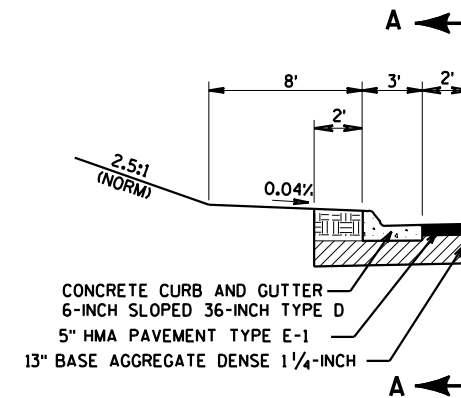
EXISTING TYPICAL SECTION - SIDEROAD
RYAN ROAD
LANG DRIVE

EXISTING HMA PAVEMENT THICKNESS	
STATION	THICKNESS
263+00	5"
284+00	8.5"
314+00	7.5"
344+00	5"
345+00	5"
346+00	6"
347+00	7"
353+00	7.75"
365+75	7"
374+00	7.5"



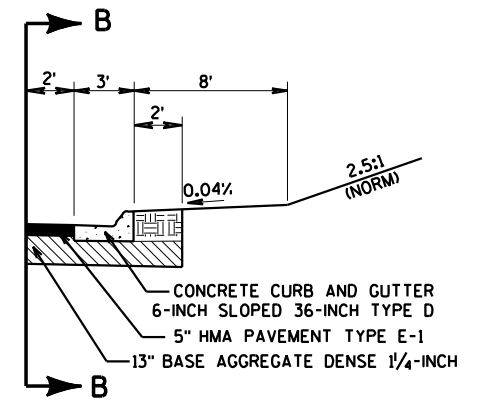
SECTION A-A

STA 342+45.00 - STA 344+30.00, LT



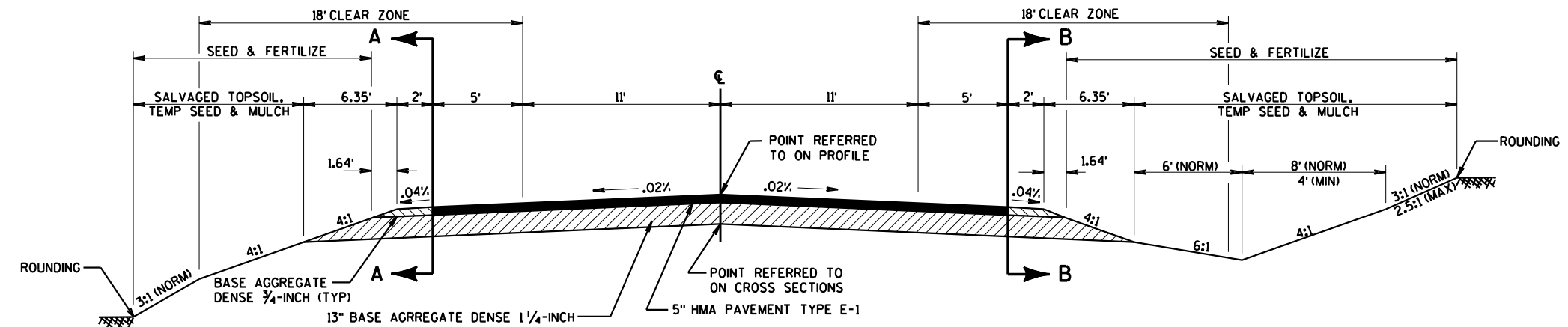
SECTION A-A

STA 344+30.00 - STA 351+50.00, LT

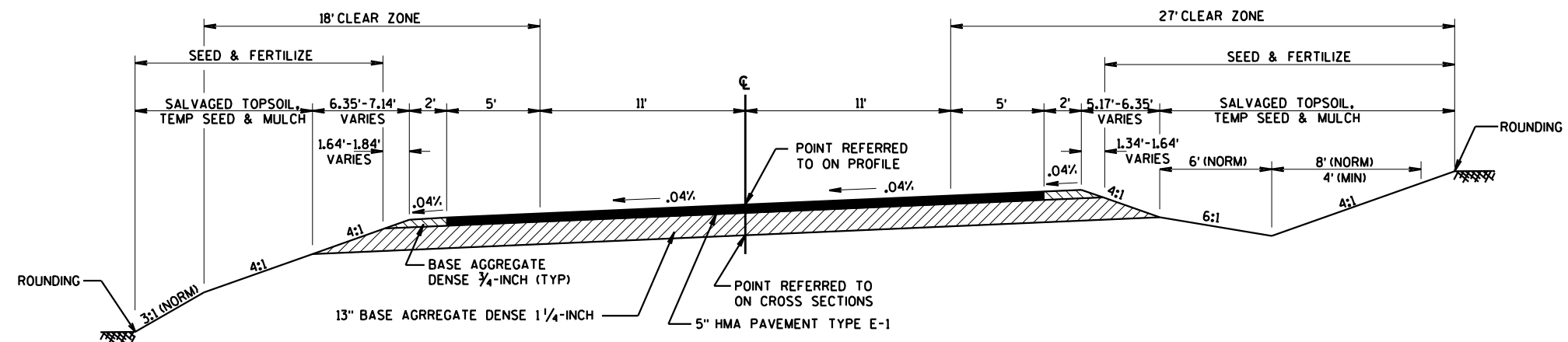


SECTION B-B

STA 263+50.00 - STA 271+00.00, RT

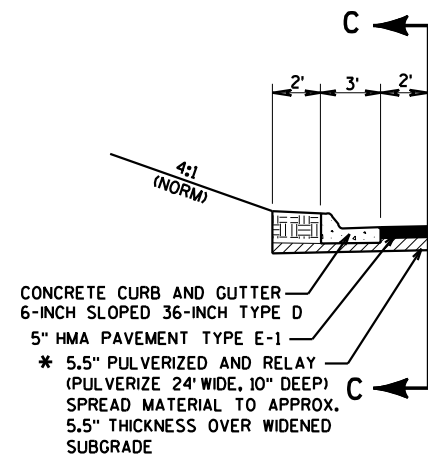


FINISHED TYPICAL SECTION CTH V (RECONSTRUCT)

STA 253+50.00 - STA 272+23.97
STA 341+50.00 - STA 351+50.00

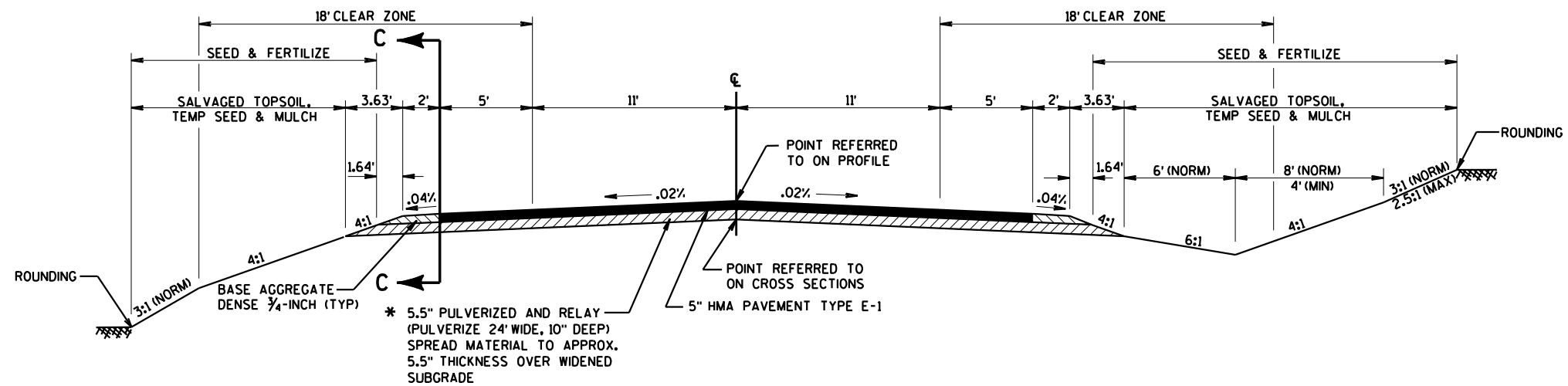
FINISHED SUPERELEVATED TYPICAL SECTION CTH V (RECONSTRUCT)

STA 272+23.97 - STA 283+65.30



SECTION C-C

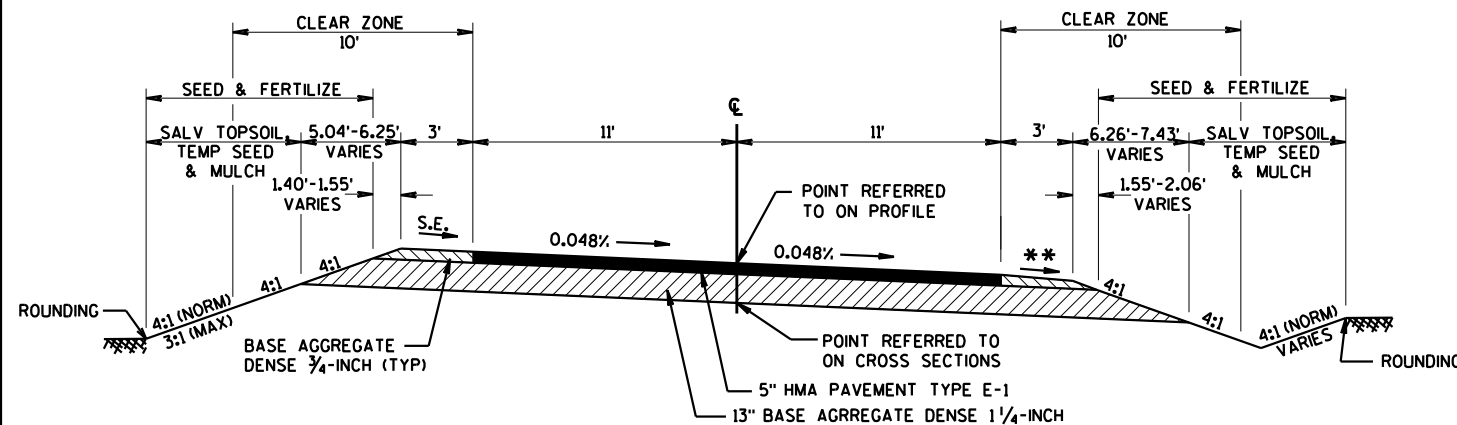
STA 361+50.00 - STA 363+25.00, LT



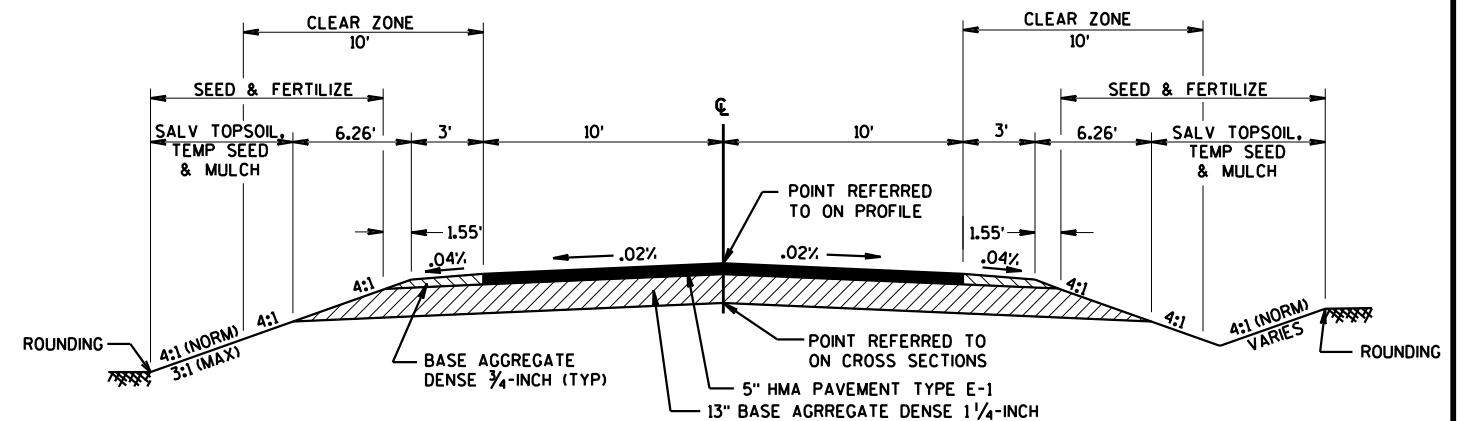
FINISHED TYPICAL SECTION CTH V (REHAB)

STA 283+65.30 - STA 341+50.00
STA 351+50.00 - STA 385+82.46

* HANDLE PULVERIZED MATERIAL IN SUCH A WAY THAT IT CAN BE INCORPORATED INTO THE PAVEMENT STRUCTURE OVER CULVERT PIPES THAT HAVE BEEN REMOVED AND/OR INSTALLED MAINTAINING A UNIFORM PAVEMENT STRUCTURE UP TO AND OVER THE CULVERT PIPE(S). ANY ADDITIONAL BASE AGGREGATE DENSE MATERIAL REQUIRED TO MAINTAIN PAVEMENT STRUCTURE DEPTHS DUE TO LOST MATERIAL IS INCIDENTAL TO CULVERT PIPE INSTALLATION.

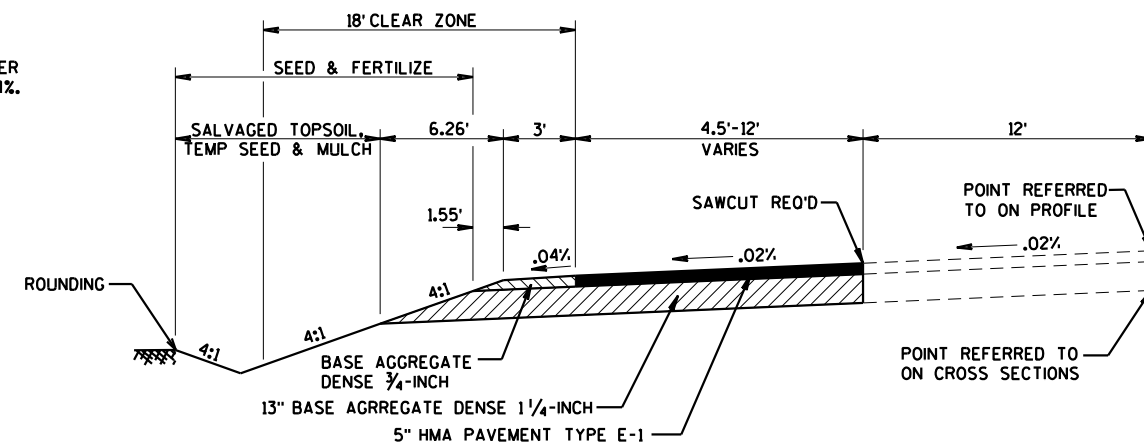


FINISHED TYPICAL SECTION - RYAN ROAD



FINISHED TYPICAL SECTION - LANG DRIVE

** THE LOW SIDE SHOULDER SLOPE ON SUPERELEVATED SECTION EQUALS THE SUPERELEVATION RATE WHEN THE SUPERELEVATION RATE IS GREATER THAN 4%. IF THE SUPERELEVATION RATE IS LESS THAN OR EQUAL TO 4%, THE LOW SIDE SHOULDER SLOPE IS 4%. HIGH SIDE SHOULDER SLOPE ON SUPERELEVATED SECTIONS EQUALS THE SUPERELEVATION RATE. SEE SUPERELEVATION TABLES FOR SE

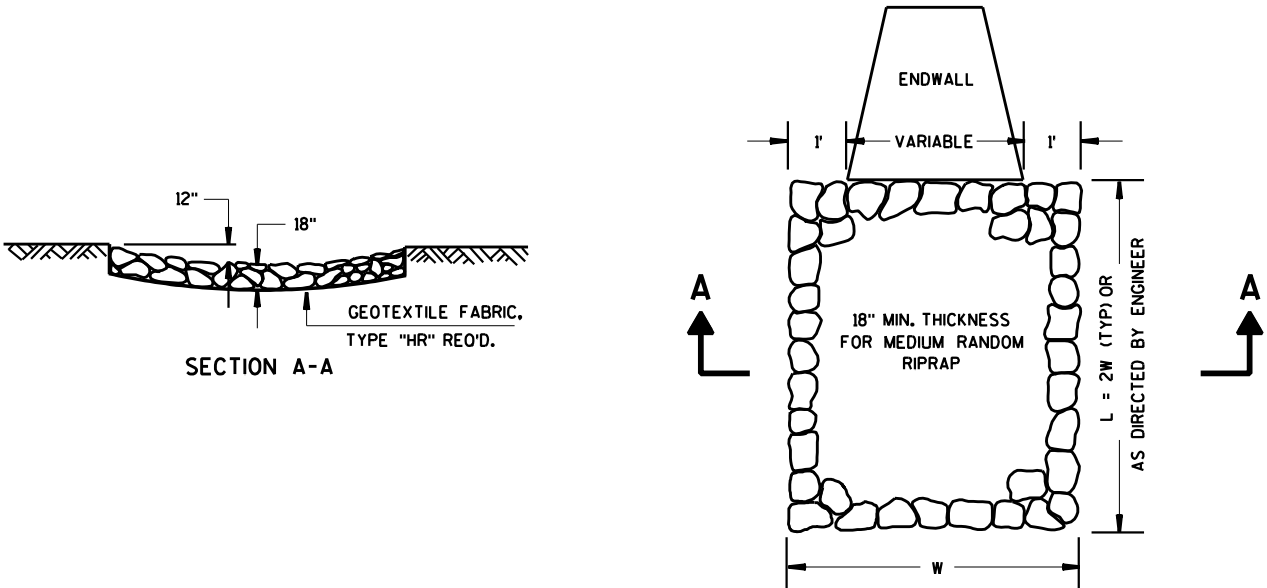


FINISHED TYPICAL SECTION - CTH V/CTH J

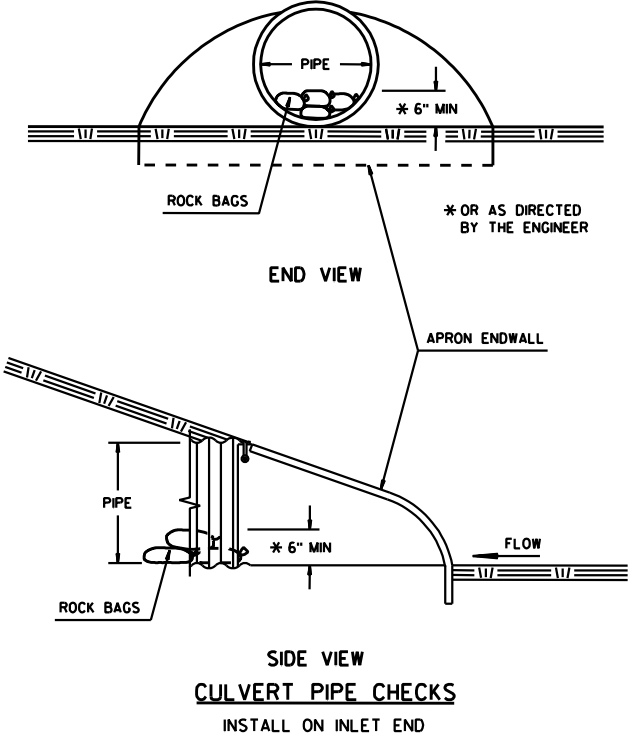
RUNOFF COEFFICIENT TABLE

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

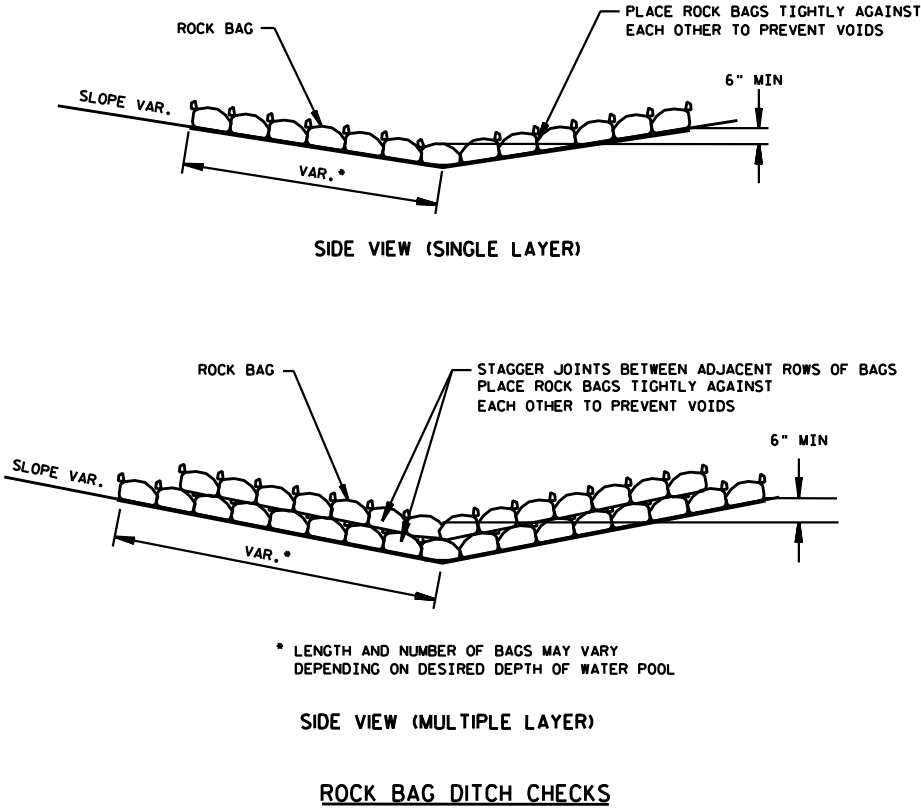
TOTAL PROJECT AREA = 33.61 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 25.73 ACRES



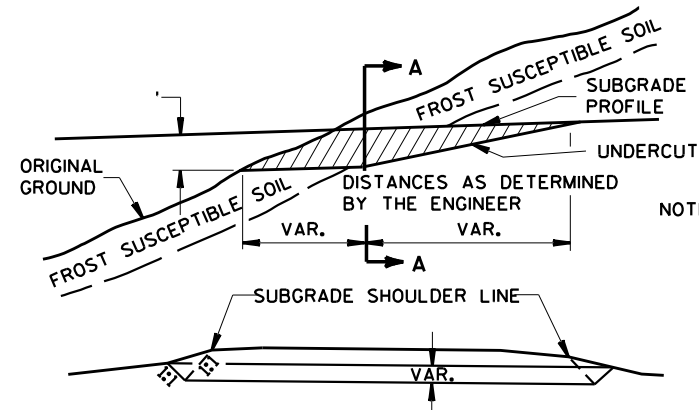
MEDIUM RANDOM RIPRAP TREATMENT AT CULVERTS



ESTIMATED BAG SIZE = 24" X 12" X 6"	
PIPE SIZE	ESTIMATED NO. OF BAGS
18"	2
24"	3
30"	5
48"	10
54"	10
60"	13
72"	16

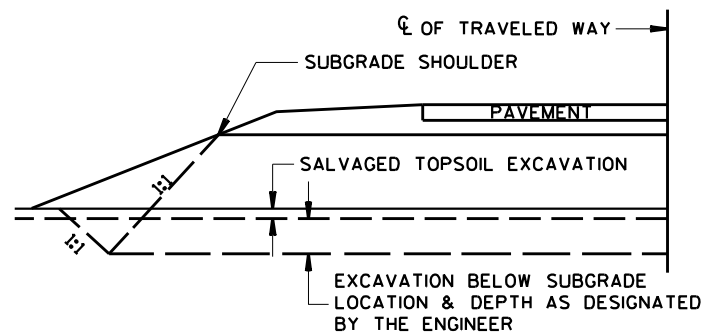


ROCK BAG DITCH CHECKS

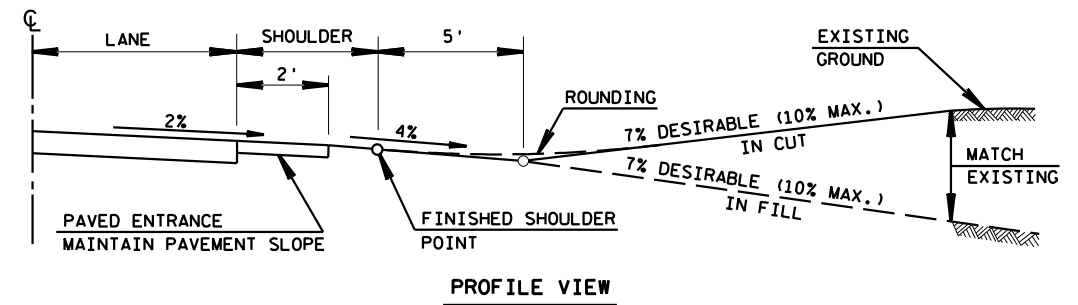


SECTION A-A
CROSS SECTION SHOWING UNDERCUT
DETAIL FOR EXCAVATION BELOW
SUBGRADE AT CUTS

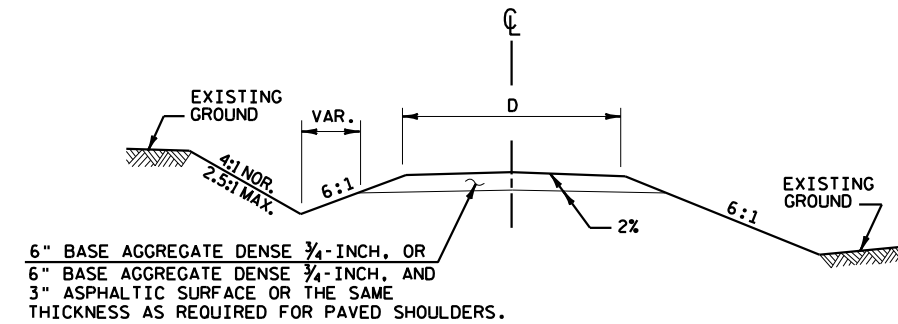
NOTE: EXACT LOCATIONS AND EXTENT OF E.B.S. SECTIONS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
E.B.S. AREA TO BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE ENGINEER. BACKFILL MUST BE HOMOGENEOUS WITH ADJOINING FILL MATERIAL.
THE FILL SECTION WITHIN 100' OF THE MOUTH OF THE CUT MUST BE KEPT 2' BELOW SUBGRADE UNTIL E.B.S. IS COMPLETED.



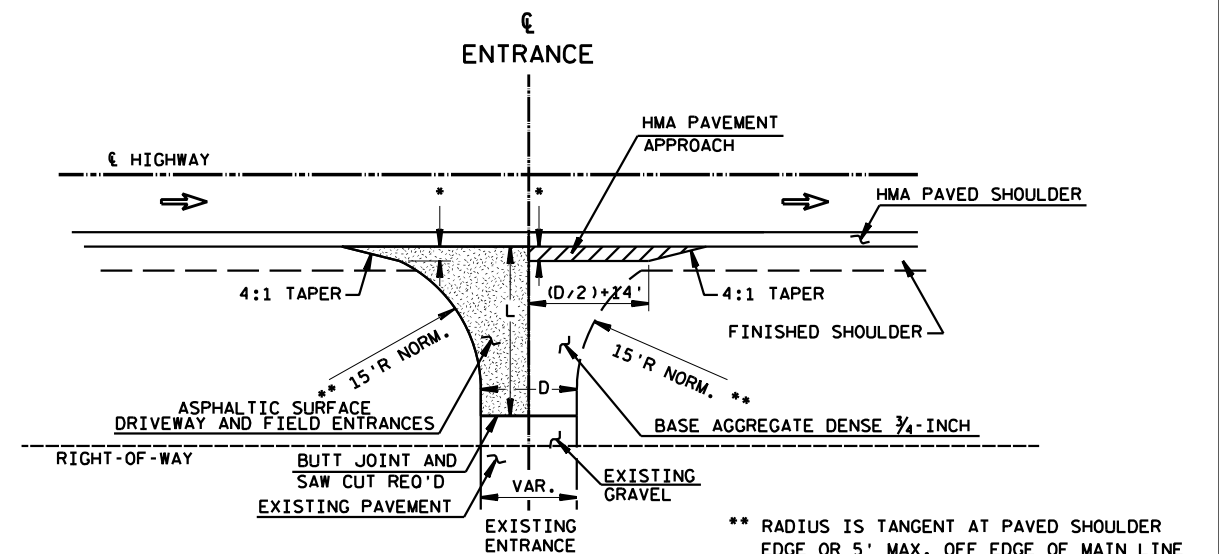
DETAIL FOR EXCAVATION BELOW SUBGRADE



PROFILE VIEW



TYPICAL CROSS SECTION



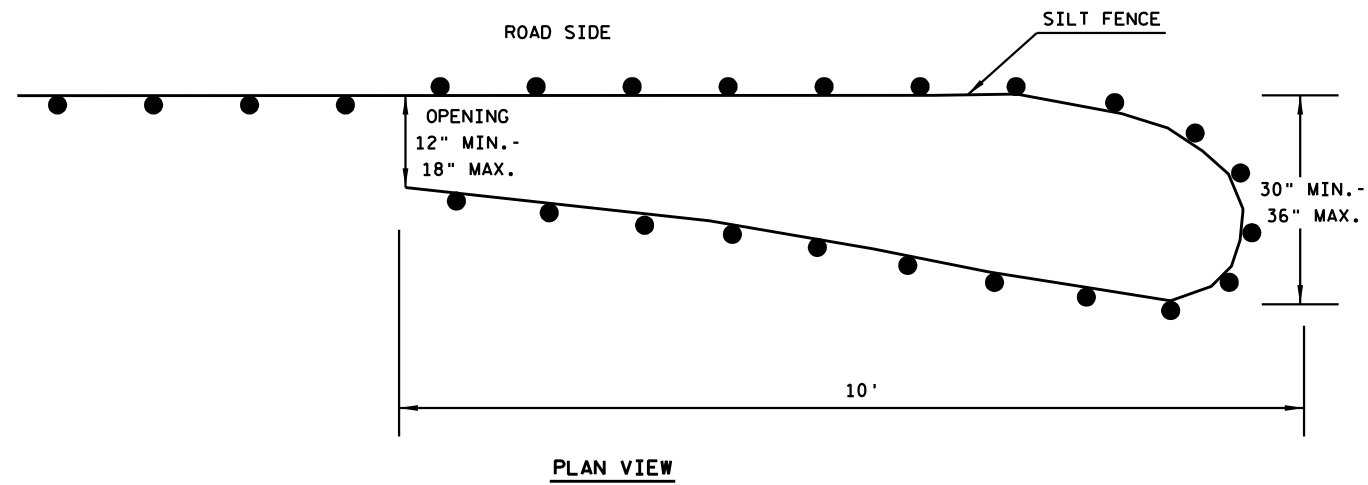
L=VARIABLE, EXACT LENGTH TO BE DETERMINED IN THE FIELD BY THE ENGINEER. BLEND BACK ON THE ENTRANCE FAR ENOUGH TO GET A SMOOTH PROFILE.

D=DRIVEWAY WIDTH
D=20' TYP. (PE'S & FE'S) (16' MIN. - 24' MAX.)
D=28' TYP. (CE'S & FARM ENT.) (24' MIN. - 35' MAX.)

** RADIUS IS TANGENT AT PAVED SHOULDER EDGE OR 5' MAX. OFF EDGE OF MAIN LINE PAVEMENT WHICH EVER IS LESS.
* 3' MAX. OR TO FINISHED SHOULDER WHICH EVER IS LESS.

PLAN VIEW

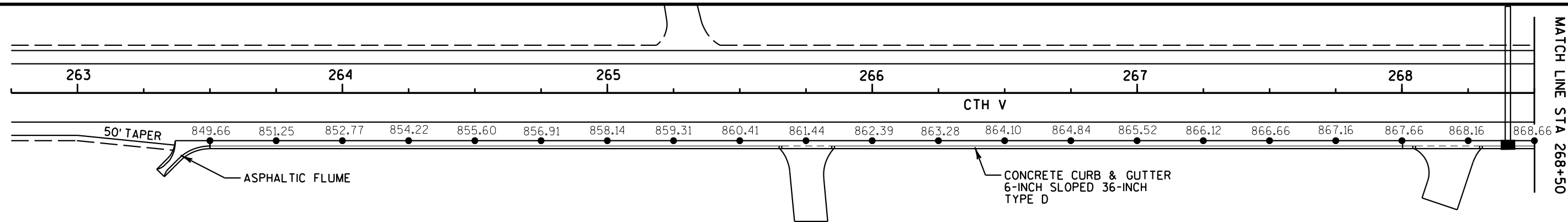
RURAL DRIVEWAY INTERSECTION DETAIL
(PE'S, FE'S & CE'S)
(FOR NEW CONSTRUCTION)



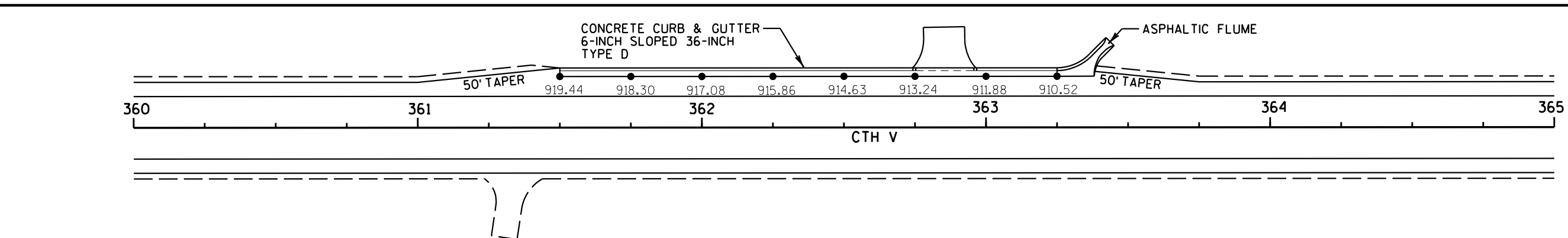
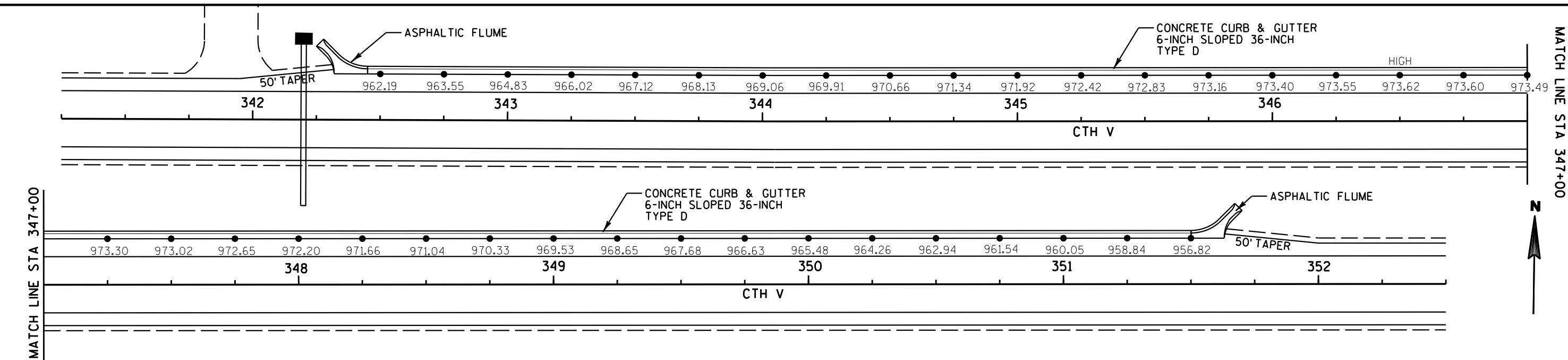
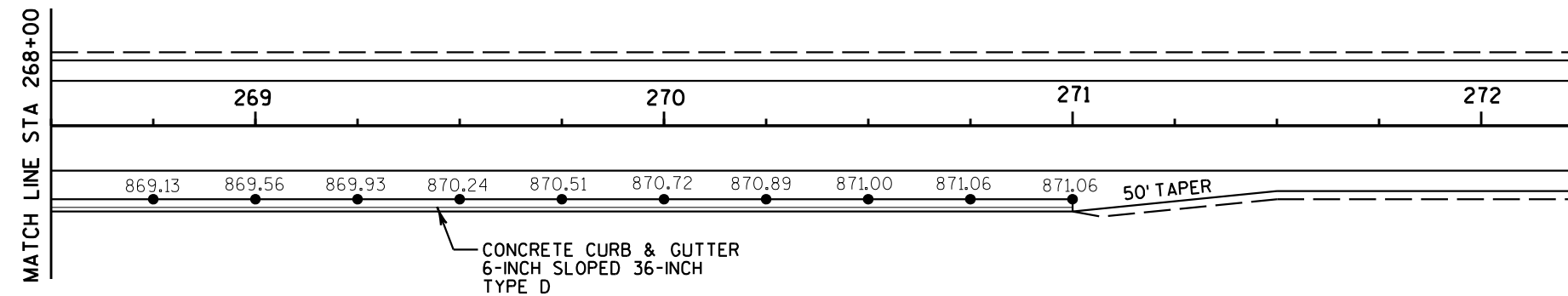
NOTES:
THE PURPOSE OF THE FENCING IS TO PREVENT AMPHIBIANS AND REPTILES FROM ACCESSING THE CONSTRUCTION ZONE.
DESIGN SHOULD ALSO INCLUDE TRENCHED-IN SEDIMENT FENCING AND FENCING SUPPORTS ON UPSLOPE SIDE OF FENCE.
SILT FENCE POSTS FOR THE TURN-AROUND SHOULD BE ON THE OUTSIDE OF THE TURN-AROUND.

SILT FENCE TURN-AROUND DETAIL

2



2



PROJECT NO: 5843-00-70

HWY: CTH V

COUNTY: COLUMBIA

CONSTRUCTION DETAIL

SHEET

E

FILE NAME : T:\410520\NGN\0520021002.cd.dgn

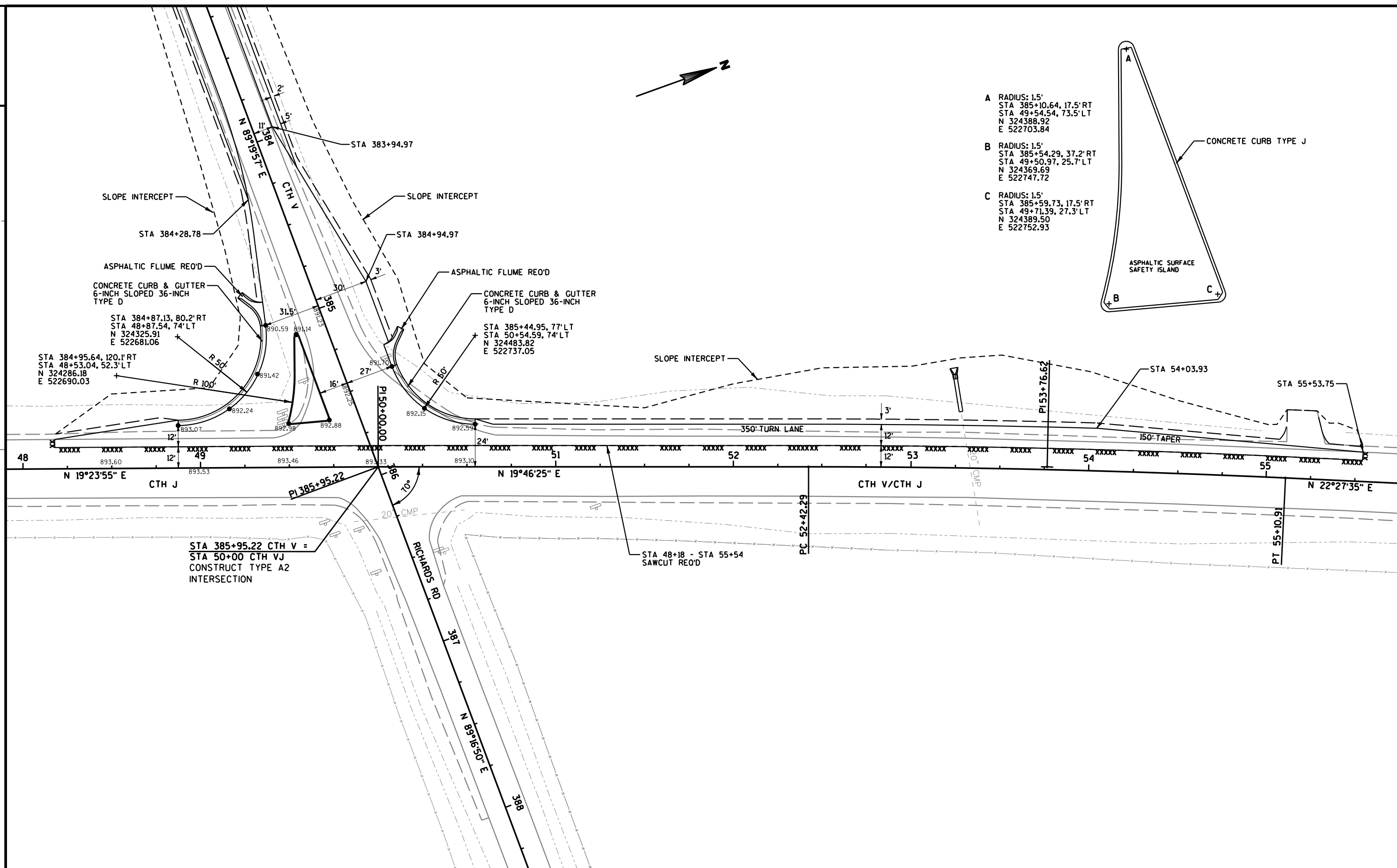
PLOT DATE : 9/25/2014

PLOT BY : AYRES-EC

PLOT NAME :

PLOT SCALE : 1:40

WISDOT/CADDs SHEET 42



PROJECT NO: 5843-00-70

HWY: CTH V

COUNTY: COLUMBIA

INTERSECTION DETAIL

SHEET

E

FILE NAME : T:\410520\DGN\0520021102_id.dgn

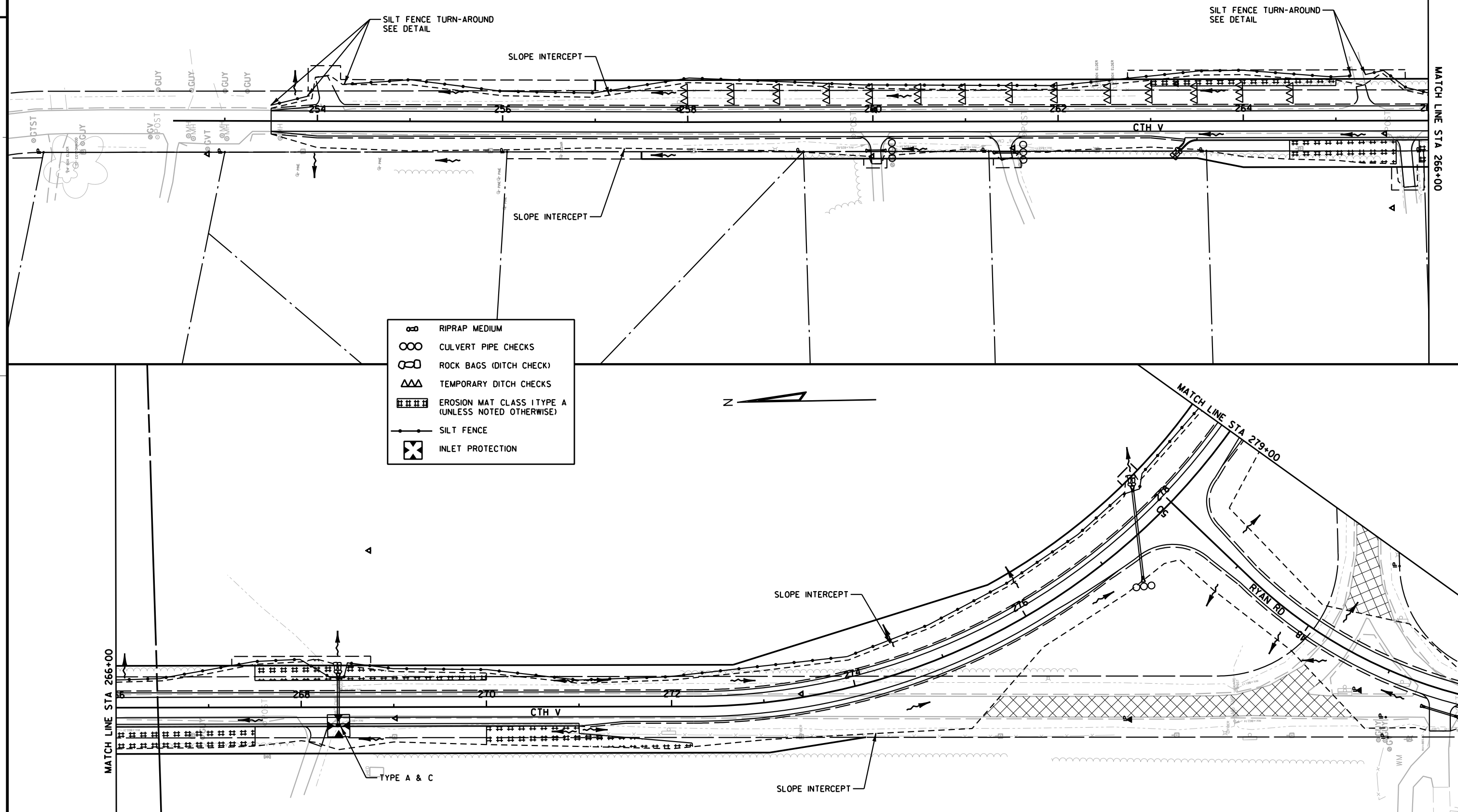
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PLOT BY : AYRES-EC

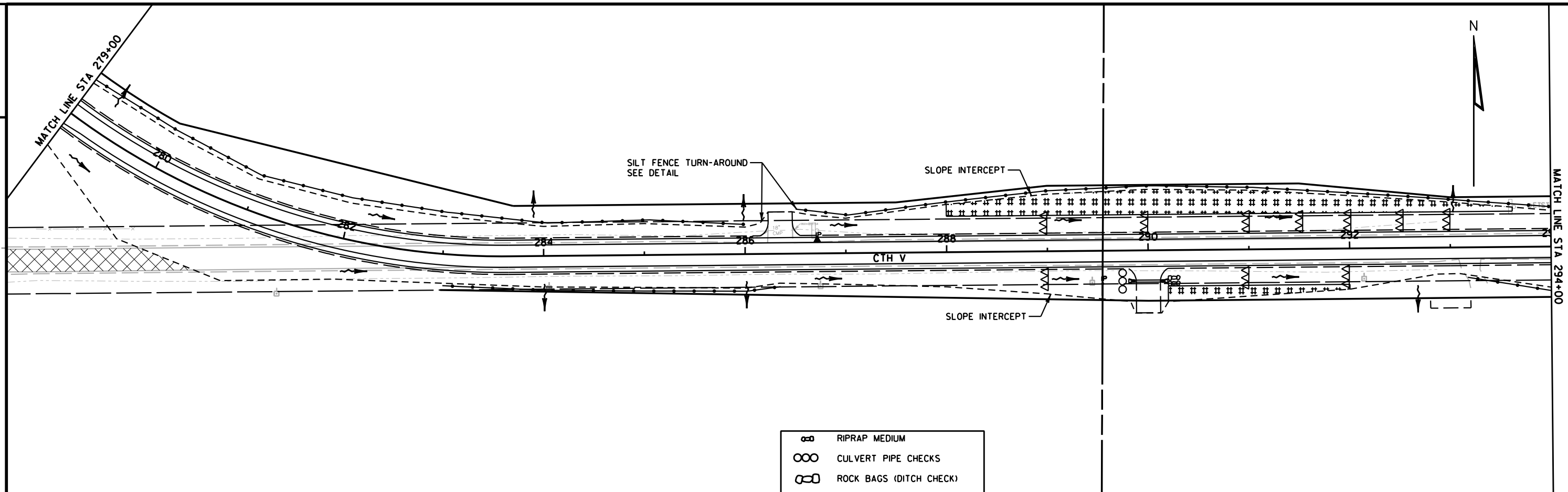
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PLOT SCALE : 1:50

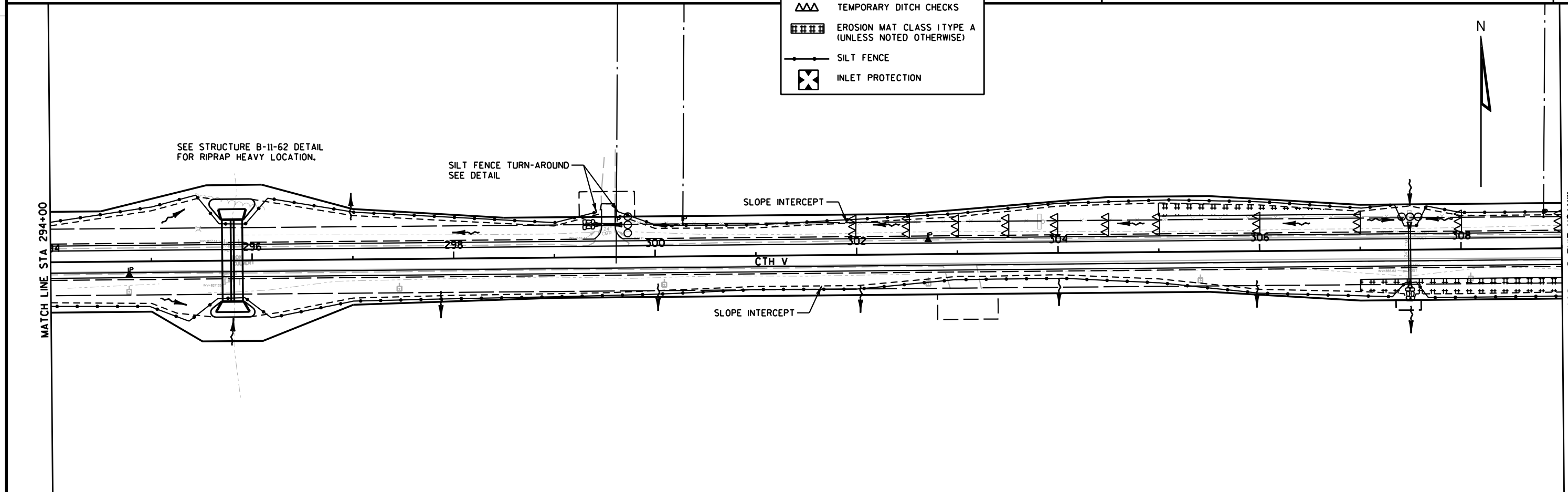
WISDOT/CADD SHEET 42



2



- | | |
|--|--|
| | RIPRAP MEDIUM |
| | CULVERT PIPE CHECKS |
| | ROCK BAGS (DITCH CHECK) |
| | TEMPORARY DITCH CHECKS |
| | EROSION MAT CLASS I TYPE A
(UNLESS NOTED OTHERWISE) |
| | SILT FENCE |
| | INLET PROTECTION |



PROJECT NO: 5843-00-70

HWY: CTH V

COUNTY: COLUMBIA

EROSION CONTROL

SHEET

E

FILE NAME : T:\410520\DGN\0520022002.ec.dgn

PLOT DATE : 9/25/2014

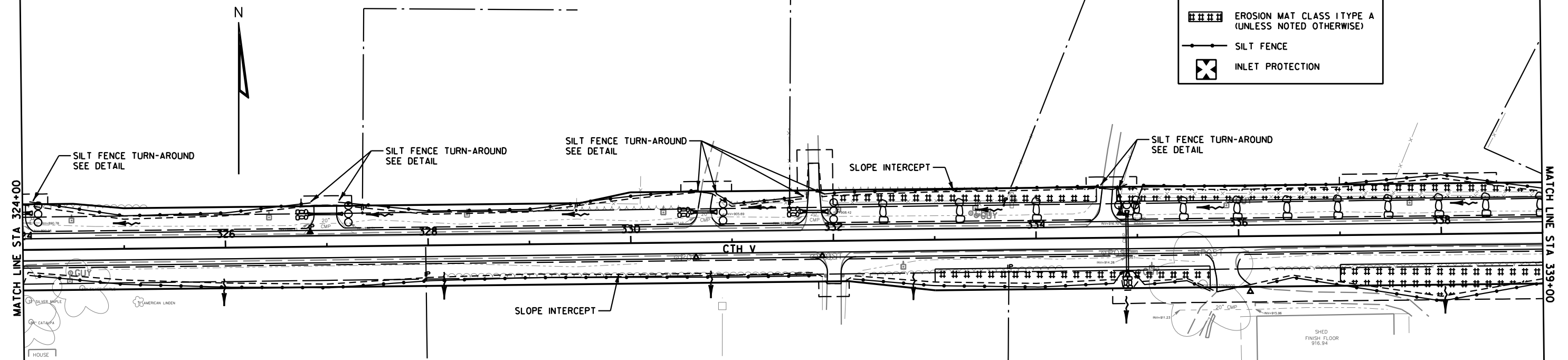
PLOT BY : AYRES-EC

PLOT NAME :

PLOT SCALE : 1:100

WISDOT/CADDs SHEET 42

2 |

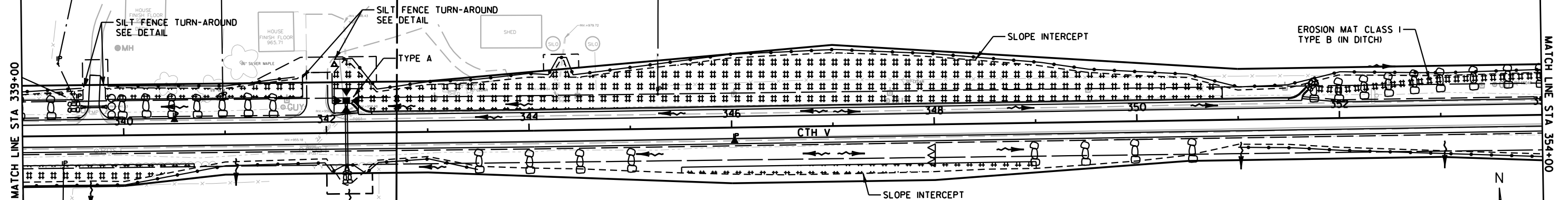


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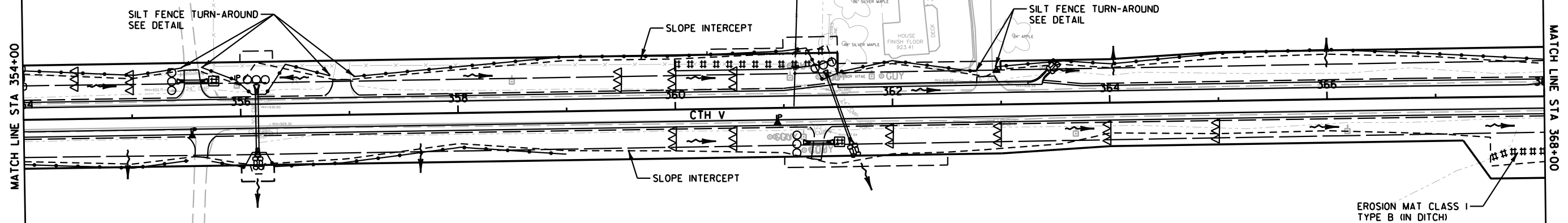
WISDOT/CADDS SHEET 42

2

2



	RIPRAP MEDIUM
	CULVERT PIPE CHECKS
	ROCK BAGS (DITCH CHECK)
	TEMPORARY DITCH CHECKS
	EROSION MAT CLASS I TYPE A (UNLESS NOTED OTHERWISE)
	SILT FENCE
	INLET PROTECTION



PROJECT NO:5843-00-70

HWY:CTH V

COUNTY:COLUMBIA

EROSION CONTROL

SHEET

E

FILE NAME : T:\410520\DGN\0520022004_ec.dgn

PLOT DATE : 9/25/2014

PLOT BY : AYRES-EC

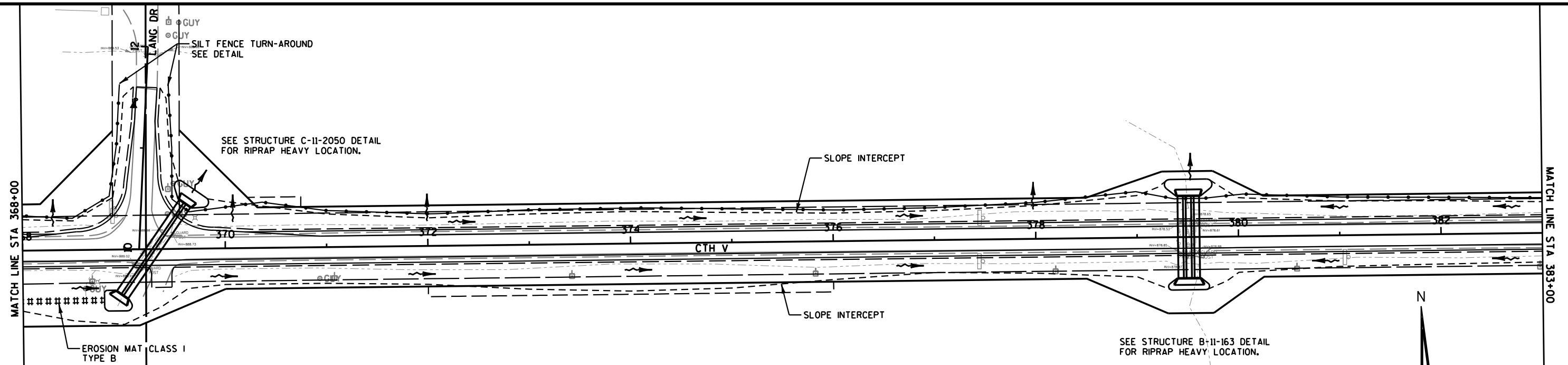
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PLOT SCALE : 1:100

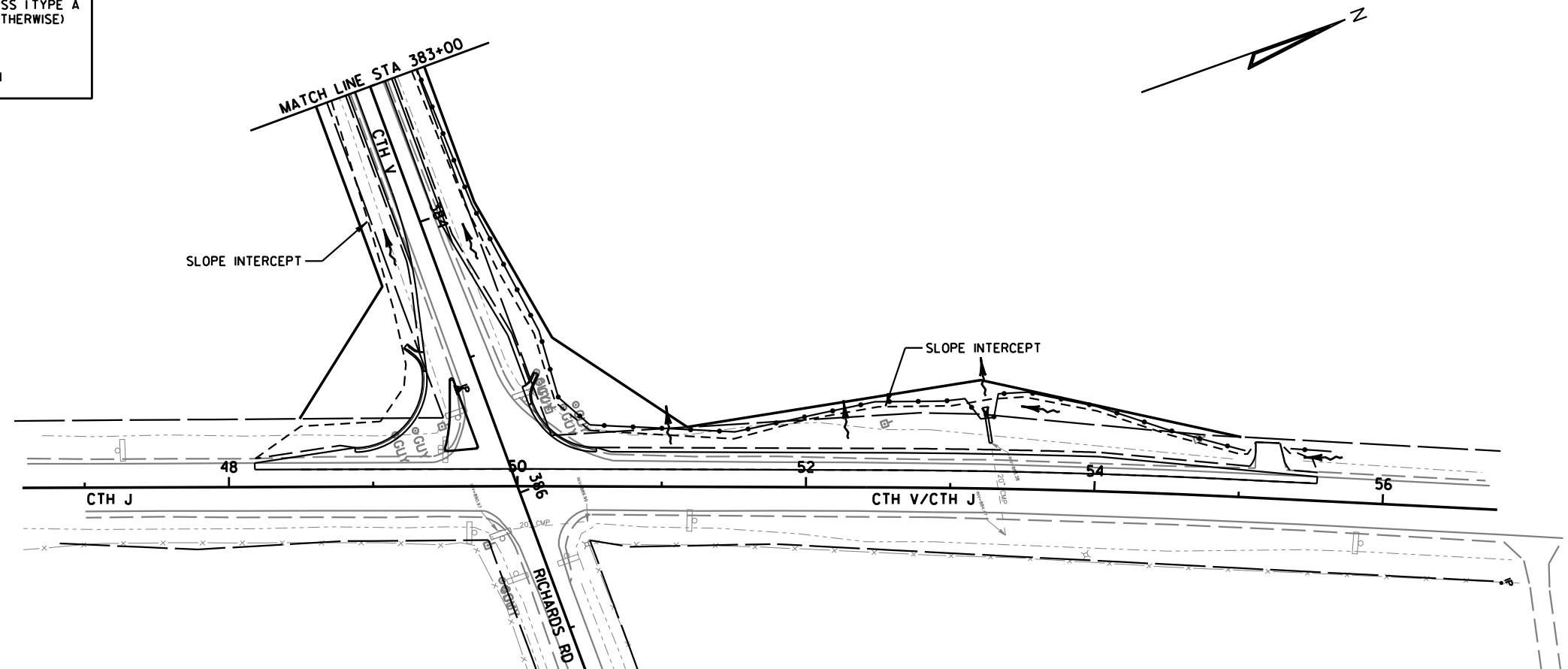
WISDOT/CADDs SHEET 42

2

2



	RIPRAP MEDIUM
	CULVERT PIPE CHECKS
	ROCK BAGS (DITCH CHECK)
	TEMPORARY DITCH CHECKS
	EROSION MAT CLASS I TYPE A (UNLESS NOTED OTHERWISE)
	SILT FENCE
	INLET PROTECTION



PROJECT NO:5843-00-70

HWY:CTH V

COUNTY:COLUMBIA

EROSION CONTROL

SHEET

E

FILE NAME : T:\410520\DGN\0520022005_ec.dgn

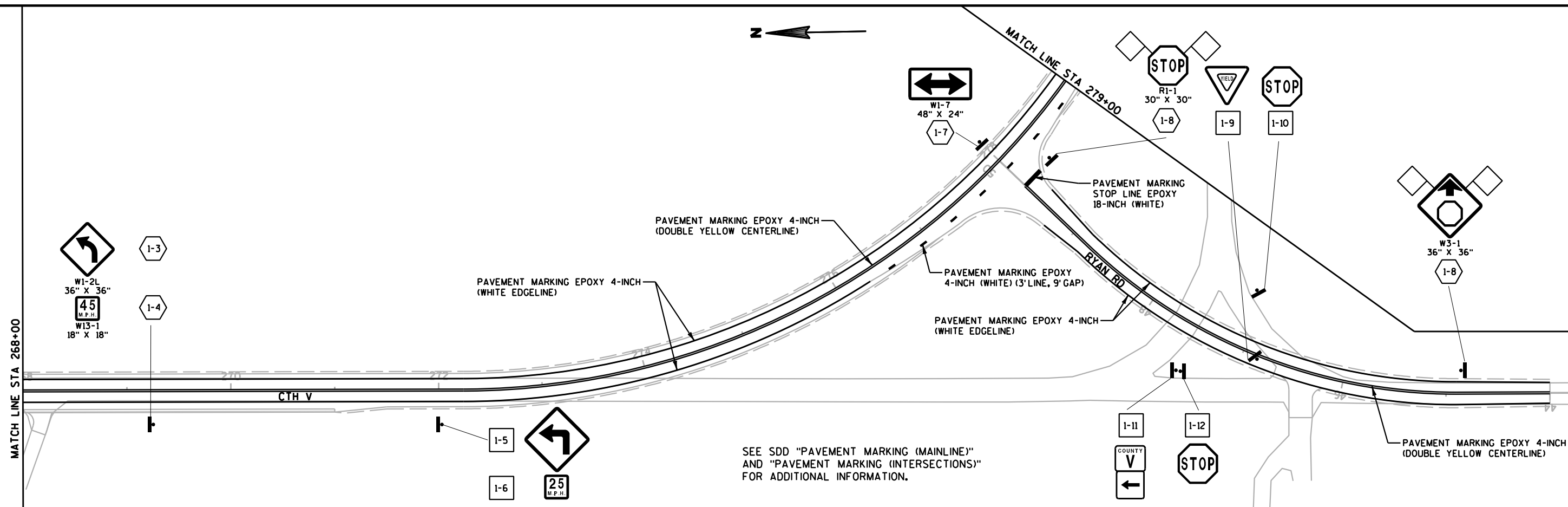
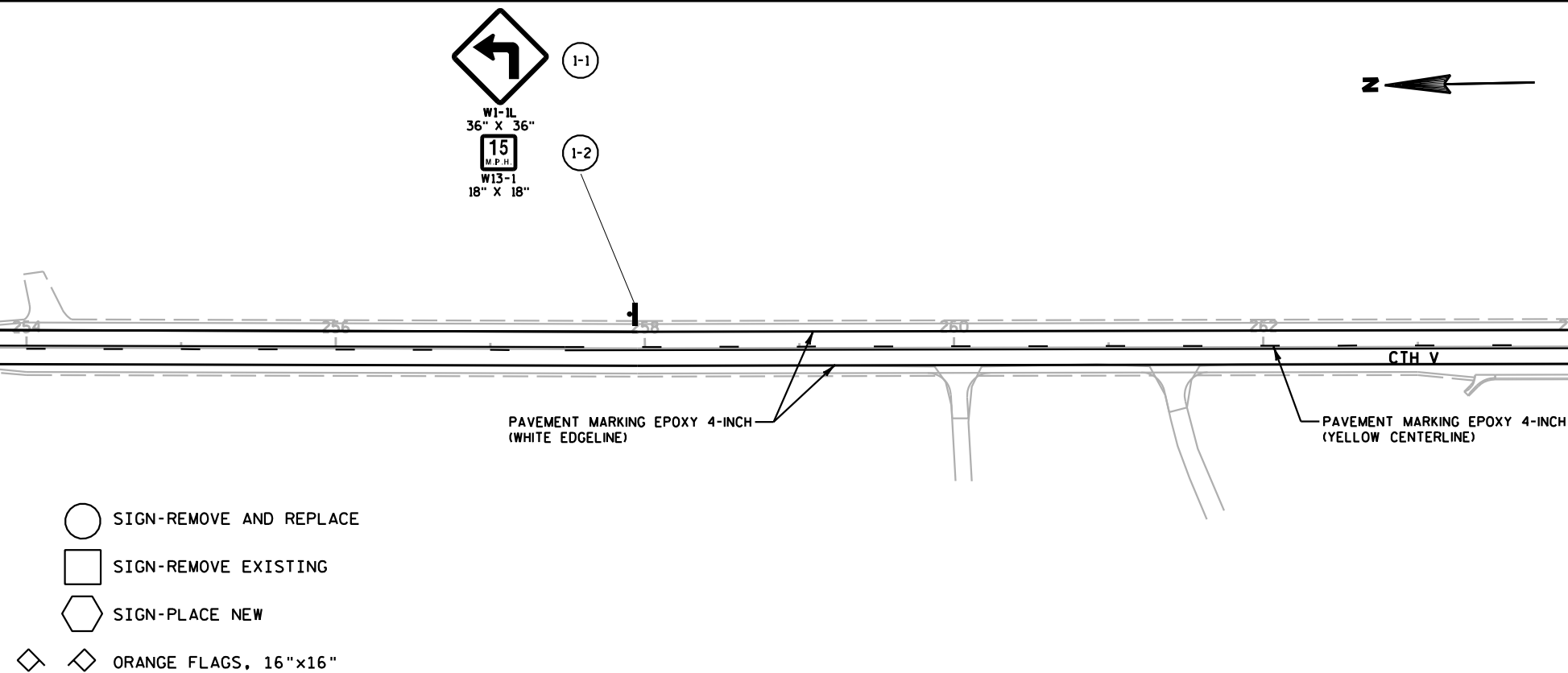
PLOT DATE : 9/25/2014

PLOT BY : AYRES-EC

PLOT NAME :

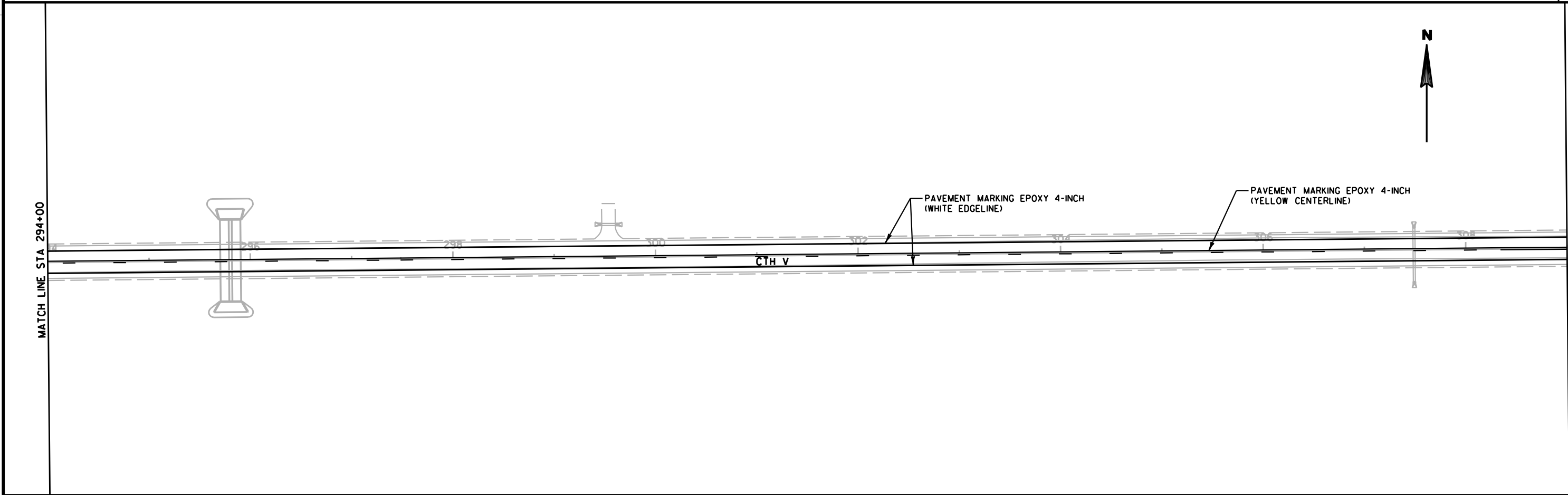
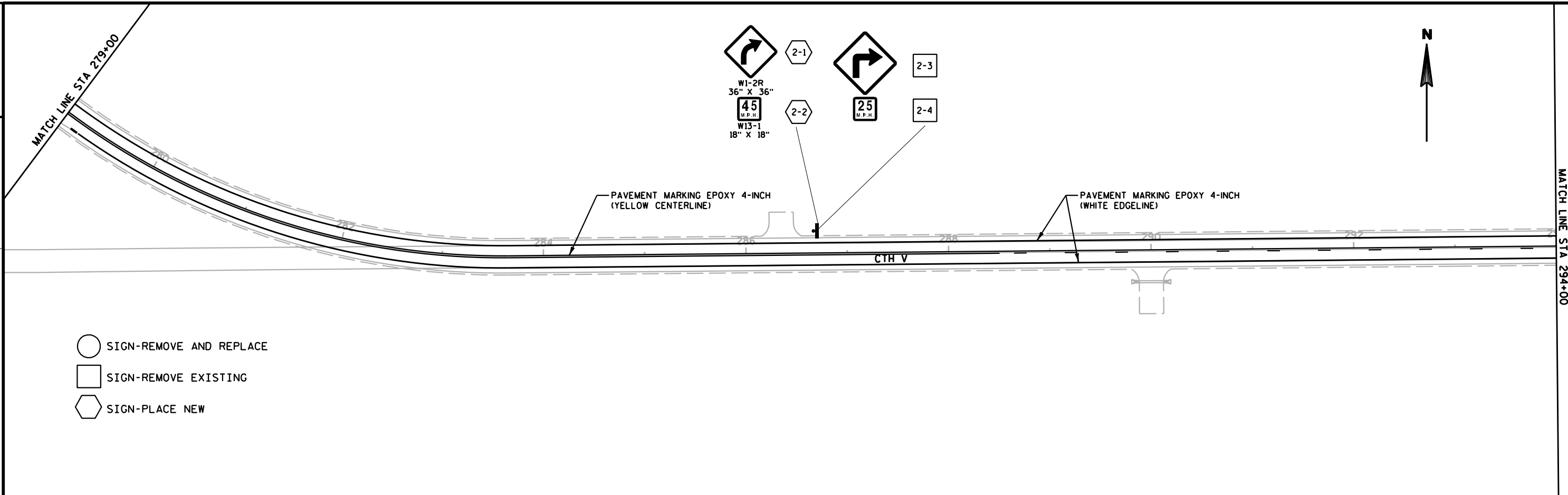
PLOT SCALE : 1:100

WISDOT/CADDs SHEET 42



2

2



PROJECT NO:5843-00-70	HWY:CTH V	COUNTY:COLUMBIA	PERMANENT SIGNING & PAVEMENT MARKING	SHEET	E
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2

MATCH LINE STA 309+00



CTH V

PAVEMENT MARKING EPOXY 4-INCH
(WHITE EDGE LINE)

PAVEMENT MARKING EPOXY 4-INCH
(YELLOW CENTERLINE)

MATCH LINE STA 324+00

2



MATCH LINE STA 324+00

CTH V

PAVEMENT MARKING EPOXY 4-INCH
(WHITE EDGE LINE)

PAVEMENT MARKING EPOXY 4-INCH
(YELLOW CENTERLINE)

MATCH LINE STA 339+00

PROJECT NO:5843-00-70

HWY:CTH V

COUNTY:COLUMBIA

PERMANENT SIGNING & PAVEMENT MARKING

SHEET

E

FILE NAME : T:\410520\DGN\0520023203_ps.dgn

PLOT DATE : 9/25/2014

PLOT BY : AYRES-EC

PLOT NAME :

PLOT SCALE : 1:100

WISDOT/CADDs SHEET 42

2

MATCH LINE STA 339+00



PAVEMENT MARKING EPOXY 4-INCH
(YELLOW CENTERLINE)

PAVEMENT MARKING EPOXY 4-INCH
(WHITE EDGELINE)

CTH V

MATCH LINE STA 354+00

2



PAVEMENT MARKING EPOXY 4-INCH
(WHITE EDGELINE)

PAVEMENT MARKING EPOXY 4-INCH
(YELLOW CENTERLINE)

CTH V

MATCH LINE STA 354+00

MATCH LINE STA 368+00

PROJECT NO:5843-00-70

HWY:CTH V

COUNTY:COLUMBIA

PERMANENT SIGNING & PAVEMENT MARKING

SHEET

E

FILE NAME : T:\410520\DGN\0520023204_ps.dgn

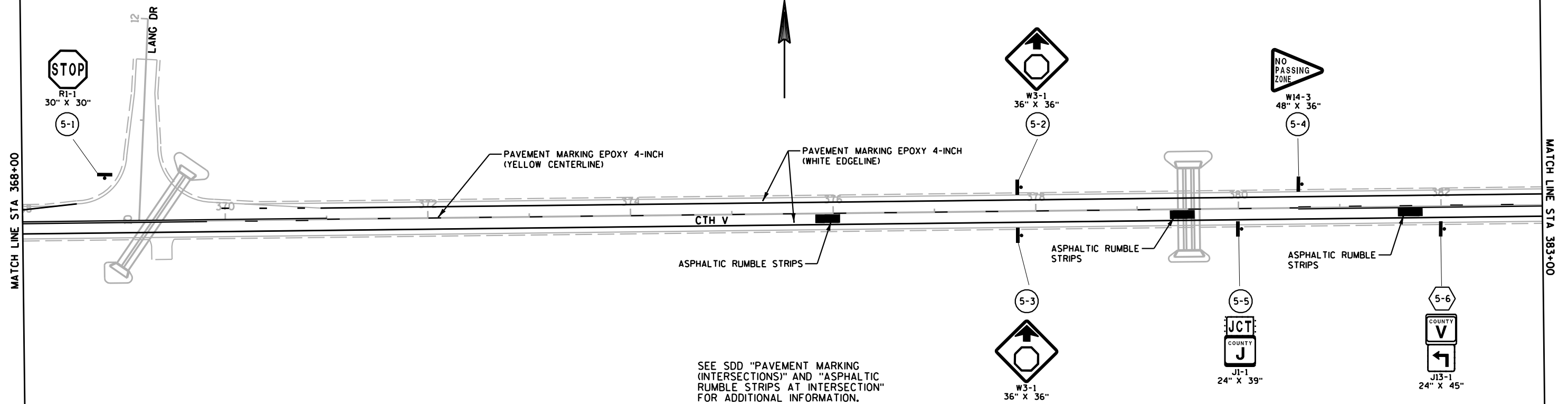
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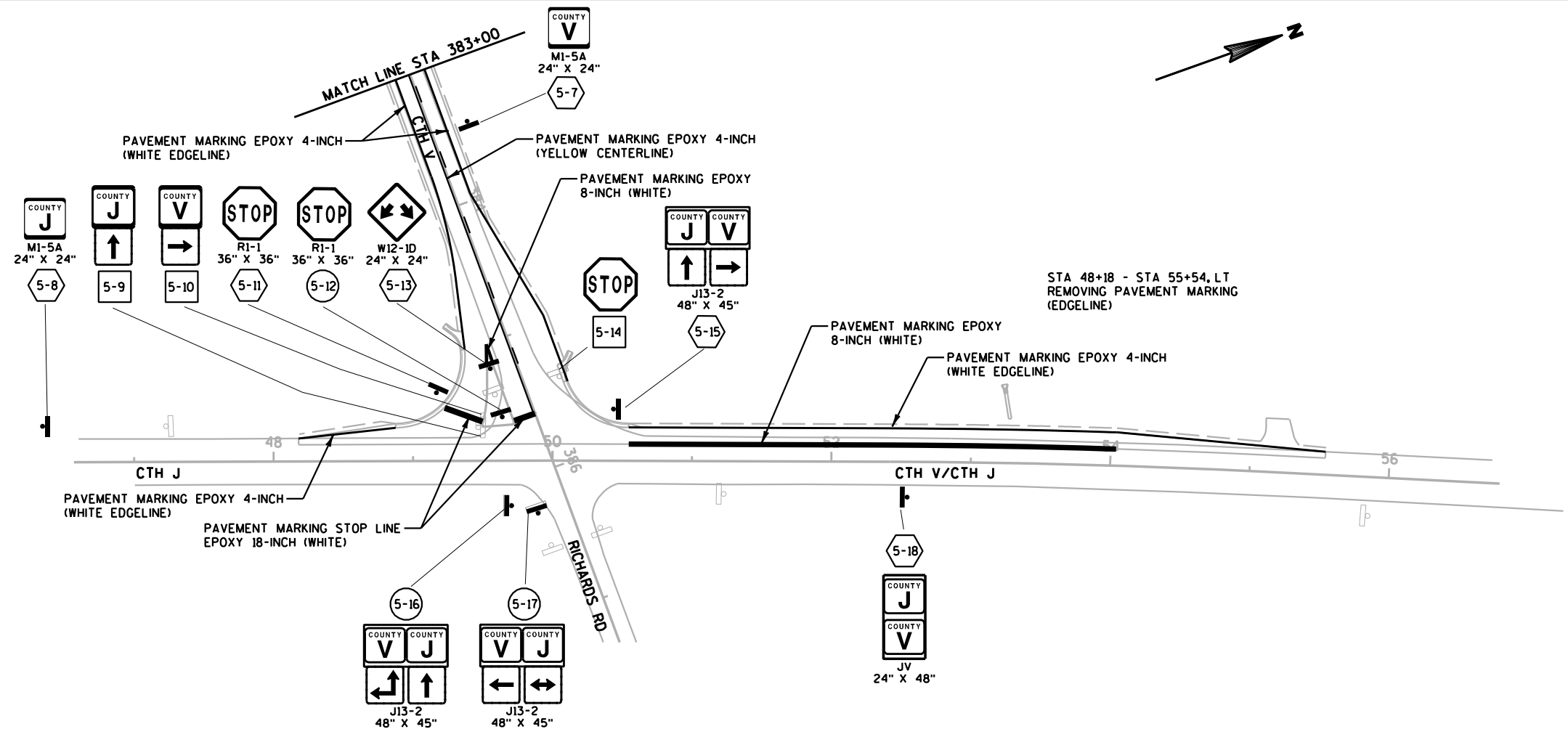
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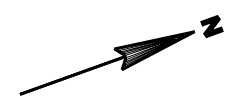
PLOT SCALE : 1:100

WISDOT/CADDs SHEET 42



- SIGN-REMOVE AND REPLACE
- SIGN-REMOVE EXISTING
- SIGN-PLACE NEW



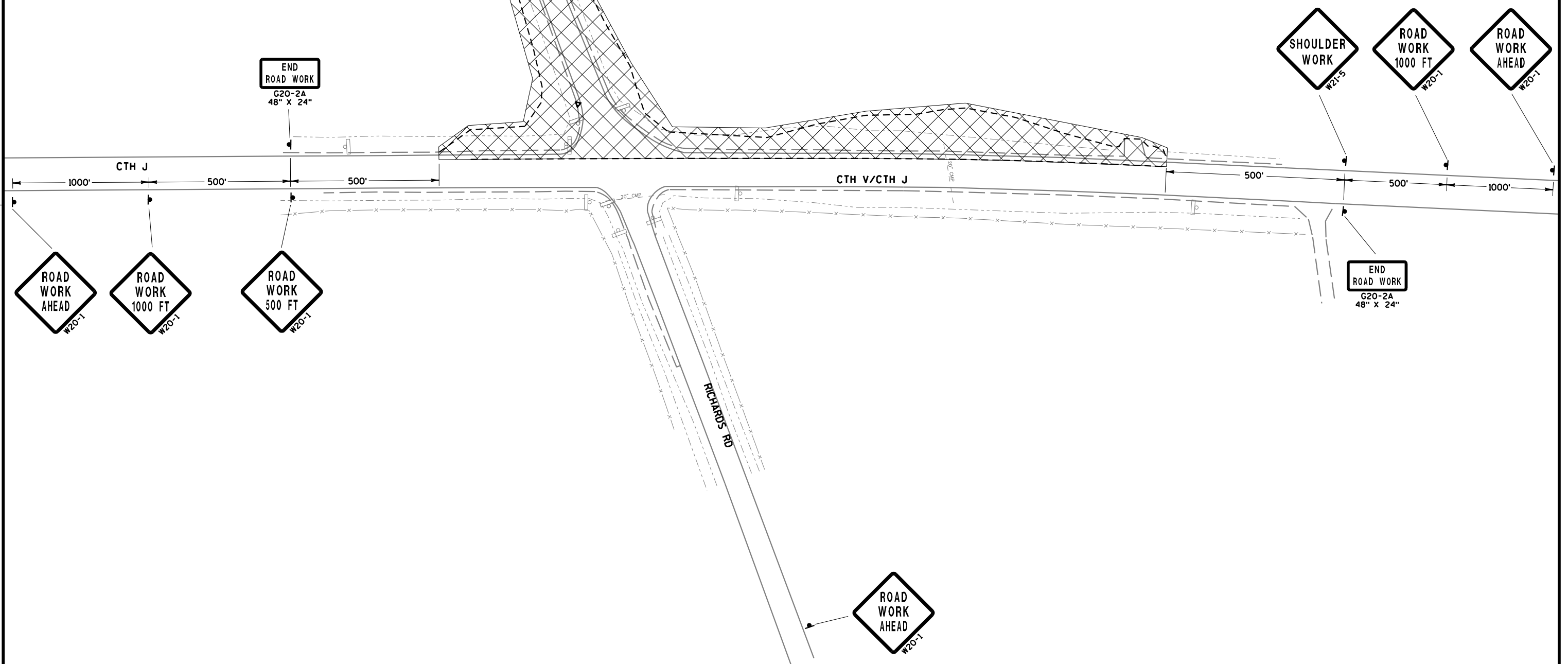


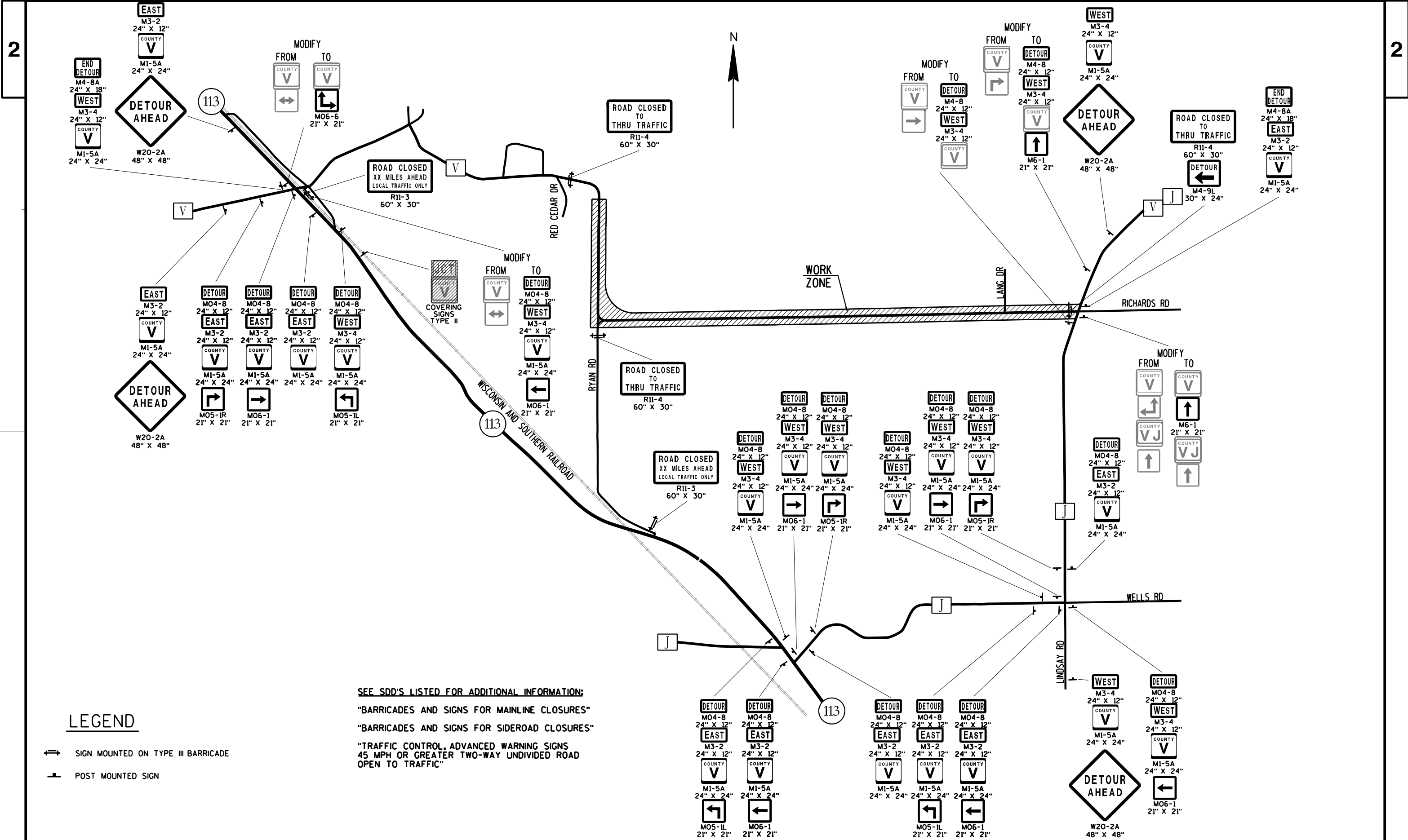
SEE SDD'S LISTED FOR ADDITIONAL INFORMATION:

"TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)"

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

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





LEGEND

- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

SEE SDD'S LISTED FOR ADDITIONAL INFORMATION:
"BARRICADES AND SIGNS FOR MAINLINE CLOSURES"
"BARRICADES AND SIGNS FOR SIDEROAD CLOSURES"
"TRAFFIC CONTROL, ADVANCED WARNING SIGNS
45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD
OPEN TO TRAFFIC"

DATE 20NOV14		E S T I M A T E O F Q U A N T I T I E S			
LINE		5843-00-70			
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	201.0105	CLEARING	STA	21.000	21.000
0020	201.0120	CLEARING	ID	101.000	101.000
0030	201.0205	GRUBBING	STA	21.000	21.000
0040	201.0220	GRUBBING	ID	101.000	101.000
0050	203.0100	REMOVING SMALL PIPE CULVERTS	EACH	34.000	34.000
0060	203.0500.S	REMOVING OLD STRUCTURE OVER WATERWAY (STATION) 01. 295+80	LS	1.000	1.000
0070	203.0500.S	REMOVING OLD STRUCTURE OVER WATERWAY (STATION) 02. 369+29	LS	1.000	1.000
0080	203.0500.S	REMOVING OLD STRUCTURE OVER WATERWAY (STATION) 03. 379+51	LS	1.000	1.000
0090	204.0170	REMOVING FENCE	LF	2,400.000	2,400.000
0100	204.0180	REMOVING DELINEATORS AND MARKERS	EACH	20.000	20.000
0110	205.0100	EXCAVATION COMMON	CY	41,283.000	41,283.000
0120	205.0200	EXCAVATION ROCK	CY	102.000	102.000
0130	209.0100	BACKFILL GRANULAR	CY	3,000.000	3,000.000
0140	210.0100	BACKFILL STRUCTURE	CY	1,115.000	1,115.000
0150	213.0100	FINISHING ROADWAY (PROJECT) 01. 5843-00-70	EACH	1.000	1.000
0160	214.0100	OBLITERATING OLD ROAD	STA	8.400	8.400
0170	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	3,317.000	3,317.000
0180	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	18,100.000	18,100.000
0190	305.0502.S	SHAPING ROADWAY	STA	92.000	92.000
0200	325.0100	PULVERIZE AND RELAY	SY	24,700.000	24,700.000
0210	440.4410.S	INCENTIVE IRI RIDE	DOL	10,024.000	10,024.000
0220	455.0105	ASPHALTIC MATERIAL PG58-28	TON	791.000	791.000
0230	455.0605	TACK COAT	GAL	3,572.000	3,572.000
0240	460.1101	HMA PAVEMENT TYPE E-1	TON	14,328.000	14,328.000
0250	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	9,480.000	9,480.000
0260	465.0120	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	TON	156.000	156.000
0270	465.0305	ASPHALTIC SURFACE SAFETY ISLANDS	TON	11.000	11.000
0280	465.0315	ASPHALTIC FLUMES	SY	42.000	42.000
0290	465.0450	ASPHALTIC INTERSECTION RUMBLE STRIPS	SY	75.000	75.000
0300	504.0900	CONCRETE MASONRY ENDWALLS	CY	40.000	40.000
0310	520.1024	APRON ENDWALLS FOR CULVERT PIPE 24-INCH	EACH	13.000	13.000
0320	520.1030	APRON ENDWALLS FOR CULVERT PIPE 30-INCH	EACH	2.000	2.000
0330	520.7000	CLEANING CULVERT PIPES	EACH	1.000	1.000
0340	520.8000	CONCRETE COLLARS FOR PIPE	EACH	1.000	1.000
0350	521.0118	CULVERT PIPE CORRUGATED STEEL 18-INCH	LF	282.000	282.000
0360	521.0124	CULVERT PIPE CORRUGATED STEEL 24-INCH	LF	572.000	572.000
0370	521.0130	CULVERT PIPE CORRUGATED STEEL 30-INCH	LF	58.000	58.000
0380	521.0764	PIPE ARCH CORRUGATED STEEL 64X43-INCH	LF	466.000	466.000
0390	521.1518	APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 18-INCH 6 TO 1	EACH	22.000	22.000
0400	521.1524	APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 24-INCH 6 TO 1	EACH	16.000	16.000
0410	522.0124	CULVERT PIPE REINFORCED CONCRETE CLASS III 24-INCH	LF	112.000	112.000
0420	522.1024	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	EACH	2.000	2.000
0430	524.0118	CULVERT PIPE SALVAGED 18-INCH	LF	56.000	56.000
0440	524.0618	APRON ENDWALLS FOR CULVERT PIPE SALVAGED 18-INCH	EACH	2.000	2.000
0450	601.0120	CONCRETE CURB TYPE J	LF	127.000	127.000

DATE 20NOV14		E S T I M A T E O F Q U A N T I T I E S			
LINE				5843-00-70	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0460	601.0557	CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE D	LF	1,969.000	1,969.000
0470	606.0200	RIPRAP MEDIUM	CY	145.000	145.000
0480	606.0300	RIPRAP HEAVY	CY	185.000	185.000
0490	611.0627	INLET COVERS TYPE HM	EACH	1.000	1.000
0500	611.0642	INLET COVERS TYPE MS	EACH	2.000	2.000
0510	611.3230	INLETS 2X3-FT	EACH	1.000	1.000
0520	611.3902	INLETS MEDIAN 2 GRATE	EACH	1.000	1.000
0530	619.1000	MOBILIZATION	EACH	1.000	1.000
0540	624.0100	WATER	MGAL	480.000	480.000
0550	625.0500	SALVAGED TOPSOIL	SY	51,602.000	51,602.000
0560	627.0200	MULCHING	SY	82,950.000	82,950.000
0570	628.1504	SILT FENCE	LF	22,140.000	22,140.000
0580	628.1520	SILT FENCE MAINTENANCE	LF	22,140.000	22,140.000
0590	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	4.000	4.000
0600	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	6.000	6.000
0610	628.2002	EROSION MAT CLASS I TYPE A	SY	14,312.000	14,312.000
0620	628.2004	EROSION MAT CLASS I TYPE B	SY	470.000	470.000
0630	628.7005	INLET PROTECTION TYPE A	EACH	4.000	4.000
0640	628.7015	INLET PROTECTION TYPE C	EACH	3.000	3.000
0650	628.7504	TEMPORARY DITCH CHECKS	LF	995.000	995.000
0660	628.7555	CULVERT PIPE CHECKS	EACH	85.000	85.000
0670	628.7570	ROCK BAGS	EACH	324.000	324.000
0680	629.0210	FERTILIZER TYPE B	CWT	66.000	66.000
0690	630.0120	SEEDING MIXTURE NO. 20	LB	2,250.000	2,250.000
0700	630.0140	SEEDING MIXTURE NO. 40	LB	460.000	460.000
0710	630.0200	SEEDING TEMPORARY	LB	2,250.000	2,250.000
0720	633.5200	MARKERS CULVERT END	EACH	17.000	17.000
0730	634.0410	POSTS WOOD 4X4-INCH X 10-FT	EACH	1.000	1.000
0740	634.0614	POSTS WOOD 4X6-INCH X 14-FT	EACH	6.000	6.000
0750	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	13.000	13.000
0760	634.0618	POSTS WOOD 4X6-INCH X 18-FT	EACH	1.000	1.000
0770	637.0620	SIGN FLAGS PERMANENT TYPE II	EACH	4.000	4.000
0780	637.2210	SIGNS TYPE II REFLECTIVE H	SF	105.500	105.500
0790	637.2230	SIGNS TYPE II REFLECTIVE F	SF	84.750	84.750
0800	638.2602	REMOVING SIGNS TYPE II	EACH	31.000	31.000
0810	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	18.000	18.000
0820	642.5001	FIELD OFFICE TYPE B	EACH	1.000	1.000
0830	643.0100	TRAFFIC CONTROL (PROJECT) 01. 5843-00-70	EACH	1.000	1.000
0840	643.0300	TRAFFIC CONTROL DRUMS	DAY	300.000	300.000
0850	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	1,055.000	1,055.000
0860	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	2,110.000	2,110.000
0870	643.0900	TRAFFIC CONTROL SIGNS	DAY	1,480.000	1,480.000
0880	643.0920	TRAFFIC CONTROL COVERING SIGNS TYPE II	EACH	1.000	1.000
0890	643.2000	TRAFFIC CONTROL DETOUR (PROJECT) 01. 5843-00-70	EACH	1.000	1.000
0900	643.3000	TRAFFIC CONTROL DETOUR SIGNS	DAY	10,030.000	10,030.000
0910	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	785.000	785.000
0920	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	47,005.000	47,005.000
0930	646.0126	PAVEMENT MARKING EPOXY 8-INCH	LF	382.000	382.000
0940	646.0600	REMOVING PAVEMENT MARKINGS	LF	611.000	611.000
0950	647.0566	PAVEMENT MARKING STOP LINE EPOXY 18-INCH	LF	67.000	67.000
0960	648.0100	LOCATING NO-PASSING ZONES	MI	2.500	2.500
0970	650.4000	CONSTRUCTION STAKING STORM SEWER	EACH	4.000	4.000

DATE 20NOV14		E S T I M A T E O F Q U A N T I T I E S			
LINE					5843-00-70
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0980	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	4,015.000	4,015.000
0990	650.5000	CONSTRUCTION STAKING BASE	LF	13,232.000	13,232.000
1000	650.5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	LF	2,096.000	2,096.000
1010	650.6000	CONSTRUCTION STAKING PIPE CULVERTS	EACH	27.000	27.000
1020	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 01. B-11-0162	LS	1.000	1.000
1030	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 02. C-11-2050	LS	1.000	1.000
1040	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 03. B-11-0163	LS	1.000	1.000
1050	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 5843-00-70	LS	1.000	1.000
1060	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	13,232.000	13,232.000
1070	690.0150	SAWING ASPHALT	LF	1,032.000	1,032.000
1080	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT \$5.00/HR	HRS	300.000	300.000
1090	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT \$5.00/HR	HRS	250.000	250.000
1100	SPV.0090	SPECIAL 01. PIPE ARCH CORRUGATED STEEL 103X71-INCH	LF	164.000	164.000

REMOVALS

		201.0105	201.0120	201.0205	201.0220	204.0170	204.0180			
		CLEARING		GRUBBING		REMOVING FENCE	REMOVING DELINEATORS AND MARKERS			
STATION	TO STATION	ROADWAY	LOCATION	STA	ID	STA	ID	LF	EACH	
259+00	- 261+00	CTH V	RT	2	--	2	--	--	--	
	262+41	CTH V	LT	--	12	--	12	--	--	
	262+60	CTH V	LT	--	12	--	12	--	--	
264+00	- 268+00	CTH V	LT-RT	4	--	4	--	--	--	
273+00	- 276+00	CTH V	LT-RT	3	--	3	--	--	--	
295+50	- 296+50	CTH V	LT	1	--	1	--	--	--	
	315+53	CTH V	LT	--	14	--	14	--	--	
	320+79	CTH V	LT	--	20	--	20	--	--	
329+00	- 331+00	CTH V	LT	2	--	2	--	--	--	
329+45	- 330+13	CTH V	LT	--	--	--	--	80	--	
330+85	- 331+59	CTH V	LT	--	--	--	--	85	--	
331+93	- 333+79	CTH V	LT	--	--	--	--	205	--	
332+00	- 335+00	CTH V	RT	3	--	3	--	--	--	
334+83	- 339+58	CTH V	LT	--	--	--	--	480	--	
336+00	- 341+00	CTH V	RT	5	--	5	--	--	--	
342+00	- 343+00	CTH V	RT	1	--	1	--	--	--	
	343+44	CTH V	LT	--	12	--	12	--	--	
345+28	- 355+44	CTH V	LT	--	--	--	--	1050	--	
	347+76	CTH V	LT	--	12	--	12	--	--	
	353+77	CTH V	LT	--	9	--	9	--	--	
356+00	- 361+00	CTH V	LT	--	--	--	--	500	--	
	361+47	CTH V	LT	--	10	--	10	--	--	
UNDISTRIBUTED				--	--	--	--	--	20	
TOTALS				21	101	21	101	2400	20	

EARTHWORK SUMMARY

		(1) 205.0100 EXCAVATION COMMON CUT (2) CY	(1) SALVAGED/ UNUSABLE PAVEMENT EBS CY	205.0200 EXCAVATION ROCK CY	(4)(7) 209.0100 BACKFILL GRANULAR CY	(5) AVAILABLE MATERIAL CY	(6) EXPANDED FILL CY	WASTE CY		
STATION TO STATION	LOCATION									
253+50 - 385+50 (3)	CTH V	33942	2221	1050	102		33004	20371	22687	10317
43+00 - 50+00 (3)	RYAN RD	1355	646	50			1305	2426	2225	-920
10+50 - 12+00	LANG DR	212					212	24	30	182
48+50 - 55+50	CTH V/CTH J	407		30			377	705	881	-504
UNDISTRIBUTED			2500		3000					
TOTALS		35916	5367	1130	102	3000	34898	23525	25823	9075
BID ITEM TOTALS		41283		102	3000					

- (1) EXCAVATION COLUMN IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS.ITEM NUMBER 205.0100
(2) SALVAGED/UNUSABLE PAVEMENT MATERIAL LOCATED WITHIN THE RECONSTRUCTION AREAS IS INCLUDED IN CUT QUANTITY.
(3) COMPUTED EBS QUANTITY FOR CTH V AND RYAN ROAD IS DUE TO EXCESS TOPSOIL AND DOES NOT REQUIRE SELECT BORROW AS BACKFILL (EXPANDED FILL QUANTITY ACCOUNTS FOR REQUIRED BACKFILL MATERIAL).
(4) SELECT BORROW QUANTITY EQUALS EBS(UNDISTRIBUTED)* 1.2
(5) AVAILABLE MATERIAL = CUT + ROCK*(1.1) - SALVAGED/UNUSABLE PAVEMENT
(6) EXPANDED FILL. FACTOR = 1.25
(7) USE BACKFILL GRANULAR TYPE 2.

