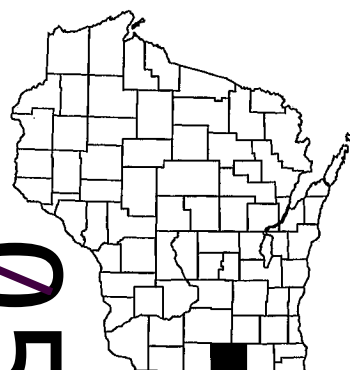


## ORDER OF SHEETS

Section No. 1	Title
Section No. 2	Typical Sections and Details (Includes Erosion Control Plan)
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
<del>Section No. 8</del>	<del>Structure Plans</del>
Section No. 9	Computer Earthwork Data
Section No. 9	Cross Sections

TOTAL SHEETS = 156



## DESIGN DESIGNATION

A.A.D.T.	2017	=	2,200
A.A.D.T.	2037	=	3,300
D.H.V.		=	430
D.D.		=	58/42
T.		=	3.4
DESIGN SPEED		=	40 MPH
ESALS		=	290,000

## CONVENTIONAL SYMBOLS

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

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

## PLAN OF PROPOSED IMPROVEMENT

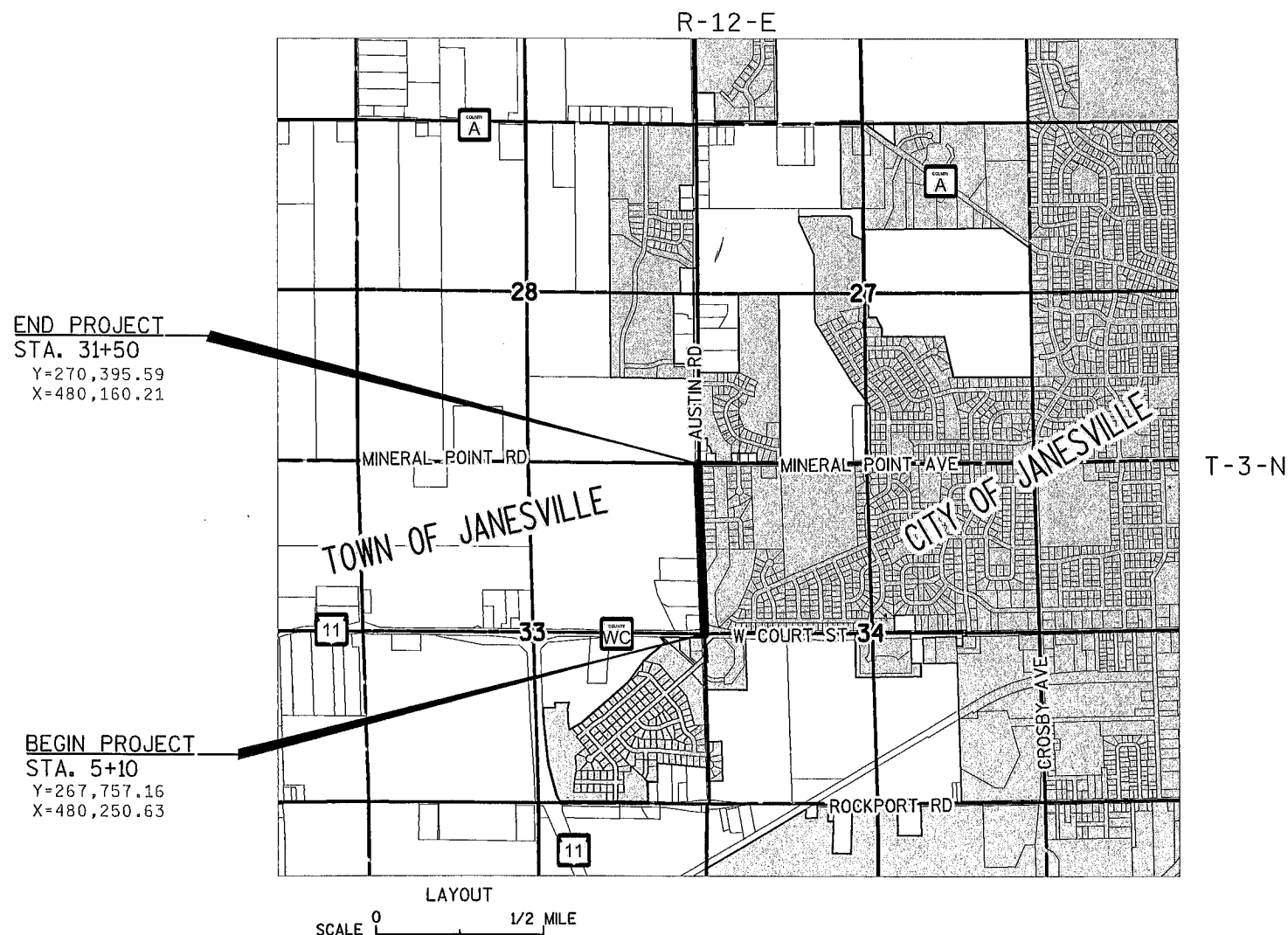
## CITY OF JANESVILLE, AUSTIN ROAD

(WEST COURT STREET to MINERAL POINT AVENUE)

LOCAL STREET  
ROCK COUNTY

STATE PROJECT NUMBER

5990-00-36

END PROJECT  
STA. 31+50  
Y=270,395.59  
X=480,160.21BEGIN PROJECT  
STA. 5+10  
Y=267,757.16  
X=480,250.63LAYOUT  
SCALE 0 1/2 MILE  
TOTAL NET LENGTH OF CENTERLINE = 0.500HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY  
COORDINATES, ROCK COUNTY, NAD83 (2011), IN U.S. SURVEY FEET.  
VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES.  
GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

STATE PROJECT

5990-00-36

FEDERAL PROJECT

PROJECT

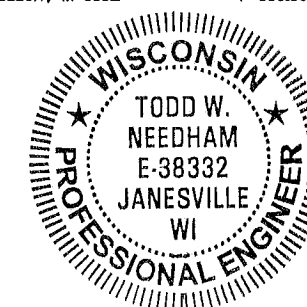
WISC 2017004

CONTRACT

1

ACCEPTED FOR  
CITY OF JANESVILLE  
7/20/2016 Mike Payne  
(Date) (CITY ENGINEER)

ORIGINAL PLANS PREPARED BY

**Batterman**  
engineers surveyors plannersR.H. BATTERMAN & CO., INC. P 608.365.4464  
2857 BARTELLS DRIVE TF 877.457.2235  
BELOIT, WI 53511 F 608.365.1850DATE: 7/20/16 John A. ...  
(PROFESSIONAL ENGINEER)STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor BATTERMAN

Designer BATTERMAN

Management Consultant KL ENGINEERING, INC.

APPROVED FOR THE DEPARTMENT  
DATE: 7/28/16 [Signature]  
(Management Consultant Signature)

E

2

GENERAL NOTES

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

THE LOCATIONS 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.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE, UTILITIES AND LOCAL GOVERNMENT BEFORE THE START OF CONSTRUCTION WORK.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTIONS, BUT IS MEASURED AND PAID FOR AS EXCAVATION COMMON. THE LOCATION OF EBS SHALL BE DETERMINED BY THE ENGINEER.

SELECT CRUSHED MATERIAL SHALL BE USED IN ALL EBS AREAS.

RADI DIMENSIONS FOR THE CURB & GUTTER ARE TO THE FLANGE OF THE CURB. CURB & GUTTER PLAN GRADES ARE AT THE FLANGE LINE UNLESS OTHERWISE NOTED.

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

THE EROSION CONTROL FEATURES ARE SHOWN ON THE PLAN AND ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH A TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

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

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

THE CONTRACTOR IS TO WORK WITH UTMOST CARE AND PROTECT ALL SURVEY MARKERS. REMOVAL OF ANY SURVEY MARKER IS TO BE WITH THE APPROVAL OF THE ENGINEER.

DETAILS OF CONSTRUCTION NOT SHOWN ON THE PLAN SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

RESTORATION OF EXPOSED SLOPE AND DITCHES SHALL TAKE PLACE NOT MORE THAN 7 DAYS AFTER FINISHED GRADING IS COMPLETE.

THE CONTRACTORS PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINT FROM BEING LOCATED WITHIN A DRIVING OR TURNING LANE.

HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 110 LB/SY/INCH.

ALL INLET RIM GRADES ARE TO THE FLANGE OF CURB.

OFFSETS FOR INLETS AND MANHOLES ARE TO CENTER OF STRUCTURE. OFFSETS FOR APRON ENDWALLS ARE TO END OF PIPE.

THE CONTRACTOR SHALL COORDINATE ALL UTILITY ADJUSTMENTS WITH THE APPROPRIATE UTILITY.

THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTY OWNERS ALONG THE PROJECT AT ALL TIMES.

ASPHALTIC SURFACE SHALL USE 9.5 mm MAX NOMINAL SIZE GRADATION.

ORDER OF DETAIL SHEETS

GENERAL NOTES  
PROJECT OVERVIEW  
EXISTING TYPICAL SECTIONS  
FINISHED TYPICAL SECTIONS  
CONSTRUCTION DETAILS  
PLAN DETAILS  
EROSION CONTROL  
STORM SEWER  
PERMANENT SIGNING/MARKINGS  
LIGHTING/LANDSCAPING  
TRAFFIC CONTROL  
ALIGNMENT DETAILS  
CONTROL POINT TIES

UTILITIES

WISCONSIN POWER & LIGHT (GAS & ELECTRIC)  
ATTN: JANE BALLMER  
3730 KENNEDY ROAD  
JANESVILLE, WI 53545  
TELEPHONE: (608)757-7517  
MOBILE: (608)751-7935  
EMAIL: JANEBALLMER@ALLIANTENERGY.COM

CHARTER COMMUNICATIONS (CABLE TELEVISION)  
ATTN: RANDY STEURER  
1348 PLAINFIELD AVENUE  
JANESVILLE, WI 53545  
TELEPHONE: (608)373-7544  
MOBILE: (608)209-3194  
EMAIL: RSTEURER@CHARTERCOMM.COM

AT&T WISCONSIN (TELEPHONE)  
ATTN: CAROL ANASON  
316 W WASHINGTON AVENUE  
MADSION WI 53703  
TELEPHONE: (608)252-2385  
EMAIL: CA2624@ATT.COM

CITY OF JANESVILLE (STREET LIGHTING)  
ATTN: DENNIS RYAN, P.E.  
18 N JACKSON STREET  
P.O. BOX 5005  
JANESVILLE, WI 53545-5005  
TELEPHONE: (608)755-3171  
EMAIL: RYAND@CI.JANESVILLE.WI.US

CITY OF JANESVILLE (SEWER AND WATER)  
ATTN: CRAIG THIESENHUSEN  
123 EAST DELAVAN DRIVE  
JANESVILLE, WI 53545  
TELEPHONE: (608)755-3115  
EMAIL: THIESENHUSEN@CI.JANESVILLE.WI.US

\*\*DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS

2

ABBREVIATIONS

AC  
AEW  
ASPH  
AVG  
ADT  
BAD  
BM  
CL  
CC  
CE  
CONC  
CMP  
CPRC  
STEEL  
CSCP  
CSM  
CTH  
CULV  
CP  
C&G  
D  
DHV  
DIA  
DWY  
E  
ELEV  
EW  
ENT  
ESALS  
EX  
EXC  
EBS  
EXIST  
FF  
FERT  
FE  
FG  
FT  
GV  
IE  
INL  
INV

ACRES  
APRON ENDWALL  
ASPHALT  
AVERAGE  
AVERAGE DAILY TRAFFIC  
BASE AGGREGATE DENSE  
BENCHMARK  
CENTERLINE OR CLASS  
CENTER TO CENTER  
COMMERCIAL ENTRANCE  
CONCRETE  
CORRUGATED METAL PIPE  
CULVERT PIPE CORRUGATED  
CORRUGATED STEEL CULVERT PIPE  
CERTIFIED SURVEY MAP  
COUNTY TRUNK HIGHWAYS  
CULVERT  
CULVERT PIPE  
CURB & GUTTER  
DEGREE OF CURVATURE  
DESIGN HOURLY VOLUME  
DIAMETER  
DRIVEWAY  
EAST  
ELEVATION  
ENDWALL  
ENTRANCE  
EQUIVALENT SINGLE AXLE LOADS  
EXISTING  
EXCAVATION  
EXCAVATION BELOW SUBGRADE  
EXISTING  
FACE TO FACE  
FERTILIZER  
FEILD ENTRANCE  
FINISHED GRADE  
FOOT  
GAS VALVE  
INVERT ELEVATION  
INLET  
INVERT

IP  
JCT  
LHF  
L  
LS  
LT  
MH  
NC  
N  
PT  
PC  
PI  
PT  
PL  
PE  
R/RAD  
RCP  
REQ'D  
RT  
R/W  
RHF  
SALV  
SAN  
SHLDR  
SDD  
STA  
STM  
SE  
SS  
SSPRC  
TAN  
TLE  
T  
TYP  
VERT  
VC  
VOL  
WV  
W  
X  
Y

IRON PIPE  
JUNCTION  
LEFT HAND FORWARD  
LENGTH  
LUMP SUM  
LEFT  
MANHOLE  
NORMAL CROWN  
NORTH  
POINT  
POINT OF CURVATURE  
POINT OF INTERSECTION  
POINT OF TANGENCY  
PROPERTY LINE  
PRIVATE ENTRANCE  
RADIUS  
REINFORCED CONCRETE PIPE  
REQUIRED  
RIGHT  
RIGHT-OF-WAY  
RIGHT HAND FORWARD  
SALVAGED  
SANITARY SEWER  
SHOULDER  
STANDARD DETAIL DRAWINGS  
STATION  
STORM SEWER  
SUPERELEVATION  
STORM SEWER  
STORM SEWER PIPE REINFORCED CONCRETE  
TANGENT  
TEMPORARY LIMITED EASEMENT  
TRUCKS  
TYPICAL  
VERTICAL  
VERTICAL CURVE  
VOLUME  
WATER VALVE  
WELL  
EAST GRID COORDINATE  
NORTH GRID COORDINATE

SOIL BORING TABLE

BORING	STA.	OFF.	HMA DEPTH
SB1	7+69	2.6' RT	10"
SB2	13+00	0.8' RT	5"
SB3	18+20	0.5' LT	8"
SB4	24+22	1.4' LT	8"
SB5	29+95	1.9' LT	7"

AUSTIN RD - HMA PAVEMENT SHALL BE CONSTRUCTED WITH THE FOLLOWING LAYERS AND GRADATIONS:

TYPE	THICKNESS	LAYERS
3 LT 58-28 S	3.00"	LOWER LAYER
5 LT 58-28 S	2.00"	UPPER LAYER

KNOLL VIEW DRIVE - HMA PAVEMENT SHALL BE CONSTRUCTED WITH THE FOLLOWING LAYERS AND GRADATIONS:

TYPE	THICKNESS	LAYERS
3 LT 58-28 S	2.25"	LOWER LAYER
5 LT 58-28 S	1.50"	UPPER LAYER

DNR LIAISON

WISCONSIN DEPARTMENT OF NATURAL RESOURCES  
ATTN: LAURA BUB  
3911 FISH HATCHERY ROAD  
FITCHBURG, WI 53711  
TELEPHONE: (608) 275-3485  
EMAIL: LAURA.BUB@WISCONSIN.GOV

DESIGN CONTACT

R.H. BATTERMAN  
ATTN: TODD NEEDHAM, P.E.  
2857 BARTELLS DRIVE  
BELOIT, WI 53511  
TELEPHONE: (608) 365-4464  
EMAIL: TNEEDHAM@RHBATTERMAN.COM

CITY OF JANESVILLE ENGINEERING

SENIOR ENGINEER  
ATTN: LISA WOLF, P.E.  
18 N. JACKSON STREET  
P.O. BOX 5005  
JANESVILLE, WI 53545  
TELEPHONE: (608) 755-3162  
EMAIL: WOLFL@CI.JANESVILLE.WI.US

ROCK COUNTY HIGHWAY

DIRECTOR OF PUBLIC WORKS  
ATTN: BENJAMIN COOPMAN, JR., P.E.  
3715 NEWVILLE ROAD  
JANESVILLE, WI 53545  
TELEPHONE: (608) 757-5450  
EMAIL: COOPMAN@CO.ROCK.WI.US

TOWN OF JANESVILLE

TOWN CHAIR  
ATTN: BRUCE SCHNEIDER  
1628 N. LITTLE COURT  
JANESVILLE, WI 53548  
TELEPHONE: (608) 751-1245

ROCK COUNTY SURVEYOR

ATTN: BRAD HEUER, PLS  
ROCK COUNTY LAND SURVEYOR  
51 SOUTH MAIN STREET  
JANESVILLE, WI 53545  
TELEPHONE: (608) 757-5658  
EMAIL: BRAD.HEUER@CO.ROCK.WI.US

PROJECT NO:5990-00-36

HWY:LOCAL STREET

COUNTY:ROCK

GENERAL NOTES

SHEET \_\_\_\_\_E

FILE NAME : J:\32001-32051\32006-CITY OF JANESVILLE AUSTIN ROAD\DESIGN\SHEETSPLAN\59900036\_020101\_GN.DWG

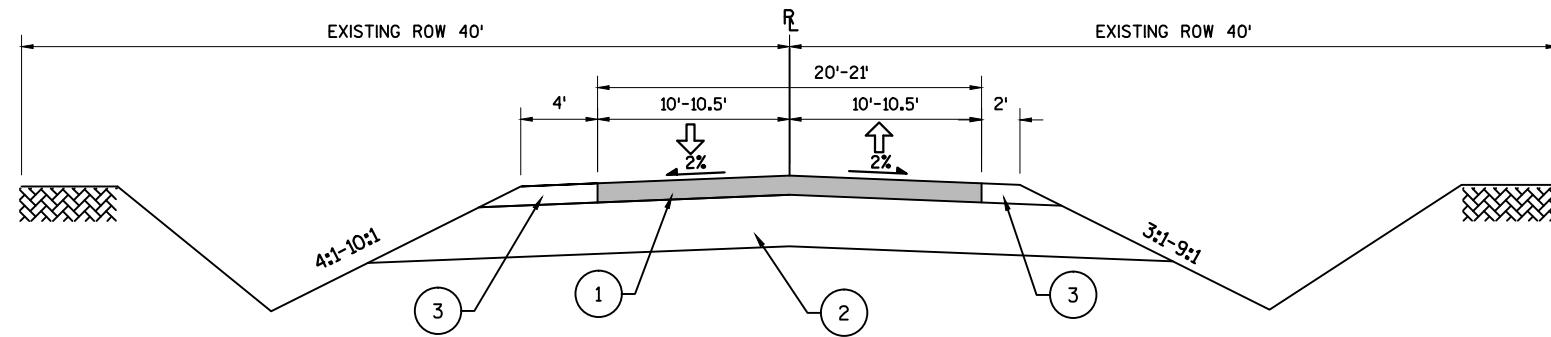
PLOT DATE : 7/26/2016 4:18 PM

PLOT BY : ALEXANDER FEULING

PLOT NAME : \_\_\_\_\_

PLOT SCALE : NTS

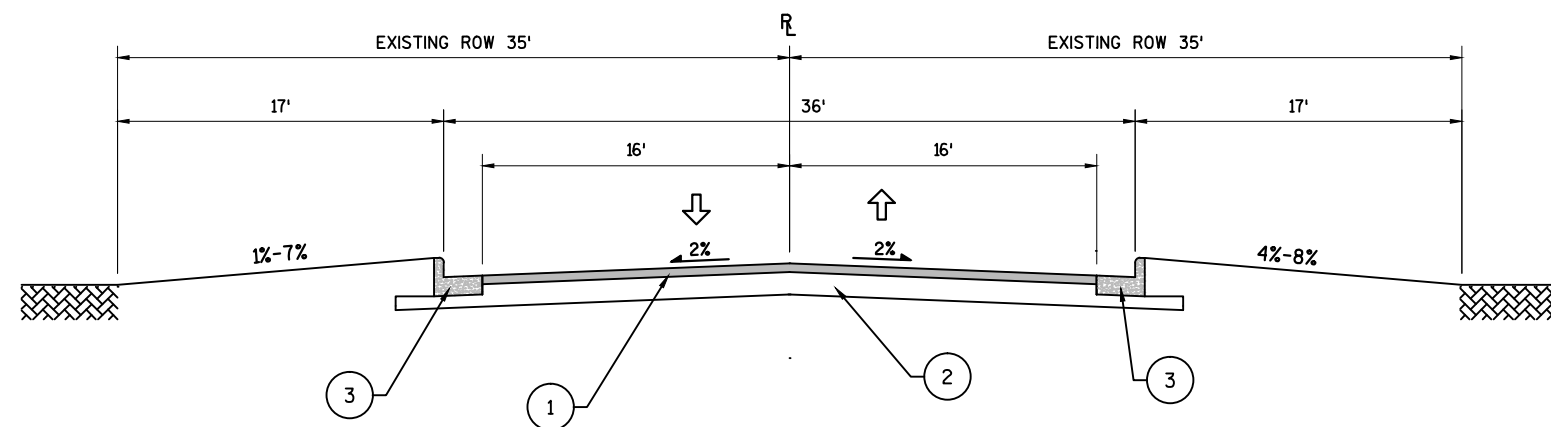
WISDOT/CADDs SHEET 42

**LEGEND**

- ① 5"-10" ASPHALTIC PAVEMENT
- ② 3"-5" BASE AGGREGATE
- ③ BASE AGGREGATE (SHLD.)

**TYPICAL EXISTING SECTION**

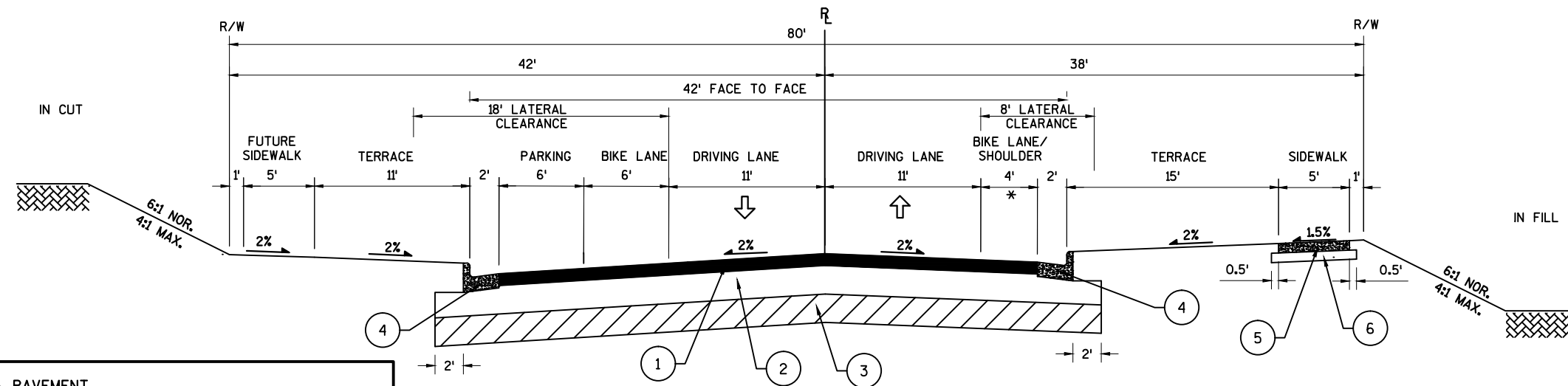
AUSTIN ROAD  
STA 5+10 - 31+50

**LEGEND**

- ① 2.75" ASPHALTIC PAVEMENT
- ② 7" BASE AGGREGATE
- ③ 30" CONCRETE CURB & GUTTER

**TYPICAL EXISTING SECTION**

KNOLL VIEW DRIVE  
STA 100+00 - 101+50

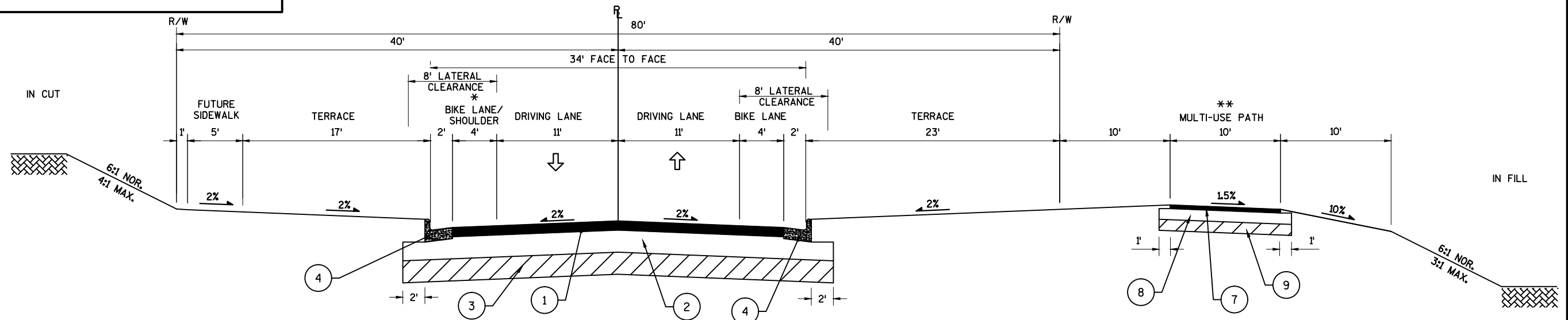


### LEGEND

- ① 5 INCH HMA PAVEMENT  
2-INCHES HMA PAVEMENT 5 LT 58-28 S (UPPER LAYER)  
3-INCHES HMA PAVEMENT 3 LT 58-28 S (LOWER LAYER)
- ② 12 INCH BASE AGGREGATE DENSE 1 1/4 INCH
- ③ 12 INCH SELECT CRUSHED MATERIAL
- ④ CONCRETE CURB & GUTTER 30 INCH TYPE L
- ⑤ CONCRETE SIDEWALK 4 INCH OR CONCRETE DRIVEWAY 6 INCH
- ⑥ 4 INCH BASE AGGREGATE DENSE 1 1/4 INCH
- ⑦ 3 INCH ASPHALTIC SURFACE
- ⑧ 6 INCH BASE AGGREGATE DENSE 1 1/4 INCH
- ⑨ 6 INCH SELECT CRUSHED MATERIAL

### TYPICAL PROPOSED SECTION

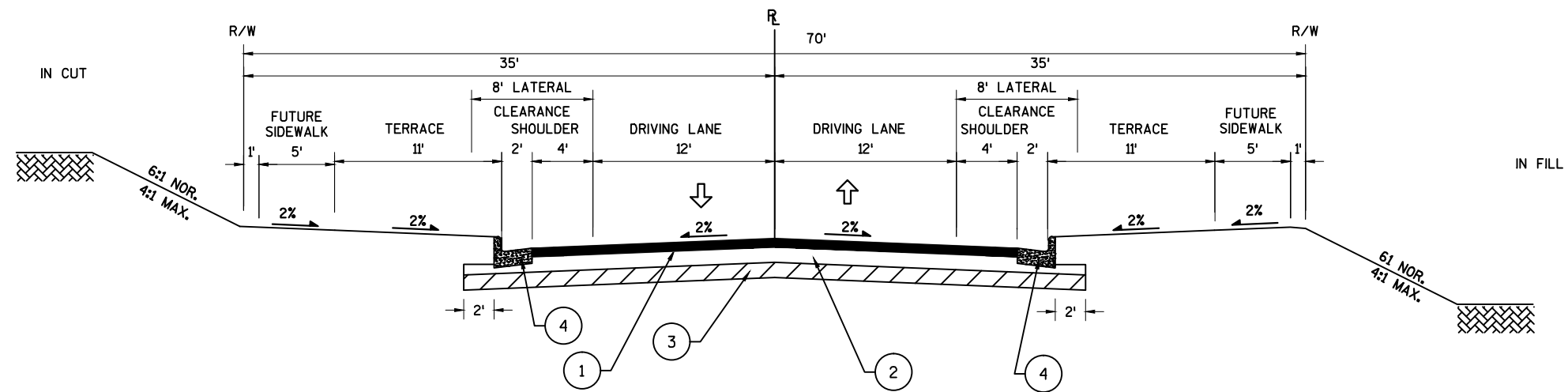
AUSTIN ROAD NORTH  
STA 15+17.68 - 31+50  
\*STA 29+00 - 31+50  
VARIES 4'-15'



### TYPICAL PROPOSED SECTION

AUSTIN ROAD SOUTH  
STA 5+10 - 15+17.68  
\* STA 14+18 - 15+18  
VARIES 4' - 12'  
\*\* STA 14+20 - 15+28  
VARIES 5' - 10'





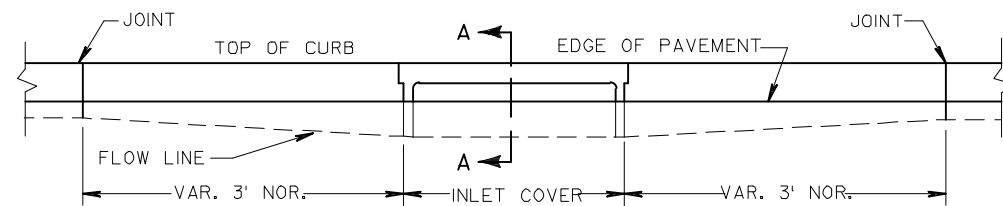
### LEGEND

- ① 3.75 INCH HMA PAVEMENT  
1 1/2-INCHES HMA PAVEMENT 5 LT 58-28 S (UPPER LAYER)  
2 1/4-INCHES HMA PAVEMENT 3 LT 58-28 S (LOWER LAYER)
- ② 6 INCH BASE AGGREGATE DENSE 1 1/4 INCH
- ③ 6 INCH SELECT CRUSHED MATERIAL
- ④ CONCRETE CURB & GUTTER 30 INCH TYPE L

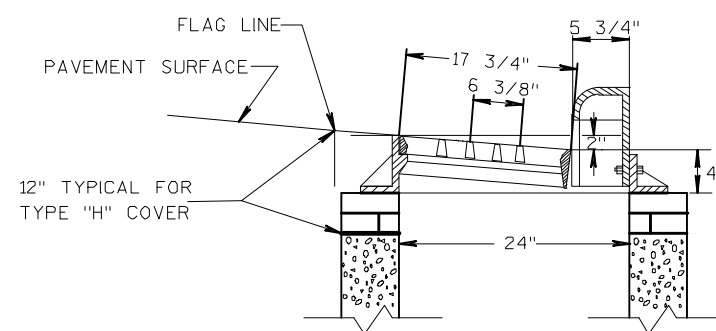
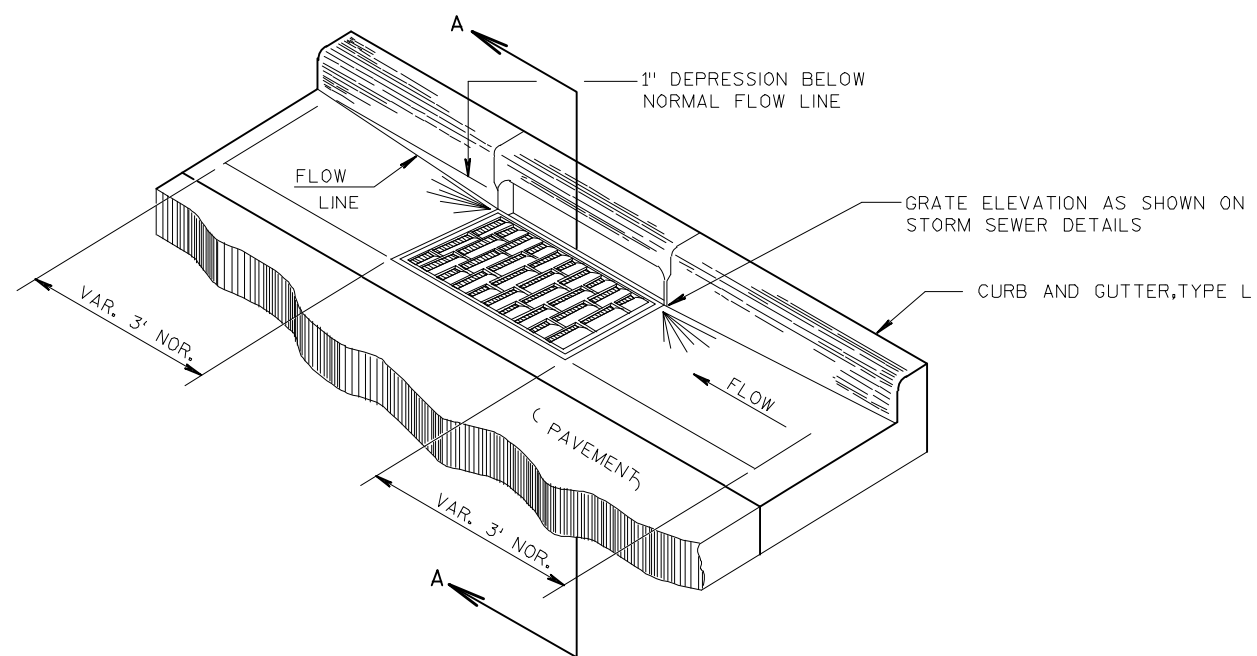
### TYPICAL PROPOSED SECTION

KNOLL VIEW DRIVE  
STA 100+00 - 101+50

2



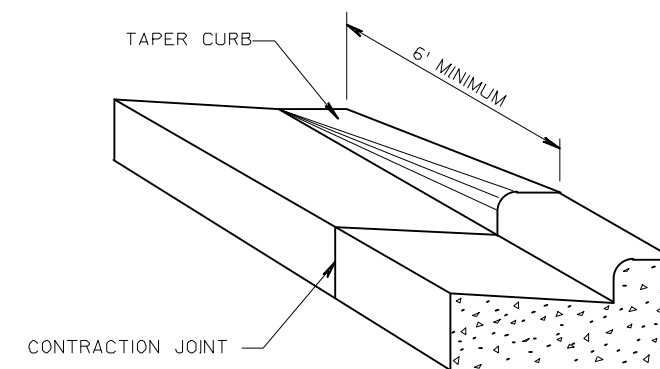
ELEVATION



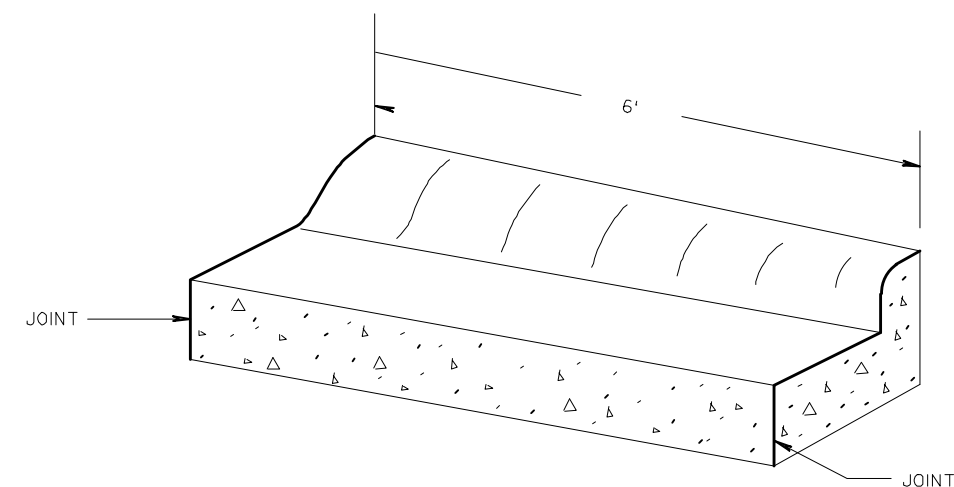
SECTION A-A

DETAIL OF CURB AND GUTTER AT INLETS  
(TYPE 3-H INLET SHOWN)

2

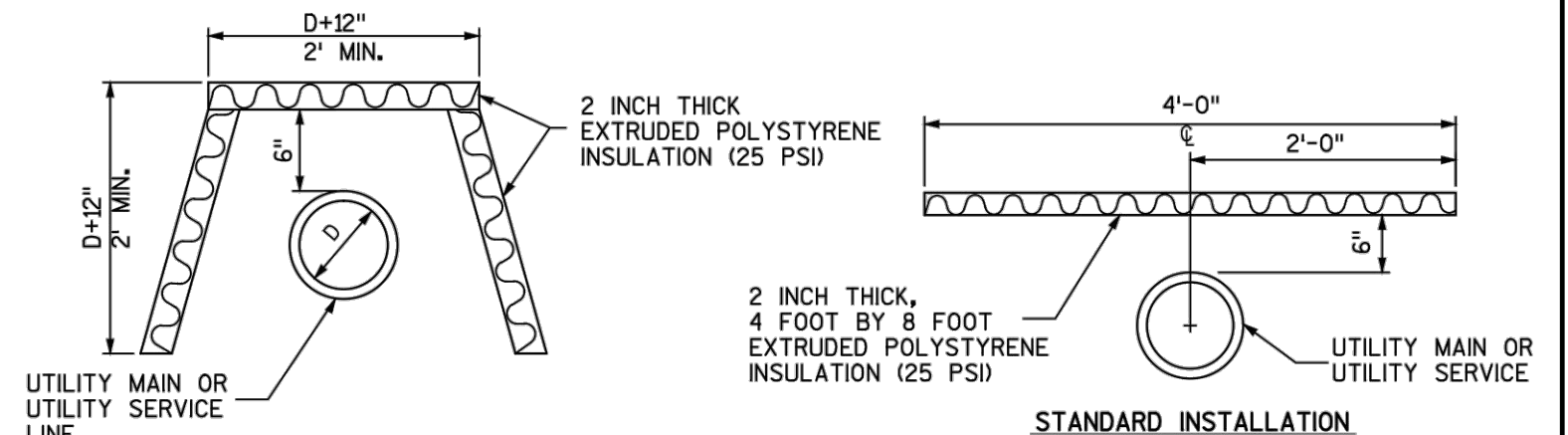


DETAIL OF CURB &amp; GUTTER TERMINI



TRANSITION DETAIL

36" TYPE "D" CURB & GUTTER TO 30" TYPE "L" CURB & GUTTER  
(TO BE MEASURED & PAID FOR AS 36" CONC. C&G)

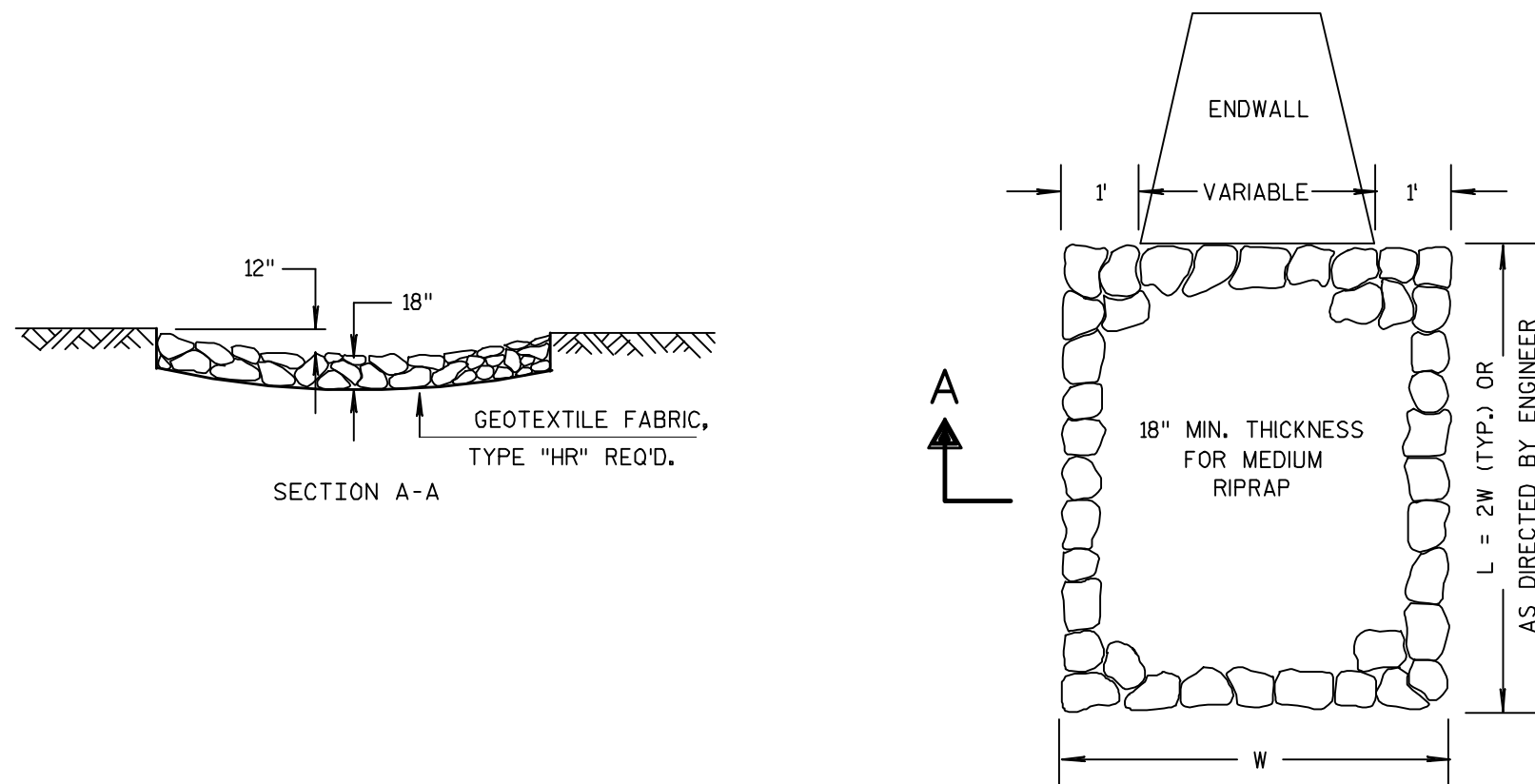


SIDE PROTECTION INSTALLATION

NOTE: THE SIDE PROTECTION INSULATION SHALL BE USED WHERE FROST  
WILL PENETRATE BELOW THE PIPE INVERT

PIPE INSULATION DETAIL

SCALE: NONE

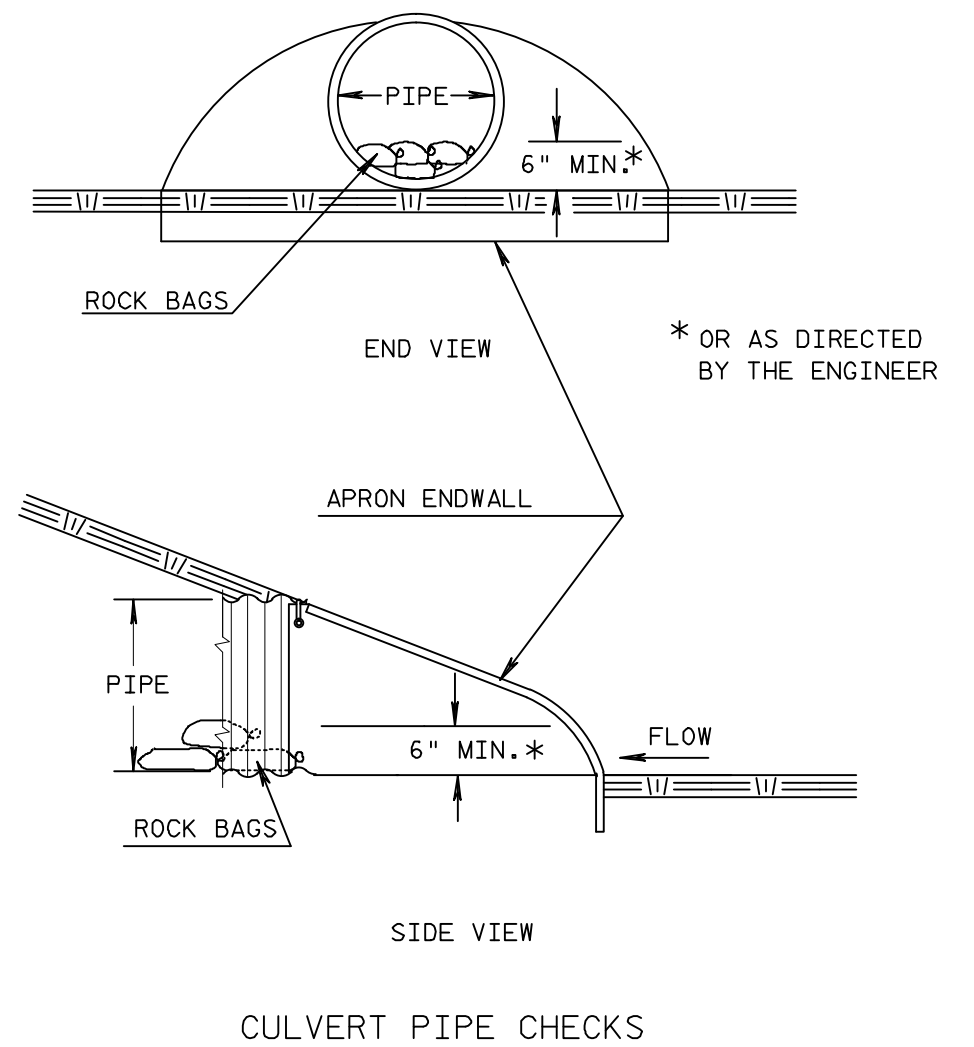


MEDIUM RIPRAP TREATMENT AT CULVERTS

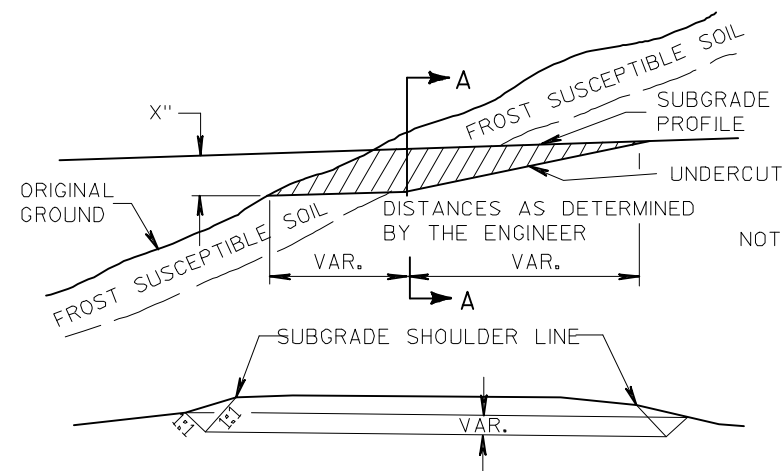
RUNOFF COEFFICIENT TABLE

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

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

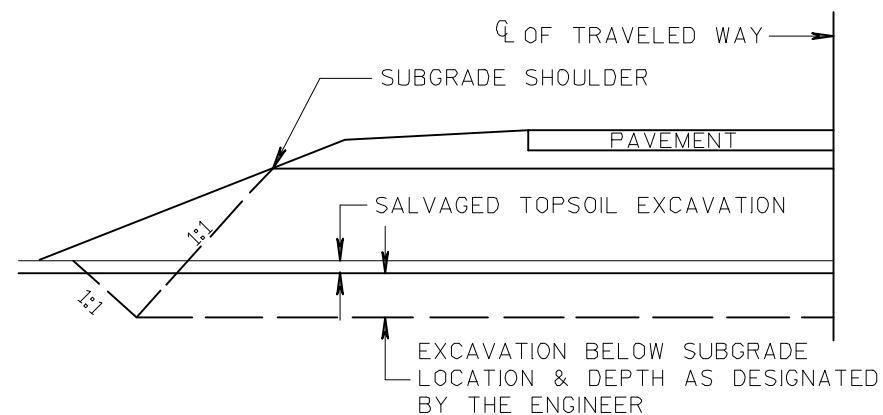


CULVERT PIPE CHECKS



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.

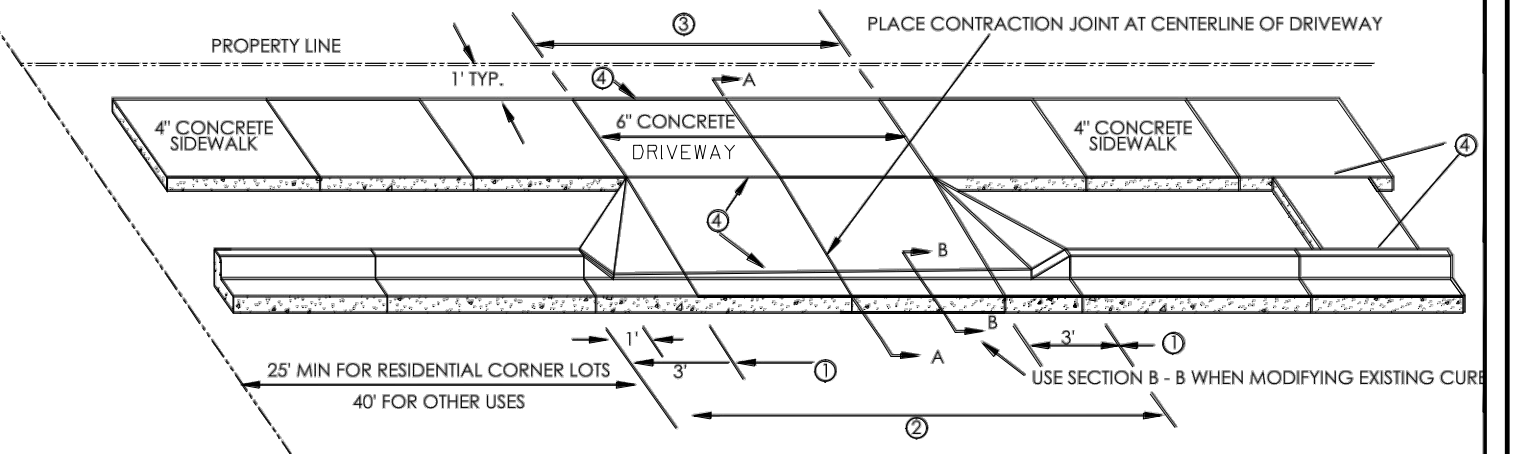


DETAIL FOR EXCAVATION BELOW SUBGRADE

City of Janesville  
Engineering Division  
January - 2013  
last revision: January 2016

## DRIVEWAY APPROACH

DETAIL # 19  
NOT TO SCALE

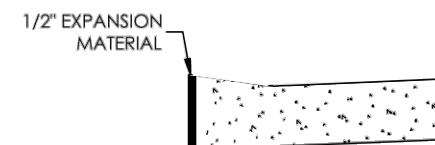


THESE STANDARDS APPLY FOR SINGLE OR DOUBLE DRIVEWAYS. DOUBLE DRIVEWAYS SHALL HAVE AT LEAST 10' ON EACH PROPERTY. APPROACHES SHALL BE 6" CONCRETE OR 2" ASPHALT (MIN). THE SITE PLAN REVIEW COORDINATOR AND CITY ENGINEER MAY APPROVE LARGER OPENINGS FOR SPECIAL CONDITIONS.

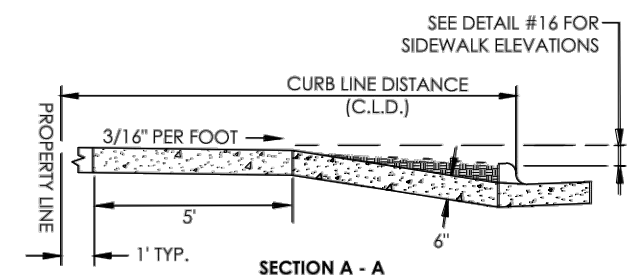
REMOVE AND REPLACE THE ENTIRE CURB AND GUTTER THROUGH THE DRIVEWAY OPENING OR PROFILE SAW CUT AND REMOVE THE CURB HEAD USING A CONCRETE SAW DESIGNED FOR THIS PURPOSE.

- ① DRIVEWAY FLARE ON EACH SIDE SHALL EQUAL 0.6 TIMES THE DISTANCE BETWEEN THE WALK AND THE BACK OF THE CURB, BUT NOT TO EXCEED 3 FEET.
- ② 30' MAX RESID. 1 OR 2 CAR GARAGE  
36' MAX RESID. 3 CAR GARAGE AND OTHER THAN RESID. (BUILDING OFFICIAL APPROVAL REQUIRED)  
42' MAX DUPLEX 2 CAR SIDE-BY-SIDE (BUILDING OFFICIAL APPROVAL REQUIRED)
- ③ 24' MAX RESID. 1 OR 2 CAR GARAGE  
30' MAX RESID. 3 CAR GARAGE AND OTHER THAN RESID. (BUILDING OFFICIAL APPROVAL REQUIRED)  
36' MAX DUPLEX 2 CAR SIDE-BY-SIDE (BUILDING OFFICIAL APPROVAL REQUIRED)
- ④ EXPANSION JOINT MATERIAL

NOTE: CURB OPENING PERMIT REQUIRED (CONTACT BUILDING AND DEVELOPMENT SERVICES DIVISION)

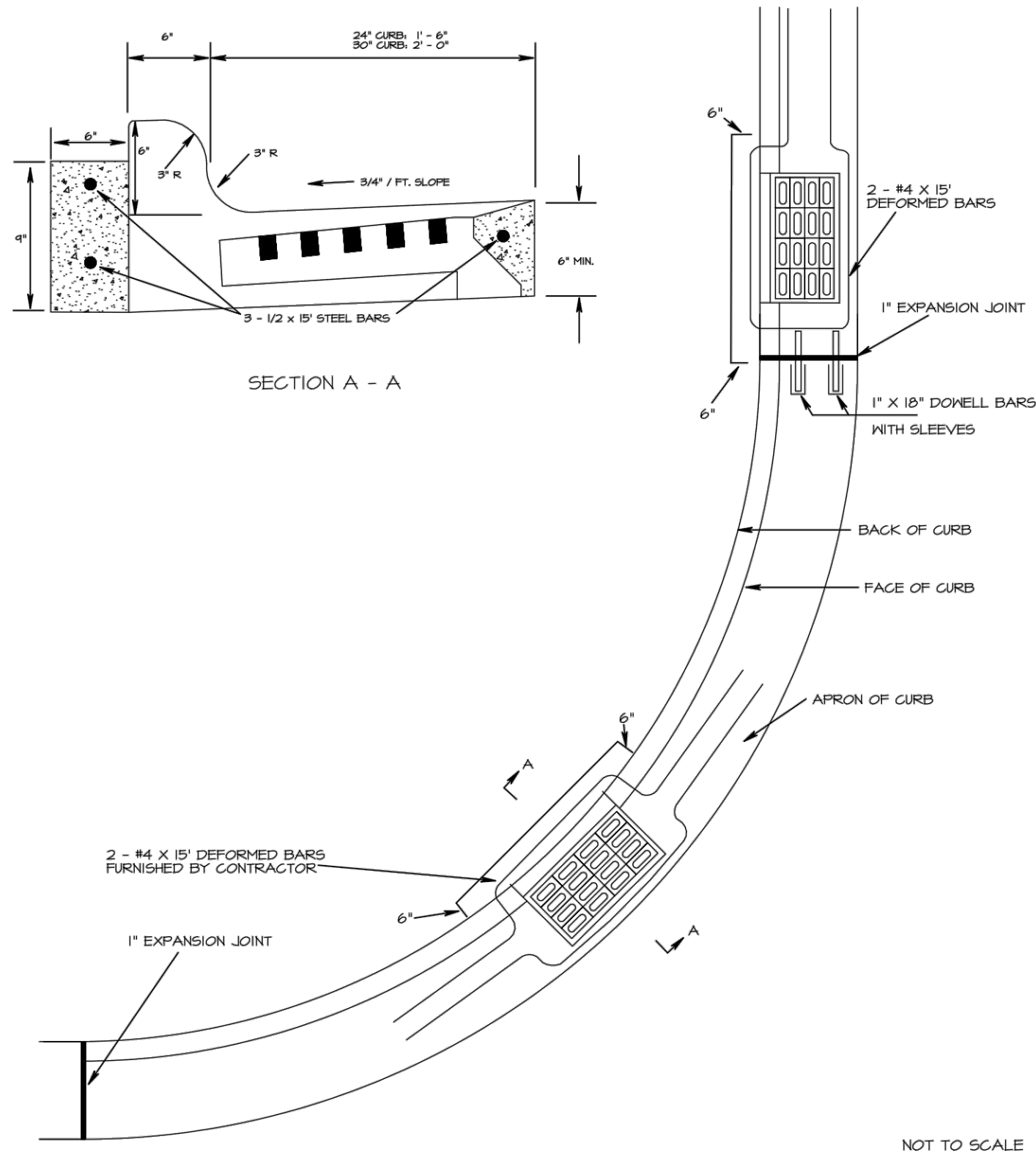


SECTION B - B



SECTION A - A

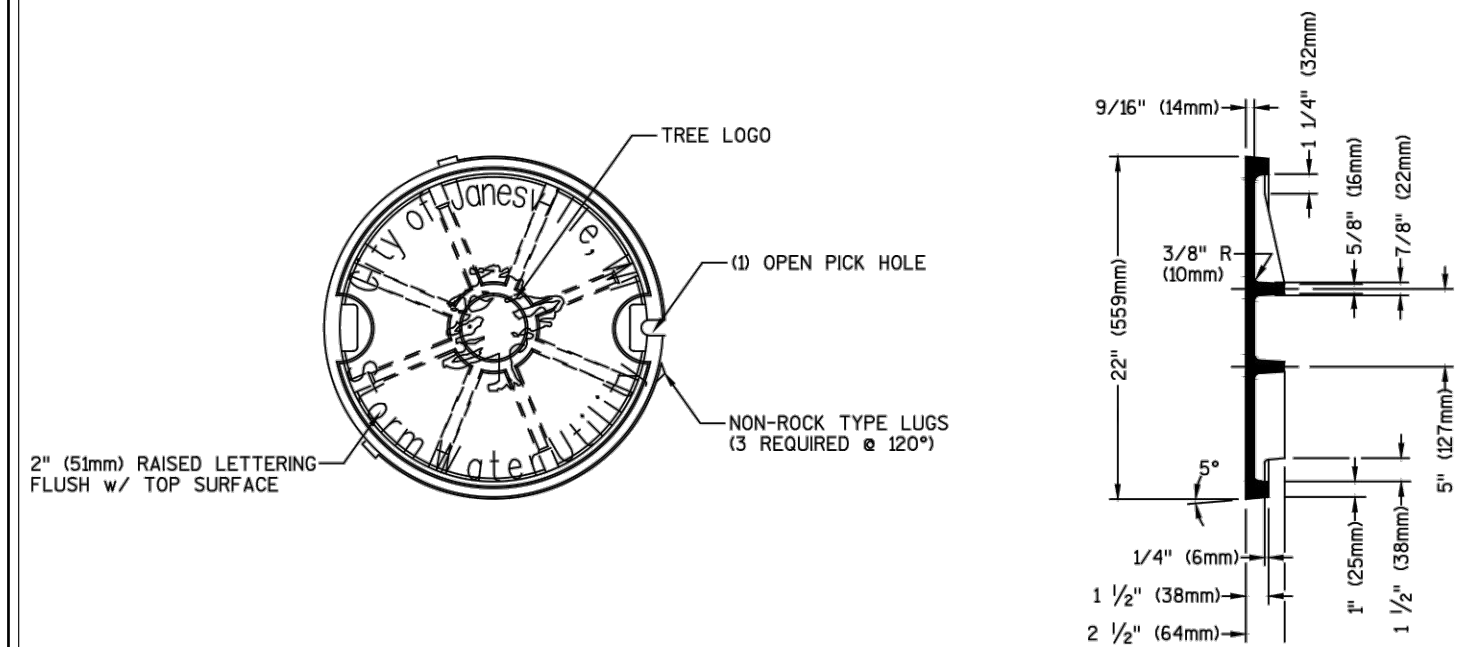
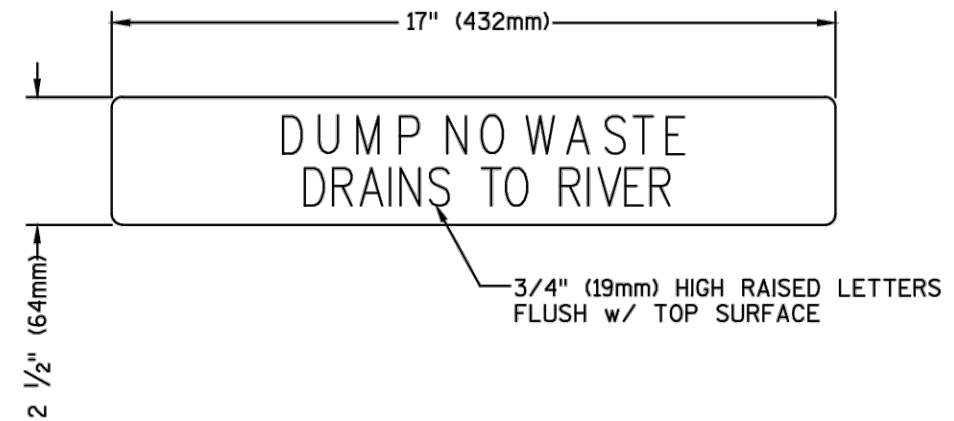




CITY OF JANESVILLE  
ENGINEERING DEPT.  
JANUARY - 2013  
LAST REVISION: 1/13

## CURB AND STEEL REINFORCEMENT AT INLETS

DETAIL # 15



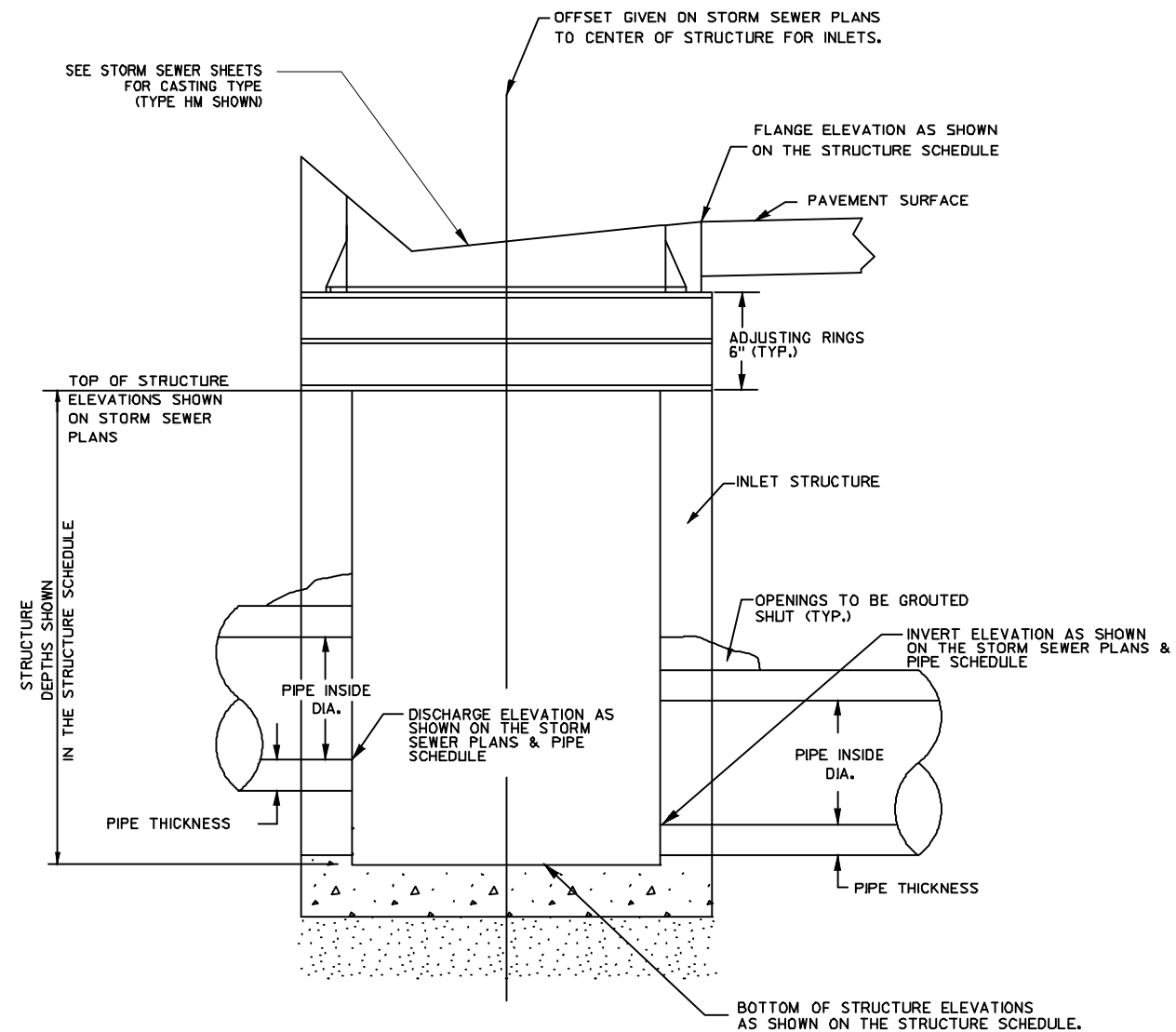
NOTE: ALL DIMENSIONS SHOWN ARE IN ENGLISH AND [METRIC]  
MATERIAL: CAST GRAY IRON ASTM A-48, CLASS 35B  
FINISH: NO PAINT  
WEIGHT: 95#

MANHOLE COVER SPECIAL  
SCALE: NONE

## GENERAL NOTES:

GRANULAR BACKFILL REQUIRED AROUND INLET  
(INCIDENTAL TO CONSTRUCTION OF INLET)

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, APPLICABLE SPECIAL PROVISIONS, S.D.D. FOR INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT.

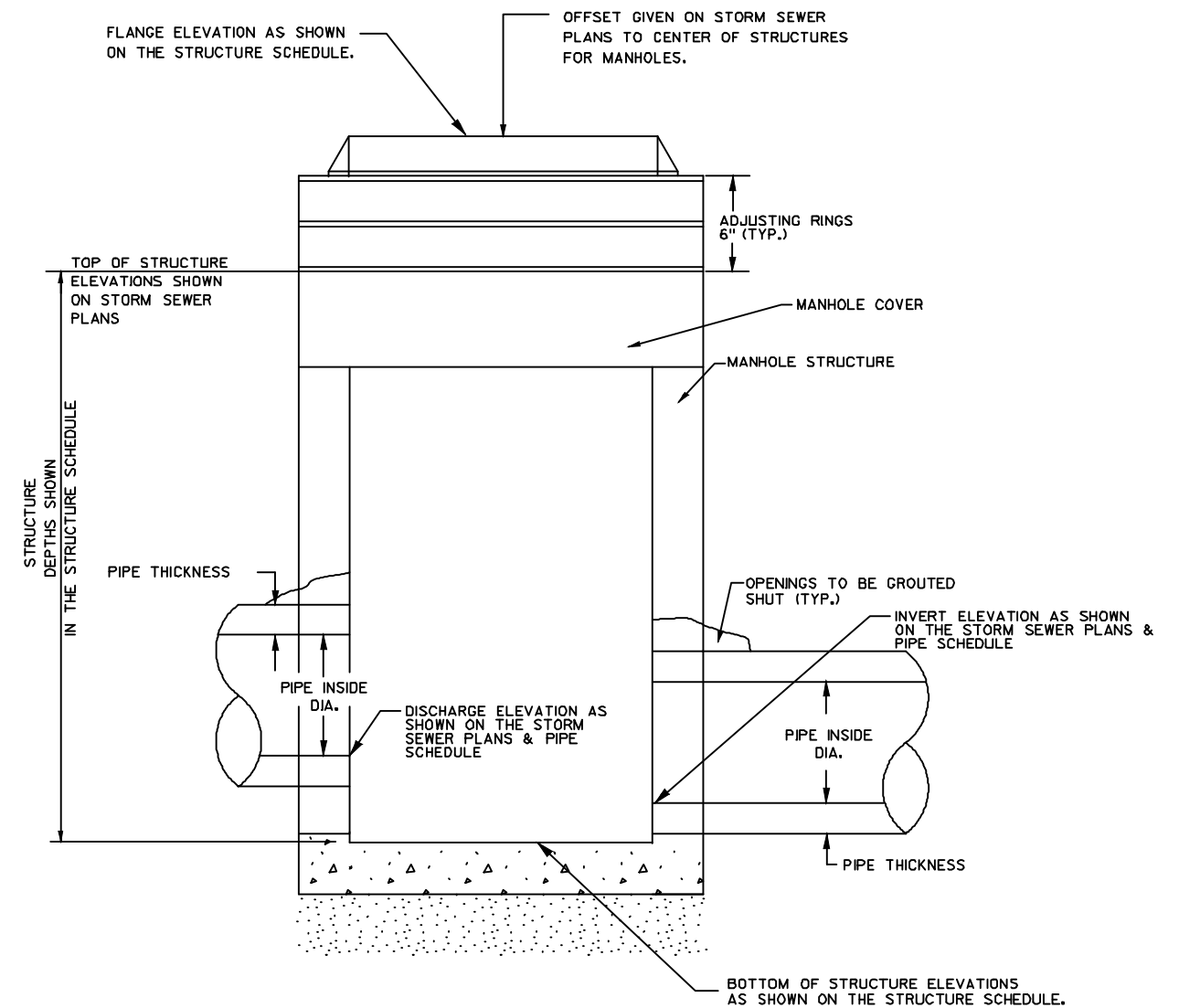


DETAIL OF INLET W/CASTING

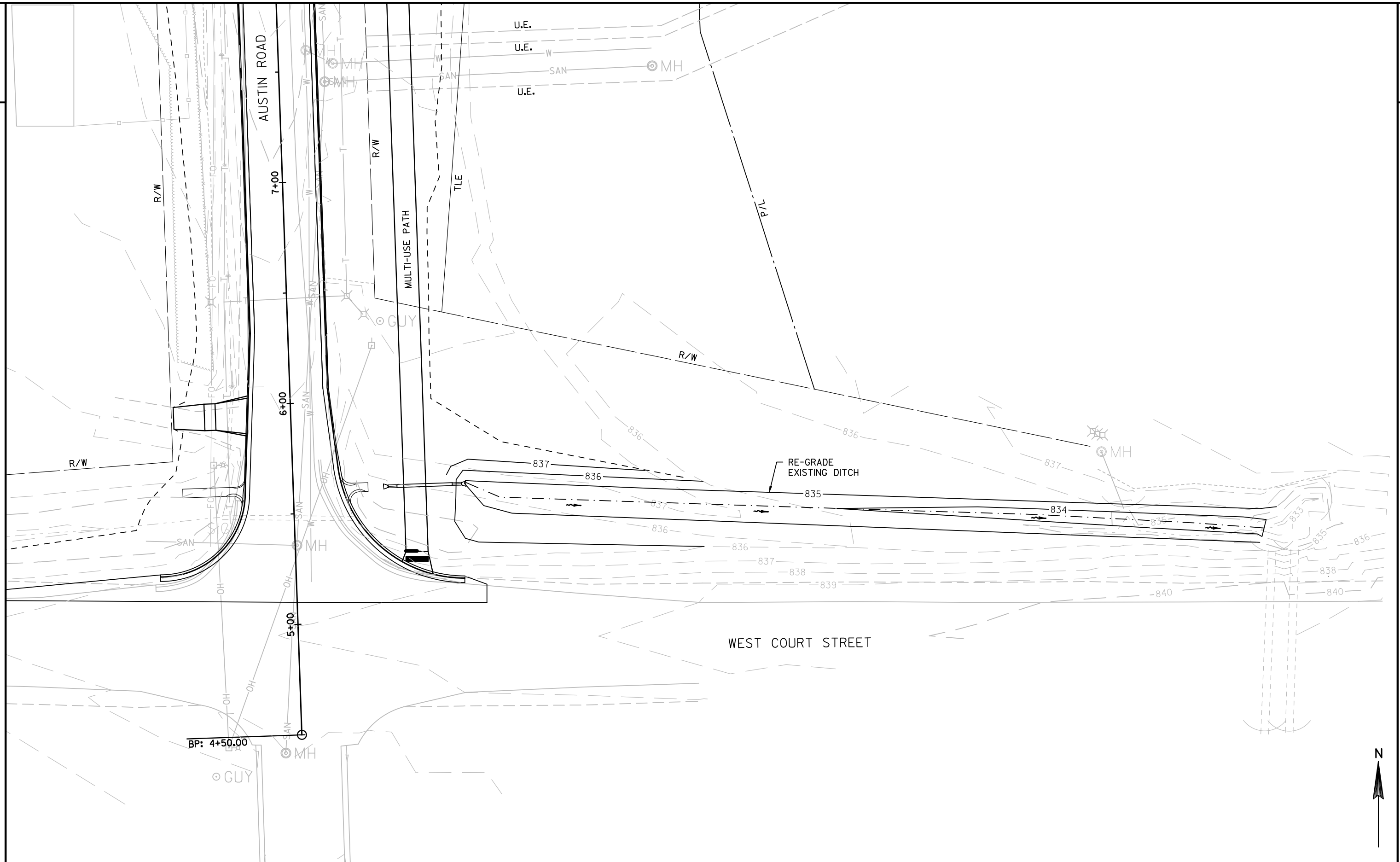
## GENERAL NOTES:

GRANULAR BACKFILL REQUIRED AROUND MANHOLE (INCIDENTAL TO CONSTRUCTION OF MANHOLE)

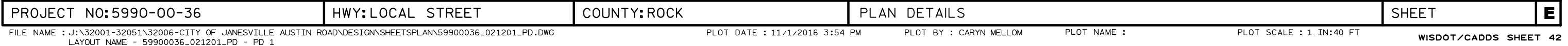
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, APPLICABLE SPECIAL PROVISIONS, S.D.D. FOR MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER.



DETAIL OF MANHOLE W/CASTING



<u>LEGEND</u>	
<u>AP01</u>	HMA PAVEMENT, 5-INCH
<u>AS01</u>	ASPHALTIC SURFACE, 3-INCH
<u>CG01</u>	CONCRETE CURB & GUTTER 30-INCH TYPE L
<u>CG02</u>	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE D
<u>CS01</u>	CONCRETE SIDEWALK 6-INCH
<u>CR01</u>	CURB RAMP DETECTABLE WARNING FIELD-NATURAL/PATINA
<u>DR01</u>	CONCRETE DRIVEWAY 6-INCH
<u>DR02</u>	AGGREGATE DRIVEWAY, BASE AGGREGATE DENSE 3/4-INCH, 6-INCH
<u>SW01</u>	SAWING ASPHALT
<u>AF01</u>	ASPHALTIC FLUME

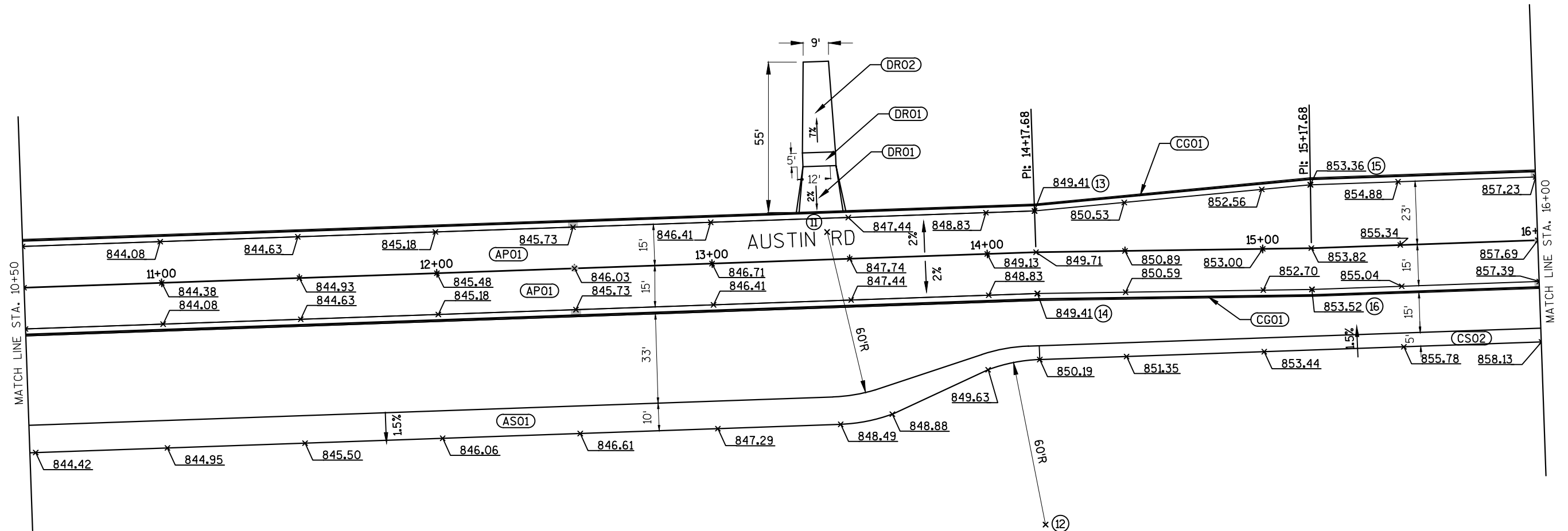




Point Table		
Point #	Station	Offset
11	13+42.13	-10.00 LT
12	14+19.67	98.98 RT
13	14+17.68	-15.00 LT
14	14+17.98	15.00 RT
15	15+18.14	-23.00 LT
16	15+17.68	15.00 RT

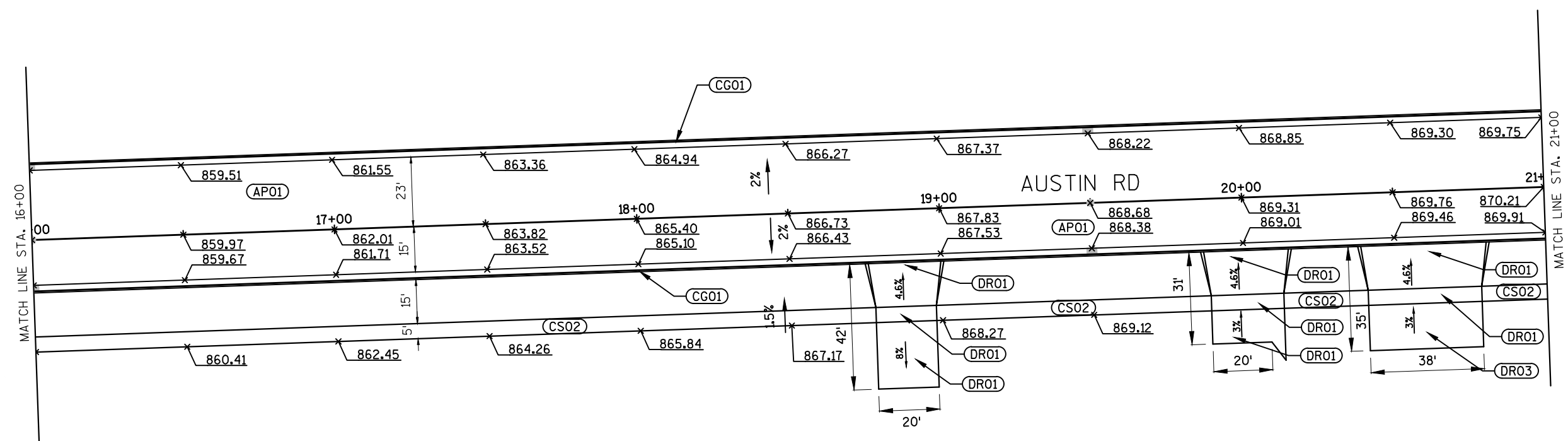
## LEGEND

- AP01 HMA PAVEMENT, 5-INCH
- AS01 ASPHALTIC SURFACE, 3-INCH
- CG01 CONCRETE CURB & GUTTER 30-INCH TYPE L
- CS01 CONCRETE SIDEWALK 6-INCH
- CS02 CONCRETE SIDEWALK 4-INCH
- DR01 CONCRETE DRIVEWAY 6-INCH
- DR02 AGGREGATE DRIVEWAY, BASE AGGREGATE DENSE 3/4-INCH, 6-INCH



## LEGEND

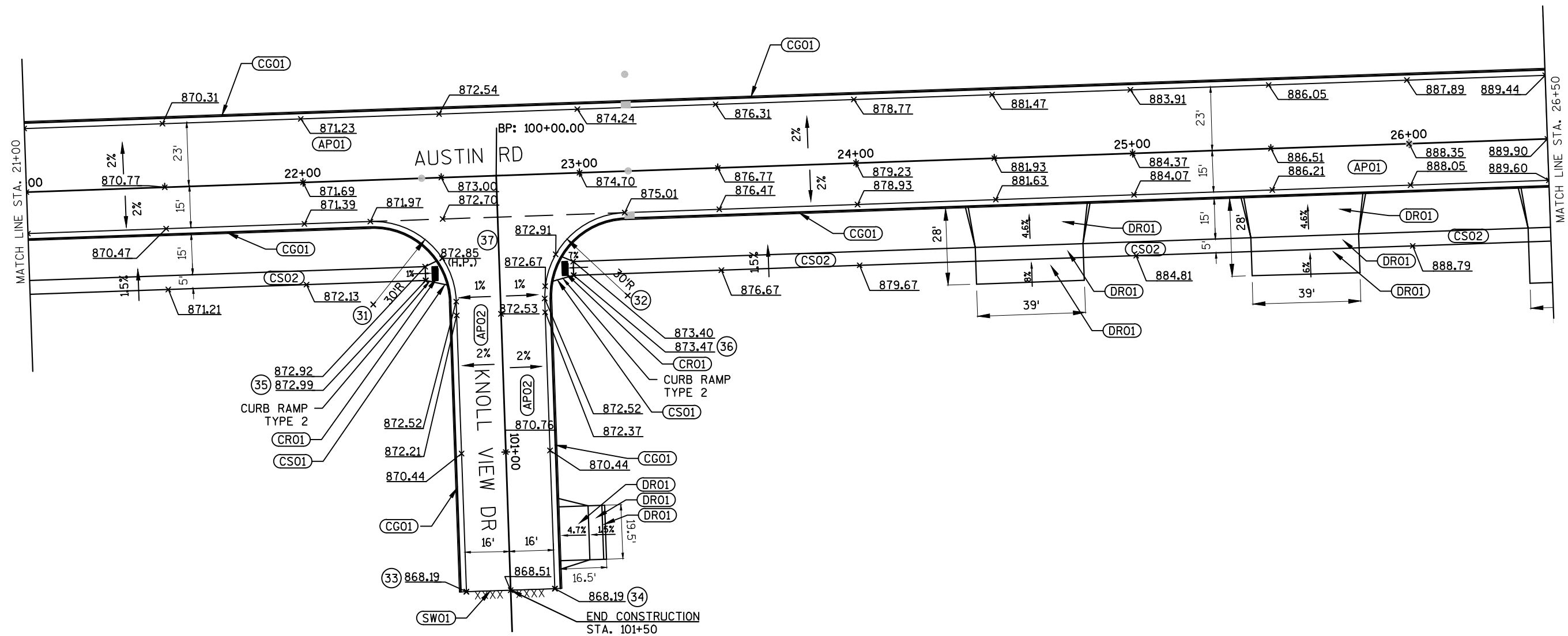
AP01	HMA PAVEMENT, 5-INCH
CG01	CONCRETE CURB & GUTTER 30-INCH TYPE L
CS01	CONCRETE SIDEWALK 6-INCH
CS02	CONCRETE SIDEWALK 4-INCH
DR01	CONCRETE DRIVEWAY 6-INCH
DR03	ASPHALTIC SURFACE DRIVEWAY & FIELD ENTRANCES, 3-INCH



Point Table		
Point #	Station	Offset
31	22+23.83	45.00 RT
32	23+15.83	45.00 RT
33	101+50.00	16.00 RT
34	101+50.00	-16.00 LT
35	22+43.07	37.00 RT
36	22+96.60	37.00 RT
37	100+29.17	20.52 RT

## LEGEND

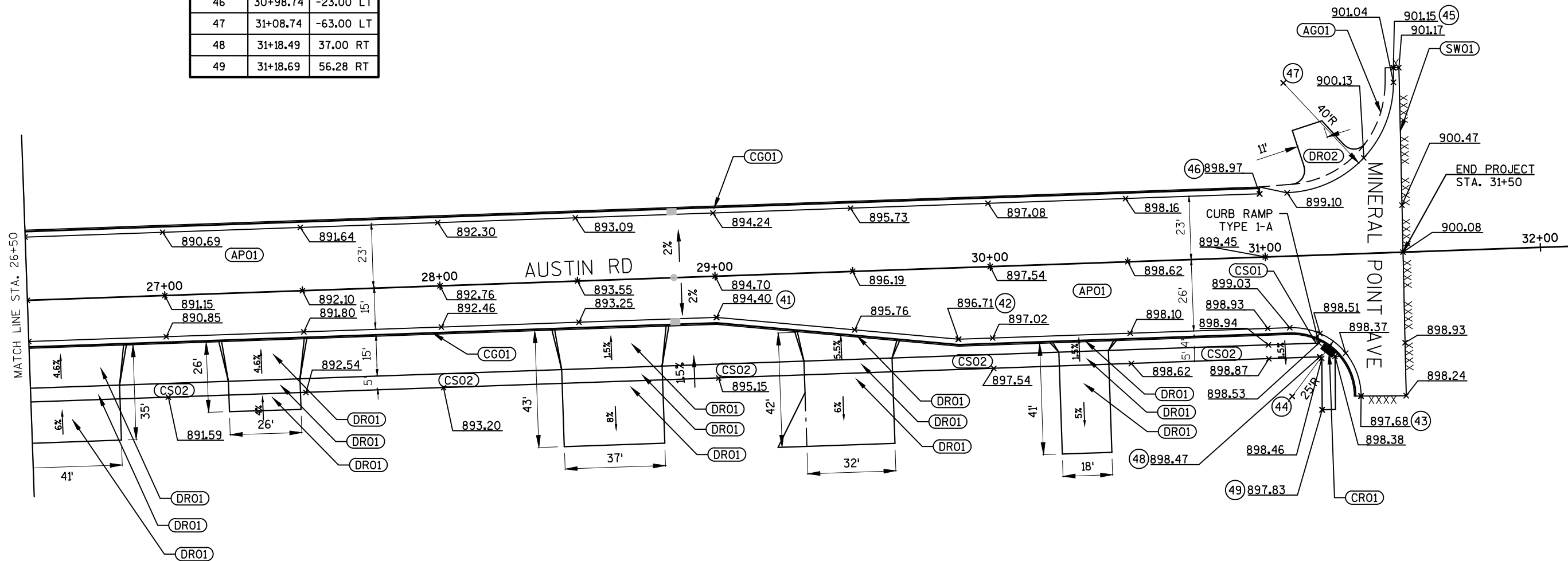
AP01	HMA PAVEMENT, 5-INCH
AP02	HMA PAVEMENT TYPE E-1, 3.75-INCH
CG01	CONCRETE CURB & GUTTER 30-INCH TYPE L
CS01	CONCRETE SIDEWALK 6-INCH
CS02	CONCRETE SIDEWALK 4-INCH
DR01	CONCRETE DRIVEWAY 6-INCH
CR01	CURB RAMP DETECTABLE WARNING FIELD-NATURAL/PATINA
SW01	SAWING ASPHALT



Point Table		
Point #	Station	Offset
41	28+99.96	15.00 RT
42	29+87.55	26.00 RT
43	31+32.98	51.76 RT
44	31+07.99	51.00 RT
45	31+48.88	-67.14 LT
46	30+98.74	-23.00 LT
47	31+08.74	-63.00 LT
48	31+18.49	37.00 RT
49	31+18.69	56.28 RT

## LEGEND

- (AG01) BASE AGGREGATE DENSE, 3/4-INCH  
(AP01) HMA PAVEMENT, 5-INCH  
(CG01) CONCRETE CURB & GUTTER 30-INCH TYPE L  
(CS01) CONCRETE SIDEWALK 6-INCH  
(CS02) CONCRETE SIDEWALK 4-INCH  
(DR01) CONCRETE DRIVEWAY 6-INCH  
(DR02) AGGREGATE DRIVEWAY, BASE AGGREGATE DENSE 3/4-INCH, 6-INCH  
(CR01) CURB RAMP DETECTABLE WARNING FIELD-NATURAL/PATINA  
(SW01) SAWING ASPHALT





W. COURT ST

5+00

6+00

AUSTIN RD

7+00

8+00

9+00

10+00

MATCH LINE STA. 10+50

R/W

R/W

R/W

INSTALL  
TRACKING  
PAD

TLE

TLE

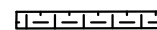
EXISTING WETLAND

P.L.

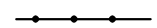
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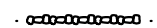
## LEGEND



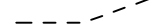
EROSION MAT URBAN CLASS I, TYPE A



SILT FENCE



RIP RAP



SLOPE INTERCEPT



INLET PROTECTION TYPE (X)



SURFACE WATER FLOW



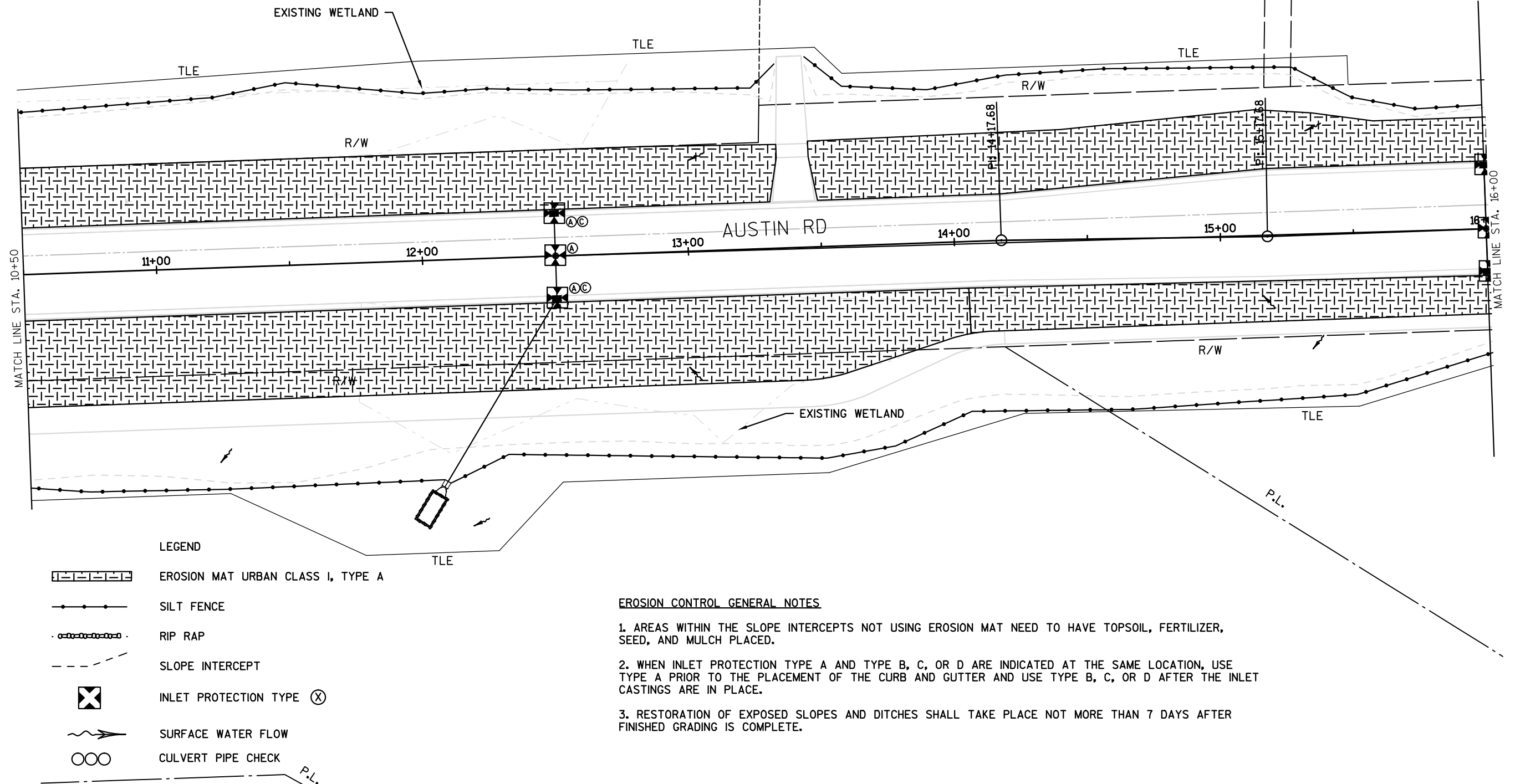
CULVERT PIPE CHECK

## EROSION CONTROL GENERAL NOTES

1. AREAS WITHIN THE SLOPE INTERCEPTS NOT USING EROSION MAT NEED TO HAVE TOPSOIL, FERTILIZER, SEED, AND MULCH PLACED.
2. WHEN INLET PROTECTION TYPE A AND TYPE B, C, OR D ARE INDICATED AT THE SAME LOCATION, USE TYPE A PRIOR TO THE PLACEMENT OF THE CURB AND GUTTER AND USE TYPE B, C, OR D AFTER THE INLET CASTINGS ARE IN PLACE.
3. RESTORATION OF EXPOSED SLOPES AND DITCHES SHALL TAKE PLACE NOT MORE THAN 7 DAYS AFTER FINISHED GRADING IS COMPLETE.

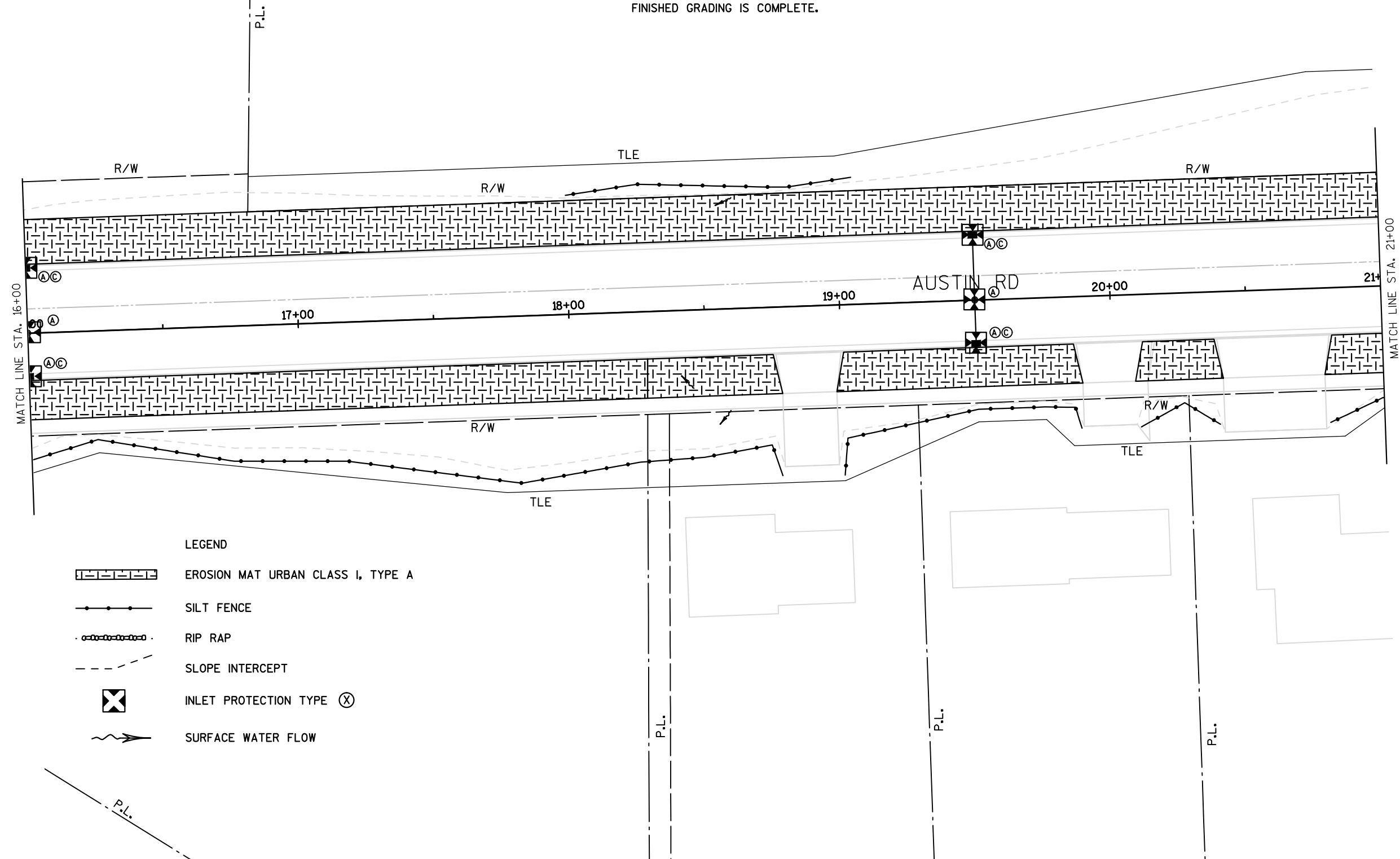
P.L.

P.L.

