

PROJECT ID: 1195-13-71  
 WITH: 1195-13-72, 8998-00-08, 8998-00-21, 8010-07-74 & 8998-13-76

COUNTY: DOUGLAS

ORDER OF SHEETS

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

TOTAL SHEETS = 542



DESIGN DESIGNATION

A.A.D.T. 2013	=	9563
A.A.D.T. 2023	=	10475
D.H.V. 2023	=	2734
D.D.	=	58/42
T. AADT	=	15.8 %
DESIGN SPEED	=	25 MPH
ESALS	=	4,874,200

CONVENTIONAL SYMBOLS

PLAN	PROFILE	
CORPORATE LIMITS	GRADE LINE	
PROPERTY LINE	ORIGINAL GROUND	
LOT LINE	MARSH OR ROCK PROFILE (To be noted as such)	
LIMITED HIGHWAY EASEMENT	SPECIAL DITCH	
EXISTING RIGHT OF WAY	GRADE ELEVATION	
PROPOSED OR NEW R/W LINE	CULVERT (Profile View)	
SLOPE INTERCEPT	UTILITIES	
REFERENCE LINE	ELECTRIC	
EXISTING CULVERT	FIBER OPTIC	
PROPOSED CULVERT (Box or Pipe)	GAS	
COMBUSTIBLE FLUIDS	SANITARY SEWER	
	STORM SEWER	
	TELEPHONE	
	WATER	
MARSH AREA	UTILITY PEDESTAL	
	POWER POLE	
WOODED OR SHRUB AREA	TELEPHONE POLE	

# STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

## PLAN OF PROPOSED IMPROVEMENT

### CITY OF SUPERIOR, TOWER AVENUE

BELKNAP STREET - 3RD STREET

STH 35

DOUGLAS

STATE PROJECT NUMBER  
**1195-13-71**

CITY OF SUPERIOR,  
TOWER AVENUE  
BELKNAP STREET - 3RD STREET  
STH 35  
DOUGLAS COUNTY

STATE PROJECT NUMBER  
**8010-07-74**

CITY OF SUPERIOR,  
TOWER AVENUE  
BELKNAP STREET - 3RD STREET  
STH 35  
DOUGLAS COUNTY

STATE PROJECT NUMBER  
**8998-00-21**

CITY OF SUPERIOR,  
TOWER AVENUE  
BELKNAP STREET - 3RD STREET  
STH 35  
DOUGLAS COUNTY

STATE PROJECT NUMBER  
**1195-13-72**

END PROJECT 1195-13-71, 1195-13-72  
& 8010-07-74  
STA 750+39.43

BEGIN PROJECT 1195-13-71, 1195-13-72  
& 8010-07-74  
STA 688+67.69  
X = 147037.425  
Y = 305490.933

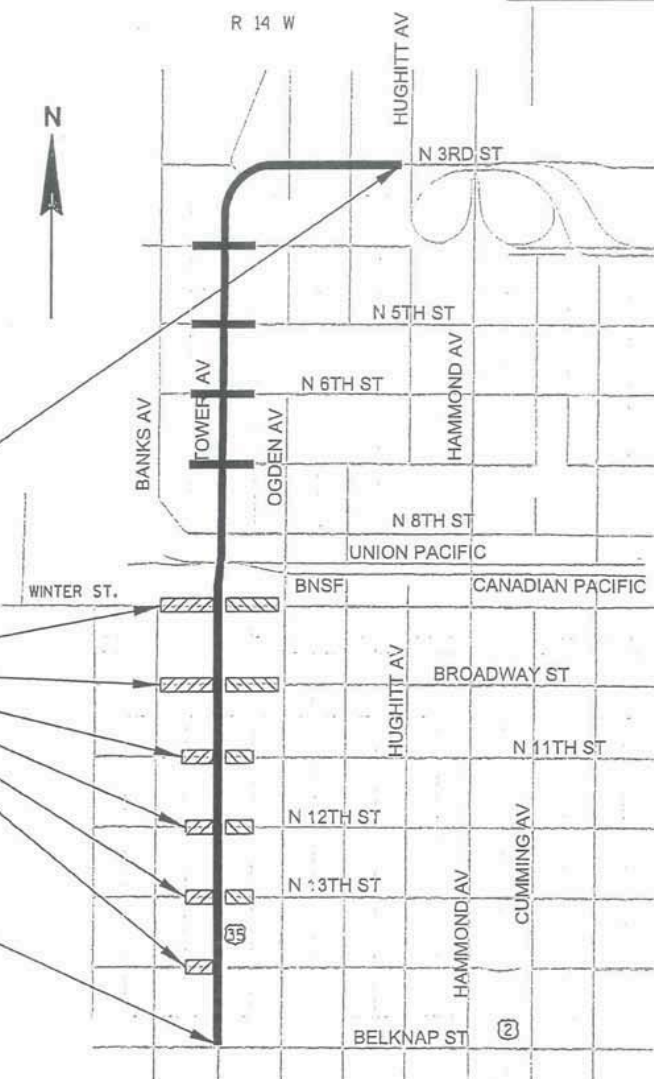
LAYOUT  
SCALE 0 500 FT.  
TOTAL NET LENGTH OF CENTERLINE = 1.169 MI.

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

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1195-13-71	WISC 2012716	1
8998-00-08	WISC 2012720	1
8998-00-21	WISC 2012721	1
8010-07-74	WISC 2012718	1
1195-13-72	—	—

CITY OF SUPERIOR,  
TOWER AVENUE SIDE STREETS  
BANKS AVENUE ALLEY - OGDEN AVENUE ALLEY  
LOCAL STREETS  
DOUGLAS COUNTY

STATE PROJECT NUMBER  
**8998-00-08**



ACCEPTED FOR  
CITY of SUPERIOR  
DATE: 8/2/12

ORIGINAL PLANS PREPARED BY:  
SHORT ELLIOTT HENDRICKSON, INC



STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WISDOT
Designer	STEPHANIE J. KING
Project Manager	BRENDAN D. DIRKES
Regional Examiner	DANIEL OJIBWAY
Regional Supervisor	ROBERT J. ANDERSON
C.O. Examiner	LARRY JONES

APPROVED FOR THE DEPARTMENT  
DATE: 8/3/12

E

STANDARD ABBREVIATIONS

Table with 3 columns: Abbreviation, Description, Abbreviation, Description. Includes AGG (AGGREGATE), AECPRC (APRON ENDWALL FOR CULVERT PIPE), ASPH (ASPHALTIC), etc.

GENERAL NOTES

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

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

ALL UTILITIES WILL BE RELOCATED OR ADJUSTED BY THEIR OWNERS WHERE REQUIRED, MUNICIPAL WATER AND SANITARY SEWER ADJUSTMENTS WILL REQUIRE COORDINATION WITH THE CONTRACTOR.

THE ESTIMATED EXTENT OF SOIL CONTAMINATION IN THE RIGHT OF WAY, AS SHOWN IN THE PLANS IS TO BE REMOVED. THE LOCATION AND AMOUNT WILL BE DETERMINED BY THE ENGINEER.

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

THE EXACT LOCATION OF THE EROSION CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE 4-INCH TOPSOILED, FERTILIZED, SEEDED, AND MULCHED OR EROSION MATTED AS SHOWN IN THE PLANS. FINISHED SEEDED SURFACE SHALL BE 1-INCH BELOW THE TOP OF ADJACENT CONCRETE.

THE EXACT LOCATION OF ALL DRIVEWAYS WILL BE DETERMINED BY THE ENGINEER.

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

CONSTRUCT INSIDE EDGE OF SIDEWALK 1/4 INCH HIGHER THAN THE TOP OF CURB, WHEN THEY ARE ADJACENT TO EACH OTHER.

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

TOP OF CASTING ELEVATIONS SHOWN FOR INLETS REFER TO THE NORMAL GUTTER FLOWLINE.

ALL STORM SEWER INVERTS, ELEVATIONS, PIPE LENGTHS, AND GRADES ARE COMPUTED CENTER-TO-CENTER OF STRUCTURES.

HMA PAVEMENT SHALL BE CONSTRUCTED WITH THE FOLLOWING LAYER THICKNESSES:

Table with 8 columns: PAVEMENT THICKNESS, LOWER, NOM AGG SIZE, LOWER MIDDLE, NOM AGG SIZE, MIDDLE, NOM AGG SIZE, UPPER, NOM AGG SIZE. Units in INCH and mm.

CURB RAMP TYPES ARE SHOWN ON THE PLAN AND PROFILE SHEETS.

ORDER OF TYPICAL SECTION AND DETAIL SHEETS

- GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
INTERSECTION DETAILS
EROSION CONTROL
STORM SEWER
SANITARY SEWER
WATERMAIN
PLANTING
PERMANENT SIGNING
LIGHTING
LIGHTING DETAILS
SPEAKER SYSTEM
TRAFFIC SIGNAL PLAN
SEQUENCE OF OPERATIONS
PAVEMENT MARKING
TRAFFIC CONTROL
ALIGNMENT

UTILITY CONTACTS

CHARTER COMMUNICATIONS
640 GARFIELD AVENUE
DULUTH, MINNESOTA 55802
TELEPHONE: 218.529.8042
ATTENTION: JOHN QUADE
EMAIL: JOUADE@CHARTERCOM.COM

CENTURYLINK
2426 COUNTY ROAD M
PO BOX 518
OSCEOLA, WISCONSIN 54020
ENGINEERING TELEPHONE: 715.294.2463
ATTENTION: MIKE VANDENBOS
EMAIL: MIKE.VANDENBOS@CENTURYLINK.COM

CITY OF SUPERIOR
PUBLIC WORKS
1316 N 14TH STREET
SUPERIOR, WISCONSIN 54880
TELEPHONE: 715.395.7539
ATTENTION: JEFF GOETZMAN
EMAIL: GOETZMAN@CI.SUPERIOR.WI.US

SUPERIOR WATER, LIGHT & POWER CO.
2915 HILL AVENUE
P.O. BOX 519
SUPERIOR, WISCONSIN 54880
TELEPHONE: 715.395.6315
ATTENTION: KEVIN HABERMAN
EMAIL: KHABERMAN@SWLP.COM

TELEPHONE: 715.395.6346
ATTENTION: TROY AUNE
EMAIL: TAUNE@SWLP.COM
TELEPHONE: 218.355.5949
ATTENTION: TIM MELBY (WATER & GAS)
EMAIL: TMELBY@SWLP.COM



CALL 811 OR (800)242.8511
(877)500.9592 (EMERGENCY ONLY)
www.DiggersHotline.com

RAILROAD CONTACTS

UNION PACIFIC RAILROAD COMPANY
101 N WACKER DRIVE, SUITE 1920
CHICAGO, IL 60606
TELEPHONE: 312.777.2043
ATTENTION: JOHN VENICE
EMAIL: JVENICE@UP.COM

UNION PACIFIC RAILROAD COMPANY
"CALL BEFORE YOU DIG"
1-800-848-8715

BNSF RAILWAY COMPANY
80 44TH AVENUE NE
MINNEAPOLIS, MN 55421
TELEPHONE: 763.782.3495
ATTENTION: BENJAMIN STEINKAMP
EMAIL: BENJAMIN.STEINKAMP@BNSF.COM

BNSF RAILWAY COMPANY
"CALL BEFORE YOU DIG"
1-800-533-2891

CANADIAN PACIFIC RAILWAY
"CALL BEFORE YOU DIG"
1-800-291-0741

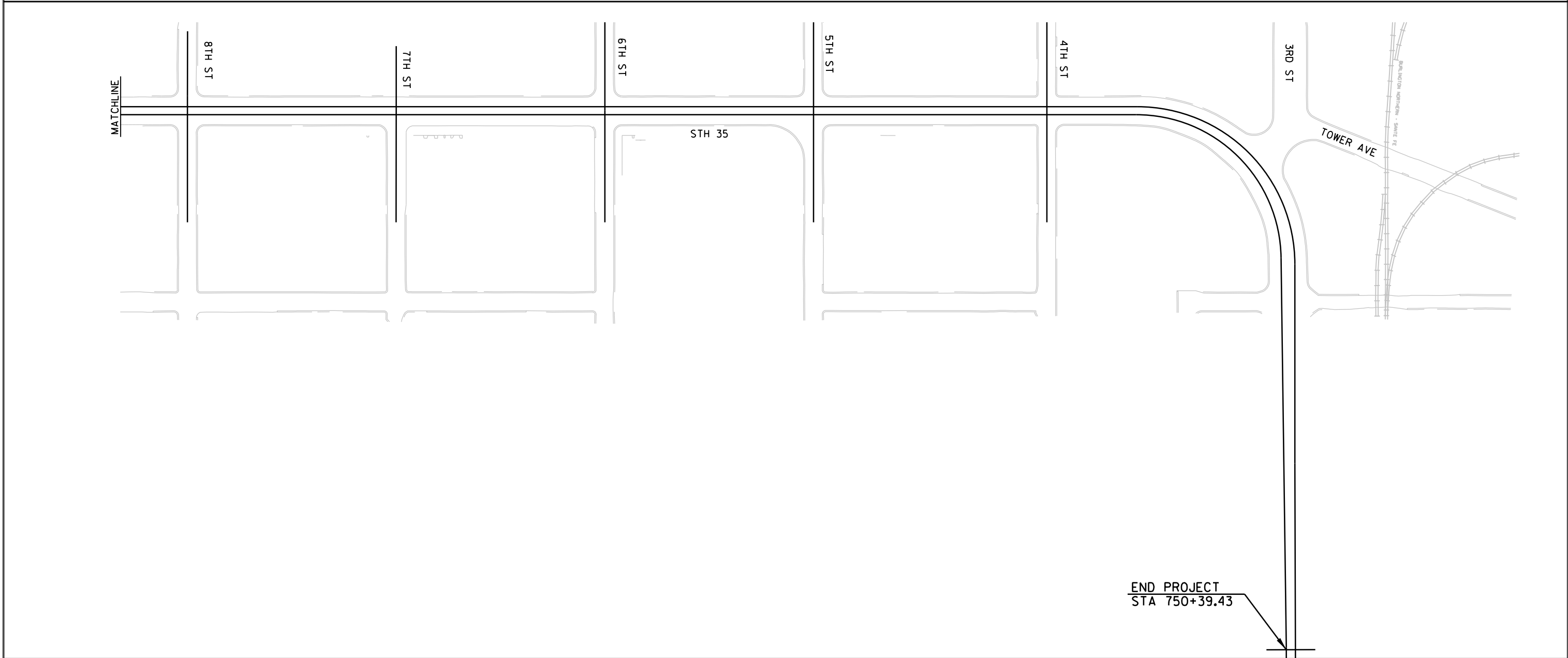
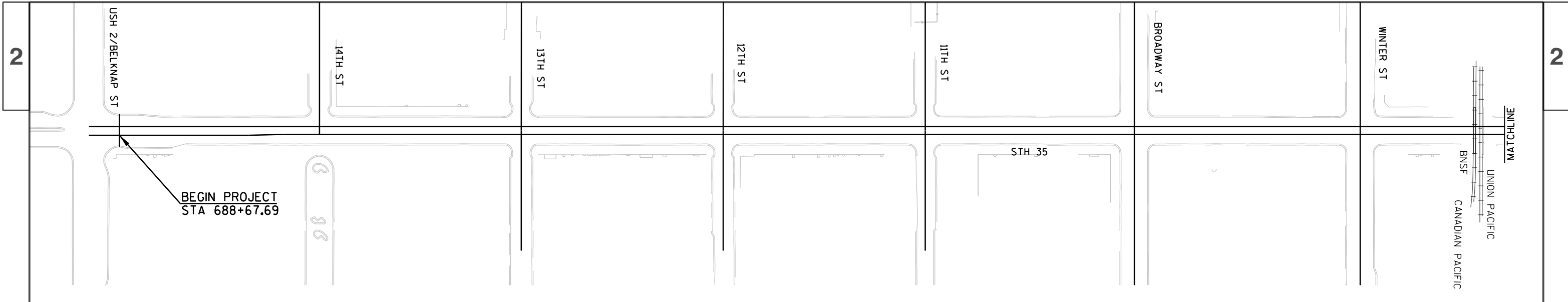
DESIGN CONTACT

TELEPHONE: 218.393.1915
ATTENTION: SCOTT WEYANDT

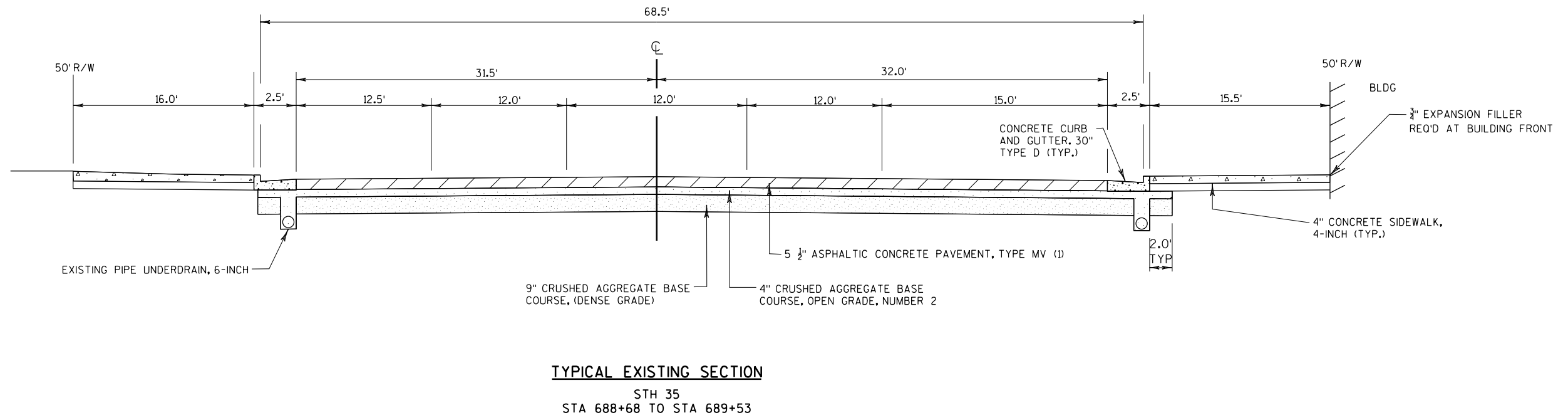
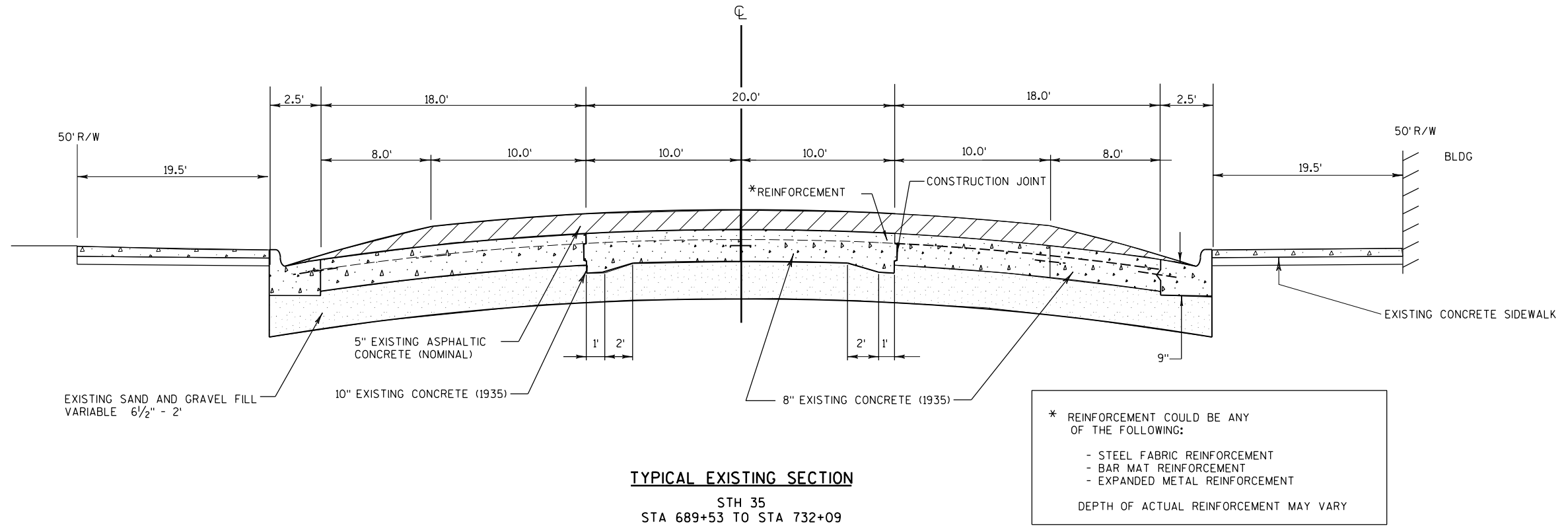
SEH INC.
421 FRENETTE DRIVE
CHIPPEWA FALLS, WI 54729
TELEPHONE: 715.720.6261
ATTENTION: JARROD STARREN
EMAIL: JSTARREN@SEHINC.COM

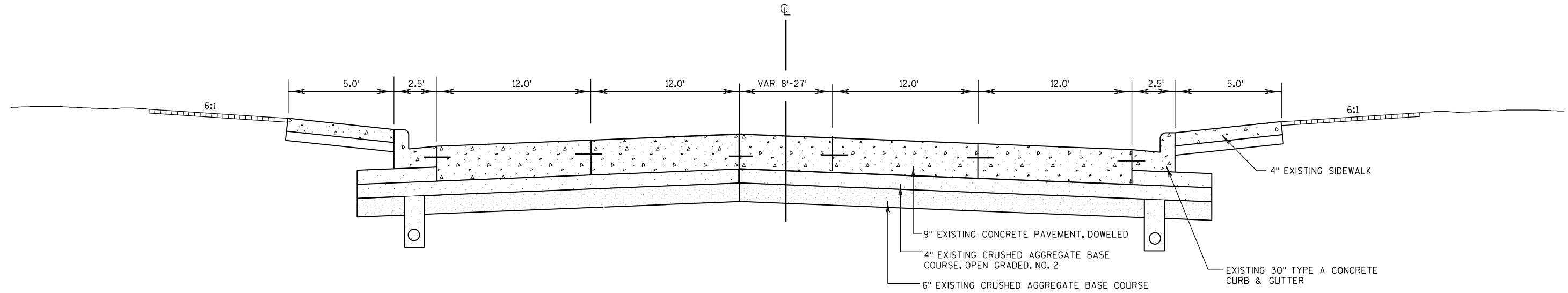
DNR CONTACT

STATE OF WISCONSIN
NORTHWEST DISTRICT
HWY 70 WEST
P.O. BOX 309
SPOONER, WI 54801
TELEPHONE: 715.635.4229
ATTENTION: AMY CRONK
EMAIL: AMY.CRONK@WISCONSIN.GOV



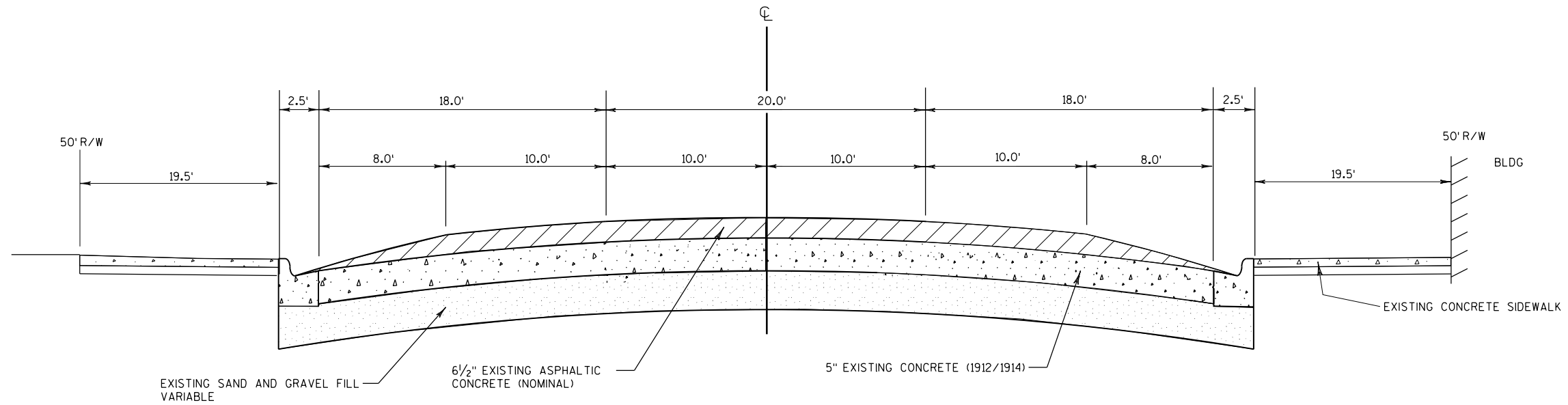
PROJECT NO: 1195-13-71	HWY: STH 35 - TOWER AVE	COUNTY: DOUGLAS	PROJECT OVERVIEW	SHEET	E
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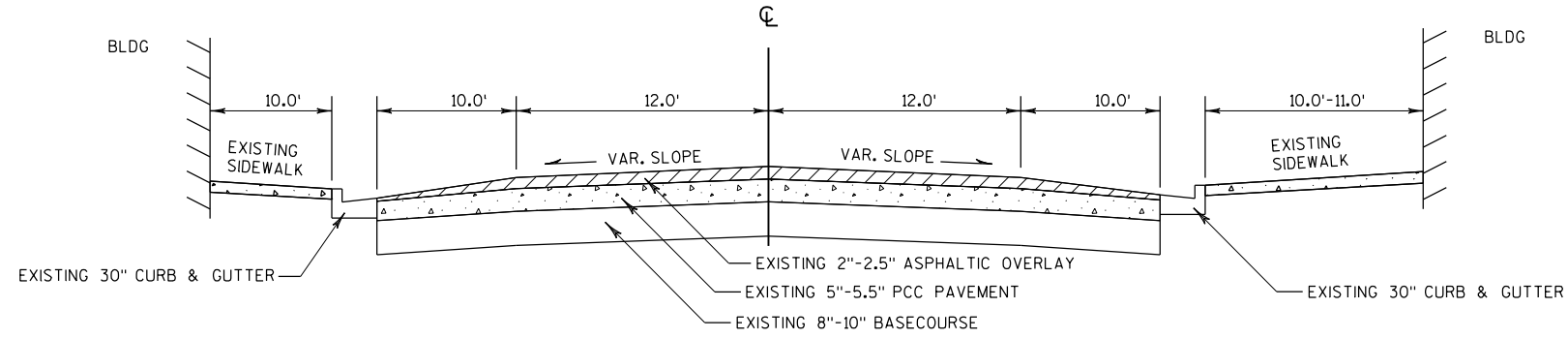
**TYPICAL EXISTING SECTION**

STH 35  
STA 737+83 TO STA 743+19



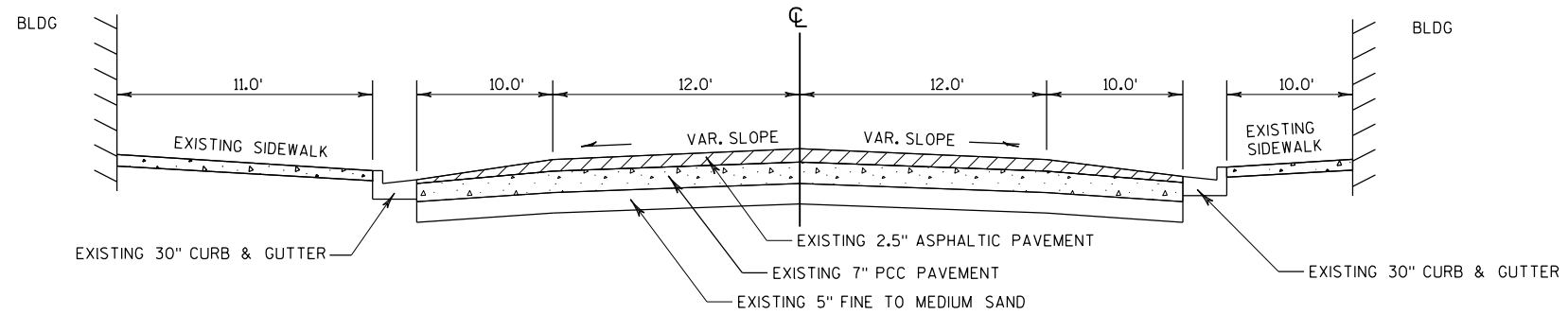
**TYPICAL EXISTING SECTION**

STH 35  
STA 732+09 TO STA 737+83



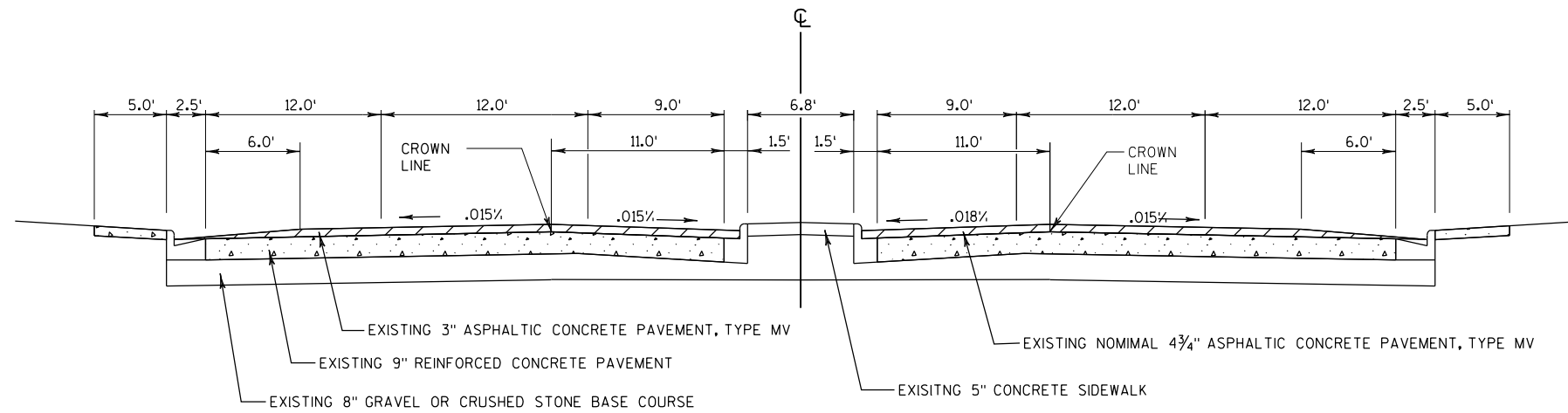
**TYPICAL EXISTING SECTION**

13TH STREET  
STA 126+33 TO STA 132+35



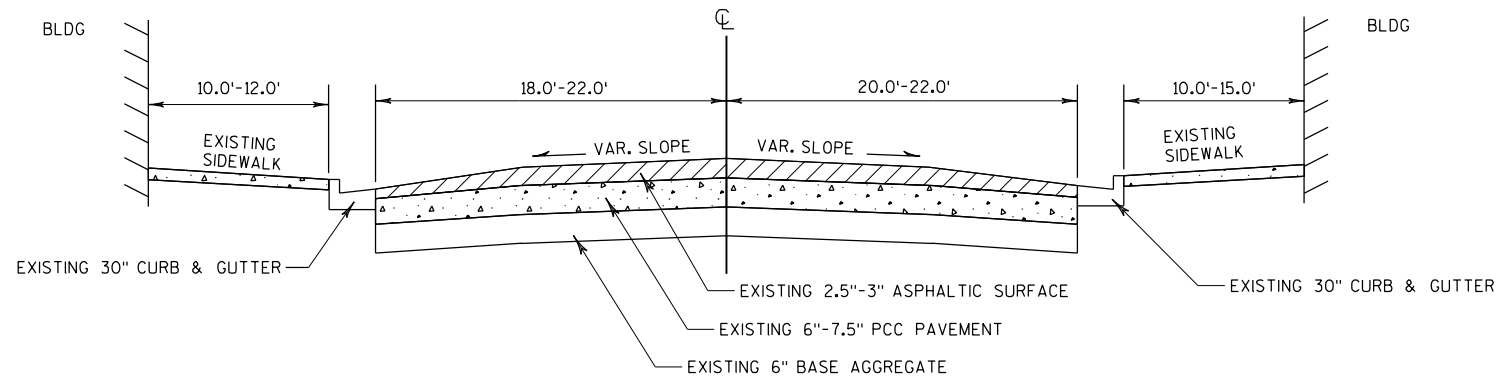
**TYPICAL EXISTING SECTION**

14TH STREET  
STA 136+33 TO STA 140+00



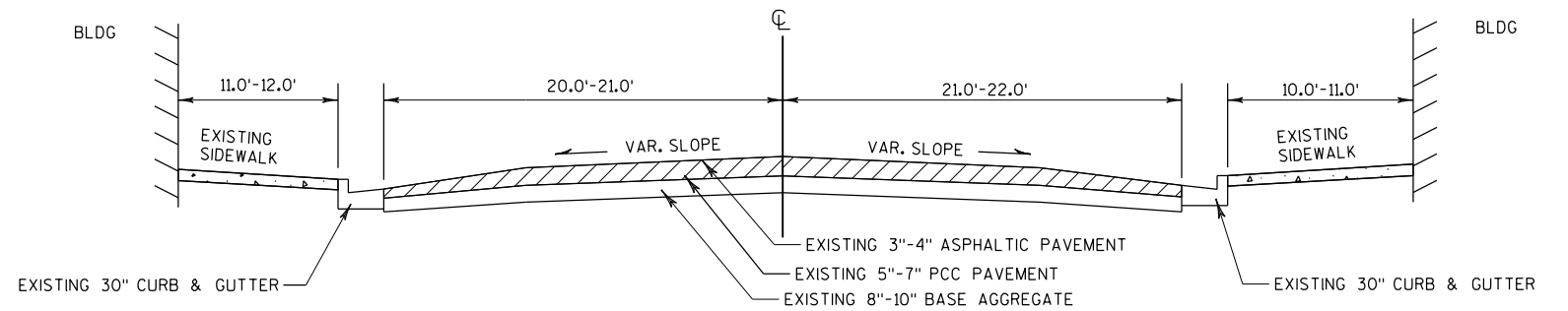
**TYPICAL EXISTING SECTION**

STA 743+19 TO STA 750+50



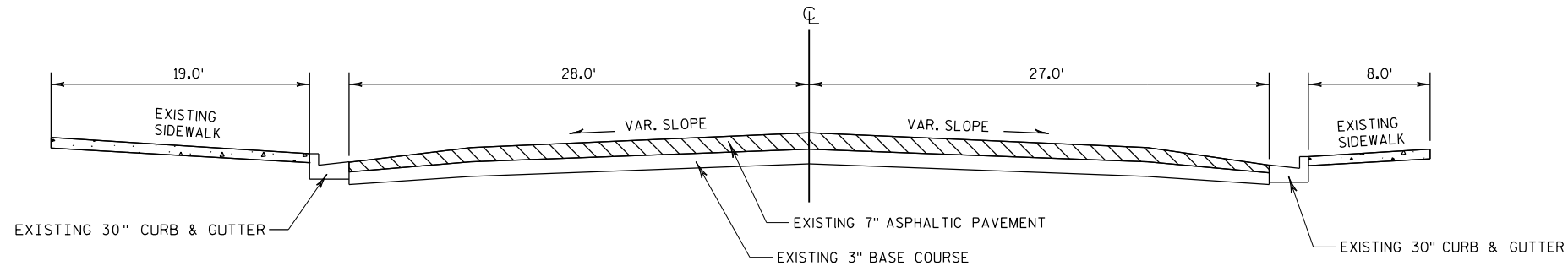
**TYPICAL EXISTING SECTION**

11TH STREET  
STA 106+33 TO STA 112+50



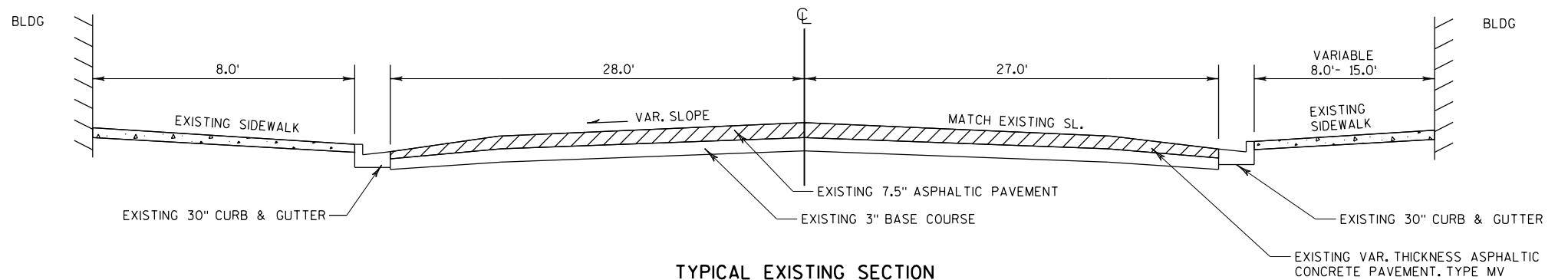
**TYPICAL EXISTING SECTION**

12TH STREET  
STA 116+33 TO STA 122+25



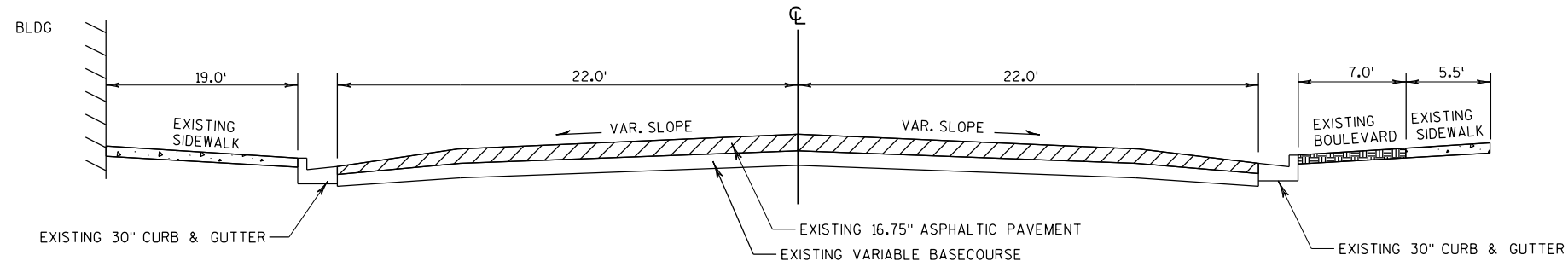
**TYPICAL EXISTING SECTION**

BROADWAY STREET  
STA 96+60 TO STA 100+00

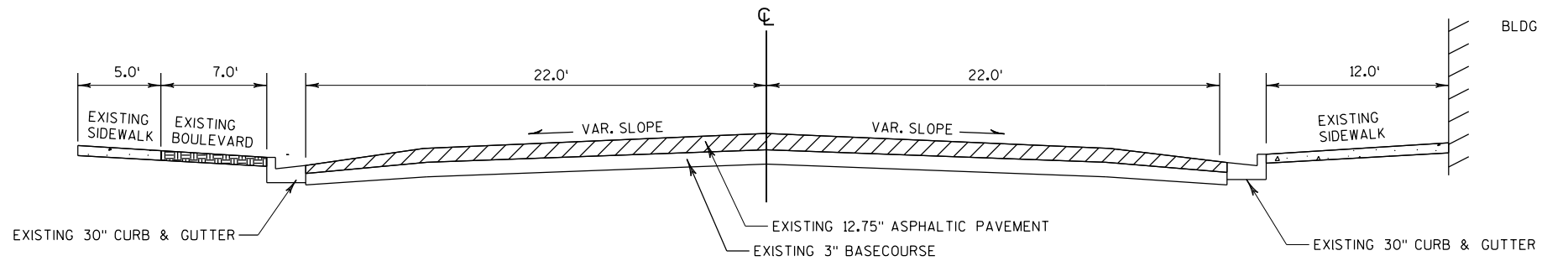


**TYPICAL EXISTING SECTION**

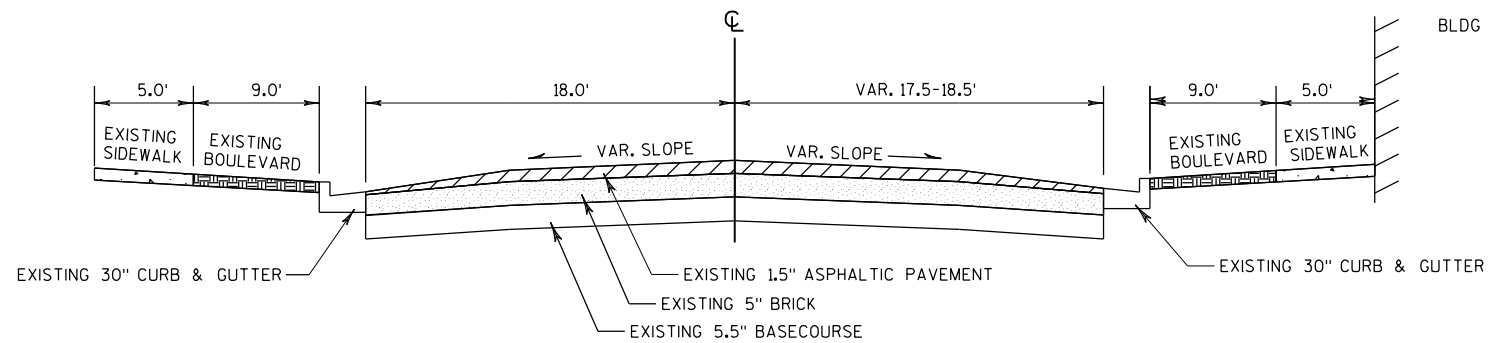
BROADWAY STREET  
STA 100+00 TO STA 103+37



**TYPICAL EXISTING SECTION**  
 WINTER STREET  
 STA 90+00 TO STA 93+70

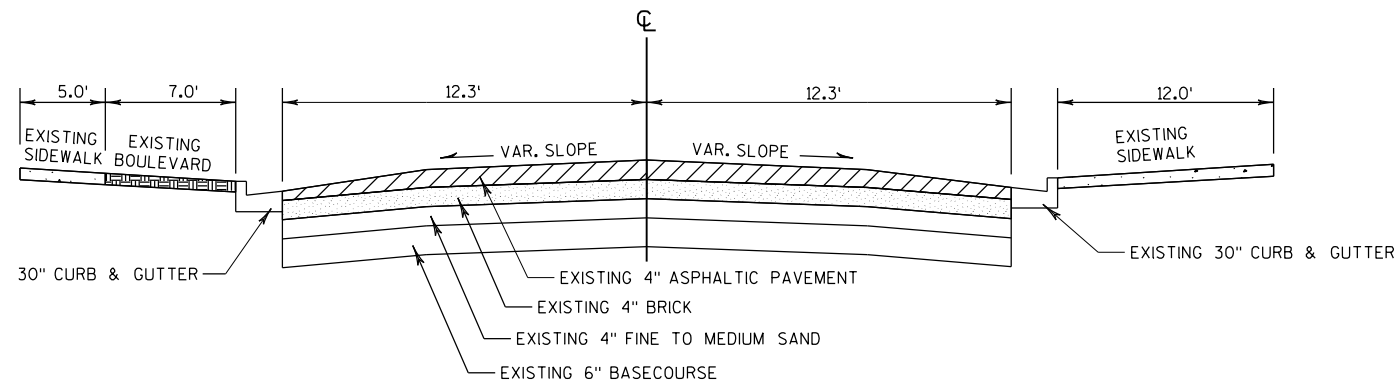


**TYPICAL EXISTING SECTION**  
 WINTER STREET  
 STA 85+55 TO STA 90+00



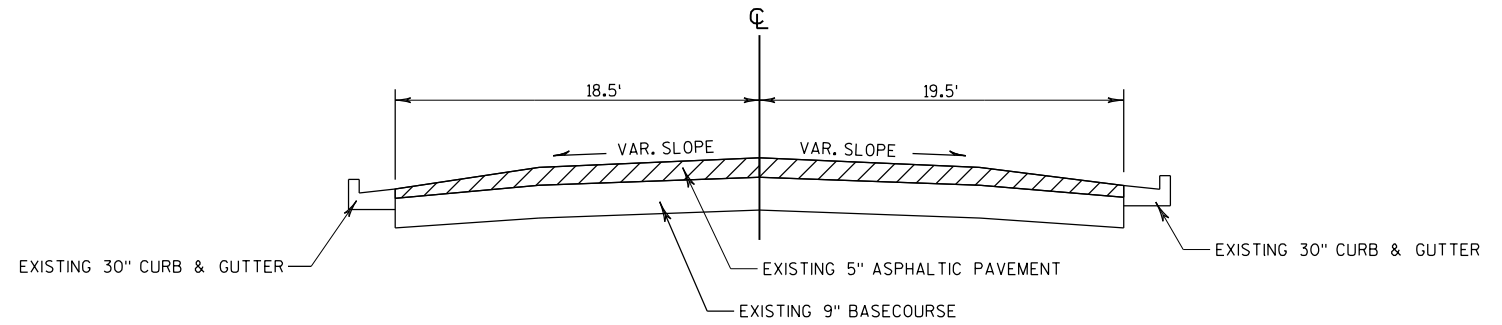
**TYPICAL EXISTING SECTION**  
 8TH STREET  
 STA 78+85 TO STA 80+00





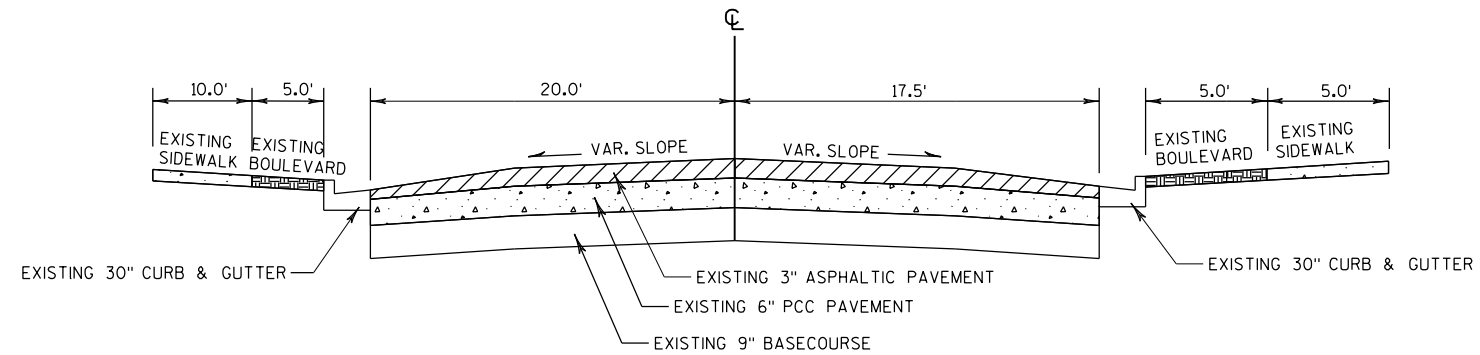
**TYPICAL EXISTING SECTION**

8TH STREET  
STA 80+00 TO STA 81+00



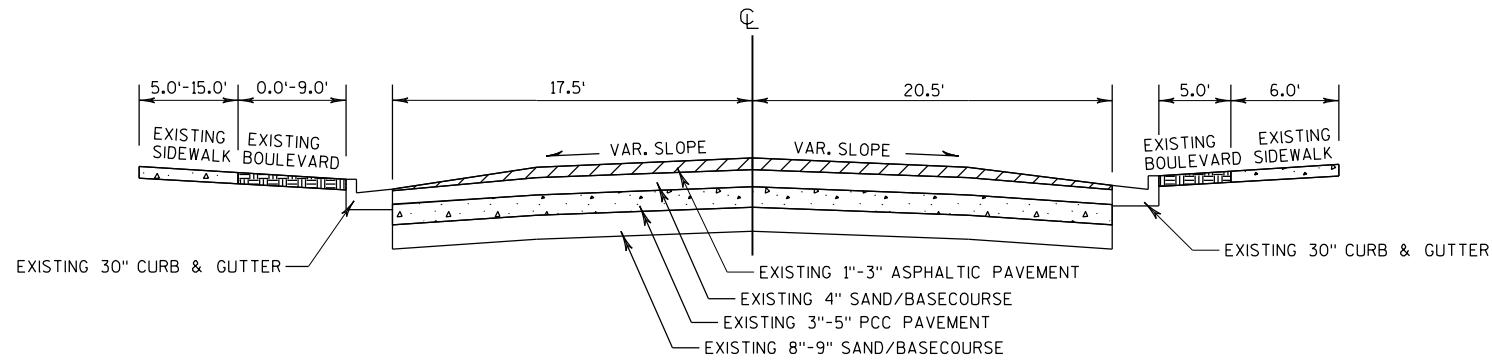
**TYPICAL EXISTING SECTION**

7TH STREET  
STA 68+85 TO STA 70+00

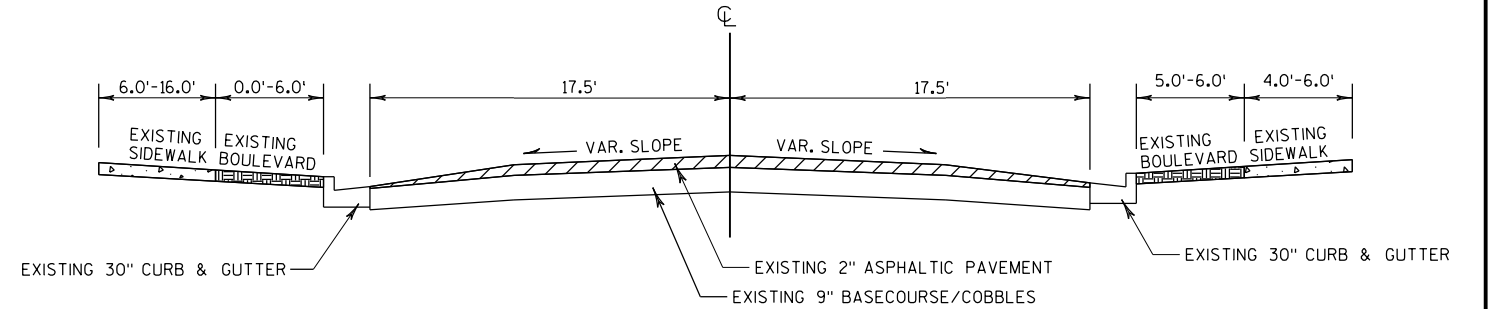


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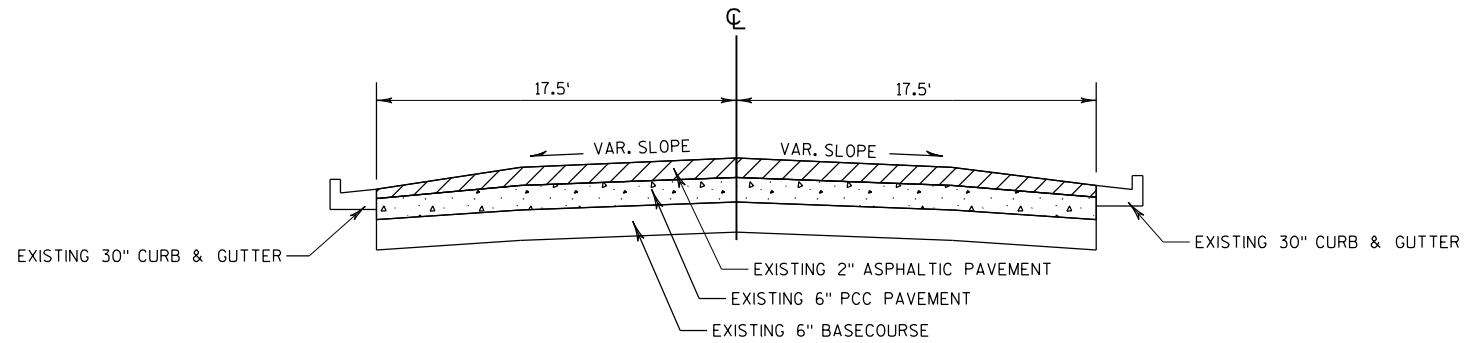
7TH STREET  
STA 70+00 TO STA 71+00



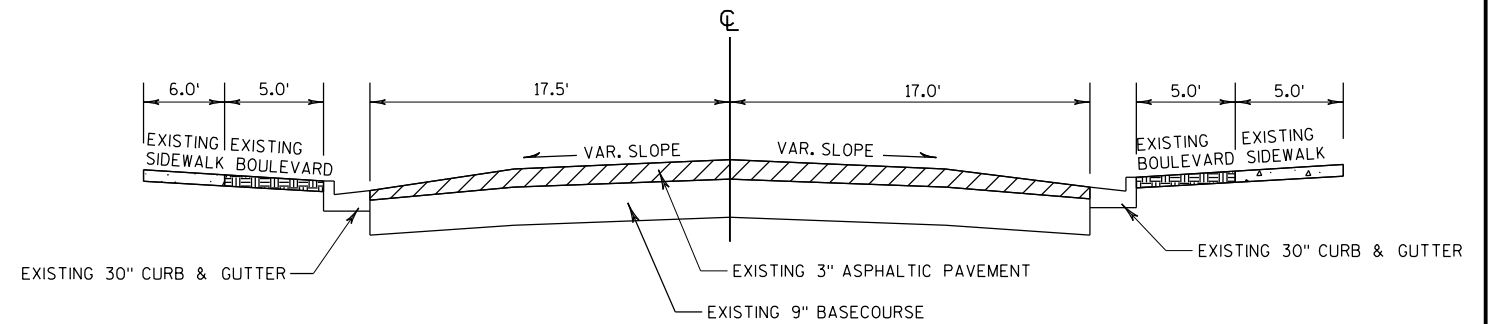
**TYPICAL EXISTING SECTION**  
 6TH STREET  
 STA 58+75 TO STA 61+35



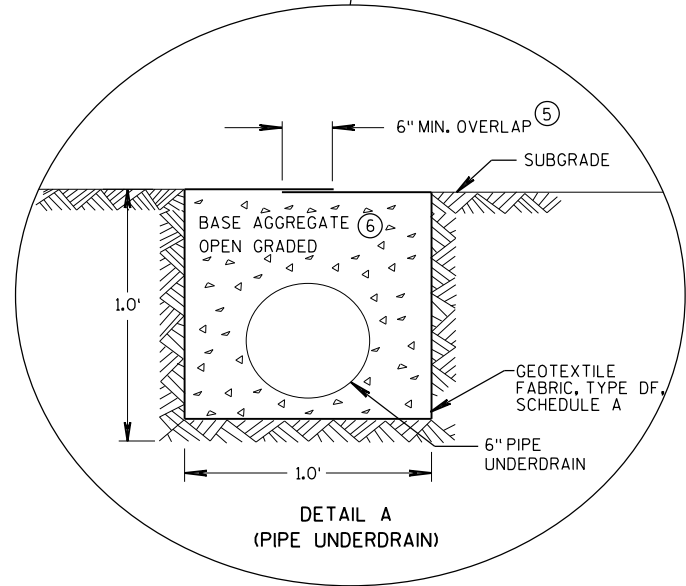
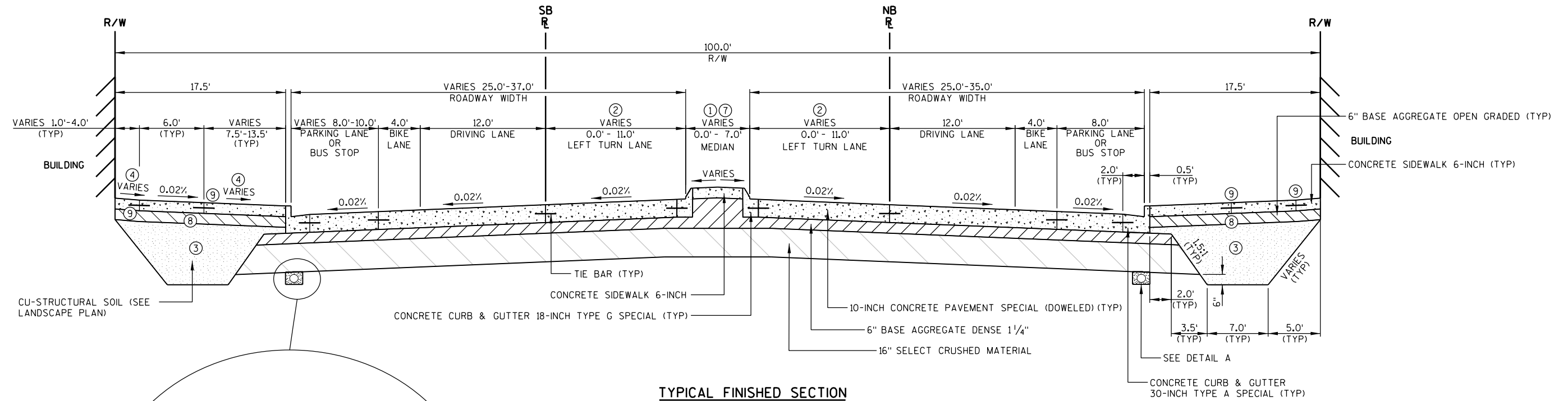
**TYPICAL EXISTING SECTION**  
 5TH STREET  
 STA 48+95 TO STA 51+35



**TYPICAL EXISTING SECTION**  
 4TH STREET  
 STA 38+85 TO STA 40+00



**TYPICAL EXISTING SECTION**  
 4TH STREET  
 STA 40+00 TO STA 41+25

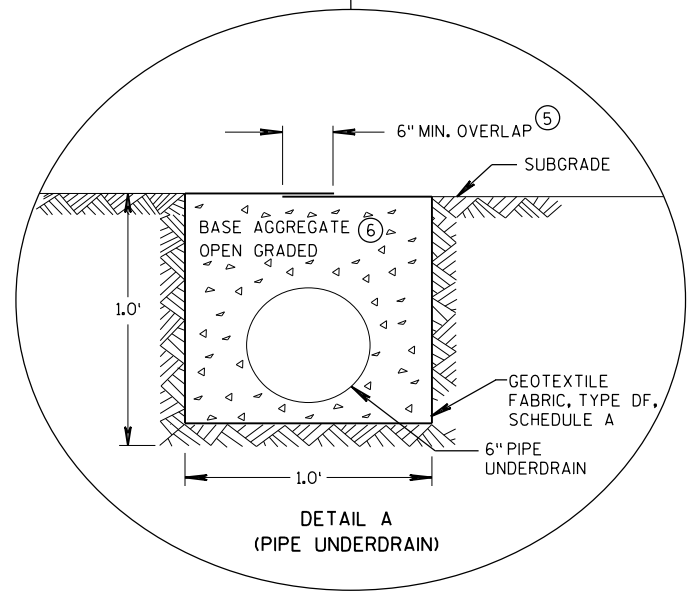
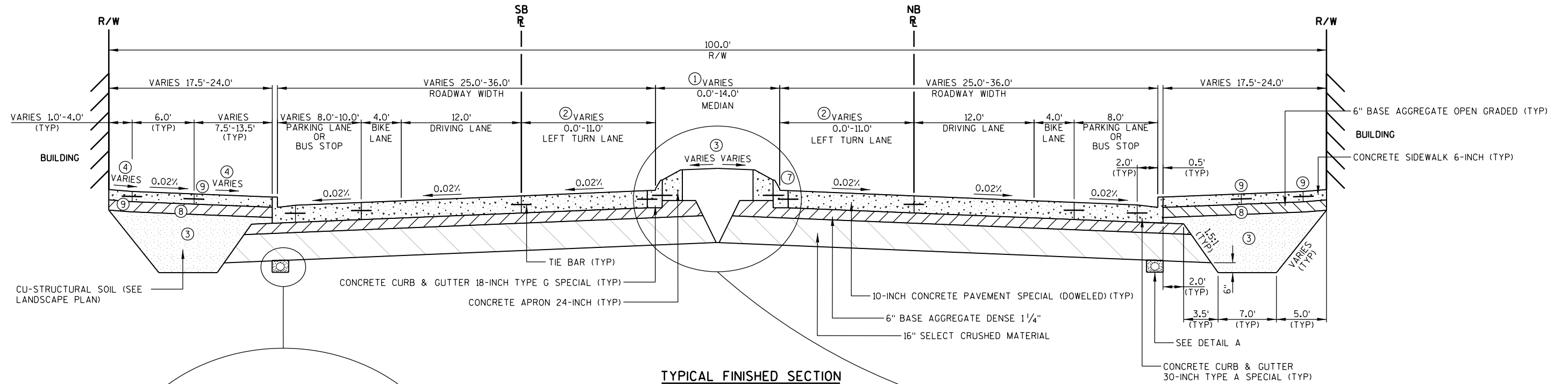


**TYPICAL FINISHED SECTION**

- STA 688+68 TO STA 692+74
- STA 695+93 TO STA 698+06
- STA 700+22 TO STA 702+35
- STA 704+34 TO STA 705+44
- STA 708+07 TO STA 711+52
- STA 712+78 TO STA 716+11
- STA 717+68 TO STA 737+84

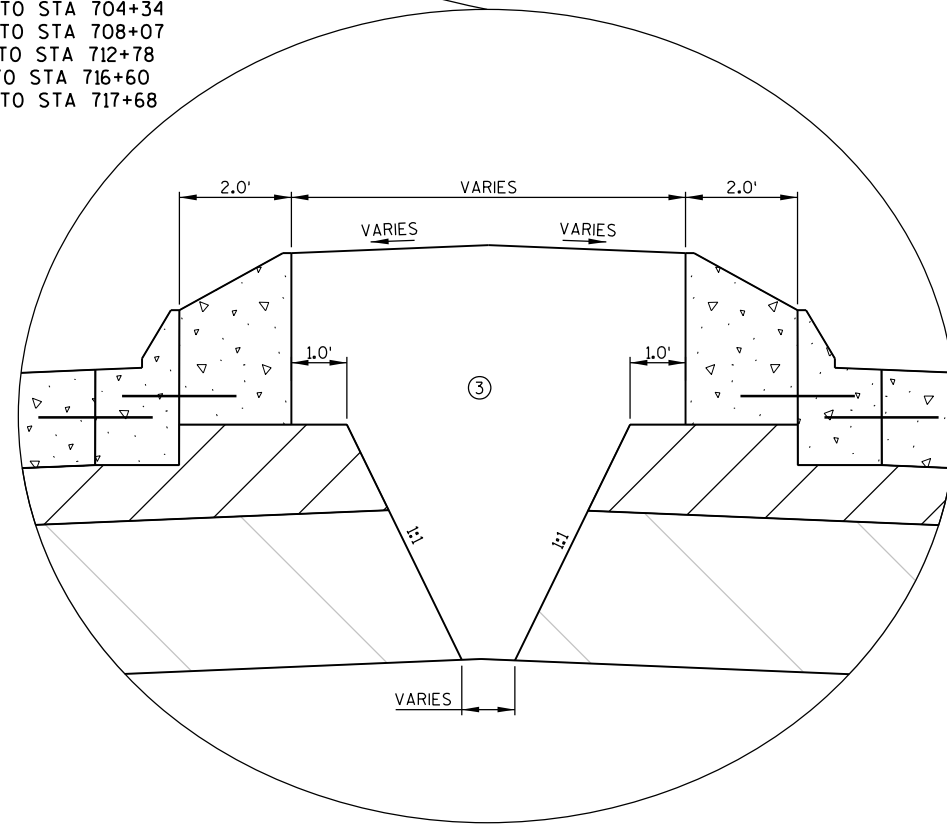
**NOTES:**

- ① REFER TO INTERSECTION DETAIL SHEETS FOR MEDIAN LOCATIONS AND WIDTHS.
- ② REFER TO PLAN AND PROFILE SHEETS AND INTERSECTION DETAIL SHEETS FOR STATIONS, LOCATIONS AND WIDTHS.
- ③ SEE LANDSCAPE PLAN FOR DETAILS.
- ④ 0.05% MAXIMUM.
- ⑤ FABRIC SHALL OVERLAP AT TOP OF SUBGRADE. 6-INCH MINIMUM OVERLAP  
 PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY.
- ⑥ TRENCH BACKFILL WILL BE PAID FOR AS BASE AGGREGATE OPEN GRADED, OR IN LIEU OF USE WELL GRADED COURSE AGGREGATE SIZE NO 1 OR 2 AS PER SUBSECTION 501.2.5.4.4 OF THE STANDARD SPECIFICATIONS.
- ⑦ SEE CONCRETE CURB MEDIAN 3-INCH SLOPED DETAIL FOR THE FOLLOWING LOCATIONS:  
 STA 708+71 TO STA 709+34  
 STA 710+25 TO STA 710+88  
 STA 713+38 TO STA 714+01  
 STA 714+98 TO STA 715+61  
 STA 717+85 TO STA 718+48  
 STA 719+22 TO STA 719+85  
 STA 722+05 TO STA 722+68  
 STA 723+42 TO STA 724+05  
 STA 726+25 TO STA 726+88  
 STA 727+62 TO STA 728+25  
 STA 730+45 TO STA 731+08  
 STA 731+82 TO STA 732+45  
 STA 735+15 TO STA 735+78  
 STA 736+02 TO STA 737+15
- ⑧ DO NOT PLACE BASE AGGREGATE OPEN GRADED WITHIN TREE GRATE AREAS.
- ⑨ TIE BARS SPACED 2' C-C, INSTALLED PERPENDICULAR TO SIDEWALK.



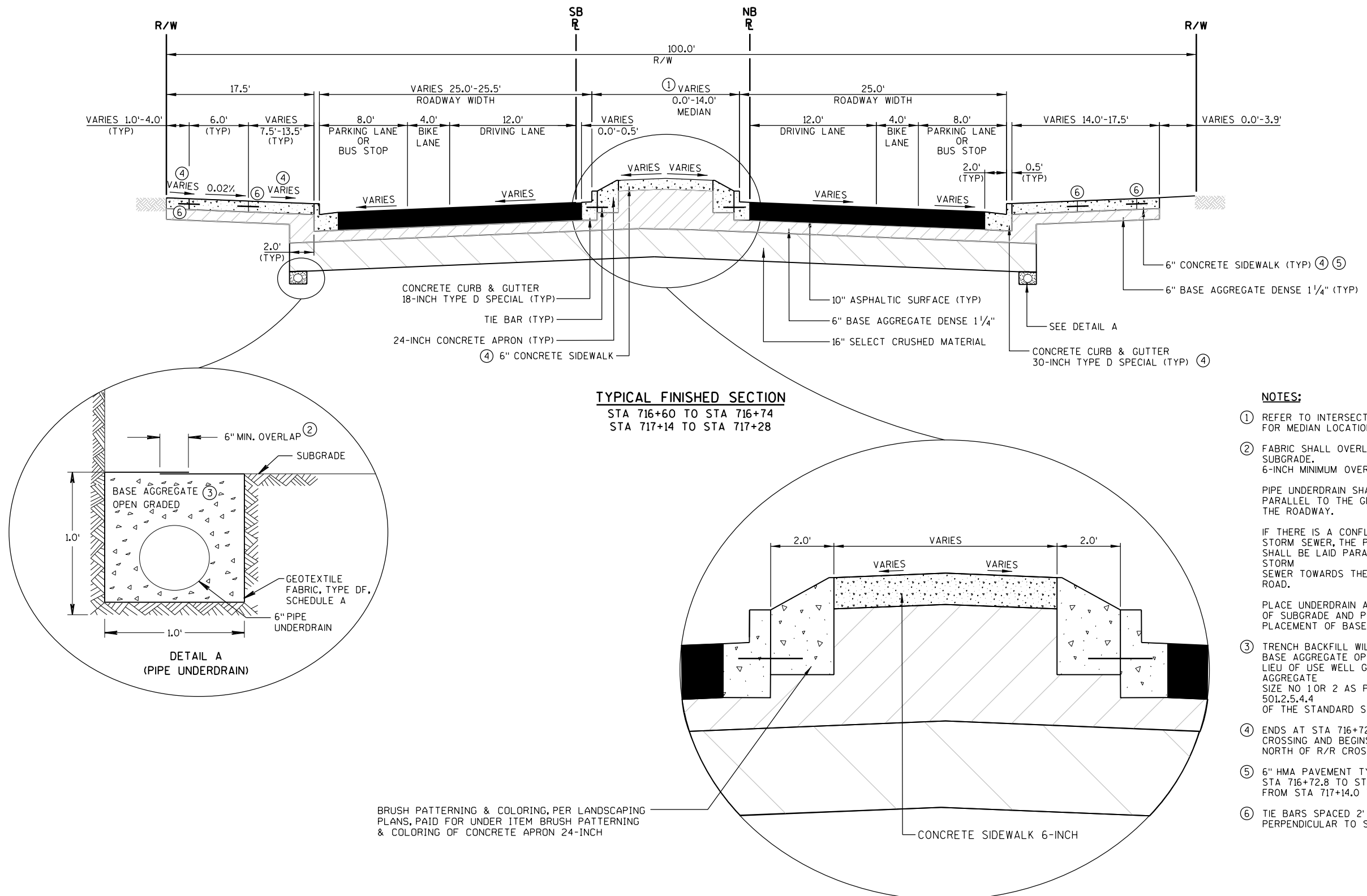
**TYPICAL FINISHED SECTION**

- ① STA 692+74 TO STA 695+93
- ② STA 698+06 TO STA 700+22
- ③ STA 702+35 TO STA 704+34
- ④ STA 705+44 TO STA 708+07
- ⑤ STA 711+52 TO STA 712+78
- ⑥ STA 716+11 TO STA 716+60
- ⑦ STA 717+28 TO STA 717+68

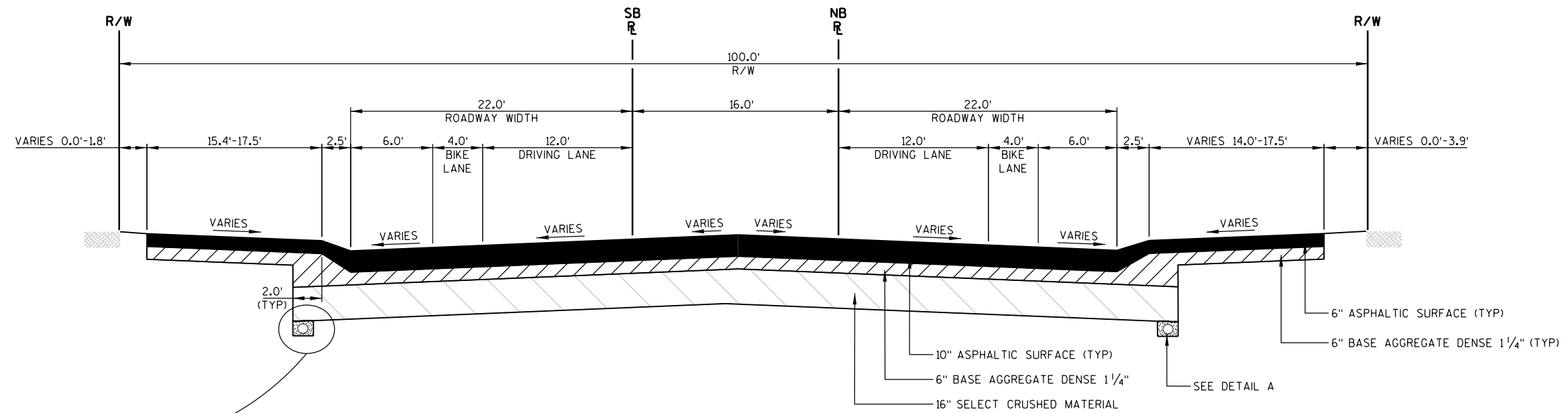


**NOTES:**

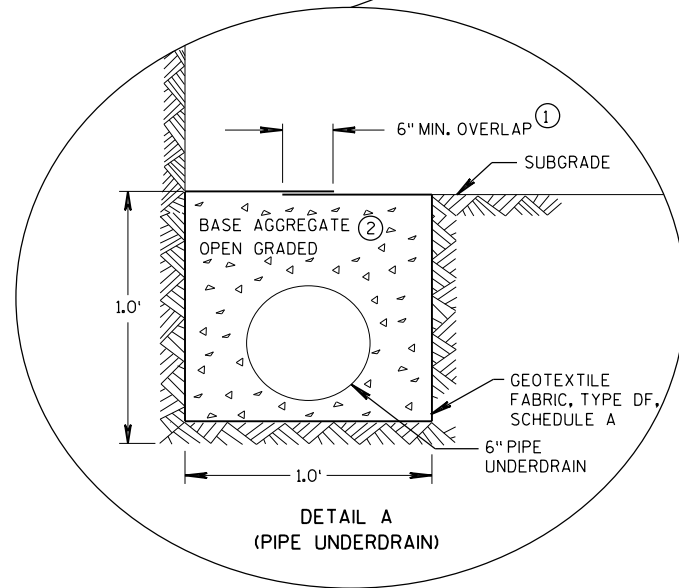
- ① REFER TO INTERSECTION DETAIL SHEETS FOR MEDIAN LOCATIONS AND WIDTHS.
- ② REFER TO PLAN AND PROFILE SHEETS AND INTERSECTION DETAIL SHEETS FOR STATIONS, LOCATIONS AND WIDTHS.
- ③ SEE LANDSCAPE PLAN FOR DETAILS.
- ④ 0.05% MAXIMUM.
- ⑤ FABRIC SHALL OVERLAP AT TOP OF SUBGRADE. 6-INCH MINIMUM OVERLAP.
- PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY.
- IF THERE IS A CONFLICT WITH THE STORM SEWER, THE PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE STORM SEWER TOWARDS THE CENTER OF THE ROAD.
- PLACE UNDERDRAIN AFTER EXCAVATION OF SUBGRADE AND PRIOR TO THE PLACEMENT OF BASE LAYERS.
- ⑥ TRENCH BACKFILL WILL BE PAID FOR AS BASE AGGREGATE OPEN GRADED, OR IN LIEU OF USE WELL GRADED COURSE AGGREGATE SIZE NO 1 OR 2 AS PER SUBSECTION 501.2.5.4.4 OF THE STANDARD SPECIFICATIONS.
- ⑦ CONCRETE CURB & GUTTER 18-INCH TYPE A SPECIAL
- ⑧ DO NOT PLACE BASE AGGREGATE OPEN GRADED WITHIN TREE GRATE AREAS.
- ⑨ TIE BARS SPACED 2'-C-C, INSTALLED PERPENDICULAR TO SIDEWALK.



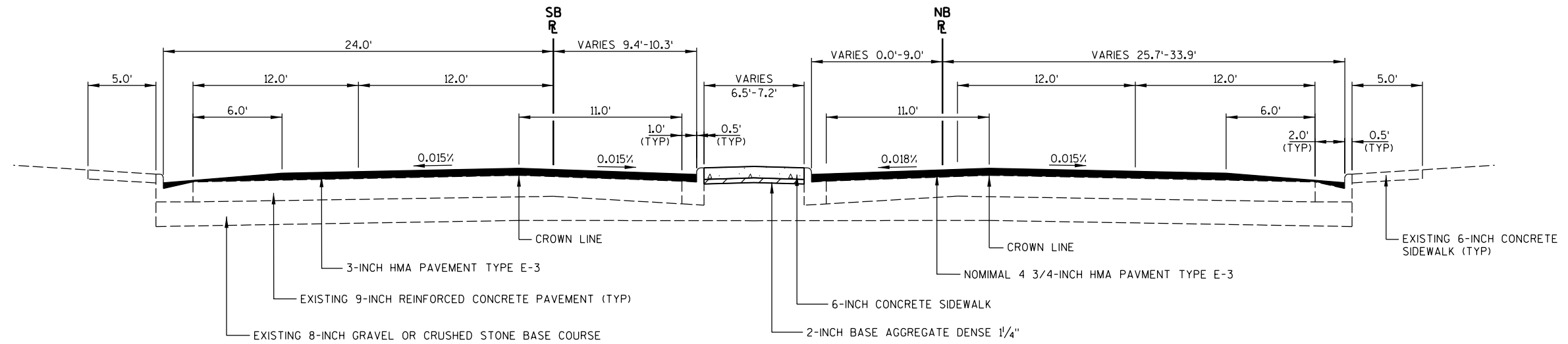
- NOTES:**
- ① REFER TO INTERSECTION DETAIL SHEETS FOR MEDIAN LOCATIONS AND WIDTHS.
  - ② FABRIC SHALL OVERLAP AT TOP OF SUBGRADE. 6-INCH MINIMUM OVERLAP  
 PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY.  
 IF THERE IS A CONFLICT WITH THE STORM SEWER, THE PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE STORM SEWER TOWARDS THE CENTER OF THE ROAD.
  - ③ PLACE UNDERDRAIN AFTER EXCAVATION OF SUBGRADE AND PRIOR TO THE PLACEMENT OF BASE LAYERS.  
 TRENCH BACKFILL WILL BE PAID FOR AS BASE AGGREGATE OPEN GRADED, OR IN LIEU OF USE WELL GRADED COURSE AGGREGATE SIZE NO 1 OR 2 AS PER SUBSECTION 501.2.5.4.4 OF THE STANDARD SPECIFICATIONS.
  - ④ ENDS AT STA 716+72.8 SOUTH OF R/R CROSSING AND BEGINS AT STA 717+15.4 NORTH OF R/R CROSSING.
  - ⑤ 6" HMA PAVEMENT TYPE E-3 FROM STA 716+72.8 TO STA 716+74.0 AND FROM STA 717+14.0 TO STA 717+15.4.
  - ⑥ TIE BARS SPACED 2'-C-C, INSTALLED PERPENDICULAR TO SIDEWALK.



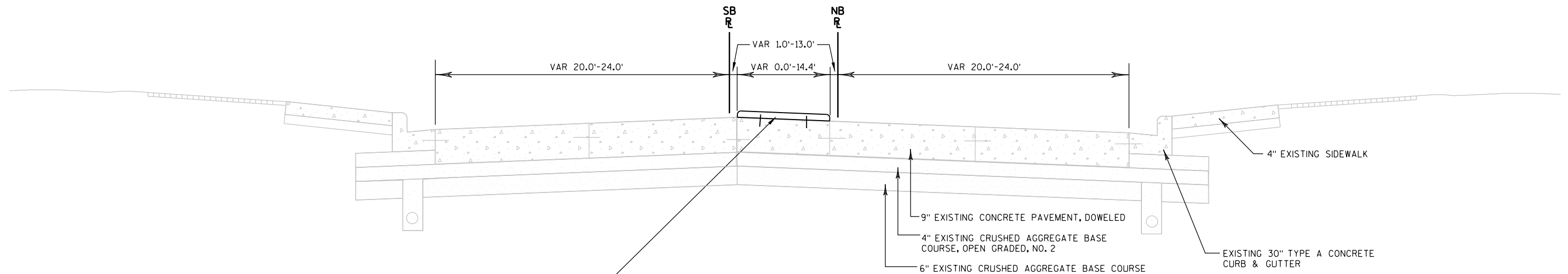
**TYPICAL FINISHED SECTION**  
 ③ STA 716+74 TO STA 716+82  
 STA 717+06 TO STA 717+14



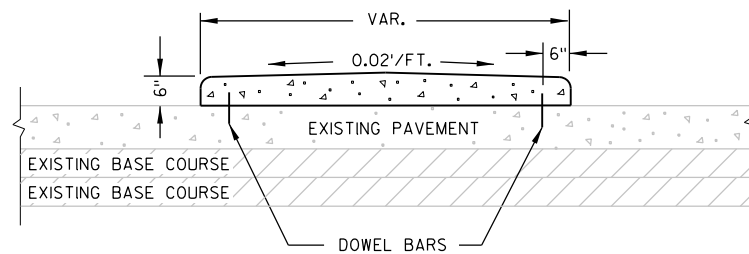
- NOTES:**
- ① FABRIC SHALL OVERLAP AT TOP OF SUBGRADE. 6-INCH MINIMUM OVERLAP  
 PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY.  
 IF THERE IS A CONFLICT WITH THE STORM SEWER, THE PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE STORM SEWER TOWARDS THE CENTER OF THE ROAD.  
 PLACE UNDERDRAIN AFTER EXCAVATION OF SUBGRADE AND PRIOR TO THE PLACEMENT OF BASE LAYERS.
  - ② TRENCH BACKFILL WILL BE PAID FOR AS BASE AGGREGATE OPEN GRADED, OR IN LIEU OF USE WELL GRADED COURSE AGGREGATE SIZE NO 1 OR 2 AS PER SUBSECTION 501.2.5.4.4 OF THE STANDARD SPECIFICATIONS.
  - ③ RAILROAD CROSSING FROM STA 716+82 TO STA 717+06.



**FINISHED TYPICAL SECTION**  
STA 743+19 TO STA 750+39

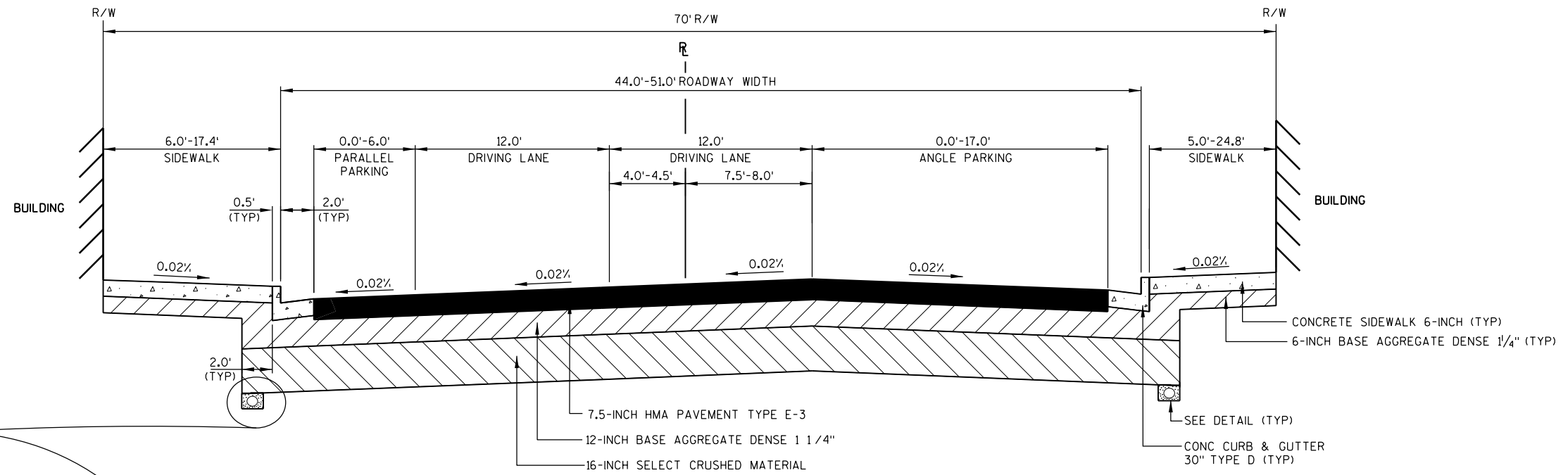


**FINISHED TYPICAL SECTION**  
STA 737+84 TO STA 743+19

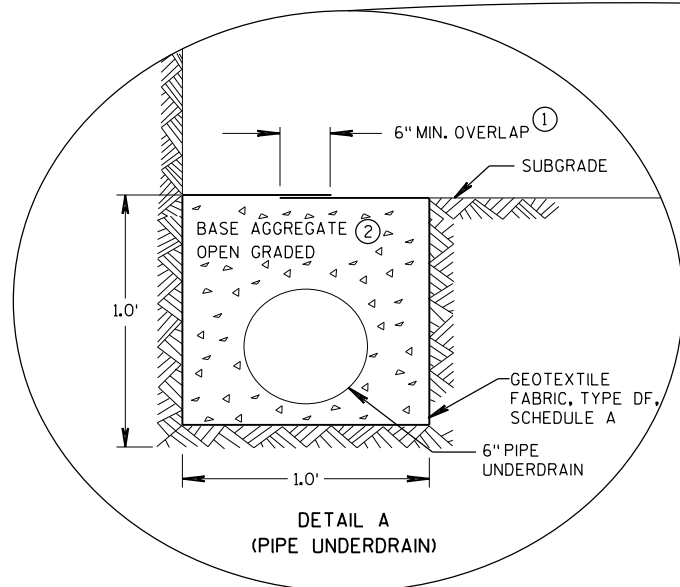


**CONCRETE SAFETY ISLAND**

NOTE: ISLAND DOWELLED TO EXISTING PAVEMENT WITH NO. 5 X 10\"/>



**FINISHED TYPICAL SECTION**  
 STA 117+50 TO STA 119+54 12TH STREET  
 STA 120+46 TO STA 122+50 12TH STREET



**NOTES:**

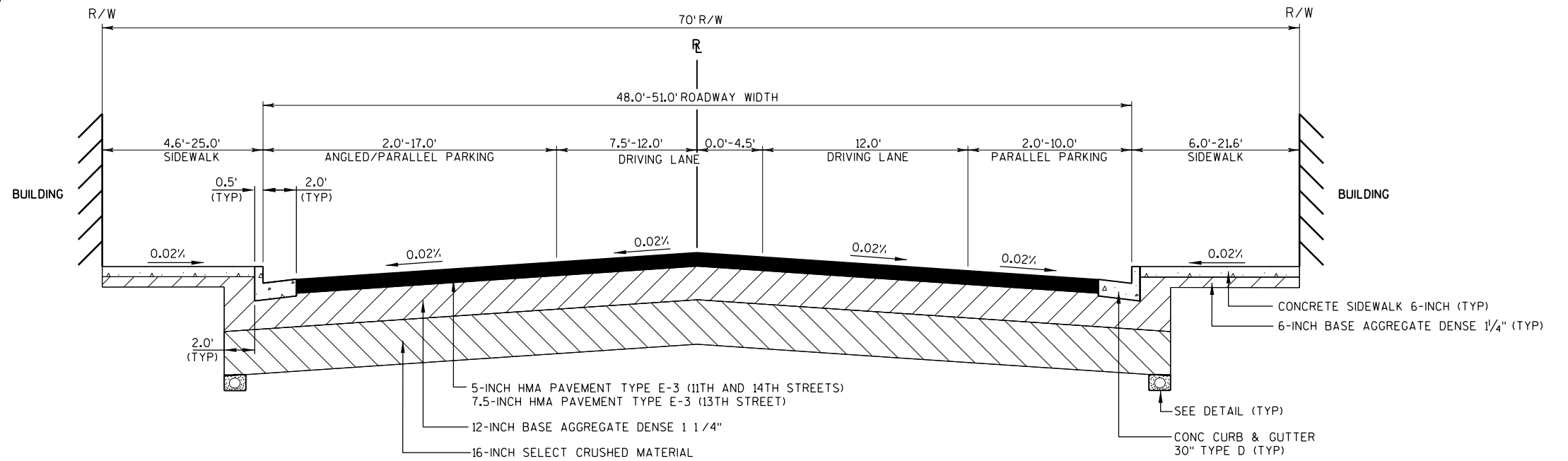
① FABRIC SHALL OVERLAP AT TOP OF SUBGRADE. 6-INCH MINIMUM OVERLAP

PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY.

IF THERE IS A CONFLICT WITH THE STORM SEWER, THE PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE STORM SEWER TOWARDS THE CENTER OF THE ROAD.

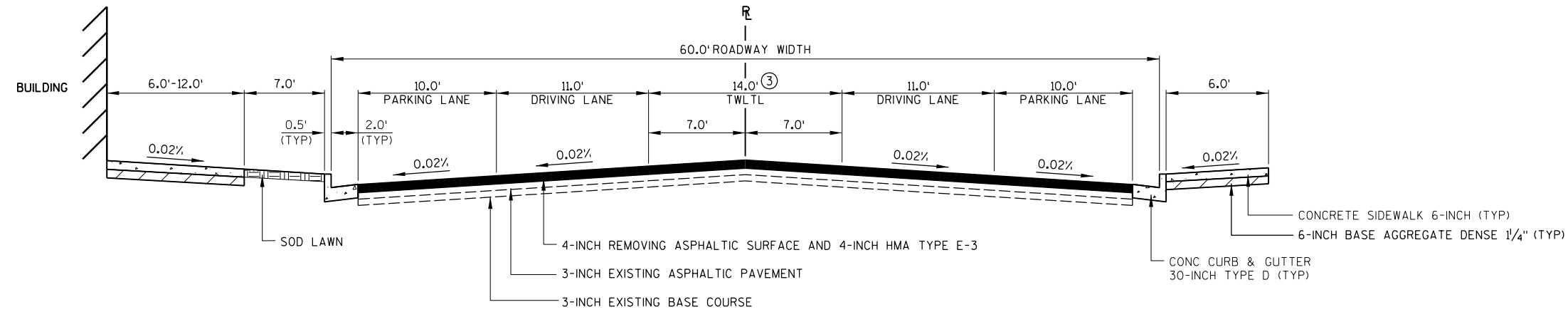
PLACE UNDERDRAIN AFTER EXCAVATION OF SUBGRADE AND PRIOR TO THE PLACEMENT OF BASE LAYERS.

② TRENCH BACKFILL WILL BE PAID FOR AS BASE AGGREGATE OPEN GRADED, OR IN LIEU OF USE WELL GRADED COURSE AGGREGATE SIZE NO 10R 2 AS PER SUBSECTION 501.2.5.4.4 OF THE STANDARD SPECIFICATIONS.



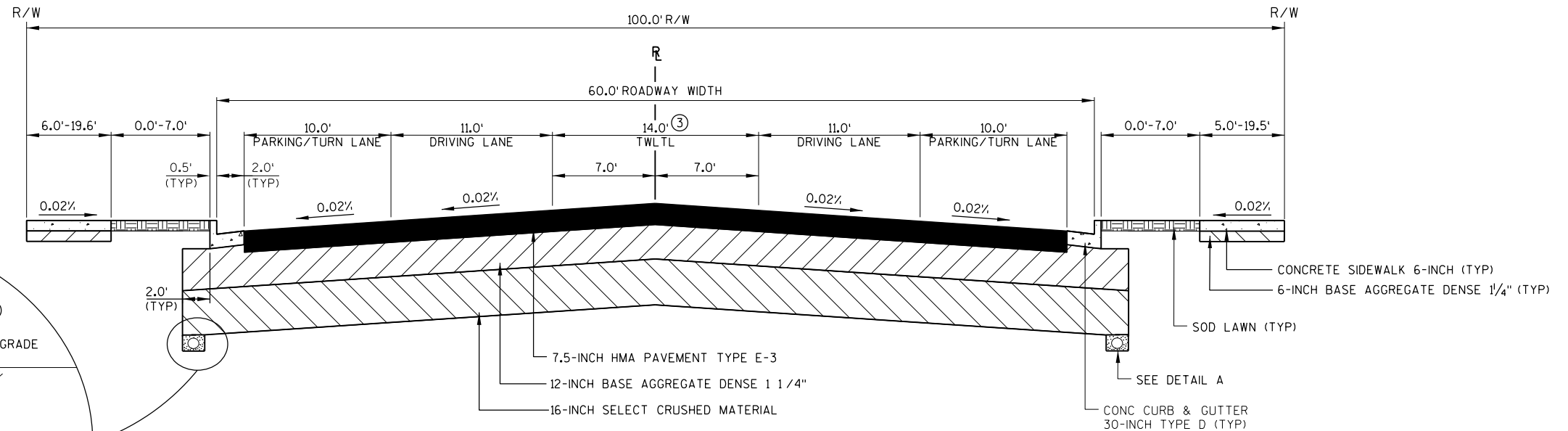
**FINISHED TYPICAL SECTION**  
 STA 137+70 TO STA 139+54 14TH STREET  
 STA 127+60 TO STA 129+54 13TH STREET  
 STA 130+46 TO STA 132+50 13TH STREET  
 STA 107+25 TO STA 109+54 11TH STREET



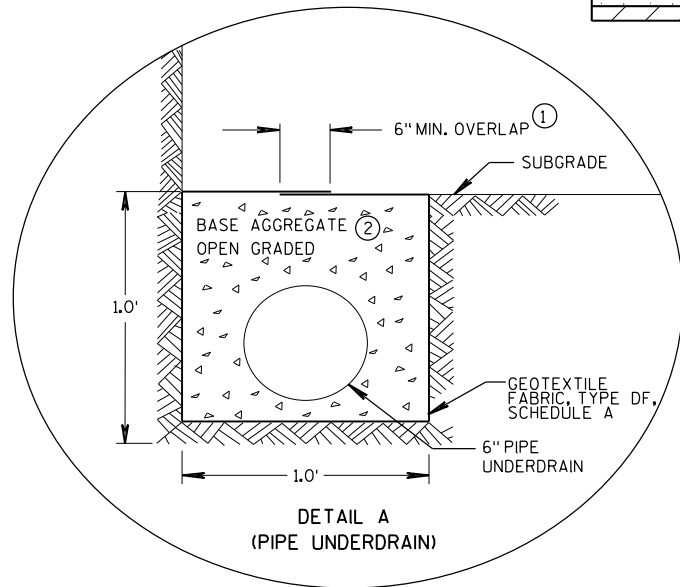


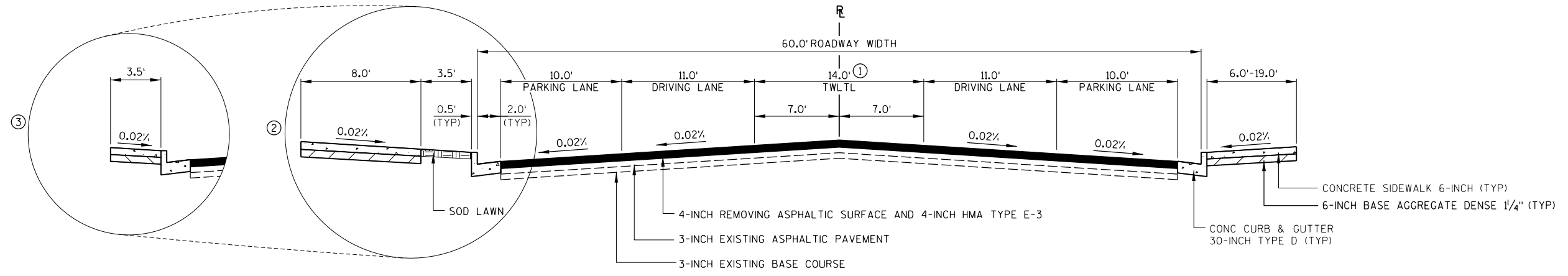
**FINISHED TYPICAL SECTION**  
 STA 96+59 TO STA 97+75 BROADWAY STREET

- NOTES:**
- ① FABRIC SHALL OVERLAP AT TOP OF SUBGRADE. 6-INCH MINIMUM OVERLAP  
 PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY.  
 IF THERE IS A CONFLICT WITH THE STORM SEWER, THE PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE STORM SEWER TOWARDS THE CENTER OF THE ROAD.
  - ② TRENCH BACKFILL WILL BE PAID FOR AS BASE AGGREGATE OPEN GRADED, OR IN LIEU OF USE WELL GRADED COURSE AGGREGATE SIZE NO 1 OR 2 AS PER SUBSECTION 501.2.5.4.4 OF THE STANDARD SPECIFICATIONS.
  - ③ TWO WAY LEFT TURN LANE.

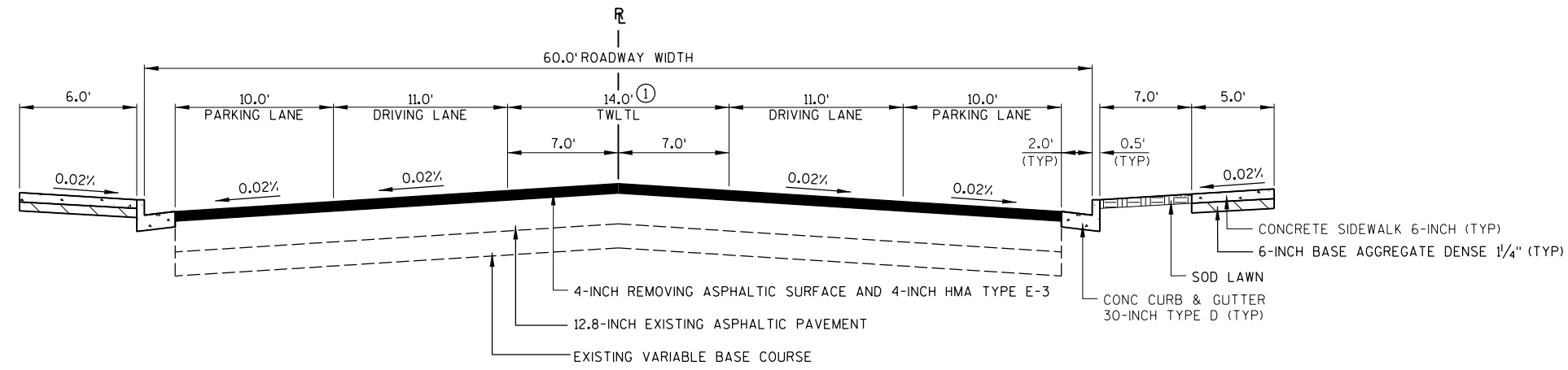


**FINISHED TYPICAL SECTION**  
 STA 97+75 TO STA 99+38 BROADWAY STREET  
 STA 100+62 TO STA 101+75 BROADWAY STREET  
 STA 88+45 TO STA 89+38 WINTER STREET  
 STA 90+62 TO STA 91+25 WINTER STREET

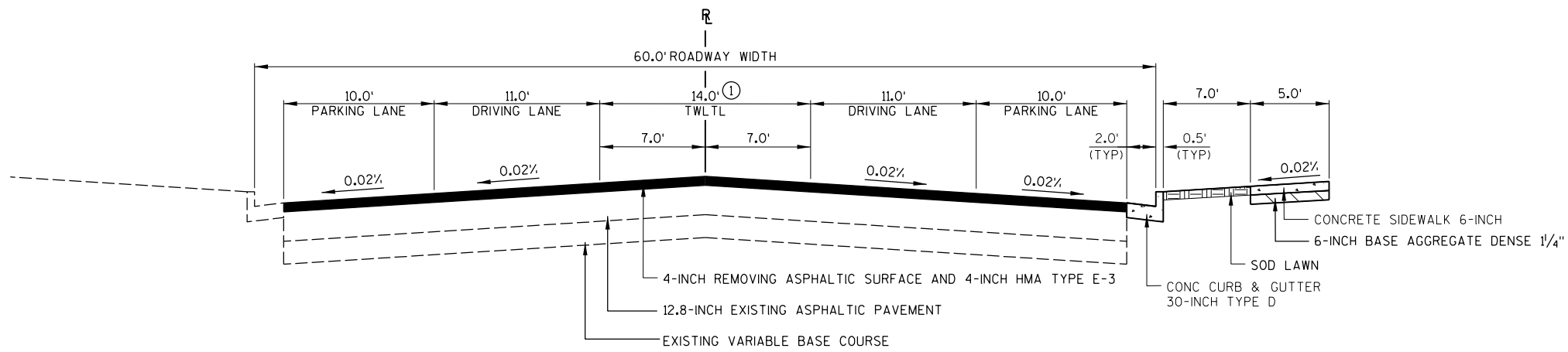




**FINISHED TYPICAL SECTION**  
 BROADWAY STREET  
 STA 101+75 TO STA 103+38

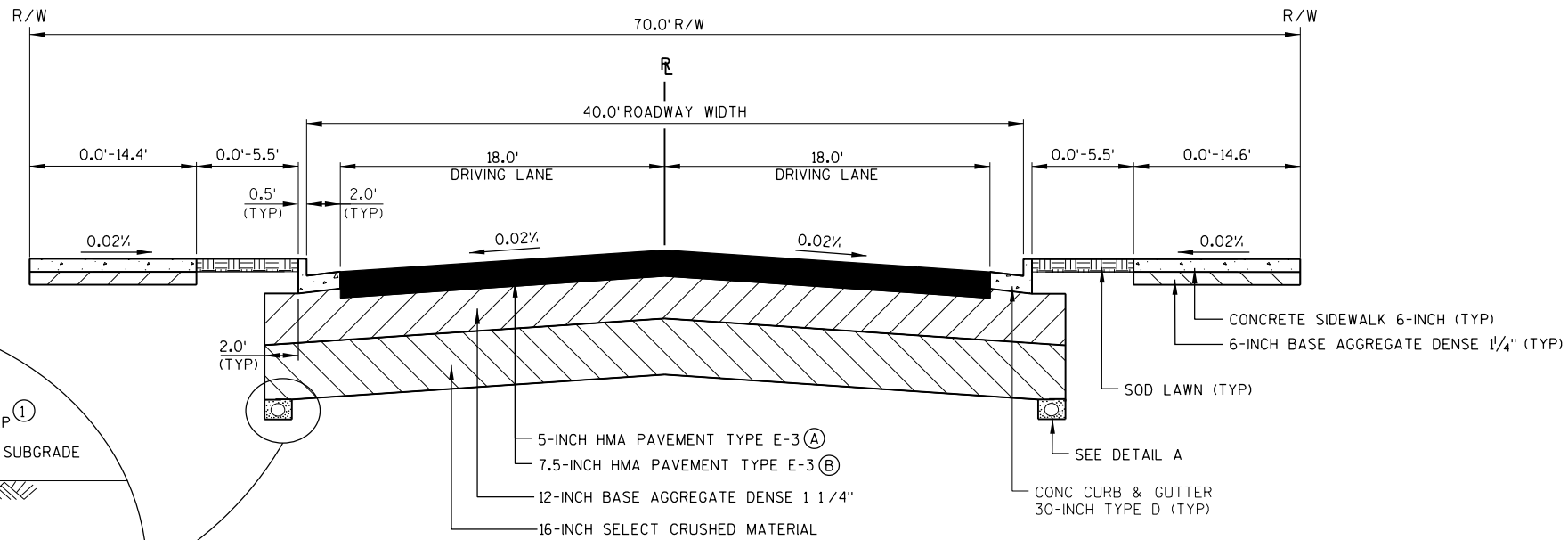


**FINISHED TYPICAL SECTION**  
 WINTER STREET  
 STA 86+59 TO STA 88+45



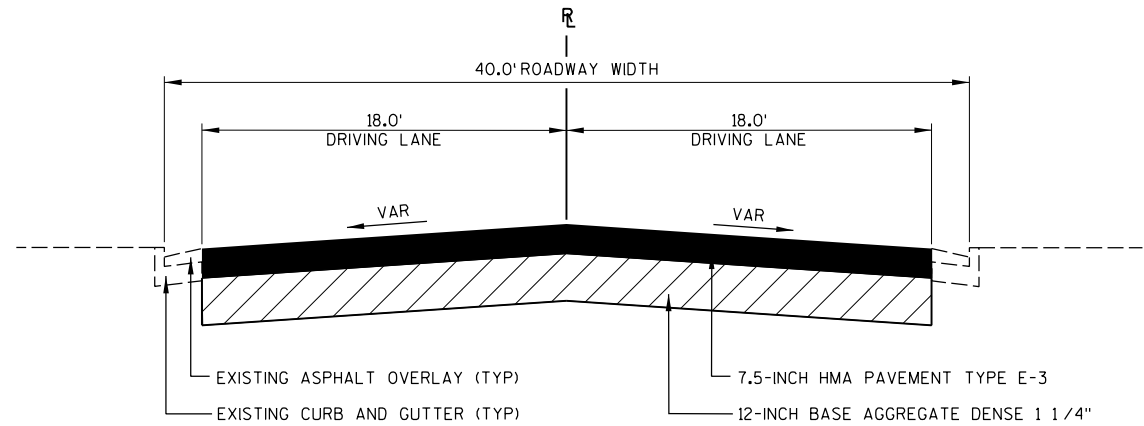
**FINISHED TYPICAL SECTION**  
 WINTER STREET  
 STA 91+25 TO STA 92+86

- NOTES:**
- ① TWO WAY LEFT TURN LANE.
  - ② STA 101+75 TO 102+00
  - ③ STA 102+00 TO 103+38

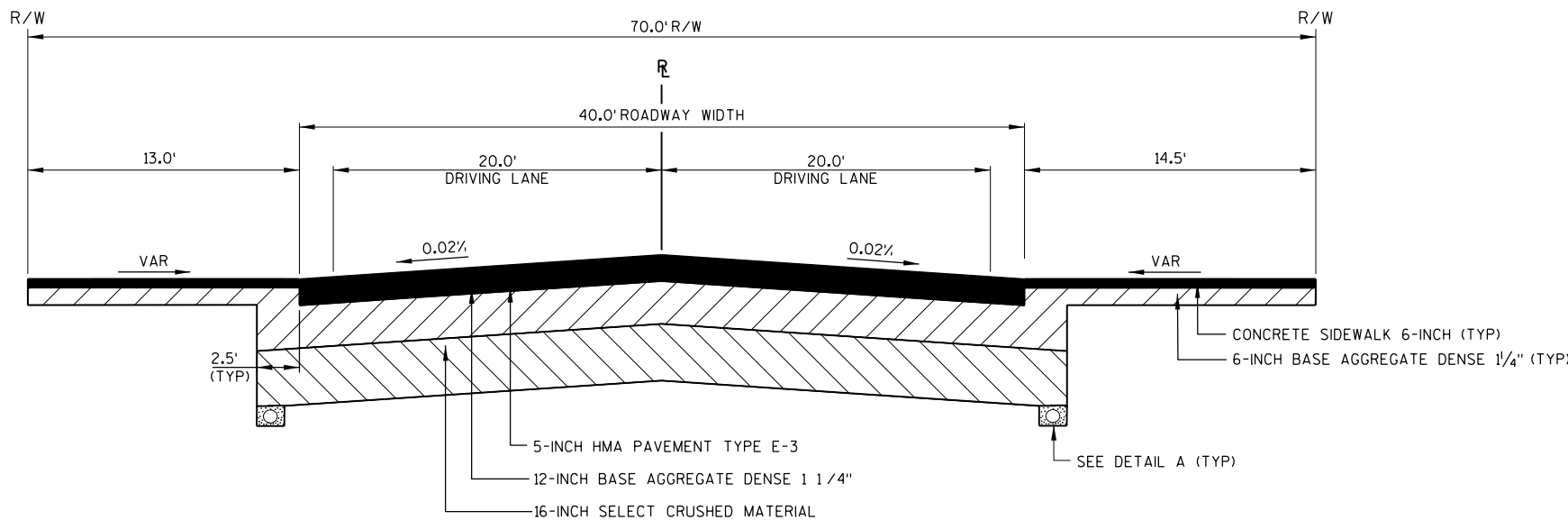


**FINISHED TYPICAL SECTION**

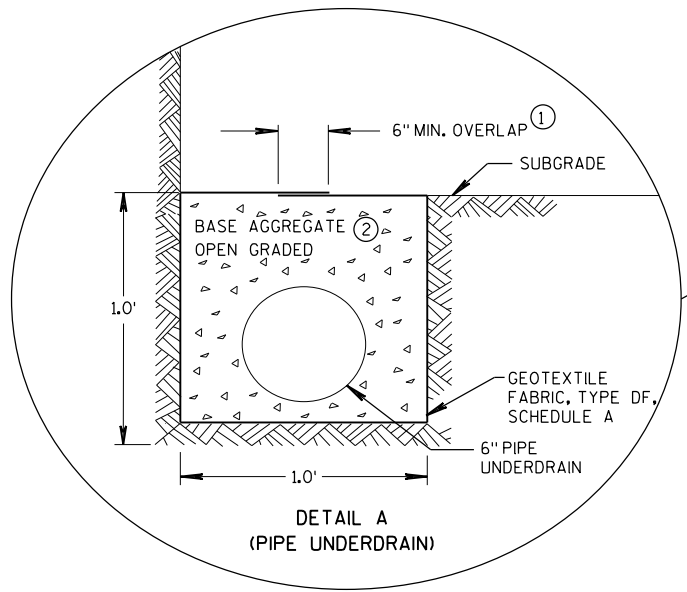
- STA 78+85 TO STA 79+44 8TH STREET (A)
- STA 80+56 TO STA 81+25 8TH STREET (A)
- STA 69+34 TO STA 69+44 7TH STREET (A)
- STA 70+56 TO STA 71+25 7TH STREET (A)
- STA 60+56 TO STA 61+35 6TH STREET (B)
- STA 58+75 TO STA 59+44 6TH STREET (A)
- STA 48+80 TO STA 49+44 5TH STREET (B)
- STA 50+56 TO STA 51+35 5TH STREET (B)
- STA 37+85 TO STA 39+44 4TH STREET (B)
- STA 40+56 TO STA 41+75 4TH STREET (B)



**FINISHED TYPICAL SECTION**  
STA 61+35 TO STA 61+85 6TH STREET



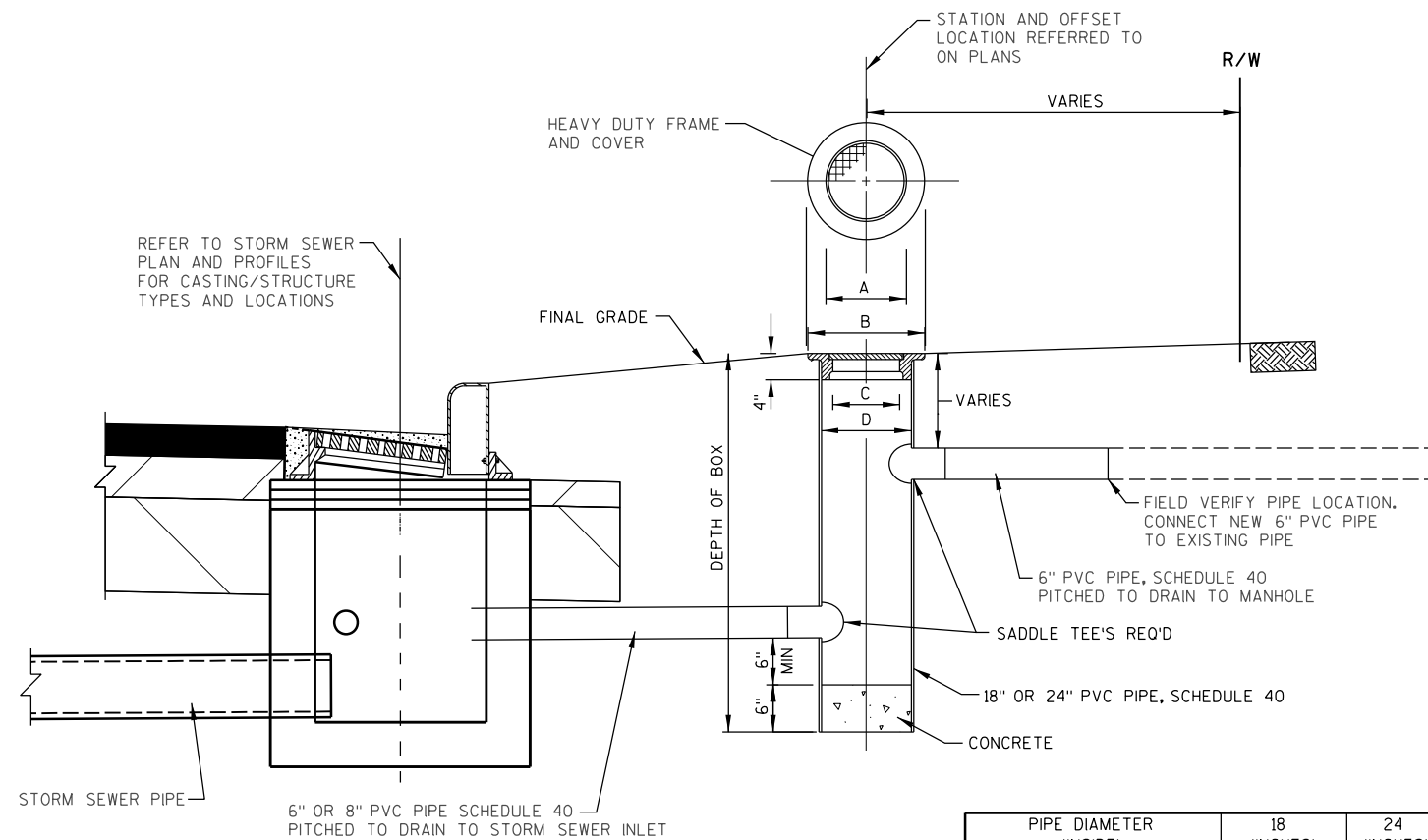
**FINISHED TYPICAL SECTION**  
STA 68+70 TO STA 69+34 7TH STREET



**DETAIL A**  
(PIPE UNDERDRAIN)

**NOTES:**

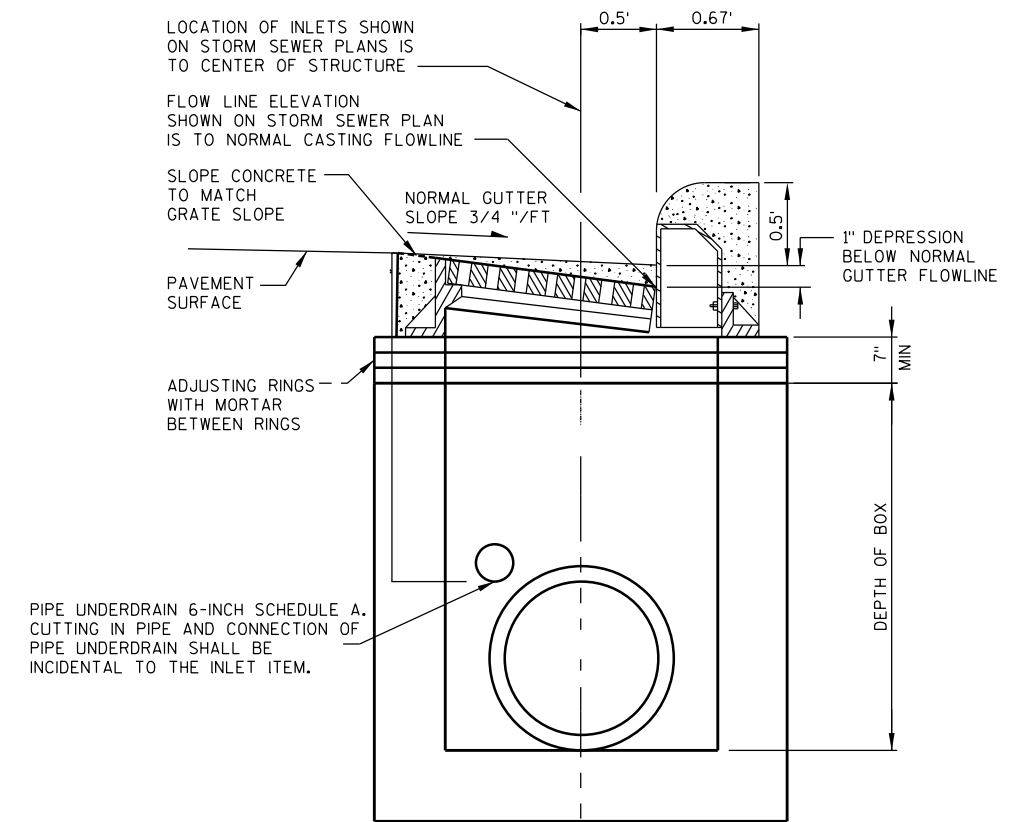
- ① FABRIC SHALL OVERLAP AT TOP OF SUBGRADE. 6-INCH MINIMUM OVERLAP  
PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY.  
IF THERE IS A CONFLICT WITH THE STORM SEWER, THE PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE STORM SEWER TOWARDS THE CENTER OF THE ROAD.  
PLACE UNDERDRAIN AFTER EXCAVATION OF SUBGRADE AND PRIOR TO THE PLACEMENT OF BASE LAYERS.
- ② TRENCH BACKFILL WILL BE PAID FOR AS BASE AGGREGATE OPEN GRADED, OR IN LIEU OF USE WELL GRADED COURSE AGGREGATE SIZE NO 1 OR 2 AS PER SUBSECTION 501.2.5.4.4 OF THE STANDARD SPECIFICATIONS.



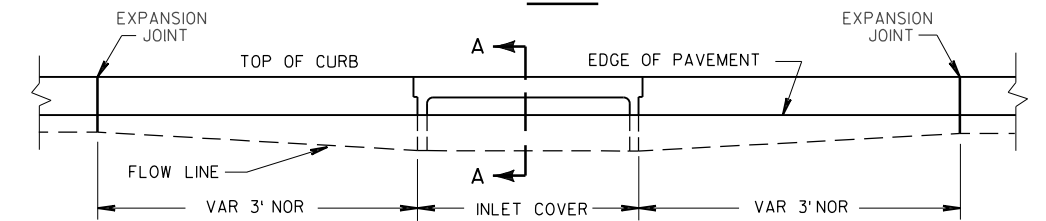
**RESIDENTIAL MANHOLE**  
N.T.S.

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

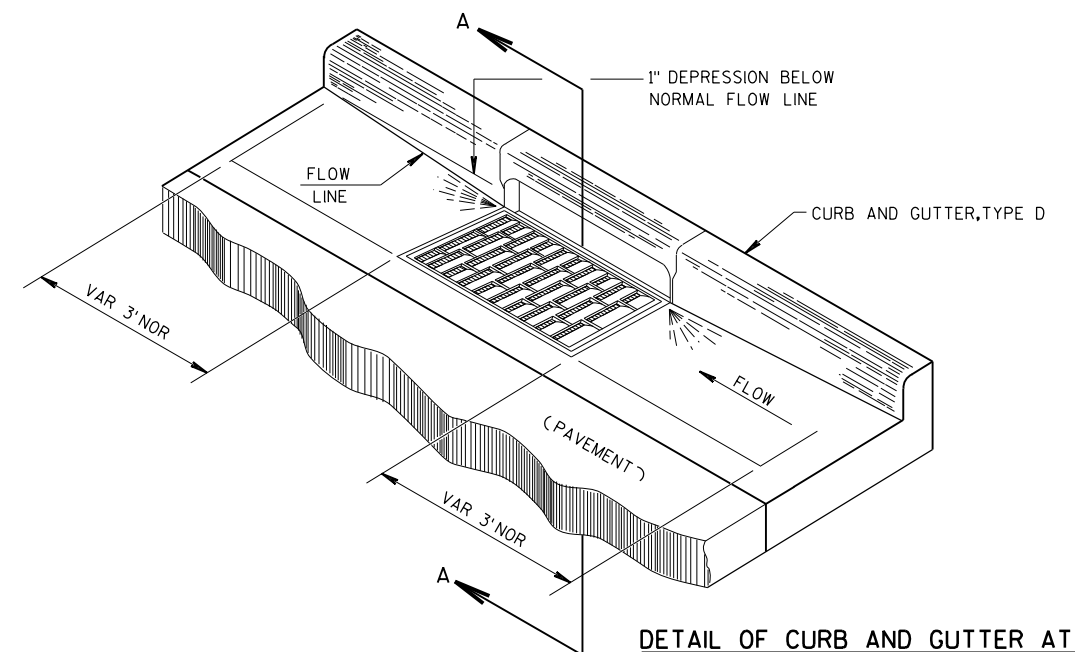
PIPE DIAMETER (INSIDE)	18 (INCHES)	24 (INCHES)
A COVER	16 <sup>1</sup> / <sub>4</sub>	22 <sup>1</sup> / <sub>4</sub>
B FRAME	20 <sup>1</sup> / <sub>2</sub>	26 <sup>1</sup> / <sub>2</sub>
C FRAME	14 <sup>1</sup> / <sub>2</sub>	20 <sup>1</sup> / <sub>2</sub>
D FRAME	17 <sup>1</sup> / <sub>2</sub>	23 <sup>1</sup> / <sub>2</sub>
FRAME AND COVER *(LBS)	110	155



**SECTION A-A INLET**

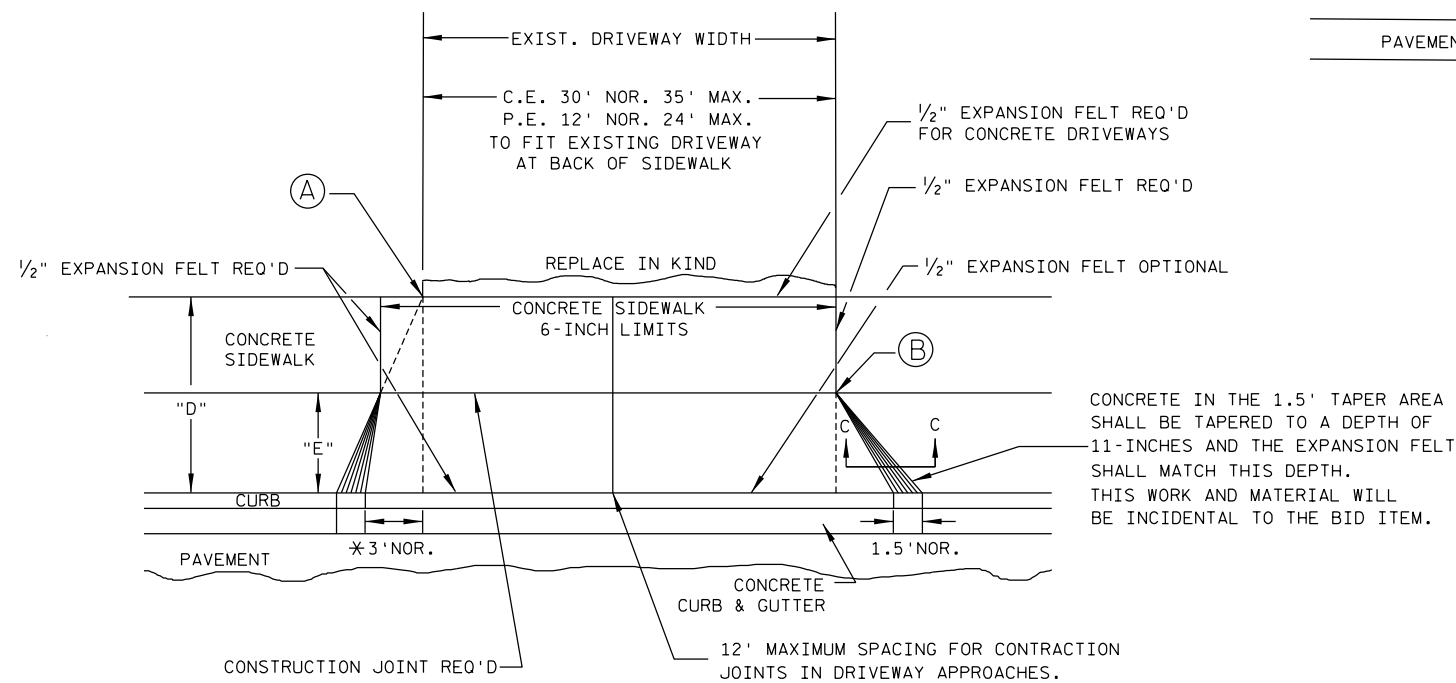


**ELEVATION**



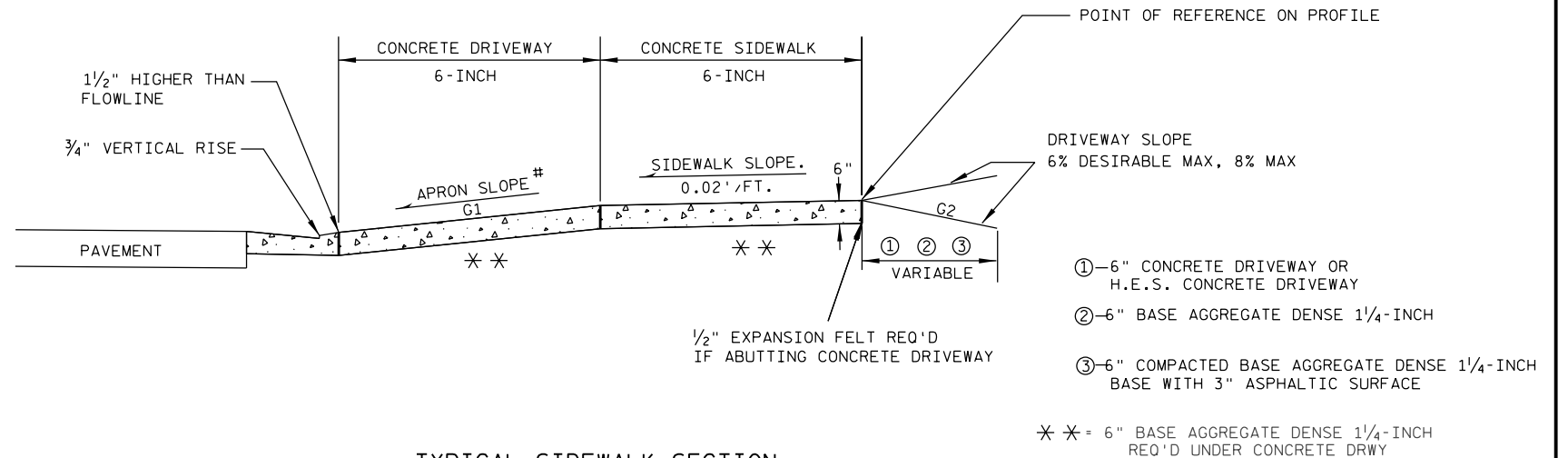
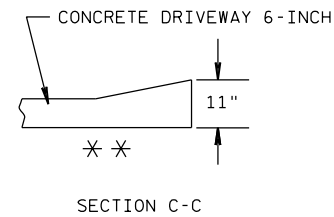
**DETAIL OF CURB AND GUTTER AT INLETS**

### DRIVEWAY ENTRANCE DETAIL WITH SIDEWALK, CURB & GUTTER



PLAN VIEW

- Ⓐ WHEN "D" IS 13' OR LESS, ALIGN TAPER WITH BACK OF SIDEWALK
- Ⓑ WHEN "D" IS GREATER THAN 13', ALIGN TAPER WITH FRONT OF SIDEWALK
- \* WHEN "E" = 0 MAKE CURB TAPER 5'

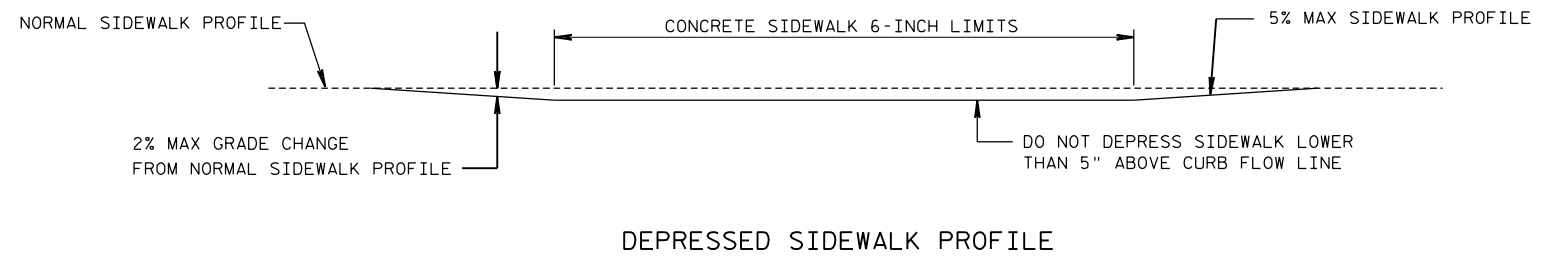


TYPICAL SIDEWALK SECTION

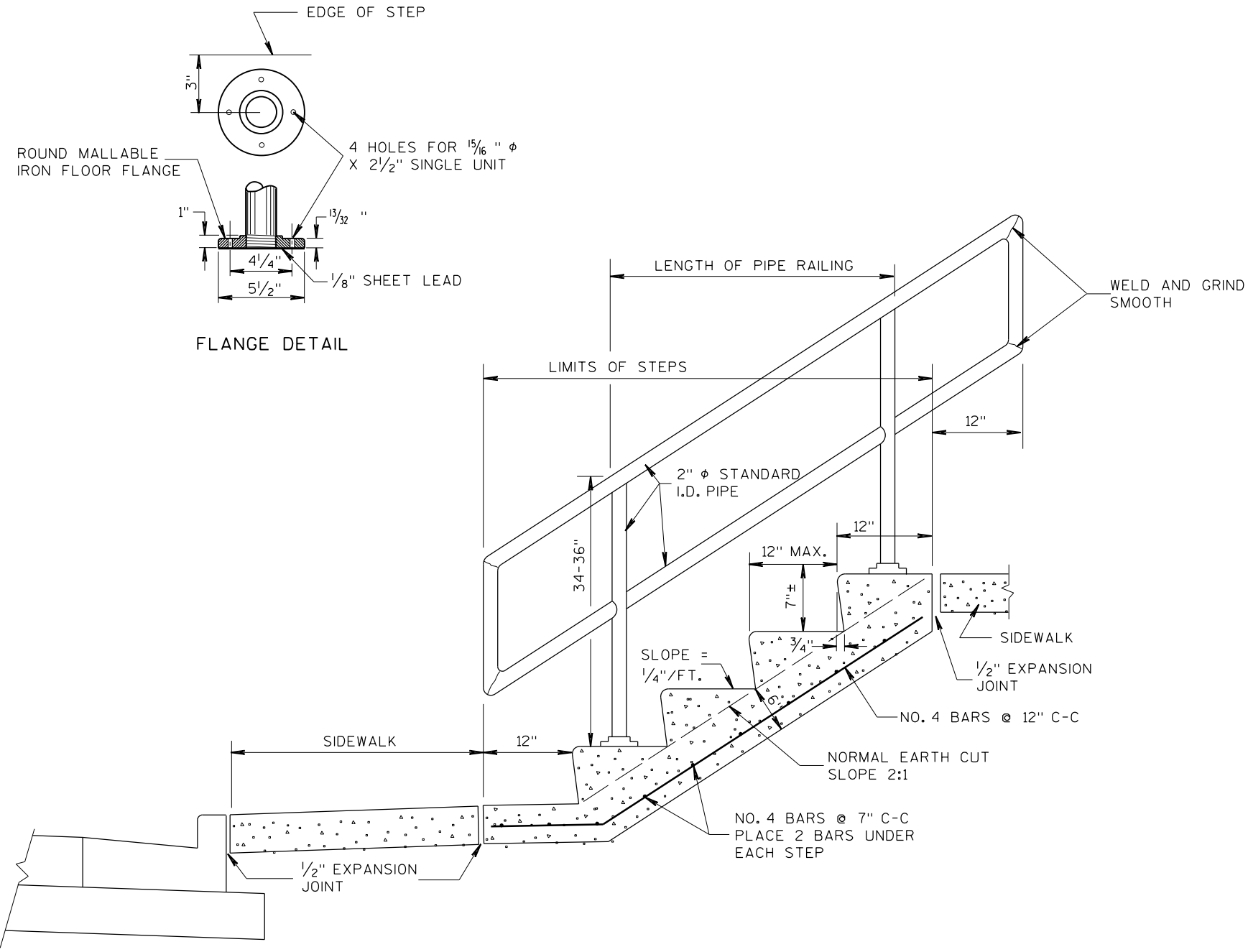
#

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

NOTE: ALGEBRAIC DIFFERENCE BETWEEN TANGENT GRADES G1 & G2 TO NOT EXCEED 15%  
DEPRESS SIDEWALK PROFILE IF DRIVEWAY APRON EXCEEDS MAX SLOPE



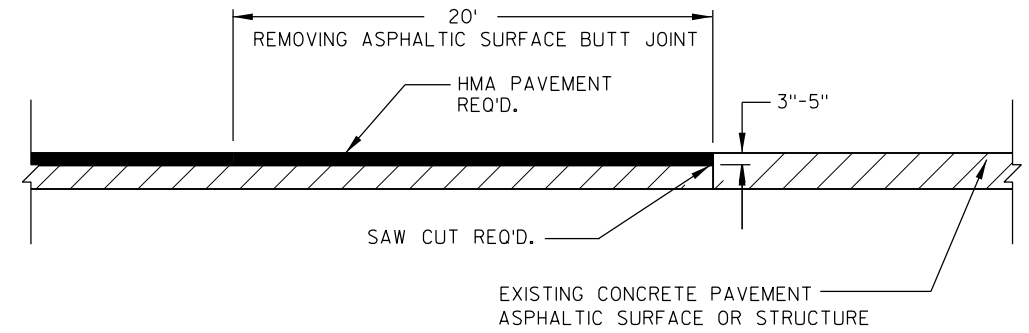
DEPRESSED SIDEWALK PROFILE



FLANGE DETAIL

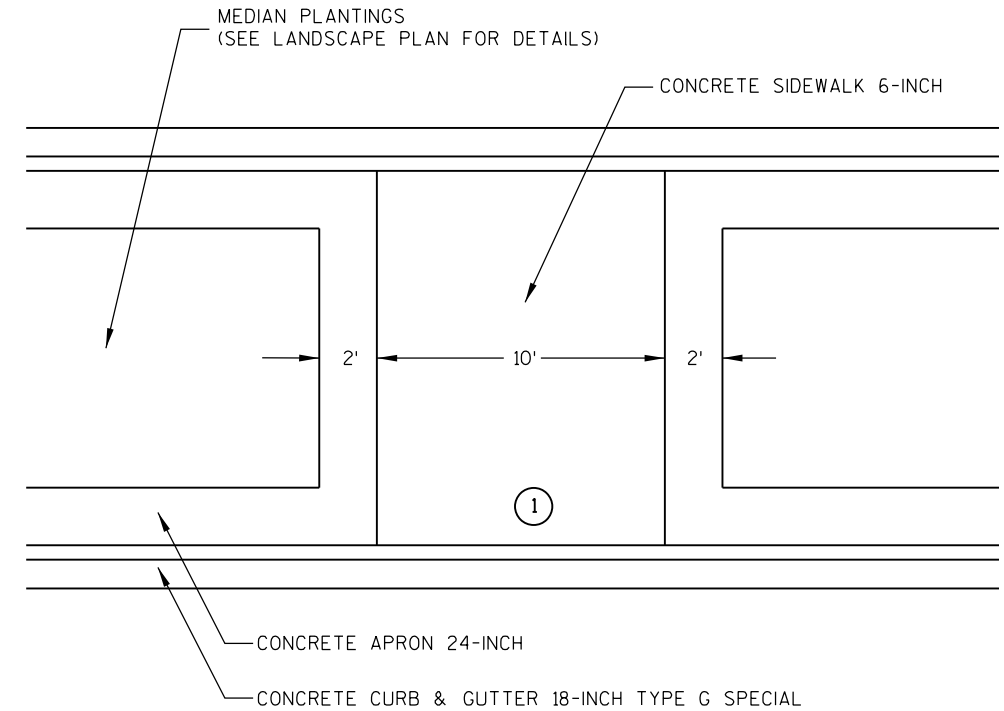
CONCRETE STEPS DETAIL

NOTE:  
 THE EXACT LOCATION, WIDTHS, & NUMBER OF STEPS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.  
 STEEL REINFORCEMENT AND PIPE RAILING NOT REQUIRED ON STEPS WITH 2 RISERS OR LESS.  
 MINIMUM WIDTH OF STEP EQUALS 4 FEET.  
 RAILING TO BE PLACED ON LEFT ASCENDING SIDE OF STEPS ONLY.



DETAIL OF BUTTED JOINT

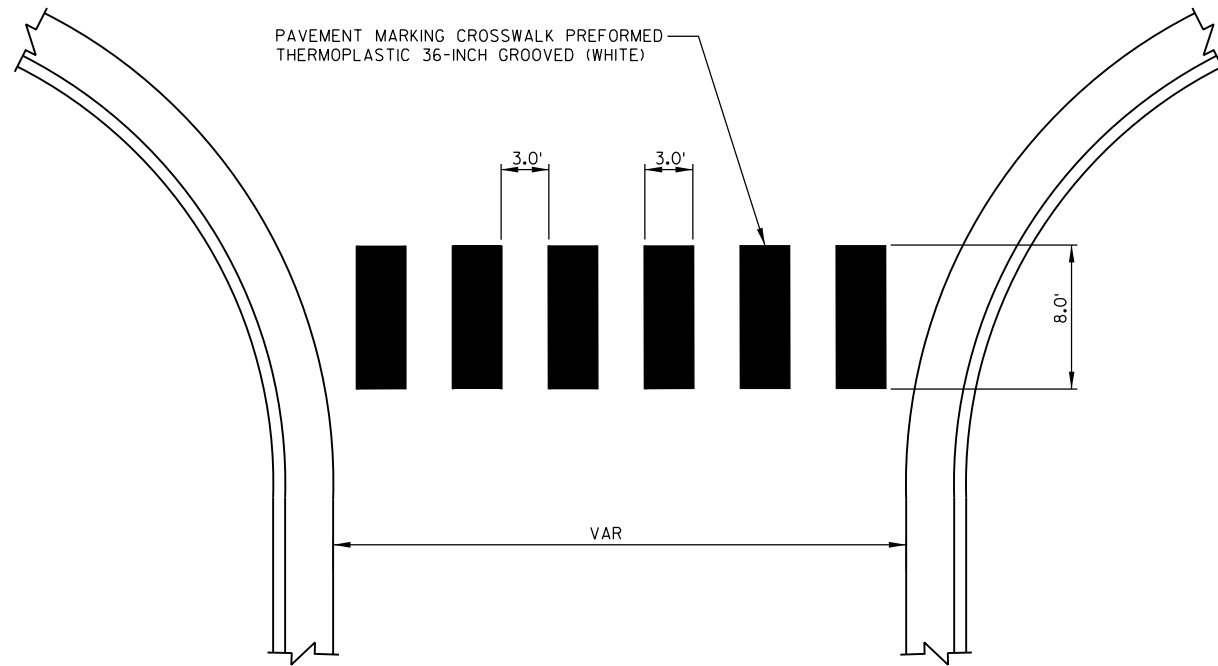
\* EXACT DIMENSIONS TO BE DETERMINED BY ENGINEER IN THE FIELD.



MID-BLOCK MEDIAN OPENINGS

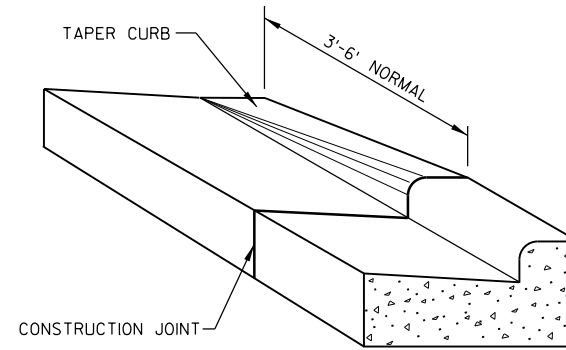
(SEE LANDSCAPING PLANS)  
 CROSSING IS CONCRETE SIDEWALK 6-INCH

① STATION 693+04.6  
 DEPRESS CURB HEAD TO PROVIDE FLUSH OPENING THROUGH MEDIAN  
 CURB HEAD NOT DEPRESSED AT ALL OTHER MEDIAN CROSSING LOCATIONS, CONCRETE SIDEWALK LOCATED AT TOP OF CURB



**PAVEMENT MARKING CROSSWALK DETAIL**

- ① PAINTED AREAS TO BE CENTERED ON CENTERLINE AND LANE LINES.
- ② A MINIMUM OF 1.5 FEET CLEAR DISTANCE SHALL BE LEFT ADJACENT TO THE CURB. IF THE LAST PAINTED AREA FALLS INTO THIS DISTANCE, IT MUST BE OMITTED.
- ③ THE BLOCKS SHALL BE PLACED SO THAT THEY ARE NOT LOCATED IN THE WHEEL PATH OF THE VEHICLES.

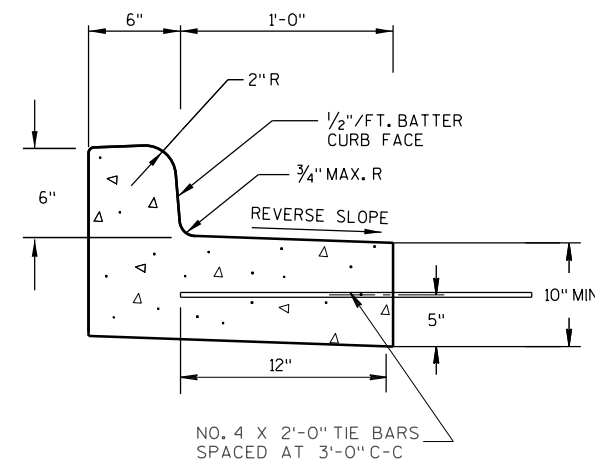


**CURB & GUTTER TERMINI**

**RUNOFF COEFFICIENT TABLE**

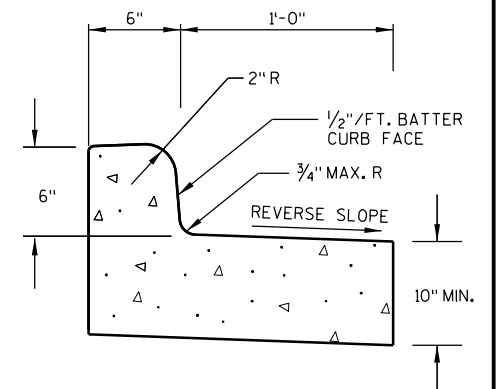
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .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 = 20.96 ACRES  
 TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 18.17 ACRES



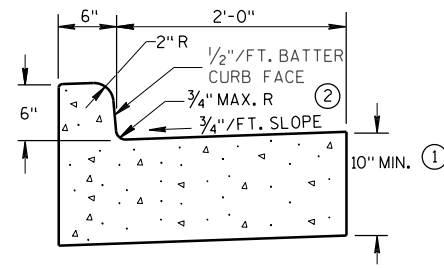
**CONCRETE CURB & GUTTER  
18" TYPE A SPECIAL**

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.



**CONCRETE CURB & GUTTER  
18" TYPE D SPECIAL**

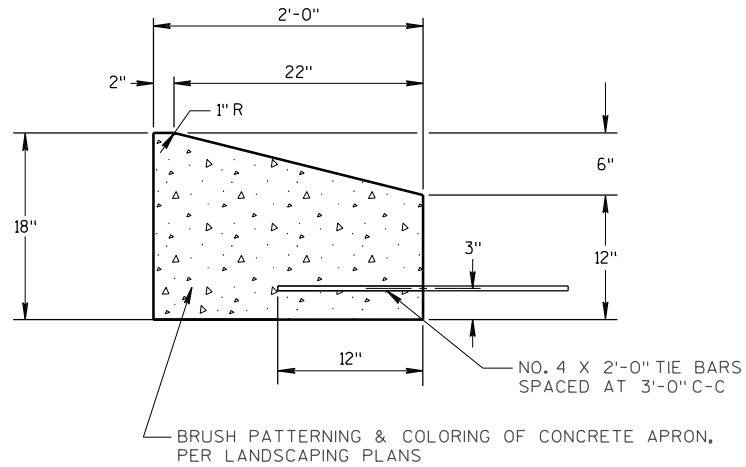
THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.



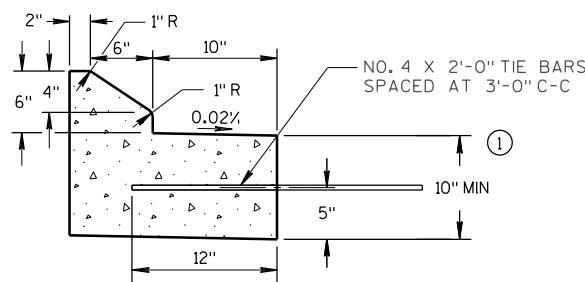
**CONCRETE CURB & GUTTER 30-INCH TYPE D SPECIAL**

**NOTES:**

- ① THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 10" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ② REVERSE SLOPE IN MEDIAN LOCATIONS.



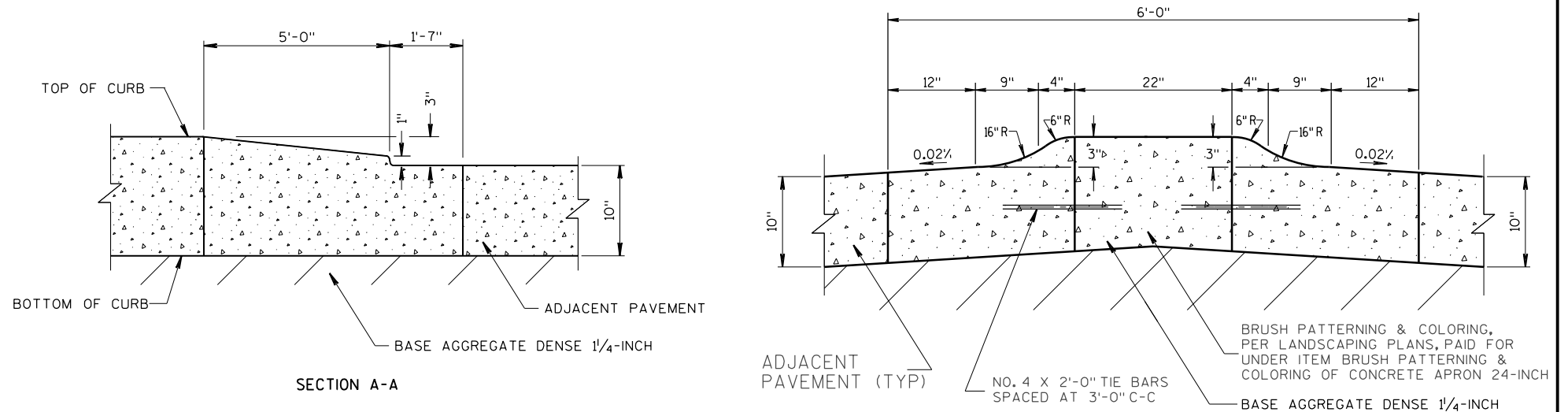
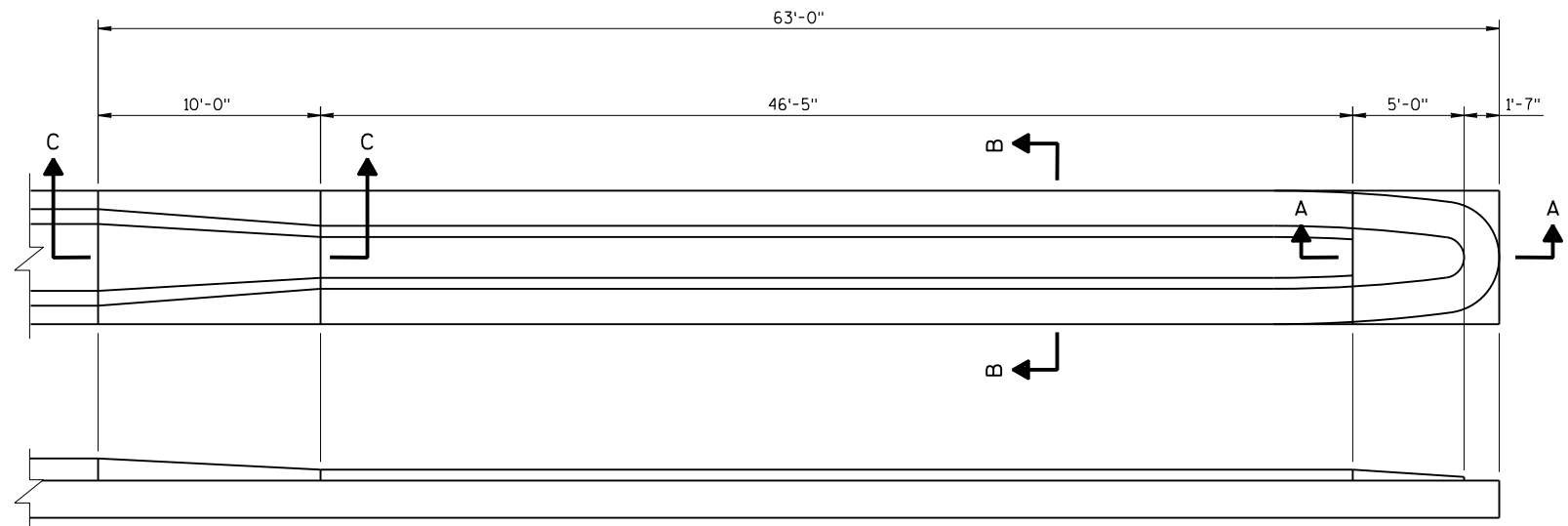
**CONCRETE APRON 24-INCH**



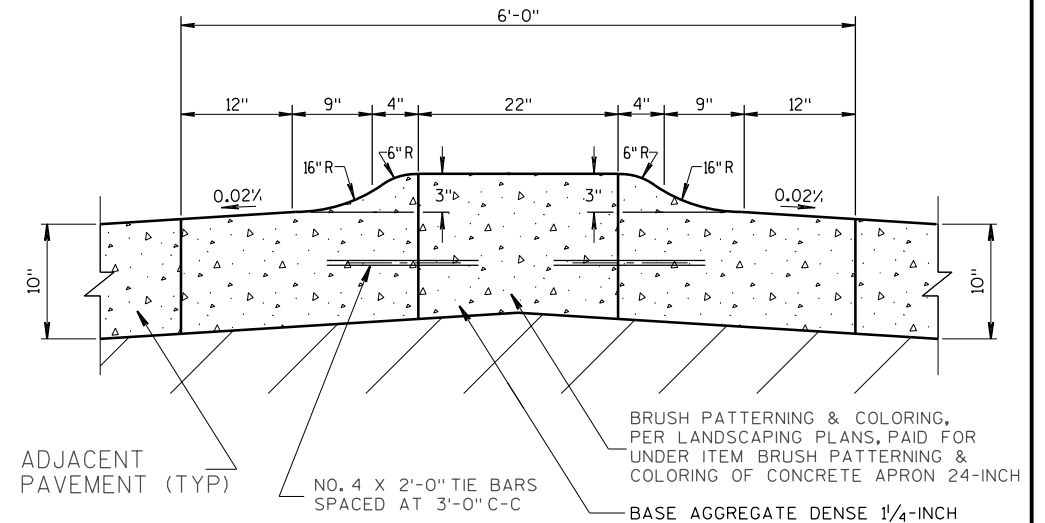
**CONCRETE CURB & GUTTER 18-INCH TYPE G SPECIAL**

**NOTES:**

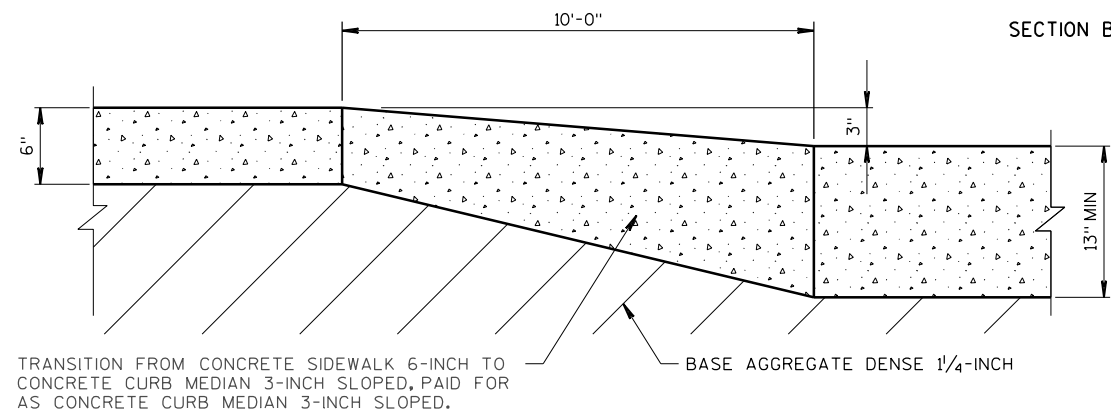
- ① THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 10" MINIMUM GUTTER THICKNESS IS MAINTAINED.



SECTION A-A



SECTION B-B

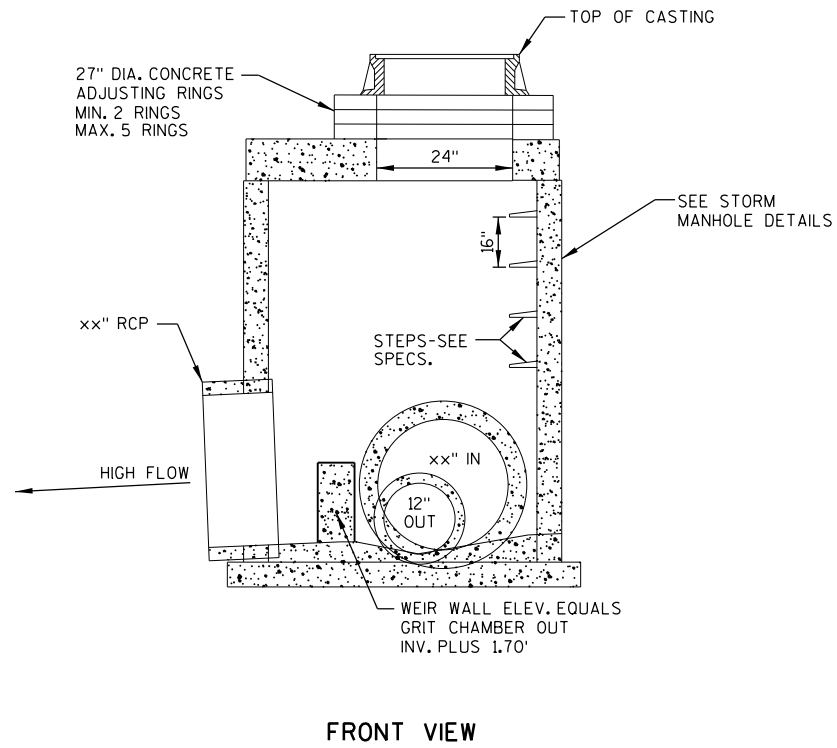


SECTION C-C

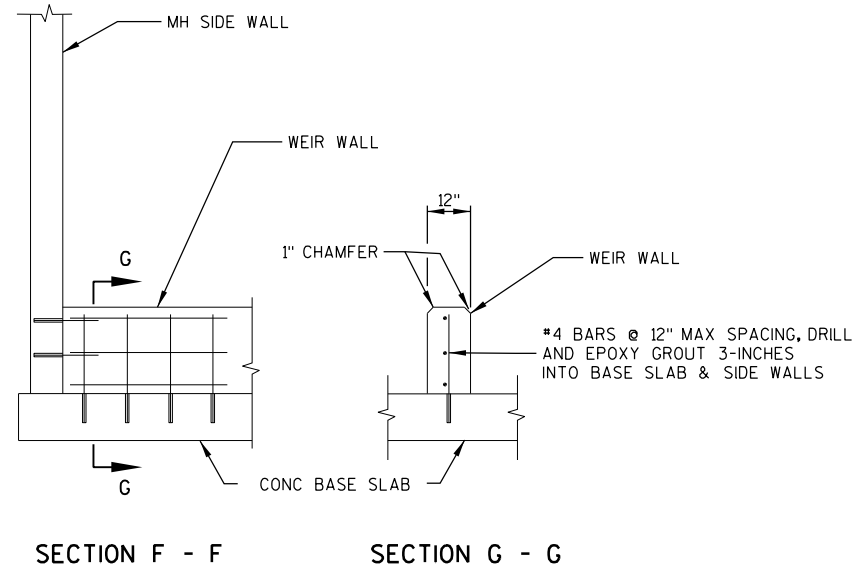
**CONCRETE CURB MEDIAN 3-INCH SLOPED**





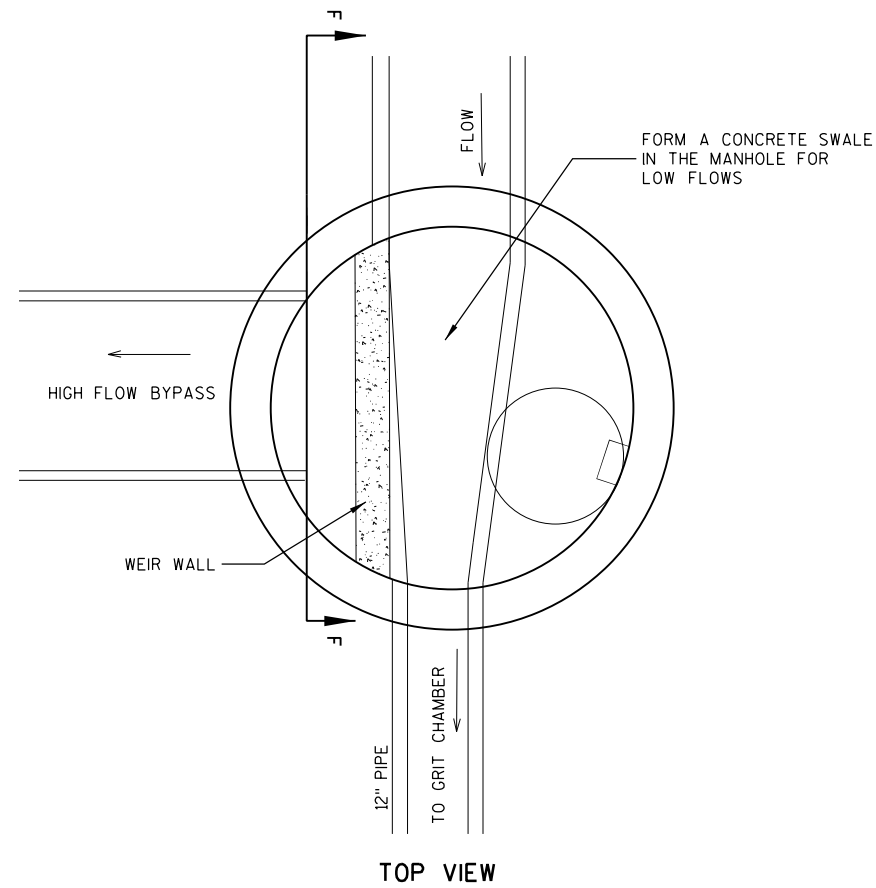


FRONT VIEW



SECTION F - F SECTION G - G

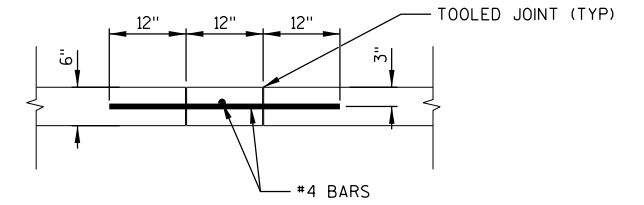
CONCRETE WEIR WALL



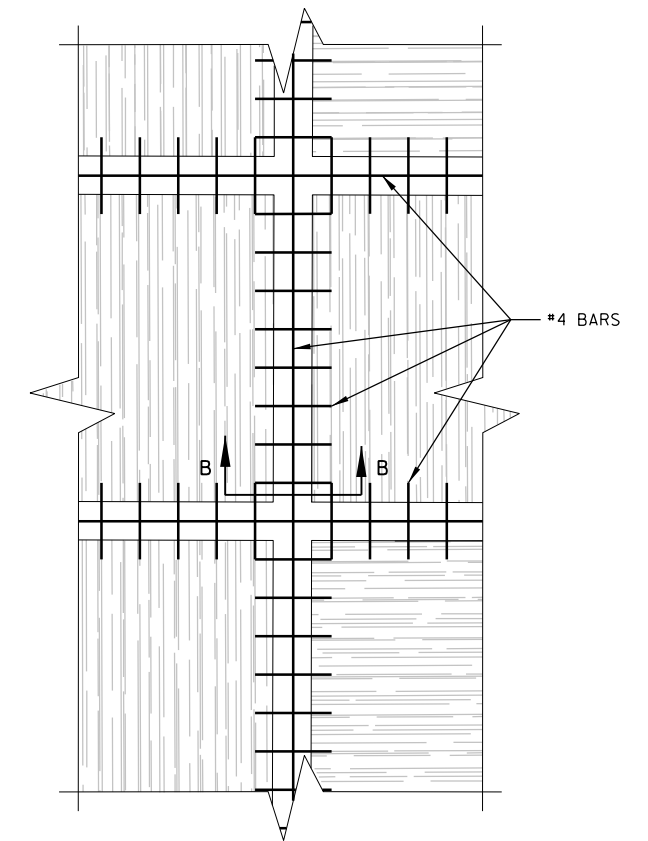
TOP VIEW

DIVERSION MANHOLE DETAILS

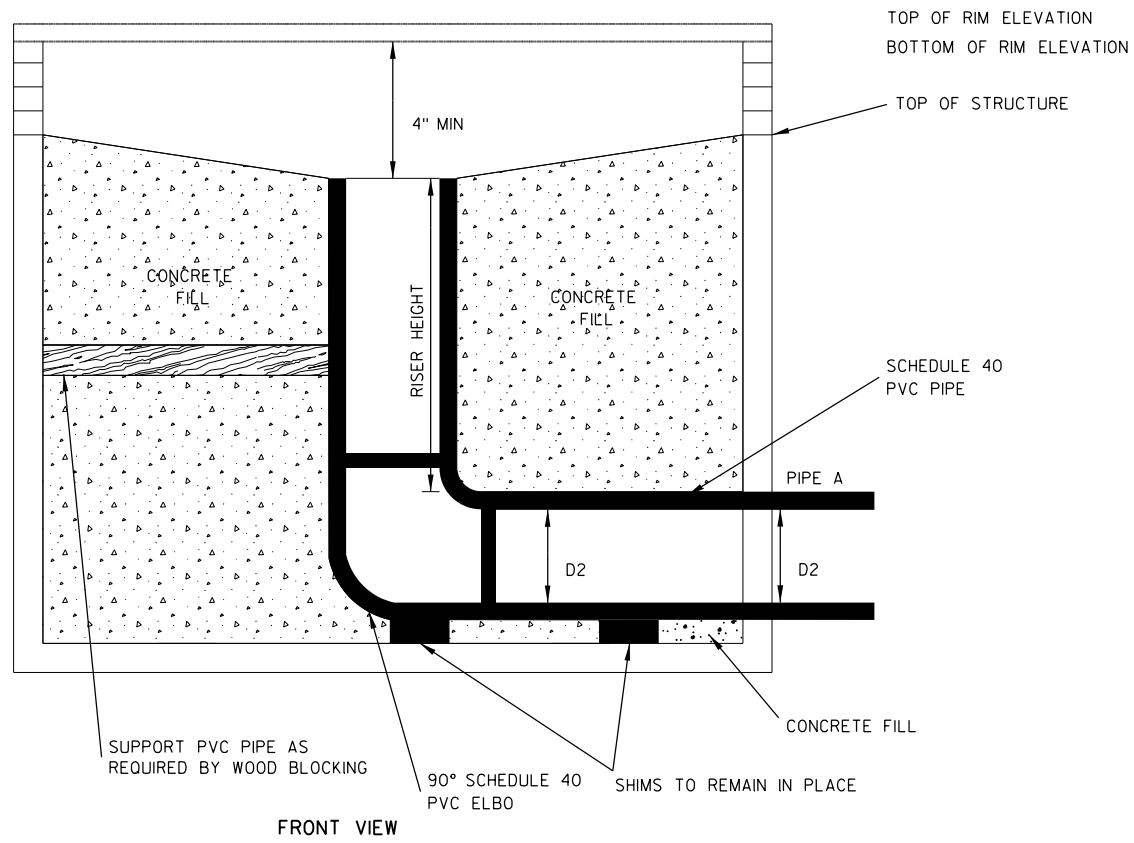
- NOTES:**
- ① CORE-DRILL OR SAW-CUT ALL OPENINGS FOR SMOOTH SURFACES AND SHARP LINES
- REINFORCEMENT NOTES:**
- ① SUBMIT SHOP DRAWING TO ENGINEER FOR REVIEW.
  - ② MIN CONC COVER 1-1/2" FOR ALL BARS
  - ③ SIDE WALLS REQUIRE #4 BARS 12" C.C. BOTH DIRECTIONS
  - ④ BASE SLAB REQUIRES #4 BARS 6" C.C. BOTH DIRECTIONS
  - ⑤ TOP SLAB REQUIRES #4 BARS 6" C.C. BOTH DIRECTIONS
  - ⑥ BEND AND TIE ALL CORNERS



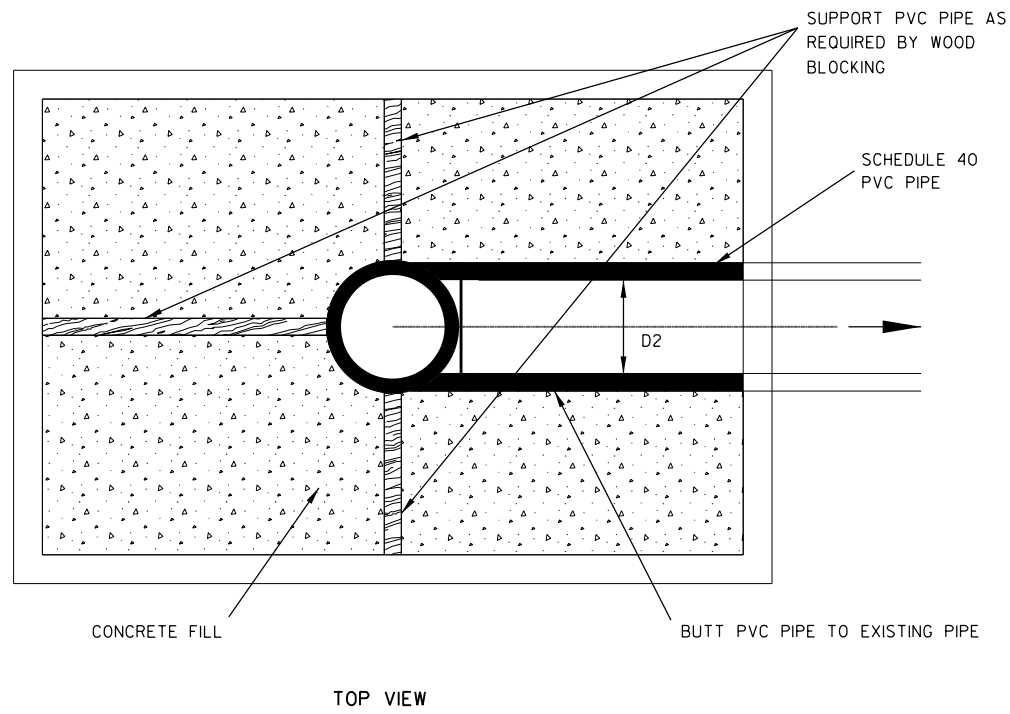
SECTION B - B



SIDEWALK TIES

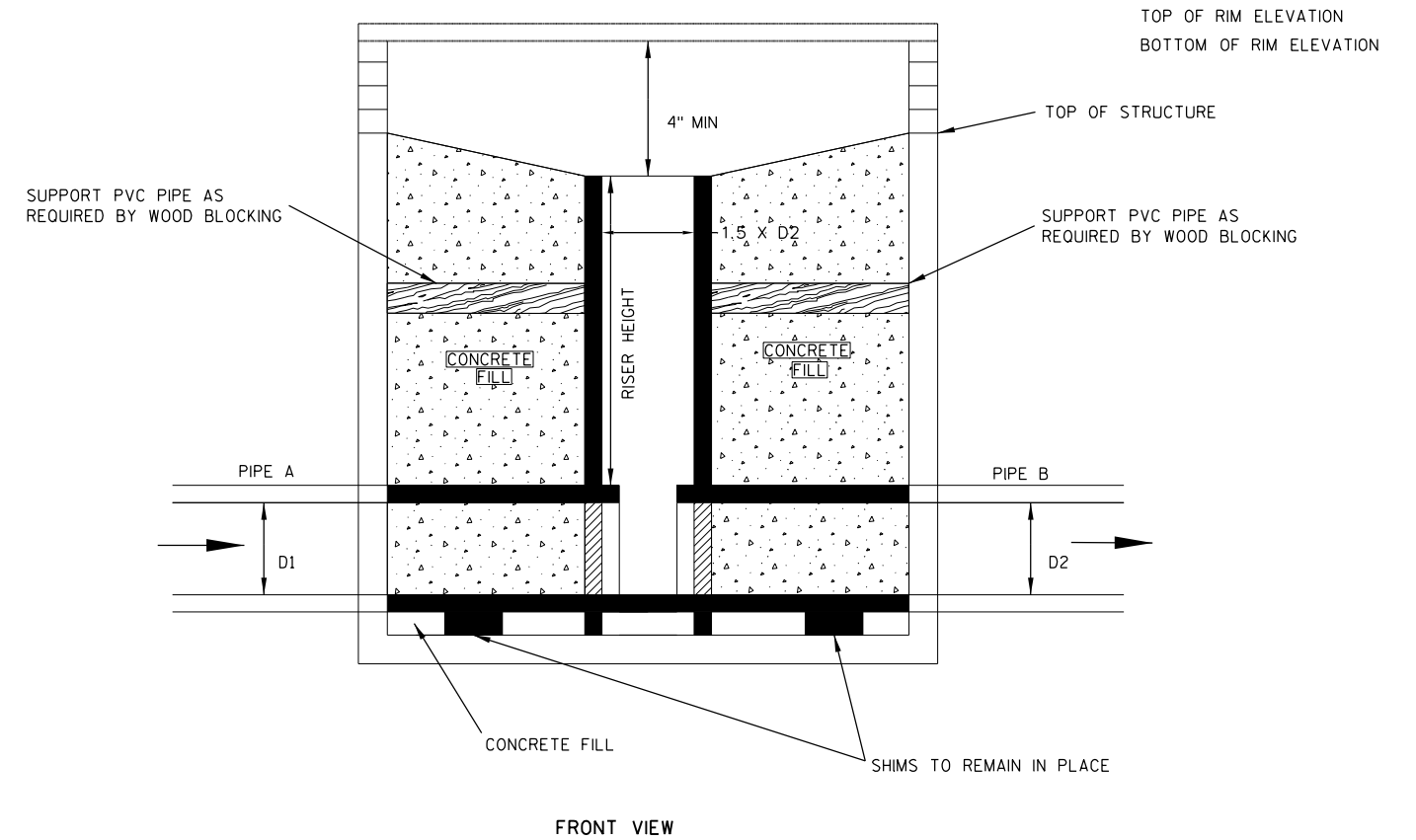


FRONT VIEW

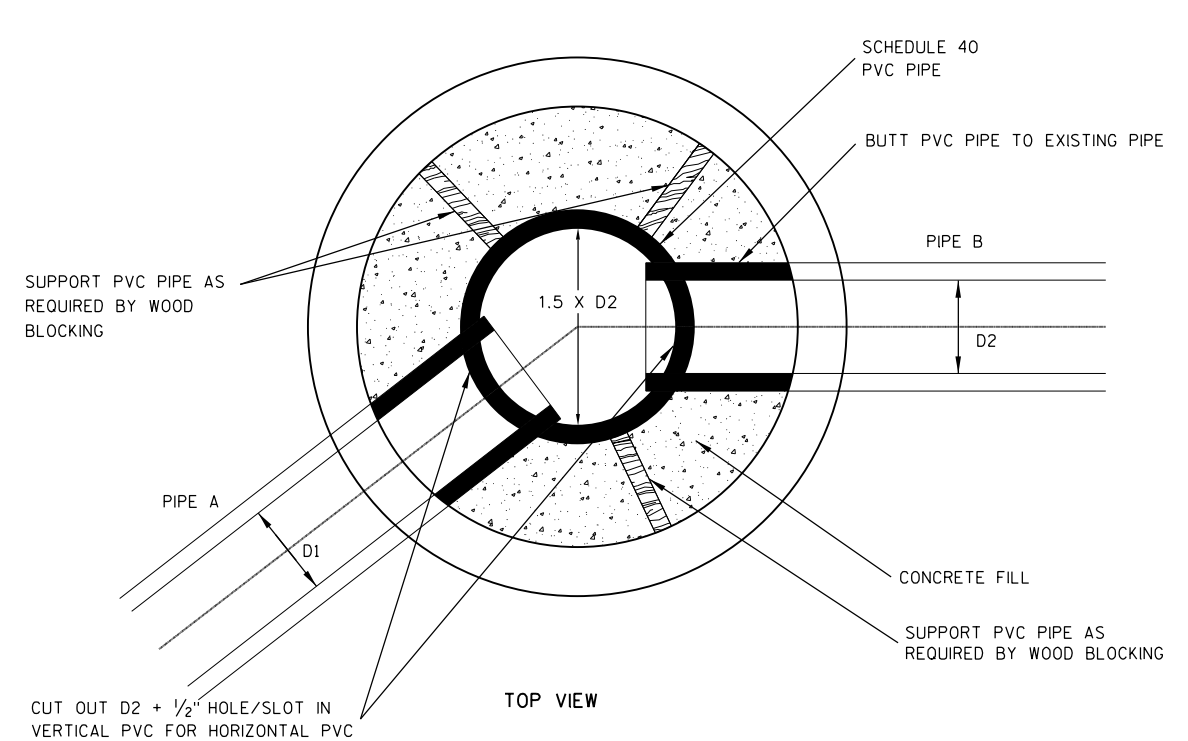


TOP VIEW

**INLET REPAIR TYPE 1**  
SINGLE OUT INLET DETAIL

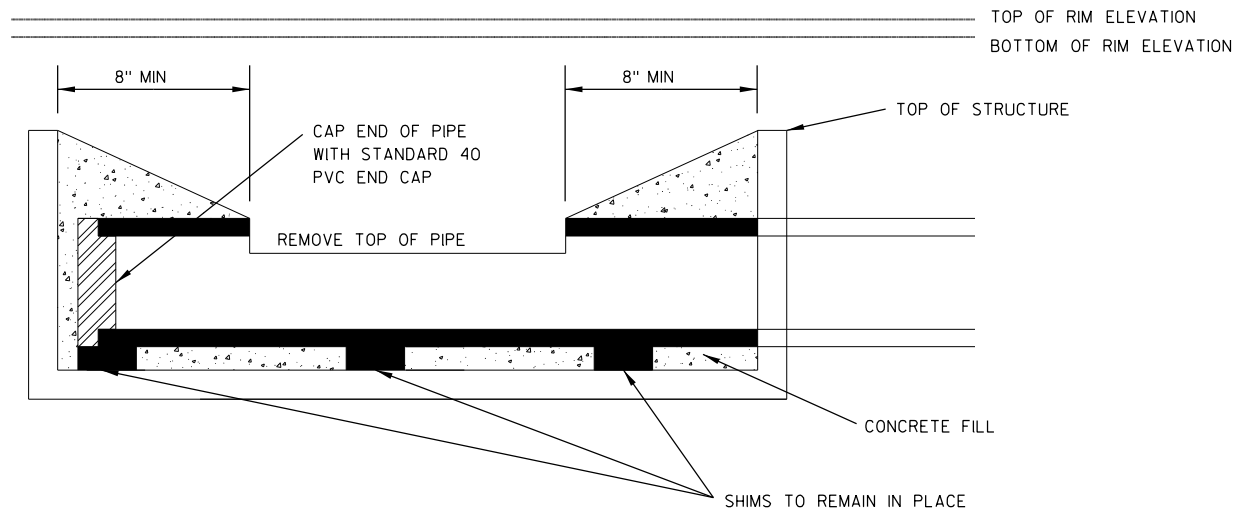


FRONT VIEW

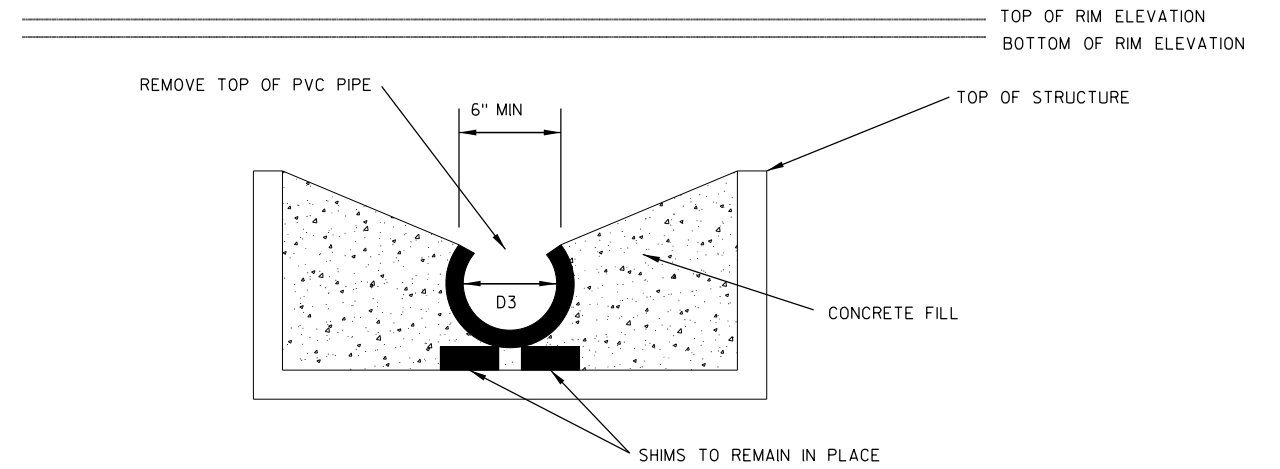


TOP VIEW

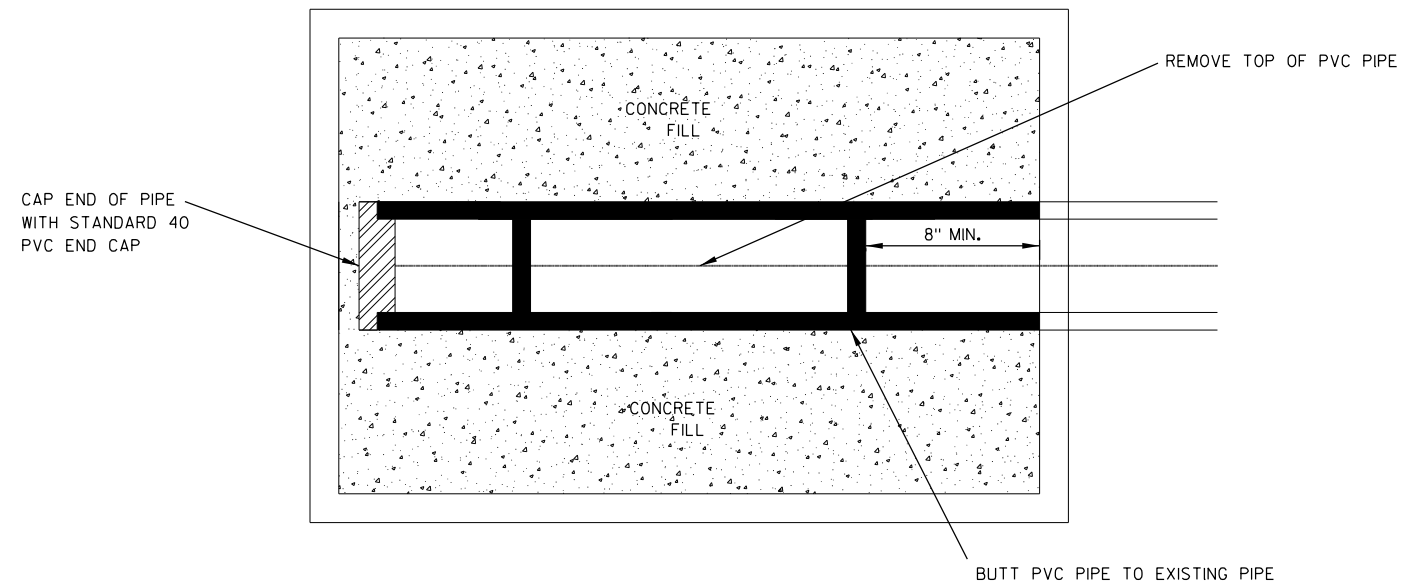
**INLET REPAIR TYPE 2**  
MULTIPLE OUT INLET DETAIL



FRONT VIEW

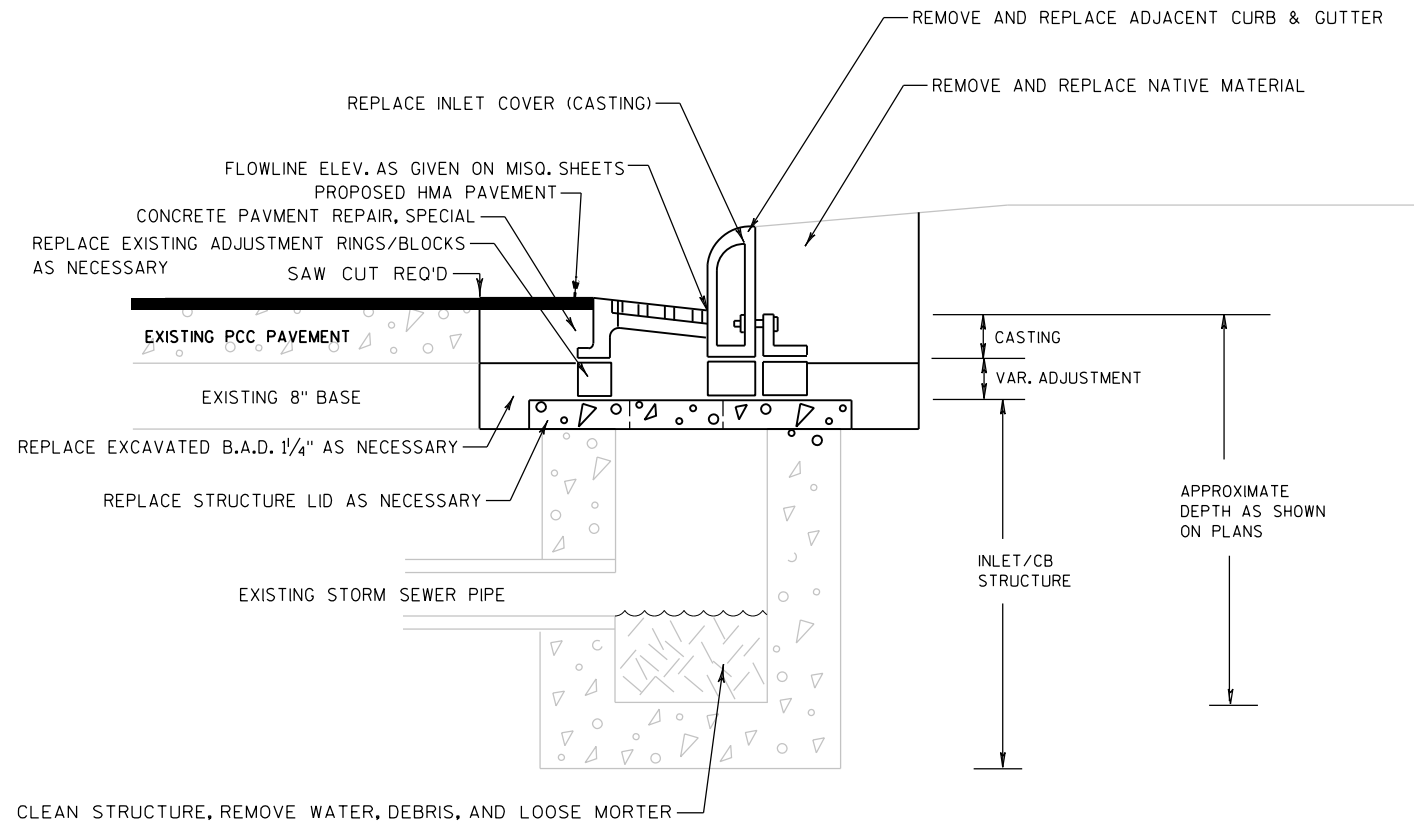


SIDE VIEW



TOP VIEW

**INLET REPAIR TYPE 3**  
**PVC PIPE TROUGH DETAIL**



CLEAN STRUCTURE, REMOVE WATER, DEBRIS, AND LOOSE MORTER

INCIDENTAL WORK, NO SEPARATE MEASUREMENT & PAYMENT

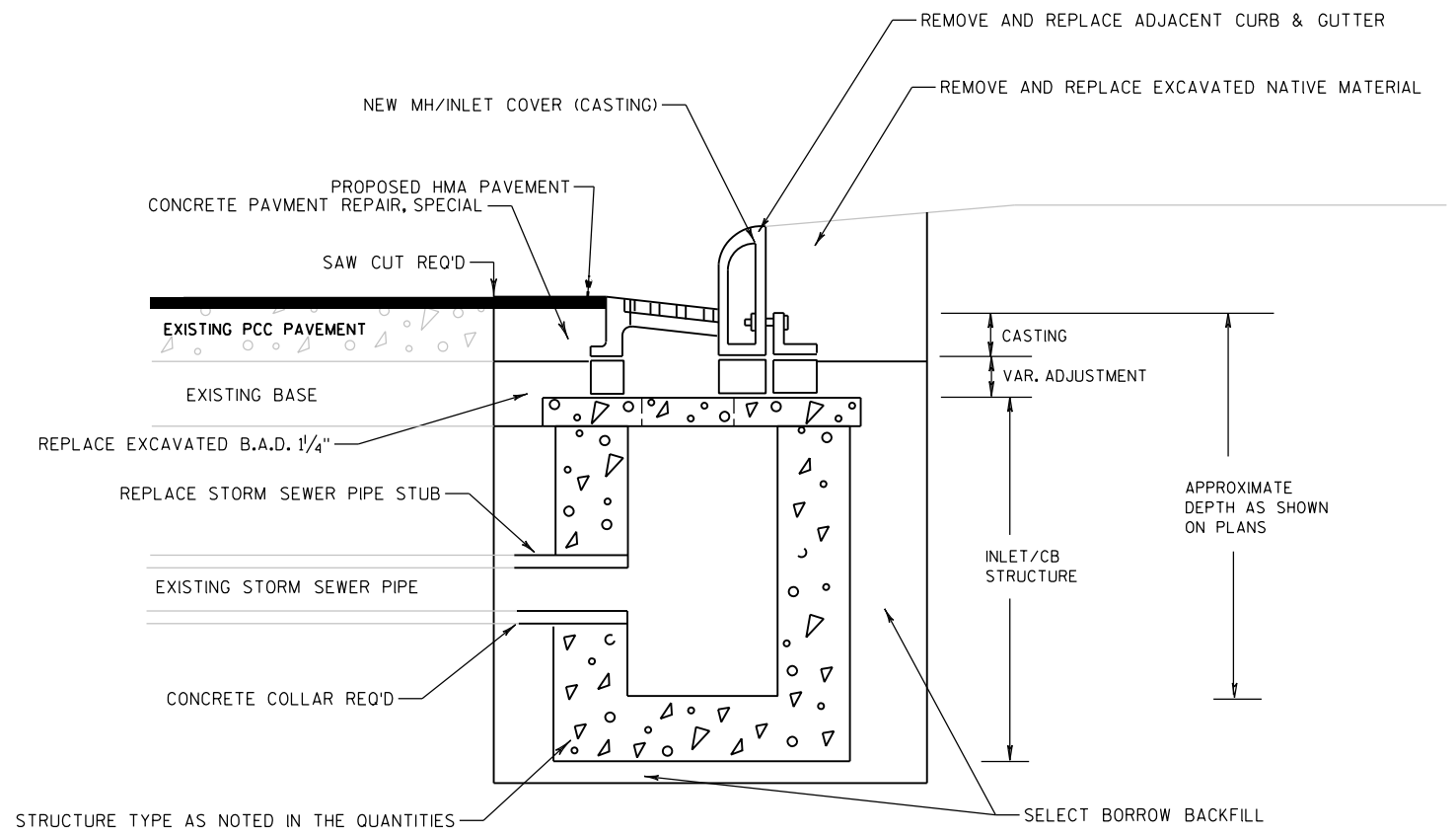
- ADJUSTMENT RINGS OR BLOCKS
- REMOVE AND REPLACE STRUCTURE LID
- STRUCTURE JOINT AND SPALL REPAIR
- REMOVE AND REPLACE NATIVE MATERIAL
- CLEAN STRUCTURE
- CASTING REMOVAL
- SAWING PAVEMENT

WORK MEASURED & PAID SEPARATELY

- INLET/ MANHOLE COVER (CASTING)
- CONCRETE PAV'T REPAIR (REMOVAL INCIDENTAL)
- REMOVE AND REPLACE CURB & GUTTER
- BASE AGG. DENSE 1/4- INCH

**ADJUST CATCH INLET/CATCH BASIN**

SEE PLANS AND QUANTITIES FOR LOCATIONS



STRUCTURE TYPE AS NOTED IN THE QUANTITIES

INCIDENTAL WORK, NO SEPARATE MEASUREMENT & PAYMENT

- ADJUSTMENT RINGS OR BLOCKS
- STORM SEWER PIPE STUB
- SELECT BORROW BACKFILL
- REMOVE AND REPLACE NATIVE MATERIAL
- CASTING AND OLD STRUCTURE REMOVAL
- SAWING PAVEMENT

WORK MEASURED & PAID SEPARATELY

- INLET/ MANHOLE COVER (CASTING)
- CONCRETE PAV'T REPAIR (REMOVAL INCIDENTAL)
- REMOVE AND REPLACE CURB & GUTTER
- BASE AGG. DENSE 1/4- INCH
- NEW STRUCTURE
- CONCRETE COLLAR

**RECONSTRUCT INLET/CATCH BASIN**

SEE PLANS AND QUANTITIES FOR LOCATIONS

# PRECAST MANHOLE DETAIL

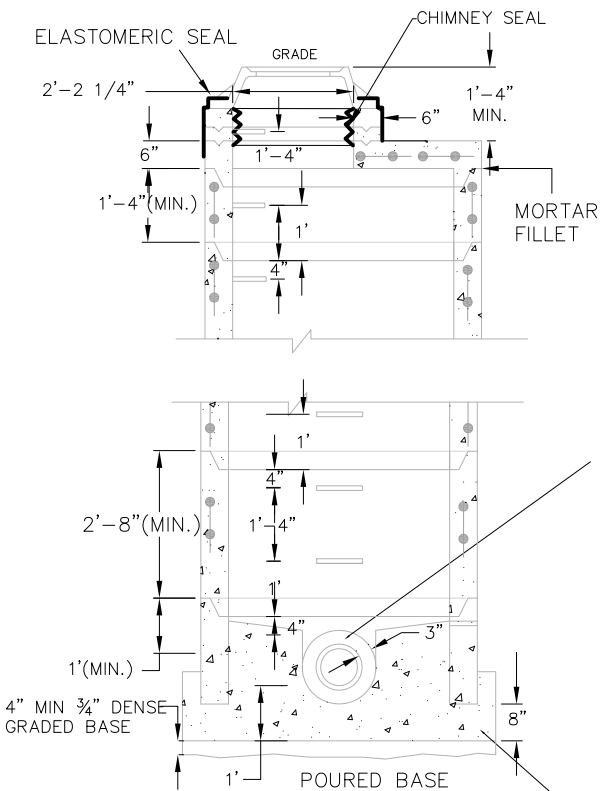
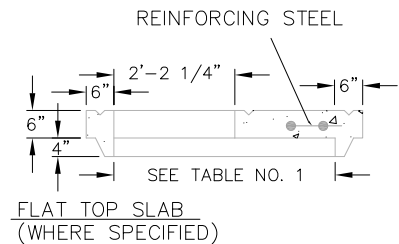
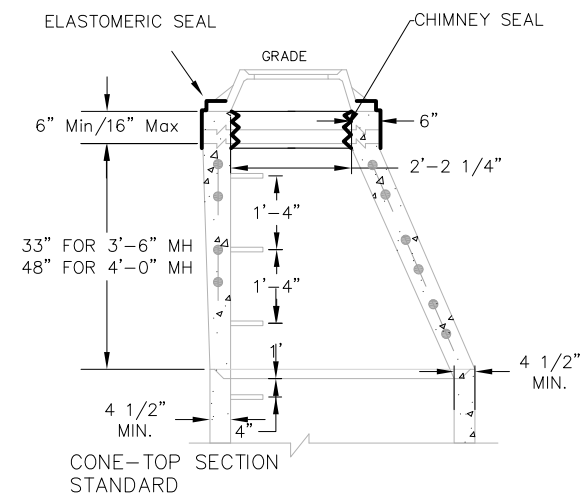
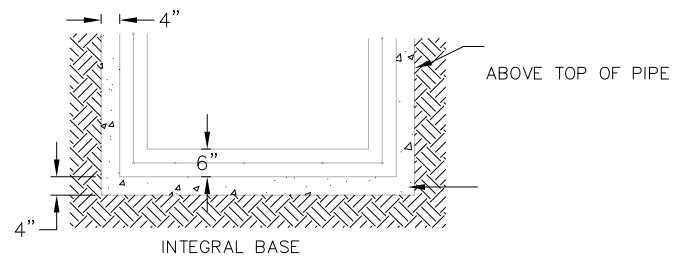


TABLE NO. 1

PIPE DIA	MANHOLE DIA	WALL THICKNESS
8" - 30"	4'-0"	5"
36"	5'-0"	6"
42"	6'-0"	7"

TYPE I FRAME/CHIMNEY JOINT REQUIRED ON ALL SANITARY MANHOLES UNLESS OTHERWISE SPECIFIED. ELASTOMERIC WATERPROOFING SEALER APPLIED TO EXTERIOR AND INTERIOR CHIMNEY SEAL.



FLAT TOP SLAB MAY ONLY BE USED FOR 5'-0" AND 6'-0" DIA. MANHOLES AND WITH PERMISSION OF PROJECT ENGINEER OR WHERE SHOWN ON THE PLANS.

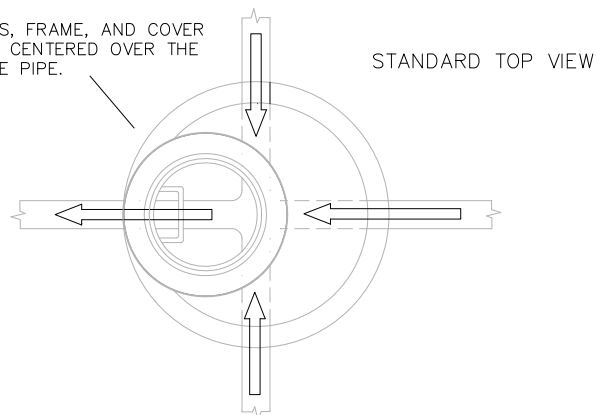
ADJUST FRAME TO GRADE WITH BRICK OR CONCRETE RINGS OF VARIABLE THICKNESS, MAXIMUM RING HEIGHT = 6", MINIMUM RING HEIGHT = 2". CONCRETE RINGS SHALL BE REINFORCED WITH ONE LINE OF STEEL CENTERED WITHIN THE RING. WHERE NECESSARY, RINGS SHALL BE GROOVED TO RECEIVE STEP. THE CHIMNEY SHALL BE CONSTRUCTED SO THAT AS FEW ADJUSTING RINGS AS POSSIBLE SHALL BE USED TO BRING MANHOLE TO GRADE.

CONCRETE AND STEEL REINFORCEMENT SHALL CONFORM TO DESIGNATION C-478 REQUIREMENTS OF ASTM SPECIFICATIONS.

JOINTS SHALL BE WATERTIGHT AND SHALL BE MADE USING BUTYL RUBBER GASKETS. ALL JOINTS SHALL CONFORM TO ASTM-C443 VARIATIONS IN DIAMETER, DEFECTIVE OR DAMAGED ENDS, OR OTHER CONDITIONS WHICH, IN THE OPINION OF THE PROJECT ENGINEER, PREVENT MAKING A SATISFACTORY JOINT SHALL BE CONSIDERED CAUSE FOR REJECTION.

AREA OF CIRCUMFERENTIAL STEEL = 0.12 SQ INCH PER LINEAL FOOT.

THE STEPS, FRAME, AND COVER SHALL BE CENTERED OVER THE DISCHARGE PIPE.



SPACE BETWEEN PIPE AND PRECAST MANHOLE WALL TO BE FILLED WITH BRICK MORTARED IN PLACE EXCEPT THAT AN APPROVED FLEXIBLE WATERTIGHT PIPE TO MANHOLE SEAL IS REQUIRED FOR ALL FLEXIBLE SANITARY SEWER CONNECTIONS. THE ANNULAR SPACE BETWEEN THE PIPE AND MANHOLE WALL SHALL BE FILLED WITH FLEXIBLE BUTYL RUBBER GASKET MATERIAL BELOW SURFACE OF BENCH SPRINGLINE.

4" MIN. 3/4" DENSE GRADED BASE UNDER CONCRETE BASE.

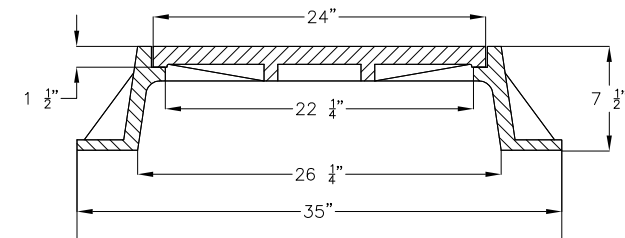
PRECAST BASE RISER SECTION WITH A SEPARATE PRECAST BASE SLAB SHALL NOT BE CONSIDERED GENERALLY ACCEPTABLE UNDER THIS SPECIFICATION.

THE FLOW CHANNEL THROUGH MANHOLES SHALL BE MADE TO CONFORM TO THE SHAPE AND SLOPE OF THE SEWERS AND SHALL EXTEND VERTICALLY FROM THE SPRINGLINE TO THE CROWN OF THE DISCHARGE PIPE.

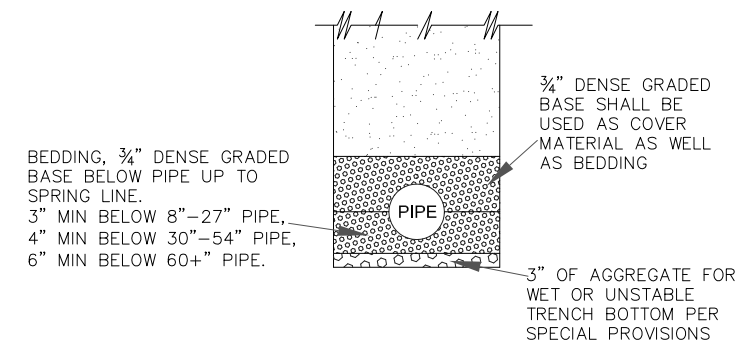
BENCH SLOPE { STORM MANHOLE 1" PER FOOT  
SANITARY MANHOLE 2" PER FOOT

CLASS "D" CONCRETE, 12" MIN. BELOW BOTTOM OF PIPE

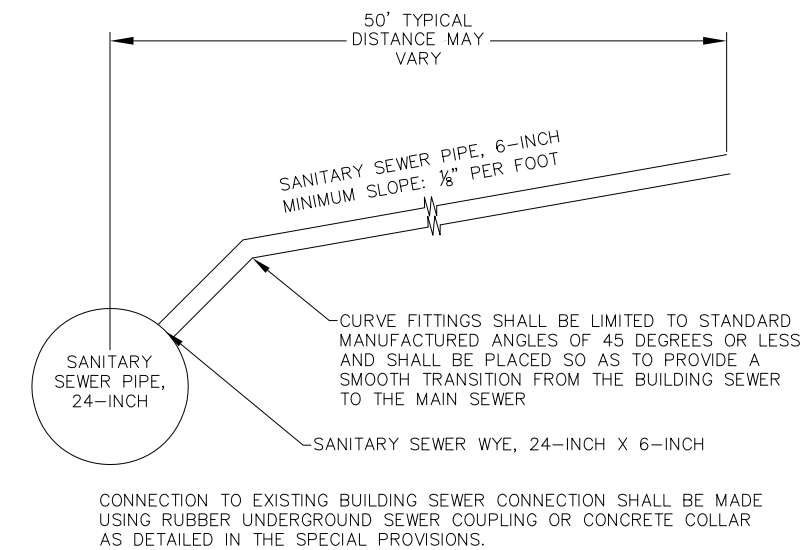
# MANHOLE CASTING DIMENSIONS

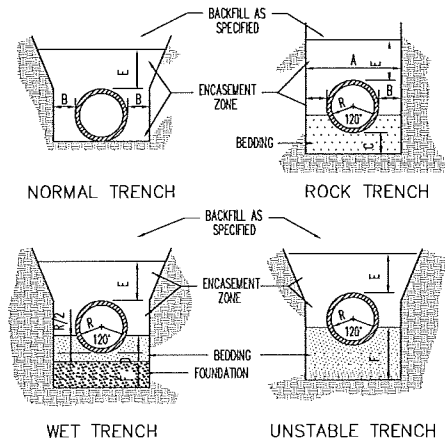


# TYPICAL TRENCH BOTTOM DETAIL



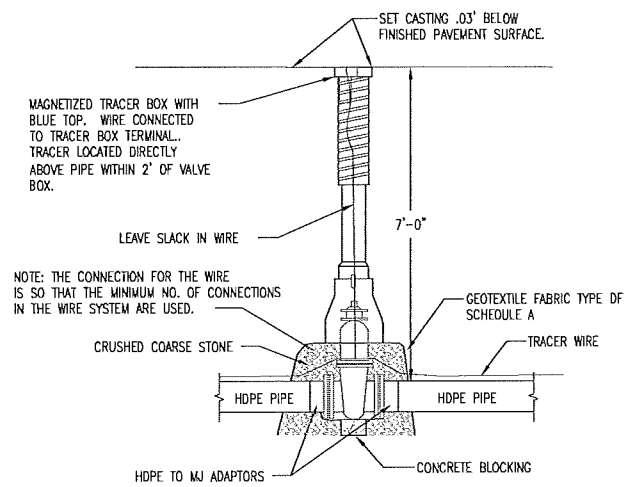
# TYPICAL BUILDING SEWER CONNECTION





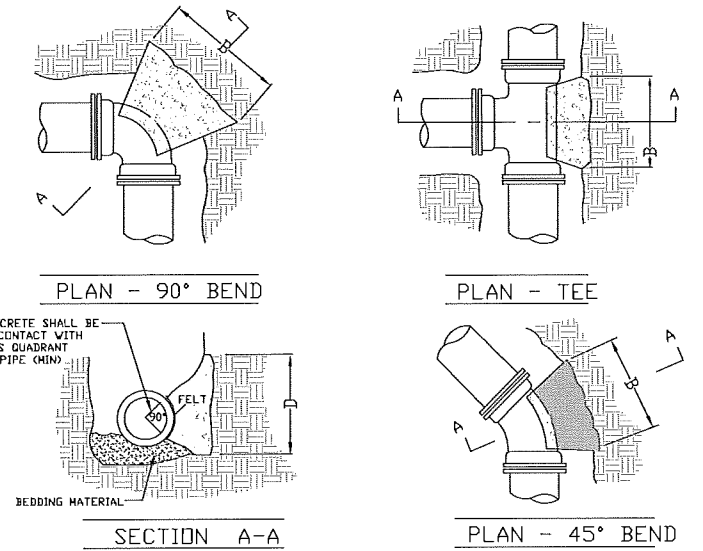
1. DIMENSIONS:
- A. MAXIMUM PAY WIDTH - O.D. PIPE +24"
  - B. MINIMUM - 6"
  - C. 6" BELOW BARREL
  - D. 3" BELOW BARREL
  - E. MINIMUM 12"
  - F. DETERMINED BY THE ENGINEER
2. ENCASUREMENT ZONE SHALL BE EXCAVATED MATERIALS THAT ARE CLASSIFIED SUITABLE, OR GRANULAR BACKFILL MATERIAL.
3. FOUNDATION MATERIAL - 3" CRUSHED STONE FOR WET OR UNSTABLE TRENCH BOTTOM.
4. BEDDING MATERIAL - CRUSHED STONE CHIPS

**TRENCH SECTION FOR WATERMAIN**  
NTS



- NOTES:
- VALVES SHALL BE CONNECTED DIRECTLY TO HDPE WITH HOPE TO MECHANICAL JOINT ADAPTORS.
  - USE EPOXY COATING ON EXTERIOR OF VALVES.
  - ALL BOLTS AND NUTS SHALL BE STAINLESS STEEL.
  - FOR OPEN CUT PIPE INSTALLATIONS, ELECTROFUSION COUPLINGS ARE NOT ALLOWED FOR CONNECTION OF HDPE TO MJ ADAPTORS. FOR DIRECTIONAL DRILLED INSTALLATIONS, ONE ELECTROFUSION COUPLING MAY BE USED PER VALVE.

**WATERMAIN VALVE DETAIL**  
NTS

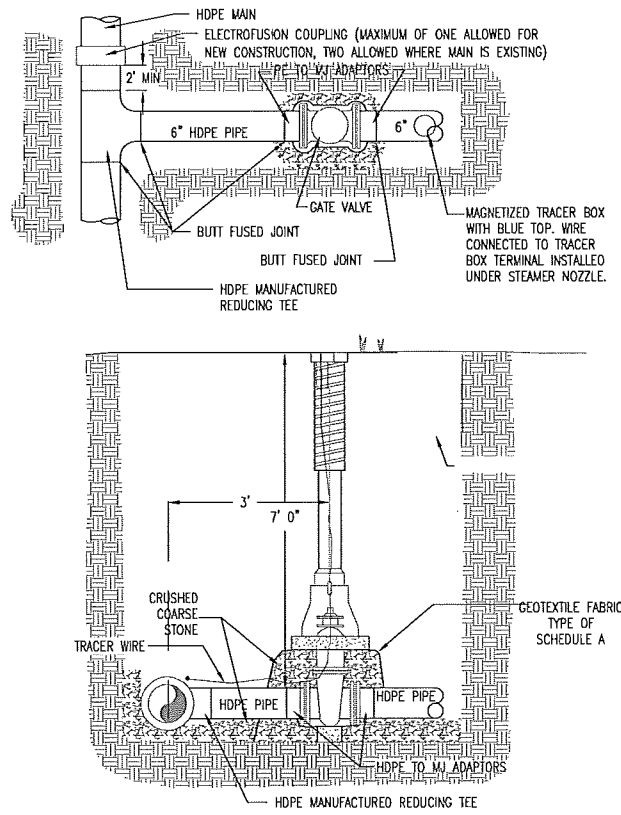


BEND OR BRANCH SIZE	BLOCKING DIMENSIONS							
	22 1/2° BENDS		45° BENDS		90° BENDS		TEES	
	B	D	B	D	B	D	B	D
6"	1'-0"	1'-0"	1'-0"	1'-0"	1'-4"	1'-2"	1'-3"	1'-0"
8"	1'-0"	1'-0"	1'-4"	1'-2"	1'-10"	1'-6"	1'-6"	1'-4"
12"	1'-4"	1'-4"	1'-10"	1'-10"	2'-8"	2'-3"	2'-3"	2'-0"
16"	1'-10"	1'-8"	2'-6"	2'-4"	3'-10"	2'-10"	3'-2"	2'-4"
20"	2'-4"	2'-0"	3'-3"	2'-10"	5'-0"	3'-4"	4'-0"	3'-0"
24"	2'-10"	2'-4"	4'-0"	3'-3"	6'-4"	3'-10"	5'-3"	3'-4"
30"	3'-6"	3'-0"	5'-4"	3'-10"	8'-0"	4'-8"	6'-3"	4'-3"

- NOTES -

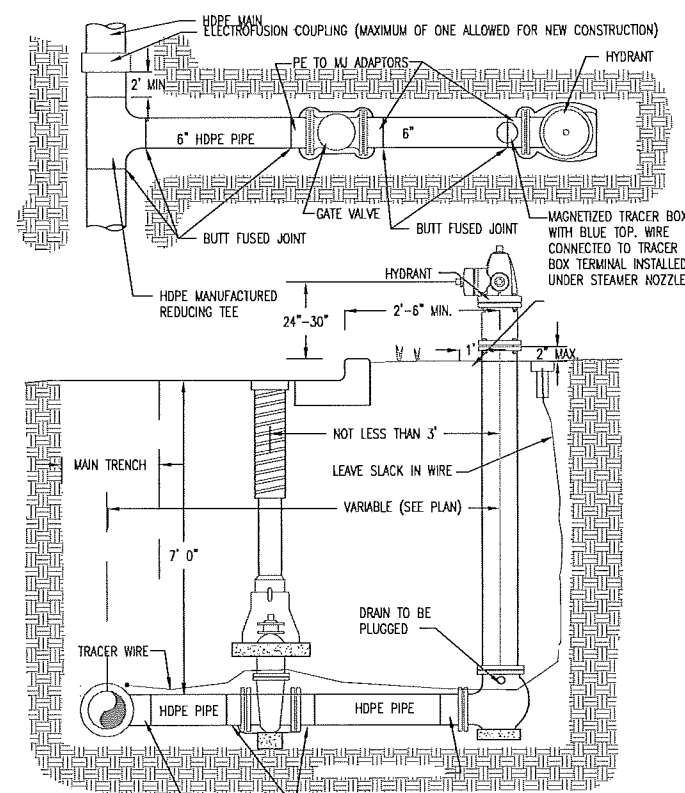
- DIMENSIONS IN TABLE ARE BASED ON A WATER PRESSURE OF 150 P.S.I. AND AN EARTH RESISTANCE OF 2 TONS PER SQ. FOOT
- BLOCKING TO BE SET AGAINST UNDISTURBED SOIL.
- CONCRETE SHALL BE CLASS '1F' CONCRETE SHALL NOT INTERFERE WITH MECHANICAL JOINTS.

**THRUST BLOCKING FOR WATERMAIN**  
NTS



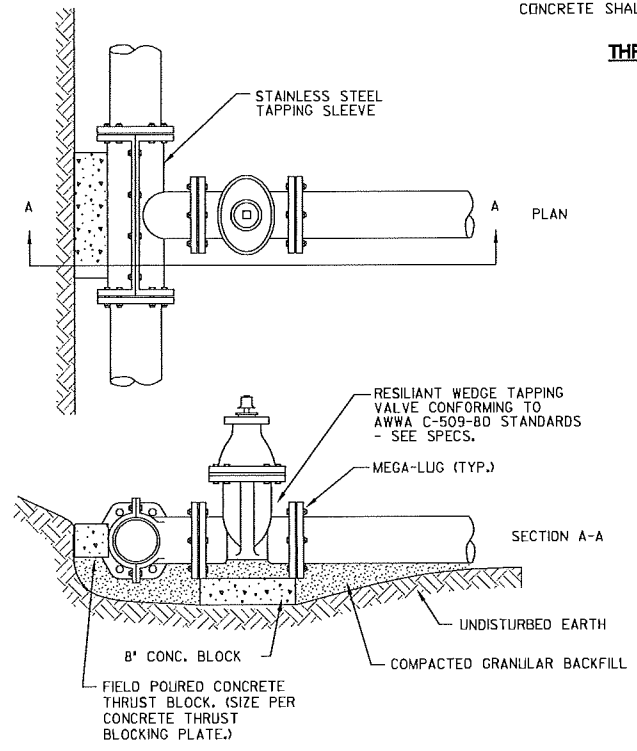
- NOTES:
- VALVES SHALL BE CONNECTED DIRECTLY TO MECHANICAL JOINT ADAPTORS.
  - ALL BOLTS AND NUTS SHALL BE STAINLESS STEEL.

**COMMERCIAL / INDUSTRIAL WATER SERVICE CONNECTION**  
NTS



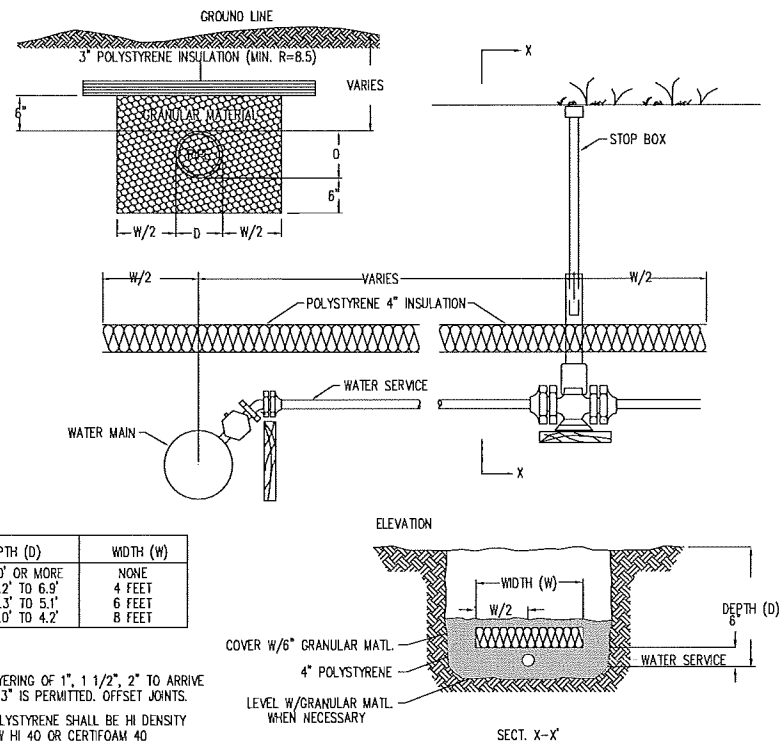
- NOTES:
- VALVES SHALL BE CONNECTED DIRECTLY TO MECHANICAL JOINT ADAPTORS.
  - USE EPOXY COATING ON VALVE AND HYDRANT BASE
  - ALL BOLTS AND NUTS SHALL BE STAINLESS STEEL.

**FIRE HYDRANT SETTING DETAILS**  
NTS

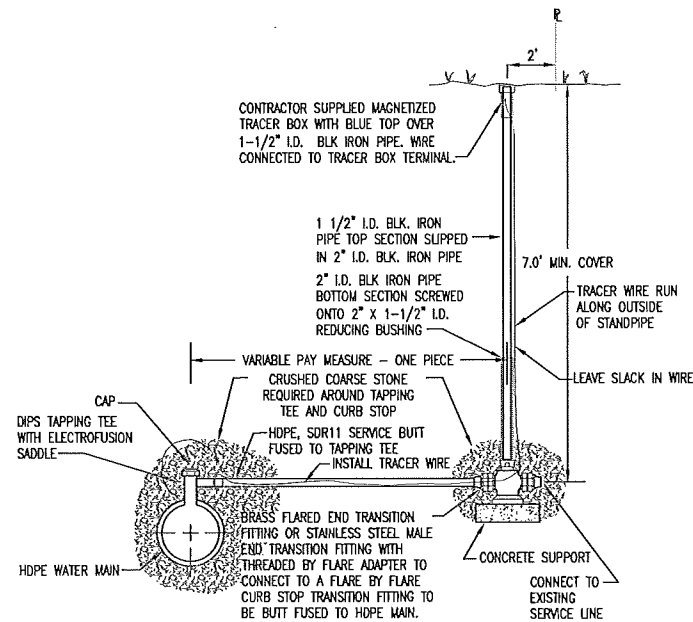


**WATER MAIN WET TAP**  
NTS

NOTE: EXCAVATE 6" UNDER IN-PLACE MAIN AND BACKFILL WITH CRUSHED COARSE STONE. CONTRACTOR SHALL PROVIDE & PLACE A TRENCH BOX WHEN REQUIRED.

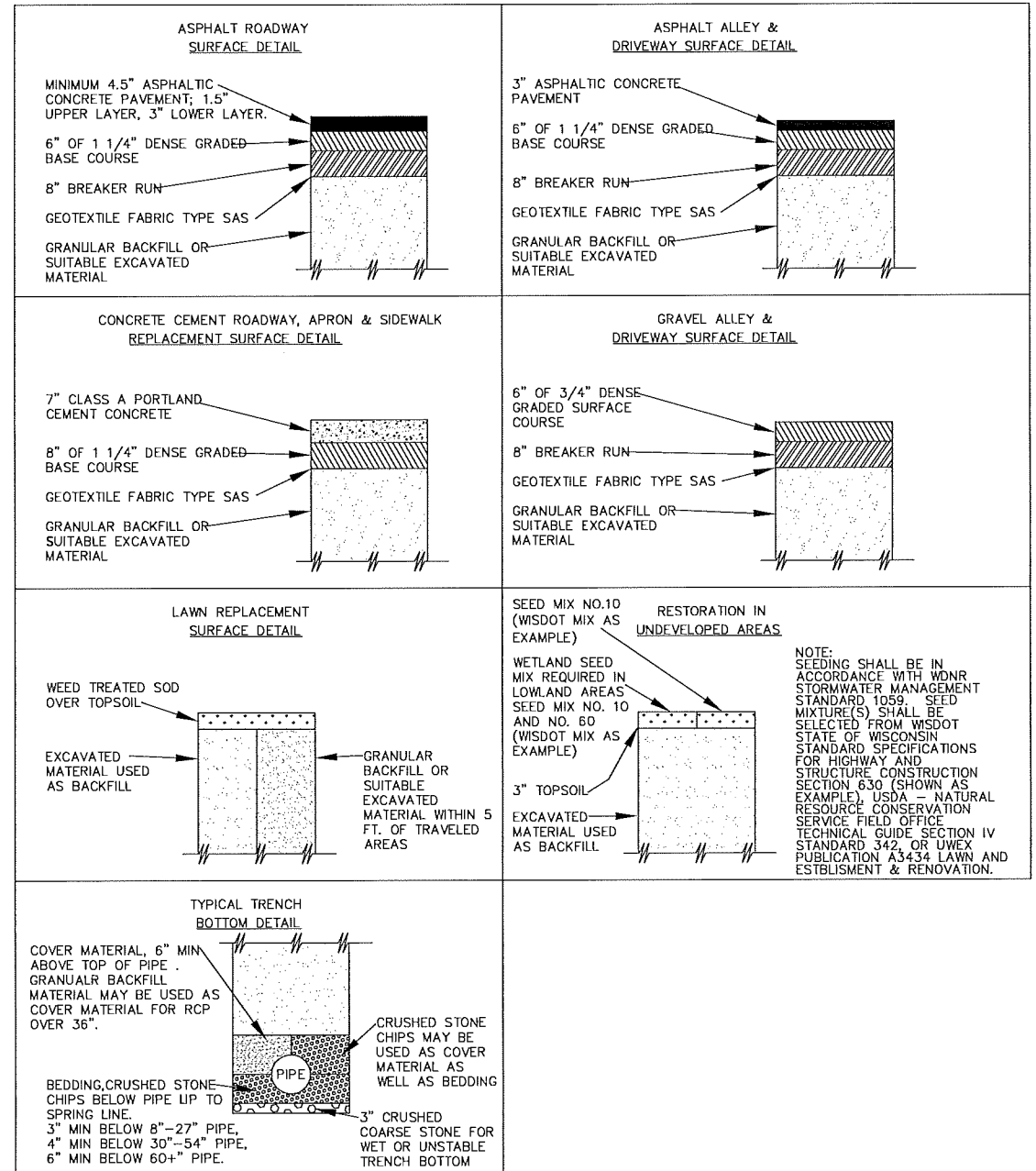


**WATERMAIN & SERVICE INSULATION DETAIL**  
NTS



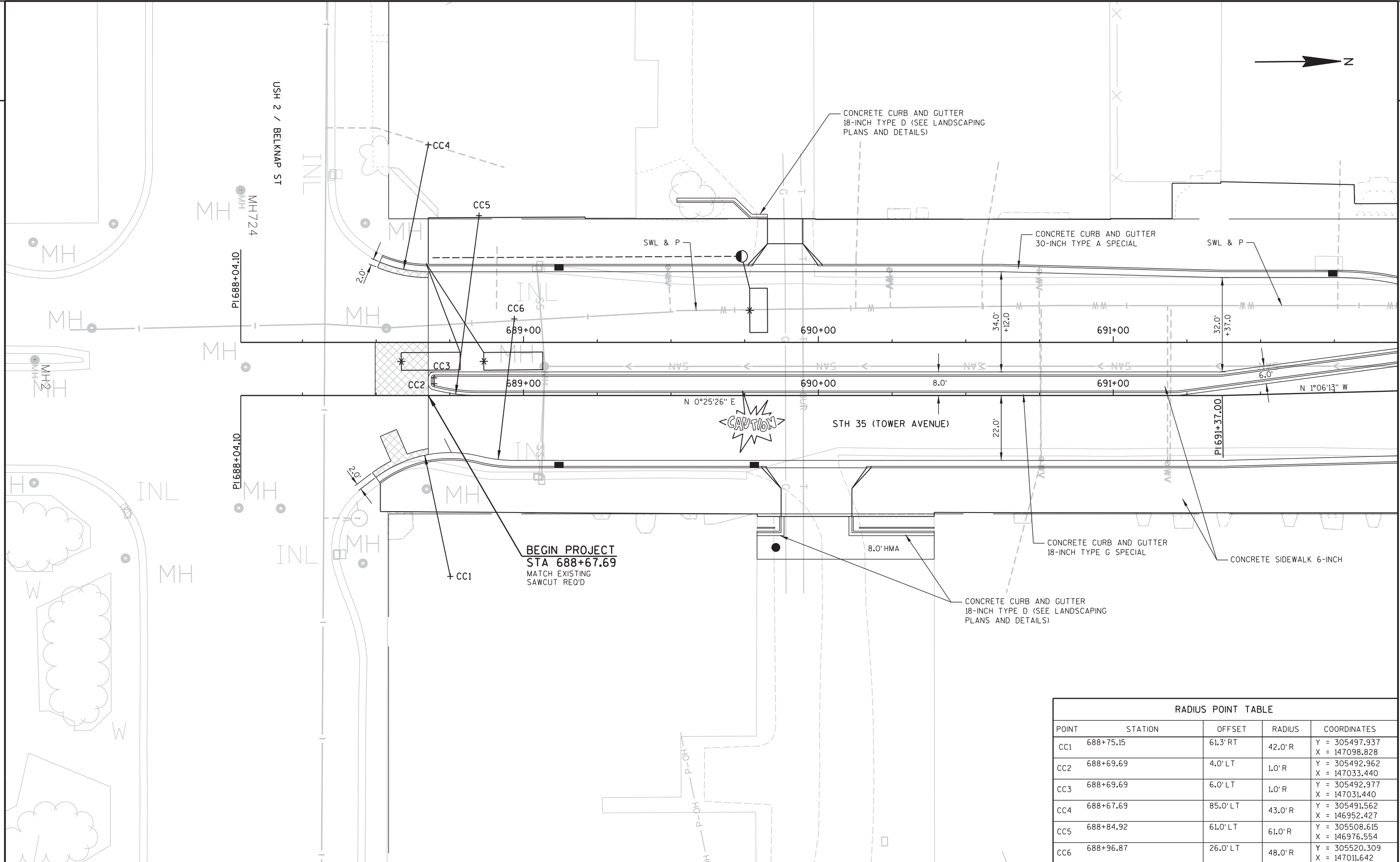
NOTE: SERVICE TO BE AIR TESTED PRIOR TO TAPPING MAIN  
THE TRACER WIRE SHALL REMAIN CONTINUOUS TO THE GREATEST EXTENT POSSIBLE. SPLICES IN THE TRACER WIRE SHOULD BE MADE WITH SPLIT BOLT OR COMPRESSION TYPE CONNECTORS. WIRE NUTS OR CLIP TYPE CONNECTOR SHALL NOT BE USED. A WATER-PROOF CONNECTION IS NECESSARY TO PREVENT CORROSION.