REMOVING SMALL CULVERT PIPES

STATION	ROADWAY	LOCATION	SIZE INCHES	MATERIAL	LENGTH FEET	203.0100 EACH	COMMENTS
260+04	CTH V	RT	18	CMCP	25	1	
261+43	CTH V	RT	16	CMCP	39	1	
265+74	CTH V	RT	16	CMCP	24	1	
268+40	CTH V	LT-RT	16	CMCP	40	1	
286+34	CTH V	LT	18	CMCP	25	1	
299+54	CTH V	LT	24	CMCP	24	1	
307+49	CTH V	LT-RT	24	CMCP	38	1	
310+28	CTH V	LT	20	CMCP	36	2	
313+14	CTH V	RT	18	CMCP	55	1	
313+23	CTH V	LT	18	CMCP	35	1	
316+65	CTH V	LT	16	CMCP	30	1	
317+45	CTH V	LT	16	CMCP	22	1	
320+35	CTH V	LT-RT	32	CMCP	39	1	
321+10	CTH V	LT	18	CMCP	23	1	
323+18	CTH V	LT-RT	24	CMCP	36	1	
323+95	CTH V	LT	18	CMCP	27	2	
327+00	CTH V	LT	20	CMCP	40	1	
330+72	CTH V	LT	20	CMCP	25	1	
331+81	CTH V	LT	20	CMCP	24	1	
334+90	CTH V	LT-RT	18	CMCP	39	1	
339+70	CTH V	LT	18	CMCP	25	1	
342+00	CTH V	LT-RT	24	CMCP	50	1	
342+21	CTH V	LT	12	PVC	28	1	
344+30	CTH V	LT	12	PVC	30	1	
355+57	CTH V	LT	24	CMCP	34	1	
356+15	CTH V	LT-RT	30	CMCP	40	1	
361+33	CTH V	RT	22	CMCP	12	1	
361+54	CTH V	LT-RT	24	CMCP	43	1	
362+86	CTH V	LT	16	CMCP	26	1	
53+28	CTH JV	LT	20	CMCP	--	1	ENDWALL ONLY
46+30	RYAN RD	LT	18	CMCP	30	1	
48+00	RYAN RD	LT	18	CMCP	37	1	
TOTALS						34	

FINISHING ROADWAY

LOCATION	213.0100 EACH
PROJECT	1
TOTAL	1

OBLITERATING OLD ROAD

LOCATION	214.0100 STA
OLD NB/SB CTH V	3.6
OLD EB/WB CTH V	4.8
TOTAL	8.4

AGGREGATES

					305.0110	305.0120	
					BASE AGGREGATE DENSE		
					3/4 - INCH	1 1/4 - INCH	
STATION	TO	STATION	ROADWAY	LOCATION	TON	TON	NOTES
253+50	-	263+50	CTH V	RT & LT	190	3500	RECONSTRUCT
263+50	-	271+00	CTH V	RT & LT	70	2750	RECONSTRUCT
271+00	-	283+65	CTH V	RT & LT	240	4360	RECONSTRUCT
283+65	-	341+50	CTH V	RT & LT	1070	--	REHAB
341+50	-	351+50	CTH V	RT & LT	100	3660	RECONSTRUCT
351+50	-	361+50	CTH V	RT & LT	190	--	REHAB
361+50	-	363+25	CTH V	RT & LT	17	--	REHAB
363+25	-	385+83	CTH V	RT & LT	420	--	REHAB
44+00	-	49+46	RYAN RD	RT & LT	140	1860	RECONSTRUCT
10+02	-	11+54	LANG DR	RT & LT	40	690	RECONSTRUCT
48+18	-	55+54	CTH V & CTH V/CTH J	LT	80	1280	WIDENING
253+50	-	385+73	CTH V	RT & LT	460	--	GRAVEL DRIVEWAYS
253+50		385+73	CTH V	RT & LT	300	--	ASPHALT DRIVEWAYS

TOTALS					3317	18100	
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SHAPING ROADWAY

				305.0502.S
STATION	TO	STATION	ROADWAY	STA
283+65	-	341+50	CTH V	58
351+50	-	385+83	CTH V	34

TOTAL				92
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PULVERIZE AND RELAY

				325.0100
STATION	TO	STATION	ROADWAY	SY
283+65	-	341+50	CTH V	15500
351+50	-	385+83	CTH V	9200

TOTAL				24700
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ANCILLARY CONCRETE AND ASPHALT FLUMES

						465.0315	601.0120	601.0557
						ASPHALTIC	CONCRETE	CONCRETE CURB &
						FLUMES	CURB	GUTTER 6-INCH SLOPED
STATION	TO	STATION	ROADWAY	LOCATION	SY	LF	TYPE J	36-INCH TYPE D
263+42		263+50	CTH V	RT	7	--		--
263+50		271+00	CTH V	RT	--	--		750
342+37		342+45	CTH V	LT	7	--		--
342+45		351+50	CTH V	LT	--	--		905
351+50		351+58	CTH V	LT	7	--		--
361+50		363+25	CTH V	LT	--	--		175
363+25		363+33	CTH V	LT	7	--		--
384+90		384+98	CTH V	RT	7	--		--
384+98		48+87	CTH V- CTH J	RT-LT	--	--		81
385+10		385+61	CTH V	RT	--	127		--
385+45		---	CTH V	LT	7	--		--
385+45		50+55	CTH V - CTH V/CTH J	LT	--	--		58

TOTALS					42	127		1969
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ASPHALTIC MATERIALS

						455.0105	455.0605	460.1101	465.0120	465.0305	NOTES
						ASPHALTIC	TACK	HMA	ASPHALTIC SURFACE	SAFETY	
						MATERIAL	COAT	PAVEMENT	DRIVEWAYS AND	ISLAND	
STATION	TO	STATION	ROADWAY	LOCATION	TON	PG 58-28	GAL	TYPE E-1	FIELD ENTRANCES	TON	
253+50	-	263+50	CTH V	RT & LT	55		248	1000	--	--	RECONSTRUCT
259+83	-	260+23	CTH V	RT	--		--	--	8	--	P.E.
261+21	-	261+64	CTH V	RT	--		--	--	8	--	P.E.
263+50	-	271+00	CTH V	RT & LT	44		198	795	--	--	RECONSTRUCT
265+66	-	265+86	CTH V	RT	--		--	--	12	--	P.E.
268+05	-	268+30	CTH V	RT	--		--	--	6	--	P.E.
271+00	-	283+65	CTH V	RT & LT	68		307	1230	--	--	RECONSTRUCT
283+65	-	341+50	CTH V	RT & LT	320		1440	5760	--	--	REHAB
312+93	-	313+47	CTH V	RT	--		--	--	10	--	C.E.
312+96	-	313+50	CTH V	LT	--		--	--	18	--	C.E.
318+49	-	319+09	CTH V	RT	--		--	--	19	--	P.E.
320+87	-	321+35	CTH V	LT	--		--	--	12	--	P.E.
331+59	-	332+03	CTH V	LT	--		--	--	16	--	P.E.
331+79	-	332+22	CTH V	RT	--		--	--	9	--	P.E.
334+39	-	334+90	CTH V	LT	--		--	--	9	--	P.E.
339+50	-	339+91	CTH V	LT	--		--	--	11	--	P.E.
341+50	-	342+45	CTH V	RT & LT	5		24	98	--	--	RECONSTRUCT
342+45	-	351+50	CTH V	RT & LT	53		239	960	--	--	RECONSTRUCT
351+50	-	361+50	CTH V	RT & LT	55		251	1010	--	--	REHAB
361+50	-	363+25	CTH V	RT & LT	10		46	190	--	--	REHAB
362+78	-	362+98	CTH V	LT	--		--	--	2	--	P.E.
363+25	-	385+92	CTH V	RT & LT	130		584	2340	--	--	REHAB
385+10	-	385+61	CTH V	RT	--		--	--	--	11	ISLAND PAVING
48+18	-	55+54	CTH J & CTH V/CTH J	LT	14		63	255	--	--	WIDENING
44+00	-	49+46	RYAN RD	RT & LT	27		122	490	--	--	RECONSTRUCT
46+16		46+62	RYAN RD	LT	--		--	--	16	--	P.E.
10+02	-	11+54	LANG DR	RT & LT	11		50	200	--	--	RECONSTRUCT

TOTALS					791	3572	14328		156	11
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ASPHALTIC INTERSECTION RUMBLE STRIP

				465.0450
STATION	TO	STATION	ROADWAY	SY
375+18	-	375+43	CTH V	25
378+90	-	379+15	CTH V	25
381+30		381+55	CTH V	25

TOTAL				75
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DRAINAGE ITEMS

			520.1024	520.1030	520.7000	520.8000	521.0118	521.0124	521.0130				521.1518	521.1524	524.0118	524.0618	***
			APRON ENDWALLS FOR CULVERT PIPE		CLEANING CULVERT	CONCRETE COLLARS	CULVERT PIPE CORRUGATED STEEL				APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL		CULVERT PIPE SALVAGED	APRON ENDWALLS FOR CULVERT PIPE	633.5200		
			24-INCH EACH	30-INCH EACH	PIPES EACH	FOR PIPE EACH	18-INCH LF	24-INCH LF	30-INCH LF	THICKNESS INCHES	18-INCH 6 TO 1 EACH		24-INCH 6 TO 1 EACH	18-INCH LF	18-INCH EACH	END EACH	
260+04	CTH V	RT	--	--	--	--	18	--	--	0.064	2	--	--	--	--	--	
261+43	CTH V	RT	--	--	--	--	22	--	--	0.064	2	--	--	--	--	--	
277+50	CTH V	RT-LT	2	--	--	--	--	98	--	0.064	--	--	--	--	--	2	
290+00	CTH V	RT	--	--	--	--	--	32	--	0.064	--	2	--	--	--	--	
299+54	CTH V	LT	--	--	--	--	--	20	--	0.064	--	2	--	--	--	--	
307+49	CTH V	RT-LT	2	--	--	--	--	58	--	0.064	--	--	--	--	--	2	
310+28	CTH V	LT	--	--	--	--	40	--	--	0.064	4	--	--	--	--	--	
313+20	CTH V	RT	--	--	--	--	--	--	--	0.064	2	--	56	2	--	--	
313+23	CTH V	LT	--	--	--	--	38	--	--	0.064	2	--	--	--	--	--	
316+65	CTH V	LT	--	--	--	--	22	--	--	0.064	2	--	--	--	--	--	
317+45	CTH V	LT	--	--	--	--	26	--	--	0.064	2	--	--	--	--	--	
320+35	CTH V	RT-LT	2	--	--	--	--	58	--	0.064	--	--	--	--	--	2	
321+10	CTH V	LT	--	--	--	--	26	--	--	0.064	2	--	--	--	--	--	
323+18	CTH V	RT-LT	2	--	--	--	--	52	--	0.064	--	--	--	--	--	2	
323+95	CTH V	LT	--	--	--	--	--	22	--	0.064	--	2	--	--	--	--	
327+00	CTH V	LT	--	--	--	--	30	--	--	0.064	--	2	--	--	--	--	
330+72	CTH V	LT	--	--	--	--	--	20	--	0.064	--	2	--	--	--	--	
331+81	CTH V	LT	--	--	--	--	--	22	--	0.064	--	2	--	--	--	--	
334+90	CTH V	RT-LT	2	--	--	--	--	58	--	0.064	--	--	--	--	--	2	
339+70	CTH V	LT	--	--	--	--	22	--	--	0.064	2	--	--	--	--	--	
355+57	CTH V	LT	--	--	--	--	--	22	--	0.064	--	2	--	--	--	--	
356+15	CTH V	RT-LT	--	2	--	--	--	--	58	0.079	--	--	--	--	--	2	
361+33	CTH V	RT	--	--	--	--	--	22	--	0.064	--	2	--	--	--	--	
361+50	CTH V	RT-LT	2	--	--	--	--	66	--	0.064	--	--	--	--	--	2	
46+30	RYAN RD	LT	--	--	--	--	38	--	--	0.064	2	--	--	--	--	--	
53+33	CTH V/CTH J	LT	1	--	1	1	--	22	--	0.064	--	--	--	--	--	1	
TOTALS			13	2	1	1	282	572	58		22	16	56	2		15	
PROJECT TOTALS			13	2	1	1	282	572	58		22	16	56	2		17	

*** ITEMS FOUND ELSEWHERE IN PLAN

STORM SEWER

			522.0124	522.1024	611.0627	611.0642	611.3230	611.3902			633.5200	
			CULVERT PIPE REINFORCED	APRON ENDWALLS FOR	INLET	INLET		INLETS	*		MARKERS	
			CONCRETE CLASS III	CULVERT PIPE REINFORCED	COVERS	COVERS	INLETS	MEDIAN 2	INLET	INLET	OUTFALL	
			24-INCH	CONCRETE 24-INCH	TYPE HM	TYPE MS	2X3-FT	GRATE	RIM	INVERT	INVERT	
STATION	ROADWAY	LOCATION	LF	EACH	EACH	EACH**	EACH	EACH	ELEV	ELEV	ELV	END
268+40	CTH V	RT-LT	48	1	1	--	1	--	868.33	864.30	863.72	1
342+20	CTH V	RT-LT	64	1	--	2	--	1	958.00	954.97	954.33	1
TOTALS			112	2	1	2	1	1	2			
PROJECT TOTALS			112	2	1	2	1	1	17			

*RIM ELEVATION REFRENCED AT FLOWLINE OF INLET
**MS INLETS COVERS SHALL BE FLAT
*** ITEMS FOUND ELSEWHERE IN PLAN

EROSION CONTROL															
STATION	TO	STATION	ROADWAY	LOCATION	606.0200	628.1504	628.1520	628.2002	628.2004	628.7005	628.7015	628.7504	628.7555	628.7570	645.0120
					RIPRAP	SILT	SILT	EROSION MAT		INLET PROTECTION		TEMPORARY	CULVERT	ROCK	GEOTEXTILE
					MEDIUM	FENCE	FENCE	CLASS I	TYPE B	TYPE A	TYPE C	DITCH	PIPE	BAGS	FABRIC
					CY	LF	LF	TYPE A	SY	TYPE A	TYPE C	CHECKS	CHECKS	EACH	TYPE HR
								SY		EACH		LF	EACH		SY
253+50	-	253+92	CTH V	LT	--	65	65	--	--	--	--	--	--	--	--
254+28	-	265+17	CTH V	LT	--	1115	1115	--	--	--	--	--	--	--	--
258+00	-	264+50	CTH V	LT	--	--	--	--	--	--	--	210	--	--	--
		260+21	CTH V	RT	--	--	--	--	--	--	--	--	2	--	--
		261+62	CTH V	RT	--	--	--	--	--	--	--	--	2	--	--
263+00	-	265+00	CTH V	LT	--	--	--	215	--	--	--	--	--	--	--
		263+44	CTH V	RT	1.5	--	--	--	--	--	--	--	--	--	8
264+50	-	267+50	CTH V	RT	--	--	--	700	--	--	--	--	--	--	--
265+32	-	286+17	CTH V	LT	--	2080	2080	--	--	--	--	--	--	--	--
267+50	-	270+00	CTH V	LT	--	--	--	380	--	--	--	--	--	--	--
		268+40	CTH V	RT-LT	4	--	--	--	--	1	1	--	--	--	13
270+00	-	272+22	CTH V	RT	--	--	--	375	--	--	--	--	--	--	--
		277+20	CTH V	RT	--	--	--	--	--	--	--	--	3	--	--
		277+81	CTH V	RT	7	--	--	--	--	--	--	--	--	--	19
283+00	-	286+35	CTH V	RT	--	360	360	--	--	--	--	--	--	--	--
286+51	-	299+43	CTH V	LT	--	1345	1345	--	--	--	--	--	--	--	--
288+00	-	293+62	CTH V	LT	--	--	--	1130	--	--	--	--	--	--	--
289+00	-	293+00	CTH V	LT	--	--	--	--	--	--	--	105	--	--	--
289+00	-	292+00	CTH V	RT	--	--	--	--	--	--	--	45	--	--	--
		289+74	CTH V	RT	--	--	--	--	--	--	--	--	3	--	--
		290+25	CTH V	RT	7	--	--	--	--	--	--	--	--	--	19
290+16	-	292+00	CTH V	RT	--	--	--	215	--	--	--	--	--	--	--
293+18	-	308+25	CTH V	RT	--	1700	1700	--	--	--	--	--	--	--	--
		299+35	CTH V	LT	7	--	--	--	--	--	--	--	--	--	19
		299+73	CTH V	LT	--	--	--	--	--	--	--	--	3	--	--
299+64	-	310+20	CTH V	LT	--	1110	1110	--	--	--	--	--	--	--	--
302+00	-	316+00	CTH V	LT	--	--	--	--	--	--	--	255	--	--	--
305+00	-	307+00	CTH V	LT	--	--	--	205	--	--	--	--	--	--	--
307+00	-	310+00	CTH V	RT	--	--	--	430	--	--	--	--	--	--	--
		370+50	CTH V	RT-LT	7	--	--	--	--	--	--	--	3	--	19
309+72	-	312+83	CTH V	RT	--	335	335	--	--	--	--	--	--	--	--
		310+09	CTH V	LT	7	--	--	--	--	--	--	--	--	--	19
		310+47	CTH V	LT	--	--	--	--	--	--	--	--	3	--	--
310+37	-	312+02	CTH V	LT	--	290	290	--	--	--	--	--	--	--	--
		312+96	CTH V	LT	--	--	--	--	--	--	--	--	--	--	--
		313+02	CTH V	LT	4.5	--	--	--	--	--	--	--	--	--	14
		313+50	CTH V	RT-LT	--	--	--	--	--	--	--	--	4	--	--
313+46	-	316+50	CTH V	LT	--	325	325	--	--	--	--	--	--	--	--
313+49	-	315+02	CTH V	RT	--	180	180	--	--	--	--	--	--	--	--
314+00	-	316+50	CTH V	LT	--	--	--	290	--	--	--	--	--	--	--
316+00	-	318+60	CTH V	RT	--	280	280	--	--	--	--	--	--	--	--
		316+43	CTH V	LT	--	--	--	10	--	--	--	--	--	--	--
316+69	-	317+36	CTH V	LT	--	90	90	--	--	--	--	--	--	--	--
316+72	-	317+34	CTH V	LT	--	--	--	90	--	--	--	--	--	--	--
317+57	-	319+00	CTH V	LT	--	--	--	240	--	--	--	--	--	--	--
317+57	-	321+00	CTH V	LT	--	400	400	--	--	--	--	--	--	--	--
		316+76	CTH V	LT	--	--	--	--	--	--	--	--	2	--	--
		317+66	CTH V	LT	--	--	--	--	--	--	--	--	2	--	--
319+02	-	323+72	CTH V	RT	--	525	525	--	--	--	--	--	--	--	--
320+00	-	322+00	CTH V	RT	--	--	--	380	--	--	--	--	--	--	--

QUANTITIES CONTINUED ON NEXT PAGE

QUANTITIES CONTINUED FROM PREVIOUS PAGE

				EROSION CONTROL										
				606.0200	628.1504	628.1520	628.2002	628.2004	628.7005	628.7015	628.7504	628.7555	628.7570	645.0120
				RIPRAP	SILT	SILT	EROSION MAT		INLET PROTECTION		TEMPORARY	CULVERT	ROCK	GEOTEXTILE
				MEDIUM	FENCE	FENCE	CLASS I		TYPE A	TYPE C	DITCH	PIPE	BAGS	FABRIC
						MAINTENANCE	TYPE A	TYPE B			CHECKS	CHECKS		TYPE HR
320+87	-	320+34	CTH V	RT-LT	7	--	--	--	--	--	--	3	--	19
	-	320+96	CTH V	LT	--	--	9	--	--	--	--	--	--	--
		321+32	CTH V	LT	--	--	--	--	--	--	--	2	--	--
		323+18	CTH V	RT-LT	7	--	--	--	--	--	--	3	--	19
		323+76	CTH V	LT	7	--	--	--	--	--	--	--	--	19
324+02	-	324+15	CTH V	LT	--	--	--	--	--	--	--	3	--	--
	-	331+89	CTH V	RT	--	810	810	--	--	--	--	--	--	--
	-	326+85	CTH V	LT	--	300	300	--	--	--	--	--	--	--
		326+75	CTH V	LT	4.5	--	--	--	--	--	--	--	--	14
		327+22	CTH V	LT	--	--	--	--	--	--	--	2	--	--
327+12	-	330+68	CTH V	LT	--	380	380	--	--	--	--	--	--	--
		330+53	CTH V	LT	7	--	--	--	--	--	--	--	--	19
		330+91	CTH V	LT	--	--	--	--	--	--	--	3	--	--
	-	331+71	CTH V	LT	--	110	110	--	--	--	--	--	--	--
		331+62	CTH V	LT	7	--	--	--	--	--	--	--	--	19
331+92	-	332+00	CTH V	LT	--	--	--	--	--	--	--	3	--	--
	-	334+62	CTH V	LT	--	295	295	--	--	--	--	--	--	--
	-	335+69	CTH V	RT	--	395	395	--	--	--	--	--	--	--
	-	350+85	CTH V	LT	--	--	4720	--	--	--	--	--	--	--
	-	341+50	CTH V	LT	--	--	--	--	--	--	--	--	140	--
333+00	-	335+70	CTH V	RT	--	--	430	--	--	--	--	--	--	--
	-	338+62	CTH V	LT	--	550	550	--	--	--	--	--	--	--
		334+85	CTH V	RT-LT	7	--	--	--	--	--	--	3	--	19
	-	343+49	CTH V	RT	--	785	785	--	--	--	--	--	--	--
	-	340+69	CTH V	RT	--	--	815	--	--	--	--	--	--	--
339+80		339+52	CTH V	LT	4.5	--	--	--	--	--	--	--	--	14
		339+88	CTH V	LT	--	--	--	--	--	--	--	2	--	--
	-	341+77	CTH V	LT	--	220	220	265	--	--	--	--	--	--
		342+20	CTH V	RT-LT	4	--	--	--	1	--	--	--	--	13
	-	355+46	CTH V	LT	--	1410	1410	--	--	--	--	--	--	--
343+50	-	345+00	CTH V	RT	--	--	--	--	--	--	--	--	28	--
	-	349+00	CTH V	RT	--	--	315	--	--	--	--	--	--	--
		348+00	CTH V	RT	--	--	--	--	--	--	15	--	--	--
	-	350+50	CTH V	RT	--	--	--	--	--	--	--	--	28	--
	-	355+51	CTH V	RT	--	475	475	--	--	--	--	--	--	--
351+67		351+55	CTH V	LT	1.5	--	--	--	--	--	--	--	--	8
	-	354+00	CTH V	LT	--	--	--	200	--	--	--	--	--	--
	-	354+00	CTH V	LT	--	--	--	--	--	--	--	--	63	--
	-	355+00	CTH V	LT	--	--	--	--	--	--	30	--	--	--
		355+37	CTH V	LT	--	--	--	--	--	--	--	3	--	--
355+64	-	355+76	CTH V	LT	--	--	9	--	--	--	--	--	--	--
	-	356+83	CTH V	LT	--	165	165	--	--	--	--	--	--	--
	-	359+00	CTH V	RT	--	365	365	--	--	--	--	--	--	--
		356+15	CTH V	RT-LT	9	--	--	--	--	--	--	5	--	25
	-	362+76	CTH V	LT	--	615	615	--	--	--	--	--	--	--
359+50	-	360+50	CTH V	RT-LT	--	--	--	--	--	--	75	--	--	--
	-	361+45	CTH V	LT	--	--	215	--	--	--	--	--	--	--
		361+12	CTH V	RT	--	--	--	--	--	--	--	3	--	--
		361+37	CTH V	LT	--	--	--	--	--	--	--	3	--	--
	-	361+50	CTH V	RT	--	--	9	--	--	--	--	--	--	--

QUANTITIES CONTINUED ON NEXT PAGE

QUANTITIES CONTINUED FROM PREVIOUS PAGE

<u>EROSION CONTROL</u>															
					606.0200	628.1504	628.1520	628.2002	628.2004	628.7005	628.7015	628.7504	628.7555	628.7570	645.0120
					RIPRAP	SILT	SILT	EROSION MAT				TEMPORARY	CULVERT		GEOTEXTILE
					MEDIUM	FENCE	FENCE	CLASS I		INLET PROTECTION		DITCH	PIPE	ROCK	FABRIC
							MAINTENANCE	TYPE A	TYPE B	TYPE A	TYPE C	CHECKS	CHECKS	BAGS	TYPE HR
	-	361+64	CTH V	RT	7	--	--	--	--	--	--	--	--	--	19
362+00	-	365+00	CTH V	RT	--	--	--	--	--	--	--	60	--	--	--
362+95	-	368+97	CTH V	LT	--	730	730	--	--	--	--	--	--	--	--
	-	363+31	CTH V	LT	1.5	--	--	--	--	--	--	--	--	--	8
367+50	-	368+80	CTH V	RT	--	--	--	--	175	--	--	--	--	--	--
369+46	-	55+04	CTH V - CTH V/CTH J	LT	--	2260	2260	--	--	--	--	--	--	--	--
55+34	-	55+63	CTH V/CTH J	LT	--	50	50	--	--	--	--	--	--	--	--
UNDISTRIBUTED					26	2025	2025	2865	95	2	2	200	20	65	70
TOTALS					145	22140	22140	14312	470	4	3	995	85	324	415

NOTE: RIPRAP PLACED AT THE END OF ASPHALTIC FLUMES SHOULD BE PLACED AS SHOWN FOR CONCRETE SURFACE DRAINS PER THE STANDARD DETAIL DRAWING.

MOBILIZATION	
LOCATION	619.1000 EACH
PROJECT	1
TOTAL	1
WATER	
LOCATION	624.0100 MGAL
DUST CONTROL	120
BASE COMPACTION	360
TOTAL	480

MOBILIZATIONS EROSION CONTROL		
		628.1910
		MOBILIZATIONS
		EROSION CONTROL
		EMERGENCY
		EROSION CONTROL
LOCATION	EACH	EACH
PROJECT LIMITS	4	6
TOTALS	4	6

					FINISHING ITEMS					
					625.0500	627.0200	629.0210	630.0120	630.0140	630.0200
					SALVAGED	MULCHING	FERTILIZER	SEEDING MIXTURE	SEEDING	SEEDING
					TOPSOIL		TYPE B	NO. 20	NO. 40	TEMPORARY
					SY	SY	CWT	LB	LB	LB
STATION	TO	STATION	ROADWAY	LOCATION						
253+50	-	263+50	CTH V	RT	676	1332	1	36	--	36
253+50	-	263+50	CTH V	LT	1274	1948	2	53	--	53
263+50	-	271+00	CTH V	RT	1669	1669	2	46	--	46
263+50	-	271+00	CTH V	LT	1284	1802	2	49	--	49
271+00	-	278+00	CTH V	RT	1830	2321	2	63	--	63
271+00	-	278+00	CTH V	LT	782	1264	1	35	--	35
278+00	-	341+50	CTH V	RT	9350	13279	9	359	--	359
278+00	-	341+50	CTH V	LT	11120	15377	10	416	--	416
341+50	-	351+50	CTH V	RT	1613	2319	2	63	--	63
341+50	-	351+50	CTH V	LT	3702	3738	3	101	--	101
351+50	-	369+00	CTH V	RT	2784	3995	3	108	--	108
351+50	-	369+00	CTH V	LT	2816	3874	3	105	--	105
369+00	-	385+20	CTH V	RT	2421	3504	3	95	--	95
369+00	-	385+76	CTH V	LT	1783	2918	2	79	--	79
44+00	-	49+50	RYAN RD	RT	696	1074	1	29	--	29
44+00	-	49+50	RYAN RD	LT	927	1306	1	36	--	36
10+45	-	11+60	LANG DR	RT	31	107	1	3	--	3
10+25	-	11+60	LANG DR	LT	39	100	1	3	--	3
48+18	-	49+22	CTH J	LT	92	137	1	4	--	4
50+23	-	55+54	CTH V/CTH J	LT	744	1086	1	30	--	30
OBLITERATED AREA					5969	5969	4	162	--	162
UNDISTRIBUTED					--	13831	11	375	460	375
TOTALS										
					51602	82950	66	2250	460	2250

PERMANENT SIGNING																			
								634.0410	634.0614	634.0616	634.0618			638.3000			637.0620		
								POSTS WOOD				638.2602	REMOVING	637.2210	637.2230	SIGN FLAGS			
								4X4-INCH X	4X6-INCH X			REMOVING	SMALL SIGN	SIGNS TYPE II		PERMANENT			
SIGN #	SIGN CODE	SIZE	DESCRIPTION	LOCATION	ROADWAY	OFFSET		10-FT	14-FT	16-FT	18-FT	SIGNS TYPE II	SUPPORTS	REFLECTIVE H	REFLECTIVE F	TYPE II			
								EACH	EACH	EACH	EACH	EACH	EACH	SF	SF	EACH			
1-1	W1-1L	36 X 36	ROAD TURNS LEFT	257+97	CTH V	LT	--	--	1	--	1	1	--	9.00	--				
1-2	W13-1	18 X 18	15 MPH	257+97	CTH V	LT	--	--	--	--	1	--	--	2.25	--				
1-3	W1-2L	36 X 36	ROAD CURVES LEFT	269+20	CTH V	RT	--	--	1	--	--	--	--	9.00	--				
1-4	W13-1	18 X 18	45 MPH	269+20	CTH V	RT	--	--	--	--	--	--	--	2.25	--				
1-5			AHEAD LEFT	272+00	CTH V	RT	--	--	--	--	1	1	--	--	--				
1-6			25 MPH	272+00	CTH V	RT	--	--	--	--	1	--	--	--	--				
1-7	W1-7	48 X 24	NIGHT ARROW	278+00	CTH V	LT	--	--	1	--	--	--	--	8.00	--				
1-8	R1-1	30 X 30	STOP	49+80	RYAN RD	RT	--	--	1	--	--	--	6.25	--	2				
1-9			YIELD	46+92	RYAN RD	LT	--	--	--	--	1	1	--	--	--				
1-10			STOP	47+10	RYAN RD	RT	--	--	--	--	1	1	--	--	--				
1-11			COUNTY V, ARROW	47+50	RYAN RD	LT	--	--	--	--	2	1	--	--	--				
1-12			STOP	47+50	RYAN RD	LT	--	--	--	--	1	1	--	--	--				
1-13	W3-1	36 X 36	STOP AHEAD	44+80	RYAN RD	RT	--	--	1	--	--	--	--	9.00	2				
2-1	W1-2R	36 X 36	ROAD CURVES RIGHT	286+75	CTH V	LT	--	--	1	--	--	--	--	9.00	--				
2-2	W13-1	18 X 18	45 MPH	286+75	CTH V	LT	--	--	--	--	--	--	--	2.25	--				
2-3			AHEAD RIGHT	286+75	CTH V	LT	--	--	--	--	1	1	--	--	--				
2-4			25 MPH	286+75	CTH V	LT	--	--	--	--	1	--	--	--	--				
5-1	R1-1	30 X 30	STOP	10+45	LANG DR	LT	--	1	--	--	1	1	6.25	--	--				
5-2	W3-1	36 X 36	STOP AHEAD	377+80	CTH V	LT	--	--	1	--	1	1	--	9.00	--				
5-3	W3-1	36 X 36	STOP AHEAD	377+80	CTH V	RT	--	--	1	--	1	1	--	9.00	--				
5-4	W14-3	48 X 36	NO PASSING ZONE	380+60	CTH V	LT	--	--	1	--	1	1	--	12.00	--				
5-5	J1-1	24 X 39	JCT COUNTY J	380+00	CTH V	RT	--	--	1	--	2	1	6.50	--	--				
5-6	J13-1	24 X 45	COUNTY V, ARROW	382+00	CTH V	RT	--	--	--	1	--	--	7.50	--	--				
5-7	M1-5A	24 X 24	COUNTY V	383+50	CTH V	LT	--	1	--	--	--	--	4.00	--	--				
5-8	M1-5A	24 X 24	COUNTY J	46+50	CTH J	LT	--	1	--	--	--	--	4.00	--	--				
5-9			COUNTY J, ARROW	49+50	CTH J	LT	--	--	--	--	2	1	--	--	--				
5-10			COUNTY V, ARROW	49+50	CTH J	LT	--	--	--	--	2	1	--	--	--				
5-11	R1-1	36 X 36	STOP	385+20	CTH V	RT	--	1	--	--	--	--	9.00	--	--				
5-12	R1-1	36 X 36	STOP	385+50	CTH V	RT	--	1	--	--	1	1	9.00	--	--				
5-13	W12-1D	24 X 24	DOUBLE DOWN ARROW	385+15	CTH V	RT	1	--	--	--	--	--	--	4.00	--				
5-14			STOP	385+40	CTH V	LT	--	--	--	--	1	1	--	--	--				
5-15	J13-2	48 X 45	COUNTY J, V, ARROWS	50+48	CTH V/CTH J	LT	--	1	--	--	--	--	15.00	--	--				
5-16	J13-2	48 X 45	COUNTY J, V, ARROWS	50+49	CTH V/CTH J	LT	--	--	1	--	4	1	15.00	--	--				
5-17	J13-2	48 X 45	COUNTY J, V, ARROWS	50+50	CTH V/CTH J	LT	--	--	1	--	4	1	15.00	--	--				
5-18	JV	24 X 48	COUNTY J, COUNTY V	52+50	CTH V/CTH J	RT	--	--	1	--	--	--	8.00	--	--				
TOTALS								1	6	13	1	31	18	105.50	84.75	4			
TRAFFIC CONTROL DEVICES																			
		643.0100			643.0300			643.0420			643.0705			643.0900	643.0920	643.2000			FIELD OFFICE TYPE B
SERVICE PERIOD	DAY	TRAFFIC CONTROL (5843-00-70)	TRAFFIC CONTROL DRUMS		TRAFFIC CONTROL BARRICADES TYPE III		TRAFFIC CONTROL WARNING LIGHTS TYPE A		TRAFFIC CONTROL SIGNS		TRAFFIC CONTROL COVERING SIGNS TYPE II		TRAFFIC CONTROL DETOUR PROJECT (5843-00-70)		TRAFFIC CONTROL DETOUR SIGNS		642.5001		
LOCATION	DAY	EACH	EACH	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS	EACH		
PROJECT	96	1	0	0	10	960	20	1920	14	1344	1		1		95	9120	PROJECT	1	
UNDISTRIBUTED		--		300	--	95	--	190	--	--	136	--	--		--	910			
TOTALS		1		300		1055		2110		1480	1		1		10030		TOTAL	1	
PROJECT NUMBER: 5843-00-70		HWY: CTH V				COUNTY: COLUMBIA				MISCELLANEOUS QUANTITIES						SHEET NO:			

PAVEMENT MARKING									
				646.0600	646.0106		646.0126	647.0566	
				REMOVING	PAVEMENT MARKING		PAVEMENT MARKING	PAVEMENT MARKING	
				PAVEMENT	EPOXY 4-INCH		EPOXY 8-INCH	STOP LINE	
				MARKING	WHITE	YELLOW	WHITE	18-INCH	
STATION	TO	STATION	ROADWAY	LOCATION	LF	LF	LF	LF	REMARKS
253+50	-	276+30	CTH V	RT & LT	--	4600	--		LANE LINES
253+50	-	267+27	CTH V	RT & LT	--	--	1750	--	SOLID YELLOW W/12.5-FT SKIPS
267+27	-	288+50	CTH V	RT & LT	--	--	4250	--	DOUBLE YELLOW
276+30	-	279+20	CTH V	RT	--	75	--	--	3-FT SKIP, 9-FT GAP
276+30	-	279+20	CTH V	LT	--	290	--	--	LANE LINE
279+20	-	368+54	CTH V	RT & LT	--	18000	--	--	LANE LINES
288+50	-	308+34	CTH V	RT & LT	--	--	2500	--	SOLID YELLOW W/12.5-FT SKIPS
308+34	-	314+91	CTH V	RT & LT	--	--	1350	--	DOUBLE YELLOW
314+91	-	324+50	CTH V	RT & LT	--	--	1200	--	SOLID YELLOW W/12.5-FT SKIPS
324+50	-	335+67	CTH V	R/L	--	--	280	--	12.5-FT SKIP, 37.5-FT GAP
335+67	-	345+00	CTH V	RT & LT	--	--	1170	--	SOLID YELLOW W/12.5-FT SKIPS
345+00	-	358+00	CTH V	RT & LT	--	--	2600	--	DOUBLE YELLOW
358+00	-	363+33	CTH V	RT & LT	--	--	670	--	SOLID YELLOW W/12.5-FT SKIPS
363+33	-	369+69	CTH V	RT & LT	--	--	1275	--	DOUBLE YELLOW
368+54	-	371+00	CTH V	RT	--	250	--	--	LANE LINE
369+97	-	371+00	CTH V	LT	--	25	--	--	3-FT SKIP, 9-FT GAP
369+69	-	371+00	CTH V	RT & LT	--	--	165	--	SOLID YELLOW W/12.5-FT SKIPS
371+00	-	380+50	CTH V	RT & LT	--	1900	240	--	LANE LINES, 12.5-FT SKIP, 37.5-FT GAP
380+50	-	385+59	CTH V	RT & LT	--	--	640	--	SOLID YELLOW W/12.5-FT SKIPS
380+50	-	384+98	CTH V	RT	--	450	--	--	LANE LINE
380+50	-	385+45	CTH V	LT	--	495	--	--	LANE LINE
		385+41	CTH V	RT	--	--	--	30	INTERSECTION AT CTH V/CTH J
		385+60	CTH V	RT	--	--	--	16	INTERSECTION AT CTH V/CTH J
385+00	-	385+16	CTH V	RT	--	--	32	--	CHANNELIZING
		49+65	RYAN RD	RT	--	--	--	21	INTERSECTION AT RYAN RD
44+00	-	49+65	RYAN RD	RT & LT	--	1130	--	--	EDGELINES
44+00	-	49+65	RYAN RD	RT & LT	--	--	1130	--	DOUBLE YELLOW
48+18	-	48+88	CTH J	LT	--	70	--	--	LANE LINE
50+50	-	54+03	CTH V/CTH J	LT	--	--	350	--	CHANNELIZING
50+50	-	55+54	CTH V/CTH J	LT	--	500	--	--	LANE LINE
48+18	-	55+54	CTH V/CTH J	LT	611	--	--	--	
SUB TOTALS					611	27785	19220	382	67
TOTALS					611	47005		382	67

NOTE: ACTUAL LOCATIONS OF CENTERLINE PAVEMENT MARKING ASSOCIATED WITH NO PASSING ZONES IS TO BE DETERMINED BASED ON ACTUAL FIELD VERIFICATION.

LOCATING NO-PASSING ZONE

LOCATION	648.0100 MI
PROJECT	2.5
TOTAL	2.5

CONSTRUCTION STAKING											
				650.4000	650.4500	650.5000	650.5500	650.6000	650.9910	650.9920	
				STORM	SUBGRADE	BASE	CURB GUTTER AND	PIPE	SUPPLEMENTAL	SLOPE	
				SEWER			CURB & GUTTER	CULVERTS	CONTROL	STAKES	
STATION TO STATION		ROADWAY	LOCATION	EACH	LF	LF	LF	EACH	(5843-00-70) LS	LF	REMARKS
253+50 -	385+82	CTH V	RT & LT	--	4015	13232	--	--	1	13232	
	260+04	CTH V	RT	--	--	--	--	1	--	--	
	261+43	CTH V	RT	--	--	--	--	1	--	--	
263+50 -	271+00	CTH V	RT	--	--	--	750	--	--	--	
	268+40	CTH V	RT & LT	2	--	--	--	--	--	--	INLET & ENDWALL
	277+50	CTH V	RT-LT	--	--	--	--	1	--	--	
	290+00	CTH V	RT	--	--	--	--	1	--	--	
	299+54	CTH V	LT	--	--	--	--	1	--	--	
	307+49	CTH V	RT-LT	--	--	--	--	1	--	--	
	310+28	CTH V	LT	--	--	--	--	2	--	--	
	313+20	CTH V	RT	--	--	--	--	1	--	--	
	313+23	CTH V	LT	--	--	--	--	1	--	--	
	316+65	CTH V	LT	--	--	--	--	1	--	--	
	317+45	CTH V	LT	--	--	--	--	1	--	--	
	320+35	CTH V	RT-LT	--	--	--	--	1	--	--	
	321+10	CTH V	LT	--	--	--	--	1	--	--	
	323+18	CTH V	RT-LT	--	--	--	--	1	--	--	
	323+95	CTH V	LT	--	--	--	--	1	--	--	
	327+00	CTH V	LT	--	--	--	--	1	--	--	
	330+72	CTH V	LT	--	--	--	--	1	--	--	
	331+81	CTH V	LT	--	--	--	--	1	--	--	
	334+90	CTH V	RT-LT	--	--	--	--	1	--	--	
	339+70	CTH V	LT	--	--	--	--	1	--	--	
	342+20	CTH V	RT-LT	2	--	--	--	--	--	--	INLET & ENDWALL
342+45 -	351+50	CTH V	LT	--	--	--	905	--	--	--	
	355+57	CTH V	LT	--	--	--	--	1	--	--	
	356+15	CTH V	RT-LT	--	--	--	--	1	--	--	
	361+33	CTH V	RT	--	--	--	--	1	--	--	
	361+50	CTH V	RT-LT	--	--	--	--	1	--	--	
361+50 -	363+25	CTH V	LT	--	--	--	175	--	--	--	
384+98 -	48+87	CTH V- CTH J	RT-LT	--	--	--	81	--	--	--	
385+10 -	385+61	CTH V	RT	--	--	--	127	--	--	--	
385+45 -	50+55	CTH V - CTH V/CTH J	LT	--	--	--	58	--	--	--	
	46+30	RYAN RD	LT	--	--	--	--	1	--	--	
	53+33	CTH V/CTH J	LT	--	--	--	--	1	--	--	
TOTALS				4	4015	13232	2096	27	1	13232	

CONSTRUCTION STAKING STRUCTURE LAYOUT			
BID ITEM	STATION	STRUCTURE	LS
650.6500.01	295+80	B-11-0162	1
650.6500.02	369+29	C-11-2050	1
650.6500.03	379+51	B-11-0163	1

SAWING ASPHALT			
STATION	ROADWAY		690.0150
			LF
253+50	CTH V	LT-RT	24
260+00	CTH V	RT	11
261+44	CTH V	RT	12
265+80	CTH V	RT	12
268+18	CTH V	RT	15
313+20	CTH V	RT	24
313+20	CTH V	LT	24
318+78	CTH V	RT	20
321+11	CTH V	LT	32
331+82	CTH V	LT	11
332+00	CTH V	RT	14
334+69	CTH V	LT	11
339+73	CTH V	LT	11
362+90	CTH V	LT	17
48+18 - 55+54	CTH J - CTH V/CTH J	LT	750
44+00	RYAN RD	LT-RT	21
46+38	RYAN RD	LT	23
TOTAL			1032

CONVENTIONAL ABBREVIATIONS			
ACCESS POINT/ DRIVEWAY CONNECTION	AP	REFERENCE LINE	R/L
ACCESS RIGHTS	AR	RELEASE OF RIGHTS	ROR
ACRES	AC	REMAINING	REM.
AND OTHERS	ET AL.	RIGHT-OF-WAY	R/W
CENTERLINE	C/L	SECTION	SEC.
CERTIFIED SURVEY MAP	CSM	STATION	STA.
CORNER	CDR	TEMPORARY LIMITED EASEMENT TLE	T
DOCUMENT	DOC	VOLUME	V.
EASEMENT	EASE	CURVE DATA	
HIGHWAY EASEMENT	H.E.	LONG CHORD	LCH
LAND CONTRACT	LC	LONG CHORD BEARING	LCB
MONUMENT	MON.	RADIUS	R
PAGE	P.	DEGREE OF CURVE	D
PERMANENT LIMITED EASEMENT/PLE	P.L.	CENTRAL ANGLE OR DELTA	DELTA
PROPERTY LINE	PL	LENGTH OF CURVE	L
RECORDED AS	(1001)	TANGENT	TAN

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

CONVENTIONAL UTILITY SYMBOLS			
WATER	---	NON	---
GAS	---	COMPENSABLE	---
TELEPHONE	---	COMPENSABLE	---
OVERHEAD	---	COMPENSABLE	---
TRANSMISSION LINES	---	COMPENSABLE	---
ELECTRIC	---	COMPENSABLE	---
CABLE TELEVISION	---	COMPENSABLE	---
FIBER OPTIC	---	COMPENSABLE	---
SANITARY SEWER	---	COMPENSABLE	---
STORM SEWER	---	COMPENSABLE	---
POWER POLE	---	COMPENSABLE	---
TELEPHONE POLE	---	COMPENSABLE	---
TELEPHONE PEDestal	---	COMPENSABLE	---
ELECTRIC TOWER	---	COMPENSABLE	---

NOTES

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 3/4" X 24" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

COORDINATES AND BEARINGS SHOWN ON THIS PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, COLUMBIA COUNTY ZONE, NAD83(1991) ADJUSTMENT. THE COORDINATES SHOWN ARE GRID COORDINATES AND ARE TO BE USED AS GRID OR GROUND VALUES ON THIS PLAT. USED EXISTING LOCAL COUNTY HARN STATIONS FOR BASIS OF COLUMBIA COUNTY COORDINATE SYSTEM.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER SURVEYS OF PUBLIC RECORD.

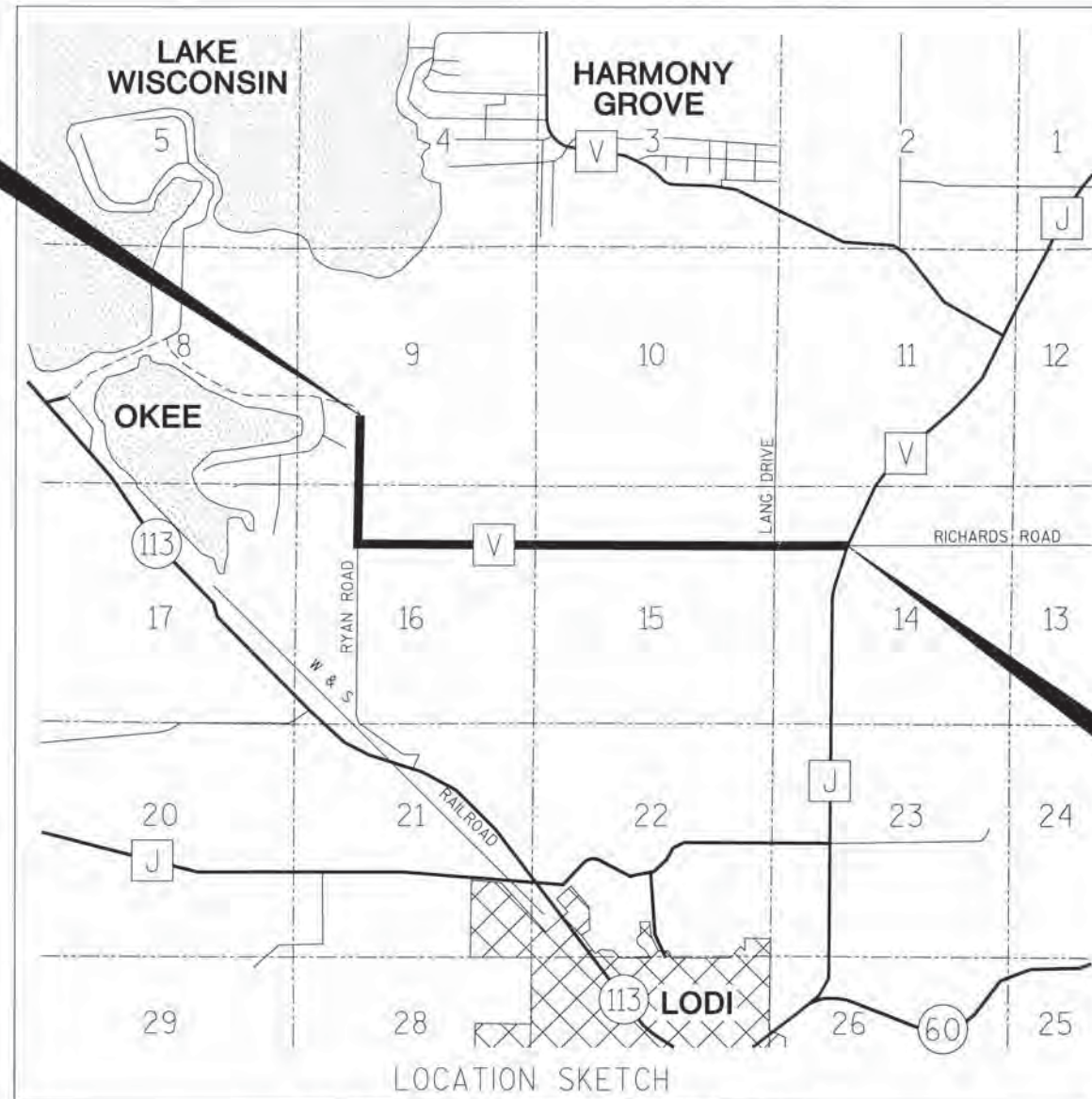
EXISTING HIGHWAY RIGHT-OF-WAYS SHOWN HEREIN ARE BASED ON THE FOLLOWING POINTS OF REFERENCE: EXISTING HIGHWAY RIGHT-OF-WAY FOR CTH V ESTABLISHED FROM CERTIFIED SURVEY MAPS NO. 2136, 2319, 5227, 5228, 2521, 1628, 4088 AND FOSTER'S BACK FORTY PLAT. FOUND IRONS AND EXISTING CENTERLINE OF PAVEMENT & RIGHT OF WAY MAPPING. EXISTING HIGHWAY RIGHT OF WAY FOR CTH J & CTH VJ ESTABLISHED FROM PREVIOUS COUNTY HIGHWAY PROJECT INDEX NO. 020097 AND 020098. EXISTING HIGHWAY RIGHT-OF-WAY FOR LANG DRIVE ESTABLISHED FROM C.S.M. NO. 2319.

BEGIN RELOCATION ORDER

STA. 253+50.00

Y = 326887.6663
X = 511869.9050

1323.49 North and 1375.21' East
of the Southwest corner of
Section 9, T. 10 N., R. 8 E.



T. 10 N., R. 8 E., TOWN OF LODI, COLUMBIA COUNTY, WISCONSIN
TOTAL NET LENGTH OF CENTERLINE = 2.506 MI.

LAYOUT
SCALE 0 2,000 ±±



END RELOCATION ORDER

STA. 385+82.46

Y = 324407.2585
X = 522775.4488

1337.72 North and 1650.60' East
of the West Quarter Corner
of Section 14, T. 10 N., R. 8 E.

ACCEPTED BY
COLUMBIA COUNTY

THOMAS R. LORFELD
21423-B
MADISON, WI
PROFESSIONAL ENGINEER

APPROVED FOR COLUMBIA COUNTY HIGHWAY DEPT.

DATE: 4/17/14 *Thomas R. Lorfeld* PE
HIGHWAY COMMISSIONER

WISCONSIN
JAMES R. GROTHMAN
S-1321
PORTAGE, WI
LAND SURVEYOR

DATE: 4-17-14 *James R. Grothman*
SURVEYOR

PREPARED BY: JAMES R. GROTHMAN

CA GROTHMAN & ASSOCIATES S.C.
LAND SURVEYORS

625 EAST SUPER STREET, P.O. BOX 373 PORTAGE, WI. 53901
PHONE: PORTAGE: (608) 742-7788 SAUK: (608) 644-8877
FAX: (608) 742-0434 E-MAIL: surveying@grothman.com

SCHEDULE OF LANDS & INTERESTS REQUIRED

AREAS SHOWN IN THE TOTAL ACRES COLUMN MAY BE APPROXIMATE AND ARE DERIVED FROM TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED.

SCHEDULE OF LANDS & INTERESTS REQUIRED OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO COUNTY HIGHWAY DEPARTMENT.

PARCEL NUMBER	SHEET NUMBER	OWNER(S)	INTEREST REQUIRED	R/W ACRES REQUIRED OR S.F.			T.L.E. S.F.	P.L.E. S.F.
				NEW	EXISTING	TOTAL		
1	4.04, 4.05, 4.06	LUCILLE R. FOSTER TRUST	FEE, T.L.E. P.L.E.	4.15	4.32	8.47	9,628	232
3	4.04	GUY B. & SALINA THISTLE	FEE, T.L.E.	0.03	---	0.03	1,107	---
4	4.04	THOMAS & KIM M. COOKE	FEE	31 SQ.FT.	---	31 SQ.FT.	---	---
6	4.04	DANIEL E. & MICHELLE L. TADYSAK	FEE, T.L.E.	0.04	---	0.04	250	---
7	4.04	JASON R. & HEATHER J. RASMUSSEN	FEE, T.L.E.	0.04	---	0.04	300	---
8	4.04	ARTHUR A. & KAREN L. HANKE	FEE, T.L.E.	0.09	---	0.09	875	---
9	4.04, 4.05	JEFFERY A. BROWNING & DEBBIE LLOYD	FEE	0.29	1.04	1.33	---	---
11	4.05	CAROL L. CLEARY QUALIFIED PERSONAL RESIDENCE TRUST DATED JULY 15, 2010	FEE	---	0.07	0.07	---	---
12	4.05	RONALD J. & HEATHER L. TREINEN	FEE	0.12	---	0.12	---	---
13	4.06	TOWN OF LODI	HE, T.L.E. P.L.E.	0.04	0.47	0.51	1,500	---
14	4.06	HELLENBRAND LIVING TRUST DATED DEC. 7, 2000	FEE, T.L.E. P.L.E.	0.64	1.28	1.92	1,900	250
16	4.06, 4.07	STICKEY BAY LLC	FEE, T.L.E.	0.57	2.09	2.66	2,939	---
17	4.06	STEVEN HELLENBRAND	FEE, T.L.E.	0.01	0.03	0.04	888	---
18	4.06	WISCONSIN POWER & LIGHT REAL ESTATE DEPT.	FEE, T.L.E.	0.11	0.22	0.33	244	---
19	4.07	STEVEN & MARY BETH WILKES	FEE	---	0.05	0.05	---	---
21	4.07	THE MICHAEL CLARENCE MARTIN AND SUSAN KAY MARTIN REV. LIVING TRUST DATED 8/12/2010	FEE	---	0.05	0.05	---	---
22	4.07	KRISTOPHER D. & GAIL M. KRAUSE	FEE, T.L.E.	---	0.10	0.10	618	---
23	4.07	RODNEY P. MAIER	FEE, T.L.E. P.L.E.	0.21	0.71	0.92	1,133	600
24	4.07	NANCY NEWMANN HAVENS & TERRY L. HAVENS	FEE, T.L.E.	0.12	0.46	0.58	450	---
26	4.07	MICHAEL J. & ELIZABETH A. RYAN	FEE, T.L.E.	0.23	0.46	0.69	6,375	---
27	4.07	CHARLOTTE BURNS PAAUW	FEE, T.L.E. P.L.E.	0.30	0.69	0.99	2,050	900
28	4.07	CRAIG L. & BECKIE J. SCHREIBER	FEE, T.L.E.	0.04	0.08	0.12	494	---
29	4.07	DEBRA J. BROOKS	FEE, T.L.E.	0.02	---	0.02	1,061	---
31	4.07	CURTIS J. & MARGIE J. WALSTAD	FEE, T.L.E.	0.12	---	0.12	1,855	---

SCHEDULE OF LANDS & INTERESTS REQUIRED OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO COUNTY HIGHWAY DEPARTMENT.

PARCEL NUMBER	SHEET NUMBER	OWNER(S)	INTEREST REQUIRED	R/W ACRES REQUIRED OR S.F.			T.L.E. S.F.	P.L.E. S.F.
				NEW	EXISTING	TOTAL		
32	4.07	TIMOTHY L. LANZENDORF	FEE, T.L.E.	0.08	0.15	0.23	500	---
33	4.07	STEVEN R. & DEBORAH J. MEYER REV. LIVING TRUST DATED 2/09/2006	FEE, T.L.E.	0.08	0.15	0.23	1,400	---
34	4.07, 4.08	ARDIS J. SPECHT TRUST DATED 12/24/1993	FEE, T.L.E.	0.20	0.29	0.49	3,016	---
36	4.07	BRIAN K. & SANDRA K. MURRAY	FEE, T.L.E.	0.05	0.09	0.14	625	---
37	4.08	PAUL HELT	FEE	0.41	1.12	1.53	---	---
38	4.08, 4.09	RONALD F. & JOAN E. KOHN	FEE, T.L.E. P.L.E.	0.97	2.49	3.46	1,978	450
39	4.08	KIM & SHWUMEI Y. RAMMINGER	FEE	0.66	0.71	1.37	---	---
41	4.08	STEVEN W. & MICKI L. BEUTLER	FEE, T.L.E.	0.22	0.34	0.56	828	---
42	4.09	HLM FARMS INC.	FEE, T.L.E.	0.50	1.10	1.60	4,000	---
43	4.08	STEVEN W. BEUTLER	FEE, T.L.E.	0.23	0.65	0.88	1,825	---
101	4.05, 4.06	AMERICAN TRANSMISSION COMPANY, LLC	RELEASE OF RIGHTS	---	---	---	---	---
102	4.05, 4.06	CHARTER COMMUNICATIONS	RELEASE OF RIGHTS	---	---	---	---	---
103	4.07, 4.08 4.09	FRONTIER COMMUNICATIONS OF WI LLC	RELEASE OF RIGHTS	---	---	---	---	---
104	4.04, 4.05 4.06	MADISON GAS & ELECTRIC	RELEASE OF RIGHTS	---	---	---	---	---
105	4.05, 4.06 4.07, 4.09	WISCONSIN POWER & LIGHT	RELEASE OF RIGHTS	---	---	---	---	---

REVISION DATE 09-08-14

DATE April 17, 2014

SCALE, FEET
0 N/A

HWY: C.T.H. V

COUNTY: COLUMBIA

COUNTY R/W PROJECT NUMBER 5843-00-01-1

CONSTRUCTION PROJECT NUMBER 5843-00-70

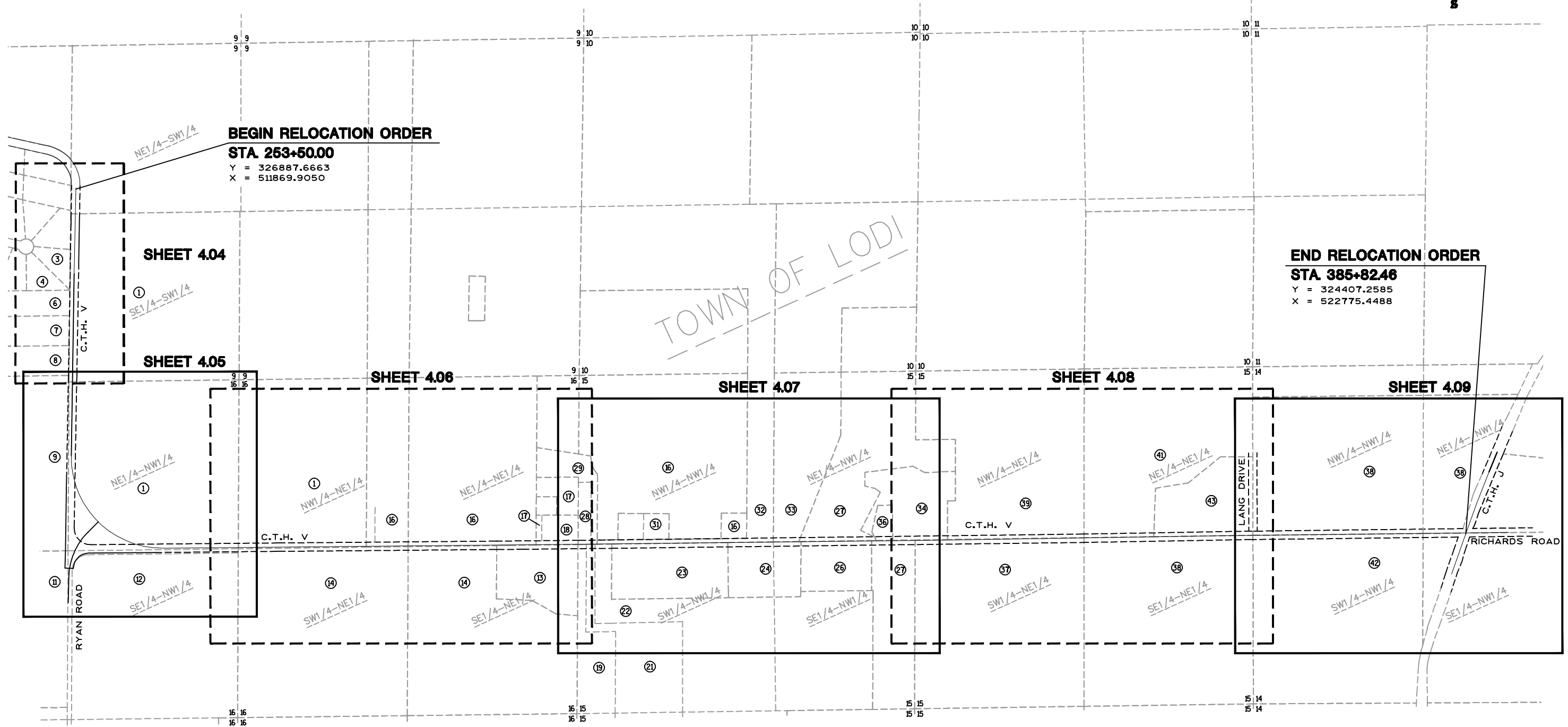
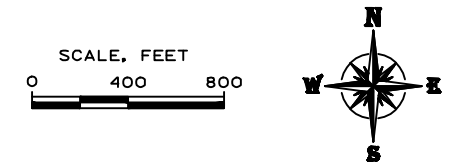
PLAT SHEET 4.02

PS&E SHEET -----

E

PROJECT LAYOUT

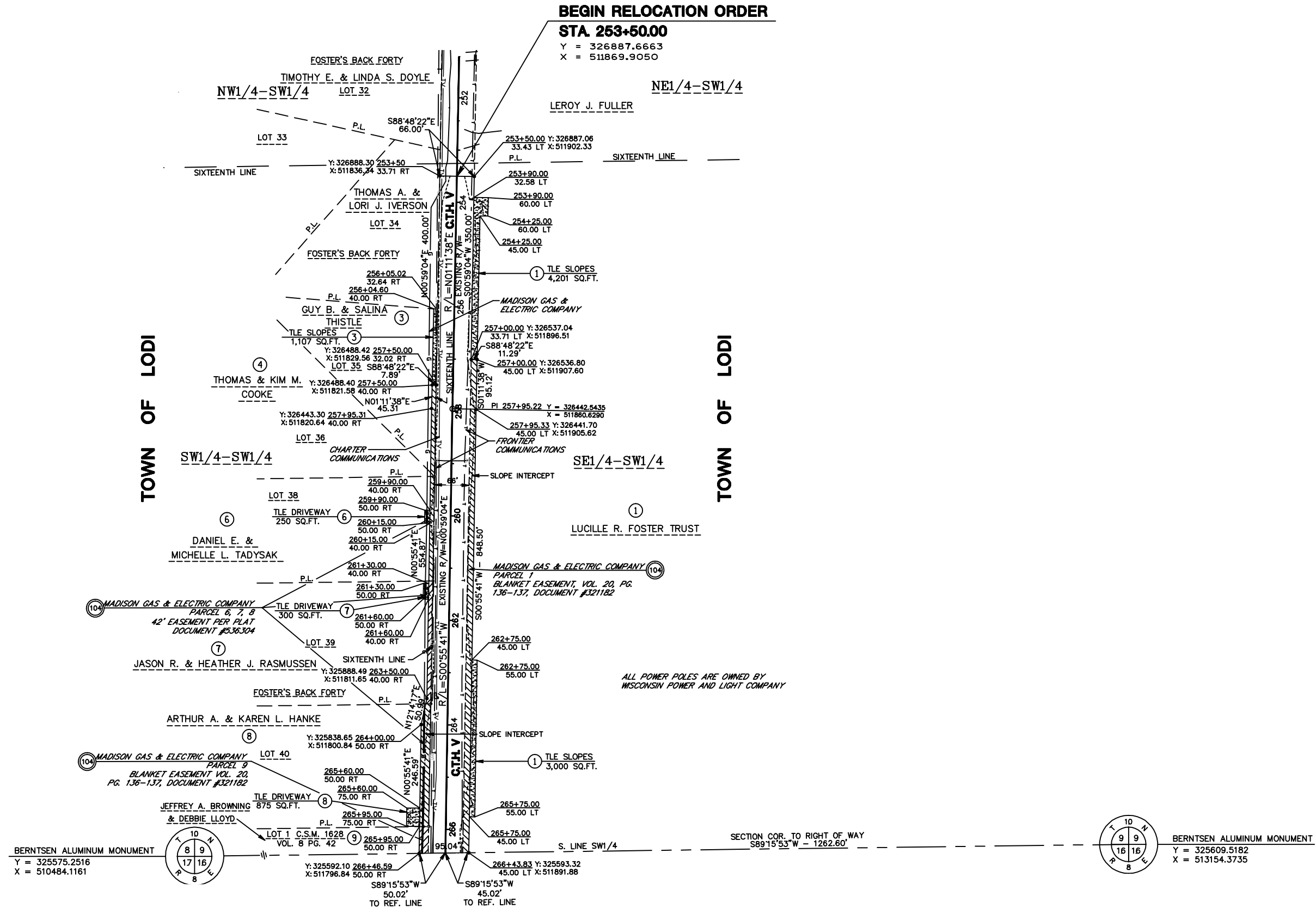
SECTIONS 9, 14, 15 & 16, T. 10 N., R. 8 E., TOWN OF LODI, COLUMBIA COUNTY, WISCONSIN



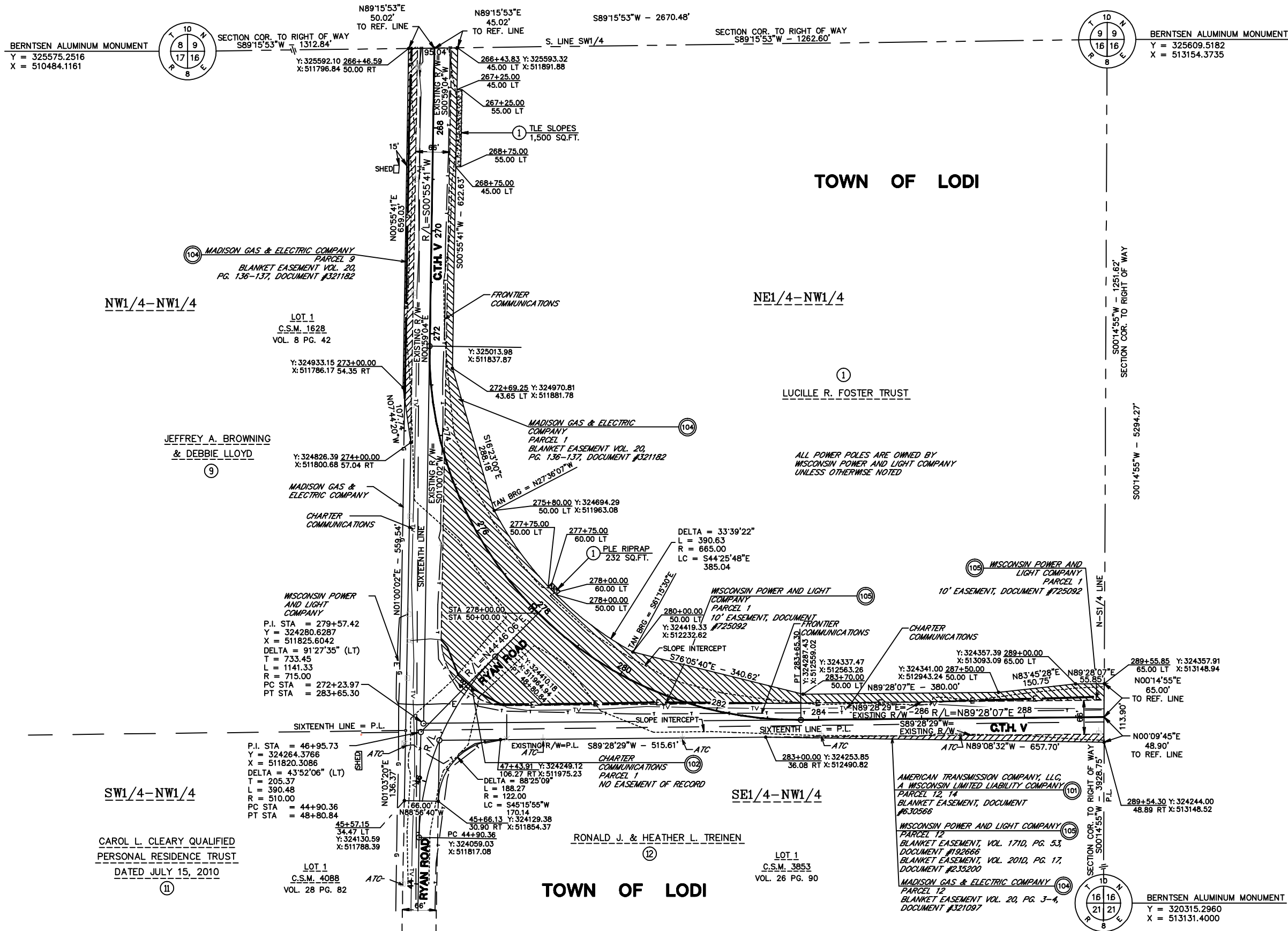
REVISION DATE	09-08-14	DATE	April 17, 2014	SCALE, FEET	HWY:	C.T.H. V	COUNTY R/W PROJECT NUMBER	5843-00-01-1	PLAT SHEET	4.03
		GRID FACTOR		0 400 800	COUNTY:	COLUMBIA	CONSTRUCTION PROJECT NUMBER	5843-00-70	PS&E SHEET	-----

4

4



REVISION DATE	09-08-14	DATE	April 17, 2014	SCALE, FEET	HWY:	C.T.H. V	COUNTY R/W PROJECT NUMBER	5843-00-01-1	PLAT SHEET	4.04
		GRID FACTOR	--	0 100 200	COUNTY:	COLUMBIA	CONSTRUCTION PROJECT NUMBER	5843-00-70	PS&E SHEET	-----



REVISION DATE	<i>no changes</i>	DATE	April 17, 2014	SCALE, FEET	HWY:	C.T.H. V	COUNTY R/W PROJECT NUMBER	5843-00-01-1	PLAT SHEET	4.05
		GRID FACTOR	--	0 100 200	COUNTY:	COLUMBIA	CONSTRUCTION PROJECT NUMBER	5843-00-70	PS&E SHEET	----

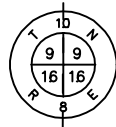
FILE NAME : G:\2008\0806\608326 RURAL PLANS.DWG

PLOT DATE : April 17, 2014

PLOT BY : AMY L. HOEL

PLOT NAME : C.T.H. "V"

WISDOT/CADDs SHEET 75



BERNTSEN ALUMINUM MONUMENT
Y = 325609.5182
X = 513154.3735

TOWN OF LODI



BERNTSEN ALUMINUM MONUMENT
Y = 325643.4630
X = 515824.5698

SCALE, FEET
0 100 200

NW1/4-NE1/4

NE1/4-NE1/4

LUCILLE R. FOSTER TRUST

STICKEY BAY LLC

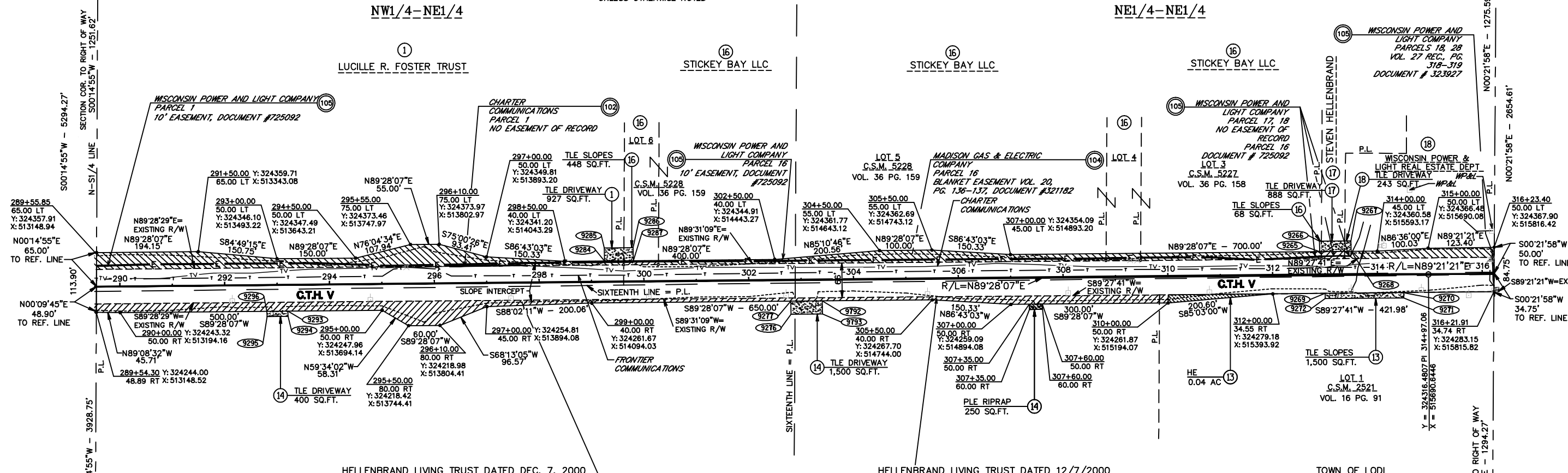
STICKEY BAY LLC

STICKEY BAY LLC

WISCONSIN POWER AND
LIGHT COMPANY
PARCELS 18, 28
VOL. 27 REC. PG.
318-319
DOCUMENT # 323927

WISCONSIN POWER AND
LIGHT COMPANY
PARCEL 17, 18
NO EASEMENT OF
RECORD
DOCUMENT # 725092

WISCONSIN POWER &
LIGHT REAL ESTATE DEPT
TLE DRIVEWAY
VOL. 16 PG. 91



HELLENBRAND LIVING TRUST DATED DEC. 7, 2000

HELLENBRAND LIVING TRUST DATED 12/7/2000

TOWN OF LODI

SW1/4-NE1/4

SE1/4-NE1/4

TOWN OF LODI

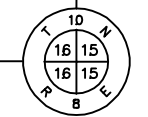
AMERICAN TRANSMISSION COMPANY, LLC,
A WISCONSIN LIMITED LIABILITY COMPANY
PARCEL 12, 14
BLANKET EASEMENT, DOCUMENT
#630566

WISCONSIN POWER AND LIGHT COMPANY
PARCEL 14
BLANKET EASEMENT, VOL. 171 DEEDS,
PAGE 56, DOCUMENT #192673

MADISON GAS & ELECTRIC COMPANY
PARCEL 14
BLANKET EASEMENT, VOL. 20 R,
PG. 134-135, DOCUMENT #321181

POINT	STATION	OFFSET
9265	312+90.00	45.00 LT
9266	312+90.00	65.00 LT
9267	313+50.00	65.00 LT
9268	313+50.00	45.00 LT
9269	313+00.00	34.53 RT
9270	314+50.00	34.51 RT
9271	314+50.00	44.51 RT
9272	313+00.00	44.53 RT
9276	302+80.00	65.00 RT
9277	302+80.00	40.00 RT
9284	299+25.00	40.00 LT
9285	299+25.00	65.00 LT
9286	299+80.00	65.00 LT
9287	299+80.00	40.00 LT
9293	293+20.00	50.00 RT
9294	293+20.00	60.00 RT
9295	292+80.00	60.00 RT
9296	292+80.00	50.00 RT
9792	303+40.00	40.00 RT
9793	303+40.00	65.00 RT

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X = 515807.6045

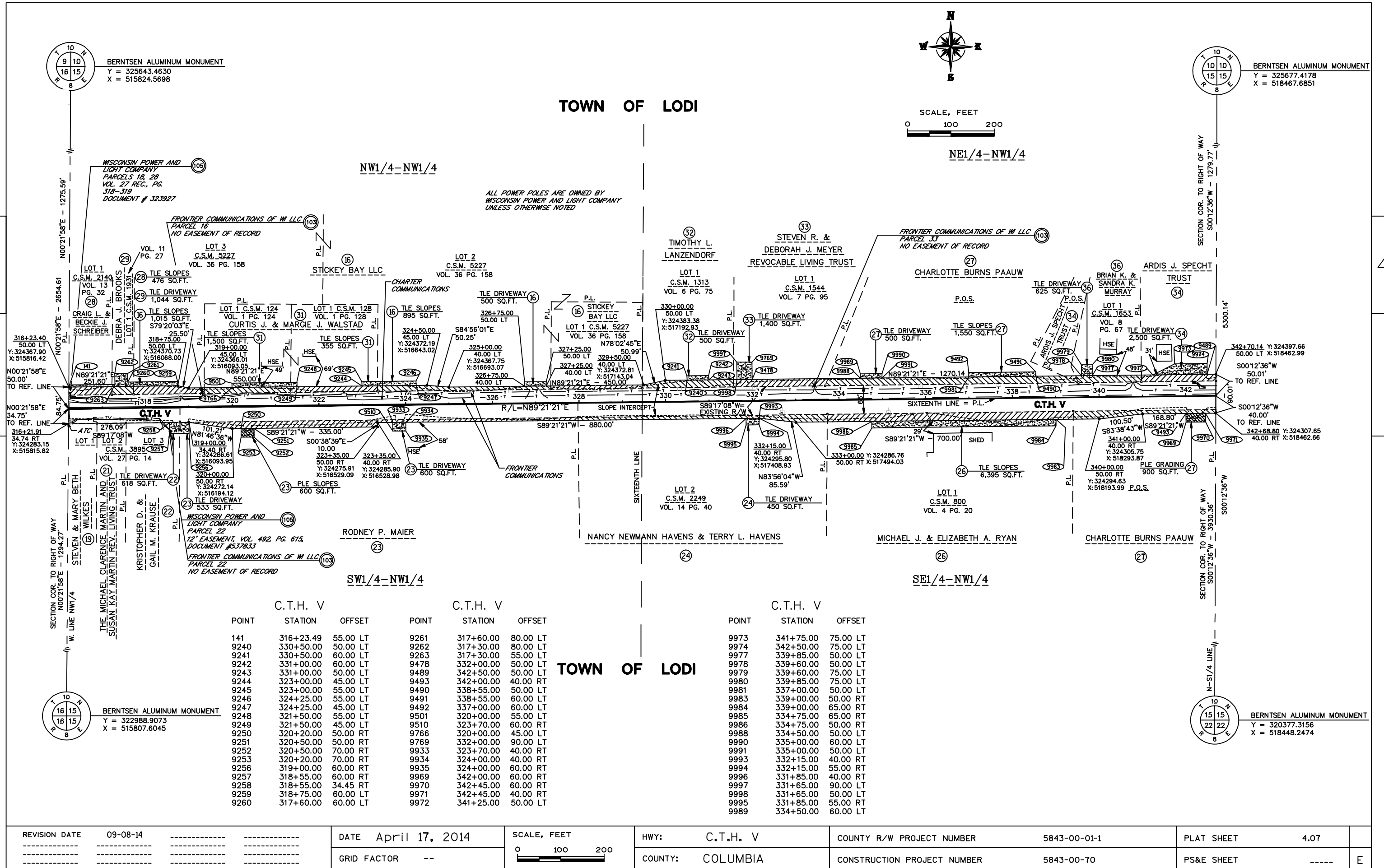


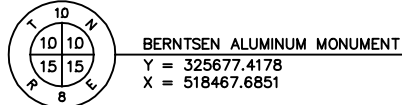
REVISION DATE	09-08-14
DATE	April 17, 2014
GRID FACTOR	--

SCALE, FEET
0 100 200

HWY: C.T.H. V
COUNTY: COLUMBIA

COUNTY R/W PROJECT NUMBER	5843-00-01-1	PLAT SHEET	4.06
CONSTRUCTION PROJECT NUMBER	5843-00-70	PS&E SHEET	----





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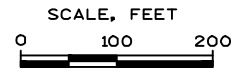


BERNTSEN ALUMINUM MONUMENT
Y = 325711.4856
X = 521111.7048

TOWN OF LODI

C.T.H. V

POINT	STATION	OFFSET	COORDINATES
9949	361+50.00	50.00 LT	Y: 324426.74 X: 520342.40
9440	361+50.00	40.00 LT	Y: 324416.74 X: 520342.56
10097	361+50.00	31.53 LT	Y: 324408.27 X: 520342.69
12295	363+00.00	31.76 LT	Y: 324410.87 X: 520492.67
10098	363+00.00	40.00 LT	Y: 324419.11 X: 520492.54



POINT	STATION	OFFSET
9236	344+15.00	58.95 LT
9237	344+15.00	75.00 LT
9238	344+50.00	75.00 LT
9239	344+50.00	61.54 LT

NW1/4-NE1/4

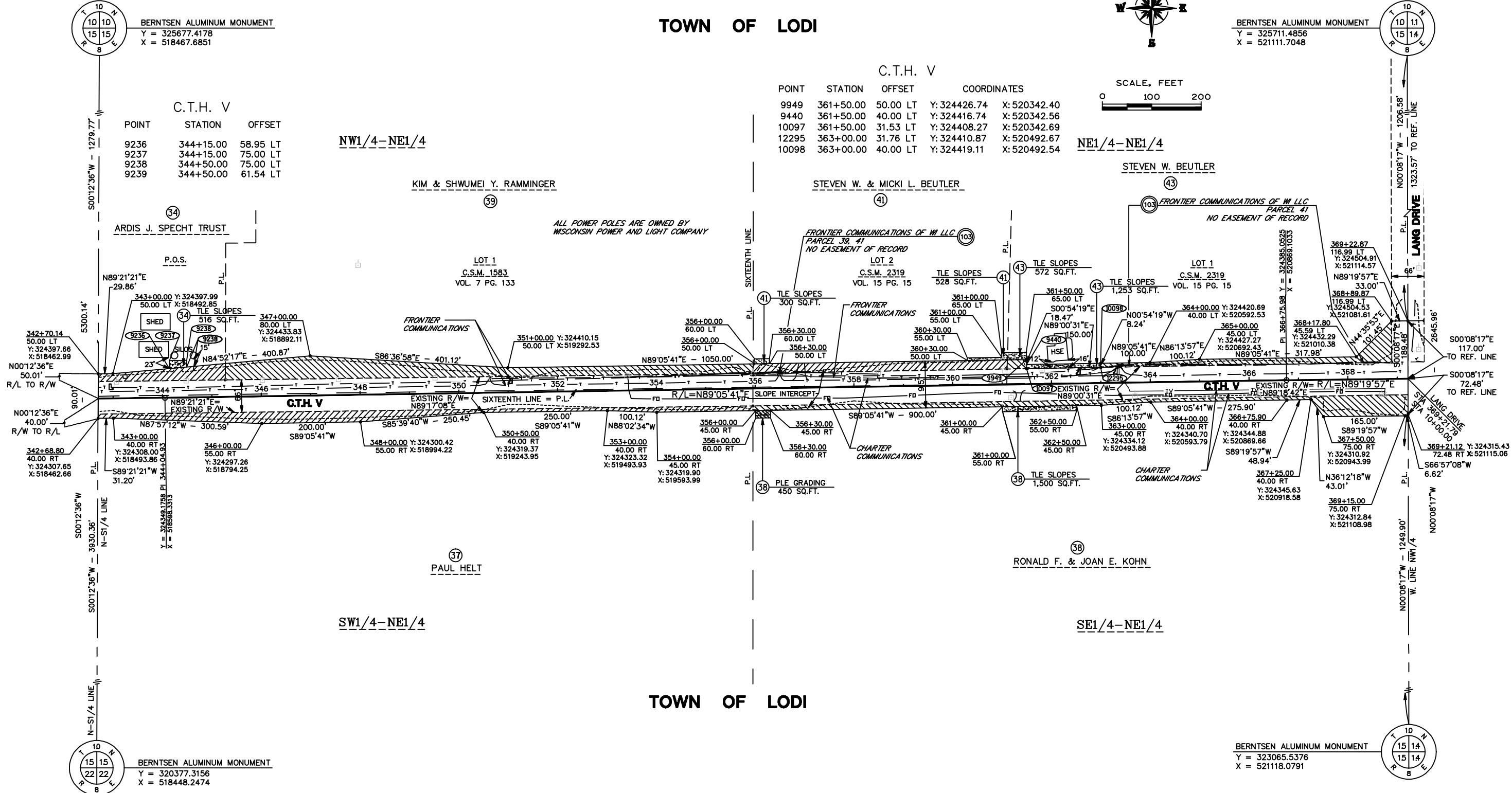
NE1/4-NE1/4

KIM & SHWUMEI Y. RAMMINGER

STEVEN W. & MICKI L. BEUTLER

STEVEN W. BEUTLER

ALL POWER POLES ARE OWNED BY
WISCONSIN POWER AND LIGHT COMPANY

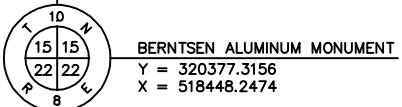


SW1/4-NE1/4

SE1/4-NE1/4

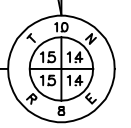
PAUL HELT

RONALD F. & JOAN E. KOHN

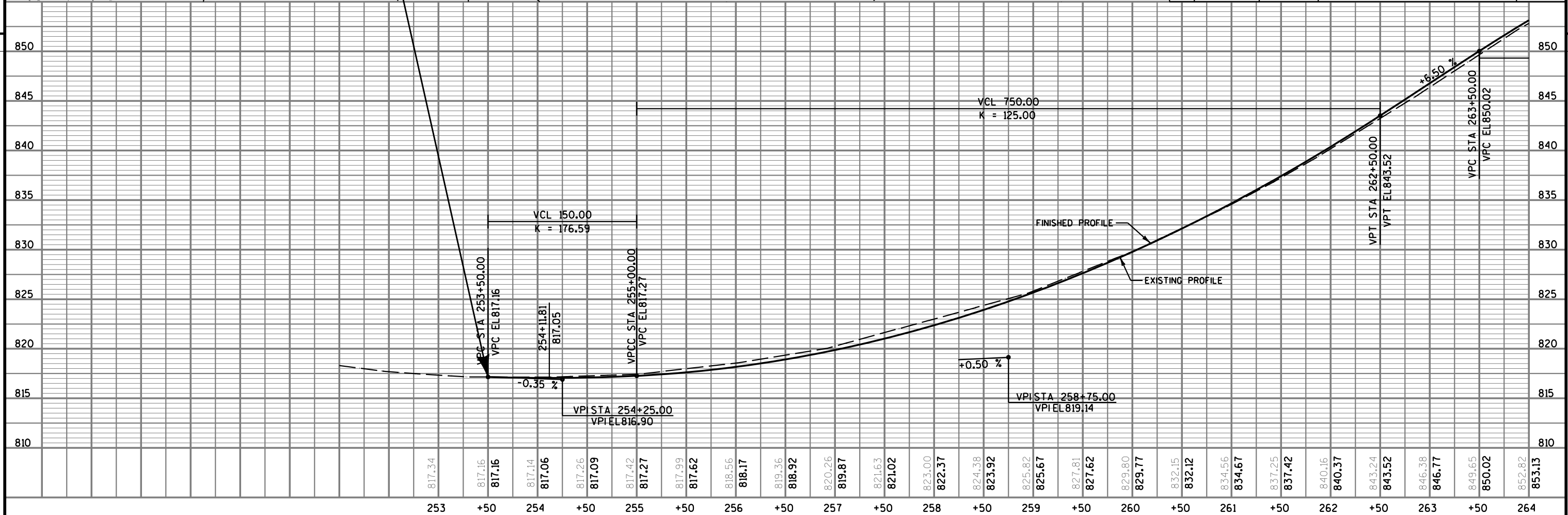
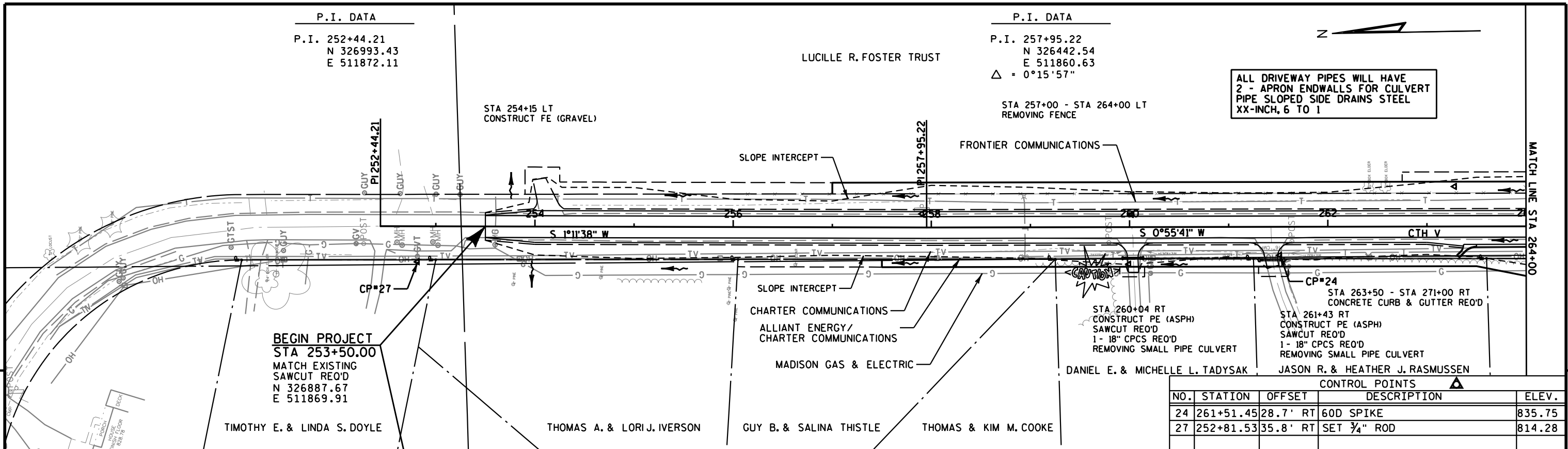


BERNTSEN ALUMINUM MONUMENT
Y = 320377.3156
X = 518448.2474

BERNTSEN ALUMINUM MONUMENT
Y = 323065.5376
X = 521118.0791



REVISION DATE	09-08-14	DATE	April 17, 2014	SCALE, FEET	0 100 200	HWY:	C.T.H. V	COUNTY R/W PROJECT NUMBER	5843-00-01-1	PLAT SHEET	4.08
		GRID FACTOR	--			COUNTY:	COLUMBIA	CONSTRUCTION PROJECT NUMBER	5843-00-70	PS&E SHEET	----



CONTROL POINTS 				
NO.	STATION	OFFSET	DESCRIPTION	ELEV.
19	273+41.44	3.8' LT	60D SPIKE	868.44
20	265+52.84	13.9' RT	PK NAIL	860.43



CURVE DATA

P.I. 279+57.42
 N 324280.63
 E 511825.60
 $\Delta = 91^{\circ}27'35''$
 $D = 8^{\circ}00'48''$
 $T = 733.45'$
 $L = 1141.33'$
 $E = 309.29'$
 $R = 715.00'$
 P.C. 272+23.97
 P.T. 283+65.30
 S.E. 4.0%
 L.R. 89.00'

STA 278+00 CTH V =
 STA 50+00 RYAN ROAD
 CONSTRUCT TYPE C
 INTERSECTION
 (SEE DETAIL)

PLE FOR RIPRAP

ALL DRIVEWAY PIPES WILL HAVE
 2 - APRON ENDWALLS FOR CULVERT
 PIPE SLOPED SIDE DRAINS STEEL
 XX-INCH, 6 TO 1

LUCILLE R. FOSTER TRUST

LUCILLE R. FOSTER TRUST

STA 265+30 LT
 CONSTRUCT FE (GRAVEL)

STA 268+40
 REMOVING SMALL PIPE CULVERT

STA 269+00 - STA 271+00, LT
 REMOVING FENCE

FRONTIER COMMUNICATIONS

SLOPE INTERCEPT

CP#19

CP#20

S 0°55'41" W

CTH V

MADISON GAS & ELECTRIC

OBLITERATING OLD ROAD

STA 263+50 - STA 271+00 RT
 CONCRETE CURB & GUTTER REQ'D

STA 268+16 RT
 CONSTRUCT PE (ASPH)
 SAWCUT REQ'D

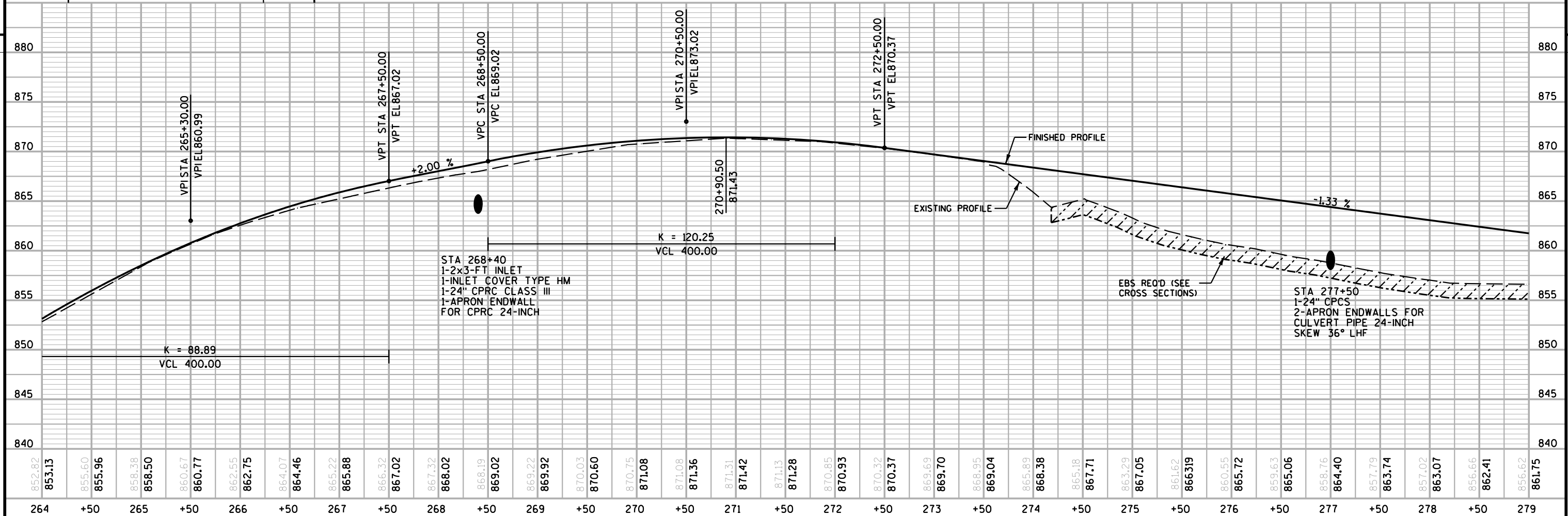
SLOPE INTERCEPT

ALLIANT ENERGY/
 CHARTER COMMUNICATIONS

JEFFREY A. BROWNING & DEBBIE LLOYD

5

5



PROJECT NO: 5843-00-70

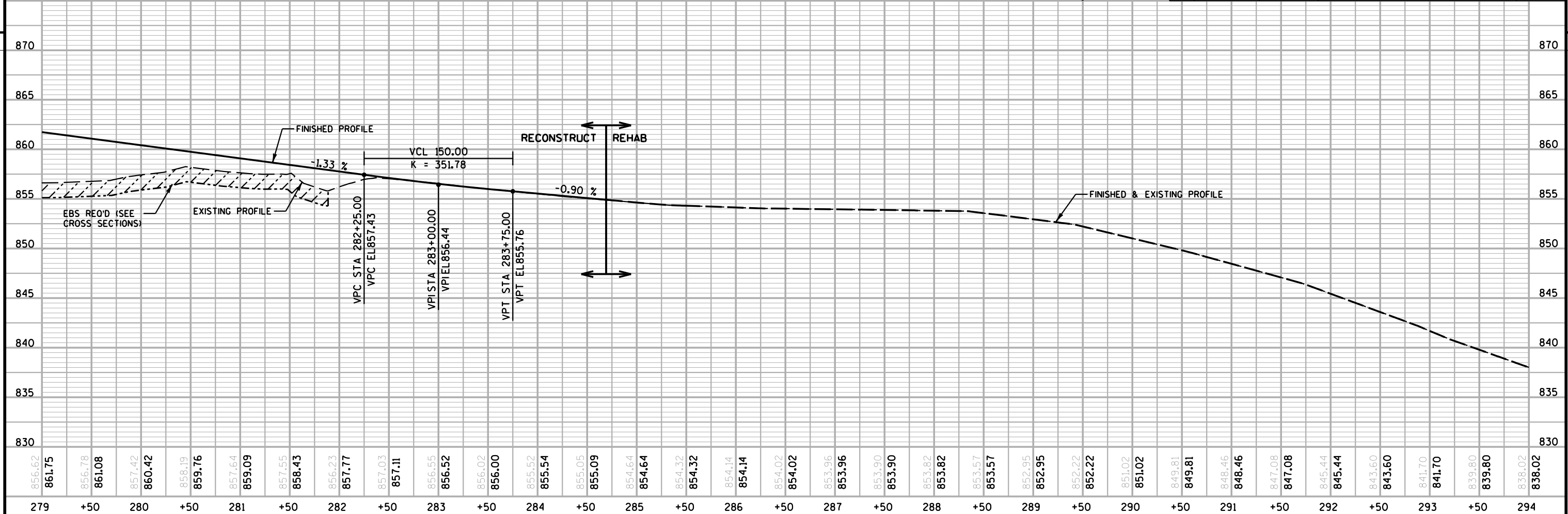
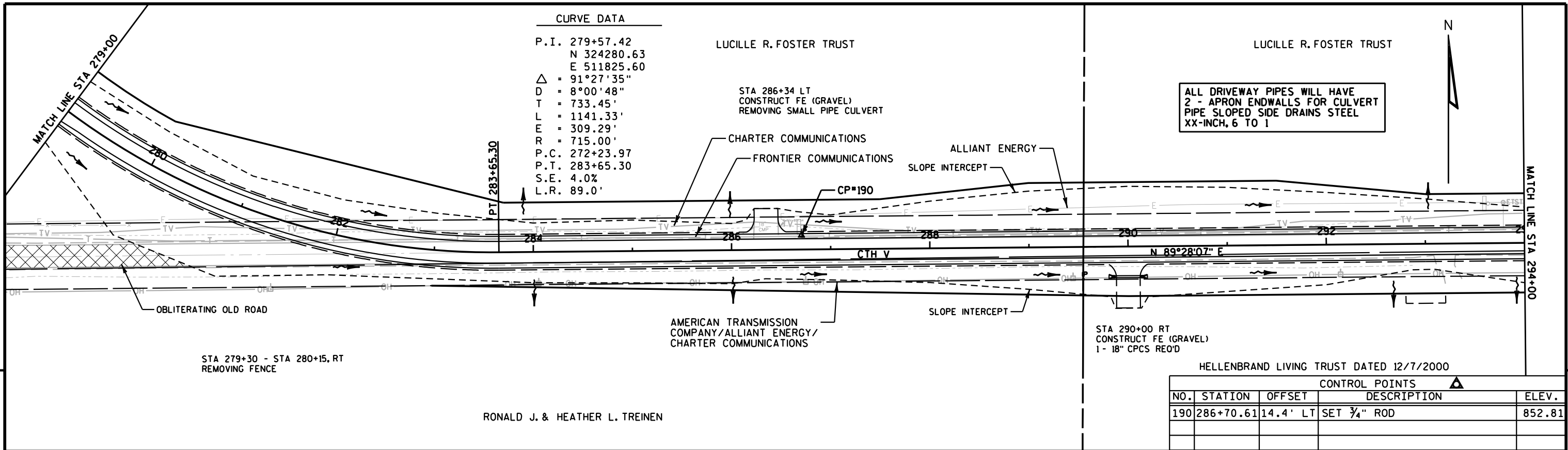
HWY: CTH V