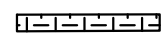
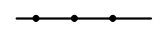
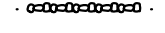


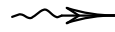


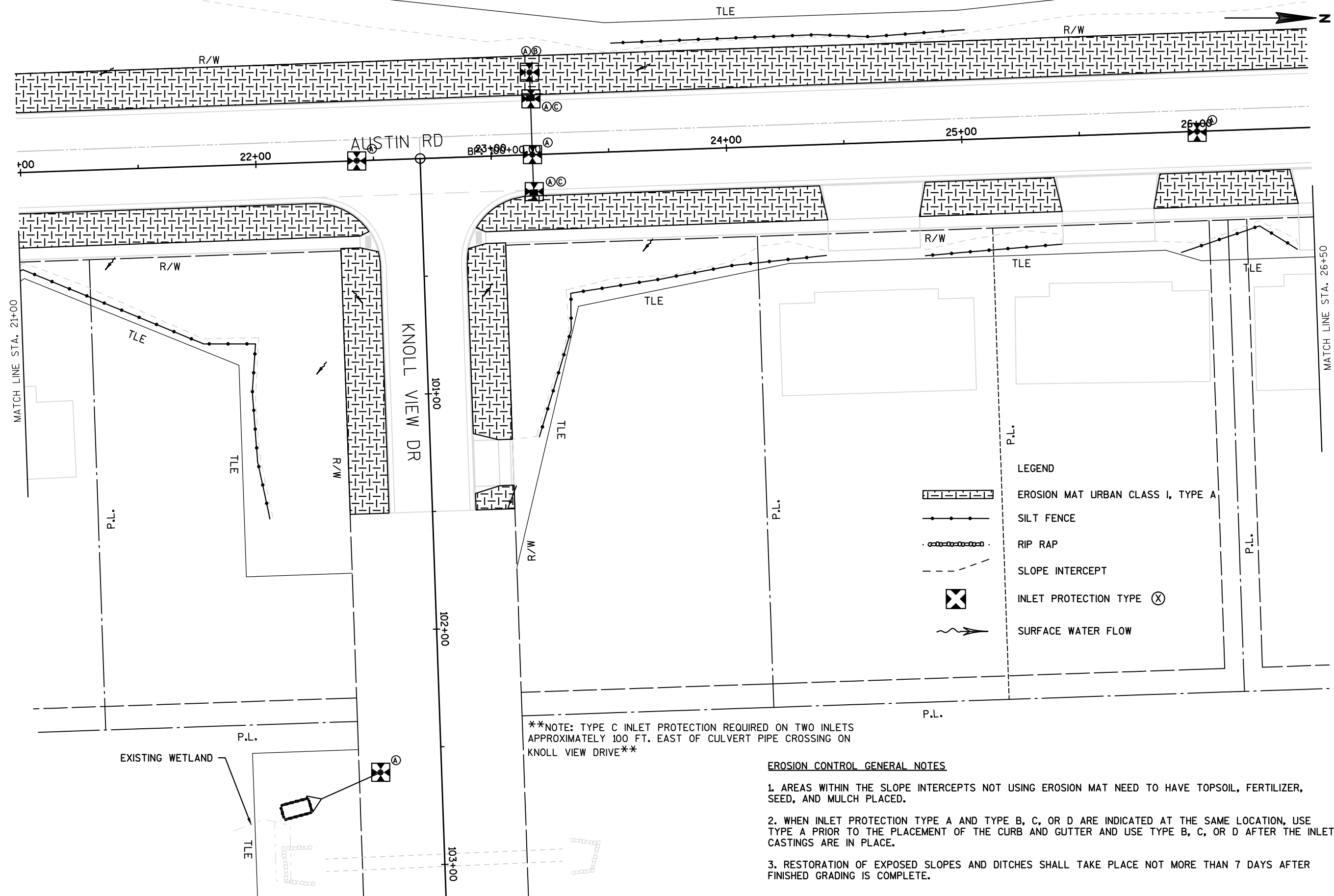
# EROSION CONTROL GENERAL NOTES

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## LEGEND

-  EROSION MAT URBAN CLASS I, TYPE A
-  SILT FENCE
-  RIP RAP
-  SLOPE INTERCEPT
-  INLET PROTECTION TYPE (X)
-  SURFACE WATER FLOW



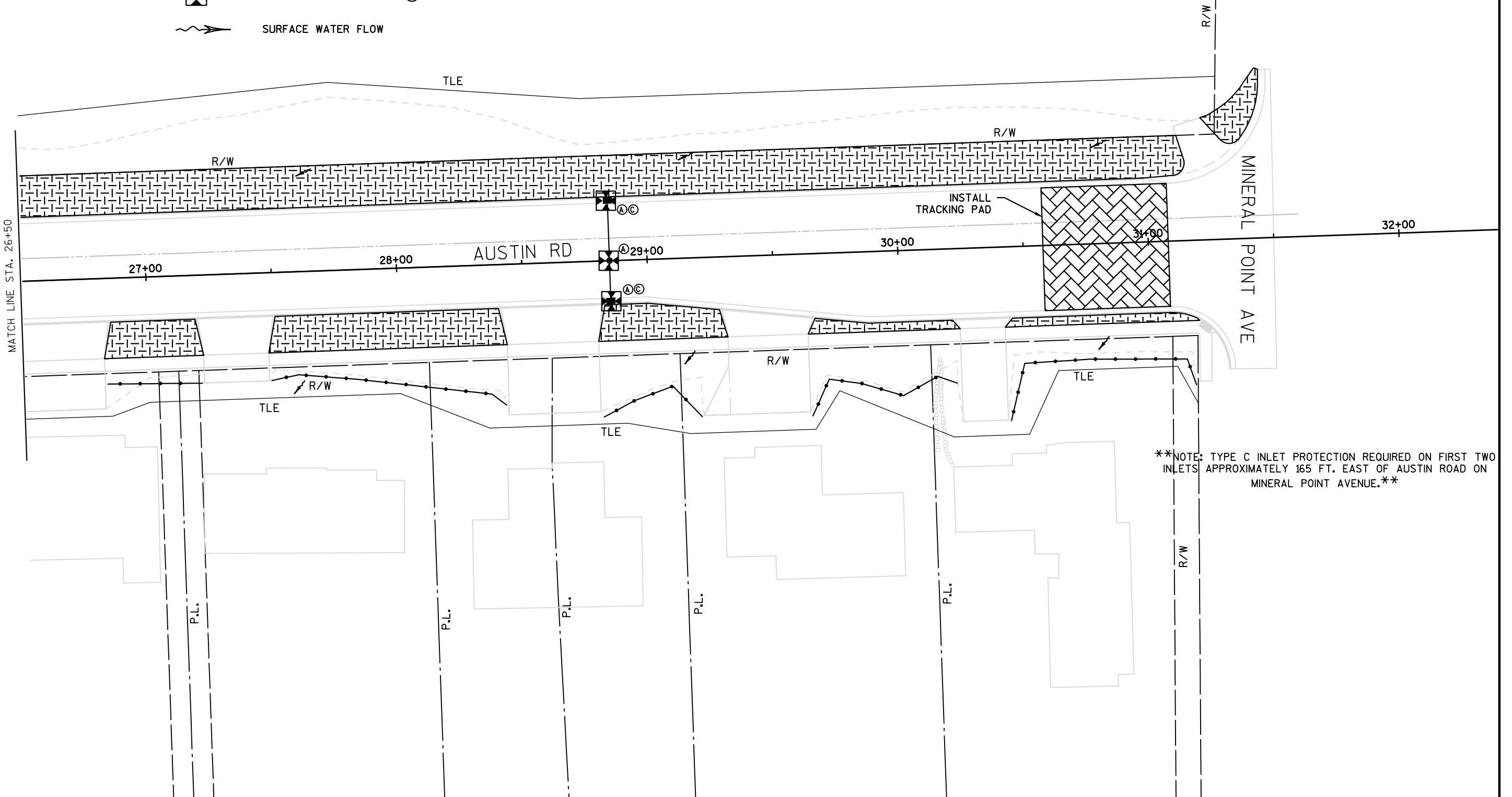


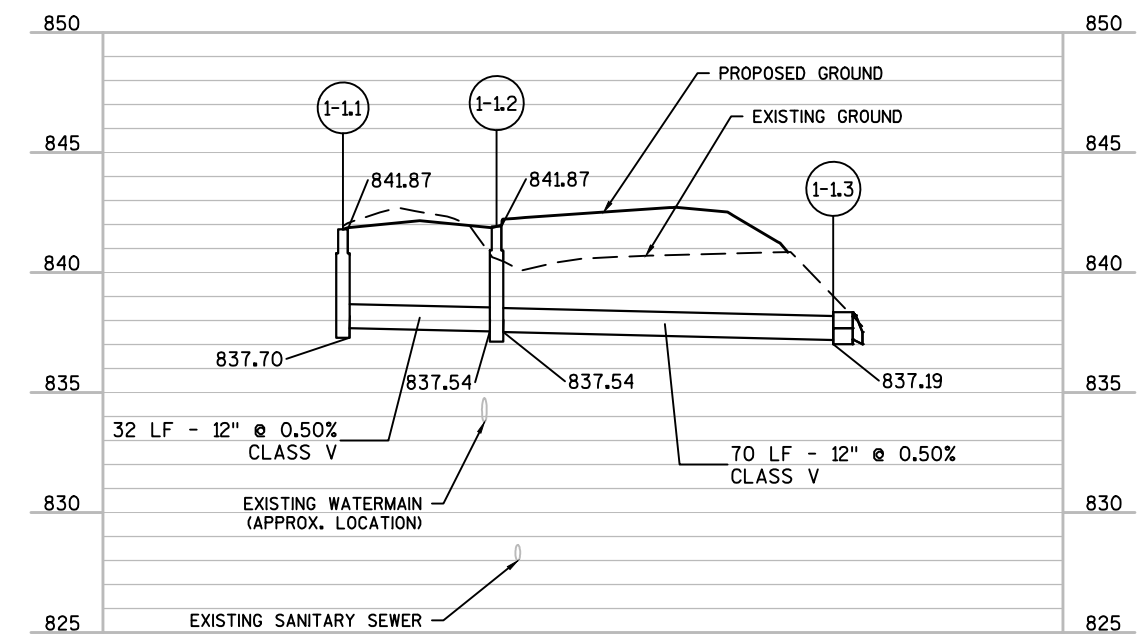
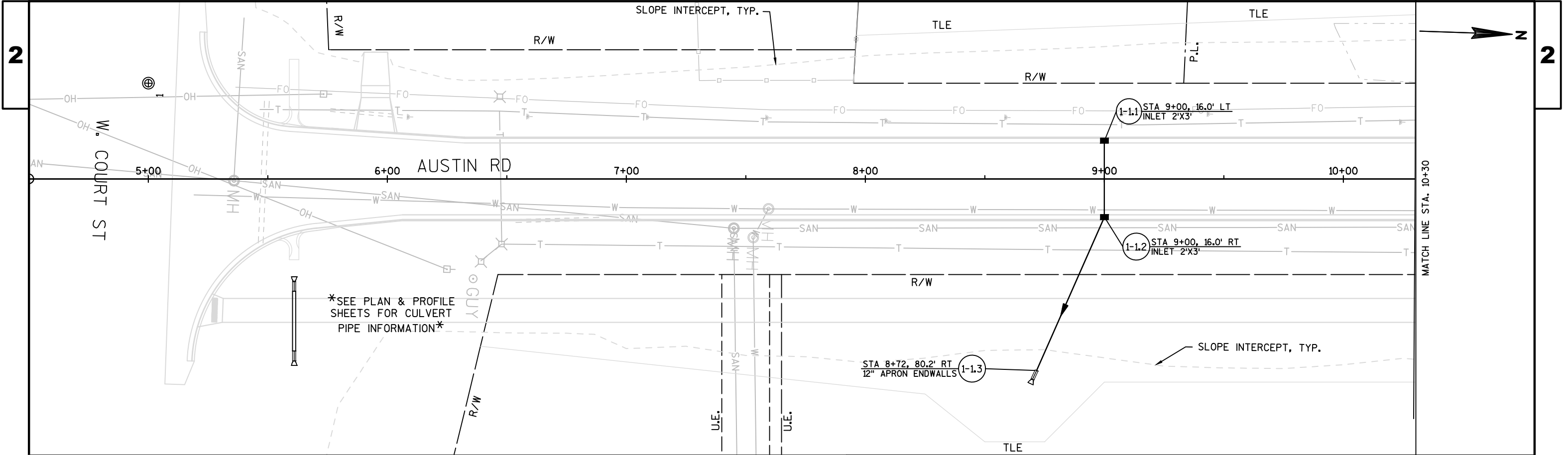
## LEGEND

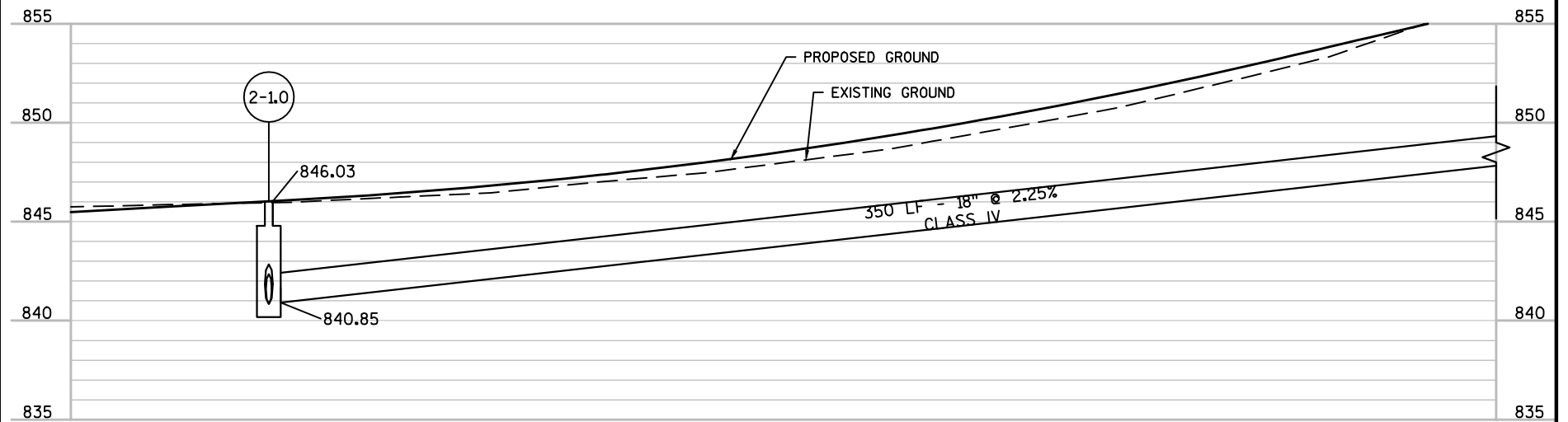
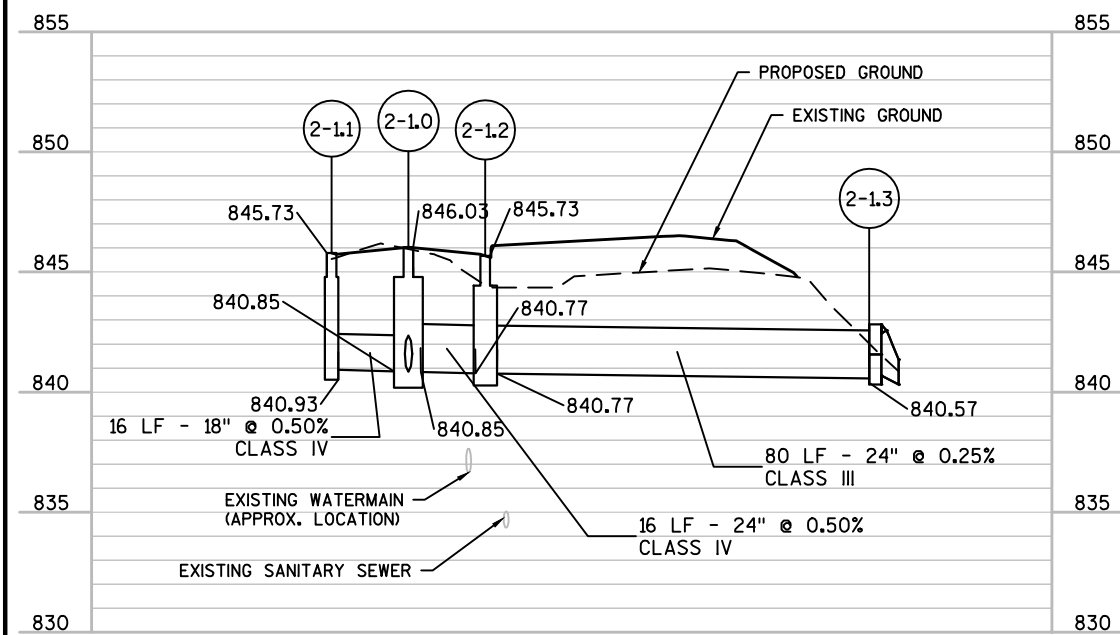
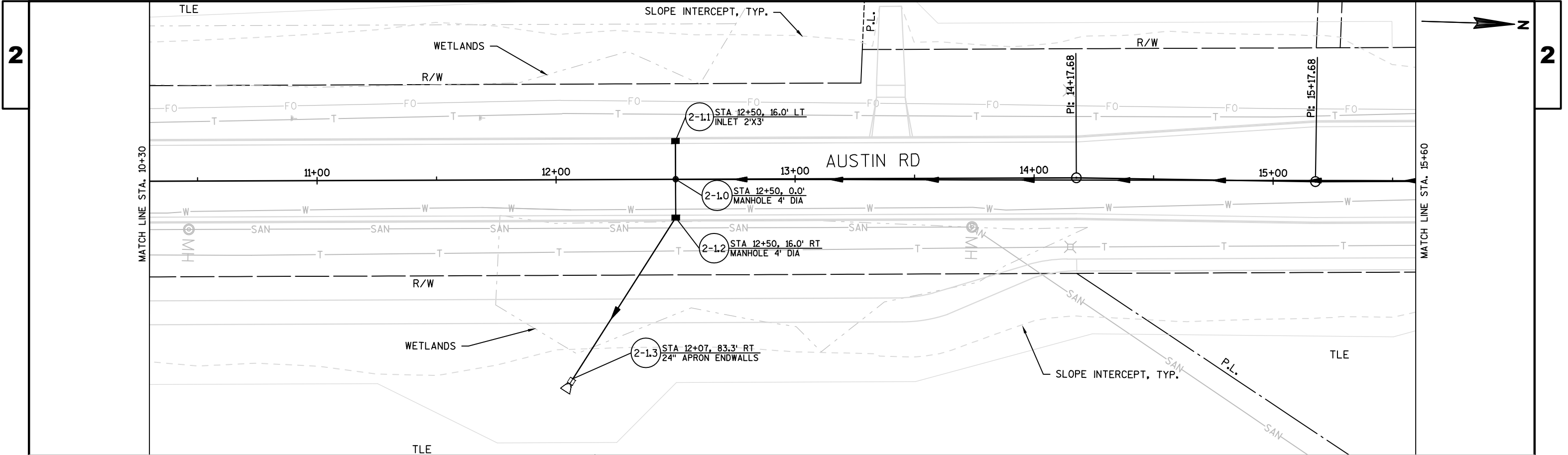
	EROSION MAT URBAN CLASS I, TYPE A
	SILT FENCE
	RIP RAP
	SLOPE INTERCEPT
	INLET PROTECTION TYPE (X)
	SURFACE WATER FLOW

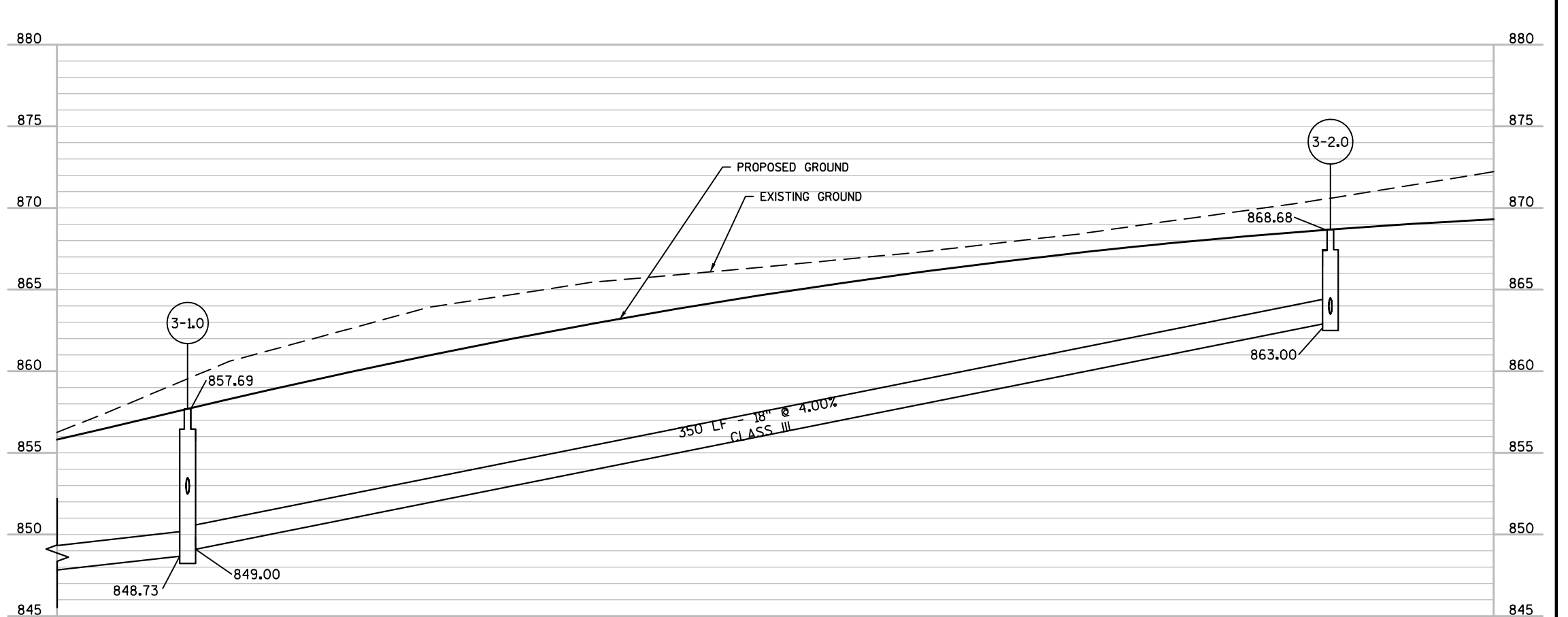
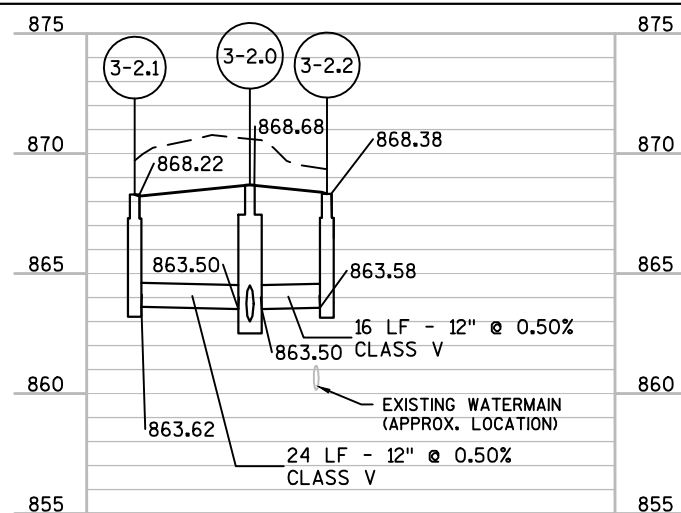
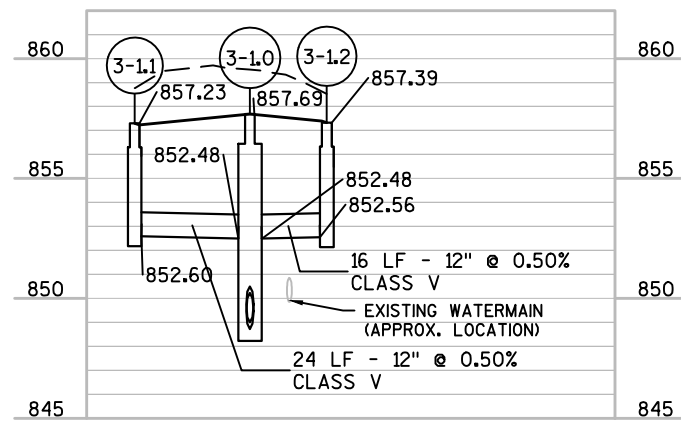
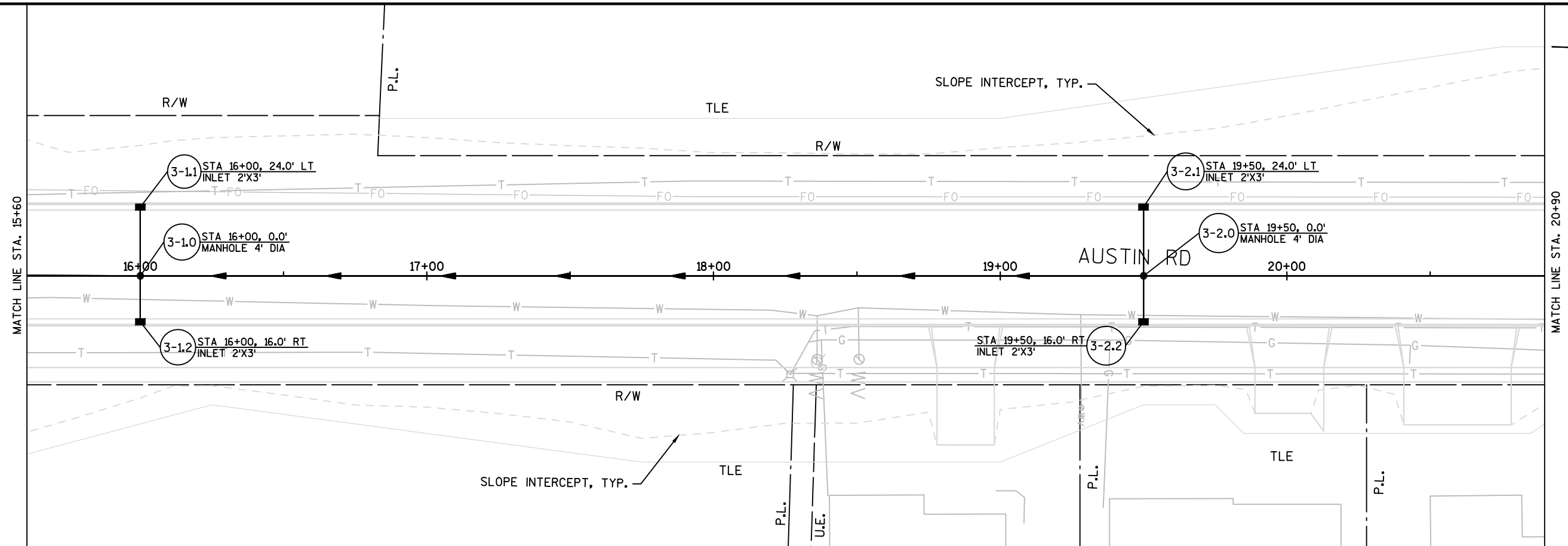
## EROSION CONTROL GENERAL NOTES

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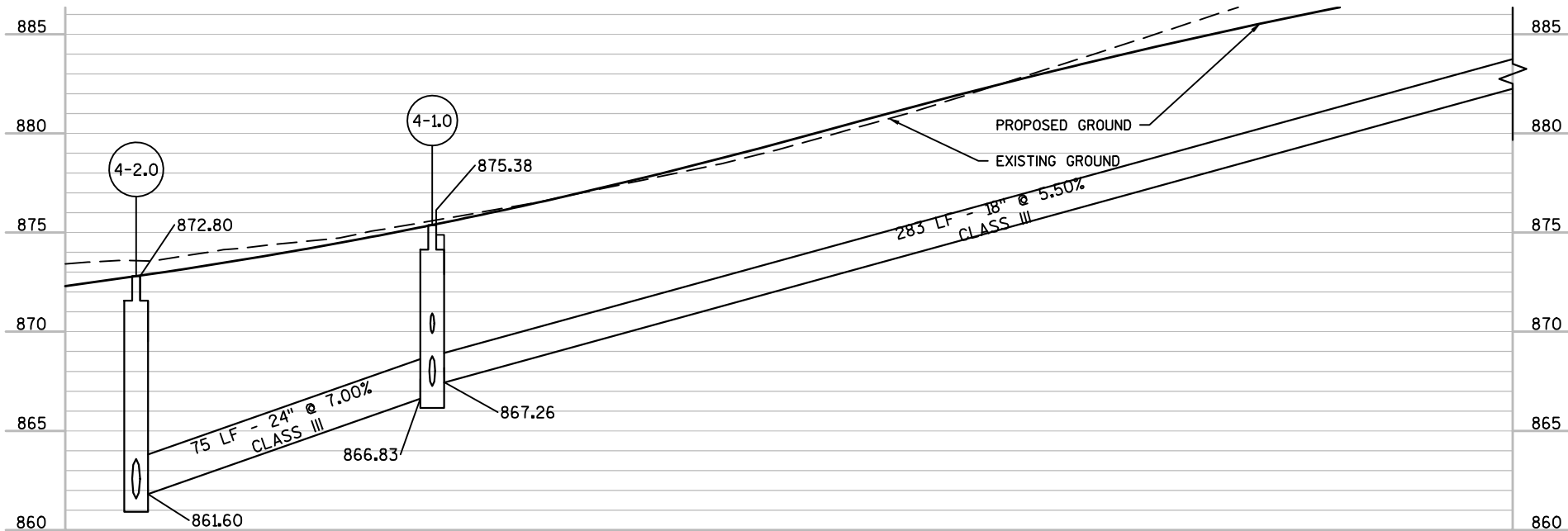






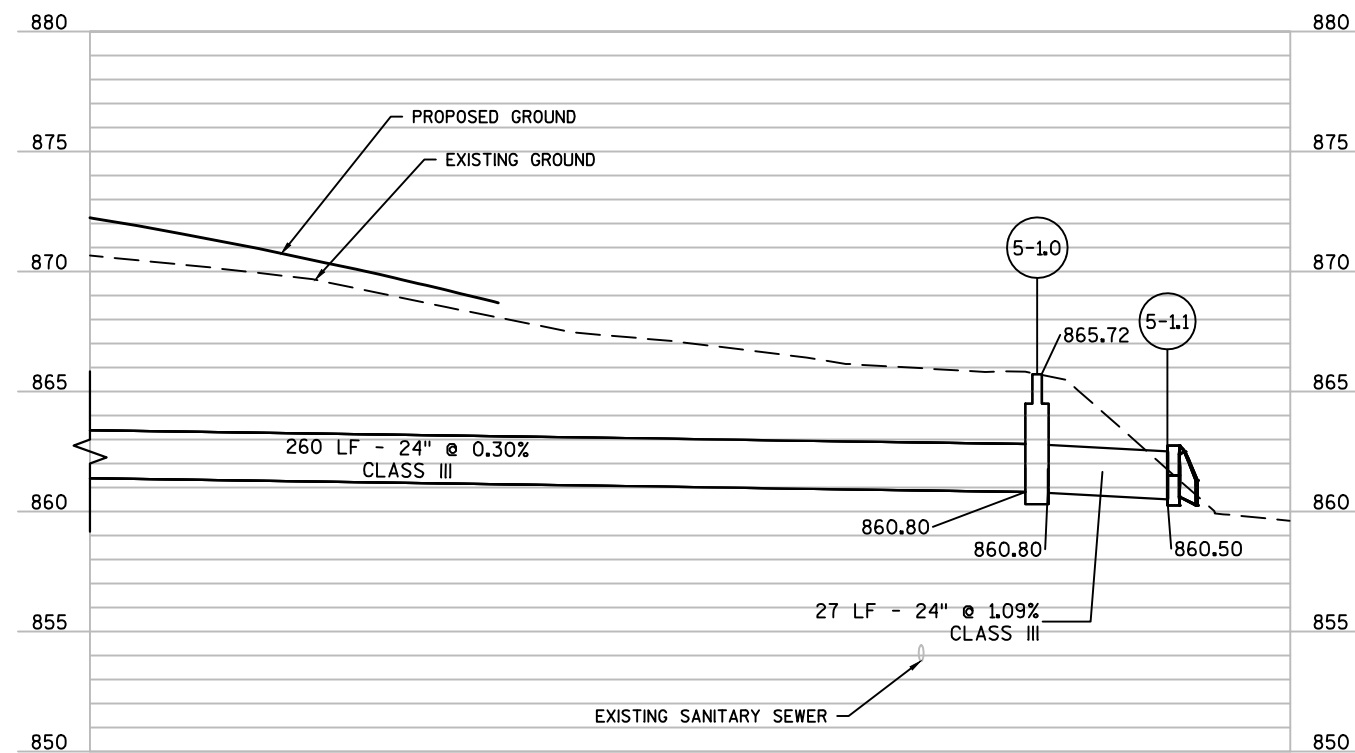
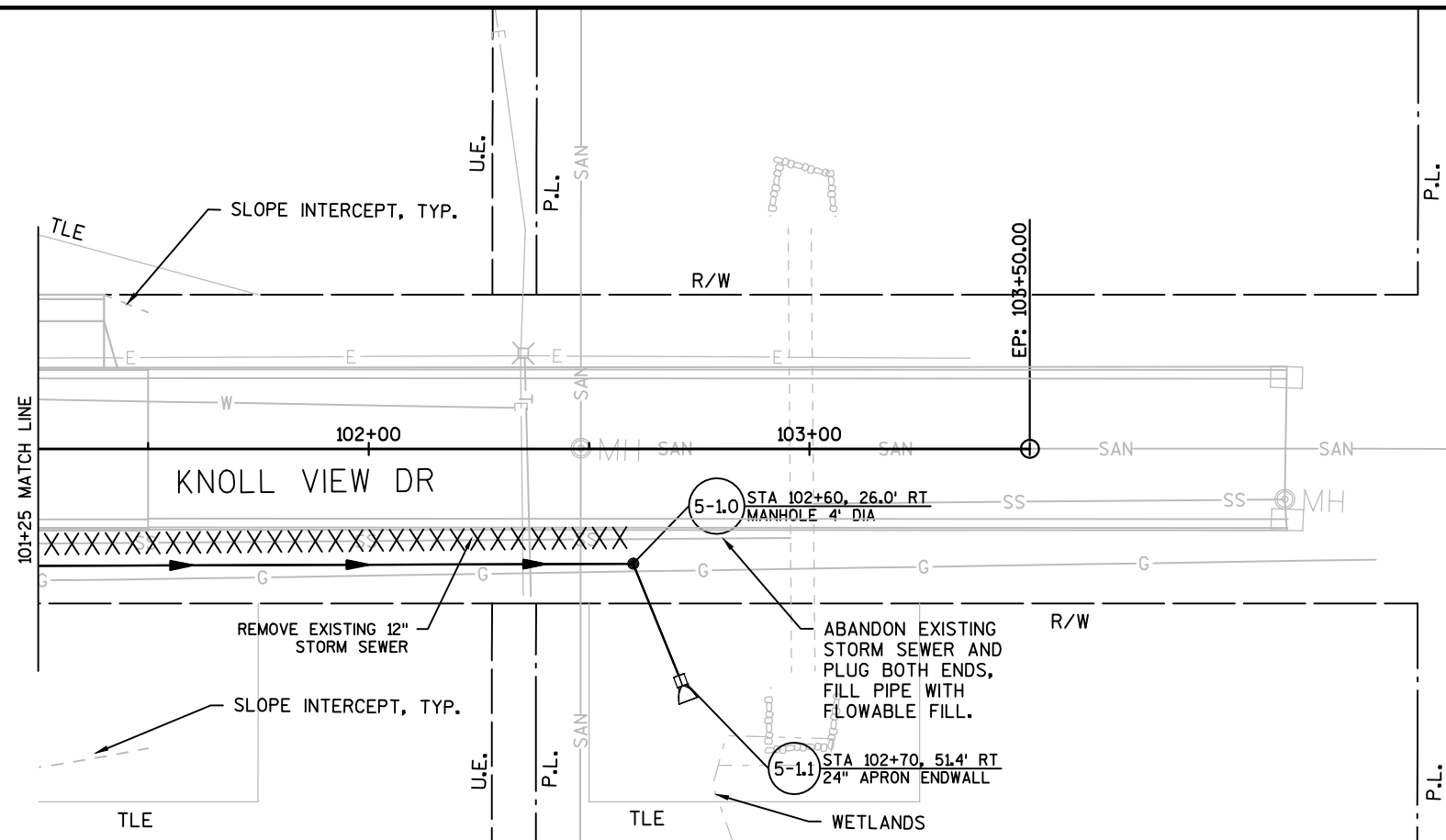
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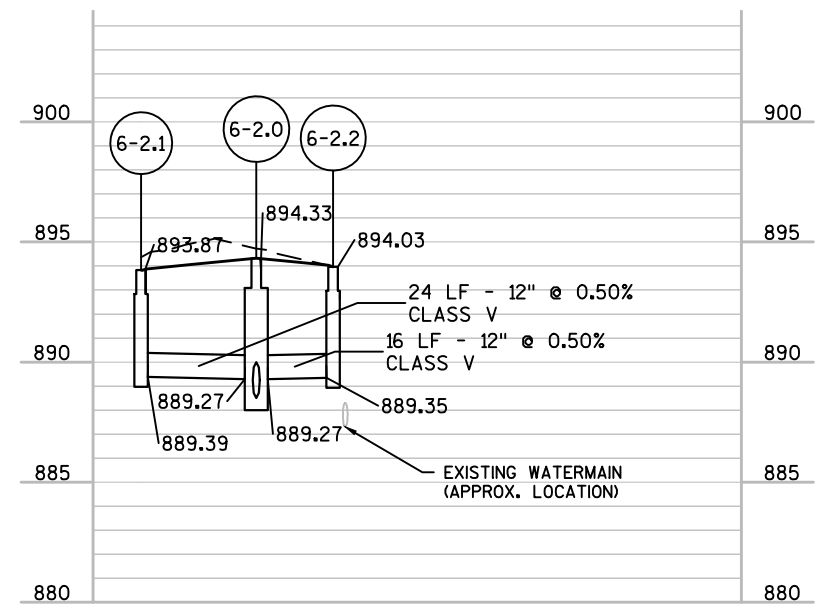
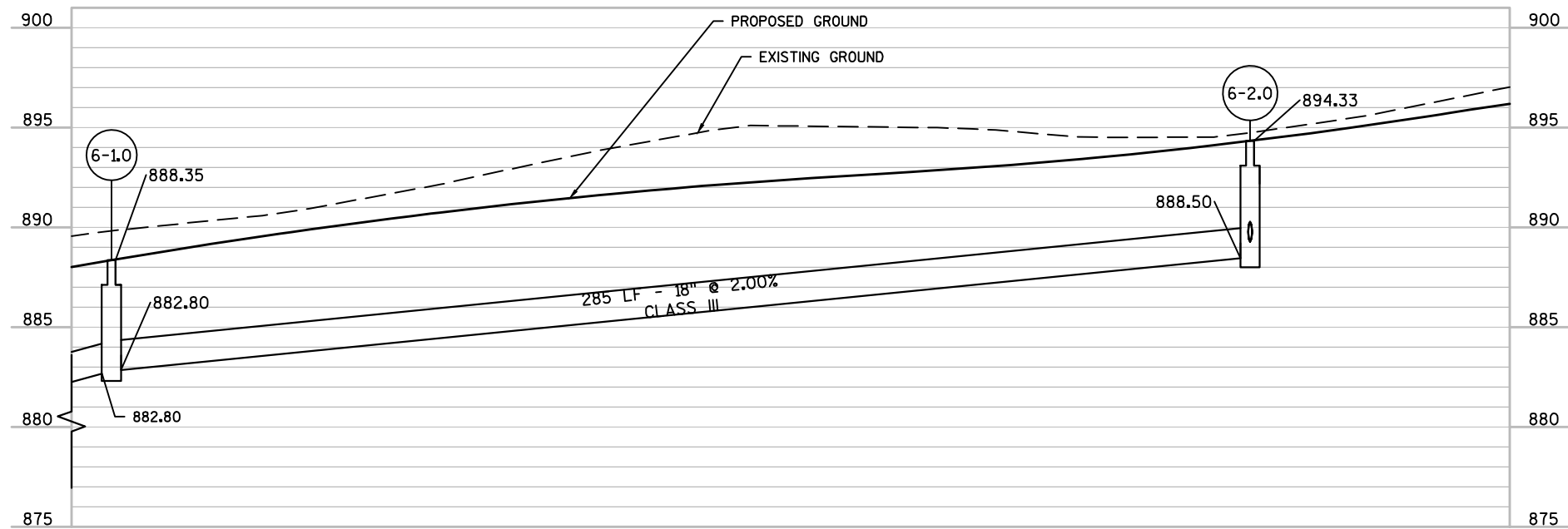
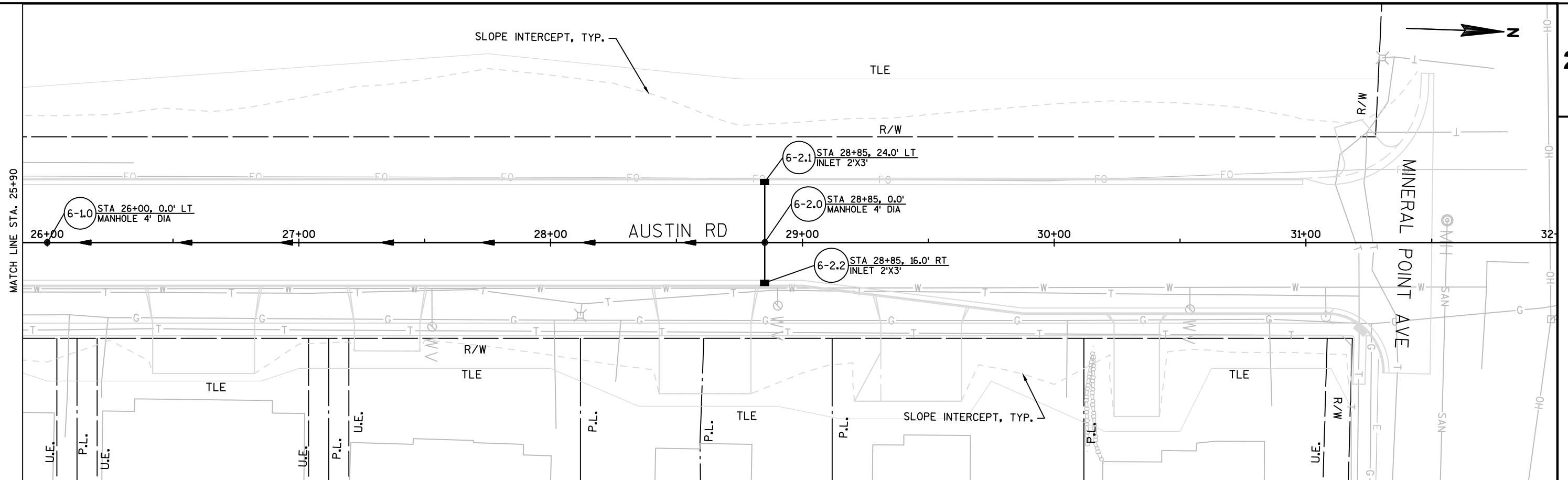
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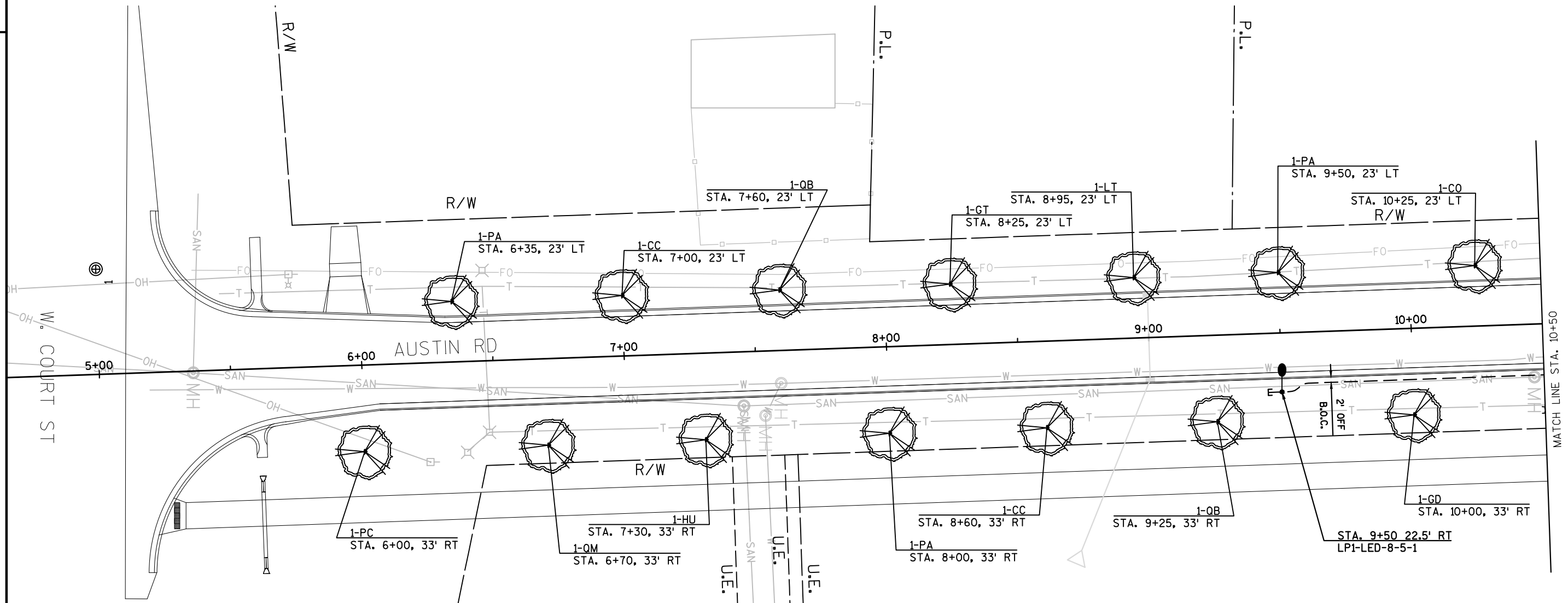


11

WISDOT/CADDS SHEET 41





**LEGEND**

- PROPOSED ROADWAY LIGHT POLE, LUMINAIRE, MAST ARM
- LIGHTING PULL BOX
- ELECTRIC SERVICE
- CONDUIT 2" NON-METALLIC
- EXISTING LIGHT POLE
- EXISTING LIGHT POLE UTILITY
- TREE (SEE PLANT ITEM CHART)

**ROADWAY LIGHTING UNIT NOTATION**STATION, OFFSET  
LP1-LED-8-5-1

- CIRCUIT NUMBER
- BASE TYPE
- ARM LENGTH IN FEET
- LAMP TYPE
- LIGHT DESIGNATION

**PLANT ITEM**

QUANTITY	SYMBOL	COMMON NAME	SCIENTIFIC NAME	*SIZE WHEN PLANTED	ROOT ZONE METHOD	MINIMUM SIZE				MULCH RING DIAMETER
						BALL/POT SIZE	BALL/POT DEPTH	PLANT HOLE DIAMETER	PLANT HOLE DEPTH	
2	CC	Turkish Filbert	Corylus colurna	2.5" Cal.	B&B	24"	16"	48"	16"	5'-0"
1	CO	Hackberry	Celtis occidentalis	2.5" Cal.	B&B	24"	16"	48"	16"	5'-0"
1	GD	Kentucky Coffee Tree	Gymnocladus dioica 'Espresso'	2" Cal.	B&B	24"	16"	48"	16"	5'-0"
1	GT	Honey Locust	Gleditsia triacanthos	3" Cal.	B&B	24"	16"	48"	16"	5'-0"
1	HU	Hybrid Elm	Ulmus americana	2" Cal.	B&B	24"	16"	48"	16"	5'-0"
1	LT	Tulip Tree	Liriodendron tulipifera	3" Cal.	B&B	24"	16"	48"	16"	5'-0"
3	PA	Plane Tree	Platanus acerfolia	2.5" Cal.	B&B	24"	16"	48"	16"	5'-0"
1	PC	Autumn Blaze Pear	Pyrus calleryana 'Autumn Blaze'	3" Cal.	B&B	24"	16"	48"	16"	5'-0"
2	QB	Swamp White Oak	Quercus bicolor	2" Cal.	B&B	24"	16"	48"	16"	5'-0"
1	QM	Bur Oak	Quercus macrocarpa	2.5" Cal.	B&B	24"	16"	48"	16"	5'-0"
-	QR	Regal Prince Oak	Quercus robur fastigiata x bicolor 'Long'	2" Cal.	B&B	24"	16"	48"	16"	5'-0"

PROJECT NO:5990-00-36

HWY: LOCAL STREET

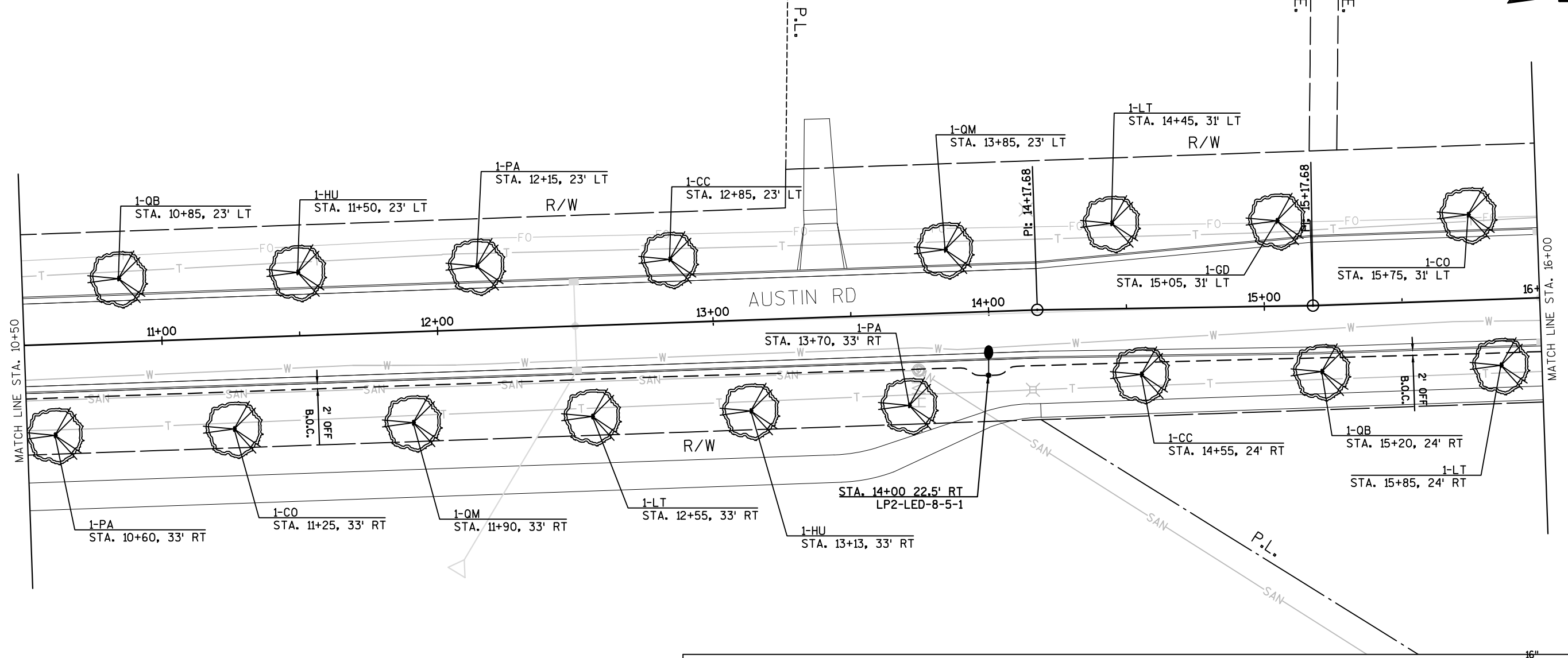
COUNTY: ROCK

LIGHTING &amp; LANDSCAPING

SHEET

**E**





## LEGEND

- PROPOSED ROADWAY LIGHT POLE, LUMINAIRE, MAST ARM
- LIGHTING PULL BOX
- ELECTRIC SERVICE
- CONDUIT 2" NON-METALLIC
- EXISTING LIGHT POLE
- EXISTING LIGHT POLE UTILITY
- TREE (SEE PLANT ITEM CHART)

## ROADWAY LIGHTING UNIT NOTATION

STATION, OFFSET  
LP1-LED-8-5-1

- CIRCUIT NUMBER
- BASE TYPE
- ARM LENGTH IN FEET
- LAMP TYPE
- LIGHT DESIGNATION

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1	GD	Kentucky Coffee Tree	Gymnocladus dioica 'Espresso'	2" Cal.	B&B	24"	16"	48"	16"	5'-0"
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PROJECT NO: 5990-00-36

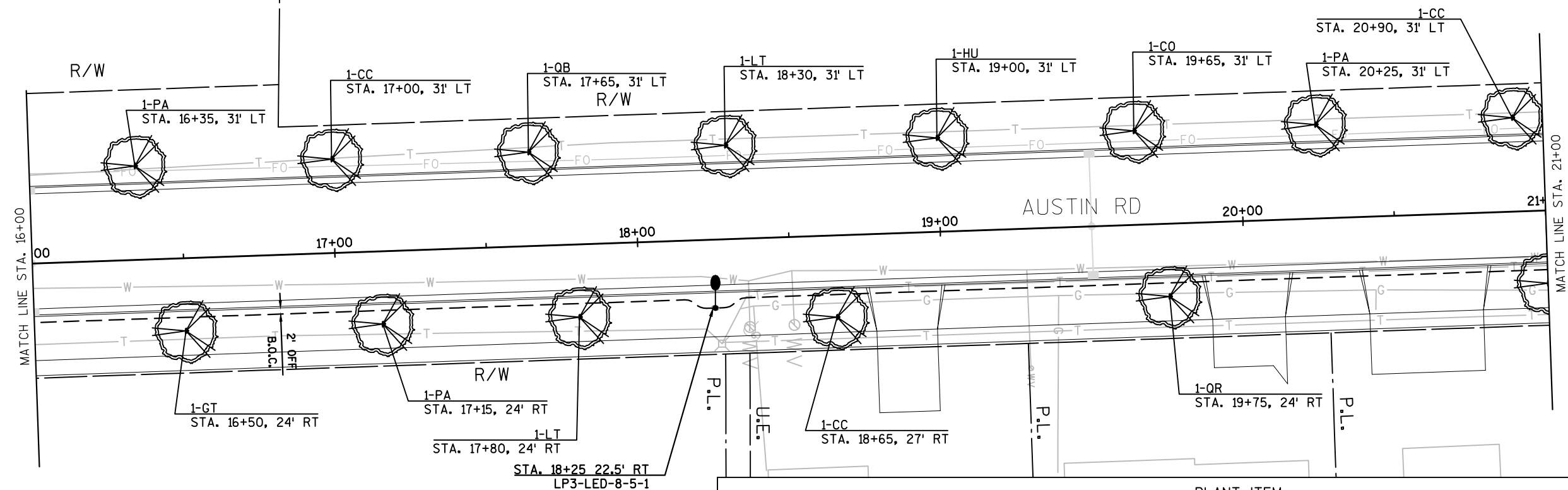
HWY: LOCAL STREET

COUNTY: ROCK

LIGHTING &amp; LANDSCAPING

SHEET

E

**LEGEND**

- PROPOSED ROADWAY LIGHT POLE, LUMINAIRE, MAST ARM
- LIGHTING PULL BOX
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- CONDUIT 2" NON-METALLIC
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- EXISTING LIGHT POLE UTILITY
- TREE (SEE PLANT ITEM CHART)

**ROADWAY LIGHTING UNIT NOTATION**

STATION. OFFSET  
LP1-LED-8-5-1

- CIRCUIT NUMBER
- BASE TYPE
- ARM LENGTH IN FEET
- LAMP TYPE
- LIGHT DESIGNATION

**PLANT ITEM**

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1	GT	Honey Locust	<i>Gleditsia triacanthos</i>	3" Cal.	B&B	24"	16"	48"	16"	5'-0"
1	HU	Hybrid Elm	<i>Ulmus americana</i>	2" Cal.	B&B	24"	16"	48"	16"	5'-0"
2	LT	Tulip Tree	<i>Liriodendron tulipifera</i>	3" Cal.	B&B	24"	16"	48"	16"	5'-0"
3	PA	Plane Tree	<i>Platanus acerfolia</i>	2.5" Cal.	B&B	24"	16"	48"	16"	5'-0"
-	PC	Autumn Blaze Pear	<i>Pyrus calleryana</i> 'Autumn Blaze'	3" Cal.	B&B	24"	16"	48"	16"	5'-0"
1	QB	Swamp White Oak	<i>Quercus bicolor</i>	2" Cal.	B&B	24"	16"	48"	16"	5'-0"
-	QM	Bur Oak	<i>Quercus macrocarpa</i>	2.5" Cal.	B&B	24"	16"	48"	16"	5'-0"
1	QR	Regal Prince Oak	<i>Quercus robur fastigiata</i> x <i>bicolor</i> 'Long'	2" Cal.	B&B	24"	16"	48"	16"	5'-0"

PROJECT NO: 5990-00-36

HWY: LOCAL STREET

COUNTY: ROCK

LIGHTING &amp; LANDSCAPING

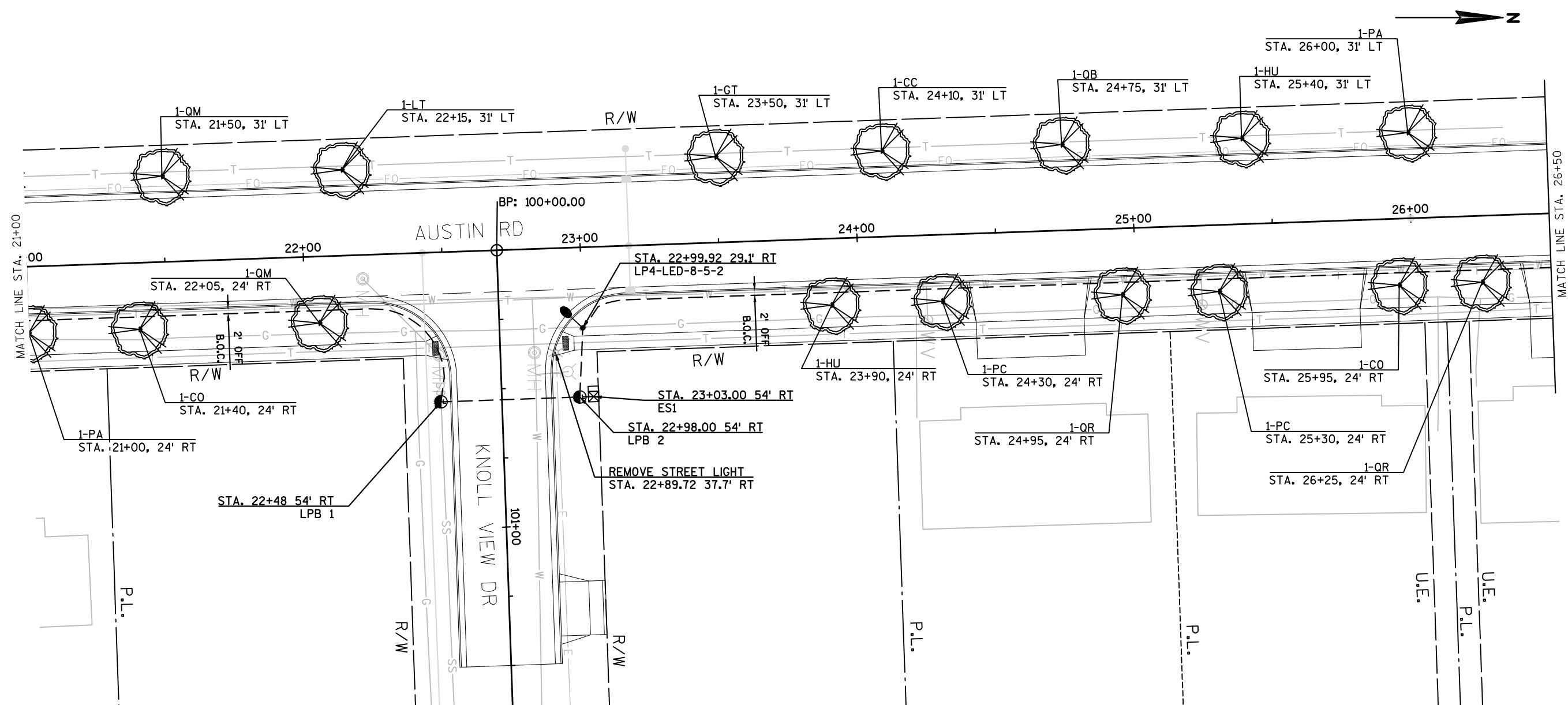
SHEET


E


## PLANT ITEM


- ROADWAY LIGHTING UNIT NOTATION**
- STATION. OFFSET** →
- LP1-LED-8-5-1**
- CIRCUIT NUMBER
  - BASE TYPE
  - ARM LENGTH IN FEET
  - LAMP TYPE
  - LIGHT DESIGNATION


PLANT ITEM										
QUANTITY	SYMBOL	COMMON NAME	SCIENTIFIC NAME	*SIZE WHEN PLANTED	ROOT ZONE METHOD	MINIMUM SIZE				MULCH RING DIAMETER
						BALL/POT SIZE	BALL/POT DEPTH	PLANT HOLE DIAMETER	PLANT HOLE DEPTH	
1	CC	Turkish Filbert	Corylus colurna	2.5"Cal.	B&B	24"	16"	48"	16"	5'-0"
2	CO	Hackberry	Celtis occidentalis	2.5"Cal.	B&B	24"	16"	48"	16"	5'-0"
-	GD	Kentucky Coffee Tree	Gymnocladus dioica 'Espresso'	2" Cal.	B&B	24"	16"	48"	16"	5'-0"
1	GT	Honey Locust	Gleditsia triacanthos	3" Cal.	B&B	24"	16"	48"	16"	5'-0"
2	HU	Hybrid Elm	Ulmus americana	2" Cal.	B&B	24"	16"	48"	16"	5'-0"
1	LT	Tulip Tree	Liriodendron tulipifera	3" Cal.	B&B	24"	16"	48"	16"	5'-0"
2	PA	Plane Tree	Platanus acerifolia	2.5"Cal.	B&B	24"	16"	48"	16"	5'-0"
2	PC	Autumn Blaze Pear	Pyrus calleryana 'Autumn Blaze'	3" Cal.	B&B	24"	16"	48"	16"	5'-0"
1	QB	Swamp White Oak	Quercus bicolor	2" Cal.	B&B	24"	16"	48"	16"	5'-0"
2	QM	Bur Oak	Quercus macrocarpa	2.5"Cal.	B&B	24"	16"	48"	16"	5'-0"
2	QR	Regal Prince Oak	Quercus robur fastigiata x bicolor 'Long'	2" Cal.	B&B	24"	16"	48"	16"	5'-0"





 PROPOSED ROADWAY LIGHT POLE, LUMINAIRE, MAST ARM

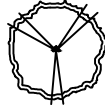
 LIGHTING PULL BOX

 ELECTRIC SERVICE

 CONDUIT 2" NON-METALLIC

 EXISTING LIGHT POLE

 EXISTING LIGHT POLE UTILITY

 TREE (SEE PLANT ITEM CHART)

ROADWAY LIGHTING UNIT NOTATION

STATION, OFFSET

LP1-LED-8-5-1

CIRCUIT NUMBER

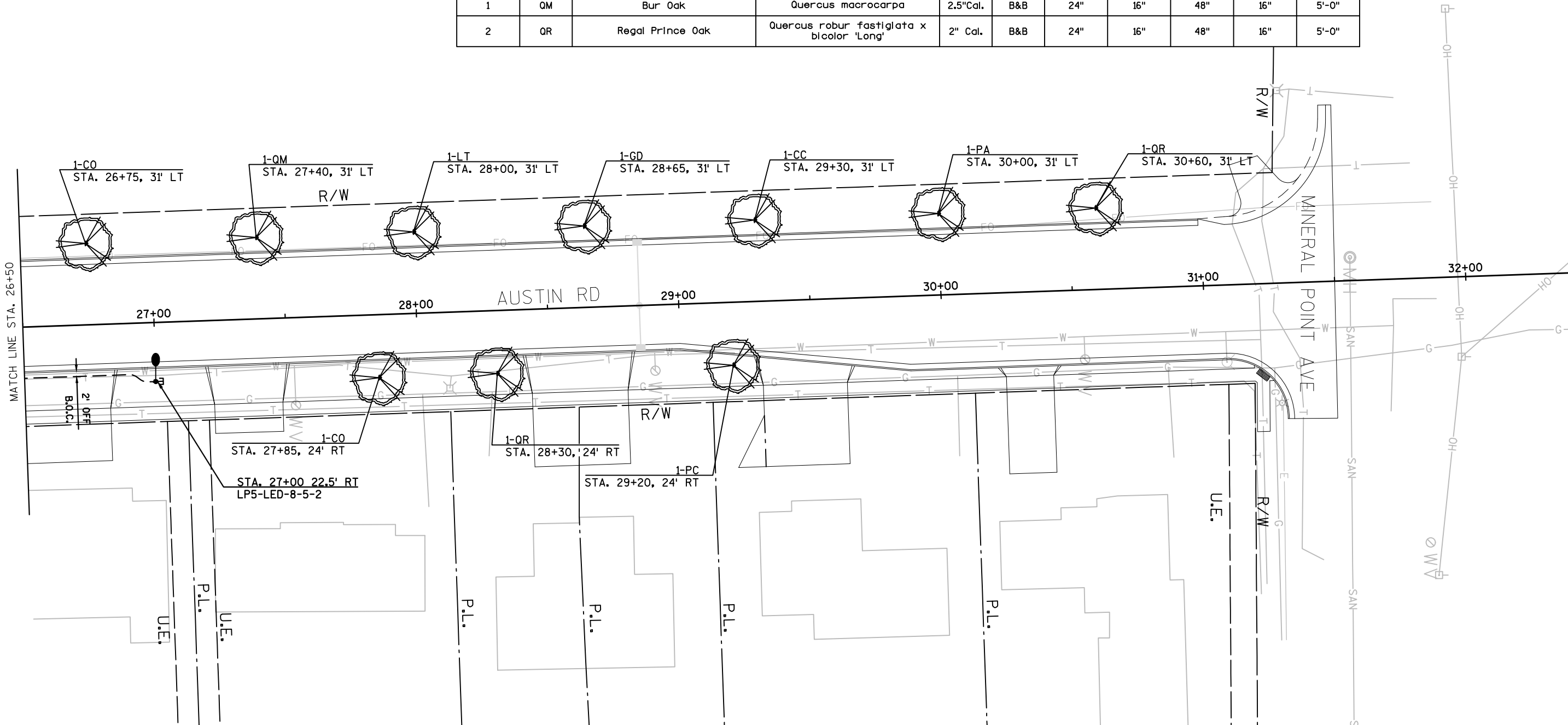
BASE TYPE

ARM LENGTH IN FEET

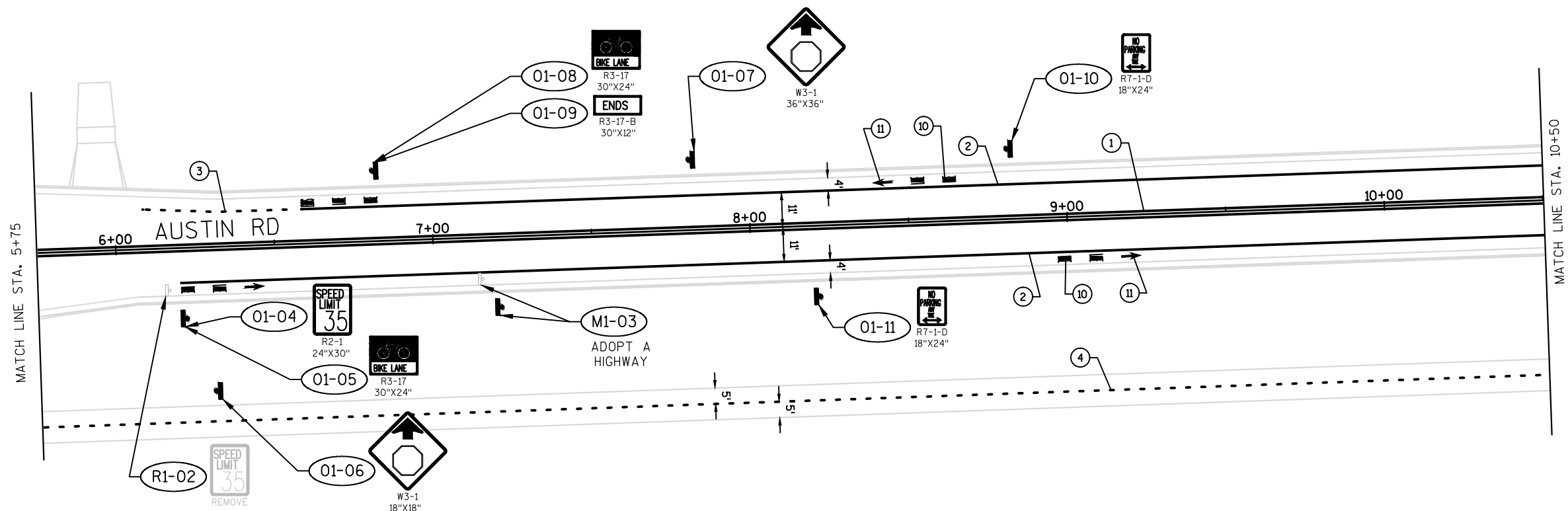
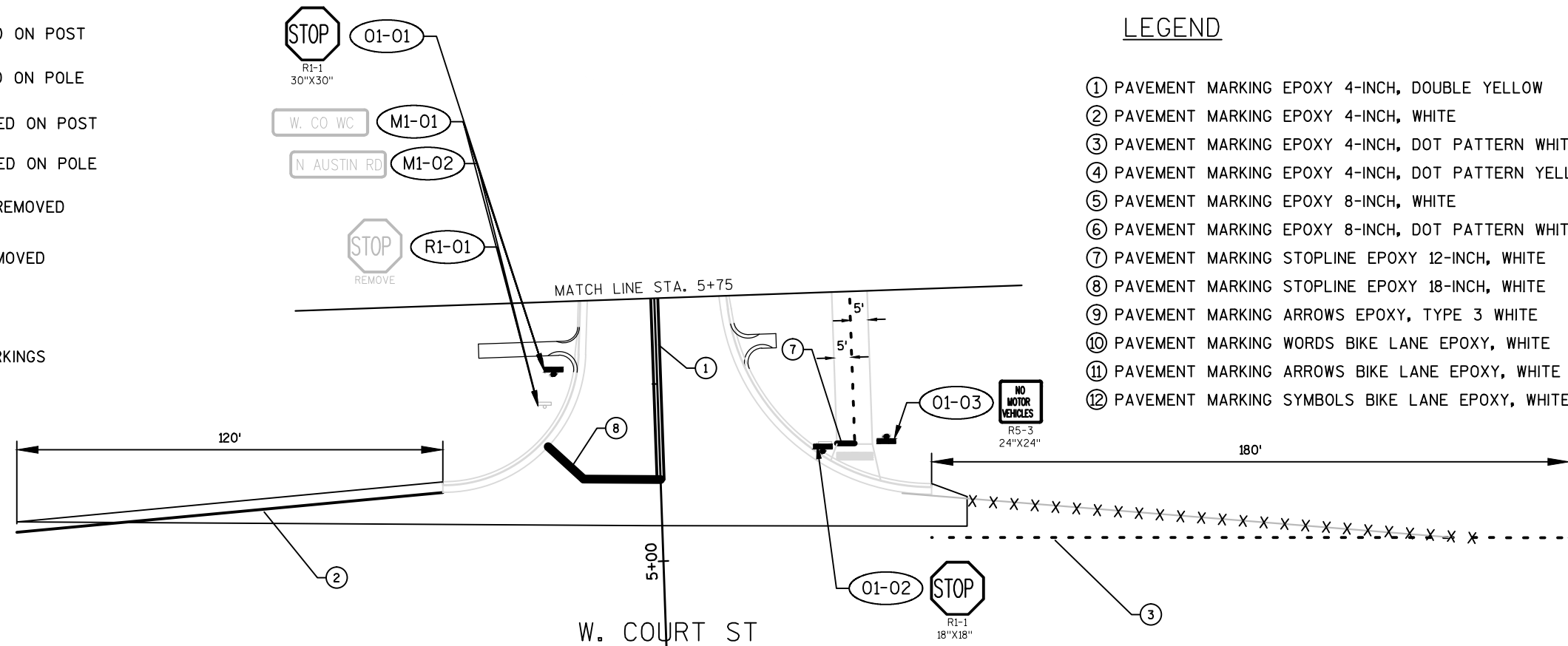
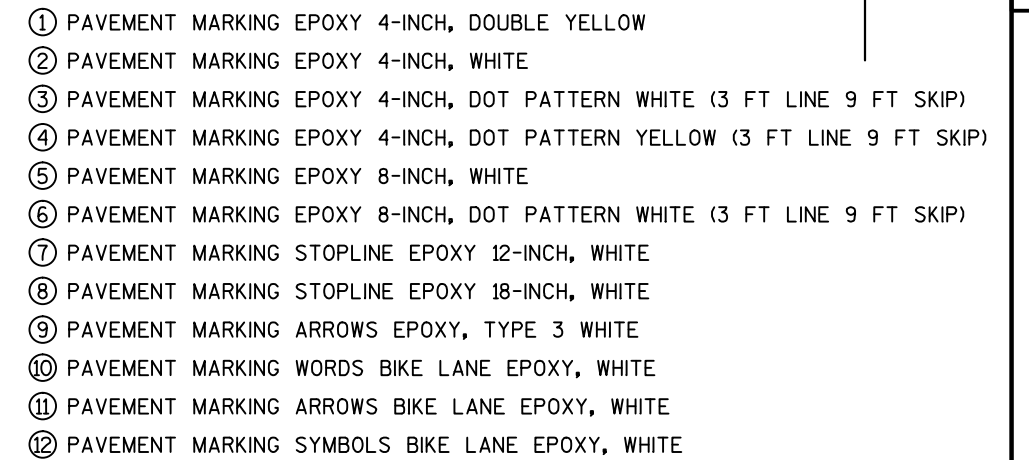
LAMP TYPE

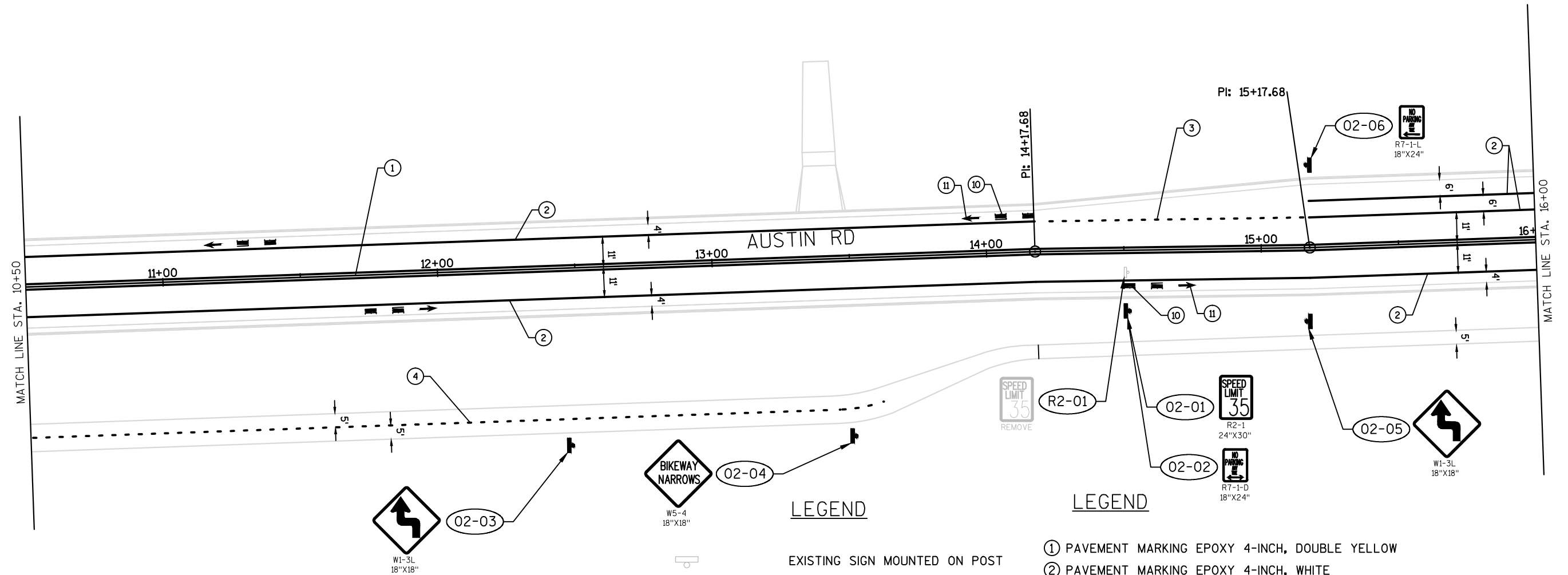
LIGHT DESIGNATION

PLANT ITEM										
QUANTITY	SYMBOL	COMMON NAME	SCIENTIFIC NAME	*SIZE WHEN PLANTED	ROOT ZONE METHOD	MINIMUM SIZE				MULCH RING DIAMETER
						BALL/POT SIZE	BALL/POT DEPTH	PLANT HOLE DIAMETER	PLANT HOLE DEPTH	
1	CC	Turkish Filbert	Corylus colurna	2.5" Cal.	B&B	24"	16"	48"	16"	5'-0"
2	CO	Hackberry	Celtis occidentalis	2.5" Cal.	B&B	24"	16"	48"	16"	5'-0"
1	GD	Kentucky Coffee Tree	Gymnocladus dioica 'Espresso'	2" Cal.	B&B	24"	16"	48"	16"	5'-0"
-	GT	Honey Locust	Gleditsia triacanthos	3" Cal.	B&B	24"	16"	48"	16"	5'-0"
-	HU	Hybrid Elm	Ulmus americana	2" Cal.	B&B	24"	16"	48"	16"	5'-0"
1	LT	Tulip Tree	Liriodendron tulipifera	3" Cal.	B&B	24"	16"	48"	16"	5'-0"
1	PA	Plane Tree	Platanus acerfolia	2.5" Cal.	B&B	24"	16"	48"	16"	5'-0"
1	PC	Autumn Blaze Pear	Pyrus calleryana 'Autumn Blaze'	3" Cal.	B&B	24"	16"	48"	16"	5'-0"
-	QB	Swamp White Oak	Quercus bicolor	2" Cal.	B&B	24"	16"	48"	16"	5'-0"
1	QM	Bur Oak	Quercus macrocarpa	2.5" Cal.	B&B	24"	16"	48"	16"	5'-0"
2	QR	Regal Prince Oak	Quercus robur fastigiata x bicolor 'Long'	2" Cal.	B&B	24"	16"	48"	16"	5'-0"



LEGEND





### LEGEND



W5-4  
18"X18"



EXISTING SIGN MOUNTED ON POST



EXISTING SIGN MOUNTED ON POLE



PROPOSED SIGN MOUNTED ON POST



PROPOSED SIGN MOUNTED ON POLE

(RX-XX)

DENOTES SIGN TO BE REMOVED

(MX-XX)

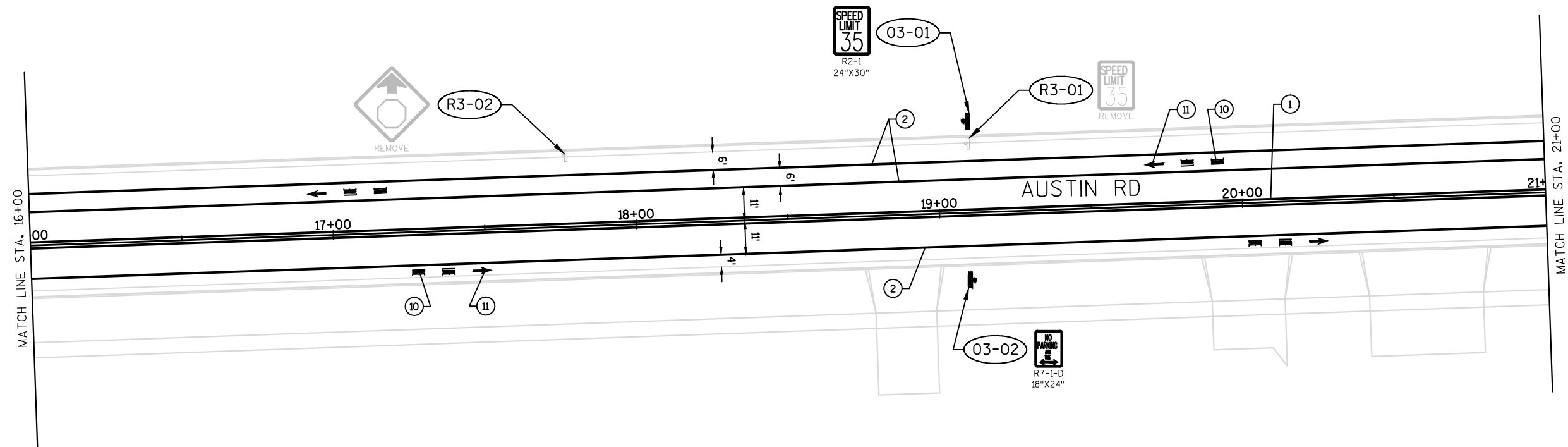
DENOTES SIGN TO BE MOVED

(XX-XX)

DENOTES SIGN NUMBER

### LEGEND

- ① PAVEMENT MARKING EPOXY 4-INCH, DOUBLE YELLOW
- ② PAVEMENT MARKING EPOXY 4-INCH, WHITE
- ③ PAVEMENT MARKING EPOXY 4-INCH, DOT PATTERN WHITE (3 FT LINE 9 FT SKIP)
- ④ PAVEMENT MARKING EPOXY 4-INCH, DOT PATTERN YELLOW (3 FT LINE 9 FT SKIP)
- ⑤ PAVEMENT MARKING EPOXY 8-INCH, WHITE
- ⑥ PAVEMENT MARKING EPOXY 8-INCH, DOT PATTERN WHITE (3 FT LINE 9 FT SKIP)
- ⑦ PAVEMENT MARKING STOPLINE EPOXY 12-INCH, WHITE
- ⑧ PAVEMENT MARKING STOPLINE EPOXY 18-INCH, WHITE
- ⑨ PAVEMENT MARKING ARROWS EPOXY, TYPE 3 WHITE
- ⑩ PAVEMENT MARKING WORDS BIKE LANE EPOXY, WHITE
- ⑪ PAVEMENT MARKING ARROWS BIKE LANE EPOXY, WHITE
- ⑫ PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY, WHITE

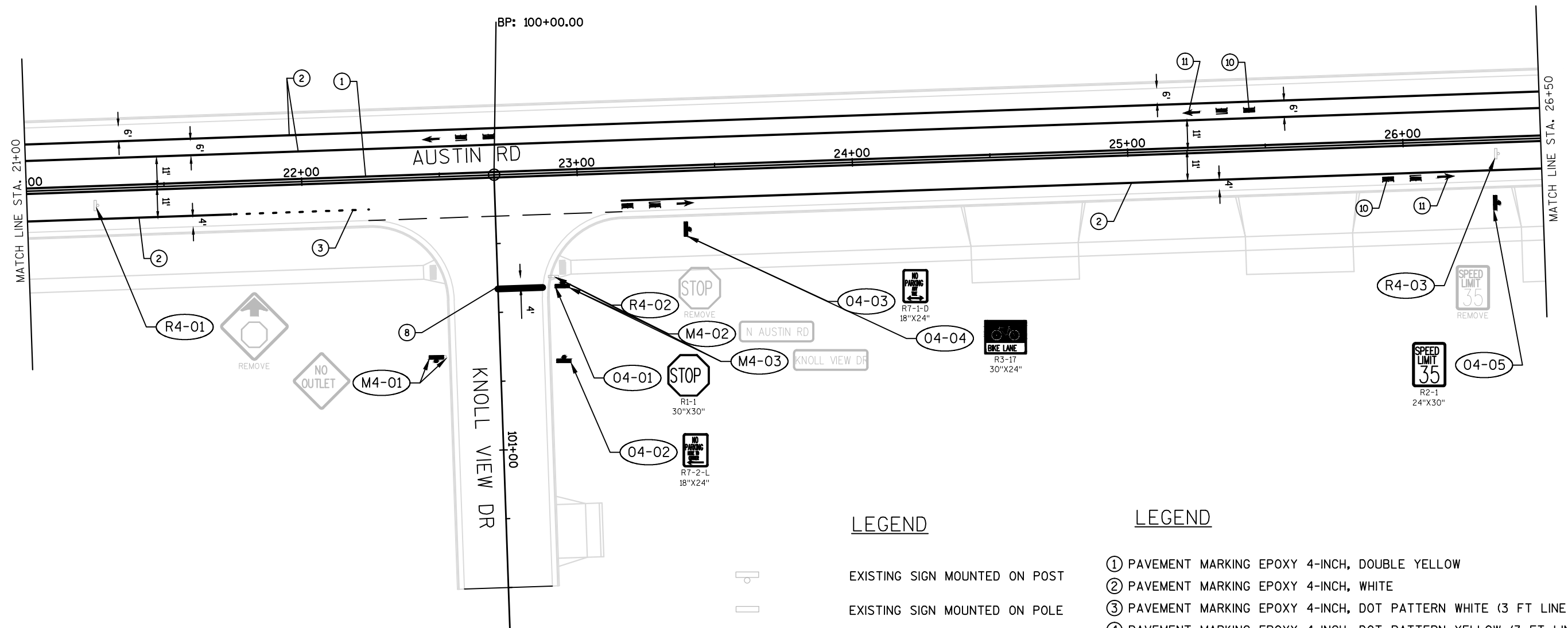


## LEGEND

	EXISTING SIGN MOUNTED ON POST
	EXISTING SIGN MOUNTED ON POLE
	PROPOSED SIGN MOUNTED ON POST
	PROPOSED SIGN MOUNTED ON POLE
	DENOTES SIGN TO BE REMOVED
	DENOTES SIGN TO BE MOVED
	DENOTES SIGN NUMBER

## LEGEND

- PAVEMENT MARKING EPOXY 4-INCH, DOUBLE YELLOW
- PAVEMENT MARKING EPOXY 4-INCH, WHITE
- PAVEMENT MARKING EPOXY 4-INCH, DOT PATTERN WHITE (3 FT LINE 9 FT SKIP)
- PAVEMENT MARKING EPOXY 4-INCH, DOT PATTERN YELLOW (3 FT LINE 9 FT SKIP)
- PAVEMENT MARKING EPOXY 8-INCH, WHITE
- PAVEMENT MARKING EPOXY 8-INCH, DOT PATTERN WHITE (3 FT LINE 9 FT SKIP)
- PAVEMENT MARKING STOPLINE EPOXY 12-INCH, WHITE
- PAVEMENT MARKING STOPLINE EPOXY 18-INCH, WHITE
- PAVEMENT MARKING ARROWS EPOXY, TYPE 3 WHITE
- PAVEMENT MARKING WORDS BIKE LANE EPOXY, WHITE
- PAVEMENT MARKING ARROWS BIKE LANE EPOXY, WHITE
- PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY, WHITE



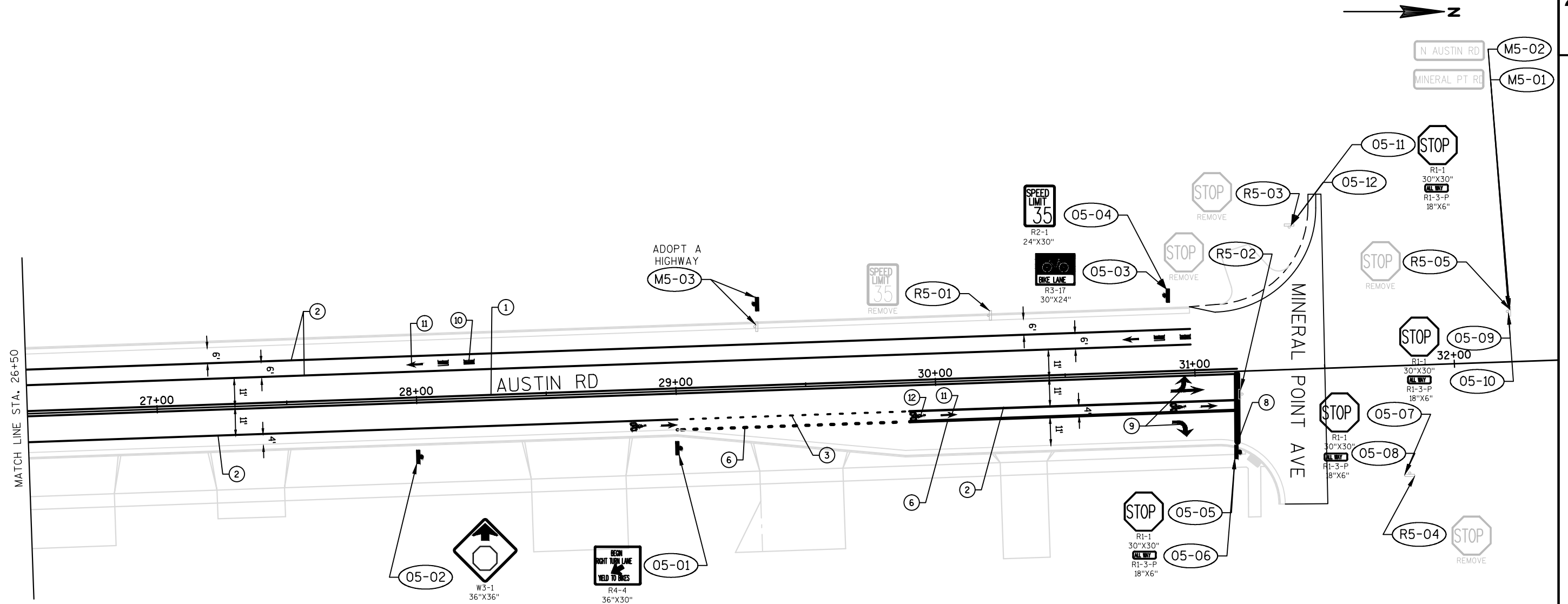
## LEGEND

	EXISTING SIGN MOUNTED ON POST
	EXISTING SIGN MOUNTED ON POLE
	PROPOSED SIGN MOUNTED ON POST
	PROPOSED SIGN MOUNTED ON POLE
	DENOTES SIGN TO BE REMOVED
	DENOTES SIGN TO BE MOVED
	DENOTES SIGN NUMBER

## LEGEND

- ① PAVEMENT MARKING EPOXY 4-INCH, DOUBLE YELLOW
- ② PAVEMENT MARKING EPOXY 4-INCH, WHITE
- ③ PAVEMENT MARKING EPOXY 4-INCH, DOT PATTERN WHITE (3 FT LINE 9 FT SKIP)
- ④ PAVEMENT MARKING EPOXY 4-INCH, DOT PATTERN YELLOW (3 FT LINE 9 FT SKIP)
- ⑤ PAVEMENT MARKING EPOXY 8-INCH, WHITE
- ⑥ PAVEMENT MARKING EPOXY 8-INCH, DOT PATTERN WHITE (3 FT LINE 9 FT SKIP)
- ⑦ PAVEMENT MARKING STOPLINE EPOXY 12-INCH, WHITE
- ⑧ PAVEMENT MARKING STOPLINE EPOXY 18-INCH, WHITE
- ⑨ PAVEMENT MARKING ARROWS EPOXY, TYPE 3 WHITE
- ⑩ PAVEMENT MARKING WORDS BIKE LANE EPOXY, WHITE
- ⑪ PAVEMENT MARKING ARROWS BIKE LANE EPOXY, WHITE
- ⑫ PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY, WHITE





## LEGEND

	EXISTING SIGN MOUNTED ON POST
	EXISTING SIGN MOUNTED ON POLE
	PROPOSED SIGN MOUNTED ON POST
	PROPOSED SIGN MOUNTED ON POLE
	DENOTES SIGN TO BE REMOVED
	DENOTES SIGN TO BE MOVED
	DENOTES SIGN NUMBER

## LEGEND

- PAVEMENT MARKING EPOXY 4-INCH, DOUBLE YELLOW
- PAVEMENT MARKING EPOXY 4-INCH, WHITE
- PAVEMENT MARKING EPOXY 4-INCH, DOT PATTERN WHITE (3 FT LINE 9 FT SKIP)
- PAVEMENT MARKING EPOXY 4-INCH, DOT PATTERN YELLOW (3 FT LINE 9 FT SKIP)
- PAVEMENT MARKING EPOXY 8-INCH, WHITE
- PAVEMENT MARKING EPOXY 8-INCH, DOT PATTERN WHITE (3 FT LINE 9 FT SKIP)
- PAVEMENT MARKING STOPLINE EPOXY 12-INCH, WHITE
- PAVEMENT MARKING STOPLINE EPOXY 18-INCH, WHITE
- PAVEMENT MARKING ARROWS EPOXY, TYPE 2 OR TYPE 3, WHITE
- PAVEMENT MARKING WORDS BIKE LANE EPOXY, WHITE
- PAVEMENT MARKING ARROWS BIKE LANE EPOXY, WHITE
- PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY, WHITE



2

2

BEGIN PROJECT ID. 5990-00-36  
STA. 5+10



AUSTIN ROAD  
B.P. = 5+10  
X 480250.63  
Y 267757.16

AUSTIN ROAD

AUSTIN ROAD  
P.I. = 14+17.68  
X 480218.87  
Y 268664.29

AUSTIN ROAD  
P.I. = 15+17.68  
X 480217.37  
Y 268764.27

AUSTIN ROAD & KNOLLVIEW DRIVE  
P.I. = 22+69.83, 100+00  
X 480191.03  
Y 269515.96

BEGIN CONSTRUCTION  
STA. 100+00

END CONSTRUCTION  
STA. 101+50

KNOLL VIEW DRIVE  
E.P. = 101+50  
X 480540.82  
Y 269528.22

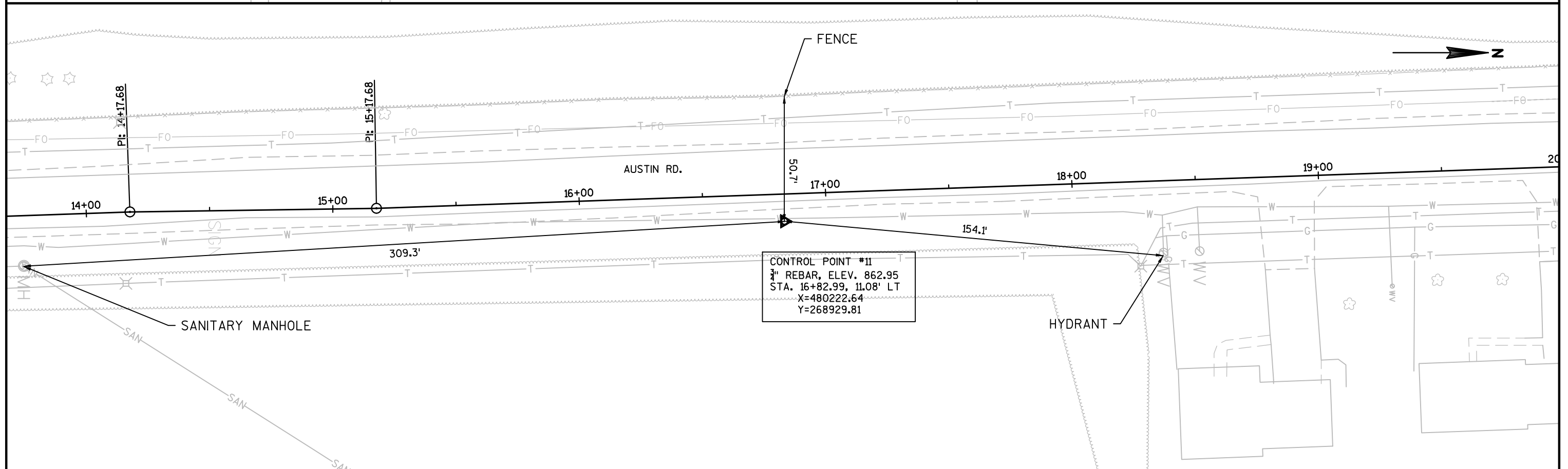
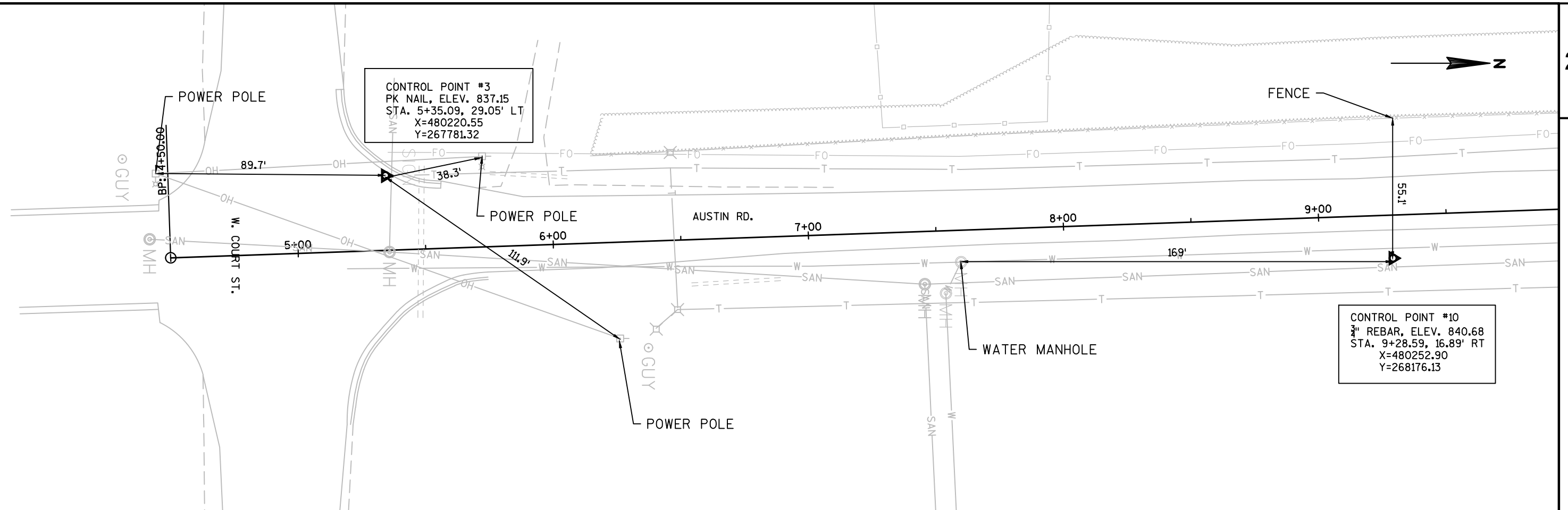
AUSTIN ROAD  
E.P. = 31+50  
X 480160.21  
Y 270395.59

END PROJECT ID. 5990-00-36  
STA. 31+50



2

2



PROJECT NO:5990-00-36

HWY:LOCAL ROAD

COUNTY:ROCK

CONTROL POINT TIES

SHEET

E

FILE NAME : J:\32001-32051\32006-CITY OF JANESVILLE AUSTIN ROAD\DESIGN\SHEETS\PLAN\59900036\_027301-CP.DWG  
LAYOUT NAME - 59900036\_027301-CP - PLAN DBL 1 IN 40 FT