**TYPICAL HDPE WATER SERVICE - 3/4", 1", 1-1/4", AND 2"**  
NTS



**RESURFACING DETAILS & TRENCH BOTTOM DETAIL**  
NTS

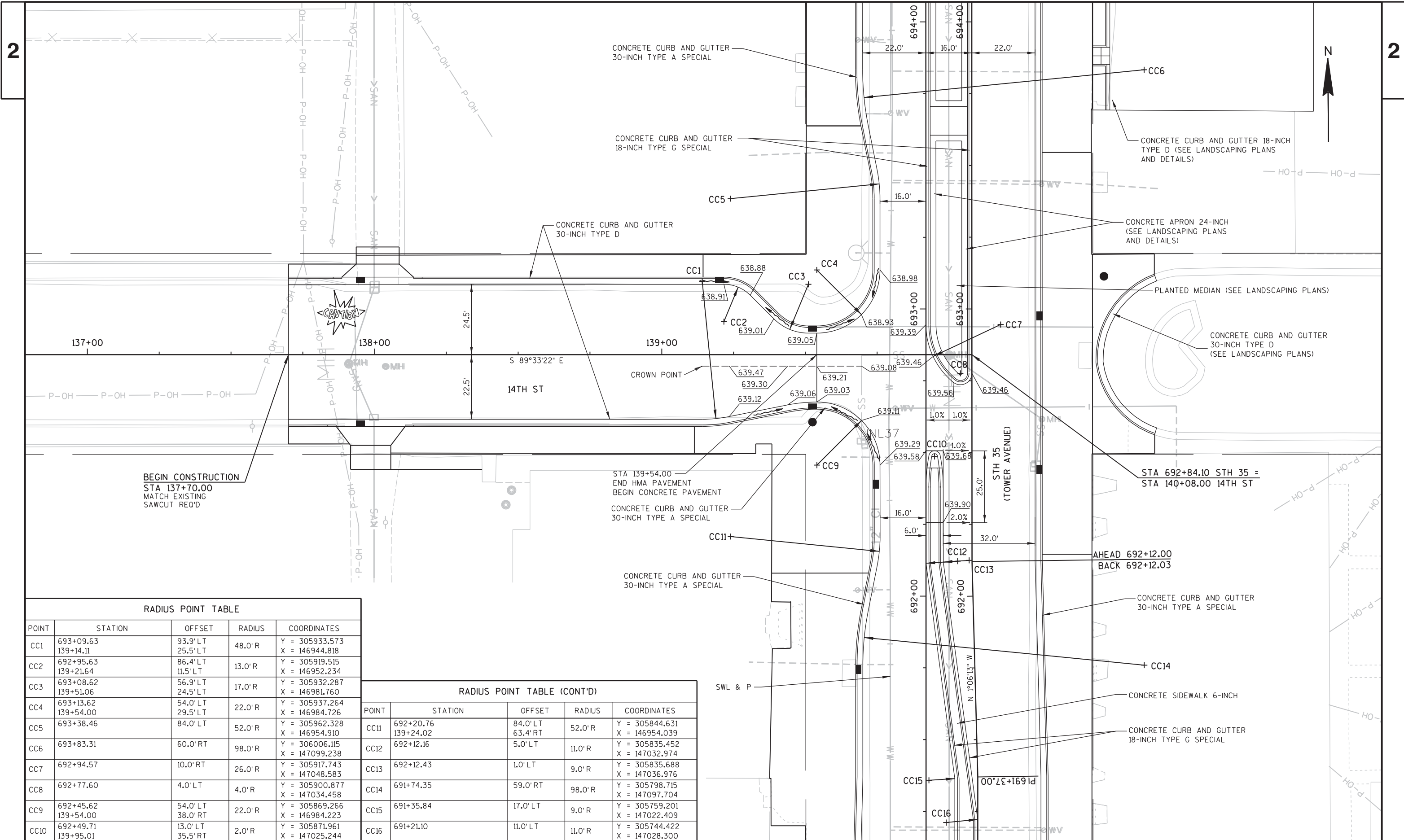




**BEGIN PROJECT**  
**STA 688+67.69**  
 MATCH EXISTING  
 SAWCUT REQ'D

**CAUTION**

RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	688+75.15	61.3' RT	42.0' R	Y = 305497.937 X = 147098.828
CC2	688+69.69	4.0' LT	1.0' R	Y = 305492.962 X = 147033.440
CC3	688+69.69	6.0' LT	1.0' R	Y = 305492.977 X = 147031.440
CC4	688+67.69	85.0' LT	43.0' R	Y = 305491.562 X = 146952.427
CC5	688+84.92	61.0' LT	61.0' R	Y = 305508.615 X = 146976.554
CC6	688+96.87	26.0' LT	48.0' R	Y = 305520.309 X = 147011.642



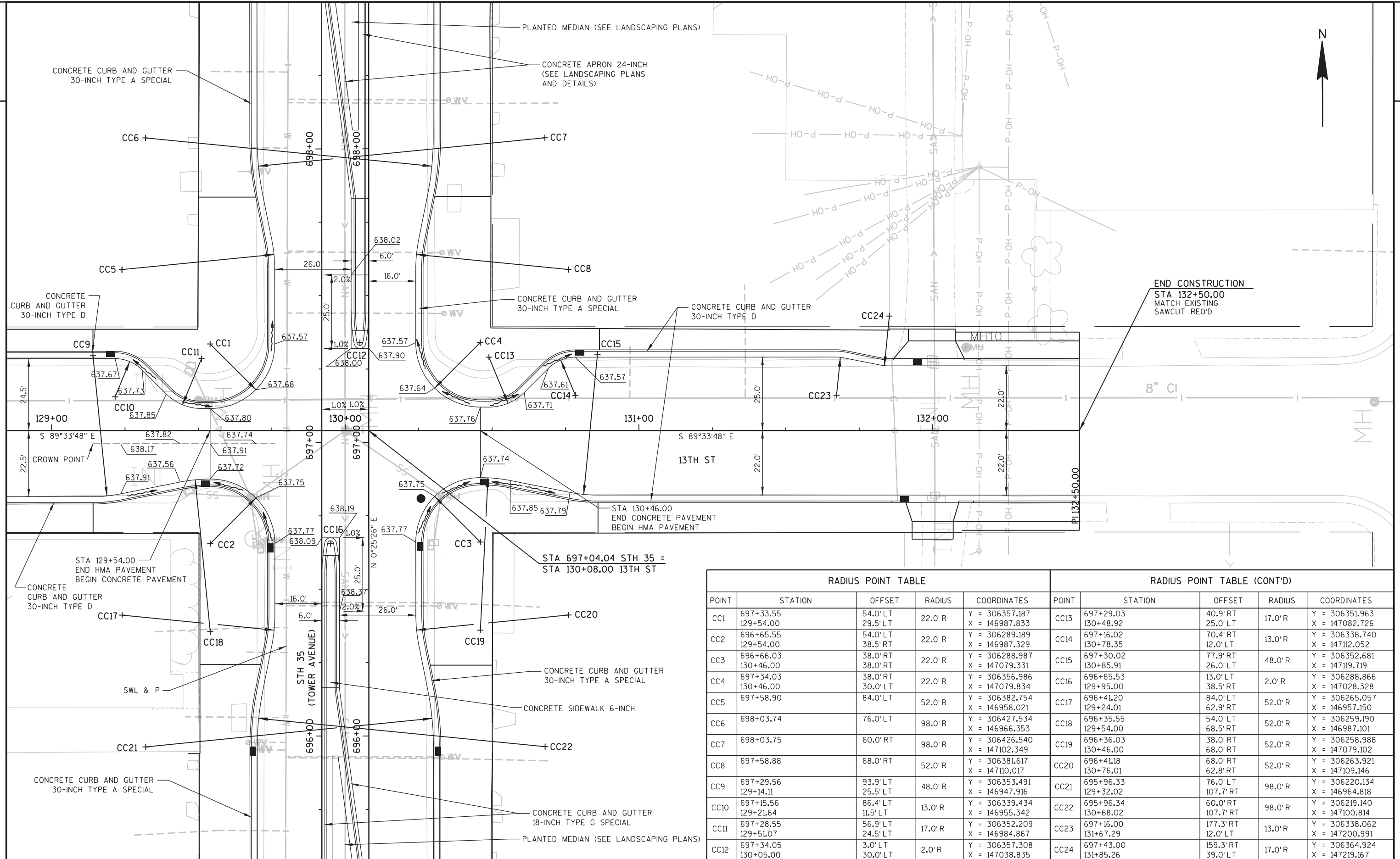
BEGIN CONSTRUCTION  
 STA 137+70.00  
 MATCH EXISTING  
 SAWCUT REQ'D

RADIUS POINT TABLE

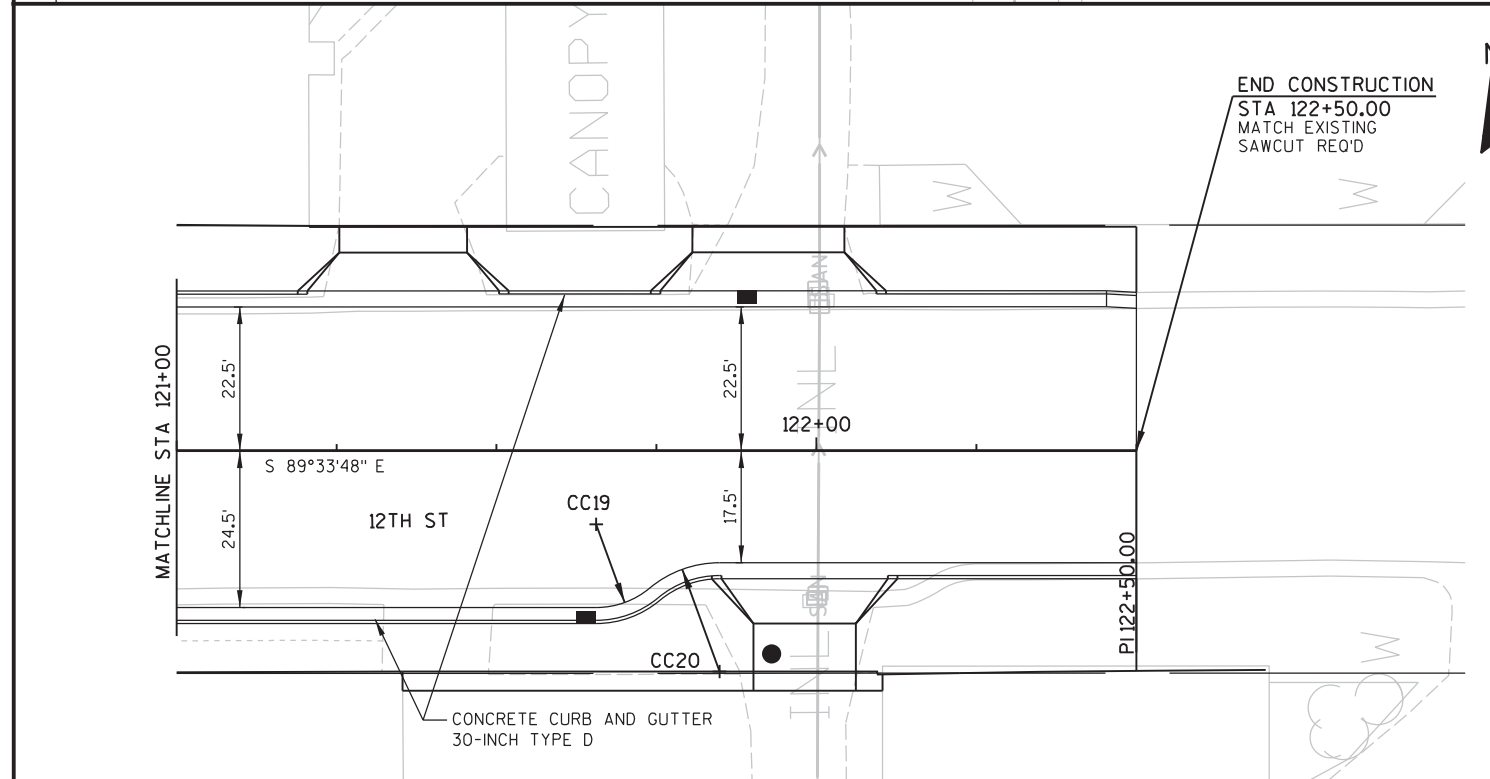
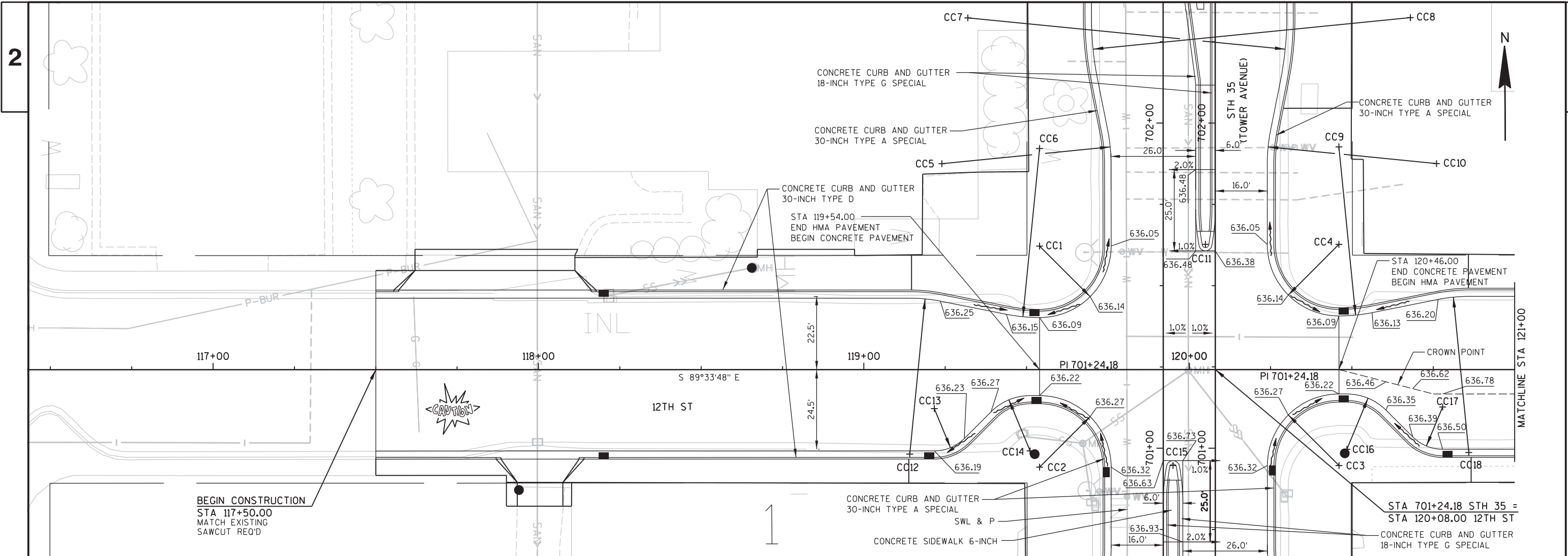
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	693+09.63 139+14.11	93.9' LT 25.5' LT	48.0' R	Y = 305933.573 X = 146944.818
CC2	692+95.63 139+21.64	86.4' LT 11.5' LT	13.0' R	Y = 305919.515 X = 146952.234
CC3	693+08.62 139+51.06	56.9' LT 24.5' LT	17.0' R	Y = 305932.287 X = 146981.760
CC4	693+13.62 139+54.00	54.0' LT 29.5' LT	22.0' R	Y = 305937.264 X = 146984.726
CC5	693+38.46	84.0' LT	52.0' R	Y = 305962.328 X = 146954.910
CC6	693+83.31	60.0' RT	98.0' R	Y = 306006.115 X = 147099.238
CC7	692+94.57	10.0' RT	26.0' R	Y = 305917.743 X = 147048.583
CC8	692+77.60	4.0' LT	4.0' R	Y = 305900.877 X = 147034.458
CC9	692+45.62 139+54.00	54.0' LT 38.0' RT	22.0' R	Y = 305869.266 X = 146984.223
CC10	692+49.71 139+95.01	13.0' LT 35.5' RT	2.0' R	Y = 305871.961 X = 147025.244

RADIUS POINT TABLE (CONT'D)

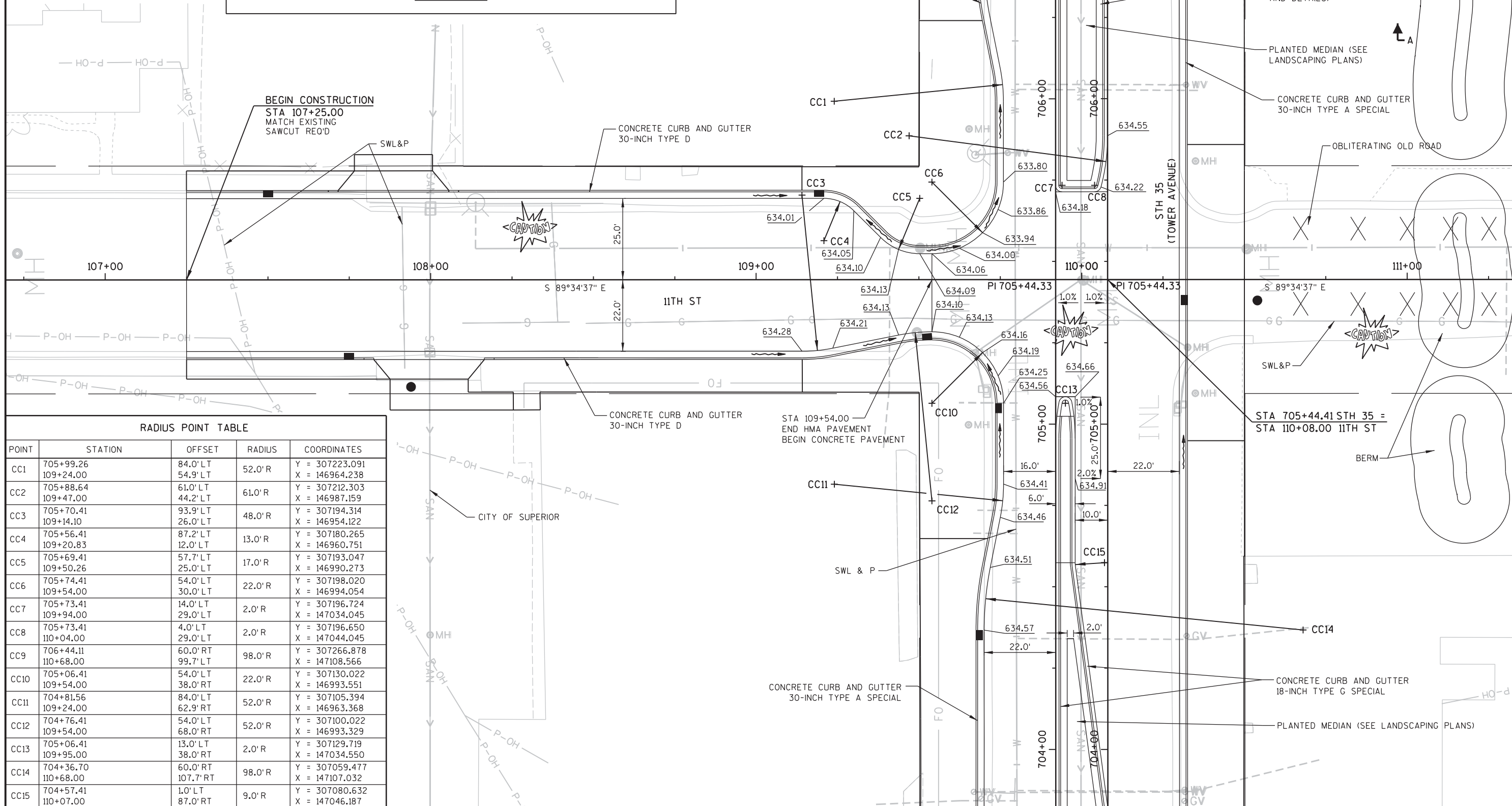
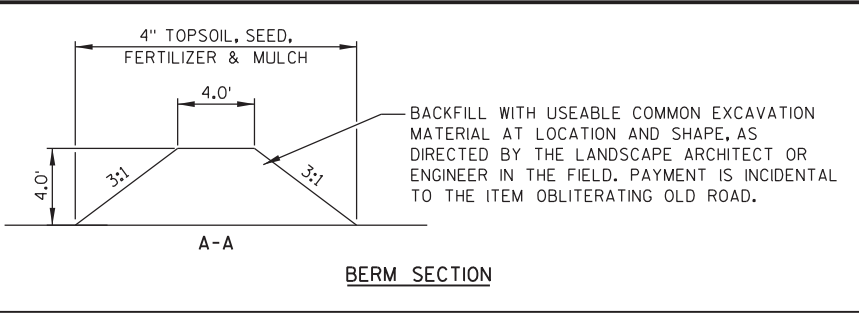
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC11	692+20.76 139+24.02	84.0' LT 63.4' RT	52.0' R	Y = 305844.631 X = 146954.039
CC12	692+12.16	5.0' LT	11.0' R	Y = 305835.452 X = 147032.974
CC13	692+12.43	1.0' LT	9.0' R	Y = 305835.688 X = 147036.976
CC14	691+74.35	59.0' RT	98.0' R	Y = 305798.715 X = 147097.704
CC15	691+35.84	17.0' LT	9.0' R	Y = 305759.201 X = 147022.409
CC16	691+21.10	11.0' LT	11.0' R	Y = 305744.422 X = 147028.300



RADIUS POINT TABLE					RADIUS POINT TABLE (CONT'D)				
POINT	STATION	OFFSET	RADIUS	COORDINATES	POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	697+33.55 129+54.00	54.0' LT 29.5' LT	22.0' R	Y = 306357.187 X = 146987.833	CC13	697+29.03 130+48.92	40.9' RT 25.0' LT	17.0' R	Y = 306351.963 X = 147082.726
CC2	696+65.55 129+54.00	54.0' LT 38.5' RT	22.0' R	Y = 306289.189 X = 146987.329	CC14	697+16.02 130+78.35	70.4' RT 12.0' LT	13.0' R	Y = 306338.740 X = 147112.052
CC3	696+66.03 130+46.00	38.0' RT 38.0' RT	22.0' R	Y = 306288.987 X = 147079.331	CC15	697+30.02 130+85.91	77.9' RT 26.0' LT	48.0' R	Y = 306352.681 X = 147119.719
CC4	697+34.03 130+46.00	38.0' RT 30.0' LT	22.0' R	Y = 306356.986 X = 147079.834	CC16	696+65.53 129+95.00	13.0' LT 38.5' RT	2.0' R	Y = 306288.866 X = 147028.328
CC5	697+58.90	84.0' LT	52.0' R	Y = 306382.754 X = 146958.021	CC17	696+41.20 129+24.01	84.0' LT 62.9' RT	52.0' R	Y = 306265.057 X = 146957.150
CC6	698+03.74	76.0' LT	98.0' R	Y = 306427.534 X = 146966.353	CC18	696+35.55 129+54.00	54.0' LT 68.5' RT	52.0' R	Y = 306259.190 X = 146987.101
CC7	698+03.75	60.0' RT	98.0' R	Y = 306426.540 X = 147102.349	CC19	696+36.03 130+46.00	38.0' RT 68.0' RT	52.0' R	Y = 306258.988 X = 147079.102
CC8	697+58.88	68.0' RT	52.0' R	Y = 306381.617 X = 147110.017	CC20	696+41.18 130+76.01	68.0' RT 62.8' RT	52.0' R	Y = 306263.921 X = 147109.146
CC9	697+29.56 129+14.11	93.9' LT 25.5' LT	48.0' R	Y = 306353.491 X = 146947.916	CC21	695+96.33 129+32.02	76.0' LT 107.7' RT	98.0' R	Y = 306220.134 X = 146964.818
CC10	697+15.56 129+21.64	86.4' LT 11.5' LT	13.0' R	Y = 306339.434 X = 146955.342	CC22	695+96.34 130+68.02	60.0' RT 107.7' RT	98.0' R	Y = 306219.140 X = 147100.814
CC11	697+28.55 129+51.07	56.9' LT 24.5' LT	17.0' R	Y = 306352.209 X = 146984.867	CC23	697+16.00 131+67.29	177.3' RT 12.0' LT	13.0' R	Y = 306338.062 X = 147200.991
CC12	697+34.05 130+05.00	3.0' LT 30.0' LT	2.0' R	Y = 306357.308 X = 147038.835	CC24	697+43.00 131+85.26	159.3' RT 39.0' LT	17.0' R	Y = 306364.924 X = 147219.167

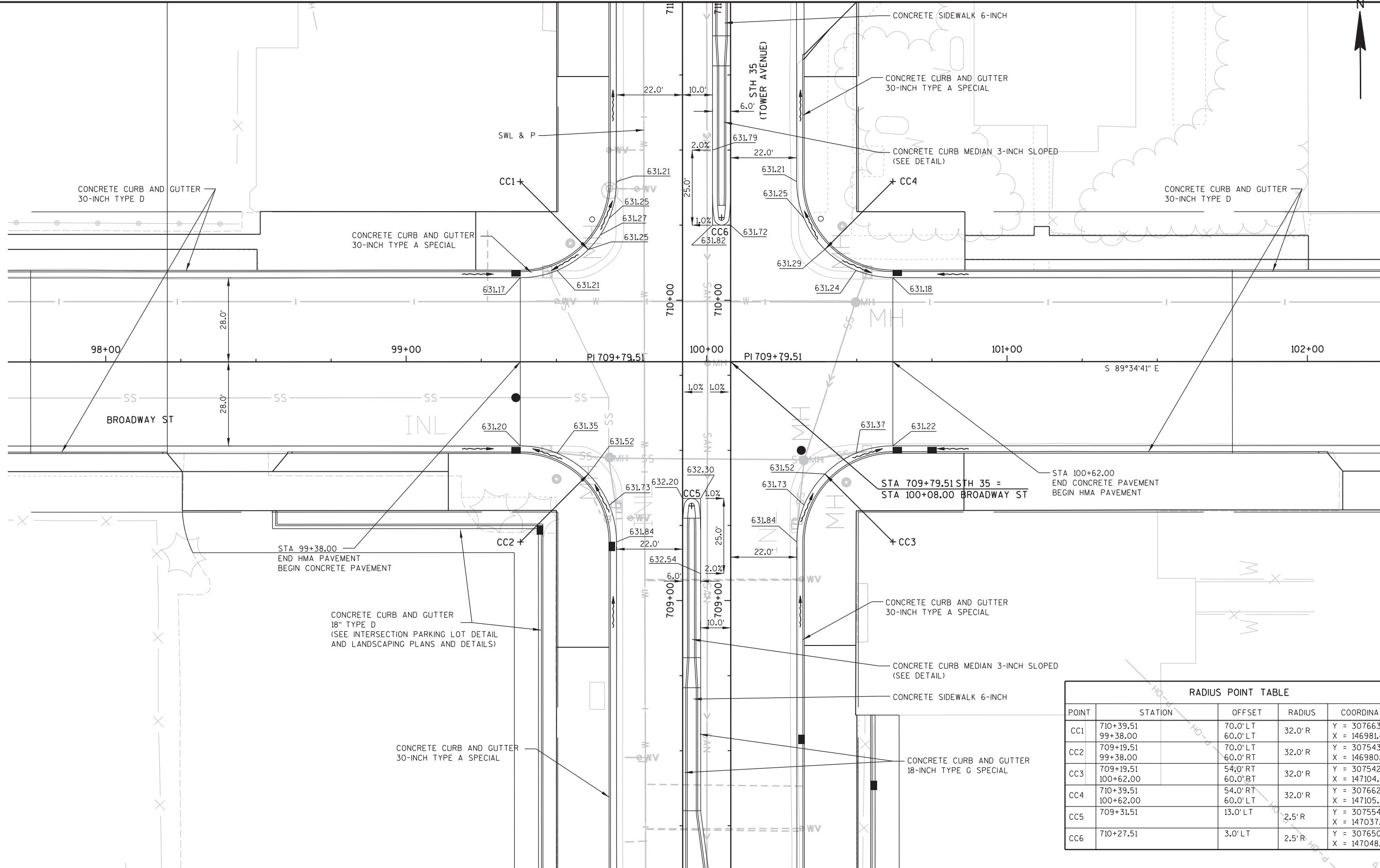


RADIUS POINT TABLE					RADIUS POINT TABLE (CONT'D)				
POINT	STATION	OFFSET	RADIUS	COORDINATES	POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	701+62.19 119+54.00	54.0' LT 38.0' LT	22.0' R	Y = 306785.815 X = 146991.004	CC11	701+62.69 120+04.99	3.0' LT 38.5' LT	2.0' R	Y = 306785.937 X = 147042.006
CC2	700+94.19 119+54.00	54.0' LT 30.0' RT	22.0' R	Y = 306717.817 X = 146990.501	CC12	700+98.20 119+14.09	93.9' LT 26.0' RT	48.0' R	Y = 306722.121 X = 146950.615
CC3	700+94.67 120+46.00	38.0' RT 29.5' RT	22.0' R	Y = 306717.616 X = 147082.502	CC13	701+12.20 119+21.65	86.4' LT 12.0' RT	13.0' R	Y = 306736.063 X = 146958.283
CC4	701+62.67 120+46.00	38.0' RT 38.5' LT	22.0' R	Y = 306785.614 X = 147083.005	CC14	700+98.70 119+51.08	56.9' LT 25.0' RT	17.0' R	Y = 306722.839 X = 146987.609
CC5	701+87.54 119+23.99	68.0' LT 63.3' LT	52.0' R	Y = 306811.382 X = 146961.192	CC15	700+94.67 119+95.00	13.0' LT 29.5' RT	2.0' R	Y = 306717.994 X = 147031.503
CC6	701+92.19 119+54.00	54.0' LT 68.0' LT	52.0' R	Y = 306815.814 X = 146991.233	CC16	700+99.67 120+48.43	40.4' RT 24.5' RT	17.0' R	Y = 306722.597 X = 147084.967
CC7	702+32.38 119+31.98	76.0' LT 108.2' LT	98.0' R	Y = 306856.163 X = 146969.524	CC17	701+12.66 120+77.86	69.9' RT 11.5' RT	13.0' R	Y = 306735.372 X = 147114.492
CC8	702+32.38 120+67.98	60.0' RT 108.2' LT	98.0' R	Y = 306855.168 X = 147105.520	CC18	700+98.66 120+85.89	77.9' RT 25.5' RT	48.0' R	Y = 306721.312 X = 147122.418
CC9	701+92.67 120+46.00	38.0' RT 68.5' LT	52.0' R	Y = 306815.613 X = 147083.234	CC19	121+65.58	11.5' RT	13.0' R	Y = 306734.704 X = 147202.213
CC10	701+87.52 120+75.99	68.0' RT 63.4' LT	52.0' R	Y = 306810.246 X = 147113.188	CC20	121+84.85	34.5' RT	17.0' R	Y = 306711.558 X = 147221.299

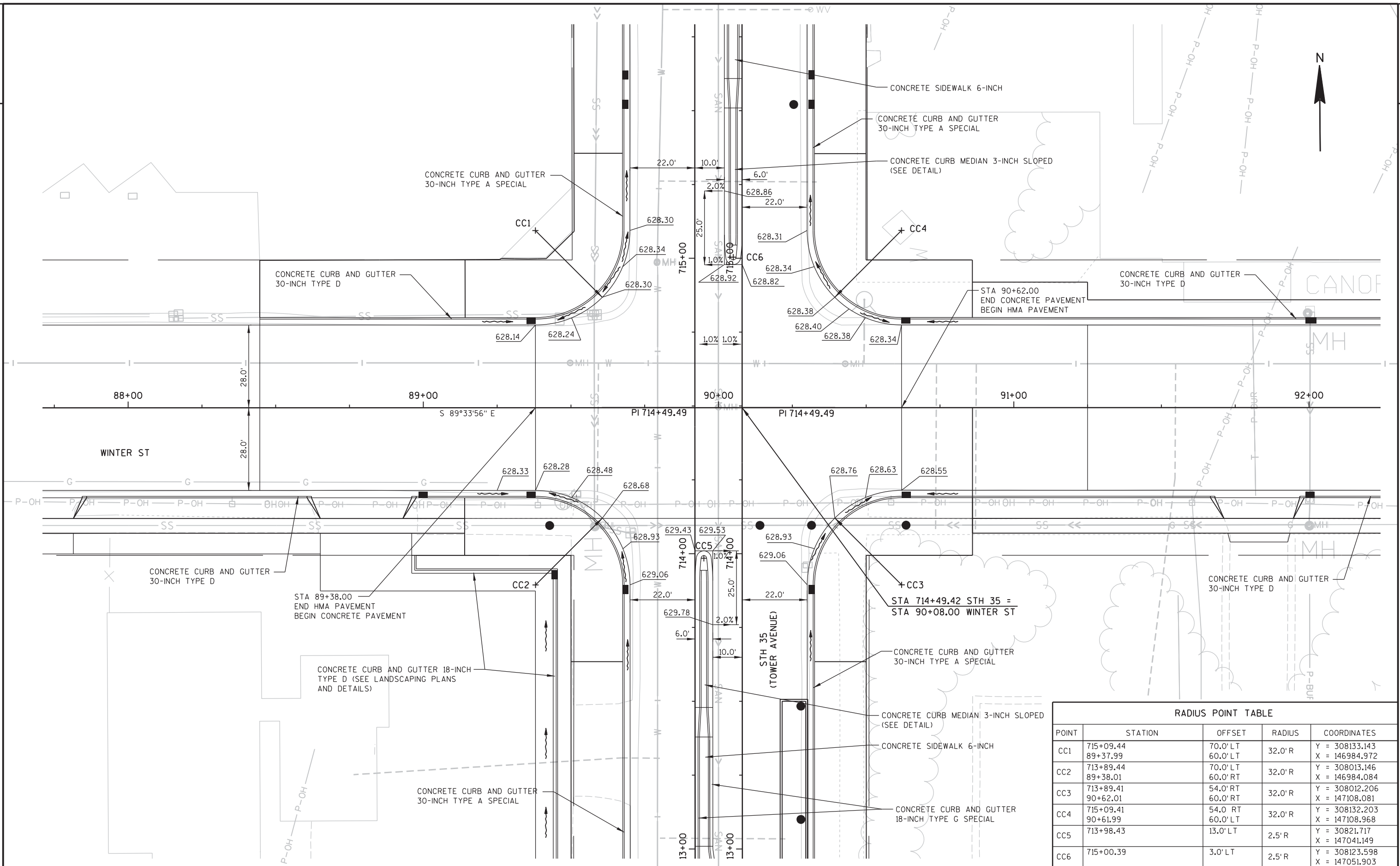


RADIUS POINT TABLE

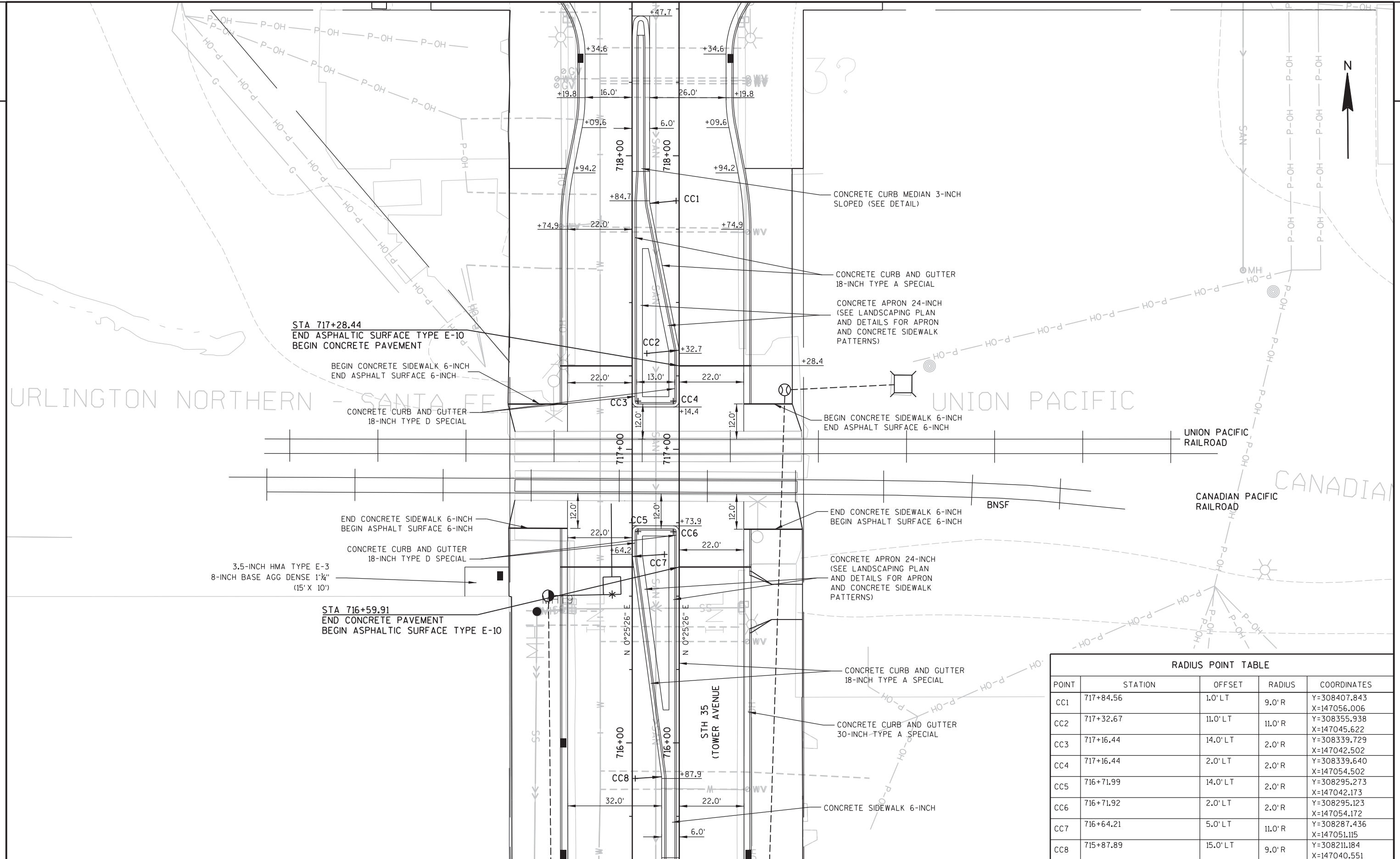
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	705+99.26 109+24.00	84.0'LT 54.9'LT	52.0'R	Y = 307223.091 X = 146964.238
CC2	705+88.64 109+47.00	61.0'LT 44.2'LT	61.0'R	Y = 307212.303 X = 146987.159
CC3	705+70.41 109+14.10	93.9'LT 26.0'LT	48.0'R	Y = 307194.314 X = 146954.122
CC4	705+56.41 109+20.83	87.2'LT 12.0'LT	13.0'R	Y = 307180.265 X = 146960.751
CC5	705+69.41 109+50.26	57.7'LT 25.0'LT	17.0'R	Y = 307193.047 X = 146990.273
CC6	705+74.41 109+54.00	54.0'LT 30.0'LT	22.0'R	Y = 307198.020 X = 146994.054
CC7	705+73.41 109+94.00	14.0'LT 29.0'LT	2.0'R	Y = 307196.724 X = 147034.045
CC8	705+73.41 110+04.00	4.0'LT 29.0'LT	2.0'R	Y = 307196.650 X = 147044.045
CC9	706+44.11 110+68.00	60.0'RT 99.7'LT	98.0'R	Y = 307266.878 X = 147108.566
CC10	705+06.41 109+54.00	54.0'LT 38.0'RT	22.0'R	Y = 307130.022 X = 146993.551
CC11	704+81.56 109+24.00	84.0'LT 62.9'RT	52.0'R	Y = 307105.394 X = 146963.368
CC12	704+76.41 109+54.00	54.0'LT 68.0'RT	52.0'R	Y = 307100.022 X = 146993.329
CC13	705+06.41 109+95.00	13.0'LT 38.0'RT	2.0'R	Y = 307129.719 X = 147034.550
CC14	704+36.70 110+68.00	60.0'RT 107.7'RT	98.0'R	Y = 307059.477 X = 147107.032
CC15	704+57.41 110+07.00	1.0'LT 87.0'RT	9.0'R	Y = 307080.632 X = 147046.187



RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	710+39.51	70.0' LT	32.0' R	Y = 307663.227
	99+38.00	60.0' LT		X = 146981.495
CC2	709+19.51	70.0' LT	32.0' R	Y = 307543.230
	99+38.00	60.0' RT		X = 146980.607
CC3	709+19.51	54.0' RT	32.0' R	Y = 307542.317
	100+62.00	60.0' RT		X = 147104.604
CC4	710+39.51	54.0' RT	32.0' R	Y = 307662.314
	100+62.00	60.0' LT		X = 147105.492
CC5	709+31.51	13.0' LT	2.5' R	Y = 307554.810
				X = 147037.695
CC6	710+27.51	3.0' LT	2.5' R	Y = 307650.735
				X = 147048.405



RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	715+09.44	70.0' LT	32.0' R	Y = 308133.143
	89+37.99	60.0' LT		X = 146984.972
CC2	713+89.44	70.0' LT	32.0' R	Y = 308013.146
	89+38.01	60.0' RT		X = 146984.084
CC3	713+89.41	54.0' RT	32.0' R	Y = 308012.206
	90+62.01	60.0' RT		X = 147108.081
CC4	715+09.41	54.0' RT	32.0' R	Y = 308132.203
	90+61.99	60.0' LT		X = 147108.968
CC5	713+98.43	13.0' LT	2.5' R	Y = 30821.717
				X = 147041.149
CC6	715+00.39	3.0' LT	2.5' R	Y = 308123.598 X = 147051.903



STA 717+28.44  
 END ASPHALTIC SURFACE TYPE E-10  
 BEGIN CONCRETE PAVEMENT

BEGIN CONCRETE SIDEWALK 6-INCH  
 END ASPHALT SURFACE 6-INCH

CONCRETE CURB AND GUTTER  
 18-INCH TYPE D SPECIAL

END CONCRETE SIDEWALK 6-INCH  
 BEGIN ASPHALT SURFACE 6-INCH

3.5-INCH HMA TYPE E-3  
 8-INCH BASE AGG DENSE 1 1/4"  
 (15' X 10')

STA 716+59.91  
 END CONCRETE PAVEMENT  
 BEGIN ASPHALTIC SURFACE TYPE E-10

CONCRETE CURB MEDIAN 3-INCH  
 SLOPED (SEE DETAIL)

CONCRETE CURB AND GUTTER  
 18-INCH TYPE A SPECIAL

CONCRETE APRON 24-INCH  
 (SEE LANDSCAPING PLAN  
 AND DETAILS FOR APRON  
 AND CONCRETE SIDEWALK  
 PATTERNS)

BEGIN CONCRETE SIDEWALK 6-INCH  
 END ASPHALT SURFACE 6-INCH

END CONCRETE SIDEWALK 6-INCH  
 BEGIN ASPHALT SURFACE 6-INCH

CONCRETE APRON 24-INCH  
 (SEE LANDSCAPING PLAN  
 AND DETAILS FOR APRON  
 AND CONCRETE SIDEWALK  
 PATTERNS)

CONCRETE CURB AND GUTTER  
 18-INCH TYPE A SPECIAL

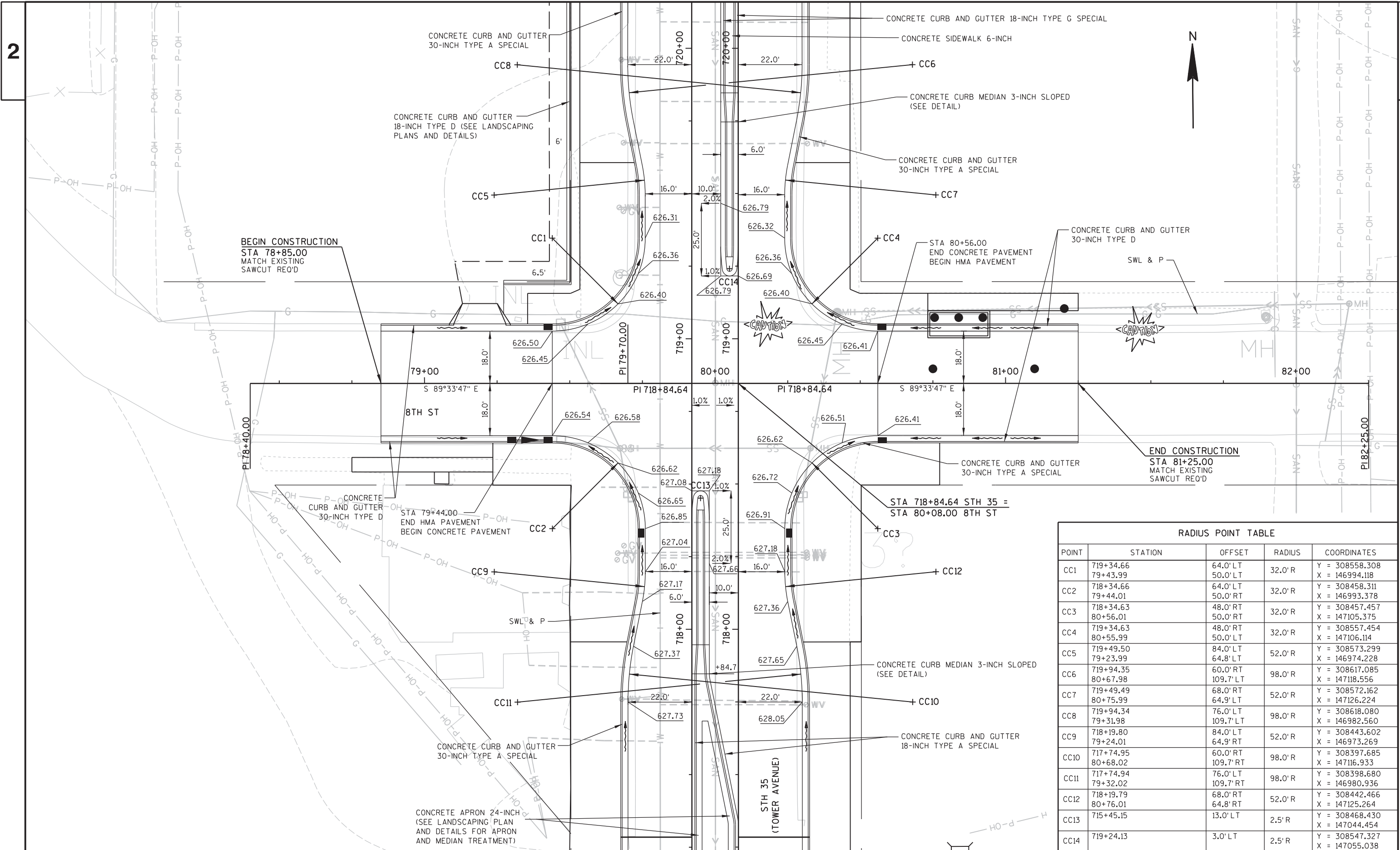
CONCRETE CURB AND GUTTER  
 30-INCH-TYPE A SPECIAL

CONCRETE SIDEWALK 6-INCH

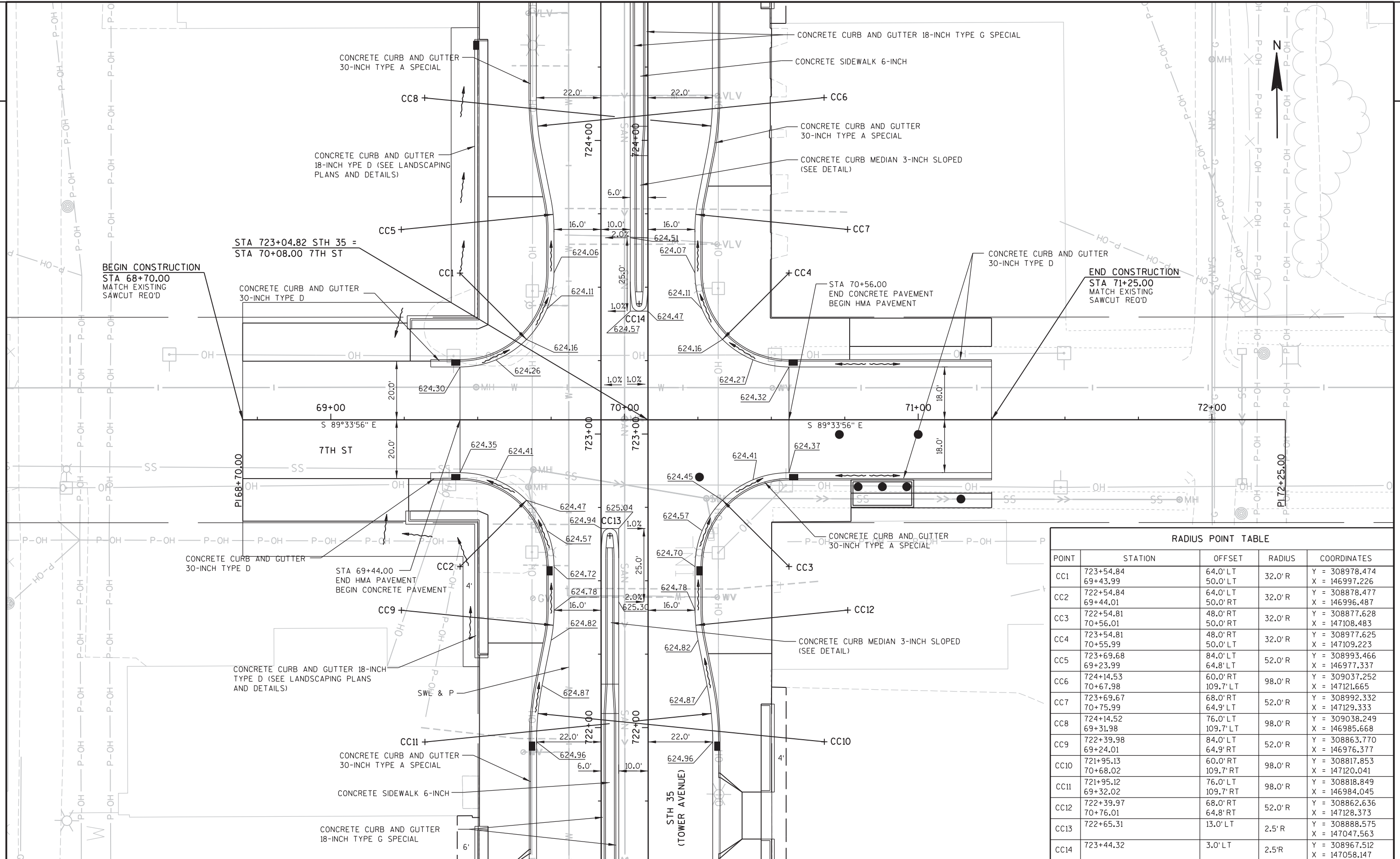
RADIUS POINT TABLE

POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	717+84.56	1.0' LT	9.0' R	Y=308407.843 X=147056.006
CC2	717+32.67	11.0' LT	11.0' R	Y=308355.938 X=147045.622
CC3	717+16.44	14.0' LT	2.0' R	Y=308339.729 X=147042.502
CC4	717+16.44	2.0' LT	2.0' R	Y=308339.640 X=147054.502
CC5	716+71.99	14.0' LT	2.0' R	Y=308295.273 X=147042.173
CC6	716+71.92	2.0' LT	2.0' R	Y=308295.123 X=147054.172
CC7	716+64.21	5.0' LT	11.0' R	Y=308287.436 X=147051.115
CC8	715+87.89	15.0' LT	9.0' R	Y=308211.184 X=147040.551

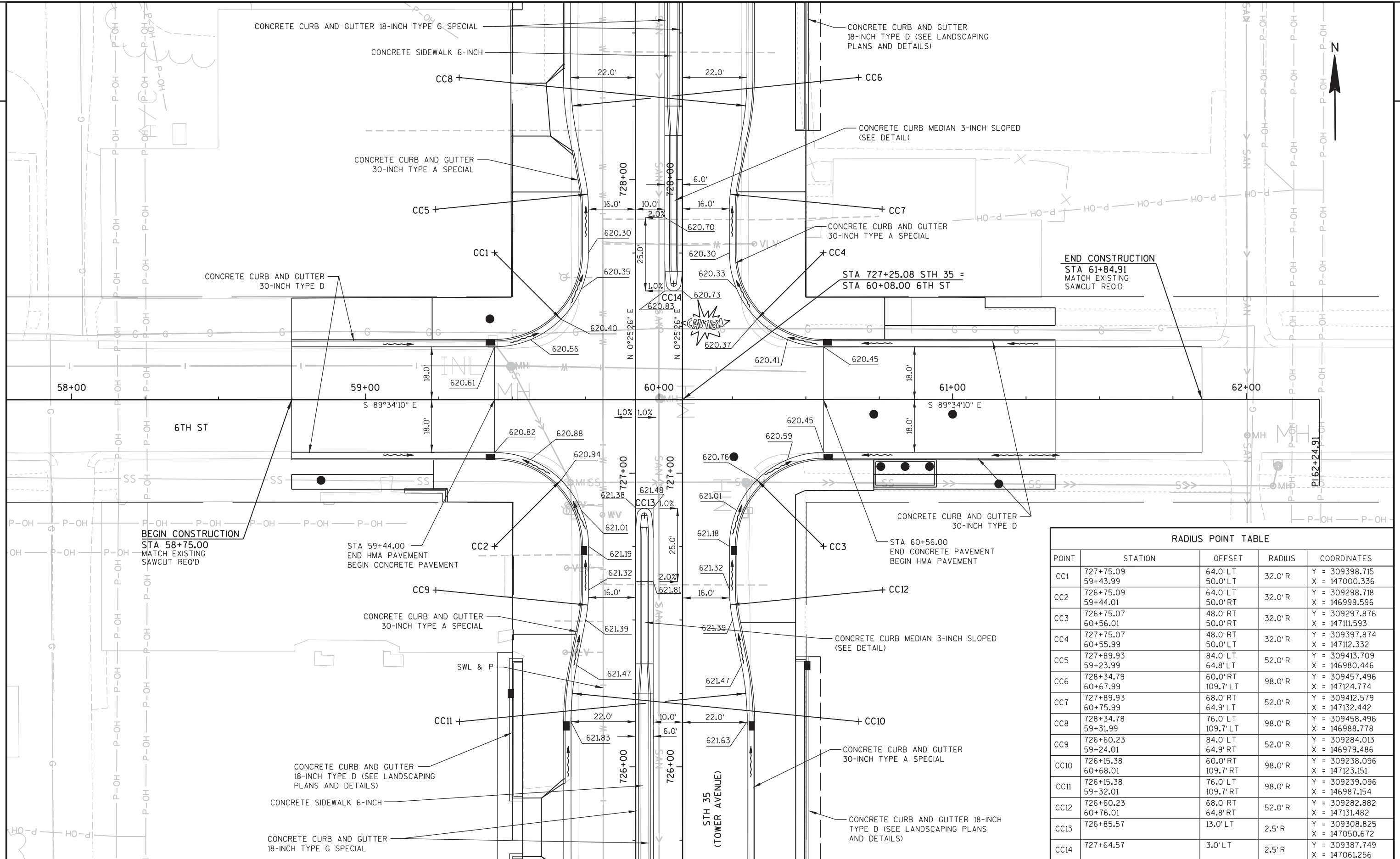




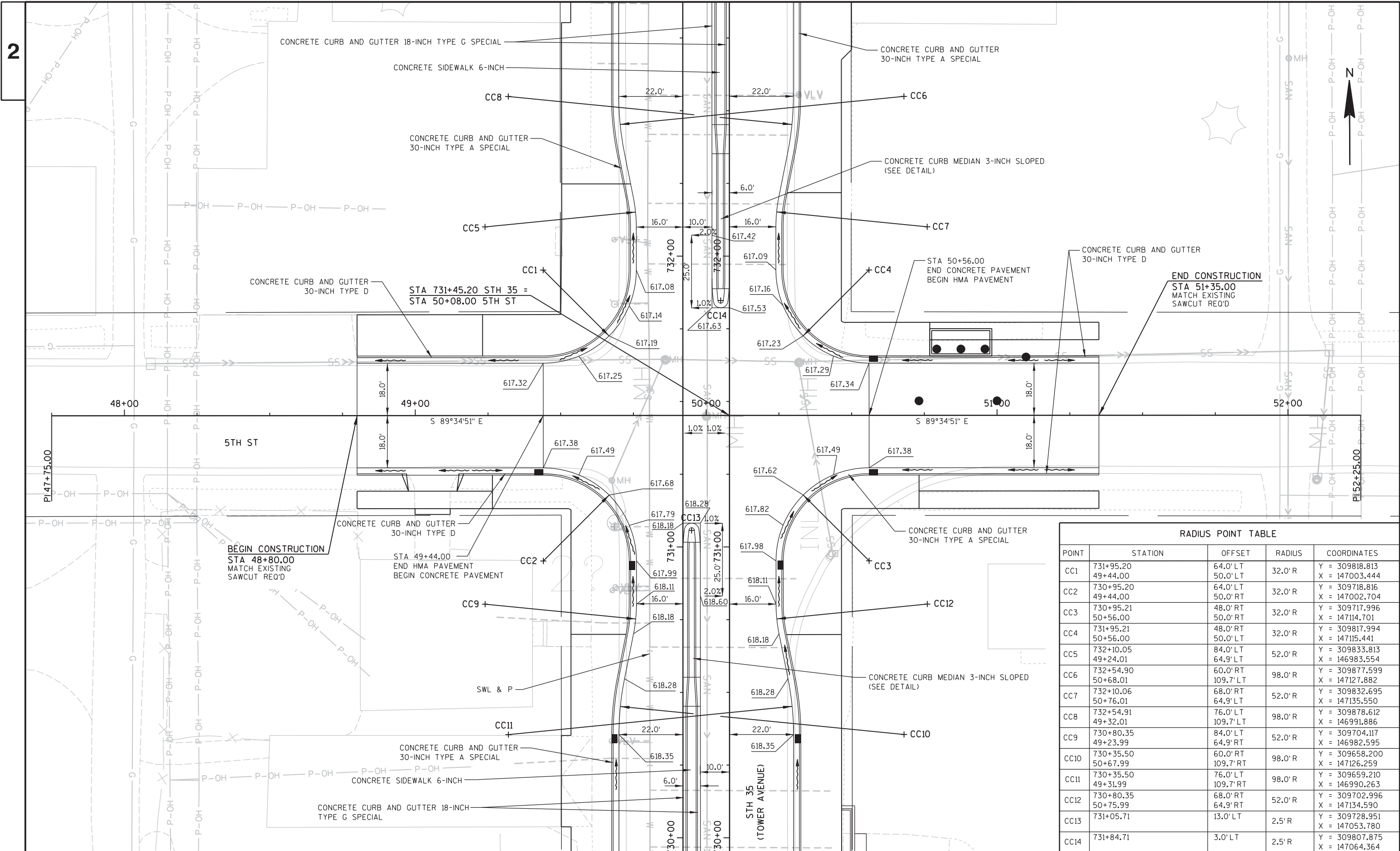
RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	719+34.66	64.0' LT	32.0' R	Y = 308558.308
	79+43.99	50.0' LT		X = 146994.118
CC2	718+34.66	64.0' LT	32.0' R	Y = 308458.311
	79+44.01	50.0' RT		X = 146993.378
CC3	718+34.63	48.0' RT	32.0' R	Y = 308457.457
	80+56.01	50.0' RT		X = 147105.375
CC4	719+34.63	48.0' RT	32.0' R	Y = 308557.454
	80+55.99	50.0' LT		X = 147106.114
CC5	719+49.50	84.0' LT	52.0' R	Y = 308573.299
	79+23.99	64.8' LT		X = 146974.228
CC6	719+94.35	60.0' RT	98.0' R	Y = 308617.085
	80+67.98	109.7' LT		X = 147118.556
CC7	719+49.49	68.0' RT	52.0' R	Y = 308572.162
	80+75.99	64.9' LT		X = 147126.224
CC8	719+94.34	76.0' LT	98.0' R	Y = 308618.080
	79+31.98	109.7' LT		X = 146982.560
CC9	718+19.80	84.0' LT	52.0' R	Y = 308443.602
	79+24.01	64.9' RT		X = 146973.269
CC10	717+74.95	60.0' RT	98.0' R	Y = 308397.685
	80+68.02	109.7' RT		X = 147116.933
CC11	717+74.94	76.0' LT	98.0' R	Y = 308398.680
	79+32.02	109.7' RT		X = 146980.936
CC12	718+19.79	68.0' RT	52.0' R	Y = 308442.466
	80+76.01	64.8' RT		X = 147125.264
CC13	715+45.15	13.0' LT	2.5' R	Y = 308468.430
				X = 147044.454
CC14	719+24.13	3.0' LT	2.5' R	Y = 308547.327 X = 147055.038



RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	723+54.84	64.0' LT	32.0' R	Y = 308978.474
	69+43.99	50.0' LT		X = 146997.226
CC2	722+54.84	64.0' LT	32.0' R	Y = 308878.477
	69+44.01	50.0' RT		X = 146996.487
CC3	722+54.81	48.0' RT	32.0' R	Y = 308877.628
	70+56.01	50.0' RT		X = 147108.483
CC4	723+54.81	48.0' RT	32.0' R	Y = 308977.625
	70+55.99	50.0' LT		X = 147109.223
CC5	723+69.68	84.0' LT	52.0' R	Y = 308993.466
	69+23.99	64.8' LT		X = 146977.337
CC6	724+14.53	60.0' RT	98.0' R	Y = 309037.252
	70+67.98	109.7' LT		X = 147121.665
CC7	723+69.67	68.0' RT	52.0' R	Y = 308992.332
	70+75.99	64.9' LT		X = 147129.333
CC8	724+14.52	76.0' LT	98.0' R	Y = 309038.249
	69+31.98	109.7' LT		X = 146985.668
CC9	722+39.98	84.0' LT	52.0' R	Y = 308863.770
	69+24.01	64.9' RT		X = 146976.377
CC10	721+95.13	60.0' RT	98.0' R	Y = 308817.853
	70+68.02	109.7' RT		X = 147120.041
CC11	721+95.12	76.0' LT	98.0' R	Y = 308818.849
	69+32.02	109.7' RT		X = 146984.045
CC12	722+39.97	68.0' RT	52.0' R	Y = 308862.636
	70+76.01	64.8' RT		X = 147128.373
CC13	722+65.31	13.0' LT	2.5' R	Y = 308888.575
				X = 147047.563
CC14	723+44.32	3.0' LT	2.5' R	Y = 308967.512 X = 147058.147



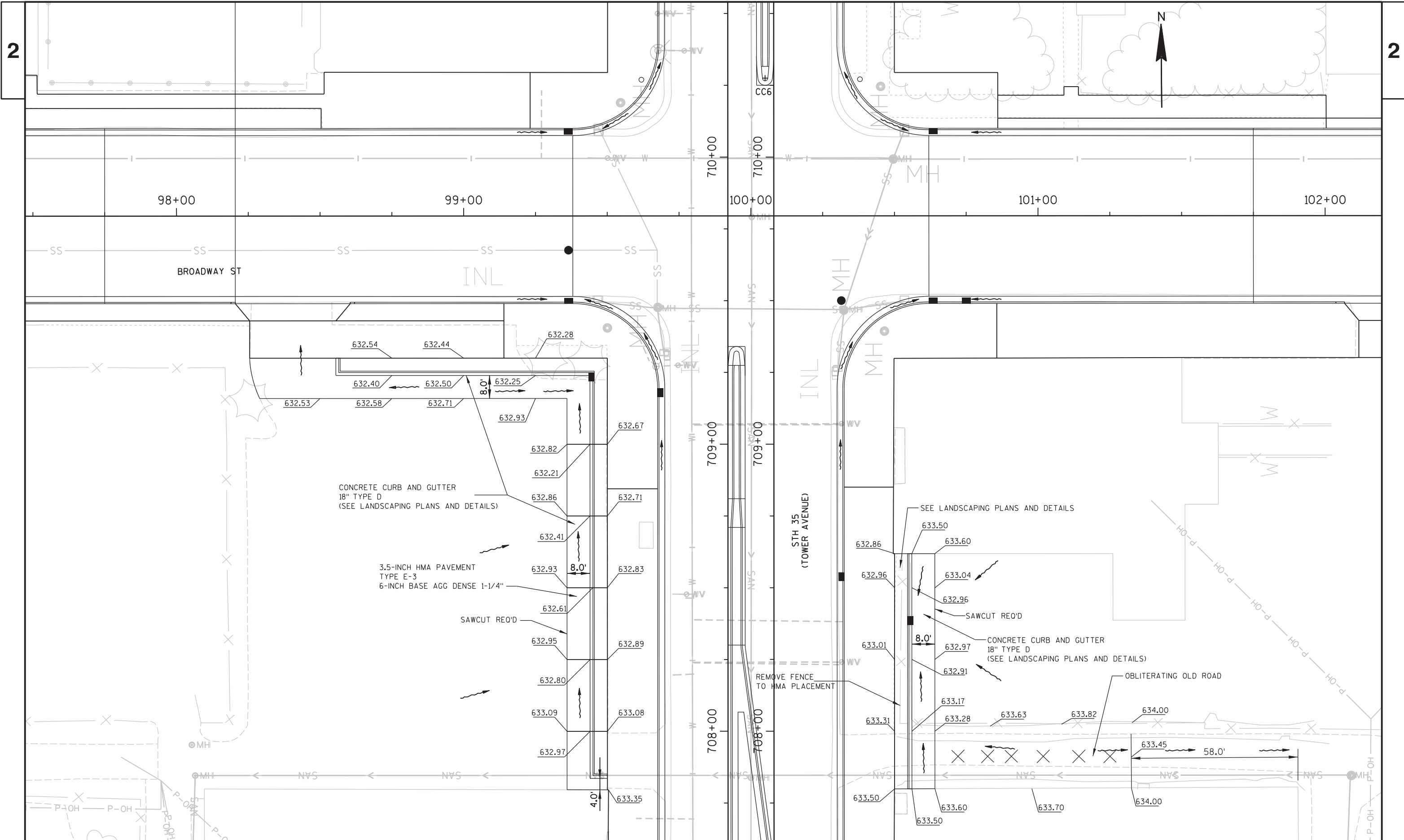
RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	727+75.09	64.0' LT	32.0' R	Y = 309398.715
	59+43.99	50.0' LT		X = 147000.336
CC2	726+75.09	64.0' LT	32.0' R	Y = 309298.718
	59+44.01	50.0' RT		X = 146999.596
CC3	726+75.07	48.0' RT	32.0' R	Y = 309297.876
	60+56.01	50.0' RT		X = 147111.593
CC4	727+75.07	48.0' RT	32.0' R	Y = 309397.874
	60+55.99	50.0' LT		X = 147112.332
CC5	727+89.93	84.0' LT	52.0' R	Y = 309413.709
	59+23.99	64.8' LT		X = 146980.446
CC6	728+34.79	60.0' RT	98.0' R	Y = 309457.496
	60+67.99	109.7' LT		X = 147124.774
CC7	727+89.93	68.0' RT	52.0' R	Y = 309412.579
	60+75.99	64.9' LT		X = 147132.442
CC8	728+34.78	76.0' LT	98.0' R	Y = 309458.496
	59+31.99	109.7' LT		X = 146988.778
CC9	726+60.23	84.0' LT	52.0' R	Y = 309284.013
	59+24.01	64.9' RT		X = 146979.486
CC10	726+15.38	60.0' RT	98.0' R	Y = 309238.096
	60+68.01	109.7' RT		X = 147123.151
CC11	726+15.38	76.0' LT	98.0' R	Y = 309239.096
	59+32.01	109.7' RT		X = 146987.154
CC12	726+60.23	68.0' RT	52.0' R	Y = 309282.882
	60+76.01	64.8' RT		X = 147131.482
CC13	726+85.57	13.0' LT	2.5' R	Y = 309308.825
				X = 147050.672
CC14	727+64.57	3.0' LT	2.5' R	Y = 309387.749
				X = 147061.256



RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	731+95.20	64.0' LT	32.0' R	Y = 309818.813
	49+44.00	50.0' LT		X = 147003.444
CC2	730+95.20	64.0' LT	32.0' R	Y = 309718.816
	49+44.00	50.0' RT		X = 147002.704
CC3	730+95.21	48.0' RT	32.0' R	Y = 309717.996
	50+56.00	50.0' RT		X = 147114.701
CC4	731+95.21	48.0' RT	32.0' R	Y = 309817.994
	50+56.00	50.0' LT		X = 147115.441
CC5	732+10.05	84.0' LT	52.0' R	Y = 309833.813
	49+24.01	64.9' LT		X = 146983.554
CC6	732+54.90	60.0' RT	98.0' R	Y = 309877.599
	50+68.01	109.7' LT		X = 147127.882
CC7	732+10.06	68.0' RT	52.0' R	Y = 309832.695
	50+76.01	64.9' LT		X = 147135.550
CC8	732+54.91	76.0' LT	98.0' R	Y = 309878.612
	49+32.01	109.7' LT		X = 146991.886
CC9	730+80.35	84.0' LT	52.0' R	Y = 309704.117
	49+23.99	64.9' RT		X = 146982.595
CC10	730+35.50	60.0' RT	98.0' R	Y = 309658.200
	50+67.99	109.7' RT		X = 147126.259
CC11	730+35.50	76.0' LT	98.0' R	Y = 309659.210
	49+31.99	109.7' RT		X = 146990.263
CC12	730+80.35	68.0' RT	52.0' R	Y = 309702.996
	50+75.99	64.9' RT		X = 147134.590
CC13	731+05.71	13.0' LT	2.5' R	Y = 309728.951
				X = 147053.780
CC14	731+84.71	3.0' LT	2.5' R	Y = 309807.875 X = 147064.364







PROJECT NO: 1195-13-71

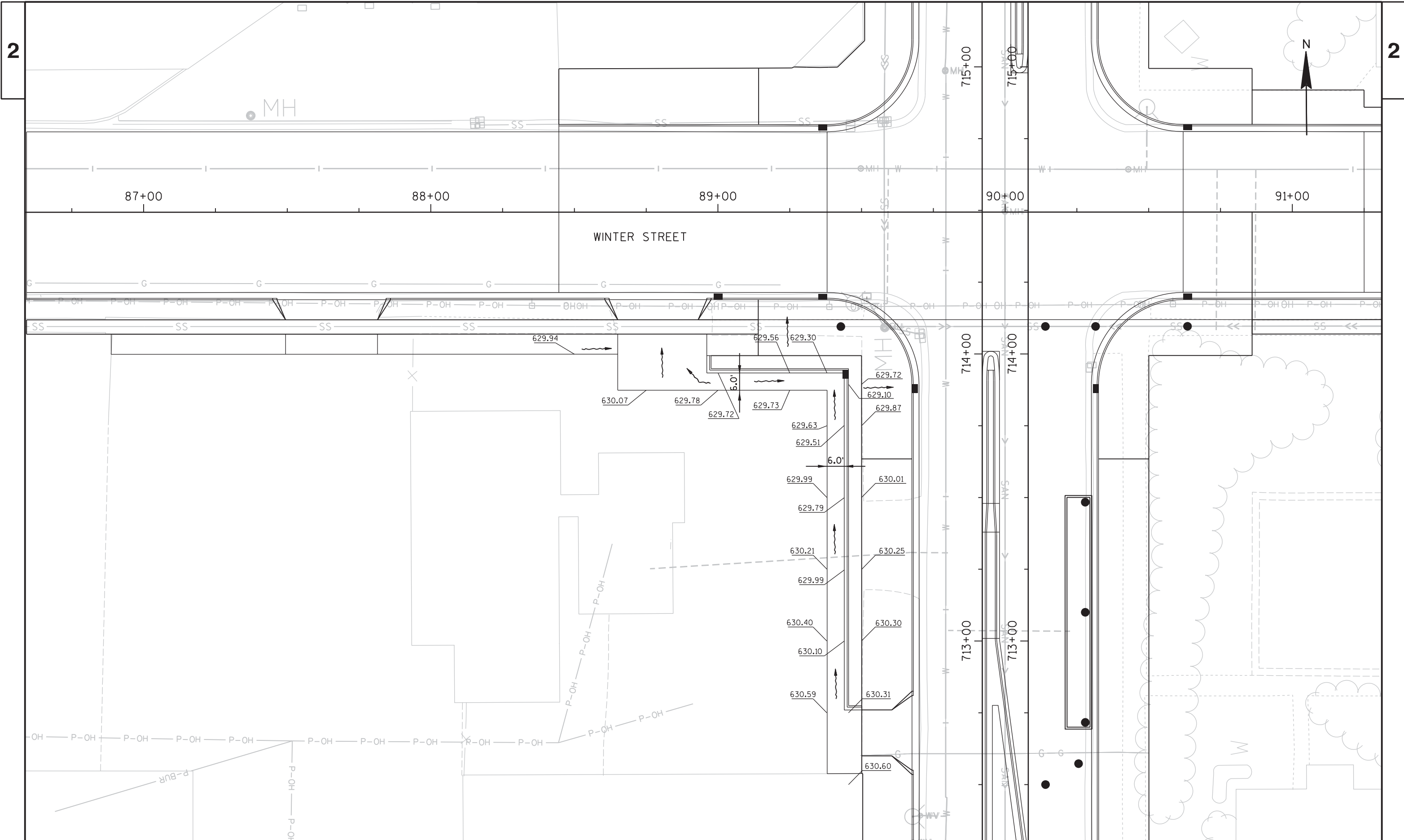
HWY: STH 35 - TOWER AVE

COUNTY: DOUGLAS

INTERSECTION DETAIL

SHEET

E



PROJECT NO: 1195-13-71

HWY: STH 35 - TOWER AVE

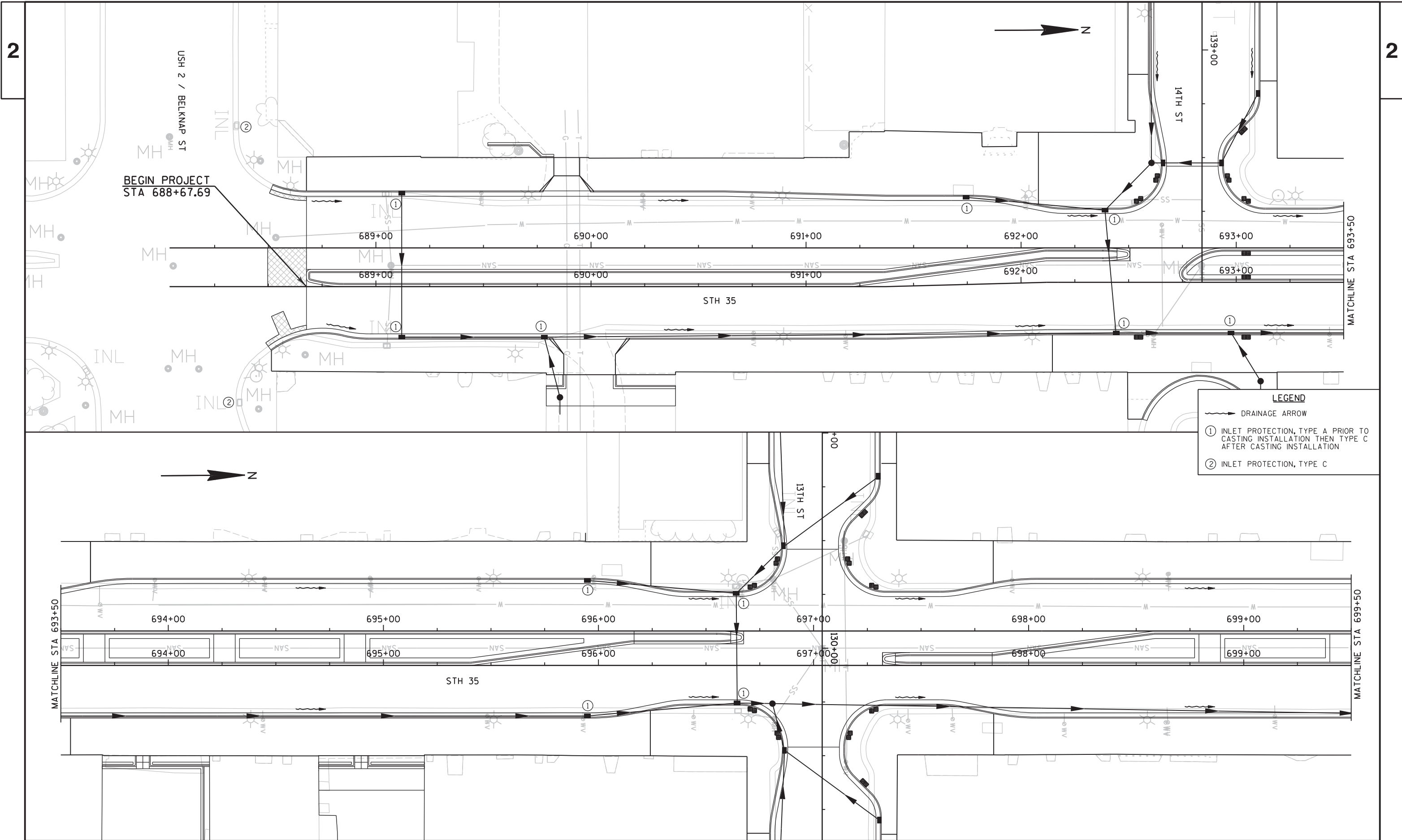
COUNTY: DOUGLAS

INTERSECTION DETAIL

SHEET

E





PROJECT NO: 1195-13-71

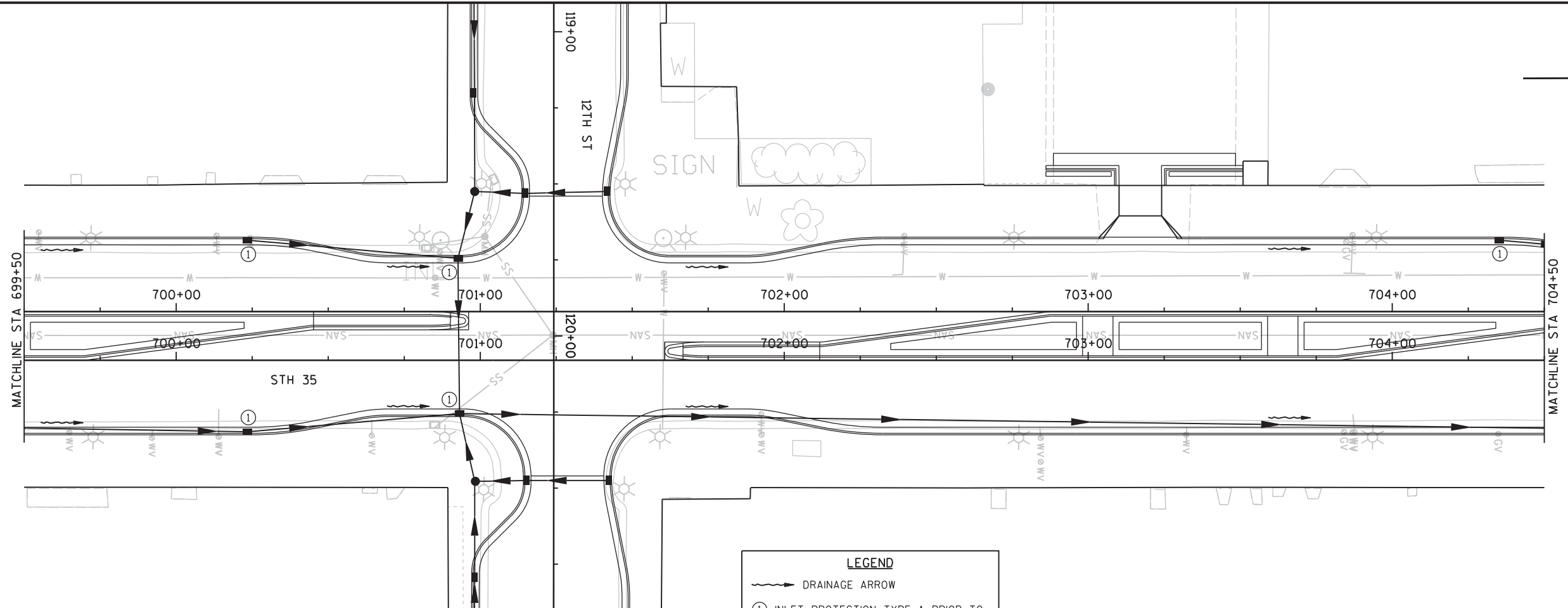
HWY: STH 35 - TOWER AVE

COUNTY: DOUGLAS

EROSION CONTROL

SHEET

E

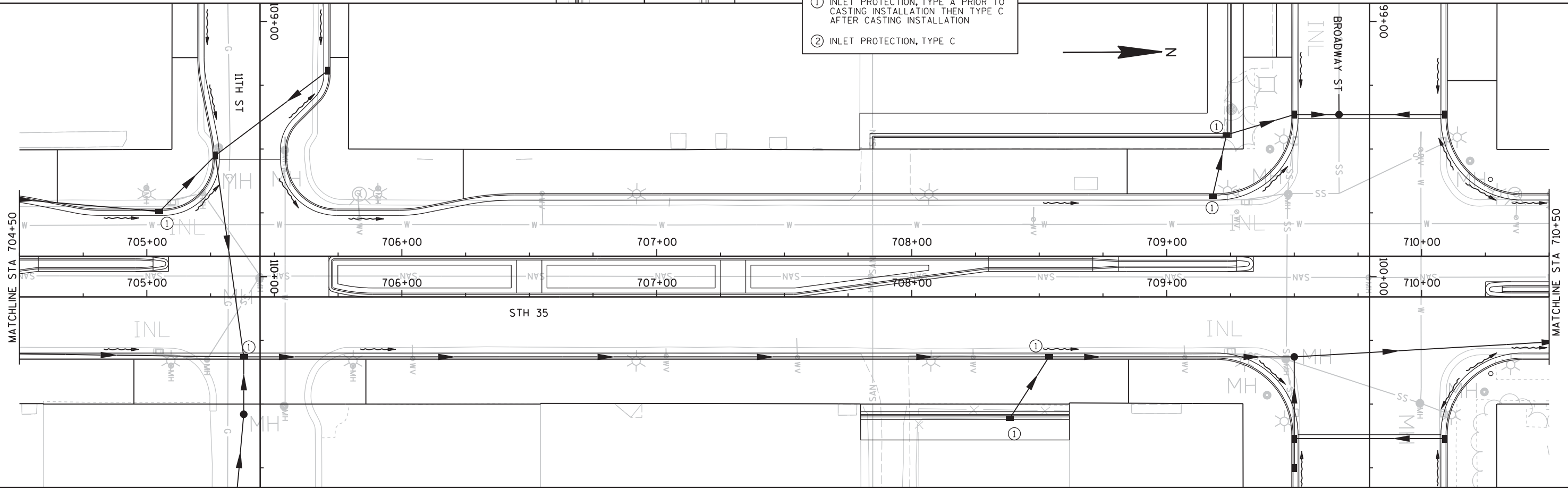


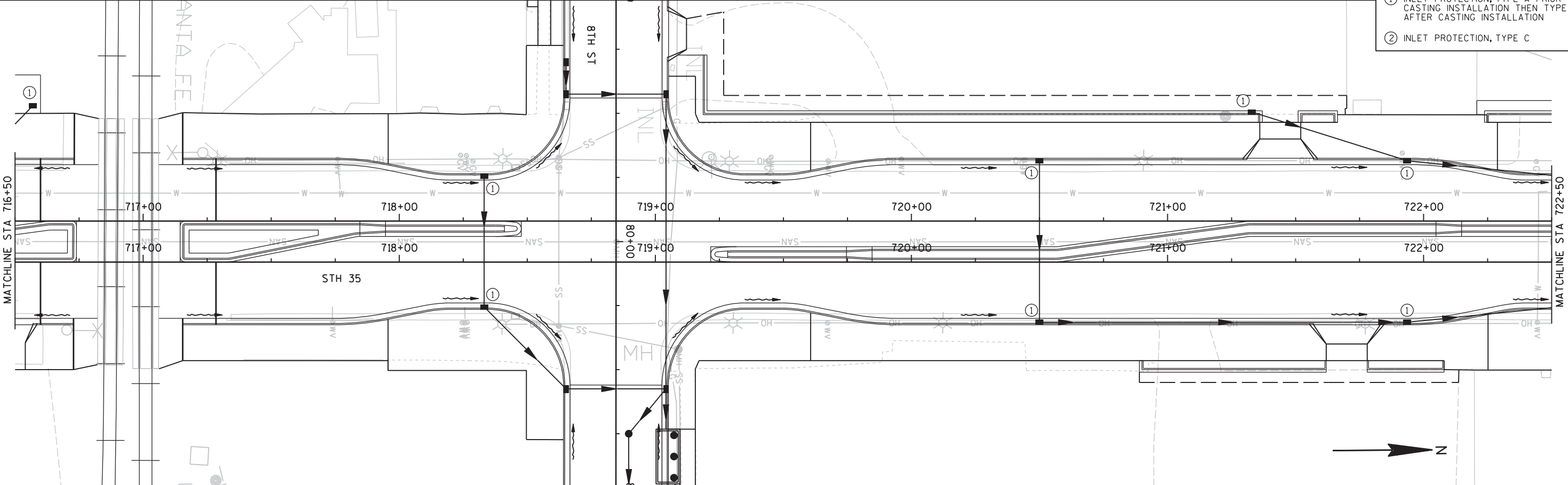
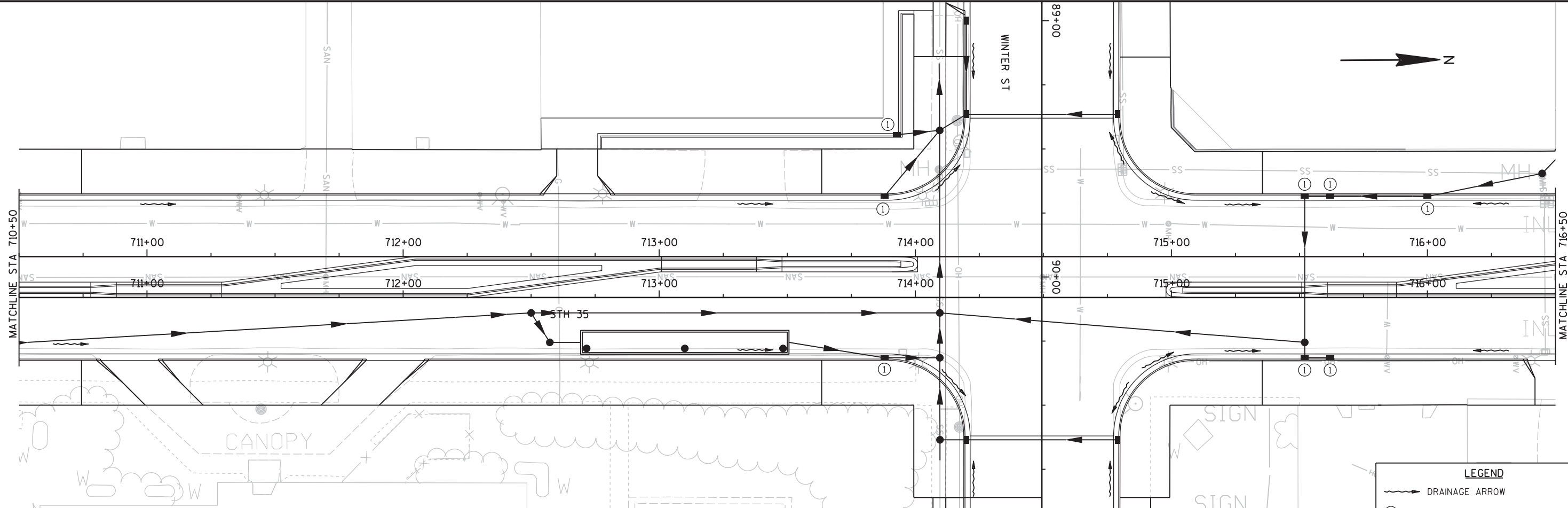
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→ DRAINAGE ARROW

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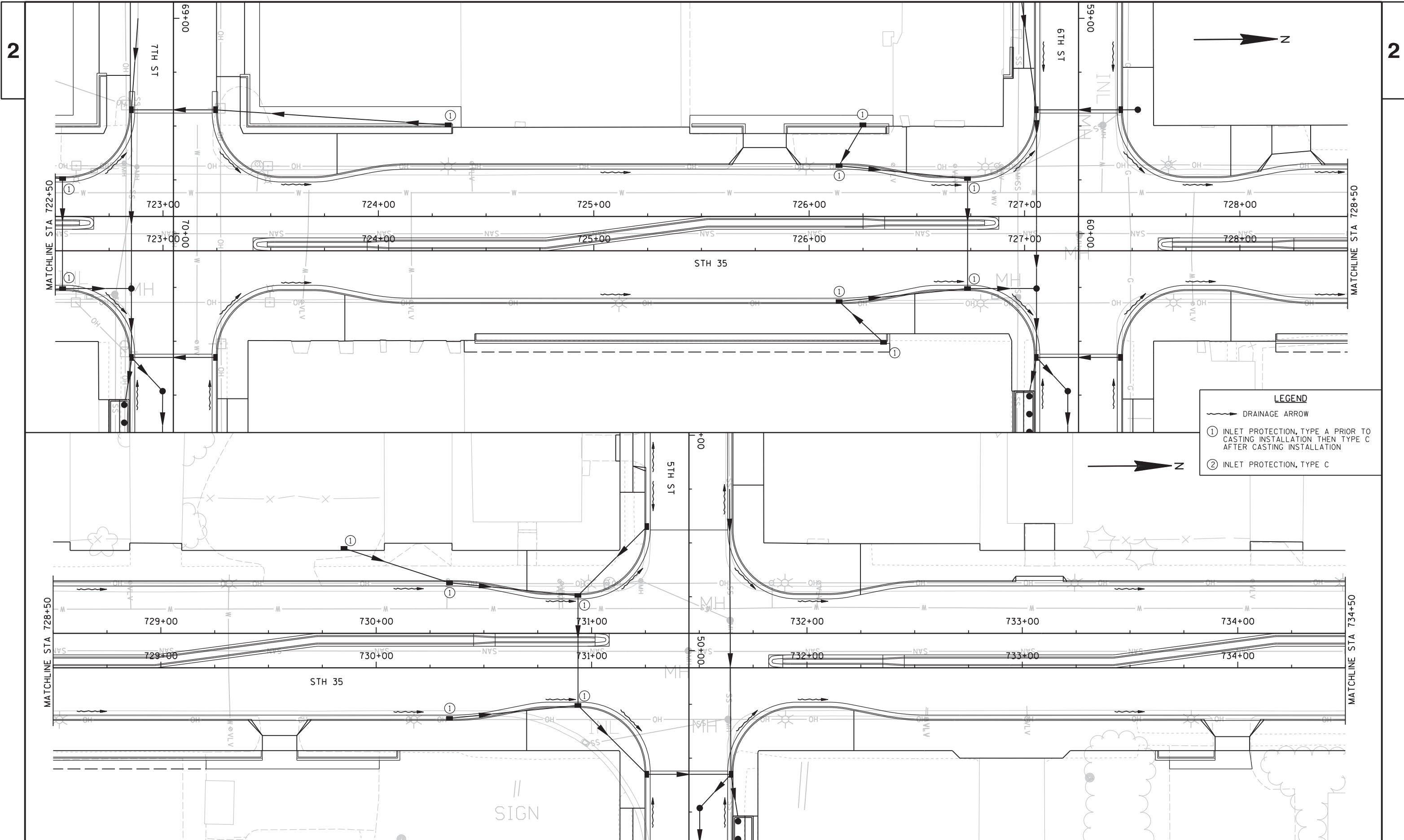
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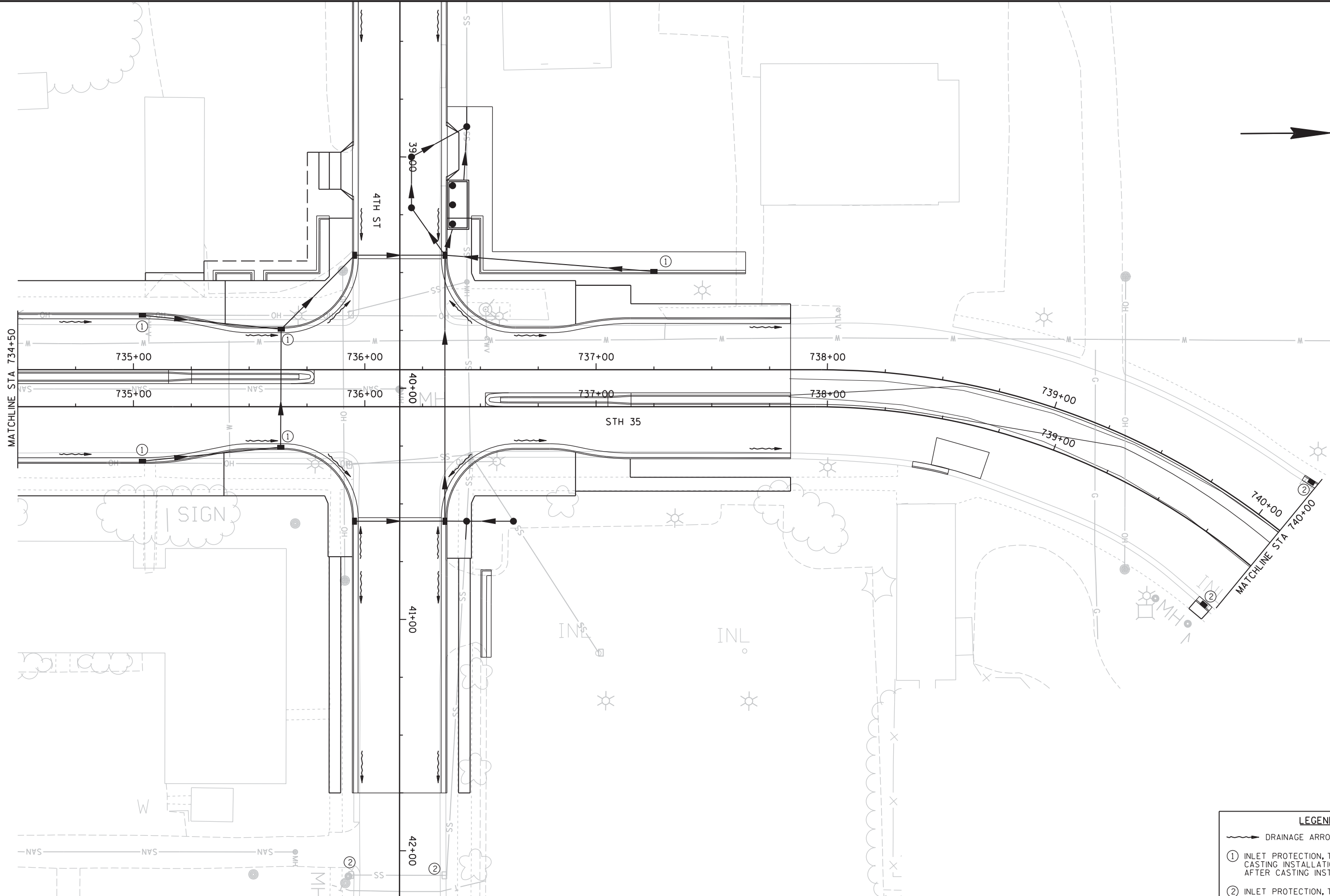




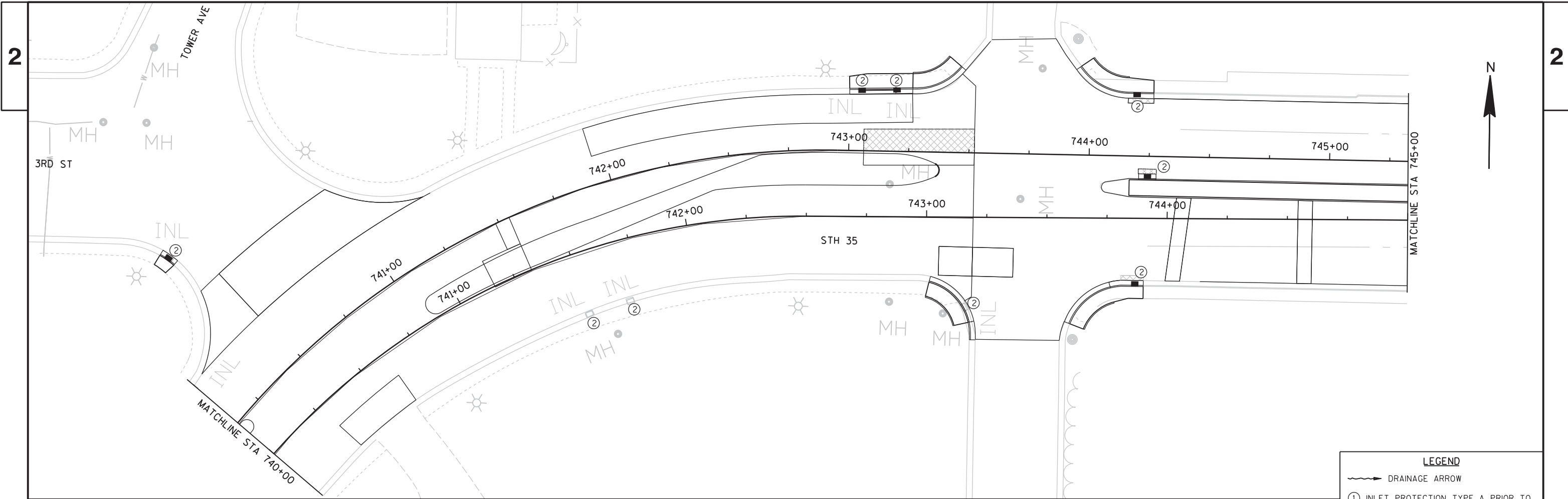
**LEGEND**

- DRAINAGE ARROW
- ① INLET PROTECTION, TYPE A PRIOR TO CASTING INSTALLATION THEN TYPE C AFTER CASTING INSTALLATION
- ② INLET PROTECTION, TYPE C



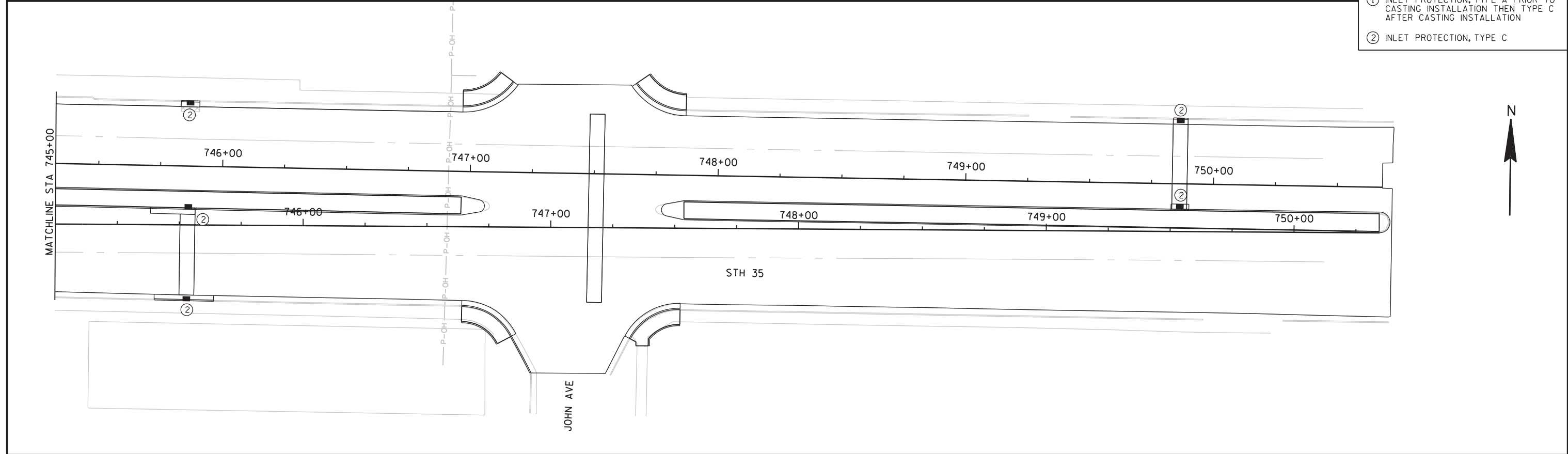


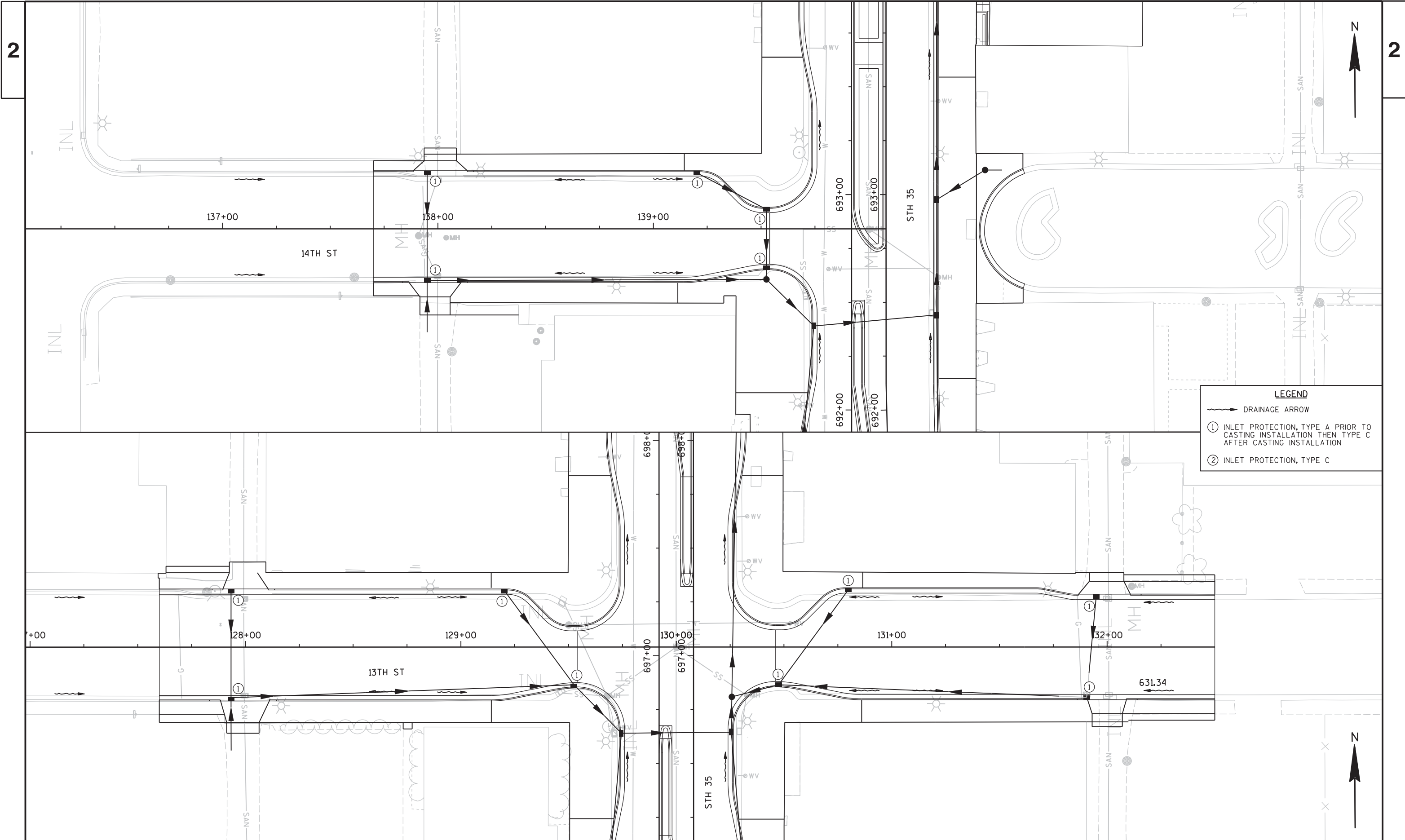
LEGEND	
	DRAINAGE ARROW
①	INLET PROTECTION, TYPE A PRIOR TO CASTING INSTALLATION THEN TYPE C AFTER CASTING INSTALLATION
②	INLET PROTECTION, TYPE C




**LEGEND**

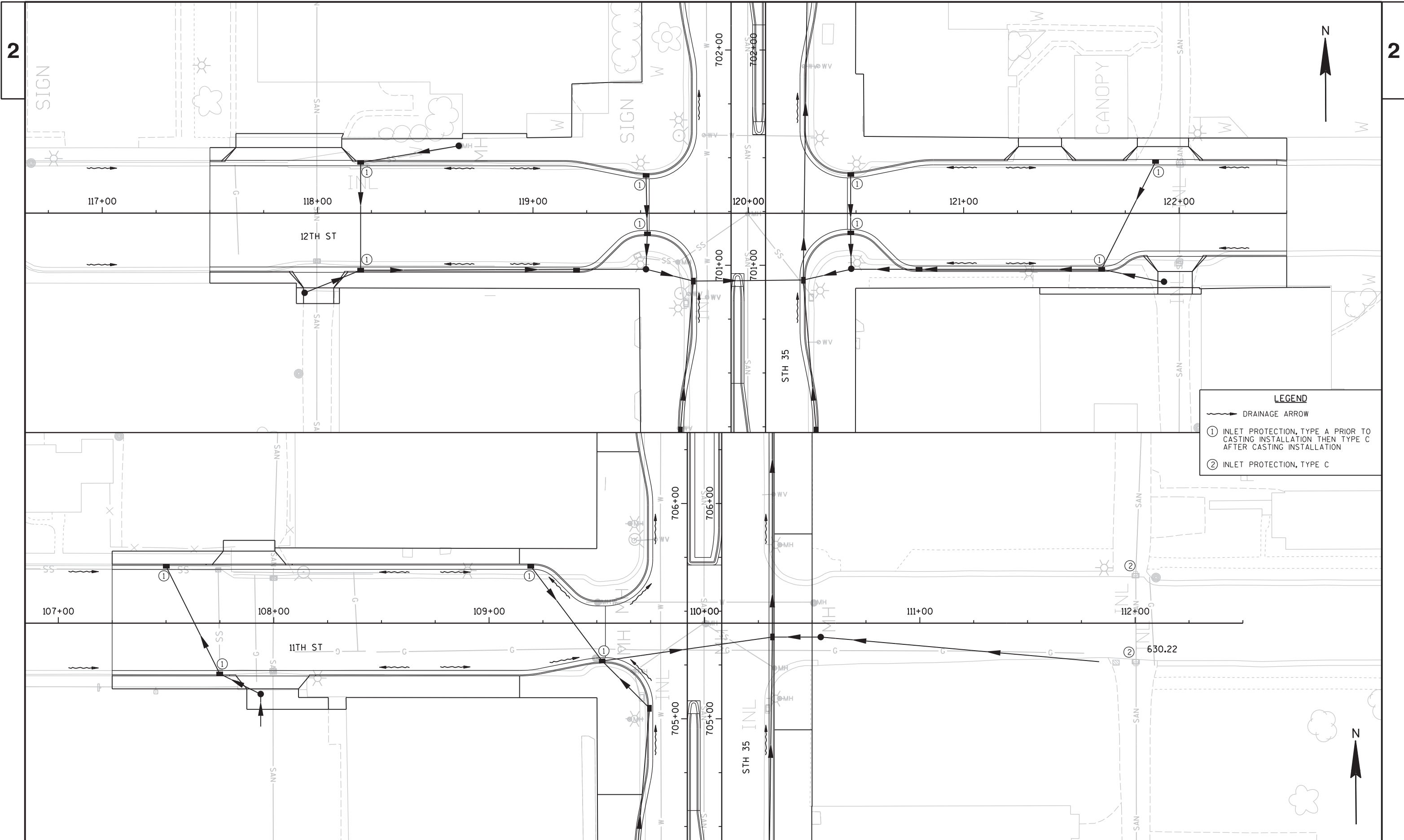
- DRAINAGE ARROW
- ① INLET PROTECTION, TYPE A PRIOR TO CASTING INSTALLATION THEN TYPE C AFTER CASTING INSTALLATION
- ② INLET PROTECTION, TYPE C



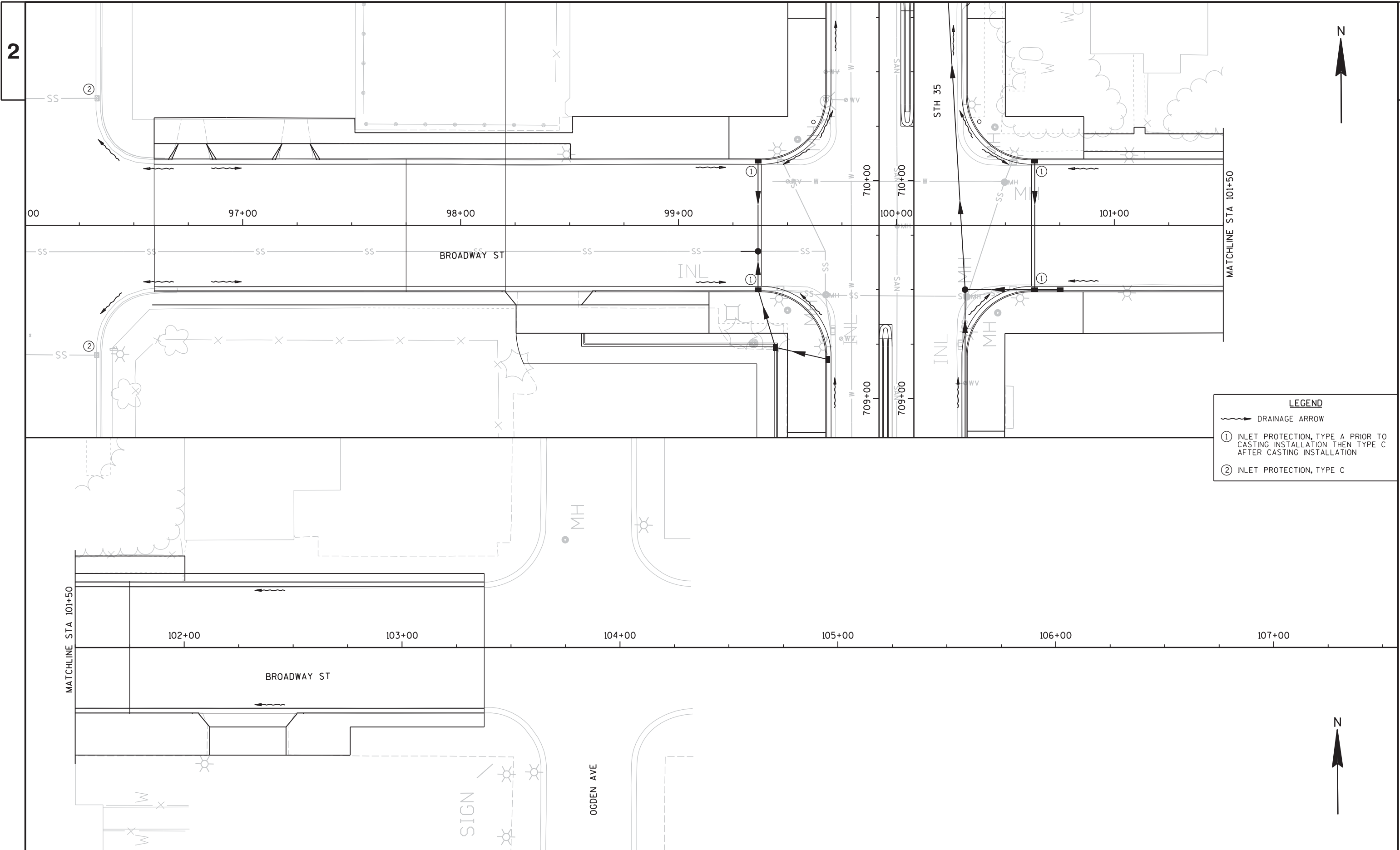


**LEGEND**


-  DRAINAGE ARROW
- ① INLET PROTECTION, TYPE A PRIOR TO CASTING INSTALLATION THEN TYPE C AFTER CASTING INSTALLATION
- ② INLET PROTECTION, TYPE C

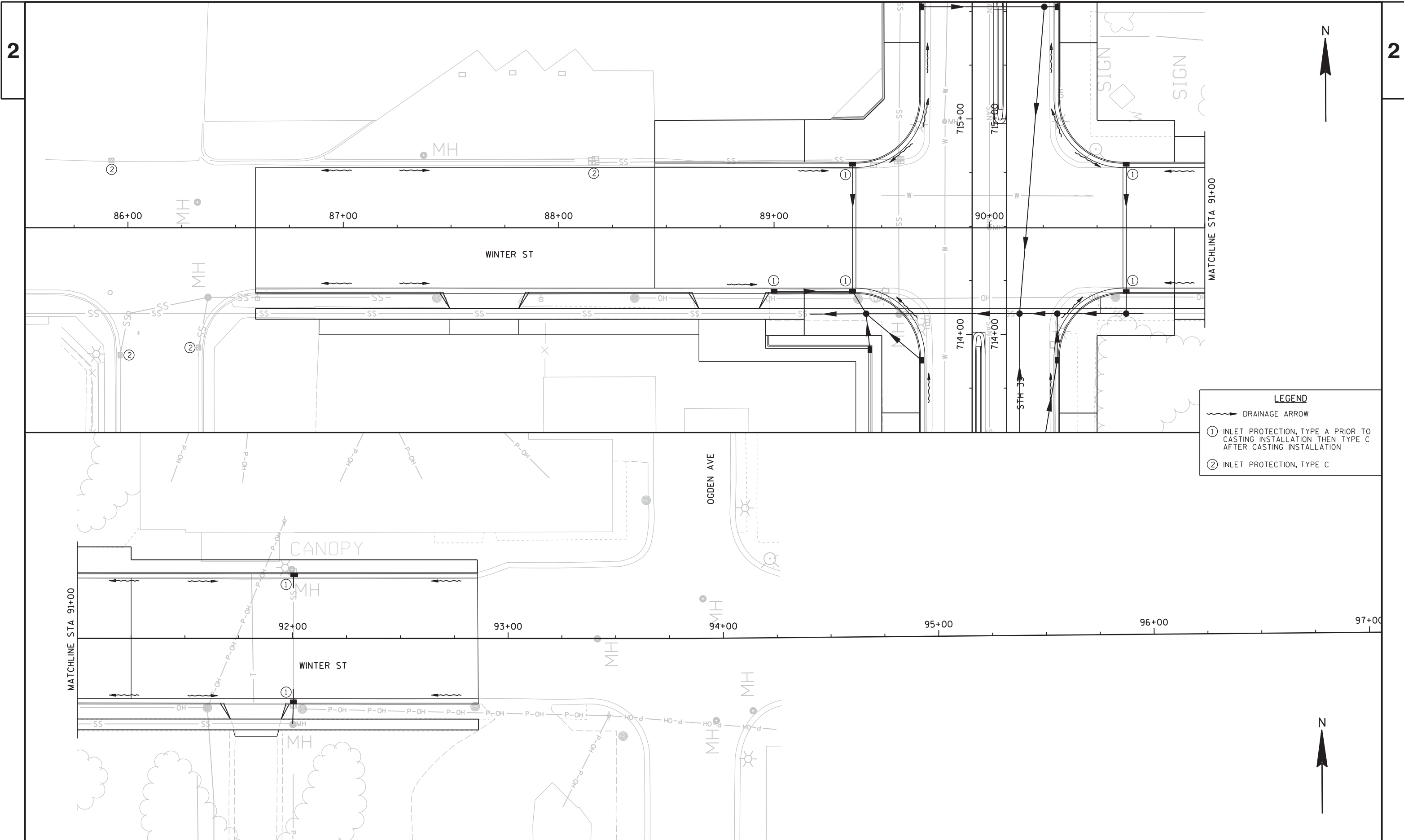







**LEGEND**

-  DRAINAGE ARROW
- ① INLET PROTECTION, TYPE A PRIOR TO CASTING INSTALLATION THEN TYPE C AFTER CASTING INSTALLATION
- ② INLET PROTECTION, TYPE C



**LEGEND**

-  DRAINAGE ARROW
- ① INLET PROTECTION, TYPE A PRIOR TO CASTING INSTALLATION THEN TYPE C AFTER CASTING INSTALLATION
- ② INLET PROTECTION, TYPE C

PROJECT NO: 1195-13-71

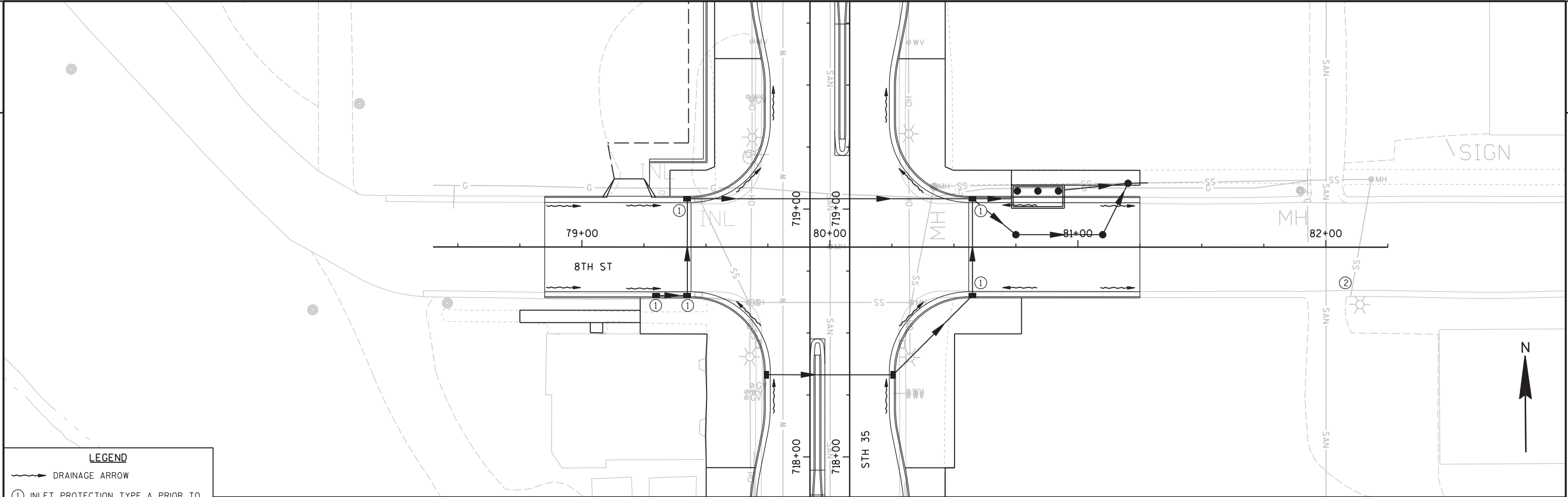
HWY: STH 35 - TOWER AVE

COUNTY: DOUGLAS

EROSION CONTROL

SHEET

E

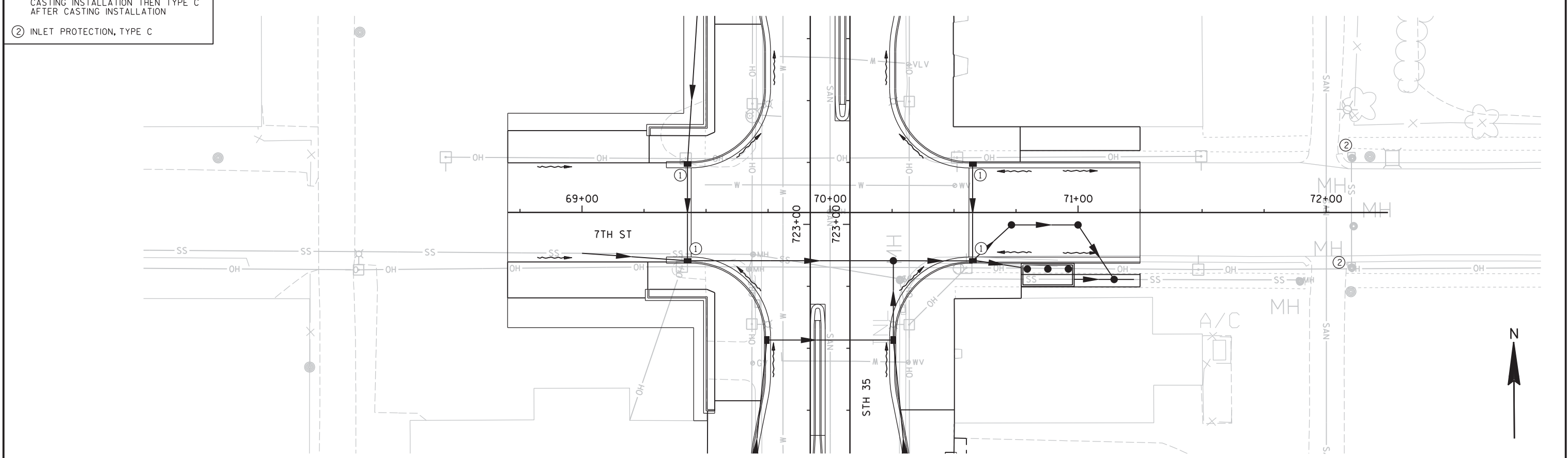


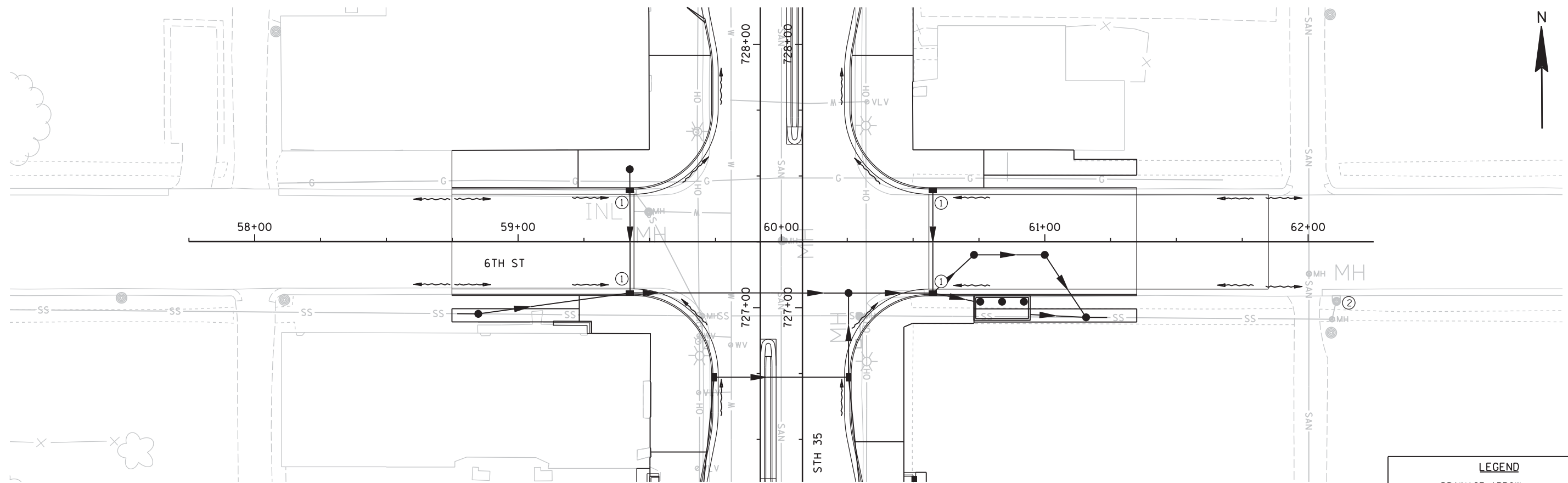
**LEGEND**

→ DRAINAGE ARROW

① INLET PROTECTION, TYPE A PRIOR TO CASTING INSTALLATION THEN TYPE C AFTER CASTING INSTALLATION

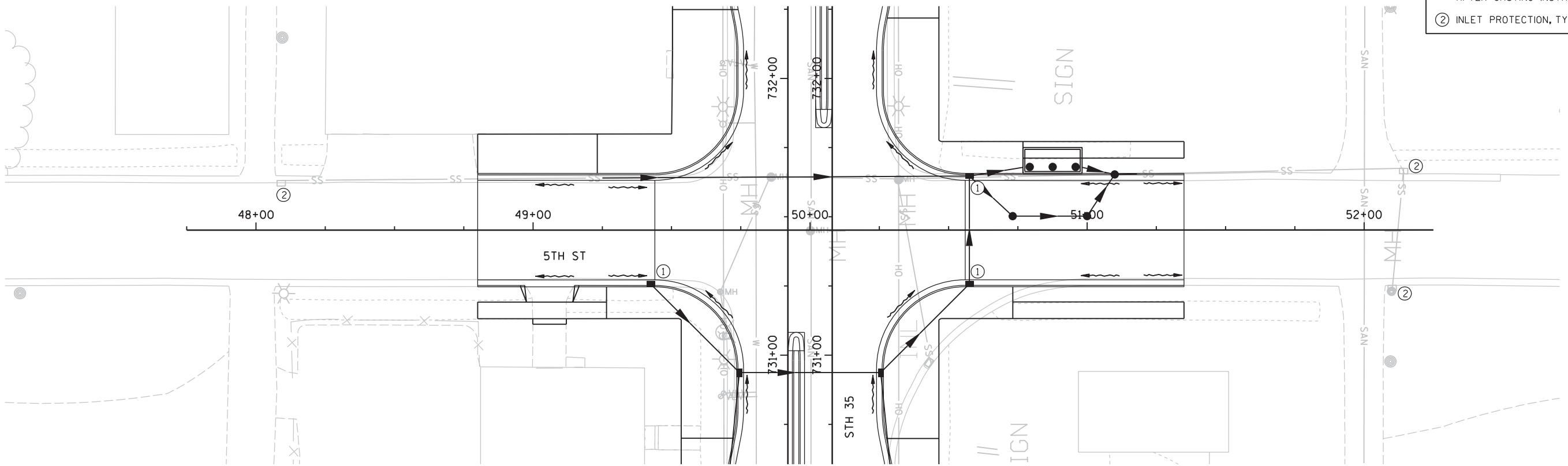
② INLET PROTECTION, TYPE C

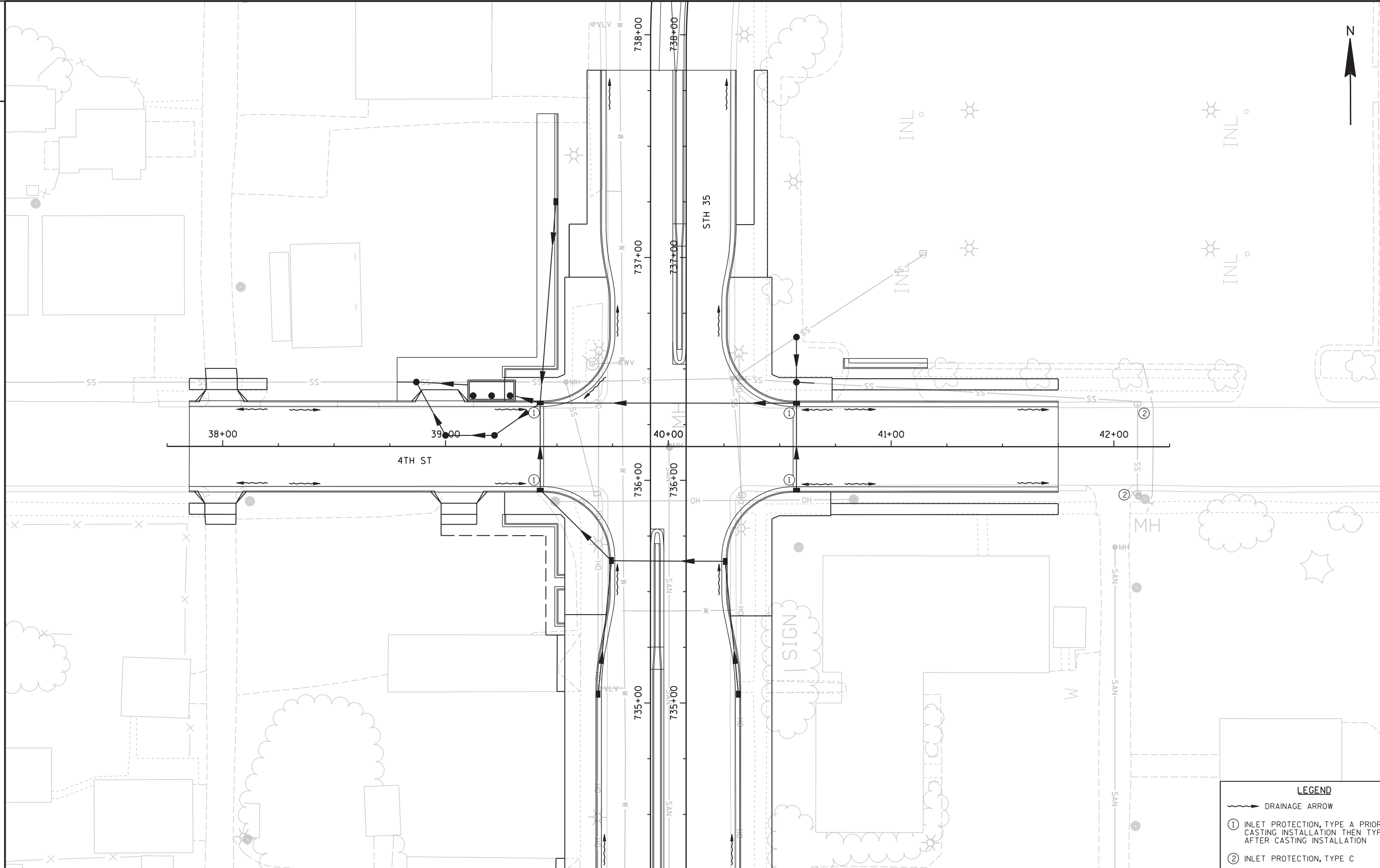




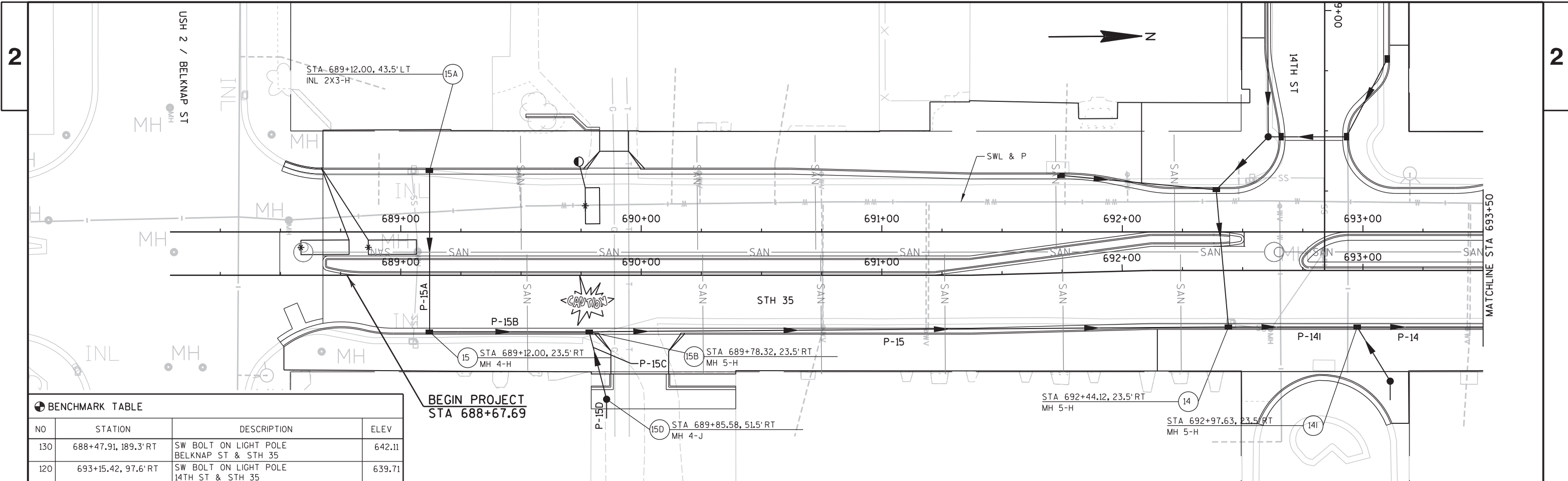
**LEGEND**

- DRAINAGE ARROW
- ① INLET PROTECTION, TYPE A PRIOR TO CASTING INSTALLATION THEN TYPE C AFTER CASTING INSTALLATION
- ② INLET PROTECTION, TYPE C



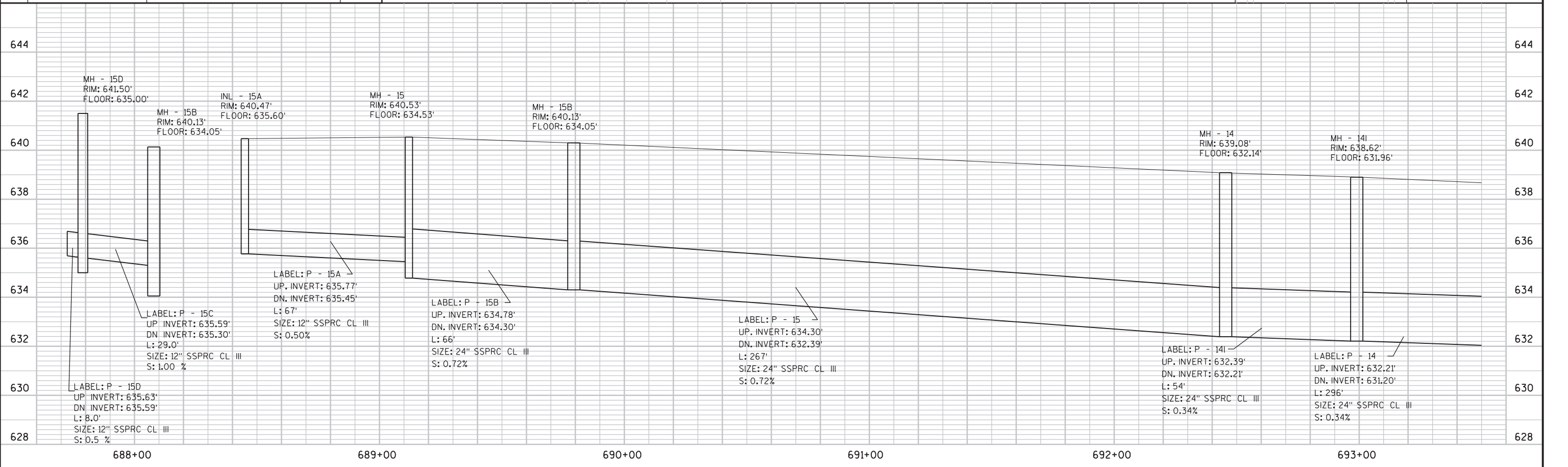


LEGEND	
	DRAINAGE ARROW
①	INLET PROTECTION, TYPE A PRIOR TO CASTING INSTALLATION THEN TYPE C AFTER CASTING INSTALLATION
②	INLET PROTECTION, TYPE C

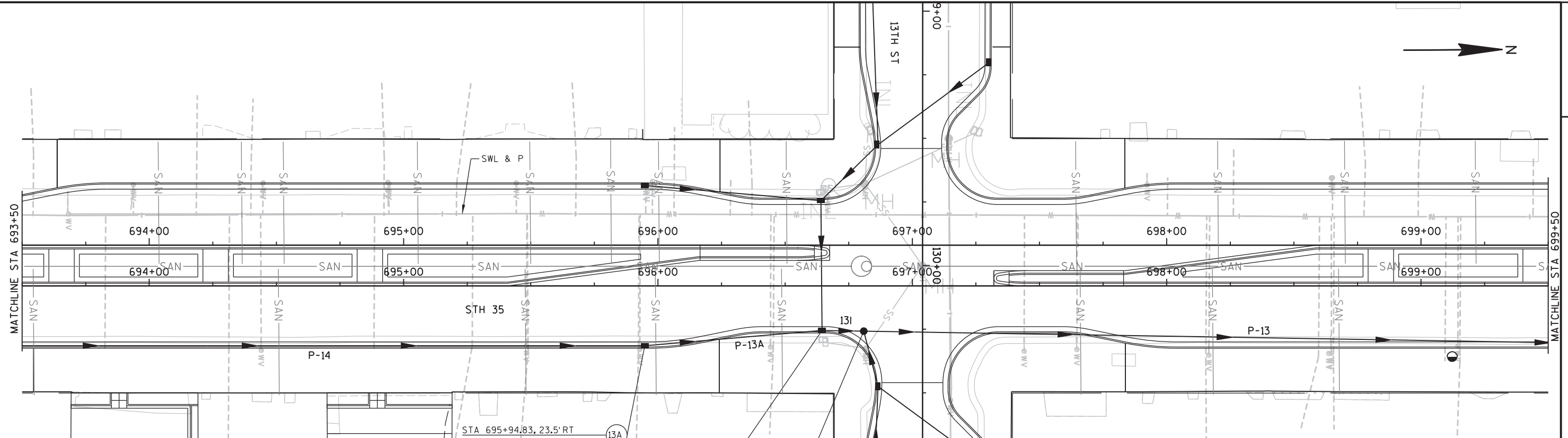


**BENCHMARK TABLE**

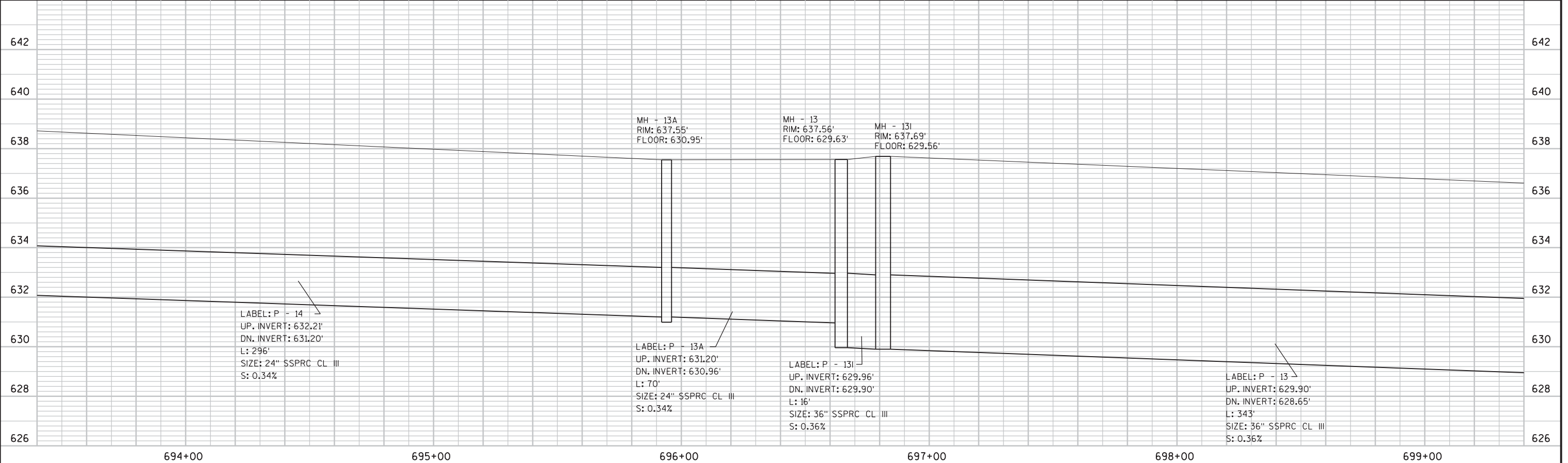
NO	STATION	DESCRIPTION	ELEV
130	688+47.91, 189.3' RT	SW BOLT ON LIGHT POLE BELKNAP ST & STH 35	642.11
120	693+15.42, 97.6' RT	SW BOLT ON LIGHT POLE 14TH ST & STH 35	639.71

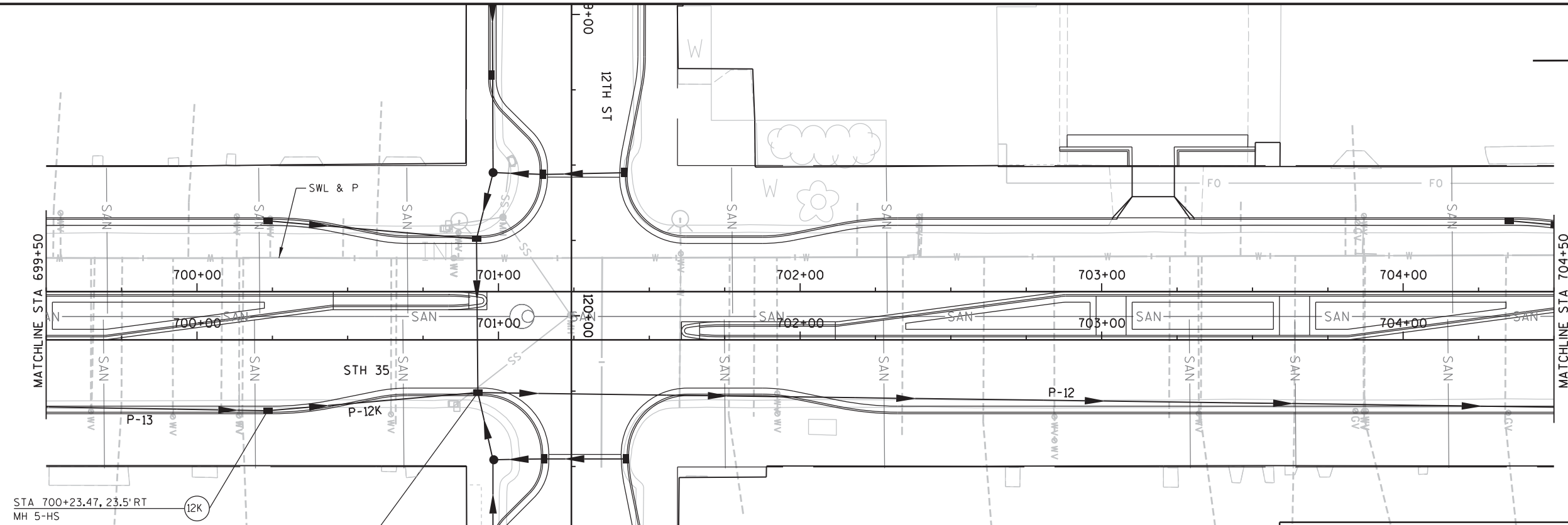


PROJECT NO: 1195-13-71      HWY: STH 35 - TOWER AVE      COUNTY: DOUGLAS      STORM SEWER      SHEET      E



BENCHMARK TABLE			
NO	STATION	DESCRIPTION	ELEV
100	700+98.22, 121.6' RT	NW BOLT ON LIGHT POLE 12TH ST & STH 35	637.33

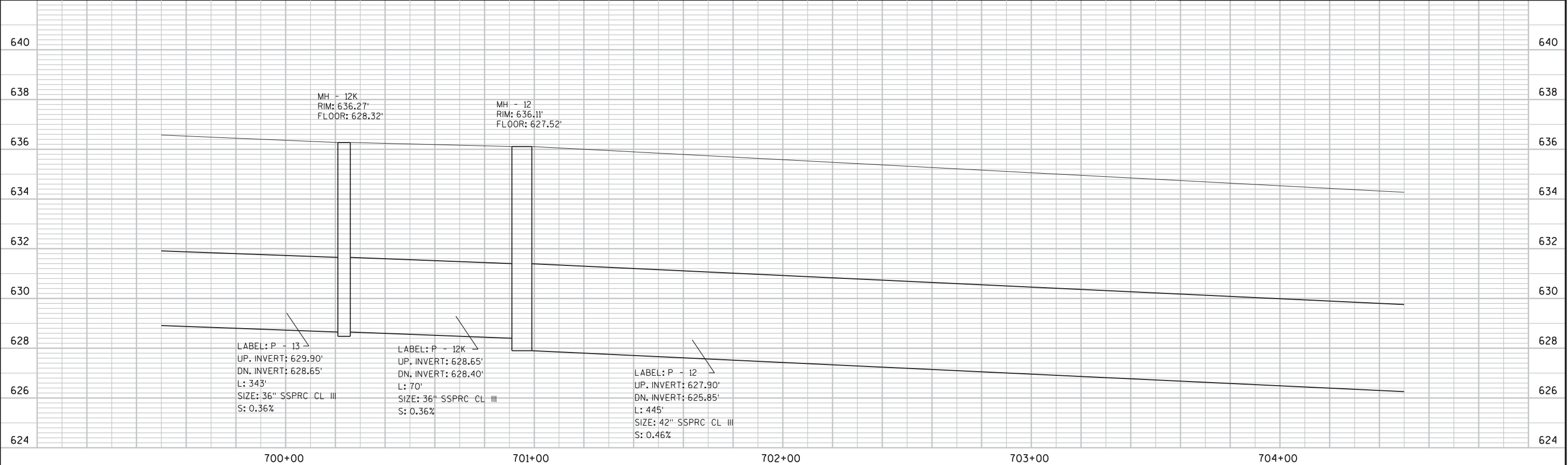




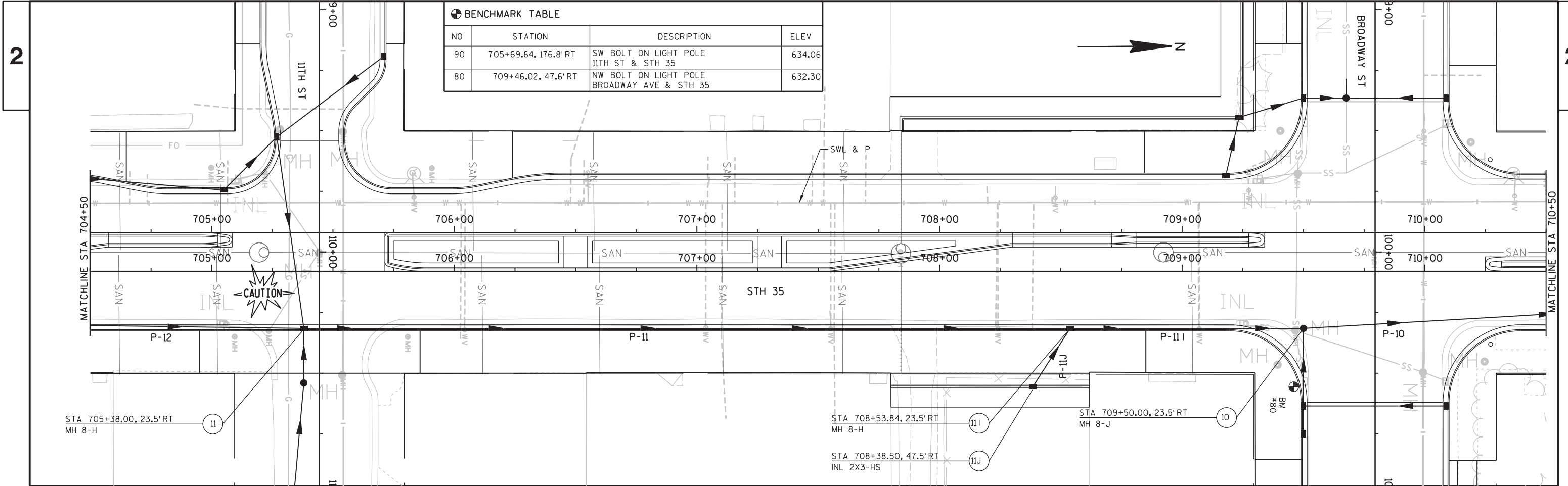
STA 700+23.47, 23.5' RT  
MH 5-HS

STA 700+93.17, 17.5' RT  
MH 8-H

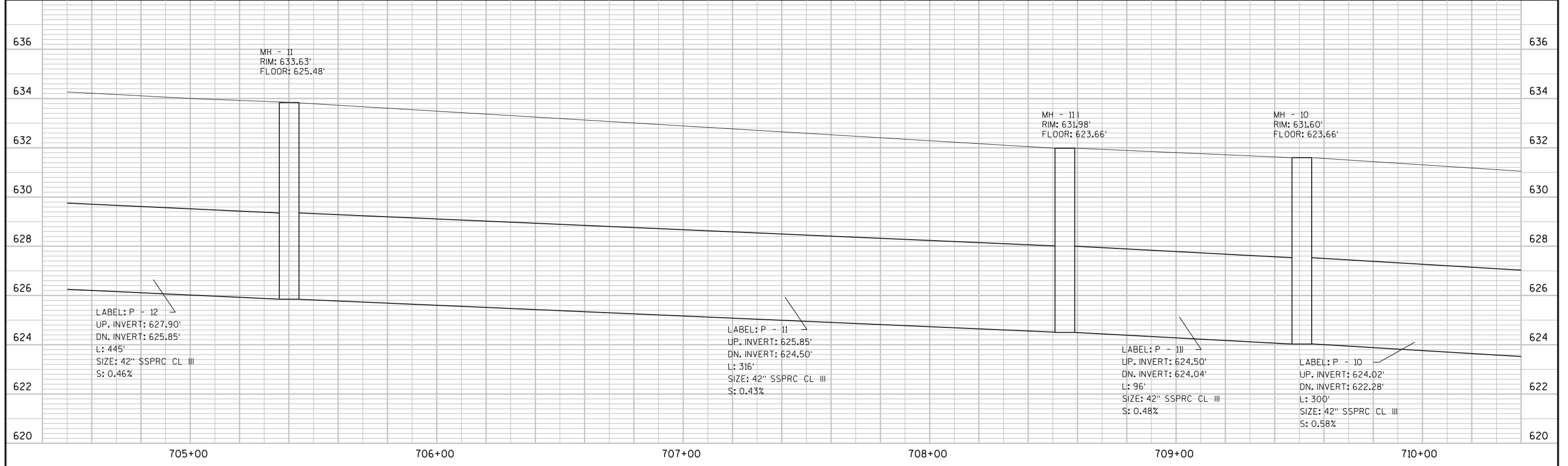
BENCHMARK TABLE			
NO	STATION	DESCRIPTION	ELEV
100	700+98.22, 121.6' RT	NW BOLT ON LIGHT POLE 12TH ST & STH 35	637.33







BENCHMARK TABLE			
NO	STATION	DESCRIPTION	ELEV
90	705+69.64, 176.8' RT	SW BOLT ON LIGHT POLE 11TH ST & STH 35	634.06
80	709+46.02, 47.6' RT	NW BOLT ON LIGHT POLE BROADWAY AVE & STH 35	632.30



PROJECT NO: 1195-13-71      HWY: STH 35 - TOWER AVE      COUNTY: DOUGLAS      STORM SEWER      SHEET      E

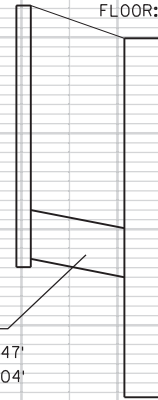
636  
634  
632  
630  
628  
626  
624  
622  
620  
618

636  
634  
632  
630  
628  
626  
624  
622  
620  
618

INL - 11J  
RIM: 632.75'  
FLOOR: 627.30'

MH - 11I  
RIM: 631.98'  
FLOOR: 623.66'

LABEL: P - 11J  
UP. INVERT: 627.47'  
DN. INVERT: 627.04'  
L: 29'  
SIZE: 12" SSPRC CL III  
S: 1.50%



628  
626  
624  
622  
620  
618  
616  
614  
612

628  
626  
624  
622  
620  
618  
616  
614  
612

**BENCHMARK TABLE**

NO	STATION	DESCRIPTION	ELEV
50	714+17.62, 172.8'LT	SPIKE IN POWER POLE WINTER ST	630.73

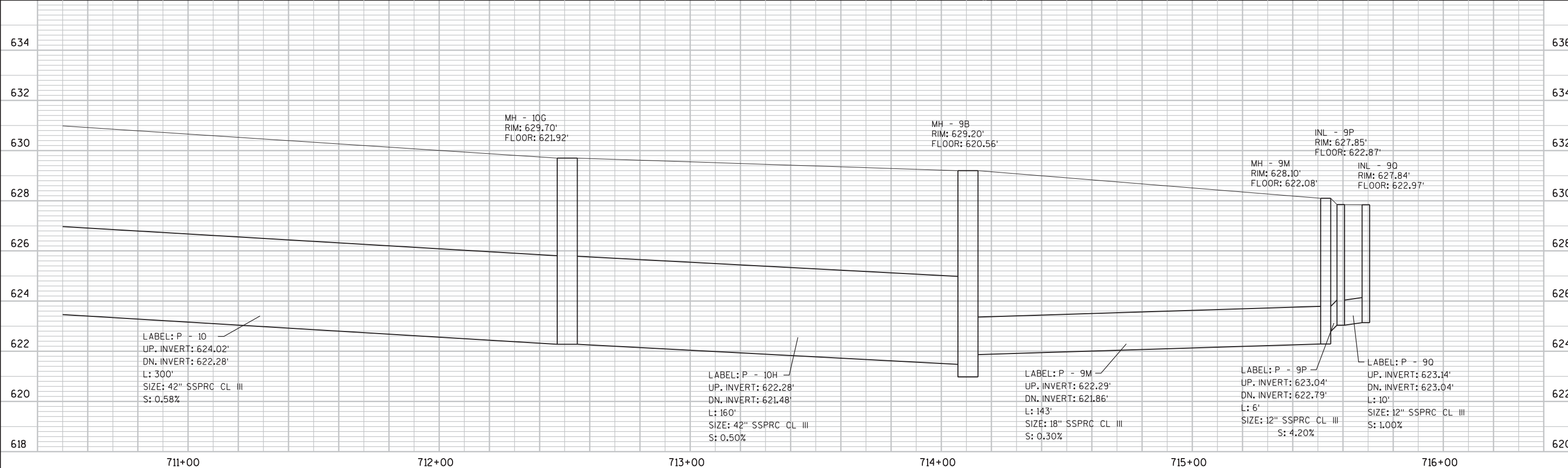
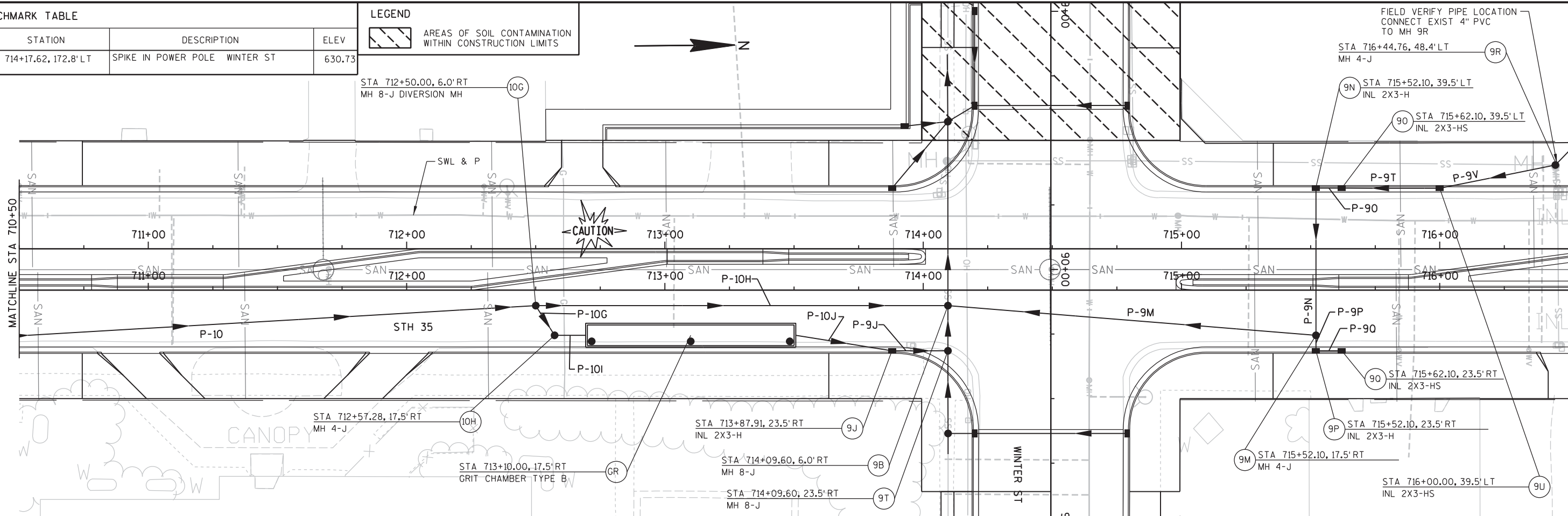
**LEGEND**

 AREAS OF SOIL CONTAMINATION WITHIN CONSTRUCTION LIMITS



2

2



PROJECT NO: 1195-13-71

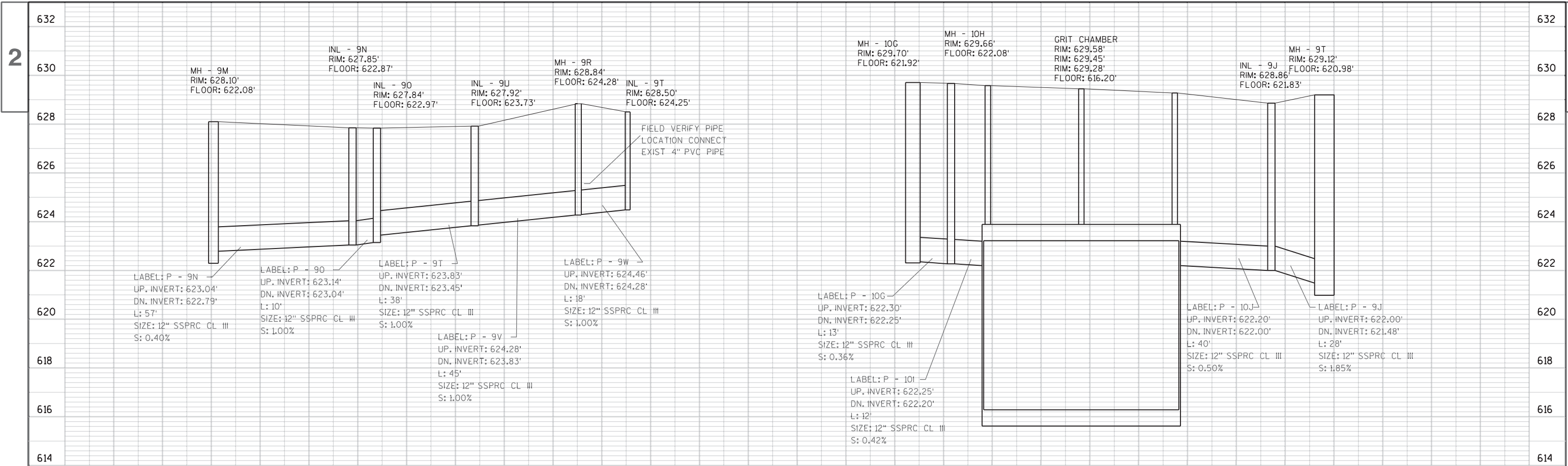
HWY: STH 35 - TOWER AVE

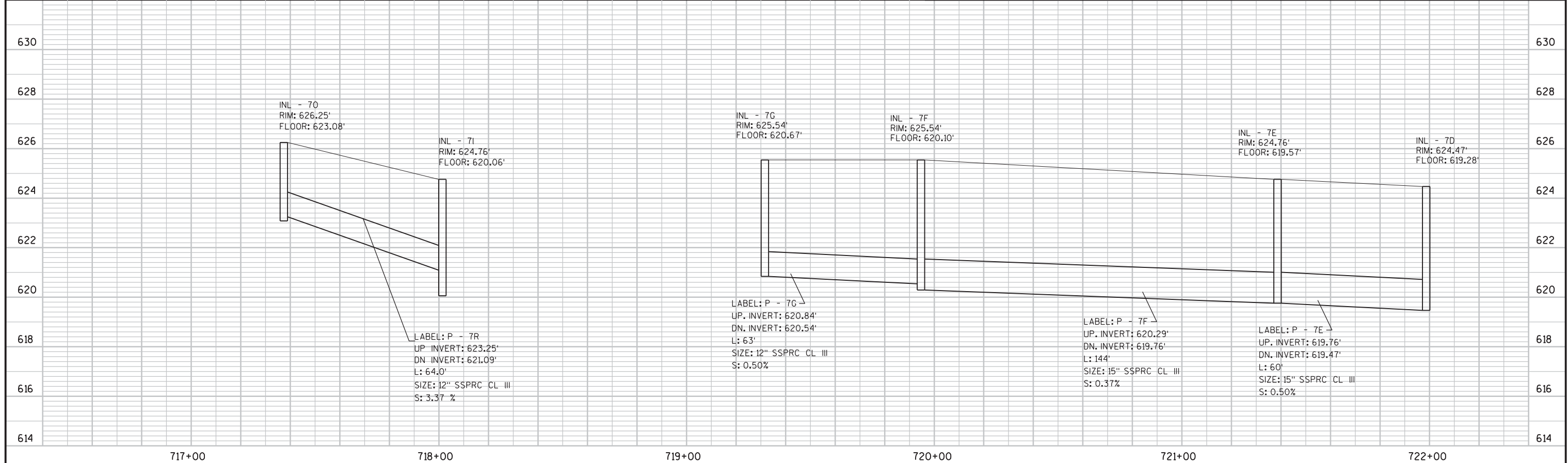
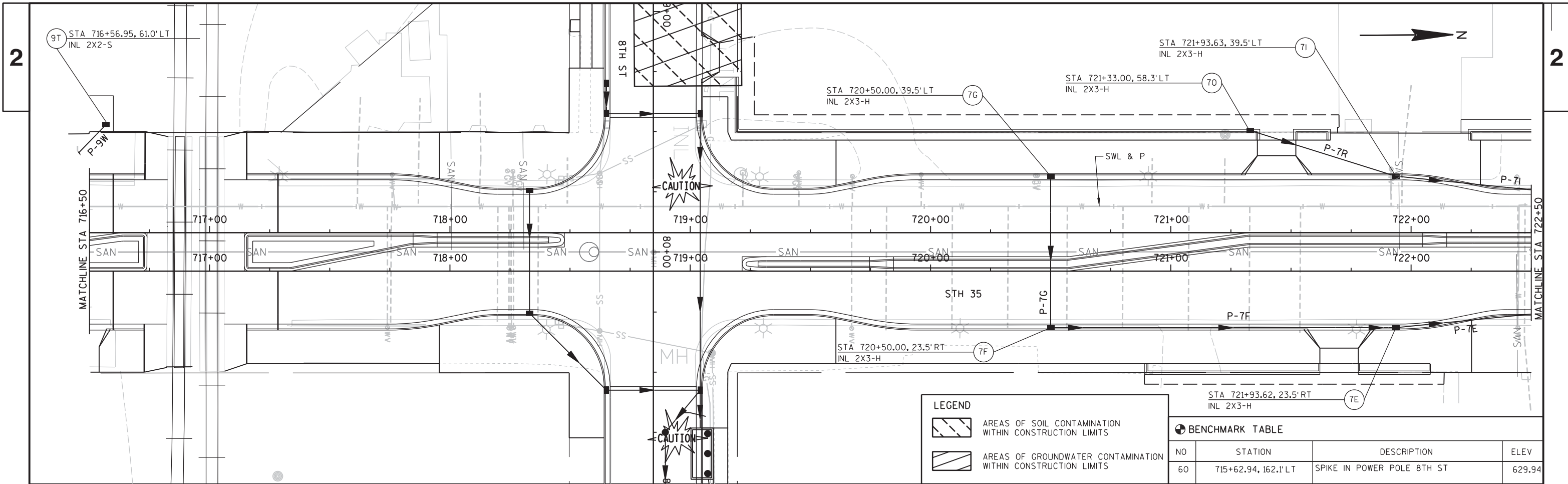
COUNTY: DOUGLAS

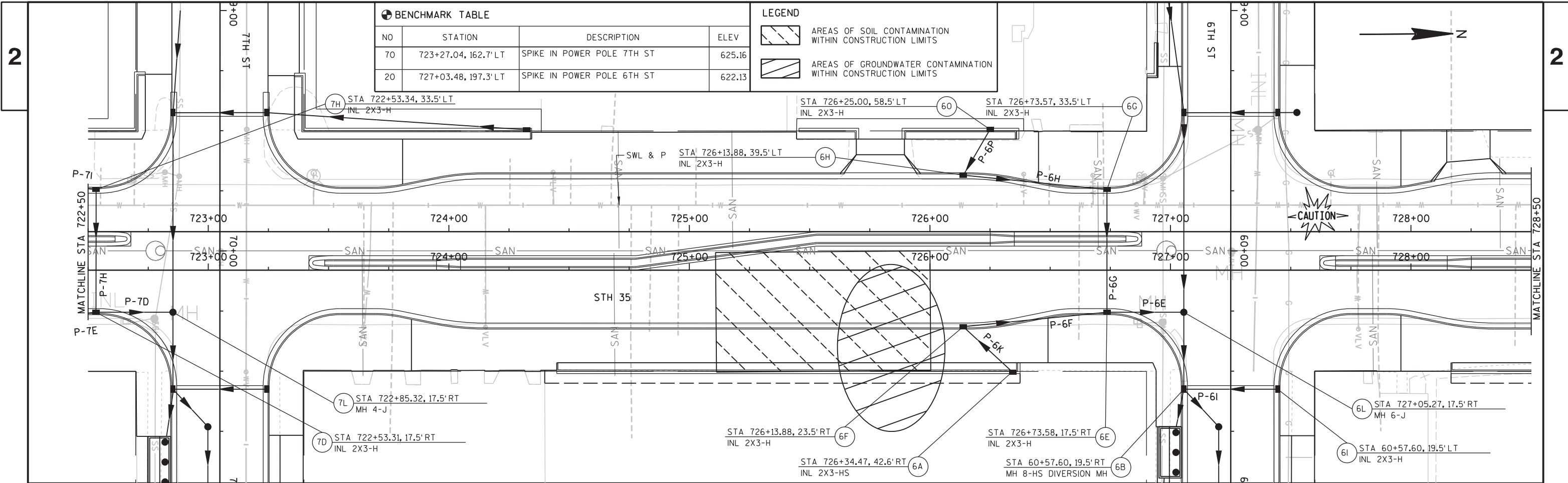
STORM SEWER

SHEET

E





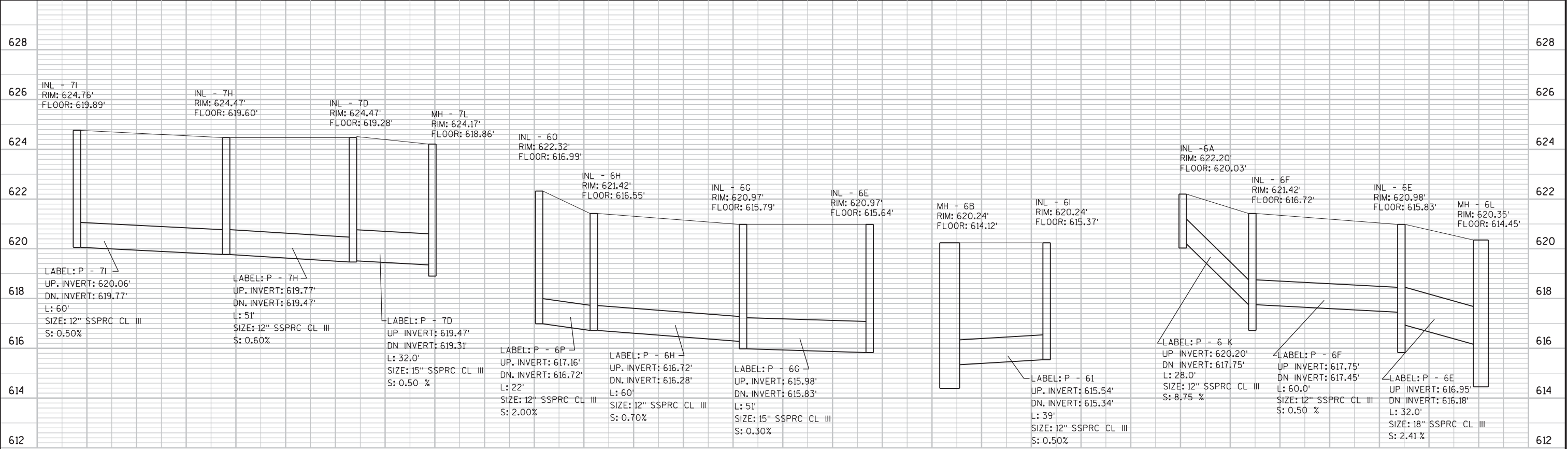


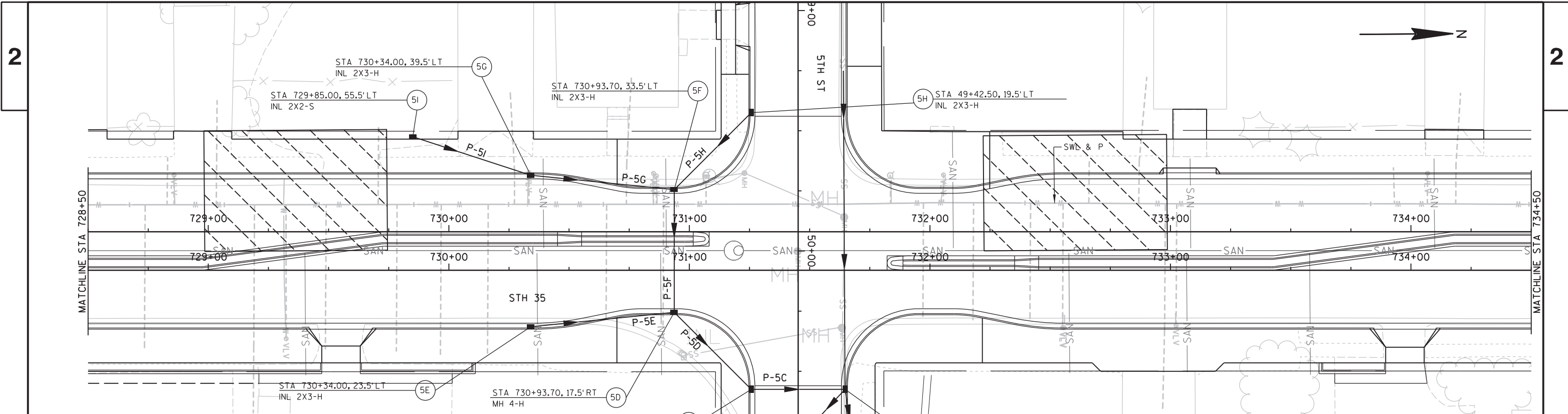
**BENCHMARK TABLE**

NO	STATION	DESCRIPTION	ELEV
70	723+27.04, 162.7'LT	SPIKE IN POWER POLE 7TH ST	625.16
20	727+03.48, 197.3'LT	SPIKE IN POWER POLE 6TH ST	622.13

**LEGEND**

- AREAS OF SOIL CONTAMINATION WITHIN CONSTRUCTION LIMITS
- AREAS OF GROUNDWATER CONTAMINATION WITHIN CONSTRUCTION LIMITS



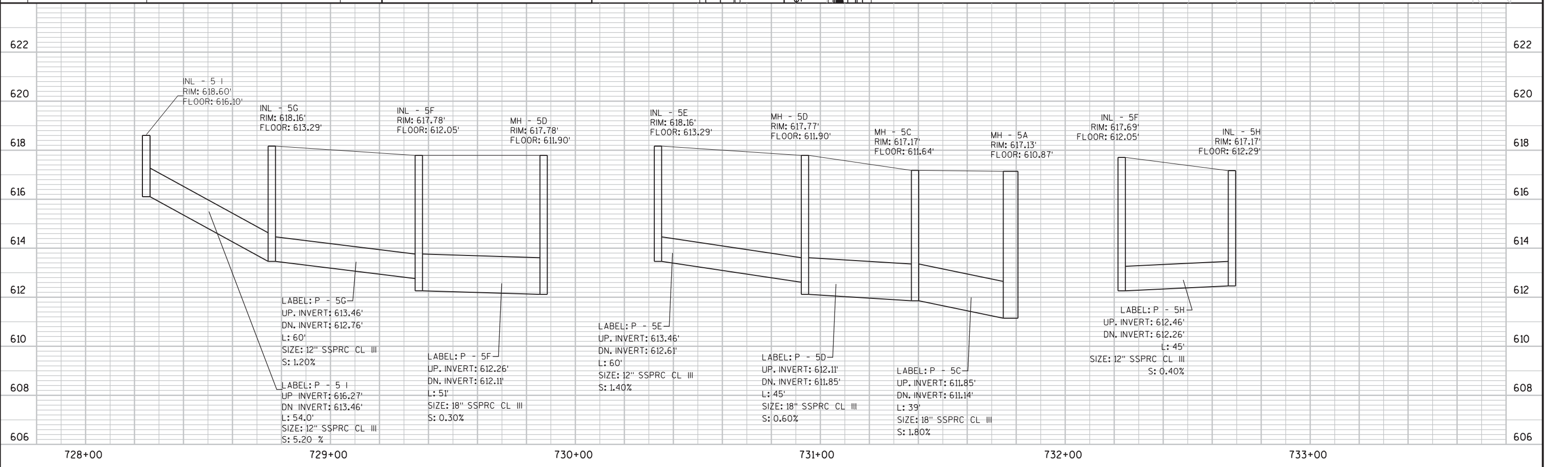


**BENCHMARK TABLE**

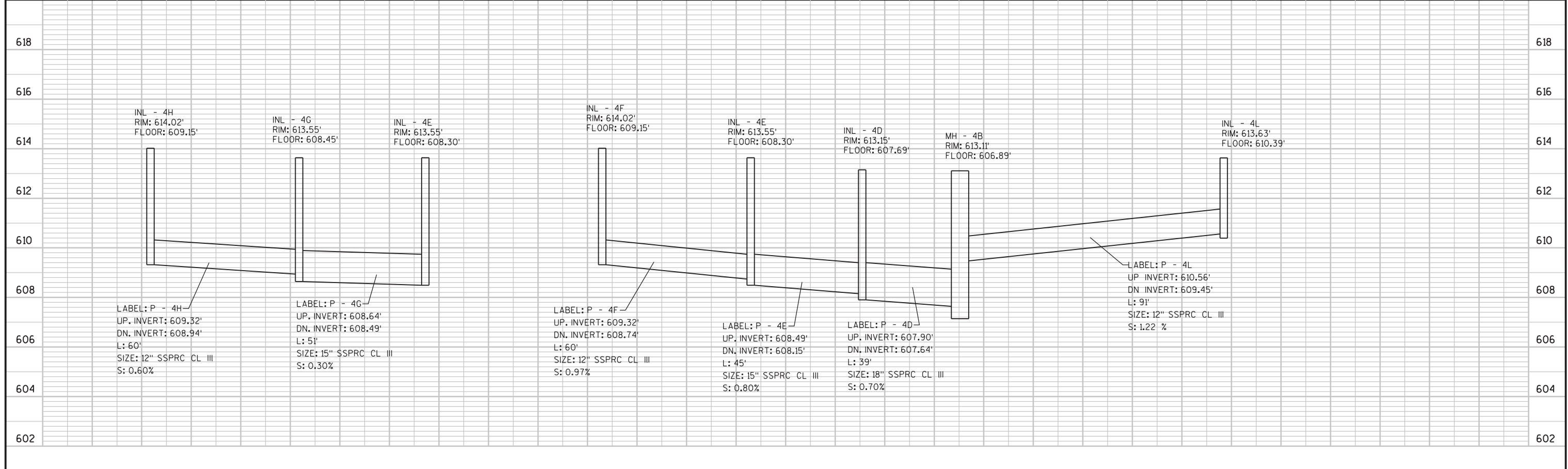
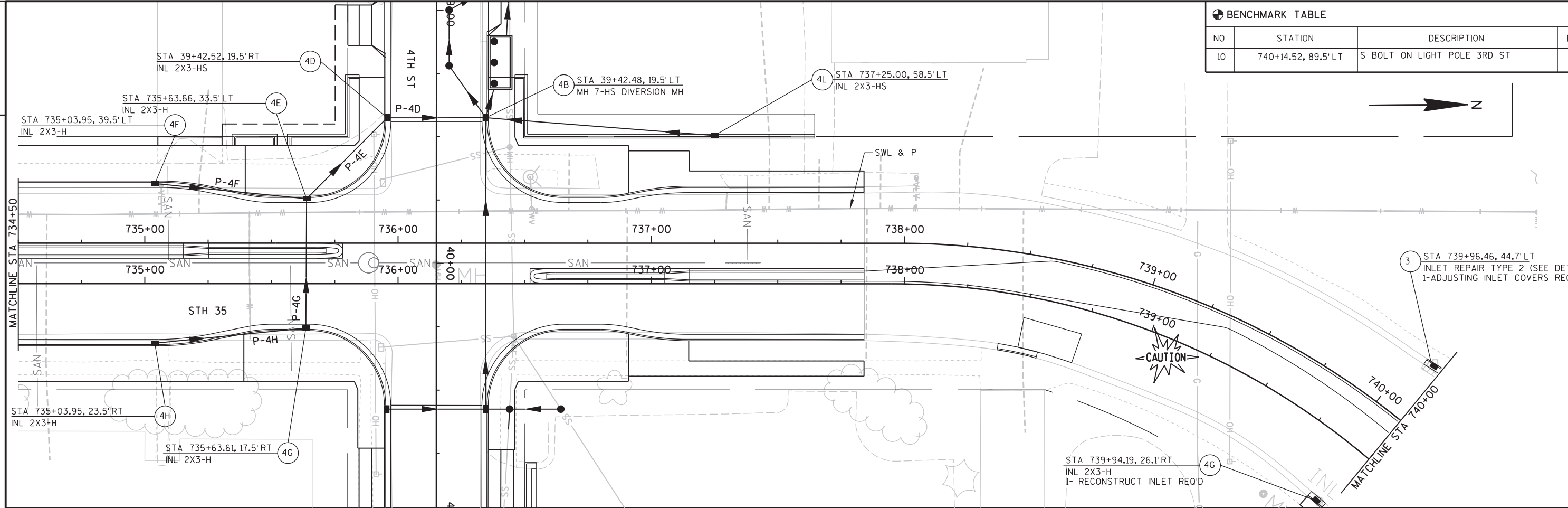
NO	STATION	DESCRIPTION	ELEV
30	731+23.02, 198.3'LT	SPIKE IN POWER POLE 5TH ST	618.09

**LEGEND**

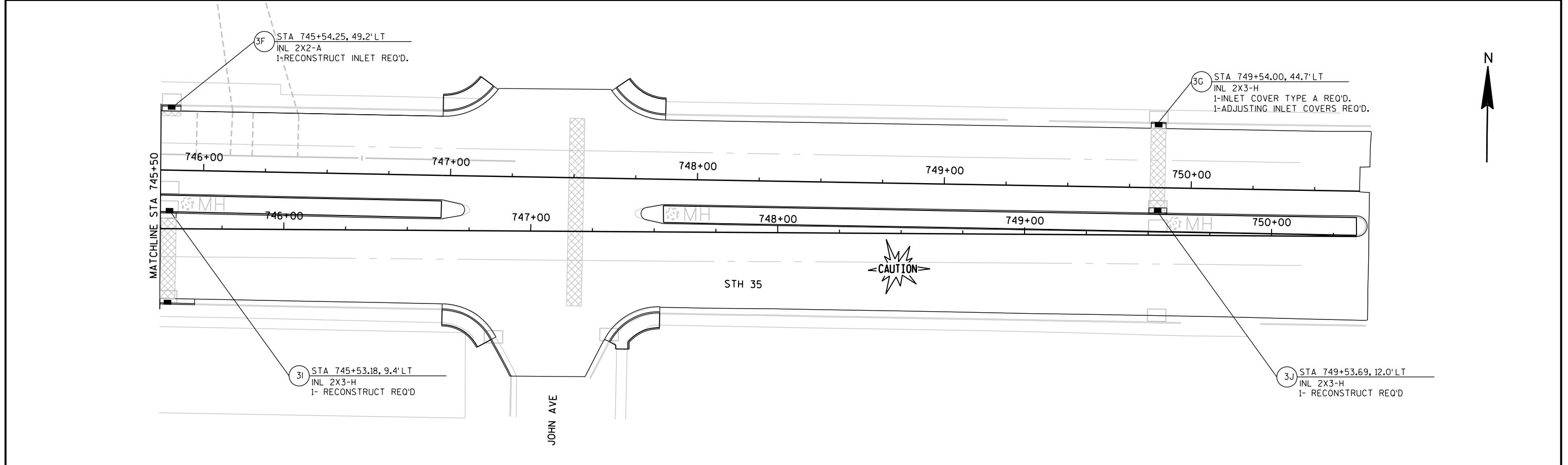
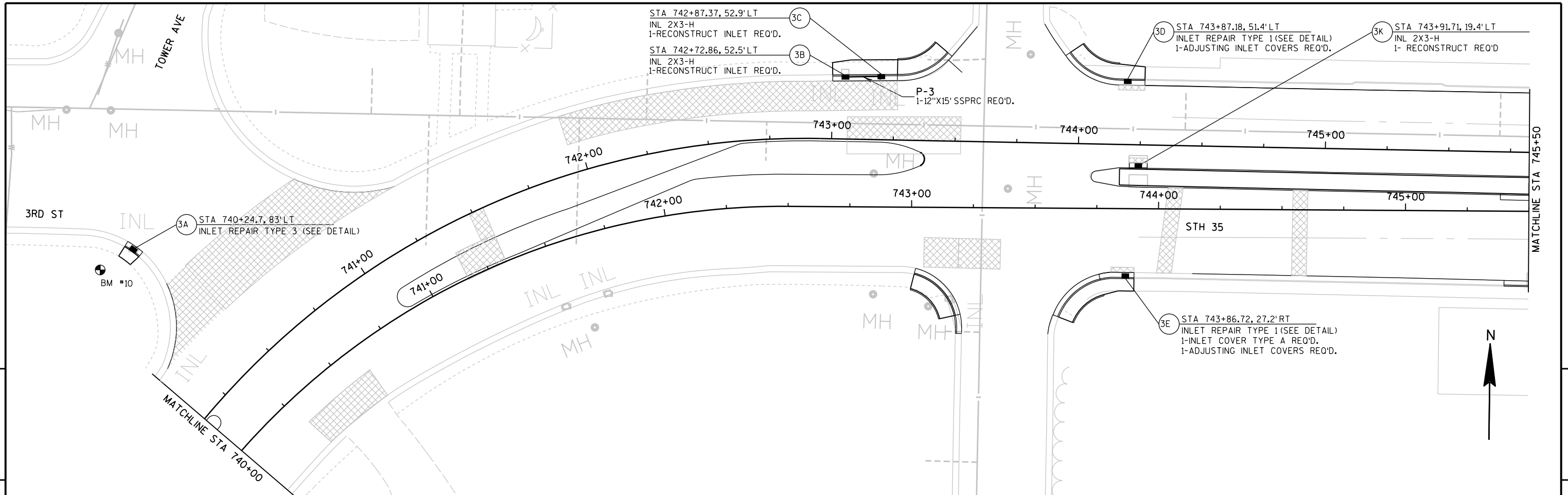
AREAS OF SOIL CONTAMINATION WITHIN CONSTRUCTION LIMITS



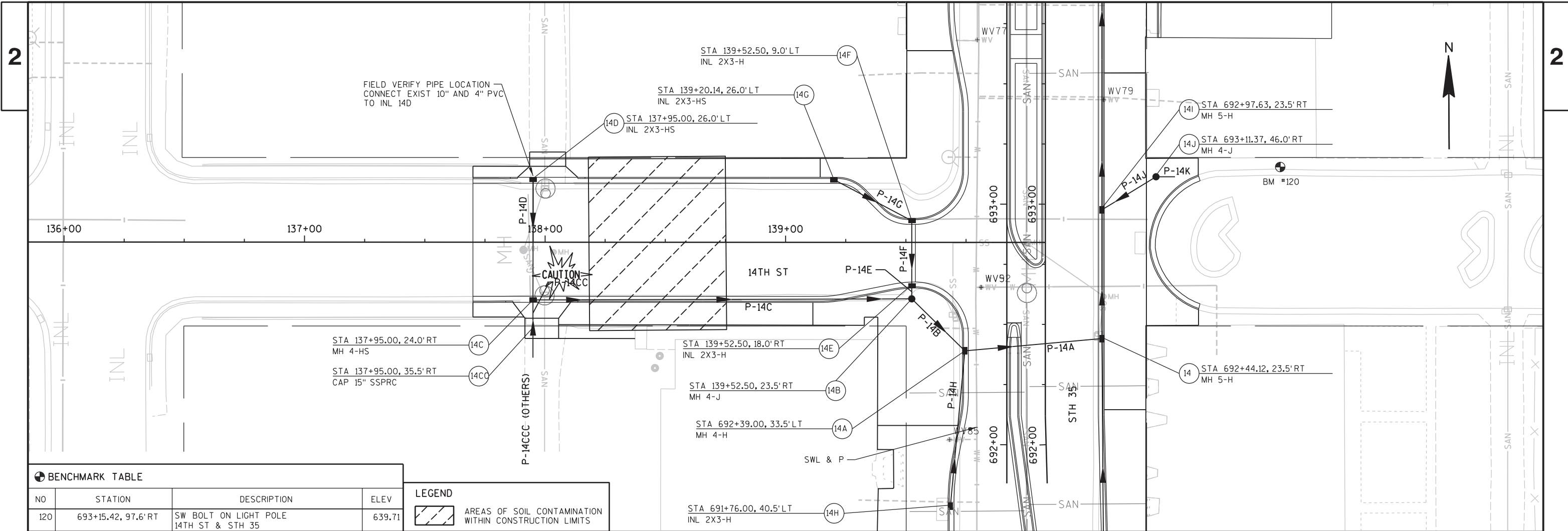
BENCHMARK TABLE			
NO	STATION	DESCRIPTION	ELEV
10	740+14.52, 89.5' LT	S BOLT ON LIGHT POLE 3RD ST	613.63







PROJECT NO: 1195-13-71	HWY: STH 35 - TOWER AVE	COUNTY: DOUGLAS	STORM SEWER
SHEET			<b>E</b>

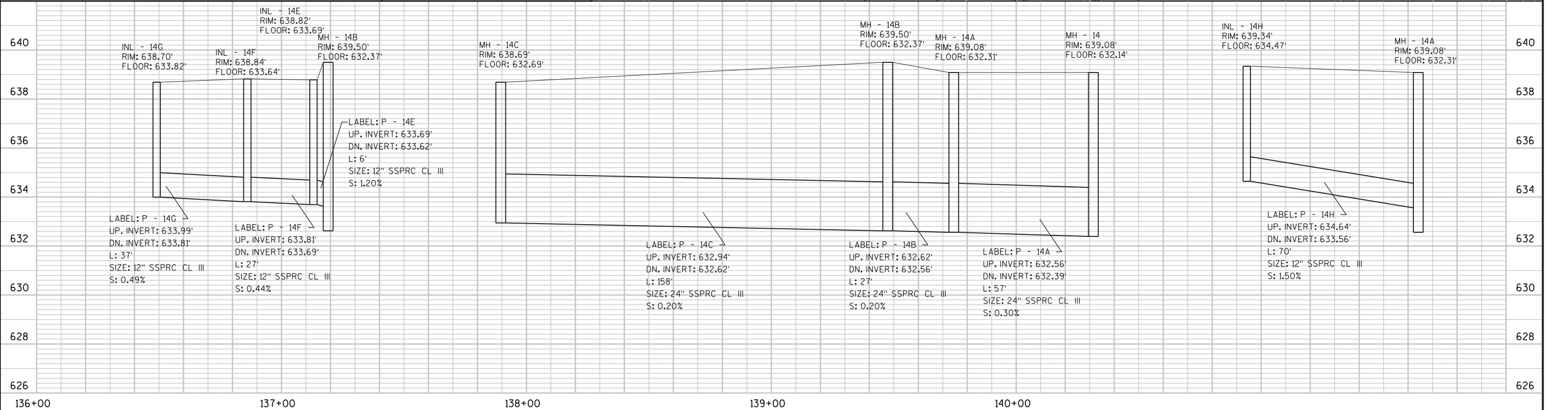


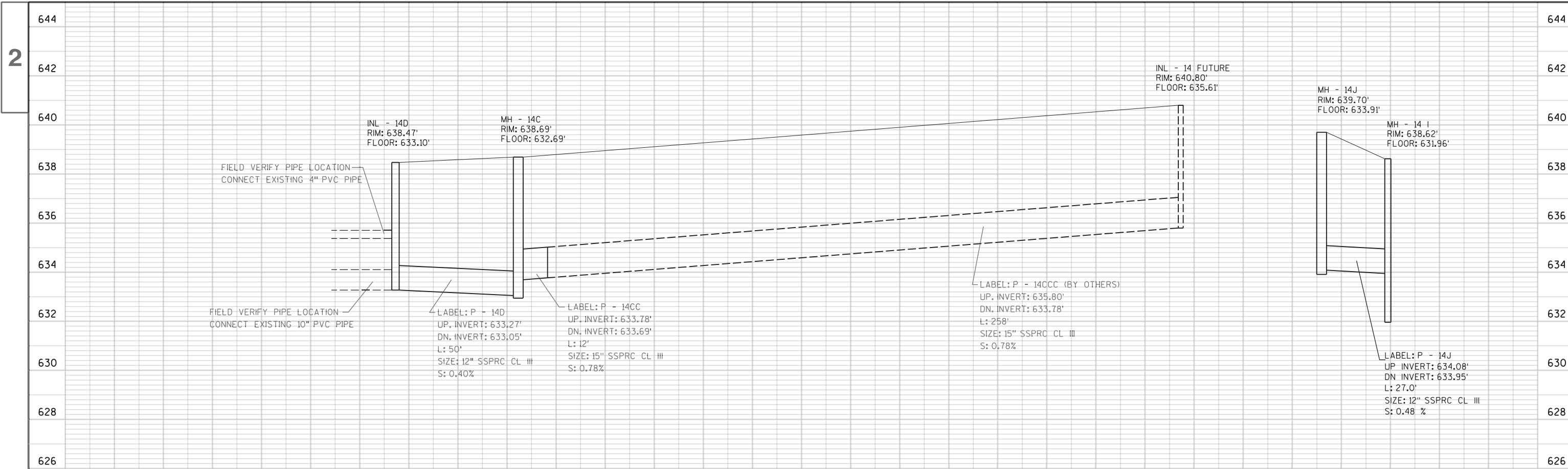
**BENCHMARK TABLE**

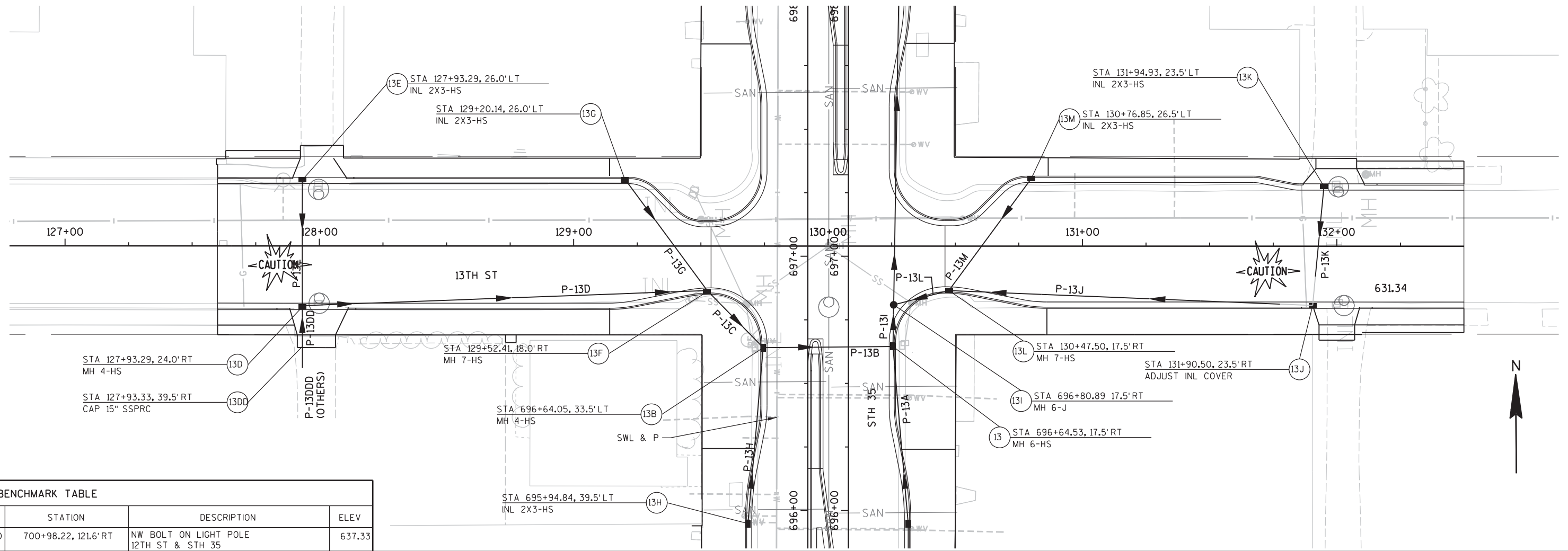
NO	STATION	DESCRIPTION	ELEV
120	693+15.42, 97.6' RT	SW BOLT ON LIGHT POLE 14TH ST & STH 35	639.71

**LEGEND**

AREAS OF SOIL CONTAMINATION WITHIN CONSTRUCTION LIMITS

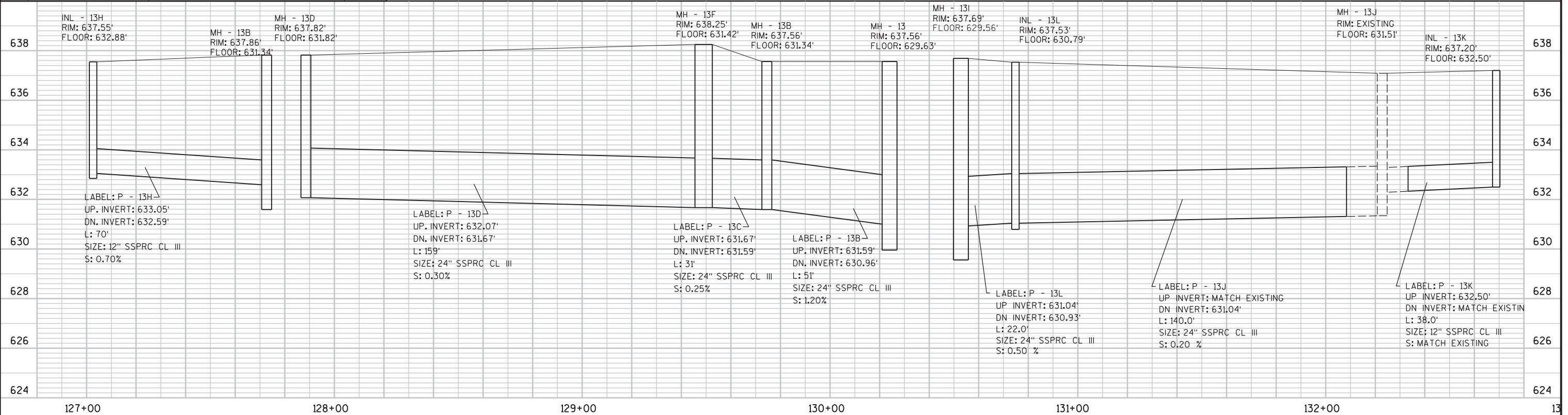


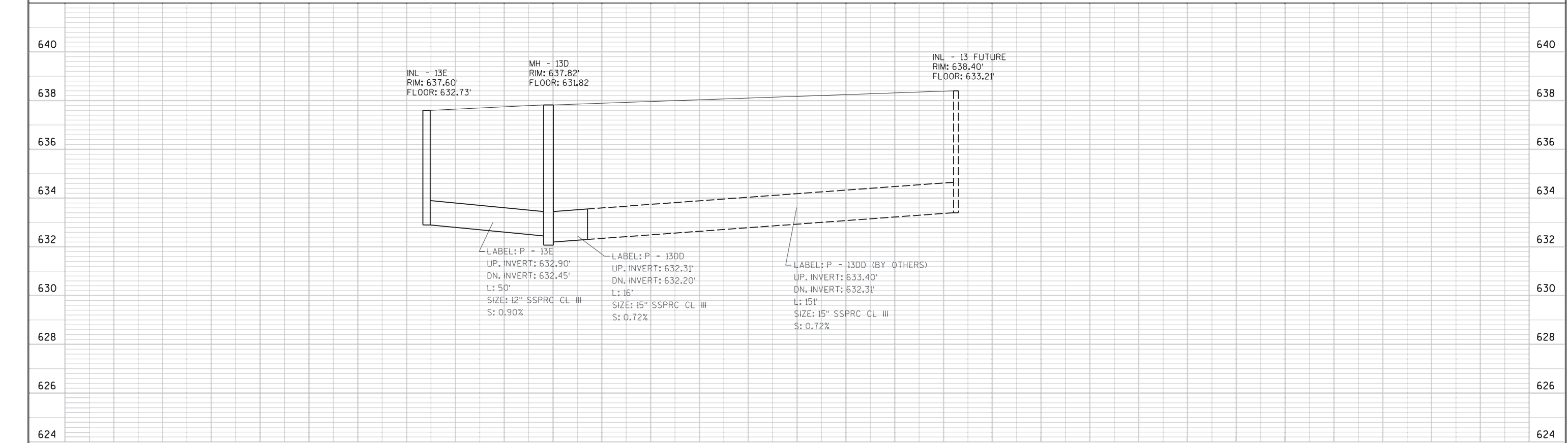
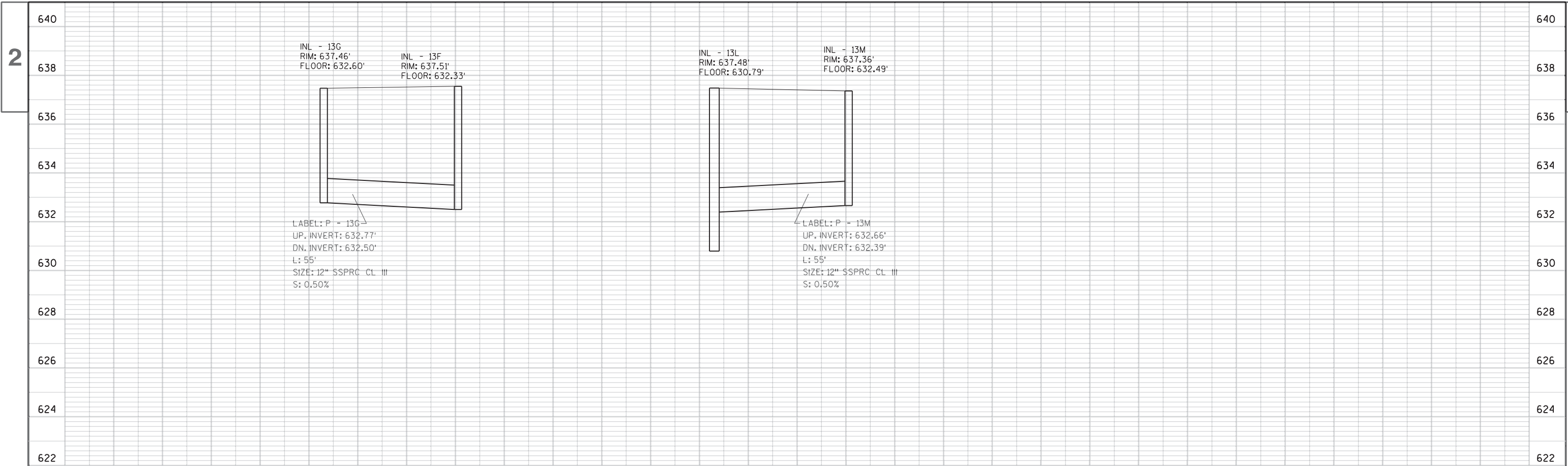


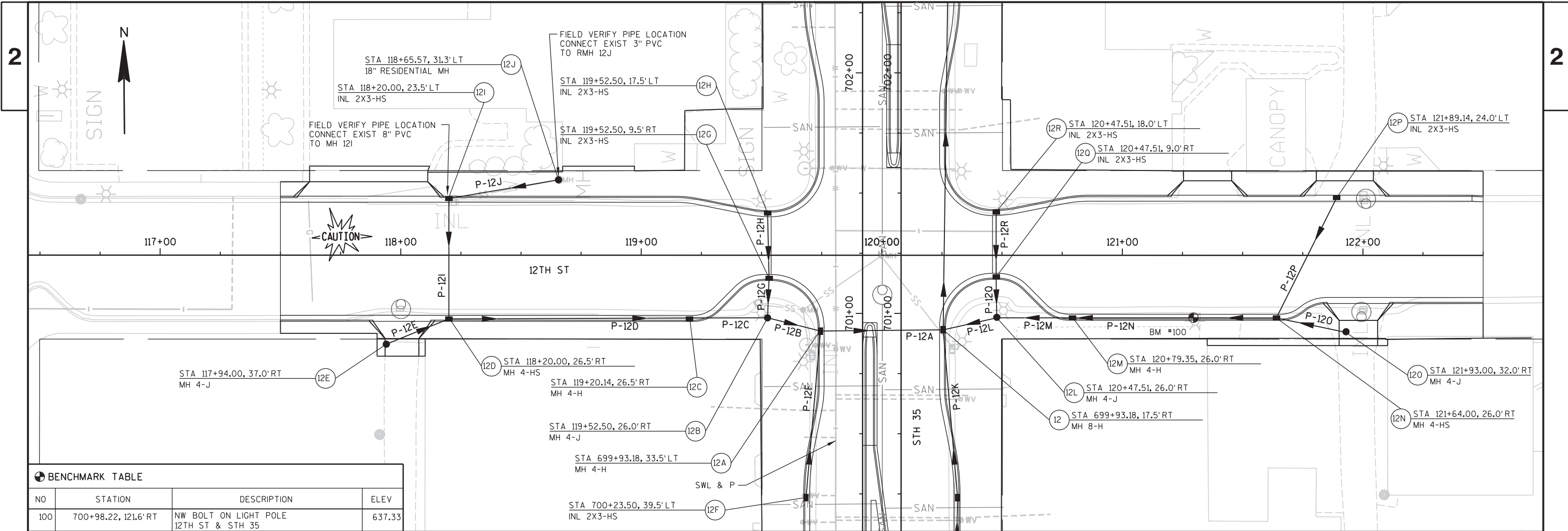


BENCHMARK TABLE

NO	STATION	DESCRIPTION	ELEV
100	700+98.22, 121.6' RT	NW BOLT ON LIGHT POLE 12TH ST & STH 35	637.33

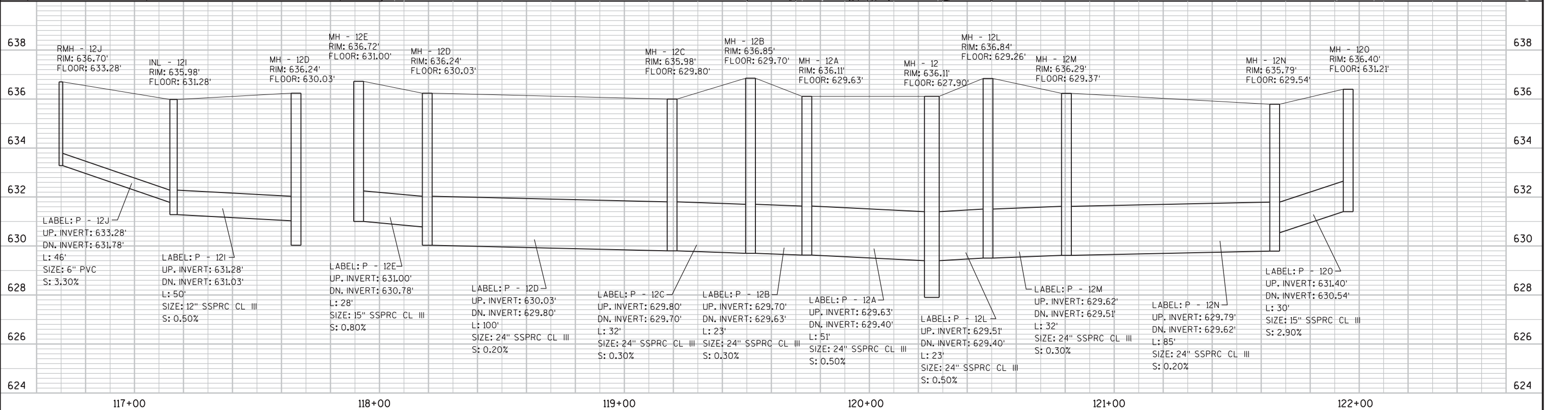




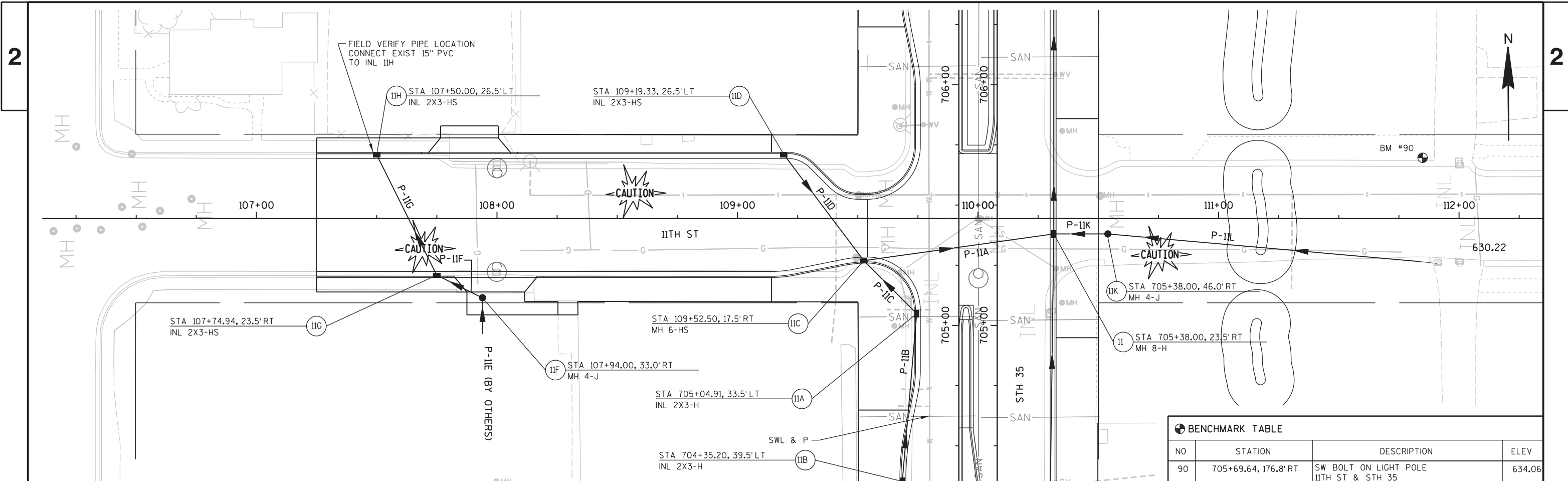


BENCHMARK TABLE

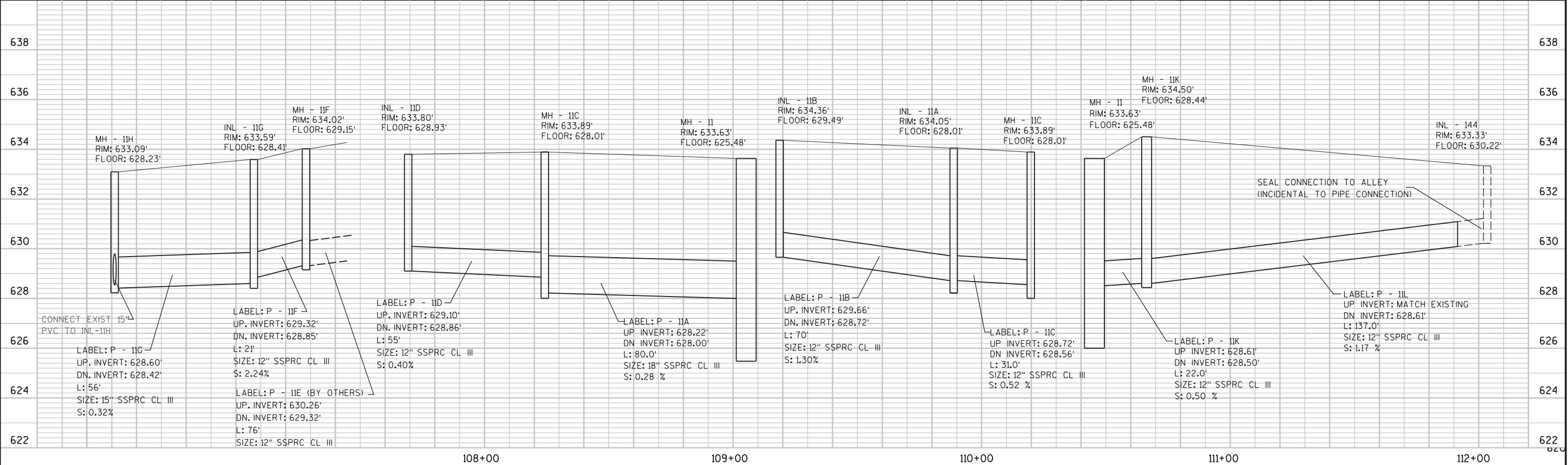
NO	STATION	DESCRIPTION	ELEV
100	700+98.22, 121.6' RT	NW BOLT ON LIGHT POLE 12TH ST & STH 35	637.33



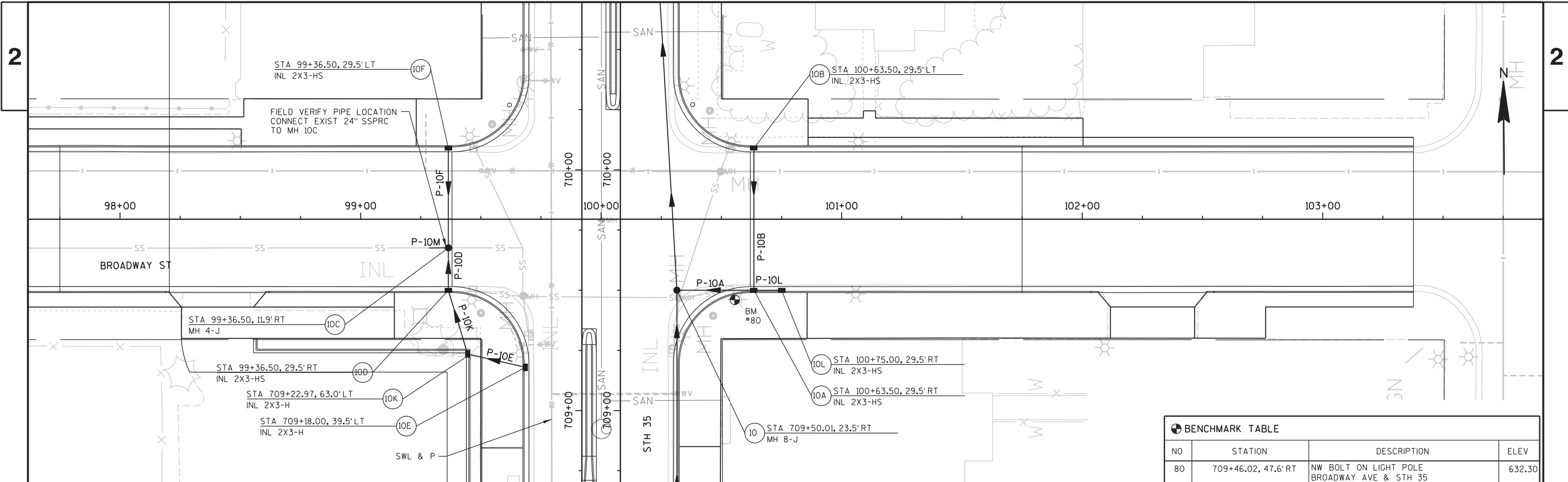




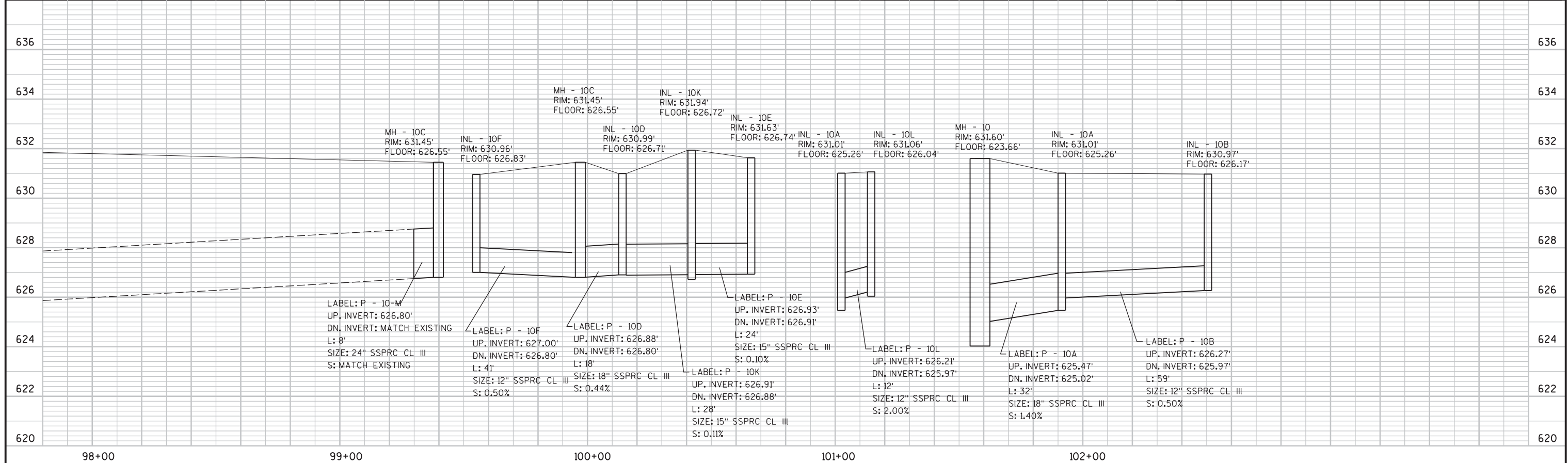
BENCHMARK TABLE			
NO	STATION	DESCRIPTION	ELEV
90	705+69.64, 176.8' RT	SW BOLT ON LIGHT POLE 11TH ST & STH 35	634.06







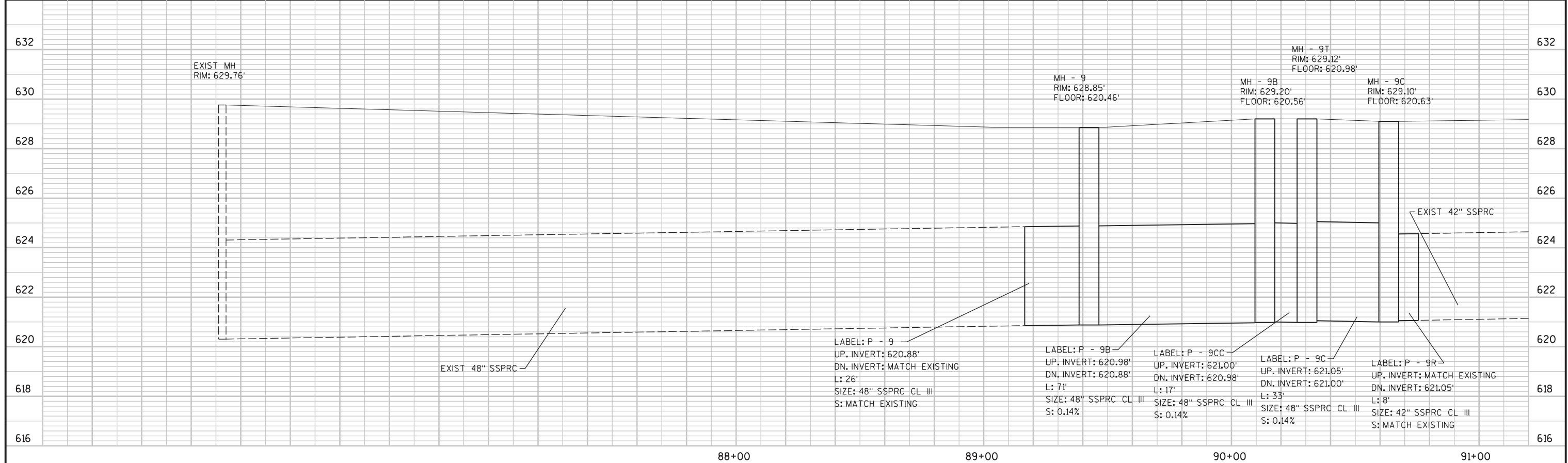
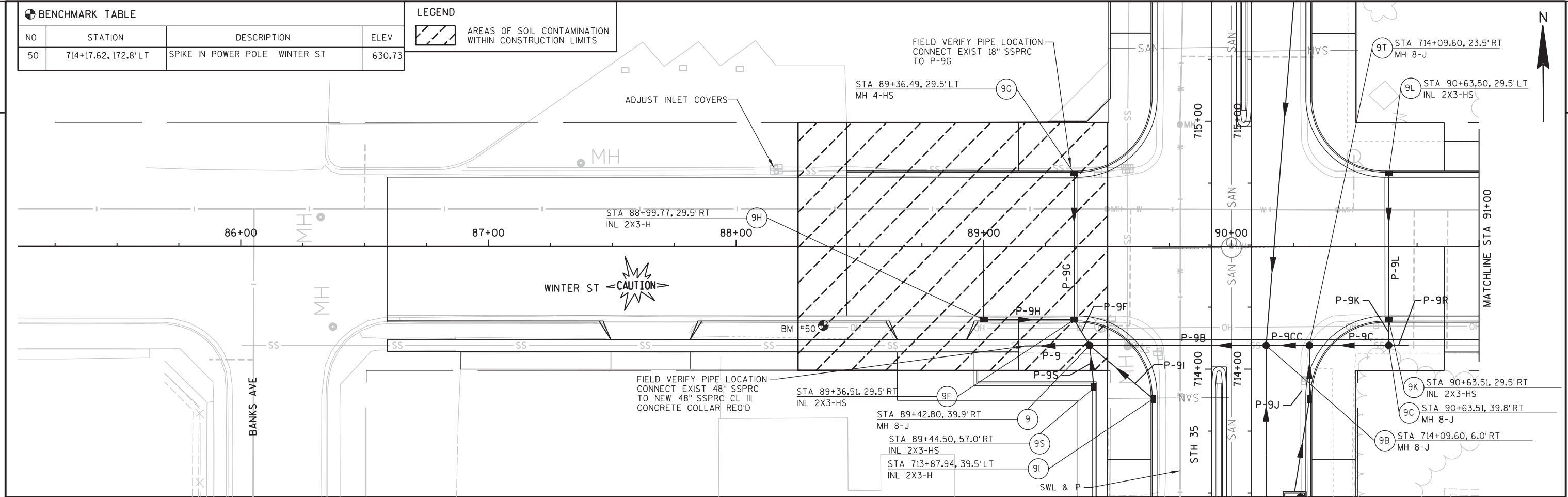
BENCHMARK TABLE			
NO	STATION	DESCRIPTION	ELEV
80	709+46.02, 47.6' RT	NW BOLT ON LIGHT POLE BROADWAY AVE & STH 35	632.30

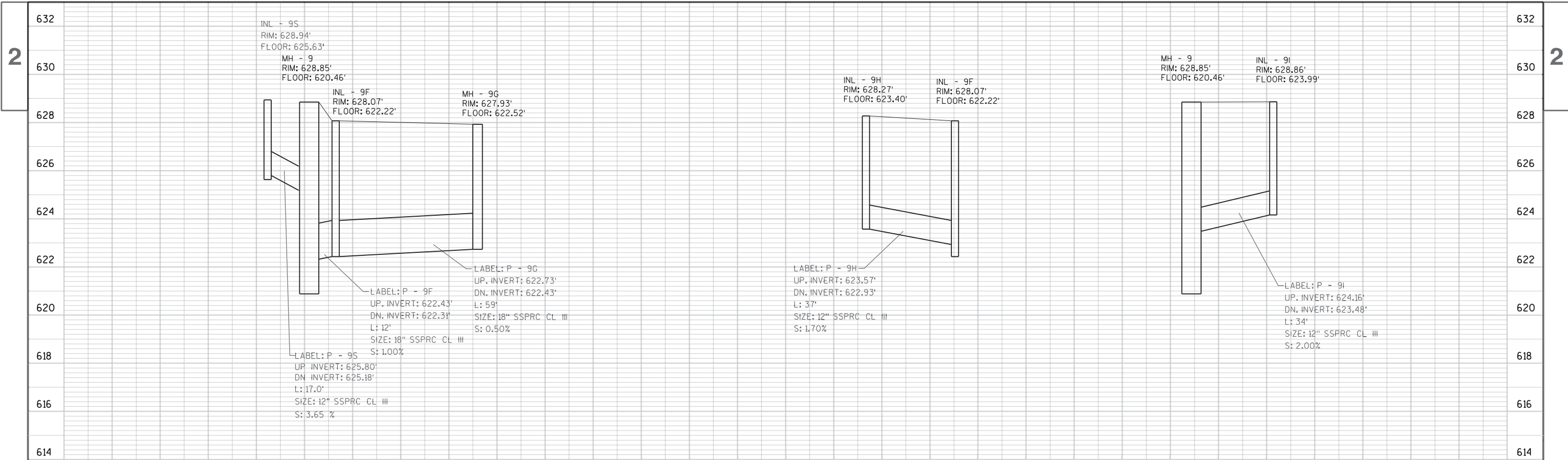


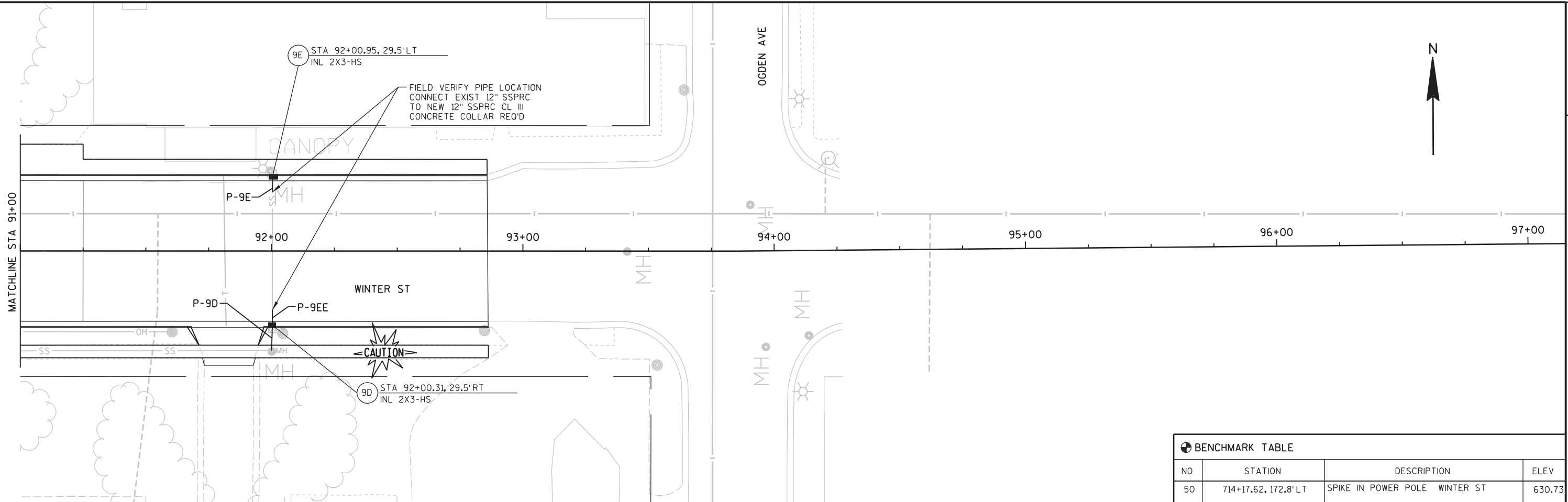
BENCHMARK TABLE			
NO	STATION	DESCRIPTION	ELEV
50	714+17.62, 172.8' LT	SPIKE IN POWER POLE WINTER ST	630.73

**LEGEND**

 AREAS OF SOIL CONTAMINATION WITHIN CONSTRUCTION LIMITS

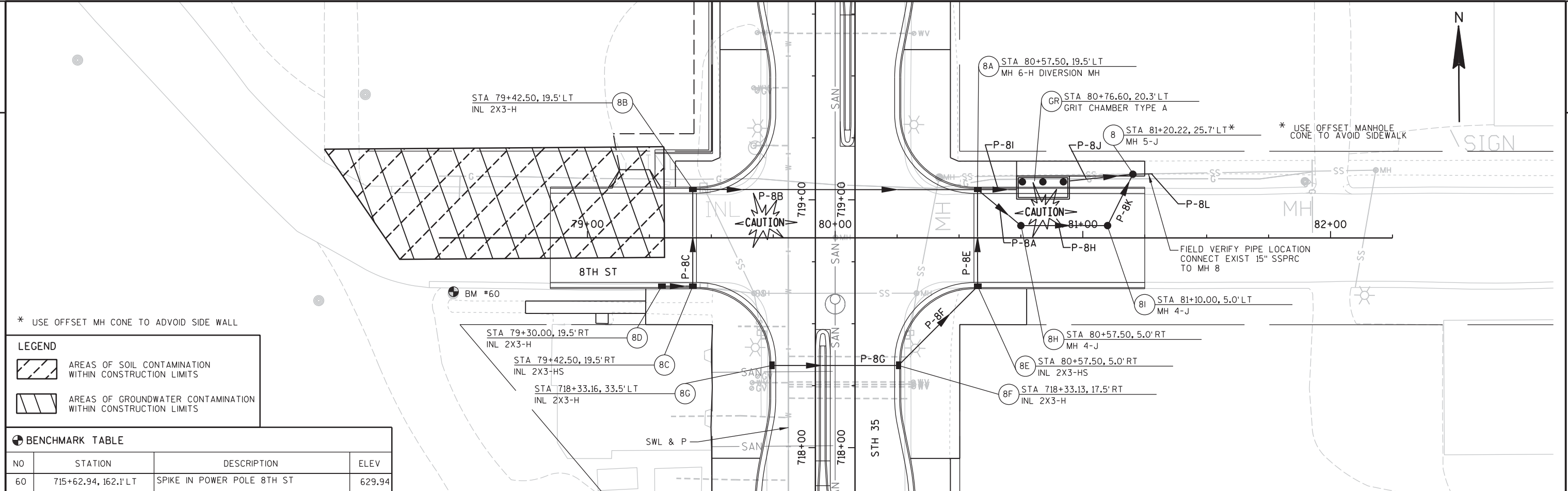






BENCHMARK TABLE			
NO	STATION	DESCRIPTION	ELEV
50	714+17.62, 172.8' LT	SPIKE IN POWER POLE WINTER ST	630.73





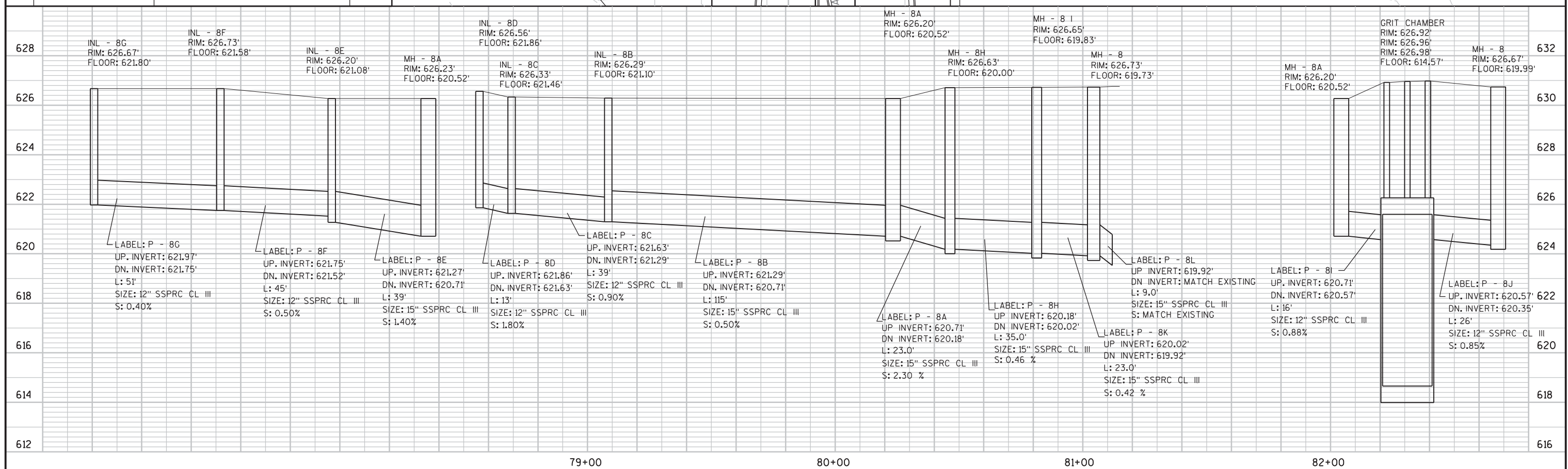
**LEGEND**

AREAS OF SOIL CONTAMINATION WITHIN CONSTRUCTION LIMITS

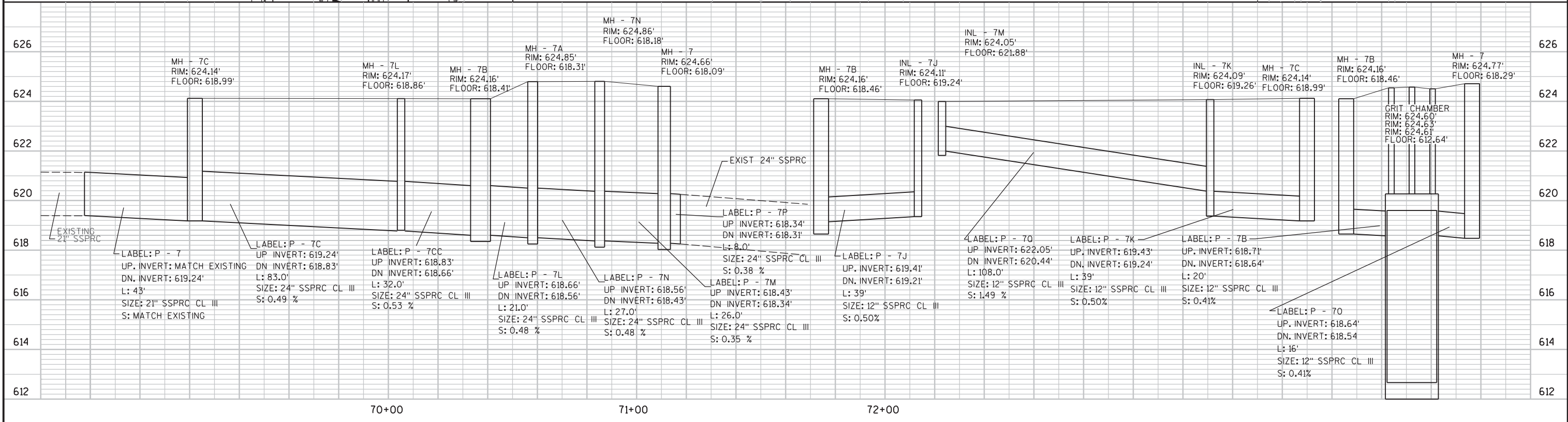
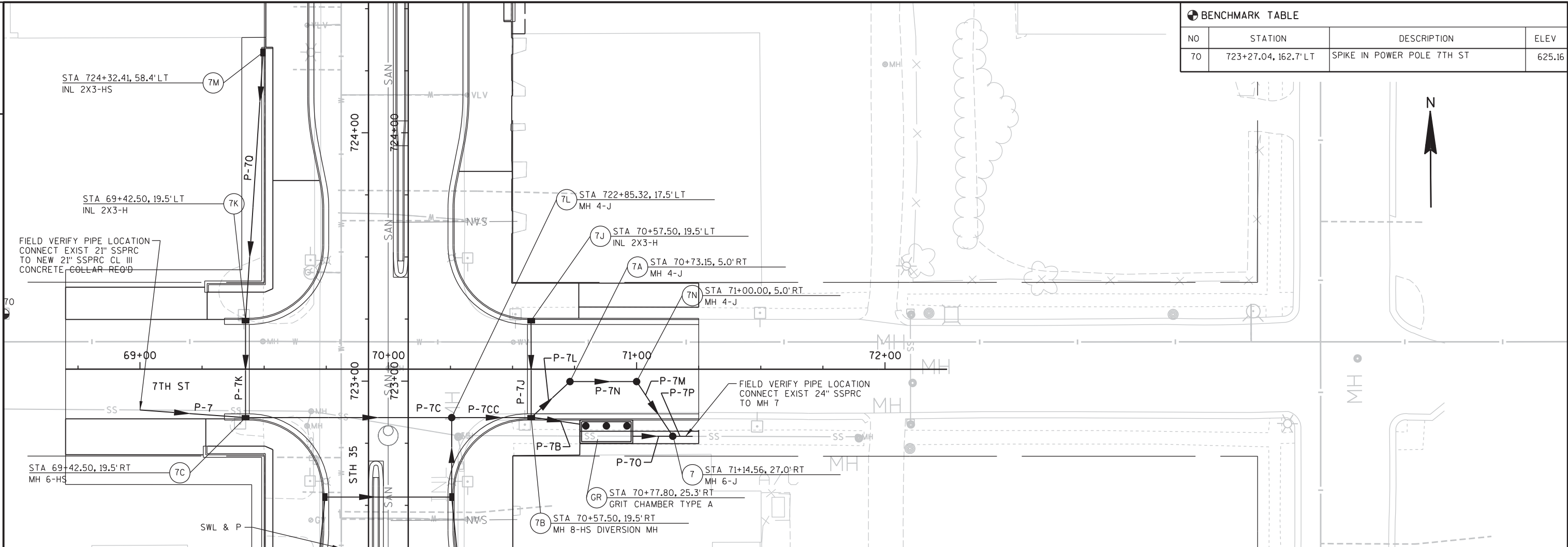
AREAS OF GROUNDWATER CONTAMINATION WITHIN CONSTRUCTION LIMITS

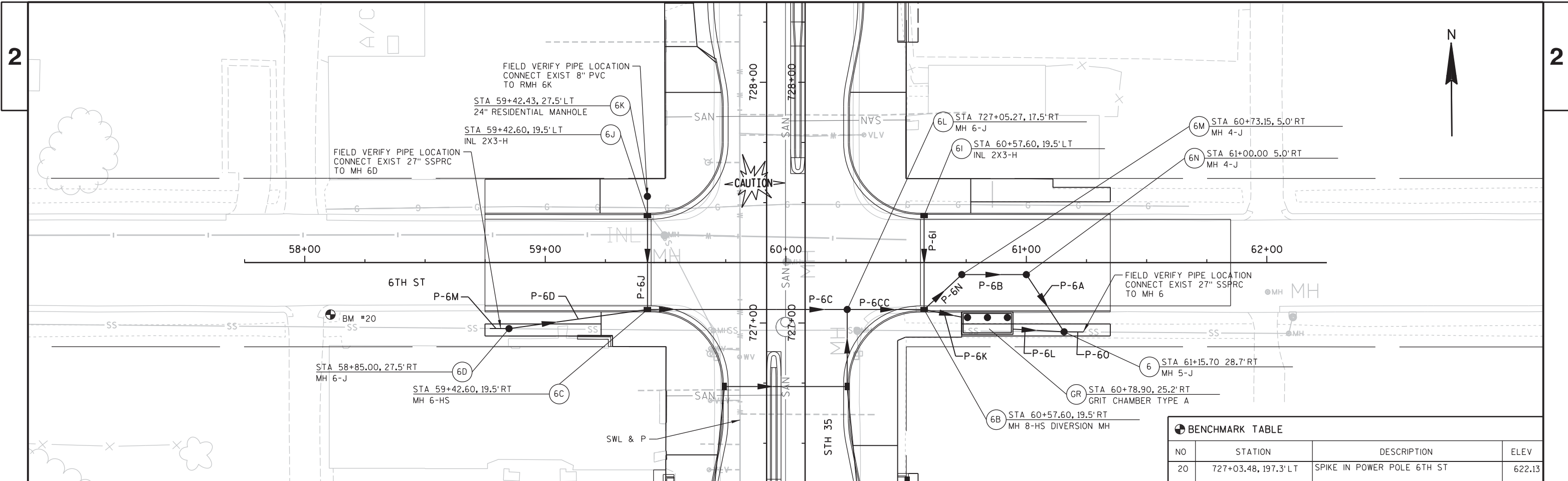
**BENCHMARK TABLE**

NO	STATION	DESCRIPTION	ELEV
60	715+62.94, 162.1'LT	SPIKE IN POWER POLE 8TH ST	629.94

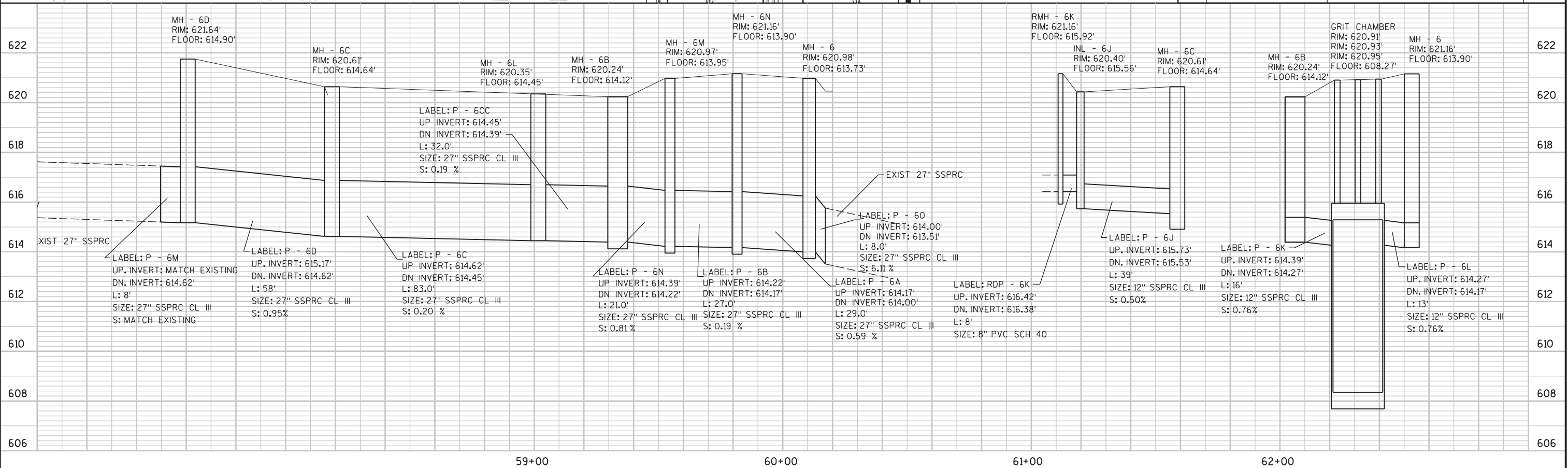


BENCHMARK TABLE			
NO	STATION	DESCRIPTION	ELEV
70	723+27.04, 162.7' LT	SPIKE IN POWER POLE 7TH ST	625.16





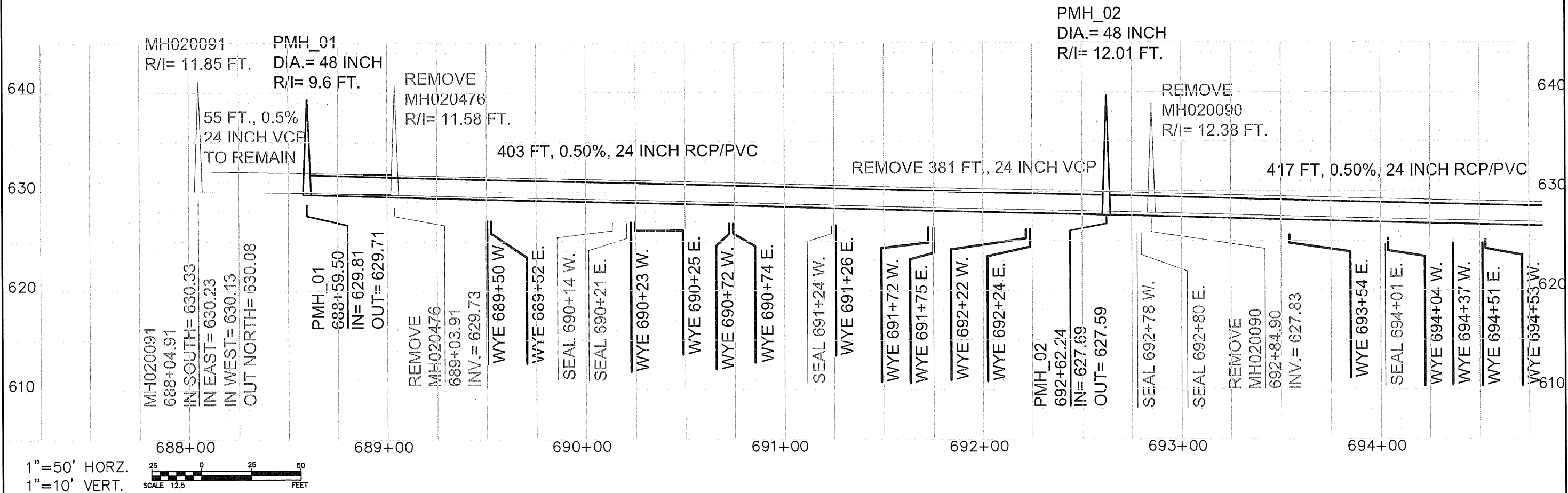
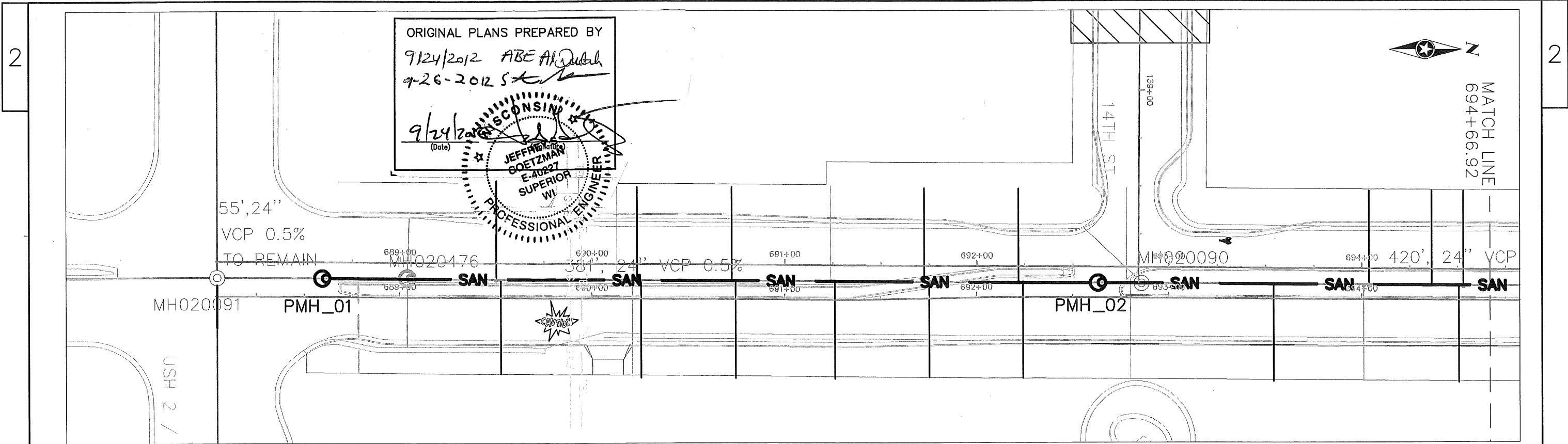
BENCHMARK TABLE			
NO	STATION	DESCRIPTION	ELEV
20	727+03.48, 197.3' LT	SPIKE IN POWER POLE 6TH ST	622.13

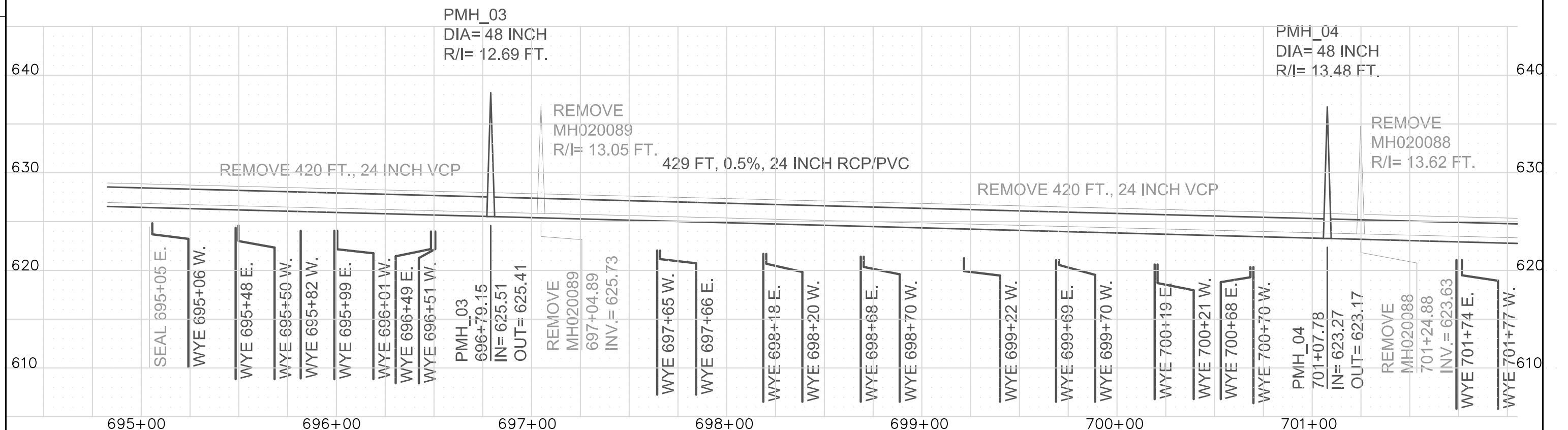
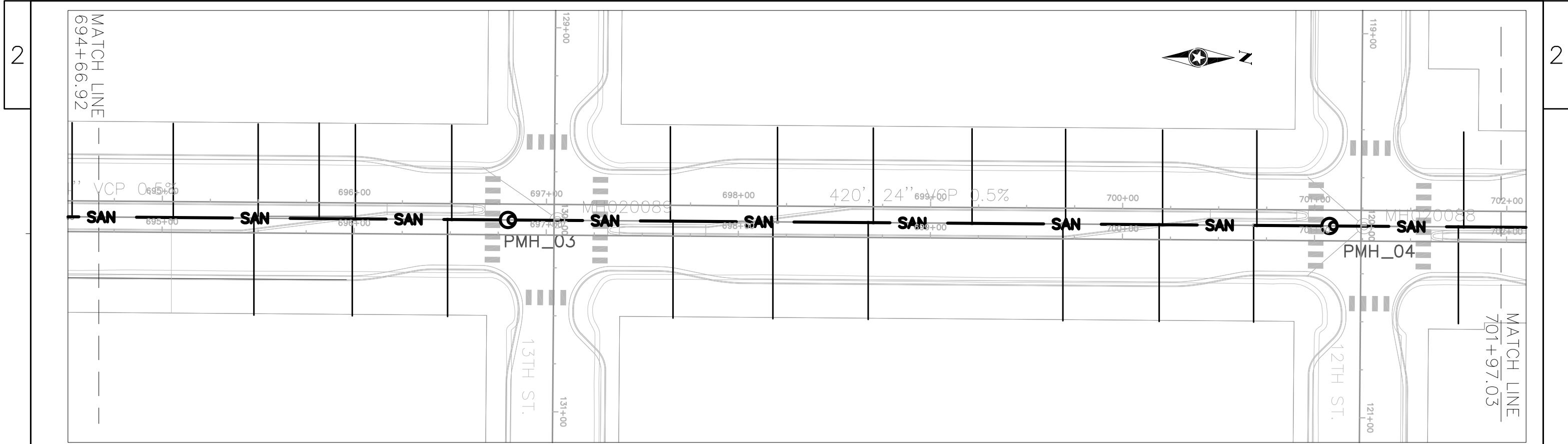






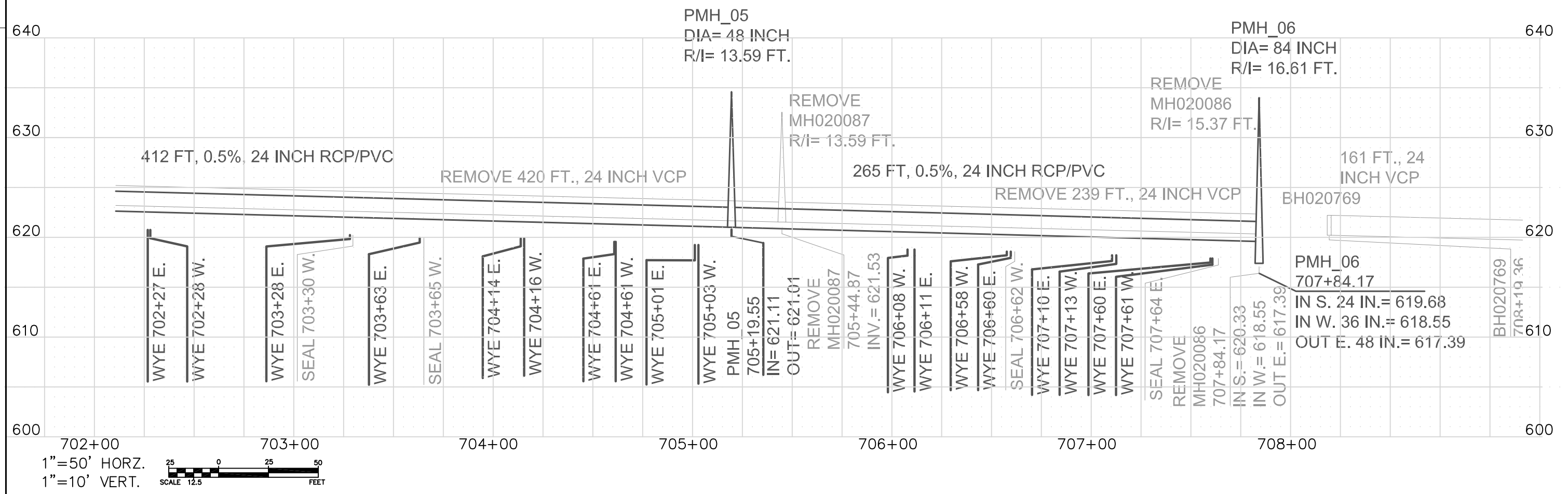
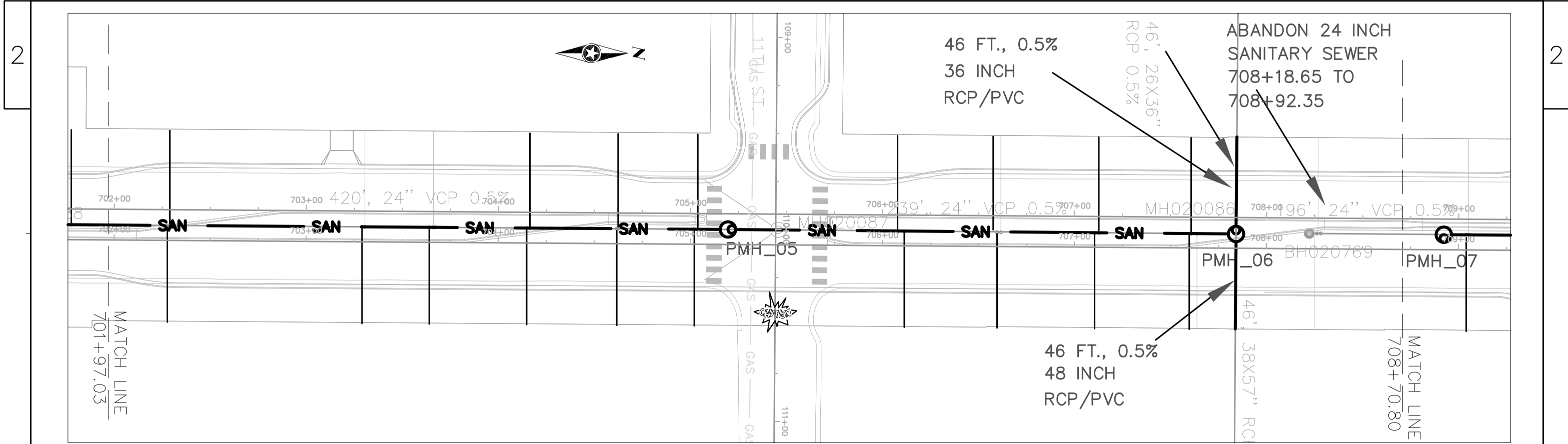


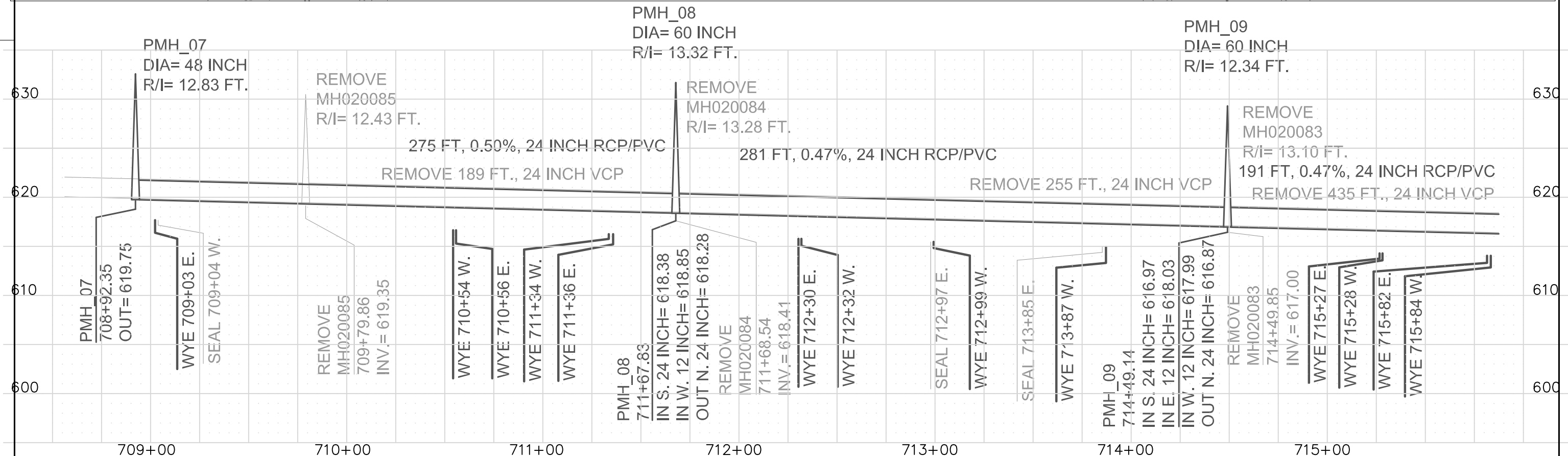
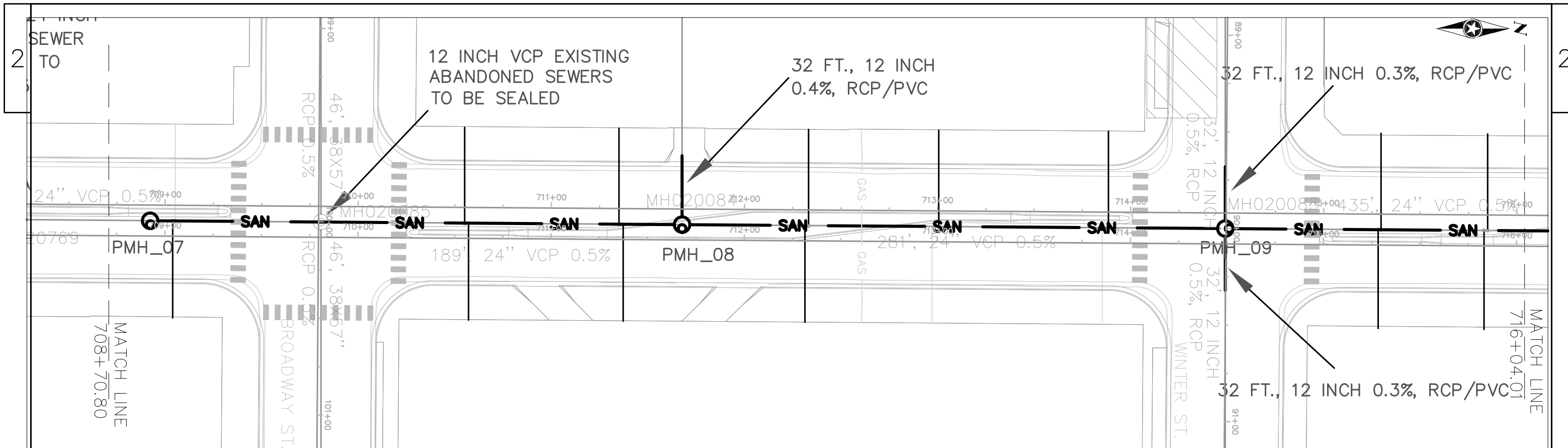




1"=50' HORZ.  
1"=10' VERT.