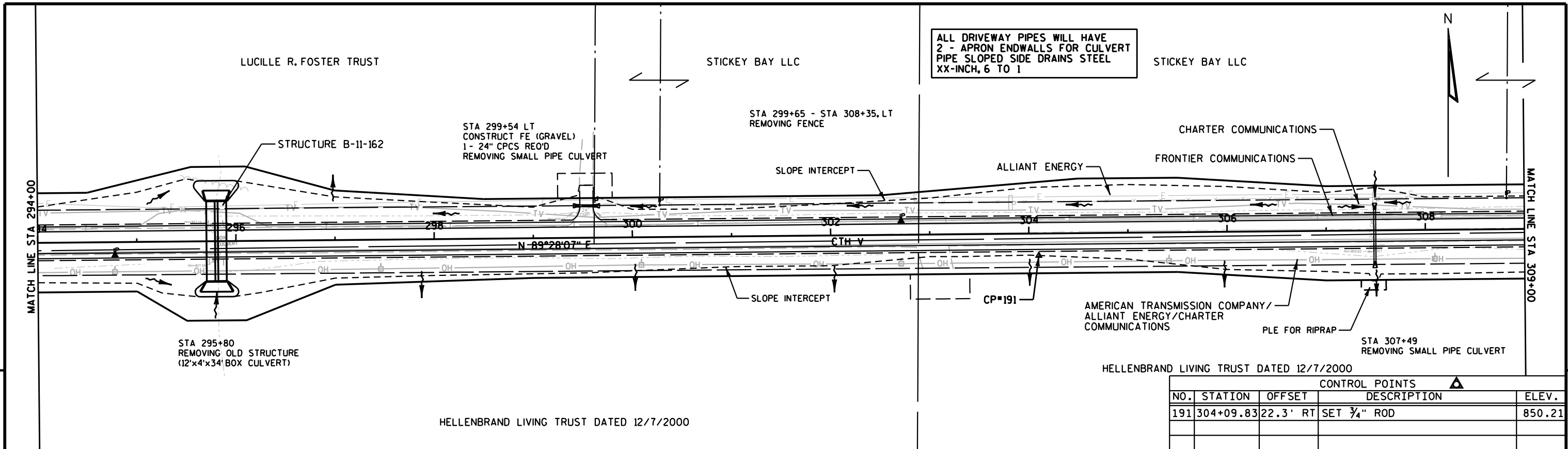
COUNTY: COLUMBIA

PLAN & PROFILE

SHEET

E





ALL DRIVEWAY PIPES WILL HAVE
2 - APRON ENDWALLS FOR CULVERT
PIPE SLOPED SIDE DRAINS STEEL
XX-INCH, 6 TO 1

CHARTER COMMUNICATIONS
FRONTIER COMMUNICATIONS

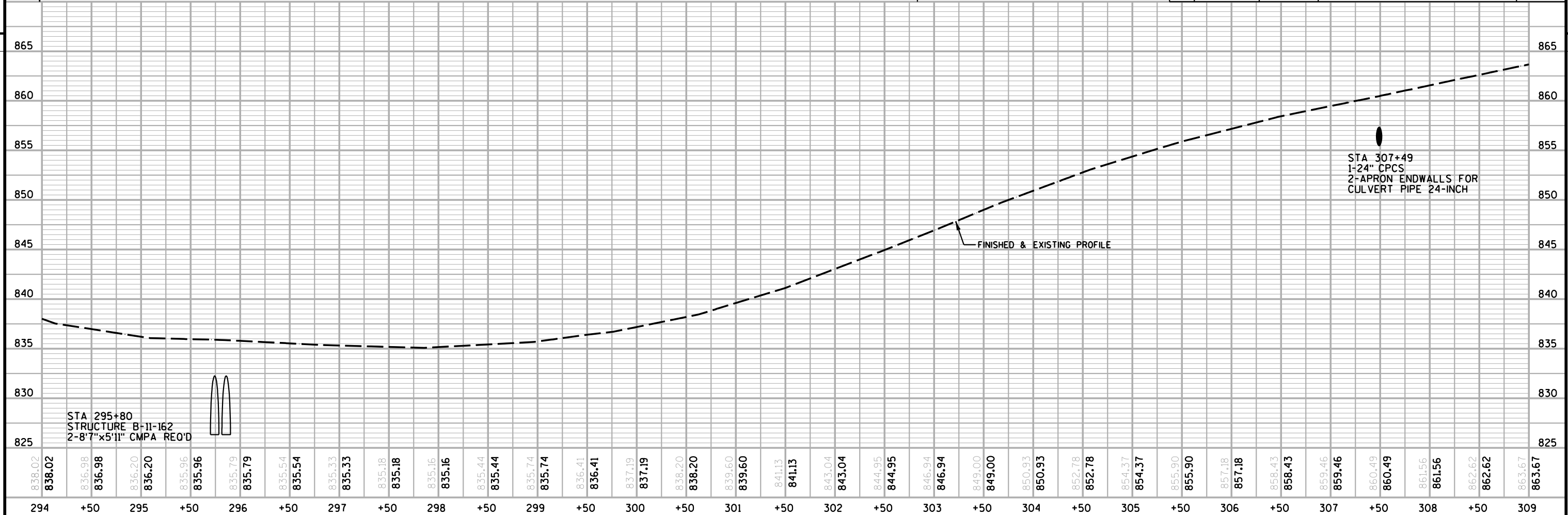
AMERICAN TRANSMISSION COMPANY/
ALLIANT ENERGY/CHARTER
COMMUNICATIONS

PLE FOR RIPRAP

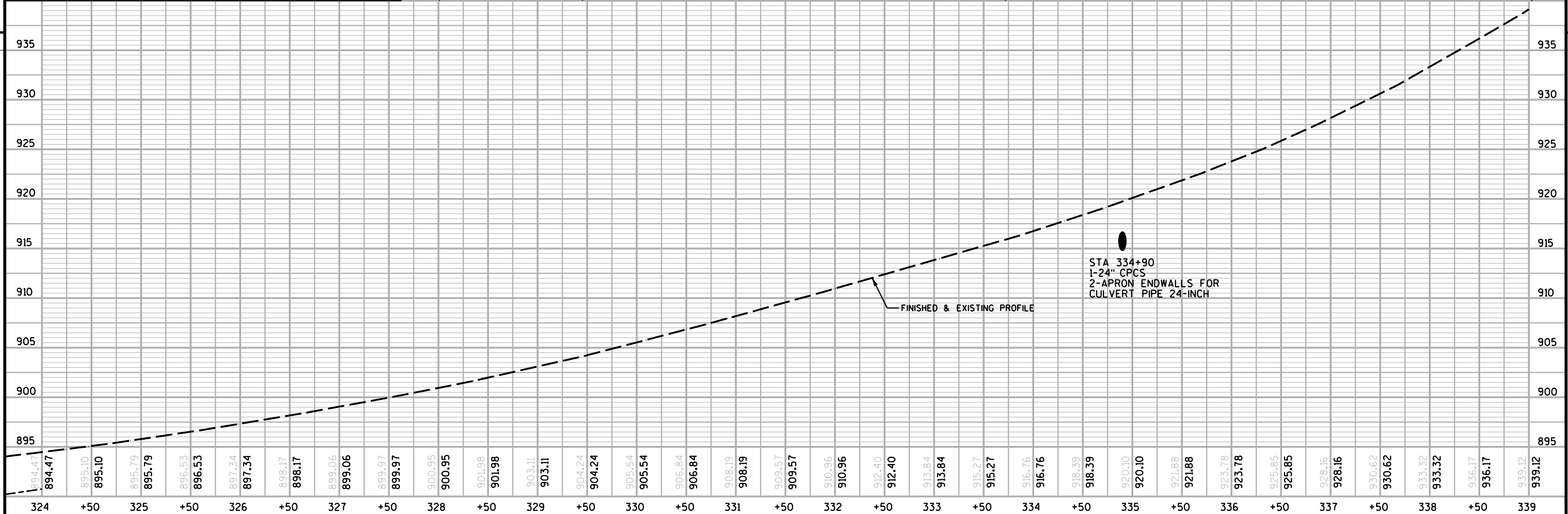
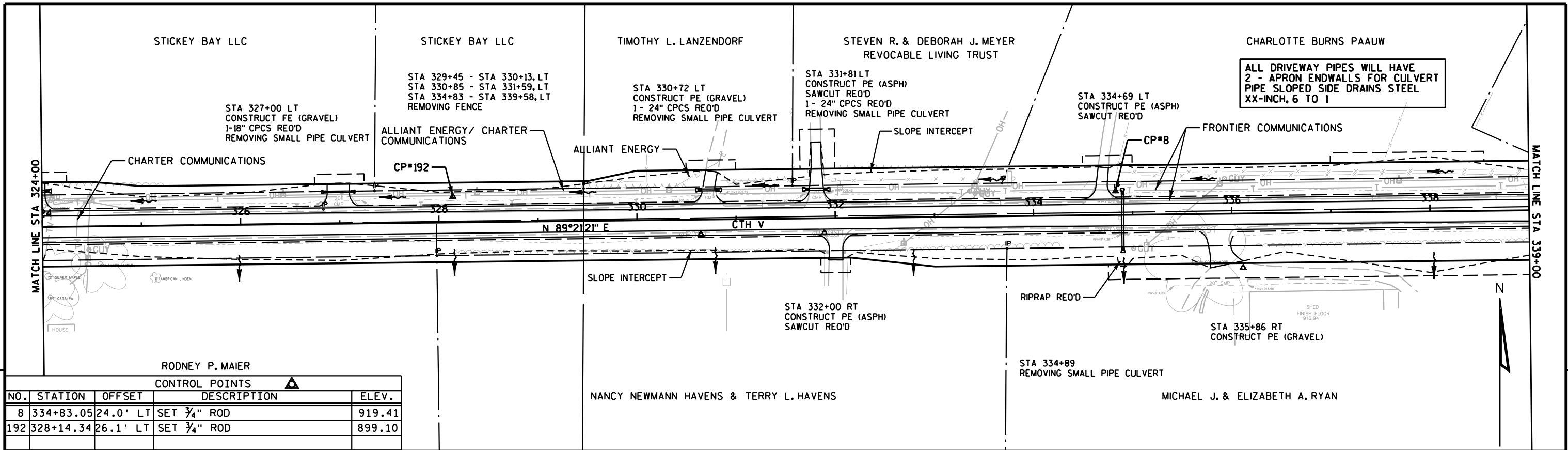
STA 307+49
REMOVING SMALL PIPE CULVERT

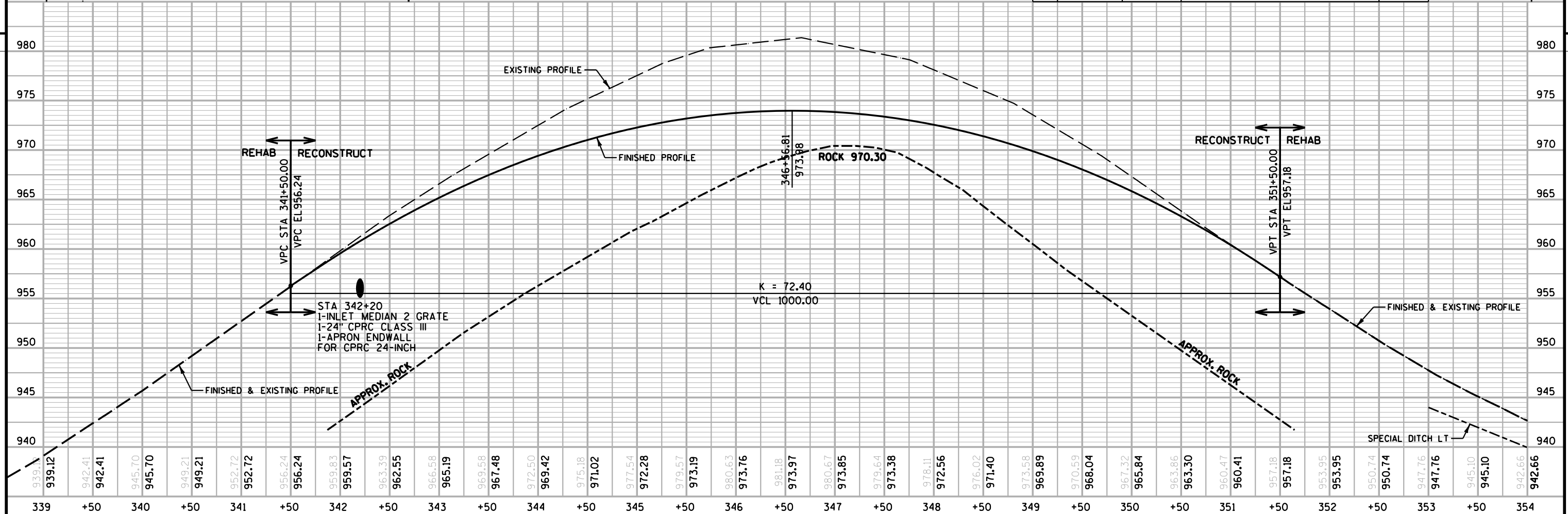
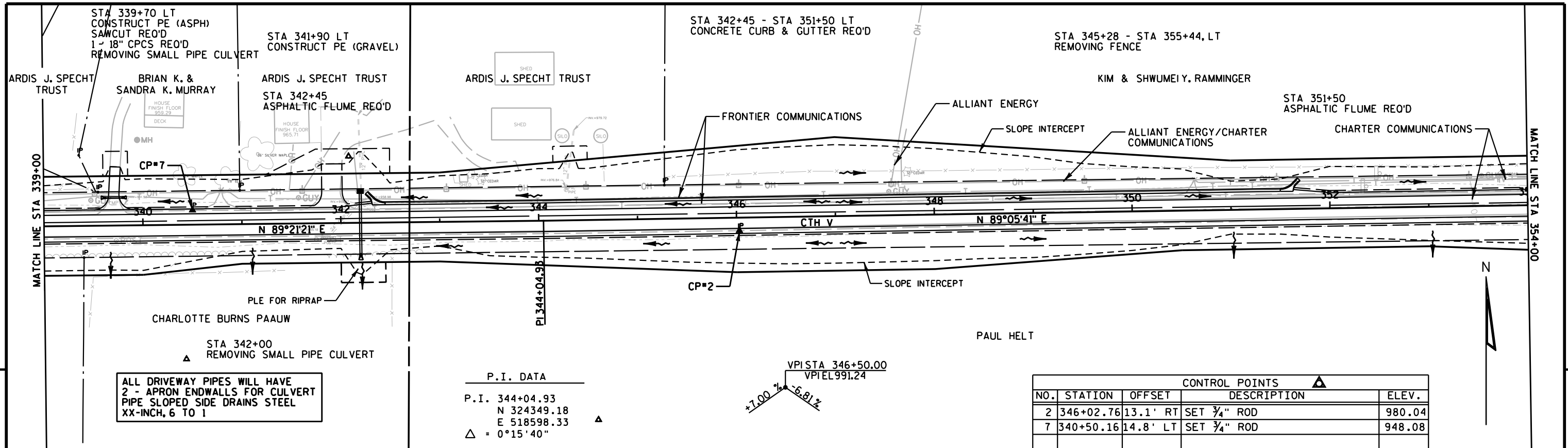
HELLENBRAND LIVING TRUST DATED 12/7/2000

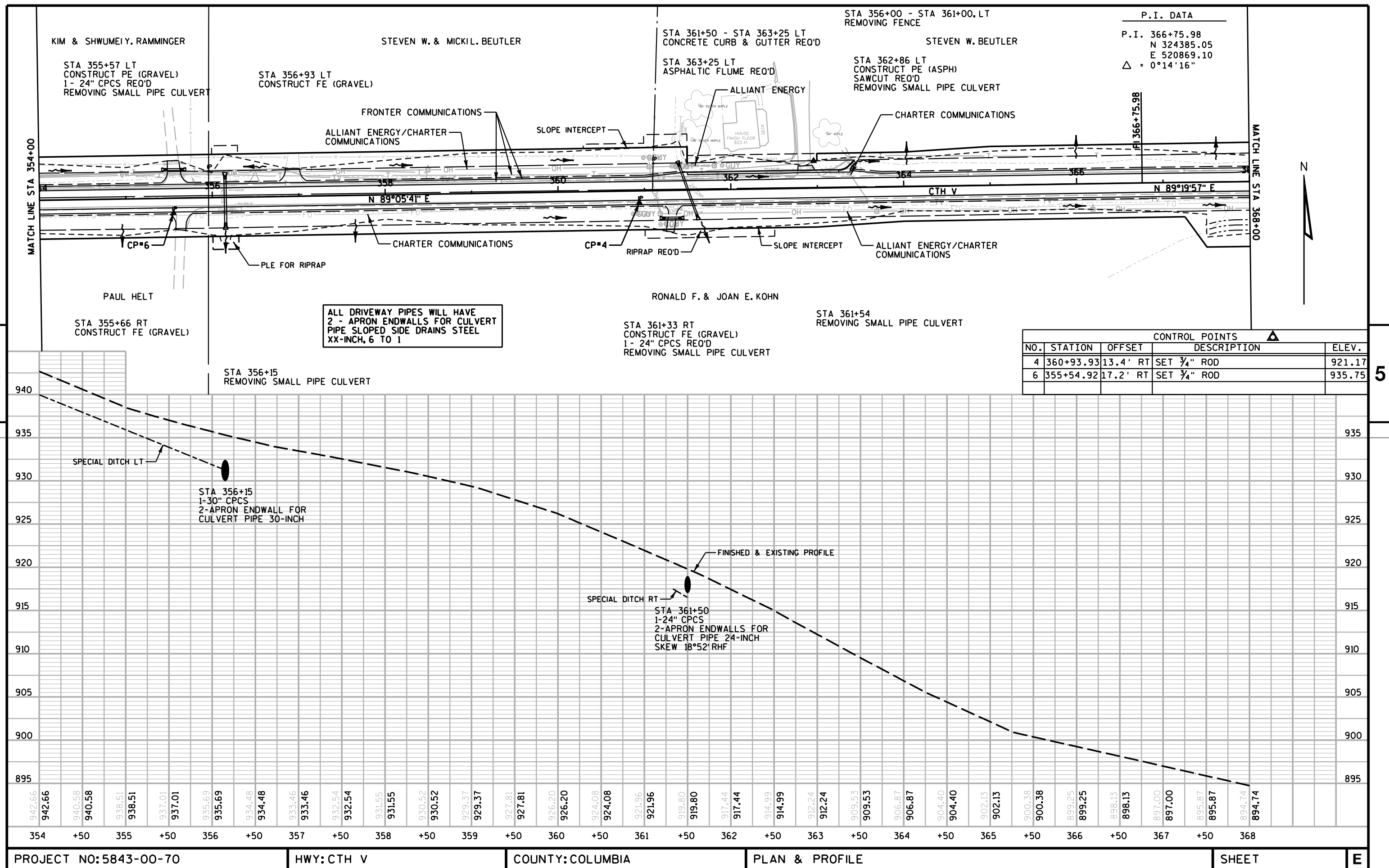
CONTROL POINTS				
NO.	STATION	OFFSET	DESCRIPTION	ELEV.
191	304+09.83	22.3' RT	SET 3/4" ROD	850.21

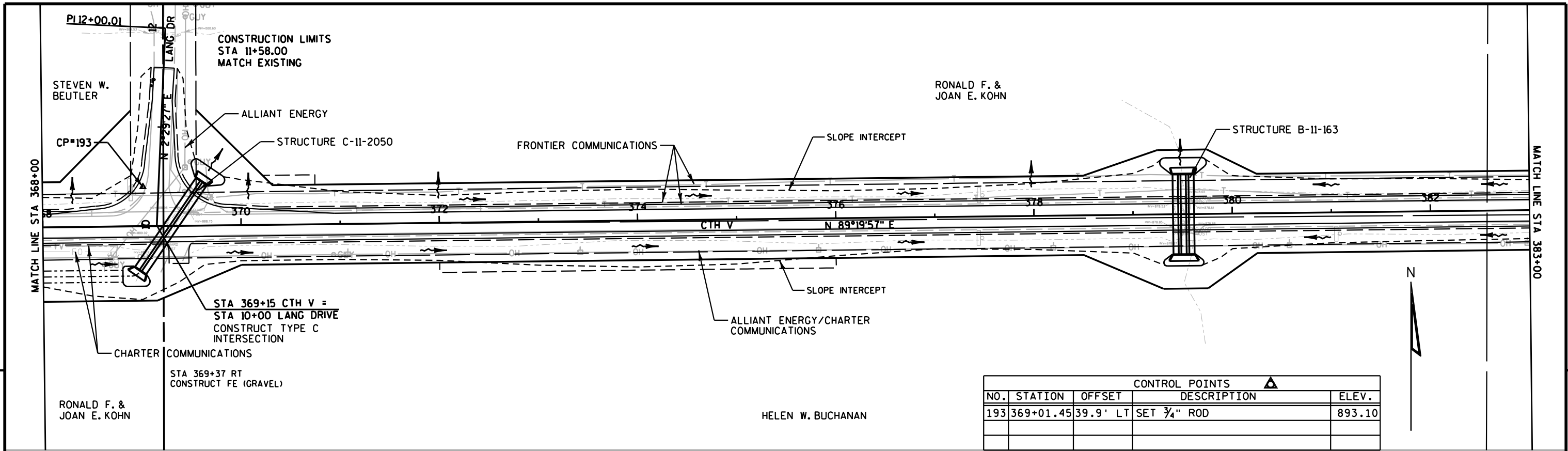


PROJECT NO: 5843-00-70	HWY: CTH V	COUNTY: COLUMBIA	PLAN & PROFILE	SHEET	E
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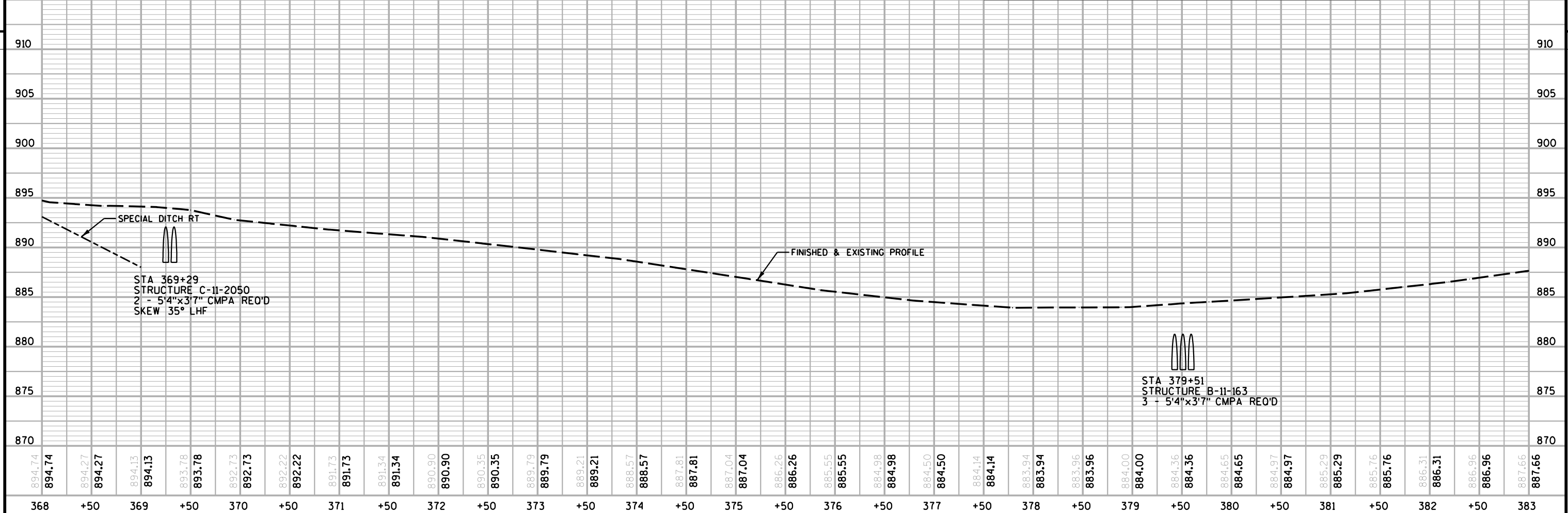




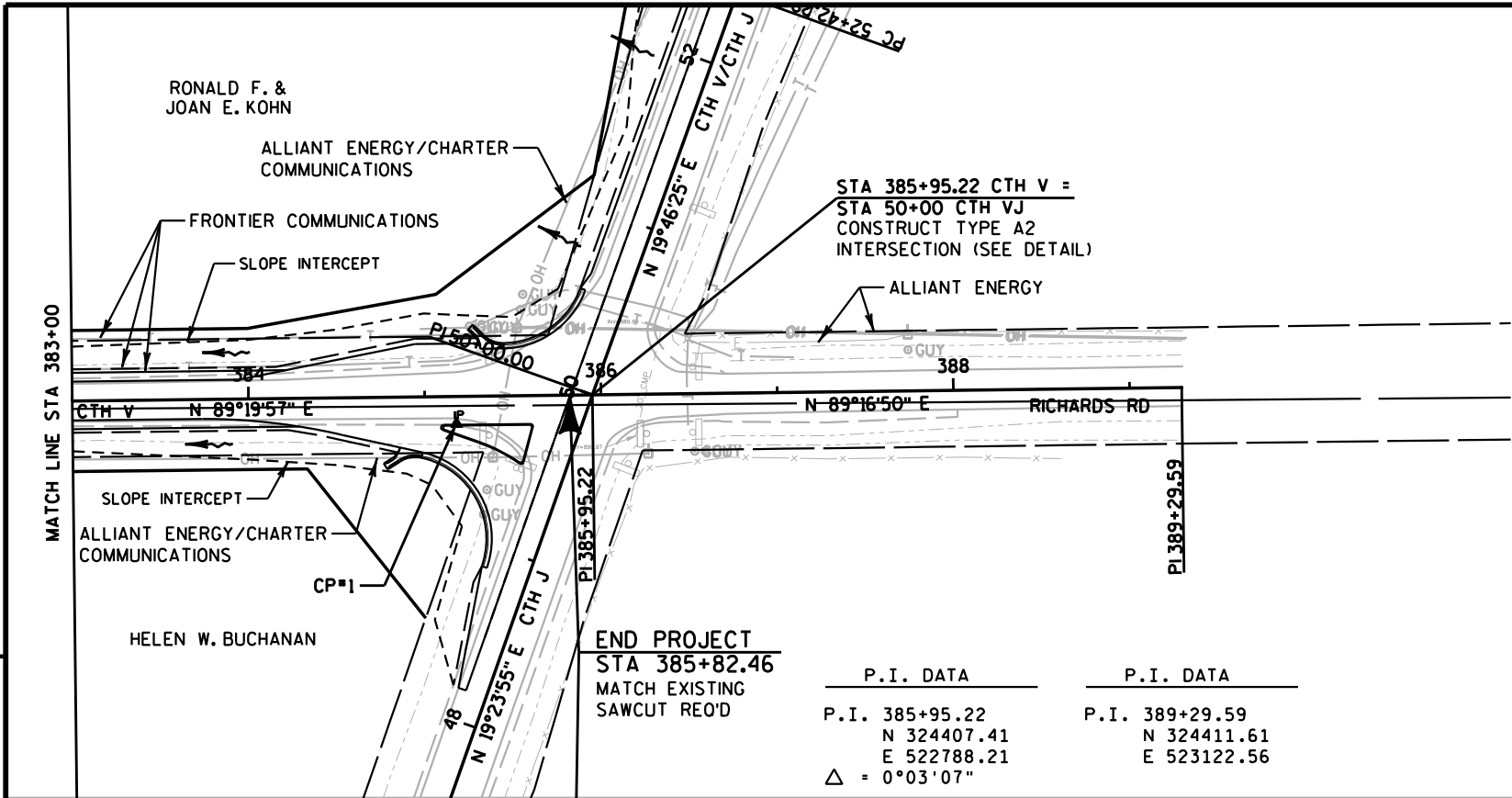




CONTROL POINTS				
NO.	STATION	OFFSET	DESCRIPTION	ELEV.
193	369+01.45	39.9' LT	SET 3/4" ROD	893.10

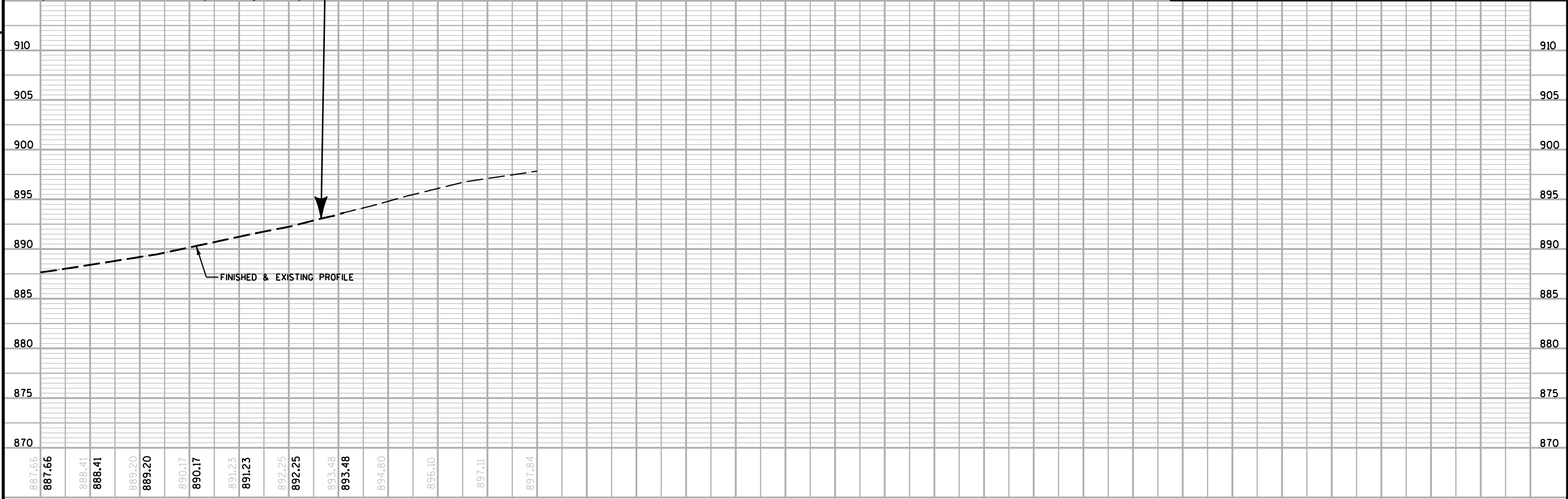


5



P.I. DATA		P.I. DATA	
P.I.	385+95.22	P.I.	389+29.59
	N 324407.41		N 324411.61
	E 522788.21		E 523122.56
$\Delta = 0^{\circ}03'07''$			

CONTROL POINTS Δ				
NO.	STATION	OFFSET	DESCRIPTION	ELEV.
1	385+17.98	15.5' RT	SET $\frac{3}{4}$ " ROD	891.11



5

CURVE DATA	
P.I.	46+95.73
	N 324264.38
	E 511820.31
Δ	= 43°52'06"
D	= 11°14'04"
T	= 205.37'
L	= 390.48'
E	= 39.80'
R	= 510.00'
P.C.	44+90.36
P.T.	48+80.84
S.E.	4.8%
L.R.	87.00'

ALLIANT ENERGY/CHARTER
COMMUNICATIONS
JEFFREY A. BROWNING & DEBBIE L
MADISON GAS & ELECTRIC
ALLIANT ENERGY

STA 46+30 LT
CONSTRUCT PE (ASPH)
SAWCUT REQ'D
1 - 18" CPCS REQ'D
REMOVING SMALL PIPE CULVERT

A diagram illustrating the components of a linear regression line. A solid line is drawn through a set of data points. An arrow labeled 'SLOPE' points to the line, and another arrow labeled 'INTERCEPT' points to the y-intercept of the line.

AMERICAN TRANSMISSION
COMPANY/ALLIANT ENERGY/
CHARTER COMMUNICATIONS

CONSTRUCTION LIMITS
STA 44+00.00
MATCH EXISTING
SAWCUT REQ'D

FRONTIER COMMUNICATIONS

SLOPE INTERCEPT

AMERICAN TRANSMISSION COMPANY/ALLIANT ENERGY/CHARTER COMMUNICATIONS

RONALD J. & HEATHER L. TREINEN

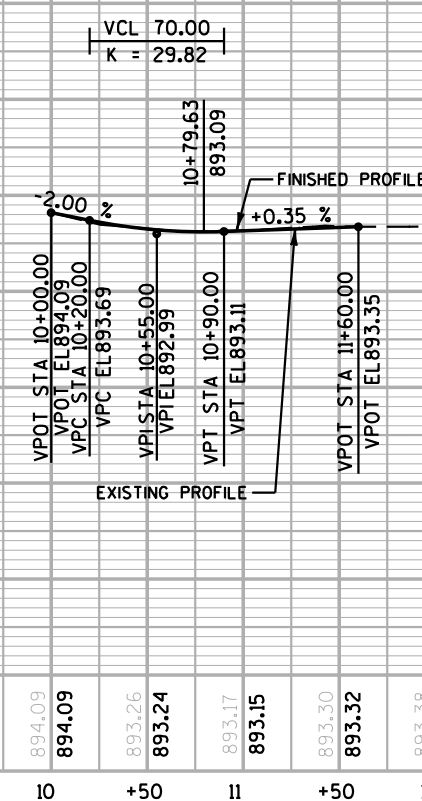
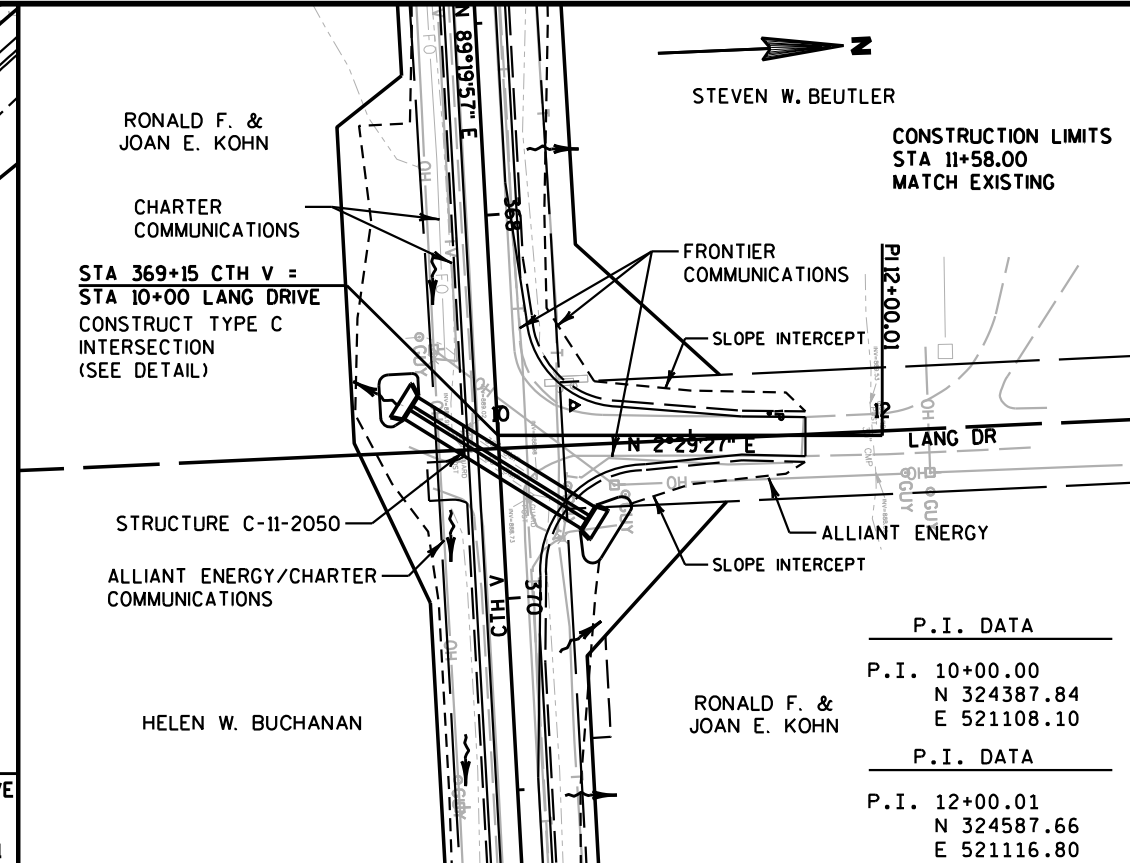
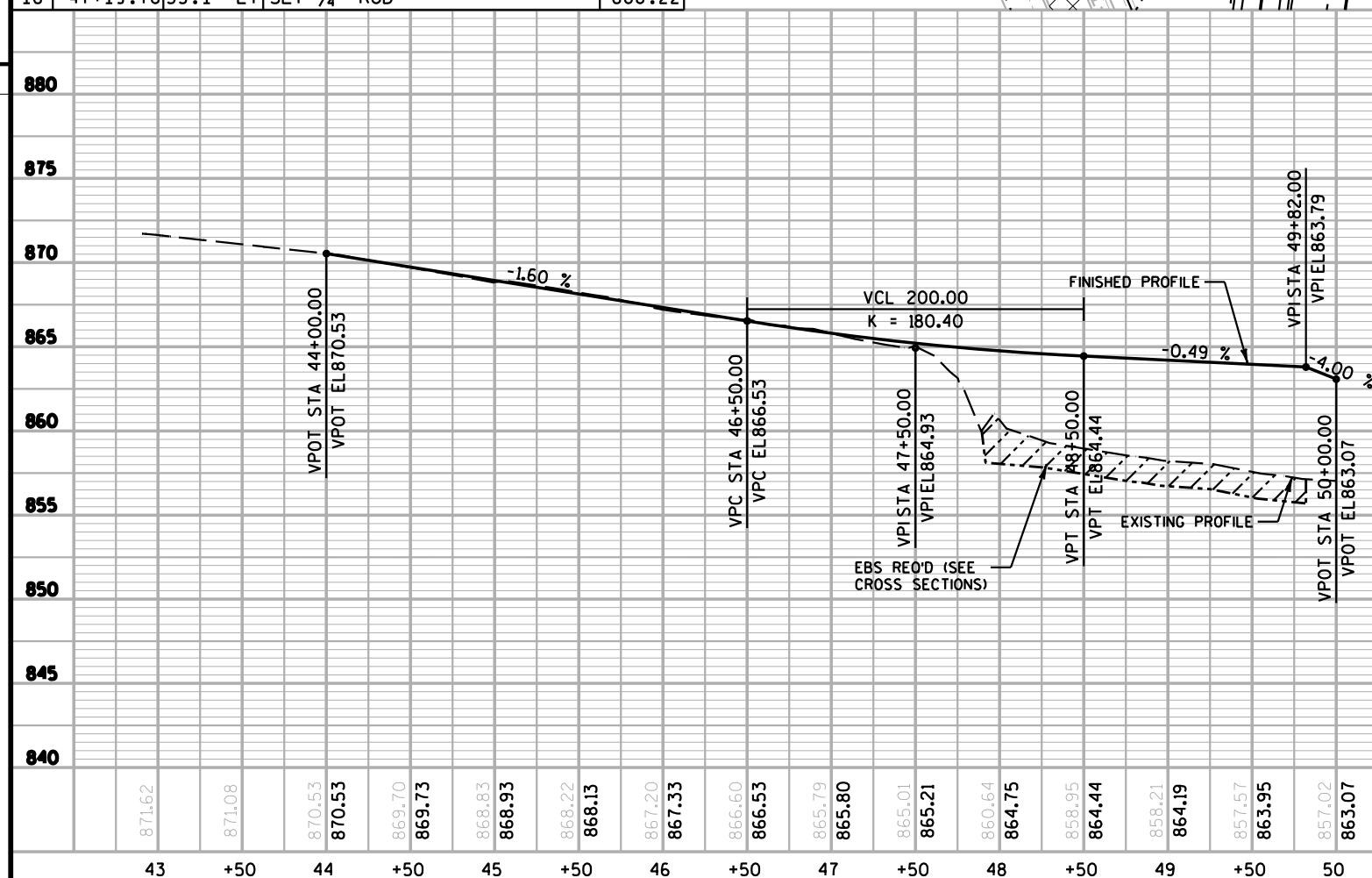
OBLITERATING OLD ROAD

STA 278+00 CTH V =
STA 50+00 RYAN ROAD
CONSTRUCT TYPE C
INTERSECTION
(SEE DETAIL)

LUCILLE R. FOSTER TRUST

ALL DRIVEWAY PIPES WILL HAVE
2 - APRON ENDWALLS FOR
CULVERT PIPE SLOPED SIDE
DRAINS STEEL XX-INCH, 6 TO 1

CONTROL POINTS 				
NO.	STATION	OFFSET	DESCRIPTION	ELEV.
18	47+19.76	33.1' LT	SET 3/4" ROD	866.22



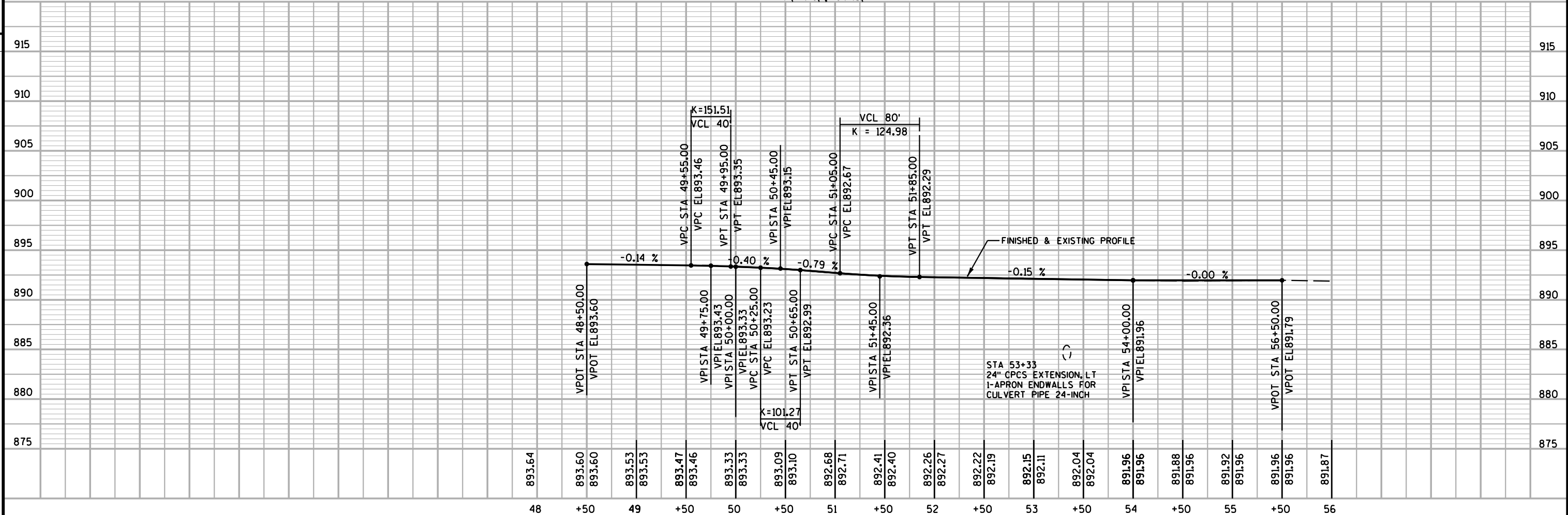
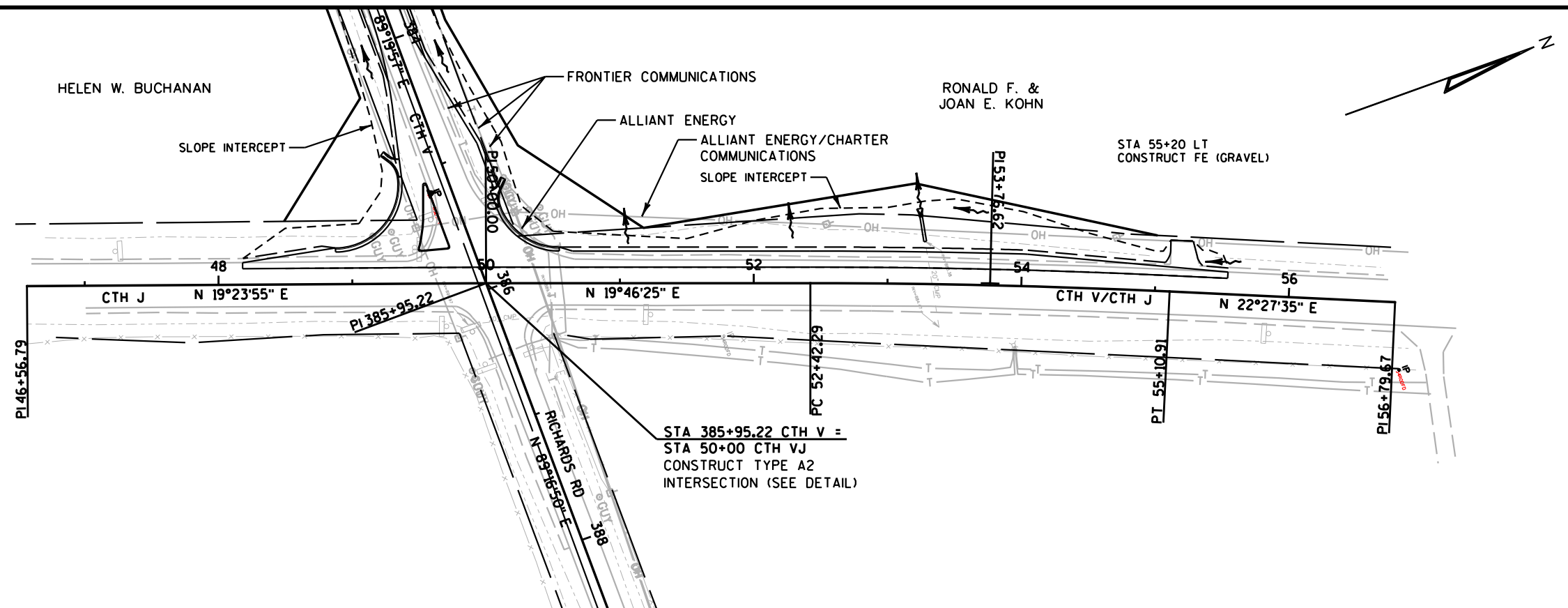
TE

P.I. DATA
P.I. 46+56.79
N 324083.68
E 522674.22

P.I. DATA
P.I. 50+00.00
N 324407.41
E 522788.21
 $\Delta = 0^{\circ}22'30''$

P.I. DATA
P.I. 56+79.67
N 325041.93
E 523031.42

CURVE DATA
P.I. 53+76.62
N 324761.82
E 522915.63
 $\Delta = 2^{\circ}41'10''$
D = $1^{\circ}00'00''$
T = 134.34'
L = 268.62'
E = 1.57'
R = 5729.58'
P.C. 52+42.29
P.T. 55+10.91
S.E. NC
L.R. NA



PROJECT NO: 5843-00-70

HWY: CTH V

COUNTY: COLUMBIA

PLAN & PROFILE - CTH VJ

SHEET

E

FILE NAME : T:\410520\DGN\0520050128..pp.dgn

PLOT DATE : 9/30/2014

PLOT BY : AYRES-EC

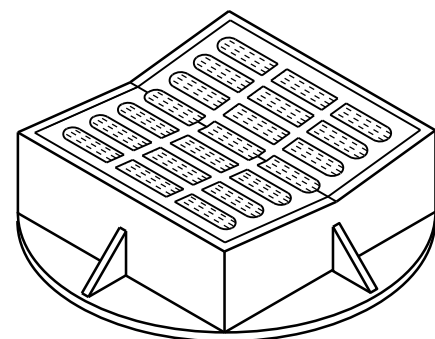
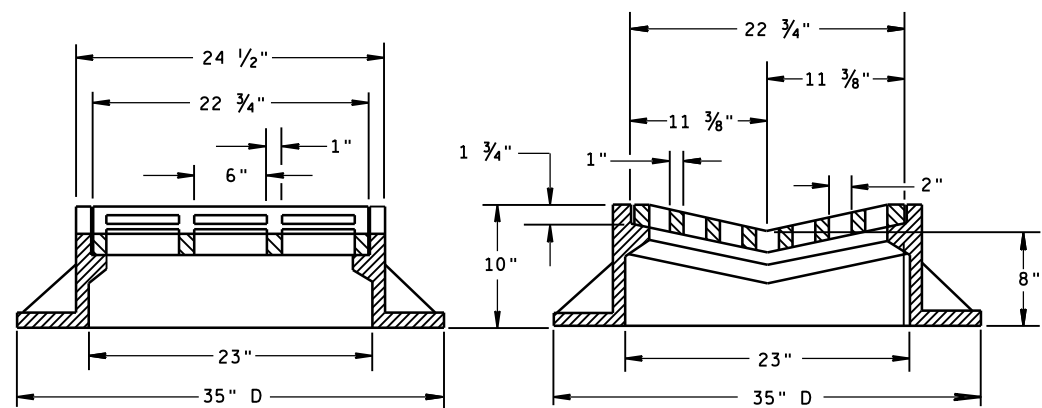
PLOT NAME :

PLOT SCALE : 1:100

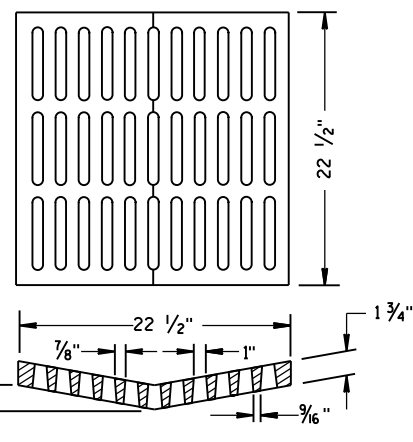
WISDOT/CADD SHEET 45

Standard Detail Drawing List

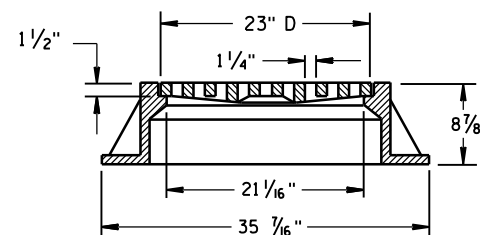
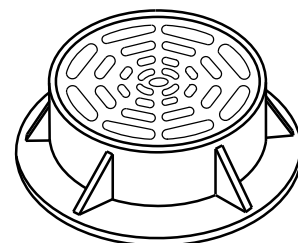
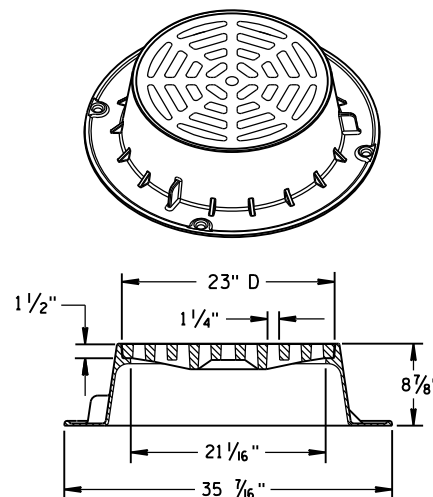
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08C08-01	INLETS MEDIAN 1 AND 2 GRATE
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F08-02	STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED CROSS DRAINS
08F10-01	CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH
09A01-13B	AT-GRADE SIDE ROAD INTERSECTION, TYPE "A1" & "A2"
13A08-01	ASPHALTIC RUMBLE STRIPS AT INTERSECTION
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C03-02	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C27-01	DOUBLE ARROW WARNING SIGN PLACEMENT
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D28-02	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY



TYPE "B"

ALTERNATIVE GRATE FOR
TYPE "B" COVER

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



TYPE "C"

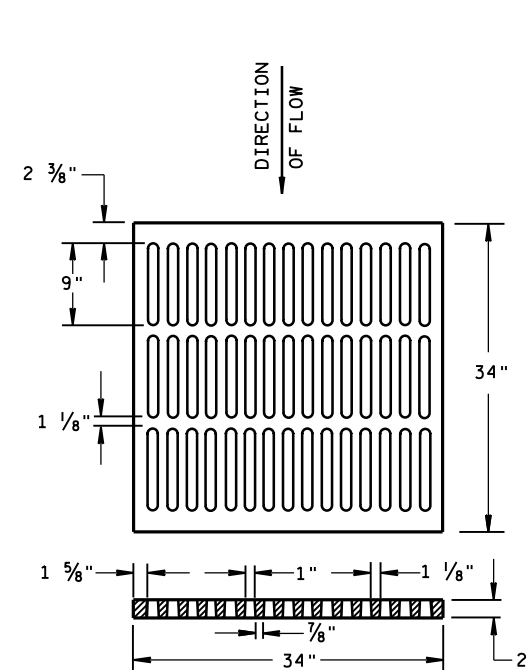
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

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

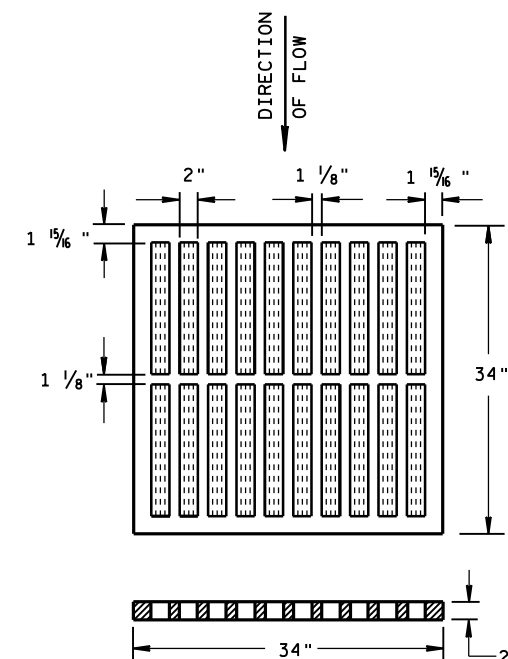
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



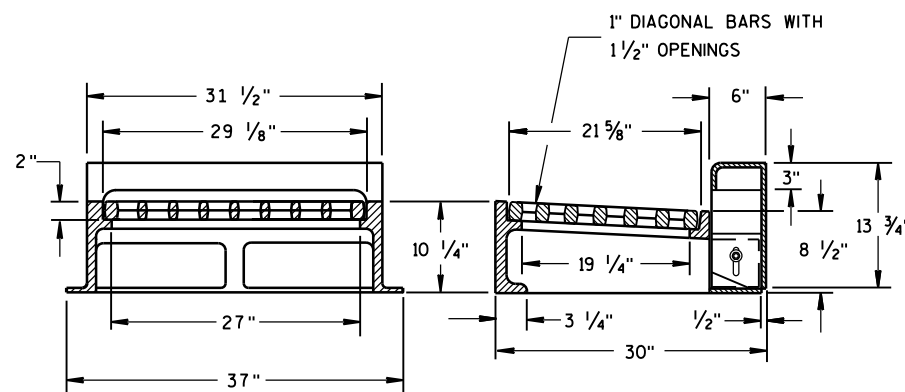
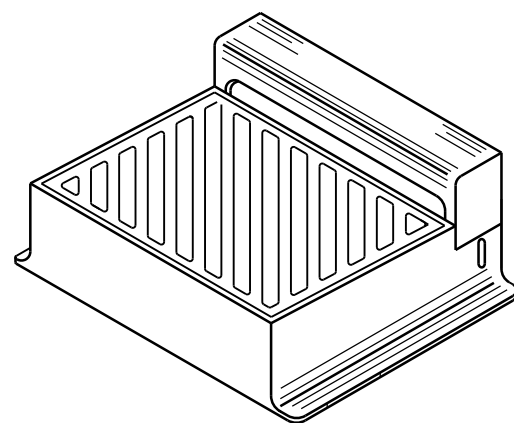
ALTERNATIVE TYPE "MS"

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



TYPE "MS"

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



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

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

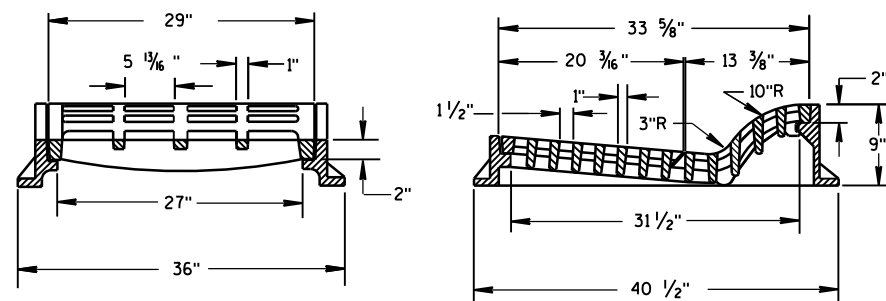
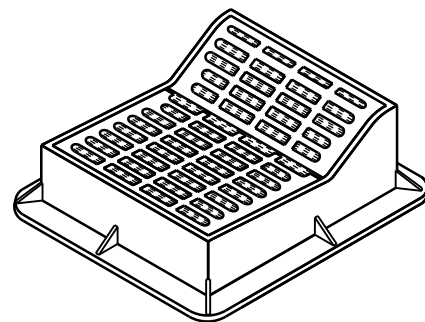
DIRECTION
OF FLOW

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

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

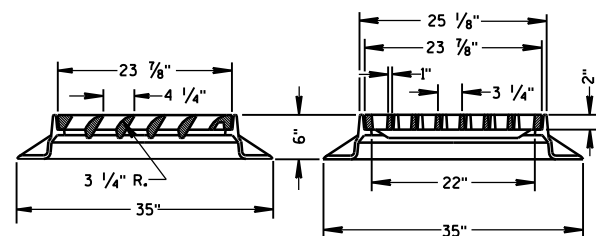
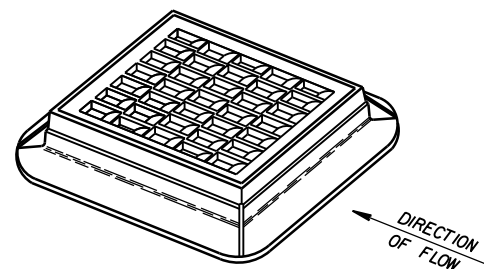
APPROVED
 11/27/2013
 DATE
 FHWA

/S/ Jerry H. Zogg
 ROADWAY STANDARDS DEVELOPMENT
 ENGINEER

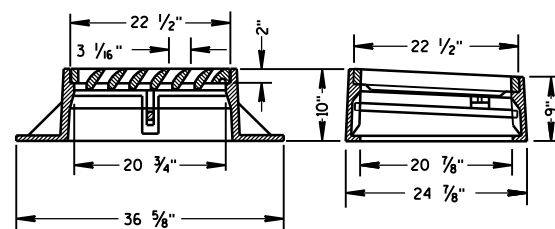
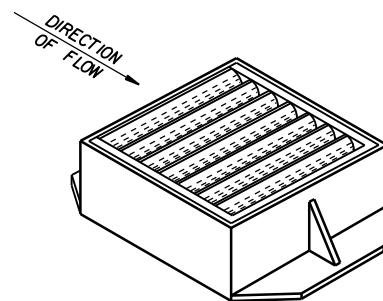


TYPE "F"

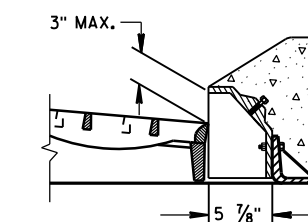
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.



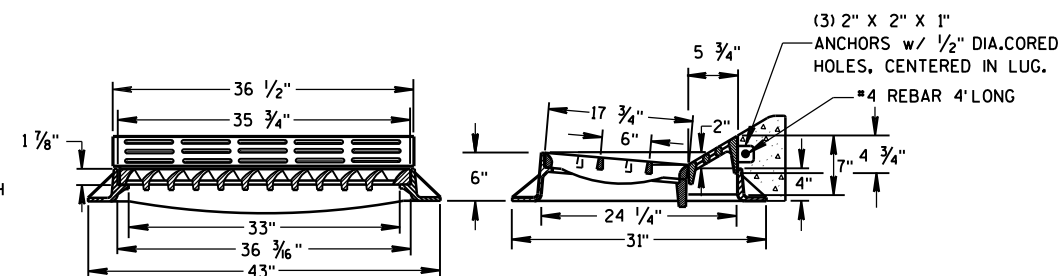
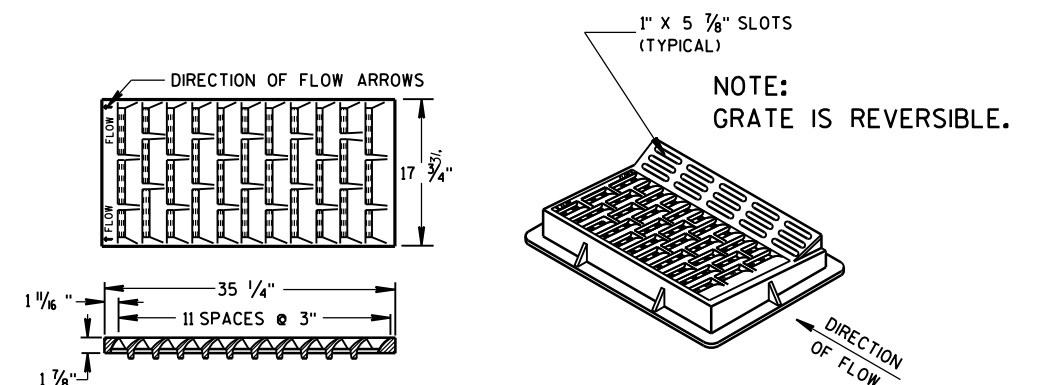
TYPE "S"



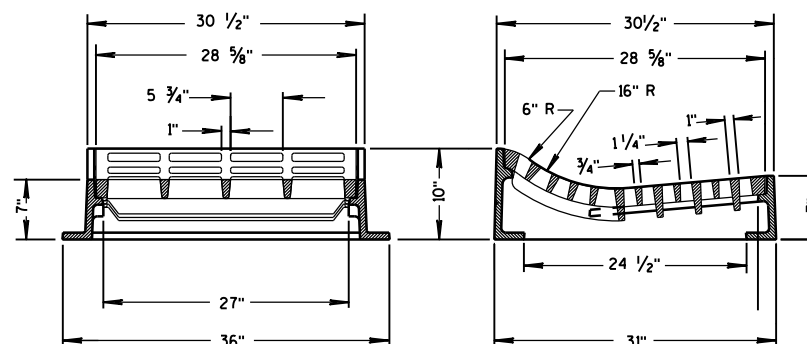
TYPE "V"

ALTERNATIVE CURB BOX
FOR TYPE "HM" COVERUSE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLENOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

GENERAL NOTES

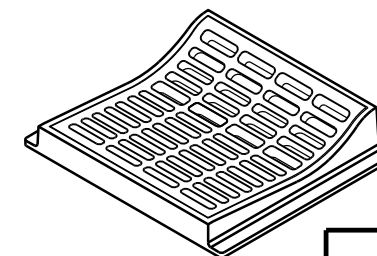
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING
SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND
THE APPLICABLE SPECIAL PROVISIONS.DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED
TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION
FOR EQUIVALENT CAPACITY AND STRENGTH.

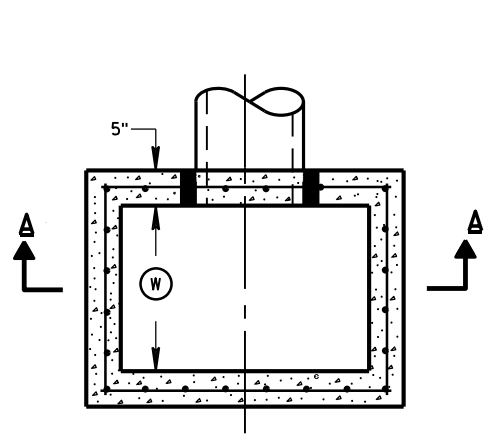
TYPE "HM"

USE WITH TYPES A & D CONCRETE
CURB & GUTTER, 36 INCH.NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE

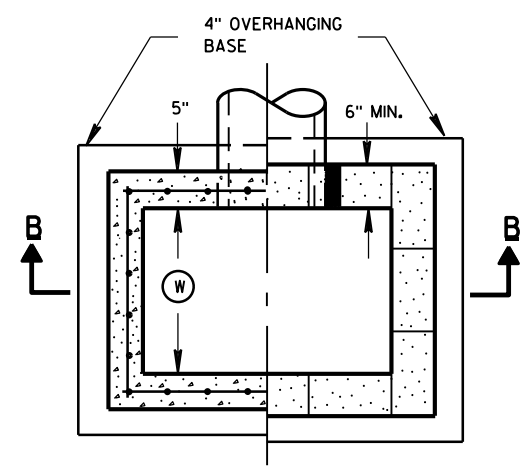
TYPE "T"

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

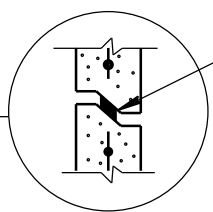
INLET COVERS
TYPE F, HM, HM-S, S, T, V,
HM-GJ, & HM-GJ-SSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATIONAPPROVED
11/27/2013
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



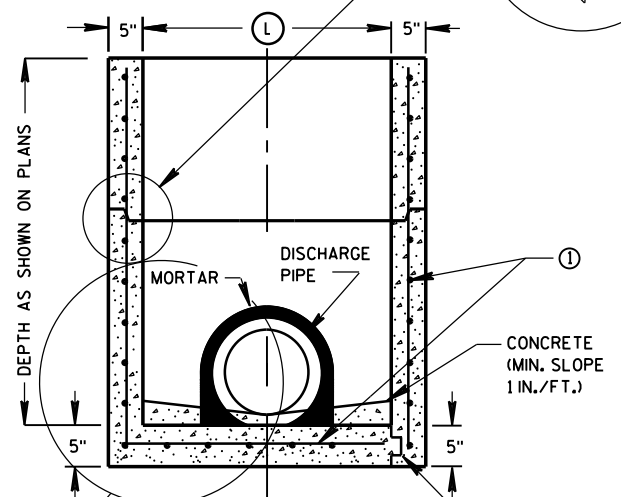
PLAN VIEW



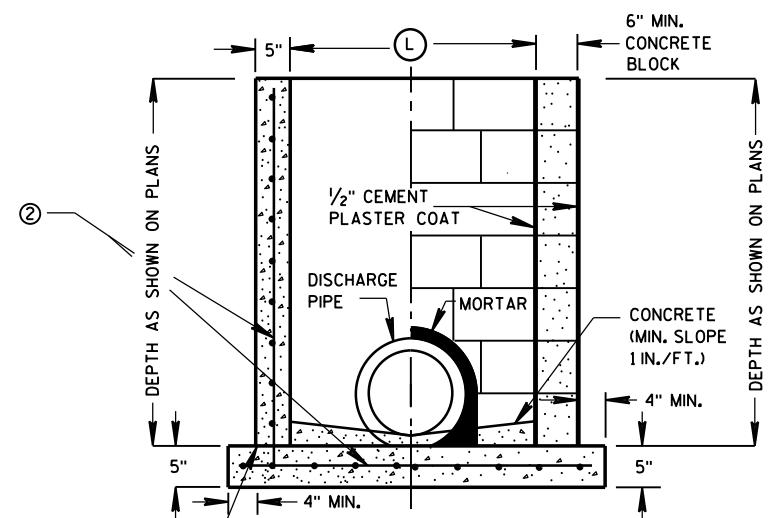
PLAN VIEW



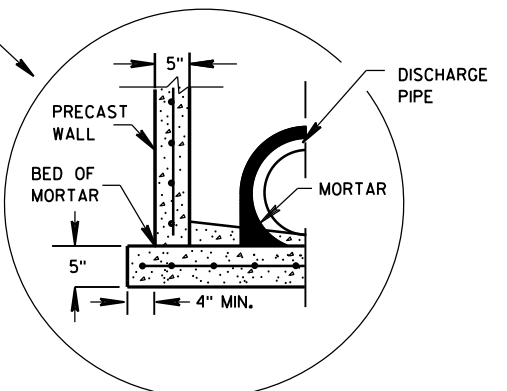
RISER JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

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

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

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

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

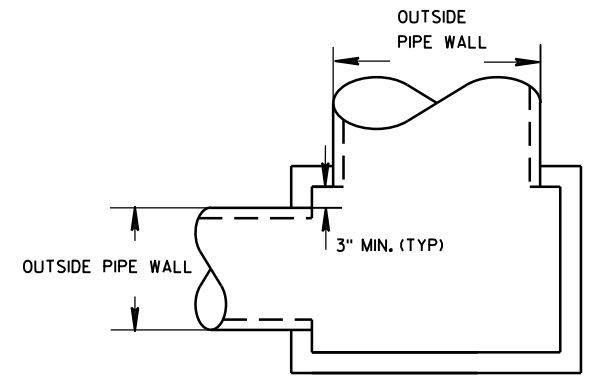
- ① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH ① (FT)	LENGTH ② (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



DETAIL "A"

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

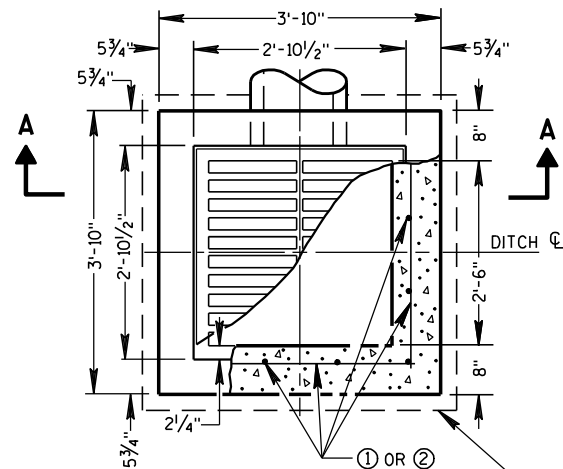
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012
DATE

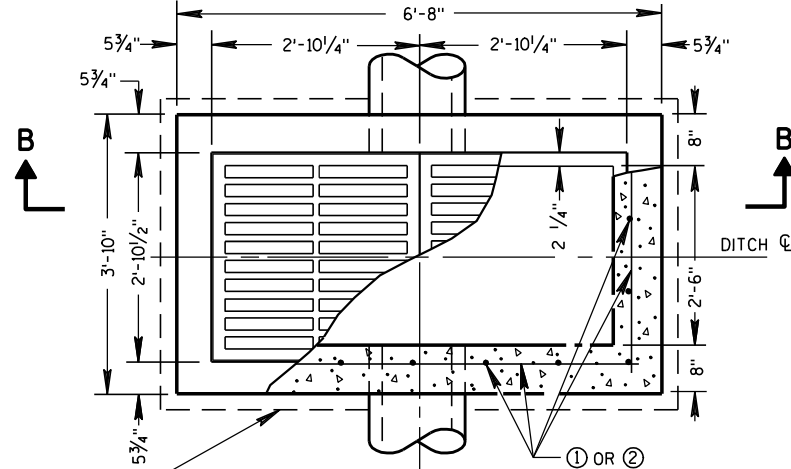
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

FHWA

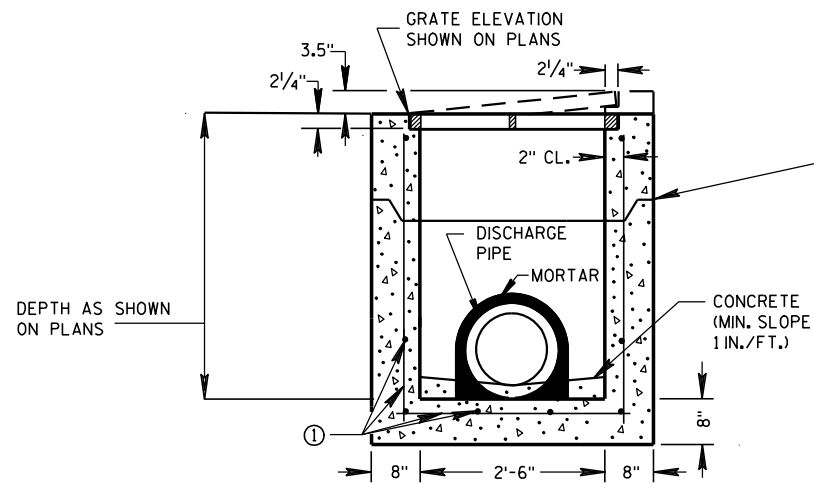


PLAN VIEW

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



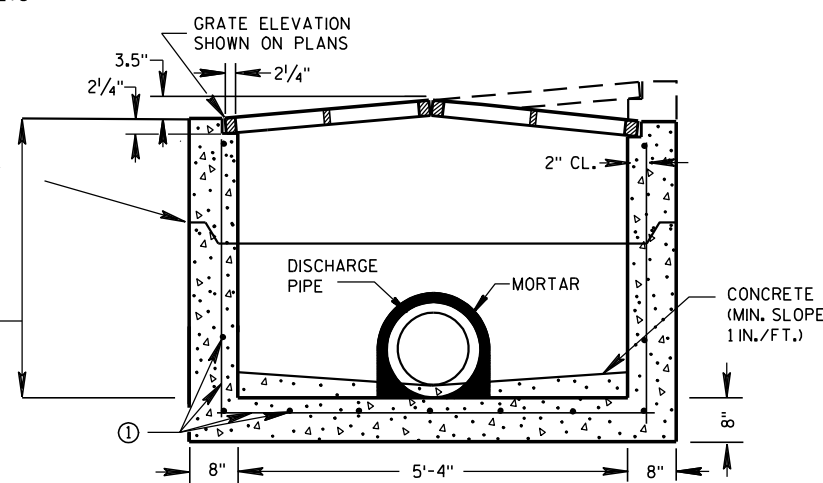
PLAN VIEW



PRECAST REINFORCED CONCRETE SECTION A-A

DEPTH AS SHOWN ON PLANS

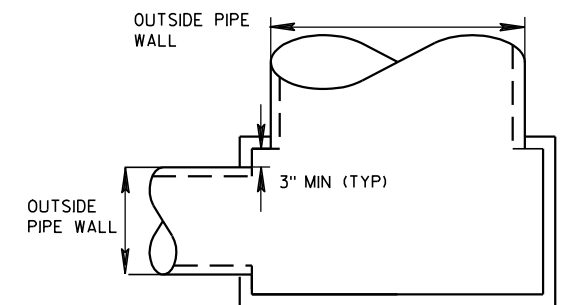
SEE DETAIL "B"



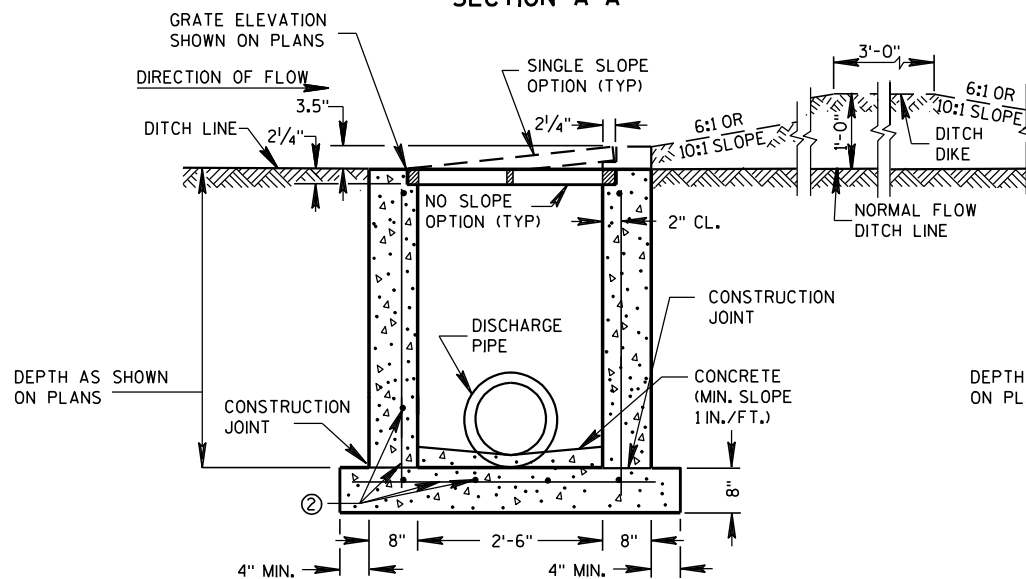
PRECAST REINFORCED CONCRETE SECTION B-B

PIPE MATRIX

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

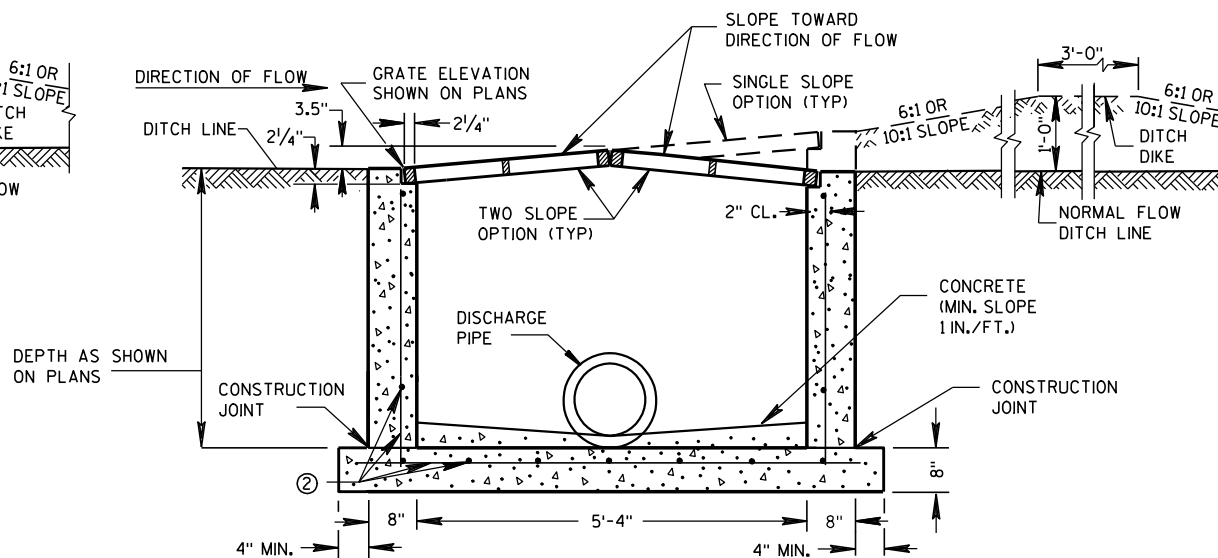


DETAIL "A"



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A

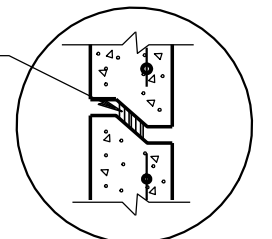
INLETS MEDIAN 1 GRATE



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

INLETS MEDIAN 2 GRATE

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



DETAIL "B"

GENERAL NOTES

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

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, IG-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

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

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

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

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

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

INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/5/2012

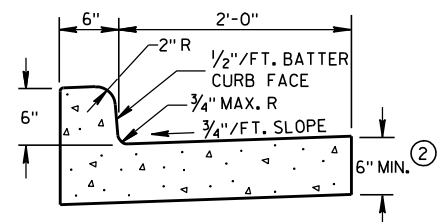
DATE

FHWA

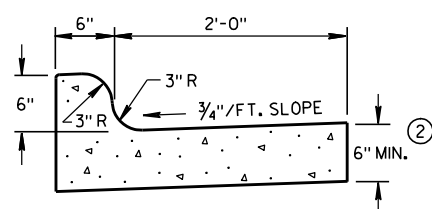
/s/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

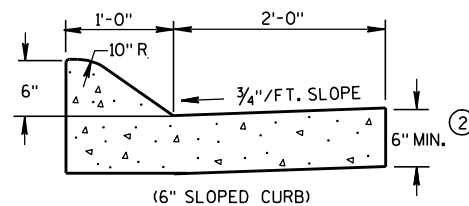
ENGINEER



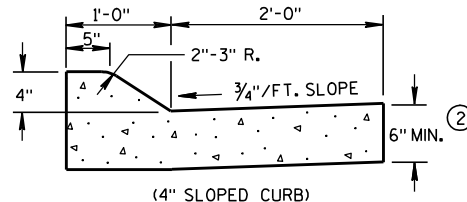
TYPES A & D ①



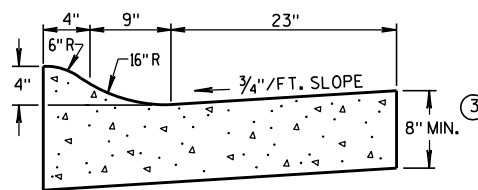
TYPES K & L ①



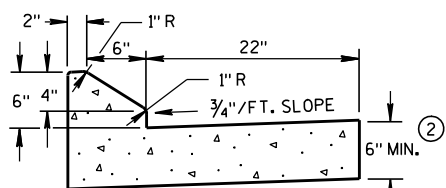
(6" SLOPED CURB)



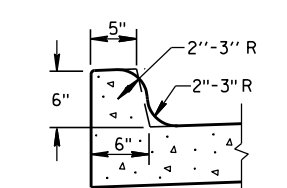
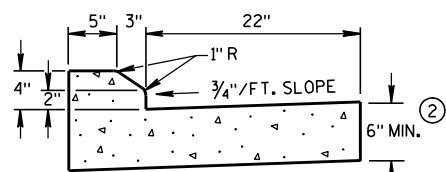
TYPES A & D ①



4" SLOPED CURB TYPES R & T ① ④

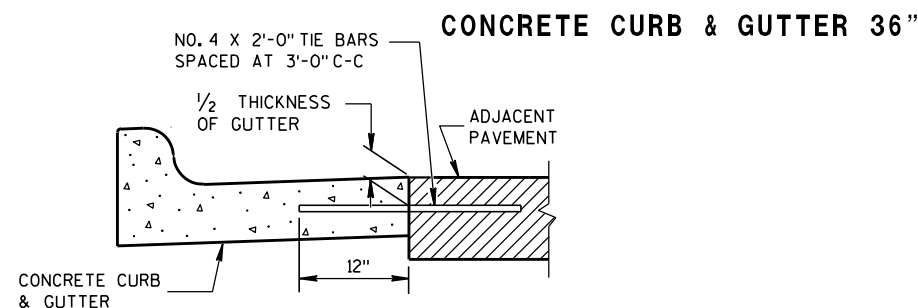


6" SLOPED CURB TYPES G & J ①

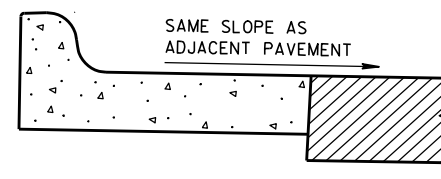
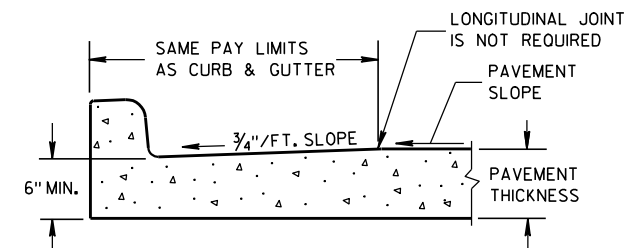
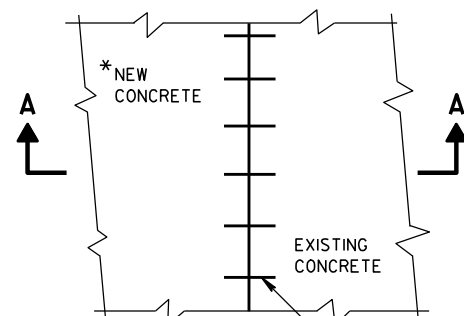
OPTIONAL CURB SHAPE
FOR TYPES K & L ①

4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"



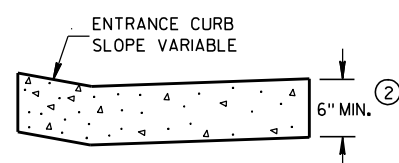
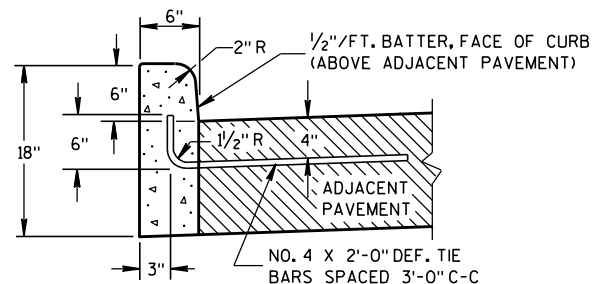
CONCRETE CURB & GUTTER 36"

REVERSE SLOPE GUTTER
(TYPICAL FOR ALL CURB & GUTTER TYPES)PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER

PLAN VIEW

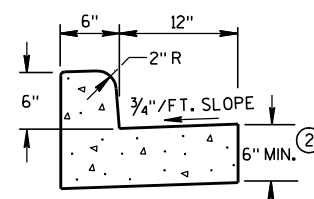
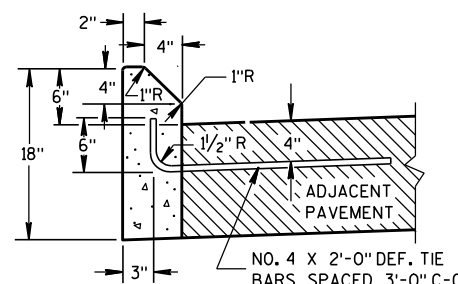
* NEW CURB & GUTTER,
SURFACE DRAINS,
CONCRETE PAVEMENT
OR OTHER NEW CONCRETE.

TYPICAL TIE BAR LOCATION ①

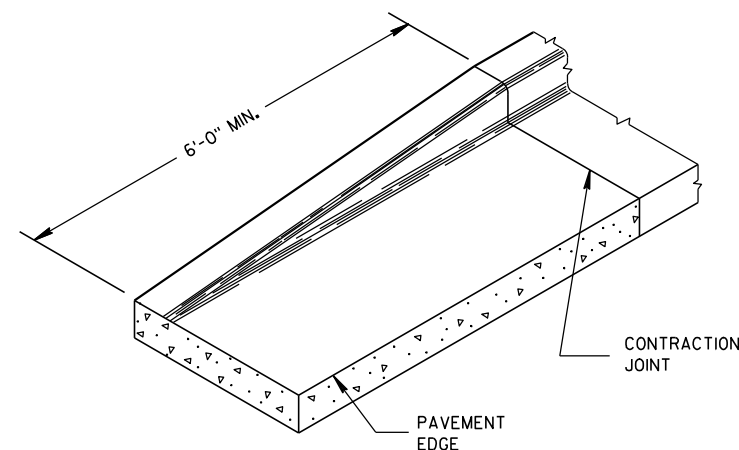
DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)

TYPES A & D ①

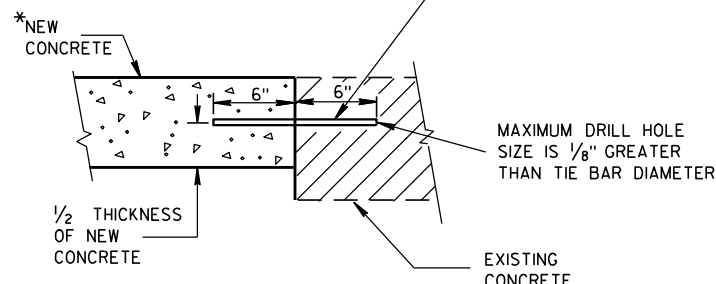
CONCRETE CURB

TYPES A & D
CONCRETE CURB & GUTTER 18"

TYPES G & J ①



END SECTION CURB & GUTTER

SECTION A-A
TIE BARS DRILLED
INTO EXISTING PAVEMENT

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

MAXIMUM DRILL HOLE
SIZE IS 1/8" GREATER
THAN TIE BAR DIAMETER

EXISTING
CONCRETE

GENERAL NOTES

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

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

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

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

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

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

CONCRETE CURB, CONCRETE
CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/4/08

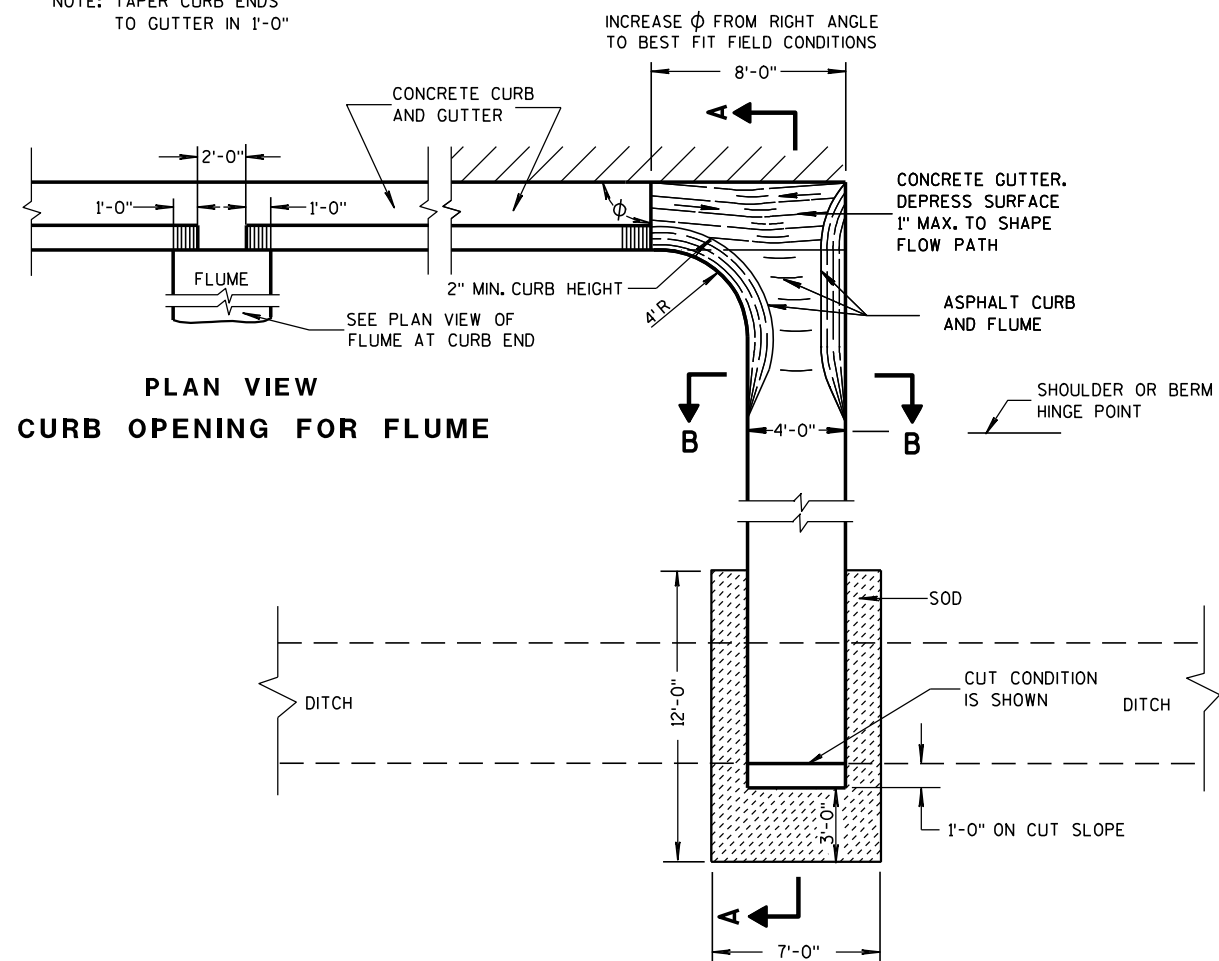
DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

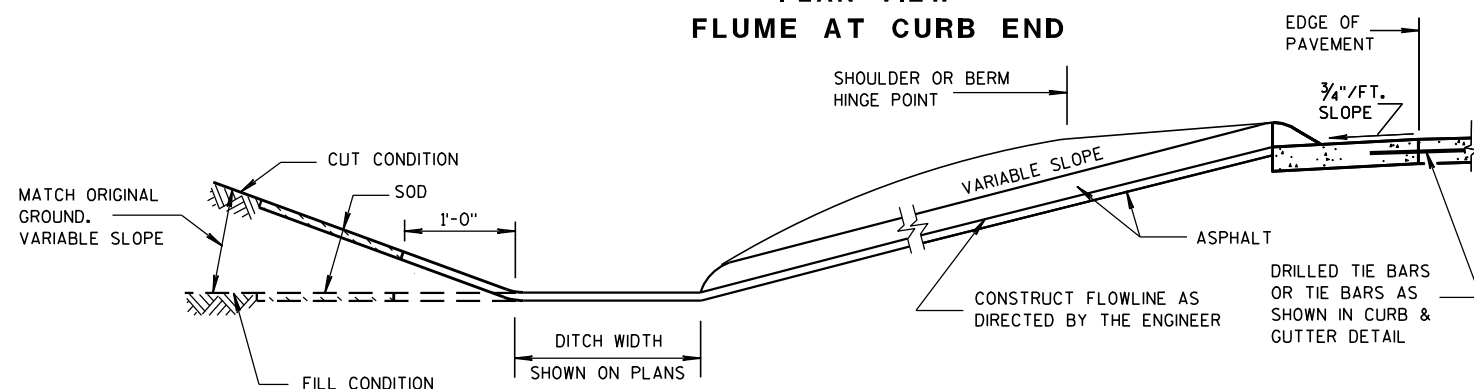
ASPHALTIC FLUME

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

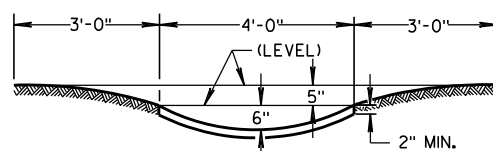


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

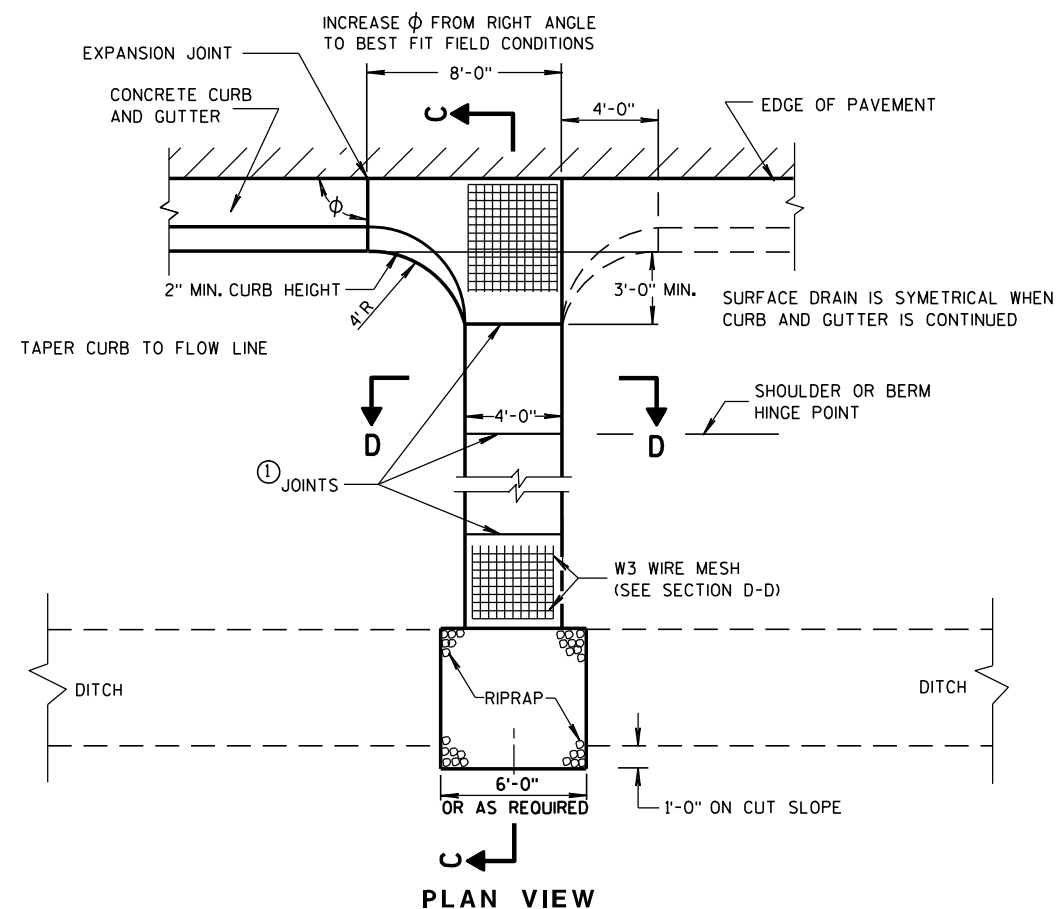
GENERAL NOTES

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

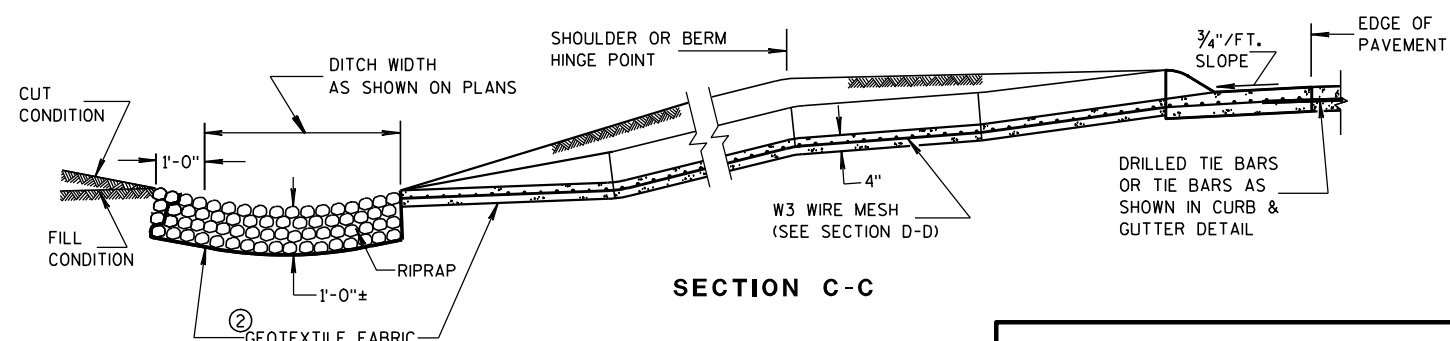
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

- ① JOINTS SHALL BE 1/8" TO 1/4" INCH WIDE BY 1 1/2" INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

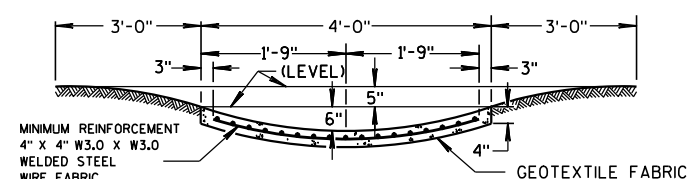
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

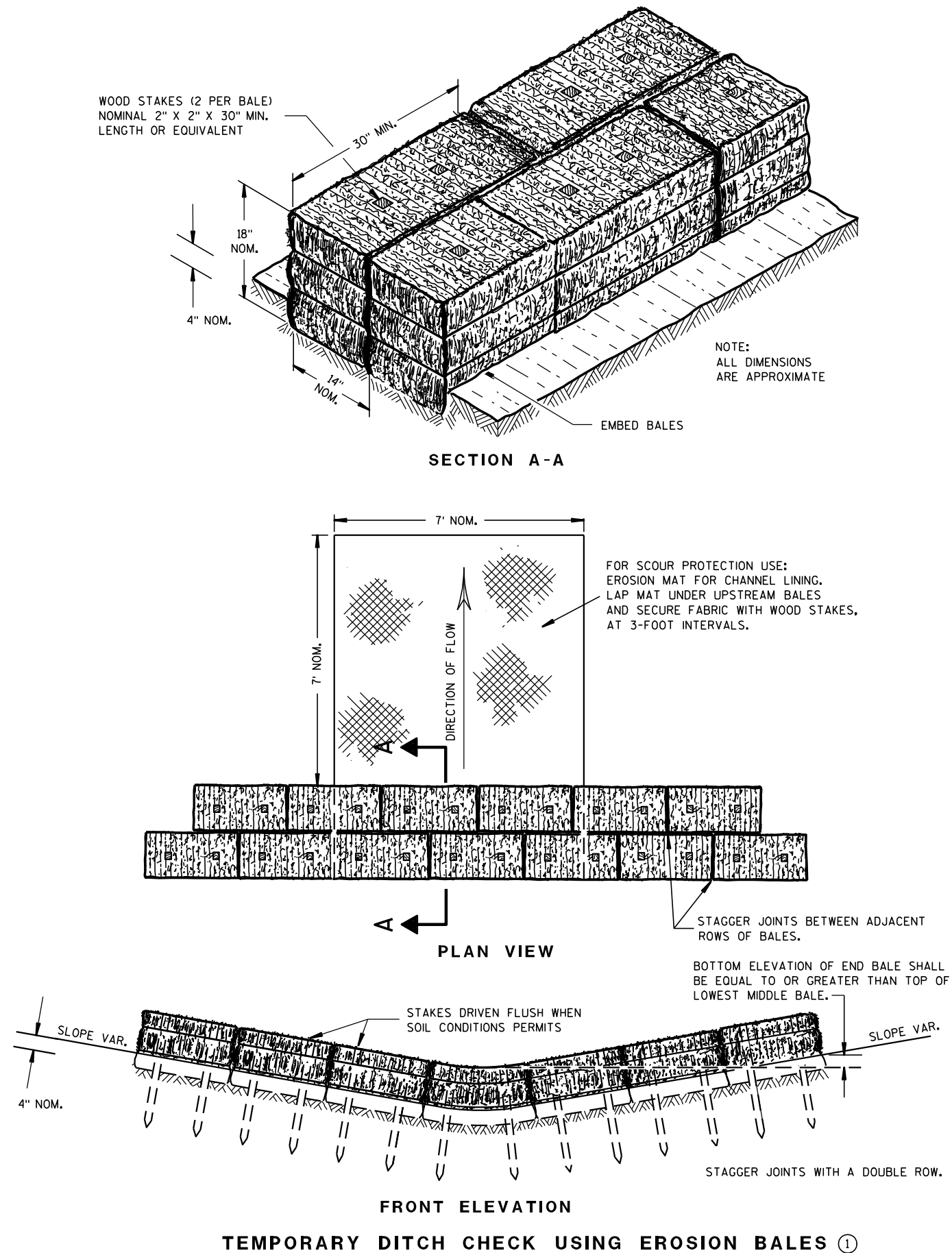
APPROVED

9-4-08

DATE

FHWA

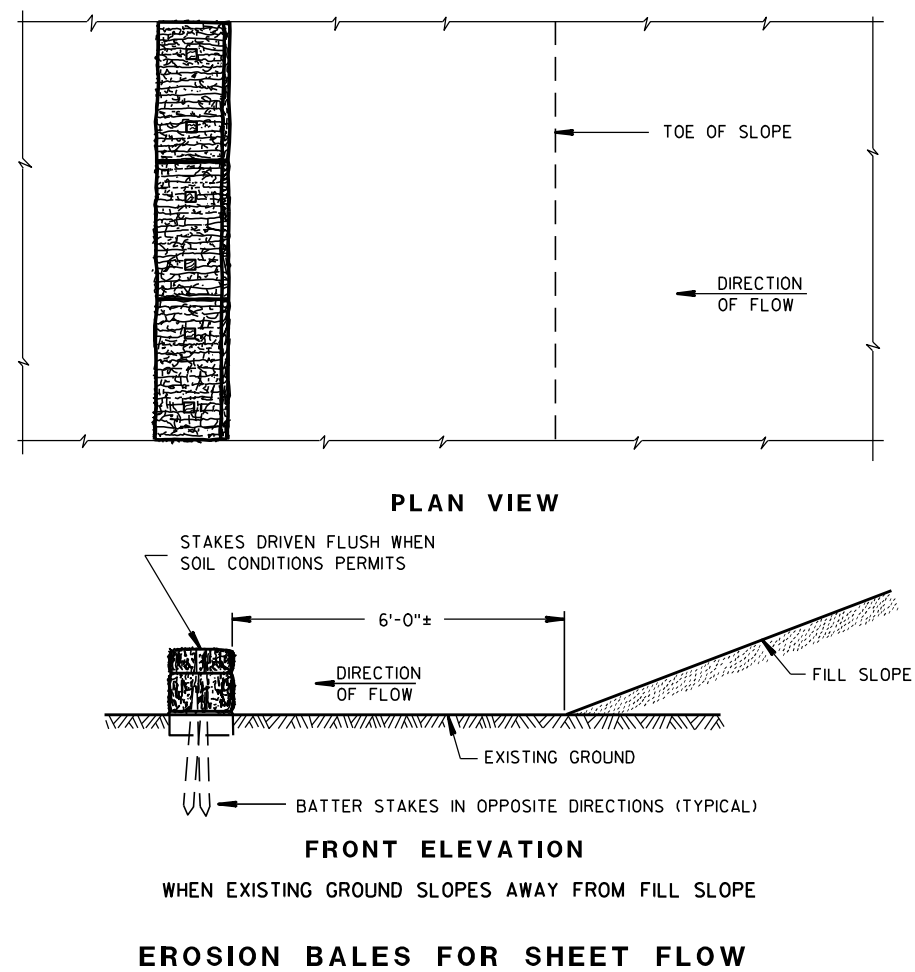
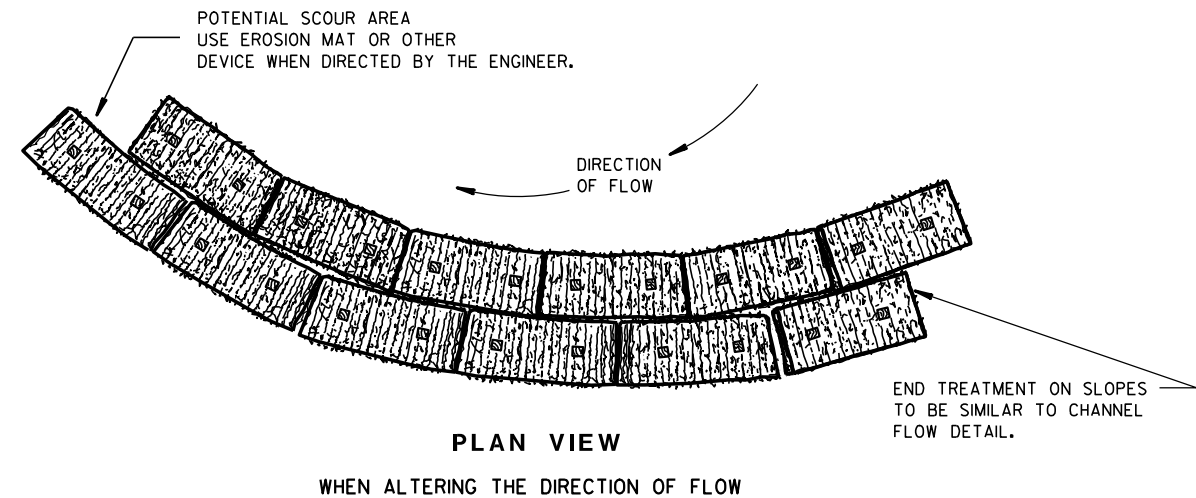
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



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

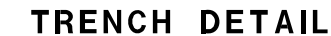
APPROVED

6/04/02
DATE/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

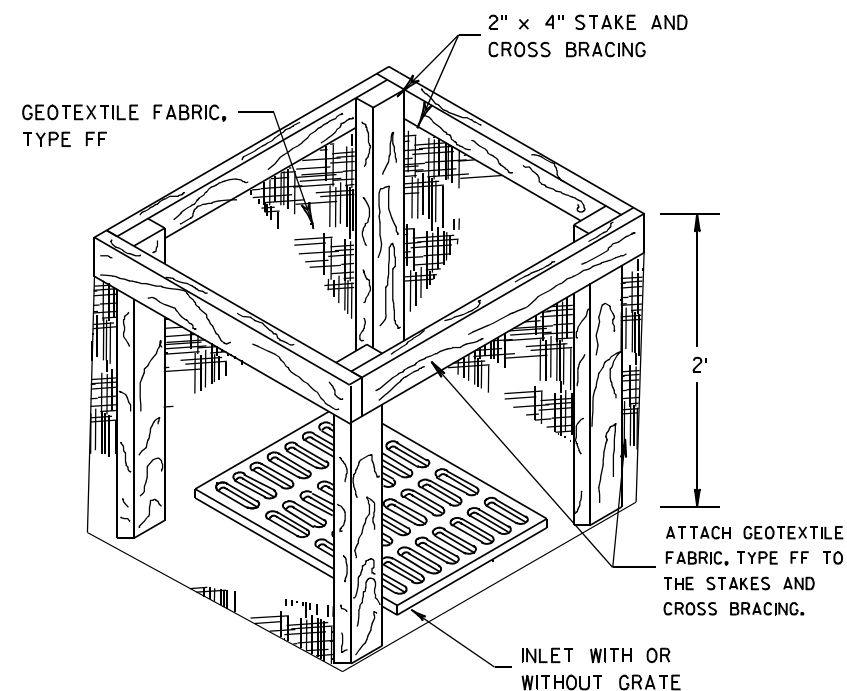
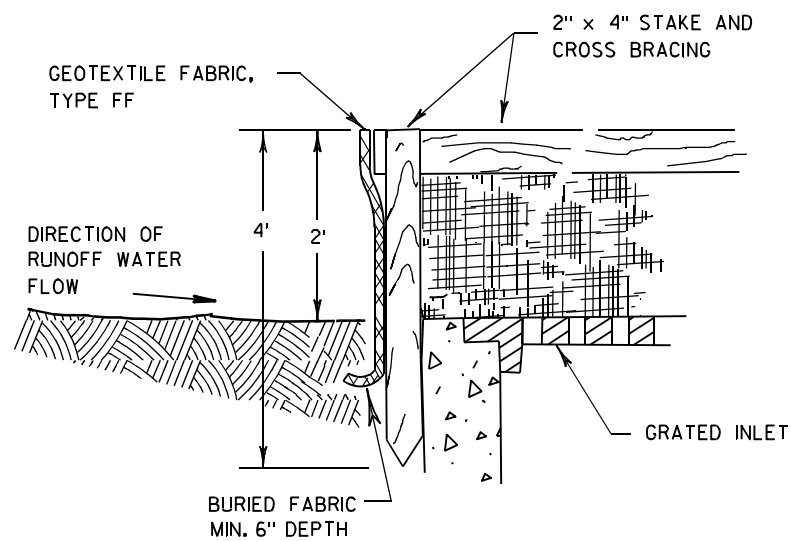
FHWA



- 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 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/S/ <u>Beth Cannestra</u> CHIEF ROADWAY DEVELOPMENT ENGINEER



INLET PROTECTION, TYPE A

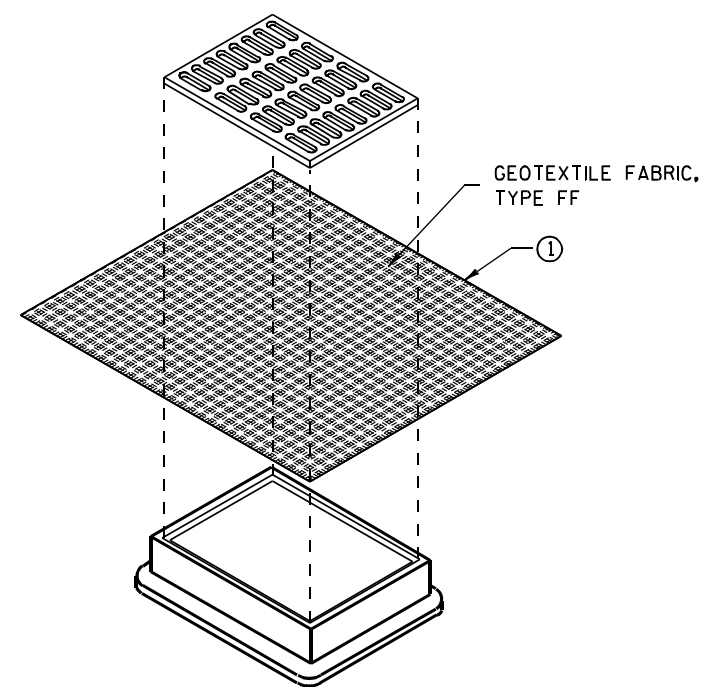
GENERAL NOTES

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.