PLOT DATE : 7/21/2016 4:10 PM

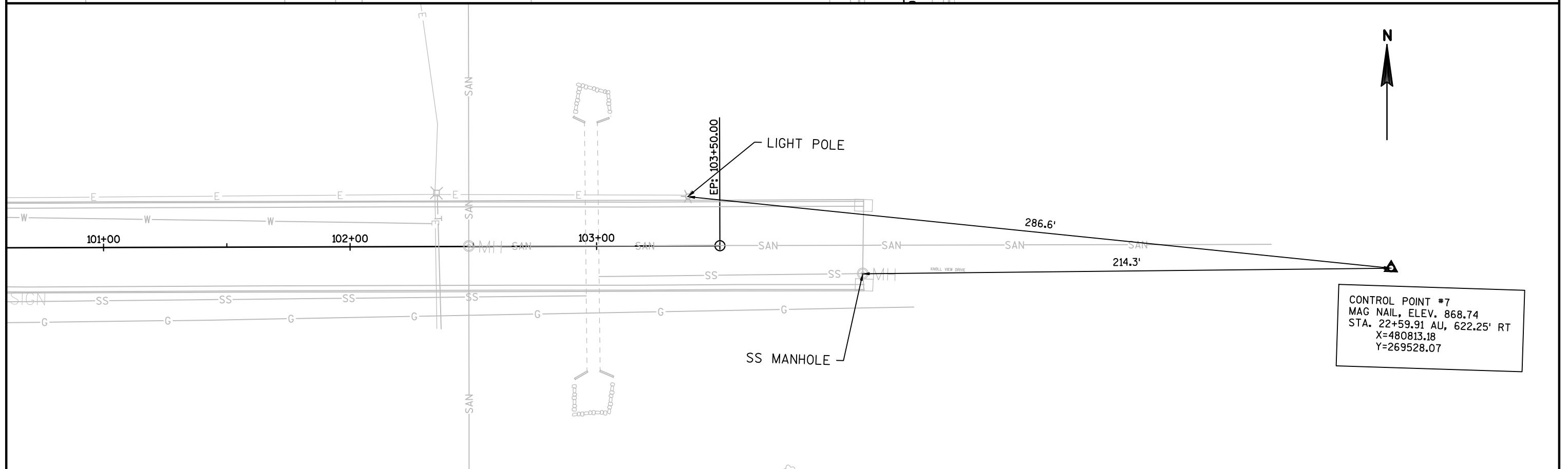
PLOT BY : ALEXANDER FEULING

PLOT NAME :

PLOT SCALE : 1 IN:40 FT

WISDOT/CADDs SHEET 44

2 |

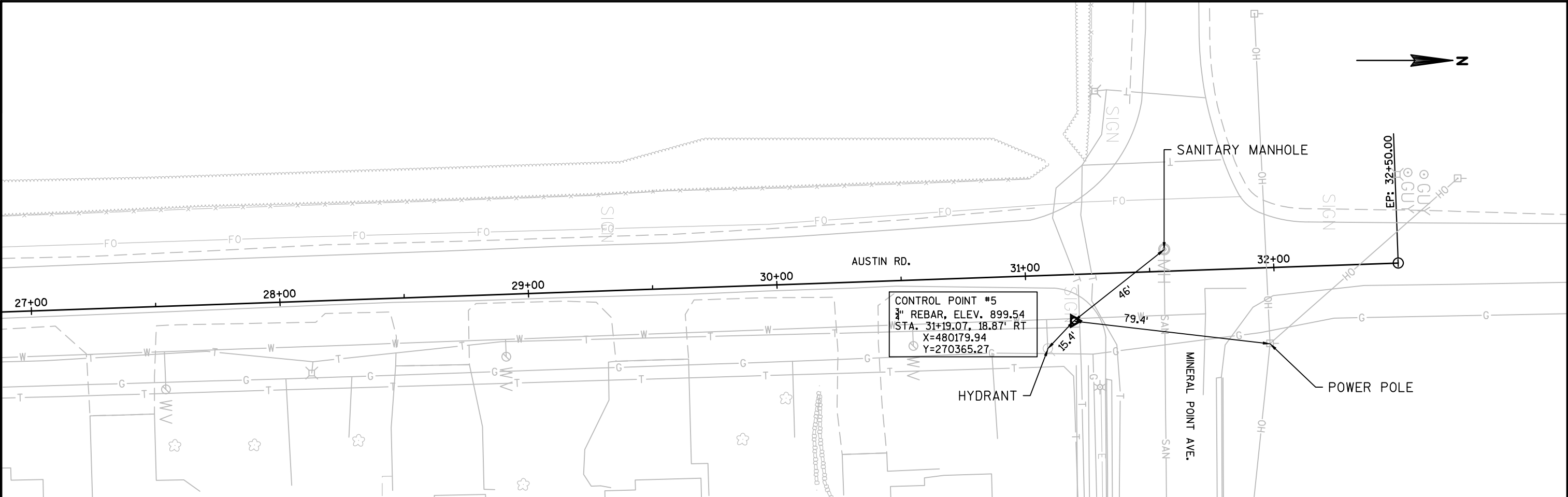


3

WISDOT/CADDS SHEET 44

2

**2**



PROJECT NO:5990-00-36

HWY: LOCAL ROAD

COUNTY: ROCK

CONTROL POINT TIES	
1	2
3	4
5	6
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89	90
91	92
93	94
95	96
97	98
99	100

SHEET

**E**

FILE NAME : J:\32001-32051\32006-CITY OF JANESVILLE AUSTIN ROAD\DESIGN\SHEETSPLAN\59900036-027301-CP.DWG  
LAYOUT NAME - 59900036-027301-CP - PLAN DBL 1 IN 40 FT (3)

PLOT DATE : 7/21/2016 4:10 PM

PLOT BY : ALEXANDER FEULING

PLOT NAME :

PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 44

Estimate Of Quantities

5990-00-36

Line	Item	Item Description	Unit	Total	Qty
0010	201.0105	Clearing	STA	24.000	24.000
0020	201.0205	Grubbing	STA	24.000	24.000
0030	203.0100	Removing Small Pipe Culverts	EACH	4.000	4.000
0040	203.0200	Removing Old Structure (station) 01. 11+77	LS	1.000	1.000
0050	204.0100	Removing Pavement	SY	569.000	569.000
0060	204.0150	Removing Curb & Gutter	LF	378.000	378.000
0070	204.0155	Removing Concrete Sidewalk	SY	10.000	10.000
0080	204.0170	Removing Fence	LF	2,436.000	2,436.000
0090	204.0195	Removing Concrete Bases	EACH	1.000	1.000
0100	204.0210	Removing Manholes	EACH	2.000	2.000
0110	204.0245	Removing Storm Sewer (size) 01. 12-inch	LF	158.000	158.000
0120	204.0280	Sealing Pipes	EACH	1.000	1.000
0130	205.0100	Excavation Common	CY	18,350.000	18,350.000
0140	213.0100	Finishing Roadway (project) 01. 5990-00-36	EACH	1.000	1.000
0150	305.0110	Base Aggregate Dense 3/4-Inch	TON	55.000	55.000
0160	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	11,500.000	11,500.000
0170	312.0110	Select Crushed Material	TON	13,000.000	13,000.000
0180	416.0160	Concrete Driveway 6-Inch	SY	1,350.000	1,350.000
0190	440.4410	Incentive IRI Ride	DOL	5,280.000	5,280.000
0200	455.0605	Tack Coat	GAL	650.000	650.000
0210	460.2000	Incentive Density HMA Pavement	DOL	2,240.000	2,240.000
0220	460.5223	HMA Pavement 3 LT 58-28 S	TON	2,000.000	2,000.000
0230	460.5225	HMA Pavement 5 LT 58-28 S	TON	1,500.000	1,500.000
0240	465.0105	Asphaltic Surface	TON	170.000	170.000
0250	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	20.000	20.000
0260	465.0315	Asphaltic Flumes	SY	30.000	30.000
0270	522.0112	Culvert Pipe Reinforced Concrete Class III 12-Inch	LF	32.000	32.000
0280	522.1012	Apron Endwalls for Culvert Pipe Reinforced Concrete 12-Inch	EACH	3.000	3.000
0290	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	2.000	2.000
0300	601.0419	Concrete Curb & Gutter 30-Inch Type L	LF	5,310.000	5,310.000
0310	601.0553	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type D	LF	150.000	150.000
0320	602.0405	Concrete Sidewalk 4-Inch	SF	7,000.000	7,000.000
0330	602.0415	Concrete Sidewalk 6-Inch	SF	250.000	250.000
0340	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	50.000	50.000
0350	606.0200	Riprap Medium	CY	25.000	25.000
0360	608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	LF	953.000	953.000
0370	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	442.000	442.000

Estimate Of Quantities

5990-00-36

Line	Item	Item Description	Unit	Total	Qty
0380	608.0418	Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch	LF	366.000	366.000
0390	608.0424	Storm Sewer Pipe Reinforced Concrete Class IV 24-Inch	LF	16.000	16.000
0400	608.0512	Storm Sewer Pipe Reinforced Concrete Class V 12-Inch	LF	238.000	238.000
0410	611.0420	Reconstructing Manholes	EACH	4.000	4.000
0420	611.0612	Inlet Covers Type C	EACH	1.000	1.000
0430	611.2004	Manholes 4-FT Diameter	EACH	9.000	9.000
0440	611.2005	Manholes 5-FT Diameter	EACH	2.000	2.000
0450	611.3230	Inlets 2x3-FT	EACH	10.000	10.000
0460	611.8110	Adjusting Manhole Covers	EACH	5.000	5.000
0470	611.8120.S	Cover Plates Temporary	EACH	5.000	5.000
0480	612.0902.S	Insulation Board Polystyrene (inch) 01. 2-inch	SY	10.000	10.000
0490	616.0700.S	Fence Safety	LF	100.000	100.000
0500	619.1000	Mobilization	EACH	1.000	1.000
0510	623.0200	Dust Control Surface Treatment	SY	15,000.000	15,000.000
0520	624.0100	Water	MGAL	600.000	600.000
0530	625.0500	Salvaged Topsoil	SY	20,000.000	20,000.000
0540	627.0200	Mulching	SY	10,600.000	10,600.000
0550	628.1504	Silt Fence	LF	4,000.000	4,000.000
0560	628.1520	Silt Fence Maintenance	LF	4,000.000	4,000.000
0570	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0580	628.1910	Mobilizations Emergency Erosion Control	EACH	5.000	5.000
0590	628.2006	Erosion Mat Urban Class I Type A	SY	11,000.000	11,000.000
0600	628.7005	Inlet Protection Type A	EACH	25.000	25.000
0610	628.7010	Inlet Protection Type B	EACH	2.000	2.000
0620	628.7015	Inlet Protection Type C	EACH	15.000	15.000
0630	628.7555	Culvert Pipe Checks	EACH	5.000	5.000
0640	628.7560	Tracking Pads	EACH	2.000	2.000
0650	629.0210	Fertilizer Type B	CWT	15.000	15.000
0660	630.0140	Seeding Mixture No. 40	LB	400.000	400.000
0670	630.0200	Seeding Temporary	LB	600.000	600.000
0680	632.0101	Trees (species) (size) (root) 01. Turkish Filbert, B&B, 2 1/2" Cal.	EACH	9.000	9.000
0690	632.0101	Trees (species) (size) (root) 02. Hackberry, B&B, 2 1/2" Cal.	EACH	8.000	8.000
0700	632.0101	Trees (species) (size) (root) 03. Kentucky Coffee, B&B, 2" Cal.	EACH	3.000	3.000
0710	632.0101	Trees (species) (size) (root) 04. Honey Locust, B&B, 3" Cal.	EACH	3.000	3.000
0720	632.0101	Trees (species) (size) (root) 05. Hybrid Elm, B&B, 2"	EACH	6.000	6.000



Estimate Of Quantities

5990-00-36

Line	Item	Item Description	Unit	Total	Qty
		Cal.			
0730	632.0101	Trees (species) (size) (root) 06. Tulip Tree, B&B, 3" Cal.	EACH	8.000	8.000
0740	632.0101	Trees (species) (size) (root) 07. Plane Tree, B&B, 2 1/2" Cal.	EACH	12.000	12.000
0750	632.0101	Trees (species) (size) (root) 08. Autumn Blaze Pear, B&B, 3" Cal.	EACH	4.000	4.000
0760	632.0101	Trees (species) (size) (root) 09. Swamp White Oak, B&B, 2" Cal.	EACH	6.000	6.000
0770	632.0101	Trees (species) (size) (root) 10. Bur Oak, B&B, 2 1/2" Cal.	EACH	6.000	6.000
0780	632.0101	Trees (species) (size) (root) 11. Regal Prince Oak, B&B, 2" Cal.	EACH	5.000	5.000
0790	632.9101	Landscape Planting Surveillance and Care Cycles	EACH	15.000	15.000
0800	633.5200	Markers Culvert End	EACH	4.000	4.000
0810	634.0810	Posts Tubular Steel 2x2-Inch X 10-FT	EACH	6.000	6.000
0820	634.0812	Posts Tubular Steel 2x2-Inch X 12-FT	EACH	6.000	6.000
0830	634.0814	Posts Tubular Steel 2x2-Inch X 14-FT	EACH	12.000	12.000
0840	637.2210	Signs Type II Reflective H	SF	116.000	116.000
0850	637.2230	Signs Type II Reflective F	SF	27.000	27.000
0860	638.2102	Moving Signs Type II	EACH	9.000	9.000
0870	638.2602	Removing Signs Type II	EACH	13.000	13.000
0880	638.3000	Removing Small Sign Supports	EACH	10.000	10.000
0890	642.5201	Field Office Type C	EACH	1.000	1.000
0900	643.0100	Traffic Control (project) 01. 5990-00-36	EACH	1.000	1.000
0910	643.0300	Traffic Control Drums	DAY	5,000.000	5,000.000
0920	643.0420	Traffic Control Barricades Type III	DAY	800.000	800.000
0930	643.0705	Traffic Control Warning Lights Type A	DAY	1,500.000	1,500.000
0940	643.0715	Traffic Control Warning Lights Type C	DAY	2,500.000	2,500.000
0950	643.0900	Traffic Control Signs	DAY	1,300.000	1,300.000
0960	643.2000	Traffic Control Detour (project) 01. 5990-00-36	EACH	1.000	1.000
0970	643.3000	Traffic Control Detour Signs	DAY	3,000.000	3,000.000
0980	645.0120	Geotextile Type HR	SY	40.000	40.000
0990	646.0106	Pavement Marking Epoxy 4-Inch	LF	12,000.000	12,000.000
1000	646.0126	Pavement Marking Epoxy 8-Inch	LF	160.000	160.000
1010	646.0600	Removing Pavement Markings	LF	160.000	160.000
1020	647.0166	Pavement Marking Arrows Epoxy Type 2	EACH	1.000	1.000
1030	647.0176	Pavement Marking Arrows Epoxy Type 3	EACH	1.000	1.000
1040	647.0206	Pavement Marking Arrows Bike Lane Epoxy	EACH	20.000	20.000
1050	647.0306	Pavement Marking Symbols Bike Lane Epoxy	EACH	3.000	3.000
1060	647.0406	Pavement Marking Words Bike Lane Epoxy	EACH	37.000	37.000
1070	647.0556	Pavement Marking Stop Line Epoxy 12-Inch	LF	5.000	5.000

Estimate Of Quantities

5990-00-36

Line	Item	Item Description	Unit	Total	Qty
1080	647.0566	Pavement Marking Stop Line Epoxy 18-Inch	LF	90.000	90.000
1090	650.4000	Construction Staking Storm Sewer	EACH	26.000	26.000
1100	650.4500	Construction Staking Subgrade	LF	2,790.000	2,790.000
1110	650.5000	Construction Staking Base	LF	2,790.000	2,790.000
1120	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	5,460.000	5,460.000
1130	650.6000	Construction Staking Pipe Culverts	EACH	1.000	1.000
1140	650.8500	Construction Staking Electrical Installations (project) 01. 5990-00-36	LS	1.000	1.000
1150	650.9910	Construction Staking Supplemental Control (project) 01. 5990-00-36	LS	1.000	1.000
1160	650.9920	Construction Staking Slope Stakes	LF	2,790.000	2,790.000
1170	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	1,820.000	1,820.000
1180	653.0135	Pull Boxes Steel 24x36-Inch	EACH	2.000	2.000
1190	654.0105	Concrete Bases Type 5	EACH	5.000	5.000
1200	655.0610	Electrical Wire Lighting 12 AWG	LF	6,400.000	6,400.000
1210	655.0615	Electrical Wire Lighting 10 AWG	LF	300.000	300.000
1220	656.0200	Electrical Service Meter Breaker Pedestal (location) 01. Sta. 23+03	LS	1.000	1.000
1230	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	5.000	5.000
1240	657.0322	Poles Type 5-Aluminum	EACH	5.000	5.000
1250	657.0615	Luminaire Arms Single Member 4 1/2-Inch Clamp 8-FT	EACH	5.000	5.000
1260	659.1125	Luminaires Utility LED C	EACH	5.000	5.000
1270	690.0150	Sawing Asphalt	LF	500.000	500.000
1280	690.0250	Sawing Concrete	LF	225.000	225.000
1290	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	300.000	300.000
1300	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	200.000	200.000
1310	SPV.0060	Special 01. Manhole Cover Special	EACH	10.000	10.000
1320	SPV.0060	Special 02. Inlet Cover Special	EACH	10.000	10.000
1330	SPV.0060	Special 03. Removing Street Light	EACH	1.000	1.000
1340	SPV.0060	Special 04. Mailbox Removal and Temporary Mailboxes	EACH	10.000	10.000
1350	SPV.0060	Special 05. Locate and Reference Property Corner	EACH	20.000	20.000
1360	SPV.0060	Special 06. Reset Property Corners	EACH	20.000	20.000
1370	SPV.0060	Special 07. Sanitary Manhole Chimney Seal	EACH	4.000	4.000
1380	SPV.0180	Special 01. Shredded Hardwood Bark Mulch	SY	140.000	140.000

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CLEARING AND GRUBBING				REMOVING FENCING				BASE AGGREGATE ITEMS													
		201.0105	201.0205			204.0170			305.0110	305.0120	312.0110	623.0200	624.0010								
		CLEARING	GRUBBING			REMOVING FENCE			BASE AGGREGATE DENSE 3/4-INCH	BASE AGGREGATE DENSE 1 1/4-INCH	SELECT CRUSHED MATERIAL	DUST CONTROL	WATER								
STATION		LOCATION	STA	STA	STATION		LOCATION	LF	STATION		TON	TON	TON	SY	MGAL						
CATEGORY 0010				6+00-23+00	Austin	17	17	CATEGORY 0020	5+10-31+50		LT	2436	CATEGORY 0010 Austin Road		5+10 - 31+50	LT/RT	25	10200	9000	13600	500
				25+00-32+00	Austin	7	7		TOTAL CATEGORY 0020			2436			5+89 - 6+01	LT	6				
															13+34 - 13+46	LT	14				
TOTAL CATEGORY 0010				24	24	TOTAL CATEGORY 0020		2436	Knoll View Drive		100+00 - 101+50	LT/RT		225	200	600	20				
REMOVING CURB AND GUTTER										SUBTOTAL		45	10425	9200	14200	520					
										UNDISTRIBUTED		10	1075	3800	800	80					
TOTAL CATEGORY 0010				24	24	TOTAL CATEGORY 0020		2436	TOTAL CATEGORY 0010		55	11500	13000	15000	600						

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CONCRETE SIDEWALK					
		602.0405	602.0415	602.0515	
		CONCRETE SIDEWALK 4-INCH	CONCRETE SIDEWALK 6-INCH	CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA	
	STATION	LOCATION	SF	SF	SF
CATEGORY 0010					
	5+21 - 5+31	RT	-	94	20
	5+89 - 6+01	LT	-	-	-
	13+34 - 13+46	LT	-	-	-
	14+18 - 18+78	RT	2301	-	-
	18+78 - 18+98	RT	-	-	-
	18+98 - 19+89	RT	455	-	-
	19+89 - 20+13	RT	-	-	-
	20+13 - 20+41	RT	140	-	-
	20+41 - 20+78	RT	-	-	-
	20+78 - 22+43	RT	824	-	-
	22+43 - 22+51	RT	-	47	10
	22+88 - 22+97	RT	-	47	10
	22+97 - 24+42	RT	727	-	-
	24+42 - 24+81	RT	-	-	-
	24+81 - 25+42	RT	303	-	-
	25+42 - 25+81	RT	-	-	-
	25+81 - 26+42	RT	306	-	-
	26+42 - 26+82	RT	-	-	-
	26+82 - 27+22	RT	198	-	-
	27+22 - 27+48	RT	-	-	-
	27+48 - 28+43	RT	475	-	-
	28+43 - 28+80	RT	-	-	-
	28+80 - 29+31	RT	258	-	-
	29+31 - 29+63	RT	-	-	-
	29+63 - 30+24	RT	303	-	-
	30+24 - 30+42	RT	-	-	-
	30+42 - 31+18	RT	383	-	-
	31+18 - 31+26	RT	-	31	-
	31+19 - 31+24	RT	91	-	10
KNOLL VIEW	101+18 - 101+43	LT	-	-	-
SUBTOTAL			6764	219	50
UNDISTRIBUTED			236	31	
TOTAL CATEGORY 0010			7000	250	50

STORM SEWER PIPE SUMMARY																	
						608.0318		608.0324		608.0418		608.0424		608.0512		612.0902S	
						STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH		STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH		STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 18-INCH		STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 24-INCH		STORM SEWER PIPE REINFORCED CONCRETE CLASS V 12-INCH		INSULATION BOARD POLYSTYRENE 2-INCH	
FROM STRUCTURE NO.		TO STRUCTURE NO.		INLET ELEV. OUTLET ELEV.		SLOPE %		LF		LF		LF		LF		SY	
CATEGORY 0010																	
1-1.1		-	1-1.2	837.70 837.54		0.50%		-		-		-		32		-	
1-1.2		-	1-1.3	837.54 837.19		0.50%		-		-		-		70		-	
2-1.1		-	2-1.0	840.93 840.85		0.50%		-		16		-		-		-	
2-1.0		-	2-1.2	840.85 840.77		0.50%		-		-		16		-		-	
2-1.2		-	2-1.3	840.77 840.57		0.25%		-		80		-		-		-	
3-2.1		-	3-2.0	863.62 863.50		0.50%		-		-		-		24		-	
3-2.2		-	3-2.0	863.58 863.50		0.50%		-		-		-		16		-	
3-2.0		-	3-1.0	863.00 849.00		4.00%		350		-		-		-		-	
3-1.1		-	3-1.0	852.60 852.48		0.50%		-		-		-		24		-	
3-1.2		-	3-1.0	852.56 852.48		0.50%		-		-		-		16		-	
3-1.0		-	2-1.0	848.73 840.85		2.25%		-		350		-		-		-	
4-1.3		-	4-1.1	867.96 867.74		2.00%		11		-		-		-		-	
4-1.1		-	4-1.0	867.74 867.26		2.00%		24		-		-		-		-	
4-1.2		-	4-1.0	870.00 869.92		0.50%		-		-		-		16		-	
4-1.0		-	4-2.0	866.83 861.60		7.00%		-		75		-		-		-	
4-2.0		-	5-1.0	861.58 860.80		0.30%		-		260		-		-		4	
5-1.0		-	5-1.1	860.80 860.50		1.09%		-		27		-		-		-	
6-2.1		-	6-2.0	889.39 889.27		0.50%		-		-		-		24		-	
6-2.2		-	6-2.0	889.35 889.27		0.50%		-		-		-		16		-	
6-2.0		-	6-1.0	888.50 882.80		2.00%		285		-		-		-		-	
6-1.0		-	4-1.0	882.80 867.26		5.50%		283		-		-		-		-	
SUBTOTAL								953	442	366	16	238	4				
UNDISTRIBUTED								-	-	-	-	-	6				
TOTAL CATEGORY 0010								953	442	366	16	238	10				

CULVERT PIPE SUMMARY

			522.0112
			CULVERT PIPE
			REINFORCED CONCRETE
			CLASS III 12-INCH
CATEGORY 0010	STATION	LOCATION	LF
	5+61	RT	32
TOTAL CATEGORY 0010			32

STORM SEWER STRUCTURE SUMMARY

					INLETS			MANHOLES				
					611.3230	611.2004	611.2005	611.0612	SPV.0060.01	SPV.0060.02		
STRUCT.					INLETS 2x3-FT	MANHOLES 4-FT	MANHOLES 5-FT	INLET COVERS	MANHOLE COVER	INLET COVER		
						DIAMETER	DIAMETER	TYPE C	SPECIAL	SPECIAL		
NO.		STATION	OFFSET	RIM	EACH	EACH	EACH	EACH	EACH	EACH		
				ELEV								
CATEGORY 0010	AUSTIN ROAD	1-1.1	9+00	16' LT	841.87	1	-	-	-	-	-	1
		1-1.2	9+00	16' RT	841.87	1	-	-	-	-	-	1
		2-1.0	12+50	0'	846.03	-	1	-	-	1	-	-
		2-1.1	12+50	16' LT	845.73	1	-	-	-	-	-	1
		2-1.2	12+50	16' RT	845.73	-	1	-	-	1	-	-
		3-1.0	16+00	0'	857.69	-	1	-	-	1	-	-
		3-1.1	16+00	24' LT	857.23	1	-	-	-	-	-	1
		3-1.2	16+00	16' RT	857.39	1	-	-	-	-	-	1
		3-2.0	19+50	0'	868.68	-	1	-	-	1	-	-
		3-2.1	19+50	24' LT	868.22	1	-	-	-	-	-	1
		3-2.2	19+50	16' RT	868.38	1	-	-	-	-	-	1
		4-2.0	22+43	0'	872.80	-	-	1	-	1	-	-
		4-1.0	23+18	0'	875.38	-	-	1	-	1	-	-
		4-1.1	23+18	24' LT	874.92	-	1	-	-	1	-	-
		4-1.2	23+18	16' RT	875.08	1	-	-	-	-	-	1
		4-1.3	23+18	35' LT	873.98	-	1	-	1	-	-	-
		6-1.0	26+00	0'	888.35	-	1	-	-	1	-	-
		6-2.0	28+85	0'	894.33	-	1	-	-	1	-	-
		6-2.1	28+85	24' LT	893.87	1	-	-	-	-	-	1
		6-2.2	28+85	16' RT	894.03	1	-	-	-	-	-	1
KNOLL VIEW DRIVE	5-1.0	102+60	23.5' RT	865.72	-	1	-	-	1	-	-	
TOTAL CATEGORY 0010					10	9	2	1	10	10		

PROJECT NO:5990-00-36

HWY:LOCAL STREET

COUNTY:ROCK

MISCELLANEOUS QUANTITIES

SHEET

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		690.0150 SAWING ASPHALT	690.0250 SAWING CONCRETE
	STATION	LOCATION	LF
CATEGORY 0010			
AUSTIN ROAD	5+10	LT/RT	276
	18+78-18+98	RT	-
	19+89-20+08	RT	-
	20+41-20+78	RT	-
	26+42-26+82	RT	-
	28+43-28+80	RT	-
	29+21-29+63	RT	-
	31+19-31+24	RT	-
	31+50	LT/RT	138
KNOLL VIEW DR	101+50	LT/RT	32
SUBTOTAL			446
UNDISTRIBUTED			54
TOTAL CATEGORY 0010			500

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PERMANENT SIGNING										
				634.0810	634.0812	634.0814	637.2210	637.2230		
		SIGN SIZE		POSTS TUBULAR	POSTS TUBULAR	POSTS TUBULAR	SIGNS TYPE II	SIGNS TYPE II		
		INxIN		STEEL 2x2-INCH	STEEL 2x2-INCH	STEEL 2x2-INCH	REFLECTIVE H	REFLECTIVE F		
				x 10-FT	x 12-FT	x 14-FT				
				EACH	EACH	EACH	SF	SF		
CATEGORY 0010	SIGN NO.	STATION	SIGN CODE							
	1-01	5+54	R1-1	30x30	-	-	1	5.18	-	-
	1-02	5+31	R1-1	18x18	1	-	-	1.86	-	-
	1-03	5+33	R5-3	24x24	1	-	-	4	-	-
	1-04	6+21	R2-1	24x30	-	-	1	5	-	-
	1-05	6+21	R3-17	30x24	-	-	-	5	-	1-04
	1-06	6+30	W3-1	18x18	1	-	-	-	2.25	-
	1-07	7+82	W3-1	36x36	-	-	1	-	9	-
	1-08	6+82	R3-17	30x24	-	1	-	5	-	-
	1-09	6+82	R3-17B	30x12	-	-	-	2.5	-	1-08
	1-10	8+82	R7-1D	18x24	-	1	-	3	-	-
	1-11	8+21	R7-1D	18x24	-	1	-	3	-	-
	2-01	14+51	R2-1	24x30	-	-	1	5	-	-
	2-02	14+51	R7-1D	18x24	-	-	-	3	-	2-01
	2-03	12+46	W1-3L	18x18	1	-	-	-	2.25	-
	2-04	13+50	W5-4	18x18	1	-	-	-	2.25	-
	2-05	15+17	W1-3L	18x18	1	-	-	-	2.25	-
	2-06	15+17	R7-1L	18x24	-	1	-	3	-	-
	3-01	19+09	R2-1	24x30	-	-	1	5	-	-
	3-02	19+10	R7-1D	18x24	-	-	1	3	-	-
	4-01	22+92	R1-1	30x30	-	-	1	5.18	-	-
	4-02	22+92	R7-2L	18x24	-	1	-	3	-	-
	4-03	23+40	R7-1D	18x24	-	-	1	3	-	-
	4-04	23+40	R3-17	30x24	-	-	-	5	-	4-03
	4-05	26+33	R2-1	24x30	-	-	1	5	-	-
	5-01	29+00	R4-4	36x30	-	-	1	7.5	-	-
	5-02	28+00	W3-1	36x36	-	-	1	-	9	-
	5-03	30+90	R3-17	30x24	-	-	1	5	-	5-04
	5-04	30+90	R2-1	24x30	-	-	-	5	-	-
	5-05	31+16	R1-1	30x30	-	1	-	5.18	-	-
	5-06	31+16	R1-3P	18x6	-	-	-	0.75	-	5-05
	5-07	31+81	R1-1	30x30	-	-	-	5.18	-	-
	5-08	31+81	R1-3P	18x6	-	-	-	0.75	-	5-07
	5-09	32+21	R1-1	30x30	-	-	-	5.18	-	-
	5-10	32+21	R1-3P	18x6	-	-	-	0.75	-	5-09
	5-11	31+38	R1-1	30x30	-	-	-	5.18	-	-
	5-12	31+38	R1-3P	18x6	-	-	-	0.75	-	5-11
TOTAL CATEGORY 0010				6	6	12	116	27		

REMOVING SIGNS						
		638.2102	638.2602	638.3000		
		MOVING SIGNS	REMOVING SIGNS	REMOVING SMALL		
		TYPE II	TYPE II	SIGN SUPPORTS		
					ON SAME POST	
					AS	
CATEGORY 0010	SIGN NO.	SIGN CODE	EA	EA	EA	MESSAGE
	R1-01	R1-1	-	1	1	STOP SIGN
	R1-02	R2-1	-	1	1	SPEED LIMIT 35
	M1-01	-	1	-	-	1-01 STREET NAME SIGN
	M1-02	-	1	-	-	1-01 STREET NAME SIGN
	M1-03	-	1	-	-	ADOPT A HIGHWAY
	R2-01	R2-1	-	1	1	SPEED LIMIT 35
	R3-01	R2-1	-	1	1	SPEED LIMIT 35
	R3-02	W3-1	-	1	1	STOP AHEAD
	R4-01	W3-1	-	1	1	STOP AHEAD
	R4-02	R1-1	-	1	1	STOP SIGN
	R4-03	R2-1	-	1	1	SPEED LIMIT 35
	M4-01	W14-2	1	-	-	NO OUTLET
	M4-02	-	1	-	-	4-01 STREET NAME SIGN
	M4-03	-	1	-	-	4-01 STREET NAME SIGN
	R5-01	R2-1	-	1	1	SPEED LIMIT 35
	R5-02	R1-1	-	1	1	STOP SIGN
	R5-03	R1-1	-	1	-	STOP SIGN
	R5-04	R1-1	-	1	-	STOP SIGN
	R5-05	R1-1	-	1	-	STOP SIGN
	M5-01	-	1	-	-	5-09 STREET NAME SIGN
	M5-02	-	1	-	-	5-09 STREET NAME SIGN
	M5-03	-	1	-	-	ADOPT A HIGHWAY
TOTAL CATEGORY 0010			9	13	10	

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LANDSCAPING ITEMS																		
	625.0500	627.0200	629.0210	630.0140	630.0200	632.0101.01	632.0101.02	632.0101.03	632.0101.04	632.0101.05	632.0101.06	632.0101.07	632.0101.08	632.0101.09	632.0101.10	632.0101.11	632.9101	SPV.0180.01
	SALVAGED TOPSOIL	MULCHING	FERTILIZER TYPE B	SEEDING MIXTURE NO. 40	SEEDING TEMPORARY	TREES TURKISH FILBERT, B&B, 2.5" CAL.	TREES HACKBERRY, B&B, 2.5" CAL.	TREES KENTUCKY COFFEE TREE, B&B, 2" CAL.	TREES HONEY LOCUST, B&B, 3" CAL.	TREES HYBRID ELM, B&B, 2" CAL.	TREES TULIP TREE, B&B, 3" CAL.	TREES PLANE TREE, B&B, 2.5" CAL.	TREES AUTUMN BLAZE PEAR, B&B, 3" CAL.	TREES SWAMP WHITE OAK, B&B, 2" CAL.	TREES BUR OAK, B&B, 2.5" CAL.	TREES REGAL PRINCE OAK, B&B, 2" CAL.	LANDSCAPE PLANTING SURVEILLANCE AND CARE CYCLES	SHREDDED HARDWOOD BARK MULCH
LOCATION	SY	SY	CWT	LB	LB	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	SY
CATEGORY 0010																		
STA. 5+10-31+50	18625	7976	12	335	503	9	8	3	3	6	8	12	4	6	6	5	15	140
SUBTOTAL	18625	7976	12	335	503	9	8	3	3	6	8	12	4	6	6	5	15	140
UNDISTRIBUTED	1375	2624	3	65	97	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL CATEGORY 0010	20000	10600	15	400	600	9	8	3	3	6	8	12	4	6	6	5	15	140

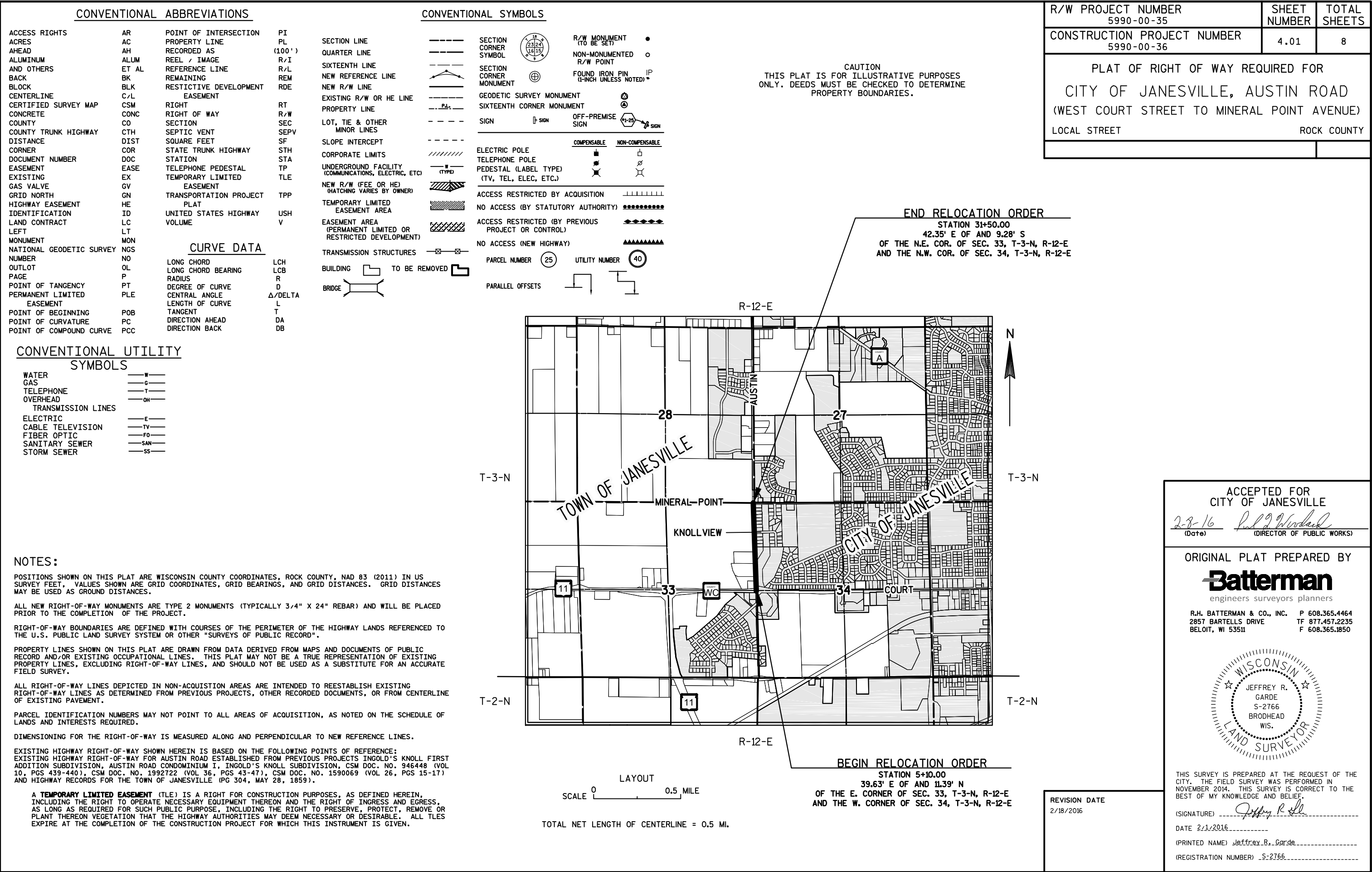
LIGHTING ITEMS											
	204.0195	653.0135	654.0105	656.0200	657.0255	657.0322	657.0615	659.1125	SPV.0060.03		
	REMOVING CONCRETE BASES	PULL BOXES STEEL 24x36-INCH	CONCRETE BASES TYPE 5	ELECTRICAL SERVICE METER BREAKER PEDESTAL STA.23+03	TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE	POLES TYPE 5-ALUMINUM	LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 8-FT	LUMINAIRES UTILITY LED C	REMOVING STREET LIGHT		
STATION	LOCATION	EACH	EA	EACH	LS	EACH	EACH	EACH	EACH		
CATEGORY 0010											
9+50	22.5' RT	-	-	1	-	1	1	1	-		
14+00	22.5' RT	-	-	1	-	1	1	1	-		
18+25	22.5' RT	-	-	1	-	1	1	1	-		
22+48	54' RT	-	1	-	-	-	-	-	-		
22+90	37.7' RT	1	-	-	-	-	-	-	1		
22+98	54' RT	-	1	-	-	-	-	-	-		
23+00	29.1' RT	-	-	1	-	1	1	1	-		
23+03	54' RT	-	-	-	1	-	-	-	-		
27+00	22.5' RT	-	-	1	-	1	1	1	-		
TOTAL CATEGORY 0010		1	2	5	1	5	5	5	1		

TRAFFIC CONTROL ITEMS							
	643.0300	643.0420	643.0705	643.0715	643.0900	643.3000	
	TRAFFIC CONTROL DRUMS	TRAFFIC CONTROL BARRICADES TYPE III	TRAFFIC CONTROL WARNING LIGHTS TYPE A	TRAFFIC CONTROL WARNING LIGHTS TYPE C	TRAFFIC CONTROL SIGNS	TRAFFIC CONTROL DETOUR SIGNS	
STATION	DAYS	DAYS	DAYS	DAYS	DAYS	DAYS	
CATEGORY 0010							
AUSTIN ROAD	5000	540	1080	2500	900	2430	
SUBTOTAL	5000	540	1080	2500	900	2430	
UNDISTRIBUTED	-	260	420	-	400	570	
TOTAL CATEGORY 0010	5000	800	1500	2500	1300	3000	

WIRING ITEMS			
	652.0225	655.0610	655.0615
	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	ELECTRICAL WIRE LIGHTING 12 AWG	ELECTRICAL WIRE LIGHTING 10 AWG
LOCATION	LF	LF	LF
CATEGORY 0010			
LP1	-	150	-
LP1-LP2	456	1410	-
LP2	-	150	-
LP2-LP3	427	1335	-
LP3	-	150	-
LP3-LPB1	449	1329	-
LPB1-LPB2	50	-	210
LPB2-ES1	5	-	75
ES1-LPB2	-	75	-
LP4	-	150	-
LPB2-LP4	25	135	-
LP5	-	150	-
LP4-LP5	408	1305	-
TOTAL CATEGORY 0010	1820	6339	285
UNDISTRIBUTED	-	61	15
TOTAL CATEGORY 0010	1820	6400	300

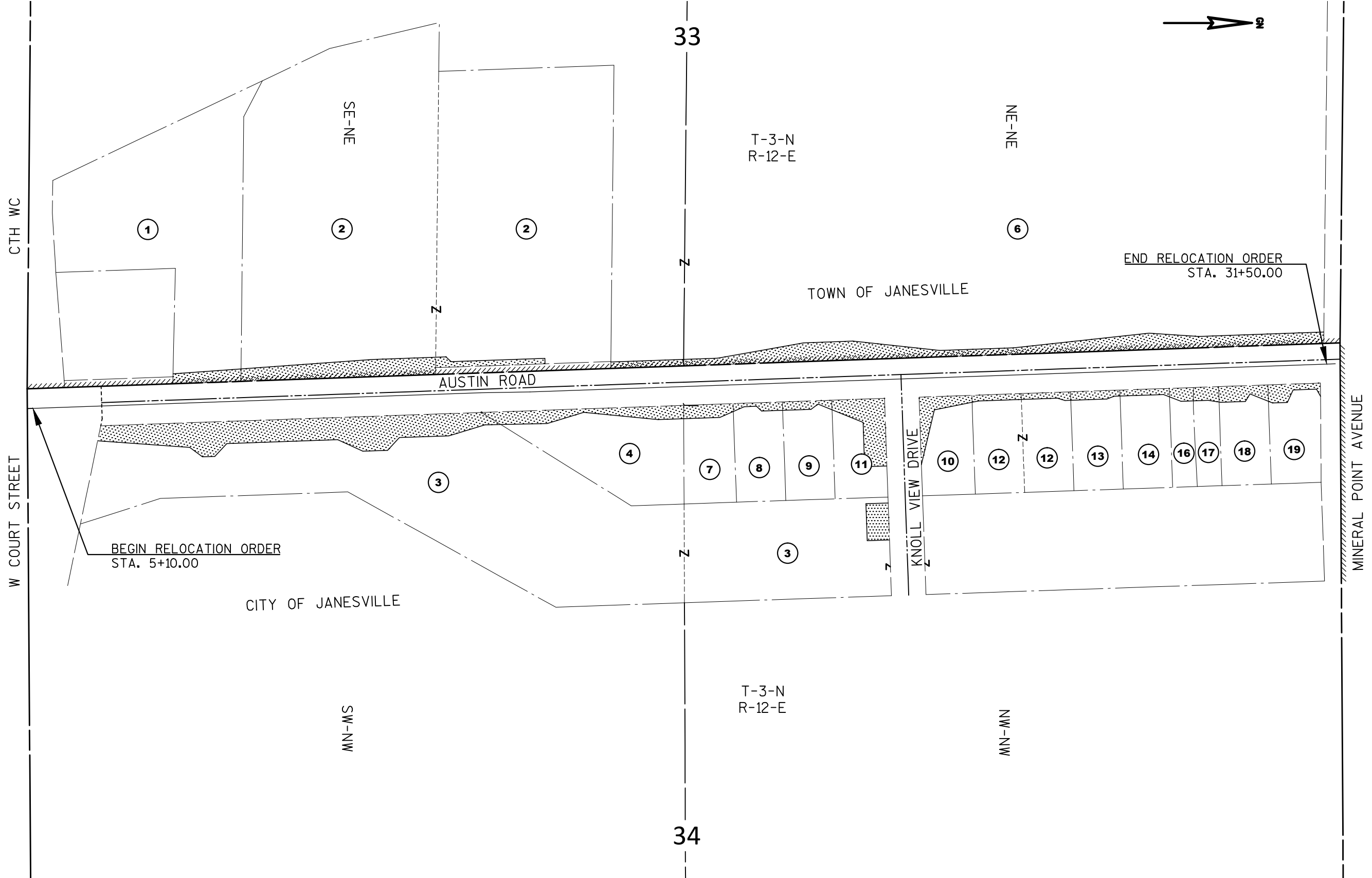
EARTHWORK SUMMARY									
Division	From/To Station	Common Excavation (1)	(item # 205.0100)	Salvaged/Unusable Pavement Material (4)	Available Material (5)	Unexpanded Fill	Expanded Fill (6)	Mass Ordinate +/- (7)	Waste
		Cut (2)	EBS Excavation (3)				Factor 1.25		
AUSTIN ROAD	5+10 - 31+50	16,559	1,600	611	15,948	6,029	7,536	8,412	10,012
KNOLLVIEW DRIVE	100+50 - 101+50	166	25	27	139	351	439	-300	0
Grand Total		16,725	1,625	638	16,087	6,380	7,975	8,112	10,012
Total Common Exc		18,350							

- 1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
- 2) Salvaged/Unusable Pavement Material is included in Cut.
- 3) EBS Excavation includes topsoil removal from fill areas (assumed 1' depth) within the roadway limits.
- 4) Salvaged/Unusable Pavement Material
- 5) Available Material = Cut - Salvaged/Unusable Pavement Material
- 6) Expanded Fill. Factor = 1.25
- Or Expanded Fill = Unexpanded Fill \* Fill Factor
- 7) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

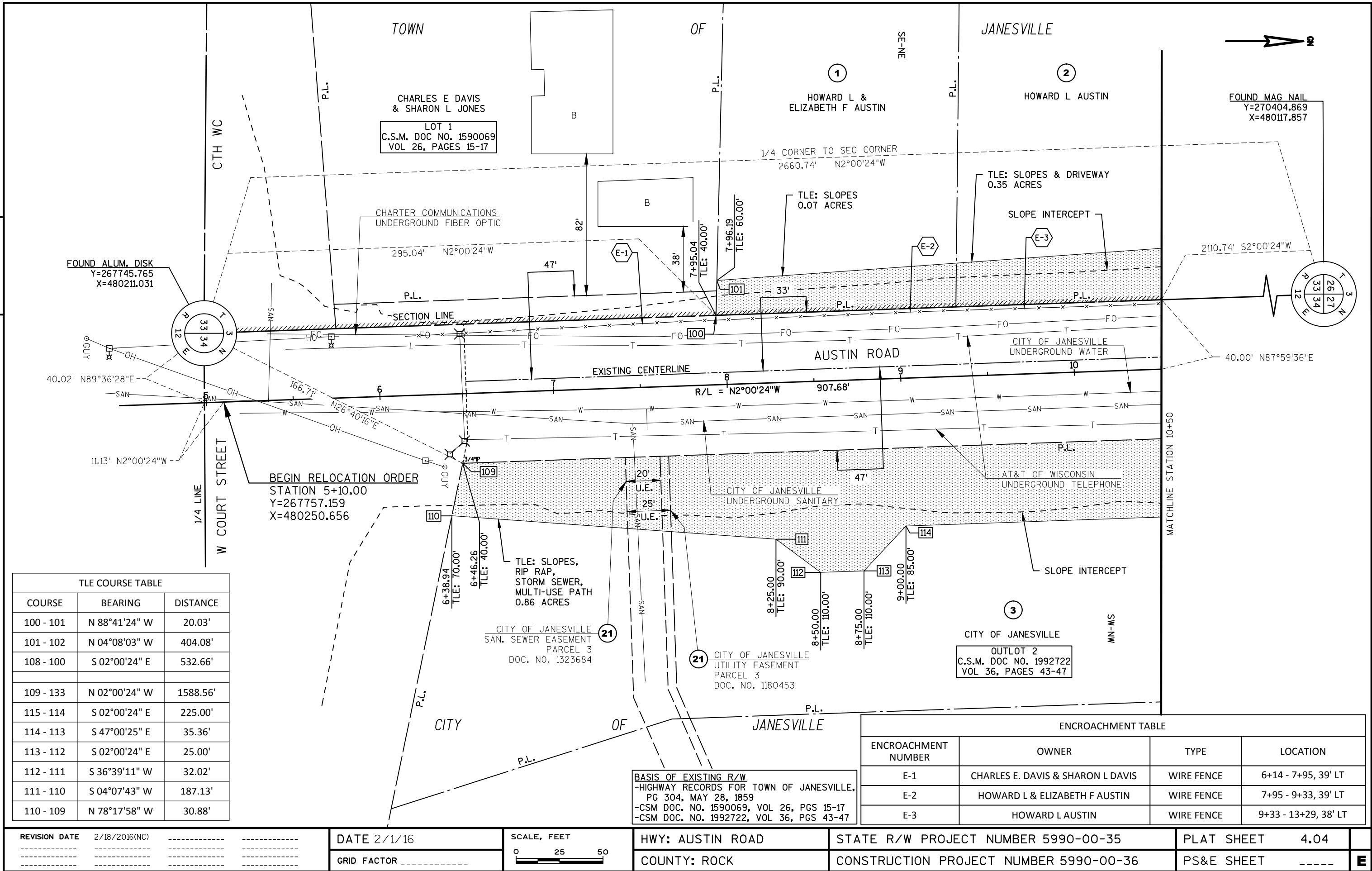


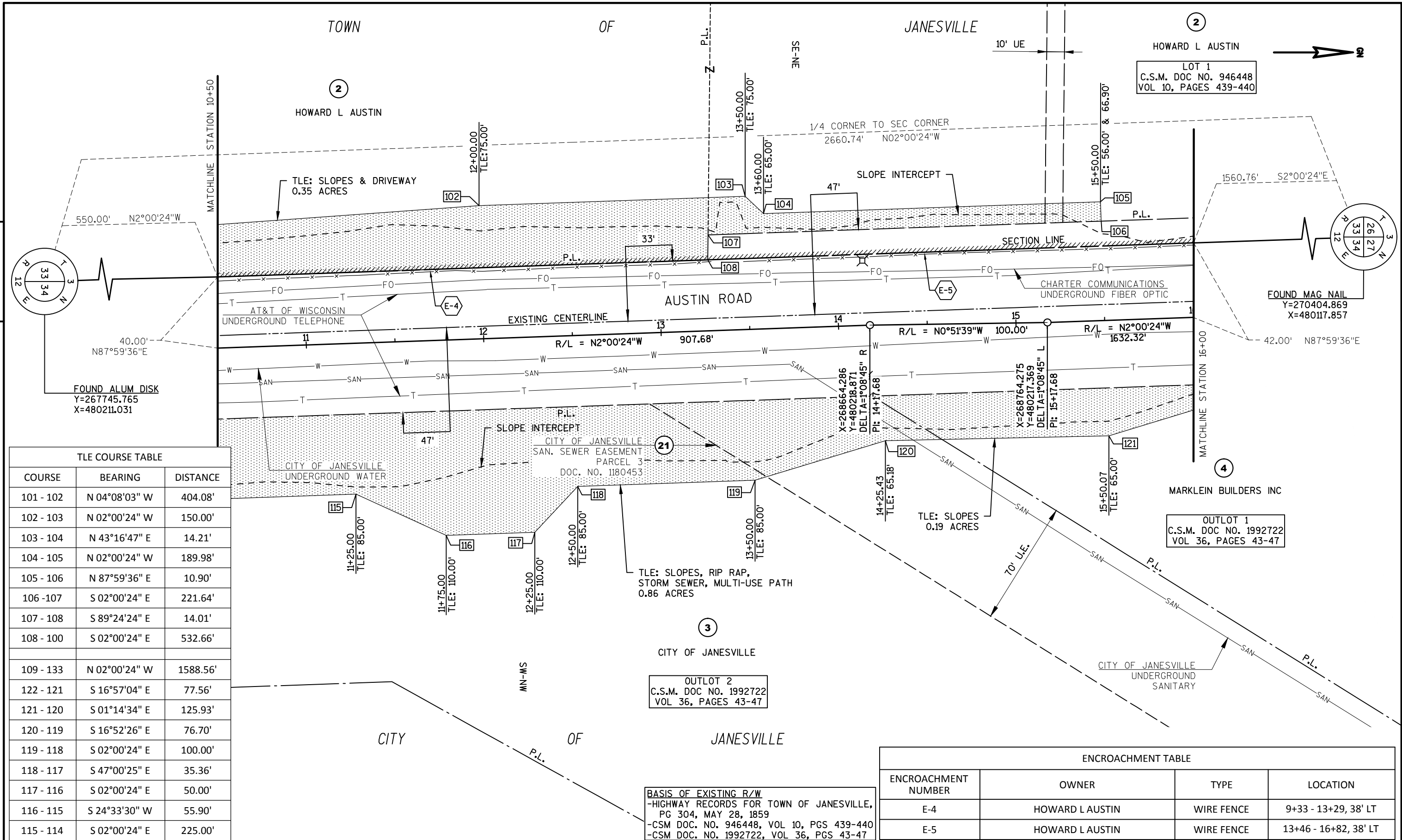


SCHEDULE OF LANDS & INTERESTS REQUIRED			AREAS SHOWN IN THE TOTAL AREA COLUMN MAY BE APPROXIMATE AND ARE DERIVED FROM TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED.			OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTEREST TO THE CITY.		
PARCEL NUMBER	SHEET NUMBER	OWNER(S)	INTEREST REQUIRED	R/W ACRES OR SQUARE FEET REQUIRED			P.L.E. ACRES	T.L.E. ACRES
				NEW	EXISTING	TOTAL		
1	4.04	HOWARD L & ELIZABETH F AUSTIN	T.L.E.	---	---	---	---	0.07
2	4.04 - 4.06	HOWARD L AUSTIN	T.L.E.	---	---	---	---	0.35
3	4.04, 4.05, 4.07	CITY OF JANESVILLE	T.L.E.	---	---	---	---	0.94
4	4.05, 4.06	MARKLEIN BUILDERS INC	T.L.E.	---	---	---	---	0.19
6	4.06 - 4.08	F&C AUSTIN LAND CORP	T.L.E.	---	---	---	---	0.74
7	4.06	LINDA M WEIS	T.L.E.	---	---	---	---	0.06
8	4.06	TIMOTHY W & LEIGH E LAMPSON	T.L.E.	---	---	---	---	0.03
9	4.06, 4.07	CYNTHIA A VISGAR	T.L.E.	---	---	---	---	0.03
10 <sup>(1)</sup>	4.07	MICHAEL J & CHARLENE REIS WITTLIEFF	T.L.E.	---	---	---	---	0.09
11	4.07	ARTHUR & NANCY WIESE JARSTAD	T.L.E.	---	---	---	---	0.19
12 <sup>(1)</sup>	4.07	KURT D MARLING	T.L.E.	---	---	---	---	0.06
13	4.07, 4.08	RIDGEWAY REALTY, LLC	T.L.E.	---	---	---	---	0.04
14	4.08	JAMES D JR & BRENDA L NOLTE	T.L.E.	---	---	---	---	0.03
16	4.08	MICHAEL E & MARY JEAN MILLER	T.L.E.	---	---	---	---	0.03
17	4.08	WILLIAM A & SUZANNE C RENTMEESTER	T.L.E.	---	---	---	---	0.03
18	4.08	NATHANIEL W & LISA M SIMMONS	T.L.E.	---	---	---	---	0.07
19	4.08	CHRISTINE R FISHER	T.L.E.	---	---	---	---	0.06
21	4.04, 4.05	CITY OF JANESVILLE	TEMPORARY RELEASE OF RIGHTS	---	---	---	---	---
22	4.08	AT&T OF WISCONSIN	TEMPORARY RELEASE OF RIGHTS	---	---	---	---	---



REVISION DATE	2/18/2016	-----	-----	DATE 2/1/16	SCALE, FEET <div>0100200</div>	HWY: AUSTIN ROAD	STATE R/W PROJECT NUMBER 5990-00-35	PLAT SHEET 4.03	
				GRID FACTOR -----		COUNTY: ROCK	CONSTRUCTION PROJECT NUMBER 5990-00-36	PS&E SHEET -----	

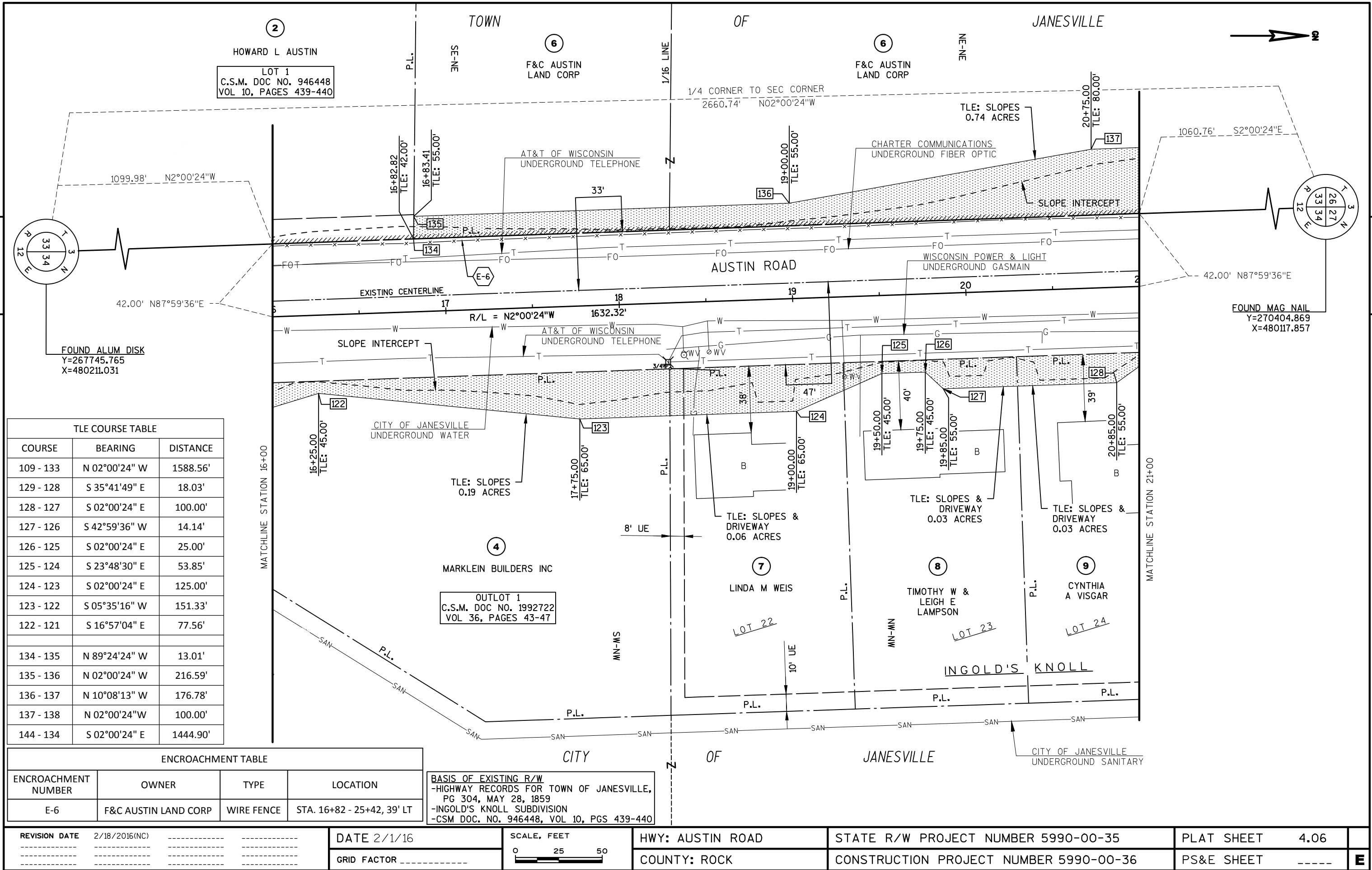


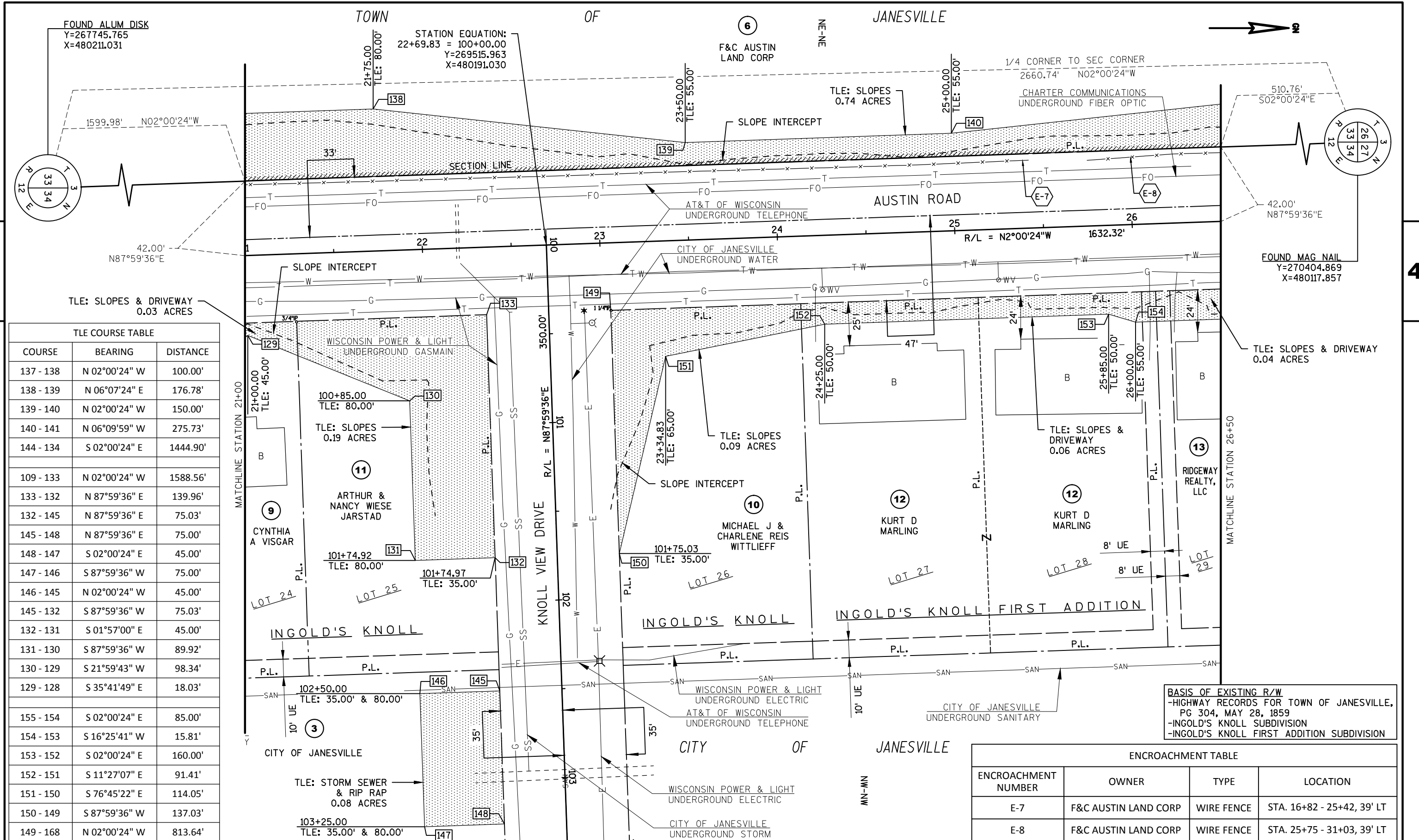


TLE COURSE TABLE		
COURSE	BEARING	DISTANCE
101 - 102	N 04°08'03" W	404.08'
102 - 103	N 02°00'24" W	150.00'
103 - 104	N 43°16'47" E	14.21'
104 - 105	N 02°00'24" W	189.98'
105 - 106	N 87°59'36" E	10.90'
106 - 107	S 02°00'24" E	221.64'
107 - 108	S 89°24'24" E	14.01'
108 - 100	S 02°00'24" E	532.66'
109 - 133	N 02°00'24" W	1588.56'
122 - 121	S 16°57'04" E	77.56'
121 - 120	S 01°14'34" E	125.93'
120 - 119	S 16°52'26" E	76.70'
119 - 118	S 02°00'24" E	100.00'
118 - 117	S 47°00'25" E	35.36'
117 - 116	S 02°00'24" E	50.00'
116 - 115	S 24°33'30" W	55.90'
115 - 114	S 02°00'24" E	225.00'

ENCROACHMENT TABLE			
ENCROACHMENT NUMBER	OWNER	TYPE	LOCATION
E-4	HOWARD L AUSTIN	WIRE FENCE	9+33 - 13+29, 38' LT
E-5	HOWARD L AUSTIN	WIRE FENCE	13+46 - 16+82, 38' LT

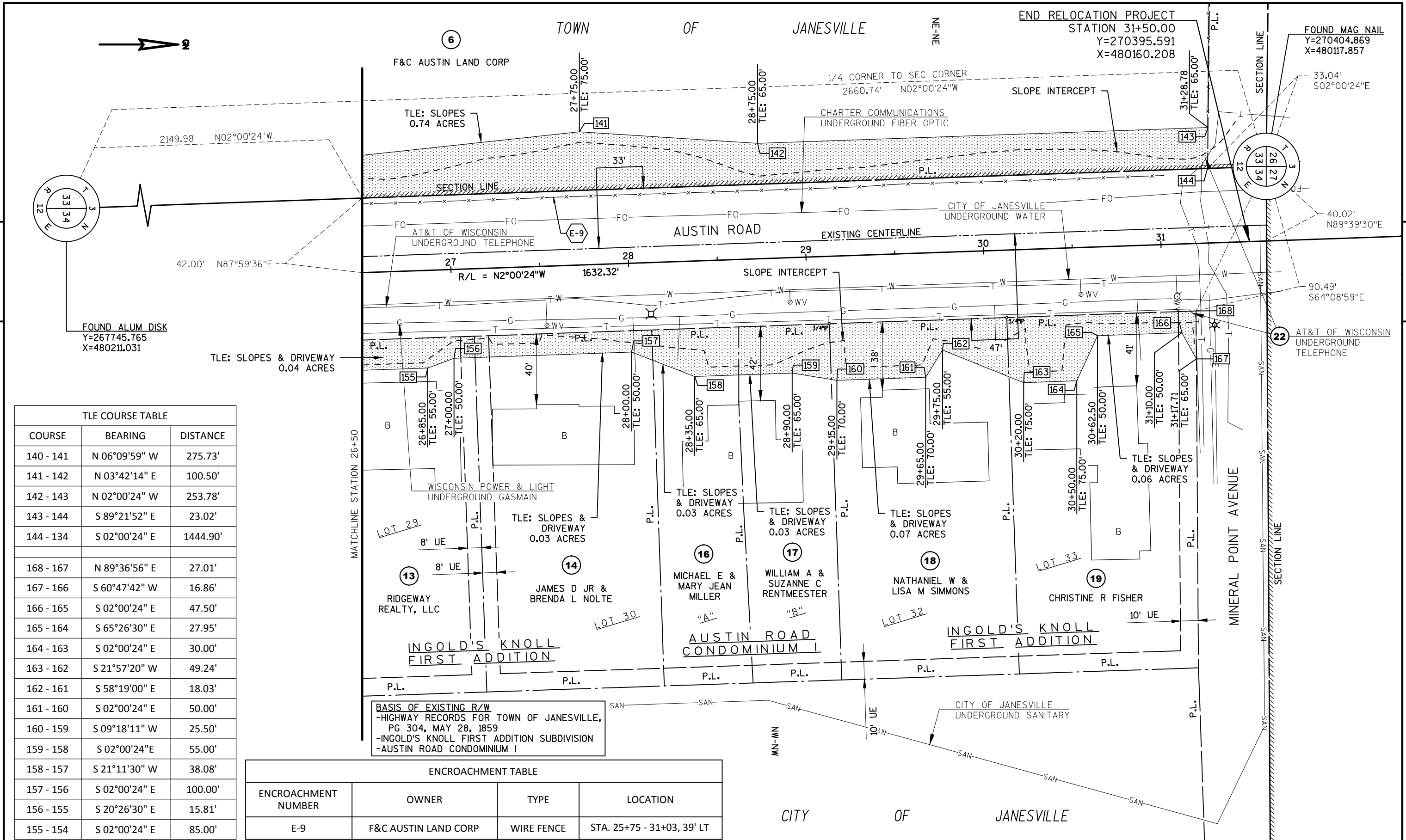
REVISION DATE 2/18/2016(NC)	DATE 2/1/16	SCALE, FEET 0 25 50	HWY: AUSTIN ROAD	STATE R/W PROJECT NUMBER 5990-00-35	PLAT SHEET 4.05
	GRID FACTOR		COUNTY: ROCK	CONSTRUCTION PROJECT NUMBER 5990-00-36	PS&E SHEET





TLE COURSE TABLE		
COURSE	BEARING	DISTANCE
137 - 138	N 02°00'24" W	100.00'
138 - 139	N 06°07'24" E	176.78'
139 - 140	N 02°00'24" W	150.00'
140 - 141	N 06°09'59" W	275.73'
144 - 134	S 02°00'24" E	1444.90'
109 - 133	N 02°00'24" W	1588.56'
133 - 132	N 87°59'36" E	139.96'
132 - 145	N 87°59'36" E	75.03'
145 - 148	N 87°59'36" E	75.00'
148 - 147	S 02°00'24" E	45.00'
147 - 146	S 87°59'36" W	75.00'
146 - 145	N 02°00'24" W	45.00'
145 - 132	S 87°59'36" W	75.03'
132 - 131	S 01°57'00" E	45.00'
131 - 130	S 87°59'36" W	89.92'
130 - 129	S 21°59'43" W	98.34'
129 - 128	S 35°41'49" E	18.03'
155 - 154	S 02°00'24" E	85.00'
154 - 153	S 16°25'41" W	15.81'
153 - 152	S 02°00'24" E	160.00'
152 - 151	S 11°27'07" E	91.41'
151 - 150	S 76°45'22" E	114.05'
150 - 149	S 87°59'36" W	137.03'
149 - 168	N 02°00'24" W	813.64'

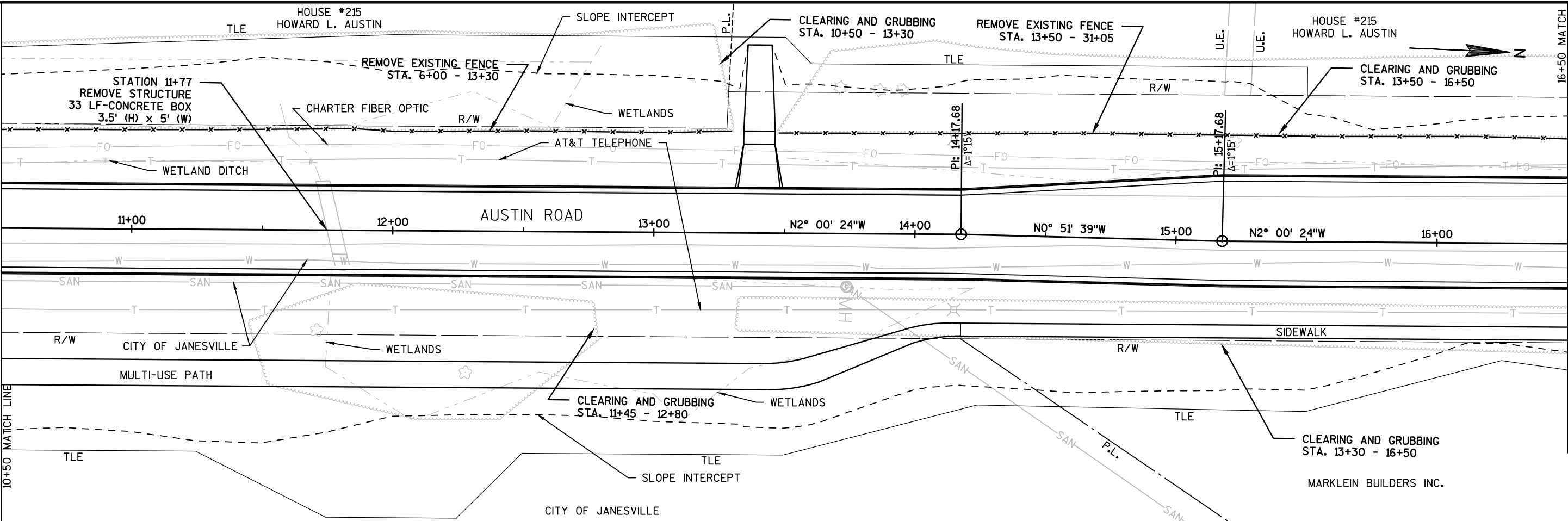
ENCROACHMENT TABLE			
ENCROACHMENT NUMBER	OWNER	TYPE	LOCATION
E-7	F&C AUSTIN LAND CORP	WIRE FENCE	STA. 16+82 - 25+42, 39' LT
E-8	F&C AUSTIN LAND CORP	WIRE FENCE	STA. 25+75 - 31+03, 39' LT



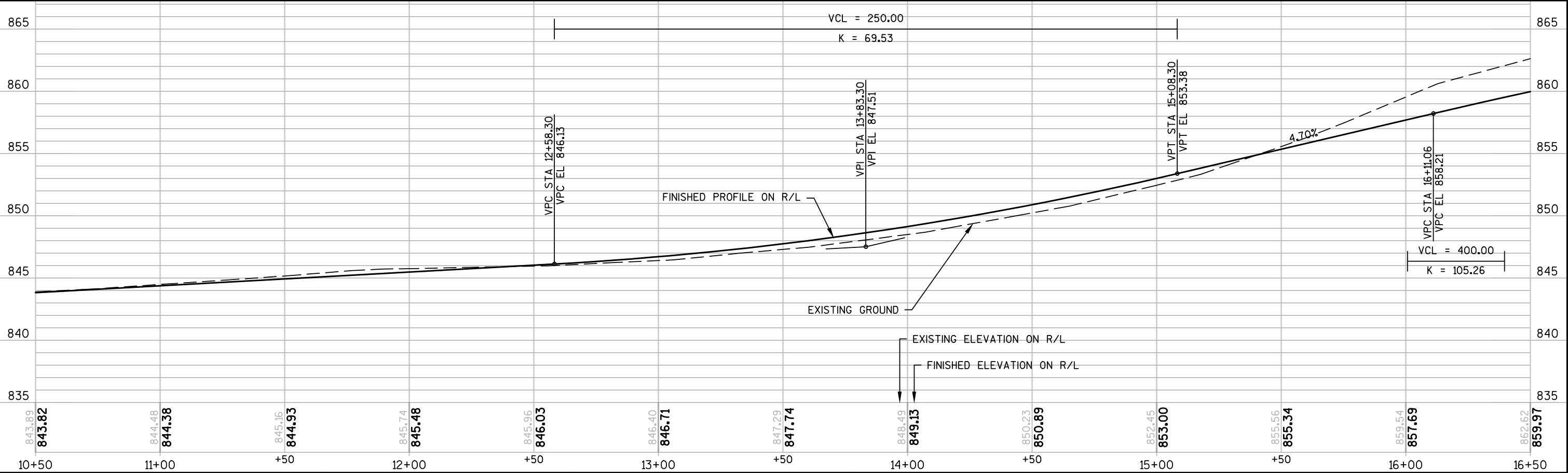


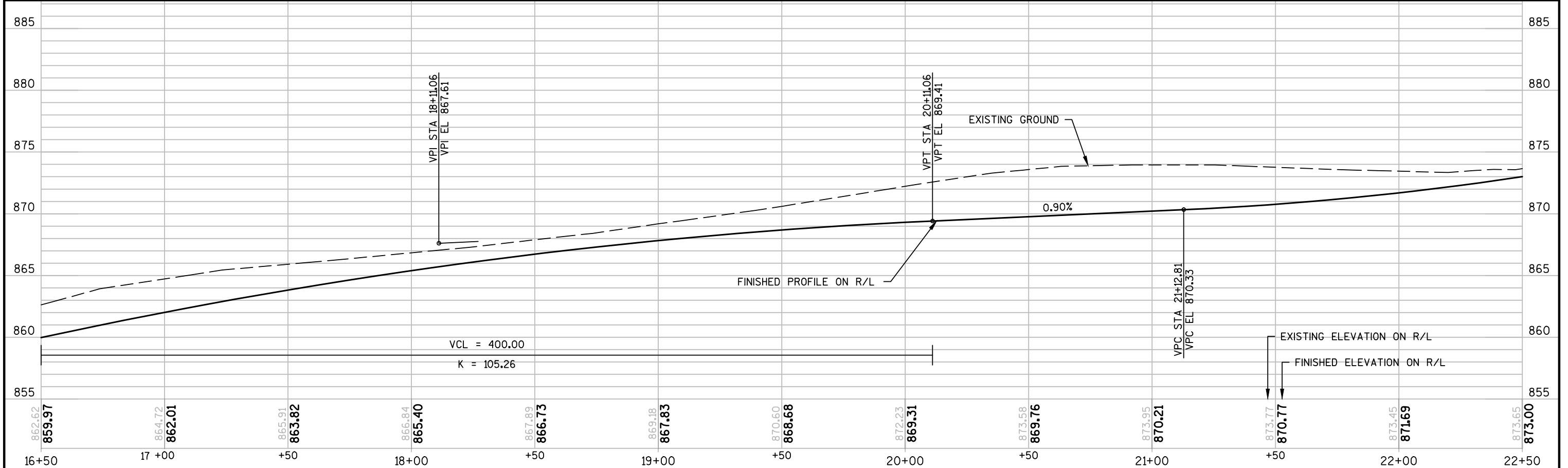
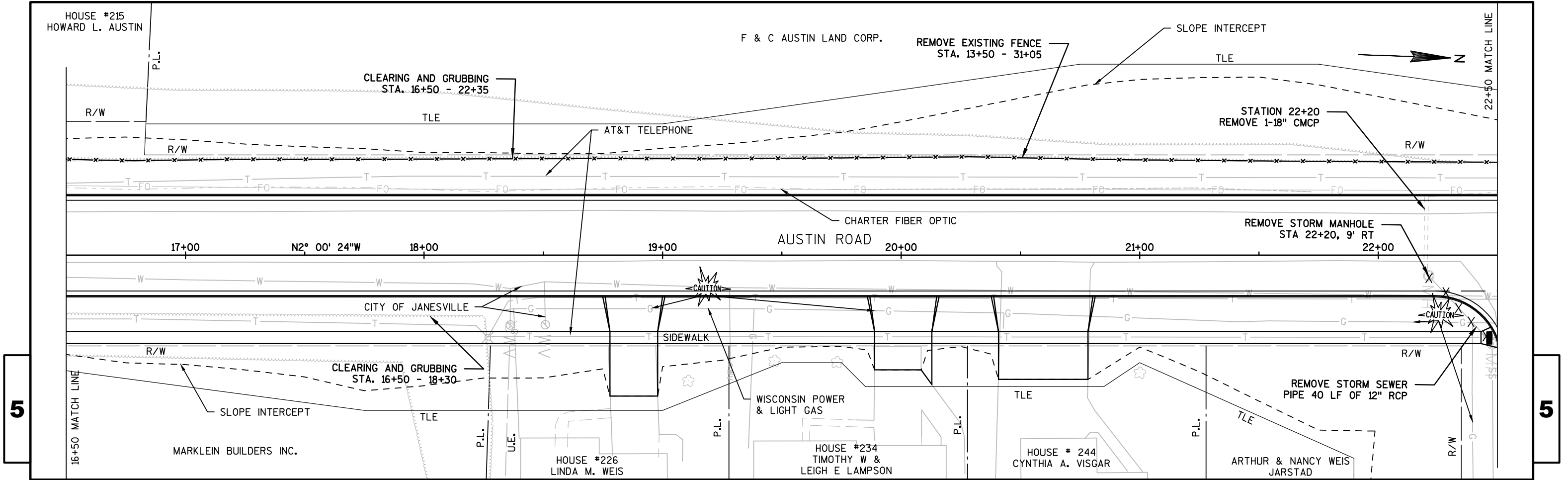


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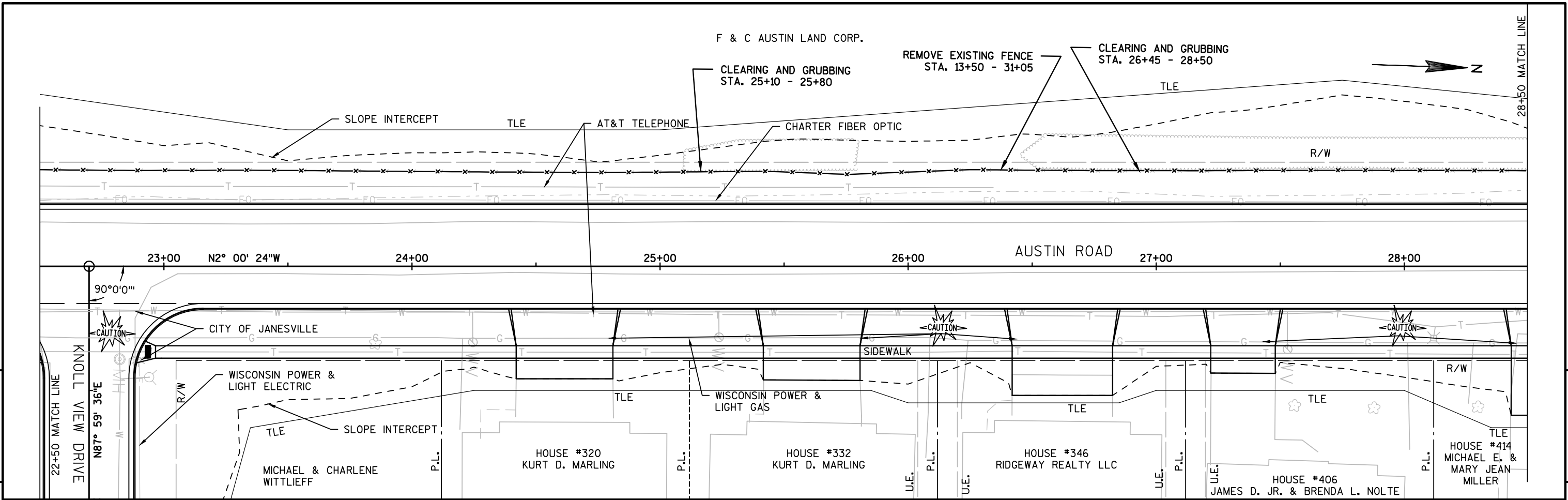
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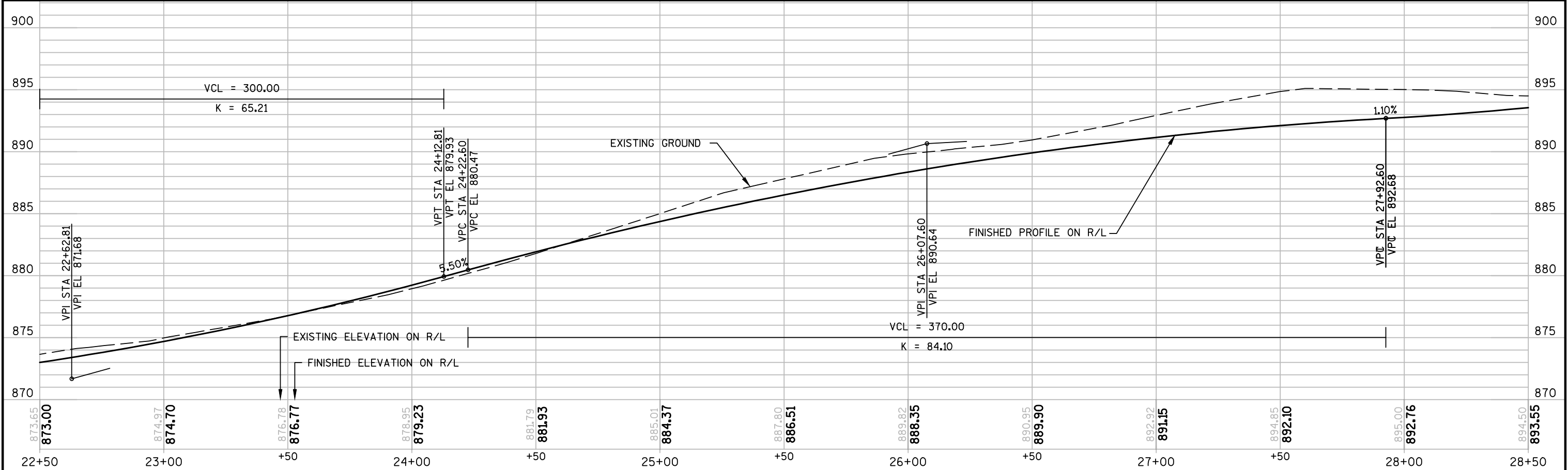


PROJECT NO:5990-00-36	HWY:LOCAL STREET	COUNTY:ROCK	PLAN AND PROFILE: AUSTIN ROAD	SHEET	E
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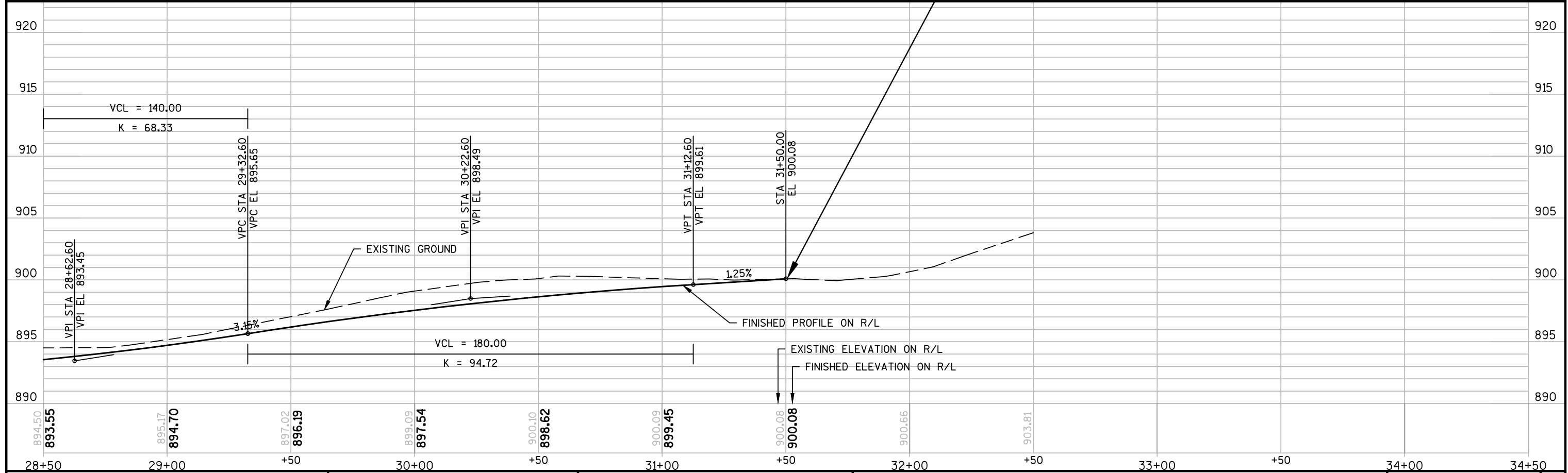
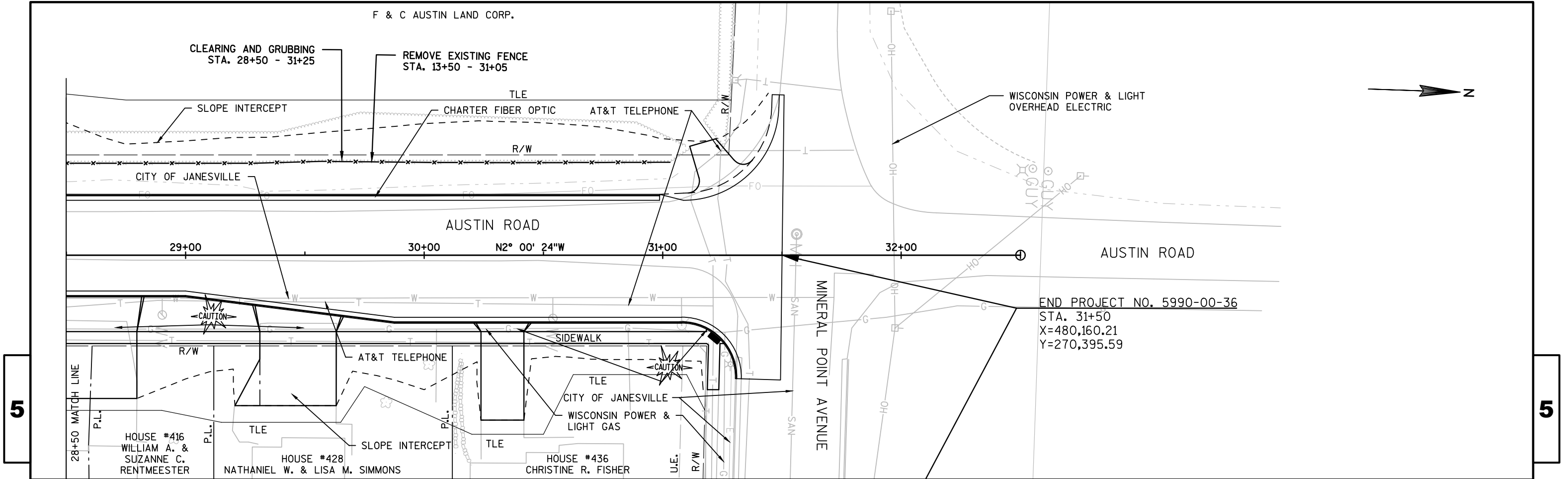
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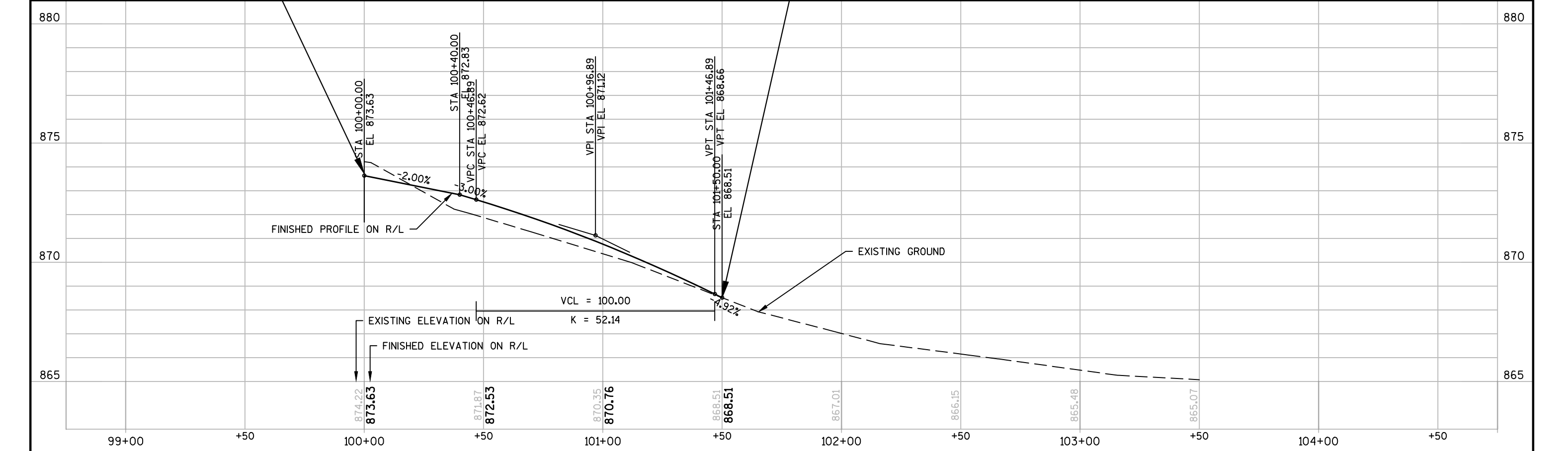
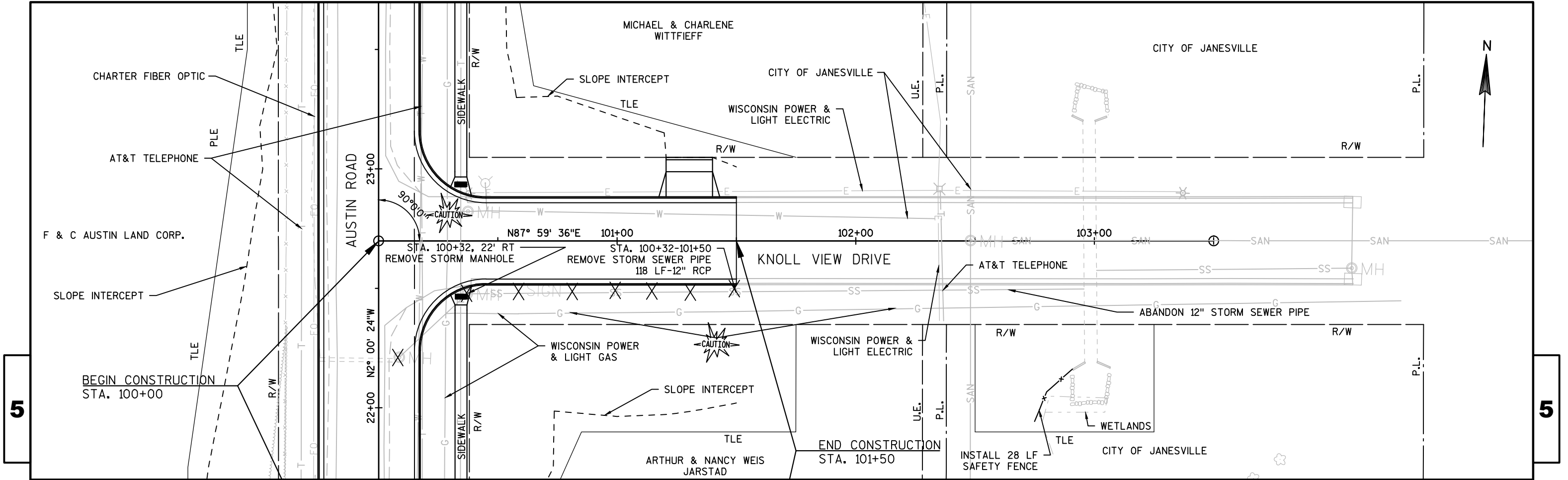
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PROJECT NO:5990-00-36	HWY:LOCAL STREET	COUNTY:ROCK	PLAN AND PROFILE: AUSTIN ROAD	SHEET	E
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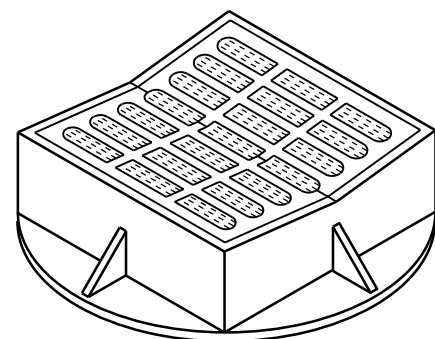
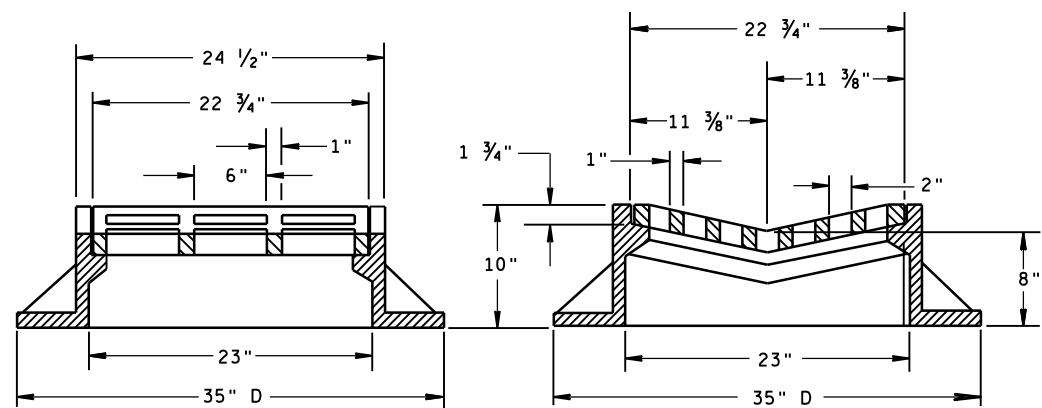


PROJECT NO:5990-00-36	HWY:LOCAL STREET	COUNTY:ROCK	PLAN AND PROFILE: AUSTIN ROAD	SHEET	E
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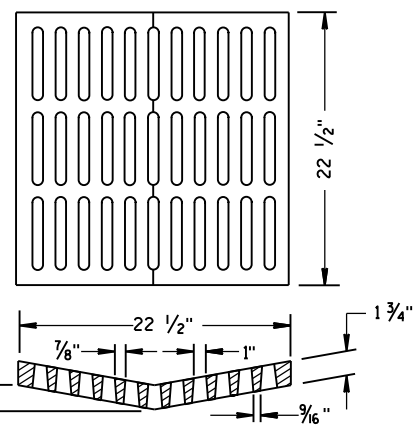


Standard Detail Drawing List

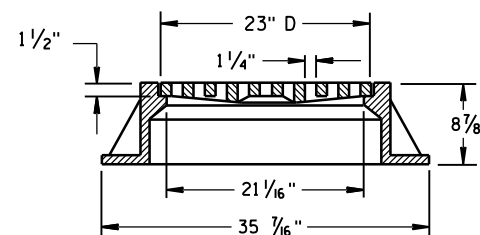
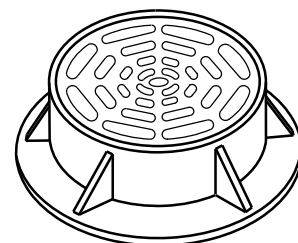
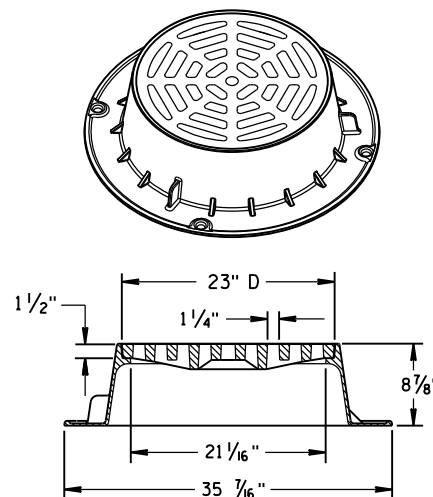
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08B09-02	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C07-02	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-19	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D05-18A	CURB RAMPS TYPES 1 AND 1-A
08D05-18B	CURB RAMPS TYPES 2 AND 3
08D05-18C	CURB RAMPS TYPES 4A AND 4A1
08D05-18D	CURB RAMPS TYPE 4B AND 4B1
08D05-18E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-09	CONDUIT
09B04-11	PULL BOX
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09E01-14D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E01-14G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-05	NON-FREEWAY LIGHTING UNIT POLE WIRING
14A02-01	TREE PLANTING DETAIL
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-03	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C07-13A	PAVEMENT MARKING SYMBOLS
15C07-13B	PAVEMENT MARKING WORDS
15C07-13C	PAVEMENT MARKING ARROWS
15C08-17A	LONGITUDINAL MARKING (MAINLINE)
15C08-17B	PAVEMENT MARKING (TURN LANES)
15C29-03C	URBAN BICYCLE LANE MARKING
15C29-03D	URBAN BICYCLE LANE MARKING
15C29-03E	PAVEMENT MARKING FOR BIKE LANES
15C33-02	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-01A	PAVEMENT MARKING (INTERSECTIONS)



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"

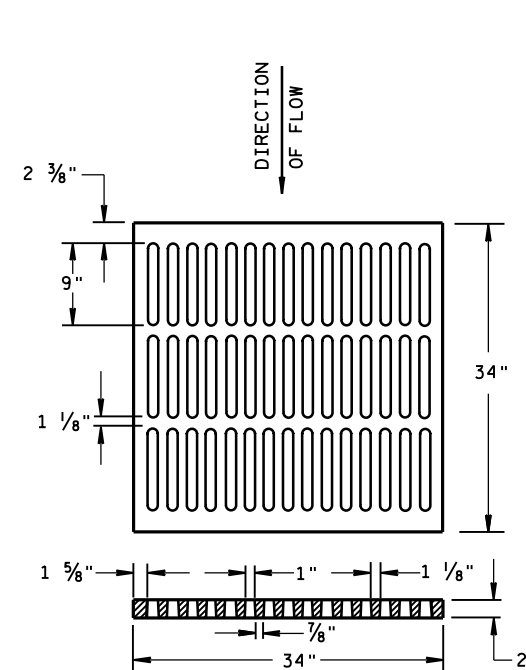
NOTE: EITHER CASTING IS ACCEPTABLE

## 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.

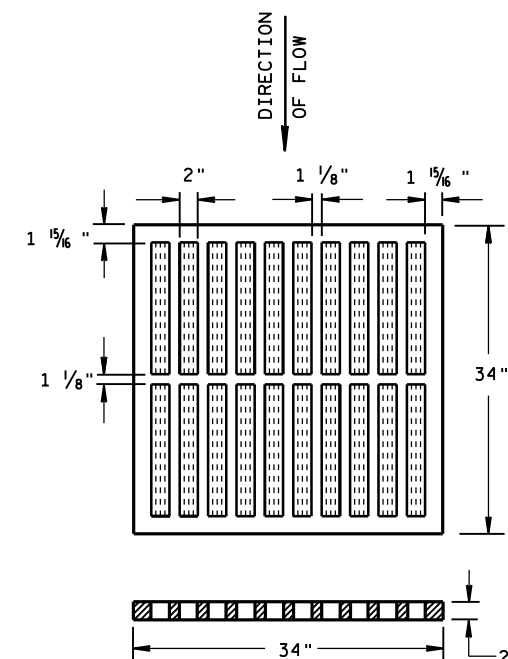
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



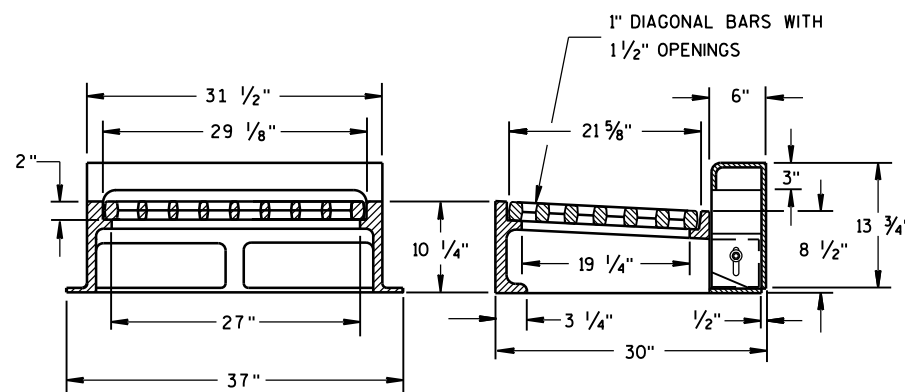
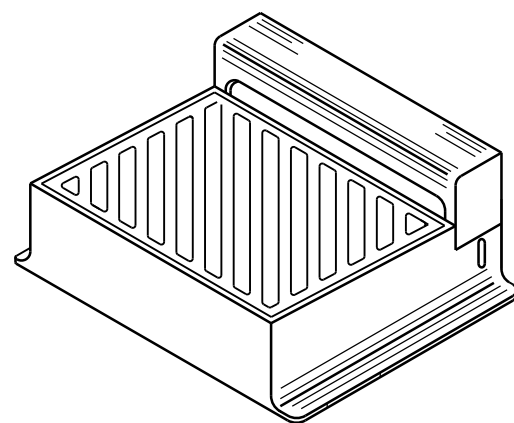
ALTERNATIVE TYPE "MS"

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.