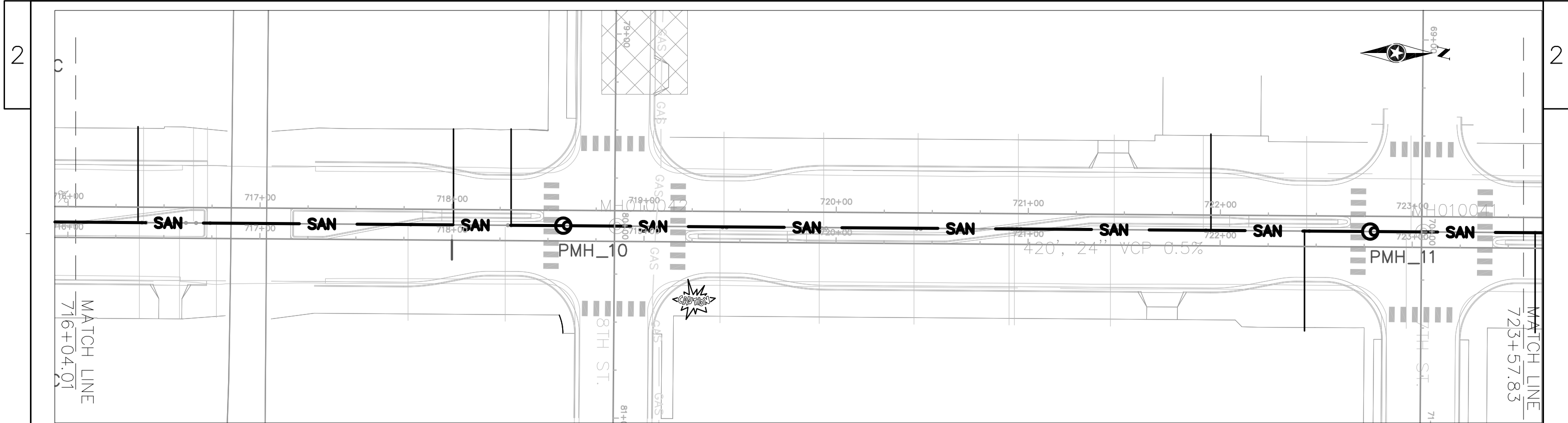
SCALE 12.5 FEET





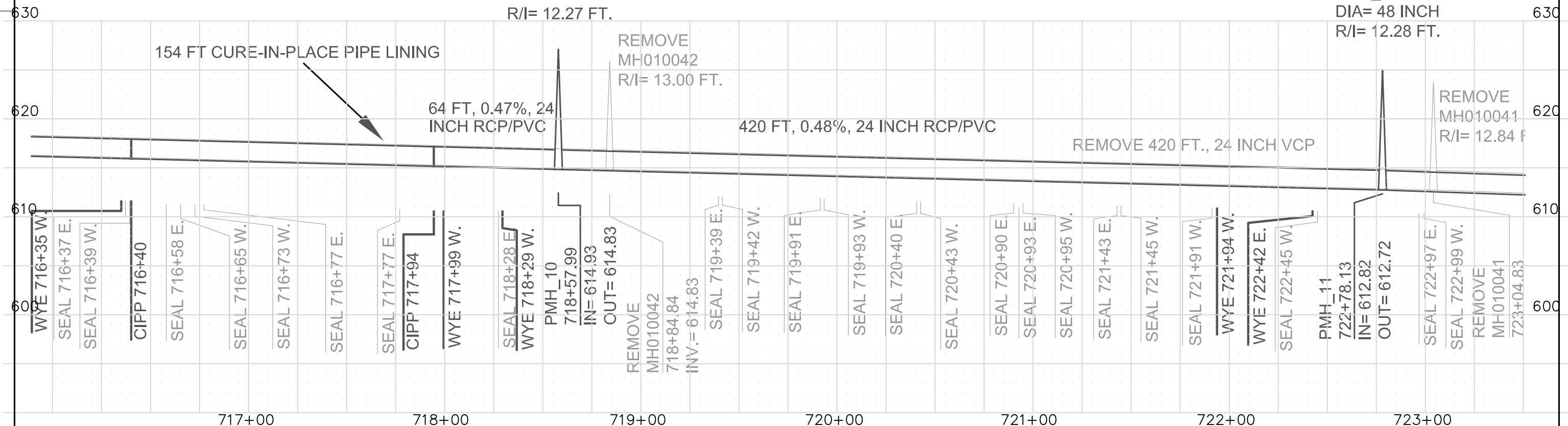
1"=50' HORZ.  
1"=10' VERT.

SCALE 12.5 FEET



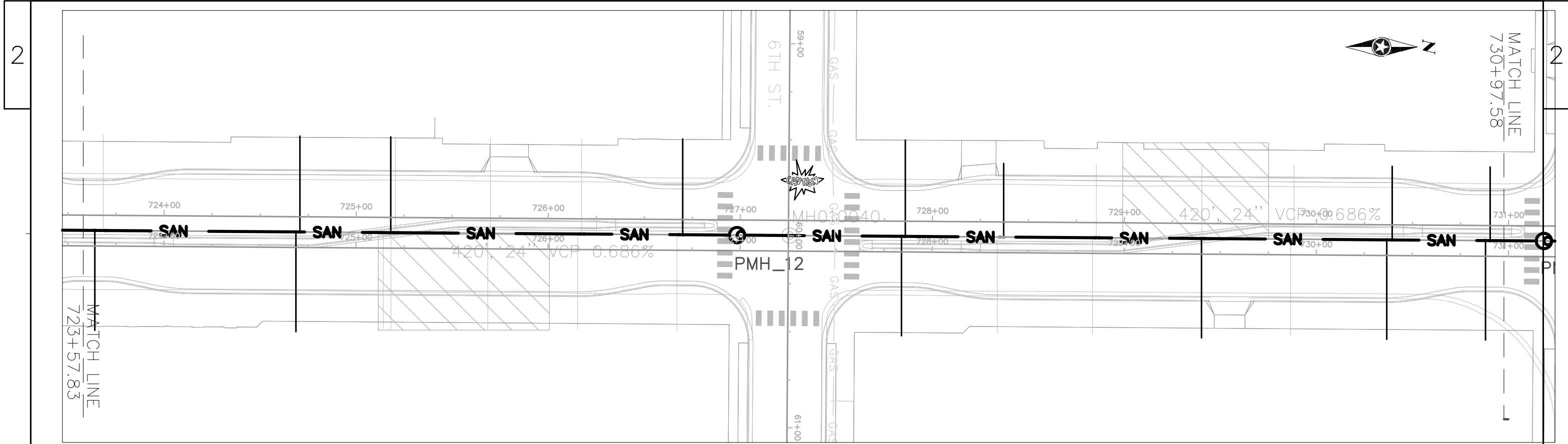
PMH\_10  
DIA= 48 INCH  
R/I= 12.27 FT.

PMH\_11  
DIA= 48 INCH  
R/I= 12.28 FT.

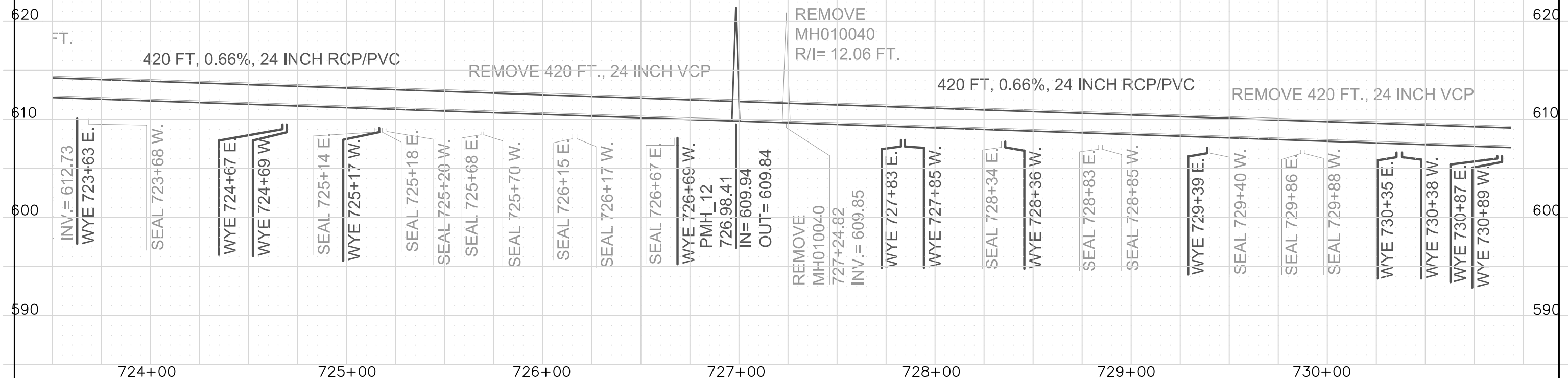


1"=50' HORZ.  
1"=10' VERT.

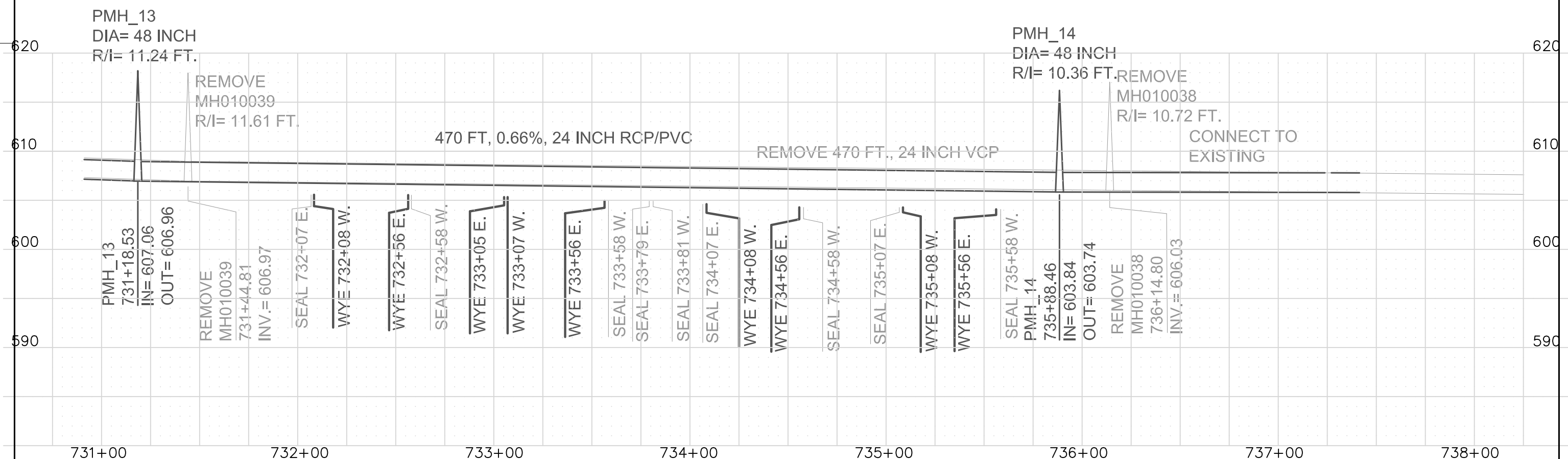
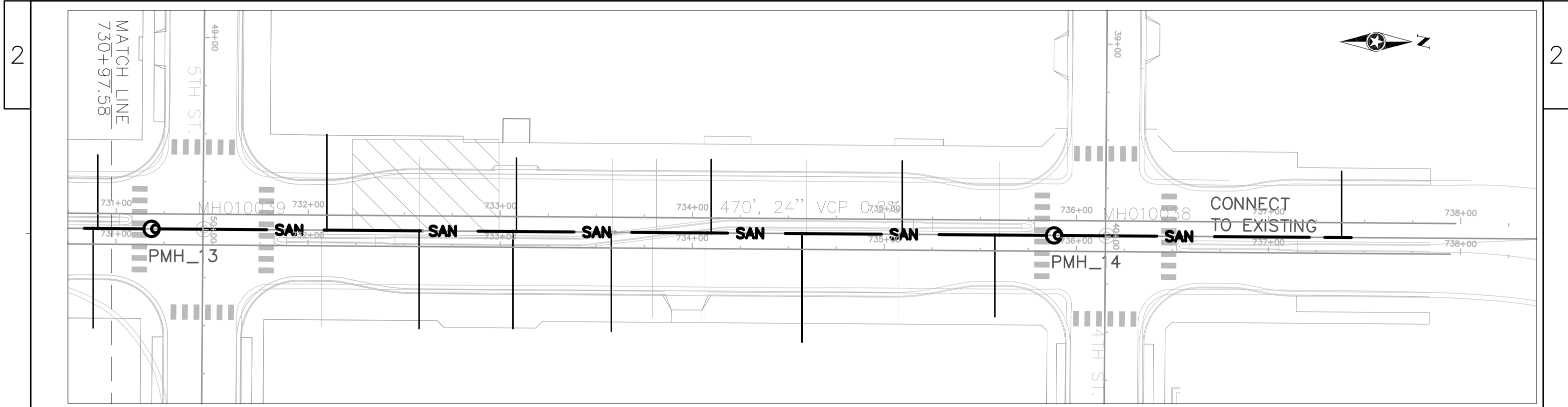




PMH\_12  
DIA= 48 INCH  
R/I= 11.56 FT.



1"=50' HORZ.  
1"=10' VERT.  
SCALE 12.5 FEET

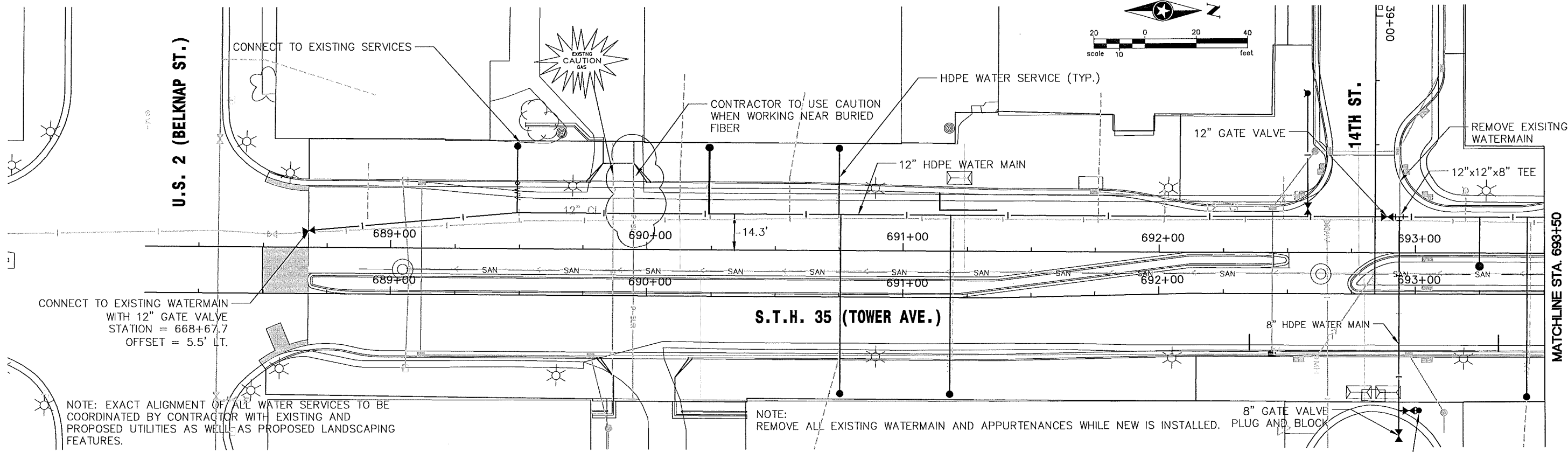


1"=50' HORZ.  
1"=10' VERT.

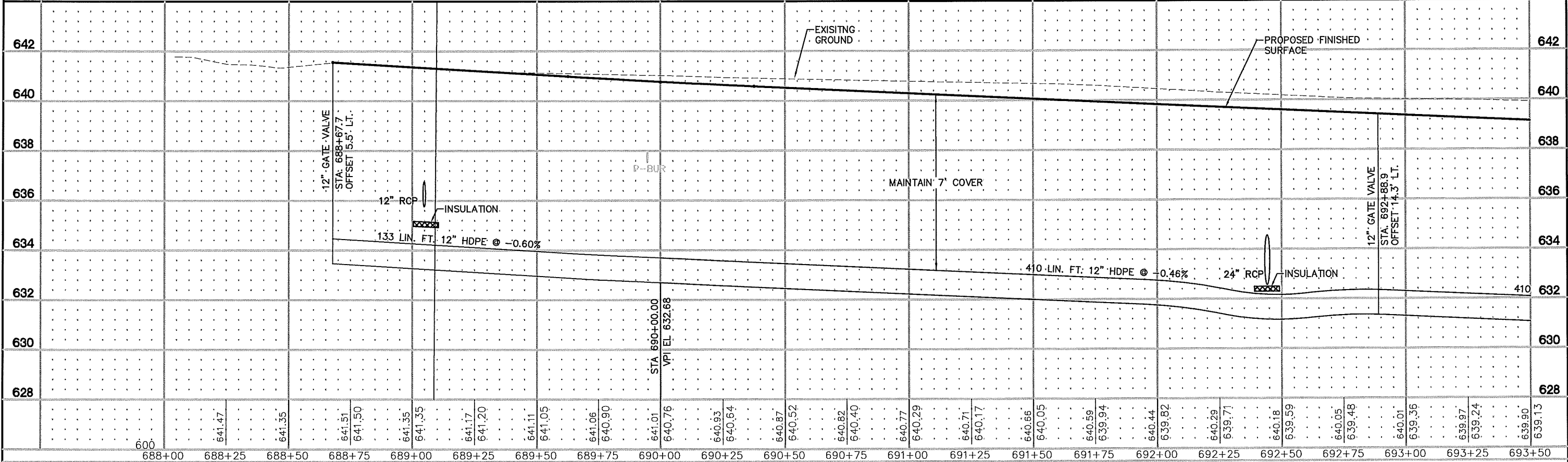
SCALE 12.5

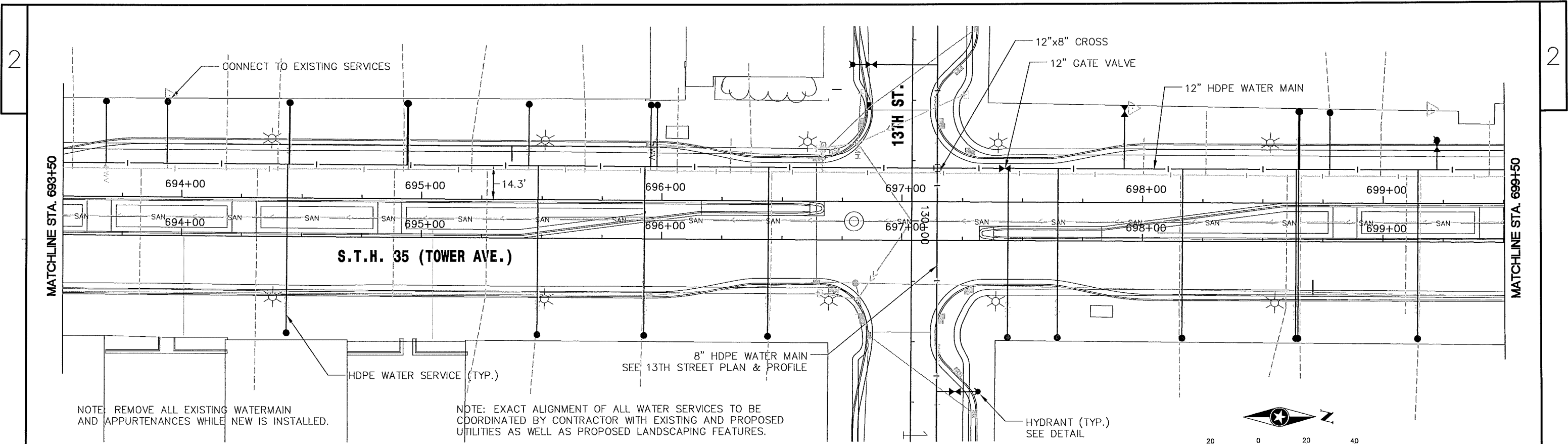
0 25 50  
FEET



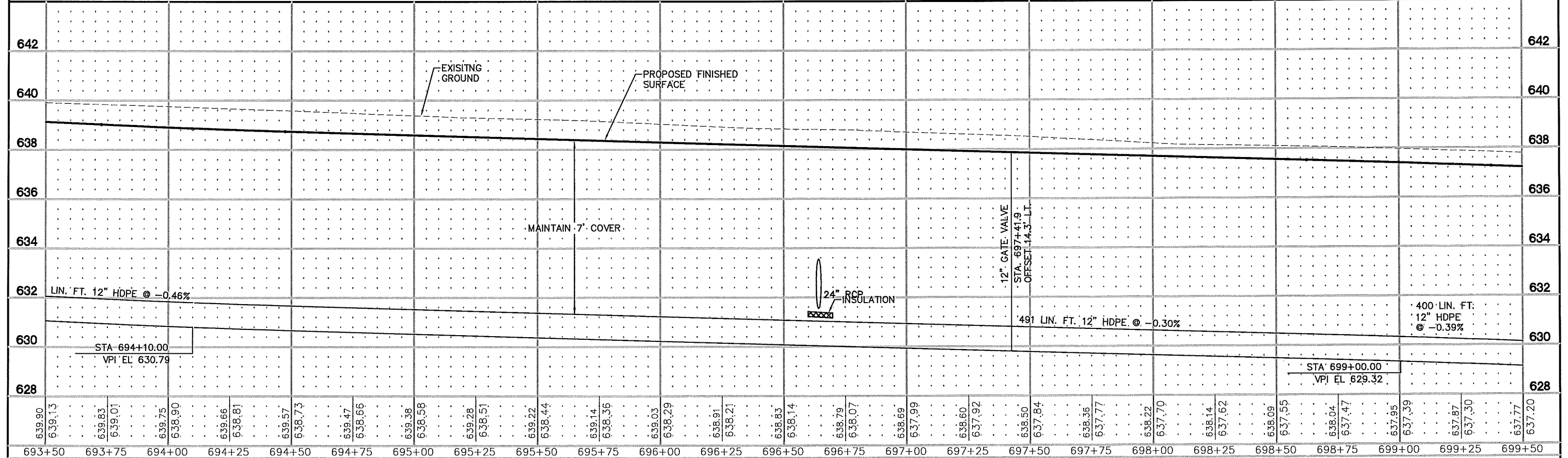


### STH 35 (TOWER AVE.)

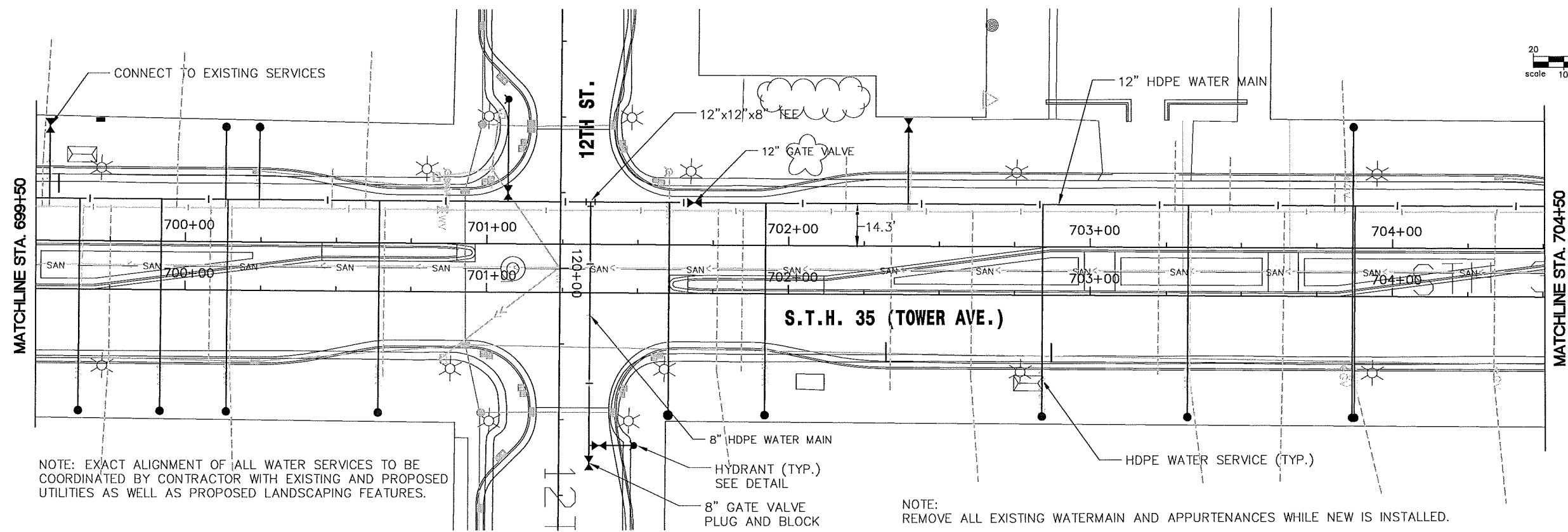




### STH 35 (TOWER AVE.)



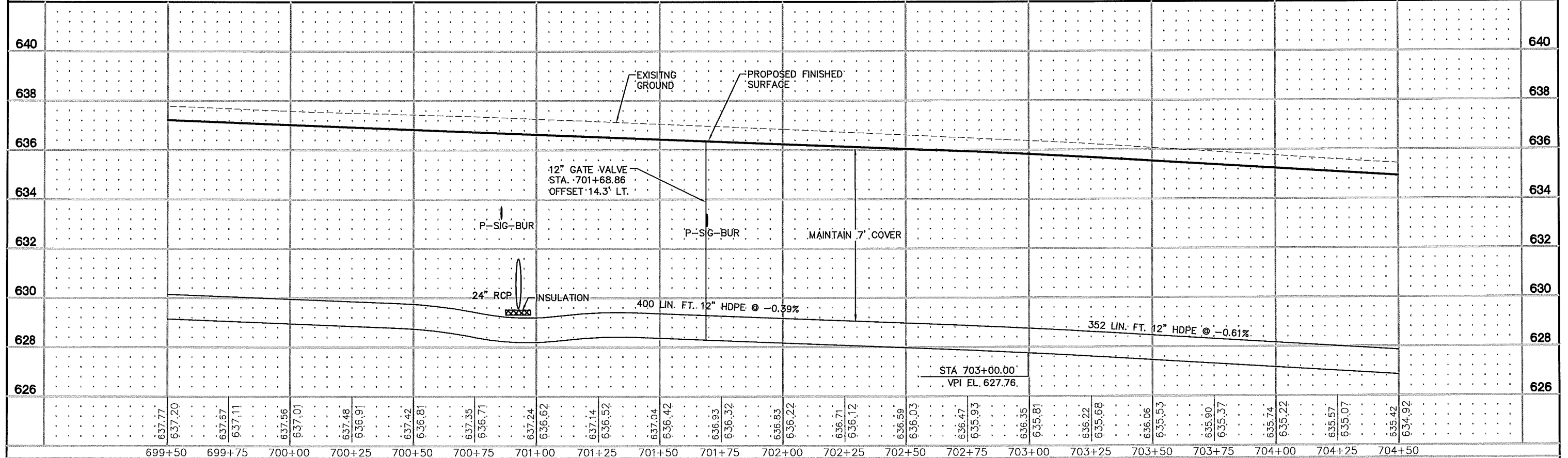
PROJECT NO: 1195-13-72	HWY: STH 35 (TOWER AVENUE)	COUNTY: DOUGLAS	WATER PLAN AND PROFILE	SHEET	E
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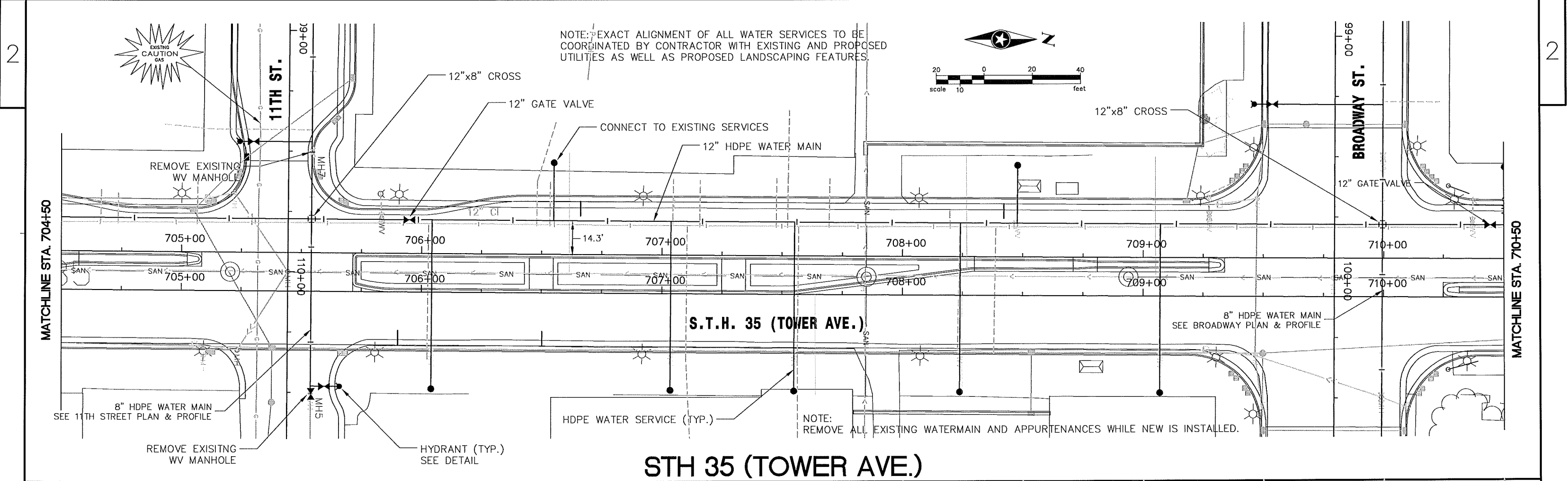


NOTE: EXACT ALIGNMENT OF ALL WATER SERVICES TO BE COORDINATED BY CONTRACTOR WITH EXISTING AND PROPOSED UTILITIES AS WELL AS PROPOSED LANDSCAPING FEATURES.

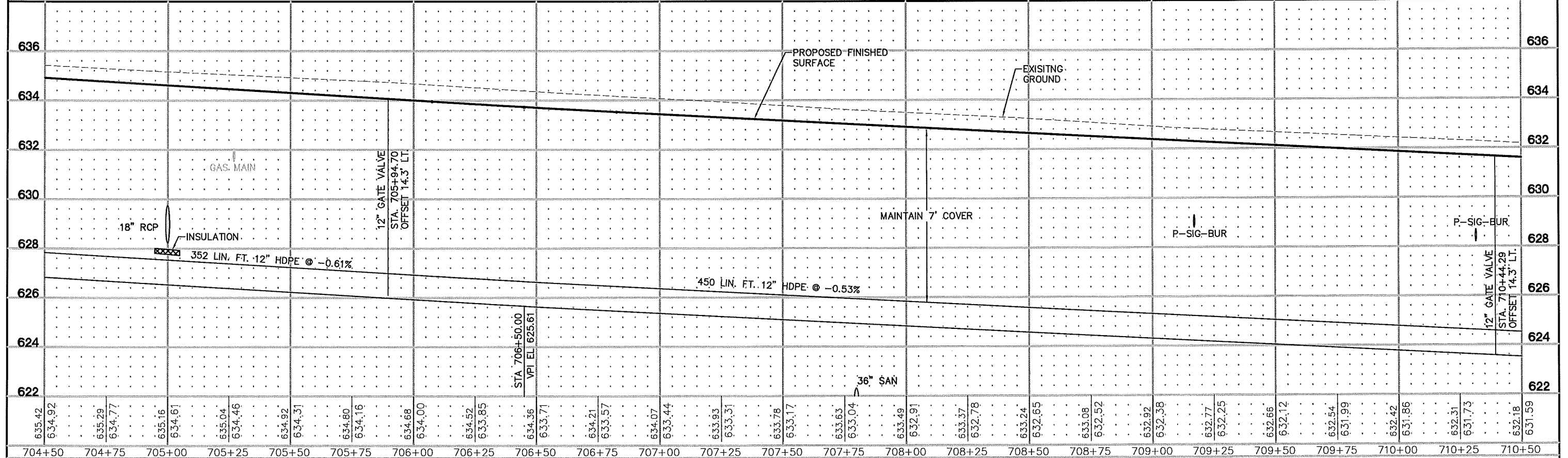
NOTE: REMOVE ALL EXISTING WATERMAIN AND APPURTENANCES WHILE NEW IS INSTALLED.

### STH 35 (TOWER AVE.)

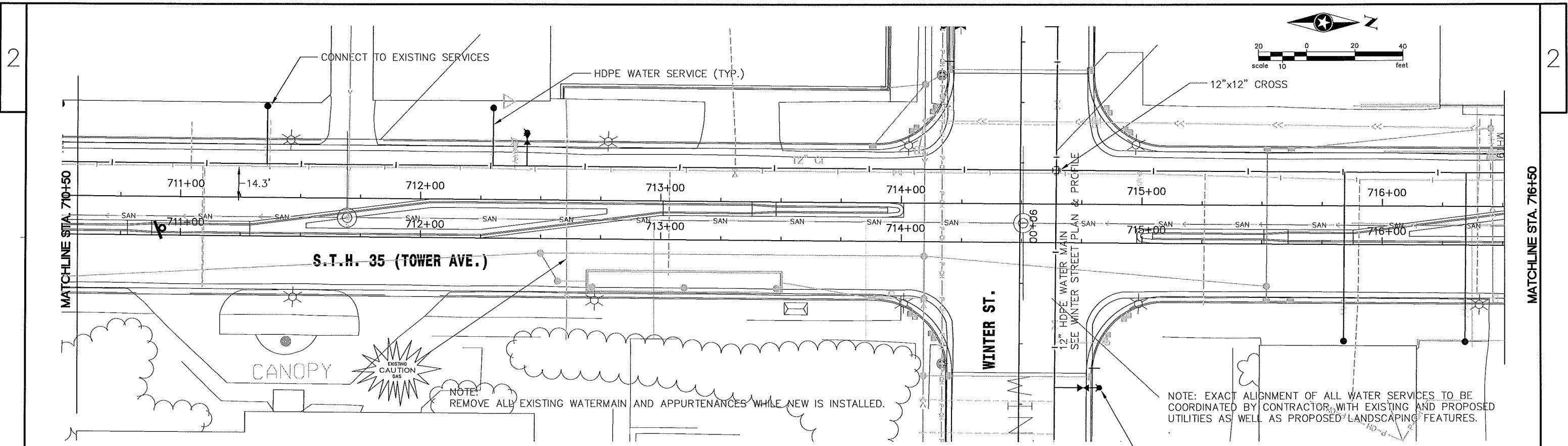




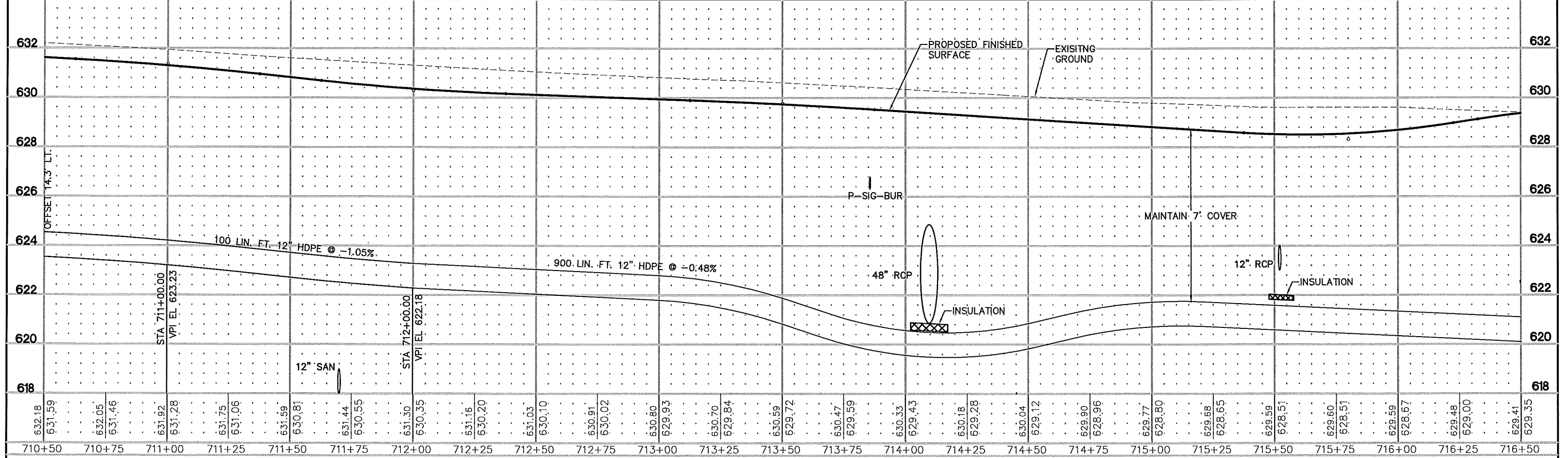
### STH 35 (TOWER AVE.)



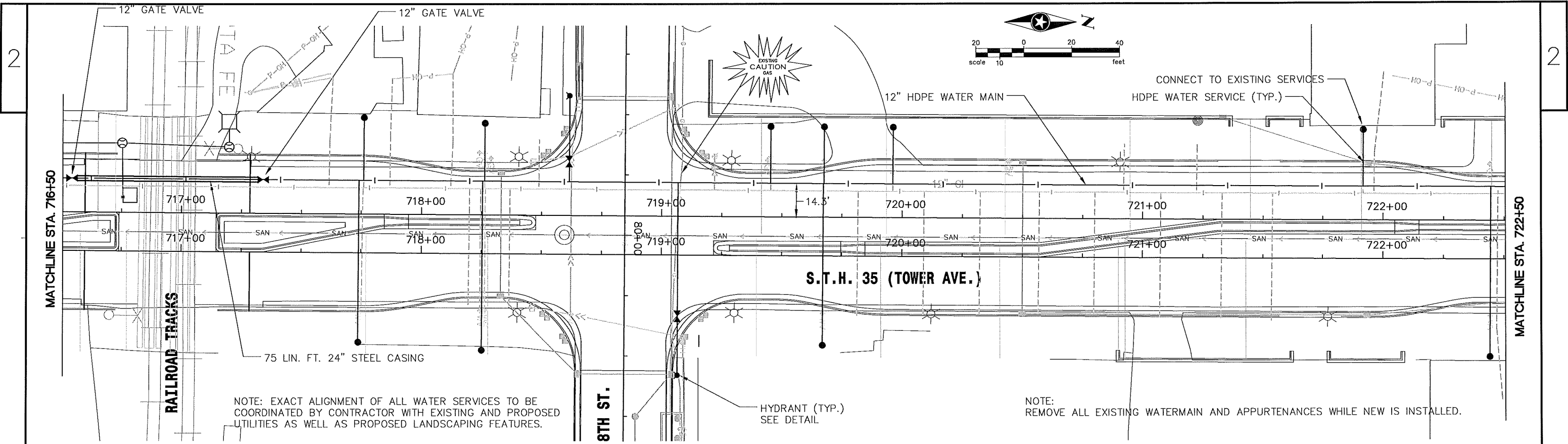
PROJECT NO: 1195-13-72      HWY: STH 35 (TOWER AVENUE)      COUNTY: DOUGLAS      WATER PLAN AND PROFILE      SHEET      E



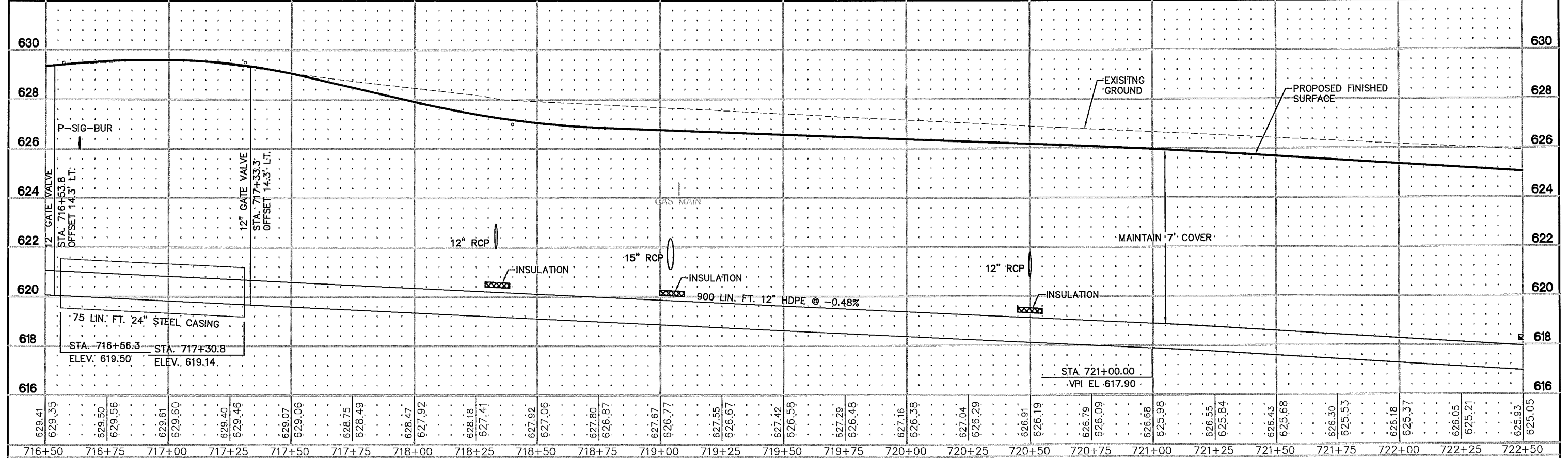
### STH 35 (TOWER AVE.)



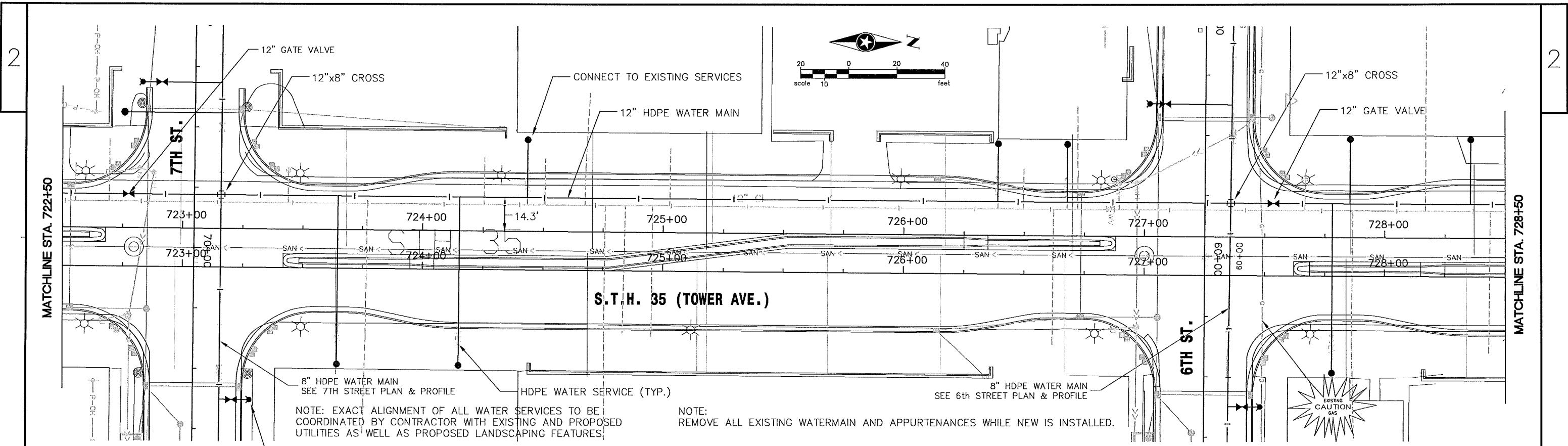
PROJECT NO: 1195-13-72	HWY: STH 35 (TOWER AVENUE)	COUNTY: DOUGLAS	WATER PLAN AND PROFILE	SHEET	E
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### STH 35 (TOWER AVE.)



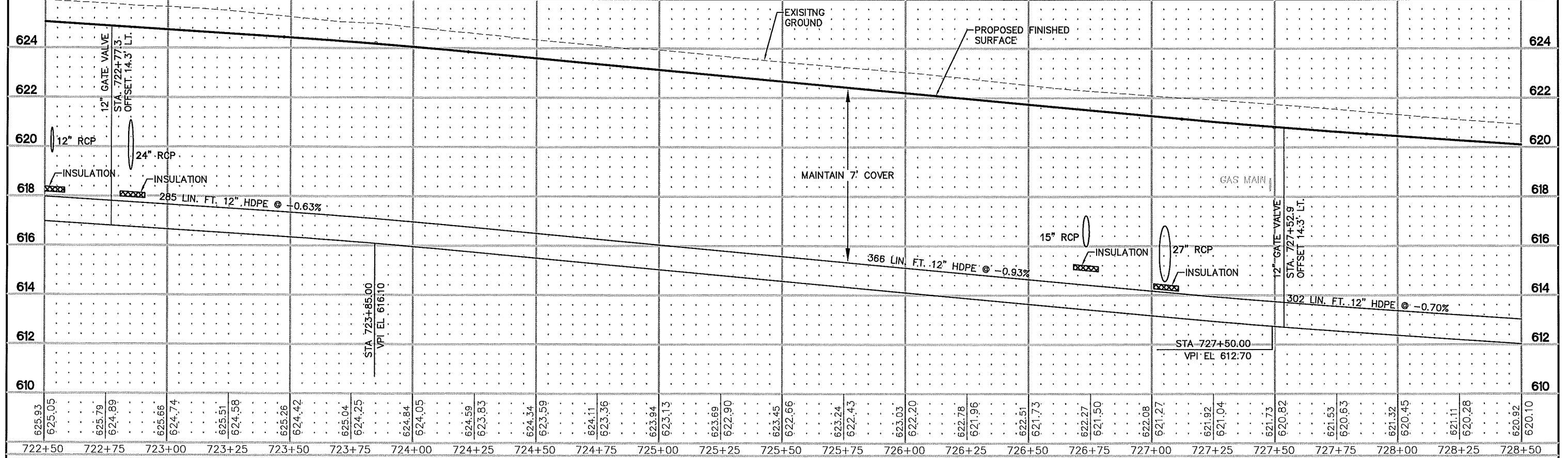
PROJECT NO: 1195-13-72	HWY: STH 35 (TOWER AVENUE)	COUNTY: DOUGLAS	WATER PLAN AND PROFILE	SHEET	E
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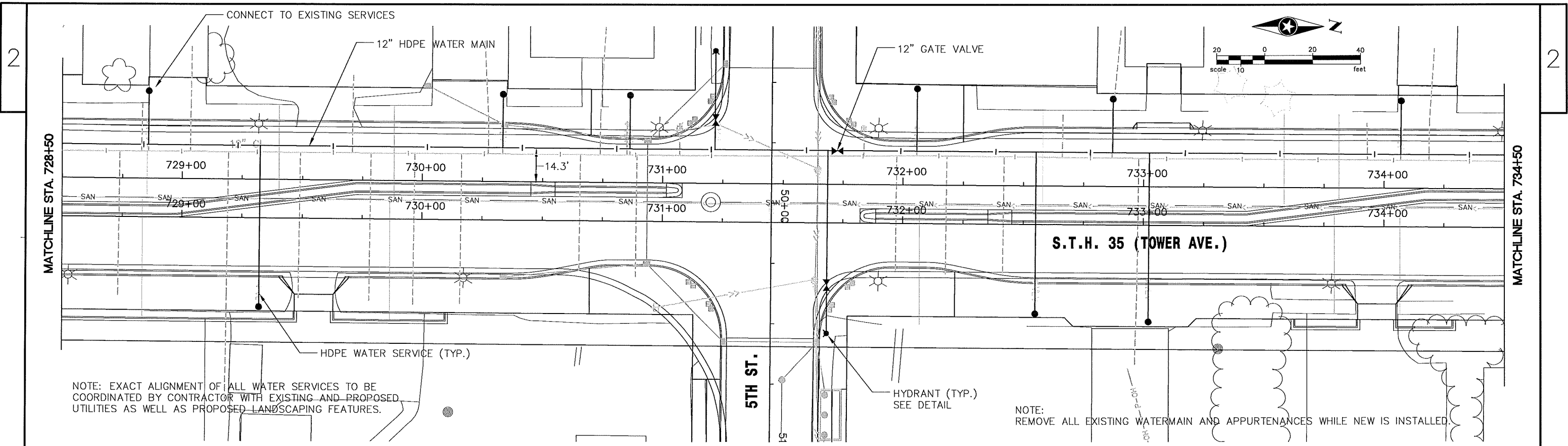
NOTE: EXACT ALIGNMENT OF ALL WATER SERVICES TO BE COORDINATED BY CONTRACTOR WITH EXISTING AND PROPOSED UTILITIES AS WELL AS PROPOSED LANDSCAPING FEATURES.

NOTE: REMOVE ALL EXISTING WATERMAIN AND APPURTENANCES WHILE NEW IS INSTALLED.

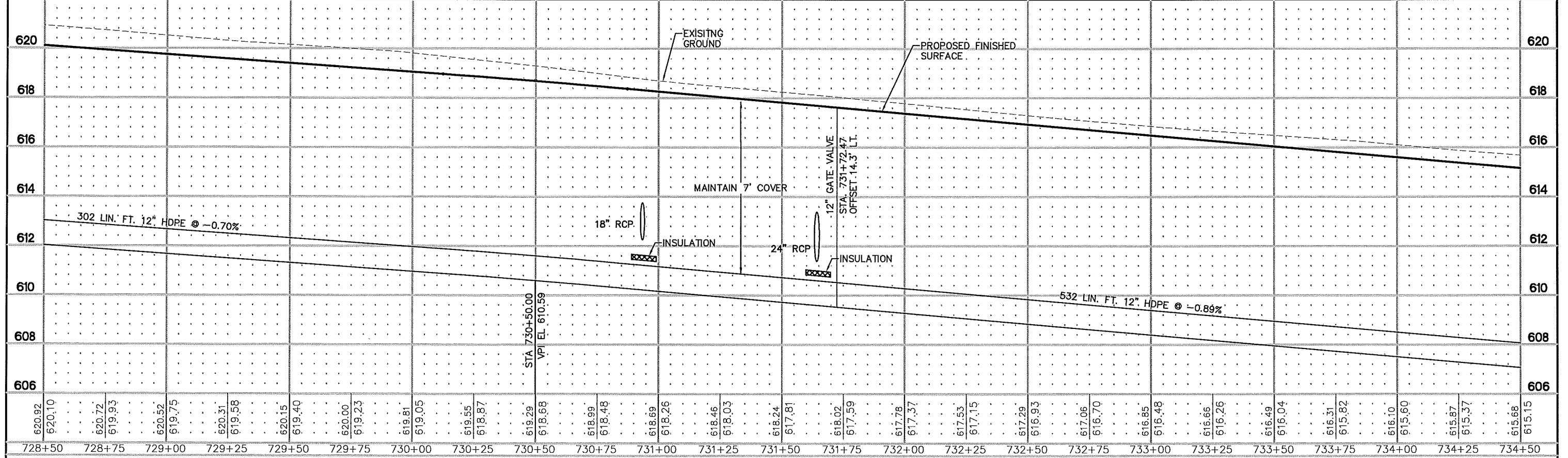
### STH 35 (TOWER AVE.)



PROJECT NO: 1195-13-72	HWY: STH 35 (TOWER AVENUE)	COUNTY: DOUGLAS	WATER PLAN AND PROFILE	SHEET	E
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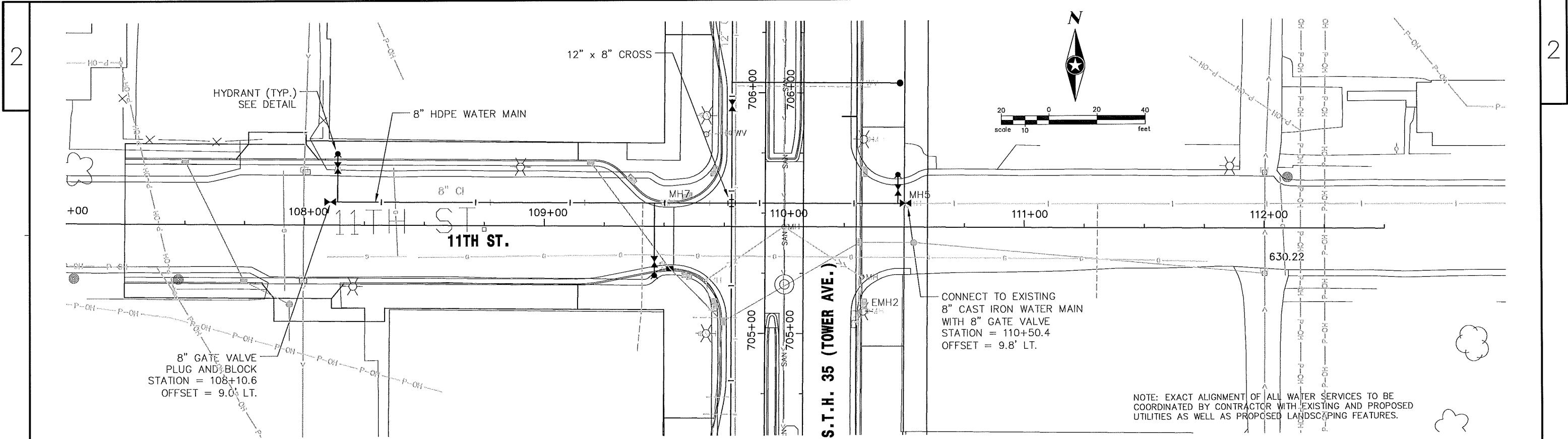
### STH 35 (TOWER AVE.)



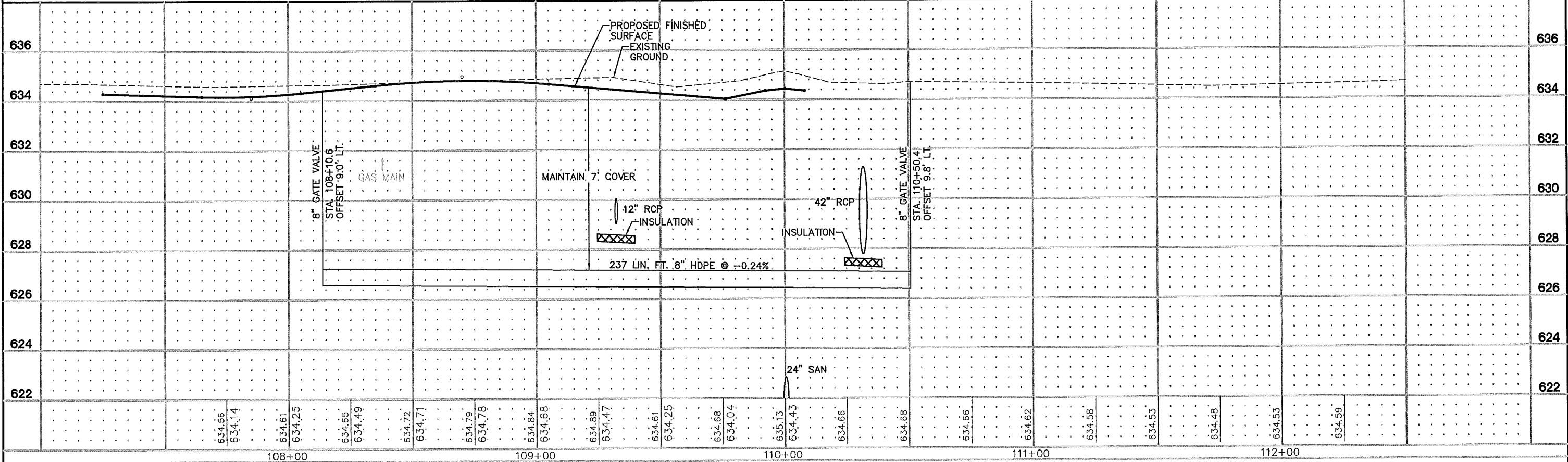




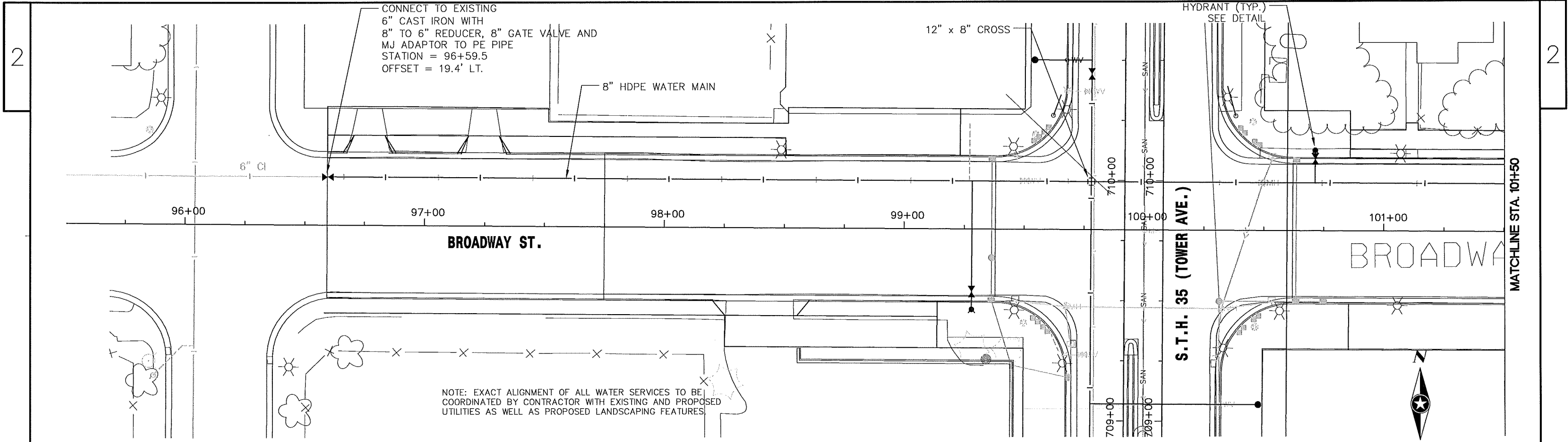




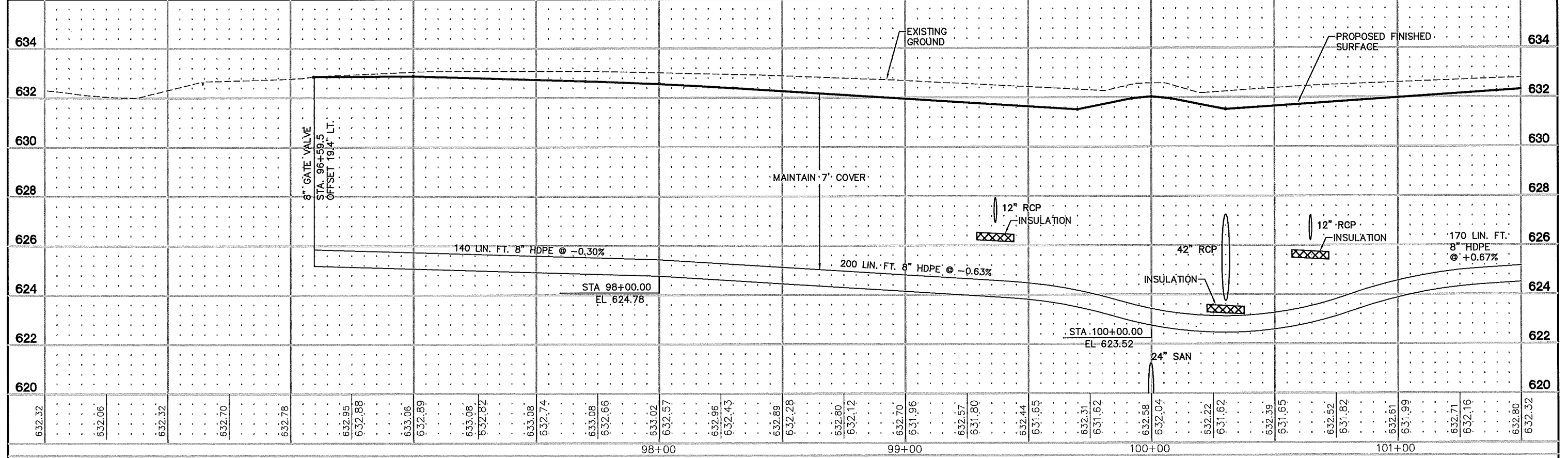
**11TH STREET**

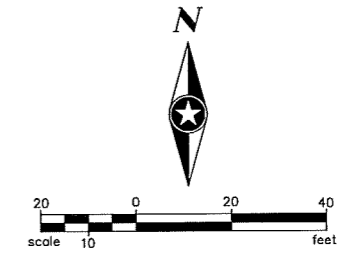
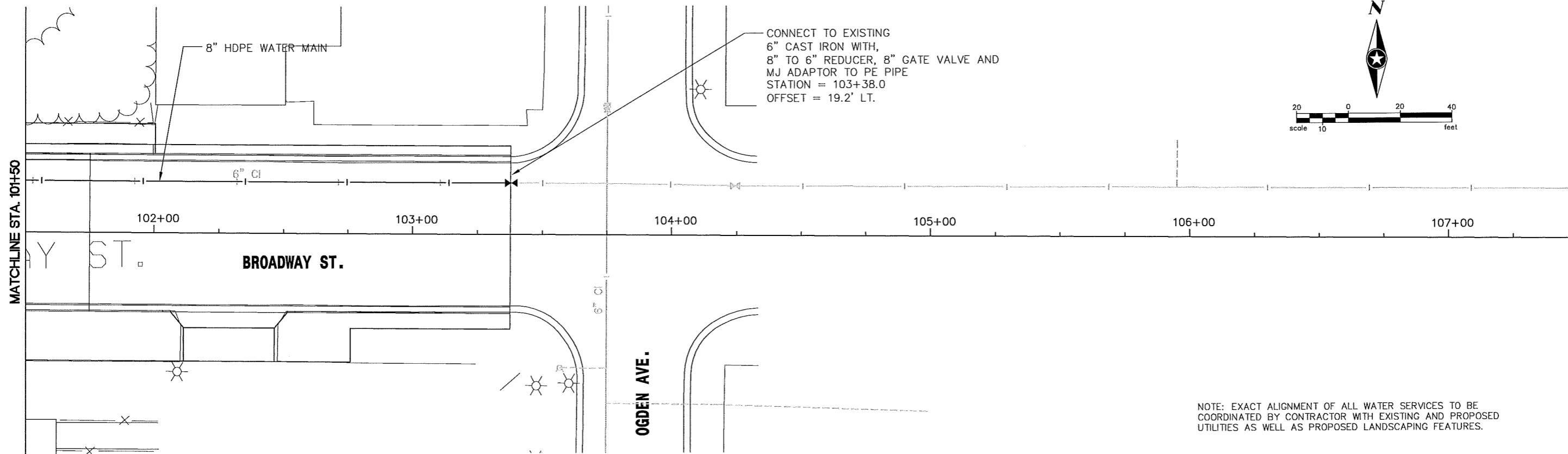


PROJECT NO: 1195-13-72	HWY: STH 35 (TOWER AVENUE)	COUNTY: DOUGLAS	WATER PLAN AND PROFILE	SHEET	E
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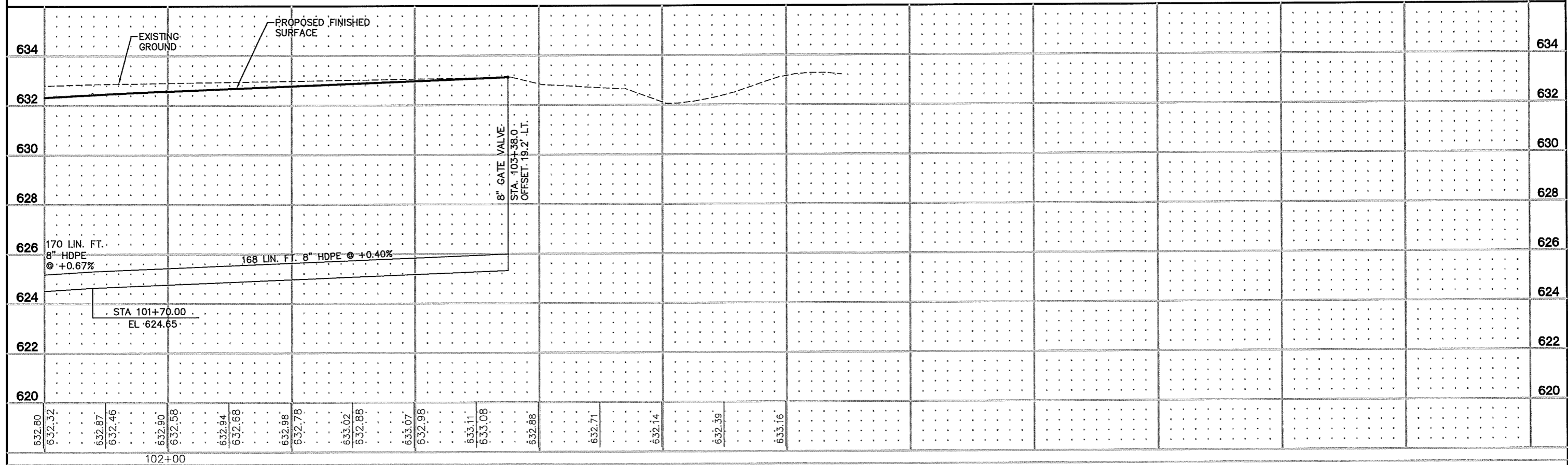
### BROADWAY STREET





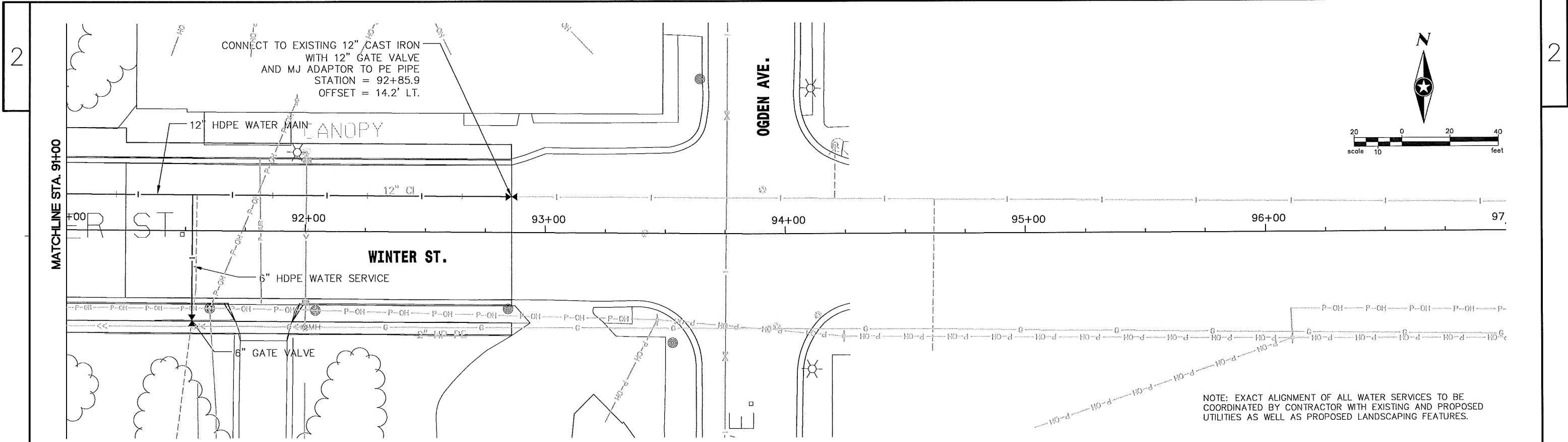
NOTE: EXACT ALIGNMENT OF ALL WATER SERVICES TO BE COORDINATED BY CONTRACTOR WITH EXISTING AND PROPOSED UTILITIES AS WELL AS PROPOSED LANDSCAPING FEATURES.

### BROADWAY STREET

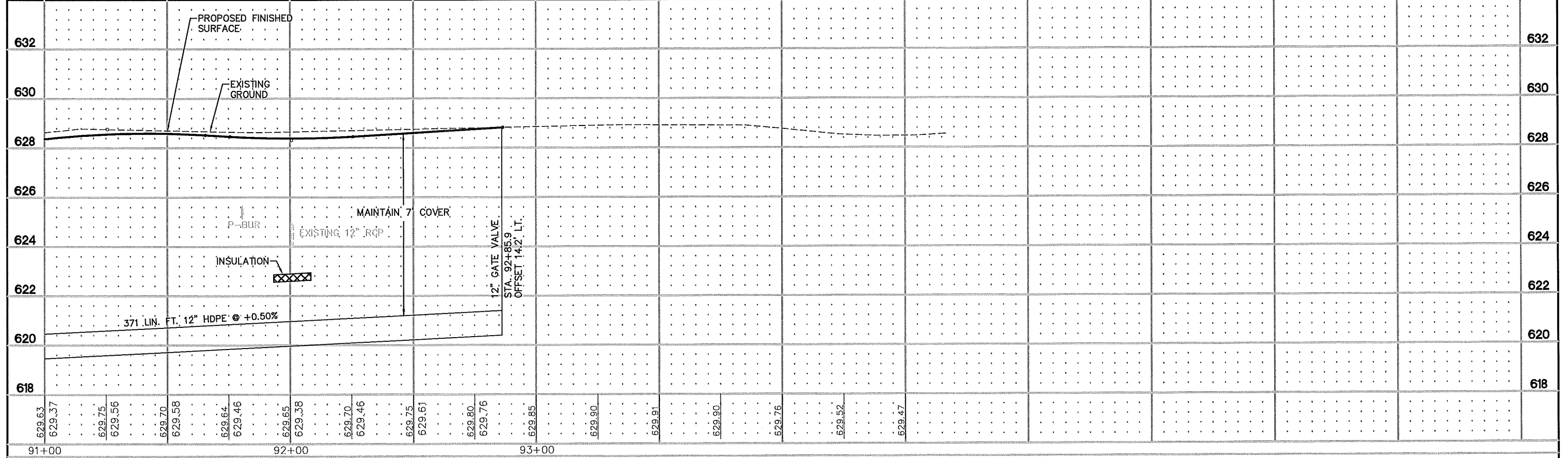


PROJECT NO: 1195-13-72	HWY: STH 35 (TOWER AVENUE)	COUNTY: DOUGLAS	WATER PLAN AND PROFILE	SHEET	E
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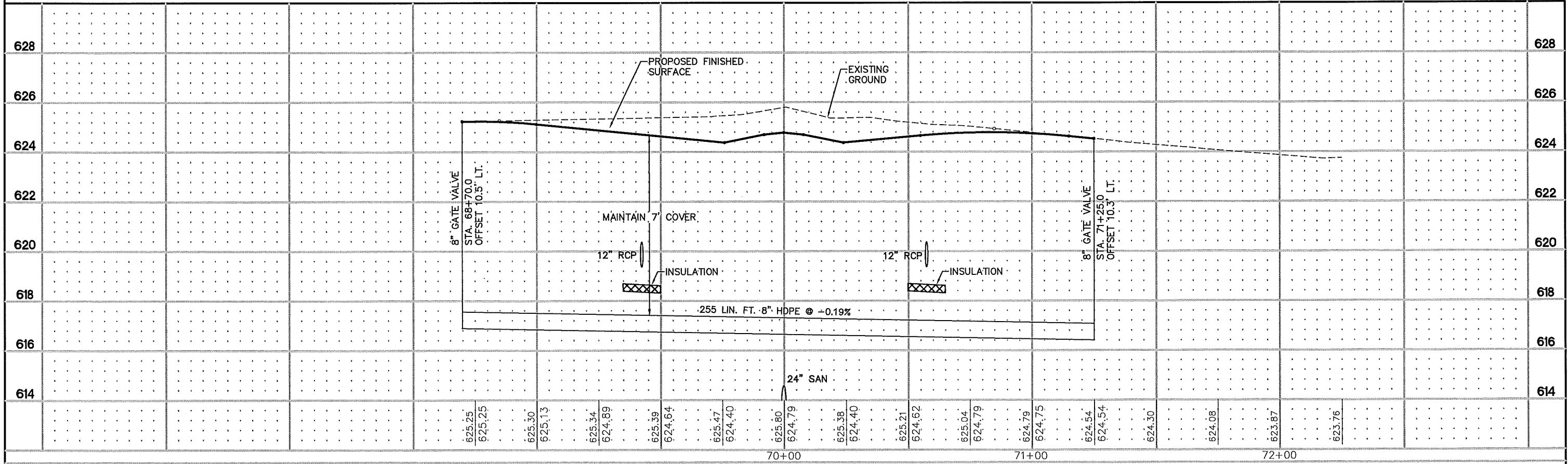
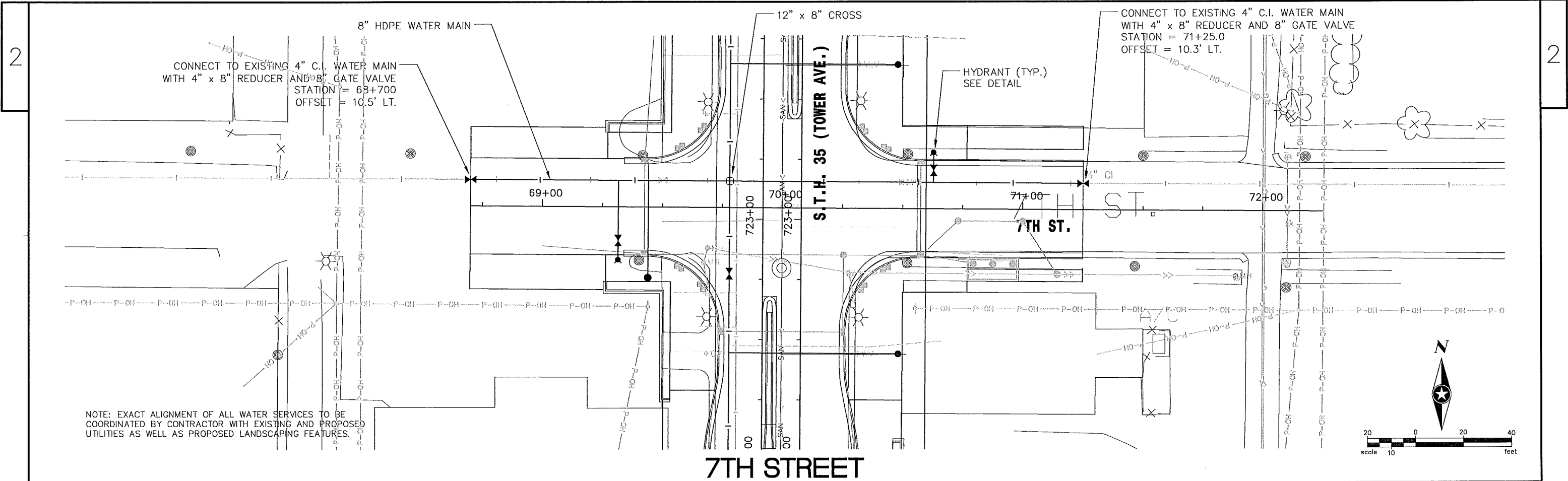




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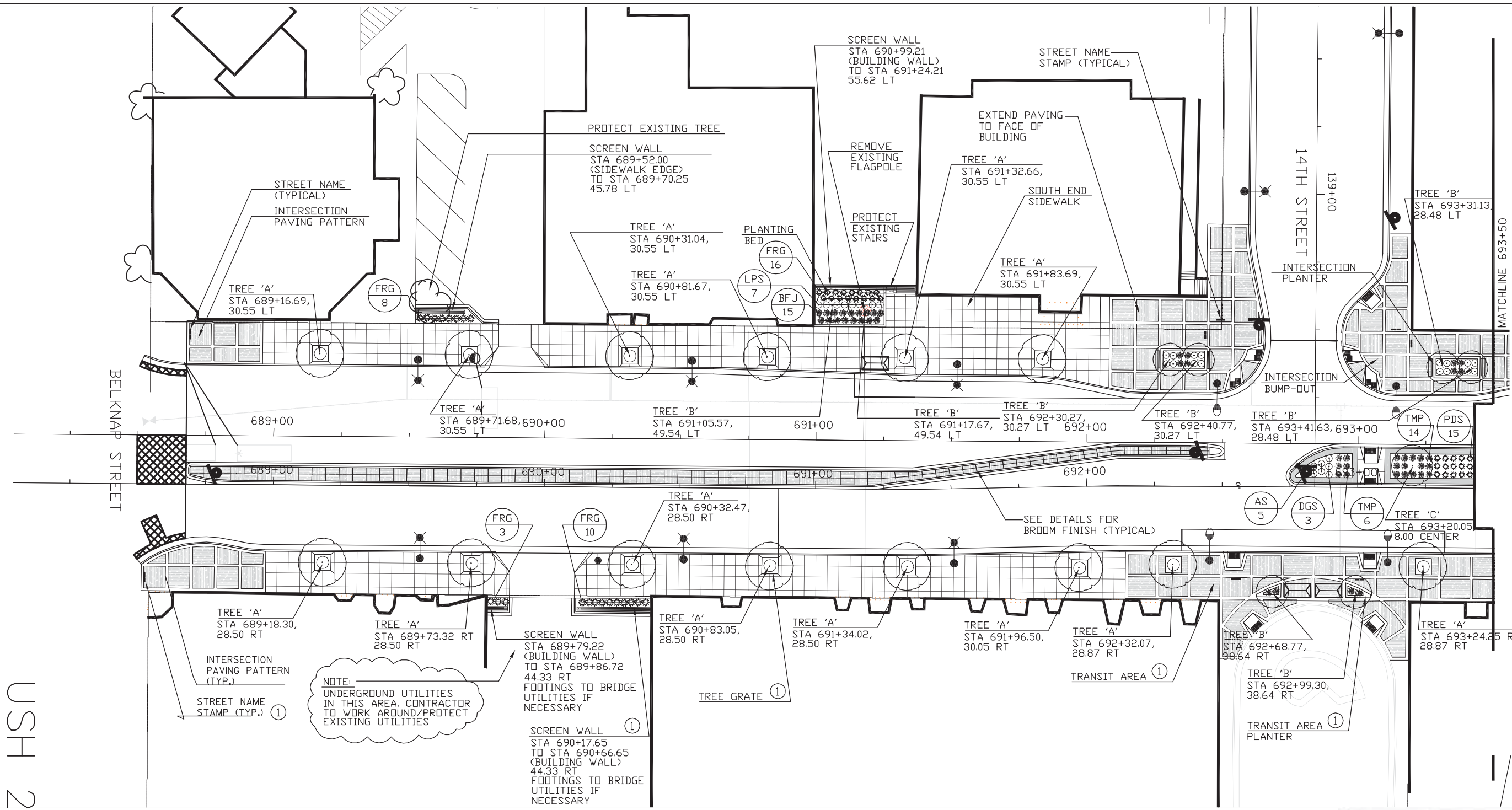


PROJECT NO: 1195-13-72	HWY: STH 35 (TOWER AVENUE)	COUNTY: DOUGLAS	WATER PLAN AND PROFILE	SHEET	E
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NOTE: UNDERGROUND UTILITIES IN THIS AREA. CONTRACTOR TO WORK AROUND/PROTECT EXISTING UTILITIES

SCREEN WALL STA 690+17.65 TO STA 690+66.65 (BUILDING WALL) 44.33 RT FOOTINGS TO BRIDGE UTILITIES IF NECESSARY

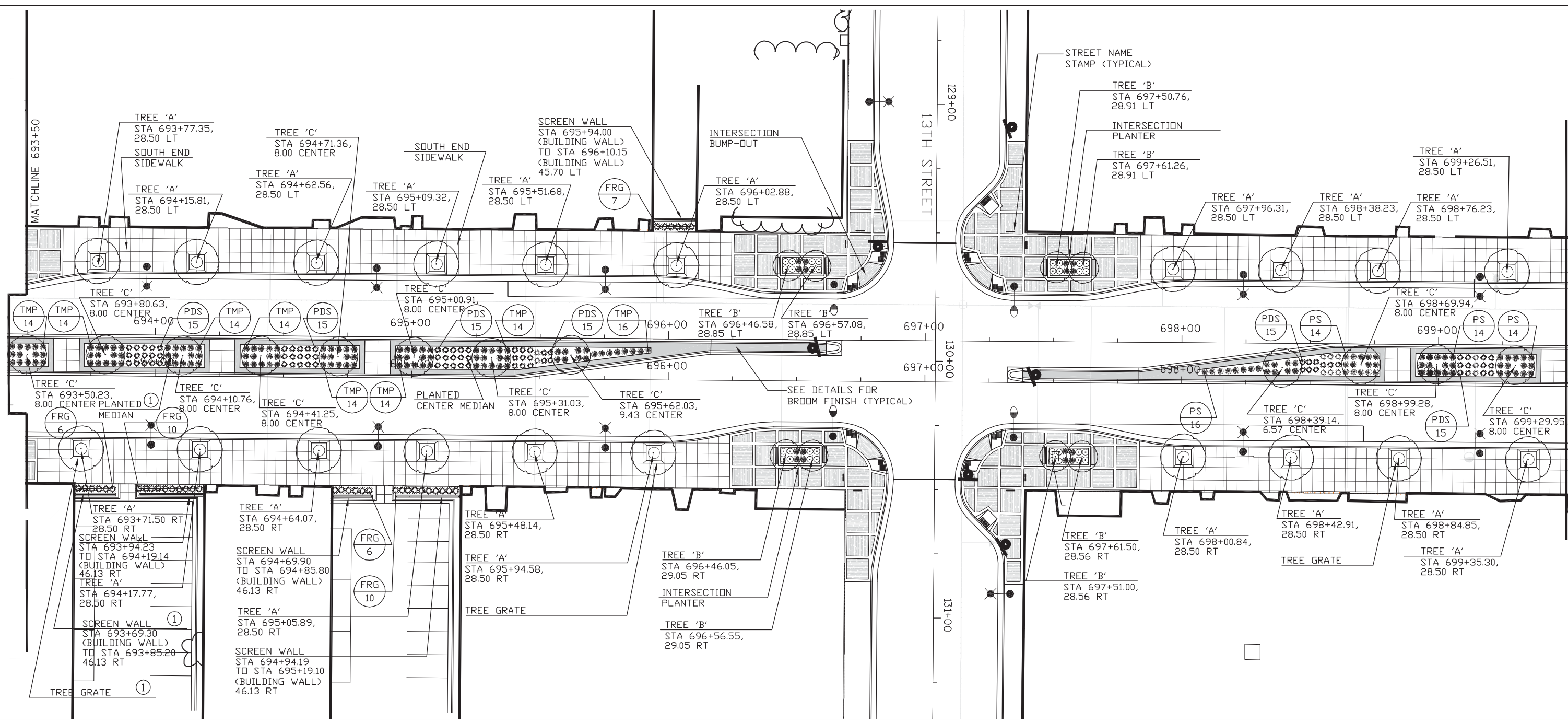
TREE PLANT LIST SYMBOL	COMMON NAME
TREE 'A'	NORTHERN ACCLAIM HONEYLOCUST
TREE 'B'	IVORY SILK LILAC TREE
TREE 'C'	HARVEST GOLD LINDEN
TREE 'D'	NORTHWOOD MAPLE
TREE 'E'	DISCOVERY ELM
TREE 'F'	COMMON HACKBERRY

LARGE AND MEDIUM DECIDUOUS SHRUBS	
AS	ALPINE SPIREA
DGS	DAKOTA GOLDCHARM SPIREA
LPS	LITTLE PRINCESS SPIREA
PPL	PRAIRIE PETITE LILAC
LARGE AND MEDIUM EVERGREEN SHRUBS	
BFJ	BLUE FOREST JUNIPER
TMP	TEENY MUGHO PINE
ORNAMENTAL GRASS	
PDS	PRAIRIE DROPS EED
FRG	FEATHER REED GRASS

LEGEND

- OVERSTORY TREE
- TREE GRATE
- LIGHTING UNIT, TYPE SPECIAL 1
- LIGHTING UNIT, TYPE SPECIAL 2

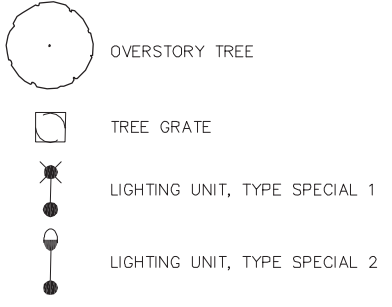


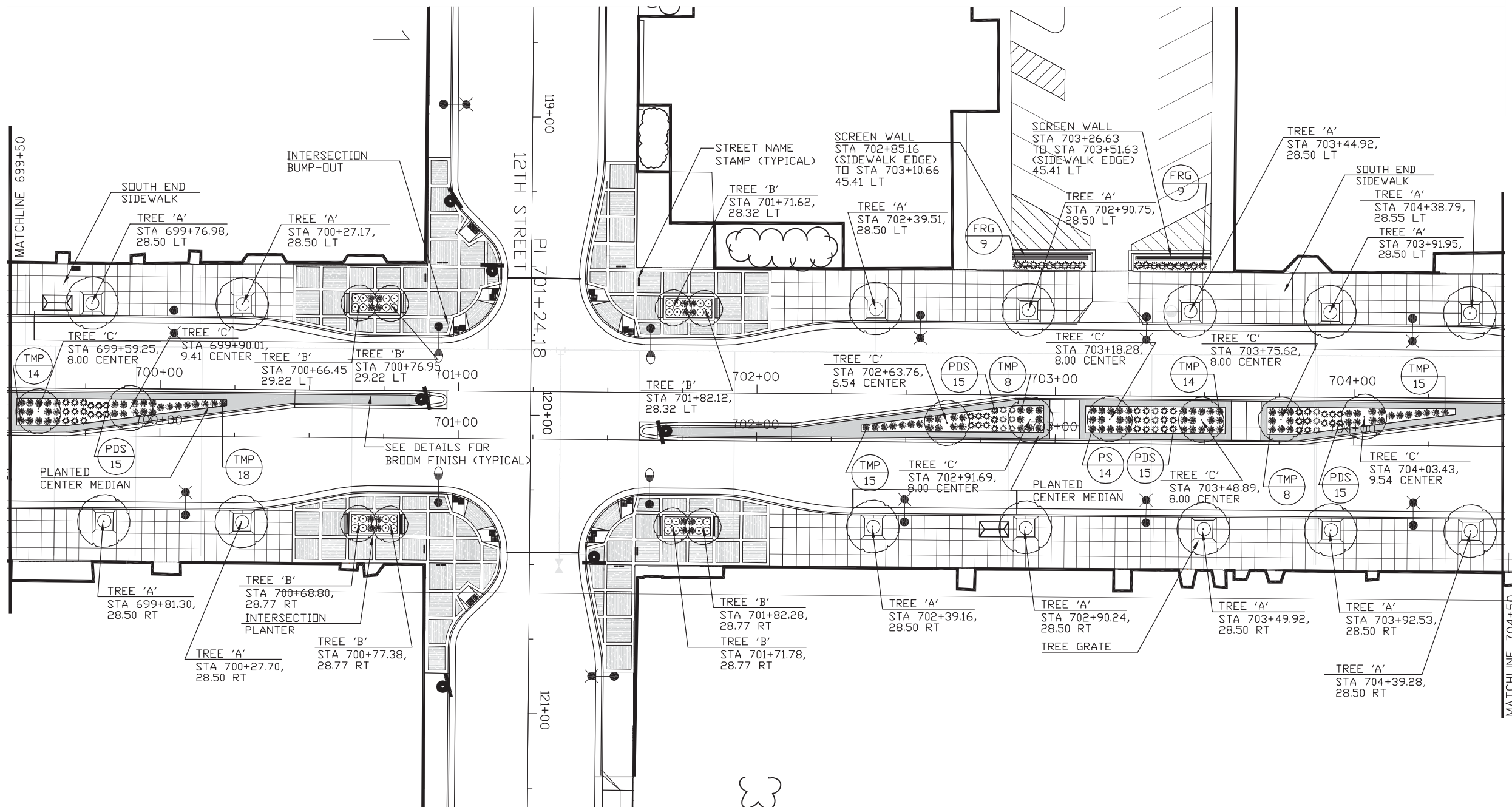


TREE PLANT LIST	
SYMBOL	COMMON NAME
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TREE 'B'	IVORY SILK LILAC TREE
TREE 'C'	HARVEST GOLD LINDEN
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LARGE AND MEDIUM EVERGREEN SHRUBS	
BFJ	BLUE FOREST JUNIPER
TMP	TEENY MUGHO PINE
ORNAMENTAL GRASS	
PDS	PRAIRIE DROPSEED
FRG	FEATHER REED GRASS

LEGEND

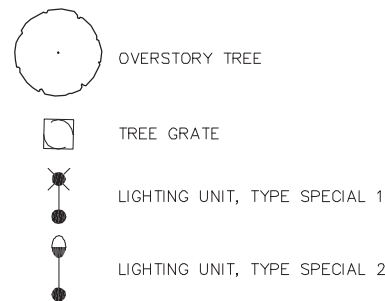




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BFJ	BLUE FOREST JUNIPER
TMP	TEENY MUGHO PINE
ORNAMENTAL GRASS	
PDS	PRAIRIE DROPSEED
FRG	FEATHER REED GRASS

LEGEND



INTERSECTION  
BUMP-OUT  
INTERSECTION  
PLANTER  
TREE 'B'  
STA 704+87.03,  
28.85 LT

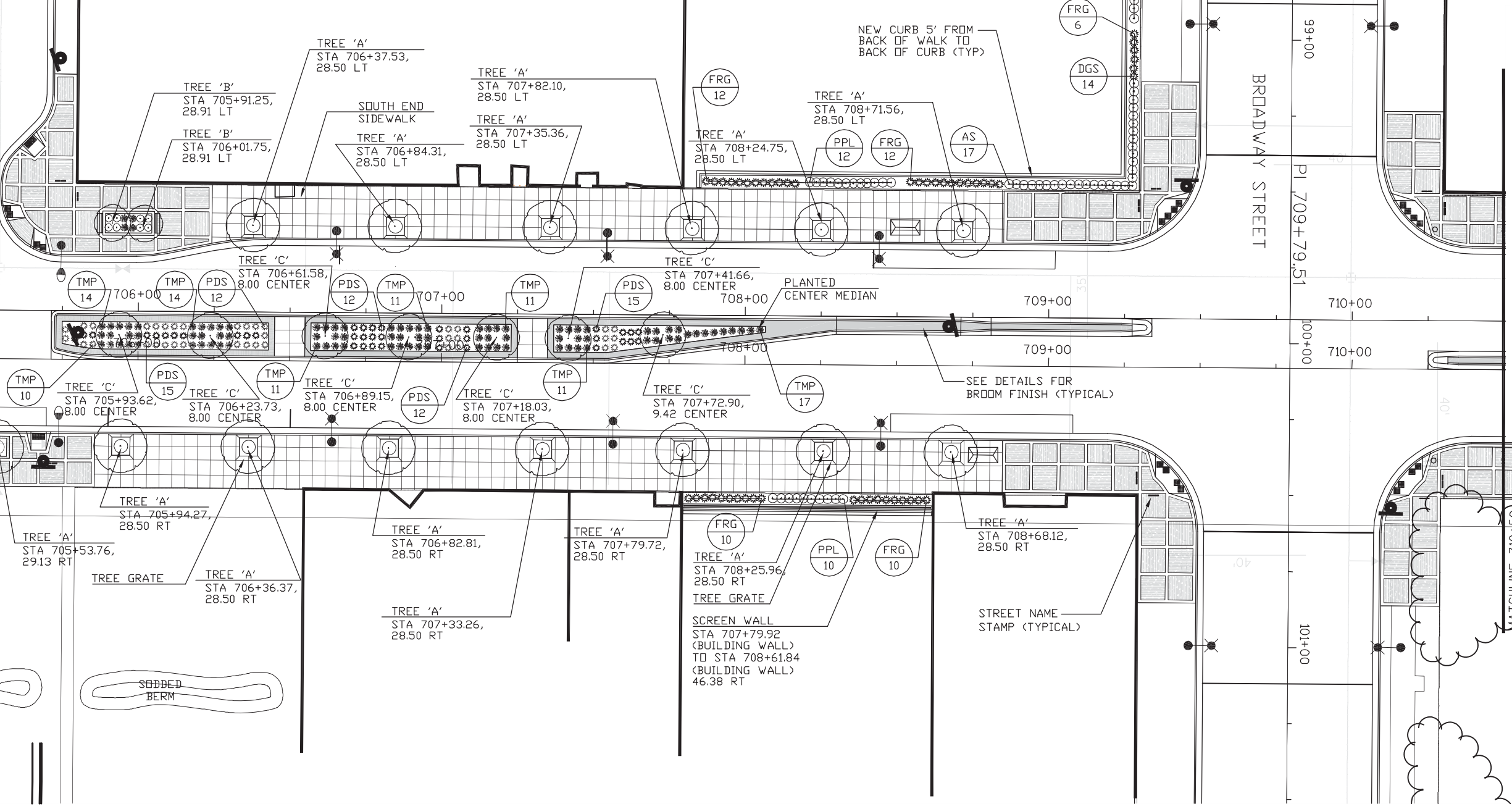
TREE 'B'  
STA 704+97.53, 705+00  
28.85 LT

11TH STREET

109+00

110+00

111+00



BROADWAY STREET

99+00

100+00

101+00

PI 709+79.51

710+00

710+00

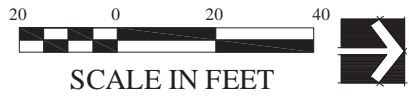
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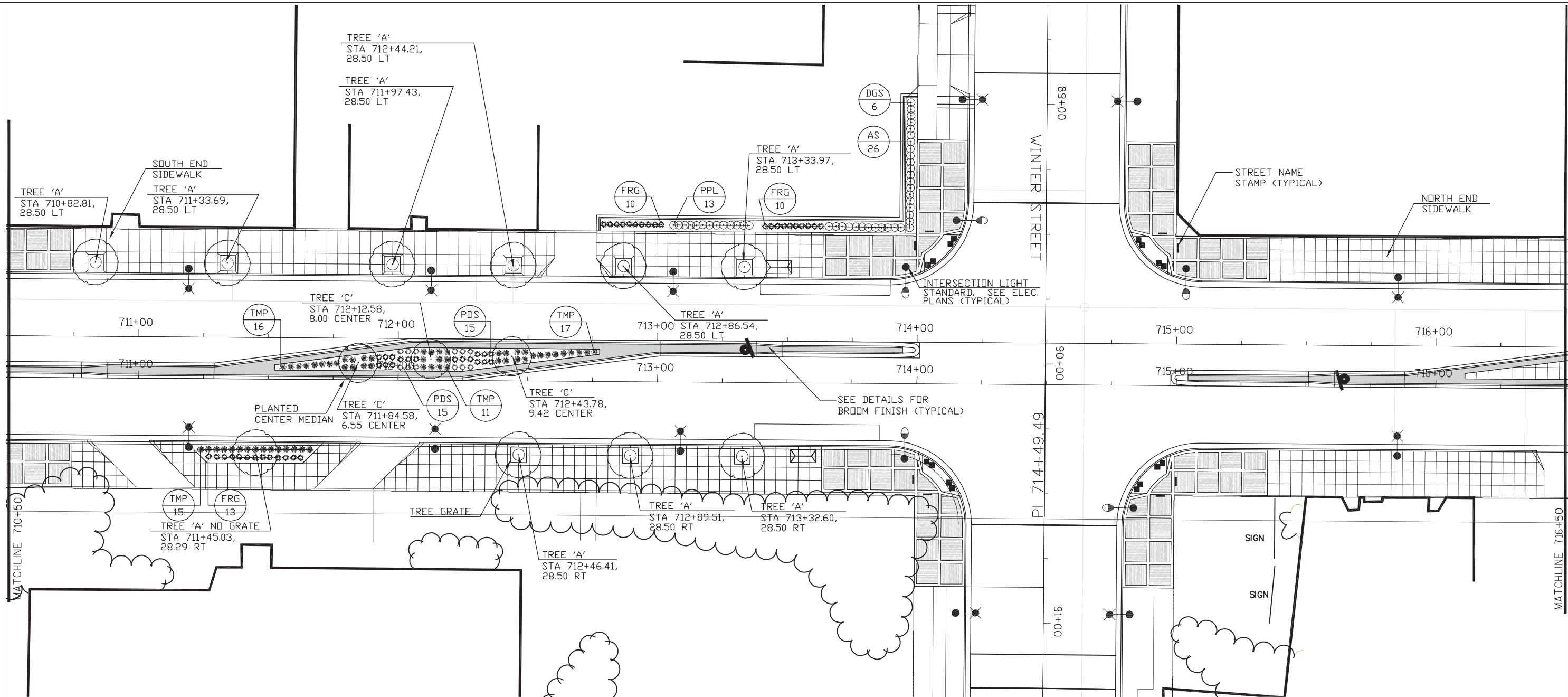
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ORNAMENTAL GRASS	
PDS	PRAIRIE DROPSEED
FRG	FEATHER REED GRASS

LEGEND	
	OVERSTORY TREE
	TREE GRATE
	LIGHTING UNIT, TYPE SPECIAL 1
	LIGHTING UNIT, TYPE SPECIAL 2

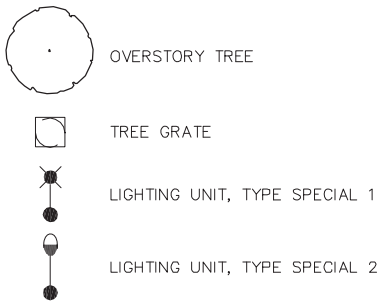




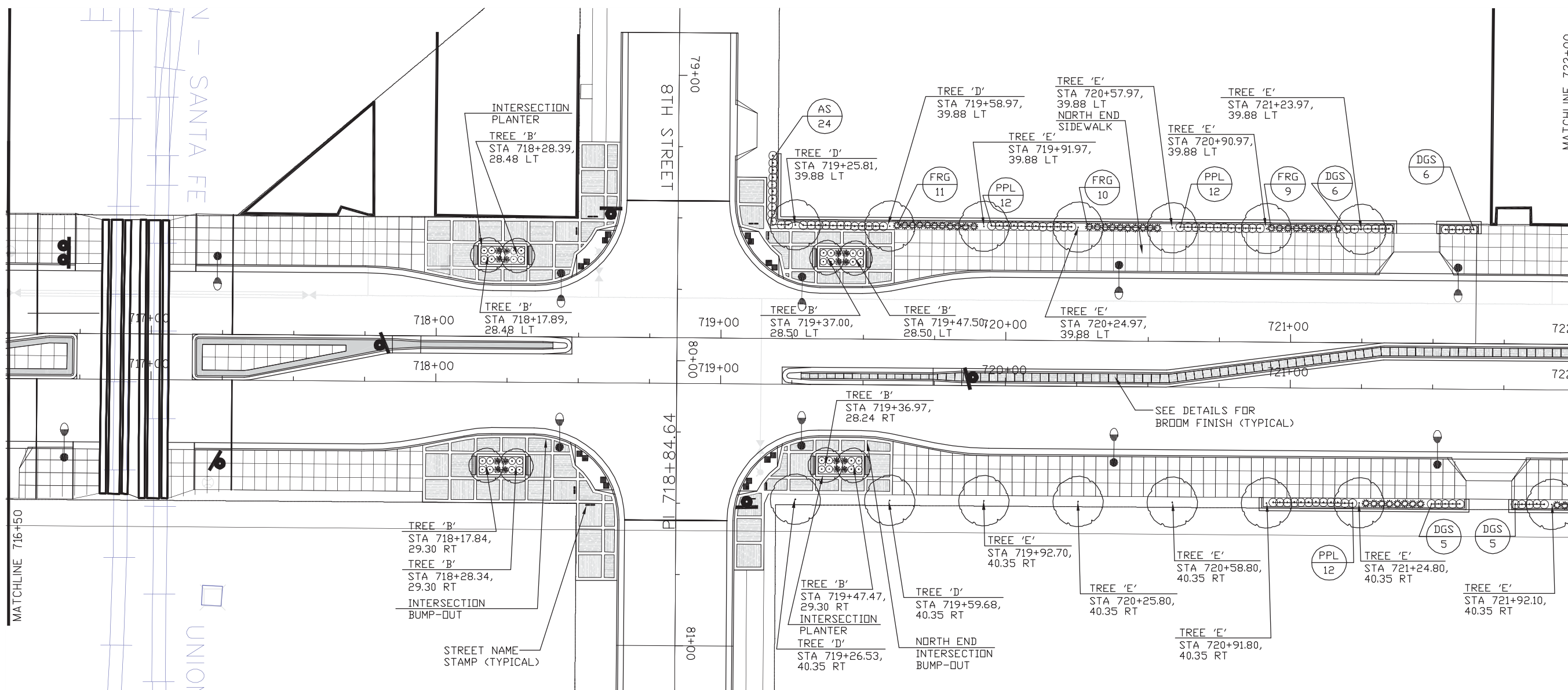
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DGS	DAKOTA GOLDCHARM SPIREA
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TREE 'D'	NORTHWOOD MAPLE
TREE 'E'	DISCOVERY ELM
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LEGEND



SCALE IN FEET



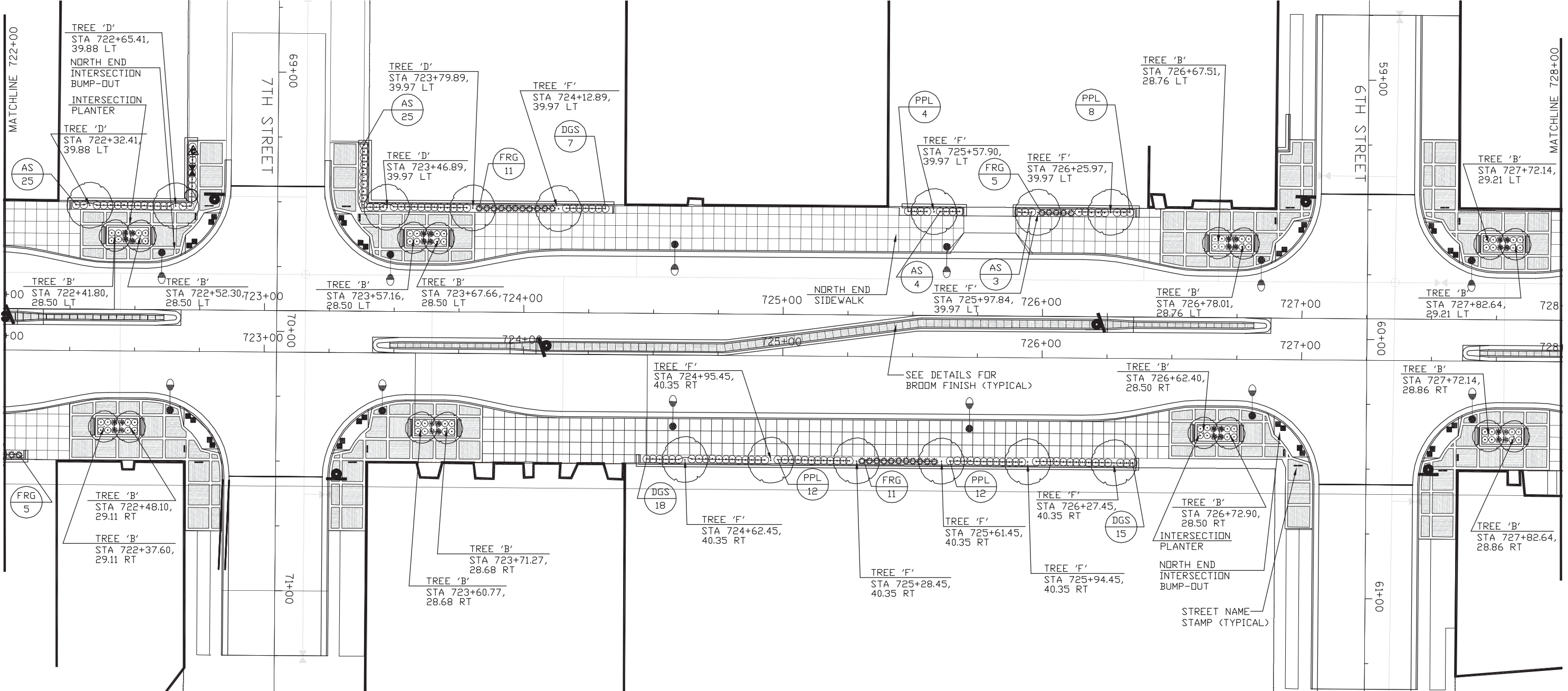
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ORNAMENTAL GRASS	
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FRG	FEATHER REED GRASS

LEGEND

- OVERSTORY TREE
- TREE GRATE
- LIGHTING UNIT, TYPE SPECIAL 1
- LIGHTING UNIT, TYPE SPECIAL 2









TREE PLANT LIST	
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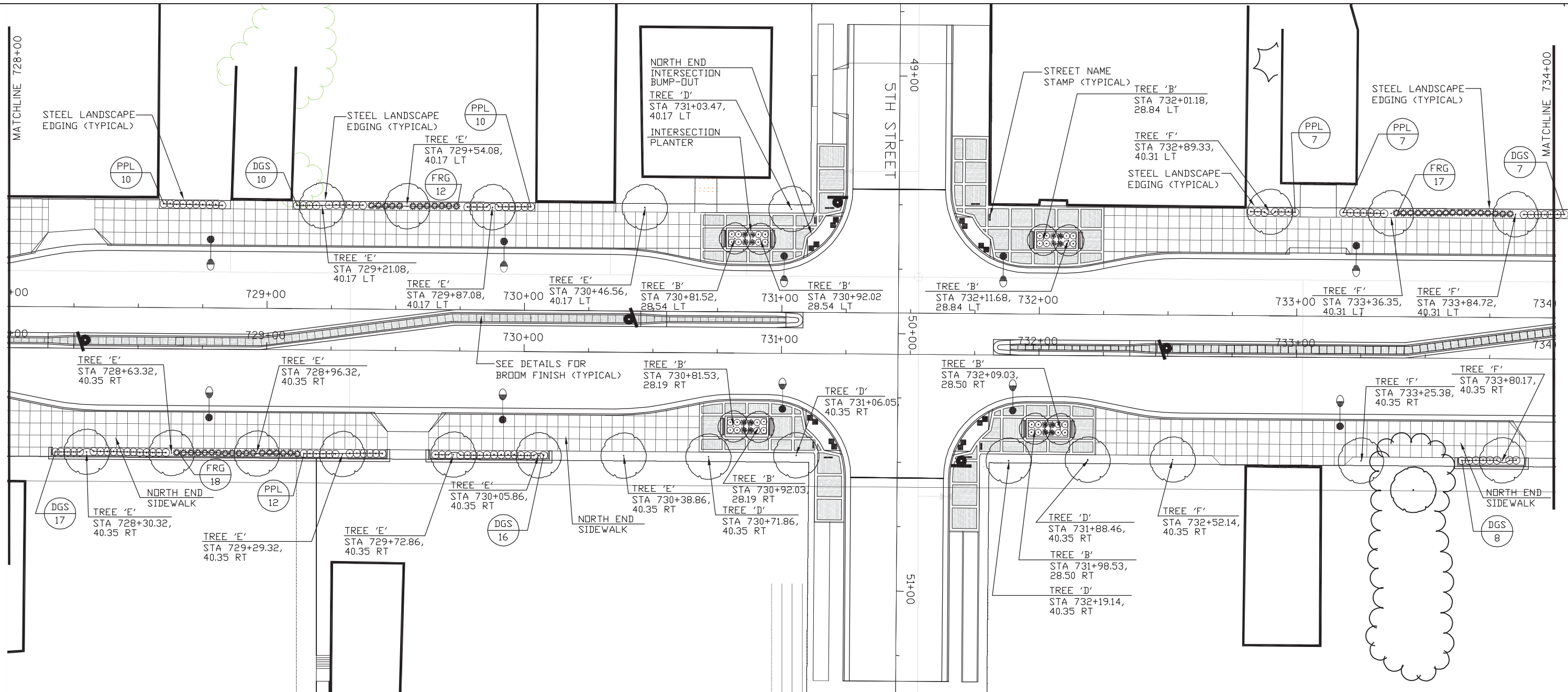
LARGE AND MEDIUM DECIDUOUS SHRUBS	
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DGS	DAKOTA GOLDCHARM SPIREA
LPS	LITTLE PRINCESS SPIREA
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**LEGEND**

-  OVERSTORY TREE
-  TREE GRATE
-  LIGHTING UNIT, TYPE SPECIAL 1
-  LIGHTING UNIT, TYPE SPECIAL 2



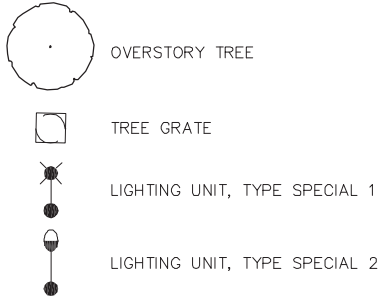


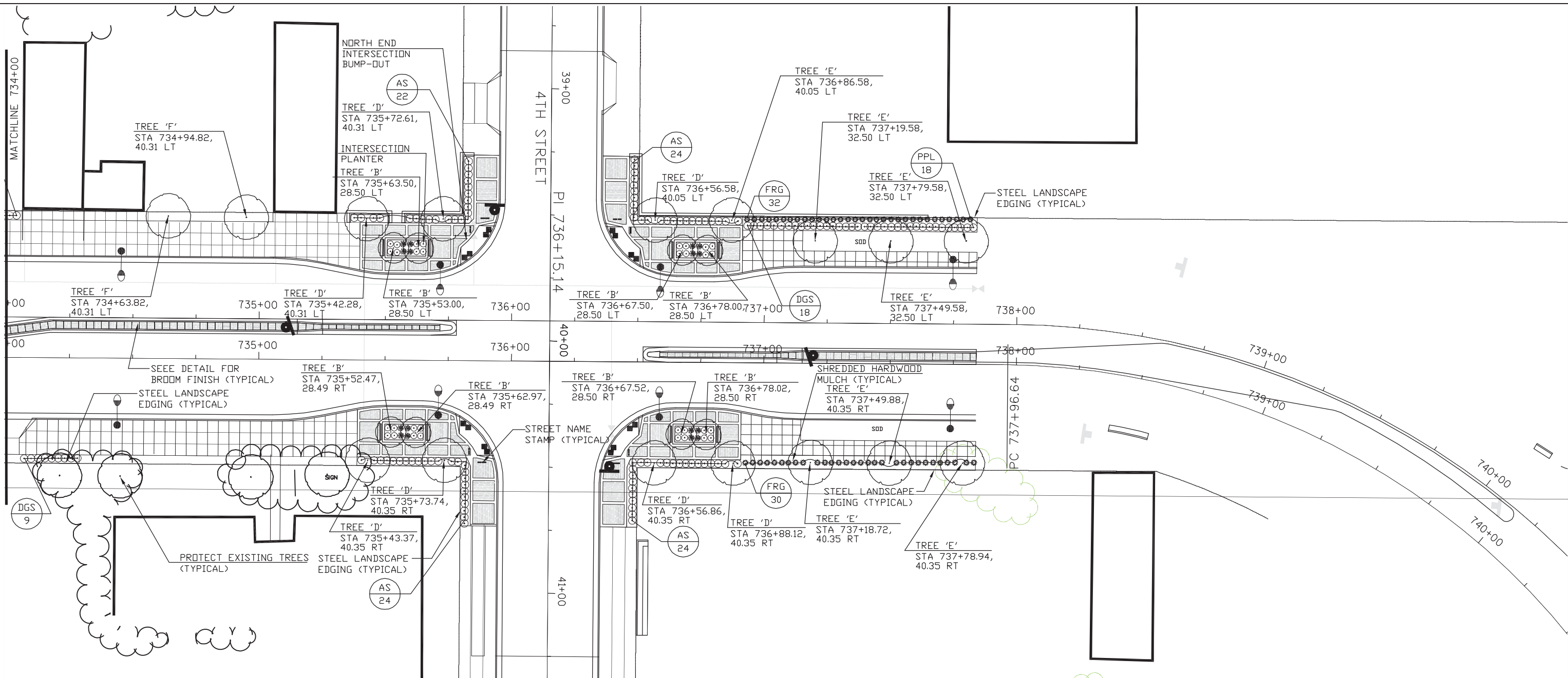


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ORNAMENTAL GRASS	
PDS	PRAIRIE DROPSEED
FRG	FEATHER REED GRASS

LEGEND





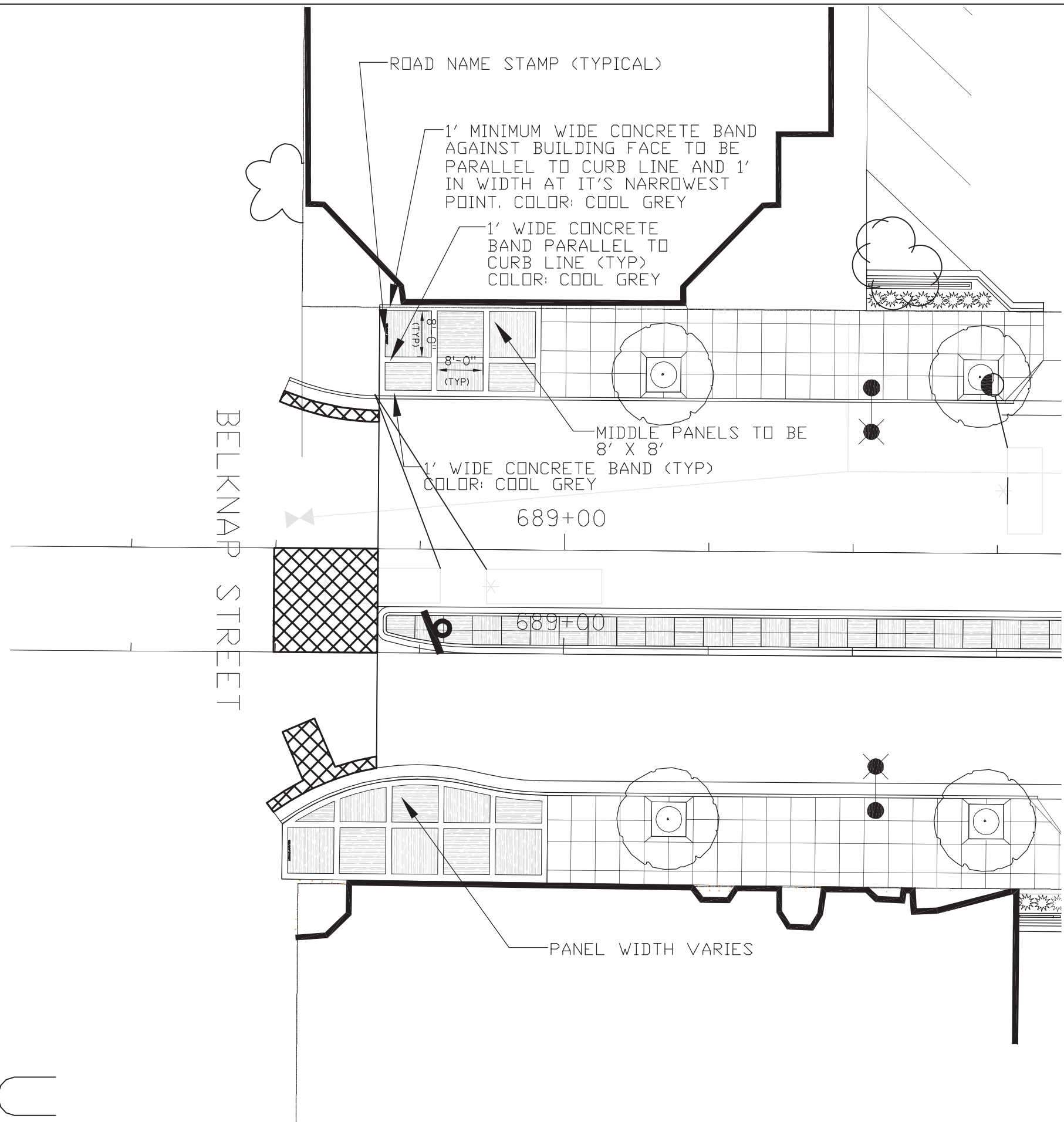
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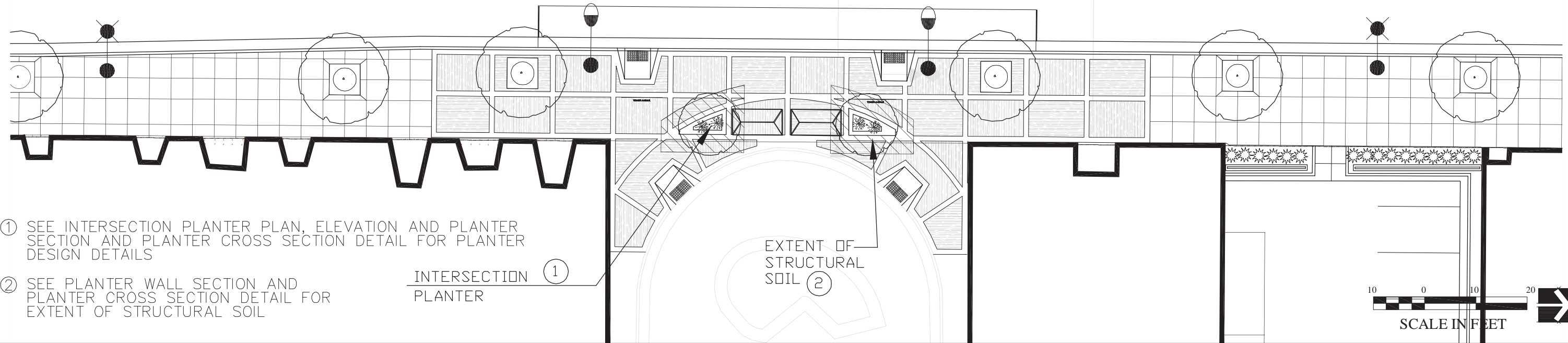
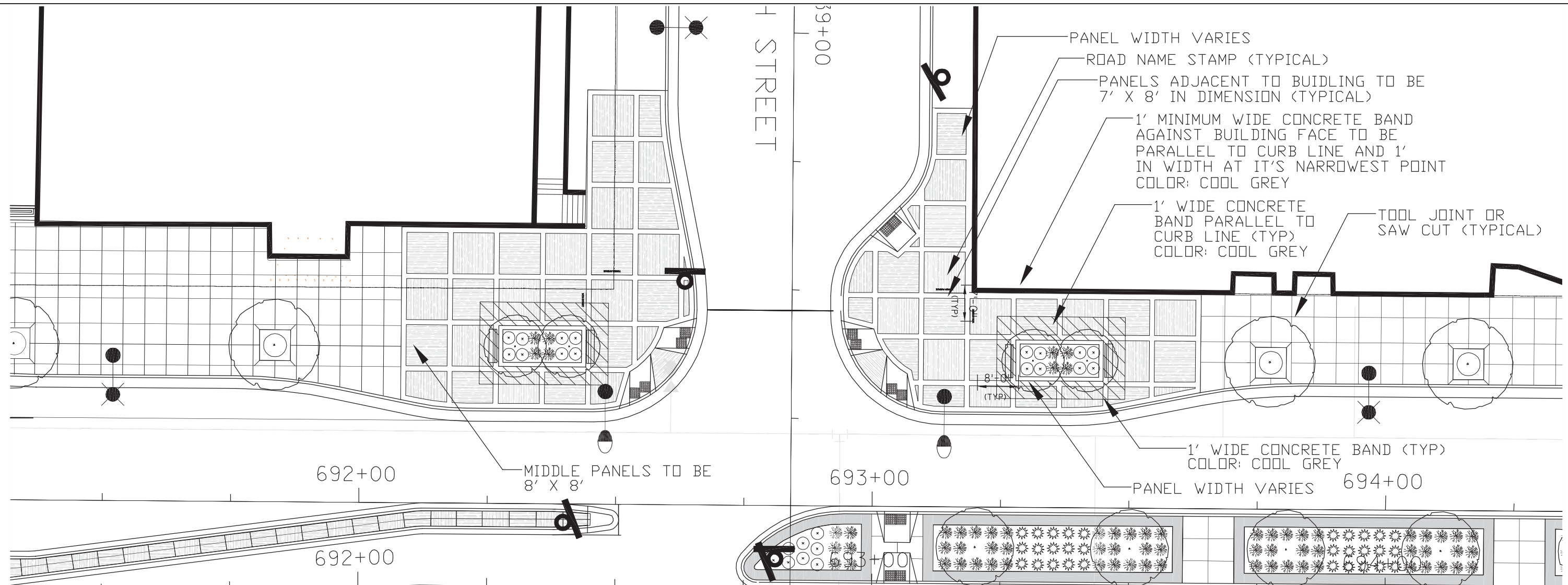
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PDS	PRAIRIE DROPSEED
FRG	FEATHER REED GRASS

**LEGEND**

- OVERSTORY TREE
- TREE GRATE
- LIGHTING UNIT, TYPE SPECIAL 1
- LIGHTING UNIT, TYPE SPECIAL 2

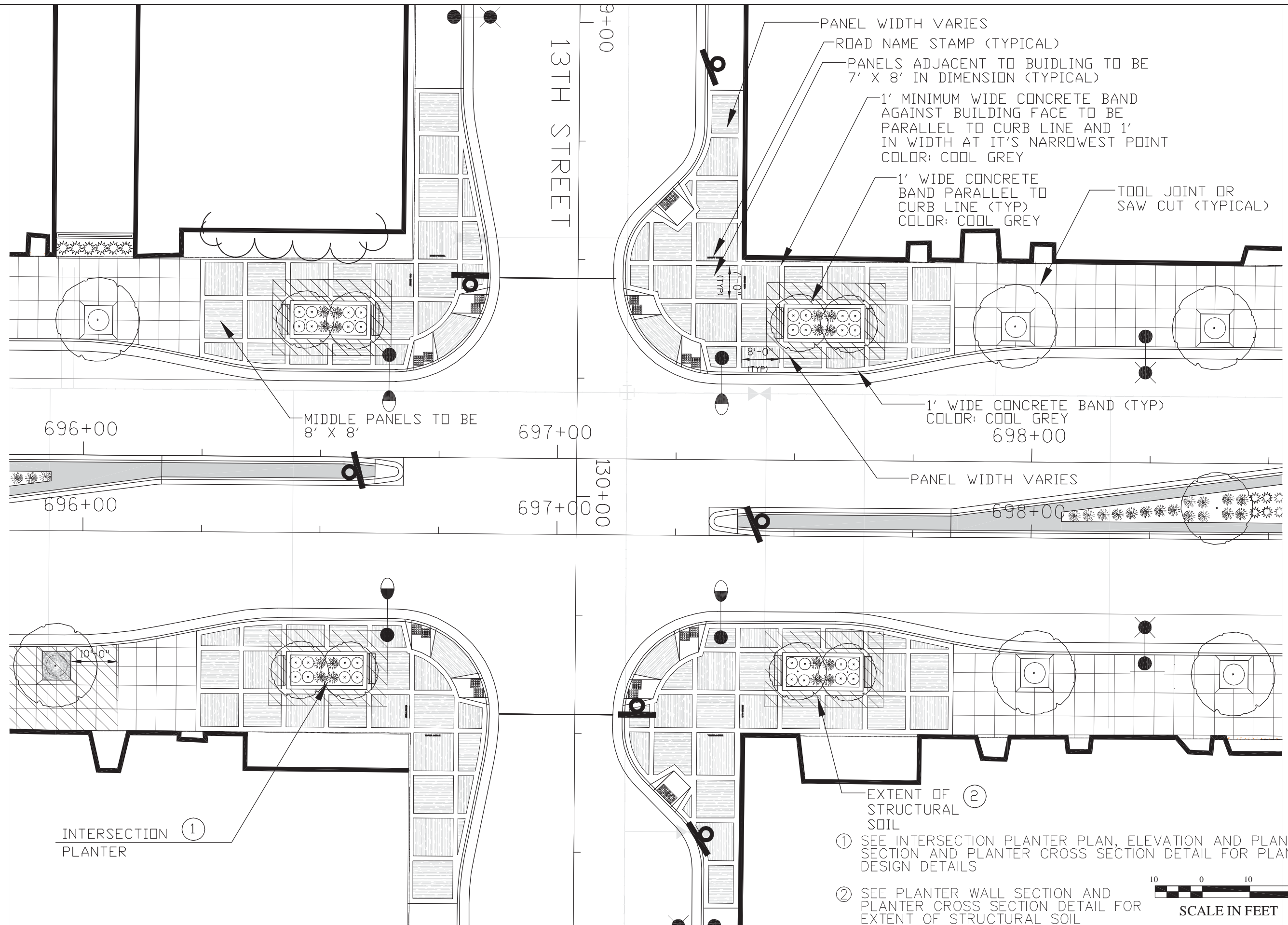


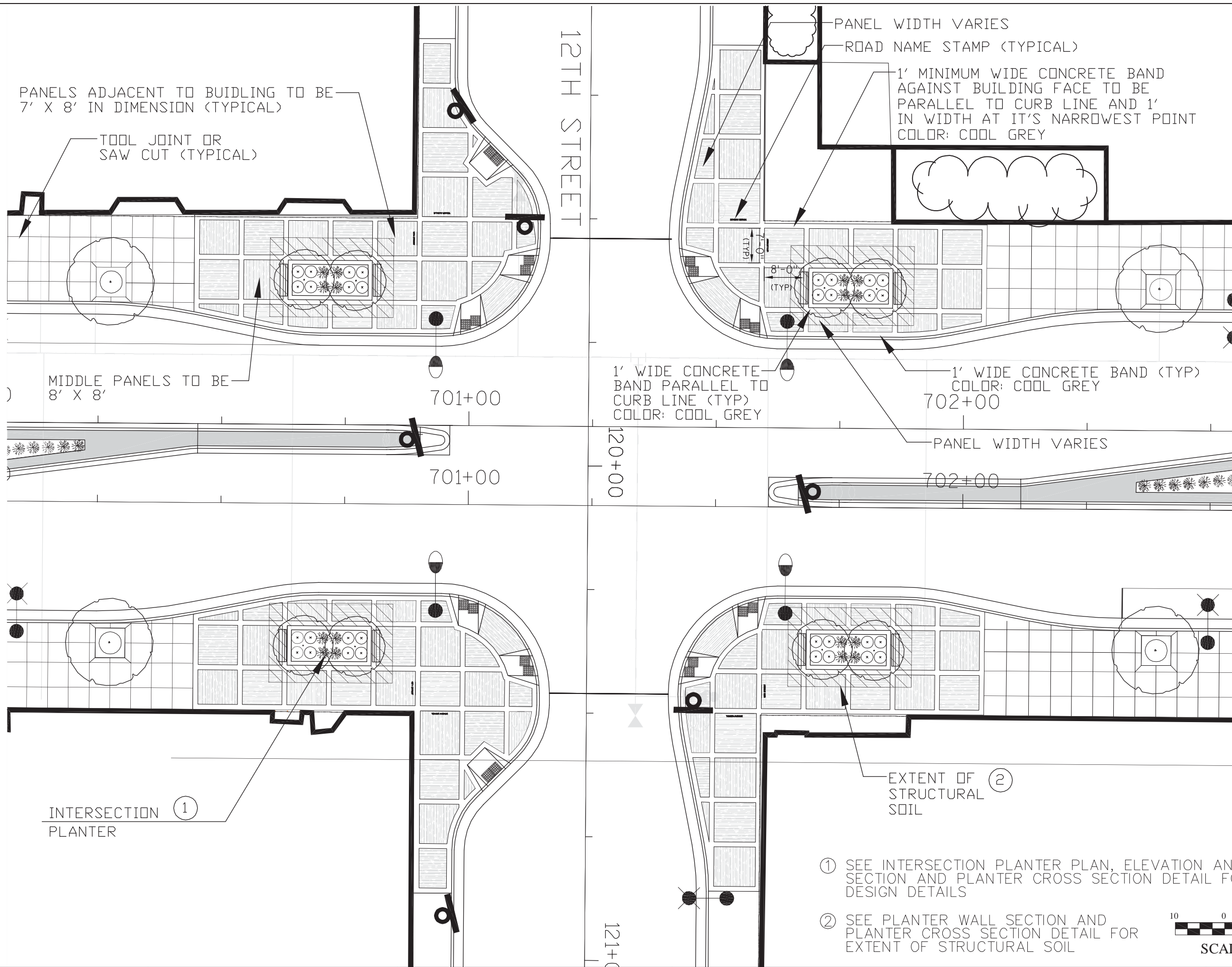




- ① SEE INTERSECTION PLANTER PLAN, ELEVATION AND PLANTER SECTION AND PLANTER CROSS SECTION DETAIL FOR PLANTER DESIGN DETAILS
- ② SEE PLANTER WALL SECTION AND PLANTER CROSS SECTION DETAIL FOR EXTENT OF STRUCTURAL SOIL

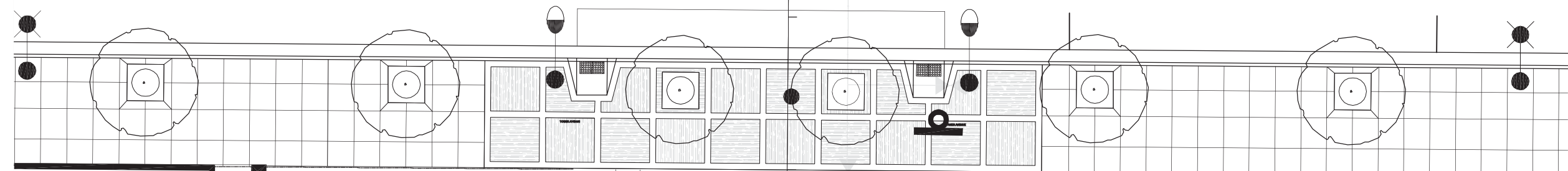
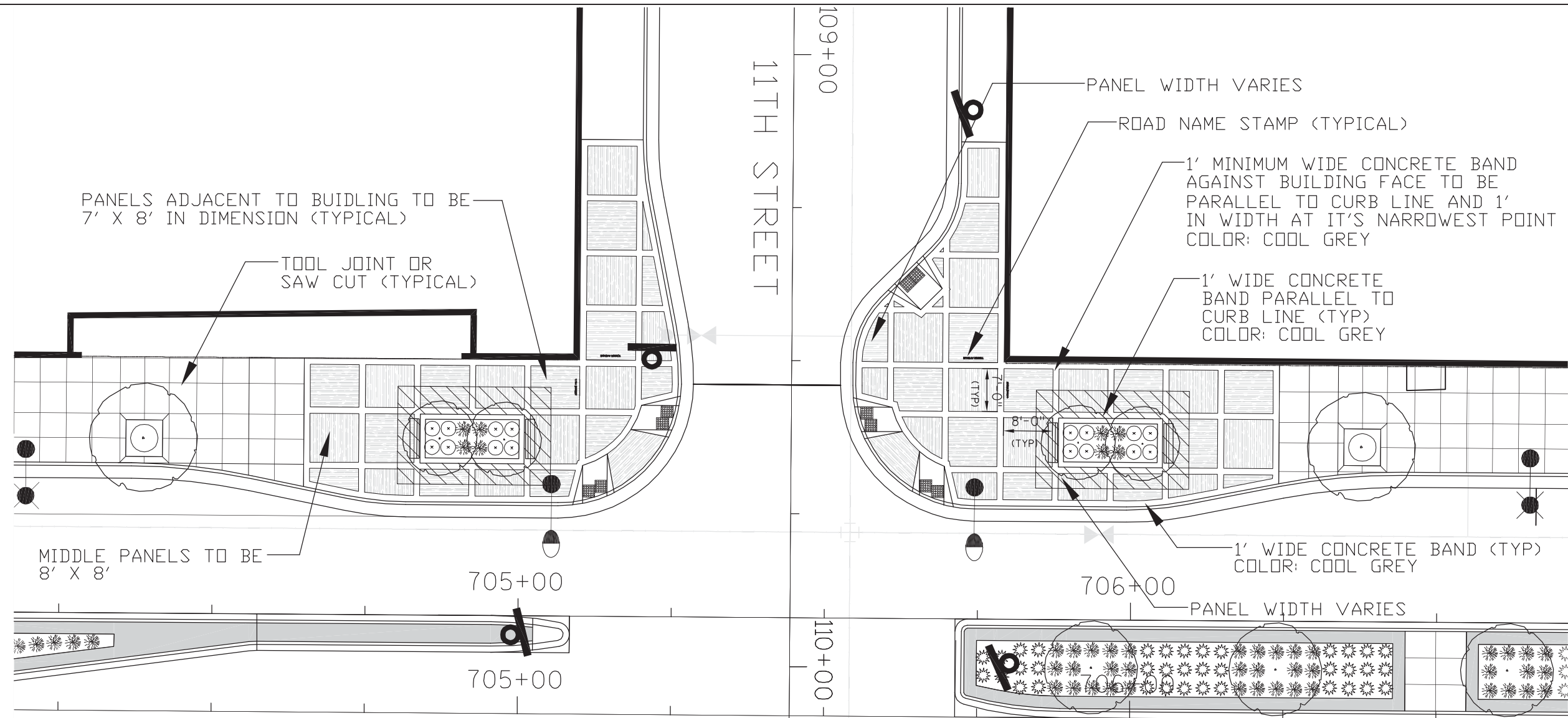






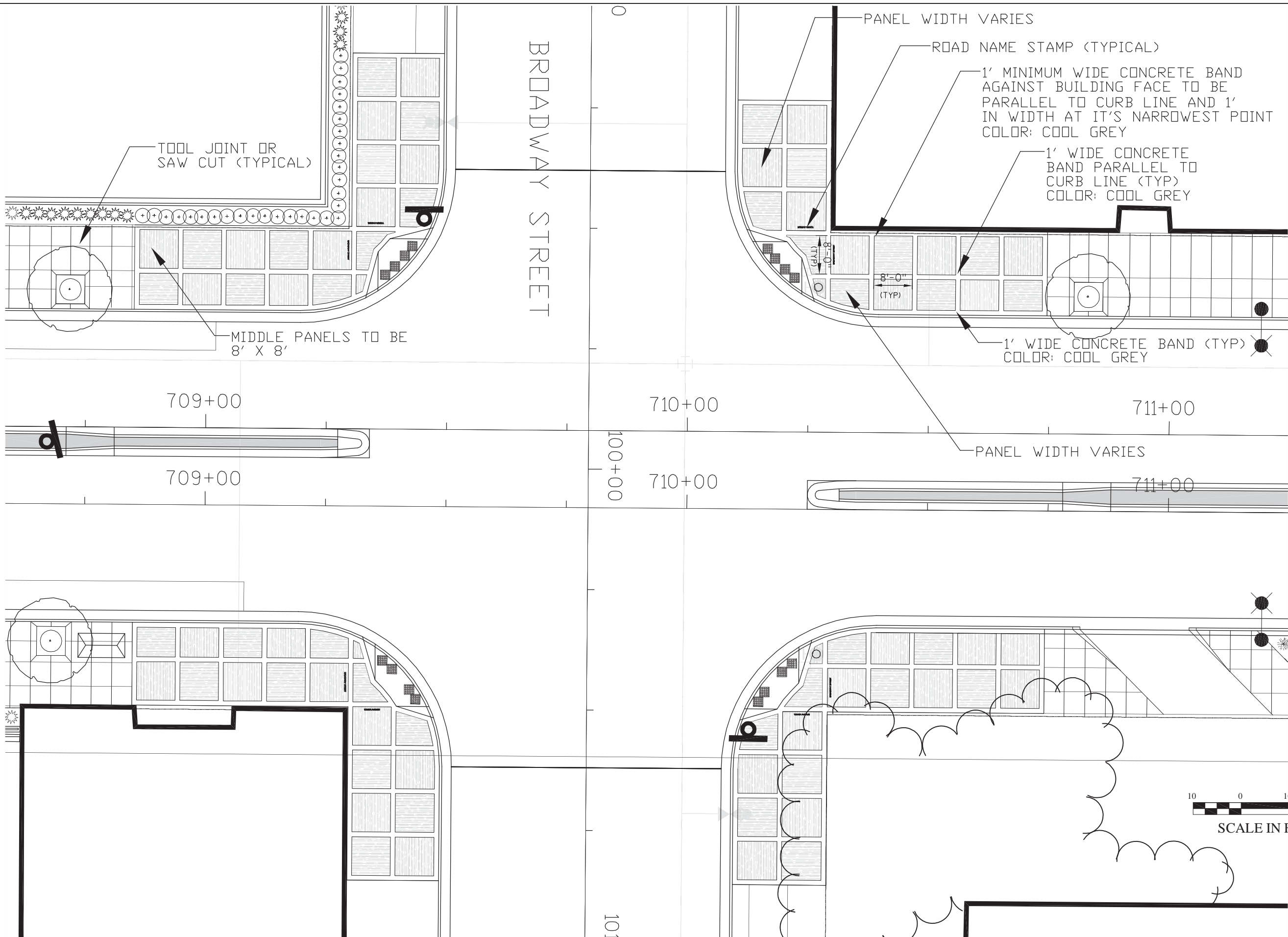
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- ② SEE PLANTER WALL SECTION AND PLANTER CROSS SECTION DETAIL FOR EXTENT OF STRUCTURAL SOIL



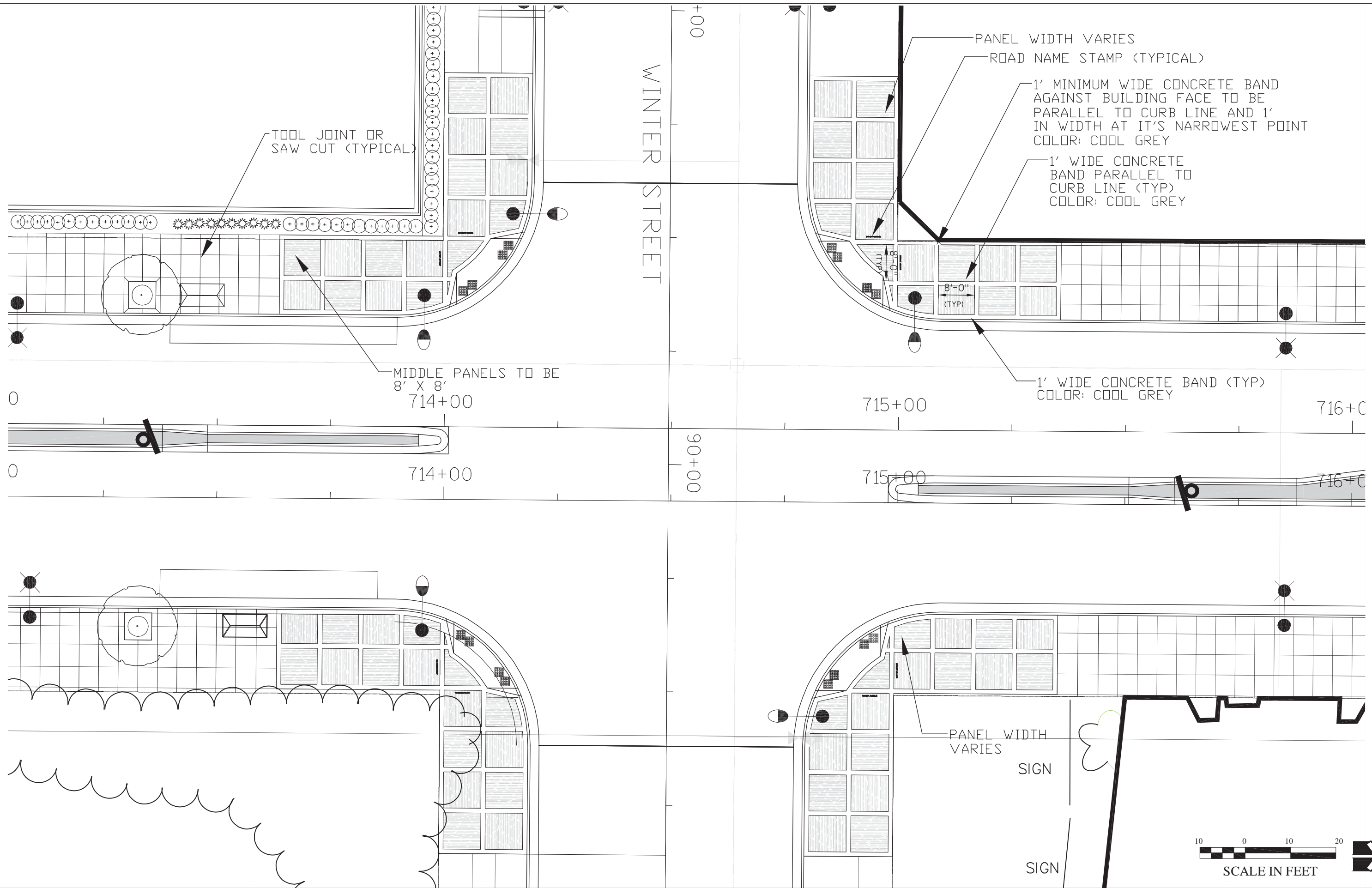


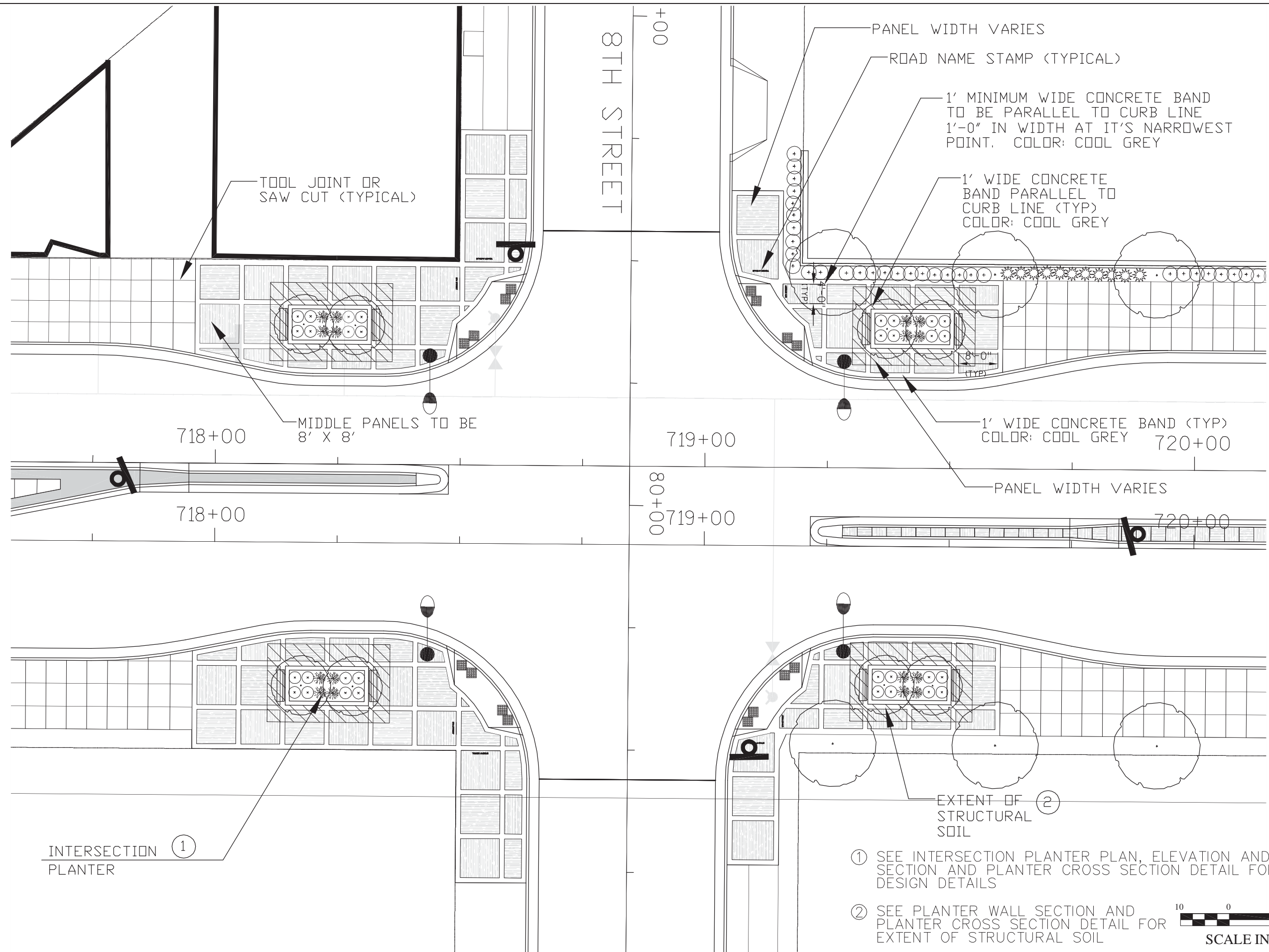
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- ② SEE PLANTER WALL SECTION AND PLANTER CROSS SECTION DETAIL FOR EXTENT OF STRUCTURAL SOIL

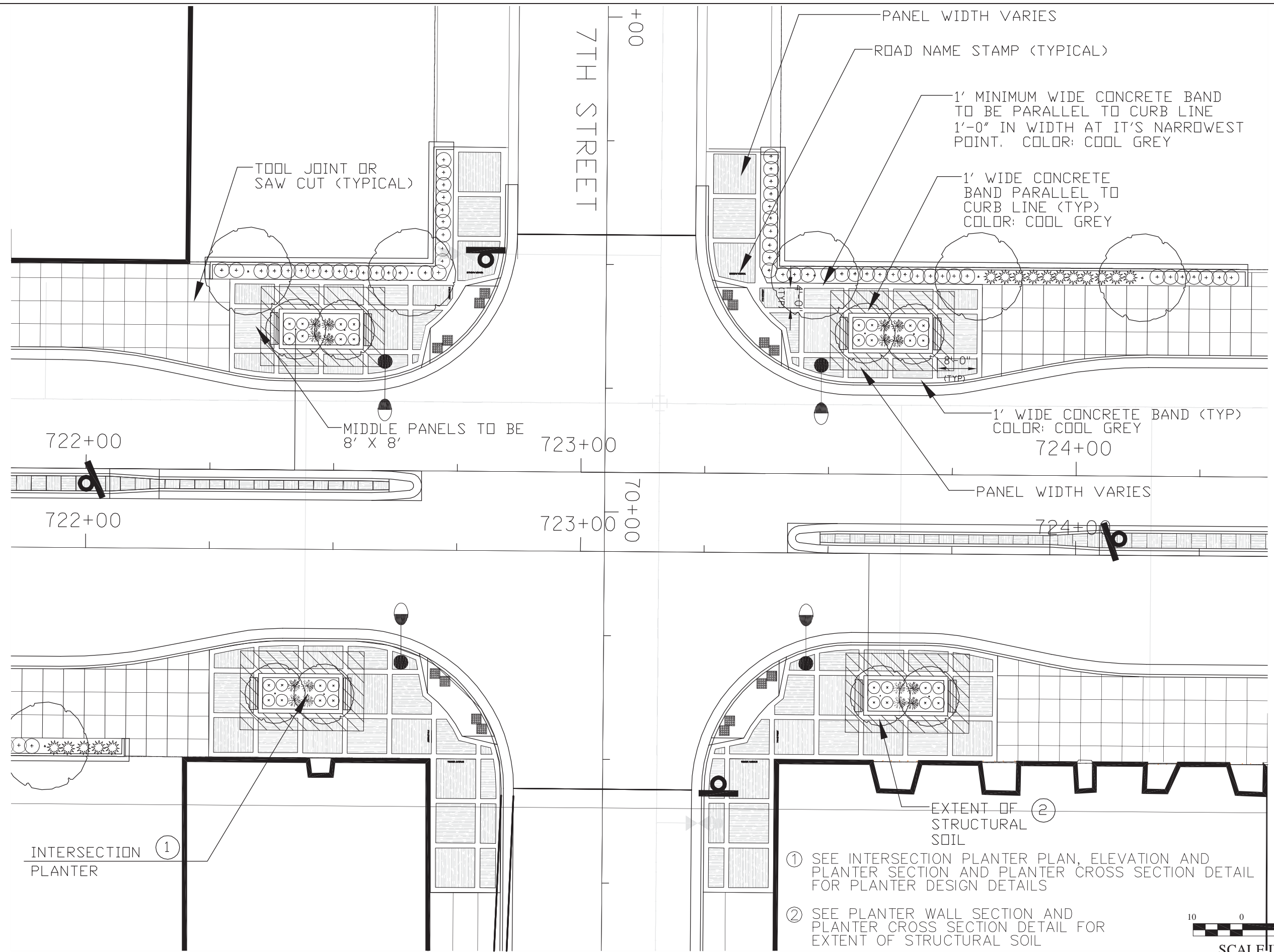






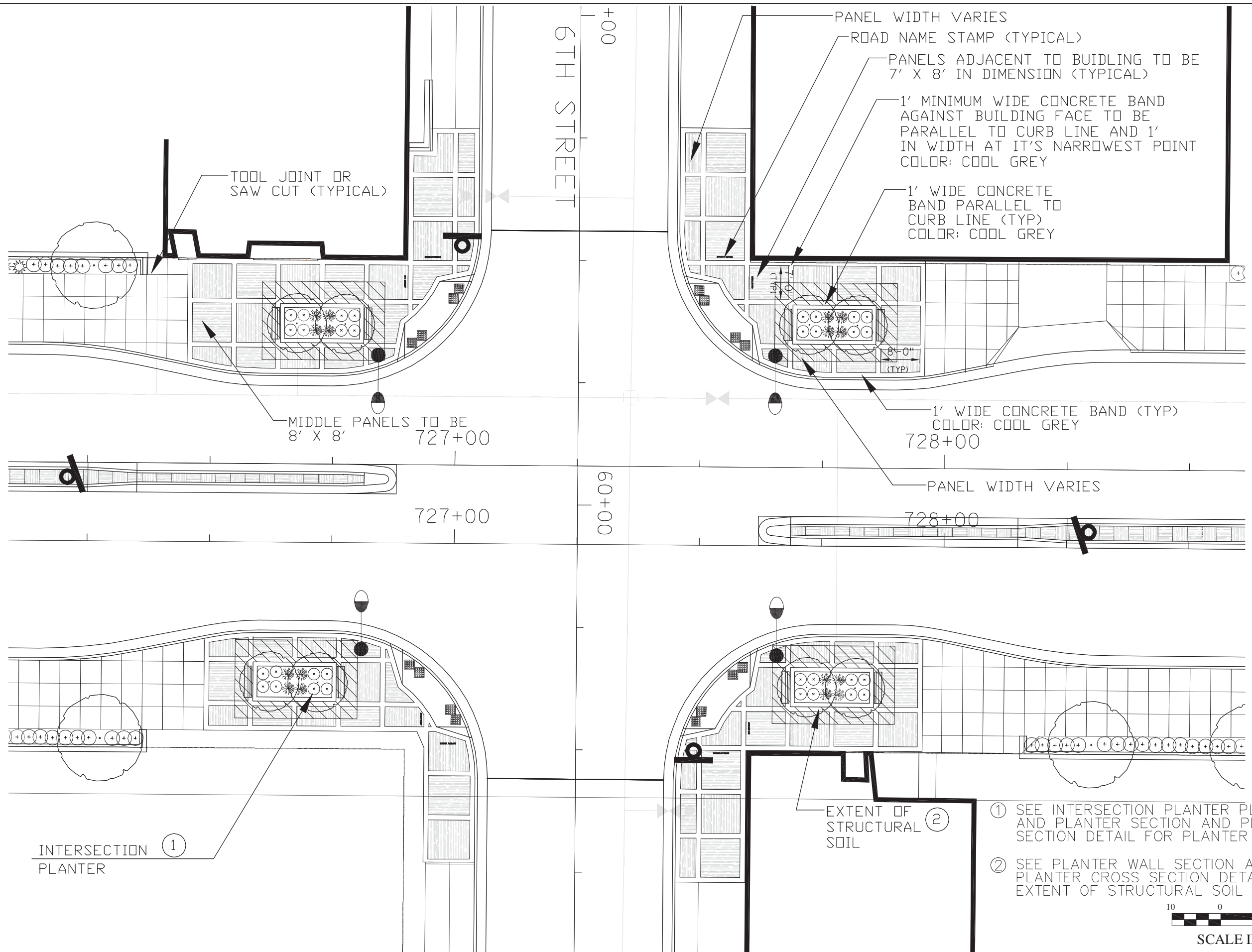


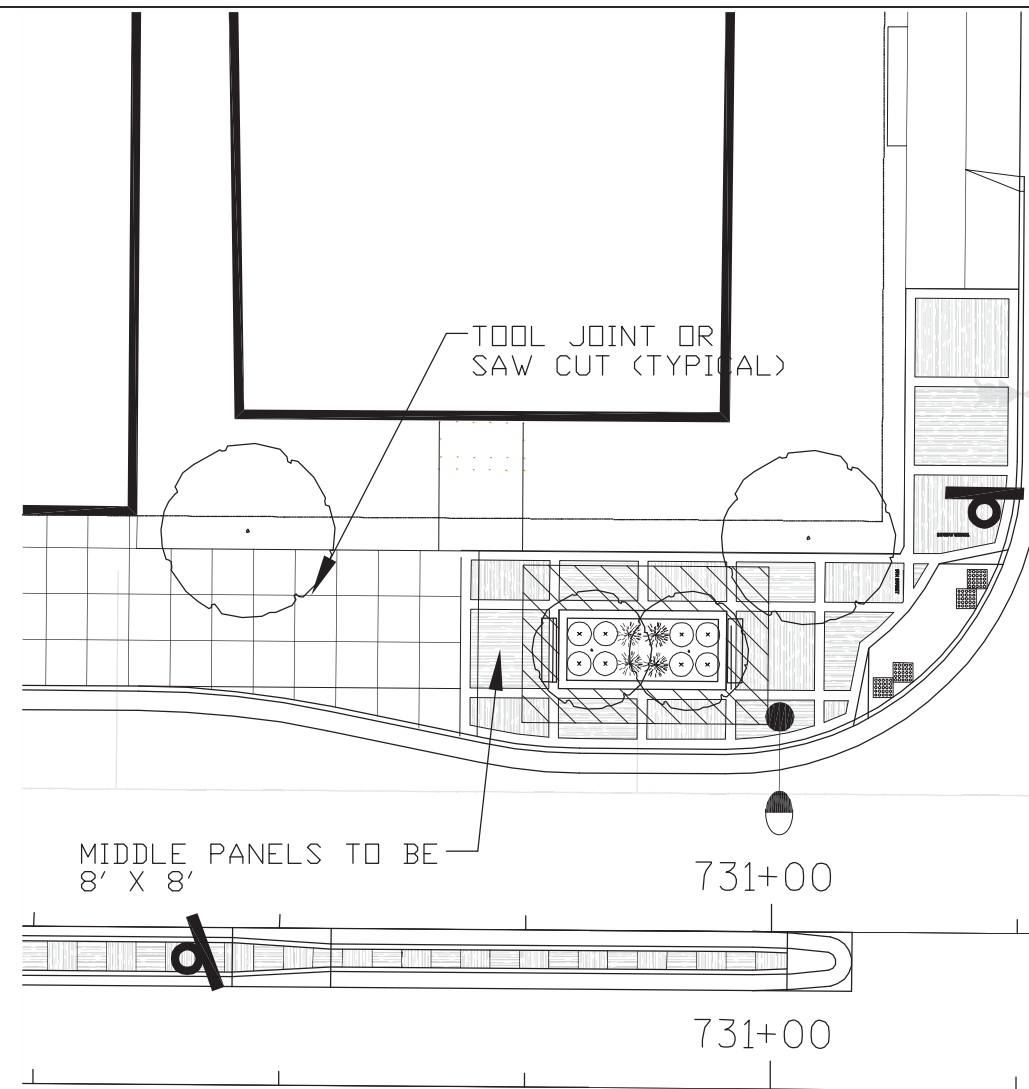




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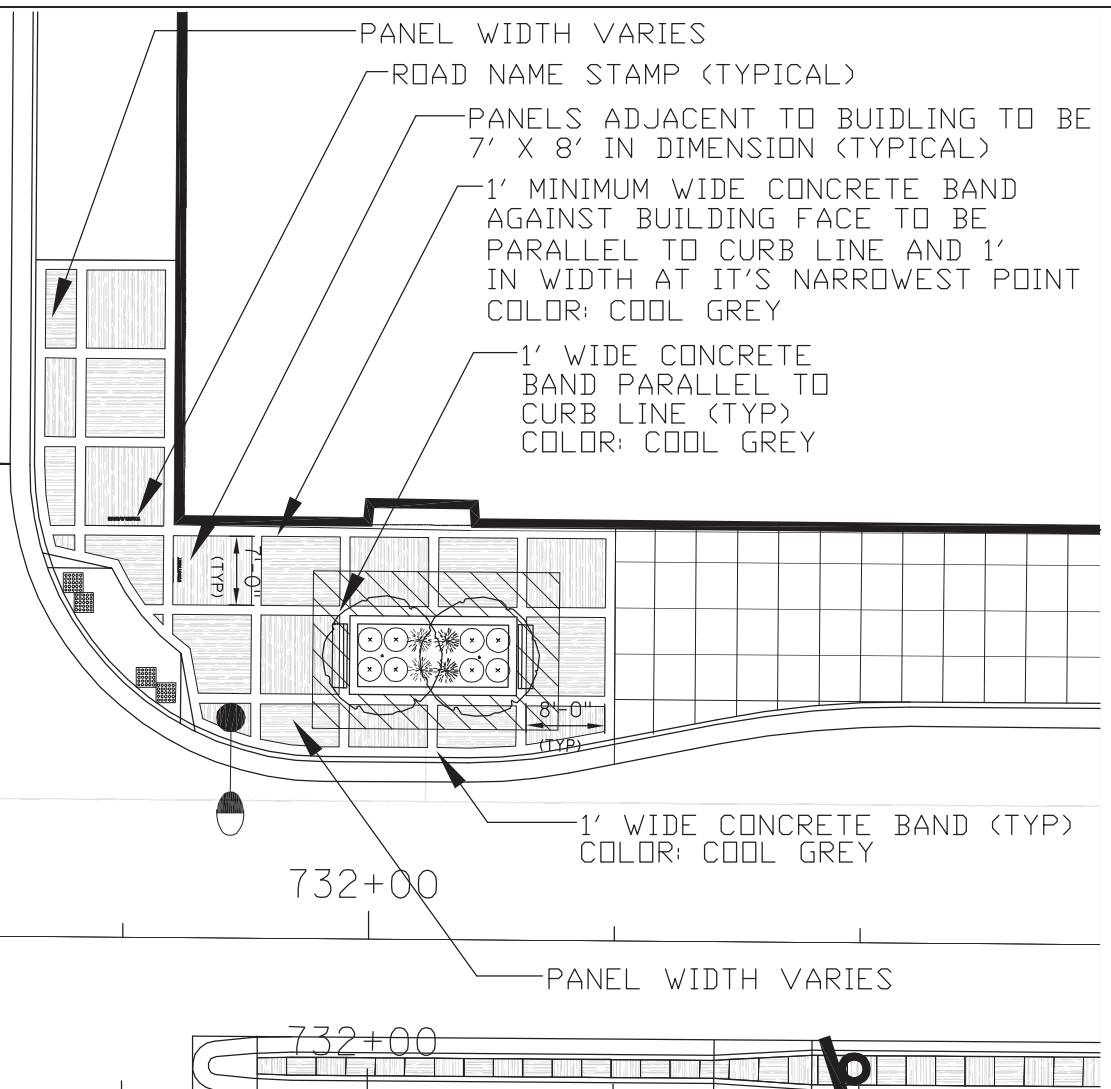




5TH STREET

+00

50+00



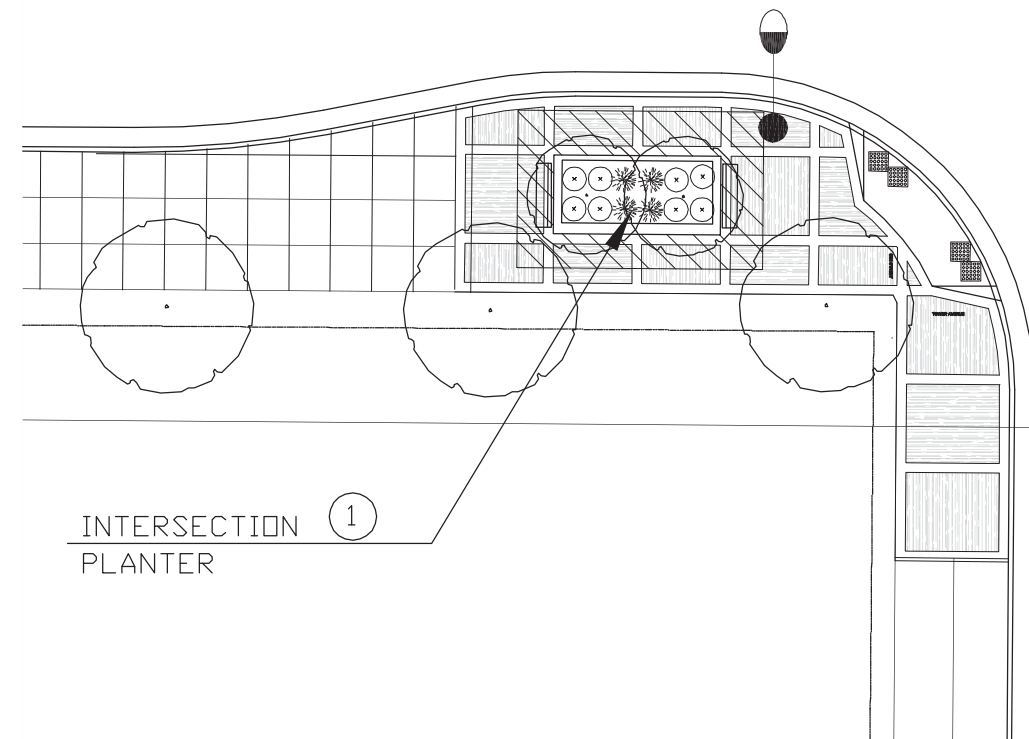
MIDDLE PANELS TO BE 8' X 8'

731+00

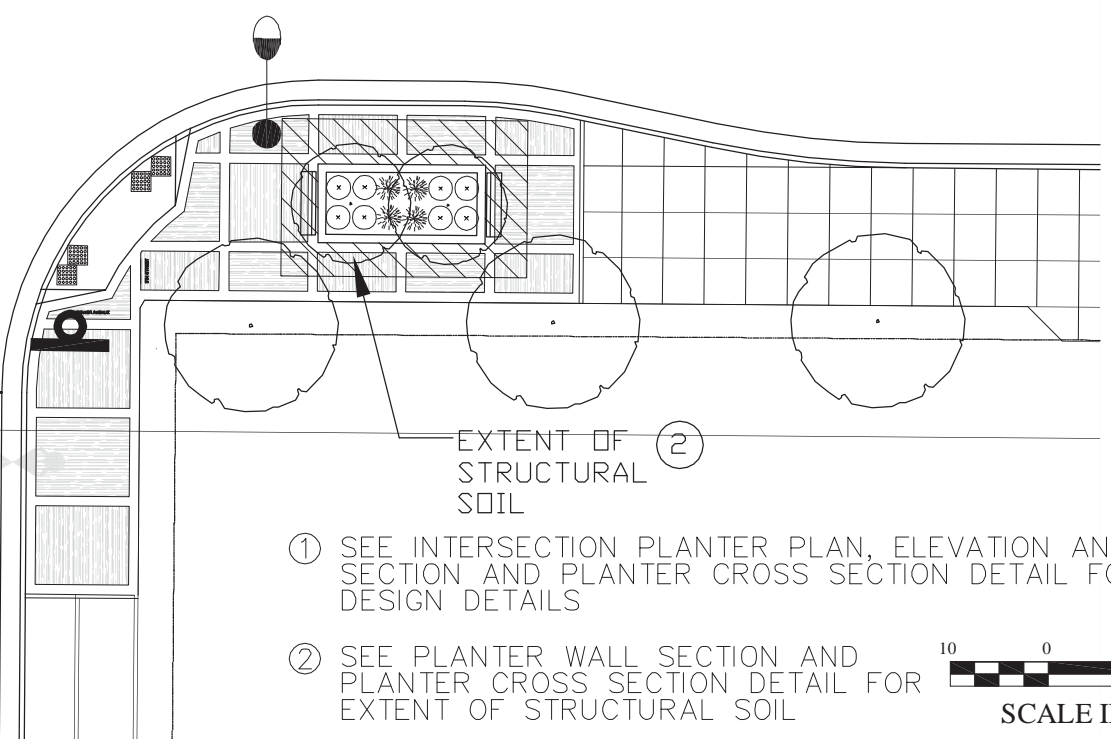
731+00

732+00

732+00



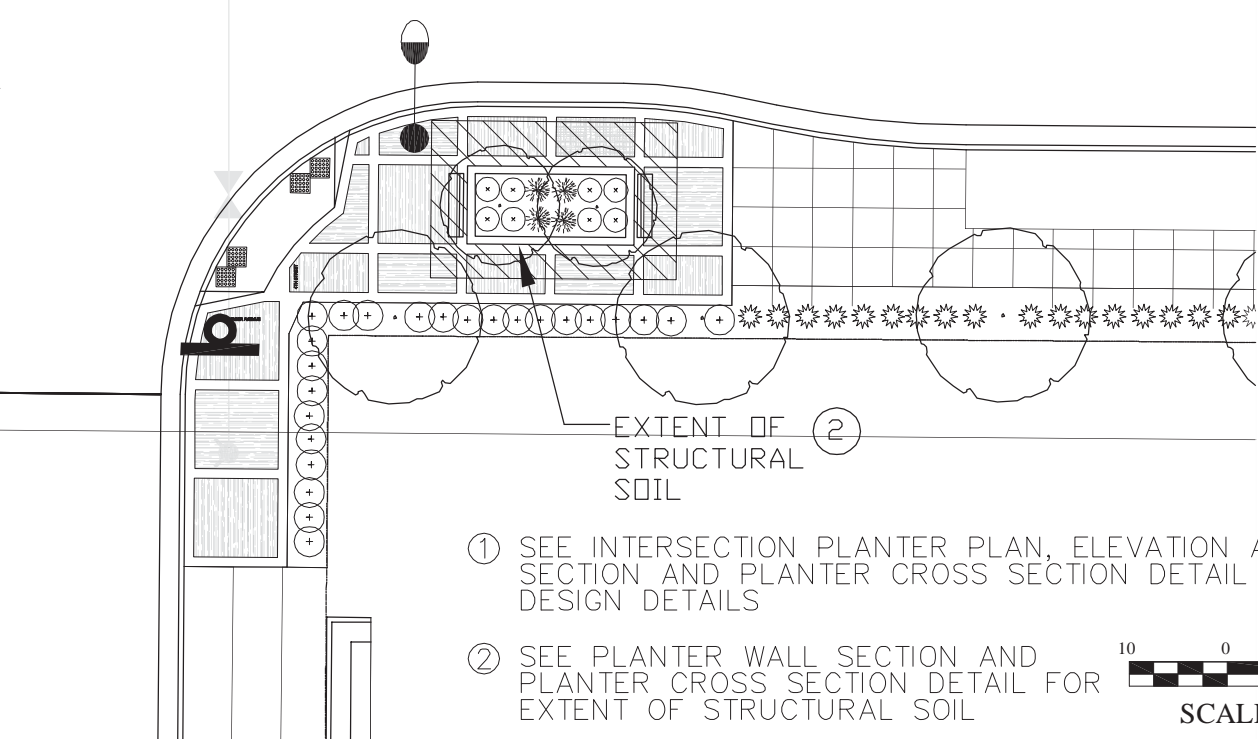
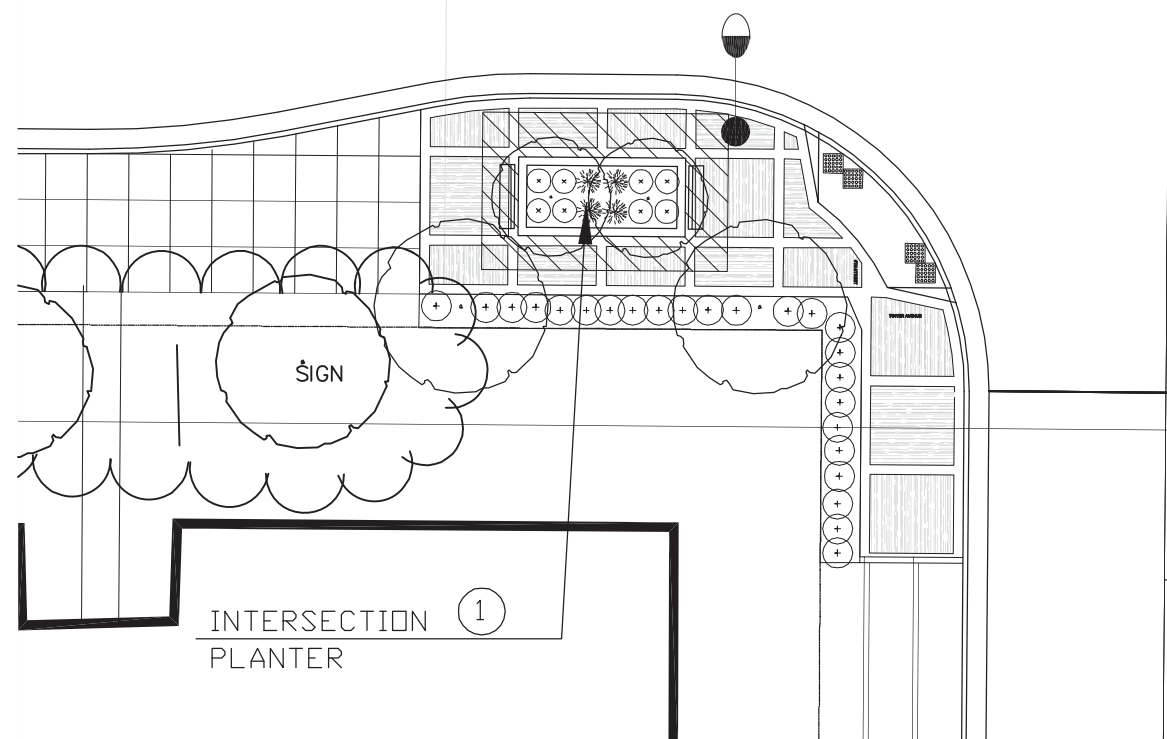
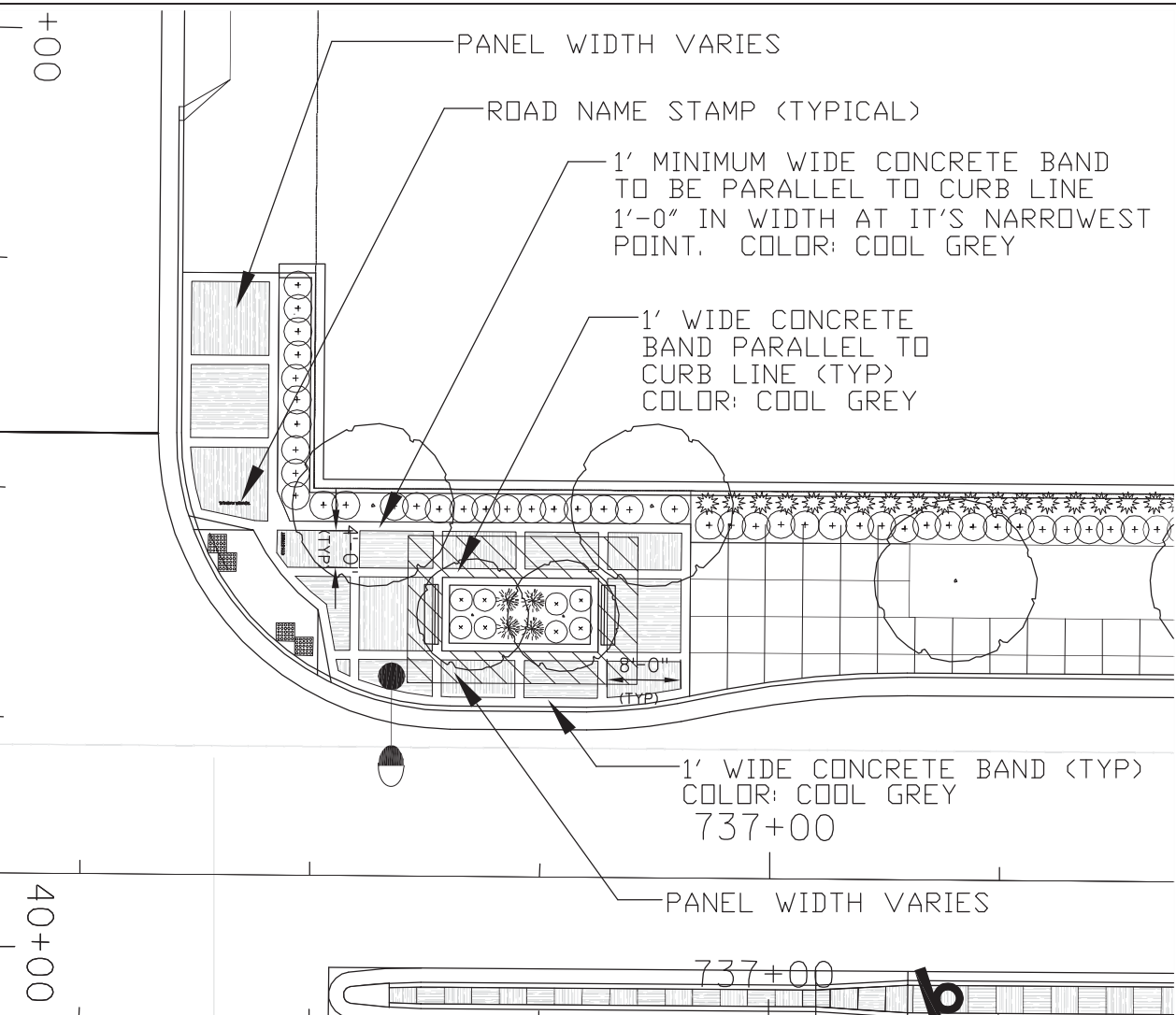
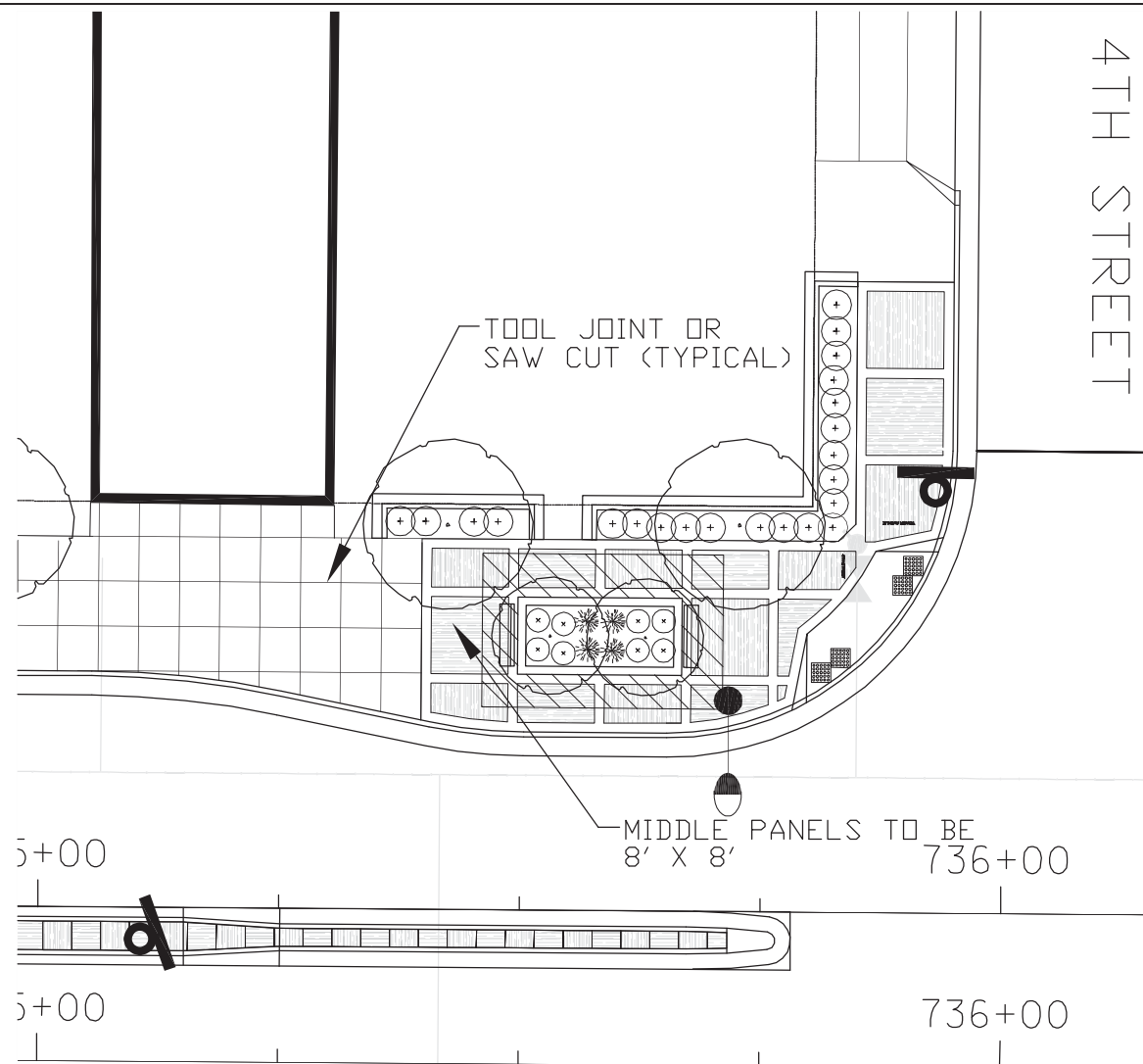
INTERSECTION PLANTER ①



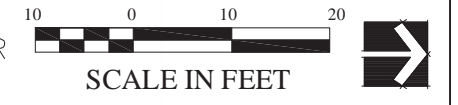
EXTENT OF STRUCTURAL SOIL ②

- ① SEE INTERSECTION PLANTER PLAN, ELEVATION AND PLANTER SECTION AND PLANTER CROSS SECTION DETAIL FOR PLANTER DESIGN DETAILS
- ② SEE PLANTER WALL SECTION AND PLANTER CROSS SECTION DETAIL FOR EXTENT OF STRUCTURAL SOIL





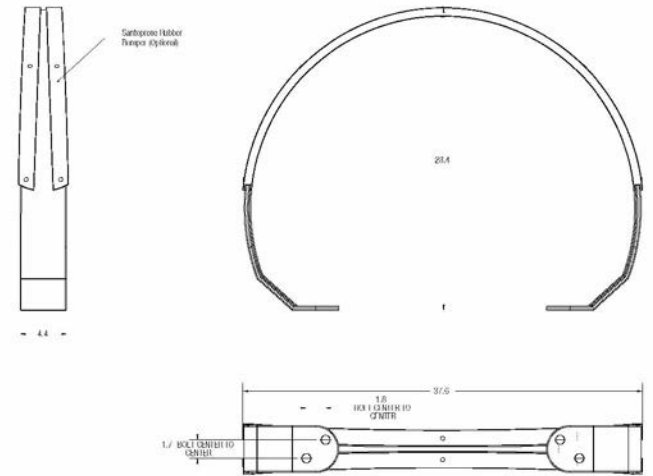
- ① SEE INTERSECTION PLANTER PLAN, ELEVATION AND PLANTER SECTION AND PLANTER CROSS SECTION DETAIL FOR PLANTER DESIGN DETAILS
- ② SEE PLANTER WALL SECTION AND PLANTER CROSS SECTION DETAIL FOR EXTENT OF STRUCTURAL SOIL





Fremont Bike Rack

BIKE RACKS ARE TO BE BLACK IN COLOR



### BIKE RACKS

NOT TO SCALE

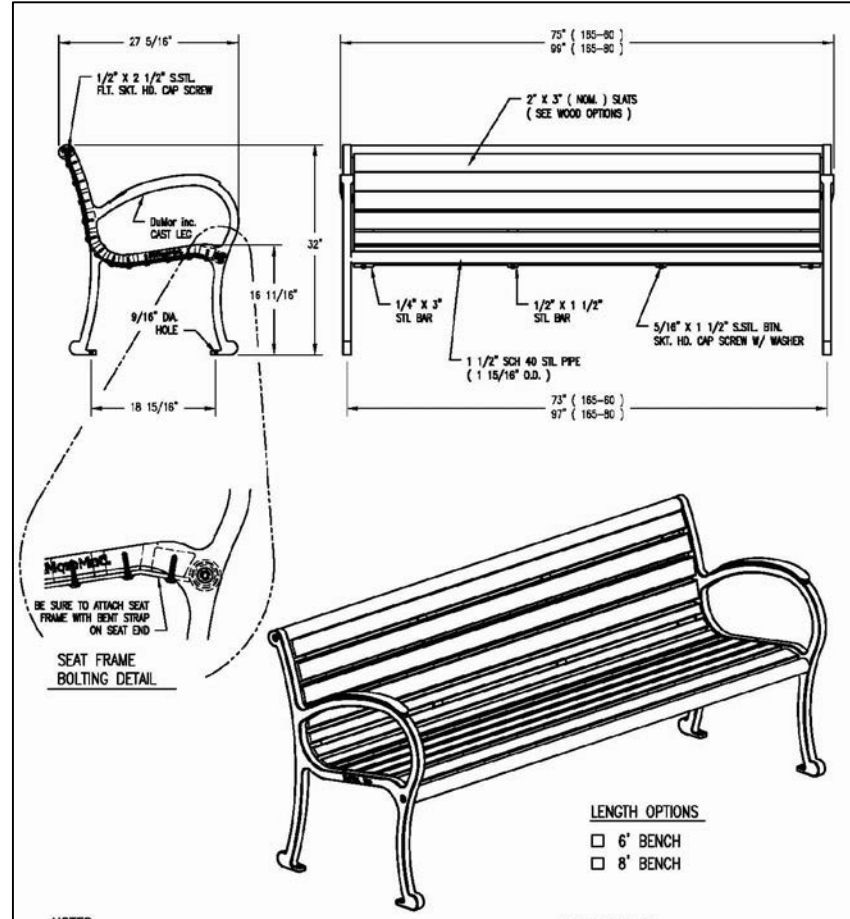
DuMor 165 Series Bench (6' Length)  
MODEL #165-60I

BENCHES ARE TO BE BLACK IN COLOR WITH  
IPE WOOD SLATS



### BENCHES

NOT TO SCALE



Rio 40 Gallon Trash Receptacle

TRASH RECEPTACLES ARE TO BE BLACK IN COLOR

### TRASH RECEPTACLES

NOT TO SCALE

**7232 DELSOL TREE GRATE**

72" x 72" tree grate in four sections.

1/2" Maximum slot opening for pedestrian safety and A.D.A. Compliance.

Cast from 100% recycled Iron, Aluminum, or Bronze for pedestrian loads only.

Tree opening: 16", 20", 24"  
Grates can be ordered with or later expanded to these openings, please specify when ordering.

Finish: unfinished or Black dip or Enamel paint or Polyurethane Paint or Powder coat  
Specify finish and color

Use frame model: 7200F-CS

Weight:  
Iron= 700 lb/ 318 Kg  
Aluminum=250lb/114Kg

**IRONSMITH**  
41-701 Corporate Way #3  
Palm Desert, CA 92260  
800.338.4766

This drawing embodies a confidential proprietary design of IRONSMITH, INC. Palm Desert, Ca. All design, manufacturing, reproduction, use, sale, and other rights regarding the same are expressly reserved. This drawing is submitted under confidential relationship for a specific purpose and the recipient agrees by accepting this drawing not to supply or disclose any information regarding it to any unauthorized person or to incorporate any special feature peculiar to this design in other projects. The information in this drawing may be covered completely or in part by patents pending.

IRONSMITH DEL SOL TREE GRATE (72" SQUARE)



ELECTRIC RECEPTACLE

TREE GRATES AND FRAME ARE TO BE OF HIGH STRENGTH ASTM A-536 UNFINISHED DUCTILE IRON

**7232 DELSOL TREE GRATE**

Lightwell recessed 3/8" from top surface of grate.

Two bolting lugs, threaded 3/8"-16 for mounting accessories.