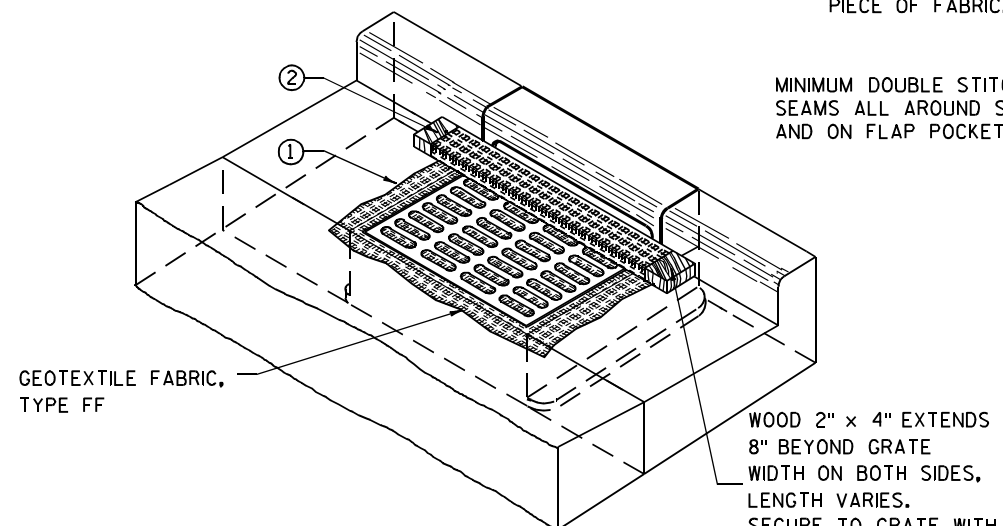
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.

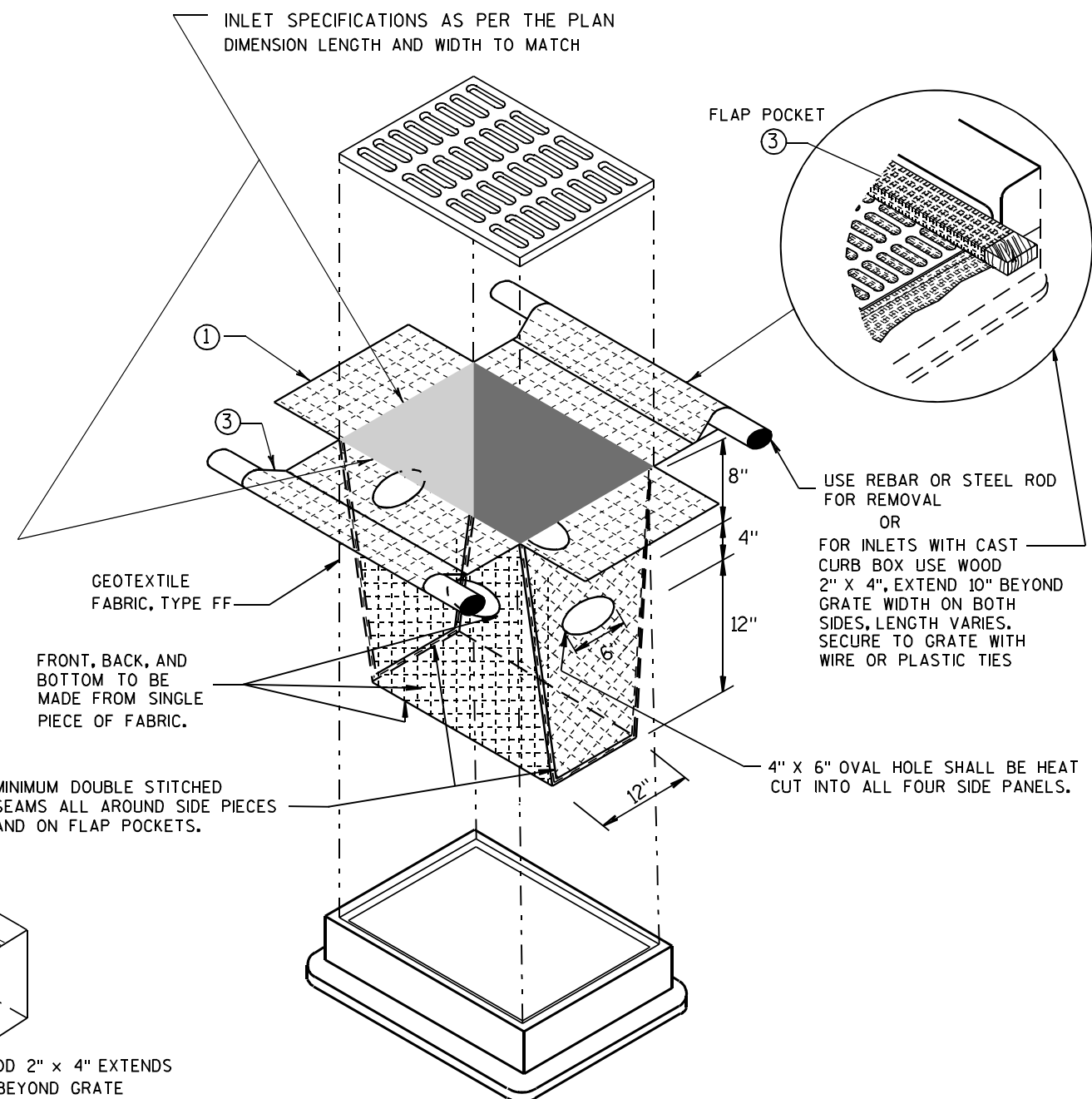
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

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)

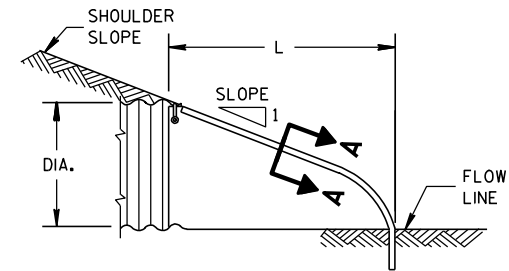
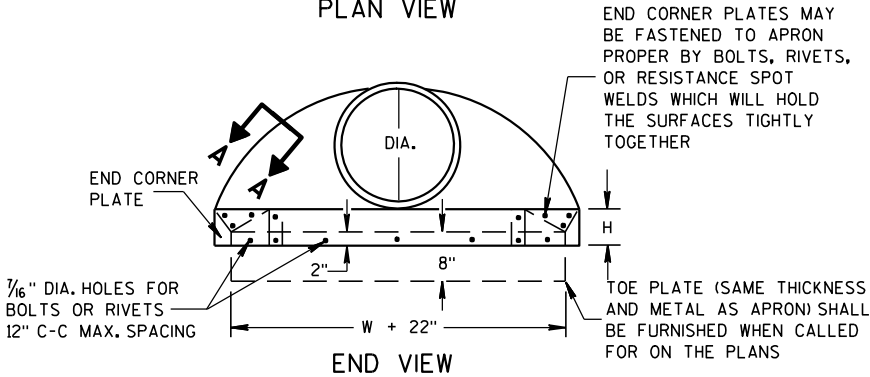
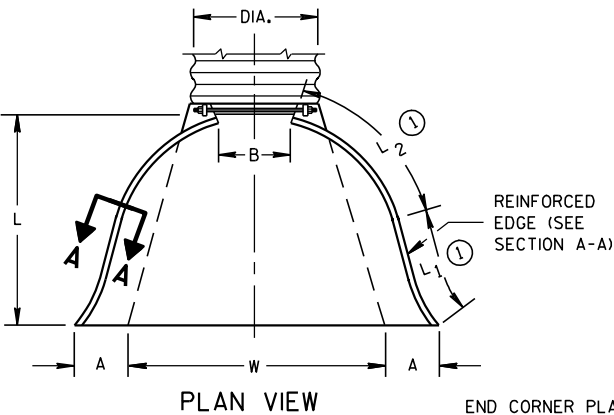
**INLET PROTECTION
TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02 /S/ Beth Cannestra
DATE
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER

METAL APRON ENDWALLS												
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE		BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")			
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3	3 Pc.
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3	3 Pc.
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3	3 Pc.
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3	3 Pc.
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3	3 Pc.
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3	3 Pc.
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3	3 Pc.
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3	3 Pc.

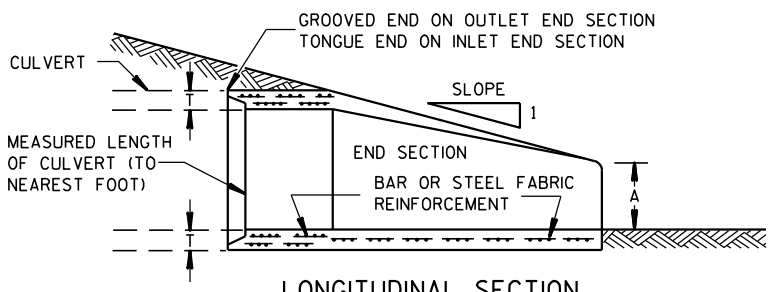
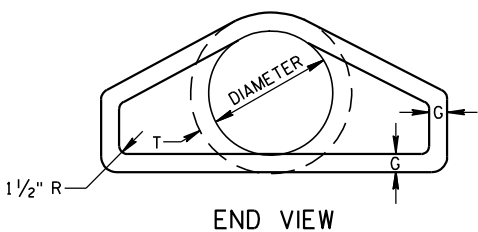
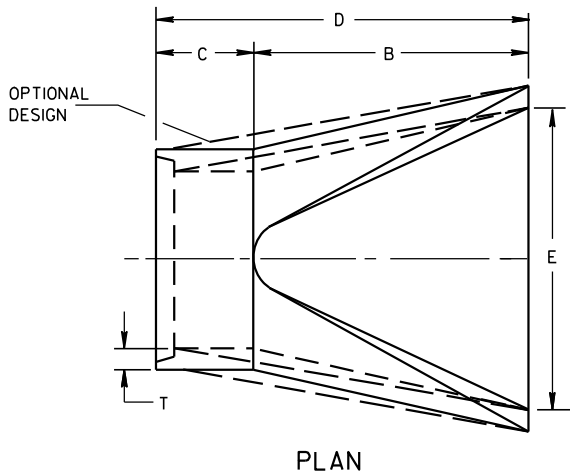
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



METAL ENDWALLS

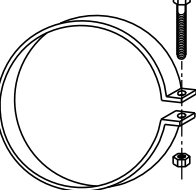
REINFORCED CONCRETE APRON ENDWALLS												
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE				
	T	A	B	C	D	E	G					
12	2	4	24	48 1/8	72 1/8	24	2	3 to 1				
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1				
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1				
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1				
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1				
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1				
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1				
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1				
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1				
48	5	24	72	26	98	84	5	3 to 1				
54	5 1/2	27	65	33 1/4-35	98 1/4-100	90	5 1/2	2 1/2 to 1				
60	6	30-35	60	39	99	96	5	2 to 1				
66	6 1/2	24-30	72-78	21-27	99	102	5 1/2	2 to 1				
72	7	24-36	78	21	99	108	6	2 to 1				
78	7 1/2	24-36	78	21	99	114	6 1/2	2 to 1				
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1				
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1				

* MINIMUM
** MAXIMUM

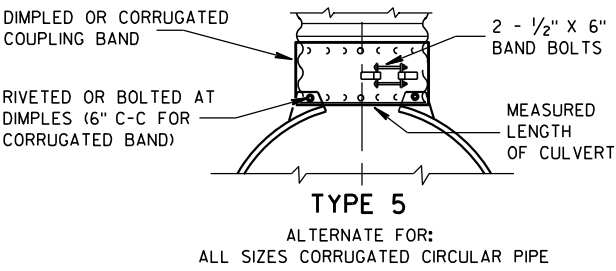
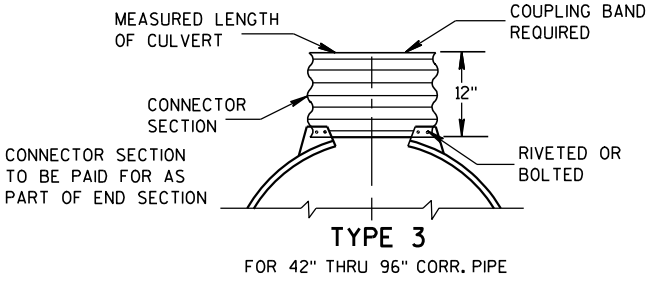
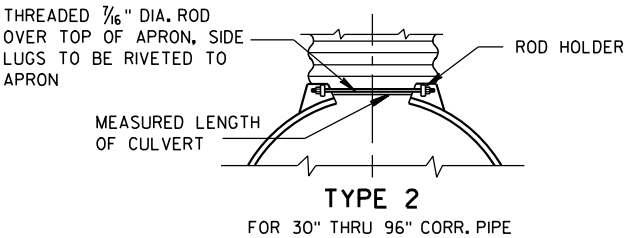
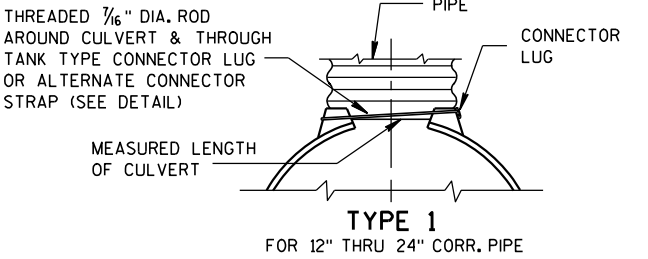


CONCRETE ENDWALLS

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



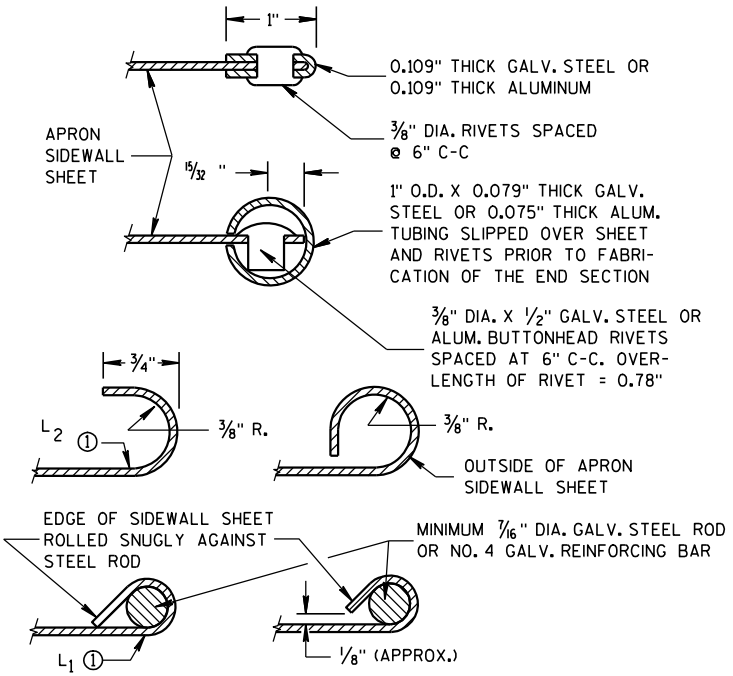
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

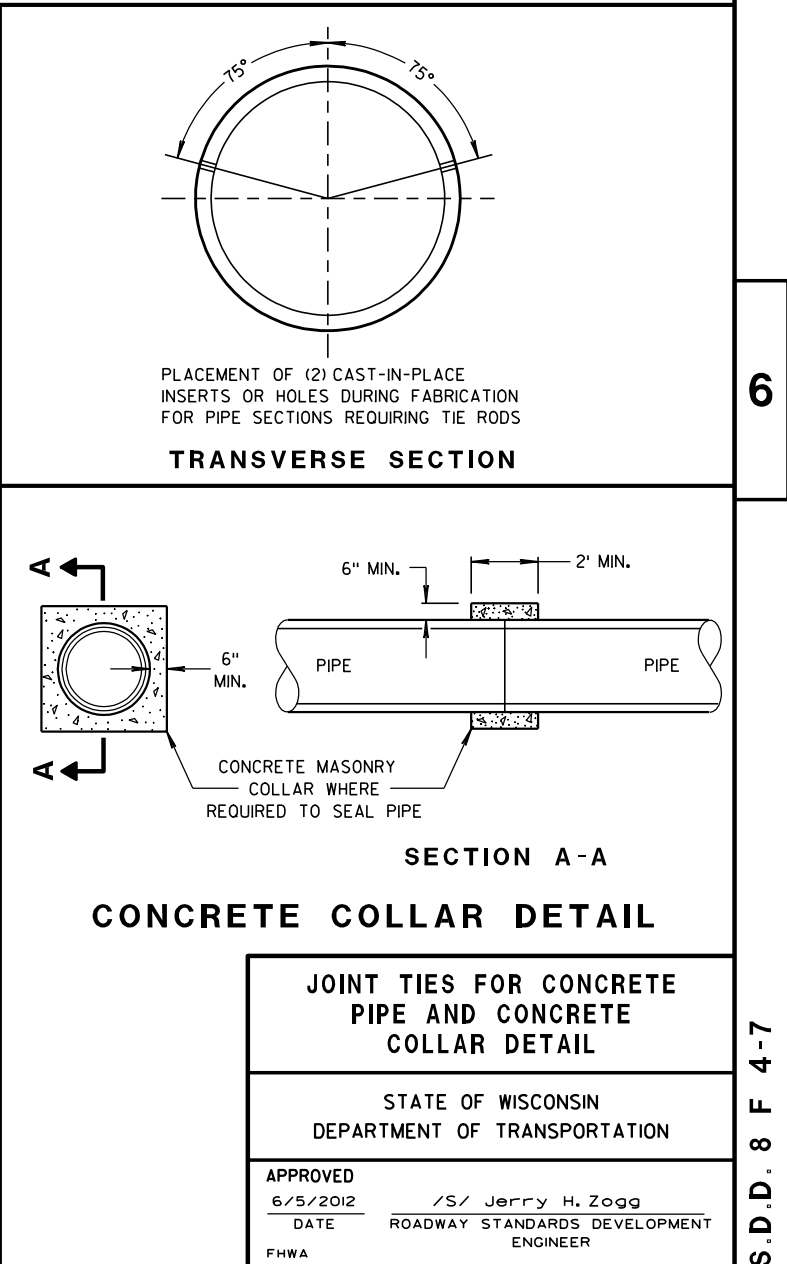
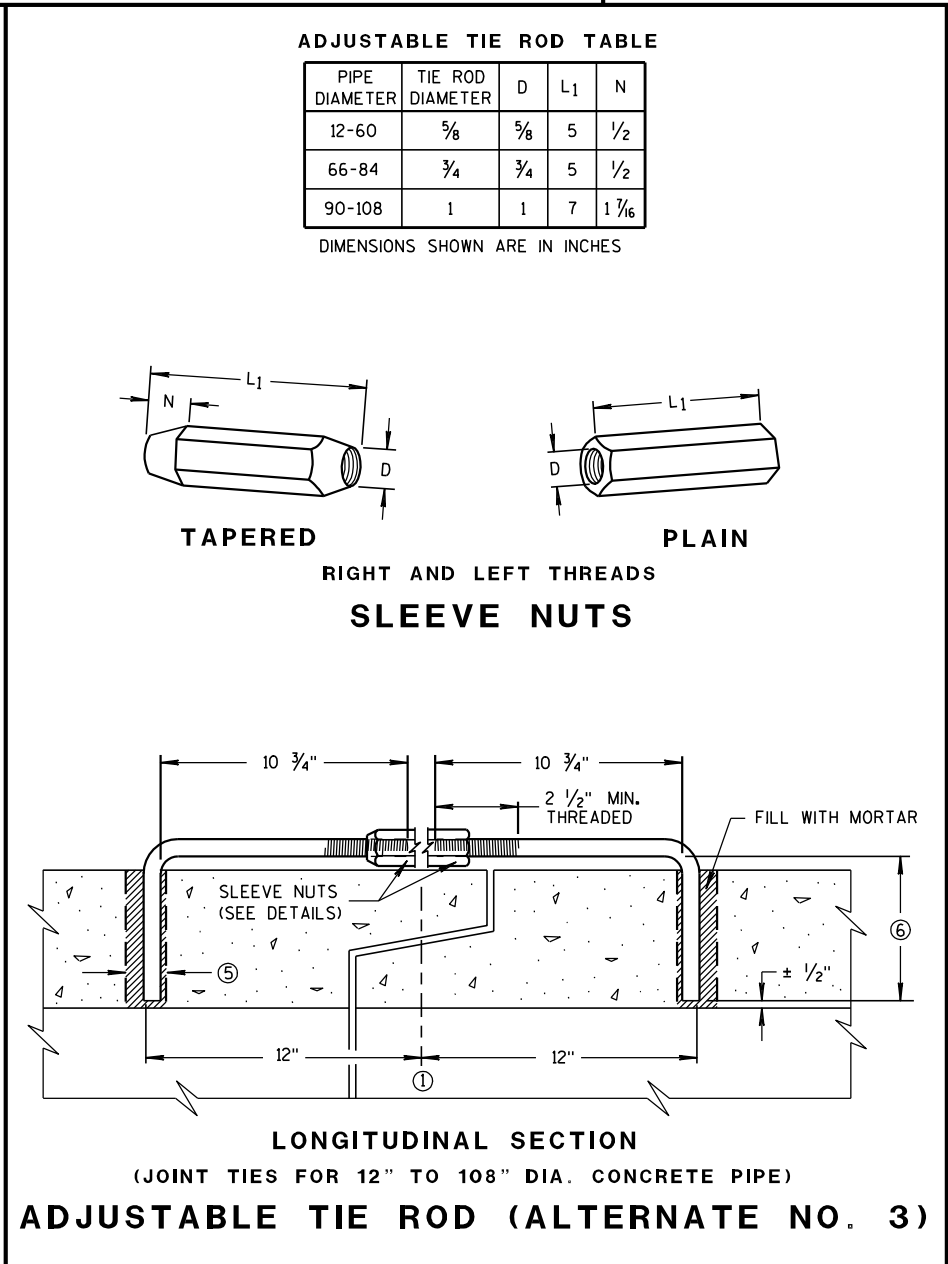
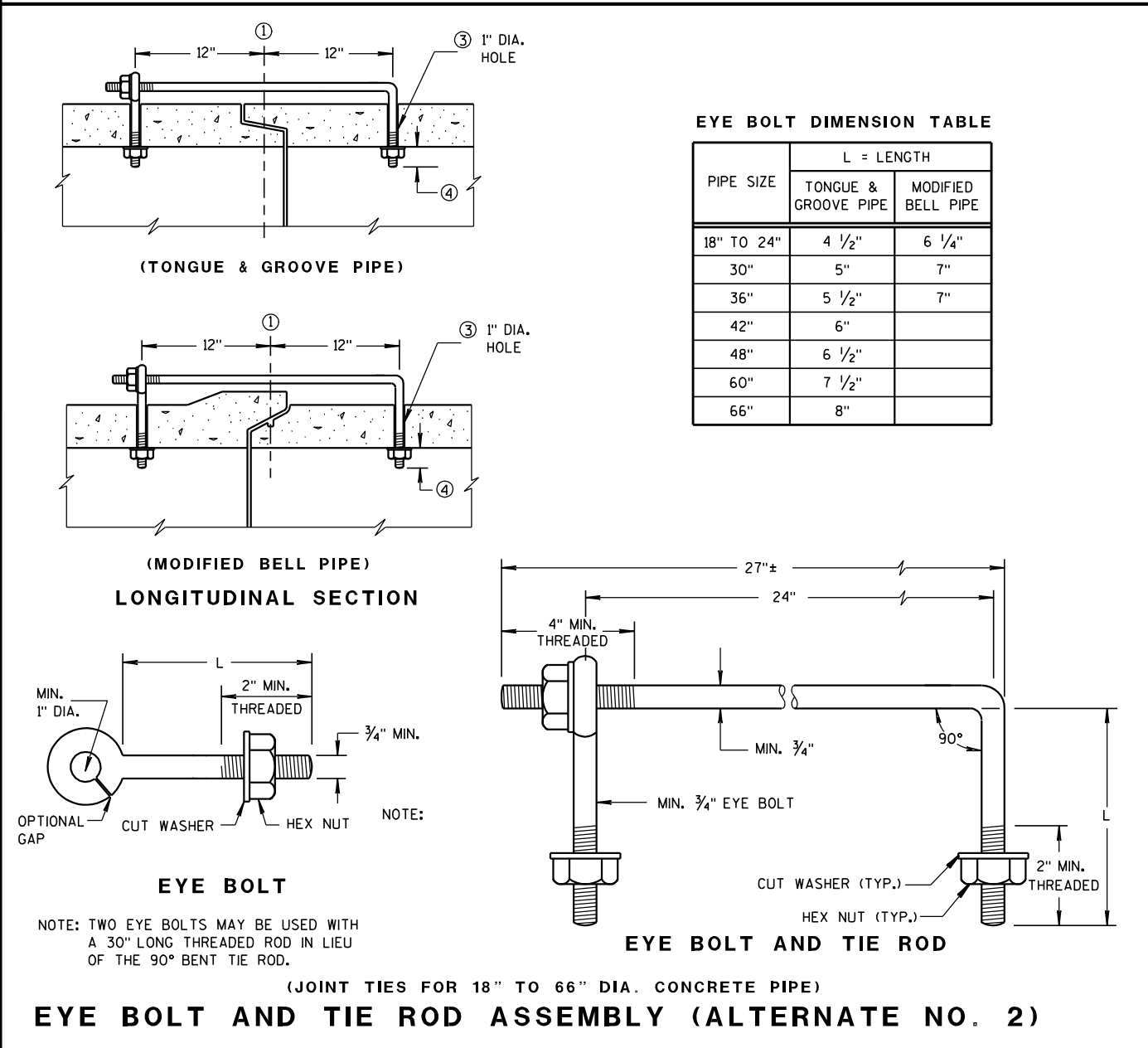
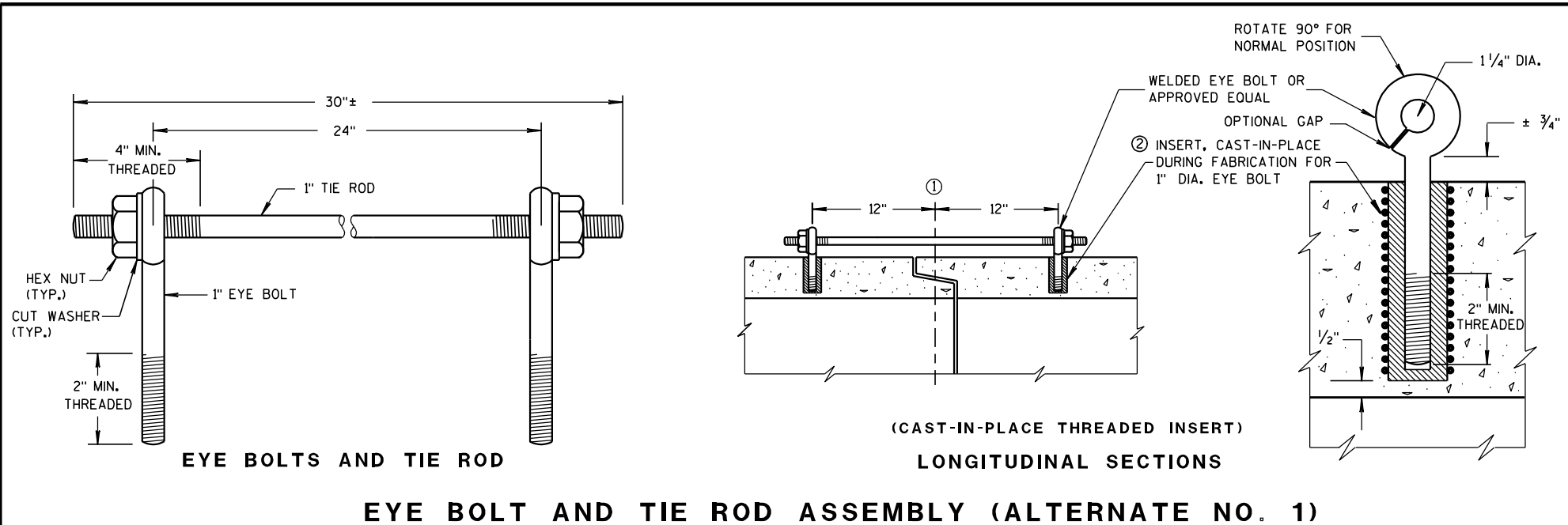
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT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

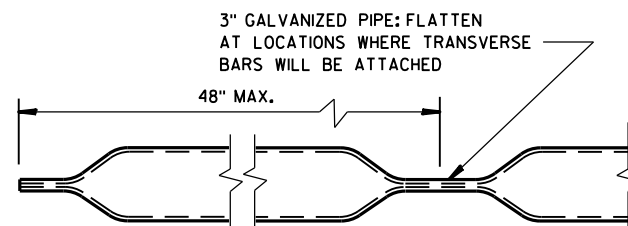
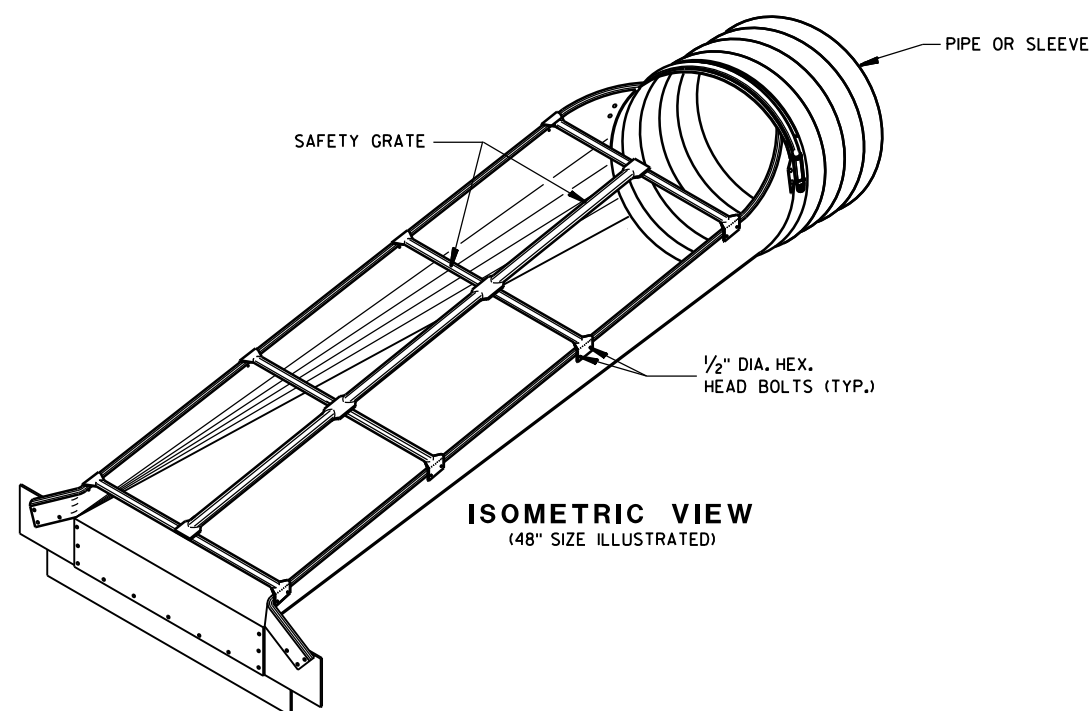
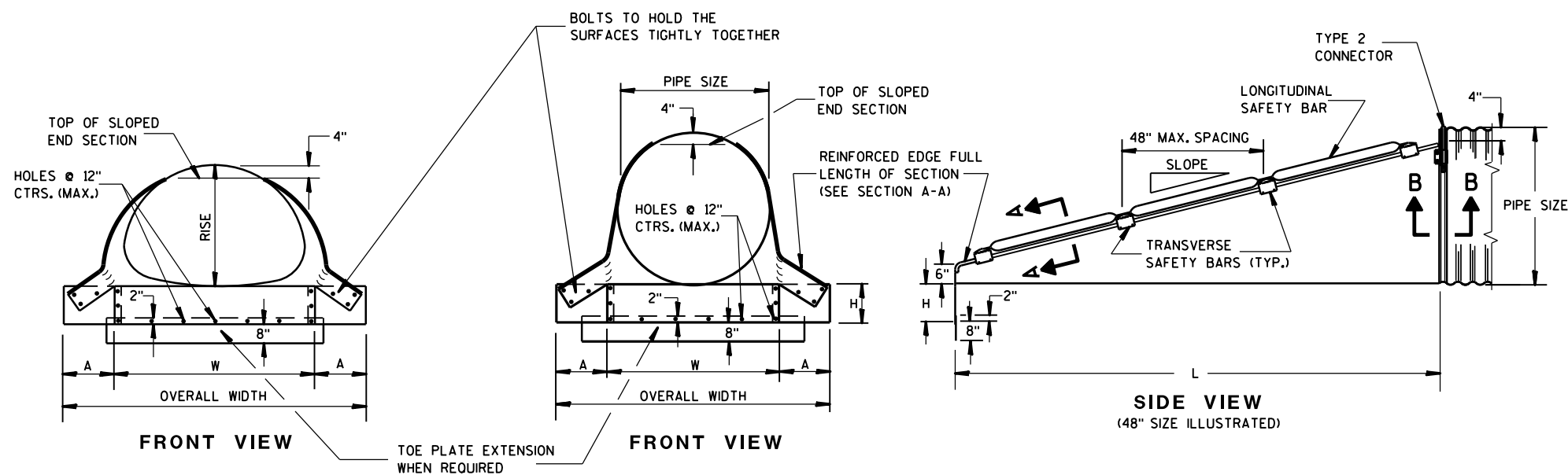
LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES.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

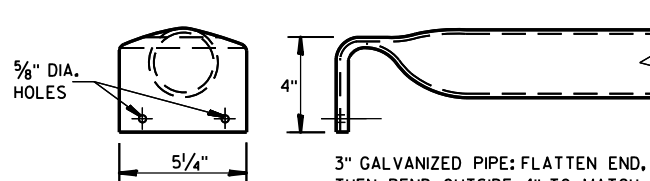
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 11/30/94 DATE	/S/ Rory L. Rhinesmith CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	





LONGITUDINAL SAFETY BAR



TRANSVERSE SAFETY BAR

GENERAL NOTES

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

SAFETY GRATES SHALL BE FABRICATED FROM 3-INCH DIAMETER GALVANIZED PIPE MEETING THE REQUIREMENTS OF ASTM A-53, GRADE B, SCHEDULE 40 OR APPROVED EQUAL. THE LONGITUDINAL BAR SHALL BE WELDED TO THE TRANSVERSE BARS WHERE THE BARS CROSS. THE NUMBER OF TRANSVERSE BARS REQUIRED WILL VARY DEPENDING ON THE LENGTH OF THE END SECTION.

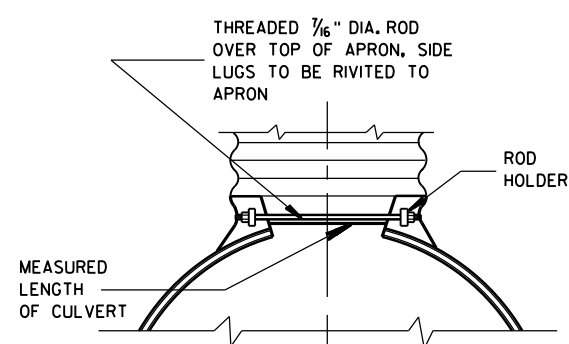
SLOPED STEEL ENDWALLS LOCATED AT THE ENDS OF CONCRETE CULVERT PIPE SHALL BE FURNISHED WITH STEEL ADAPTER SLEEVES.

STEEL APRON ENDWALLS FOR CULVERT PIPE CROSS DRAINS

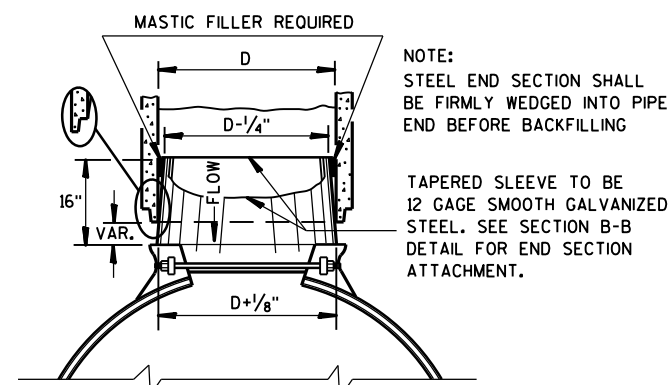
PIPE DIA. (IN.)	MIN. THICK. IN.	GAGE	DIMENSIONS (inches)				L DIMENSIONS			
			A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
36	.109	12	12	9	42	66	4:1	104	6:1	156
42	.109	12	16	12	48	80	4:1	128	6:1	192
48	.109	12	16	12	54	86	4:1	152	6:1	228
54	.109	12	16	12	60	92	4:1	176	6:1	264
60	.109	12	16	12	66	98	4:1	200	6:1	300

STEEL APRON ENDWALLS FOR PIPE ARCH SLOPED CROSS DRAINS

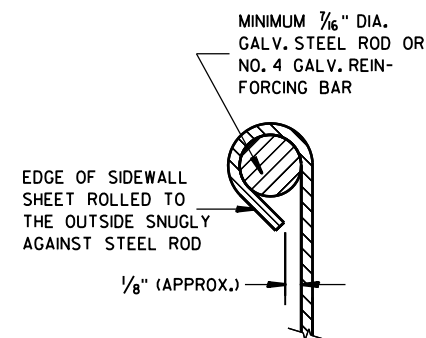
EQUIV. DIA. (IN.)	INCHES		MIN. THICK. IN.	GAGE	DIMENSIONS (inches)				L DIMENSIONS			
	SPAN	RISE			A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
30	35	24	.079	14	12	9	41	65	4:1	56	6:1	84
36	42	29	.109	12	12	9	48	72	4:1	76	6:1	114
42	49	33	.109	12	16	12	55	87	4:1	92	6:1	138
48	57	38	.109	12	16	12	63	95	4:1	112	6:1	168
54	64	43	.109	12	16	12	70	102	4:1	132	6:1	198
60	71	47	.109	12	16	12	77	109	4:1	148	6:1	222



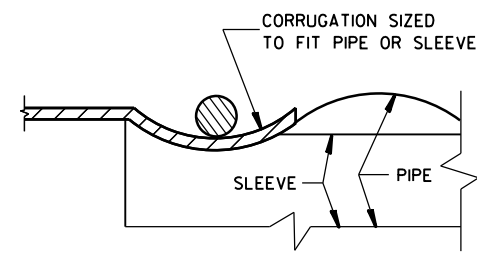
TYPE 2 CONNECTOR DETAIL



STEEL ADAPTER SLEEVE FOR CONCRETE PIPE



SECTION A-A



SECTION B-B

STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED CROSS DRAINS

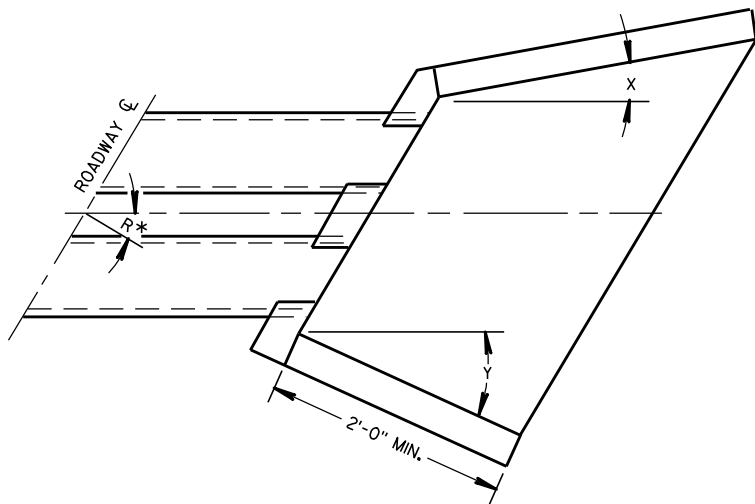
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE

6/5/2012

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



WINGWALL ANGLE DETAILS

INLET			OUTLET		
R*	X	Y	R*	X	Y
0 - 7°	30°	30°	0 - 15°	15°	15°
8 - 22°	25°	"	16 - 45°	10°	"
23 - 37°	20°	"	46 - 75°	5°	"
38 - 52°	15°	"	OVER 75°	0°	"
53 - 67°	10°	"			
68 - 82°	5°	"			
OVER 82°	0°	"			

*R = NUMBER OF DEGREES RIGHT OR LEFT HAND FORWARD

GENERAL NOTES

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

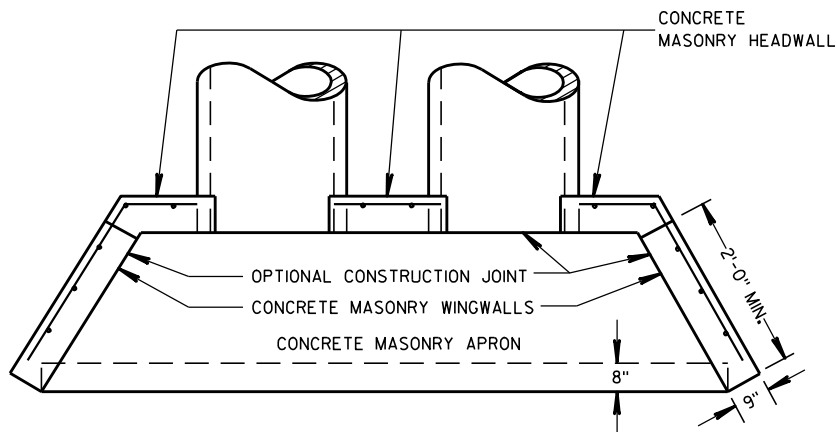
FILL SLOPES FLATTER THAN 2 1/2:1 SHALL BE WARPED TO MEET THE TOP OF THE WINGWALLS.

ALL STEEL REINFORCEMENT AND WELDED STEEL WIRE FABRIC SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE NOTED.

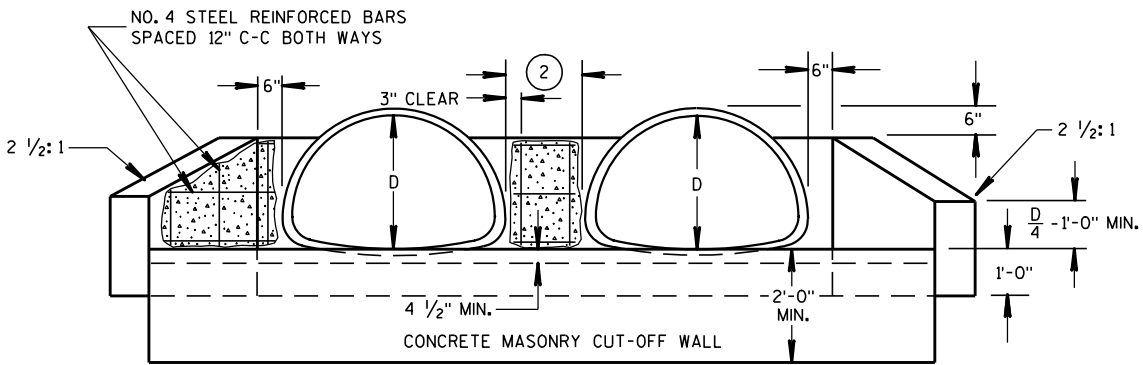
1 MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS SPACED 12" C-C IN BOTH DIRECTIONS.

2 THE SPACE BETWEEN PIPES SHALL BE AS FOLLOWS:

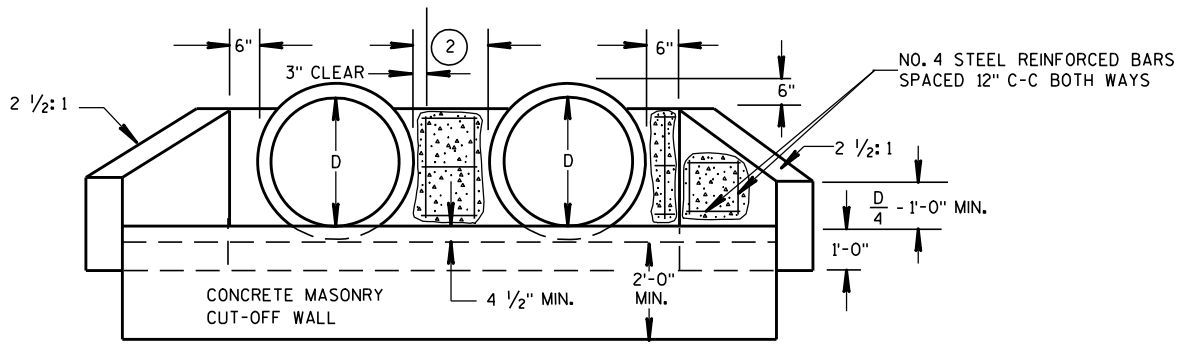
DIAMETER OR SPAN	SPACE
UP TO AND INCLUDING 48"	2'-0"
OVER 48" TO 72"	1/2 DIA. OR SPAN
OVER 72"	3'-0"



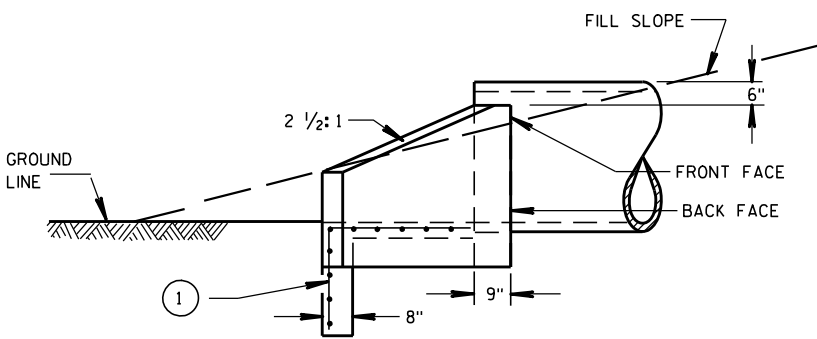
PLAN VIEW
CULVERT PIPE AND PIPE ARCH



END ELEVATION
PIPE ARCH



END ELEVATION
CULVERT PIPE

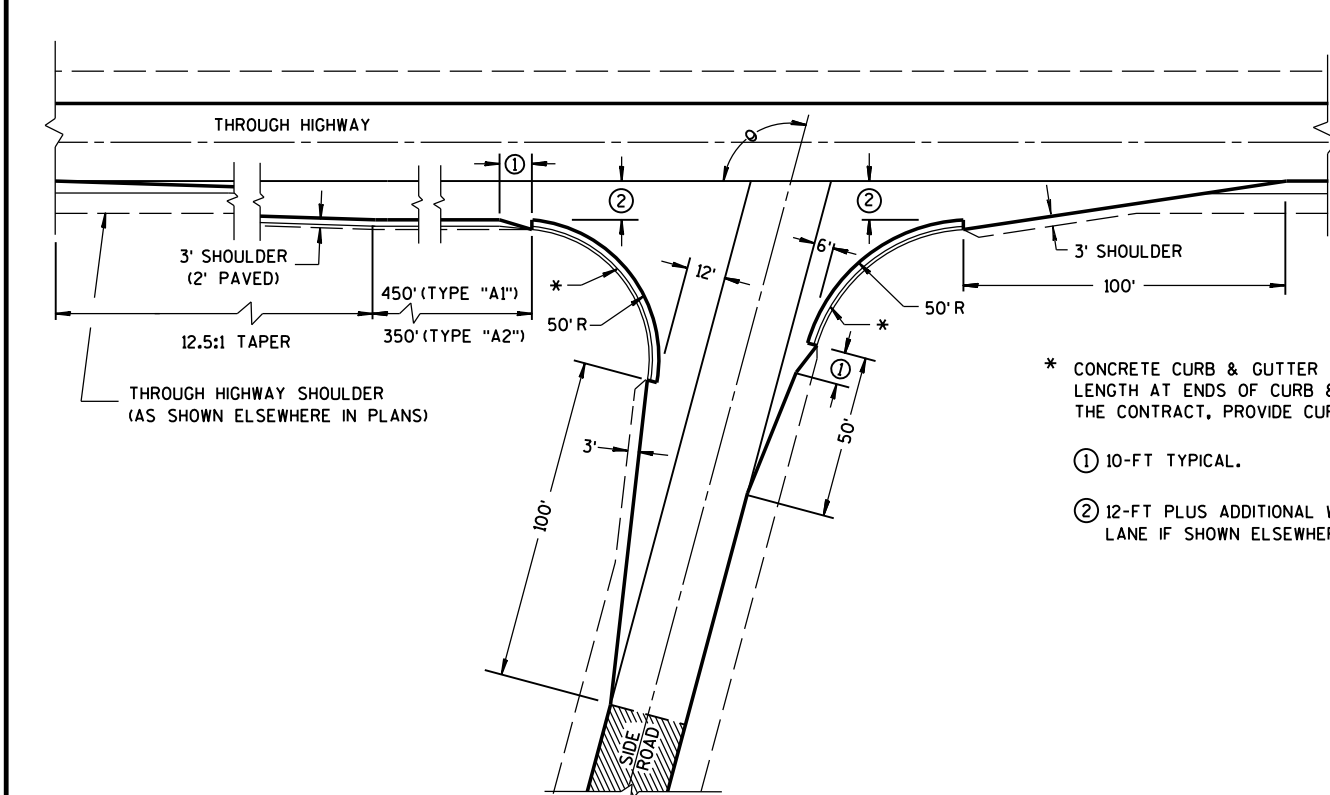


SIDE ELEVATION
CULVERT PIPE AND PIPE ARCH

CONCRETE MASONRY ENDWALLS
FOR CULVERT PIPE AND
PIPE ARCH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

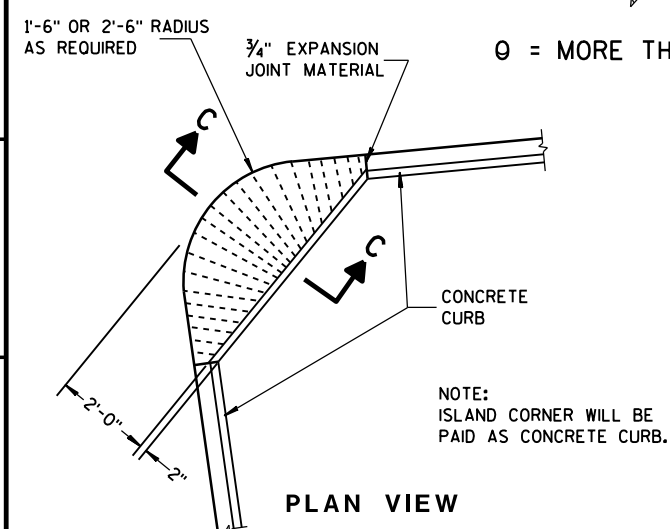
APPROVED
9/14/98 /S/ Rory L. Rhinesmith
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



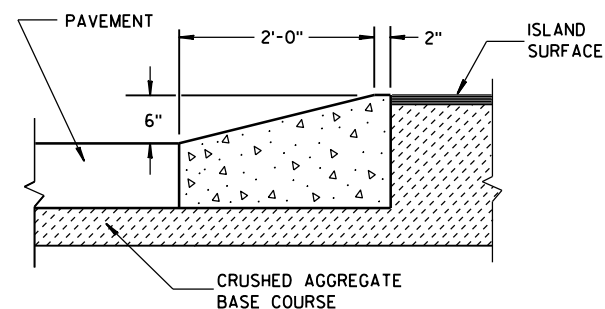
* CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

① 10-FT TYPICAL.

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



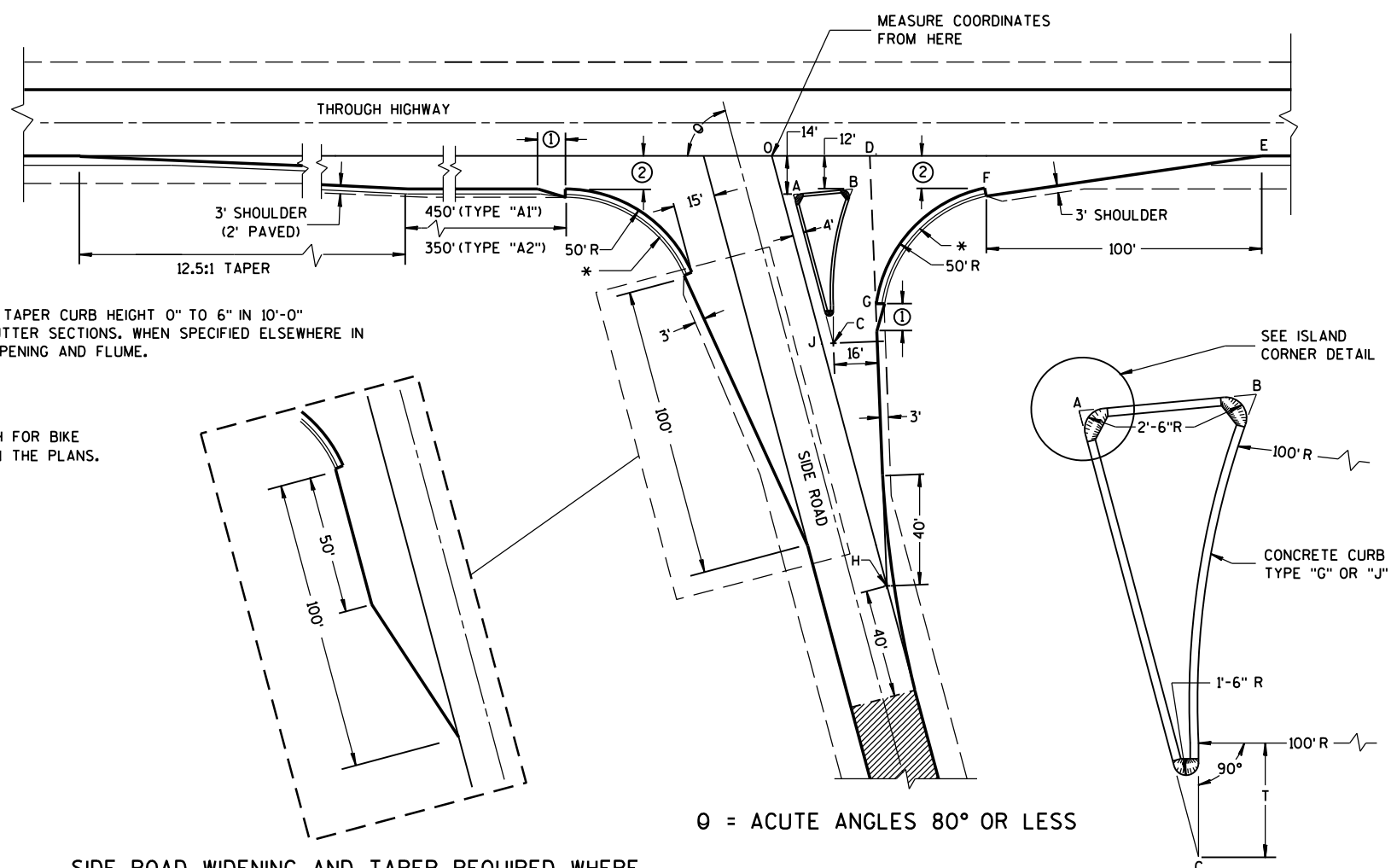
PLAN VIEW



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

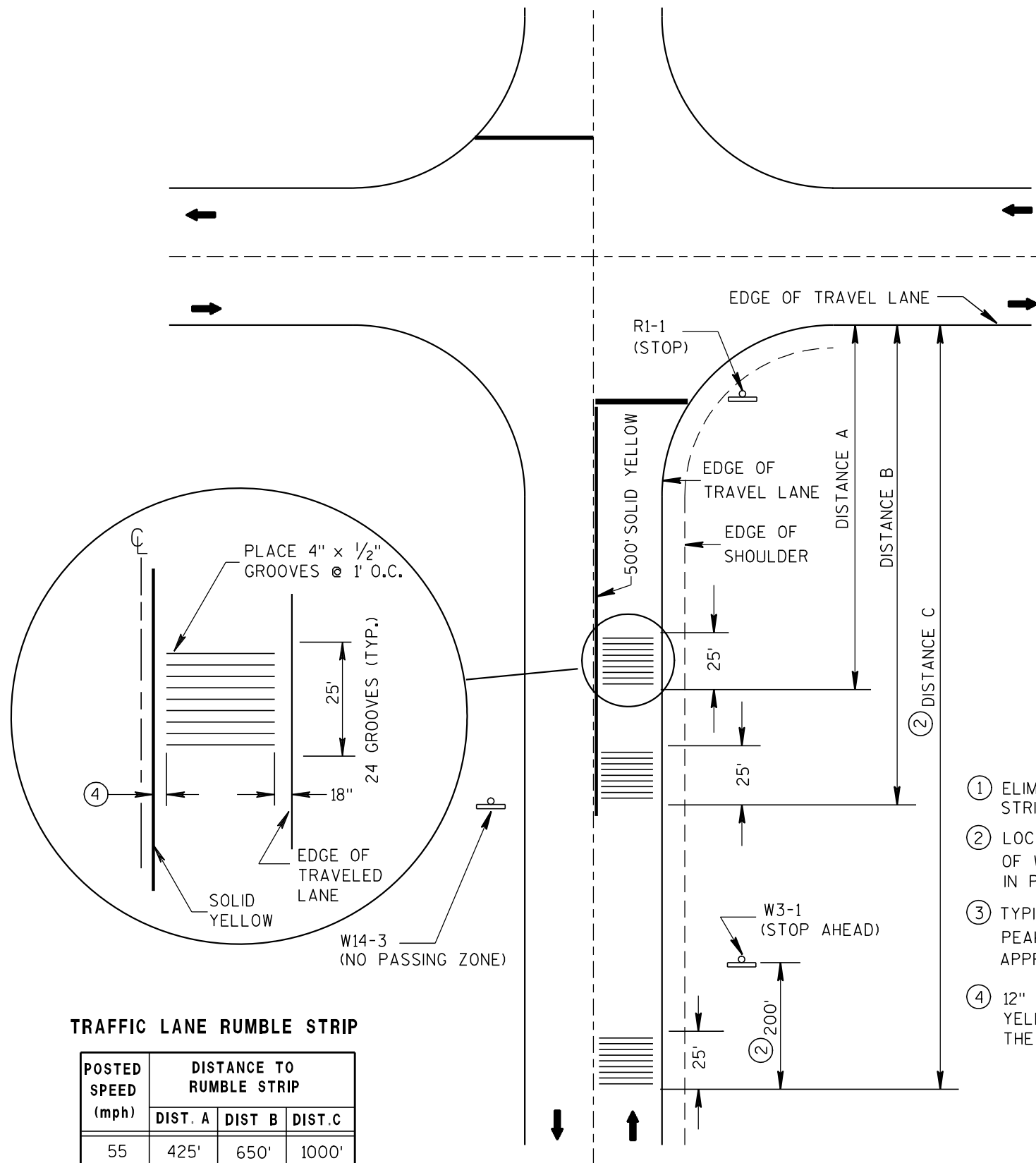
DATE

FHWA

/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

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'

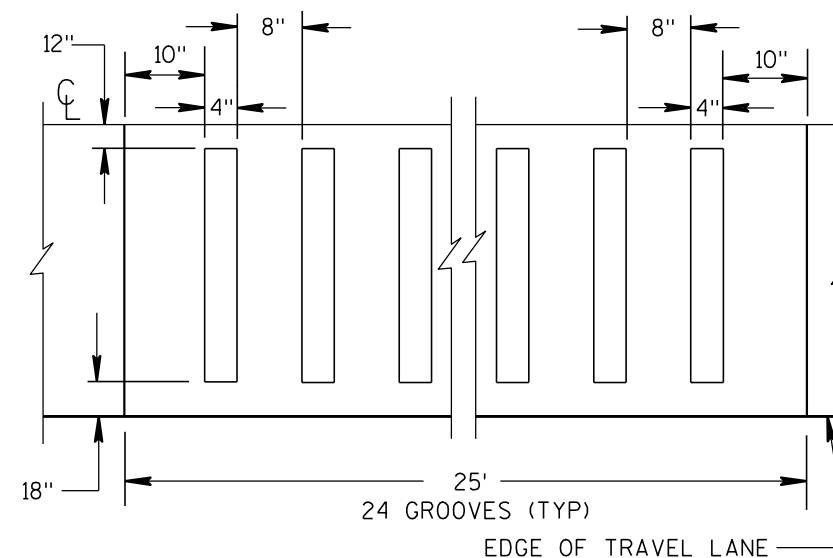
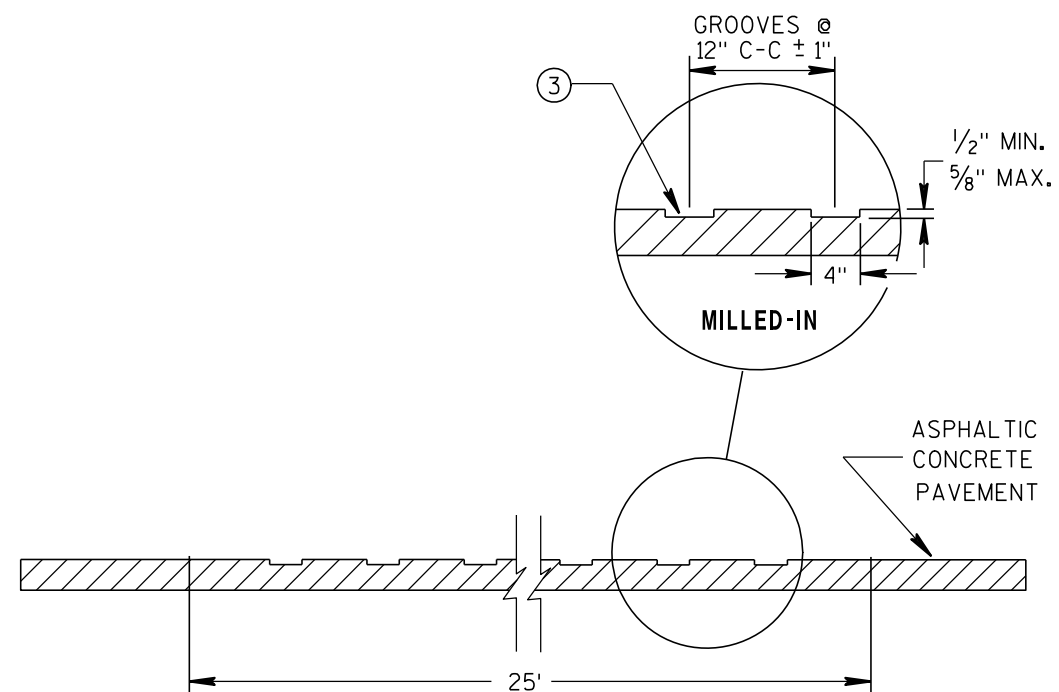
- ① ELIMINATE THE MIDDLE SET OF RUMBLE STRIPS.
- ② LOCATE RUMBLE STRIP 200' IN ADVANCE OF W3-1 SIGN AS SHOWN. IF W3-1 IS NOT IN PLACE, USE DISTANCE C.
- ③ TYPICAL VERTICAL VARIATION BETWEEN PEAKS AND VALLEYS WITHIN THE CUT APPROXIMATELY $\frac{1}{16}$ "
- ④ 12" CLEAR BETWEEN THE SOLID YELLOW LINE AND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

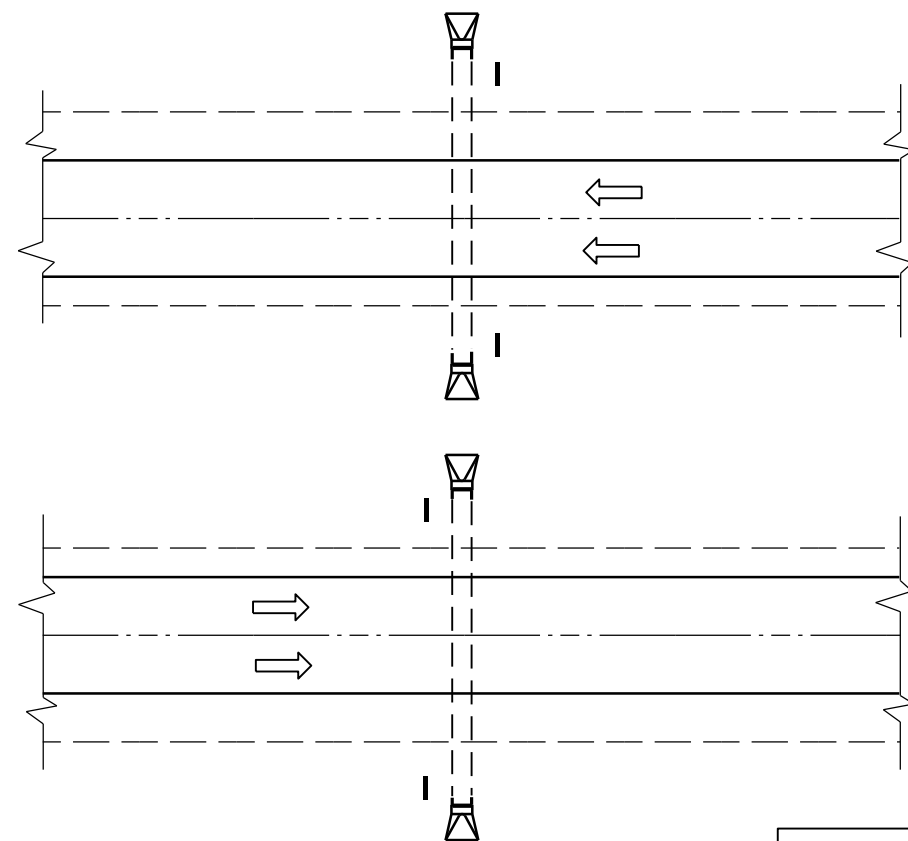
DATE

FHWA

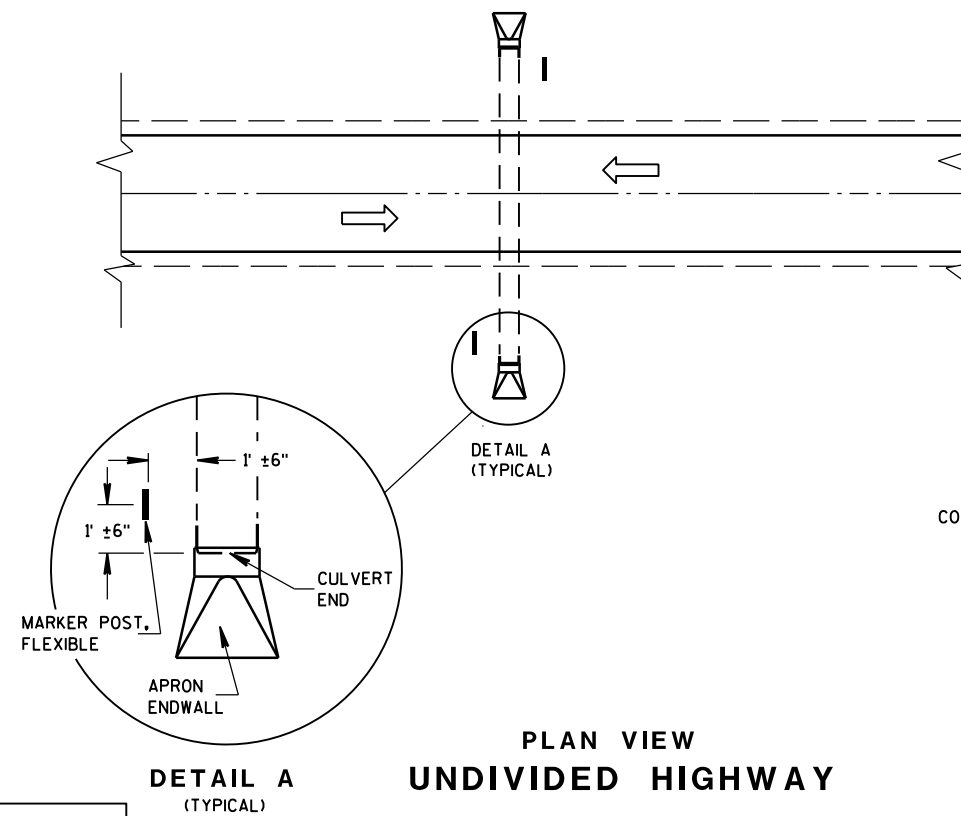
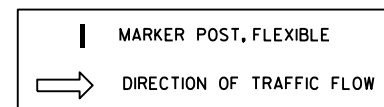
/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

ENGINEER



PLAN VIEW
DIVIDED HIGHWAY

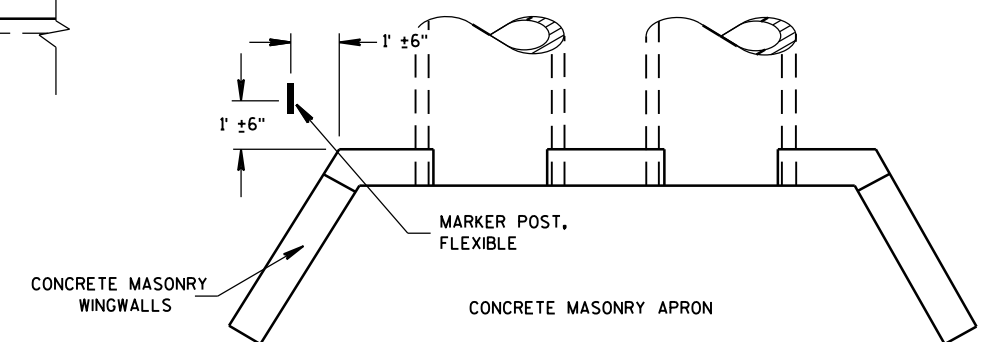


PLAN VIEW
UNDIVIDED HIGHWAY

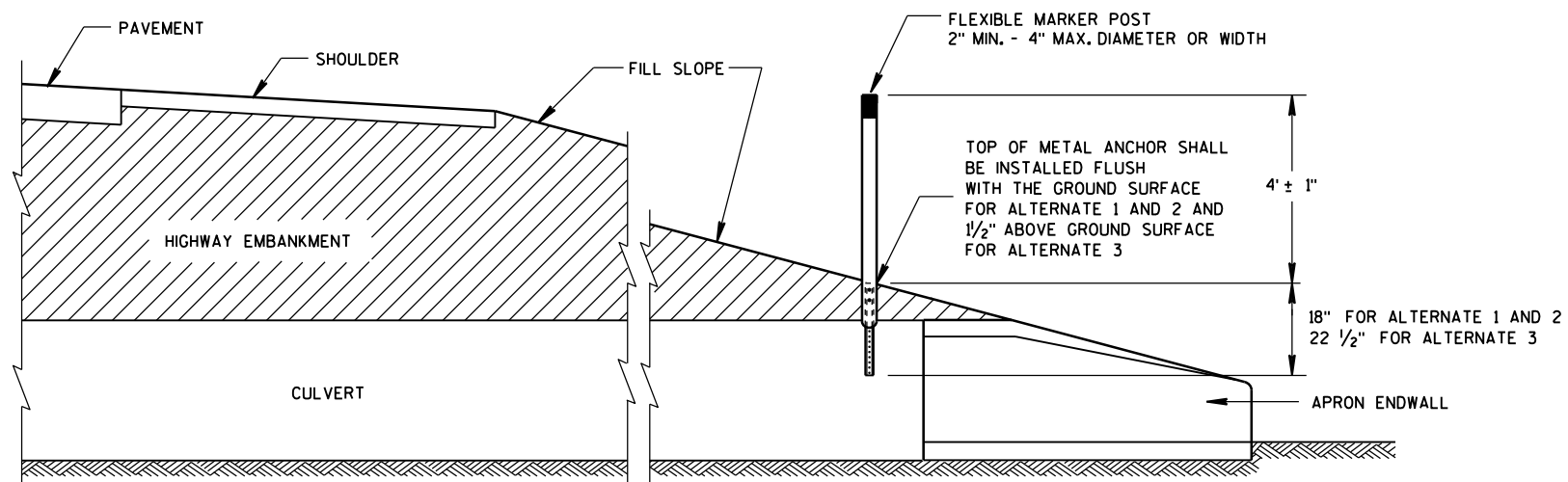
FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

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



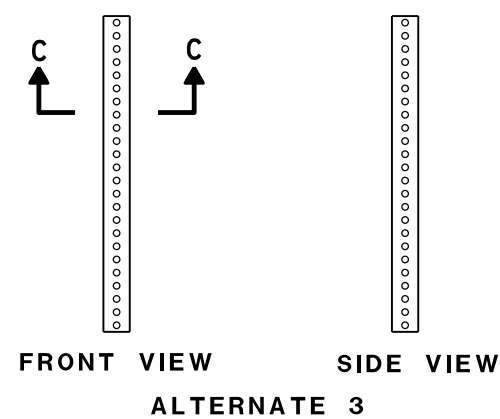
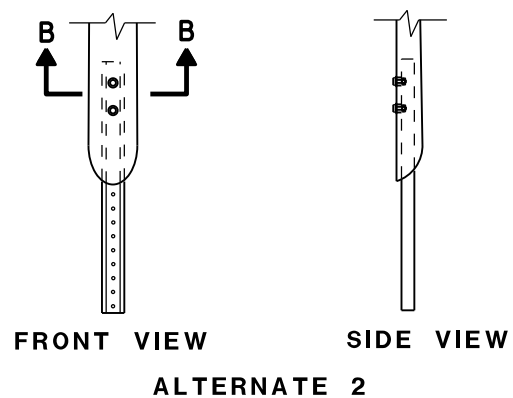
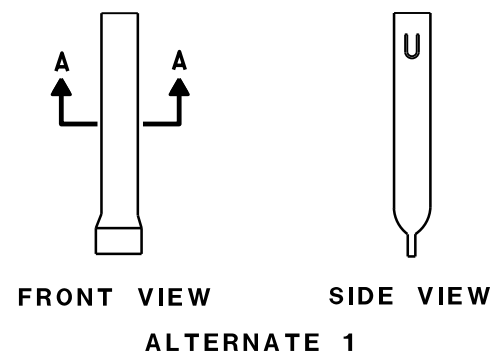
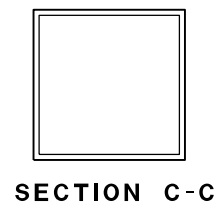
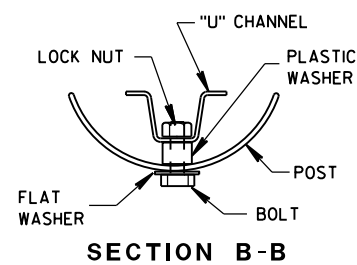
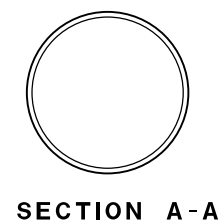
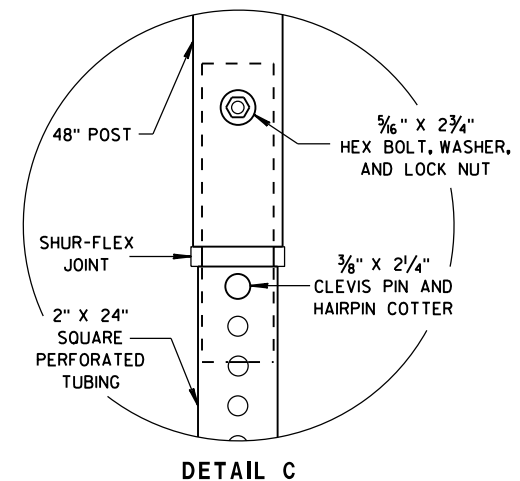
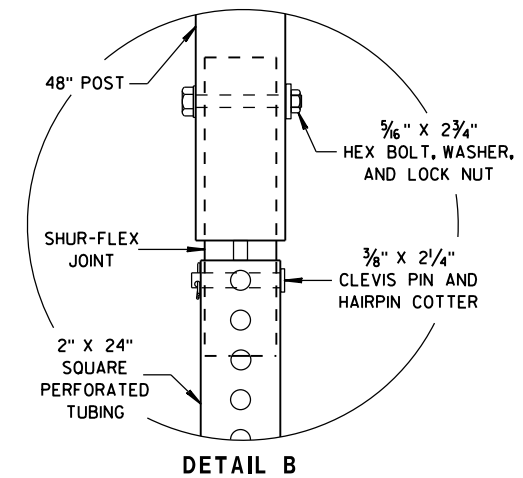
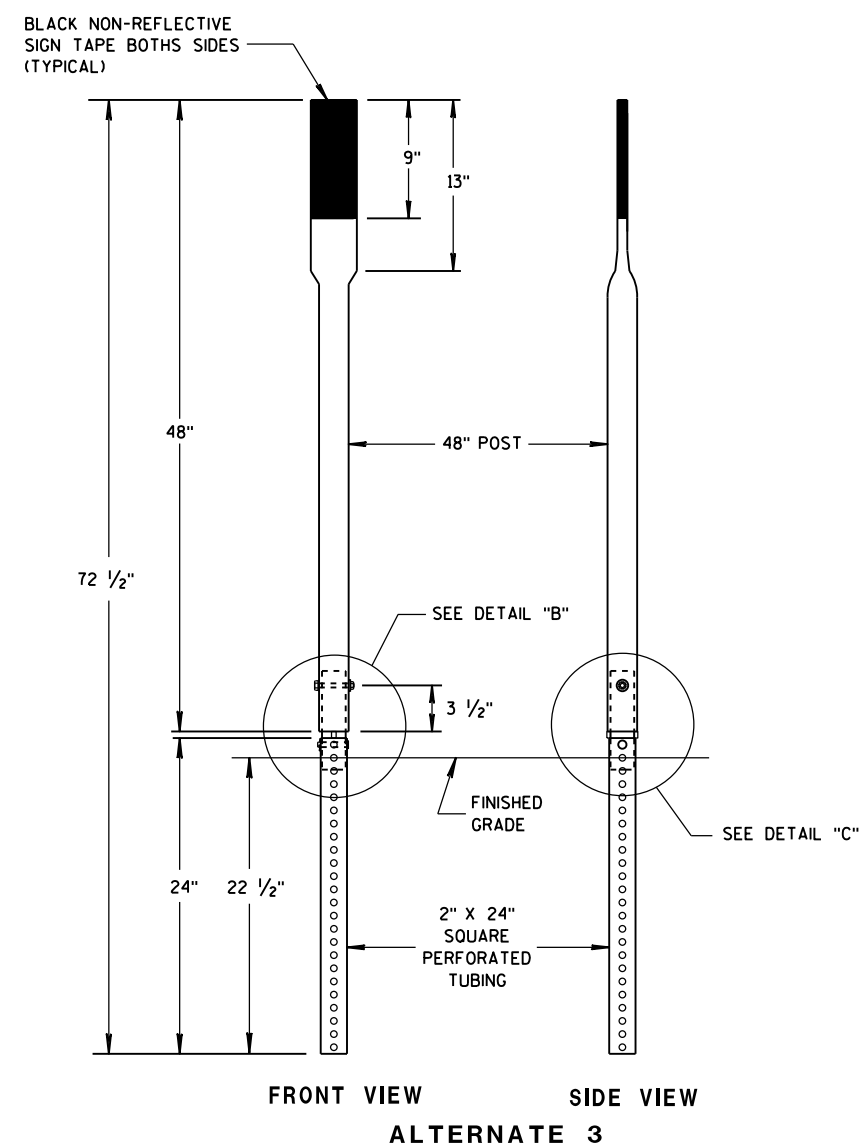
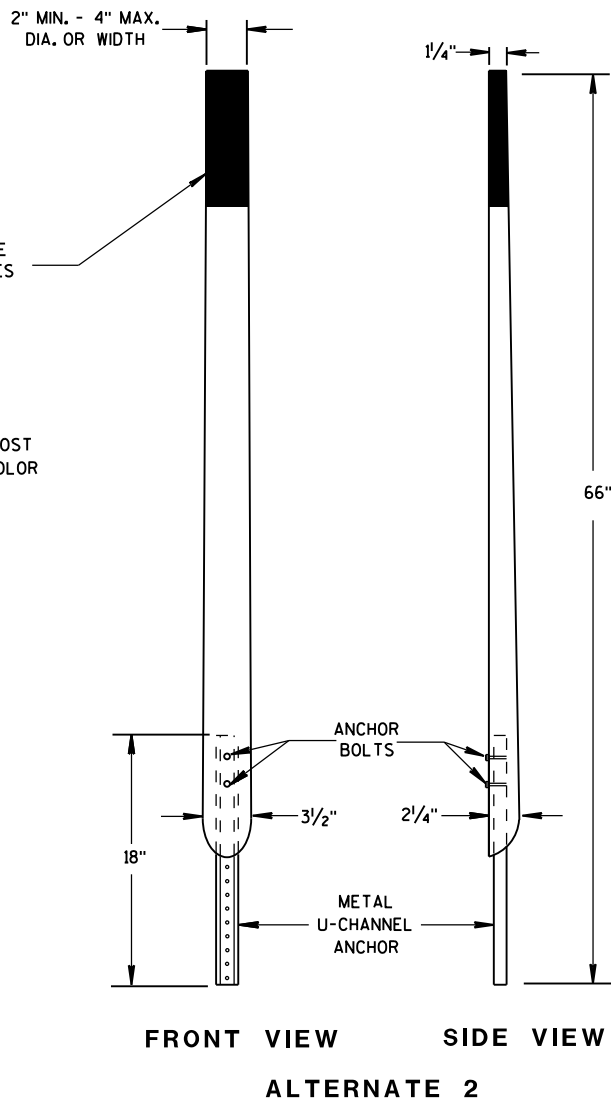
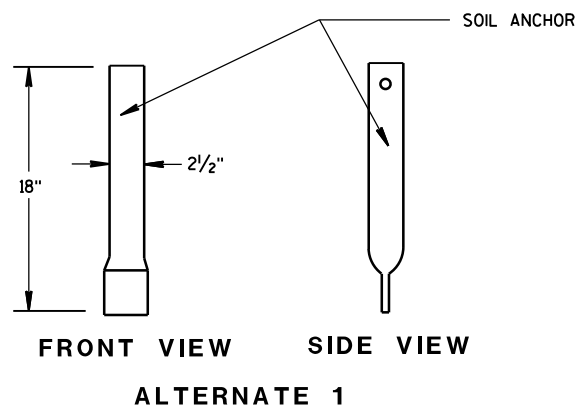
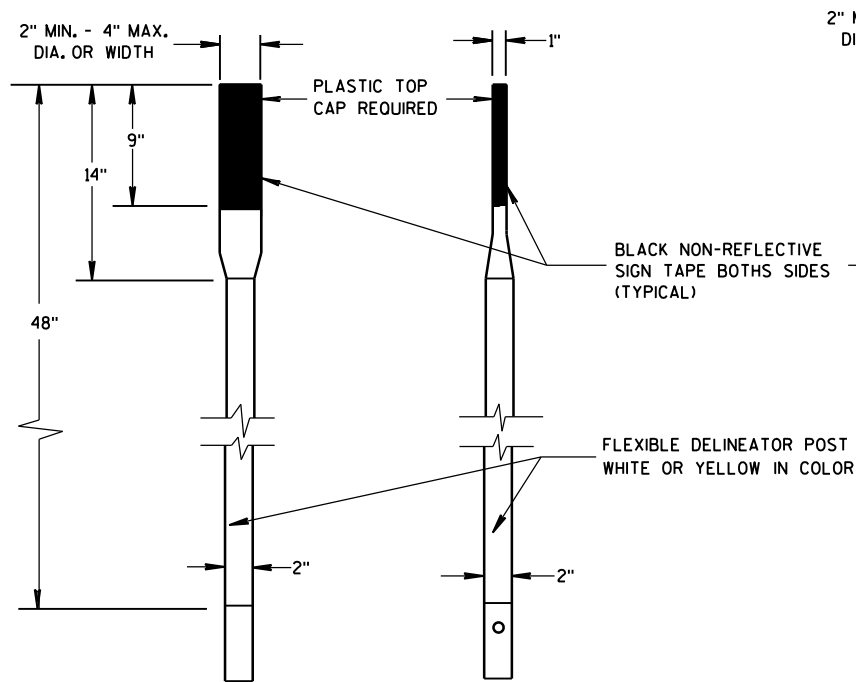
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

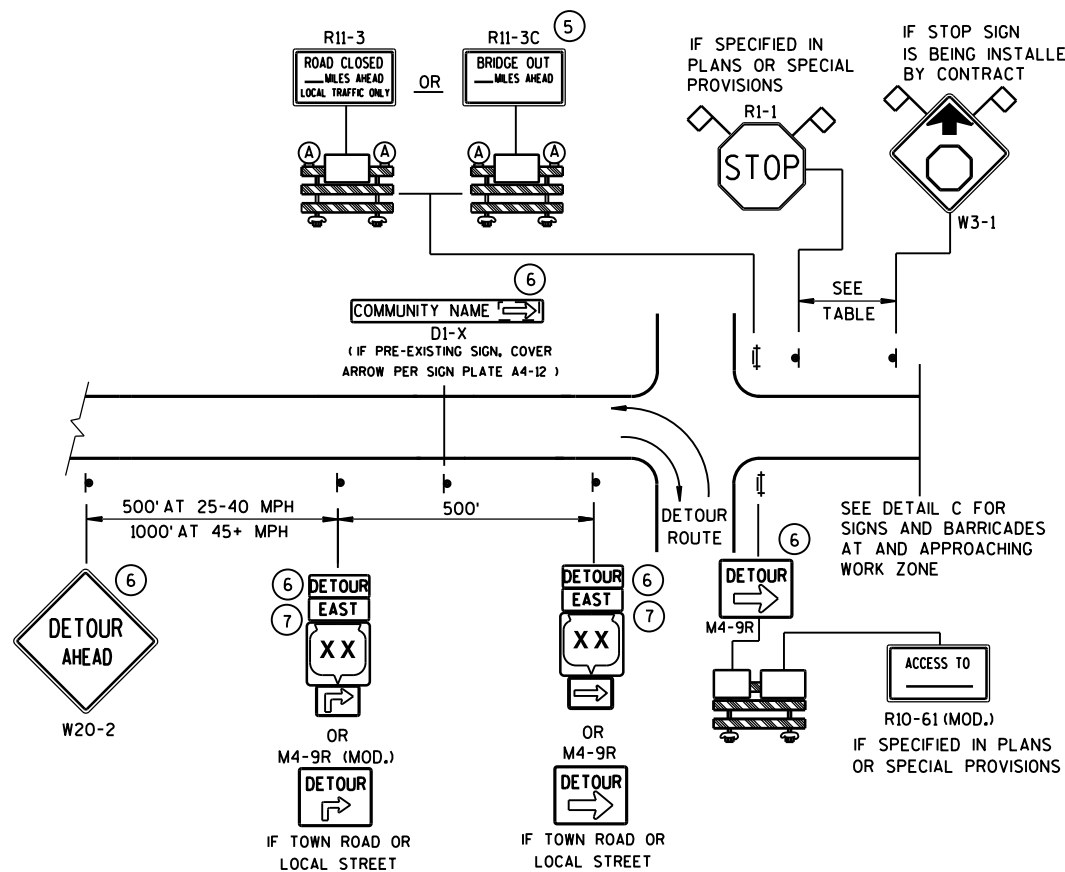


FLEXIBLE MARKER POST FOR CULVERT END

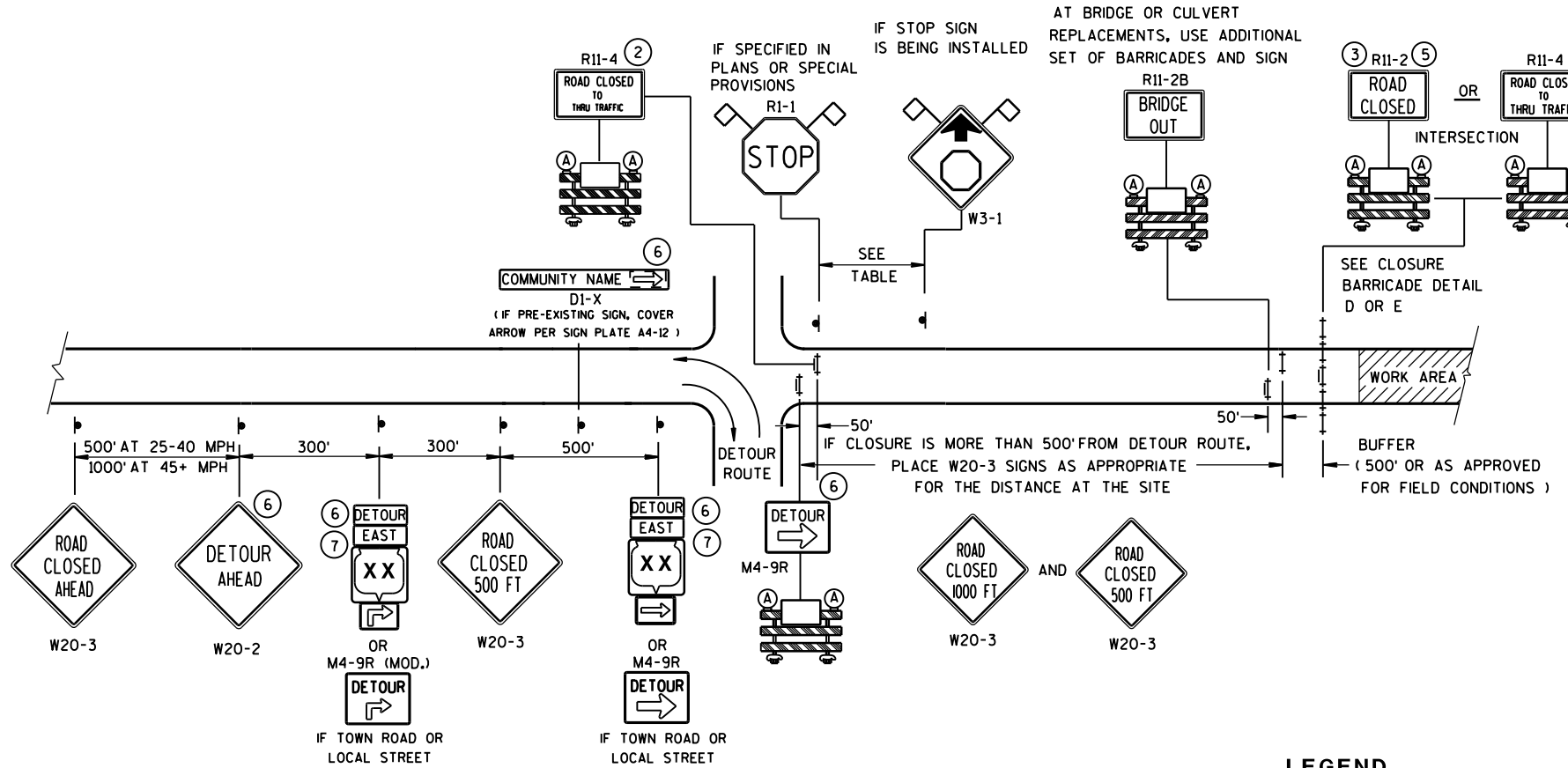
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012
DATE
FHWA

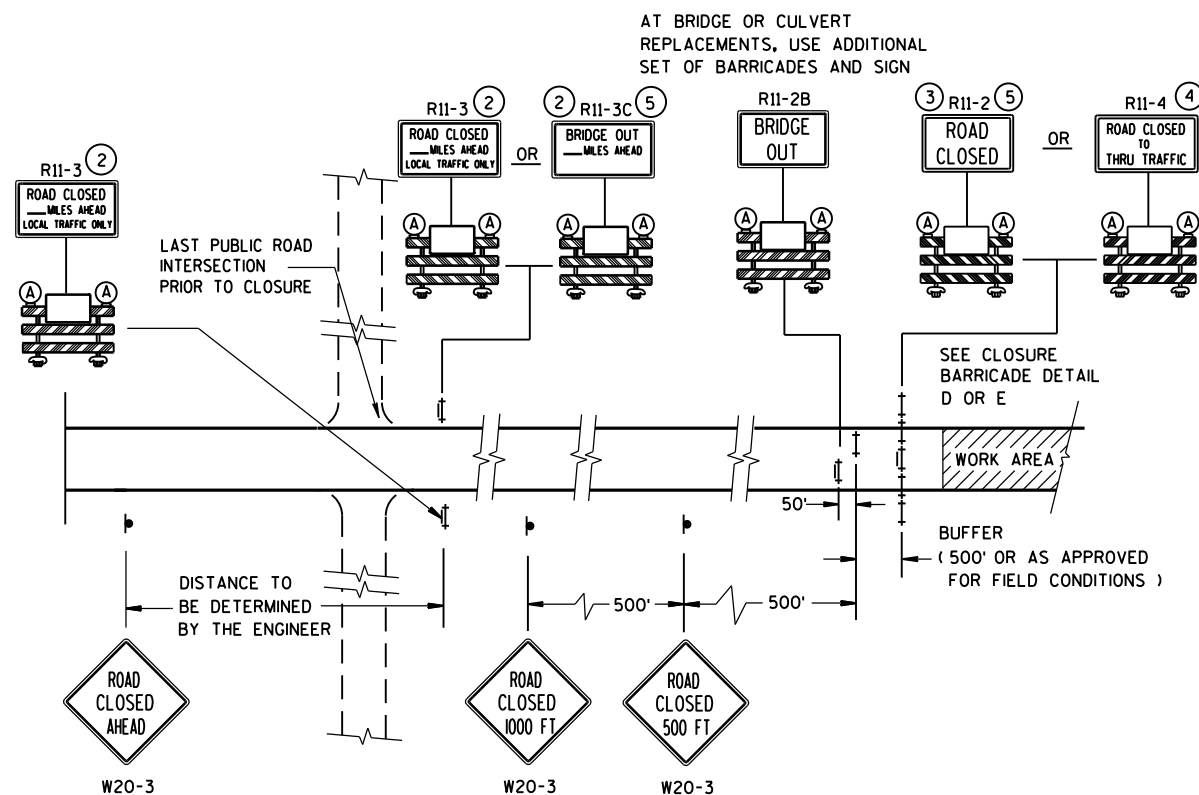
/S/ Travis Feltes
STATE TRAFFIC ENGINEER OF DESIGN



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

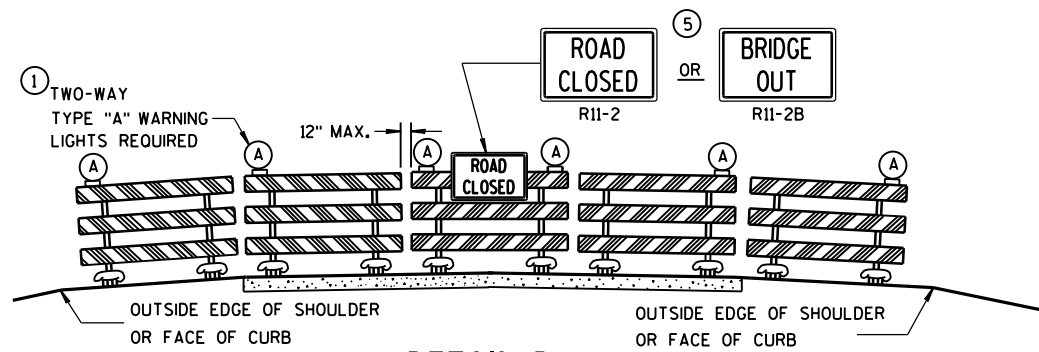


DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

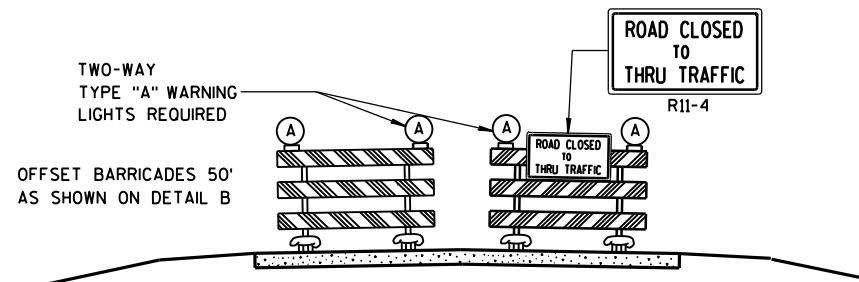
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
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 BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

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

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

R11-2 SHALL BE 48" X 30".

R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".

M4-9 SHALL BE 30" X 24".