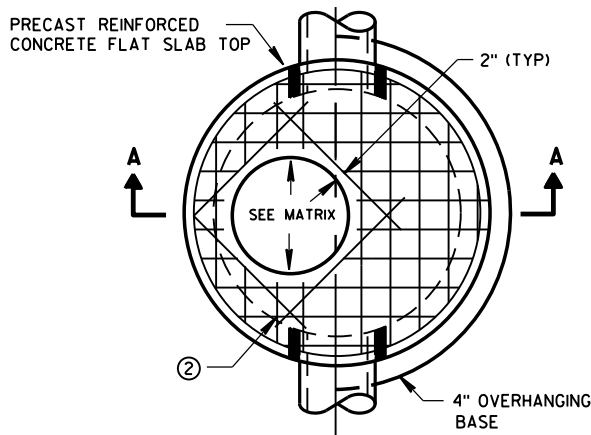
DIRECTION  
OF FLOW

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

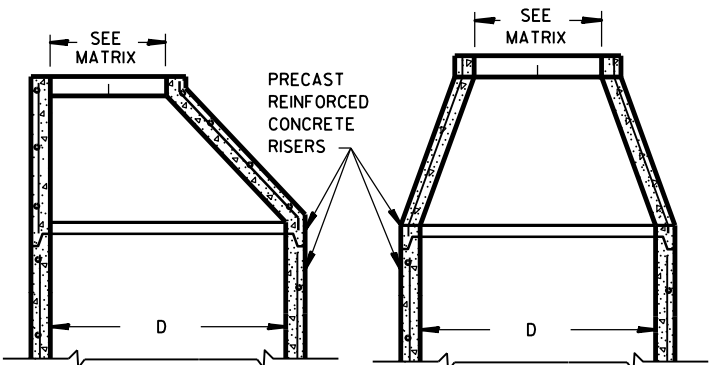
STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

APPROVED  
 11/27/2013  
 DATE  
 FHWA

/S/ Jerry H. Zogg  
 ROADWAY STANDARDS DEVELOPMENT  
 ENGINEER

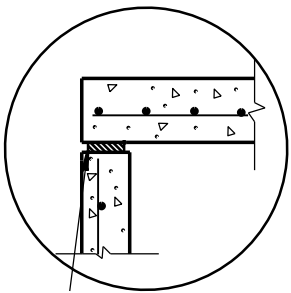


PLAN VIEW CIRCULAR OPENING

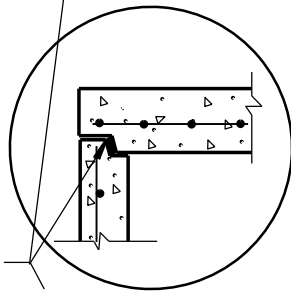


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

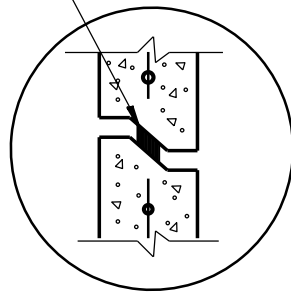
OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



TOP WITH PLAIN END JOINT

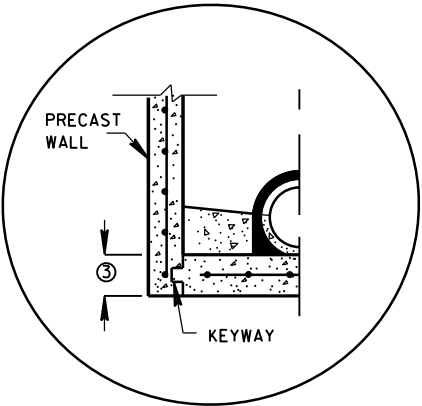


TOP WITH TONGUE AND GROOVE JOINT

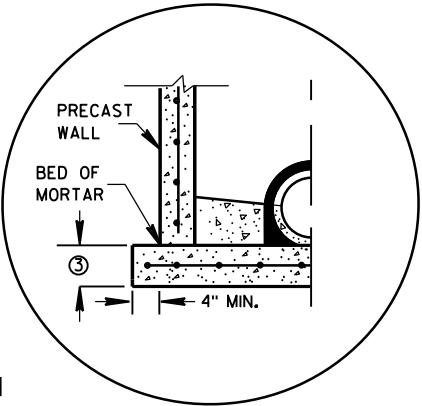


DETAIL "B"

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

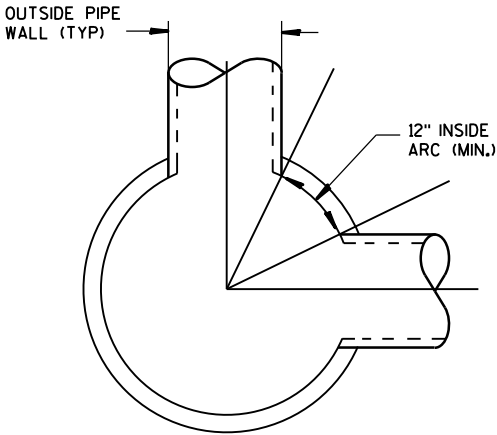


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

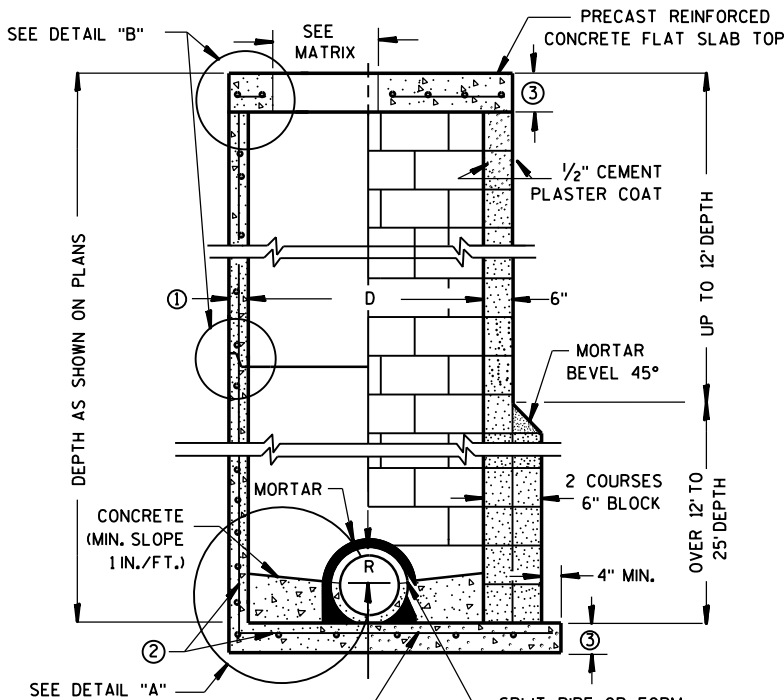


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"



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

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

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

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS. UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST MANHOLE UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

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

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

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

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF 1/2" AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

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

CONCRETE BLOCK WILL NOT BE PERMITTED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

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

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

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

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

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

MANHOLE COVER OPENING MATRIX

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

PIPE MATRIX

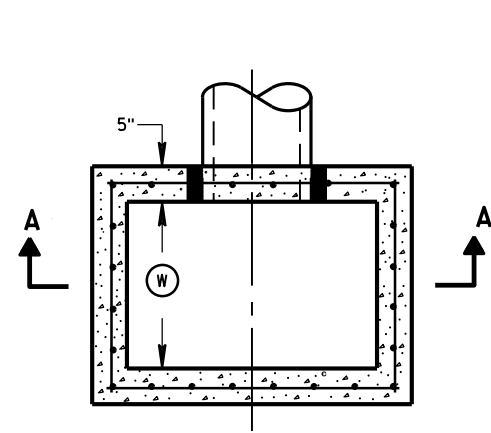
MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

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

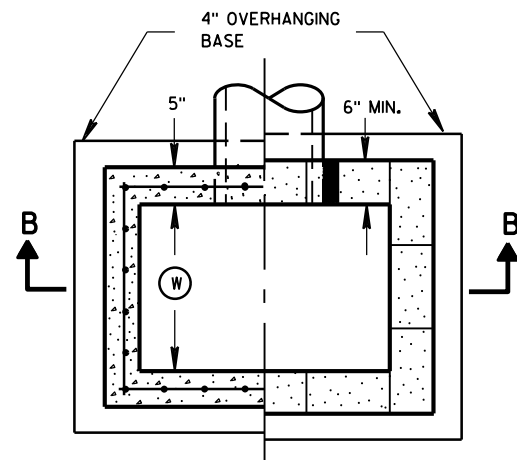
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE Sept., 2016 /S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR  
FHWA

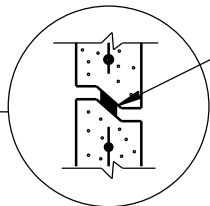




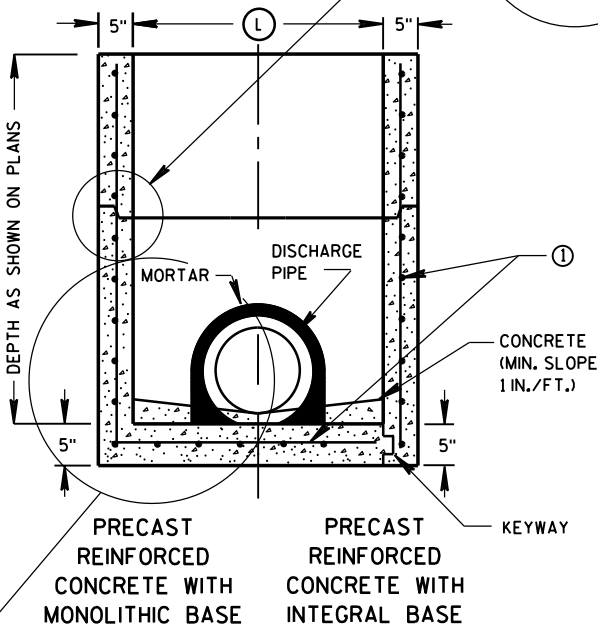
PLAN VIEW



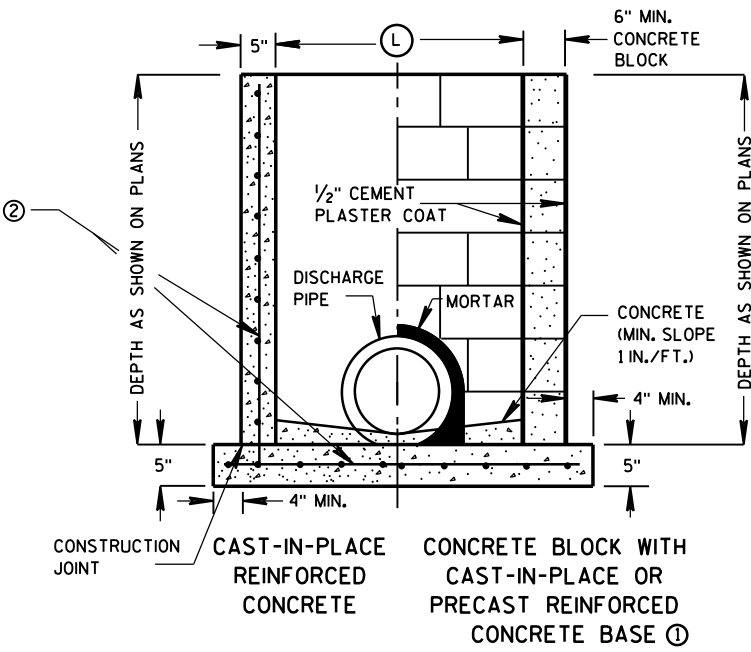
PLAN VIEW



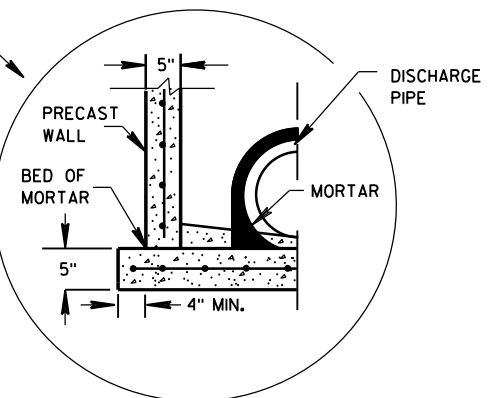
RISER JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

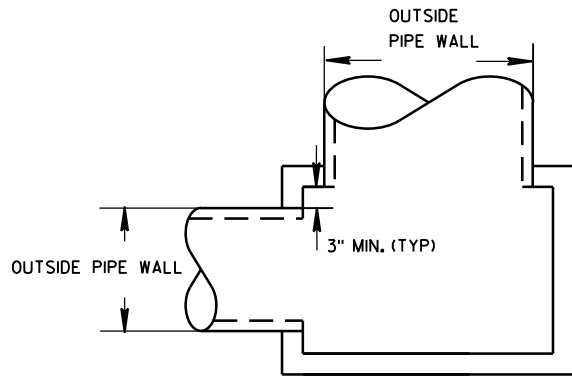
- ① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

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

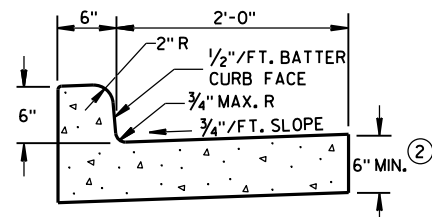


DETAIL "A"

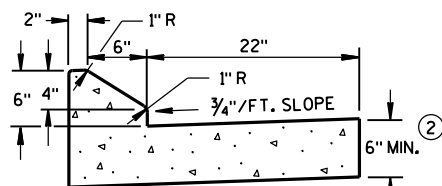
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

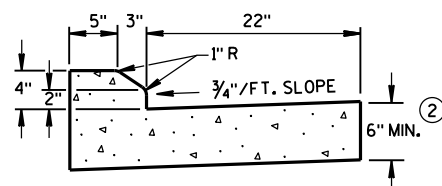
APPROVED  
Sept., 2016 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
FHWA UNIT SUPERVISOR



TYPES A & D ①

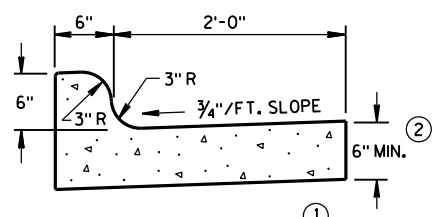


6" SLOPED CURB TYPES G & J ①



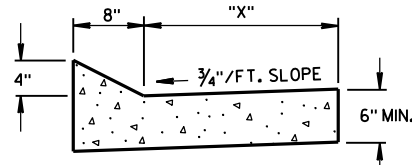
4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"



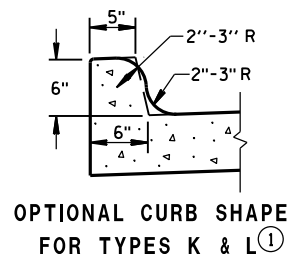
TYPES K & L ①

CONCRETE CURB & GUTTER 30"

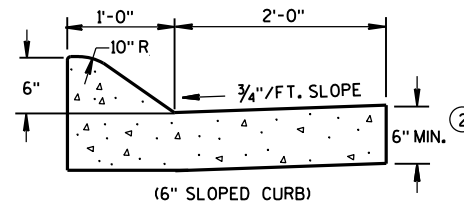


TYPES TBT & TBTT ①  
CONCRETE CURB & GUTTER

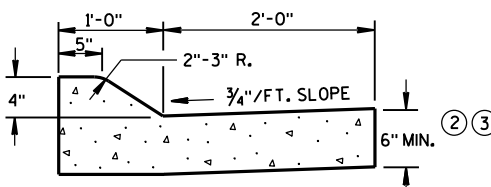
TBT & TBTT	"X"
30"	22"
36"	28"



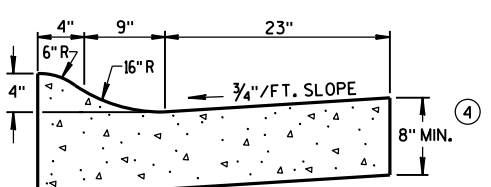
OPTIONAL CURB SHAPE  
FOR TYPES K & L ①



(6" SLOPED CURB)



(4" SLOPED CURB)  
TYPES A & D ①



4" SLOPED CURB TYPES R & T ① ⑤  
CONCRETE CURB & GUTTER 36"

## GENERAL NOTES

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

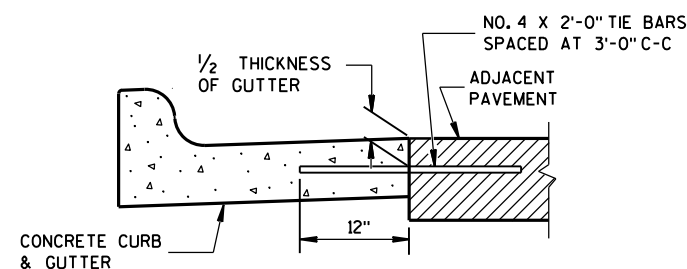
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

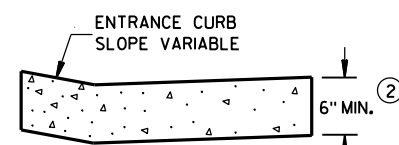
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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

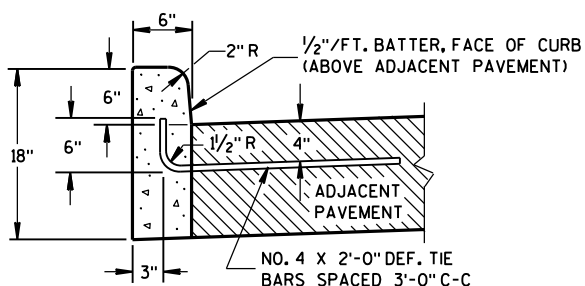
- TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.
- THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- 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.
- THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.



TYPICAL TIE BAR LOCATION ①

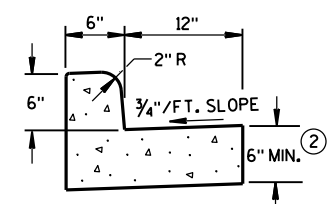


DRIVEWAY ENTRANCE CURB  
(WHEN DIRECTED BY THE ENGINEER)

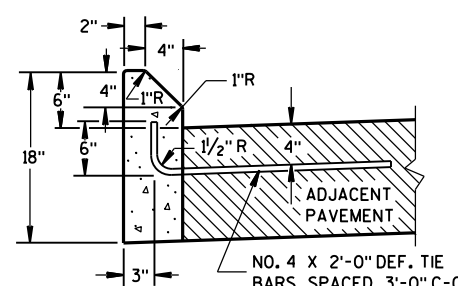


TYPES A & D ①

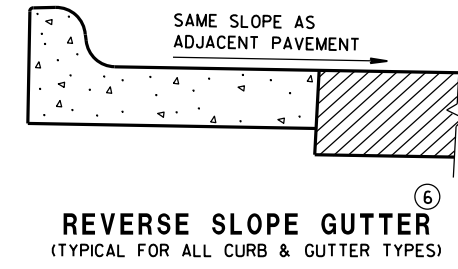
CONCRETE CURB



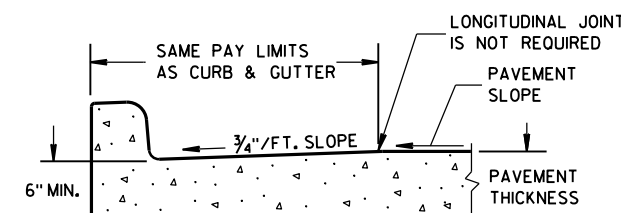
TYPES A & D  
CONCRETE CURB & GUTTER 18"



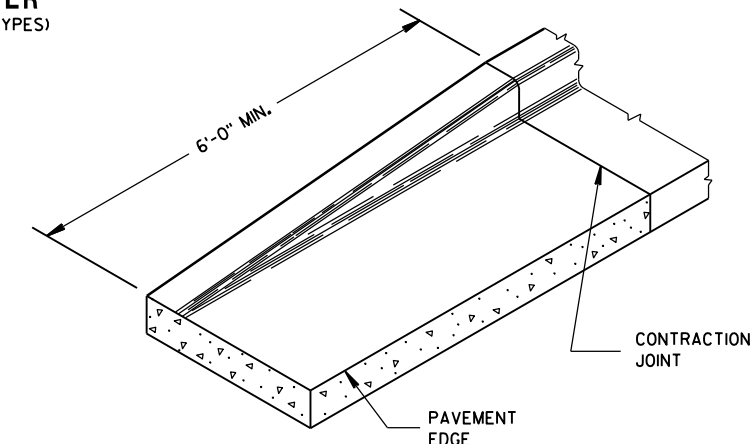
TYPES G & J ①



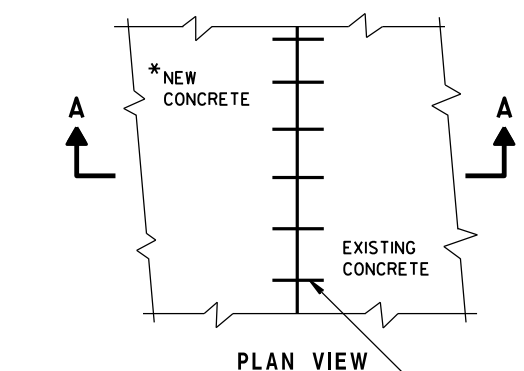
REVERSE SLOPE GUTTER  
(TYPICAL FOR ALL CURB & GUTTER TYPES)



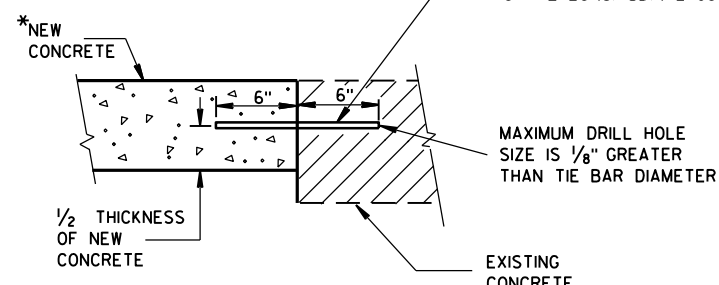
PARTIAL SECTION OF PAVEMENT  
WITH INTEGRAL CURB & GUTTER



END SECTION CURB & GUTTER



PLAN VIEW



SECTION A-A  
TIE BARS DRILLED  
INTO EXISTING PAVEMENT

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

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

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

EXISTING CONCRETE

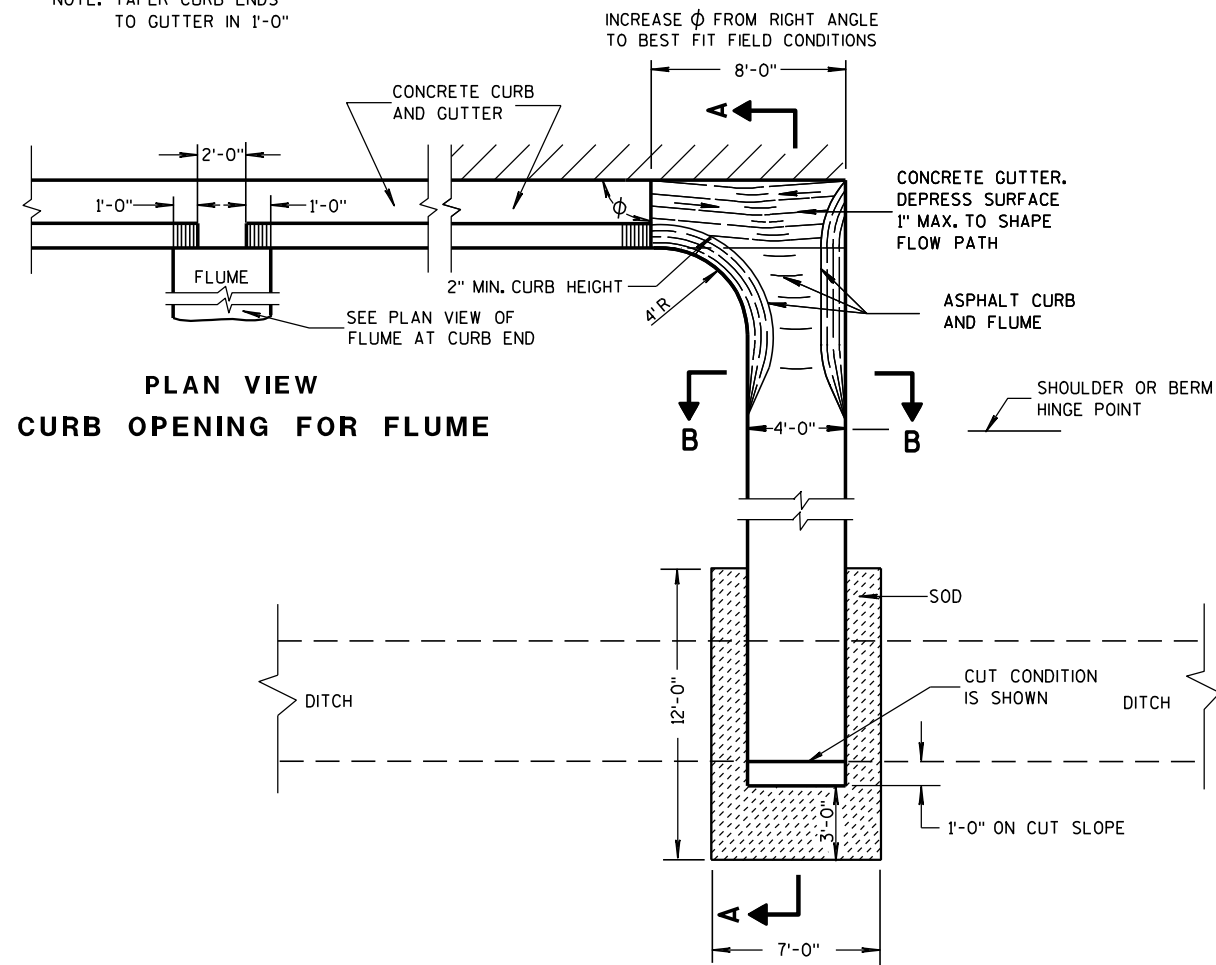
CONCRETE CURB, CONCRETE  
CURB & GUTTER AND TIES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
June, 2016 /S/ Jerry H. Zogg  
DATE ROADWAY STANDARDS DEVELOPMENT  
ENGINEER  
FHWA

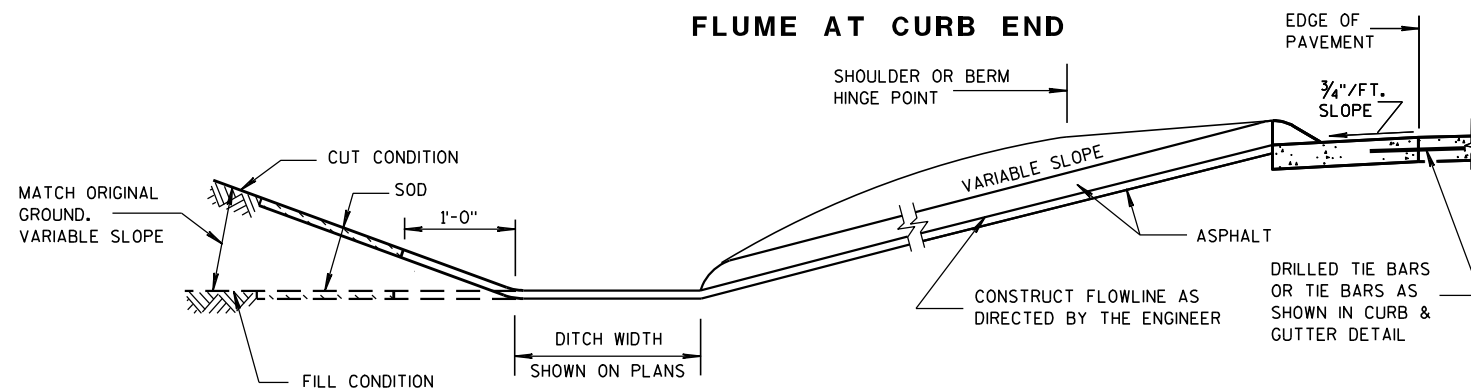
## ASPHALTIC FLUME

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

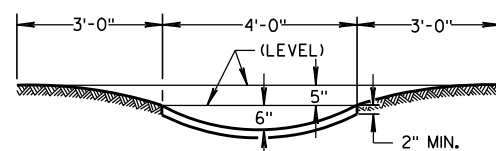


PLAN VIEW  
CURB OPENING FOR FLUME

PLAN VIEW  
FLUME AT CURB END



SECTION A-A



SECTION B-B

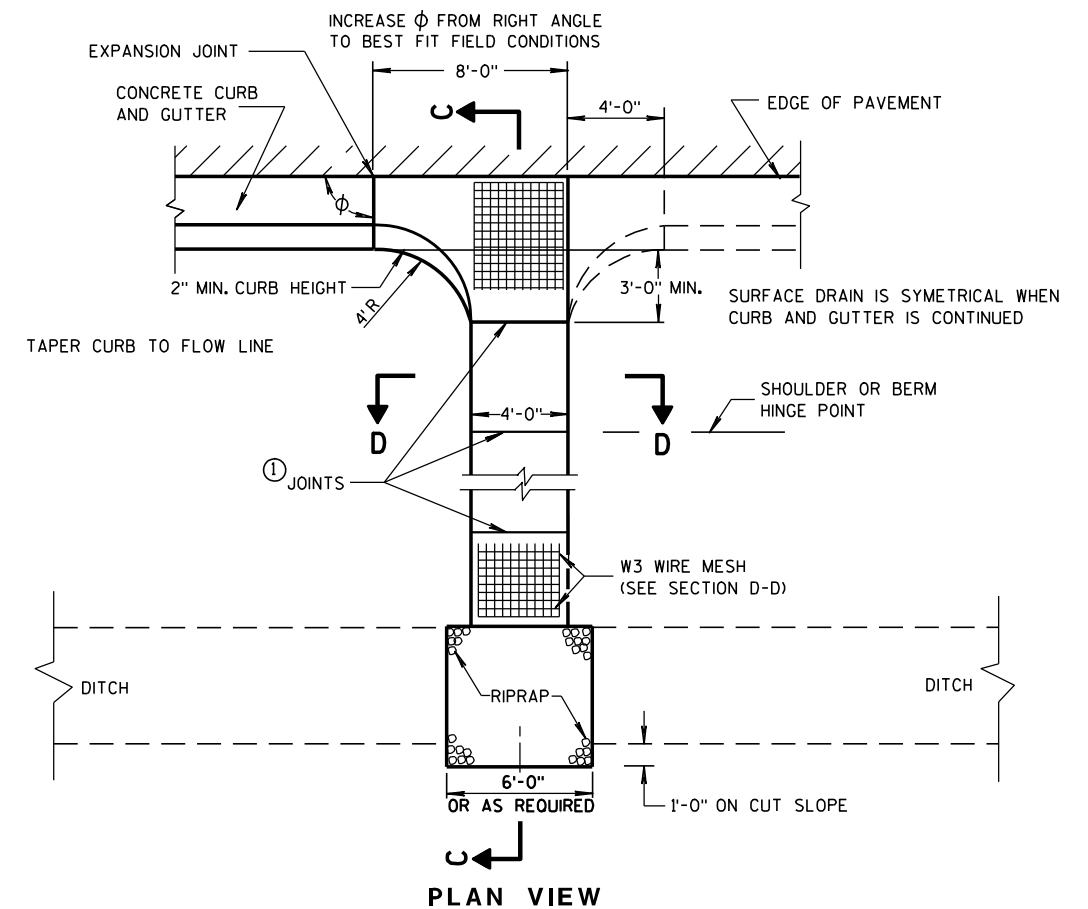
## GENERAL NOTES

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

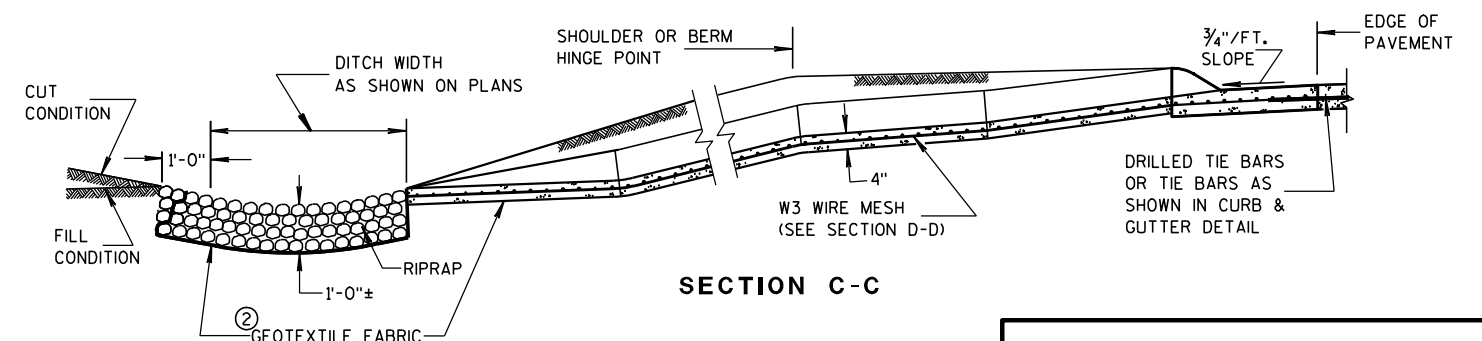
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

- 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

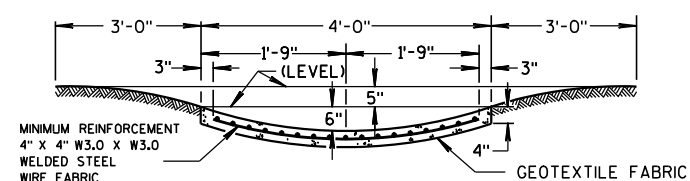
## ③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

## CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

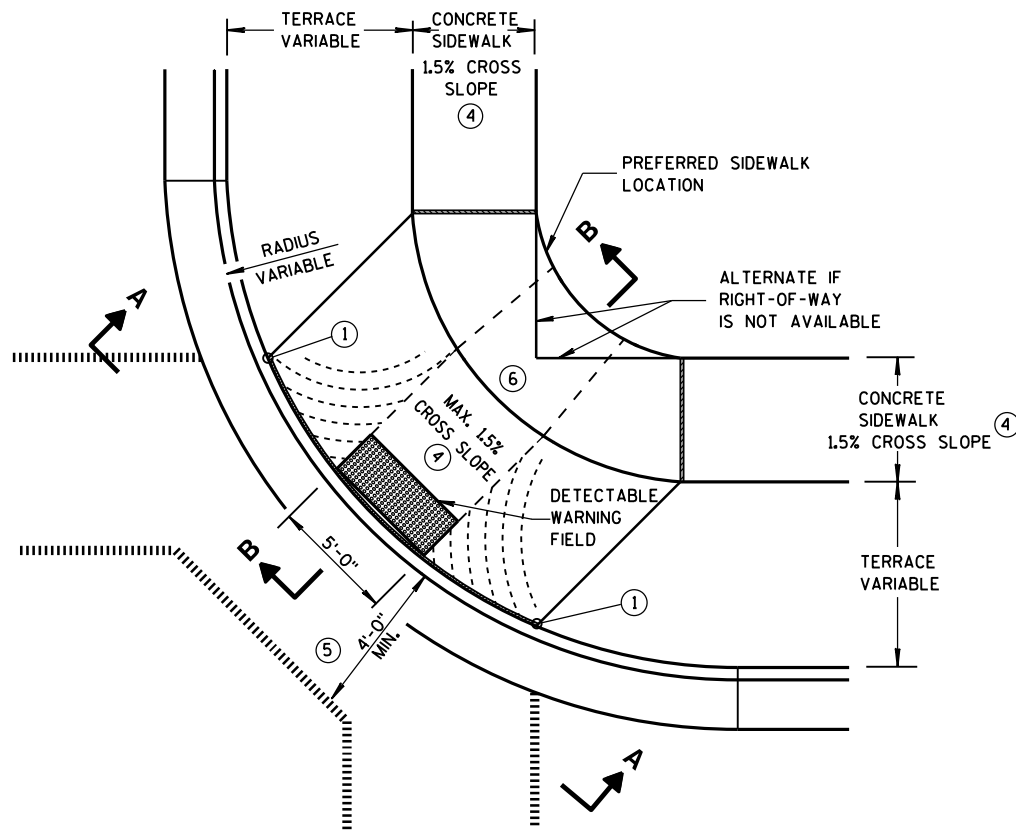
APPROVED

9-4-08

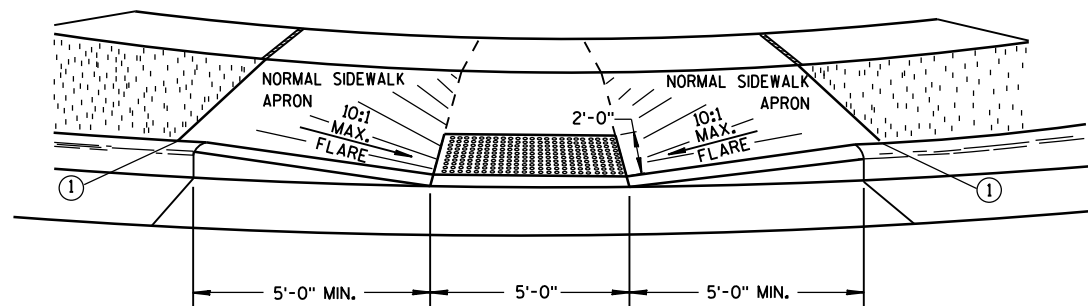
DATE

FHWA

/S/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER

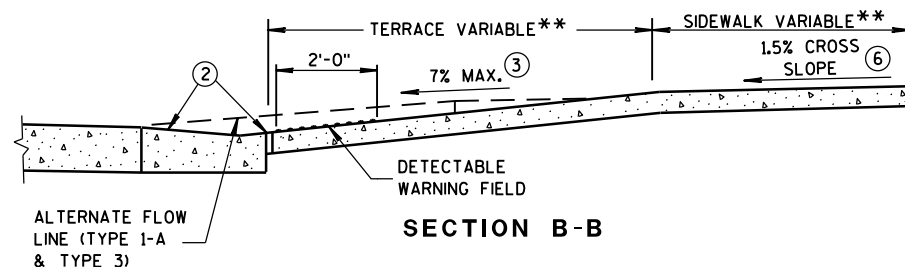


**PLAN VIEW  
TYPE 1 RAMP**  
(CENTER OF CORNER RADIUS)

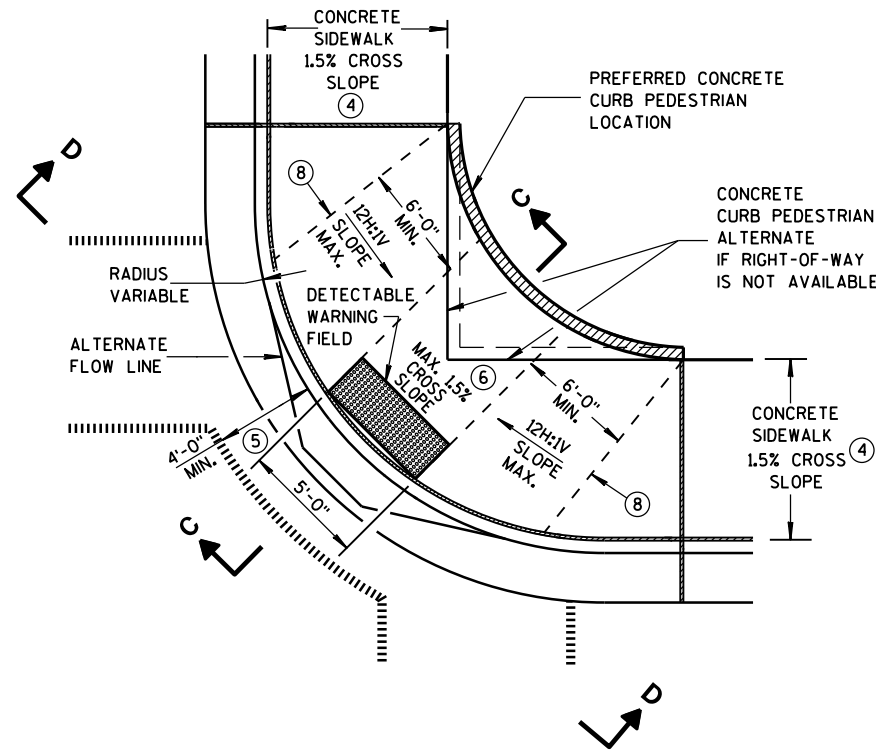


**VIEW A-A**

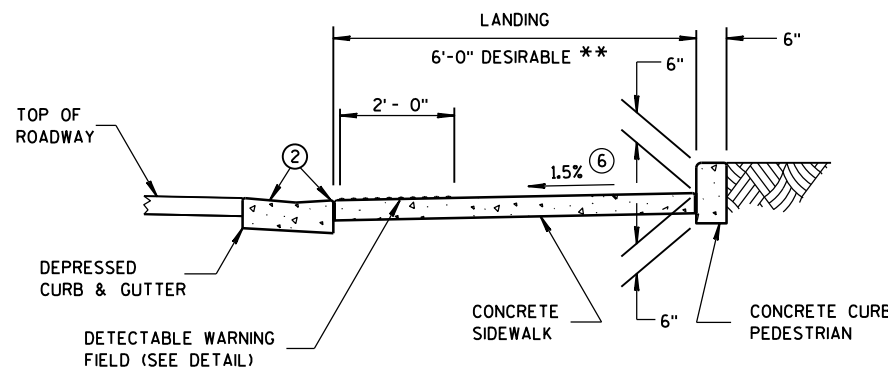
\*\* WIDTH SHOWN ELSEWHERE  
IN THE PLANS



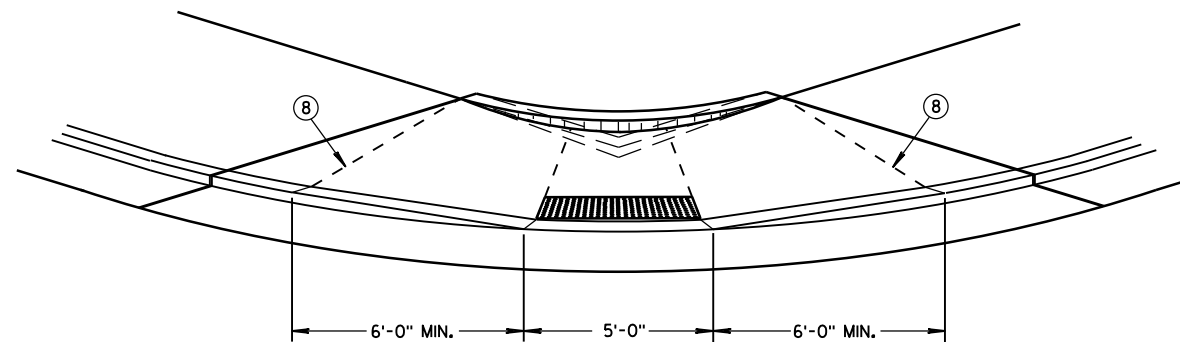
**SECTION B-B**



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



**SECTION C-C**



**VIEW D-D**

## GENERAL NOTES

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

WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

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

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL NOT EXCEED 7%.
- ③ ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④  $\pm 0.5\%$  CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑤ PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA. (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

## LEGEND

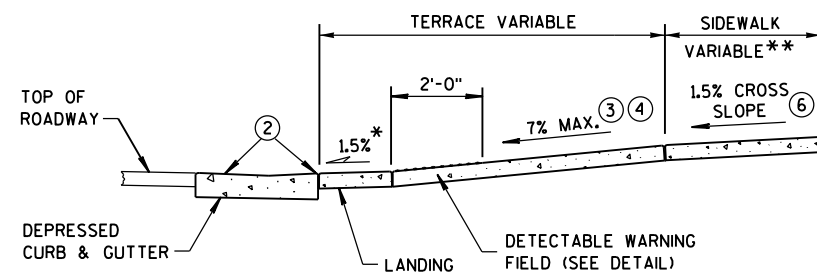
- 1/2" EXPANSION JOINT-SIDEWALK
- - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

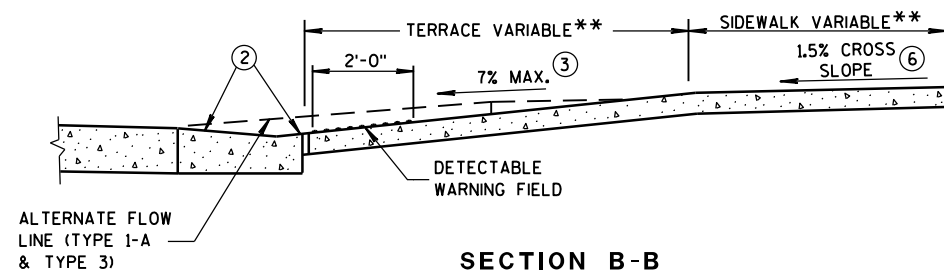


\* MAXIMUM 2.0% SLOPE  
IN ALL DIRECTIONS IN  
FRONT OF GRADE BREAK



**SECTION A-A**

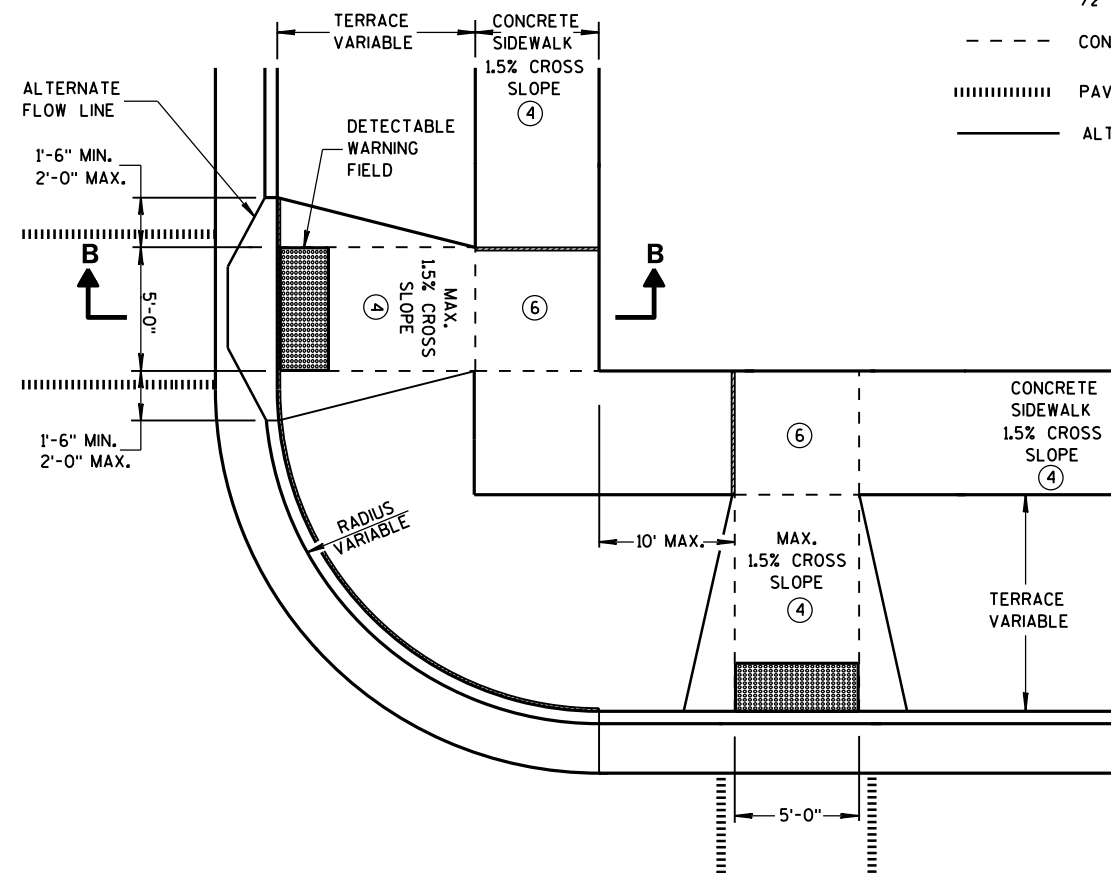
\*\* WIDTH SHOWN ELSEWHERE  
IN THE PLANS



**SECTION B-B**

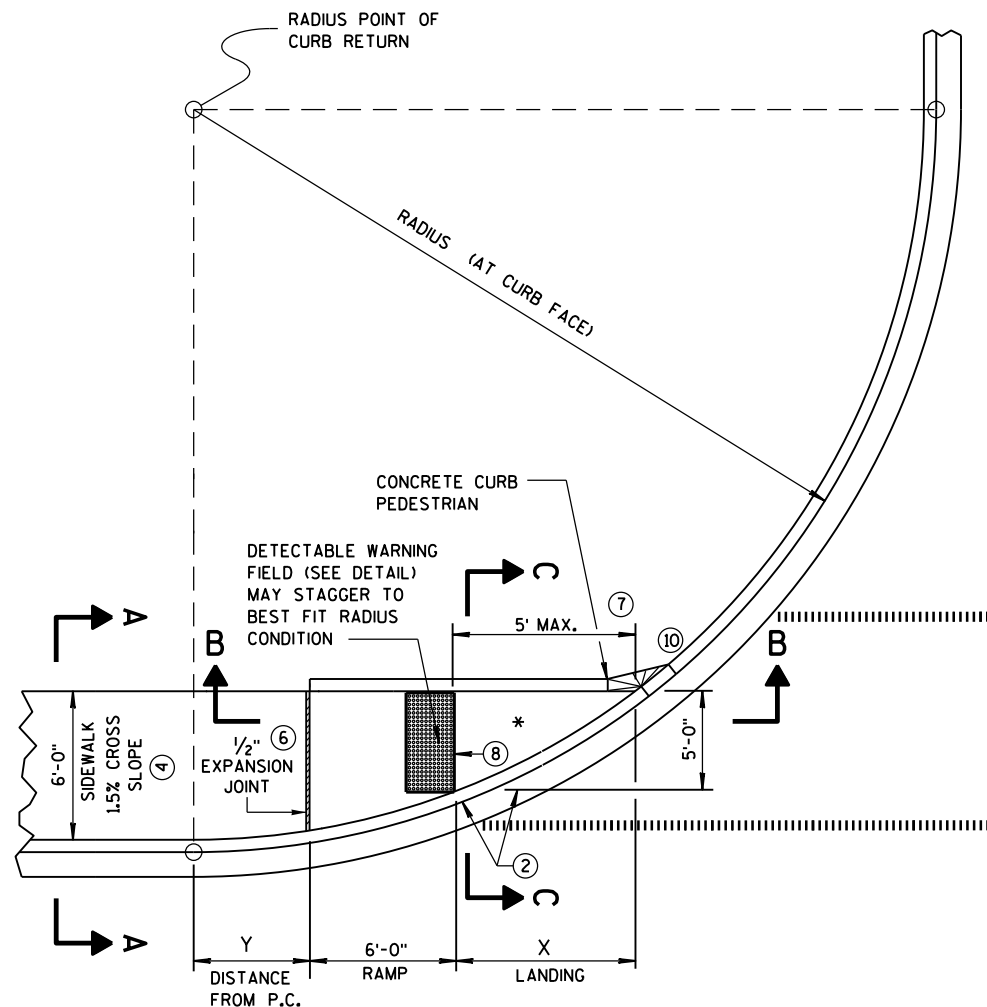
⑨ WHEN THIS DISTANCE IS LESS THAN 6'-0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.

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

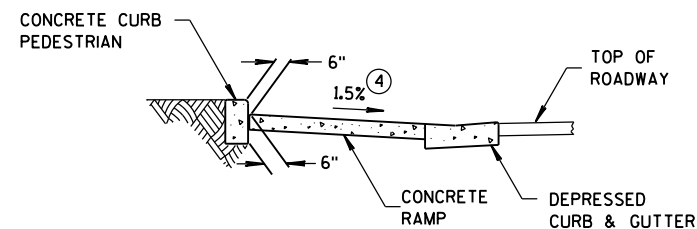


**PLAN VIEW**  
**TYPE 3 RAMP**  
(OUTSIDE OF CROSSWALK AREA)

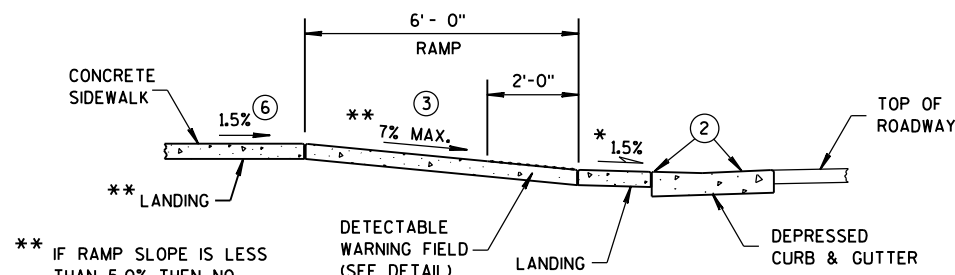
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**CURB RAMP TYPE 4A**  
PLAN VIEW



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



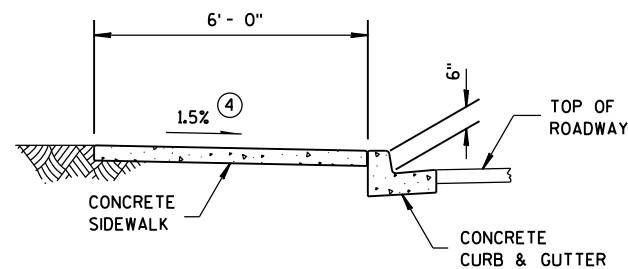
**SECTION B-B FOR TYPE 4A**

\*\* IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

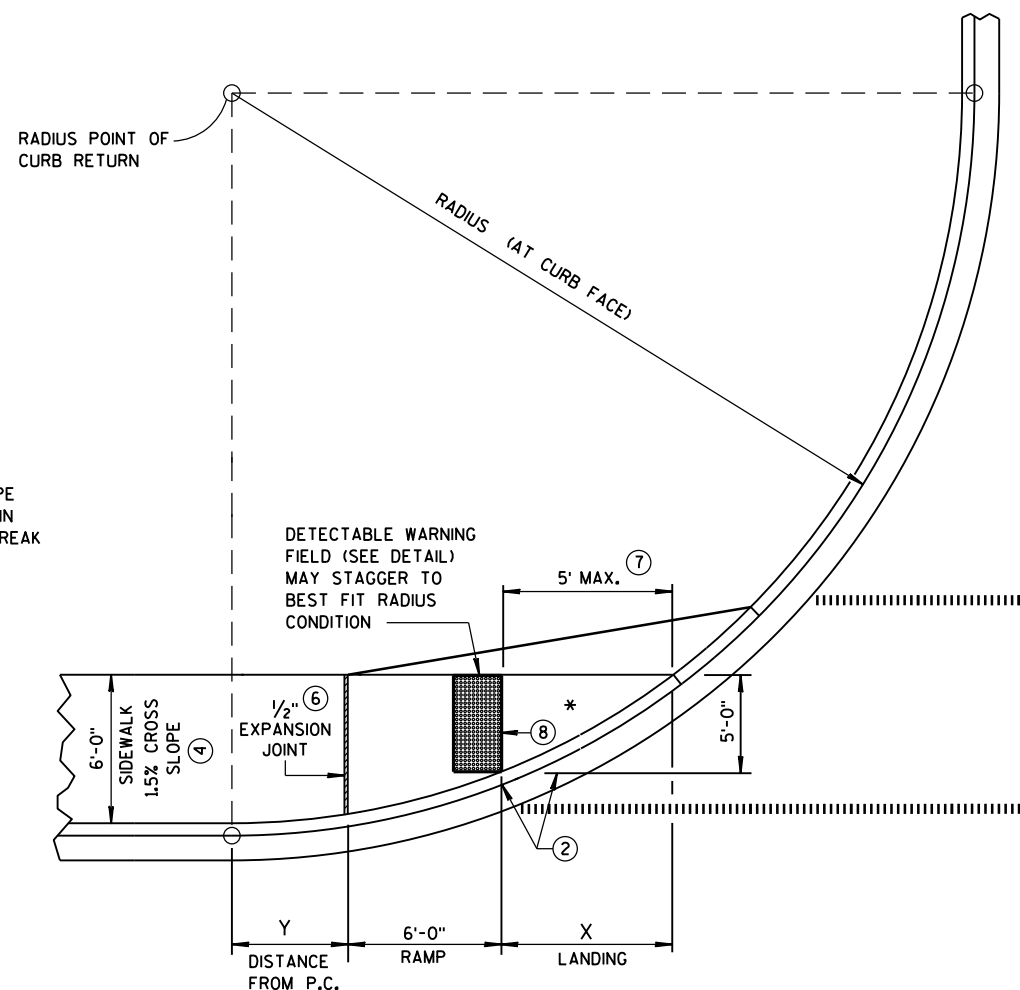
\* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

RADIUS (AT CURB FACE)	X	Y
20 FEET	7'-11"	0'-2"
30 FEET	10'-2 $\frac{3}{4}$ "	1'-7 $\frac{1}{2}$ "
40 FEET	12'-1 $\frac{1}{4}$ "	2'-10"
50 FEET	13'-8 $\frac{3}{4}$ "	3'-10 $\frac{3}{4}$ "
60 FEET	15'-2"	4'-10 $\frac{1}{4}$ "

INTERMEDIATE RADII CAN BE INTERPOLATED



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



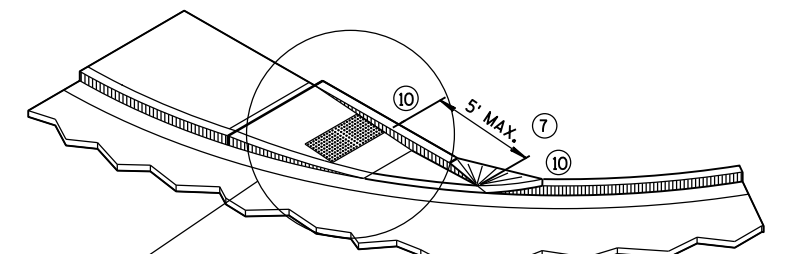
**CURB RAMP TYPE 4A1**  
PLAN VIEW

## GENERAL NOTES

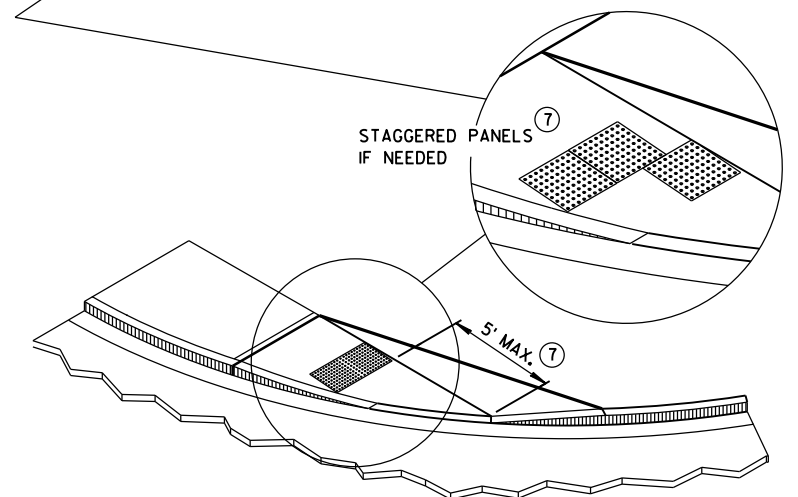
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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

- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL NOT EXCEED 7%.
- ③ ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④  $\pm 0.5\%$  CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.
- ⑦ WHEN THIS DISTANCE EXCEEDS 5 FEET, STAGGER ADDITIONAL DETECTABLE WARNING PANEL FORWARD TO REDUCE THIS DISTANCE. PROVIDE MINIMUM 12-INCH ROW OVERLAP TO AVOID SIDESTEP OF DOME DETECTION. USE EQUAL-SIZE PANELS TO DEVELOP OVERLAPPING, STAGGERED ROWS. ALIGN DOMES BETWEEN OVERLAPPING ROWS AND IN DIRECTION OF PEDESTRIAN TRAVEL.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- ⑩ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



**ISOMETRIC VIEW FOR TYPE 4A**



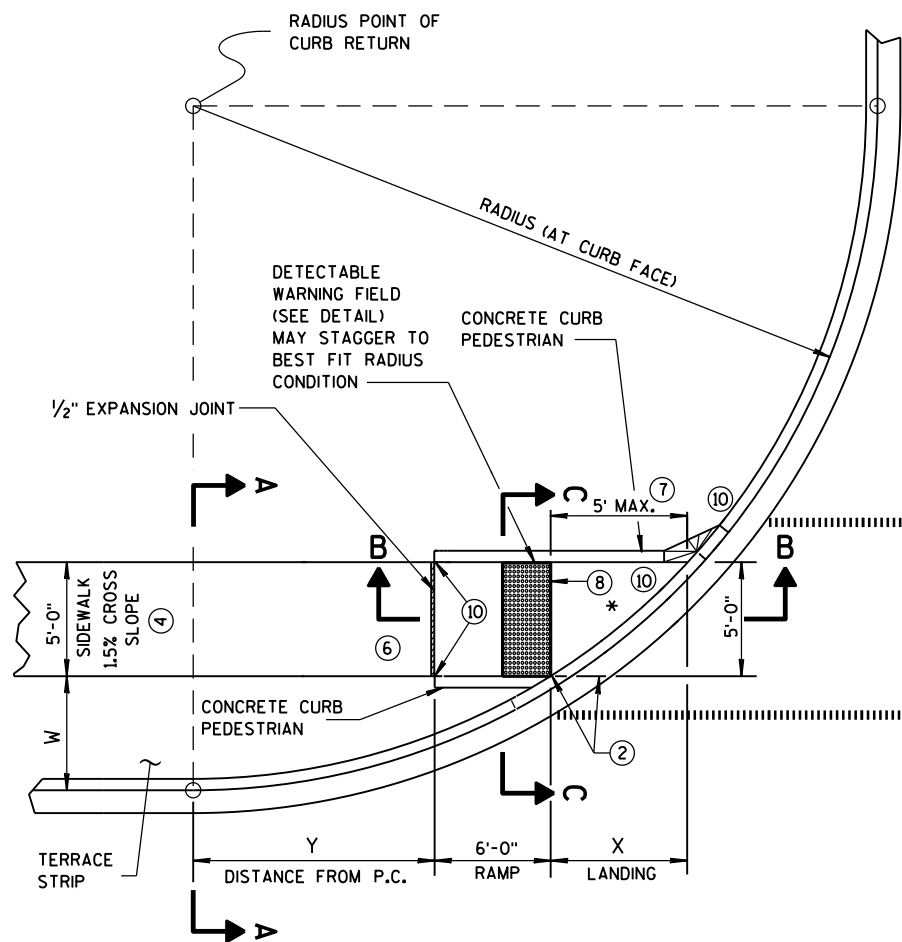
**ISOMETRIC VIEW FOR TYPE 4A1**

## LEGEND

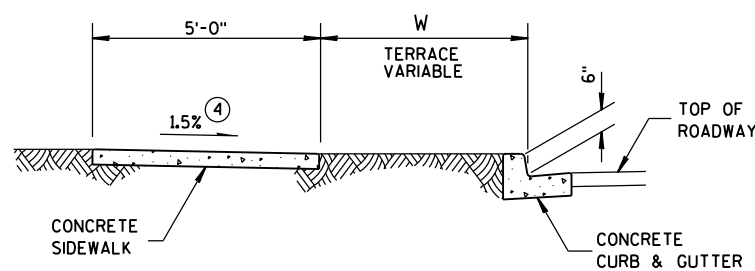
- 1/2" EXPANSION JOINT-SIDEWALK
- - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)

**CURB RAMPS**  
**TYPES 4A AND 4A1**

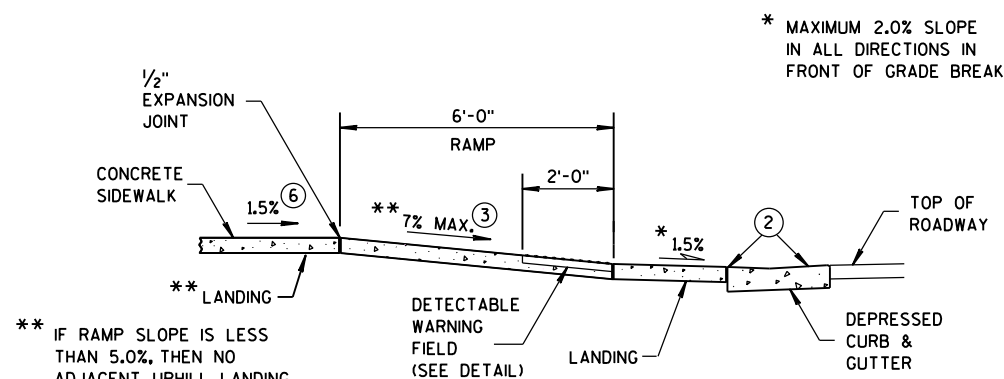
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**CURB RAMP TYPE 4B  
PLAN VIEW**

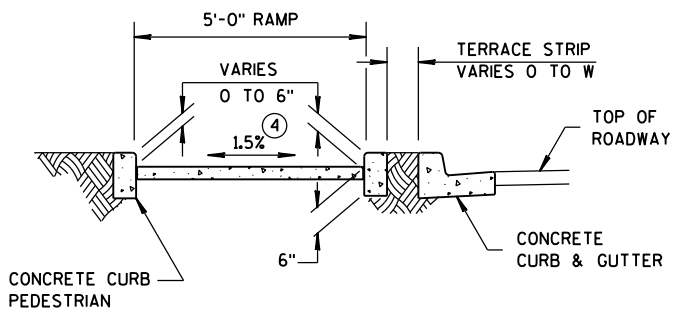


**SECTION A-A FOR TYPE 4B**

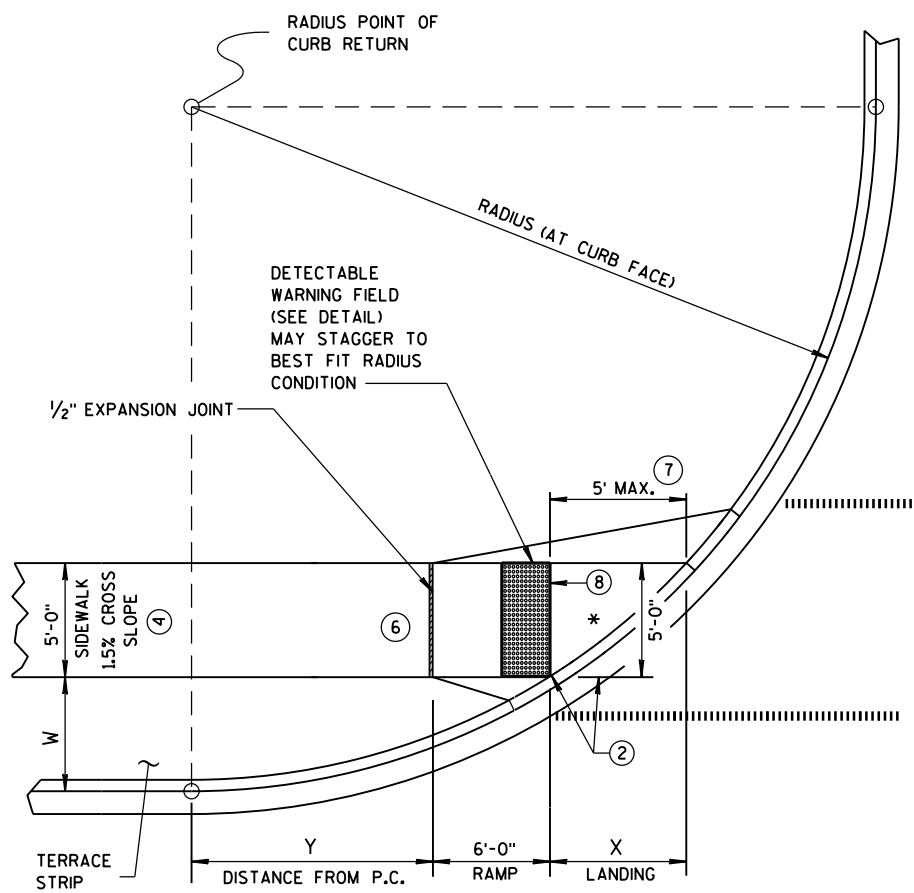


**SECTION B-B FOR TYPE 4B**

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



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



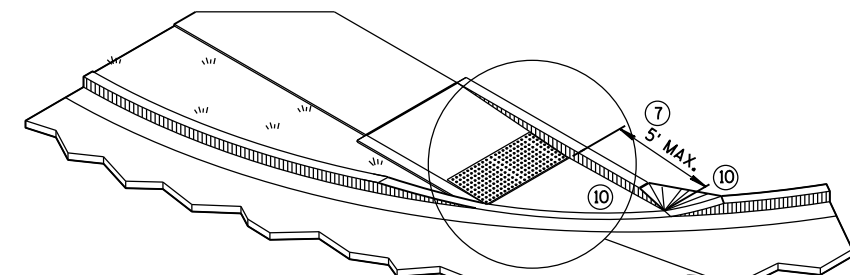
**CURB RAMP TYPE 4B1  
PLAN VIEW**

RADIUS (AT CURB FACE)	W = 3' - 0"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-9 3/4"	3'-6 1/2"	4'-11 1/2"	5'-1 3/4"	4'-3 3/4"	6'-5 1/2"	3'-8 3/4"	7'-6 3/4"	3'-3"	8'-6 1/4"
30 FEET	7'-9 1/4"	5'-10 1/2"	6'-9 1/2"	7'-11 1/4"	6'-0 1/4"	9'-8"	5'-5"	11'-1 3/4"	4'-10 3/4"	12'-5 3/4"
40 FEET	9'-4"	7'-10"	8'-2 3/4"	10'-3"	7'-4 3/4"	12'-3 3/4"	6'-8 1/2"	14'-1 1/4"	6'-1 3/4"	15'-8 1/2"
50 FEET	10'-8"	9'-6 1/2"	9'-5 1/2"	12'-3 1/4"	8'-6 1/2"	14'-7 1/2"	7'-9 3/4"	16'-8 1/4"	7'-2 1/2"	18'-6 1/4"
60 FEET	11'-10 1/4"	11'-0 3/4"	10'-6 1/2"	14'-1 1/4"	9'-6 1/2"	16'-8 1/2"	8'-9 1/4"	18'-11 3/4"	8'-1 1/2"	21'-0 1/2"

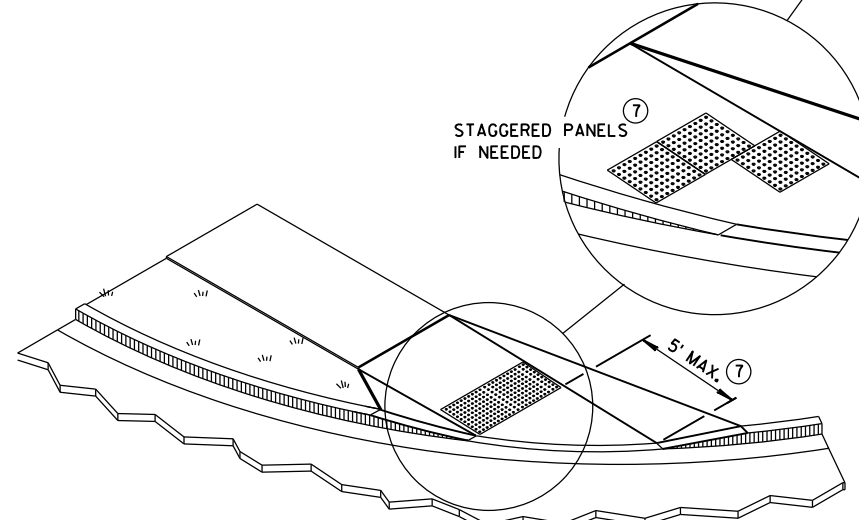
**GENERAL NOTES**

INTERMEDIATE RADII CAN BE INTERPOLATED

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS. DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL NOT EXCEED 7%.
  - ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
  - ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
  - PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.
  - WHEN THIS DISTANCE EXCEEDS 5 FEET, STAGGER ADDITIONAL DETECTABLE WARNING PANEL FORWARD TO REDUCE THIS DISTANCE. PROVIDE MINIMUM 12-INCH ROW OVERLAP TO AVOID SIDESTEP OF DOME DETECTION. USE EQUAL-SIZE PANELS TO DEVELOP OVERLAPPING, STAGGERED ROWS. ALIGN DOMES BETWEEN OVERLAPPING ROWS AND IN DIRECTION OF PEDESTRIAN TRAVEL.
  - PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
  - INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



**ISOMETRIC VIEW FOR TYPE 4B**

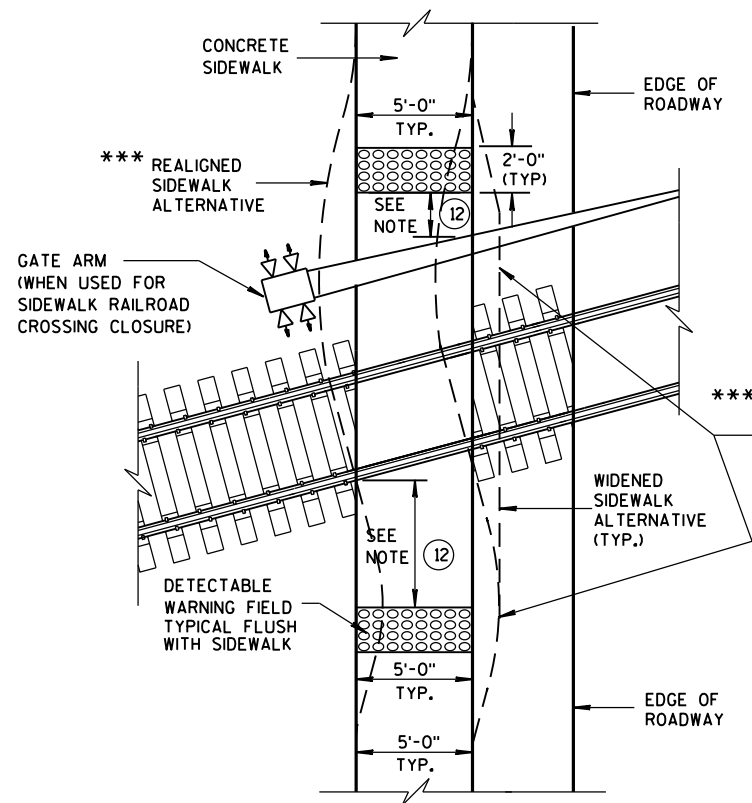


**ISOMETRIC VIEW FOR TYPE 4B1**

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

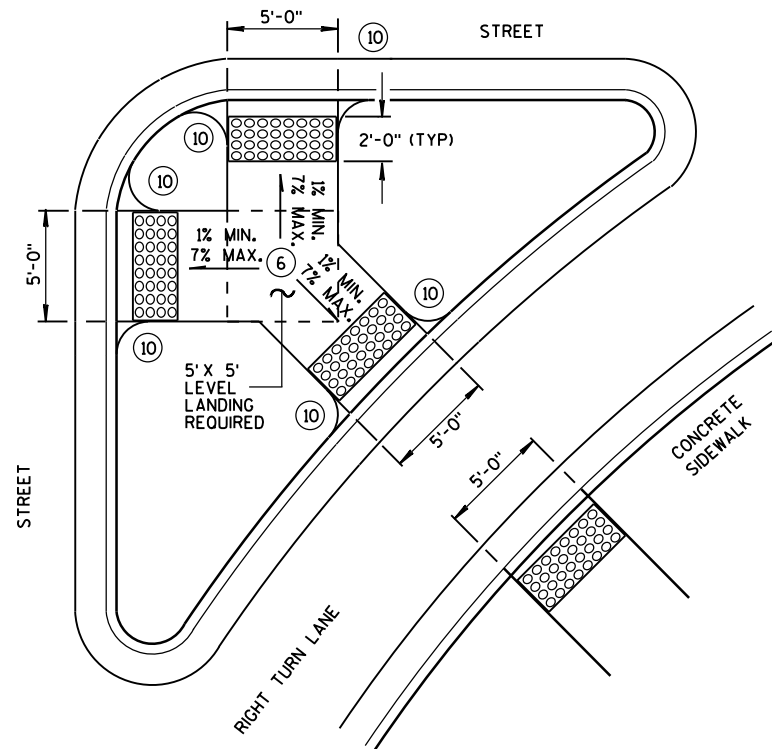
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



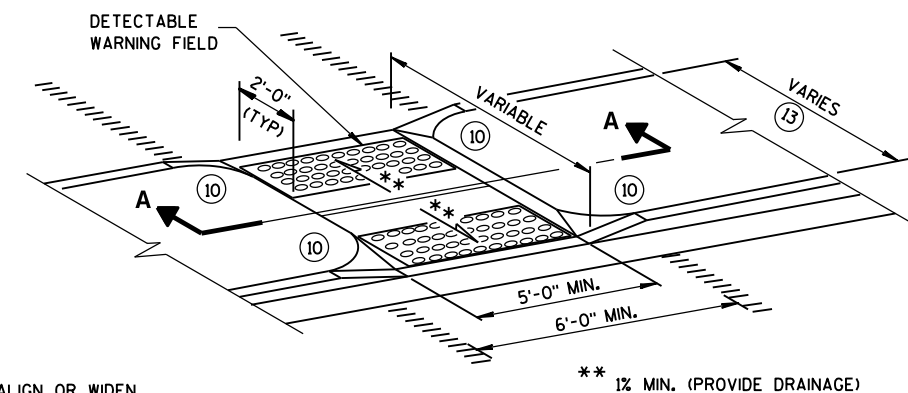


**TYPE 8**  
**DETECTABLE WARNINGS**  
**AT RAILROAD CROSSING**

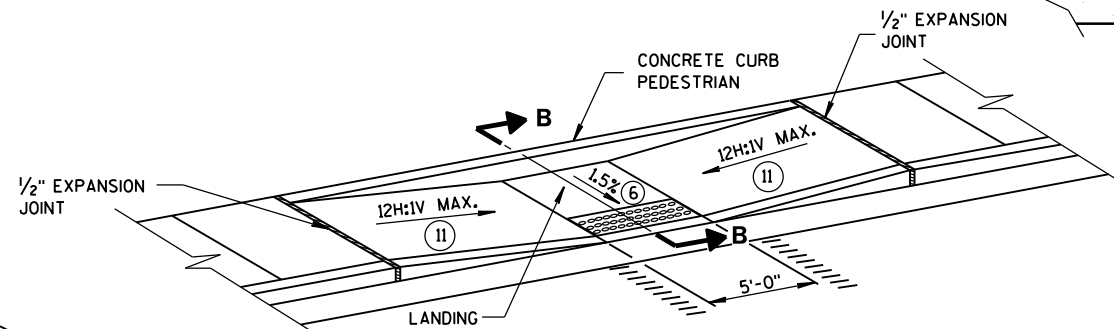
REFER TO GENERAL NOTES ② AND ③  
FOR ALL ISLAND CURB RAMPS



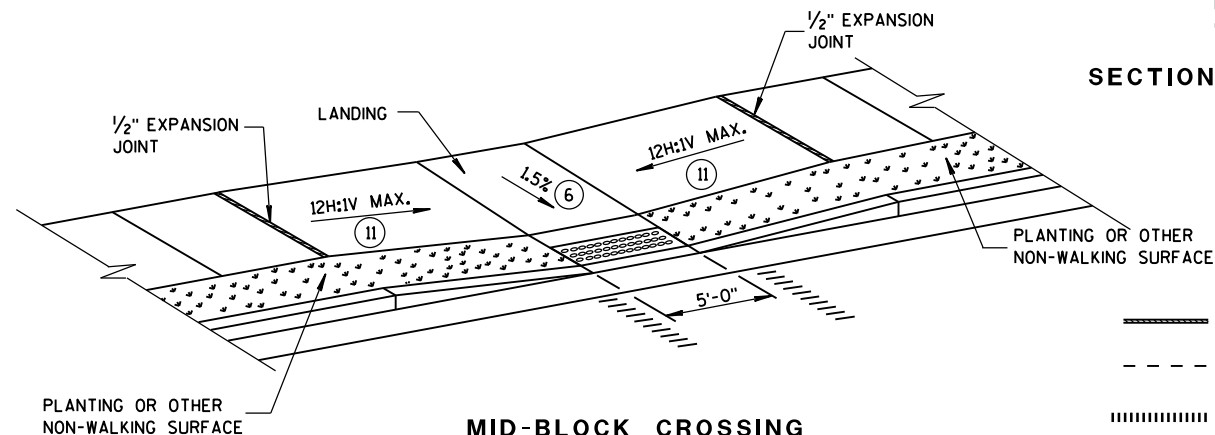
**TYPE 6**  
**DETECTABLE WARNING AT ISLANDS**



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



**MID-BLOCK CROSSING**  
**TYPE 7A**

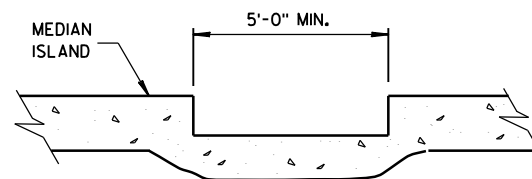


**MID-BLOCK CROSSING**  
**TYPE 7B**

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

**GENERAL NOTES**

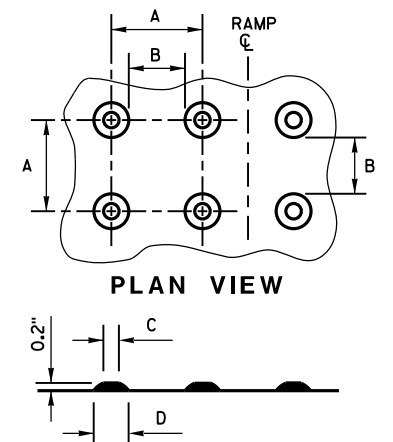
- SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL NOT EXCEED 7%.
- ③ ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.
- ⑩ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.
- ⑪ SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- ⑫ THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.
- ⑬ DO NOT INSTALL DETECTABLE WARNING FIELDS IF MEDIAN WIDTH BETWEEN BACK OF CURBS IS LESS THAN 6 FEET.