**IRONSMITH**  
41-701 Corporate Way #3  
Palm Desert, CA 92260  
800.338.4766

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ELECTRIC RECEPTACLE LOCATION  
TREE GRATE DETAIL

NOT TO SCALE

**7200FCS SQUARE TREE GRATE FRAME**

WITH DETAIL #1- STANDARD CONCRETE ANCHORS

FRAME JIG WELDED FROM 1-3/4" x 1-3/4" x 1/4" STEEL ANGLE PER ASTM A36

ANCHORS 1/2" NELSON ANCHORS MACHINE WELDED TO FRAME

CROSS SUPPORTS FABRICATED FROM 2-1/2" x 2-1/2" x 1/4" STEEL ANGLE AND SUPPLIED IN A BOLT TOGETHER SECTIONS

**NOTE:**  
FOR TREE GRATES WITH OPENINGS LARGER THAN 30" FRAME OPENING IS 41"

FRAME FINISH: UNFINISHED or GALVANIZED or POWDER COAT

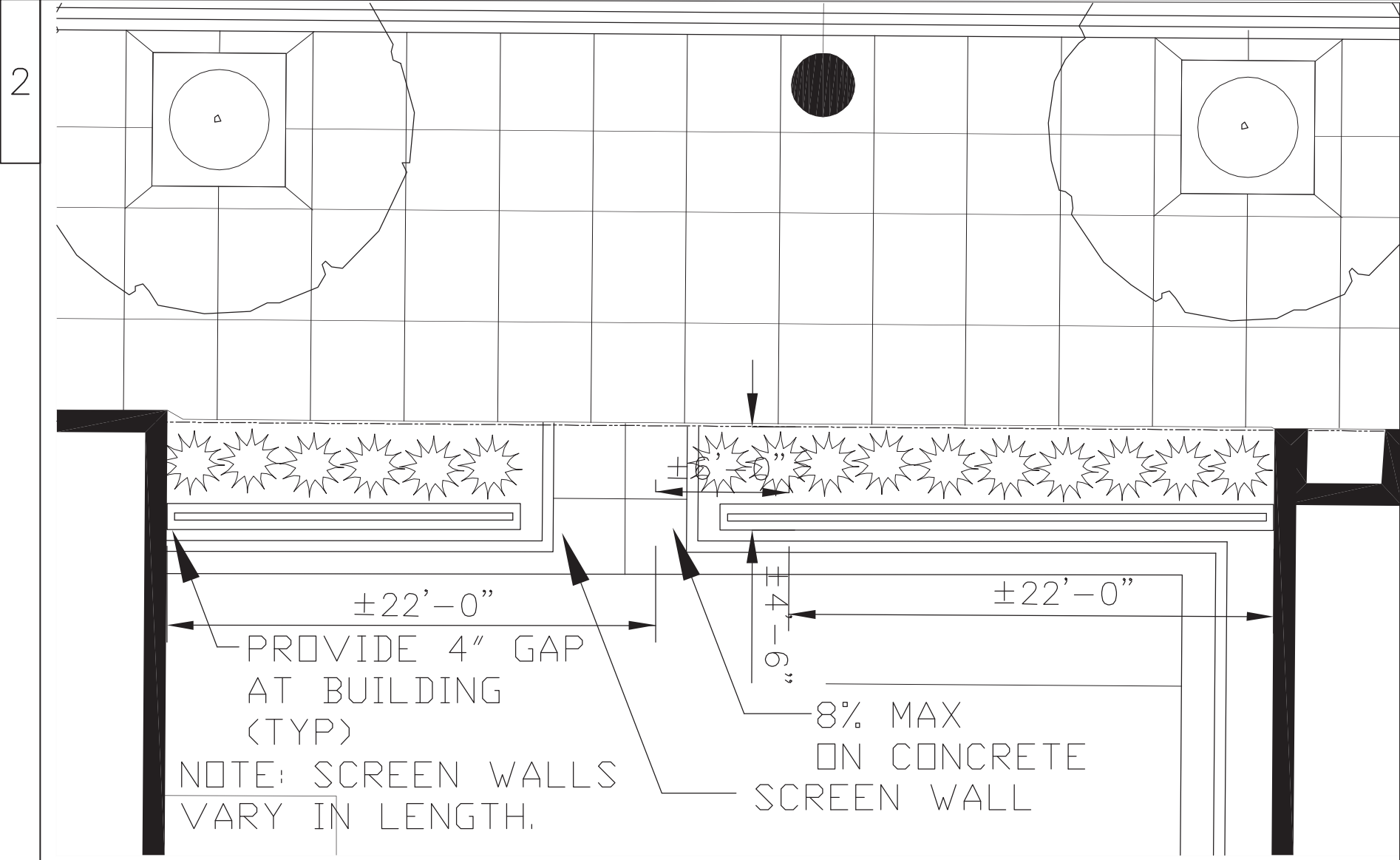
OTHER INSTALLATION CONFIGURATIONS AVAILABLE

**IRONSMITH**  
41701 Corporate Way #3  
Palm Desert, CA 92260  
(800)338-4766  
www.ironsmith.biz

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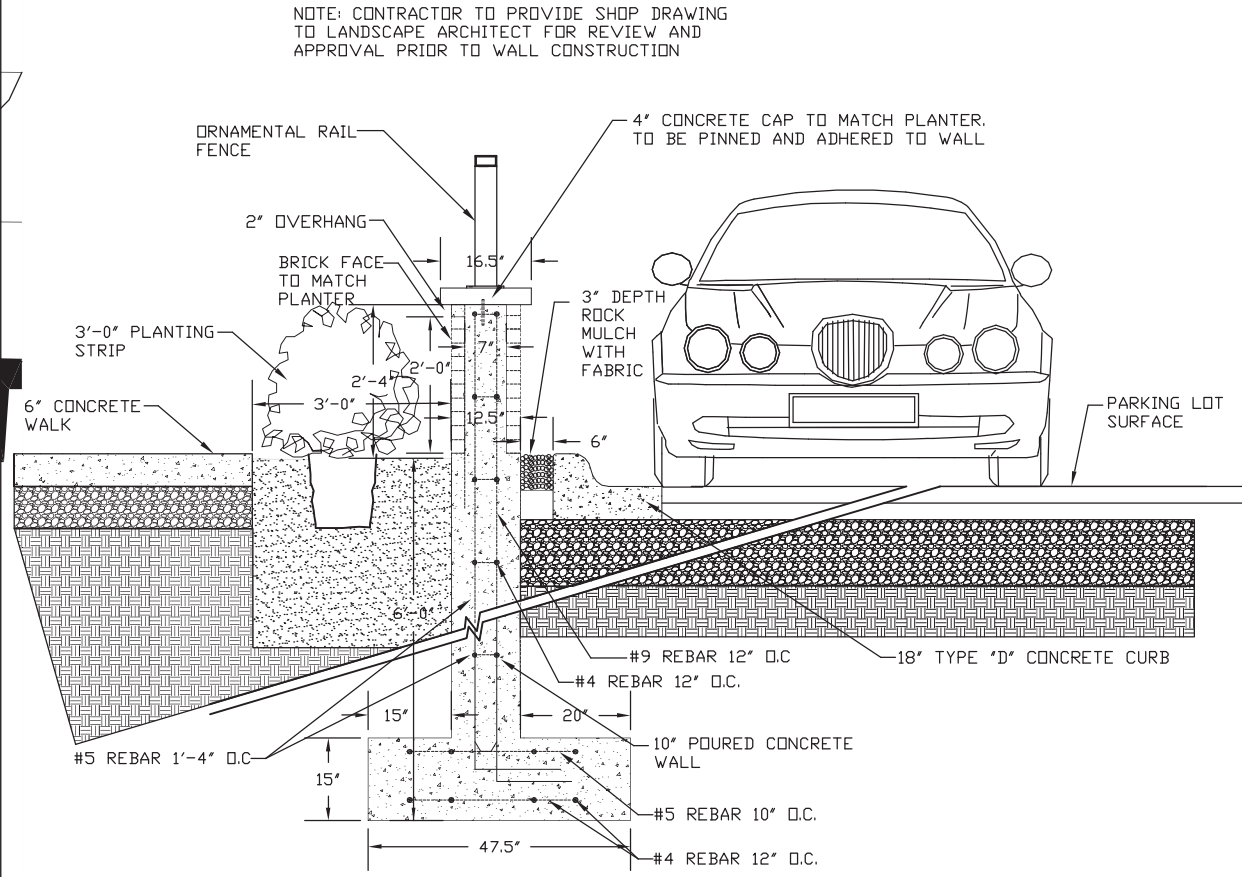
SQUARE TREE GRATE FRAME





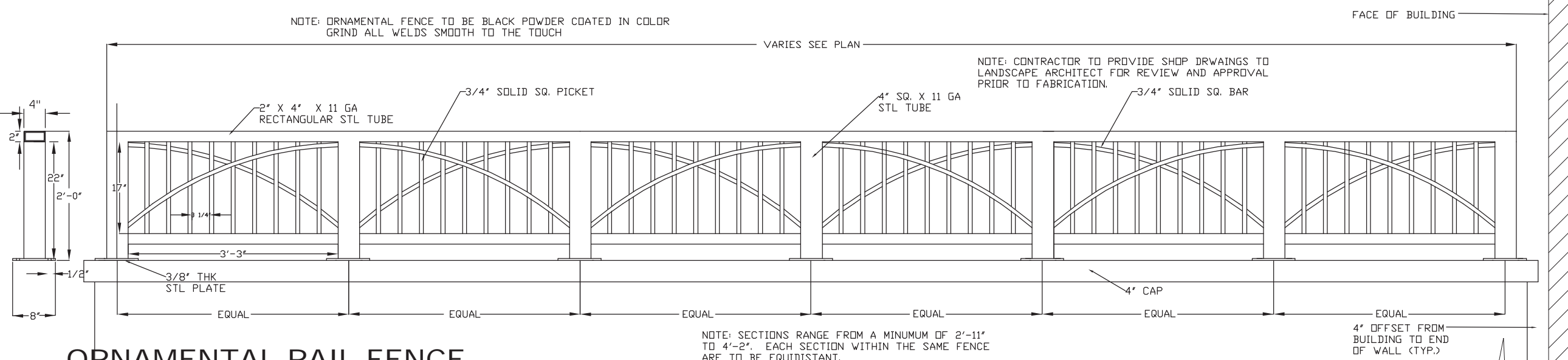
**SCREEN WALL PLAN VIEW**

NOT TO SCALE



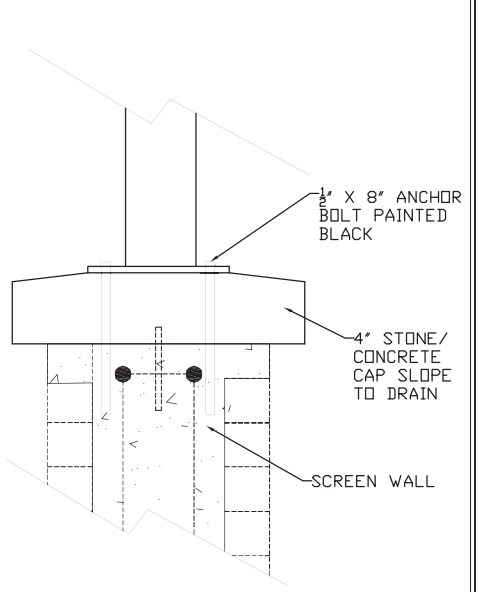
**SCREEN WALL CROSS SECTION**

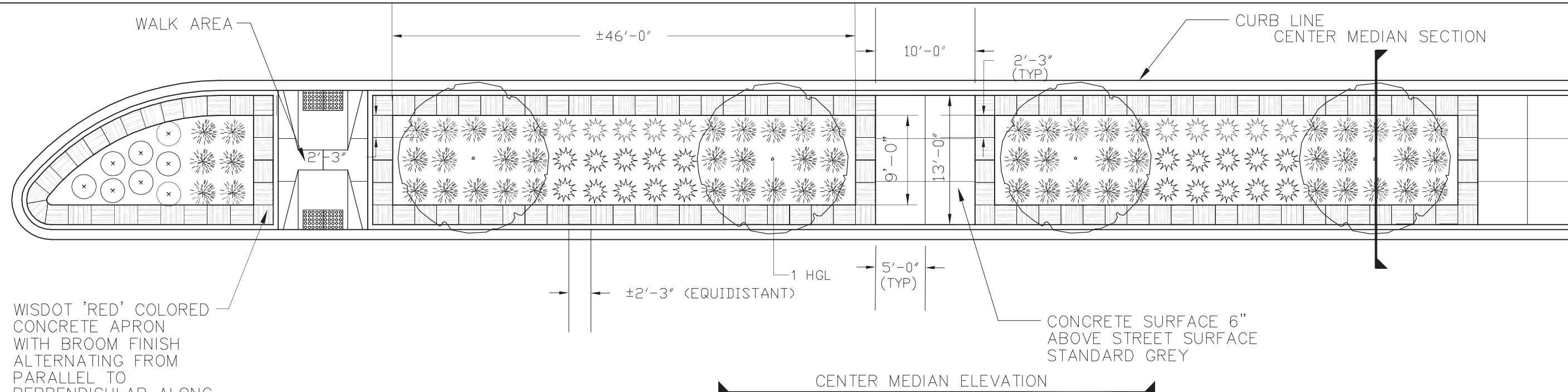
NOT TO SCALE



**ORNAMENTAL RAIL FENCE**

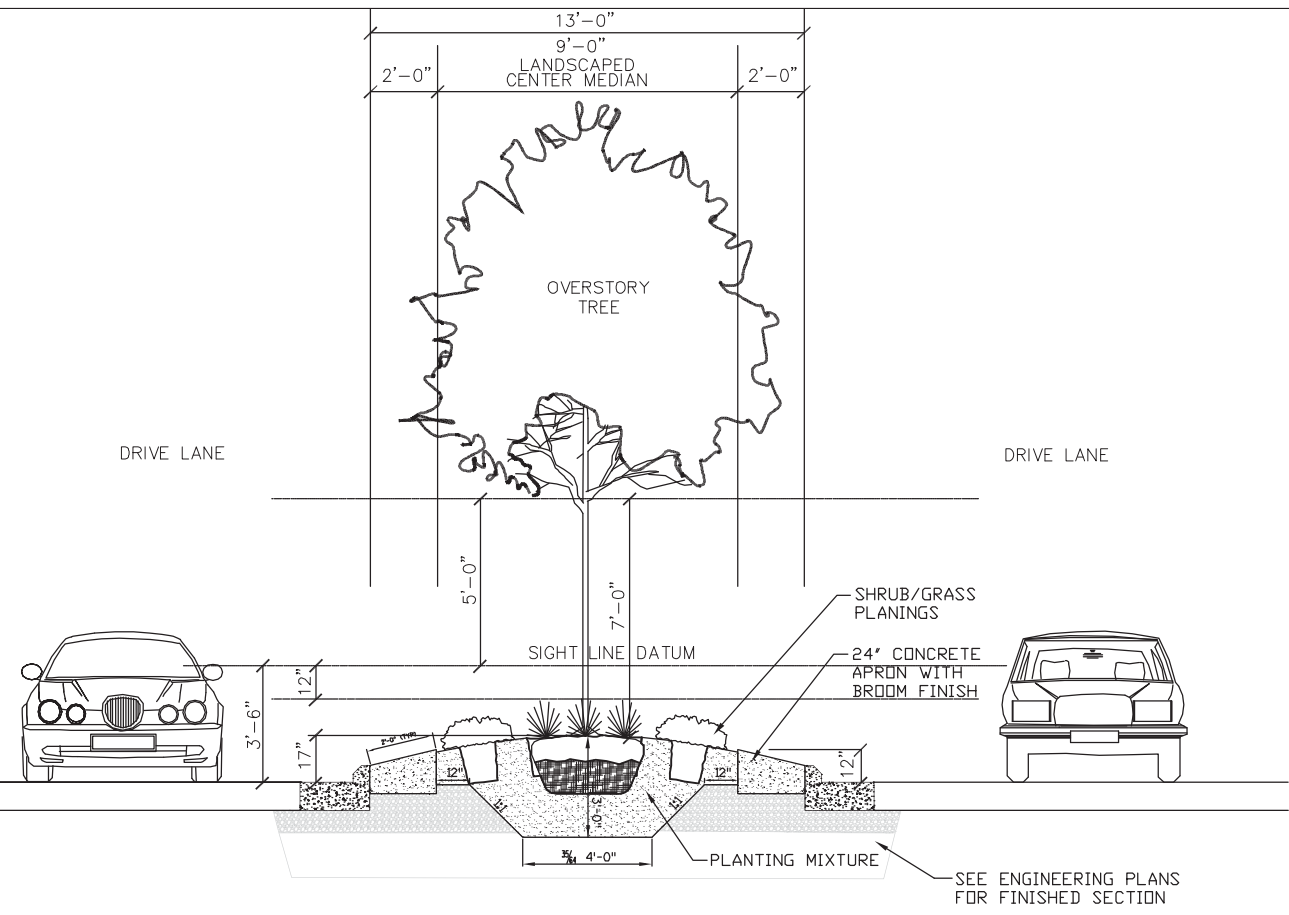
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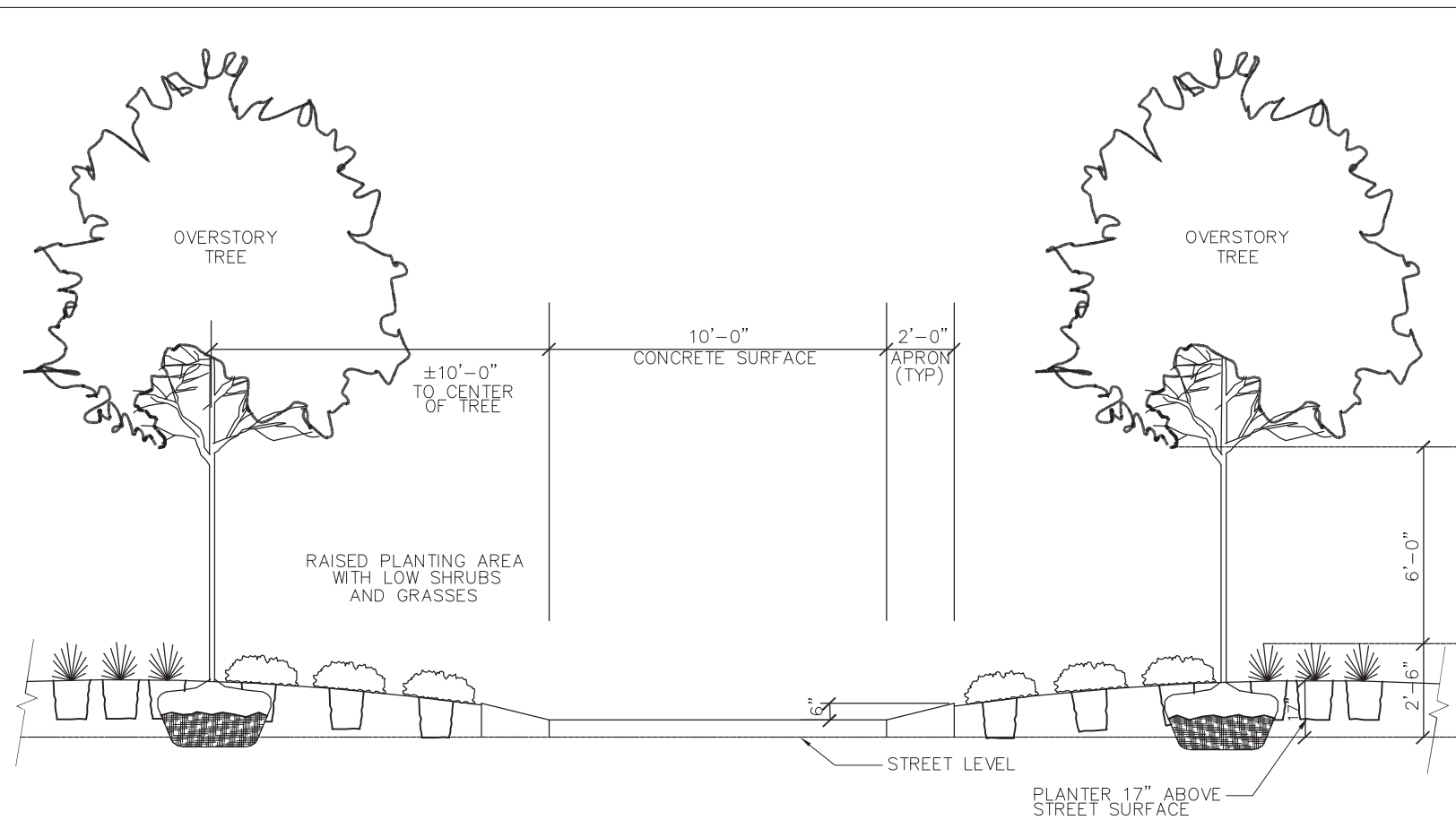
**PLANTED CENTER MEDIAN PLAN VIEW**

NOT TO SCALE



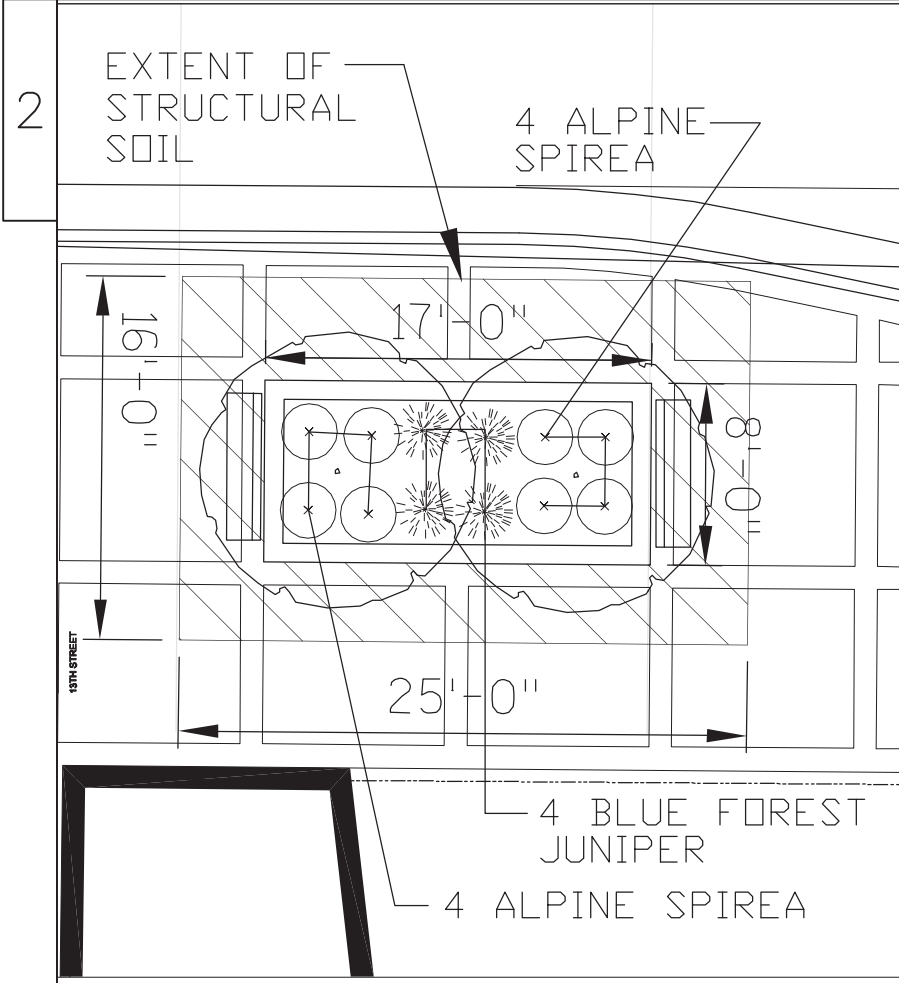
**PLANTED CENTER MEDIAN SECTION**

NOT TO SCALE

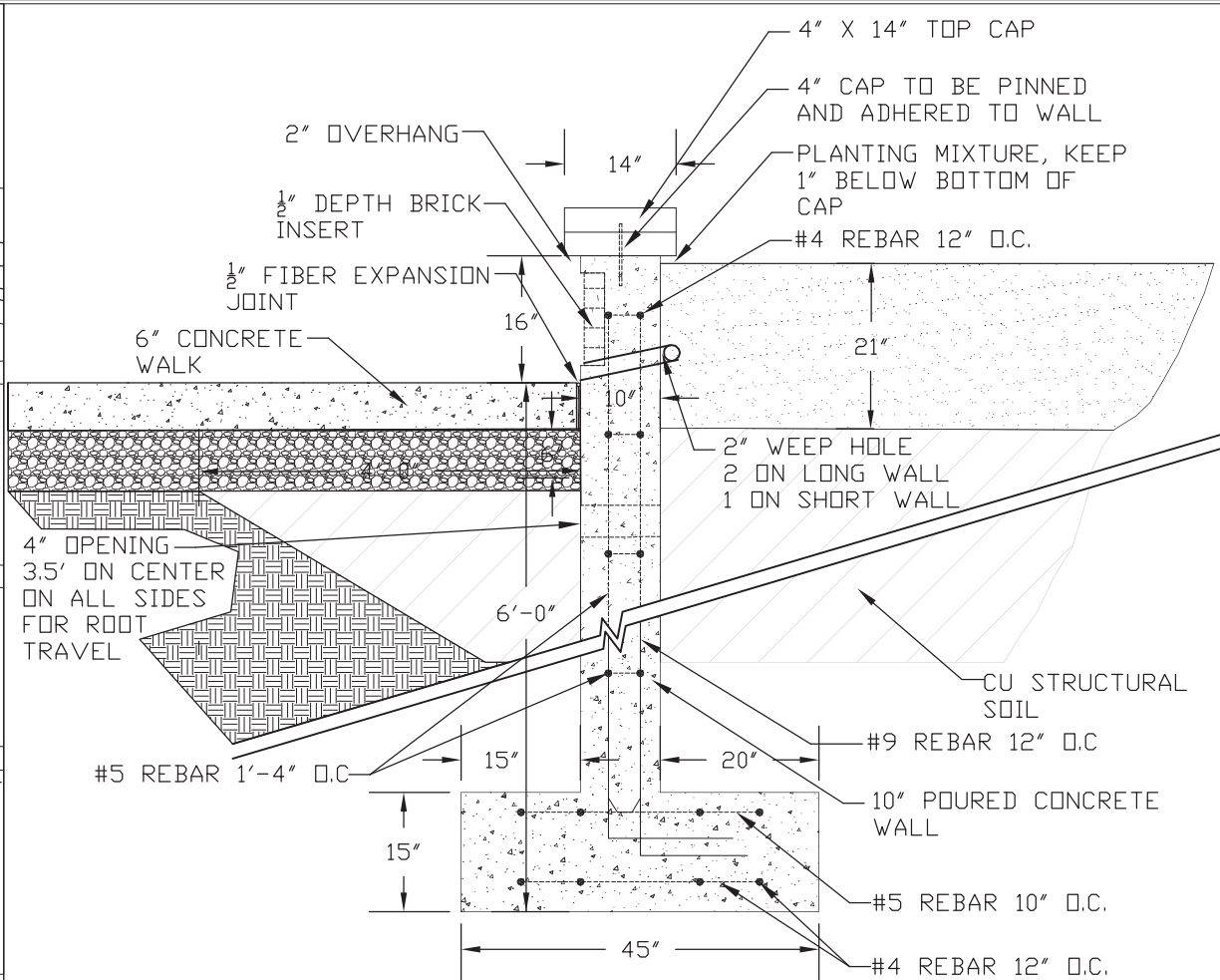


**PLANTED CENTER MEDIAN ELEVATION**

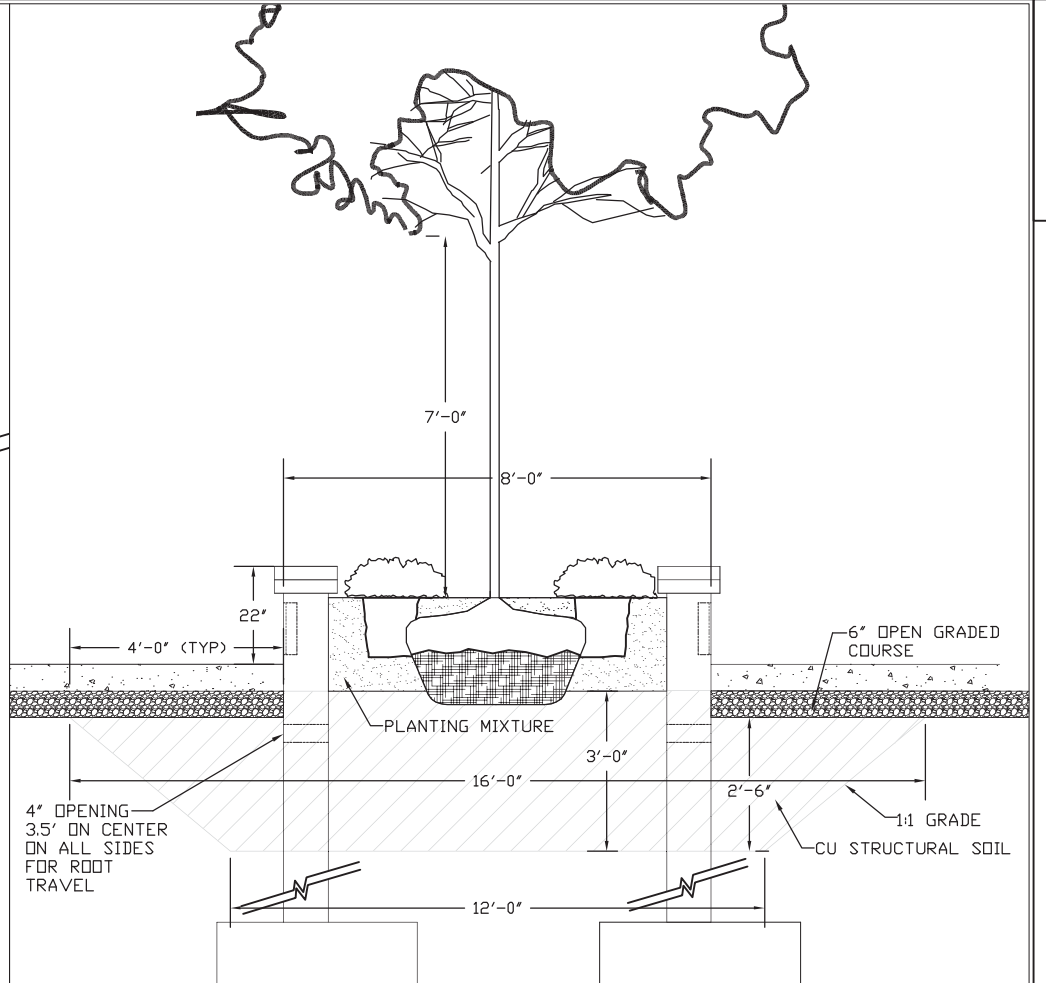
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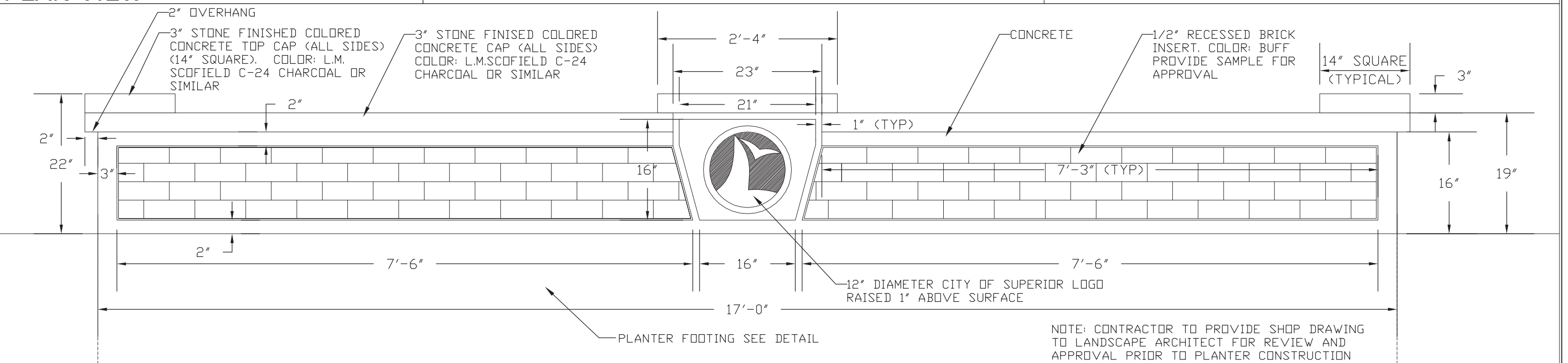
**INTERSECTION PLANTER**  
PLAN VIEW  
NOT TO SCALE



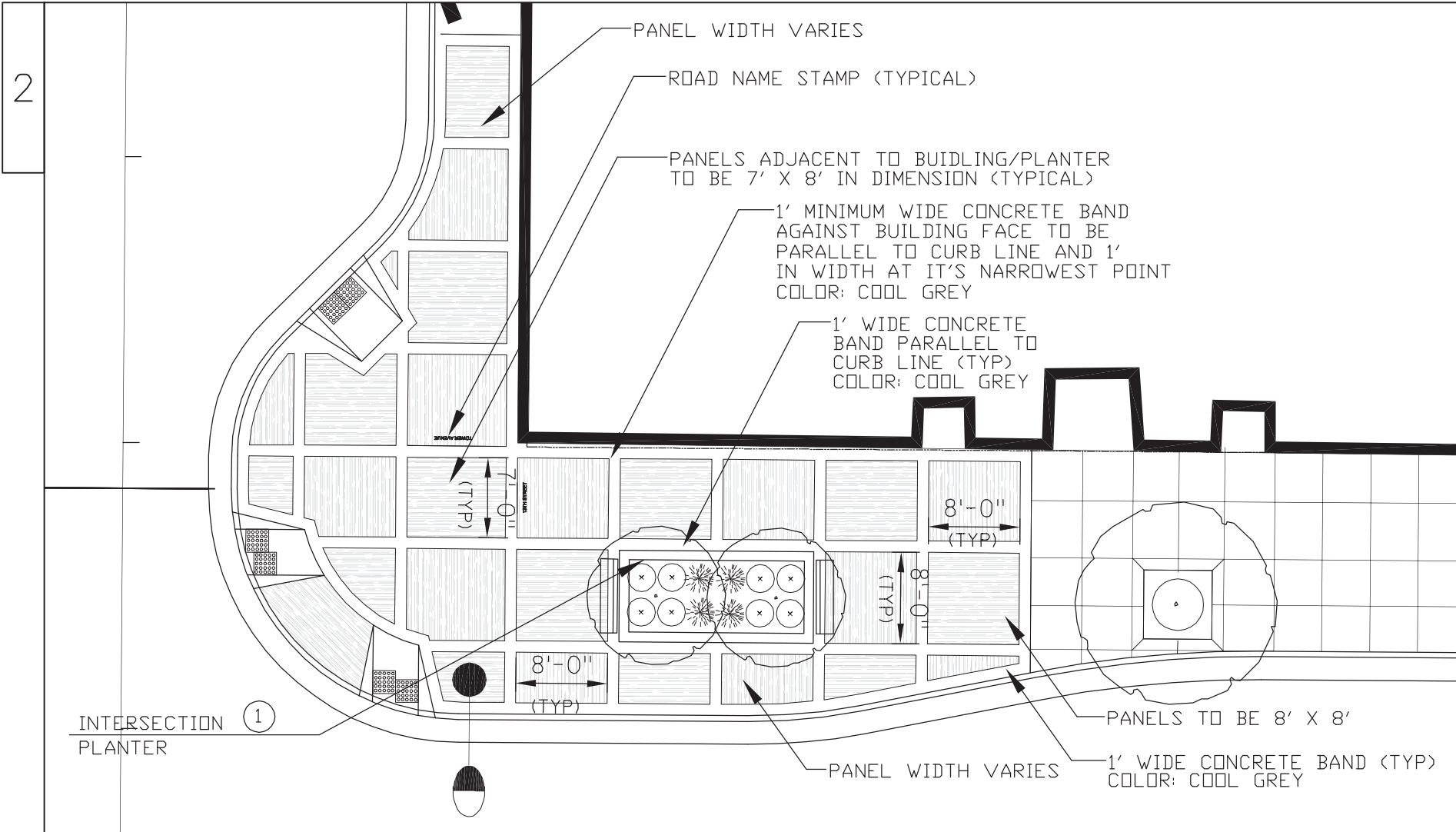
**PLANTER WALL SECTION**  
NOT TO SCALE



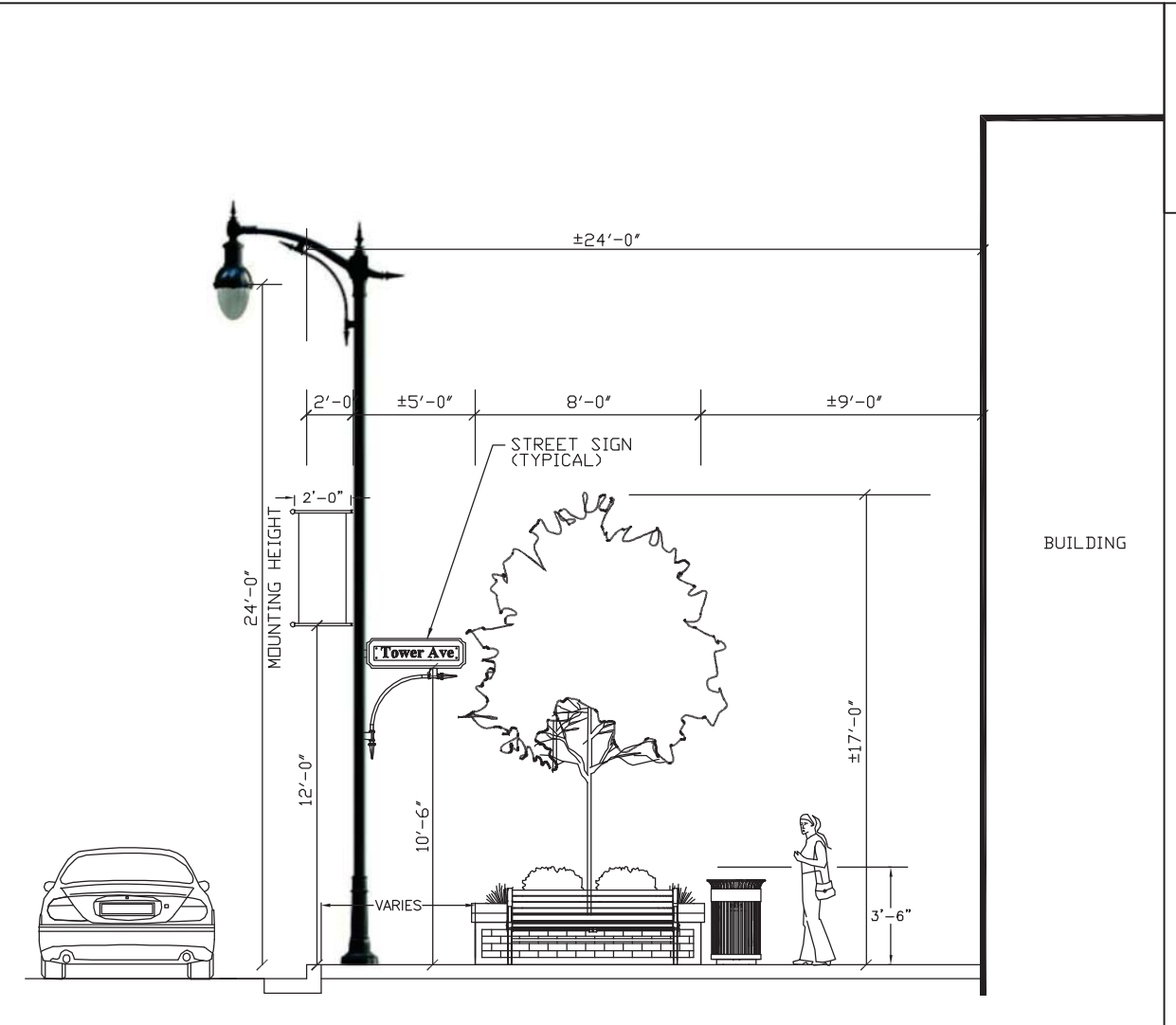
**PLANTER CROSS SECTION**  
NOT TO SCALE



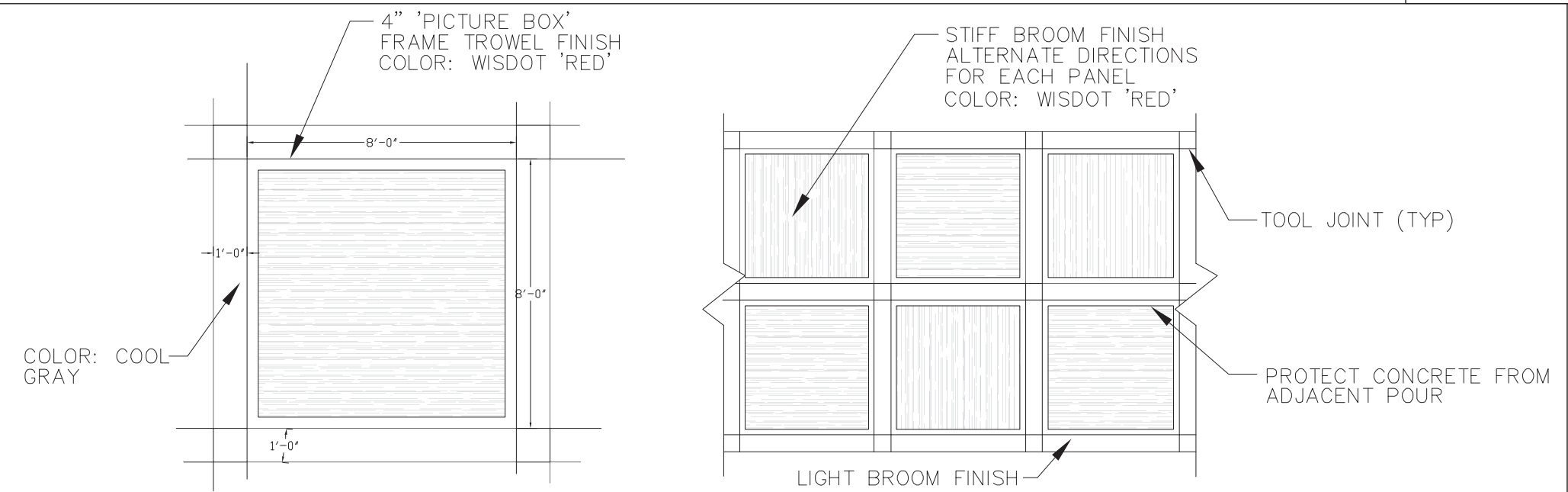
**INTERSECTION PLANTER ELEVATION**  
NOT TO SCALE



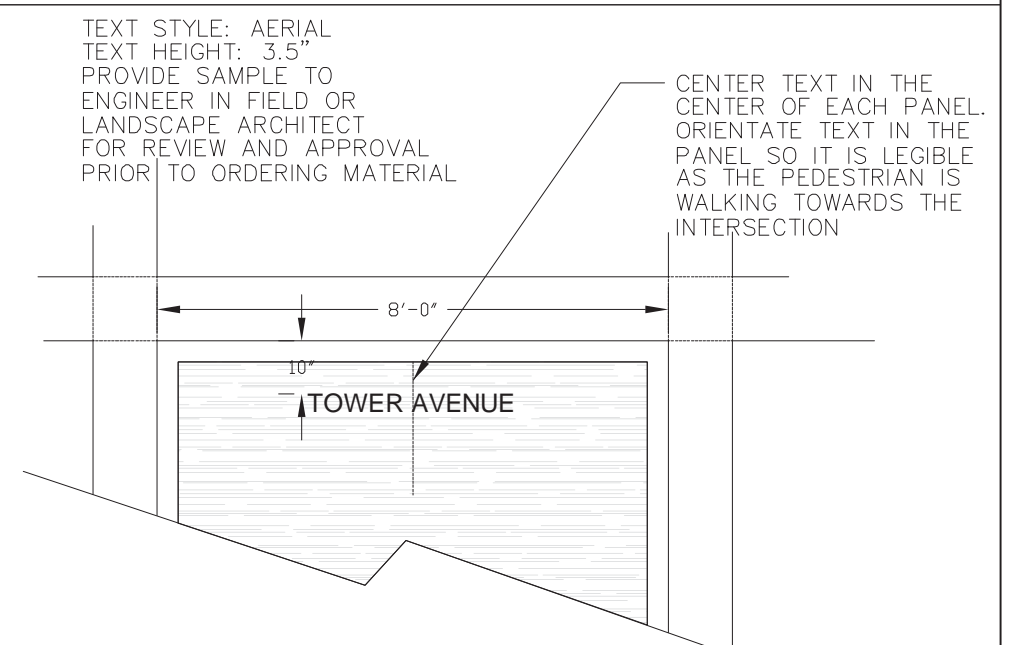
**INTERSECTION BUMP OUT PLAN VIEW (SOUTH END TYPICAL)**  
NOT TO SCALE



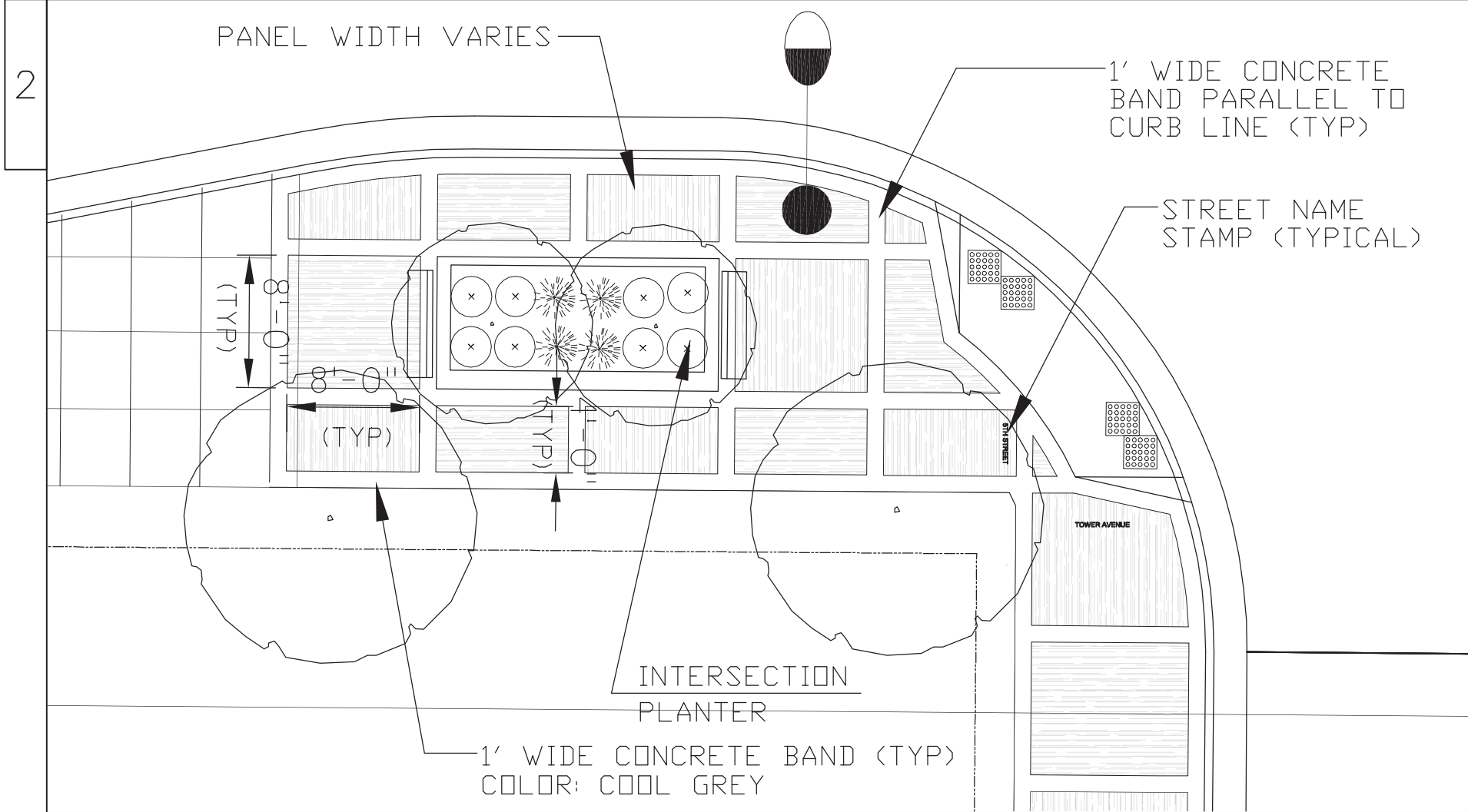
**INTERSECTION BUMP OUT ELEVATION**  
NOT TO SCALE



**INTERSECTION BUMP OUT COLORED CONCRETE DETAIL**  
NOT TO SCALE

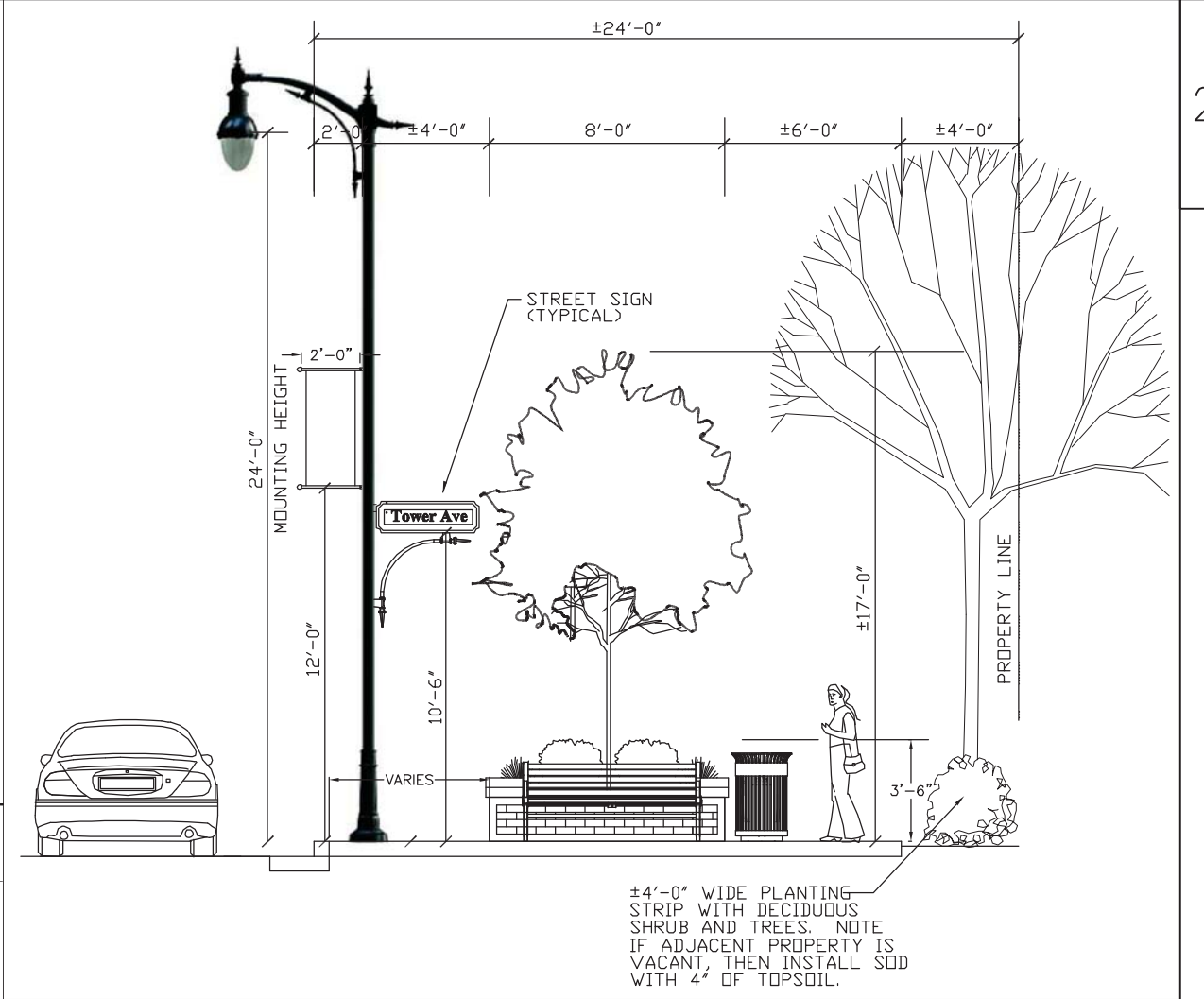


**STREET NAME STAMP**  
NOT TO SCALE



**INTERSECTION BUMP OUT PLAN VIEW (NORTH END TYPICAL)**

NOT TO SCALE

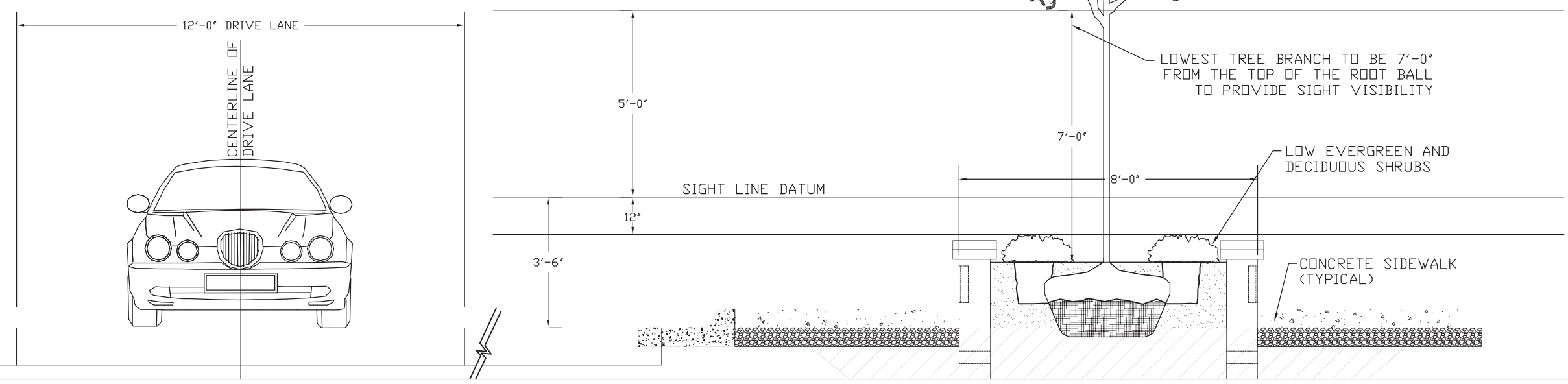


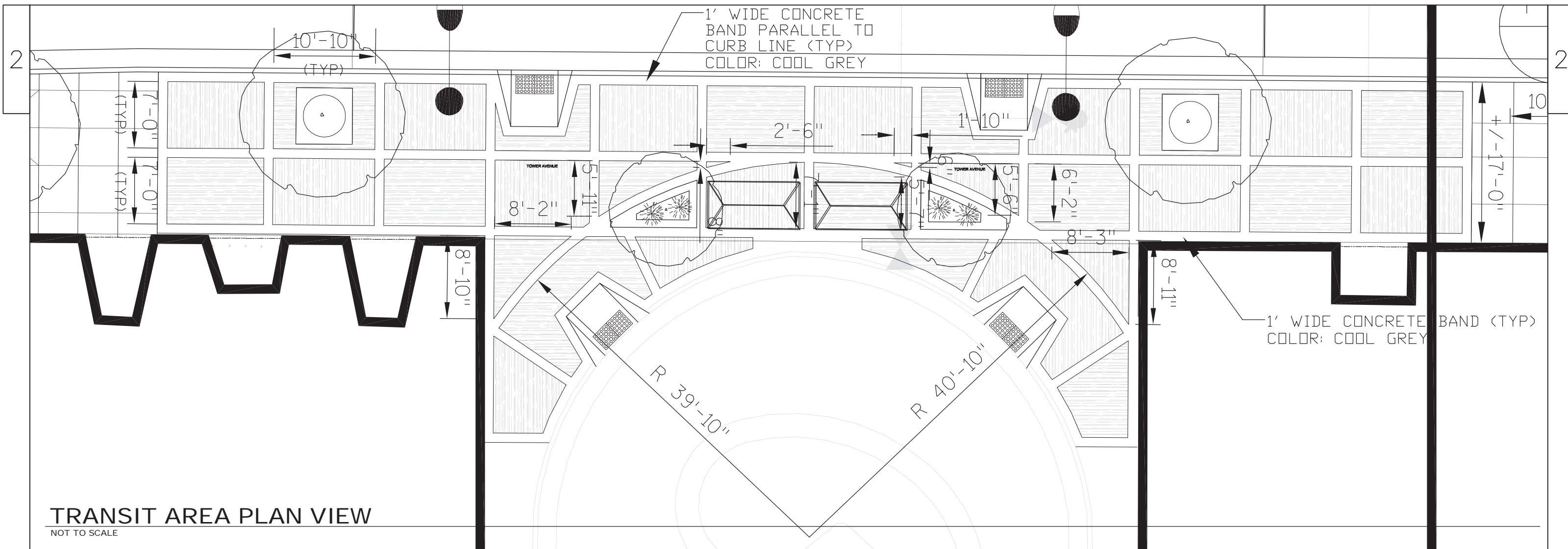
**INTERSECTION BUMP OUT ELEVATION**

NOT TO SCALE

**INTERSECTION PLANTER SIGHT VISIBILITY**

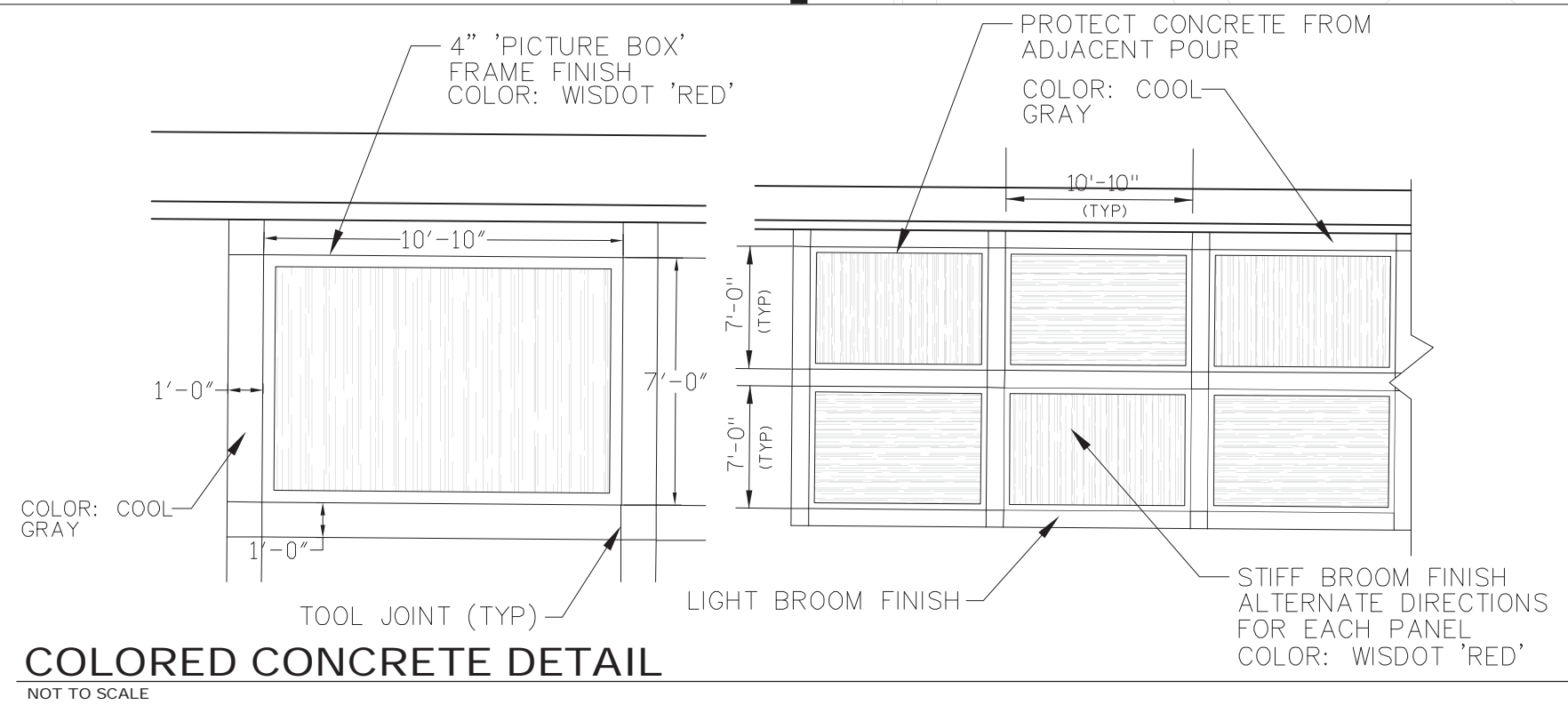
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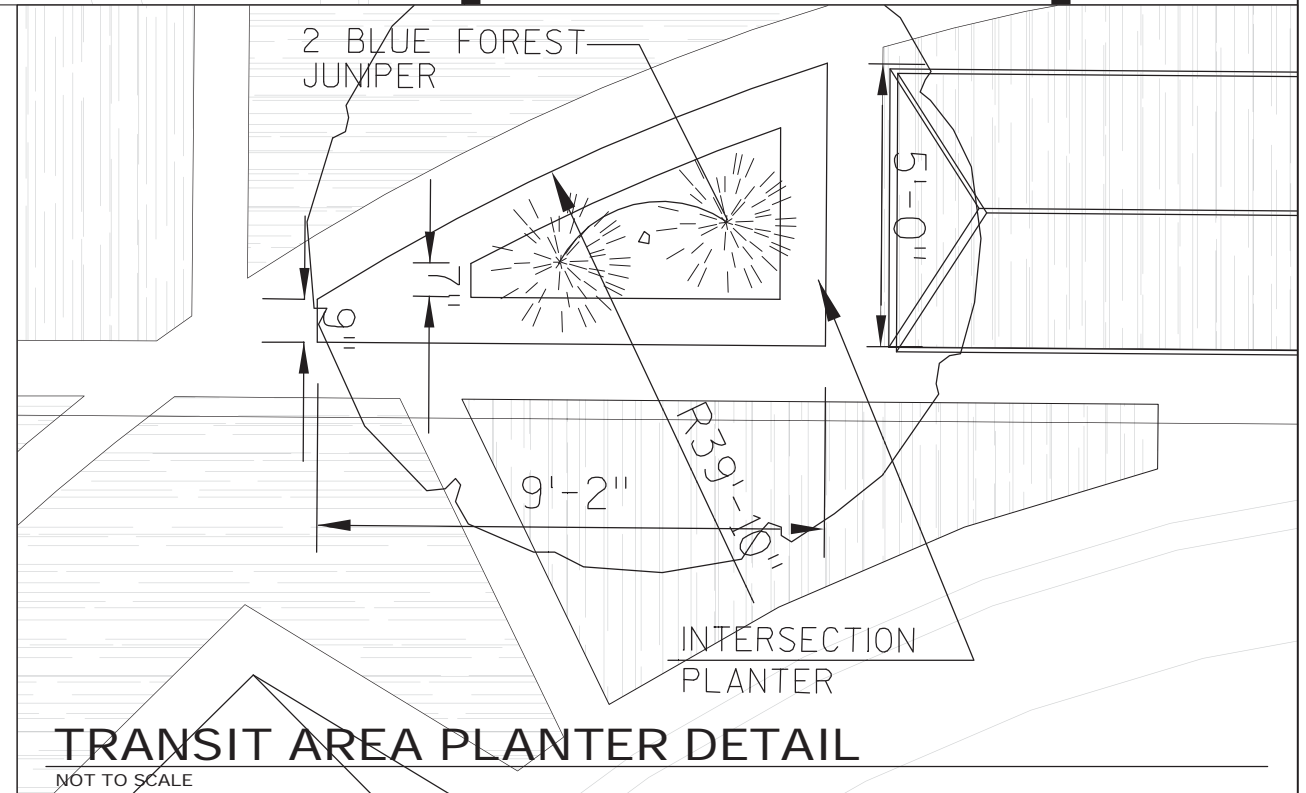
**TRANSIT AREA PLAN VIEW**

NOT TO SCALE



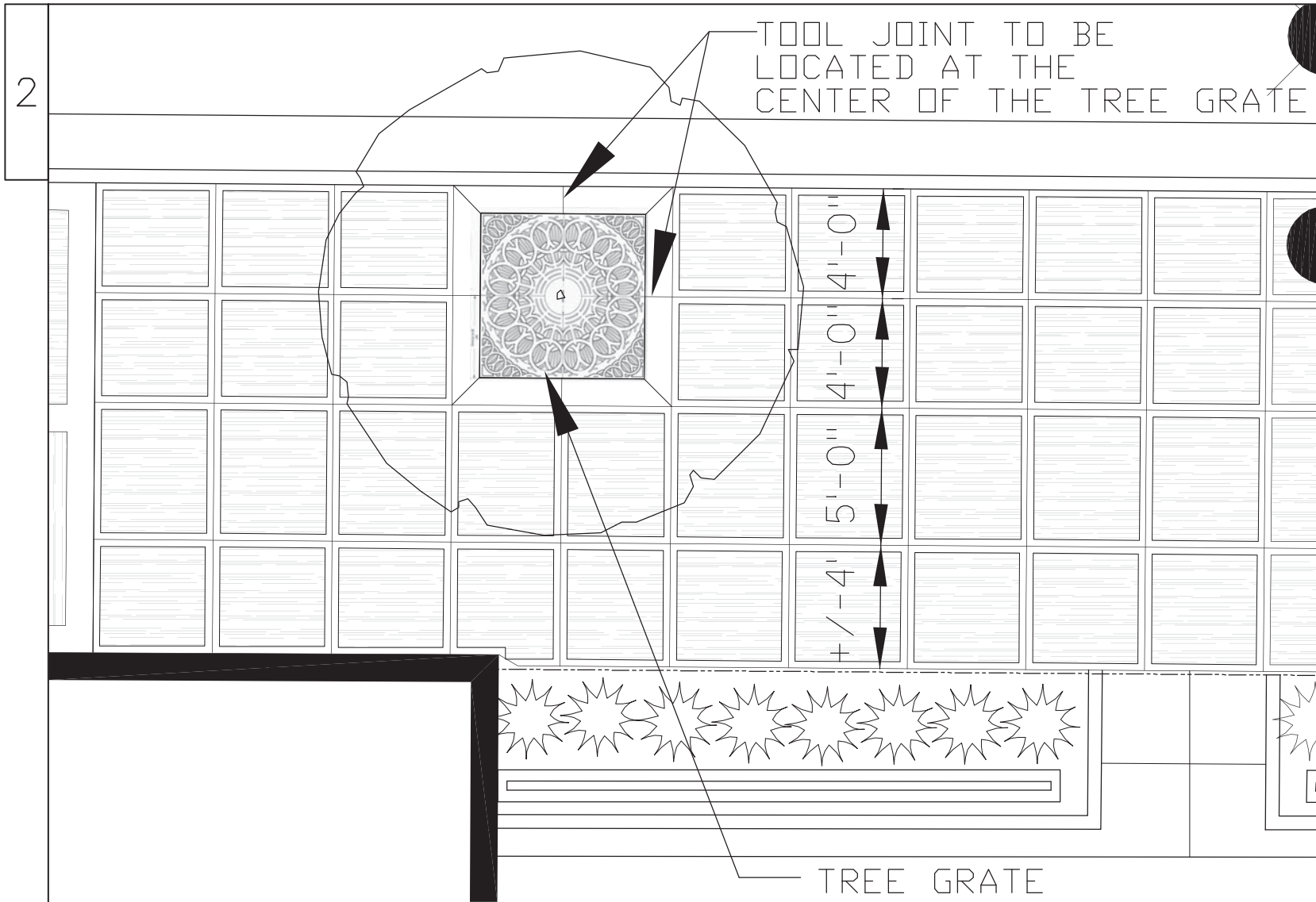
**COLORED CONCRETE DETAIL**

NOT TO SCALE



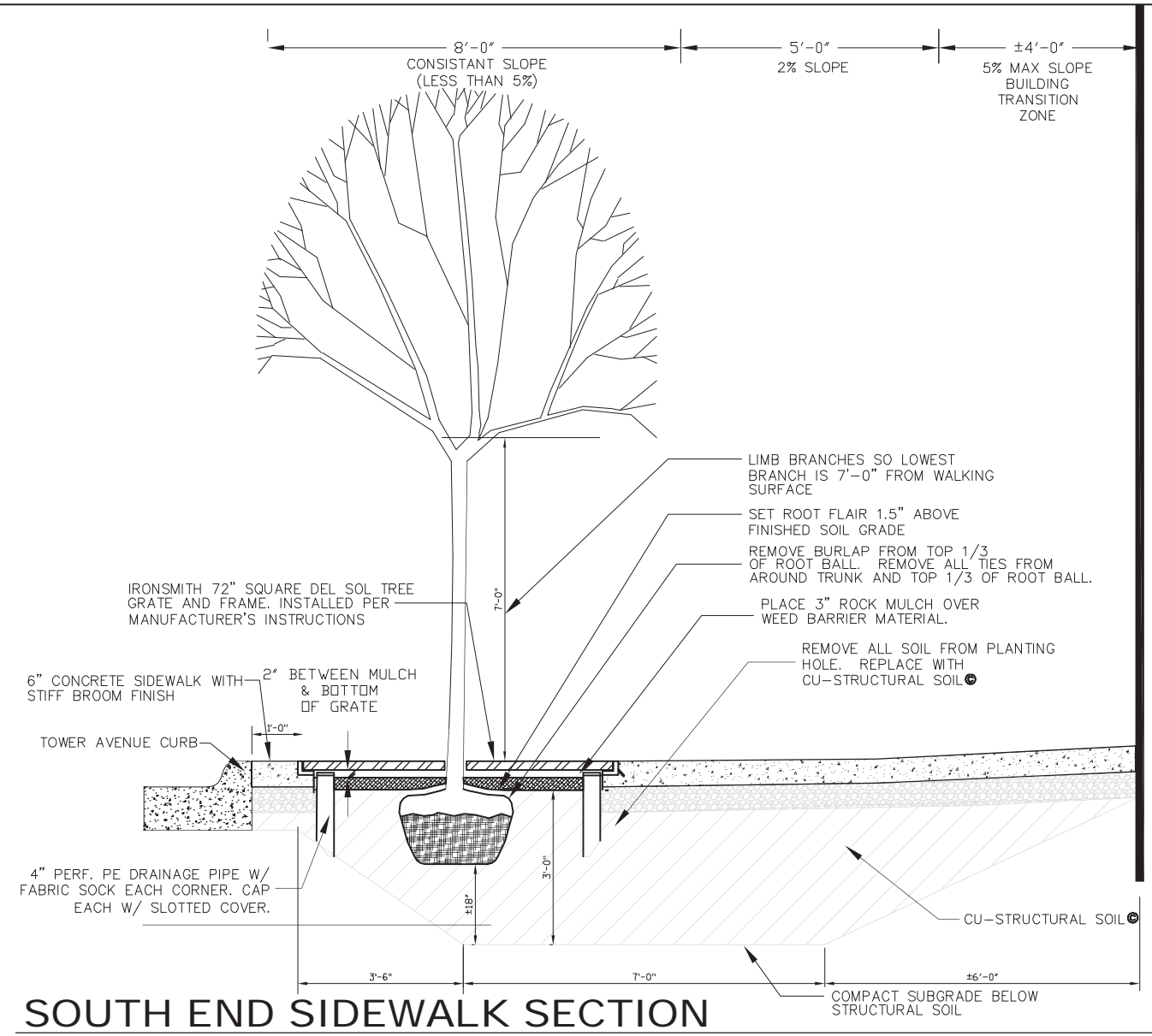
**TRANSIT AREA PLANTER DETAIL**

NOT TO SCALE



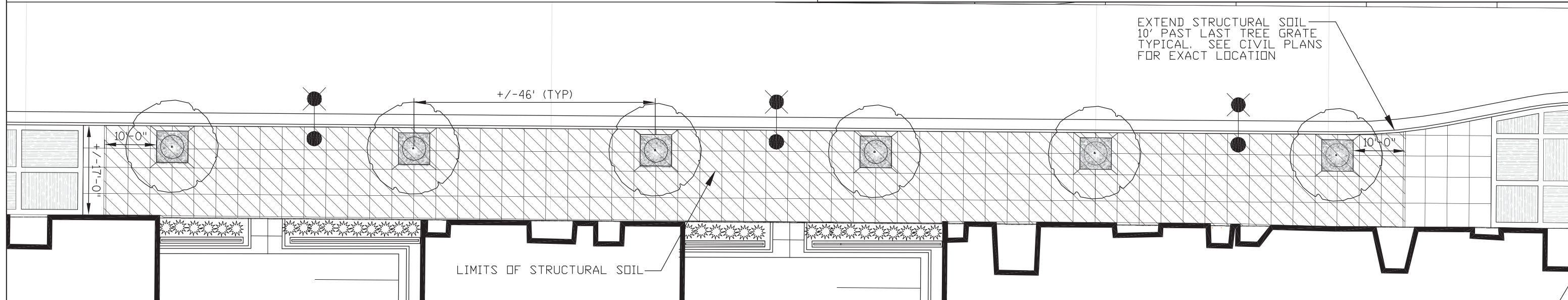
**SOUTH END SIDEWALK PLAN VIEW**

NOT TO SCALE



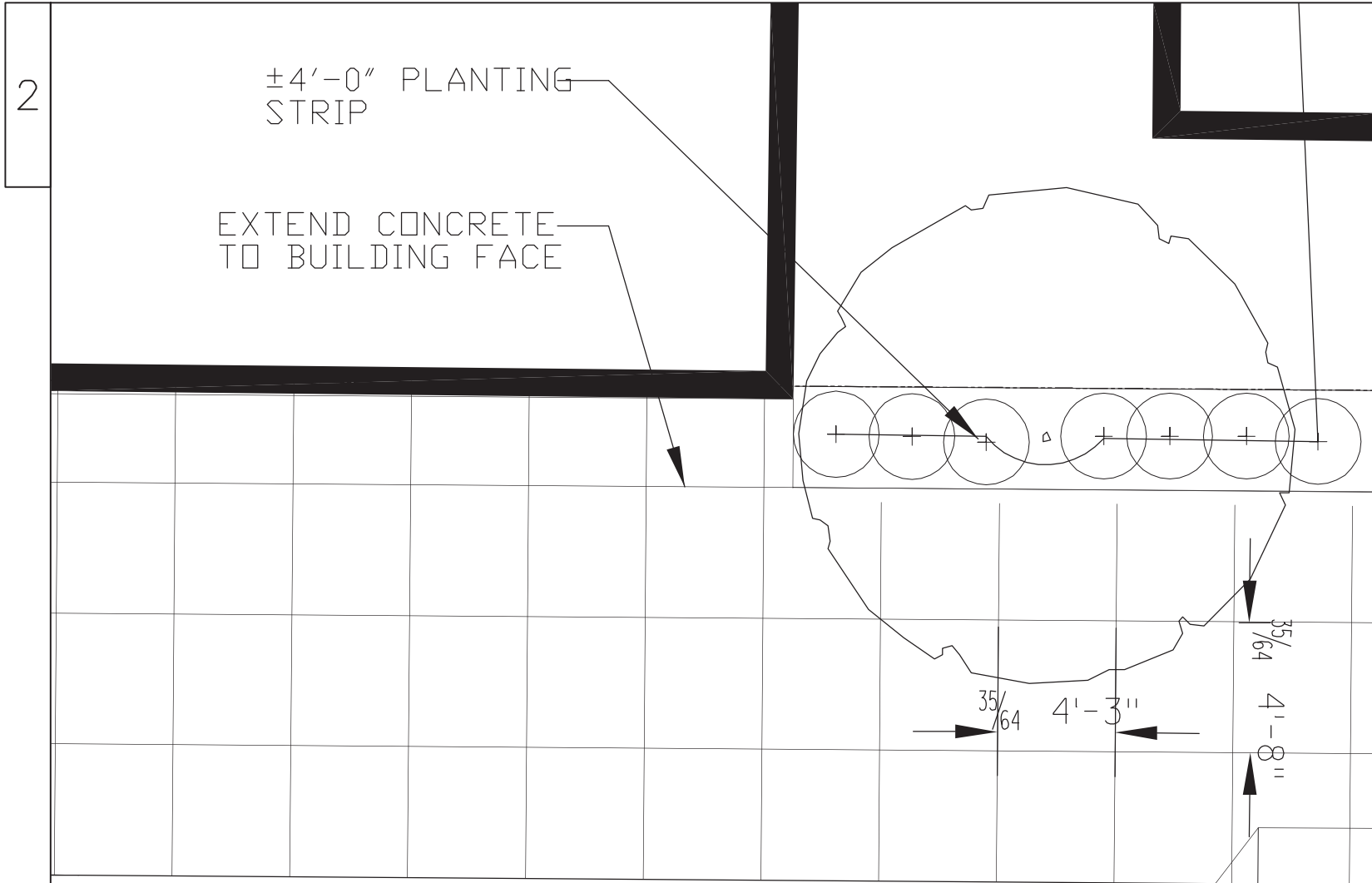
**SOUTH END SIDEWALK SECTION**

NOT TO SCALE



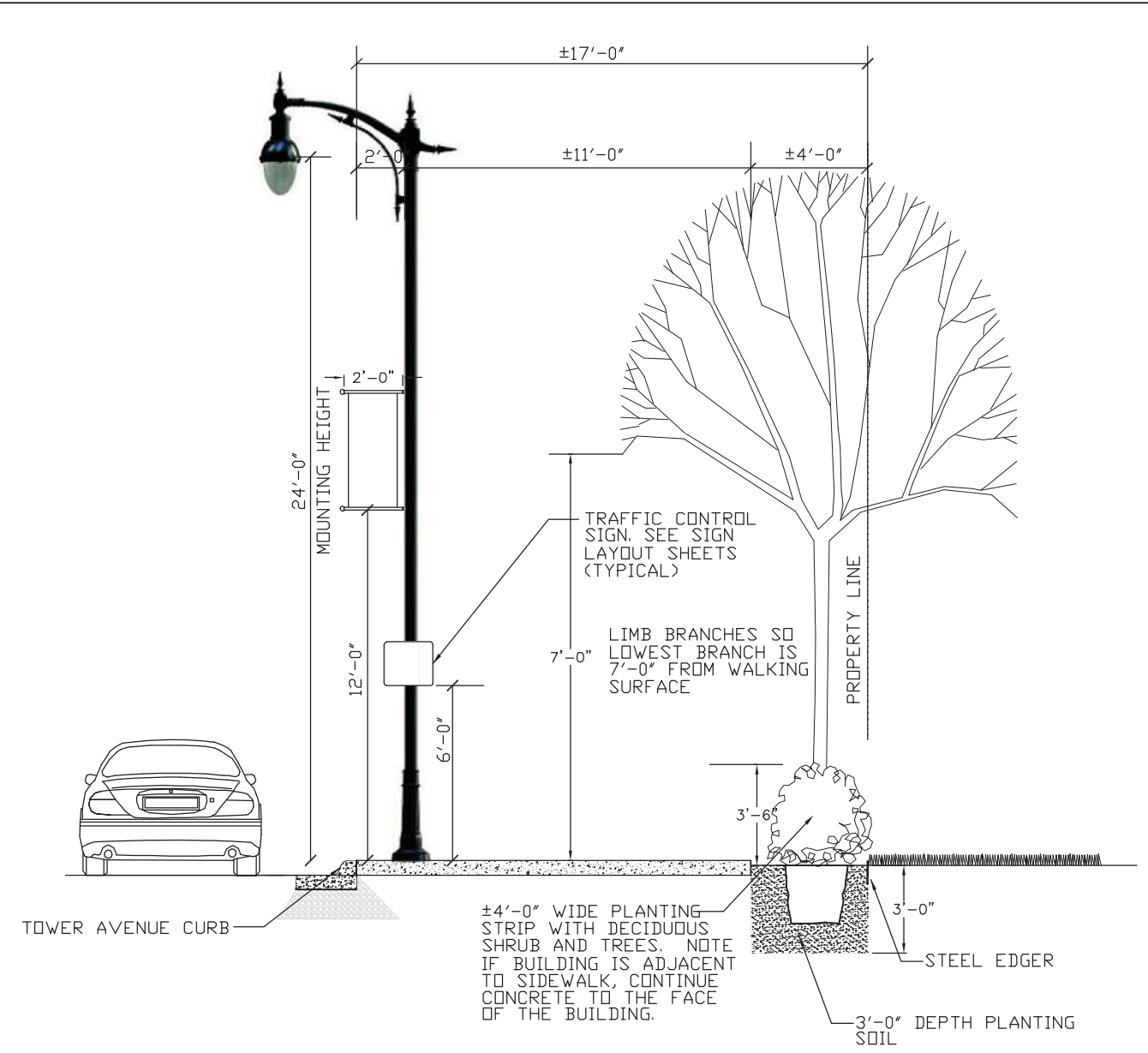
**SOUTH END STRUCTURAL SOIL PLAN**

NOT TO SCALE



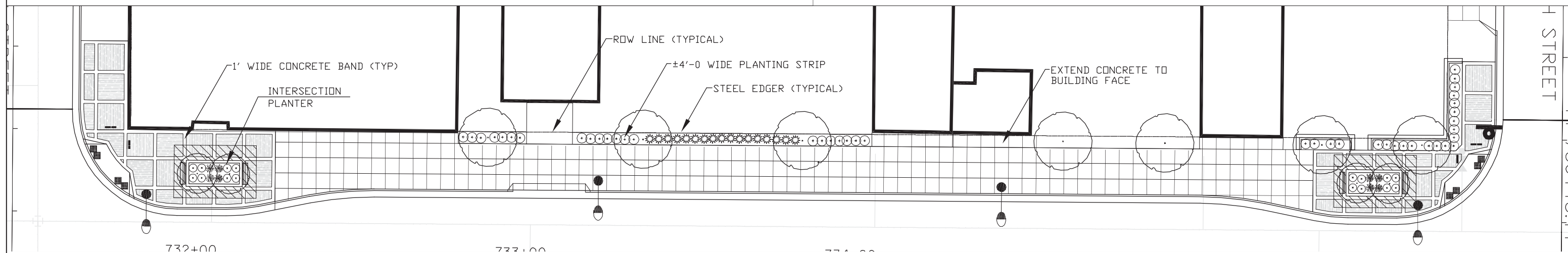
**NORTH END SIDEWALK PLAN VIEW**

NOT TO SCALE



**NORTH END SIDEWALK SECTION**

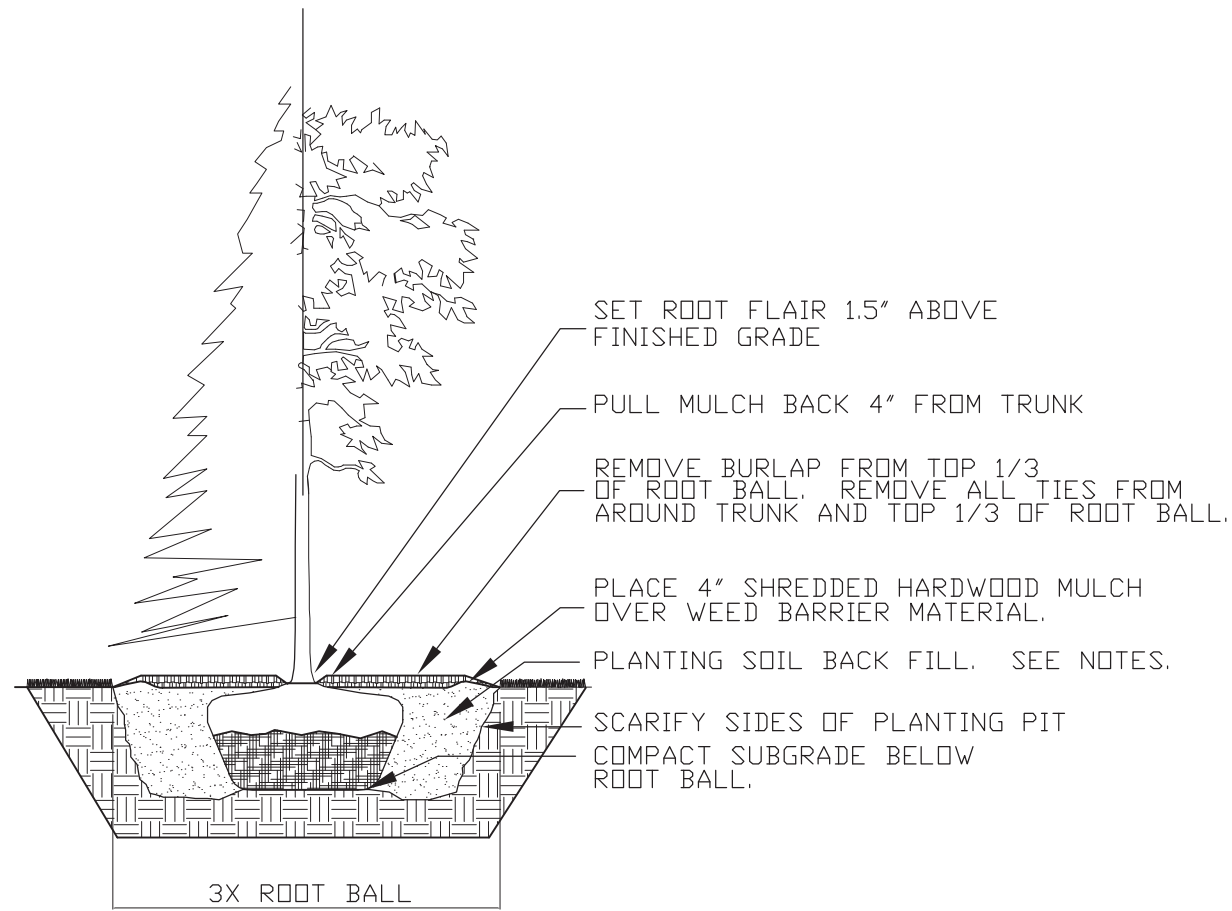
NOT TO SCALE



**NORTH END SIDEWALK PLAN**

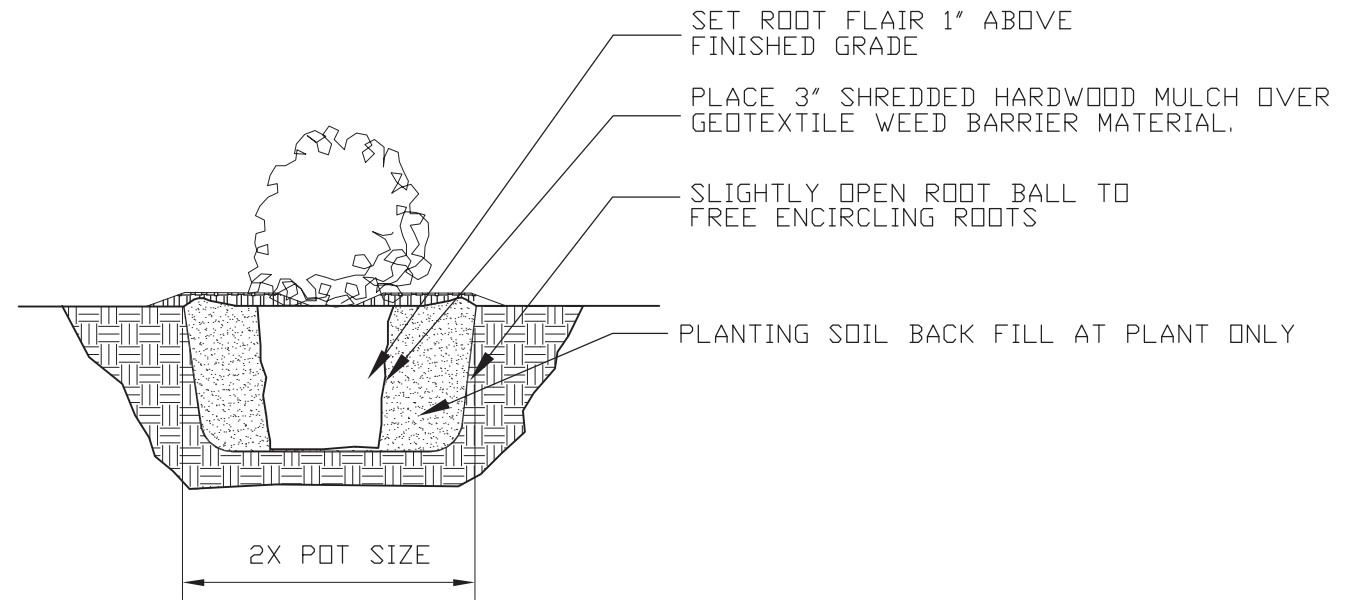
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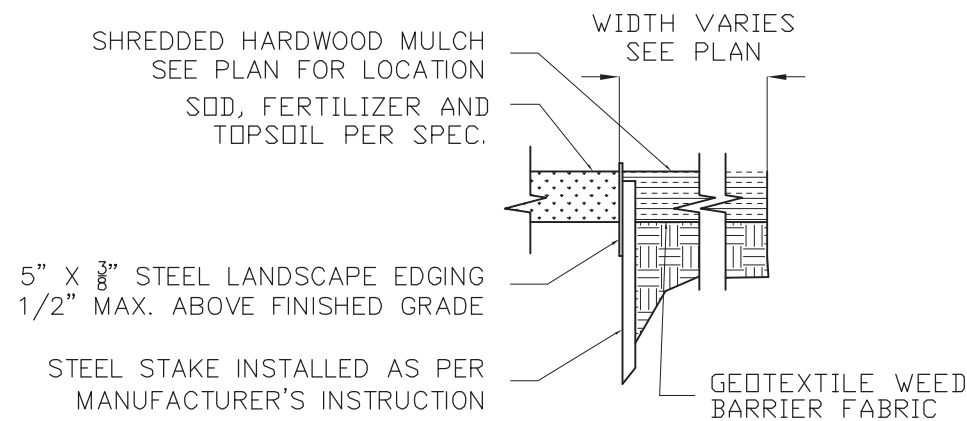
### DECIDUOUS/EVERGREEN TREE DETAIL

NOT TO SCALE



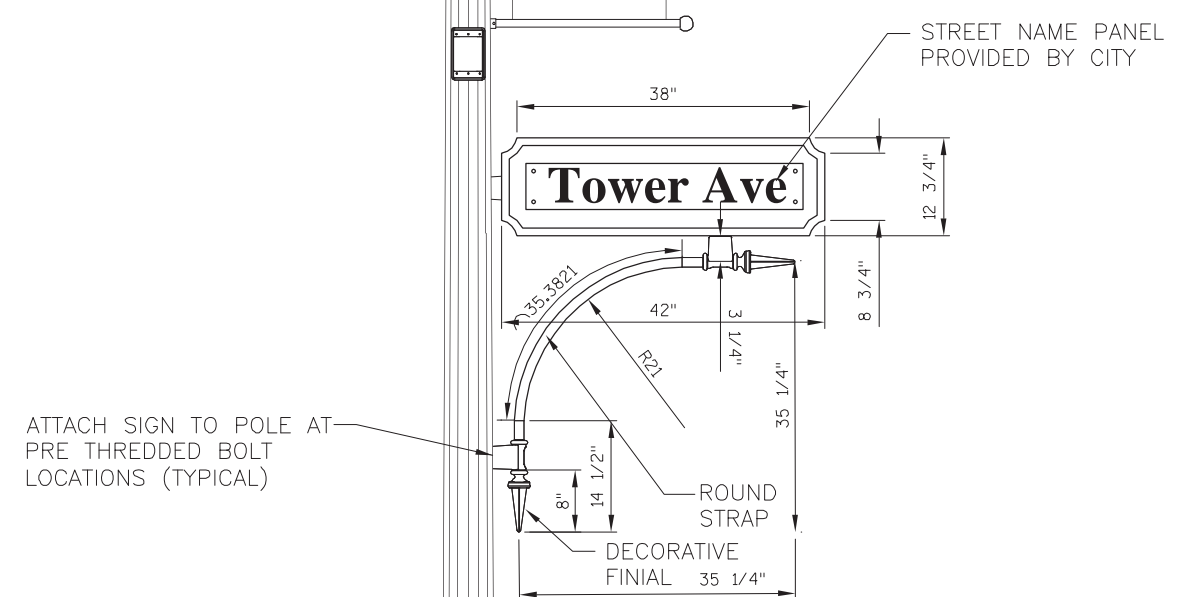
### DECIDUOUS/EVERGREEN SHRUB/GRASS DETAIL

NOT TO SCALE



### STEEL EDGER DETAIL

NOT TO SCALE



### STREET SIGN DETAIL

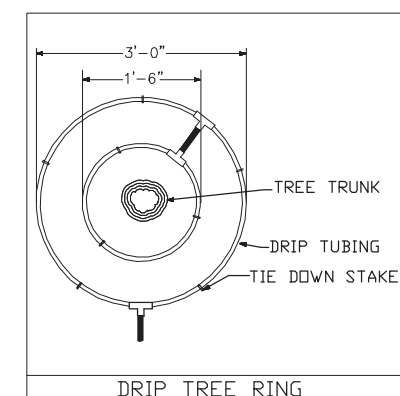
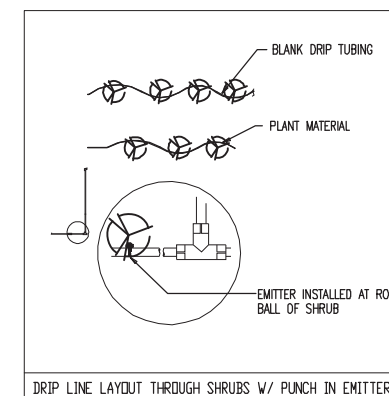
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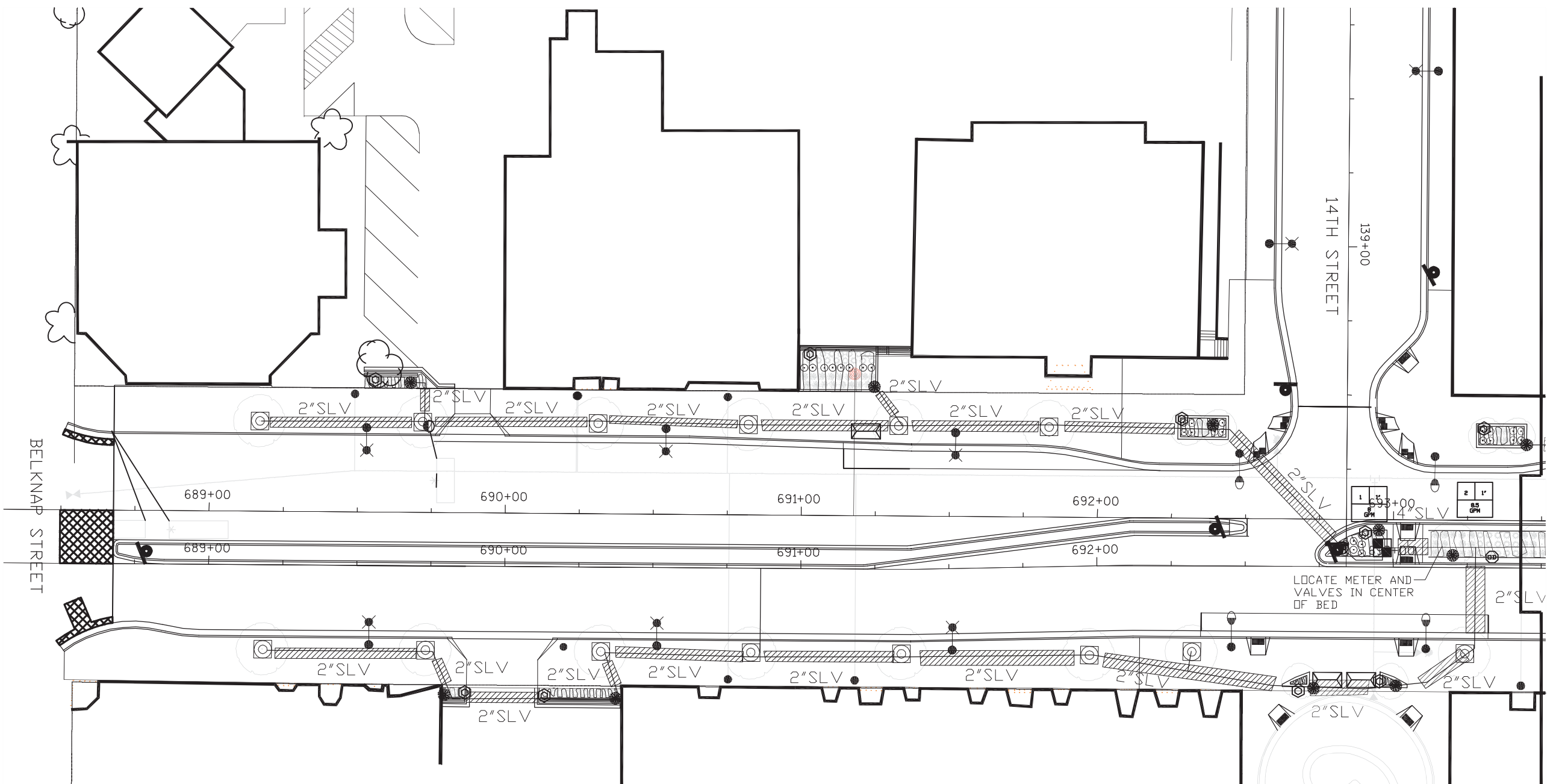
IRRIGATION SPECIFICATIONS

1. IRRIGATION SYSTEM DESIGN BASED ON 40 GPM AT 60 PSI.
2. IRRIGATION DESIGN IS FROM THE POINT OF CONNECTION(POC)ONLY. THE DESIGN IS BASED ON GALLONS PER MINUTE(GPM)AND POUNDS PER SQUARE INCH(PSI)FURNISHED BY OTHERS.
3. IRRIGATION CONTRACTOR IS TO VERIFY POINT OF CONNECTION IN THE FIELD. INSTALLER IS TO CONFIRM THE MINIMUM DISCHARGE REQUIREMENTS OF THE POINT OF CONNECTION AS INDICATED ON THE LEGEND PRIOR TO INSTALLATION.
4. THE PRESSURE REQUIREMENT AT THE POINT OF CONNECTION IS BASED ON NO MORE THAN 5 FEET OF ELEVATION CHANGE IN THE AREAS OF IRRIGATION.
5. ALL PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND ACCORDING TO LOCAL BUILDING, ELECTRICAL, AND PLUMBING CODES.
6. IRRIGATION CONTRACTOR WILL ARRANGE INSPECTIONS REQUIRED BY LOCAL AGENCIES AND ORDINANCES DURING THE COURSE OF CONSTRUCTION AS REQUIRED. ALL WIRING TO BE PER LOCAL CODE. BACKFLOW PREVENTION TO BE PER LOCAL CODE.
7. LOCATION OF IRRIGATION COMPONENTS SHOWN ON DRAWING IS APPROXIMATE. ACTUAL PLACEMENT MAY VARY SLIGHTLY AS REQUIRED TO ACHIEVE FULL, EVEN COVERAGE.
8. ALL SPRINKLER HEADS SHALL BE INSTALLED PERPENDICULAR TO FINISH GRADES. EXCEPT AS OTHERWISE INDICATED.
9. INSTALL IRRIGATION MAINS WITH A MINIMUM 18" OF COVER BASED ON FINISH GRADES. INSTALL IRRIGATION LATERALS WITH MINIMUM 12" OF COVER BASED ON FINISH GRADES.
10. PIPE LOCATIONS ARE DIAGRAMATIC. VALVES AND MAINLINE SHOWN IN PAVED AREAS ARE FOR GRAPHIC CLARITY ONLY.
11. THE IRRIGATION CONTRACTOR SHALL COMPLY WITH PIPE SIZES AS INDICATED.
12. ALL WIRE SPLICES OR CONNECTIONS SHALL BE MADE WITH APPROVED WATERPROOF WIRE CONNECTIONS AND BE IN A VALVE OR SPLICE BOX.
13. ALL CONTROL WIRING DOWNSTREAM OF THE CONTROLLER IS TO BE 14 AWG, UL APPROVED DIRECT BURY.
14. THE DESIGN IS BASED ON THE SITE INFORMATION AND/OR DRAWING SUPPLIED WITH THE DESIGN CRITERIA BEING SET(AREA TO BE IRRIGATED, EQUIPMENT MANUFACTURER AND MODEL TO BE USED, WATER SOURCE INFORMATION, ELECTRICAL POWER AVAILABILITY, ETC...). JOHN DEERE LANDSCAPES BEARS NO RESPONSIBILITY OR LIABILITY FOR ANY ERRORS IN DESIGN OR INSTALLATION THAT ARISE DUE TO INACCURACIES IN THE ABOVE REFERENCED INFORMATION SUPPLIED TO JOHN DEERE LANDSCAPES IN RELATION TO THIS PROJECT, UNLESS OTHERWISE NOTED.
15. EXACT LOCATION OF IRRIGATION TAP & CONTROLLER TO BE DETERMINED. CONTRACTOR TO MOUNT IRRIGATION CONTROLLER ON BACKSIDE OF ELECTRICAL TRANSFORMER.
16. MULTIPLE DRIP ZONES WILL RUN SIMULTANEOUSLY
17. CONTRACTOR TO PROVIDE SHOP DRAWINGS TO LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO ORDERING MATERIALS AND INSTALLATION.
18. CONTRACTOR TO COORDINATE ALL SLEEVING WITH THE ELECTRICAL SLEEVING WORK.

IRRIGATION LEGEND

Qty	Symbol	Description
2		Wilkins 975XL - 2"
22		Hunter PCZ-101
2		Hunter I-CORE
2		Nibco 2" isolation valve
2		Hunter MINI-CLIK
2		Hunter FREEZE-CLIK
22		Air Relief Valve
86		Drip Stub-up
86		Flush Valve
2		2 inch meter
85		PLD-06-18 Drip Ring
6190 (ft)		Lateral - Poly 1"
3885 (ft)		Mainline - Class 200 2"
10527 (ft)		PLD-01-18 Drip Line
2210 (ft)		Sleeve class 200, 4" Size as shown
5525 (ft)		Sleeve class 200, 2" Size as shown





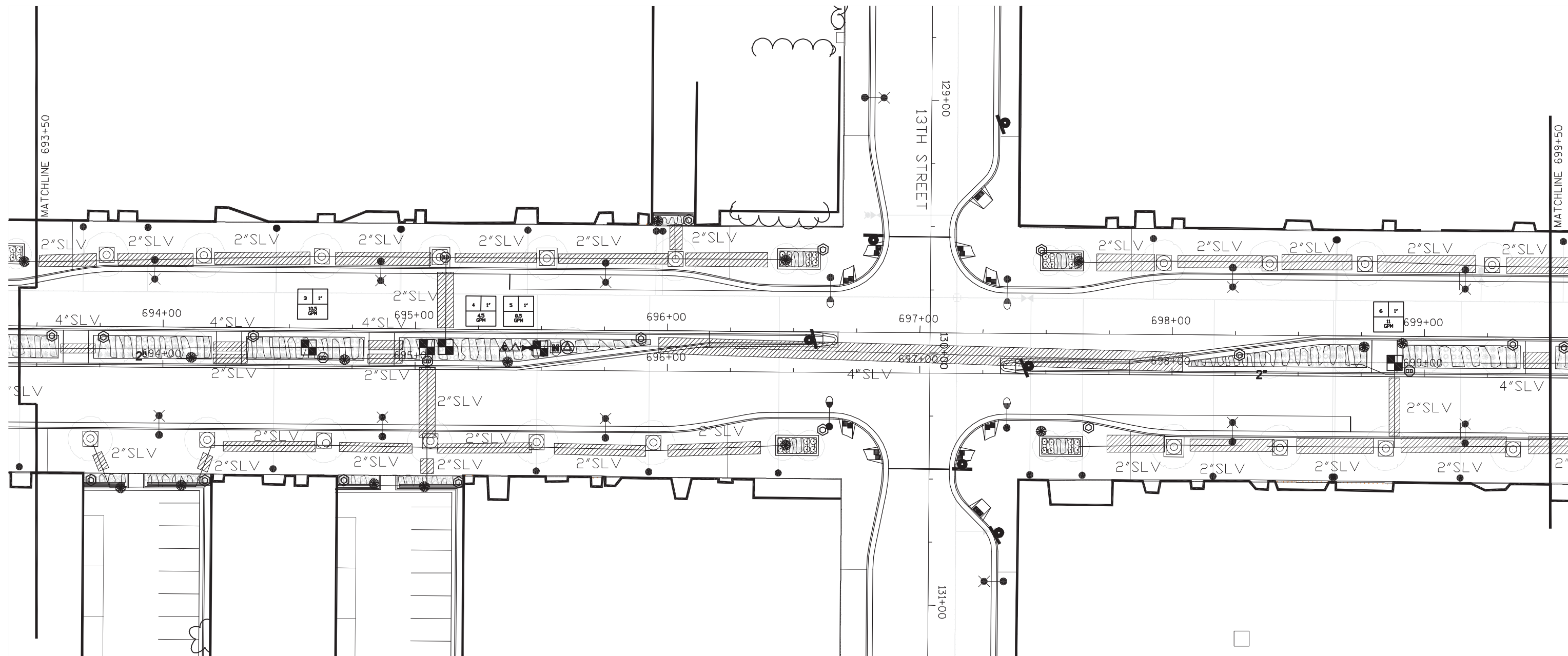
**IRRIGATION LEGEND**

Symbol	Description
	Wilkins 975XL - 2"
	Hunter PCZ-101
	Hunter I-CORE
	Nibco 2" isolation valve
	Hunter MINI-CLIK
	Hunter FREEZE-CLIK
	Air Relief Valve
	Drip Stub-up
	Flush Valve
	2 inch meter
	PLD-06-18 Drip Ring
	Lateral - Poly 1"
	Mainline - Class 200 2"
	PLD-01-18 Drip Line
	Sleeve class 200, 4" Size as shown
	Sleeve class 200, 2" Size as shown



SCALE IN FEET





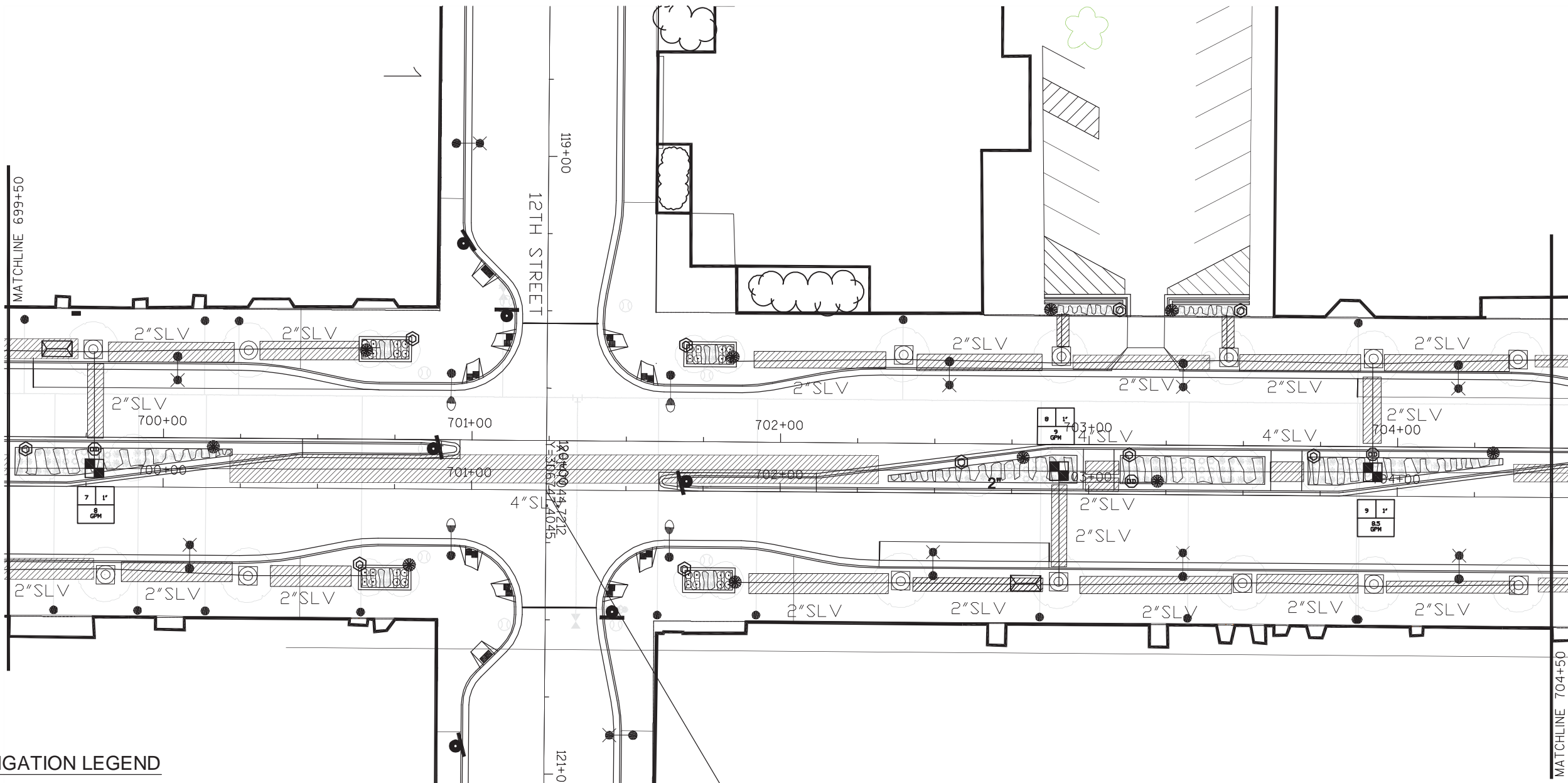
**IRRIGATION LEGEND**

Symbol	Description
	Wilkins 975XL - 2"
	Hunter PCZ-101
	Hunter I-CORE
	Nibco 2" isolation valve
	Hunter MINI-CLIK
	Hunter FREEZE-CLIK
	Air Relief Valve
	Drip Stub-up
	Flush Valve
	2 inch meter
	PLD-06-18 Drip Ring
	Lateral - Poly 1"
	Mainline - Class 200 2"
	PLD-01-18 Drip Line
	Sleeve class 200, 4" Size as shown
	Sleeve class 200, 2" Size as shown



SCALE IN FEET

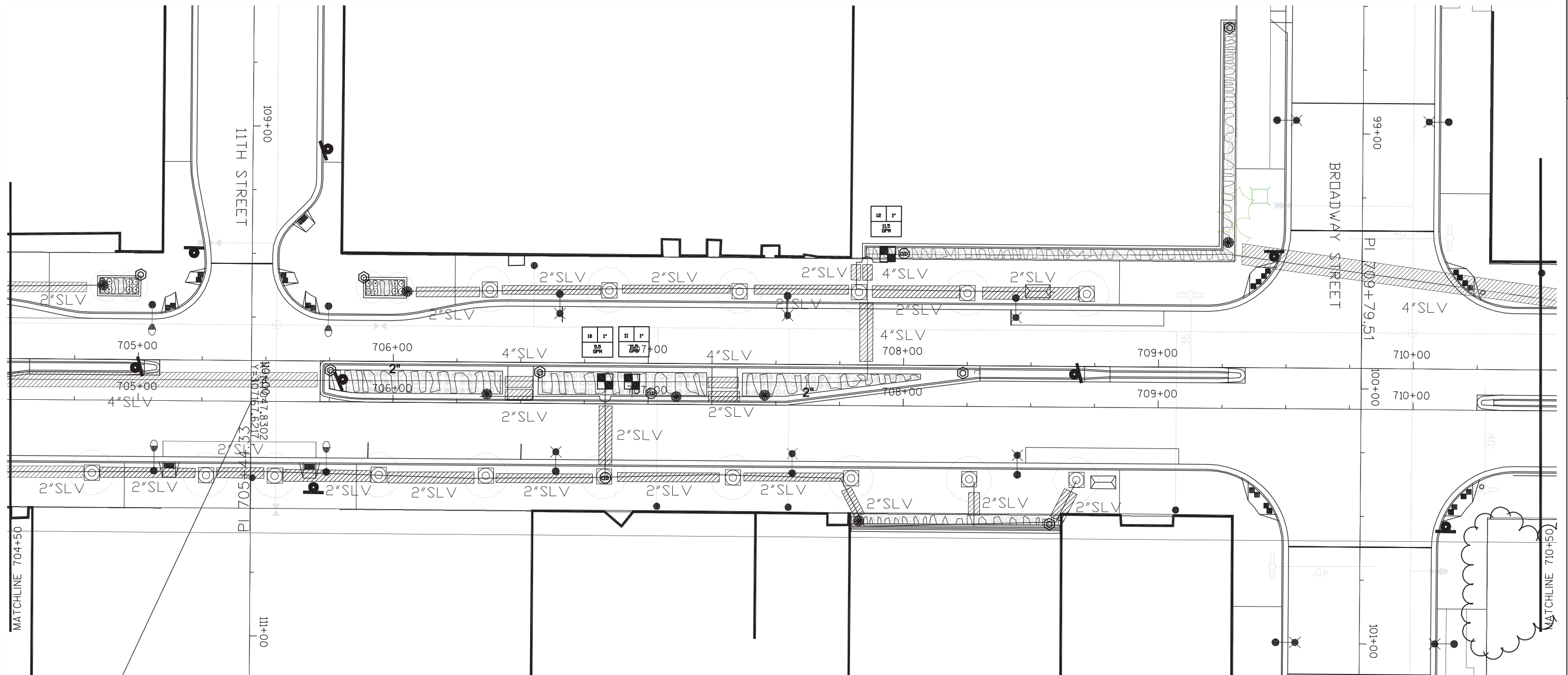




**IRRIGATION LEGEND**

Symbol	Description
	Wilkins 975XL - 2"
	Hunter PCZ-101
	Hunter I-CORE
	Nibco 2" isolation valve
	Hunter MINI-CLIK
	Hunter FREEZE-CLIK
	Air Relief Valve
	Drip Stub-up
	Flush Valve
	2 inch meter
	PLD-06-18 Drip Ring
	Lateral - Poly 1"
	Mainline - Class 200 2"
	PLD-01-18 Drip Line
	Sleeve class 200, 4" Size as shown
	Sleeve class 200, 2" Size as shown





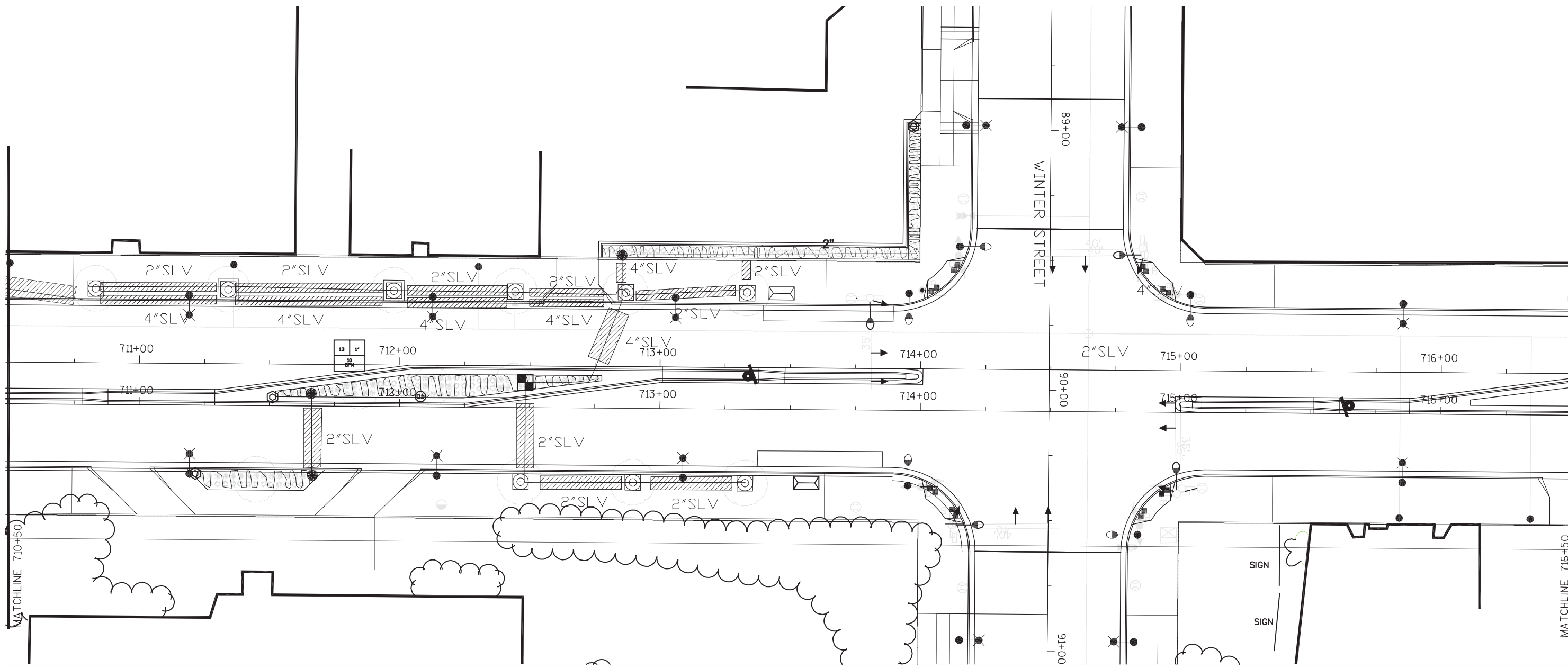
**IRRIGATION LEGEND**

Symbol	Description
	Wilkins 975XL - 2"
	Hunter PCZ-101
	Hunter I-CORE
	Nibco 2" isolation valve
	Hunter MINI-CLIK
	Hunter FREEZE-CLIK
	Air Relief Valve
	Drip Stub-up
	Flush Valve
	2 inch meter
	PLD-06-18 Drip Ring
	Lateral - Poly 1"
	Mainline - Class 200 2"
	PLD-01-18 Drip Line
	Sleeve class 200, 4" Size as shown
	Sleeve class 200, 2" Size as shown



SCALE IN FEET





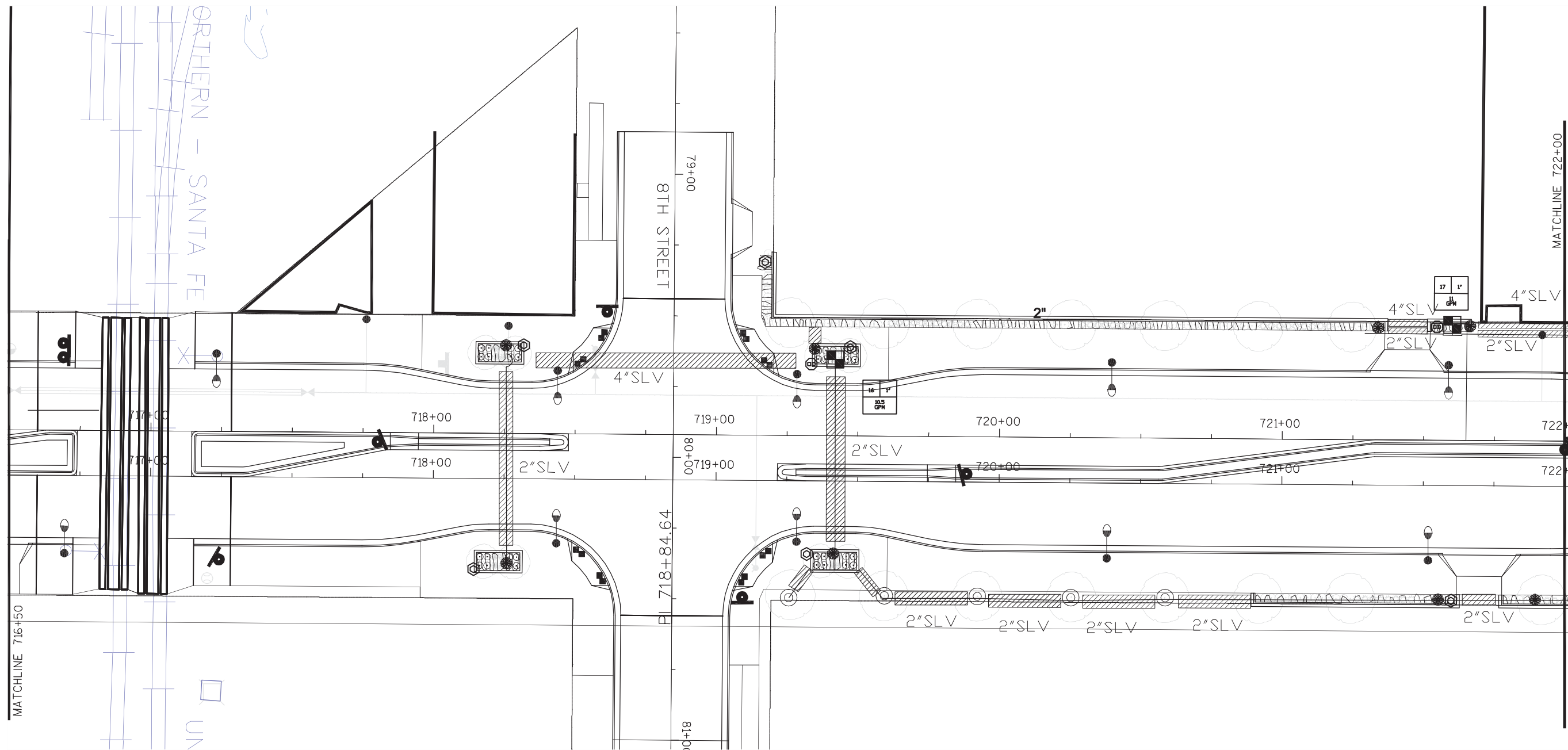
**IRRIGATION LEGEND**

Symbol	Description
	Wilkins 975XL - 2"
	Hunter PCZ-101
	Hunter I-CORE
	Nibco 2" isolation valve
	Hunter MINI-CLIK
	Hunter FREEZE-CLIK
	Air Relief Valve
	Drip Stub-up
	Flush Valve
	2 inch meter
	PLD-06-18 Drip Ring
	Lateral - Poly 1"
	Mainline - Class 200 2"
	PLD-01-18 Drip Line
	Sleeve class 200, 4" Size as shown
	Sleeve class 200, 2" Size as shown



SCALE IN FEET



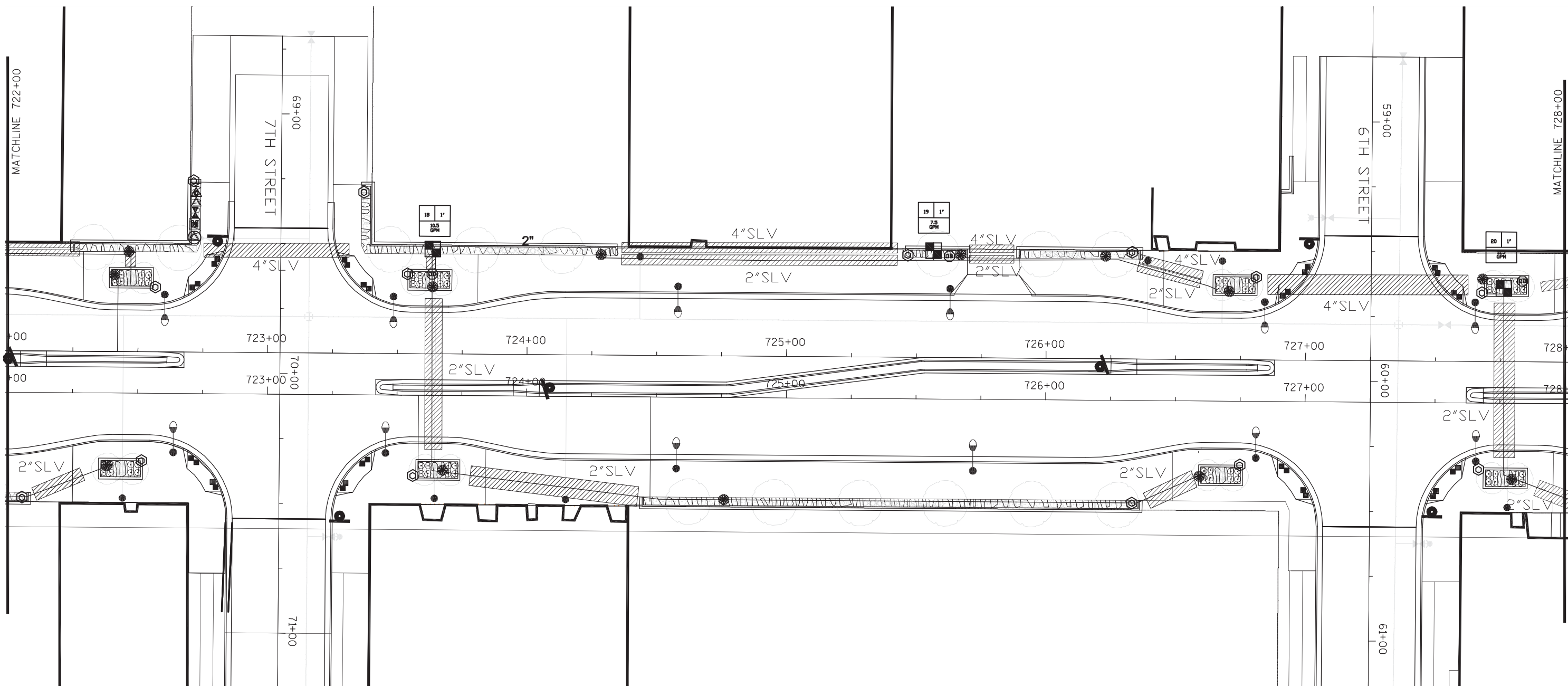


**IRRIGATION LEGEND**

Symbol	Description
	Wilkins 975XL - 2"
	Hunter PCZ-101
	Hunter I-CORE
	Nibco 2" isolation valve
	Hunter MINI-CLIK
	Hunter FREEZE-CLIK
	Air Relief Valve
	Drip Stub-up
	Flush Valve
	2 inch meter
	PLD-06-18 Drip Ring
	Lateral - Poly 1"
	Mainline - Class 200 2"
	PLD-01-18 Drip Line
	Sleeve class 200, 4" Size as shown
	Sleeve class 200, 2" Size as shown







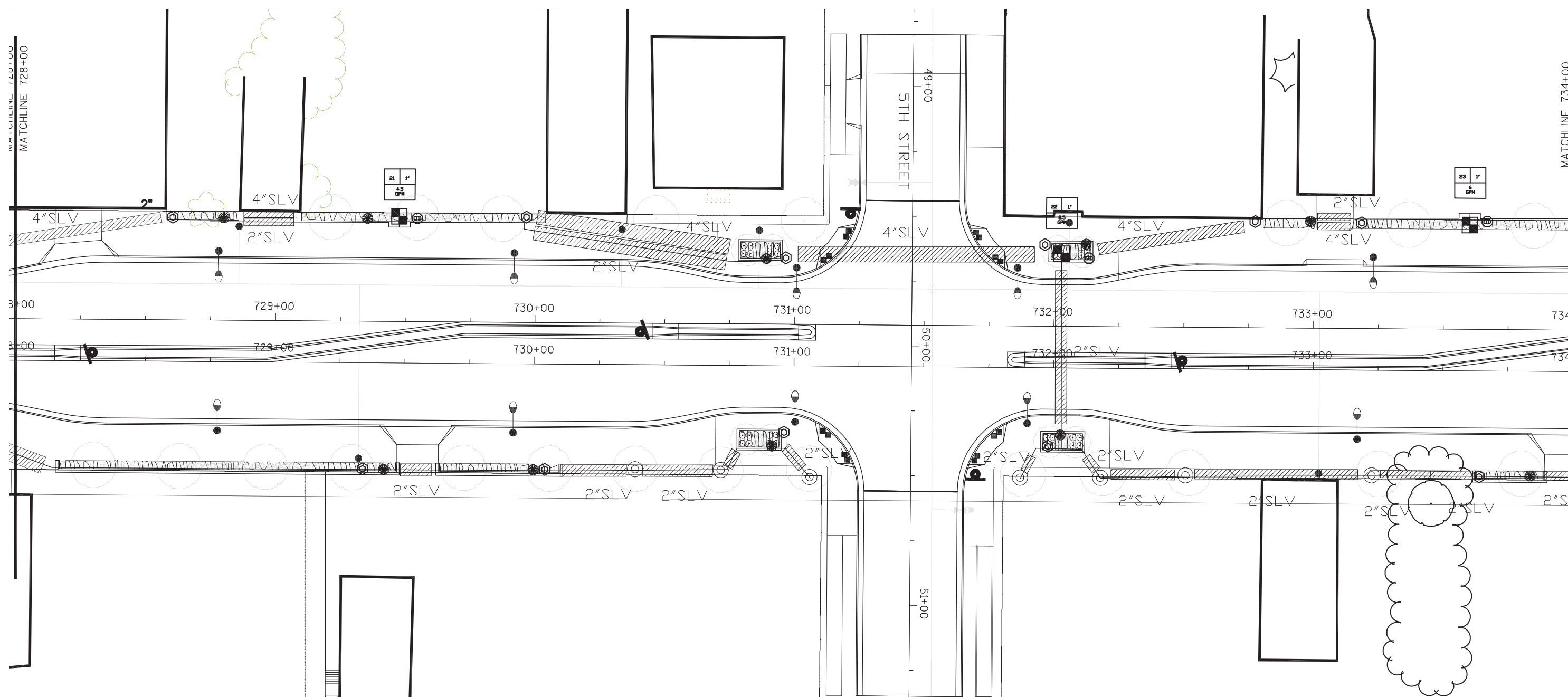
**IRRIGATION LEGEND**

Symbol	Description
	Wilkins 975XL - 2"
	Hunter PCZ-101
	Hunter I-CORE
	Nibco 2" isolation valve
	Hunter MINI-CLIK
	Hunter FREEZE-CLIK
	Air Relief Valve
	Drip Stub-up
	Flush Valve
	2 inch meter
	PLD-06-18 Drip Ring
	Lateral - Poly 1"
	Mainline - Class 200 2"
	PLD-01-18 Drip Line
	Sleeve class 200, 4" Size as shown
	Sleeve class 200, 2" Size as shown



SCALE IN FEET





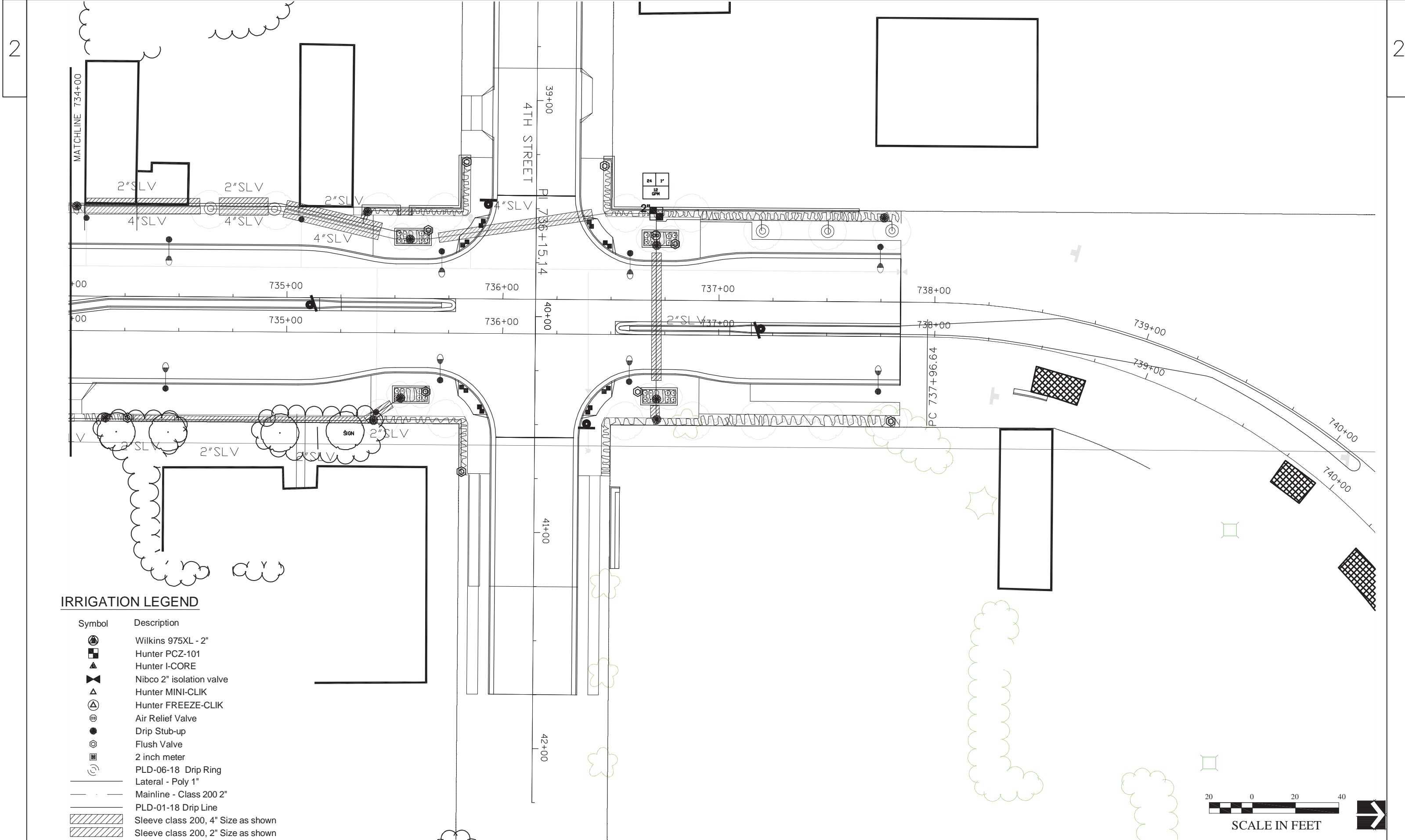
**IRRIGATION LEGEND**

Symbol	Description
	Wilkins 975XL - 2"
	Hunter PCZ-101
	Hunter I-CORE
	Nibco 2" isolation valve
	Hunter MINI-CLIK
	Hunter FREEZE-CLIK
	Air Relief Valve
	Drip Stub-up
	Flush Valve
	2 inch meter
	PLD-06-18 Drip Ring
	Lateral - Poly 1"
	Mainline - Class 200 2"
	PLD-01-18 Drip Line
	Sleeve class 200, 4" Size as shown
	Sleeve class 200, 2" Size as shown



SCALE IN FEET





**IRRIGATION LEGEND**

Symbol	Description
	Wilkins 975XL - 2"
	Hunter PCZ-101
	Hunter I-CORE
	Nibco 2" isolation valve
	Hunter MINI-CLIK
	Hunter FREEZE-CLIK
	Air Relief Valve
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	2 inch meter
	PLD-06-18 Drip Ring
	Lateral - Poly 1"
	Mainline - Class 200 2"
	PLD-01-18 Drip Line
	Sleeve class 200, 4" Size as shown
	Sleeve class 200, 2" Size as shown



SCALE IN FEET



**SIGNING GENERAL NOTES**

SIGN LOCATIONS ARE APPROXIMATE, FINAL LOCATIONS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

ALL J-ASSEMBLIES SHALL BE SINGLE-PIECE BOARDS.

REMOVE = REMOVING SIGNS TYPE II AND REMOVING SMALL SIGN SUPPORTS (IF NOT BANDED TO LIGHT POLE)

REPLACE = REMOVING SIGNS TYPE II, REMOVING SMALL SIGN SUPPORTS, SIGNS REFLECTIVE TYPE II, AND POSTS WOOD (SIZE) (IF NOT BANDED TO LIGHT POLE)

INSTALL = SIGNS REFLECTIVE TYPE II, AND POSTS WOOD (SIZE) (IF NOT BANDED TO LIGHT POLE)

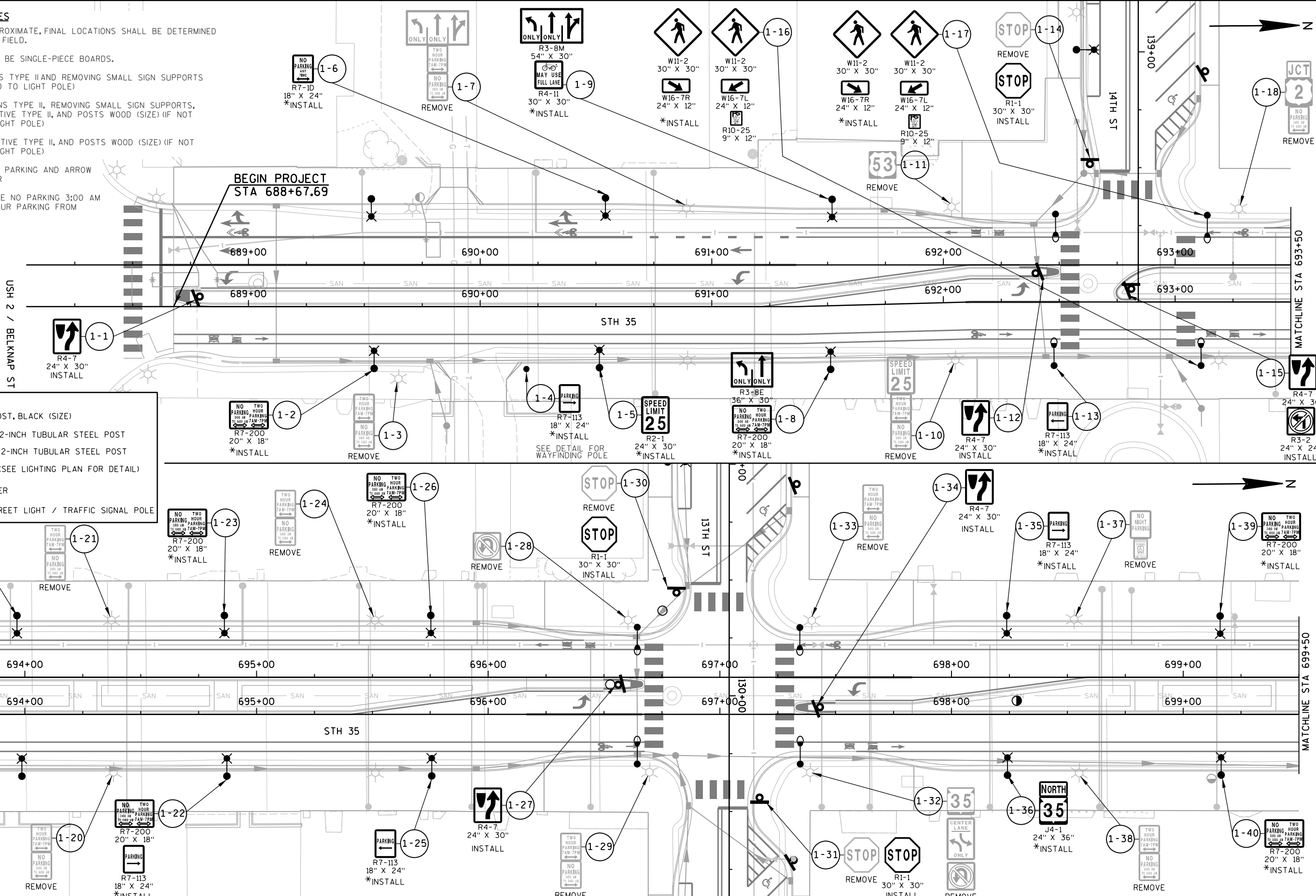
SIGNS R7-113 SHALL HAVE PARKING AND ARROW SIZED AS PER SIGN R8-3R

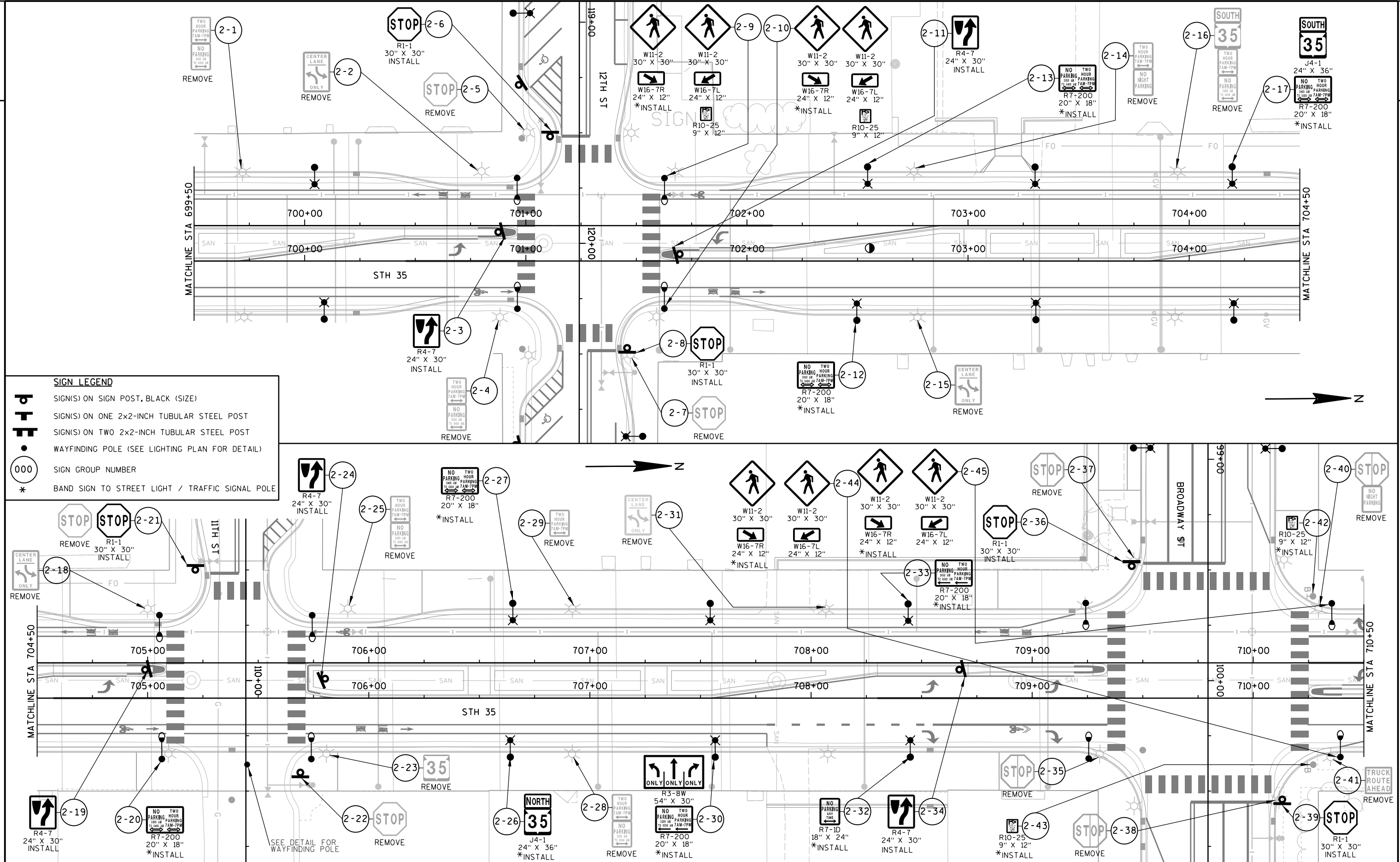
SIGNS R7-200 SHALL HAVE NO PARKING 3:00 AM TO 6:00 AM, AND TWO HOUR PARKING FROM 7:00 AM TO 7:00 PM

**BEGIN PROJECT  
STA 688+67.69**

**SIGN LEGEND**

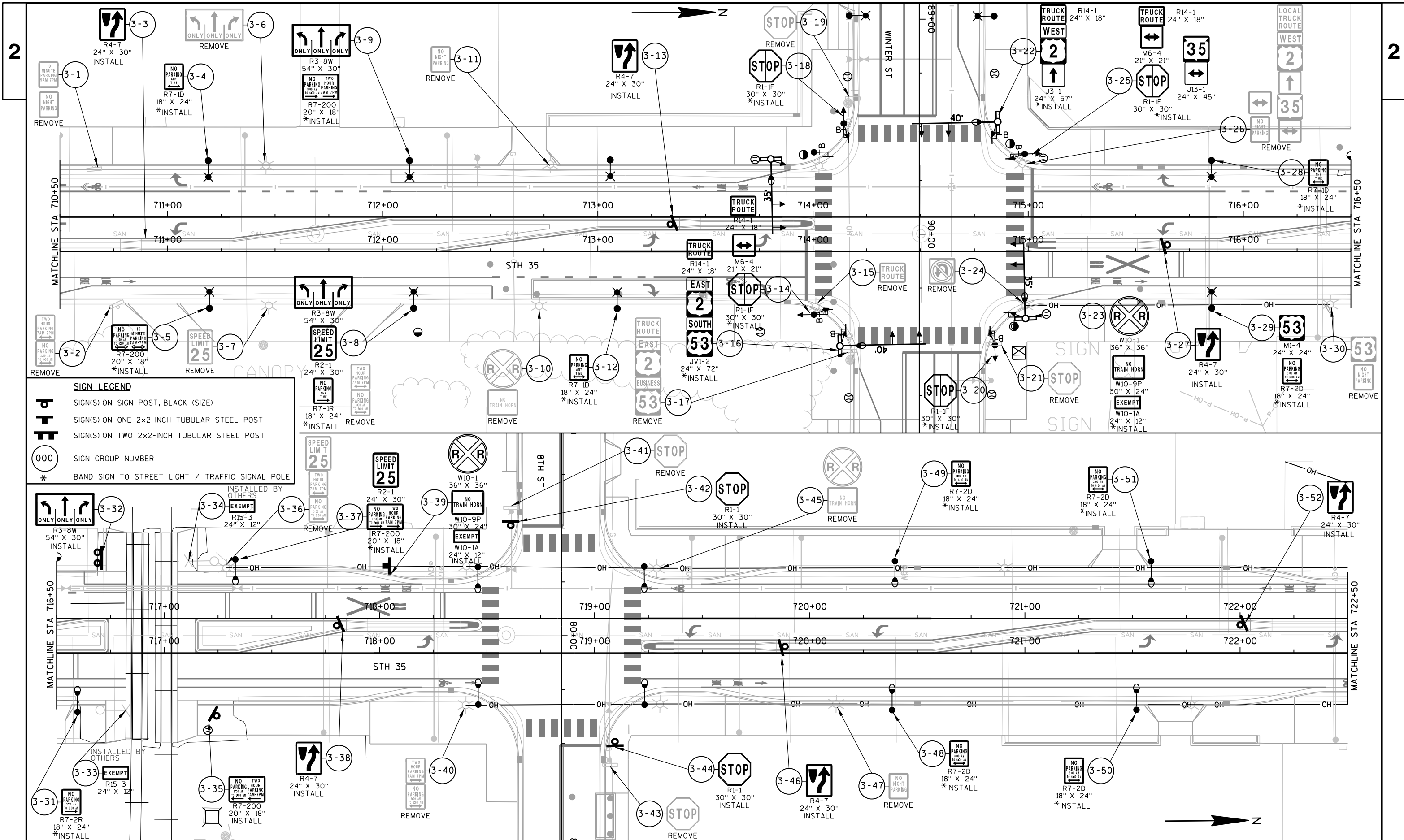
- SIGN(S) ON SIGN POST, BLACK (SIZE)
- SIGN(S) ON ONE 2x2-INCH TUBULAR STEEL POST
- SIGN(S) ON TWO 2x2-INCH TUBULAR STEEL POST
- WAYFINDING POLE (SEE LIGHTING PLAN FOR DETAIL)
- SIGN GROUP NUMBER
- BAND SIGN TO STREET LIGHT / TRAFFIC SIGNAL POLE





**SIGN LEGEND**

- P** SIGN(S) ON SIGN POST, BLACK (SIZE)
- F** SIGN(S) ON ONE 2x2-INCH TUBULAR STEEL POST
- F** SIGN(S) ON TWO 2x2-INCH TUBULAR STEEL POST
- WAYFINDING POLE (SEE LIGHTING PLAN FOR DETAIL)
- 000** SIGN GROUP NUMBER
- \*** BAND SIGN TO STREET LIGHT / TRAFFIC SIGNAL POLE



PROJECT NO: 1195-13-71

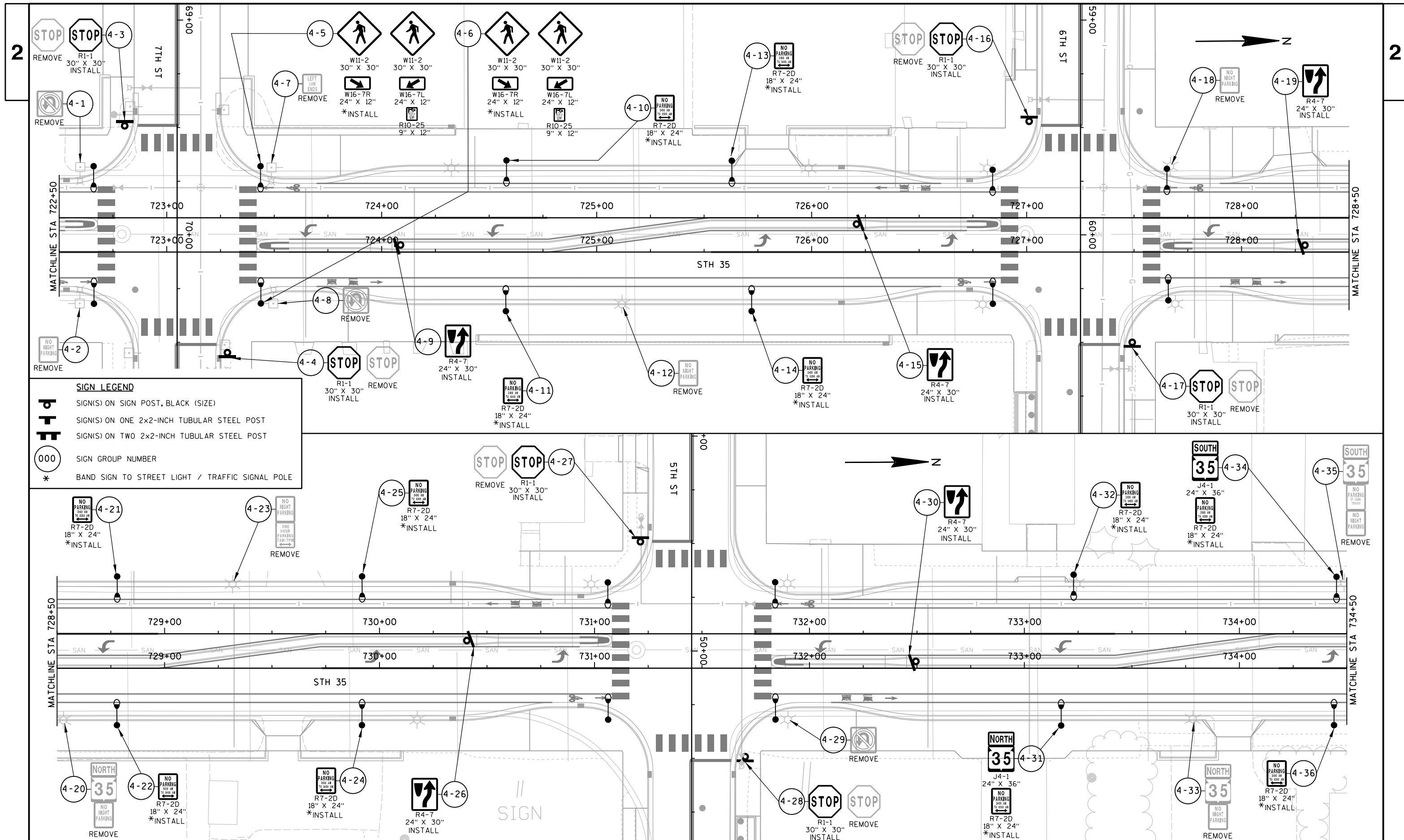
HWY: STH 35 - TOWER AVE

COUNTY: DOUGLAS

PERMANENT SIGNING

SHEET

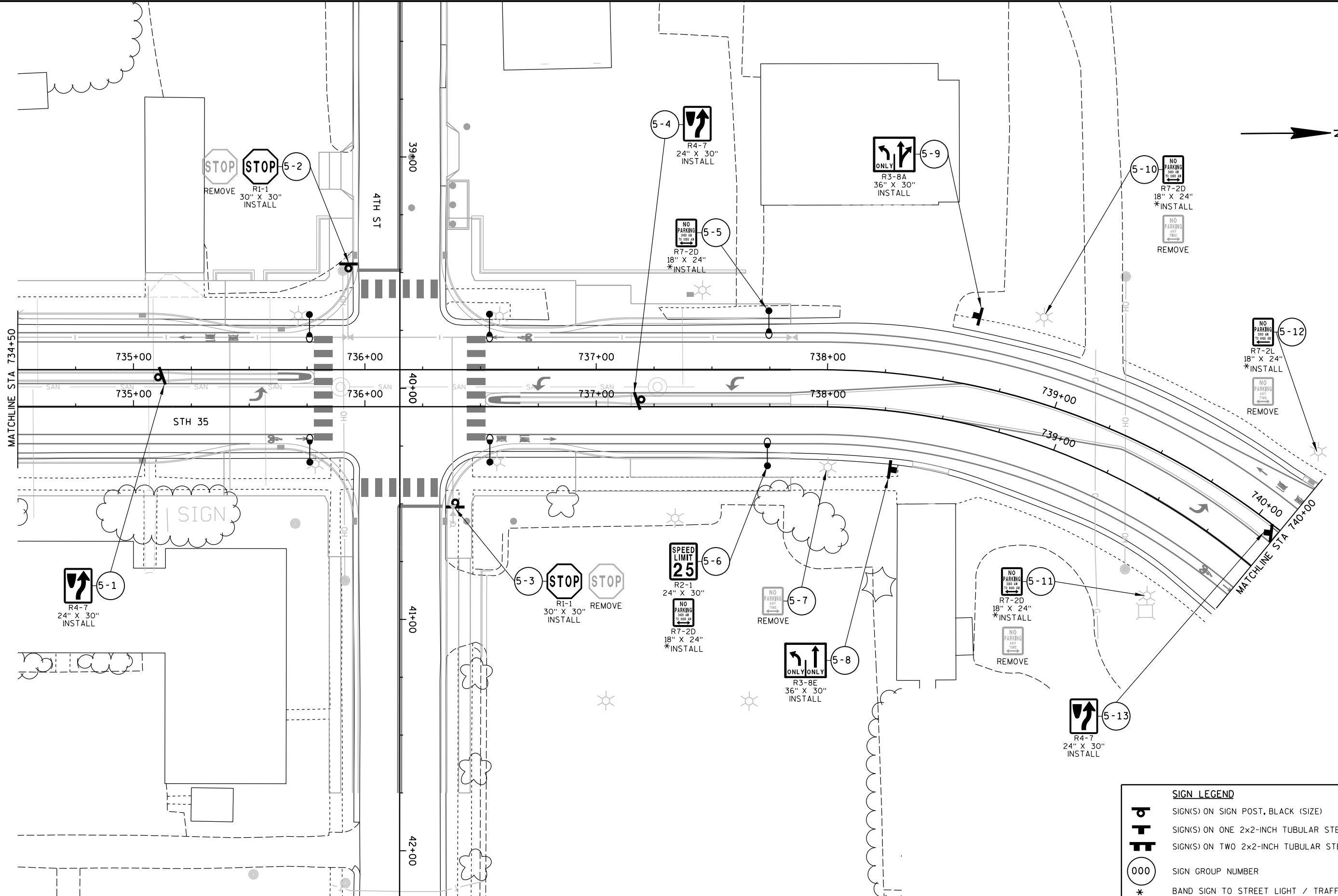
E



**SIGN LEGEND**

	SIGN(S) ON SIGN POST, BLACK (SIZE)
	SIGN(S) ON ONE 2x2-INCH TUBULAR STEEL POST
	SIGN(S) ON TWO 2x2-INCH TUBULAR STEEL POST
	SIGN GROUP NUMBER
	BAND SIGN TO STREET LIGHT / TRAFFIC SIGNAL POLE

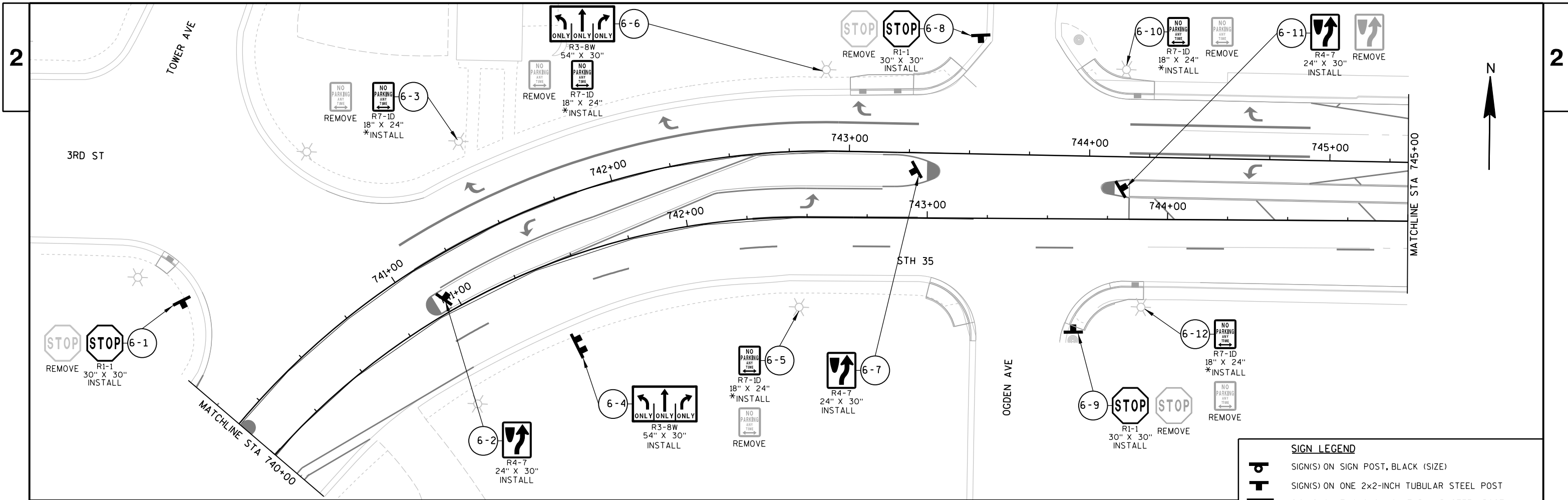
PROJECT NO: 1195-13-71      HWY: STH 35 - TOWER AVE      COUNTY: DOUGLAS      PERMANENT SIGNING      SHEET      E



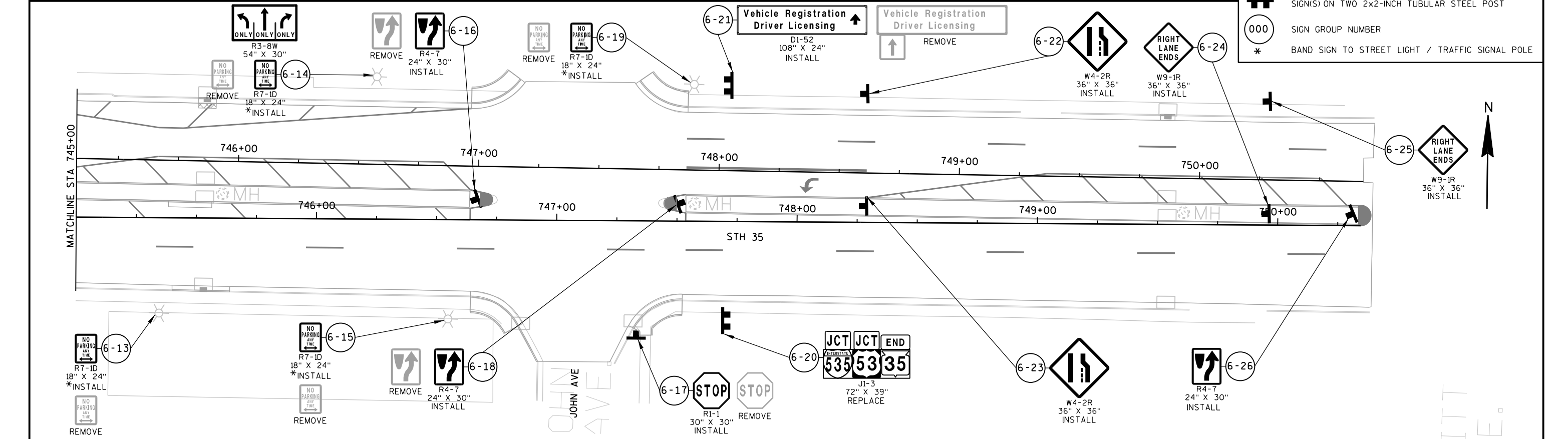
**SIGN LEGEND**

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	SIGN(S) ON ONE 2x2-INCH TUBULAR STEEL POST
	SIGN(S) ON TWO 2x2-INCH TUBULAR STEEL POST
	SIGN GROUP NUMBER
	BAND SIGN TO STREET LIGHT / TRAFFIC SIGNAL POLE





SIGN LEGEND	
	SIGN(S) ON SIGN POST, BLACK (SIZE)
	SIGN(S) ON ONE 2x2-INCH TUBULAR STEEL POST
	SIGN(S) ON TWO 2x2-INCH TUBULAR STEEL POST
	SIGN GROUP NUMBER
*	BAND SIGN TO STREET LIGHT / TRAFFIC SIGNAL POLE



PROJECT NO: 1195-13-71

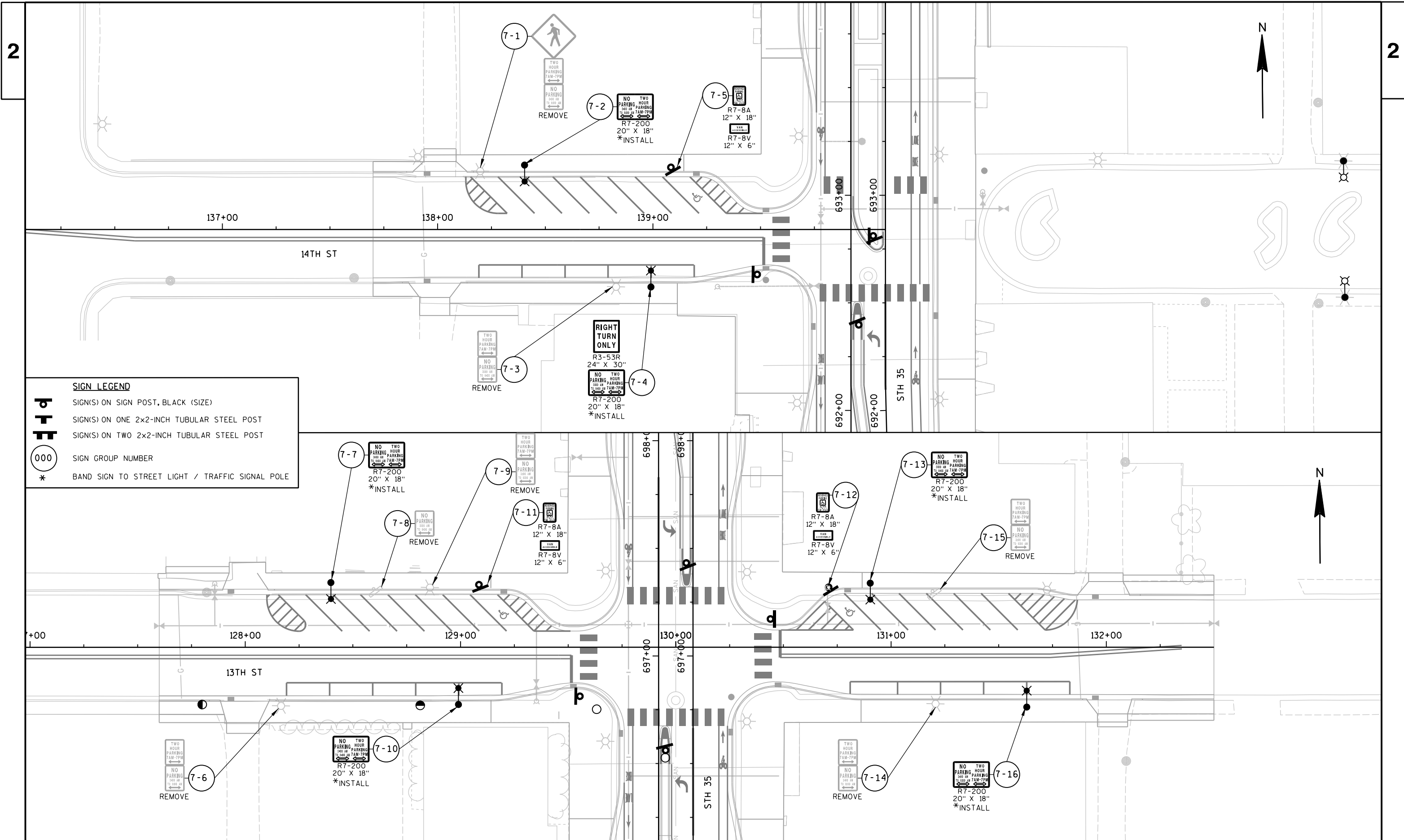
HWY: STH 35 - TOWER AVE

COUNTY: DOUGLAS

PERMANENT SIGNING

SHEET

E



**SIGN LEGEND**

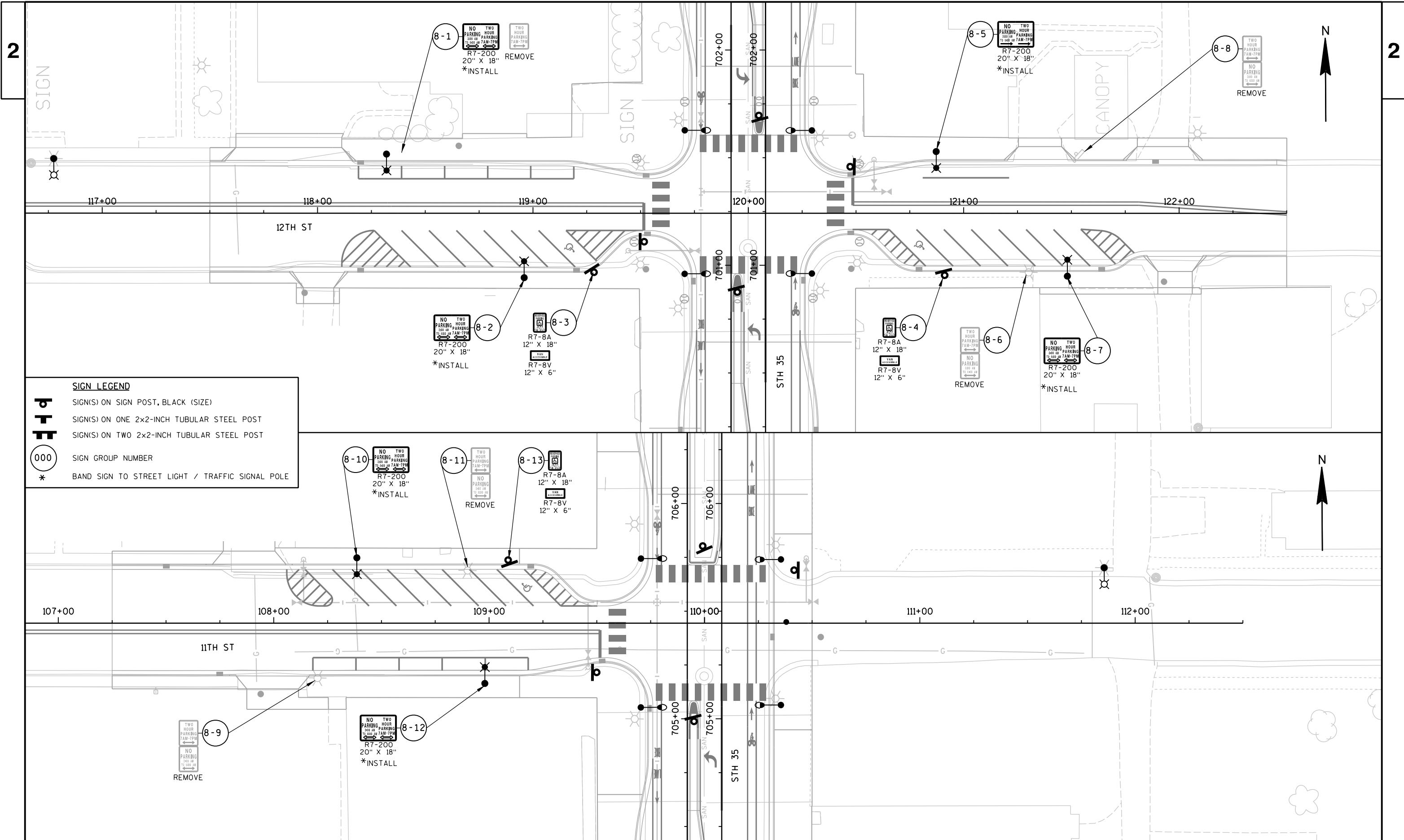
**P** SIGN(S) ON SIGN POST, BLACK (SIZE)

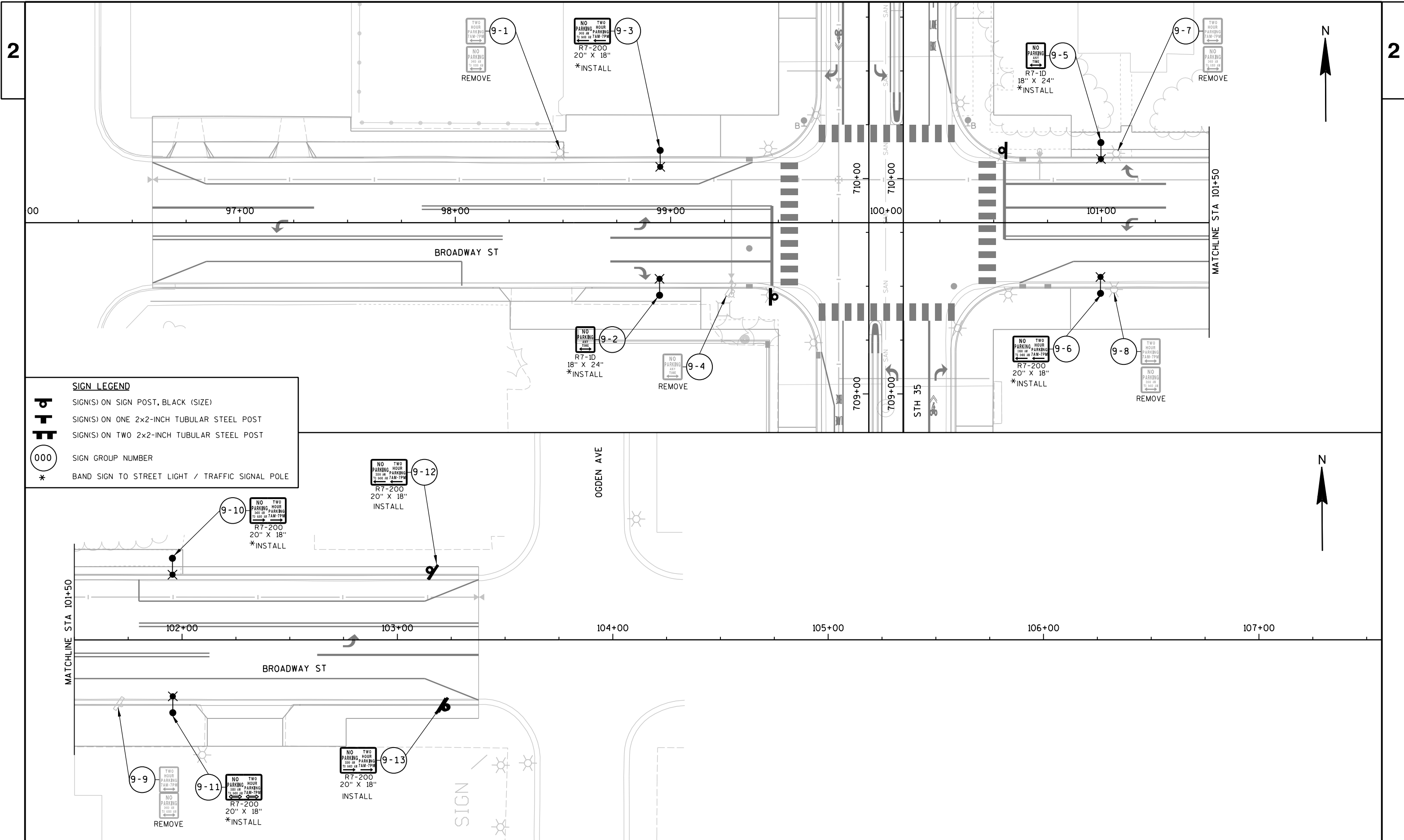
**HP** SIGN(S) ON ONE 2x2-INCH TUBULAR STEEL POST

**HP** SIGN(S) ON TWO 2x2-INCH TUBULAR STEEL POST

**000** SIGN GROUP NUMBER

**\*** BAND SIGN TO STREET LIGHT / TRAFFIC SIGNAL POLE





**SIGN LEGEND**

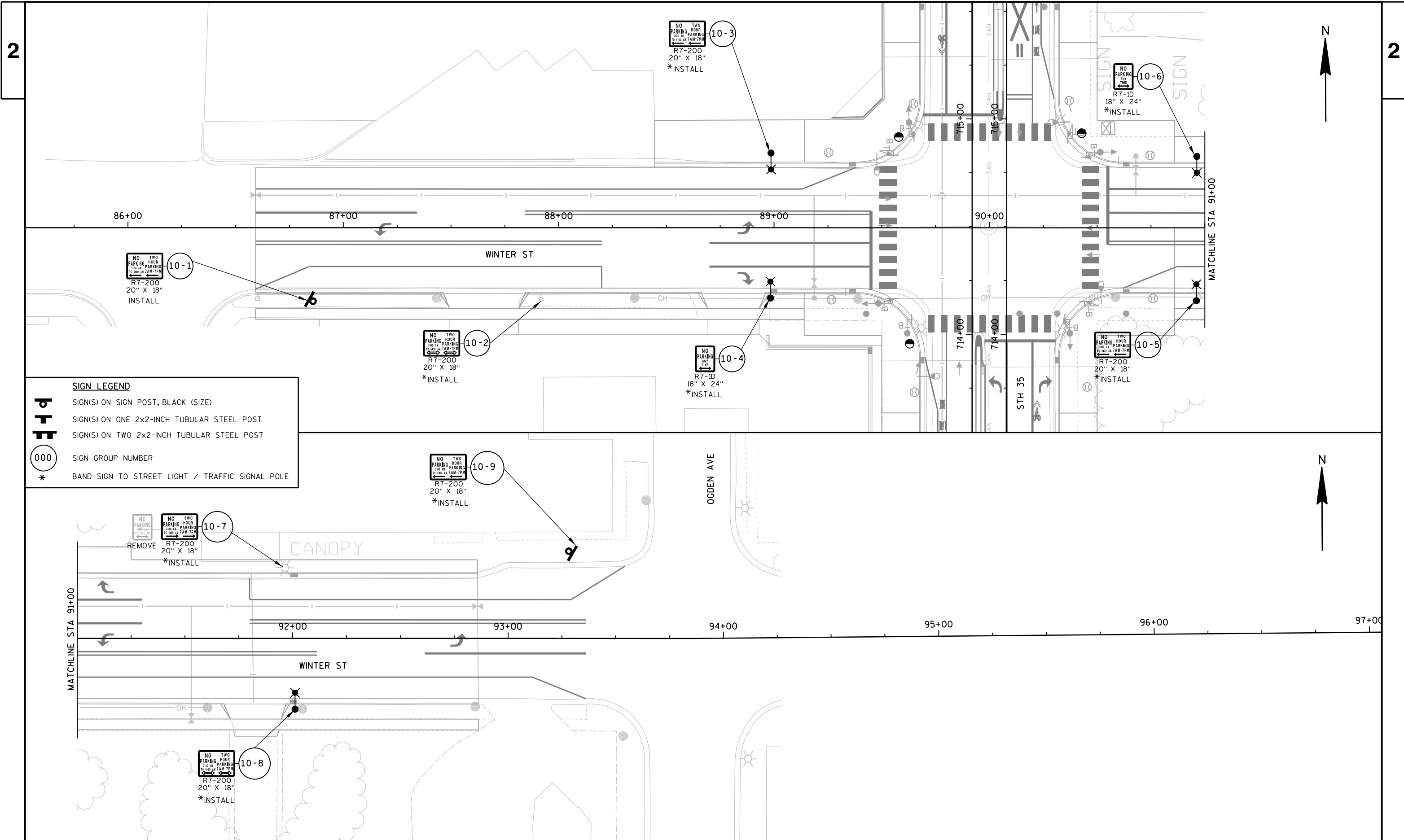
**P** SIGN(S) ON SIGN POST, BLACK (SIZE)

**H** SIGN(S) ON ONE 2x2-INCH TUBULAR STEEL POST

**F** SIGN(S) ON TWO 2x2-INCH TUBULAR STEEL POST

**000** SIGN GROUP NUMBER

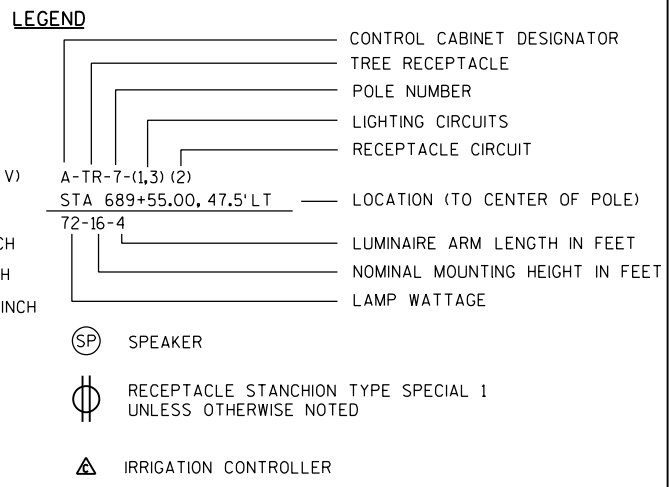
**\*** BAND SIGN TO STREET LIGHT / TRAFFIC SIGNAL POLE



**SIGN LEGEND**

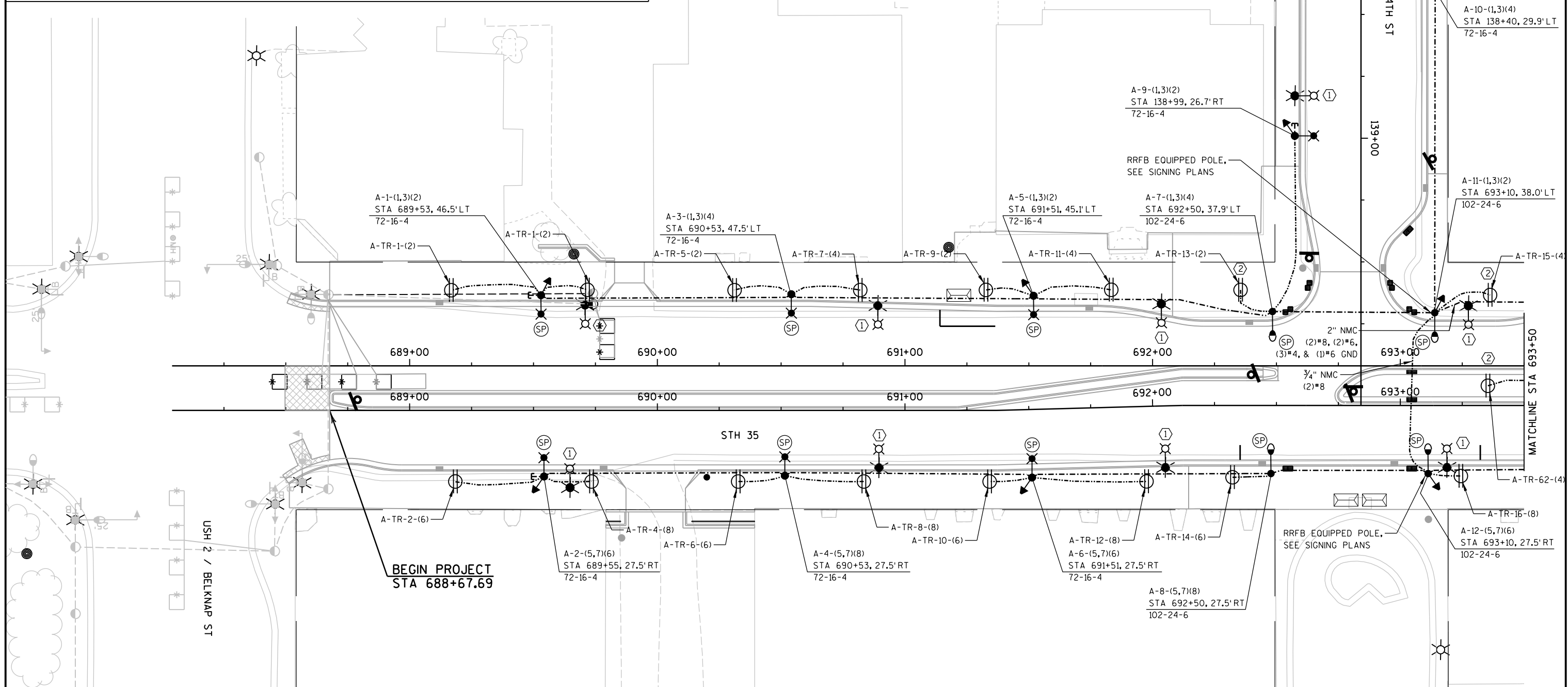
	SIGN(S) ON SIGN POST, BLACK (SIZE)
	SIGN(S) ON ONE 2x2-INCH TUBULAR STEEL POST
	SIGN(S) ON TWO 2x2-INCH TUBULAR STEEL POST
	SIGN GROUP NUMBER
	BAND SIGN TO STREET LIGHT / TRAFFIC SIGNAL POLE

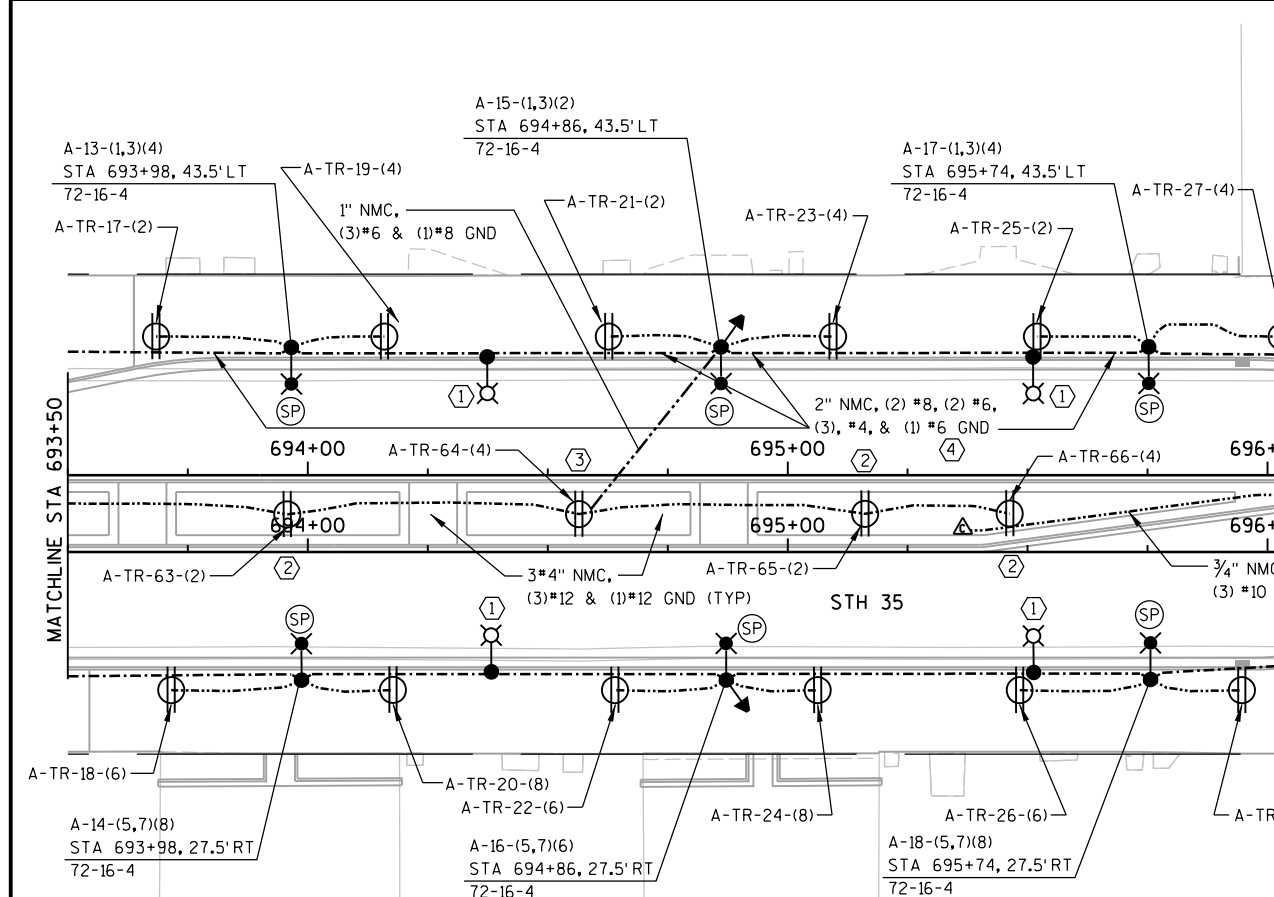
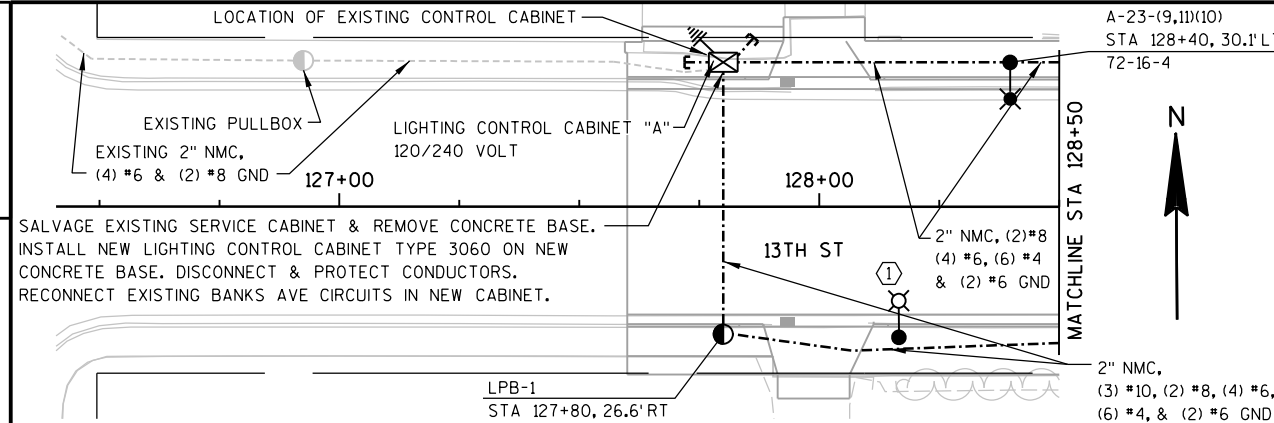
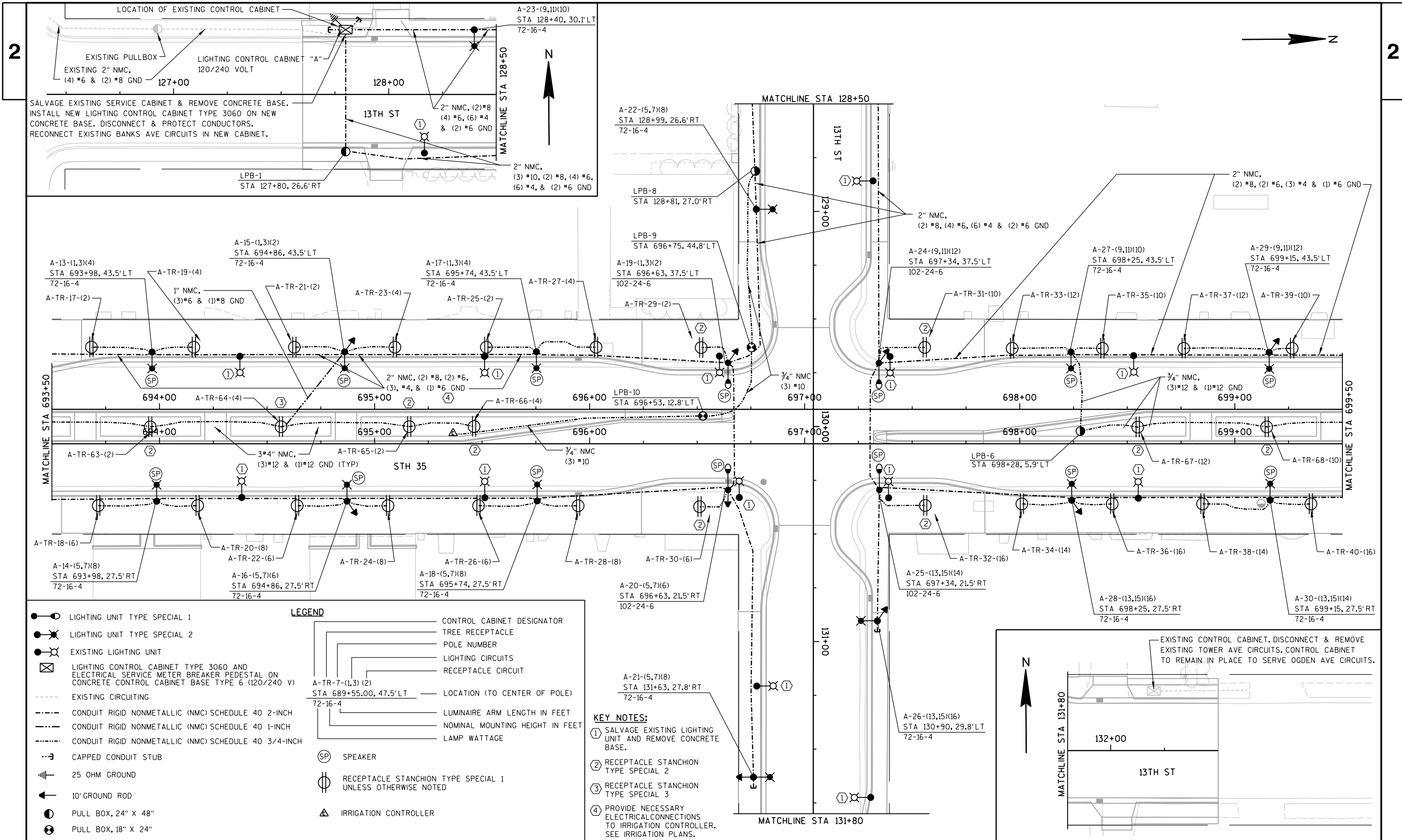
- LIGHTING UNIT TYPE SPECIAL 1
- LIGHTING UNIT TYPE SPECIAL 2
- EXISTING LIGHTING UNIT
- ⊠ LIGHTING CONTROL CABINET TYPE 3060 AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE TYPE 6 (120/240 V)
- EXISTING CIRCUITING
- CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 2-INCH
- CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 1-INCH
- CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 3/4-INCH
- CAPPED CONDUIT STUB
- ⊥ 25 OHM GROUND
- ← 10' GROUND ROD
- PULL BOX, 24" X 48"
- PULL BOX, 18" X 24"



- GENERAL LIGHTING NOTES:**
- ALL CONDUCTORS ON THIS PLAN SHEET SHALL BE (2) #6 - LIGHTING, (3) #4 - RECEPTACLES, & (1) #6 - GND UNLESS OTHERWISE NOTED.
  - PROVIDE CAPPED CONDUIT STUBS AS INDICATED.
  - LIGHT LOCATIONS ARE TO THE CENTER OF THE BASE.
  - COORDINATE SERVICE CONNECTION WITH SUPERIOR WATER, LIGHT & POWER REPRESENTATIVE KEVIN HABERMAN AT 715.395.6315
  - ALL RECEPTACLE STANCHION CIRCUITS SHALL BE 3/4" NMC, (2) #12 & (1) #12 GND UNLESS OTHERWISE NOTED.
  - INSTALL CONDUITS IN COMMON TRENCH WHERE POSSIBLE.

- KEY NOTES:**
- SALVAGE EXISTING LIGHTING UNIT AND REMOVE CONCRETE BASE.
  - RECEPTACLE STANCHION TYPE SPECIAL 2
  - RECEPTACLE STANCHION TYPE SPECIAL 3
  - PROVIDE NECESSARY ELECTRICAL CONNECTIONS TO IRRIGATION CONTROLLER. SEE IRRIGATION PLANS.



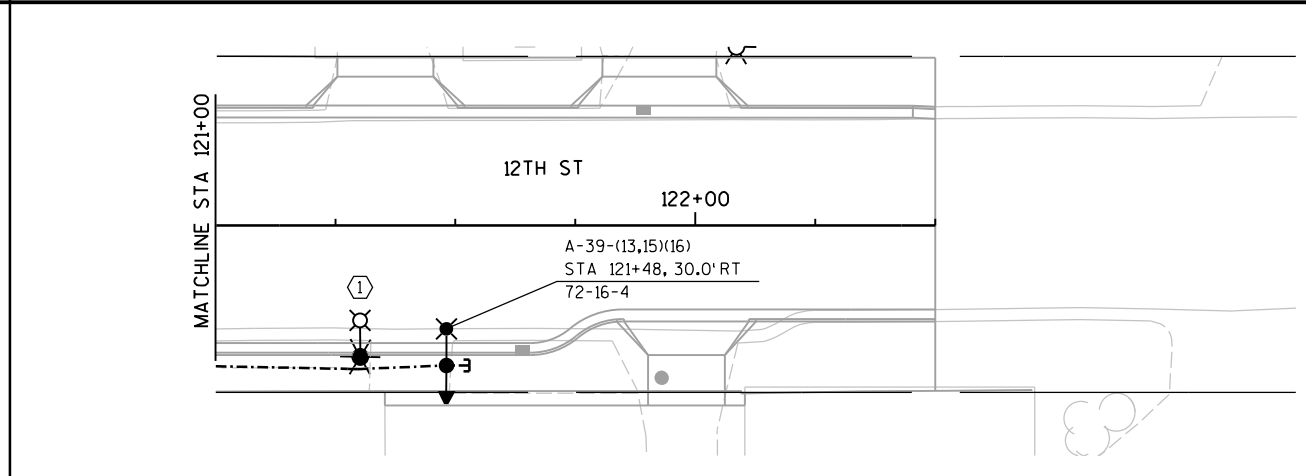
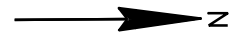


**LEGEND**

- LIGHTING UNIT TYPE SPECIAL 1
- LIGHTING UNIT TYPE SPECIAL 2
- EXISTING LIGHTING UNIT
- ⊠ LIGHTING CONTROL CABINET TYPE 3060 AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE TYPE 6 (120/240 V)
- EXISTING CIRCUITING
- CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 2-INCH
- CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 1-INCH
- CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 3/4-INCH
- CAPPED CONDUIT STUB
- ⊥ 25 OHM GROUND
- ⊥ 10' GROUND ROD
- PULL BOX, 24" X 48"
- PULL BOX, 18" X 24"
- CONTROL CABINET DESIGNATOR
- TREE RECEPTACLE
- POLE NUMBER
- LIGHTING CIRCUITS
- RECEPTACLE CIRCUIT
- LOCATION (TO CENTER OF POLE)
- LUMINAIRE ARM LENGTH IN FEET
- NOMINAL MOUNTING HEIGHT IN FEET
- LAMP WATTAGE
- SP SPEAKER
- ⊠ RECEPTACLE STANCHION TYPE SPECIAL 1 UNLESS OTHERWISE NOTED
- △ IRRIGATION CONTROLLER

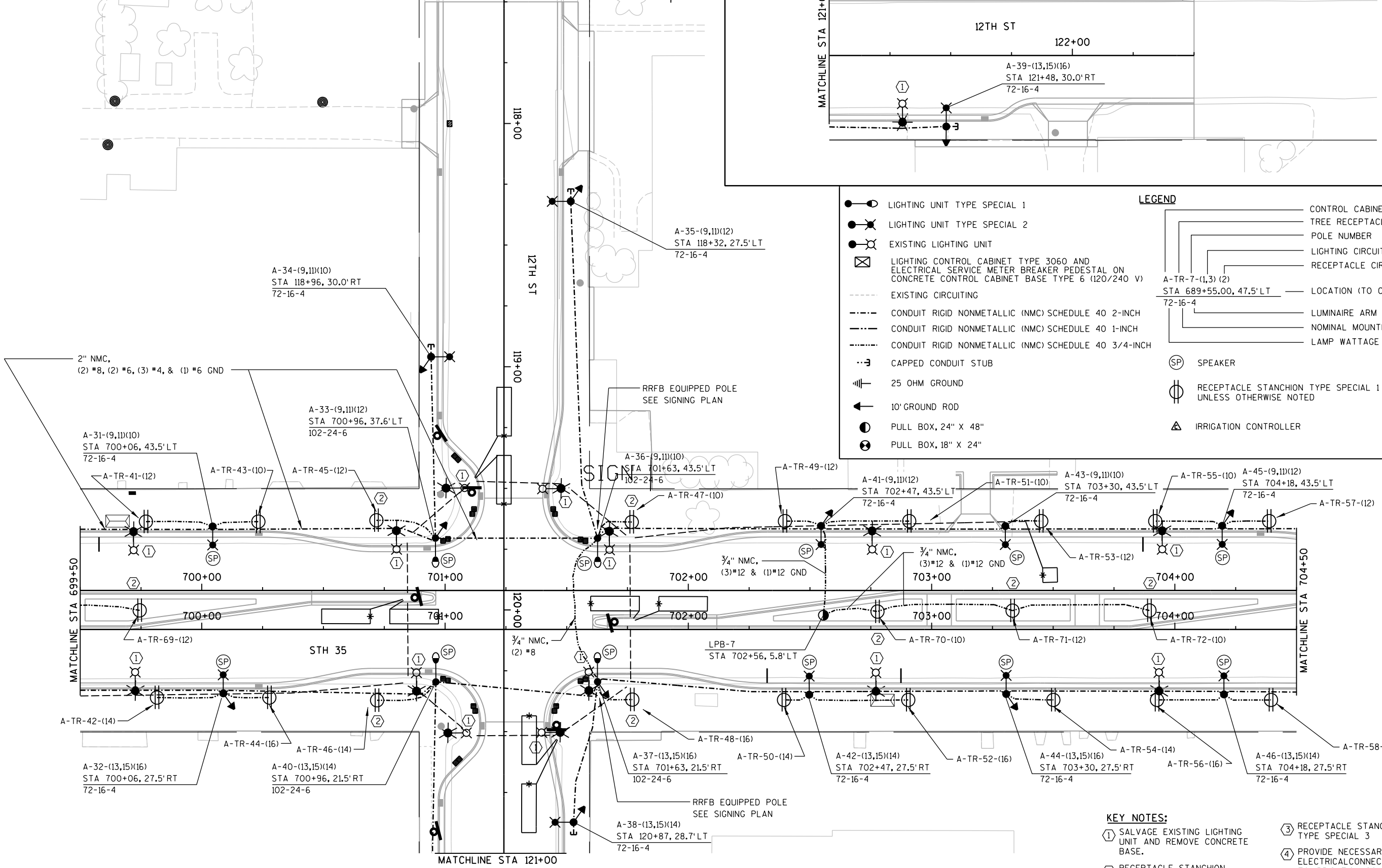
**KEY NOTES:**

- ① SALVAGE EXISTING LIGHTING UNIT AND REMOVE CONCRETE BASE.
- ② RECEPTACLE STANCHION TYPE SPECIAL 2
- ③ RECEPTACLE STANCHION TYPE SPECIAL 3
- ④ PROVIDE NECESSARY ELECTRICAL CONNECTIONS TO IRRIGATION CONTROLLER. SEE IRRIGATION PLANS.



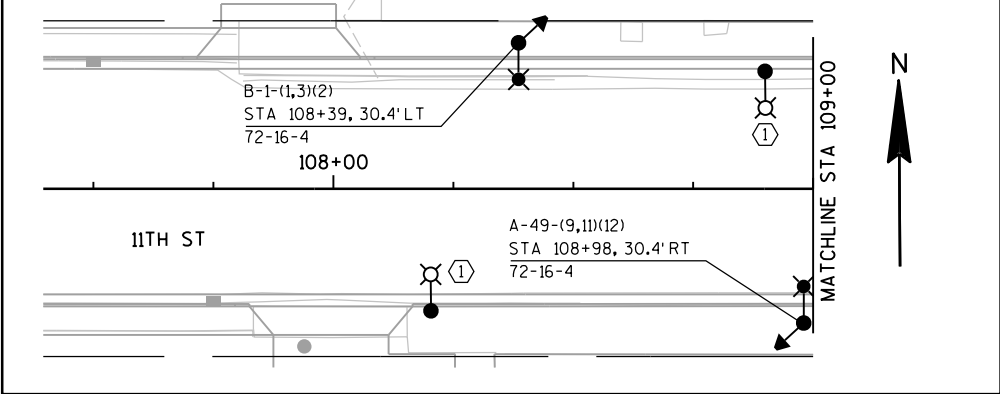
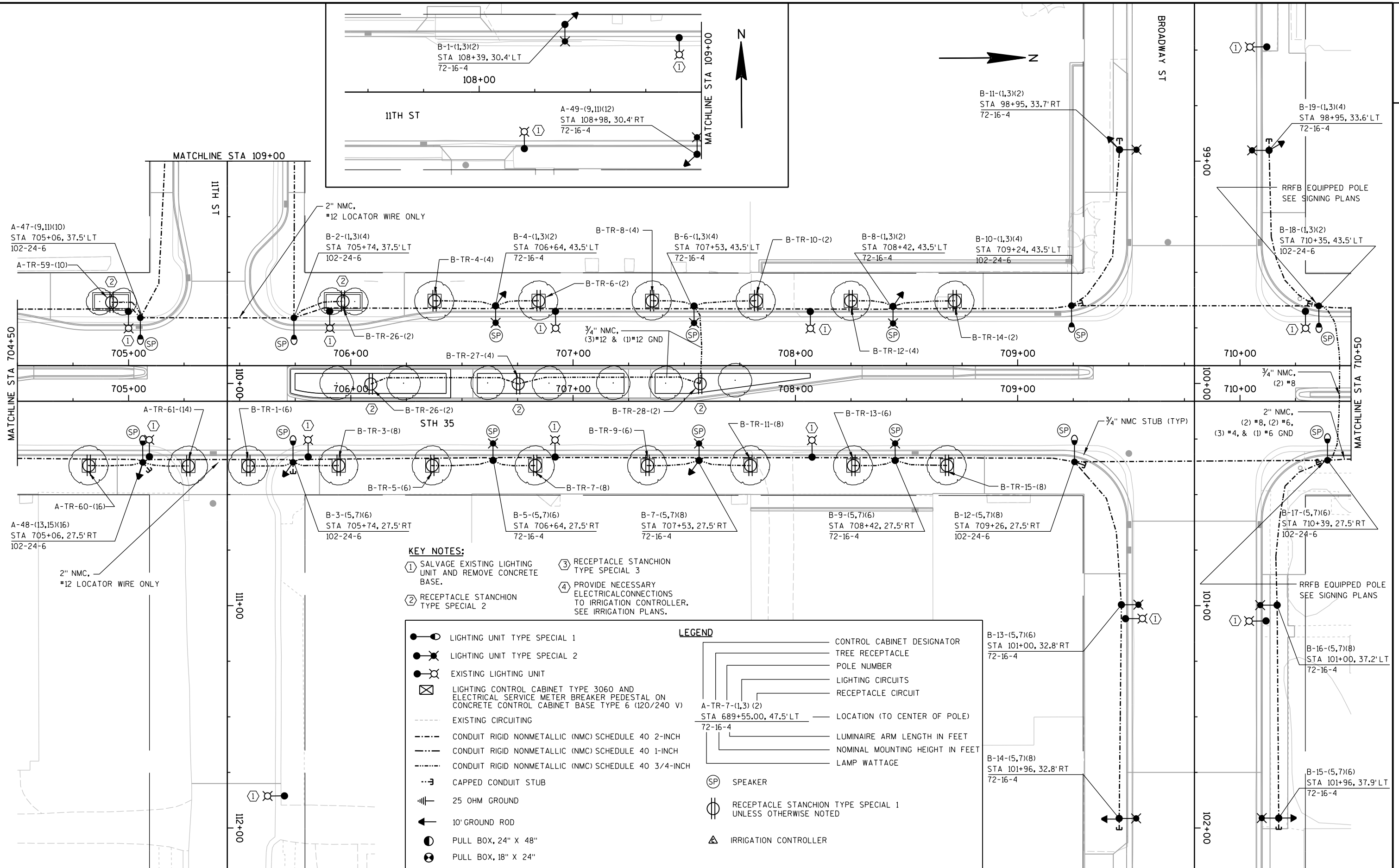
- LIGHTING UNIT TYPE SPECIAL 1
- LIGHTING UNIT TYPE SPECIAL 2
- EXISTING LIGHTING UNIT
- ⊠ LIGHTING CONTROL CABINET TYPE 3060 AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE TYPE 6 (120/240 V)
- EXISTING CIRCUITING
- CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 2-INCH
- CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 1-INCH
- CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 3/4-INCH
- CAPPED CONDUIT STUB
- ⊞ 25 OHM GROUND
- ⊞ 10' GROUND ROD
- PULL BOX, 24" X 48"
- PULL BOX, 18" X 24"

- LEGEND**
- CONTROL CABINET DESIGNATOR
  - TREE RECEPTACLE
  - POLE NUMBER
  - LIGHTING CIRCUITS
  - RECEPTACLE CIRCUIT
  - LOCATION (TO CENTER OF POLE)
  - LUMINAIRE ARM LENGTH IN FEET
  - NOMINAL MOUNTING HEIGHT IN FEET
  - LAMP WATTAGE
  - ⊞ SPEAKER
  - ⊞ RECEPTACLE STANCHION TYPE SPECIAL 1 UNLESS OTHERWISE NOTED
  - ⊞ IRRIGATION CONTROLLER



- KEY NOTES:**
- ① SALVAGE EXISTING LIGHTING UNIT AND REMOVE CONCRETE BASE.
  - ② RECEPTACLE STANCHION TYPE SPECIAL 2
  - ③ RECEPTACLE STANCHION TYPE SPECIAL 3
  - ④ PROVIDE NECESSARY ELECTRICAL CONNECTIONS TO IRRIGATION CONTROLLER. SEE IRRIGATION PLANS.

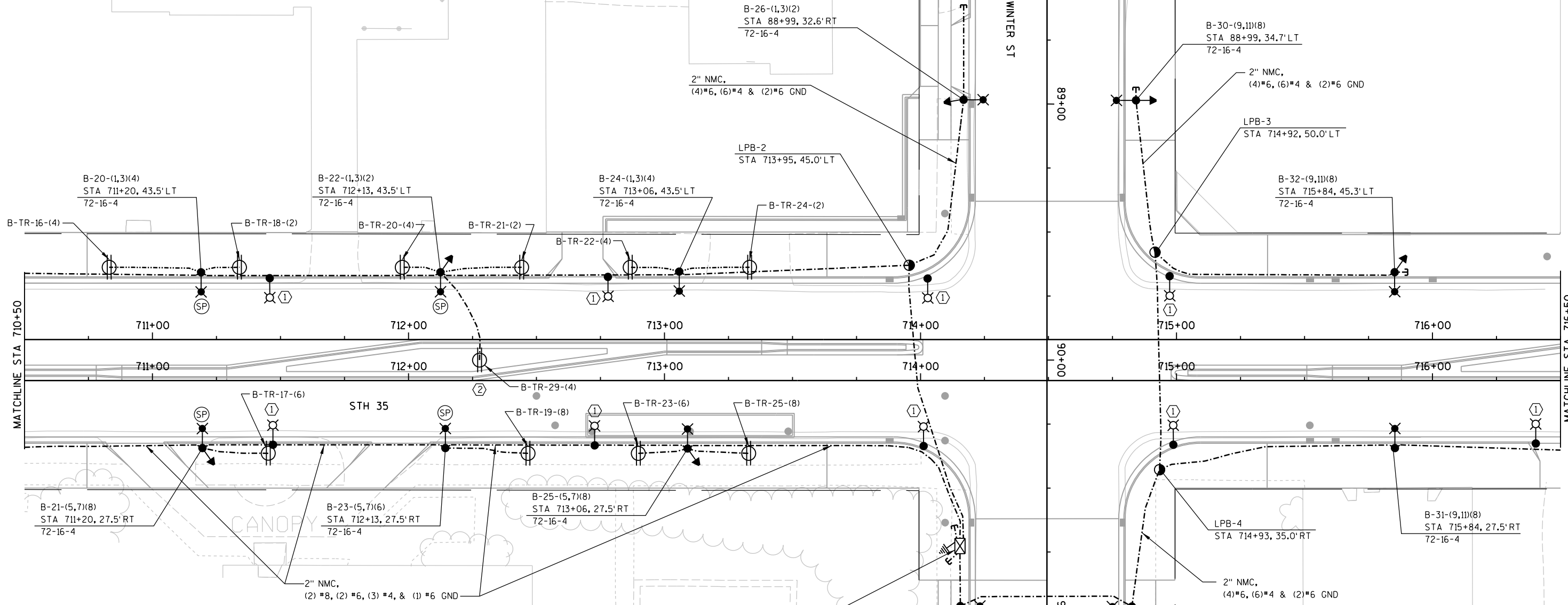
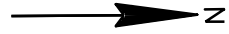




- KEY NOTES:**
- ① SALVAGE EXISTING LIGHTING UNIT AND REMOVE CONCRETE BASE.
  - ② RECEPTACLE STANCHION TYPE SPECIAL 2
  - ③ RECEPTACLE STANCHION TYPE SPECIAL 3
  - ④ PROVIDE NECESSARY ELECTRICAL CONNECTIONS TO IRRIGATION CONTROLLER. SEE IRRIGATION PLANS.

**LEGEND**

- LIGHTING UNIT TYPE SPECIAL 1
- LIGHTING UNIT TYPE SPECIAL 2
- EXISTING LIGHTING UNIT
- ⊠ LIGHTING CONTROL CABINET TYPE 3060 AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE TYPE 6 (120/240 V)
- EXISTING CIRCUITING
- CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 2-INCH
- CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 1-INCH
- CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 3/4-INCH
- CAPPED CONDUIT STUB
- ⊥ 25 OHM GROUND
- ⊥ 10' GROUND ROD
- PULL BOX, 24" X 48"
- PULL BOX, 18" X 24"
- CONTROL CABINET DESIGNATOR
- TREE RECEPTACLE
- POLE NUMBER
- LIGHTING CIRCUITS
- RECEPTACLE CIRCUIT
- LOCATION (TO CENTER OF POLE)
- LUMINAIRE ARM LENGTH IN FEET
- NOMINAL MOUNTING HEIGHT IN FEET
- LAMP WATTAGE
- SP SPEAKER
- ⊕ RECEPTACLE STANCHION TYPE SPECIAL 1 UNLESS OTHERWISE NOTED
- △ IRRIGATION CONTROLLER



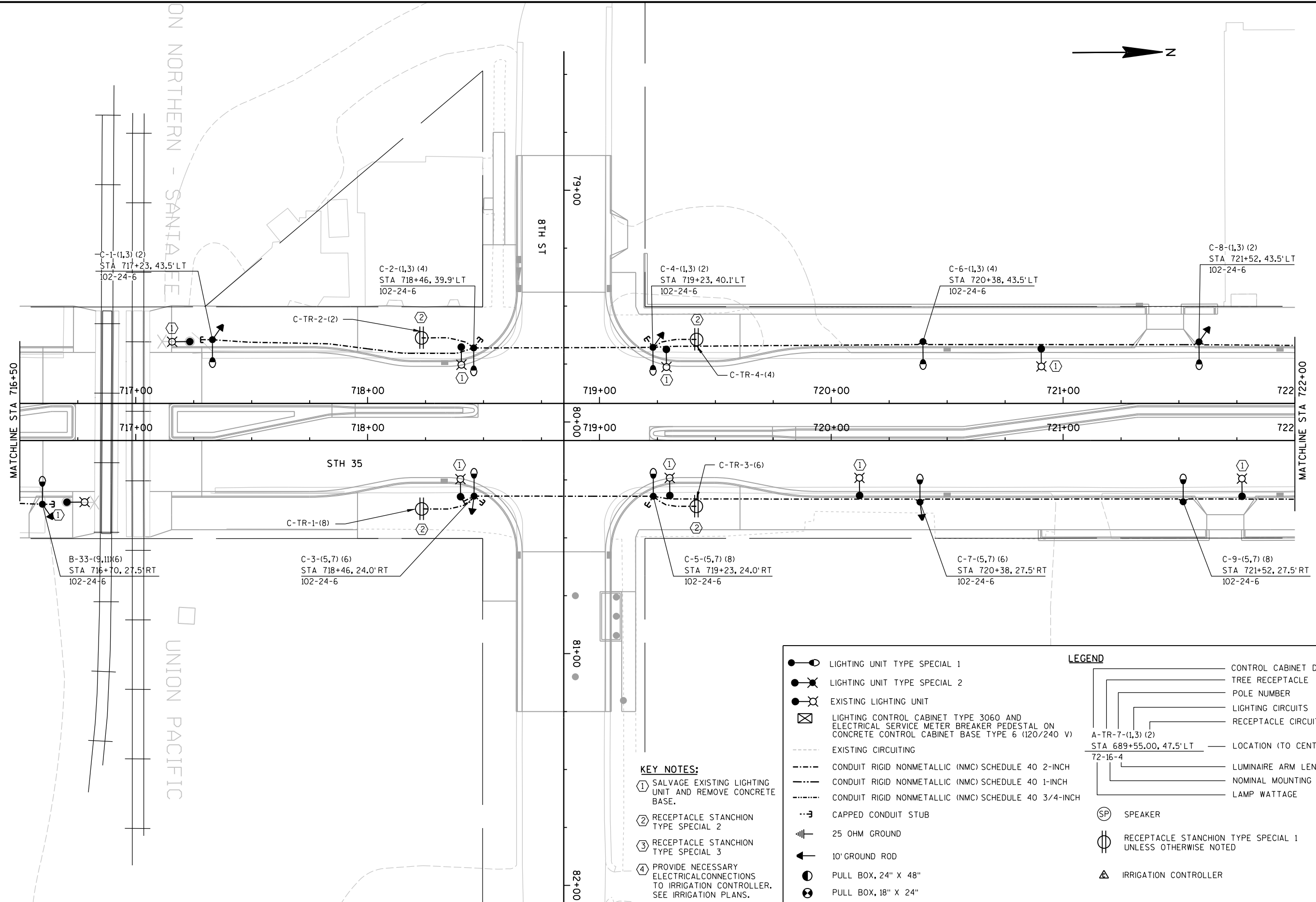
- LIGHTING UNIT TYPE SPECIAL 1
- LIGHTING UNIT TYPE SPECIAL 2
- EXISTING LIGHTING UNIT
- LIGHTING CONTROL CABINET TYPE 3060 AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE TYPE 6 (120/240 V)
- EXISTING CIRCUITING
- CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 2-INCH
- CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 1-INCH
- CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 3/4-INCH
- CAPPED CONDUIT STUB
- 25 OHM GROUND
- 10' GROUND ROD
- PULL BOX, 24" X 48"
- PULL BOX, 18" X 24"

**LEGEND**

- CONTROL CABINET DESIGNATOR
- TREE RECEPTACLE
- POLE NUMBER
- LIGHTING CIRCUITS
- RECEPTACLE CIRCUIT
- LOCATION (TO CENTER OF POLE)
- LUMINAIRE ARM LENGTH IN FEET
- NOMINAL MOUNTING HEIGHT IN FEET
- LAMP WATTAGE
- SPEAKER
- RECEPTACLE STANCHION TYPE SPECIAL 1 UNLESS OTHERWISE NOTED
- IRRIGATION CONTROLLER

LIGHTING CONTROL CABINET "B"  
120/240 VOLT

- KEY NOTES:**
- ① SALVAGE EXISTING LIGHTING UNIT AND REMOVE CONCRETE BASE.
  - ② RECEPTACLE STANCHION TYPE SPECIAL 2
  - ③ RECEPTACLE STANCHION TYPE SPECIAL 3
  - ④ PROVIDE NECESSARY ELECTRICAL CONNECTIONS TO IRRIGATION CONTROLLER. SEE IRRIGATION PLANS.



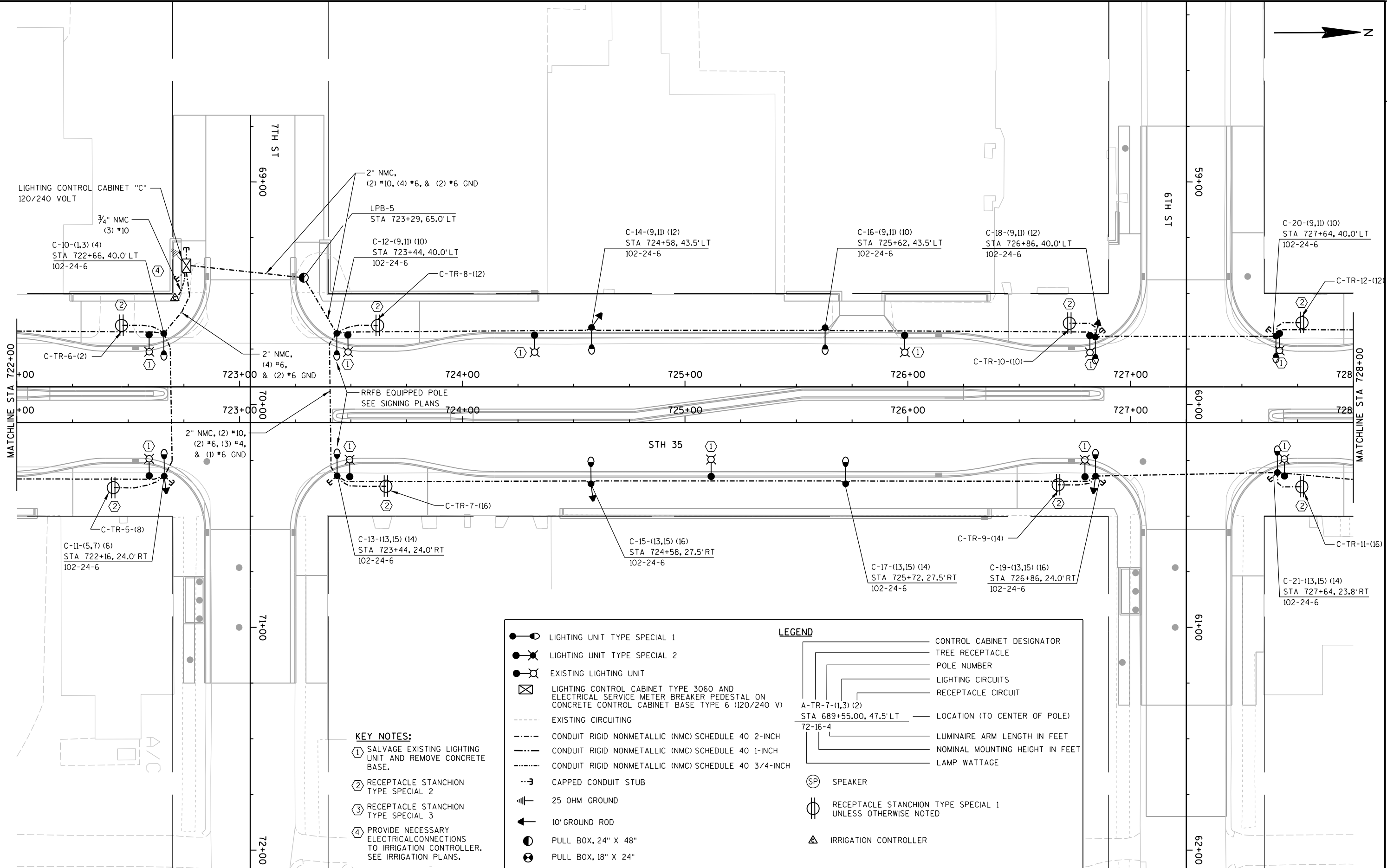
**KEY NOTES:**

- ① SALVAGE EXISTING LIGHTING UNIT AND REMOVE CONCRETE BASE.
- ② RECEPTACLE STANCHION TYPE SPECIAL 2
- ③ RECEPTACLE STANCHION TYPE SPECIAL 3
- ④ PROVIDE NECESSARY ELECTRICAL CONNECTIONS TO IRRIGATION CONTROLLER. SEE IRRIGATION PLANS.

- LIGHTING UNIT TYPE SPECIAL 1
- LIGHTING UNIT TYPE SPECIAL 2
- EXISTING LIGHTING UNIT
- ⊠ LIGHTING CONTROL CABINET TYPE 3060 AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE TYPE 6 (120/240 V)
- EXISTING CIRCUITING
- CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 2-INCH
- CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 1-INCH
- CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 3/4-INCH
- CAPPED CONDUIT STUB
- ⊥ 25 OHM GROUND
- ⬅ 10' GROUND ROD
- PULL BOX, 24" X 48"
- PULL BOX, 18" X 24"

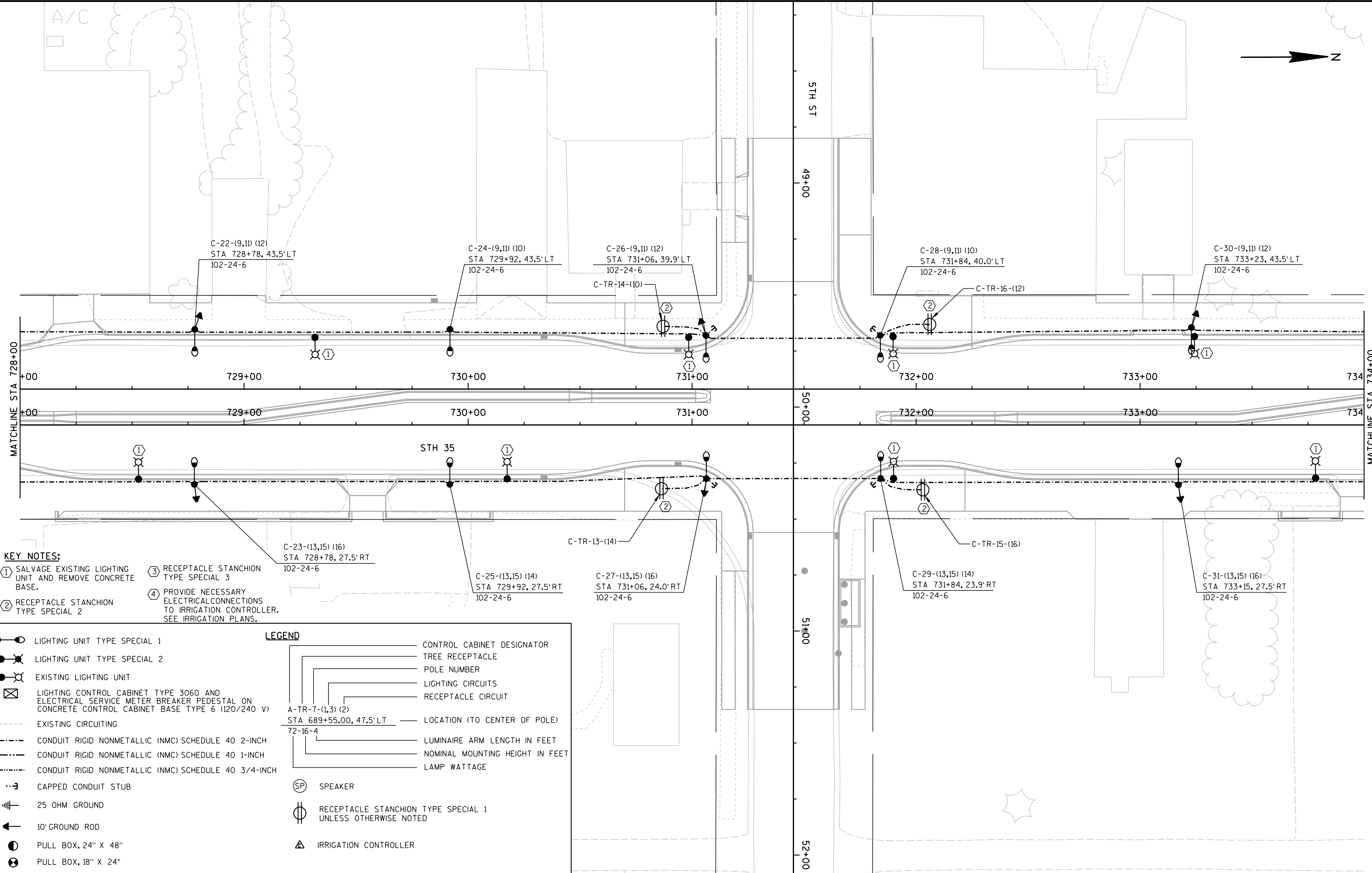
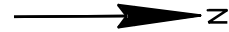
**LEGEND**

- CONTROL CABINET DESIGNATOR
- TREE RECEPTACLE
- POLE NUMBER
- LIGHTING CIRCUITS
- RECEPTACLE CIRCUIT
- LOCATION (TO CENTER OF POLE)
- LUMINAIRE ARM LENGTH IN FEET
- NOMINAL MOUNTING HEIGHT IN FEET
- LAMP WATTAGE
- ⊠ SPEAKER
- ⊠ RECEPTACLE STANCHION TYPE SPECIAL 1 UNLESS OTHERWISE NOTED
- ⊠ IRRIGATION CONTROLLER



- KEY NOTES:**
- ① SALVAGE EXISTING LIGHTING UNIT AND REMOVE CONCRETE BASE.
  - ② RECEPTACLE STANCHION TYPE SPECIAL 2
  - ③ RECEPTACLE STANCHION TYPE SPECIAL 3
  - ④ PROVIDE NECESSARY ELECTRICAL CONNECTIONS TO IRRIGATION CONTROLLER. SEE IRRIGATION PLANS.

LEGEND	
	LIGHTING UNIT TYPE SPECIAL 1
	LIGHTING UNIT TYPE SPECIAL 2
	EXISTING LIGHTING UNIT
	LIGHTING CONTROL CABINET TYPE 3060 AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE TYPE 6 (120/240 V)
	EXISTING CIRCUITING
	CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 2-INCH
	CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 1-INCH
	CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 3/4-INCH
	CAPPED CONDUIT STUB
	25 OHM GROUND
	10' GROUND ROD
	PULL BOX, 24" X 48"
	PULL BOX, 18" X 24"
	CONTROL CABINET DESIGNATOR
	TREE RECEPTACLE
	POLE NUMBER
	LIGHTING CIRCUITS
	RECEPTACLE CIRCUIT
	LOCATION (TO CENTER OF POLE)
	LUMINAIRE ARM LENGTH IN FEET
	NOMINAL MOUNTING HEIGHT IN FEET
	LAMP WATTAGE
	SPEAKER
	RECEPTACLE STANCHION TYPE SPECIAL 1 UNLESS OTHERWISE NOTED
	IRRIGATION CONTROLLER

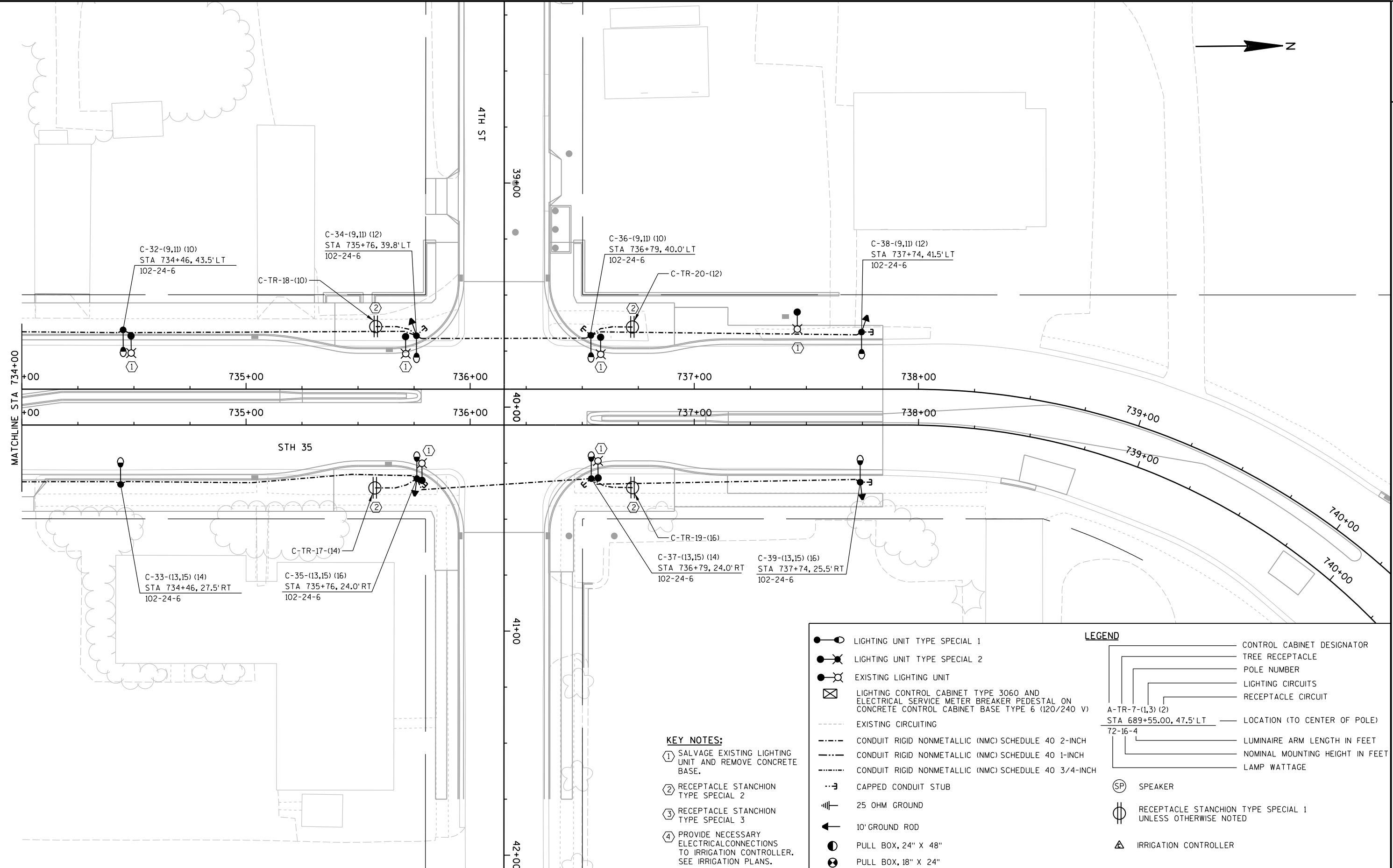


**KEY NOTES:**

- ① SALVAGE EXISTING LIGHTING UNIT AND REMOVE CONCRETE BASE.
- ② RECEPTACLE STANCHION TYPE SPECIAL 2
- ③ RECEPTACLE STANCHION TYPE SPECIAL 3
- ④ PROVIDE NECESSARY ELECTRICAL CONNECTIONS TO IRRIGATION CONTROLLER. SEE IRRIGATION PLANS.

**LEGEND**

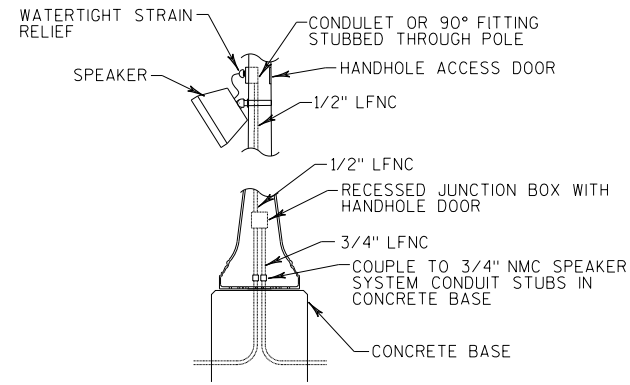
- LIGHTING UNIT TYPE SPECIAL 1
- LIGHTING UNIT TYPE SPECIAL 2
- EXISTING LIGHTING UNIT
- ☒ LIGHTING CONTROL CABINET TYPE 3060 AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE TYPE 6 (120/240 V)
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- - - CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 2-INCH
- · - CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 1-INCH
- · · CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 3/4-INCH
- · · CAPPED CONDUIT STUB
- ⊥ 25 OHM GROUND
- ↑ 10' GROUND ROD
- PULL BOX, 24" X 48"
- PULL BOX, 18" X 24"
- CONTROL CABINET DESIGNATOR
- TREE RECEPTACLE
- POLE NUMBER
- LIGHTING CIRCUITS
- RECEPTACLE CIRCUIT
- LOCATION (TO CENTER OF POLE)
- LUMINAIRE ARM LENGTH IN FEET
- NOMINAL MOUNTING HEIGHT IN FEET
- LAMP WATTAGE
- ⊕ (SP) SPEAKER
- ⊕ RECEPTACLE STANCHION TYPE SPECIAL 1 UNLESS OTHERWISE NOTED
- △ IRRIGATION CONTROLLER



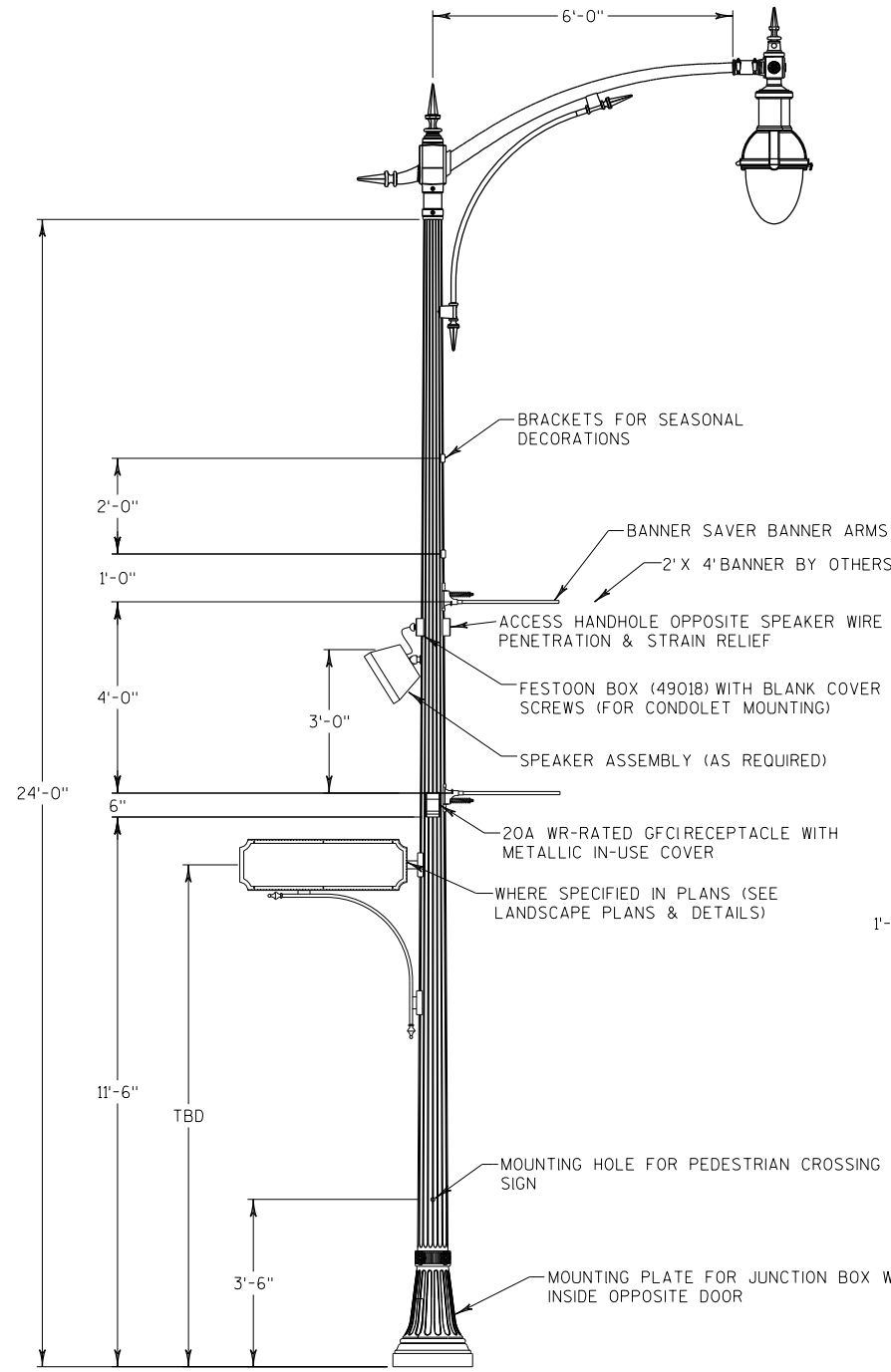
- KEY NOTES:**
- ① SALVAGE EXISTING LIGHTING UNIT AND REMOVE CONCRETE BASE.
  - ② RECEPTACLE STANCHION TYPE SPECIAL 2
  - ③ RECEPTACLE STANCHION TYPE SPECIAL 3
  - ④ PROVIDE NECESSARY ELECTRICAL CONNECTIONS TO IRRIGATION CONTROLLER. SEE IRRIGATION PLANS.

●○	LIGHTING UNIT TYPE SPECIAL 1	—	CONTROL CABINET DESIGNATOR
●✕	LIGHTING UNIT TYPE SPECIAL 2	—	TREE RECEPTACLE
●⊗	EXISTING LIGHTING UNIT	—	POLE NUMBER
⊗	LIGHTING CONTROL CABINET TYPE 3060 AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE TYPE 6 (120/240 V)	—	LIGHTING CIRCUITS
---	EXISTING CIRCUITING	—	RECEPTACLE CIRCUIT
---	CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 2-INCH	—	LOCATION (TO CENTER OF POLE)
---	CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 1-INCH	—	LUMINAIRE ARM LENGTH IN FEET
---	CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 3/4-INCH	—	NOMINAL MOUNTING HEIGHT IN FEET
---	CAPPED CONDUIT STUB	—	LAMP WATTAGE
⊥	25 OHM GROUND	⊗	SPEAKER
⬅	10' GROUND ROD	⊗	RECEPTACLE STANCHION TYPE SPECIAL 1 UNLESS OTHERWISE NOTED
●	PULL BOX, 24" X 48"	⚠	IRRIGATION CONTROLLER
●	PULL BOX, 18" X 24"		

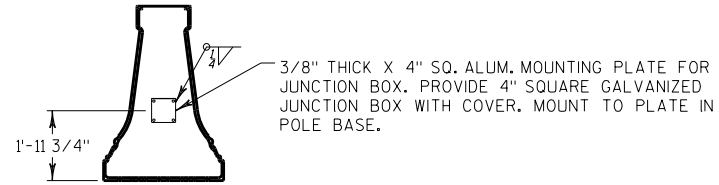
EQUIPMENT SCHEDULE					
SYMBOL	DESCRIPTION	LAMP SOURCE	MOUNTING	OPTICS	MANUFACTURER & SERIES #
●—○	LIGHTING UNIT TYPE SPECIAL 1 TEARDROP STYLE LED LUMINAIRE ON TAPERED FLUTED ALUMINUM POLE WITH BANNER ARMS & GFI RECEPTACLE WITH IN-USE COVER	70W 64LED ARRAY	24' POLE ON CONCRETE BASE	TYPE III	LUMEC - LUMINAIRE: RN20-70W64LED4KES-LE3R-GL-240-SMA-BKTX ARM: AR6-1-BKTX HAPCO - POLE: YOC23D8-TFO-BA 27600
●—✱	LIGHTING UNIT TYPE SPECIAL 2 TEARDROP STYLE LED LUMINAIRE ON TAPERED FLUTED ALUMINUM POLE WITH BANNER ARMS & GFI RECEPTACLE WITH IN-USE COVER	70W 64LED ARRAY	16' POLE ON CONCRETE BASE	TYPE III	LUMEC - LUMINAIRE: RN20-70W64LED4KES-LE3R-GL-240-SMA-BKTX ARM: AR4-1-BKTX HAPCO - POLE: Y7C16D6-TFO-BA 27600
●	WAY FINDING POLE TAPERED FLUTED ALUMINUM	N/A	16' POLE ON CONCRETE BASE	N/A	HAPCO- POLE: Y7C16D6-TFO-BA-BALL FINIAL



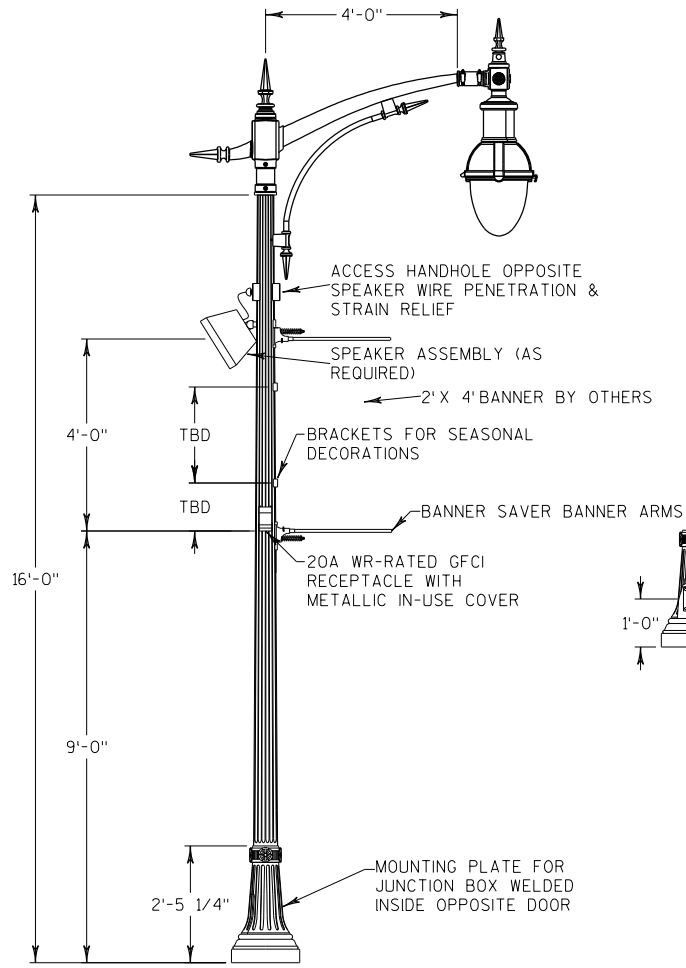
**POLE MOUNTED SPEAKER SYSTEM COMPONENTS DETAIL**



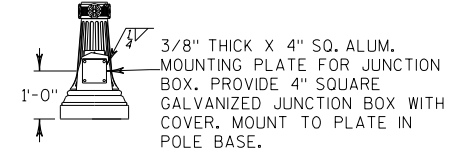
**LIGHTING UNIT TYPE SPECIAL 1**



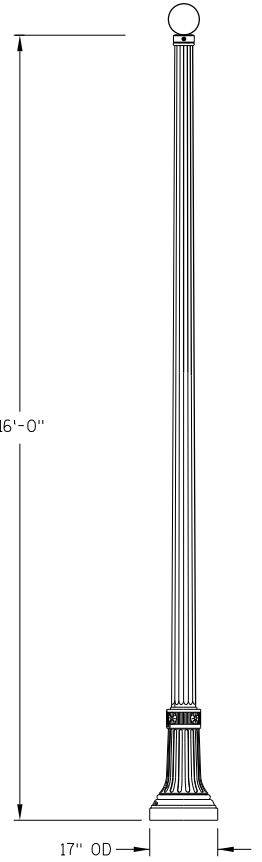
**Interior Base View**



**LIGHTING UNIT TYPE SPECIAL 2**



**Interior Base View**



**WAY FINDING POLE  
SEE SIGNING PLAN**

**GENERAL NOTES**

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER EXCEPT WHEN EXCAVATING WITHIN 18-INCHES OF UNDERGROUND UTILITIES. WHEN EXCAVATING WITHIN 18-INCHES OF UTILITIES THE BASE SHALL BE DUG BY HAND.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED 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.

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).

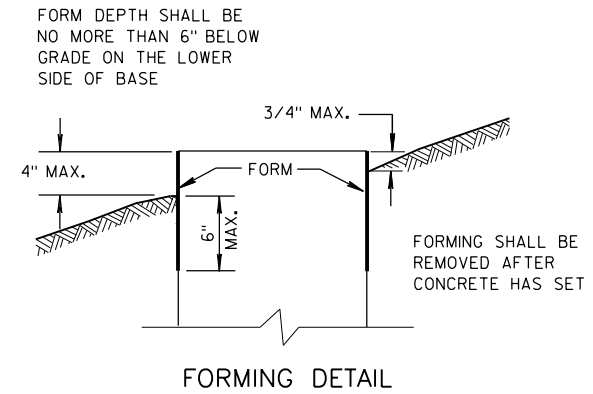
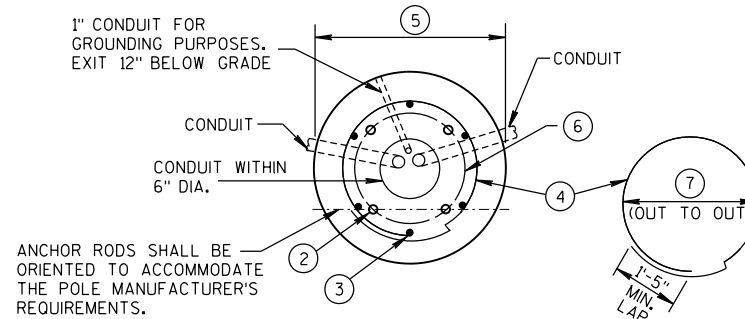
THE EQUIPMENT GROUNDING CONDUCTOR SHALL ENTER THE BASE THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE PROVIDED BY POLE SUPPLIER. TWO GALVANIZED HEX NUTS & WASHERS PER ANCHOR BOLT.

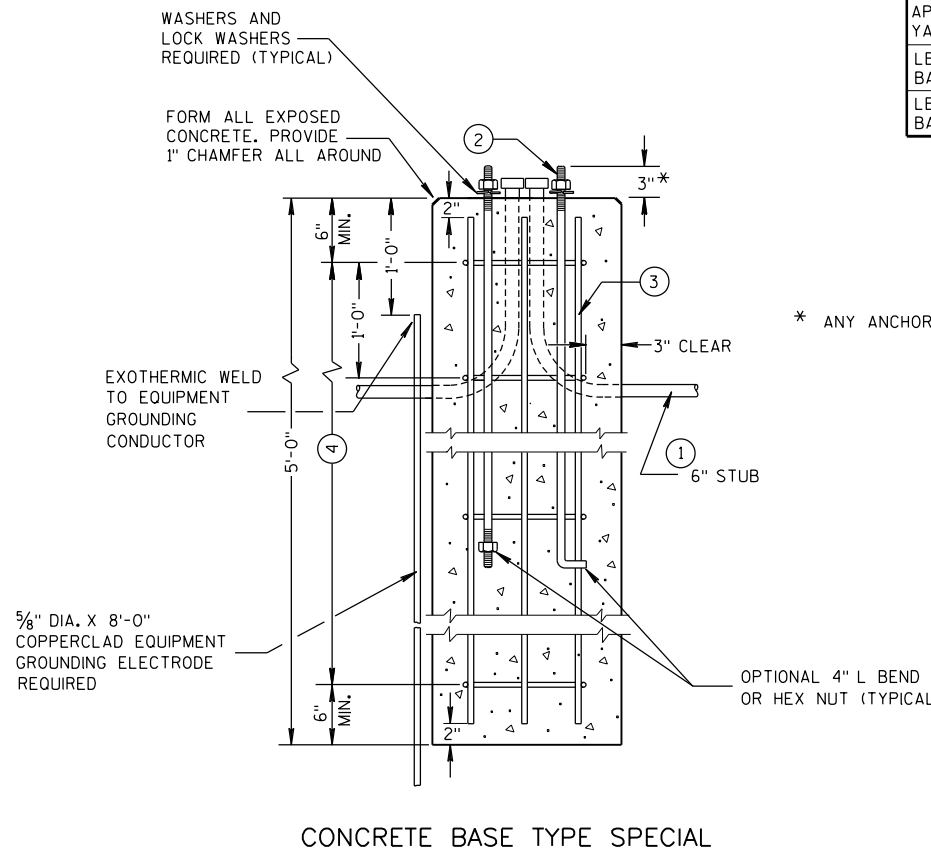
WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWERED 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 ANCHOR RODS BY POLE SUPPLIER. TWO GALVANIZED HEX NUTS & WASHERS PER ANCHOR BOLT.
- ③ (6) NO. 4 X 4'-8" BAR STEEL REINFORCEMENT.
- ④ (5) NO. 4 X 6'-2" BAR STEEL REINFORCEMENT @ 1'-0" C-C.
- ⑤ 2'-0".
- ⑥ BOLT CIRCLE PER POLE MANUFACTURER'S REQUIREMENTS.
- ⑦ 1'-6".

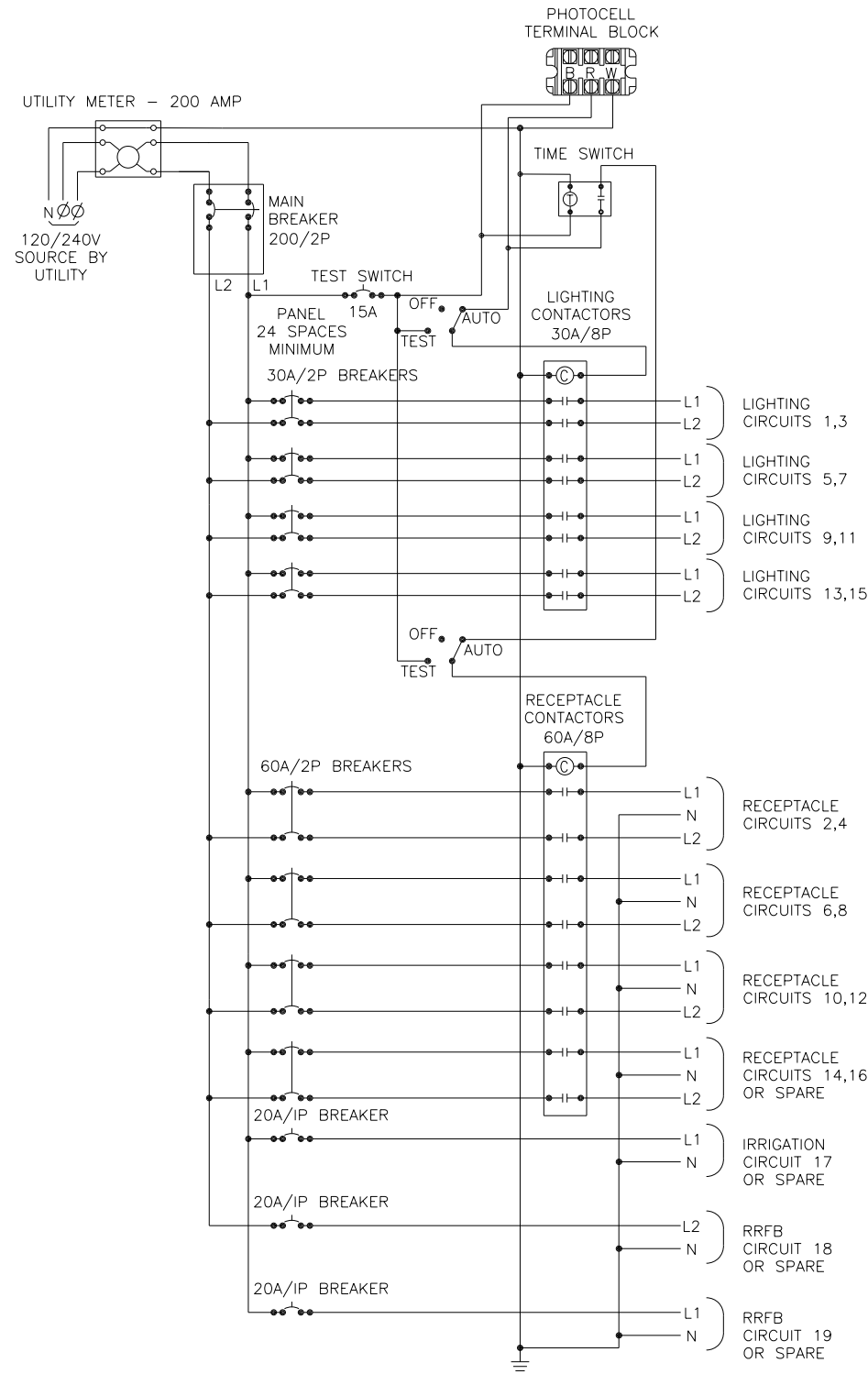


QUANTITY REQUIREMENTS	
APPROX. CUBIC YARDS OF CONCRETE	0.6
LBS. OF HOOP BAR STEEL	21
LBS. OF VERTICAL BAR STEEL	18



\* ANY ANCHOR ROD PROJECTION SHALL BE PER MANUFACTURER'S REQUIREMENTS.

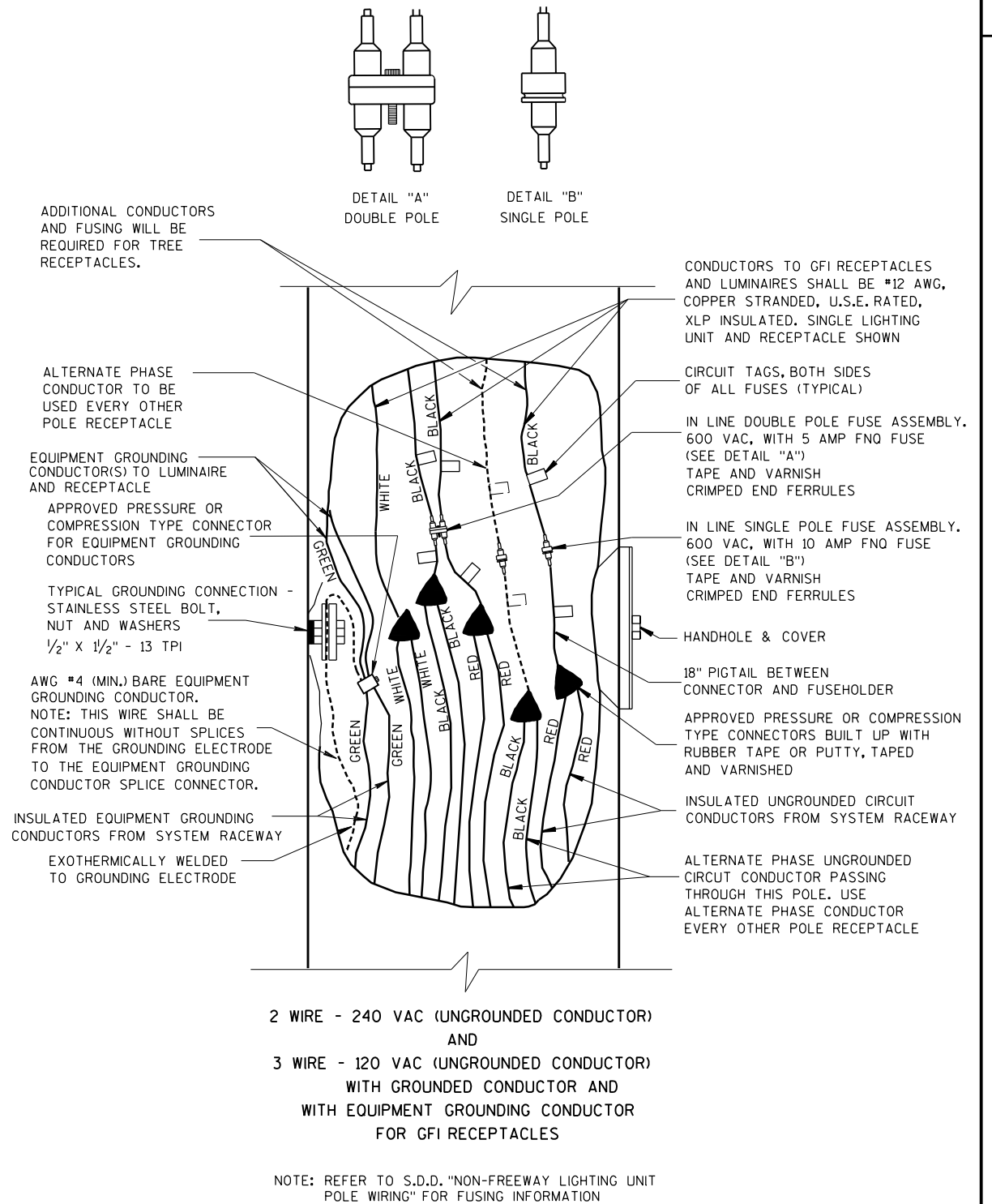




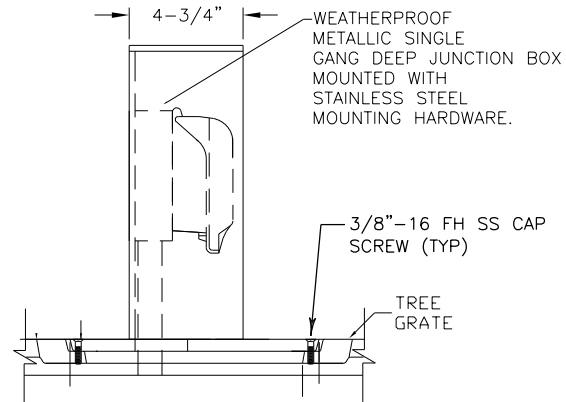
**LIGHTING SERVICE CABINET NOTES**

1. PROVIDE LEVER BYPASS METER SOCKET PER UTILITY COMPANY REQUIREMENTS.
2. PHOTOELECTRIC CONTROL SHALL BE INTERMATIC #4021 OR EQUAL WITH A MOVRO TYPE LIGHTNING ARRESTER. BOTH PHOTOELECTRIC CONTROL AND ITS SOCKET SHALL BE 3 TERMINAL, POLARIZED, TWIST-LOCK TYPE.
3. LOAD CENTER, 120/240V, 1-PHASE, 24-POLE WITH BRANCH BREAKERS AS SHOWN IN SCHEMATIC.
4. CIRCUIT BREAKERS SHALL BE 120/240 VOLT AC, 60Hz AND SHALL BE CLEARLY MARKED WITH THE "ON" AND "OFF" POSITIONS AND IDENTIFIED WITH THE LOAD WHICH IT IS CARRYING.
5. CIRCUIT BREAKERS SHALL BE CLEARLY MARKED IN A MANNER THAT WILL NOT DETERIORATE WITH MOISTURE OR AGE.
6. SHORT CIRCUIT RATING - 22,000 AIC SYMMETRICAL.
7. SELECTOR SWITCH ALLEN BRADLEY #800TJ2A.
8. CIRCUIT CONTACTORS SHALL HAVE A 240 VOLT RATING, WITH 120 VOLT COIL.
9. TIME SWITCH SHALL BE NEMA 3R WITH CAPACITOR BACKUP AND AUTOMATIC DAYLIGHT SAVINGS TIME AND LEAP YEAR ADJUSTMENTS. TORK MODEL E101B
10. COORDINATE SERVICE CONNECTION WITH SUPERIOR WATER, LIGHT & POWER REPRESENTATIVE.

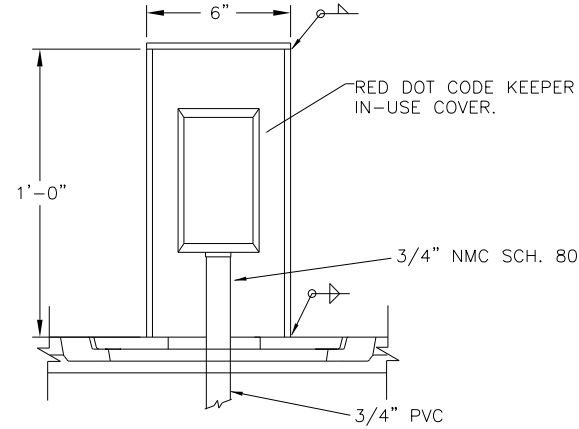
**SERVICE CABINET "A", "B", & "C" SCHEMATIC**



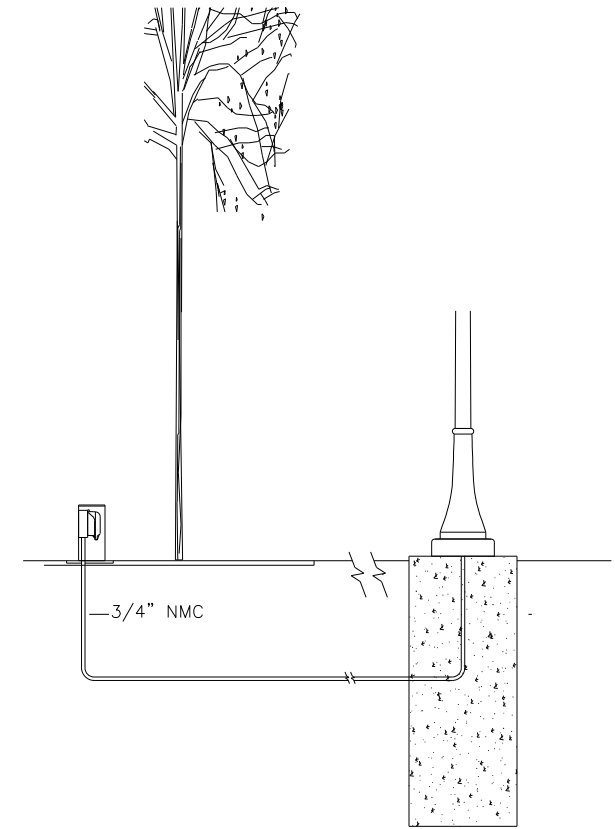
NOTE:  
 THREADED MOUNTING HARDWARE FOR  
 RED DOT CODE KEEPER, GFCI, AND  
 STANCHION SHALL BE STAINLESS  
 STEEL. ALL THREADED HARDWARE  
 SHALL BE COATED WITH AN  
 APPROVED ANTI-SEIZE COMPOUND.