M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)

M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)

M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)

M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)

D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

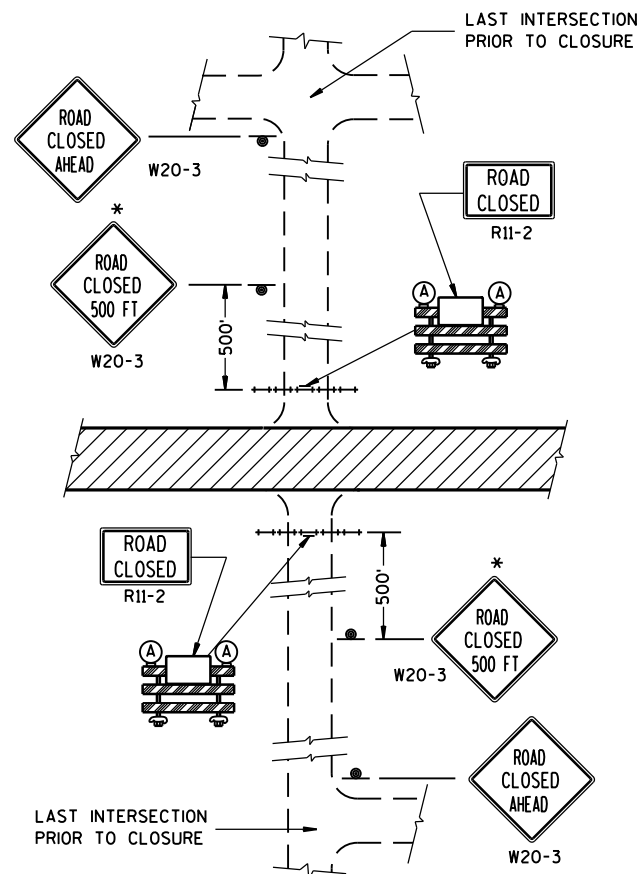
R1-1 SHALL BE 36" X 36".

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

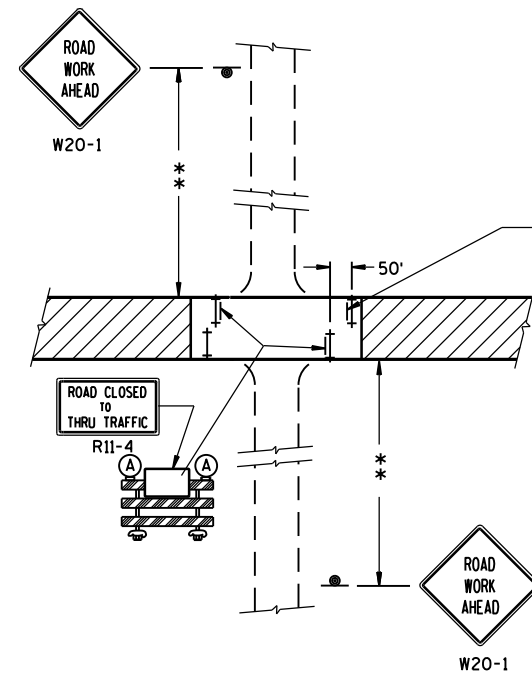
BARRICADES AND SIGNS
FOR
MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

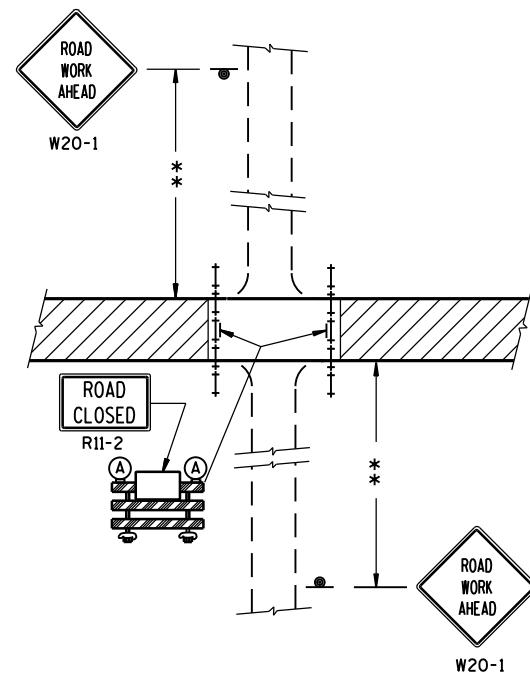
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



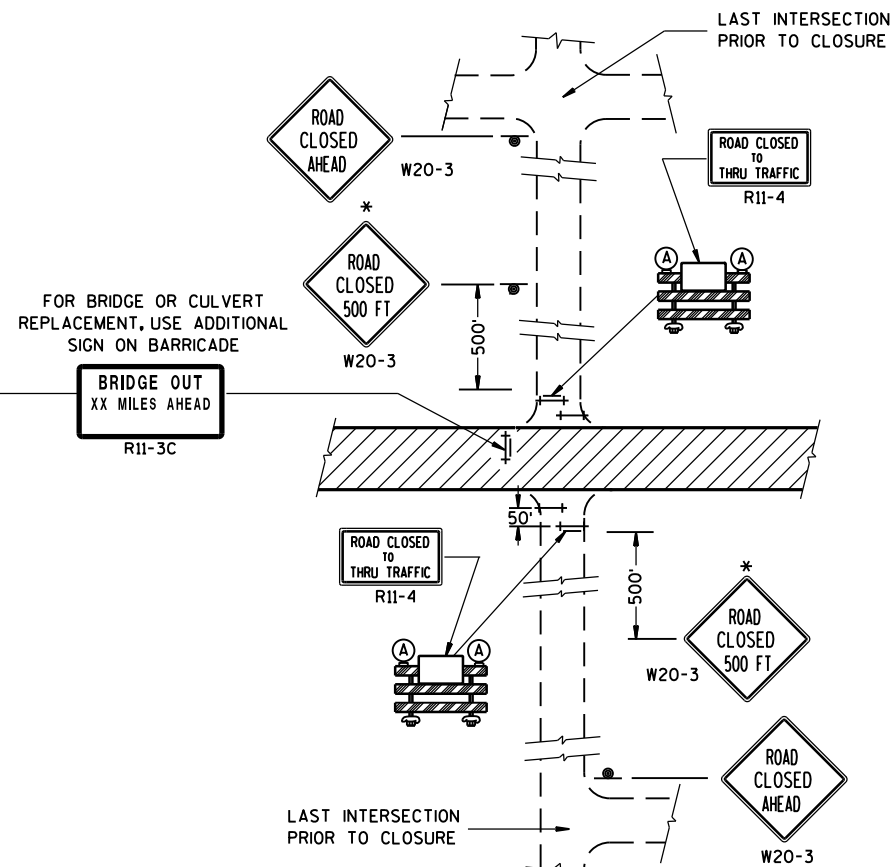
DETAIL 1
(NO ACCESS TO PROJECT)



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



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 TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

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

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

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

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

R11-2 SHALL BE 48" X 30".

R11-4 AND R11-3 SHALL BE 60" X 30".

*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

- ⊙ SIGN ON PERMANENT SUPPORT
- ⊥ TYPE III BARRICADE
- ⊥ TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- ▨ WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

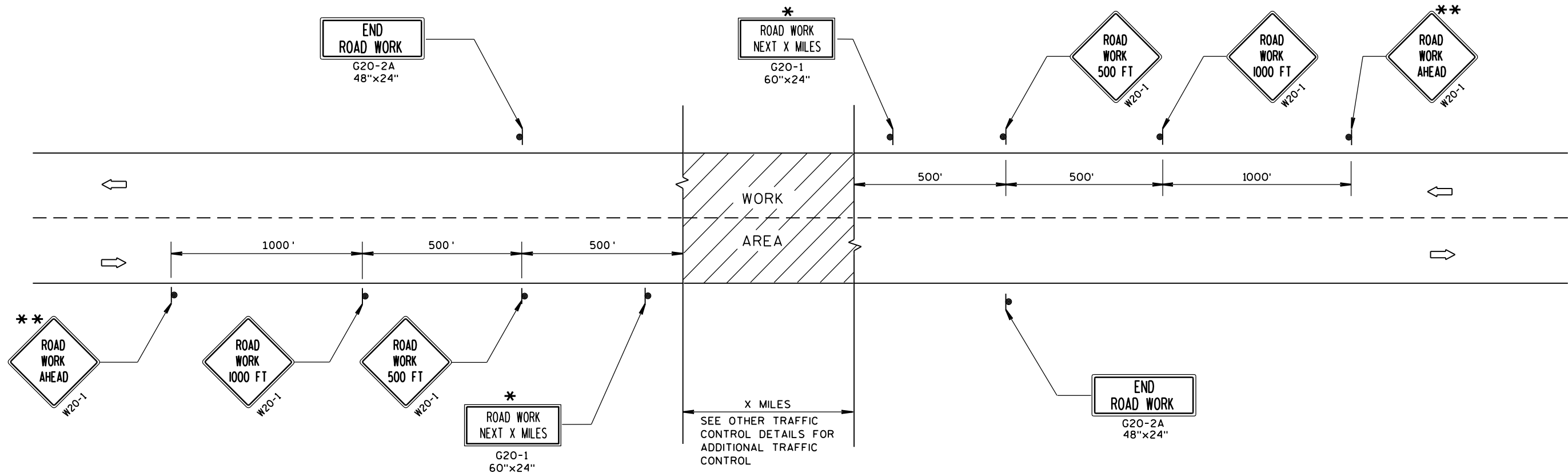
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 /S/ Travis Feltes

DATE STATE TRAFFIC ENGINEER OF DESIGN

FHWA



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

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

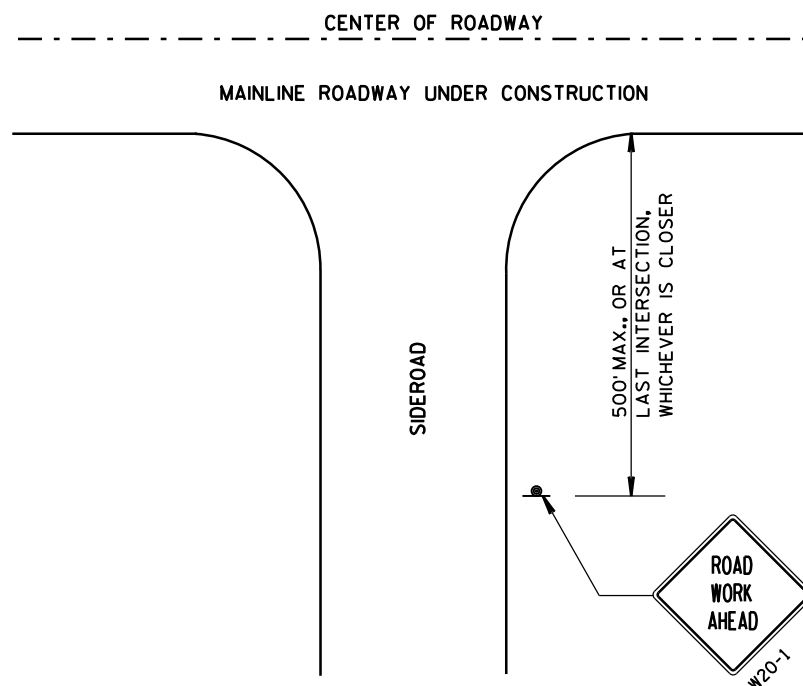
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

** PLACE ADDITIONAL W20-1 "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



LEGEND

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

TRAFFIC CONTROL, ADVANCE
WARNING SIGNS 45 M.P.H.
OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

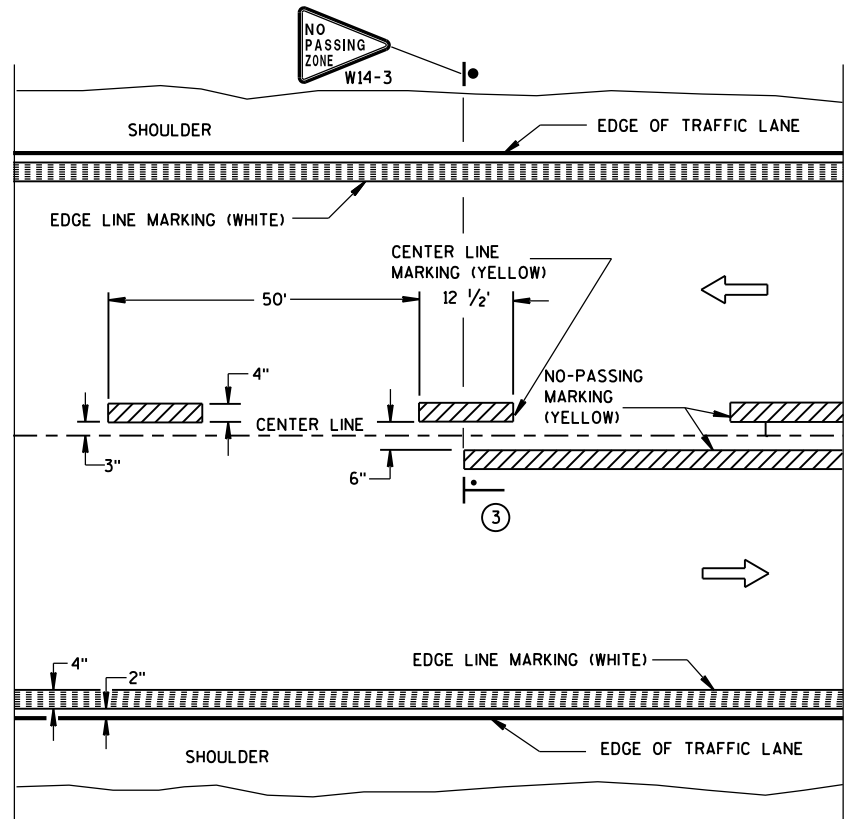
8/2013

DATE

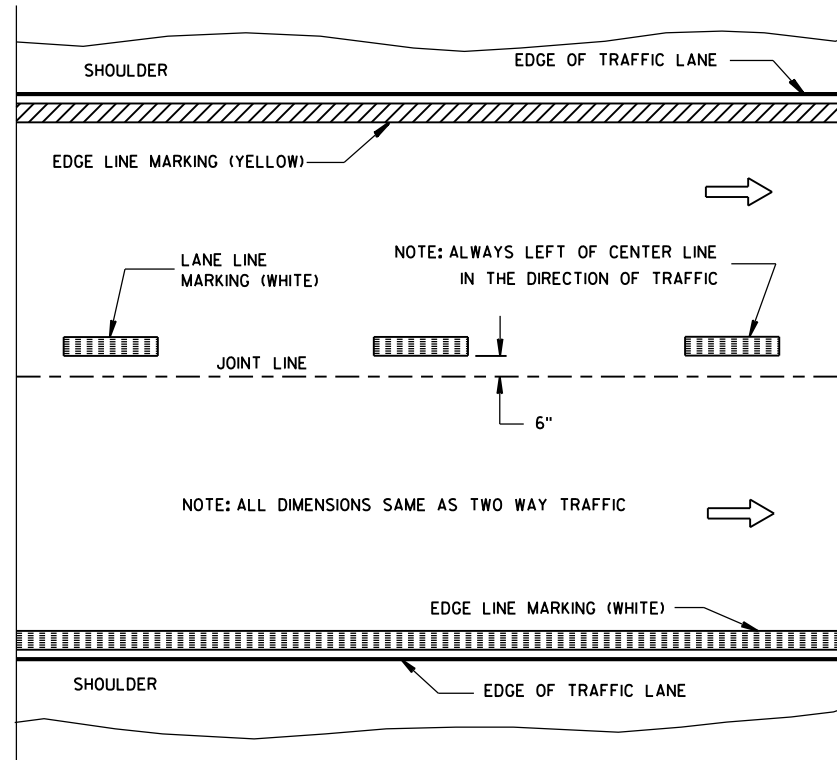
FHWA

/S/ Travis Feltes

STATE TRAFFIC ENGINEER OF DESIGN

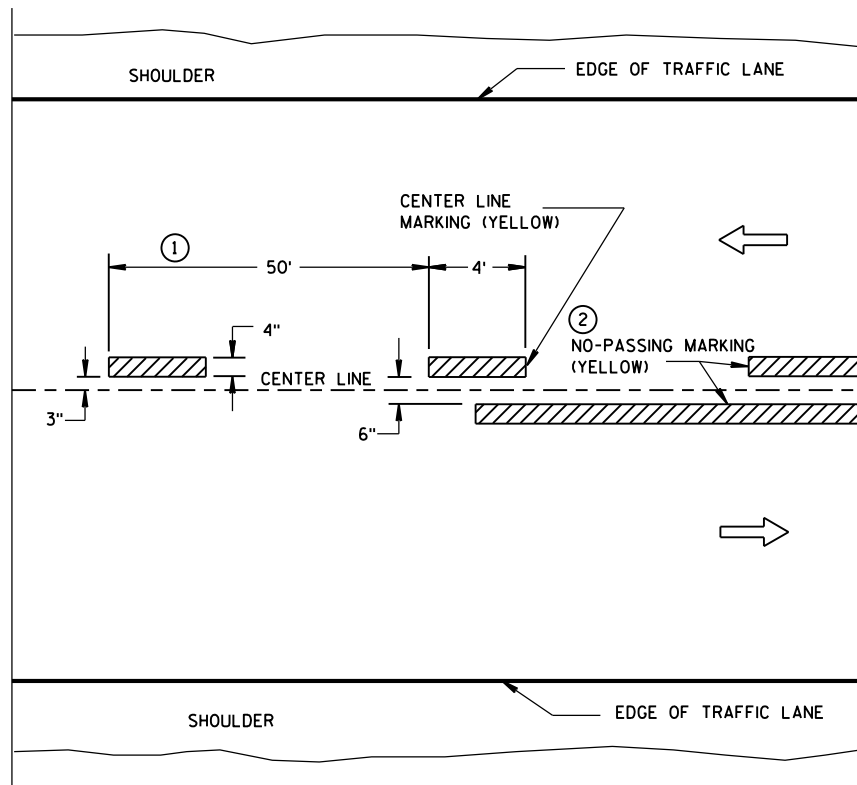


TWO WAY TRAFFIC

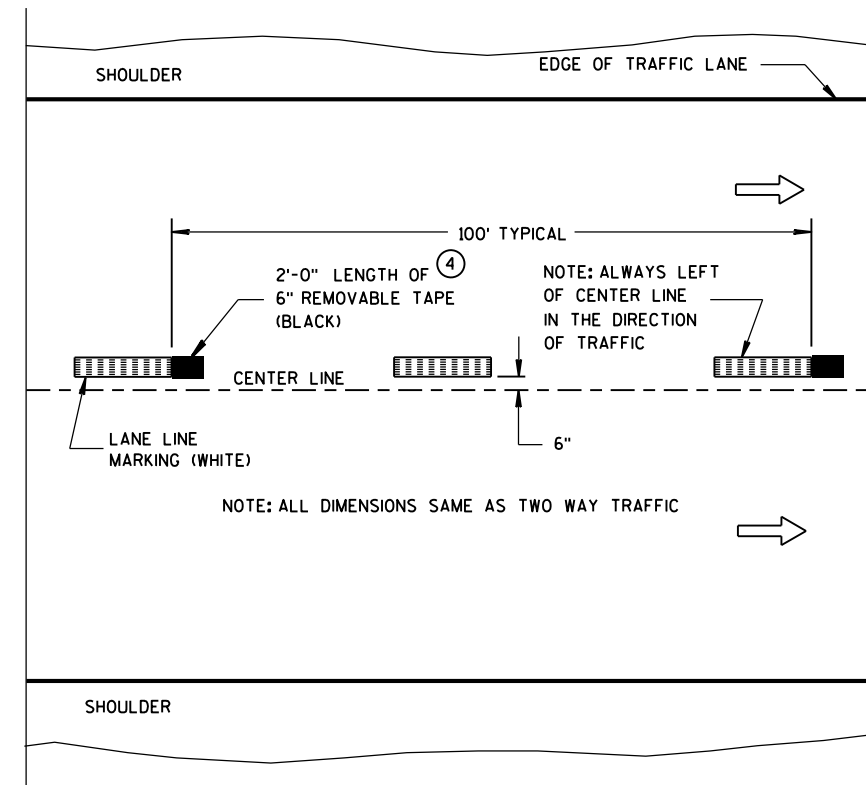


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING
(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

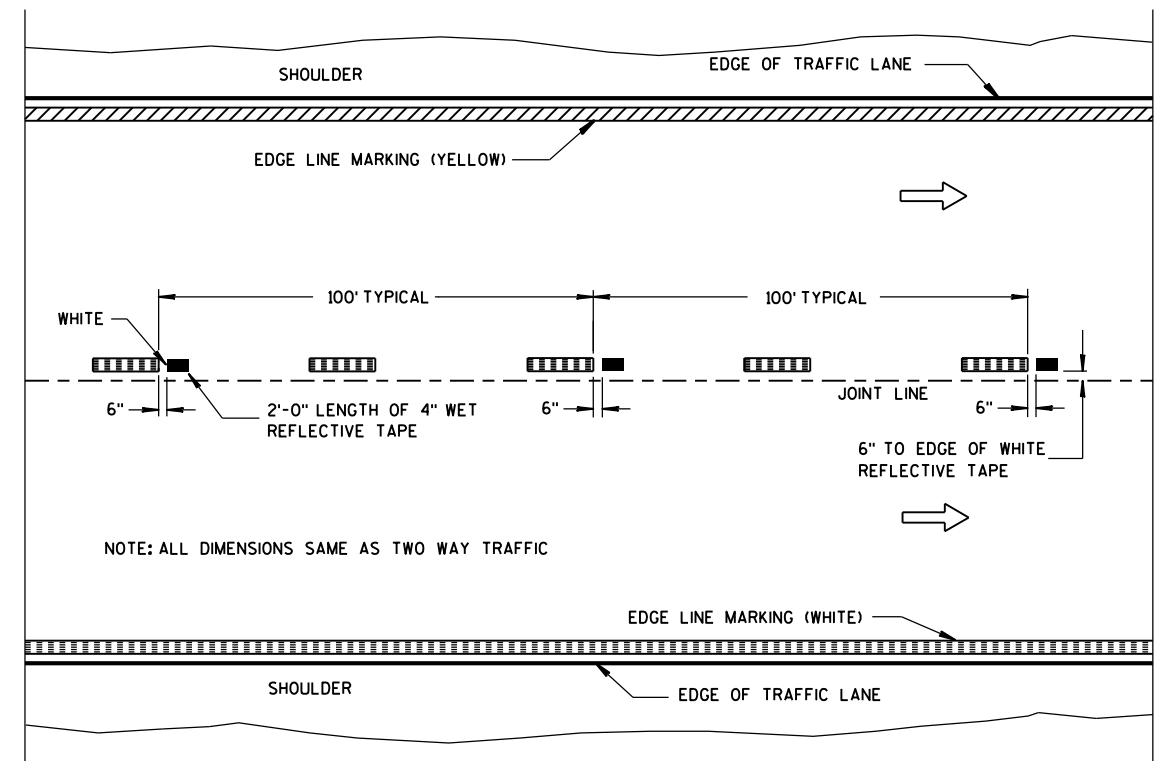
GENERAL NOTES

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

- 1 HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
- 2 NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
- 3 NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
- 4 CONCRETE ONLY.

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

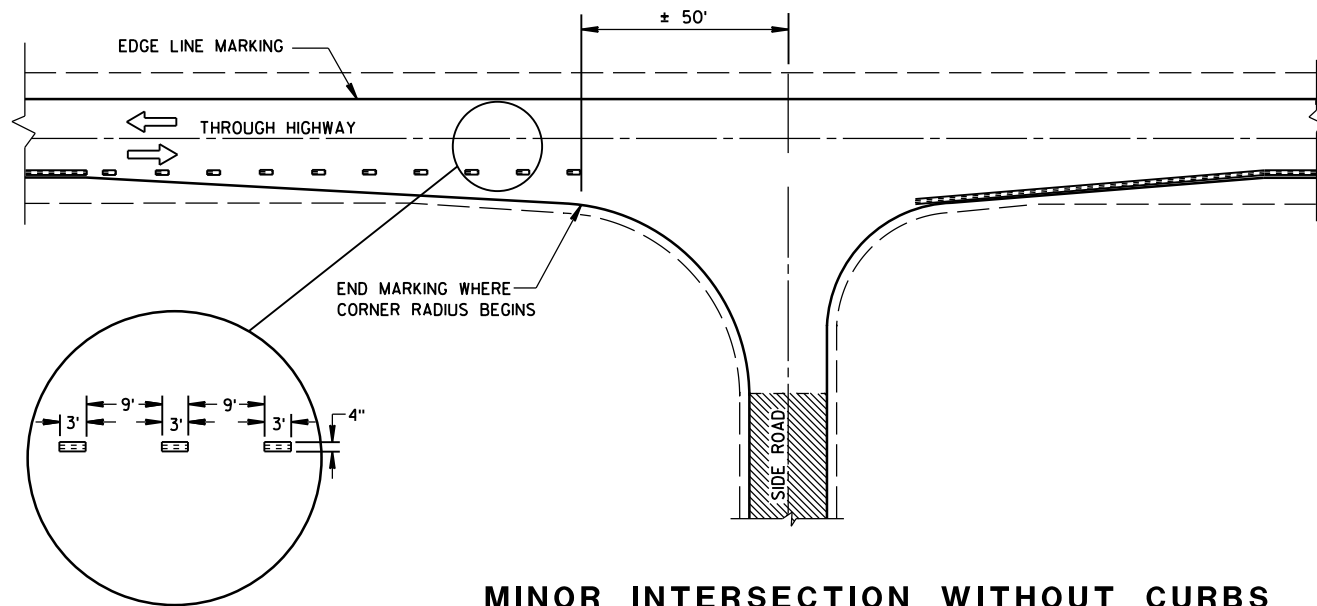
LEGEND

- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

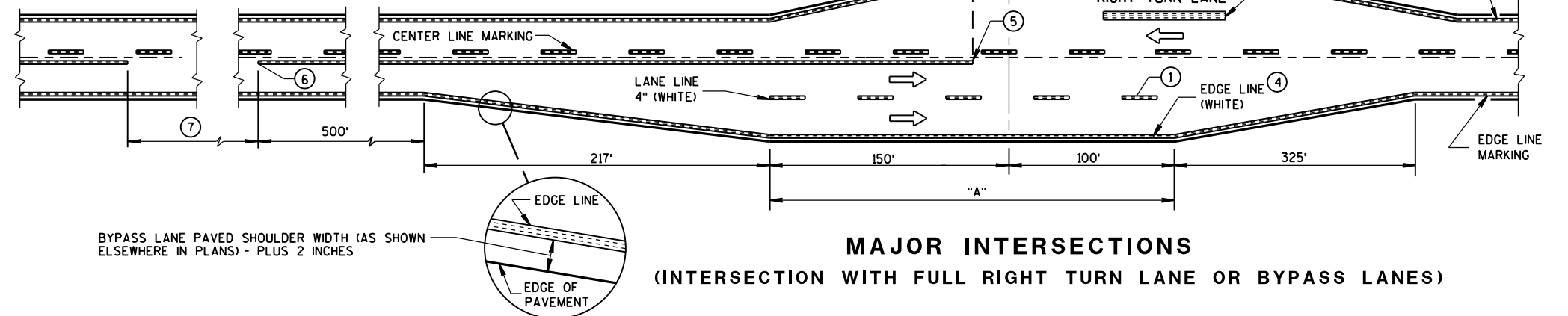
APPROVED
5-13-2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER
FHWA



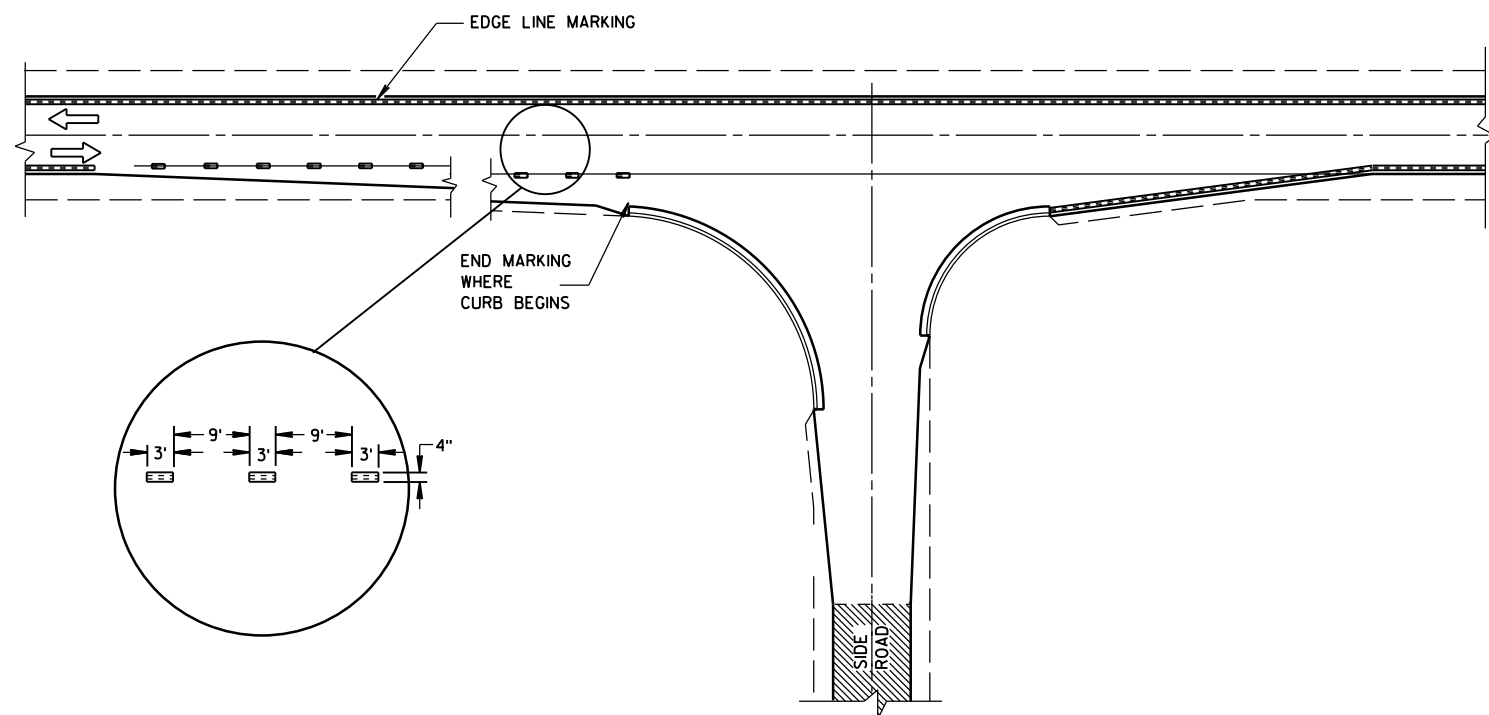
MINOR INTERSECTION WITHOUT CURBS

⑦

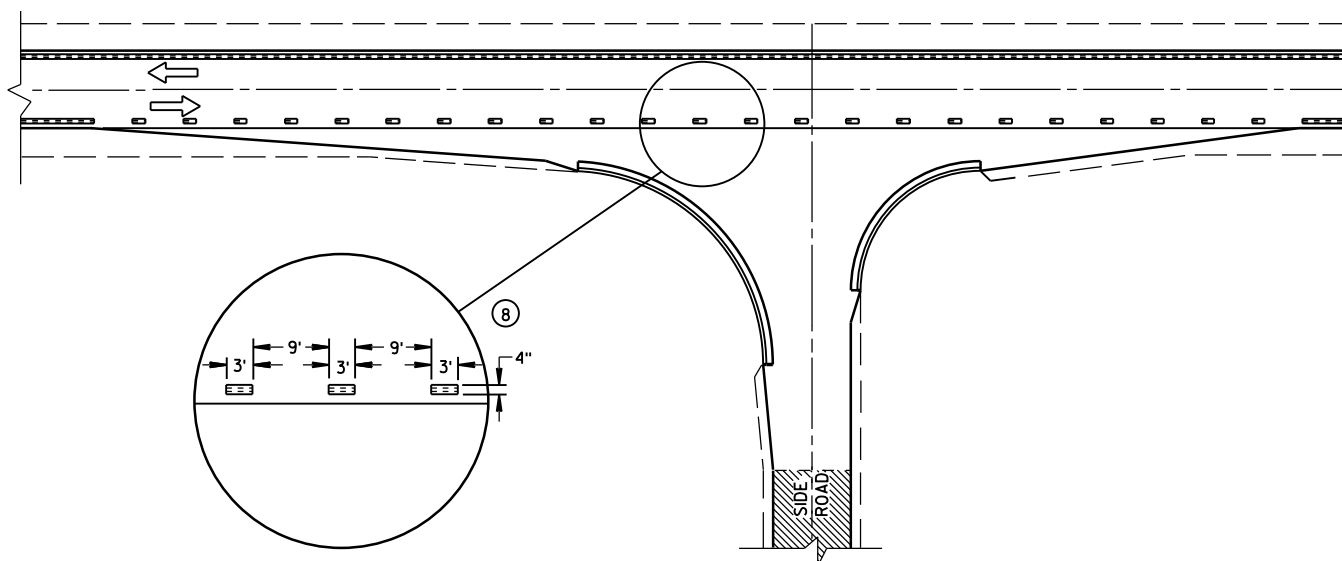
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



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



MINOR INTERSECTION WITH CURBS
(TYPICAL MARKING)



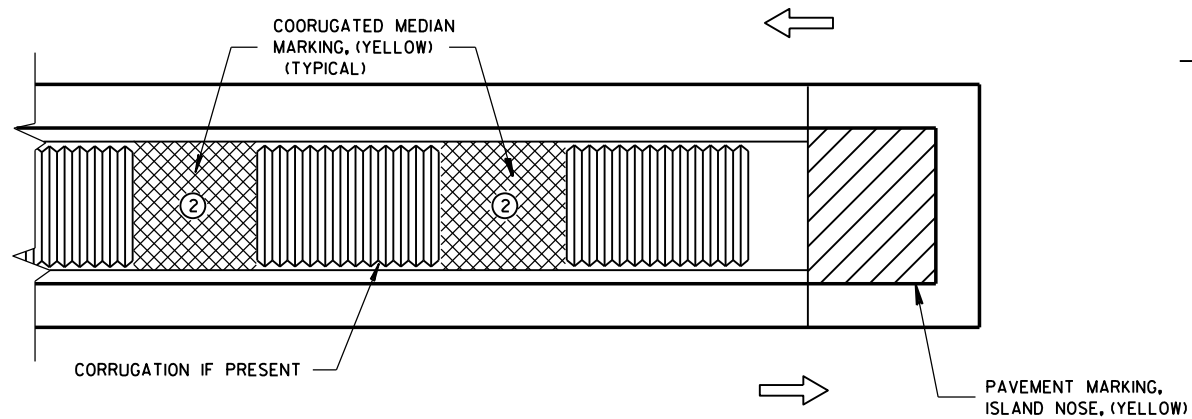
MINOR INTERSECTION WITH CURBS
③ (FOR SPECIAL CONDITIONS AS SPECIFIED)

GENERAL NOTES

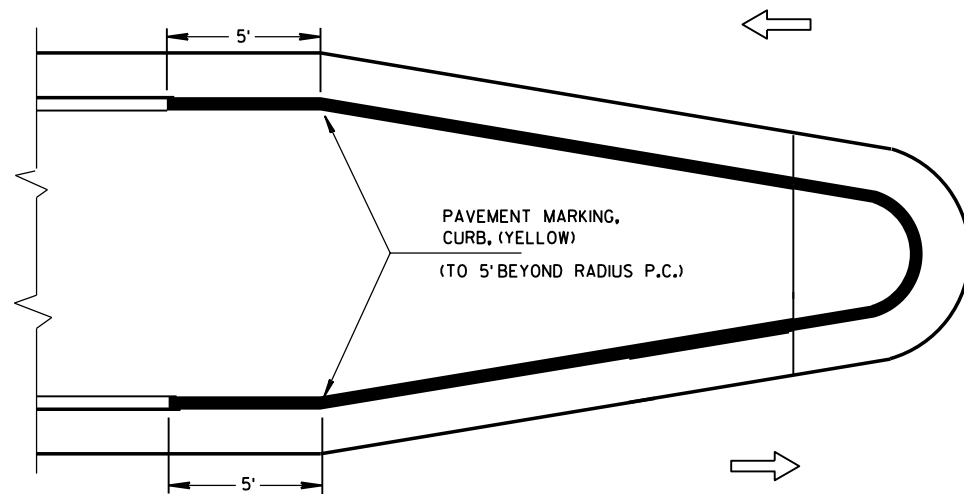
- EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
 - ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
 - ③ ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.
 - ④ THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.
 - ⑤ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.
 - ⑥ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
 - ⑦ IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.
 - ⑧ 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

PAVEMENT MARKING
(INTERSECTIONS)

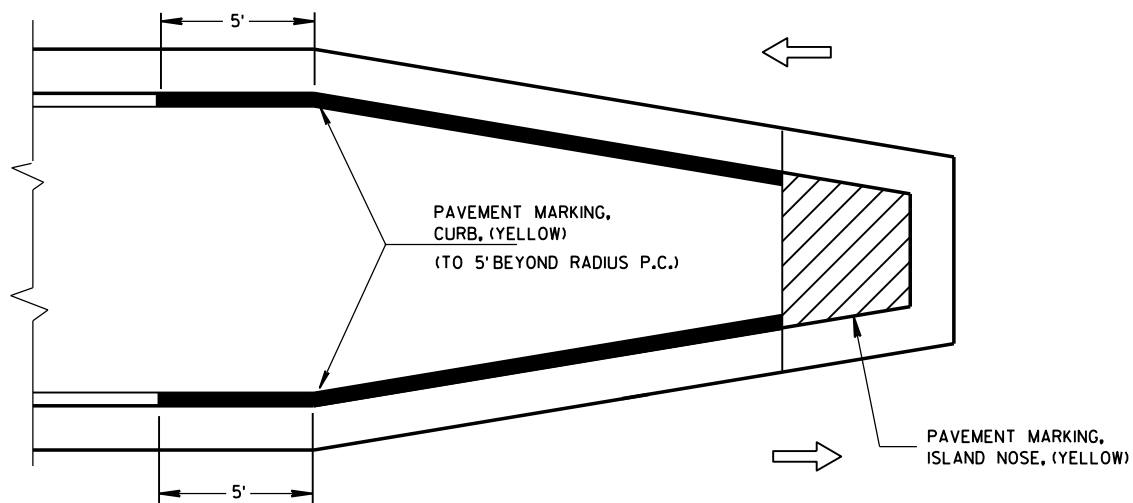
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

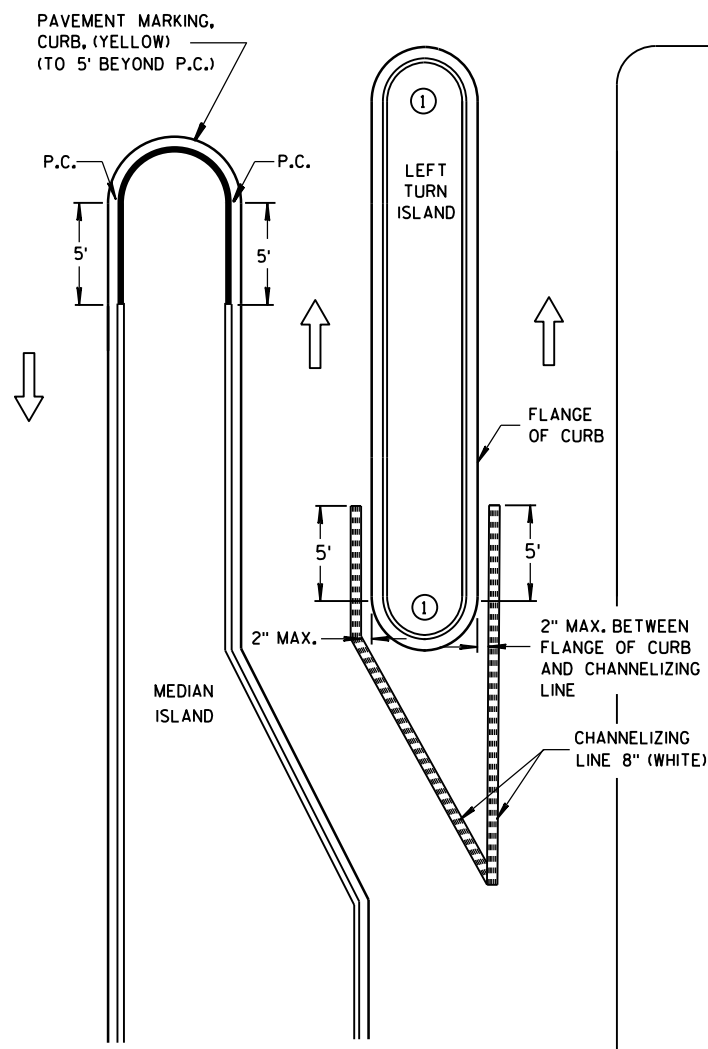


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

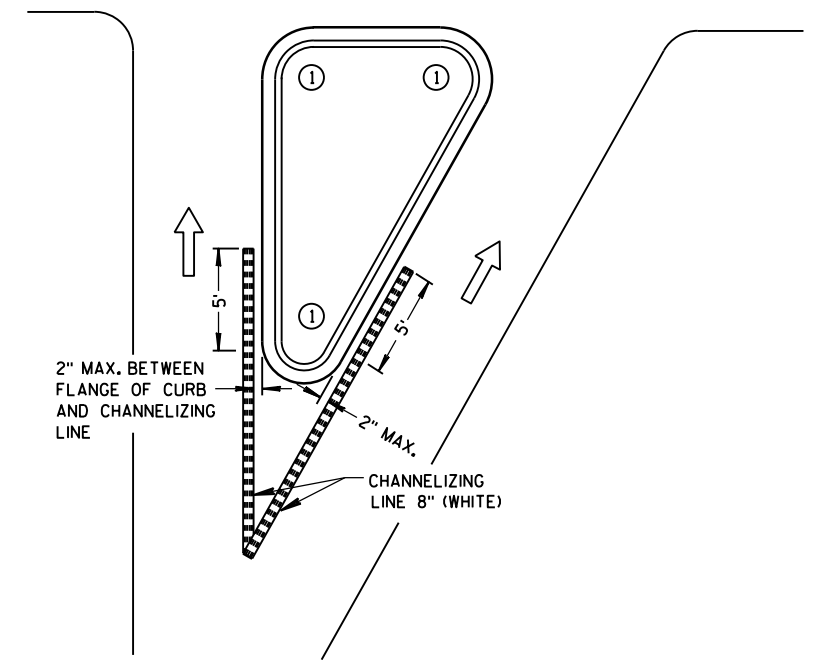
TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS



LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

- 1 DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.
- 2 WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



RIGHT TURN ISLAND

LEGEND

- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKING (ISLANDS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

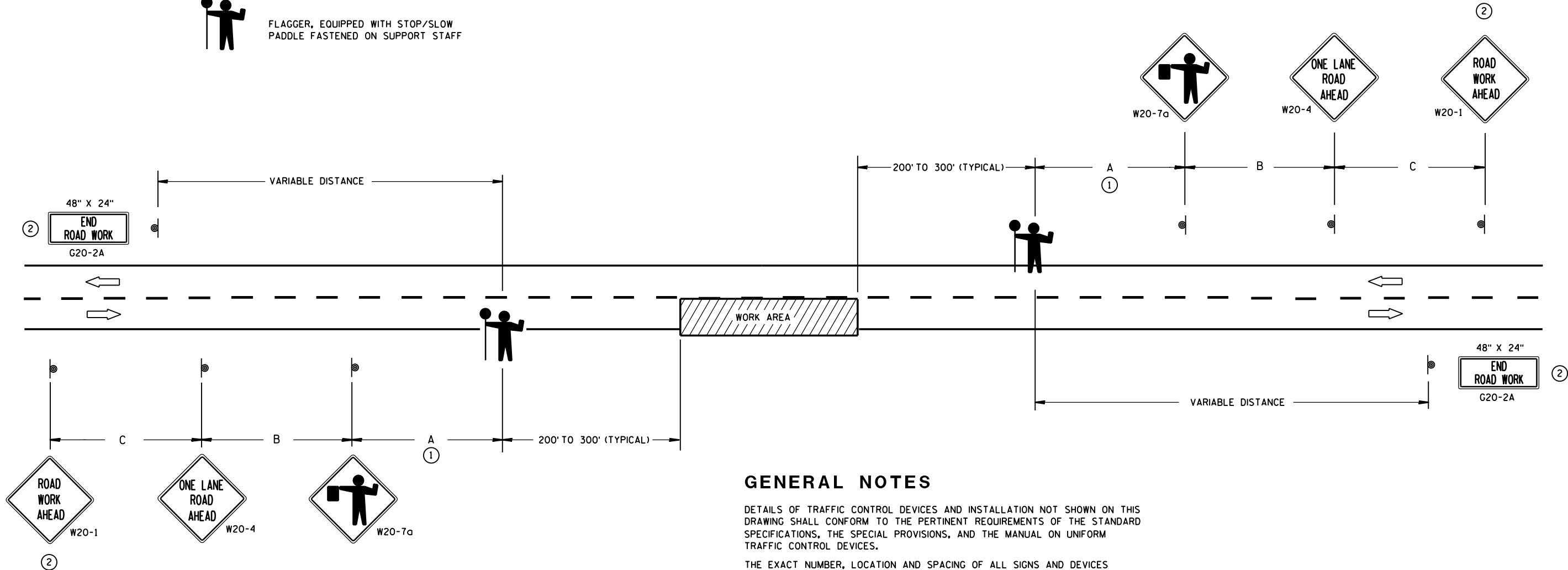
-  SIGN ON PORTABLE OR PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A,B,C
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



GENERAL NOTES

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

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

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

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

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

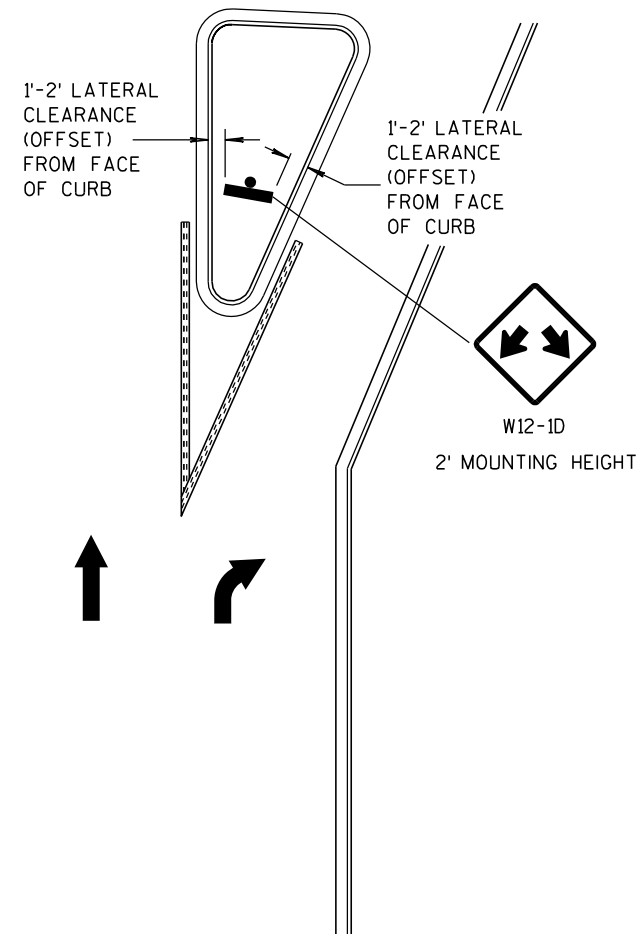
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

- ① FOR A MOVING WORK OPERATION, SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

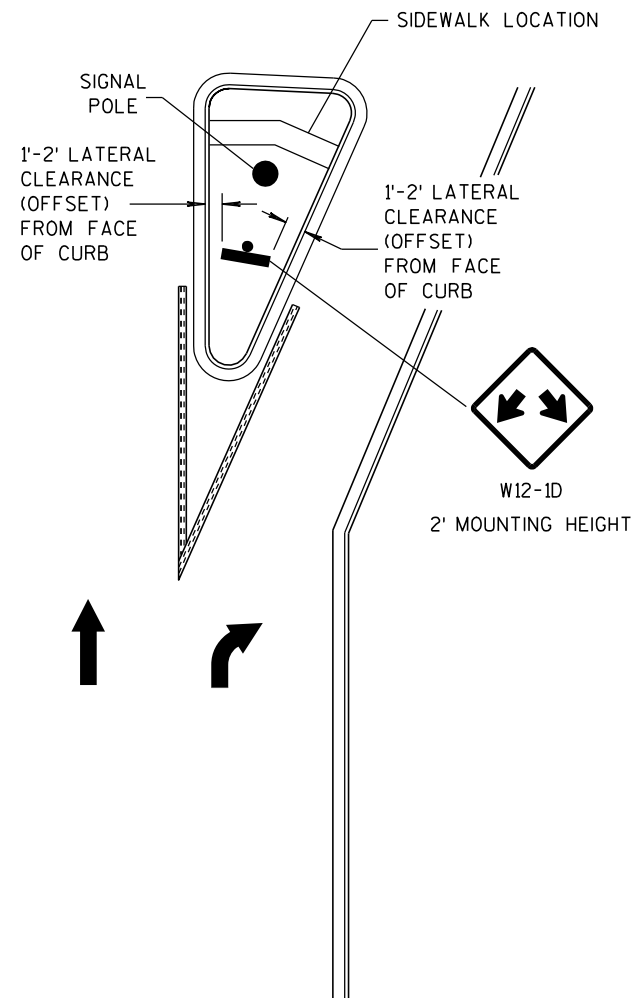
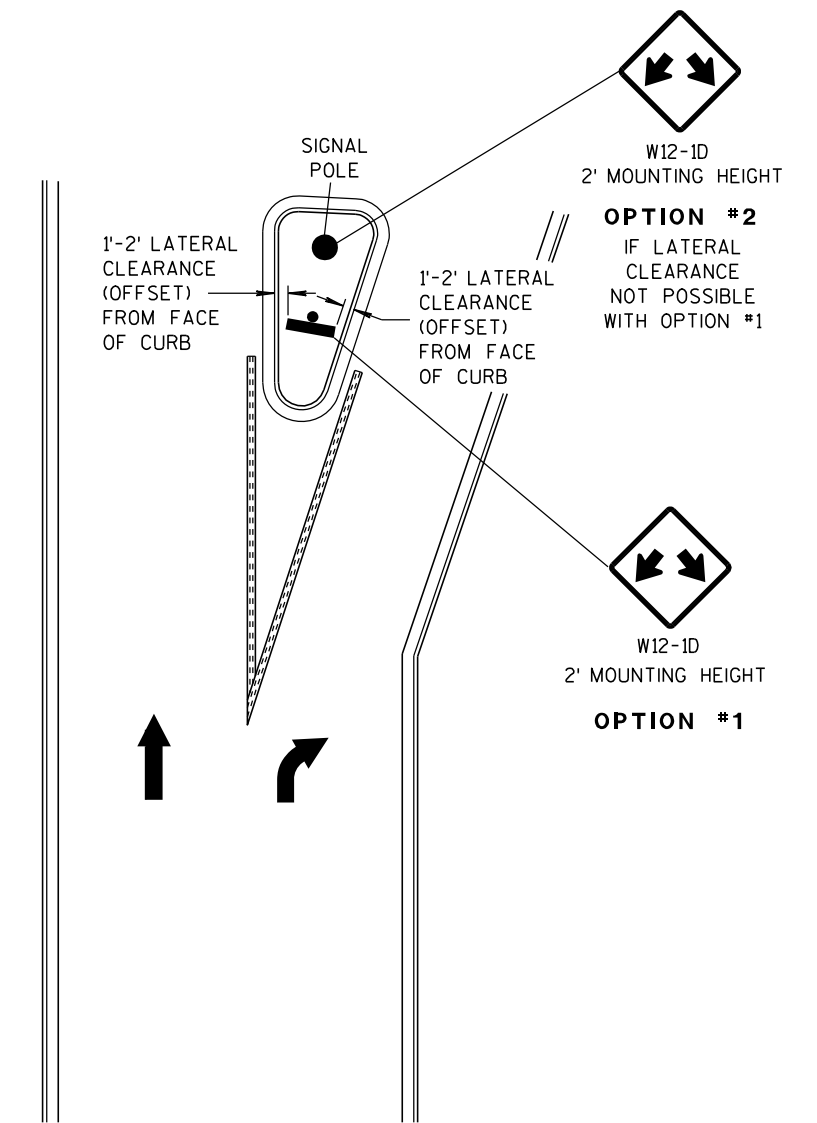
TRAFFIC CONTROL FOR LANE
CLOSURE (SUITABLE FOR
MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



LARGE RIGHT TURN ISLAND

LARGE RIGHT TURN ISLAND
WITH SIGNAL POLE

SMALL RIGHT TURN ISLAND

GENERAL NOTE

APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.

SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.

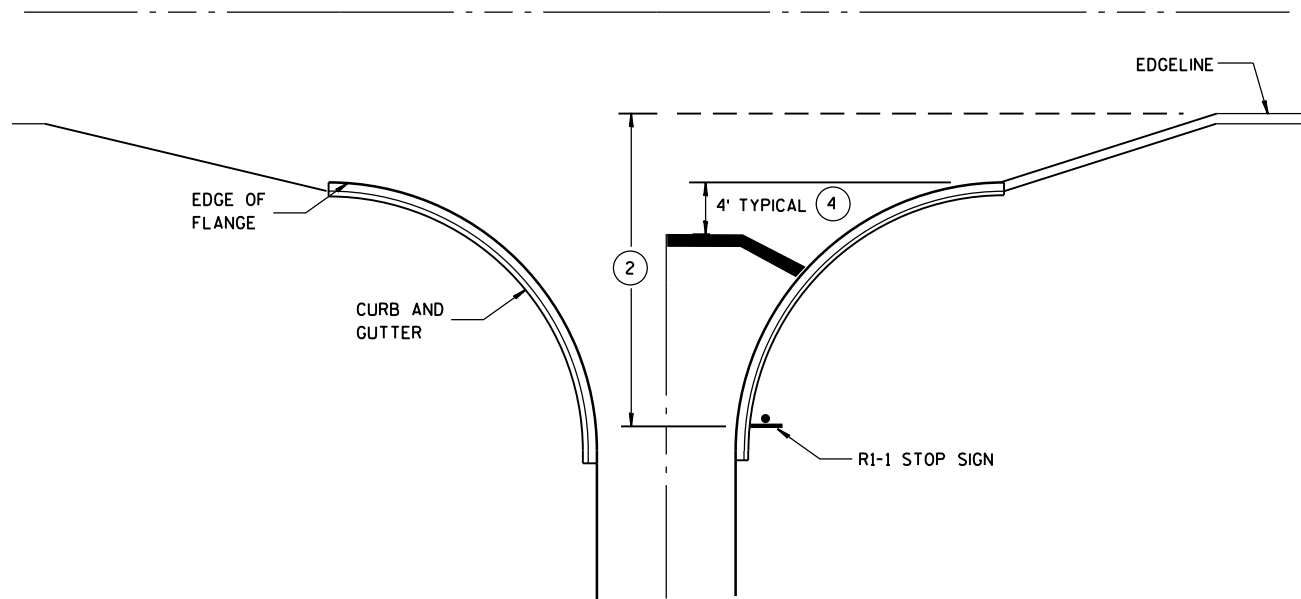
DOUBLE ARROW WARNING SIGN PLACEMENT**DOUBLE ARROW
WARNING SIGN PLACEMENT**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

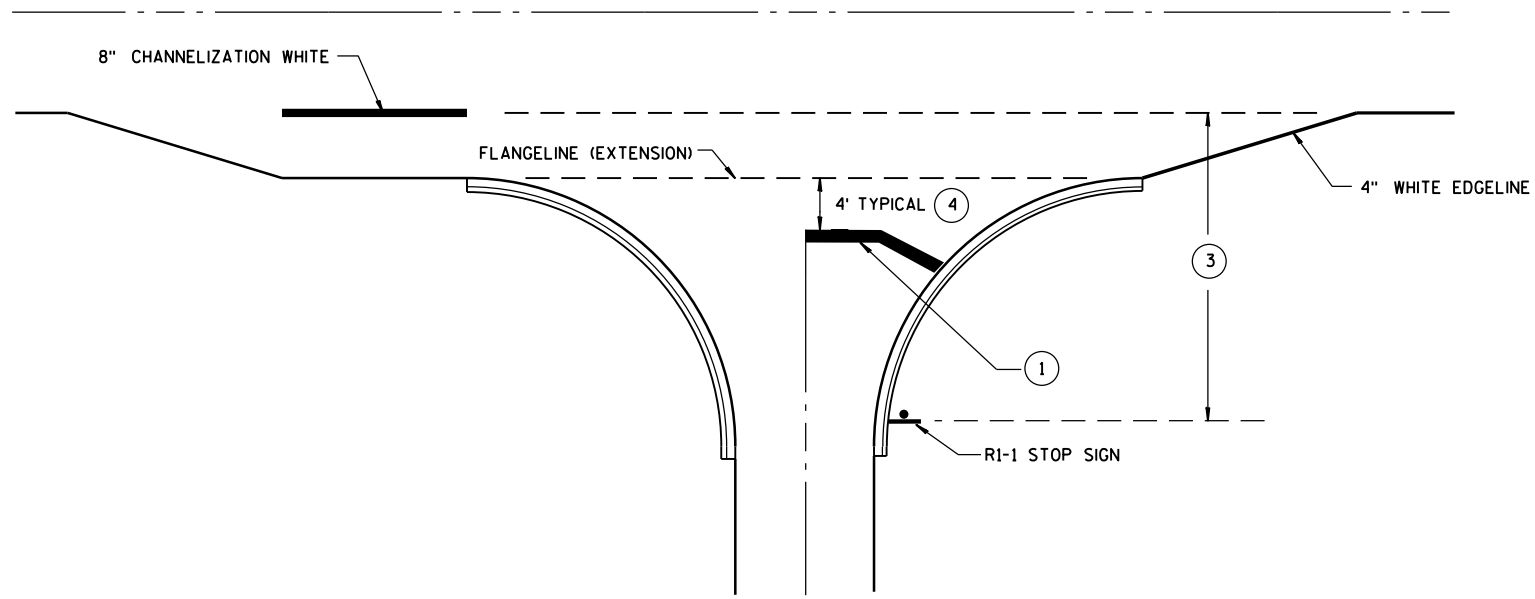
10-22-08
DATE

FHWA

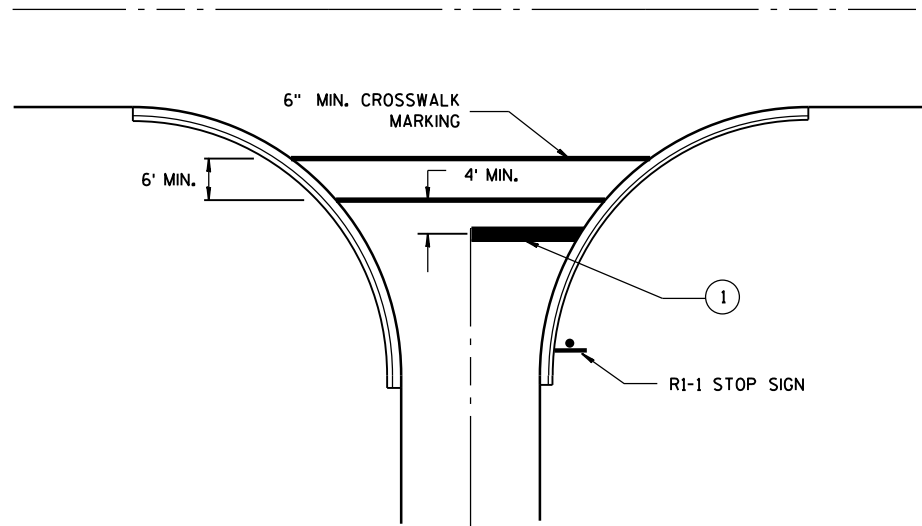
/S/ Thomas N. Notbohm
STATE TRAFFIC ENGINEER OF DESIGN



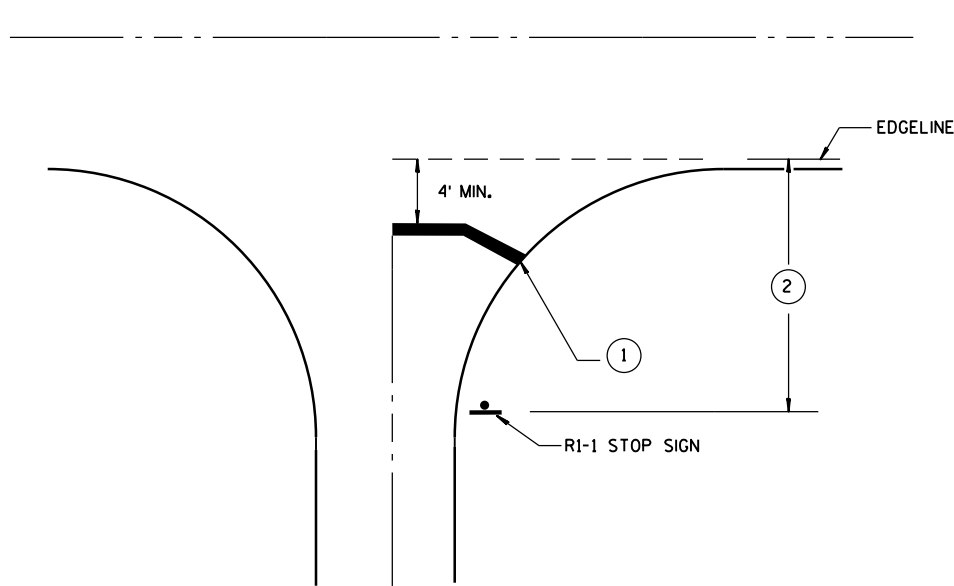
TYPICAL STOP LINE PAVEMENT MARKING
WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING
WITHOUT CURB AND GUTTER

GENERAL NOTES

- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGE LINE THAN NO STOP LINE IS REQUIRED.
- ③ IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
- ④ MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES.

STOP LINE AND CROSSWALK
PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/30/2013 DATE /S/ Travis Feltz
STATE TRAFFIC ENGINEER
FHWA

GENERAL NOTES

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

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

W20-1 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.

CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

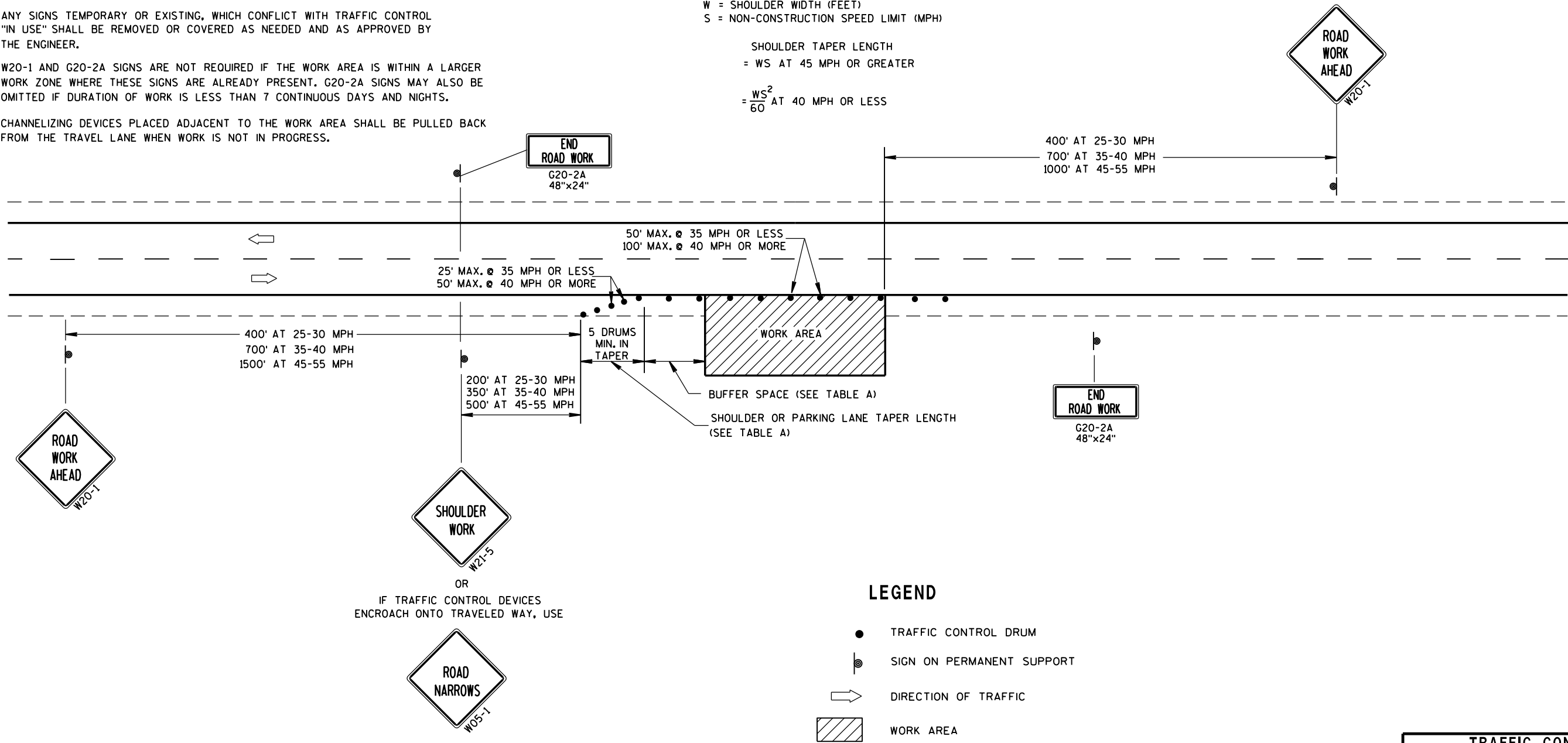
TABLE A

SHOULDER TAPER LENGTH (FEET)					BUFFER SPACE (FEET)
S \ W	4	6	8	10	
30	20	30	40	50	85
35	30	45	55	70	120
40	40	55	75	90	170
45	60	90	120	150	220
50	70	100	135	170	280
55	75	110	150	185	335

W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

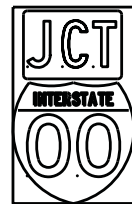
SHOULDER TAPER LENGTH
= WS AT 45 MPH OR GREATER

= $\frac{WS^2}{60}$ AT 40 MPH OR LESS

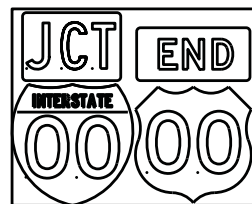


TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

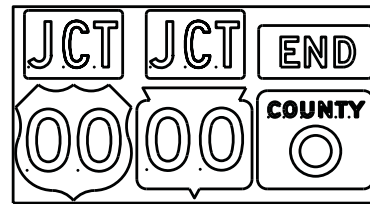
TYPICAL ASSEMBLIES



J1-1



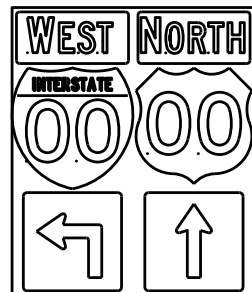
J1-2



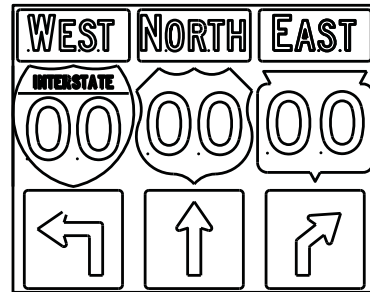
J1-3



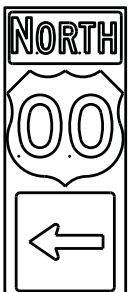
J2-1



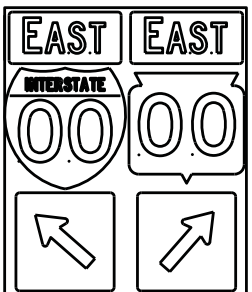
J2-2



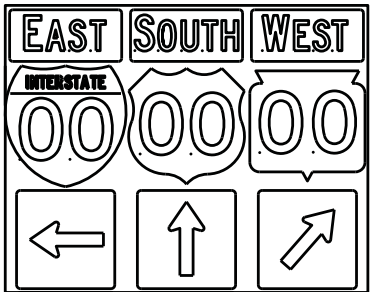
J2-3



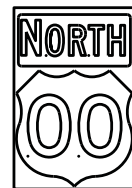
J3-1



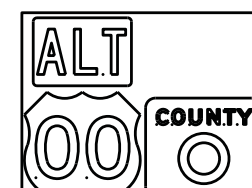
J3-2



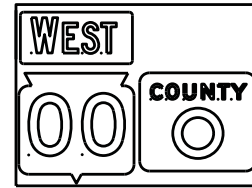
J3-3



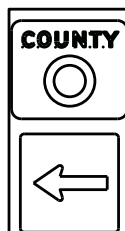
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1



J23-1

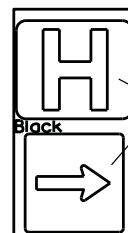


J22-1



JV

(Typical Vertical J-Assembly
See Note 10 and 11)

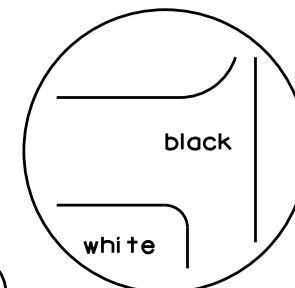
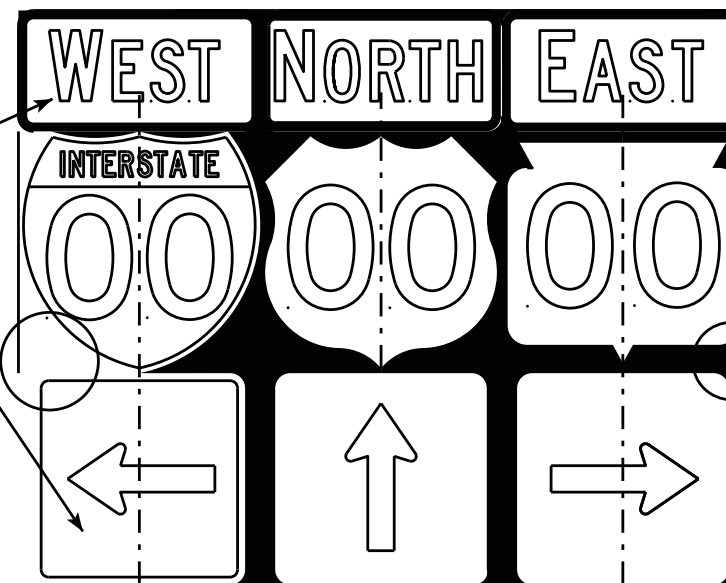
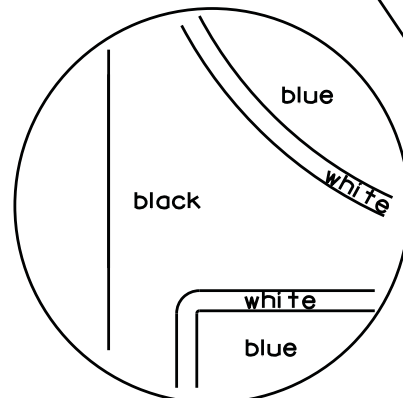


JH-1

Blue Background

Black

[blue background
with interstate]



[black background]

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

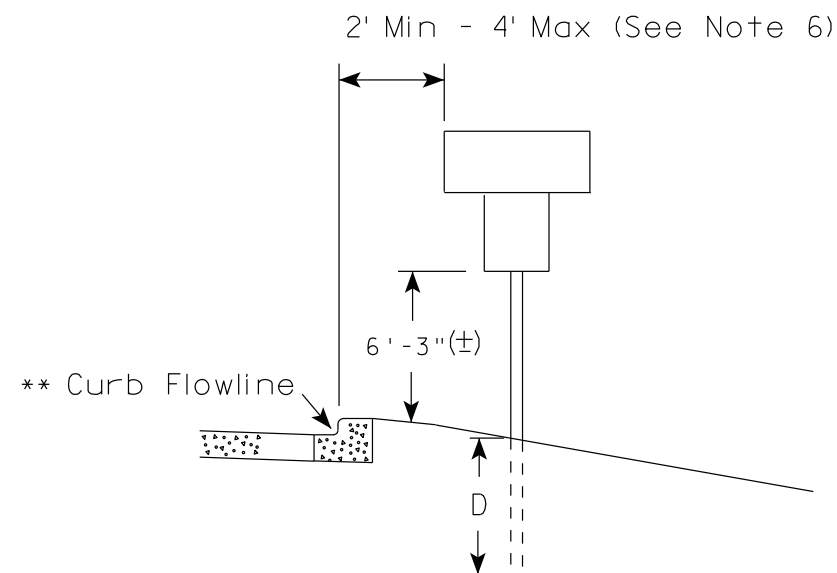
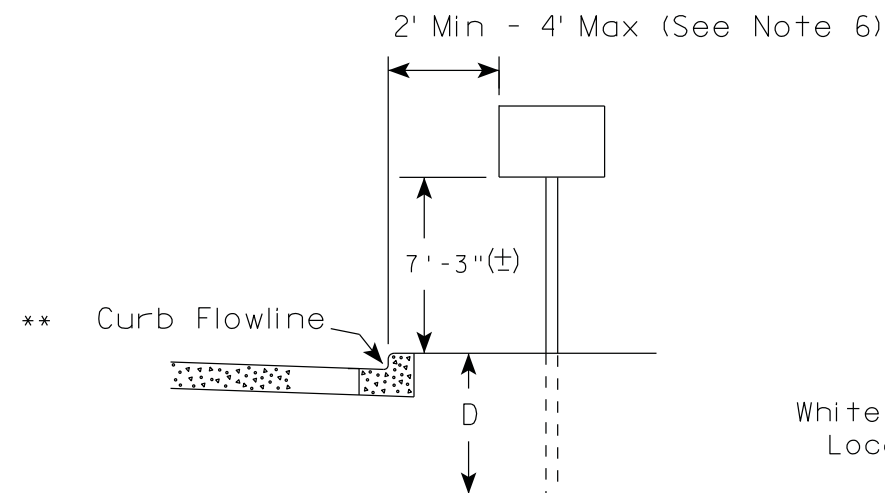
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/06/14 PLATE NO. A2-1S.8

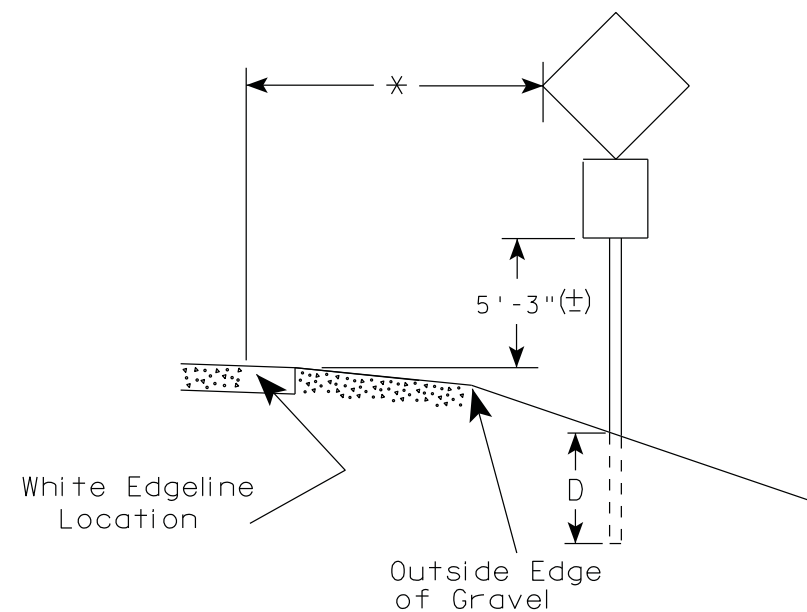
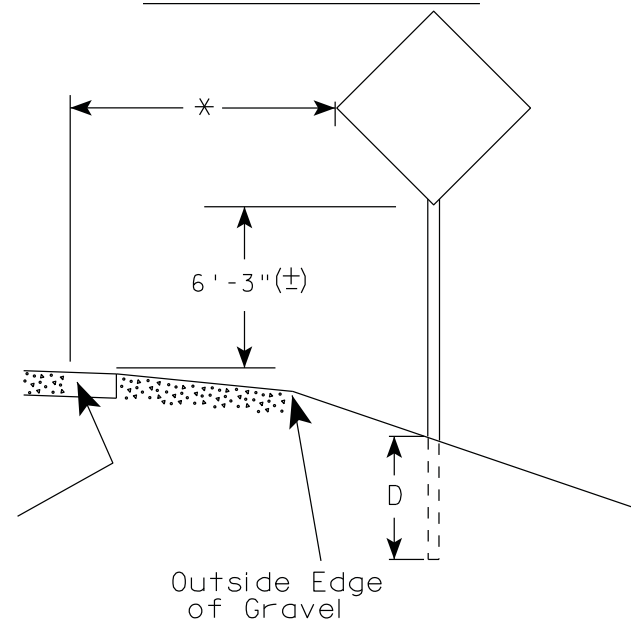
NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Black Non-reflective
Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (+).

POST EMBEDMENT DEPTH

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

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

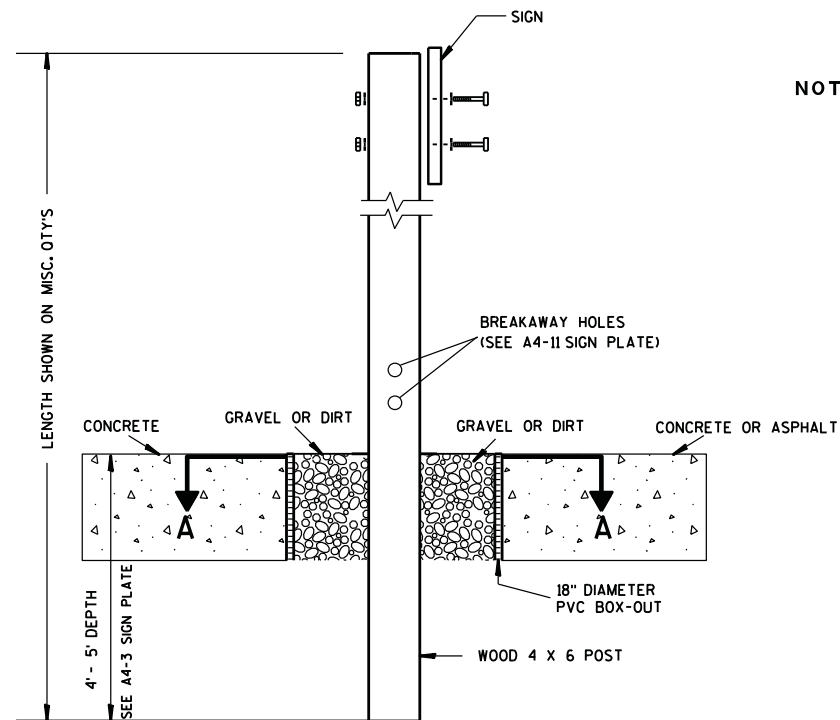
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

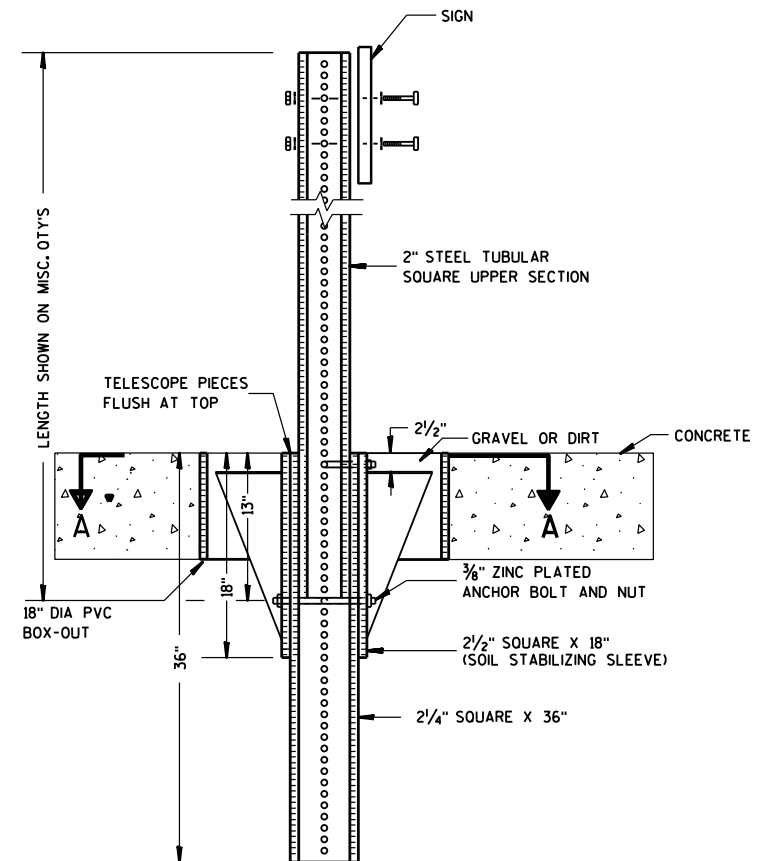
DATE 9/30/13 PLATE NO. A4-3.18



ELEVATION VIEW

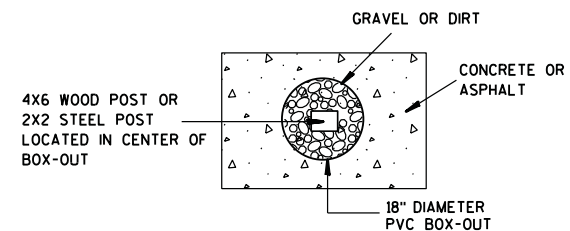
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



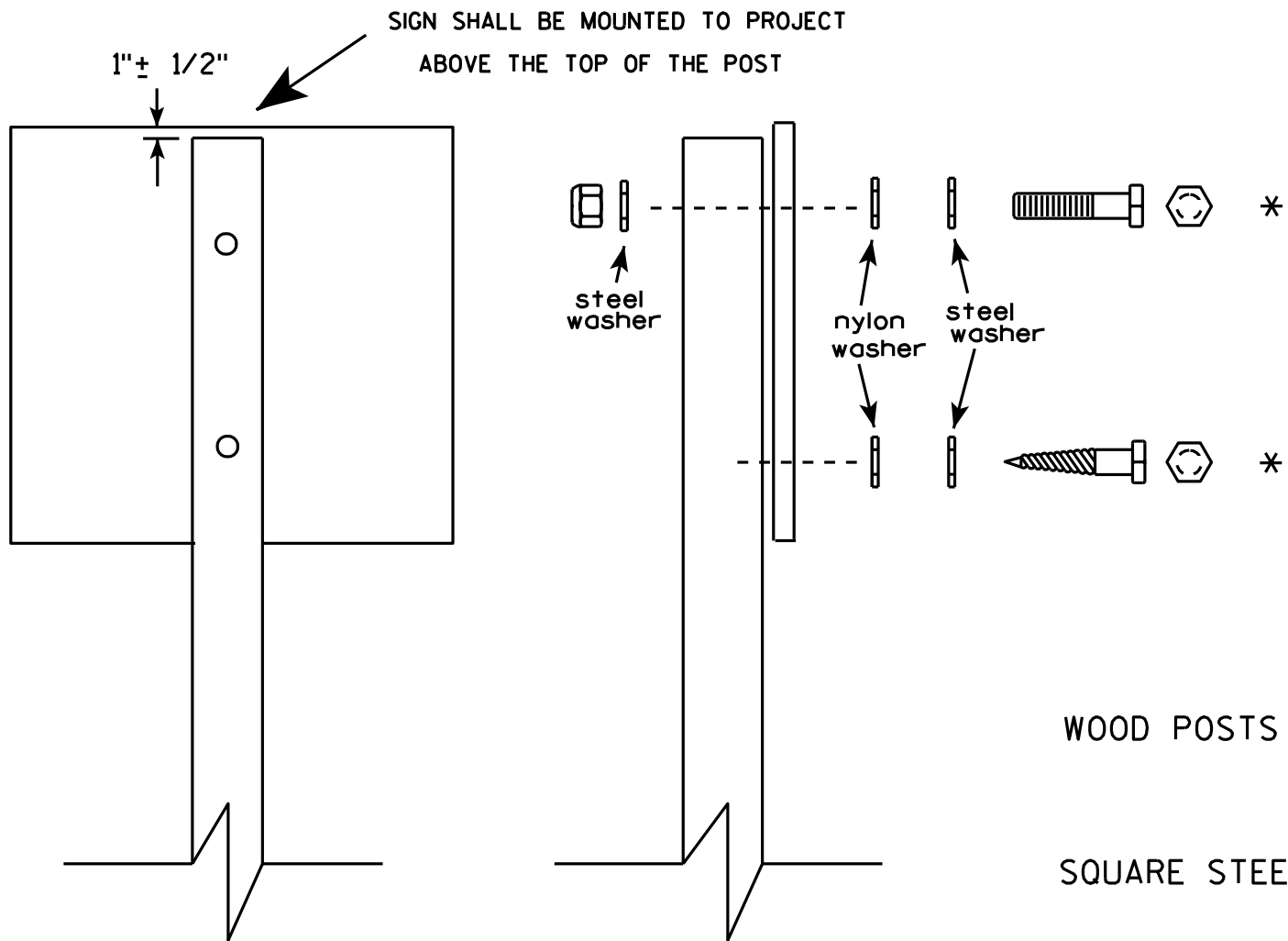
PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer
DATE 1/27/14 PLATE NO. A4-3B.1

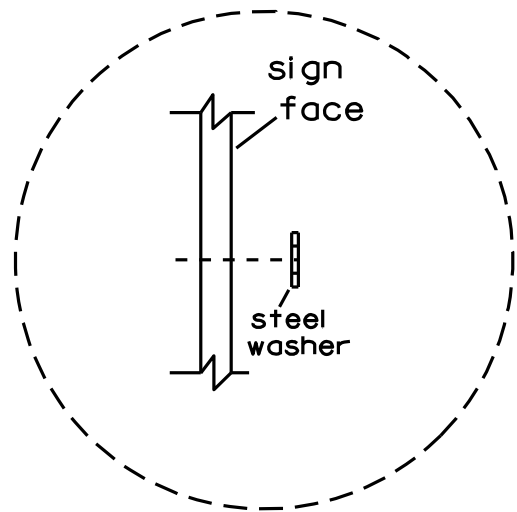


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

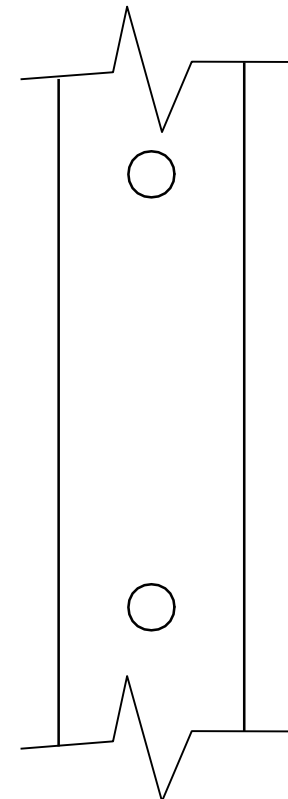
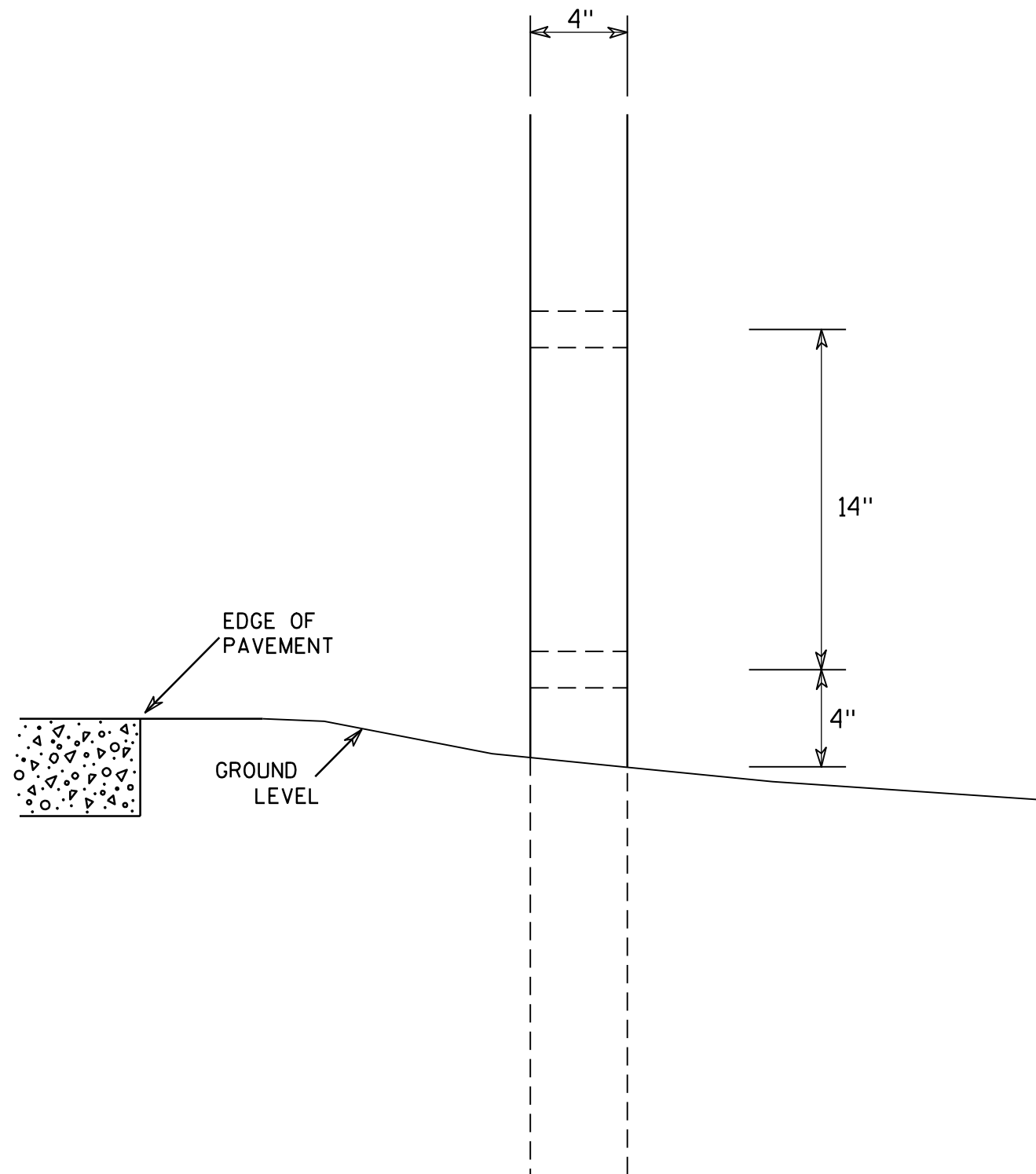
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" X 3"
- MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
- RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
- O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
- 1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



Washer Placement when Sign Has Other Than Type H or Type F Face

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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 3/23/10	PLATE NO. A4-8.7



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO: 5843-00-70

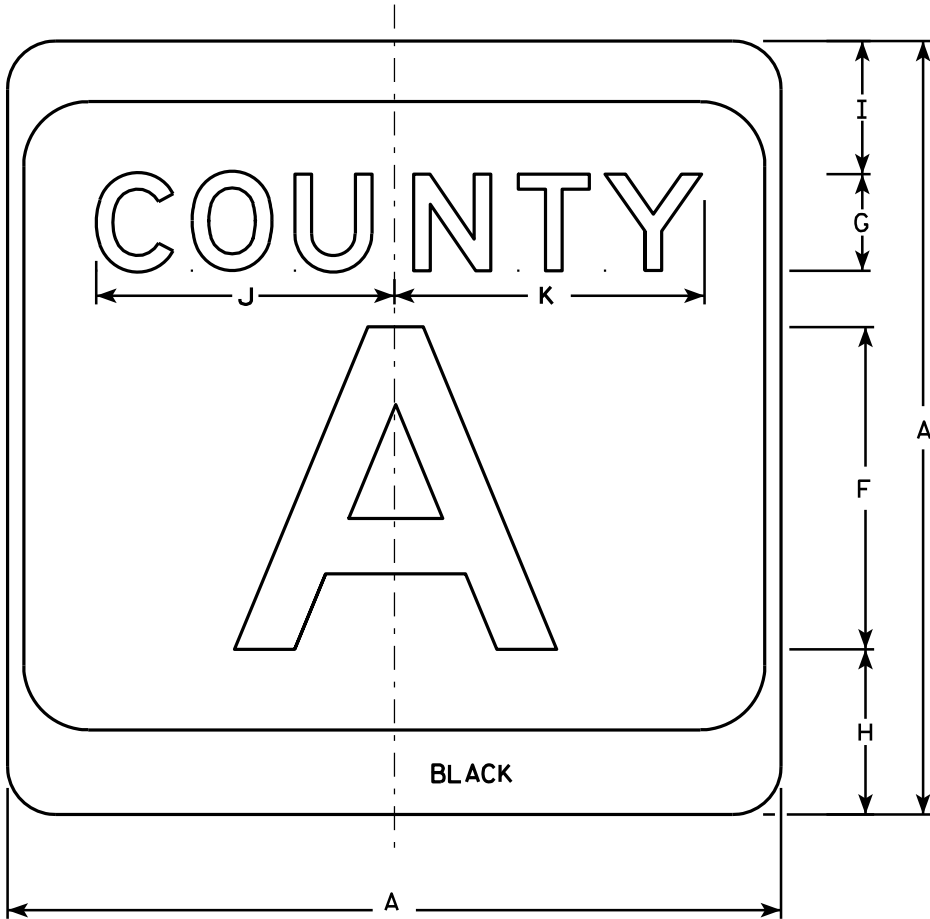
HWY: CTH V

COUNTY: COLUMBIA

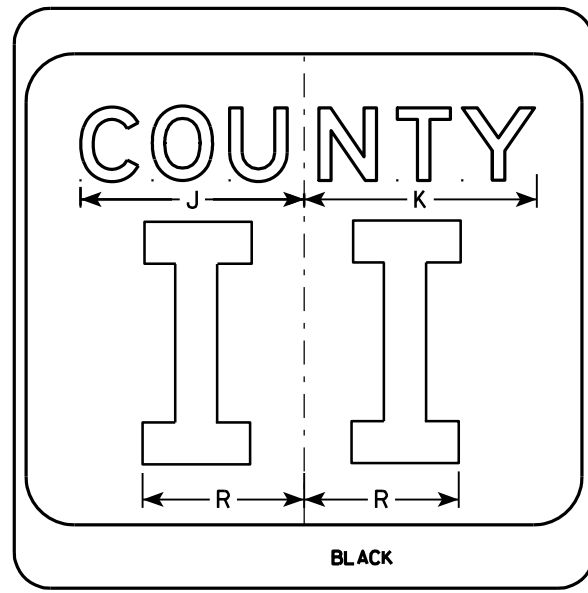
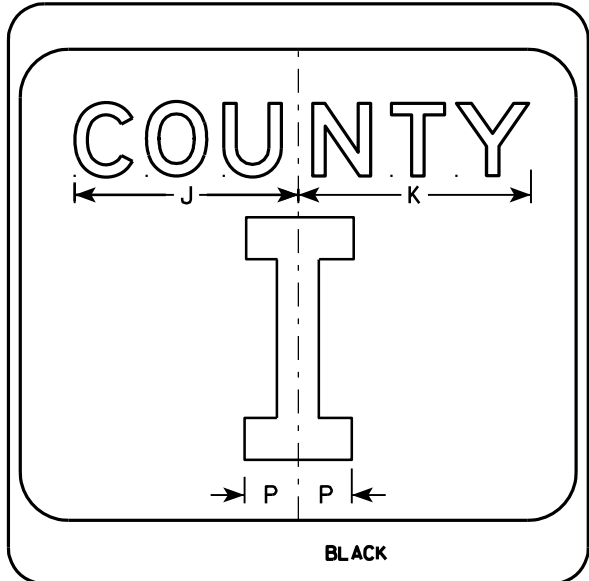
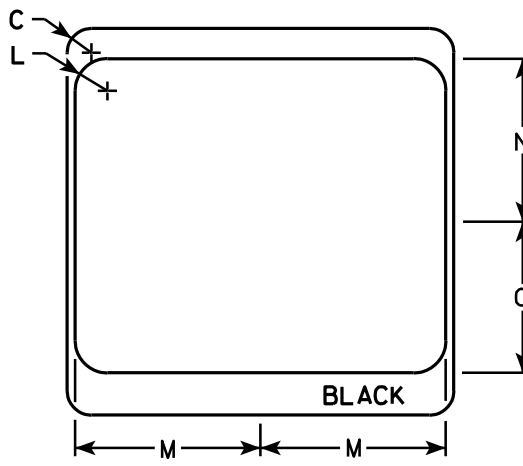
SHEET NO:

E

7



M1-5A



NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White & Black - See Note 7
Message - Black
3. Message Series - see Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Message Series E for 1 letter.
Message Series D for 2 letters unless message is too big then Series C.
Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
Background - Type H Reflective
Detour or temporary Signs
Background - Reflective

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

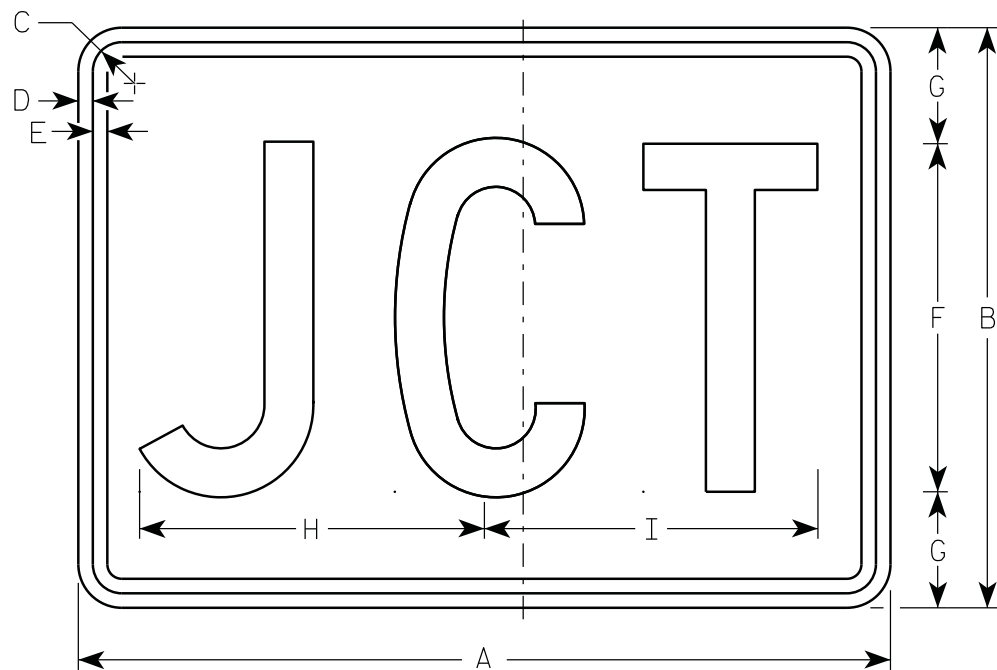
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

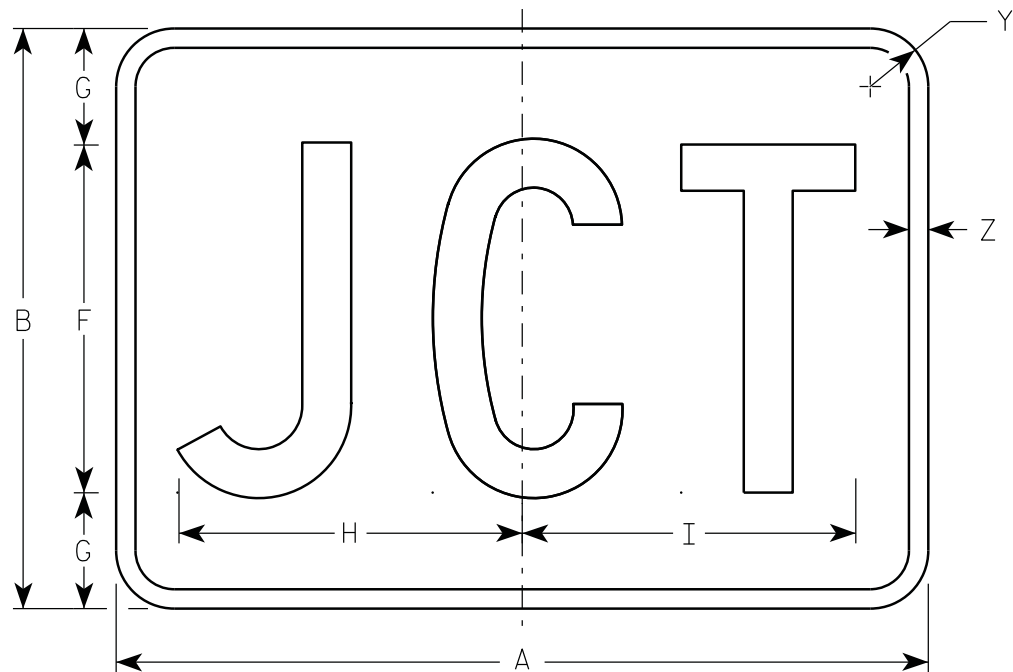
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 9/27/11 PLATE NO. M1-5A.8

7



M2-1
MK2-1
MM2-1
MN2-1
MR2-1



MB2-1

NOTES

1. Sign is Type II - Type H
2. Color:
Background - See note 5
Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M2-1 Background - White
Message - Black
MB2-1 Background - Blue
Message - White
MK2-1 Background - Green
Message - White
MM2-1 Background - White
Message - Green
MN2-1 Background - Brown
Message - White
MR2-1 Background - Brown
Message - Yellow