**SECTION A-A**

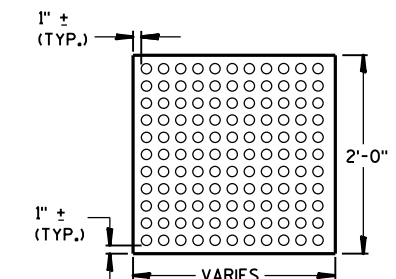
	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

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



**ELEVATION VIEW**

**TRUNCATED DOMES**  
**DETECTABLE WARNING PATTERN DETAIL**



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

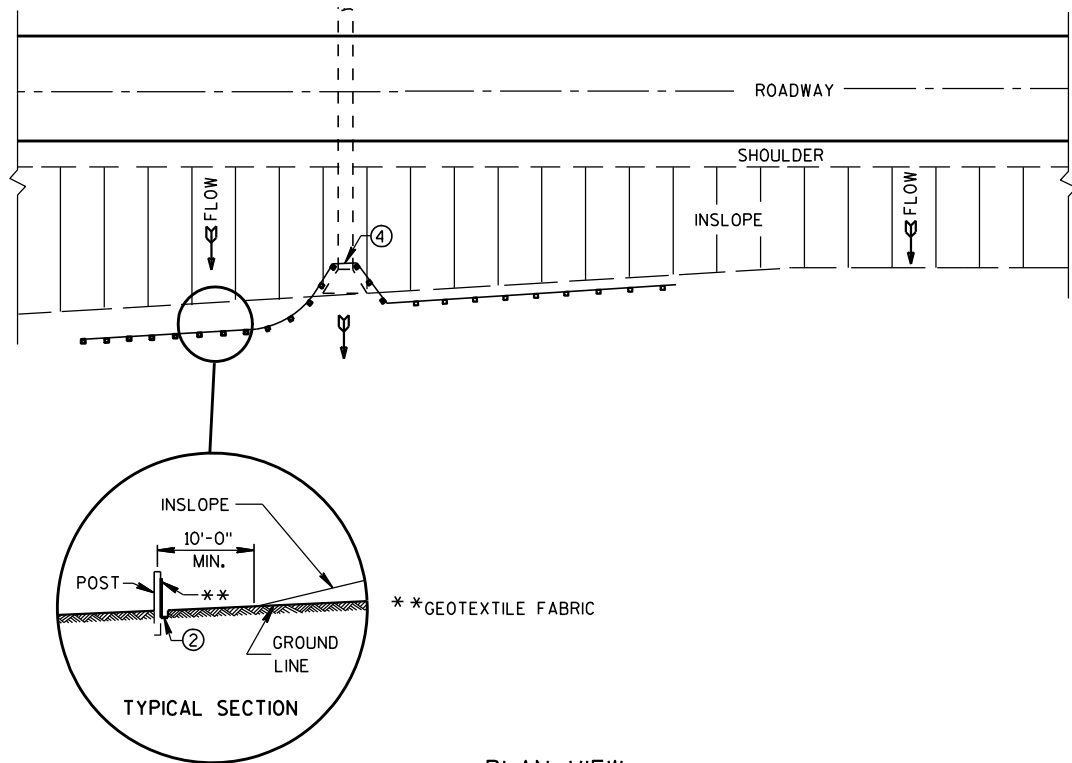
- LEGEND**
- 1/2" EXPANSION JOINT-SIDEWALK
  - - - CONTRACTION JOINT FIELD LOCATED
  - ||||| PAVEMENT MARKING CROSSWALK (WHITE)

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

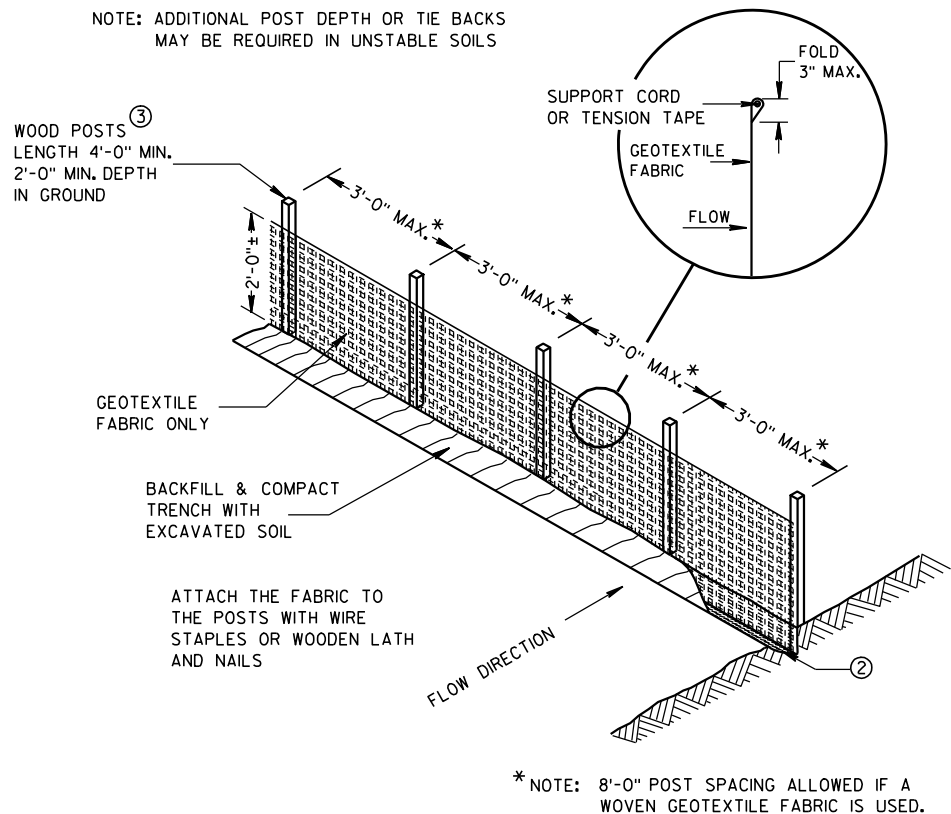
**STATE OF WISCONSIN**  
**DEPARTMENT OF TRANSPORTATION**

**APPROVED**  
Sept., 2016 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
FHWA UNIT SUPERVISOR

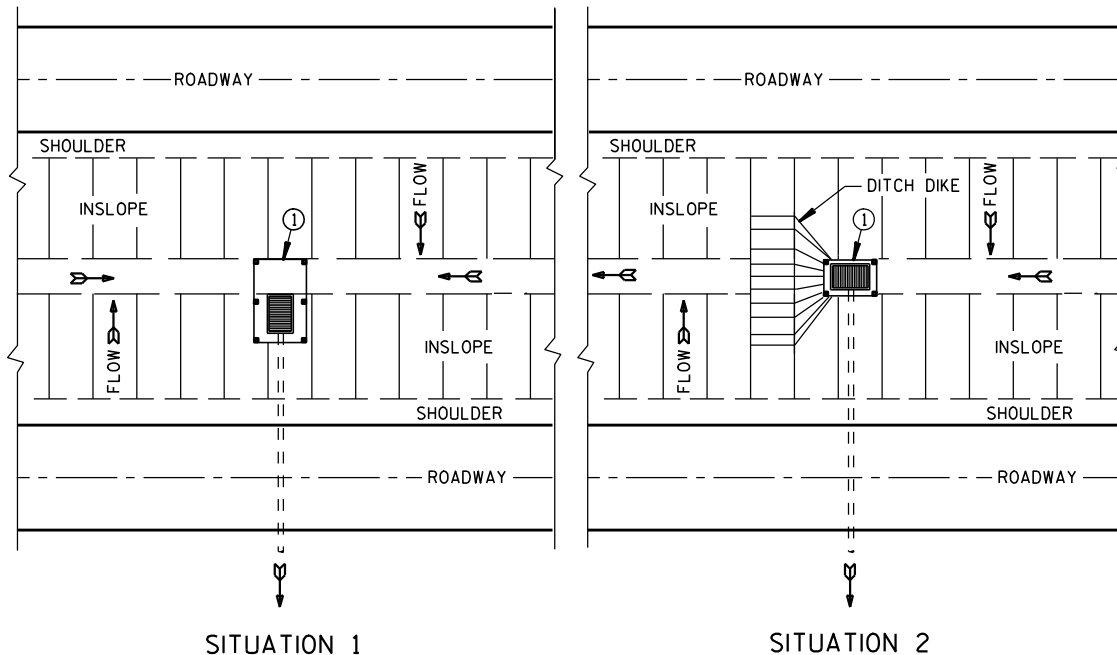




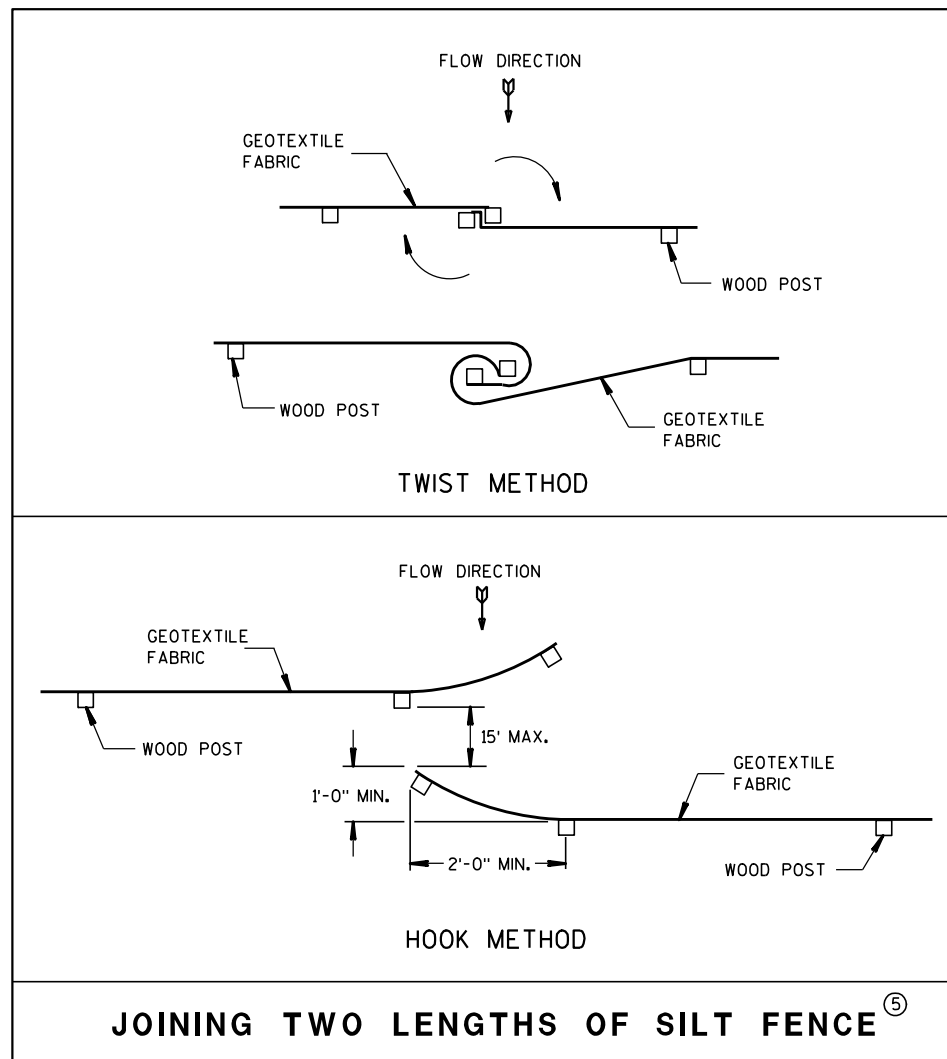
PLAN VIEW  
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW  
SILT FENCE AT MEDIAN SURFACE DRAINS

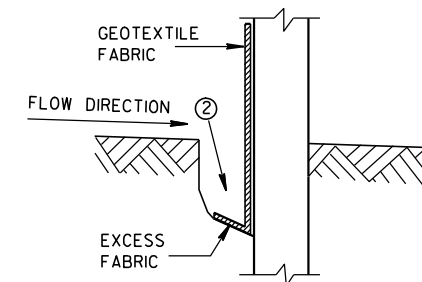


JOINING TWO LENGTHS OF SILT FENCE

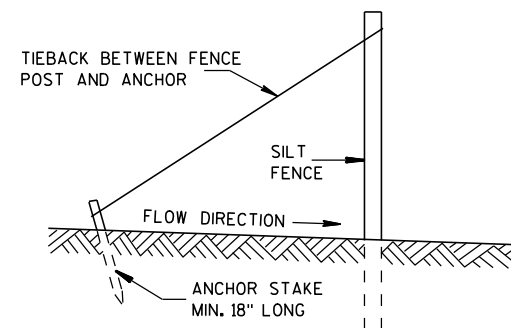
GENERAL NOTES

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

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



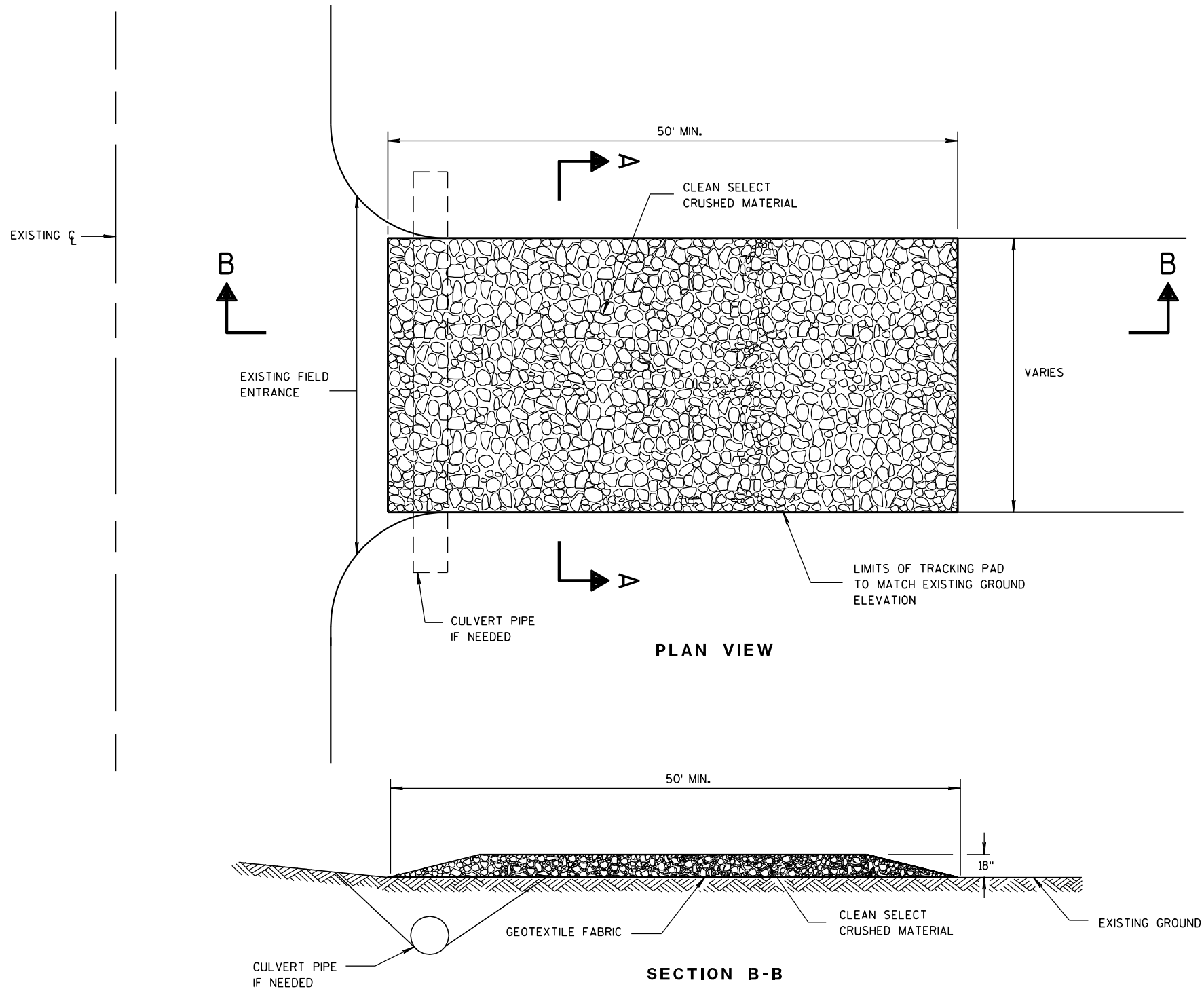
TRENCH DETAIL



SILT FENCE TIE BACK  
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/S/ Beth Canestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	





TRACKING PAD

GENERAL NOTES

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

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

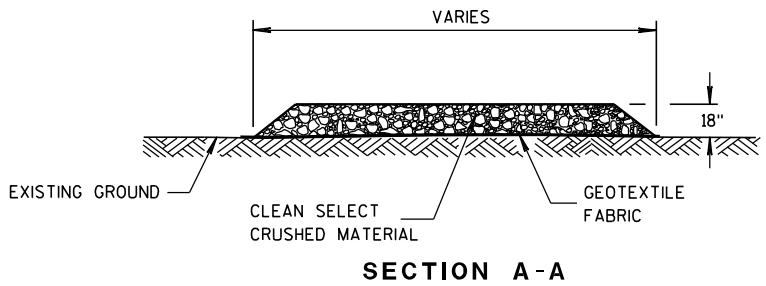
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



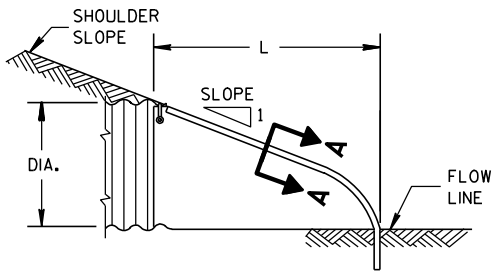
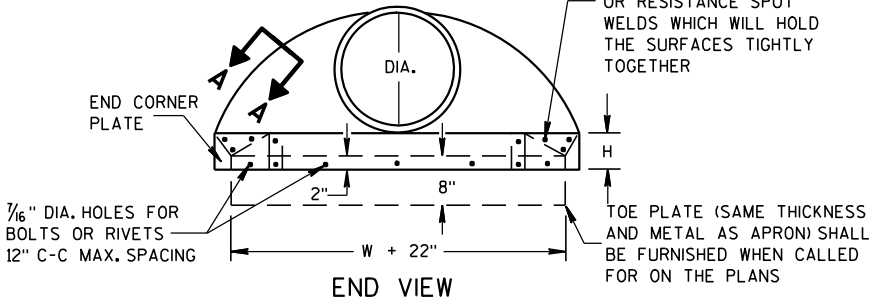
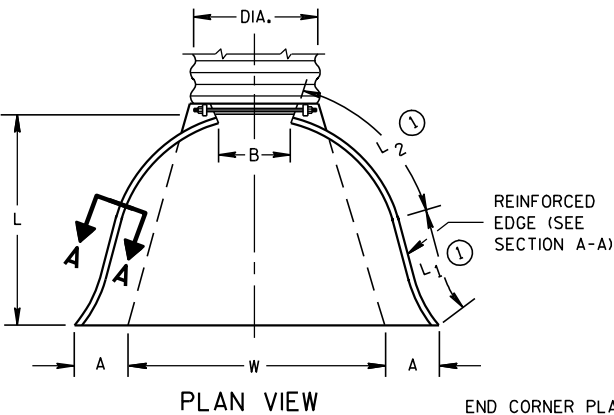
TRACKING PAD

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
3/24/2011  
DATE  
/S/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER  
FHWA

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

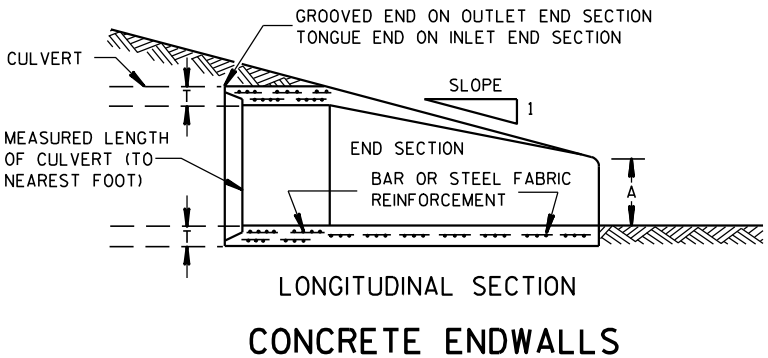
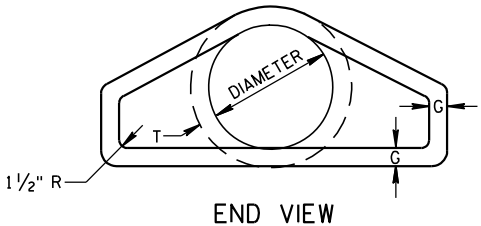
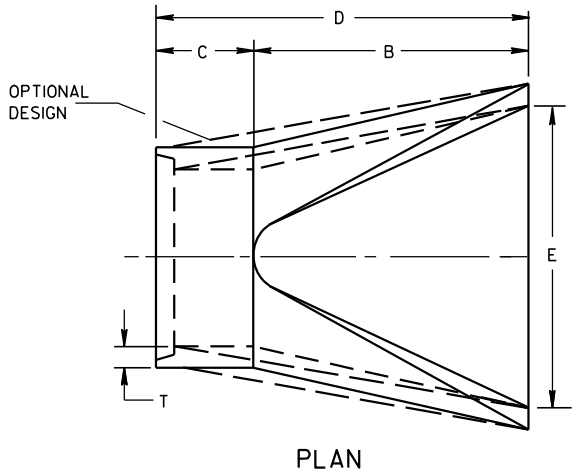
\* EXCEPT CENTER PANEL  
SEE GENERAL NOTES



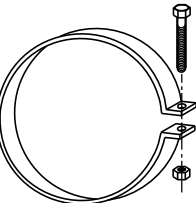
METAL ENDWALLS

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

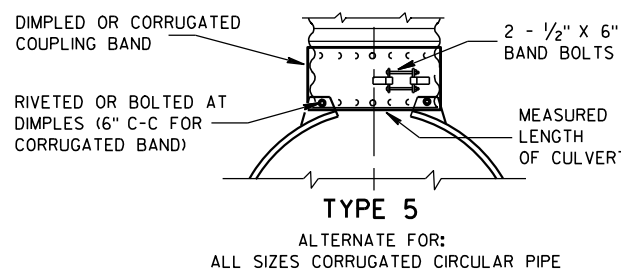
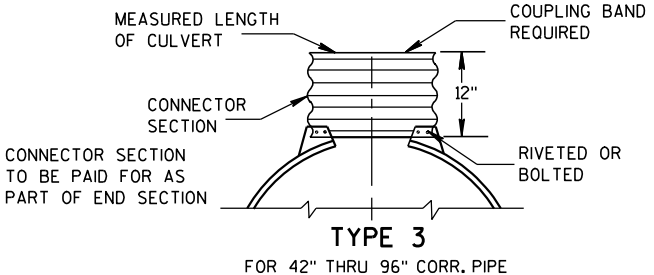
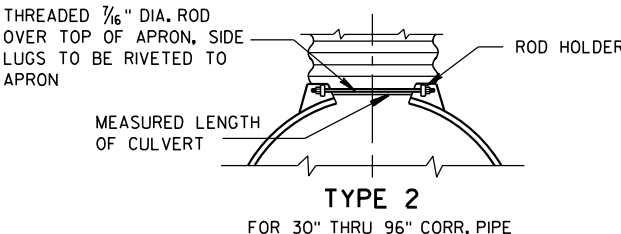
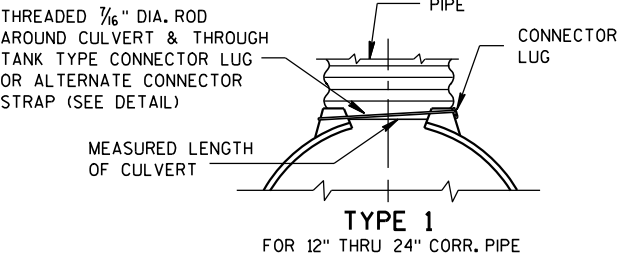
\* MINIMUM  
\*\* MAXIMUM



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



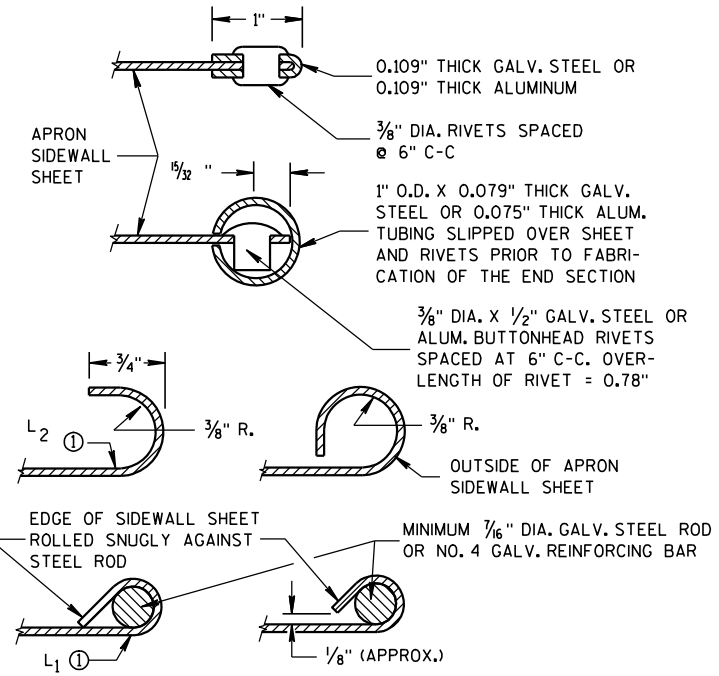
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

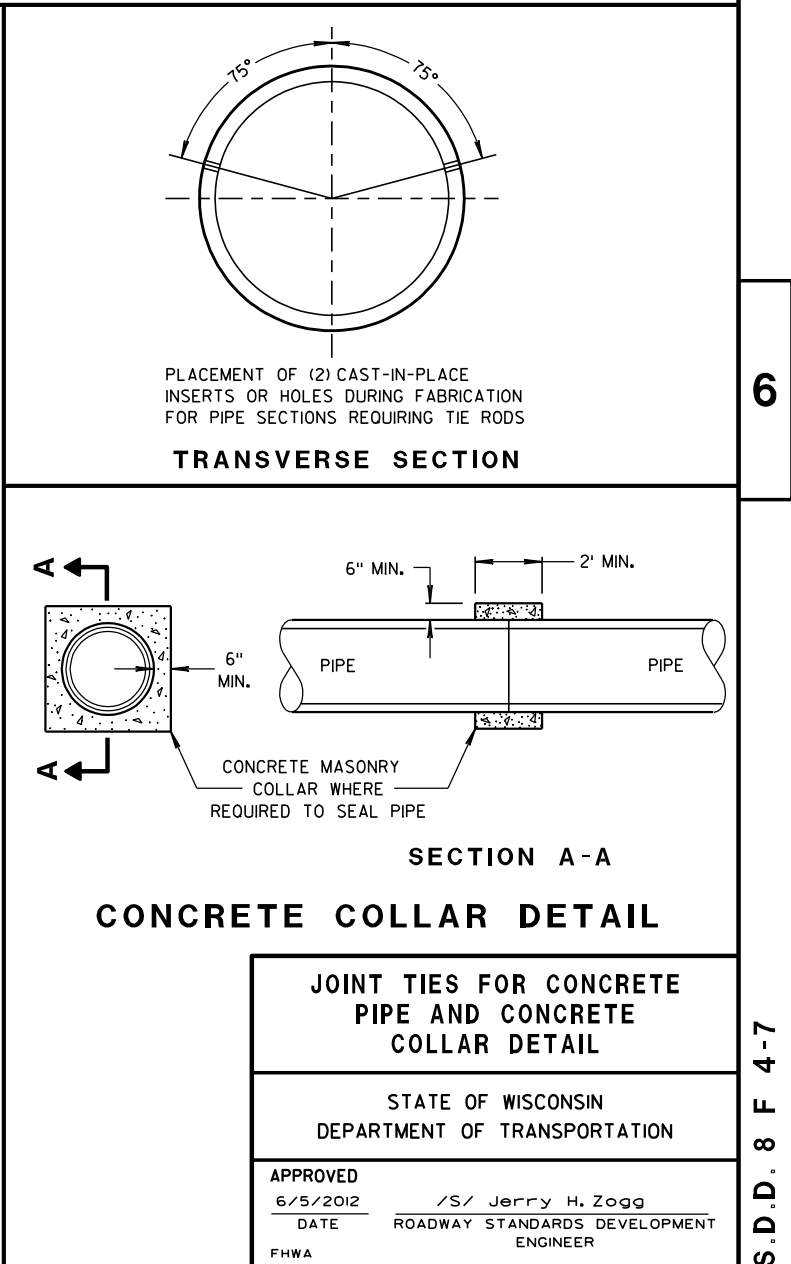
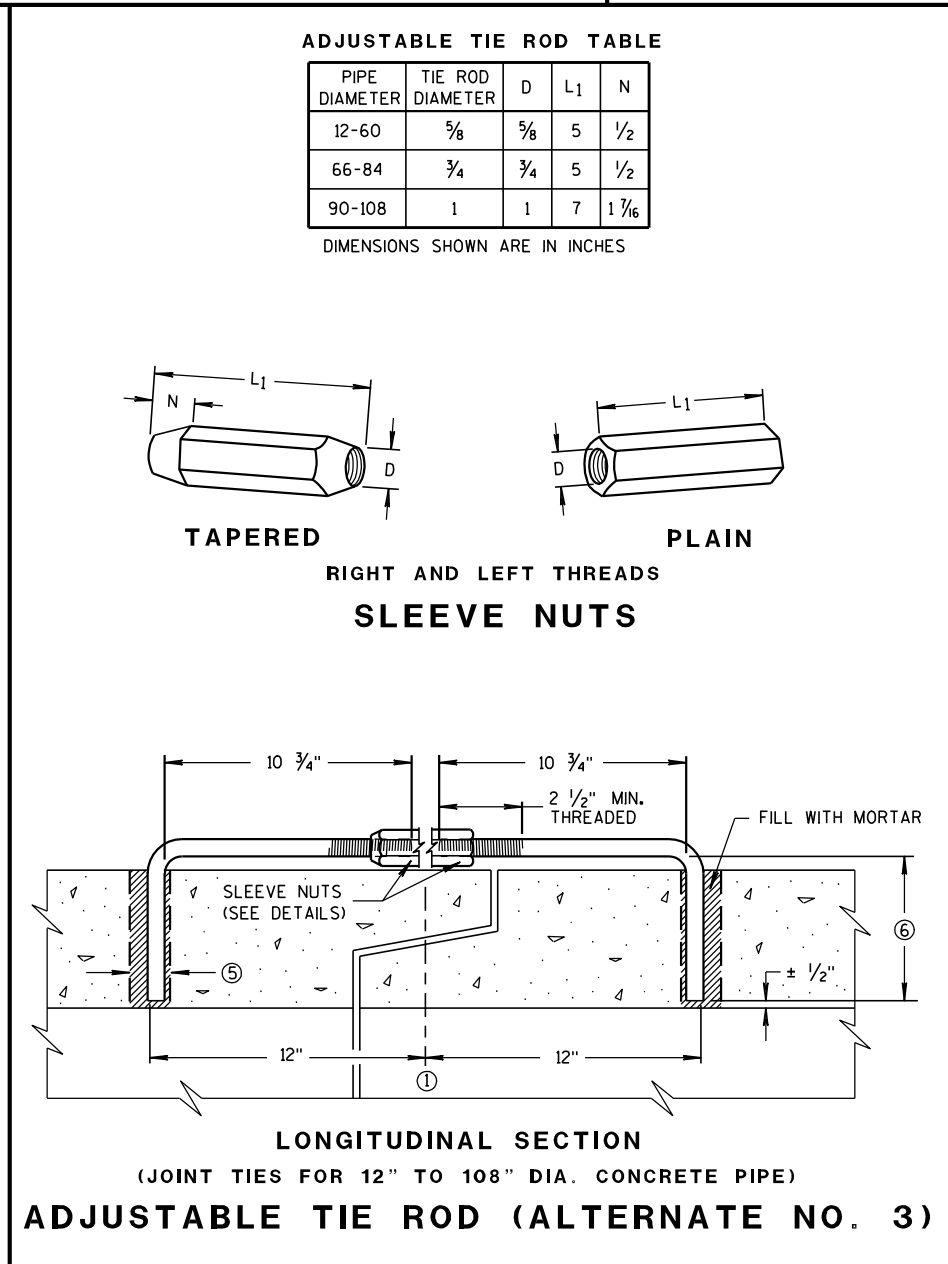
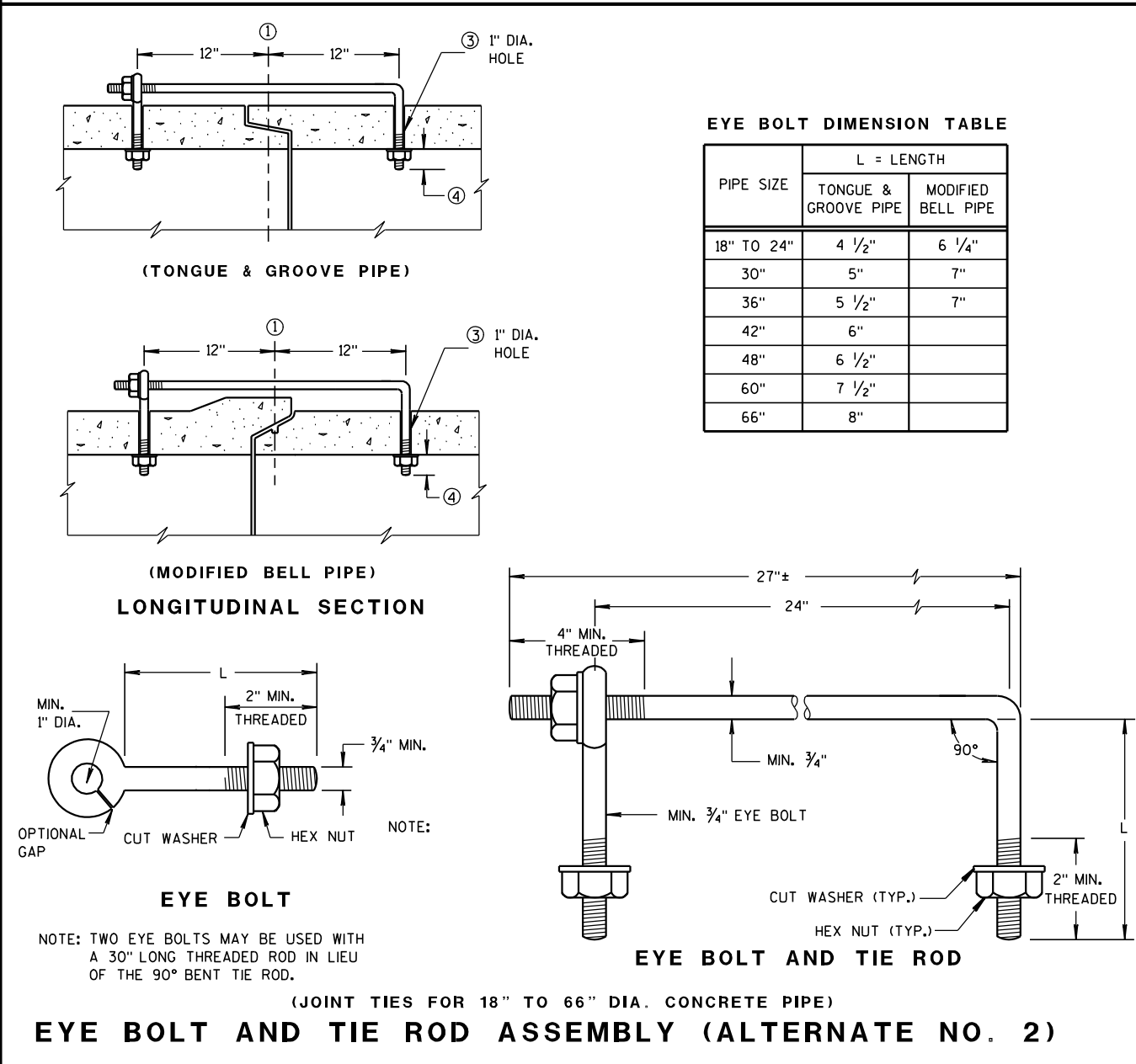
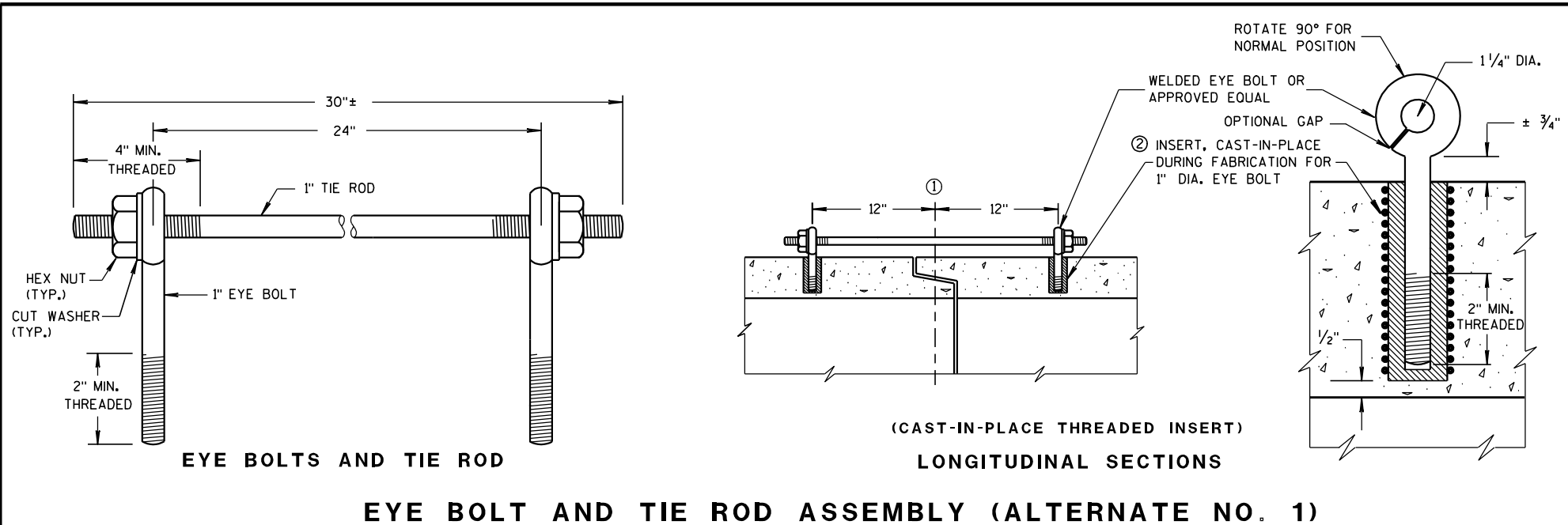
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

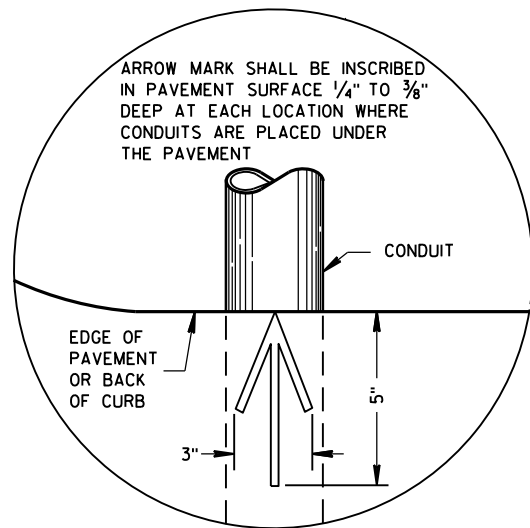
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR  
CULVERT PIPE

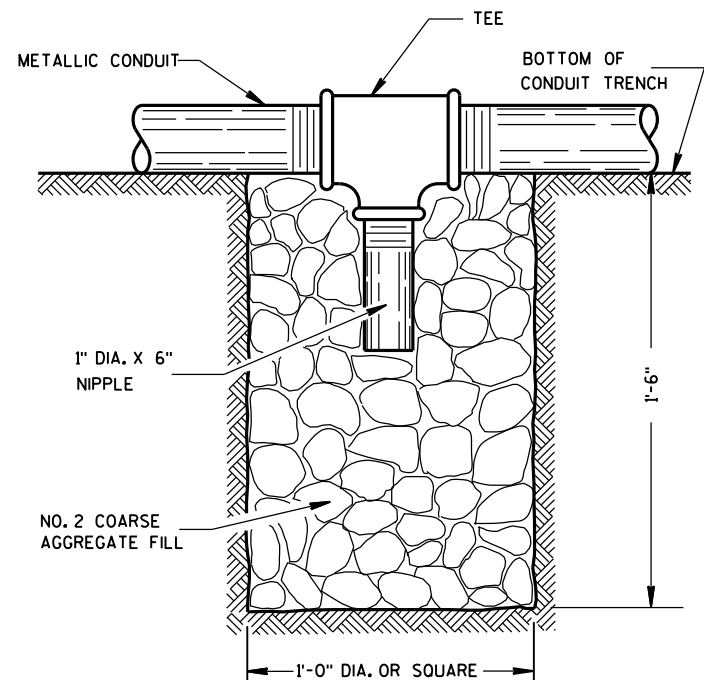
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
11/30/94  
DATE  
/S/ Rory L. Rhinesmith  
CHIEF ROADWAY DEVELOPMENT ENGINEER  
FHWA



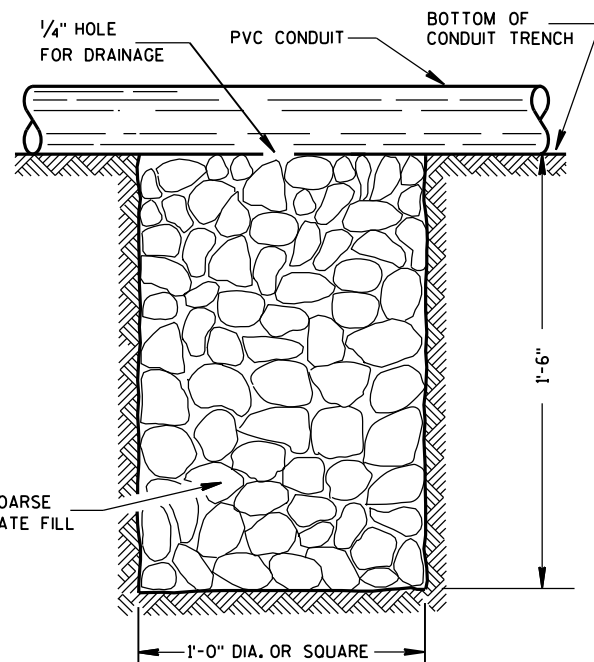


PLAN VIEW  
ARROW MARK



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

## GENERAL NOTES

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

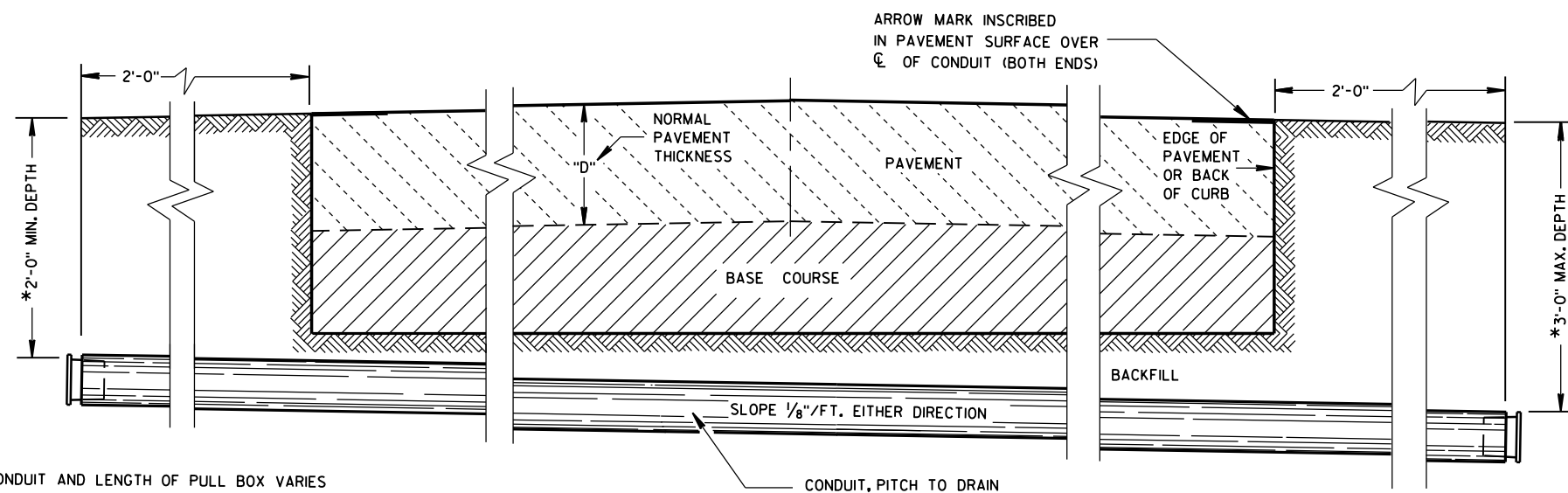
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

TRACER WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.



\*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

SIDE ELEVATION  
DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

## CONDUIT

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
June, 2015 /S/ Ahmet Demirbilek  
DATE STATE ELECTRICAL ENGINEER  
FHWA



TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
WEIGHT IN POUNDS *										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

\* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

\*\* NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.

GENERAL NOTES

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

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

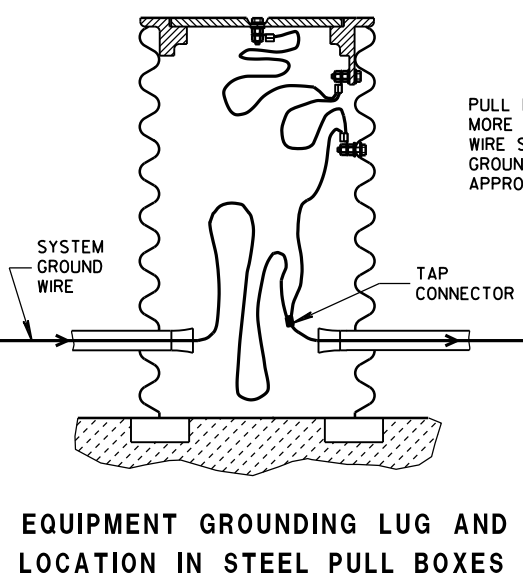
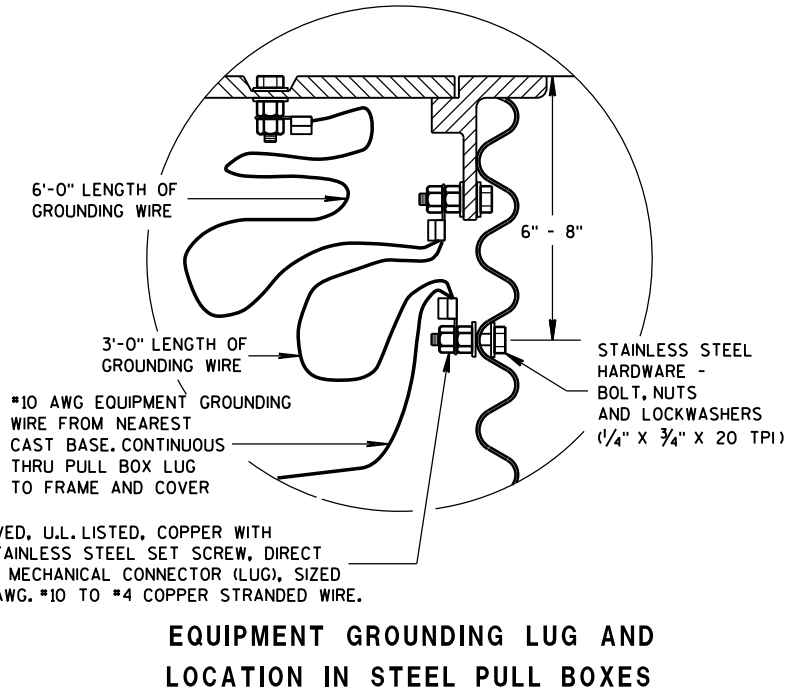
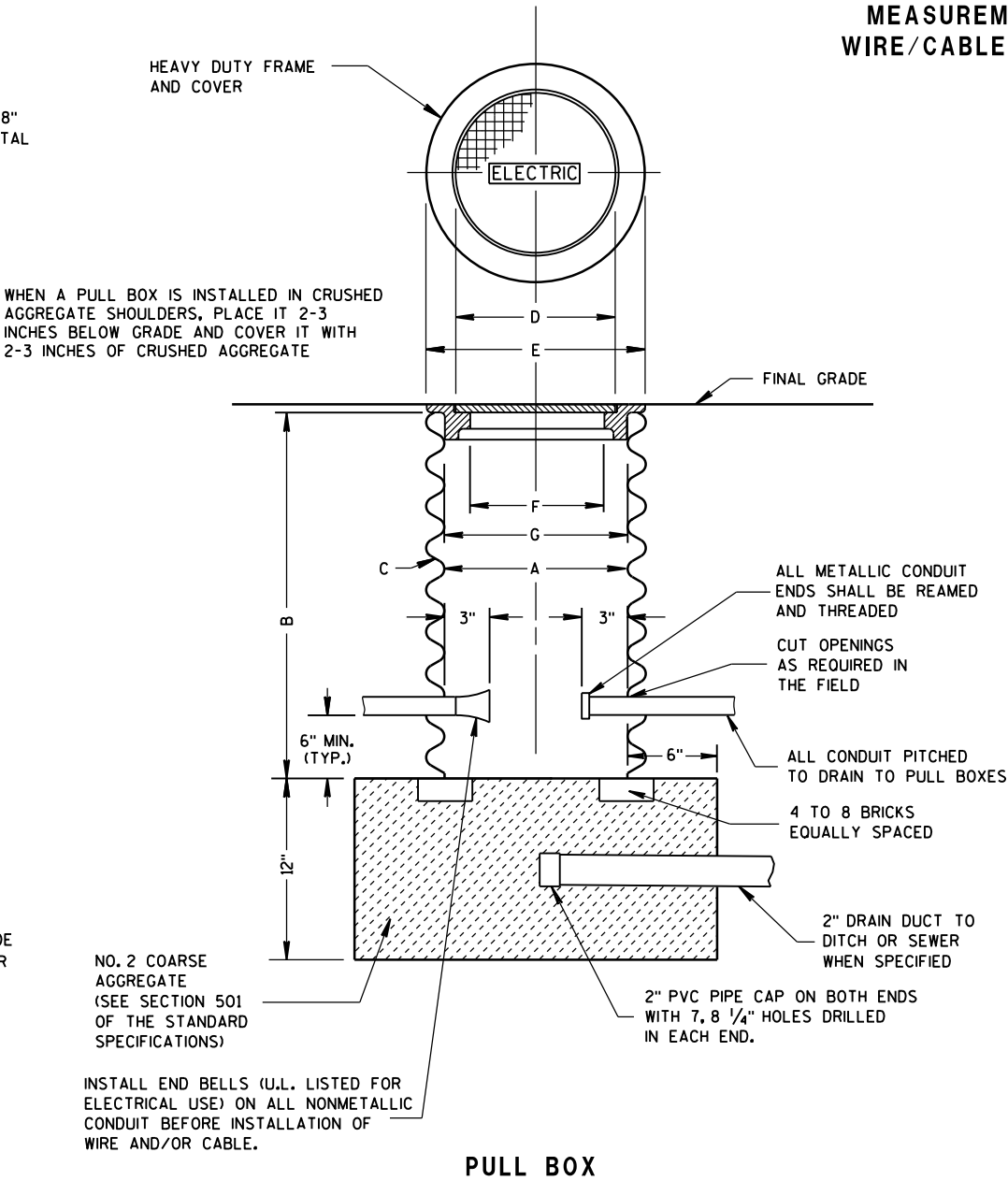
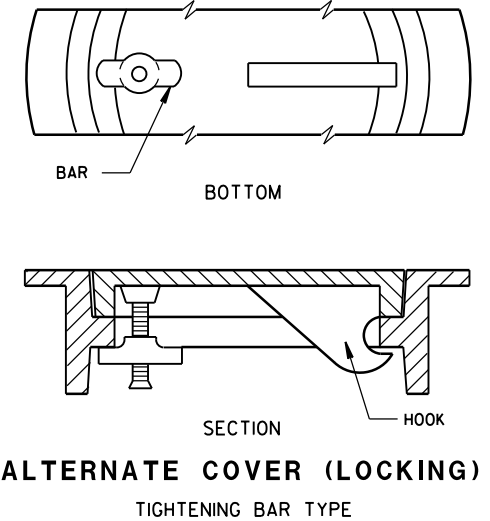
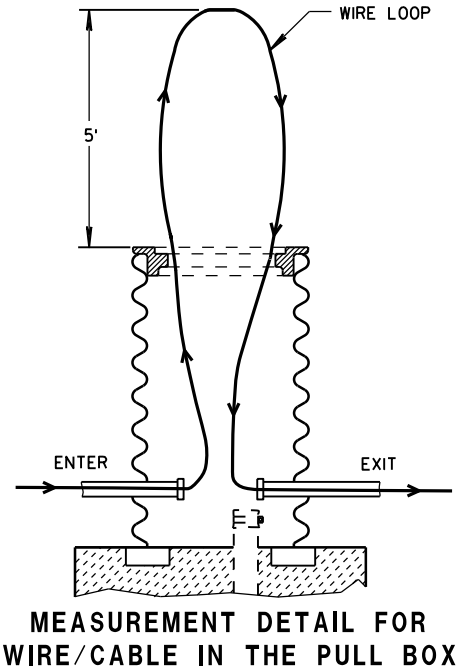
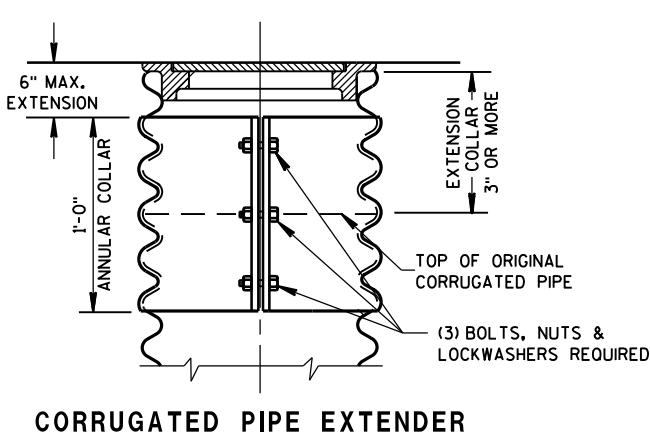
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

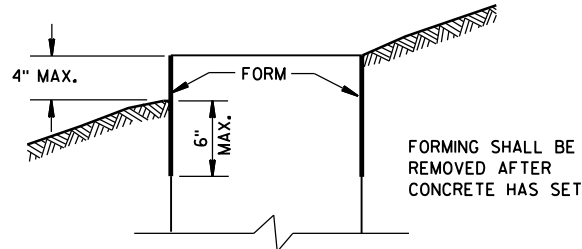
ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.



PULL BOX	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Sept. 2014 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER
FHWA	

FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE



## FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

## GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

## GENERAL NOTES (CONTINUED)

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 1, TYPE 2, TYPE 5, AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

1 THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

2 (4) 1" DIA. X 3'-6" ANCHOR RODS.

3 (4) 1" DIA. X 5'-0" ANCHOR RODS.

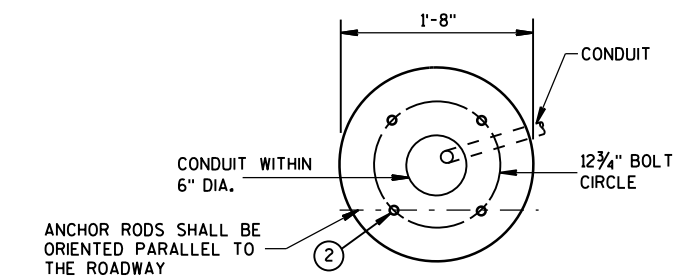
4 (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

5 (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

6 (4) 1" DIA. X 3'-6" ANCHOR RODS.

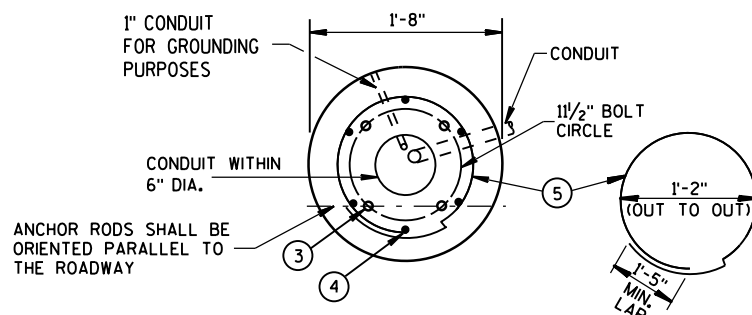
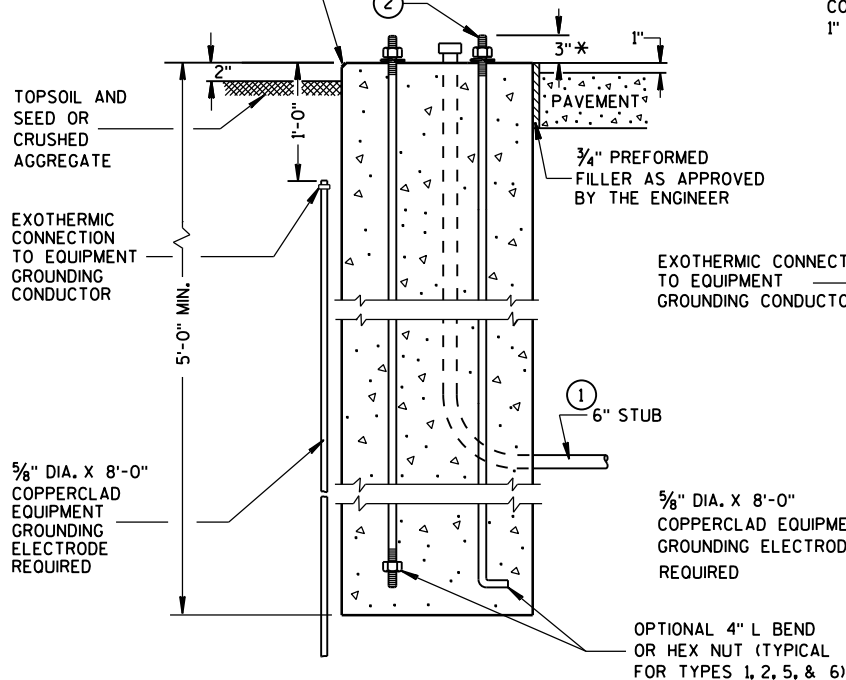
7 (6) NO. 4 X 4'-8" BAR STEEL REINFORCEMENT.

8 (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

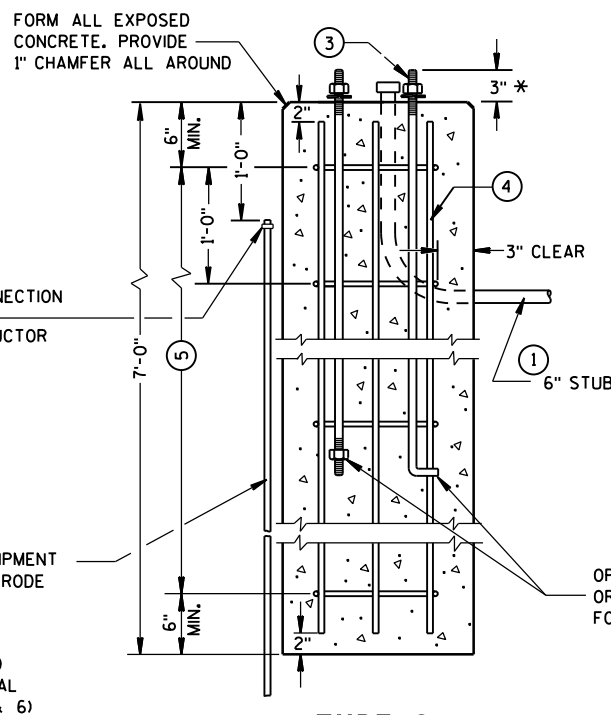


FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

## HALF SECTION IN UNPAVED AREA (TYPICAL FOR TYPES 1, 2, 5, & 6)

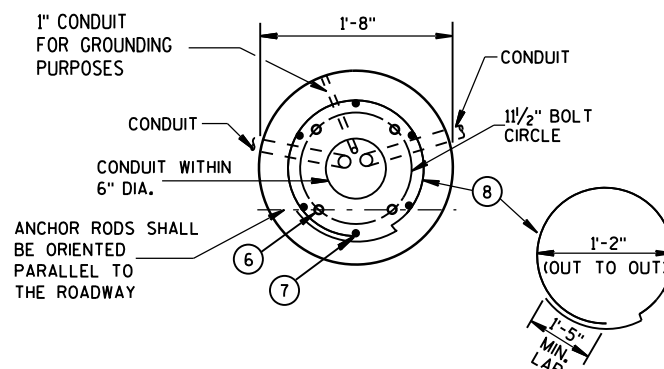


FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

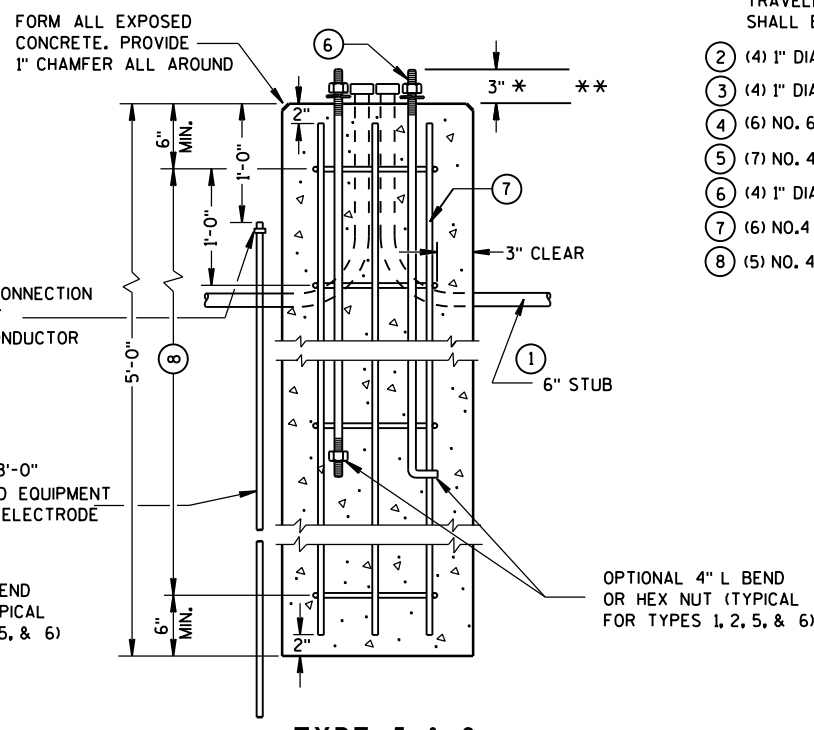


## TYPE 2

## CONCRETE BASES



FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



## TYPE 5 & 6

\* ANY ANCHOR ROD PROJECTION SHORTER THAN 2 3/4" OR LONGER THAN 3 3/4" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

\*\* FOR NONBREAKAWAY INSTALLATIONS, 4 1/2" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

## CONCRETE BASES, TYPES 1, 2, 5, & 6

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2014

DATE

FHWA

/S/ Ahmet Demirbilek

STATE ELECTRICAL ENGINEER



GENERAL NOTES

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

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

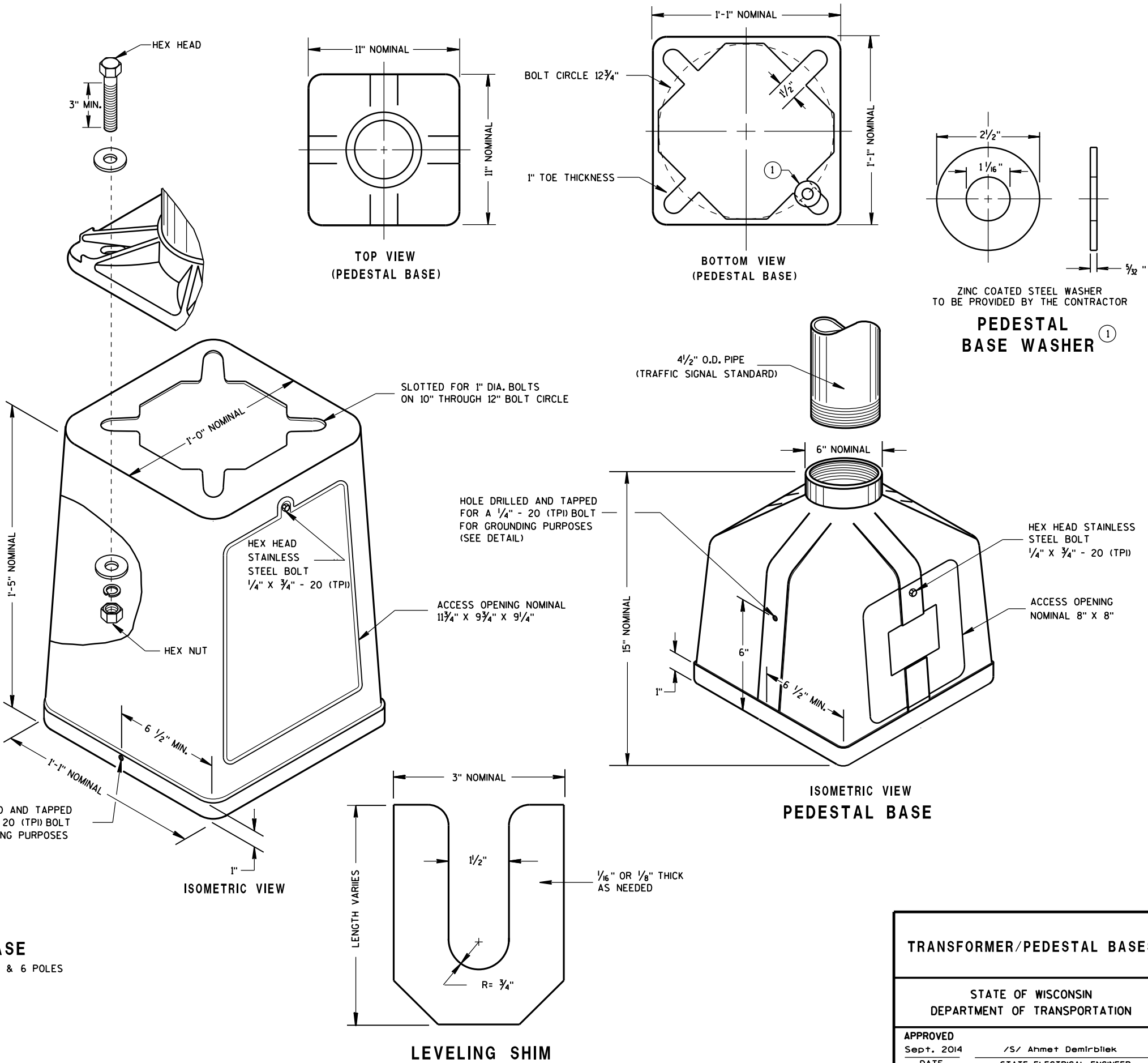
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.



TYPICAL MECHANICAL  
CONNECTOR LUG  
TO BE FURNISHED WITH EACH BASE

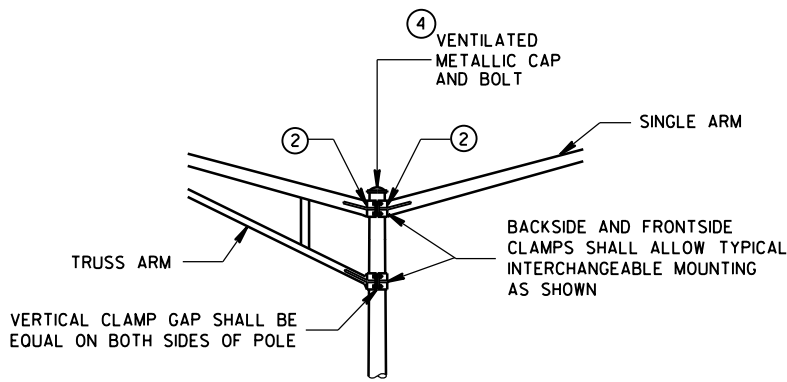
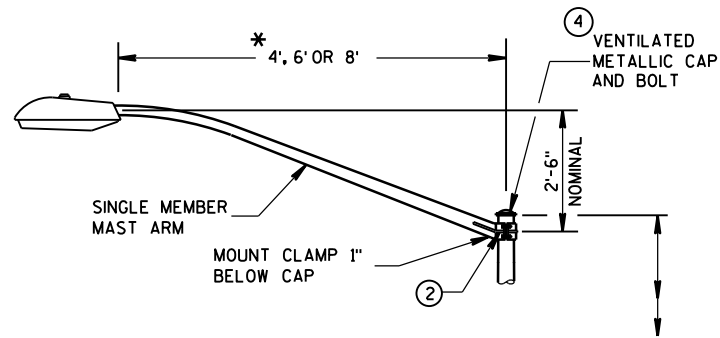
TRANSFORMER BASE  
INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES

TRANSFORMER/PEDESTAL BASES

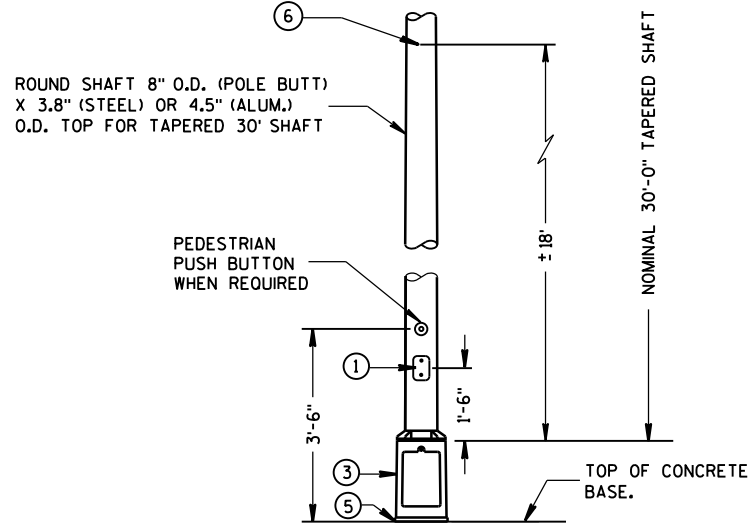
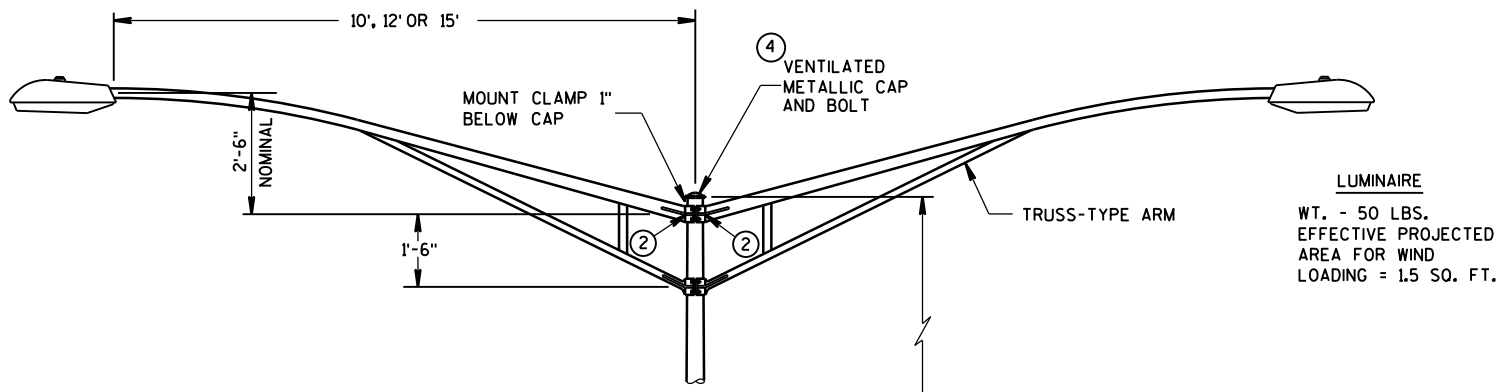
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
Sept. 2014 /S/ Ahmet Demirbilek  
DATE STATE ELECTRICAL ENGINEER  
FHWA

\* RISE FOR 4' ARM SHALL BE 2'-0".



INTERCHANGEABLE MOUNTING DETAIL



TYPE 5 POLE MOUNTING CONFIGURATION  
(MAXIMUM LOAD)  
LIGHTING ONLY

GENERAL NOTES

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

ALL TYPE 5 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL OR ALUMINUM, AS CALLED FOR IN THE CONTRACT.

TYPE 5 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

THE TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.188".

TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

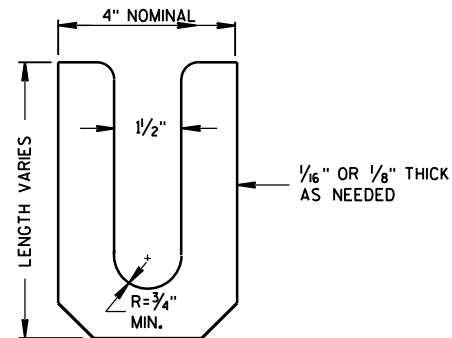
THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2 3/8 INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

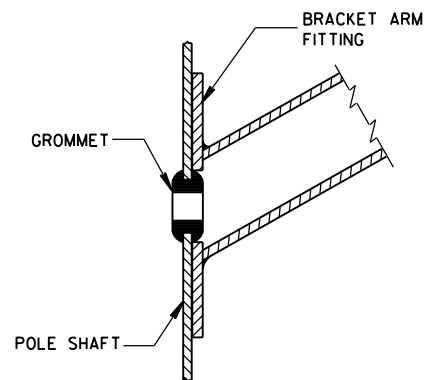
- ① 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) 1/4" x 3/4" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.
- ② GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1 3/8" HOLE IN POLE SHAFT FOR WIRING.
- ③ CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.
- ④ FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/4" x 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.
- ⑤ SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.
- ⑥ INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

POLE MONTINGS FOR  
LIGHTING UNITS, TYPE 5  
(30 FEET)

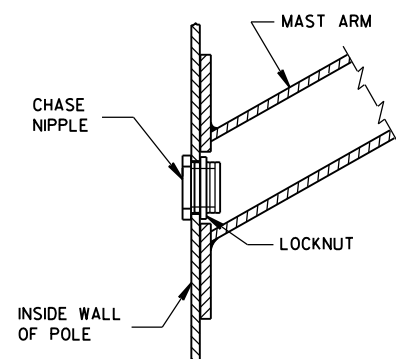
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**LEVELING SHIM**  
SHALL BE ALUMINUM



**TYPICAL APPLICATION OF GROMMET IN POLE SHAFT**



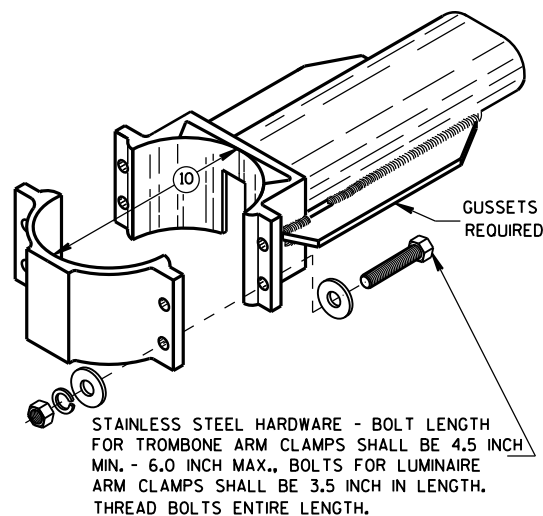
**TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT**

## GENERAL NOTES

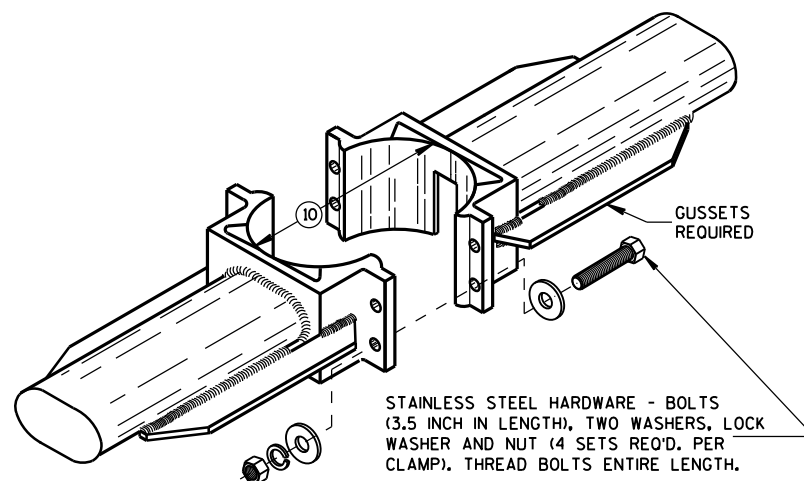
CLAMP BOLT-NUT TIGHTENING TORQUE SHALL BE INDICATED BY INDENT STAMPING (1/2 INCH NUMERALS AND LETTERS) OR WEATHERPROOF PRINTING ON THE INSIDE OF THE CLAMP THAT IS WELDED TO THE ARM MEMBER.

- ⑩ 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.  
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.
- ⑪ INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)
- ⑫ BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT  
CIRCLE USING 1" DIAMETER ANCHOR RODS.
- ⑬ LEVELING SHIMS, DESIGNED FOR THE PURPOSE, SHALL BE USED WHEN PLUMBING  
POLES. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT  
ACCEPTABLE. LEVELING SHIMS SHALL BE USED ONLY BETWEEN THE TOP OF THE  
CONCRETE BASE AND A METALLIC BASE PLATE.

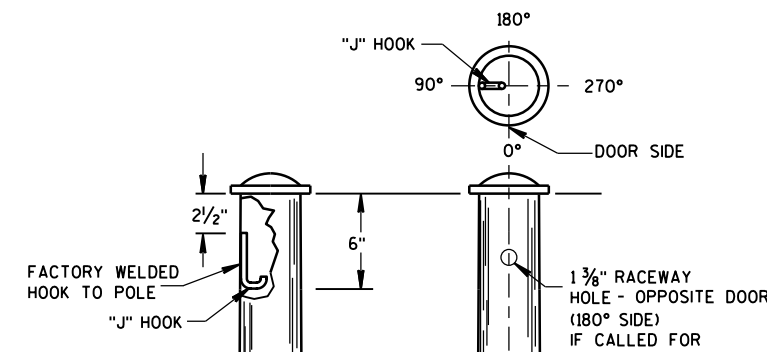
SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE  
AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



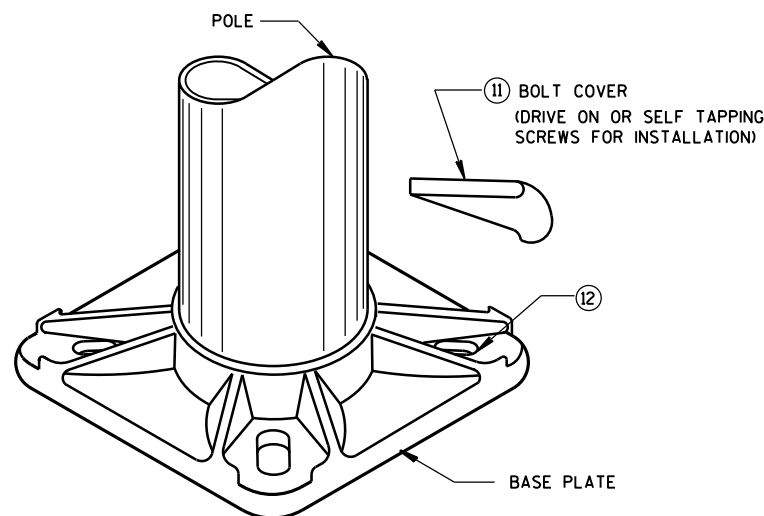
**TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP**



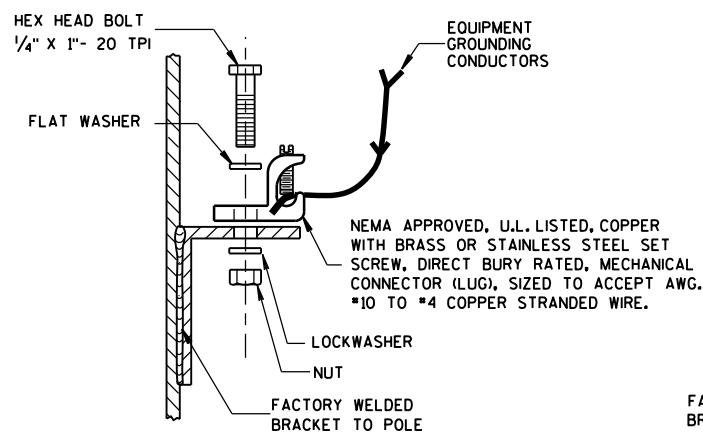
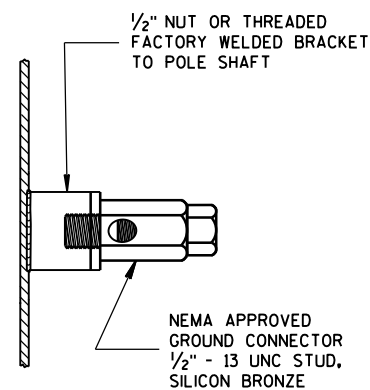
**TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS**



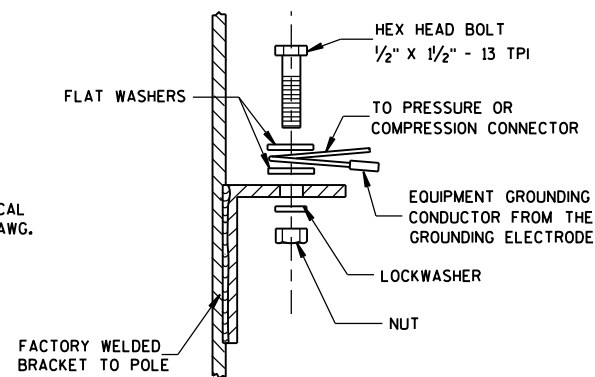
**TYPICAL "J" HOOK LOCATION**



**BASE PLATE**



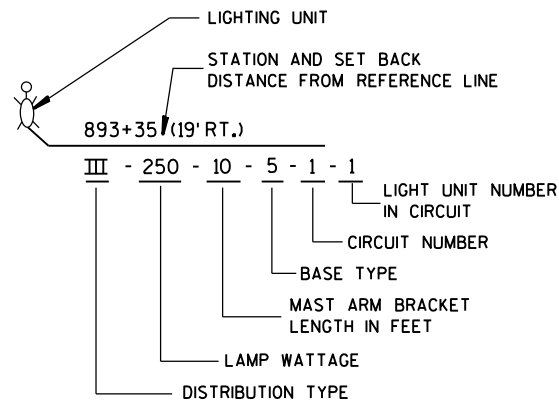
**TYPICAL GROUNDING CONNECTIONS**  
NUT, BOLT AND WASHERS SHALL  
BE STAINLESS STEEL



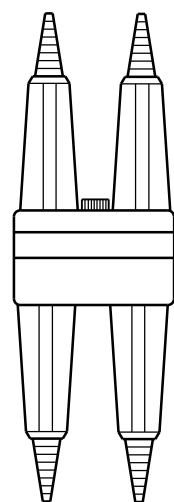
## HARDWARE DETAILS FOR POLE MOUNTINGS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

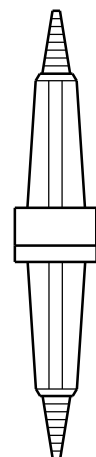
APPROVED  
Feb. 2015  
DATE /S/ Ahmet Demirbilek  
STATE ELECTRICAL ENGINEER  
FHWA



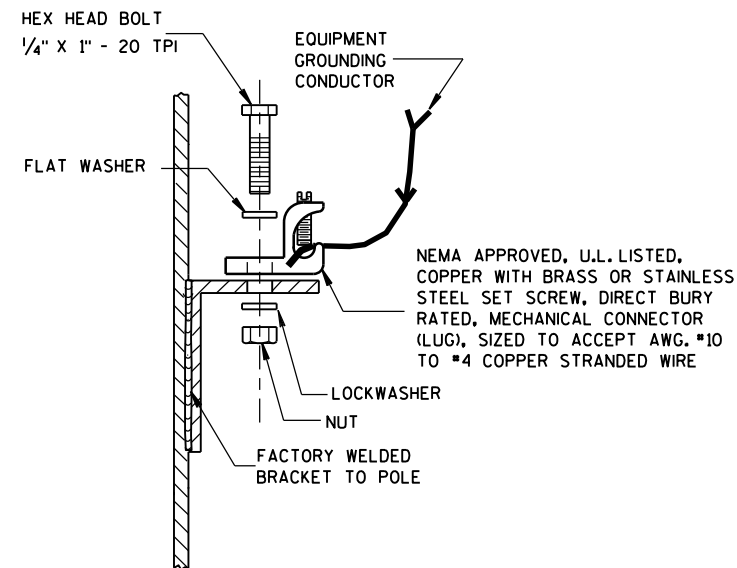
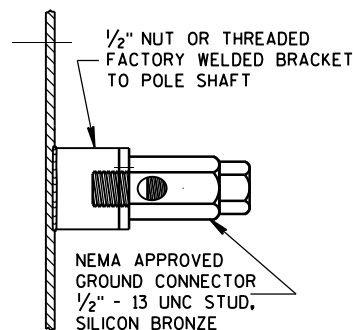
**LIGHTING UNIT CODE  
(TYPICAL)**



**DETAIL "A"  
BREAKAWY  
DOUBLE POLE WITH  
WATERPROOF  
INSULATING BOOT**

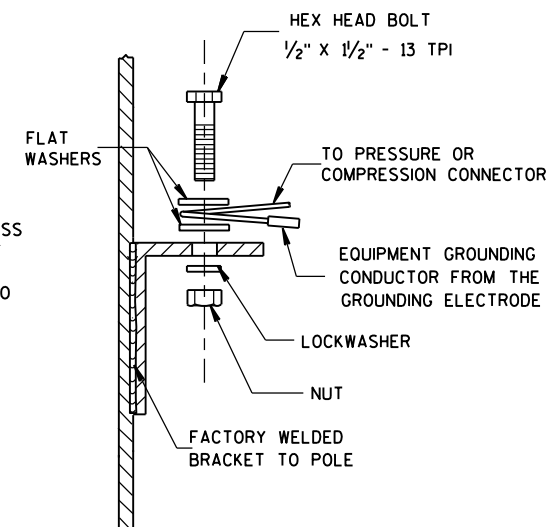


**DETAIL "B"  
BREAKAWY  
SINGLE POLE WITH  
WATERPROOF  
INSULATING BOOT**



**TYPICAL GROUNDING CONNECTIONS**

NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL



**GENERAL NOTES**

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

THE EQUIPMENT GROUNDING CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.

ADDITIONAL CONDUCTORS  
AND FUSE FOR TWIN  
LIGHTING UNITS

EQUIPMENT GROUNDING  
CONDUCTOR(S) TO LUMINAIRE(S)

APPROVED MECHANICAL TYPE  
CONNECTOR FOR EQUIPMENT  
GROUNDING CONDUCTORS.  
COMPRESSION, CRIMP OR  
WIRE NUT CONNECTORS ARE  
NOT ALLOWED.

TYPICAL GROUNDING CONNECTION -  
STAINLESS STEEL BOLT,  
NUT AND WASHERS  
1/2" X 1/2" - 13 TPI

AWG #4 (MIN.) BARE EQUIPMENT  
GROUNDING CONDUCTOR.  
NOTE: THIS WIRE SHALL BE  
CONTINUOUS WITHOUT SPLICES  
FROM THE GROUNDING ELECTRODE  
TO THE EQUIPMENT GROUNDING  
CONDUCTOR SPICE CONNECTOR.

INSULATED EQUIPMENT GROUNDING  
CONDUCTORS FROM SYSTEM RACEWAY

EXOTHERMICALLY WELDED  
TO GROUNDING ELECTRODE

CONDUCTORS TO  
LUMINAIRES SHALL BE #12 AWG,  
COPPER STRANDED, U.S.E. RATED,  
XLP INSULATED. SINGLE  
LIGHTING UNIT SHOWN

CIRCUIT TAGS, BOTH SIDES  
OF ALL FUSES (TYPICAL)

IN LINE SINGLE POLE FUSE ASSEMBLY.  
600 VAC, WITH 5 AMP FAST ACTING  
FUSE (SEE DETAIL "B")  
TAPE AND VARNISH  
CRIMPED END FERRULES

HANDHOLE & COVER

18" PIGTAIL BETWEEN  
CONNECTOR AND FUSEHOLDER

APPROVED INSULATED MULTITAP  
TERMINAL BLOCK TYPE CONNECTORS.  
COMPRESSION, CRIMP OR WIRE NUT  
CONNECTORS ARE NOT ALLOWED.

INSULATED UNGROUNDED CIRCUIT  
CONDUCTORS FROM SYSTEM RACEWAY

ALTERNATE PHASE UNGROUNDED  
CIRCUIT CONDUCTOR PASSING  
THROUGH THIS POLE

TWIN LIGHTING UNITS REQUIRE  
INDIVIDUAL SETS OF UNGROUNDED  
CONDUCTORS AND FUSE ASSEMBLY.

AWG #4 (MIN.) BARE EQUIPMENT  
GROUNDING CONDUCTOR.  
NOTE: THIS WIRE SHALL BE  
CONTINUOUS WITHOUT SPLICES  
FROM THE GROUNDING ELECTRODE  
TO THE EQUIPMENT GROUNDING  
CONDUCTOR SPICE CONNECTOR.

EQUIPMENT GROUNDING  
CONDUCTOR(S) TO LUMINAIRE(S)

TYPICAL GROUNDING CONNECTION -  
STAINLESS STEEL BOLT,  
NUT AND WASHERS  
1/2" X 1/2" - 13 TPI

APPROVED MECHANICAL TYPE  
CONNECTOR FOR EQUIPMENT  
GROUNDING CONDUCTORS.  
COMPRESSION, CRIMP OR  
WIRE NUT CONNECTORS ARE  
NOT ALLOWED.

INSULATED EQUIPMENT GROUNDING  
CONDUCTORS FROM SYSTEM RACEWAY

EXOTHERMICALLY WELDED  
TO GROUNDING ELECTRODE

CIRCUIT TAGS, BOTH SIDES  
OF ALL FUSES (TYPICAL)

IN LINE FUSE ASSEMBLY  
TWO POLE, 600 VAC,  
WITH 5 AMP FAST ACTING  
FUSE (SEE DETAIL "A")  
TAPE AND VARNISH  
CRIMPED END FERRULES

HANDHOLE & COVER

18" PIGTAIL BETWEEN  
CONNECTORS AND FUSEHOLDERS

APPROVED INSULATED MULTITAP  
TERMINAL BLOCK TYPE CONNECTORS.  
COMPRESSION, CRIMP OR WIRE NUT  
CONNECTORS ARE NOT ALLOWED.

INSULATED UNGROUNDED CIRCUIT  
CONDUCTORS FROM SYSTEM RACEWAY

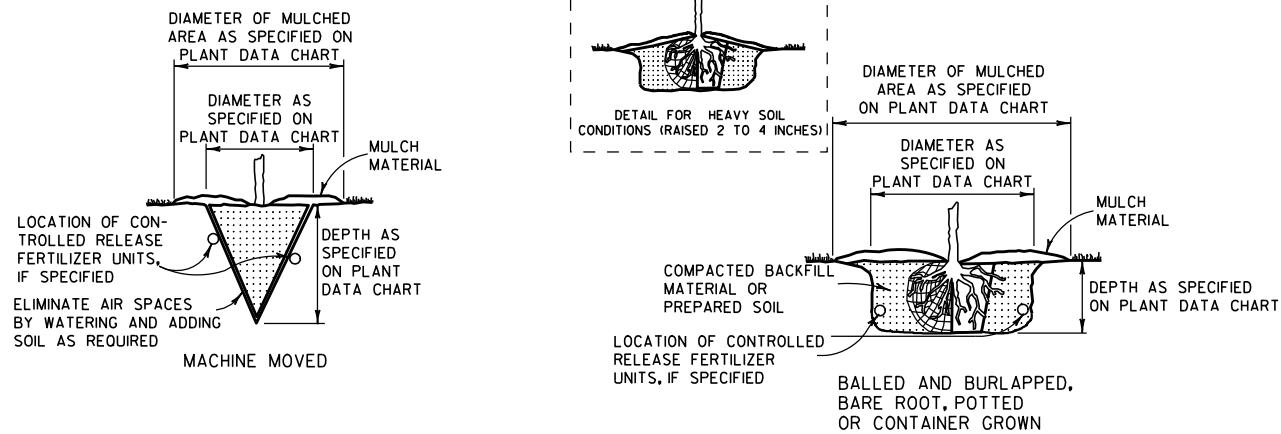
**3 WIRE - 120, 240 OR 480 VAC (UNGROUND CONDUCTOR)  
WITH GROUNDED CONDUCTOR AND  
WITH EQUIPMENT GROUNDING CONDUCTOR**

**2 WIRE - 240 OR 480 VAC (UNGROUND CONDUCTORS)  
WITH EQUIPMENT GROUNDING CONDUCTOR**

**NON-FREEWAY LIGHTING UNIT  
POLE WIRING**

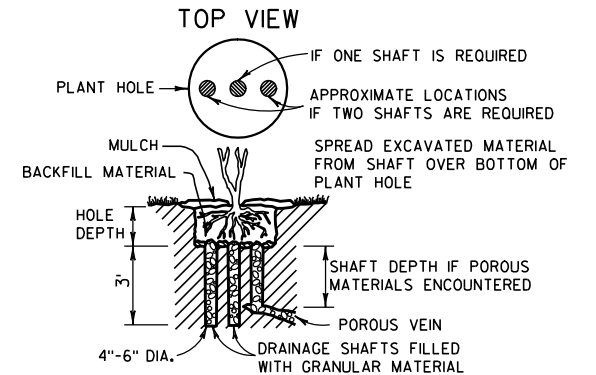
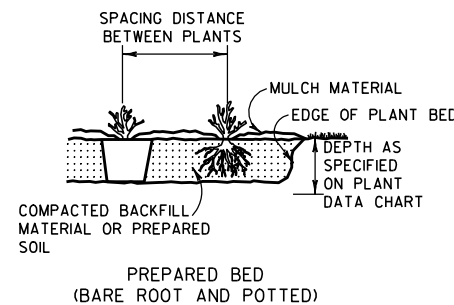
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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Sept. 2014 /S/ Ahmet Demirbilek  
DATE STATE ELECTRICAL ENGINEER  
FHWA



ACCOMMODATE ROOTS (SMOOTH AND STAGHORN SUMAC)

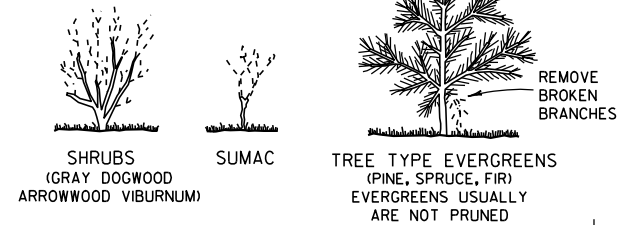
NOTE:  
1) ENGINEER SHALL REQUIRE 3 SLITS IN POT TO SPEED DETERIORATION  
2) METAL, PLASTIC OR OTHER NONDEGRADABLE POTS SHALL BE REMOVED PRIOR TO PLANTING



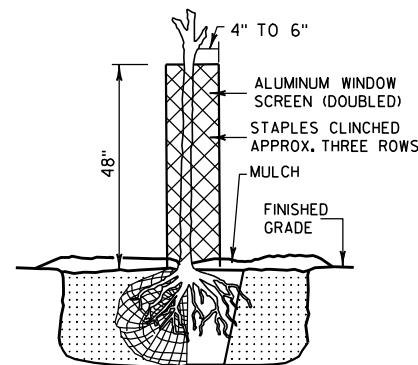
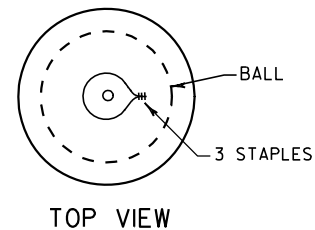
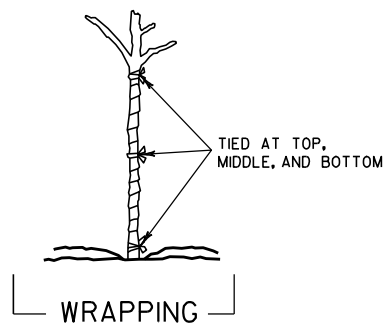
NOTE:  
DRAINAGE SHAFT AS SPECIFIED ON PLANT DATA CHART

### DRAINING

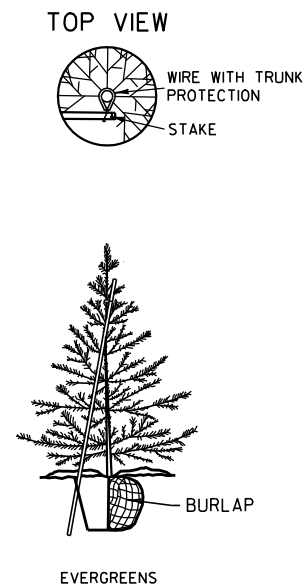
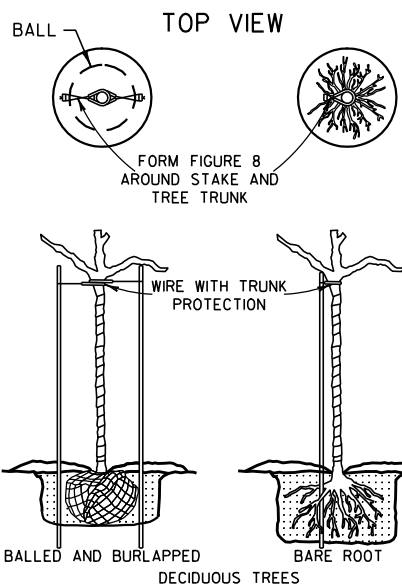
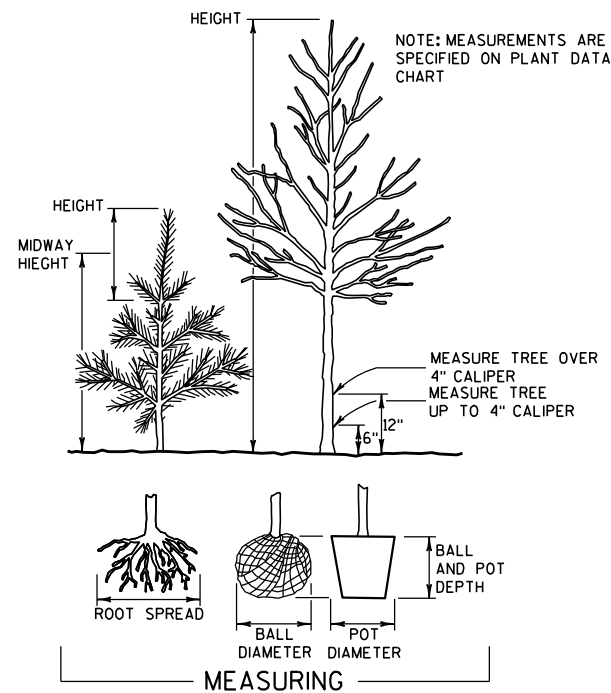
NOTE: WHEN PRUNING, PRESERVE CHARACTER AND SHAPE OF TREE. AVOID LEAVING STUBS - REMOVE BRANCH OR TWIG BACK TO THE NEAREST CROTCH  
1) PRUNE TO REMOVE DEAD AND BROKEN BRANCHES  
2) PRUNE TO REMOVE BRANCHES THAT TOUCH OR ARE TOO CLOSE TO OTHER BRANCHES



### PRUNING

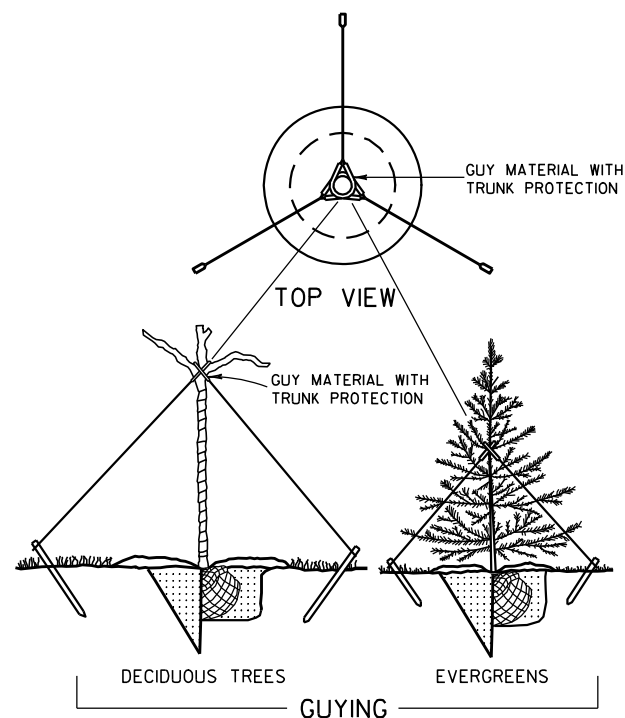


### RODENT PROTECTION

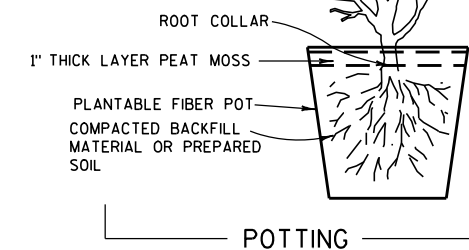


NOTE: BRACING STAKE  
1) SHALL BE DRIVEN INTO THE GROUND AS CLOSE TO THE TREE AS POSSIBLE WITHOUT DAMAGING THE BRANCHES.  
2) MAY BE DRIVEN AT SUCH AN ANGLE THAT IT DOES NOT PENETRATE THE BALL OR POT.  
3) SHALL NOT PROTRUDE ABOVE THE TOP OF THE TREE; AND  
4) SHALL HAVE A HOLE NEAR THE TOP TO HOLD THE WIRE IN PLACE.

### BRACING



PRUNE LARGER SHRUBS BY REMOVING FROM ONE-THIRD TO ONE-HALF TOP GROWTH AS INDICATED BY DOTTED LINE



### NOTES

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

BRACING, WRAPPING, GUYING, RODENT PROTECTION, FERTILIZER AND MULCH SHALL BE USED ONLY WHEN SPECIFIED ON THE PLANT DATA CHART (PART OF PLAN) OR SPECIAL PROVISIONS.