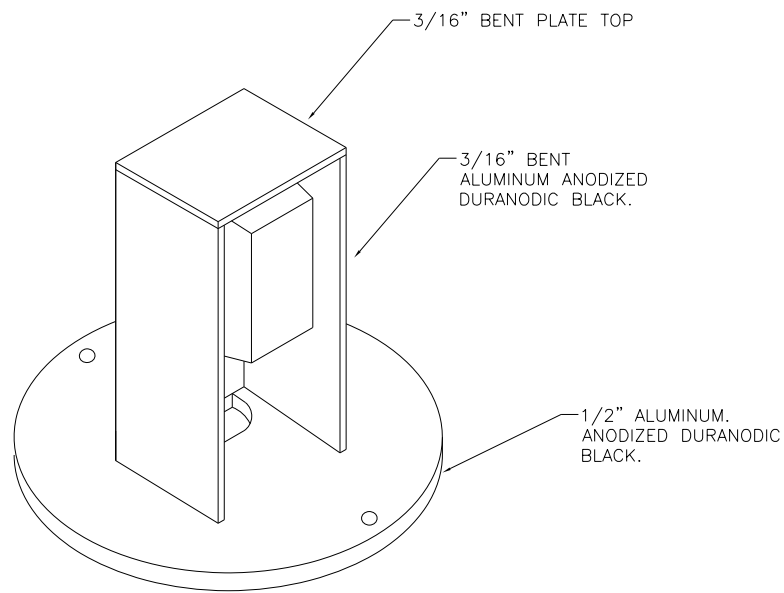
RECEPTACLE STANCHION TYPE SPECIAL 1 SIDE VIEW DETAIL  
 SCALE: NONE



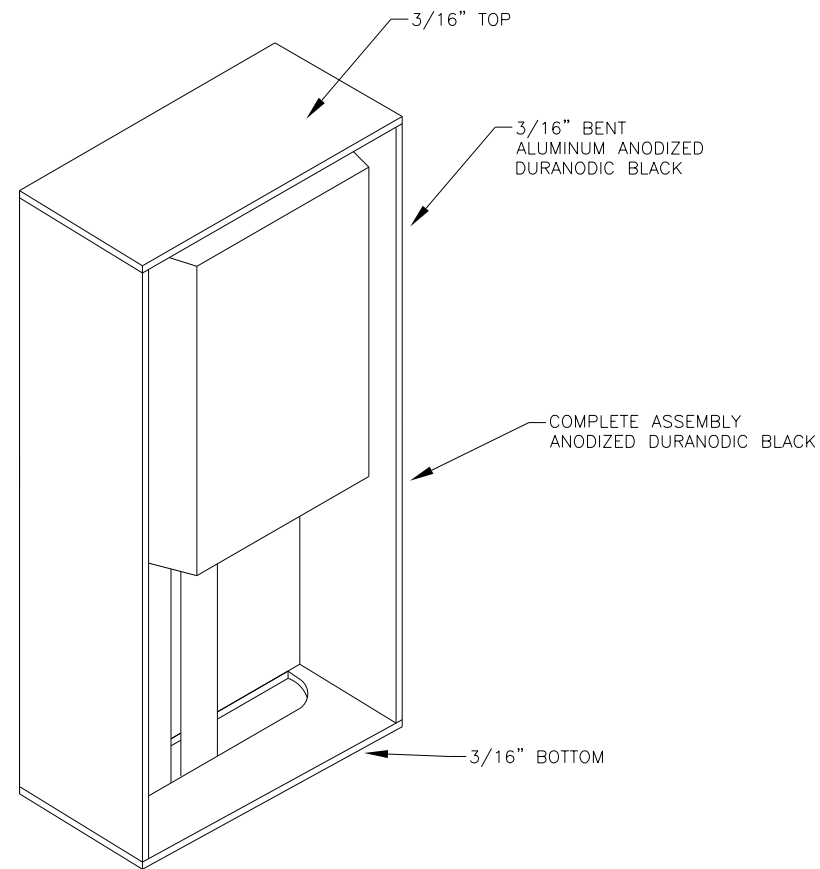
RECEPTACLE STANCHION TYPE SPECIAL 1 FRONT VIEW DETAIL  
 SCALE: NONE



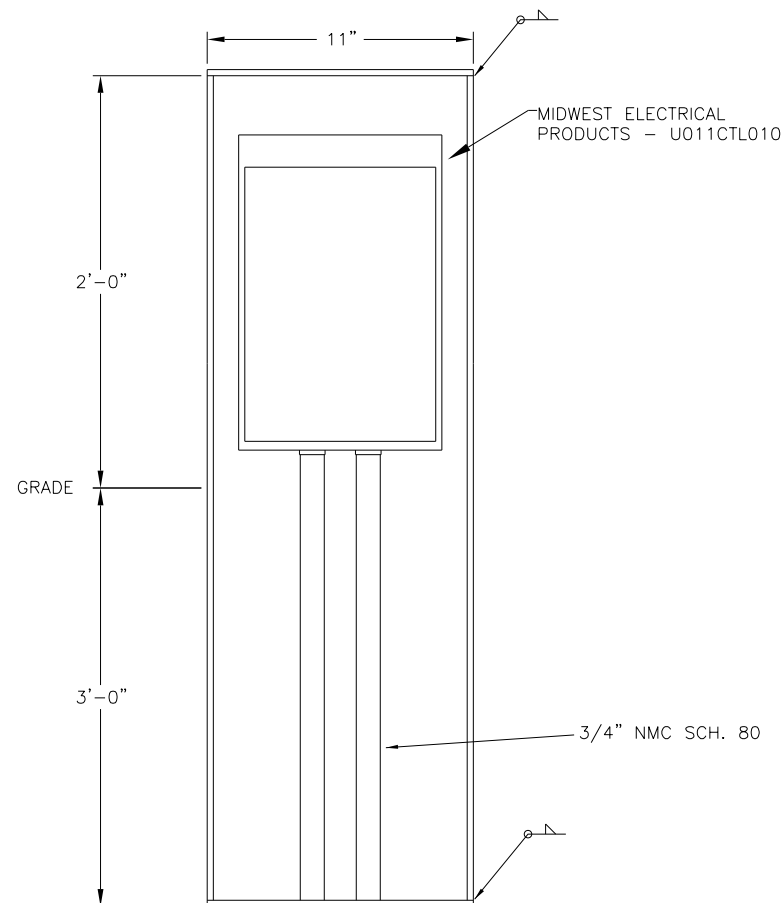
GFCI RECEPTACLE STANCHION DETAIL  
 SCALE: NONE



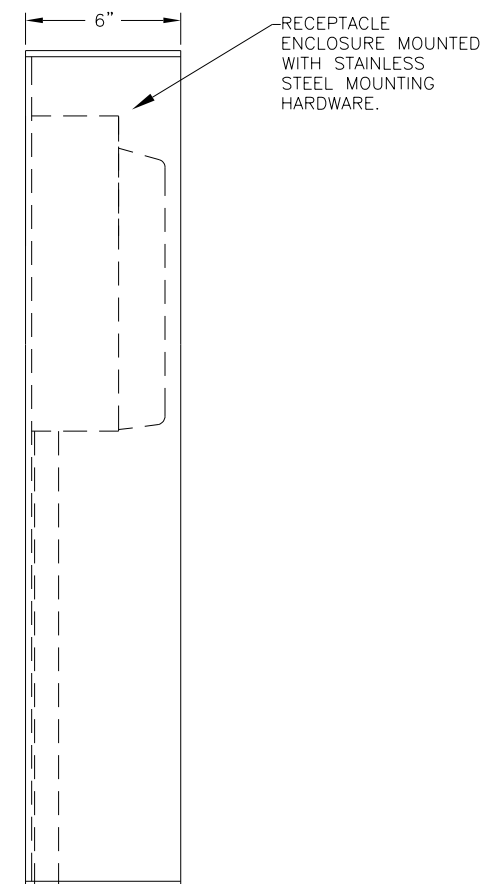
RECEPTACLE STANCHION TYPE SPECIAL 1 ISOMETRIC DETAIL  
 SCALE: NONE



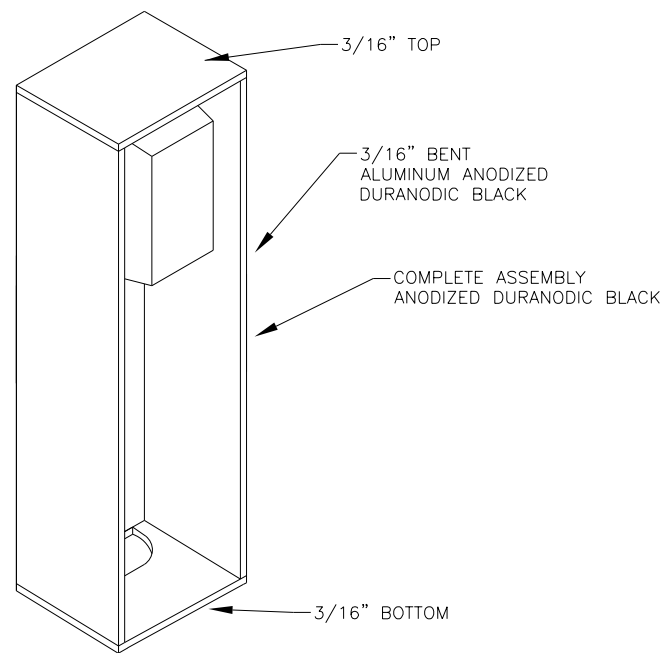
RECEPTACLE STANCHION TYPE SPECIAL 3 ISOMETRIC DETAIL  
SCALE: NONE



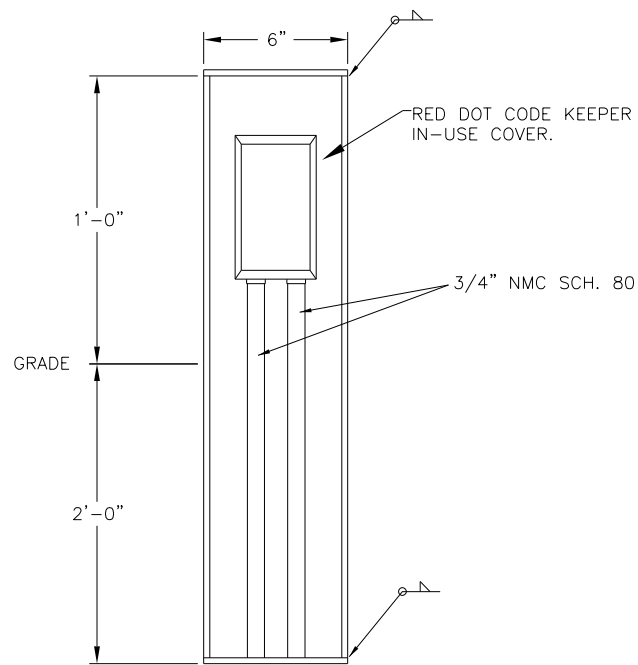
RECEPTACLE STANCHION TYPE SPECIAL 3 FRONT VIEW DETAIL  
SCALE: NONE



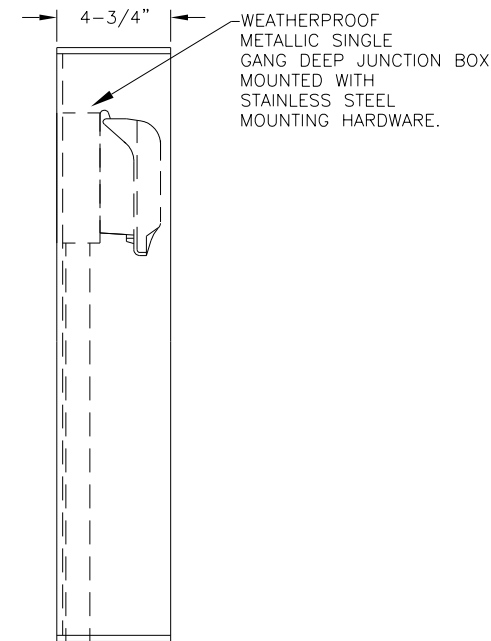
RECEPTACLE STANCHION TYPE SPECIAL 3 SIDE VIEW DETAIL  
SCALE: NONE



RECEPTACLE STANCHION TYPE SPECIAL 2 ISOMETRIC DETAIL  
SCALE: NONE



RECEPTACLE STANCHION TYPE SPECIAL 2 FRONT VIEW DETAIL  
SCALE: NONE



RECEPTACLE STANCHION TYPE SPECIAL 2 SIDE VIEW DETAIL  
SCALE: NONE

**2**

**LEGEND**

- LIGHTING UNIT TYPE SPECIAL 1
- LIGHTING UNIT TYPE SPECIAL 2
- ⊠ LIGHTING CONTROL CABINET TYPE 3060 AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE TYPE 6 (120/240 V)
- CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 1-INCH
- CONDUIT RIGID NONMETALLIC (NMC) SCHEDULE 40 3/4-INCH
- CAPPED CONDUIT STUB
- ⊗ PULL BOX, 18" X 24"
- ⊙ PULL BOX, 24" X 48"

A-7-(1,3)(2)  
 STA 689+55.00, 47.5'LT  
 72-16-4

CONTROL CABINET DESIGNATOR  
 POLE NUMBER  
 LIGHTING CIRCUITS  
 RECEPTACLE CIRCUIT  
 LOCATION (TO CENTER OF POLE)  
 LUMINAIRE ARM LENGTH IN FEET  
 NOMINAL MOUNTING HEIGHT IN FEET  
 LAMP WATTAGE

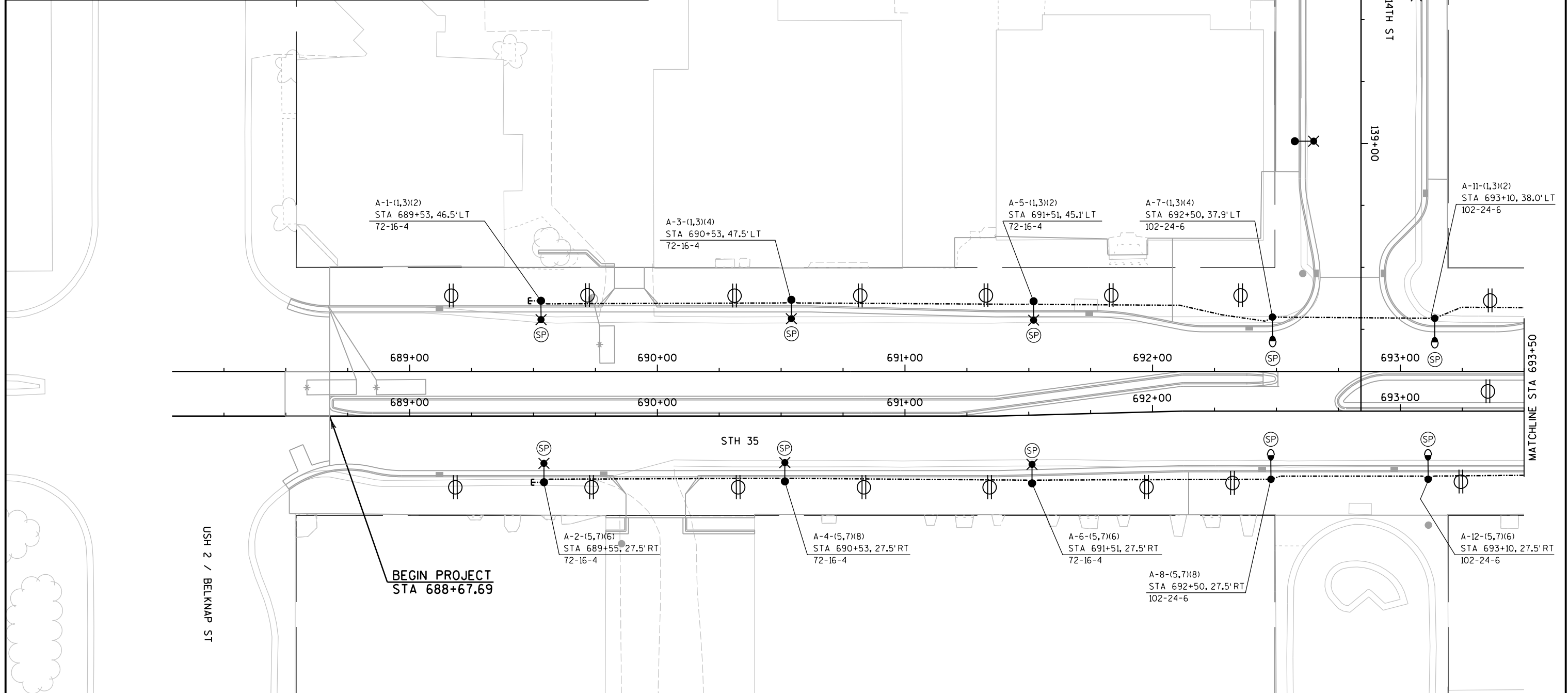
(SP) SPEAKER  
 (⊕) RECEPTACLE STANCHION

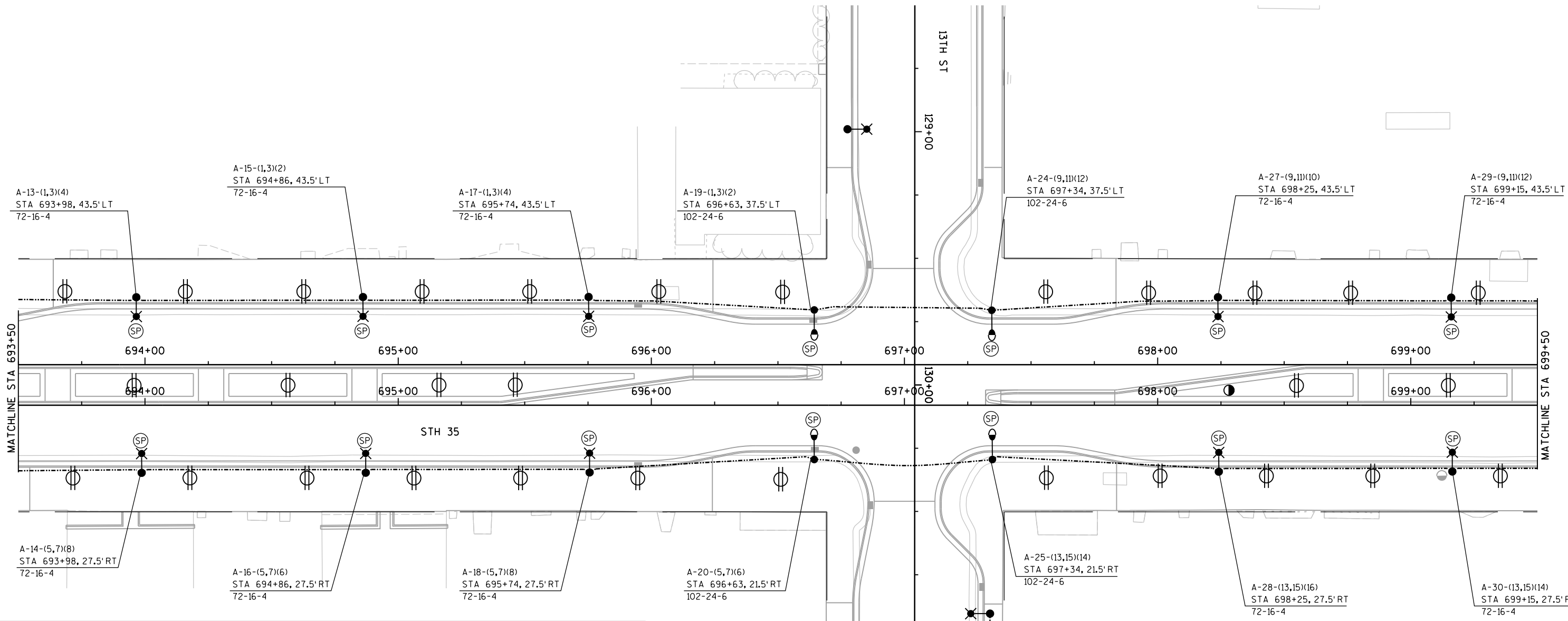
**2**

**GENERAL LIGHTING NOTES:**

- ALL SPEAKER CABLE SHALL BE 2 CONDUCTOR #12 UNLESS OTHERWISE NOTED.
- PROVIDE CAPPED CONDUIT STUBS AS INDICATED.
- INSTALL CONDUITS IN COMMON TRENCH WHERE POSSIBLE.

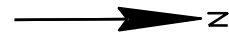
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**LEGEND**

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- PULL BOX, 24" X 48"
- CONTROL CABINET DESIGNATOR
- POLE NUMBER
- LIGHTING CIRCUITS
- RECEPTACLE CIRCUIT
- LOCATION (TO CENTER OF POLE)
- LUMINAIRE ARM LENGTH IN FEET
- NOMINAL MOUNTING HEIGHT IN FEET
- LAMP WATTAGE
- SPEAKER
- RECEPTACLE STANCHION



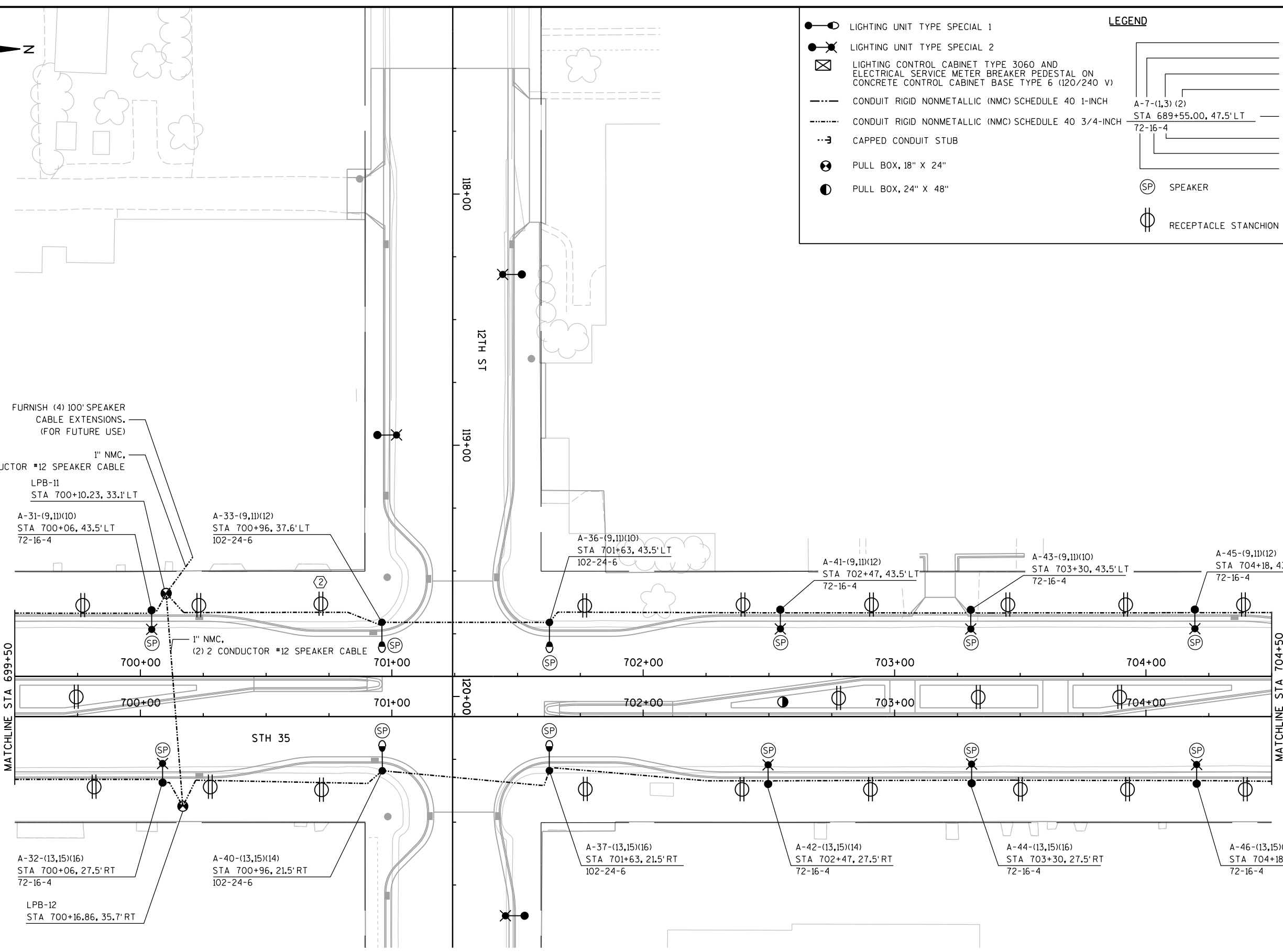
**LEGEND**

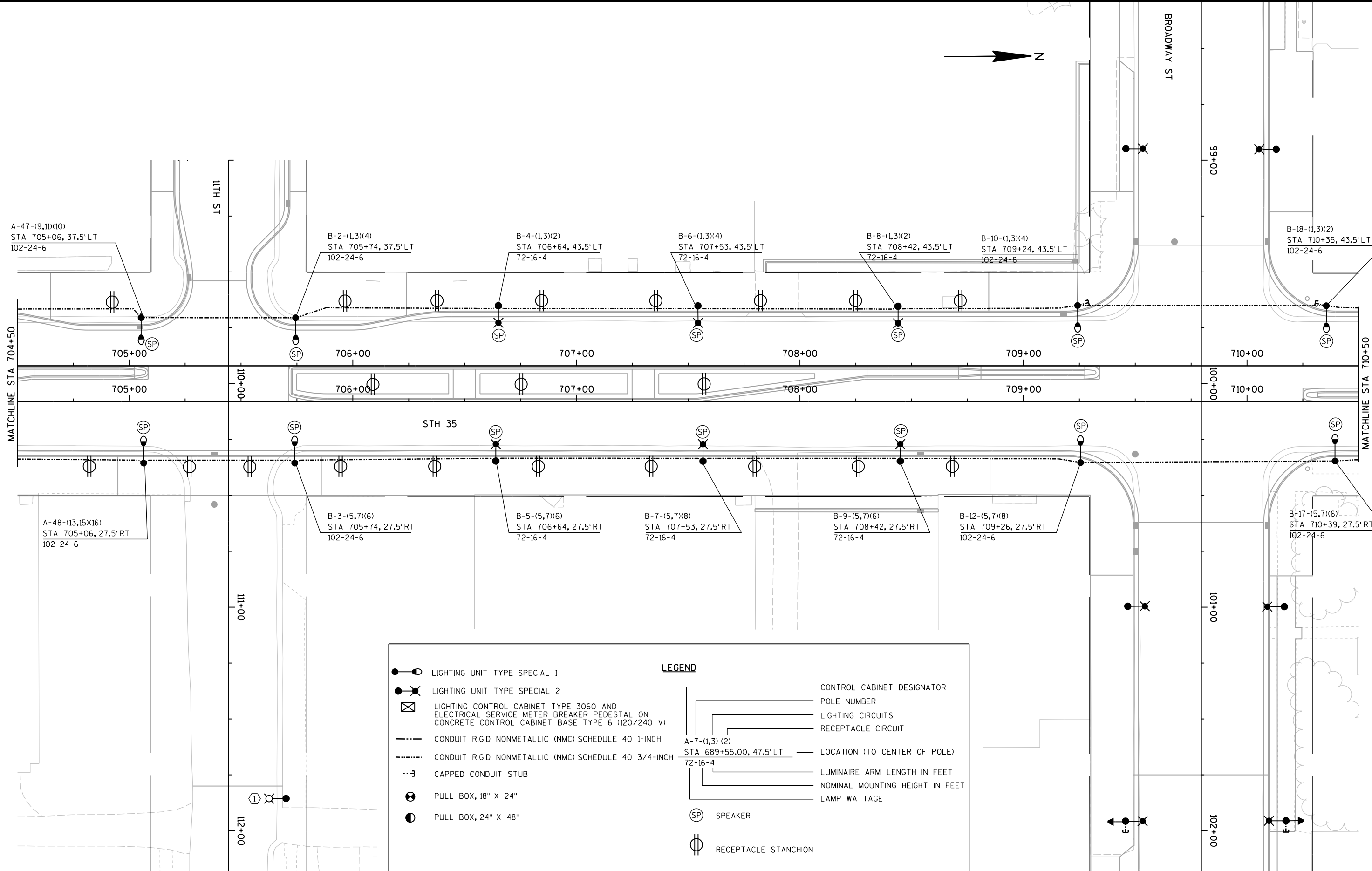
- LIGHTING UNIT TYPE SPECIAL 1
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- CAPPED CONDUIT STUB
- ⊗ PULL BOX, 18" X 24"
- ⊗ PULL BOX, 24" X 48"
- CONTROL CABINET DESIGNATOR
- POLE NUMBER
- LIGHTING CIRCUITS
- RECEPTACLE CIRCUIT
- A-7-(1,3) (2) STA 689+55.00, 47.5' LT 72-16-4 — LOCATION (TO CENTER OF POLE)
- LUMINAIRE ARM LENGTH IN FEET
- NOMINAL MOUNTING HEIGHT IN FEET
- LAMP WATTAGE
- ⊗ SP SPEAKER
- ⊗ RECEPTACLE STANCHION

FURNISH (4) 100' SPEAKER CABLE EXTENSIONS. (FOR FUTURE USE)

1" NMC, (4) 2 CONDUCTOR #12 SPEAKER CABLE

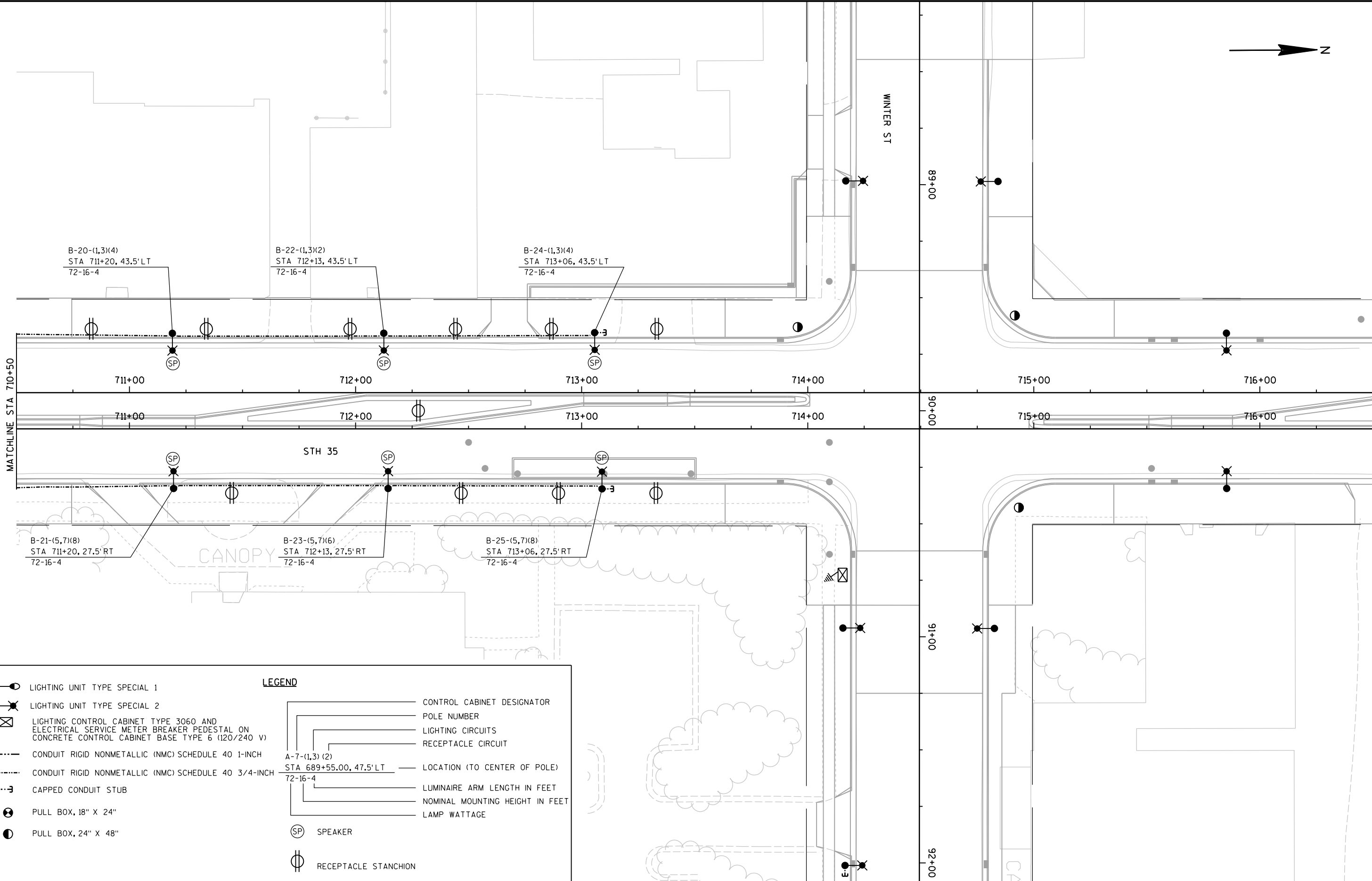
LPB-11  
STA 700+10.23, 33.1' LT





**LEGEND**

- LIGHTING UNIT TYPE SPECIAL 1
- LIGHTING UNIT TYPE SPECIAL 2
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- ⊕ POLE NUMBER
- ⊕ LIGHTING CIRCUITS
- ⊕ RECEPTACLE CIRCUIT
- ⊕ LOCATION (TO CENTER OF POLE)
- ⊕ LUMINAIRE ARM LENGTH IN FEET
- ⊕ NOMINAL MOUNTING HEIGHT IN FEET
- ⊕ LAMP WATTAGE
- ⊕ SPEAKER
- ⊕ RECEPTACLE STANCHION



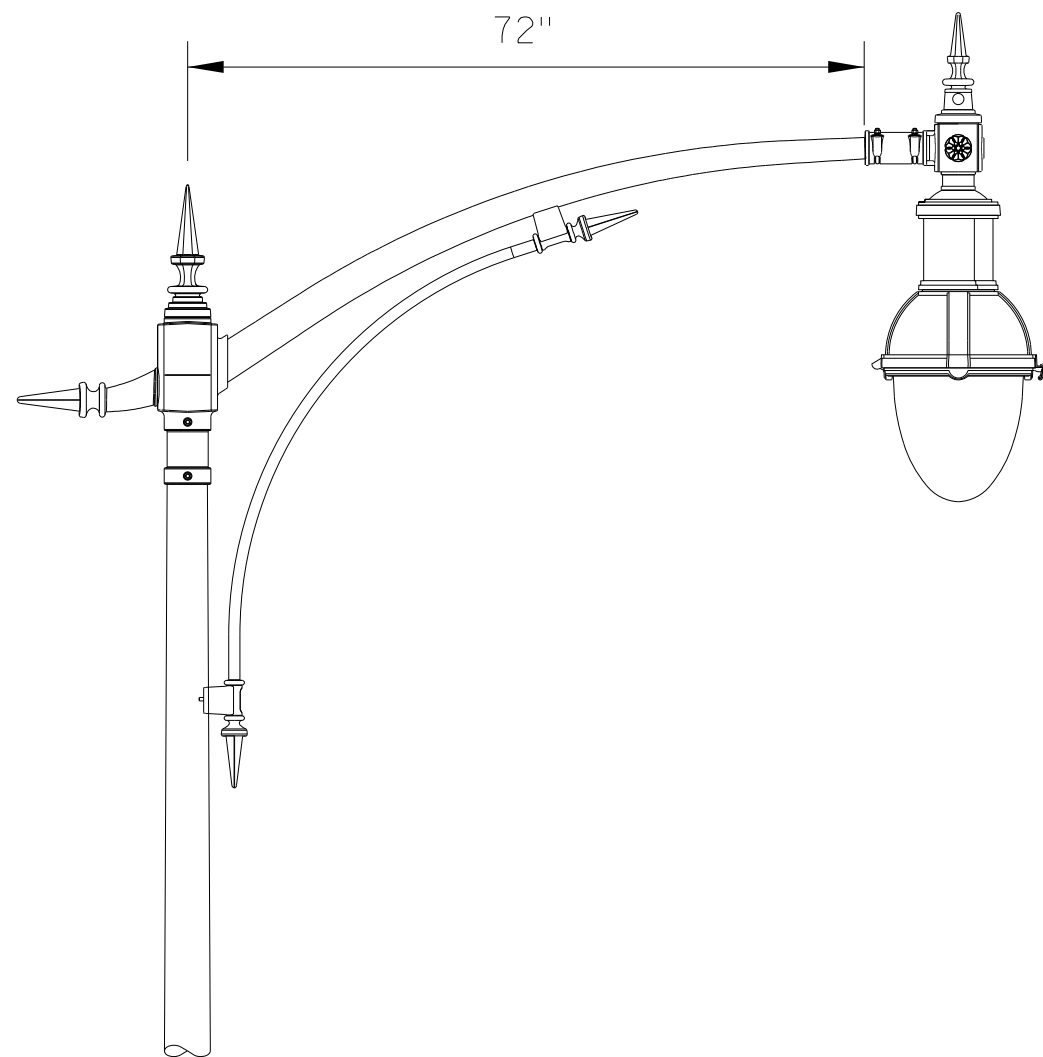
**LEGEND**

- ○ LIGHTING UNIT TYPE SPECIAL 1
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- LIGHTING CIRCUITS
- RECEPTACLE CIRCUIT
- LOCATION (TO CENTER OF POLE)
- LUMINAIRE ARM LENGTH IN FEET
- NOMINAL MOUNTING HEIGHT IN FEET
- LAMP WATTAGE
- ⊙ (S) SPEAKER
- ⊙ (R) RECEPTACLE STANCHION



30' MOUNTING HEIGHT  
TRAFFIC SIGNAL INTERSECTION LIGHTS

GENERAL NOTES  
1. THIS DETAIL MODIFIES THE LUMINAIRE ATTACHMENT OF SDD S9E8-4D. ALL OTHER DETAILS FROM SDD 9E8-4D AND S9E8-4E ARE STILL APPLICABLE.


















4" x 9" MOUNTING TENON

POLES TYPE 13 DECORATIVE

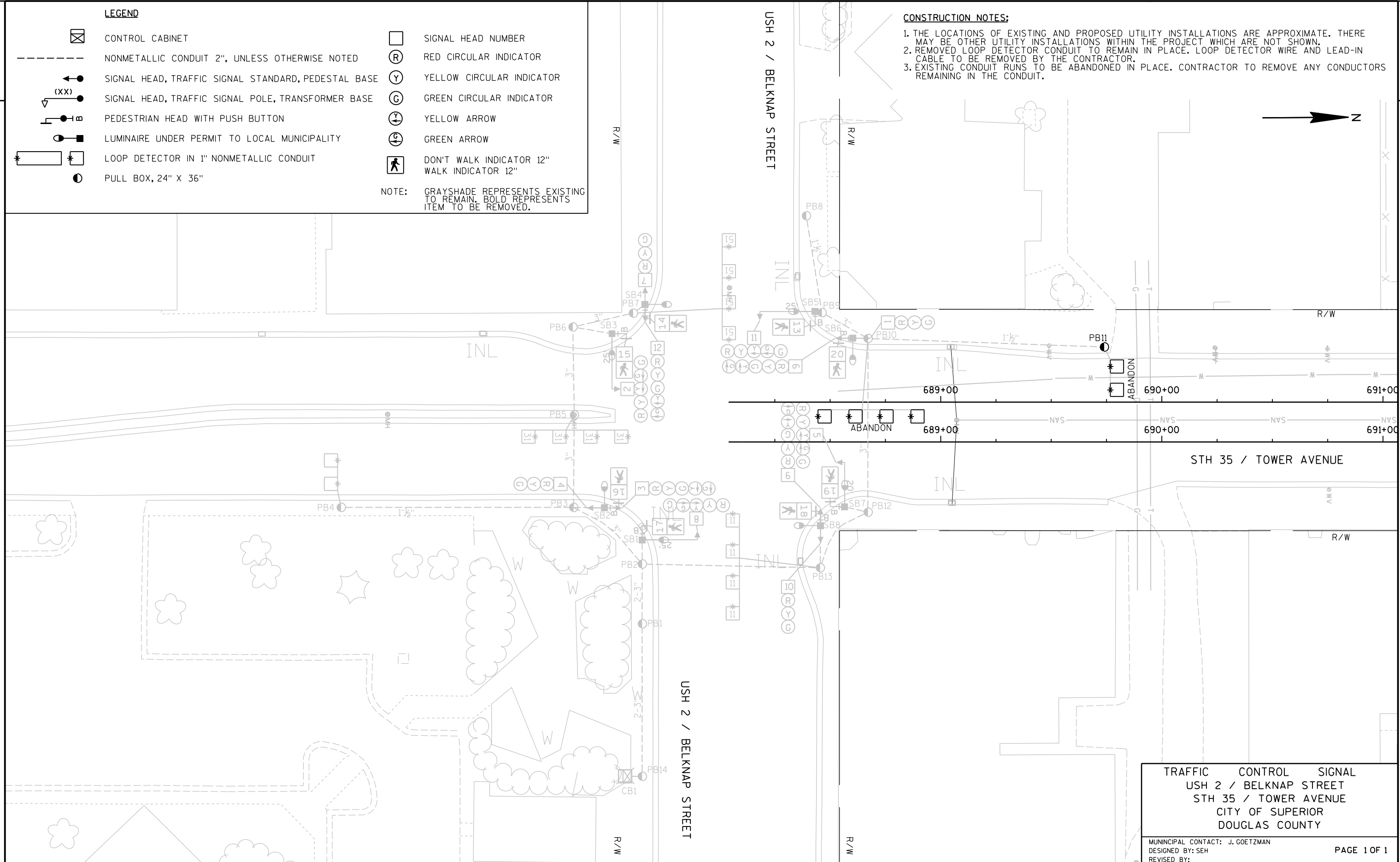
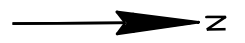
TRAFFIC SIGNAL LUMINAIRE ARM AND LUMINAIRE

LEGEND

-  CONTROL CABINET
  -  NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
  -  SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
  -  SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
  -  PEDESTRIAN HEAD WITH PUSH BUTTON
  -  LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
  -  LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
  -  PULL BOX, 24" X 36"
  -  SIGNAL HEAD NUMBER
  -  RED CIRCULAR INDICATOR
  -  YELLOW CIRCULAR INDICATOR
  -  GREEN CIRCULAR INDICATOR
  -  YELLOW ARROW
  -  GREEN ARROW
  -  DON'T WALK INDICATOR 12" WALK INDICATOR 12"
- NOTE: GRAYSHADE REPRESENTS EXISTING TO REMAIN, BOLD REPRESENTS ITEM TO BE REMOVED.

CONSTRUCTION NOTES:

1. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. REMOVED LOOP DETECTOR CONDUIT TO REMAIN IN PLACE. LOOP DETECTOR WIRE AND LEAD-IN CABLE TO BE REMOVED BY THE CONTRACTOR.
3. EXISTING CONDUIT RUNS TO BE ABANDONED IN PLACE. CONTRACTOR TO REMOVE ANY CONDUCTORS REMAINING IN THE CONDUIT.



TRAFFIC CONTROL SIGNAL  
 USH 2 / BELKNAP STREET  
 STH 35 / TOWER AVENUE  
 CITY OF SUPERIOR  
 DOUGLAS COUNTY

MUNICIPAL CONTACT: J. GOETZMAN  
 DESIGNED BY: SEH  
 REVISED BY:

PAGE 1 OF 1

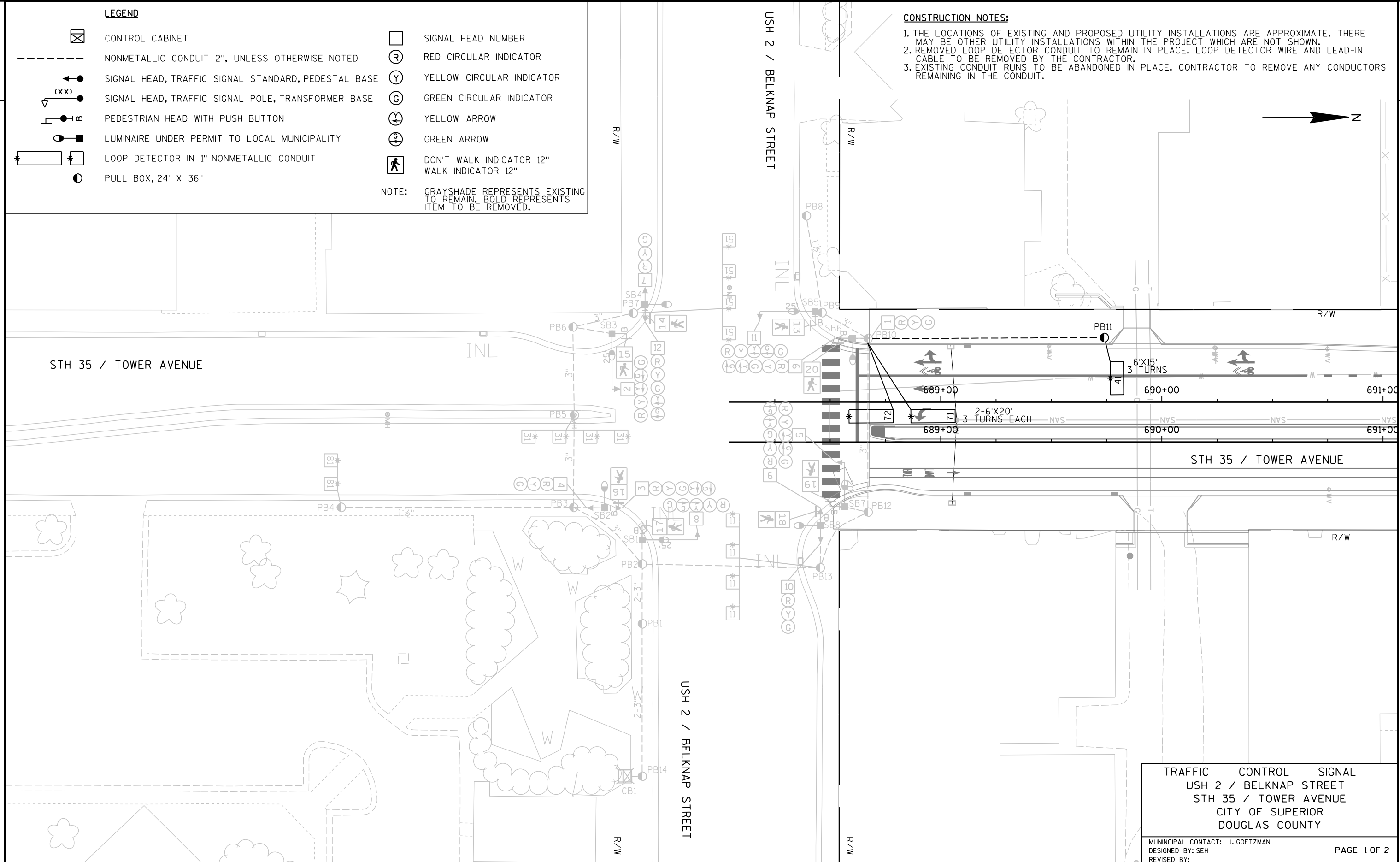
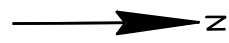
LEGEND

	CONTROL CABINET		SIGNAL HEAD NUMBER
	NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED		RED CIRCULAR INDICATOR
	SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE		YELLOW CIRCULAR INDICATOR
	SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE		GREEN CIRCULAR INDICATOR
	PEDESTRIAN HEAD WITH PUSH BUTTON		YELLOW ARROW
	LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY		GREEN ARROW
	LOOP DETECTOR IN 1" NONMETALLIC CONDUIT		DON'T WALK INDICATOR 12" WALK INDICATOR 12"
	PULL BOX, 24" X 36"		

NOTE: GRAYSHADE REPRESENTS EXISTING TO REMAIN, BOLD REPRESENTS ITEM TO BE REMOVED.

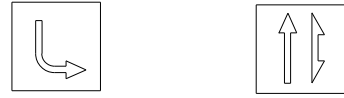
CONSTRUCTION NOTES:

1. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. REMOVED LOOP DETECTOR CONDUIT TO REMAIN IN PLACE. LOOP DETECTOR WIRE AND LEAD-IN CABLE TO BE REMOVED BY THE CONTRACTOR.
3. EXISTING CONDUIT RUNS TO BE ABANDONED IN PLACE. CONTRACTOR TO REMOVE ANY CONDUCTORS REMAINING IN THE CONDUIT.



<p>TRAFFIC CONTROL SIGNAL          USH 2 / BELKNAP STREET          STH 35 / TOWER AVENUE          CITY OF SUPERIOR          DOUGLAS COUNTY</p>	
<p>MUNICIPAL CONTACT: J. GOETZMAN          DESIGNED BY: SEH          REVISED BY:</p>	<p>PAGE 1 OF 2</p>

SEQUENCE OF OPERATION



RING 1	HEAD NUMBERS	Ø1				Ø2			
		R/W	CLEAR TO			R/W	CLEAR TO		
			X	Y			X	Y	
Ø1	8, 9	G	Y	-	-	-	-	-	
Ø2	10, 11, 12	R	R	R	G	Y	R		
Ø3	5, 6	-	-	-	-	-	-		
Ø4	1, 2, 3	R	R	R	R	R	R		
Ø5	11, 12	-	-	-	-	-	-		
Ø6	7, 8, 9	R	R	R	R	R	R		
Ø7	2, 3	-	-	-	-	-	-		
Ø8	4, 5, 6	R	R	R	R	R	R		
Ø2P	15, 16	DW	DWDW		*	DWDW			
Ø4P	13, 14	DW	DWDW		DW	DWDW			
Ø6P	19, 20	DW	DWDW		DW	DWDW			
Ø8P	17, 18	DW	DWDW		DW	DWDW			

FLASH  
Y  
-  
R  
-  
Y  
-  
R

DETECTOR LOGIC

DETECTOR NUMBER	AMPLIFIER CHANNEL NUMBER	DETECTOR OPERATION			PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
		CALLS AND EXTENDS	CALLS ONLY	EXTENDS ONLY							
11	1	X			1	1				4-6X6	3
21	2	X			2	2				6X6	3
22	2	X			2	2				6X6	3
31	3	X			3	3				4-6X6	3
41	4	X			4	4				6X15	3
51	5	X			5	5				4-6X6	3
61	6	X			6	6				6X6	3
62	6	X			6	6				6X6	3
71	7	X			7	7				6X20	3
72	7	X			7	7				6X20	3
81	8	X			8	8				2-6X6	3

CONTROLLER LOGIC

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

OVERLAPS

O.L. "E" =  
O.L. "F" =  
O.L. "G" =  
O.L. "H" =



RING 2	HEAD NUMBERS	Ø5				Ø6			
		R/W	CLEAR TO			R/W	CLEAR TO		
			X	Y			X	Y	
Ø1	8, 9	-	-	-	-	-	-	-	
Ø2	10, 11, 12	R	R	R	R	R	R		
Ø3	5, 6	-	-	-	-	-	-		
Ø4	1, 2, 3	R	R	R	R	R	R		
Ø5	11, 12	G	Y	-	-	-	-		
Ø6	7, 8, 9	R	R	R	G	Y	R		
Ø7	2, 3	-	-	-	-	-	-		
Ø8	4, 5, 6	R	R	R	R	R	R		
Ø2P	15, 16	DW	DWDW		DW	DWDW			
Ø4P	13, 14	DW	DWDW		DW	DWDW			
Ø6P	19, 20	DW	DWDW		*	DWDW			
Ø8P	17, 18	DW	DWDW		DW	DWDW			

BARRIER

CHART 1

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

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

\* WHEN CALLED, TIMED STEADY WALK, THEN FLASHING DON'T WALK, THEN GOES STEADY DON'T WALK

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

TYPE OF PRE-EMPT	
NONE	X
RAILROAD	
EMERGENCY VEHICLE	
GTT	
TOMAR	
HARDWIRE	
OTHER	
QUEUE DETECTOR	
LIFT BRIDGE	

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

GENERAL NOTES:

- ANY ACTUATED PHASE FOR WHICH THERE IS NO CALL SHALL BE SKIPPED.
- WHEN ONE PHASE IS ON ALONE, ANY NONCONFLICTING PHASE MAY START TIMING CONCURRENTLY WITHOUT A CLEARANCE INTERVAL. (SEE CHART 1.)
- IF PHASES 2 AND 6 ARE TIMING CONCURRENTLY, THEY SHALL TERMINATE TOGETHER DUE TO PERMISSIVE LEFT TURN CONFLICT.

USH 2 / BELKNAP STREET & STH 35 / TOWER AVENUE  
CITY OF SUPERIOR  
DOUGLAS COUNTY

SIGNAL NO.

CONTROLLER TYPE:

DATE 9/12

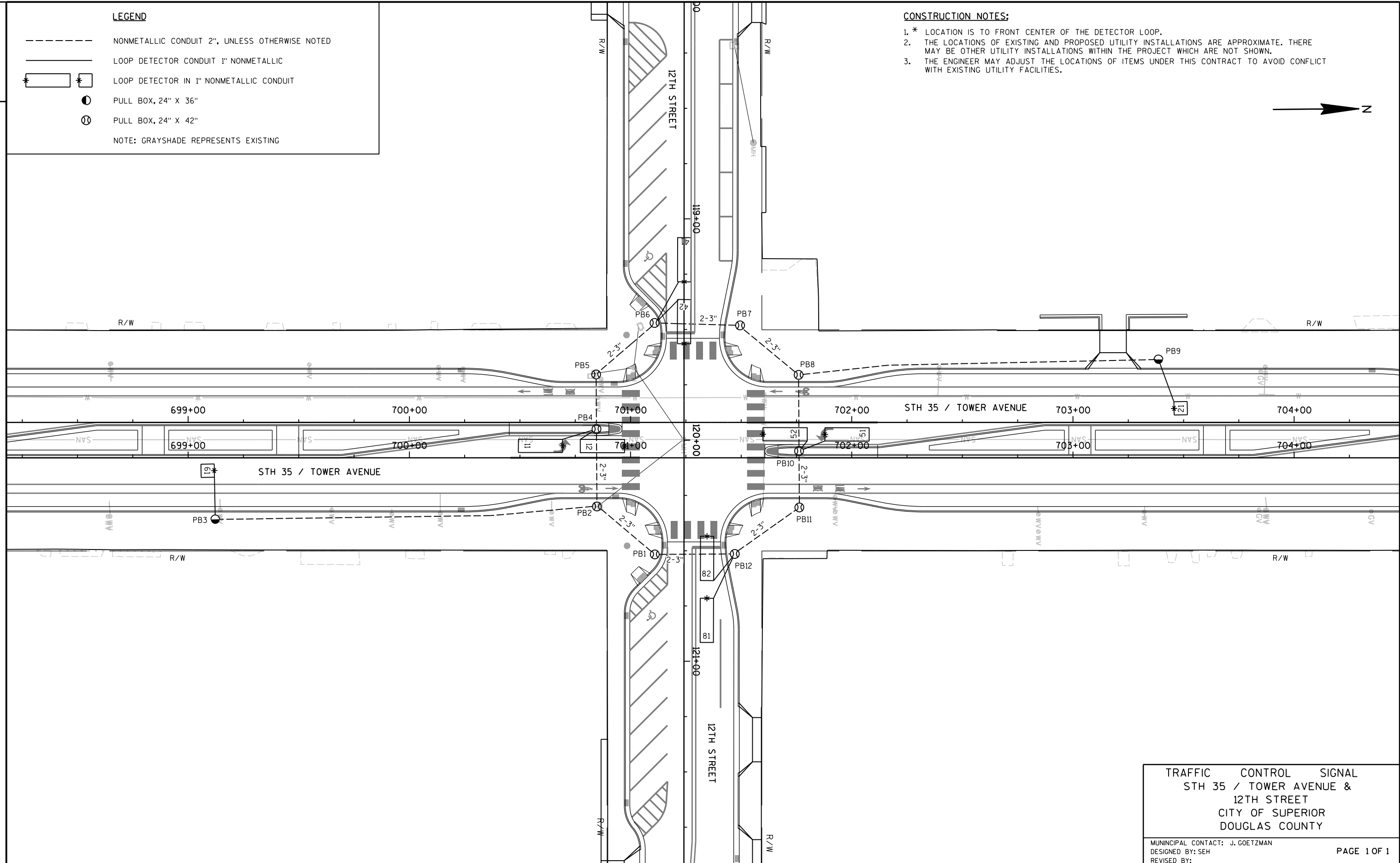
PAGE NO. 2 OF 2

LEGEND

- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
  - LOOP DETECTOR CONDUIT 1" NONMETALLIC
  - ☐ LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
  - PULL BOX, 24" X 36"
  - ⊙ PULL BOX, 24" X 42"
- NOTE: GRAYSHADE REPRESENTS EXISTING

CONSTRUCTION NOTES:

1. \* LOCATION IS TO FRONT CENTER OF THE DETECTOR LOOP.
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
3. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.


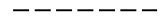
















TRAFFIC CONTROL SIGNAL  
 STH 35 / TOWER AVENUE &  
 12TH STREET  
 CITY OF SUPERIOR  
 DOUGLAS COUNTY

MUNICIPAL CONTACT: J. GOETZMAN  
 DESIGNED BY: SEH  
 REVISED BY:

PAGE 1 OF 1

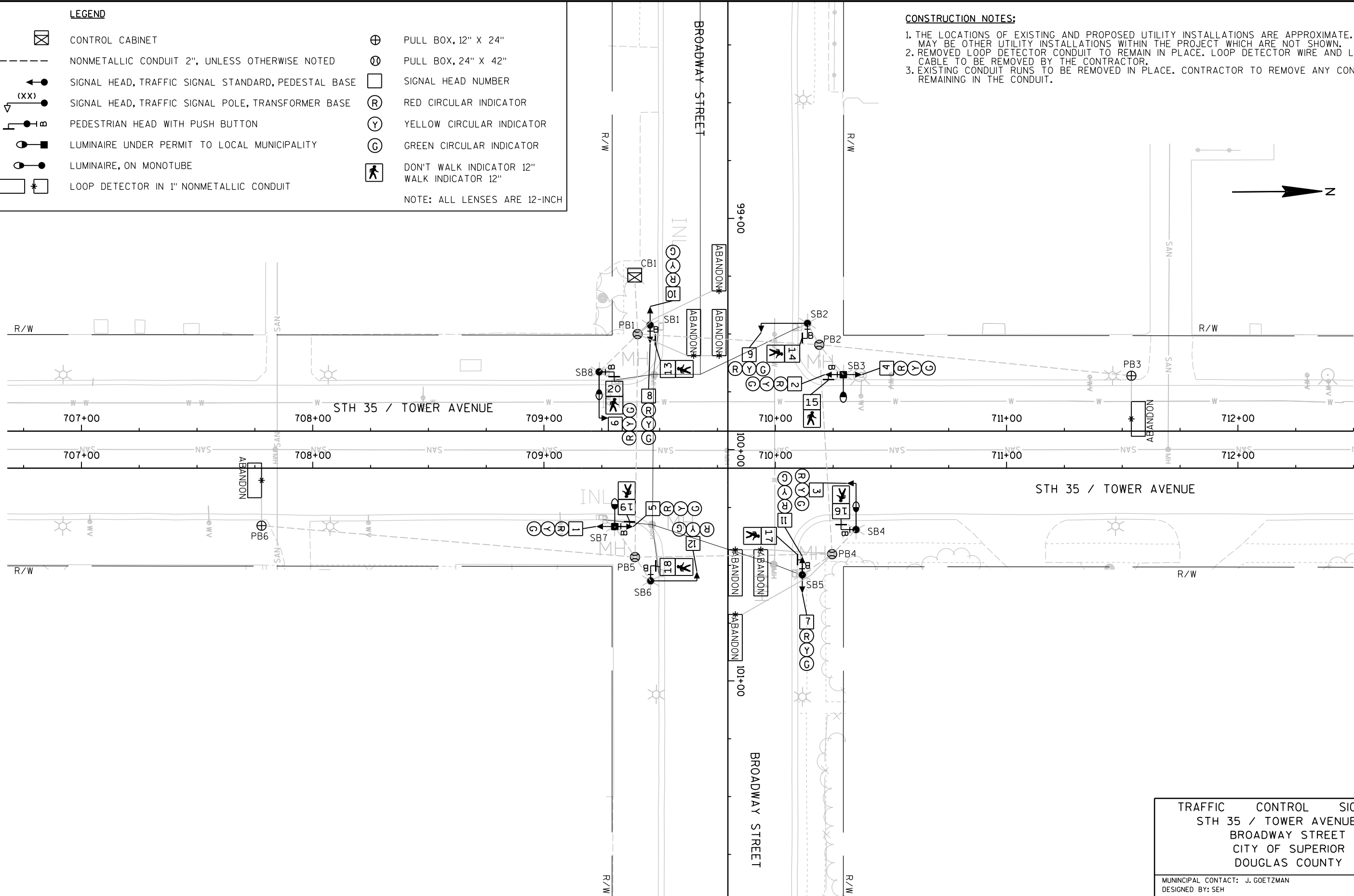
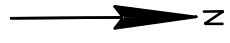
LEGEND

-  CONTROL CABINET
-  NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
-  SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
-  SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
-  PEDESTRIAN HEAD WITH PUSH BUTTON
-  LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
-  LUMINAIRE, ON MONOTUBE
-  LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
-  PULL BOX, 12" X 24"
-  PULL BOX, 24" X 42"
-  SIGNAL HEAD NUMBER
-  RED CIRCULAR INDICATOR
-  YELLOW CIRCULAR INDICATOR
-  GREEN CIRCULAR INDICATOR
-  DON'T WALK INDICATOR 12"
-  WALK INDICATOR 12"

NOTE: ALL LENSES ARE 12-INCH

CONSTRUCTION NOTES:

1. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. REMOVED LOOP DETECTOR CONDUIT TO REMAIN IN PLACE. LOOP DETECTOR WIRE AND LEAD-IN CABLE TO BE REMOVED BY THE CONTRACTOR.
3. EXISTING CONDUIT RUNS TO BE REMOVED IN PLACE. CONTRACTOR TO REMOVE ANY CONDUCTORS REMAINING IN THE CONDUIT.


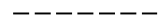





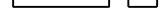















TRAFFIC CONTROL SIGNAL  
 STH 35 / TOWER AVENUE &  
 BROADWAY STREET  
 CITY OF SUPERIOR  
 DOUGLAS COUNTY

MUNICIPAL CONTACT: J. GOETZMAN  
 DESIGNED BY: SEH  
 REVISED BY:

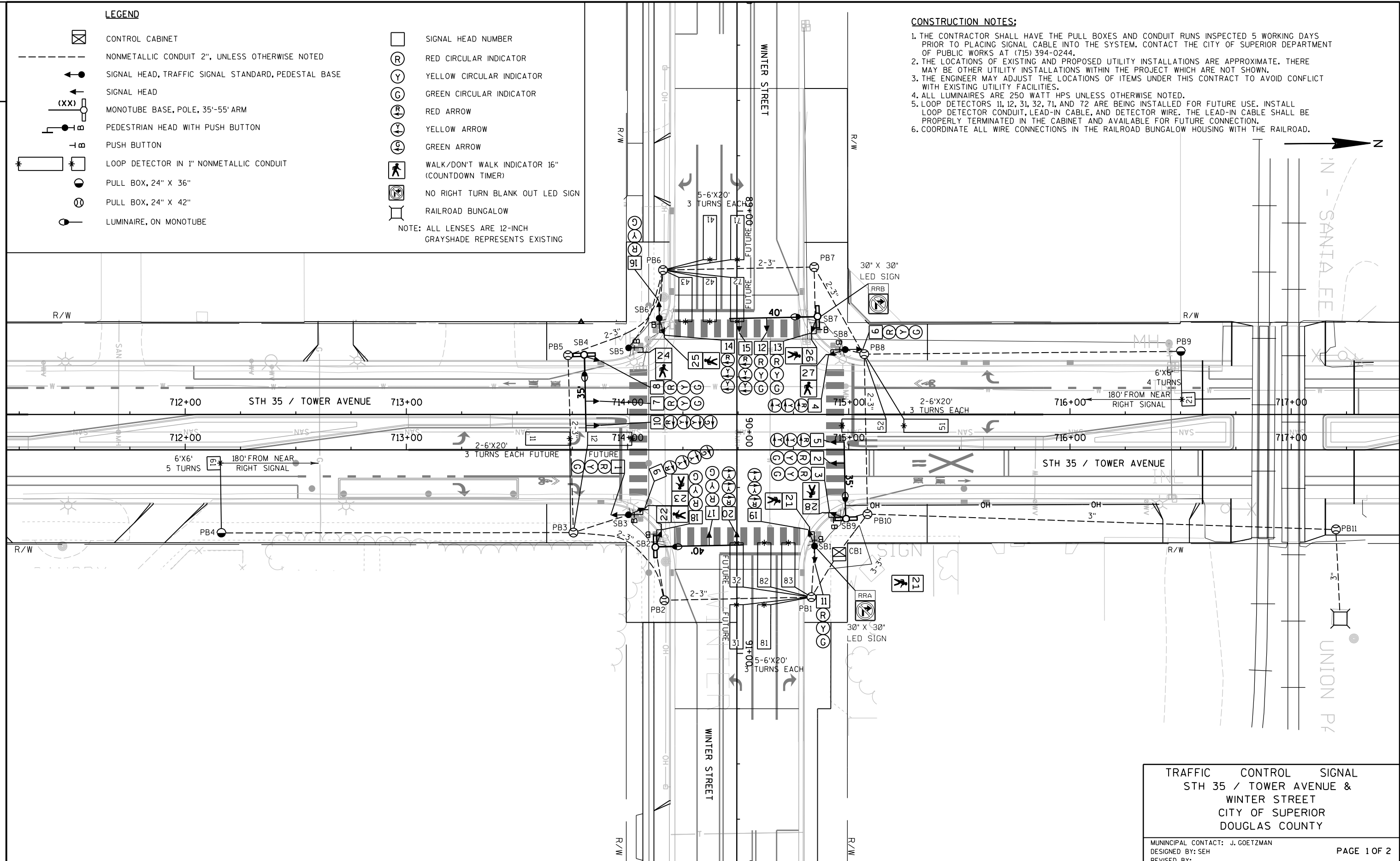
PAGE 1 OF 1

LEGEND

-  CONTROL CABINET
  -  NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
  -  SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
  -  SIGNAL HEAD
  -  MONOTUBE BASE, POLE, 35'-55' ARM
  -  PEDESTRIAN HEAD WITH PUSH BUTTON
  -  PUSH BUTTON
  -  LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
  -  PULL BOX, 24" X 36"
  -  PULL BOX, 24" X 42"
  -  LUMINAIRE, ON MONOTUBE
  -  SIGNAL HEAD NUMBER
  -  RED CIRCULAR INDICATOR
  -  YELLOW CIRCULAR INDICATOR
  -  GREEN CIRCULAR INDICATOR
  -  RED ARROW
  -  YELLOW ARROW
  -  GREEN ARROW
  -  WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
  -  NO RIGHT TURN BLANK OUT LED SIGN
  -  RAILROAD BUNGALOW
- NOTE: ALL LENSES ARE 12-INCH  
GRAYSHADE REPRESENTS EXISTING

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO THE SYSTEM. CONTACT THE CITY OF SUPERIOR DEPARTMENT OF PUBLIC WORKS AT (715) 394-0244.
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
3. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
4. ALL LUMINAIRES ARE 250 WATT HPS UNLESS OTHERWISE NOTED.
5. LOOP DETECTORS 11, 12, 31, 32, 71, AND 72 ARE BEING INSTALLED FOR FUTURE USE. INSTALL LOOP DETECTOR CONDUIT, LEAD-IN CABLE, AND DETECTOR WIRE. THE LEAD-IN CABLE SHALL BE PROPERLY TERMINATED IN THE CABINET AND AVAILABLE FOR FUTURE CONNECTION.
6. COORDINATE ALL WIRE CONNECTIONS IN THE RAILROAD BUNGALOW HOUSING WITH THE RAILROAD.



TRAFFIC CONTROL SIGNAL  
 STH 35 / TOWER AVENUE &  
 WINTER STREET  
 CITY OF SUPERIOR  
 DOUGLAS COUNTY

MUNICIPAL CONTACT: J. GOETZMAN  
 DESIGNED BY: SEH  
 REVISED BY:

PAGE 1 OF 2

SEQUENCE OF OPERATION

		NOT USED				OL "A" B			
RING 1	HEAD NUMBERS	Ø1				Ø2			
		CLEAR TO				CLEAR TO			
		R/W	**			R/W	**		
Ø1									
Ø2	6, 7, 8				G	Y	R		
Ø3									
Ø4	16, 17, 18				R	R	R		
Ø5	9, 10				-	-	-		
Ø6	1, 2, 3				R	R	R		
Ø7									
Ø8	11, 12, 13				R	R	R		
OLA	4, 5				F	Y	R		
OLB	14, 15				R	R	R		
OLC	9, 10				R	R	R		
OLD	19, 20				R	R	R		
Ø2P	25, 26				*	D	D	D	
Ø4P	23, 24				D	D	D		
Ø6P	21, 22				D	D	D		
Ø8P	27, 28				D	D	D		

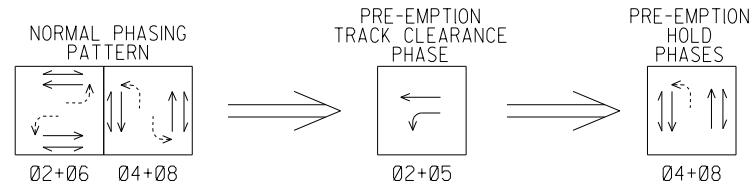
		NOT USED				OL "D" C			
RING 2	HEAD NUMBERS	Ø5				Ø6			
		CLEAR TO				CLEAR TO			
		R/W	**			R/W	**		
Ø1									
Ø2	6, 7, 8	R	R	R					
Ø3									
Ø4	16, 17, 18	R	R	R					
Ø5	9, 10	G	-	-					
Ø6	1, 2, 3	R	R	R	G	Y	R		
Ø7									
Ø8	11, 12, 13	R	R	R					
OLA	4, 5	R	R	R					
OLB	14, 15	R	R	R					
OLC	9, 10	R	R	R	F	Y	R		
OLD	19, 20	R	R	R					
Ø2P	25, 26	D	D	D	D	D	D		
Ø4P	23, 24	D	D	D	D	D	D		
Ø6P	21, 22	D	D	D	*	D	D		
Ø8P	27, 28	D	D	D	D	D	D		

BARRIER

DETECTOR LOGIC

DETECTOR NUMBER	AMPLIFIER CHANNEL NUMBER	DETECTOR OPERATION			PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
		CALLS AND EXTENDS	CALLS ONLY	EXTENDS ONLY							
11	FUTURE									6X20	3
12	FUTURE									6X20	3
21	2	X			2	2				6X6	4
31	FUTURE									6X20	3
32	FUTURE									6X20	3
41	4	X			4	4				6X20	3
42	4	X			4	4				6X20	3
43	5	X			4	4	X			6X20	3
51	6	X			5	5				6X20	3
52	6	X			5	5				6X20	3
61	7	X			6	6				6X6	5
71	FUTURE									6X20	3
72	FUTURE									6X20	3
81	9	X			8	8				6X20	3
82	9	X			8	8				6X20	3
83	10	X			8	8	X			6X20	3

RAILROAD PRE-EMPTION PHASING (SEE NOTES 4, 5, AND 6)



GENERAL NOTES:

- ANY ACTUATED PHASE FOR WHICH THERE IS NO CALL SHALL BE SKIPPED.
- WHEN ONE PHASE IS ON ALONE, ANY NONCONFLICTING PHASE MAY START TIMING CONCURRENTLY WITHOUT A CLEARANCE INTERVAL. (SEE CHART 1)
- IF PHASES 2 AND 6 ARE TIMING CONCURRENTLY, THEY SHALL TERMINATE TOGETHER DUE TO PERMISSIVE LEFT TURN CONFLICT.
- IN THE EVENT OF A RAILROAD PRE-EMPTION CALL, PHASES 2 AND 5 SHALL RECEIVE A GREEN INDICATION TO CLEAR THE NORTH APPROACH, FOLLOWING THE TRACK CLEARANCE INTERVAL, THE CONTROLLER SHALL CYCLE THROUGH PHASES 4 & 8 BASED ON DEMAND. AT THE END OF PRE-EMPTION, THE CONTROLLER SHALL RETURN TO PHASE 2 & 6 GREEN. IF PHASES 2 & 6 HAVE A GREEN INDICATION AT THE TIME OF A PRE-EMPTION CALL THEY SHALL TERMINATE SHALL BOTH TERMINATE PRIOR TO THE PRE-EMPTION PROGRAM PRIOR TO START OF PRE-EMPTION PROGRAM.
- IN THE EVENT OF A RAILROAD PRE-EMPTION CALL, WHILE THE PRE-EMPTION TRACK CLEARANCE AND HOLD PHASES ARE ACTIVE:
  - "NO RIGHT TURN" BLANK OUT SIGNS SHALL BE ILLUMINATED.
  - SIGNAL HEADS 19 AND 20 SHALL DISPLAY A RED ARROW.
  - OVERLAP D SHALL NOT RUN CONCURRENTLY WITH PHASE 8.
- BATTERY BACKUP REQUIRED FOR RAILROAD PRE-EMPTION. REQUEST "GATE DOWN" AND "CLEARANCE" TIMING.

- \*\* CLEARANCE TO A PHASE IN CONFLICT WITH THIS PHASE ON (SEE CHART 1)
- \* WHEN CALLED, TIMED STEADY WALK, THEN FLASHING DON'T WALK, THEN GOES STEADY DON'T WALK
- # PHASE 5 SHALL ONLY BE CALLED DURING PREEMPTION

TYPE OF PRE-EMPT	
NONE	
RAILROAD	X
EMERGENCY VEHICLE	
GTT	
TOMAR	
HARDWARE	
OTHER	
QUEUE DETECTOR	
LIFT BRIDGE	

CONTROLLER LOGIC

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

OVERLAPS

O.L. "E" =	
O.L. "F" =	
O.L. "G" =	
O.L. "H" =	

SPECIAL OVERLAPS

O.L.	PROTECTED	PERMISSIVE
O.L. "A"	N/A	2
O.L. "B"	N/A	4
O.L. "C"	N/A	6
O.L. "D"	N/A	8

TYPE OF LIGHTING

BY OTHER AGENCY	
IN TRAFFIC SIGNAL CABINET	X
IN SEPARATE LIGHTING CABINET	

TYPE OF INTERCONNECT COMMUNICATION

NONE	X
TBC	
CLOSED LOOP TWISTED PAIR*	
CLOSED LOOP FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	
RADIO	
LOCATION OF MASTER CONTROLLER NO:	
SIGNAL SYSTEM #:	

CHART 1

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

STH 35 / TOWER AVENUE & WINTER STREET  
CITY OF SUPERIOR  
DOUGLAS COUNTY

SIGNAL NO.	
CONTROLLER TYPE: ECONOLITE ASC/3-2100	
DATE 8/12	PAGE NO. 2 OF 2



PROJECT ID: 1195-13-71  
 INTERSECTION: STH 35 (TOWER AVENUE) & WINTER STREET

SIGNAL WIRE COLOR CODING  
 BLK - BLACK    RED - RED    GRN - GREEN  
 WHT - WHITE    BLU - BLUE    ORG - ORANGE

CB TO	JUMPER	AWG 14 # OF COND.	HEAD NO.	PHASE	SIGNAL INDICATION WIRE COLOR							D/WALK	WALK	PED BUTTON	OTHER
					RED	YELLOW	GREEN	<RED>	<YELLOW>	<GREEN>	<FLASHING> <YELLOW>				
SB1		12	11	8	RED	ORG	GRN								
			19	4				RED/BLK	ORG/BLK		BLU/BLK				
			21	6								BLK	BLU		
			BUTTON	6										WHT/BLK	
SB2		12	RRA	PRE-EMPTION											BLK/WHT
			17	4	RED	ORG	GRN								
			18	4	RED	ORG	GRN								
			20	4				RED/BLK	ORG/BLK		BLU/BLK				
SB3		12	22	6								BLK	BLU		
			BUTTON	6										WHT/BLK	
			1	6	RED	ORG	GRN								
			9	2				RED/BLK	ORG/BLK		BLU/BLK				
SB4		12	23	4								BLK	BLU		
			BUTTON	4										WHT/BLK	
			7	2	RED	ORG	GRN								
			8	2	RED	ORG	GRN								
SB5		12	10	2				RED/BLK	ORG/BLK		BLU/BLK				
			24	4								BLK	BLU		
			BUTTON	4										WHT/BLK	
			14	8				RED/BLK	ORG/BLK		BLU/BLK				
SB6		12	16	4	RED	ORG	GRN								
			25	2								BLK	BLU		
			BUTTON	2										WHT/BLK	
			12	8	RED	ORG	GRN								
SB7		12	13	8	RED	ORG	GRN								
			15	8				RED/BLK	ORG/BLK		BLU/BLK				
			26	2								BLK	BLU		
			BUTTON	2										WHT/BLK	
SB8		12	RRB	PRE-EMPTION											BLK/WHT
			4	6				RED/BLK	ORG/BLK		BLU/BLK				
			6	2	RED	ORG	GRN								
			27	8								BLK	BLU		
SB9		12	BUTTON	8											WHT/BLK
			2	6	RED	ORG	GRN								
			3	6	RED	ORG	GRN								
			5	6				RED/BLK	ORG/BLK		BLU/BLK				
SB9		12	28	8								BLK	BLU		
			BUTTON	8										WHT/BLK	

EQUIPMENT GROUNDING	
FROM	TO
CB1	SB1
SB1	SB2
SB2	SB3
SB3	SB4
SB4	SB5
SB5	SB6
SB6	SB7
SB7	SB8
SB8	SB9
SB9	CB1

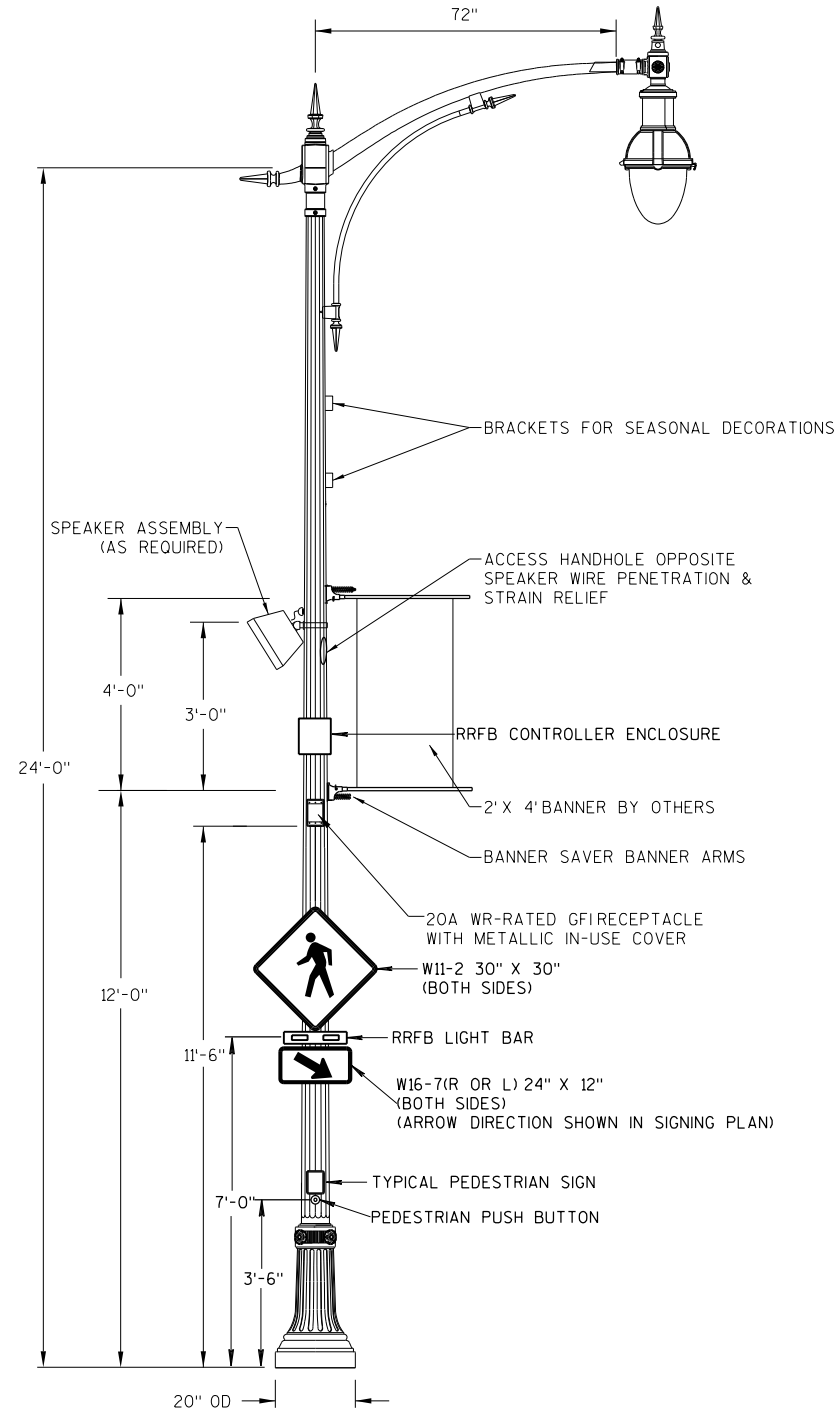
PULL BOX BONDING JUMPER 10 AWG	
FROM	TO
PB1	CB1
PB2	SB2
PB3	SB3
PB5	SB4
PB6	SB6
PB7	SB7
PB8	SB8
PB10	SB9

LIGHTING UF 2-12 AWG	
FROM	TO
CB1	SB2
SB2	SB4
CB1	SB9
SB9	SB7

EVP CABLE	
FROM	TO
CB1	RR BUNGALOW

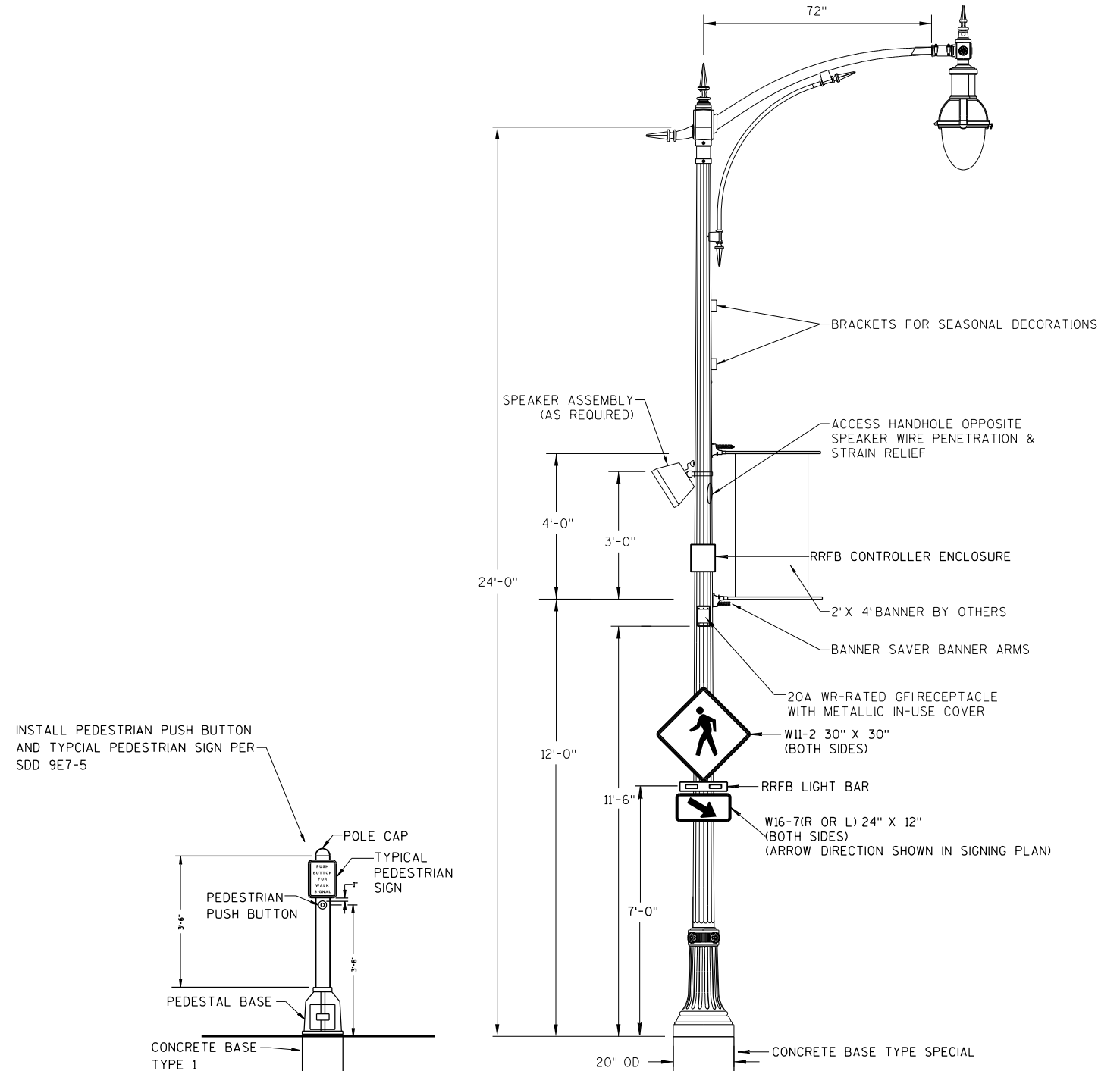
\*USE THE WHITE CONDUCTOR IN THE CABLE ASSEMBLY AS THE GROUNDED CONDUCTOR FOR ALL TRAFFIC SIGNAL INDICATIONS  
 \*ENSURE THE GROUNDED CONDUCTOR IN THE FEEDER CABLE AND THE POLE CABLES ARE BOTH 12" LONGER THAN THE UNGROUNDED CONDUCTORS.  
 \*AT THE SIGNAL BASES, CONNECT ONE TERMINAL FROM THE PEDESTRAIN PUSH BUTTONS TO THE COLOR INDICATED IN THE CHART. CONNECT THE OTHER TERMINAL TO THE GROUNDED CONDUCTOR.  
 \*OTHER" COLUMN MAY INCLUDE SAHDOW BOX SIGN

24' MOUNTING HEIGHT  
INTERSECTION LIGHTS

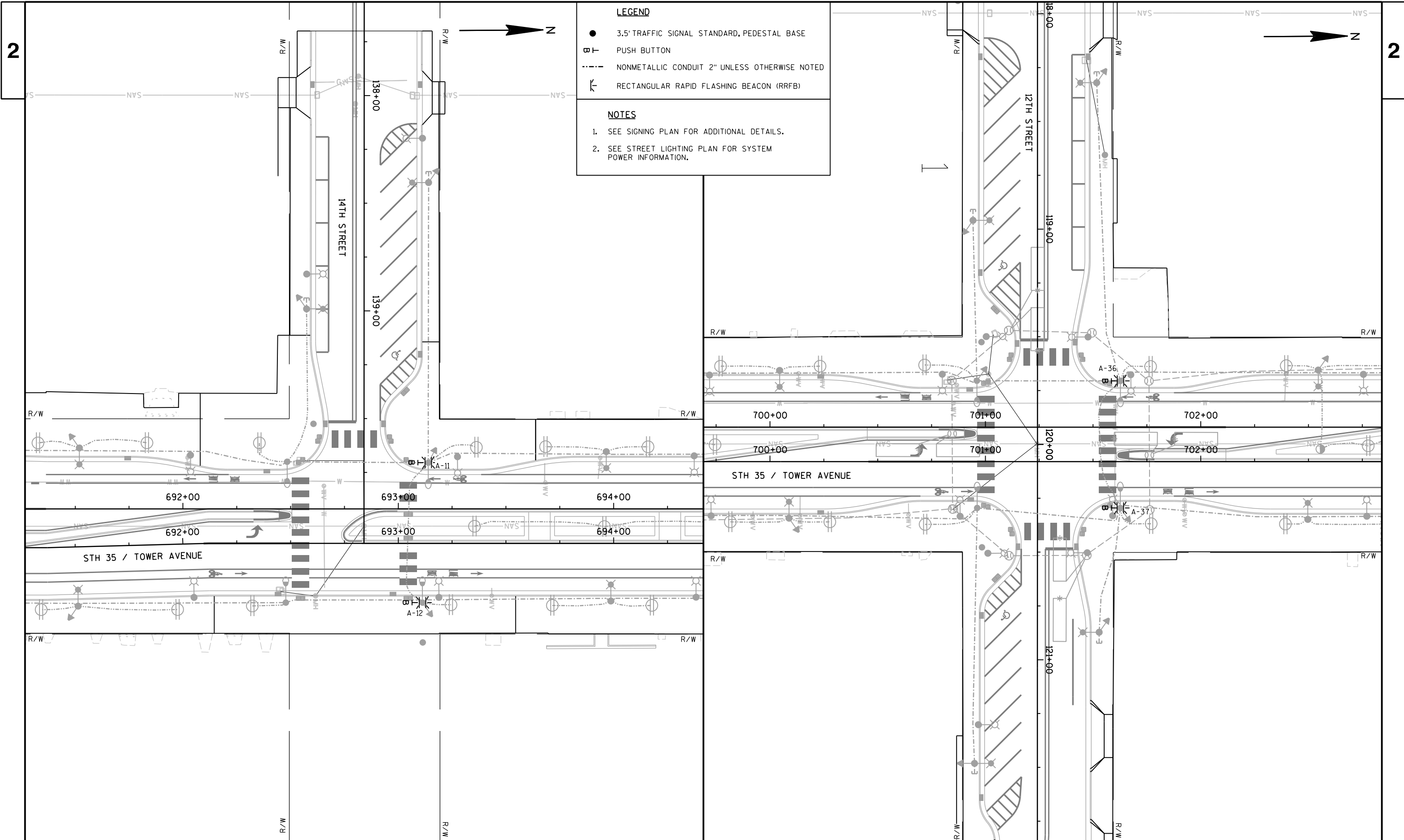


RRFB FRONT ELEVATION  
 STH 35 & 7TH STREET  
 STH 35 & 12TH STREET  
 STH 35 & 14TH STREET

24' MOUNTING HEIGHT  
INTERSECTION LIGHTS



RRFB FRONT ELEVATION  
 STH 35 & BROADWAY STREET

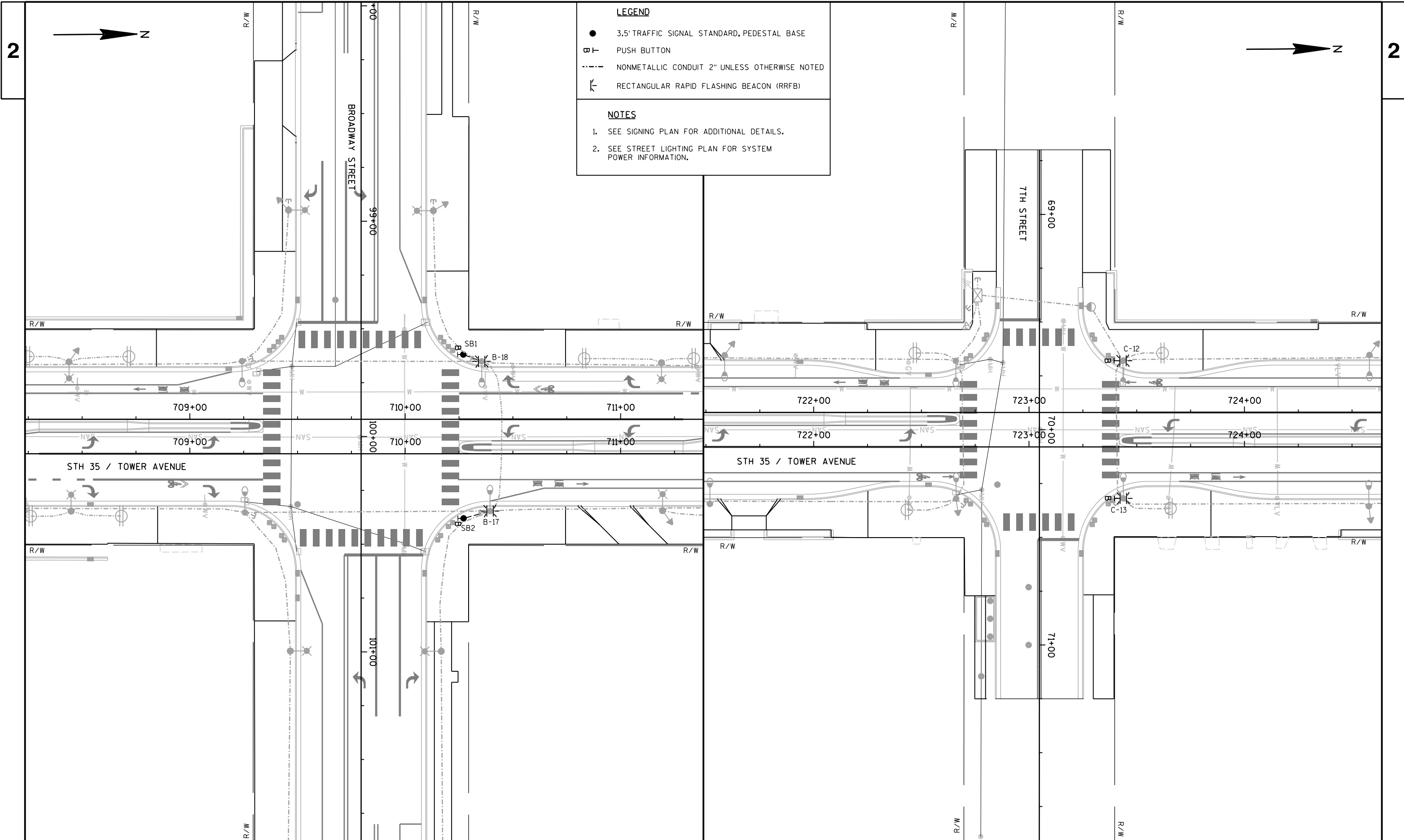


**LEGEND**

- 3.5' TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- ⊞ PUSH BUTTON
- NONMETALLIC CONDUIT 2" UNLESS OTHERWISE NOTED
- ⊞ RECTANGULAR RAPID FLASHING BEACON (RRFB)

**NOTES**

1. SEE SIGNING PLAN FOR ADDITIONAL DETAILS.
2. SEE STREET LIGHTING PLAN FOR SYSTEM POWER INFORMATION.

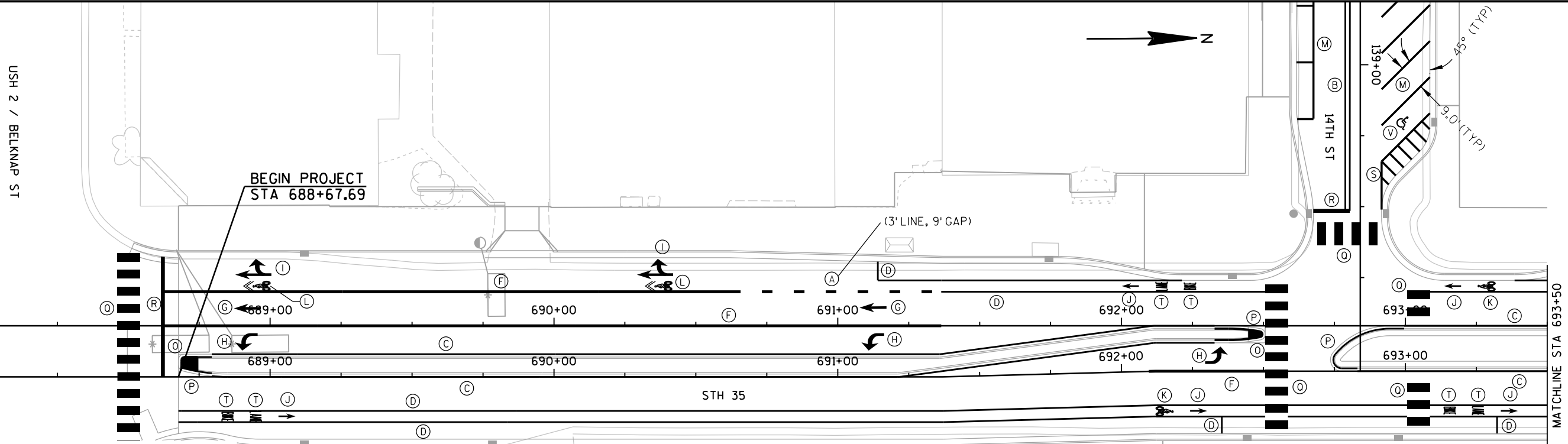


**LEGEND**

- 3.5' TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- PUSH BUTTON
- NONMETALLIC CONDUIT 2" UNLESS OTHERWISE NOTED
- ⊞ RECTANGULAR RAPID FLASHING BEACON (RRFB)

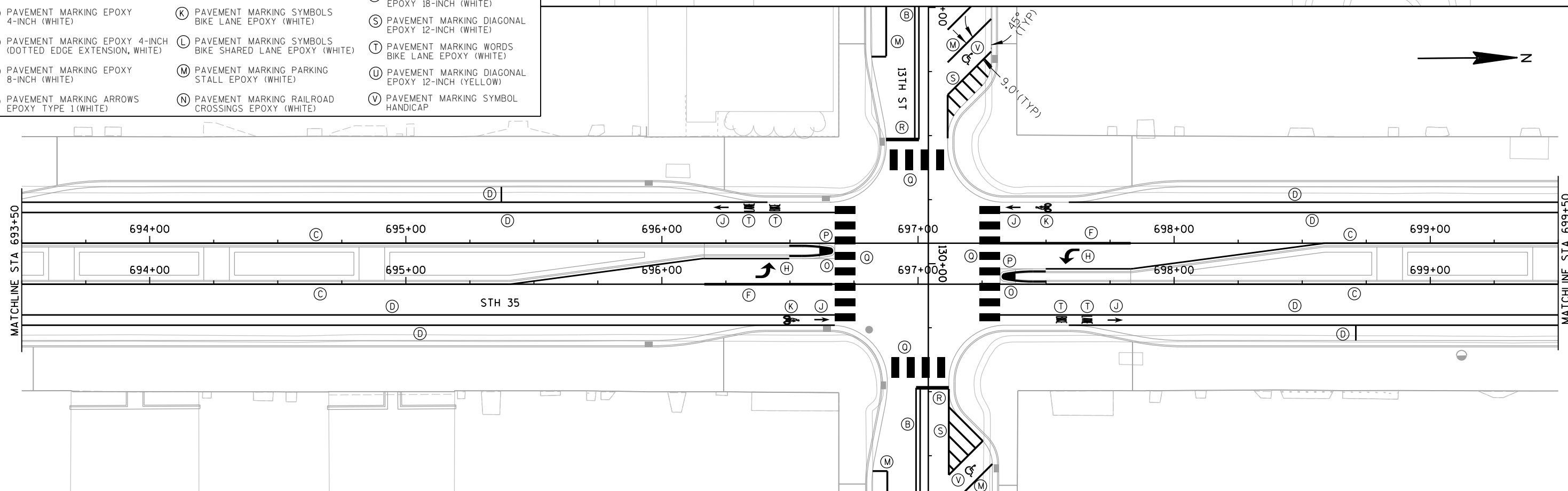
**NOTES**

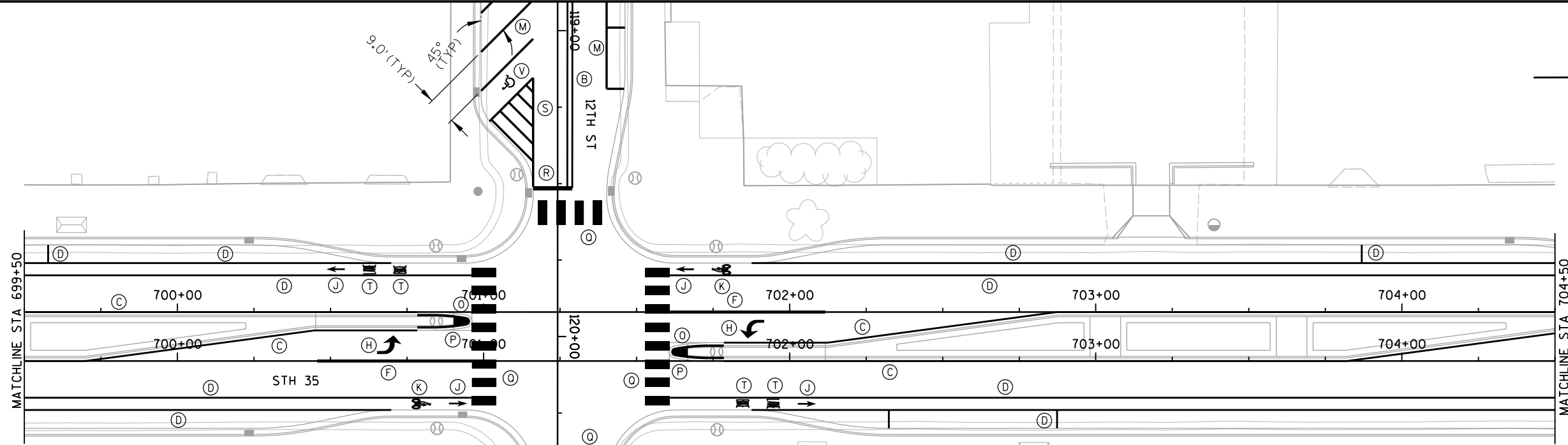
1. SEE SIGNING PLAN FOR ADDITIONAL DETAILS.
2. SEE STREET LIGHTING PLAN FOR SYSTEM POWER INFORMATION.



**PAVEMENT MARKING LEGEND**

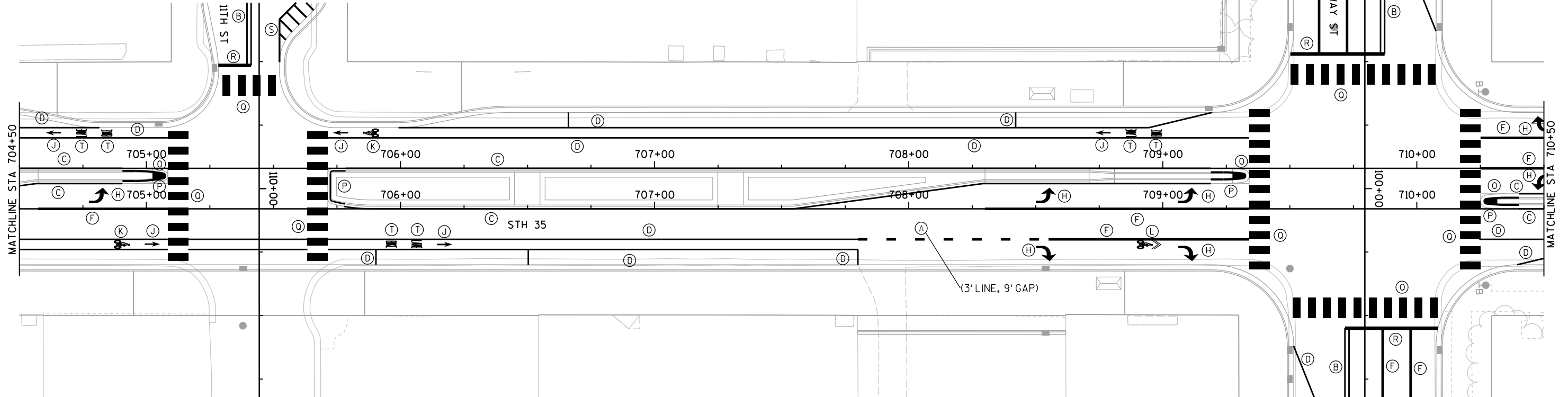
- |  |   |  |
|--|---|--|
| (A) PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE)                  | (H) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)            | (O) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)                        |
| (B) PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)               | (I) PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)            | (P) PAVEMENT MARKING CURB EPOXY (YELLOW)                               |
| (C) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)                       | (J) PAVEMENT MARKING ARROWS BIKE LANE EPOXY (WHITE)         | (Q) PAVEMENT MARKING CROSSWALK PREFORMED THERMOPLASTIC 36-INCH (WHITE) |
| (D) PAVEMENT MARKING EPOXY 4-INCH (WHITE)                        | (K) PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY (WHITE)        | (R) PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)                   |
| (E) PAVEMENT MARKING EPOXY 4-INCH (DOTTED EDGE EXTENSION, WHITE) | (L) PAVEMENT MARKING SYMBOLS BIKE SHARED LANE EPOXY (WHITE) | (S) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)                    |
| (F) PAVEMENT MARKING EPOXY 8-INCH (WHITE)                        | (M) PAVEMENT MARKING PARKING STALL EPOXY (WHITE)            | (T) PAVEMENT MARKING WORDS BIKE LANE EPOXY (WHITE)                     |
| (G) PAVEMENT MARKING ARROWS EPOXY TYPE 1 (WHITE)                 | (N) PAVEMENT MARKING RAILROAD CROSSINGS EPOXY (WHITE)       | (U) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)                   |
|  |   | (V) PAVEMENT MARKING SYMBOL HANDICAP                                   |

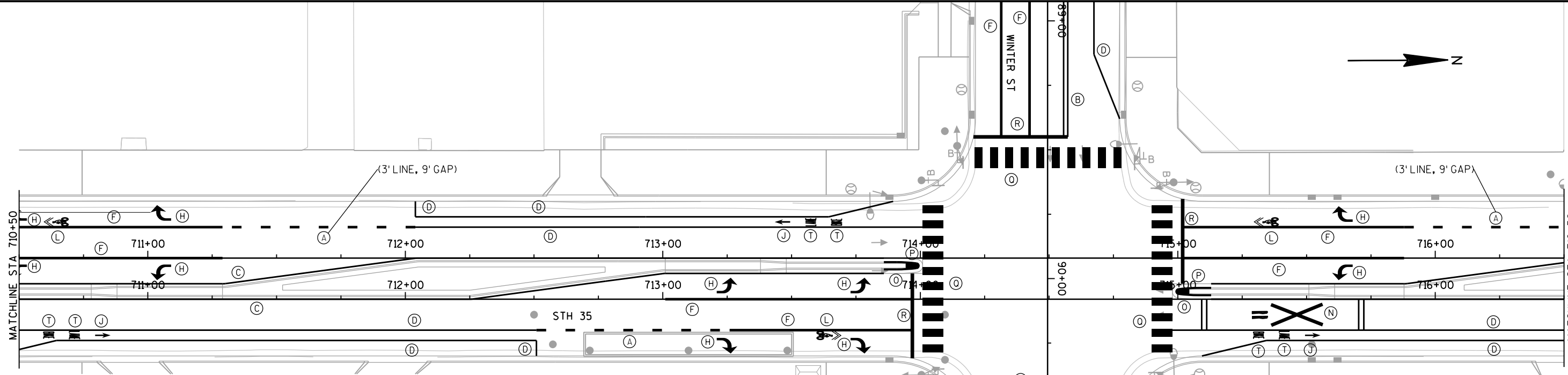




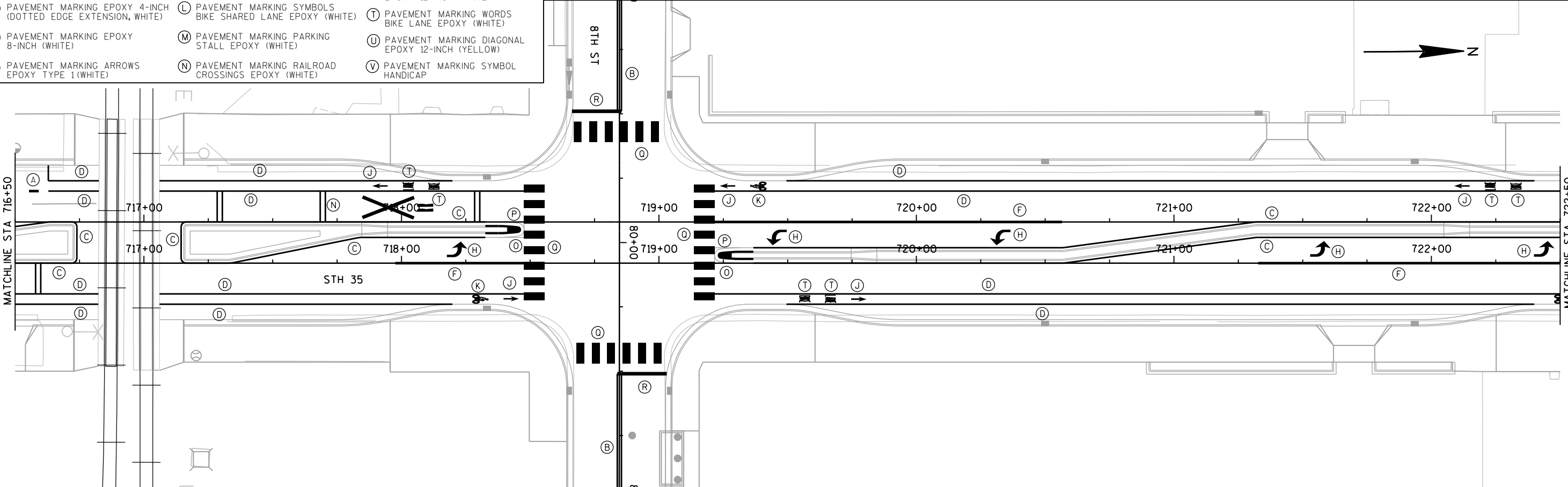
**PAVEMENT MARKING LEGEND**

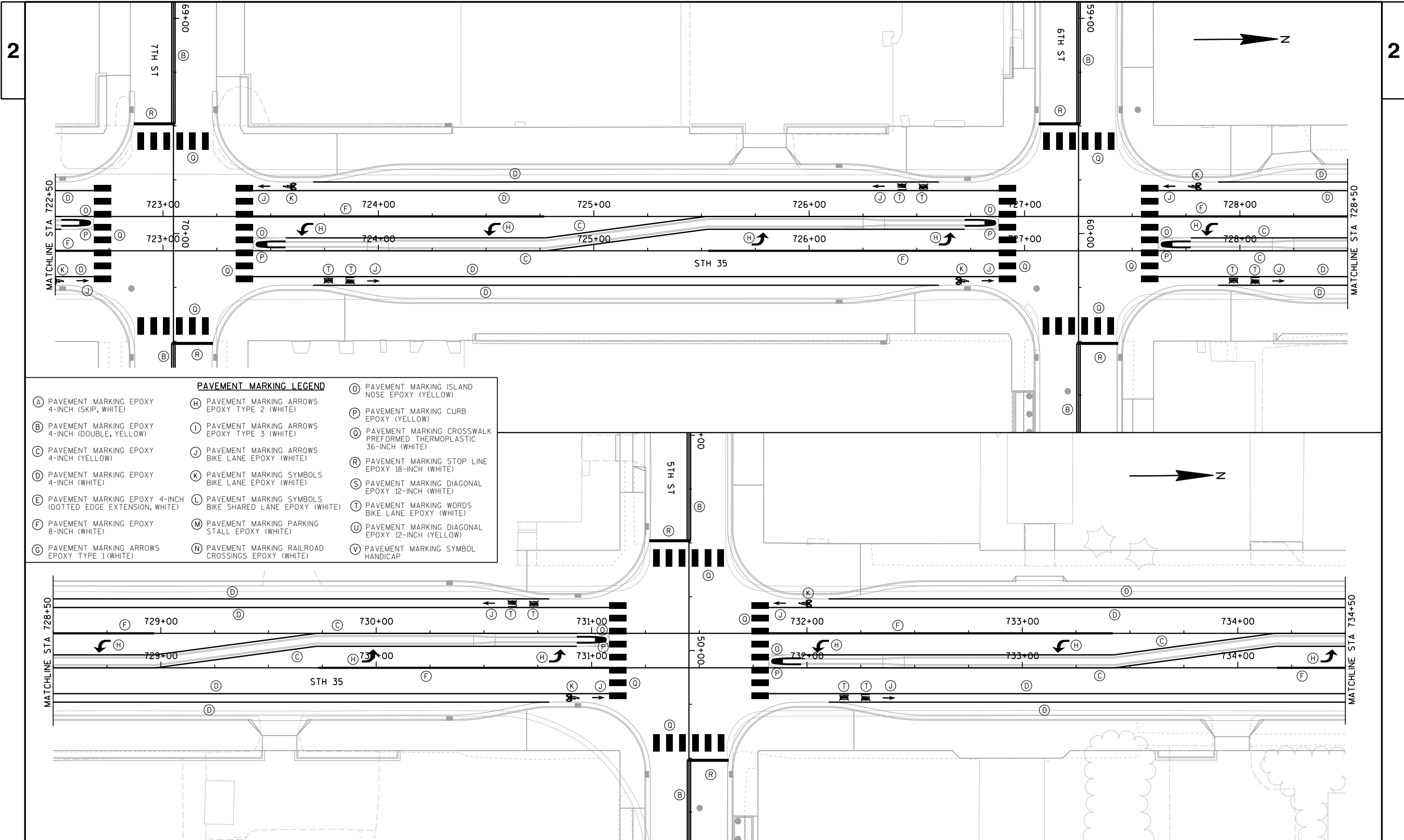
(A) PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE)	(H) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)	(O) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
(B) PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)	(I) PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)	(P) PAVEMENT MARKING CURB EPOXY (YELLOW)
(C) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)	(J) PAVEMENT MARKING ARROWS BIKE LANE EPOXY (WHITE)	(Q) PAVEMENT MARKING CROSSWALK PREFORMED THERMOPLASTIC 36-INCH (WHITE)
(D) PAVEMENT MARKING EPOXY 4-INCH (WHITE)	(K) PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY (WHITE)	(R) PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
(E) PAVEMENT MARKING EPOXY 4-INCH (DOTTED EDGE EXTENSION, WHITE)	(L) PAVEMENT MARKING SYMBOLS BIKE SHARED LANE EPOXY (WHITE)	(S) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)
(F) PAVEMENT MARKING EPOXY 8-INCH (WHITE)	(M) PAVEMENT MARKING PARKING STALL EPOXY (WHITE)	(T) PAVEMENT MARKING WORDS BIKE LANE EPOXY (WHITE)
(G) PAVEMENT MARKING ARROWS EPOXY TYPE 1 (WHITE)	(N) PAVEMENT MARKING RAILROAD CROSSINGS EPOXY (WHITE)	(U) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
		(V) PAVEMENT MARKING SYMBOL HANDICAP





PAVEMENT MARKING LEGEND		
(A) PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE)	(H) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)	(O) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
(B) PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)	(I) PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)	(P) PAVEMENT MARKING CURB EPOXY (YELLOW)
(C) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)	(J) PAVEMENT MARKING ARROWS BIKE LANE EPOXY (WHITE)	(Q) PAVEMENT MARKING CROSSWALK PREFORMED THERMOPLASTIC 36-INCH (WHITE)
(D) PAVEMENT MARKING EPOXY 4-INCH (WHITE)	(K) PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY (WHITE)	(R) PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
(E) PAVEMENT MARKING EPOXY 4-INCH (DOTTED EDGE EXTENSION, WHITE)	(L) PAVEMENT MARKING SYMBOLS BIKE SHARED LANE EPOXY (WHITE)	(S) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)
(F) PAVEMENT MARKING EPOXY 8-INCH (WHITE)	(M) PAVEMENT MARKING PARKING STALL EPOXY (WHITE)	(T) PAVEMENT MARKING WORDS BIKE LANE EPOXY (WHITE)
(G) PAVEMENT MARKING ARROWS EPOXY TYPE 1 (WHITE)	(N) PAVEMENT MARKING RAILROAD CROSSINGS EPOXY (WHITE)	(U) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
		(V) PAVEMENT MARKING SYMBOL HANDICAP

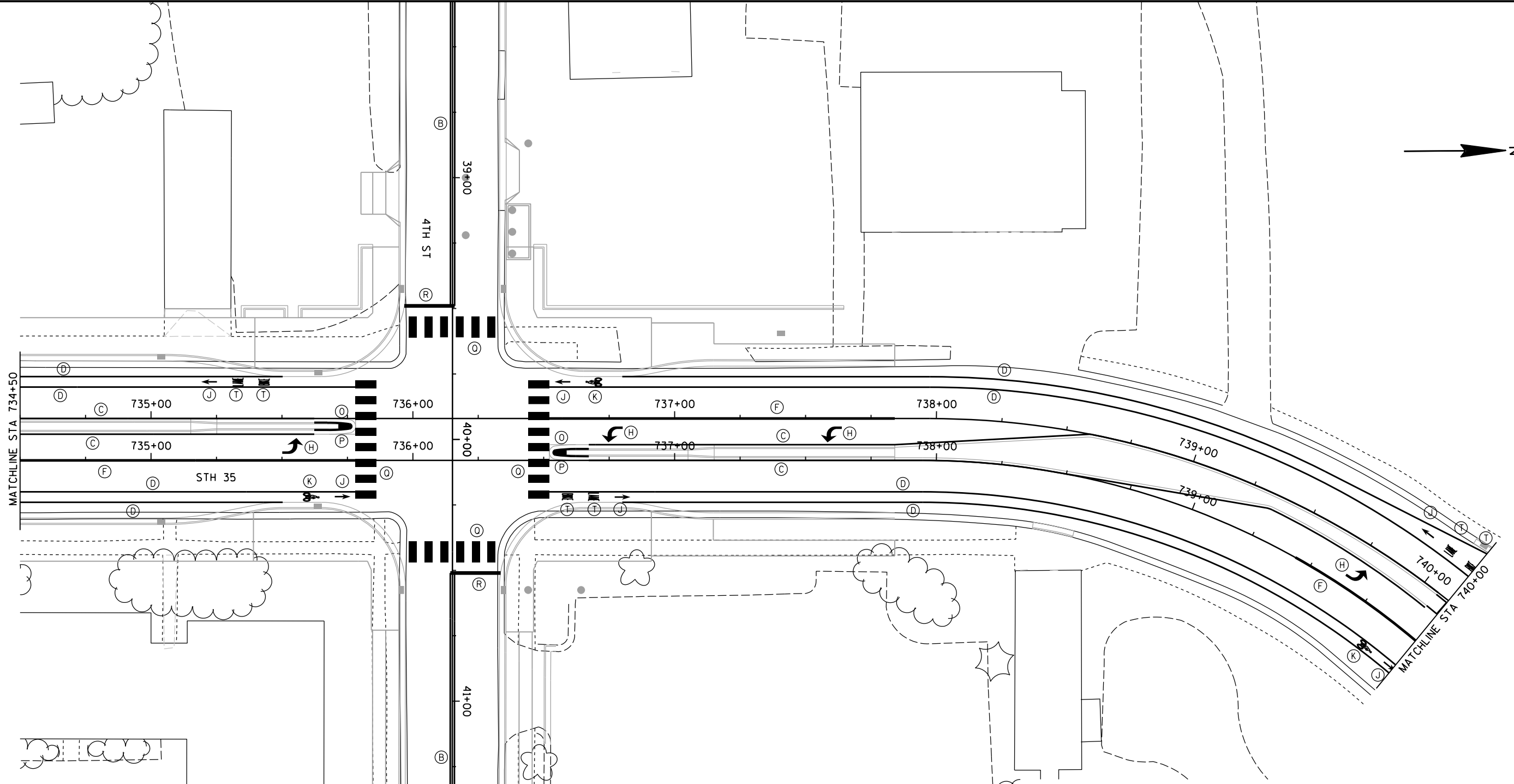




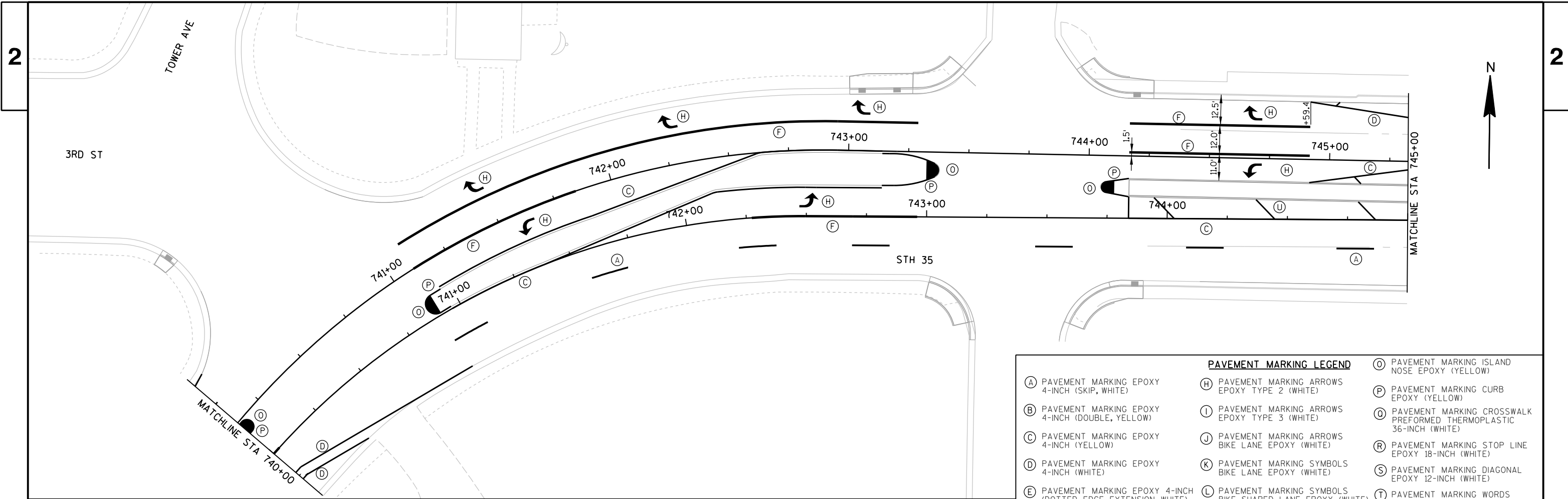
**PAVEMENT MARKING LEGEND**

(A) PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE)	(H) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)	(O) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
(B) PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)	(I) PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)	(P) PAVEMENT MARKING CURB EPOXY (YELLOW)
(C) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)	(J) PAVEMENT MARKING ARROWS BIKE LANE EPOXY (WHITE)	(Q) PAVEMENT MARKING CROSSWALK PREFORMED THERMOPLASTIC 36-INCH (WHITE)
(D) PAVEMENT MARKING EPOXY 4-INCH (WHITE)	(K) PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY (WHITE)	(R) PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
(E) PAVEMENT MARKING EPOXY 4-INCH (DOTTED EDGE EXTENSION, WHITE)	(L) PAVEMENT MARKING SYMBOLS BIKE SHARED LANE EPOXY (WHITE)	(S) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)
(F) PAVEMENT MARKING EPOXY 8-INCH (WHITE)	(M) PAVEMENT MARKING PARKING STALL EPOXY (WHITE)	(T) PAVEMENT MARKING WORDS BIKE LANE EPOXY (WHITE)
(G) PAVEMENT MARKING ARROWS EPOXY TYPE 1 (WHITE)	(N) PAVEMENT MARKING RAILROAD CROSSINGS EPOXY (WHITE)	(U) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
		(V) PAVEMENT MARKING SYMBOL HANDICAP

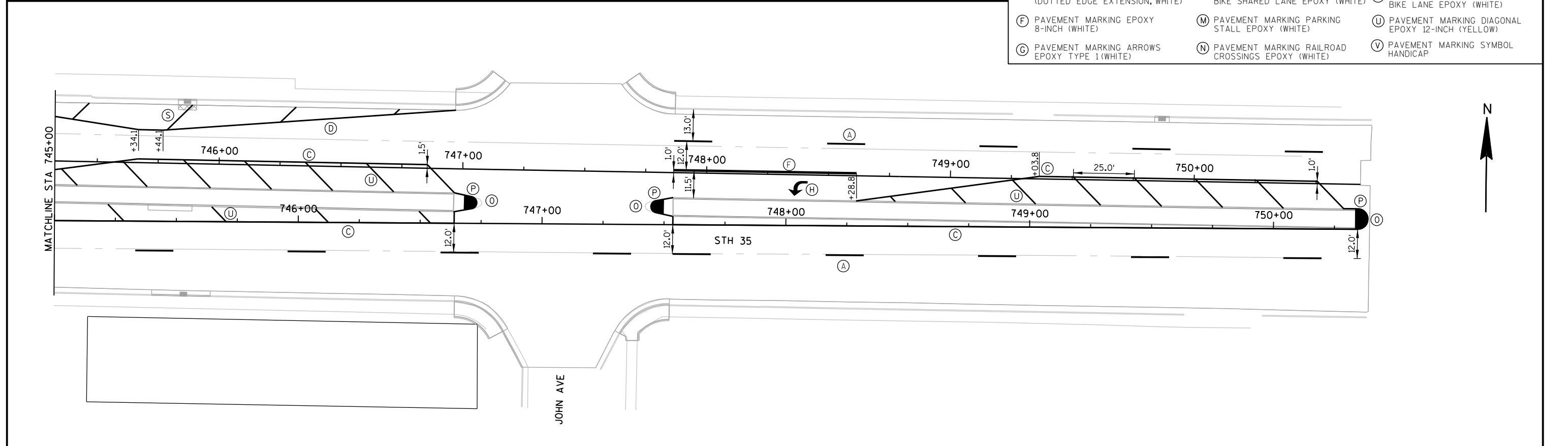


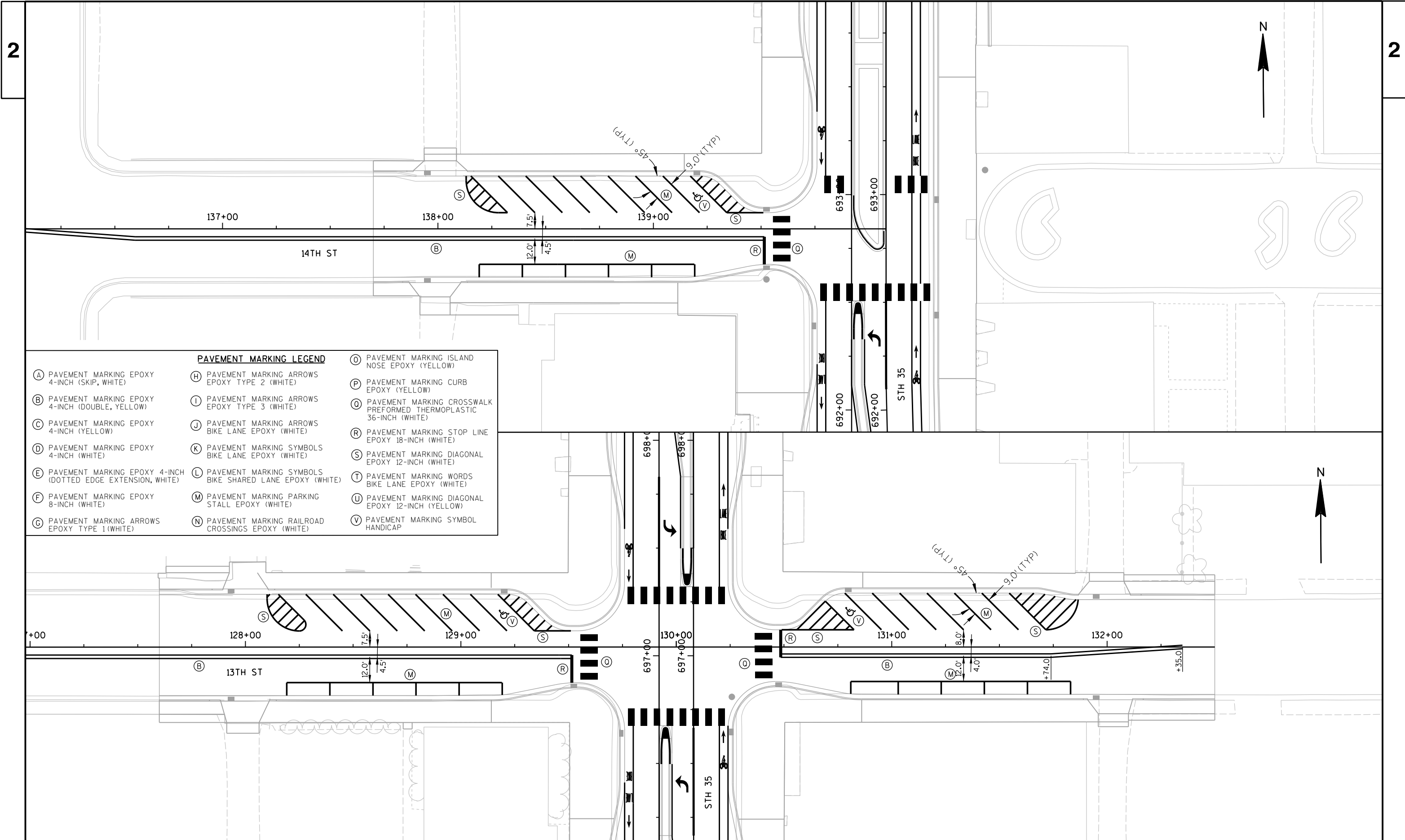


PAVEMENT MARKING LEGEND		
(A) PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE)	(H) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)	(O) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
(B) PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)	(I) PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)	(P) PAVEMENT MARKING CURB EPOXY (YELLOW)
(C) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)	(J) PAVEMENT MARKING ARROWS BIKE LANE EPOXY (WHITE)	(Q) PAVEMENT MARKING CROSSWALK PREFORMED THERMOPLASTIC 36-INCH (WHITE)
(D) PAVEMENT MARKING EPOXY 4-INCH (WHITE)	(K) PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY (WHITE)	(R) PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
(E) PAVEMENT MARKING EPOXY 4-INCH (DOTTED EDGE EXTENSION, WHITE)	(L) PAVEMENT MARKING SYMBOLS BIKE SHARED LANE EPOXY (WHITE)	(S) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)
(F) PAVEMENT MARKING EPOXY 8-INCH (WHITE)	(M) PAVEMENT MARKING PARKING STALL EPOXY (WHITE)	(T) PAVEMENT MARKING WORDS BIKE LANE EPOXY (WHITE)
(G) PAVEMENT MARKING ARROWS EPOXY TYPE 1 (WHITE)	(N) PAVEMENT MARKING RAILROAD CROSSINGS EPOXY (WHITE)	(U) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
		(V) PAVEMENT MARKING SYMBOL HANDICAP

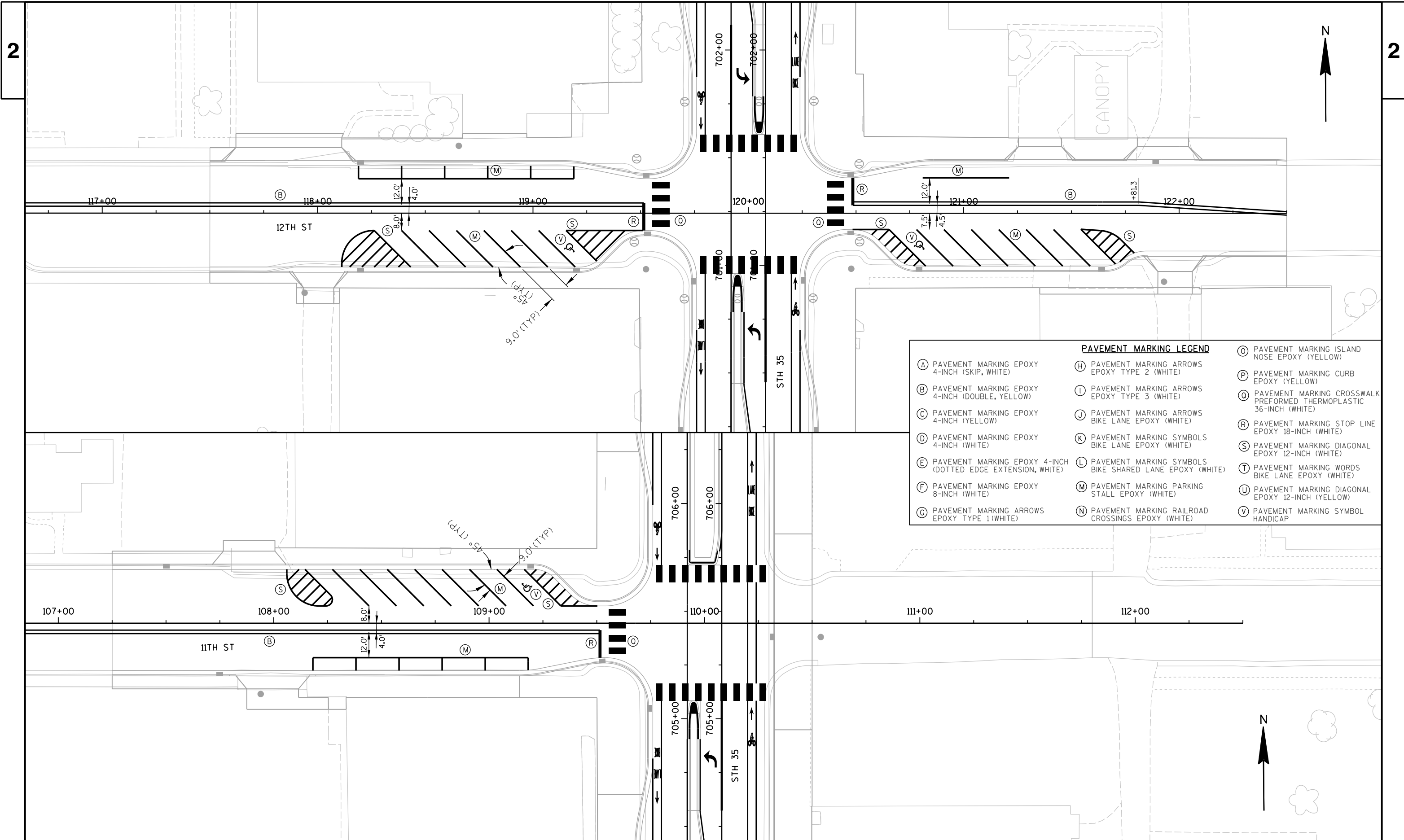


PAVEMENT MARKING LEGEND		
(A) PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE)	(H) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)	(O) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
(B) PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)	(I) PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)	(P) PAVEMENT MARKING CURB EPOXY (YELLOW)
(C) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)	(J) PAVEMENT MARKING ARROWS BIKE LANE EPOXY (WHITE)	(Q) PAVEMENT MARKING CROSSWALK PREFORMED THERMOPLASTIC 36-INCH (WHITE)
(D) PAVEMENT MARKING EPOXY 4-INCH (WHITE)	(K) PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY (WHITE)	(R) PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
(E) PAVEMENT MARKING EPOXY 4-INCH (DOTTED EDGE EXTENSION, WHITE)	(L) PAVEMENT MARKING SYMBOLS BIKE SHARED LANE EPOXY (WHITE)	(S) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)
(F) PAVEMENT MARKING EPOXY 8-INCH (WHITE)	(M) PAVEMENT MARKING PARKING STALL EPOXY (WHITE)	(T) PAVEMENT MARKING WORDS BIKE LANE EPOXY (WHITE)
(G) PAVEMENT MARKING ARROWS EPOXY TYPE 1 (WHITE)	(N) PAVEMENT MARKING RAILROAD CROSSINGS EPOXY (WHITE)	(U) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
		(V) PAVEMENT MARKING SYMBOL HANDICAP





PAVEMENT MARKING LEGEND		
(A) PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE)	(H) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)	(O) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
(B) PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)	(I) PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)	(P) PAVEMENT MARKING CURB EPOXY (YELLOW)
(C) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)	(J) PAVEMENT MARKING ARROWS BIKE LANE EPOXY (WHITE)	(Q) PAVEMENT MARKING CROSSWALK PREFORMED THERMOPLASTIC 36-INCH (WHITE)
(D) PAVEMENT MARKING EPOXY 4-INCH (WHITE)	(K) PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY (WHITE)	(R) PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
(E) PAVEMENT MARKING EPOXY 4-INCH (DOTTED EDGE EXTENSION, WHITE)	(L) PAVEMENT MARKING SYMBOLS BIKE SHARED LANE EPOXY (WHITE)	(S) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)
(F) PAVEMENT MARKING EPOXY 8-INCH (WHITE)	(M) PAVEMENT MARKING PARKING STALL EPOXY (WHITE)	(T) PAVEMENT MARKING WORDS BIKE LANE EPOXY (WHITE)
(G) PAVEMENT MARKING ARROWS EPOXY TYPE 1 (WHITE)	(N) PAVEMENT MARKING RAILROAD CROSSINGS EPOXY (WHITE)	(U) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
		(V) PAVEMENT MARKING SYMBOL HANDICAP



PAVEMENT MARKING LEGEND		
(A) PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE)	(H) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)	(O) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
(B) PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)	(I) PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)	(P) PAVEMENT MARKING CURB EPOXY (YELLOW)
(C) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)	(J) PAVEMENT MARKING ARROWS BIKE LANE EPOXY (WHITE)	(Q) PAVEMENT MARKING CROSSWALK PREFORMED THERMOPLASTIC 36-INCH (WHITE)
(D) PAVEMENT MARKING EPOXY 4-INCH (WHITE)	(K) PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY (WHITE)	(R) PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
(E) PAVEMENT MARKING EPOXY 4-INCH (DOTTED EDGE EXTENSION, WHITE)	(L) PAVEMENT MARKING SYMBOLS BIKE SHARED LANE EPOXY (WHITE)	(S) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)
(F) PAVEMENT MARKING EPOXY 8-INCH (WHITE)	(M) PAVEMENT MARKING PARKING STALL EPOXY (WHITE)	(T) PAVEMENT MARKING WORDS BIKE LANE EPOXY (WHITE)
(G) PAVEMENT MARKING ARROWS EPOXY TYPE 1 (WHITE)	(N) PAVEMENT MARKING RAILROAD CROSSINGS EPOXY (WHITE)	(U) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
		(V) PAVEMENT MARKING SYMBOL HANDICAP

PROJECT NO: 1195-13-71

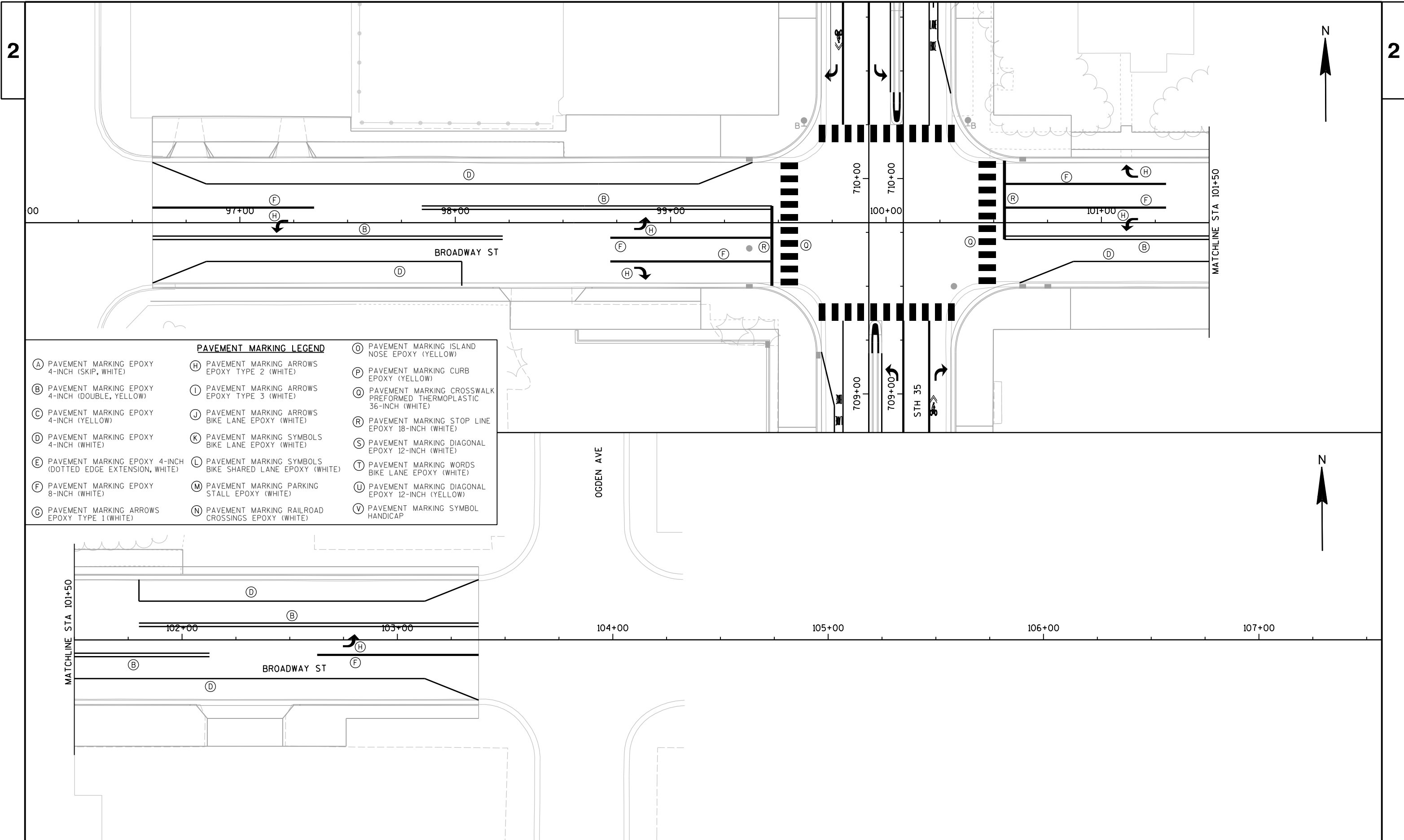
HWY: STH 35 - TOWER AVE

COUNTY: DOUGLAS

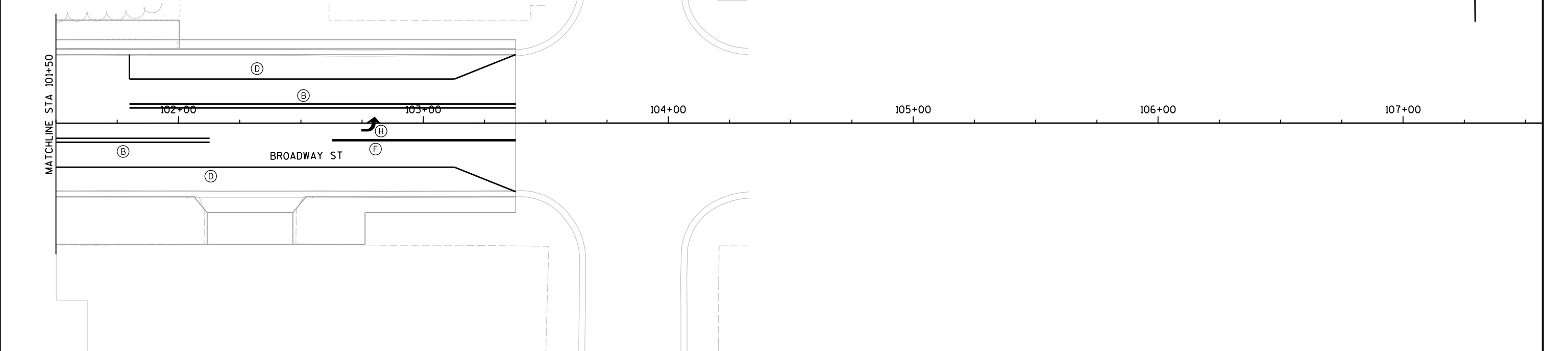
PAVEMENT MARKING

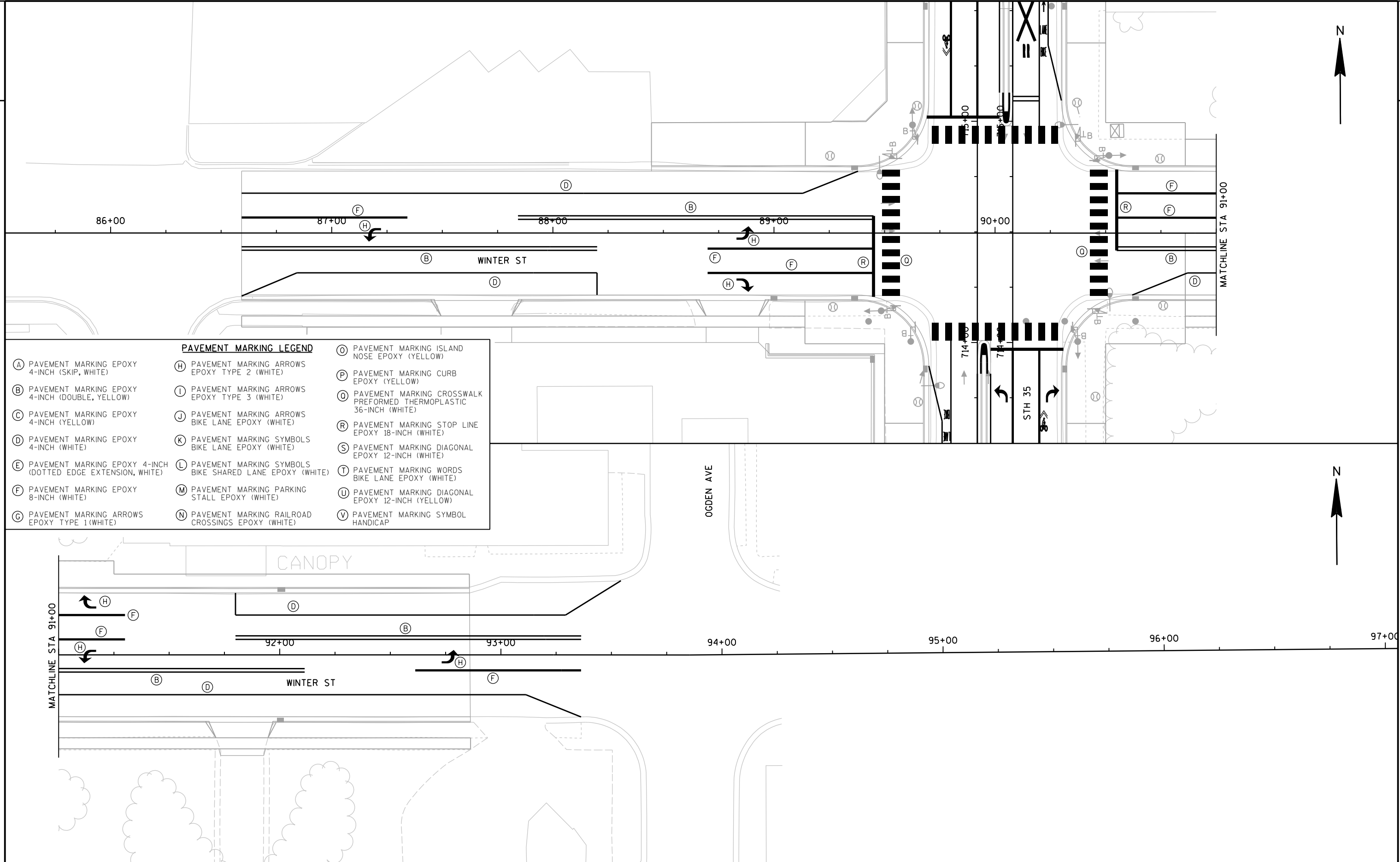
SHEET

E



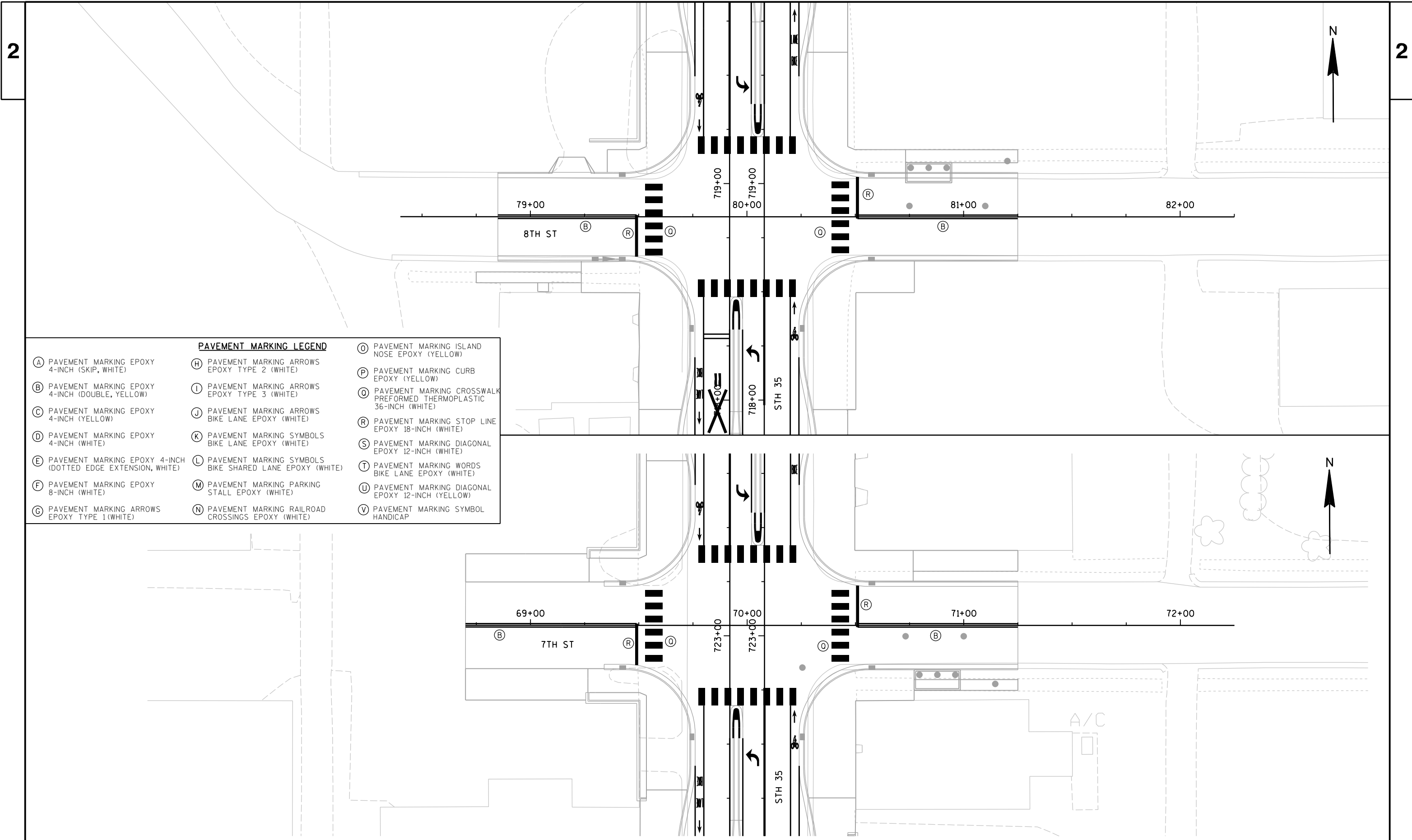
PAVEMENT MARKING LEGEND		
(A) PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE)	(H) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)	(O) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
(B) PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)	(I) PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)	(P) PAVEMENT MARKING CURB EPOXY (YELLOW)
(C) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)	(J) PAVEMENT MARKING ARROWS BIKE LANE EPOXY (WHITE)	(Q) PAVEMENT MARKING CROSSWALK PREFORMED THERMOPLASTIC 36-INCH (WHITE)
(D) PAVEMENT MARKING EPOXY 4-INCH (WHITE)	(K) PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY (WHITE)	(R) PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
(E) PAVEMENT MARKING EPOXY 4-INCH (DOTTED EDGE EXTENSION, WHITE)	(L) PAVEMENT MARKING SYMBOLS BIKE SHARED LANE EPOXY (WHITE)	(S) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)
(F) PAVEMENT MARKING EPOXY 8-INCH (WHITE)	(M) PAVEMENT MARKING PARKING STALL EPOXY (WHITE)	(T) PAVEMENT MARKING WORDS BIKE LANE EPOXY (WHITE)
(G) PAVEMENT MARKING ARROWS EPOXY TYPE 1 (WHITE)	(N) PAVEMENT MARKING RAILROAD CROSSINGS EPOXY (WHITE)	(U) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
		(V) PAVEMENT MARKING SYMBOL HANDICAP



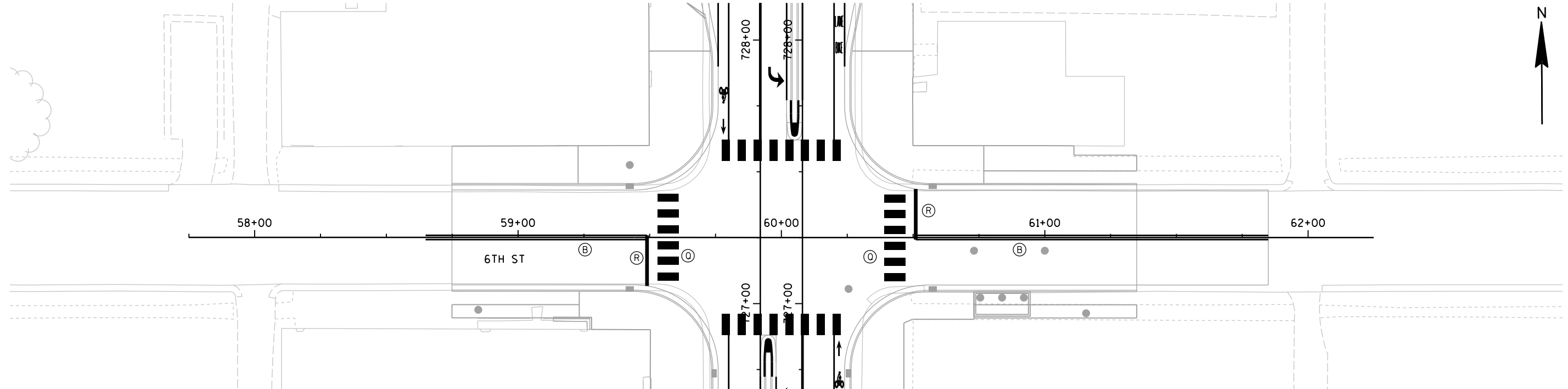


**PAVEMENT MARKING LEGEND**

- |  |   |  |
|--|---|--|
| (A) PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE)                  | (H) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)            | (O) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)                        |
| (B) PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)               | (I) PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)            | (P) PAVEMENT MARKING CURB EPOXY (YELLOW)                               |
| (C) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)                       | (J) PAVEMENT MARKING ARROWS BIKE LANE EPOXY (WHITE)         | (Q) PAVEMENT MARKING CROSSWALK PREFORMED THERMOPLASTIC 36-INCH (WHITE) |
| (D) PAVEMENT MARKING EPOXY 4-INCH (WHITE)                        | (K) PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY (WHITE)        | (R) PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)                   |
| (E) PAVEMENT MARKING EPOXY 4-INCH (DOTTED EDGE EXTENSION, WHITE) | (L) PAVEMENT MARKING SYMBOLS BIKE SHARED LANE EPOXY (WHITE) | (S) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)                    |
| (F) PAVEMENT MARKING EPOXY 8-INCH (WHITE)                        | (M) PAVEMENT MARKING PARKING STALL EPOXY (WHITE)            | (T) PAVEMENT MARKING WORDS BIKE LANE EPOXY (WHITE)                     |
| (G) PAVEMENT MARKING ARROWS EPOXY TYPE 1 (WHITE)                 | (N) PAVEMENT MARKING RAILROAD CROSSINGS EPOXY (WHITE)       | (U) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)                   |
|  |   | (V) PAVEMENT MARKING SYMBOL HANDICAP                                   |

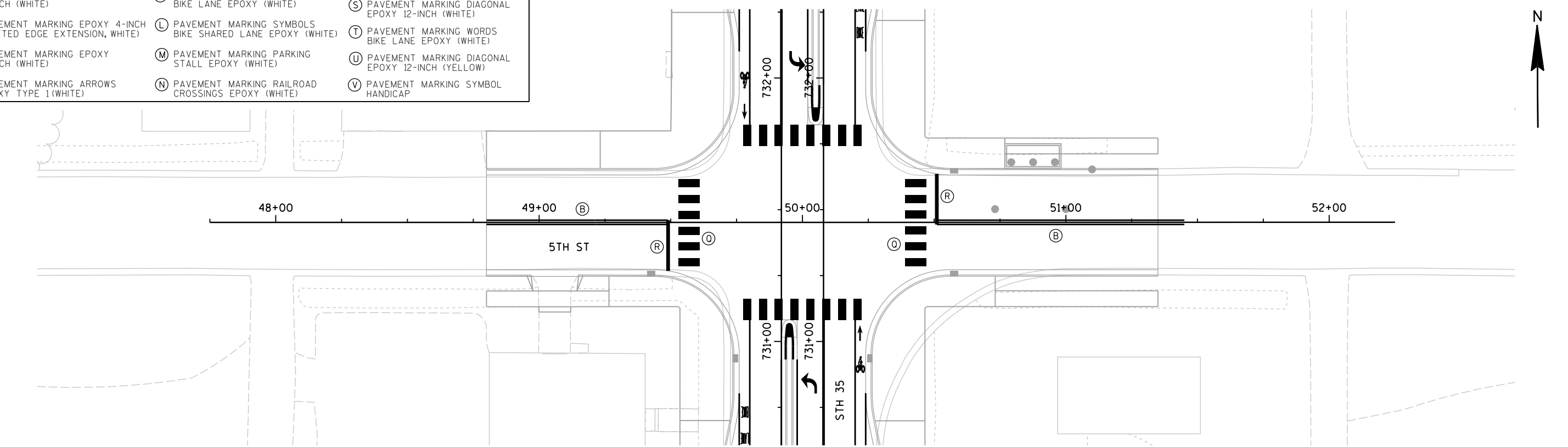


PAVEMENT MARKING LEGEND		
(A) PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE)	(H) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)	(O) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
(B) PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)	(I) PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)	(P) PAVEMENT MARKING CURB EPOXY (YELLOW)
(C) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)	(J) PAVEMENT MARKING ARROWS BIKE LANE EPOXY (WHITE)	(Q) PAVEMENT MARKING CROSSWALK PREFORMED THERMOPLASTIC 36-INCH (WHITE)
(D) PAVEMENT MARKING EPOXY 4-INCH (WHITE)	(K) PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY (WHITE)	(R) PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
(E) PAVEMENT MARKING EPOXY 4-INCH (DOTTED EDGE EXTENSION, WHITE)	(L) PAVEMENT MARKING SYMBOLS BIKE SHARED LANE EPOXY (WHITE)	(S) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)
(F) PAVEMENT MARKING EPOXY 8-INCH (WHITE)	(M) PAVEMENT MARKING PARKING STALL EPOXY (WHITE)	(T) PAVEMENT MARKING WORDS BIKE LANE EPOXY (WHITE)
(G) PAVEMENT MARKING ARROWS EPOXY TYPE 1 (WHITE)	(N) PAVEMENT MARKING RAILROAD CROSSINGS EPOXY (WHITE)	(U) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
		(V) PAVEMENT MARKING SYMBOL HANDICAP

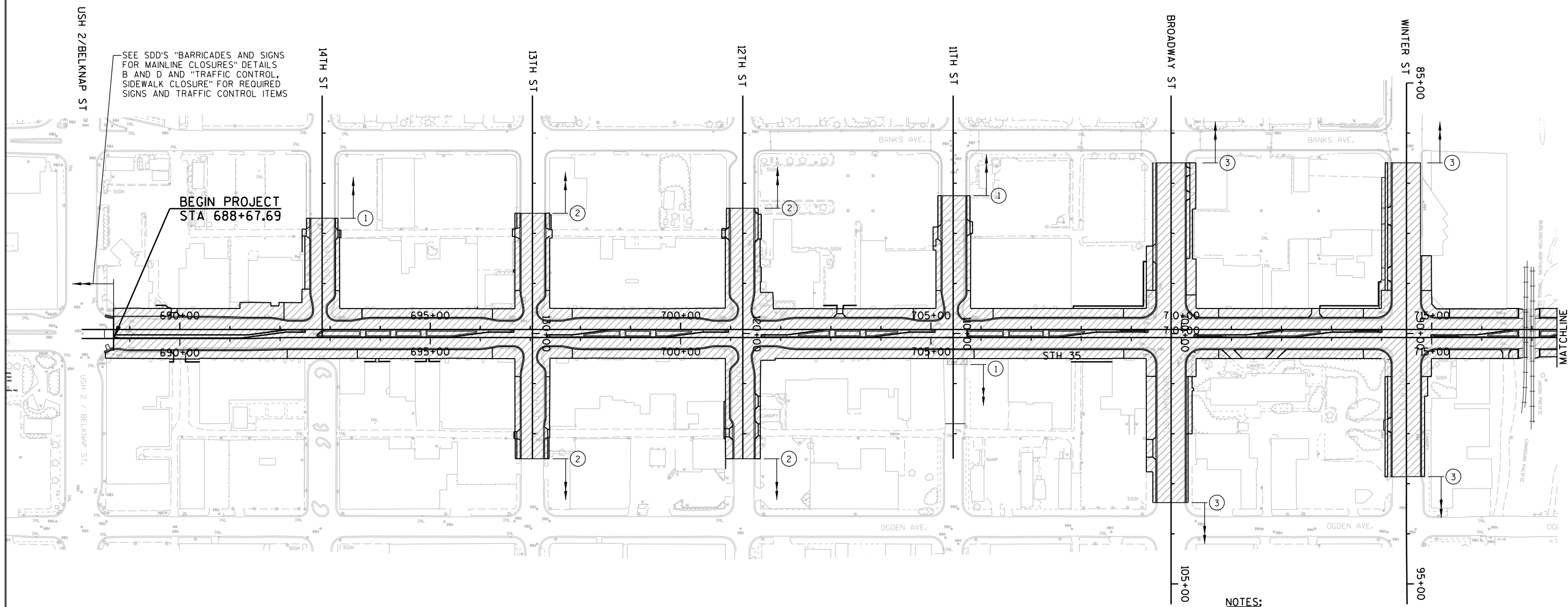
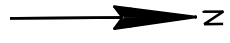


**PAVEMENT MARKING LEGEND**

- |  |   |  |
|--|---|--|
| (A) PAVEMENT MARKING EPOXY 4-INCH (SKIP, WHITE)                  | (H) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)            | (O) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)                        |
| (B) PAVEMENT MARKING EPOXY 4-INCH (DOUBLE, YELLOW)               | (I) PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)            | (P) PAVEMENT MARKING CURB EPOXY (YELLOW)                               |
| (C) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)                       | (J) PAVEMENT MARKING ARROWS BIKE LANE EPOXY (WHITE)         | (Q) PAVEMENT MARKING CROSSWALK PREFORMED THERMOPLASTIC 36-INCH (WHITE) |
| (D) PAVEMENT MARKING EPOXY 4-INCH (WHITE)                        | (K) PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY (WHITE)        | (R) PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)                   |
| (E) PAVEMENT MARKING EPOXY 4-INCH (DOTTED EDGE EXTENSION, WHITE) | (L) PAVEMENT MARKING SYMBOLS BIKE SHARED LANE EPOXY (WHITE) | (S) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)                    |
| (F) PAVEMENT MARKING EPOXY 8-INCH (WHITE)                        | (M) PAVEMENT MARKING PARKING STALL EPOXY (WHITE)            | (T) PAVEMENT MARKING WORDS BIKE LANE EPOXY (WHITE)                     |
| (G) PAVEMENT MARKING ARROWS EPOXY TYPE 1 (WHITE)                 | (N) PAVEMENT MARKING RAILROAD CROSSINGS EPOXY (WHITE)       | (U) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)                   |
|  |   | (V) PAVEMENT MARKING SYMBOL HANDICAP                                   |








SEE SDD'S "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" DETAILS B AND D AND "TRAFFIC CONTROL, SIDEWALK CLOSURE" FOR REQUIRED SIGNS AND TRAFFIC CONTROL ITEMS

BEGIN PROJECT STA 688+67.69

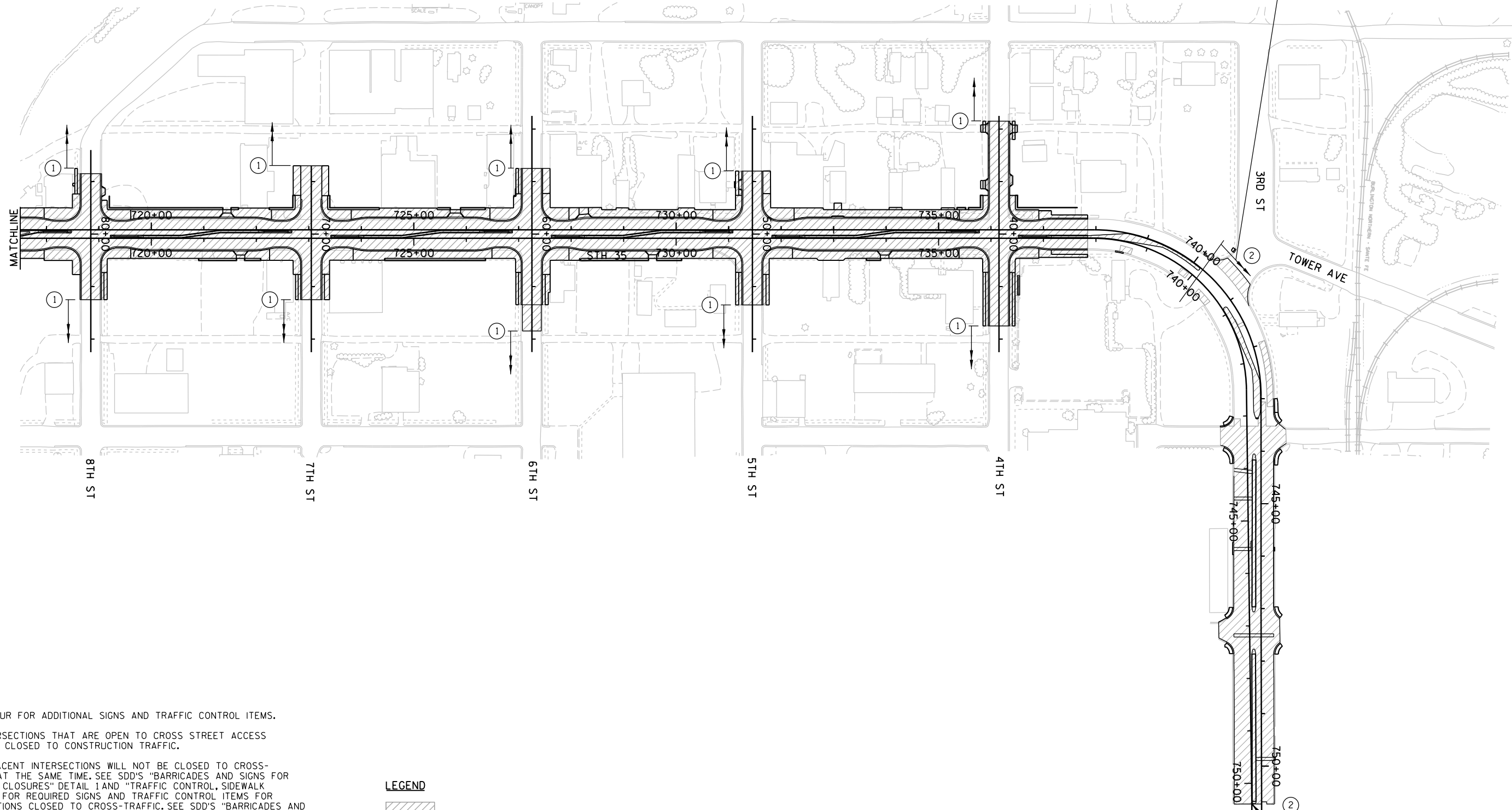
**LEGEND**

 WORK ZONE

- NOTES:**
- SEE DETOUR FOR ADDITIONAL SIGNS AND TRAFFIC CONTROL ITEMS.
  - ALL INTERSECTIONS THAT ARE OPEN TO CROSS STREET ACCESS SHALL BE CLOSED TO CONSTRUCTION TRAFFIC.
  - ① SEE SDD'S "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" DETAIL 1 AND "TRAFFIC CONTROL, SIDEWALK CLOSURE" FOR REQUIRED SIGNS AND TRAFFIC CONTROL ITEMS.
  - ② ONE INTERSECTION TO REMAIN OPEN TO CROSS-TRAFFIC AT ALL TIMES. SEE SDD'S "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" DETAIL 1 AND "TRAFFIC CONTROL, SIDEWALK CLOSURE" FOR REQUIRED SIGNS AND TRAFFIC CONTROL ITEMS FOR INTERSECTION CLOSED TO CROSS-TRAFFIC. SEE SDD'S "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" DETAIL 2 AND "TRAFFIC CONTROL, SIDEWALK CLOSURE" FOR REQUIRED SIGNS AND TRAFFIC CONTROL ITEMS FOR INTERSECTION OPEN TO CROSS-TRAFFIC.
  - ③ ONE INTERSECTION TO REMAIN OPEN TO CROSS-TRAFFIC AT ALL TIMES. SEE SDD'S "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" DETAIL 1 AND "TRAFFIC CONTROL, SIDEWALK CLOSURE" FOR REQUIRED SIGNS AND TRAFFIC CONTROL ITEMS FOR INTERSECTION CLOSED TO CROSS-TRAFFIC. SEE SDD'S "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" DETAIL 2 AND "TRAFFIC CONTROL, SIDEWALK CLOSURE" FOR REQUIRED SIGNS AND TRAFFIC CONTROL ITEMS FOR INTERSECTION OPEN TO CROSS-TRAFFIC.



SEE SDD'S "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" DETAILS B AND D AND "TRAFFIC CONTROL, SIDEWALK CLOSURE" FOR REQUIRED SIGNS AND TRAFFIC CONTROL ITEMS



**NOTES:**  
SEE DETOUR FOR ADDITIONAL SIGNS AND TRAFFIC CONTROL ITEMS.

ALL INTERSECTIONS THAT ARE OPEN TO CROSS STREET ACCESS SHALL BE CLOSED TO CONSTRUCTION TRAFFIC.

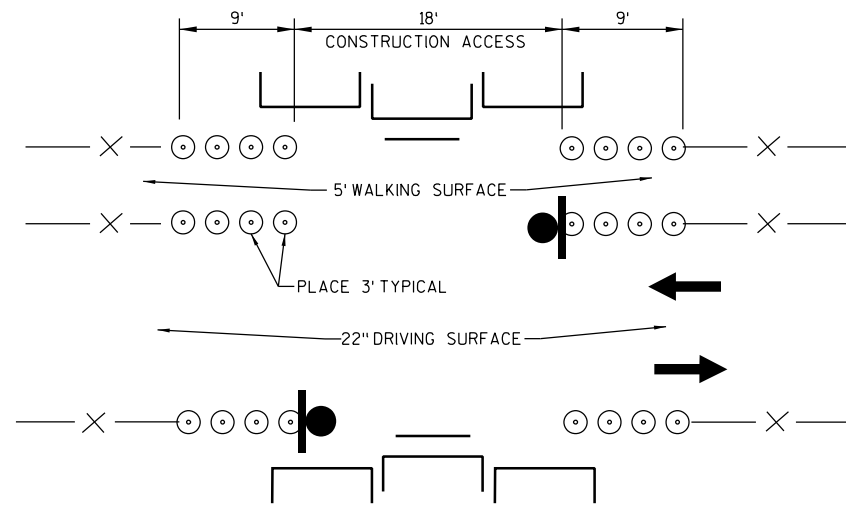
① TWO ADJACENT INTERSECTIONS WILL NOT BE CLOSED TO CROSS-TRAFFIC AT THE SAME TIME. SEE SDD'S "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" DETAIL 1 AND "TRAFFIC CONTROL, SIDEWALK CLOSURE" FOR REQUIRED SIGNS AND TRAFFIC CONTROL ITEMS FOR INTERSECTIONS CLOSED TO CROSS-TRAFFIC. SEE SDD'S "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" DETAIL 2 AND "TRAFFIC CONTROL, SIDEWALK CLOSURE" FOR REQUIRED SIGNS AND TRAFFIC CONTROL ITEMS FOR INTERSECTIONS OPEN TO CROSS-TRAFFIC.

② FOR TRAFFIC CONTROL OUTSIDE THE WORK AREA CLOSED TO TRAFFIC SEE SDD "TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY".

**LEGEND**

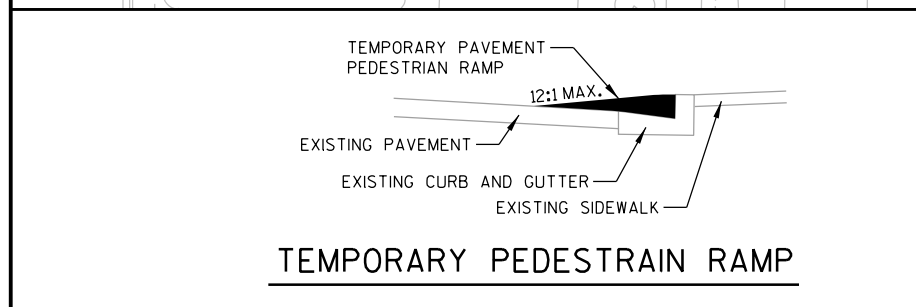
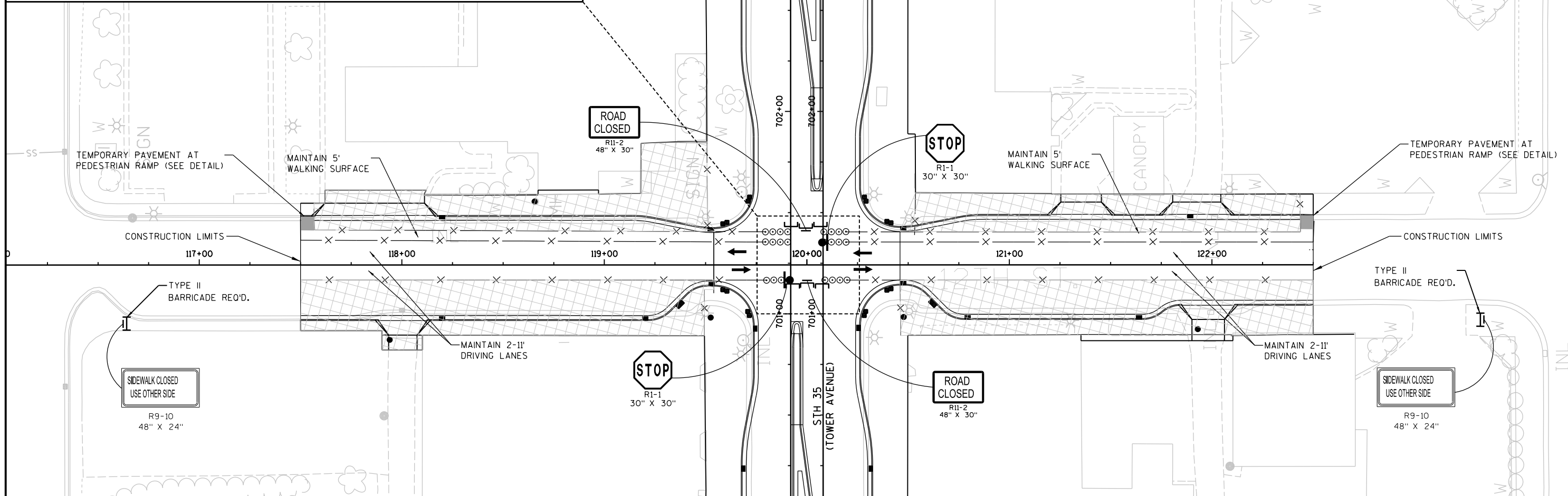






**LEGEND**

- DIRECTION OF TRAFFIC
- SAFETY FENCE
- BARRICADES TYPE III WITHOUT, WITH SIGN (8' EQUIVALENT)
- SIGN ON PORTABLE SUPPORT
- FLEXIBLE TUBULAR MARKER POSTS & BASES
- TEMPORARY PAVEMENT
- WORK ZONE CLOSED TO TRAFFIC



**NOTES:**

CONSTRUCTION TRAFFIC SHALL BE LIMITED TO ONE DIRECTION AT A TIME WITHIN THE CROSS STREET ACCESS AREA.

DEPENDING ON SITE CONDITIONS, TEMPORARY FLAGGING MAY BE REQUIRED BY THE ENGINEER IN THE FIELD.

MAINTAIN TYPE III BARRICADES DURING NON-WORKING HOURS.

DRIVING SURFACE AND WALKING SURFACE SHALL BE MAINTAINED AS 1/4" BASE AGGREGATE DENSE OR AS TEMPORARY PAVEMENT, AS DIRECTED BY THE ENGINEER IN THE FIELD.

AT THE CONTRACTOR REQUEST, AS DIRECTED BY THE ENGINEER, SAFETY FENCE MAY BE SUBSTITUTED WITH TYPE III BARRICADES.

SIDEROAD SHALL REMAIN CLOSED TO CROSS TRAFFIC DURING AND BETWEEN THE PLACEMENT OF CONCRETE CURB, SIDEWALK, AND FINAL ASPHALTIC SURFACE.

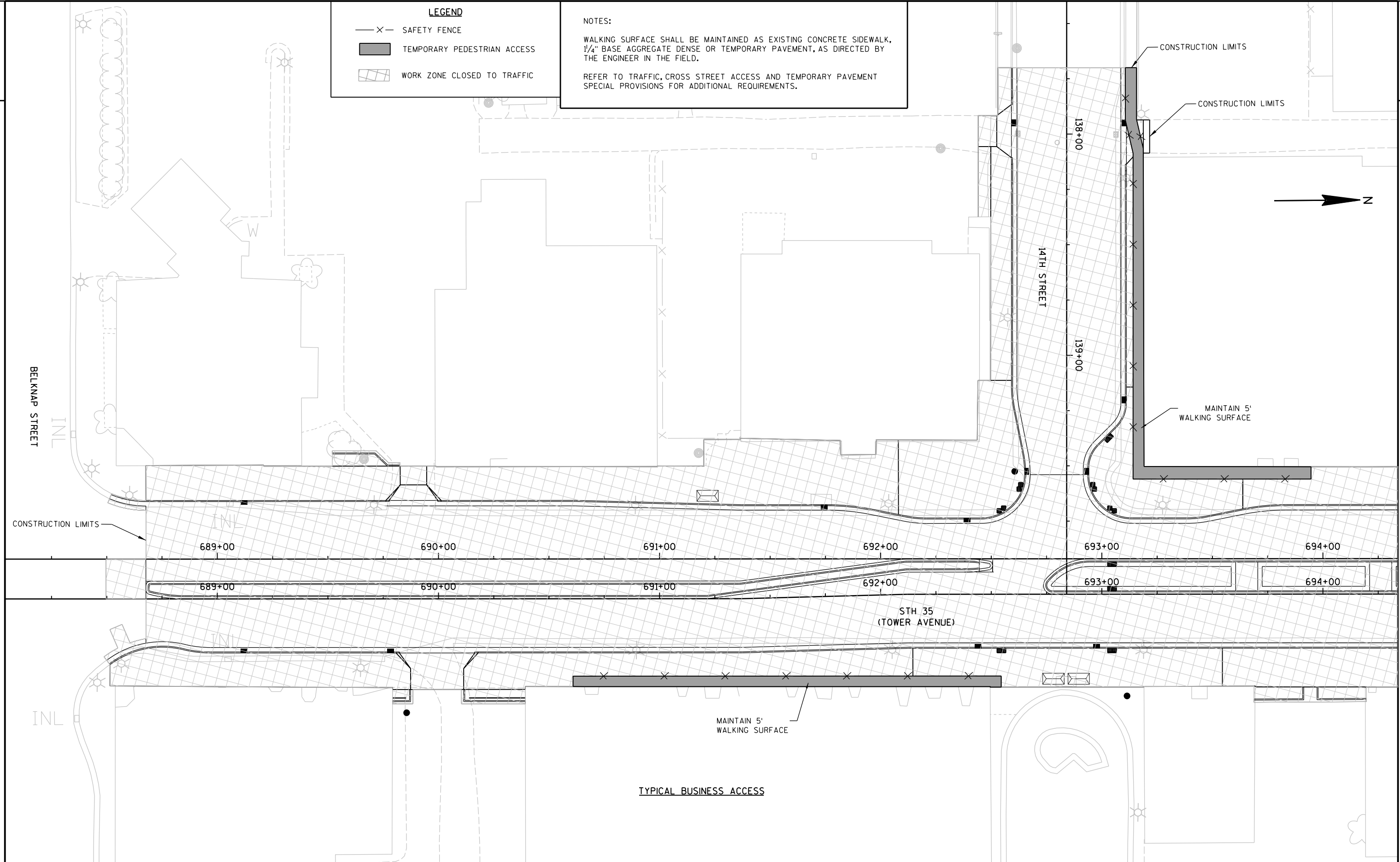
**LEGEND**

- X — SAFETY FENCE
- TEMPORARY PEDESTRIAN ACCESS
- ▨ WORK ZONE CLOSED TO TRAFFIC








**NOTES:**

WALKING SURFACE SHALL BE MAINTAINED AS EXISTING CONCRETE SIDEWALK, 1/4" BASE AGGREGATE DENSE OR TEMPORARY PAVEMENT, AS DIRECTED BY THE ENGINEER IN THE FIELD.

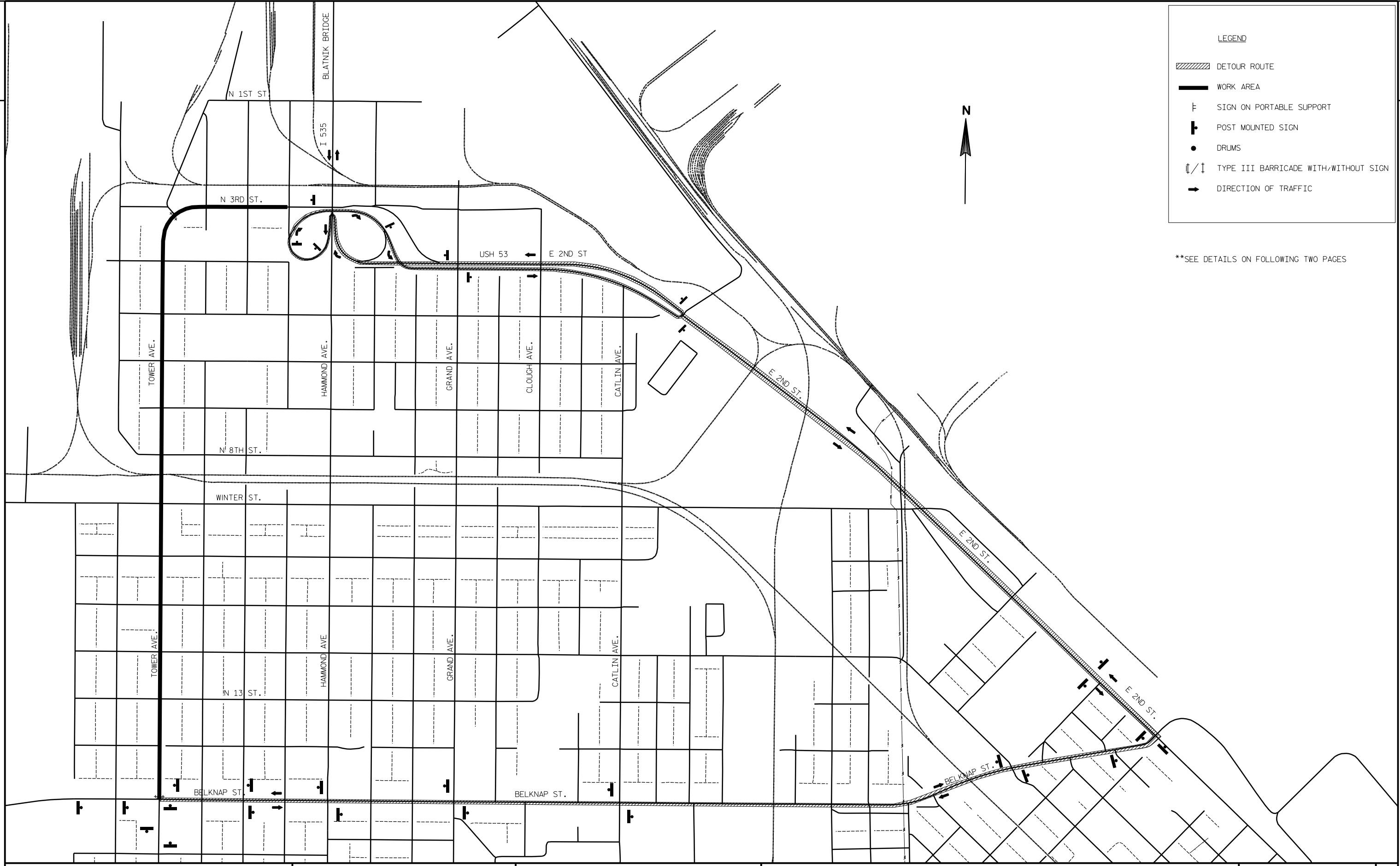
REFER TO TRAFFIC, CROSS STREET ACCESS AND TEMPORARY PAVEMENT SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.

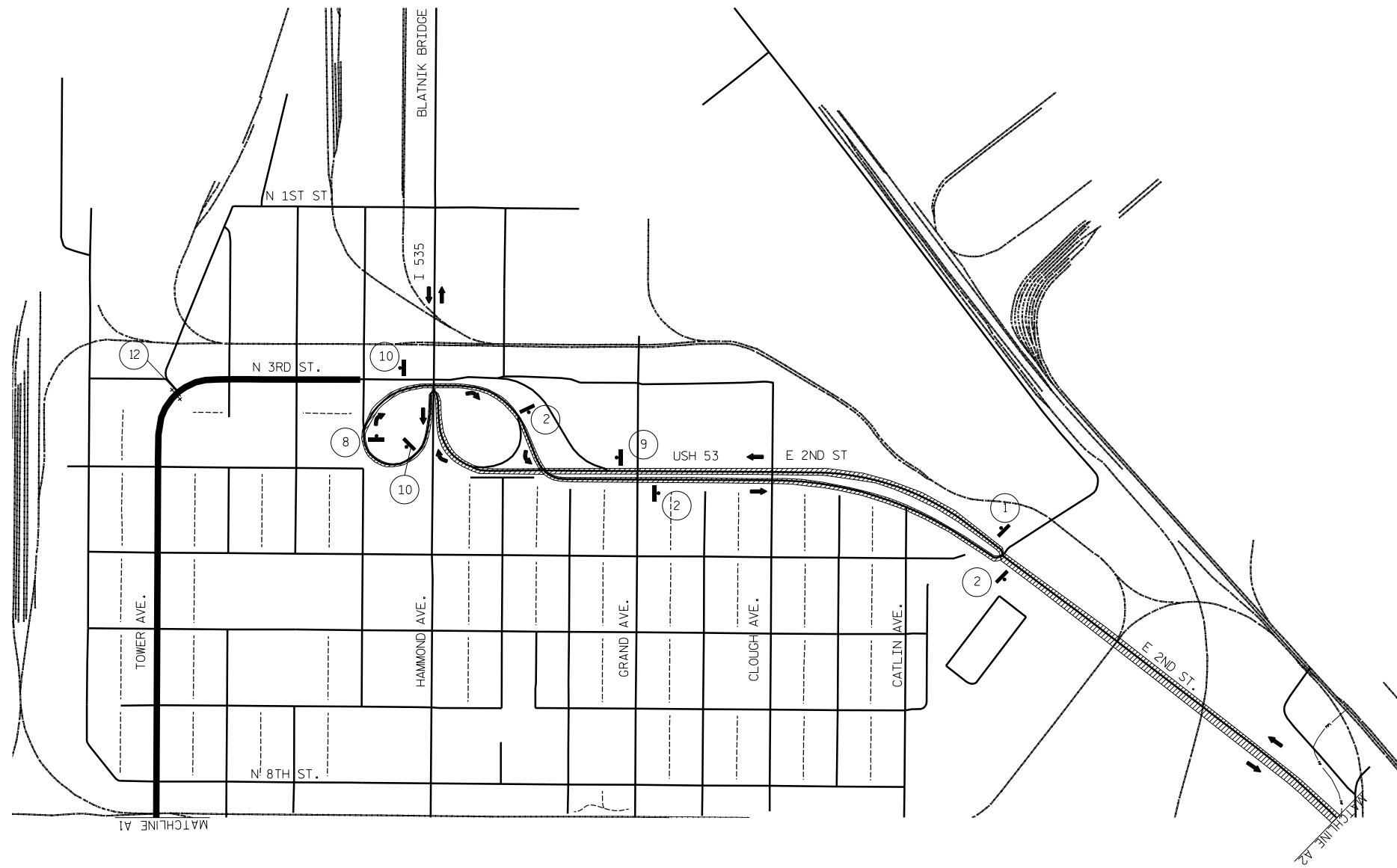


LEGEND

-  DETOUR ROUTE
-  WORK AREA
-  SIGN ON PORTABLE SUPPORT
-  POST MOUNTED SIGN
-  DRUMS
-  TYPE III BARRICADE WITH/WITHOUT SIGN
-  DIRECTION OF TRAFFIC

\*\*SEE DETAILS ON FOLLOWING TWO PAGES





**LEGEND**

- DETOUR ROUTE
- WORK AREA
- SIGN ON PORTABLE SUPPORT
- POST MOUNTED SIGN
- DRUMS
- TYPE III BARRICADE WITH/WITHOUT SIGN
- DIRECTION OF TRAFFIC

**GENERAL NOTES:**

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

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

UNLESS OTHERWISE NOTED, THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRICeways AT ALL TIMES DURING CONSTRUCTION.

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

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

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

M4-8  24" X 12"	M4-8  24" X 12"	M4-8  24" X 12"	M4-8  24" X 12"	M4-6  24" X 12"	
M3-1  24" X 12"	M3-1  24" X 12"	M3-3  24" X 12"	M3-1  24" X 12"	M4-8  24" X 12"	
M1-6  24" X 24"	M1-6  24" X 24"	M1-6  24" X 24"	M1-6  24" X 24"	M1-6  24" X 24"	M1-6  24" X 24"
(1)	M05-1L  21" X 21"	M05-1L  21" X 21"	M05-1L  21" X 21"	M6-1  21" X 21"	(9)
	OR	OR	OR	(7)	
	M05-1R  21" X 21"	M05-1R  21" X 21"	M05-1R  21" X 21"		
	(3-L) OR (3-R)	(5-L) OR (5-R)			(11)
M4-8  24" X 12"	M4-8  24" X 12"	M4-8  24" X 12"	M4-8  24" X 12"		
M3-3  24" X 12"	M3-1  24" X 12"	M3-3  24" X 12"	M3-3  24" X 12"		(12)
M1-6  24" X 24"	M1-6  24" X 24"	M1-6  24" X 24"	M1-6  24" X 24"		
(2)	M06-1L  21" X 21"	M06-1L  21" X 21"	M06-1L  21" X 21"	M1-6  24" X 24"	(10)
	OR	OR	OR	M6-2R  21" X 21"	
	M06-1R  21" X 21"	M06-1R  21" X 21"	M06-1R  21" X 21"		(13)
	(4-L) OR (4-R)	(6-L) OR (6-R)			

GENERAL DETOUR NOTES:

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

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

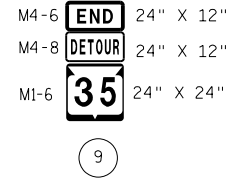
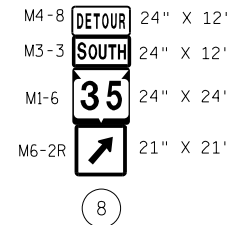
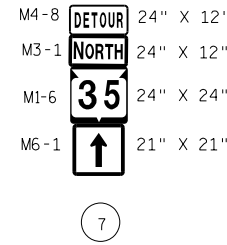
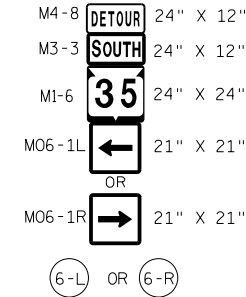
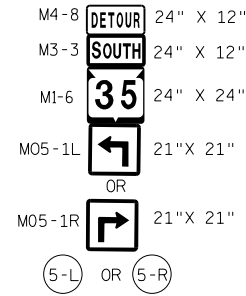
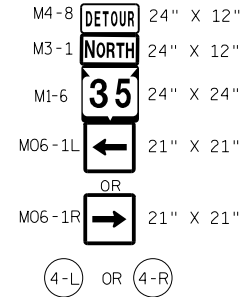
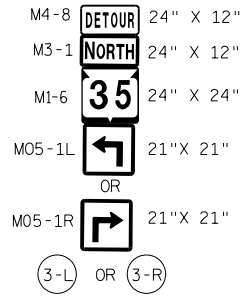
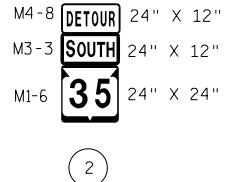
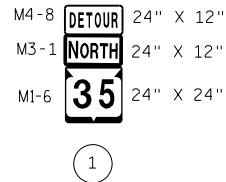
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UNLESS OTHERWISE NOTED, THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES DURING CONSTRUCTION.

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

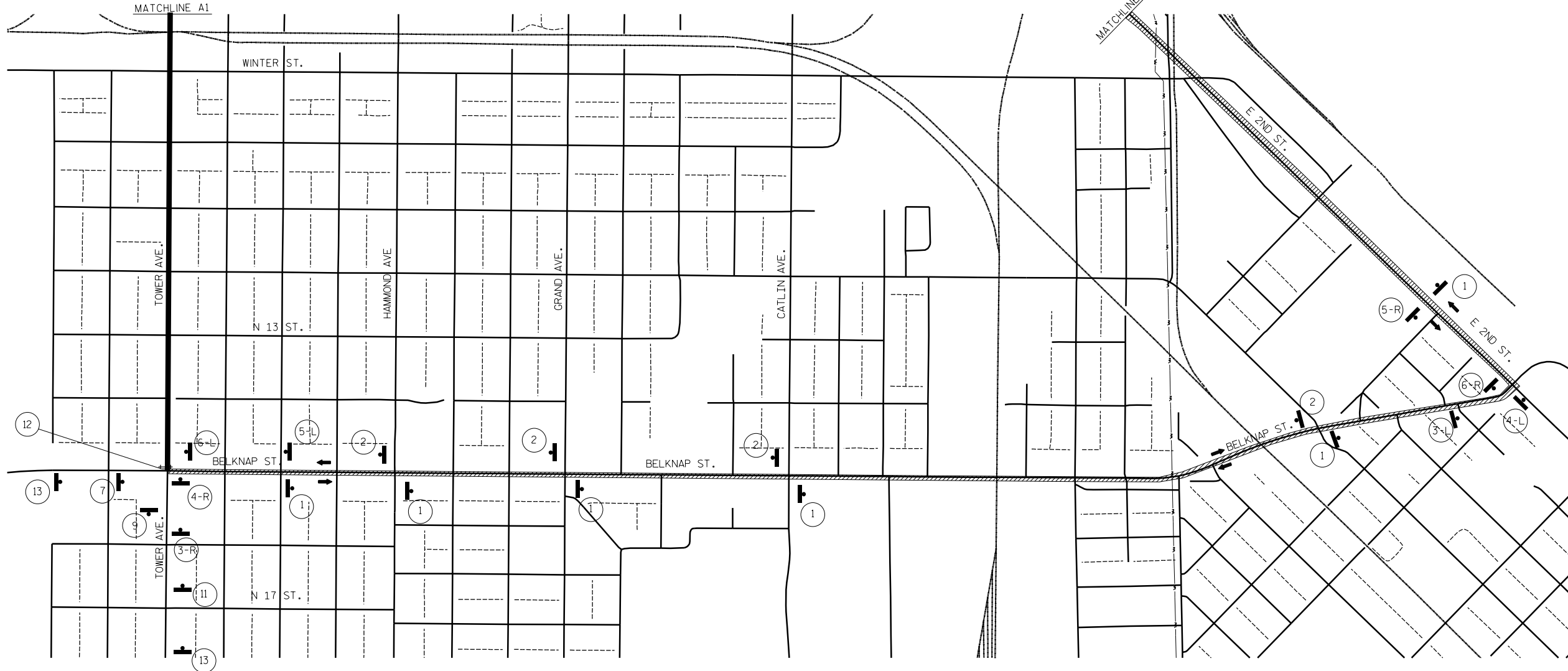
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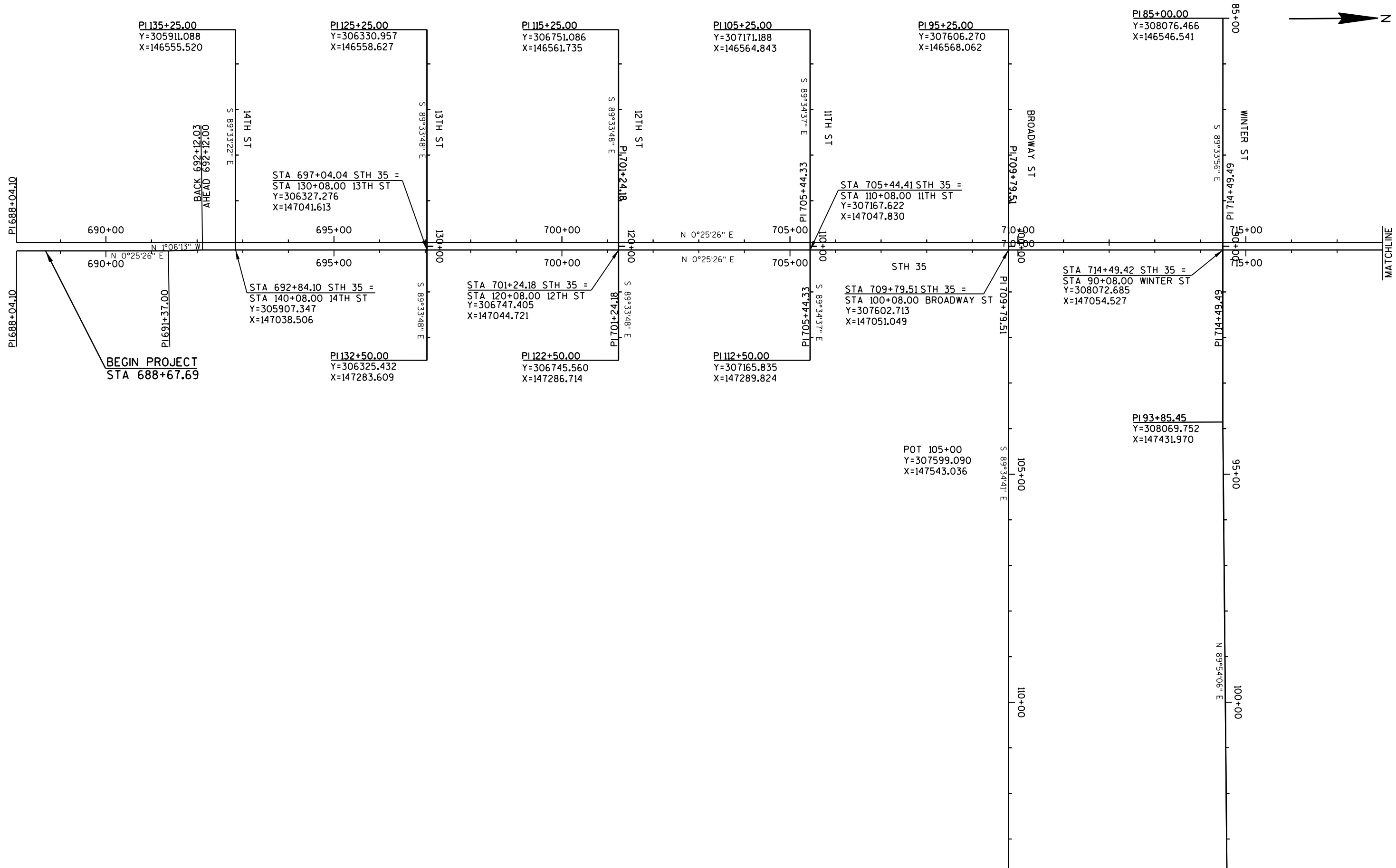


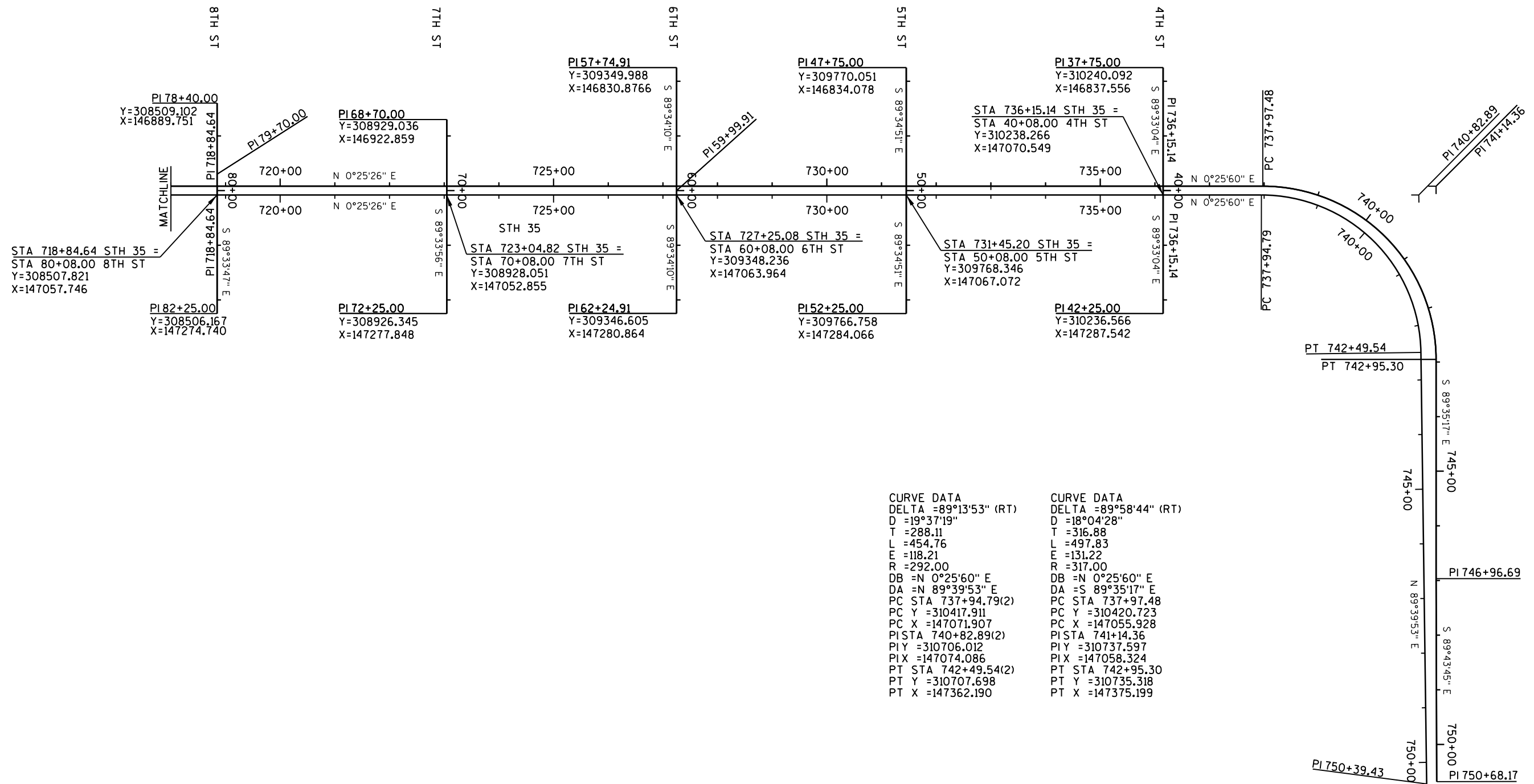
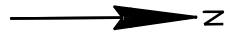
LEGEND: DETOUR ROUTE, WORK AREA, SIGN ON PORTABLE SUPPORT, POST MOUNTED SIGN, DRUMS, TYPE III BARRICADE WITH/WITHOUT SIGN, DIRECTION OF TRAFFIC

NOTES:









DATE 29JAN13

## ESTIMATE OF QUANTITIES

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1195-13-71 QUANTITY	1195-13-72 QUANTITY	8010-07-74 QUANTITY	8998-00-08 QUANTITY	8998-00-21 QUANTITY
0010	108.3100.S	INCENTIVE/DISINCENTIVE FOR INTERIM COMPLETION OF WORK	CD	1.000	1.000				
0020	204.0100	REMOVING PAVEMENT	SY	44,148.000	36,822.000	150.000		7,176.000	
0030	204.0115	REMOVING ASPHALTIC SURFACE BUTT JOINTS	SY	2,264.000	1,165.000			1,099.000	
0040	204.0120	REMOVING ASPHALTIC SURFACE MILLING	SY	9,691.000	6,041.000			3,650.000	
0050	204.0150	REMOVING CURB & GUTTER	LF	3,530.000	1,298.000	112.000		2,120.000	
0060	204.0155	REMOVING CONCRETE SIDEWALK	SY	22,142.000	17,369.000	17.000	424.000	4,332.000	
0070	204.0170	REMOVING FENCE	LF	75.000	75.000				
0080	204.0195	REMOVING CONCRETE BASES	EACH	106.000	8.000			17.000	81.000
0090	204.0210	REMOVING MANHOLES	EACH	27.000	24.000			3.000	
0100	204.0220	REMOVING INLETS	EACH	42.000	29.000			13.000	
0110	204.0245	REMOVING STORM SEWER (SIZE) 03. 6-INCH	LF	117.000	24.000			93.000	
0120	204.0245	REMOVING STORM SEWER (SIZE) 04. 8-INCH	LF	35.000	35.000				
0130	204.0245	REMOVING STORM SEWER (SIZE) 05. 10-INCH	LF	34.000	34.000				
0140	204.0245	REMOVING STORM SEWER (SIZE) 06. 12-INCH	LF	1,220.000	895.000			325.000	
0150	204.0245	REMOVING STORM SEWER (SIZE) 07. 15-INCH	LF	263.000	239.000			24.000	
0160	204.0245	REMOVING STORM SEWER (SIZE) 08. 18-INCH	LF	404.000	382.000			22.000	
0170	204.0245	REMOVING STORM SEWER (SIZE) 09. 21-INCH	LF	69.000	69.000				
0180	204.0245	REMOVING STORM SEWER (SIZE) 10. 24-INCH	LF	393.000	342.000			51.000	
0190	204.0245	REMOVING STORM SEWER (SIZE) 11. 27-INCH	LF	277.000	277.000				
0200	204.0245	REMOVING STORM SEWER (SIZE) 13. 42-INCH	LF	242.000				242.000	
0210	204.0245	REMOVING STORM SEWER (SIZE) 14. 48-INCH	LF	41.000				41.000	
0220	205.0100	EXCAVATION COMMON	CY	68,430.000	53,220.000			15,210.000	
0230	205.0501.S	EXCAVATION, HAULING, AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL	TON	3,914.000	2,672.000	675.000		567.000	
0240	211.0100	PREPARE FOUNDATION FOR ASPHALTIC PAVING (PROJECT) 01. 1195-13-71	LS	1.000	1.000				
0250	211.0100	PREPARE FOUNDATION FOR ASPHALTIC PAVING (PROJECT) 02. 8998-00-08	LS	1.000				1.000	
0260	211.0200	PREPARE FOUNDATION FOR CONCRETE PAVEMENT (PROJECT) 01. 1195-13-71	LS	1.000	1.000				
0270	213.0100	FINISHING ROADWAY (PROJECT) 01. 1195-13-71	EACH	1.000	1.000				
0280	213.0100	FINISHING ROADWAY (PROJECT) 02. 8998-00-08	EACH	1.000				1.000	
0300	214.0100	OBLITERATING OLD ROAD	STA	3.000	3.000				
0310	305.0115	BASE AGGREGATE DENSE 3/4-INCH	CY	3.000		3.000			
0320	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	33,394.000	21,049.000			12,345.000	
0330	310.0110	BASE AGGREGATE OPEN GRADED	TON	2,580.000	2,364.000			216.000	
0340	311.0115	BREAKER RUN	CY	4.000		4.000			
0350	312.0115	SELECT CRUSHED MATERIAL	CY	23,352.000	18,632.000			4,720.000	
0370	415.0210	CONCRETE PAVEMENT GAPS	EACH	8.000	8.000				
0380	416.0160	CONCRETE DRIVEWAY 6-INCH	SY	1,255.000	606.000			649.000	
0390	416.0260	CONCRETE DRIVEWAY HES 6-INCH	SY	131.000				131.000	
0400	416.0610	DRIILLED TIE BARS	EACH	257.000	257.000				
0410	416.0620	DRIILLED DOWEL BARS	EACH	839.000	839.000				
0420	416.1710	CONCRETE PAVEMENT REPAIR	SY	162.000	162.000				
0430	416.1720	CONCRETE PAVEMENT REPLACEMENT	SY	608.000	459.000	149.000			
0440	455.0145	ASPHALTIC MATERIAL PG64-34P	TON	433.000	183.000			250.000	
0450	455.0605	TACK COAT	GAL	1,094.000	504.000			590.000	
0460	460.1103	HMA PAVEMENT TYPE E-3	TON	7,037.000	2,876.000			4,161.000	
0470	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	4,635.000	1,965.000			2,670.000	
0480	465.0105	ASPHALTIC SURFACE	TON	183.000	183.000				
0500	520.8000	CONCRETE COLLARS FOR PIPE	EACH	6.000	3.000			3.000	
0510	601.0405	CONCRETE CURB & GUTTER 18-INCH TYPE A	LF	34.000			34.000		

3

3

DATE 29JAN13

## ESTIMATE OF QUANTITIES

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1195-13-71 QUANTITY	1195-13-72 QUANTITY	8010-07-74 QUANTITY	8998-00-08 QUANTITY	8998-00-21 QUANTITY
0520	601.0407	CONCRETE CURB & GUTTER 18-INCH TYPE D	LF	2,081.000	2,081.000				
0530	601.0409	CONCRETE CURB & GUTTER 30-INCH TYPE A	LF	451.000	98.000	112.000	241.000		
0540	601.0411	CONCRETE CURB & GUTTER 30-INCH TYPE D	LF	5,936.000	1,665.000			4,271.000	
0550	601.0600	CONCRETE CURB PEDESTRIAN	LF	136.000			136.000		
0560	602.0415	CONCRETE SIDEWALK 6-INCH	SF	204,668.000	143,121.000		24,825.000	36,722.000	
0570	602.0420	CONCRETE SIDEWALK 7-INCH	SF	325.000		325.000			
0580	602.0515	CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA	SF	816.000	16.000		800.000		
0590	602.1500	CONCRETE STEPS	SF	38.000				38.000	
0600	602.2400	CONCRETE SAFETY ISLANDS	SF	3,998.000			3,998.000		
0610	608.0312	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	LF	3,288.000	2,311.000			977.000	
0620	608.0315	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH	LF	831.000	679.000			152.000	
0630	608.0318	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH	LF	567.000	366.000			201.000	
0640	608.0321	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 21-INCH	LF	43.000	43.000				
0650	608.0324	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH	LF	2,279.000	1,439.000			840.000	
0660	608.0327	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 27-INCH	LF	340.000	340.000				
0670	608.0336	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 36-INCH	LF	429.000	429.000				
0680	608.0342	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 42-INCH	LF	1,317.000	1,317.000				
0690	608.0348	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 48-INCH	LF	155.000	88.000			67.000	
0700	611.0430	RECONSTRUCTING INLETS	EACH	7.000	7.000				
0710	611.0530	MANHOLE COVERS TYPE J	EACH	58.000	49.000			9.000	
0720	611.0600	INLET COVERS TYPE A	EACH	3.000	3.000				
0730	611.0624	INLET COVERS TYPE H	EACH	61.000	56.000			5.000	
0740	611.0639	INLET COVERS TYPE H-S	EACH	59.000	25.000			34.000	
0750	611.0651	INLET COVERS TYPE S	EACH	2.000	2.000				
0760	611.2004	MANHOLES 4-FT DIAMETER	EACH	40.000	26.000			14.000	
0770	611.2005	MANHOLES 5-FT DIAMETER	EACH	7.000	7.000				
0780	611.2006	MANHOLES 6-FT DIAMETER	EACH	11.000	10.000			1.000	
0790	611.2007	MANHOLES 7-FT DIAMETER	EACH	3.000	1.000			2.000	
0800	611.2008	MANHOLES 8-FT DIAMETER	EACH	13.000	11.000			2.000	
0810	611.3220	INLETS 2X2-FT	EACH	3.000	3.000				
0820	611.3230	INLETS 2X3-FT	EACH	86.000	57.000			29.000	
0830	611.8110	ADJUSTING MANHOLE COVERS	EACH	6.000	6.000				
0840	611.8115	ADJUSTING INLET COVERS	EACH	4.000	4.000				
0850	612.0106	PIPE UNDERDRAIN 6-INCH	LF	13,792.000	10,376.000	112.000		3,304.000	
0860	612.0902.S	INSULATION BOARD POLYSTYRENE (INCH) 01. 4-INCH	SY	519.000		519.000			
0870	616.0700.S	FENCE SAFETY	LF	3,201.000	3,201.000				
0880	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 1195-13-71	EACH	1.000	1.000				
0890	619.1000	MOBILIZATION	EACH	0.988	0.868	0.120			
0900	621.1100	LANDMARK REFERENCE MONUMENTS AND CAST IRON COVERS	EACH	5.000	5.000				
0910	623.0200	DUST CONTROL SURFACE TREATMENT	SY	162,684.000	131,392.000			31,292.000	
0920	624.0100	WATER	MGAL	4.200	4.200				
0930	625.0100	TOPSOIL	SY	1,620.000	1,475.000	145.000			

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1195-13-71 QUANTITY	1195-13-72 QUANTITY	8010-07-74 QUANTITY	8998-00-08 QUANTITY	8998-00-21 QUANTITY
0950	627.0200	MULCHING	SY	1,620.000	1,475.000	145.000			
0960	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	4.000	4.000				
0970	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	4.000	4.000				
0980	628.7005	INLET PROTECTION TYPE A	EACH	111.000	75.000			36.000	
0990	628.7015	INLET PROTECTION TYPE C	EACH	147.000	103.000			44.000	
1000	628.7560	TRACKING PADS	EACH	4.000	4.000				
1010	629.0210	FERTILIZER TYPE B	CWT	2.501	2.060	0.091		0.350	
1020	630.0140	SEEDING MIXTURE NO. 40	LB	30.000	27.000	3.000			
1040	631.0300	SOD WATER	MGAL	6.700	5.000			1.700	
1050	631.1000	SOD LAWN	SY	2,341.000	1,778.000			563.000	
1060	632.0101	TREES (SPECIES, ROOT, SIZE) 01. COMMON HACKBERRY, B&B, 3-INCH CALIPE	EACH	18.000	18.000				
1070	632.0101	TREES (SPECIES, ROOT, SIZE) 02. DISCOVERY ELM, B&B, 3-INCH CALIPE	EACH	29.000	29.000				
1080	632.0101	TREES (SPECIES, ROOT, SIZE) 03. HARVEST GOLD LINDEN, B&B 3-INCH CALIPE, 7- FEET TO LOWEST BRANCH	EACH	31.000	31.000				
1090	632.0101	TREES (SPECIES, ROOT, SIZE) 04. IVORY SILK LILAC, B&B, 2-INCH CALIPE, 6- FEET TO LOWEST BRANCH	EACH	68.000	68.000				
1100	632.0101	TREES (SPECIES, ROOT, SIZE) 05. NORTHERN ACCLAIM HONEYLOCUST, B&B, 3 -INCH CALIPE, 7.5- FEET TO LOWEST BRANCH	EACH	74.000	74.000				
1110	632.0101	TREES (SPECIES, ROOT, SIZE) 06. NORTHWOOD MAPLE, B&B, 3-INCH CALIPE	EACH	20.000	20.000				
1120	632.0201	SHRUBS (SPECIES, ROOT, SIZE) 01. ALPINE SPIREA, 3 GAL, 12-INCH HEIGHT	EACH	461.000	461.000				
1130	632.0201	SHRUBS (SPECIES, ROOT, SIZE) 02. DAKOTA GOLD SPIREA, 3 GAL, 24-INCH HEIGHT	EACH	126.000	126.000				
1140	632.0201	SHRUBS (SPECIES, ROOT, SIZE) 03. LITTLE PRINCESS SPIREA, 3 GAL, 24-INCH HEIGHT	EACH	7.000	7.000				
1150	632.0201	SHRUBS (SPECIES, ROOT, SIZE) 04. PRAIRIE PETITE LILAC, 3 GAL, 24-INCH HEIGHT	EACH	168.000	168.000				
1160	632.0201	SHRUBS (SPECIES, ROOT, SIZE) 05. BLUE FOREST JUNIPER, 3 GAL, 12-INCH HEIGHT	EACH	147.000	147.000				
1170	632.0201	SHRUBS (SPECIES, ROOT, SIZE) 06. TEENY MUGHOPINE, 3 GAL, 18-INCH HEIGHT	EACH	456.000	456.000				
1180	632.9101	LANDSCAPE PLANTING SURVEILLANCE AND CARE CYCLES	EACH	20.000	20.000				
1190	634.0811	POSTS TUBULAR STEEL 2X2-1NCH X 11-FT	EACH	17.000	17.000				
1200	634.0812	POSTS TUBULAR STEEL 2X2-1NCH X 12-FT	EACH	6.000	6.000				
1210	637.0202	SIGNS REFLECTIVE TYPE II	SF	997.970	861.470		136.500		
1220	637.0402	SIGNS REFLECTIVE FOLDING TYPE II	SF	20.720	20.720				
1230	638.2602	REMOVING SIGNS TYPE II	EACH	185.000	185.000				
1240	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	32.000	32.000				
1250	642.5401	FIELD OFFICE TYPE D	EACH	1.000	1.000				
1260	643.0100	TRAFFIC CONTROL (PROJECT) 01. 1195-13-71	EACH	1.000	1.000				
1270	643.0100	TRAFFIC CONTROL (PROJECT) 02. 1195-13-72	EACH	1.000		1.000			
1290	643.0300	TRAFFIC CONTROL DRUMS	DAY	12,716.000	12,716.000				
1300	643.0410	TRAFFIC CONTROL BARRICADES TYPE II	DAY	19,608.000	19,608.000				
1310	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	26,202.000	26,202.000				
1320	643.0500	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS	EACH	100.000	100.000				
1330	643.0600	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES	EACH	100.000	100.000				
1340	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	70,896.000	70,896.000				

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1195-13-71 QUANTITY	1195-13-72 QUANTITY	8010-07-74 QUANTITY	8998-00-08 QUANTITY	8998-00-21 QUANTITY
1350	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	1,870.000	1,870.000				
1360	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	374.000	374.000				
1370	643.0900	TRAFFIC CONTROL SIGNS	DAY	20,476.000	20,476.000				
1380	643.0920	TRAFFIC CONTROL COVERING SIGNS TYPE II	EACH	10.000	10.000				
1390	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	28.000	28.000				
1400	643.2000	TRAFFIC CONTROL DETOUR (PROJECT) 01. 1195-13-71	EACH	1.000	1.000				
1410	643.3000	TRAFFIC CONTROL DETOUR SIGNS	DAY	17,391.000	17,391.000				
1420	645.0111	GEOTEXTILE FABRIC TYPE DF SCHEDULE A	SY	6,855.000	5,198.000			1,657.000	
1430	645.0140	GEOTEXTILE FABRIC TYPE SAS	SY	18.000		18.000			
1440	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	33,495.000	26,632.000			6,863.000	
1450	646.0126	PAVEMENT MARKING EPOXY 8-INCH	LF	4,367.000	3,467.000			900.000	
1460	646.0600	REMOVING PAVEMENT MARKINGS	LF	50.000	50.000				
1470	647.0110	PAVEMENT MARKING RAILROAD CROSSINGS EPOXY	EACH	2.000	2.000				
1480	647.0156	PAVEMENT MARKING ARROWS EPOXY TYPE 1	EACH	2.000	2.000				
1490	647.0166	PAVEMENT MARKING ARROWS EPOXY TYPE 2	EACH	61.000	49.000			12.000	
1500	647.0176	PAVEMENT MARKING ARROWS EPOXY TYPE 3	EACH	3.000	3.000				
1510	647.0206	PAVEMENT MARKING ARROWS BIKE LANE EPOXY	EACH	43.000	43.000				
1520	647.0256	PAVEMENT MARKING SYMBOLS EPOXY	EACH	6.000				6.000	
1530	647.0306	PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY	EACH	19.000	19.000				
1540	647.0336	PAVEMENT MARKING SYMBOLS BIKE SHARED LANE EPOXY	EACH	6.000	6.000				
1550	647.0406	PAVEMENT MARKING WORDS BIKE LANE EPOXY	EACH	48.000	48.000				
1560	647.0456	PAVEMENT MARKING CURB EPOXY	LF	908.000	908.000				
1570	647.0566	PAVEMENT MARKING STOP LINE EPOXY 18-INCH	LF	514.000	298.000			216.000	
1580	647.0606	PAVEMENT MARKING ISLAND NOSE EPOXY	EACH	28.000	28.000				
1590	647.0656	PAVEMENT MARKING PARKING STALL EPOXY	LF	2,146.000				2,146.000	
1600	647.0726	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH	LF	1,030.000	309.000			721.000	
1620	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	360.000	360.000				
1630	650.4000	CONSTRUCTION STAKING STORM SEWER	EACH	171.000	122.000			49.000	
1640	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	15,970.000	11,466.000			4,504.000	
1650	650.5000	CONSTRUCTION STAKING BASE	LF	3,068.000	816.000			2,252.000	
1660	650.5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	LF	23,176.000	11,152.000		7,735.000	4,289.000	
1670	650.7000	CONSTRUCTION STAKING CONCRETE PAVEMENT	LF	4,917.000	4,917.000				
1680	650.8000	CONSTRUCTION STAKING RESURFACING REFERENCE	LF	626.000				626.000	
1690	650.8500	CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (PROJECT) 01. 1195-13-71	LS	1.000	1.000				
1700	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 1195-13-71	LS	1.000	1.000				
1720	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	10,080.000	7,500.000			2,580.000	
1730	652.0205	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3/4-INCH	LF	8,383.000					8,383.000
1740	652.0210	CONDUIT RIGID NONMETALLIC SCHEDULE 40 1-INCH	LF	159.000					159.000
1750	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	12,743.000	913.000		23.000	1,596.000	10,211.000
1760	652.0235	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	LF	1,945.000	1,945.000				
1790	652.0800	CONDUIT LOOP DETECTOR	LF	2,682.000	2,682.000				
1810	653.0120	PULL BOXES STEEL 18X24-INCH	EACH	4.000					4.000
1820	653.0135	PULL BOXES STEEL 24X36-INCH	EACH	5.000	5.000				

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1830	653.0140	PULL BOXES STEEL 24X42-INCH	EACH	19.000	19.000				
1840	653.0145	PULL BOXES STEEL 24X48-INCH	EACH	8.000					8.000
1850	653.0905	REMOVING PULL BOXES	EACH	7.000	7.000				
1860	654.0101	CONCRETE BASES TYPE 1	EACH	7.000	5.000		2.000		
1870	654.0200	CONCRETE CONTROL CABINET BASES TYPE 6	EACH	3.000					3.000
1880	654.0217	CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL	EACH	1.000	1.000				
1890	655.0230	CABLE TRAFFIC SIGNAL 5-14 AWG	LF	840.000	840.000				
1900	655.0260	CABLE TRAFFIC SIGNAL 12-14 AWG	LF	1,956.000	1,956.000				
1910	655.0305	CABLE TYPE UF 2-12 AWG GROUNDED	LF	545.000	545.000				
1920	655.0515	ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG	LF	1,235.000	1,235.000				
1930	655.0610	ELECTRICAL WIRE LIGHTING 12 AWG	LF	31,873.000	576.000			2,760.000	28,537.000
1940	655.0615	ELECTRICAL WIRE LIGHTING 10 AWG	LF	1,246.000					1,246.000
1950	655.0620	ELECTRICAL WIRE LIGHTING 8 AWG	LF	4,152.000					4,152.000
1960	655.0625	ELECTRICAL WIRE LIGHTING 6 AWG	LF	41,610.000				5,298.000	36,312.000
1970	655.0630	ELECTRICAL WIRE LIGHTING 4 AWG	LF	41,442.000				5,298.000	36,144.000
1980	655.0700	LOOP DETECTOR LEAD IN CABLE	LF	3,487.000	3,487.000				
1990	655.0800	LOOP DETECTOR WIRE	LF	5,915.000	5,915.000				
2000	656.0200	ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 01. STH 35 (TOWER AVE) & WINTER ST	LS	1.000	1.000				
2020	656.0400	ELECTRICAL SERVICE MAIN LUGS ONLY METER PEDESTAL (LOCATION) 01. A	LS	1.000					1.000
2030	656.0400	ELECTRICAL SERVICE MAIN LUGS ONLY METER PEDESTAL (LOCATION) 02. B	LS	1.000					1.000
2040	656.0400	ELECTRICAL SERVICE MAIN LUGS ONLY METER PEDESTAL (LOCATION) 03. C	LS	1.000					1.000
2050	657.0100	PEDESTAL BASES	EACH	7.000	5.000		2.000		
2060	657.0405	TRAFFIC SIGNAL STANDARDS ALUMINUM 3.5-FT	EACH	2.000			2.000		
2070	657.0415	TRAFFIC SIGNAL STANDARDS ALUMINUM 11-FT	EACH	1.000	1.000				
2080	657.0420	TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT	EACH	4.000	4.000				
2100	658.0110	TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL	EACH	18.000	18.000				
2110	658.0115	TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL	EACH	2.000	2.000				
2120	658.0215	BACKPLATES SIGNAL FACE 3 SECTION 12-INCH	EACH	18.000	18.000				
2130	658.0220	BACKPLATES SIGNAL FACE 4 SECTION 12-INCH	EACH	2.000	2.000				
2140	658.0416	PEDESTRIAN SIGNAL FACE 16-INCH	EACH	8.000	8.000				
2150	658.0500	PEDESTRIAN PUSH BUTTONS	EACH	8.000	8.000				
2160	658.0600	LED MODULES 12-INCH RED BALL	EACH	12.000	12.000				
2170	658.0605	LED MODULES 12-INCH YELLOW BALL	EACH	12.000	12.000				
2180	658.0610	LED MODULES 12-INCH GREEN BALL	EACH	12.000	12.000				
2190	658.0615	LED MODULES 12-INCH RED ARROW	EACH	8.000	8.000				
2200	658.0620	LED MODULES 12-INCH YELLOW ARROW	EACH	16.000	16.000				
2210	658.0625	LED MODULES 12-INCH GREEN ARROW	EACH	2.000	2.000				
2220	658.0635	LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH	EACH	8.000	8.000				
2230	658.5069	SIGNAL MOUNTING HARDWARE (LOCATION) 01. STH 35 (TOWER AVE) & WINTER ST	LS	1.000	1.000				
2260	661.0400.S	LIGHTING CONTROL CABINET (TYPE) 01. TYPE 3060	EACH	3.000					3.000
2270	690.0150	SAWING ASPHALT	LF	4,472.000	1,946.000			2,526.000	
2280	690.0250	SAWING CONCRETE	LF	70,755.000	67,907.000	124.000		2,724.000	
2290	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	8,390.000	8,390.000				
2300	999.1000.S	SEISMOGRAPH	LS	1.000	1.000				
2310	999.1500.S	CRACK AND DAMAGE SURVEY	LS	1.000	1.000				

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2320	ASP. 1TOA	ON-THE-JOB TRAINING APPRENTICE AT \$5.00/HR	HRS	2,100.000	2,100.000				
2330	ASP. 1TOG	ON-THE-JOB TRAINING GRADUATE AT \$5.00/HR	HRS	2,400.000	2,400.000				
2340	SPV. 0035	SPECIAL 01. ABANDONING SANITARY SEWER	CY	9.000	9.000				
2350	SPV. 0035	SPECIAL 02. PLANTING MIXTURE	CY	995.900				995.900	
2360	SPV. 0035	SPECIAL 03. PLANTING MIXTURE-CU STRUCTURAL SOIL	CY	5,330.000	5,330.000				
2370	SPV. 0045	SPECIAL 01. CROSS STREET ACCESS	DAY	748.000	748.000				
2380	SPV. 0060	SPECIAL 01. REMOVE HYDRANT AND VALVE	EACH	19.000		19.000			
2390	SPV. 0060	SPECIAL 02. HYDRANT ASSEMBLY	EACH	26.000		26.000			
2400	SPV. 0060	SPECIAL 03. TAPPING TEE WITH ELECTROFUSION SADDLE, 1-INCH	EACH	75.000		75.000			
2410	SPV. 0060	SPECIAL 04. TAPPING TEE WITH ELECTROFUSION SADDLE, 2-INCH	EACH	5.000		5.000			
2420	SPV. 0060	SPECIAL 05. CURB STOP AND BOX, 1-INCH	EACH	75.000		75.000			
2430	SPV. 0060	SPECIAL 06. CURB STOP AND BOX, 2-INCH	EACH	5.000		5.000			
2440	SPV. 0060	SPECIAL 07. GATE VALVE & BOX 6-INCH	EACH	4.000		4.000			
2450	SPV. 0060	SPECIAL 08. GATE VALVE & BOX 8-INCH	EACH	13.000		13.000			
2460	SPV. 0060	SPECIAL 09. GATE VALVE & BOX 12-INCH	EACH	13.000		13.000			
2470	SPV. 0060	SPECIAL 10. CONNECT TO EXISTING WATER MAIN	EACH	12.000		12.000			
2480	SPV. 0060	SPECIAL 11. CONNECT TO EXISTING WATER SERVICES	EACH	84.000		84.000			
2490	SPV. 0060	SPECIAL 12. CONNECT TO WATER SERVICE AT METER	EACH	30.000		30.000			
2500	SPV. 0060	SPECIAL 13. TEMPORARY WATER SERVICE CONNECTION, 2-INCH AND SMALLER	EACH	80.000		80.000			
2510	SPV. 0060	SPECIAL 14. TEMPORARY WATER SERVICE CONNECTION, 4-INCH	EACH	2.000		2.000			
2520	SPV. 0060	SPECIAL 15. TEMPORARY WATER SERVICE CONNECTION, 6-INCH	EACH	2.000		2.000			
2530	SPV. 0060	SPECIAL 16. TEMPORARY WATER SERVICE CONNECTION, 8-INCH	EACH	1.000		1.000			
2540	SPV. 0060	SPECIAL 17. GRIT CHAMBER, TYPE A (20-FOOT)	EACH	5.000	5.000				
2550	SPV. 0060	SPECIAL 18. GRIT CHAMBER, TYPE B (80-FOOT)	EACH	1.000	1.000				
2560	SPV. 0060	SPECIAL 19. MANHOLE DIVERSION	EACH	7.000	7.000				
2570	SPV. 0060	SPECIAL 20. RESIDENTIAL MANHOLE, 18-INCH	EACH	1.000			1.000		
2580	SPV. 0060	SPECIAL 21. RESIDENTIAL MANHOLE, 24-INCH	EACH	1.000		1.000			
2600	SPV. 0060	SPECIAL 23. REMOVE SANITARY MANHOLE	EACH	14.000	14.000				
2610	SPV. 0060	SPECIAL 24. SEALING SANITARY PIPES	EACH	61.000	61.000				
2620	SPV. 0060	SPECIAL 25. SANITARY MANHOLE, 48-INCH	EACH	11.000	11.000				
2630	SPV. 0060	SPECIAL 26. SANITARY MANHOLE, 60-INCH	EACH	2.000	2.000				
2640	SPV. 0060	SPECIAL 27. SANITARY MANHOLE, 84-INCH	EACH	1.000	1.000				
2650	SPV. 0060	SPECIAL 28. ROTATE SANITARY MANHOLE CONES AND ADJUST SANITARY MANHOLE COVERS	EACH	12.000	12.000				
2660	SPV. 0060	SPECIAL 29. SANITARY SEWER CASTING	EACH	26.000	26.000				
2670	SPV. 0060	SPECIAL 30. SANITARY SEWER WYE, 24-INCH X 6-INCH	EACH	97.000	97.000				
2680	SPV. 0060	SPECIAL 31. INTERNAL CHIMNEY SEAL	EACH	14.000	14.000				
2690	SPV. 0060	SPECIAL 32. CONSTRUCTION STAKING SANITARY SEWER	EACH	14.000	14.000				
2700	SPV. 0060	SPECIAL 33. SALVAGE LIGHTING CONTROL CABINET	EACH	1.000				1.000	
2710	SPV. 0060	SPECIAL 34. SALVAGE LIGHTING UNIT	EACH	97.000			17.000	80.000	

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E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1195-13-71 QUANTITY	1195-13-72 QUANTITY	8010-07-74 QUANTITY	8998-00-08 QUANTITY	8998-00-21 QUANTITY
2720	SPV.0060	SPECIAL 35. LIGHTING UNIT TYPE SPECIAL 1	EACH	60.000					60.000
2730	SPV.0060	SPECIAL 36. LIGHTING UNIT TYPE SPECIAL 2	EACH	61.000				23.000	38.000
2740	SPV.0060	SPECIAL 37. UTILITY LINE OPENING (ULO)	EACH	50.000	50.000				
2750	SPV.0060	SPECIAL 38. CONCRETE BASE, TYPE SPECIAL	EACH	121.000				23.000	98.000
2760	SPV.0060	SPECIAL 39. CONCRETE BASES TYPE 13, CONTRACTOR SUPPLIED ANCHOR BOLTS & ROD TEMPLATE	EACH	4.000	4.000				
2770	SPV.0060	SPECIAL 40. SIGN POSTS BLACK 10-FOOT	EACH	9.000	9.000				
2780	SPV.0060	SPECIAL 41. SIGN POSTS BLACK 11-FOOT	EACH	42.000	42.000				
2790	SPV.0060	SPECIAL 42. SIGN POSTS BLACK 14-FOOT	EACH	1.000	1.000				
2800	SPV.0060	SPECIAL 43. CONCRETE PLANTER, INTERSECTION PLANTER	EACH	32.000					32.000
2810	SPV.0060	SPECIAL 44. TRANSIT AREA PLANTER	EACH	2.000					2.000
2820	SPV.0060	SPECIAL 45. METAL BENCH	EACH	76.000					76.000
2830	SPV.0060	SPECIAL 46. TRASH RECEPTACLE	EACH	37.000					37.000
2840	SPV.0060	SPECIAL 47. BIKE RACK	EACH	30.000					30.000
2850	SPV.0060	SPECIAL 48. TREE GRATE	EACH	73.000					73.000
2860	SPV.0060	SPECIAL 49. FEATHER REED GRASS	EACH	362.000	362.000				
2870	SPV.0060	SPECIAL 50. PRAIRIE DROPSEED	EACH	261.000	261.000				
2880	SPV.0060	SPECIAL 51. POLES TYPE 13 DECORATIVE	EACH	4.000	4.000				
2890	SPV.0060	SPECIAL 52. MONOTUBE ARMS 35-FT	EACH	2.000	2.000				
2900	SPV.0060	SPECIAL 53. MONOTUBE ARMS 40-FT	EACH	2.000	2.000				
2910	SPV.0060	SPECIAL 54. NO RIGHT TURN BLANK OUT LED SIGN	EACH	2.000	2.000				
2920	SPV.0060	SPECIAL 55. RECEPTACLE STANCHION, TYPE SPECIAL 1	EACH	74.000					74.000
2930	SPV.0060	SPECIAL 56. RECEPTACLE STANCHION, TYPE SPECIAL 2	EACH	46.000					46.000
2940	SPV.0060	SPECIAL 57. RECEPTACLE STANCHION, TYPE SPECIAL 3	EACH	1.000					1.000
2950	SPV.0060	SPECIAL 58. TRAFFIC SIGNAL LUMINAIRE ARM AND LUMINAIRE	EACH	4.000	4.000				
2960	SPV.0060	SPECIAL 59. STREET NAME STAMPING	EACH	86.000					86.000
2970	SPV.0060	SPECIAL 60. STREET SIGN BRACKET	EACH	42.000					42.000
2980	SPV.0060	SPECIAL 61. WAY FINDING POLE	EACH	2.000					2.000
2990	SPV.0060	SPECIAL 62. REPAIR INLET, TYPE 1	EACH	3.000	3.000				
3000	SPV.0060	SPECIAL 63. REPAIR INLET, TYPE 2	EACH	1.000	1.000				
3010	SPV.0060	SPECIAL 64. REPAIR INLET, TYPE 3	EACH	1.000	1.000				
3020	SPV.0060	SPECIAL 65. SPEAKER ASSEMBLY	EACH	56.000					56.000
3030	SPV.0060	SPECIAL 66. WILKENS 975XL-2"	EACH	2.000					2.000
3040	SPV.0060	SPECIAL 67. HUNTER PCZ-101 W/SLIP UNIONS	EACH	22.000					22.000
3050	SPV.0060	SPECIAL 68. HUNTER I-CORE	EACH	2.000					2.000
3060	SPV.0060	SPECIAL 69. NIBCO 2" ISOLATION VALVE	EACH	2.000					2.000
3070	SPV.0060	SPECIAL 70. HUNTER MINI-CLICK	EACH	2.000					2.000
3080	SPV.0060	SPECIAL 71. AIR RELIEF VALVE	EACH	22.000					22.000
3090	SPV.0060	SPECIAL 72. DRIP STUB UP	EACH	86.000					86.000
3100	SPV.0060	SPECIAL 73. FLUSH VALVE	EACH	86.000					86.000
3110	SPV.0060	SPECIAL 74. 2" METER	EACH	2.000					2.000
3120	SPV.0060	SPECIAL 75. PLD-06-18 DRIP RING	EACH	85.000					85.000
3130	SPV.0060	SPECIAL 76. HUNTER FREEZE-CLICK	EACH	2.000					2.000
3180	SPV.0060	SPECIAL 81. REMOVE EXISTING FLAG POLE AND BASE	EACH	1.000	1.000				
3190	SPV.0090	SPECIAL 01. REMOVE WATER MAIN	LF	7,885.000		7,885.000			
3200	SPV.0090	SPECIAL 02. WATER MAIN AND FITTINGS, 8-INCH HDPE	LF	2,117.000		2,117.000			

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E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1195-13-71 QUANTITY	1195-13-72 QUANTITY	8010-07-74 QUANTITY	8998-00-08 QUANTITY	8998-00-21 QUANTITY
3210	SPV.0090	SPECIAL 03. WATER MAIN AND FITTINGS, 12-INCH HDPE	LF	5,817.000		5,817.000			
3220	SPV.0090	SPECIAL 04. WATER SERVICE, 1-INCH HDPE	LF	3,557.000		3,557.000			
3230	SPV.0090	SPECIAL 05. WATER SERVICE, 2-INCH HDPE	LF	183.000		183.000			
3240	SPV.0090	SPECIAL 06. WATER SERVICE, 6-INCH HDPE	LF	126.000		126.000			
3250	SPV.0090	SPECIAL 07. WATER SERVICE, 8-INCH HDPE	LF	28.000		28.000			
3260	SPV.0090	SPECIAL 08. STEEL CASING PIPE, 24-INCH (JACKED)	LF	75.000		75.000			
3270	SPV.0090	SPECIAL 09. REMOVE SANITARY SEWER, 6-INCH	LF	3,050.000	3,050.000				
3280	SPV.0090	SPECIAL 10. REMOVE SANITARY SEWER, 12-INCH	LF	92.000	92.000				
3290	SPV.0090	SPECIAL 11. REMOVE SANITARY SEWER, 24-INCH	LF	4,525.000	4,525.000				
3300	SPV.0090	SPECIAL 12. REMOVE SANITARY SEWER, 26-INCH X 39-INCH	LF	50.000	50.000				
3310	SPV.0090	SPECIAL 13. REMOVE SANITARY SEWER, 38-INCH X 57-INCH	LF	50.000	50.000				
3320	SPV.0090	SPECIAL 14. SANITARY SEWER PIPE, 6-INCH	LF	4,850.000	4,850.000				
3330	SPV.0090	SPECIAL 15. SANITARY SEWER PIPE, 12-INCH	LF	96.000	96.000				
3340	SPV.0090	SPECIAL 16. SANITARY SEWER PIPE, 24-INCH	LF	4,525.000	4,525.000				
3350	SPV.0090	SPECIAL 17. SANITARY SEWER PIPE, 36-INCH	LF	50.000	50.000				
3360	SPV.0090	SPECIAL 18. SANITARY SEWER PIPE, 48-INCH	LF	50.000	50.000				
3370	SPV.0090	SPECIAL 19. CURED-IN-PLACE PIPE LINING (CIPP), 24-INCH	LF	154.000	154.000				
3380	SPV.0090	SPECIAL 20. SEWER FIELD QUALITY CONTROL - TELEVISION	LF	4,712.000	4,712.000				
3390	SPV.0090	SPECIAL 21. PVC PIPE, 4-INCH	LF	16.000	8.000			8.000	
3400	SPV.0090	SPECIAL 22. PVC PIPE, 6-INCH	LF	129.000	83.000			46.000	
3410	SPV.0090	SPECIAL 23. PVC PIPE, 8-INCH	LF	8.000	8.000				
3420	SPV.0090	SPECIAL 24. PVC PIPE, 10-INCH	LF	8.000				8.000	
3430	SPV.0090	SPECIAL 25. CONCRETE CURB AND GUTTER CURE AND SEAL TREATMENT	LF	24,935.000	10,889.000		9,637.000	4,409.000	
3440	SPV.0090	SPECIAL 26. CONCRETE CURE AND SEAL PCC SAWCUTS	LF	18,000.000	18,000.000				
3450	SPV.0090	SPECIAL 27. CONCRETE CURB & GUTTER 18-INCH TYPE G SPECIAL	LF	6,344.000			6,344.000		
3460	SPV.0090	SPECIAL 28. CONCRETE CURB AND GUTTER 30-INCH TYPE A SPECIAL	LF	9,557.000	6,753.000		2,804.000		
3470	SPV.0090	SPECIAL 29. CONCRETE CURB & GUTTER 18-INCH TYPE D SPECIAL	LF	78.000			78.000		
3480	SPV.0090	SPECIAL 30. CONCRETE CURB AND GUTTER 30-INCH TYPE D SPECIAL	LF	52.000	52.000				
3490	SPV.0090	SPECIAL 31. CONCRETE CURB & GUTTER 18-INCH TYPE A SPECIAL	LF	168.000	168.000				
3500	SPV.0090	SPECIAL 32. STEEL LANDSCAPE EDGING	LF	517.000					517.000
3510	SPV.0090	SPECIAL 33. SCREEN WALL	LF	314.580					314.580
3520	SPV.0090	SPECIAL 34. ORNAMENTAL RAIL FENCE	LF	314.580					314.580
3530	SPV.0090	SPECIAL 35. SPEAKER CABLE	LF	6,628.000					6,628.000
3540	SPV.0090	SPECIAL 36. LATERAL - POLY 1"	LF	6,190.000					6,190.000
3550	SPV.0090	SPECIAL 37. MAINLINE - CLASS 200 2"	LF	3,885.000					3,885.000
3560	SPV.0090	SPECIAL 38. PLD-01-18 DRIP LINE	LF	8,952.000					8,952.000
3570	SPV.0090	SPECIAL 39. SLEEVE CLASS 200 2"	LF	5,525.000					5,525.000
3580	SPV.0090	SPECIAL 40. SLEEVE CLASS 200 4"	LF	2,210.000					2,210.000
3590	SPV.0090	SPECIAL 41. PAVEMENT MARKING CROSSWALK PREFORMED THERMOPLASTIC 36-INCH GROOVED	LF	2,568.000			2,568.000		

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## ESTIMATE OF QUANTITIES

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1195-13-71 QUANTITY	1195-13-72 QUANTITY	8010-07-74 QUANTITY	8998-00-08 QUANTITY	8998-00-21 QUANTITY
3610	SPV.0090	SPECIAL 43. CONCRETE CURB & GUTTER 30-INCH TYPE D HES	LF	138.000				138.000	
3620	SPV.0105	SPECIAL 01. TEMPORARY WATER SERVICE (MAIN)	LS	1.000		1.000			
3630	SPV.0105	SPECIAL 02. REMOVING TRAFFIC SIGNALS STH 35 (TOWER AVE) & BROADWAY ST	LS	1.000	1.000				
3640	SPV.0105	SPECIAL 03. REMOVE LOOP DETECTOR WIRE & LEAD-IN CABLE STH 35 (TOWER AVE) & BROADWAY ST	LS	1.000	1.000				
3650	SPV.0105	SPECIAL 04. TRAFFIC SIGNAL CONTROLLER AND CABINET STH 35 (TOWER AVE) & WINTER ST	LS	1.000	1.000				
3660	SPV.0105	SPECIAL 05. RECTANGULAR RAPID FLASHING BEACON (RRFB) SYSTEM STH 35 & 7TH ST	LS	1.000			1.000		
3670	SPV.0105	SPECIAL 06. RECTANGULAR RAPID FLASHING BEACON (RRFB) SYSTEM STH 35 & BROADWAY	LS	1.000			1.000		
3680	SPV.0105	SPECIAL 07. RECTANGULAR RAPID FLASHING BEACON (RRFB) SYSTEM STH 35 & 12TH ST	LS	1.000			1.000		
3690	SPV.0105	SPECIAL 08. RECTANGULAR RAPID FLASHING BEACON (RRFB) SYSTEM STH 35 & 14TH ST	LS	1.000			1.000		
3700	SPV.0105	SPECIAL 09. CONSTRUCTION STAKING CONCRETE PAVEMENT JOINT LAYOUT	LS	1.000	1.000				
3710	SPV.0105	SPECIAL 10. PROJECT CONCRETE CRACK MITIGATION AND REPAIR SPECIAL	LS	1.000	1.000				
3760	SPV.0105	SPECIAL 15. INSTALLING TEMPORARY LIGHTING SYSTEM	LS	1.000	1.000				
3770	SPV.0105	SPECIAL 16. REMOVE LOOP DETECTOR WIRE & LEAD-IN CABLE USH 2 (BELKNAP) & STH 35 (TOWER AV	LS	1.000	1.000				
3780	SPV.0165	SPECIAL 01. BRUSH PATTERN & COLORING OF CONCRETE SIDEWALK 6-INCH	SF	64,116.000	695.000				63,421.000
3790	SPV.0165	SPECIAL 02. BRUSHED PATTERN & COLORING OF CONCRETE APRON 24-INCH	SF	13,105.000					13,105.000
3800	SPV.0165	SPECIAL 03. CURE AND SEAL TREATMENT CONCRETE SAFETY ISLANDS	SF	3,998.000			3,998.000		
3810	SPV.0165	SPECIAL 04. CURE AND SEAL TREATMENT CONCRETE SIDEWALK	SF	207,476.000	144,737.000		24,825.000		37,914.000
3820	SPV.0165	SPECIAL 05. CURE AND SEAL TREATMENT CONCRETE CURB MEDIAN 3-INCH SLOPED	SF	5,180.000			5,180.000		
3830	SPV.0165	SPECIAL 06. CURE AND SEAL TREATMENT CONCRETE APRON 24-INCH	SF	6,690.000			6,690.000		
3840	SPV.0165	SPECIAL 07. CONCRETE CURB MEDIAN 3-INCH SLOPED	SF	5,180.000			5,180.000		
3850	SPV.0165	SPECIAL 08. CONCRETE APRON 24-INCH	SF	6,690.000			6,690.000		
3870	SPV.0165	SPECIAL 10. CONCRETE SIDEWALK 6-INCH HES	SF	2,842.000	1,650.000				1,192.000
3880	SPV.0180	SPECIAL 01. CONCRETE PAVEMENT 10-INCH SPECIAL	SY	30,172.000	30,172.000				
3890	SPV.0180	SPECIAL 02. TEMPORARY PAVEMENT	SY	5,020.000	5,020.000				
3900	SPV.0195	SPECIAL 01. MANAGEMENT OF SOLID WASTE	TON	300.000	300.000				

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**REMOVING PAVEMENT**

STATION	LOCATION	204.0100 SY	REMARKS
PROJECT 1195-13-71 CATEGORY 0010 STH 35			
689+53.00 - 692+84.10	LT & RT	2294	
692+84.10 - 697+04.04	LT & RT	2948	
697+04.04 - 701+24.18	LT & RT	2987	
701+24.18 - 705+44.41	LT & RT	2999	
705+44.41 - 709+79.51	LT & RT	3239	
709+79.51 - 714+49.42	LT & RT	3599	
714+49.42 - 718+84.64	LT & RT	2791	
718+84.64 - 723+04.82	LT & RT	3022	
723+04.82 - 727+25.08	LT & RT	3020	
727+25.08 - 731+45.20	LT & RT	3170	
731+45.20 - 736+15.14	LT & RT	3395	
736+15.14 - 737+84.09	LT & RT	1244	
741+69.40 - 742+93.00	LT & RT	205	BASE PATCH
7TH ST			
70+56 - 71+25	LT & RT	309	
6TH ST			
58+75 - 59+44	LT & RT	306	
60+56 - 61+85	LT & RT	583	
4TH ST			
37+85 - 39+44	LT & RT	711	
PROJECT 1195-13-71 TOTAL		36822	
PROJECT 8998-00-08 CATEGORY 0010			
14TH STREET			
137+70 - 139+54	LT & RT	1007	
13TH STREET			
127+60 - 129+54	LT & RT	1068	
130+46 - 132+50	LT & RT	1098	
12TH STREET			
117+50 - 119+54	LT & RT	1109	
120+46 - 122+50	LT & RT	1075	
11TH STREET			
107+25 - 109+54	LT & RT	1225	
110+52 - 111+80	LT & RT	594	
PROJECT 8998-00-08		7176	
ITEM TOTAL		43998	

**REMOVING ASPHALTIC SURFACE BUTT JOINTS**

STATION	204.0115 SY	
PROJECT 1195-13-71 CAT 0010 STH 35		
743+19 - 743+39	196	
750+19 - 750+39	169	
8TH STREET		
78+85 - 79+05	80	
81+05 - 81+25	80	
7TH STREET		
68+70 - 68+50	80	
71+05 - 71+25	80	
6TH STREET		
58+75 - 58+95	80	
61+65 - 61+85	80	
5TH STREET		
48+80 - 49+00	80	
51+15 - 51+35	80	
4TH STREET		
37+85 - 38+05	80	
41+55 - 41+75	80	
PROJECT 1195-13-71 TOTAL		1165
PROJECT 8998-00-08 CAT 0010		
14TH STREET		
743+19 - 743+39	104	
13TH STREET		
78+85 - 79+05	104	
81+05 - 81+25	98	
12TH STREET		
68+70 - 68+50	104	
71+05 - 71+25	89	
11TH STREET		
107+25 - 107+45	104	
BROADWAY STREET		
58+75 - 58+95	124	
61+65 - 61+85	124	
WINTER STREET		
48+80 - 49+00	124	
51+15 - 51+35	124	
PROJECT 8998-00-08 TOTAL		1099
ITEM TOTAL		2264

**REMOVING ASPHALTIC SURFACE MILLING**

STATION	LOCATION	204.0120 SY
PROJECT 1195-13-71 CATEGORY 0010 STH 35		
743+19 - 750+39		6041
CATEGORY 0010 SUBTOTAL		6041
PROJECT 1195-13-71 TOTAL		6041
PROJECT 8998-00-08 BROADWAY ST		
96+59 - 97+75		668
101+75 - 103+38		940
WINTER ST		
86+59 - 88+45		1112
91+25 - 92+86		930
PROJECT 8998-00-08 TOTAL		3650
PROJECT TOTALS		9691

**REMOVING CURB AND GUTTER**

STATION	LOCATION	204.0150 LF	REMARKS
PROJECT 1195-13-71 CATEGORY 0010 STH 35			
714+98 - 716+50	LT	168	
738+40 - 738+57	RT	16	PATCH
740+24.70	LT	8	PATCH
739+94 - 740+02	LT	8	PATCH
742+65 - 743+14	LT	49	NEW SIDEWALK
743+01 - 743+19	RT	32	NEW SIDEWALK
743+64 - 743+84	LT	24	NEW SIDEWALK
743+59 - 743+76	RT	24	NEW SIDEWALK
743+82 - 743+94	LT & RT	26	PATCH
745+38 - 745+58	LT & RT	26	PATCH
745+40 - 745+64	RT	24	PATCH
746+64 - 746+85	LT	24	NEW SIDEWALK
746+64 - 746+85	RT	25	NEW SIDEWALK
747+34 - 747+54	LT	24	NEW SIDEWALK
747+32 - 747+52	RT	25	NEW SIDEWALK
749+51 - 745+57	LT	8	PATCH
8TH ST			
78+35 - 79+44	LT	59	
	RT	59	
80+56 - 81+25	LT	69	
5TH ST			
48+30 - 49+44	LT	64	
	RT	64	
50+56 - 51+35	LT	79	
	RT	83	
4TH ST			
40+56 - 41+75	LT	119	
	RT	119	
CATEGORY 0010 SUBTOTAL		1226	
CATEGORY 0040 692+50 - 693+19			
	RT	72	
CATEGORY 0040 SUBTOTAL		72	
PROJECT 1195-13-71 TOTAL		1298	
PROJECT 8998-00-08 BROADWAY STREET			
96+59 - 99+38	LT	279	
	RT	283	
100+62 - 103+38	LT	276	
	RT	276	
WINTER STREET			
86+59 - 89+38	LT	279	
	RT	279	
90+62 - 92+86	LT	224	
	RT	224	
PROJECT 8998-00-08 TOTAL		2120	
ITEM TOTAL		3418	

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**REMOVING CONCRETE SIDEWALK**

STATION	LOCATION	204.0155 SY
PROJECT 1195-13-71		
CATEGORY 0010		
STH 35		
688+67.69 - 692+84.10	LT & RT	1688
692+84.10 - 697+04.04	LT & RT	1672
697+04.04 - 701+24.18	LT & RT	1622
701+24.18 - 705+44.41	LT & RT	1566
705+44.41 - 709+79.51	LT & RT	1631
709+79.51 - 714+49.42	LT & RT	1202
714+49.42 - 718+84.64	LT & RT	1497
718+84.64 - 723+04.82	LT & RT	1422
723+04.82 - 727+25.08	LT & RT	1535
727+25.08 - 731+45.20	LT & RT	1127
731+45.20 - 736+15.14	LT & RT	1194
736+15.14 - 750+39.40	LT & RT	298
8TH ST		
78+85.00 - 81+25.00	LT & RT	82
7TH ST		
70+56.00 - 71+25.00	LT & RT	114
6TH ST		
58+75.00 - 61+34.91	LT & RT	288
5TH ST		
48+80.00 - 51+35.00	LT & RT	229
4TH ST		
37+85.00 - 41+75.00	LT & RT	133
CATEGORY 0010 SUBTOTAL		17300
CATEGORY 0040		
692+50 TO 693+19	RT	69
CATEGORY 0040 SUBTOTAL		69
PROJECT 1195-13-71 TOTAL		17369
PROJECT 8998-00-08		
CATEGORY 0010		
14TH ST		
137+70.00 - 140+08.00	LT & RT	409
13TH ST		
127+60.00 - 132+50.00	LT & RT	856
12TH ST		
117+50.00 - 122+50.00	LT & RT	797
11TH ST		
107+25.00 - 110+00.00	LT & RT	473
BROADWAY ST		
96+59.35 - 103+37.73	LT & RT	1107
WINTER ST		
86+59.25 - 92+86.00	LT & RT	690
PROJECT 8998-00-08 TOTAL		4332
PROJECT 8010-07-74		
STH 35		
743+84.00 - 746+63.63	LT	207
747+53.72 - 750+34.41	LT	217
PROJECT 8010-07-74		424
ITEM TOTAL		22125

**REMOVING FENCE**

STATION	LOCATION	204.0170 LF
PROJECT 1195-13-71		
CATEGORY 0040		
707+80 - 708+62	RT	75
ITEM TOTAL		75

**REMOVING CONCRETE BASES**

NUMBER	204.0195* EACH
PROJECT 1195-13-71	
CATEGORY 0010	
STH 35 & BROADWAY ST	
SB1	1
SB2	1
SB3	1
SB4	1
SB5	1
SB6	1
SB7	1
SB8	1
ITEM TOTAL	
8	

\*ADDITIONAL QUANTITIES ELSEWHERE IN PLAN

**REMOVING MANHOLES**

STATION	LOCATION	204.0210 EACH
PROJECT 1195-13-71		
CATEGORY 0020		
STH 35		
692+62	24' RT	1
696+71	40' LT	1
696+82	25' RT	1
701+02	41' LT	1
705+24	25' RT	1
705+22	41' LT	1
709+47	24' RT	1
709+47	41' LT	1
714+10	50' LT	1
716+45	48' LT	1
718+62	41' LT	1
718+62	25' RT	1
719+09	34' RT	1
722+78	20' RT	1
722+82	41' LT	1
722+88	39' LT	1
726+97	38' LT	1
726+97	22' RT	1
727+37	58' LT	1
731+23	40' LT	1
731+64	24' RT	1
731+64	22' LT	1
736+44	54' LT	1
736+46	21' RT	1
PROJECT 1195-13-71 SUBTOTAL		24
PROJECT 8998-00-08		
12TH STREET		
118+66	31' LT	1
BROADWAY STREET		
100+50	20' LT	1
WINTER STREET		
92+00	40' RT	1
PROJECT 8998-00-08 SUBTOTAL		3
ITEM TOTAL		27

**REMOVING INLETS**

STATION	LOCATION	204.0220 EACH
PROJECT 1195-13-71		
CATEGORY 0020		
STH 35		
689+05	28' RT	1
689+06	43' LT	1
692+45	22' RT	1
692+53	38' LT	1
696+64	38' LT	1
696+65	22' RT	1
700+82	38' LT	1
700+85	22' RT	1
705+05	22' RT	1
705+10	38' LT	1
709+25	22' RT	1
709+31	38' LT	1
713+95	22' RT	1
714+07	38' LT	1
716+46	22' RT	1
716+46	38' LT	1
718+45	22' RT	1
718+45	38' LT	1
718+65	61' LT	1
719+05	61' LT	1
722+66	22' RT	1
722+68	38' LT	1
726+86	22' RT	1
726+87	38' LT	1
727+45	65' LT	1
730+97	36' RT	1
731+06	38' LT	1
735+92	25' RT	1
735+92	41' LT	1
PROJECT 1195-13-71 SUBTOTAL		29
PROJECT 8998-00-08		
CATEGORY 0010		
13TH STREET		
129+47	21' RT	1
12TH STREET		
118+22	23' LT	1
119+49	21' RT	1
11TH STREET		
107+74	25' LT	1
107+75	22' RT	1
BROADWAY STREET		
99+47	31' LT	1
99+47	30' RT	1
100+53	30' RT	1
100+54	30' LT	1
WINTER STREET		
89+46	29' LT	1
89+52	30' RT	1
92+00	32' LT	1
92+00	32' RT	1
PROJECT 8998-00-08 SUBTOTAL		13
ITEM TOTAL		42

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**REMOVING STORM SEWER**

STATION	LOCATION	204.0245.03 6-INCH LF	204.0245.04 8-INCH LF	204.0245.05 10-INCH LF	204.0245.06 12-INCH LF	204.0245.07 15-INCH LF	204.0245.08 18-INCH LF	204.0245.09 21-INCH LF	204.0245.10 24-INCH LF	204.0245.11 27-INCH LF	204.0245.12 42-INCH LF	204.0245.13 48-INCH LF
PROJECT 1195-13-71												
CATEGORY 0020												
STH 35												
689+05 - 689+07	LT & RT				38							
689+06 - 689+07	LT				34							
692+45 - 692+62	RT				17							
692+53 - 692+84	LT					60						
692+62 - 692+84	LT & RT				40							
696+64 - 696+71	LT		18									
696+65 - 696+82	RT				17							
696+82 - 697+04	LT & RT				40							
700+82 - 701+02	LT				20							
700+85 - 701+24	LT & RT				50							
701+02 - 701+24	LT				40							
705+05 - 705+24	RT				19							
705+10 - 705+22	LT	13										
705+22 - 705+44	LT				40							
705+24 - 705+44	LT & RT				39							
705+25 - 79+47	RT				22							
709+31 - 709+47	LT				17							
709+47	LT & RT					65						
713+95 - 714+10	RT				15							
714+07 - 714+10	LT				12							
714+10 - 714+80	LT						71					
714+80 - 716+45	LT						164					
716+45 - 716+46	LT				11							
716+46	LT & RT				60							
718+46 - 718+62	LT				17							
718+45 - 718+62	RT				17							
718+62	LT & RT					66						
718+62 - 718+65	LT				20							
718+62 - 719+05	LT				47							
718+62 - 719+09	RT					48						
719+09 - 719+10	RT						43					
722+66 - 722+78	RT				12							
722+68 - 722+82	LT				14							
722+78	RT								65			
722+78 - 722+88	LT & RT								60			
722+82 - 722+88	LT				6							
722+88	LT							69				
726+86 - 726+96	RT	11										
726+87 - 726+97	LT				11							
726+96 - 726+97	RT									71		
726+97	LT & RT									60		
726+97	LT									85		
730+97 - 731+64	RT				68							
731+06 - 731+23	LT		17									
731+23 - 731+64	LT				45							
731+64	LT & RT								46			
731+64 - 731+66	RT									61		
731+64	LT								93			
735+92 - 736+46	RT				54							
735+92 - 736+44	LT				53							
736+44 - 736+46	LT & RT						75					
736+44 - 736+46	RT						29					
736+44	LT								78			
736+46 - 736+64	RT			34								
PROJECT 1195-13-71 (CAT 0020) SUBTOTAL		24	35	34	895	239	382	69	342	277	0	0

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

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**REMOVING STORM SEWER (CONT)**

STATION	LOCATION	204.0245.03	204.0245.04	204.0245.05	204.0245.06	204.0245.07	204.0245.08	204.0245.09	204.0245.10	204.0245.11	204.0245.12	204.0245.13
		6-INCH LF	8-INCH LF	10-INCH LF	12-INCH LF	15-INCH LF	18-INCH LF	21-INCH LF	24-INCH LF	27-INCH LF	42-INCH LF	48-INCH LF
PROJECT 8998-00-08												
CATEGORY 0010												
13TH STREET												
129+47 - 129+68	RT				21							
129+48 - 129+68	LT & RT	48										
12TH STREET												
118+22 - 118+66	LT	45										
119+49 - 119+67	RT				18							
11TH STREET												
107+50 - 107+74	LT					24						
107+74 - 107+75	LT & RT				47							
BROADWAY STREET												
99+36 - 99+67	RT								31			
99+47 - 99+67	LT & RT				48							
99+47 - 99+67	RT				21							
99+67	RT								20			
100+32 - 100+53	RT				21							
100+32 - 100+53	LT & RT				55							
100+50 - 100+54	LT				11							
WINTER STREET												
89+17 - 89+58	RT											41
89+36 - 89+46	LT						10					
89+46 - 89+58	LT						12					
89+52 - 89+58	RT				11							
89+58 - 92+00	RT									242		
92+00	RT				7							
92+00	LT & RT				65							
PROJECT 8998-00-08 SUBTOTAL		93	0	0	325	24	22	0	51	0	242	41
ITEM TOTALS		117	35	34	1220	263	404	69	393	277	242	41

**EXCAVATION, HAULING, AND DISPOSAL OF  
PETROLEUM CONTAMINATED SOILS**

STATION	LOCATION	205.0501.S CY
PROJECT 1195-13-71		
CATEGORY 0010		
	LT & RT	1458
CATEGORY 0010 SUBTOTAL		1458
CATEGORY 0050		
	LT & RT	1214
CATEGORY 0050 SUBTOTAL		1214
PROJECT 1195-13-71 TOTAL		2672
PROJECT 8998-00-08		
CATEGORY 0010		
	LT & RT	567
CATEGORY 0020		
	LT & RT	20
PROJECT 8998-00-08 TOTAL		587
PROJECT 1195-13-72		
CATEGORY 0010		
	LT & RT	675
PROJECT 1195-13-72 TOTAL		675
ITEM TOTAL		3934

\* SEE PLAN SHEETS AND SPECIAL PROVISIONS FOR APPROXIMATE LOCATIONS

**OBLITERATING OLD ROAD**

STATION	LOCATION	214.0100 STA
PROJECT 1195-13-71		
CATEGORY 0040		
707+94	RT	1
11TH ST		
110+50 - 111+80	LT & RT	2
ITEM TOTAL		3

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

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EARTHWORK SUMMARY PROJECT 1195-13-71																			
Division	From/To Station	Location	Common Excavation (1) (item # 205.0100)		Salvaged/Unusable Pavement Material (4)	Available Material (5)	Marsh Excavation (6) (item #205.0500)	Rock Excavation (7) (item #205.0200)	Reduced Marsh in Fill (8) Factor 0.60	Reduced EBS in Fill (9) Factor 0.80	Expanded Marsh Backfill (10) Factor 1.50	Expanded EBS Backfill (11) Factor 1.30	Expanded Rock (12) Factor 1.10	Unexpanded Fill	Expanded Fill (13) Factor 1.30	Mass Ordinate +/- (14)	Waste	Borrow (item #208.0100)	Comment:
			Cut (2)	EBS Excavation (3)															
1	688+68 TO 692+11 692+12 TO 716+81	STH 35 (TOWER AVE) STH 35 (TOWER AVE)	3760 25285		894 6866	2866 18419								0 0	0 0	2866 18419	2866 18419	0 0	
Division 1 Subtotal			29045	0	7760	21285	0	0	0	0	0	0	0	0	0	21285	21285	0	
2	717+06 TO 73784 78+85 TO 79+76 80+24 TO 81+25 68+70 TO 69+76 70+24 TO 71+25 58+75 TO 59+76 60+24 TO 61+85 48+80 TO 49+76 50+24 TO 51+35 37+85 TO 39+76 40+24 TO 41+75	STH 35 (TOWER AVE) 8TH STREET 8TH STREET 7TH STREET 7TH STREET 6TH STREET 6TH STREET 5TH STREET 5TH STREET 4TH STREET 4TH STREET	16775 520 445 670 575 595 830 560 620 1000 815		5267 112 111 123 160 177 218 68 62 240 105	11508 408 334 547 415 418 612 492 558 760 710								0 0 0 0 0 0 0 0 12 0 8	0 0 0 0 0 0 0 0 15 0 10 0	11508 408 334 547 415 418 612 492 544 760 700 0	11508 408 334 547 415 418 612 492 544 760 700 0	0 0 0 0 0 0 0 0 0 0 0 0	
Division 2 Subtotal			23405	0	6643	16762	0	0	0	0	0	0	0	19	25	16737	16737	0	
Grand Total			52450	0	14403	38047	0	0	0	0	0	0	0	19	25	38022	38022	0	
Total Common Exc			52450																

EARTHWORK SUMMARY PROJECT 8998-00-08																			
Division	From/To Station	Location	Common Excavation (1) (item # 205.0100)		Salvaged/Unusable Pavement Material (4)	Available Material (5)	Marsh Excavation (6) (item #205.0500)	Rock Excavation (7) (item #205.0200)	Reduced Marsh in Fill (8) Factor 0.60	Reduced EBS in Fill (9) Factor 0.80	Expanded Marsh Backfill (10) Factor 1.50	Expanded EBS Backfill (11) Factor 1.30	Expanded Rock (12) Factor 1.10	Unexpanded Fill	Expanded Fill (13) Factor 1.30	Mass Ordinate +/- (14)	Waste	Borrow (item #208.0100)	Comment:
			Cut (2)	EBS Excavation (3)															
1	137+70 TO 139+74 127+60 TO 129+74 130+24 TO 132+54 117+50 TO 119+74 120+24 TO 122+54 107+25 TO 109+74 96+59 TO 99+70 100+30 TO 103+34 86+59 TO 89+70 90+30 TO 92+86	14TH STREET 13TH STREET 13TH STREET 12TH STREET 12TH STREET 11TH STREET BROADWAY STREET BROADWAY STREET WINTER STREET WINTER STREET	1215 1410 1425 1460 1460 1425 2230 1800 1575 1210		345 318 328 424 417 451 525 523 524 470	870 1092 1097 1036 1043 975 1705 1277 1051 740								0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	870 1092 1097 1036 1043 975 1705 1277 1051 740 0	870 1092 1097 1036 1043 975 1705 1277 1051 740 0	0 0 0 0 0 0 0 0 0 0	
Grand Total			15210	0	4324	10886	0	0	0	0	0	0	0	0	0	10686	10886	0	
Total Common Exc			15210																

- 1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
  - 2) Salvaged/Unusable Pavement Material is included in Cut.
  - 3) EBS Excavation to be backfilled with Select Borrow material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well.
  - 4) Salvaged/Unusable Pavement Material
  - 5) Available Material = Cut - Salvaged/Unusable Pavement Material
  - 6) Marsh Excavation - to be backfilled with Select Borrow Material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well. Item number 205.0500
  - 7) Rock Excavation item number 205.0200
  - 8) Reduced Marsh in Fill - Excavated Marsh material is usable in Fills outside the 1:1 slope. Marsh in Fill Reduction factor = 0.6
  - 9) Reduced EBS in Fill - Excavated EBS material is usable in Fills outside the 1:1 slope. EBS in Fill Reduction factor = 0.8
  - 10) Expanded Marsh Backfill - This is to be filled with Select Borrow material. Marsh Backfill Factor = 1.5. Item number 208.11
  - 11) Expanded EBS Backfill - This is to be filled with Select Borrow material. EBS Backfill Factor = 1.3. Item number 208.11
  - 12) Expanded Rock - Factor = 1.1.
  - 13) Expanded Fill. Factor = 1.25
- Depending on selections:
- Or Expanded Fill = (Unexpanded Fill - Rock\* Rock Factor - Reduced Marsh - Reduced EBS) \* Fill Factor
  - Or Expanded Fill = (Unexpanded Fill - Rock\* Rock Factor - Reduced EBS) \* Fill Factor
  - Or Expanded Fill = (Unexpanded Fill - Rock\* Rock Factor - Reduced Marsh) \* Fill Factor
  - Or Expanded Fill = (Unexpanded Fill - Rock\* Rock Factor) \* Fill Factor
- 14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.