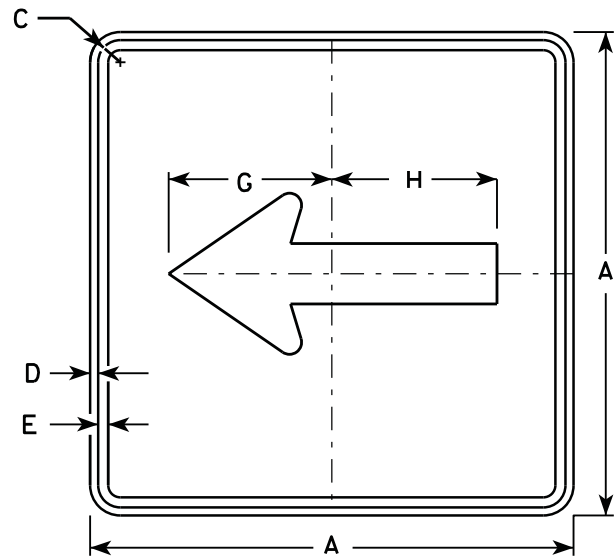
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
5	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40

STANDARD SIGN
M2 - 1

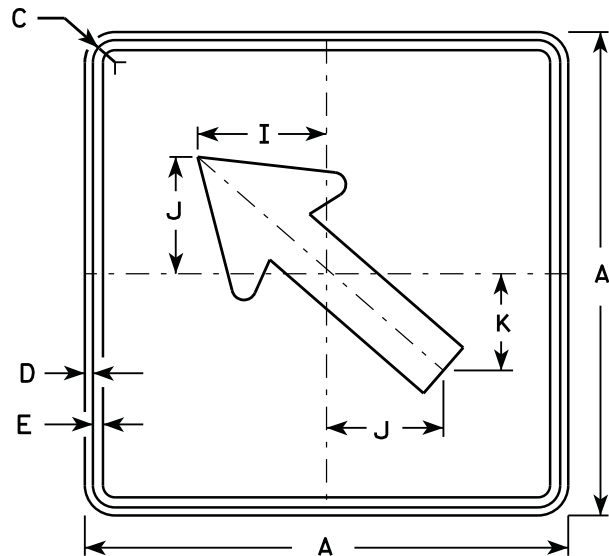
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
For State Traffic Engineer

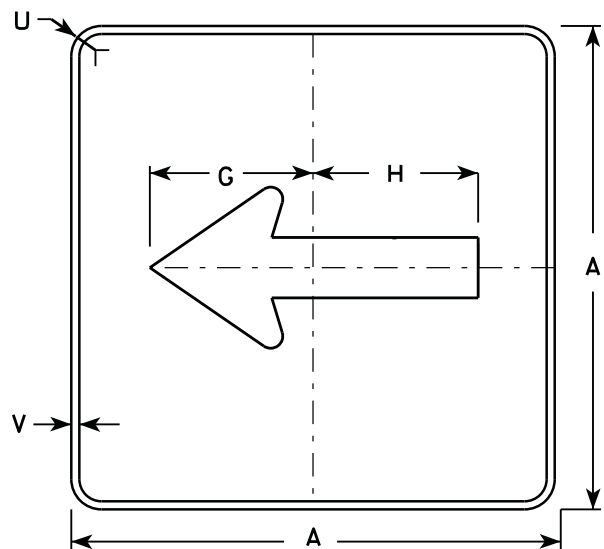
DATE 6/30/14 PLATE NO. M2-1.11



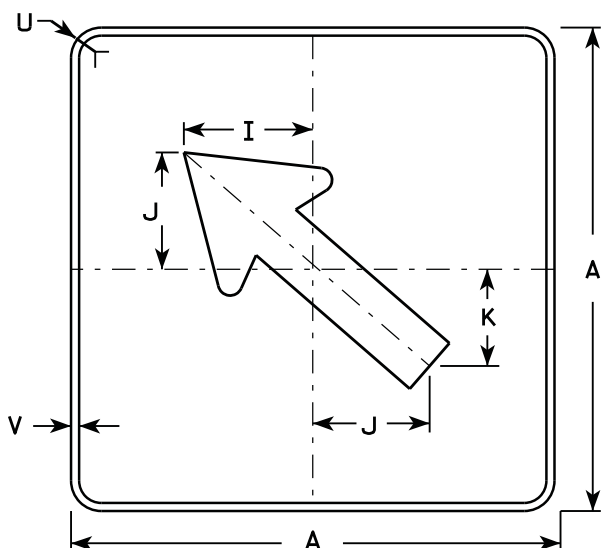
M6 -1
MK6 -1
MM6 -1
MN6 -1
M06 -1
MP6 -1
MR6 -1



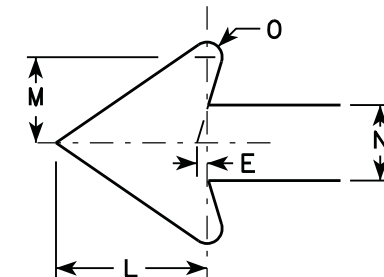
M6 -2
MK6 -2
MM6 -2
MN6 -2
M06 -2
MP6 -2
MR6 -2



MB6 -1



MB6 -2



NOTES

1. Signs are Type II - Type H except as Shown
2. Color:
Background - See note 4
Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White
MG6-1 and MG6-2 Background - Green
Message - White
MK6-1 and MK6-2 Background - Green
Message - White
MM6-1 and MM6-2 Background - White
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White
M06-1 and M06-2 Background - Orange - Type F Reflective
Message - Black
MP6-1 and MP6-2 Background - White
Message - Blue
MR6-1 and MR6-2 Background - Brown
Message - Yellow

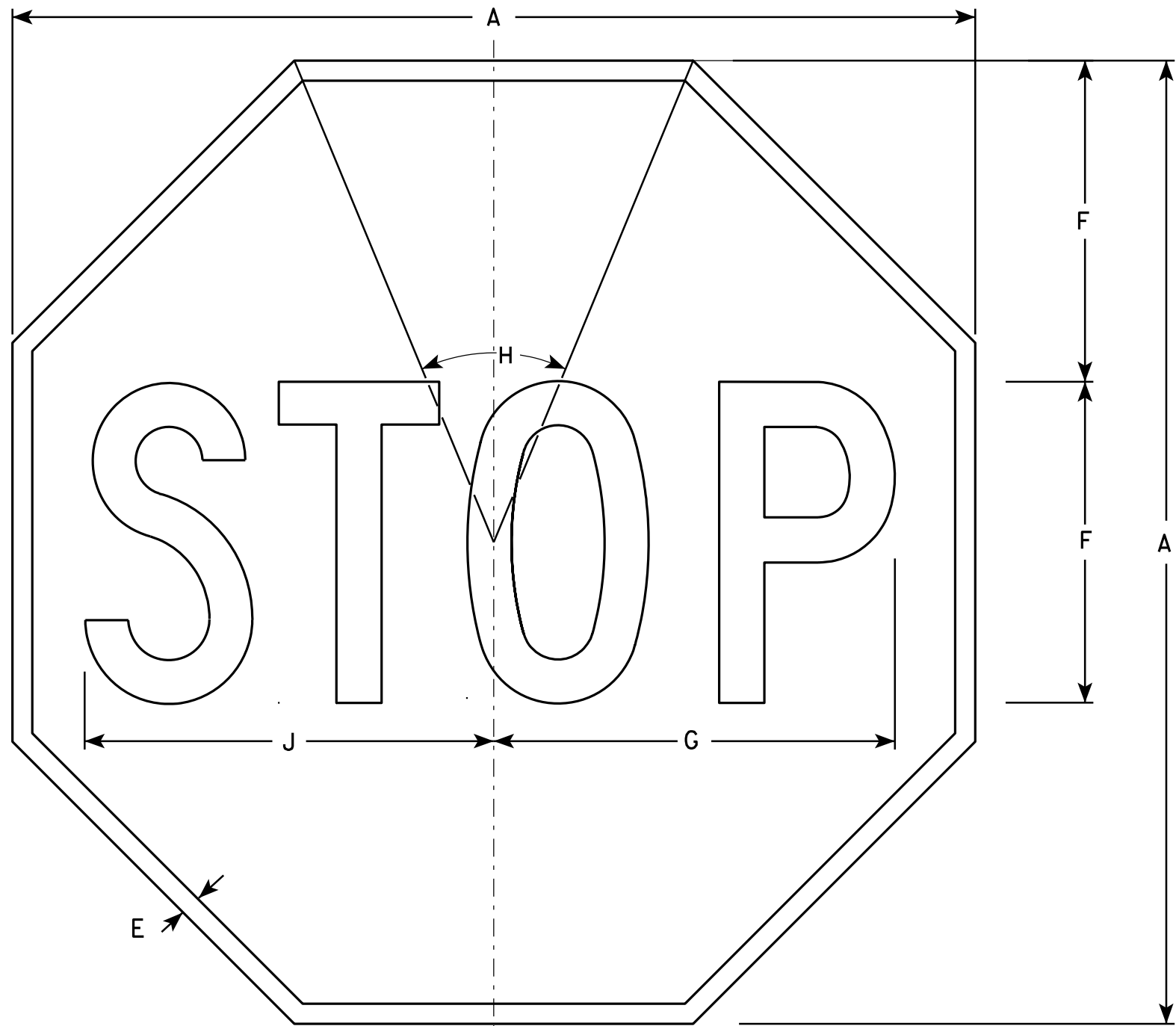
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

STANDARD SIGN
M6 -1 & M6 -2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 7/03/14 PLATE NO. M6-1.14



NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Red
Message - White
- 3. Message Series - C

R1-1

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24				3/8	8	10	45°		10 1/4																	3.31
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

STANDARD SIGN
R1 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1.12

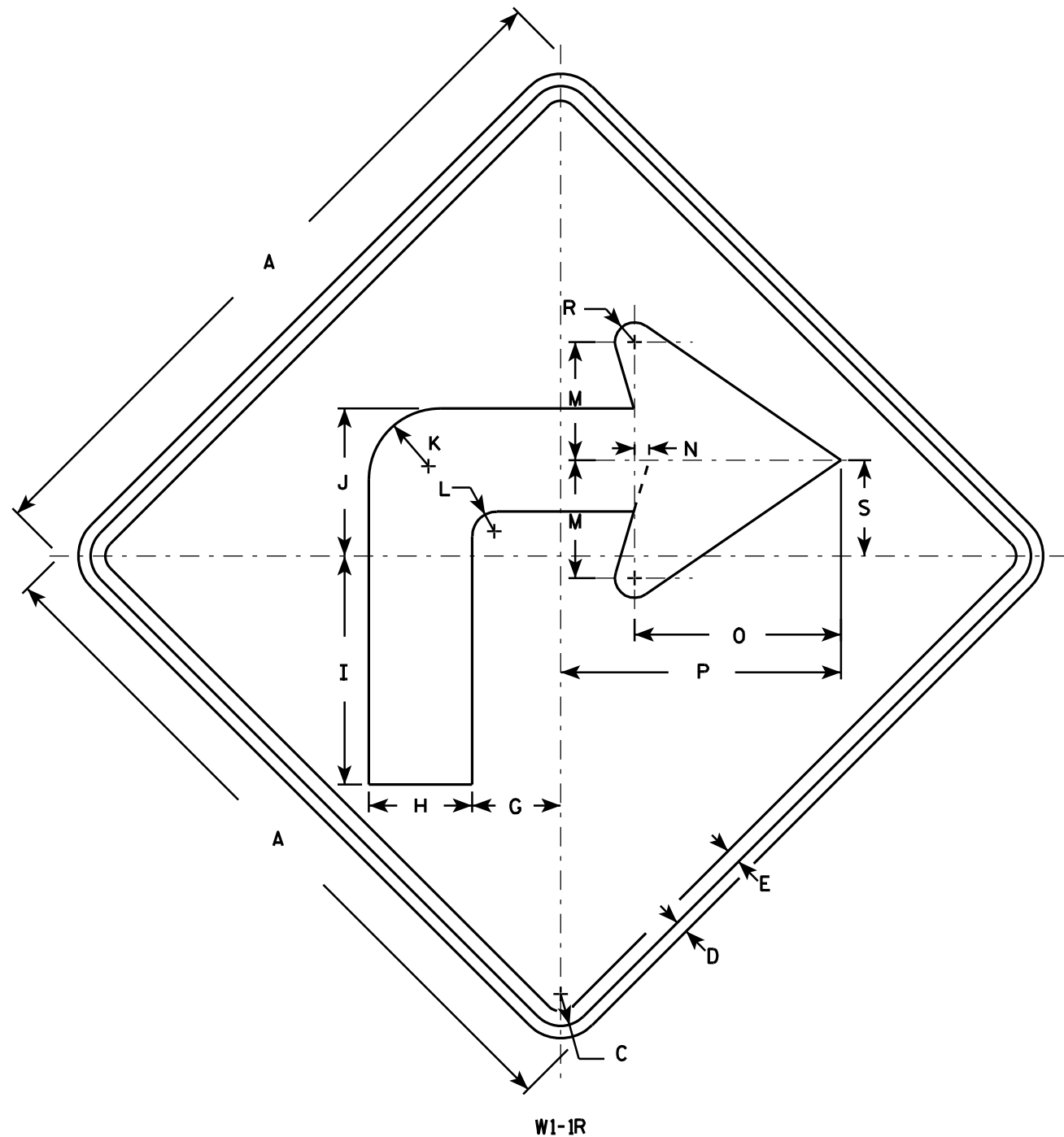
PROJECT NO: 5843-00-70

HWY: CTH V

COUNTY: COLUMBIA

SHEET NO:

E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W1-1L is the same as W1-1R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2		3	3 1/2	7 3/4	5	2 1/2	7/8	4	1/2	7	9 1/2		5/8	3 1/4								4.0
2S	36		1 5/8	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
2M	36		1 5/8	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
3	36		1 5/8	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
4	48		2 1/4	3/4	1		6	7	15 1/2	10	4 7/8	1 5/8	8	1	14	19		1 1/4	6 1/2								16.0
5	48		2 1/4	3/4	1		6	7	15 1/2	10	4 7/8	1 5/8	8	1	14	19		1 1/4	6 1/2								16.0

STANDARD SIGN

W1-1

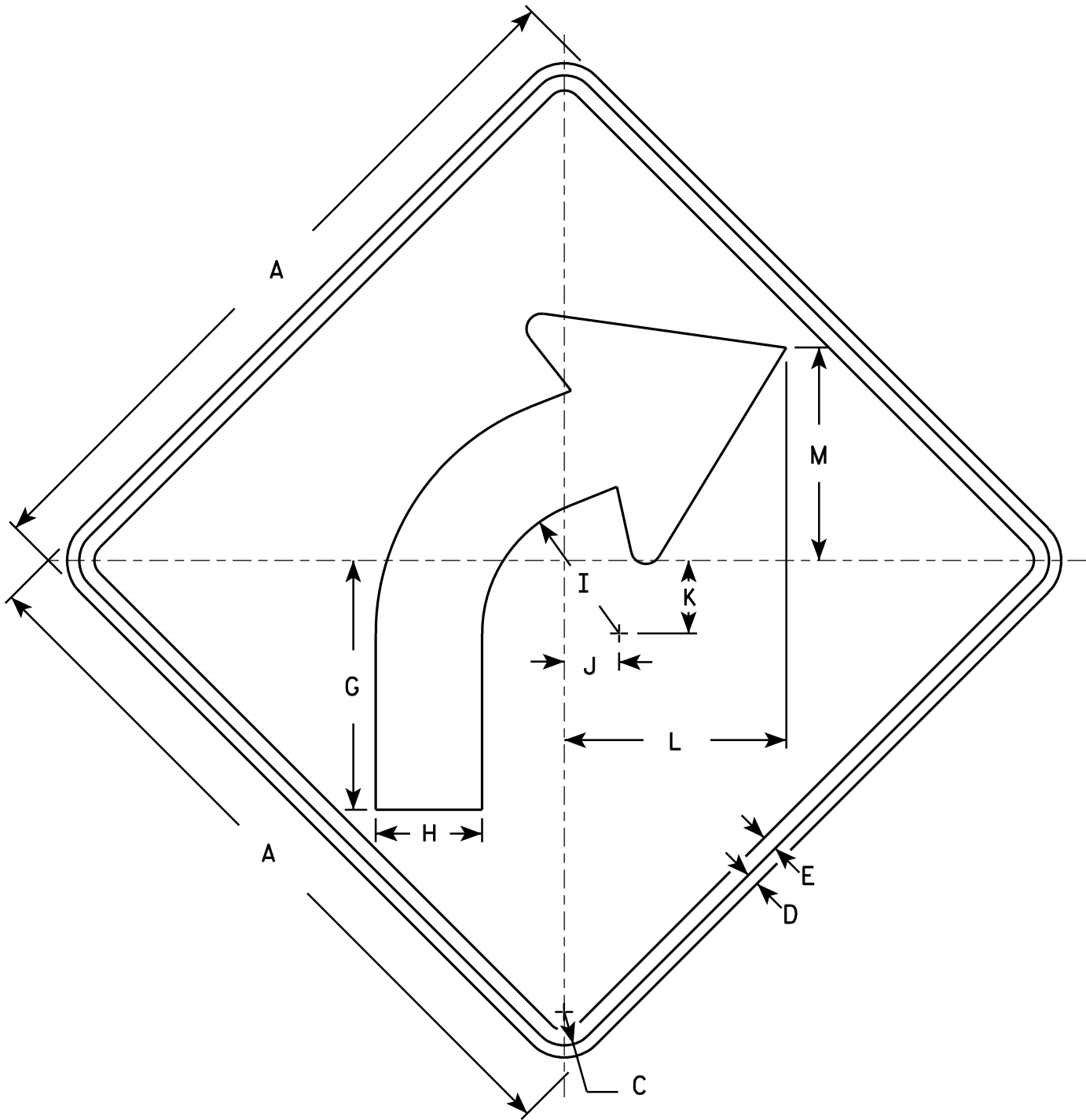
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

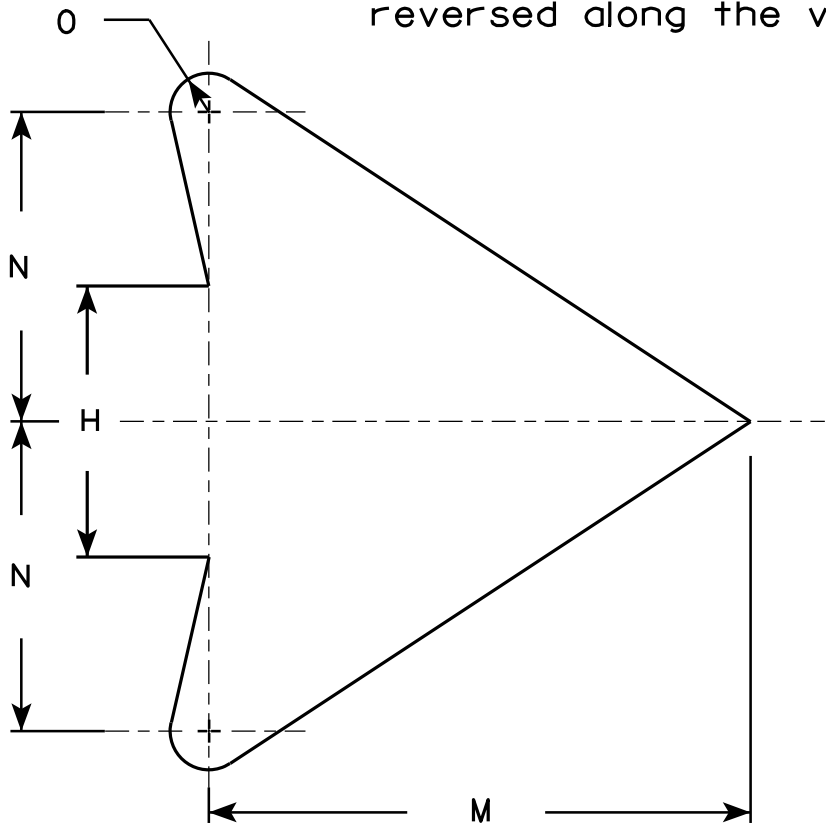
DATE 5/15/12 PLATE NO. W1-1.11

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W1-2L is the same as W1-2R except the arrow is reversed along the vertical centerline.



W1-2R



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2		8 1/4	3 1/2	4 1/2	1 3/4	2 3/8	7 1/4	7	4	1/2												4.0
2S	30		1 3/8	1/2	5/8		10 1/4	4 3/8	5 5/8	2 1/4	3	9 1/8	8 3/4	5	5/8												6.25
2M	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
3	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
4	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
5	48		2 1/4	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0

STANDARD SIGN
W1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/15/12 PLATE NO. W1-2.10

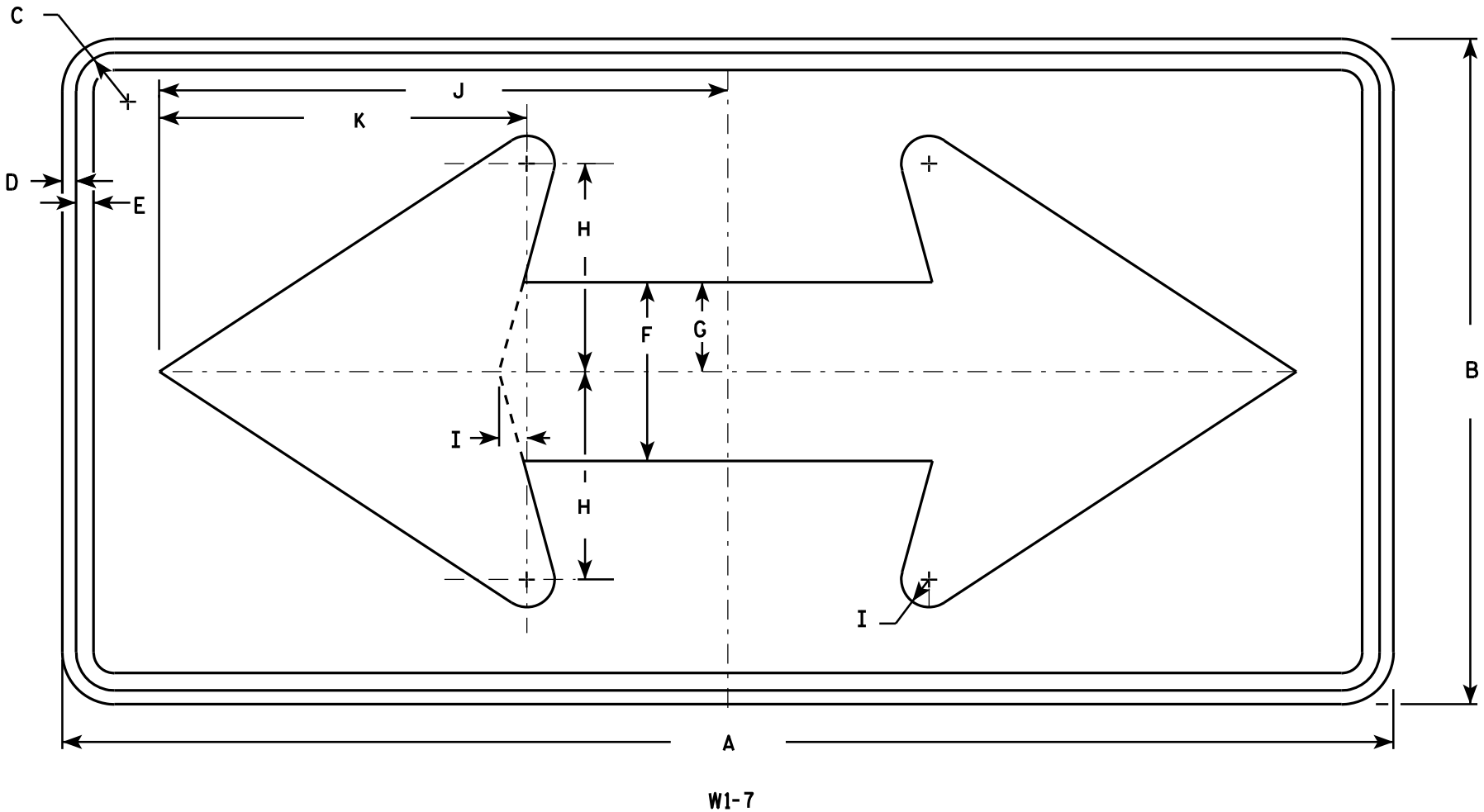
PROJECT NO: 5843-00-70

HWY: CTH V

COUNTY: COLUMBIA

SHEET NO:

E



NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Yellow
Message - Black
- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

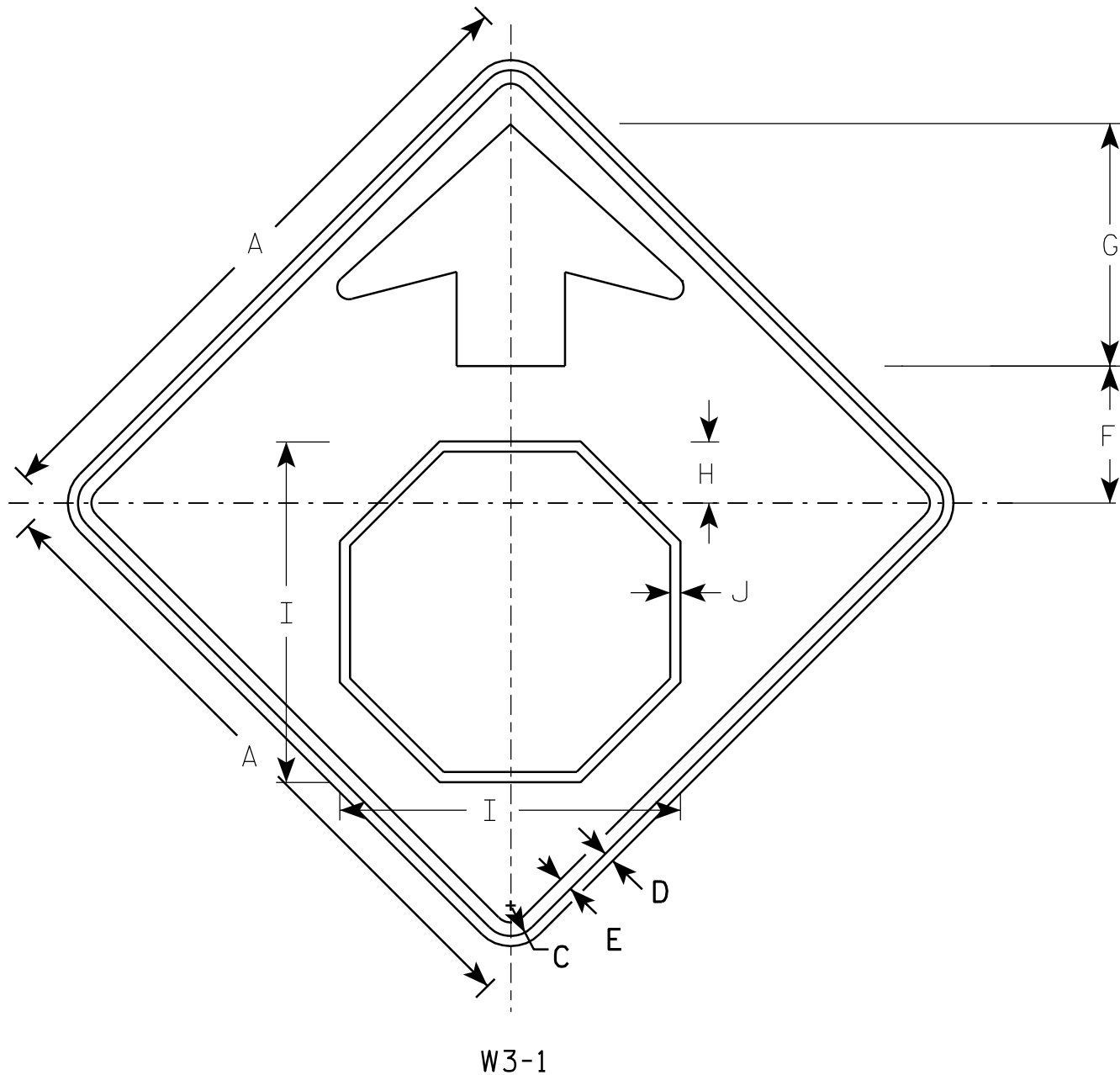
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/8	3/8	1/2	5	2 1/2	5 3/4	3/4	15 5/8	10 1/8																4.5
2S	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
2M	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
3	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
4	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
5	96	48	2 1/4	3/4	1	13	6 1/2	15	2	41	26 1/2																32.0

STANDARD SIGN
W1 - 7

WISCONSIN DEPT OF TRANSPORTATION

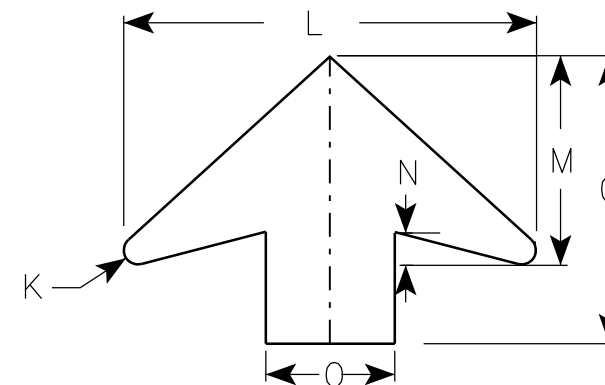
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-7.7



NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - YELLOW
Arrow & Border - BLACK
Stop Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	6 1/4	11 1/4	2 7/8	15 3/4	1/2	1/2	16	8	1 1/4	5												6.25
2S	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
2M	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
3	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0

PROJECT NO: 5843-00-70

HWY: CTH V

COUNTY: COLUMBIA

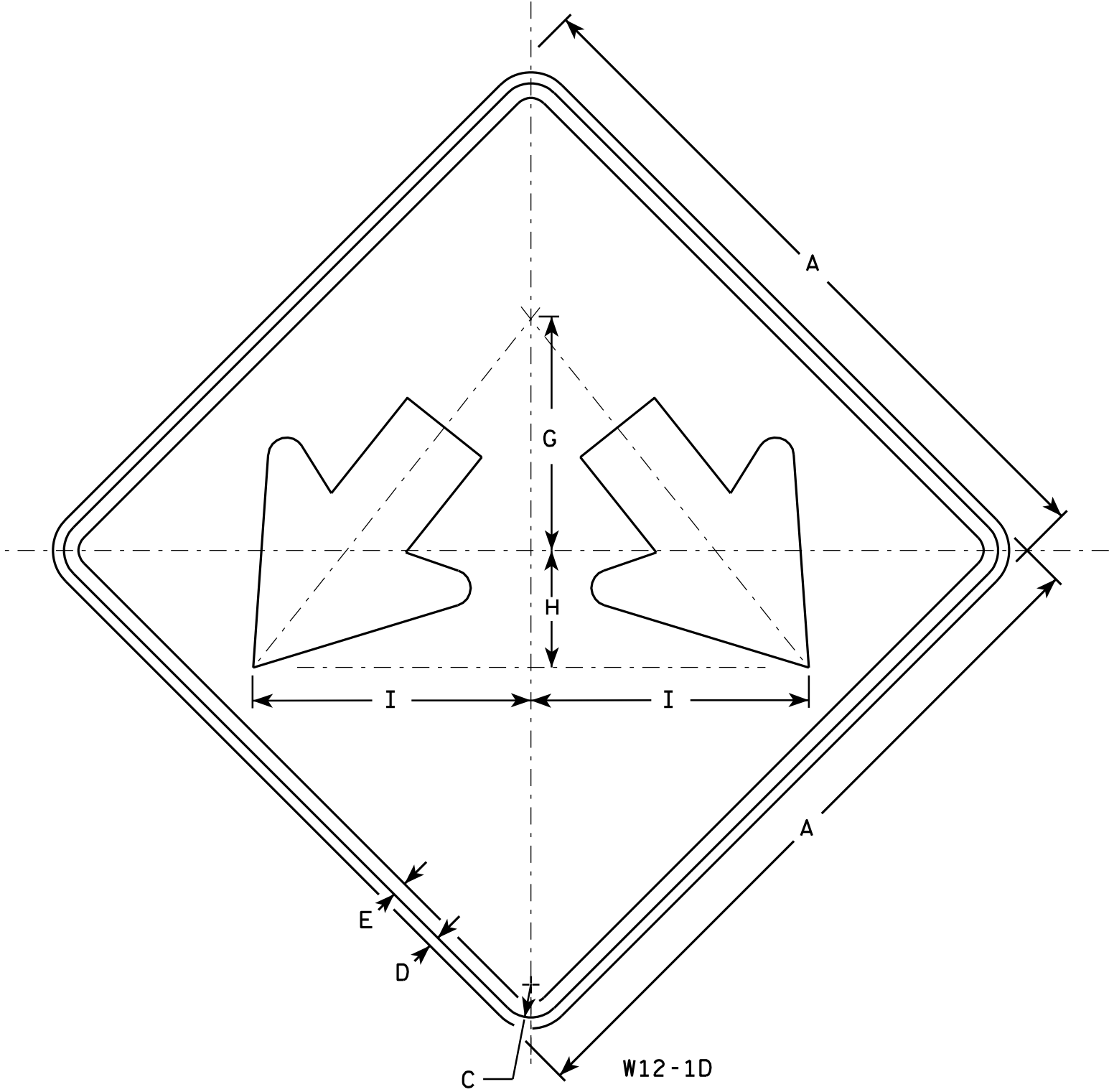
STANDARD SIGN
W3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/7/10 PLATE NO. W3-1.12

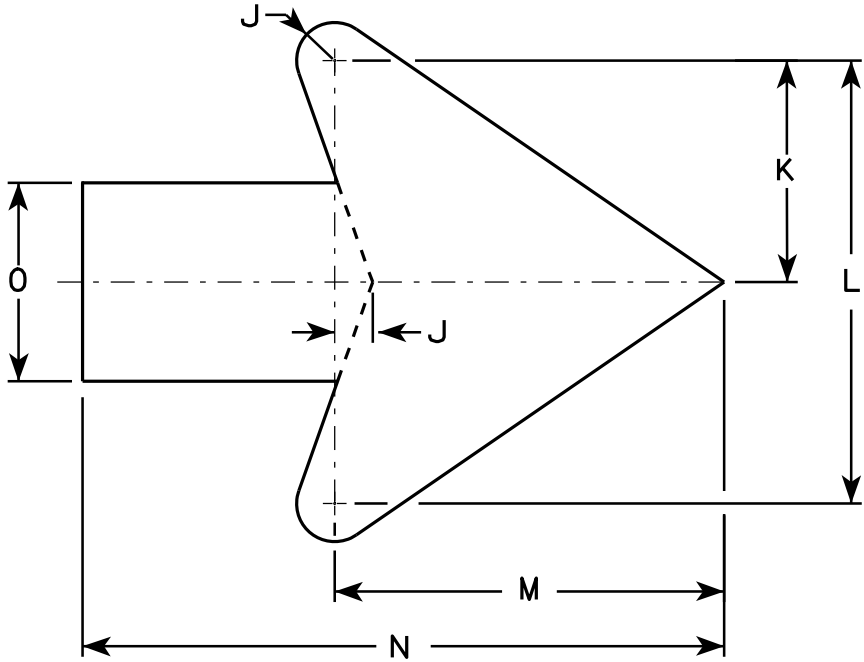
SHEET NO:

E



NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Yellow
Message - Black
- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



Arrow Detail

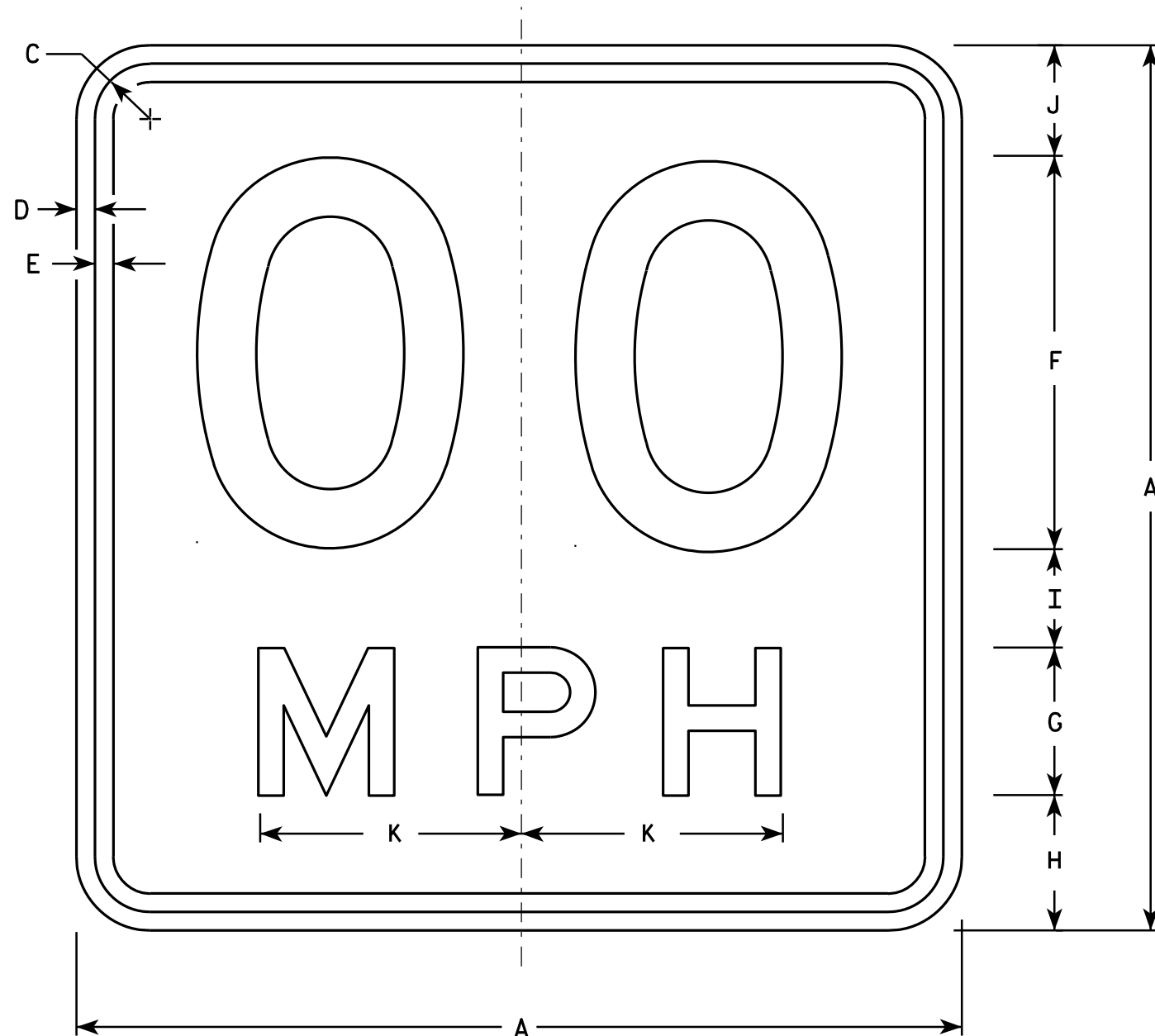
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2M	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
3	30		1 3/8	1/2	5/8		10	5	11 7/8	3/4	4 1/2	9	7 7/8	13	4												6.25
4	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0
5	48		2 1/4	3/4	1		16	8	19	1 1/4	7 1/4	14 1/2	12 3/4	21	6 1/4												16.0

STANDARD SIGN
W12-1D

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

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



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow
Message - Black
3. Message Series - See Note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
6. Line 1 is Series D
Line 2 is Series E

W13-1

- * For 30" x 30" Warning Signs, use 18" x 18" W13-1 signs.
For 36" x 36" Warning Signs, use 24" x 24" W13-1 signs.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
* 2S	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
* 2M	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
3	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	6 5/8																4.00
4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

STANDARD SIGN

W13-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-1.16

PROJECT NO: 5843-00-70

HWY: CTH V

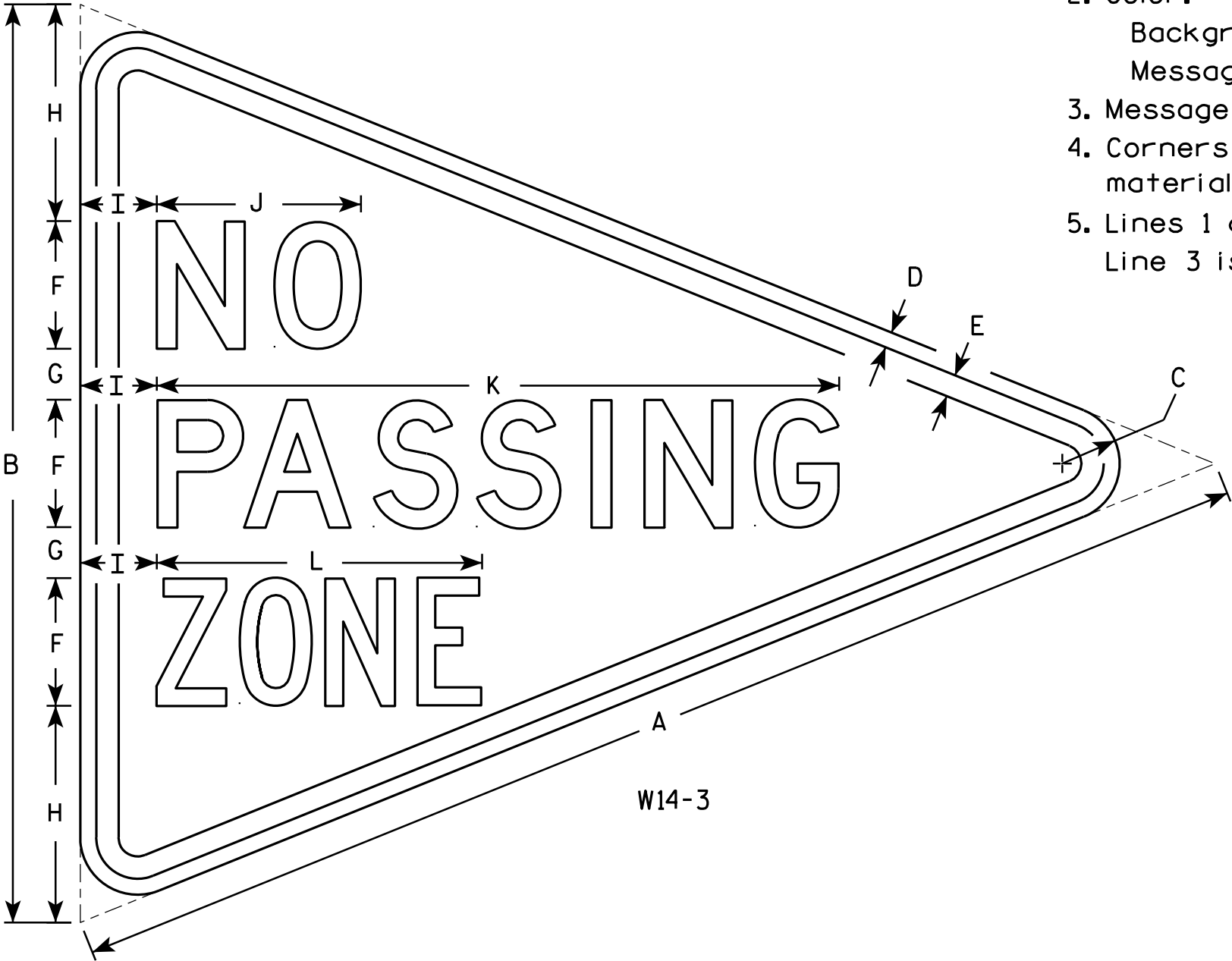
COUNTY: COLUMBIA

SHEET NO:

E

NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Yellow
Message - Black
- 3. Message Series - See note 5
- 4. Corners and borders shall be rounded on all base materials for this sign.
- 5. Lines 1 and 2 are Series D.
Line 3 is series C.



W14-3

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
2M	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
3	64	48	3	3/4	1 1/4	6	3	12	4	10 3/4	33 5/8	16 1/2															10.7
4																											
5																											

STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 6/7/10 PLATE NO. W14-3.9

AMERICAN TRANSMISSION COMPANY/
ALLIANT ENERGY/CHARTER COMMUNICATIONS

FRONTIER
COMMUNICATIONS
ALLIANT ENERGY
CHARTER COMMUNICATIONS

STATE PROJECT NUMBER

5843-00-70

DESIGN DATA

LIVE LOAD: HL-93 1' SURCHARGE

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY $f'_c = 3,500$ p.s.i.
HIGH STRENGTH BAR STEEL
REINFORCEMENT (GRADE 60) $f_y = 60,000$ p.s.i.

HYDRAULIC DATA:

100 YEAR FLOOD

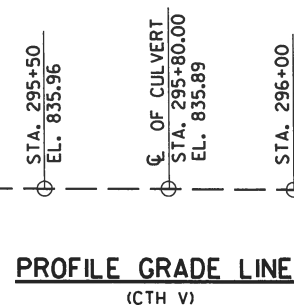
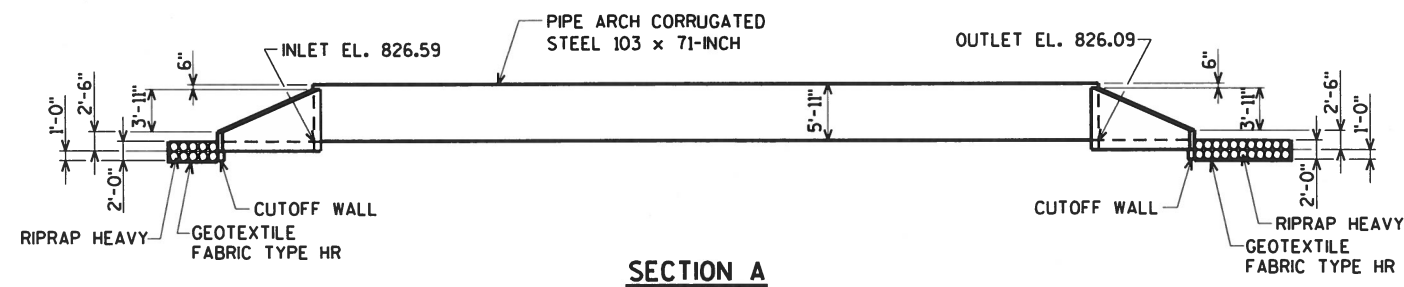
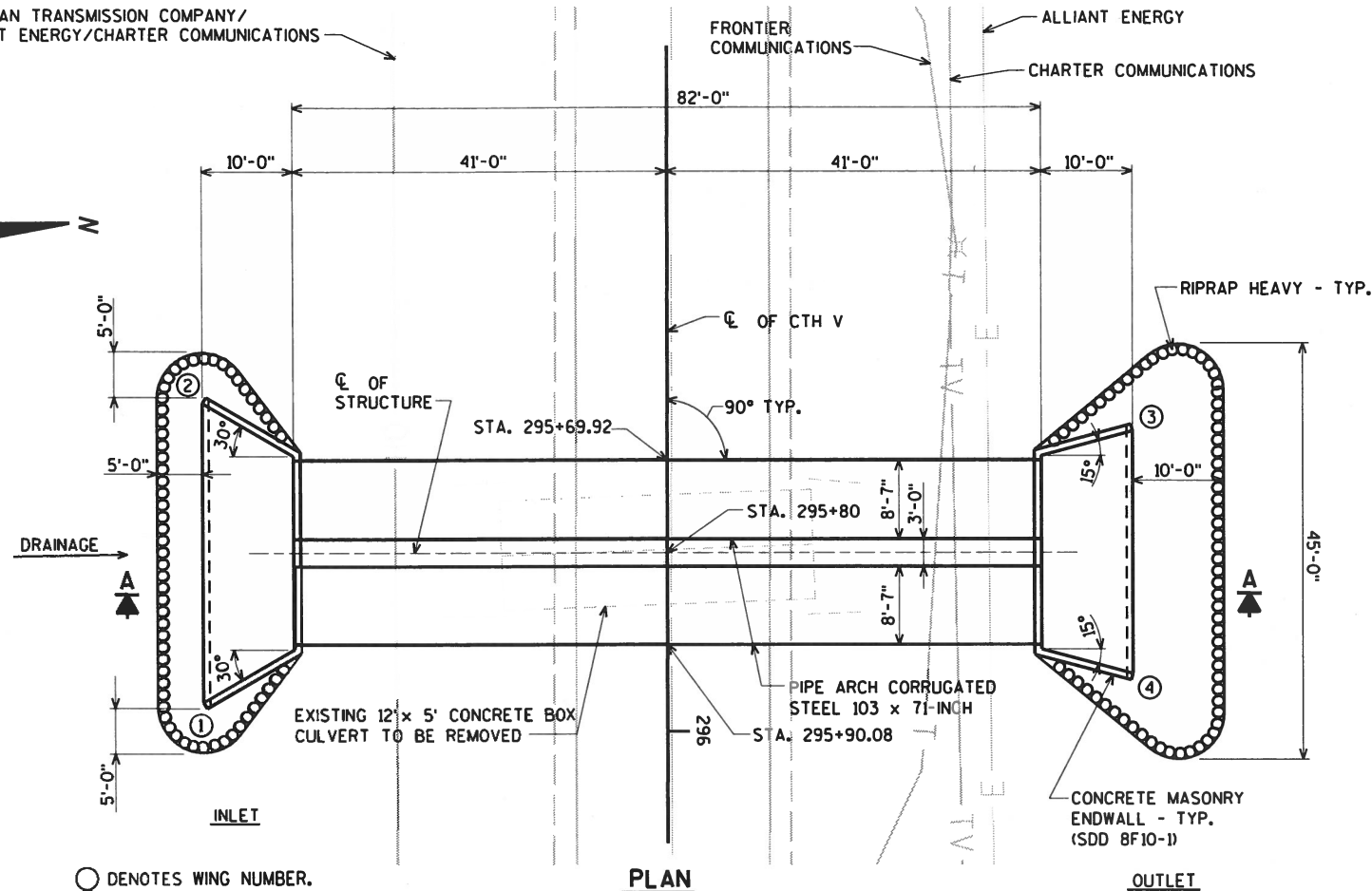
DRAINAGE AREA = 0.6 sq. mi.
WATERWAY AREA = 78 sq. ft.
 $V = 8.6$ f.p.s.
 $Q_{100} = 670$ c.f.s.
HIGH WATER₁₀₀ EL. 834.2
HIGH WATER₂ EL. 830.6
RDWY. OVERRFLOW = N/A
SCOUR CRITICAL CODE = N/A

TRAFFIC DATA:

A.D.T. = 1,980 (2015)
A.D.T. = 2,650 (2035)
R.D.S. = 55 M.P.H.

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	AMOUNT
203.0500.S	REMOVING OLD STRUCTURE OVER WATERWAY STATION 295+80	1 LS
210.0100	BACKFILL STRUCTURE	530 CY
504.0900	CONCRETE MASONRY ENDWALLS	19 CY
606.0300	RIPRAP HEAVY	65 CY
645.0120	GEOTEXTILE FABRIC TYPE HR	130 SY
SPV.0090	PIPE ARCH CORRUGATED STEEL 103x71-INCH	164 LF



LIST OF DRAWINGS

1. GENERAL PLAN
2. APRON DETAILS
3. HEADWALL & WINGWALL DETAILS
4. ENDWALL PLAN
5. DETAILS AND BILL OF BARS



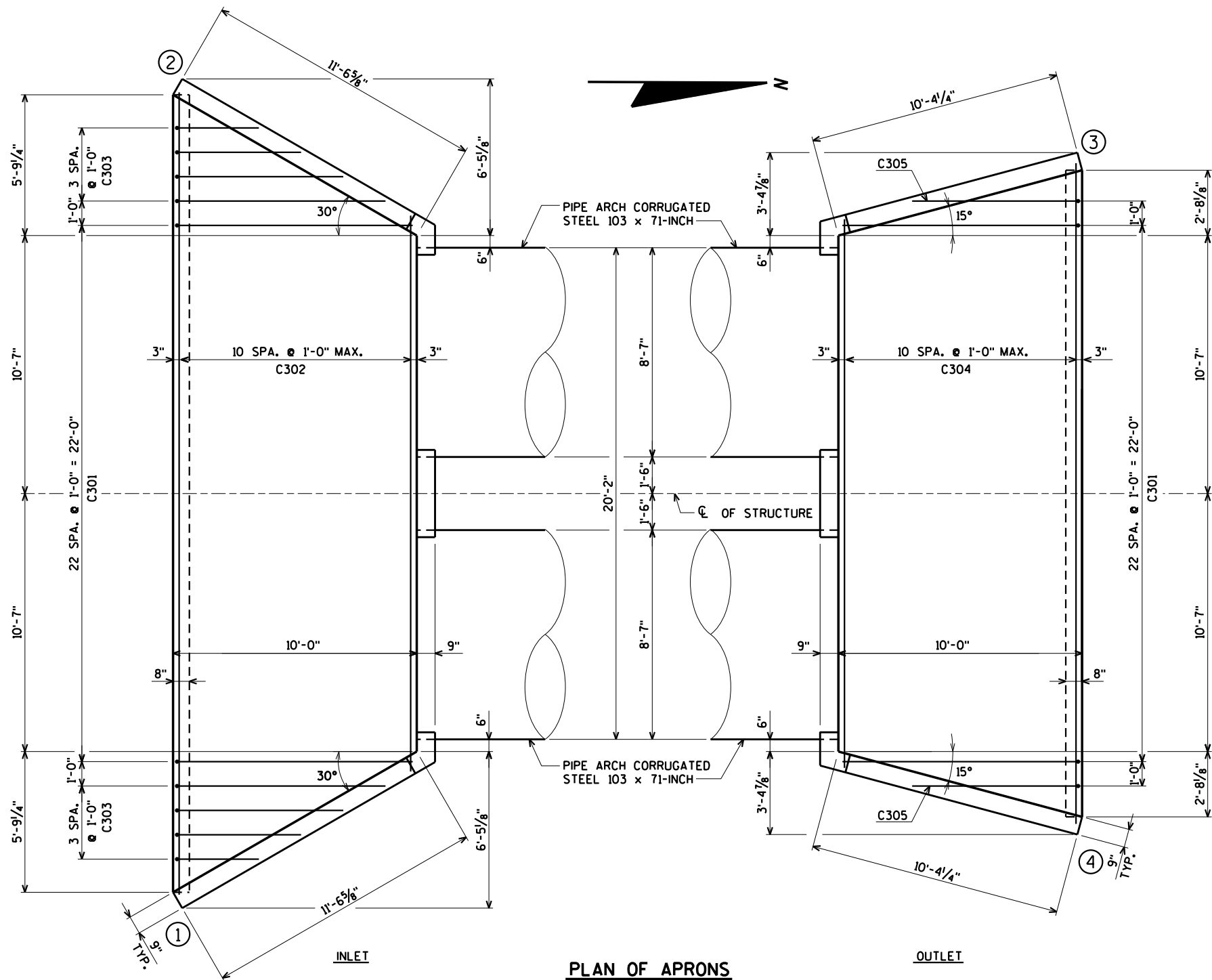
8-27-14

BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608)-266-8489

CONSULTANT CONTACT:
KAREN WALDERA
(715)-834-3161

FOR GENERAL NOTES
SEE SHEET 2

NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY AYRES ASSOCIATES 3433 Oakwood Hills Parkway Eau Claire, WI 54701 www.AyresAssociates.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION ACCEPTED <i>William C. Dreher</i> KAR 11/20/14 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-11-0162			
CTH V OVER DRAINAGE DITCH			
COUNTY	COLUMBIA	TOWN/CITY/VILLAGE	LODI
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	KLW	DESIGN CKD.	JCK
DRAWN BY	CLS	PLANS CKD.	KLW
GENERAL PLAN			SHEET 1 OF 5

**GENERAL NOTES**

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

THE CONCRETE IN THE CUTOFF WALL MAY BE PLACED UNDERWATER IF THE EXCAVATION CANNOT BE DEWATERED.

THE EXISTING STRUCTURE TO BE REMOVED, IS A SINGLE-CELL BOX CULVERT, 12' x 5' x 33' LONG WITH A 30' CLEAR ROADWAY WIDTH.

ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TO THE ELEVATION OF THE TOP OF THE PIPE ARCH WITHIN THE LENGTH OF THE PIPE ARCH. THE PAY LIMITS OF THE BACKFILL STRUCTURAL ARE 3'-0" BEYOND THE HORIZONTAL PLAN LIMITS AT THE BOTTOM OF THE PIPE ARCH AND APRON AND UP AT A 1:1.5 BACKFILL SLOPE FROM BOTTOM OF PIPE ARCH TO TOP OF PIPE ARCH.

FILL SLOPES FLATTER THAN 2 1/2:1 SHALL BE WARPED TO MEET THE TOP OF THE WINGS.

BAR STEEL REINFORCEMENT IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY ENDWALLS".

FOR CUTOFF WALL DETAIL SEE SHEET 3.

\$PRNAME\$
U:\41-0520.00 - Columbia Co, CTH V, WI River+BRIDGE+B-11-0162 cul.dgn

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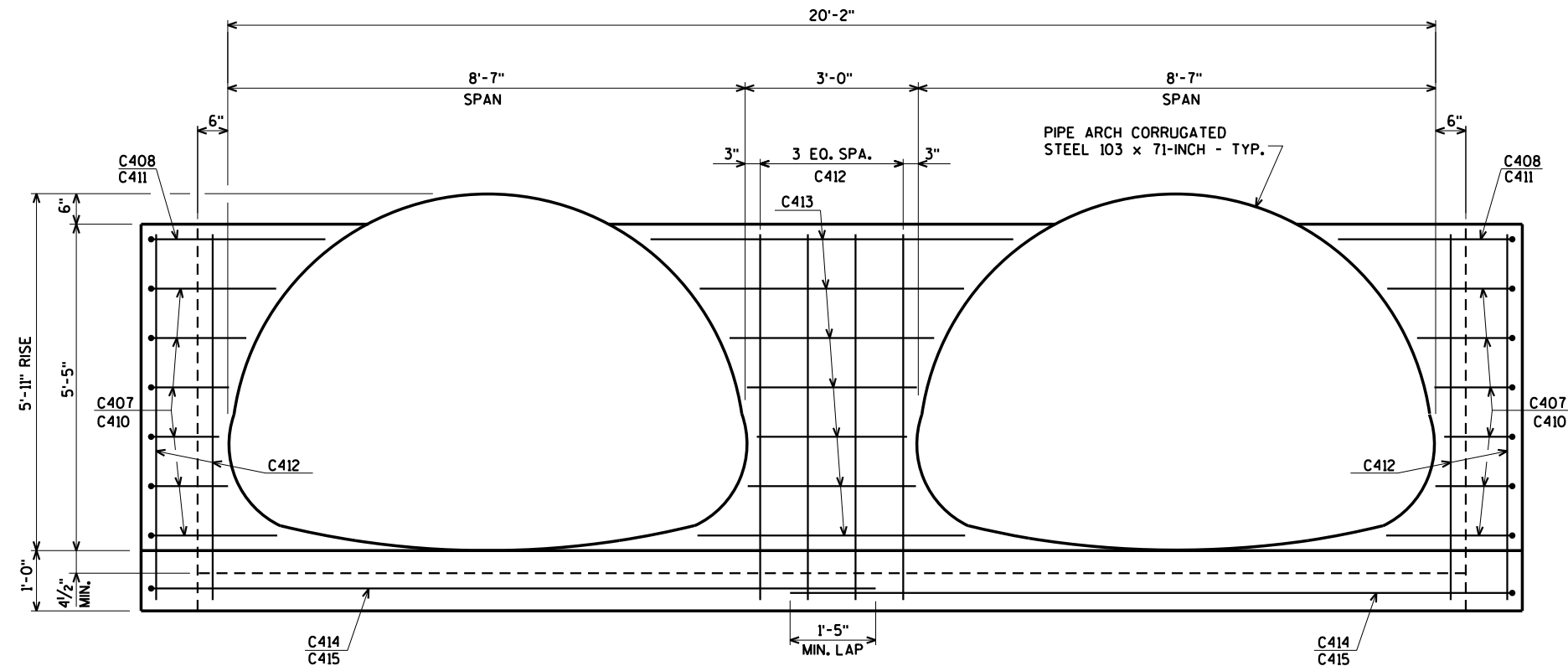
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-11-0162			
DRAWN BY		CLS	PLANS CK'D. KLV
APRON DETAILS			SHEET 2 OF 5

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
 3433 Oakwood Hills Parkway
 Eau Claire, WI 54701
 www.AyresAssociates.com

\$PRNAME\$
U:\41-0520.00 - Columbia Co. CTH V. WIRiver+BRIDGE+B-11-0162 cul.dgn

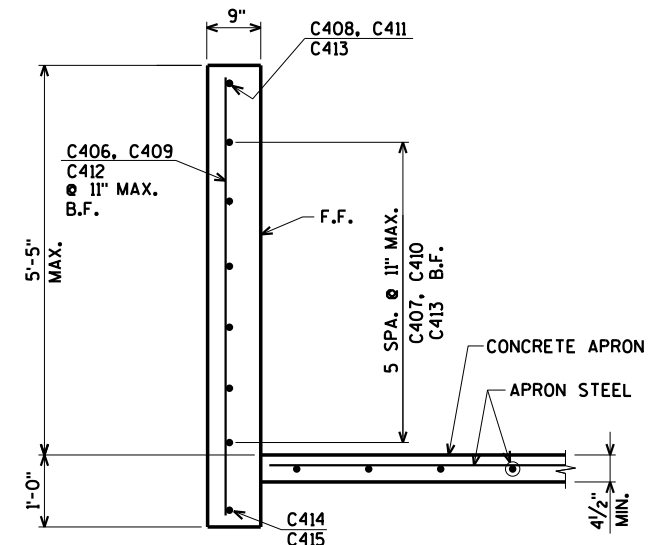
STATE PROJECT NUMBER

5843-00-70

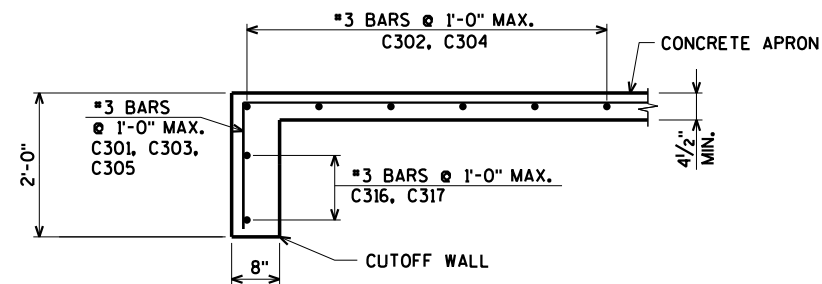


HEADWALL ELEVATION
(LOOKING AT F.F.)

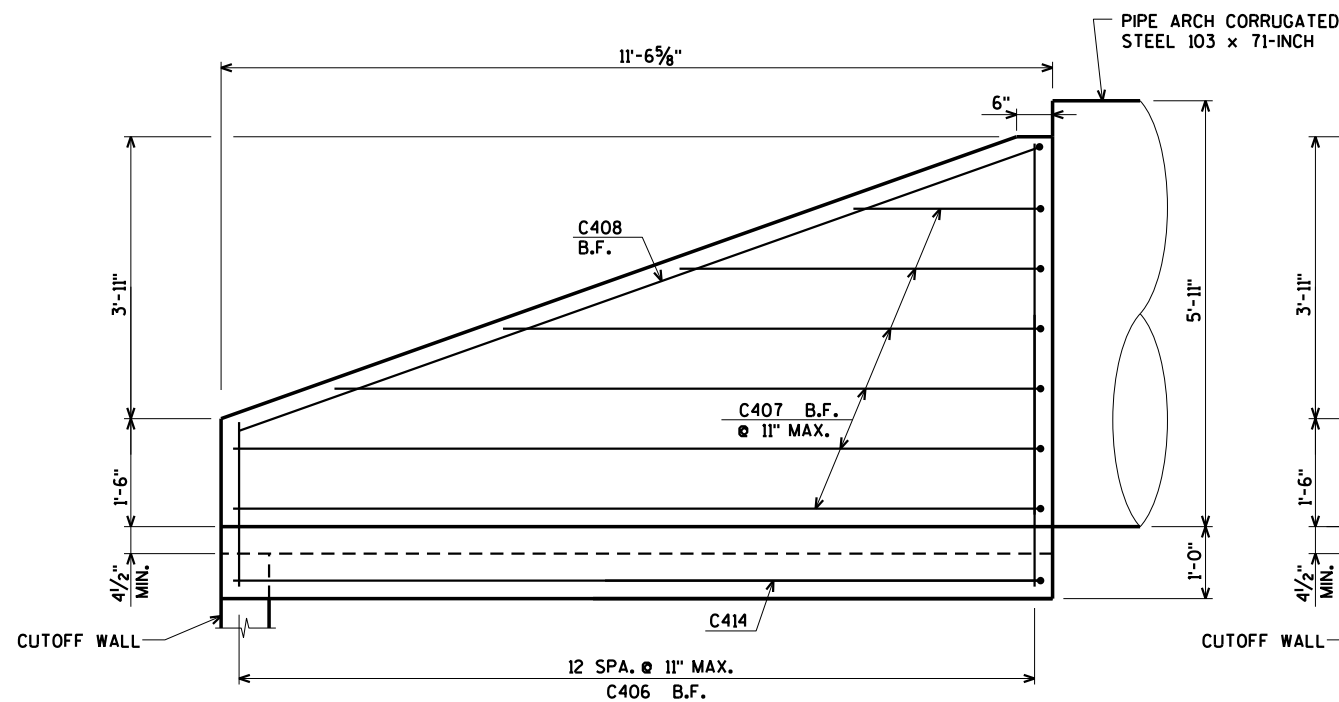
NOTE: FIELD CUT HORIZONTAL BARS 2" CLEAR FROM PIPE ARCH



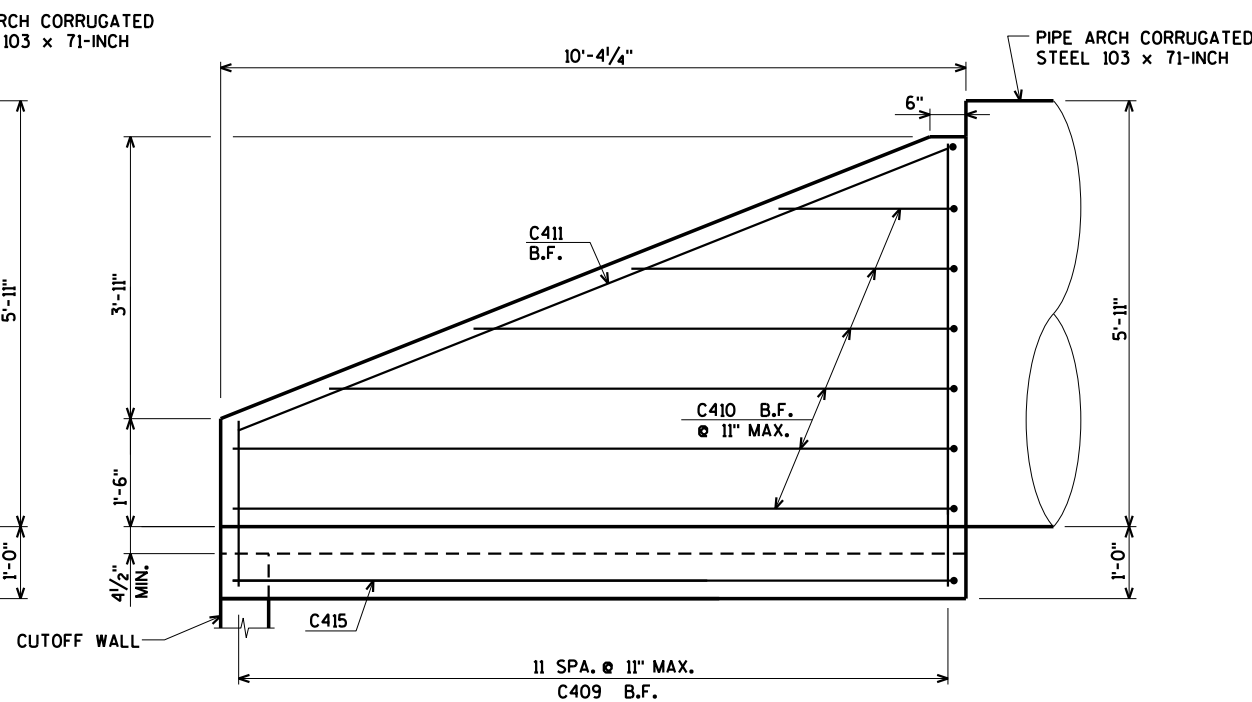
SECTION THRU WING & HEADWALL



CUTOFF WALL DETAIL



ELEVATION - WING 1
(WING 1 SHOWN - WING 2 SIMILAR)



ELEVATION - WING 3
(WING 3 SHOWN - WING 4 SIMILAR)

F.F. DENOTES FRONT FACE
B.F. DENOTES BACK FACE

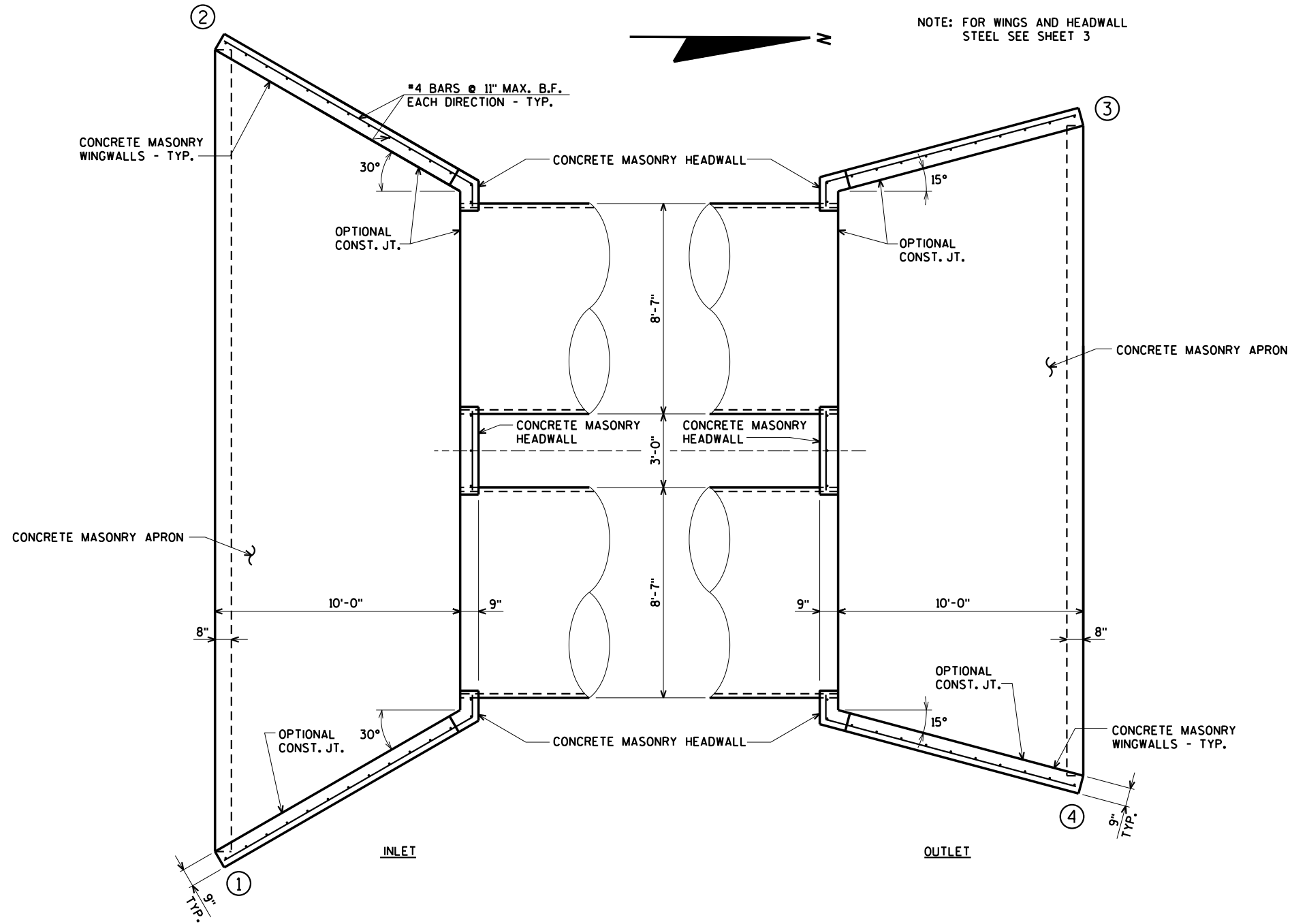
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-11-0162			
DRAWN BY		CLS	PLANS CK'D. KLV
HEADWALL & WINGWALL DETAILS		SHEET 3 OF 5	

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

\$PRNAME\$
U:\41-0520.00 - Columbia Co, CTH V, WI River#BRIDGE#B-11-0162 cul.dgn

STATE PROJECT NUMBER

5843-00-70



NOTE: FOR WINGS AND HEADWALL
STEEL SEE SHEET 3

ENDWALL - PLAN VIEW

B.F. DENOTES BACK FACE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-11-0162			
DRAWN BY		CLS	PLANS CK'D. KLV
ENDWALL PLAN			SHEET 4 OF 5

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

\$PRNAME\$
U:\41-0520.00 - Columbia Co. CTH V. WIRiver\BRIDGE\B-11-0162 cul.dgn

STATE PROJECT NUMBER

5843-00-70

BAR SERIES TABLE

BAR MARK	NO REQ'D.	LENGTH
C302	1 SERIES OF 11	22'-9" TO 32'-11"
C303	2 SERIES OF 4	3'-4" TO 8'-6"
C304	1 SERIES OF 11	22'-5" TO 27'-1"
C406	2 SERIES OF 13	2'-3" TO 6'-1"
C407	2 SERIES OF 6	5'-2" TO 14'-0"
C409	2 SERIES OF 12	2'-3" TO 6'-1"
C410	2 SERIES OF 6	5'-1" TO 13'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY.

BILL OF BARS

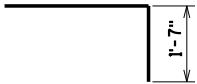
FOR INFORMATION ONLY

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	995# UNCOATED	LOCATION
C301		46	11-2	X				APRON INLET & OUTLET @ CUTOFF WALL
C302		11	27-10		X			APRON INLET
C303		8	7-5	X				APRON INLET WING 1 & 2
C304		11	24-9		X			APRON OUTLET
C305		2	8-3	X				APRON OUTLET WING 3 & 4
C406		26	4-2		X			WING 1 & 2 VERT. B.F.
* C407		12	9-7	X				WING 1 & 2/HEADWALL HORIZ. B.F.
* C408		2	14-7	X				WING 1 & 2/HEADWALL DIAG. B.F.
C409		24	4-2		X			WING 3 & 4 VERT. B.F.
* C410		12	9-1	X				WING 3 & 4/HEADWALL HORIZ. B.F.
* C411		2	13-7	X				WING 3 & 4/HEADWALL DIAG. B.F.
C412		16	6-1					HEADWALL VERT. B.F.
* C413		14	6-2					HEADWALL HORIZ. B.F.
C414		2	23-5	X				WING 1 & 2/HEADWALL HORIZ. B.F.
C415		2	22-5	X				WING 3 & 4/HEADWALL HORIZ. B.F.
C316		2	32-4					CUTOFF WALL INLET HORIZ.
C317		2	26-2					CUTOFF WALL OUTLET HORIZ.

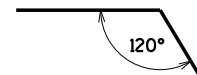
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

⊗ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

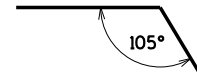
* FIELD CUT HORIZONTAL BARS 2" CLEAR FROM PIPE ARCH



C301, C303 C305



C407, C408, C414



C410, C411, C415

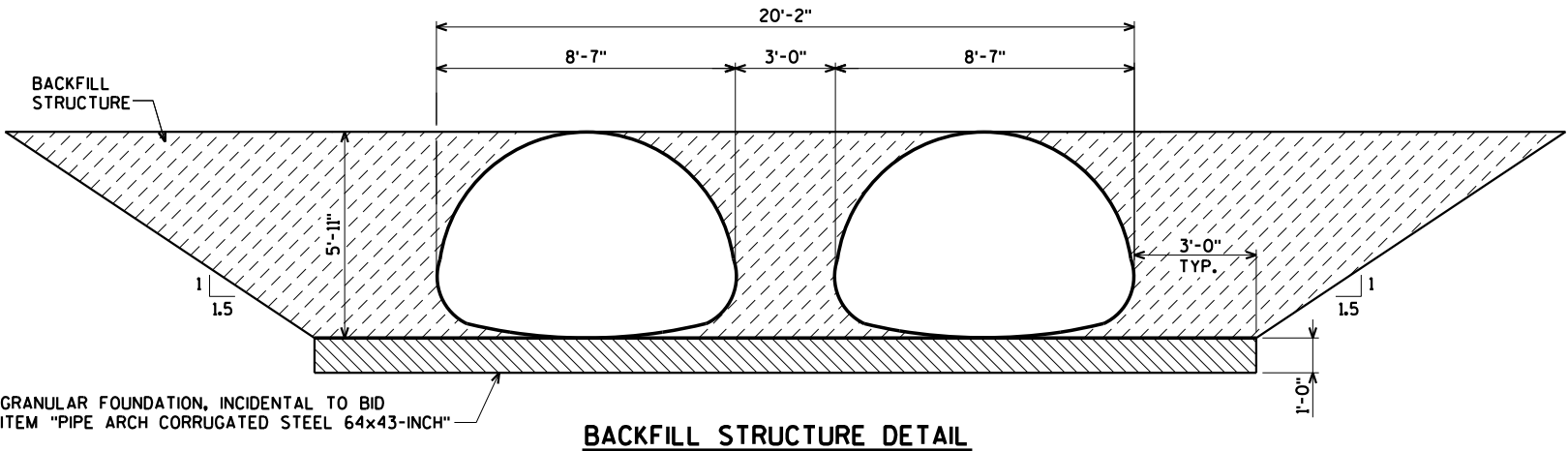
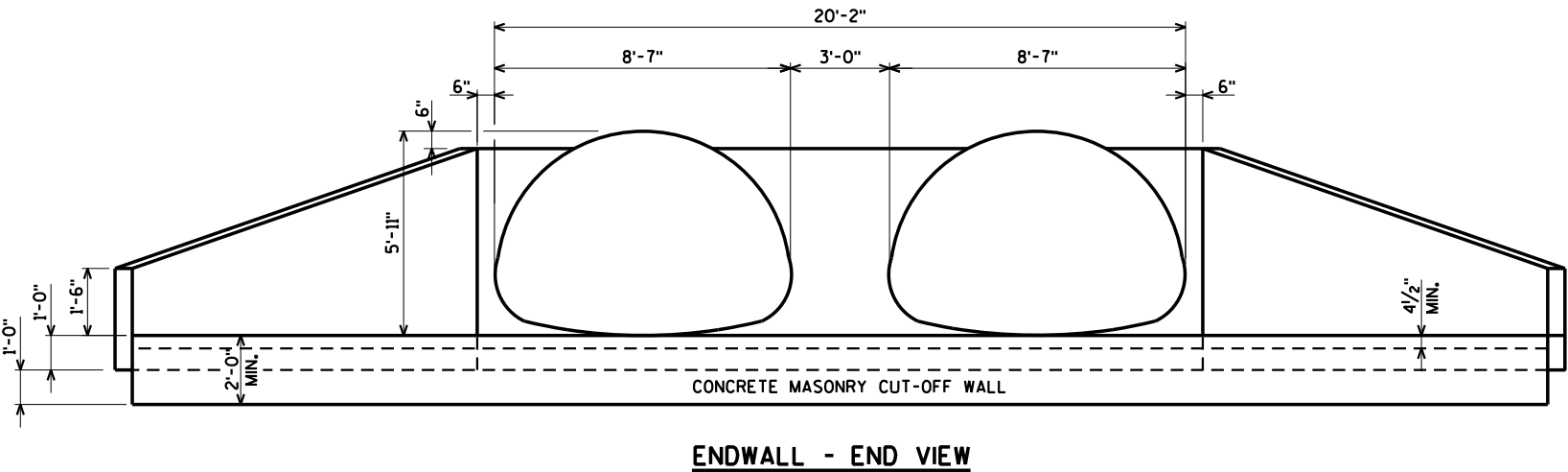
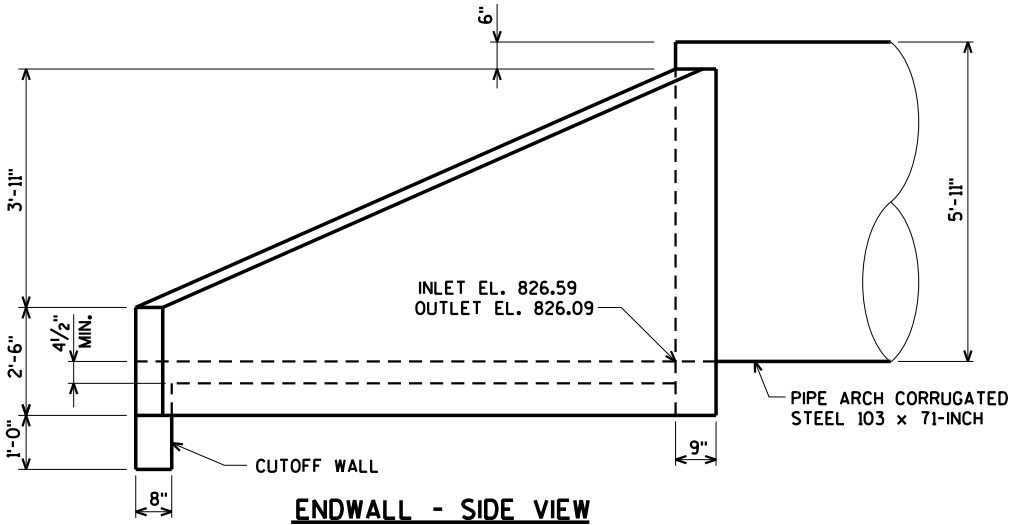
B.F. DENOTES BACK FACE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-11-0162			
DRAWN BY	CLS	PLANS CK'D.	KLW
DETAILS AND BILL OF BARS			SHEET 5 OF 5

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

PENTABLE:BReau.shd.utit.tbi

8/21/2014



DESIGN DATA

LIVE LOAD: HL-93 1' SURCHARGE

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY $f'_c = 3,500$ p.s.i.
HIGH STRENGTH BAR STEEL
REINFORCEMENT (GRADE 60) $f_y = 60,000$ p.s.i.

HYDRAULIC DATA:

100 YEAR FLOOD
DRAINAGE AREA = 0.2 sq. mi.
WATERWAY AREA = 43 sq. ft.
 $V = 7.2$ f.p.s.
 $Q_{100} = 308$ c.f.s.
HIGH WATER₁₀₀ EL. 883.6
HIGH WATER₂ EL. 882.2
RDWY. OVERRFLOW = N/A
SCOUR CRITICAL CODE = N/A

TRAFFIC DATA:

A.D.T. = 1,980 (2015)
A.D.T. = 2,650 (2035)
R.D.S. = 55 M.P.H.

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	AMOUNT
203.0500.S	REMOVING OLD STRUCTURE OVER WATERWAY STATION 379+51	1 LS
210.0100	BACKFILL STRUCTURE	285 CY
504.0900	CONCRETE MASONRY ENDWALLS	12 CY
521.0764	PIPE ARCH CORRUGATED STEEL 64x43-INCH	246 LF
606.0300	RIPRAP HEAVY	60 CY
645.0120	GEOTEXTILE FABRIC TYPE HR	120 SY

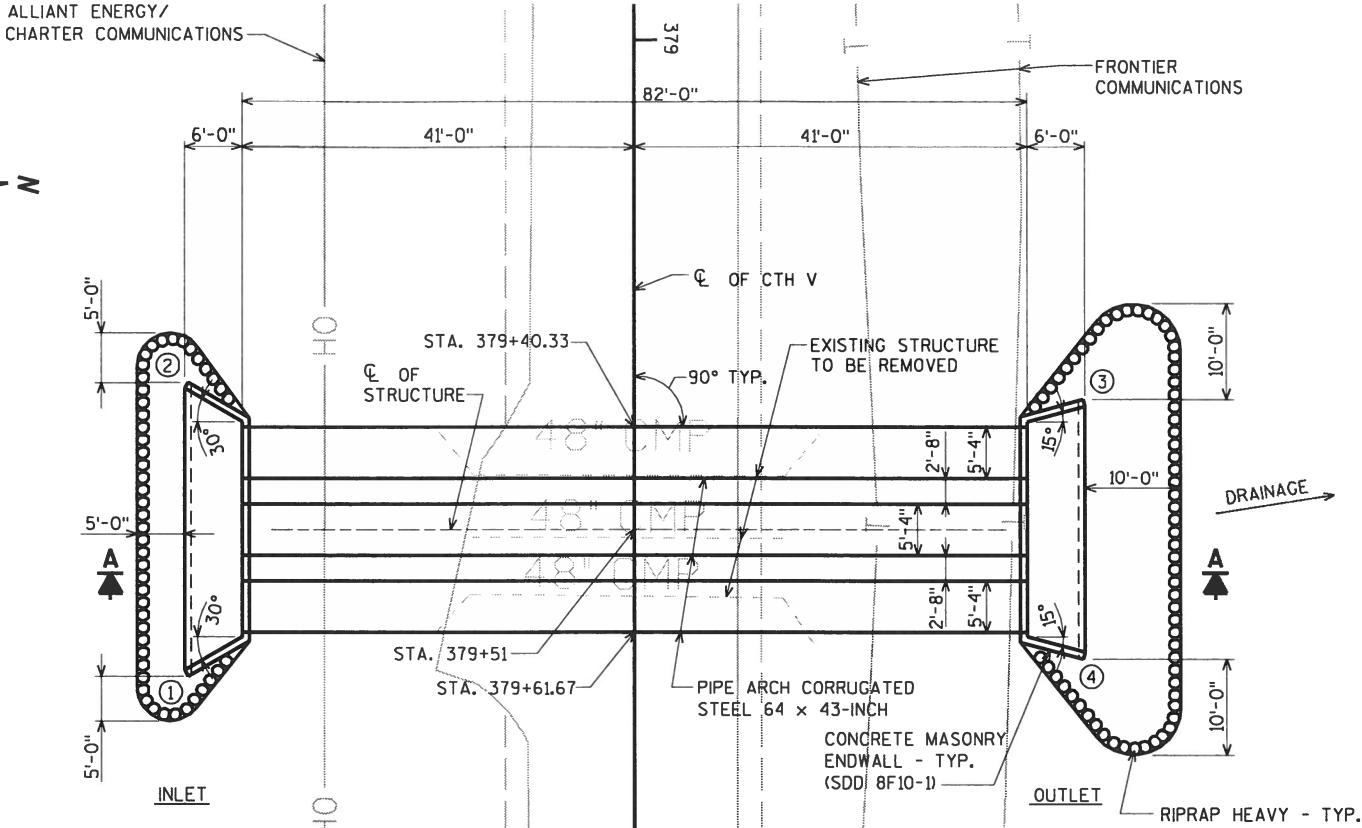
FOR GENERAL NOTES
SEE SHEET 2

NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY AYRES ASSOCIATES 3433 Oakwood Hills Parkway Eau Claire, WI 54701 www.AyresAssociates.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	William C. Dreher		KAR 11/14/14
CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-11-0163			
CTH V OVER DRAINAGE DITCH			
COUNTY	COLUMBIA	TOWN/CITY/VILLAGE	LODI
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	KLW	DESIGN CK'D. JCK	DRAWN BY CLS PLANS CK'D.
GENERAL PLAN			SHEET 1 OF 4



BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608)-266-8489

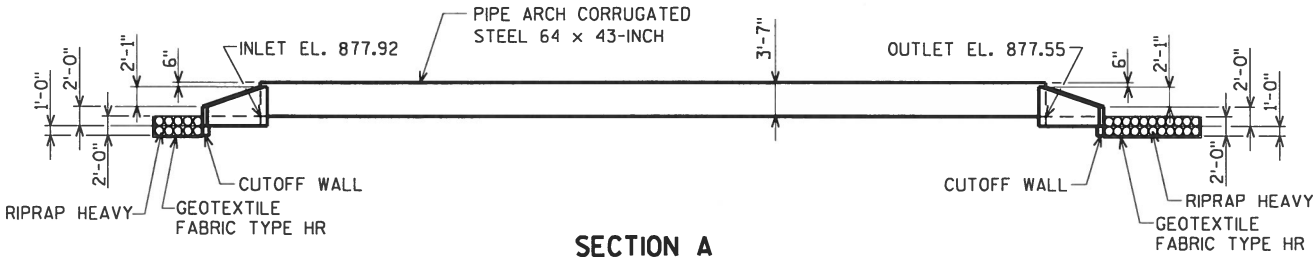
CONSULTANT CONTACT:
KAREN WALDERA
(715)-834-3161



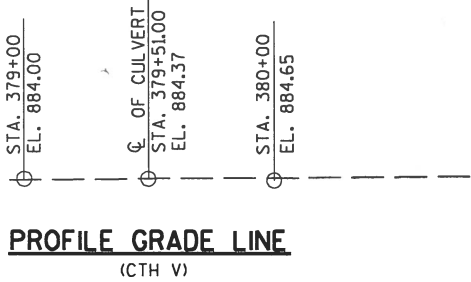
○ DENOTES WING NUMBER.

PLAN

3 - PIPE ARCH CORRUGATED STEEL 64 x 43-INCH



SECTION A



PROFILE GRADE LINE

(CTH V)

LIST OF DRAWINGS

1. GENERAL PLAN
2. APRON DETAILS
3. HEADWALL & WINGWALL DETAILS
4. DETAILS AND BILL OF BARS



DRAWINGS SHALL NOT BE SCALED.
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.
THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.
THE CONCRETE IN THE CUTOFF WALL MAY BE PLACED UNDERWATER IF THE EXCAVATION CANNOT BE DEWATERED.
THE EXISTING STRUCTURE TO BE REMOVED, IS A TRIPLE-CELL 48-INCH CORRUGATED METAL PIPE CULVERT, 32' LONG WITH A 30' CLEAR ROADWAY WIDTH.
ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TO THE ELEVATION OF THE TOP OF THE PIPE ARCH WITHIN THE LENGTH OF THE PIPE ARCH. THE PAY LIMITS OF THE BACKFILL STRUCTURAL ARE 3'-0" BEYOND THE HORIZONTAL PLAN LIMITS AT THE BOTTOM OF THE PIPE ARCH AND APRON AND UP AT A 1:1.5 BACKFILL SLOPE FROM BOTTOM OF PIPE ARCH TO TOP OF PIPE ARCH.
FILL SLOPES FLATTER THAN 2 1/2:1 SHALL BE WARPED TO MEET THE TOP OF THE WINGS.
BAR STEEL REINFORCEMENT IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY ENDWALLS".

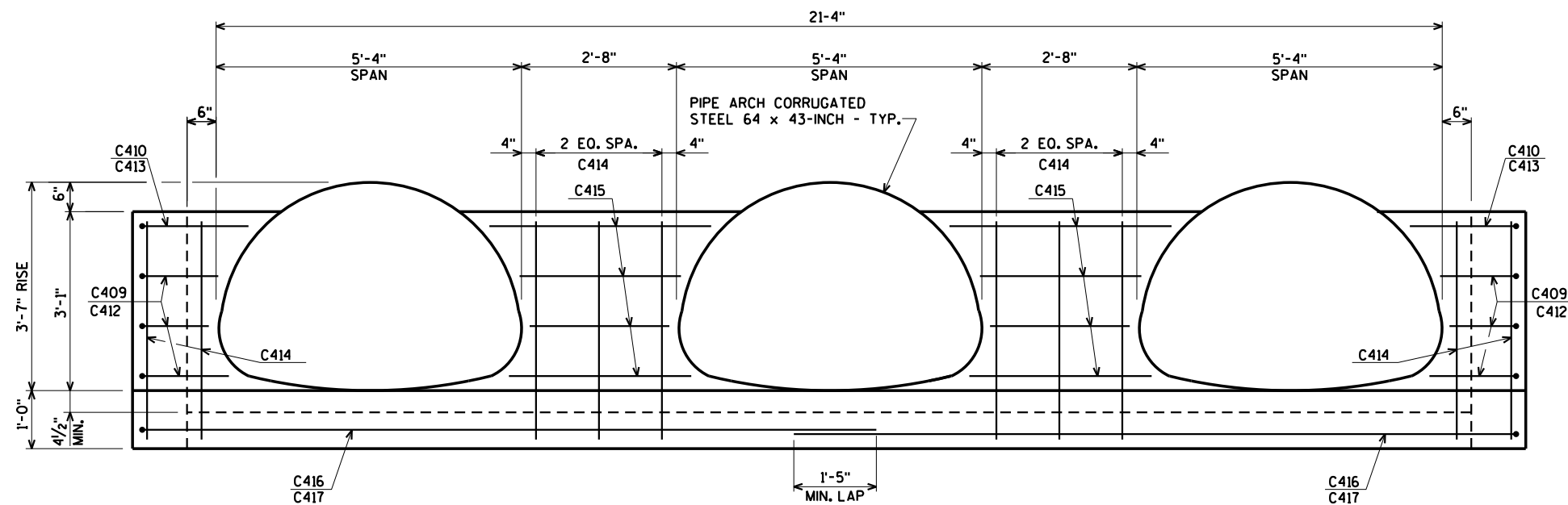
FOR CUTOFF WALL DETAIL SEE SHEET 3.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-11-0163			
		DRAWN BY	CL S
		PLANS CK'D.	KLW
APRON DETAILS		SHEET 2 OF 4	

\$PRNAME\$
U:\41-0520.00 - Columbia Co. CTH V. WIRiver+BRIDGE+B-11-0163 cul.dgn

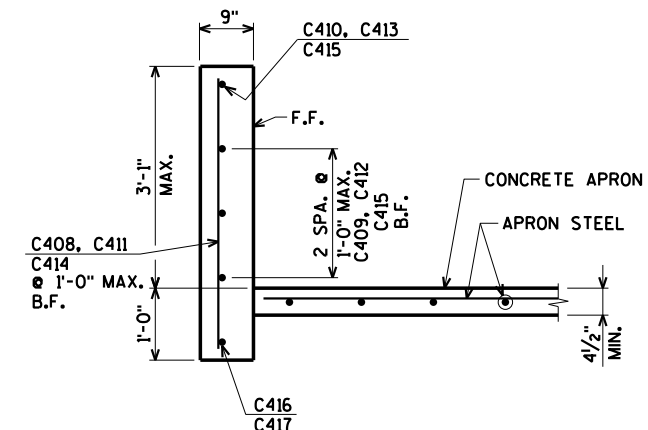
STATE PROJECT NUMBER

5843-00-70

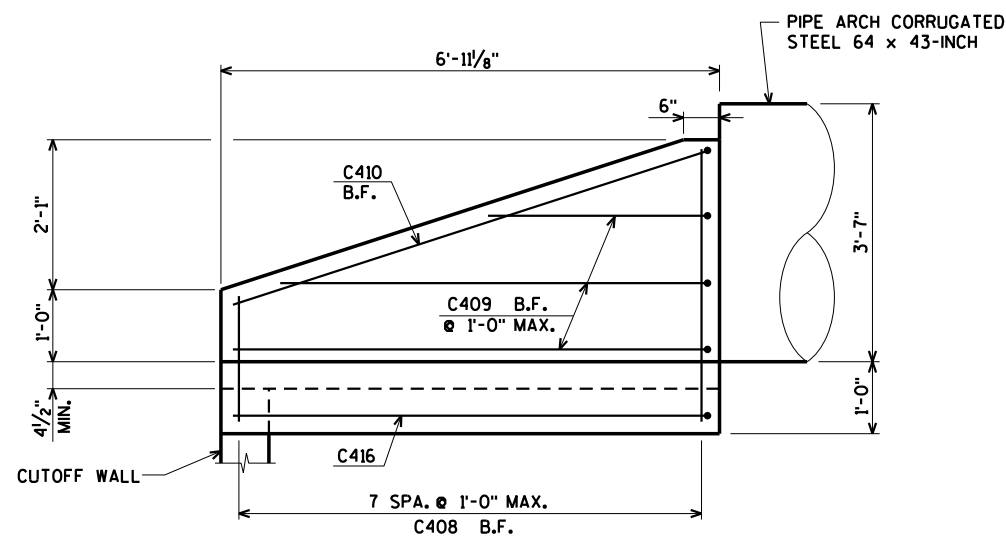


HEADWALL ELEVATION
(LOOKING AT F.F.)

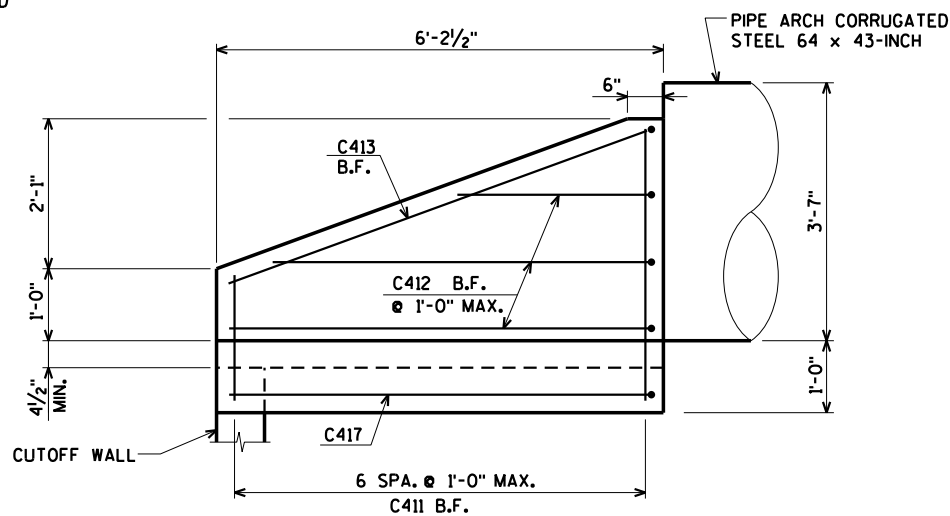
NOTE: FIELD CUT HORIZONTAL BARS 2" CLEAR FROM PIPE ARCH



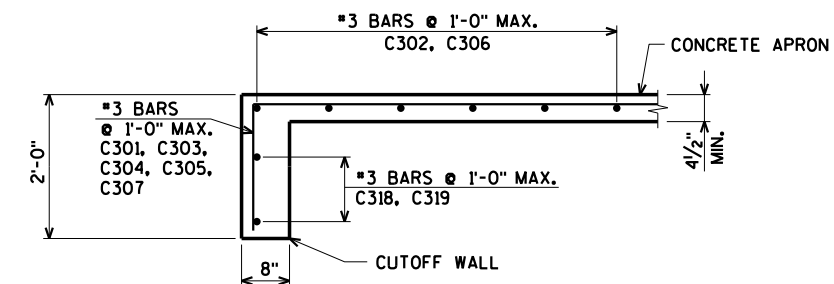
SECTION THRU WING & HEADWALL



ELEVATION - WING 1
(WING 1 SHOWN - WING 2 SIMILAR)



ELEVATION - WING 3
(WING 3 SHOWN - WING 4 SIMILAR)



CUTOFF WALL DETAIL

F.F. DENOTES FRONT FACE
B.F. DENOTES BACK FACE

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-11-0163			
DRAWN BY	CLS	PLANS CK'D.	KLW
HEADWALL & WINGWALL DETAILS			SHEET 3 OF 4

\$PRNAME\$
U:\41-0520.00 - Columbia Co. CTH V. WIRiver#BRIDGE#B-11-0163 cul.dgn

STATE PROJECT NUMBER

5843-00-70

FOR INFORMATION ONLY

BAR SERIES TABLE

BAR MARK	NO REQ'D.	LENGTH
C302	1 SERIES OF 7	23'-11" TO 29'-5"
C306	1 SERIES OF 7	23'-7" TO 26'-1"
C408	2 SERIES OF 8	1'-7" TO 3'-9"
C409	2 SERIES OF 3	4'-1" TO 8'-1"
C411	2 SERIES OF 7	1'-7" TO 3'-9"
C412	2 SERIES OF 3	3'-11" TO 7'-9"

BUNDLE AND TAG EACH SERIES SEPARATELY.