### TREE PLANTING DETAIL

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

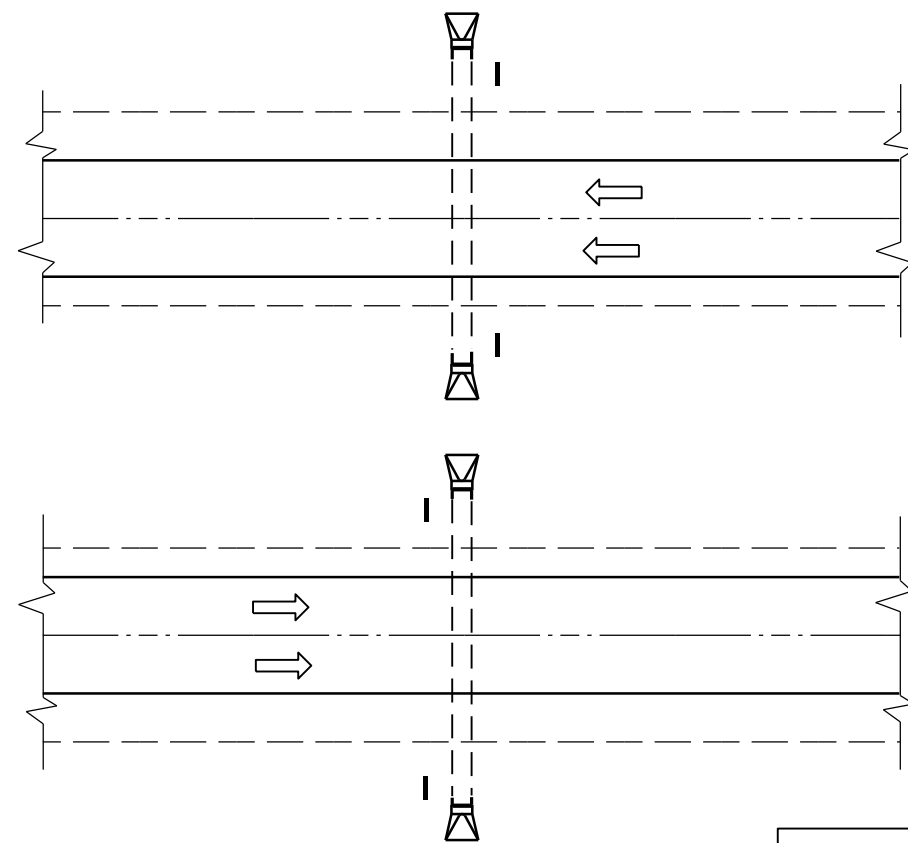
4/11/94

DATE

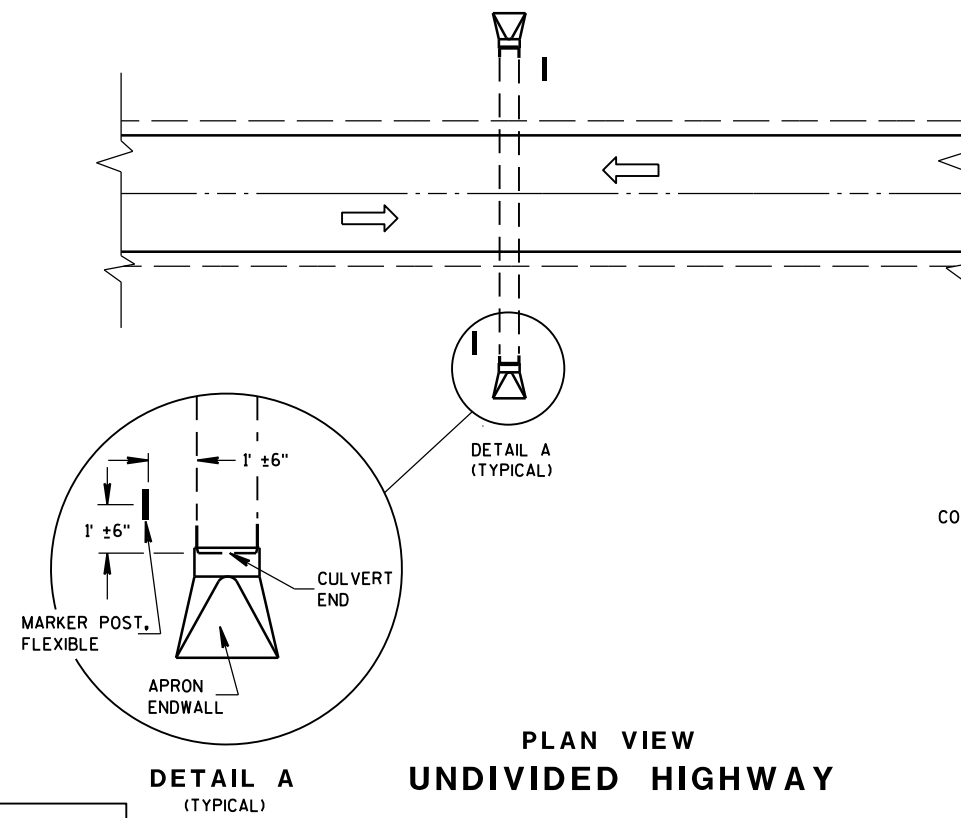
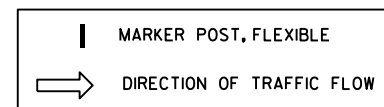
/S/ Rory L. Rhinesmith

CHIEF METHODS DEVELOPMENT ENGINEER

FHWA



PLAN VIEW  
DIVIDED HIGHWAY

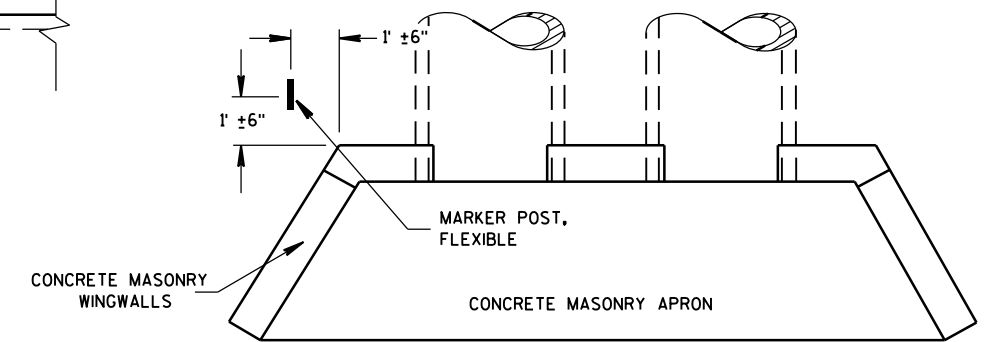


PLAN VIEW  
UNDIVIDED HIGHWAY

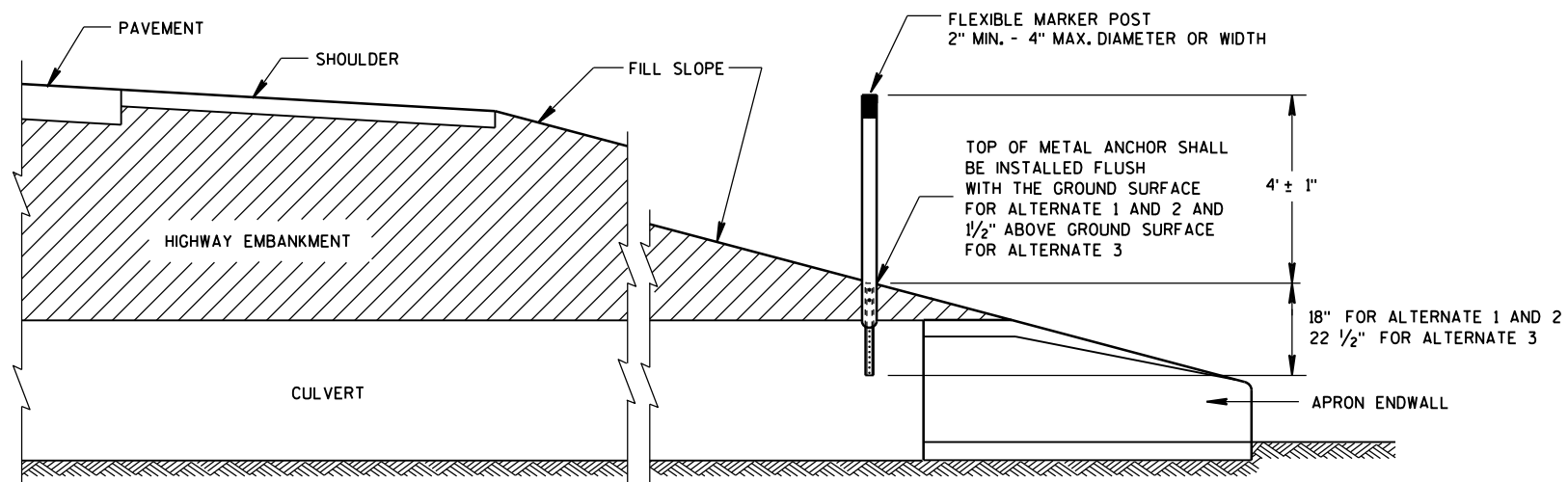
### FLEXIBLE MARKER POST LOCATION

### GENERAL NOTES

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



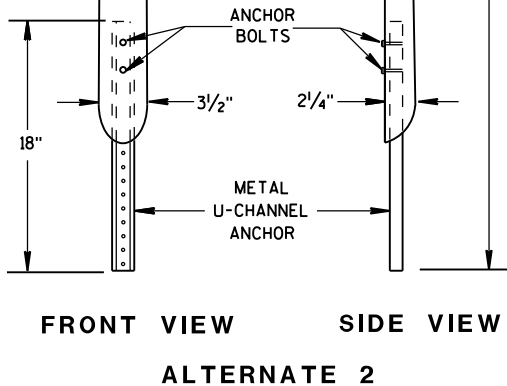
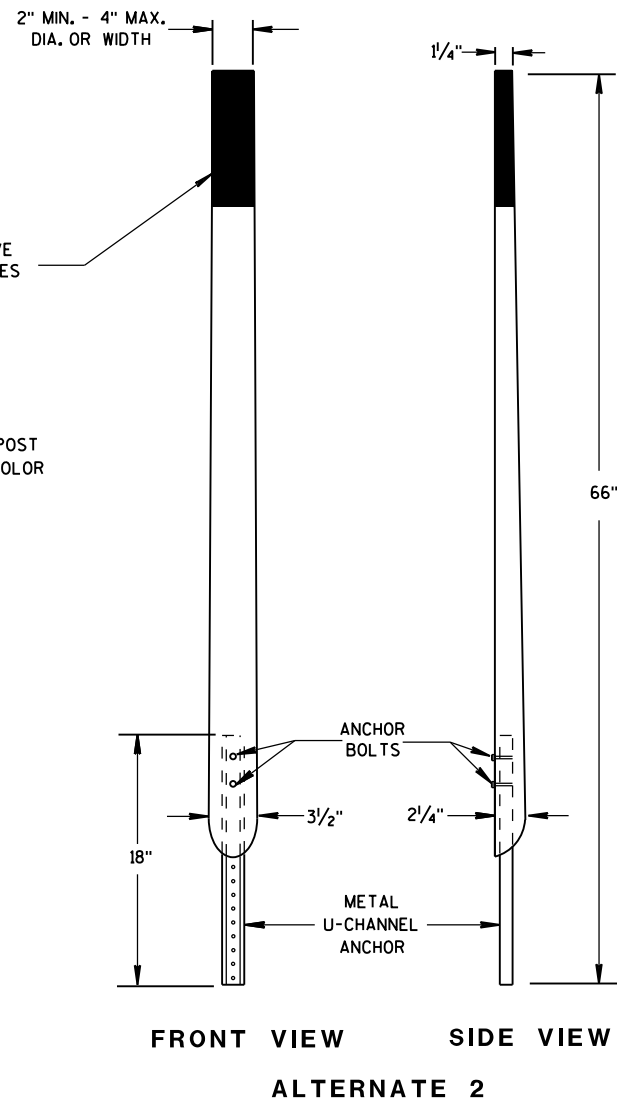
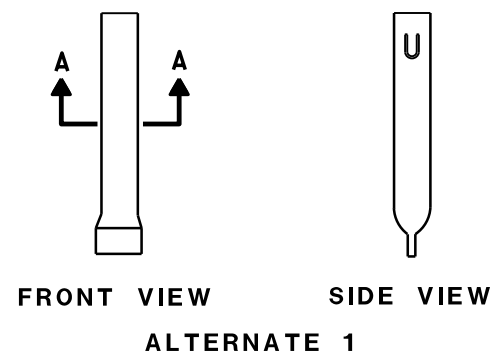
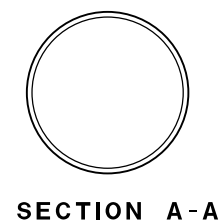
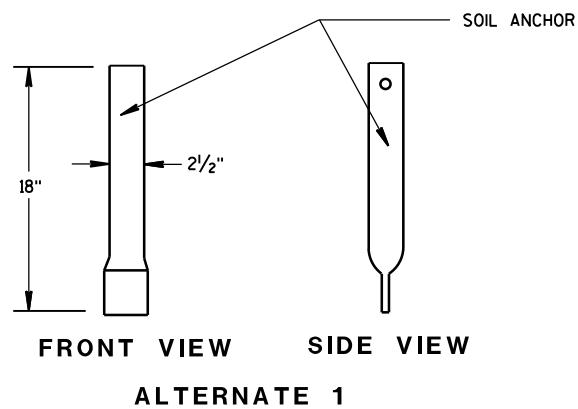
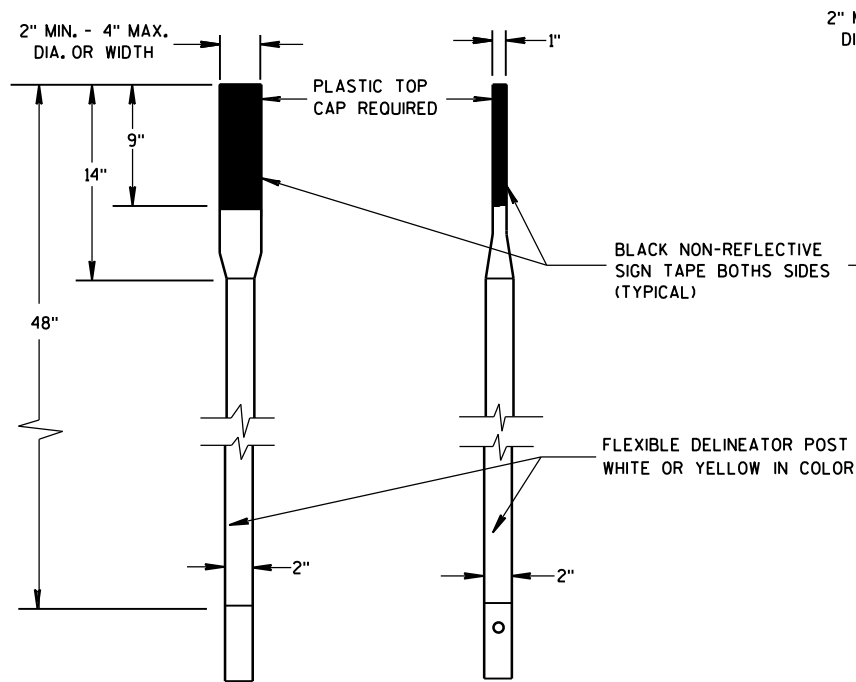
PLAN VIEW  
CONCRETE MASONRY ENDWALLS FOR  
CULVERT PIPE AND PIPE ARCH



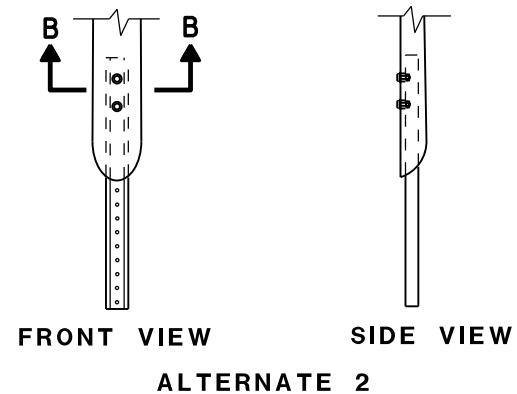
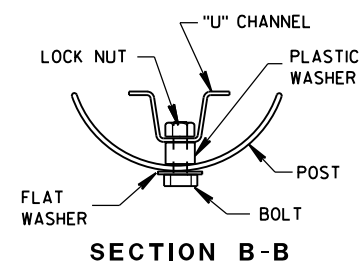
CROSS SECTION  
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST  
FOR CULVERT END

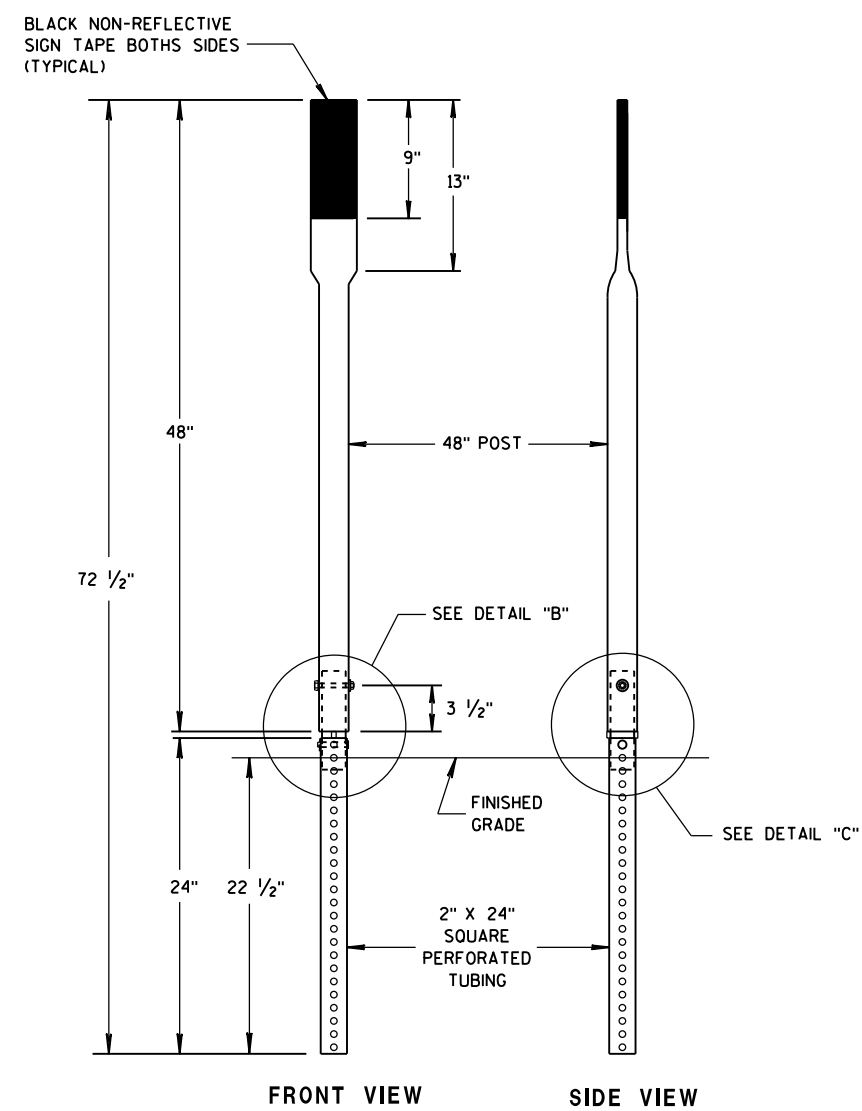
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



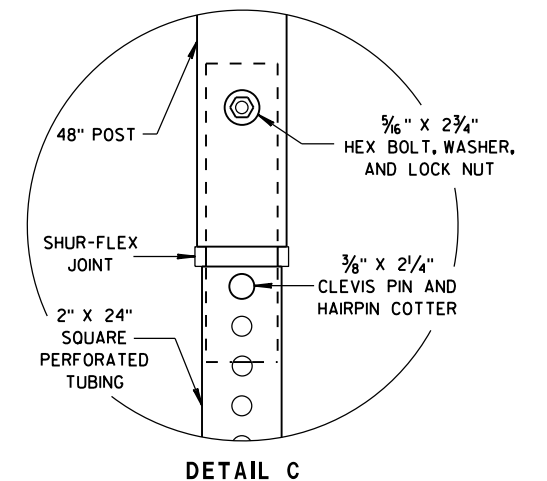
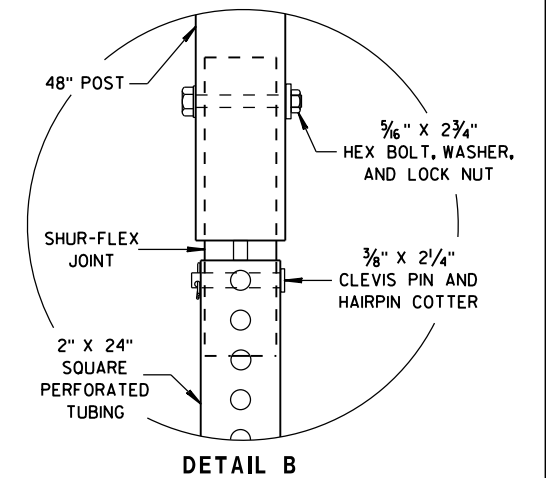
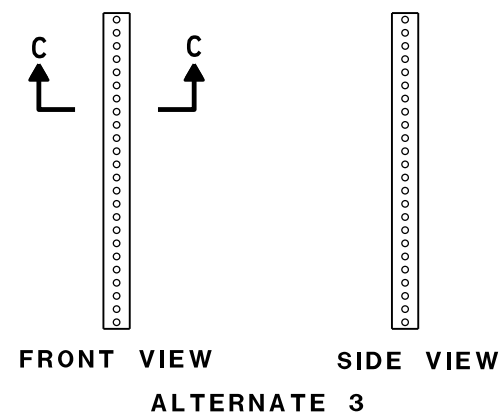
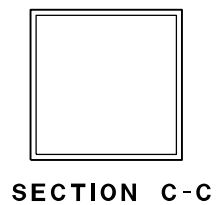
### FLEXIBLE MARKER POSTS



### FLEXIBLE MARKER POST ANCHORS



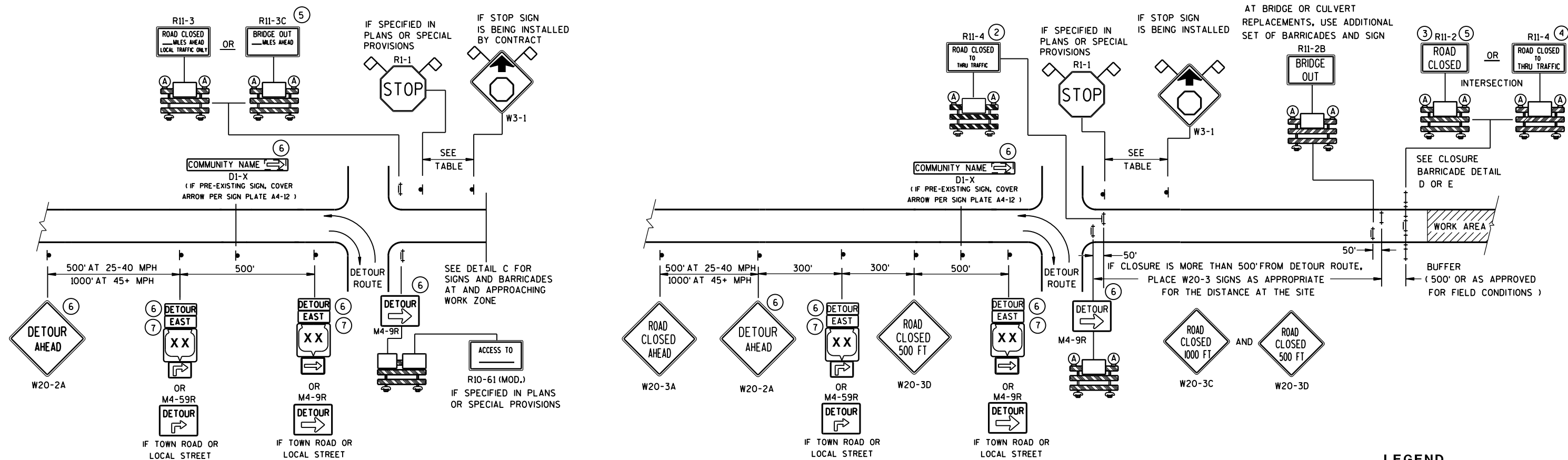
FRONT VIEW SIDE VIEW  
ALTERNATE 3



### FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

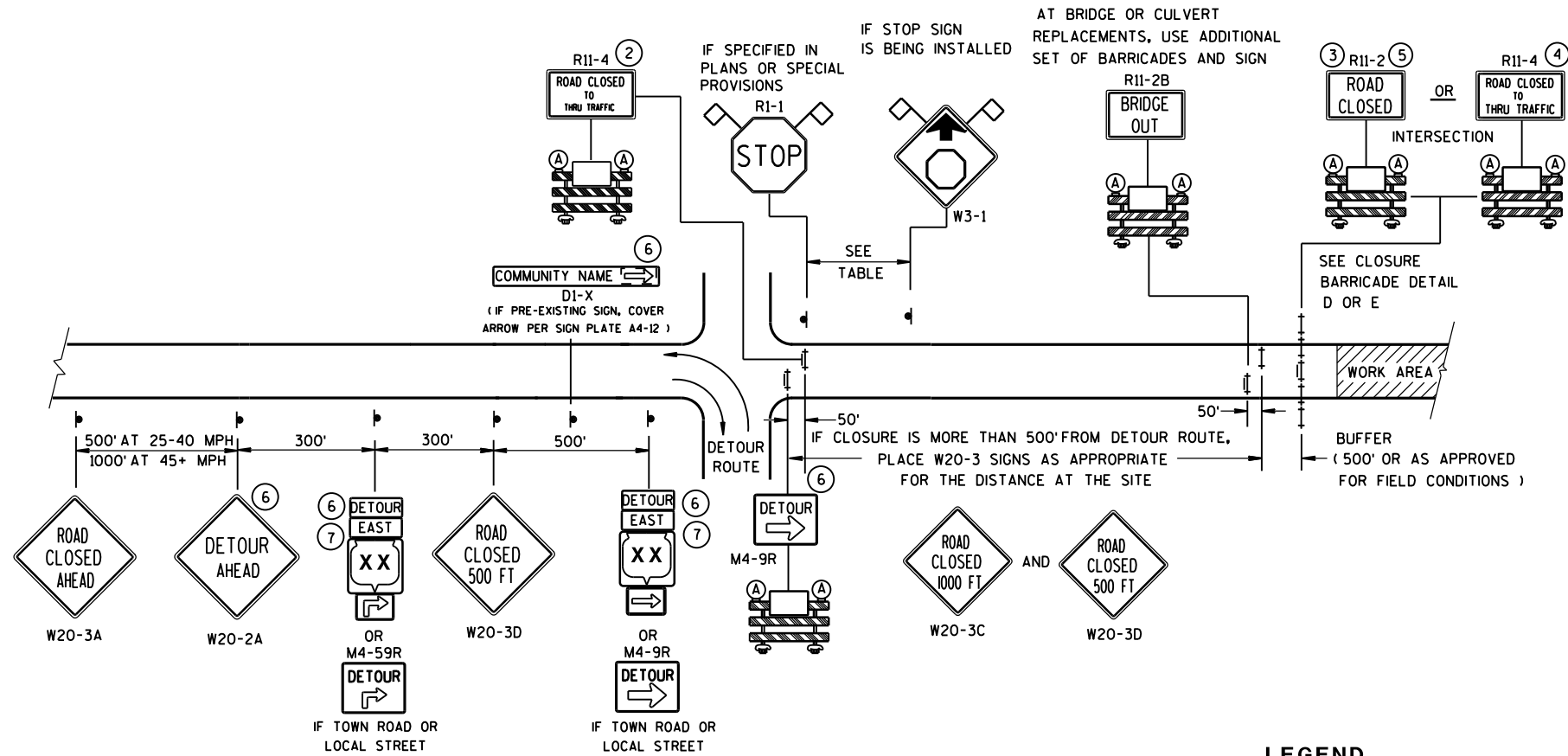
APPROVED  
10/1/2012 DATE /S/ Travis Feltes  
STATE TRAFFIC ENGINEER OF DESIGN  
FHWA



DETAIL A

**MAINLINE CLOSURE WITH POSTED DETOUR**

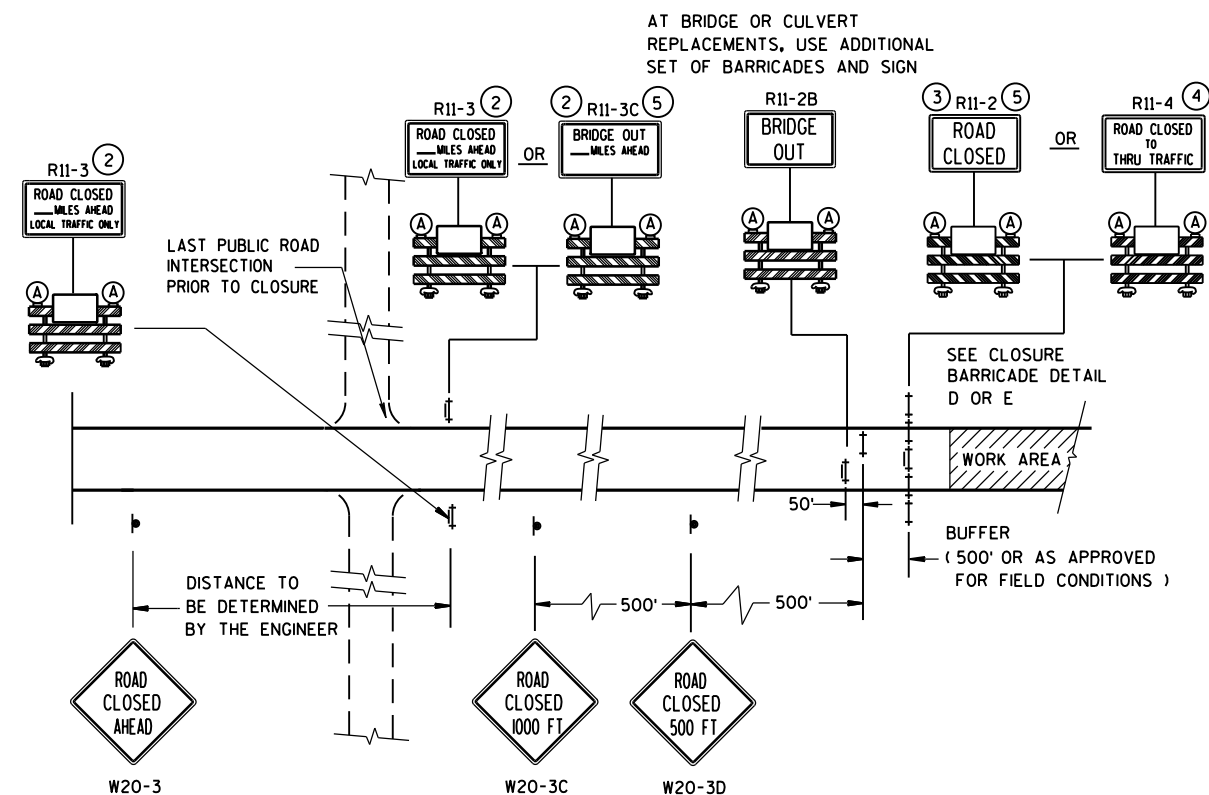
WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN )



DETAIL B














**MAINLINE CLOSURE WITH POSTED DETOUR**

WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN )



DETAIL C  
MAINLINE CLOSURE, NO POSTED DETOUR

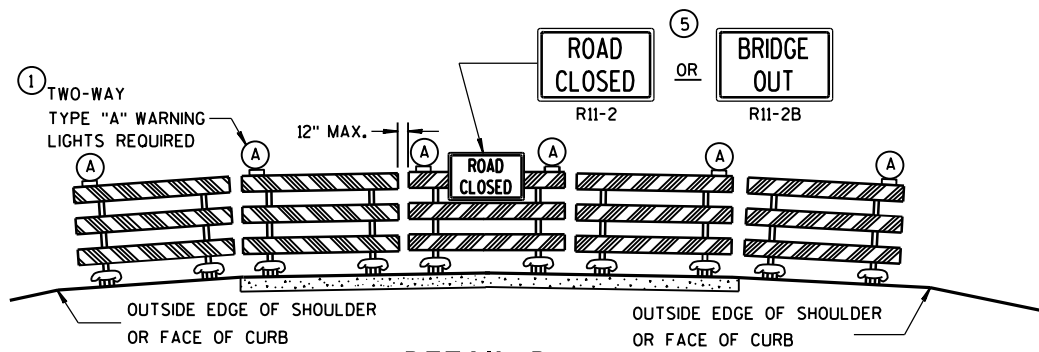
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

- # LEGEND
-  SIGN ON PERMANENT SUPPORT
-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  WORK AREA
-  M4-8  
 M3-X
-  M1-4 OR  M1-5A OR  M1-6
-  M05-1 OR  M06-1
-  FLAGS, 16" X 16" MIN., (ORANGE)

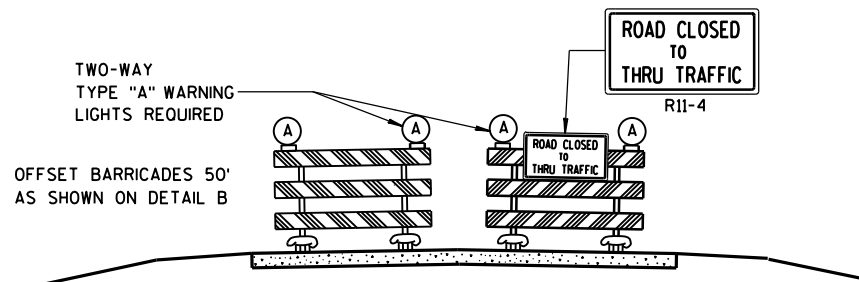
SEE SDD 15C2-SHEET "b"  
FOR GENERAL NOTES  
AND FOOTNOTES ① THROUGH ⑦

<b>BARRICADES AND SIGNS FOR MAINLINE CLOSURES</b>	
<b>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</b>	
<b>Sept. 2015</b>	<b>/S/ Peter Amokobe Atepe</b>
<b>DATE</b>	<b>STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER</b>
<b>FHWA</b>	





**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:

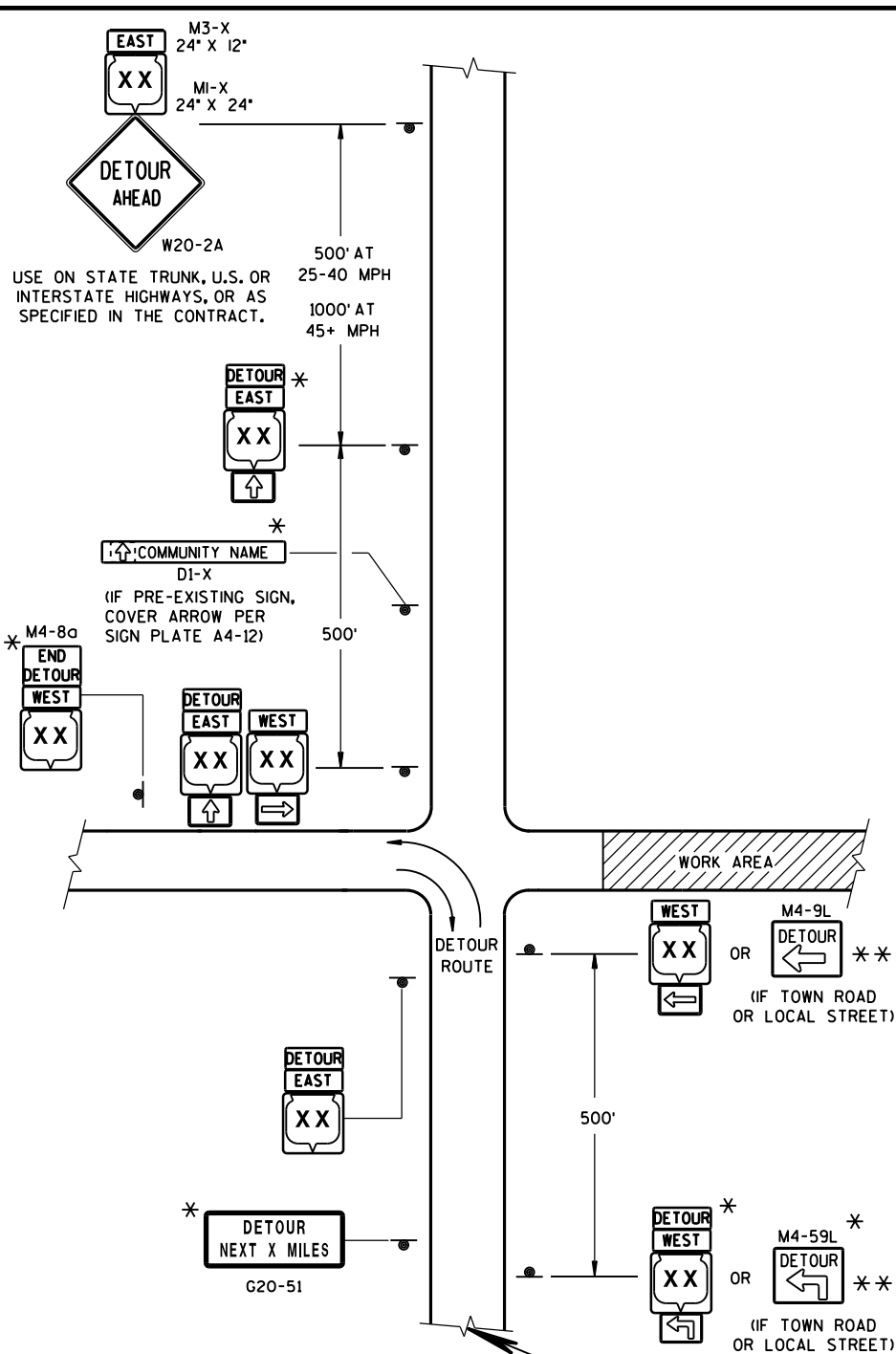
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" 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.

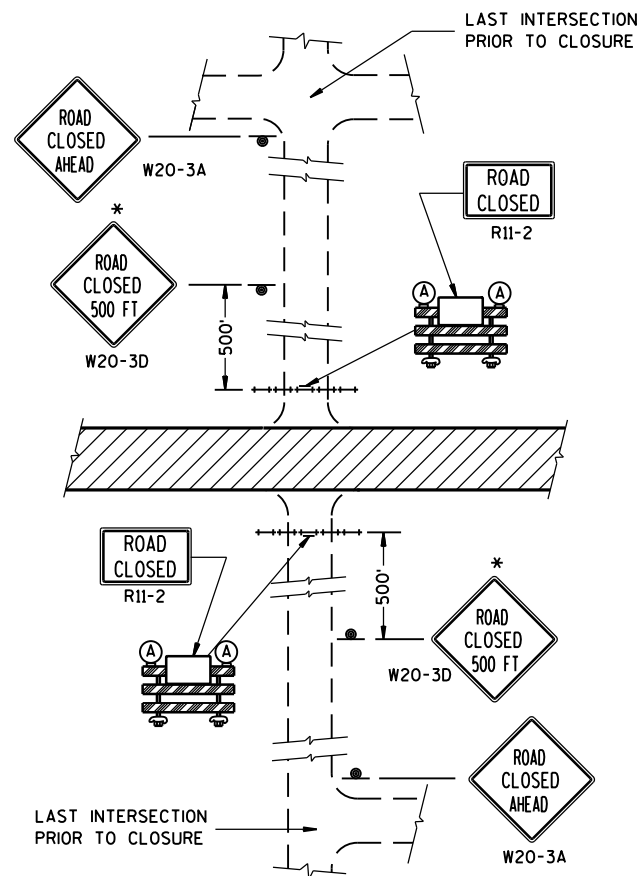
**BARRICADES AND SIGNS  
FOR  
MAINLINE CLOSURES**

**STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION**

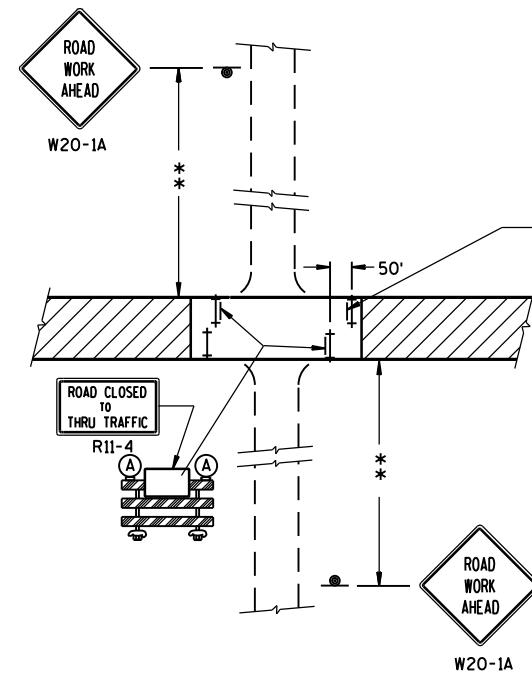
Sept. 2015 /S/ Peter Amokobe Atepe  
DATE STATEWIDE WORK ZONE TRAFFIC  
FHWA SAFETY ENGINEER



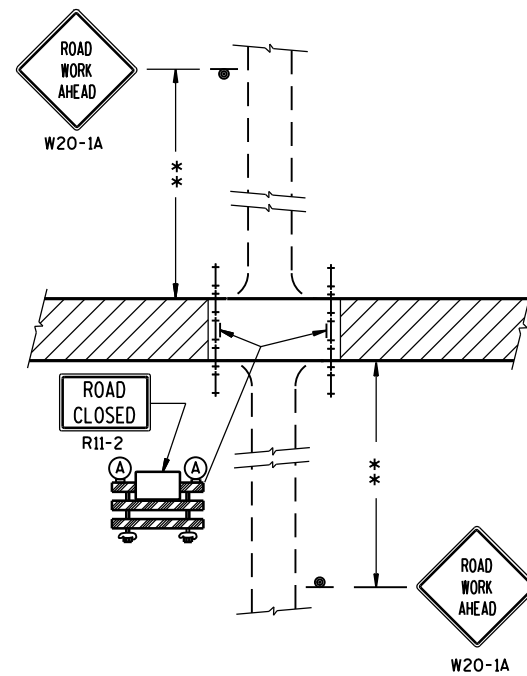
THIS DRAWING PROVIDES GENERAL GUIDANCE  
ON TYPICAL DETOUR SIGN LAYOUT AND SPACING.  
SEE PROJECT DETOUR SIGNING SHEETS FOR  
SPECIFIC DETAILS FOR EACH PROJECT.



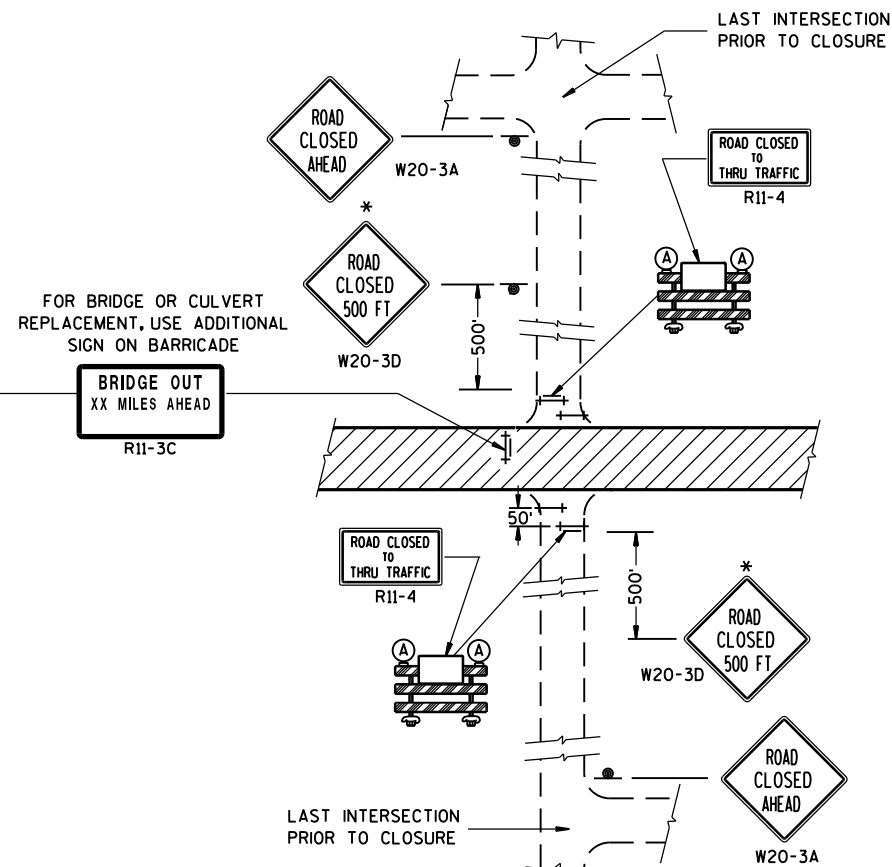
**DETAIL 1**  
(NO ACCESS TO PROJECT)



**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

Sept. 2015

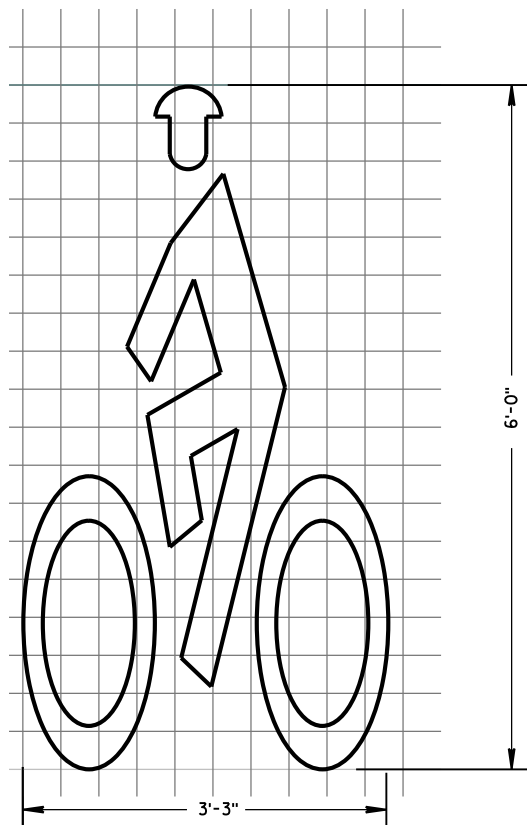
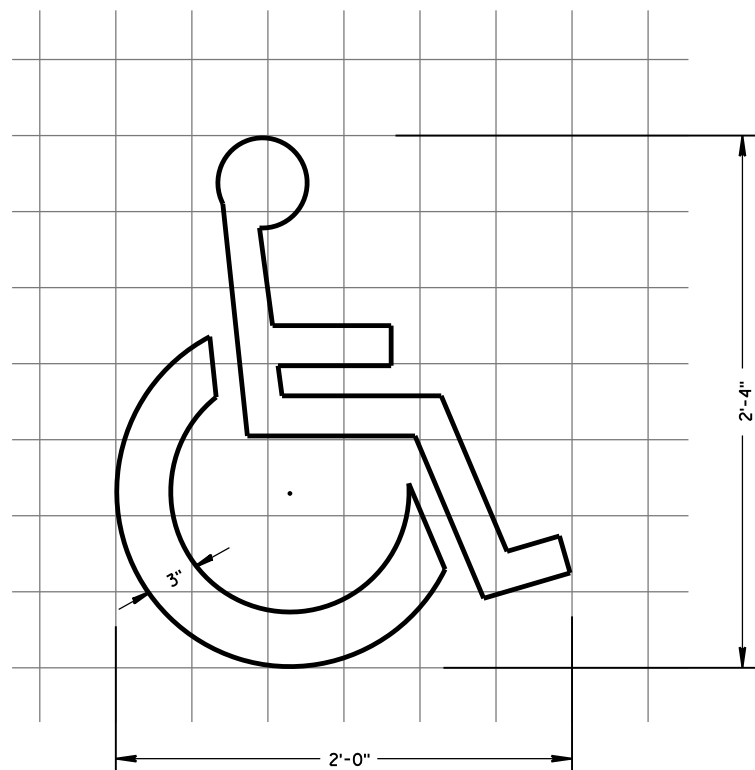
DATE

FHWA

/S/ Peter Amakobe Atepe

STATEWIDE WORK ZONE TRAFFIC

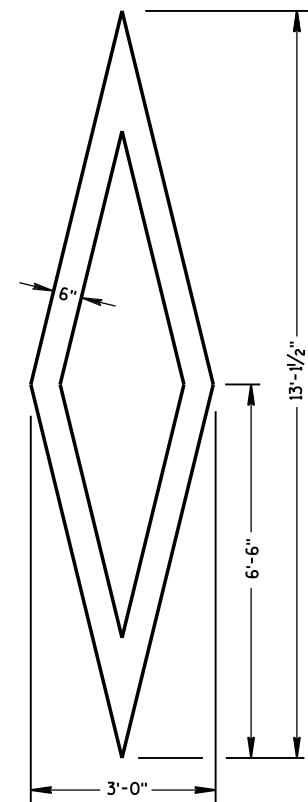
SAFETY ENGINEER



BIKE CROSSING SYMBOL

## GENERAL NOTES

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

PREFERENTIAL  
LANE SYMBOL

PAVEMENT MARKING SYMBOLS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

4/18/16

DATE

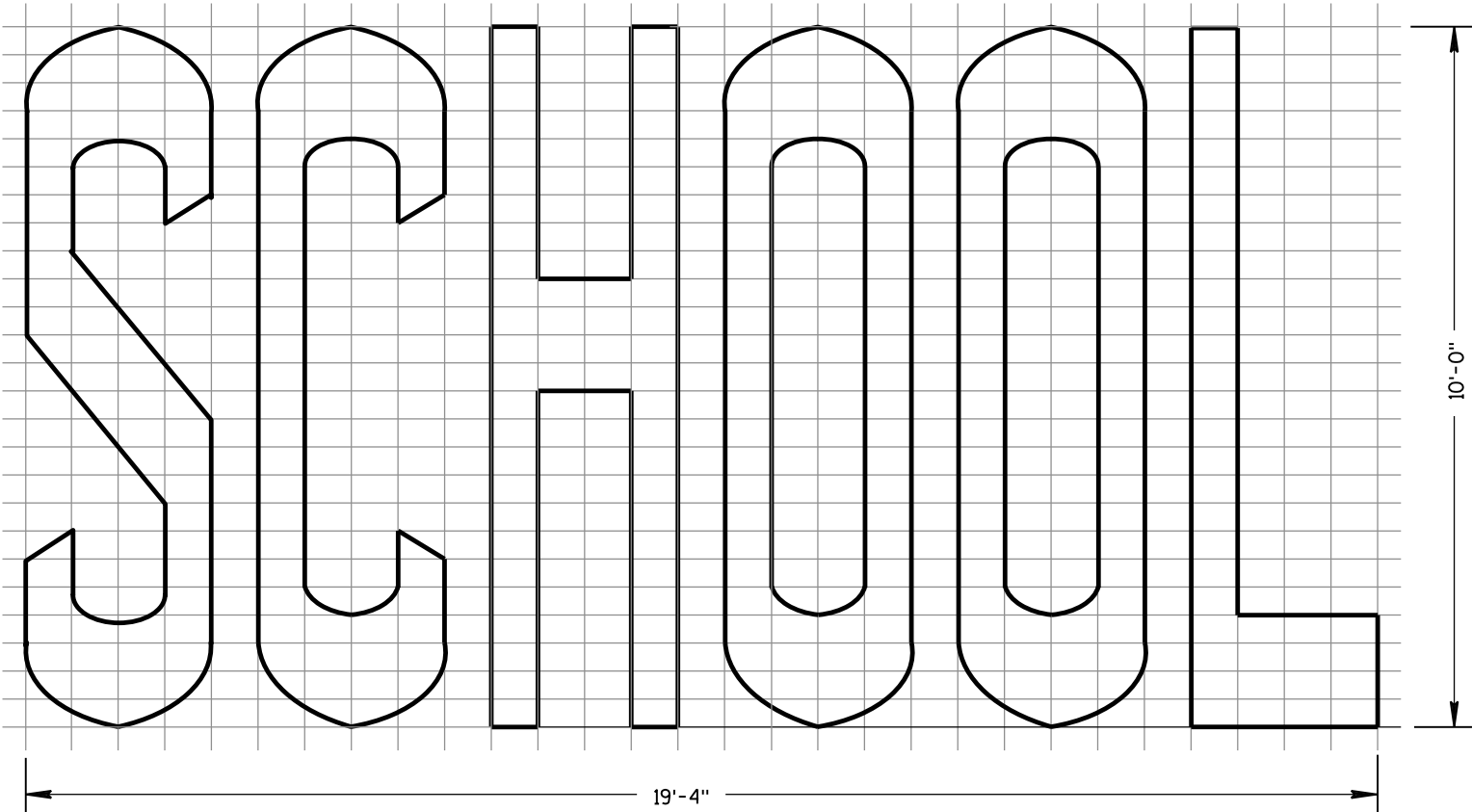
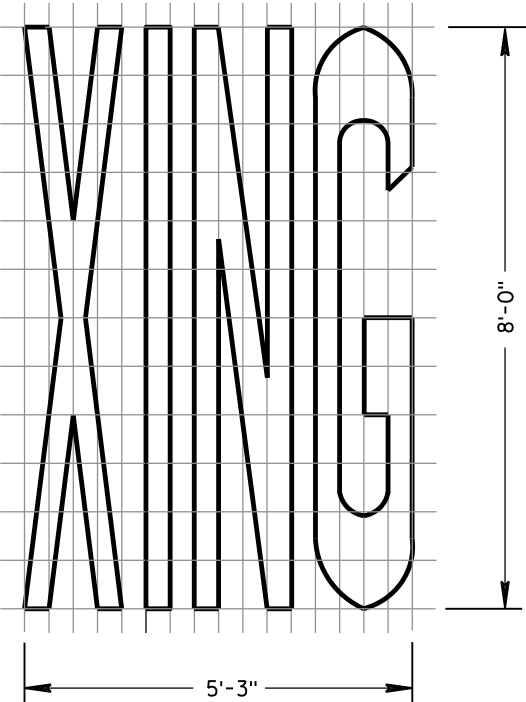
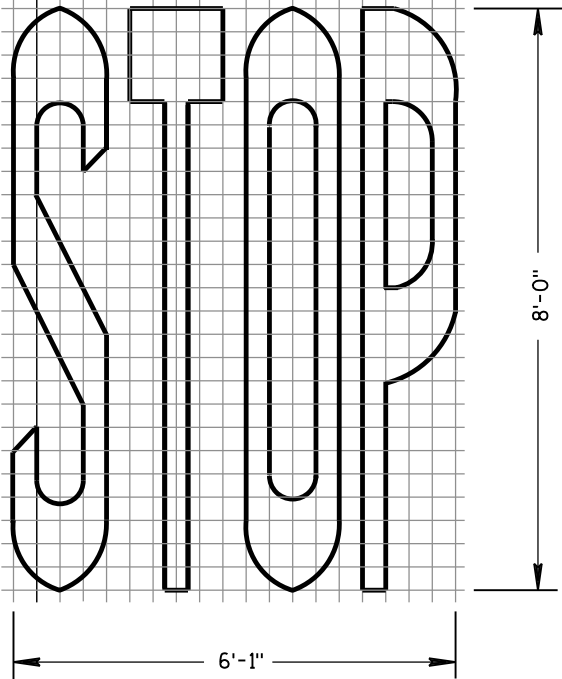
/S/ Matthew R. Rauch

STATE SIGNING AND MARKING ENGINEER

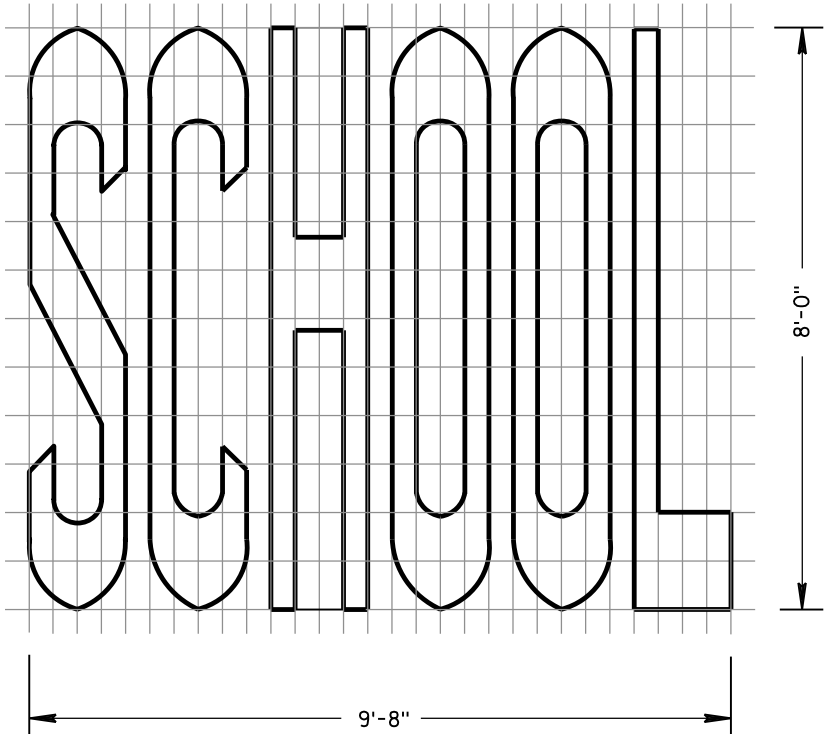
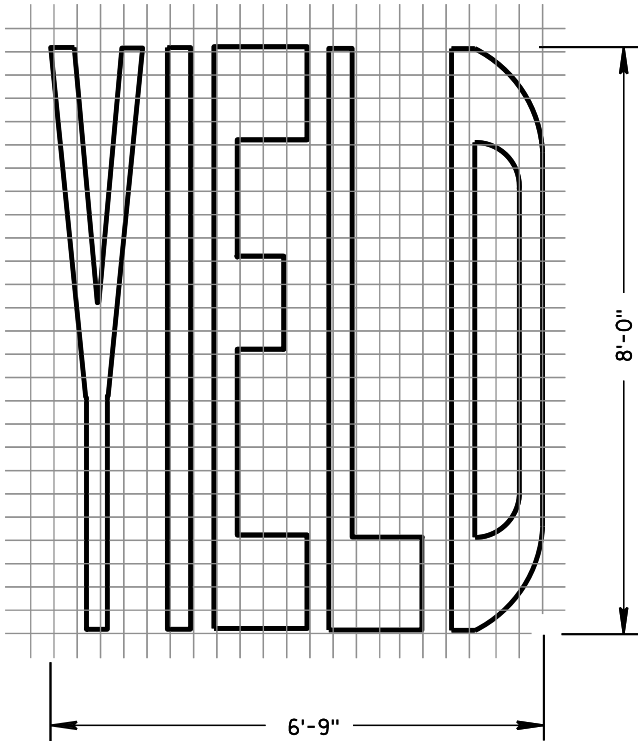
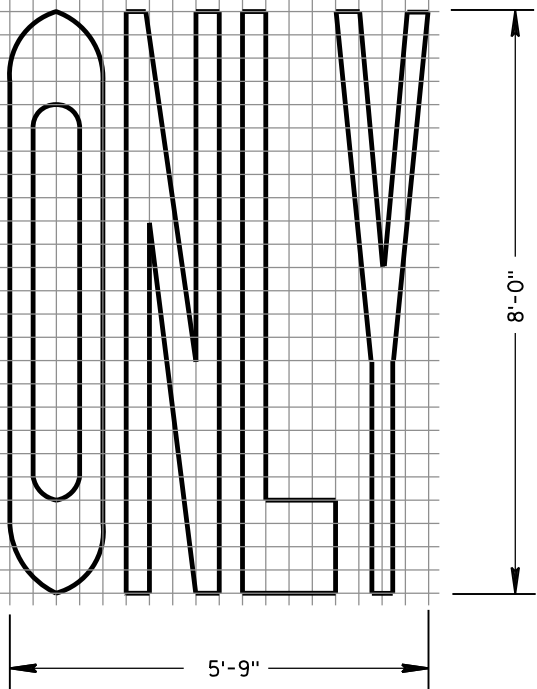
FHWA

GENERAL NOTES

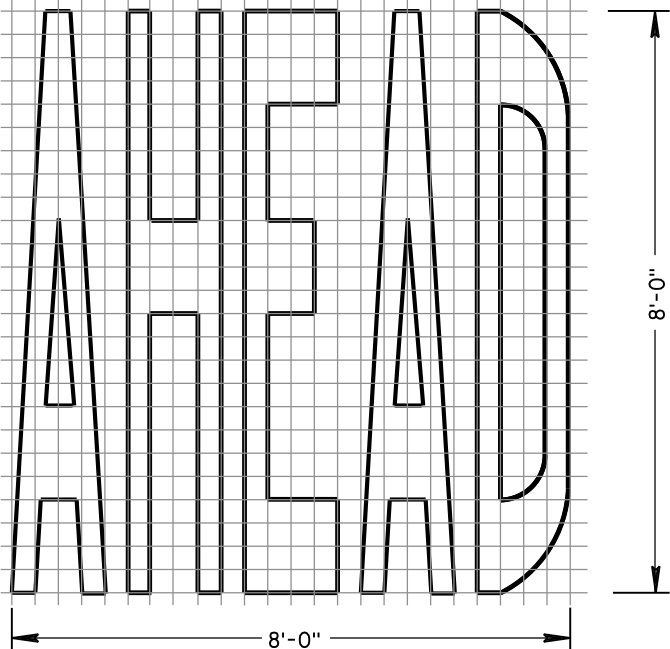
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



TWO-LANE



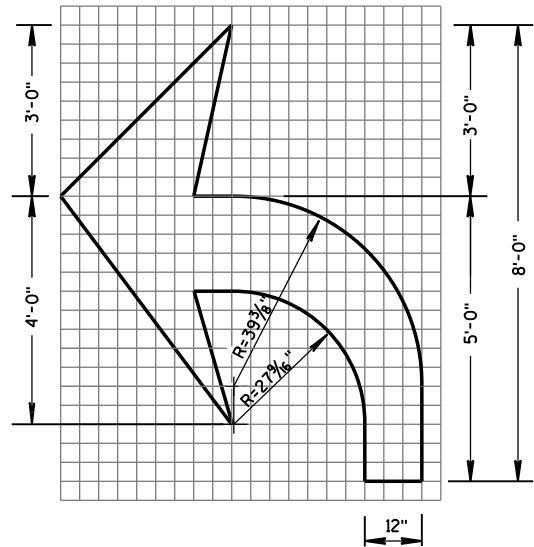
SINGLE-LANE



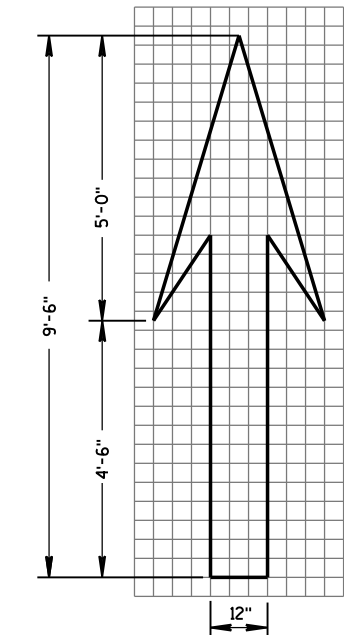
PAVEMENT MARKING WORDS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

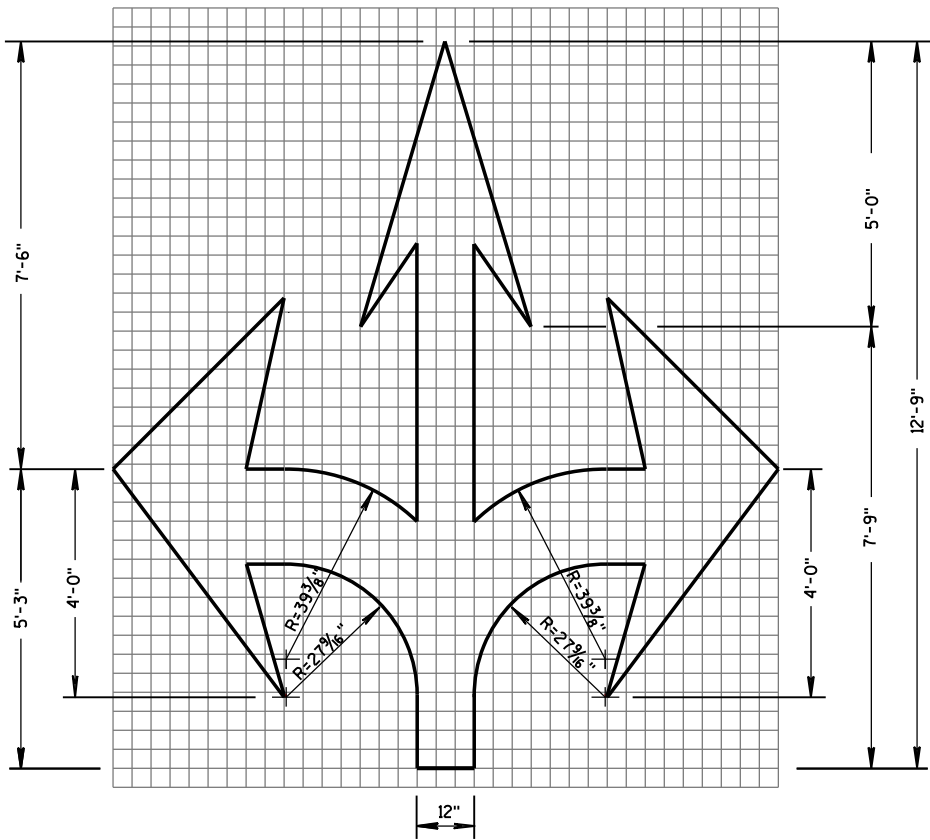
APPROVED  
4-18-16 DATE /S/ Matthew R. Rauch  
STATE SIGNING AND MARKING ENGINEER  
FHWA



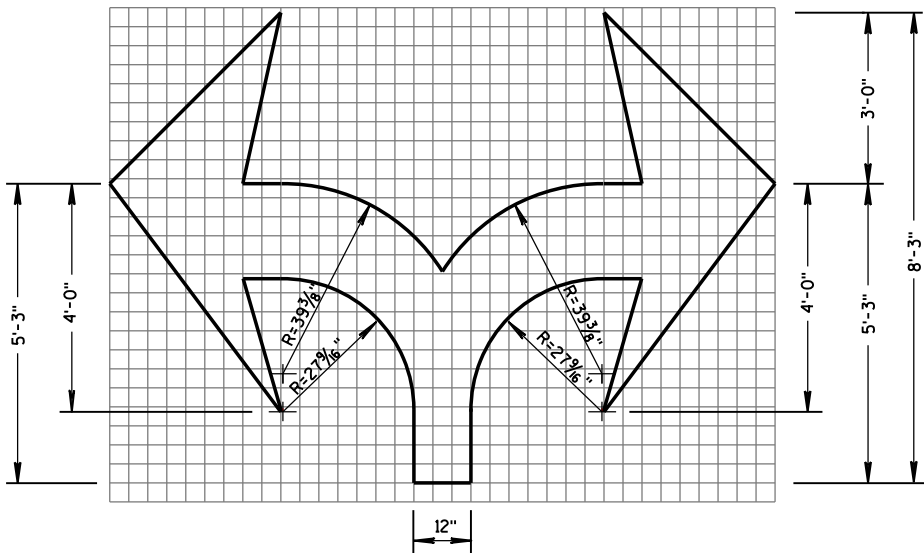
TYPE 2



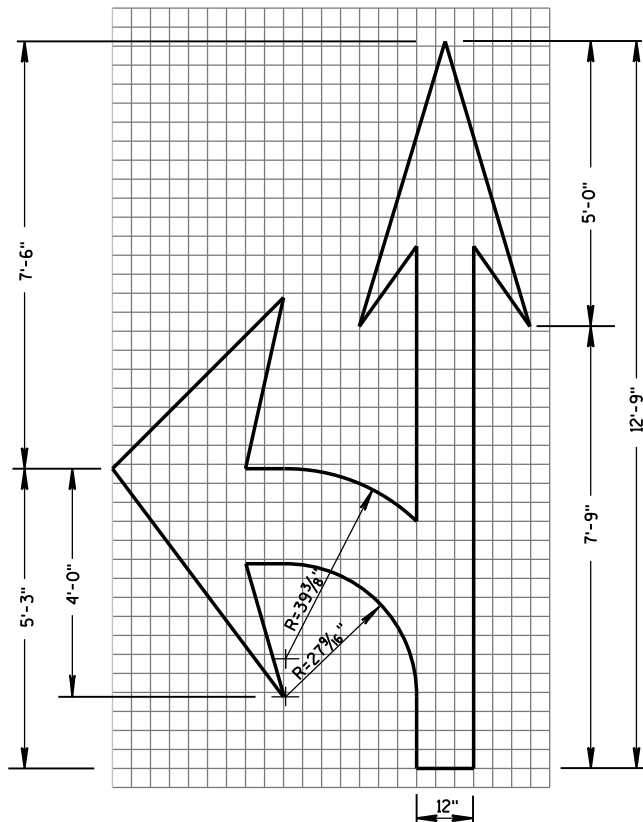
TYPE 1



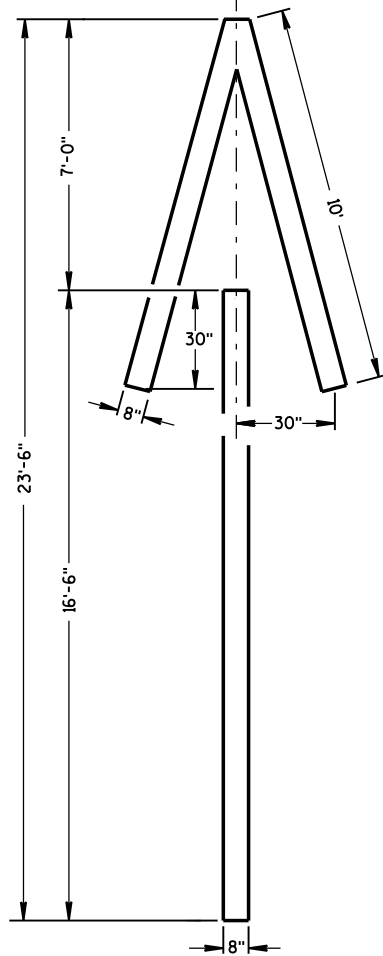
TYPE 6



TYPE 7



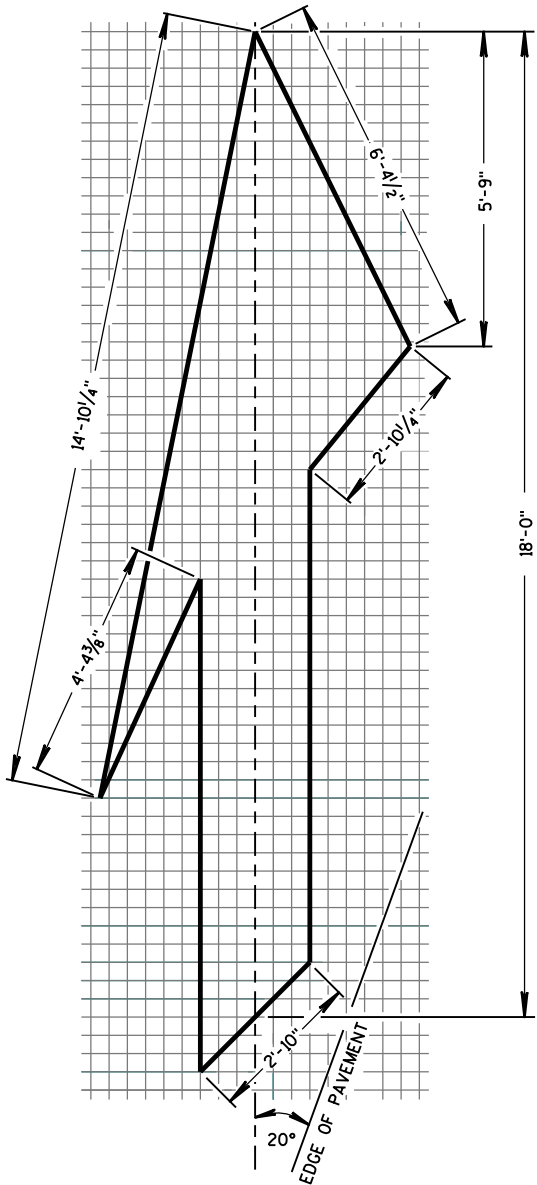
TYPE 3



TYPE 4

GENERAL NOTES

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

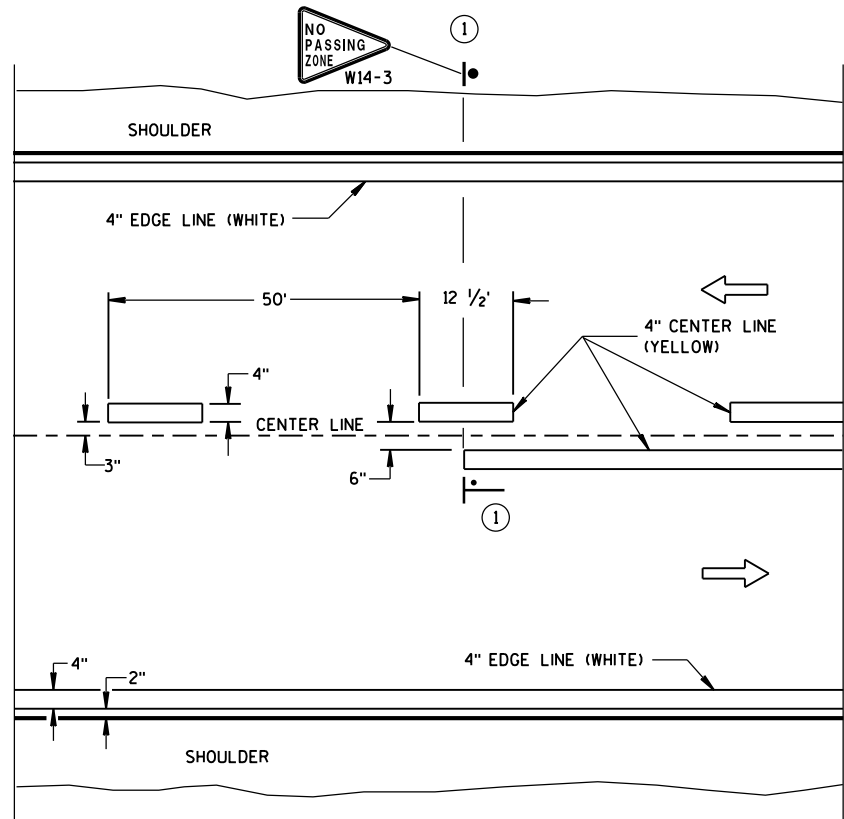


TYPE 5 LANE DROP ARROW

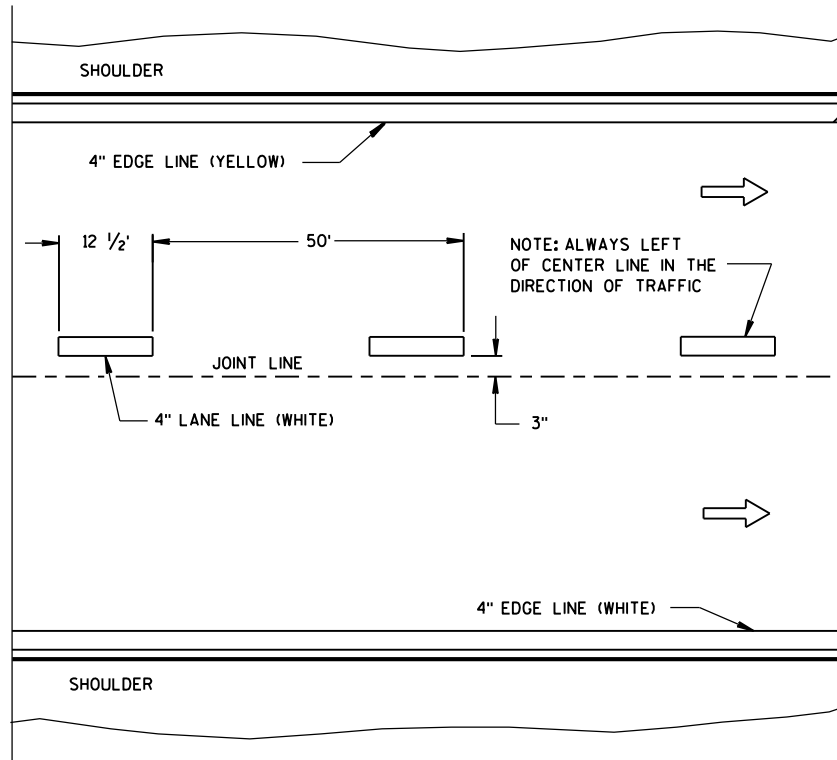
PAVEMENT MARKING ARROWS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
4-18-16 /S/ Matthew R. Rauch  
DATE STATE SIGNING AND MARKING ENGINEER  
FHWA

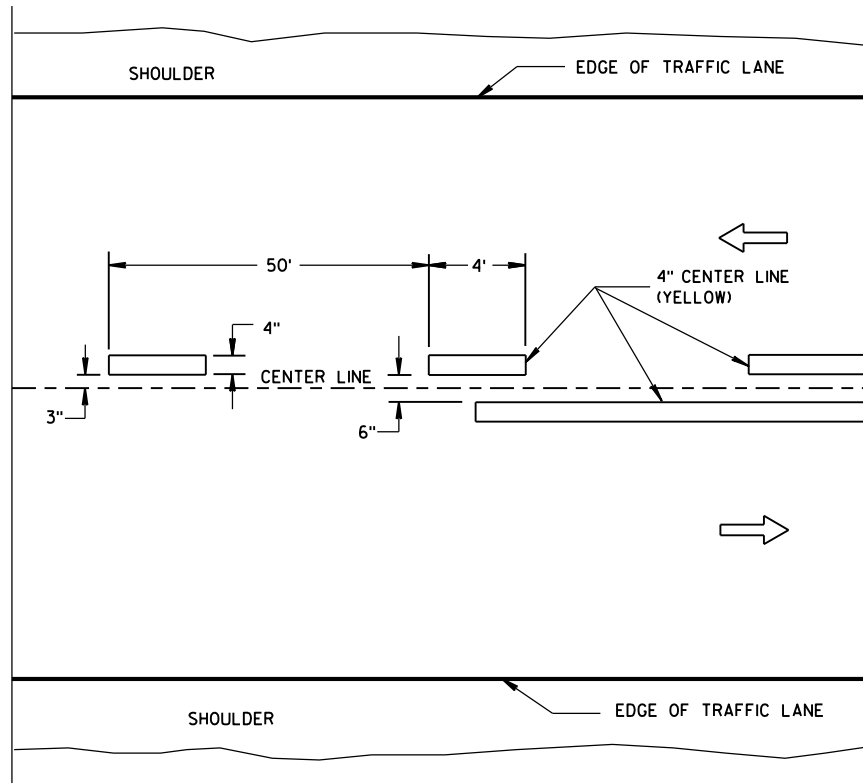


TWO WAY TRAFFIC

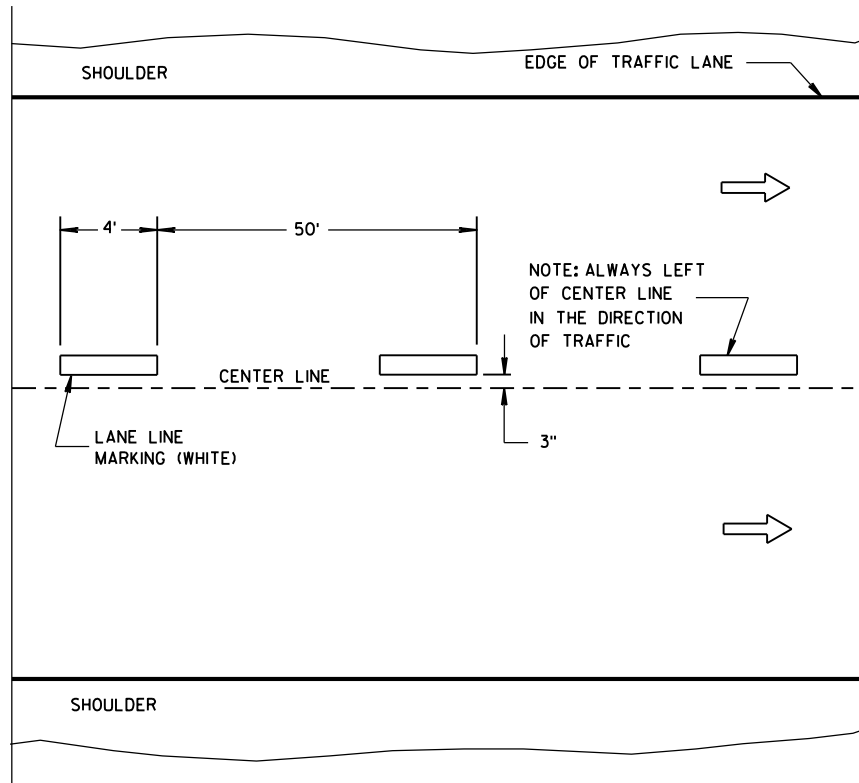


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

① NO PASSING ZONE W14-3 SIGN SHALL BE LOCATED WITHIN 50 FEET OF THE "T" MARKING.

NOTE

ARROW SYMBOL ( → ) SHOWS DIRECTION OF TRAVEL

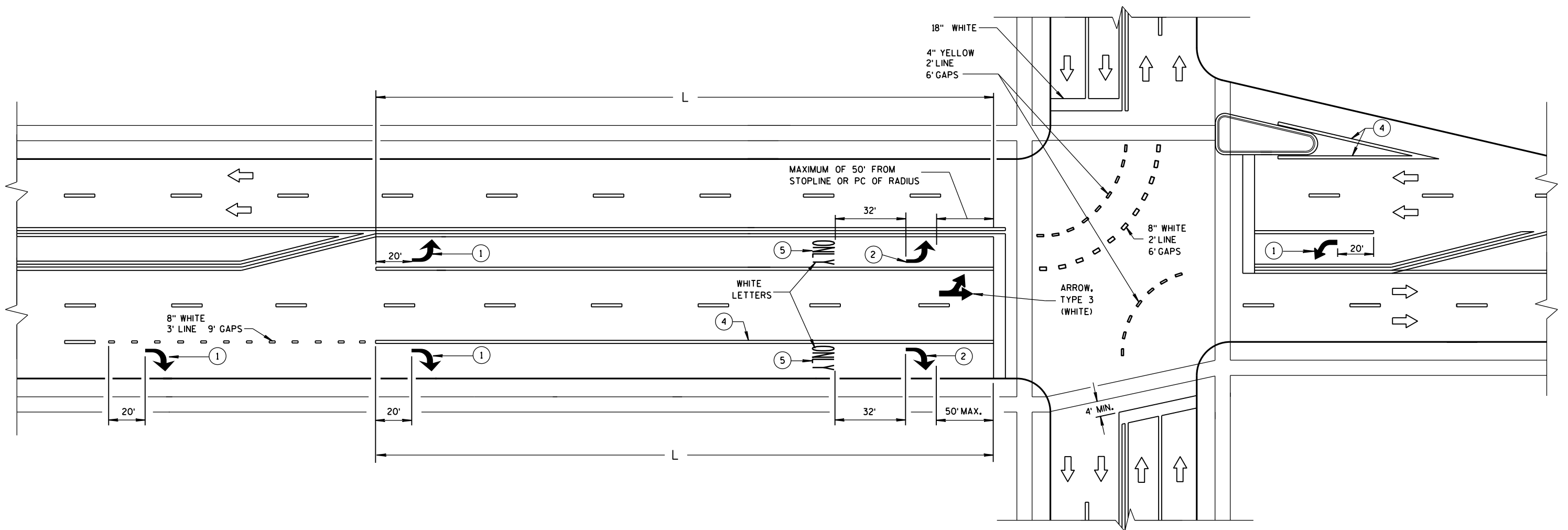
LEGEND

- "T" MARKING
- POST MOUNTED SIGN

LONGITUDINAL MARKING  
(MAINLINE)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
Sept., 2016 /S/ Matthew R. Rauch  
DATE STATE SIGNING AND MARKING ENGINEER  
FHWA



### GENERAL NOTES

- ① REQUIRED ARROW, TYPE 2 (WHITE).
- ② REQUIRED ARROW, TYPE 2 (WHITE) WHEN L IS GREATER THAN 78 FEET AND LESS THAN OR EQUAL TO 166 FEET.
- ③ A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- ④ 8" WHITE
- ⑤ REQUIRED WORD ONLY WHEN L IS GREATER THAN 166 FEET.

### TWO WAY LEFT TURN LANE

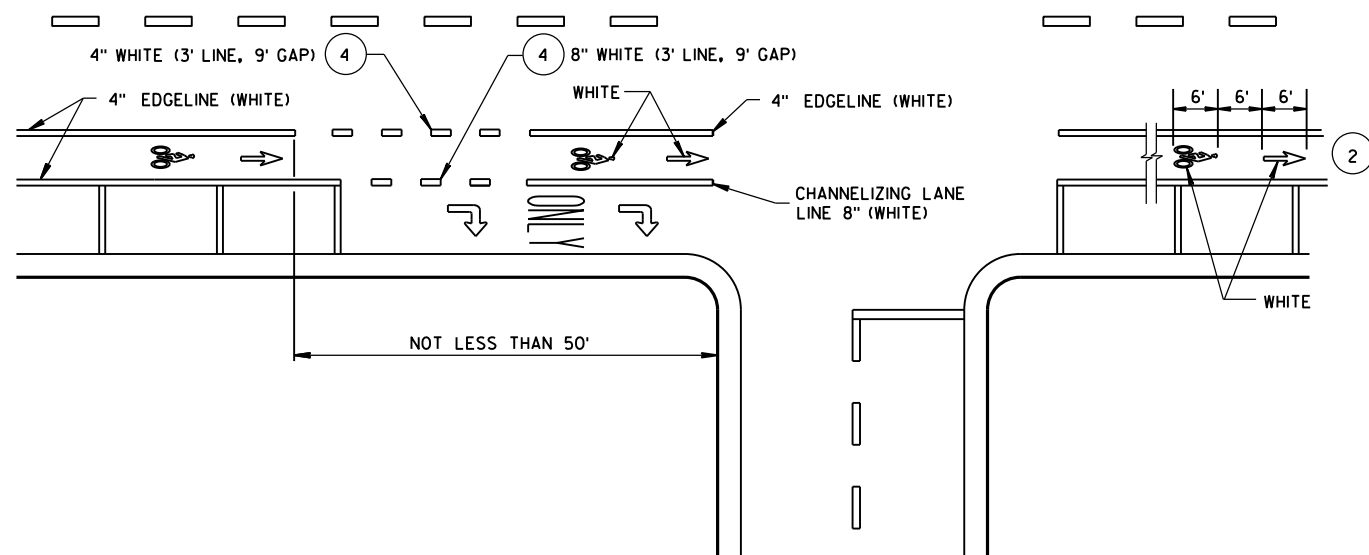
NOTE:  
ARROW SYMBOL (  )  
SHOWS DIRECTION OF TRAVEL

L = LENGTH OF TURN BAY

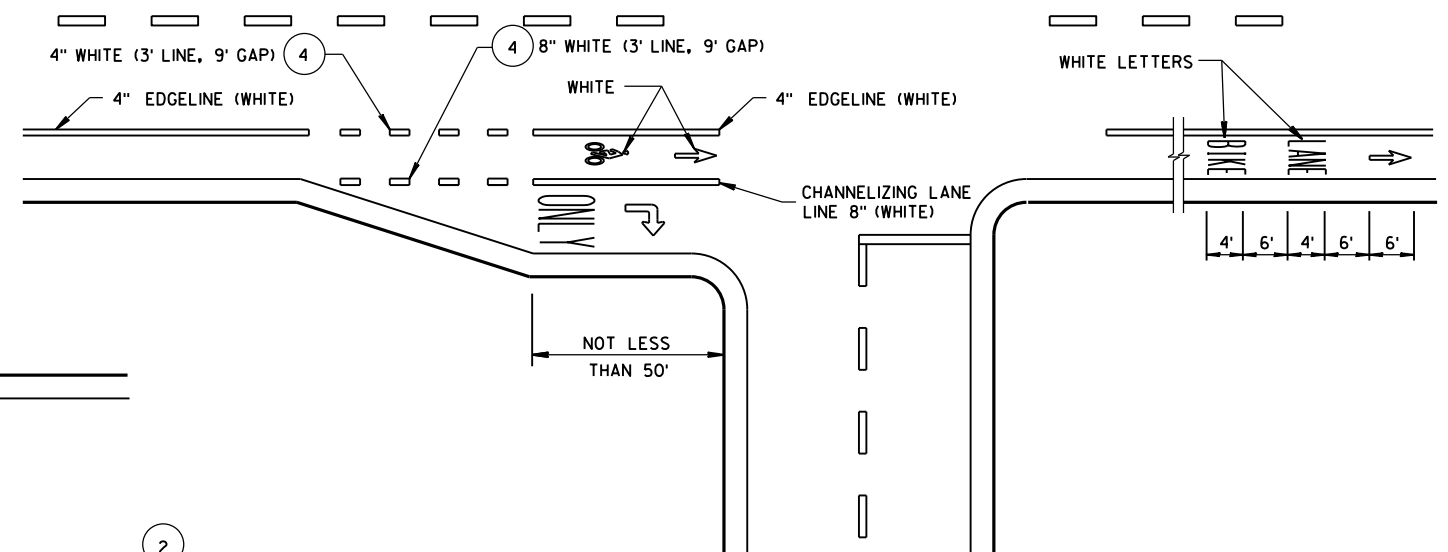
PAVEMENT MARKING  
(TURN LANES)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

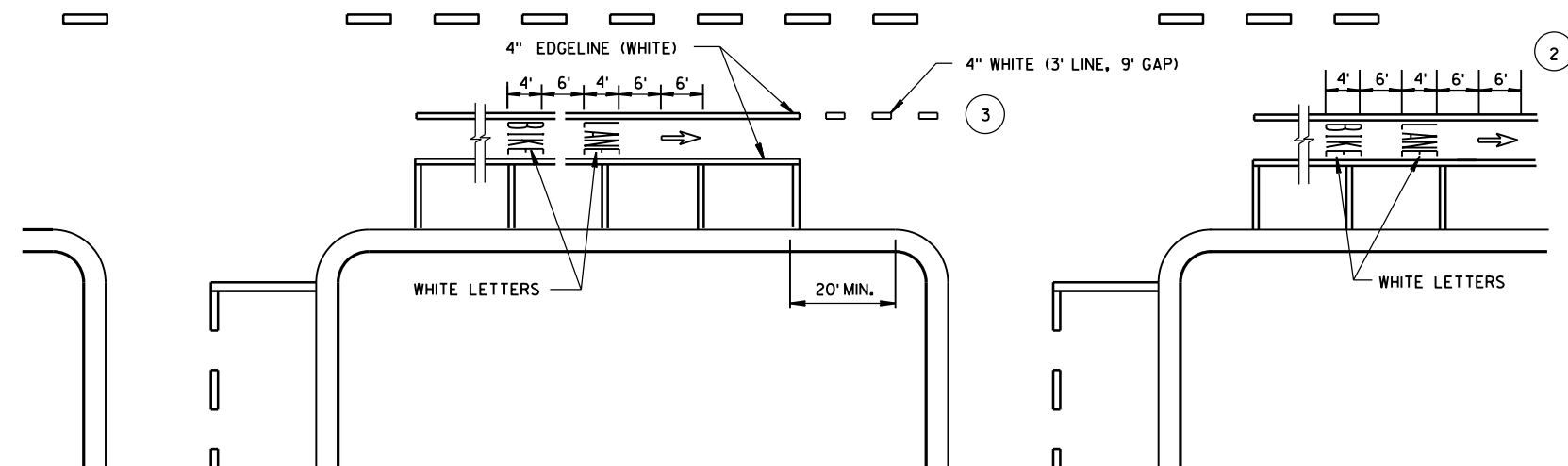




**DESIGNATED BICYCLE LANE**



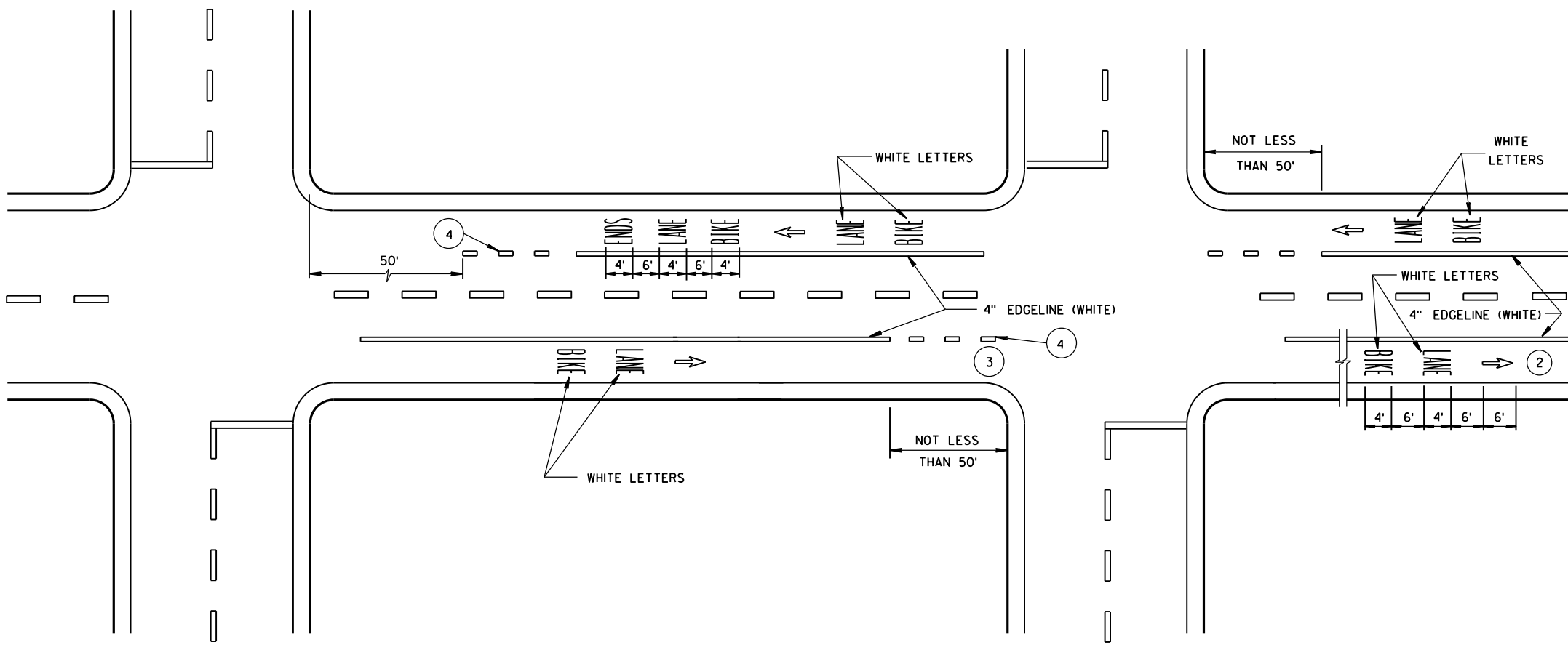
DESIGNATED BICYCLE LANE  
NO PARKING, RIGHT TURN LANE



**DESIGNATED BICYCLE LANE  
WITH PARKING, NO RIGHT TURN LANE**

## GENERAL NOTES

1. DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
2. THE SERIES OF PAVEMENT MARKING SYMBOLS SHALL BE REPEATED AFTER INTERSECTIONS AND SPACED A MAXIMUM OF 250'. NO PAVEMENT MARKING WILL TAKE PLACE IN THE CROSSWALK.
3. DOTTED LINES SHOULD BE USED 50' TO 200' IN ADVANCE OF AN INTERSECTION WHERE THERE IS NO RIGHT TURN ONLY LANE AND THERE IS HEAVY RIGHT TURN TRAFFIC OR THERE IS A NEAR-SIDE BUS STOP. AT OTHER INTERSECTIONS WHERE RIGHT TURN TRAFFIC IS LIGHT TO MODERATE, A SOLID LINE CAN BE USED UP TO THE INTERSECTION.
4. WHEN SPECIFIED IN THE CONTRACT.



DESIGNATED BICYCLE LANE  
NO PARKING

GENERAL NOTES

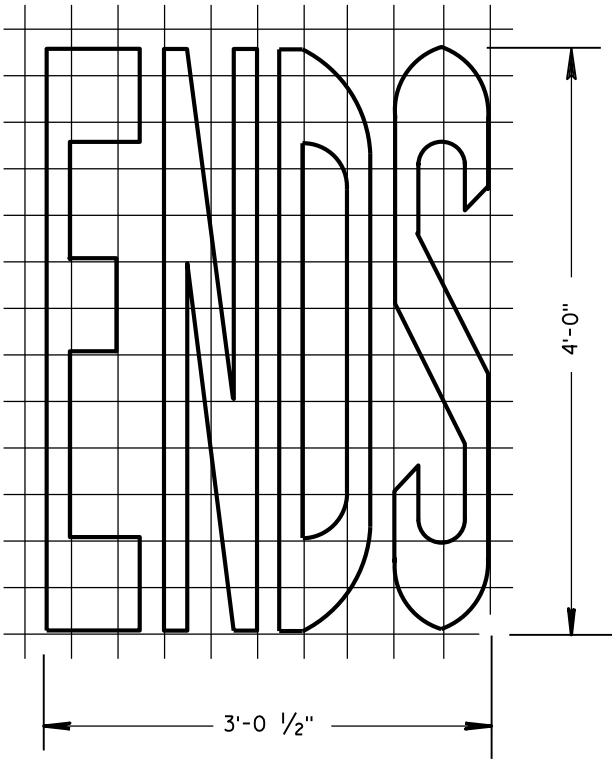
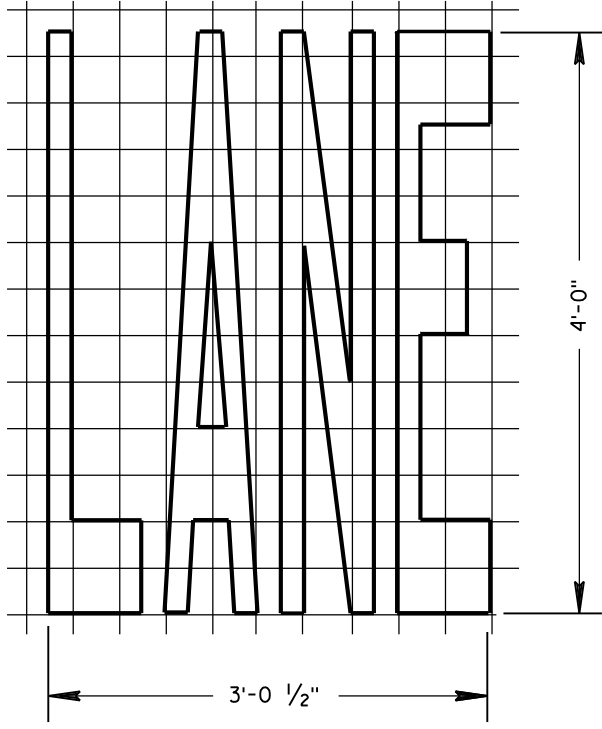
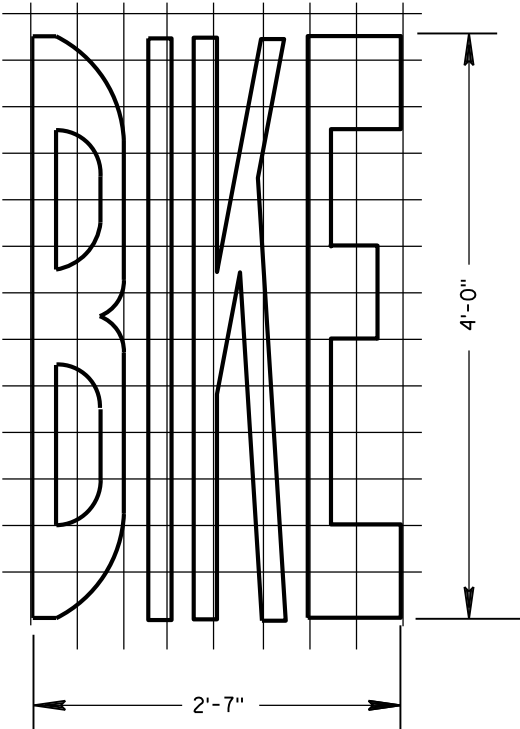
- 1 DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
- 2 THE SERIES OF PAVEMENT MARKING SYMBOLS SHALL BE REPEATED AFTER INTERSECTIONS AND SPACED A MAXIMUM OF 250'. NO PAVEMENT MARKING WILL TAKE PLACE IN THE CROSSWALK.
- 3 DOTTED LINES SHOULD BE USED 50' TO 200' IN ADVANCE OF AN INTERSECTION WHERE THERE IS NO RIGHT TURN ONLY LANE AND THERE IS HEAVY RIGHT TURN TRAFFIC OR THERE IS A NEAR-SIDE BUS STOP. AT OTHER INTERSECTIONS WHERE RIGHT TURN TRAFFIC IS LIGHT TO MODERATE, A SOLID LINE CAN BE USED UP TO THE INTERSECTION.
- 4 3' LINE, 9' GAP - 4" WIDE, WHITE.