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BASE AGGREGATE DENSE

Table with columns: STATION, LOCATION, 305.0120\* 1 1/4-INCH TON. Includes data for PROJECT 1195-13-71 and PROJECT 8998-00-08.

BASE AGGREGATE - SIDEWALK

Table with columns: STATION, LOCATION, 305.0120\* 1 1/4-INCH TON, 305.0110\* OPEN GRADED TON. Includes data for PROJECT 1195-13-71 and PROJECT 8998-00-08.

BASE AGGREGATE - SIDEWALK (CONT.)

Table with columns: STATION, LOCATION, 305.0120\* 1 1/4-INCH TON, 305.0110\* OPEN GRADED TON. Includes data for PROJECT 1195-13-71 and PROJECT 8998-00-08.

SELECT CRUSHED MATERIAL

Table with columns: STATION, LOCATION, 312.0115 CY. Includes data for PROJECT 1195-13-71 and PROJECT 8998-00-08.

\* ADDITIONAL QUANTITY ELSEWHERE IN PLAN

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**CONCRETE DRIVEWAY**

STATION	LOCATION	416.0160		416.0260	
		6-INCH SY	HES	6-INCH SY	HES
PROJECT 1195-13-71 CATEGORY 0010 STH 35					
689+88	LT	26			
690+08	RT	34			
703+18	LT	28			
711+00	RT	45			
712+00	RT	46			
712+68	LT	36			
716+48	RT	27			
721+44	LT	30			
721+70	RT	30			
725+80	LT	37			
728+24	LT	42			
729+55	RT	30			
733+08	LT	49			
733+97	RT	30			
8TH STREET					
79+21	LT	13			
5TH STREET					
49+06	RT	24			
4TH STREET					
37+99	LT	23			
	RT	24			
38+97	LT	16			
39+07	RT	16			
PROJECT 1195-13-71 SUBTOTAL		606		0	
PROJECT 8998-00-08 CATEGORY 0010 14TH STREET					
138+00	LT	20			
	RT	27			
13TH STREET					
127+98	LT	21			
127+99	RT	31			
132+01	LT	20			
132+03	RT	18			
12TH STREET					
117+87	LT			73	
118+00	RT	28			
121+35	LT			27	
121+93	LT			31	
121+98	RT	36			
11TH STREET					
107+89	LT	33			
108+00	RT	45			
BROADWAY STREET					
96+77	LT	30			
97+25	LT	30			
98+41	RT	67			
102+29	RT	77			
WINTER STREET					
87+67	RT	71			
88+81	RT	54			
91+84	RT	41			
PROJECT 8998-00-08 SUBTOTAL		649		131	
ITEM TOTAL		1255		131	

**DRILLED TIE AND DOWEL BARS**

STATION	LOCATION	TIE		DOWEL		REMARKS
		416.0610 EACH	416.0620 EACH	416.0610 EACH	416.0620 EACH	
PROJECT 1195-13-71 CATEGORY 0010 STH 35						
688+67.69	LT & RT		56			BEGIN
737+84.09	LT & RT		49			END
738+49.12	RT		11			BASE PATCH
738+73.53	RT		11			BASE PATCH
738+49.12 - 738+73.53	RT	15				BASE PATCH
739+75.52	RT		11			BASE PATCH
739+92.99	RT		11			BASE PATCH
739+75.52 - 739+92.99	RT	12				BASE PATCH
740+28.01	RT		11			BASE PATCH
740+61.62	RT		11			BASE PATCH
740+28.01 - 740+61.62	RT	21				BASE PATCH
740+33.61	LT		8			BASE PATCH
741+06.84	LT		15			BASE PATCH
740+33.61 - 741+06.84	LT		139			BASE PATCH
741+16.12	LT		11			BASE PATCH
741+26.98	LT		11			BASE PATCH
741+32.79	LT		23			BASE PATCH
741+16.12 - 741+32.79	LT	23				BASE PATCH
741+69.40	LT		11			BASE PATCH
742+83.03	LT		11			BASE PATCH
741+69.40 - 742+83.03	LT	90				BASE PATCH
742+73.55	LT		14			BASE PATCH
743+19.60	LT		14			BASE PATCH
742+73.55 - 743+19.60	LT	35				BASE PATCH
743+05.19	RT		11			BASE PATCH
743+36.18	RT		11			BASE PATCH
743+05.19 - 743+36.18	RT	23				BASE PATCH
743+99.30	LT/RT		34			BASE PATCH
744+09.94	LT/RT		34			BASE PATCH
743+99.30 - 744+09.94	LT/RT	3				BASE PATCH
744+54.00	LT/RT		33			BASE PATCH
744+60.47	LT/RT		33			BASE PATCH
744+54.00 - 744+60.47	LT/RT	3				BASE PATCH
745+50.09	LT/RT		31			BASE PATCH
745+56.38	LT/RT		31			BASE PATCH
745+50.09 - 745+56.38	LT/RT	3				BASE PATCH
747+14.67	LT/RT		75			BASE PATCH
747+21.63	LT/RT		75			BASE PATCH
747+14.67 - 747+21.63	LT/RT	3				BASE PATCH
749+50.57	LT		33			BASE PATCH
749+56.98	LT		33			BASE PATCH
749+50.57 - 749+56.98	LT	3				BASE PATCH
PROJECT 1195-13-71 TOTAL		257		839		
ITEM TOTAL		257		839		

**CONCRETE PAVEMENT REPAIR AND REPLACEMENT**

STATION	LOCATION	REPAIR		REPLACEMENT		REMARKS
		416.1710 SY	416.1720 SY	416.1710 SY	416.1720 SY	
PROJECT 1195-13-71 CATEGORY 0010 STH 35						
738+49.12 - 738+73.53	RT			30		BASE PATCH
739+75.52 - 739+95.00	RT			48		BASE PATCH
739+94.00 - 740+02.00	LT			2		BASE PATCH
740+24.70	LT			2		BASE PATCH
740+28.01 - 740+61.62	RT			42		BASE PATCH
740+33.61 - 741+06.84	LT			176		BASE PATCH
741+16.12 - 741+32.79	LT			31		BASE PATCH
742+73.55 - 743+19.60	LT			77		BASE PATCH
743+05.19 - 743+36.18	RT			41		BASE PATCH
743+82.00 - 743+93.00	LT/RT			4		BASE PATCH
745+50.00 - 749+58.00	LT/RT			4		BASE PATCH
743+88.00 - 743+95.00	LT			2		BASE PATCH
743+99.30 - 744+09.94	LT/RT	23				BASE PATCH
744+54.00 - 744+60.47	LT/RT	23				BASE PATCH
745+50.09 - 745+56.38	LT/RT	22				BASE PATCH
747+14.67 - 747+21.63	LT/RT	51				BASE PATCH
749+50.57 - 749+56.98	LT	23				BASE PATCH
UNDISTRIBUTED	LT/RT	20				
PROJECT 1195-13-71 TOTAL		162		459		
ITEM TOTAL		162		459		

**CONCRETE PAVMENT GAPS**

STATION	LOCATION	415.0210 EACH
PROJECT 1195-13-71 STH 35		
688+50 - 716+72	LT/RT	4
717+28 - 737+84	LT/RT	4
PROJECT ITEM TOTALS		8

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**HMA PAVEMENT**

STATION	LOCATION	455.0145	455.0605	460.1103	465.0105	REMARKS
		ASPHALTIC MATERIAL PG64-34P TON	TACK COAT GAL	HMA TYPE E-3 TON	ASPHALTIC SURFACE TON	
PROJECT 1195-13-71						
CATEGORY 0010						
716+60 - 716+82	LT/RT	6	12		92	
716+06 - 717+28	LT/RT	5	12		91	RAILROAD CROSSING
743+19- 750+34	LT	30	148	497		
743+19- 750+35	RT	49	153	814		
8TH ST						
78+85 - 79+44	LT/RT	4	6	66		
80+56 - 81+25	LT/RT	5	7	77		
7TH ST						
68+70 - 69+44	LT/RT	5	8	91		
70+56 - 71+25	LT/RT	5	7	77		
6TH ST						
58+75 - 59+44	LT/RT	5	7	77		
60+56 - 61+34	LT/RT	8	16	133		
5TH ST						
48+80 - 49+44	LT/RT	6	13	108		
50+56 - 51+35	LT/RT	8	16	133		
4TH ST						
37+85 - 39+44	LT/RT	16	32	267		
40+56 - 41+75	LT/RT	12	24	200		
CAT 0010 SUBTOTAL		164	461	2,540	183	
CATEGORY 0040						
STH 35						
689+79 - 690+39	RT	1	2	14		
693+69 - 694+19	RT	5	10	75		
694+70 - 695+19	RT	1	1	11		
702+89 - 703+49	LT	0	1	7		
707+80 - 708+62	RT	1	2	14		
707+80 - 709+30	LT	3	6	48		
712+54 - 714+07	LT	2	5	40		
716+50 - 716+60	LT	0	0	3		
722+21 - 722+70	LT	1	3	23		
723+38 - 724+38	LT	2	3	27		
725+45 - 726+39	LT	0	1	8		
729+21 - 730+01	RT	0	1	7		
733+68 - 734+07	RT	0	1	5		
735+36 - 735+95	LT	1	2	13		
736+36 - 737+64	LT	2	5	39		
4TH STREET						
40+81 - 41+16	LT	0	0	2		
CAT 0040 SUBTOTAL		19	43	336	0	
PROJECT 1195-13-71 TOTAL		183	504	2,876	183	
PROJECT 8998-00-08						
CATEGORY 0010						
14TH ST						
137+70 - 139+50	LT/RT	15	26	253		
13TH ST						
127+60 - 129+50	LT/RT	24	52	401		
130+50 - 132+50	LT/RT	25	54	412		
12TH ST						
117+50 - 119+50	LT/RT	25	54	423		
120+50 - 122+50	LT/RT	24	53	398		
11TH ST						
107+25 - 109+54	LT/RT	19	31	318		
BROADWAY STREET						
96+59 - 97+75	LT/RT	9	33	150		
97+75 - 99+38	LT/RT	26	51	425		
100+62 - 101+75	LT/RT	18	35	295		
101+75 - 103+38	LT/RT	13	47	211		
WINTER STREET						
86+59 - 88+45	LT/RT	15	58	258		
88+45 - 89+38	LT/RT	15	29	244		
90+62 - 91+25	LT/RT	10	20	165		
91+25 - 92+86	LT/RT	12	47	208		
PROJECT 8998-00-08 TOTAL		250	590	4,161		
PROJECT TOTALS		433	1,094	7,037	183	

**CONCRETE COLLARS FOR PIPE**

STATION	LOCATION	520.8000 EACH
PROJECT 1195-13-71		
CATEGORY 0020		
7TH STREET		
69+00.00	16.5' RT	1
5TH STREET		
49+25.00	18.8' LT	1
4TH STREET		
38+76.36	28.9' LT	1
PROJECT 1195-13-71 SUBTOTAL		3
PROJECT 8998-00-08		
WINTER STREET		
89+16.68	40.1' RT	1
92+00.31	29.5' RT	1
92+00.95	29.5' LT	1
PROJECT 8998-00-08 SUBTOTAL		3
ITEM TOTAL		6

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**CONCRETE CURB & GUTTER**

STATION	LOCATION	601.0405 18-INCH TYPE A LF	601.0409 30-INCH TYPE A LF	601.0411 30-INCH TYPE D LF	SPV.0090.28 SPECIAL 30-INCH TYPE A LF	SPV.0090.30 SPECIAL 30-INCH TYPE D LF	SPV.0090.27 SPECIAL 18-INCH TYPE G LF	SPV.0090.29 SPECIAL 18-INCH TYPE D LF	SPV.0090.31 SPECIAL 18-INCH TYPE A LF	SPV.0090.43 30-INCH TYPE D HES LF	601.0407 18-INCH TYPE D LF	601.0600 CONCRETE CURB PEDESTRIAN LF	SPV.0090.25 CURE AND SEAL TREATMENT LF	REMARKS
PROJECT 1195-13-71														
CATEGORY 0010														
STH 35														
688+52 - 691+78	LT				326								326	
688+51 - 692+84	RT				435								435	
689+52 - 689+83	LT												33	SEE LANDSCAPE PLAN
689+79 - 690+02	RT												27	SEE LANDSCAPE PLAN
690+16 - 690+40	RT												28	SEE LANDSCAPE PLAN
692+84 - 695+96	RT				312								312	
693+69 - 693+91	RT												28	SEE LANDSCAPE PLAN
693+97 - 694+20	RT												28	SEE LANDSCAPE PLAN
693+97 - 695+96	LT				199								199	
694+69 - 694+93	RT												28	SEE LANDSCAPE PLAN
694+97 - 695+20	RT												28	SEE LANDSCAPE PLAN
698+04 - 700+27	LT				223								223	
698+04 - 700+25	RT				221								221	
702+32 - 704+37	LT				206								206	
702+32 - 705+44	RT				312								312	
702+85 - 703+12	LT												33	SEE LANDSCAPE PLAN
703+25 - 703+51	LT												32	SEE LANDSCAPE PLAN
705+44 - 709+50	RT				422								422	
706+44 - 709+50	LT				322								322	
707+80 - 708+61	RT												82	SEE LANDSCAPE PLAN
707+85 - 709+29	LT												238	SEE LANDSCAPE PLAN
710+10 - 714+19	LT				444								444	
710+10 - 714+19	RT				444								444	
712+59 - 713+99	LT												175	SEE LANDSCAPE PLAN
714+79 - 716+60	LT				197								197	
714+79 - 716+60	RT				198								198	
714+98 - 716+50	LT								168				168	
716+60 - 716+73	LT												13	
716+60 - 716+73	RT												13	
717+15 - 717+28	LT												13	
717+15 - 717+28	RT												13	
717+28 - 717+75	LT				47								47	
717+28 - 717+75	RT				47								47	
718+54 - 718+65	LT				26								26	
718+52 - 718+64	RT				28								28	
719+05 - 719+17	LT				28								28	
719+05 - 719+15	RT				27								27	
719+20 - 721+36	LT												243	SEE LANDSCAPE PLAN
719+94 - 721+95	LT				201								201	
719+94 - 721+95	RT				201								201	
720+90 - 721+62	RT												79	SEE LANDSCAPE PLAN
721+52 - 721+66	LT												20	SEE LANDSCAPE PLAN
721+78 - 722+08	RT												37	SEE LANDSCAPE PLAN
722+25 - 722+74	LT												76	SEE LANDSCAPE PLAN
722+74 - 722+85	LT				26								26	
722+72 - 722+85	RT				28								28	
723+25 - 723+37	LT				28								28	
723+25 - 723+35	RT				27								27	
723+36 - 724+34	LT												125	SEE LANDSCAPE PLAN
724+15 - 726+16	LT				201								201	
724+15 - 726+15	RT				201								201	
724+45 - 726+36	RT												199	SEE LANDSCAPE PLAN
725+46 - 725+69	LT												27	SEE LANDSCAPE PLAN
725+89 - 726+36	LT												53	SEE LANDSCAPE PLAN
726+90 - 726+94	LT												18	SEE LANDSCAPE PLAN
726+94 - 727+05	LT				26								26	
726+92 - 727+05	RT				29								29	
727+45 - 727+57	LT				28								28	
727+45 - 727+56	RT				26								26	
728+16 - 729+47	RT												138	SEE LANDSCAPE PLAN
728+34 - 730+35	LT				201								201	
728+34 - 730+35	RT				201								201	
729+63 - 730+10	RT												54	SEE LANDSCAPE PLAN
731+15 - 731+25	LT				26								26	
731+13 - 731+25	RT				28								28	
731+65 - 731+77	LT				28								28	
SHEET SUBTOTAL (1195-13-71)		0	0	0	5970	52	0	0	168	0	1829	0	8019	

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**CONCRETE CURB & GUTTER (CONT)**

STATION	LOCATION	601.0405 18-INCH TYPE A LF	601.0409 30-INCH TYPE A LF	601.0411 30-INCH TYPE D LF	SPV.0090.28 SPECIAL 30-INCH TYPE A LF	SPV.0090.30 SPECIAL 30-INCH TYPE D LF	SPV.0090.27 SPECIAL 18-INCH TYPE G LF	SPV.0090.29 SPECIAL 18-INCH TYPE D LF	SPV.0090.31 SPECIAL 18-INCH TYPE A LF	SPV.0090.43 30-INCH TYPE D HES LF	601.0407 18-INCH TYPE D LF	601.0600 CONCRETE CURB PEDESTRIAN LF	SPV.0090.25 CURE AND SEAL TREATMENT LF	REMARKS
731+65 - 731+76	RT				26								26	
732+55 - 735+06	LT				251								251	
732+55 - 735+07	RT				252								252	
733+63 - 733+89	RT													
735+35 - 735+51	LT										33		33	SEE LANDSCAPE PLAN
735+57 - 735+85	LT										23		23	SEE LANDSCAPE PLAN
735+84 - 735+95	LT				27						54		54	SEE LANDSCAPE PLAN
735+83 - 735+95	RT				28								28	
736+35 - 736+50	LT				31								31	
736+35 - 736+48	RT				30								30	
736+46 - 737+65	LT											142	142	SEE LANDSCAPE PLAN
736+50 - 736+55	RT			41									41	
737+15 - 737+84	LT				69								69	
737+15 - 737+84	RT				69								69	
738+40 - 738+57	RT		16										16	
739+90 - 739+98	RT		8										8	
739+94 - 740+02	LT		8										8	
740+25	LT		8										8	
742+65 - 742+94	LT		26										26	
743+82 - 743+93	LT/RT		16										16	
745+50 - 749+58	LT/RT		16										16	
8TH STREET														
78+85 - 79+44	LT			59									59	
78+85 - 79+44	RT			59									59	
80+55 - 81+25	LT			69									69	
80+55 - 81+25	RT			69									69	
7TH STREET														
69+34 - 69+44	LT			10									10	
69+34 - 69+44	RT			10									10	
70+56 - 71+25	LT			69									69	
70+56 - 71+25	RT			69									69	
6TH STREET														
58+75 - 59+44	LT			69									69	
58+75 - 59+44	RT			69									69	
60+56 - 61+35	LT			79									79	
60+56 - 61+35	RT			79									79	
5TH STREET														
48+80 - 49+44	LT			64									64	
48+80 - 49+44	RT			64									64	
50+56 - 51+35	LT			79									79	
50+56 - 51+35	RT			79									79	
4TH STREET														
37+85 - 39+44	LT			159									159	
37+85 - 39+44	RT			159									159	
40+56 - 41+75	LT			119									119	
40+56 - 41+75	RT			119									119	
CATEGORY 0010 SUBTOTAL		0	98	1593	6753	52	0	0	168	0	2081	0	10745	
CATEGORY 0040														
692+50 - 693+19				72									72	
694+19											72		72	
CATEGORY 0040 SUBTOTAL		0	0	72	0	0	0	0	0	0	72	0	144	
PROJECT 1195-13-71 SUBTOTAL		0	98	1665	6753	52	0	0	168	0	2153	0	10889	

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**CONCRETE CURB & GUTTER (CONT)**

STATION	LOCATION	601.0405 18-INCH TYPE A LF	601.0409 30-INCH TYPE A LF	601.0411 30-INCH TYPE D LF	SPV.0090.28 SPECIAL 30-INCH TYPE A LF	SPV.0090.30 SPECIAL 30-INCH TYPE D LF	SPV.0090.27 SPECIAL 18-INCH TYPE G LF	SPV.0090.29 SPECIAL 18-INCH TYPE D LF	SPV.0090.31 SPECIAL 18-INCH TYPE A LF	SPV.0090.43 30-INCH TYPE D HES LF	601.0407 18-INCH TYPE D LF	601.0600 CONCRETE CURB PEDESTRIAN LF	SPV.0090.25 CURE AND SEAL TREATMENT LF	REMARKS
PROJECT 8998-00-08														
CATEGORY 0010														
14TH STREET														
137+70-139+54	LT			190									190	
137+70-139+54	RT			185									185	
13TH STREET														
127+60 - 129+54	LT			199									199	
127+60 - 129+54	RT			194									194	
130+46 - 132+50	LT			210									210	
130+46 - 132+50	RT			205									205	
12TH STREET														
117+50 - 119+54	LT			137						68			205	
117+50 - 119+54	RT			210									210	
120+46 - 122+50	LT			135						70			205	
120+46 - 122+50	RT			211									211	
11TH STREET														
107+25 - 109+54	LT			235									235	
107+25 - 109+54	RT			230									230	
BROADWAY STREET														
96+59 - 99+38	LT			279									279	
96+59 - 99+38	RT			279									279	
100+62 - 103+38	LT			276									276	
100+62 - 103+38	RT			276									276	
WINTER STREET														
88+45 - 89+38	LT			93									93	
88+45 - 89+38	RT			279									279	
90+62 - 92+86	LT			224									224	
90+62 - 92+86	RT			224									224	
PROJECT 8998-00-08 SUBTOTAL		0	0	4271	0	0	0	0	0	138	0	0	4409	

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**CONCRETE CURB & GUTTER (CONT)**

STATION	LOCATION	601.0405 18-INCH TYPE A LF	601.0409 30-INCH TYPE A LF	601.0411 30-INCH TYPE D LF	SPV.0090.28 SPECIAL 30-INCH TYPE A LF	SPV.0090.30 SPECIAL 30-INCH TYPE D LF	SPV.0090.27 SPECIAL 18-INCH TYPE G LF	SPV.0090.29 SPECIAL 18-INCH TYPE D LF	SPV.0090.31 SPECIAL 18-INCH TYPE A LF	SPV.0090.43 30-INCH TYPE D HES LF	601.0407 18-INCH TYPE D LF	601.0600 CONCRETE CURB PEDESTRIAN LF	SPV.0090.25 CURE AND SEAL TREATMENT LF	REMARKS
PROJECT 8010-07-74														
CATEGORY 0010														
STH 35														
688+69 - 692+45	LT							757					757	MEDIAN
691+79 - 696+66	LT			101									101	BUMPOUT
692+75 - 696+62	LT							780					780	MEDIAN
692+94 - 693+97	LT			115									115	BUMPOUT
695+96 - 696+86	LT			101									101	BUMPOUT
695+96 - 696+86	RT			101									101	BUMPOUT
697+14 - 698+04	LT			102									102	BUMPOUT
697+14 - 698+04	RT			102									102	BUMPOUT
697+38 - 700+90	LT							706					706	MEDIAN
700+25 - 701+15	LT			101									101	BUMPOUT
700+25 - 701+15	RT			101									101	BUMPOUT
701+43 - 702+32	LT			101									101	BUMPOUT
701+43 - 702+32	RT			102									102	BUMPOUT
701+67 - 705+02	LT							672					672	MEDIAN
704+37 - 705+26	LT			101									101	BUMPOUT
705+55 - 706+44	LT			102									102	BUMPOUT
705+72 - 708+71	LT							609					609	MEDIAN
710+88 - 713+38	LT							502					502	MEDIAN
715+61 - 716+60	LT							199					199	MEDIAN
716+60 - 716+73	LT								39				39	MEDIAN
717+15 - 717+29	LT								39				39	MEDIAN
717+29 - 717+85	LT							113					113	MEDIAN
717+75 - 718+54	LT			79									79	BUMPOUT
717+75 - 718+52	RT			81									81	BUMPOUT
719+16 - 719+94	LT			79									79	BUMPOUT
719+16 - 719+94	RT			81									81	BUMPOUT
719+84 - 722+05	LT							442					442	MEDIAN
721+95 - 722+73	LT			81									81	BUMPOUT
721+95 - 722+73	RT			79									79	BUMPOUT
723+36 - 724+15	LT			79									79	BUMPOUT
723+36 - 724+15	RT			81									81	BUMPOUT
724+05 - 726+25	LT							442					442	MEDIAN
726+15 - 726+92	LT			79									79	BUMPOUT
726+15 - 726+92	RT			81									81	BUMPOUT
727+56 - 728+34	LT			79									79	BUMPOUT
727+56 - 728+34	RT			81									81	BUMPOUT
728+25 - 730+45	LT							442					442	MEDIAN
730+35 - 731+13	LT			81									81	BUMPOUT
730+35 - 731+13	RT			80									80	BUMPOUT
731+76 - 732+55	LT			79									79	BUMPOUT
731+76 - 732+55	RT			81									81	BUMPOUT
732+45 - 735+15	LT							542					542	MEDIAN
735+07 - 735+83	LT			81									81	BUMPOUT
735+07 - 735+83	RT			79									79	BUMPOUT
736+48 - 737+15	LT			65									65	BUMPOUT
736+48 - 737+15	RT			68									68	BUMPOUT
737+15 - 737+84	LT							138					138	MEDIAN
742+94 - 743+14	LT		23									17	40	
743+01 - 743+19	RT		32									17	49	
743+64 - 743+84	LT		24									17	41	
743+84 - 743+94	LT		10										10	
743+59 - 743+76	RT		24									17	41	
743+88 - 743+95	LT	8											8	
745+38 - 745+56	LT	18											18	
745+40 - 745+64	RT		24										24	
746+64 - 746+85	LT		24									17	41	
746+64 - 746+85	RT		25									17	42	
747+34 - 747+54	LT		24									17	41	
747+32 - 747+52	RT		25									17	42	
749+51 - 749+57	LT		6										6	
749+83 - 749+90	LT	8											8	
PROJECT 8010-07-74 SUBTOTAL		34	241	0	2804	0	6344	78	0	0	0	136	9637	
PROJECT ITEM TOTALS		34	339	5936	9557	52	6344	78	168	138	2153	136	24935	

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**CONCRETE SIDEWALK**

**CONCRETE SIDEWALK (CONT)**

**CONCRETE SIDEWALK (CONT)**

STATION	LOCATION	SPV.0165.10 SPV.0165.04			REMARKS
		602.0415 6-INCH SF	6-INCH HES SF	CURE AND SEAL TREATMENT SF	
PROJECT 1195-13-71					
CATEGORY 0010					
STH 35					
688+68 - 692+59	LT	4168		4168	
688+68 - 692+84	RT	4714		4714	
693+11 - 696+79	LT	4309		4309	
692+84 - 696+79	RT	4544		4544	
697+31 - 700+97	LT	4291		4291	
697+31 - 700+97	RT	4241		4241	
701+49 - 705+20	LT	4216		4216	
701+49 - 705+44	RT	4675		4675	
705+82 - 709+46	LT	4243		4243	
705+44 - 709+47	RT	4511		4511	
710+13 - 714+16	LT	4304		4304	
710+12 - 714+17	RT	3779		3779	
714+83 - 716+73	LT	2248		2248	
714+82 - 716+73	RT	2258		2258	
717+15 - 718+63	LT	2330		2330	
717+15 - 718+63	RT	2147		2147	
719+05 - 722+84	LT	4844		4844	
719+06 - 722+84	RT	4702		4702	
723+26 - 727+04	LT	5134		5134	
723+26 - 727+04	RT	5443		5443	
727+46 - 731+24	LT	5173		5173	
727+46 - 731+24	RT	4870		4870	
731+66 - 735+94	LT	5910		5910	
731+66 - 735+94	RT	5554		5554	
736+36 - 737+84	LT	1358		1358	
736+36 - 737+84	RT	1331		1331	
739+90 - 739+98	RT	34		34	
739+94 - 740+02	LT	156		156	
740+25	LT	48		48	
742+65 - 742+94	LT	48		48	
743+82 - 743+93	LT/RT	96		96	
745+50 - 749+58	LT/RT	96		96	
8TH ST					
78+75 - 79+50	LT/RT	798		798	
80+50 - 81+25	LT/RT	941		941	
7TH ST					
68+70 - 69+50	LT/RT	2057		2057	
70+50 - 71+25	LT/RT	1463		1463	
6TH ST					
58+75 - 59+50	LT/RT	1676		1676	
60+50 - 61+35	LT/RT	1402		1402	
5TH ST					
48+80 - 49+50	LT/RT	1451		1451	
50+50 - 51+35	LT/RT	1315		1315	
4TH ST					
37+85 - 39+50	LT/RT	626		626	
40+50 - 41+75	LT/RT	1603		1603	
CATEGORY 0010 SUBTOTAL		119107	0	119107	
CATEGORY 0040					
688+68 - 692+44	LT	2930		2930	
688+59 - 692+84	RT	409	1250	1659	BUSINESS ACCESS
693+11 - 696+69	LT	1421	400	1821	BUSINESS ACCESS
692+50 - 693+19	RT	623		623	
692+84 - 696+67	RT	2177		2177	
693+85 - 693+91	RT	36		36	
694+86 - 694+92	RT	36		36	
697+39 - 700+89	LT	1865		1865	
697+39 - 700+89	RT	1817		1817	
701+61 - 705+20	LT	1732		1732	
701+60 - 705+44	RT	2077		2077	
703+50 - 703+59	LT	65		65	
705+79 - 709+32	LT	2001		2001	
705+44 - 709+32	RT	2077		2077	
710+13 - 714+01	LT	1875		1875	
710+12 - 714+02	RT	1072		1072	
714+97 - 716+73	LT	854		854	
714+96 - 716+73	RT	947		947	
CATEGORY 0040 SUBTOTAL		24014	1650	25664	
PROJECT 1195-13-71 TOTAL		143121	1650	144771	

STATION	LOCATION	SPV.0165.10 SPV.0165.04			REMARKS
		602.0415 6-INCH SF	6-INCH HES SF	CURE AND SEAL TREATMENT SF	
PROJECT 8998-00-08					
CATEGORY 0010					
14TH ST					
137+70 - 139+50	LT		1192	1192	BUSINESS ACCESS
137+70 - 139+50	RT	1688		1688	
13TH ST					
127+60 - 129+50	LT/RT	2682		2682	
130+50 - 132+50	LT/RT	2762		2762	
12TH ST					
117+50 - 119+50	LT/RT	3587		3587	
120+50 - 122+50	LT/RT	3458		3458	
11TH ST					
107+25 - 109+50	LT/RT	3238		3238	
BROADWAY ST					
96+59 - 99+50	LT/RT	6078		6078	
100+50 - 103+38	LT/RT	6054		6054	
WINTER ST					
86+00 - 89+50	LT/RT	3745		3745	
90+50 - 92+86	LT/RT	3430		3430	
PROJECT 8998-00-08 TOTAL		36722	1192	37914	

STATION	LOCATION	SPV.0165.10 SPV.0165.04			REMARKS
		602.0415 6-INCH SF	6-INCH HES SF	CURE AND SEAL TREATMENT SF	
PROJECT 8010-07-74					
STH 35					
688+68 - 692+45	LT	1636		1636	MEDIAN
691+77 - 692+66	LT	589		589	BUMP OUT
692+85 - 696+86	LT/RT	270		270	MEDIAN CROSSOVER
692+94 - 693+97	LT	827		827	BUMP OUT
693+00 - 693+10	LT	42		42	PED XING
693+61 - 693+71	LT	42		42	PED XING
694+21 - 694+31	LT	42		42	PED XING
694+82 - 694+92	LT	42		42	PED XING
695+96 - 696+86	LT	518		518	BUMP OUT
695+96 - 696+86	RT	491		491	BUMP OUT
696+17 - 696+62	LT	95		95	MEDIAN
697+14 - 698+03	LT	823		823	BUMP OUT
697+14 - 698+03	RT	844		844	BUMP OUT
697+33 - 700+96	LT/RT	180		180	MEDIAN CROSSOVER
697+38 - 397+83	LT	133		133	MEDIAN
698+79 - 698+89	LT	42		42	PED XING
699+40 - 699+50	LT	42		42	PED XING
700+25 - 701+14	LT	841		841	BUMP OUT
700+25 - 701+14	RT	811		811	BUMP OUT
700+45 - 700+90	LT	133		133	MEDIAN
701+43 - 702+33	LT	495		495	BUMP OUT
701+43 - 702+33	RT	133		133	BUMP OUT
701+62 - 705+08	LT/RT	180		180	MEDIAN CROSSOVER
701+67 - 702+12	LT	522		522	MEDIAN
702+98 - 703+08	LT	42		42	PED XING
703+59 - 703+69	LT	42		42	PED XING
704+39 - 705+26	LT	521		521	BUMP OUT
704+57 - 705+02	LT	133		133	MEDIAN
705+55 - 706+44	LT	833		833	BUMP OUT
705+72 - 709+34	LT/RT	180		180	MEDIAN CROSSOVER
706+45 - 706+55	LT	42		42	PED XING
707+25 - 707+35	LT	42		42	PED XING
717+75 - 718+53	LT	306		306	BUMP OUT
717+75 - 718+52	RT	262		262	BUMP OUT
719+18 - 719+94	LT	261		261	BUMP OUT
719+16 - 719+94	RT	306		306	BUMP OUT
719+85 - 722+05	LT	659		659	MEDIAN
721+95 - 722+73	LT	305		305	BUMP OUT
721+95 - 722+72	RT	262		262	BUMP OUT
723+38 - 724+15	LT	261		261	BUMP OUT
723+36 - 724+15	RT	305		305	BUMP OUT
724+05 - 726+25	LT	659		659	MEDIAN
726+15 - 726+94	LT	304		304	BUMP OUT
726+15 - 726+92	RT	262		262	BUMP OUT
727+58 - 728+11	LT	237		237	BUMP OUT
727+57 - 728+35	RT	307		307	BUMP OUT
728+25 - 730+45	LT	658		658	MEDIAN
730+35 - 731+14	LT	306		306	BUMP OUT
730+36 - 731+12	RT	261		261	BUMP OUT
731+78 - 732+55	LT	261		261	BUMP OUT
731+78 - 732+55	RT	307		307	BUMP OUT
732+45 - 735+15	LT	808		808	MEDIAN
735+05 - 735+84	LT	307		307	BUMP OUT
735+05 - 735+82	RT	261		261	BUMP OUT
736+76 - 737+15	LT	145		145	BUMP OUT
736+74 - 737+15	RT	178		178	BUMP OUT
737+15 - 737+84	LT	207		207	MEDIAN
742+94 - 743+14	LT	122		122	
743+00 - 743+18	RT	127		127	
743+64 - 743+84	LT	123		123	
743+60 - 743+78	RT	123		123	
743+80 - 746+34	LT	1864		1864	MEDIAN
746+64 - 746+84	LT	123		123	
746+64 - 746+84	RT	126		126	
747+35 - 747+54	LT	124		124	
747+32 - 747+52	RT	134		134	
747+54 - 750+34	LT	1956		1956	MEDIAN
PROJECT 8010-07-74 TOTAL		24825	0	24825	
ITEM TOTAL		204668	2842	207510	

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.



**CURB RAMP DETECTABLE  
WARNING FIELD NATURAL PATINA**

STATION	LOCATION	602.0515 SF
PROJECT 1195-13-71		
CATEGORY 0040		
STH 35		
692+50 - 693+19	RT	16
PROJECT 1195-13-71 TOTAL		
		<u>16</u>
PROJECT 8010-07-74		
STH 35		
692+55	RT	8
693+05	LT & RT	24
705+12	RT	8
705+67	RT	8
14TH ST		
137+85.00 - 140+08.00	LT & RT	40
13TH ST		
127+80.00 - 132+35.00	LT & RT	80
12TH ST		
117+50.00 - 122+25.00	LT & RT	80
11TH ST		
107+60.00 - 110+08.00	LT & RT	40
BROADWAY ST		
96+59.35 - 103+37.73	LT & RT	64
WINTER ST		
86+59.25 - 92+86.00	LT & RT	64
8TH ST		
78+85.00 - 81+25.00	LT & RT	64
7TH ST		
68+70.00 - 71+25.00	LT & RT	64
6TH ST		
58+75.00 - 61+84.91	LT & RT	64
5TH ST		
48+80.00 - 51+35.00	LT & RT	64
4TH ST		
37+85.00 - 41+75.00	LT & RT	64
OGDEN AVENUE		
743+10.00 - 743+65.00	RT	32
JOHN AVENUE		
746+75.00 - 747+43.00	RT	32
PROJECT 8010-07-74 TOTAL		
		<u>800</u>
ITEM TOTAL		
		<u>816</u>

**CONCRETE STEPS**

STATION	LOCATION	602.1500 SF	REMARKS
PROJECT 8998-00-08			
CATEGORY 0010			
12TH STREET			
121+15	RT	14	
121+25	RT	12	
13TH STREET			
128+80	LT	12	
PROJECT 8998-00-08 ITEM TOTAL			
		<u>38</u>	

**CONCRETE SAFETY ISLAND**

STATION	LOCATION	602.2400 SF	SPV.0165.03 CURE AND SEAL TREATMENT SF
PROJECT 8010-07-74			
STH 35			
737+84 - 740+03	LT	1751	1751
740+87 - 743+05	LT	2247	2247
PROJECT 8010-07-74 TOTAL			
		<u>3998</u>	<u>3998</u>

**ADJUSTING MANHOLE COVERS**

STATION	LOCATION	611.8110 EACH
PROJECT 1195-13-71		
CATEGORY 0020		
STH 35		
742+84.6	12.9' LT	1
743+38.9	7.1' LT	1
743+47.8	61.5' LT	1
745+60.9	9.4' LT	1
747+57.3	6.6' LT	1
749+60.8	4.1' LT	1
PROJECT 1195-13-71 TOTAL		
		<u>6</u>

**INLET REPAIRS**

STRUCTURE	STATION	LOCATION	* 608.0312 SSPRC CLASS III 12-INCH LF	** 611.0430 RECONSTRUCTING INLETS EACH	* 611.0600 INLET COVERS TYPE A EACH	* 611.0624 INLETS TYPE H EACH	* 611.3220 INLETS 2X2 FT EACH	* 611.3230 INLETS 2X3 FT EACH	611.8115 ADJUSTING INLET COVERS EACH	SPV.0060.62 INLET REPAIR TYPE 1 EACH	SPV.0060.63 INLET REPAIR TYPE 2 EACH	SPV.0060.64 INLET REPAIR TYPE 3 EACH	PIPE A		PIPE B		PIPE C		PIPE D		COMMENTS	
													PIPE A MEASURE DOWN FROM RIM	PIPE B TYPE	PIPE B MEASURE DOWN FROM RIM	PIPE C TYPE	PIPE C MEASURE DOWN FROM RIM	PIPE D TYPE	PIPE D MEASURE DOWN FROM RIM			
PROJECT 1195-13-71																						
CATEGORY 0020																						
STH 35																						
3	739+96.46	44.7' LT							1		1		12" RCP	2.55'	12" RCP	2.4'	6"	2.2'	6"	2.2'	MULTIPLE UP INLET	
3A	740+24.70	83.0' LT										1	12" RCP	2.33'								
3B	742+72.86	52.5' LT	15	1	1		1						12" RCP	2.33'	6" Corr. Plastic	2.67'						
3C	742+87.37	52.9' LT		1	1		1						12" RCP	2.33'								
3D	743+87.18	51.4' LT							1	1			12" RCP	2.33'							SINGLE UP INLET	
3E	743+86.72	27.2' RT			1				1	1			12" RCP	2.25'							SINGLE UP INLET	
3F	745+54.25	49.2' LT		1	1		1						12" RCP	2.17'								
3G	749+54.00	44.7' LT			1				1	1			12" RCP	2.1'							SINGLE UP INLET	
3H	739+94.19	26.1' RT		1		1		1					14"X19" ARCH	2.3'	12" RCP	2.3'	6" PERF		6" PERF			
3I	745+53.18	9.4' LT		1	1		1						12" RCP	3.25'	12" RCP	3.10'						
3J	749+53.69	12.0' LT		1	1		1						12" RCP	3.00'	12" RCP	3.15'						
3K	743+91.71	19.4' LT		1	1		1						12" RCP	2.70'	12" RCP	2.80'						
PROJECT 1195-13-71 CAT 0020 SHEET SUBTOTAL			15	7	3	6	1	6	4	3	1	1										

\*ADDITIONAL QUANTITIES LISTED ELSEWHERE IN PLAN

\*\*SEE RECONSTRUCT INLET/CATCH BASIN DETAIL

CONFIRM STRUCTURE MEASURE DOWNS IN FIELD BEFORE ORDERING STRUCTURE

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

PROJECT NO: 1195-13-71

HWY: STH 35 - TOWER AVE

COUNTY: DOUGLAS

MISCELLANEOUS QUANTITIES

SHEET

E

STORM SEWER PIPE REINFORCED CONCRETE

STATION	STRUCTURE	LOCATION	PIPE	608.0312	608.0315	608.0318	608.0321	608.0324	608.0327	608.0336	608.0342	608.0348	UPSTREAM INVERT ELEVATION	DOWNSTREAM INVERT ELEVATION	DRAINS TO STRUCTURE	SLOPE %	** JOINT TIES EACH
				SSPRC CLASS III 12-INCH LF	SSPRC CLASS III 15-INCH LF	SSPRC CLASS III 18-INCH LF	SSPRC CLASS III 21-INCH LF	SSPRC CLASS III 24-INCH LF	SSPRC CLASS III 27-INCH LF	SSPRC CLASS III 36-INCH LF	SSPRC CLASS III 42-INCH LF	SSPRC CLASS III 48-INCH LF					
PROJECT 1195-13-71																	
CATEGORY 0020																	
STH 35																	
735+63.66	INL - 4E	33.5' LT	P - 4E		45								608.49	608.15	INL - 4D	0.30%	
735+03.95	INL - 4F	39.5' LT	P - 4F	60									609.32	608.74	INL - 4E	0.97%	
735+63.61	INL - 4G	17.5' RT	P - 4G		51								608.64	608.49	INL - 4E	0.30%	
735+03.95	INL - 4H	23.5' RT	P - 4H	60									609.32	608.94	INL - 4G	0.60%	
737+25.00	INL - 4L	58.5' LT	P - 4L	91									610.56	609.45	MH - 4B	1.22%	
730+93.70	MH - 5D	17.5' RT	P - 5D			45							612.11	611.85	MH - 5C	0.60%	
730+34.00	INL - 5E	23.5' LT	P - 5E	60									613.46	612.61	MH - 5D	1.40%	
730+93.70	INL - 5F	33.5' LT	P - 5F			51							612.26	612.11	MH - 5D	0.30%	
729+85.00	INL - 5I	55.5' LT	P - 5I	54									616.27	613.46	INL - 5G	5.20%	
730+34.00	INL - 5G	39.5' LT	P - 5G	60									613.46	612.76	INL - 5F	1.20%	
726+73.58	INL - 6E	17.5' RT	P - 6E			32							616.95	616.18	MH - 6L	2.41%	
727+05.27	MH - 6L	17.5' RT	P - 6CC						32				614.62	614.45	MH - 6B	0.19%	
726+34.47	INL - 6A	42.6' RT	P - 6K	28									620.20	617.75	INL - 6F	8.75%	
726+13.88	INL - 6F	23.5' RT	P - 6F	60									617.75	617.45	INL - 6E	0.50%	
726+73.57	INL - 6G	33.5' LT	P - 6G		51								615.98	615.83	INL - 6E	0.30%	
726+25.00	INL - 6O	58.5' LT	P - 6P	22									617.16	616.72	INL - 6H	2.00%	
726+13.88	INL - 6H	39.5' LT	P - 6H	60									616.72	616.28	INL - 6G	0.70%	
722+53.31	INL - 7D	17.5' RT	P - 7D			32							619.47	619.31	MH - 7L	0.50%	
722+85.32	MH - 7L	17.5' RT	P - 7CC					32					618.83	618.66	MH - 7B	0.53%	
721+93.62	INL - 7E	23.5' RT	P - 7E			60							619.76	619.47	INL - 7D	0.50%	
720+50.00	INL - 7F	23.5' RT	P - 7F			144							620.29	619.76	INL - 7E	0.37%	
720+50.00	INL - 7G	39.5' LT	P - 7G	63									620.84	620.54	INL - 7F	0.50%	
722+53.34	INL - 7H	33.5' LT	P - 7H	51									619.77	619.47	INL - 7D	0.60%	
721+33.00	INL - 7O	58.3' LT	P - 7R	64									623.25	621.09	INL - 7I	3.37%	
721+93.63	INL - 7I	39.5' LT	P - 7I	60									620.06	619.77	INL - 7H	0.50%	
718+33.13	INL - 8F	17.5' RT	P - 8F	45									621.75	621.52	INL - 8E	0.50%	
718+33.16	INL - 8G	33.5' LT	P - 8G	51									621.97	621.75	INL - 8F	0.40%	
714+09.60	MH - 9B	6.0' RT	P - 9B									71	620.98	620.88	MH - 9	0.14%	
713+87.91	INL - 9J	23.5' RT	P - 9J	28									622.00	621.48	MH - 9T	1.85%	
714+09.60	MH - 9T	23.5' RT	P - 9CC									17	621.00	620.98	MH - 9B	0.14%	
89+44.50	INL - 9S	57.0' RT	P - 9S	17									625.80	625.18	MH - 9	3.65%	
713+87.94	INL - 9I	39.5' LT	P - 9I	34									624.16	623.48	MH - 9	2.00%	
715+52.10	MH - 9M	17.5' RT	P - 9M			143							622.29	621.86	MH - 9B	0.30%	
715+52.10	INL - 9N	39.5' LT	P - 9N	57									623.04	622.79	MH - 9M	0.40%	
715+62.10	INL - 9O	39.5' LT	P - 9O	10									623.14	623.04	INL - 9N	1.00%	
716+00.00	INL - 9U	39.5' LT	P - 9T	38									623.83	623.45	INL - 9O	1.00%	
716+44.76	MH - 9R	48.4' LT	P - 9V	45									624.28	623.83	INL - 9U	1.00%	
716+56.95	INL - 9T	61.0' LT	P - 9W	18									624.46	624.28	MH - 9R	1.00%	
715+52.10	INL - 9P	23.5' RT	P - 9P	6									623.04	622.79	MH - 9M	4.20%	
715+62.10	INL - 9Q	23.5' RT	P - 9Q	10									623.14	623.04	INL - 9P	1.00%	
712+50.00	MH - 10G	6.0' RT	P - 10G	13									622.30	622.25	MH - 10H	0.36%	
712+57.28	MH - 10H	6.0' RT	P - 10H							160			621.82	621.48	MH - 9B	0.50%	
712+50.00	MH - 10G	17.5' RT	P - 10I	12									622.25	622.20	MH - 9B	0.42%	
713+10.00	GRIT CH	17.5' RT	P - 10J	40									622.20	622.00	INL - 9J	0.50%	
709+50.00	MH - 10	23.5' RT	P - 10							300			624.04	622.30	MH - 10G	0.58%	
705+04.90	MH - 11	23.5' RT	P - 11							316			625.85	624.50	MH - 11I	0.43%	
708+53.84	MH - 11I	23.5' RT	P - 11I							96			624.50	624.04	MH - 10	0.48%	
705+04.91	INL - 11A	33.5' LT	P - 11C	31									628.72	628.56	MH - 11C	0.52%	
704+35.20	INL - 11B	39.5' LT	P - 11B	70									629.66	628.72	INL - 11A	1.30%	
700+93.17	MH - 12	17.5' RT	P - 12							445			627.90	625.85	MH - 11	0.46%	
699+93.18	MH - 12A	33.5' LT	P - 12A				51						629.63	629.40	MH - 12	0.50%	
700+23.50	INL - 12F	39.5' LT	P - 12F	70									632.20	630.63	MH - 12A	2.30%	
700+23.47	MH - 12K	23.5' RT	P - 12K						70				628.65	628.40	MH - 12	0.36%	
696+64.53	MH - 13	17.5' RT	P - 13I						16				629.96	629.90	MH - 13I	0.36%	
695+94.83	MH - 13A	23.5' RT	P - 13A				70						631.20	630.96	MH - 13	0.34%	
696+80.89	MH - 13I	17.5' RT	P - 13						343				629.90	628.65	MH - 12K	0.36%	
696+64.05	MH - 13B	33.5' LT	P - 13B				51						631.59	630.96	MH - 13	1.20%	
695+94.84	INL - 13H	39.5' LT	P - 13H	70									633.05	632.59	MH - 13B	0.70%	
692+44.12	MH - 14	23.5' RT	P - 14I				54						632.39	632.21	MH - 14I	0.34%	
692+97.63	MH - 14I	23.5' RT	P - 14				296						632.21	631.20	MH - 13A	0.34%	
692+44.12	MH - 14A	33.5' LT	P - 14A				57						632.56	632.39	MH - 14	0.30%	
691+76.00	INL - 14H	40.5' LT	P - 14H	70									634.64	633.56	MH - 14A	1.50%	
693+11.37	MH - 14J	46.0' RT	P - 14J	27									634.08	633.95	MH - 14I	0.48%	
689+12.00	INL - 15A	43.5' LT	P - 15A	67									635.77	635.45	MH - 15	0.50%	
689+12.00	MH - 15	23.5' RT	P - 15B				66						634.78	634.30	MH - 15B	0.72%	
689+78.32	INL - 15B	23.5' LT	P - 15				267						634.30	632.39	MH - 14	0.72%	
689+85.58	EX PIPE	51.5' LT	P - 15D	8									MATCH EX	635.59	MH - 15D	0.50%	
689+85.58	MH - 15D	51.5' LT	P - 15C	29									635.59	635.30	MH - 15B	1.00%	
709+22.97	INL - 10K	63.0' LT	P - 10K			28							626.91	626.88	INL - 10D	0.11%	
709+18.00	INL - 10E	39.5' LT	P - 10E			24							626.93	626.91	INL - 10K	0.10%	
708+53.84	INL - 11J	48.9' RT	P - 11J	29									627.47	627.04	MH - 11I	1.50%	

PROJECT 1195-13-71 CAT 0020 SHEET SUBTOTAL 1688 435 271 0 944 32 429 1317 88

\*ADDITIONAL QUANTITIES LISTED ELSEWHERE IN PLAN  
 \*\* SEE JOINT TIE LOCATION DETAIL AND TRAFFIC CONTROL PLANS FOR LOCATIONS REQUIRING JOINT TIES.

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0020, UNLESS OTHERWISE NOTED.

STORM SEWER PIPE REINFORCED CONCRETE (CONT)

STATION	STRUCTURE	LOCATION	PIPE	608.0312	608.0315	608.0318	606.0321	608.0324	608.0327	608.0336	608.0342	608.0348	UPSTREAM INVERT ELEVATION	DOWNSTREAM INVERT ELEVATION	DRAINS TO STRUCTURE	SLOPE %	** JOINT TIES EACH
				SSPRC CLASS III 12-INCH LF	SSPRC CLASS III 15-INCH LF	SSPRC CLASS III 18-INCH LF	SSPRC CLASS III 21-INCH LF	SSPRC CLASS III 24-INCH LF	SSPRC CLASS III 27-INCH LF	SSPRC CLASS III 36-INCH LF	SSPRC CLASS III 42-INCH LF	SSPRC CLASS III 48-INCH LF					
<b>8TH STREET</b>																	
80+57.50	MH - 8A	19.5' LT	P - 8A		23								620.71	620.18	MH - 8H	2.30%	
79+42.50	INL - 8B	19.5' LT	P - 8B		115								621.29	620.71	MH - 8A	0.50%	
80+57.50	MH - 8H	5.0' LT	P - 8H		35								620.42	620.02	MH - 8 I	0.46%	
81+10.00	MH - 8 I	5.0' LT	P - 8K		23								620.02	619.92	MH - 8	0.42%	
80+57.50	MH - 8A	19.5' LT	P - 8I	16									620.71	620.57	GRIT CH	0.88%	
80+76.60	GRIT CH	27.2' LT	P - 8J	26									620.57	620.35	MH - 8	0.85%	
79+42.50	INL - 8C	19.5' RT	P - 8C	39									621.63	621.29	INL - 8B	0.90%	
79+30.00	INL - 8D	19.5' RT	P - 8D	13									621.86	621.63	INL - 8C	1.80%	
80+57.50	INL - 8E	19.5' RT	P - 8E		39								621.27	620.71	MH - 8A	1.40%	
81+20.22	MH - 8	25.7' LT	P - 8L		9								619.92	EXISTING	EXISTING	EXISTING	
<b>7TH STREET</b>																	
69+00.00	EX PIPE	16.35' RT	P - 7				43						EXISTING	619.24	MH - 7C	EXISTING	
70+57.50	MH - 7B	19.5' RT	P - 7L					21					618.66	618.56	MH - 7	0.48%	
71+00.00	MH - 7N	5.0' RT	P - 7M					26					618.43	618.34	MH - 7	0.35%	
70+73.15	MH - 7A	5.0' RT	P - 7N					27					618.56	618.43	MH - 7N	0.48%	
71+14.56	MH - 7	27.0' RT	P - 7P					8					618.34	EXISTING	EXISTING	EXISTING	
70+57.50	MH - 7B	19.5' RT	P - 7B	20									618.71	618.64	GRIT CH	0.41%	
70+77.80	GRIT CH	25.1' RT	P - 7O	16									618.64	618.54	MH - 7	0.41%	
69+42.50	MH - 7C	19.5' RT	P - 7C					83					619.24	618.83	MH - 7L	0.49%	
70+57.50	INL - 7J	19.5' LT	P - 7J										619.41	619.21	MH - 7B	0.50%	
724-32.41	INL - 7M	58.4' LT	P - 7Q	108									622.05	620.44	INL - 7K	1.49%	
69+42.50	INL - 7K	19.5' LT	P - 7K	39									619.43	619.24	MH - 7C	0.50%	
<b>6TH STREET</b>																	
60+57.60	MH - 6B	19.5' RT	P - 6N					21					614.39	614.22	MH - 6M	0.81%	
60+73.15	MH - 6M	5.0' RT	P - 6B					27					614.22	614.17	MH - 6N	0.19%	
61+00.00	MH - 6N	5.0' RT	P - 6A					29					614.17	614.00	MH - 6	0.59%	
61+15.70	MH - 6	28.7' RT	P - 6O					8					614.00	EXISTING	EXISTING	EXISTING	
59+42.60	MH - 6C	19.5' RT	P - 6C					83					614.62	614.45	MH - 6L	0.20%	
60+57.60	MH - 6B	19.5' RT	P - 6K	16									614.39	614.27	GRIT CH	0.76%	
60+78.90	GRIT CH	25.1' RT	P - 6L	13									614.27	614.17	MH - 6	0.76%	
58+85.00	EX PIPE	27.5' RT	P - 6M					8					EXISTING	614.62	MH - 6D	EXISTING	
58+85.00	MH - 6D	27.5' RT	P - 6D					58					615.17	614.62	MH - 6C	0.95%	
60+57.60	INL - 6I	19.5' LT	P - 6I	39									615.54	615.34	MH - 6B	0.50%	
59+42.60	INL - 6J	19.5' LT	P - 6J	39									615.73	615.53	MH - 6C	0.50%	
<b>5TH STREET</b>																	
50+57.70	MH - 5A	19.5' LT	P - 5A					21					611.14	611.01	MH - 5 I	0.62%	
49+25.00	EX PIPE	18.8' LT	P - 5X				132						611.53	611.14	MH - 5A	0.30%	
50+73.15	MH - 5 I	5.0' LT	P - 5B					27					611.01	610.85	MH - 5B	0.59%	
51+00.00	MH - 5B	5.0' LT	P - 5 I					18					610.85	610.74	MH - 5	0.61%	
50+57.70	MH - 5A	19.5' LT	P - 5Y	20									611.14	611.09	GRIT CH	0.25%	
50+76.60	GRIT CH	25.2' LT	P - 5J	40									611.09	610.94	MH - 5	0.37%	
51+09.96	MH - 5	20.1' LT	P - 5K					8					610.74	EXISTING	EXISTING	EXISTING	
50+57.70	MH - 5C	19.5' RT	P - 5C			39							611.85	611.14	MH - 5A	1.80%	
49+42.50	INL - 5H	19.5' RT	P - 5H	45									612.46	612.26	INL - 5F	0.40%	
<b>4TH STREET</b>																	
40+57.49	EX PIPE	19.5' LT	P - 4M			8							EXISTING	608.37	MH - 4J	EXISTING	
40+57.49	MH-4J	19.5' LT	P - 4J			9							608.37	607.86	MH-4C	5.67%	
38+75.00	MH - 4	28.9' LT	P - 4					9					606.56	EXISTING	EXISTING	EXISTING	
39+00.00	MH - 4A	5.0' LT	P - 4A					27					606.79	606.58	MH - 4	0.78%	
39+42.48	MH - 4B	19.5' LT	P - 4C					25					607.14	606.95	MH - 4M	0.76%	
39+42.52	MH - 4D	19.5' LT	P - 4D			39							607.90	6.71	MH - 4B	0.70%	
39+21.98	MH - 4M	5.0' LT	P - 4B					22					606.95	606.79	MH - 4A	0.73%	
39+42.48	MH - 4B	19.5' LT	P - 4M	13									607.14	607.01	GRIT CH	1.00%	
39+24.70	GRIT CH	25.1' LT	P - 4L	23									607.01	606.70	MH - 4	1.35%	
40+57.49	MH - 4C	19.5' LT	P - 4X					115					607.36	607.14	MH - 4B	0.19%	
40+57.52	INL - 4I	19.5' RT	P - 4I	39									608.63	608.26	MH - 4C	0.90%	
40+57.49	MH - 4K	49.2' LT	P - 4K	20									608.42	608.37	MH - 4J	0.20%	
PROJECT 1195-13-71 CAT 0020 SHEET SUBTOTAL				623	244	95	43	495	308	0	0	0					
PROJECT 1195-13-71 CAT 0020 ITEM TOTAL				2311	679	366	43	1439	340	429	1317	88					

\*ADDITIONAL QUANTITIES LISTED ELSEWHERE IN PLAN  
 \*\* SEE JOINT TIE LOCATION DETAIL AND TRAFFIC CONTROL PLANS FOR LOCATIONS REQUIRING JOINT TIES.

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0020, UNLESS OTHERWISE NOTED.

**STORM SEWER PIPE REINFORCED CONCRETE (CONT)**

STATION	STRUCTURE	LOCATION	PIPE	* JOINT TIES EACH										UPSTREAM INVERT ELEVATION	DOWNSTREAM INVERT ELEVATION	DRAINS TO STRUCTURE	SLOPE %	
				608.0312 SSPRC CLASS III 12-INCH LF	608.0315 SSPRC CLASS III 15-INCH LF	608.0318 SSPRC CLASS III 18-INCH LF	608.0321 SSPRC CLASS III 21-INCH LF	608.0324 SSPRC CLASS III 24-INCH LF	608.0327 SSPRC CLASS III 27-INCH LF	608.0336 SSPRC CLASS III 36-INCH LF	608.0342 SSPRC CLASS III 42-INCH LF	608.0348 SSPRC CLASS III 48-INCH LF	* JOINT TIES EACH					
PROJECT 8998-00-08																		
CATEGORY 0010																		
14TH STREET																		
139+52.50	MH - 14B	23.5' RT	P - 14B					27							632.62	632.39	MH - 14A	0.30%
137+95.00	MH - 14C	24.0' RT	P - 14C					158							632.94	632.62	MH - 14E	0.20%
137+95.00	END PIPE	35.5' RT	P - 14CC		12										633.78	633.69	MH - 14C	0.78%
137+95.00	INL - 14D	26.0' LT	P - 14D	50											633.27	633.05	MH - 14C	0.40%
139+52.50	INL - 14E	18.0' RT	P - 14E	6											633.69	633.62	MH - 14E	1.20%
139+52.50	INL - 14F	9.0' LT	P - 14F	27											633.81	633.69	INL - 14E	0.44%
139+20.14	INL - 14G	26.0' LT	P - 14G	37											633.99	633.81	INL - 14F	0.49%
13TH STREET																		
127+93.29	MH - 13D	24.0' RT	P - 13D					159							632.07	631.67	MH - 13F	0.30%
127+93.33	END PIPE	39.5' RT	P - 13DD		16										632.31	632.20	MH - 13D	0.72%
127+93.29	INL - 13E	26.0' LT	P - 13E	50											632.90	632.45	MH - 13D	0.90%
129+52.41	MH - 13F	18.0' RT	P - 13C					31							631.67	631.59	MH - 13E	0.25%
129+20.14	INL - 13G	26.0' LT	P - 13G	55											632.77	632.50	INL - 13F	0.50%
131+94.93	MH - 13J	23.5' RT	P - 13J					140							EXISTING	631.04	INL - 13L	0.20%
131+94.93	INL - 13K	23.5' LT	P - 13K	38											632.50	EXISTING	MH - 13J	0.45%
130+47.50	INL - 13L	17.5' RT	P - 13L					22							631.04	630.93	MH - 13I	0.50%
130+76.85	INL - 13M	26.5' LT	P - 13M	55											632.66	632.39	INL - 13L	0.50%
12TH STREET																		
119+52.50	MH - 12B	26.0' RT	P - 12B					23							629.70	629.63	MH - 12A	0.30%
119+20.14	MH - 12C	26.5' RT	P - 12C					32							629.80	629.70	MH - 12E	0.30%
118+20.00	MH - 12D	26.5' RT	P - 12D					100							630.03	629.80	MH - 12C	0.20%
117+94.00	MH - 12E	37.0' RT	P - 12E		28										631.00	630.78	MH - 12D	0.80%
119+52.50	INL - 12G	9.9' RT	P - 12G	17											630.94	630.70	MH - 12E	1.40%
119+52.50	INL - 12H	17.5' LT	P - 12H	27											631.07	630.94	INL - 12G	0.50%
118+20.00	INL - 12I	23.5' LT	P - 12I	50											631.28	631.03	MH - 12D	0.50%
120+47.51	MH - 12L	26.0' RT	P - 12L					23							629.51	629.40	MH - 12	0.50%
120+79.35	MH - 12M	26.0' RT	P - 12M					32							629.62	629.51	MH - 12L	0.30%
121+64.00	MH - 12N	26.0' RT	P - 12N					85							629.79	629.62	MH - 12M	0.20%
121+93.00	MH - 12O	32.0' RT	P - 12O		30										631.40	630.54	MH - 12N	2.90%
121+89.14	INL - 12P	24.0' LT	P - 12P	56											631.07	630.79	MH - 12N	0.50%
120+47.51	INL - 12Q	9.0' RT	P - 12Q	17											630.92	630.51	MH - 12L	2.40%
120+47.51	INL - 12R	18.0' LT	P - 12R	27											631.05	630.92	INL - 12Q	0.50%
11TH STREET																		
122+00.18	INL - 144	18.0' RT	P - 11L	137											EXISTING	628.61	MH - 11K	1.17%
705+38.00	MH - 11K	46.0' RT	P - 11K	22											628.61	628.50	MH - 11	0.50%
109+52.50	MH - 11C	17.5' RT	P - 11A			80									628.22	628.00	MH - 11	0.28%
109+19.33	INL - 11D	26.5' LT	P - 11D	55											629.10	628.86	INL - 11C	0.40%
107+94.00	MH - 11F	33.0' RT	P - 11F	21											629.32	628.85	INL - 11G	2.24%
107+74.94	INL - 11G	23.5' RT	P - 11G		66										628.60	628.42	MH - 11H	0.32%
BROADWAY STREET																		
99+36.50	MH - 10C	11.9' RT	P - 10M					8							626.80			
100+75.00	INL - 10L	29.5' RT	P - 10L	12											626.21	625.97	INL - 10A	2.00%
100+63.50	INL - 10A	29.5' RT	P - 10A			32									625.47	625.02	MH - 10	1.40%
100+63.50	INL - 10B	29.5' LT	P - 10B	59											626.27	625.97	INL - 10A	0.50%
99+36.50	INL - 10D	29.5' RT	P - 10D			18									626.88	626.80	MH - 10C	0.44%
99+36.50	INL - 10F	29.5' LT	P - 10F	41											627.00	626.80	MH - 10C	0.50%
WINTER STREET																		
89+42.80	MH - 9	39.9' RT	P - 9										26		620.88		EX PIPE	
90+63.51	MH - 9C	39.8' RT	P - 9C										33		621.05	621.00	MH - 9T	0.14%
90+63.51	END PIPE	29.5' RT	P - 9R										8		621.05	621.05	MH - 9C	
92+00.31	INL - 9D	29.5' RT	P - 9D	10											624.33	624.32	EX MH	0.10%
92+00.95	INL - 9E	29.5' LT	P - 9E	6											625.18	625.09	EX PIPE	1.40%
92+00.31	EX PIPE	23.5' RT	P - 9EE	6											624.42	624.33	INL - 9D	1.40%
89+36.51	INL - 9F	29.5' RT	P - 9F			12									622.43	622.31	MH - 9	1.00%
89+36.49	MH - 9G	29.5' LT	P - 9G			59									622.73	622.43	INL - 9F	0.50%
88+99.77	INL - 9H	29.5' RT	P - 9H	37											623.57	622.93	INL - 9F	1.70%
90+63.51	INL - 9K	29.5' RT	P - 9K			10									622.88	622.80	MH - 9C	0.80%
90+63.50	INL - 9L	29.5' LT	P - 9L	59											623.43	623.13	INL - 9K	0.50%
PROJECT 8998-00-08 CAT 0010 TOTAL				977	152	201	0	840	0	0	0	0	67					
ITEM TOTALS				3288	831	567	43	2279	340	429	1317	155						

\*\* SEE JOINT TIE LOCATION DETAIL AND TRAFFIC CONTROL PLANS FOR LOCATIONS REQUIRING JOINT TIES.  
\*ADDITIONAL QUANTITIES LISTED ELSEWHERE IN PLAN

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**STORM SEWER STRUCTURE ITEMS**

STATION	STRUCTURE	LOCATION	611.2004	611.2005	611.2006	611.2007	611.2008	SPV.0060.19	611.3220	611.3230	611.0530	611.0624	611.0639	611.0651	SPV.0060.20	SPV.0060.21	SPV.0060.17	SPV.0060.18
			4-FT DIA EACH	5-FT DIA EACH	6-FT DIA EACH	7-FT DIA EACH	8-FT DIA EACH	DIVERSION EACH	INLETS 2X2 - FT EACH	INLETS 2X3 - FT EACH	MANHOLE COVERS TYPE J EACH	INLET COVERS TYPE H EACH	INLET COVERS TYPE H-S EACH	INLET COVERS TYPE S EACH	RESIDENTIAL MANHOLES 18-INCH EACH	RESIDENTIAL MANHOLES 24-INCH EACH	GRIT CHAMBER TYPE A EACH	GRIT CHAMBER TYPE B EACH
PROJECT 1195-13-71 CATEGORY 0020 STH 35																		
689+12.00	MH - 15	23.5' RT	1									1						
689+12.00	INL - 15A	43.5' LT								1		1						
689+78.32	MH - 15B	23.5' RT		1								1						
689+85.58	MH - 15D	51.5' RT	1								1							
691+76.00	INL - 14H	40.5' LT								1		1						
692+44.12	MH - 14A	33.5' LT	1									1						
692+44.12	MH - 14	23.5' RT		1								1						
692+97.63	MH - 14 I	23.5' RT		1								1						
693+11.37	MH - 14J	46.0' RT	1								1							
695+94.83	MH - 13A	23.5' RT	1										1					
695+94.84	INL - 13H	39.5' LT								1			1					
696+64.53	MH - 13	17.5' RT			1								1					
696+64.55	MH - 13B	33.5' LT	1										1					
696+80.89	MH - 13 I	17.5' RT			1						1							
699+93.18	MH - 12A	33.5' LT	1									1						
700+23.47	MH - 12K	23.5' RT		1									1					
700+23.50	INL - 12F	39.5' LT								1			1					
700+93.17	MH - 12	17.5' RT					1					1						
704+35.20	INL - 11B	39.5' LT								1								
705+04.90	MH - 11	23.5' RT					1											
705+04.91	INL - 11A	33.5' LT								1								
705+38.00	MH - 11K	46.0' RT	1								1							
708+38.50	INL - 11J	47.5' RT								1			1					
708+53.84	MH - 11 I	23.5' RT					1						1					
709+18.00	INL - 10E	39.5' LT								1			1					
709+22.97	INL - 10K	63.0' LT								1			1					
709+50.00	MH - 10	23.5' RT					1				1							
712+50.00	MH - 10G	6.0' RT					1	1										
712+57.28	MH - 10H	17.5' RT	1															
713+10.00	GRIT CH	17.5' RT								3								1
713+87.91	INL - 9J	23.5' RT								1		1						
713+87.94	INL - 9I	39.5' LT								1								
714+09.60	MH - 9B	6.0' RT					1				1							
714+09.60	MH - 9T	23.5' RT					1				1							
715+52.10	MH - 9M	17.5' RT	1								1							
715+52.10	INL - 9N	39.5' LT								1								
715+52.10	INL - 9P	23.5' RT								1								
715+62.10	INL - 9O	39.5' LT								1			1					
715+62.10	INL - 9Q	23.5' RT								1			1					
716+00.00	INL - 9U	39.5' RT								1			1					
716+44.76	MH - 9R	48.4' LT	1								1							
716+56.95	INL - 9T	61.0' LT							1					1				
718+33.13	INL - 8F	17.5' RT								1								
718+33.16	INL - 8G	33.5' LT								1								
720+50.00	INL - 7F	23.5' RT								1								
720+50.00	INL - 7G	39.5' LT								1								
721+33.00	INL - 7O	58.3' LT								1								
721+93.62	INL - 7E	23.5' RT								1								
721+93.63	INL - 7I	39.5' LT								1								
722+53.31	INL - 7D	17.5' RT								1								
722+53.34	INL - 7H	33.5' LT								1								
722+85.32	MH - 7L	17.5' RT	1								1							
726+13.88	INL - 6F	23.5' RT								1								
726+13.88	INL - 6H	39.5' LT								1								
726+25.00	INL - 6O	58.5' LT								1								
726+34.47	INL - 6A	41.6' RT								1			1					
726+73.57	INL - 6G	33.5' LT								1								
726+73.58	INL - 6E	17.5' RT								1								
727+05.27	MH - 6L	17.5' RT			1						1							
729+85.00	INL - 5 I	55.5' LT							1					1				
730+34.00	INL - 5E	23.5' LT								1								
730+34.00	INL - 5G	39.5' LT								1								
730+93.70	MH - 5D	17.5' RT	1															
730+93.70	INL - 5F	33.5' LT								1								
735+03.95	INL - 4F	39.5' LT								1								
735+03.95	INL - 4H	23.5' RT								1								
735+63.61	INL - 4G	17.5' RT								1								
735+63.66	INL - 4E	33.5' LT								1								
737+25.00	INL - 4L	58.5' RT								1								

PROJECT 1195-13-71 CAT 0020 SHEET SUBTOTAL

13	4	3	0	7	1	2	39	16	41	12	2	0	0	0	0	1
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\*ADDITIONAL QUANTITIES LISTED ELSEWHERE IN PLAN

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

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STORM SEWER STRUCTURE ITEMS (CONT)

STATION	STRUCTURE	LOCATION	611.2004	611.2005	611.2006		611.2007	611.2008	SPV.0060.19	611.3220	611.3230	611.0530	611.0624	611.0639	611.0651	SPV.0060.20	SPV.0060.21	SPV.0060.17	SPV.0060.18
			4-FT DIA EACH	5-FT DIA EACH	6-FT DIA EACH	7-FT DIA EACH	8-FT DIA EACH	DIVERSION EACH	INLETS 2X2 - FT EACH	INLETS 2X3 - FT EACH	MANHOLE COVERS TYPE J EACH	INLET COVERS TYPE H EACH		TYPE S EACH	RESIDENTIAL MANHOLES 18-INCH EACH		24-INCH EACH	GRIT CHAMBER TYPE A EACH	GRIT CHAMBER TYPE B EACH
<b>8TH STREET</b>																			
80+95.70	MH - 8	25.7' LT		1								1							
80+57.50	MH - 8A	19.5' LT			1				1				1						
80+57.50	MH - 8H	5.0' LT	1									1							
81+10.00	MH - 8 I	5.0' LT	1									1							
80+76.60	GRIT CH	20.3' LT										3						1	
79+42.50	INL - 8B	19.5' LT									1		1						
79+42.50	INL - 8C	19.5' RT									1			1					
79+30.00	INL - 8D	19.5' RT									1		1						
80+57.50	INL - 8E	19.5' RT									1		1						
<b>7TH STREET</b>																			
70+00.20	MH - 7	27.0' RT			1							1							
70+77.80	GRIT CH	25.3' RT										3						1	
70+57.50	MH - 7B	19.5' RT					1		1					1					
70+73.15	MH - 7A	5.0' LT	1									1							
71+00.00	MH - 7N	5.0' LT	1									1							
69+42.50	MH - 7C	19.5' RT			1									1					
70+57.50	INL - 7J	19.5' LT									1								
724+32.41	INL - 7M	58.4' LT									1								
69+42.50	INL - 7K	19.5' LT									1		1						
<b>6TH STREET</b>																			
60+57.60	MH - 8B	19.5' RT						1											
60+73.15	MH - 6M	5.0' RT	1									1							
61+00.00	MH - 6N	5.0' RT	1									1							
61+15.70	MH - 6	28.7' RT		1								1							
60+78.90	GRIT CH	25.2' RT										3						1	
60+57.60	MH - 8B	19.5' RT						1						1					
59+42.60	MH - 8C	19.5' RT				1								1					
58+85.00	MH - 8D	27.5' RT			1							1							
60+57.60	INL - 6I	19.5' LT									1								
59+42.60	INL - 6J	19.5' LT									1								
59+42.43	RMH - 6K	27.5' LT															1		
<b>5TH STREET</b>																			
51+09.96	MH - 5	20.1' LT		1								1							
50+76.60	GRIT CH	25.2' LT										3						1	
50+57.70	MH - 5A	19.5' LT						1		1			1						
50+73.15	MH - 5 I	5.0' LT	1									1							
51+00.00	MH - 5B	5.0' LT	1									1							
50+57.70	MH - 5C	19.5' RT	1											1					
49+42.50	INL - 5H	19.5' RT									1		1						
<b>4TH STREET</b>																			
38+75.00	MH - 4	28.9' LT			1							1							
39+00.00	MH - 4A	5.0' LT	1									1							
39+21.98	MH - 4M	5.0' LT	1									1							
39+24.70	GRIT CH	25.2' LT										3						1	
39+42.48	MH - 4B	19.5' LT												1					
40+57.49	MH - 4C	19.5' LT			1									1					
39+42.52	INL - 4D	19.5' RT									1			1					
40+57.52	INL - 4I	19.5' RT									1			1					
40+57.49	MH - 4J	28.9' LT	1									1							
40+57.49	MH - 4K	49.2' LT	1									1							
PROJECT 1195-13-71 CAT 0020 SHEET SUBTOTAL			13	3	7	1	4	6	0	12	33	9	13	0	0	0	1	5	0
PROJECT 1195-13-71 CAT 0020 ITEM TOTAL			26	7	10	1	11	7	2	51	49	50	25	2	0	1	5	1	

\*ADDITIONAL QUANTITIES ELSEWHERE IN PLAN

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

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STORM SEWER STRUCTURE ITEMS (CONT)

STATION	STRUCTURE	LOCATION	611.2004	611.2005	611.2006		611.2007	611.2008	SPV.0060.19	611.3220	611.3230	611.0530	611.0624	611.0639	SPV.0060.20		SPV.0060.21	SPV.0060.17	SPV.0060.18
			4-FT DIA EACH	5-FT DIA EACH	6-FT DIA EACH	7-FT DIA EACH	8-FT DIA EACH	DIVERSION EACH	INLETS 2X2 - FT EACH	INLETS 2X3 - FT EACH	MANHOLE COVERS TYPE J EACH	TYPE H EACH	INLET COVERS TYPE H-S EACH	TYPE S EACH	18-INCH EACH	24-INCH EACH	GRIT CHAMBER TYPE A EACH	GRIT CHAMBER TYPE B EACH	
PROJECT 8998-00-08 CATEGORY 0010																			
14TH STREET																			
139+52.50	MH - 14B	23.5' RT	1									1							
137+95.00	MH - 14C	23.5' RT	1											1					
137+95.00	INL - 14D	26.0' LT									1			1					
139+52.50	INL - 14E	18.0' RT									1		1						
139+52.50	INL - 14F	9.0' LT									1		1						
139+20.14	INL - 14G	26.0' LT									1			1					
13TH STREET																			
127+93.29	MH - 13D	23.5' RT	1																
127+93.29	INL - 13E	26.5' LT									1			1					
129+52.50	INL - 13F	17.5' RT				1								1					
129+20.14	INL - 13G	26.5' LT									1			1					
131+94.93	INL - 13K	23.5' LT									1			1					
130+47.50	INL - 13L	17.5' RT				1								1					
130+76.85	INL - 13M	26.5' LT									1			1					
12TH STREET																			
119+52.50	MH - 12B	26.0' RT	1									1							
119+20.14	MH - 12C	26.0' RT	1										1						
118+20.00	MH - 12D	26.0' RT	1											1					
117+94.00	MH - 12E	37.0' RT	1									1							
119+52.50	INL - 12G	9.5' RT									1			1					
119+52.50	INL - 12H	18.0' LT									1			1					
118+20.00	INL - 12I	24.0' LT									1			1					
118+65.57	RMH - 12J	31.3' LT													1				
120+47.51	MH - 12L	26.0' RT	1									1							
120+79.35	MH - 12M	26.0' RT	1										1						
121+64.00	MH - 12N	26.0' RT	1											1					
121+93.00	MH - 12O	32.0' RT	1									1							
121+89.14	INL - 12P	24.0' LT									1			1					
120+47.51	INL - 12Q	9.0' RT									1			1					
120+47.51	INL - 12R	24.0' LT									1			1					
11TH STREET																			
109+52.50	MH - 11C	17.5' RT			1														
109+19.33	INL - 11D	29.5' LT									1			1					
107+94.00	MH - 11F	33.0' RT	1									1							
107+74.94	INL - 11G	23.5' RT									1			1					
107+50.00	INL - 11H	26.5' LT									1			1					
BROADWAY STREET																			
100+75.00	INL - 10L	29.5' RT									1			1					
100+63.50	INL - 10A	29.5' RT									1			1					
100+63.50	INL - 10B	29.5' LT									1			1					
99+36.50	MH - 10C	11.9' RT	1									1							
99+36.50	INL - 10D	29.5' RT									1			1					
99+36.50	INL - 10F	29.5' LT									1			1					
WINTER STREET																			
89+42.80	MH - 9	39.9' RT					1					1							
90+63.51	MH - 9C	39.8' RT					1					1							
92+00.31	INL - 9D	29.5' RT									1			1					
92+00.95	INL - 9E	29.5' LT									1			1					
89+36.51	INL - 9F	29.5' RT									1			1					
89+44.50	INL - 9S	57.0' RT									1			1					
89+36.49	MH - 9G	29.5' LT	1											1					
88+99.77	INL - 9H	29.5' RT									1		1						
90+63.51	INL - 9K	29.5' RT									1			1					
90+63.50	INL - 9L	29.5' LT									1			1					
PROJECT 8998-00-08 CAT 0010 TOTAL			14	0	1	2	2	0	0	29	9	5	34	0	1	0	0	0	
ITEM TOTALS			40	7	11	3	13	7	2	80	58	55	59	2	1	1	5	1	

\*ADDITIONAL QUANTITIES LISTED ELSEWHERE IN PLAN

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

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**PIPE UNDERDRAIN**

STATION	LOCATION	645.0111 GEOTEXTILE FABRIC			*310.0110 BASE AGGREGATE OPEN GRADED TON
		612.0106 6-INCH LF	TYPE DF, SCHEDULE A SY		
PROJECT 1195-13-71 CATEGORY 0010 STH 35					
688+68 - 692+46	LT	378	189		25
692+94 - 696+66	LT	384	192		25
697+14 - 700+94	LT	397	199		26
701+42 - 705+06	LT	377	189		25
705+54 - 709+20	LT	381	191		25
710+10 - 713+86	LT	394	197		26
714+79 - 716+73	LT	212	106		14
717+16 - 718+33	LT	118	59		7
719+05 - 722+54	LT	367	184		25
723+25 - 726+75	LT	368	184		25
727+45 - 730+95	LT	370	185		25
731+66 - 735+65	LT	413	207		26
736+64 - 737+84	LT	166	83		11
688+68 - 692+84	RT	417	209		26
692+84 - 696+65	RT	381	191		25
697+14 - 700+87	RT	390	195		25
701+43 - 709+20	RT	789	395		51
710+10 - 713+86	RT	394	197		26
714+79 - 716+73	RT	212	106		14
717+15 - 718+33	RT	119	60		7
719+04 - 722+54	RT	369	185		25
723+25 - 726+75	RT	370	185		25
727+45 - 730+95	RT	368	184		25
731+65 - 735+65	RT	420	210		28
736+64 - 737+84	RT	166	83		11
8TH STREET					
78+35 - 79+41	LT	56	28		4
78+35 - 79+41	RT	56	28		4
80+57 - 81+25	LT	68	34		5
80+57 - 81+25	RT	66	33		4
7TH STREET					
68+70 - 69+43	LT	73	37		5
68+70 - 69+43	RT	73	37		5
70+57 - 71+25	LT	68	34		5
70+57 - 71+25	RT	67	34		4
6TH STREET					
58+75 - 59+42	LT	68	34		5
58+75 - 59+42	RT	68	34		5
60+57 - 61+35	LT	77	39		5
60+57 - 61+35	RT	77	39		5
5TH STREET					
48+80 - 49+50	LT	70	35		5
48+80 - 49+40	RT	61	31		4
50+58 - 51+35	LT	77	39		5
50+58 - 51+35	RT	78	39		5
4TH STREET					
37+85 - 39+44	LT	159	80		11
37+85 - 39+44	RT	159	80		11
40+47 - 41+75	LT	118	59		7
40+47 - 41+75	RT	117	59		7
PROJECT 1195-13-71 SUBTOTAL		10376	5198		684
*ADDITIONAL QUANTITY ELSEWHERE IN PLAN					

**PIPE UNDERDRAIN (CONT.)**

STATION	LOCATION	645.0111 GEOTEXTILE FABRIC			*310.0110 BASE AGGREGATE OPEN GRADED TON
		612.0106 6-INCH LF	TYPE DF, SCHEDULE A SY		
PROJECT 8998-00-08 CATEGORY 0010 14TH STREET					
137+70 - 139+54	LT	190	95		12
137+70 - 139+53	RT	183	92		12
13TH STREET					
127+60 - 129+50	LT	195	98		12
127+60 - 129+51	RT	192	96		12
130+50 - 132+50	LT	206	103		14
130+47 - 132+50	RT	203	102		14
12TH STREET					
117+50 - 119+54	LT	205	103		14
117+50 - 119+54	RT	207	104		14
120+46 - 122+50	LT	205	103		14
120+49 - 122+50	RT	208	104		14
11TH STREET					
107+25 - 109+50	LT	231	116		16
107+25 - 109+52	RT	227	114		14
BROADWAY STREET					
97+75 - 99+38	LT	163	82		11
97+75 - 99+38	RT	163	82		11
100+65 - 101+75	LT	110	55		7
100+65 - 101+75	RT	110	55		7
WINTER STREET					
88+45 - 89+36	LT	92	46		5
88+45 - 89+36	RT	92	46		5
90+65 - 91+25	LT	62	31		4
90+65 - 91+25	RT	60	30		4
PROJECT 8998-00-08 SUBTOTAL		3304	1657		216
ITEM TOTALS		13680	6855		900

\*ADDITIONAL QUANTITY ELSEWHERE IN PLAN

**TEMPORARY PAVEMENT & SAFETY FENCE**

STATION	SPV.0180.02 616.0700.S TEMPORARY PAVEMENT SAFETY FENCE		
	SY	LF	
PROJECT 1195-13-71 CATEGORY 0010 STH 35			
690+10 - 692+55	RT	140	255
693+20 - 693+95	LT	45	80
14TH STREET			
137+70 - 139+56	LT	135	190
12TH STREET			
117+50 - 122+50		1667	964
BROADWAY STREET			
96+59 - 103+38		1333	764
7TH STREET			
68+70 - 71+25		850	474
5TH STREET			
48+80 - 51+35		850	474
PROJECT 1195-13-71 TOTAL		5020	3201

**LANDMARK REFERENCE MONUMENTS AND CAST IRON COVERS**

NAME	LOCATION	621.1100		REMARKS
		EACH		
PROJECT 1195-13-71 CATEGORY 0010				
MON1002	N 305457.5990 E 143224.6560	1		SW CORNER SECTION 15
MON1003	N 308100.9180 E 143257.8890	1		W 1/4 CORNER SECTION 15
MON1004	N 310759.8320 E 145964.5320	1		N 1/4 CORNER SECTION 15
MON1005	N 308081.2540 E 145914.9960	1		C 1/4 CORNER SECTION 15
MON1006	N 310708.9900 E 148606.8100	1		NE CORNER SECTION 15
PROJECT ITEM TOTAL		5		

**DUST CONTROL SURFACE TREATMENT**

STATION	PAVED AREA (SY)	APPLICATIONS	623.0200
			SY
PROJECT 1195-13-71 CAT 0010			
STH 35 (MAINLINE)	30000	4	120000
8TH STREET	512	4	2048
7TH STREET	600	4	2400
6TH STREET	592	4	2368
5TH STREET	572	4	2288
4TH STREET	572	4	2288
1195-13-71 SUBTOTAL			131392
PROJECT 8998-00-08			
14TH STREET	913	4	3652
13TH STREET	1960	4	7840
12TH STREET	1977	4	7908
11 TH STREET			1136
BROADWAY STREET	1716	4	6864
WINTER STREET	973	4	3892
8998-00-08 SUBTOTAL			31292
ITEM TOTAL			162684

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.



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TURF ITEMS

STATION	LOCATION	624.0100 WATER MGAL	625.0100 TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0140 SEEDING MIXTURE NO 40 LB	631.0300 SOD WATER MGAL	631.1000 SOD LAWN SY	REMARKS
PROJECT 1195-13-71									
CATEGORY 0010									
STH 35									
696+22 - 696+69	LT				0.02		0.1	26	
704+59 - 706+54	RT				0.07		0.3	108	
710+29 - 713+99	RT				0.08		0.3	122	
714+99 - 715+49	RT				0.02		0.1	26	
717+15 - 718+50	RT				0.05		0.2	77	
719+16 - 720+89	RT				0.06		0.3	96	
726+37 - 726+94	RT				0.02		0.1	31	
730+11 - 731+13	LT & RT				0.06		0.3	95	
731+77 - 735+39	LT & RT				0.10		0.5	163	
737+15 - 737+84	LT & RT				0.08		0.3	123	
8TH STREET									
78+75 - 79+24	LT & RT				0.03		0.1	41	
80+51 - 81+25	LT & RT				0.07		0.3	113	
7TH STREET									
70+77 - 71+25	LT & RT				0.05		0.2	72	
6TH STREET									
58+75 - 59+23	RT				0.02		0.1	31	
60+52 - 61+35	LT & RT				0.07		0.3	115	
5TH STREET									
48+80 - 49+48	RT				0.03		0.1	48	
50+51 - 51+35	LT & RT				0.10		0.5	166	
4TH STREET									
37+85 - 38+98	LT & RT				0.06		0.3	101	
40+73 - 41+75	LT & RT				0.14		0.6	224	
CATEGORY 0010 SUBTOTAL		0.0	0	0	1.13	0	5.0	1778	
CATEGORY 0040									
11TH STREET									
110+56 - 111+80	LT & RT	4.2	1475	1475	0.93	27			OBLITERATING OLD ROAD AND BERM AREAS
CATEGORY 0040 SUBTOTAL		4.2	1475	1475	0.93	27	0.0	0	
PROJECT 1195-13-71 SUBTOTAL		4.2	1475	1475	2.06	27	5.0	1778	
PROJECT 8998-00-08									
CATEGORY 0010									
BROADWAY STREET									
96+54 - 98+25	RT				0.06		0.3	94	
100+55 - 101+09	LT				0.02		0.1	35	
WINTER STREET									
86+59 - 89+14	RT				0.10		0.5	163	
90+54 - 92+86	LT & RT				0.17		0.8	271	
PROJECT 8998-00-08 SUBTOTAL		0.0	0	0	0.35	0	1.7	563	
PROJECT ITEM TOTALS		4.2	1475	1475	2.41	27	6.7	2341	

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

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**INLET PROTECTION**

STATION	LOCATION	628.7005 TYPE A EACH	628.7015 TYPE C EACH
PROJECT 1195-13-71			
CATEGORY 0020			
STH 35			
749+54.00	44.7' LT		1
749+53.18	12.0' LT		1
745+54.25	49.2' LT		1
745+53.18	9.4' LT		1
745+53.09	29.8' RT		1
743+91.71	19.4' LT		1
743+87.18	51.4' LT		1
743+86.72	27.2' RT		1
743+16.12	37.4' RT		1
742+87.37	52.9' LT		1
742+72.86	52.5' LT		1
741+69.16	25.9' RT		1
741+49.70	25.7' RT		1
740+49.79	87.7' LT		1
739+99.46	44.7' LT		1
739+94.78	25.1' RT		1
739+94.19	26.1' RT		1
737+40.67	48.5' LT	1	1
735+63.66	33.5' LT	1	1
735+03.95	39.5' LT	1	1
735+63.61	17.5' RT	1	1
735+03.95	23.5' RT	1	1
730+93.70	17.5' RT	1	1
730+34.00	23.5' LT	1	1
730+93.70	33.5' LT	1	1
730+34.00	39.5' LT	1	1
729+85.00	55.5' LT	1	1
726+73.58	17.5' RT	1	1
726+13.88	23.5' RT	1	1
726+25.00	58.5' LT	1	1
726+73.57	33.5' LT	1	1
726+34.47	42.6' RT	1	1
726+13.88	39.5' LT	1	1
724+32.41	57.4' LT	1	1
722+53.34	33.5' LT	1	1
722+53.31	17.5' RT	1	1
720+50.00	23.5' RT	1	1
720+50.00	39.5' LT	1	1
721+93.62	23.5' RT	1	1
721+93.63	39.5' LT	1	1
721+32.99	57.3' LT	1	1
718+33.13	17.5' RT	1	1
718+33.16	33.5' LT	1	1
716+00.00	39.5' LT	1	1
715+52.10	39.5' LT	1	1
715+62.10	39.5' LT	1	1
715+52.10	23.5' RT	1	1
715+62.10	23.5' RT	1	1
713+92.77	47.2' LT	1	1
713+87.94	22.6' LT	1	1
713+87.91	23.5' RT	1	1
709+22.97	62.0' LT	1	1
709+18.00	39.5' LT	1	1
708+59.83	23.5' RT	1	1
708+38.50	47.5' RT	1	1
705+38.05	23.5' RT	1	1
705+04.91	33.5' LT	1	1
704+35.20	39.5' LT	1	1
700+93.18	18.5' RT	1	1
700+93.17	33.5' LT	1	1
700+23.50	39.5' LT	1	1
700+23.47	23.5' RT	1	1
696+64.55	33.5' LT	1	1
696+64.53	17.5' RT	1	1
695+94.84	39.5' LT	1	1
695+94.83	23.5' RT	1	1
692+97.54	23.5' RT	1	1
692+44.12	23.5' RT	1	1
692+44.12	33.5' LT	1	1
691+76.00	40.5' LT	1	1
689+12.00	23.5' RT	1	1
689+12.00	43.5' LT	1	1
688+35.39	75.0' LT		1
688+36.73	53.8' RT		1

**INLET PROTECTION (CONTIN'D)**

STATION	LOCATION	628.7005 TYPE A EACH	628.7015 TYPE C EACH
8TH STREET			
80+57.50	19.5' LT	1	1
79+42.50	19.5' LT	1	1
79+42.50	19.5' RT	1	1
79+30.00	19.5' RT	1	1
80+57.50	19.5' RT	1	1
82+10.02	19.9' RT		1
7TH STREET			
70+57.50	19.5' RT	1	1
69+42.50	19.5' RT	1	1
70+57.50	19.5' LT	1	1
69+42.50	19.5' LT	1	1
72+10.25	23.2' LT		1
72+10.25	21.1' RT		1
6TH STREET			
60+57.60	19.5' RT	1	1
59+42.60	19.5' RT	1	1
60+57.60	19.5' LT	1	1
59+42.60	19.5' LT	1	1
62+10.69	21.5' RT		1
5TH STREET			
48+09.10	16.9' LT		1
49+42.50	19.5' RT	1	1
50+57.70	19.5' LT	1	1
50+57.70	19.5' RT	1	1
52+10.11	11.0' RT		1
52+14.28	13.8' LT		1
4TH STREET			
39+42.48	19.5' LT	1	1
39+42.52	19.5' RT	1	1
40+57.52	19.5' RT	1	1
40+57.49	19.5' LT	1	1
42+10.50	24.6' RT		1
42+10.63	19.4' LT		1
PROJECT 1195-13-71 (CAT 0020) SUBTOTAL		75	103

**INLET PROTECTION (CONTIN'D)**

STATION	LOCATION	628.7005 TYPE A EACH	628.7015 TYPE C EACH
PROJECT 8998-00-08			
CATEGORY 0010			
14TH STREET			
137+95.00	24.0' RT	1	1
137+95.00	26.5' LT	1	1
139+52.50	18.0' RT	1	1
139+52.50	9.0' LT	1	1
139+20.14	26.0' LT	1	1
13TH STREET			
127+93.29	24.0' RT	1	1
127+93.29	26.0' LT	1	1
129+52.41	18.0' RT	1	1
129+20.14	26.0' LT	1	1
131+94.93	23.5' RT	1	1
131+94.93	23.5' LT	1	1
130+47.50	17.5' RT	1	1
130+76.85	26.5' LT	1	1
12TH STREET			
118+20.00	26.5' RT	1	1
119+52.50	9.9' RT	1	1
119+52.50	17.5' LT	1	1
118+20.00	23.5' LT	1	1
121+64.00	26.0' RT	1	1
121+89.14	24.0' LT	1	1
120+47.51	9.0' RT	1	1
120+47.51	18.0' LT	1	1
11TH STREET			
109+52.50	17.5' RT	1	1
109+19.33	26.5' LT	1	1
107+74.94	23.5' RT	1	1
107+50.00	26.5' LT	1	1
112+00.31	18.0' RT		1
112+00.19	22.1' LT		1
BROADWAY STREET			
100+63.50	29.5' RT	1	1
100+63.50	29.5' LT	1	1
99+36.50	29.5' RT	1	1
99+36.50	29.5' LT	1	1
96+32.96	58.3' RT		1
96+33.21	57.1' LT		1
WINTER STREET			
85+92.36	31.3' LT		1
85+96.37	59.2' RT		1
86+32.85	55.6' RT		1
88+16.16	30.7' LT		1
92+00.31	29.5' RT	1	1
92+00.95	29.5' LT	1	1
89+36.51	29.5' RT	1	1
89+36.49	29.5' LT	1	1
88+99.77	29.5' RT	1	1
90+63.51	29.5' RT	1	1
90+63.50	29.5' LT	1	1
PROJECT 8998-00-08 (CAT 0010) SUBTOTAL		36	44
ITEM TOTALS		111	147

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NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

3

**TRACKING PAD**

STATION	623.7560
	EACH
PROJECT 1195-13-71	
CATEGORY 0010	
STH 35	
PROJECT	4
PROJECT 1195-13-71 TOTAL	4

**CONSTRUCTION STAKING STORM SEWER SYSTEM**

STATION	LOCATION	650.4000 EACH
PROJECT 1195-13-71		
CATEGORY 0020		
STH 35		
688+67.69 - 717+00.00	LT & RT	39
717+00.00 - 737+84.09	LT & RT	32
737+84.09 - 750+00	LT & RT	6
8TH STREET		
78+85 - 81+25	LT & RT	9
7TH STREET		
68+70 - 71+25	LT & RT	8
6TH STREET		
58+75 - 61+85	LT & RT	11
5TH STREET		
48+80 - 51+35	LT & RT	7
4TH STREET		
37+85 - 41+75	LT & RT	10
PROJECT 1195-13-71 SUBTOTAL		122
PROJECT 8998-00-08		
CATEGORY 0010		
14TH STREET		
137+70.00 - 140+08.00	LT & RT	6
13TH STREET		
127+60.00 - 132+50.00	LT & RT	8
12TH STREET		
117+50.00 - 122+50.00	LT & RT	14
11TH STREET		
107+25.0 - 110+08.00	LT & RT	5
BROADWAY STREET		
96+59.35 - 103+37.73	LT & RT	6
WINTER STREET		
88+44.60 - 92+86.00	LT & RT	10
PROJECT 8998-00-08 SUBTOTAL		49
ITEM TOTAL		171

**CONSTRUCTION STAKING**

STATION	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.5500 CURB GUTTER AND CUR3 & GUTTER LF	650.7000 CONCRETE PAVEMENT LF	650.8000 RESURFACING REFERENCE LF	650.9920 SLOPE STAKING LF	650.8500 ELECTRICAL INSTALLATIONS (PROJECT) LS	650.9910 SUPPLEMENTAL CONTROL (PROJECT) LS	REMARKS
PROJECT 1195-13-71										
CATEGORY 0010										
STH 35										
688+68 - 737+84	LT/RT	9834			4917		5800			
688+50 - 696+88	RT			1675						
697+12 - 701+17	RT			848						
701+41 - 709+50	RT			1644						
710+10 - 714+21	RT			838						
714+79 - 716+72	RT			396						
717+28 - 718+65	RT			308						
719+05 - 722+85	RT			830						
723+25 - 727+05	RT			830						
727+45 - 731+25	RT			830						
731+65 - 735+95	RT			930						
736+35 - 737+84	RT			332						
743+84 - 743+94	LT			10						PATCH
745+40 - 745+64	RT			24						PATCH
745+75 - 746+92	RT			30						PATCH
749+51 - 745+57	LT			6						PATCH
8TH STREET										
78+85 - 79+44	LT & RT	118	59	118			150			
80+56 - 81+25	LT	138	69	138			150			
7TH STREET										
69+34 - 69+44	LT & RT			20			200			
70+56 - 71+25	LT & RT	138	69	207			200			
6TH STREET										
58+75 - 59+44	LT & RT			138						
	LT/RT	138	69				300			
60+56 - 61+35	LT & RT			158						
60+56 - 61+85	LT & RT	258	129							
5TH STREET										
48+80 - 49+44	LT & RT	128	64	128			150			
50+56 - 51+35	LT & RT	158	79	158			150			
4TH STREET										
37+85 - 39+44	LT & RT	318	159	318			200			
40+56 - 41+75	LT & RT	238	119	238			200			
PROJECT 1195-13-71 SUBTOTAL		11466	816	11152	4917		7500			

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**CONSTRUCTION STAKING (CONT)**

STATION - STATION	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.5500 CURB GUTTER AND CJRB & GUTTER LF	650.7000 CONCRETE PAVEMENT LF	650.8000 RESURFACING REFERENCE LF	650.9920 SLOPE STAKING LF	650.8500 ELECTRICAL INSTALLATIONS (PROJECT) LS	650.9910 SUPPLEMENTAL CONTROL (PROJECT) LS	REMARKS
PROJECT 8998-00-08										
CATEGORY 0010										
14TH STREET										
137+85 - 139+54	LT & RT			345			250			
137+70 - 139+54	LT & RT	368	184							
13TH STREET										
127+80 - 129+54	LT & RT			355						
127+60 - 129+54	LT & RT	388	194				250			
130+46 - 132+35	LT & RT			385						
130+46 - 132+50	LT & RT	408	204				300			
12TH STREET										
117+50 - 119+54	LT & RT	408	204	415			325			
120+46 - 122+25	LT & RT	358	179	366			325			
11TH STREET										
107+60 - 109+54	LT & RT			395			400			
107+25 - 109+54	LT & RT	458	229							
BROADWAY STREET										
96+59 - 97+75	LT & RT					116				
96+59 - 99+50	LT & RT			582			140			
96+59 - 99+38	LT & RT	558	279							
100+50 - 103+38	LT & RT			576			140			
100+62 - 103+38	LT & RT	552	276							
101+75 - 103+38	LT & RT					163				
WINTER STREET										
86+59 - 88+45	LT & RT					186				
86+59 - 89+50	LT & RT			397			180			
86+59 - 89+38	LT & RT	558	279							
90+50 - 92+86	LT & RT			473			270			
90+62 - 92+86	LT & RT	448	224							
91+25 - 92+86	LT & RT					161				
PROJECT 8998-00-08 SUBTOTAL		4504	2252	4289		326	2580			
PROJECT 8010-07-74										
STH 35										
688+68 - 692+45	LT & RT			758						
692+75 - 696+17	LT & RT			690						
697+83 - 700+46	LT & RT			526						
702+12 - 704+57	LT & RT			495						
705+72 - 708+71	LT & RT			609						
710+88 - 713+40	LT & RT			502						
715+61 - 716+71	LT & RT			235						
717+17 - 717+85	LT & RT			149						
719+85 - 722+05	LT & RT			442						
724+05 - 726+25	LT & RT			442						
728+25 - 730+45	LT & RT			442						
732+45 - 735+15	LT & RT			271						
737+15 - 737+84	LT & RT			138						
696+17 - 696+62	LT & RT			90						
697+38 - 397+83	LT & RT			90						
700+46 - 700+91	LT & RT			90						
701+67 - 702+12	LT & RT			90						
704+57 - 705+02	LT & RT			90						
708+71 - 709+27	LT & RT			112						
710+32 - 710+88	LT & RT			112						
713+40 - 713+94	LT & RT			112						
715+04 - 715+61	LT & RT			112						
717+85 - 718+41	LT & RT			112						
719+28 - 719+85	LT & RT			112						
722+05 - 722+61	LT & RT			112						
723+48 - 724+05	LT & RT			112						
726+25 - 726+81	LT & RT			112						
727+69 - 728+25	LT & RT			112						
730+45 - 731+02	LT & RT			112						
731+89 - 732+45	LT & RT			112						
735+15 - 732+72	LT & RT			112						
736+59 - 737+15	LT & RT			112						
745+38 - 745+56	LT & RT			18						
PROJECT 8010-07-74 SUBTOTAL				7735						
PROJECT ITEM TOTALS		15970	3068	23176	4917	326	10080			

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**PERMANENT SIGNING**

SIGN NO	STATION	SIGN CODE	WIDTH (IN)	HEIGHT (IN)	MESSAGE	SPV.0060.40 SIGN POST 10-FT, BLACK EACH	SPV.0060.41 SIGN POST 11-FT, BLACK EACH	SPV.0060.42 SIGN POST 14-FT, BLACK EACH	634.0811 POSTS TUBULAR STEEL 2X2-INCH X 11-FT EACH	634.0812 POSTS TUBULAR STEEL 2X2-INCH X 12-FT EACH	637.0202 SIGNS REFLECTIVE TYPE II SF	637.0402 SIGNS REFLECTIVE FOLDING TYPE II SF	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	638.2602 REMOVING SIGNS TYPE I EACH	REMARKS
1195-13-71															
1-1	688+78	R4-7	24	30	KEEP RIGHT SYMBOL		1				5.00				
1-2	689+54	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50				BAND TO STREET LIGHT
1-3	689+65		REMOVAL		NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW									2	
1-4	690+19	R7-113	18	24	PARKING RIGHT ARROW						3.00				BAND TO WAYFINDING POLE
1-5	690+52	R2-1	24	30	SPEED LIMIT 25						5.00				BAND TO STREET LIGHT
1-6	690+54	R7-1D	18	24	NO PARKING ANY TIME DOUBLE ARROW						3.00				BAND TO STREET LIGHT
1-7	690+89		REMOVAL		LT ONLY, STRAIGHT ONLY, STRAIGHT/RT; TWO HR 7AM-7PM, NO PARKING									3	
1-8	691+52	R3-8E	36	30	LANE CONTROL: LEFT ONLY, STRAIGHT ONLY						7.50				BAND TO STREET LIGHT
		R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50				
1-9	691+53	R3-8M	54	30	LANE CONTROL: LEFT ONLY, STRAIGHT ONLY, STRAIGHT/R GHT						11.25				BAND TO STREET LIGHT
		R4-11	30	30	BIKE MAY USE FULL LANE						6.25				
1-10	692+05		REMOVAL		SPEED LIMIT 25, TWO HOUR PARKING 7AM-7PM, NC PARKING 3AM-6AM									3	
1-11	692+05		REMOVAL		53 (US ROUTE MARKER)									1	
1-12	692+41	R4-7	24	30	KEEP RIGHT SYMBOL		1				5.00				
1-13	692+49	R7-113	18	24	PARKING LEFT ARROW						3.00				BAND TO STREET LIGHT
1-14	692+63		REMOVAL		STOP									1	
		R1-1	30	30	STOP		1				5.18				
1-15	692+78	R4-7	24	30	KEEP RIGHT SYMBOL		1				5.00				
		R3-2	24	24	NO LEFT TURN SYMBOL						4.00				
1-18	693+27		REMOVAL		JCT, 2 (US ROUTE MARKER), NO PARKING 3AM-6AM DOUBLE ARROW									3	
1-19	693+97	J1-1	24	39	JCT 2 (US ROUTE MARKER)						6.50				BAND TO STREET LIGHT
1-20	694+38		REMOVAL		NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW									2	
1-21	694+38		REMOVAL		NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW									2	
1-22	694+66	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50				BAND TO STREET LIGHT
		R7-113	18	24	PARKING, RIGHT ARROW						3.00				
1-23	694+86	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50				BAND TO STREET LIGHT
1-24	695+51		REMOVAL		NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW									2	
1-25	695+76	R7-113	18	24	PARKING, LEFT ARROW						3.00				BAND TO STREET LIGHT
1-26	695+75	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50				BAND TO STREET LIGHT
1-27	696+58	R4-7	24	30	KEEP RIGHT SYMBOL		1				5.00				
1-28	696+60		REMOVAL		NO U-TURN SYMBOL									1	
1-29	696+69		REMOVAL		NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW									2	
1-30	696+81		REMOVAL		STOP								1	1	
		R1-1	30	30	STOP		1				5.18				
1-31	697+17		REMOVAL		STOP								1	1	
		R1-1	30	30	STOP		1				5.18				
1-32	697+39		REMOVAL		35 (STH MARKER), CENTER LANE TWDL SYMBOL, NO U-TURN SYMBOL									3	
1-33	697+39		REMOVAL		NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW									2	
1-34	697+42	R4-7	24	30	KEEP RIGHT SYMBOL		1				5.00				
1-35	698+24	R7-113	18	24	PARKING RIGHT ARROW						3.00				BAND TO STREET LIGHT
1-36	698+24	J4-1	24	36	NORTH 35 (STH MARKER)						6.00				BAND TO STREET LIGHT
1-37	698+53		REMOVAL		NO NIGHT PARKING, RESERVED PARKING-HANDICAP									2	
1-38	698+55		REMOVAL		NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW									2	
1-39	699+16	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50				BAND TO STREET LIGHT
1-40	699+16	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50				BAND TO STREET LIGHT
SHEET SUBTOTAL						0	8	0	0	0	122.54	0	2	33	

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**PERMANENT SIGNING (CONT)**

SIGN NO	STATION	SIGN CODE	WIDTH (IN)	HEIGHT (IN)	MESSAGE	SPV.0060.40 SIGN POST 10-FT, BLACK EACH	SPV.0060.41 SIGN POST 11-FT, BLACK EACH	SPV.0060.42 SIGN POST 14-FT, BLACK EACH	634.0811 POSTS TUBULAR STEEL 2X2-INCH X 11-FT EACH	634.0812 POSTS TUBULAR STEEL 2X2-INCH X 12-FT EACH	637.0202 SIGNS REFLECTIVE TYPE II SF	637.0402 SIGNS REFLECTIVE FOLDING TYPE II SF	636.3000 REMOVING SMALL SIGN SUPPORTS EACH	638.2602 REMOVING SIGNS TYPE I EACH	REMARKS
1195-13-71															
2-1	699+72				NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW									2	
2-2	700+80				CENTER LANE TWDL SYMBOL									1	
2-3	700+89	R4-7	24	30	KEEP RIGHT SYMBOL		1				5.00				
2-4	700+89				NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW									2	
2-5	701+00				STOP									1	
2-6	701+11	R1-1	30	30	STOP		1				5.18				
2-7	701+46				STOP									1	
2-8	701+46	R1-1	30	30	STOP		1				5.18				
2-11	701+68	R4-7	24	30	KEEP RIGHT SYMBOL		1				5.00				
2-12	702+50	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50				BAND TO STREET LIGHT
2-13	702+55	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50				BAND TO STREET LIGHT
2-14	702+76				TWO HR PARKING 7AM-7PM DOUBLE ARROW, NO NIGHT PARKING									2	
2-15	702+77				CENTER LANE TWDL SYMBOL									1	
2-16	703+95				SOUTH, 35 (STH MARKER), TWO HR PARKING NO PARKING									4	
2-17	704+19	J4-1	24	36	SOUTH 35 (STH MARKER)						6.00				BAND TO STREET LIGHT
		R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50				
2-18	705+00				CENTER LANE TWDL SYMBOL									1	
2-19	705+00	R4-7	24	30	KEEP RIGHT SYMBOL		1				5.00				BAND TO STREET LIGHT
2-20	705+06	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50				
2-21	705+22				STOP								1	1	
		R1-1	30	30	STOP		1				5.18				
2-22	705+68				STOP								1	1	
2-23	705+81				35 (STH MARKER)									1	
2-24	705+79	R4-7	24	30	KEEP RIGHT SYMBOL		1				5.00				
2-25	705+90				NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW									2	
2-26	706+64	J4-1	24	36	NORTH 35 (STH MARKER)						6.00				BAND TO STREET LIGHT
2-27	706+65	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50				BAND TO STREET LIGHT
2-28	706+92				NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW									2	
2-29	706+92				TWO HOUR PARKING 7AM-7PM DOUBLE ARROW									1	
2-30	707+57	R3-8W	54	30	LANE CONTROL: LEFT ONLY, STRAIGHT ONLY, RIGHT ONLY						11.25				BAND TO STREET LIGHT
		R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM LEFT ARROW						2.50				
2-31	708+07				CENTER LANE TWDL SYMBOL									1	
2-32	708+45	R7-1D	18	24	NO PARKING ANY TIME DOUBLE ARROW						3.00				BAND TO STREET LIGHT
2-33	708+44	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM LEFT ARROW						2.50				BAND TO STREET LIGHT
2-34	708+67	R4-7	24	30	KEEP RIGHT SYMBOL		1				5.00				
2-35	709+31				STOP									1	
2-36	709+45	R1-1	30	30	STOP		1				5.18				
2-37	709+46				STOP									1	
2-38	710+12				STOP									1	
2-39	710+13	R1-1	30	30	STOP		1				5.18				
2-40	710+29				STOP, NO NIGHT PARKING									2	
2-41	710+35				TRUCK ROUTE AHEAD									1	
2-42	710+27	R10-25	9	12	PUSH BUTTON TO TURN ON WARNING LIGHTS						0.75				BAND TO SIGNAL
2-43	710+27	R10-25	9	12	PUSH BUTTON TO TURN ON WARNING LIGHTS						0.75				BAND TO SIGNAL
SHEET SUBTOTAL						0	10	0	0	0	96.15	0	2	30	

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**PERMANENT SIGNING (CONT)**

SIGN NO	STATION	SIGN CODE	WIDTH (IN)	HEIGHT (IN)	MESSAGE	SPV.0060.40 SIGN POST 10-FT, BLACK EACH	SPV.0060.41 SIGN POST 11-FT, BLACK EACH	SPV.0060.42 SIGN POST 14-FT, BLACK EACH	634.0811 POSTS TUBULAR STEEL 2X2-INCH X 11-FT EACH	634.0812 POSTS TUBULAR STEEL 2X2-INCH X 12-FT EACH	637.0202 SIGNS REFLECTIVE TYPE II SF	637.0402 SIGNS REFLECTIVE FOLDING TYPE II SF	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	638.2602 REMOVING SIGNS TYPE I EACH	REMARKS	
1195-13-71																
3-1	710+66				10 MIN PARKING, NO NIGHT PARKING									1	2	
3-2	710+76				NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW									1	2	BAND TO STREET LIGHT
3-3	710+91	R4-7	24	30	KEEP RIGHT SYMBOL			1								
3-4	711+19	R7-1D	18	24	NO PARKING ANY TIME DOUBLE ARROW						3.00					BAND TO STREET LIGHT
3-5	711+20	R7-200	20	18	NO PARKING 3AM-6AM, 10 MINUTE PARKING 7AM-7PM DOUBLE ARROW						2.50					
3-6	711+46				LANE CONTROL: LEFT ONLY, STRAIGHT ONLY, RIGHT ONLY										1	
3-7	711+47				SPEED LIMIT 25										1	
3-8	712+14				NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW										2	BAND TO STREET LIGHT
		R3-8W	54	30	LANE CONTROL: LEFT ONLY, STRAIGHT ONLY, RIGHT ONLY						11.25					
		R2-1	24	30	SPEED LIMIT 25						5.00					
		R7-1R	18	24	NO PARKING ANY TIME RIGHT ARROW						3.00					
3-9	712+12	R3-8W	54	30	LANE CONTROL: LEFT ONLY, STRAIGHT ONLY, RIGHT ONLY						11.25					BAND TO STREET LIGHT
		R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50					
3-10	712+73				RAILROAD CROSSING, NO TRAIN HORN										2	
3-11	712+78				NO NIGHT PARKING										1	
3-12	713+09	R7-1D	18	24	NO PARKING ANY TIME DOUBLE ARROW						3.00					BAND TO STREET LIGHT
3-13	713+34	R4-7	24	30	KEEP RIGHT SYMBOL			1			5.00					
3-14	714+00	R14-1	24	18	TRUCK ROUTE						3.00					BAND TO SIGNAL POLE
		M6-4	21	21	DOUBLE DIRECTIONAL ARROW						3.06					
		R1-1F	30	30	STOP							5.18				
3-15	714+01				TRUCK ROUTE										1	
3-16	714+13	R14-1	24	18	TRUCK ROUTE						3.00					BAND TO SIGNAL POLE
					EAST						12.00					
		JV1-2	24	72	2 (US ROUTE MARKER) SOUTH											
					53 (US ROUTE MARKER)											
3-17	714+17				TRUCK ROUTE, EAST, 2 (US ROUTE MARKER), BUSINESS, 53 (US ROUTE MARKER)										1	5
3-18	714+14	R1-1F	30	30	STOP							5.18				BAND TO SIGNAL POLE
3-19	714+18				STOP									1	1	
3-20	714+84	R1-1F	30	30	STOP							5.18				BAND TO SIGNAL POLE
3-21	714+86				STOP									1	1	
3-22	714+85	R14-1	24	18	TRUCK ROUTE						3.00					BAND TO SIGNAL POLE
		J3-1	24	57	WEST											
					2 (US ROUTE MARKER) UP ARROW						9.50					
3-23	715+01	W10-1	36	36	RAILROAD CROSSING						7.07					BAND TO SIGNAL POLE
		W10-9P	30	24	NO TRAIN HORN						5.00					
		W10-1A	24	12	EXEMPT						3.00					
3-24	714+99				NO U-TURN SYMBOL										1	
3-25	714+99	R14-1	24	18	TRUCK ROUTE						3.00					BAND TO SIGNAL POLE
		M6-4	21	21	DOUBLE DIRECTIONAL ARROW						3.06					
		R1-1F	30	30	STOP							5.18				
		J13-1	24	45	35 (STH MARKER) DOUBLE DIRECTIONAL ARROW						7.50					
3-26	714+97				DBL ARROW, NO NIGHT PARKING, LOCAL TRUCK ROUTE, 2, UP, 35, DBL ARROW										8	
3-27	715+65	R4-7	24	30	KEEP RIGHT SYMBOL			1			5.00					
3-28	715+85	R7-1D	18	24	NO PARKING ANY TIME DOUBLE ARROW						3.00					BAND TO STREET LIGHT
3-29	715+85	M1-4	24	24	53 (US ROUTE MARKER)						4.00					BAND TO STREET LIGHT
		R7-2D	18	24	NO PARKING 3AM-6AM DOUBLE ARROW						3.00					
3-30	716+40				53 (US ROUTE MARKER), NO NIGHT PARKING										2	
3-31	716+60	R7-2R	18	24	NO PARKING 3AM-6AM RIGHT ARROW						3.00					BAND TO STREET LIGHT
3-32	716+70	R3-8W	54	30	LANE CONTROL: LEFT ONLY, STRAIGHT ONLY, RIGHT ONLY			2			11.25					
3-33	716+82	R15-3	24	12	EXEMPT						2.00					INSTALLED BY OTHERS
3-34	717+11	R15-3	24	12	EXEMPT						2.00					INSTALLED BY OTHERS
3-35	717+23	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM LEFT ARROW			1			2.50					
3-36	717+29				SPEED LIMIT 25, TWO HOUR PARKING 7AM-7PM, NO PARKING 3AM-6AM										3	
3-37	717+33	R2-1	24	30	SPEED LIMIT 25						5.00					BAND TO STREET LIGHT
		R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM RIGHT ARROW						2.50					
SHEET SUBTOTAL						1	5	0	0	0	151.94	20.72	5	33		

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**PERMANENT SIGNING (CONT)**

SIGN NO	STATION	SIGN CODE	WIDTH (IN)	HEIGHT (IN)	MESSAGE	SPV.0060.40 SIGN POST 10-FT, BLACK EACH	SPV.0060.41 SIGN POST 11-FT, BLACK EACH	SPV.0060.42 SIGN POST 14-FT, BLACK EACH	634.0811 POSTS TUBULAR STEEL 2X2-INCH X 11-FT EACH	634.0812 POSTS TUBULAR STEEL 2X2-INCH X 12-FT EACH	637.0202 SIGNS REFLECTIVE TYPE II SF	637.0402 SIGNS REFLECTIVE FOLDING TYPE II SF	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	638.2602 REMOVING SIGNS TYPE I EACH	REMARKS
1195-13-71															
3-38	717+80	R4-7	24	30	KEEP RIGHT SYMBOL		1				5.00				
3-39	718+04	W10-1	36	36	RAILROAD CROSSING			1			7.07				
		W10-9P	30	24	NO TRAIN HORN						5.00				
		W10-1A	24	12	EXEMPT						3.00				
3-40	718+40	REMOVAL			NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW									2	
3-41	718+61	REMOVAL			STOP								1	1	
3-42	718+61	R1-1	30	30	STOP		1				5.18				
3-43	719+07	REMOVAL			STOP								1	1	
3-44	719+09	R1-1	30	30	STOP		1				5.18				
3-45	719+29	REMOVAL			RAILROAD CROSSING, NO TRAIN HORN									2	
3-46	719+88	R4-7	24	30	KEEP RIGHT SYMBOL		1				5.00				
3-47	720+12	REMOVAL			NO NIGHT PARKING									1	
3-48	720+38	R7-2D	18	24	NO PARKING 3AM-6AM DOUBLE ARROW						3.00				BAND TO STREET LIGHT
3-49	720+40	R7-2D	18	24	NO PARKING 3AM-6AM DOUBLE ARROW						3.00				BAND TO STREET LIGHT
3-50	721+52	R7-2D	18	24	NO PARKING 3AM-6AM DOUBLE ARROW						3.00				BAND TO STREET LIGHT
3-51	721+59	R7-2D	18	24	NO PARKING 3AM-6AM DOUBLE ARROW						3.00				BAND TO STREET LIGHT
3-52	722+00	R4-7	24	30	KEEP RIGHT SYMBOL		1				5.00				
4-1	722+60	REMOVAL			NO U-TURN SYMBOL									1	
4-2	722+60	REMOVAL			NO NIGHT PARKING									1	
4-3	722+80	REMOVAL			STOP								1	1	
		R1-1	30	30	STOP		1				5.18				
4-4	723+28	REMOVAL			STOP								1	1	
		R1-1	30	30	STOP		1				5.18				
4-7	723+49	REMOVAL			LEFT LANE ENDS									1	
4-8	723+50	REMOVAL			NO U-TURN SYMBOL									1	
4-9	724+08	R4-7	24	30	KEEP RIGHT SYMBOL		1				5.00				
4-10	724+58	R7-5D	18	24	TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						3.00				BAND TO STREET LIGHT
4-11	724+58	R7-5D	18	24	TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						3.00				BAND TO STREET LIGHT
4-12	725+12	REMOVAL			NO NIGHT PARKING									1	
4-13	725+63	R7-5D	18	24	TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						3.00				BAND TO STREET LIGHT
4-14	725+72	R7-5D	18	24	TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						3.00				BAND TO STREET LIGHT
4-15	726+22	R4-7	24	30	KEEP RIGHT SYMBOL		1				5.00				
4-16	727+01	REMOVAL			STOP								1	1	
		R1-1	30	30	STOP		1				5.18				
4-17	727+49	REMOVAL			STOP								1	1	
		R1-1	30	30	STOP		1				5.18				
4-18	727+67	REMOVAL			NO NIGHT PARKING									1	
4-19	728+28	R4-7	24	30	KEEP RIGHT SYMBOL		1				5.00				
4-20	728+53	REMOVAL			NCRTH, 35 (STH MARKER), NO NIGHT PARKING									3	
4-21	728+78	R7-200	18	24	NO PARKING 3AM-6AM						2.50				BAND TO STREET LIGHT
4-22	728+78	R7-2D	18	24	NO PARKING 3AM-6AM DOUBLE ARROW						3.00				BAND TO STREET LIGHT
4-23	729+32	REMOVAL			NO NIGHT PARKING, ONE HOUR PARKING 7AM-7PM DOUBLE ARROW									2	
4-24	729+92	R7-2D	18	24	NO PARKING 3AM-6AM DOUBLE ARROW						3.00				BAND TO STREET LIGHT
4-25	729+92	R7-2D	18	24	NO PARKING 3AM-6AM DOUBLE ARROW						3.00				BAND TO STREET LIGHT
4-26	730+41	R4-7	24	30	KEEP RIGHT SYMBOL		1				5.00				
4-27	731+21	REMOVAL			STOP								1	1	
		R1-1	30	30	STOP		1				5.18				
4-28	731+70	REMOVAL			STOP								1	1	
		R1-1	30	30	STOP		1				5.18				
4-29	731+90	REMOVAL			NO U-TURN SYMBOL									1	
4-30	732+50	R4-7	24	30	KEEP RIGHT SYMBOL		1				5.00				
4-31	733+17	J4-1	24	36	NORTH						6.00				BAND TO STREET LIGHT
		R7-2D	18	24	35 (STH MARKER) NO PARKING 3AM-6AM DOUBLE ARROW						3.00				
SHEET SUBTOTAL						0	15	1	0	0	136.01	0	8	25	

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**PERMANENT SIGNING (CONT)**

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1195-13-71															
4-32	733+23	R7-2D	18	24	NO PARKING 3AM-6AM DOUBLE ARROW						3.00				BAND TO STREET LIGHT
4-33	733+78		REMOVAL		NCRTH, 35 (STH MARKER), NO NIGHT PARKING									3	
4-34	734+45	J4-1	24	36	SOUTH 35 (STH MARKER)						6.00				BAND TO STREET LIGHT
		R7-2D	18	24	NO PARKING 3AM-6AM DOUBLE ARROW						3.00				
4-35	734+49		REMOVAL		SOUTH, 35 (STH MARKER), NO PARKING OF SEMI TRUCKS, NO NIGHT PARKING									4	
4-36	734+44	R7-2D	18	24	NO PARKING 3AM-6AM DOUBLE ARROW						6.00				BAND TO STREET LIGHT
5-1	735+12	R4-7	24	30	KEEP RIGHT SYMBOL		1				5.00				
5-2	735+93		REMOVAL		STOP								1	1	
		R1-1	30	30	STOP		1				5.18				
5-3	736+39		REMOVAL		STOP								1	1	
		R1-1	30	30	STOP		1				5.18				
5-4	737+18	R4-7	24	30	KEEP RIGHT SYMBOL		1				5.00				
5-5	737+75	R7-2D	18	24	NO PARKING 3AM-6AM DOUBLE ARROW						3.00				BAND TO STREET LIGHT
5-6	737+74	R2-1	24	30	SPEED LIMIT 25						5.00				
		R7-2D	18	24	NO PARKING 3AM-6AM DOUBLE ARROW						3.00				BAND TO STREET LIGHT
5-7	738+01		REMOVAL		NO PARKING ANY TIME DOUBLE ARROW									1	
5-8	738+31	R3-8E	36	30	LANE CONTROL: LEFT ONLY, STRAIGHT ONLY				1		7.50				
5-9	738+56	R3-8A	36	30	LANE CONTROL: LEFT ONLY, STRAIGHT/RIGHT				1		7.50				
5-10	738+80		REMOVAL		NO PARKING ANY TIME DOUBLE ARROW									1	
		R7-2D	18	24	NO PARKING 3AM-6AM DOUBLE ARROW						3.00				BAND TO STREET LIGHT
5-11	739+69		REMOVAL		NO PARKING ANY TIME DOUBLE ARROW									1	
		R7-2D	18	24	NO PARKING 3AM-6AM DOUBLE ARROW						3.00				BAND TO STREET LIGHT
5-12	739+91		REMOVAL		NO PARKING ANY TIME DOUBLE ARROW									1	
		R7-2D	18	24	NO PARKING 3AM-6AM LEFT ARROW						3.00				BAND TO STREET LIGHT
5-13	739+96	R4-7	24	30	KEEP RIGHT SYMBOL				1		5.00				
SHEET SUBTOTAL						0	4	0	3	0	78.36	0	2	13	

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**PERMANENT SIGNING (CONT)**

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1195-13-71															
6-1	740+18				REMOVAL										
		R1-1	30	30	STOP										
					STOP										
6-2	740+96	R4-7	24	30	KEEP RIGHT SYMBOL				1		5.18				
6-3	741+26				REMOVAL										
		R7-1D	18	24	NO PARKING ANY TIME DOUBLE ARROW									1	
					NO PARKING ANY TIME DOUBLE ARROW						3.00				BAND TO STREET LIGHT
6-4	741+38	R3-8W	54	30	LANE CONTROL: LEFT ONLY, STRAIGHT ONLY, ONLY RIGHT				2		11.25				
6-5	742+46				REMOVAL										
		R7-1D	18	24	NO PARKING ANY TIME DOUBLE ARROW									1	
					NO PARKING ANY TIME DOUBLE ARROW						3.00				BAND TO STREET LIGHT
6-6	742+50				REMOVAL										
		R7-1D	18	24	NO PARKING ANY TIME DOUBLE ARROW									1	
					NO PARKING ANY TIME DOUBLE ARROW						3.00				BAND TO STREET LIGHT
		R3-8W	54	30	LANE CONTROL: LEFT ONLY, STRAIGHT ONLY, RIGHT ONLY						11.25				
6-7	742+95	R4-7	24	30	KEEP RIGHT SYMBOL				1		5.00				
6-8	743+22				REMOVAL										
		R1-1	30	30	STOP									1	1
					STOP						5.18				
6-9	743+61				REMOVAL										
		R1-1	30	30	STOP									1	1
					STOP						5.18				
6-10	743+83				REMOVAL										
		R7-1D	18	24	NO PARKING ANY TIME DOUBLE ARROW									1	
					NO PARKING ANY TIME DOUBLE ARROW						3.00				BAND TO STREET LIGHT
6-11	743+81				REMOVAL										
		R4-7	24	30	KEEP RIGHT SYMBOL									1	1
					KEEP RIGHT SYMBOL				1		5.00				
6-12	743+89				REMOVAL										
		R7-1D	18	24	NO PARKING ANY TIME DOUBLE ARROW									1	
					NO PARKING ANY TIME DOUBLE ARROW						3.00				BAND TO STREET LIGHT
6-13	745+35				REMOVAL										
		R7-1D	18	24	NO PARKING ANY TIME DOUBLE ARROW									1	
					NO PARKING ANY TIME DOUBLE ARROW						3.00				BAND TO STREET LIGHT
6-14	746+25				REMOVAL										
		R3-8W	54	30	LANE CONTROL: LEFT ONLY, STRAIGHT ONLY, RIGHT ONLY									1	
		R7-1D	18	24	NO PARKING ANY TIME DOUBLE ARROW						11.25				BAND TO STREET LIGHT
					NO PARKING ANY TIME DOUBLE ARROW						3.00				
6-15	746+55				REMOVAL										
		R7-1D	18	24	NO PARKING ANY TIME DOUBLE ARROW									1	
					NO PARKING ANY TIME DOUBLE ARROW						3.00				BAND TO STREET LIGHT
6-16	746+66				REMOVAL										
		R4-7	24	30	KEEP RIGHT SYMBOL									1	1
					KEEP RIGHT SYMBOL				1		5.00				
6-17	747+33				REMOVAL										
		R1-1	30	30	STOP									1	1
					STOP						5.18				
6-18	747+50				REMOVAL										
		R4-7	24	30	KEEP RIGHT SYMBOL									1	1
					KEEP RIGHT SYMBOL				1		5.00				
6-19	747+57				REMOVAL										
		R7-1D	18	24	NO PARKING ANY TIME DOUBLE ARROW									1	
					NO PARKING ANY TIME DOUBLE ARROW						3.00				BAND TO STREET LIGHT
6-20	747+69	J1-3	72	39	JCT										
					535 (IH MARKER)										
					JCT										
					53 (US MARKER)										
					END										
					35 (STH MARKER)										
6-21	747+72				REMOVAL										
		D1-52	108	24	VEHICLE REGISTRATION DRIVER LICENSING, UP ARROW									2	2
					VEHICLE REGISTRATION DRIVER LICENSING W/ UP ARROW										
6-22	748+28	W4-2R	36	36	ROAD NARROWS SYMBOL (RIGHT)										
6-23	748+28	W4-2R	36	36	ROAD NARROWS SYMBOL (RIGHT)					1	9.00				
6-24	749+96	W9-1R	36	36	RIGHT LANE ENDS										
6-25	749+97	W9-1R	36	36	RIGHT LANE ENDS										
6-26	750+31	R4-7	24	30	KEEP RIGHT SYMBOL										
7-1	138+20				REMOVAL										
		R7-200	20	18	PEDESTRIAN SYMBOL, TWO HR PARKING 7AM-7PM, NO PARKING 3AM-6AM									3	
7-2	138+40				REMOVAL										
		R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50				BAND TO STREET LIGHT
7-3	138+83				REMOVAL										
		R3-53R	24	30	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW									2	
7-4	138+99				REMOVAL										
		R7-200	20	18	RIGHT TURN ONLY						5.00				
		R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50				BAND TO STREET LIGHT
7-5	139+09				REMOVAL										
		R7-8A	12	18	RESERVED HANDICAP PARKING	1					1.50				
		R7-8V	12	6	VAN ACCESSIBLE						0.50				
SHEET SUBTOTAL						1	0	0	14	6	196.97	0	9	23	

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						SIGN POST 10-FT, BLACK EACH	SIGN POST 11-FT, BLACK EACH	SIGN POST 14-FT, BLACK EACH	POSTS TUBULAR STEEL 2X2-INCH X 11-FT EACH	POSTS TUBULAR STEEL 2X2-INCH X 12-FT EACH	SIGNS REFLECTIVE TYPE II SF	SIGNS REFLECTIVE FOLDING TYPE II SF	REMOVING SMALL SIGN SUPPORTS EACH	REMOVING SIGNS TYPE I EACH	
1195-13-71															
7-6	128+17		REMOVAL		NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW									2	
7-7	128+40	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50				BAND TO STREET LIGHT
7-8	128+60		REMOVAL		NO PARKING 3AM-6AM DOUBLE ARROW								1	1	
7-9	128+86		REMOVAL		NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW									2	
7-10	129+99	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50				BAND TO STREET LIGHT
7-11	129+09	R7-8A	12	18	RESERVED HANDICAP PARKING	1					1.50				
		R7-8V	12	6	VAN ACCESSIBLE						0.50				
7-12	130+72	R7-8A	12	18	RESERVED HANDICAP PARKING						1.50				
		R7-8V	12	6	VAN ACCESSIBLE						0.50				
7-13	130+90	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50				BAND TO STREET LIGHT
7-14	131+19		REMOVAL		NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW									2	
7-15	131+21		REMOVAL		NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW									2	
7-16	131+63	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50				BAND TO STREET LIGHT
8-1	118+39		REMOVAL		TWO HOUR PARKING 7AM-7PM DOUBLE ARROW									1	
		R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50				BAND TO STREET LIGHT
8-2	118+96	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50				BAND TO STREET LIGHT
8-3	119+30	R7-8A	12	18	RESERVED HANDICAP PARKING	1					1.50				
		R7-8V	12	6	VAN ACCESSIBLE						0.50				
8-4	120+91	R7-8A	12	18	RESERVED HANDICAP PARKING	1					1.50				
		R7-8V	12	6	VAN ACCESSIBLE						0.50				
8-5	120+87	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM RIGHT ARROW						2.50				BAND TO STREET LIGHT
8-6	121+30		REMOVAL		NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW									2	
8-7	121+48	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50				BAND TO STREET LIGHT
8-8	121+52		REMOVAL		NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW								1	2	
8-9	108+20		REMOVAL		NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW									2	
8-10	108+39	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50				BAND TO STREET LIGHT
8-11	108+90		REMOVAL		NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW									2	
8-12	108+98	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50				BAND TO STREET LIGHT
8-13	109+10	R7-8A	12	18	RESERVED HANDICAP PARKING	1					1.50				
		R7-8V	12	6	VAN ACCESSIBLE						0.50				
9-1	98+49		REMOVAL		NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW									2	
9-2	98+95	R7-1D	18	24	NO PARKING ANY TIME DOUBLE ARROW						3.00				BAND TO STREET LIGHT
9-3	98+95	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM LEFT ARROW						2.50				BAND TO STREET LIGHT
9-4	99+28		REMOVAL		NO PARKING ANY TIME DOUBLE ARROW								1	1	
9-5	101+00	R7-1D	18	24	NO PARKING ANY TIME DOUBLE ARROW						3.00				BAND TO STREET LIGHT
9-6	101+00	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM LEFT ARROW						2.50				BAND TO STREET LIGHT
9-7	101+06		REMOVAL		NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW									2	
9-8	101+06		REMOVAL		NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW									2	
9-9	101+70		REMOVAL		NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW								1	2	
9-10	101+96	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM RIGHT ARROW						2.50				BAND TO STREET LIGHT
9-11	101+96	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50				BAND TO STREET LIGHT
9-12	103+17	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM LEFT ARROW	1					2.50				
9-13	103+22	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM RIGHT ARROW	1					2.50				
10-1	86+85	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM LEFT ARROW	1					2.50				
10-2	87+95	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50				BAND TO POWER POLE
10-3	88+99	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM LEFT ARROW						2.50				BAND TO STREET LIGHT
10-4	88+98	R7-1D	18	24	NO PARKING ANY TIME DOUBLE ARROW						3.00				BAND TO STREET LIGHT
10-5	90+96	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM LEFT ARROW						2.50				BAND TO STREET LIGHT
10-6	90+96	R7-1D	18	24	NO PARKING ANY TIME DOUBLE ARROW						3.00				BAND TO STREET LIGHT
10-7	91+97		REMOVAL		NO PARKING ANY TIME DOUBLE ARROW									1	
		R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM RIGHT ARROW						2.50				BAND TO STREET LIGHT
10-8	92+02	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM DOUBLE ARROW						2.50				BAND TO STREET LIGHT
10-9	93+29	R7-200	20	18	NO PARKING 3AM-6AM, TWO HOUR PARKING 7AM-7PM LEFT ARROW						2.50				BAND TO STREET LIGHT
SHEET SUBTOTAL						7	0	0	0	0	79.5	0	4	28	
1195-13-71 TOTAL						9	42	1	17	6	861.47	20.72	32	185	

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**PERMANENT SIGNING (CONT)**

SIGN NO	STATION	SIGN CODE	WIDTH (IN)	HEIGHT (IN)	MESSAGE	SPV.0060.40 SIGN POST 10-FT, BLACK EACH	SPV.0060.41 SIGN POST 11-FT, BLACK EACH	SPV.0060.42 SIGN POST 14-FT, BLACK EACH	634.0811 POSTS TUBULAR STEEL 2X2-INCH X 11-FT EACH	634.0812 POSTS TUBULAR STEEL 2X2-INCH X 12-FT EACH	637.0202 SIGNS REFLECTIVE TYPE II SF	637.0402 SIGNS REFLECTIVE FOLDING TYPE II SF	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	638.2602 REMOVING SIGNS TYPE I EACH	REMARKS
8010-07-74															
1-16	693+11	W11-2	30	30	PEDESTRIAN CROSSING						6.25				BAND TO PED CROSSING SIGNAL
		W16-7R	24	12	DIAGONAL RIGHT ARROW						2.00				
		W11-2	30	30	PEDESTRIAN CROSSING						6.25				
		W16-7L	24	12	DIAGONAL LEFT ARROW						2.00				
		R10-25	9	12	PUSH BUTTON TO TURN ON WARNING LIGHTS						0.75				
1-17	693+11	W11-2	30	30	PEDESTRIAN CROSSING						6.25				BAND TO PED CROSSING SIGNAL
		W16-7R	24	12	DIAGONAL RIGHT ARROW						2.00				
		W11-2	30	30	PEDESTRIAN CROSSING						6.25				
		W16-7L	24	12	DIAGONAL LEFT ARROW						2.00				
		R10-25	9	12	PUSH BUTTON TO TURN ON WARNING LIGHTS						0.75				
2-9	693+11	W11-2	30	30	PEDESTRIAN CROSSING						6.25				BAND TO PED CROSSING SIGNAL
		W16-7R	24	12	DIAGONAL RIGHT ARROW						2.00				
		W11-2	30	30	PEDESTRIAN CROSSING						6.25				
		W16-7L	24	12	DIAGONAL LEFT ARROW						2.00				
		R10-25	9	12	PUSH BUTTON TO TURN ON WARNING LIGHTS						0.75				
2-10	693+11	W11-2	30	30	PEDESTRIAN CROSSING						6.25				BAND TO PED CROSSING SIGNAL
		W16-7R	24	12	DIAGONAL RIGHT ARROW						2.00				
		W11-2	30	30	PEDESTRIAN CROSSING						6.25				
		W16-7L	24	12	DIAGONAL LEFT ARROW						2.00				
		R10-25	9	12	PUSH BUTTON TO TURN ON WARNING LIGHTS						0.75				
2-44	710+39	W11-2	30	30	PEDESTRIAN CROSSING						6.25				BAND TO STREET LIGHT
		W16-7R	24	12	DIAGONAL RIGHT ARROW						2.00				
		W11-2	30	30	PEDESTRIAN CROSSING						6.25				
		W16-7L	24	12	DIAGONAL LEFT ARROW						2.00				
2-45	710+35	W11-2	30	30	PEDESTRIAN CROSSING						6.25				BAND TO STREET LIGHT
		W16-7R	24	12	DIAGONAL RIGHT ARROW						2.00				
		W11-2	30	30	PEDESTRIAN CROSSING						6.25				
		W16-7L	24	12	DIAGONAL LEFT ARROW						2.00				
4-5	723+44	W11-2	30	30	PEDESTRIAN CROSSING						6.25				BAND TO PED CROSSING SIGNAL
		W16-7R	24	12	DIAGONAL RIGHT ARROW						2.00				
		W11-2	30	30	PEDESTRIAN CROSSING						6.25				
		W16-7L	24	12	DIAGONAL LEFT ARROW						2.00				
		R10-25	9	12	PUSH BUTTON TO TURN ON WARNING LIGHTS						0.75				
4-6	723+44	W11-2	30	30	PEDESTRIAN CROSSING						6.25				BAND TO PED CROSSING SIGNAL
		W16-7R	24	12	DIAGONAL RIGHT ARROW						2.00				
		W11-2	30	30	PEDESTRIAN CROSSING						6.25				
		W16-7L	24	12	DIAGONAL LEFT ARROW						2.00				
		R10-25	9	12	PUSH BUTTON TO TURN ON WARNING LIGHTS						0.75				
8010-07-74 TOTAL						0	0	0	0	0	136.50	0	0	0	
ITEM TOTALS						9	42	1	17	6	997.97	21	32	185	

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

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**TRAFFIC CONTROL**

STATION	643.0100 TRAFFIC CONTROL (PROJECT)		643.0300 DRUMS		643.0410 BARRICADES TYPE II		643.0420 BARRICADES TYPE III		643.0500 FLEXIBLE TUBULAR MARKER POSTS	643.0600 FLEXIBLE TUBULAR MARKER BASES	643.0705 WARNING LIGHTS TYPE A		643.0715 WARNING LIGHTS TYPE C		643.0800 ARROW BOARD		643.0900 SIGNS		643.2000 TRAFFIC CONTROL (PROJECT)	643.3000 DETOUR SIGNS		643.1050 SIGNS PCMS		REMARKS	
	EACH	QTY	DAY	QTY	DAY	QTY	DAY	EACH	EACH	QTY	DAY	QTY	DAY	QTY	DAY	QTY	DAY	EACH	QTY	DAY	QTY	DAY			
PROJECT 1195-13-71 CATEGORY 0010 STH 35																									
688+68 - 750+39	1			12	2244	16	2992				44	8228					7	1309			2	28			MAINLINE CLOSURE SIDE STREETS DETOUR SIGNS SINGLE LANE CLOSURES
688+68 - 750+39																	6	1122							
688+68 - 750+39																			1	93	17391				
740+00 - 750+39		68	12716			2	374				4	748	10	1870	2	374	16	2992							
14TH ST																									
137+70 - 140+08				6	1122	4	748				14	2518					4	748							CLOSURE
13TH ST																									
127+60 - 135+50				12	1116	12	1116				36	3348					8	744							CLOSURE
127+60 - 135+50				6	564	12	1128				30	2820					8	752							OPEN TO TRAFFIC
12TH ST																									
117+50 - 122+50				12	1116	12	1116	20	20		36	3348					8	744							CLOSURE
117+50 - 122+50				6	564	12	1128				30	2820					8	752							OPEN TO TRAFFIC
11TH ST																									
107+25 - 110+08				6	1122	4	748				14	2518					4	748							CLOSURE
BROADWAY ST																									
96+59 - 103+38				12	1116	14	1302	20	20		40	3720					8	744							CLOSURE
96+59 - 103+38				6	564	16	1504				38	3572					8	752							OPEN TO TRAFFIC
WINTER ST																									
86+59 - 92+86				12	1116	14	1302				40	3720					8	744							CLOSURE
86+59 - 92+86				6	564	16	1504				38	3572					8	752							OPEN TO TRAFFIC
8TH ST																									
78+85 - 81+25				12	1116	8	744				22	2046					9	837							CLOSURE
78+85 - 81+25				6	564	16	1504				38	3572					8	752							OPEN TO TRAFFIC
7TH ST																									
68+70 - 71+25				12	1116	8	744	20	20		28	2504					8	744							CLOSURE
68+70 - 71+25				6	564	16	1504				38	3572					8	752							OPEN TO TRAFFIC
6TH ST																									
58+75 - 61+85				12	1116	8	744				28	2504					8	744							CLOSURE
58+75 - 61+85				6	564	16	1504				38	3572					8	752							OPEN TO TRAFFIC
5TH ST																									
48+80 - 51+35				12	1116	8	744	20	20		22	2046					8	744							CLOSURE
48+80 - 51+35				6	564	16	1504				38	3572					8	752							OPEN TO TRAFFIC
4TH ST																									
37+85 - 41+75				12	1116	8	744				28	2504					8	744							CLOSURE
37+85 - 41+75				6	564	16	1504				38	3572					8	752							OPEN TO TRAFFIC
UNDISTRIBUTED																									
								20	20																
PROJECT 1195-13-71 TOTAL																									
	1		12716		19608		26202	100	100		70896	1870	374	20476	1	17391	28								

**TRAFFIC CONTROL COVERING SIGNS TYPE II**

STATION	643.0920 EACH
PROJECT 1195-13-71 CATEGORY 0010 STH 35	
DETOUR ROUTE	10
PROJECT 1195-13-71 TOTAL	10

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**PAVEMENT MARKING**

STATION	LOCATION	646.0106 EPOXY 4-INCH LF	646.0126 EPOXY 8-INCH LF	647.0110 RAILROAD CROSSINGS EPOXY EACH	647.0156 ARROWS EPOXY TYPE 1 EACH	647.0166 ARROWS EPOXY TYPE 2 EACH	647.0176 ARROWS EPOXY TYPE 3 EACH	647.0206 ARROWS BIKE LANE EPOXY EACH	647.0256 SYMBOLS EPOXY EACH	647.0306 SYMBOLS BIKE LANE EPOXY EACH	647.0336 SYMBOLS BIKE SHARED LANE EPOXY EACH	647.0406 WORDS BIKE LANE EPOXY EACH	647.0456 CURB EPOXY LF	647.0566 STOP LINE EPOXY 18-INCH LF	647.0606 ISLAND NOSE EPOXY EACH	647.0656 PARKING STALL EPOXY LF	647.0726 DIAGONAL EPOXY 12-INCH LF	646.0600 REMOVING PAVEMENT MARKING LF	649.0400 TEMPORARY REMOVABLE TAPE 4-INCH LF	SPV.0090.41 CROSSWALK PERFORMED THERMOPLASTIC 36-INCH GROOVED LF
PROJECT 1195-13-71																				
CATEGORY 0010																				
STH 35																				
688+67.69 - 692+84.10	LT & RT	1757	515		2	2	3	3		1	2	4	84	42	2					
692+84.10 - 697+04.04	LT & RT	2141	51			1		4		2		4	51		1					
697+04.04 - 701+24.18	LT & RT	2016	102			2		4		2		4	70		2					
701+24.18 - 705+44.41	LT & RT	2005	102			2		4		2		4	70		2					
705+44.41 - 709+79.51	LT & RT	1842	175			4		3		1		4	52		1					
709+79.51 - 714+49.42	LT & RT	1572	375			8		2			2	4	58	33	2					
714+49.42 - 718+84.64	LT & RT	1523	230	2		3		3		1	1	4	58	33	2					
718+84.64 - 723+04.82	LT & RT	1904	270			4		4		2		4	58		2					
723+04.82 - 727+25.08	LT & RT	1902	270			4		4		2		4	58		2					
727+25.08 - 731+45.20	LT & RT	1902	270			4		4		2		4	58		2					
731+45.20 - 736+15.14	LT & RT	2198	320			4		4		2		4	58		2					
736+15.14 - 750+39.40	LT & RT	3950	787			11		4		2		4	233		8		309			
8TH ST																				
78+85.00 - 81+25.00	LT & RT	276												38						
7TH ST																				
68+70.00 - 71+25.00	LT & RT	306												38						
6TH ST																				
58+75.00 - 61+84.91	LT & RT	436												38						
5TH ST																				
48+80.00 - 51+35.00	LT & RT	326												38						
4TH ST																				
37+85.00 - 41+75.00	LT & RT	576												38						
TRAFFIC CONTROL																				
																		50	360	
PROJECT 1195-13-71 TOTALS		26632	3467	2	2	49	3	43	0	19	6	48	908	298	28	0	309	50	360	0
PROJECT 8998-00-08																				
CATEGORY 0010																				
14TH ST																				
137+70.00 - 140+08.00	LT & RT	383							1					12		382	90			
13TH ST																				
127+60.00 - 132+50.00	LT & RT	790							2					24		760	232			
12TH ST																				
117+50.00 - 122+25.00	LT & RT	842							2					24		606	242			
11TH ST																				
107+25.00 - 110+08.00	LT & RT	473							1					12		398	157			
BROADWAY ST																				
96+59.35 - 103+37.73	LT & RT	2170	450			6								72						
WINTER ST																				
86+59.25 - 92+86.00	LT & RT	2205	450			6								72						
PROJECT 8998-00-08 TOTALS		6863	900			12			6					216		2146	721			

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**PAVEMENT MARKING (CONT)**

STATION	LOCATION	646.0106 EPOXY 4-INCH LF	646.0126 EPOXY 8-INCH LF	647.0110 RAILROAD CROSSINGS EPOXY EACH	647.0156 ARROWS EPOXY TYPE 1 EACH	647.0166 ARROWS EPOXY TYPE 2 EACH	647.0176 ARROWS EPOXY TYPE 3 EACH	647.0206 ARROWS BIKE LANE EPOXY EACH	647.0256 SYMBOLS EPOXY EACH	647.0306 SYMBOLS BIKE LANE EPOXY EACH	647.0336 SYMBOLS BIKE SHARED LANE EPOXY EACH	647.0406 WORDS BIKE LANE EPOXY EACH	647.0456 CURB EPOXY LF	647.0566 STOP LINE EPOXY 18-INCH LF	647.0606 ISLAND NOSE EPOXY EACH	647.0656 PARKING STALL EPOXY LF	647.0726 DIAGONAL EPOXY 12-INCH LF	646.0600 REMOVING PAVEMENT MARKING LF	649.0400 TEMPORARY REMOVABLE TAPE 4-INCH LF	SPV.0090.41 CROSSWALK PERFORMED THERMOPLASTIC 36-INCH GROOVED LF	
PROJECT 8010-07-74																					
STH 35																					
688+50	LT & RT																				88
692+56	LT & RT																				72
693+05	LT & RT																				40
696+72	LT & RT																				64
697+28	LT & RT																				64
701+00	LT & RT																				64
701+56	LT & RT																				64
705+13	LT & RT																				72
705+67	LT & RT																				72
709+38	LT & RT																				88
710+22	LT & RT																				88
714+05	LT & RT																				80
714+94	LT & RT																				80
718+52	LT & RT																				64
719+18	LT & RT																				64
722+72	LT & RT																				64
723+38	LT & RT																				64
726+93	LT & RT																				64
727+58	LT & RT																				64
731+13	LT & RT																				64
731+78	LT & RT																				64
735+82	LT & RT																				64
736+49	LT & RT																				64
14TH STREET																					
139+59	LT & RT																				32
13TH STREET																					
129+59	LT & RT																				32
130+40	LT & RT																				32
12TH STREET																					
119+59	LT & RT																				32
120+40	LT & RT																				32
11TH STREET																					
109+59	LT & RT																				32
BROADWAY ST																					
99+55	LT & RT																				80
100+47	LT & RT																				80
WINTER ST																					
89+53	LT & RT																				80
90+47	LT & RT																				80
8TH STREET																					
79+57	LT & RT																				48
80+43	LT & RT																				48
7TH STREET																					
69+57	LT & RT																				48
70+43	LT & RT																				48
6TH STREET																					
59+57	LT & RT																				48
60+43	LT & RT																				48
5TH STREET																					
49+57	LT & RT																				48
50+43	LT & RT																				48
4TH STREET																					
39+57	LT & RT																				48
40+43	LT & RT																				48
PROJECT 8010-07-74 TOTALS																					
																					2568
ITEM TOTALS		33495	4367	2	2	61	3	43	6	19	6	48	908	514	28	2146	1030	50	360	2568	

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**\*CONDUIT**

652.0225 652.0235  
 CONDUIT RIGID CONDUIT RIGID  
 NONMETALLIC NONMETALLIC  
 SCHEDULE 40 SCHEDULE 40  
 2-INCH 3-INCH  
 LF LF

FROM	TO	2-INCH LF	3-INCH LF
<b>PROJECT 8010-07-74</b>			
STH 35 (TOWER AVE) & BROADWAY ST (RRFB)			
B-18	SB1	10	
B-17	SB2	13	
PROJECT 8010-07-74 TOTAL:		23	0
<b>PROJECT 1195-13-71</b>			
USH 2 (BELKNAP STREET) & STH 35 (TOWER AVE)			
PB10	PB11	107	
INTERSECTION TOTALS		107	0
STH 35 (TOWER AVE) & 12TH ST			
PB1	PB2		68
PB2	PB3	173	
PB2	PB4		70
PB4	PB5		50
PB5	PB6		70
PB6	PB7		76
PB7	PB8		70
PB8	PB9	164	
PB8	PB10		70
PB10	PB11		50
PB11	PB12		72
PB12	PB1		72
INTERSECTION TOTALS		337	668
STH 35 (TOWER AVE) & WINTER ST			
CB1	PB1		72
PB1	PB2		114
PB1	SB1	19	
PB2	PB3		120
PB2	SB2	22	
PB3	PB4	159	
PB3	PB5		160
PB3	SB3	25	
PB5	PB6		126
PB5	SB4	7	
PB6	PB7		136
PB6	SB5	39	
PB6	SB6	20	
PB7	PB8		90
PB7	SB7	20	
PB8	PB9	143	
PB8	PB10		144
PB8	SB8	7	
PB10	PB11		212
PB10	SB9	8	
PB11	CB1		63
PB11	RR BUNGALOW		40
INTERSECTION TOTALS		469	1277
PROJECT 1195-13-71 TOTAL:		913	1945
ITEM TOTALS		936	1945

**LOOP DETECTOR SCHEDULE**

LOOP NUMBER	HOME RUN PB	LOCATION*	SIZE (FT)X(FT)	NO. OF TURNS	PAVEMENT TYPE	SDD INSTALLATION REFERENCE	652.0800 CONDUIT LOOP DETECTOR LF	655.0700 LOOP DETECTOR LEAD IN CABLE LF	655.0800 LOOP DETECTOR WIRE LF
<b>PROJECT 1195-13-71</b>									
USH 2 (BELKNAP STREET) & STH 35 (TOWER AVE)									
41	PB11	STH 35 NB, 689+77, 28.8' LT	6X15	3	CONCRETE	CONCRETE LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	64	420	159
71	PB10	STH 35 NB, 688+87, 11.6' LT	6X20	3	CONCRETE	CONCRETE LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	128	310	270
72	PB10	STH 35 NB, 688+59, 11.5' LT	6X20	3	CONCRETE	CONCRETE LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	120	310	258
<b>INTERSECTION TOTALS</b>							312	1040	687
STH 35 (TOWER AVE) & 12TH ST									
11	PB4	STH 35 NB, 700+70, 5.3' LT	6X20	N/A	CONCRETE	CONCRETE LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	84		
12	PB4	STH 35 NB, 700+98, 5.3' LT	6X20	N/A	CONCRETE	CONCRETE LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	70		
21	PB9	STH 35 NB, 703+46, 22.3' LT	6X6	N/A	CONCRETE	CONCRETE LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	64		
41	PB6	12TH STREET, 119+28, 0.5' LT	6X20	N/A	ASPHALT	ASPHALT LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	94		
42	PB6	12TH STREET, 119+56, 0.5' LT	6X20	N/A	ASPHALT	ASPHALT LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	82		
51	PB10	STH 35 NB, 701+88, 10.6' LT	6X20	N/A	CONCRETE	CONCRETE LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	78		
52	PB10	STH 35 NB, 701+60, 10.7' LT	6X6	N/A	CONCRETE	CONCRETE LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	64		
61	PB3	STH 35 NB, 699+12, 5.8' RT	6X20	N/A	CONCRETE	CONCRETE LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	62		
81	PB12	12TH STREET, 120+71, 10.4' LT	6X20	N/A	ASPHALT	ASPHALT LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	96		
82	PB12	12TH STREET, 120+43, 10.4' LT	6X20	N/A	ASPHALT	ASPHALT LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	82		
<b>INTERSECTION TOTALS</b>							776		
STH 35 (TOWER AVE) & WINTER ST									
11	PB3	STH 35 NB, 713+74, 6.0' RT	6X20	3	CONCRETE	CONCRETE LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	130	165	400
12	PB3	STH 35 NB, 714+02, 5.0' LT	6X20	3	CONCRETE	CONCRETE LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	132	165	406
21	PB9	STH 35 NB, 716+50, 23.0' LT	6X6	4	CONCRETE	CONCRETE LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	62	253	258
31	PB1	WINTER STREET, 90+78, CL	6X20	3	ASPHALT	ASPHALT LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	114	41	352
32	PB1	WINTER STREET, 90+50, CL	6X20	3	CONCRETE	CONCRETE LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	114	41	352
41	PB6	WINTER STREET, 89+22, 12.2' R	6X20	3	ASPHALT	ASPHALT LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	90	223	280
42	PB6	WINTER STREET, 89+50, 12.3' R	6X20	3	CONCRETE	CONCRETE LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	88	223	274
43	PB6	WINTER STREET, 89+50, 23.3' R	6X20	3	CONCRETE	CONCRETE LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	68	223	214
51	PB8	STH 35 NB, 715+25, 10.9' LT	6X20	3	CONCRETE	CONCRETE LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	122	110	376
52	PB8	STH 35 NB, 714+97, 11.0' LT	6X20	3	CONCRETE	CONCRETE LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	114	110	352
61	PB4	STH 35 NB, 712+16, 6.0' RT	6X6	5	CONCRETE	CONCRETE LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	82	324	420
71	PB6	WINTER STREET, 89+22, CL	6X20	3	ASPHALT	ASPHALT LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	114	223	352
72	PB6	WINTER STREET, 89+50, CL	6X20	3	CONCRETE	CONCRETE LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	114	223	352
81	PB1	WINTER STREET, 90+78, 12.3' L1	6X20	3	ASPHALT	ASPHALT LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	90	41	280
82	PB1	WINTER STREET, 90+50, 12.4' L1	6X20	3	CONCRETE	CONCRETE LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	90	41	280
83	PB1	WINTER STREET, 90+50, 23.3' L1	6X20	3	CONCRETE	CONCRETE LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	70	41	280
<b>INTERSECTION TOTALS</b>							1594	2447	5228
<b>ITEM TOTALS</b>							2682	3487	5915

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.



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**PULL BOXES STEEL**

NUMBER	LOCATION	653.0135	653.0140
		24 X 36 - INCH EACH	24 X 42 - INCH EACH
PROJECT 1195-13-71 USH 2 (BELKNAP STREET) & STH 35 (TOWER AVE)			
PB11	689+74, 47.2' LT	1	
INTERSECTION TOTALS		1	0
STH 35 (TOWER AVE) & 12TH ST			
PB1	701+11, 43.7' RT		1
PB2	700+85, 22.0' RT		1
PB3	699+12, 27.9' RT	1	
PB4	700+85, 13.0' LT		1
PB5	700+84, 37.7' LT		1
PB6	701+11, 60.9' LT		1
PB7	701+50, 59.8' LT		1
PB8	701+76, 37.5' LT		1
PB9	703+89, 44.4' LT	1	
PB10	701+76, 3.0' LT		1
PB11	701+76, 22.4' RT		1
PB12	701+47, 43.5' RT		1
INTERSECTION TOTALS		2	10
STH 35 (TOWER AVE) & WINTER ST			
PB1	714+83, 66.6' RT		1
PB2	714+17, 68.0' RT		1
PB3	713+75, 37.4' RT		1
PB4	712+16, 37.6' RT	1	
PB5	713+73, 42.8' LT		1
PB6	714+16, 81.3' LT		1
PB7	714+84, 82.7' LT		1
PB8	715+07, 43.3' LT		1
PB9	716+50, 44.7' LT	1	
PB10	715+08, 29.0' RT		1
PB11	717+20, 35.9' RT		1
INTERSECTION TOTALS		2	9
ITEM TOTALS		5	19

**REMOVING PULL BOXES**

NUMBER	653.0905 EACH
PROJECT 1195-13-71 USH 2 (BELKNAP STREET) & STH 35 (TOWER AVE)	
PB11	1
INTERSECTION TOTALS	
	1
STH 35 (TOWER AVENUE) & BROADWAY ST	
PB1	1
PB2	1
PB3	1
PB4	1
PB5	1
PB6	1
INTERSECTION TOTALS	
	6
ITEM TOTALS	
	7

**CONCRETE BASES**

NUMBER	LOCATION	654.0101	654.0217	SPV.0060.39
		CONCRETE BASES TYPE 1 EACH	CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH	CONCRETE BASES TYPE 13, CONTRACTOR SUPPLIED ANCHOR BOLTS & ROD TEMPLATE EACH
PROJECT 8010-07-74 STH 35 (TOWER AVE) & BROADWAY ST (RRFB)				
SB1	710+27, 46.1' LT	1		
SB2	710+27, 30.0' RT	1		
PROJECT 8010-07-74 TOTAL		2		
PROJECT 1195-13-71 STH 35 (TOWER AVE) & WINTER ST				
SB1	714+85, 43.5' RT	1		
SB2	714+12, 44.0' RT			1
SB3	714+00, 29.3' RT	1		
SB4	713+80, 43.0' LT			1
SB5	714+00, 46.1' LT	1		
SB6	714+14, 59.5' LT	1		
SB7	714+86, 60.4' LT			1
SB8	714+99, 45.4' LT	1		
SB9	714+99, 31.1' RT			1
CB1	714+96, 46.1' RT		1	
PROJECT 1195-13-71 TOTAL		5	1	4
ITEM TOTALS		7	1	4

**TRAFFIC SIGNAL CABLE NO. 14 (ABOVE GROUND)**

FROM	TO	655.0230 CABLE TRAFFIC SIGNAL 5 - 14 AWG LF
PROJECT 1195-13-71 STH 35 (TOWER AVE) & WINTER ST		
SB	HEAD 11	19
SB	HEAD 19	19
SB1	HEAD 21	15
SB1	RRA	20
SB2	HEAD 17	51
SB2	HEAD 18	19
SB2	HEAD 20	64
SB2	HEAD 22	15
SB3	HEAD 1	19
SB3	HEAD 9	19
SB3	HEAD 23	15
SB4	HEAD 7	49
SB4	HEAD 8	19
SB4	HEAD 10	60
SB5	HEAD 24	15
SB6	HEAD 14	19
SB6	HEAD 16	19
SB6	HEAD 25	15
SB7	HEAD 12	51
SB7	HEAD 13	19
SB7	HEAD 15	64
SB7	HEAD 26	15
SB7	RRB	20
SB8	HEAD 4	19
SB8	HEAD 6	19
SB8	HEAD 27	15
SB9	HEAD 2	51
SB9	HEAD 3	19
SB9	HEAD 5	62
SB9	HEAD 28	15
ITEM TOTAL		840

**TRAFFIC SIGNAL CABLE NO. 14 (BELOW GROUND)**

FROM	TO	655.0260 CABLE TRAFFIC SIGNAL 12 - 14 AWG LF
PROJECT 1195-13-71 STH 35 (TOWER AVE) & WINTER ST		
CB1	SB1	60
CB1	SB2	136
CB1	SB3	202
CB1	SB4	270
CB1	SB5	371
CB1	SB6	261
CB1	SB7	187
CB1	SB8	123
CB1	SB9	46
CB1	RR BUNGALOW	300
ITEM TOTALS		1956

**LIGHTING WIRE**

FROM	TO	655.0305 CABLE TYPE UF 2 - 12 AWG GROUNDED LF	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG L.F.
PROJECT 1195-13-71 STH 35 (TOWER AVE) & WINTER ST			
CB1	SB2	136	
SB2	LUMINAIRE		144
SB2	SB4	192	
SB4	LUMINAIRE		144
CB1	SB9	46	
SB9	LUMINAIRE		144
SB9	SB7	171	
SB7	LUMINAIRE		144
ITEM TOTALS		545	576

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**ELECTRICAL WIRE**

		655.0515 TRAFFIC SIGNALS 10 AWG LF
FROM	TO	
PROJECT 1195-13-71 STH 35 (TOWER AVE) & WINTER ST		
GROUND (GREEN)		
CB1	SB1	60
SB1	SB2	128
SB2	SB3	124
SB3	SB4	132
SB4	SB5	129
SB5	SB6	73
SB6	SB7	128
SB7	SB8	92
SB8	SB9	107
SB9	CB1	46
BONDING JUMPERS		
PB1	CB1	37
PB2	SB2	32
PB3	SB3	35
PB5	SB4	17
PB6	SB6	30
PB7	SB7	30
PB8	SB8	17
PB10	SB9	18
ITEM TOTAL		1235

**CONTROL CABINET**

		656.0200 ELECTRICAL SERVICE METER BREAKER (LOCATION) LS	SPV.0105.04 TRAFFIC SIGNAL CONTROLLER AND CABINET LS
NUMBER	LOCATION		
PROJECT 1195-13-71 STH 35 (TOWER AVE) & WINTER ST			
CB1	714+96, 46.1' RT	1	1
ITEM TOTALS		1	1

**CAST BASES, POLES, TROMBONE ARMS, LUMINAIRES**

NUMBER	657.0100	657.0405	657.0415	657.0420	SPV.0060.51	SPV.0060.52	SPV.0060.53	SPV.0060.58
	TRAFFIC SIGNAL PEDESTAL BASES EACH	TRAFFIC SIGNAL STANDARDS ALUMINUM 3.5 - FT EACH	TRAFFIC SIGNAL STANDARDS ALUMINUM 11 - FT EACH	TRAFFIC SIGNAL STANDARDS ALUMINUM 13 - FT EACH	POLES TYPE 13 DECORATIVE EACH	MONOTUBE ARMS 35-FT EACH	MONOTUBE ARMS 40-FT EACH	TRAFFIC SIGNAL LUMINAIRE ARM AND LUMINAIRE EACH
PROJECT 8010-07-74 STH 35 (TOWER AVE) & BROADWAY ST (RRFB)								
SB1	1		1					
SB2	1		1					
PROJECT 8010-07-74 TOTAL	2		2					
PROJECT 1195-13-71 STH 35 (TOWER AVE) & WINTER ST								
SB1	1			1				
SB2					1		1	
SB3	1			1				
SB4					1			1
SB5	1		1			1		
SB6	1			1				
SB7					1		1	1
SB8	1			1				
SB9					1	1		1
PROJECT 1195-13-71 TOTAL	5		1	4	4	2	2	4
ITEM TOTALS	7	2	1	4	4	2	2	4

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**TRAFFIC SIGNAL AND PEDESTRIAN FACES, PUSH BUTTONS, AND BACKPLATES**

SIGNAL HEAD NUMBER	SIGNAL BASE NUMBER	658.0110 TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL EACH	658.0115 TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL EACH	658.0215 BACKPLATES SIGNAL FACE 3 SECTION 12-INCH4 SECTION 12-INCH EACH	658.0220 BACKPLATES SIGNAL FACE 12-INCH EACH	658.0416 PEDESTRIAN SIGNAL FACE 16-INCH EACH	658.0500 PEDESTRIAN PUSH BUTTONS EACH	658.0600 LED MODULES 12-INCH RED BALL EACH	658.0605 LED MODULES 12-INCH YELLOW BALL EACH	658.0610 LED MODULES 12-INCH GREEN BALL EACH	658.0615 LED MODULES 12-INCH RED ARROW EACH	658.0620 LED MODULES 12-INCH YELLOW ARROW EACH	658.0625 LED MODULES 12-INCH GREEN ARROW EACH	658.0635 PEDESTRIAN COUNTDOWN TIMER 16-INCH EACH	SPV.0060.54 NO RIGHT TURN BLANK OUT LED SIGN EACH
PROJECT 1195-13-71 STH 35 (TOWER AVE) & WINTER ST															
1	SB3	1		1				1	1	1					
2	SB9	1		1				1	1	1					
3	SB9	1		1				1	1	1					
4	SB8	1		1								1	2		
5	SB9	1		1							1	2			
6	SB8	1		1				1	1	1					
7	SB4	1		1				1	1	1					
8	SB4	1		1				1	1	1					
9	SB3		1		1						1	2		1	
10	SB4		1		1						1	2		1	
11	SB1	1		1				1	1	1					
12	SB7	1		1				1	1	1					
13	SB7	1		1				1	1	1					
14	SB6	1		1							1	2			
15	SB7	1		1							1	2			
16	SB6	1		1				1	1	1					
17	SB2	1		1				1	1	1					
18	SB2	1		1				1	1	1					
19	SB1	1		1							1	2			
20	SB2	1		1							1	2			
21	SB1					1	1							1	
22	SB2					1	1							1	
23	SB3					1	1							1	
24	SB4					1	1							1	
25	SB5					1	1							1	
26	SB7					1	1							1	
27	SB8					1	1							1	
28	SB9					1	1							1	
RRA	SB1														1
RRB	SB7														1
ITEM TOTALS		18	2	18	2	8	8	12	12	12	8	16	2	8	2

**SIGNAL MOUNTING HARDWARE**

LOCATION	658.5069.01 LS
PROJECT 1195-13-71 STH 35 (TOWER AVE) & WINTER ST	1
ITEM TOTAL	1

**RECTANGULAR RAPID FLASHING BEACON (RRFB) SYSTEM**

LOCATION	SPV.0105.05 STH 35 & 7TH ST LS	SPV.0105.06 STH 35 & BROADWAY ST LS	SPV.0105.07 STH 35 & 12TH ST LS	SPV.0105.08 STH 35 & 14TH ST LS
PROJECT 8010-07-74 STA 693+10 STA 701+63 STA 710+37 STA 723+44	1	1	1	1
ITEM TOTALS	1	1	1	1

**REMOVING TRAFFIC SIGNAL ITEMS**

LOCATION	SPV.0105.02 REMOVING TRAFFIC SIGNALS LS	SPV.0105.03 REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE LS	SPV.0105.16 REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE LS
PROJECT 1195-13-71 USH 2 (BELKNAP ST) & STH 35 (TOWER AVE) STH 35 (TOWER AVE) & BROADWAY ST	1	1	1
ITEM TOTALS	1	1	1

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

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SAWING

SAWING (CONT.)

SAWING (CONT.)

SAWING (CONT.)

STATION	LOC	690.0150	690.0250	REMARKS
		SAWING ASPHALT	SAWING CONCRETE	
PROJECT 1195-13-71 CATEGORY 0010 STH 35				
688+49 - 689+83	LT		162	BEGIN
688+49 - 689+79	RT		142	
688+67	LT/RT	96		
689+83 - 689+99	LT	16		
689+79 - 690+39	RT	88		
689+99 - 690+99	LT		101	
690+39 - 692+84	RT		245	
690+99 - 691+36	LT	49		
691+36 - 692+44	LT		147	
692+84 - 693+69	RT		85	
693+19 - 695+94	LT		275	
693+69 - 694+19	RT	65		
694+19 - 694+70	RT		51	
694+70 - 695+19	RT	64		
695+19 - 696+69	RT		150	
696+13 - 696+69	LT		56	
697+39 - 700+88	LT		349	
697+39 - 700+89	RT		350	
701+60 - 704+59	RT		303	
701+85 - 702+86	LT		107	
702+86 - 703+52	LT	81		
703+52 - 705+09	LT		166	
705+79 - 707+84	LT		200	
706+64 - 707+80	RT		116	
707+80 - 708+62	RT	97		
707+84 - 709+23	LT	146		
708+62 - 709+30	RT		68	
710+29 - 711+60	LT		131	
710+99 - 711+91	RT		91	
711+60 - 711+79	LT	20		
711+79 - 712+58	LT		78	
712+58 - 713+93	LT	141		
714+99 - 716+73	LT		177	
715+53 - 716+30	RT		77	
716+82	LT/RT		96	
717+06	LT/RT		98	
717+38 - 718+50	LT		111	
721+19 - 721+67	LT	48		
721+66 - 722+24	LT		58	
722+09 - 722+70	RT		61	
722+24 - 722+69	LT	45		
723+40 - 724+34	LT	94		
723+39 - 724+44	RT		105	
724+34 - 725+45	LT		110	
725+45 - 726+37	LT	93		
726+37 - 726+90	LT		54	
727+60 - 728+58	LT		98	
727+60 - 728+09	RT		49	
728+86 - 729+10	LT		24	
729+27 - 730+02	RT	75		
730+04 - 730+35	LT		31	
730+67 - 730+75	LT		8	
731+80 - 732+31	LT		51	
732+71 - 733+19	RT		48	
733+01 - 733+15	LT		14	
733+62 - 734+07	RT	59		
734+06 - 734+30	LT		24	
735+05 - 735+31	LT		25	
736+36 - 737+65	LT		154	
737+84	LT/RT		67	
737+84	RT		6	

STATION	LOC	690.0150	690.0250	REMARKS
		SAWING ASPHALT	SAWING CONCRETE	
PROJECT 1195-13-71 CATEGORY 0010 STH 35				
738+49 - 738+74	RT		90	REPAIR
739+58 - 739+93	RT		58	REPAIR
739+94 - 741+10	LT		297	REPAIR
740+28 - 740+61	RT		86	REPAIR
740+25	LT		28	REPAIR
741+16 - 741+33	LT		82	REPAIR
741+70 - 742+93	LT		322	REPAIR
742+74 - 743+20	LT		122	REPAIR
742+94 - 743+16	LT		34	REPAIR
742+98 - 743+21	RT		44	REPAIR
743+05 - 743+36	RT		86	REPAIR
743+21 - 743+56	RT		35	REPAIR
743+57 - 743+76	RT		43	REPAIR
743+27 - 743+53	LT		27	REPAIR
743+62 - 743+94	LT/RT		73	REPAIR
743+73 - 743+84	LT		25	NOSE
744+03 - 744+08	LT/RT		82	REPAIR
744+54 - 744+60	LT/RT		81	REPAIR
745+38 - 745+56	LT/RT		100	REPAIR
745+40 - 745+64	RT		81	REPAIR
746+63 - 746+73	LT		21	NOSE
746+64 - 746+86	LT		43	REPAIR
746+86 - 747+32	LT		45	REPAIR
747+32 - 747+54	LT		34	REPAIR
746+65 - 746+86	RT		62	REPAIR
746+92 - 747+22	RT		31	REPAIR
747+30 - 747+52	RT		47	REPAIR
747+14 - 747+50	LT/RT		164	REPAIR
747+20 - 747+53	LT		21	REPAIR
749+51 - 749+57	LT		114	REPAIR
750+34 - 750+38	LT		13	NOSE
750+39	LT/RT		84	END

STATION	LOC	690.0150	690.0250	REMARKS
		SAWING ASPHALT	SAWING CONCRETE	
8TH STREET				
78+75	RT		5	
78+85	LT/RT		41	
81+25	LT/RT		41	
81+25	LT		6	
7TH STREET				
68+70	LT/RT	68		
68+70 - 69+79	LT	82		
68+70 - 69+57	RT	57		
70+50 - 71+25	LT		85	
71+25	LT/RT		41	
71+25	RT		5	
6TH STREET				
58+75	LT/RT		55	
58+75	RT		5	
58+75 - 59+50	LT		75	
61+35	LT		6	
5TH STREET				
48+80	LT/RT	41		
48+80	LT		14	
48+80	RT		6	
48+80 - 49+50	LT		70	
51+35	LT/RT	41		
51+35	LT		6	
51+35	RT		6	
4TH STREET				
37+85	LT/RT		41	
37+85 - 39+27	LT	171		
41+75	LT/RT	41		
41+75	RT		5	
EXTRA FOR CONC. REMOVAL				
			60000	
CATEGORY 0010 SUBTOTAL		1778	67907	
CATEGORY 0040				
693+69 - 694+19		140		
735+36 - 735+95		28		
CATEGORY 0010 SUBTOTAL		168	0	
PROJECT 1195-13-71 SUBTOTAL		1946	67907	

STATION	LOC	690.0150	690.0250	REMARKS
		SAWING ASPHALT	SAWING CONCRETE	
PROJECT 8998-00-08				
14TH STREET				
137+70	LT/RT		63	
137+70 - 138+09	LT	47		
137+70 - 138+37	RT	82		
138+09 - 139+50	LT		142	
138+37 - 139+11	RT		80	
13TH STREET				
127+60	LT/RT		70	
127+60 - 128+10	LT	55		
127+60 - 128+06	RT	56		
128+10 - 129+50	LT		145	
130+50 - 131+85	LT		136	
130+50 - 131+90	RT		140	
131+85 - 132+34	LT	50		
131+90 - 132+50	RT	60		
132+50	LT/RT		68	
12TH STREET				
117+50	LT/RT		55	
117+62 - 119+50	LT		223	
118+10 - 119+50	RT		139	
120+54 - 122+11	LT		157	
120+54 - 121+35	RT		85	
121+35 - 122+10	RT	81		
122+11 - 122+50	LT	39		
122+10 - 122+50	LT/RT		110	
11TH STREET				
107+25	LT/RT		58	
107+25 - 108+10	LT	93		
107+25 - 108+34	RT	118		
108+10 - 109+50	LT		140	
108+34 - 109+50	RT		122	
111+80	LT/RT		51	
BROADWAY STREET				
96+60	LT/RT	61		
96+60 - 97+75	LT	116		
96+60 - 97+75	RT	116		
97+75	LT/RT	56		
96+60	LT		7	
96+60	RT		19	
96+60 - 92+51	LT		92	
92+51 - 98+51	LT	112		
98+25 - 99+44	RT	139		
95+51 - 99+50	LT		99	
100+50 - 101+50	RT		100	
101+50 - 102+76	RT	126		
102+02 - 103+37	LT		137	
102+76 - 103+38	RT		74	
101+75	LT/RT	61		
101+75 - 103+38	LT	163		
101+75 - 103+38	RT	163		
103+38	LT/RT	71		
WINTER STREET				
86+60	LT/RT	56		
86+60	RT		5	
86+60 - 88+45	LT		185	
86+60 - 88+45	RT	185		
86+88 - 89+44	RT	267		
88+45	LT/RT	56		
88+45	LT		22	
88+45 - 89+42	LT	97		
PROJECT 8998-00-08 SUBTOTAL		2526	2724	
PROJECT ITEM TOTALS		4472	70631	

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**PLANTING MIXTURE - CU STRUCTURAL SOIL**

SPV.0035.03			
STATION	LOCATION	CY	REMARKS
PROJECT 1195-13-71 CATEGORY 0030 STH 35			
689+05 - 692+84	RT	505	TREE GRATE
689+04 - 691+98	LT	368	TREE GRATE
692+00 - 692+25	LT	39	PLANTER
692+84 - 696+06	RT	447	TREE GRATE
693+24 - 692+48	LT	39	PLANTER
693+55 - 696+12	LT	343	TREE GRATE
696+40 - 696+64	LT	39	PLANTER
696+40 - 696+64	RT	39	PLANTER
697+44 - 697+68	LT	39	PLANTER
697+44 - 697+68	RT	39	PLANTER
697+88 - 700+41	RT	351	TREE GRATE
697+83 - 700+36	LT	351	TREE GRATE
700+60 - 700+84	LT	39	PLANTER
700+60 - 700+84	RT	39	PLANTER
701+13 - 705+44	RT	587	TREE GRATE
701+65 - 701+89	LT	39	PLANTER
701+65 - 701+89	RT	39	PLANTER
705+44 - 708+85	RT	464	TREE GRATE
707+23 - 708+84	LT	219	TREE GRATE
710+70 - 713+46	LT	376	TREE GRATE
712+34 - 713+46	RT	152	TREE GRATE
718+11 - 718+35	LT	39	PLANTER
718+11 - 718+35	RT	39	PLANTER
719+30 - 719+54	LT	39	PLANTER
719+30 - 719+54	RT	39	PLANTER
722+32 - 722+56	RT	39	PLANTER
722+35 - 722+59	LT	39	PLANTER
723+54 - 723+78	RT	39	PLANTER
726+50 - 723+74	LT	39	PLANTER
726+56 - 726+80	RT	39	PLANTER
726+61 - 726+85	LT	39	PLANTER
727+65 - 727+89	RT	39	PLANTER
727+65 - 727+89	LT	39	PLANTER
730+76 - 731+00	RT	39	PLANTER
730+76 - 731+00	LT	39	PLANTER
731+91 - 732+15	RT	39	PLANTER
731+91 - 732+15	LT	39	PLANTER
735+46 - 735+70	RT	39	PLANTER
735+46 - 735+70	LT	39	PLANTER
736+61 - 736+85	RT	39	PLANTER
736+61 - 736+85	LT	39	PLANTER
1195-13-71 TOTAL		5330	

**CROSS STREET ACCESS**

SPV.0045.01			
STATION	LOCATION	DAY	REMARKS
PROJECT 1195-13-71 CATEGORY 0010 STH 35			
692+00 - 715+00	CROSS STREET	374	
718+00 - 737+00	CROSS STREET	374	
ITEM TOTAL		748	

**UTILITY LINE OPENING**

SPV.0060.37				
STATION	LOCATION	EACH	REMARKS	
PROJECT 1195-13-71 STH 35				
PROJECT	LT/RT	50	UNDISTRIBUTED	
PROJECT 1195-13-71 TOTAL		50		

**CONCRETE CURE AND SEAL PCC SAW CUTS**

SPV.0090.26	
STATION	LF
PROJECT 1195-13-71 STH 35	
MAINLINE	14400
UNDISTRIBUTED	3600
PROJECT 1195-13-71 TOTAL	18000

**PVC PIPE**

STATION	STRUCTURE	LOCATION	PIPE	SPV.0090.21	SPV.0090.22	SPV.0090.23	SPV.0090.24	UPSTREAM INVERT ELEVATION	DOWNSTREAM INVERT ELEVATION	DRAINS TO STRUCTURE	SLOPE %
				4-INCH LF	6-INCH LF	8-INCH LF	10-INCH LF				
PROJECT 1195-13-71 CATEGORY 0020 STH 35											
716+44.76	EXISTING PIPE	48.4' LT	EXISTING	8				EXISTING	624.28	RMH-9R	EXISTING
716+44.76	RMH - 9R	48.4' LT	P - 9S		45			624.28	623.83	INL - 9S	1.00%
716+00.00	INL - 9S	39.5' LT	P - 9R		38			623.83	623.45	INL - 9O	1.00%
6TH STREET 59+42.60											
	RMH - 6K	27.5' LT	RDP - 6J			8		616.42	616.42	INL - 6J	0.00%
PROJECT 1195-13-71 SUBTOTAL				8	83	8	0				
PROJECT 8998-00-08											
14TH STREET											
137+95.00	INL - 14D	26.0' LT	EXISTING	8				EXISTING	FIELD VARY	INL 14D	EXISTING
137+95.00	INL - 14D	26.0' LT	EXISTING				8	EXISTING	FIELD VARY	INL 14D	EXISTING
12TH STREET 118+65.57											
	RMH - 12J	31.3' LT	P - 12J		46			633.28	631.78	INL - 12I	3.30%
PROJECT 8998-00-08 SUBTOTAL				8	46	0	8				
ITEM TOTALS				16	129	8	8				

**WAYFINDING POLE**

SPV.0060.61			
STATION	LOCATION	EACH	REMARKS
PROJECT 8998-00-21 CATEGORY 0011 STH 35			
690+20	27' RT	1	SIGN PLACED ON BY OTHERS
705+40	30' RT	1	SIGN PLACED ON BY OTHERS
8998-00-21 TOTAL		2	

**CONCRETE CURB MEDIAN 3-INCH SLOPED**

STATION	CURE AND SEAL TREATMENT		REMARKS
	SPV.0165.07 SF	SPV.0165.05 SF	
PROJECT 8010-07-74 STH 35			
708+71 - 709+27	370	370	MEDIAN
710+32 - 710+88	370	370	MEDIAN
713+38 - 713+94	370	370	MEDIAN
715+04 - 715+61	370	370	MEDIAN
717+85 - 718+41	370	370	MEDIAN
719+28 - 719+85	370	370	MEDIAN
722+05 - 722+61	370	370	MEDIAN
723+48 - 724+05	370	370	MEDIAN
726+25 - 726+81	370	370	MEDIAN
727+69 - 728+25	370	370	MEDIAN
730+45 - 731+02	370	370	MEDIAN
731+89 - 732+45	370	370	MEDIAN
735+15 - 735+72	370	370	MEDIAN
735+59 - 737+15	370	370	MEDIAN
PROJECT 8010-07-74 TOTAL	5180	5180	

**CONCRETE APRON 24-INCH**

CURE AND SEAL TREATMENT				
STATION	SPV.0165.08		REMARKS	
	SF	SF		
PROJECT 8010-07-74 STH 35				
692+75 - 695+17	1526	1526	MEDIAN	
697+83 - 700+45	1140	1140	MEDIAN	
702+12 - 704+57	1079	1079	MEDIAN	
705+73 - 708+71	1250	1250	MEDIAN	
710+88 - 713+38	943	943	MEDIAN	
715+61 - 716+72	450	450	MEDIAN	
717+16 - 717+85	302	302	MEDIAN	
PROJECT 8010-07-74 TOTAL	6690	6690		

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**BRUSH PATTERN & COLORING OF CONCRETE SIDEWALK**

SPV.0165.01 6-INCH			
STATION	LOCATION	SF	REMARKS
PROJECT 8998-00-21 CATEGORY 0010 STH 35			
688+68 - 688+95	LT	430	BEGIN
688+51 - 688+97	RT	712	BEGIN
692+09 - 692+66	LT	2224	14TH ST
692+15 - 693+54	RT	2458	14TH ST
692+94 - 693+64	LT	1871	14TH ST
696+24 - 696+85	LT	1629	13TH ST
696+24 - 696+85	RT	1692	13TH ST
697+14 - 697+84	LT	1880	13TH ST
697+14 - 697+84	RT	1850	13TH ST
700+44 - 701+14	LT	1889	12TH ST
700+44 - 701+14	RT	1869	12TH ST
701+42 - 702+04	LT	1660	12TH ST
701+43 - 702+05	RT	1687	12TH ST
704+65 - 705+26	LT	1652	11TH ST
704+95 - 705+86	RT	1521	11TH ST
705+54 - 706+24	LT	1866	11TH ST
708+84 - 709+49	LT	1624	BROADWAY ST
708+85 - 709+50	RT	1597	BROADWAY ST
710+10 - 710+74	LT	1454	BROADWAY ST
710+10 - 710+74	RT	1637	BROADWAY ST
713+63 - 714+19	LT	1484	WINTER ST
713+63 - 714+19	RT	1482	WINTER ST
714+80 - 715+36	LT	1504	WINTER ST
714+80 - 715+35	RT	1478	WINTER ST
717+96 - 718+64	LT	1614	8TH ST
717+96 - 718+64	RT	1660	8TH ST
719+05 - 719+61	LT	970	8TH ST
719+05 - 719+61	RT	1064	8TH ST
722+29 - 722+85	LT	1069	7TH ST
722+25 - 722+84	RT	1445	7TH ST
723+25 - 723+81	LT	1064	7TH ST
723+25 - 723+85	RT	1421	7TH ST
726+45 - 727+05	LT	1413	6TH ST
726+50 - 727+05	RT	1062	6TH ST
727+46 - 727+96	LT	1261	6TH ST
727+45 - 727+96	RT	1237	6TH ST
730+69 - 731+25	LT	1093	5TH ST
730+69 - 731+25	RT	1089	5TH ST
731+66 - 732+25	LT	1430	5TH ST
731+65 - 732+22	RT	1137	5TH ST
735+40 - 735+95	LT	1043	4TH ST
735+39 - 735+95	RT	1061	4TH ST
736+36 - 736+91	LT	1069	4TH ST
736+35 - 736+91	RT	1069	4TH ST
PROJECT 8998-00-21 TOTAL		<u>63421</u>	
PROJECT 1195-13-71 CATEGORY 0040			
692+50 - 693+19	RT	623	
693+85 - 693+91	RT	36	
694+86 - 694+92	RT	36	
PROJECT 1195-13-71 TOTAL		<u>695</u>	
ITEM TOTAL		<u>64116</u>	

**BRUSH PATTERN & COLORING OF CONCRETE APRON 24-INCH**

SPV.0165.02 24-INCH			
STATION	LOCATION	SF	REMARKS
PROJECT 8998-00-21 CATEGORY 0010 STH 35			
688+69 - 692+45	MEDIAN	1636	
692+78 - 696+61	MEDIAN	1477	
697+38 - 700+90	MEDIAN	1334	
701+67 - 705+02	MEDIAN	1273	
705+73 - 709+27	MEDIAN	1287	
710+32 - 713+94	MEDIAN	1161	
715+04 - 716+72	MEDIAN	557	
717+16 - 718+41	MEDIAN	411	
719+22 - 722+61	MEDIAN	876	
723+48 - 726+81	MEDIAN	877	
727+69 - 731+02	MEDIAN	876	
731+89 - 735+72	MEDIAN	1024	
736+59 - 737+84	MEDIAN	316	
PROJECT 8998-00-21 TOTAL		<u>13105</u>	

**CONCRETE PAVEMENT**

SPV.0180.01 10-INCH SPECIAL			
STATION	LOCATION	SY	REMARKS
PROJECT 1195-13-71 CATEGORY 0010 STH 35			
688+67.69 - 692+84.10	LT & RT	2564	
692+84.10 - 697+04.04	LT & RT	2192	
697+04.04 - 701+24.18	LT & RT	2273	
701+24.18 - 705+44.41	LT & RT	2368	
705+44.41 - 709+79.51	LT & RT	2644	
709+79.51 - 714+49.42	LT & RT	3273	
714+49.42 - 718+84.64	LT & RT	2496	
718+84.64 - 723+04.82	LT & RT	2699	
723+04.82 - 727+25.08	LT & RT	2698	
727+25.08 - 731+45.20	LT & RT	2697	
731+45.20 - 736+15.14	LT & RT	2996	
736+15.14 - 750+39.40	LT & RT	1104	
741+69.40 - 742+83.03	LT	168	BASE PATCH
ITEM TOTAL		<u>30172</u>	

**MANAGEMENT OF SOLID WASTE**

STATION	LOCATION	SPV.0195.01 TON
PROJECT 1195-13-71 CATEGORY 0010 STH 35		
688+67 - 750+39	UNDISTRIBUTED	300
ITEM TOTAL		<u>300</u>

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**PULL BOX ITEMS**

NO.	LOCATION	653.0120	653.0145
		PULL BOXES STEEL 18x24-INCH EACH	PULL BOXES STEEL 24x48-INCH EACH
PROJECT 8998-00-21			
STH 35			
LPB-1	127+80, 26.6' RT		1
LPB-2	713+95, 45.0' LT		1
LPB-3	714+92, 50.0' LT		1
LPB-4	714+93, 35.0' RT		1
LPB-5	723+29, 65.0' LT		1
LPB-6	698+28, 5.9' LT		1
LPB-7	702+56, 5.8' LT		1
LPB-8	128+81, 27.0' RT		1
LPB-9	696+75, 44.8' LT	1	
LPB-10	696+53, 12.8' LT	1	
LPB-11	700+10, 33.1' LT	1	
LPB-12	700+17, 35.7' RT	1	
ITEM TOTAL		4	8

**LIGHTING UNIT ITEMS**

LIGHTING UNIT NO.	204.0195	SPV.0060.34	SPV.0060.35	SPV.0060.36	SPV.0060.38	SPV.0060.55	SPV.0060.56	SPV.0060.57	SPV.0060.65
	REMOVING CONCRETE BASES* EACH	SALVAGE LIGHTING UNIT EACH	LIGHTING UNIT TYPE SPECIAL 1 EACH	LIGHTING UNIT TYPE SPECIAL 2 EACH	CONCRETE BASE TYPE SPECIAL EACH	RECEPTACLE STANCHION TYPE SPECIAL 1 EACH	RECEPTACLE STANCHION TYPE SPECIAL 2 EACH	RECEPTACLE STANCHION TYPE SPECIAL 3 EACH	SPEAKER ASSEMBLY EACH
PROJECT 8998-00-21									
STH 35									
A-1				1		1			1
A-2				1		1			1
A-3				1		1			1
A-4				1		1			1
A-5				1		1			1
A-6				1		1			1
A-7			1			1			1
A-8			1			1			1
A-11			1			1			1
A-12			1			1			1
A-13				1		1			1
A-14				1		1			1
A-15				1		1			1
A-16				1		1			1
A-17				1		1			1
A-18				1		1			1
A-19			1			1			1
A-20			1			1			1
A-24			1			1			1
A-25			1			1			1
A-27				1		1			1
A-28				1		1			1
A-29				1		1			1
A-30				1		1			1
A-31				1		1			1
A-32				1		1			1
A-33			1			1			1
A-36			1			1			1
A-37			1			1			1
A-40			1			1			1
A-41				1		1			1
A-42				1		1			1
A-43				1		1			1
A-44				1		1			1
A-45				1		1			1
A-46				1		1			1
A-47			1			1			1
A-48			1			1			1
B-2			1			1			1
B-3			1			1			1
B-4				1		1			1
B-5				1		1			1
B-6				1		1			1
B-7				1		1			1
B-8				1		1			1
B-9				1		1			1
B-10			1			1			1
B-12			1			1			1
B-17			1			1			1
B-18			1			1			1
B-20				1		1			1
B-21				1		1			1
B-22				1		1			1
B-23				1		1			1
B-24				1		1			1
B-25				1		1			1
B-31				1		1			1
B-32				1		1			1
B-33			1			1			1
C-1			1			1			1
C-2			1			1			1
C-3			1			1			1
C-4			1			1			1
C-5			1			1			1
C-6			1			1			1
C-7			1			1			1
C-8			1			1			1
C-9			1			1			1

\*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

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LIGHTING UNIT ITEMS (CONTIN'D)

LIGHTING UNIT NO.	204.0195 REMOVING CONCRETE BASES* EACH	SPV.0060.34 SALVAGE LIGHTING UNIT EACH	SPV.0060.35 LIGHTING UNIT TYPE SPECIAL 1 EACH	SPV.0060.36 LIGHTING UNIT TYPE SPECIAL 2 EACH	SPV.0060.38 CONCRETE BASES TYPE SPECIAL EACH	SPV.0060.55 RECEPTACLE STANCHION TYPE SPECIAL 1 EACH	SPV.0060.56 RECEPTACLE STANCHION TYPE SPECIAL 2 EACH	SPV.0060.57 RECEPTACLE STANCHION TYPE SPECIAL 3 EACH	SPV.0060.65 SPEAKER ASSEMBLY EACH
PROJECT 8998-00-21 STH 35									
C-10			1			1			
C-11			1			1			
C-12			1			1			
C-13			1			1			
C-14			1			1			
C-15			1			1			
C-16			1			1			
C-17			1			1			
C-18			1			1			
C-19			1			1			
C-20			1			1			
C-21			1			1			
C-22			1			1			
C-23			1			1			
C-24			1			1			
C-25			1			1			
C-26			1			1			
C-27			1			1			
C-28			1			1			
C-29			1			1			
C-30			1			1			
C-31			1			1			
C-32			1			1			
C-33			1			1			
C-34			1			1			
C-35			1			1			
C-36			1			1			
C-37			1			1			
C-38			1			1			
C-39			1			1			
EXISTING LIGHTING UNITS	80	80							
RECEPTACLE STANCHIONS						74	46	1	
PROEJCT 8998-00-21 TOTALS	80	80	60	38	98	74	46	1	56

\*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.