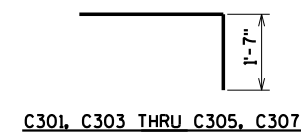
BILL OF BARS

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	585# UNCOATED	LOCATION
C301		46	7-2	X				APRON INLET & OUTLET @ CUTOFF WALL
C302		7	26-8		X			APRON INLET
C303		2	3-7	X				APRON INLET WING 1 & 2
C304		2	5-3	X				APRON INLET WING 1 & 2
C305		2	7-0	X				APRON INLET WING 1 & 2
C306		7	24-10		X			APRON OUTLET
C307		2	6-5	X				APRON OUTLET WING 3 & 4
C408		16	2-8		X			WING 1 & 2 VERT. B.F.
* C409		6	6-2	X				WING 1 & 2/HEADWALL HORIZ. B.F.
* C410		2	8-6	X				WING 1 & 2/HEADWALL DIAG. B.F.
* C411		14	2-8		X			WING 3 & 4 VERT. B.F.
* C412		6	5-10	X				WING 3 & 4/HEADWALL HORIZ. B.F.
* C413		2	8-1	X				WING 3 & 4/HEADWALL DIAG. B.F.
* C414		20	3-9					HEADWALL VERT. B.F.
* C415		16	3-9					HEADWALL HORIZ. B.F.
C416		2	19-4	X				WING 1 & 2/HEADWALL HORIZ. B.F.
C417		2	18-10	X				WING 3 & 4/HEADWALL HORIZ. B.F.
C318		2	28-11					CUTOFF WALL INLET HORIZ.
C319		2	25-2					CUTOFF WALL OUTLET HORIZ.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

⊗ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

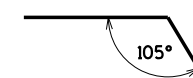
* FIELD CUT HORIZONTAL BARS 2" CLEAR FROM PIPE ARCH



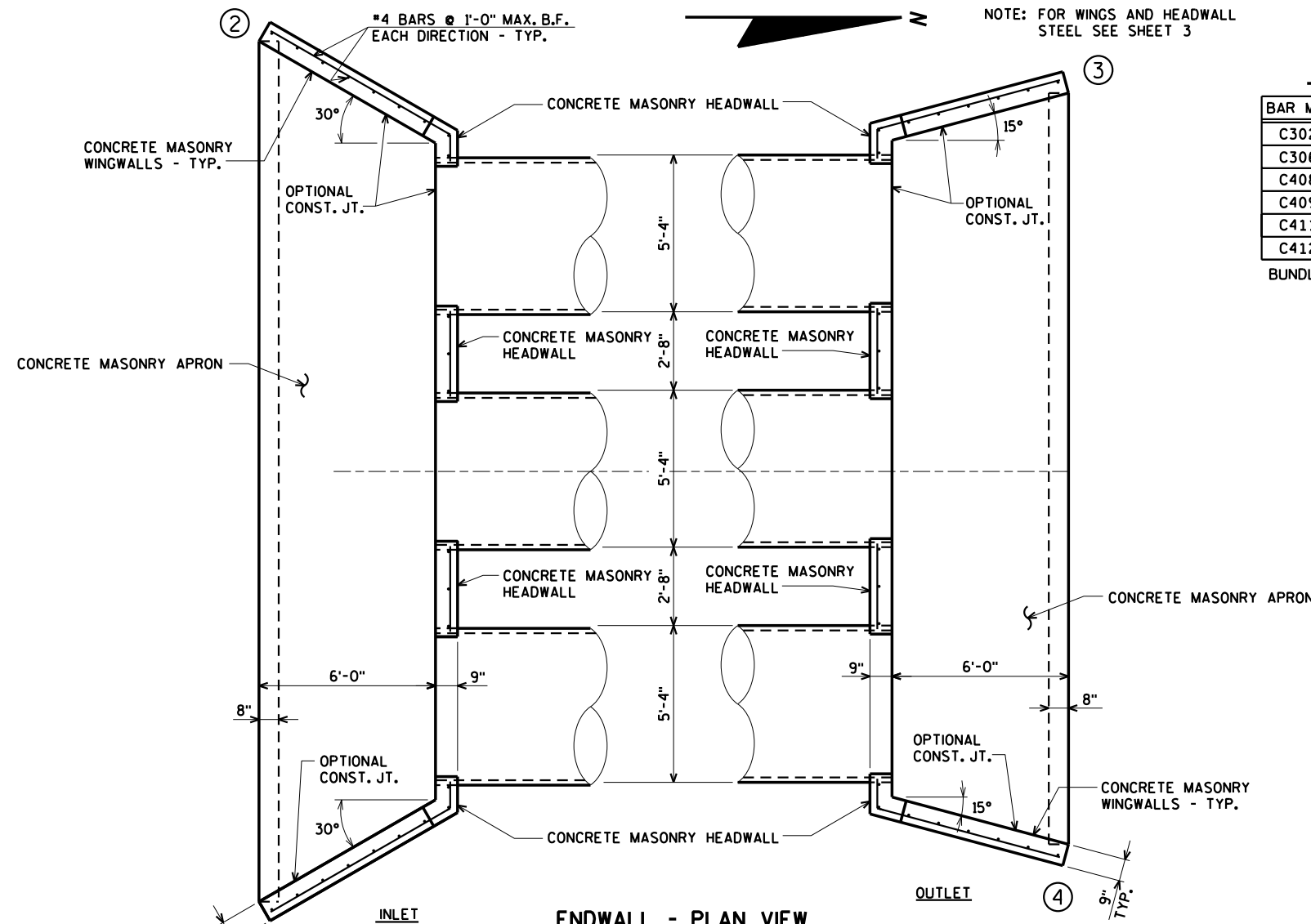
C301, C303 THRU C305, C307



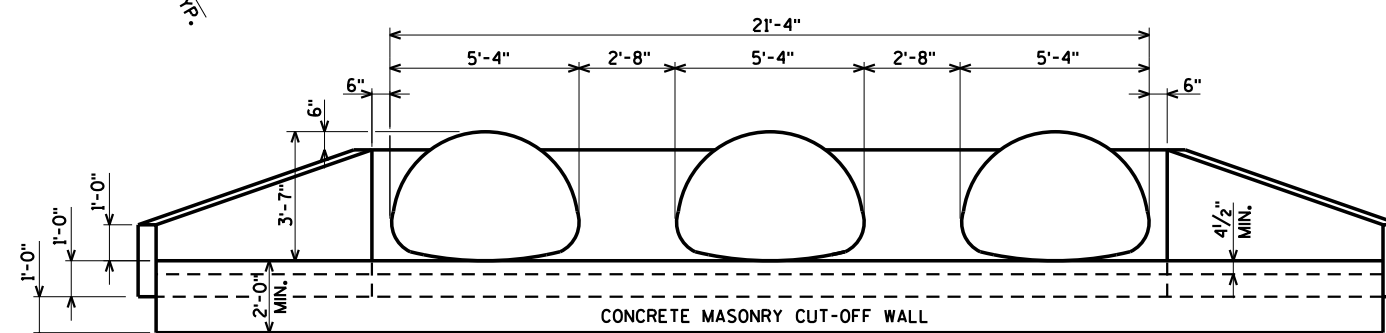
C409, C410, C416



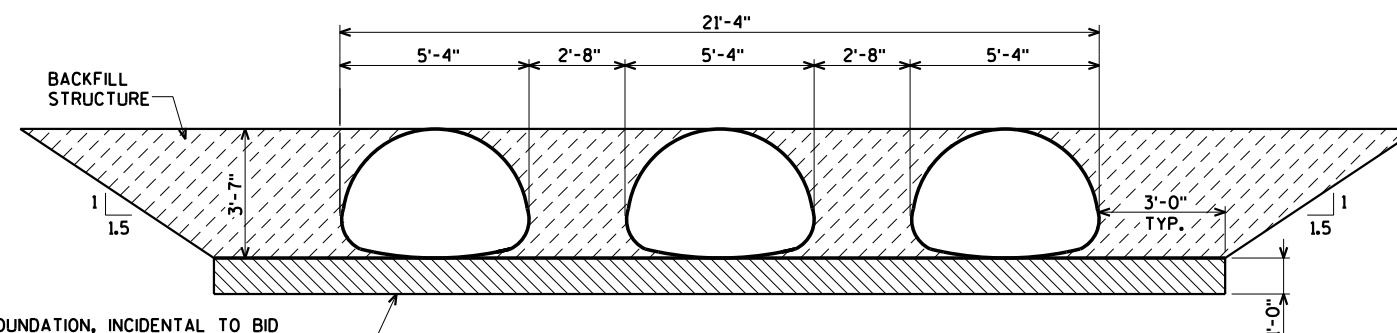
C412, C413, C417



ENDWALL - PLAN VIEW

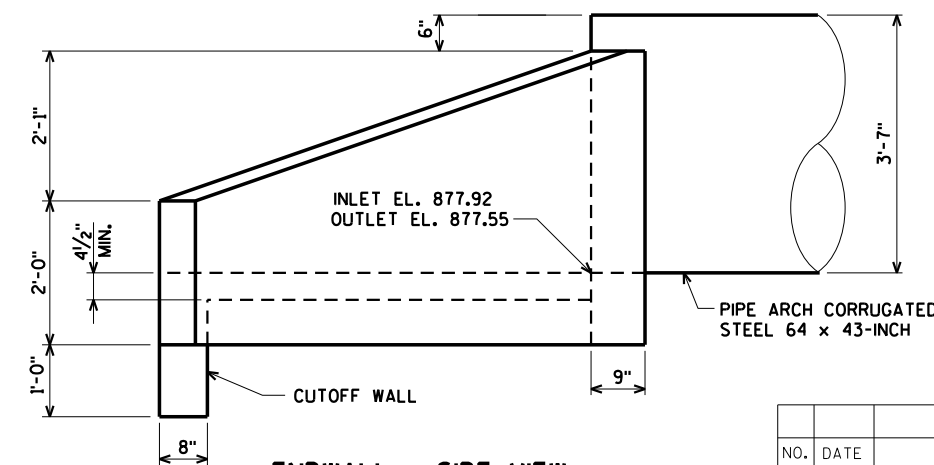


ENDWALL - END VIEW



BACKFILL STRUCTURE DETAIL

GRANULAR FOUNDATION, INCIDENTAL TO BID
ITEM "PIPE ARCH CORRUGATED STEEL 64x43-INCH"



ENDWALL - SIDE VIEW

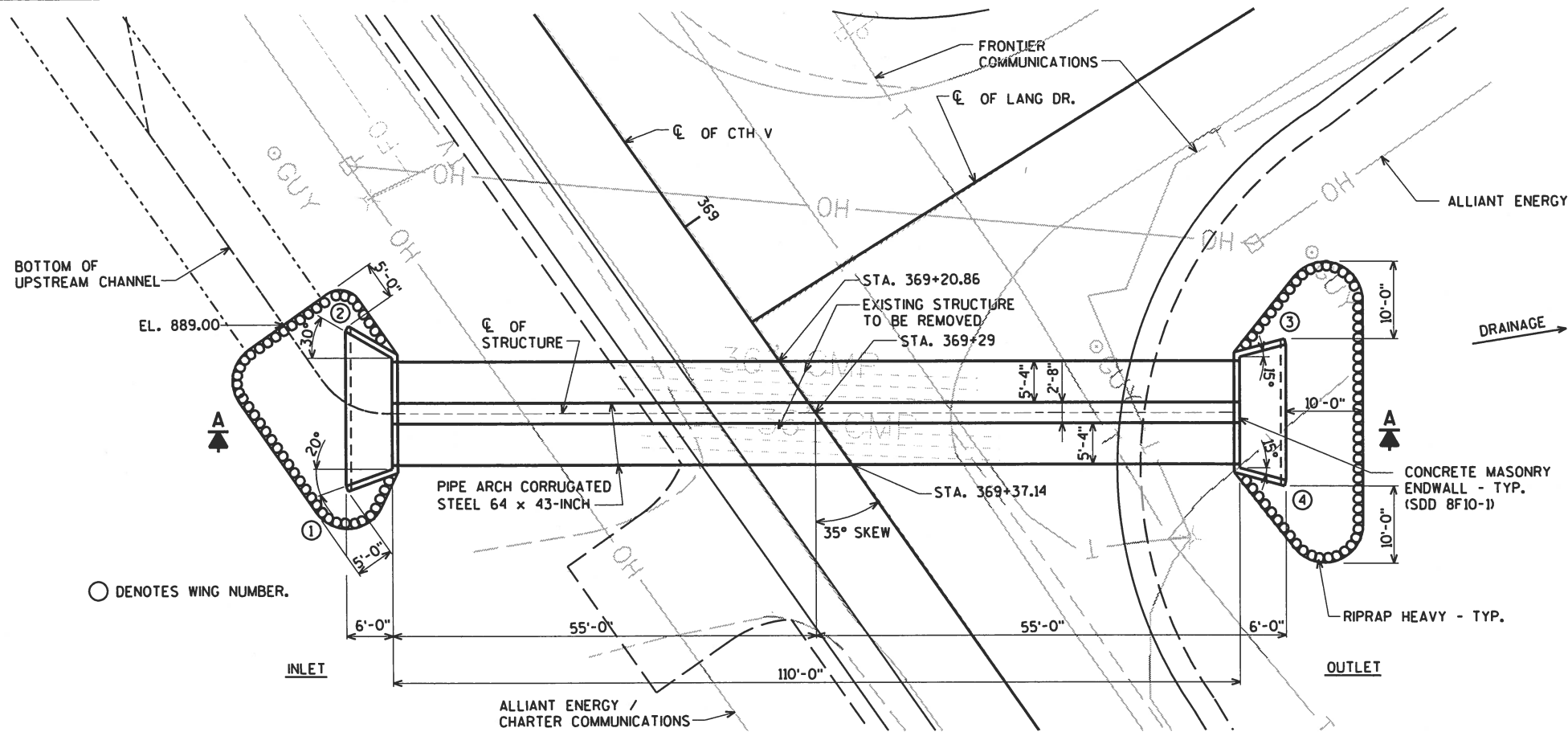
B.F. DENOTES BACK FACE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-11-0163			
DRAWN BY		CLS	PLANS CK'D. KLV
DETAILS AND BILL OF BARS		SHEET 4 OF 4	

\$PRJNAME\$ U:\41-0520.00 - Columbia Co, CTH V, WIRiver+BRIDGE+C-11-2050 cul GP.dgn

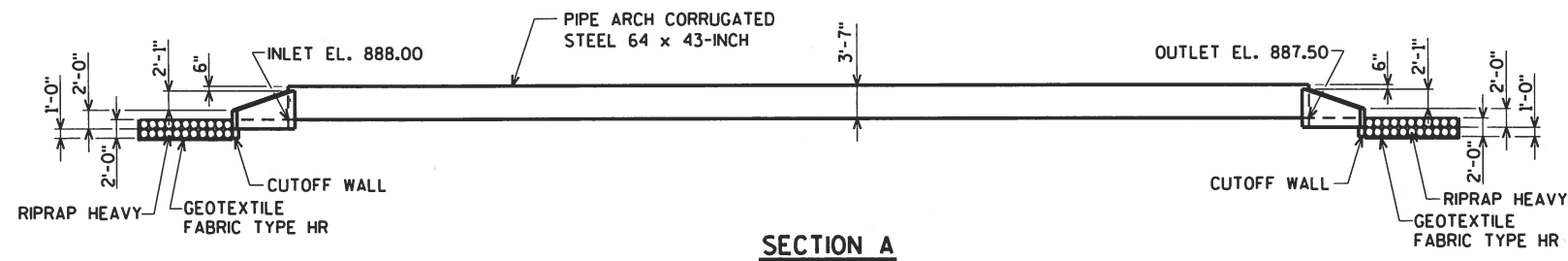
DATE: 8-20-14
DATE: 8-21-14
DATE: 8-21-14
CHECKED BY: KLV
BACK CHECKED BY: KLV
CORRECTED BY: CJM

8

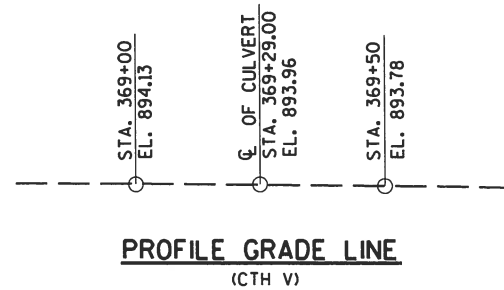


PLAN

2 - PIPE ARCH CORRUGATED STEEL 64 x 43-INCH



SECTION A



PROFILE GRADE LINE
(CTH V)

LIST OF DRAWINGS

1. GENERAL PLAN
2. APRON DETAILS
3. HEADWALL & WINGWALL DETAILS
4. DETAILS AND BILL OF BARS

STATE PROJECT NUMBER

5843-00-70

DESIGN DATA

LIVE LOAD: HL-93 1' SURCHARGE

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY $f'_c = 3,500$ p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) $f_y = 60,000$ p.s.i.

HYDRAULIC DATA:

100 YEAR FLOOD

DRAINAGE AREA = 0.1 sq. mi.
WATERWAY AREA = 22 sq. ft.
 $V = 8.6$ f.p.s.
 $Q_{100} = 190$ c.f.s.
HIGH WATER₁₀₀ EL. 894.0
HIGH WATER₂ EL. 893.4
RDWY. OVERRFLOW = N/A
SCOUR CRITICAL CODE = N/A

TRAFFIC DATA:

A.D.T. = 1,980 (2015)
A.D.T. = 2,650 (2035)
R.D.S. = 55 M.P.H.

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	AMOUNT
203.0500.S	REMOVING OLD STRUCTURE OVER WATERWAY STATION 369+29	1 LS
210.0100	BACKFILL STRUCTURE	300 CY
504.0900	CONCRETE MASONRY ENDWALLS	9 CY
521.0764	PIPE ARCH CORRUGATED STEEL 64x43-INCH	220 LF
606.0300	RIPRAP HEAVY	60 CY
645.0120	GEOTEXTILE FABRIC TYPE HR	120 SY

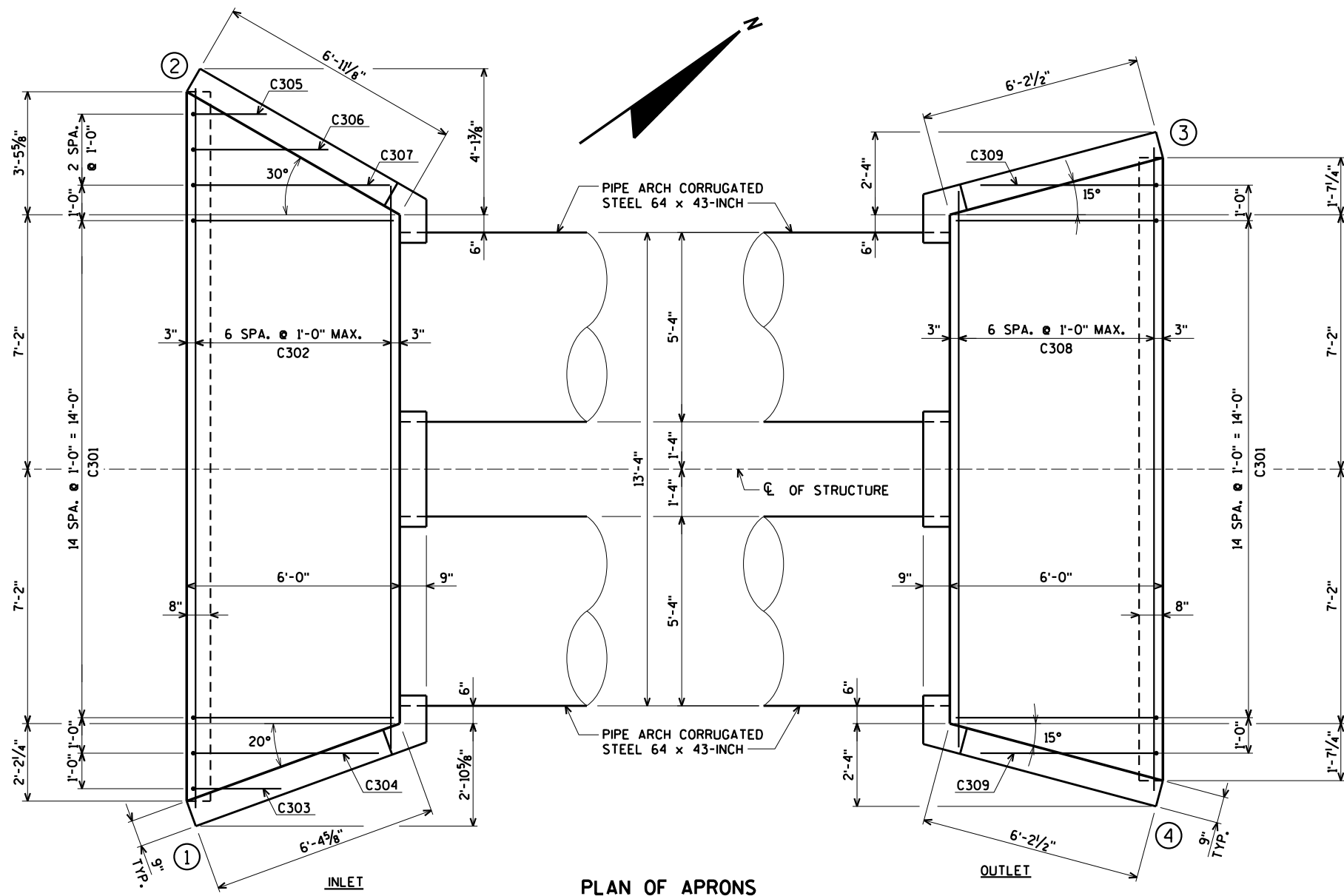
FOR GENERAL NOTES
SEE SHEET 2



BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608)-266-8489

CONSULTANT CONTACT:
KAREN WALDERA
(715)-834-3161

NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY AYRES ASSOCIATES 3433 Oakwood Hills Parkway Eau Claire, WI 54701 www.AyresAssociates.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION ACCEPTED <i>William C. Dreher</i> KAR 11/11/14 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE C-11-2050			
CTH V OVER DRAINAGE DITCH			
COUNTY	COLUMBIA	TOWN/CITY/VILLAGE	LODI
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	KLW	DESIGN CKD.	CJM
DRAWN BY	CLS	PLANS CKD.	KLW
GENERAL PLAN		SHEET 1 OF 4	



PLAN OF APRONS

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

THE CONCRETE IN THE CUTOFF WALL MAY BE PLACED UNDERWATER IF THE EXCAVATION CANNOT BE DEWATERED.

THE EXISTING STRUCTURE TO BE REMOVED, IS A TWIN-CELL 36-INCH CORRUGATED METAL PIPE CULVERT, 42' LONG WITH A 30' CLEAR ROADWAY WIDTH, SKEWED 35°.

ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TO THE ELEVATION OF THE TOP OF THE PIPE ARCH WITHIN THE LENGTH OF THE PIPE ARCH. THE PAY LIMITS OF THE BACKFILL STRUCTURAL ARE 3'-0" BEYOND THE HORIZONTAL PLAN LIMITS AT THE BOTTOM OF THE PIPE ARCH AND APRON AND UP AT A 1:1.5 BACKFILL SLOPE FROM BOTTOM OF PIPE ARCH TO TOP OF PIPE ARCH.

FILL SLOPES FLATTER THAN 2½:1 SHALL BE WARPED TO MEET THE TOP OF THE WINGS.

BAR STEEL REINFORCEMENT IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY ENDWALLS".

FOR CUTOFF WALL DETAIL SEE SHEET 3.

\$PRNAME\$
U:\41-0520.00 - Columbia Co, CTH V, WI River+BRIDGE+C-11-2050 cul.dgn

8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE C-11-2050			
DRAWN BY	CLS	PLANS CK'D.	KLW
APRON DETAILS			SHEET 2 OF 4

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
 3433 Oakwood Hills Parkway
 Eau Claire, WI 54701
 www.AyresAssociates.com

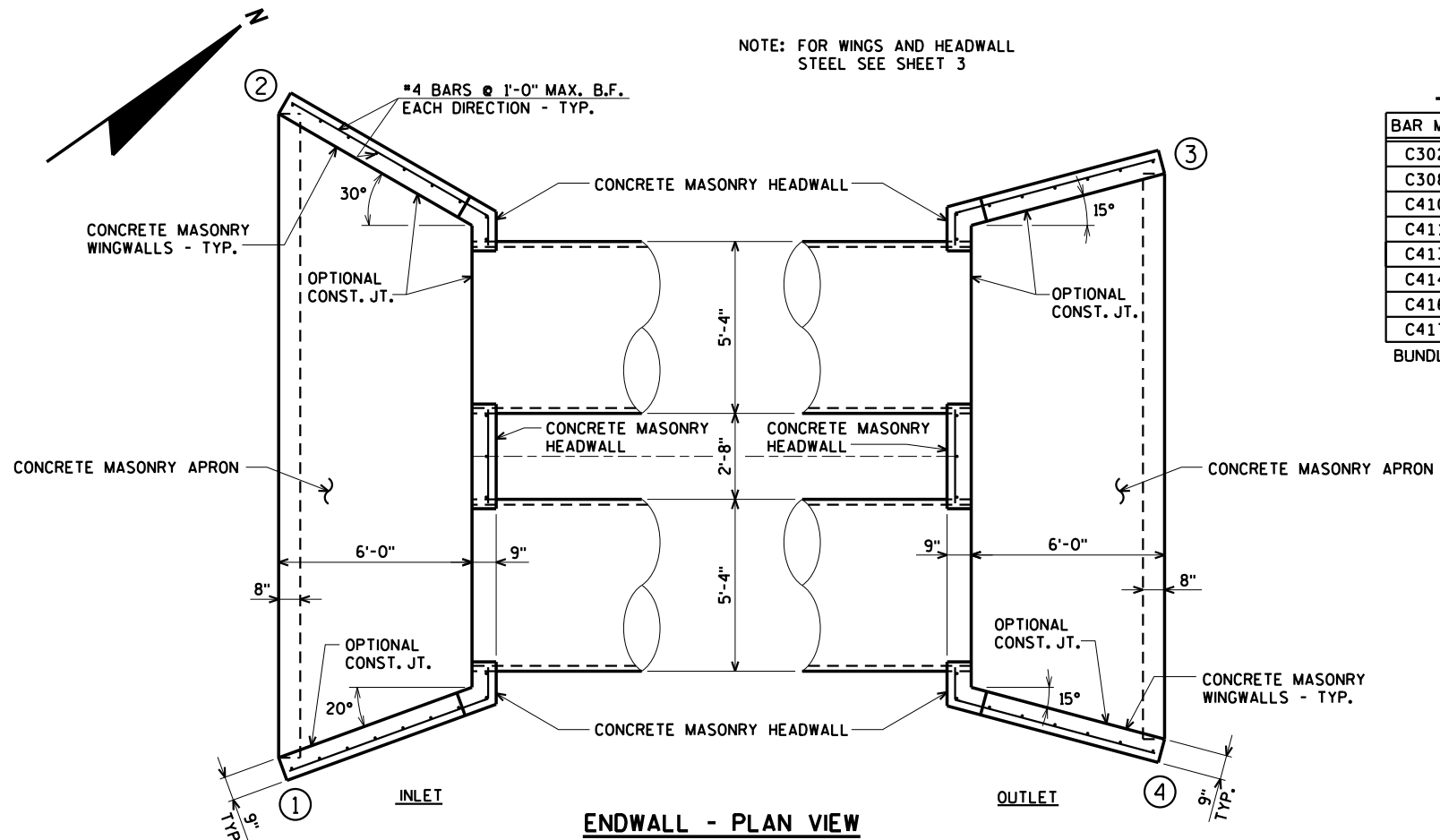


B.F. DENOTES BACK FACE

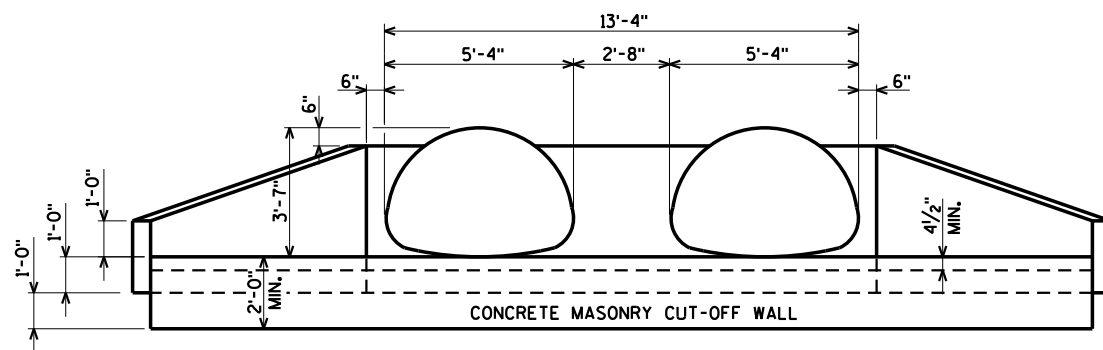
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE C-11-2050			
DRAWN BY		CLS	PLANS CK'D. KLV
HEADWALL & WINGWALL DETAILS		SHEET 3 OF 4	

\$PRNAME\$
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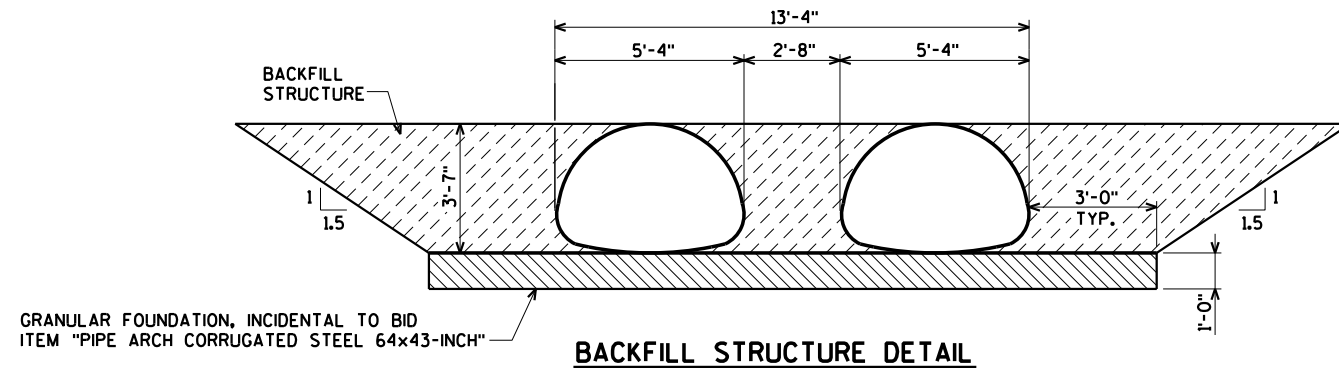
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ENDWALL - PLAN VIEW



ENDWALL - END VIEW

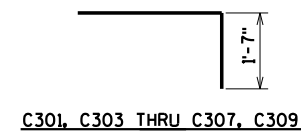


BACKFILL STRUCTURE DETAIL

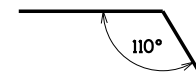
BAR SERIES TABLE

BAR MARK	NO REQ'D.	LENGTH
C302	1 SERIES OF 7	15'-9" TO 20'-3"
C308	1 SERIES OF 7	15'-7" TO 18'-1"
C410	1 SERIES OF 7	1'-7" TO 3'-9"
C411	1 SERIES OF 3	7'-9" TO 3'-11"
C413	1 SERIES OF 8	1'-7" TO 3'-9"
C414	1 SERIES OF 3	4'-2" TO 8'-2"
C416	2 SERIES OF 7	1'-7" TO 3'-9"
C417	2 SERIES OF 3	4'-0" TO 7'-8"

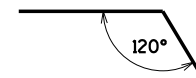
BUNDLE AND TAG EACH SERIES SEPARATELY.



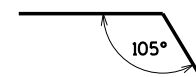
C301, C303 THRU C307, C309



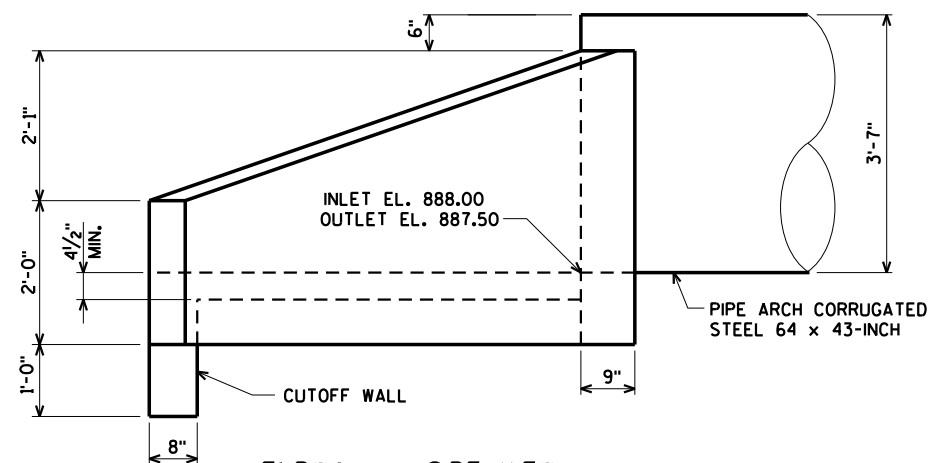
C411, C412, C423



C414, C415, C424



C417, C418, C425



ENDWALL - SIDE VIEW

BILL OF BARS

FOR INFORMATION ONLY

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	430# UNCOATED	LOCATION
C301		30	7-2	X				APRON INLET & OUTLET @ CUTOFF WALL
C302		7	18-0		X			APRON INLET
C303		1	4-0	X				APRON INLET WING 1
C304		1	6-9	X				APRON INLET WING 1
C305		1	3-7	X				APRON INLET WING 2
C306		1	5-3	X				APRON INLET WING 2
C307		1	7-0	X				APRON INLET WING 2
C308		7	16-10		X			APRON OUTLET
C309		2	6-5	X				APRON OUTLET WING 3 & 4
C410		7	2-8		X			WING 1 VERT. B.F.
* C411		3	5-10	X				WING 1/HEADWALL HORIZ. B.F.
C412		1	8-1	X				WING 1/HEADWALL DIAG. B.F.
C413		8	2-8		X			WING 2 VERT. B.F.
* C414		3	6-2	X				WING 2/HEADWALL HORIZ. B.F.
* C415		1	8-6	X				WING 2/HEADWALL DIAG. B.F.
* C416		14	2-8		X			WING 3 & 4 VERT. B.F.
* C417		6	5-10	X				WING 3 & 4/HEADWALL HORIZ. B.F.
* C418		2	8-1	X				WING 3 & 4/HEADWALL DIAG. B.F.
C419		14	3-9					HEADWALL VERT. B.F.
C420		8	3-8					HEADWALL HORIZ. B.F.
C321		2	19-7					CUTOFF WALL INLET HORIZ.
C322		2	17-2					CUTOFF WALL OUTLET HORIZ.
C423		1	14-1	X				WING 1/HEADWALL HORIZ. B.F.
C424		1	15-4	X				WING 2/HEADWALL HORIZ. B.F.
C425		2	14-10	X				WING 3 & 4/HEADWALL HORIZ. B.F.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

⊗ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

* FIELD CUT HORIZONTAL BARS 2" CLEAR FROM PIPE ARCH

B.F. DENOTES BACK FACE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE C-11-2050			
DRAWN BY		CLS	PLANS CK'D. KLW
DETAILS AND BILL OF BARS			SHEET 4 OF 4

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

EARTHWORK DATA - CTH V

STATION	END AREA				VOLUME				MASS HAUL
	COMMON	ROCK	FILL	EBS	COMMON	ROCK	FILL	EBS	
	SF	SF	SF	SF	CY	CY	CY	CY	

253+50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
254+00.00	48.88	0.00	7.03	0.00	45.26	0.00	8.14	0.00	37.12
254+15.00	48.33	0.00	50.52	0.00	27.00	0.00	19.98	0.00	44.14
255+00.00	57.28	0.00	12.20	0.00	166.24	0.00	123.41	0.00	86.97
256+00.00	55.52	0.00	14.94	0.00	208.89	0.00	62.82	0.00	233.04
257+00.00	56.98	0.00	9.08	0.00	208.33	0.00	55.60	0.00	385.77
258+00.00	79.40	0.00	7.78	0.00	252.56	0.00	39.03	0.00	599.30
259+00.00	53.80	0.00	13.25	0.00	246.67	0.00	48.68	0.00	797.28
260+00.00	73.15	0.00	14.05	0.00	235.09	0.00	63.19	0.00	969.18
260+04.00	71.51	0.00	15.71	0.00	10.72	0.00	2.76	0.00	977.14
261+00.00	37.69	0.00	30.67	0.00	194.13	0.00	103.07	0.00	1068.21
261+43.00	68.38	0.00	15.06	0.00	84.46	0.00	45.52	0.00	1107.15
262+00.00	38.42	0.00	26.00	0.00	112.73	0.00	54.18	0.00	1165.71
263+00.00	44.69	0.00	17.48	0.00	153.91	0.00	100.65	0.00	1218.97
263+50.00	55.49	0.00	16.09	0.00	92.76	0.00	38.85	0.00	1272.87
264+00.00	134.68	0.00	5.73	0.00	176.08	0.00	25.25	0.00	1423.70
264+50.00	120.55	0.00	4.67	0.00	236.32	0.00	12.04	0.00	1647.99
265+00.00	114.96	0.00	1.54	0.00	218.06	0.00	7.19	0.00	1858.87
265+30.00	102.67	0.00	6.13	0.00	120.91	0.00	5.33	0.00	1974.45
265+50.00	109.95	0.00	0.14	0.00	78.75	0.00	2.90	0.00	2050.29
265+74.00	63.84	0.00	0.00	0.00	77.24	0.00	0.08	0.00	2127.45
266+00.00	70.52	0.00	3.56	0.00	64.69	0.00	2.14	0.00	2190.00
266+50.00	65.47	0.00	10.94	0.00	125.92	0.00	16.78	0.00	2299.14
267+00.00	52.89	0.00	20.89	0.00	109.59	0.00	36.84	0.00	2371.89
267+50.00	38.66	0.00	38.84	0.00	84.77	0.00	69.13	0.00	2387.53
268+00.00	29.74	0.00	65.79	0.00	63.33	0.00	121.10	0.00	2329.76
268+16.00	44.89	0.00	68.42	0.00	22.11	0.00	49.71	0.00	2302.17
268+40.00	16.86	0.00	128.99	0.00	27.44	0.00	109.67	0.00	2219.94
269+00.00	19.51	0.00	85.53	0.00	40.41	0.00	297.94	0.00	1962.40
270+00.00	68.99	0.00	13.55	0.00	163.89	0.00	229.35	0.00	1896.94
271+00.00	69.15	0.00	1.68	0.00	255.81	0.00	35.25	0.00	2117.50
272+00.00	59.94	0.00	18.35	0.00	239.06	0.00	46.37	0.00	2310.19
273+00.00	39.93	0.00	32.07	0.00	184.94	0.00	116.71	0.00	2378.42
274+00.00	38.94	0.00	40.57	0.00	146.06	0.00	168.15	0.00	2356.33
275+00.00	90.78	0.00	127.30	86.50	240.22	0.00	388.59	160.19	2207.96
276+00.00	0.00	0.00	223.33	89.74	168.11	0.00	811.64	326.37	1564.43
277+00.00	0.00	0.00	262.47	91.16	0.00	0.00	1124.54	335.00	439.90
277+50.00	0.00	0.00	285.70	91.98	0.00	0.00	634.46	169.57	-194.56
278+00.00	0.00	0.00	219.26	73.75	0.00	0.00	584.44	153.45	-779.01
279+00.00	0.00	0.00	223.47	90.16	0.00	0.00	1024.84	303.54	-1803.84

EARTHWORK DATA - CTH V

STATION	END AREA				VOLUME				MASS HAUL
	COMMON	ROCK	FILL	EBS	COMMON	ROCK	FILL	EBS	
	SF	SF	SF	SF	CY	CY	CY	CY	

280+00.00	82.99	0.00	79.76	83.19	153.69	0.00	701.92	321.02	-2352.08
281+00.00	97.85	0.00	2.69	80.30	334.89	0.00	190.86	302.76	-2208.05
282+00.00	72.50	0.00	2.15	0.00	315.46	0.00	11.20	148.70	-1903.79
283+00.00	49.66	0.00	12.16	0.00	226.22	0.00	33.13	0.00	-1710.69
284+00.00	36.59	0.00	28.31	0.00	159.72	0.00	93.68	0.00	-1644.65
285+00.00	4.89	0.00	35.41	0.00	76.81	0.00	147.50	0.00	-1715.33
286+00.00	2.99	0.00	23.77	0.00	14.59	0.00	136.99	0.00	-1837.73
286+34.00	9.47	0.00	22.89	0.00	7.85	0.00	36.72	0.00	-1866.61
287+00.00	15.96	0.00	10.29	0.00	31.08	0.00	50.69	0.00	-1886.22
288+00.00	95.69	0.00	3.15	0.00	206.76	0.00	31.11	0.00	-1710.57
289+00.00	205.00	0.00	1.91	0.00	556.83	0.00	11.71	0.00	-1165.45
290+00.00	353.83	0.00	1.73	0.00	1034.87	0.00	8.43	0.00	-139.01
291+00.00	278.53	0.00	0.12	0.00	1171.04	0.00	4.28	0.00	1027.75
292+00.00	144.50	0.00	3.63	0.00	783.39	0.00	8.68	0.00	1802.46
293+00.00	15.46	0.00	13.65	0.00	296.22	0.00	40.00	0.00	2058.68
294+00.00	3.38	0.00	54.59	0.00	34.89	0.00	157.96	0.00	1935.60
295+00.00	2.34	0.00	166.96	0.00	10.59	0.00	512.85	0.00	1433.35
295+80.00	68.51	0.00	350.53	0.00	104.96	0.00	958.31	0.00	580.00
296+00.00	2.25	0.00	302.47	0.00	26.21	0.00	302.31	0.00	303.89
297+00.00	2.64	0.00	117.49	0.00	9.06	0.00	972.13	0.00	-659.18
298+00.00	2.92	0.00	81.48	0.00	10.30	0.00	460.58	0.00	-1109.47
299+00.00	3.52	0.00	48.41	0.00	11.93	0.00	300.67	0.00	-1398.21
299+54.00	29.91	0.00	41.16	0.00	33.43	0.00	111.96	0.00	-1476.74
300+00.00	3.88	0.00	27.30	0.00	28.78	0.00	72.90	0.00	-1520.86
301+00.00	3.89	0.00	20.58	0.00	14.39	0.00	110.83	0.00	-1617.30
302+00.00	7.23	0.00	16.19	0.00	20.59	0.00	85.12	0.00	-1681.83
303+00.00	14.44	0.00	2.43	0.00	40.13	0.00	43.10	0.00	-1684.80
304+00.00	40.51	0.00	2.54	0.00	101.76	0.00	11.50	0.00	-1594.54
305+00.00	65.49	0.00	5.97	0.00	196.30	0.00	19.70	0.00	-1417.95
306+00.00	48.36	0.00	17.03	0.00	210.83	0.00	53.24	0.00	-1260.35
307+00.00	14.92	0.00	46.88	0.00	117.19	0.00	147.94	0.00	-1291.11
307+49.00	65.84	0.00	63.81	0.00	73.28	0.00	125.55	0.00	-1343.38
308+00.00	7.06	0.00	74.38	0.00	68.85	0.00	163.14	0.00	-1437.67
309+00.00	6.02	0.00	66.39	0.00	24.22	0.00	325.86	0.00	-1739.30
309+50.00	9.83	0.00	215.18	0.00	14.68	0.00	325.89	0.00	-2050.52
310+00.00	14.93	0.00	45.25	0.00	22.93	0.00	301.42	0.00	-2329.01
310+28.00	44.42	0.00	25.27	0.00	30.77	0.00	45.71	0.00	-2343.95
311+00.00	20.41	0.00	12.76	0.00	86.44	0.00	63.38	0.00	-2320.89
312+00.00	22.10	0.00	9.40	0.00	78.72	0.00	51.30	0.00	-2293.47
313+00.00	41.13	0.00	5.67	0.00	117.09	0.00	34.88	0.00	-2211.26

EARTHWORK DATA - CTH V									
STATION	END AREA				VOLUME				MASS HAUL
	COMMON SF	ROCK SF	FILL SF	EBS SF	COMMON CY	ROCK CY	FILL CY	EBS CY	

313+23.00	108.65	0.00	92.87	0.00	63.80	0.00	52.46	0.00	-2199.93
314+00.00	16.47	0.00	13.10	0.00	178.41	0.00	188.88	0.00	-2210.40
315+00.00	73.54	0.00	6.04	0.00	166.69	0.00	44.31	0.00	-2088.02
316+00.00	77.03	0.00	3.38	0.00	278.83	0.00	21.81	0.00	-1830.99
316+65.00	51.67	0.00	1.30	0.00	154.92	0.00	7.04	0.00	-1683.11
317+00.00	92.37	0.00	3.15	0.00	93.36	0.00	3.61	0.00	-1593.36
317+45.00	107.53	0.00	2.40	0.00	166.58	0.00	5.78	0.00	-1432.56
318+00.00	123.13	0.00	7.88	0.00	234.93	0.00	13.09	0.00	-1210.71
318+79.00	37.81	0.00	11.55	0.00	235.45	0.00	35.53	0.00	-1010.80
319+00.00	22.38	0.00	1.81	0.00	23.41	0.00	6.49	0.00	-993.88
320+00.00	11.98	0.00	61.98	0.00	63.63	0.00	147.66	0.00	-1077.92
320+35.00	68.20	0.00	92.80	0.00	51.97	0.00	125.40	0.00	-1151.35
321+00.00	28.69	0.00	50.46	0.00	116.63	0.00	215.55	0.00	-1250.27
321+10.00	36.30	0.00	50.30	0.00	12.04	0.00	23.32	0.00	-1261.56
322+00.00	5.01	0.00	55.63	0.00	68.85	0.00	220.69	0.00	-1413.40
323+00.00	4.47	0.00	48.97	0.00	17.56	0.00	242.13	0.00	-1637.97
323+18.00	57.19	0.00	34.76	0.00	20.55	0.00	34.89	0.00	-1652.31
323+87.00	25.24	0.00	32.30	0.00	105.33	0.00	107.11	0.00	-1654.09
323+95.00	33.13	0.00	10.59	0.00	8.65	0.00	7.94	0.00	-1653.39
324+00.00	31.72	0.00	12.45	0.00	6.00	0.00	2.67	0.00	-1650.05
325+00.00	3.29	0.00	23.03	0.00	64.83	0.00	82.13	0.00	-1667.34
326+00.00	6.59	0.00	21.03	0.00	18.30	0.00	101.99	0.00	-1751.04
327+00.00	28.70	0.00	26.41	0.00	65.35	0.00	109.81	0.00	-1795.50
328+00.00	6.26	0.00	12.24	0.00	64.74	0.00	89.47	0.00	-1820.23
329+00.00	9.25	0.00	6.15	0.00	28.72	0.00	42.57	0.00	-1834.08
330+00.00	23.72	0.00	9.15	0.00	61.06	0.00	35.42	0.00	-1808.44
330+72.00	63.60	0.00	8.29	0.00	116.43	0.00	29.07	0.00	-1721.08
331+00.00	9.77	0.00	12.69	0.00	38.04	0.00	13.60	0.00	-1696.63
331+81.00	93.10	0.00	11.97	0.00	154.31	0.00	46.24	0.00	-1588.56
332+00.00	34.33	0.00	9.07	0.00	44.84	0.00	9.25	0.00	-1552.98
333+00.00	45.17	0.00	48.89	0.00	147.22	0.00	134.17	0.00	-1539.93
334+00.00	56.89	0.00	55.79	0.00	189.00	0.00	242.31	0.00	-1593.24
334+69.00	28.09	0.00	46.34	0.00	108.59	0.00	163.12	0.00	-1647.78
334+90.00	113.69	0.00	62.38	0.00	55.14	0.00	52.85	0.00	-1645.49
335+00.00	47.09	0.00	64.09	0.00	29.77	0.00	29.28	0.00	-1644.99
335+86.00	47.85	0.00	28.77	0.00	151.20	0.00	184.86	0.00	-1678.65
336+00.00	47.63	0.00	7.06	0.00	24.75	0.00	11.61	0.00	-1665.51
337+00.00	27.95	0.00	43.30	0.00	139.96	0.00	116.57	0.00	-1642.12
338+00.00	87.49	0.00	60.68	0.00	213.78	0.00	240.69	0.00	-1669.04
339+00.00	19.50	0.00	47.64	0.00	198.13	0.00	250.74	0.00	-1721.65

EARTHWORK DATA - CTH V									
STATION	END AREA				VOLUME				MASS HAUL
	COMMON SF	ROCK SF	FILL SF	EBS SF	COMMON CY	ROCK CY	FILL CY	EBS CY	

339+70.00	59.41	0.00	46.07	0.00	102.29	0.00	151.84	0.00	-1771.20
340+00.00	39.96	0.00	46.81	0.00	55.21	0.00	64.50	0.00	-1780.50
341+00.00	43.39	0.00	10.87	0.00	154.35	0.00	133.52	0.00	-1759.67
341+90.00	111.81	0.00	1.24	0.00	258.67	0.00	25.23	0.00	-1526.23
342+00.00	115.25	0.00	1.62	0.00	42.05	0.00	0.66	0.00	-1484.84
342+20.00	229.40	0.00	3.58	0.00	127.65	0.00	2.41	0.00	-1359.60
342+50.00	106.65	0.00	5.66	0.00	186.69	0.00	6.42	0.00	-1179.32
343+00.00	158.58	0.00	0.00	0.00	245.58	0.00	6.55	0.00	-940.29
343+50.00	228.25	0.00	0.00	0.00	358.18	0.00	0.00	0.00	-582.11
344+00.00	335.63	0.00	0.00	0.00	522.11	0.00	0.00	0.00	-60.00
344+50.00	406.12	0.00	0.00	0.00	686.81	0.00	0.00	0.00	626.80
345+00.00	519.22	0.00	0.00	0.00	856.80	0.00	0.00	0.00	1483.60
345+50.00	656.50	0.00	0.00	0.00	1088.63	0.00	0.00	0.00	2572.23
346+00.00	759.44	0.00	0.00	0.00	1311.06	0.00	0.00	0.00	3883.28
346+50.00	776.05	13.00	0.00	0.00	1421.75	13.24	0.00	0.00	5305.03
347+00.00	741.93	17.00	0.00	0.00	1405.54	30.56	0.00	0.00	6710.57
347+50.00	681.75	20.00	0.00	0.00	1318.22	37.69	0.00	0.00	8028.79
348+00.00	573.65	0.00	0.00	0.00	1162.41	20.37	0.00	0.00	9191.20
348+50.00	462.95	0.00	0.00	0.00	959.81	0.00	0.00	0.00	10151.01
349+00.00	374.07	0.00	0.00	0.00	775.02	0.00	0.00	0.00	10926.03
349+50.00	279.19	0.00	0.00	0.00	604.87	0.00	0.00	0.00	11530.90
350+00.00	172.19	0.00	0.46	0.00	417.94	0.00	0.53	0.00	11948.32
350+50.00	94.33	0.00	3.68	0.00	246.78	0.00	4.79	0.00	12190.30
351+00.00	51.25	0.00	7.30	0.00	134.80	0.00	12.71	0.00	12312.39
351+50.00	44.81	0.00	13.71	0.00	88.94	0.00	24.32	0.00	12377.02
352+00.00	26.22	0.00	18.57	0.00	65.77	0.00	37.36	0.00	12405.42
353+00.00	8.55	0.00	41.94	0.00	64.39	0.00	140.07	0.00	12329.74
354+00.00	8.06	0.00	46.91	0.00	30.76	0.00	205.67	0.00	12154.83
355+00.00	9.05	0.00	56.68	0.00	31.69	0.00	239.79	0.00	11946.73
355+57.00	45.41	0.00	0.15	0.00	57.49	0.00	74.98	0.00	11929.23
355+66.00	40.77	0.00	5.64	0.00	14.36	0.00	1.21	0.00	11942.38
356+00.00	4.00	0.00	43.68	0.00	28.19	0.00	38.82	0.00	11931.76
356+15.00	74.93	0.00	71.82	0.00	21.93	0.00	40.10	0.00	11913.58
356+93.00	11.98	0.00	53.23	0.00	125.54	0.00	225.78	0.00	11813.33
357+00.00	9.41	0.00	42.82	0.00	2.77	0.00	15.56	0.00	11800.54
358+00.00	19.03	0.00	14.18	0.00	52.67	0.00	131.94	0.00	11721.26
359+00.00	63.98	0.00	8.93	0.00	153.72	0.00	53.50	0.00	11821.49
360+00.00	102.08	0.00	6.36	0.00	307.52	0.00	35.39	0.00	12093.61
361+00.00	158.01	0.00	4.15	0.00	481.65	0.00	24.33	0.00	12550.93
361+33.00	207.30	0.00	2.94	0.00	223.25	0.00	5.42	0.00	12768.76

EARTHWORK DATA - CTH V

STATION	END AREA				VOLUME				MASS HAUL
	COMMON	ROCK	FILL	EBS	COMMON	ROCK	FILL	EBS	
	SF	SF	SF	SF	CY	CY	CY	CY	
361+40.00	171.15	0.00	7.05	0.00	49.06	0.00	1.62	0.00	12816.20
361+50.00	95.10	0.00	4.23	0.00	49.31	0.00	2.61	0.00	12862.89
362+00.00	66.30	0.00	4.28	0.00	149.44	0.00	9.85	0.00	13002.49
362+50.00	38.98	0.00	6.44	0.00	97.48	0.00	12.41	0.00	13087.56
362+86.00	38.27	0.00	4.75	0.00	51.50	0.00	9.33	0.00	13129.74
363+00.00	25.45	0.00	24.42	0.00	16.52	0.00	9.45	0.00	13136.81
363+56.00	10.53	0.00	33.45	0.00	37.31	0.00	75.02	0.00	13099.10
364+00.00	2.81	0.00	47.60	0.00	10.87	0.00	82.55	0.00	13027.42
365+00.00	3.04	0.00	54.37	0.00	10.83	0.00	236.04	0.00	12802.21
366+00.00	0.00	0.00	78.39	0.00	5.63	0.00	307.31	0.00	12500.53
367+00.00	0.00	0.00	65.86	0.00	0.00	0.00	333.91	0.00	12166.61
367+50.00	4.77	0.00	39.47	0.00	4.42	0.00	121.91	0.00	12049.12
368+00.00	32.88	0.00	18.02	0.00	34.86	0.00	66.54	0.00	12017.44
368+50.00	116.70	0.00	10.39	0.00	138.50	0.00	32.88	0.00	12123.06
369+00.00	110.37	0.00	33.74	0.00	210.25	0.00	51.08	0.00	12282.23
369+15.00	34.53	0.00	39.05	0.00	40.25	0.00	25.27	0.00	12297.21
369+30.00	34.41	0.00	0.00	0.00	19.15	0.00	13.56	0.00	12302.80
369+37.00	25.28	0.00	23.33	0.00	7.74	0.00	3.78	0.00	12306.76
369+63.00	14.98	0.00	114.17	0.00	19.38	0.00	82.75	0.00	12243.39
370+00.00	12.24	0.00	56.46	0.00	18.65	0.00	146.14	0.00	12115.90
371+00.00	11.25	0.00	19.01	0.00	43.50	0.00	174.70	0.00	11984.70
372+00.00	13.02	0.00	10.88	0.00	44.94	0.00	69.19	0.00	11960.45
373+00.00	31.53	0.00	6.19	0.00	82.50	0.00	39.51	0.00	12003.44
374+00.00	52.69	0.00	5.70	0.00	155.96	0.00	27.52	0.00	12131.88
375+00.00	42.86	0.00	6.08	0.00	176.94	0.00	27.27	0.00	12281.56
376+00.00	17.64	0.00	10.86	0.00	112.04	0.00	39.21	0.00	12354.38
377+00.00	5.31	0.00	21.92	0.00	42.50	0.00	75.88	0.00	12321.00
378+00.00	3.99	0.00	38.27	0.00	17.22	0.00	139.33	0.00	12198.89
379+00.00	3.07	0.00	69.85	0.00	13.07	0.00	250.28	0.00	11961.69
379+52.00	95.52	0.00	130.11	0.00	94.94	0.00	240.69	0.00	11815.94
380+00.00	1.69	0.00	80.38	0.00	86.41	0.00	233.88	0.00	11668.47
381+00.00	7.54	0.00	18.67	0.00	17.09	0.00	229.28	0.00	11456.28
382+00.00	7.61	0.00	11.13	0.00	28.06	0.00	68.98	0.00	11415.35
383+00.00	4.72	0.00	14.32	0.00	22.83	0.00	58.91	0.00	11379.27
384+00.00	5.45	0.00	20.01	0.00	18.83	0.00	79.47	0.00	11318.64
384+50.00	16.56	0.00	22.39	0.00	20.38	0.00	49.07	0.00	11289.94
385+00.00	24.27	0.00	32.36	0.00	37.81	0.00	63.37	0.00	11264.38
385+50.00	18.64	0.00	10.12	0.00	39.73	0.00	49.17	0.00	11254.95

EARTHWORK DATA - RYAN ROAD

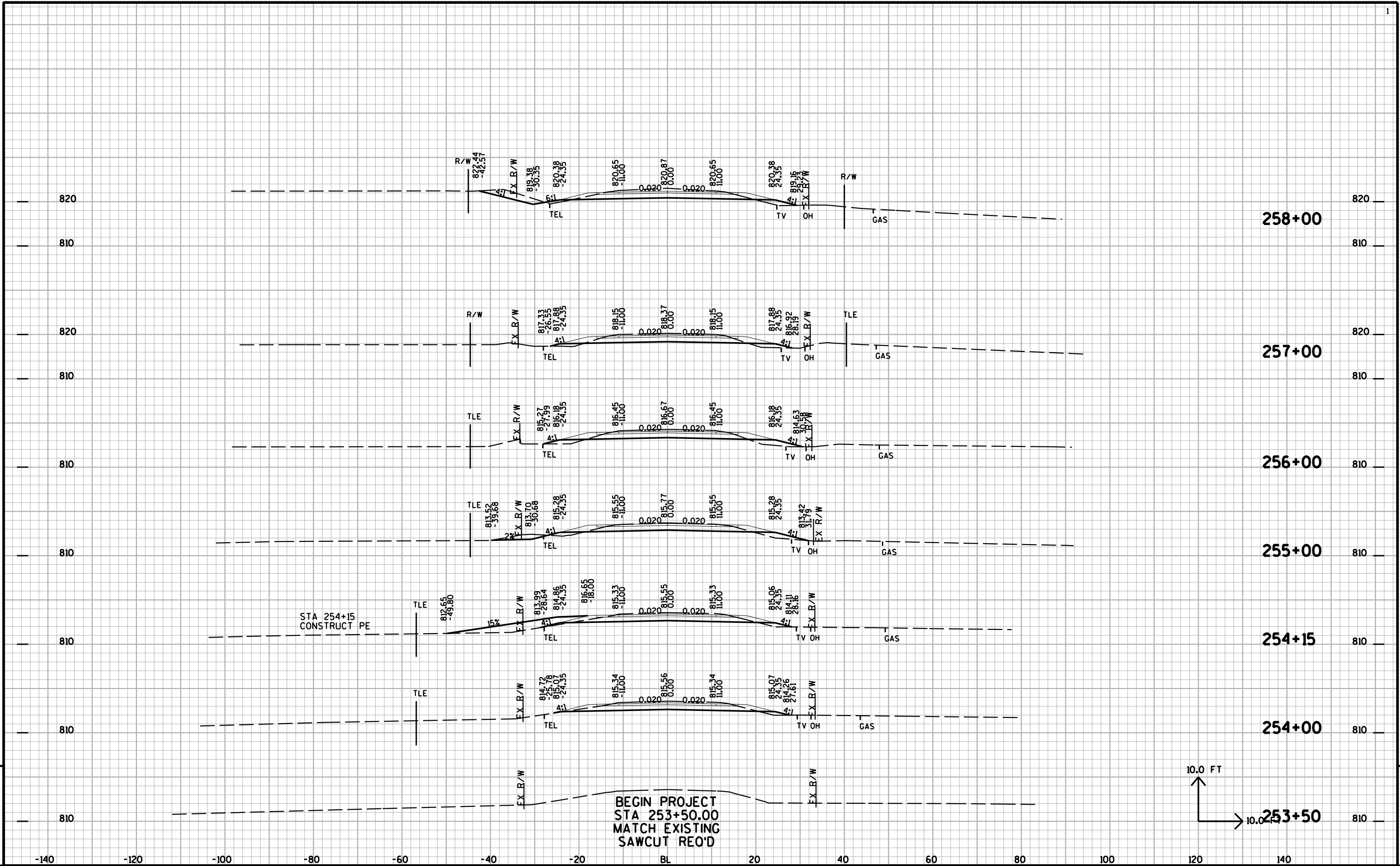
STATION							MASS HAUL
	COMMON	FILL	EBS	COMMON	FILL	EBS	
	SF	SF	SF	CY	CY	CY	
43+00.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44+00.00	39.33	1.46	0.00	72.83	3.38	0.00	69.45
45+00.00	34.72	7.94	0.00	137.13	21.76	0.00	184.82
46+00.00	51.53	13.91	0.00	159.72	50.58	0.00	293.97
46+30.00	70.50	8.84	0.00	67.79	15.80	0.00	345.96
47+00.00	262.28	0.00	0.00	431.38	14.32	0.00	763.02
48+00.00	0.00	128.64	74.50	485.70	297.78	137.96	950.95
49+00.00	0.00	250.35	79.49	0.00	877.29	285.17	73.66
49+50.00	0.00	282.65	80.79	0.00	616.90	148.41	-543.24
50+00.00	0.00	0.00	0.00	0.00	327.14	74.81	-870.38

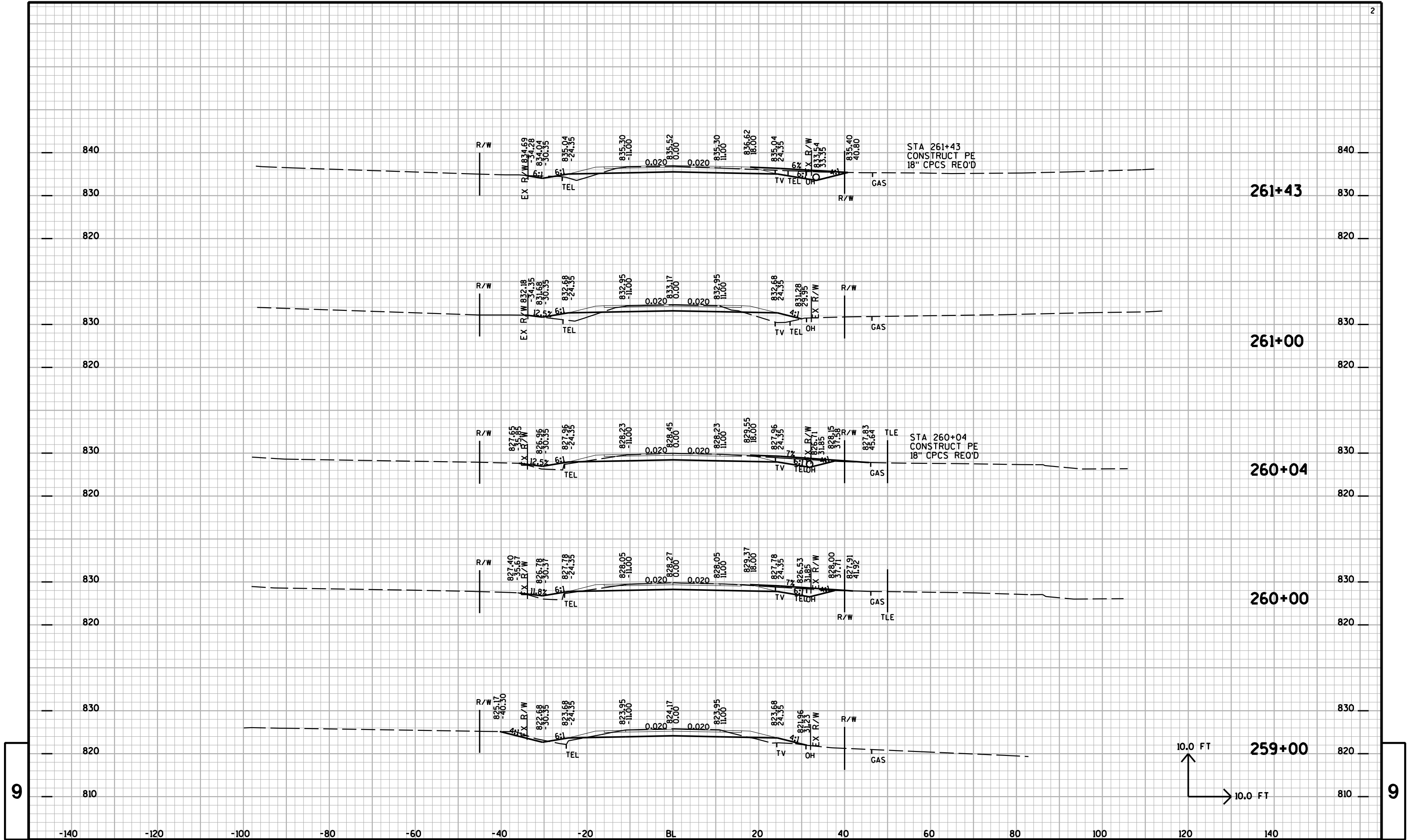
EARTHWORK DATA - LANG DRIVE

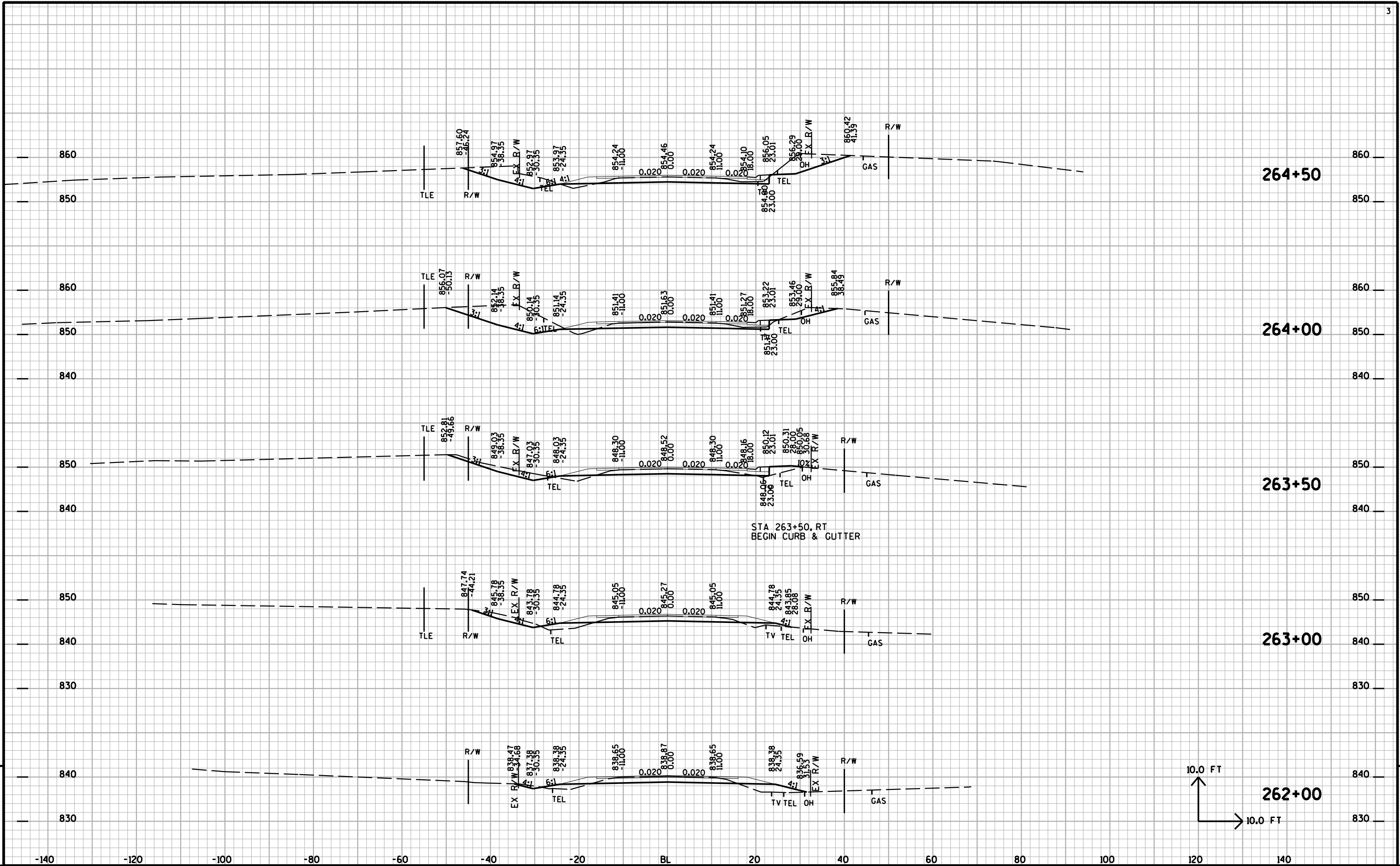
STATION					MASS HAUL
	COMMON	FILL	COMMON	FILL	
	SF	SF	CY	CY	
10+50.00	51.37	19.69	0.00	0.00	0.00
11+00.00	44.79	1.80	89.04	24.87	64.16
11+50.00	44.18	1.24	82.38	3.52	143.03
12+00.00	0.00	0.00	40.91	1.44	182.50

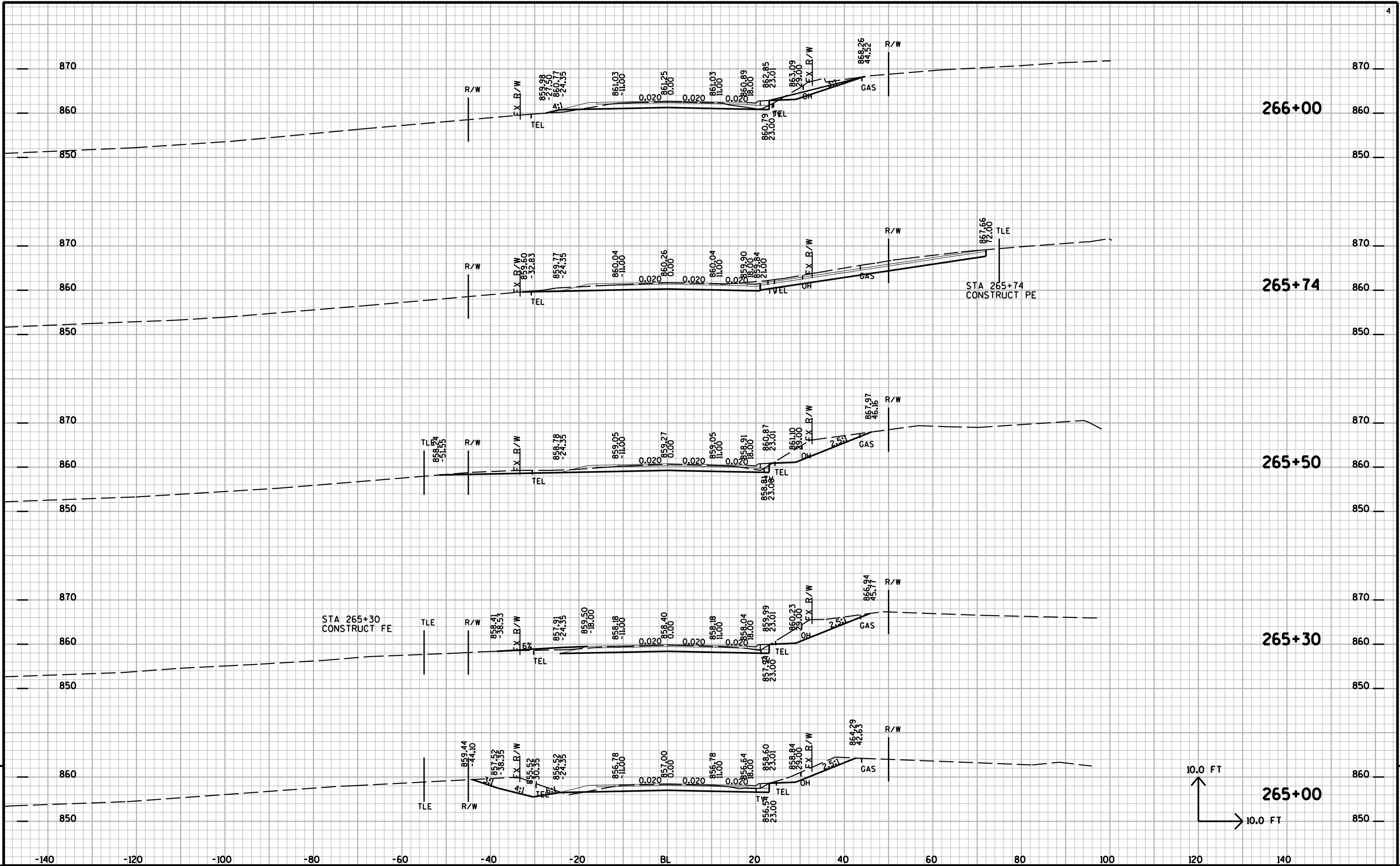
EARTHWORK DATA - CTH V/CTH J

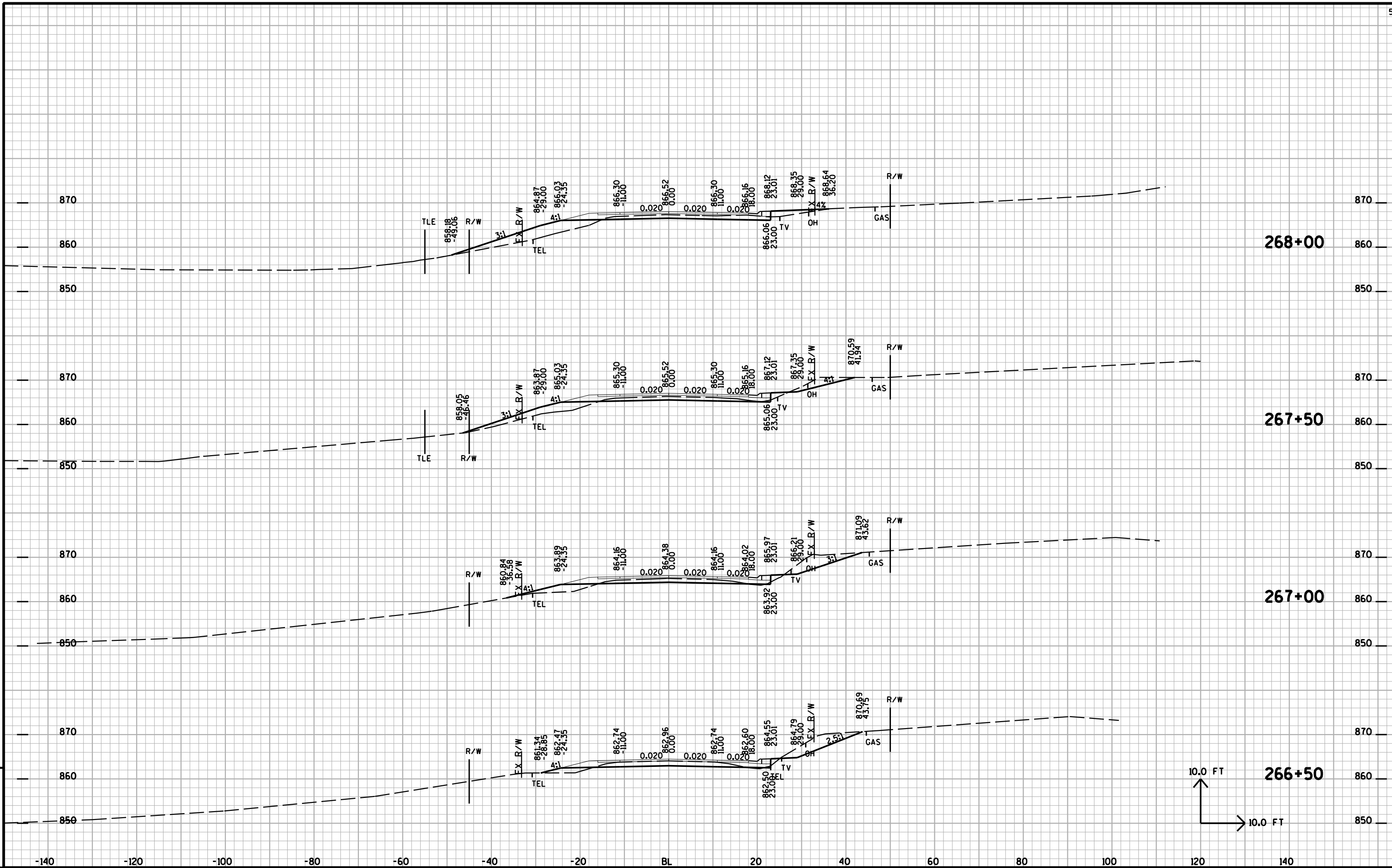
STATION					MASS HAUL
	COMMON	FILL	COMMON	FILL	
	SF	SF	CY	CY	
48+50.00	13.82	27.15	0.00	0.00	0.00
49+00.00	12.67	52.63	24.53	92.34	-67.81
49+50.00	20.43	0.00	30.65	60.91	-98.08
50+00.00	0.00	0.00	18.92	0.00	-79.16
50+50.00	17.38	6.89	16.09	7.97	-71.04
51+00.00	19.63	0.22	34.27	8.23	-45.00
51+50.00	22.18	0.00	38.71	0.25	-6.54
52+00.00	17.26	12.15	36.52	14.06	15.91
52+50.00	14.86	52.06	29.74	74.32	-28.66
53+00.00	13.79	78.51	26.53	151.12	-153.26
53+27.00	13.24	122.03	13.52	125.34	-265.08
53+50.00	15.59	83.83	12.28	109.60	-362.40
54+00.00	15.68	48.28	28.95	152.91	-486.36
54+50.00	14.60	10.87	28.04	68.46	-526.78
55+00.00	16.68	0.00	28.96	12.58	-510.40
55+20.00	25.60	2.66	15.66	1.23	-495.97
55+50.00	16.34	0.00	23.30	1.85	-474.52





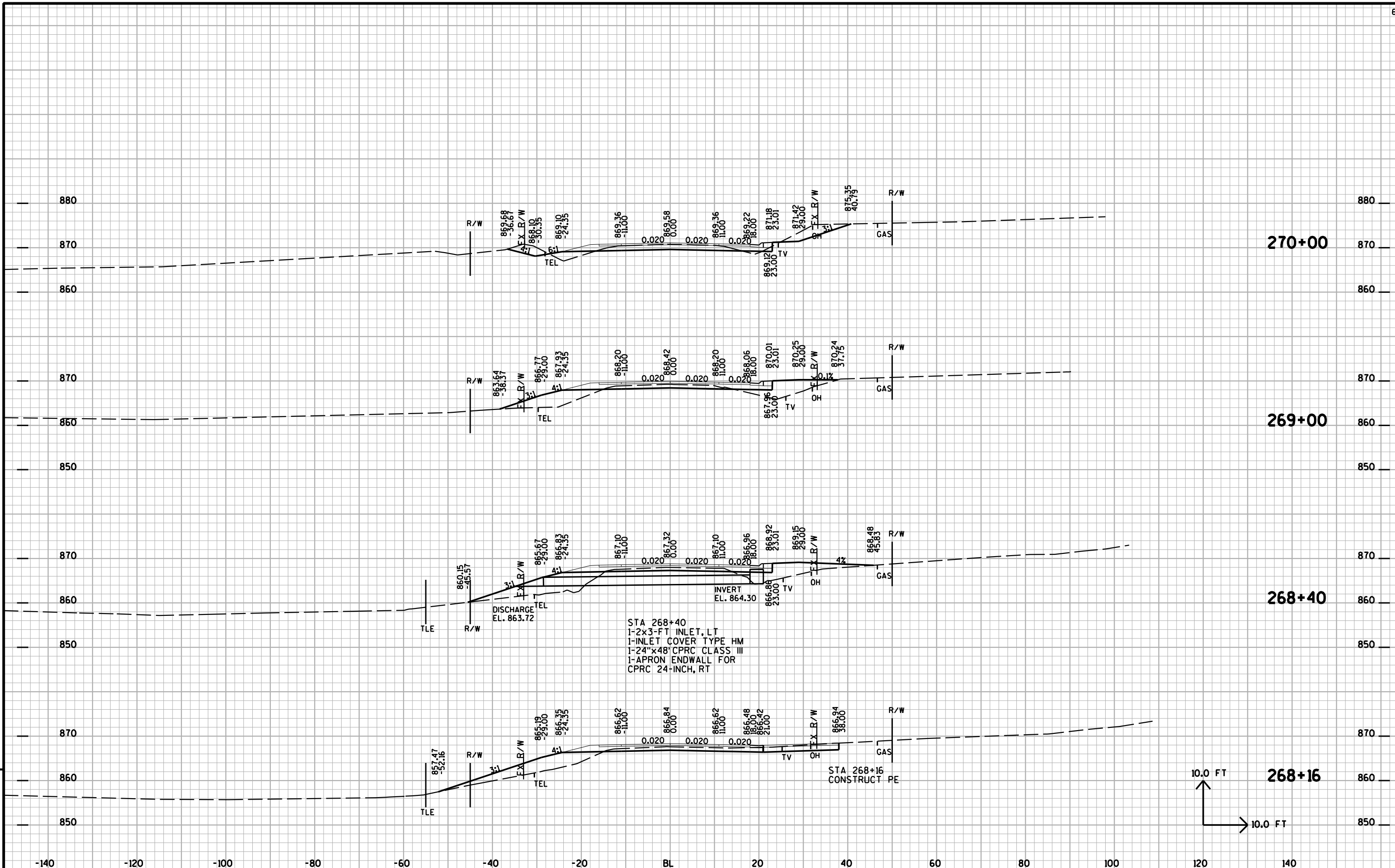


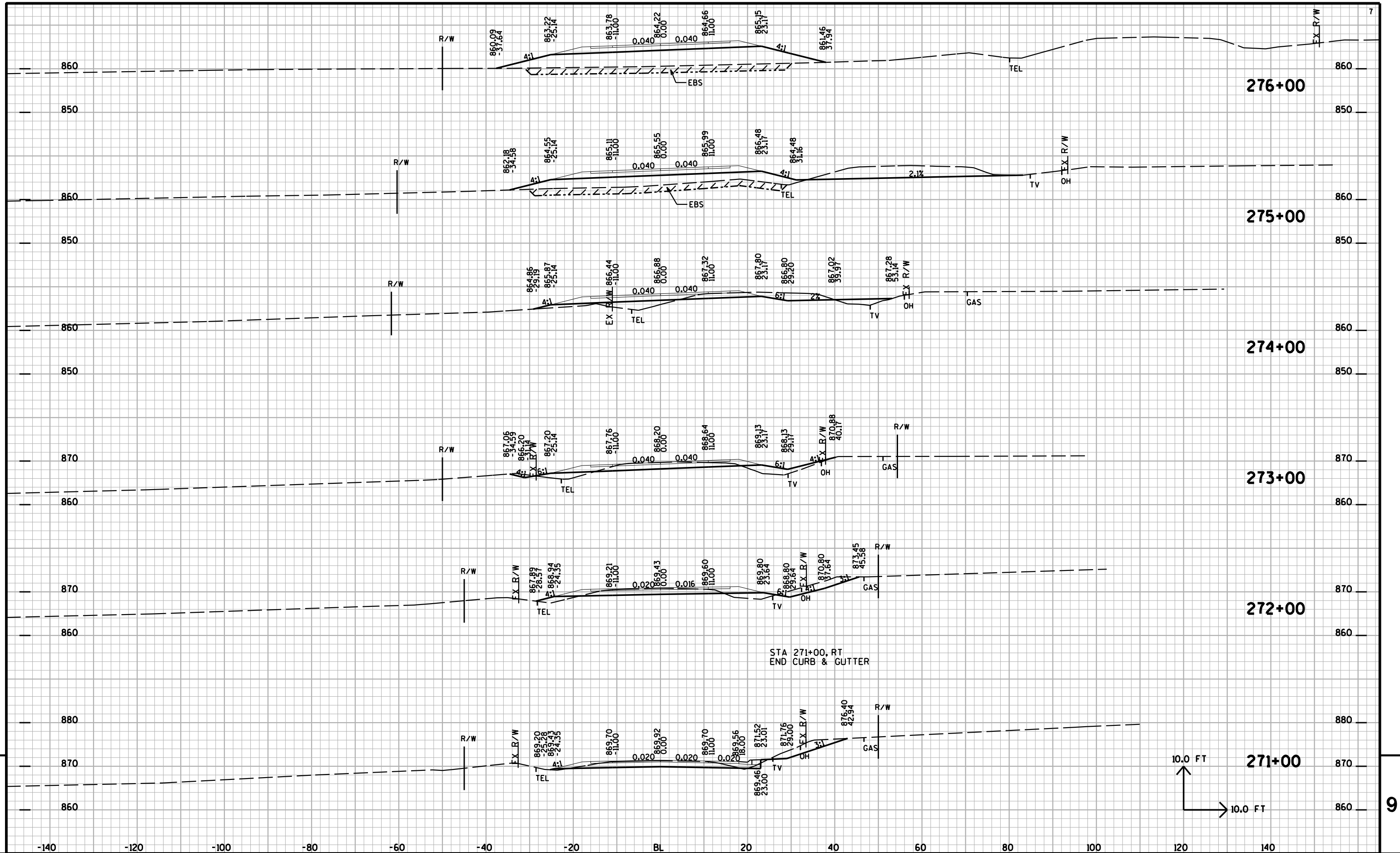


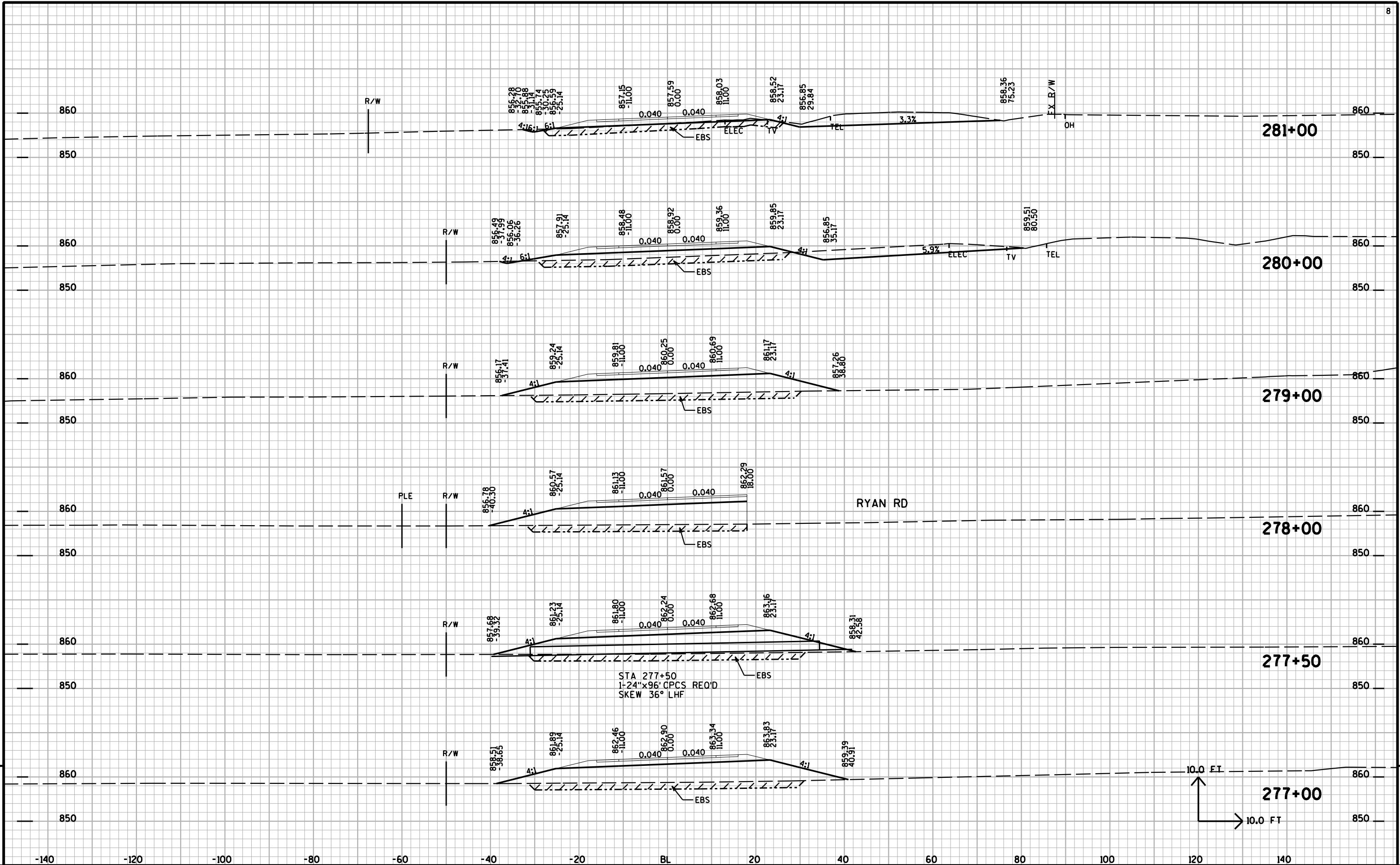


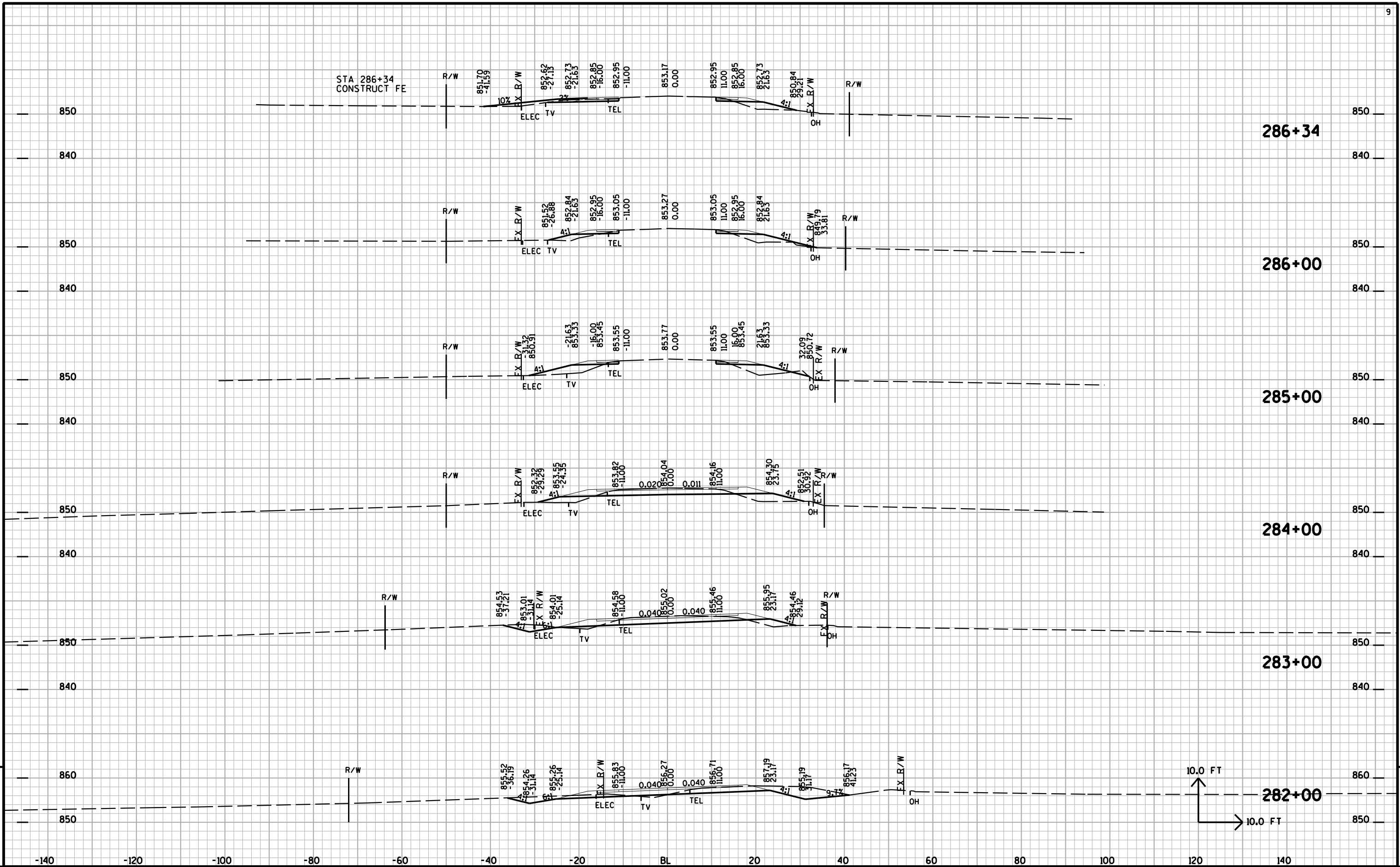
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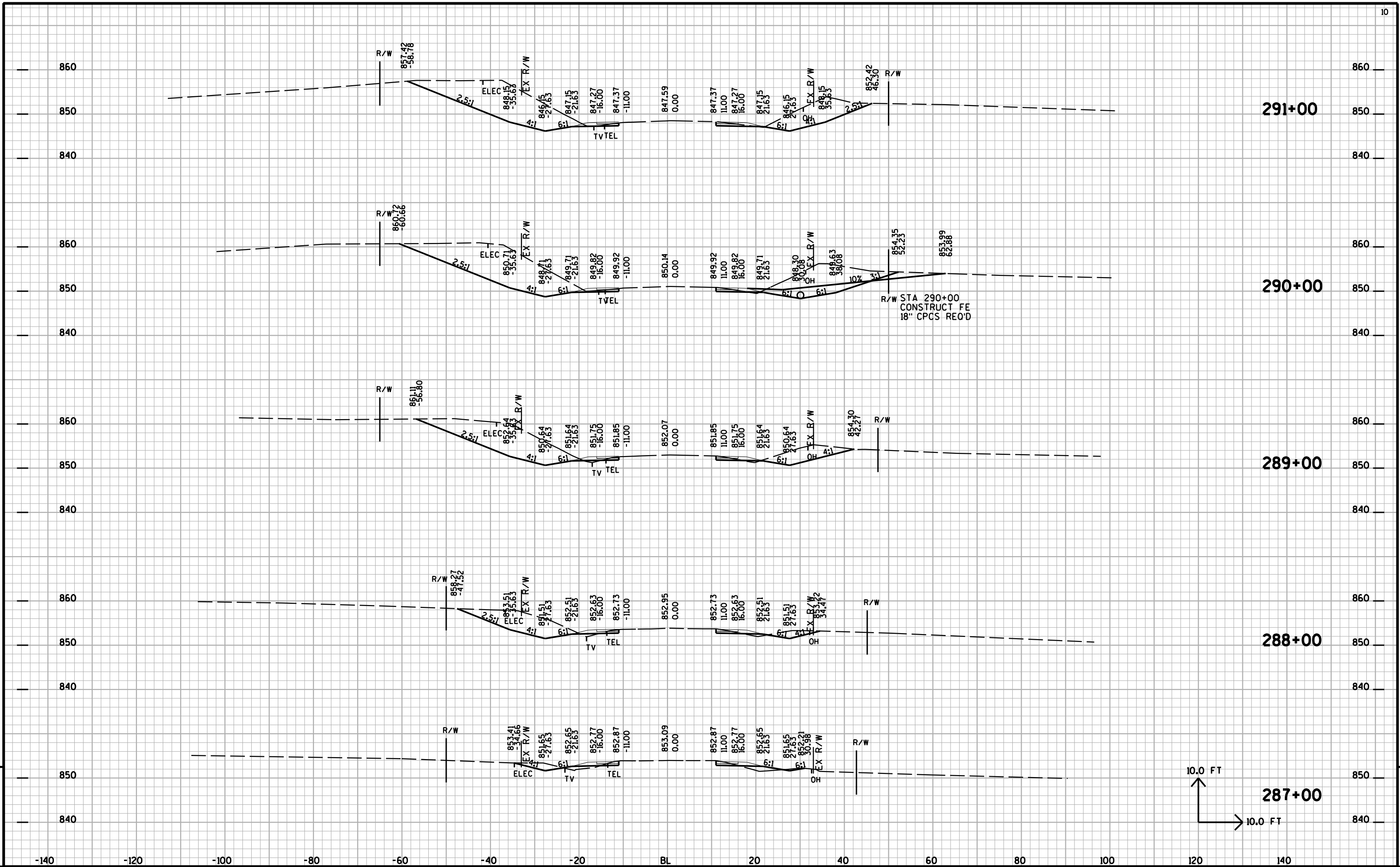
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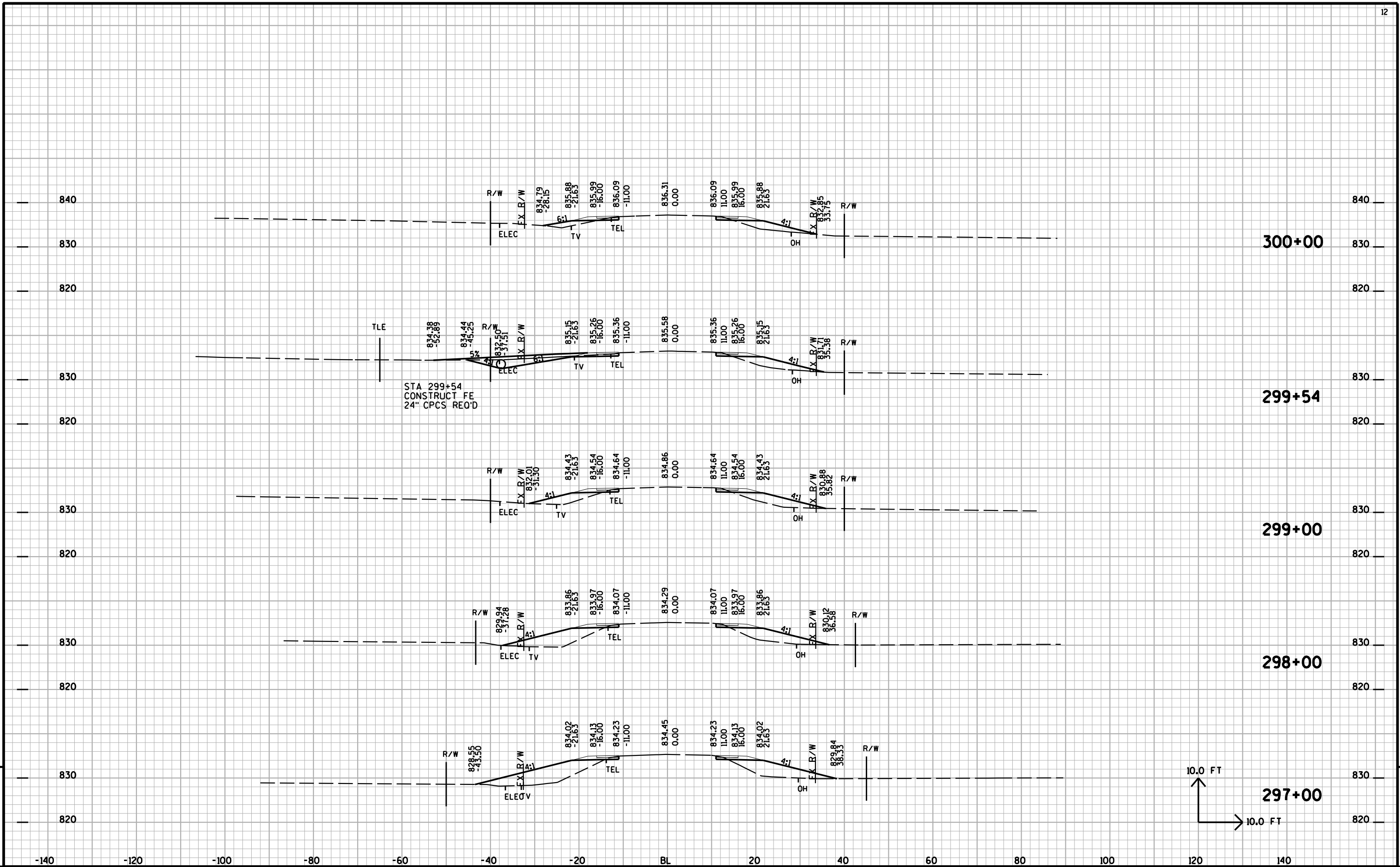