URBAN BICYCLE LANE MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4/30/2013 DATE	/S/ Travis Fettes STATE TRAFFIC ENGINEER
FHWA	

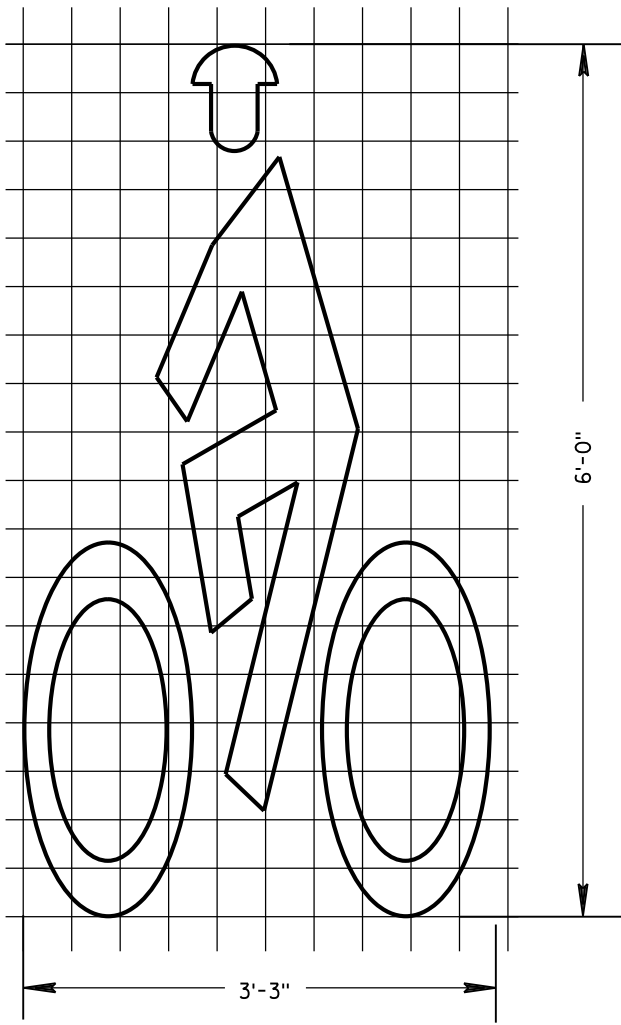
GENERAL NOTES

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

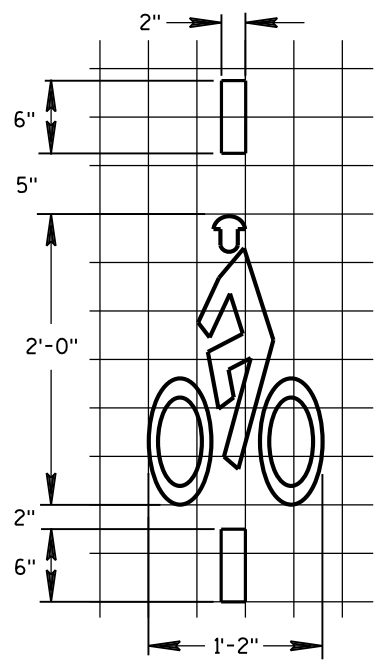
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



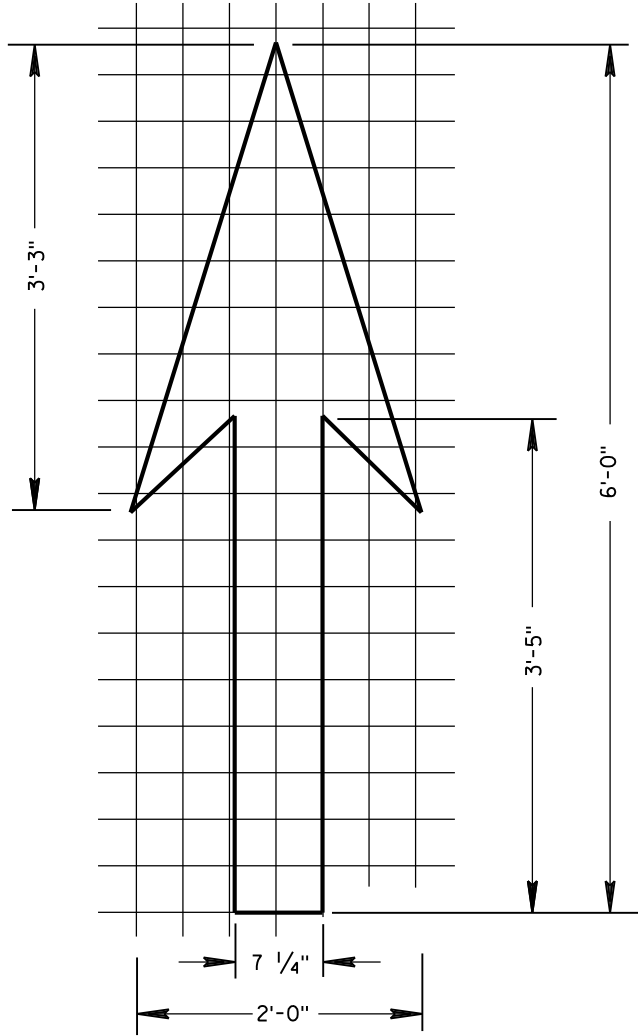
BIKE LANE WORDS



BIKE LANE SYMBOL

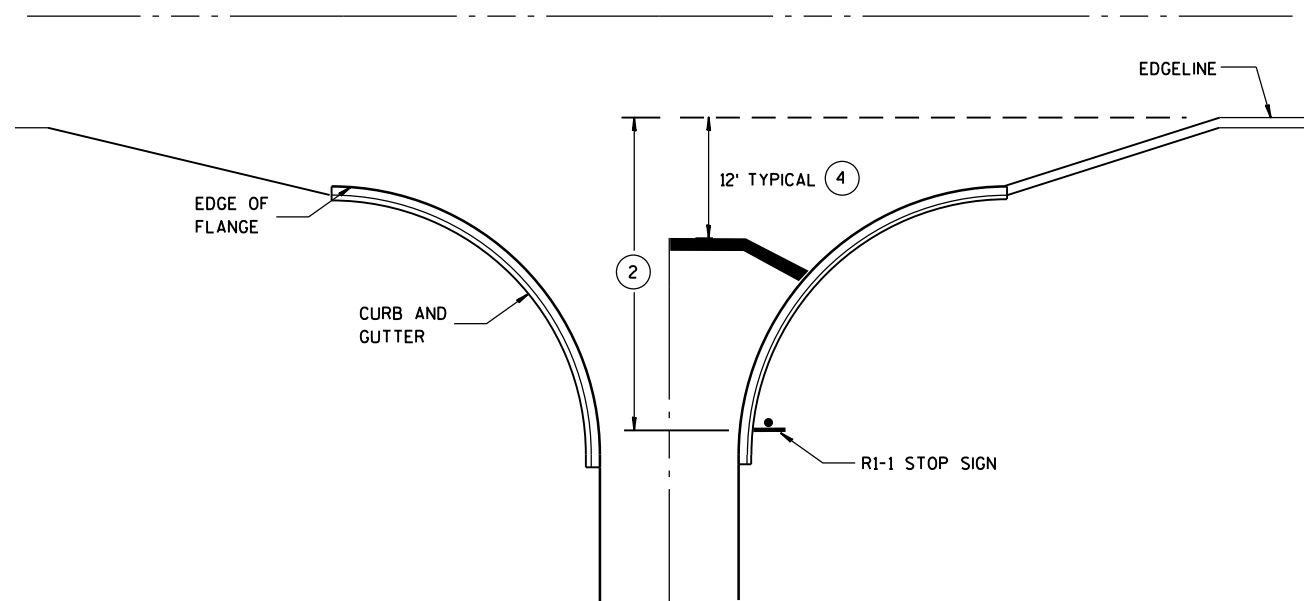


BICYCLE DETECTOR PAVEMENT MARKING

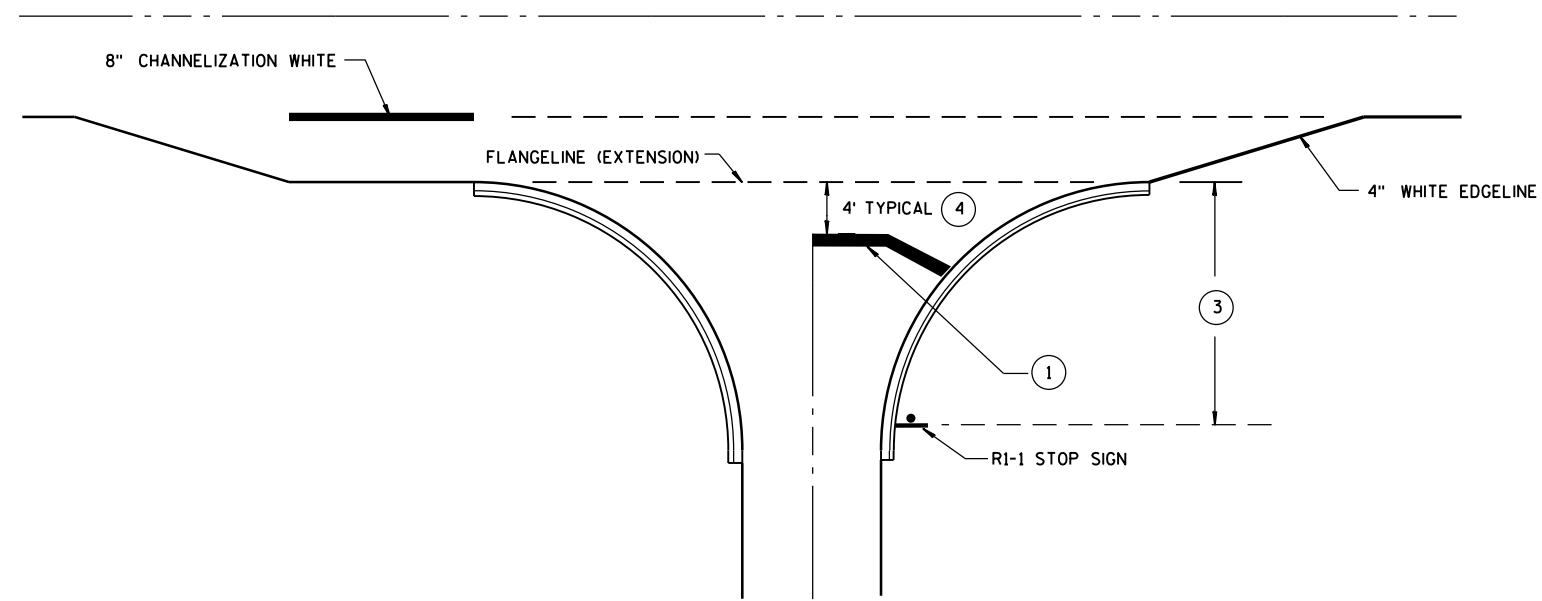


BIKE LANE ARROW

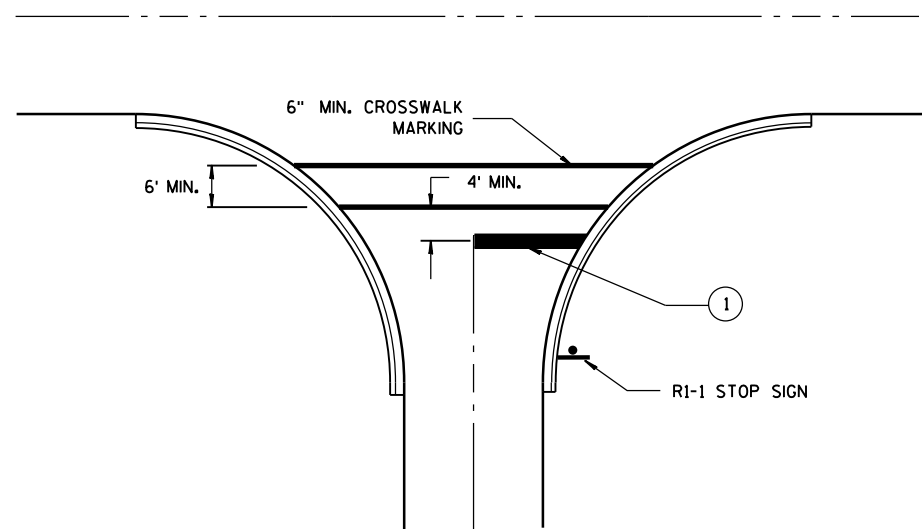
PAVEMENT MARKING FOR BIKE LANES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-30-2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER
FHWA	



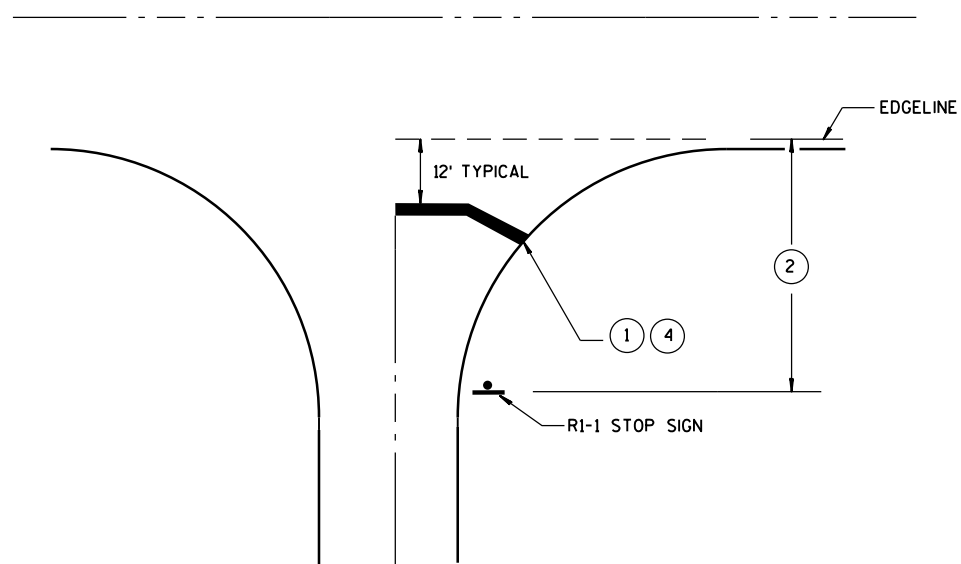
**TYPICAL STOP LINE PAVEMENT MARKING  
WITH CURB AND GUTTER**



**TYPICAL STOP LINE PAVEMENT MARKING  
FOR SIDEROADS WITH RIGHT TURN LANE**



**TYPICAL STOP LINE PAVEMENT MARKING  
FOR SIDEROADS WITH CROSSWALK MARKING**



**TYPICAL STOP LINE PAVEMENT MARKING  
WITHOUT CURB AND GUTTER**

### GENERAL NOTES

- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE 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. (NO CLOSER THAN 4 FEET).

### STOP LINE AND CROSSWALK PAVEMENT MARKING

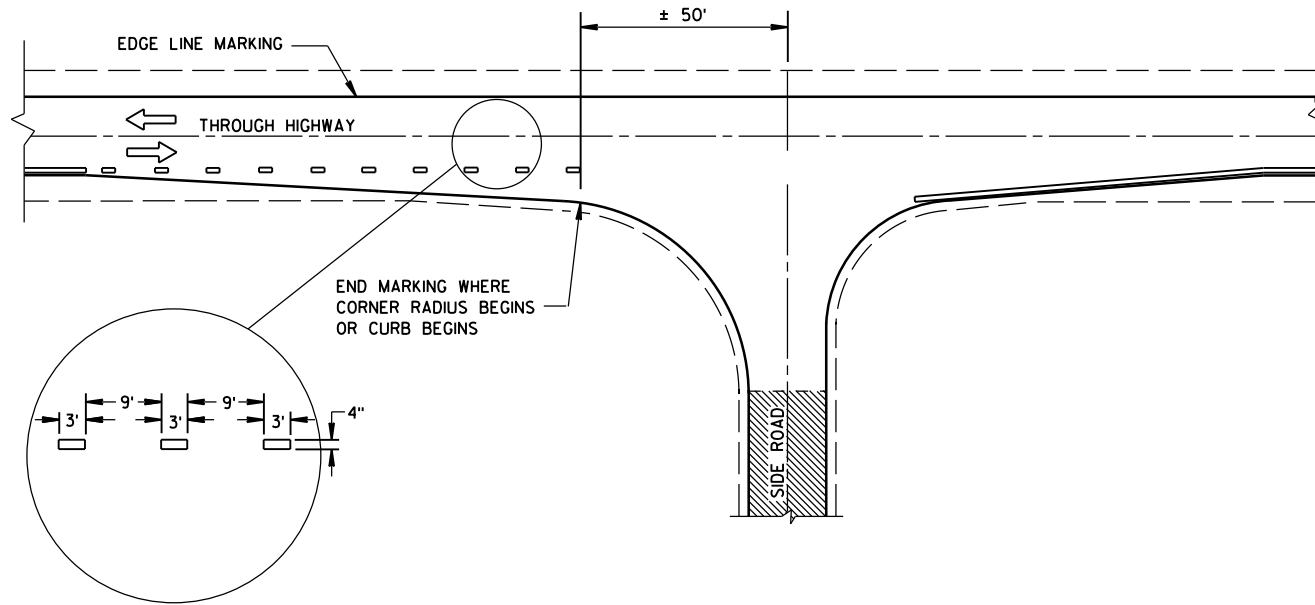
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

4-18-2016  
DATE

FHWA

/S/ Matthew R. Rauch  
STATE SIGNING AND MARKING ENGINEER



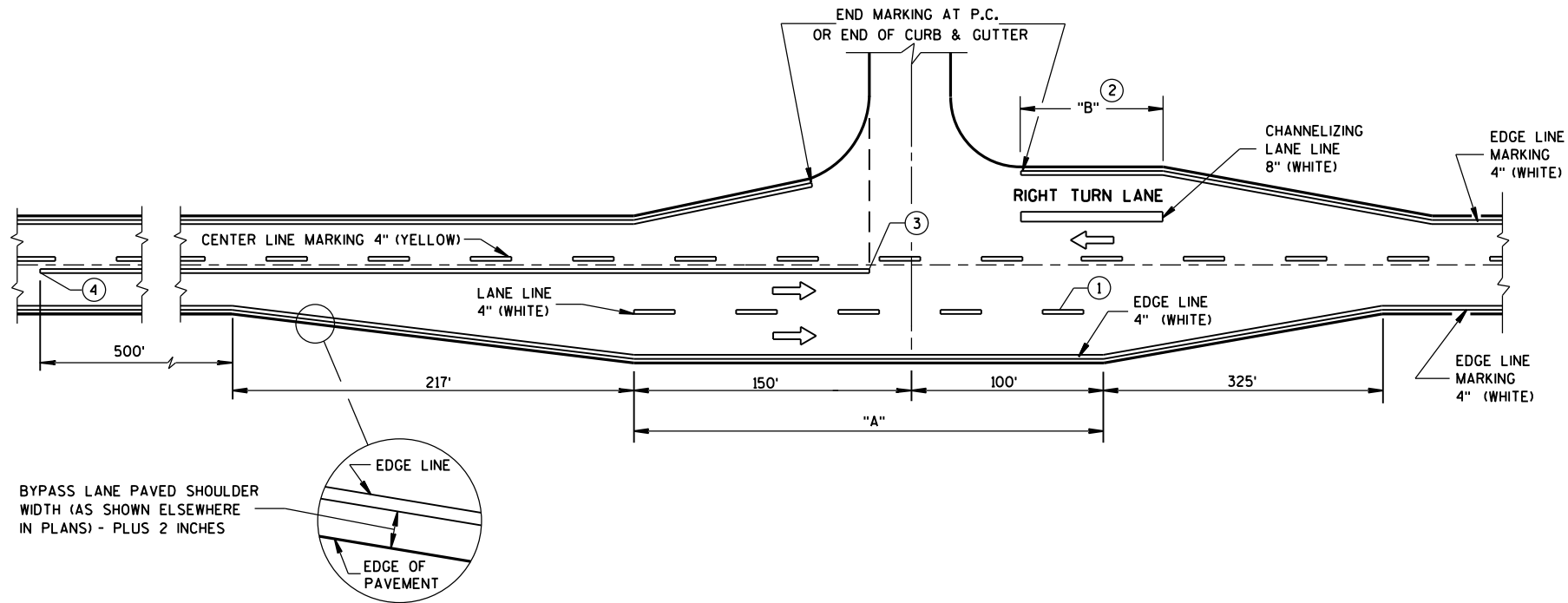
**MINOR INTERSECTION WITHOUT CURBS**

**GENERAL NOTES**

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

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

ARROW SYMBOL ( ➡ ) SHOWS DIRECTION OF TRAVEL

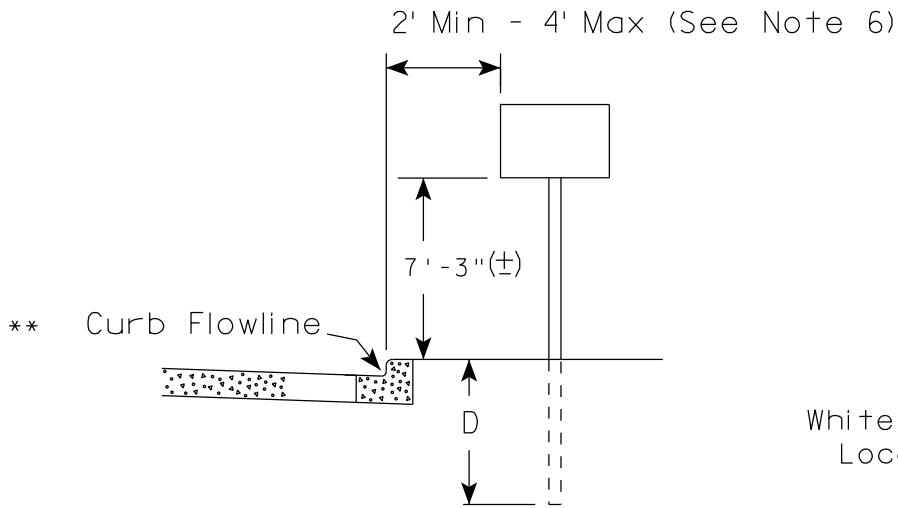


**MAJOR INTERSECTIONS**  
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)

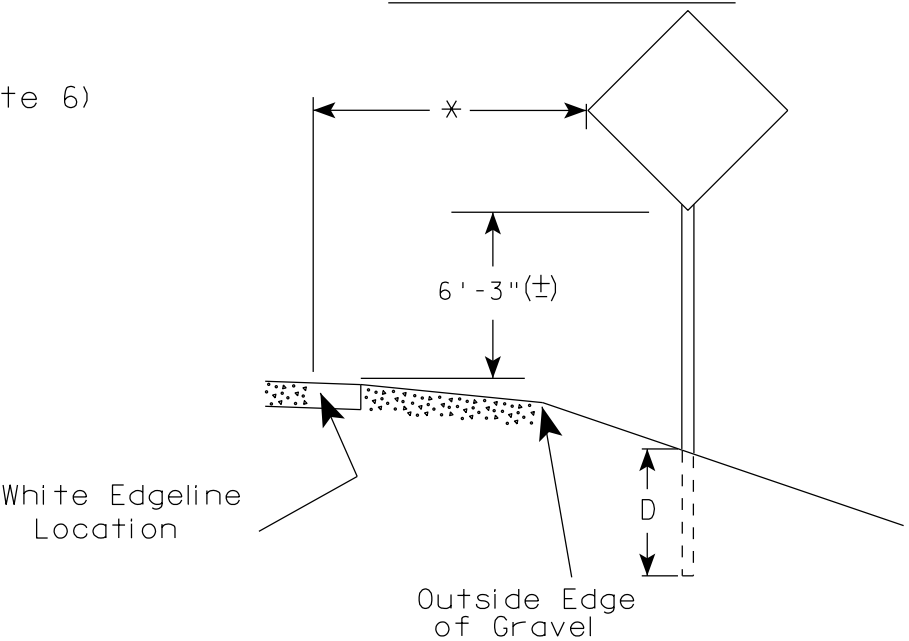
**PAVEMENT MARKING  
(INTERSECTIONS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

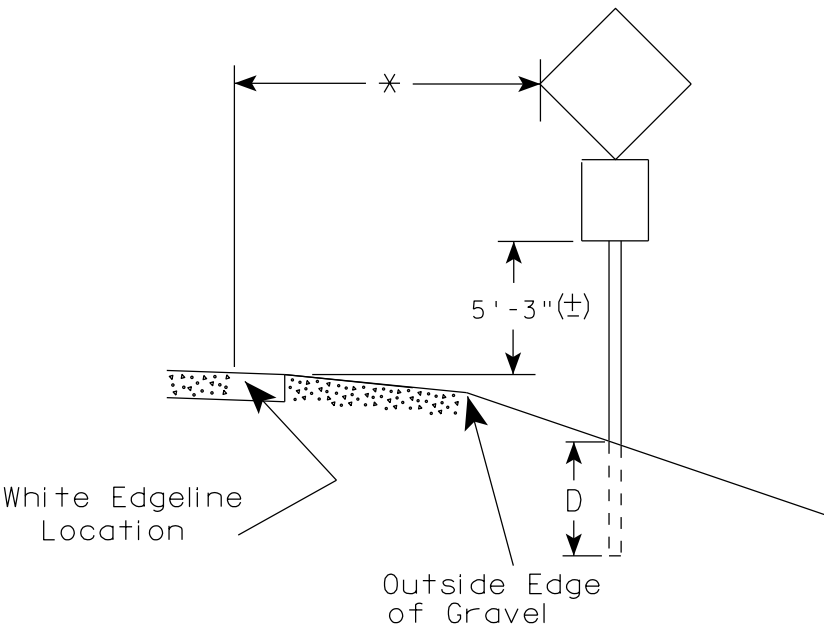
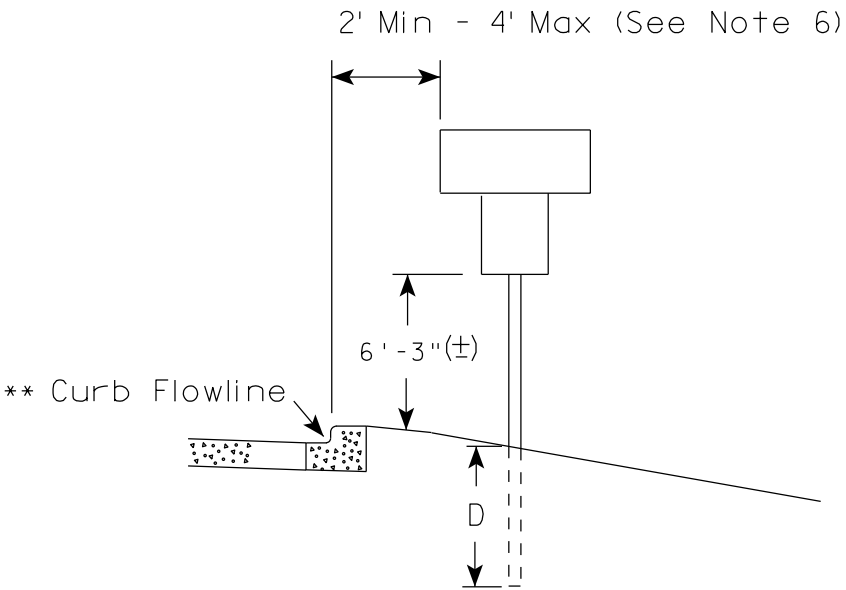
URBAN AREA



RURAL AREA (See Note 2)



- GENERAL NOTES
1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
  2. If signs are mounted on barrier wall, see A4-10 sign plate.
  3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
  4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
  5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
  6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
  7. The (±) tolerance for mounting height is 3 inches.
  8. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
  9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).



POST EMBEDMENT DEPTH

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

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

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

TYPICAL INSTALLATION  
OF PERMANENT TYPE II  
SIGNS ON SINGLE POSTS

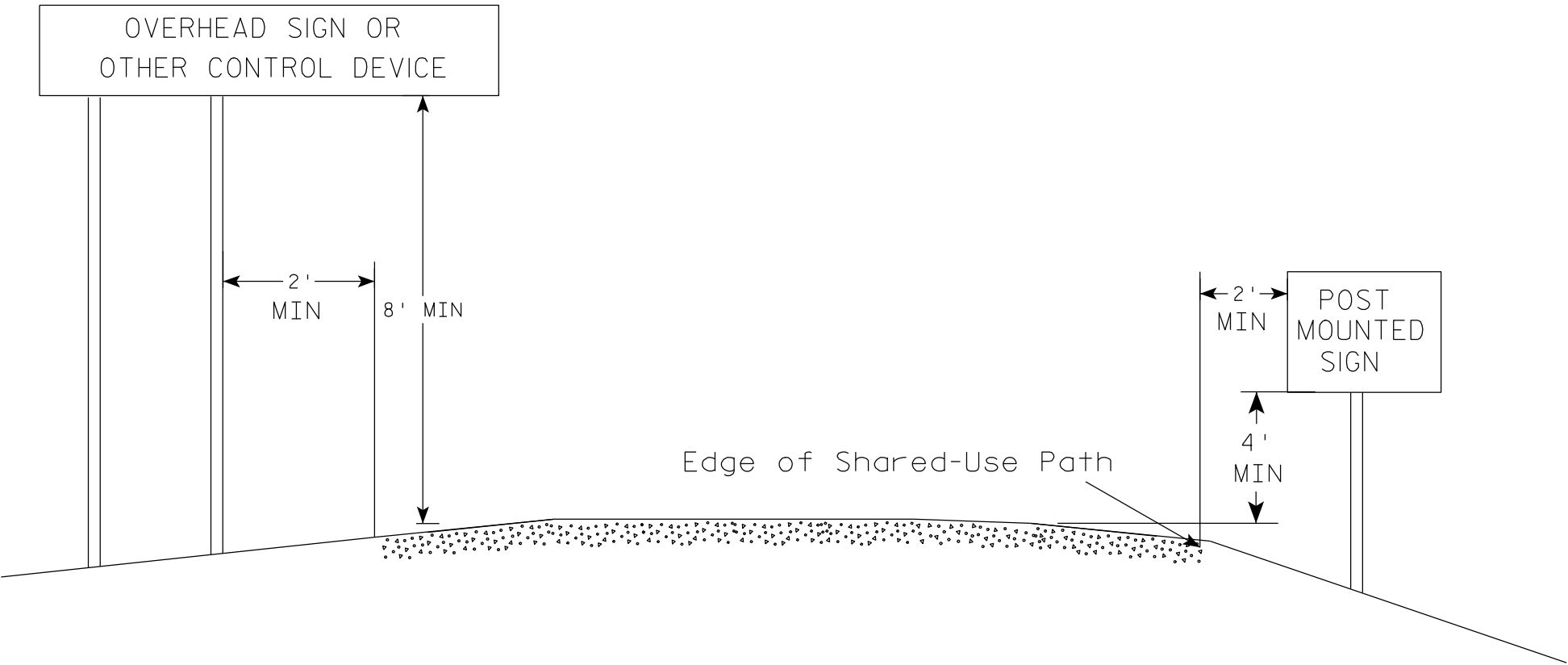
WISCONSIN DEPT OF TRANSPORTATION

APPROVED  
*Matthew R. Rauch*  
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20

GENERAL NOTES

- 1. Signs wider than 4 feet or larger than 20 sq. ft. shall be mounted on multiple posts. Refer to plate A4-4.
- 2. Offset distance shall be consistent with existing signs or consistent throughout length of project.



POST EMBEDMENT DEPTH

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

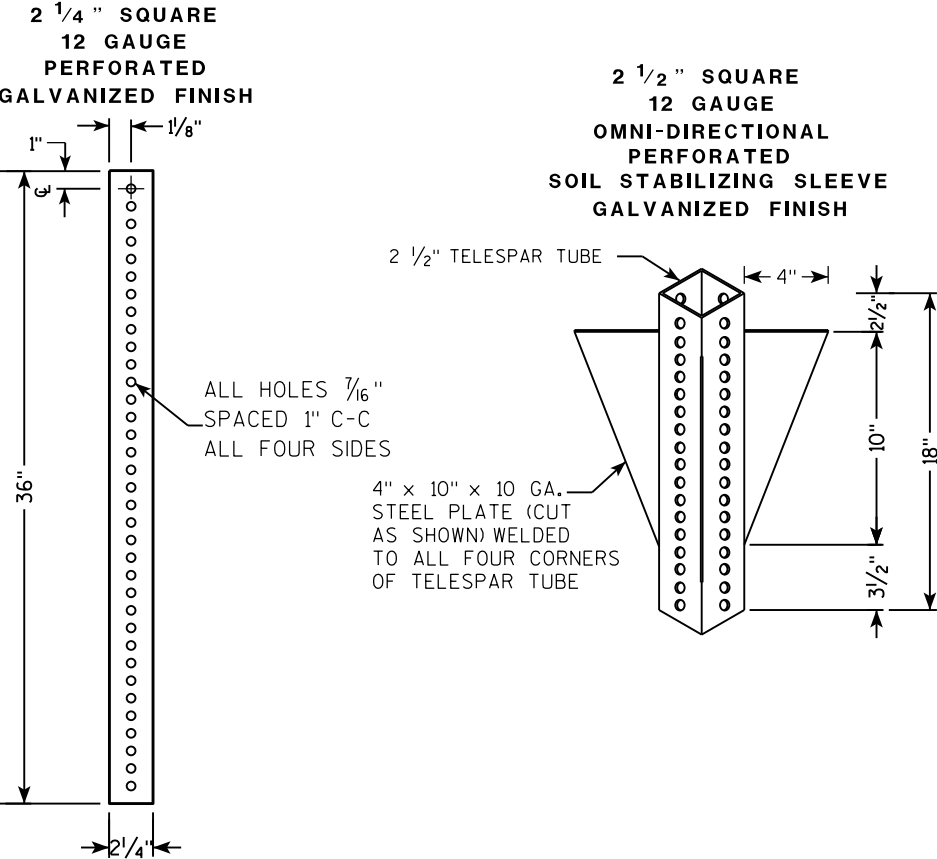
TYPICAL INSTALLATION  
OF PERMANENT TYPE II  
SIGNS ON MULTI USE PATHS

WISCONSIN DEPT OF TRANSPORTATION

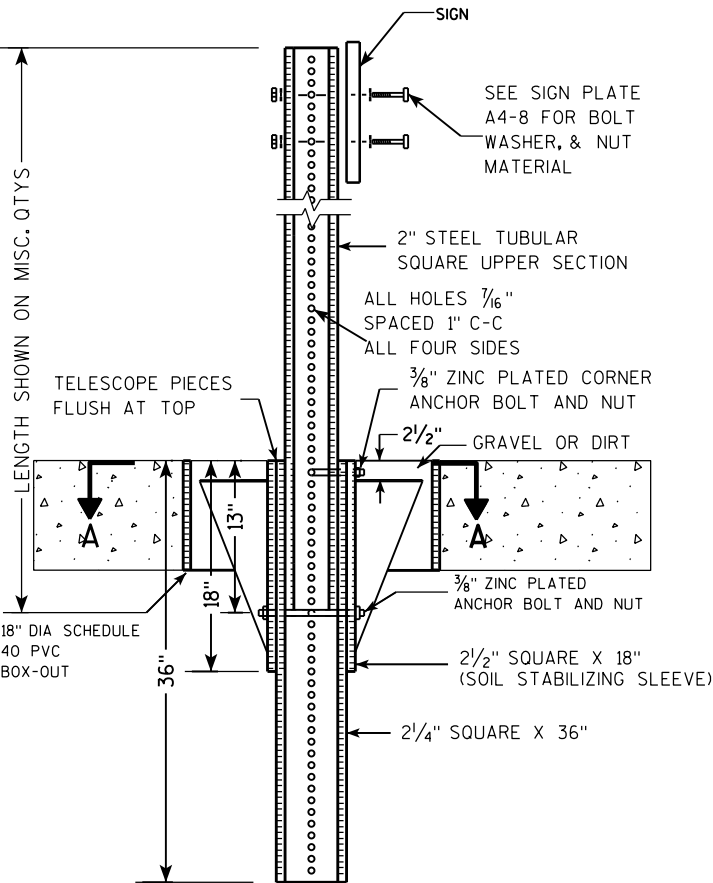
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/5/2012 PLATE NO. A4-3S.1

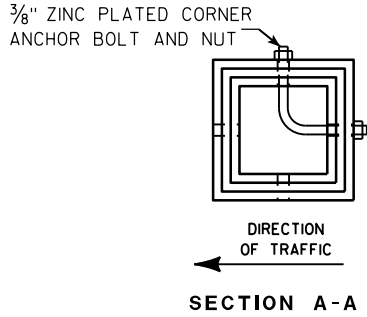
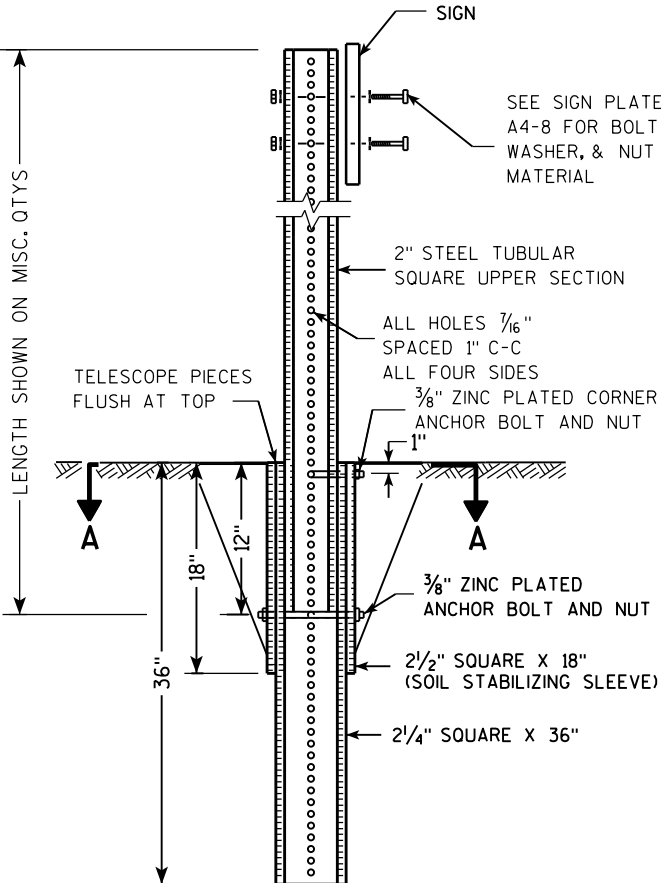
TELESCOPIC TUBING ANCHORS  
TWO PIECE SYSTEM



DETAIL OF TUBULAR STEEL SIGN POST  
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST  
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)



Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL  
SIGN POST  
A4-9

WISCONSIN DEPT OF TRANSPORTATION

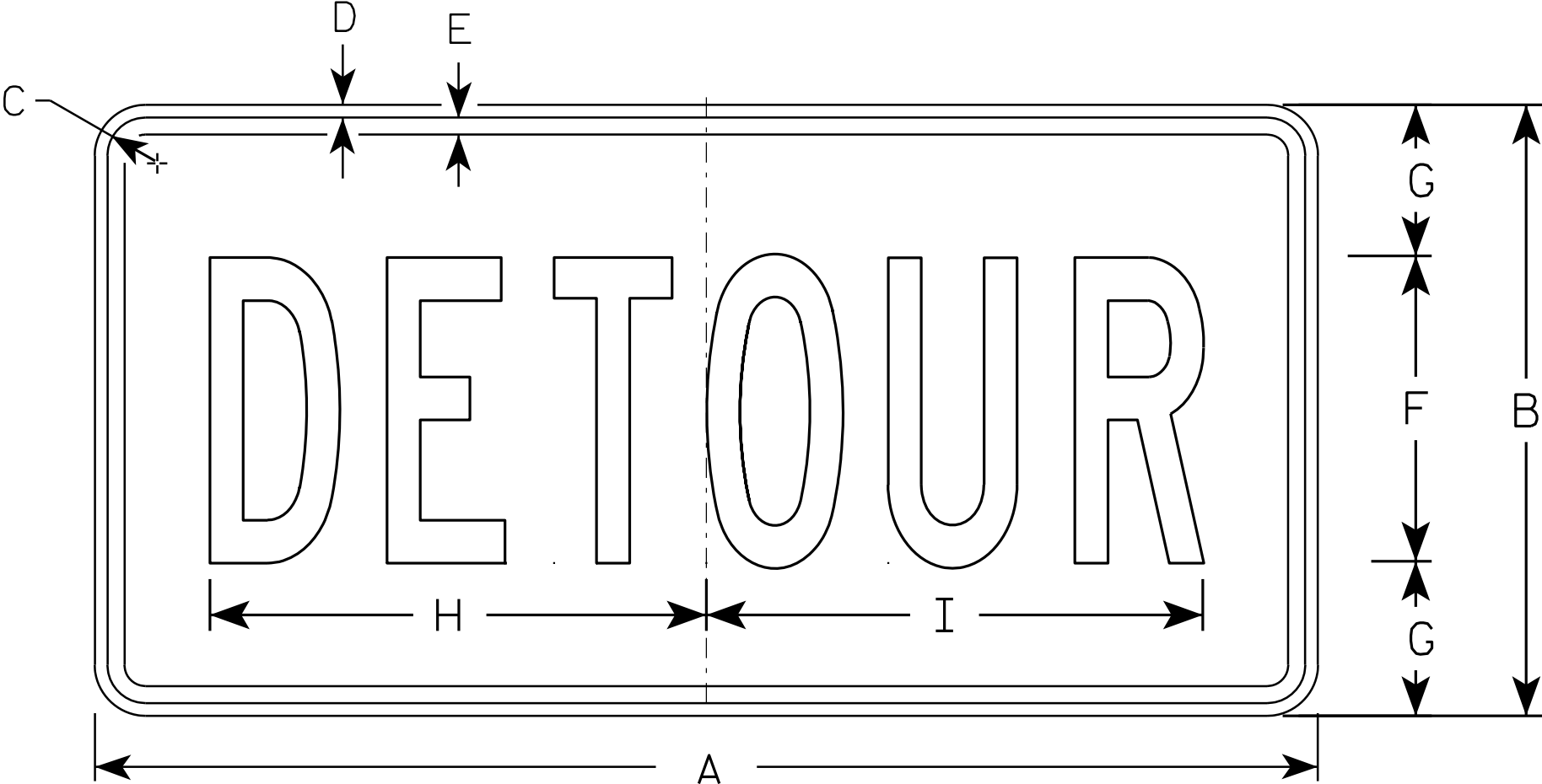
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9



NOTES

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



M4 - 8

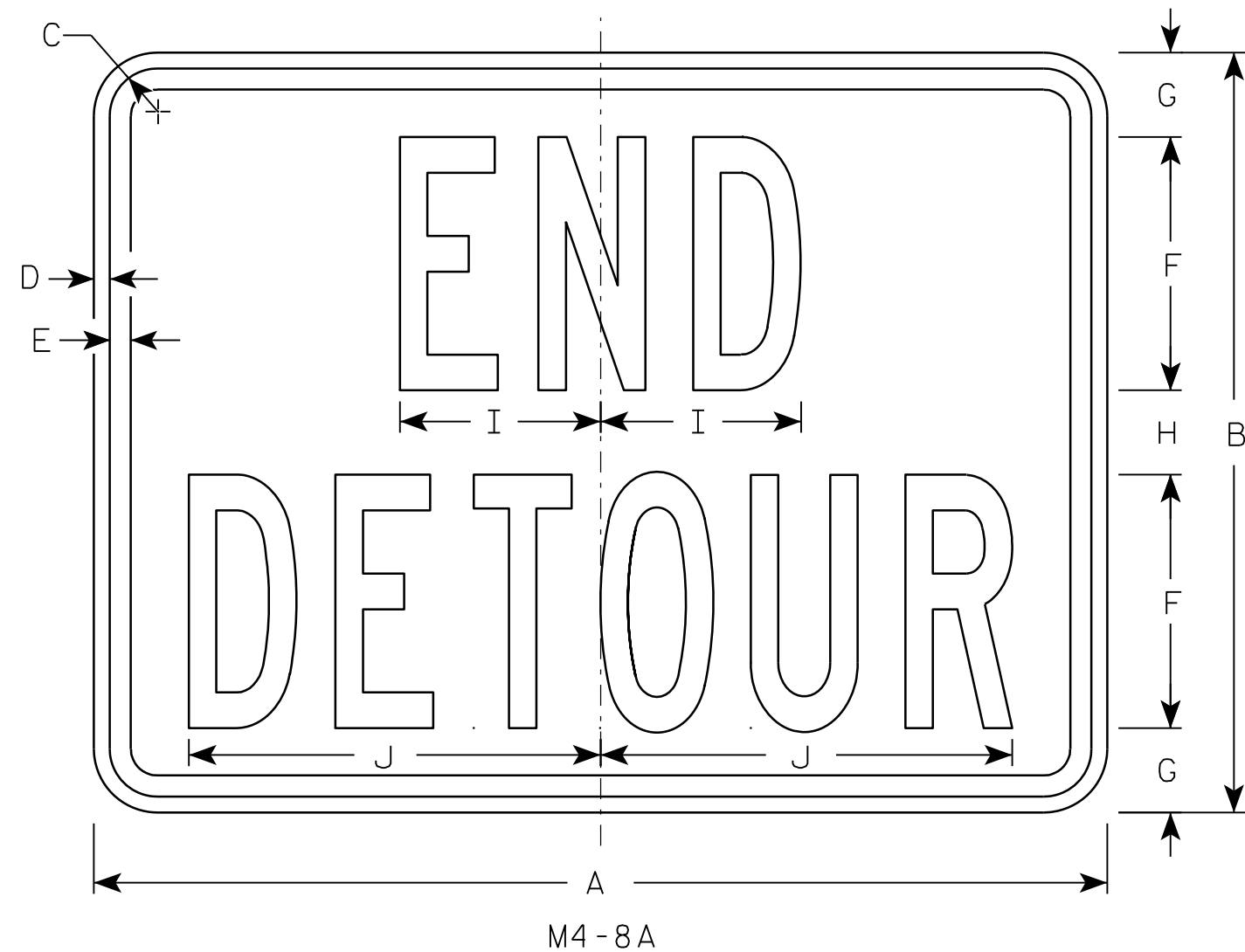
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

STANDARD SIGN  
M4 - 8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED  
*Matthew R. Rauch*  
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

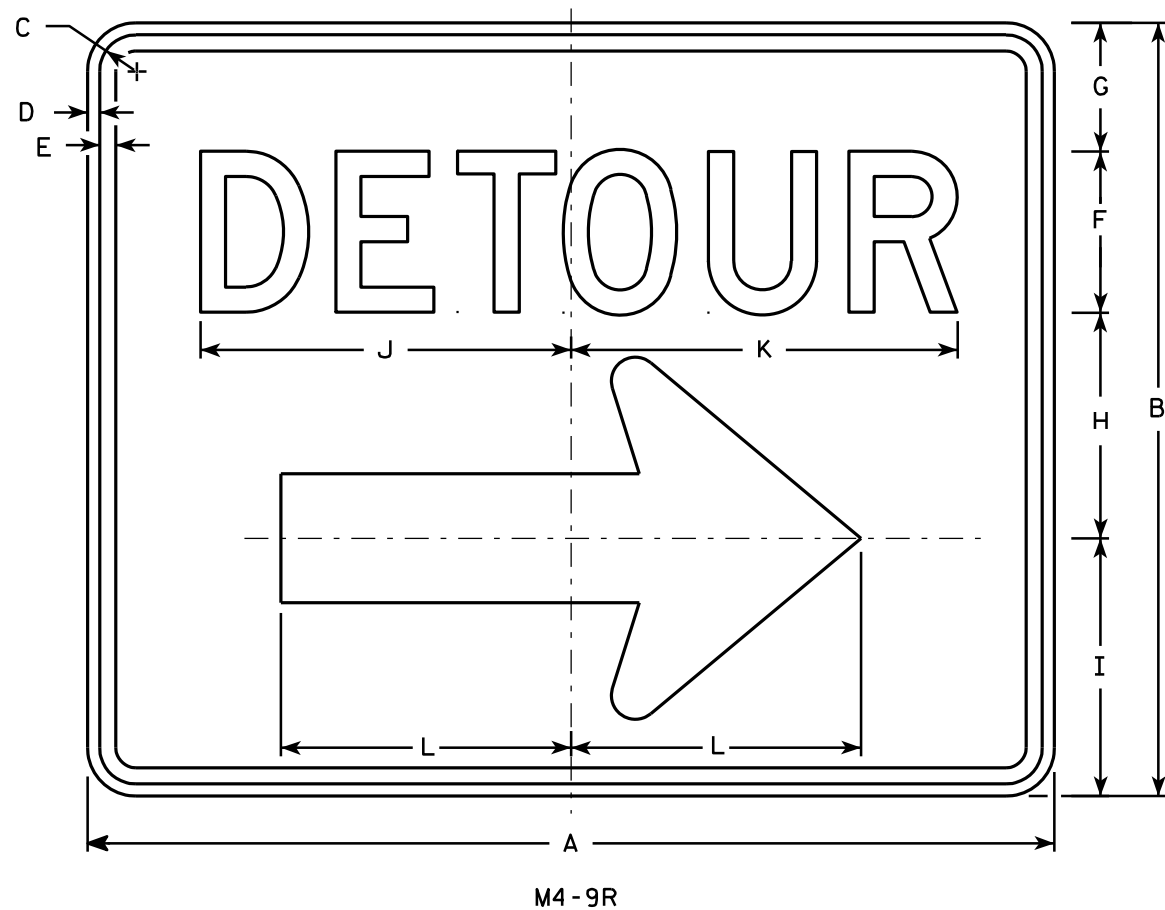
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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STANDARD SIGN  
M4-8A

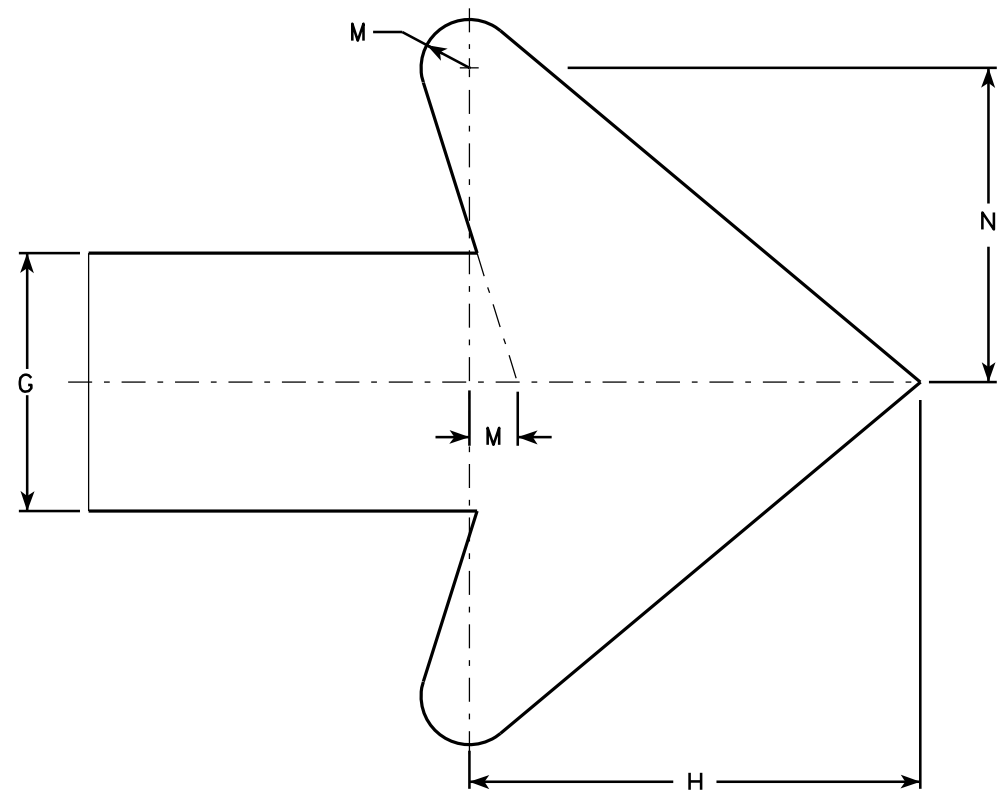
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2



- NOTES**
1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
  2. Color:  
Background - Orange  
Message - Black
  3. Message Series - D
  4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
  5. M4-9L is the same as M4-9R except the arrow is reversed.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

STANDARD SIGN  
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-9R.4

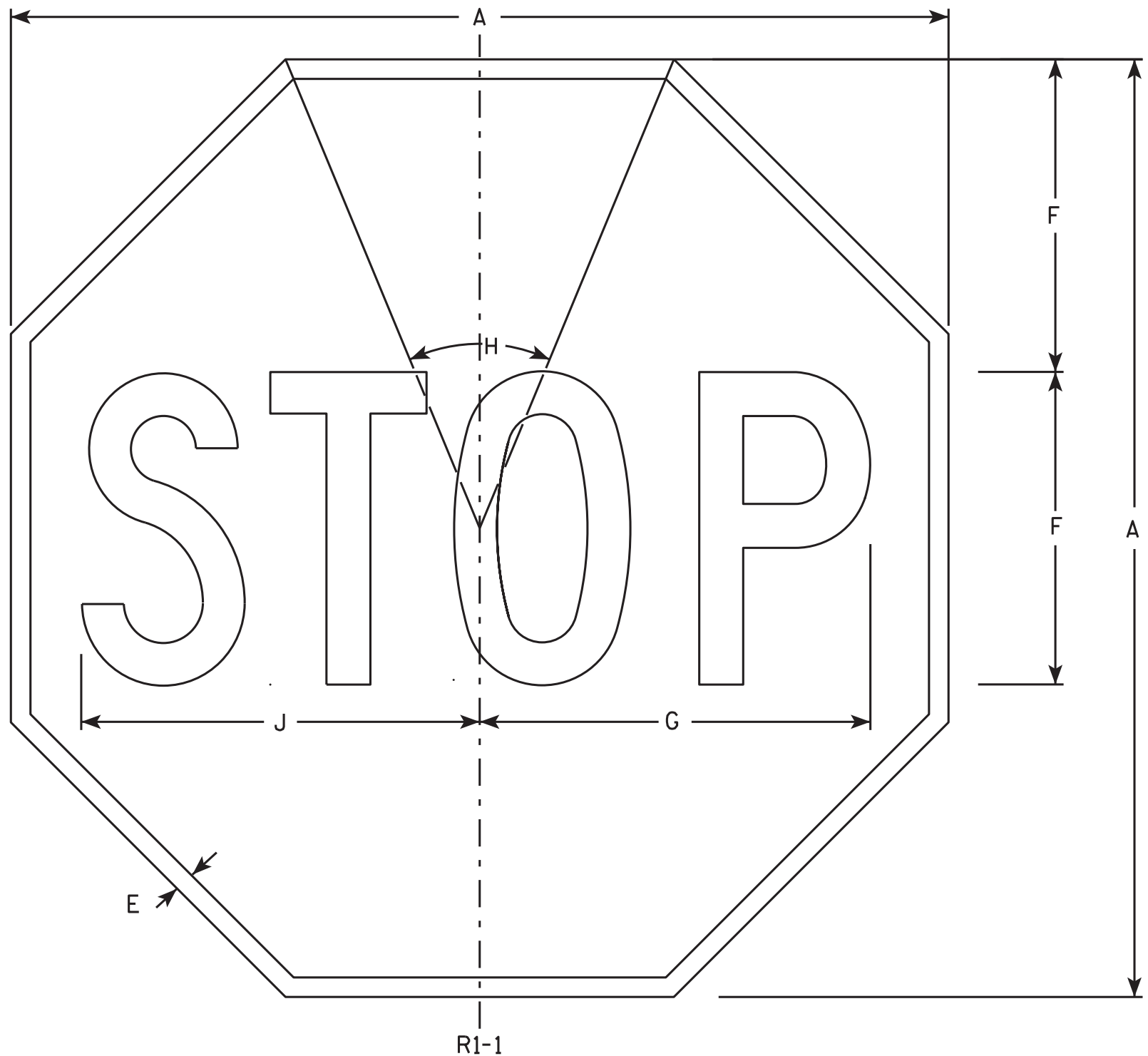
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



### 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	30				5/8	10	12 1/2	45°		12 3/4																	5.18
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 11/12/15 PLATE NO. R1-1.12

PROJECT NO:

HWY:

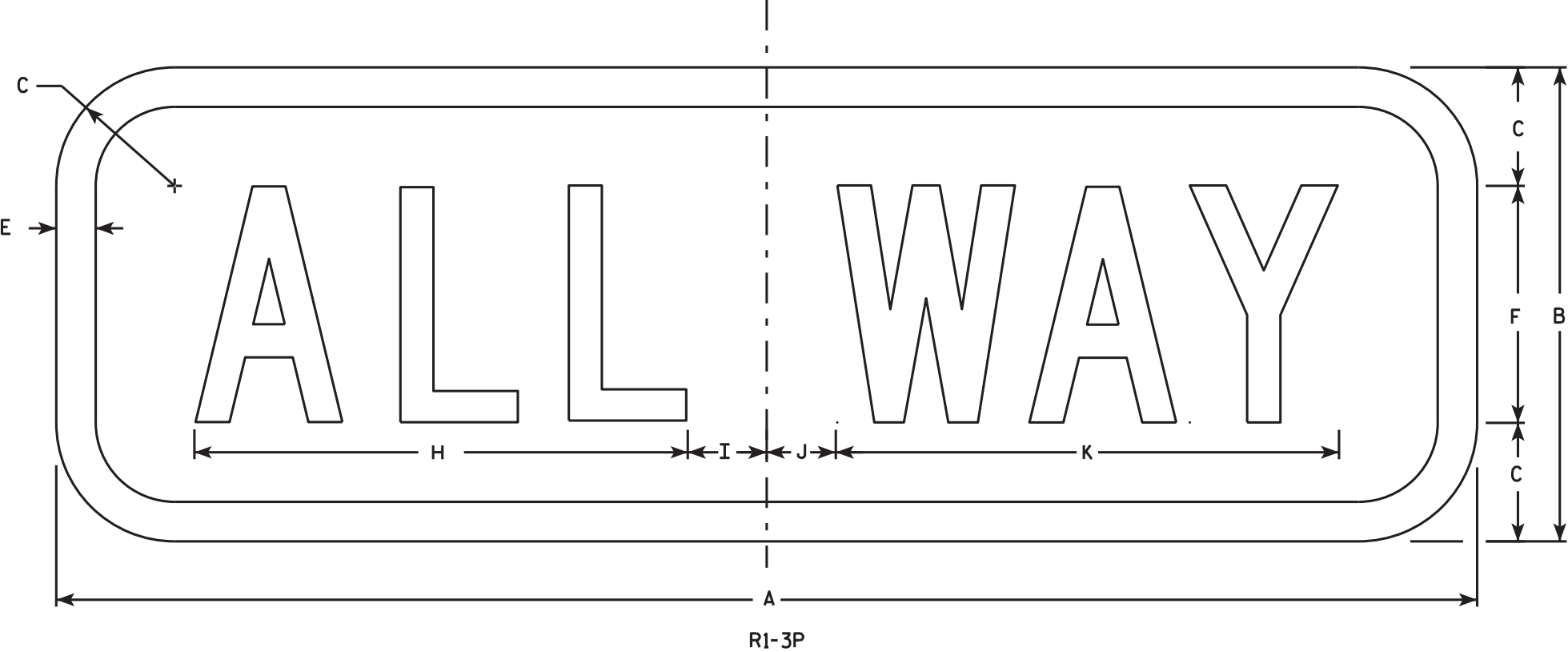
COUNTY:

SHEET NO:

E

NOTES

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



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	6	1 1/2		1/2	3		6 1/4	1 1/4	7/8	6 3/8																0.75
2S	18	6	1 1/2		1/2	3		6 1/4	1 1/4	7/8	6 3/8																1.5
2M	24	9	1 1/2		1/2	5		9 1/4	1 1/4	3/4	9 3/4																1.5
3	24	9	1 1/2		1/2	5		9 1/4	1 1/4	3/4	9 3/4																1.5
4	30	12	2 1/4		5/8	6		11	2 1/4	1 1/2	11 3/4																2.5
5	30	12	2 1/4		5/8	6		11	2 1/4	1 1/2	11 3/4																2.5

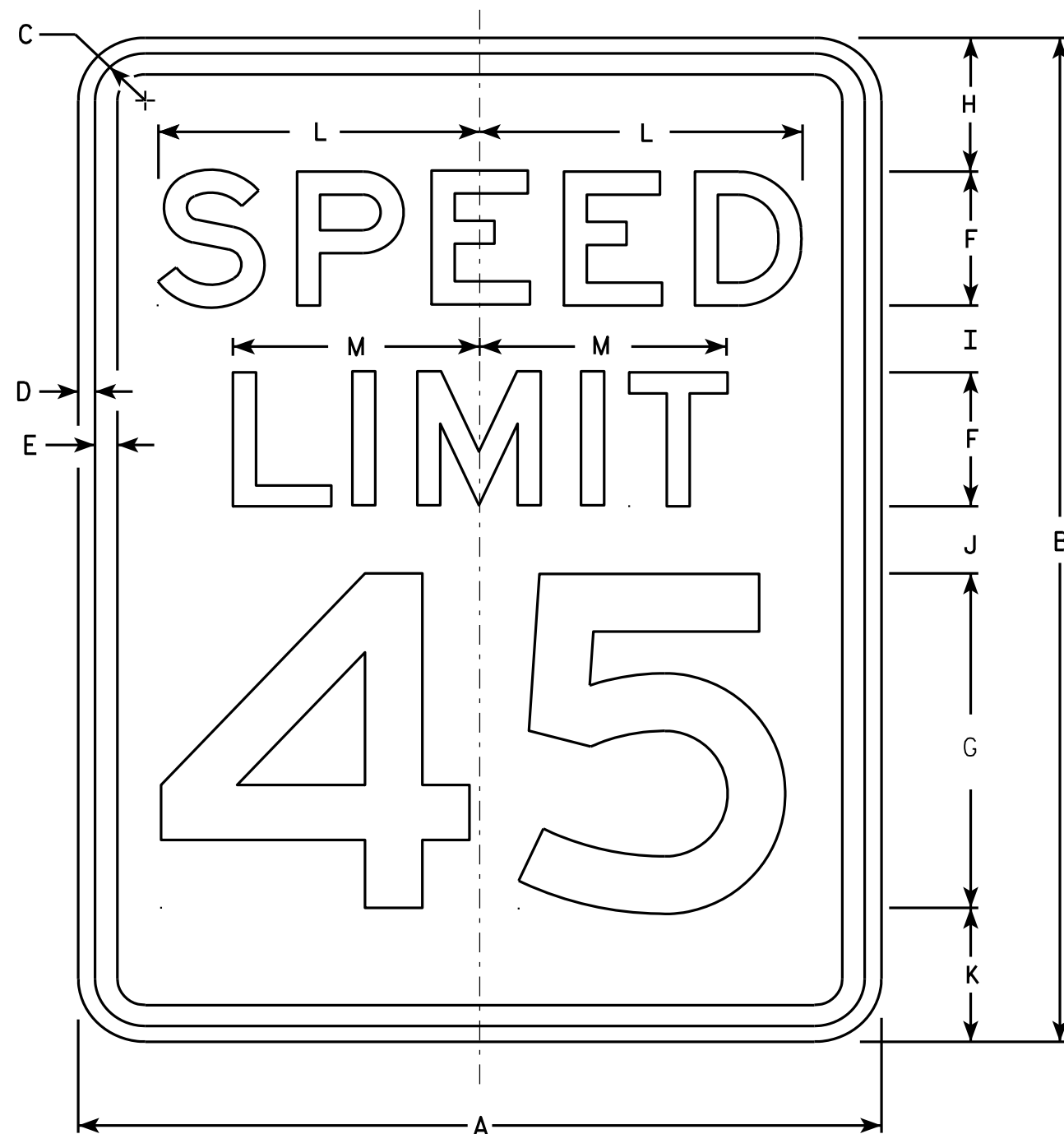
STANDARD SIGN

R1-3P

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 9/24/15 PLATE NO. R1-3P.2



R2-1

### NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

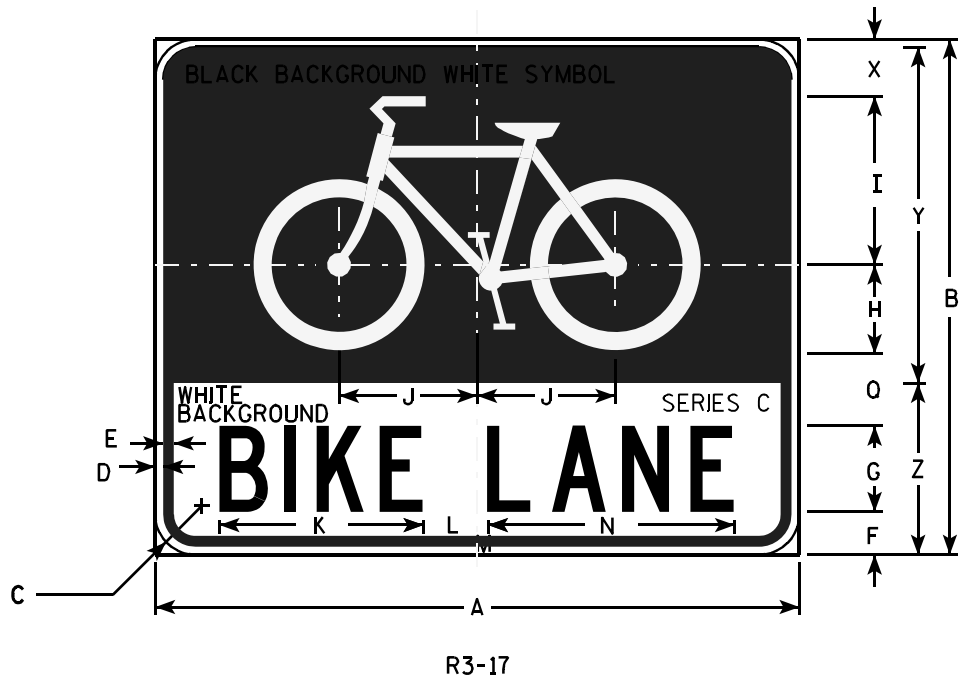
### STANDARD SIGN R2-1

WISCONSIN DEPT OF TRANSPORTATION

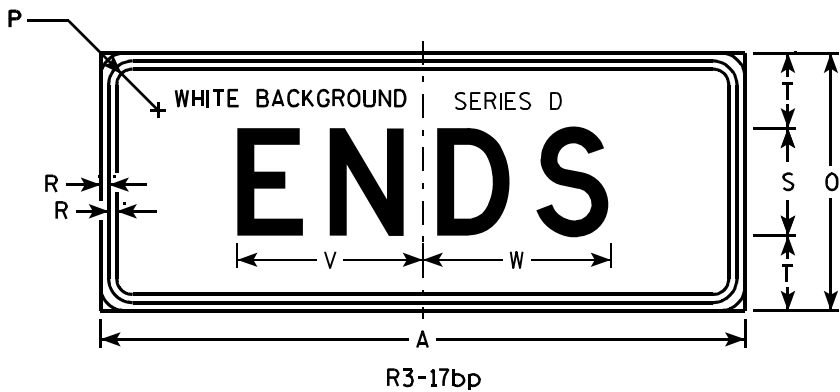
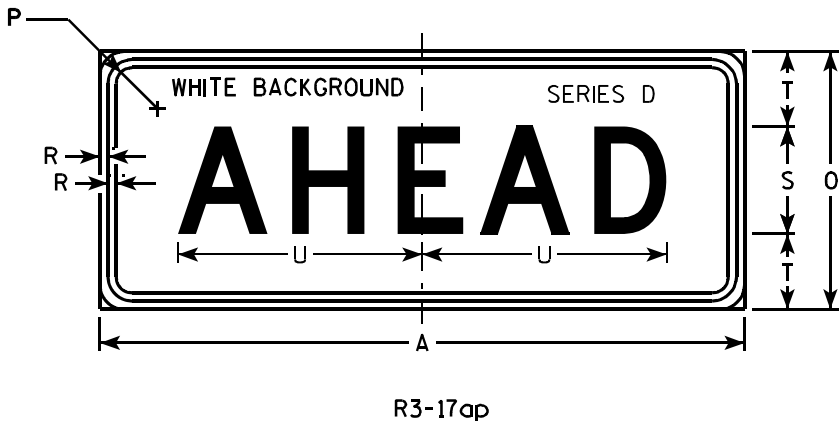
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: HWY: COUNTY: SHEET NO: E



- NOTES**
- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
  - 2. Color:  
Background - AS SHOWN  
Message - BLACK
  - 3. Message Series - C or as noted on the Signs.
  - 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.



																												R3-17	R3-17ap	R3-17bp
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area sq. ft.	Area sq. ft.	
1																														
2S	30	24	1 1/8	3/8	1/2	2	4	4 1/8	7 7/8	6 3/8	9 1/2	2 5/8	7/8	13	12	1 1/8	3 3/8	3/8	5	3 1/2	11 3/8	8 5/8	8 3/4	2 3/8	15 5/8	8	5.0	2.5	2.5	
2M	30	24	1 1/8	3/8	1/2	2	4	4 1/8	7 7/8	6 3/8	9 1/2	2 5/8	7/8	13	12	1 1/8	3 3/8	3/8	5	3 1/2	11 3/8	8 5/8	8 3/4	2 3/8	15 5/8	8	5.0	2.5	2.5	
3																														
4																														
5																														

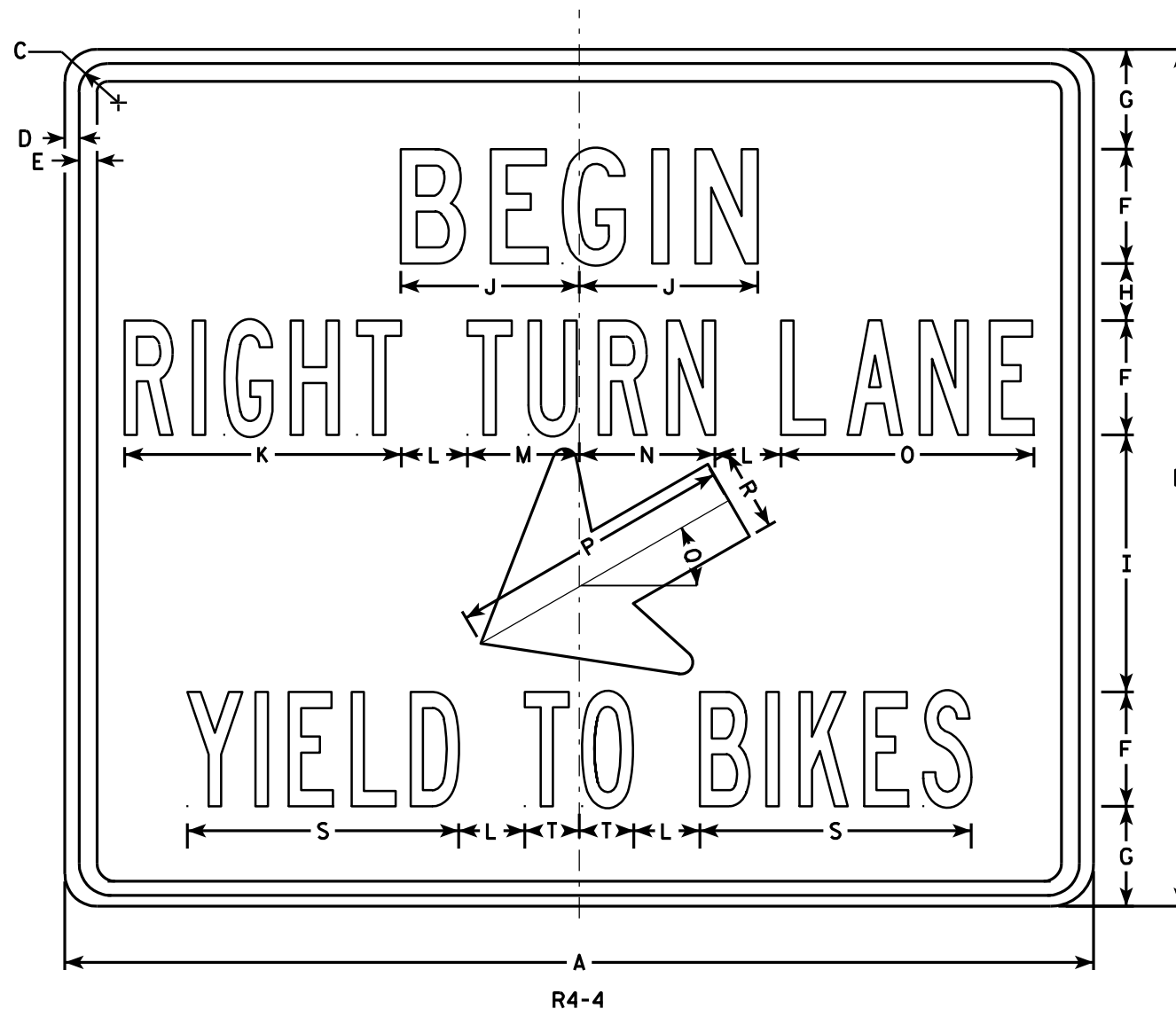
STANDARD SIGN

R3-17 & R3-17a&bp

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 4/12/2011 PLATE NO. R3-17.2



### NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - Black
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series C  
Lines 2 & 3 are Series B

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36	30	1 3⁄8	1⁄2	5⁄8	4	3 1⁄2	2	9	6 1⁄4	9 3⁄4	2 3⁄8	3 7⁄8	4 3⁄4	8 7⁄8	10	30°	2 7⁄8	9 1⁄2	1 7⁄8							7.5
2M	36	30	1 3⁄8	1⁄2	5⁄8	4	3 1⁄2	2	9	6 1⁄4	9 3⁄4	2 3⁄8	3 7⁄8	4 3⁄4	8 7⁄8	10	30°	2 7⁄8	9 1⁄2	1 7⁄8							7.5
3																											
4																											
5																											

### STANDARD SIGN

R4-4

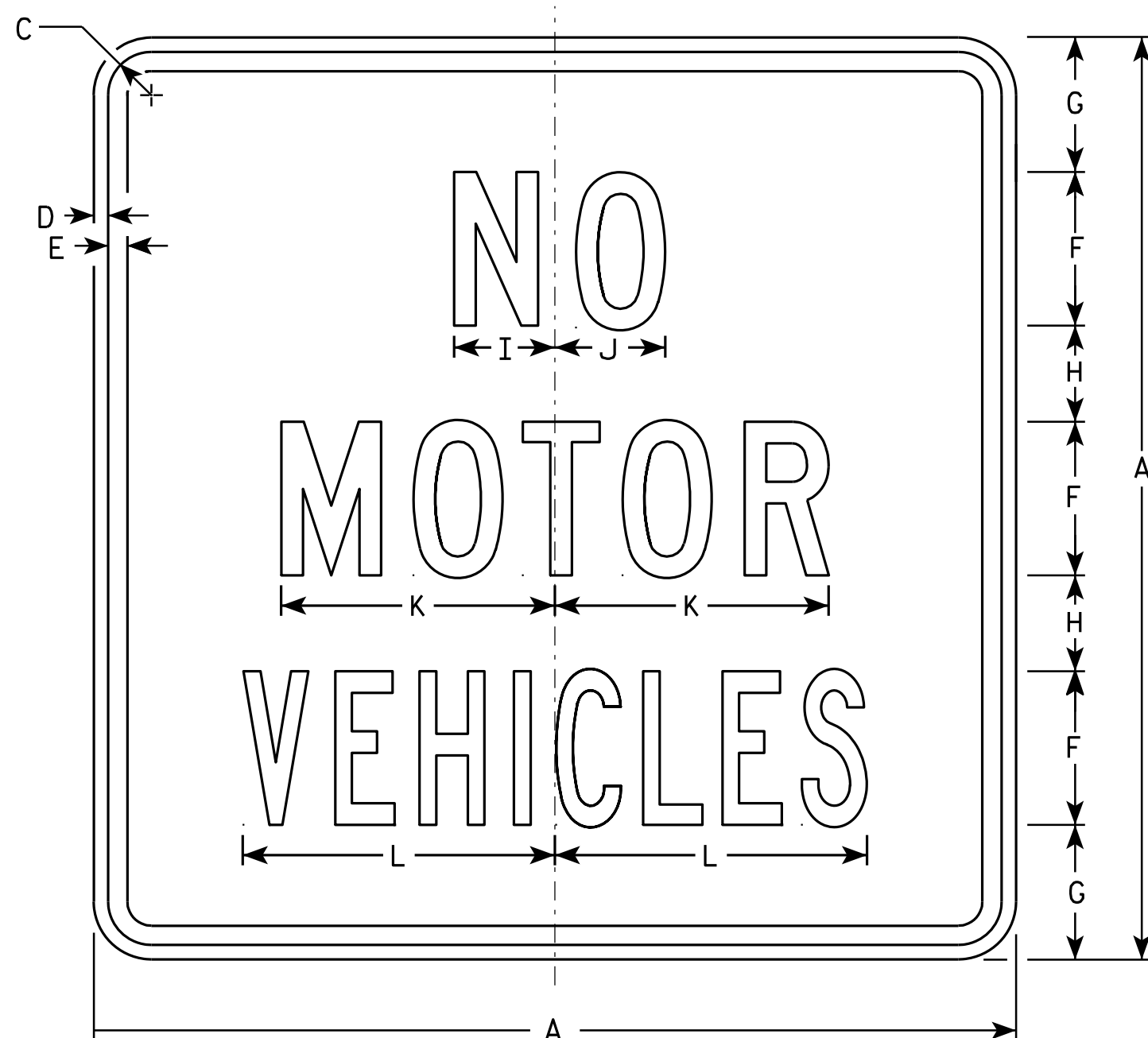
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-4.2

PROJECT NO: HWY: COUNTY: SHEET NO: E





R5-3

### NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - Black
3. Message Series - See Note 5.
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 & 2 are Series C.  
Line 3 is Series B.

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	3/8	1/2	4	3 1/2	2 1/2	2 5/8	2 7/8	7 1/8	8 1/8															4.0
2M	24		1 1/8	3/8	1/2	4	3 1/2	2 1/2	2 5/8	2 7/8	7 1/8	8 1/8															4.0
3																											
4																											
5																											

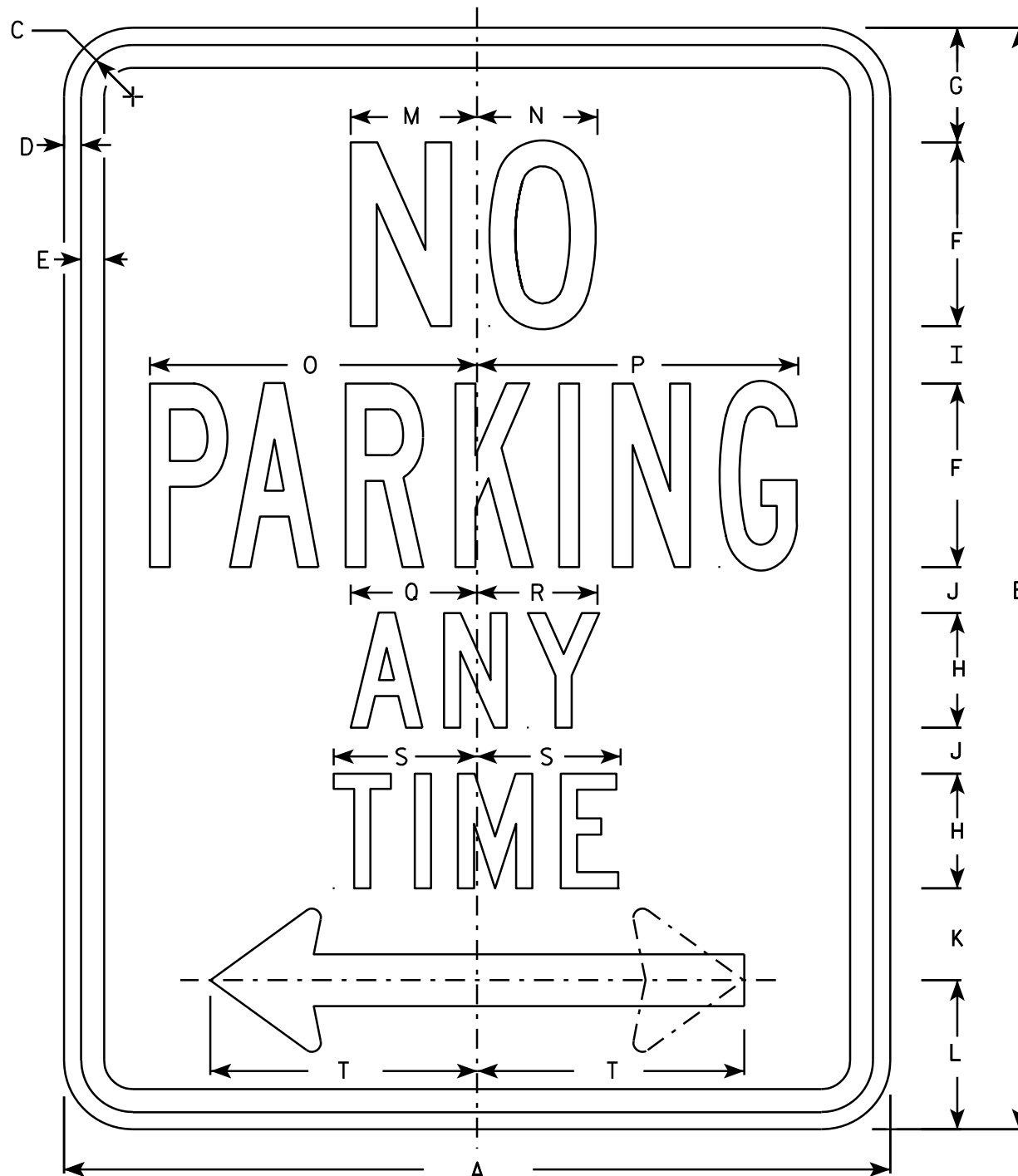
### STANDARD SIGN R5-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/29/2011 PLATE NO. R5-3.2

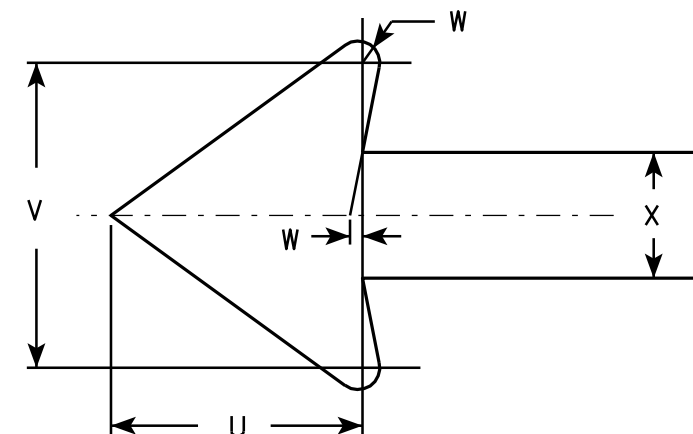
PROJECT NO: HWY: COUNTY: SHEET NO: E



R7-1

### NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - Red
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1, 3 and 4 are series C, line 2 is series B.
6. R7-1D (double arrow)  
R7-1L (left arrow)  
R7-1R (right arrow)



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 1/4	2 1/8	2 1/2	3 7/8	1 1/2	1 3/4	1/8	3/4			1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 3/4	2 5/8	3 1/8	5 7/8	2 1/4	2 5/8	1/4	1 1/8			3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
4																											
5																											

### STANDARD SIGN R7-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-1.9

PROJECT NO: HWY: COUNTY: SHEET NO: E

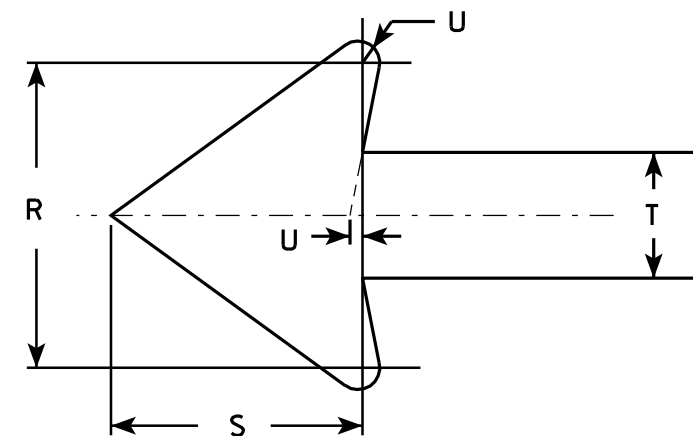


R7-2

\* - See Note 5

### NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - Red
3. Message Series - See Note 7
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 as required & adjust spacing to achieve proper balance.
6. R7-2D (double arrow)  
R7-2L (left arrow)  
R7-2R (right arrow)
7. Lines 1, 3 and 4 are series C, line 2 is series B.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/8	3/8	3/8	3	1 7/8	1 1/2	7/8	7/8	2	2 1/2	2	2	4 7/8	4 7/8	3 7/8	1 3/4	1 1/2	3/4	1/8						1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	5 7/8	2 5/8	2 1/4	1 1/8	1/4						3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	7 3/4	3 1/2	3	1 1/2	1/4						5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	7 3/4	3 1/2	3	1 1/2	1/4						5.0
4																											
5																											

### STANDARD SIGN R7-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-2.9

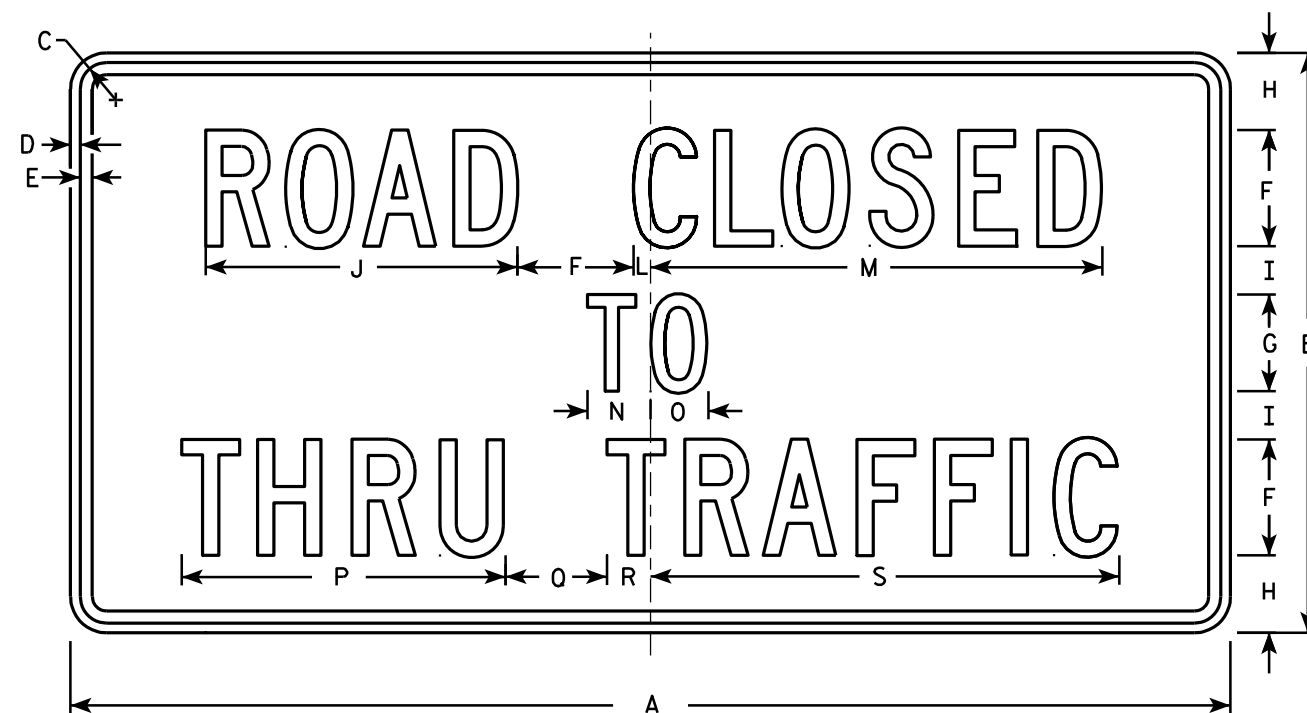
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



R11-4

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	60	30	1 3⁄8	½	5⁄8	6	5	4	2 ½	16 ⅛		7⁄8	23 3⁄8	3 ¼	3	16 ¾	5 ¼	2 ¼	24 ¼								12.5
2M	60	30	1 3⁄8	½	5⁄8	6	5	4	2 ½	16 ⅛		7⁄8	23 3⁄8	3 ¼	3	16 ¾	5 ¼	2 ¼	24 ¼								12.5
3																											
4																											
5																											

STANDARD SIGN  
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-4.3

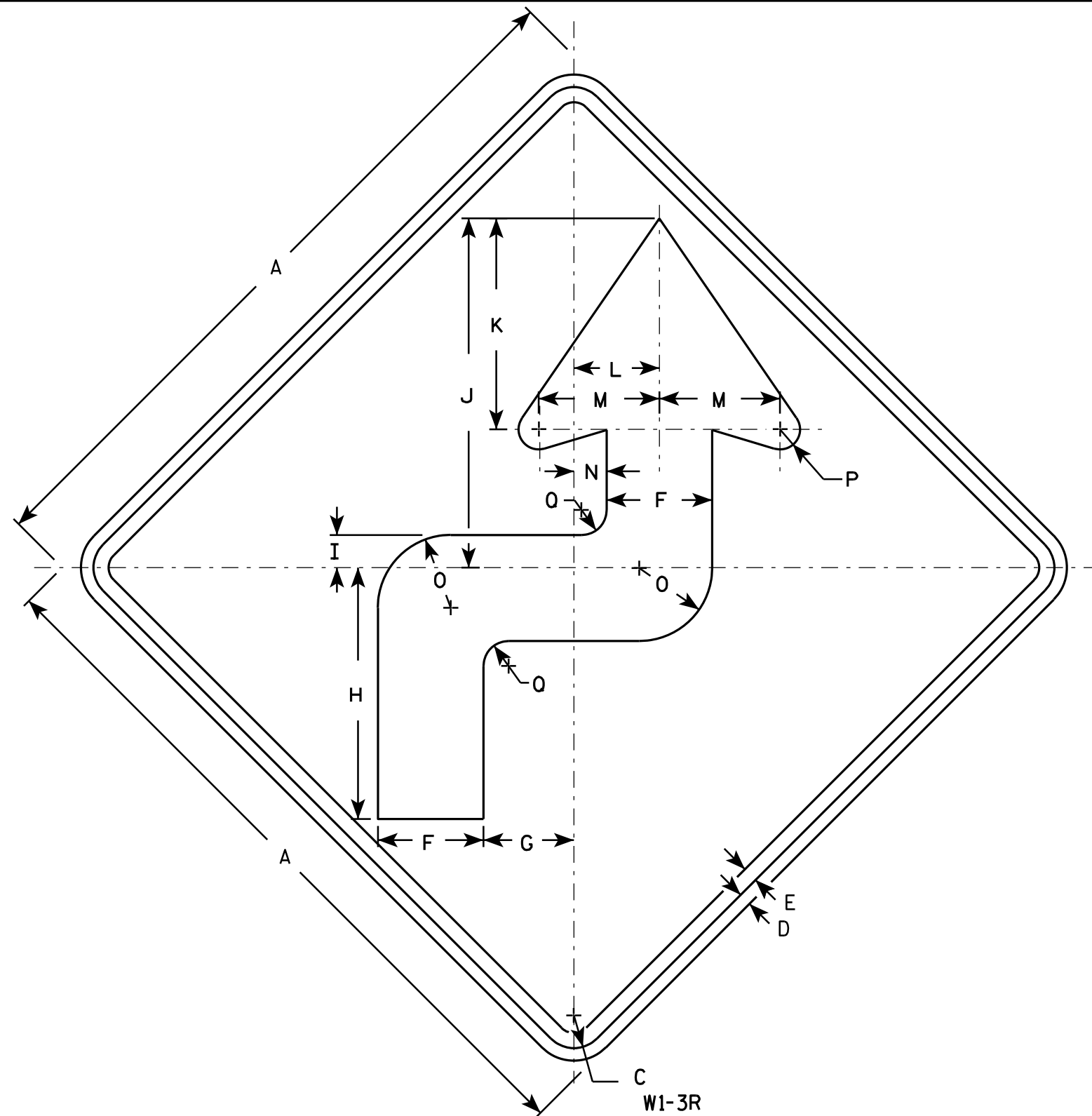
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

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. W1-3L is the same as W1-3R 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 1/2	3	8 3/8	1 1/8	11 5/8	7	2 3/4	4	1 1/8	2 1/2	5/8	7/8										4.0
2S	36		1 5/8	5/8	3/4	5 1/4	4 1/2	12 1/2	1 5/8	17 3/8	10 1/2	4 1/4	6	1 5/8	3 5/8	1	1 1/4										9.0
2M	36		1 5/8	5/8	3/4	5 1/4	4 1/2	12 1/2	1 5/8	17 3/8	10 1/2	4 1/4	6	1 5/8	3 5/8	1	1 1/4										9.0
3	36		1 5/8	5/8	3/4	5 1/4	4 1/2	12 1/2	1 5/8	17 3/8	10 1/2	4 1/4	6	1 5/8	3 5/8	1	1 1/4										9.0
4	36		1 5/8	5/8	3/4	5 1/4	6	12 1/2	1 5/8	17 3/8	10 1/2	4 1/4	6	1 5/8	3 5/8	1	1 1/4										9.0
5	48		2 1/4	3/4	1	7	6	16 5/8	2 1/4	23 1/4	14	5 5/8	8	2 1/8	4 7/8	1 1/4	1 5/8										16.0

### STANDARD SIGN W1-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer  
DATE 5/17/12 PLATE NO. W1-3.8

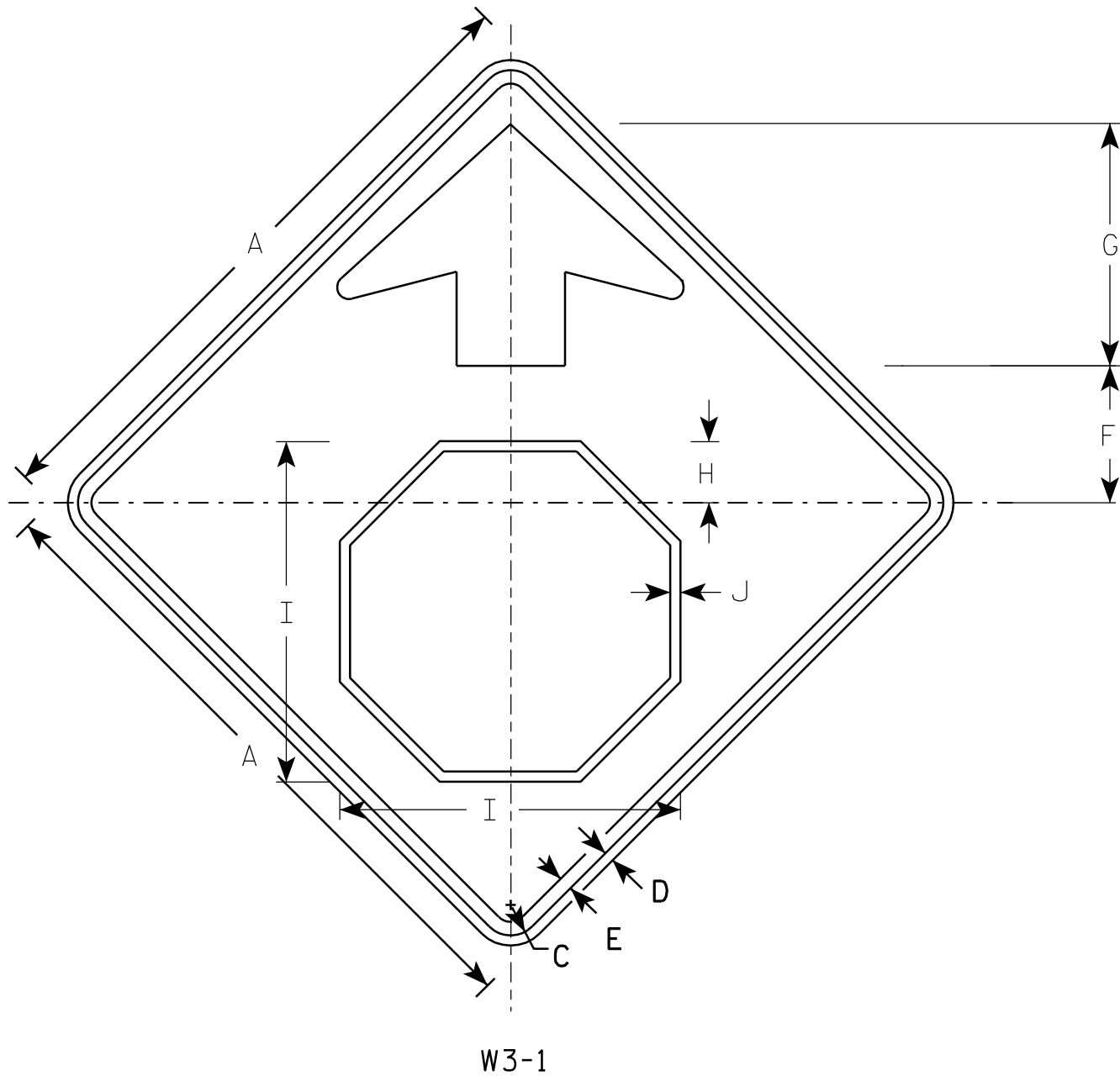
PROJECT NO:

HWY:

COUNTY:

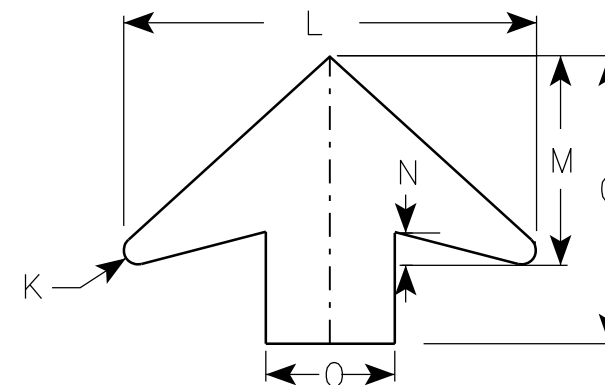
SHEET NO:

E



### 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:

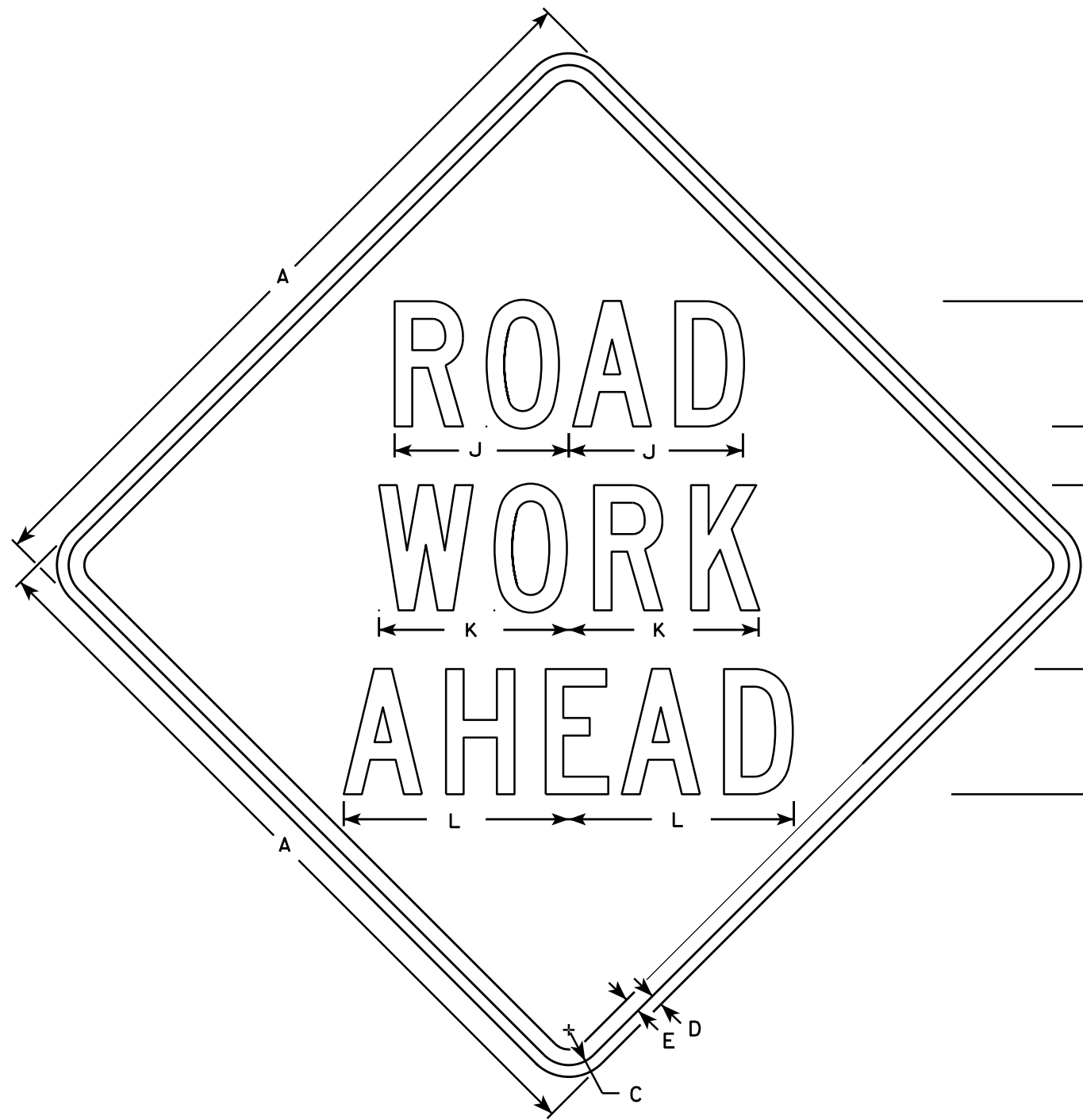
STANDARD SIGN  
W3-1

WISCONSIN DEPT OF TRANSPORTATION

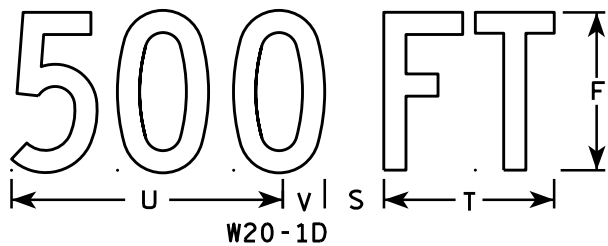
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer  
DATE 6/7/10 PLATE NO. W3-1.12

SHEET NO:

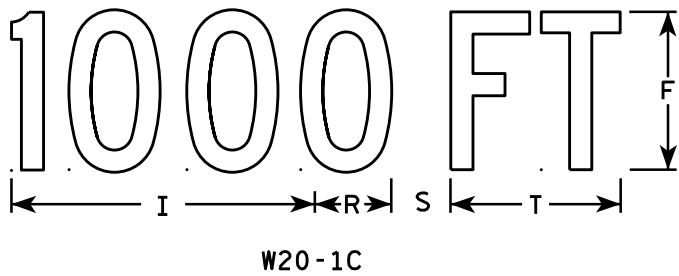
E



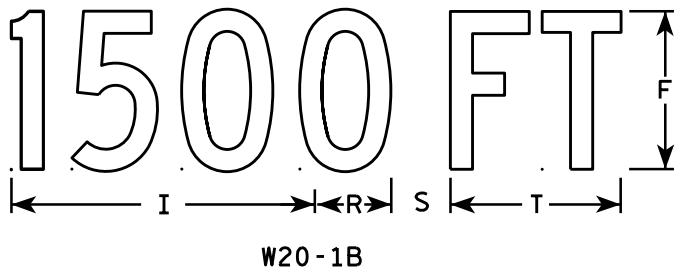
W20-1A



W20-1D



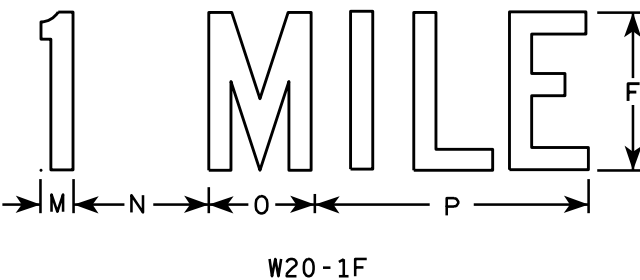
W20-1C



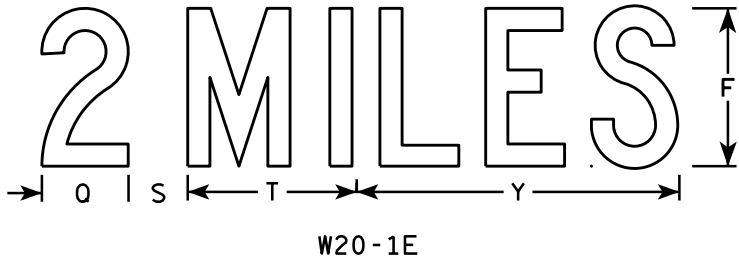
W20-1B



W20-1G



W20-1F



W20-1E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:  
Background - Orange  
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

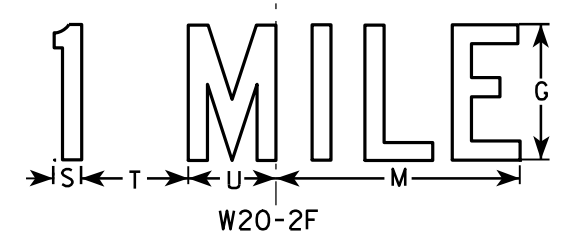
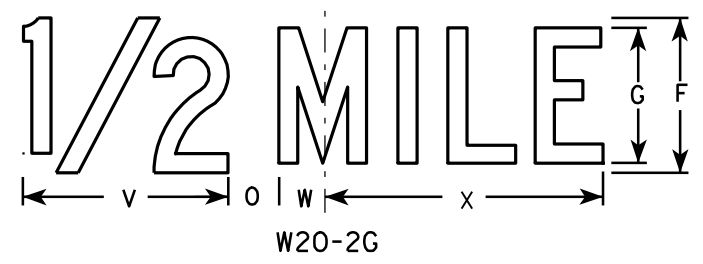
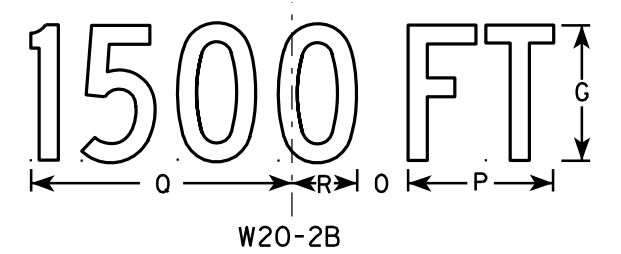
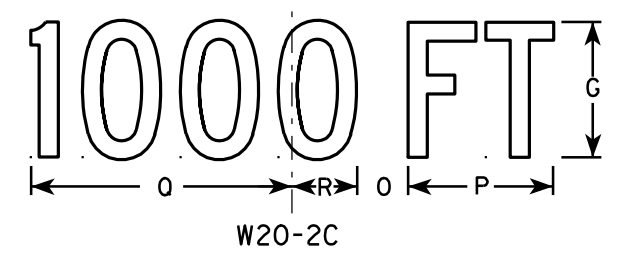
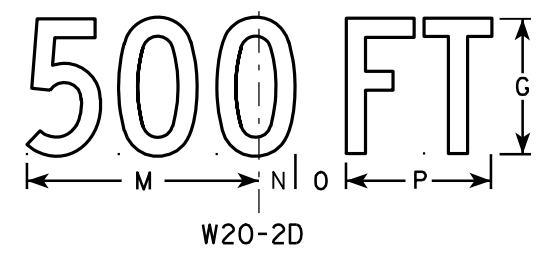
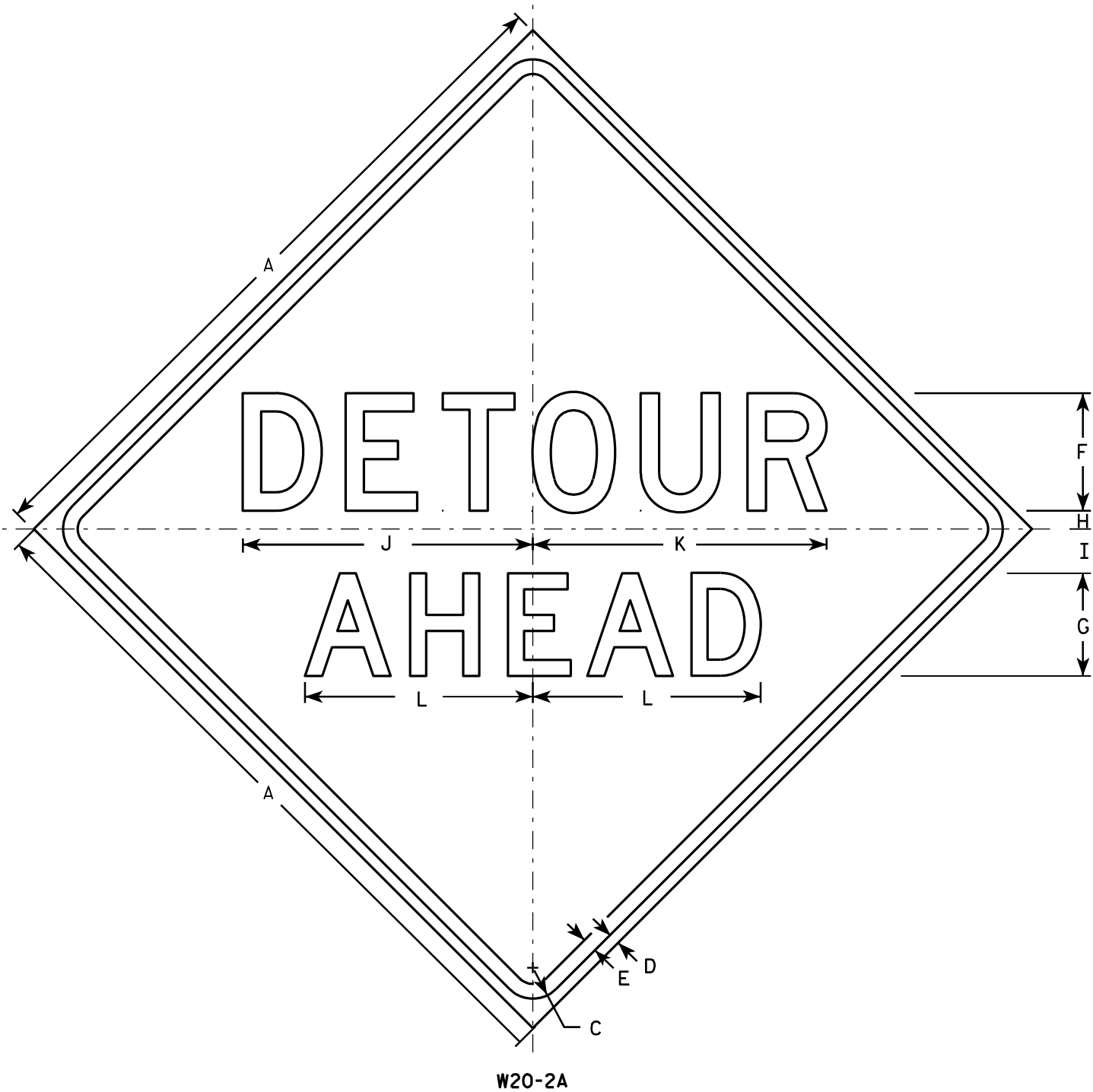
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13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

STANDARD SIGN  
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED \_\_\_\_\_  
State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10



**NOTES**

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Orange  
Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.  
Line 2 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN  
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION  
APPROVED *Matthew R. Rauch* for State Traffic Engineer  
DATE 3/18/11 PLATE NO. W20-2.6

PROJECT NO:

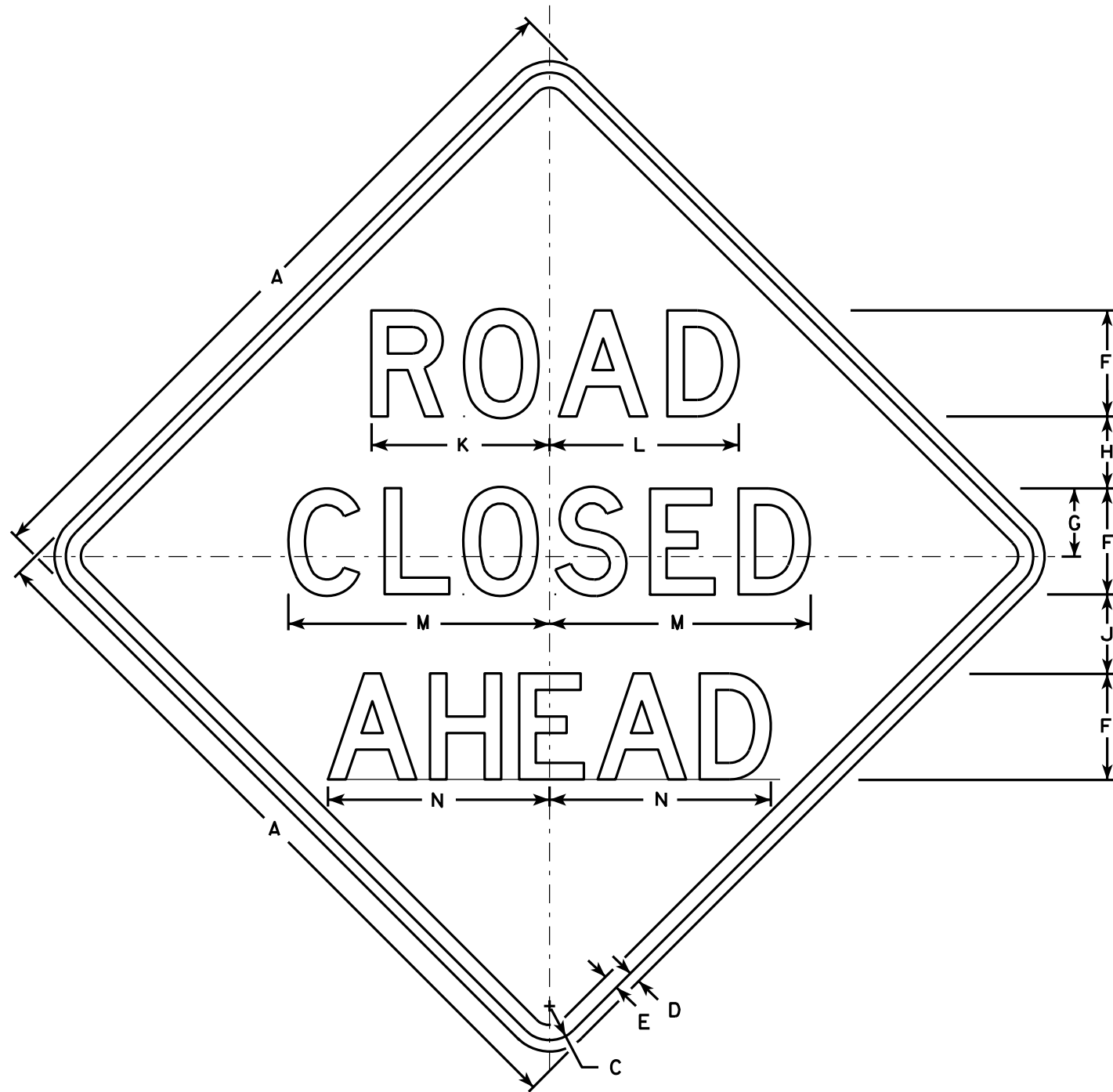
HWY:

COUNTY:

SHEET NO:

E





W20-3A

500 FT

W20-3D

1000 FT

W20-3C

1500 FT

W20-3B

1/2 MILE

W20-3G

1 MILE

W20-3F

**NOTES**

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Orange  
Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.  
Line 3 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN  
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-3.7

PROJECT NO:

HWY:

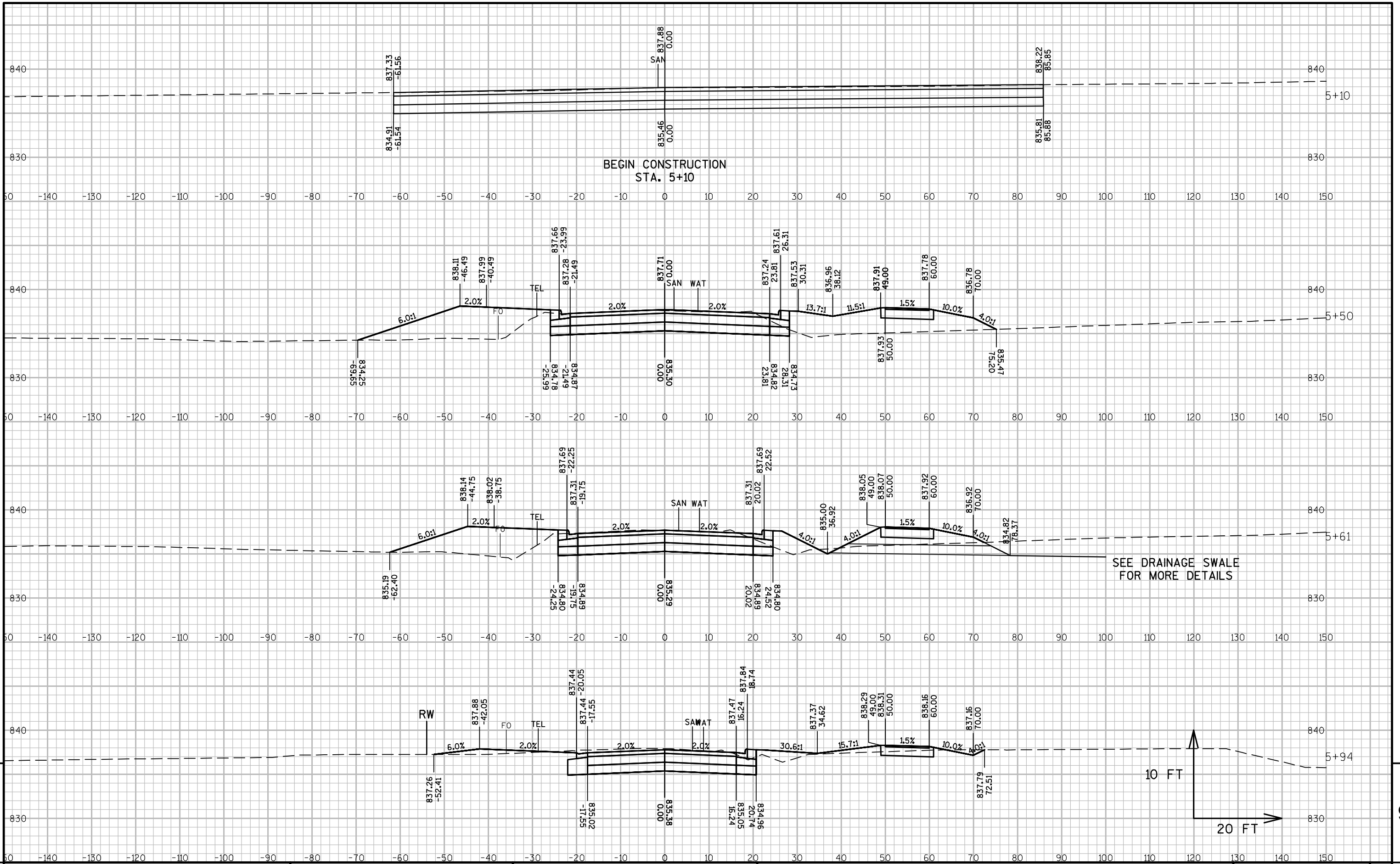
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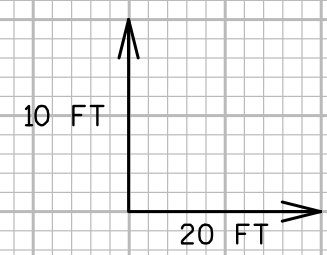
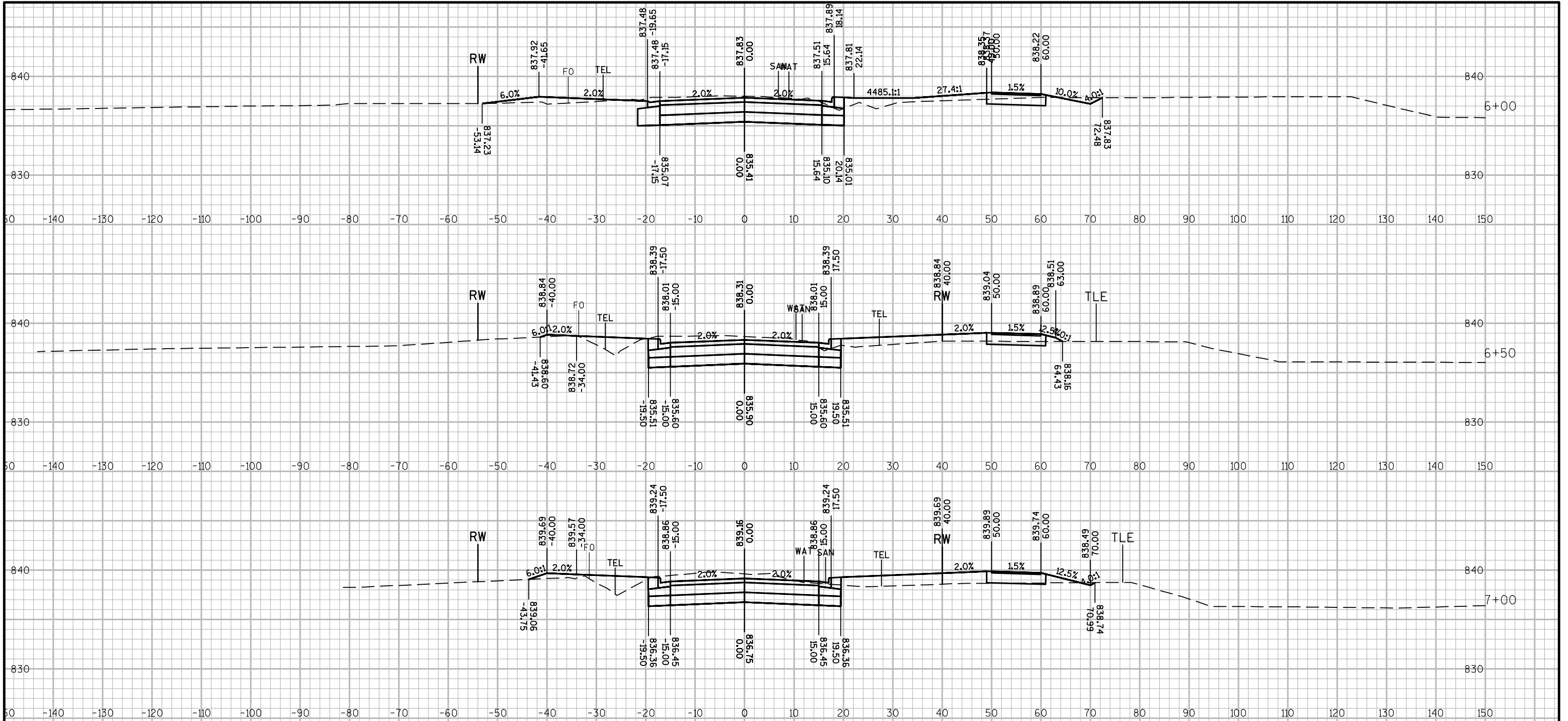
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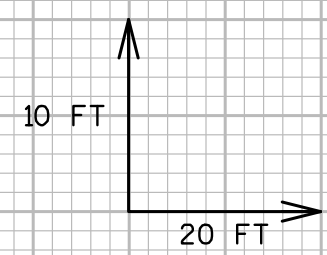
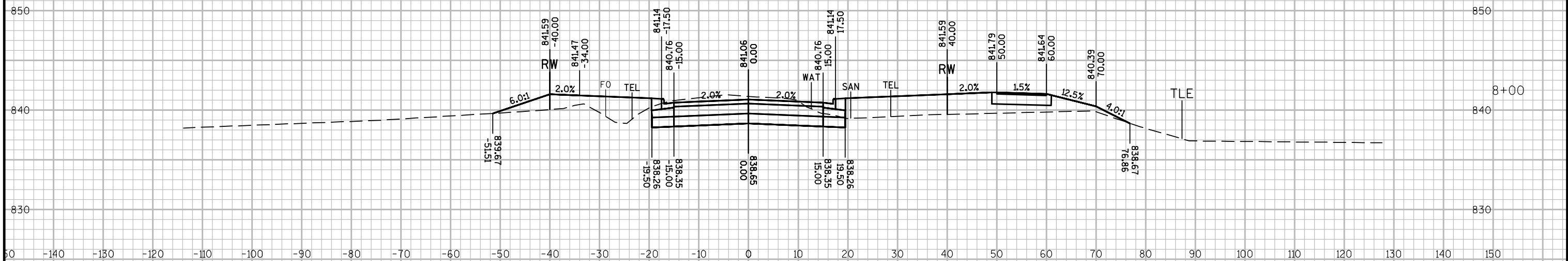
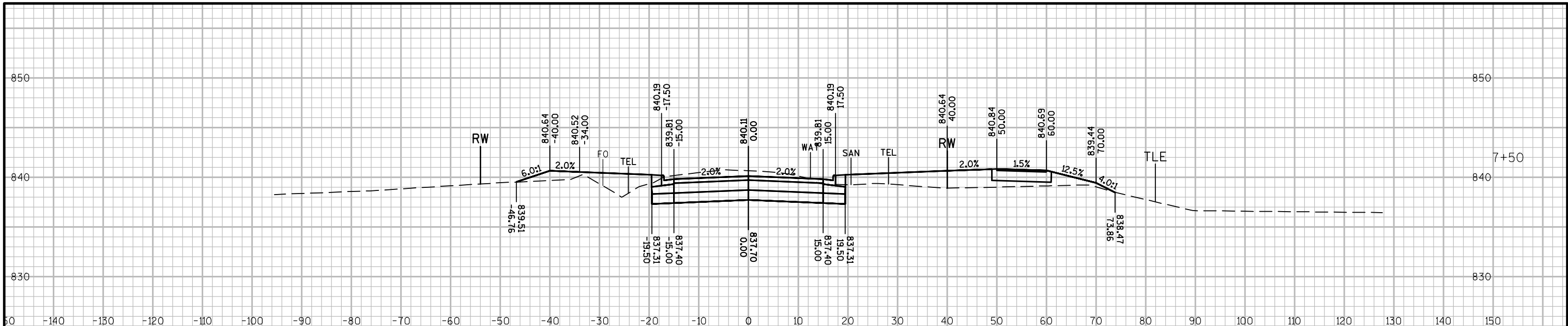
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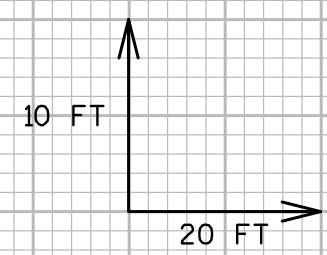
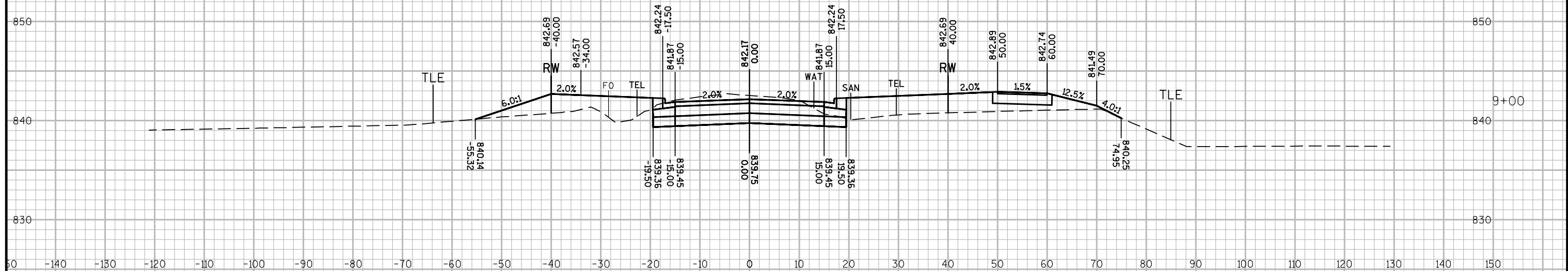
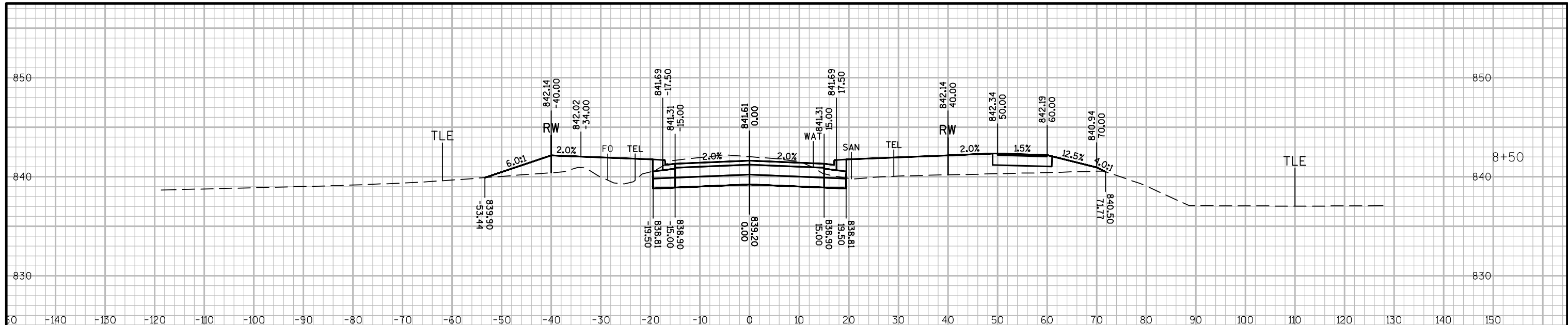
AUSTIN ROAD (5+10 - 31+50)											
STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.25	
						Note 1	Note 2	Note 3	Note 1		Note 8
05+10	510.00	0.00	709.00	6.25	1.72	0	0	0	0	0	0
05+50	550.00	40.00	305.00	6.25	194.01	751	9	145	751	181	561
05+61	561.00	11.00	105.02	6.25	133.83	84	3	67	835	265	558
05+94	594.00	33.00	116.89	6.25	27.53	136	8	99	970	388	563
06+00	600.00	6.00	94.75	6.25	42.34	24	1	8	994	398	575
06+50	650.00	50.00	94.44	6.25	39.29	175	12	76	1,169	492	644
07+00	700.00	50.00	103.15	6.25	59.22	183	12	91	1,352	606	702
07+50	750.00	50.00	105.13	6.25	90.23	193	12	138	1,545	779	710
08+00	800.00	50.00	90.14	6.25	132.72	181	12	206	1,726	1,037	621
08+50	850.00	50.00	86.84	6.25	134.49	164	12	247	1,889	1,346	464
09+00	900.00	50.00	94.51	6.25	133.74	168	12	248	2,057	1,657	310
09+50	950.00	50.00	77.68	6.25	138.32	159	12	252	2,217	1,972	143
10+00	1000.00	50.00	75.18	6.25	135.36	142	12	253	2,358	2,289	-44
10+50	1050.00	50.00	72.33	6.25	135.70	137	12	251	2,495	2,602	-232
11+00	1100.00	50.00	75.04	6.25	143.21	136	12	258	2,631	2,925	-430
11+50	1150.00	50.00	86.31	6.25	155.98	149	12	277	2,781	3,271	-639
12+00	1200.00	50.00	87.16	6.25	150.59	161	12	284	2,941	3,626	-845
12+20	1220.00	20.00	79.01	6.25	151.07	62	5	112	3,003	3,766	-927
12+50	1250.00	30.00	77.89	6.25	155.13	87	7	170	3,090	3,979	-1,060
13+00	1300.00	50.00	69.13	6.25	175.11	136	12	306	3,226	4,361	-1,317
13+40	1340.00	40.00	66.02	6.25	146.79	100	9	238	3,326	4,659	-1,525
13+50	1350.00	10.00	57.93	6.25	199.01	23	2	64	3,349	4,739	-1,584
14+00	1400.00	50.00	55.85	6.25	169.68	105	12	341	3,455	5,166	-1,917
14+50	1450.00	50.00	66.29	6.25	155.71	113	12	301	3,568	5,542	-2,192
15+00	1500.00	50.00	70.59	6.25	131.47	127	12	266	3,694	5,875	-2,409
15+50	1550.00	50.00	115.01	6.25	65.81	172	12	183	3,866	6,103	-2,477
16+00	1600.00	50.00	205.93	6.25	1.67	297	12	62	4,163	6,181	-2,270
16+50	1650.00	50.00	251.14	6.25	0.74	423	12	2	4,587	6,184	-1,861
17+00	1700.00	50.00	243.05	6.25	5.11	458	12	5	5,044	6,191	-1,422
17+50	1750.00	50.00	192.01	6.25	13.89	403	12	18	5,447	6,213	-1,053
18+00	1800.00	50.00	162.21	6.25	37.91	328	12	48	5,775	6,272	-796
18+50	1850.00	50.00	151.39	6.25	36.15	290	12	69	6,065	6,358	-603
18+87	1887.00	37.00	178.95	6.25	11.21	226	9	32	6,292	6,399	-426
19+00	1900.00	13.00	165.10	6.25	12.41	83	3	6	6,375	6,406	-353
19+50	1950.00	50.00	211.36	6.25	0.00	349	12	11	6,723	6,420	-30
20+00	2000.00	50.00	331.56	6.25	0.00	503	12	0	7,226	6,420	461
20+50	2050.00	50.00	425.10	6.25	0.00	701	12	0	7,926	6,420	1,150
20+65	2065.00	15.00	448.05	6.25	0.00	243	3	0	8,169	6,420	1,389
21+00	2100.00	35.00	411.57	6.25	0.03	557	8	0	8,726	6,420	1,938
21+50	2150.00	50.00	338.55	6.25	43.36	695	12	40	9,421	6,470	2,571
22+00	2200.00	50.00	232.98	6.25	76.21	529	12	111	9,950	6,609	2,950
22+50	2250.00	50.00	162.89	6.25	39.30	367	12	107	10,316	6,743	3,171
23+00	2300.00	50.00	114.67	6.25	78.60	257	12	109	10,573	6,879	3,280
23+17.54	2317.54	17.54	119.83	6.25	69.19	76	4	48	10,650	6,939	3,292
23+50	2350.00	32.46	91.87	6.25	61.91	127	8	79	10,777	7,038	3,313
24+00	2400.00	50.00	92.18	6.25	44.89	170	12	99	10,947	7,161	3,349
24+50	2450.00	50.00	126.44	6.25	15.71	202	12	56	11,150	7,231	3,469
24+75	2475.00	25.00	126.16	6.25	12.02	117	6	13	11,267	7,247	3,564
25+00	2500.00	25.00	139.19	6.25	12.65	123	6	11	11,390	7,262	3,667
25+50	2550.00	50.00	218.88	6.25	1.03	332	12	13	11,721	7,277	3,971
25+75	2575.00	25.00	215.87	6.25	1.87	201	6	1	11,922	7,279	4,165
26+00	2600.00	25.00	182.14	6.25	10.58	184	6	6	12,107	7,286	4,336
26+50	2650.00	50.00	219.17	6.25	0.45	372	12	10	12,478	7,299	4,684
26+75	2675.00	25.00	222.17	6.25	0.02	204	6	0	12,683	7,299	4,882
27+00	2700.00	25.00	227.24	6.25	1.67	208	6	1	12,891	7,300	5,083
27+38	2738.00	38.00	312.65	6.25	0.00	380	9	1	13,270	7,302	5,453
27+50	2750.00	12.00	305.65	6.25	0.00	137	3	0	13,408	7,302	5,588
28+00	2800.00	50.00	270.53	6.25	6.36	533	12	6	13,941	7,309	6,102
28+50	2850.00	50.00	185.32	6.25	13.83	422	12	19	14,363	7,333	6,489
28+70.01	2870.01	20.01	143.98	6.25	18.77	122	5	12	14,485	7,348	6,592
29+00	2900.00	29.99	130.11	6.25	36.15	152	7	31	14,638	7,386	6,699
29+35	2935.00	35.00	161.26	6.25	13.32	189	8	32	14,827	7,426	6,839
29+60	2960.00	25.00	196.49	6.25	8.05	166	6	10	14,992	7,438	6,987
30+00	3000.00	40.00	229.42	6.25	25.21	315	9	25	15,308	7,469	7,262
30+32	3032.00	32.00	236.24	6.25	2.95	276	7	17	15,584	7,490	7,510
30+50	3050.00	18.00	231.20	6.25	4.01	156	4	2	15,739	7,493	7,659
31+00	3100.00	50.00	200.74	6.25	5.19	400	12	9	16,139	7,503	8,036
31+50	3150.00	50.00	252.65	6.25	23.46	420	12	27	16,559	7,537	8,411
						16,559	611	6,029			

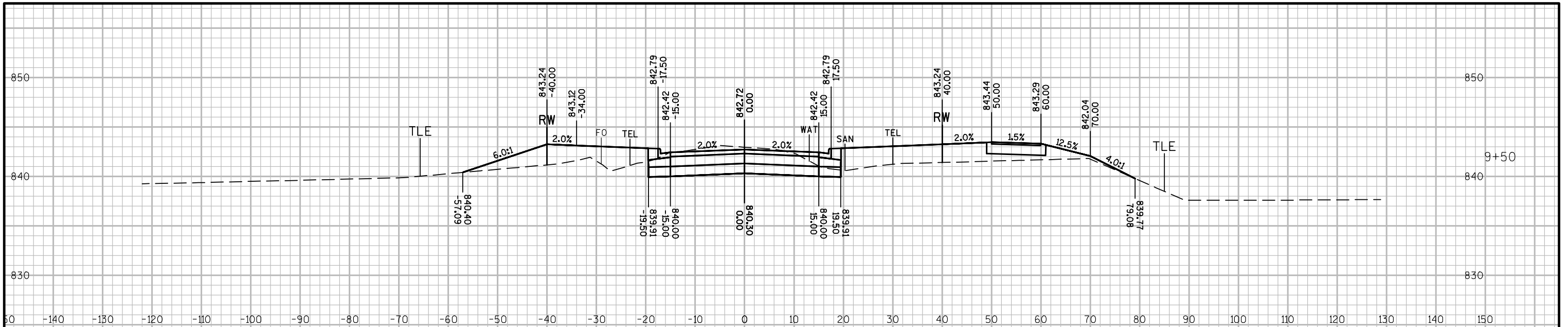
KNOLLVIEW (100+50 - 101+50)											
STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.25	
Note 1	Note 2	Note 3	Note 1		Note 8						
100+50	10050.00	0.00	21.75	7.33	77.66	0	0	0	0	0	0
101+00	10100.00	50.00	37.30	7.33	116.95	55	14	180	55	225	- 184
101+30	10130.00	30.00	77.27	7.33	85.90	64	8	113	118	366	- 270
101+50	10150.00	20.00	51.09	7.33	71.00	48	5	58	166	439	- 300
						166	27	351			





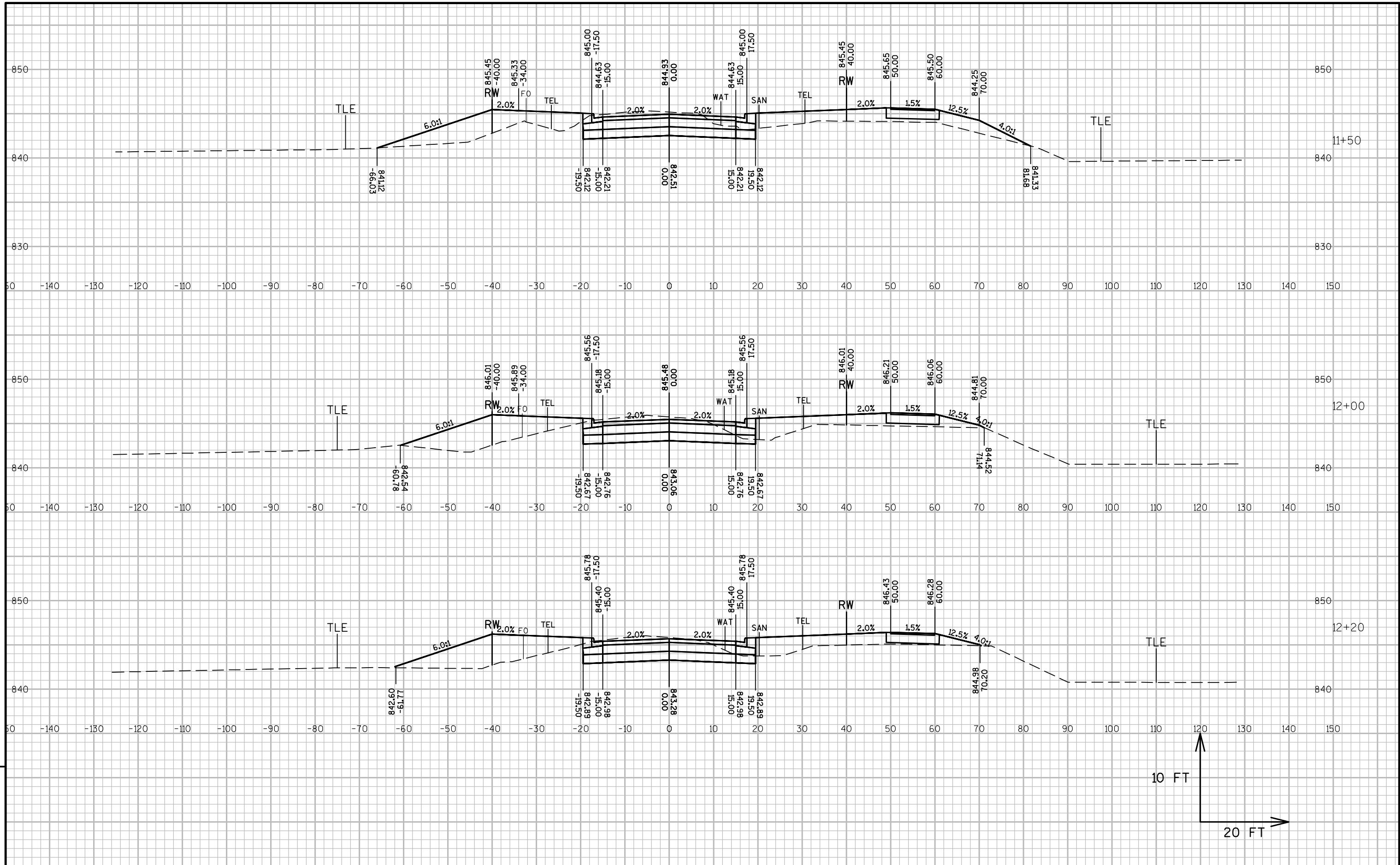


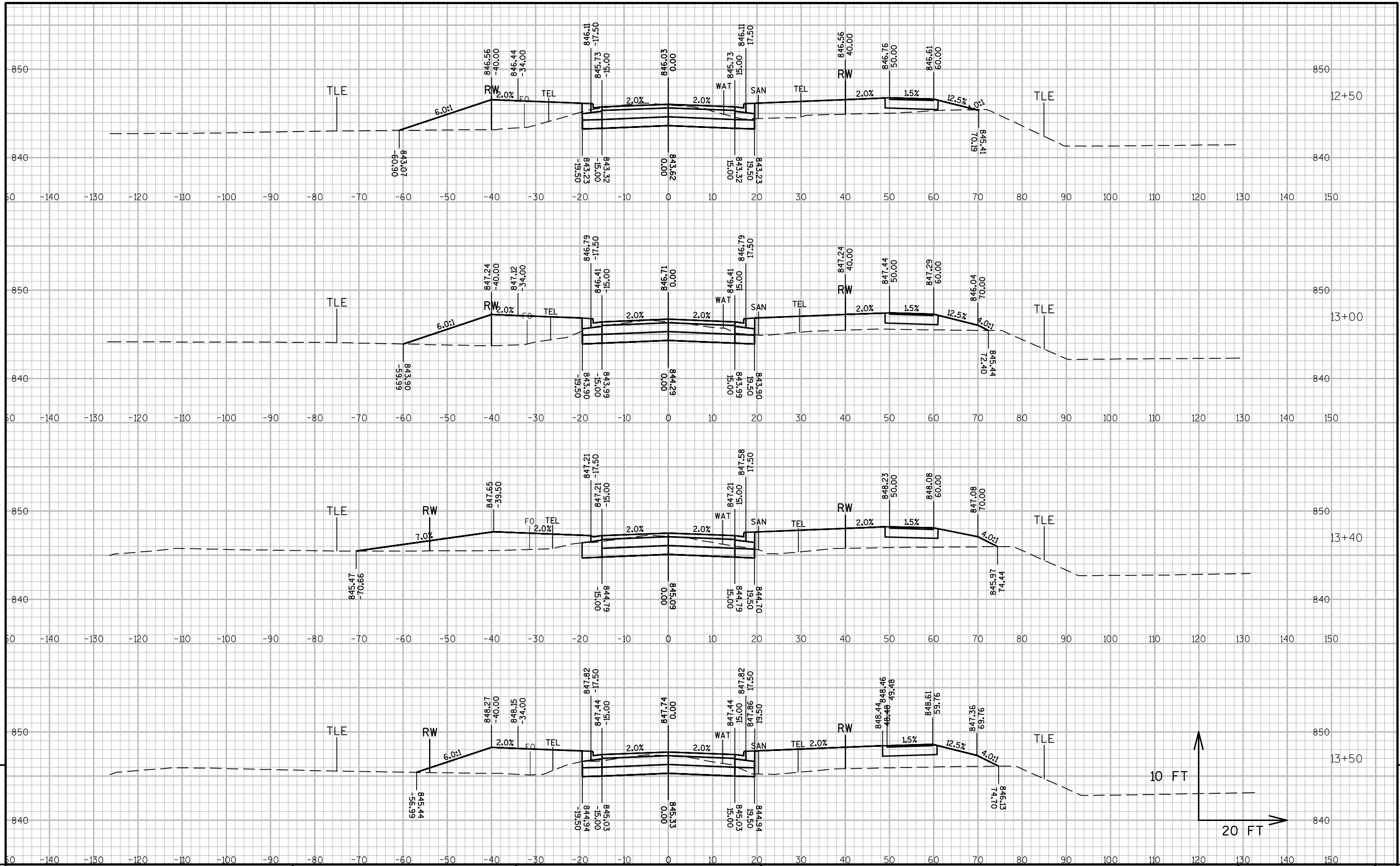


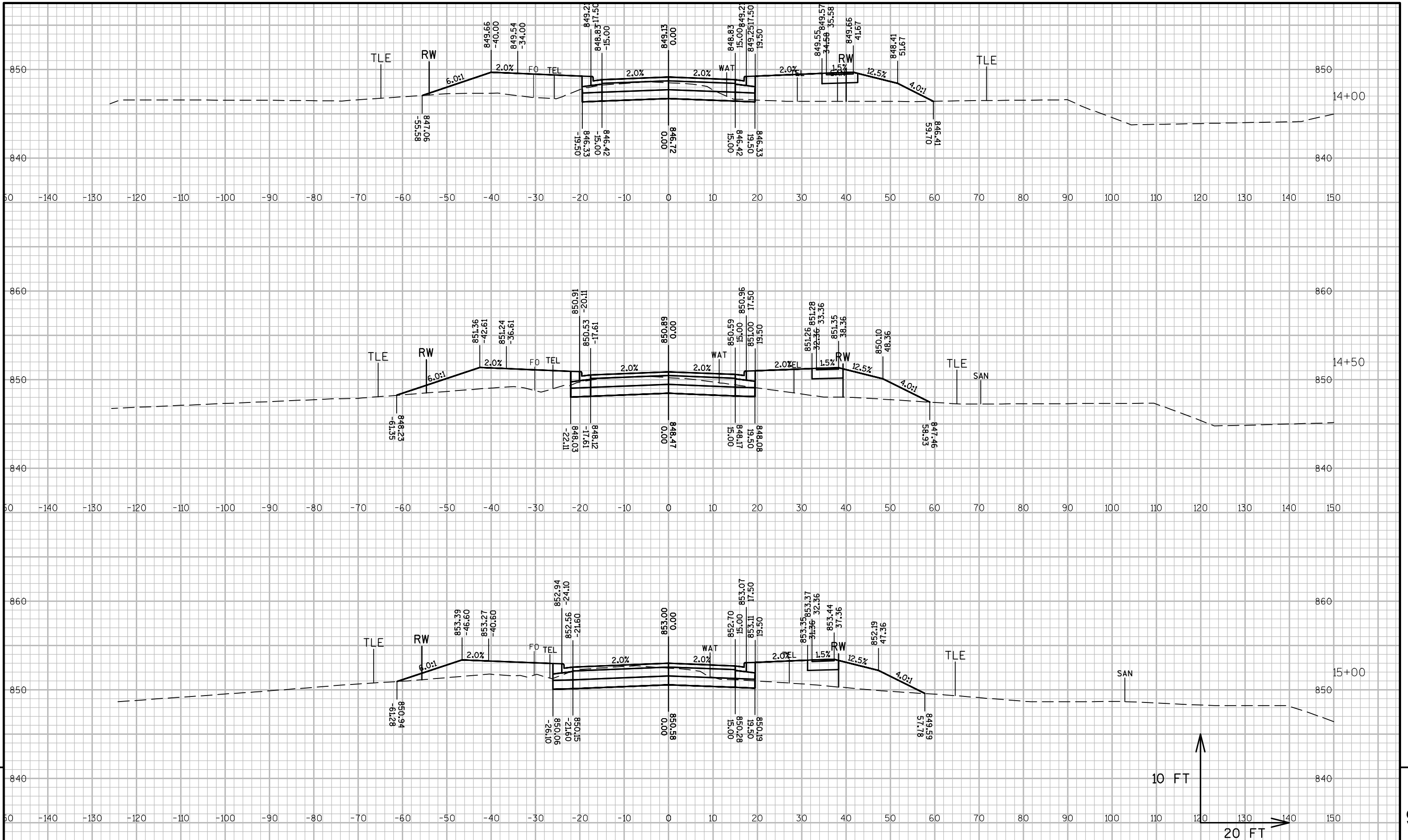


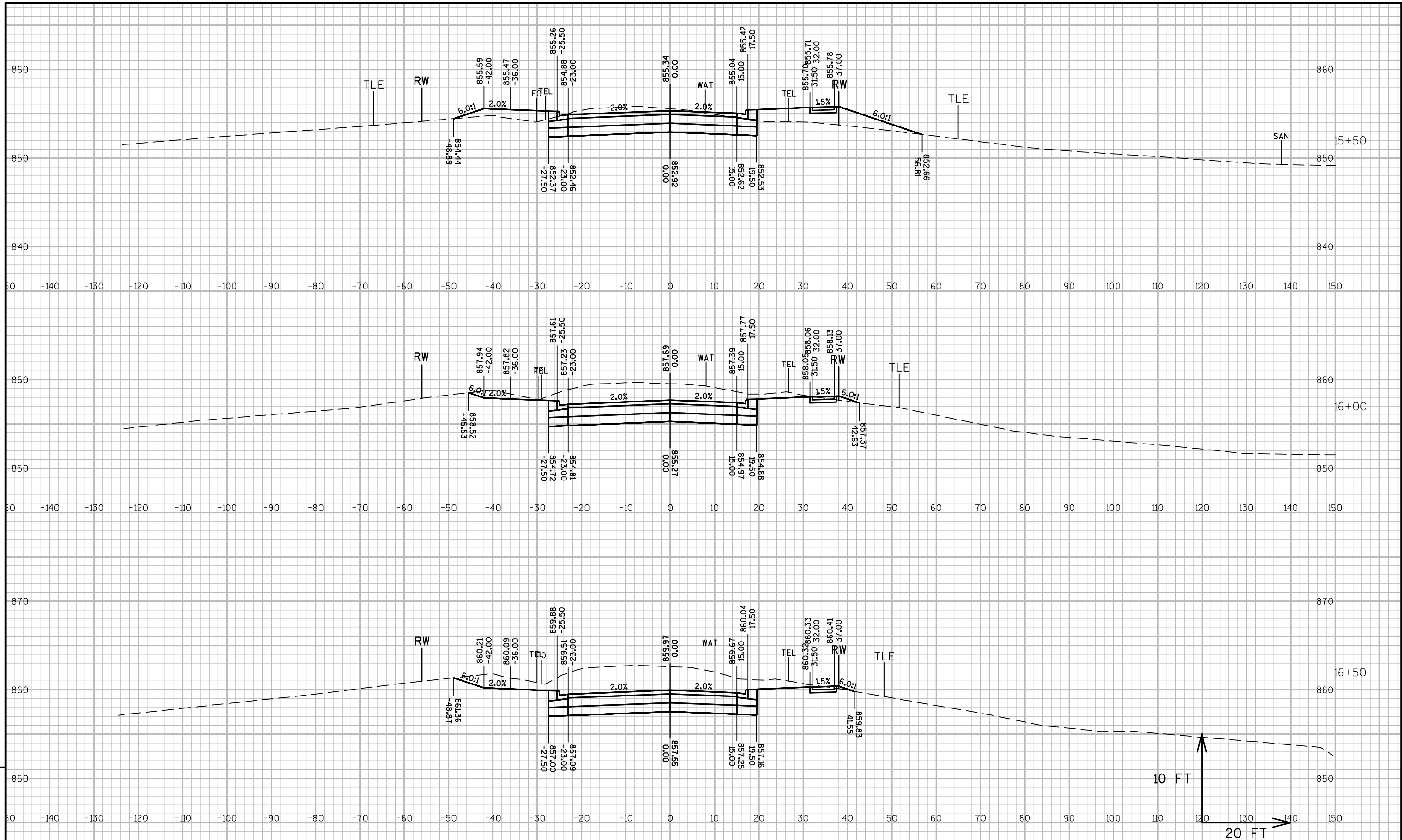




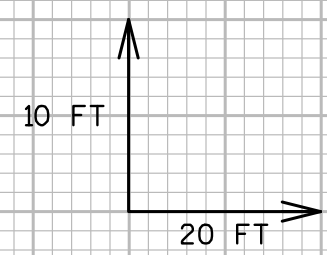
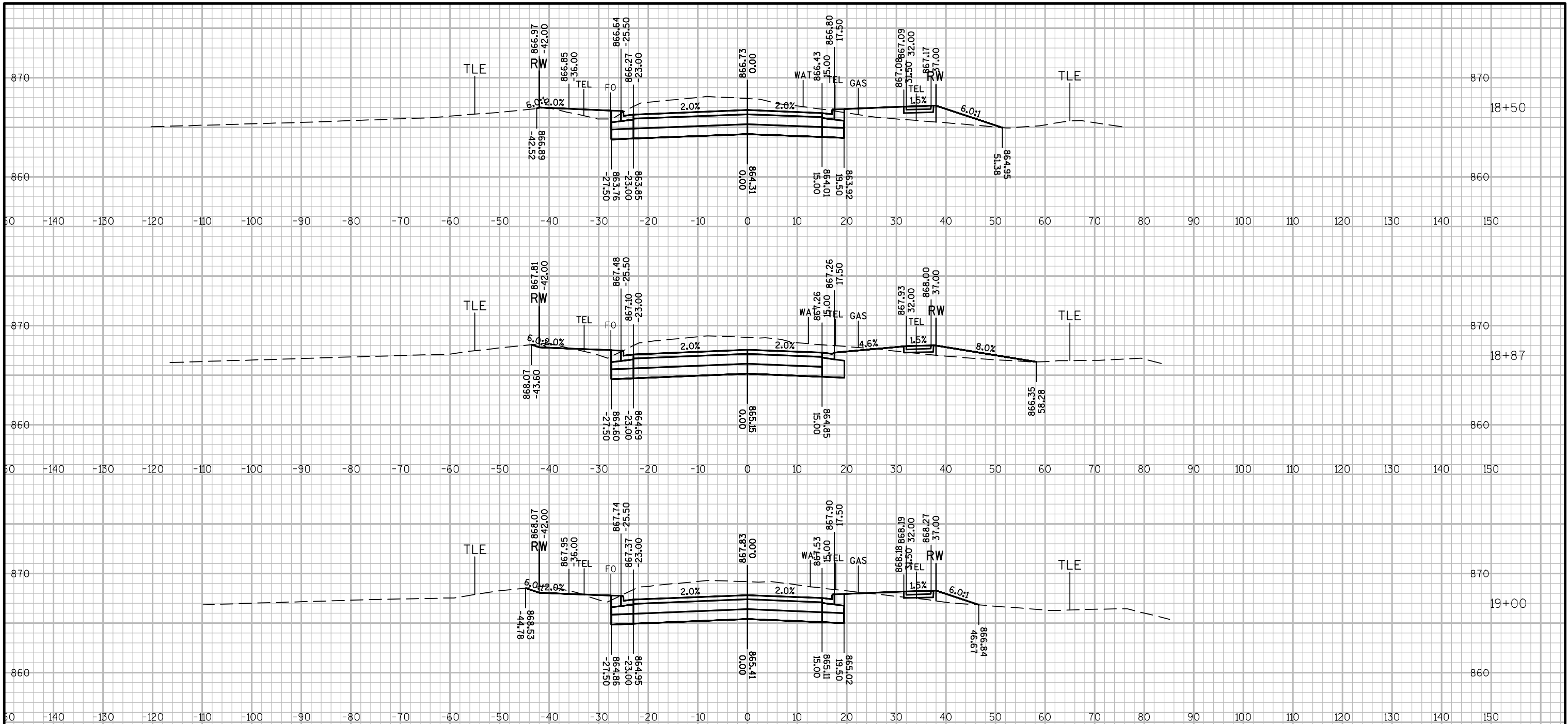


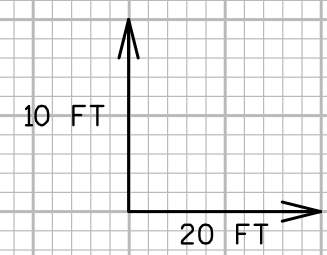
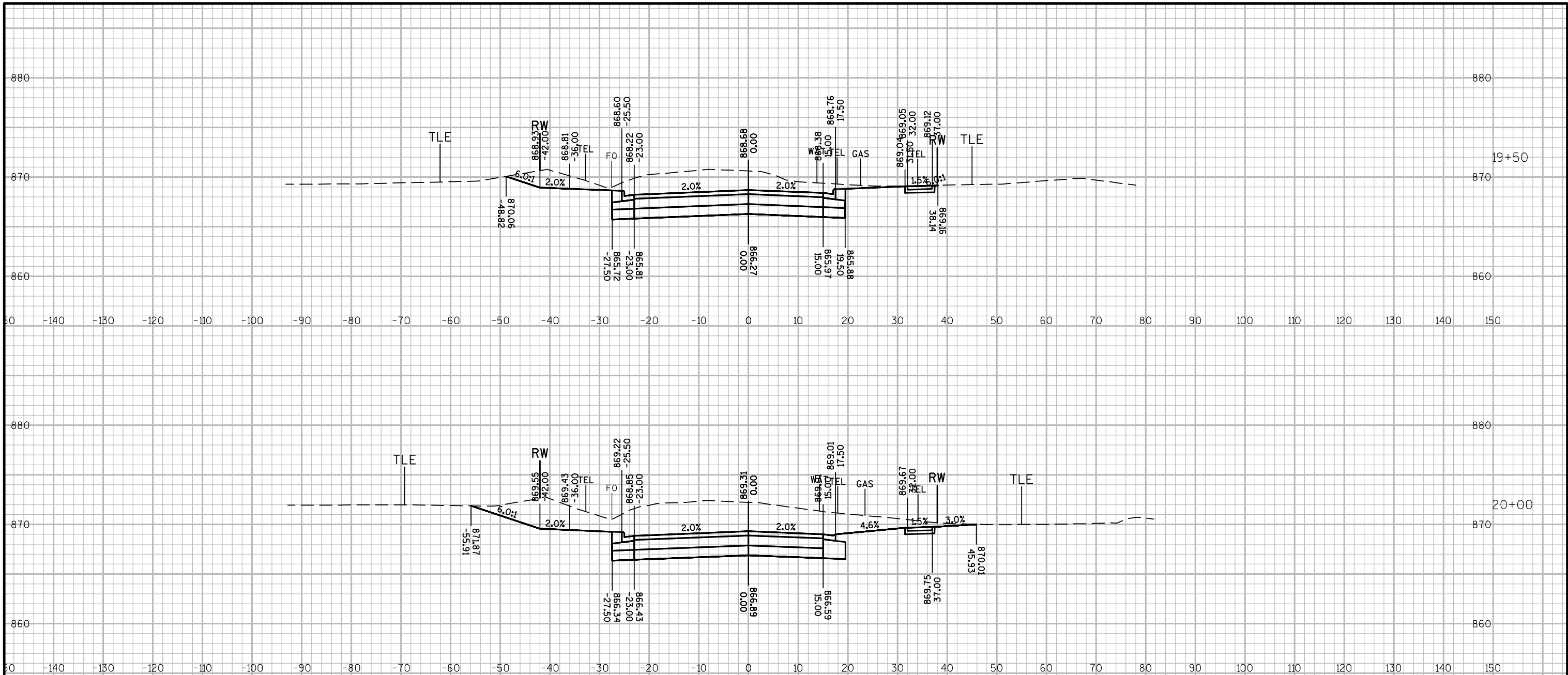


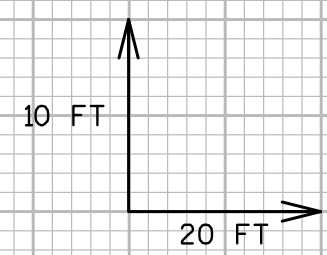
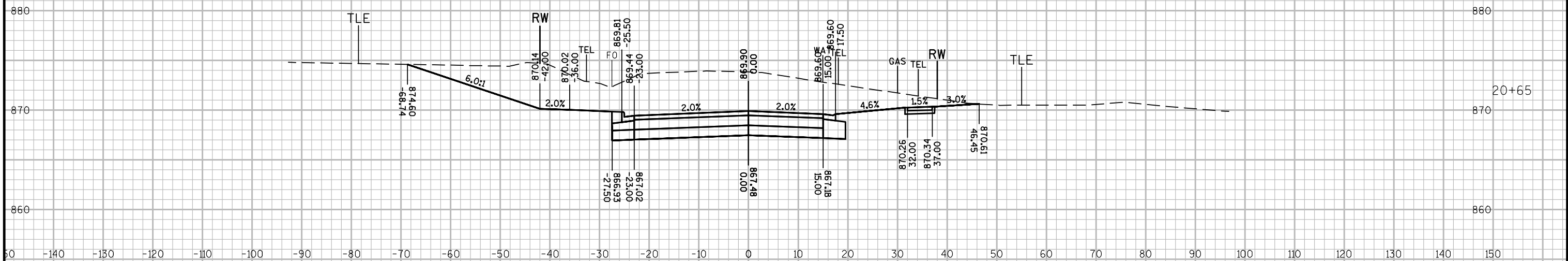
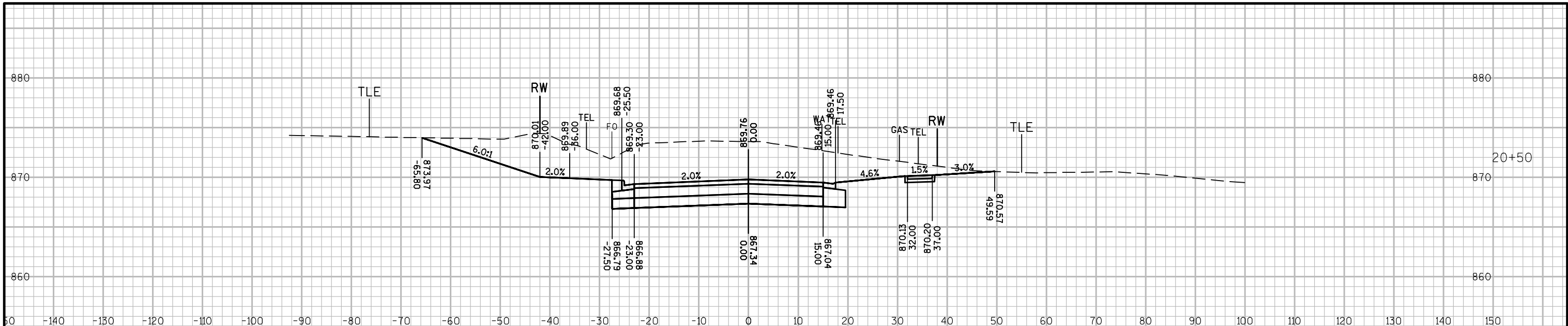






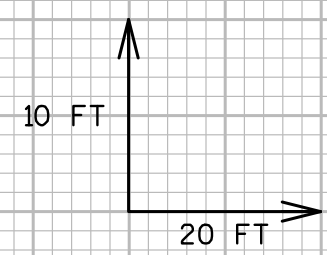
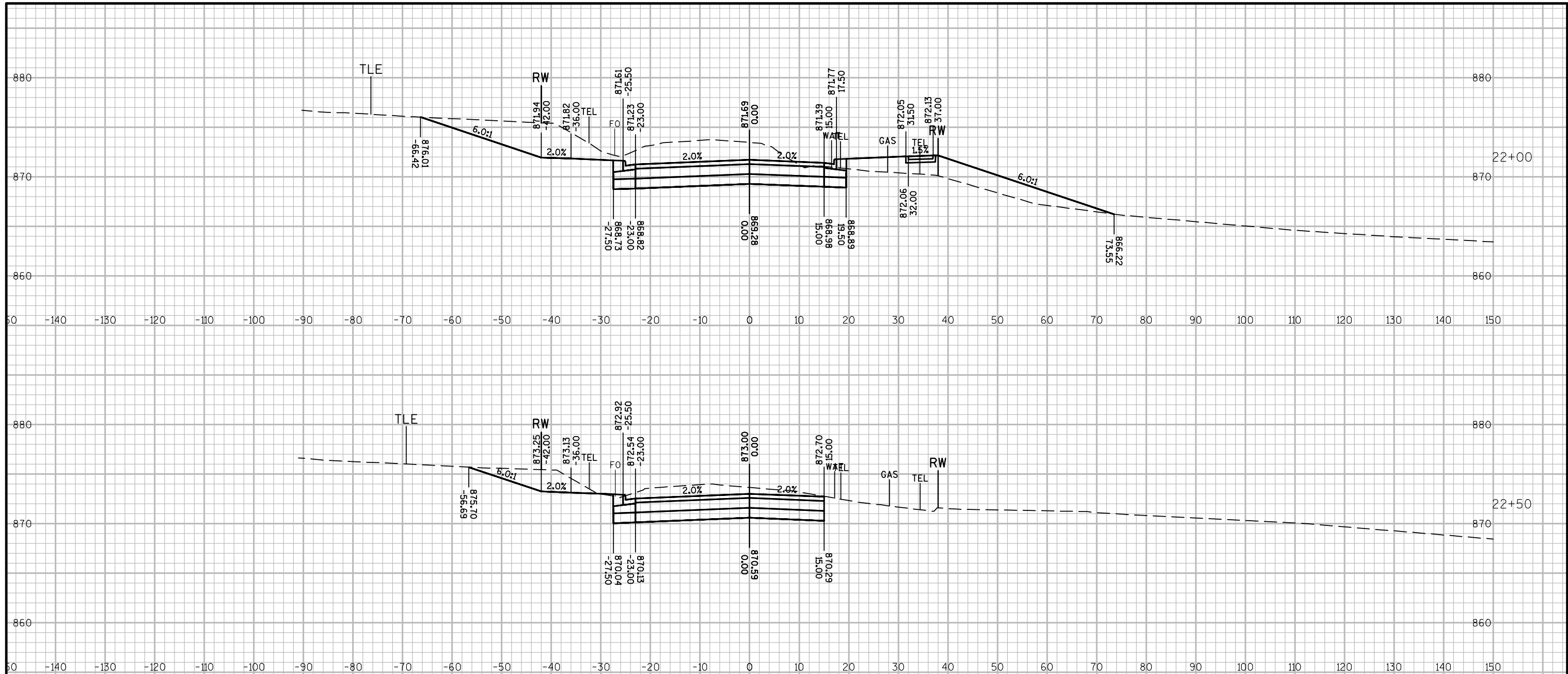


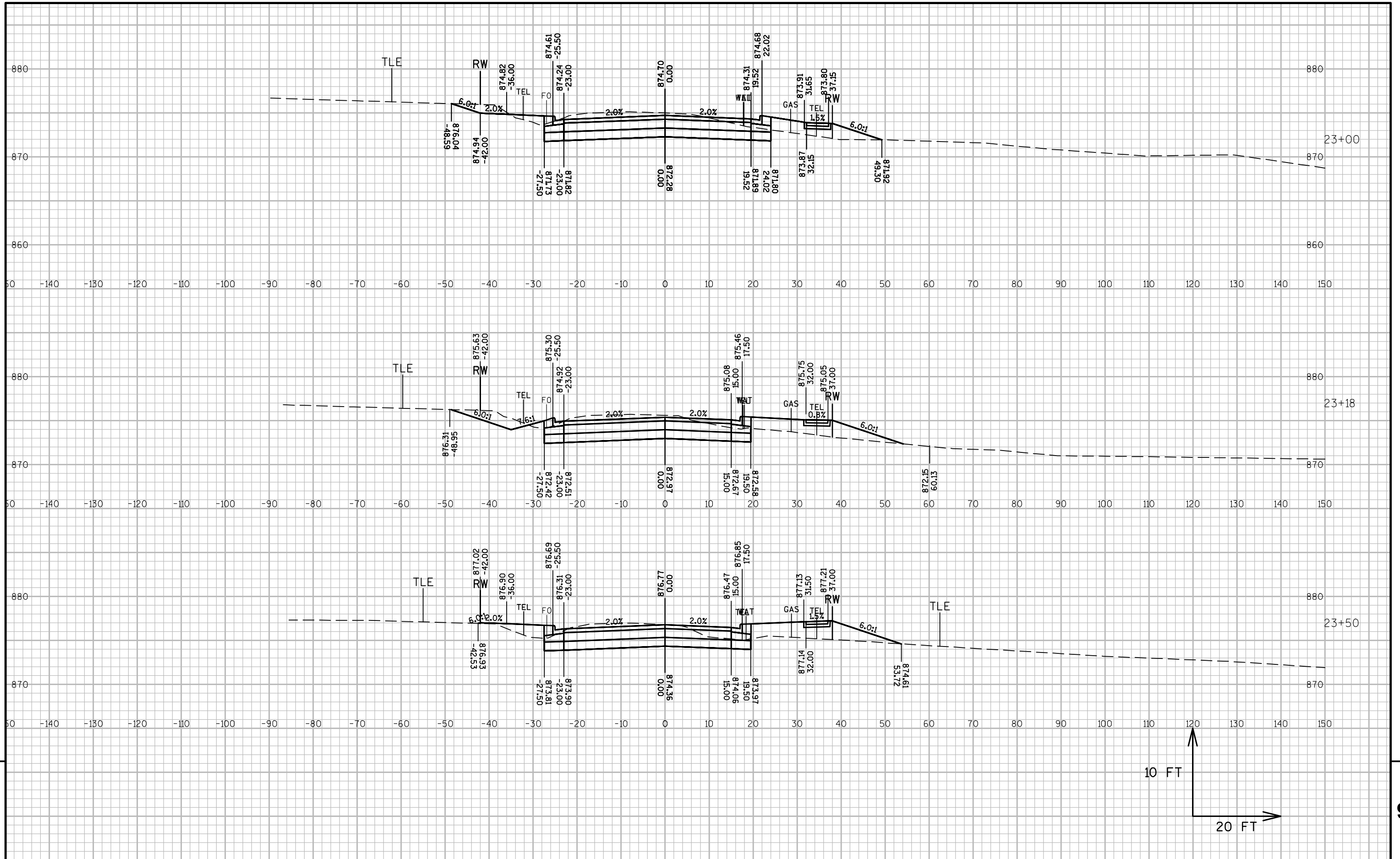


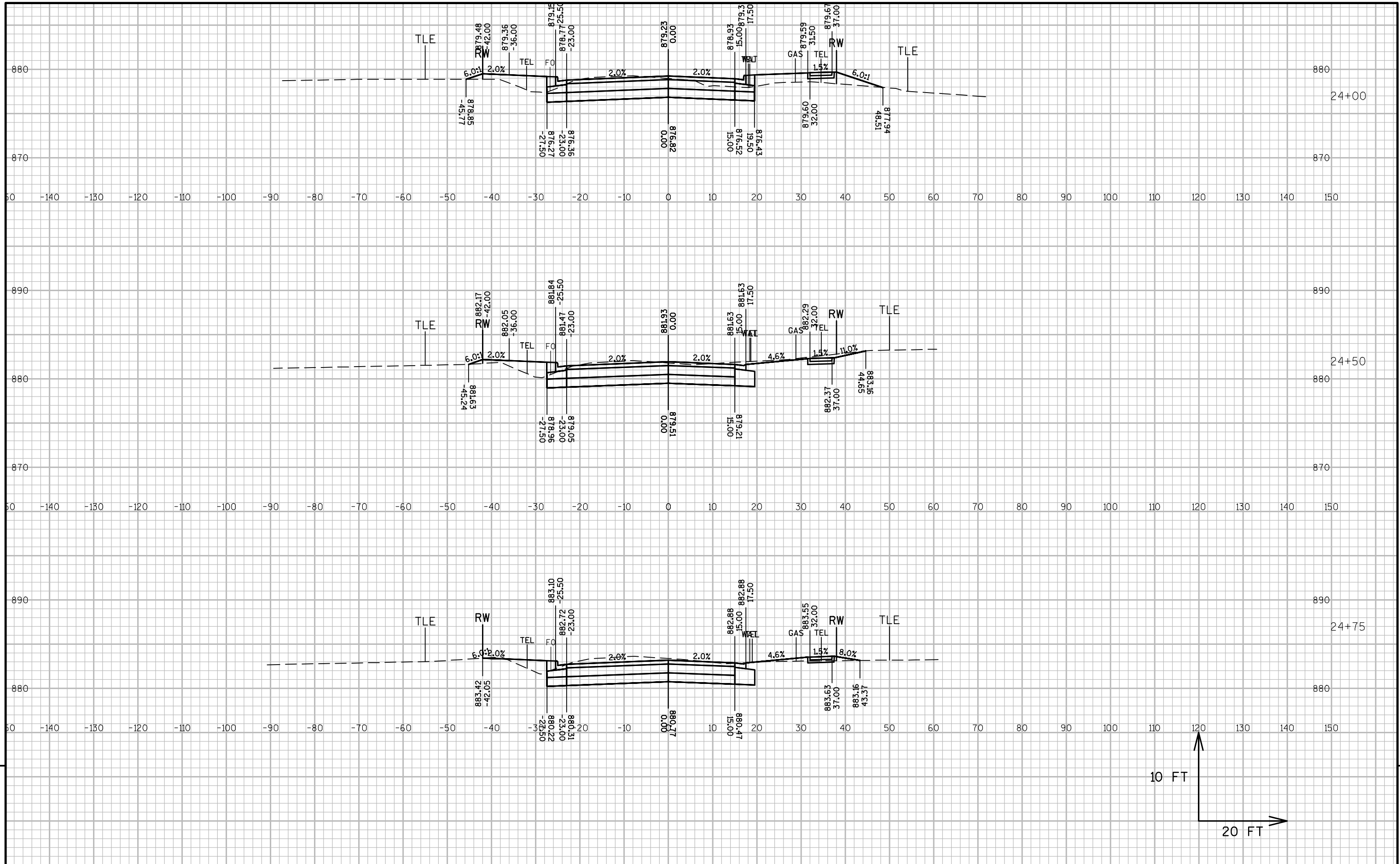


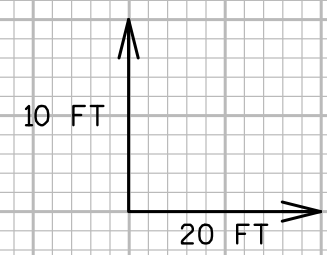
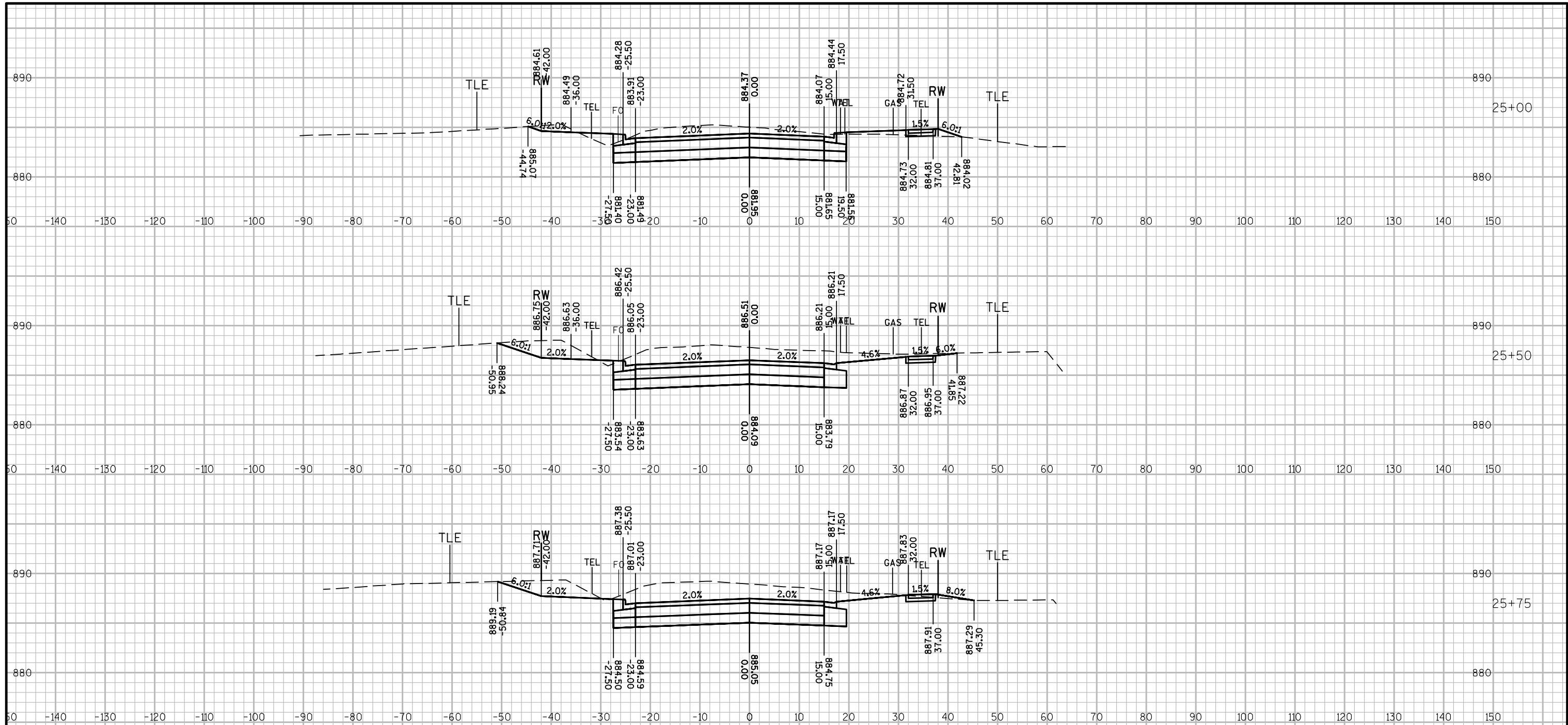


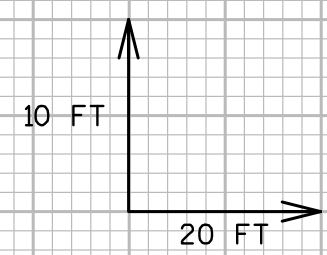
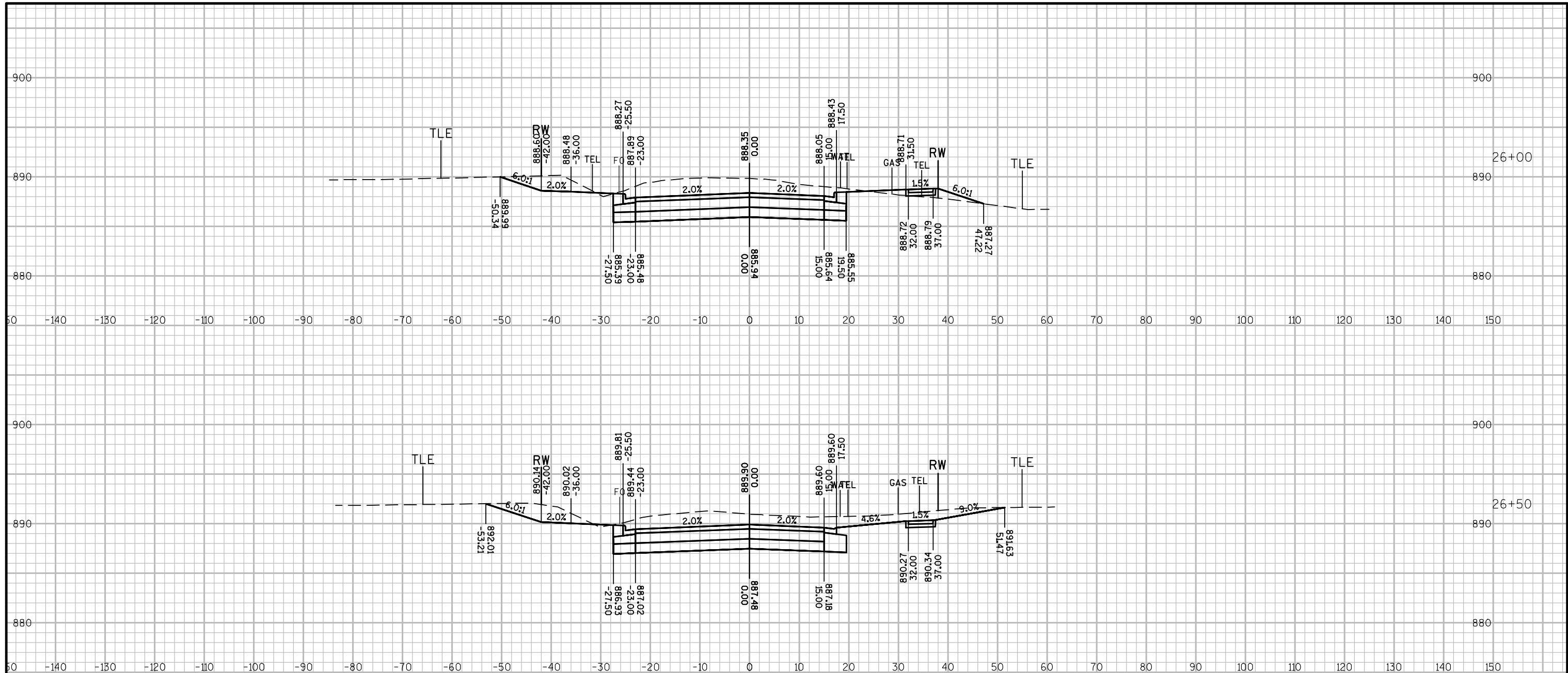


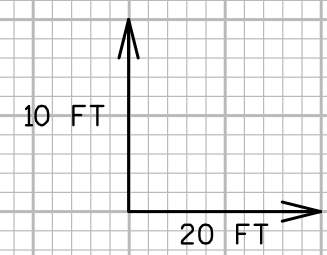
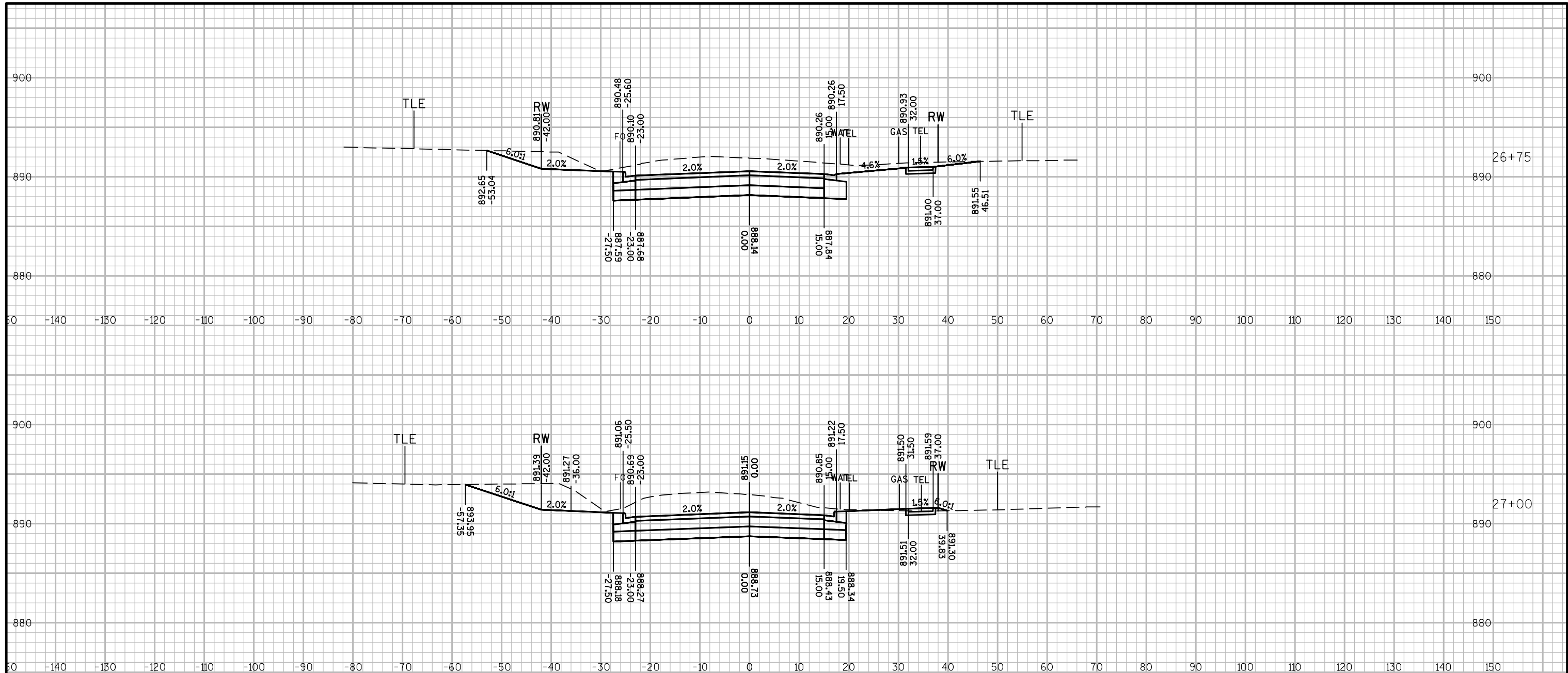


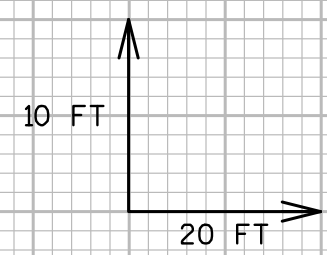
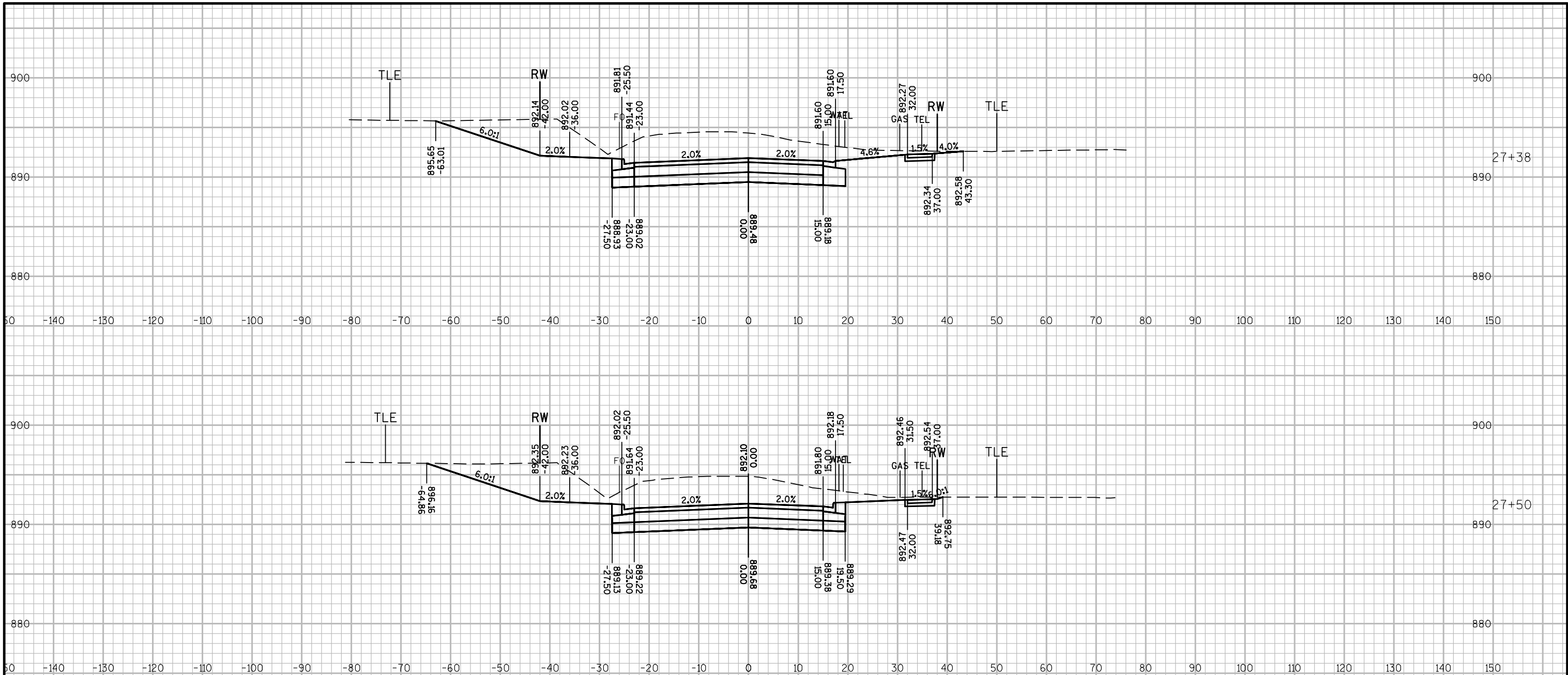










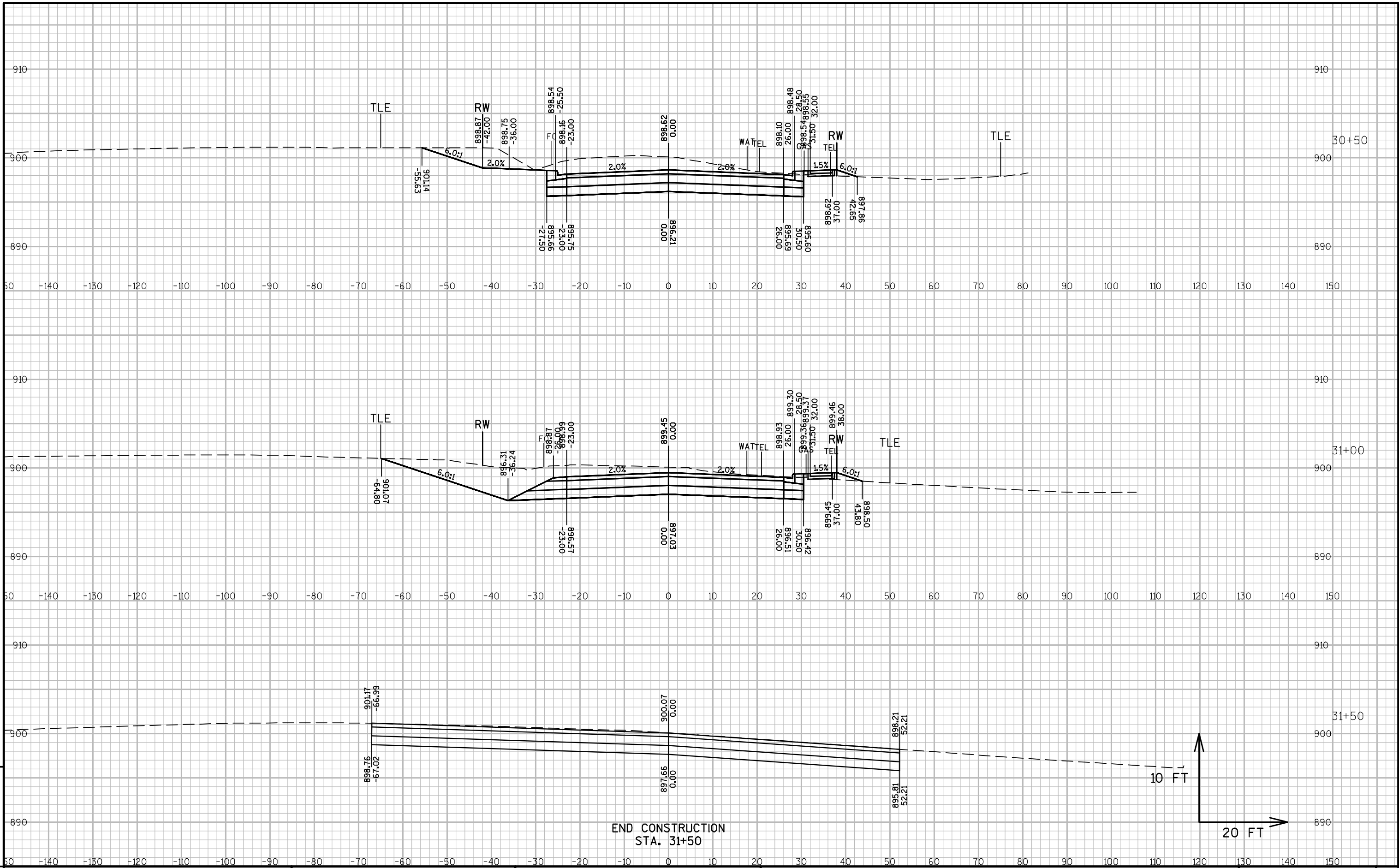


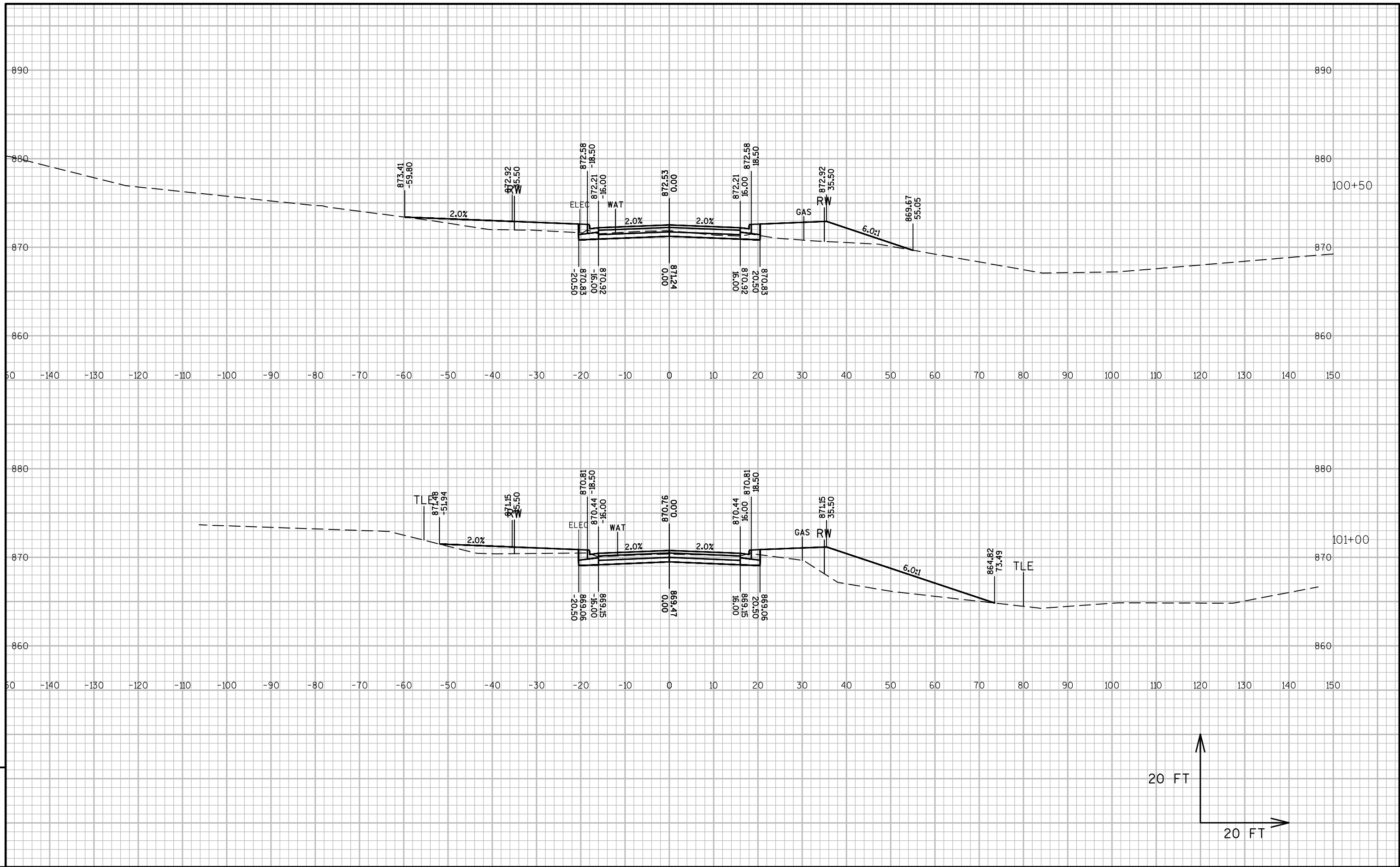


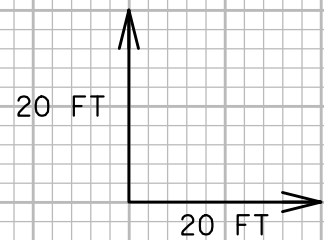
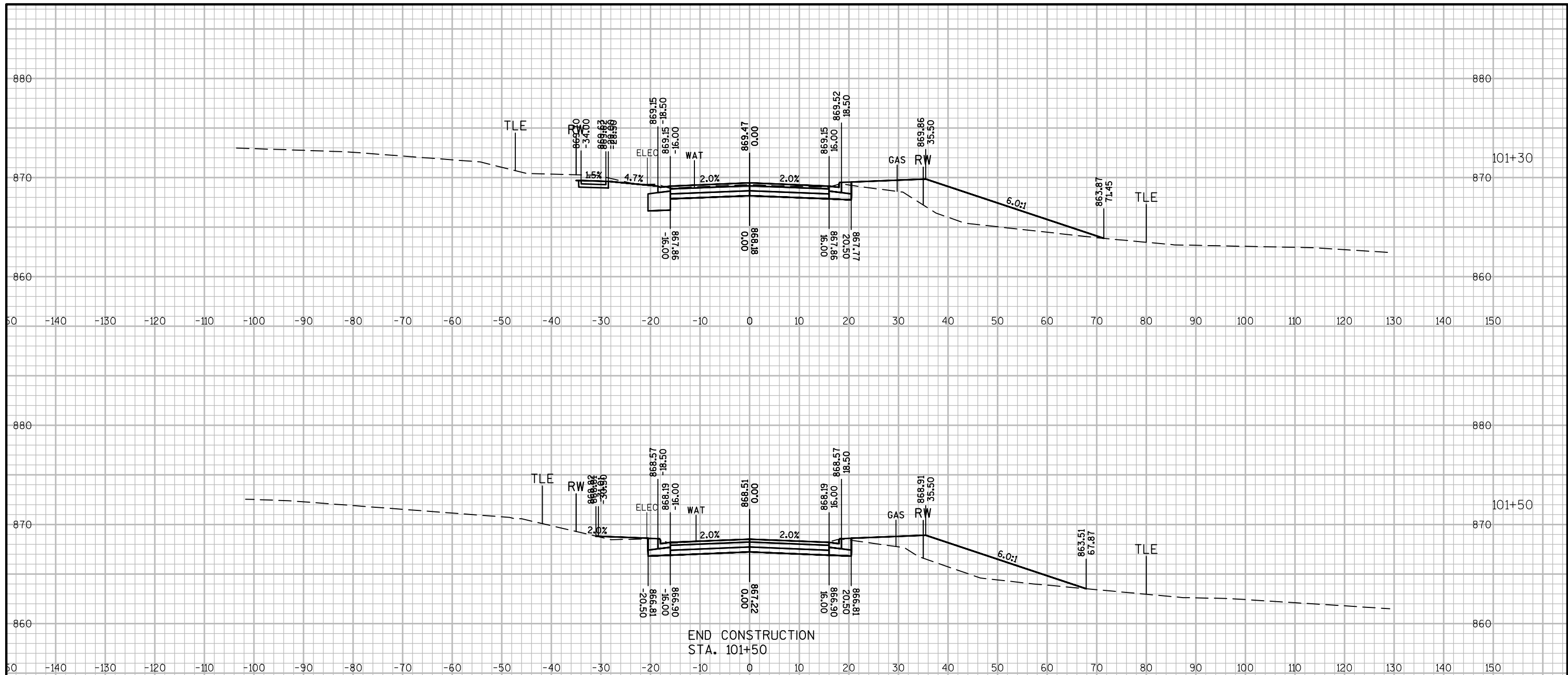












## Notes



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