**LIGHTING UNIT ITEMS (CONTIN'D)**

LIGHTING UNIT NO.	204.0195 REMOVING CONCRETE BASES* EACH	SPV.0060.34 SALVAGE LIGHTING UNIT EACH	SPV.0060.35 LIGHTING UNIT TYPE SPECIAL 1 EACH	SPV.0060.36 LIGHTING UNIT TYPE SPECIAL 2 EACH	SPV.0060.38 CONCRETE BASES TYPE SPECIAL EACH	SPV.0060.55 RECEPTACLE STANCHION TYPE SPECIAL 1 EACH	SPV.0060.56 RECEPTACLE STANCHION TYPE SPECIAL 2 EACH	SPV.0060.57 RECEPTACLE STANCHION TYPE SPECIAL 3 EACH	SPV.0060.65 SPEAKER ASSEMBLY EACH
PROJECT 8998-00-08									
SIDE STREETS									
A-9				1	1				
A-10				1	1				
A-21				1	1				
A-22				1	1				
A-23				1	1				
A-26				1	1				
A-34				1	1				
A-35				1	1				
A-38				1	1				
A-39				1	1				
A-49				1	1				
B-1				1	1				
B-11				1	1				
B-13				1	1				
B-14				1	1				
B-15				1	1				
B-16				1	1				
B-19				1	1				
B-26				1	1				
B-27				1	1				
B-28				1	1				
B-29				1	1				
B-30				1	1				
EXISTING LIGHTING UNITS	17	17							
PROJECT 8998-00-08 TOTALS	17	17	0	23	23	0	0	0	0
ITEM TOTALS	97	97	60	61	121	74	46	1	56

\*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

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LIGHTING ELECTRICAL WIRE AND CONDUIT ITEMS

STA. FROM	STA. TO	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG (LF)	655.0625 ELECTRICAL WIRE LIGHTING 6 AWG (LF)	655.0620 ELECTRICAL WIRE LIGHTING 8 AWG (LF)	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG (LF)	655.0610 (POLE RISER, OR PULL WIRE) ELECTRICAL WIRE LIGHTING 12 AWG (LF)	652.0205 CONDUIT RIGID NONMETALLIC SCHEDULE 40 - 3/4 INCH (LF)	652.0210 CONDUIT RIGID NONMETALLIC SCHEDULE 40 - 1 INCH (LF)	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 - 2 INCH (LF)	SPV.0090.35 SPEAKER CABLE (LF)
PROJECT 8998-00-21										
STH 35										
A-TR-1	A-1					141	37			
A-TR-3	A-1					87	19			
A-1	A-3	336	336			120	102	102		125
A-TR-5	A-3					99	23			
A-TR-7	A-3					114	28			
A-3	A-5	327	327			120	99	99		122
A-TR-9	A-5					90	20			
A-TR-11	A-5					126	32			
A-5	A-7	321	321			120	97	97		120
A-TR-13	A-7					78	16			
A-7	A-11	225	225			165	65		65	88
A-TR-15	A-11					105	25			
A-12	A-11			150			65			
A-11	A-13	285	285	190		165	85		85	108
A-TR-17	A-13					117	29			
A-TR-19	A-13					90	20			
A-13	A-15	300	300	200		120	90		90	113
A-TR-21	A-15					102	24			
A-TR-23	A-15					102	24			
A-TR-62	A-TR-63					213	61			
A-TR-63	A-TR-64					284	61			
A-TR-66	A-TR-65					164	31			
A-TR-65	A-TR-64					280	60			
A-TR-64	A-15		168	56				46		
A-15	A-17	300	300	200		120	90		90	113
A-TR-25	A-17					102	24			
A-TR-27	A-17					102	24			
A-17	A-19	297	297	198		120	89		89	112
A-TR-29	A-19					69	13			
A-19	A-22	540	540	180		165			80	
A-22	LPB-8	156	156	52					16	
IRRIGATION										
LPB-10	LPB-10				390		120			
LPB-9	LPB-9				150		40			
LPB-8	LPB-8				273		81			
LPB-8	LPB-1	678	678	226					103	
LPB-1	LCC-A	402	402	134					57	
A-19	A-24						72			95
A-TR-2	A-2					138	36			
A-TR-4	A-2					87	19			
A-2	A-4	324	324			120	98		98	121
A-TR-6	A-4					87	19			
A-TR-8	A-4					126	32			
A-4	A-6	333	333			120	101		101	124
A-TR-10	A-6					81	17			
A-TR-12	A-6					171	47			
A-6	A-8	327	327			120	99		99	122
A-TR-14	A-8					45	5			
A-8	A-12	216	216			165	62		62	85
A-TR-16	A-12					54	8			
A-12	A-14	294	294			165	88		88	111
A-TR-18	A-14					111	27			
A-TR-20	A-14					90	20			
A-14	A-16	297	297			120	89		89	112
A-TR-22	A-16					102	24			
A-TR-24	A-16					87	19			

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

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3

LIGHTING ELECTRICAL WIRE AND CONDUIT ITEMS (CONT)

STA. FROM	STA. TO	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG (LF)	655.0625 ELECTRICAL WIRE LIGHTING 6 AWG (LF)	655.0620 ELECTRICAL WIRE LIGHTING 8 AWG (LF)	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG (LF)	655.0610 (POLE RISER, OR PULL WIRE) ELECTRICAL WIRE LIGHTING 12 AWG (LF)	652.0205 CONDUIT RIGID NONMETALLIC SCHEDULE 40 - 3/4 INCH (LF)	652.0210 CONDUIT RIGID NONMETALLIC SCHEDULE 40 - 1 INCH (LF)	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 - 2 INCH (LF)	SPV.0090.35 SPEAKER CABLE (LF)
PROJECT 8998-00-21										
STH 35										
A-16	A-18	297	297			120	89		89	112
A-TR-26	A-18					114	28			
A-TR-28	A-18					87	19			
A-18	A-20	294	294			120	88		88	111
A-TR-30	A-20					72	14			
A-20	A-19	210	210			165			60	
A-20	A-25						72			95
B-3	A-48					68	68		68	91
A-TR-61	A-48					93	21			
A-TR-60	A-48					105	25			
A-48	A-46	291	291			165	87		87	110
A-TR-58	A-46					87	19			
A-TR-56	A-46					114	28			
A-46	A-44	300	300			120	90		90	113
A-TR-54	A-44					114	28			
A-44	A-42	273	273			120	81		81	104
A-TR-52	A-42					153	41			
A-TR-50	A-42					48	6			
A-42	A-37	294	294			120	88		88	111
A-TR-48	A-37					78	16			
A-37	A-40	231	231			165	67		67	90
A-TR-46	A-40					105	25			
A-40	A-32	294	294			165			88	
A-40	LPB-12						81			104
LPB-12	A-32						12			35
A-TR-44	A-32					87	19			
A-TR-42	A-32					114	28			
A-32	A-30	309	309			120	93		93	116
A-TR-40	A-30					87	19			
A-TR-38	A-30					126	32			
A-30	A-28	309	309			120	93		93	116
A-TR-36	A-28					87	19			
A-TR-34	A-28					102	24			
A-28	A-25	303	303			120	91		91	114
A-TR-32	A-25					99	23			
A-25	A-24	210	210			165			60	
B-2	A-47					68	68		68	91
A-TR-59	A-47					78	16			
A-47	A-45	294	294			165	88		88	111
A-TR-57	A-45					90	20			
A-TR-55	A-45					114	28			
A-45	A-43	300	300			120	90		90	113
A-TR-53	A-43					75	15			
A-43	A-41	258	258			120	76		76	99
A-TR-51	A-41					141	37			
A-TR-49	A-41					75	15			
A-TR-72	A-TR-71					201	57			
A-TR-71	A-TR-70					264	56			
A-TR-70	LPB-7					132	23			
LPB-7	A-41					188	37			
A-41	A-36	306	306			120	92		92	115
A-TR-47	A-36					78	16			
A-37	A-36			140			60			
A-36	A-33	231	231	154		165	67		67	90
A-TR-45	A-33					108	26			
A-33	A-31	306	306	204		165			92	
A-33	LPB-11						85			108
LPB-11	BUILDING							30		540
A-TR-43	A-31					87	19			
A-TR-41	A-31					114	28			

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**LIGHTING ELECTRICAL WIRE AND CONDUIT ITEMS (CONT)**

STA. FROM	STA. TO	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG (LF)	655.0625 ELECTRICAL WIRE LIGHTING 6 AWG (LF)	655.0620 ELECTRICAL WIRE LIGHTING 8 AWG (LF)	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG (LF)	655.0610 (POLE RISER, OR PULL WIRE) ELECTRICAL WIRE LIGHTING 12 AWG (LF)	652.0205 CONDUIT RIGID NONMETALLIC SCHEDULE 40 - 3/4 INCH (LF)	652.0210 CONDUIT RIGID NONMETALLIC SCHEDULE 40 - 1 INCH (LF)	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 - 2 INCH (LF)	SPV.0090.35 SPEAKER CABLE (LF)
PROJECT 8998-00-21										
STH 35										
A-31	A-29	297	297	198		120	89		89	112
A-31	LPB-11						10			33
LPB-12	LPB-11							83		186
A-TR-39	A-29					63	11			
A-TR-37	A-29					150	40			
A-29	A-27	306	306	204		120	92		92	115
A-TR-35	A-27					75	15			
A-TR-33	A-27					114	28			
A-TR-69	A-TR-68					210	60			
A-TR-68	A-TR-67					280	60			
A-TR-67	LPB-7					148	27			
LPB-7	A-27					192	38			
A-27	A-24	300	300	200		120	90		90	113
A-TR-31	A-24					99	23			
A-24	A-23	846	846	282		165			131	
A-23	LCC-A	420	420	140					60	
B-TR-1	B-3					93	21			
B-TR-3	B-3					93	21			
B-3	B-5	300	300			165	90		90	113
B-TR-5	B-5					114	28			
B-TR-7	B-5					87	19			
B-5	B-7	309	309			120	93		93	116
B-TR-9	B-7					99	23			
B-TR-11	B-7					102	24			
B-7	B-9	297	297			120	89		89	112
B-TR-13	B-9					87	19			
B-TR-15	B-9					114	28			
B-9	B-12	273	273			120	81		81	104
B-12	B-17	375	375			165	115		115	138
B-18	B-17			160			70			
B-17	B-21	273	273	182		165	81		81	104
B-TR-17	B-21					108	26			
B-21	B-23	315	315	210		120	95		95	118
B-TR-19	B-23					129	33			
B-23	B-25	315	315	210		120	95		95	118
B-TR-23	B-25					90	20			
B-TR-25	B-25					102	24			
B-25	LCC-B	423	423	282		120			131	
B-TR-2	B-2					102	24			
B-2	B-4	303	303			165	91		91	114
B-TR-4	B-4					114	28			
B-TR-6	B-4					90	20			
B-4	B-6	300	300			120	90		90	113
B-TR-8	B-6					87	19			
B-TR-10	B-6					117	29			
B-TR-26	B-TR-27					231	67			
B-TR-27	B-TR-28					368	82			
B-TR-28	B-6					180	35			
B-6	B-8	300	300			120	90		90	113
B-TR-12	B-8					87	19			
B-TR-14	B-8					114	28			
B-8	B-10	273	273			120	81		81	104
B-10	B-18	366	366			277	112		112	
B-18	B-20	285	285			165	85		85	108
B-TR-16	B-20					138	36			
B-TR-18	B-20					75	15			
B-20	B-22	312	312			120	94		94	117
B-TR-20	B-22					75	15			
B-TR-21	B-22					126	32			
B-TR-29	B-22					144	38			
B-22	B-24	312	312			120	94		94	117
B-TR-22	B-24					90	20			
B-TR-24	B-24					114	28			

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**LIGHTING ELECTRICAL WIRE AND CONDUIT ITEMS (CONT)**

STA. FROM	STA. TO	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG (LF)	655.0625 ELECTRICAL WIRE LIGHTING 6 AWG (LF)	655.0620 ELECTRICAL WIRE LIGHTING 8 AWG (LF)	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG (LF)	655.0610 (POLE RISER, OR PULL WIRE) ELECTRICAL WIRE LIGHTING 12 AWG (LF)	652.0205 CONDUIT RIGID NONMETALLIC SCHEDULE 40 - 3/4 INCH (LF)	652.0210 CONDUIT RIGID NONMETALLIC SCHEDULE 40 - 1 INCH (LF)	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 - 2 INCH (LF)	SPV.0090.35 SPEAKER CABLE (LF)
PROJECT 8998-00-21										
STH 35										
B-24	LPB-2	300	300			120			90	
B-26	LPB-2	504	504						74	
LPB-2	LCC-B	366	366						112	
B-32	LPB-3	315	315			120			95	
B-30	LPB-3	420	420						60	
LPB-3	LPB-4	285	285						85	
B-33	B-31	255	255			165			75	
B-31	LPB-4	309	309			120			93	
LPB-4	B-29	390	390						55	
B-29	B-27	234	234						68	
B-27	LCC-B	102	102						24	
C1	C-2	369	369			165			113	
C-TR-2	C-2					99	23			
C-2	C-4	261	261			165			77	
C-TR-4	C-4					90	20			
C-4	C-6	381	381			165			117	
C-6	C-8	390	390			165			120	
C-8	C-10	354	354			165			108	
C-TR-6	C-10					90	20			
C-10	LCC-C	258	258			165			33	
C-TR-1	C-3					99	23			
C-3	C-5	264	264			165			78	
C-TR-3	C-5					87	19			
C-5	C-7	378	378			165			116	
C-7	C-9	372	372			165			114	
C-9	C-11	375	375			165			115	
C-TR-5	C-11					102	24			
C-11	C-10	225	225			165			65	
C-38	C-36	393	393			165			121	
C-TR-20	C-36					87	19			
C-36	C-34	264	264			165			78	
C-TR-18	C-34					87	19			
C-34	C-32	426	426			165			132	
C-32	C-30	399	399			165			123	
C-30	C-28	450	450			165			140	
C-TR-16	C-28					99	23			

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**LIGHTING ELECTRICAL WIRE AND CONDUIT ITEMS (CONT)**

STA. FROM	STA. TO	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG (LF)	655.0625 ELECTRICAL WIRE LIGHTING 6 AWG (LF)	655.0620 ELECTRICAL WIRE LIGHTING 8 AWG (LF)	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG (LF)	655.0610 (POLE RISER, OR PULL WIRE) ELECTRICAL WIRE LIGHTING 12 AWG (LF)	652.0205 CONDUIT RIGID NONMETALLIC SCHEDULE 40 - 3/4 INCH (LF)	652.0210 CONDUIT RIGID NONMETALLIC SCHEDULE 40 - 1 INCH (LF)	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 - 2 INCH (LF)	SPV.0090.35 SPEAKER CABLE (LF)
PROJECT 8998-00-21										
STH 35										
C-28	C-26	264	264			165			78	
C-TR-14	C-26					84	18			
C-26	C-24	375	375			165			115	
C-24	C-22	375	375			165			115	
C-22	C-20	375	375			165			115	
C-TR-12	C-20					72	14			
C-20	C-18	264	264			165			78	
C-TR-10	C-18					72	14			
C-18	C-16	402	402			165			124	
C-16	C-14	348	348			165			106	
C-14	C-12	375	375			165			115	
C-TR-8	C-12					87	19			
C-12	LPB-5	240	240		80	165			30	
LPB-5	LCC-C	384	384		128				54	
C-39	C-37	393	393			165			121	
C-TR-19	C-37					87	19			
C-37	C-35	267	267			165			79	
C-TR-17	C-35					90	20			
C-35	C-33	429	429			165			133	
C-33	C-31	414	414			165			128	
C-31	C-29	432	432			165			134	
C-TR-15	C-29					90	20			
C-29	C-27	264	264			165			78	
C-TR-13	C-27					87	19			
C-27	C-25	375	375			165			115	
C-25	C-23	375	375			165			115	
C-23	C-21	372	372			165			114	
C-TR-11	C-21					72	14			
C-21	C-19	264	264			165			78	
C-TR-9	C-19					87	19			
C-19	C-17	375	375			165			115	
C-17	C-15	375	375			165			115	
C-15	C-13	375	375			165			115	
C-TR-7	C-13					99	23			
C-13	C-12	225	225		150	165			65	
IRRIGATION	LCC-C				75		15			
PROJECT 8998-00-21 TOTAL		36144	36312	4152	1246	28537	8383	159	10211	6628

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**LIGHTING ELECTRICAL WIRE AND CONDUIT ITEMS (CONT)**

STA. FROM	STA. TO	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG (LF)	655.0625 ELECTRICAL WIRE LIGHTING 6 AWG (LF)	655.0620 ELECTRICAL WIRE LIGHTING 8 AWG (LF)	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG (LF)	655.0610 (POLE RISER, OR PULL WIRE) ELECTRICAL WIRE LIGHTING 12 AWG (LF)	652.0205 CONDUIT RIGID NONMETALLIC SCHEDULE 40 - 3/4 INCH (LF)	652.0210 CONDUIT RIGID NONMETALLIC SCHEDULE 40 - 1 INCH (LF)	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 - 2 INCH (LF)	SPV.0090.35 SPEAKER CABLE (LF)
PROJECT 8998-00-08										
SIDE STREETS										
A-9	A-7	246	246			120			72	
A-10	A-11	423	423			120			131	
A-22	LPB-1					120				
A-23	LCC-A					120				
A-21	A-20	435	435			120			135	
A-26	A-25	213	213			120			61	
A34	A-33	255	255			120			75	
A-38	A-37	207	207			120			59	
A-35	A-36	429	429			120			133	
A-39	A-40	387	387			120			119	
A-49	A-47	255	255			120			75	
B-1	B-2	426	426			120			132	
B-11	B-10	264	264			120			78	
B-19	B-18	264	264			120			78	
B-14	B-13	318	318			120			96	
B-13	B-12	246	246			120			72	
B-15	B-16	318	318			120			96	
B-16	B-17	267	267			120			79	
B-26	LPB-2					120				
B-30	LPB-3					120				
B-29	B-27					120				
B-28	B-27	345	345			120			105	
B-27	LCC-B					120				
PROJECT 8998-00-08 TOTAL		5298	5298	0	0	2760	0	0	1596	0
ITEM TOTAL		41442	41610	4152	1246	31297	8383	159	11807	6628

**STREET SIGN BRACKET**

STATION	LOCATION	SPV.0060.60 EACH
PROJECT 8998-00-21		
CATEGORY 0010		
STH 35		
692+50	37.9' LT	2
693+10	27.5' RT	1
696+63	37.5' LT	2
697+34	21.5' RT	2
700+96	37.6' LT	2
701+63	21.5' RT	2
705+06	37.5' LT	2
705+74	27.5' RT	1
709+24	43.5' LT	2
710+39	27.5' RT	2
713+95	45.0' LT	2
714+93	35.0' RT	2
718+46	39.9' LT	2
719+23	24.0' RT	2
722+66	40.0' LT	2
723+44	24.0' RT	2
7226+86	40.0' LT	2
727+64	23.8' RT	2
731+06	39.9' LT	2
731+84	23.9' RT	2
735+76	39.8' LT	2
736+79	24.0' RT	2
8998-00-21 TOTAL		42

**LIGHTING CONTROL CABINET**

CABINET	STATION	204.0195 REMOVING CONCRETE BASES* EACH	SPV.0060.33 SALVAGE LIGHTING CONTROL CABINET EACH	661.0400.S LIGHTING CONTROL CABINET TYPE 3060 EACH	654.0200 CONCRETE CONTROL CABINET BASE TYPE 6 EACH	656.0400 ELECTRICAL SERVICE MAIN LUGS ONLY METER PEDESTAL (LOCATION)
PROJECT 8998-00-21						
STH 35						
A		1	1	1	1	1
B				1	1	1
C				1	1	1
ITEM TOTALS		1	1	3	3	3

\*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN

**REMOVE EXISTING FLAG POLE AND BASE**

STATION	LOCATION	SPV.0060.81 EACH
PROJECT 1195-13-71		
CATEGORY 0010		
STH 35		
691+17	65.9' LT	1
8998-00-21 TOTAL		1

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE PROJECT 1195-13-71, CATEGORY 0050, UNLESS OTHERWISE NOTED.

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**ABANDONING SANITARY SEWER**

STATION	LOCATION	SPV.0035.01 CY
PROJECT 1195-13-71 CATEGORY 0050 STH 35		
708+19 - 708+92	8' LT	9
<b>ITEM TOTAL</b>		<b>9</b>

**SEALING SANITARY PIPES**

STATION	LOCATION	SPV.0060.24 EACH
PROJECT 1195-13-71 CATEGORY 0050 STH 35		
690+14	8' LT	1
690+21	8' LT	1
691+24	8' LT	1
692+78	8' LT	1
692+80	8' LT	1
695+05	8' LT	1
703+30	8' LT	1
703+65	8' LT	1
706+62	8' LT	1
707+64	8' LT	1
708+25	8' LT	1
708+27	8' LT	1
709+04	8' LT	1
712+97	8' LT	1
713+85	8' LT	1
716+37	8' LT	1
716+39	8' LT	1
716+58	8' LT	1
716+65	8' LT	1
716+73	8' LT	1
716+77	8' LT	1
718+28	8' LT	1
719+39	8' LT	1
719+42	8' LT	1
719+91	8' LT	1
719+93	8' LT	1
720+04	8' LT	1
720+43	8' LT	1
720+90	8' LT	1
720+93	8' LT	1
720+95	8' LT	1
721+43	8' LT	1
721+45	8' LT	1
721+91	8' LT	1
722+45	8' LT	1
722+97	8' LT	1
722+99	8' LT	1
723+68	8' LT	1
725+14	8' LT	1
725+18	8' LT	1
725+20	8' LT	1
725+68	8' LT	1
725+70	8' LT	1
726+15	8' LT	1
726+17	8' LT	1
726+67	8' LT	1
728+34	8' LT	1
728+83	8' LT	1
728+85	8' LT	1
729+40	8' LT	1
729+86	8' LT	1
729+88	8' LT	1
732+07	8' LT	1
732+58	8' LT	1
733+58	8' LT	1
733+79	8' LT	1
733+81	8' LT	1
734+07	8' LT	1
734+58	8' LT	1
735+07	8' LT	1
735+58	8' LT	1
<b>ITEM TOTAL</b>		<b>61</b>

**SANITARY MANHOLE, 48-INCH**

STATION	LOCATION	SPV.0060.25 EACH
PROJECT 1195-13-71 CATEGORY 0050 STH 35		
688+60	10' LT	1
692+62	8' LT	1
696+79	8' LT	1
701+08	8' LT	1
705+20	8' LT	1
708+92	8' LT	1
718+58	8' LT	1
722+78	8' LT	1
726+98	8' LT	1
731+19	8' LT	1
735+88	8' LT	1
<b>ITEM TOTAL</b>		<b>11</b>

**ROTATE SANITARY MANHOLE CONES  
AND ADJUST SANITARY MANHOLE**

STATION	LOCATION	SPV.0060.28 EACH
PROJECT 1195-13-71 CATEGORY 0050 STH 35		
692+53	206' LT	1
693+07	206' LT	1
697+23	202' RT	1
696+77	202' RT	1
696+77	207' LT	1
697+23	207' LT	1
701+46	202' RT	1
701+00	202' RT	1
701+46	184' LT	1
701+00	207' LT	1
705+20	206' LT	1
705+62	206' LT	1
<b>ITEM TOTAL</b>		<b>12</b>

\* SEE STORM SEWER SHEETS FOR LOCATIONS

3

**REMOVE SANITARY MANHOLE**

STATION	LOCATION	SPV.0060.23 EACH
PROJECT 1195-13-71 CATEGORY 0050 STH 35		
689+07	10' LT	1
692+85	8' LT	1
697+05	8' LT	1
701+25	8' LT	1
705+45	8' LT	1
707+84	8' LT	1
709+80	8' LT	1
711+69	8' LT	1
714+50	8' LT	1
718+85	8' LT	1
723+05	8' LT	1
727+25	8' LT	1
731+45	8' LT	1
736+15	8' LT	1
<b>ITEM TOTAL</b>		<b>14</b>

**SANITARY MANHOLE, 60-INCH**

STATION	LOCATION	SPV.0060.26 EACH
PROJECT 1195-13-71 CATEGORY 0050 STH 35		
711+68	8' LT	1
714+49	8' LT	1
<b>ITEM TOTAL</b>		<b>2</b>

**SANITARY SEWER CASTING**

STATION	LOCATION	SPV.0060.29 EACH
PROJECT 1195-13-71 CATEGORY 0050 STH 35		
* 688+60	10' LT	1
692+53	206' LT	1
692+62	8' LT	1
693+07	206' LT	1
696+77	202' RT	1
696+77	207' LT	1
696+79	8' LT	1
697+23	202' RT	1
697+23	207' LT	1
701+08	8' LT	1
701+46	202' RT	1
701+00	202' RT	1
701+46	184' LT	1
701+00	207' LT	1
705+20	206' LT	1
705+20	8' LT	1
705+62	206' LT	1
* 707+84	8' LT	1
* 708+92	8' LT	1
* 711+63	8' LT	1
714+49	8' LT	1
718+58	8' LT	1
722+78	8' LT	1
726+98	8' LT	1
731+19	8' LT	1
735+88	8' LT	1
<b>ITEM TOTAL</b>		<b>26</b>

\* ROTATE MANHOLES AND COVERS OUT OF GUTTER LINES, OR INTO MEDIAN.

**SANITARY MANHOLE, 84-INCH**

STATION	LOCATION	SPV.0060.27 EACH
PROJECT 1195-13-71 CATEGORY 0050 STH 35		
707+84	8' LT	1
<b>ITEM TOTAL</b>		<b>1</b>

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE PROJECT 1195-13-71, CATEGORY 0050, UNLESS OTHERWISE NOTED.



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**SANITARY SEWER WYE, 24-INCH X 6-INCH**

STATION	LOCATION	SPV.0060.30 EACH
PROJECT 1195-13-71 CATEGORY 0050 STH 35		
689+50	10' LT	1
689+52	10' LT	1
690+23	8' LT	1
690+25	8' LT	1
690+72	8' LT	1
690+74	8' LT	1
691+26	8' LT	1
691+72	8' LT	1
691+75	8' LT	1
692+22	8' LT	1
692+24	8' LT	1
693+54	8' LT	1
694+04	8' LT	1
694+37	8' LT	1
694+51	8' LT	1
694+53	8' LT	1
695+06	8' LT	1
695+48	8' LT	1
695+50	8' LT	1
695+82	8' LT	1
695+99	8' LT	1
696+01	8' LT	1
696+49	8' LT	1
696+51	8' LT	1
697+65	8' LT	1
697+66	8' LT	1
698+18	8' LT	1
698+20	8' LT	1
698+68	8' LT	1
698+70	8' LT	1
699+22	8' LT	1
699+69	8' LT	1
699+70	8' LT	1
700+19	8' LT	1
700+21	8' LT	1
700+68	8' LT	1
700+70	8' LT	1
701+74	8' LT	1
701+77	8' LT	1
702+27	8' LT	1
702+28	8' LT	1
703+28	8' LT	1
703+63	8' LT	1
704+14	8' LT	1
704+16	8' LT	1
704+61	8' LT	1
704+61	8' LT	1
705+01	8' LT	1
705+03	8' LT	1
706+08	8' LT	1
706+11	8' LT	1
706.58	8' LT	1
706+60	8' LT	1
707+10	8' LT	1
707+13	8' LT	1
707+60	8' LT	1
707+61	8' LT	1
709+03	8' LT	1
710+54	8' LT	1
710+56	8' LT	1
711+34	8' LT	1
711+36	8' LT	1
712+30	8' LT	1
712+32	8' LT	1

**SANITARY SEWER WYE, 24-INCH X 6-INCH (CONT.)**

STATION	LOCATION	SPV.0060.30 EACH
PROJECT 1195-13-71 CATEGORY 0050 STH 35		
712+99	8' LT	1
713+87	8' LT	1
715+27	8' LT	1
715+28	8' LT	1
715+82	8' LT	1
715+84	8' LT	1
716+35	8' LT	1
717+99	8' LT	1
718+29	8' LT	1
721+94	8' LT	1
722+24	8' LT	1
723+63	8' LT	1
724+67	8' LT	1
724+69	8' LT	1
725+17	8' LT	1
726+69	8' LT	1
727+83	8' LT	1
727+85	8' LT	1
728+36	8' LT	1
729+39	8' LT	1
730+35	8' LT	1
730+38	8' LT	1
730+87	8' LT	1
730+89	8' LT	1
732+08	8' LT	1
732+56	8' LT	1
733+05	8' LT	1
733+07	8' LT	1
733+56	8' LT	1
734+08	8' LT	1
734+56	8' LT	1
735+08	8' LT	1
735+56	8' LT	1
ITEM TOTAL		97

**INTERNAL CHIMNEY SEAL**

STATION	LOCATION	SPV.0060.31 EACH
PROJECT 1195-13-71 CATEGORY 0050 STH 35		
688+60	10' LT	1
692+62	8' LT	1
696+79	8' LT	1
701+08	8' LT	1
705+20	8' LT	1
707+84	8' LT	1
708+92	8' LT	1
711+68	8' LT	1
714+49	8' LT	1
718+58	8' LT	1
722+78	8' LT	1
726+98	8' LT	1
731+19	8' LT	1
735+88	8' LT	1
ITEM TOTAL		14

**CONSTRUCTION STAKING SANITARY SEWER**

STATION	LOCATION	SPV.0060.32 EACH
PROJECT 1195-13-71 CATEGORY 0050 STH 35		
688+60	10' LT	1
692+62	8' LT	1
696+79	8' LT	1
701+08	8' LT	1
705+20	8' LT	1
707+84	8' LT	1
708+92	8' LT	1
711+68	8' LT	1
714+49	8' LT	1
718+58	8' LT	1
722+78	8' LT	1
726+98	8' LT	1
731+19	8' LT	1
735+88	8' LT	1
ITEM TOTAL		14

**REMOVING SANITARY SEWER, 6-INCH**

STATION	LOCATION	SPV.0090.09 LF
PROJECT 1195-13-71 CATEGORY 0050 STH 35		
690+14	8' LT	50
690+21	8' LT	50
691+24	8' LT	50
692+78	8' LT	50
692+80	8' LT	50
695+05	8' LT	50
703+30	8' LT	50
703+65	8' LT	50
706+62	8' LT	50
707+64	8' LT	50
708+25	8' LT	50
708+27	8' LT	50
709+04	8' LT	50
712+97	8' LT	50
713+85	8' LT	50
716+37	8' LT	50
716+39	8' LT	50
716+58	8' LT	50
716+65	8' LT	50
716+73	8' LT	50
716+77	8' LT	50
718+28	8' LT	50
719+39	8' LT	50
719+42	8' LT	50
719+91	8' LT	50
719+93	8' LT	50
720+04	8' LT	50
720+43	8' LT	50
720+90	8' LT	50
720+93	8' LT	50
720+95	8' LT	50
721+43	8' LT	50
721+45	8' LT	50
721+91	8' LT	50
722+45	8' LT	50
722+97	8' LT	50
722+99	8' LT	50
723+68	8' LT	50
725+14	8' LT	50
725+18	8' LT	50
725+20	8' LT	50
725+68	8' LT	50
725+70	8' LT	50
726+15	8' LT	50
726+17	8' LT	50
726+67	8' LT	50
728+34	8' LT	50
728+83	8' LT	50
728+85	8' LT	50
729+40	8' LT	50
729+86	8' LT	50
729+88	8' LT	50
732+07	8' LT	50
732+58	8' LT	50
733+58	8' LT	50
733+79	8' LT	50
733+81	8' LT	50
734+07	8' LT	50
734+58	8' LT	50
735+07	8' LT	50
735+58	8' LT	50
ITEM TOTAL		3050

**REMOVING SANITARY SEWER, 12-INCH**

STATION	LOCATION	SPV.0090.10 LF
PROJECT 1195-13-71 CATEGORY 0050 STH 35		
709+80	8' LT	92
ITEM TOTAL		92

**REMOVING SANITARY SEWER, 24-INCH**

STATION	LOCATION	SPV.0090.11 LF
PROJECT 1195-13-71 CATEGORY 0050 STH 35		
688+44 - 707+84	8' LT	1940
708+92 - 716+40	8' LT	748
717+94 - 736+31	8' LT	1837
ITEM TOTAL		4525

**REMOVING SANITARY SEWER, 26-INCH X 39-INCH**

STATION	LOCATION	SPV.0090.12 LF
PROJECT 1195-13-71 CATEGORY 0050 STH 35		
707+84	8' LT	50
ITEM TOTAL		50

**REMOVING SANITARY SEWER, 38-INCH X 57-INCH**

STATION	LOCATION	SPV.0090.13 LF
PROJECT 1195-13-71 CATEGORY 0050 STH 35		
707+84	8' LT	50
ITEM TOTAL		50

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE PROJECT 1195-13-71, CATEGORY 0050, UNLESS OTHERWISE NOTED.

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**SANITARY SEWER PIPE, 6-INCH**

STATION	LOCATION	SPV.0090.14 LF
PROJECT 1195-13-71 CATEGORY 0050		
STH 35		
689+50	10' LT	50
689+52	10' LT	50
690+23	8' LT	50
690+25	8' LT	50
690+72	8' LT	50
690+74	8' LT	50
691+26	8' LT	50
691+72	8' LT	50
691+75	8' LT	50
692+22	8' LT	50
692+24	8' LT	50
693+54	8' LT	50
694+04	8' LT	50
694+37	8' LT	50
694+51	8' LT	50
694+53	8' LT	50
695+06	8' LT	50
695+48	8' LT	50
695+50	8' LT	50
695+82	8' LT	50
695+99	8' LT	50
696+01	8' LT	50
696+49	8' LT	50
696+51	8' LT	50
697+65	8' LT	50
697+66	8' LT	50
698+18	8' LT	50
698+20	8' LT	50
698+68	8' LT	50
698+70	8' LT	50
699+22	8' LT	50
699+69	8' LT	50
699+70	8' LT	50
700+19	8' LT	50
700+21	8' LT	50
700+68	8' LT	50
700+70	8' LT	50
701+74	8' LT	50
701+77	8' LT	50
702+27	8' LT	50
702+28	8' LT	50
703+28	8' LT	50
703+63	8' LT	50
704+14	8' LT	50
704+16	8' LT	50
704+61	8' LT	50
704+61	8' LT	50
705+01	8' LT	50
705+03	8' LT	50
706+08	8' LT	50
706+11	8' LT	50
706.58	8' LT	50
706+60	8' LT	50
707+10	8' LT	50
707+13	8' LT	50
707+60	8' LT	50
707+61	8' LT	50
709+03	8' LT	50
710+54	8' LT	50
710+56	8' LT	50
711+34	8' LT	50
711+36	8' LT	50

**SANITARY SEWER PIPE, 6-INCH (CONT.)**

STATION	LOCATION	SPV.0090.14 LF
PROJECT 1195-13-71 CATEGORY 0050		
STH 35		
712+30	8' LT	50
712+32	8' LT	50
712+99	8' LT	50
713+87	8' LT	50
715+27	8' LT	50
715+28	8' LT	50
715+82	8' LT	50
715+84	8' LT	50
716+35	8' LT	50
717+99	8' LT	50
718+29	8' LT	50
721+94	8' LT	50
722+24	8' LT	50
723+63	8' LT	50
724+67	8' LT	50
724+69	8' LT	50
725+17	8' LT	50
726+69	8' LT	50
727+83	8' LT	50
727+85	8' LT	50
728+36	8' LT	50
729+39	8' LT	50
730+35	8' LT	50
730+38	8' LT	50
730+87	8' LT	50
730+89	8' LT	50
732+08	8' LT	50
732+56	8' LT	50
733+05	8' LT	50
733+07	8' LT	50
733+56	8' LT	50
734+08	8' LT	50
734+56	8' LT	50
735+08	8' LT	50
735+56	8' LT	50
ITEM TOTAL		4850

**SANITARY SEWER PIPE, 12-INCH**

STATION	LOCATION	SPV.0090.15 LF
PROJECT 1195-13-71 CATEGORY 0050		
STH 35		
711+68	8' LT	64
714+49	8' LT	32
ITEM TOTAL		96

**CURED-IN-PLACE PIPE LINING (CIPP), 24-INCH**

STATION	LOCATION	SPV.0090.19 LF
PROJECT 1195-13-71 CATEGORY 0050		
STH 35		
716+40 - 717+94	8' LT	154
ITEM TOTAL		154

**SANITARY SEWER PIPE, 24-INCH**

STATION	LOCATION	SPV.0090.16 LF
PROJECT 1195-13-71 CATEGORY 0050		
STH 35		
688+44 - 707+84	8' LT	1940
708+92 - 716+40	8' LT	748
717+94 - 736+31	8' LT	1837
ITEM TOTAL		4525

**SEWER FIELD QUALITY CONTROL - TELEVISIONING**

STATION	LOCATION	SPV.0090.20 LF
PROJECT 1195-13-71 CATEGORY 0050		
STH 35		
707+84	8' LT	46
707+84	8' LT	46
711+68	8' LT	32
714+49	8' LT	64
689+04 - 707+84	8' LT	1877
708+92 - 736+31	8' LT	2739
ITEM TOTAL		4712

**SANITARY SEWER PIPE, 36-INCH**

STATION	LOCATION	SPV.0090.17 LF
PROJECT 1195-13-71 CATEGORY 0050		
STH 35		
707+84	8' LT	50
ITEM TOTAL		50

**SANITARY SEWER PIPE, 48-INCH**

STATION	LOCATION	SPV.0090.18 LF
PROJECT 1195-13-71 CATEGORY 0050		
STH 35		
707+84	8' LT	50
ITEM TOTAL		50

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE PROJECT 1195-13-71, CATEGORY 0050, UNLESS OTHERWISE NOTED.

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REMOVALS			
STATION TO STATION	LOCATION	SPV.0090.01	SPV.0060.01
		REMOVE WATERMAIN LIN FT	REMOVE HYDRANT & VALVE EACH
S.B. STH 35			
688+67.7 - 740+02.6	5.5' LT. - 98.8' LT.	5190	
692+93.0	14.3' LT. - 58.3' RT.	73	
693+18.9	24.6' LT.		1
696+66.5	23.8' LT.		1
700+86.4	23.8' LT.		1
701+33.5	14.3' LT. - 58.1' RT.	72	
701+59.6	34.5' LT.		1
705+82.1	25.0' LT.		1
709+26.6	25.3' LT.		1
710+36.6	24.6' LT.		1
712+38.3	24.6' LT.		1
714+17.0	45.0' LT.		1
714+85.4	57.1' RT.		1
719+21.4	25.2' LT.		1
723+43.2	24.6' LT.		1
726+86.6	23.4' LT.		1
727+66.1	24.8' LT.		1
731+06.3	23.9' LT.		1
731+82.8	23.7' LT.		1
736+51.7	26.3' LT.		1
13TH STREET			
127+60.0 - 132+50.0	9.4' LT. - 10.4' LT.	490	
127+85.5	25.3' LT.		1
11TH STREET			
108+10.4 - 110+50.1	9.0' LT. - 9.2' LT.	240	
108+13.6	23.2' LT.		1
BROADWAY STREET			
96+59.3 - 103+37.7	19.4' LT. - 19.2' LT.	678	
WINTER STREET			
86+59.3 - 92+86.0	14.5' LT. - 14.2' LT.	627	
7TH STREET			
68+70.0 - 71+25.0	10.5' LT. - 10.3' LT.	255	
6TH STREET			
58+75.0 - 61+34.8	11.3' LT. - 8.9' LT.	260	
PROJECT ITEM TOTALS		7885	19

\* ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN.

CONNECT TO WATER SERVICE AT METER			
STATION TO STATION	LOCATION	SPV.0060.12	COMMENT
		CONNECT TO WATER SERVICE AT METER EACH	
	PROJECT	30	UNDISTRIBUTED
PROJECT ITEM TOTALS		30	

WATER MAIN AND VALVES							
STATION TO STATION	LOCATION	SPV.0090.02	SPV.0090.03	SPV.0060.08	SPV.0060.09	SPV.0060.10	SPV.0090.08
		WATER MAIN AND FITTINGS 8-INCH HDPE LIN FT	WATER MAIN AND FITTINGS 12-INCH HDPE LIN FT	GATE VALVE & BOX 8-INCH EACH	GATE VALVE & BOX 12-INCH EACH	CONNECT TO EXISTING WATER MAIN EACH	24" STEEL CASING PIPE (JACKED) LIN FT
S.B. STH 35							
688+67.7 - 740+02.56	5.5' LT. - 98.8' LT.		5190		1	2	
692+88.9	14.3' LT.				1		
692+93.0	14.3' LT. - 58.0' RT. (14TH ST. STUB)	72		1			
697+41.9	14.3' LT.				1		
701+33.5	14.3' LT. - 58.1' RT. (12TH ST. STUB)	72		1			
701+68.9	14.3' LT.				1		
705+94.1	14.3' LT.				1		
710+44.3	14.3' LT.				1		
716+53.8	14.3' LT.				1		
716+56.3 - 717+30.8	14.3' LT. - 14.3' LT.						75
717+33.3	14.3' LT.				1		
722+77.3	14.3' LT.				1		
727+52.9	14.3' LT.				1		
731+72.47	14.3' LT.				1		
13TH STREET							
127+60.0 - 132+50.0	9.4' LT. - 10.5' LT.	490		2		2	
11TH STREET			*				
108+10.4 - 110+50.2	9.0' LT. - 9.2' LT.	240		2		1	
BROADWAY STREET							
96+59.3 - 103+37.7	19.4' LT. - 19.2' LT.	678		2		2	
WINTER STREET							
86+59.3 - 92+86.0	14.5' LT. - 14.2' LT.		627		2	2	
7TH STREET							
68+70.0 - 71+25.0	10.5' LT. - 10.3' LT.	255		2		2	
6TH STREET							
58+75.0 - 61+85.0	10.9' LT. - 8.9' LT.	310		2		1	
PROJECT ITEM TOTALS		2117	5817	12	13	12	75

TEMPORARY WATER SERVICES						
STATION TO STATION	LOCATION	SPV.0060.13	SPV.0060.14	SPV.0060.15	SPV.0060.16	SPV.0105.01
		TEMPORARY WATER SERVICE CONNECTION 2-INCH AND SMALLER EACH	TEMPORARY WATER SERVICE CONNECTION 4-INCH EACH	TEMPORARY WATER SERVICE CONNECTION 6-INCH EACH	TEMPORARY WATER SERVICE CONNECTION 8-INCH EACH	TEMPORARY WATER SERVICE MAIN LUMP SUM
688+67.7 - 737+85		80	2	2	1	1
PROJECT ITEM TOTALS		80	2	2	1	1

NOTE: TEMPORARY WATER SERVICE QUANTITIES ARE AT ALL LOCATIONS WHERE PERMANENT WATER SERVICES ARE TABULATED.

HYDRANTS		
STATION TO STATION	LOCATION	SPV.0060.02
		HYDRANT ASSEMBLY EACH
S.B. STH 35		
692+57.3	27.3' LT.	1
693+01.1	45.2' RT.	1
699+21.7	26.7' LT.	1
701+06.8	47.8' LT.	1
701+49.2	50.4' RT.	1
712+43.5	28.2' LT.	1
718+60.7	49.9' LT.	1
719+06.9	49.8' RT.	1
731+22.1	54.9' LT.	1
731+68.0	61.5' RT.	1
735+93.0	49.4' LT.	1
736+37.6	66.5' RT.	1
13TH STREET		
127+85.5	29.0' LT.	1
129+35.26	25.0' RT.	1
130+70.2	27.2' LT.	1
11TH STREET		
108+13.6	29.0' LT.	1
109+45.7	21.0' RT.	1
110+47.3	21.8' LT.	1
BROADWAY STREET		
99+28.0	34.1' RT.	1
100+71.1	32.8' LT.	1
WINTER STREET		
89+18.6	32.4' RT.	1
90+68.0	33.4' LT.	1
7TH STREET		
69+31.5	22.0' RT.	1
70+62.4	22.9' LT.	1
6TH STREET		
59+36.7	23.8' RT.	1
60+62.0	22.7' LT.	1
PROJECT ITEM TOTALS		26

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE PROJECT 1195-13-72, CATEGORY 0010, UNLESS OTHERWISE NOTED.

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WATER SERVICES										
STATION TO STATION	LOCATION	SPV.0090.04 WATER SERVICE, 1-INCH HDPE LIN FT	SPV.0090.05 WATER SERVICE, 2-INCH HDPE LIN FT	SPV.0090.06 WATER SERVICE, 6-INCH HDPE LIN FT	SPV.0060.03 TAPPING TEE WITH ELECTROFUSION SADDLE, 1-INCH EACH	SPV.0060.04 TAPPING TEE WITH ELECTROFUSION SADDLE, 2-INCH EACH	SPV.0060.05 CURB STOP AND BOX, 1-INCH EACH	SPV.0060.06 CURB STOP AND BOX, 2-INCH EACH	SPV.0060.07 GATE VALVE & BOX 6-INCH EACH	SPV.0060.11 CONNECT TO EXISTING WATER SERVICES EACH
BELKNAP ST TO 14TH ST										
S.B. STH 35										
689+48.4	40.1' LT.	28			1		1			1
690+23.3	40.1' LT.	28			1		1			1
690+74.3	40.1' LT.	28			1		1			1
690+75.0	55.3' RT.	70			1		1			1
691+17.8	55.3' RT.	70			1		1			1
14TH ST TO 13TH ST										
S.B. STH 35										
693+25.0	5.2' RT.		19			1		1		
693+42.8	55.3' RT.	70			1		1			1
693+67.5	39.8' LT.	26			1		1			1
693+93.1	39.8' LT.	26			1		1			1
694+43.4	55.5' RT.	70			1		1			1
694+44.0	39.8' LT.	28			1		1			1
694+93.2	39.8' LT.	26			1		1			1
695+43.7	39.8' LT.	26			1		1			1
695+47.7	55.5' RT.	70			1		1			1
695+92.3	55.7' RT.	70			1		1			1
695+94.6	39.8' LT.	26			1		1			1
695+97.2	39.8' LT.	26			1		1			1
696+43.6	55.7' RT.	70			1		1			1
13TH ST TO 12TH ST										
S.B. STH 35										
697+43.3	55.7' RT.	70			1		1			1
697+64.1	55.7' RT.	70			1		1			1
697+91.7	38.3' LT.			24				1		1
698+16.0	55.7' RT.	70			1		1			1
698+63.2	55.7' RT.	70			1		1			1
698+64.1	38.3' LT.	24			1		1			1
698+64.1	55.7' RT.	70			1		1			1
698+64.6	38.3' LT.	24			1		1			1
698+77.1	38.3' LT.	24			1		1			1
699+13.9	55.7' RT.	70			1		1			1
699+54.2	38.3' LT.			24				1		1
699+64.2	55.7' RT.					1		1		1
699+91.4	55.7' RT.		70			1		1		1
700+12.6	38.3' LT.	24			1		1			1
700+13.3	55.7' RT.	70			1		1			1
700+23.7	38.3' LT.	24			1		1			1
700+63.7	55.7' RT.	70			1		1			1
12TH ST TO 11TH ST										
S.B. STH 35										
701+59.8	55.7' RT.	70			1		1			1
701+91.8	55.7' RT.	70			1		1			1
702+38.9	40.3' LT.			26				1		1
702+83.8	55.7' RT.	70			1		1			1
703+31.7	55.7' RT.	70			1		1			1
703+86.3	55.7' RT.		70			1		1		1
703+86.3	40.3' LT.	26			1		1			1
703+87.0	55.7' RT.	70			1		1			1
ITEM SUBTOTALS		1814	159	74	36	4	36	4	3	42

NOTE:  
ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE  
PROJECT 1195-13-72, CATEGORY 0010, UNLESS OTHERWISE NOTED.

**WATER SERVICES - CONTINUED**

STATION TO STATION	LOCATION	SPV.0090.04 WATER SERVICE, 1-INCH HDPE LIN FT	SPV.0090.05 WATER SERVICE, 2-INCH HDPE LIN FT	SPV.0090.06 WATER SERVICE, 6-INCH HDPE LIN FT	SPV.0090.07 WATER SERVICE, 8-INCH HDPE LIN FT	SPV.0060.03 TAPPING TEE WITH ELECTROFUSION SADDLE, 1-INCH EACH	SPV.0060.04 TAPPING TEE WITH ELECTROFUSION SADDLE, 2-INCH EACH	SPV.0060.05 CURB STOP AND BOX, 1-INCH EACH	SPV.0060.06 CURB STOP AND BOX, 2-INCH EACH	SPV.0060.07 GATE VALVE & BOX 6-INCH EACH	SPV.0060.08 GATE VALVE & BOX 8-INCH EACH	SPV.0060.11 CONNECT TO EXISTING WATER SERVICES EACH
11TH ST TO BROADWAY												
S.B. STH 35												
706+03.7	55.7' RT.	70				1		1				1
706+54.4	38.3' LT.		24				1		1			1
707+03.1	55.7' RT.	70				1		1				1
707+54.6	55.7' RT.	70				1		1				1
708+23.5	55.7' RT.	70				1		1				1
708+47.1	38.3' LT.	24				1		1				1
709+06.5	55.7' RT.	70				1		1				1
BROADWAY ST TO WINTER ST												
S.B. STH 35												
710+49.4	38.3' LT.	24				1		1				1
711+35.4	38.3' LT.	24				1		1				1
712+29.3	38.3' LT.	24				1		1				1
WINTER STREET												
91+52.8	37.1' RT.			52						1		1
WINTER ST TO 8TH ST												
S.B. STH 35												
715+83.6	55.7' RT.	70				1		1				1
716+33.9	55.7' RT.	70				1		1				1
717+73.7	52.7' RT.	65				1		1				1
717+75.4	40.3' LT.	26				1		1				1
718+24.7	55.7' RT.	70				1		1				1
718+25.6	38.3' LT.	24				1		1				1
8TH ST TO 7TH ST												
S.B. STH 35												
719+44.6	37.8' LT.	24				1		1				1
719+66.6	52.7' RT.	67				1		1				1
719+66.9	37.8' LT.	24				1		1				1
719+95.5	37.8' LT.	24				1		1				1
721+91.1	37.8' LT.	24				1		1				1
722+43.8	56.1' RT.	70				1		1				1
7TH ST TO 6TH ST												
S.B. STH 35												
723+64.0	55.4' RT.	70				1		1				1
724+14.6	55.4' RT.	70				1		1				1
724+42.7	38.3' LT.	24				1		1				1
726+38.4	38.3' LT.	24				1		1				1
726+67.1	38.3' LT.	24				1		1				1
6TH ST TO 5TH ST												
S.B. STH 35												
727+77.5	55.8' RT.	70				1		1				1
727+84.8	41.1' LT.			28						1		1
728+34.7	41.1' LT.	28				1		1				1
728+85.1	36.5' LT.	22				1		1				1
729+31.8	52.5' RT.	67				1		1				1
730+32.7	36.4' LT.	22				1		1				1
730+85.7	36.5' LT.	22				1		1				1
5TH ST TO 4TH ST												
S.B. STH 35												
732+05.1	40.2' LT.	26				1		1				1
732+54.5	52.7' RT.	67				1		1				1
732+86.5	36.5' LT.	22				1		1				1
733+01.7	55.7' RT.	70				1		1				1
734+06.3	36.5' LT.	22				1		1				1
735+05.8	36.5' LT.	22				1		1				1
735+41.1	52.5' RT.	67				1		1				1
ITEM SUB TOTALS		1743	24	52	28	39	1	39	1	1	1	42
ITEM TOTALS		3557	183	126	28	75	5	75	5	4	1	84

NOTE:  
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PROJECT 1195-13-72, CATEGORY 0010, UNLESS OTHERWISE NOTED.

\* ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN.

3

3

3

INSULATION		
STATION TO STATION	LOCATION	612.0902.S INSULATION BOARD POLYSTYRENE (INCH) 4-INCH SQ YD
S.B. STH 35		
689+12.0	10.3' LT. (STORM SEWER CROSSING)	9
692+43.5	14.3' LT. (STORM SEWER CROSSING)	11
692+93.6	39.5' RT. (STORM SEWER CROSSING)	9
695+94.6	23.8' LT. (WATER SERVICE)	7
695+97.2	23.5' LT. (WATER SERVICE)	7
696+63.5	14.3' LT. (STORM SEWER CROSSING)	11
700+92.1	14.3' LT. (STORM SEWER CROSSING)	11
701+06.2	39.5' LT. (HYDRANT LEAD)	9
701+33.5	55.2' RT. (STORM SEWER CROSSING)	9
705+04.3	14.3' LT. (STORM SEWER CROSSING)	10
706+03.7	39.2' RT. (WATER SERVICE)	7
714+09.6	14.3' LT. (STORM SEWER CROSSING)	15
715+51.5	14.3' LT. (STORM SEWER CROSSING)	9
718+32.5	14.3' LT. (STORM SEWER CROSSING)	9
719+03.5	14.3' LT. (STORM SEWER CROSSING)	10
720+49.4	14.3' LT. (STORM SEWER CROSSING)	9
721+91.7	24.1' LT. (WATER SERVICE)	7
722+52.7	14.3' LT. (STORM SEWER CROSSING)	9
722+84.7	14.3' LT. (STORM SEWER CROSSING)	11
726+38.9	21.0' LT. (WATER SERVICE)	7
726+67.9	18.0' LT. (WATER SERVICE)	7
726+73.0	14.3' LT. (STORM SEWER CROSSING)	10
727+05.0	14.3' LT. (STORM SEWER CROSSING)	11
730+33.3	23.9' LT (WATER SERVICE)	7
730+86.5	18.2' LT (WATER SERVICE)	7
730+93.1	14.3' LT. (STORM SEWER CROSSING)	10
731+21.1	45.8' LT. (HYDRANT LEAD)	9
731+63.7	14.3' LT. (STORM SEWER CROSSING)	11
735+05.8	23.5' LT. (WATER SERVICE)	7
735+63.2	14.3' LT. (STORM SEWER CROSSING)	10
736+34.0	14.3' LT. (STORM SEWER CROSSING)	11
736+37.5	65.0' RT. (HYDRANT LEAD)	9

3

INSULATION		
STATION TO STATION	LOCATION	612.0902.S INSULATION BOARD POLYSTYRENE (INCH) 4-INCH SQ YD
13TH STREET		
127+93.0	9.5' LT. (STOREM SEWER CROSSING)	9
129+31.6	9.7' LT. (STORM SEWER CROSSING)	9
129+45.2	8.6' RT. (HYDRANT LEAD)	9
130+26.2	10.8' LT. (STORM SEWER CROSSING)	14
130+67.9	10.1' LT. (STORM SEWER CROSSING)	9
130+70.3	13.2' LT. (HYDRANT LEAD)	9
131+94.7	10.4' LT. (STORM SEWER CROSSING)	9
11TH STREET		
109+31.7	9.1' LT. (STORM SEWER CROSSING)	9
109+45.7	9.5' RT. (HYDRANT LEAD)	9
110+31.2	9.1' LT. (STORM SEWER CROSSING)	14
BROADWAY STREET		
99+36.2	19.3' LT. (STORM SEWER CROSSING)	9
100+29.7	19.3' LT. (STORM SEWER CROSSING)	14
100+63.2	19.3' LT. (STORM SEWER CROSSING)	9
WINTER STREET		
89+36.2	14.4' LT. (STORM SEWER CROSSING)	10
90+18.4	14.4' LT. (STORM SEWER CROSSING)	10
90+63.2	14.4' LT. (STORM SEWER CROSSING)	9
92+00.9	14.4' LT. (EX. STORM SEWER CROSSING)	9
7TH STREET		
69+42.2	10.4' LT. (STORM SEWER CROSSING)	9
69+43.8	20.1' RT. (HYDRANT LEAD)	9
70+57.2	10.4' LT. (STORM SEWER CROSSING)	9
6TH STREET		
59+36.7	20.9' RT. (HYDRANT LEAD)	9
59+42.2	10.4' LT. (STORM SEWER CROSSING)	9
60+57.2	9.5' LT. (STORM SEWER CROSSING)	9
PROJECT ITEM TOTALS		519

WATER MAIN EXTENSION RESTORATION																
STATION TO STATION	LOCATION	204.0100 REMOVING PAVEMENT *	204.0150 REMOVING CURB & GUTTER *	204.0155 REMOVING CONCRETE SIDEWALK *	305.0115 BASE AGGREGATE DENSE 3/4-INCH *	311.0115 BREAKER RUN *	416.1720 CONCRETE PAVEMENT REPLACEMENT *	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A *	602.0420 CONCRETE SIDEWALK 7-INCH *	612.0106 PIPE UNDERDRAIN 6-INCH *	625.0100 TOPSOIL *	627.0200 MULCHING *	629.0210 FERTILIZER TYPE B *	630.0140 SEEDING MIXTURE NO. 40 *	645.0140 GEOTEXTILE FABRIC TYPE SAS *	690.0250 SAWING CONCRETE *
		SQ YD	LIN FT	SQ YD	CU YD	CU YD	SQ YD	LIN FT	SQ FT	LIN FT	SQ YD	SQ YD	CWT	LB	SQ YD	LIN FT
S.B. STH 35																
737+84.1 - 740+02.6	14.3' LT. - 98.8' LT.	150	112	17	3	4	149	112	325	112	145	145	0.09	3	18	124
ITEM SUB TOTALS		150	112	17	3	4	149	112	325	112	145	145	0	3	18	124

NOTE:  
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PROJECT 1195-13-72, CATEGORY 0010, UNLESS OTHERWISE NOTED.  
\* ADDITIONAL QUANTITIES LIST ELSEWHERE IN PLANS.

LANDSCAPE - TREE AND SHRUB ITEMS

PLANT DATA CHART








PROJECT 1195-13-71  
 CATEGORY 0060  
 STH 35







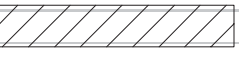
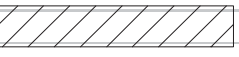

ITEM NUMBER	SYMBOL	COMMON NAME	LATIN NAME	TYPE	AVG. MATURE HEIGHT	SIZE (CAL. OR HEIGHT) WHEN PLANTED	ROOT ZONE MODE	MINIMUM SIZE			BRACE OR GUY	FERT. UNITS REQ'D	RODENT PROTECTION REQ'D.	MULCH RING DIA.	TREE GRATE		
								BALL / POT DIAM	POT DEPTH	ROOT SPREAD							
<b>LARGE DECIDUOUS TREES</b>																	
632.0101.01	TREE 'F'	COMMON HACKBERRY	CELTIS OCCIDENTALIS	1	55'	3" CALIPER	B& B	36"	24"	~	102"	24"	Brace	3	Yes	IN BED	NO
632.0101.02	TREE 'E'	DISCOVERY ELM	ULMUS DAVIDIANA VAR. JAPONICA 'DISCOVERY'	1	40'	3" CALIPER	B& B	36"	24"	~	102"	24"	Brace	3	Yes	IN BED	NO
632.0101.03	TREE 'C'	HARVEST GOLD LINDEN	TILIA MONGOLICA 'HARVEST GOLD'	1	35'	3" CALIPER	B& B	36"	24"	~	102"	24"	Brace	3	Yes	IN BED	NO
632.0101.04	TREE 'B'	IVORY SILK LILAC TREE	SYRINGA RETICULATA 'IVORY SILK'	1	25'	2" CALIPER	B& B	24"	24"	~	102"	24"	Brace	2	Yes	IN BED	NO
632.0101.05	TREE 'A'	NORTHERN ACCLAIM HONEYLOCUST	GLEDITSIA TRIACANTHOS VAR. INERMIS 'HAVRE'	1	30'	3" CALIPER	B& B	36"	30"	~	60"	30"	Brace	3	Yes	No	73 YES/1 NO
632.0101.06	TREE 'D'	NORTHWOOD MAPLE	ACER RUBRUM 'NORTHWOOD'	1	40'	3" CALIPER	B& B	36"	24"	~	102"	24"	Brace	3	Yes	IN BED	NO
<b>LARGE AND MEDIUM DECIDUOUS SHRUBS</b>																	
632.0201.01	AS	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	2	12"	3 GALLON	POT	8"	8"	~	24"	8"	No	1	NO	IN BED	~
632.0201.02	DGS	DAKOTA GOLDCHARM SPIREA	SPIRAEA JAPONICA 'MERTYANN'	2	24"	3 GALLON	POT	8"	8"	~	24"	8"	No	1	NO	IN BED	~
632.0201.03	LPS	LITTLE PRINCESS SPIREA	SPIRAEA JAPONICA 'LITTLE PRINCESS'	2	24"	3 GALLON	POT	8"	8"	~	24"	8"	No	1	NO	IN BED	~
632.0201.04	PPL	PRAIRIE PETITE LILAC	SYRINGA VULGARIS 'PRAIRIE PETITE'	2	36"	3 GALLON	POT	8"	8"	~	24"	8"	No	1	NO	IN BED	~
<b>LARGE AND MEDIUM EVERGREEN SHRUBS</b>																	
632.0201.05	BFJ	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3	12"	3 GALLON	POT	8"	8"	~	24"	8"	No	1	NO	IN BED	~
632.0201.06	TMP	TEENY MUGHO PINE	PINUS MUGO 'TEENY'	3	18"	3 GALLON	POT	8"	8"	~	24"	8"	No	1	NO	IN BED	~
<b>ORNAMENTAL GRASS</b>																	
SPV.0060.49	FRG	FEATHER REED GRASS	CALAMAGROSTRIS ACUTIFLORA 'KARL FOESTER'	4	36"	1 GALLON	POT	5"	5"	~	15"	5"	No	1	NO	IN BED	~
SPV.0060.50	PDS	PRAIRIE DROPSEED	SPOROBOLUS HETEROLEPIS 'TARA'	2	12"	1 GALLON	POT	5"	5"	~	15"	5"	No	1	NO	IN BED	~

B&B: BALLED AND BURLAPPED  
 CG: CONTAINER GROWN

ITEM NUMBER	COMMON NAME	WHEN PLANTED	MODE	SHEET NUMBER									ITEM TOTALS
				1	2	3	4	5	6	7	8	9	
				EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
632.0101.01	COMMON HACKBERRY	3" CALIPER	B& B	0	0	0	0	0	0	10	6	2	18
632.0101.02	DISCOVERY ELM	3" CALIPER	B& B	0	0	0	0	0	11	0	11	7	29
632.0101.03	HARVEST GOLD LINDEN	3" CALIPER	B& B	1	12	8	7	3	0	0	0	0	31
632.0101.04	IVORY SILK LILAC TREE	2" CALIPER	B& B	8	8	8	4	0	8	16	8	8	68
632.0101.05	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B	14	20	14	16	10	0	0	0	0	74
632.0101.06	NORTHWOOD MAPLE	3" CALIPER	B& B	0	0	0	0	0	4	4	5	7	20
<b>LARGE AND MEDIUM DECIDUOUS SHRUBS</b>													
632.0201.01	ALPINE SPIREA	3 GALLON	POT	21	32	0	47	26	56	121	32	126	461
632.0201.02	DAKOTA GOLDCHARM SPIREA	3 GALLON	POT	0	0	0	0	6	22	40	58	0	126
632.0201.03	LITTLE PRINCESS SPIREA	3 GALLON	POT	7	0	0	0	0	0	0	0	0	7
632.0201.04	PRAIRIE PETITE LILAC	3 GALLON	POT	0	0	0	29	13	36	36	36	18	168
<b>LARGE AND MEDIUM EVERGREEN SHRUBS</b>													
632.0201.05	BLUE FOREST JUNIPER	3 GALLON	POT	27	16	16	8	0	16	32	16	16	147
632.0201.06	TEENY MUGO PINE	3 GALLON	POT	20	172	106	99	59	0	0	0	0	456
<b>ORNAMENTAL GRASS</b>													
SPV.0060.49	FEATHER REED GRASS	1 GALLON	POT	37	39	18	56	33	38	32	47	62	362
SPV.0060.50	PRAIRIE DROPSEED	1 GALLON	POT	15	90	60	66	30	0	0	0	0	261

**IRRIGATION - MISCELLANEOUS QUANTITIES**

								
		SPV.0060.66	SPV.0060.67	SPV.0060.68	SPV.0060.69	SPV.0060.70	SPV.0060.71	SPV.0060.72
		WILKINS 975XL-2"	HUNTER PCZ-101 W/ SLIP UNIONS	HUNTER I-CORE	NIBCO 2" ISOLATION VALVE	HUNTER MINI-CLIK	AIR RELIEF VALVE	DRIP STUB UP
		EACH	EACH	EACH	EACH	EACH	EACH	EACH
STATION	LOCATION							
PROJECT 8998-00-21								
CATEGORY 0010								
STH 35								
688+67 - 693+50	LT & RT	1	2	1	1	1	2	10
693+50 - 699+50	LT & RT	0	4	0	0	0	4	14
699+50 - 704+50	LT & RT	0	3	0	0	0	3	10
704+50 - 710+50	LT & RT	0	3	0	0	0	3	7
710+50 - 716+50	LT & RT	0	1	0	0	0	1	3
716+50 - 722+00	LT & RT	0	2	0	0	0	2	8
722+00 - 728+00	LT & RT	1	3	1	1	1	3	13
728+00 - 734+00	LT & RT	0	3	0	0	0	3	11
734+00 - 737+84	LT & RT	0	1	0	0	0	1	10
<b>Project Totals</b>		<b>2</b>	<b>22</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>22</b>	<b>86</b>
* IF A DISCREPANCY EXISTS BETWEEN THE QUANTITIES PROVIDED AND THE PLAN SHEETS, THE PLAN SHEETS SHALL TAKE PRECEDENT.								
**IRRIGATION CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL.								

								
SPV.0060.73	SPV.0060.74	SPV.0060.75	SPV.0090.36	SPV.0090.37	SPV.0090.38	SPV.0090.39	SPV.0090.40	SPV.0060.76
FLUSH VALVE	2" METER	PLD-06-18 DRIP RING	LATERAL - POLY 1"	MAINLINE - CLASS 200 2"	PLD-01-18 DRIP LINE	SLEEVE CLASS 200 2"	SLEEVE CLASS 200 4"	HUNTER FREEZE-CLIK
EACH	EACH	EACH	LF	LF	LF	LF	LF	EACH
10	1	14	900	40	582	830	0	1
14	0	20	1000	585	1320	900	280	0
10	0	14	850	500	1080	780	250	0
7	0	16	670	640	1430	610	320	0
3	0	9	390	300	620	345	300	0
8	0	0	440	360	790	520	140	0
13	1	0	440	580	1220	440	360	1
11	0	7	1100	600	1010	700	340	0
10	0	5	400	280	900	400	220	0
<b>86</b>	<b>2</b>	<b>85</b>	<b>6190</b>	<b>3885</b>	<b>8952</b>	<b>5525</b>	<b>2210</b>	<b>2</b>



**LANDSCAPE- MISCELLANEOUS QUANTITIES**

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		<b>SITE AMMENITIES</b>					
		SPV.0060.43	SPV.0060.44	SPV.0060.45	SPV.0060.46	SPV.0060.47	SPV.0060.48
		CONCRETE PLANTER	CONCRETE PLANTER		TRASH	BIKE	TREE
		INTERSECTION	TRANSIT AREA		RECEPTACLE**	RACK**	GRATE
		PLANTER	PLANTER	BENCH	EACH	EACH	EACH
		EACH	EACH	EACH	EACH	EACH	EACH
STATION	LOCATION						
PROJECT 8998-00-21							
CATEGORY 0010							
STH 35							
688+67 - 693+50	LT & RT	2	2	8	6	6	14
683+50 - 699+50	LT & RT	4	0	8	6	6	20
699+50 - 704+50	LT & RT	4	0	8	6	4	14
704+50 - 710+50	LT & RT	2	0	6	6	3	16
710+50 - 716+50	LT & RT	0	0	6	6	4	9
716+50 - 722+00	LT & RT	4	0	8	2	3	0
722+00 - 728+00	LT & RT	8	0	16	2	2	0
728+00 - 734+00	LT & RT	4	0	8	2	2	0
734+00 - 737+84	LT & RT	4	0	8	1	0	0
<b>Project Totals</b>		<b>32</b>	<b>2</b>	<b>76</b>	<b>37</b>	<b>30</b>	<b>73</b>

**\*\*FIELD LOCATE TRASH RECEPTACLES AND BIKE RACKS FOR APPROVAL**

SPV.0090.33 SCREEN WALL LOCATIONS WITH SPV.0090.34 ORNAMENTAL RAILING FENCE			
PROJECT 8998-00-21			
CATEGORY 0010			
STH 35			
STARTING STATION POINT	ENDING STATION POINT	LF	OFFSET
689+52.00	689+70.25	18.25	45.78 LT
689+79.22	689+99.22	20.00	44.33 RT
690+17.65	690+39.32	21.67	44.33 RT
690+99.21	691+24.21	25.00	55.62 LT
693+69.30	693+85.20	15.90	46.13 RT
693+94.23	694+19.14	24.91	46.13 RT
694+69.90	694+85.80	15.90	46.13 RT
694+94.19	695+19.10	24.91	46.13 RT
695+94.00	696+10.15	16.15	45.70 LT
702+85.16	703+10.66	25.50	45.41 LT
703+26.63	703+51.63	25.00	45.41 LT
707+79.92	708+61.84	81.92	46.38 RT
<b>Project Item Totals</b>		<b>315.11</b>	

		SPV.0060.59 STREET NAME STAMPING EACH
STATION	LOCATION	
PROJECT 8998-00-21		
CATEGORY 0010		
STH 35		
688+67 - 693+50	LT & RT	8
683+50 - 699+50	LT & RT	8
699+50 - 704+50	LT & RT	8
704+50 - 710+50	LT & RT	14
710+50 - 716+50	LT & RT	8
716+50 - 722+00	LT & RT	8
722+00 - 728+00	LT & RT	16
728+00 - 734+00	LT & RT	8
734+00 - 737+84	LT & RT	8
<b>Project Item Totals</b>		<b>86</b>

		SPV.0090.32 STEEL EDGER LF
STATION	LOCATION	
PROJECT 8998-00-21		
CATEGORY 0010		
STH 35		
728+57 - 728+85	41.85 LT	28
729+09 - 730+03	41.85 LT	94
732+80 - 733+01	42.12 LT	21
733+15 - 734+05	42.12 LT	90
734+05 - 724+28	41.38 RT	23
735+39 - 735+80	41.91 RT	41
4TH STREET 40+50 - 40+74	35.00 RT	24
735+80 - 735+84	65.49 RT	4
735+80 - 735+84	65.49 RT	4
4TH STREET 39+55 - 39+61	168.95 LT	6
4TH STREET 40+46 - 40+50	168.96 LT	4
4TH STREET 40+50 - 40+74	35.00 LT	24
736+50 - 737+84	41.89 RT	134
737+64 - 737+84	42.12 LT	20
<b>Project Item Totals</b>		<b>517</b>

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SPV.0035.02 PLANTING MIXTURE				
PROJECT 8998-00-21				
CATEGORY 0010				
STH 35				
STARTING STATION POINT	ENDING STATION POINT	OFFSET	QUANTITY	UNIT
689+52.00	689+73.29	43.89 LT	1.2	CY
689+79.22	689+86.74	42.79 RT	0.4	CY
690+17.65	690+38.81	44.33 RT	1.2	CY
690+99.21	691+24.21	54.71 LT	6.0	CY
692+27.85	693+41.18	30.67 LT	0.3	CY
692+65.97	692+70.93	38.64 RT	0.3	CY
692+79.03	695+93.23	8.00 CENTER	125.0	CY
693+28.61	693+43.94	28.48 LT	6.0	CY
693+69.30	693+89.80	44.10 RT	1.1	CY
693+98.80	694+19.14	44.10 RT	1.1	CY
694+69.87	694+90.37	45.41 RT	1.1	CY
694+99.33	695+19.08	45.41 LT	1.1	CY
696+43.96	696+59.29	29.05 RT	6.0	CY
696+44.20	696+59.53	28.85 LT	6.0	CY
697+48.39	697+63.72	28.85 LT	6.0	CY
697+48.61	697+63.94	28.56 RT	6.0	CY
698+.0906	700+22.33	8.00 CENTER	148.0	CY
700+64.08	700+79.41	29.22 LT	6.0	CY
700+64.41	700+79.74	28.77 RT	6.0	CY
701+69.32	701+84.65	28.32 LT	6.0	CY
701+69.39	701+84.72	28.77 RT	6.0	CY
702+35.02	704+34.08	8.00 CENTER	127.0	CY
702+85.16	703+10.66	43.72 LT	1.4	CY
703+26.63	703+51.63	43.72 LT	1.4	CY
704+84.66	704+99.99	28.85 LT	6.0	CY
705+74.91	707+.0668	8.00 CENTER	182.0	CY
705+88.89	706+04.22	28.85 LT	6.0	CY
707+79.92	708+61.84	44.23 RT	4.5	CY
707+85.17	X	44.39 LT	18.3	CY
711+23.98	711+66.52	27.06 RT	2.4	CY
711+55.62	712+77.60	8.00 CENTER	85.0	CY
712+78.63	X	44.77 LT	1.7	CY
718+15.47	718+30.08	29.30 RT	6.0	CY
718+15.51	718+30.84	28.48 LT	6.0	CY
719+17.57	721+65.03	39.89 LT	13.7	CY
719+34.51	719+49.84	28.48 LT	6.0	CY
720+94.31	722+07.65	40.16 RT	6.3	CY
722+25.26	X	40.21 LT	1.7	CY
722+36.01	722+51.34	29.11 RT	6.0	CY
722+39.64	722+54.97	28.50 LT	6.0	CY
723+37.23	724+33.92	40.19 LT	5.3	CY
723+54.67	723+70.00	28.50 LT	6.0	CY
723+58.28	723+73.61	28.68 RT	6.0	CY
724+47.78	726+35.98	40.12 RT	10.5	CY
725+47.91	726+35.49	39.95 LT	4.9	CY
726+59.91	726+75.24	28.50 RT	6.0	CY
726+65.00	726+80.33	28.76 LT	6.0	CY
727+69.64	727+84.97	29.21 LT	6.0	CY
727+69.66	727+84.99	28.86 RT	6.0	CY
728+17.16	730+.0964	40.07 RT	10.3	CY
728+57.89	730+03.80	40.17 LT	8.1	CY
730+79.03	730+94.36	28.54 LT	6.0	CY
730+79.04	730+94.37	28.19 RT	6.0	CY
731+96.04	732+11.37	28.50 RT	6.0	CY
731+98.69	732+14.02	28.84 LT	6.0	CY
732+80.30	734+05.77	40.08 LT	7.0	CY
733+63.28	734+28.56	40.16 RT	3.6	CY
735+35.96	X	40.06 LT	1.7	CY
735+39.12	X	39.89 RT	1.7	CY
735+49.96	735+65.29	28.49 RT	6.0	CY
735+50.49	735+65.82	28.50 LT	6.0	CY
736+47.97	737+84.09	40.49 LT	15.3	CY
736+48.13	737+84.09	39.93 RT	15.3	CY
736+64.98	736+80.31	28.50 LT	6.0	CY
736+64.99	736+80.29	28.50 RT	6.0	CY
<b>ITEM TOTAL</b>			<b>995.9</b>	<b>CY</b>

LANDSCAPE- MISCELLANEOUS QUANTITIES

\* QUANTITY LISTED IS FOR INFORMATION ONLY. MULCH QUANTITY IS INCIDENTAL TO THE TREE, SHRUB, OR GRASS ITEM.

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* MULCH AT PLANTING LOCATIONS				
PROJECT 8998-00-21				
CATEGORY 0010				
STH 35				
STARTING STATION POINT	ENDING STATION POINT	OFFSET	QUANTITY	UNIT
689+52.00	689+73.29	43.89 LT	0.6	CY
689+79.22	689+86.74	42.79 RT	0.2	CY
690+17.65	690+38.81	44.33 RT	0.6	CY
690+99.21	691+24.21	54.71 LT	0.9	CY
692+27.85	693+41.18	30.67 LT	0.15	CY
692+65.97	692+70.93	38.64 RT	0.15	CY
692+79.03	695+93.23	8.00 CENTER	19.5	CY
693+28.61	693+43.94	28.48 LT	0.9	CY
693+69.30	693+89.80	44.10 RT	0.6	CY
693+98.80	694+19.14	44.10 RT	0.6	CY
694+69.87	694+90.37	45.41 RT	0.6	CY
694+99.33	695+19.08	45.41 LT	0.6	CY
696+43.96	696+59.29	29.05 RT	0.9	CY
696+44.20	696+59.53	28.85 LT	0.9	CY
697+48.39	697+63.72	28.85 LT	0.9	CY
697+48.61	697+63.94	28.56 RT	0.9	CY
698+.0906	700+22.33	8.00 CENTER	12.3	CY
700+64.08	700+79.41	29.22 LT	0.9	CY
700+64.41	700+79.74	28.77 RT	0.9	CY
701+69.32	701+84.65	28.32 LT	0.9	CY
701+69.39	701+84.72	28.77 RT	0.9	CY
702+35.02	704+34.08	8.00 CENTER	12.3	CY
702+85.16	703+10.66	43.72 LT	0.7	CY
703+26.63	703+51.63	43.72 LT	0.7	CY
704+84.66	704+99.99	28.85 LT	0.9	CY
705+74.91	707+.0668	8.00 CENTER	13.7	CY
705+88.89	706+04.22	28.85 LT	0.9	CY
707+79.92	708+61.84	44.23 RT	2.2	CY
707+85.17	X	44.39 LT	9.1	CY
711+23.98	711+66.52	27.06 RT	1.2	CY
711+55.62	712+77.60	8.00 CENTER	7	CY
712+78.63	X	44.77 LT	1.7	CY
718+15.47	718+30.08	29.30 RT	0.9	CY
718+15.51	718+30.84	28.48 LT	0.9	CY
719+17.57	721+65.03	39.89 LT	6.8	CY
719+34.51	719+49.84	28.48 LT	0.9	CY
720+94.31	722+07.65	40.16 RT	1.5	CY
722+25.26	X	40.21 LT	0.8	CY
722+36.01	722+51.34	29.11 RT	0.9	CY
722+39.64	722+54.97	28.50 LT	0.9	CY
723+37.23	724+33.92	40.19 LT	2.6	CY
723+54.67	723+70.00	28.50 LT	0.9	CY
723+58.28	723+73.61	28.68 RT	0.9	CY
724+47.78	726+35.98	40.12 RT	5.2	CY
725+47.91	726+35.49	39.95 LT	2.5	CY
726+59.91	726+75.24	28.50 RT	0.9	CY
726+65.00	726+80.33	28.76 LT	0.9	CY
727+69.64	727+84.97	29.21 LT	0.9	CY
727+69.66	727+84.99	28.86 RT	0.9	CY
728+17.16	730+.0964	40.07 RT	5.2	CY
728+57.89	730+03.80	40.17 LT	4	CY
730+79.03	730+94.36	28.54 LT	0.9	CY
730+79.04	730+94.37	28.19 RT	0.9	CY
731+96.04	732+11.37	28.50 RT	0.9	CY
731+98.69	732+14.02	28.84 LT	0.9	CY
732+80.30	734+05.77	40.08 LT	3.5	CY
733+63.28	734+28.56	40.16 RT	1.8	CY
735+35.96	X	40.06 LT	0.8	CY
735+39.12	X	39.89 RT	0.8	CY
735+49.96	735+65.29	28.49 RT	0.9	CY
735+50.49	735+65.82	28.50 LT	0.9	CY
736+47.97	737+84.09	40.49 LT	7.6	CY
736+48.13	737+84.09	39.93 RT	7.6	CY
736+64.98	736+80.31	28.50 LT	0.9	CY
736+64.99	736+80.29	28.50 RT	0.9	CY
<b>ITEM TOTAL</b>			<b>163.1</b>	<b>CY</b>

LANDSCAPE - TREE ITEMS

CATEGORY	STATION POINT	OFFSET	ITEM	TREE GRATE	TREE SPECIES	SIZE	ROOT										
									699+29.95	8.00 CENTER	TREE 'C'	NO	HARVEST GOLD LINDEN	3" CALIPER	B& B		
									699+35.38	27.97 RT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									699+59.25	8.00 CENTER	TREE 'C'	NO	HARVEST GOLD LINDEN	3" CALIPER	B& B		
									699+77.05	28.32 LT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									699+81.58	27.97 RT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									699+90.01	8.00 CENTER	TREE 'C'	NO	HARVEST GOLD LINDEN	3" CALIPER	B& B		
									700+27.45	28.32 LT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									700+27.78	27.97 RT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									700+66.45	29.22 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B		
									700+68.80	28.77 RT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B		
									700+76.95	29.22 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B		
									700+77.38	28.77 RT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B		
									701+71.62	28.32 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B		
									701+71.78	28.77 RT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B		
									701+82.12	28.32 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B		
									701+82.28	28.77 RT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B		
									702+39.30	28.96 RT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									702+39.71	28.55 LT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									702+63.76	6.54 CENTER	TREE 'C'	NO	HARVEST GOLD LINDEN	3" CALIPER	B& B		
									702+90.43	28.96 RT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									702+90.83	28.55 LT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									702+91.69	8.00 CENTER	TREE 'C'	NO	HARVEST GOLD LINDEN	3" CALIPER	B& B		
									703+18.28	8.00 CENTER	TREE 'C'	NO	HARVEST GOLD LINDEN	3" CALIPER	B& B		
									703+45.07	28.55 LT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									703+48.89	8.00 CENTER	TREE 'C'	NO	HARVEST GOLD LINDEN	3" CALIPER	B& B		
									703+50.07	28.96 RT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									703+75.62	8.00 CENTER	TREE 'C'	NO	HARVEST GOLD LINDEN	3" CALIPER	B& B		
									703+91.93	28.55 LT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									703+92.67	28.96 RT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									704+03.43	9.54 CENTER	TREE 'C'	NO	HARVEST GOLD LINDEN	3" CALIPER	B& B		
									704+38.79	28.55 LT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									704+39.53	28.96 RT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									704+82.41	28.96 RT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									704+87.03	28.85 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B		
									704+97.53	28.85 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B		
									705+26.76	29.13 RT	TREE 'C'	NO	HARVEST GOLD LINDEN	3" CALIPER	B& B		
									705+53.76	29.13 RT	TREE 'C'	NO	HARVEST GOLD LINDEN	3" CALIPER	B& B		
									705+91.25	28.91 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B		
									705+93.62	8.00 CENTER	TREE 'C'	NO	HARVEST GOLD LINDEN	3" CALIPER	B& B		
									705+94.55	28.96 RT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									706+01.75	28.91 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B		
									706+23.73	8.00 CENTER	TREE 'C'	NO	HARVEST GOLD LINDEN	3" CALIPER	B& B		
									706+36.65	28.96 RT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									706+37.68	29.15 LT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									706+61.58	8.00 CENTER	TREE 'C'	NO	HARVEST GOLD LINDEN	3" CALIPER	B& B		
									706+82.96	28.96 RT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									706+84.48	29.15 LT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									706+89.15	8.00 CENTER	TREE 'C'	NO	HARVEST GOLD LINDEN	3" CALIPER	B& B		
									707+18.03	8.00 CENTER	TREE 'C'	NO	HARVEST GOLD LINDEN	3" CALIPER	B& B		
									707+33.48	28.96 RT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									707+35.54	29.15 LT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									707+41.66	8.00 CENTER	TREE 'C'	NO	HARVEST GOLD LINDEN	3" CALIPER	B& B		
									707+72.90	9.42 CENTER	TREE 'C'	NO	HARVEST GOLD LINDEN	3" CALIPER	B& B		
									707+79.79	28.96 RT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									707+82.35	29.15 LT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									708+24.90	29.15 LT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									708+26.10	28.96 RT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									708+71.70	29.15 LT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									708+72.41	28.96 RT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									710+83.09	28.20 LT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									711+33.97	28.20 LT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		
									711+45.03	28.29 RT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B		

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LANDSCAPE - TREE ITEMS

711+84.58	6.55 CENTER	TREE 'C'	NO	HARVEST GOLD LINDEN	3" CALIPER	B& B
711+97.57	28.20 LT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B
712+12.58	8.00 CENTER	TREE 'C'	NO	HARVEST GOLD LINDEN	3" CALIPER	B& B
712+43.78	9.42 CENTER	TREE 'C'	NO	HARVEST GOLD LINDEN	3" CALIPER	B& B
712+44.21	28.20 LT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B
712+46.69	28.47 RT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B
712+86.61	28.20 LT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B
712+89.78	28.47 RT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B
713+32.88	28.47 RT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B
713+33.25	28.20 LT	TREE 'A'	YES	NORTHERN ACCLAIM HONEYLOCUST	3" CALIPER	B& B
718+17.84	29.30 RT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
718+17.89	28.48 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
718+28.34	29.30 RT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
718+28.39	28.50 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
719+25.81	39.88 LT	TREE 'D'	NO	NORTHWOOD MAPLE	3" CALIPER	B& B
719+26.53	40.35 RT	TREE 'D'	NO	NORTHWOOD MAPLE	3" CALIPER	B& B
719+36.97	28.24 RT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
719+37.00	28.50 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
719+47.47	28.24 RT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
719+47.50	28.50 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
719+58.97	39.88 LT	TREE 'D'	NO	NORTHWOOD MAPLE	3" CALIPER	B& B
719+59.68	40.35 RT	TREE 'D'	NO	NORTHWOOD MAPLE	3" CALIPER	B& B
719+91.97	39.88 LT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
719+92.70	40.35 RT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
720+24.97	39.88 LT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
720+25.80	40.35 RT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
720+57.97	39.88 LT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
720+58.80	40.35 RT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
720+90.97	39.88 LT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
720+91.80	40.35 RT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
721+23.97	39.88 LT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
721+24.80	40.35 RT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
721+92.10	40.35 RT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
722+32.41	39.88 LT	TREE 'D'	NO	NORTHWOOD MAPLE	3" CALIPER	B& B
722+37.60	29.11 RT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
722+41.80	28.50 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
722+48.10	29.11 RT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
722+52.30	28.50 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
722+65.41	39.88 LT	TREE 'D'	NO	NORTHWOOD MAPLE	3" CALIPER	B& B
723+46.89	39.97 LT	TREE 'D'	NO	NORTHWOOD MAPLE	3" CALIPER	B& B
723+57.16	28.50 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
723+60.77	28.68 RT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
723+67.66	28.50 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
723+71.27	28.68 RT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
723+79.89	39.97 LT	TREE 'D'	NO	NORTHWOOD MAPLE	3" CALIPER	B& B
724+12.89	39.97 LT	TREE 'F'	NO	COMMON HACKBERRY	3" CALIPER	B& B
724+62.45	40.35 RT	TREE 'F'	NO	COMMON HACKBERRY	3" CALIPER	B& B
724+95.45	40.35 RT	TREE 'F'	NO	COMMON HACKBERRY	3" CALIPER	B& B
725+28.45	40.35 RT	TREE 'F'	NO	COMMON HACKBERRY	3" CALIPER	B& B
725+57.90	39.97 LT	TREE 'F'	NO	COMMON HACKBERRY	3" CALIPER	B& B
725+61.45	40.35 RT	TREE 'F'	NO	COMMON HACKBERRY	3" CALIPER	B& B
725+94.45	40.35 RT	TREE 'F'	NO	COMMON HACKBERRY	3" CALIPER	B& B
725+97.84	39.97 LT	TREE 'F'	NO	COMMON HACKBERRY	3" CALIPER	B& B
726+25.97	39.97 LT	TREE 'F'	NO	COMMON HACKBERRY	3" CALIPER	B& B
726+27.45	40.35 RT	TREE 'F'	NO	COMMON HACKBERRY	3" CALIPER	B& B
726+62.40	28.50 RT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
726+67.51	28.76 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
726+72.90	28.50 RT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B

726+78.01	28.76 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
726+72.14	29.21 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
726+72.14	28.86 RT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
726+82.64	29.21 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
726+82.64	28.86 RT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
728+30.32	40.35 RT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
728+63.32	40.35 RT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
728+96.32	40.35 RT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
729+21.08	40.17 LT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
729+29.32	40.35 RT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
729+54.08	40.17 LT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
729+72.86	40.35 RT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
729+87.08	40.17 LT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
730+05.86	40.35 RT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
730+38.86	40.35 RT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
730+46.56	40.17 LT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
730+71.86	40.35 RT	TREE 'D'	NO	NORTHWOOD MAPLE	3" CALIPER	B& B
730+81.52	28.54 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
730+81.53	28.19 RT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
730+92.02	28.54 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
730+92.03	28.19 RT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
731+03.47	40.17 LT	TREE 'D'	NO	NORTHWOOD MAPLE	3" CALIPER	B& B
731+06.05	40.35 RT	TREE 'D'	NO	NORTHWOOD MAPLE	3" CALIPER	B& B
731+88.46	40.35 RT	TREE 'D'	NO	NORTHWOOD MAPLE	3" CALIPER	B& B
731+98.53	28.50 RT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
732+01.18	28.84 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
732+09.03	28.50 RT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
732+11.68	28.84 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
732+19.14	40.35 RT	TREE 'D'	NO	NORTHWOOD MAPLE	3" CALIPER	B& B
732+52.14	40.35 RT	TREE 'F'	NO	COMMON HACKBERRY	3" CALIPER	B& B
732+89.33	40.31 LT	TREE 'F'	NO	COMMON HACKBERRY	3" CALIPER	B& B
733+25.38	40.35 RT	TREE 'F'	NO	COMMON HACKBERRY	3" CALIPER	B& B
733+36.35	40.31 LT	TREE 'F'	NO	COMMON HACKBERRY	3" CALIPER	B& B
733+80.17	40.35 RT	TREE 'F'	NO	COMMON HACKBERRY	3" CALIPER	B& B
733+84.72	40.31 LT	TREE 'F'	NO	COMMON HACKBERRY	3" CALIPER	B& B
734+63.82	40.31 LT	TREE 'F'	NO	COMMON HACKBERRY	3" CALIPER	B& B
734+94.82	40.31 LT	TREE 'F'	NO	COMMON HACKBERRY	3" CALIPER	B& B
735+42.28	40.31 LT	TREE 'D'	NO	NORTHWOOD MAPLE	3" CALIPER	B& B
735+43.37	40.35 RT	TREE 'D'	NO	NORTHWOOD MAPLE	3" CALIPER	B& B
735+52.47	28.49 RT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
735+53.00	28.50 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
735+62.97	28.49 RT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
735+63.50	28.50 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
735+72.61	40.31 LT	TREE 'D'	NO	NORTHWOOD MAPLE	3" CALIPER	B& B
735+73.74	40.35 RT	TREE 'D'	NO	NORTHWOOD MAPLE	3" CALIPER	B& B
736+56.58	40.05 LT	TREE 'D'	NO	NORTHWOOD MAPLE	3" CALIPER	B& B
736+56.86	40.35 RT	TREE 'D'	NO	NORTHWOOD MAPLE	3" CALIPER	B& B
736+67.50	28.50 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
736+67.52	28.50 RT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
736+78.00	28.50 LT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
736+78.02	28.50 RT	TREE 'B'	NO	IVORY SILK LILAC TREE	2" CALIPER	B& B
736+86.58	40.05 LT	TREE 'D'	NO	NORTHWOOD MAPLE	3" CALIPER	B& B
736+88.12	40.35 RT	TREE 'D'	NO	NORTHWOOD MAPLE	3" CALIPER	B& B
737+18.72	40.35 RT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
737+19.58	32.50 LT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
737+49.58	32.50 LT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
737+49.88	40.35 RT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
737+78.94	40.35 RT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B
737+79.58	32.50 LT	TREE 'E'	NO	DISCOVERY ELM	3" CALIPER	B& B

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LANDSCAPE - SHRUB ITEMS

CATEGORY	STARTING STATION POINT	ENDING STATION POINT	OFFSET	ITEM	QUANTITY	COMMON NAME	LATIN NAME	SIZE	ROOT
	689+52.00	689+73.29	43.89 LT	GRASS	8	FEATHER REED GRASS	CALAMAGROSTRIS ARUNDINACEA 'KARL FOERSTER'	1 GALLON	POT
	689+79.22	689+86.74	42.79 RT	GRASS	7	FEATHER REED GRASS	CALAMAGROSTRIS ARUNDINACEA 'KARL FOERSTER'	1 GALLON	POT
	690+17.65	690+38.81	44.33 RT	GRASS	8	FEATHER REED GRASS	CALAMAGROSTRIS ARUNDINACEA 'KARL FOERSTER'	1 GALLON	POT
	690+99.21	691+24.21	54.71 LT	GRASS	16	FEATHER REED GRASS	CALAMAGROSTRIS ARUNDINACEA 'KARL FOERSTER'	1 GALLON	POT
			50.20 LT	SHRUB	7	LITTLE PRINCESS SPIREA	SPIRAEA JAPONICA 'LITTLE PRINCESS'	3 GALLON	POT
			46.88 LT	SHRUB	15	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	692+27.85	693+41.18	30.67 LT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	692+65.97	692+70.93	38.64 RT	SHRUB	2	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	692+79.03	695+93.23	8.00 CENTER	SHRUB	5	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	3	DAKOTA GOLDCHARM SPIREA	SPIRAEA JAPONICA 'MERTYANN'	3 GALLON	POT
				SHRUB	134	TEENY MUGHO PINE	PINUS MUGO 'TEENY'	3 GALLON	POT
				GRASS	60	PRAIRIE DROPSEED	SPOROBOLUS HETEROLEPIS 'TARA'	1 GALLON	POT
	693+28.61	693+43.94	28.48 LT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	693+69.30	693+86.13	44.10 RT	GRASS	6	FEATHER REED GRASS	CALAMAGROSTRIS ARUNDINACEA 'KARL FOERSTER'	1 GALLON	POT
	693+93.28	694+19.14	44.10 RT	GRASS	10	FEATHER REED GRASS	CALAMAGROSTRIS ARUNDINACEA 'KARL FOERSTER'	1 GALLON	POT
	694+69.87	694+86.70	45.41 RT	GRASS	6	FEATHER REED GRASS	CALAMAGROSTRIS ARUNDINACEA 'KARL FOERSTER'	1 GALLON	POT
	694+93.22	695+19.08	45.41 LT	GRASS	10	FEATHER REED GRASS	CALAMAGROSTRIS ARUNDINACEA 'KARL FOERSTER'	1 GALLON	POT
	696+43.96	696+59.29	29.05 RT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	696+44.20	696+59.53	28.85 LT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	697+48.39	697+63.72	28.85 LT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	697+48.61	697+63.94	28.56 RT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	698+.0906	700+22.33	8.00 CENTER	SHRUB	90	TEENY MUGHO PINE	PINUS MUGO 'TEENY'	3 GALLON	POT
				GRASS	45	PRAIRIE DROPSEED	SPOROBOLUS HETEROLEPIS 'TARA'	1 GALLON	POT
	700+64.08	700+79.41	29.22 LT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	700+64.41	700+79.74	28.77 RT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	701+69.32	701+84.65	28.32 LT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	701+69.39	701+84.72	28.77 RT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	702+35.02	704+34.08	8.00 CENTER	SHRUB	74	TEENY MUGHO PINE	PINUS MUGO 'TEENY'	3 GALLON	POT
				GRASS	45	PRAIRIE DROPSEED	SPOROBOLUS HETEROLEPIS 'TARA'	1 GALLON	POT
	702+85.16	703+10.66	43.72 LT	GRASS	9	FEATHER REED GRASS	CALAMAGROSTRIS ARUNDINACEA 'KARL FOERSTER'	1 GALLON	POT
	703+26.63	703+51.63	43.72 LT	GRASS	9	FEATHER REED GRASS	CALAMAGROSTRIS ARUNDINACEA 'KARL FOERSTER'	1 GALLON	POT
	704+84.66	704+99.99	28.85 LT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	705+74.91	707+.0668	8.00 CENTER	GRASS	76	PRAIRIE DROPSEED	SPOROBOLUS HETEROLEPIS 'TARA'	1 GALLON	POT
				SHRUB	92	TEENY MUGHO PINE	PINUS MUGO 'TEENY'	3 GALLON	POT
	705+88.89	706+04.22	28.85 LT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	707+79.92	708+61.84	44.23 RT	GRASS	20	FEATHER REED GRASS	CALAMAGROSTRIS ARUNDINACEA 'KARL FOERSTER'	1 GALLON	POT
				SHRUB	10	PRAIRIE PETITE LILAC	SYRINGA VULGARIS 'PRAIRIE PETITE'	3 GALLON	POT
	707+85.17	X	44.39 LT	GRASS	36	FEATHER REED GRASS	CALAMAGROSTRIS ARUNDINACEA 'KARL FOERSTER'	1 GALLON	POT
				SHRUB	19	PRAIRIE PETITE LILAC	SYRINGA VULGARIS 'PRAIRIE PETITE'	3 GALLON	POT
				SHRUB	17	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	14	DAKOTA GOLDCHARM SPIREA	SPIRAEA JAPONICA 'MERTYANN'	3 GALLON	POT
	711+23.98	711+66.52	27.06 RT	SHRUB	15	TEENY MUGHO PINE	PINUS MUGO 'TEENY'	3 GALLON	POT
			30.25 RT	GRASS	13	FEATHER REED GRASS	CALAMAGROSTRIS ARUNDINACEA 'KARL FOERSTER'	1 GALLON	POT
	711+55.62	712+77.60	8.00 CENTER	SHRUB	44	TEENY MUGHO PINE	PINUS MUGO 'TEENY'	3 GALLON	POT
				GRASS	30	PRAIRIE DROPSEED	SPOROBOLUS HETEROLEPIS 'TARA'	1 GALLON	POT
	712+78.63	X	44.77 LT	GRASS	20	FEATHER REED GRASS	CALAMAGROSTRIS ARUNDINACEA 'KARL FOERSTER'	1 GALLON	POT
				SHRUB	13	PRAIRIE PETITE LILAC	SYRINGA VULGARIS 'PRAIRIE PETITE'	3 GALLON	POT
				SHRUB	26	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	6	DAKOTA GOLDCHARM SPIREA	SPIRAEA JAPONICA 'MERTYANN'	3 GALLON	POT
	718+15.47	718+30.08	29.30 RT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	718+15.51	718+30.84	28.48 LT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
				SHRUB	26	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT

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LANDSCAPE - SHRUB ITEMS

	719+17.57	721+65.03	39.89 LT	SHRUB	24	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				GRASS	30	FEATHER REED GRASS	CALAMAGROSTRIS ARUNDINACEA 'KARL FOERSTER'	1 GALLON	POT
				SHRUB	24	PRAIRIE PETITE LILAC	SYRINGA VULGARIS 'PRAIRIE PETITE'	3 GALLON	POT
				SHRUB	12	DAKOTA GOLDCHARM SPIREA	SPIRAEA JAPONICA 'MERTYANN'	3 GALLON	POT
	719+34.51	719+49.84	28.48 LT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	720+94.31	722+07.65	40.16 RT	SHRUB	12	PRAIRIE PETITE LILAC	SYRINGA VULGARIS 'PRAIRIE PETITE'	3 GALLON	POT
				GRASS	13	FEATHER REED GRASS	CALAMAGROSTRIS ARUNDINACEA 'KARL FOERSTER'	1 GALLON	POT
				SHRUB	10	DAKOTA GOLDCHARM SPIREA	SPIRAEA JAPONICA 'MERTYANN'	3 GALLON	POT
	722+25.26		40.21 LT	SHRUB	25	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
	722+36.01	722+51.34	29.11 RT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	722+39.64	722+54.97	28.50 LT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	723+37.23	724+33.92	40.19 LT	SHRUB	25	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				GRASS	11	FEATHER REED GRASS	CALAMAGROSTRIS ARUNDINACEA 'KARL FOERSTER'	1 GALLON	POT
				SHRUB	7	DAKOTA GOLDCHARM SPIREA	SPIRAEA JAPONICA 'MERTYANN'	3 GALLON	POT
	723+54.67	723+70.00	28.50 LT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	723+58.28	723+73.61	28.68 RT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	724+47.78	726+35.98	40.12 RT	SHRUB	33	DAKOTA GOLDCHARM SPIREA	SPIRAEA JAPONICA 'MERTYANN'	3 GALLON	POT
				SHRUB	24	PRAIRIE PETITE LILAC	SYRINGA VULGARIS 'PRAIRIE PETITE'	3 GALLON	POT
				GRASS	11	FEATHER REED GRASS	CALAMAGROSTRIS ARUNDINACEA 'KARL FOERSTER'	1 GALLON	POT
	725+47.91	726+35.49	39.95 LT	SHRUB	12	PRAIRIE PETITE LILAC	SYRINGA VULGARIS 'PRAIRIE PETITE'	3 GALLON	POT
				SHRUB	7	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				GRASS	5	FEATHER REED GRASS	CALAMAGROSTRIS ARUNDINACEA 'BACHYTRICHA'	1 GALLON	POT
	726+59.91	726+75.24	28.50 RT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	726+65.00	726+80.33	28.76 LT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	727+69.64	727+84.97	29.21 LT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	727+69.66	727+84.99	28.86 RT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	728+17.16	730+.0964	40.07 RT	SHRUB	33	DAKOTA GOLDCHARM SPIREA	SPIRAEA JAPONICA 'MERTYANN'	3 GALLON	POT
				GRASS	18	FEATHER REED GRASS	CALAMAGROSTRIS ARUNDINACEA 'BACHYTRICHA'	1 GALLON	POT
				SHRUB	12	PRAIRIE PETITE LILAC	SYRINGA VULGARIS 'PRAIRIE PETITE'	3 GALLON	POT
	728+57.89	730+03.80	40.17 LT	SHRUB	20	PRAIRIE PETITE LILAC	SYRINGA VULGARIS 'PRAIRIE PETITE'	3 GALLON	POT
				SHRUB	10	DAKOTA GOLDCHARM SPIREA	SPIRAEA JAPONICA 'MERTYANN'	3 GALLON	POT
				GRASS	12	FEATHER REED GRASS	CALAMAGROSTRIS ARUNDINACEA 'BACHYTRICHA'	1 GALLON	POT
	730+79.03	730+94.36	28.54 LT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	730+79.04	730+94.37	28.19 RT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	731+96.04	732+11.37	28.50 RT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	731+98.69	732+14.02	28.84 LT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	732+80.30	734+05.77	40.08 LT	SHRUB	7	PRAIRIE PETITE LILAC	SYRINGA VULGARIS 'PRAIRIE PETITE'	3 GALLON	POT
				SHRUB	14	DWARF EUROPEAN VIBURNUM	VIBURNUM OPULUS 'NANUM'	3 GALLON	POT
				SHRUB	18	DAKOTA GOLDCHARM SPIREA	SPIRAEA JAPONICA 'MERTYANN'	3 GALLON	POT
	733+63.28	734+28.56	40.16 RT	SHRUB	17	DAKOTA GOLDCHARM SPIREA	SPIRAEA JAPONICA 'MERTYANN'	3 GALLON	POT
	735+35.96	X	40.06 LT	SHRUB	22	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
	735+39.12	X	39.89 RT	SHRUB	24	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
	735+49.96	735+65.29	28.49 RT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	735+50.49	735+65.82	28.50 LT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	736+47.97	737+84.09	40.49 LT	SHRUB	24	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				GRASS	32	FEATHER REED GRASS	CALAMAGROSTRIS ARUNDINACEA 'BACHYTRICHA'	1 GALLON	POT
			38.39 LT	SHRUB	18	DAKOTA GOLDCHARM SPIREA	SPIRAEA JAPONICA 'MERTYANN'	3 GALLON	POT
				SHRUB	18	PRAIRIE PETITE LILAC	SYRINGA VULGARIS 'PRAIRIE PETITE'	3 GALLON	POT
	736+48.13	737+84.09	39.93 RT	SHRUB	24	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				GRASS	30	FEATHER REED GRASS	CALAMAGROSTRIS ARUNDINACEA 'BACHYTRICHA'	1 GALLON	POT
	736+64.98	736+80.31	28.50 LT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT
	736+64.99	736+80.29	28.50 RT	SHRUB	8	ALPINE SPIREA	SPIRAEA JAPONICA 'ALPINA'	3 GALLON	POT
				SHRUB	4	BLUE FOREST JUNIPER	JUNIPERUS SABINA 'BLUE FOREST'	3 GALLON	POT

CONVENTIONAL SYMBOLS AND ABBREVIATIONS

STATE, COUNTY, TOWN LINE	ACCESS POINT	AP
SECTION LINE	ACCESS RIGHTS	AR
QUARTER LINE	ACRES	AC.
SIXTEENTH LINE	AND OTHERS	ET.AL.
PROPOSED REFERENCE LINE	CENTERLINE	C/L
PROPOSED R/W LINE	CERTIFIED SURVEY MAP	CSM
EXISTING H.E. LINE	DOCUMENT	DOC.
PROPERTY LINE	HIGHWAY EASEMENT	H.E.
EASEMENT LINE	LAND CONTRACT	LC
CORPORATE LIMITS	MONUMENT	MON.
EXISTING CENTERLINE	PAGE	P.
LOT & TIE LINES	PROPERTY LINE	PL
UTILITIES	PERMANENT LIMITED EASEMENT	PLE
TELEPHONE, GAS, ELECTRIC, CABLE, TV, FIBER OPTIC	RECORDED AS	(100)
FIRE HYDRANT	REFERENCE LINE	R/L
ACCESS RESTRICTED (BY PREVIOUS PROJECT/CONTROL)	REMAINING RIGHT-OF-WAY	REM. R/W
NO ACCESS (BY ACQUISITION)	SECTION	SEC.
NO ACCESS (BY STATUTORY AUTHORITY)	SQUARE FEET	SO.FT.
FEE (HATCH VARIES)	STATION	STA.
TEMPORARY LIMITED EASEMENT	TEMPORARY LIMITED EASEMENT TLE	V.
PERMANENT LIMITED EASEMENT	VOLUME	V.
R/W BOUNDARY POINT	CURVE DATA	
TILE POINT	LONG CHORD	LCH
PARCEL NUMBER	LONG CHORD BEARING	LCB
SIGN NUMBER (OFF PREMISE)	RADIUS	R
BUILDING	DEGREE OF CURVE	D
FOUND IRON PIPE/PIN	CENTRAL ANGLE OR DELTA	DELTA
R/W MONUMENT	LENGTH OF CURVE	L
R/W STANDARD	TANGENT	TAN
STON	NON COMPENSABLE	COMPENSABLE
	POWER POLE	PP
	TELEPHONE POLE	TP
	TELEPHONE PEDESTAL	TPD
	GUY POLE	GP
		N/A
	SECTION CORNER	SC

COURSE	BEARING	DISTANCE
90000-90001	S 00°25'27" W	4465.49
90001-90002	S 89°34'33" E	50.14
90002-41002	S 00°25'32" W	330.62
41002-41001	S 00°25'32" W	70.00
41001-41026	S 00°25'32" W	250.00
41026-41027	S 00°25'32" W	20.15
41027-41000	S 00°25'32" W	125.00
41000-90004	N 89°34'19" W	50.12
90004-40000	N 89°34'19" W	49.88
40000-40025	N 00°25'32" E	125.00
40025-40024	N 00°25'32" E	20.14
40024-40001	N 00°25'32" E	250.00
40001-40002	N 00°25'32" E	70.00
40002-90003	N 00°25'32" E	330.62
90003-90001	S 89°34'33" E	49.86
90014-90004	N 00°25'28" E	50.13

TRANSPORTATION PROJECT PLAT NO: 1195-13-00 - 4.01

THAT PART OF THE SW 1/4 - SE 1/4 OF SECTION 15, T-49-N, R-14-W, CITY OF SUPERIOR, DOUGLAS COUNTY, WISCONSIN

PROJECT DESCRIPTION: STH 35, CITY OF SUPERIOR, TOWER AVENUE (BELKNAP STREET - 3RD STREET)

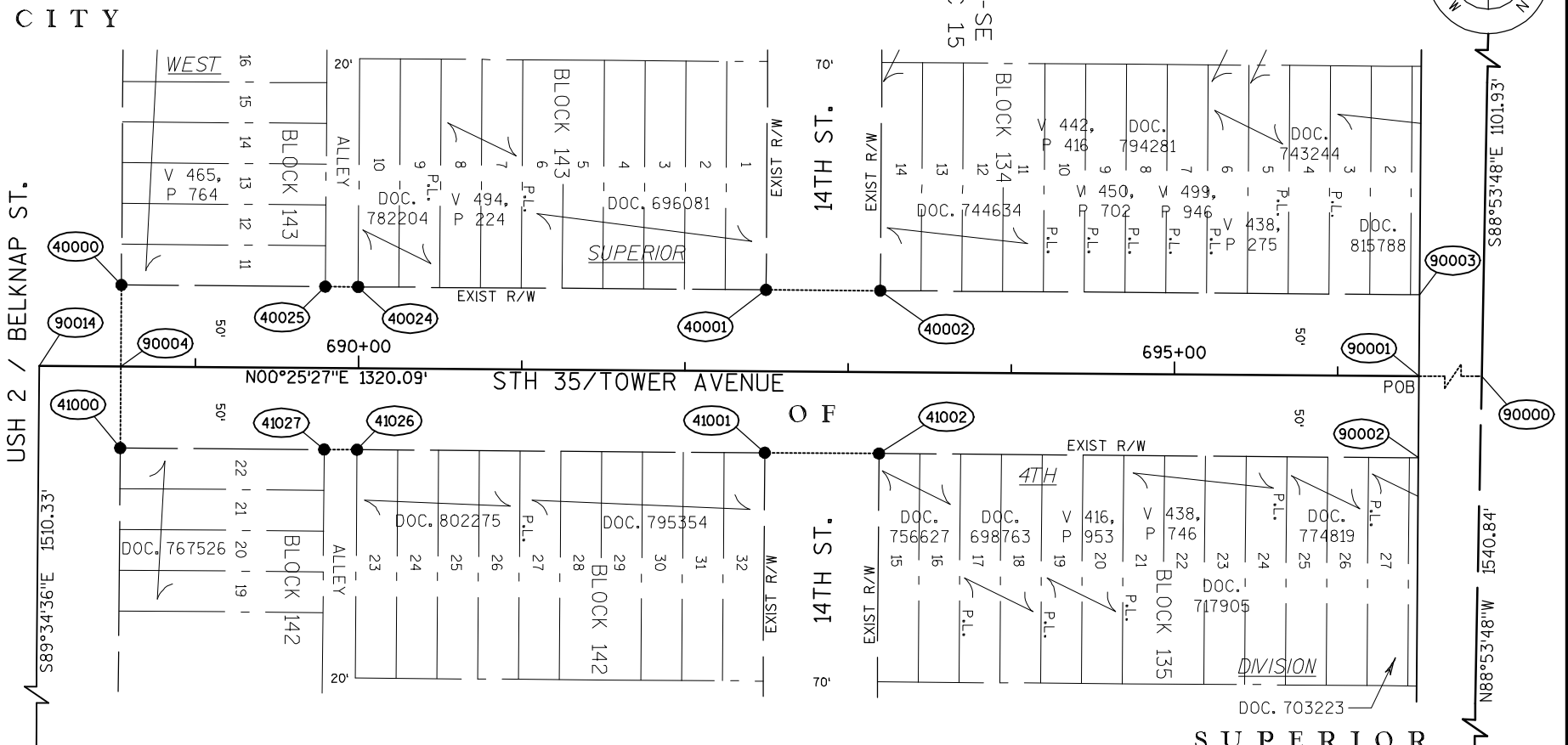
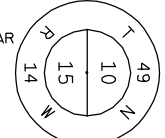
THE STATE OF WISCONSIN HAS DEEMED IT NECESSARY TO DELINEATE RIGHT-OF-WAY INTERESTS PREVIOUSLY ACQUIRED UNDER SECTIONS 82.01, 82.31(2), 82.31(2) AND 84.09 OF THE WISCONSIN STATE STATUTES AND DOES HEREBY CERTIFY THE DEPARTMENT OF TRANSPORTATION HAS SURVEYED THE HIGHWAY RIGHT-OF-WAY; THAT THIS PLAT IS A TRUE AND CORRECT REPRESENTATION OF THE EXTERIOR BOUNDARIES OF THE LAND SURVEYED AND SHOWS ACCURATE MEASUREMENTS THEREOF.

ACCEPTED FOR RECORDING AND FILING IN THE OFFICE OF THE REGISTER OF DEEDS IN DOUGLAS COUNTY, WISCONSIN AT 8:00 AM ON NOV. 8, 2011 AS DOCUMENT # 846631 AND FILED IN TP VOL. 3, PG. 41

GAYLE J. WAHNER  
SIGNATURE OF REGISTER OF DEEDS

RESERVED FOR REGISTER OF DEEDS PROJECT NUMBER 1195-13-00-4.01 AMENDMENT NO:

1004 FOUND 3/4" IRON BAR  
Y = 310759.88  
X = 145964.53

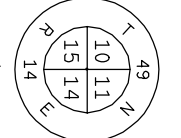


2024 CITY OF SUPERIOR MONUMENT FOUND IRON BAR  
Y = 305416.26  
X = 148537.24

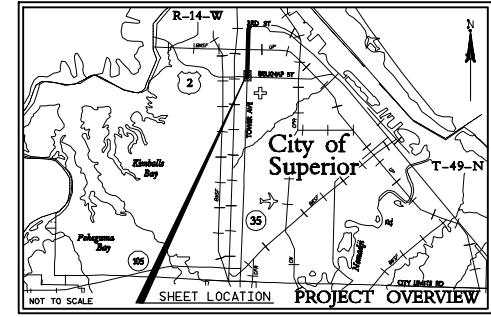
POINT	STATION	OFFSET
40000	688+54.23	-49.88
40001	692+49.37	-49.88
40002	693+19.38	-49.87
40024	689+99.38	-49.88
40025	689+79.23	-49.88
41000	688+54.22	50.12
41001	692+49.38	50.12
41002	693+19.38	50.13
41026	689+99.38	50.12
41027	689+79.22	50.12
90000	740+42.45	-136.75
90001	696+50.00	0.00
90002	696+50.00	50.14
90003	696+50.00	-49.86
90004	688+54.23	0.00
90014	688+04.10	0.00
2024	688+04.10	1510.33

STH 35 / TOWER AVENUE ALIGNMENT DATA  
POB STA 688+04.10  
Y = 305427.42  
X = 147026.95  
PI STA 701+24.19  
Y = 306747.47  
X = 147036.72

1006 FOUND BERNTSEN NAIL  
Y = 310708.99  
X = 148606.81



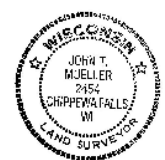
NOTES:  
COORDINATES AND BEARINGS SHOWN ON THIS PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, DOUGLAS COUNTY ZONE, NAD83 (1991) ADJUSTMENT. THE COORDINATES SHOWN ARE GRID COORDINATES AND ARE TO BE USED AS GRID OR GROUND VALUES ON THIS PLAT.  
RIGHT-OF-WAY MONUMENTS WERE NOT SET IN THE FIELD AND ARE SHOWN ON THIS PLAT FOR ILLUSTRATIVE PURPOSES ONLY.  
RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD".  
THE POINT OF INTERSECTIONS DESIGNATED WITH A 90000 SERIES NUMBER HAVE BEEN CREATED FOR THE PURPOSE OF SHOWING A CLOSED TRAVERSE. THE POINTS ARE INTENDED TO BE ON THE RIGHT-OF-WAY LINES BUT NOT NECESSARILY ON OR ANY PART OF A BOUNDARY, SIXTEENTH, QUARTER OR SECTION (P.L.S.S.) LINE. THESE POINTS WILL NOT BE MONUMENTED IN THE FIELD.  
PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY LINES, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.  
EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE: EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 35/TOWER AVENUE AND SIDE ROADS ESTABLISHED FROM CITY OF SUPERIOR MONUMENTAL MAP DATED 1891, MAP OF FOURTH WARD DATED 1929 & WEST SUPERIOR FOURTH DIVISION MAP.  
FOR CURRENT ACCESS/DRIVEWAY INFORMATION CONTACT THE CITY OF SUPERIOR. UTILITY INFORMATION IS NOT SHOWN ON THIS PLAT.



**FAA** Fleming, Andre & Associates, Inc.  
CONSULTING ENGINEERS  
3615 N. Hastings Way • Suite 100  
Eau Claire, WI 54603

I, JOHN T. MUELLER, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED TRANSPORTATION PROJECT PLAT 1195-13-00-4.01 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

DATE 10/25/2011  
John T. Mueller  
THIS PLAT IS APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION.  
DATE 10/25/2011  
Michael Piller  
Michael Piller



CONVENTIONAL SYMBOLS AND ABBREVIATIONS

STATE, COUNTY, TOWN LINE	ACCESS POINT	AP
SECTION LINE	ACCESS RIGHTS	AR
QUARTER LINE	ACRES	AC.
SIXTEENTH LINE	AND OTHERS	ET.AL.
PROPOSED REFERENCE LINE	CENTERLINE	C/L
PROPOSED R/W LINE	CERTIFIED SURVEY MAP	CSM
EXISTING H.E. LINE	DOCUMENT	DOC.
PROPERTY LINE	HIGHWAY EASEMENT	H.E.
EASEMENT LINE	LAND CONTRACT	LC
CORPORATE LIMITS	MONUMENT	MON.
EXISTING CENTERLINE	PAGE	P.
LOT & TIE LINES	PROPERTY LINE	PL
UTILITIES	PERMANENT LIMITED EASEMENT	P.L.E.
TELEPHONE, GAS, ELECTRIC, CABLE TV, FIBER OPTIC	RECORDED AS (100)	R/L
FIRE HYDRANT	REFERENCE LINE	R/L
ACCESS RESTRICTED (BY PREVIOUS PROJECT/CONTROL)	REMAINING RIGHT-OF-WAY	REM. R/W
NO ACCESS (BY ACQUISITION)	SECTION	SEC.
NO ACCESS (BY STATUTORY AUTHORITY)	SQUARE FEET	SO.FT.
FEE (HATCH VARIES)	STATION	STA.
TEMPORARY LIMITED EASEMENT	TEMPORARY LIMITED EASEMENT TLE	TLE
PERMANENT LIMITED EASEMENT	VOLUME	V.
R/W BOUNDARY POINT	<b>CURVE DATA</b>	
TIE POINT	LONG CHORD	LCH
PARCEL NUMBER	LONG CHORD BEARING	LCB
SIGN NUMBER (OFF PREMISES)	RADIUS	R
BUILDING	DEGREE OF CURVE	D
FOUND IRON PIPE/PIN	CENTRAL ANGLE OR DELTA	DELTA
R/W MONUMENT	LENGTH OF CURVE	L
R/W STANDARD	TANGENT	TAN
STATION	POWER POLE	NON COMPENSABLE
	TELEPHONE POLE	COMPENSABLE
	TELEPHONE PEDESTAL	
	GUY POLE	N/A
	SECTION CORNER	

COURSE	BEARING	DISTANCE
90000-90005	S 00°25'27" W	3665.49
90005-90006	S 89°34'33" E	50.16
90006-41006	S 00°25'32" W	290.64
41006-41005	S 00°25'32" W	70.00
41005-41004	S 00°25'32" W	349.99
41004-41003	S 00°25'32" W	70.00
41003-90002	S 00°25'32" W	19.37
90002-90001	N 89°34'33" W	50.14
90001-90003	N 89°34'33" W	49.86
90003-40003	N 00°25'32" E	19.37
40003-40004	N 00°25'32" E	70.00
40004-40005	N 00°25'32" E	349.99
40005-40006	N 00°25'32" E	70.00
40006-90007	N 00°25'32" E	290.64
90007-90005	S 89°34'33" E	49.84

TRANSPORTATION PROJECT PLAT NO: 1195-13-00 - 4.02

THAT PART OF THE SW 1/4 - SE 1/4 AND THE NW 1/4 - SE 1/4 OF SECTION 15, T-49-N, R-14-W, CITY OF SUPERIOR, DOUGLAS COUNTY, WISCONSIN

PROJECT DESCRIPTION: STH 35, CITY OF SUPERIOR, TOWER AVENUE (BELKNAP STREET - 3RD STREET)

THE STATE OF WISCONSIN HAS DEEMED IT NECESSARY TO DELINEATE RIGHT-OF-WAY INTERESTS PREVIOUSLY ACQUIRED UNDER SECTIONS 82.01, 82.31(1), 82.31(2) AND 84.09 OF THE WISCONSIN STATE STATUTES AND DOES HEREBY CERTIFY THE DEPARTMENT OF TRANSPORTATION HAS SURVEYED THE HIGHWAY RIGHT-OF-WAY; THAT THIS PLAT IS A TRUE AND CORRECT REPRESENTATION OF THE EXTERIOR BOUNDARIES OF THE LAND SURVEYED AND SHOWS ACCURATE MEASUREMENTS THEREOF.

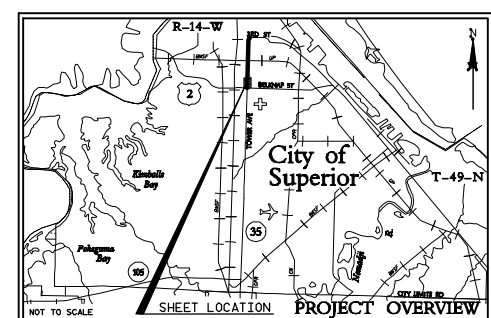
ACCEPTED FOR RECORDING AND FILING IN THE OFFICE OF THE REGISTER OF DEEDS IN DOUGLAS COUNTY, WISCONSIN AT 8:00 AM ON NOV. 8, 2011 AS DOCUMENT # 846632 AND FILED IN TP VOL. 1, PG. 42

GAYLE J. WAHNER  
SIGNATURE OF REGISTER OF DEEDS

RESERVED FOR REGISTER OF DEEDS PROJECT NUMBER 1195-13-00-4.02 AMENDMENT NO:

4

4



NOTES:

COORDINATES AND BEARINGS SHOWN ON THIS PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, DOUGLAS COUNTY ZONE, NAD83 (1991) ADJUSTMENT. THE COORDINATES SHOWN ARE GRID COORDINATES AND ARE TO BE USED AS GRID OR GROUND VALUES ON THIS PLAT.

RIGHT-OF-WAY MONUMENTS WERE NOT SET IN THE FIELD AND ARE SHOWN ON THIS PLAT FOR ILLUSTRATIVE PURPOSES ONLY.

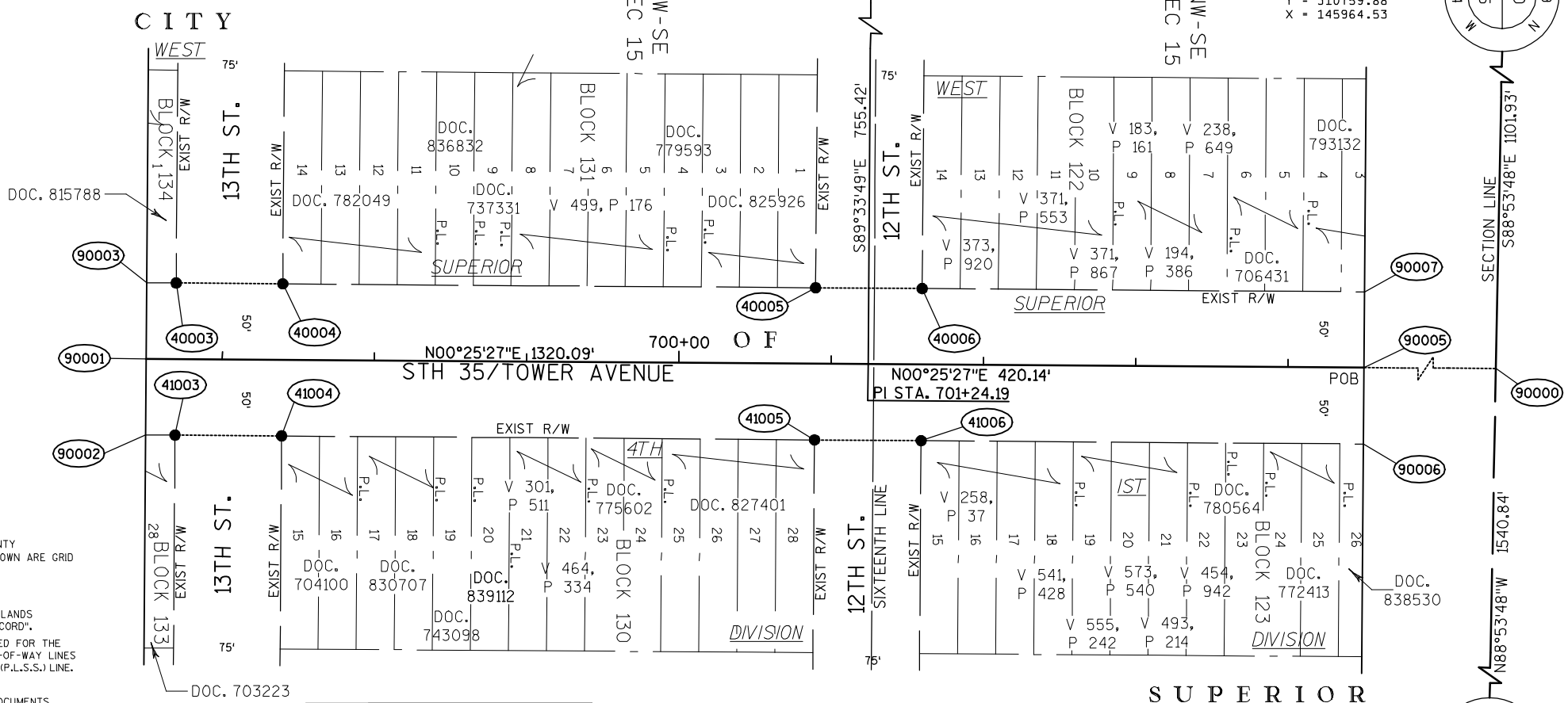
RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD".

THE POINT OF INTERSECTIONS DESIGNATED WITH A 90000 SERIES NUMBER HAVE BEEN CREATED FOR THE PURPOSE OF SHOWING A CLOSED TRAVERSE. THE POINTS ARE INTENDED TO BE ON THE RIGHT-OF-WAY LINES BUT NOT NECESSARILY ON OR ANY PART OF A BOUNDARY, SIXTEENTH, QUARTER OR SECTION (P.L.S.S.) LINE. THESE POINTS WILL NOT BE MONUMENTED IN THE FIELD.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY LINES, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE: EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 35/TOWER AVENUE AND SIDE ROADS ESTABLISHED FROM CITY OF SUPERIOR MONUMENTAL MAP DATED 1891, MAP OF FOURTH WARD DATED 1929 & WEST SUPERIOR FIRST AND FOURTH DIVISION MAPS.

FOR CURRENT ACCESS/DRIVEWAY INFORMATION CONTACT THE CITY OF SUPERIOR. UTILITY INFORMATION IS NOT SHOWN ON THIS PLAT.



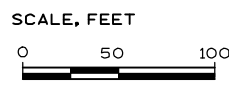
POINT	STATION	OFFSET
40003	696+69.37	-49.86
40004	697+39.37	-49.86
40005	700+89.36	-49.85
40006	701+59.36	-49.85
41003	696+69.37	50.14
41004	697+39.37	50.14
41005	700+89.36	50.15
41006	701+59.36	50.15
90000	740+42.45	-136.75
90001	696+50.00	0.00
90002	696+50.00	50.14
90003	696+50.00	-49.86
90005	704+50.00	0.00
90006	704+50.00	50.16
90007	704+50.00	-49.84

STH 35 / TOWER AVENUE ALIGNMENT DATA

POB STA 688+04.10  
Y = 305427.42  
X = 147026.95

PI STA 701+24.19  
Y = 306747.47  
X = 147036.72

PI STA 705+44.33  
Y = 307167.60  
X = 147039.83



**FAA** Consulting Engineers  
Fleming, Andre & Associates, Inc.  
3615 N. Hastings Way • Suite 100  
Eau Claire, WI 54603

I, JOHN T. MUELLER, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED TRANSPORTATION PROJECT PLAT 1195-13-00-4.02 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

DATE 10/25/2011

John T. Mueller  
John T. Mueller

THIS PLAT IS APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION.  
DATE 10/25/2011

Michael Piller  
Michael Piller



CONVENTIONAL SYMBOLS AND ABBREVIATIONS

STATE, COUNTY, TOWN LINE	ACCESS POINT	AP
SECTION LINE	ACCESS RIGHTS	AR
QUARTER LINE	ACRES	AC.
SIXTEENTH LINE	AND OTHERS	ET.AL.
PROPOSED REFERENCE LINE	CENTERLINE	C/L
PROPOSED R/W LINE	CERTIFIED SURVEY MAP	CSM
EXISTING H.E. LINE	DOCUMENT	DOC.
PROPERTY LINE	HIGHWAY EASEMENT	H.E.
EASEMENT LINE	LAND CONTRACT	LC
CORPORATE LIMITS	MONUMENT	MON.
EXISTING CENTERLINE	PAGE	P.
LOT & TIE LINES	PROPERTY LINE	P.L.
UTILITIES	PERMANENT LIMITED EASEMENT	P.L.E.
TELEPHONE, GAS, ELECTRIC, CABLE TV, FIBER OPTIC	RECORDED AS (100)	R/L
FIRE HYDRANT	REFERENCE LINE	R/L
ACCESS RESTRICTED (BY PREVIOUS PROJECT/CONTROL)	REMAINING RIGHT-OF-WAY	REM. R/W
NO ACCESS (BY ACQUISITION)	SECTION	SEC.
NO ACCESS (BY STATUTORY AUTHORITY)	SQUARE FEET	SO.FT.
FEE (HATCH VARIES)	STATION	STA.
TEMPORARY LIMITED EASEMENT	TEMPORARY LIMITED EASEMENT TLE VOLUME	V.
PERMANENT LIMITED EASEMENT		
R/W BOUNDARY POINT	LONG CHORD	LCH
TIE POINT	LONG CHORD BEARING	LCB
PARCEL NUMBER	RADIUS	R
SIGN NUMBER (OFF PREMISE)	DEGREE OF CURVE	D
BUILDING	CENTRAL ANGLE OR DELTA	L
	LENGTH OF CURVE	L
	TANGENT	TAN
	POWER POLE	NON COMPENSABLE
	TELEPHONE POLE	COMPENSABLE
	TELEPHONE PEDESTAL	
	GUY POLE	N/A
	SECTION CORNER	

COURSE TABLE		
COURSE	BEARING	DISTANCE
90000-90008	S 00°25'27" W	2865.49
90008-90009	S 89°34'33" E	50.82
90009-41010	S 00°29'17" W	220.55
41010-41009	S 00°28'47" W	100.00
41009-41031	S 00°28'18" W	130.04
41031-41029	S 00°28'18" W	20.00
41029-41008	S 00°28'18" W	200.00
41008-41007	S 00°26'53" W	70.00
41007-90006	S 00°25'32" W	59.41
90006-90005	N 89°34'33" W	50.16
90005-90007	N 89°34'33" W	49.84
90007-40007	N 00°25'32" E	59.41
40007-40008	N 00°26'53" E	70.00
40008-40009	N 00°28'18" E	350.06
40009-40010	N 00°28'47" E	100.00
40010-90010	N 00°29'17" E	220.53
90010-90008	S 89°34'33" E	49.18

TRANSPORTATION PROJECT PLAT NO: 1195-13-00 - 4.03

THAT PART OF THE NW 1/4 - SE 1/4 OF SECTION 15, T-49-N, R-14-W, CITY OF SUPERIOR, DOUGLAS COUNTY, WISCONSIN

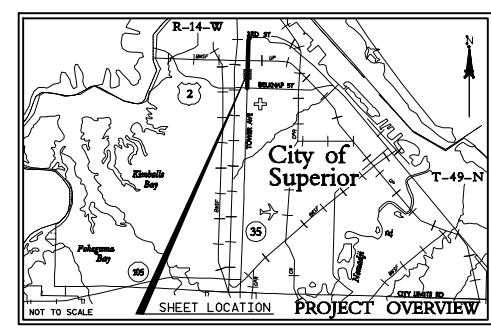
PROJECT DESCRIPTION: STH 35, CITY OF SUPERIOR, TOWER AVENUE (BELKNAP STREET - 3RD STREET)

THE STATE OF WISCONSIN HAS DEEMED IT NECESSARY TO DELINEATE RIGHT-OF-WAY INTERESTS PREVIOUSLY ACQUIRED UNDER SECTIONS 82.01, 82.31(1), 82.31(2) AND 84.09 OF THE WISCONSIN STATE STATUTES AND DOES HEREBY CERTIFY THE DEPARTMENT OF TRANSPORTATION HAS SURVEYED THE HIGHWAY RIGHT-OF-WAY; THAT THIS PLAT IS A TRUE AND CORRECT REPRESENTATION OF THE EXTERIOR BOUNDARIES OF THE LAND SURVEYED AND SHOWS ACCURATE MEASUREMENTS THEREOF.

ACCEPTED FOR RECORDING AND FILING IN THE OFFICE OF THE REGISTER OF DEEDS IN DOUGLAS COUNTY, WISCONSIN AT 8:00 AM ON NOV. 8, 2011 AS DOCUMENT # 846633 AND FILED IN TP VOL. 3, PG. 43

GAYLE J. WAHNER  
SIGNATURE OF REGISTER OF DEEDS

RESERVED FOR REGISTER OF DEEDS PROJECT NUMBER 1195-13-00-4.03 AMENDMENT NO:



NOTES:

COORDINATES AND BEARINGS SHOWN ON THIS PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, DOUGLAS COUNTY ZONE, NAD83 (1991) ADJUSTMENT. THE COORDINATES SHOWN ARE GRID COORDINATES AND ARE TO BE USED AS GRID OR GROUND VALUES ON THIS PLAT.

RIGHT-OF-WAY MONUMENTS WERE NOT SET IN THE FIELD AND ARE SHOWN ON THIS PLAT FOR ILLUSTRATIVE PURPOSES ONLY.

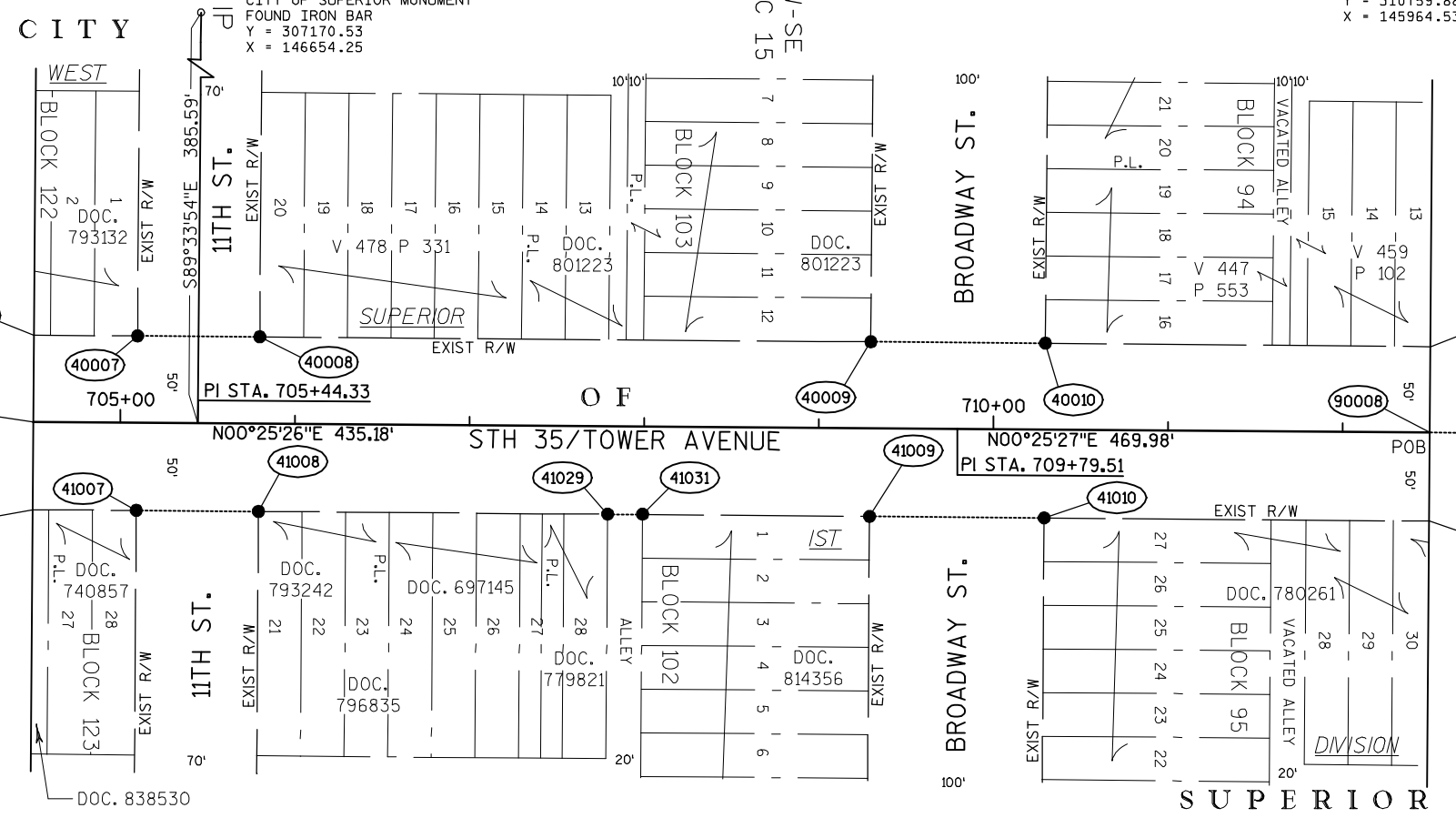
RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD".

THE POINT OF INTERSECTIONS DESIGNATED WITH A 90000 SERIES NUMBER HAVE BEEN CREATED FOR THE PURPOSE OF SHOWING A CLOSED TRAVERSE. THE POINTS ARE INTENDED TO BE ON THE RIGHT-OF-WAY LINES BUT NOT NECESSARILY ON OR ANY PART OF A BOUNDARY, SIXTEENTH, QUARTER OR SECTION (P.L.S.S.) LINE. THESE POINTS WILL NOT BE MONUMENTED IN THE FIELD.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY LINES, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE: EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 35/TOWER AVENUE AND SIDE ROADS ESTABLISHED FROM CITY OF SUPERIOR MONUMENTAL MAP DATED 1891, MAP OF FOURTH WARD DATED 1929 & WEST SUPERIOR FIRST DIVISION MAP.

FOR CURRENT ACCESS/DRIVEWAY INFORMATION CONTACT THE CITY OF SUPERIOR. UTILITY INFORMATION IS NOT SHOWN ON THIS PLAT.



STATION/OFFSET TABLE		
POINT	STATION	OFFSET
40007	705+09.41	-49.84
40008	705+79.41	-49.81
40009	709+29.47	-49.52
40010	710+29.47	-49.42
41007	705+09.41	50.16
41008	705+79.41	50.19
41009	709+29.45	50.48
41010	710+29.45	50.58
41029	707+79.41	50.36
41031	707+99.41	50.37
90000	740+42.45	-136.75
90005	704+50.00	0.00
90006	704+50.00	50.16
90007	704+50.00	-49.84
90008	712+50.00	0.00
90009	712+50.00	50.82
90010	712+50.00	-49.18

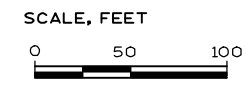
STH 35 / TOWER AVENUE ALIGNMENT DATA

PISTA 701+24.19  
Y = 306747.47  
X = 147036.72

PISTA 705+44.33  
Y = 307167.60  
X = 147039.83

PISTA 709+79.51  
Y = 307602.77  
X = 147043.05

PISTA 714+49.49  
Y = 308072.74  
X = 147046.53



**FAA** Fleming, Andre & Associates, Inc.  
CONSULTING ENGINEERS 3615 N. Hastings Way • Suite 100  
Eau Claire, WI 54603

I, JOHN T. MUELLER, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED TRANSPORTATION PROJECT PLAT 1195-13-00-4.03 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

DATE 10/25/2011

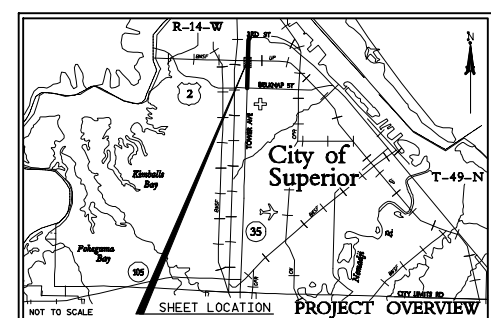
John T. Mueller  
Michael Piller

THIS PLAT IS APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION.  
DATE 10/25/2011

Michael Piller  
Michael Piller

CONVENTIONAL SYMBOLS AND ABBREVIATIONS

STATE, COUNTY, OR TOWN LINE	-----	ACCESS POINT	AP
SECTION LINE	-----	ACCESS RIGHTS	AR
QUARTER LINE	-----	ACRES	AC.
SIXTEENTH LINE	-----	AND OTHERS	ET.AL.
PROPOSED REFERENCE LINE	-----	CENTERLINE	C/L
PROPOSED R/W LINE	-----	CERTIFIED SURVEY MAP	CSM
EXISTING H.E. LINE	-----	DOCUMENT	DOC.
PROPERTY LINE	-----	HIGHWAY EASEMENT	H.E.
EASEMENT LINE	-----	LAND CONTRACT	LC
CORPORATE LIMITS	-----	MONUMENT	MON.
EXISTING CENTERLINE	-----	PAGE	P.
LOT & TIE LINES	-----	PROPERTY LINE	PL
UTILITIES	-----	PERMANENT LIMITED EASEMENT	P.L.E.
TELEPHONE, GAS, ELECTRIC, CABLE, FIBER OPTIC	-----	RECORDED AS	(100)
FIRE HYDRANT	-----	REFERENCE LINE	R/L
ACCESS RESTRICTED (BY PREVIOUS PROJECT/CONTROL)	-----	REMAINING	REM.
NO ACCESS (BY ACQUISITION)	-----	RIGHT-OF-WAY	R/W
NO ACCESS (BY STATUTORY AUTHORITY)	-----	SECTION	SEC.
FEE (HATCH VARIES)	-----	SQUARE FEET	SO.FT.
TEMPORARY LIMITED EASEMENT	-----	STATION	STA.
PERMANENT LIMITED EASEMENT	-----	TEMPORARY LIMITED EASEMENT	T.L.E.
R/W BOUNDARY POINT	40000	VOLUME	V.
TILE POINT	65000	<b>CURVE DATA</b>	
PARCEL NUMBER	6	LONG CHORD	LCH
SIGN NUMBER (OFF PREMISE)	21-1	LONG CHORD BEARING	LCB
BUILDING	-----	RADIUS	R
FOUND IRON PIPE/PIN	1" (UNLESS NOTED)	DEGREE OF CURVE	D
R/W MONUMENT	-----	CENTRAL ANGLE OR DELTA	DELTA
R/W STANDARD	-----	LENGTH OF CURVE	L
STON	-----	TANGENT	TAN
		POWER POLE	NON COMPENSABLE
		TELEPHONE POLE	COMPENSABLE
		TELEPHONE PEDESTAL	
		GUY POLE	N/A
		SECTION CORNER	



**NOTES:**

COORDINATES AND BEARINGS SHOWN ON THIS PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, DOUGLAS COUNTY ZONE, NAD83 (1991) ADJUSTMENT. THE COORDINATES SHOWN ARE GRID COORDINATES AND ARE TO BE USED AS GRID OR GROUND VALUES ON THIS PLAT.

RIGHT-OF-WAY MONUMENTS WERE NOT SET IN THE FIELD AND ARE SHOWN ON THIS PLAT FOR ILLUSTRATIVE PURPOSES ONLY.

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

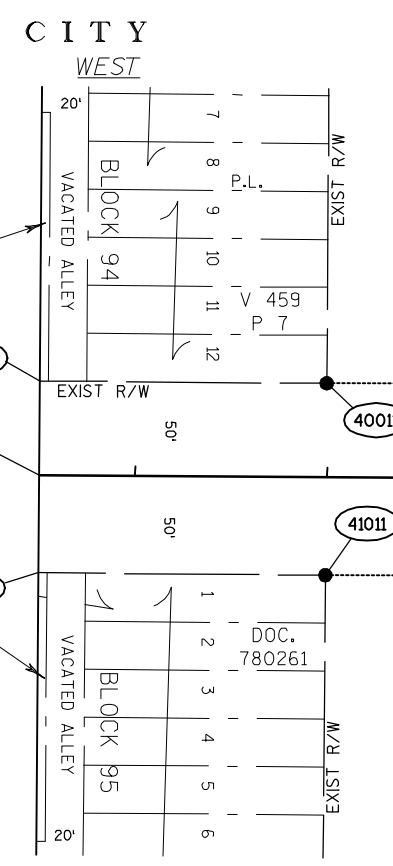
THE POINT OF INTERSECTIONS DESIGNATED WITH A 90000 SERIES NUMBER HAVE BEEN CREATED FOR THE PURPOSE OF SHOWING A CLOSED TRAVERSE. THE POINTS ARE INTENDED TO BE ON THE RIGHT-OF-WAY LINES BUT NOT NECESSARILY ON OR ANY PART OF A BOUNDARY, SIXTEENTH, QUARTER OR SECTION (P.L.S.S.) LINE. THESE POINTS WILL NOT BE MONUMENTED IN THE FIELD.

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EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE: EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 35/TOWER AVENUE AND SIDE ROADS ESTABLISHED FROM CITY OF SUPERIOR MONUMENTAL MAP DATED 1891, MAP OF FOURTH WARD DATED 1929, WEST SUPERIOR FIRST DIVISION MAP & PLAT OF SUBDIVISION OF LOT A.

FOR CURRENT ACCESS/DRIVEWAY INFORMATION CONTACT THE CITY OF SUPERIOR. UTILITY INFORMATION IS NOT SHOWN ON THIS PLAT.

COURSE TABLE		
COURSE	BEARING	DISTANCE
90000-90011	S 00°25'27" W	2065.49
90011-90012	S 89°34'34" E	50.19
90012-41014	S 00°23'29" W	130.36
41014-41012	S 00°23'47" W	70.00
41012-41013	S 00°24'05" W	350.20
41013-41011	S 00°06'13" W	100.00
41011-90009	S 00°29'17" W	149.43
90009-90008	N 89°34'33" W	50.82
90008-90010	N 89°34'33" W	49.18
90010-40011	N 00°29'17" E	149.45
40011-40013	N 00°06'13" E	100.00
40013-40012	N 00°24'05" E	350.20
40012-40014	N 00°23'47" E	70.00
40014-90013	N 00°23'29" E	130.34
90013-90011	S 89°34'34" E	49.81



STATION/OFFSET TABLE		
POINT	STATION	OFFSET
40011	713+99.45	-49.01
40012	718+49.66	-49.71
40013	714+99.45	-49.57
40014	719+19.66	-49.74
41011	713+99.43	50.99
41012	718+49.64	50.29
41013	714+99.43	50.43
41014	719+19.64	50.26
90000	740+42.45	-136.75
90008	712+50.00	0.00
90009	712+50.00	50.82
90010	712+50.00	-49.18
90011	720+50.00	0.00
90012	720+50.00	50.19
90013	720+50.00	-49.81

TRANSPORTATION PROJECT PLAT NO: 1195-13-00 - 4.04

THAT PART OF THE NW 1/4 - SE 1/4 AND THE SW 1/4 - NE 1/4 OF SECTION 15, T-49-N, R-14-W, CITY OF SUPERIOR, DOUGLAS COUNTY, WISCONSIN

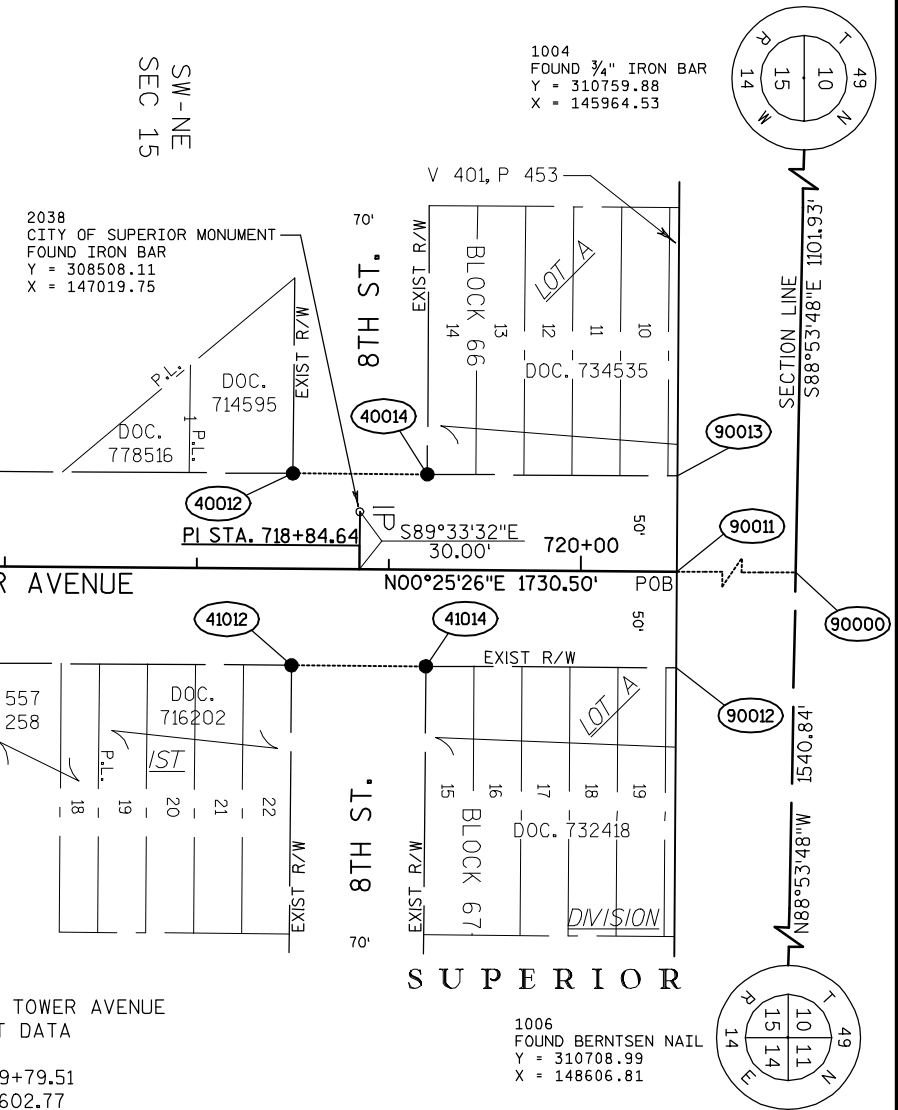
**PROJECT DESCRIPTION: STH 35, CITY OF SUPERIOR, TOWER AVENUE (BELKNAP STREET - 3RD STREET)**

THE STATE OF WISCONSIN HAS DEEMED IT NECESSARY TO DELINEATE RIGHT-OF-WAY INTERESTS PREVIOUSLY ACQUIRED UNDER SECTIONS 82.01, 82.31(1), 82.31(2) AND 84.09 OF THE WISCONSIN STATE STATUTES AND DOES HEREBY CERTIFY THE DEPARTMENT OF TRANSPORTATION HAS SURVEYED THE HIGHWAY RIGHT-OF-WAY; THAT THIS PLAT IS A TRUE AND CORRECT REPRESENTATION OF THE EXTERIOR BOUNDARIES OF THE LAND SURVEYED AND SHOWS ACCURATE MEASUREMENTS THEREOF.

ACCEPTED FOR RECORDING AND FILING IN THE OFFICE OF THE REGISTER OF DEEDS IN DOUGLAS COUNTY, WISCONSIN AT 8:00 AM ON NOV. 8, 2011 AS DOCUMENT # 846634 AND FILED IN TP VOL. 3 PG. 44

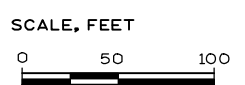
GAYLE J. WAHNER  
SIGNATURE OF REGISTER OF DEEDS

RESERVED FOR REGISTER OF DEEDS PROJECT NUMBER 1195-13-00-4.04 AMENDMENT NO:



STH 35 / TOWER AVENUE ALIGNMENT DATA

PISTA 709+79.51  
Y = 307602.77  
X = 147043.05  
PISTA 714+49.49  
Y = 308072.74  
X = 147046.53  
PISTA 718+84.64  
Y = 308507.88  
X = 147049.75  
PISTA 736+15.14  
Y = 310238.33  
X = 147062.55

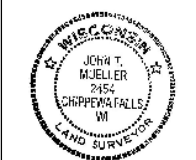


**FAA** Consulting Engineers  
Fleming, Andre & Associates, Inc.  
3615 N. Hastings Way • Suite 100  
Eau Claire, WI 54603

I, JOHN T. MUELLER, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED TRANSPORTATION PROJECT PLAT 1195-13-00-4.04 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

DATE 10/25/2011

THIS PLAT IS APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION.  
DATE 10/25/2011

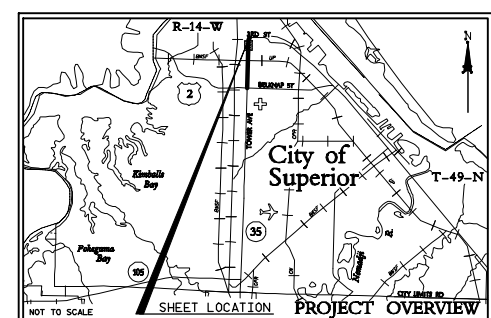


John T. Mueller  
Michael Piller



CONVENTIONAL SYMBOLS AND ABBREVIATIONS

STATE, COUNTY, TOWN LINE	-----	ACCESS POINT	AP
SECTION LINE	-----	ACCESS RIGHTS	AR
QUARTER LINE	-----	ACRES	AC.
SIXTEENTH LINE	-----	AND OTHERS	ET.AL.
PROPOSED REFERENCE LINE	-----	CENTERLINE	C/L
PROPOSED R/W LINE	-----	CERTIFIED SURVEY MAP	CSM
EXISTING H.E. LINE	-----	DOCUMENT	DOC.
PROPERTY LINE	-----	HIGHWAY EASEMENT	H.E.
EASEMENT LINE	-----	LAND CONTRACT	LC
CORPORATE LIMITS	-----	MONUMENT	MON.
EXISTING CENTERLINE	-----	PAGE	P.
LOT & TIE LINES	-----	PROPERTY LINE	PL
UTILITIES	-----	PERMANENT LIMITED EASEMENT	PLE
TELEPHONE, GAS, ELECTRIC, CABLE, TV, FIBER OPTIC	-----	RECORDED AS (100)	R/L
FIRE HYDRANT	-----	REFERENCE LINE	R/L
ACCESS RESTRICTED (BY PREVIOUS PROJECT/CONTROL)	-----	REMAINING RIGHT-OF-WAY	REM.
NO ACCESS (BY ACQUISITION)	-----	SECTION	SEC.
NO ACCESS (BY STATUTORY AUTHORITY)	-----	SQUARE FEET	SO.FT.
FEE (HATCH VARIES)	-----	STATION	STA.
TEMPORARY LIMITED EASEMENT	-----	TEMPORARY LIMITED EASEMENT	TLE
PERMANENT LIMITED EASEMENT	-----	VOLUME	V.
R/W BOUNDARY POINT	40000	<b>CURVE DATA</b>	
TIE POINT	65000	LONG CHORD	LCH
PARCEL NUMBER	8	LONG CHORD BEARING	LCB
SIGN NUMBER (OFF PREMISE)	21-1	RADIUS	R
BUILDING	-----	DEGREE OF CURVE	D
		CENTRAL ANGLE OR DELTA	DELTA
		LENGTH OF CURVE	L
		TANGENT	TAN
		NON COMPENSABLE	NON COMPENSABLE
		POWER POLE	POWER POLE
		TELEPHONE POLE	TELEPHONE POLE
		TELEPHONE PEDESTAL	TELEPHONE PEDESTAL
		GUY POLE	GUY POLE
		SECTION CORNER	SECTION CORNER
		FOUND IRON PIPE/PIN	FOUND IRON PIPE/PIN
		R/W MONUMENT	R/W MONUMENT
		R/W STANDARD	R/W STANDARD
		STATION	STATION



**NOTES:**

COORDINATES AND BEARINGS SHOWN ON THIS PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, DOUGLAS COUNTY ZONE, NAD83 (1991) ADJUSTMENT. THE COORDINATES SHOWN ARE GRID COORDINATES AND ARE TO BE USED AS GRID OR GROUND VALUES ON THIS PLAT.

RIGHT-OF-WAY MONUMENTS WERE NOT SET IN THE FIELD AND ARE SHOWN ON THIS PLAT FOR ILLUSTRATIVE PURPOSES ONLY.

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

THE POINT OF INTERSECTIONS DESIGNATED WITH A 90000 SERIES NUMBER HAVE BEEN CREATED FOR THE PURPOSE OF SHOWING A CLOSED TRAVERSE. THE POINTS ARE INTENDED TO BE ON THE RIGHT-OF-WAY LINES BUT NOT NECESSARILY ON OR ANY PART OF A BOUNDARY, SIXTEENTH, QUARTER OR SECTION (P.L.S.S.) LINE. THESE POINTS WILL NOT BE MONUMENTED IN THE FIELD.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY LINES, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE: EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 35/TOWER AVENUE AND SIDE ROADS ESTABLISHED FROM CITY OF SUPERIOR MONUMENTAL MAP DATED 1891, MAP OF FOURTH WARD DATED 1929 & WEST SUPERIOR FIRST DIVISION MAP.

FOR CURRENT ACCESS/DRIVEWAY INFORMATION CONTACT THE CITY OF SUPERIOR. UTILITY INFORMATION IS NOT SHOWN ON THIS PLAT.

COURSE	BEARING	DISTANCE
90000-90018	S 00°25'29" W	485.49
90018-90019	S 89°34'34" E	49.89
90019-41020	S 00°25'39" W	49.88
41020-41021	S 00°25'39" W	399.25
41021-41018	S 00°09'24" W	70.00
41018-90016	S 00°26'04" W	260.87
90016-90015	N 89°34'34" W	50.14
90015-90017	N 89°34'34" W	49.86
90017-40018	N 00°26'04" E	260.96
40018-40021	N 00°09'24" E	70.00
40021-40020	N 00°25'39" E	399.20
40020-90020	N 00°25'39" E	49.84
90020-90018	S 89°34'34" E	50.11

POINT	STATION	OFFSET
40018	731+10.96	-49.81
40020	735+80.16	-50.11
40021	731+80.96	-50.13
41018	731+10.87	50.19
41020	735+80.12	49.89
41021	731+80.87	49.87
90000	740+42.45	-136.75
90015	728+50.00	0.00
90016	728+50.00	50.14
90017	728+50.00	-49.86
90018	736+30.00	0.00
90019	736+30.00	49.89
90020	736+30.00	-50.11

TRANSPORTATION PROJECT PLAT NO: 1195-13-00 - 4.06

THAT PART OF THE NW 1/4 - NE 1/4 OF SECTION 15, T-49-N, R-14-W, CITY OF SUPERIOR, DOUGLAS COUNTY, WISCONSIN

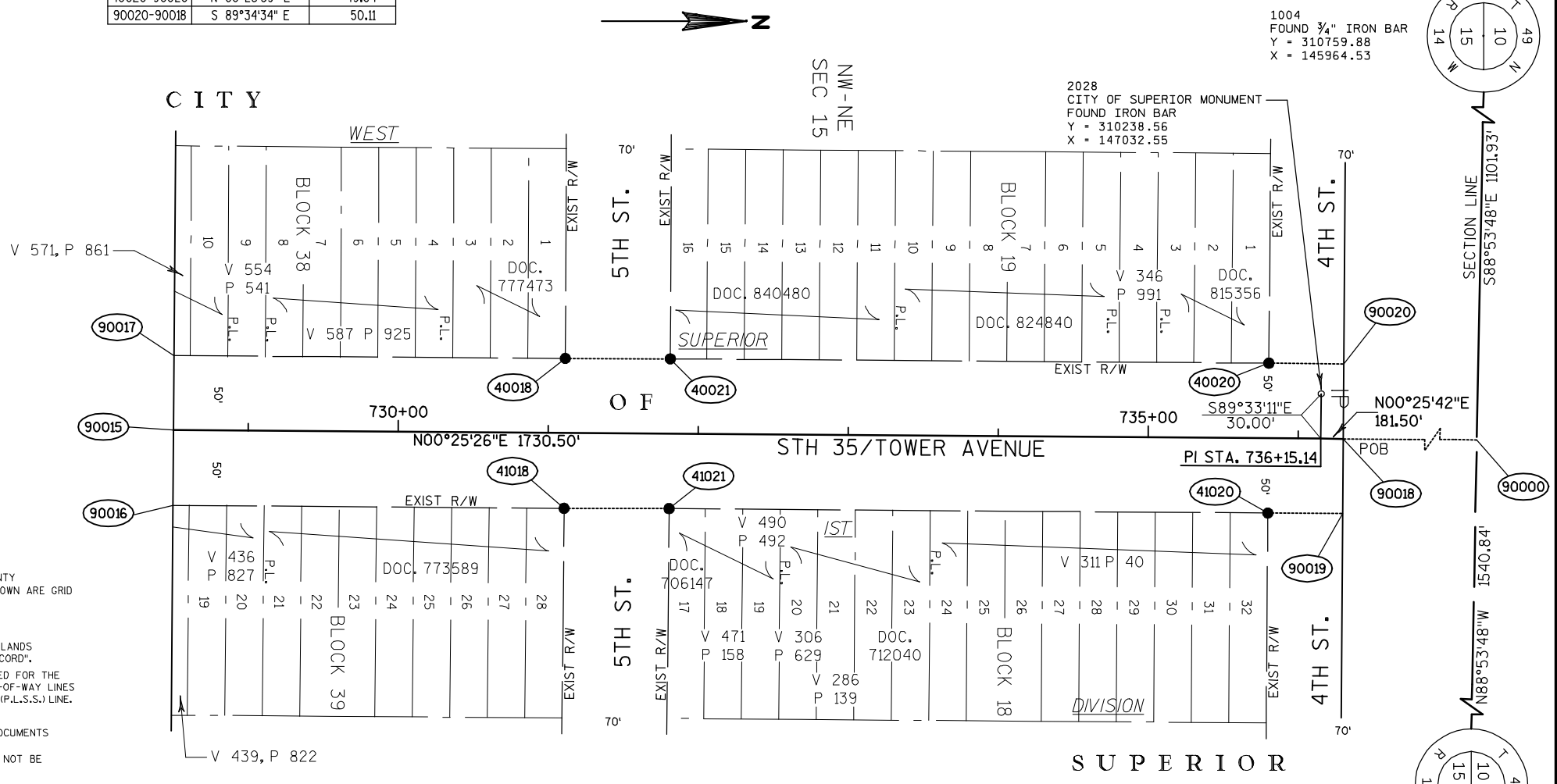
PROJECT DESCRIPTION: STH 35, CITY OF SUPERIOR, TOWER AVENUE (BELKNAP STREET - 3RD STREET)

THE STATE OF WISCONSIN HAS DEEMED IT NECESSARY TO DELINEATE RIGHT-OF-WAY INTERESTS PREVIOUSLY ACQUIRED UNDER SECTIONS 82.01, 82.31(1), 82.31(2) AND 84.09 OF THE WISCONSIN STATE STATUTES AND DOES HEREBY CERTIFY THE DEPARTMENT OF TRANSPORTATION HAS SURVEYED THE HIGHWAY RIGHT-OF-WAY; THAT THIS PLAT IS A TRUE AND CORRECT REPRESENTATION OF THE EXTERIOR BOUNDARIES OF THE LAND SURVEYED AND SHOWS ACCURATE MEASUREMENTS THEREOF.

ACCEPTED FOR RECORDING AND FILING IN THE OFFICE OF THE REGISTER OF DEEDS IN DOUGLAS COUNTY, WISCONSIN AT 8:00 AM ON NOV. 8, 2011 AS DOCUMENT # 846636 AND FILED IN TP VOL. 3 PG. 46

GAYLE J. WAHNER  
SIGNATURE OF REGISTER OF DEEDS

RESERVED FOR REGISTER OF DEEDS PROJECT NUMBER 1195-13-00-4.06 AMENDMENT NO:



STH 35 / TOWER AVENUE ALIGNMENT DATA

PISTA 718+84.64  
Y = 308507.88  
X = 147049.75  
PISTA 736+15.14  
Y = 310238.33  
X = 147062.55  
PISTA 740+94.08  
Y = 310717.25  
X = 147066.13



**FAA** Fleming, Andre & Associates, Inc.  
CONSULTING ENGINEERS 3615 N. Hastings Way • Suite 100 Eau Claire, WI 54603

I, JOHN T. MUELLER, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED TRANSPORTATION PROJECT PLAT 1195-13-00-4.06 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

DATE 10/25/2011  
John T. Mueller

THIS PLAT IS APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION.  
DATE 10/25/2011  
Michael Piller





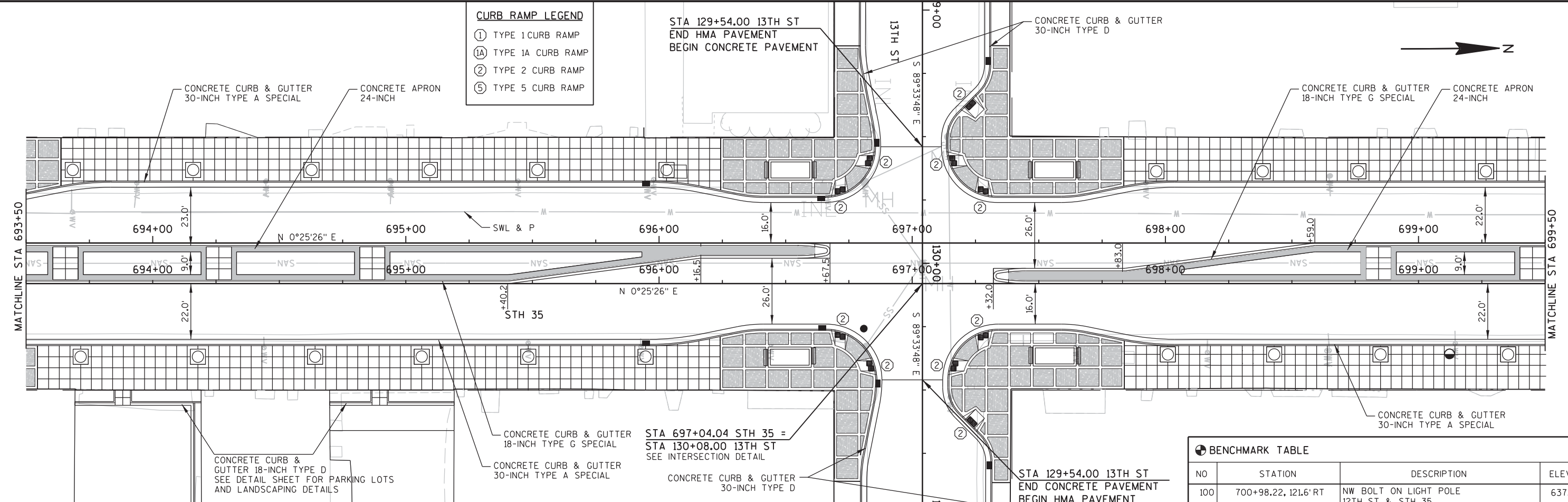
- CURB RAMP LEGEND**
- ① TYPE 1 CURB RAMP
  - ①A TYPE 1A CURB RAMP
  - ② TYPE 2 CURB RAMP
  - ⑤ TYPE 5 CURB RAMP

STA 129+54.00 13TH ST  
END HMA PAVEMENT  
BEGIN CONCRETE PAVEMENT

CONCRETE CURB & GUTTER  
30-INCH TYPE D

CONCRETE CURB & GUTTER  
18-INCH TYPE G SPECIAL

CONCRETE APRON  
24-INCH

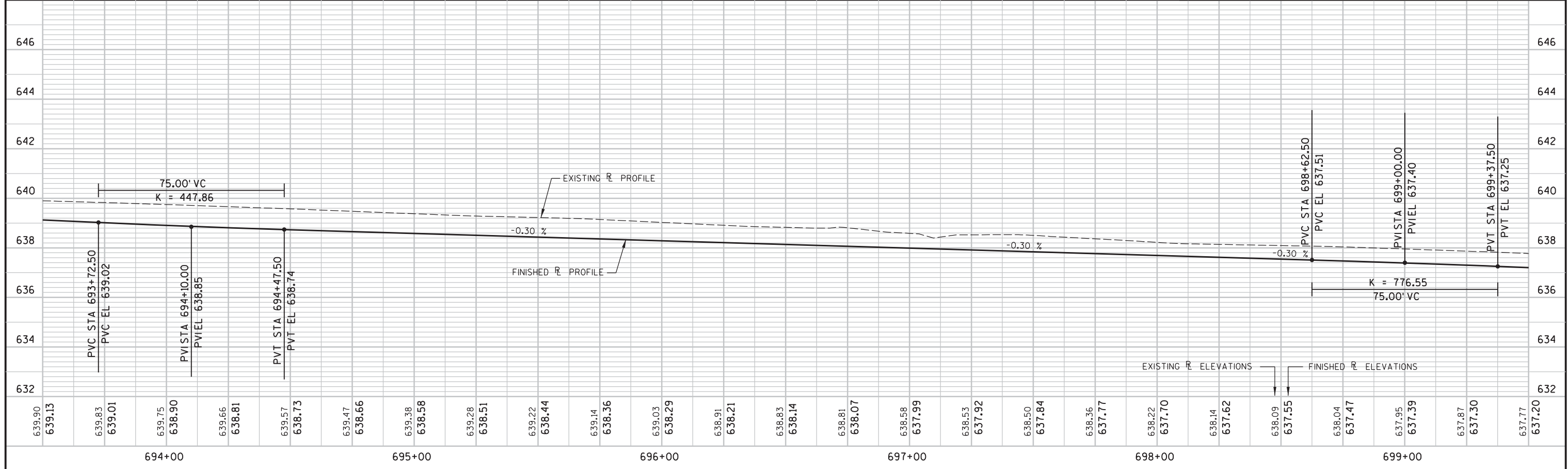


STA 697+04.04 STH 35 =  
STA 130+08.00 13TH ST  
SEE INTERSECTION DETAIL

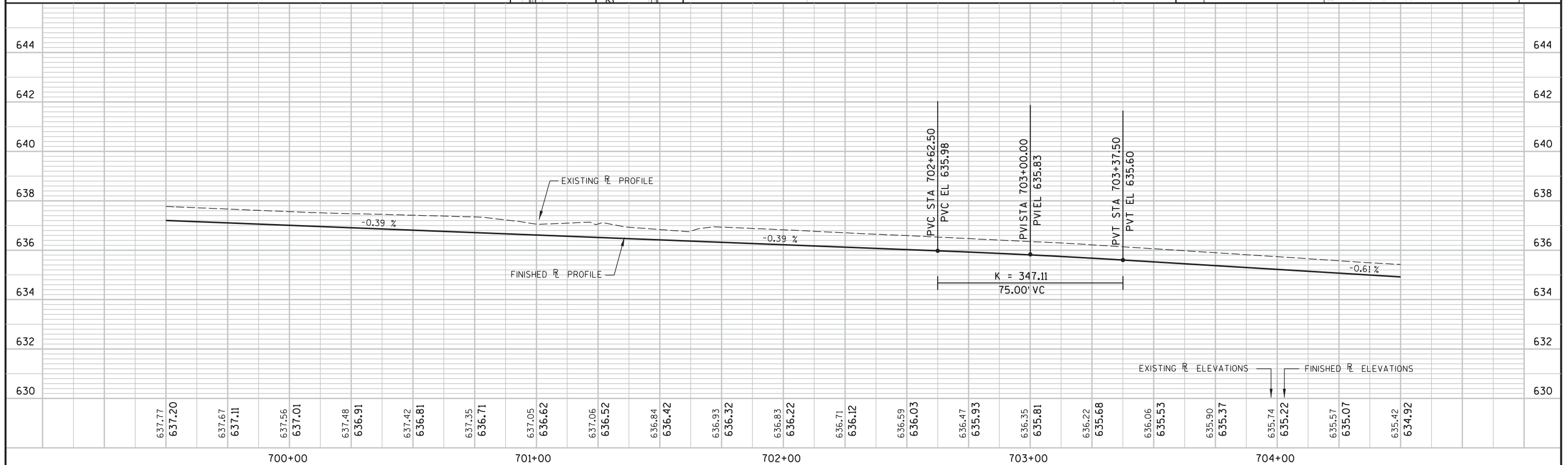
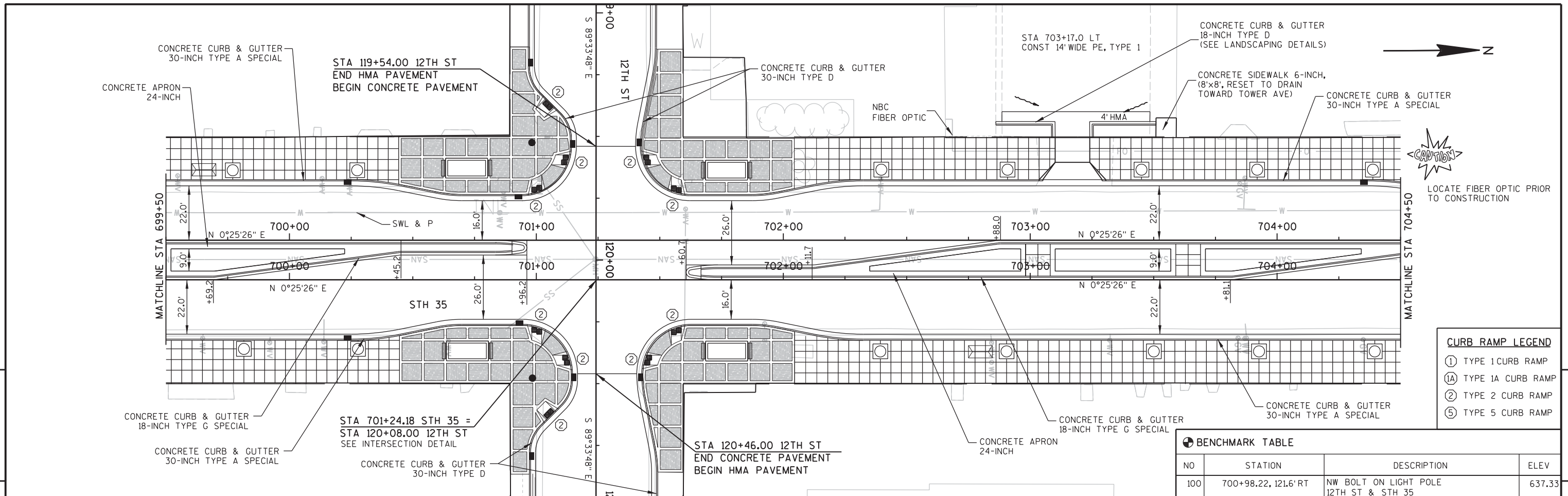
STA 129+54.00 13TH ST  
END CONCRETE PAVEMENT  
BEGIN HMA PAVEMENT

**BENCHMARK TABLE**

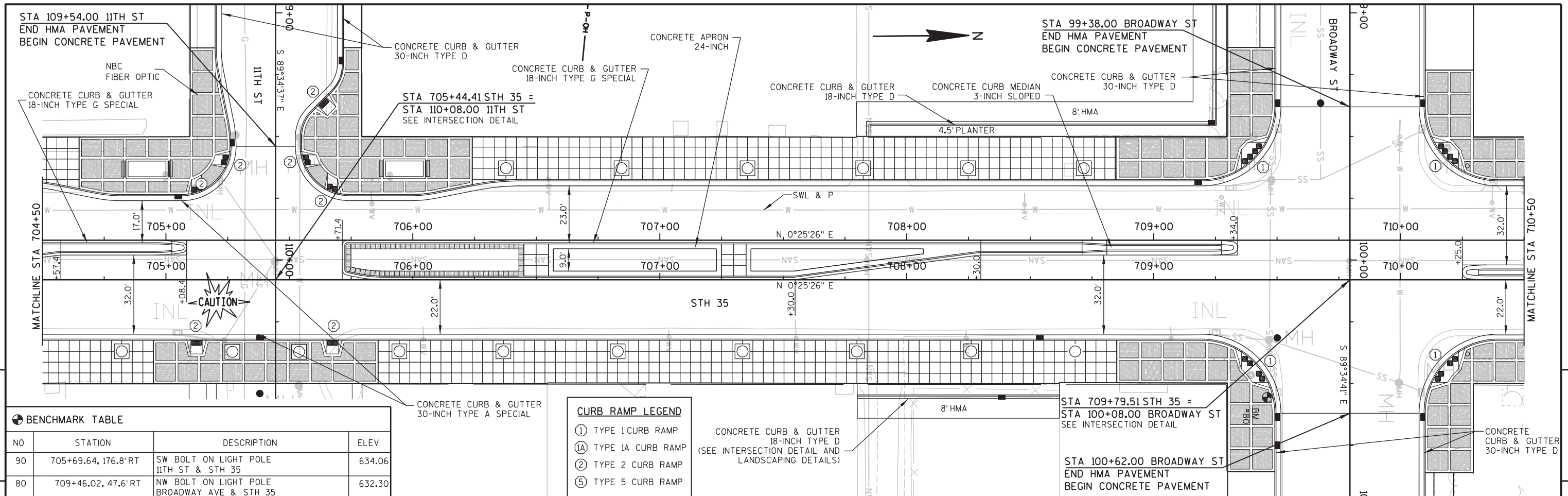
NO	STATION	DESCRIPTION	ELEV
100	700+98.22, 121.6' RT	NW BOLT ON LIGHT POLE 12TH ST & STH 35	637.33



PROJECT NO: 1195-13-71      HWY: STH 35 - TOWER AVE      COUNTY: DOUGLAS      PLAN AND PROFILE      SHEET      E







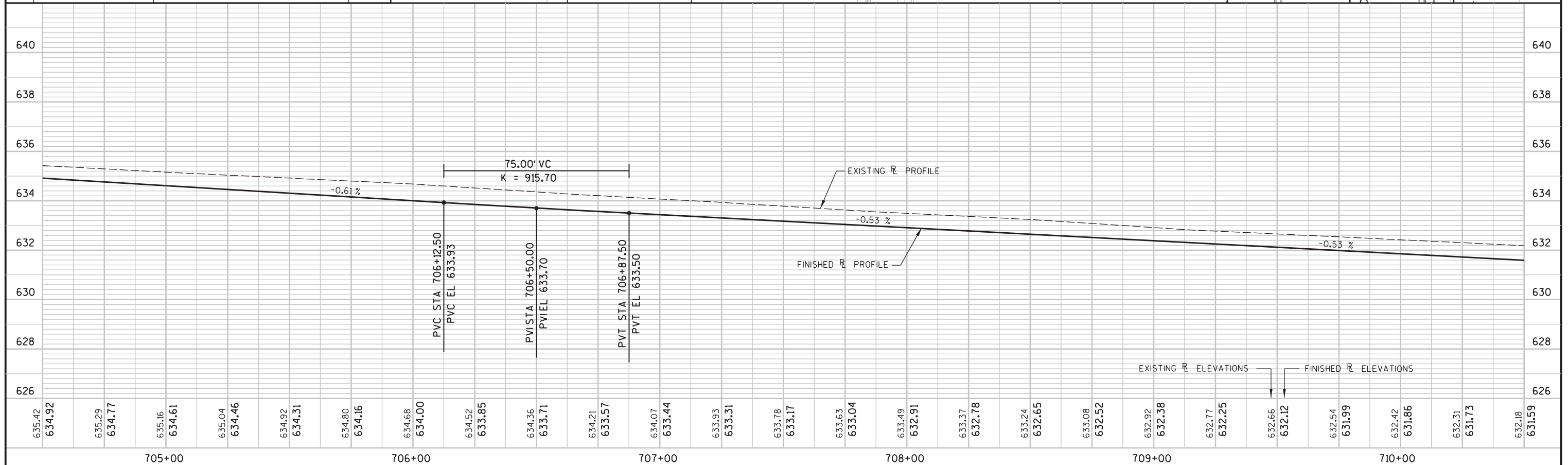
**BENCHMARK TABLE**

NO	STATION	DESCRIPTION	ELEV
90	705+69.64, 176.8' RT	SW BOLT ON LIGHT POLE 11TH ST & STH 35	634.06
80	709+46.02, 47.6' RT	NW BOLT ON LIGHT POLE BROADWAY AVE & STH 35	632.30

**CURB RAMP LEGEND**

- ① TYPE 1 CURB RAMP
- ①A TYPE 1A CURB RAMP
- ② TYPE 2 CURB RAMP
- ⑤ TYPE 5 CURB RAMP

CONCRETE CURB & GUTTER  
18-INCH TYPE D  
(SEE INTERSECTION DETAIL AND  
LANDSCAPING DETAILS)

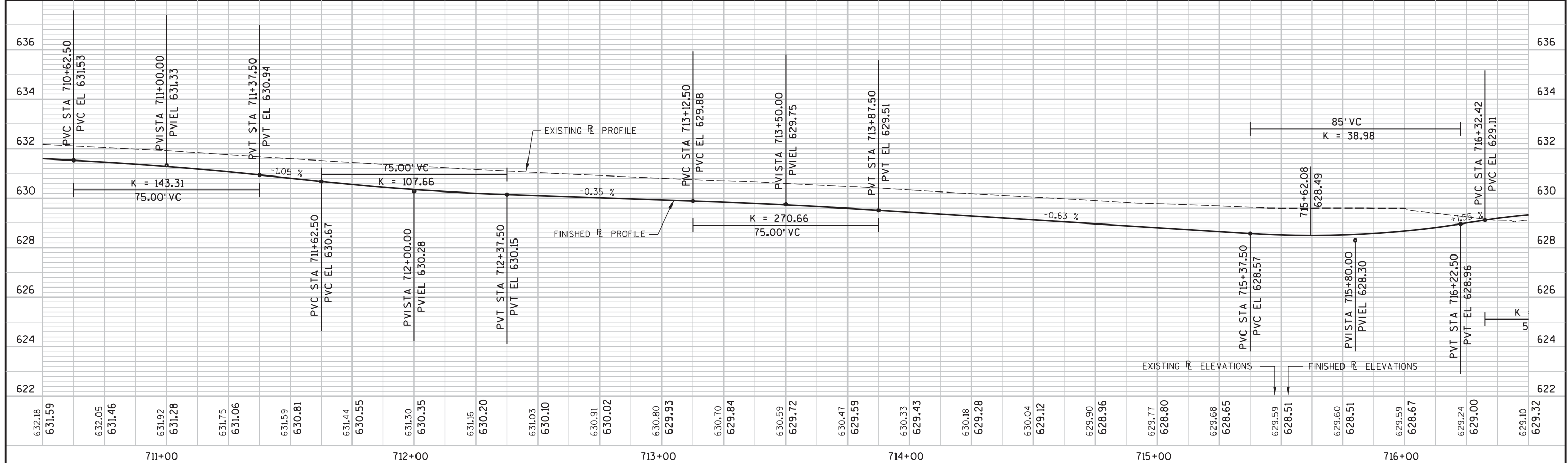
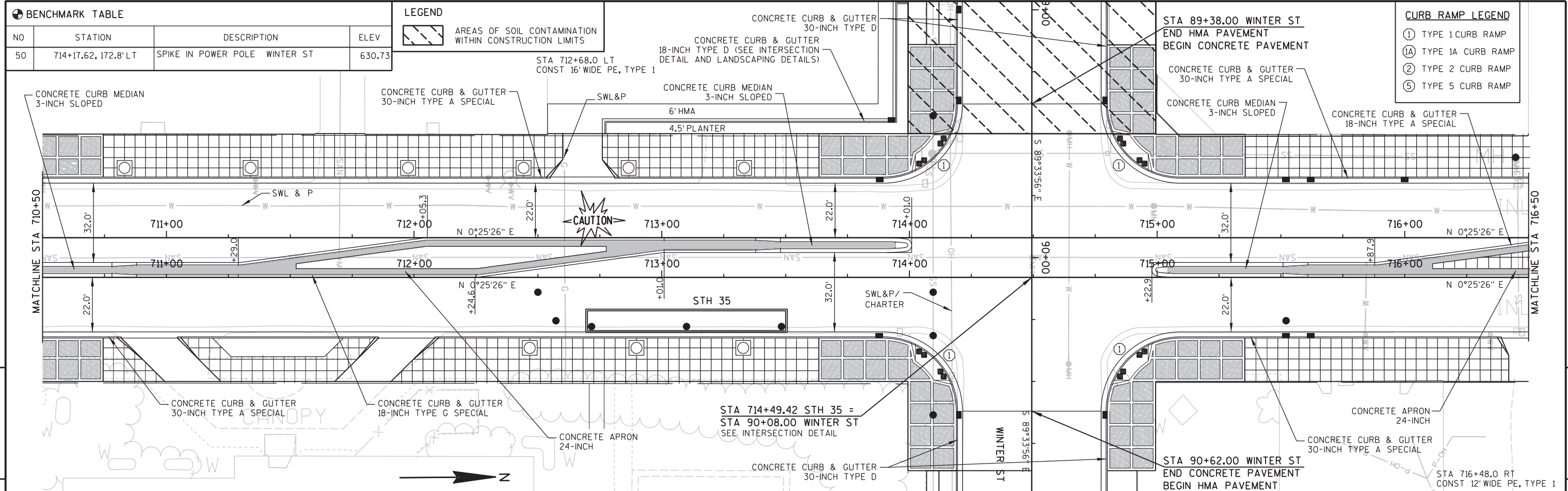


PROJECT NO: 1195-13-71	HWY: STH 35 - TOWER AVE	COUNTY: DOUGLAS	PLAN AND PROFILE	SHEET	<b>E</b>
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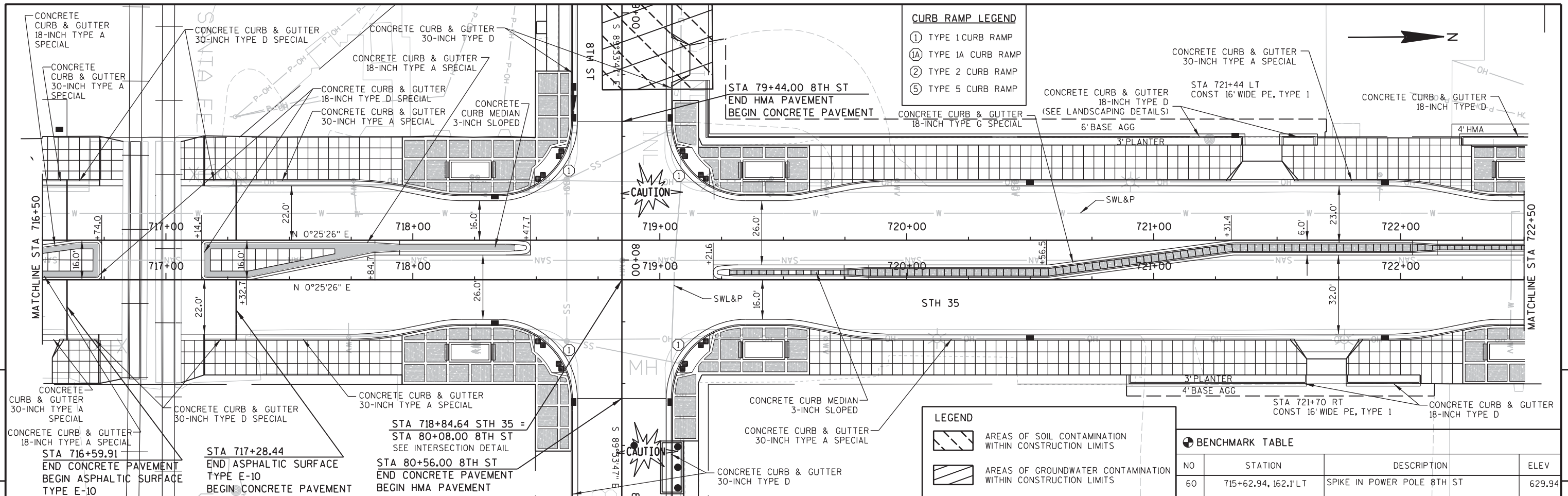
BENCHMARK TABLE			
NO	STATION	DESCRIPTION	ELEV
50	714+17.62, 172.8' LT	SPIKE IN POWER POLE WINTER ST	630.73

LEGEND	
	AREAS OF SOIL CONTAMINATION WITHIN CONSTRUCTION LIMITS

CURB RAMP LEGEND	
①	TYPE 1 CURB RAMP
①A	TYPE 1A CURB RAMP
②	TYPE 2 CURB RAMP
⑤	TYPE 5 CURB RAMP



PROJECT NO: 1195-13-71	HWY: STH 35 - TOWER AVE	COUNTY: DOUGLAS	PLAN AND PROFILE	SHEET	<b>E</b>
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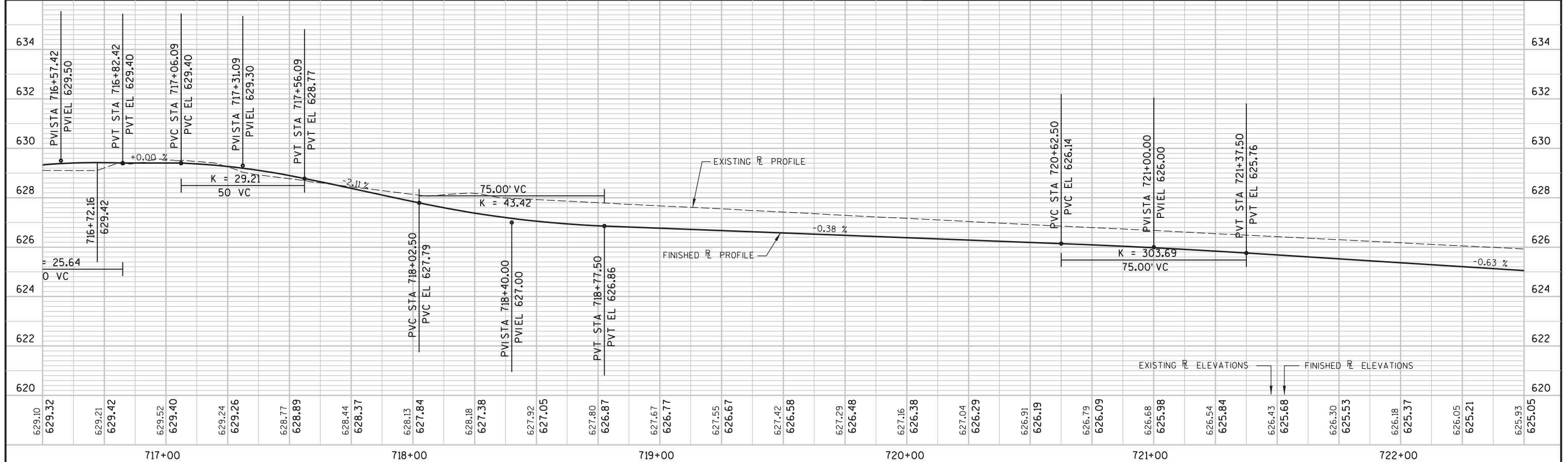


- CURB RAMP LEGEND**
- ① TYPE 1 CURB RAMP
  - ①A TYPE 1A CURB RAMP
  - ② TYPE 2 CURB RAMP
  - ⑤ TYPE 5 CURB RAMP

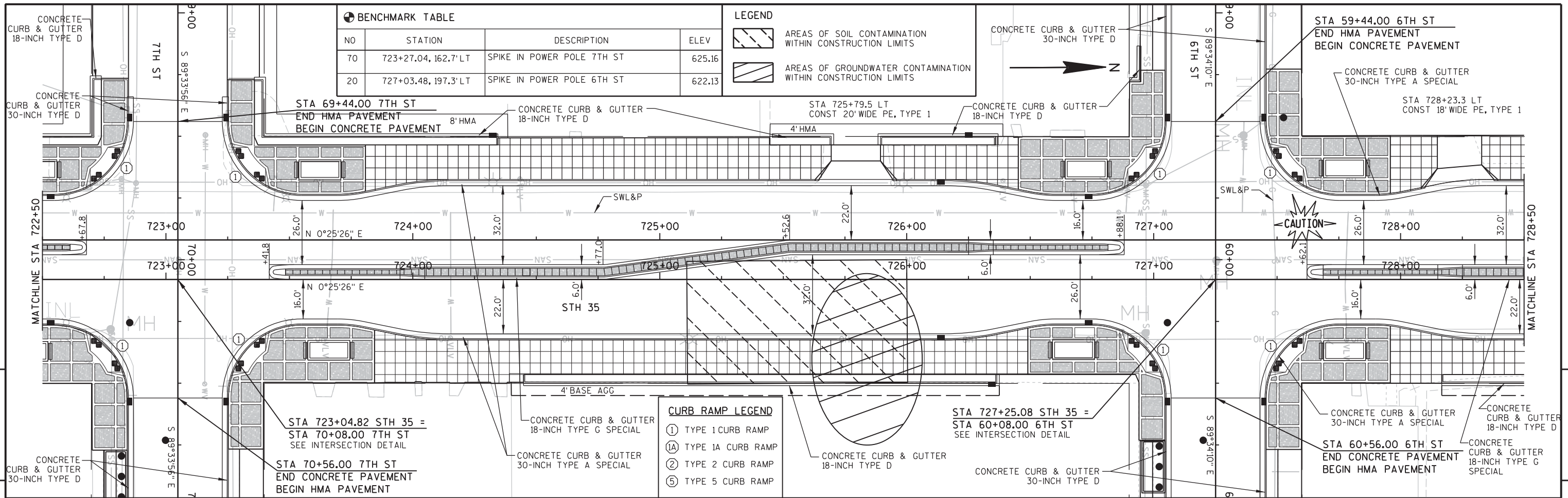
- LEGEND**
- AREAS OF SOIL CONTAMINATION WITHIN CONSTRUCTION LIMITS
  - AREAS OF GROUNDWATER CONTAMINATION WITHIN CONSTRUCTION LIMITS

**BENCHMARK TABLE**

NO	STATION	DESCRIPTION	ELEV
60	715+62.94, 162.1' LT	SPIKE IN POWER POLE 8TH ST	629.94



PROJECT NO: 1195-13-71      HWY: STH 35 - TOWER AVE      COUNTY: DOUGLAS      PLAN AND PROFILE      SHEET      E



**BENCHMARK TABLE**

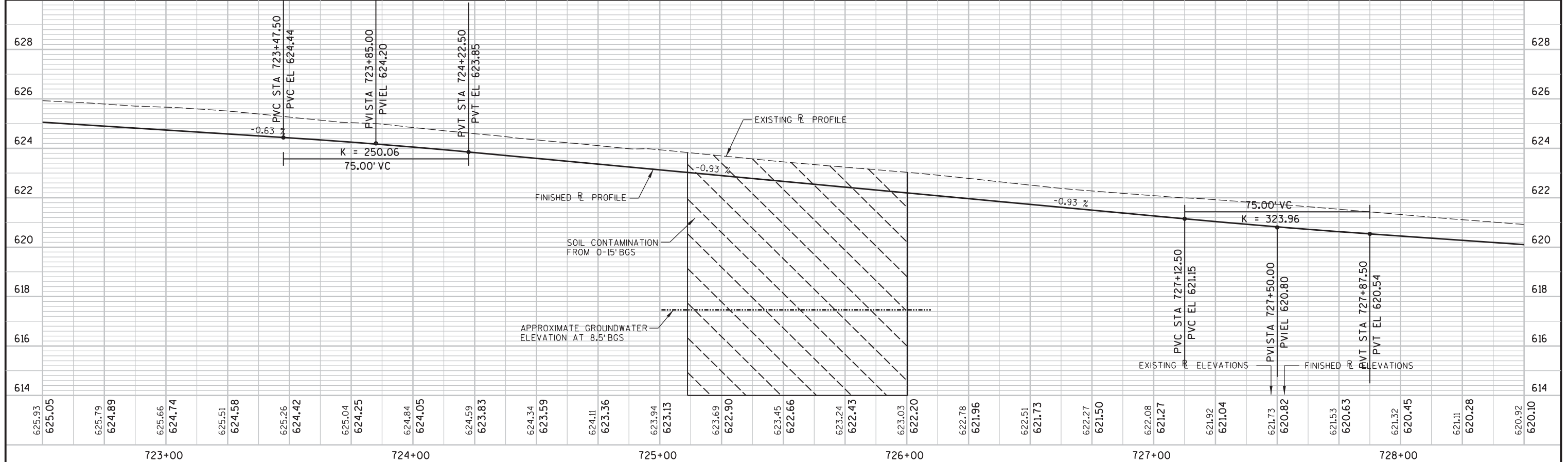
NO	STATION	DESCRIPTION	ELEV
70	723+27.04, 162.7' LT	SPIKE IN POWER POLE 7TH ST	625.16
20	727+03.48, 197.3' LT	SPIKE IN POWER POLE 6TH ST	622.13

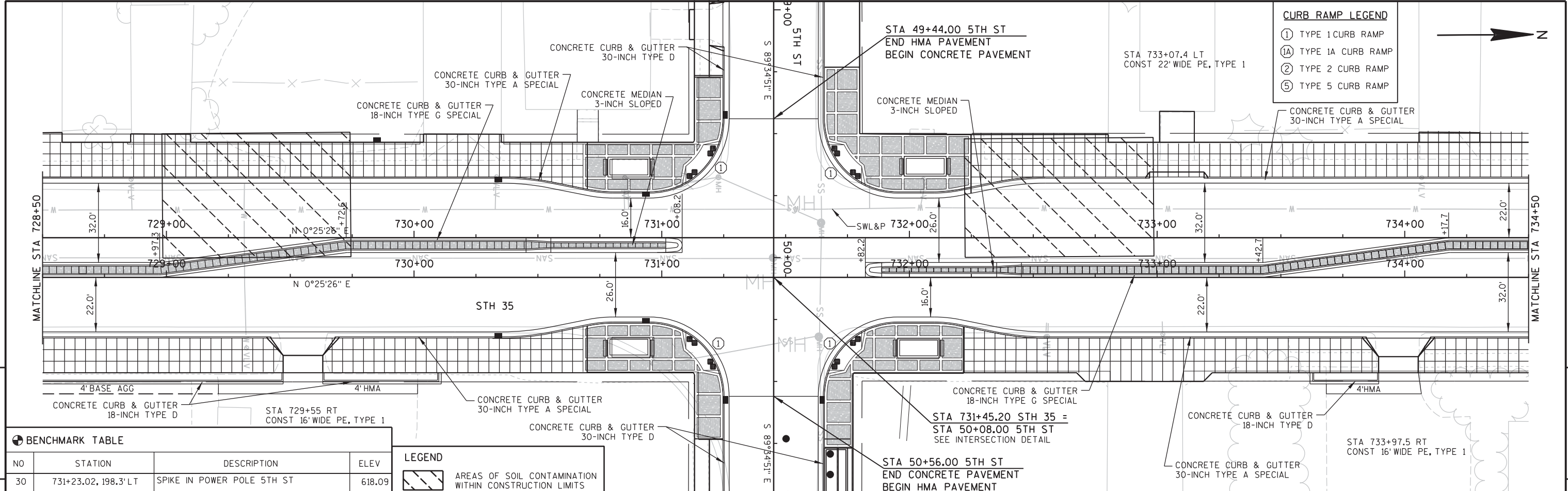
**LEGEND**

- Areas of soil contamination within construction limits
- Areas of groundwater contamination within construction limits

**CURB RAMP LEGEND**

- ① TYPE 1 CURB RAMP
- ①A TYPE 1A CURB RAMP
- ② TYPE 2 CURB RAMP
- ⑤ TYPE 5 CURB RAMP





**CURB RAMP LEGEND**

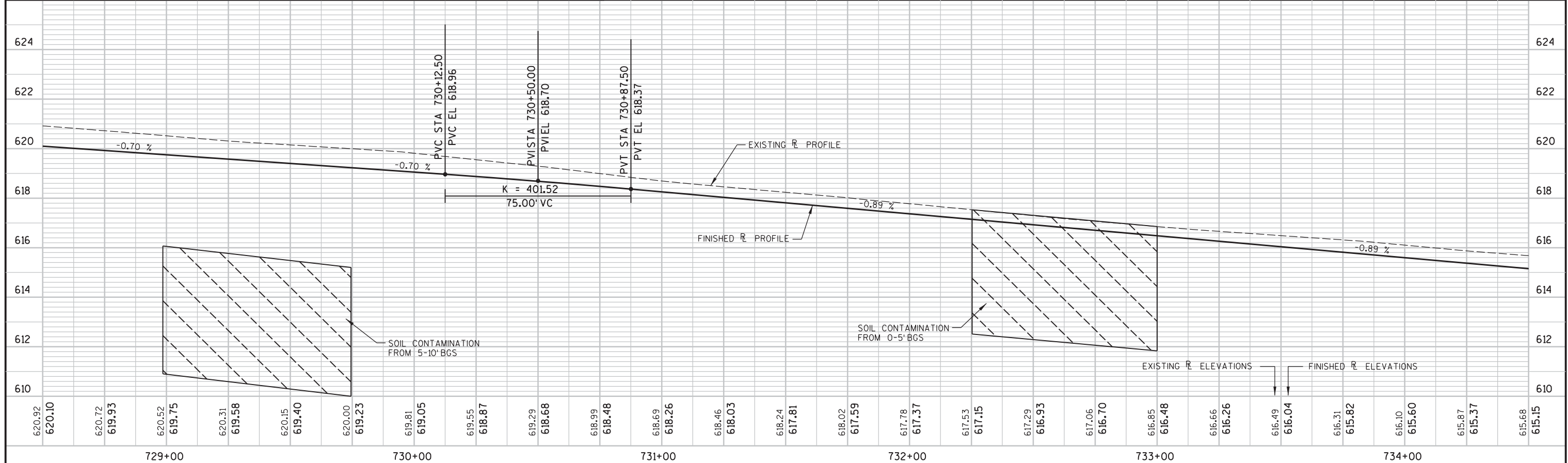
- ① TYPE 1 CURB RAMP
- ①A TYPE 1A CURB RAMP
- ② TYPE 2 CURB RAMP
- ⑤ TYPE 5 CURB RAMP

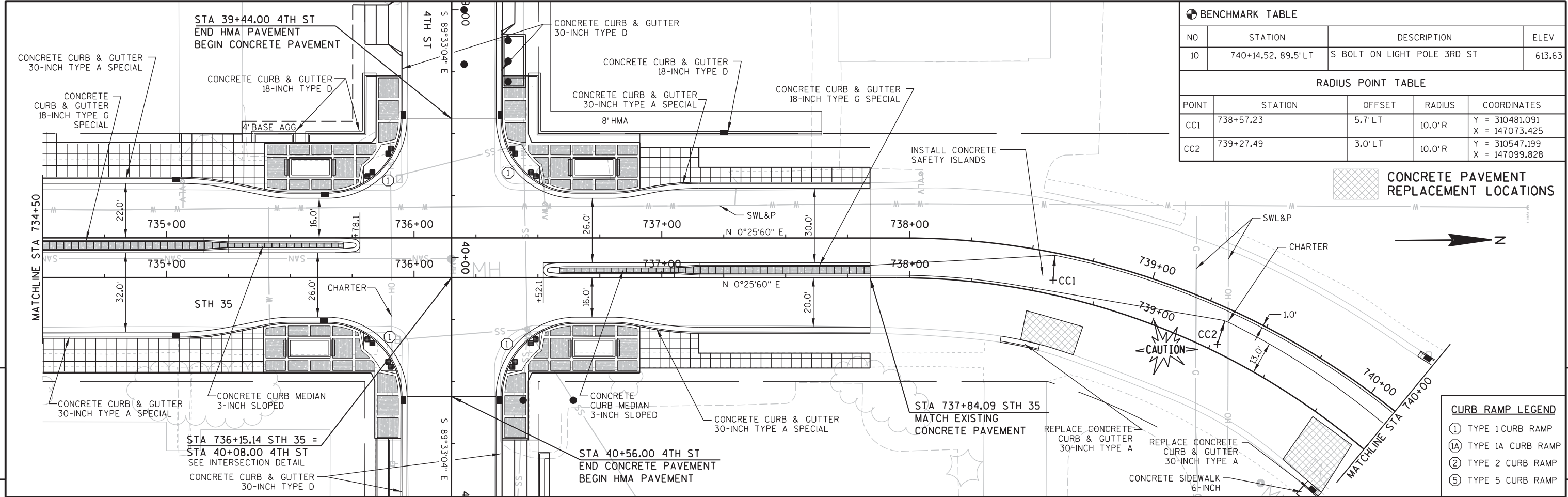
**BENCHMARK TABLE**

NO	STATION	DESCRIPTION	ELEV
30	731+23.02, 198.3' LT	SPIKE IN POWER POLE 5TH ST	618.09

**LEGEND**

AREAS OF SOIL CONTAMINATION WITHIN CONSTRUCTION LIMITS





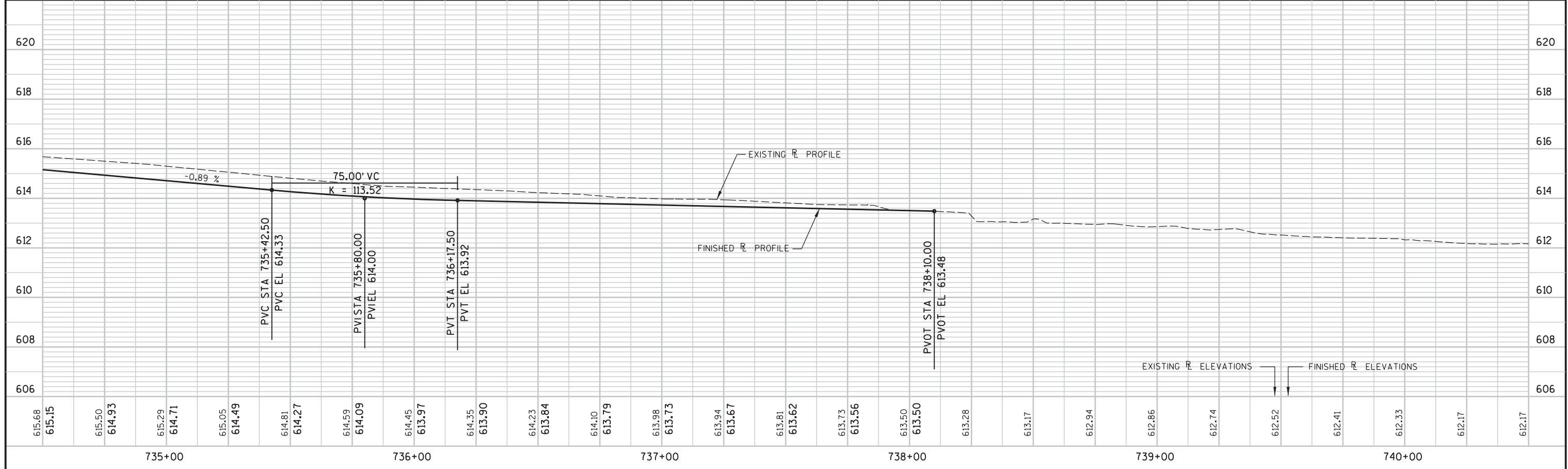
BENCHMARK TABLE			
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10	740+14.52, 89.5' LT	S BOLT ON LIGHT POLE 3RD ST	613.63

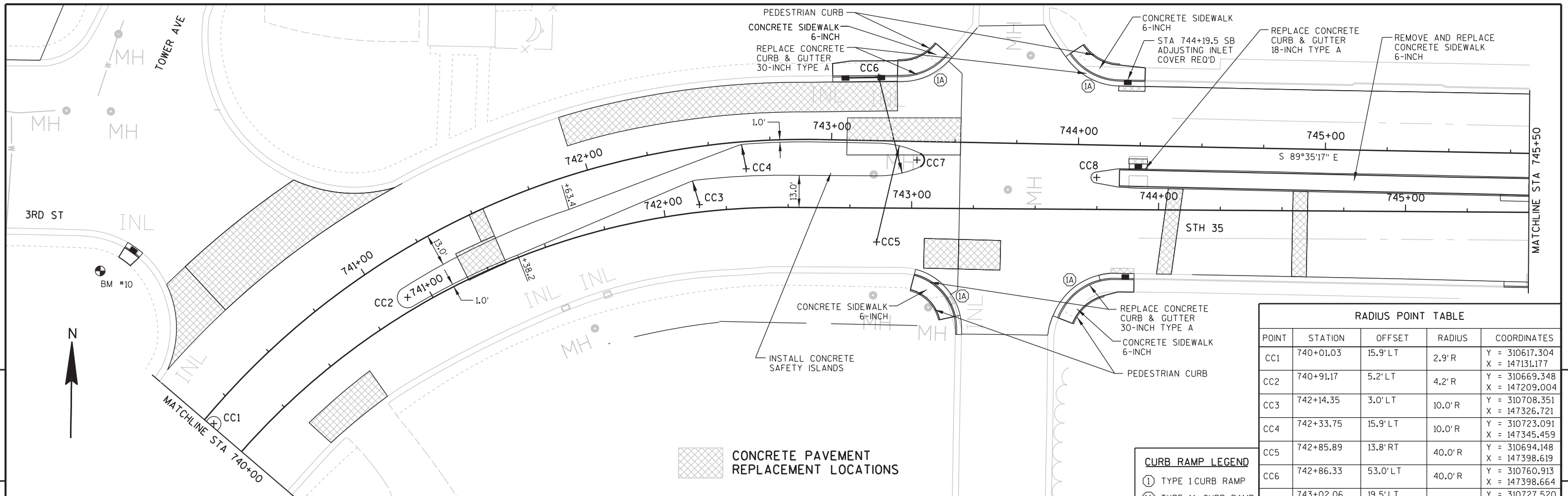
  

RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	738+57.23	5.7' LT	10.0' R	Y = 310481.091 X = 147073.425
CC2	739+27.49	3.0' LT	10.0' R	Y = 310547.199 X = 147099.828

CONCRETE PAVEMENT REPLACEMENT LOCATIONS

CURB RAMP LEGEND	
①	TYPE 1 CURB RAMP
①A	TYPE 1A CURB RAMP
②	TYPE 2 CURB RAMP
⑤	TYPE 5 CURB RAMP



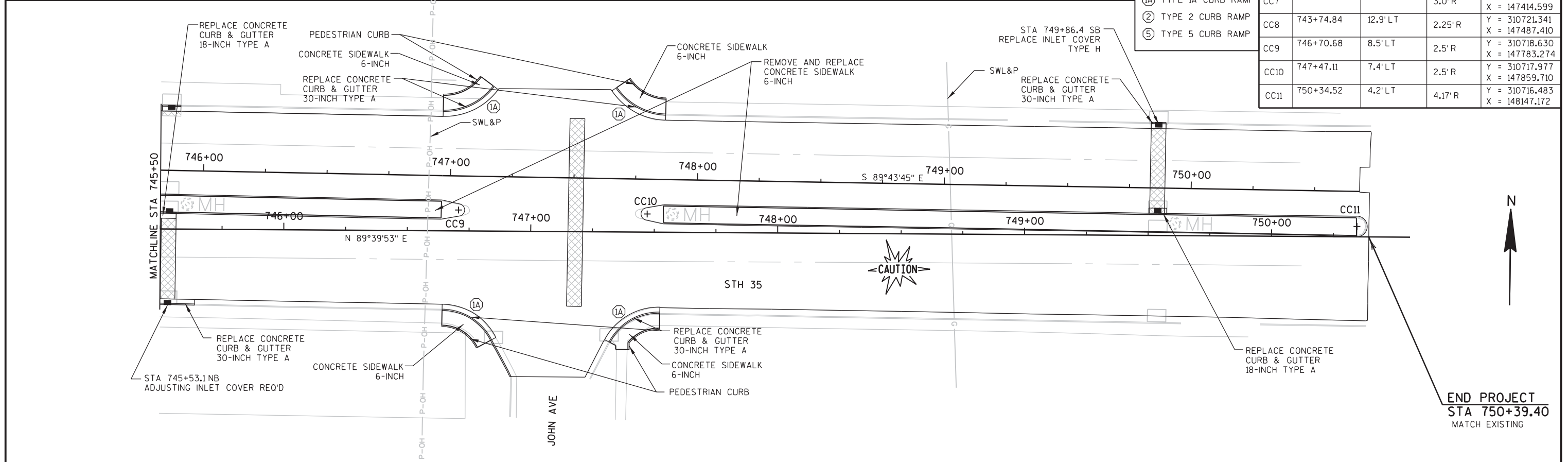


**RADIUS POINT TABLE**

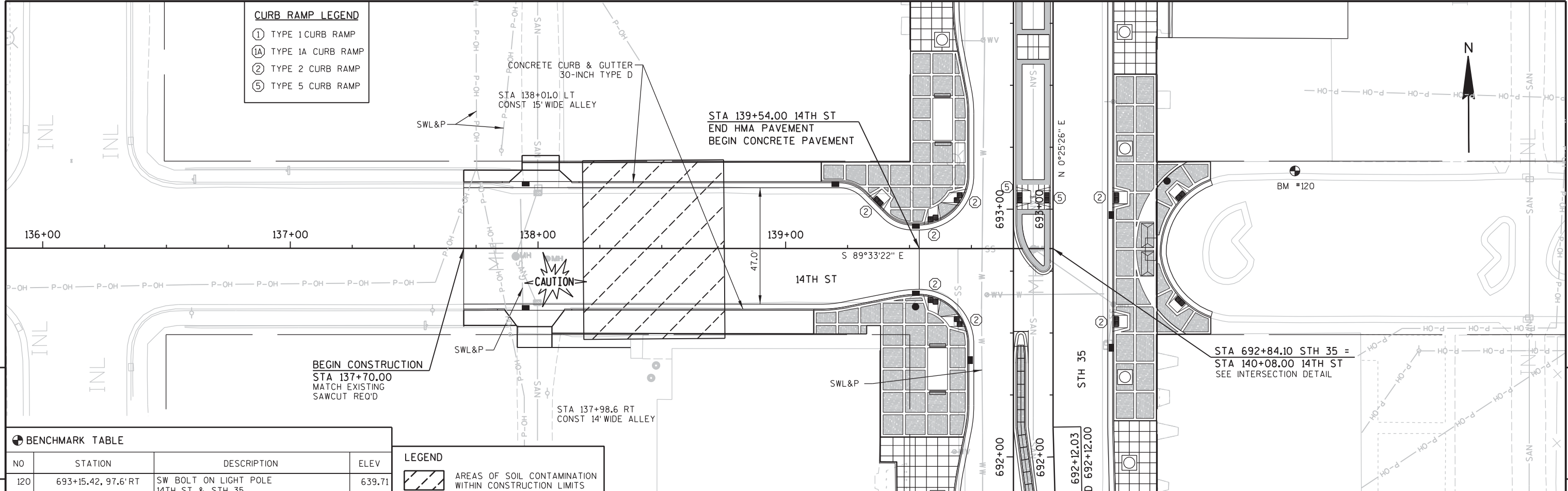
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	740+01.03	15.9' LT	2.9' R	Y = 310617.304 X = 147131.177
CC2	740+91.17	5.2' LT	4.2' R	Y = 310669.348 X = 147209.004
CC3	742+14.35	3.0' LT	10.0' R	Y = 310708.351 X = 147326.721
CC4	742+33.75	15.9' LT	10.0' R	Y = 310723.091 X = 147345.459
CC5	742+85.89	13.8' RT	40.0' R	Y = 310694.148 X = 147398.619
CC6	742+86.33	53.0' LT	40.0' R	Y = 310760.913 X = 147398.664
CC7	743+02.06	19.5' LT	3.0' R	Y = 310727.520 X = 147414.599
CC8	743+74.84	12.9' LT	2.25' R	Y = 310721.341 X = 147487.410
CC9	746+70.68	8.5' LT	2.5' R	Y = 310718.630 X = 147783.274
CC10	747+47.11	7.4' LT	2.5' R	Y = 310717.977 X = 147859.710
CC11	750+34.52	4.2' LT	4.17' R	Y = 310716.483 X = 148147.172

**CURB RAMP LEGEND**

- ① TYPE 1 CURB RAMP
- ①A TYPE 1A CURB RAMP
- ② TYPE 2 CURB RAMP
- ⑤ TYPE 5 CURB RAMP



- CURB RAMP LEGEND**
- ① TYPE 1 CURB RAMP
  - ①A TYPE 1A CURB RAMP
  - ② TYPE 2 CURB RAMP
  - ⑤ TYPE 5 CURB RAMP

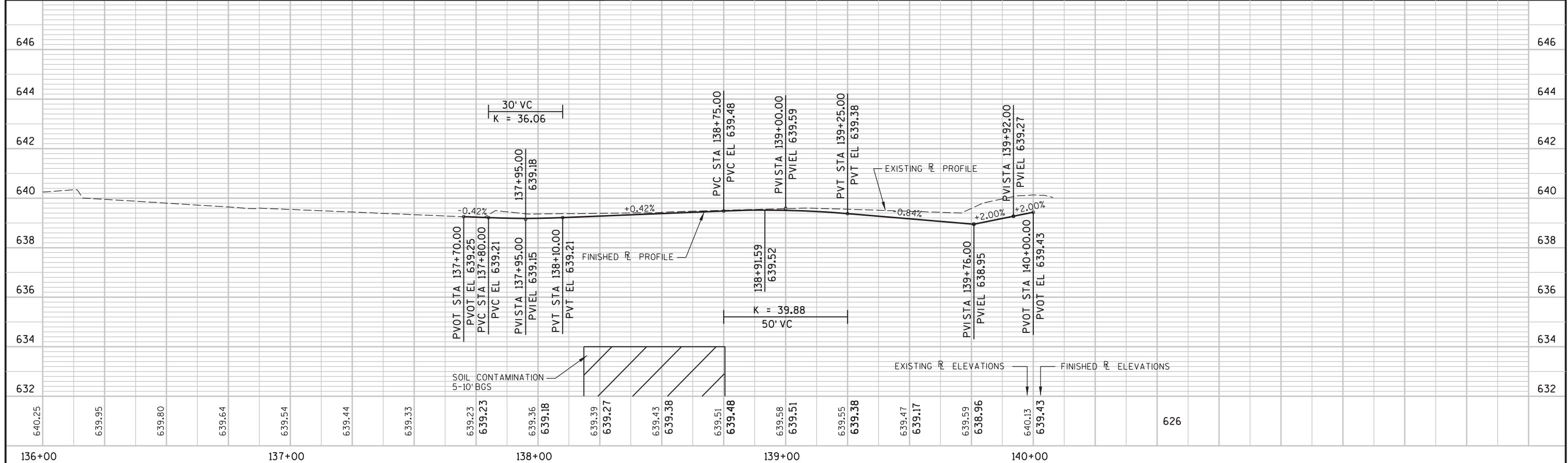


**BENCHMARK TABLE**

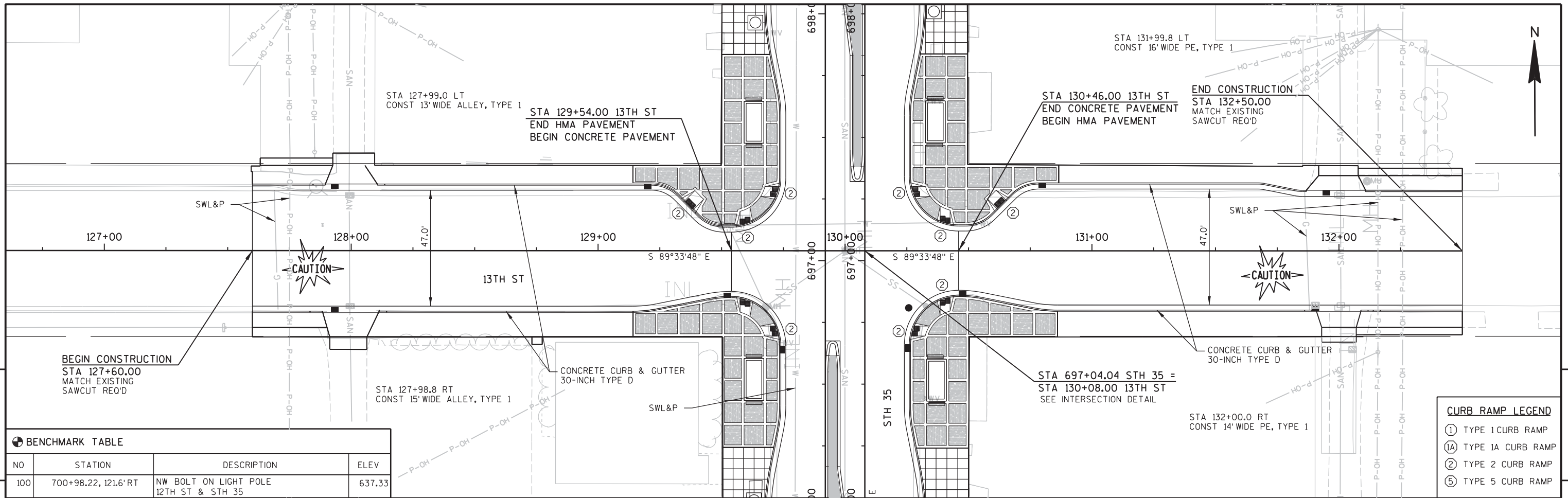
NO	STATION	DESCRIPTION	ELEV
120	693+15.42, 97.6' RT	SW BOLT ON LIGHT POLE 14TH ST & STH 35	639.71

**LEGEND**

AREAS OF SOIL CONTAMINATION WITHIN CONSTRUCTION LIMITS





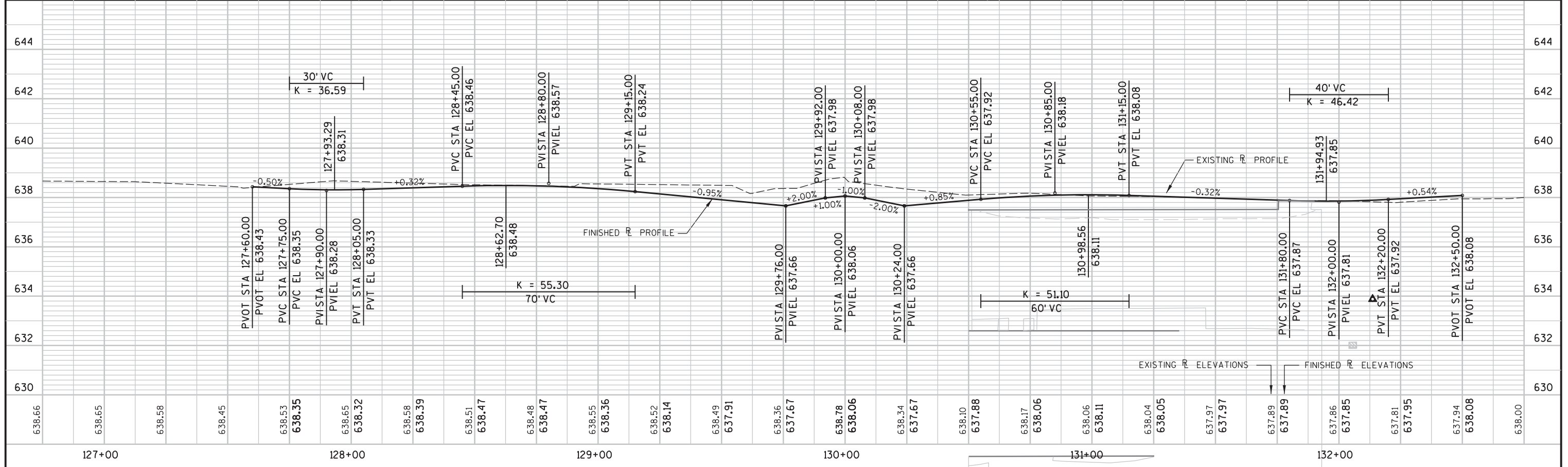


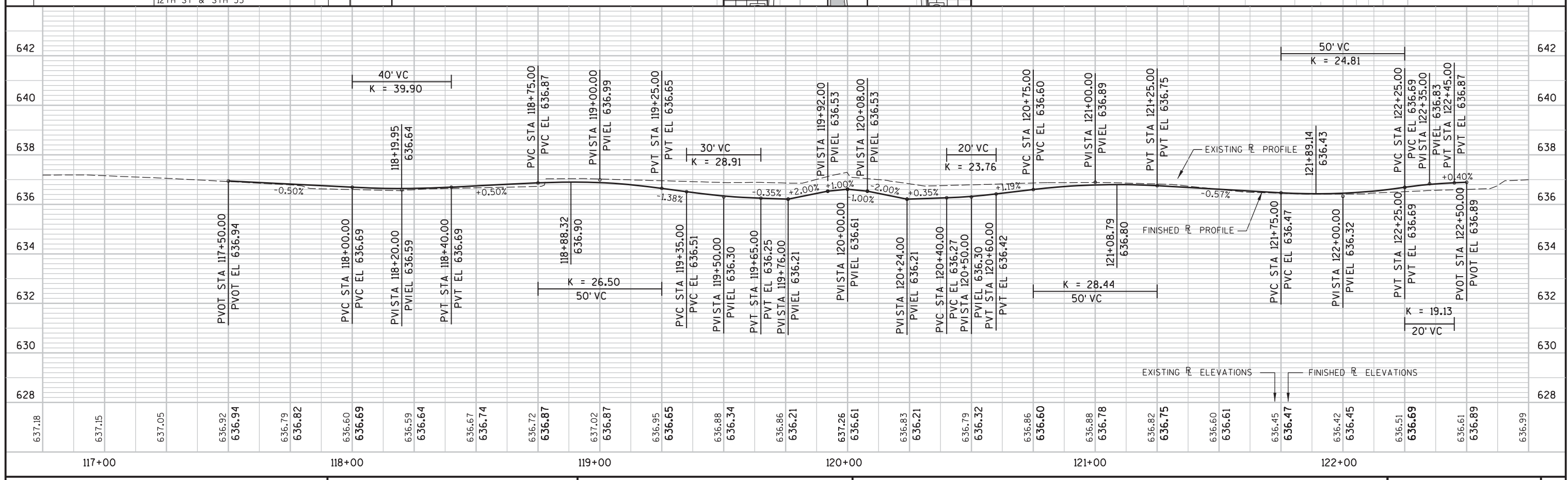
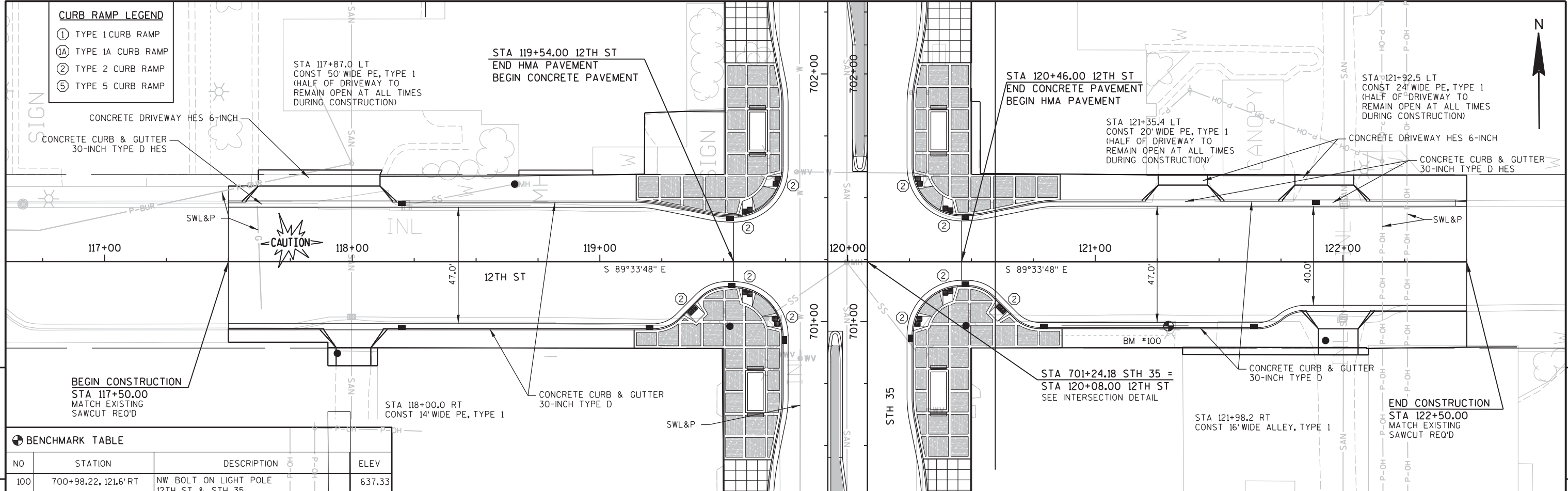
**BENCHMARK TABLE**

NO	STATION	DESCRIPTION	ELEV
100	700+98.22, 121.6' RT	NW BOLT ON LIGHT POLE 12TH ST & STH 35	637.33

**CURB RAMP LEGEND**

- ① TYPE 1 CURB RAMP
- ①A TYPE 1A CURB RAMP
- ② TYPE 2 CURB RAMP
- ⑤ TYPE 5 CURB RAMP

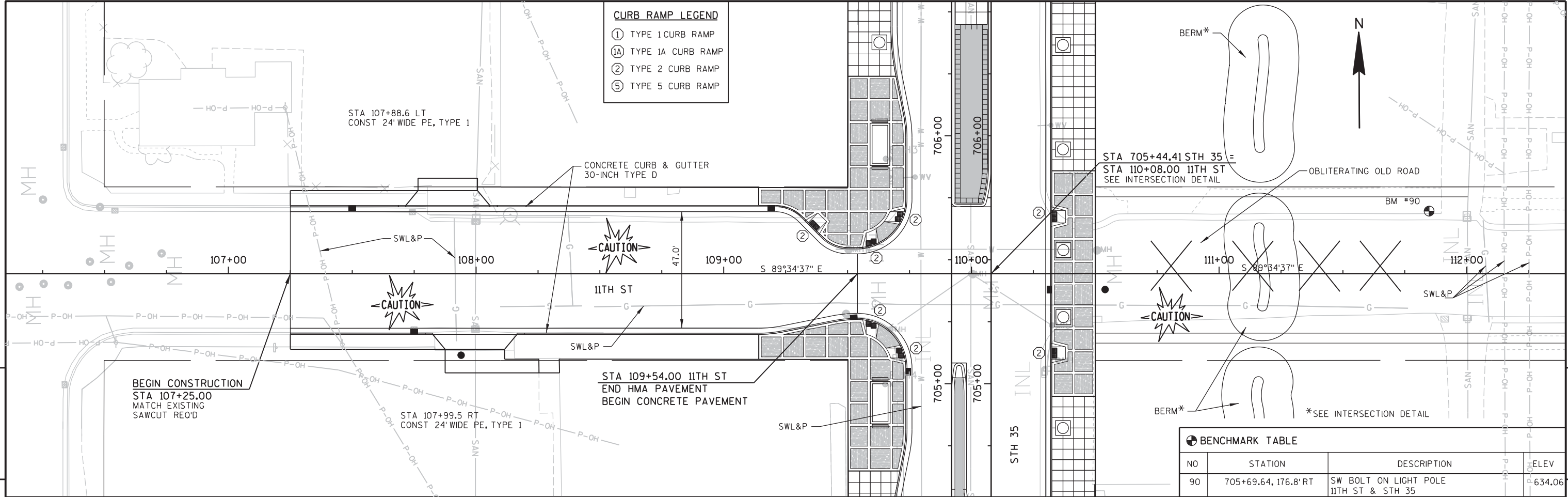




**BENCHMARK TABLE**

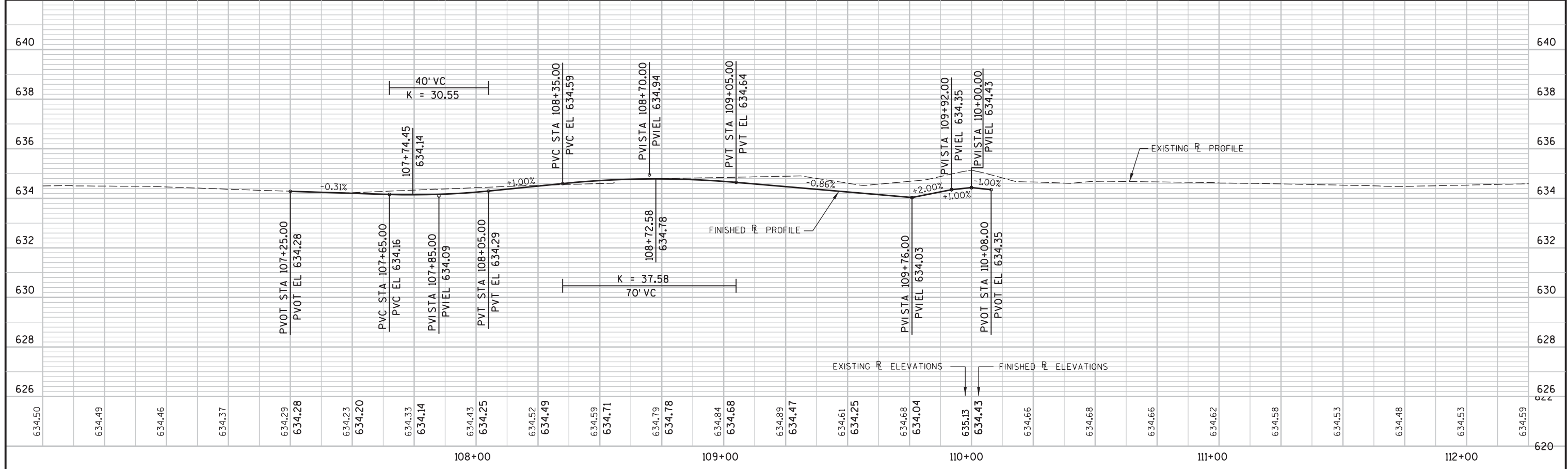
NO	STATION	DESCRIPTION	ELEV
100	700+98.22, 121.6' RT	NW BOLT ON LIGHT POLE 12TH ST & STH 35	637.33

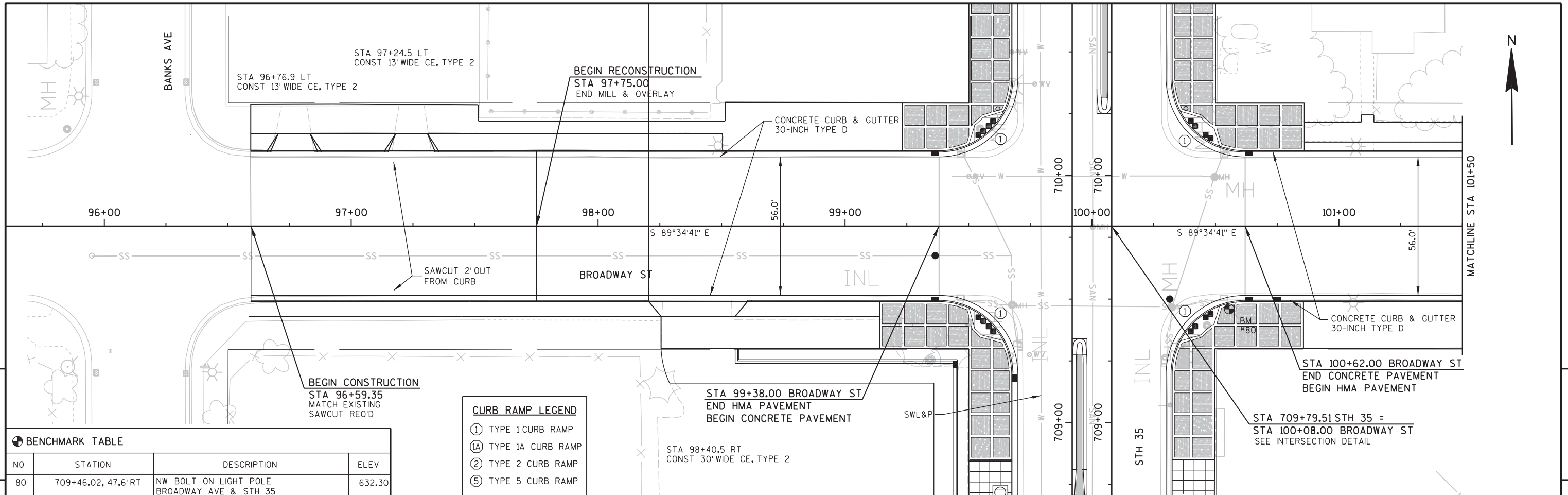
- CURB RAMP LEGEND**
- ① TYPE 1 CURB RAMP
  - ①A TYPE 1A CURB RAMP
  - ② TYPE 2 CURB RAMP
  - ⑤ TYPE 5 CURB RAMP