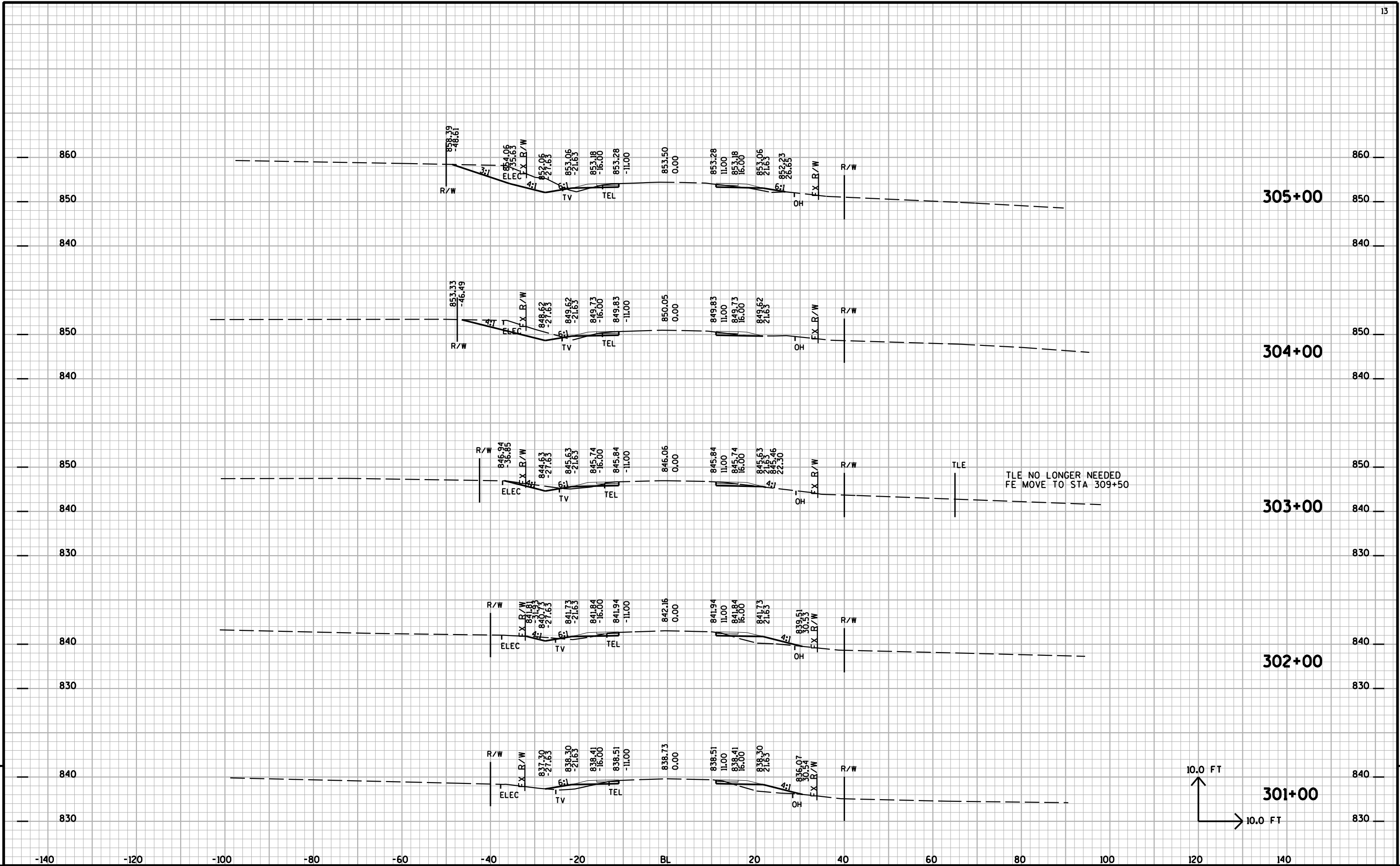


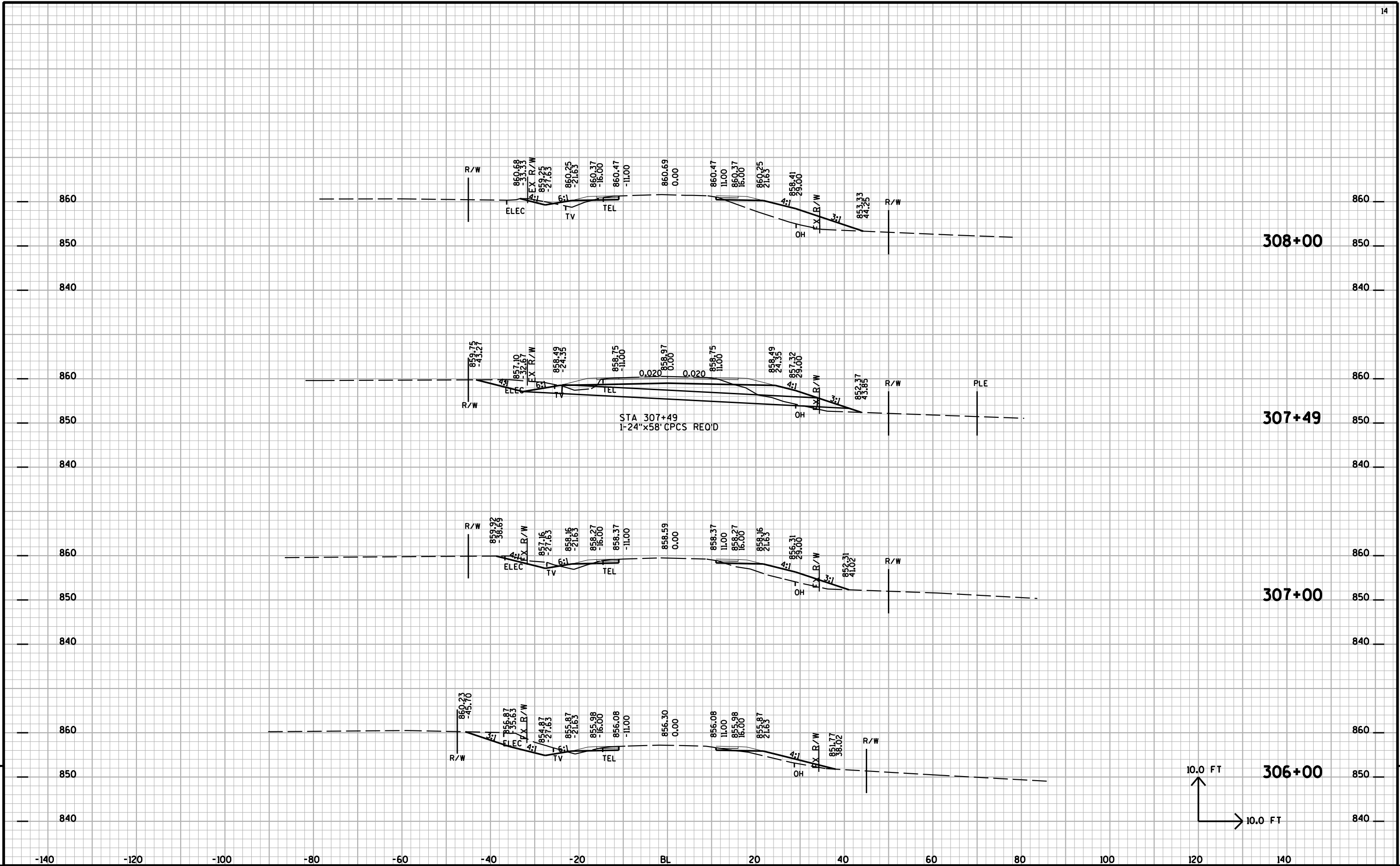


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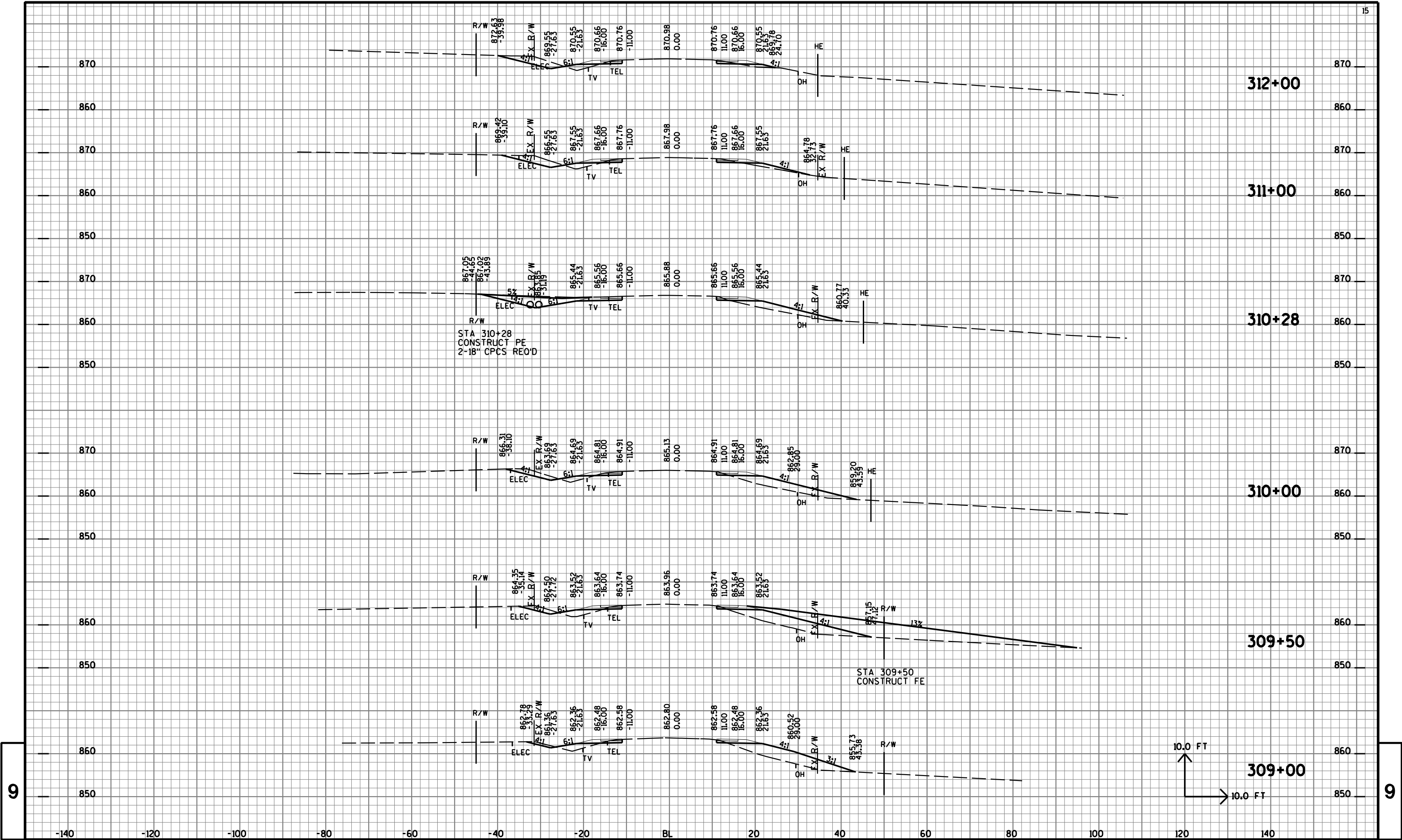






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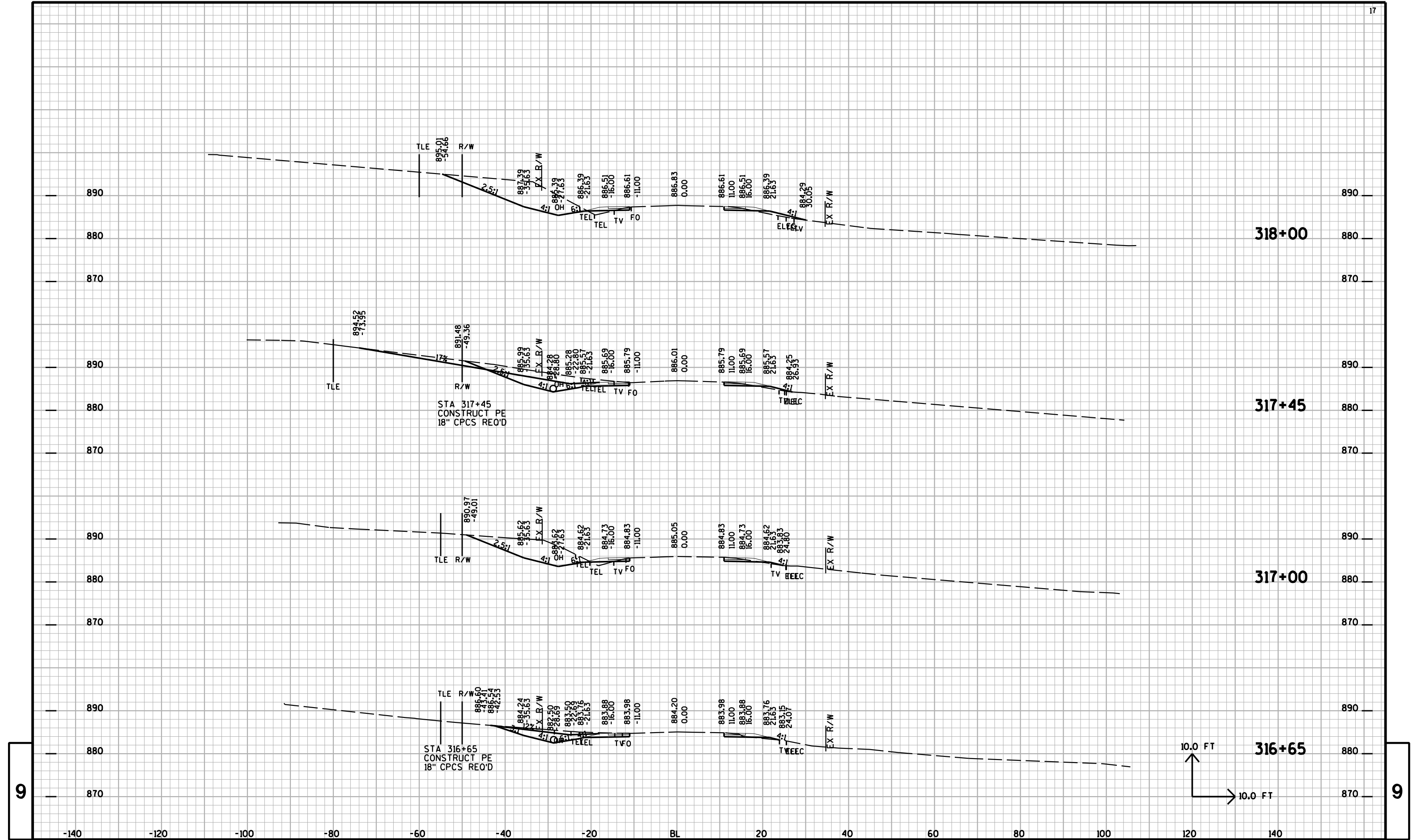
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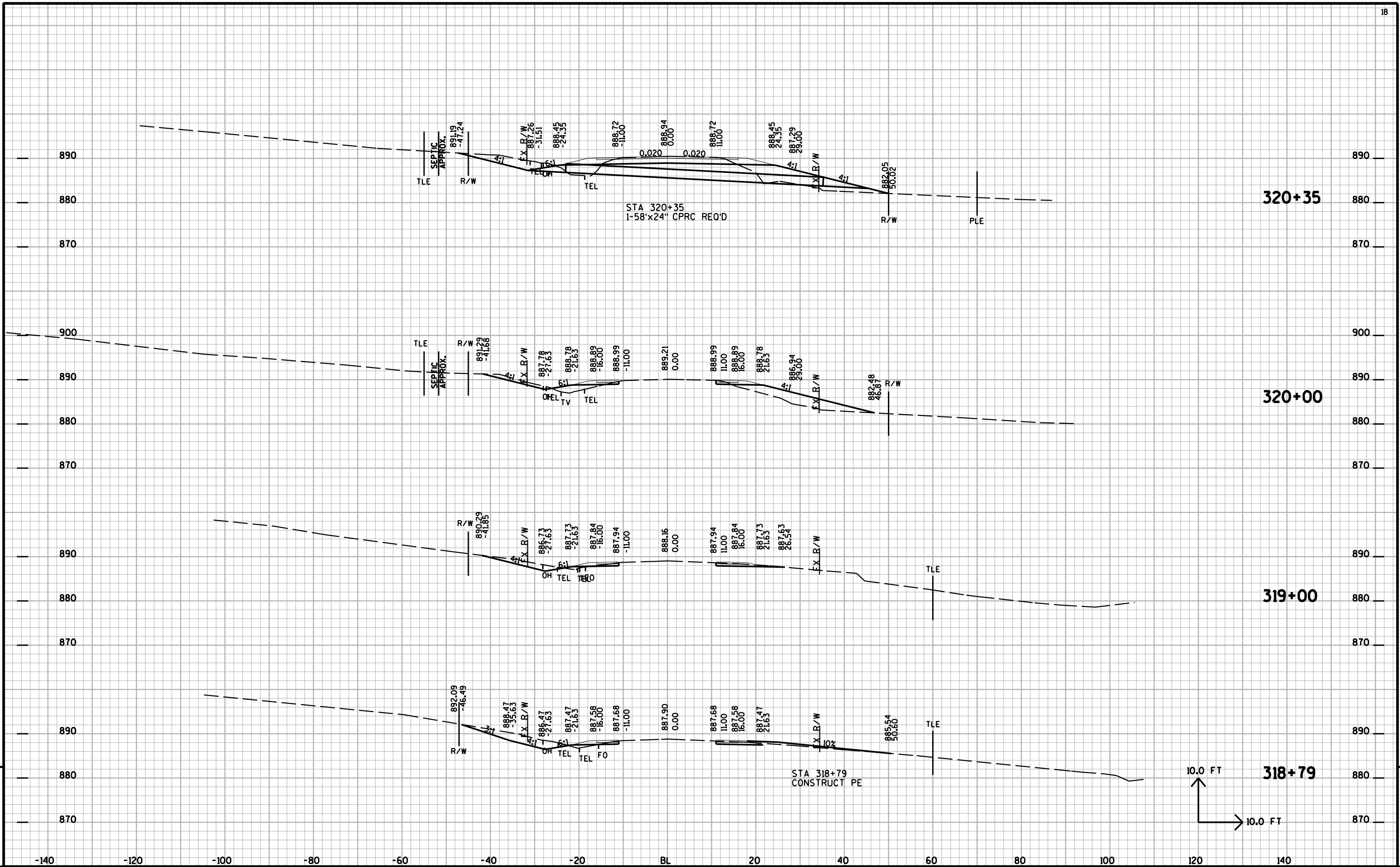


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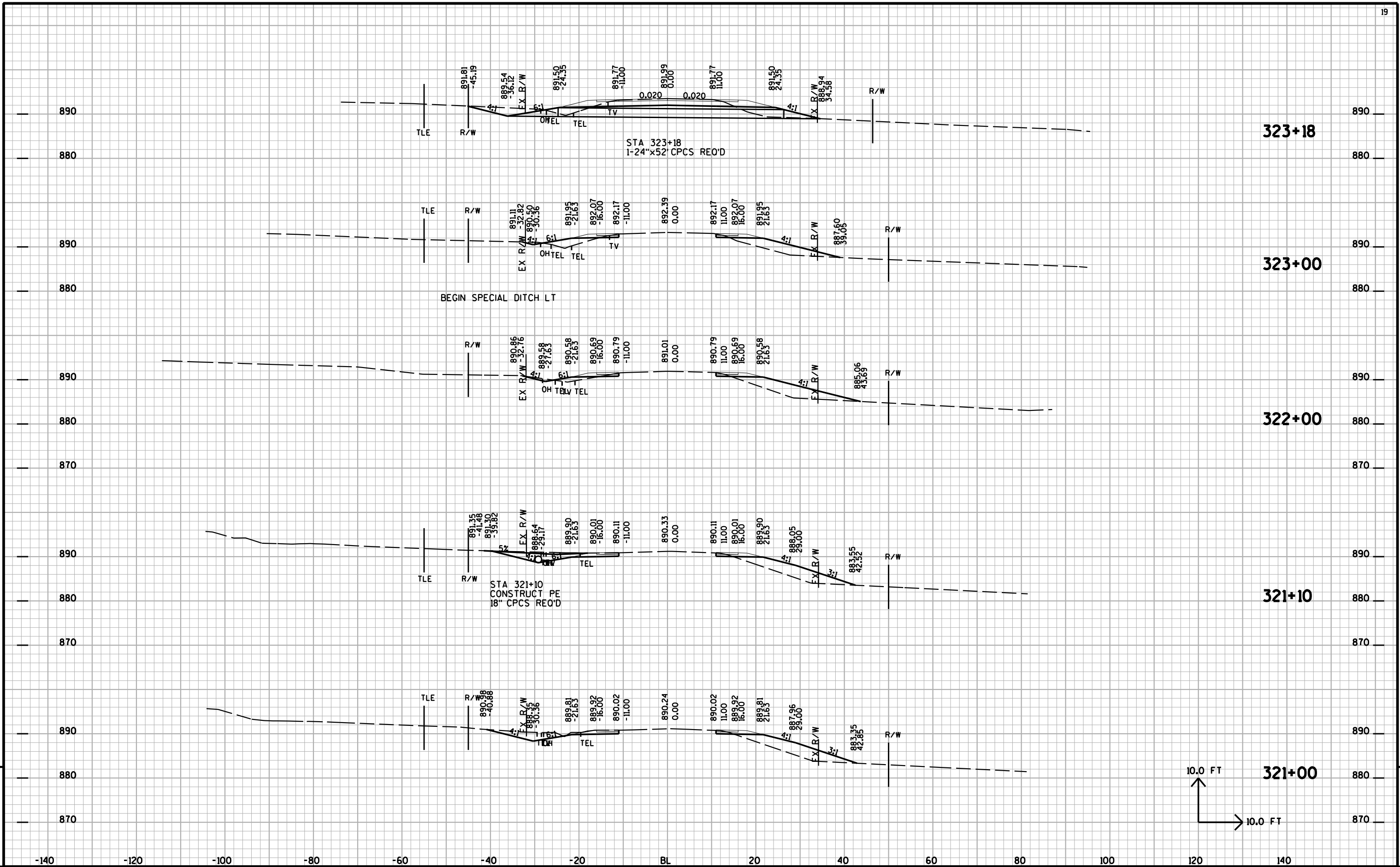


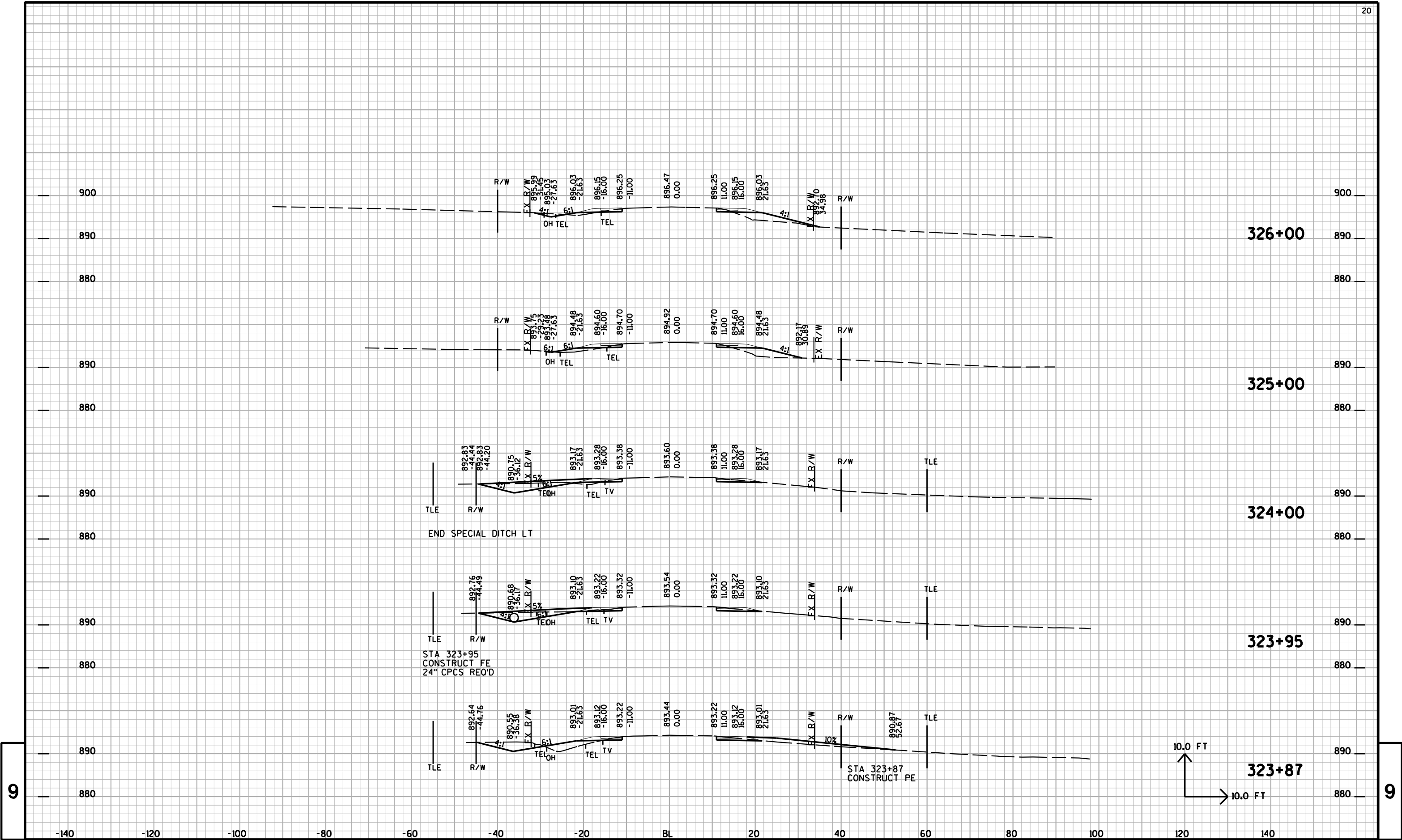


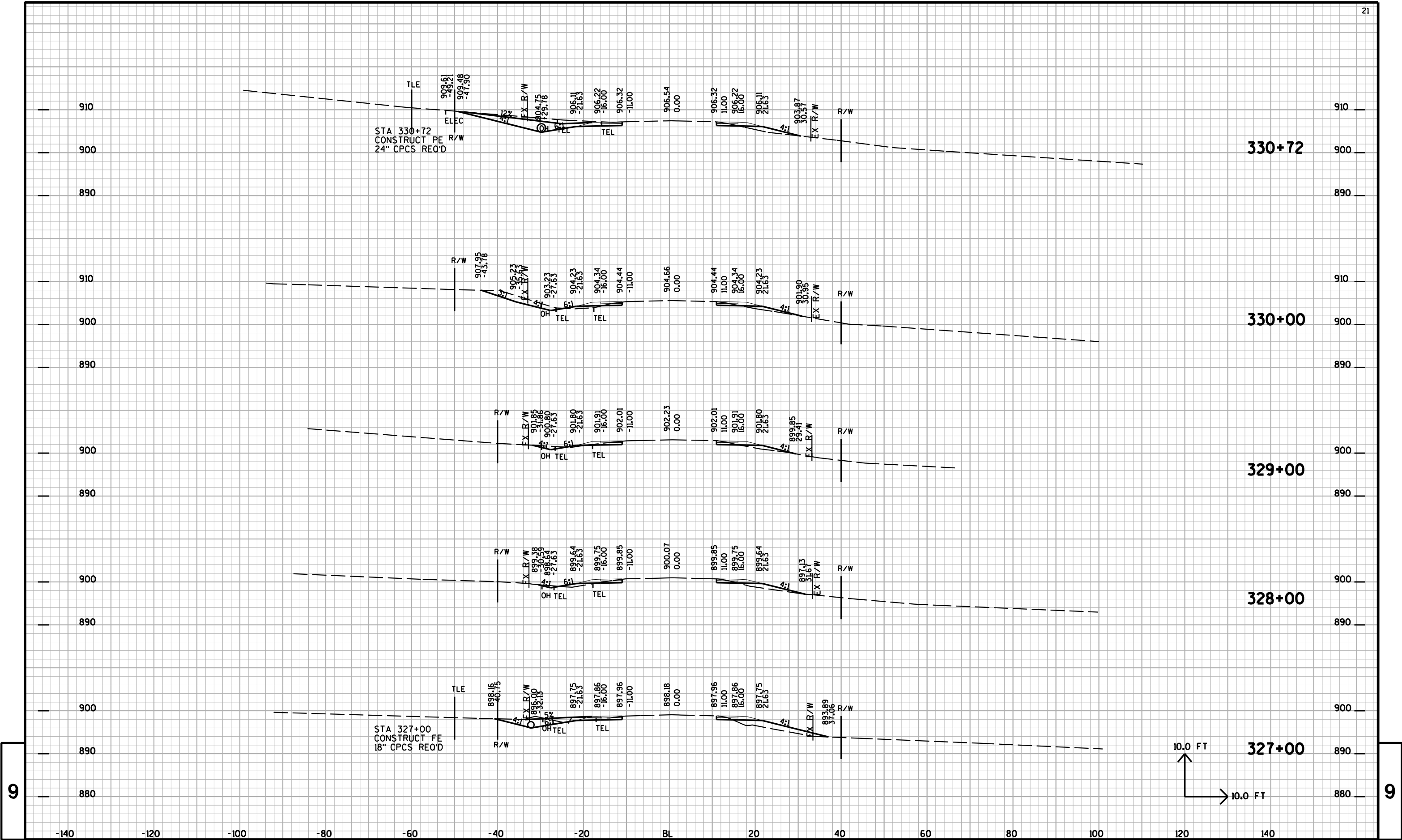


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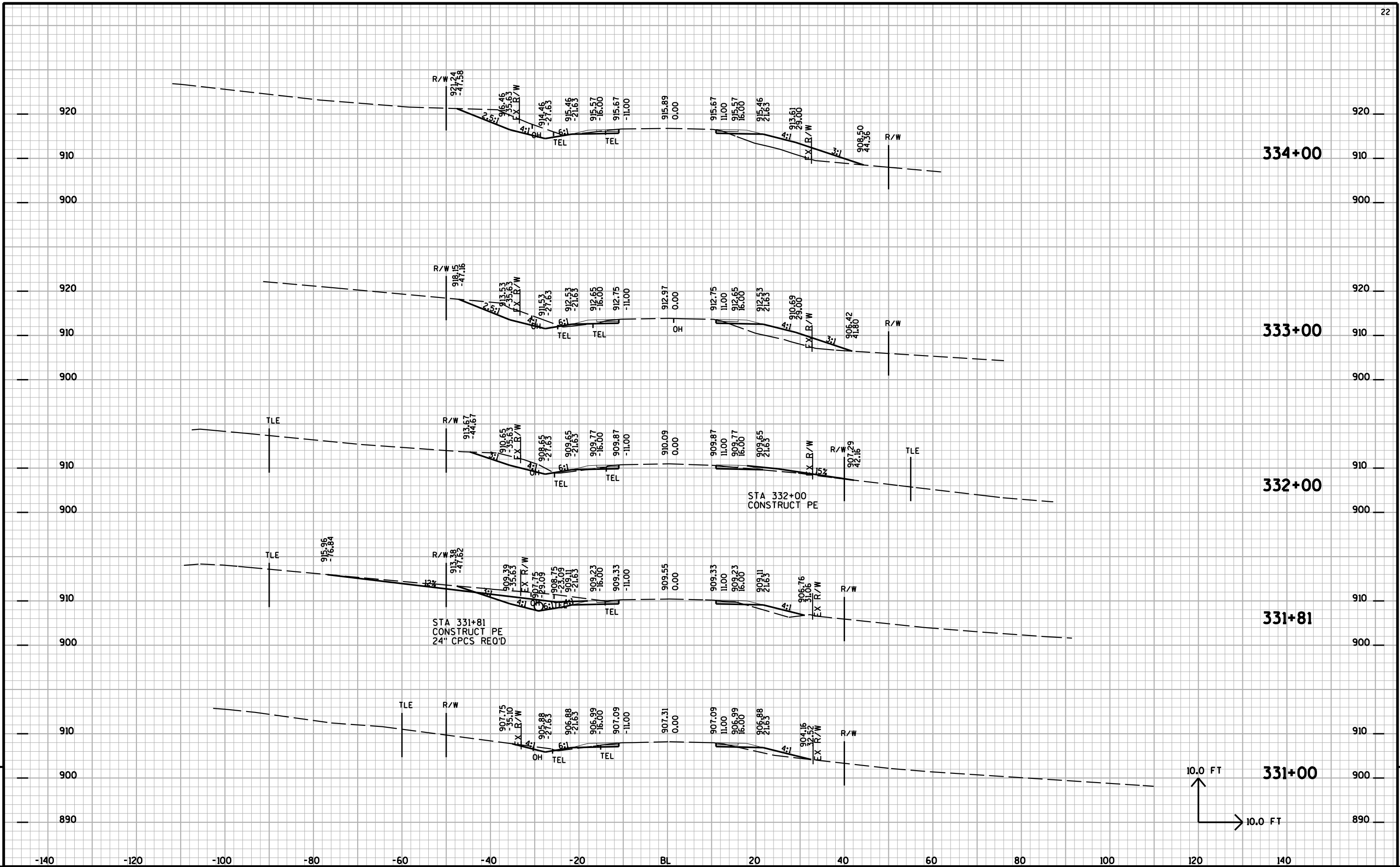


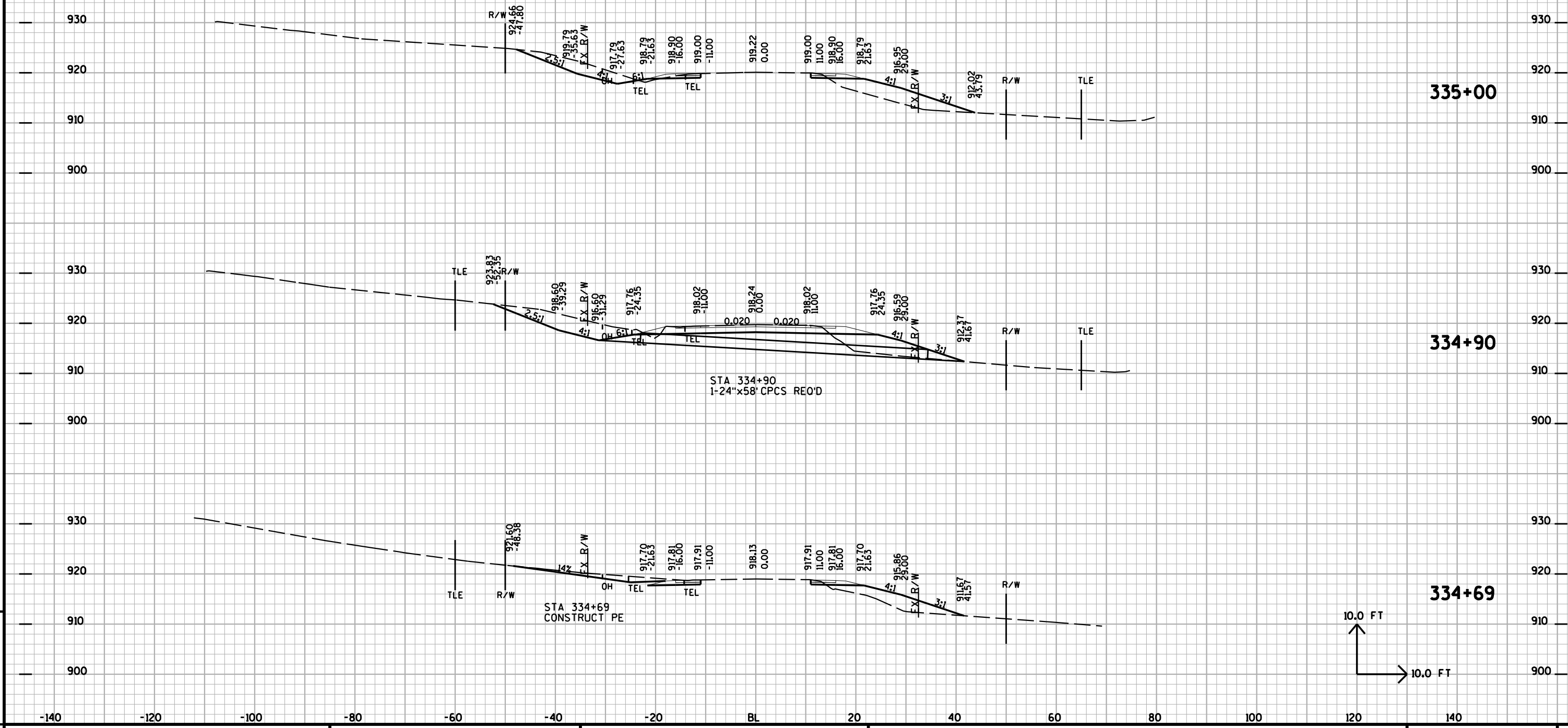


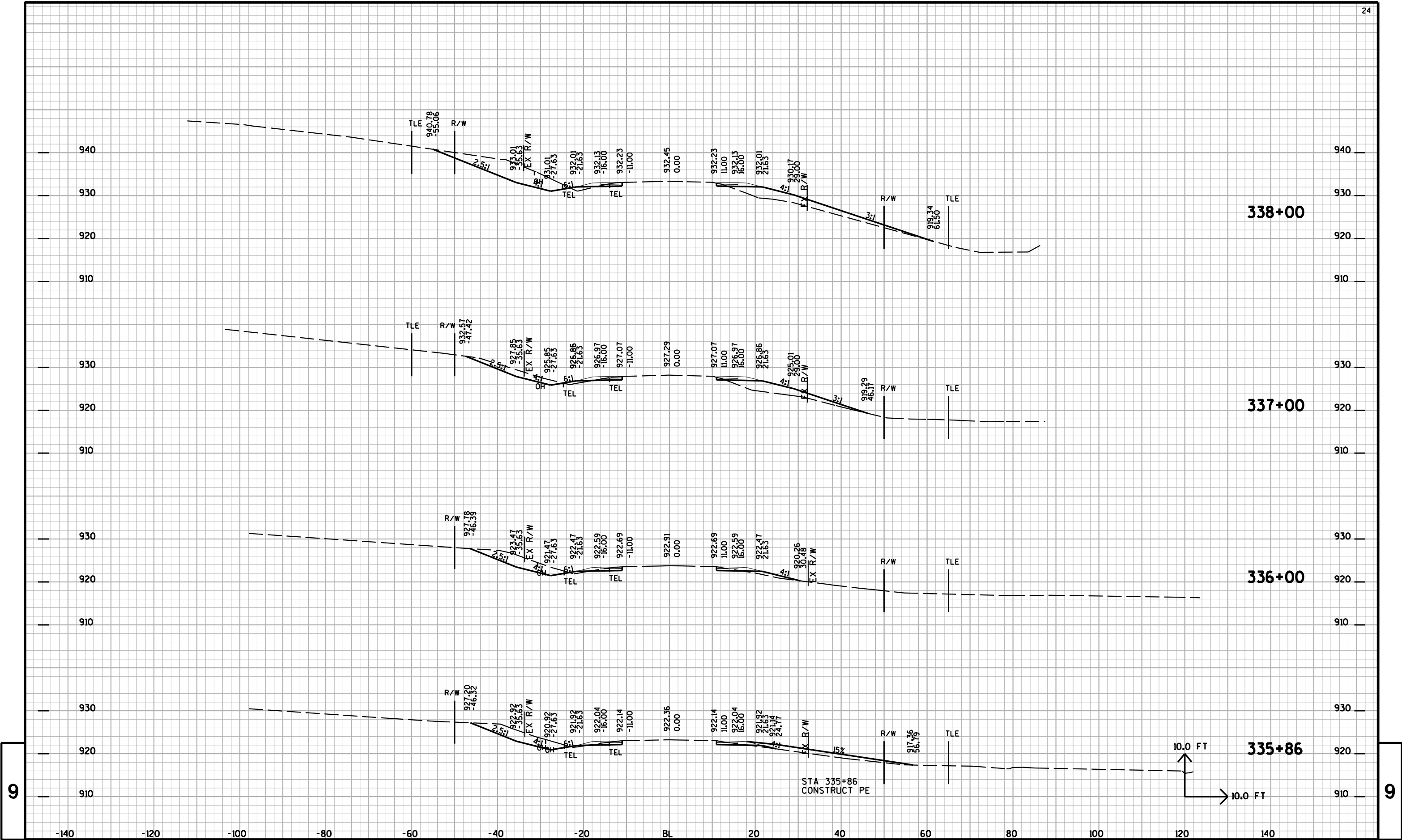


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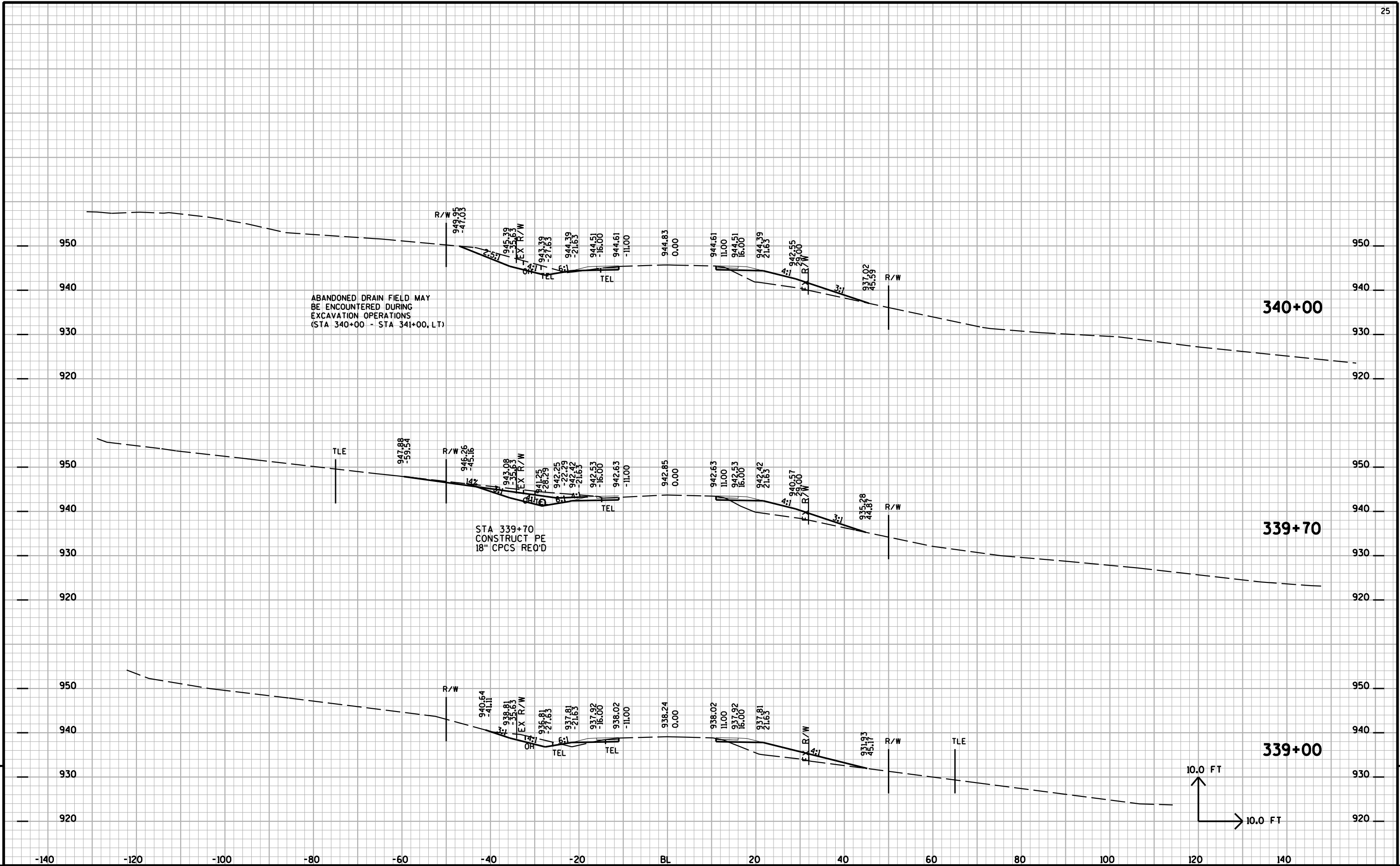






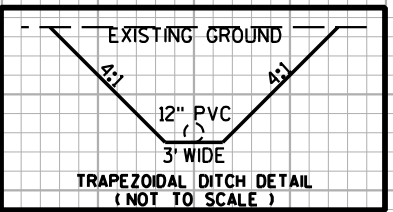
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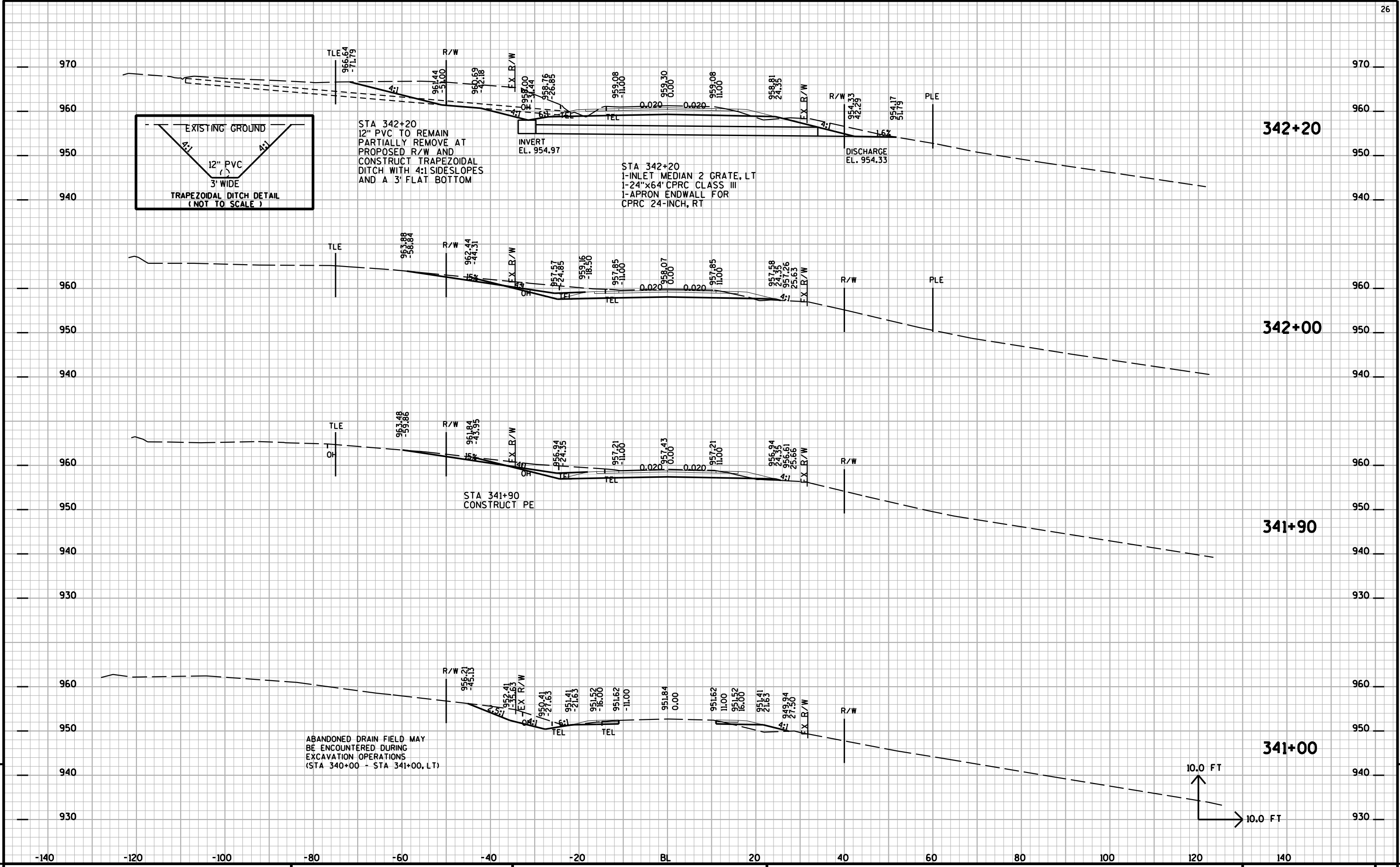
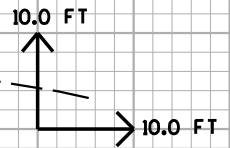


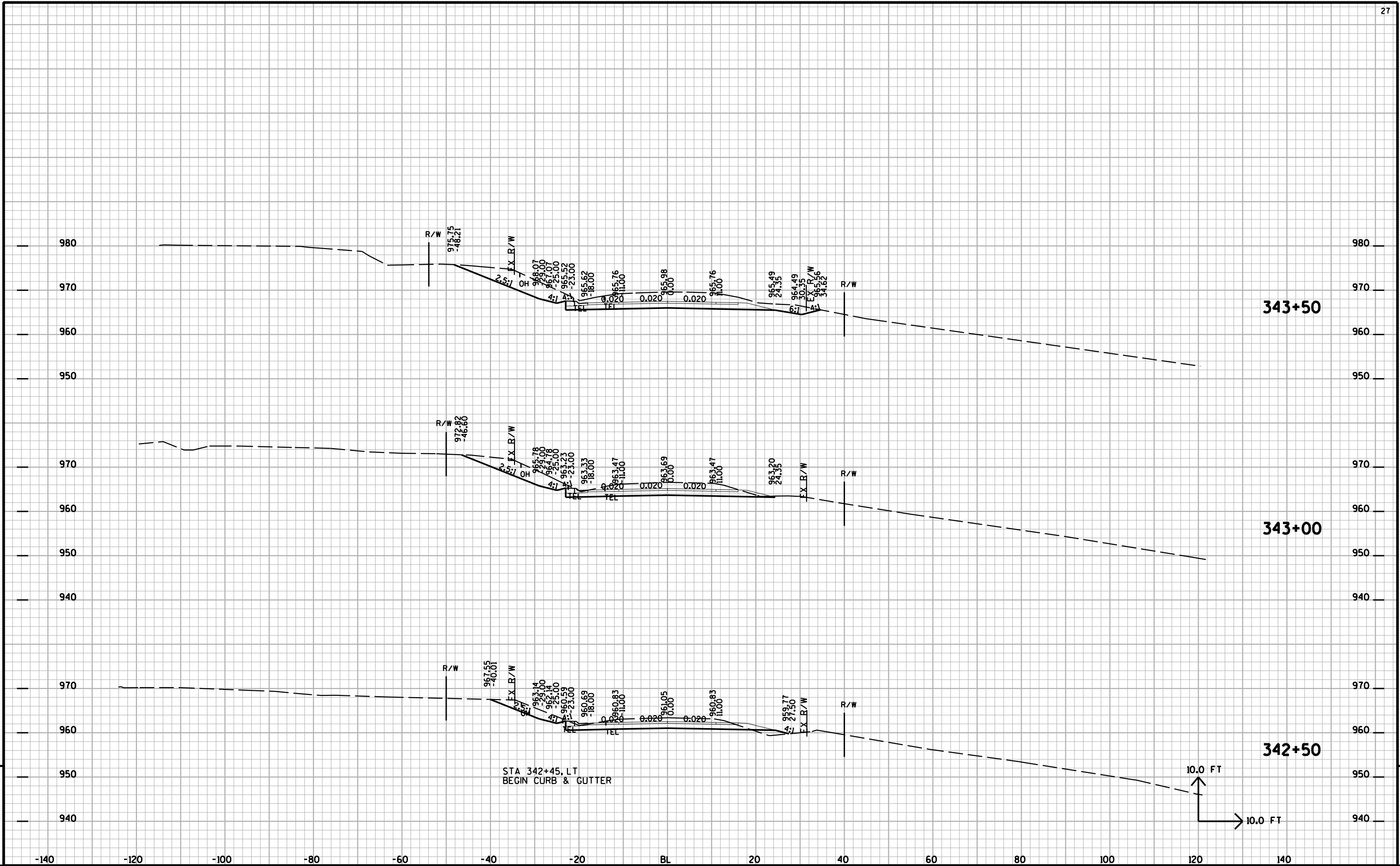
STA 342+20
12" PVC TO REMAIN
PARTIALLY REMOVE AT
PROPOSED R/W AND
CONSTRUCT TRAPEZOIDAL
DITCH WITH 4:1 SIDESLOPES
AND A 3' FLAT BOTTOM

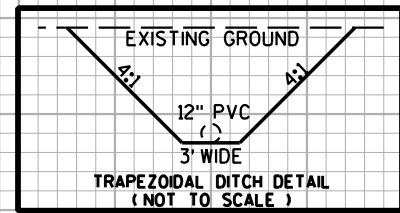
STA 342+20
1-INLET MEDIAN 2 GRATE, LT
1-24"x64" CPRC CLASS III
1-APRON ENDWALL FOR
CPRC 24-INCH, RT

STA 341+90
CONSTRUCT PE

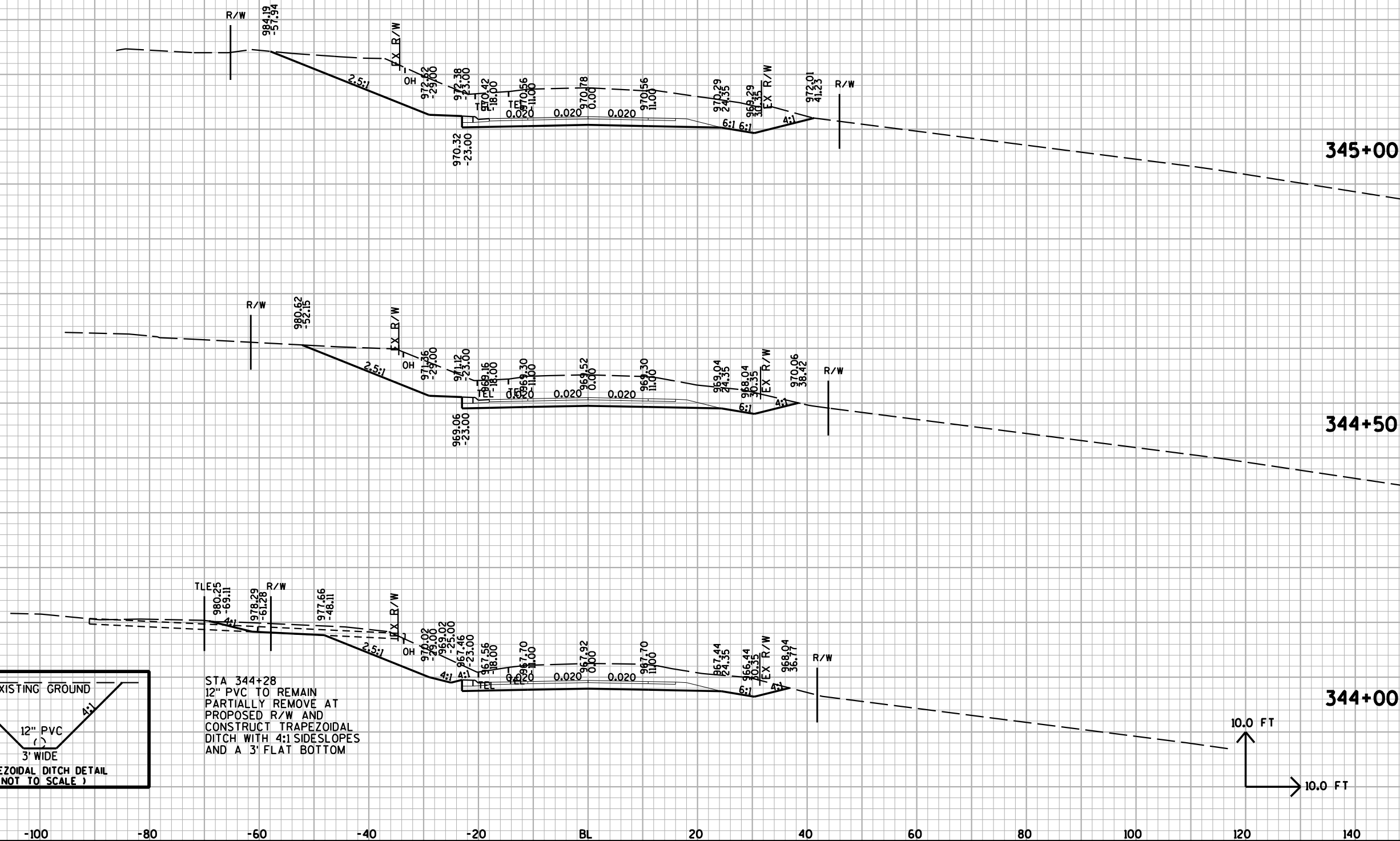
ABANDONED DRAIN FIELD MAY
BE ENCOUNTERED DURING
EXCAVATION OPERATIONS
(STA 340+00 - STA 341+00, LT)

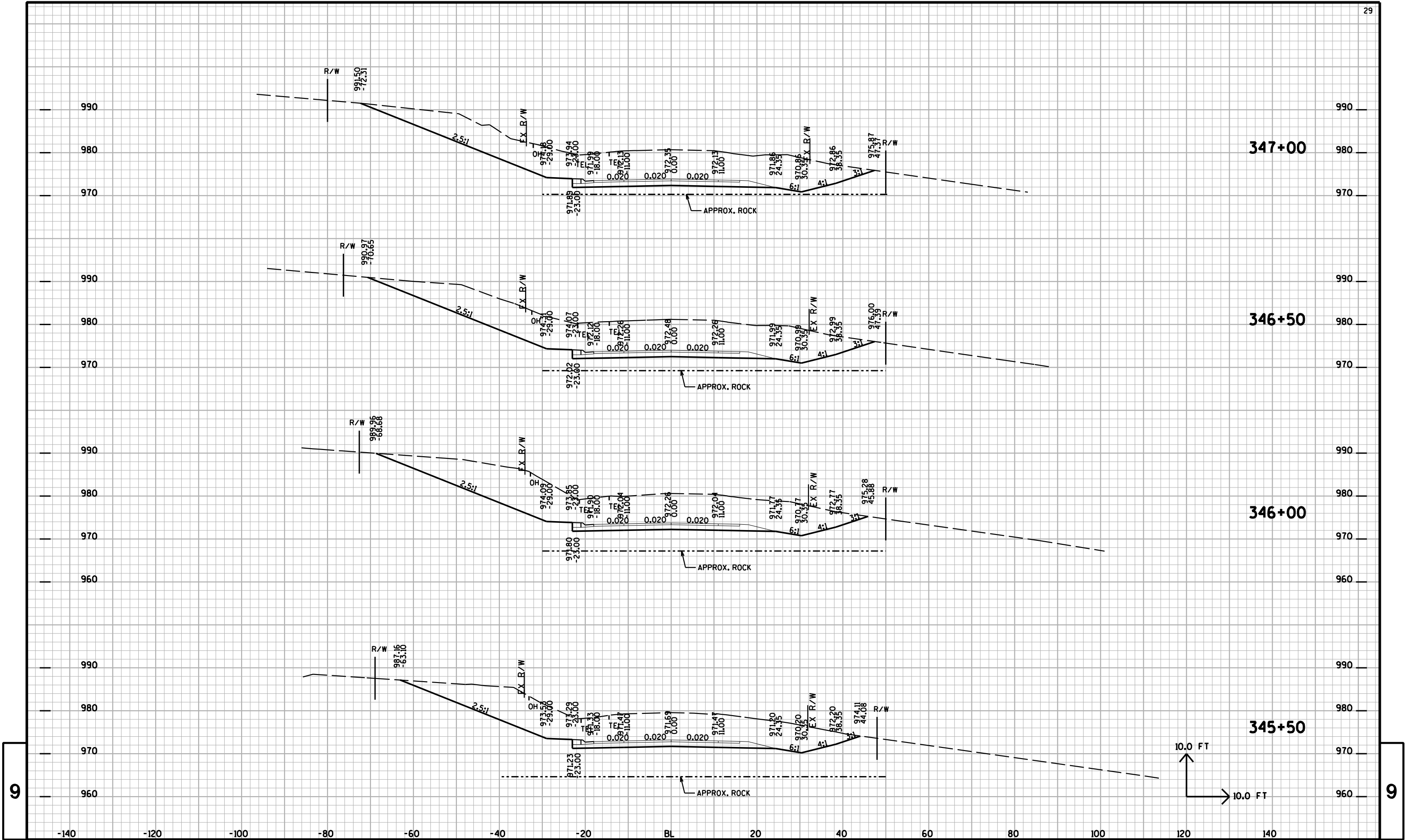


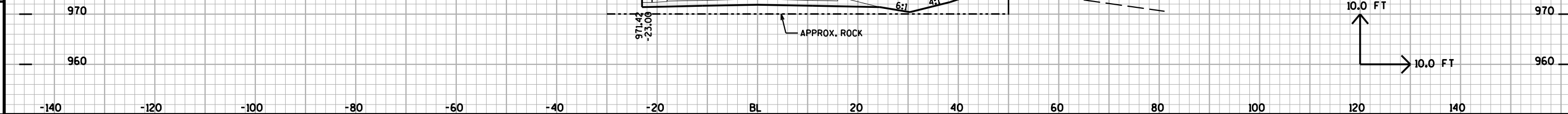


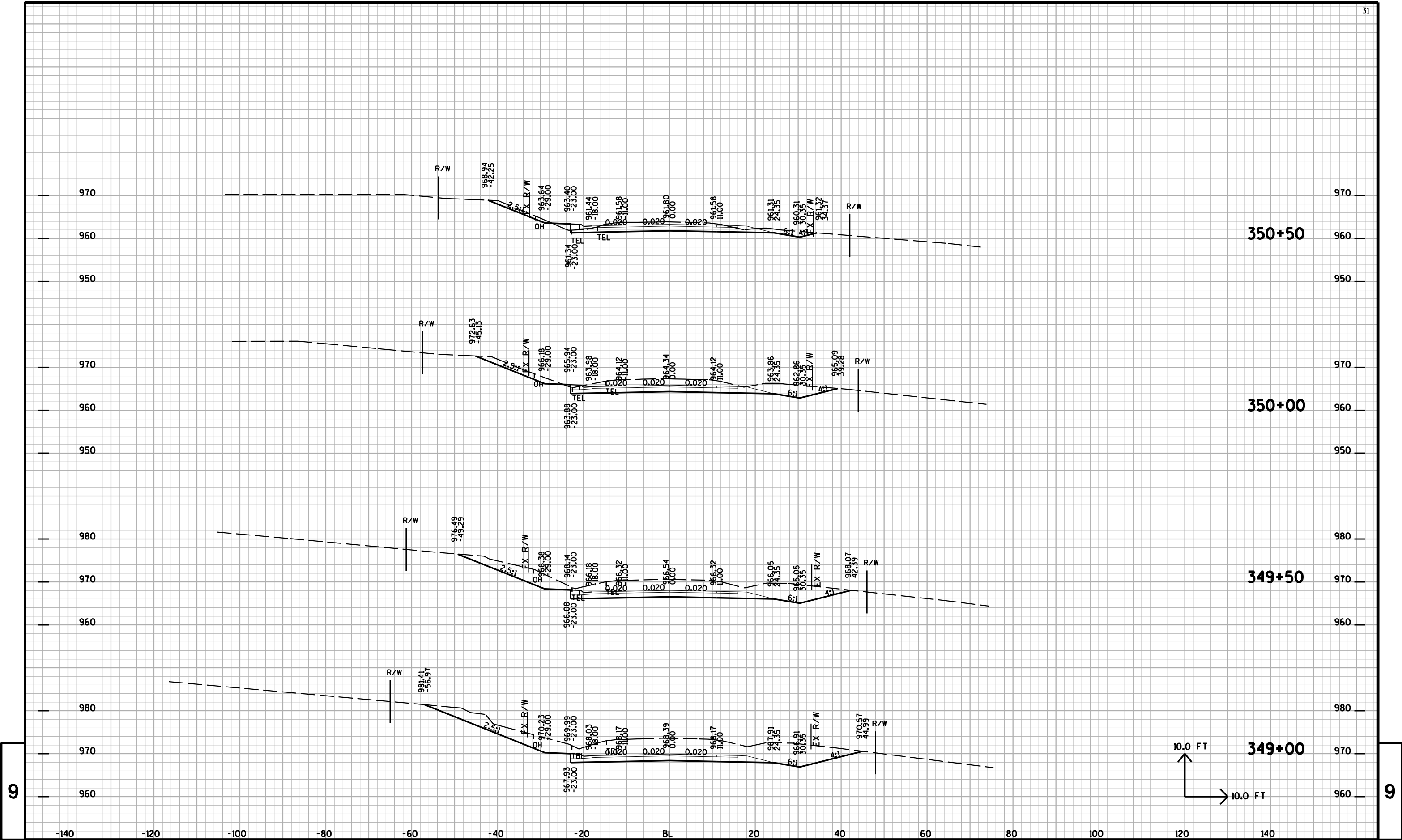


STA 344+28
12" PVC TO REMAIN
PARTIALLY REMOVE AT
PROPOSED R/W AND
CONSTRUCT TRAPEZOIDAL
DITCH WITH 4:1 SIDESLOPES
AND A 3' FLAT BOTTOM







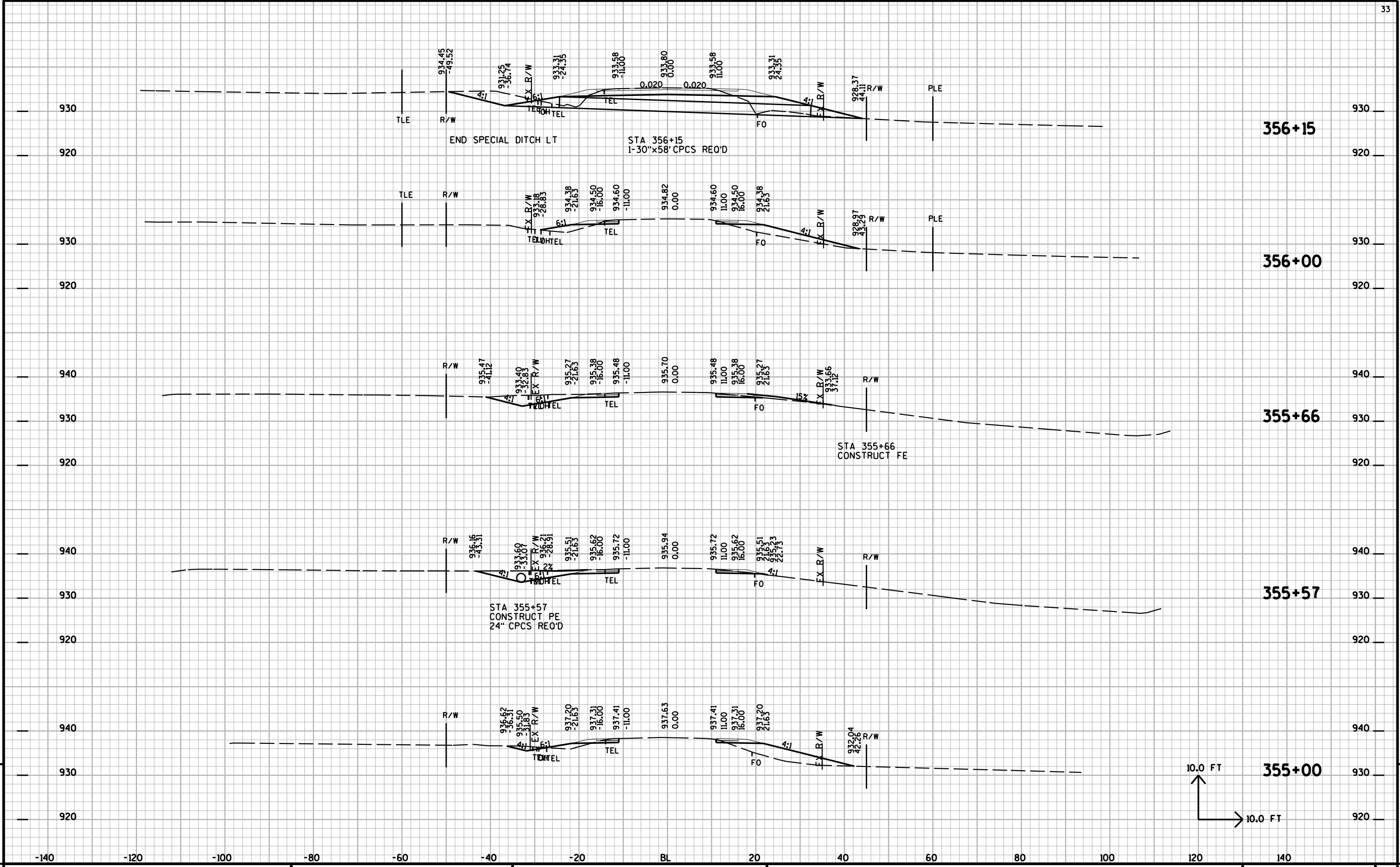


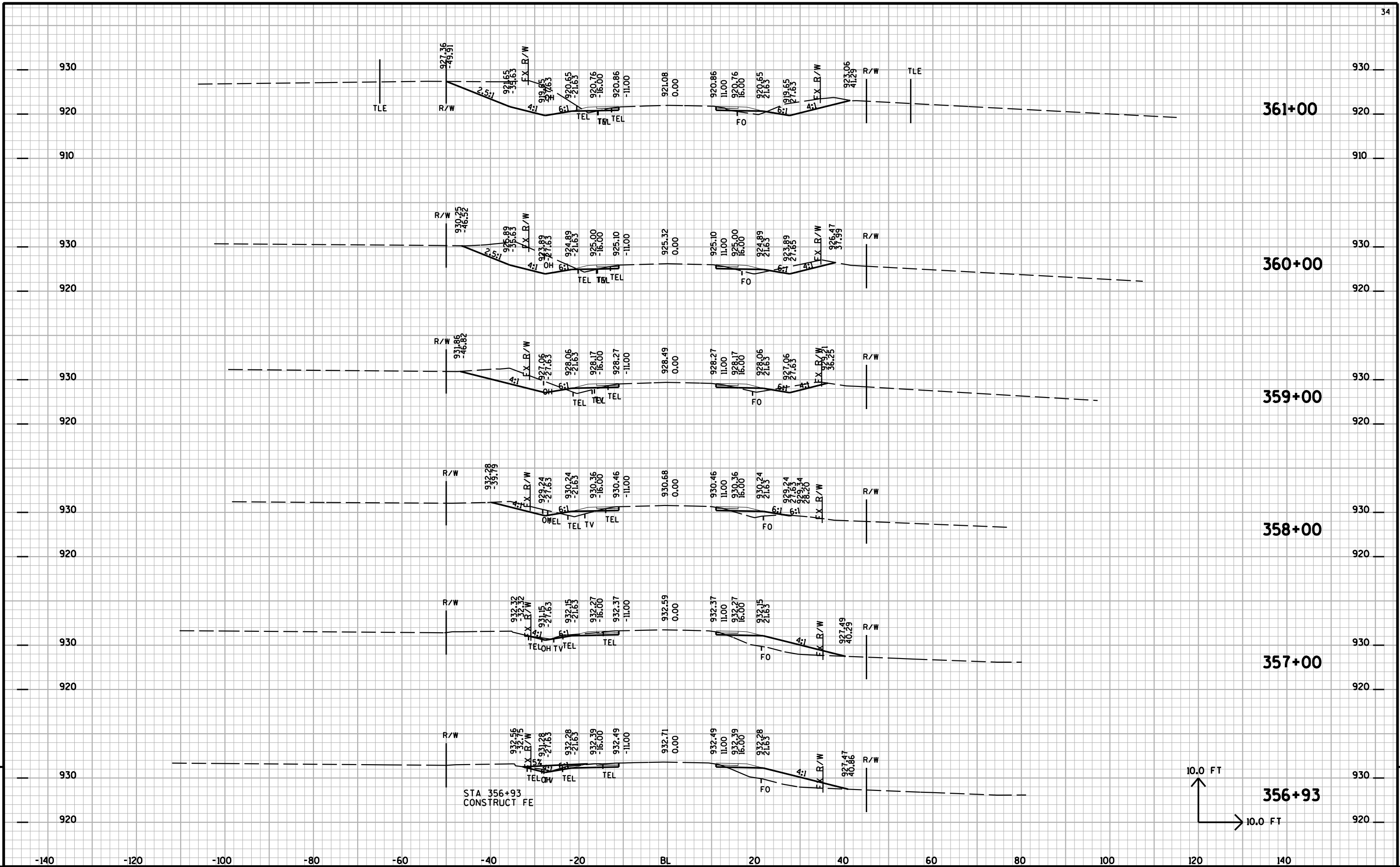
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9



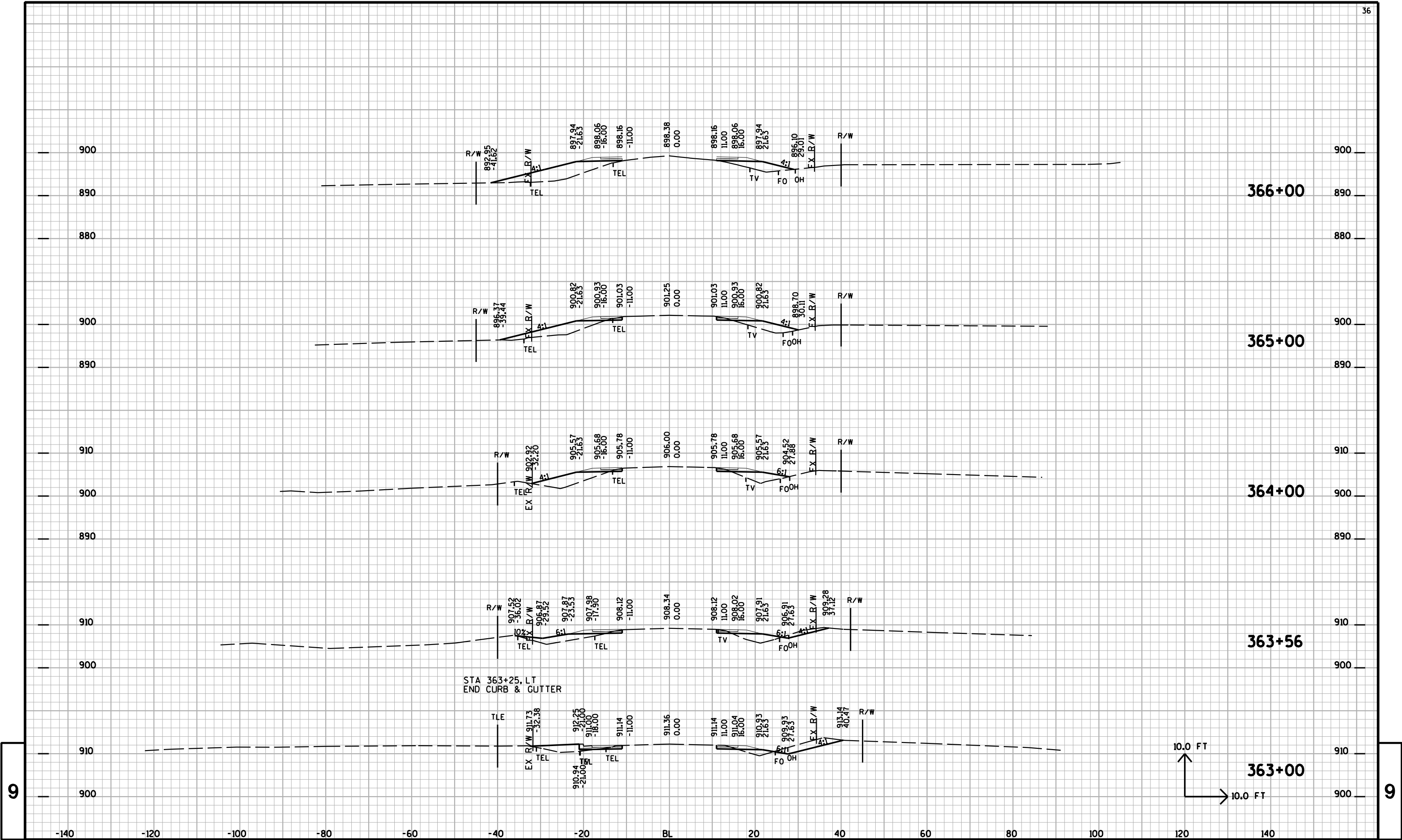
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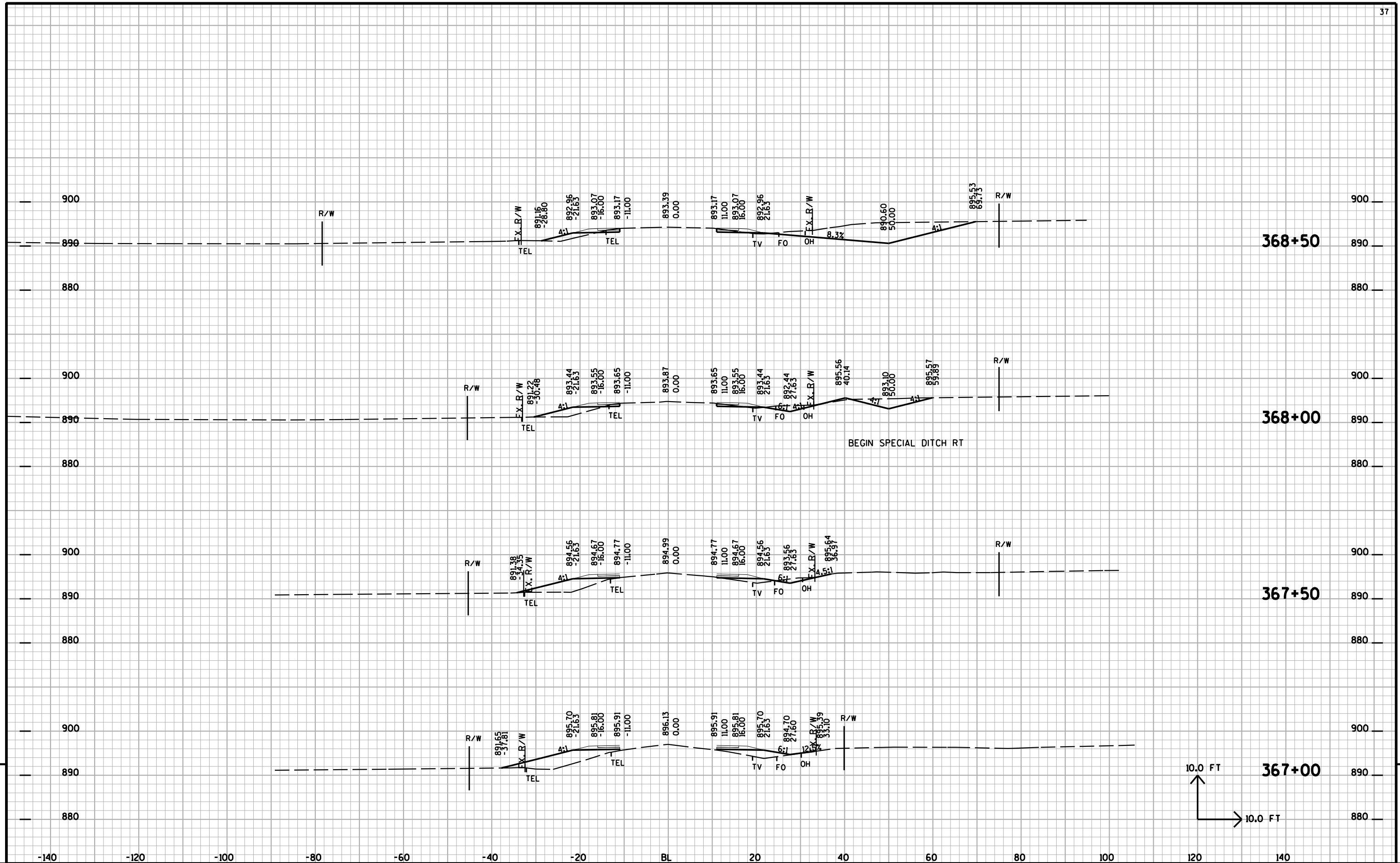
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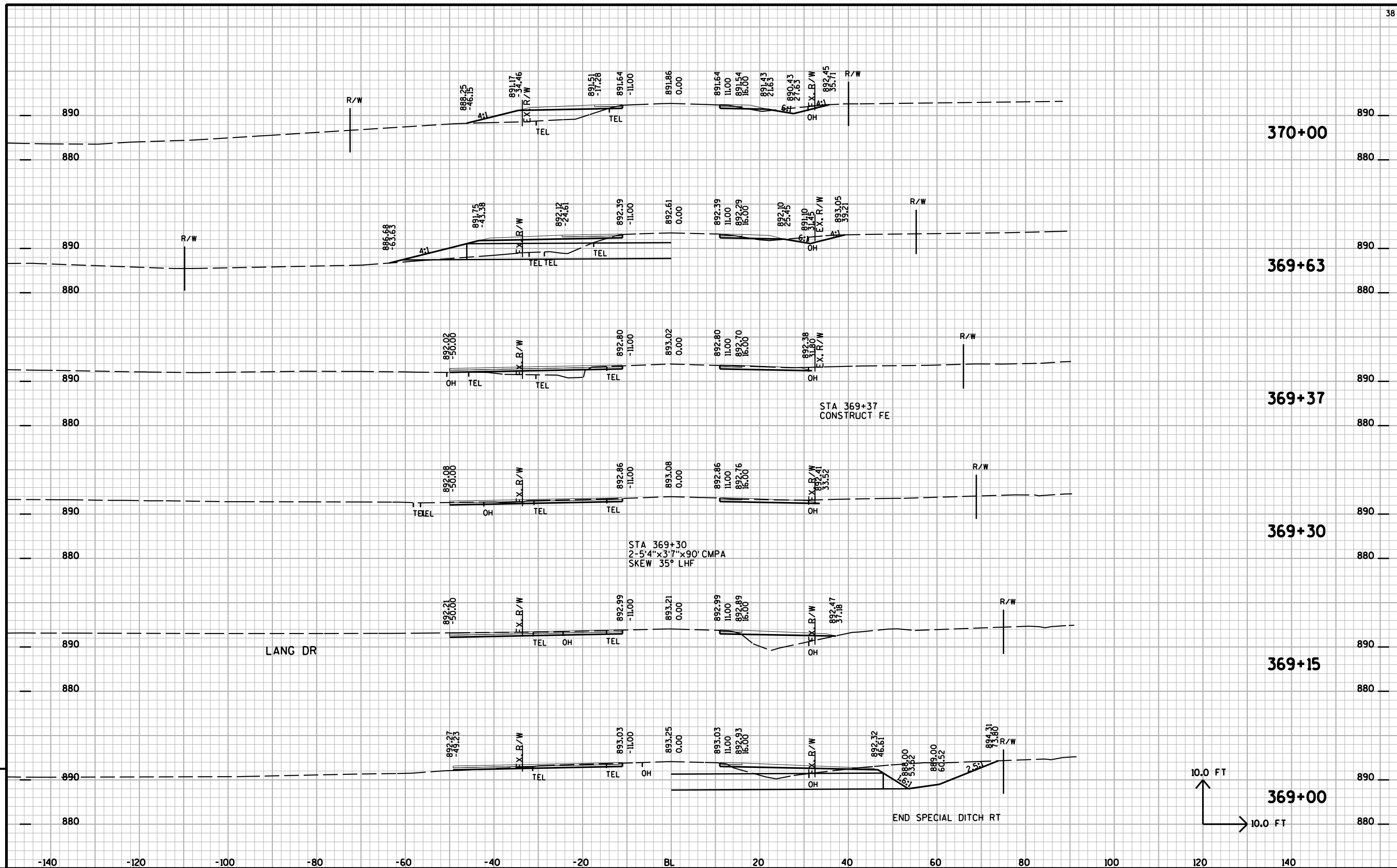
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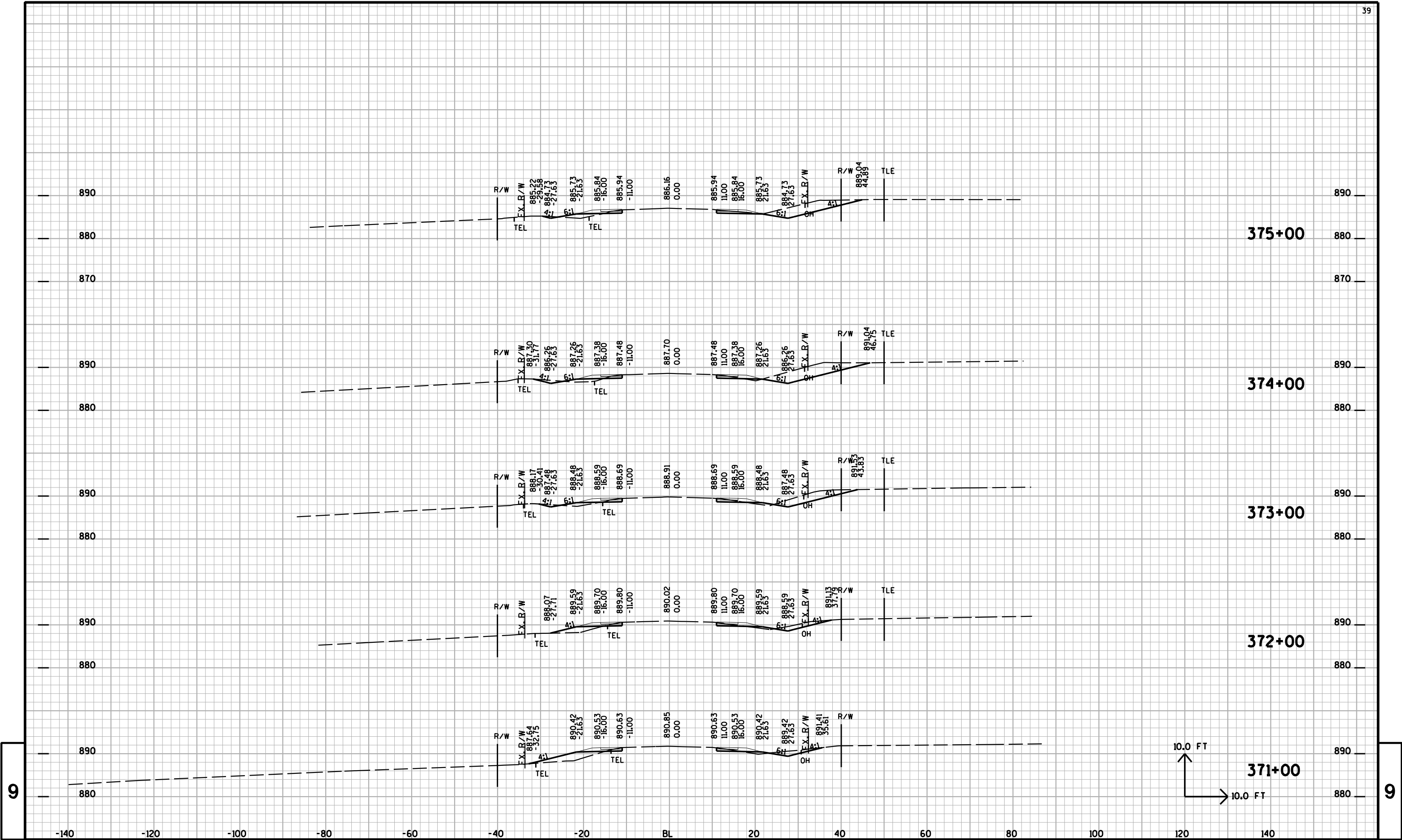


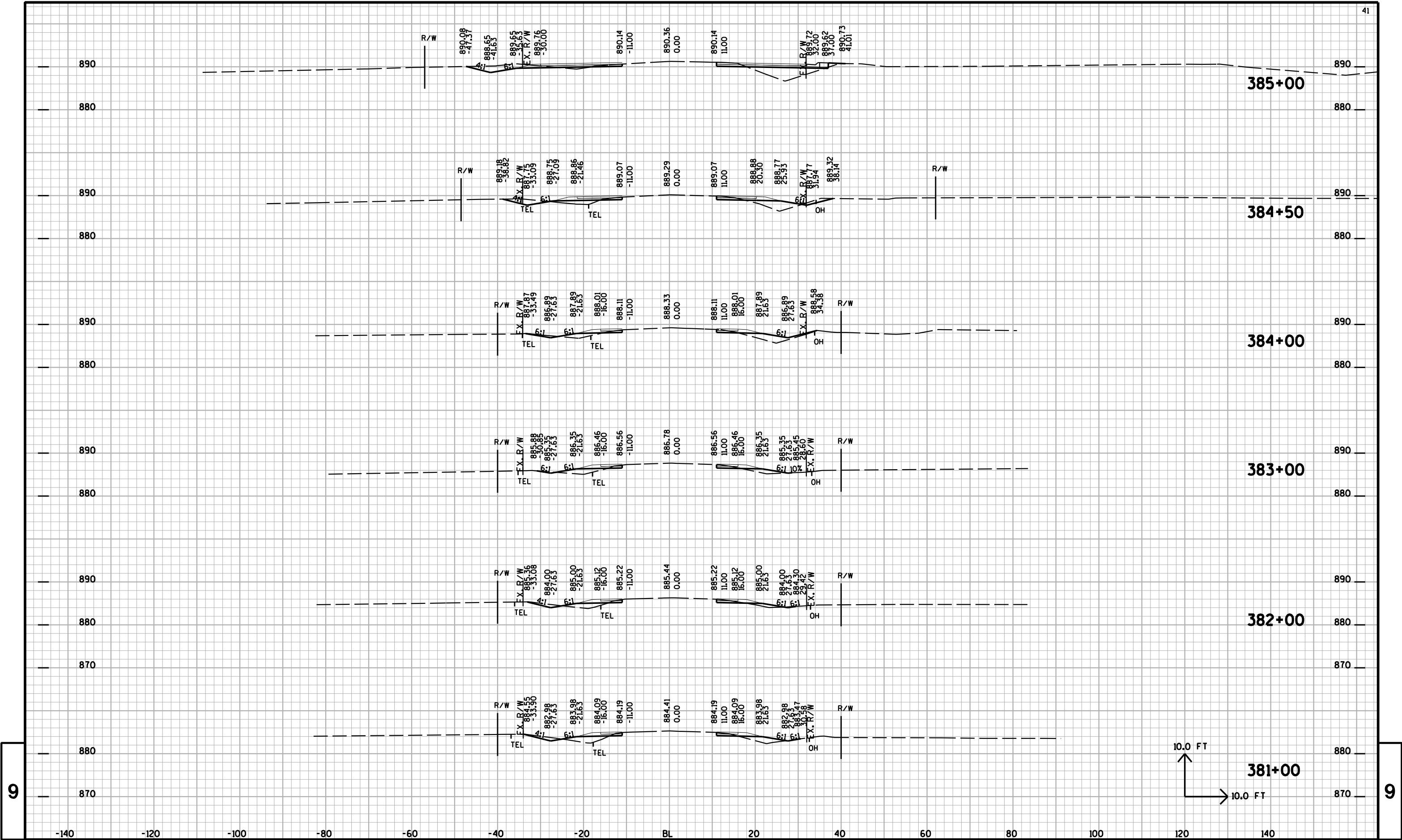
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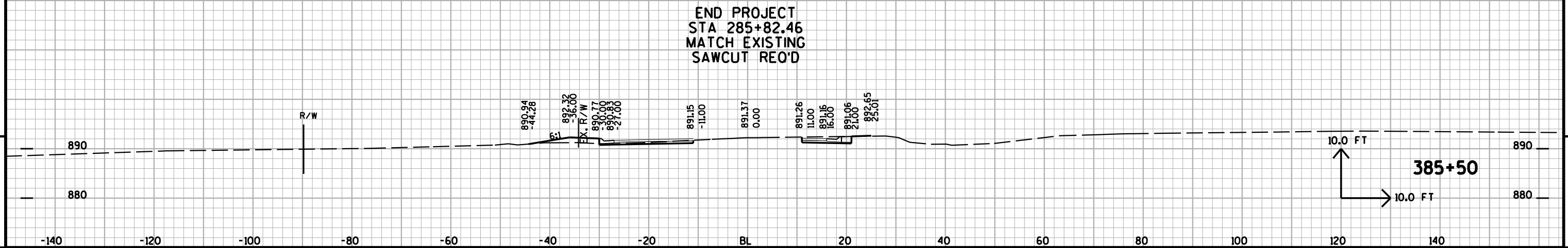




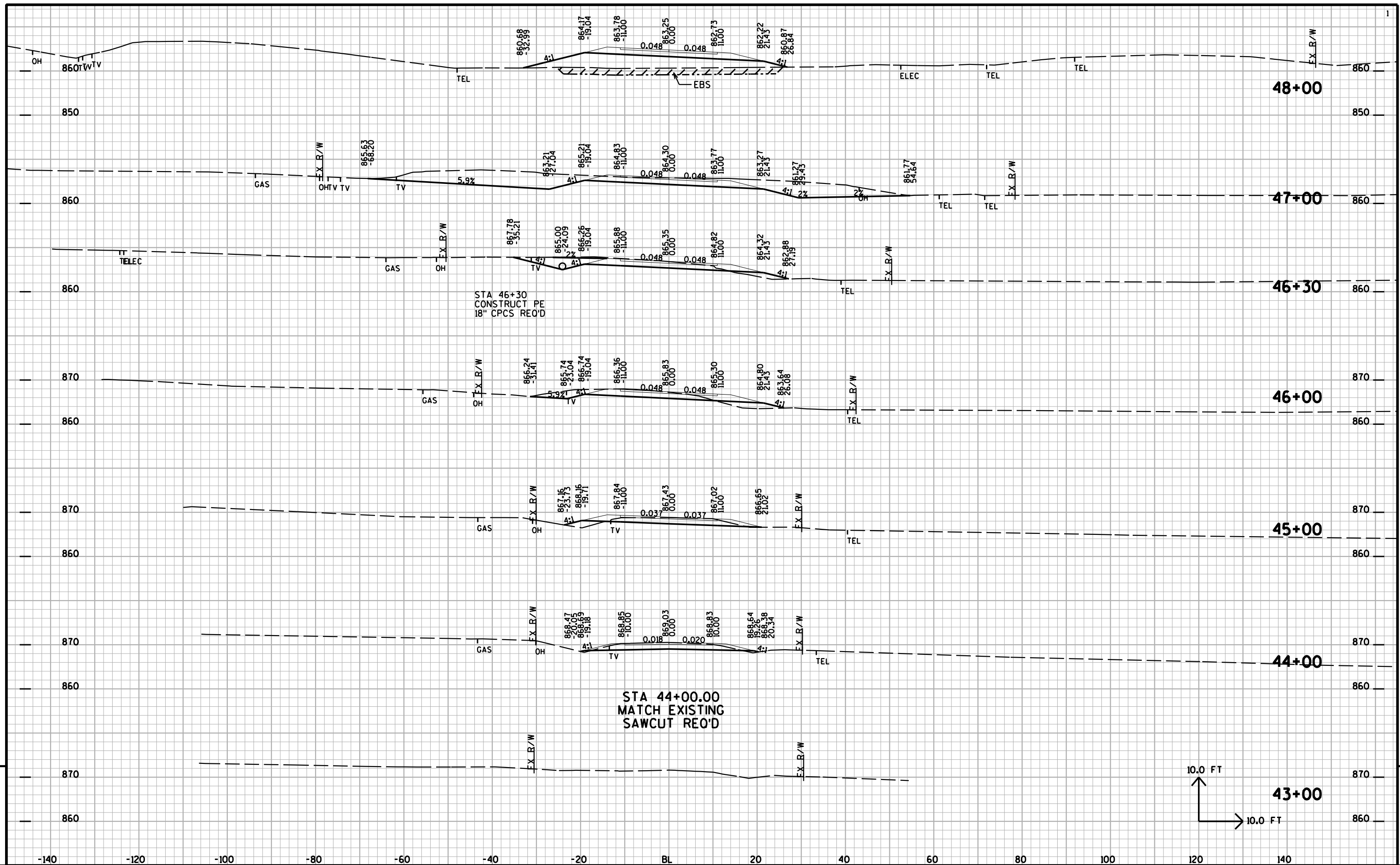


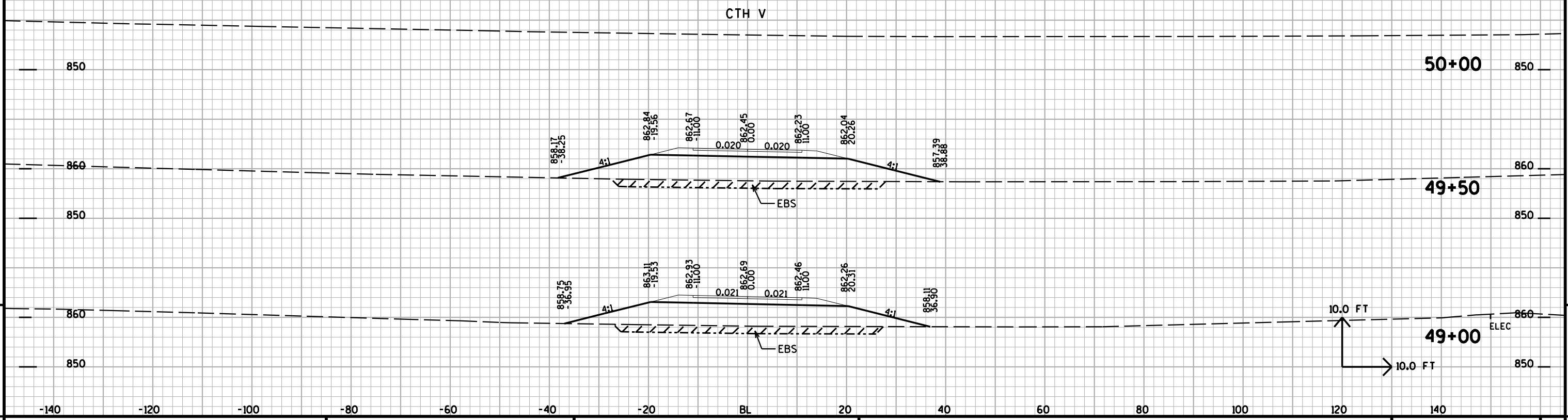


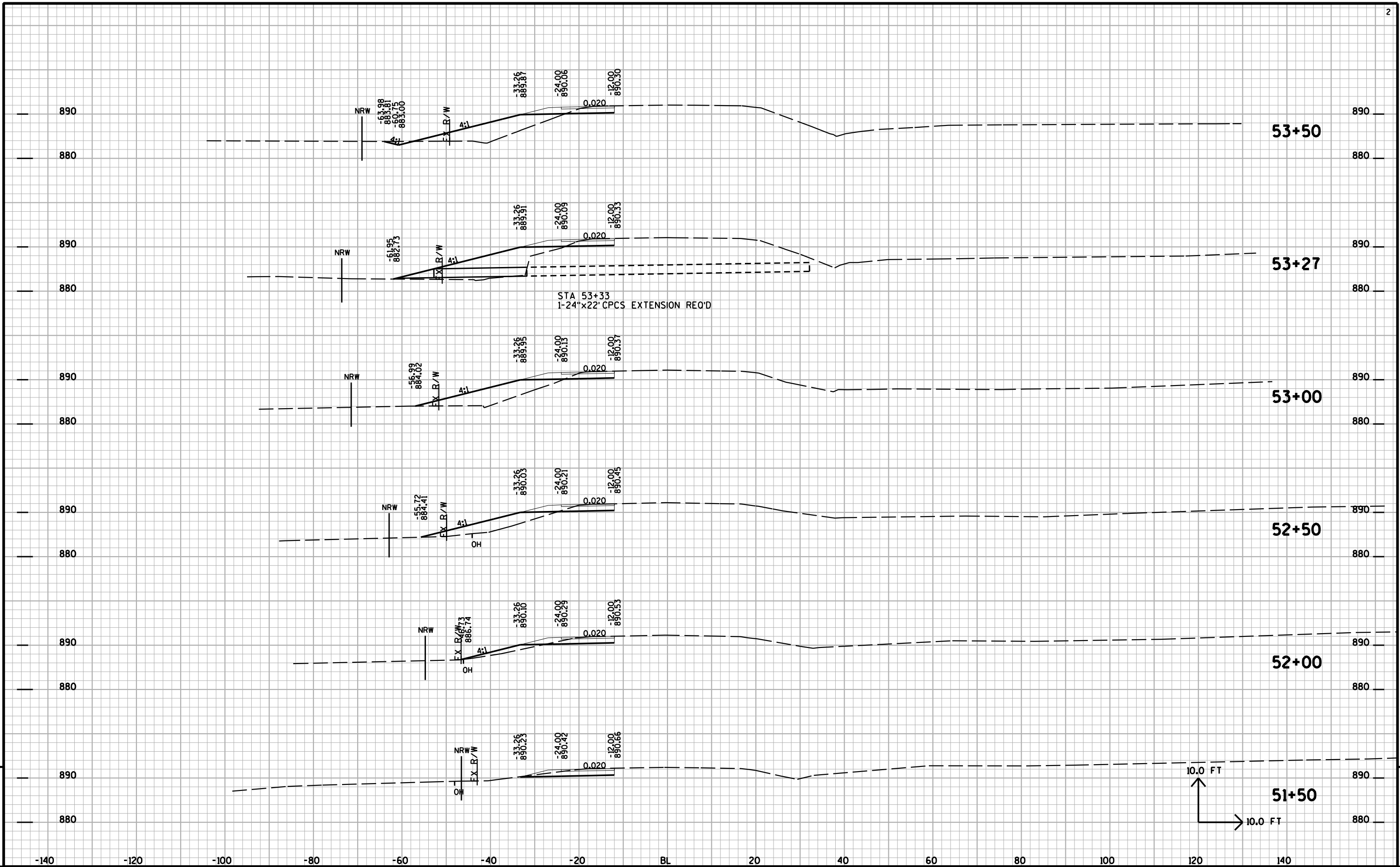
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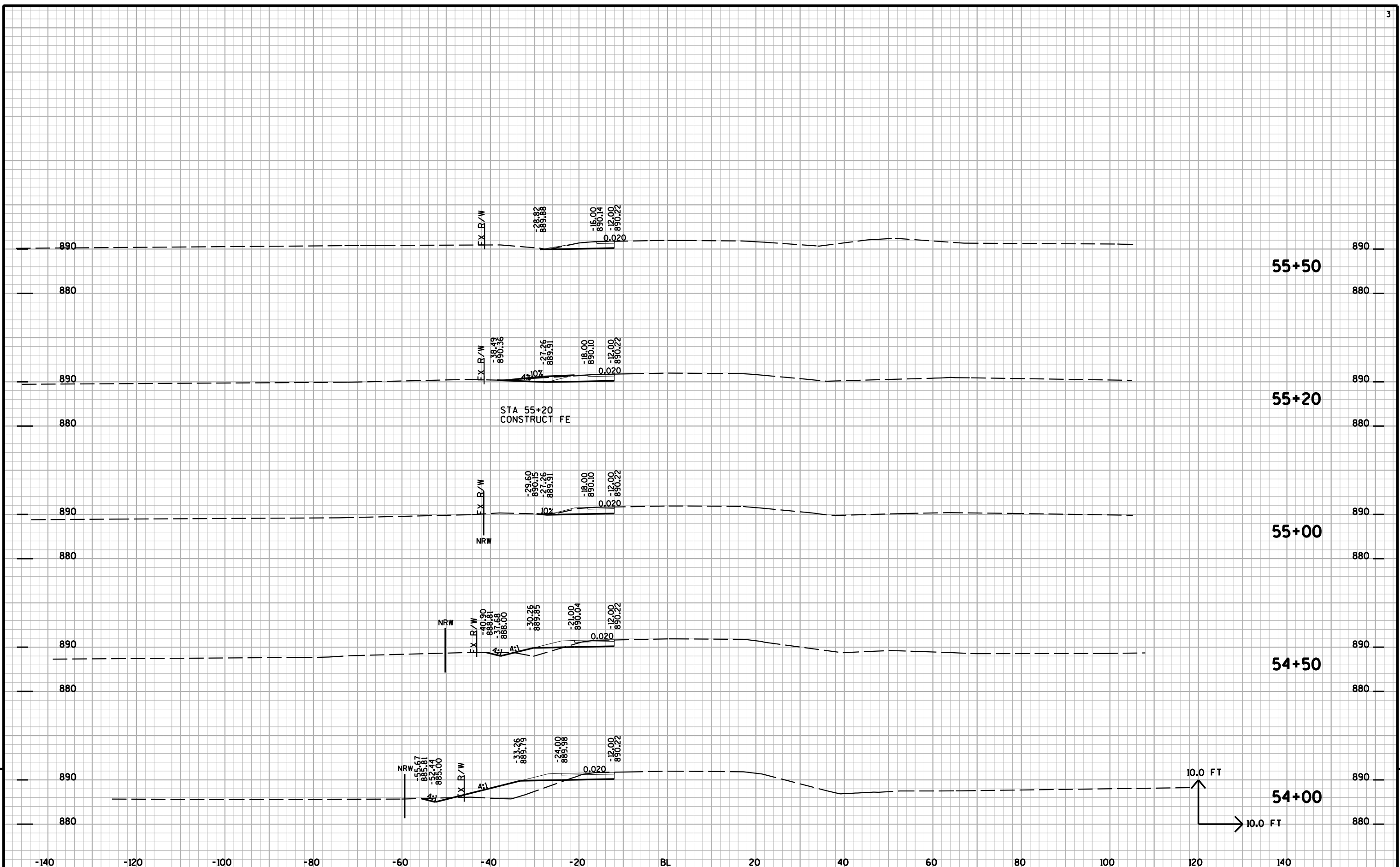


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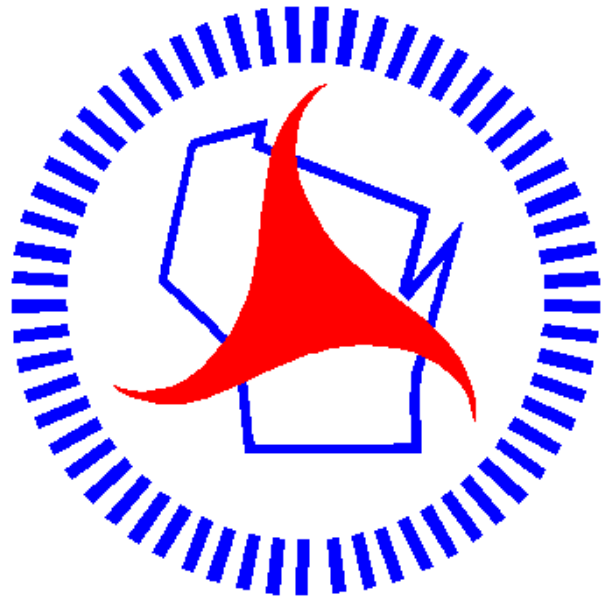








Notes



Wisconsin Department of Transportation

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