**BENCHMARK TABLE**

NO	STATION	DESCRIPTION	ELEV
90	705+69.64, 176.8' RT	SW BOLT ON LIGHT POLE 11TH ST & STH 35	634.06



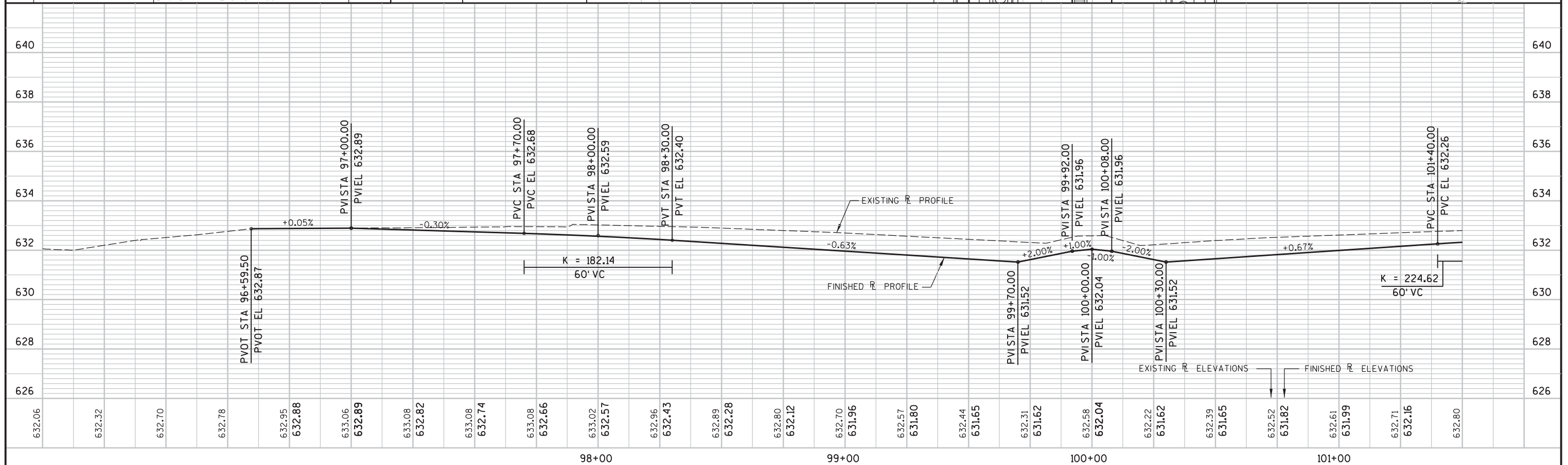


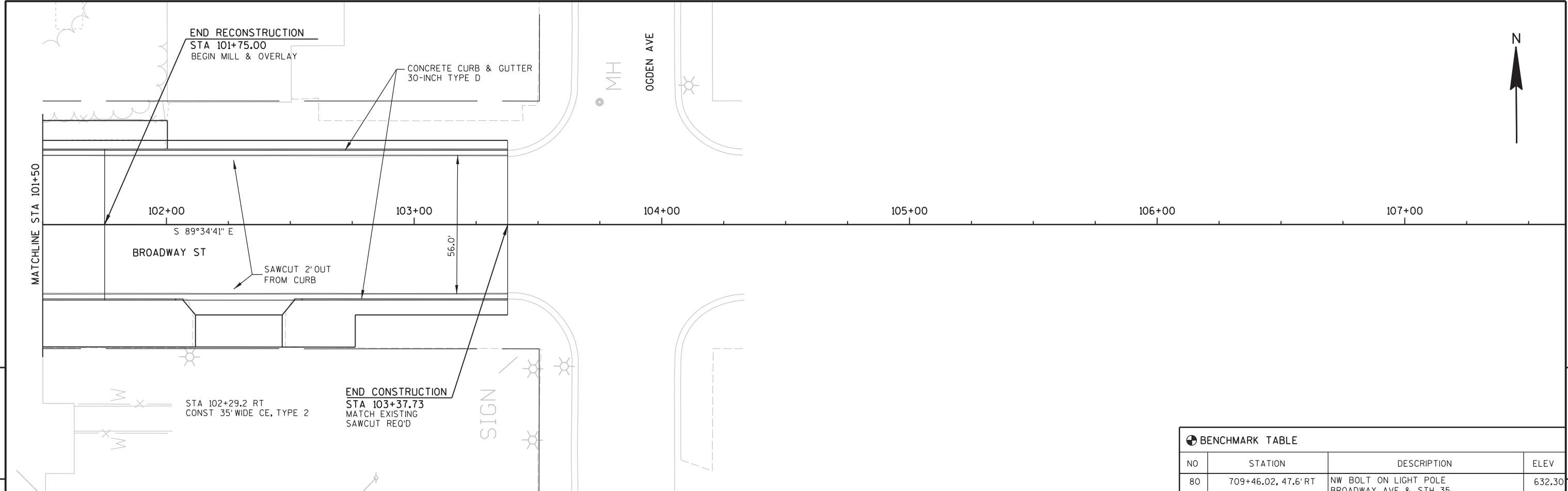
**CURB RAMP LEGEND**

- ① TYPE 1 CURB RAMP
- ①A TYPE 1A CURB RAMP
- ② TYPE 2 CURB RAMP
- ⑤ TYPE 5 CURB RAMP

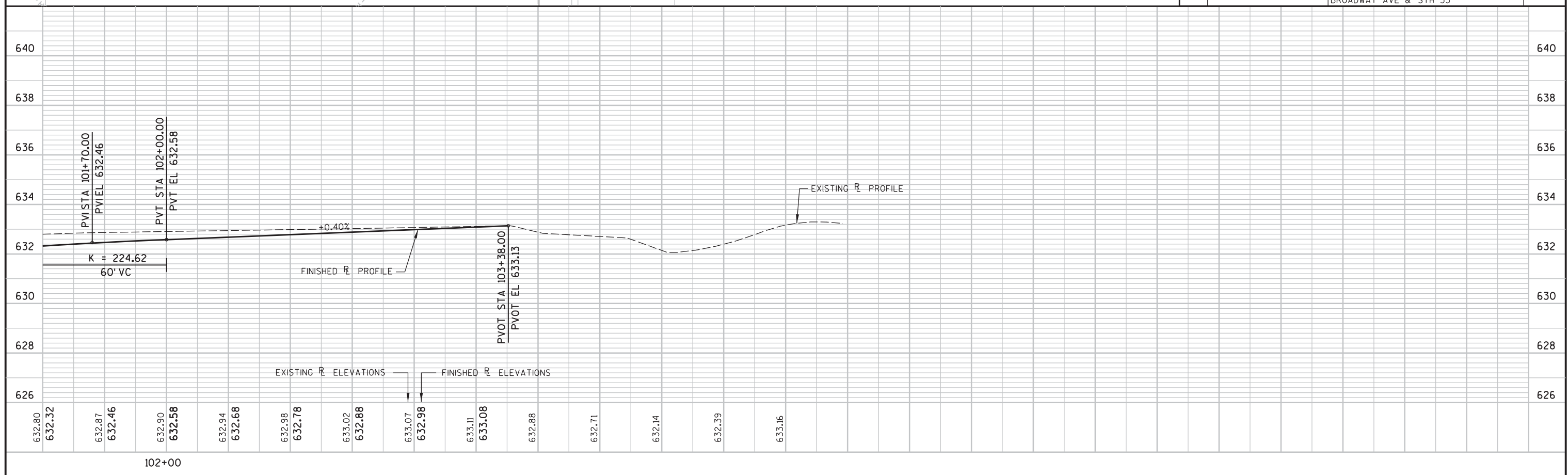
**BENCHMARK TABLE**

NO	STATION	DESCRIPTION	ELEV
80	709+46.02, 47.6' RT	NW BOLT ON LIGHT POLE BROADWAY AVE & STH 35	632.30






BENCHMARK TABLE			
NO	STATION	DESCRIPTION	ELEV
80	709+46.02, 47.6' RT	NW BOLT ON LIGHT POLE BROADWAY AVE & STH 35	632.30

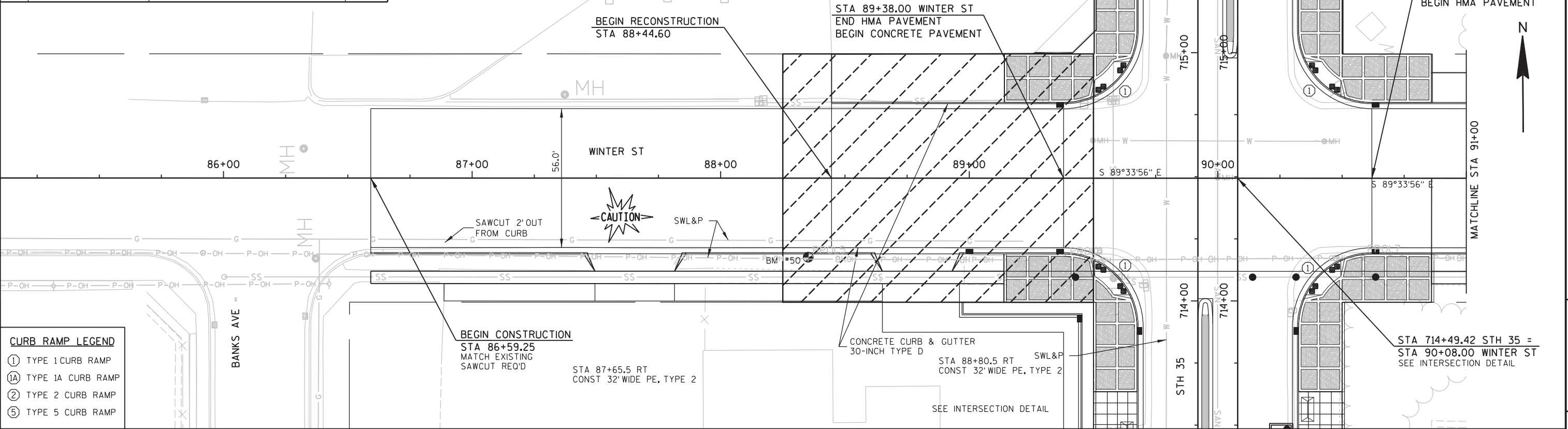


PROJECT NO: 8998-00-08      HWY: STH 35 - TOWER AVE      COUNTY: DOUGLAS      PLAN AND PROFILE - BROADWAY STREET      SHEET      E

BENCHMARK TABLE			
NO	STATION	DESCRIPTION	ELEV
50	714+17.62, 172.8' LT	SPIKE IN POWER POLE WINTER ST	630.73

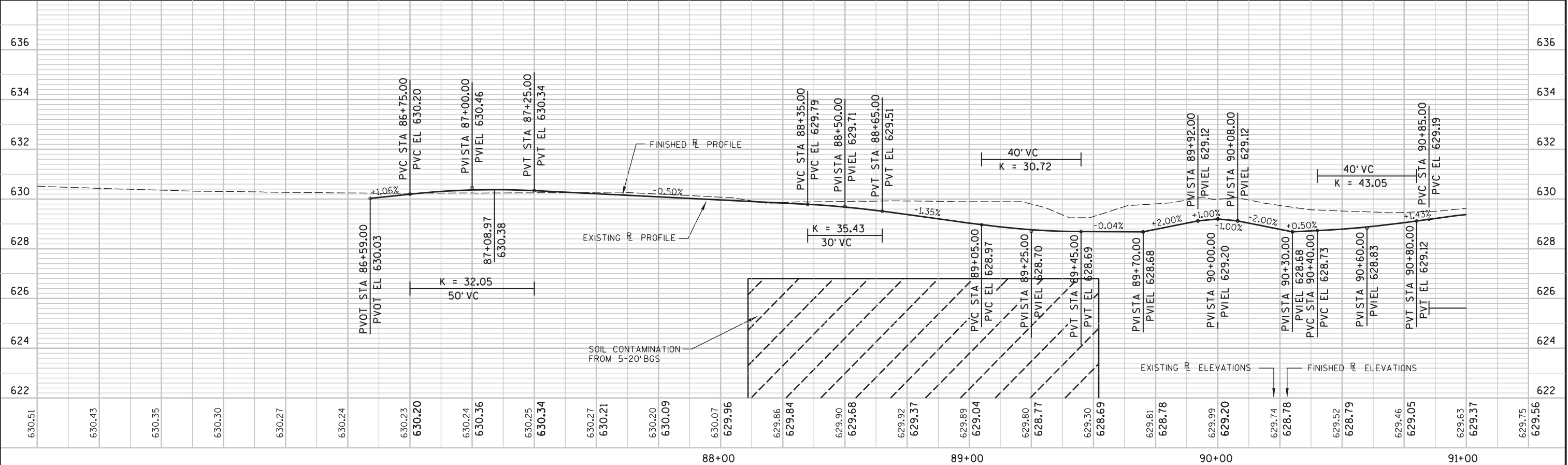
**LEGEND**

 AREAS OF SOIL CONTAMINATION WITHIN CONSTRUCTION LIMITS

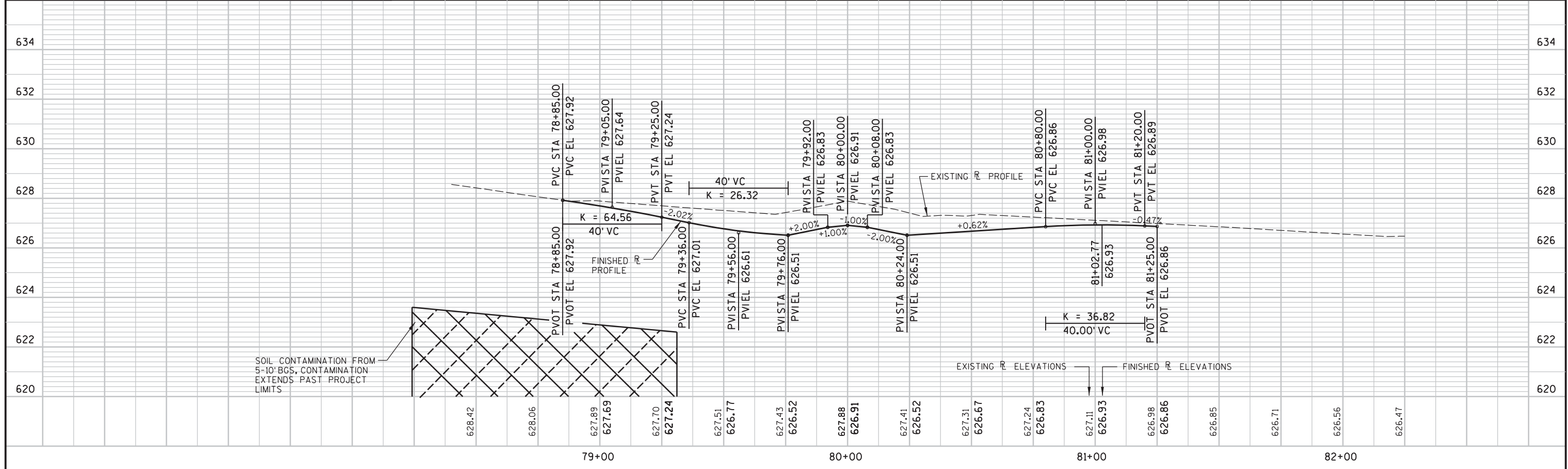
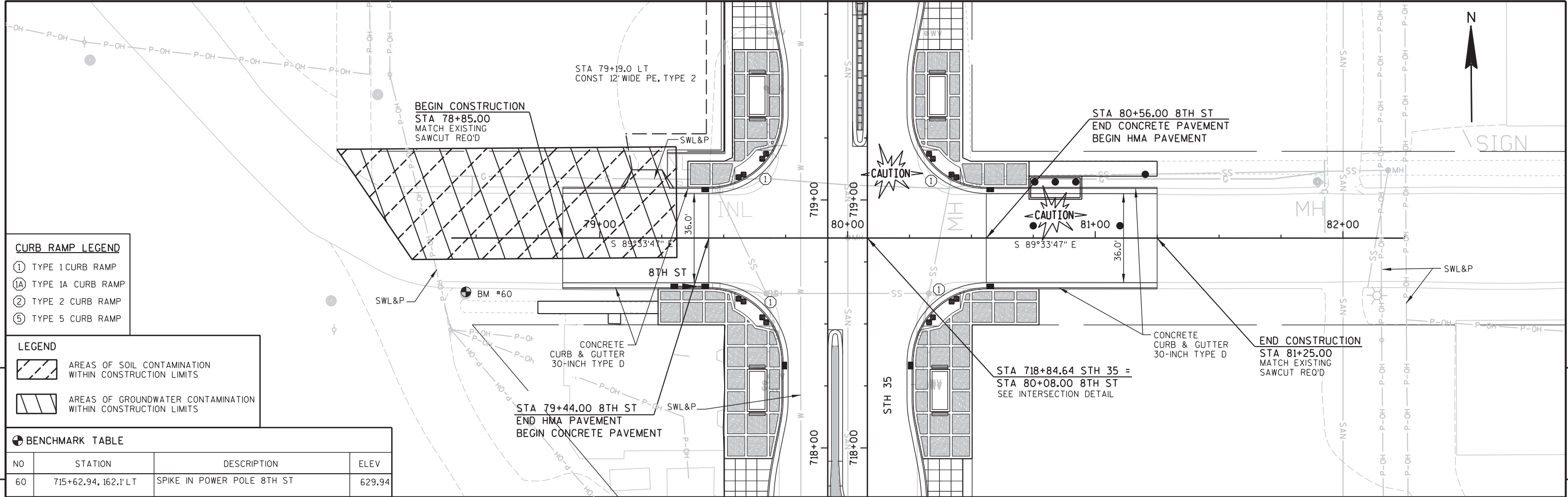


**CURB RAMP LEGEND**

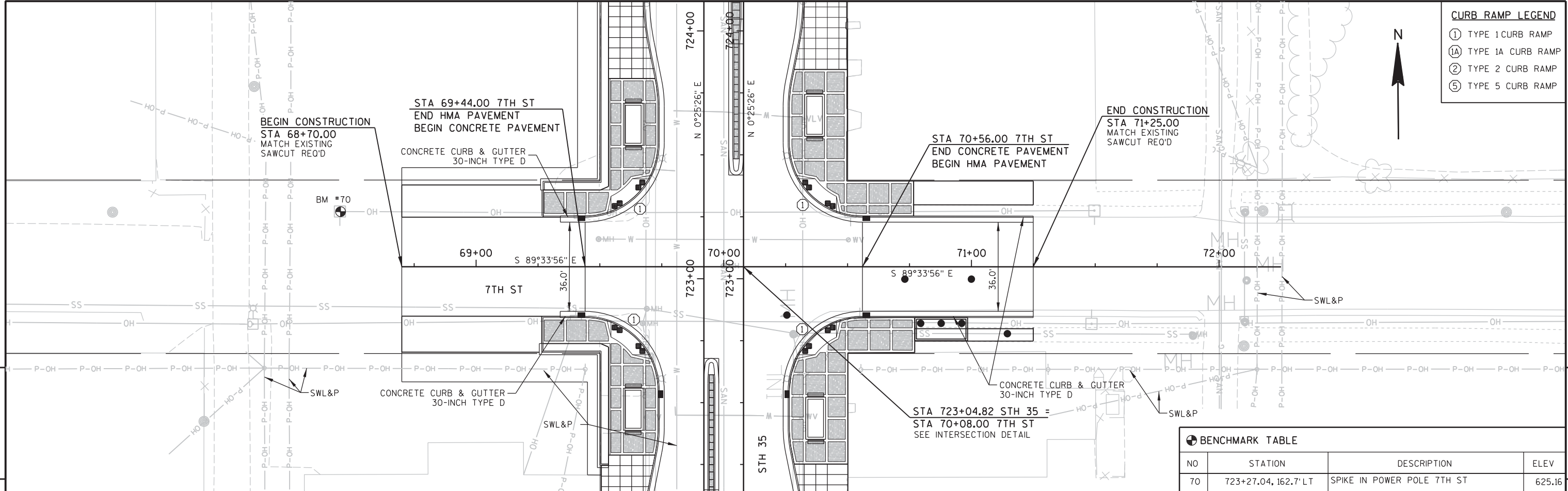
- ① TYPE 1 CURB RAMP
- ①A TYPE 1A CURB RAMP
- ② TYPE 2 CURB RAMP
- ⑤ TYPE 5 CURB RAMP









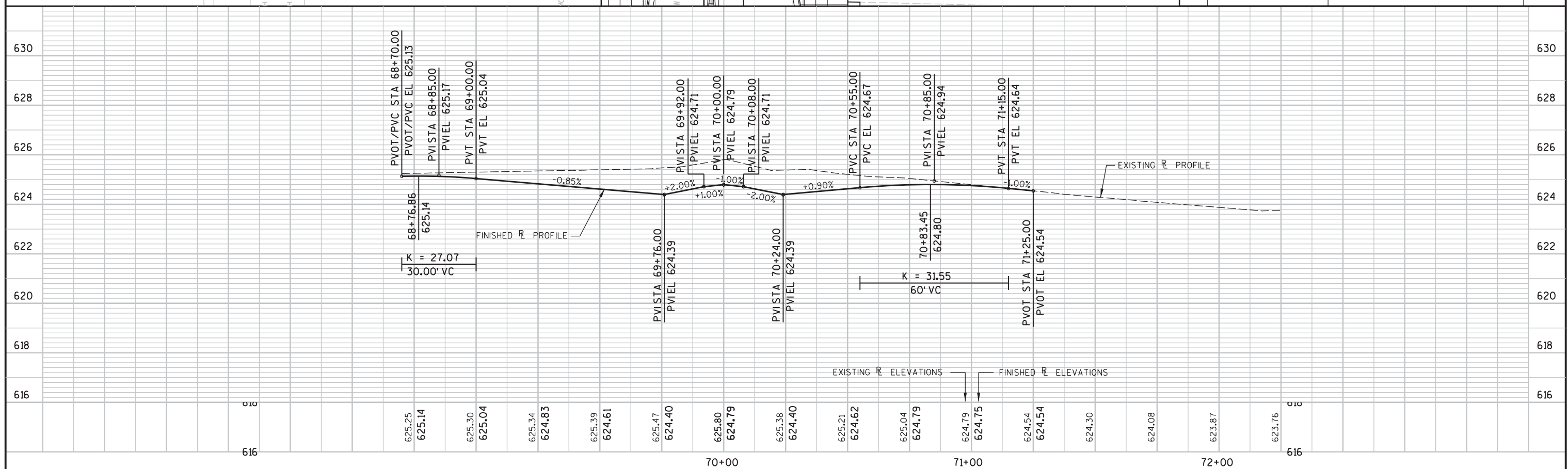


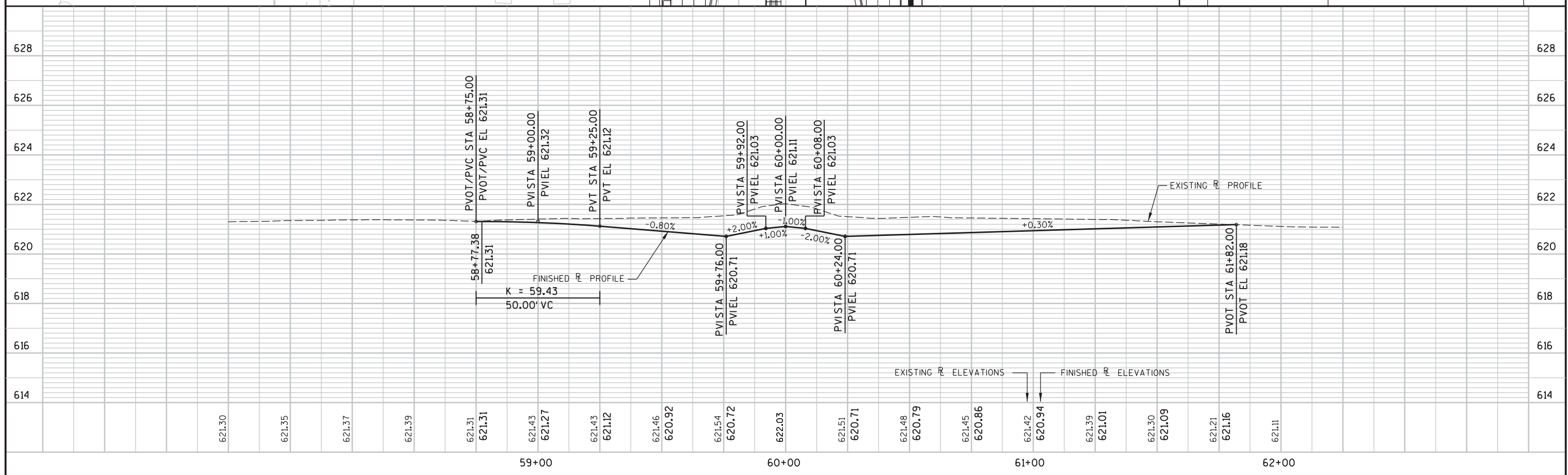
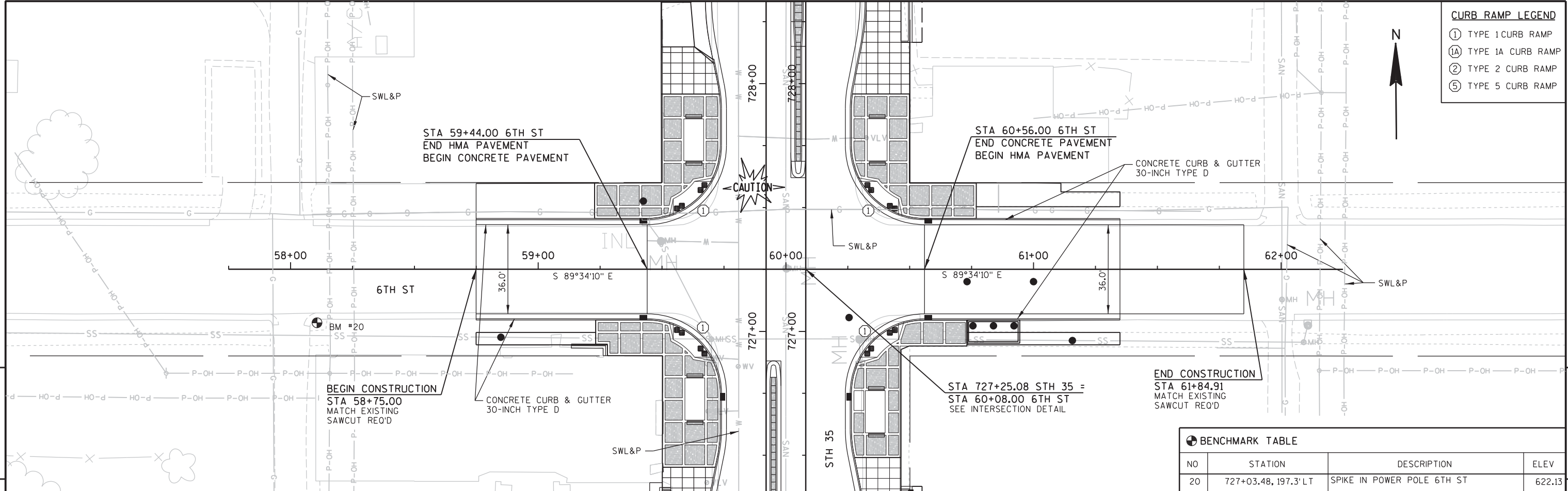
**CURB RAMP LEGEND**

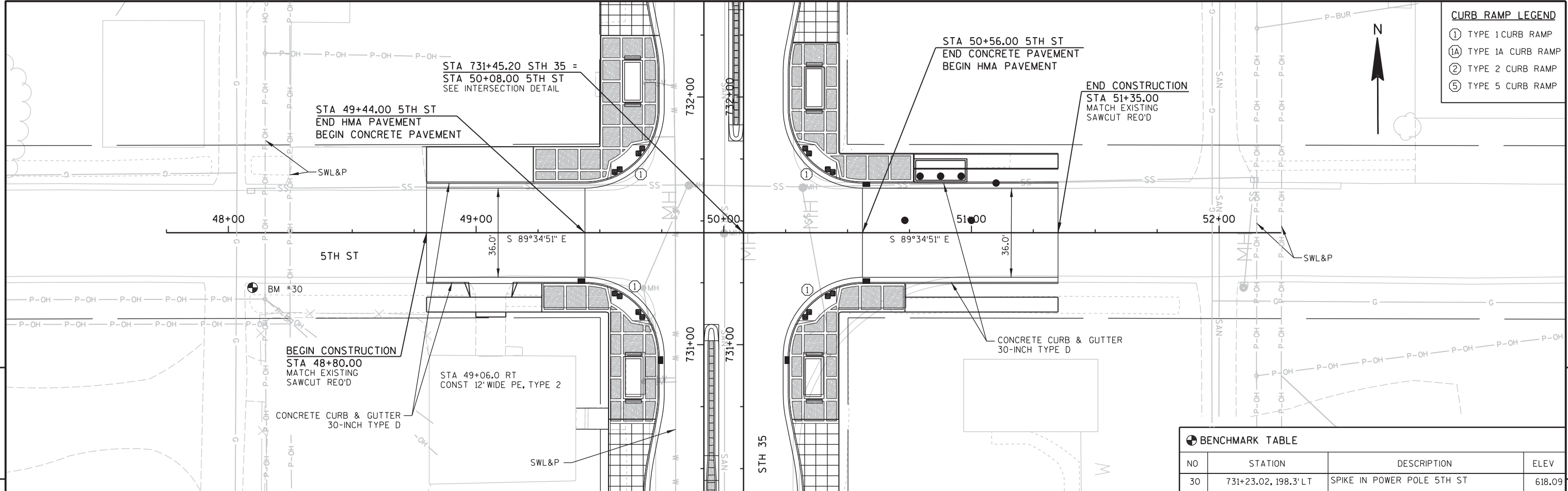
- ① TYPE 1 CURB RAMP
- ①A TYPE 1A CURB RAMP
- ② TYPE 2 CURB RAMP
- ⑤ TYPE 5 CURB RAMP

**BENCHMARK TABLE**

NO	STATION	DESCRIPTION	ELEV
70	723+27.04, 162.7' LT	SPIKE IN POWER POLE 7TH ST	625.16





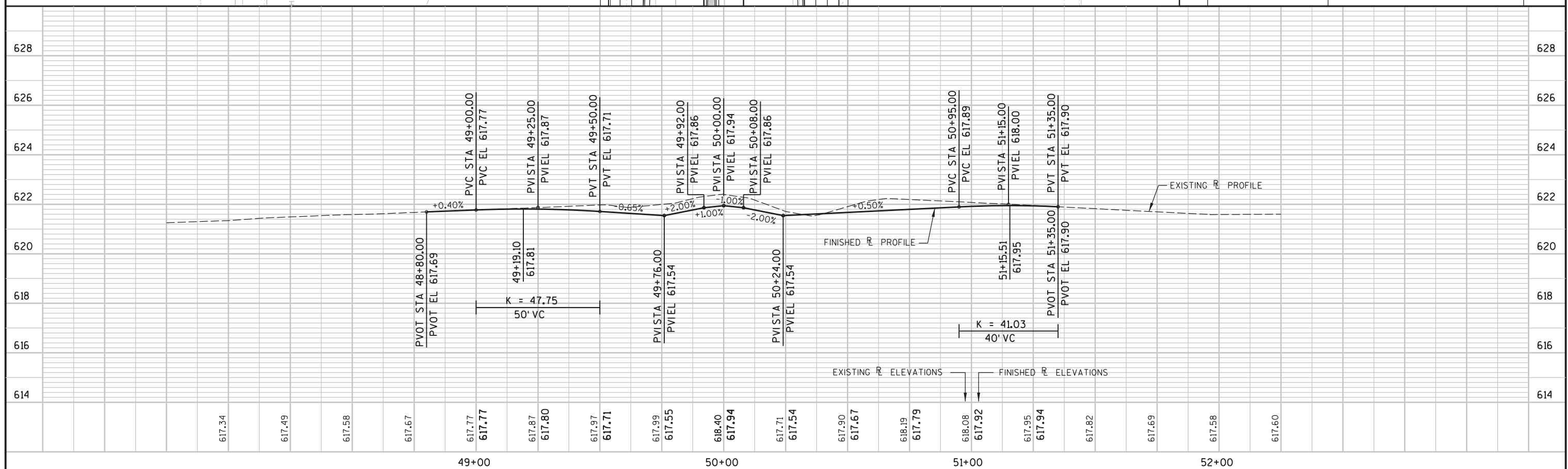


**CURB RAMP LEGEND**

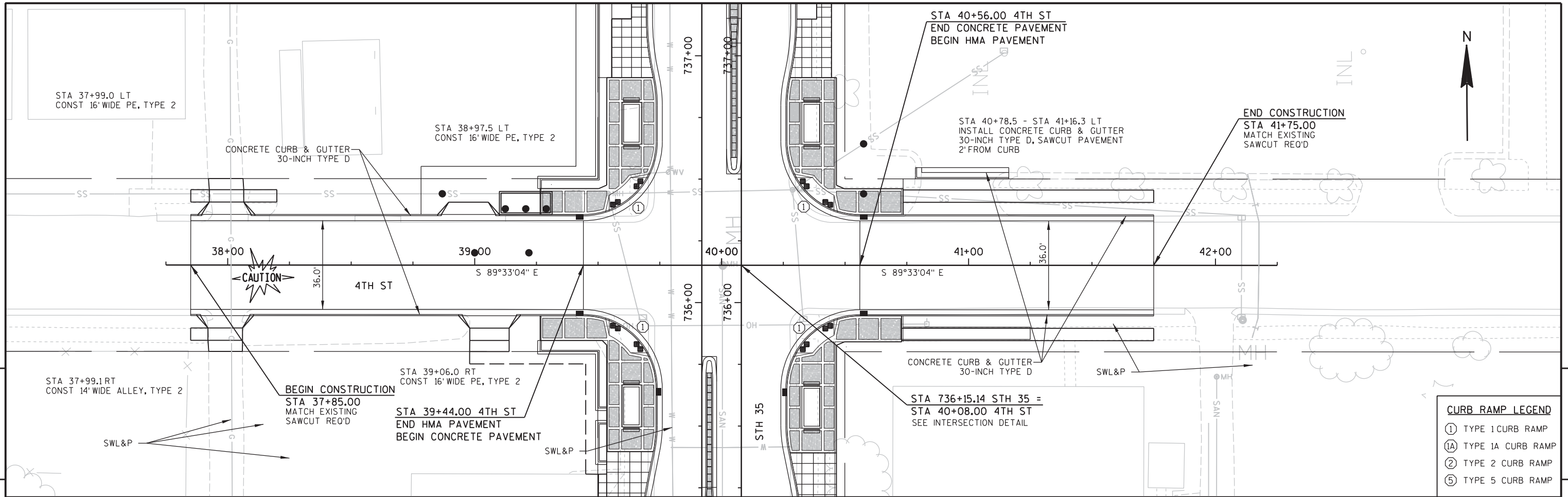
- ① TYPE 1 CURB RAMP
- ①A TYPE 1A CURB RAMP
- ② TYPE 2 CURB RAMP
- ⑤ TYPE 5 CURB RAMP

**BENCHMARK TABLE**

NO	STATION	DESCRIPTION	ELEV
30	731+23.02, 198.3' LT	SPIKE IN POWER POLE 5TH ST	618.09

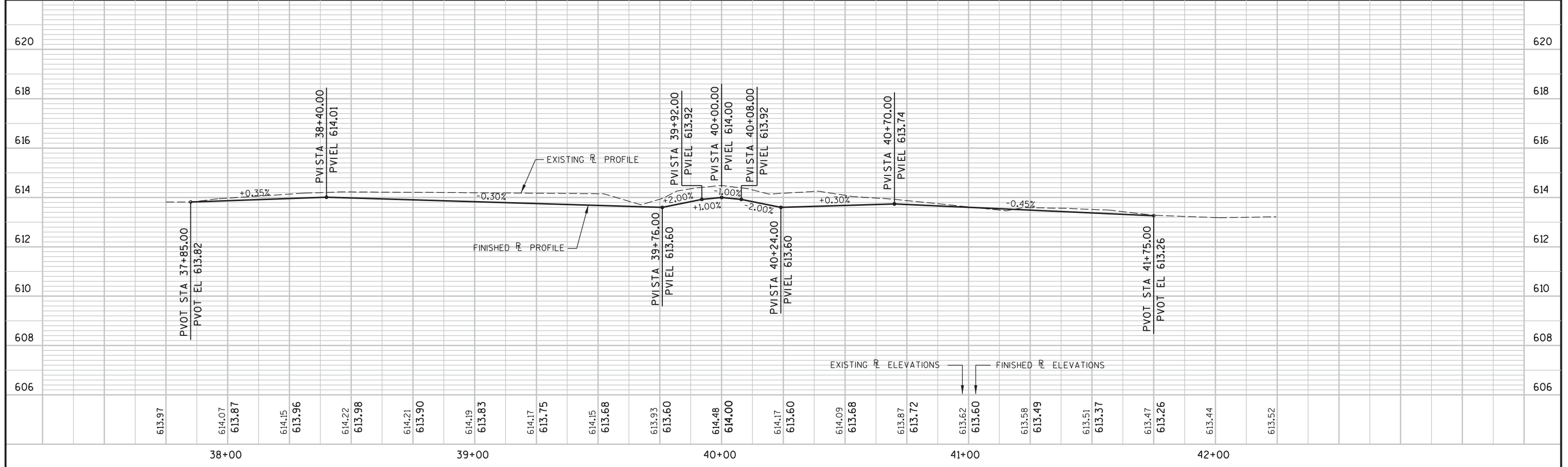


PROJECT NO: 1195-13-71	HWY: STH 35 - TOWER AVE	COUNTY: DOUGLAS	PLAN AND PROFILE - 5TH STREET	SHEET	<b>E</b>
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**CURB RAMP LEGEND**

- ① TYPE 1 CURB RAMP
- ①A TYPE 1A CURB RAMP
- ② TYPE 2 CURB RAMP
- ⑤ TYPE 5 CURB RAMP



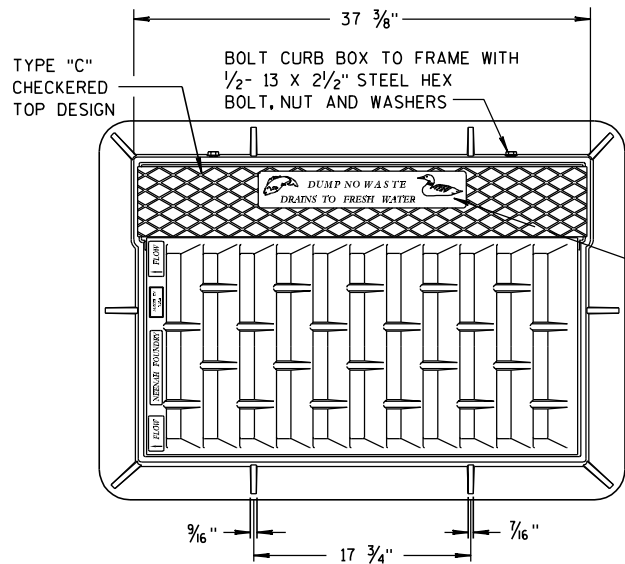
PROJECT NO: 1195-13-71      HWY: STH 35 - TOWER AVE      COUNTY: DOUGLAS      PLAN AND PROFILE - 4TH STREET      SHEET      E

## Standard Detail Drawing List

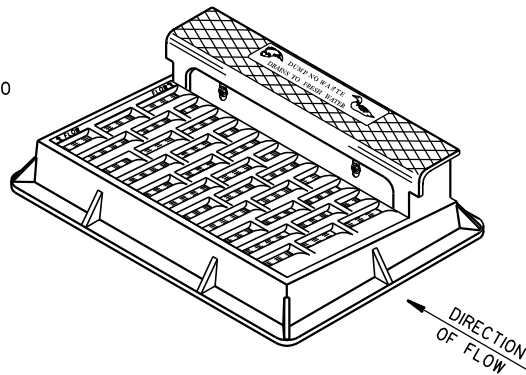
08A05-18A	INLET COVERS TYPE A, H, A-S, & H-S
08A05-18C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08A05-18D	INLET COVER, TYPE BW, Z MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D05-14A	CURB RAMPS TYPES 1 AND 1-A
08D05-14B	CURB RAMPS TYPES 2 AND 3
08D05-14C	CURB RAMPS TYPE 4A
08D05-14D	CURB RAMPS TYPE 4B
08D05-14E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-07	CONDUIT
09B04-09	PULL BOX
09C02-06	CONCRETE BASES, TYPES 1, 2 & 5
09C03-03	TRANSFORMER/PEDESTAL BASES
09C05-07	CONCRETE CONTROL CABINET BASES
09C06-05	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09C12-02A	CONCRETE BASE TYPE 13
09C12-02B	CONCRETE BASE TYPE 13
09C13-01	CONCRETE BASE TYPE 10 & TYPE 13 EXTENSION
09D01-04	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D02-02	SIGNAL OR LIGHTING CONTROL CABINET
09E01-11G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-04	NON-FREEWAY LIGHTING UNIT POLE WIRING
09E06-04	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09E07-05	TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS
09E08-04D	TYPE 13 POLE 35' -55' MONOTUBE ARM
09E08-04E	GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
09F08-03	LOOP DETECTOR PLACED IN CRUSHED AGGREGATE BASE (NEW ASPHALTIC PAVEMENT)
09F09-03	LOOP DETECTOR PLACED IN CRUSHED AGGREGATE BASE (NEW CONCRETE PAVEMENT)
09F15-03A	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)
09F15-03B	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)
11B02-02	CONCRETE MEDIAN NOSE
13B01-10	PAVEMENT DETAILS FOR RAILROAD APPROACH
13B02-06	CONCRETE PAVEMENT APPROACH SLAB
13C01-15	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C09-09A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-09B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-09C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C13-07	URBAN DOWELED CONCRETE PAVEMENT
13C18-01A	CONCRETE PAVEMENT JOINTING
13C18-01C	CONCRETE PAVEMENT JOINT TIES
13C18-01D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
14A02-01	TREE PLANTING DETAIL
15C02-04A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-01	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C07-12A	PAVEMENT MARKING SYMBOLS
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-14A	PAVEMENT MARKING (MAINLINE)
15C08-14B	PAVEMENT MARKING (INTERSECTIONS)
15C08-14E	PAVEMENT MARKING (LEFT TURN LANE)
15C08-14F	PAVEMENT MARKING (ISLANDS, STOP LINE & CROSS WALK)
15C09-09A	SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS
15C11-05	FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES
15C29-02A	BICYCLE LANE MARKING
15C29-02B	BICYCLE LANE MARKING
15C29-02C	URBAN BICYCLE LANE MARKING
15C29-02D	URBAN BICYCLE LANE MARKING
15C29-02E	PAVEMENT MARKING FOR BIKE LANES
15C29-02F	PAVEMENT MARKING FOR SHARED LANE
15D20-01	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE

## Standard Detail Drawing List

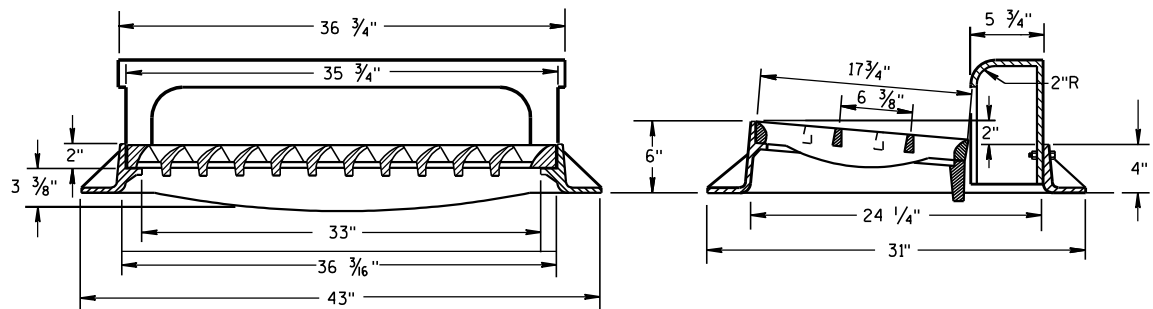
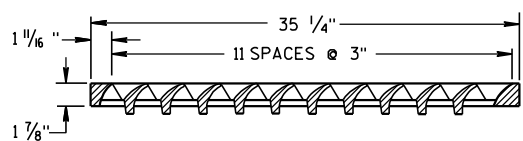
16A01-06 LANDMARK REFERENCE MONUMENTS AND COVERS



NOTE:  
GRATE IS REVERSIBLE.



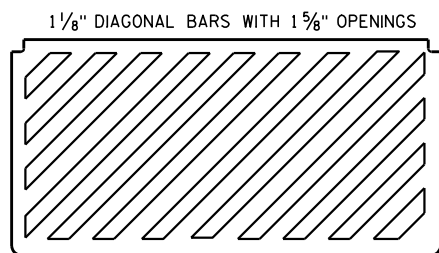
NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"



**TYPE "H"**

(APPROXIMATE WEIGHT 441 LBS.)

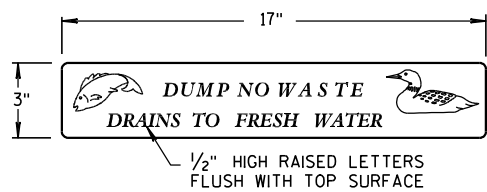
FRAME..... 181 LBS.  
GRATE..... 146 LBS.  
CURB BOX..... 114 LBS.



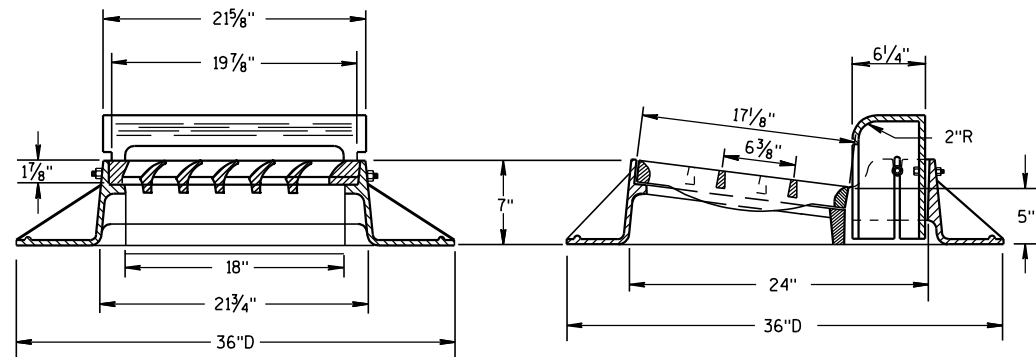
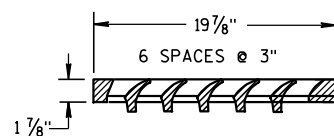
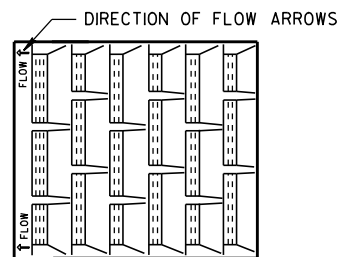
**SPECIAL GRATE FOR  
TYPE "H" COVER**

(MEASURES 35 1/4" X 17 3/4" X 2")  
(APPROXIMATE WEIGHT 159 LBS.)  
GRATE..... 159 LBS.

(NOTED AS TYPE H-S ON DRAINAGE TABLE)



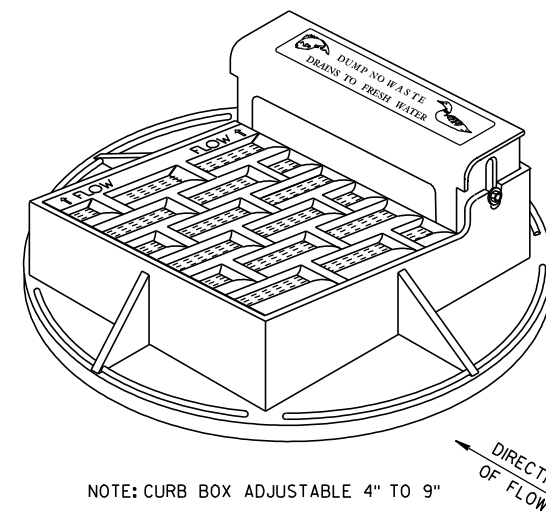
**LOGO DETAIL**



**TYPE "A"**

(APPROXIMATE WEIGHT 340 LBS.)

FRAME..... 185 LBS.  
GRATE..... 71 LBS.  
CURB BOX..... 84 LBS.



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

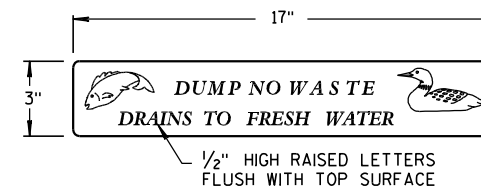
**GENERAL NOTES**

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.

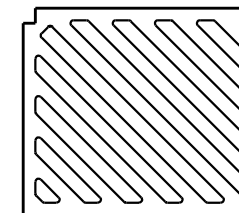
THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.



**LOGO DETAIL**

NOTE:  
GRATE IS REVERSIBLE.

1" DIAGONAL BARS  
WITH 1 1/2" OPENINGS



**SPECIAL GRATE FOR  
TYPE "A" COVER**

(MEASURES 19 3/4" X 17" X 1 7/8")

GRATE..... 84 LBS.

(NOTED AS TYPE A-S ON DRAINAGE TABLE)

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

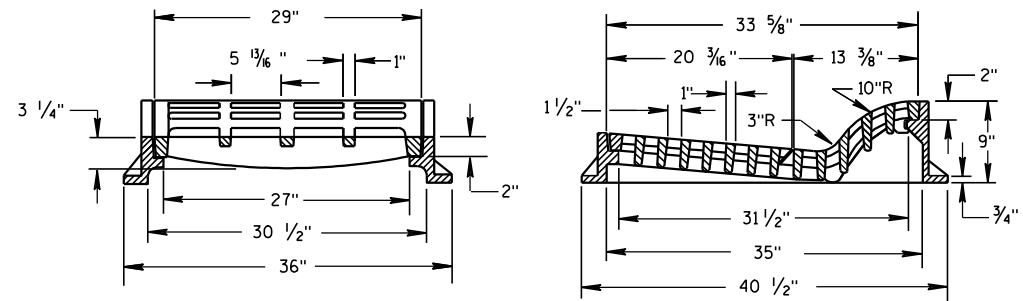
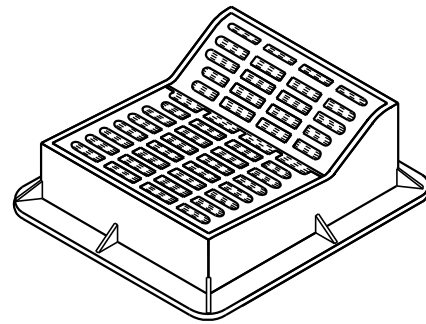
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

6/5/2012  
DATE

FHWA

/s/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER



**TYPE "F"**

(APPROXIMATE WEIGHT 644 LBS.)

FRAME.....302 LBS.  
 GRATE.....160 LBS.  
 GRATE.....182 LBS.

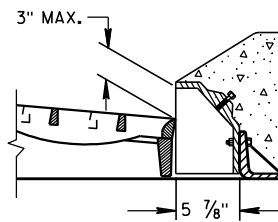
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

**GENERAL NOTES**

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

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

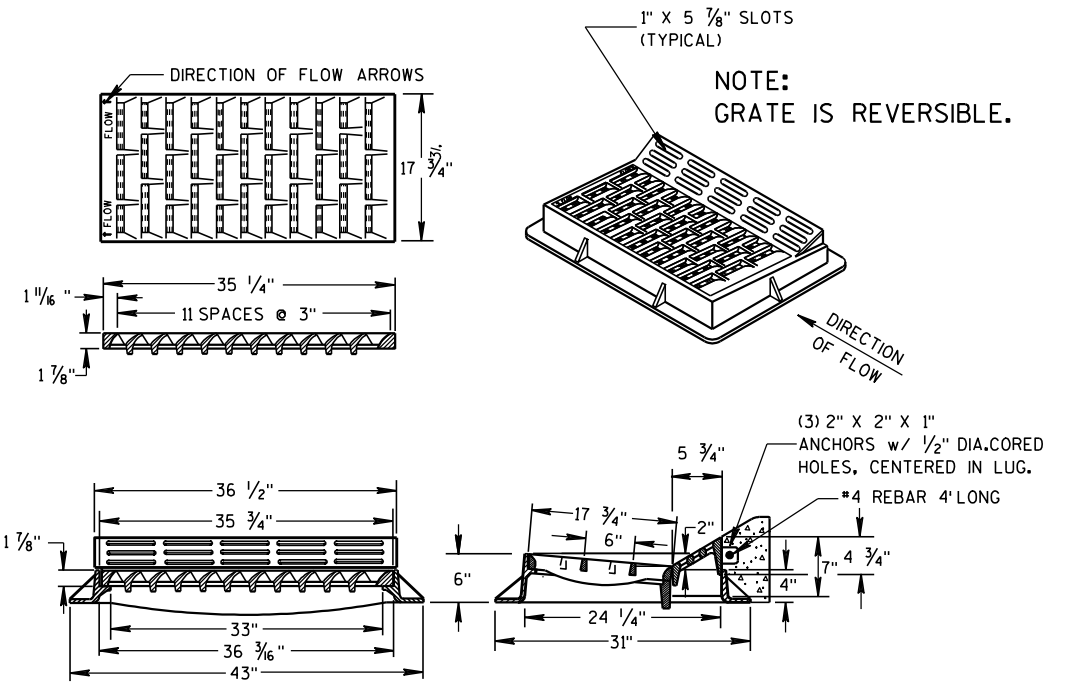
THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.



**ALTERNATIVE CURB BOX FOR TYPE "HM" COVER**

(APPROXIMATE WEIGHT CURB BOX 68 LBS.)

USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH NOTED AS TYPE HM-GJ ON DRAINAGE TABLE



**TYPE "HM"**

(APPROXIMATE WEIGHT 414 LBS.)

FRAME.....181 LBS.  
 GRATE.....159 LBS.  
 CURB BOX.....74 LBS.

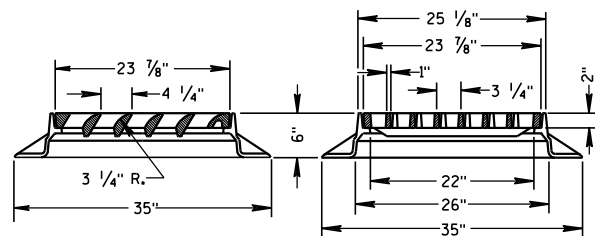
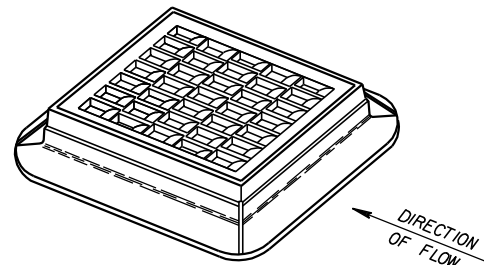
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

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

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

6

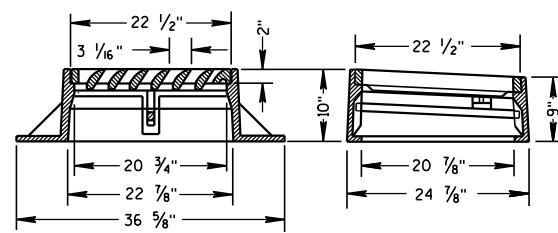
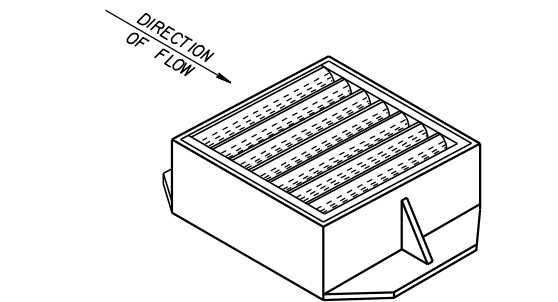
6



**TYPE "S"**

(APPROXIMATE WEIGHT 333 LBS.)

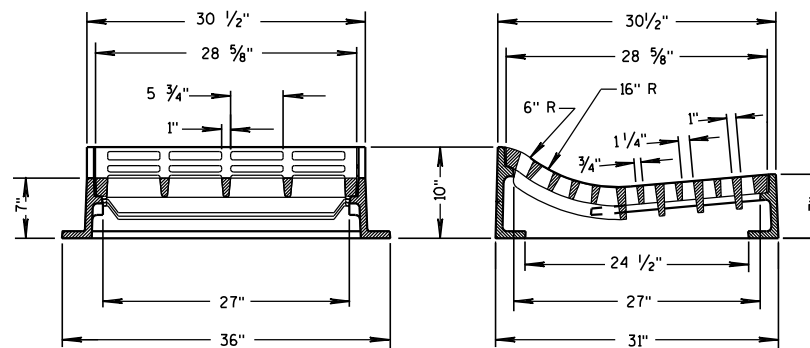
FRAME.....164 LBS.  
 GRATE.....169 LBS.



**TYPE "V"**

(APPROXIMATE WEIGHT 410 LBS.)

FRAME.....269 LBS.  
 GRATE.....136 LBS.  
 SAFETY BAR.....5 LBS.

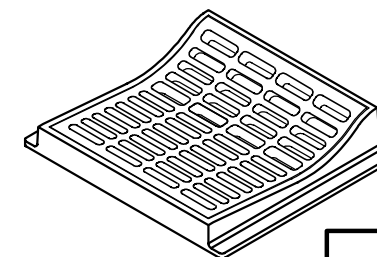


**TYPE "T"**

(APPROXIMATE WEIGHT 530 LBS.)

FRAME.....270 LBS.  
 GRATE.....260 LBS.

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

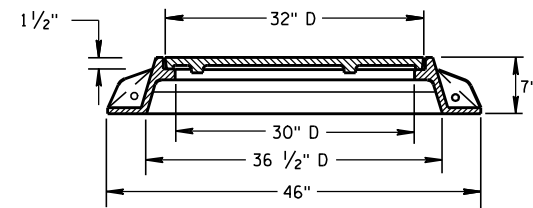
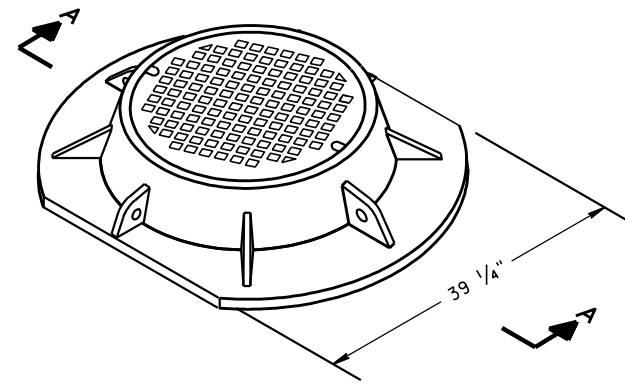


**INLET COVERS  
 TYPE F, HM, HM-S, S, T, V,  
 HM-GJ, & HM-GJ-S**

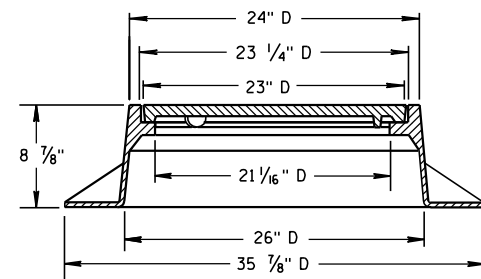
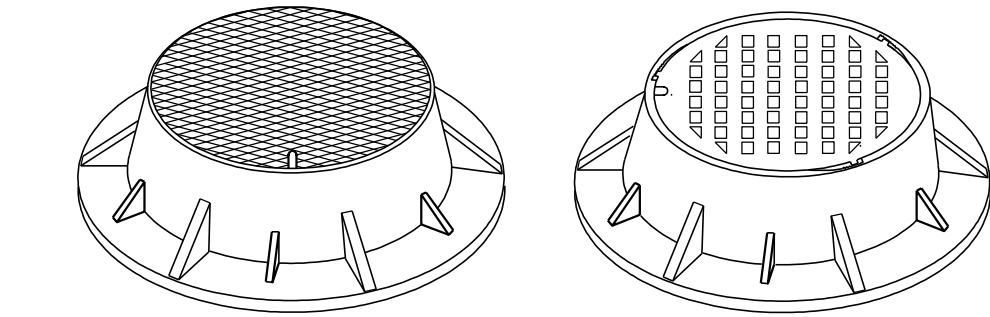
STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

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

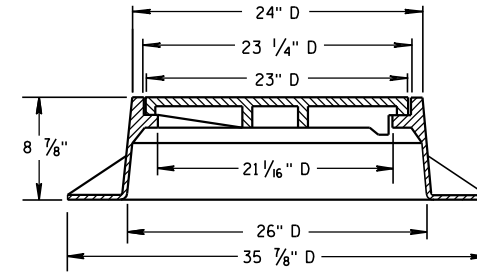




**SECTION A-A  
TYPE "K"**  
(APPROXIMATE WEIGHT 439 LBS.)  
FRAME.....216 LBS.  
LID.....223 LBS.



**TYPE "J"**  
(APPROXIMATE WEIGHT 267 LBS.)  
FRAME.....152 LBS.  
LID.....115 LBS.



**TYPE "J" SPECIAL**  
TYPE "B" NON-ROCKING SELF-SEAL LID  
(APPROXIMATE WEIGHT 267 LBS.)  
FRAME.....158 LBS.  
LID.....109 LBS.  
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

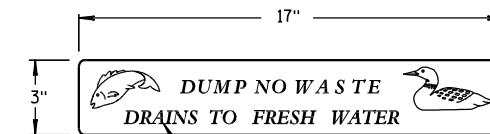
**GENERAL NOTES**

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

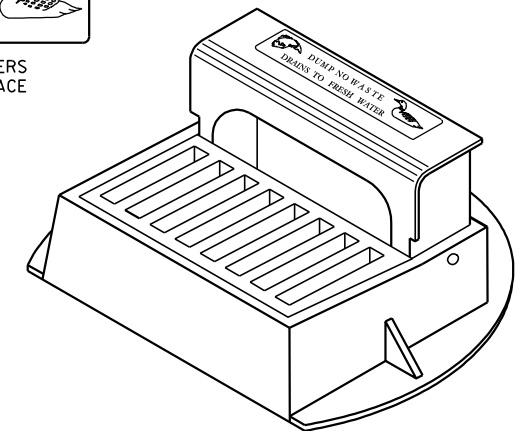
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

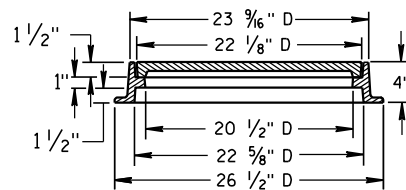
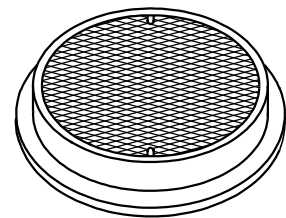
THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.



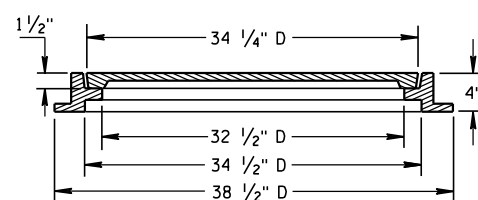
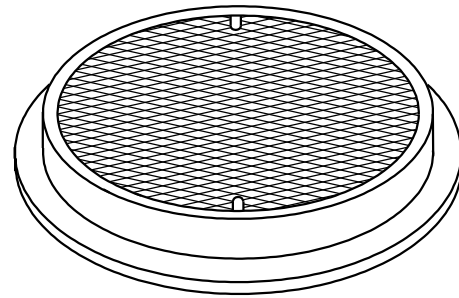
**LOGO DETAIL**



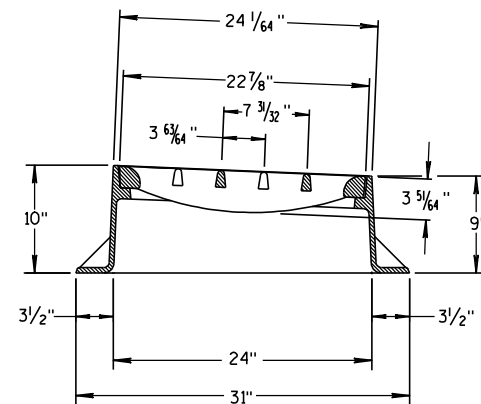
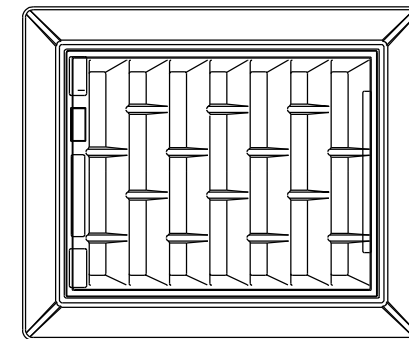
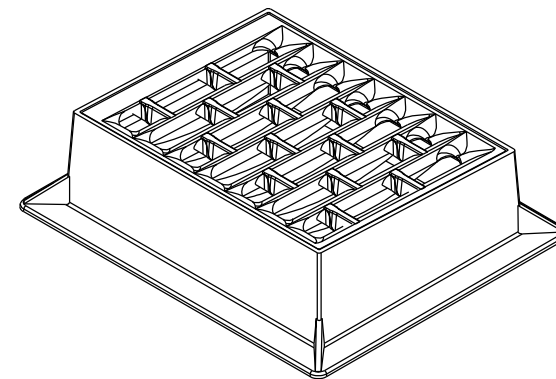
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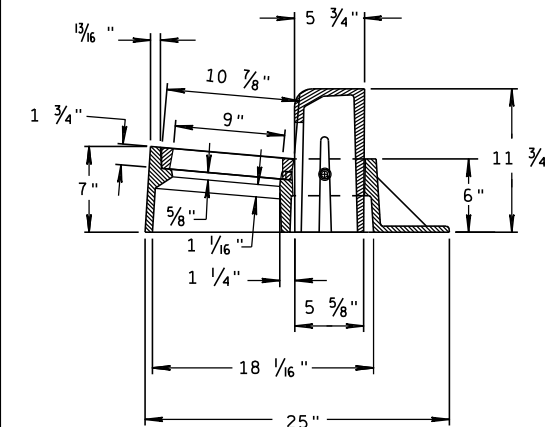
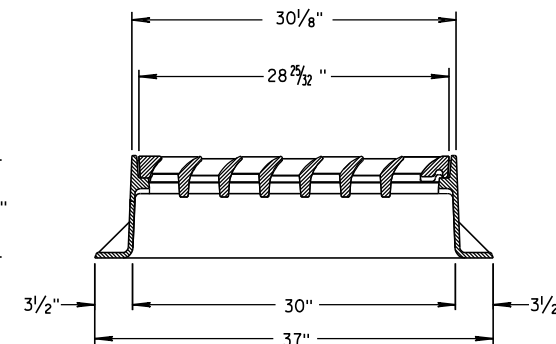
**TYPE "L"**  
(APPROXIMATE WEIGHT 158 LBS.)  
FRAME.....81 LBS.  
LID.....77 LBS.



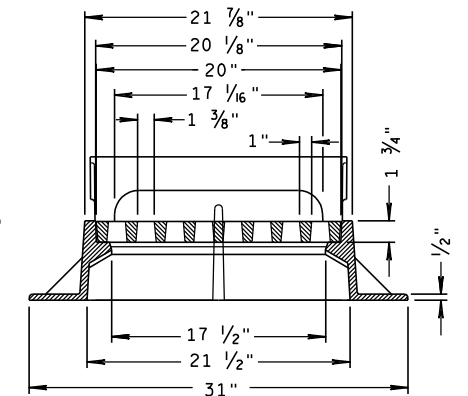
**TYPE "M"**  
(APPROXIMATE WEIGHT 377 LBS.)  
FRAME.....125 LBS.  
LID.....252 LBS.



**INLET COVER TYPE "BW"**



**INLET COVER TYPE "Z"**  
(APPROXIMATE WEIGHT 344 LBS.)  
FRAME.....206 LBS.  
GRATE.....46 LBS.  
CURB BOX.....92 LBS.

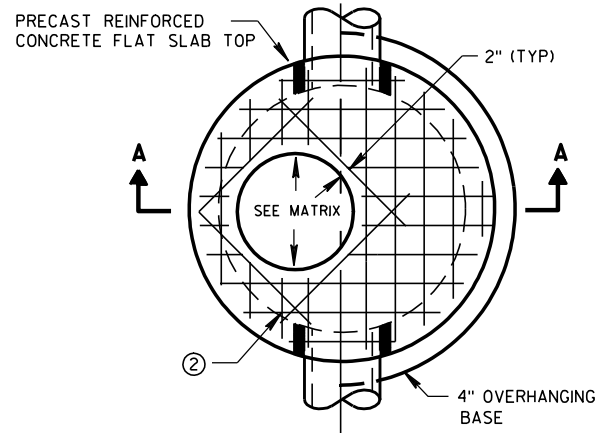


**INLET COVERS, TYPE BW, Z  
MANHOLE COVERS, TYPE  
K, J, J-S, L & M**

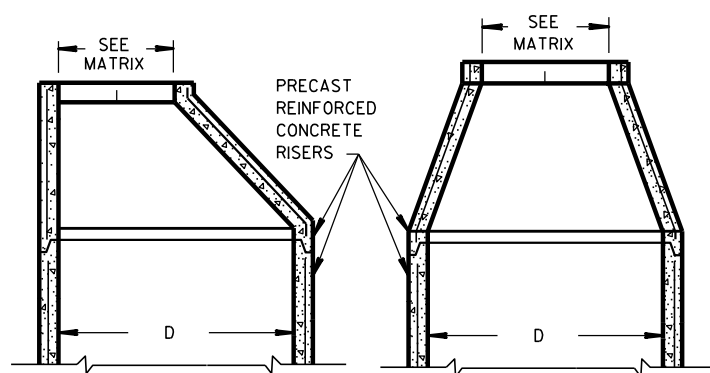
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

6

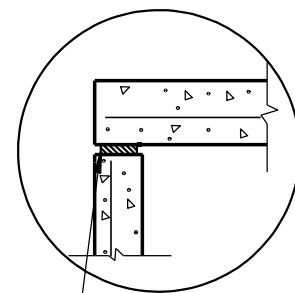


PLAN VIEW CIRCULAR OPENING

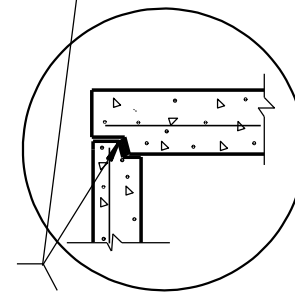


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

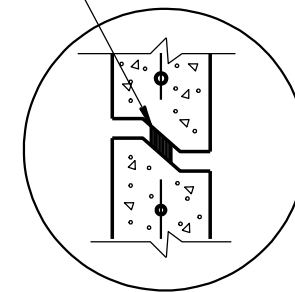
OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



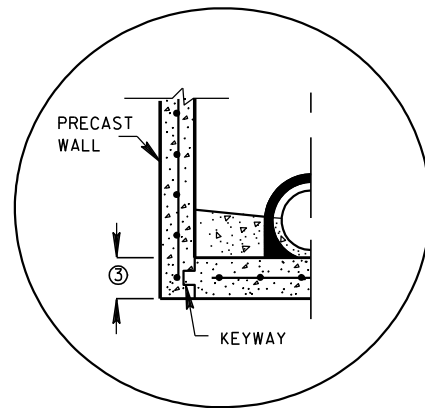
TOP WITH PLAIN END JOINT



TOP WITH TONGUE AND GROOVE JOINT

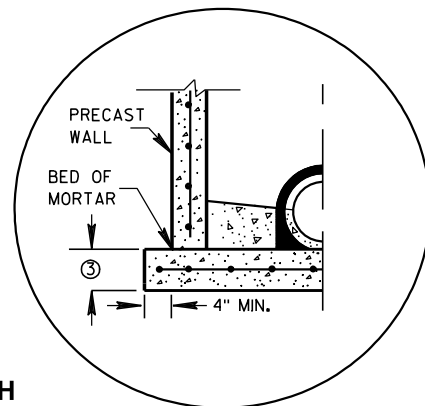


RISER WITH TONGUE AND GROOVE JOINT

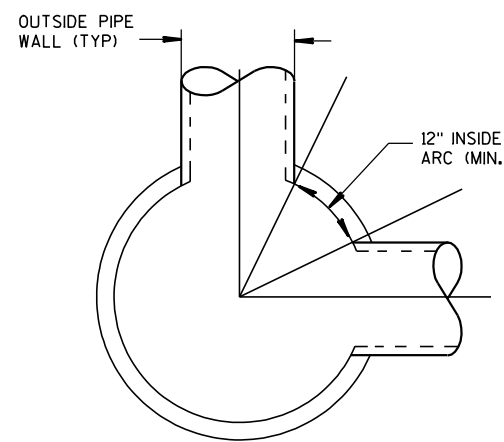


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

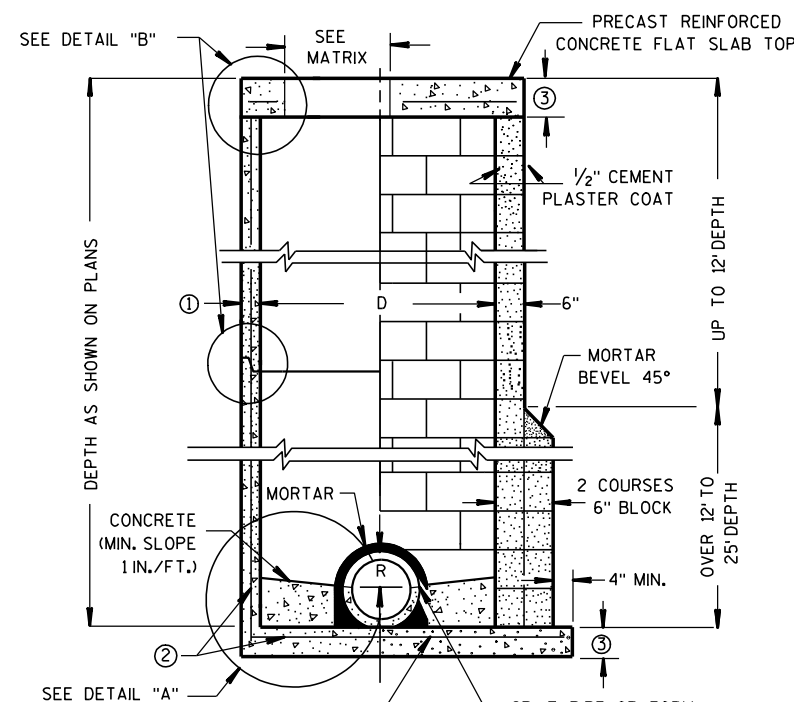
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)



SEPERATE PRECAST REINFORCED CONCRETE BASE OPTION



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

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

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

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

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

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE CONE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

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

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

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

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

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED. CONCRETE BLOCK WILL NOT BE PERMITTED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

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

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

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

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

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

MANHOLE COVER OPENING MATRIX

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

PIPE MATRIX

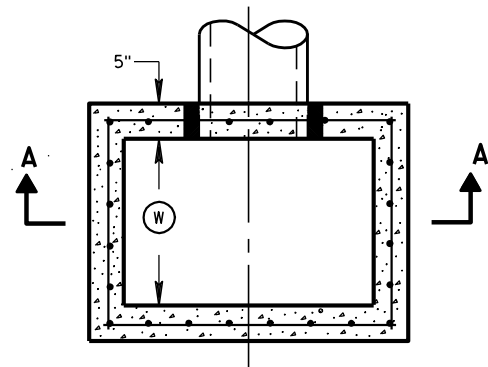
MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

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

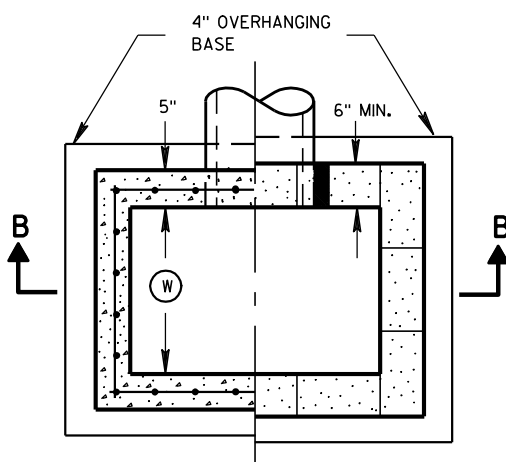
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

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

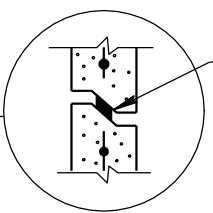
MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER



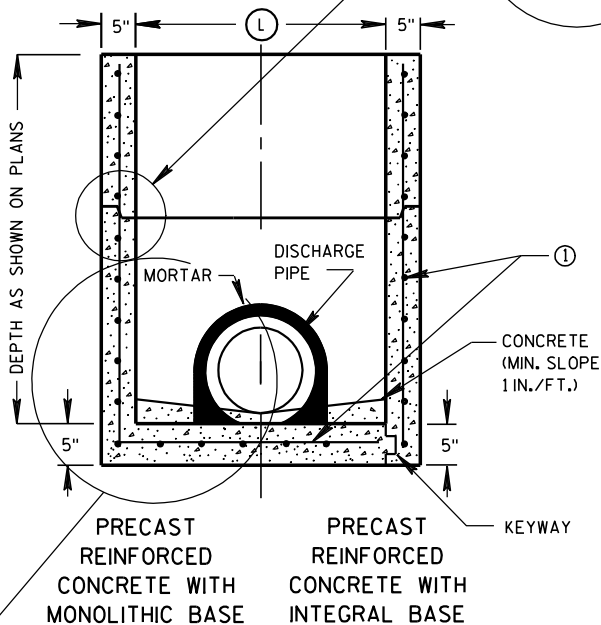
PLAN VIEW



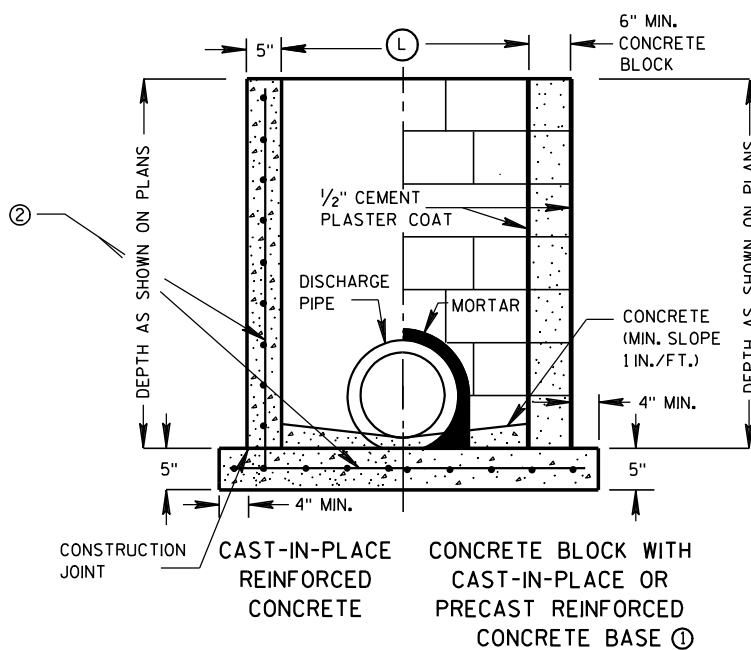
PLAN VIEW



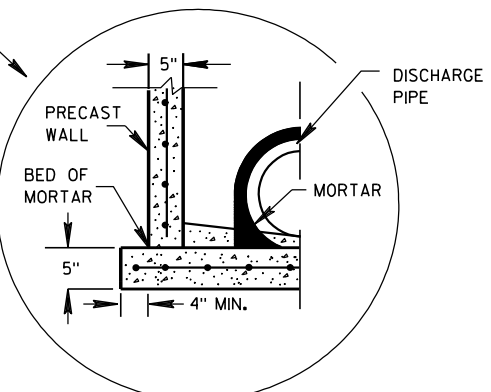
RISER JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



SECTION A-A



SECTION B-B



SEPERATE PRECAST REINFORCED CONCRETE BASE OPTION

**GENERAL NOTES**

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

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

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

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

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

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

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

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

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

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

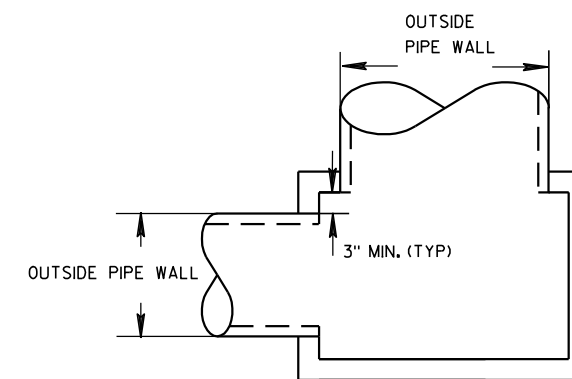
- ① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

**INLET COVER MATRIX**

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

**PIPE MATRIX**

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



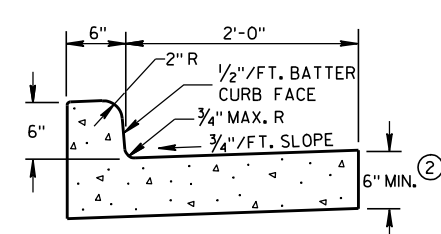
DETAIL "A"

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

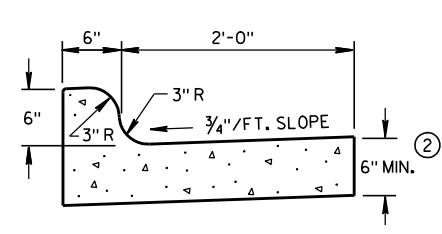
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

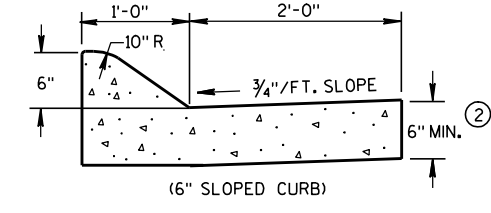
APPROVED  
DATE 6/5/2012  
DATE /S/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER  
FHWA



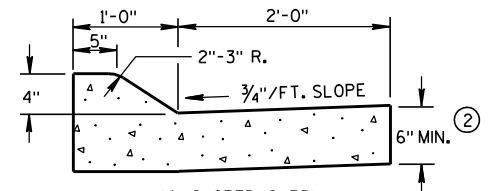
TYPES A & D ①



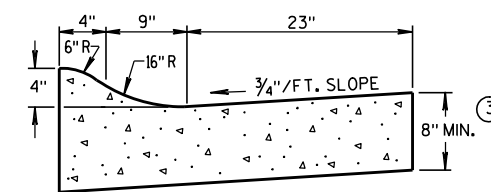
TYPES K & L ①



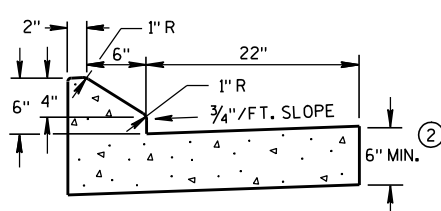
(6" SLOPED CURB)



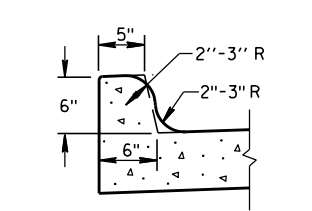
(4" SLOPED CURB)



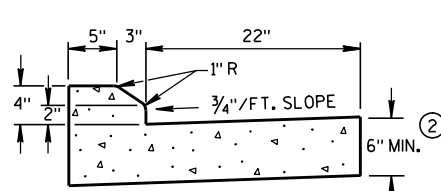
4" SLOPED CURB TYPES R & T ① ④



6" SLOPED CURB TYPES G & J ①

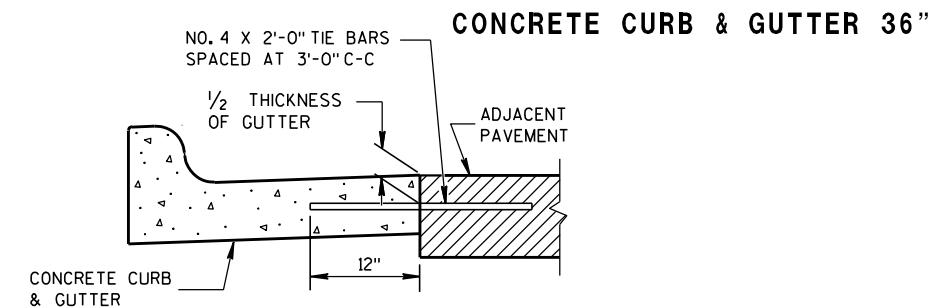


OPTIONAL CURB SHAPE FOR TYPES K & L ①

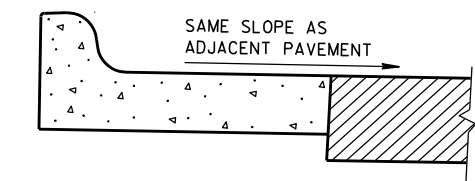


4" SLOPED CURB TYPES G & J ①

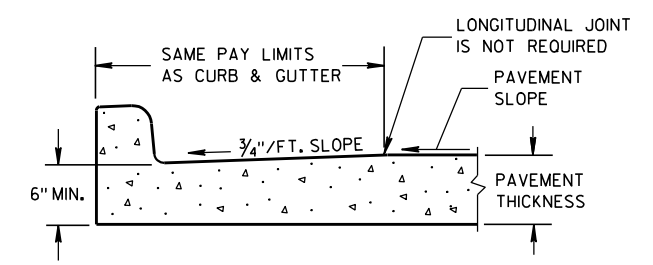
CONCRETE CURB & GUTTER 30"



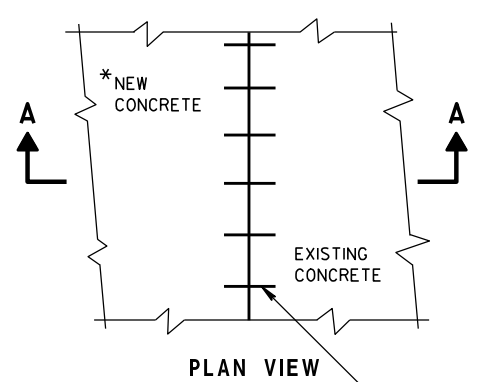
TYPICAL TIE BAR LOCATION ①



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



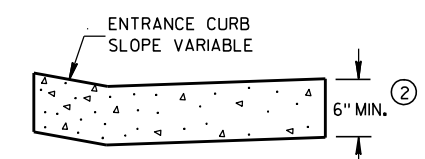
PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



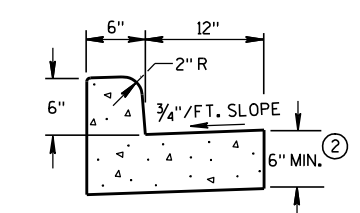
PLAN VIEW

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

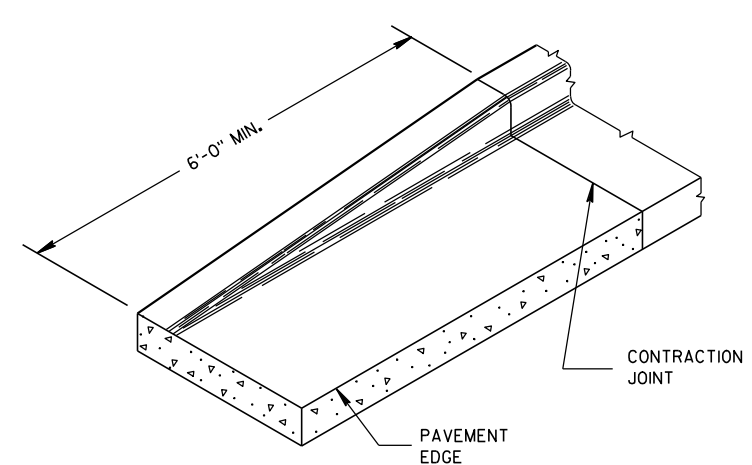
NO. 6 TIE BARS SPACED 2'-6" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT.



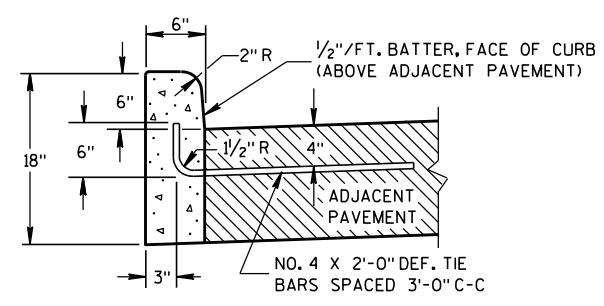
DRIVEWAY ENTRANCE CURB  
(WHEN DIRECTED BY THE ENGINEER)



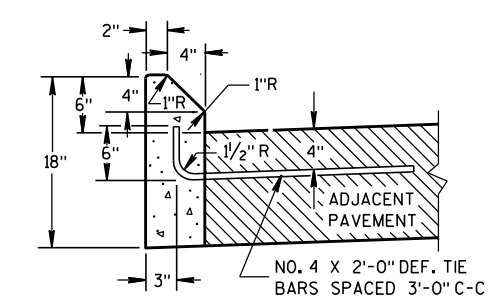
TYPES A & D  
CONCRETE CURB & GUTTER 18"



END SECTION CURB & GUTTER



TYPES A & D



TYPES G & J

CONCRETE CURB

**GENERAL NOTES**

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

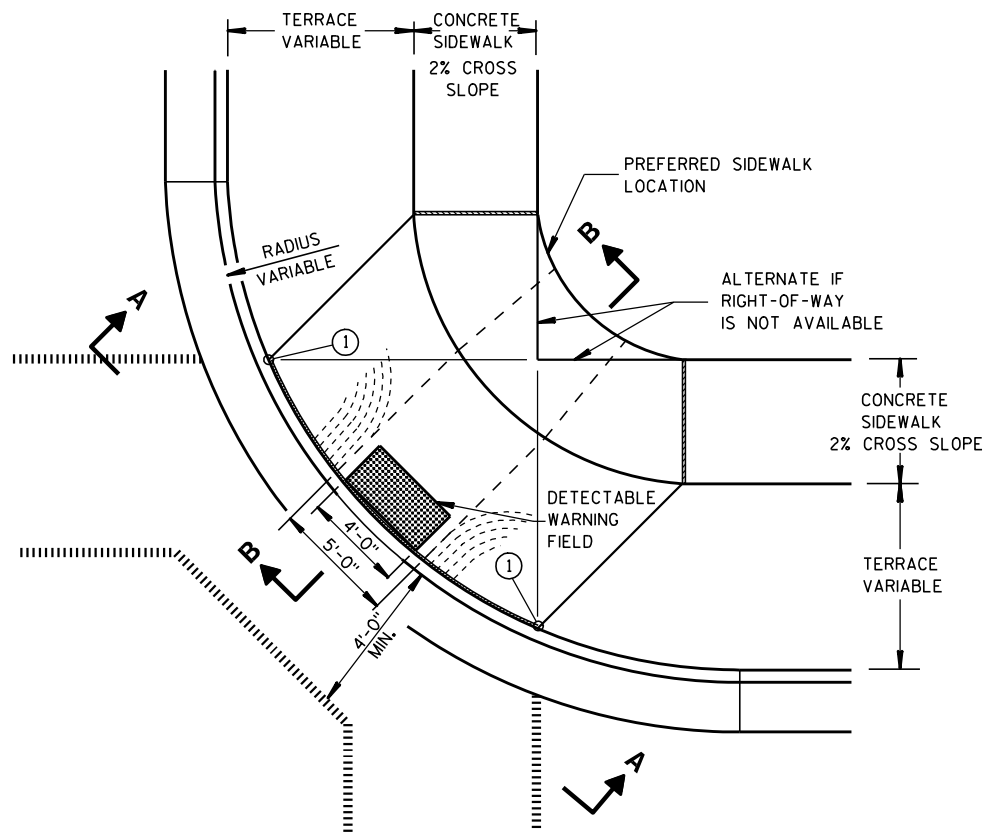
INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

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

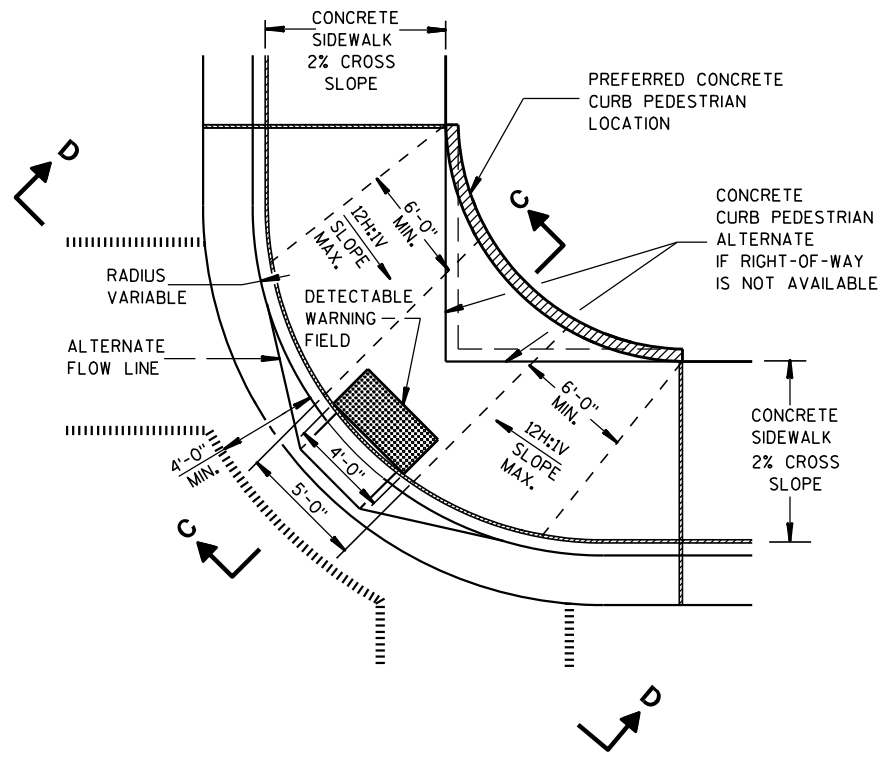
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

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

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



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



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

**GENERAL NOTES**

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

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

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

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

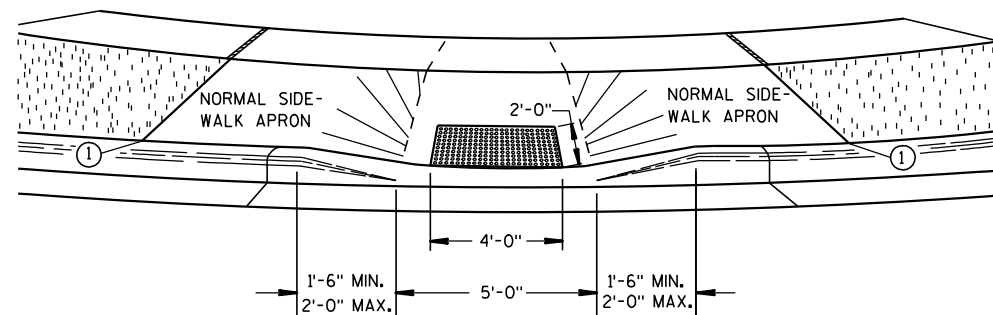
SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

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

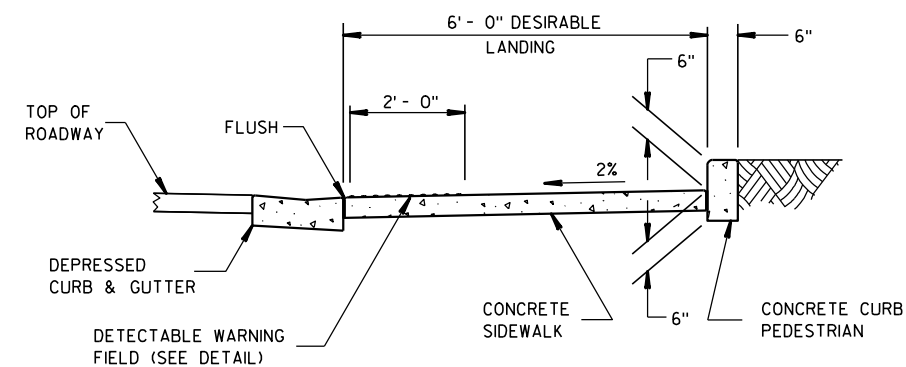
- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

**LEGEND**

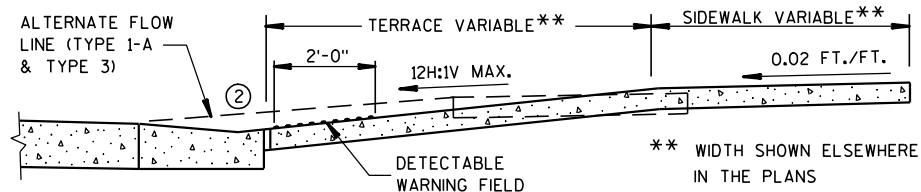
- 1/2" EXPANSION JOINT-SIDEWALK
- - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



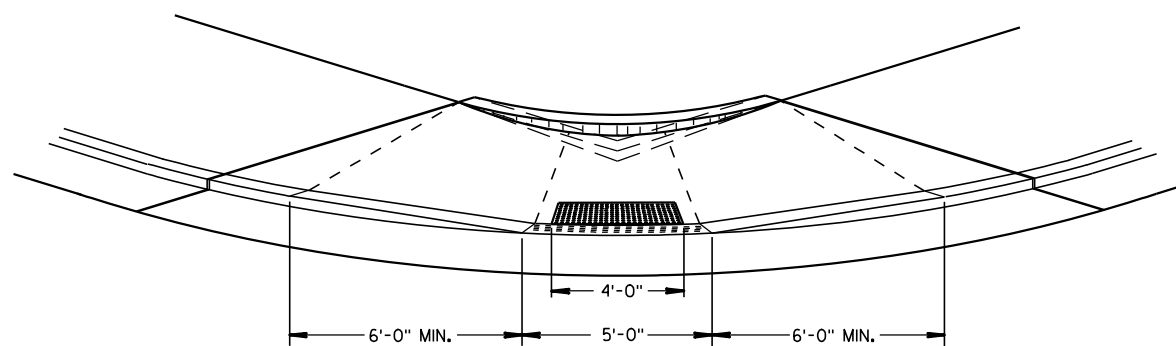
**VIEW A-A**



**SECTION C-C**



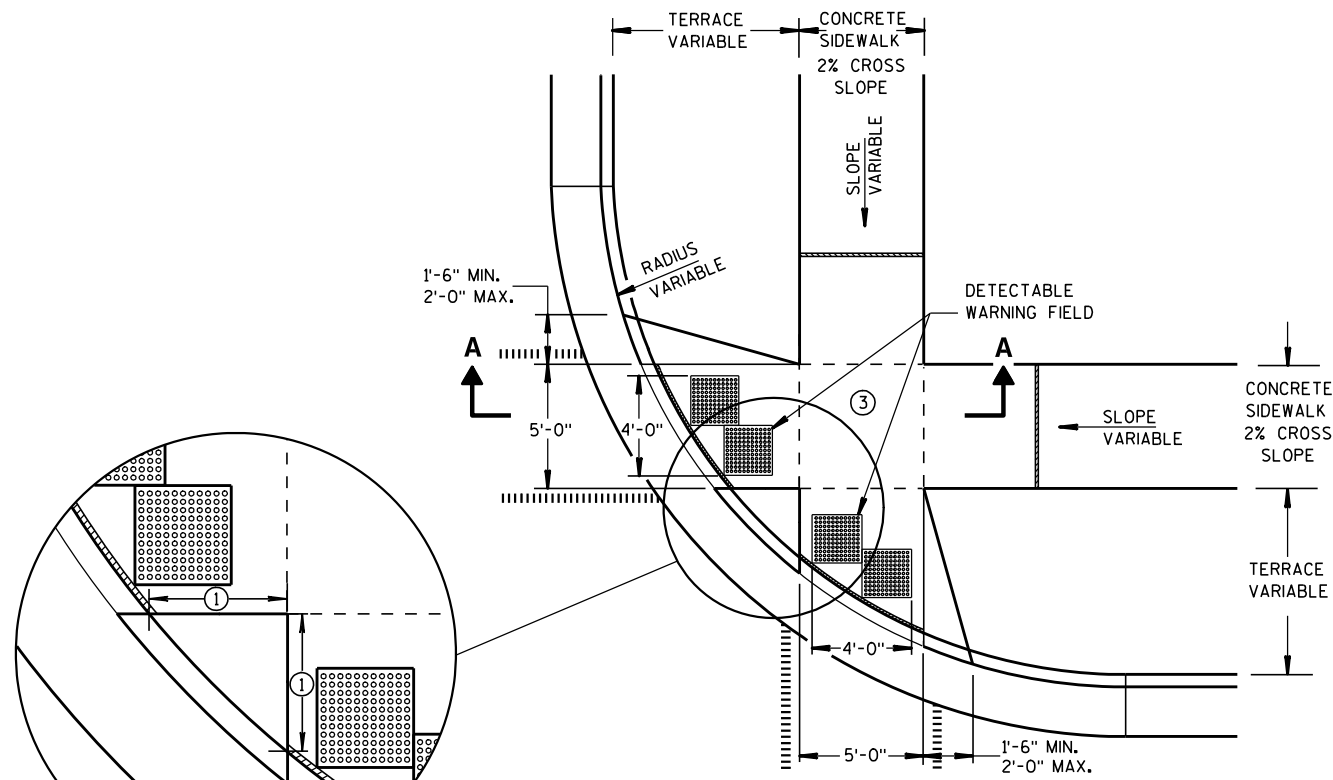
**SECTION B-B**



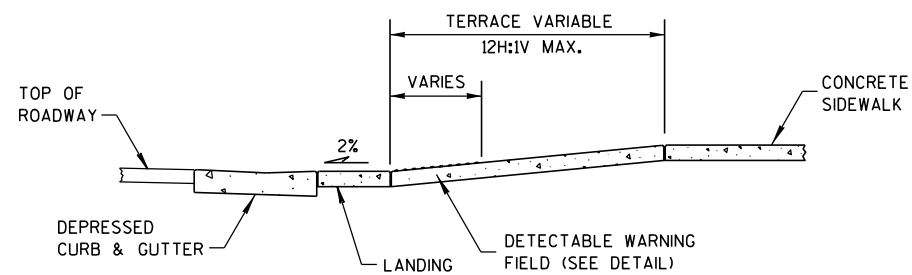
**VIEW D-D**

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

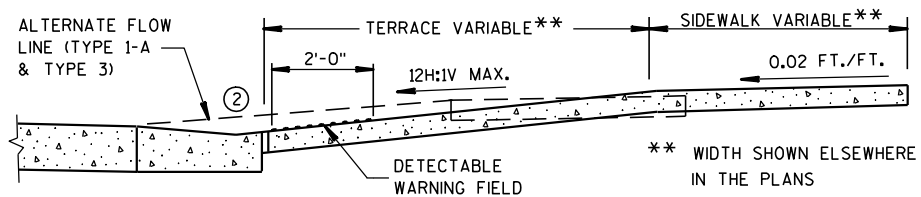
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



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



**SECTION A-A**



**SECTION B-B**

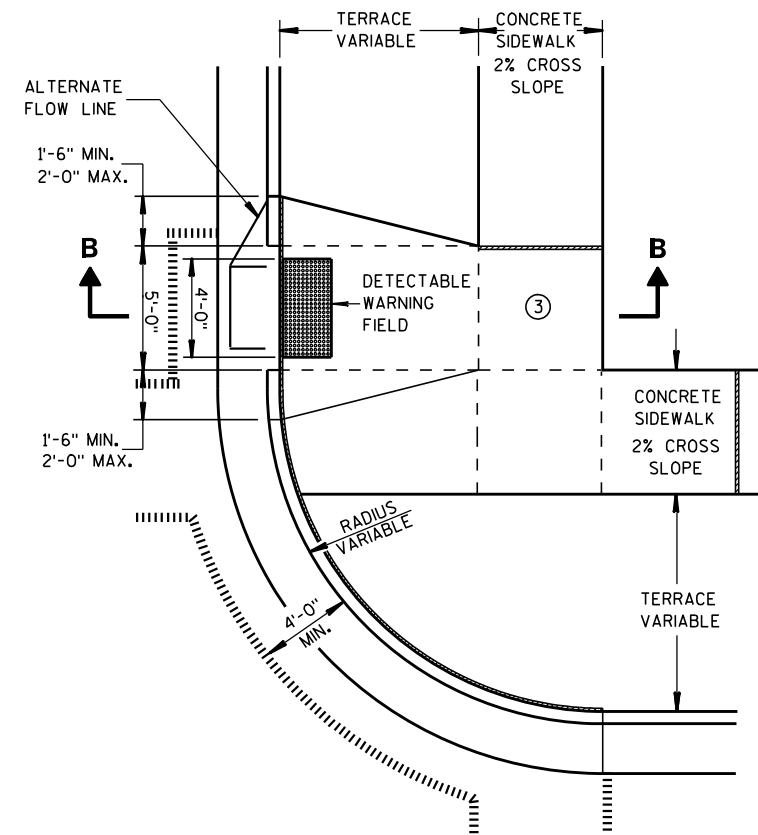
**GENERAL NOTES**

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

- ① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.
- ③ PROVIDE LANDING AT TOP OF RAMP WITH NO MORE THAN 2% SLOPE IN ANY DIRECTION.

**LEGEND**

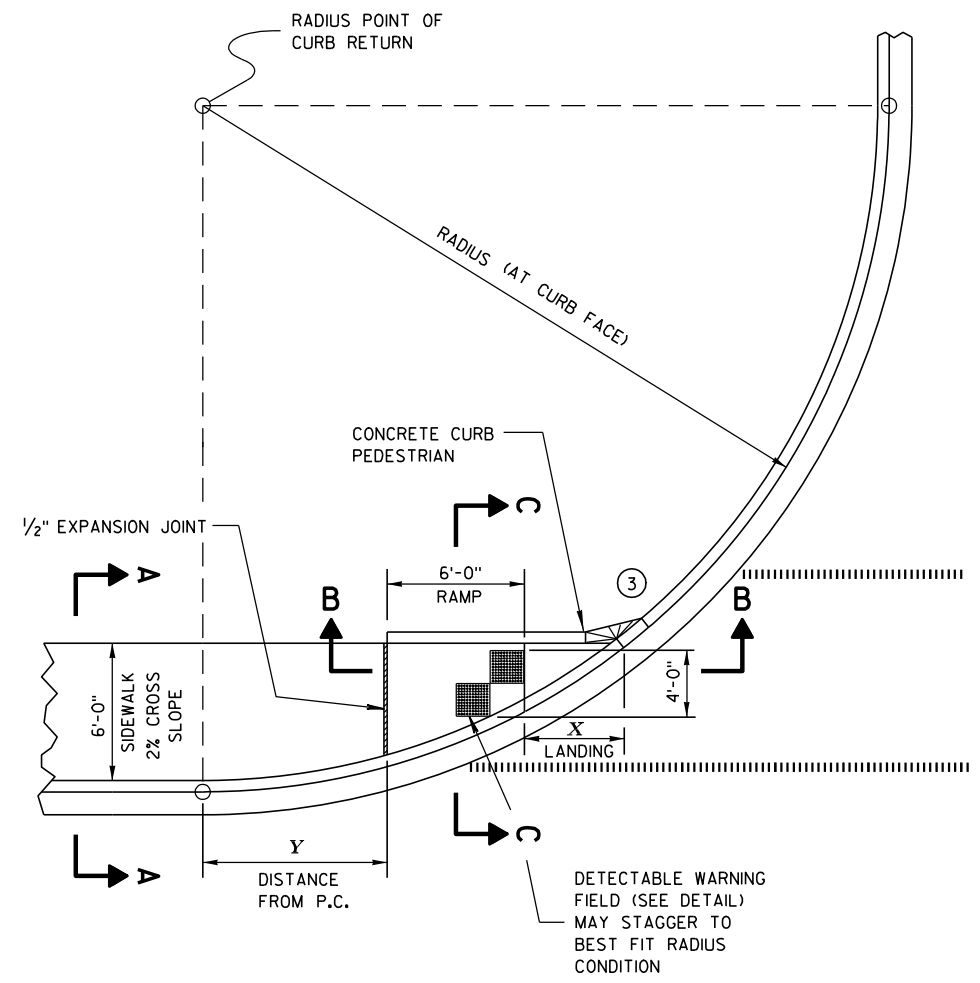
- ===== 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



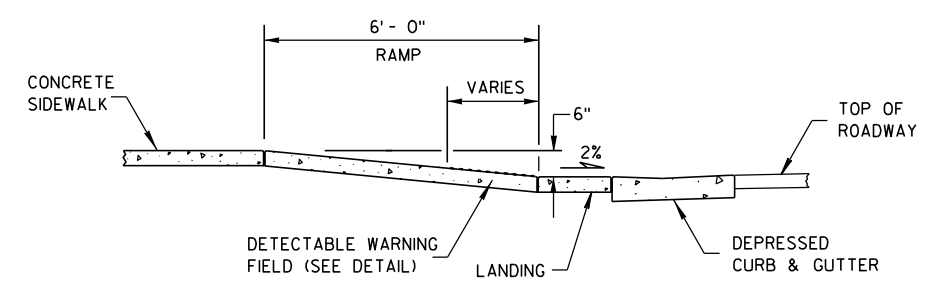
**PLAN VIEW  
TYPE 3 RAMP**  
(OUTSIDE OF CROSSWALK AREA)

**CURB RAMPS  
TYPES 2 AND 3**

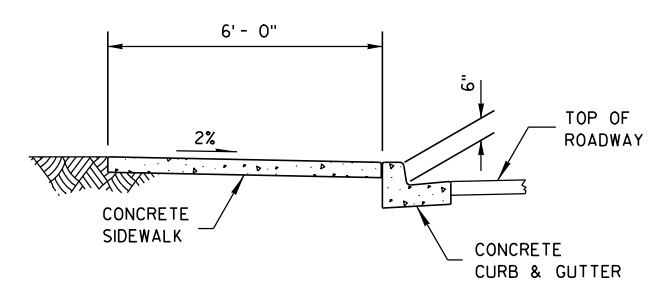
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



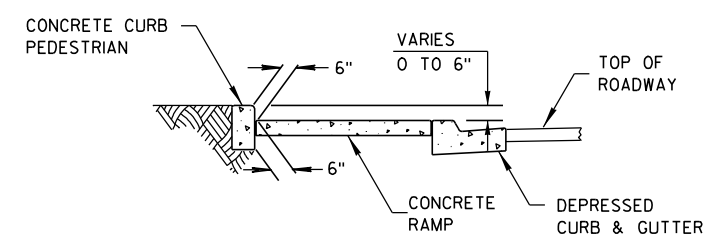
**CURB RAMP TYPE 4A  
PLAN VIEW**



**SECTION B-B**



**SECTION A-A**



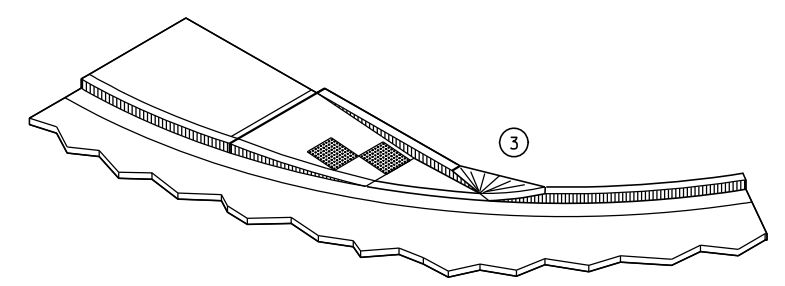
**SECTION C-C**

RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-1 <sup>3</sup> / <sub>4</sub> "	2'-7 <sup>1</sup> / <sub>4</sub> "
30 FEET	7'-11 <sup>3</sup> / <sub>4</sub> "	4'-8 <sup>1</sup> / <sub>4</sub> "
40 FEET	9'-5 <sup>1</sup> / <sub>4</sub> "	6'-5"
50 FEET	10'-8 <sup>3</sup> / <sub>4</sub> "	7'-11 <sup>1</sup> / <sub>4</sub> "
60 FEET	11'-10 <sup>1</sup> / <sub>4</sub> "	9'-3 <sup>1</sup> / <sub>2</sub> "

INTERMEDIATE RADII CAN BE INTERPOLATED

**GENERAL NOTES**

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.
- SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
- ③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.



**ISOMETRIC VIEW**

**LEGEND**

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

**CURB RAMPS  
TYPE 4A**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

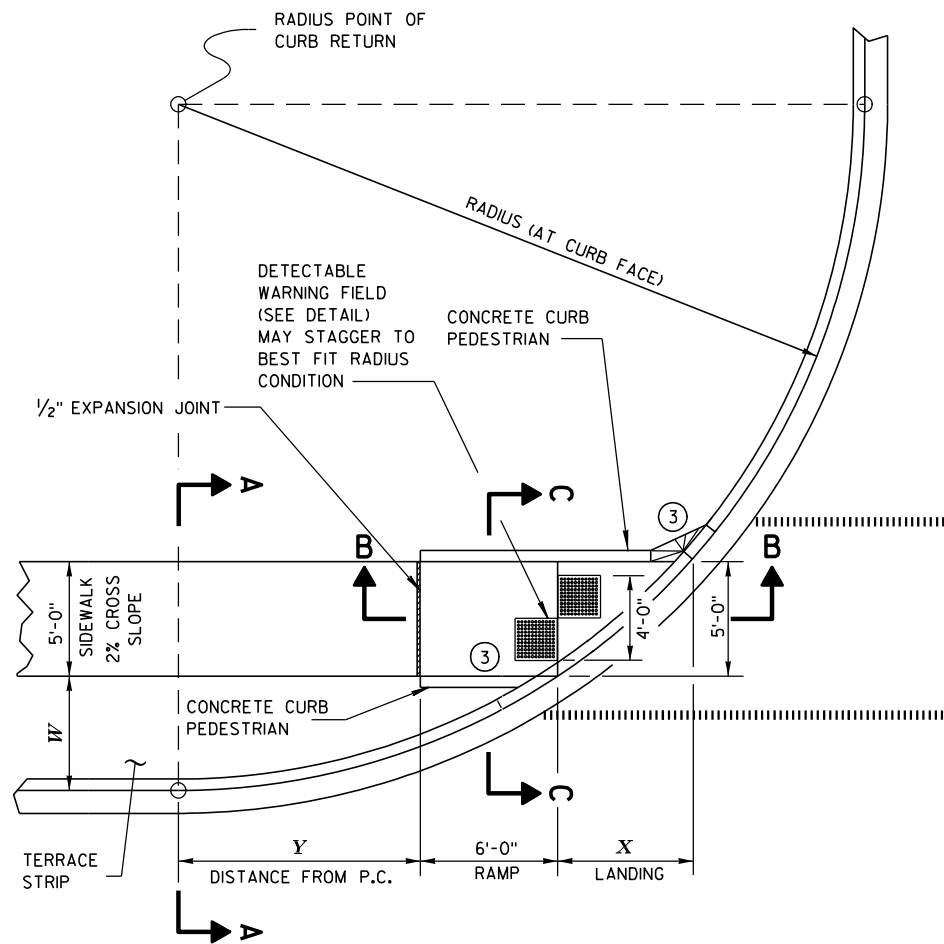
### GENERAL NOTES

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

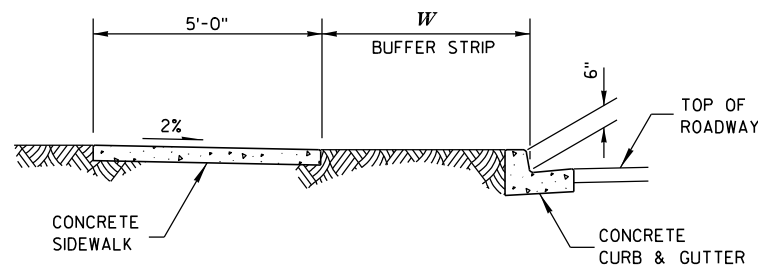
RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

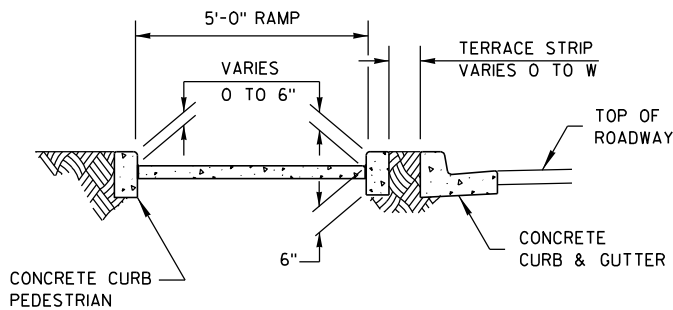
- ③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.



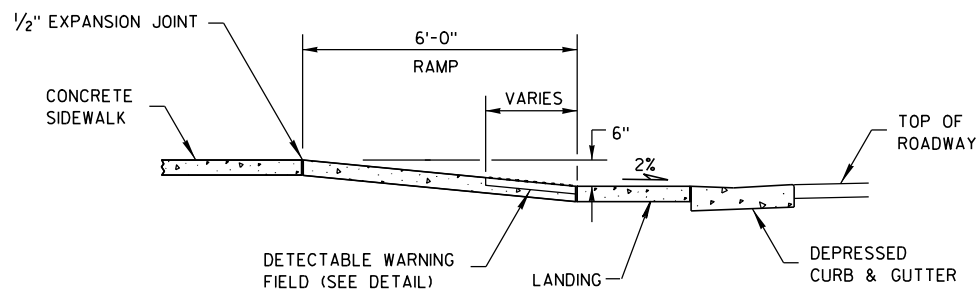
### CURB RAMP TYPE 4B PLAN VIEW



### SECTION A-A



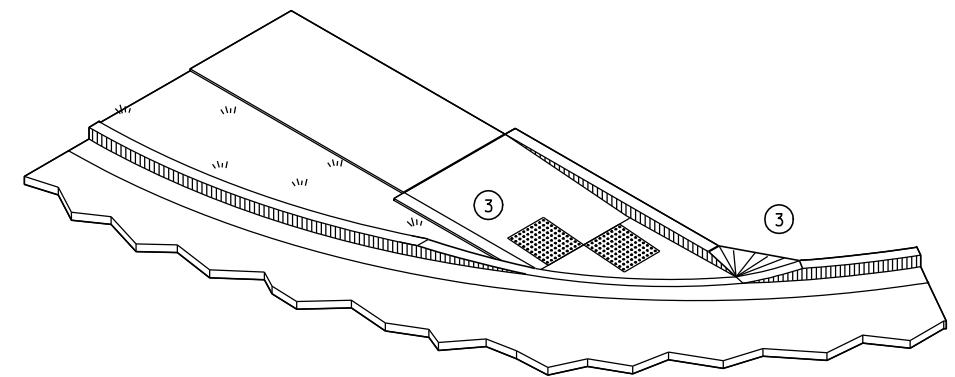
### SECTION C-C



### SECTION B-B

RADIUS (AT CURB FACE)	W = 3'- 0"		W = 4'- 0"		W = 5'- 0"		W = 6'- 0"		W = 7'- 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5 1/2"	4'-6 1/2"	4'-8 1/2"	6'-0"	4'-1"	7'-2 3/4"	3'-7"	8'-3 1/2"	3'-1 1/2"	9'-2 1/2"
30 FEET	7'-3 3/4"	7'-1"	6'-5 1/2"	8'-11 1/2"	5'-9 1/4"	10'-7"	5'-2 1/2"	12'-0"	4'-8 3/4"	13'-3 1/4"
40 FEET	8'-9 1/2"	9'-2 1/2"	7'-10"	11'-5 1/4"	7'-1"	13'-4 1/2"	6'-5 3/4"	15'-3 1/4"	5'-11 1/2"	16'-7 1/4"
50 FEET	10'-3 1/4"	11'-3 1/4"	9'-1 1/4"	13'-7 1/4"	8'-2 1/2"	15'-9 1/2"	7'-6 1/2"	17'-9"	6'-11 3/4"	19'-6 1/4"
60 FEET	11'-2 1/2"	12'-8 3/4"	10'-3 1/4"	15'-6 1/2"	9'-2 1/4"	17'-11 3/4"	8'-5 3/4"	20'-1 3/4"	7'-10 1/2"	22'-1 1/2"
70 FEET	12'-2 3/4"	14'-3 1/4"	11'-1 1/4"	17'-4"	10'-1"	19'-11 3/4"	9'-3 3/4"	22'-4 1/4"	8'-8 1/4"	24'-6 1/4"
80 FEET	13'-2"	15'-8 1/2"	11'-10 1/2"	18'-11 3/4"	10'-10 3/4"	21'-10"	10'-1"	24'-4 3/4"	9'-5"	26'-8 3/4"
90 FEET	14'-1 1/2"	17'-1 1/2"	12'-8 1/4"	20'-6 1/2"	11'-7 3/4"	23'-7"	10'-9 3/4"	26'-3 3/4"	10'-1 1/4"	28'-9 1/2"
100 FEET	14'-10 1/2"	18'-3 3/4"	13'-5 1/2"	22'-0"	12'-4 1/4"	25'-2 3/4"	11'-5 3/4"	28'-1 1/2"	10'-9"	30'-9"

INTERMEDIATE RADII CAN BE INTERPOLATED



### ISOMETRIC VIEW

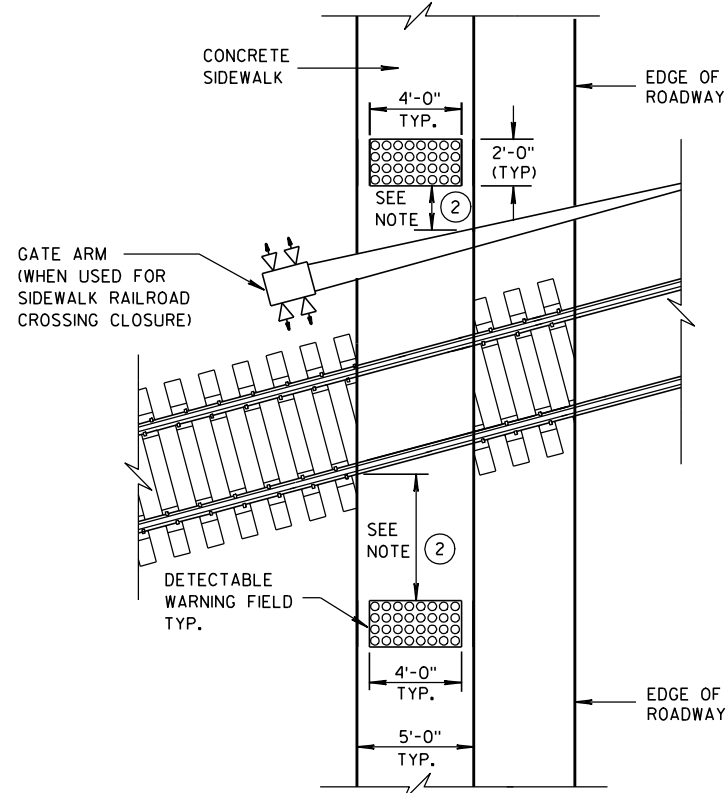
### LEGEND

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

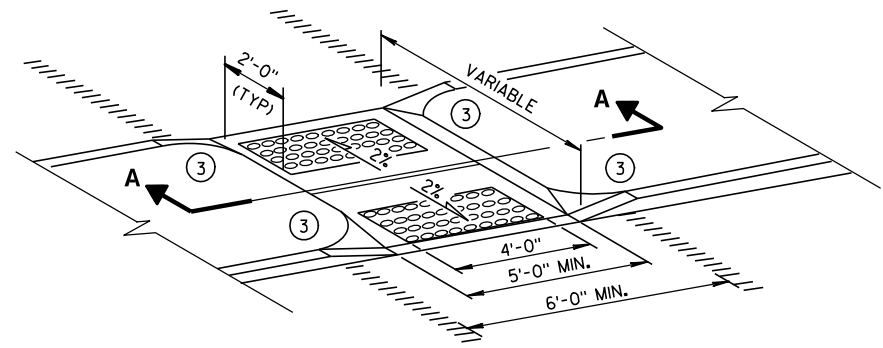
### CURB RAMPS TYPE 4B

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

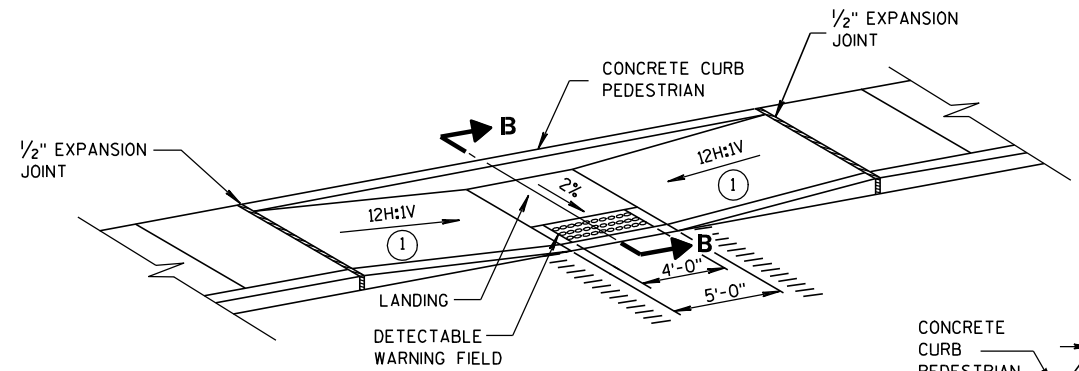
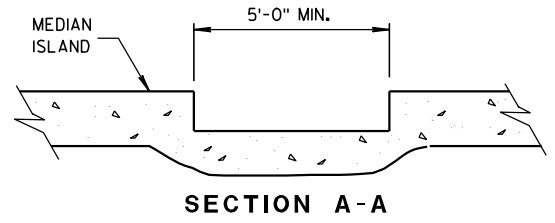




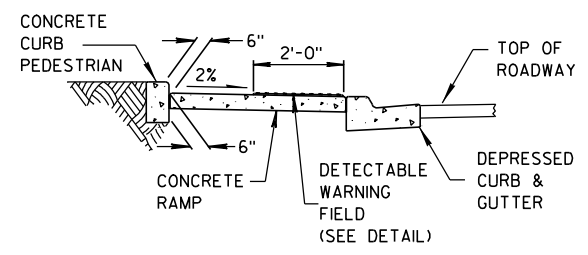
**TYPE 8  
DETECTABLE WARNINGS  
AT RAILROAD CROSSING**



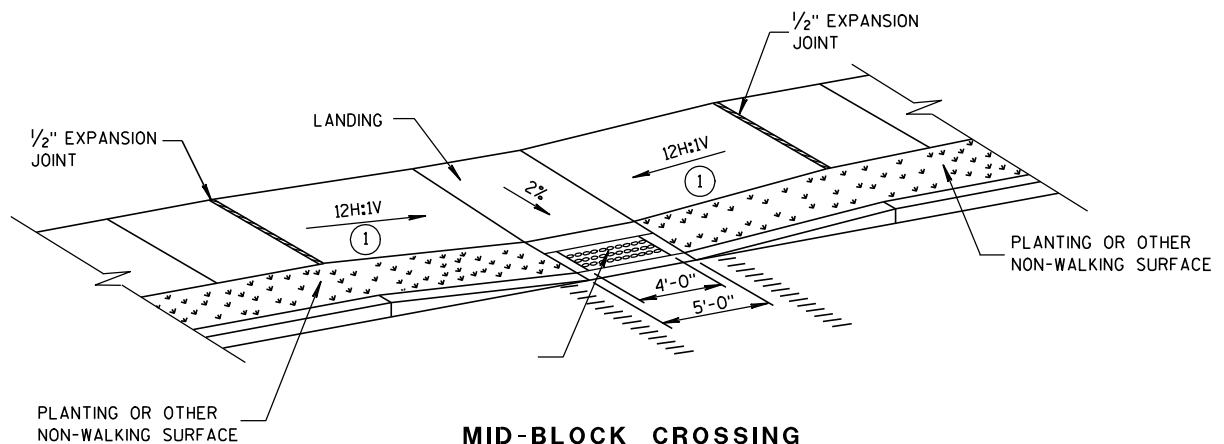
**MEDIAN ISLAND  
NON-ELEVATED CROSSING  
TYPE 5**



**MID-BLOCK CROSSING  
TYPE 7A**



**SECTION B-B**



**MID-BLOCK CROSSING  
TYPE 7B**

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

**GENERAL NOTES**

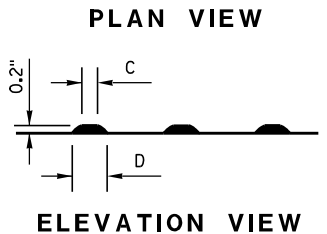
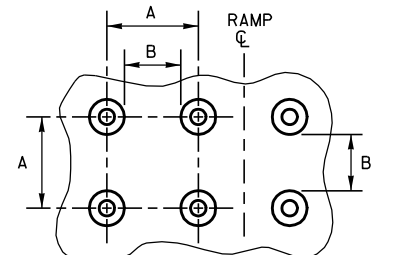
- ① SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
- ① SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- ② THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.
- ③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

**LEGEND**

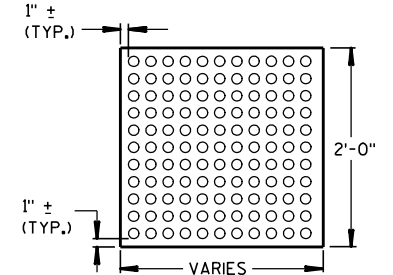
- ===== 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- ||||||| PAVEMENT MARKING CROSSWALK (WHITE)

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

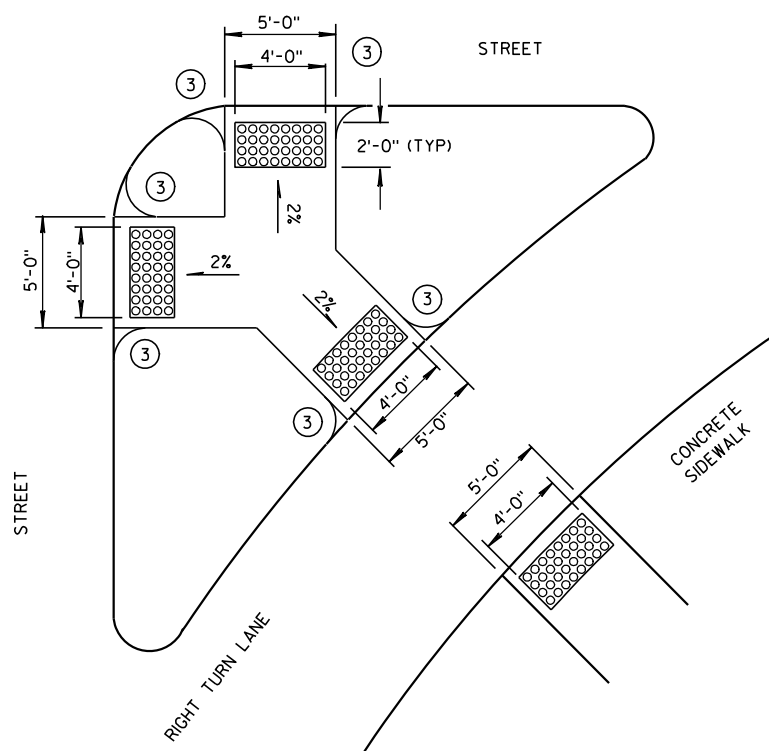
\* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



**TRUNCATED DOMES  
DETECTABLE WARNING  
PATTERN DETAIL**



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

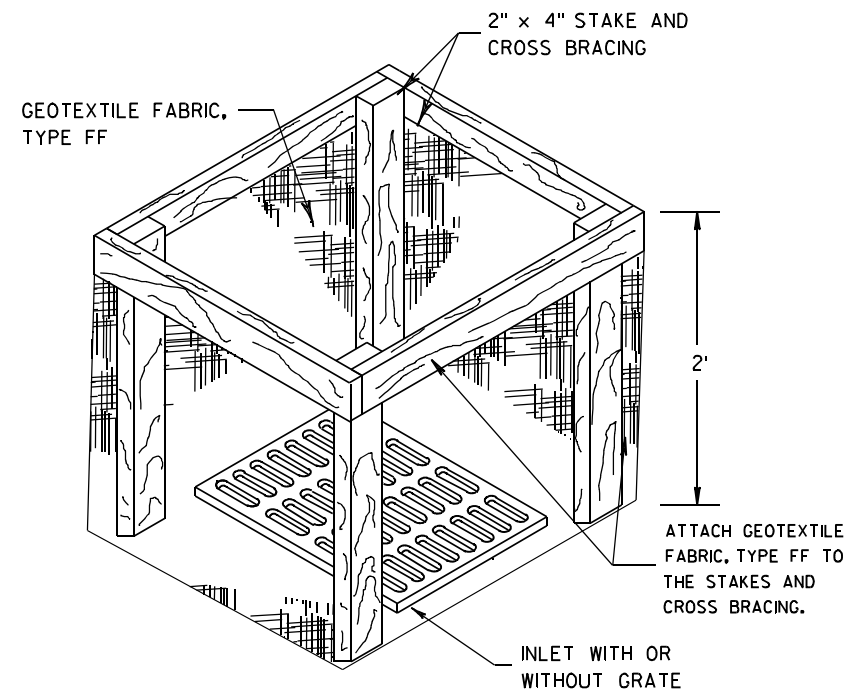
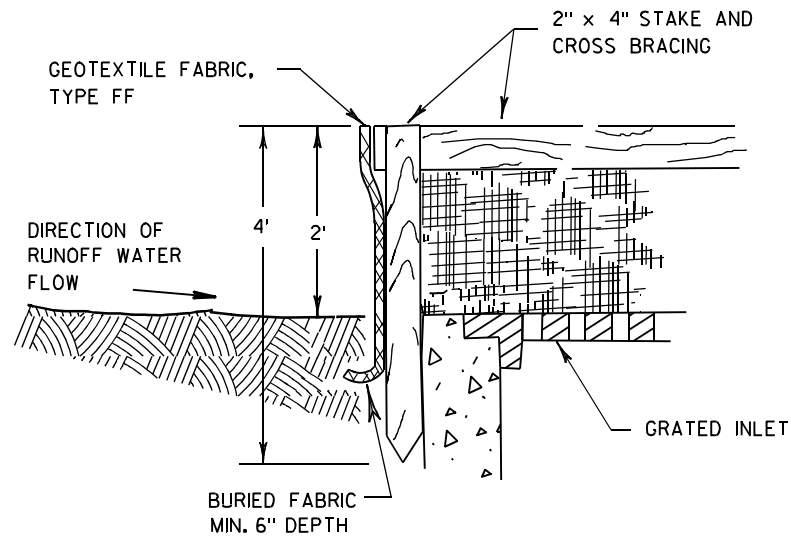


**TYPE 6  
DETECTABLE WARNING AT ISLANDS**

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE 2-9-10 /S/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT ENGINEER  
FHWA



**INLET PROTECTION, TYPE A**

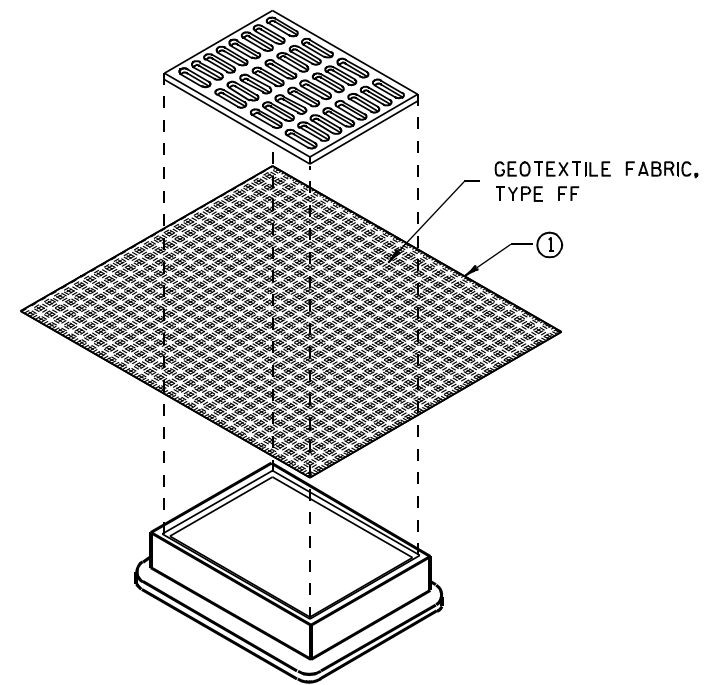
**GENERAL NOTES**

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

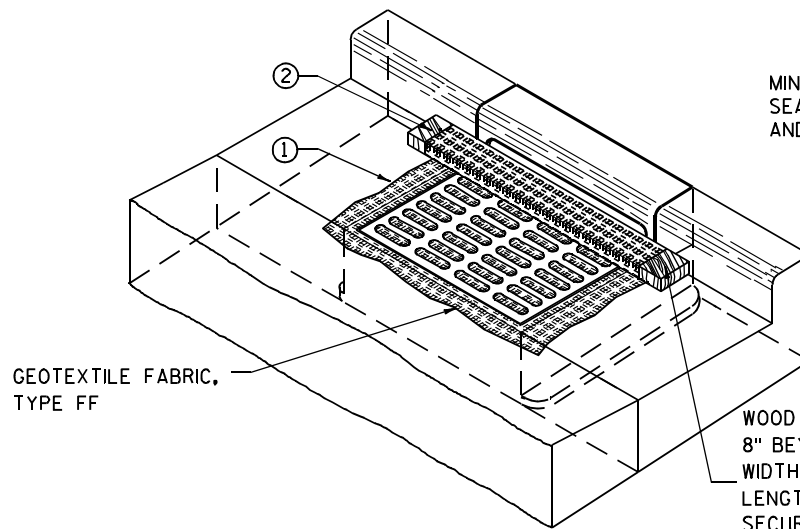
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



**INLET PROTECTION, TYPE B  
(WITHOUT CURB BOX)**

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



**INLET PROTECTION, TYPE C (WITH CURB BOX)**

**INSTALLATION NOTES**

**TYPE B & C**

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

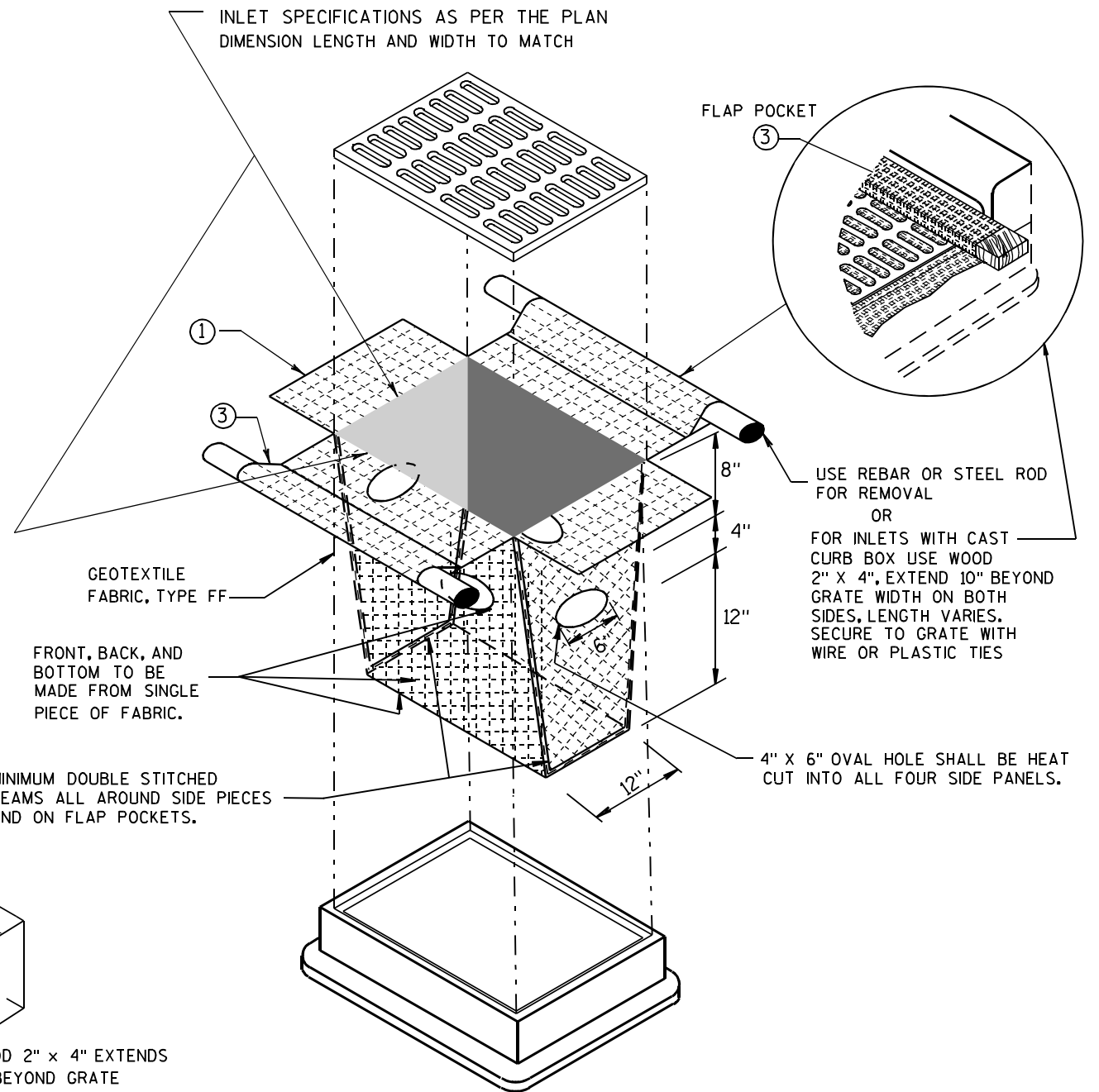
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

**TYPE D**

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

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

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.



**INLET PROTECTION, TYPE D**

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

### GENERAL NOTES

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

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

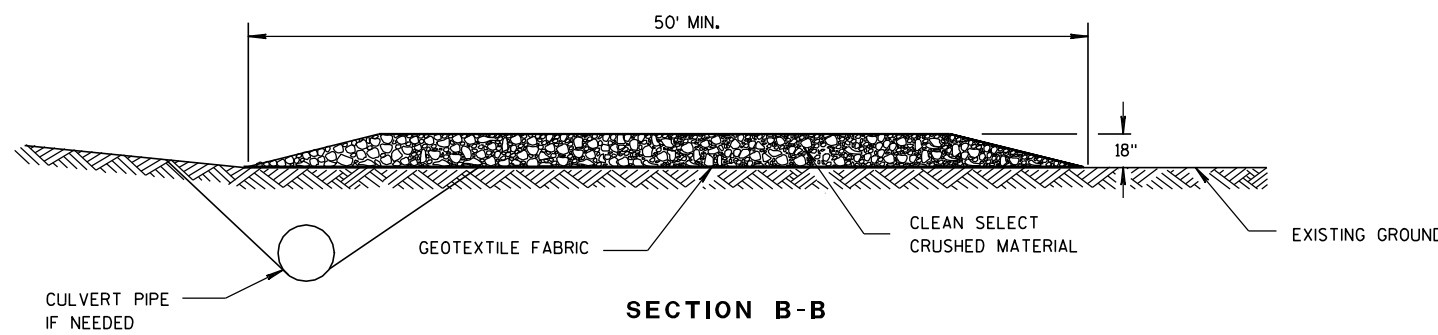
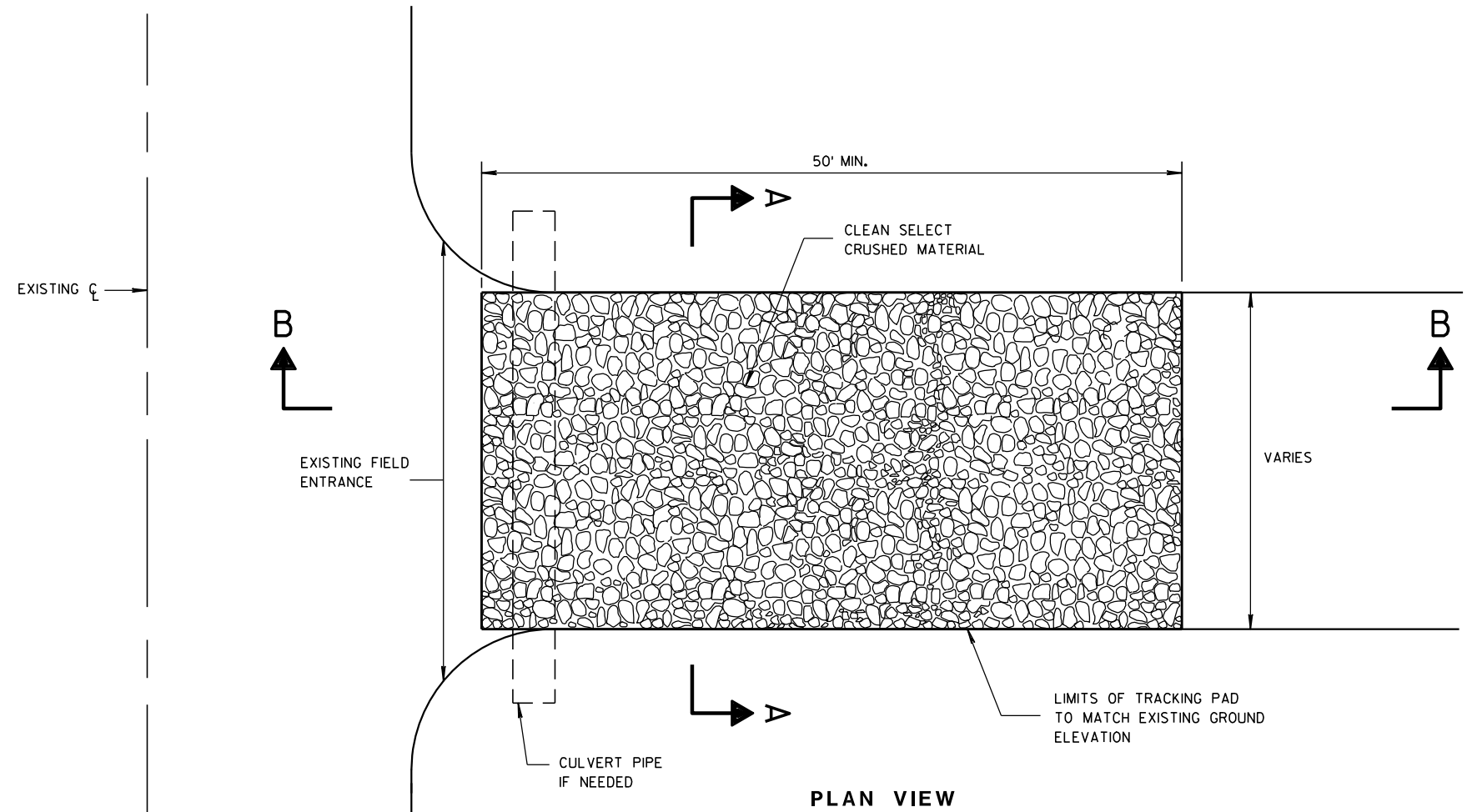
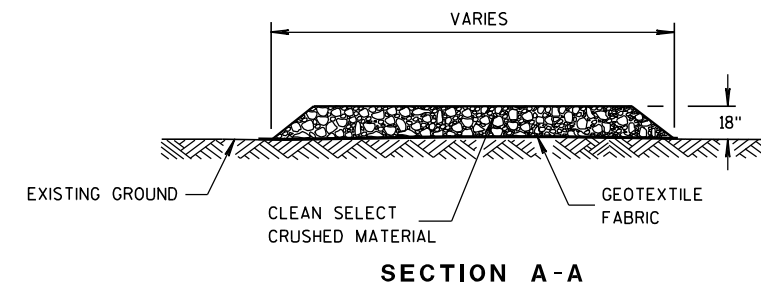
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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

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

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

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

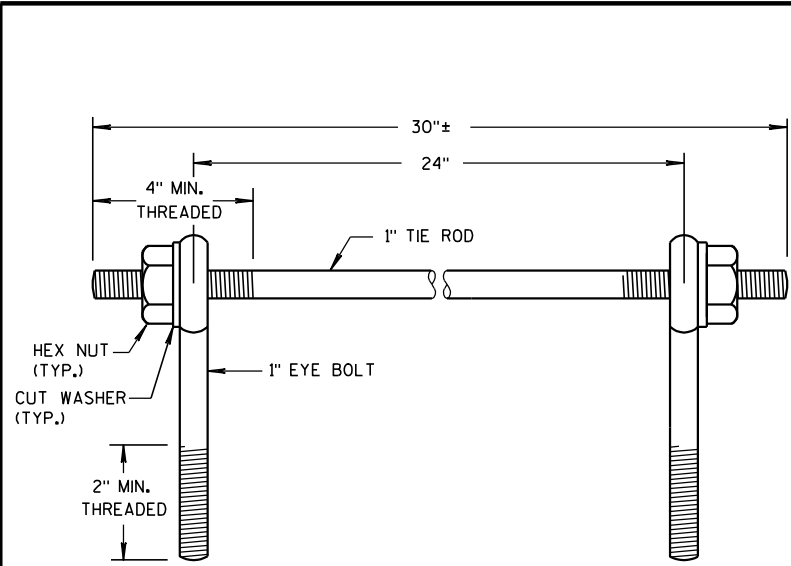


### TRACKING PAD

#### TRACKING PAD

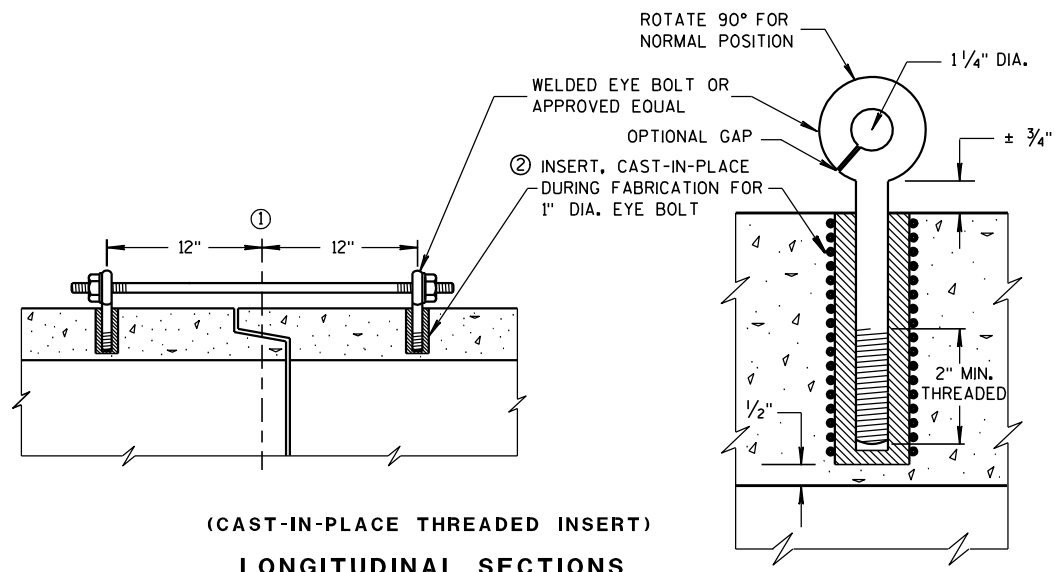
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



EYE BOLTS AND TIE ROD

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)



(CAST-IN-PLACE THREADED INSERT)  
LONGITUDINAL SECTIONS

GENERAL NOTES

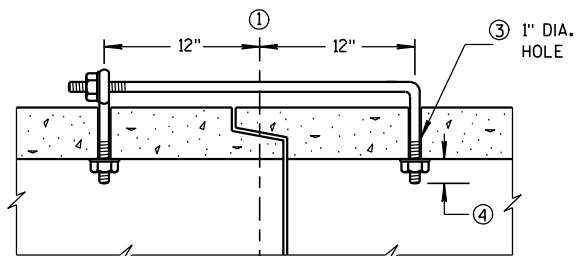
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

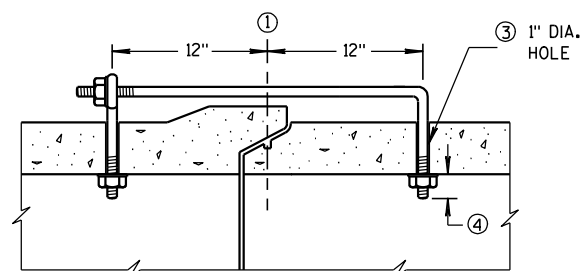
DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

- ①  $\phi$  OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- ② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
- ③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM  $\phi$  OF TONGUE AND GROOVE.
- ④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
- ⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.
- ⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)



(MODIFIED BELL PIPE)  
LONGITUDINAL SECTION

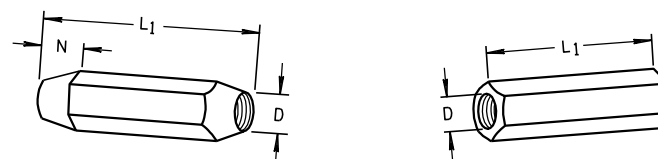
EYE BOLT DIMENSION TABLE

PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	

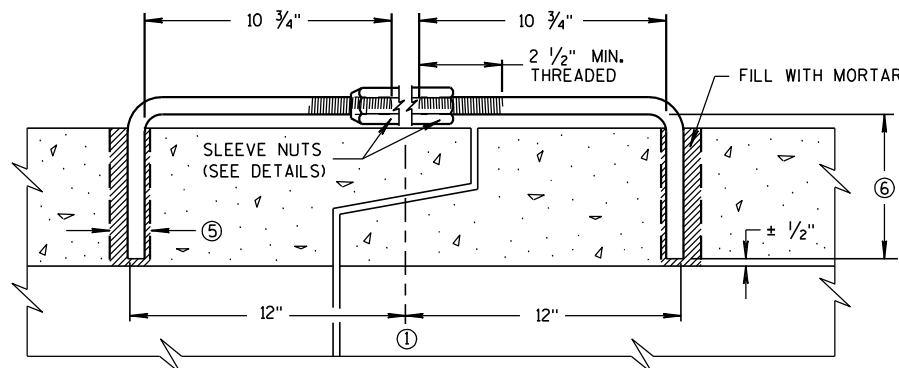
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/6

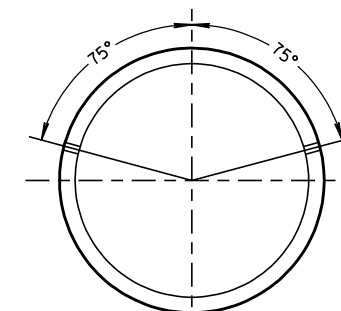
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN  
RIGHT AND LEFT THREADS  
SLEEVE NUTS

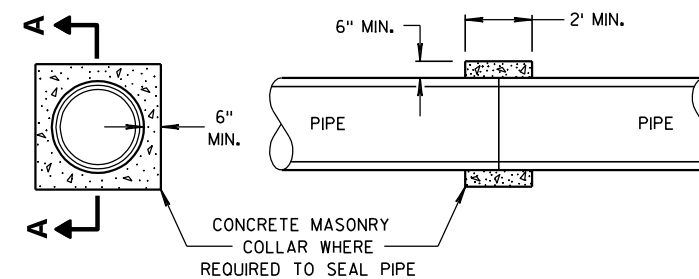


LONGITUDINAL SECTION  
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)  
ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE  
INSERTS OR HOLES DURING FABRICATION  
FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



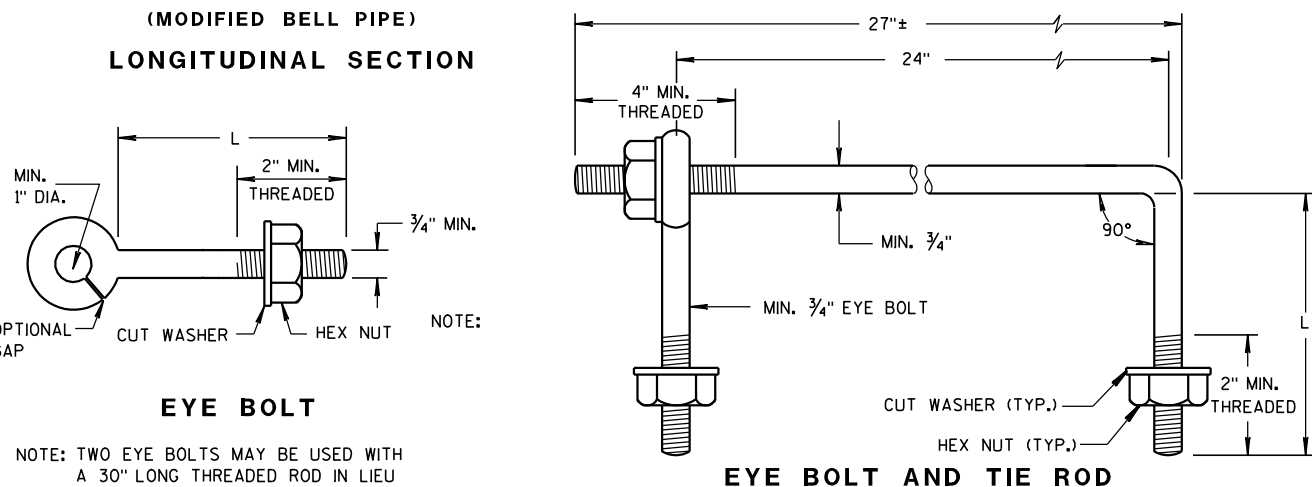
SECTION A-A  
CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE  
PIPE AND CONCRETE  
COLLAR DETAIL

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

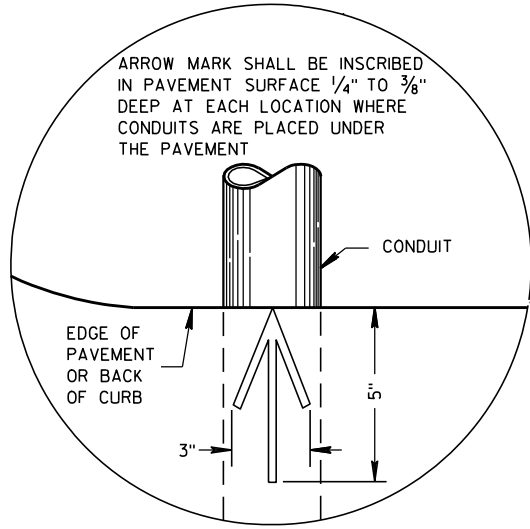
EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)



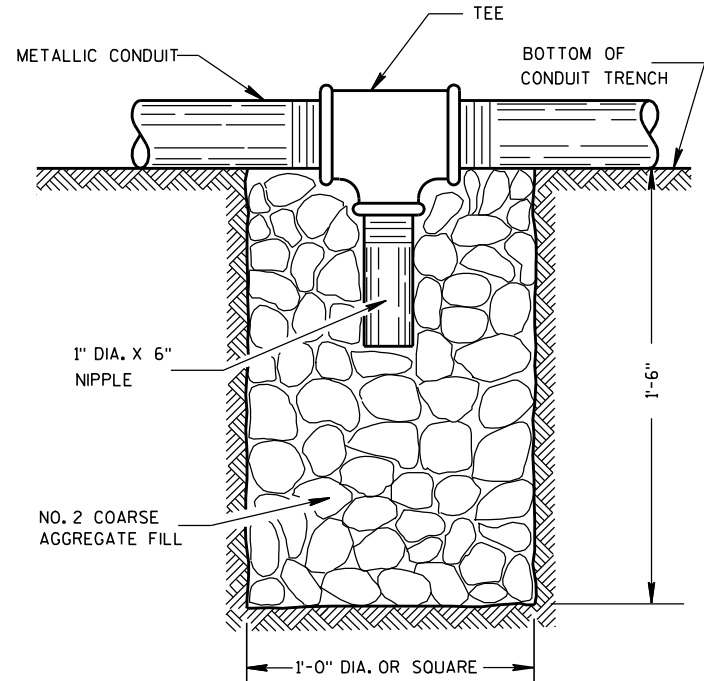
EYE BOLT  
NOTE: TWO EYE BOLTS MAY BE USED WITH  
A 30" LONG THREADED ROD IN LIEU  
OF THE 90° BENT TIE ROD.

(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

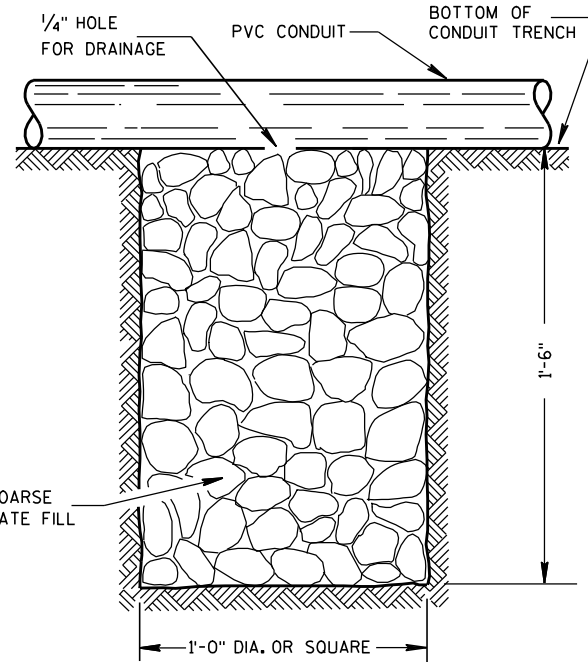


**PLAN VIEW  
ARROW MARK**



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 EMERSON TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

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

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

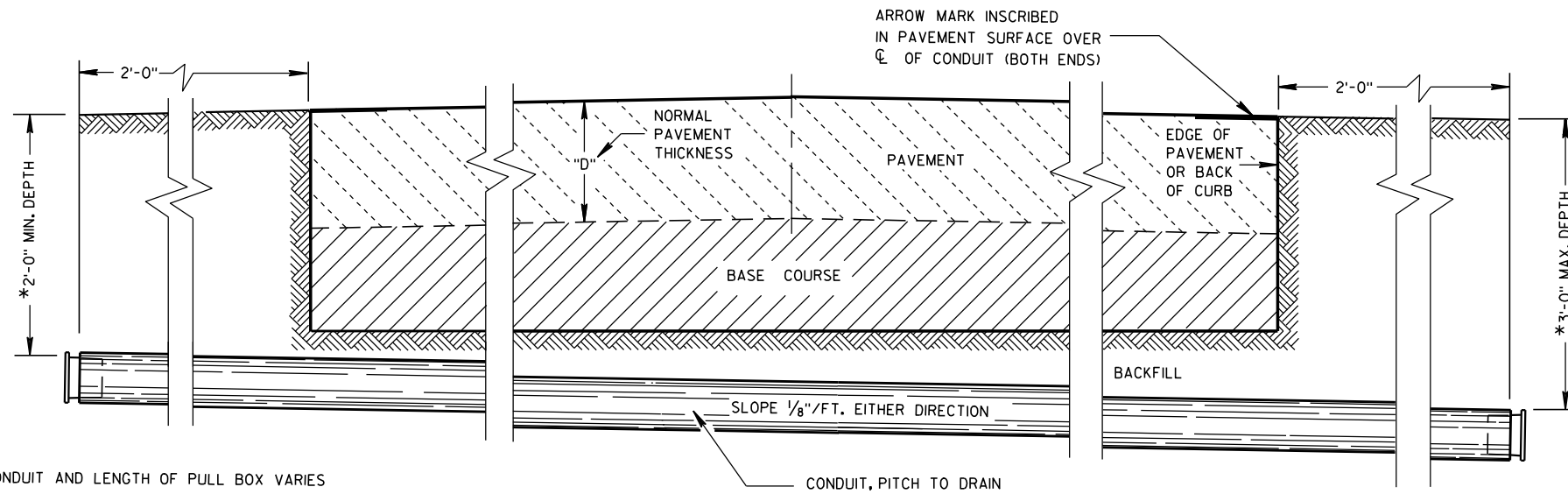
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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

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

POLY ROPE OR A PULL WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

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



\*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

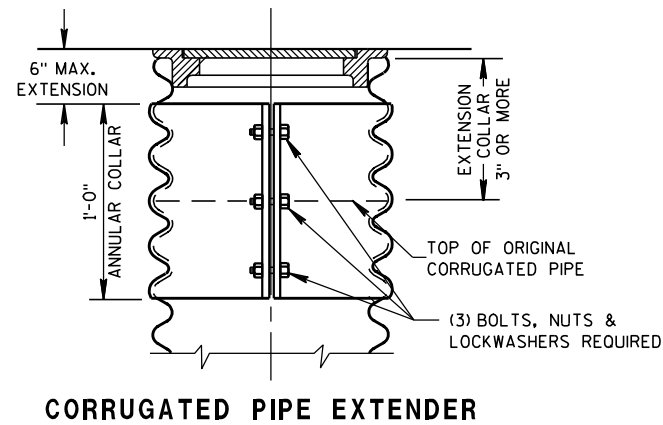
APPROVED  
10/23/03 /S/ Balu Ananthanarayanan  
DATE STATE ELECTRICAL ENGINEER FOR HWYS  
FHWA

**TABLE OF NOMINAL DIMENSIONS AND WEIGHTS**

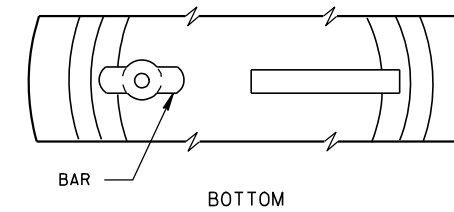
DIMENSION IN INCHES		CORRUGATED STEEL PIPE									
		A	12	12	12	18	18	18	24	24	24
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24	
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48	
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	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	
<b>WEIGHT IN POUNDS *</b>											
FRAME AND COVER		60	60	60	110	110	110	155	155	155	

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

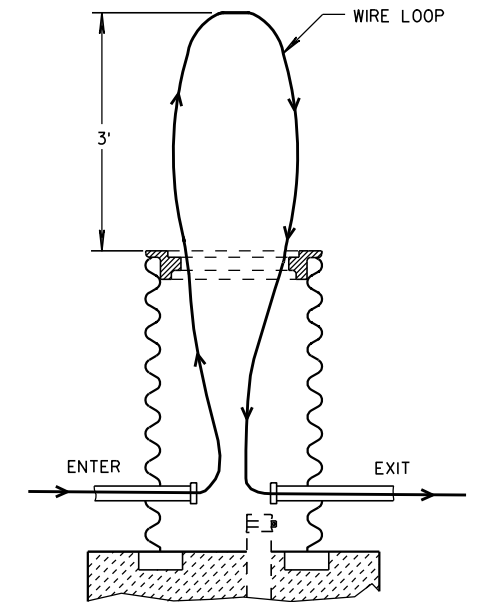
\*\* NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



**CORRUGATED PIPE EXTENDER**



**ALTERNATE COVER (LOCKING)  
TIGHTENING BAR TYPE**



**MEASUREMENT DETAIL FOR  
WIRE/CABLE IN THE PULL BOX**

**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. THE MECHANICAL CONNECTION (INSIDE AND OUTSIDE) TO THE PULL BOX, SHALL BE TOTALLY AND PERMANENTLY SEALED WITH A SILICONE OR RUBBERIZED CAULKING COMPOUND AS APPROVED BY THE ENGINEER.

GROUNDING LUGS ARE NOT REQUIRED IN PULL BOXES WHEN VOLTAGES OF LESS THAN 50 VOLTS AC ARE THE ONLY VOLTAGES ENCOUNTERED IN THE BOXES.

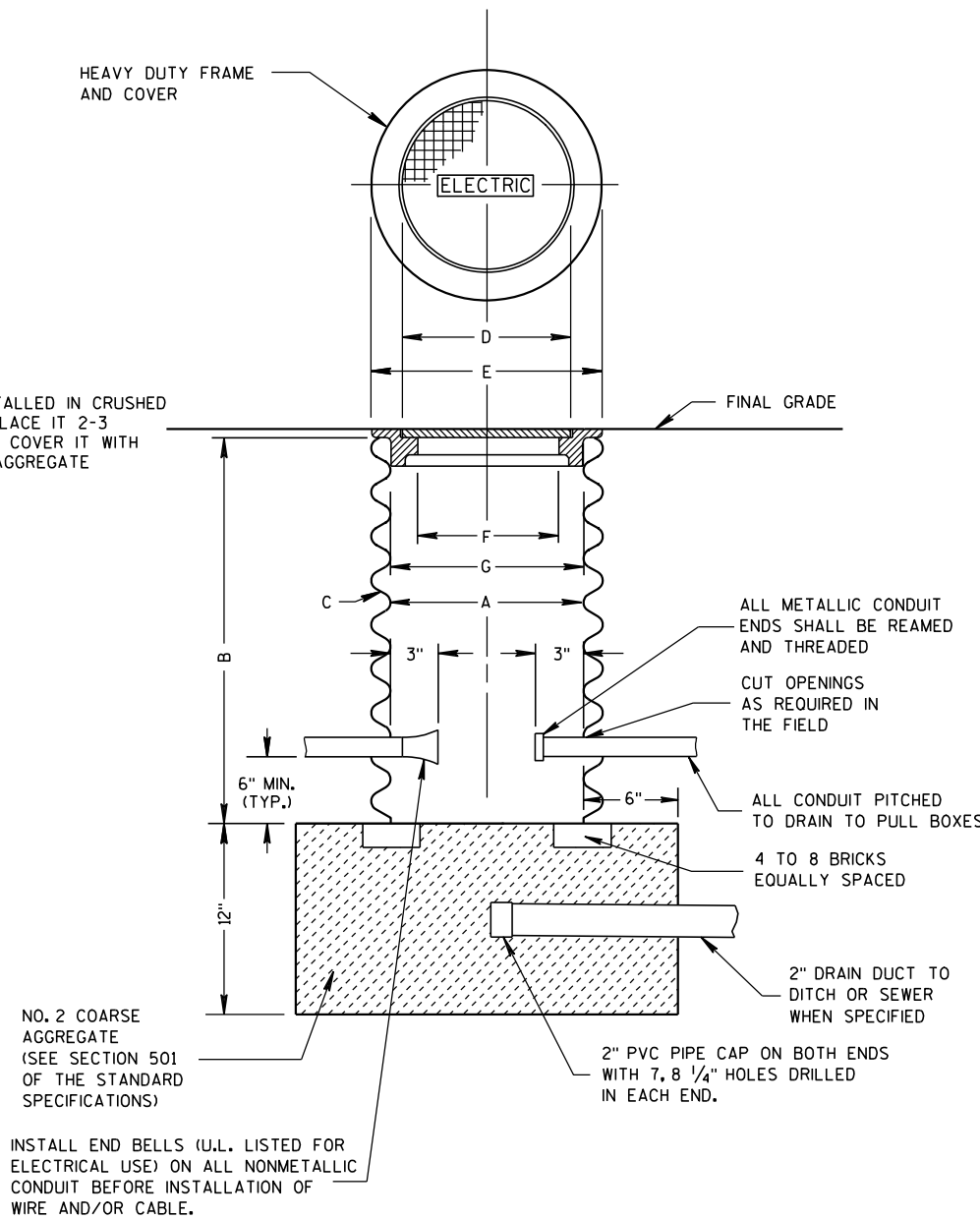
ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

S.D.D. 9B2, "CONDUIT", APPLIES TO THIS DRAWING.

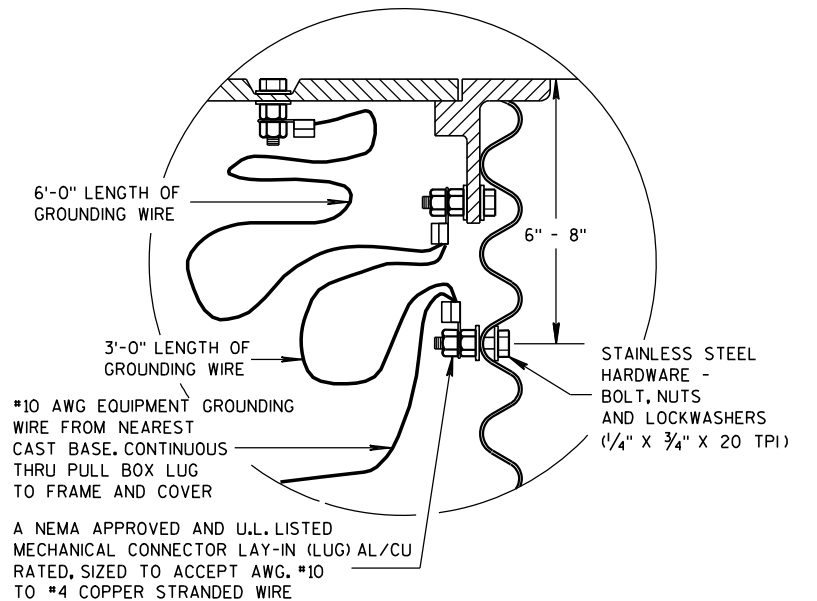
WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.

IF PULL BOX EQUIPMENT GROUNDING IS REQUIRED USING AN EQUIPMENT GROUNDING ELECTRODE IN EACH PULL BOX, THE EQUIPMENT GROUNDING ELECTRODE SHALL BE 5/8" X 8'-0", COPPERCLAD AND BE EXOTHERMICALLY WELDED TO A #4 AWG, COPPER, STRANDED WIRE (BARE OR GREEN INSULATED). THE #4 AWG WIRE SHALL BE 4 FEET IN LENGTH, NEATLY COILED, TAPED AND AVAILABLE FOR USE WHEN REQUIRED.

WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE



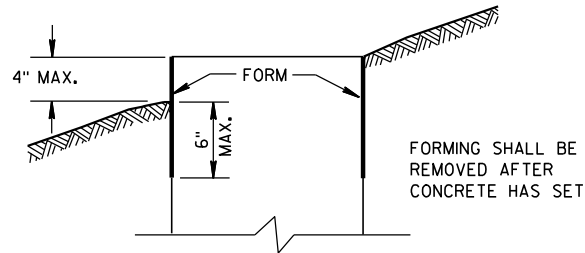
**PULL BOX**



**EQUIPMENT GROUNDING LUG AND  
LOCATION IN STEEL PULL BOXES**

<b>PULL BOX</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 9/27/06 DATE	/S/ Balu Ananthanarayanan STATE ELECTRICAL ENGINEER FOR HWYS
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
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 2 AND TYPE 5 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 AND 641.2.2 OF THE STANDARD SPECIFICATIONS, ASTM A-449, OR ASTM A-687 (GRADE 105).

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.

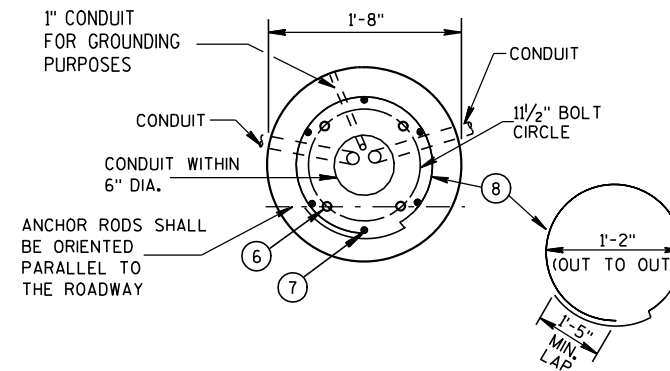
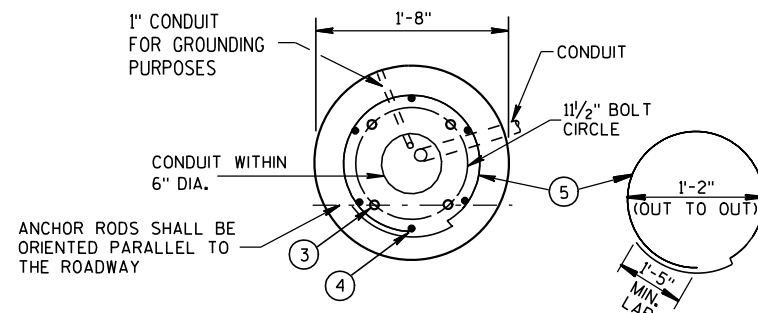
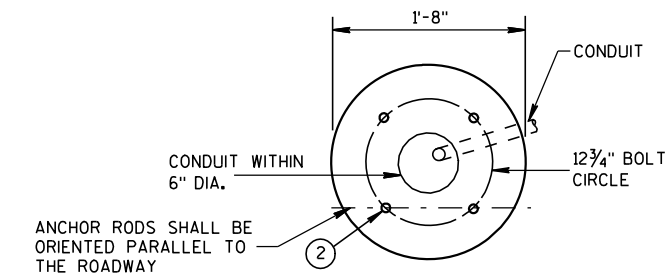
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

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.

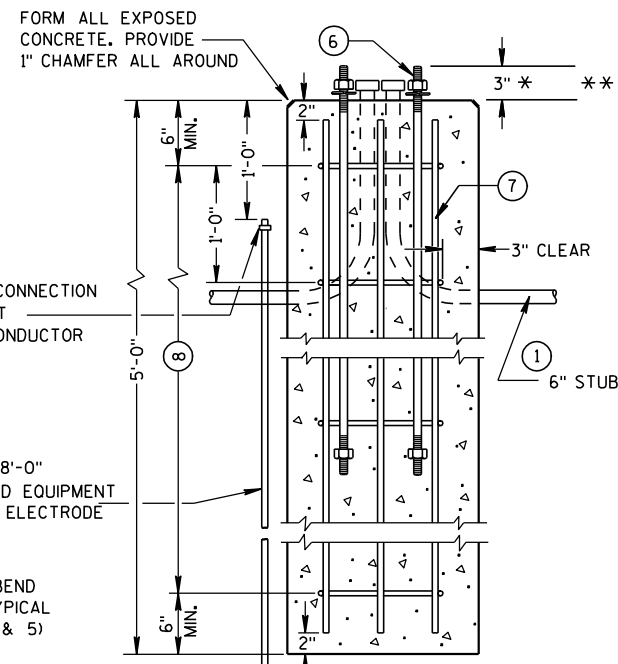
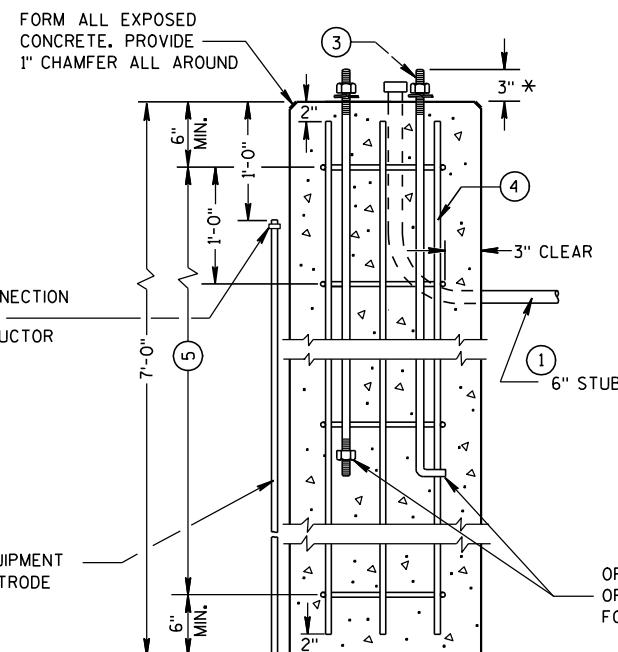
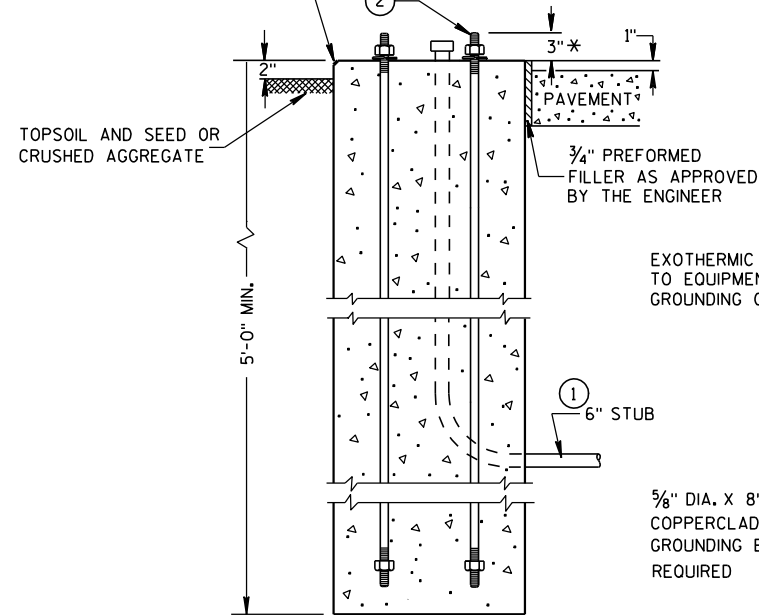
- ② (4) 1" DIA. X 3'-6" ANCHOR RODS.
- ③ (4) 1" DIA. X 5'-0" ANCHOR RODS.
- ④ (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.
- ⑤ (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.
- ⑥ (4) 1" DIA. X 3'-6" ANCHOR RODS.
- ⑦ (6) NO. 4 X 4'-8" BAR STEEL REINFORCEMENT.
- ⑧ (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.



FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

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

**HALF SECTION IN PAVEMENT**  
(TYPICAL FOR TYPES 1, 2 & 5)



**CONCRETE BASES**

\* ANY ANCHOR ROD PROJECTION SHORTER THAN 2 3/4" OR LONGER THAN 3 1/4" 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**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
3/3/10 DATE /S/ Joanna L. Bush  
STATE ELECTRICAL ENGINEER FOR HWYS  
FHWA

**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, ASTM A-325, (92,000 YIELD) HEAVY HEX NUT AND BE GALVANIZED IN ACCORDANCE WITH ASTM A-153, CLASS C.

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 AND U.L. LISTED MECHANICAL CONNECTOR (LUG) AL/CU RATED AND SIZED TO ACCEPT #10 AWG STRANDED WIRE, SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

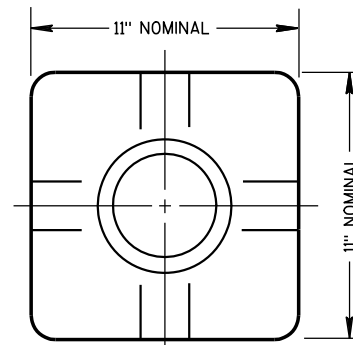
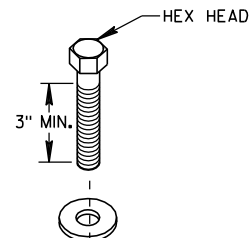
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

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.

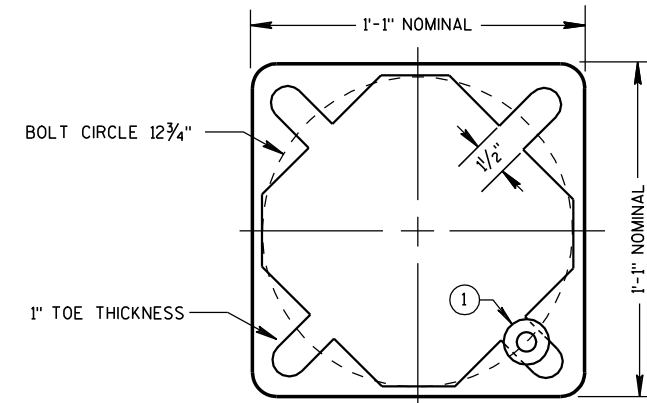
PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

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.

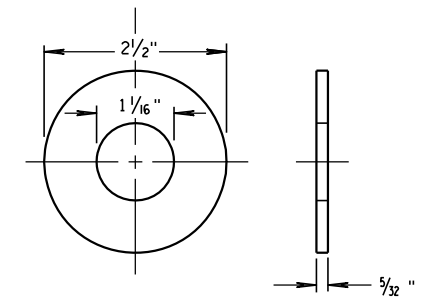
THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.



TOP VIEW  
(PEDESTAL BASE)



BOTTOM VIEW  
(PEDESTAL BASE)



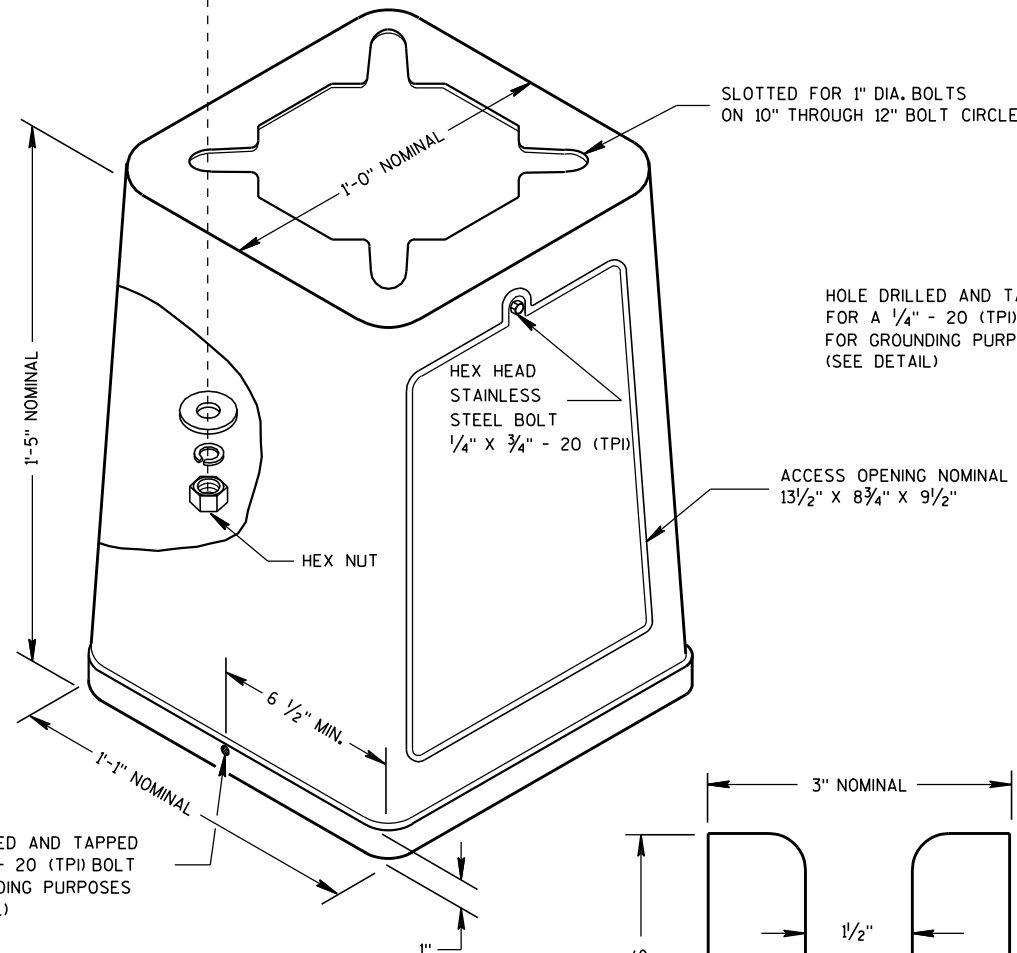
ZINC COATED STEEL WASHER  
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL  
BASE WASHER (1)

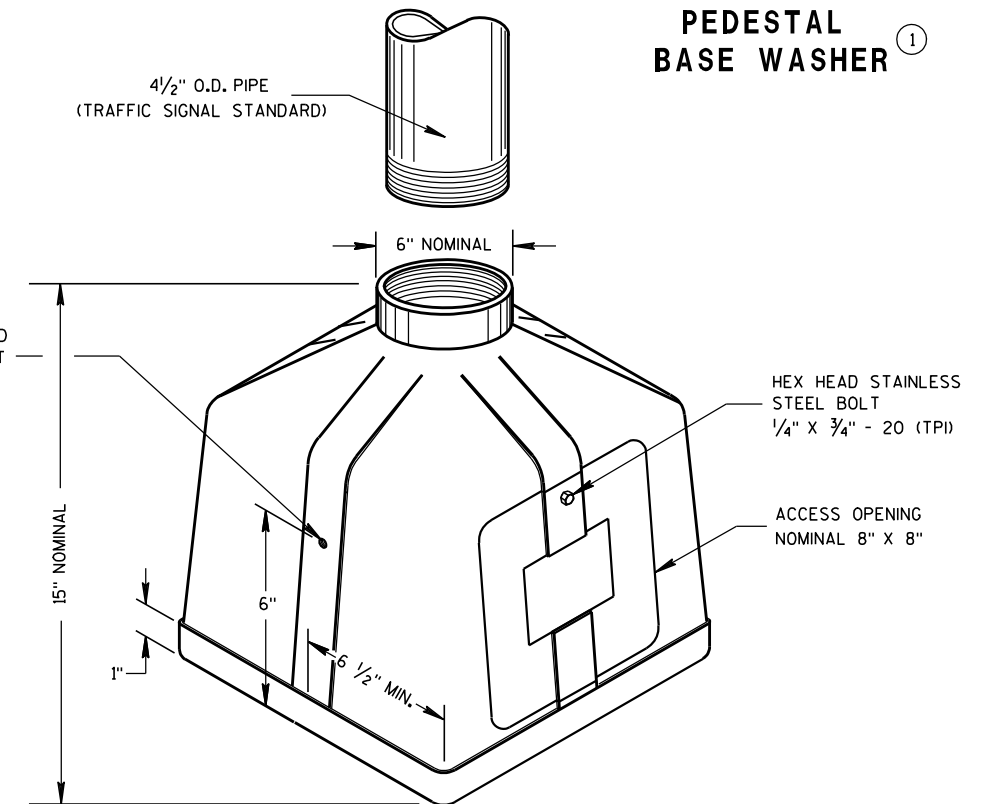
PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

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.

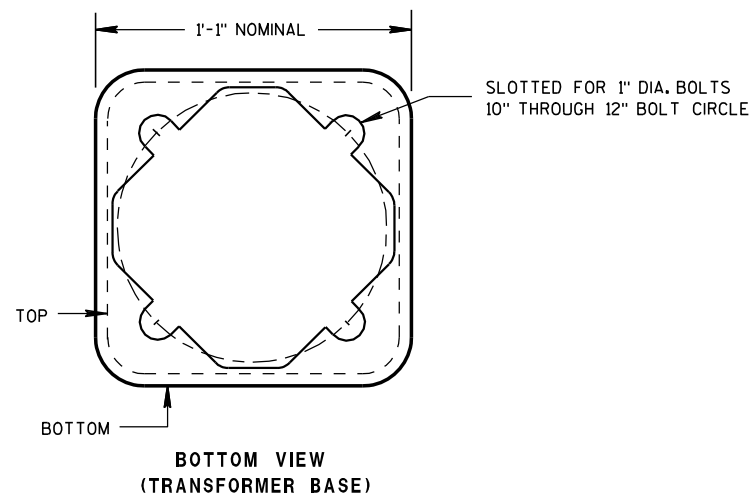
THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.



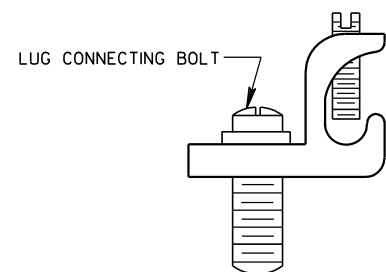
ISOMETRIC VIEW



ISOMETRIC VIEW  
PEDESTAL BASE

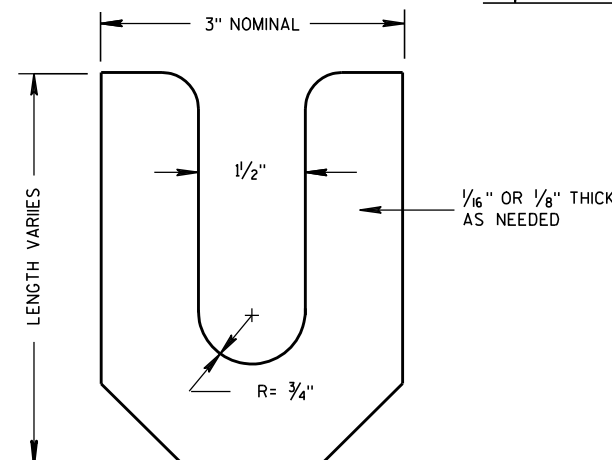


BOTTOM VIEW  
(TRANSFORMER BASE)



TYPICAL MECHANICAL  
CONNECTOR LUG  
TO BE FURNISHED WITH EACH BASE

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



LEVELING SHIM

6

6

S.D.D. 9 C 3-3

S.D.D. 9 C 3-3

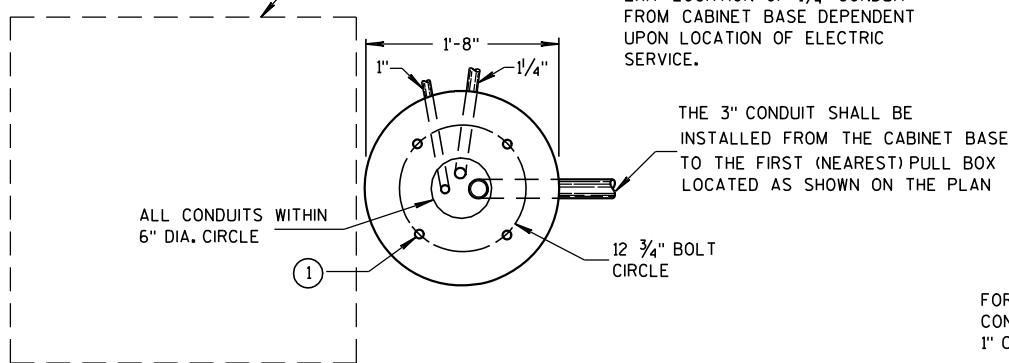
<b>TRANSFORMER/PEDESTAL BASES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/27/09 DATE	/s/ Joanna L. Bush STATE ELECTRICAL ENGINEER FOR HWYS
FHWA	



CONTROL CABINET BASE TYPE	DIMENSIONS				C.Y. CONCRETE (APPROX.)
	H	I	J	K	
TYPE 6 - 30" CABINET	34"	60"	10"	17"	.64
TYPE 7 - 38" CABINET	42"	60"	10"	21"	.93
TYPE 8 - 38" CABINET	42"	72"	12"	21"	1.29
TYPE 9 - VARIABLE	54"	72"	14"	27"	1.56
TYPE 10 - POST MOUNT	AS SHOWN				.65 *

\* INCLUDES MAINTENANCE PLATFORM.

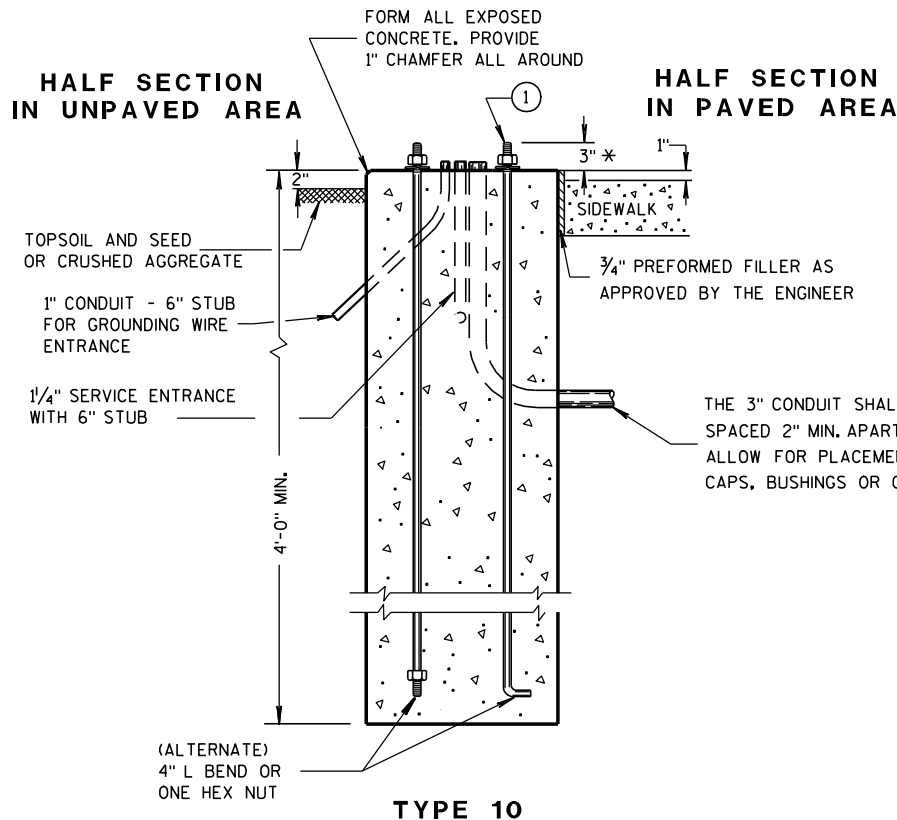
TYPICAL 3'-0" X 3'-0" X 4" THICK MAINTENANCE PLATFORM. LOCATION TO BE DETERMINED IN THE FIELD. COST TO BE INCLUDED UNDER CONCRETE CONTROL CABINET TYPE 10.



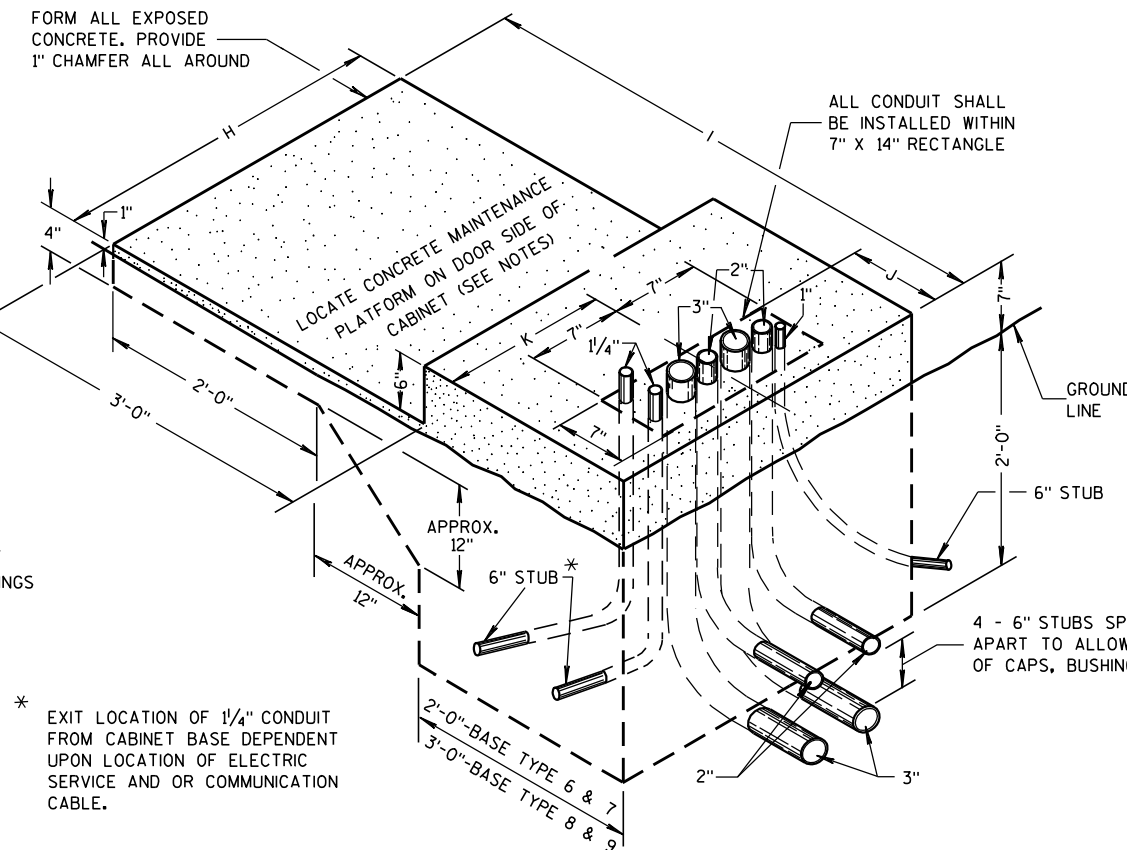
EXIT LOCATION OF 1/4" CONDUIT FROM CABINET BASE DEPENDENT UPON LOCATION OF ELECTRIC SERVICE.

THE 3" CONDUIT SHALL BE INSTALLED FROM THE CABINET BASE TO THE FIRST (NEAREST) PULL BOX LOCATED AS SHOWN ON THE PLAN

**HALF SECTION IN UNPAVED AREA**

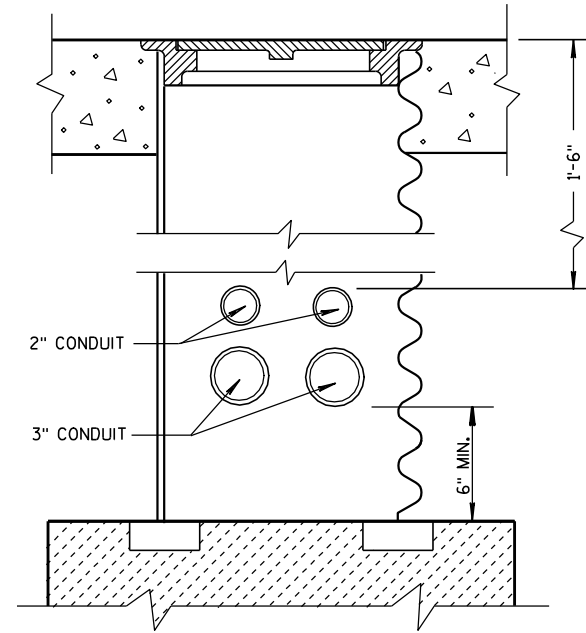


**HALF SECTION IN PAVED AREA**



\* EXIT LOCATION OF 1/4" CONDUIT FROM CABINET BASE DEPENDENT UPON LOCATION OF ELECTRIC SERVICE AND OR COMMUNICATION CABLE.

**TYPE 6,7,8 AND 9  
(ISOMETRIC VIEW)**



**CONDUIT LOCATIONS IN 24" X 36" PULL BOX**

(LEADING TO CONTROLLER CABINET BASE TYPE 6, 7, 8 AND 9)

**GENERAL NOTES**

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

INSTALL FOUR 1/2 INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH APPROVED CONCRETE MASONRY ANCHORS TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

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

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

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

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

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

CONTROL CABINET BASE TOP SURFACES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

WHEN A TYPE 10 CONTROL CABINET BASE IS USED TO POST MOUNT A CONTROL CABINET, A 36" SQUARE 4" THICK CONCRETE MAINTENANCE PLATFORM SHALL BE REQUIRED ON THE DOOR SIDE OF THE CABINET. THE TOP 1 INCH SHALL BE ABOVE FINISHED GRADE AND BE BROOM FINISHED AND LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

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

ALL FOUR (TWO INCH AND THREE INCH) CONDUIT SHALL BE INSTALLED FROM THE CABINET BASE TO THE FIRST (NEAREST) PULL BOX LOCATED AS SHOWN ON THE PLANS.

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

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

WHEN ANCHOR RODS USING THE ALTERNATE L BEND ARE FURNISHED FOR THE TYPE 10 BASE, THE 4" L BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH.

THE "L" BEND SHALL NOT BE THREADED.

STRAIGHT ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD.

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

WHEN THIS DRAWING IS USED FOR STREET LIGHTING CABINET BASES, CONDUIT MAY BE DIFFERENT AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

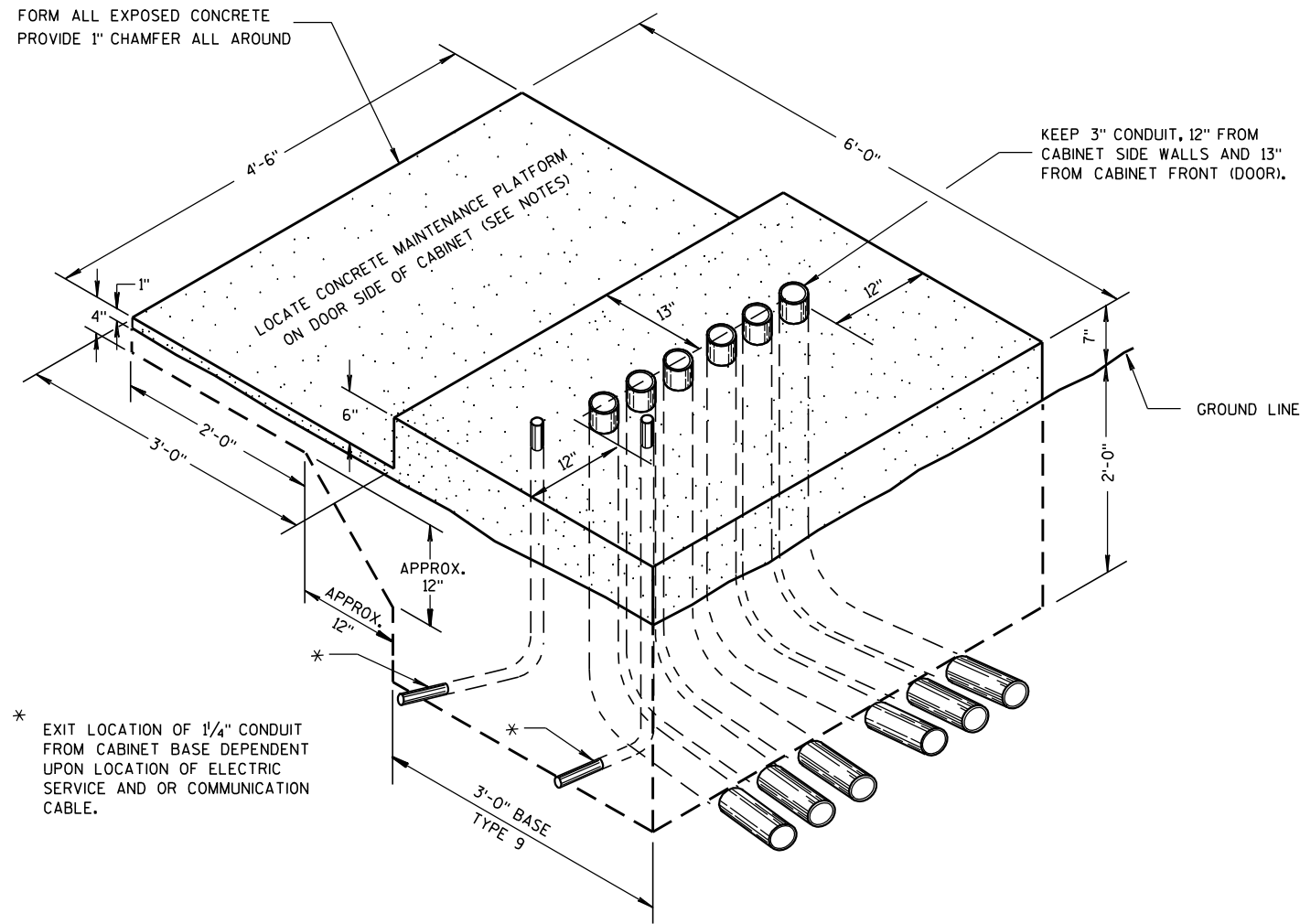
① FOUR (4) ANCHOR RODS, 1" DIA. X 3'-6" ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 AND 641.2.2 OF THE STANDARD SPECIFICATIONS.

**CONCRETE CONTROL CABINET BASES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE 3/3/10 /S/ Joanna L. Bush  
STATE ELECTRICAL ENGINEER FOR HWYS  
FHWA

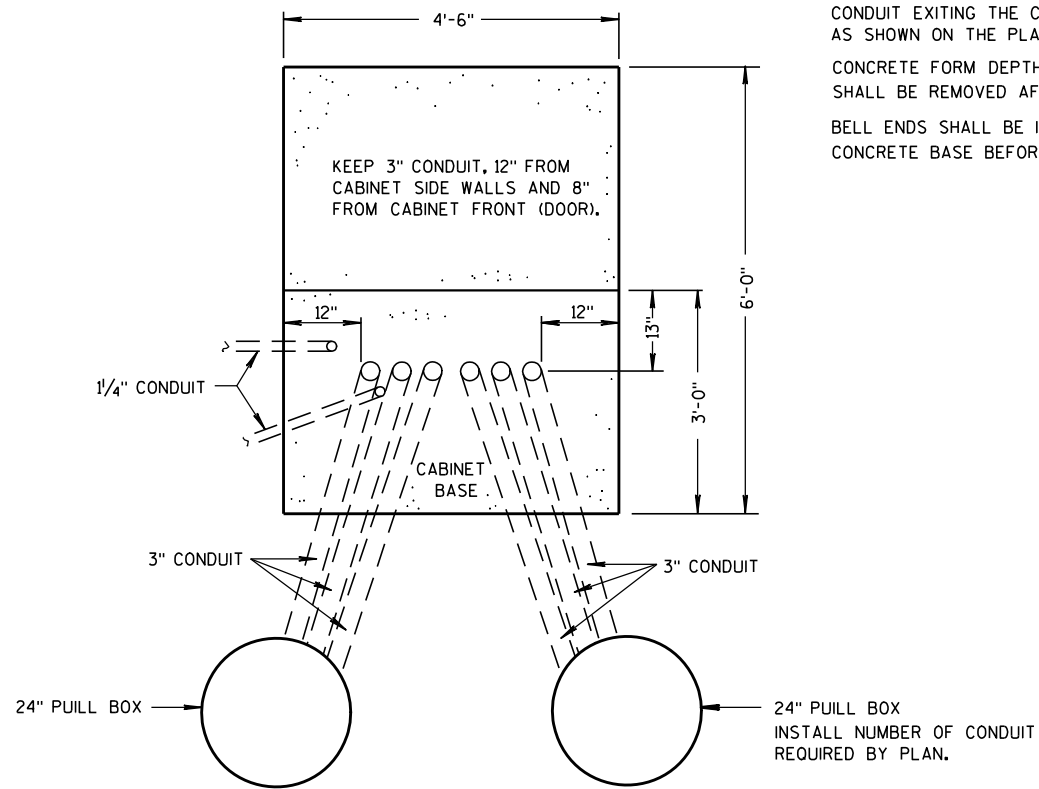
**CONCRETE CONTROL CABINET BASES**



\* EXIT LOCATION OF 1/4" CONDUIT FROM CABINET BASE DEPENDENT UPON LOCATION OF ELECTRIC SERVICE AND OR COMMUNICATION CABLE.

**ISOMETRIC VIEW  
TYPE 9, SPECIAL**

(C.Y. CONCRETE = APPROX. 1.56)



**PLAN VIEW**

**CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL**

**GENERAL NOTES**

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

INSTALL FOUR 1/2 INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

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

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

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

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

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

CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

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

CONDUIT EXITING THE CONCRETE BASE (SIX THREE INCH) SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.

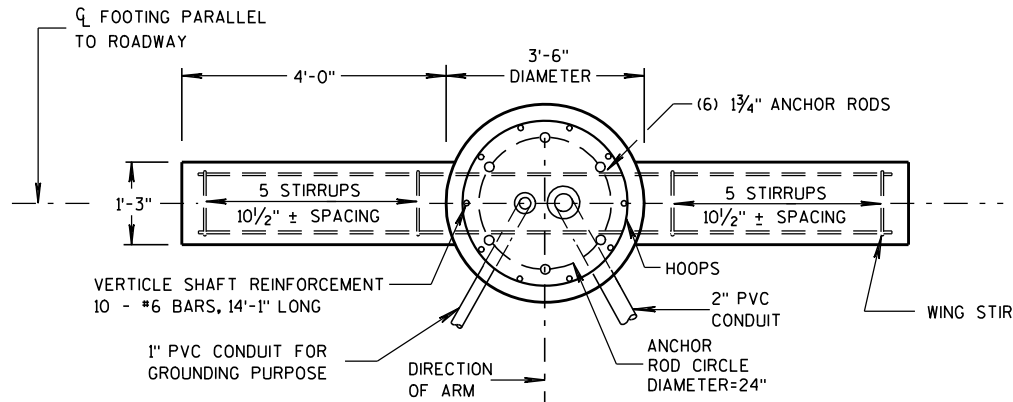
CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

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

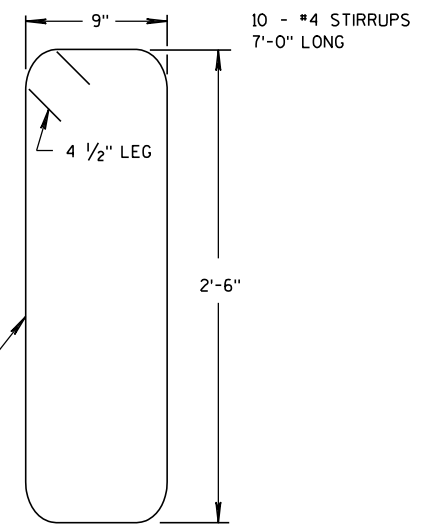
**CONCRETE CONTROL CABINET  
BASE, TYPE 9, SPECIAL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

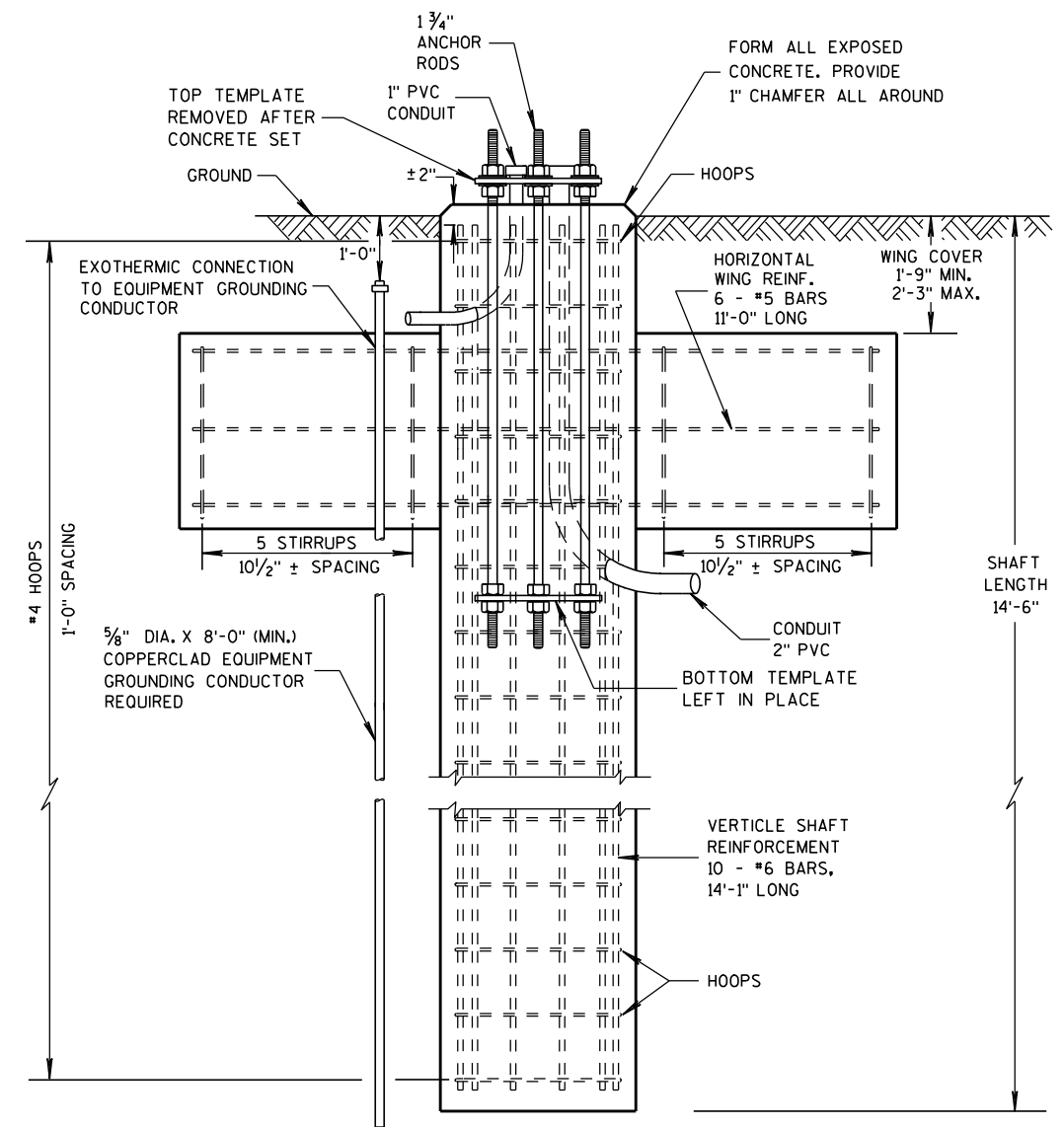
APPROVED  
2/27/07 /S/ Balu Ananthanarayanan  
DATE STATE ELECTRICAL ENGINEER FOR HWYS  
FHWA



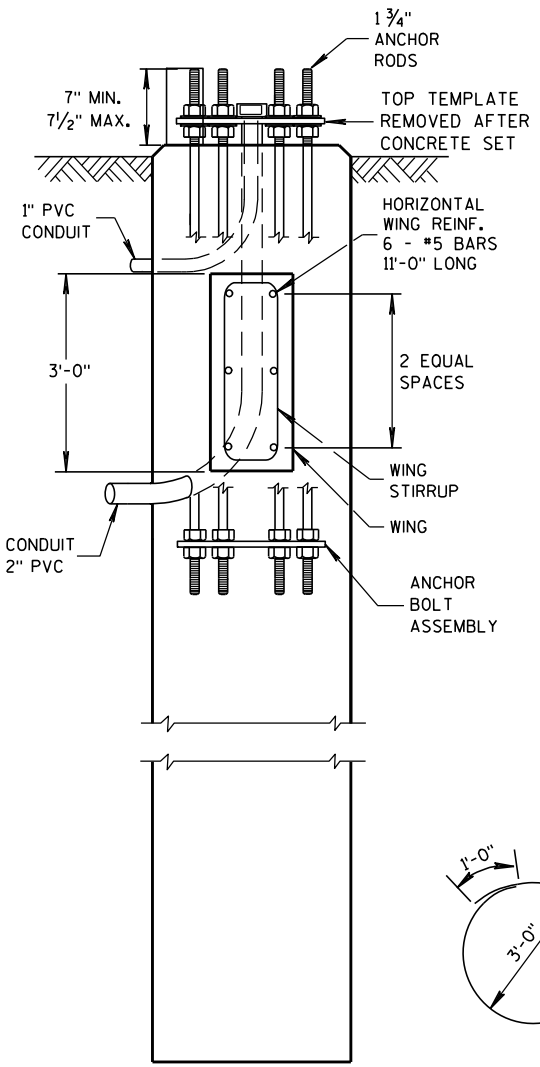
**PLAN VIEW**



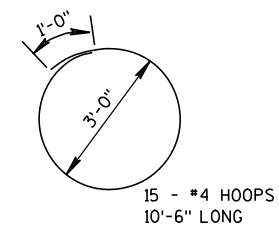
**WING STIRRUP**



**ELEVATION VIEW**



**SIDE VIEW**



**HOOP DETAIL**

**GENERAL NOTES**

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

ORIENT ANCHOR RODS IN FOOTING AND PROVIDE ANCHOR ROD PROJECTION ABOVE TOP OF CONCRETE FOOTING BASE PER THIS SHEET.

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF THE UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

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

BASES (SHAFT), BELOW THE WING, SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

TOP SURFACE OF THE CONCRETE BASE SHALL BE TROWEL FINISHED AND LEVEL.

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

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

CONDUIT HEIGHT ABOVE CONCRETE BASE SHALL BE 4 1/2" INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL ENDS INSTALLED. ALL CONDUIT SHALL SLOPE TO PULL BOX.

ALL CONDUIT ENDS AT THE TOP OF THE 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.

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

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTOR FITTINGS, UL LISTED FOR ELECTRICAL USE, SHALL BE USED.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE 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.

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

THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVEL 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, (GREATER THAN 36-INCHES IF INSTALLED IN BREAKER-RUN), EXCEPT WITH THE WRITTEN APPROVAL OF THE ENGINEER.

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

CONCRETE MASONRY .....	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 .....	fy=60,000 p.s.i.
ANCHOR RODS, AASHTO M314 GRADE 55 .....	fy=55,000 p.s.i.
TEMPLATES, ASTM A709 GRADE 36 .....	fy=36,000 p.s.i.

**(FOR TYPE 12 & 13 POLES)**

CONCRETE = 6.3 C.Y.  
H.S. REINFORCEMENT = 433 LBS.

TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION.  
SEE S.D.D. 9C13-1 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.

**CONCRETE BASE TYPE 13**

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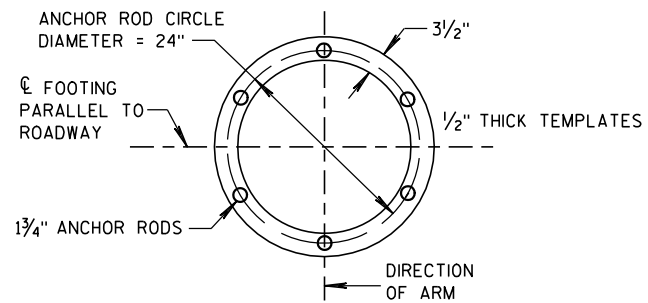
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

6

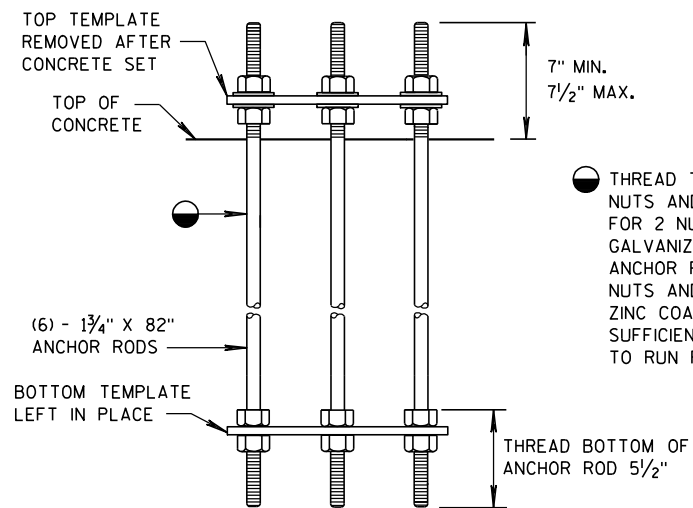
6

S.D.D. 9 C 12-2a

S.D.D. 9 C 12 -2a



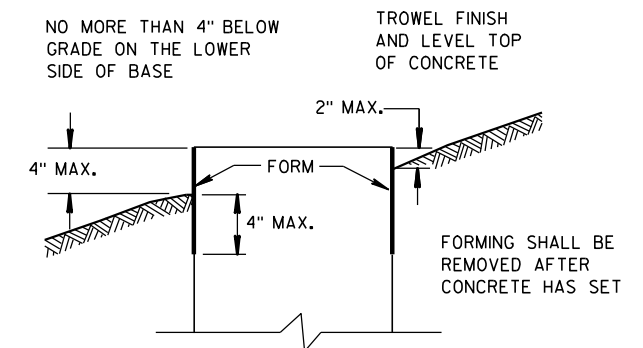
**TOP AND BOTTOM TEMPLATES**



● THREAD TOP 7 1/2" OF ANCHOR ROD FOR 2 NUTS AND 2 WASHERS AND BOTTOM 5 1/2" FOR 2 NUTS PER ANCHOR ROD. HOT-DIP GALVANIZE THE ENTIRE LENGTH OF THE ANCHOR RODS (AASHTO M111) AND HOT-DIP NUTS AND WASHERS (AASHTO M232). USE ZINC COATED NUTS MANUFACTURED WITH SUFFICIENT ALLOWANCE TO ALLOW NUTS TO RUN FREELY ON THE THREADS.

**ANCHOR BOLT ASSEMBLY DETAIL**

**CONCRETE BASE TYPE 13 ANCHOR ASSEMBLY**



**FORMING DETAIL**

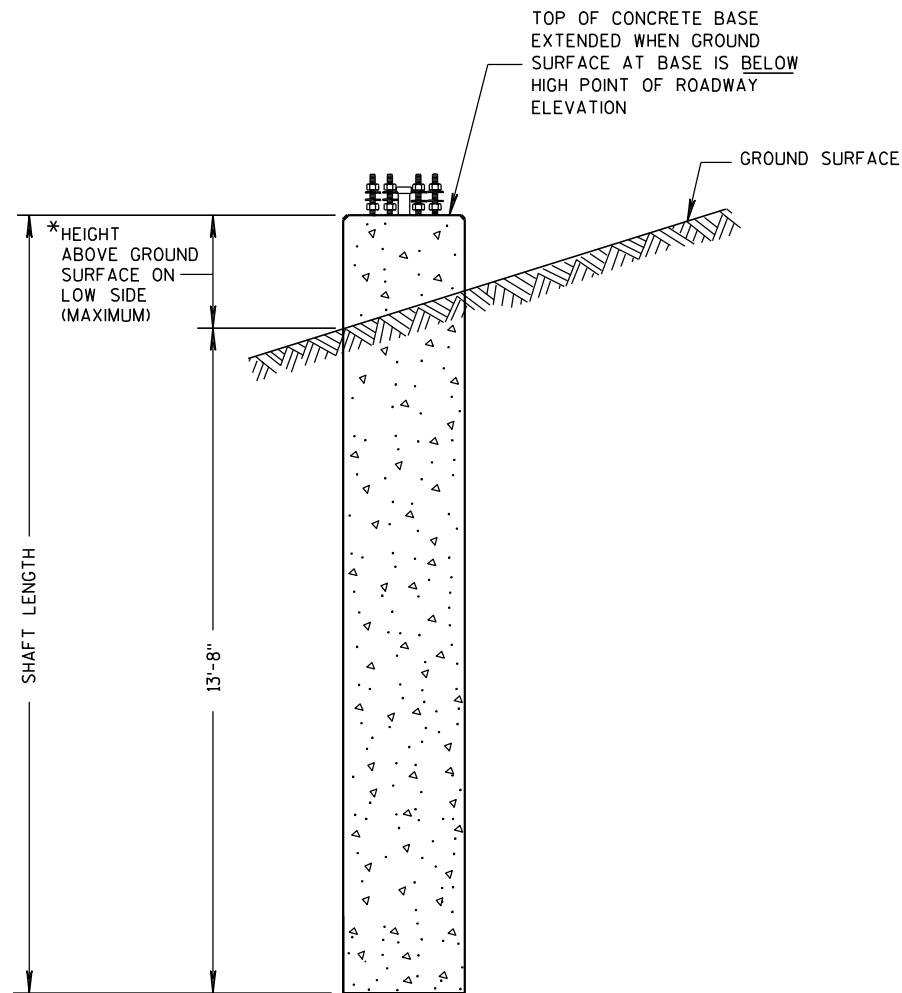
<b>CONCRETE BASE TYPE 13</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
3-2-11 DATE	/S/ Thomas J. Goring STATE ELECTRICAL ENGINEER FOR HWYS
FHWA	

**REINFORCEMENT AND CONCRETE QUANTITIES  
ADJUSTED FOR EXTENDED TYPE 10 CONCRETE BASE**

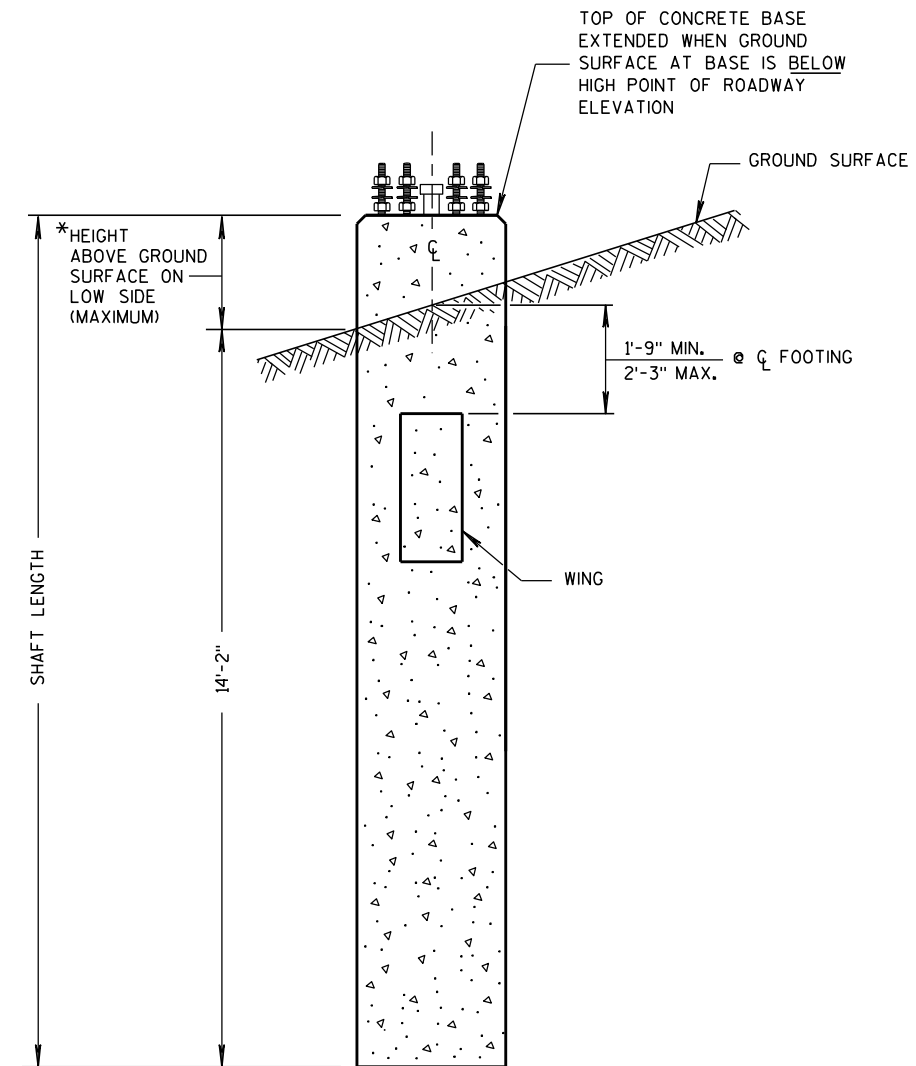
HEIGHT INCREASE REQUIRED	* HEIGHT ABOVE GROUND SURFACE ON LOW SIDE (MAXIMUM)	SHAFT LENGTH	LENGTH OF #6 VERTICAL REINF.	NO. OF #4 HOOPS	C.Y. OF CONCRETE	LBS. OF HOOP BAR STEEL	LBS. OF VERTICAL BAR STEEL
>0" TO 6"	10"	14'-6"	14'-1"	16	2.6	78	127
>6" TO 1'-0"	1'-4"	15'-0"	14'-7"	16	2.7	78	131
>1'-0" TO 1'-6"	1'-10"	15'-6"	15'-1"	17	2.8	83	136
>1'-6" TO 2'-0"	2'-4"	16'-0"	15'-7"	17	2.9	83	141

**REINFORCEMENT AND CONCRETE QUANTITIES  
ADJUSTED FOR EXTENDED TYPE 13 CONCRETE BASE**

HEIGHT INCREASE REQUIRED	* HEIGHT ABOVE GROUND SURFACE ON LOW SIDE (MAXIMUM)	SHAFT LENGTH	LENGTH OF #6 VERTICAL REINF.	NO. OF #4 HOOPS	C.Y. OF CONCRETE	LBS. OF H.S. BAR STEEL
>0" TO 6"	10"	15'-0"	14'-7"	16	6.5	447
>6" TO 1'-0"	1'-4"	15'-6"	15'-1"	16	6.6	454
>1'-0" TO 1'-6"	1'-10"	16'-0"	15'-7"	17	6.8	469
>1'-6" TO 2'-0"	2'-4"	16'-6"	16'-1"	17	7.0	476

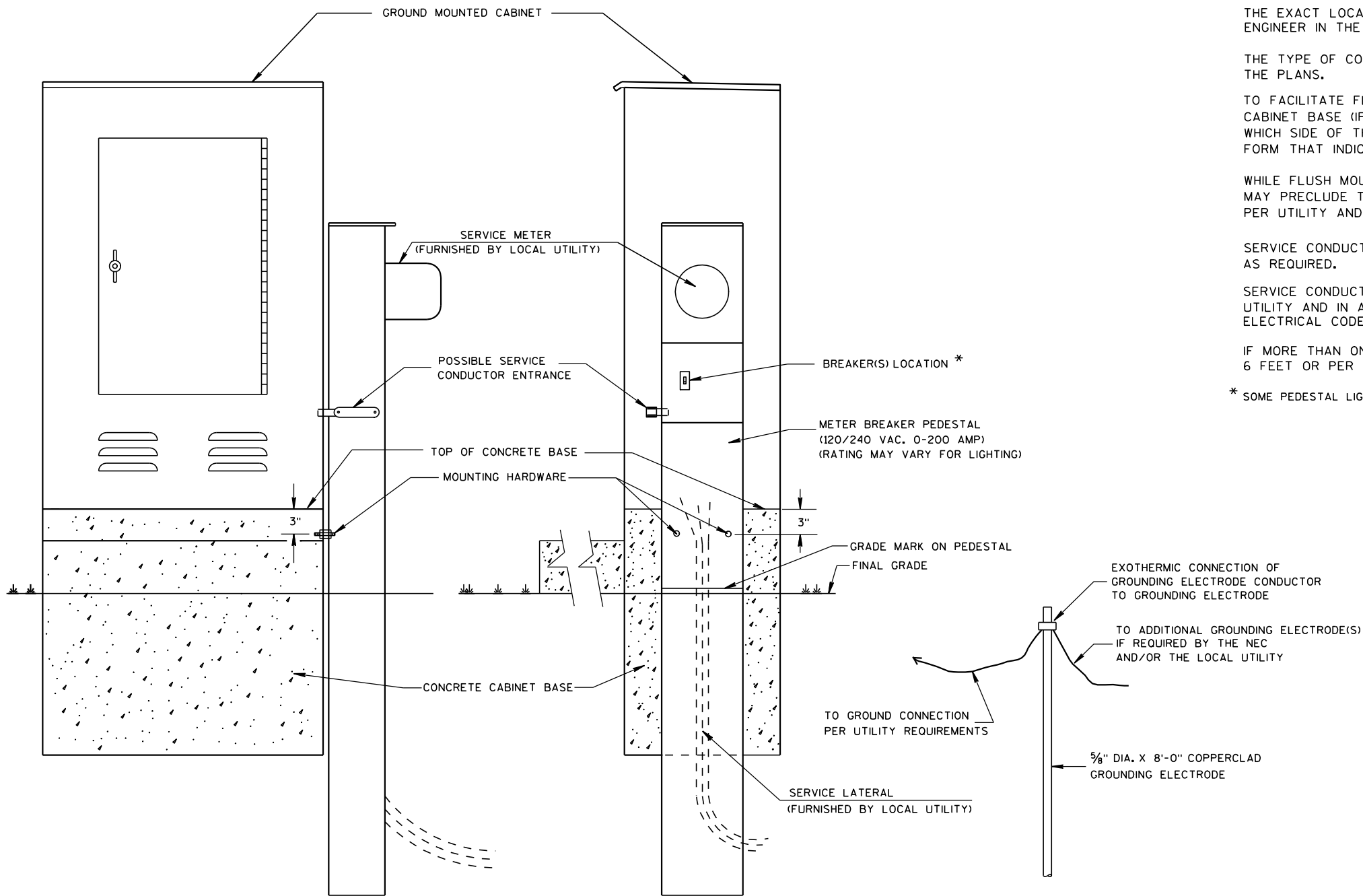


**CONCRETE BASE TYPE 10 (EXTENDED)**



**CONCRETE BASE TYPE 13 (EXTENDED)**

<b>CONCRETE BASE TYPE 10 &amp; TYPE 13 EXTENSION</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 3-3-10	/S/ Joanna L. Bush STATE ELECTRICAL ENGINEER FOR HWYS
FHWA	



TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

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

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

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

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

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

SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT, NIPPLES AND/OR CONDULETS AS REQUIRED.

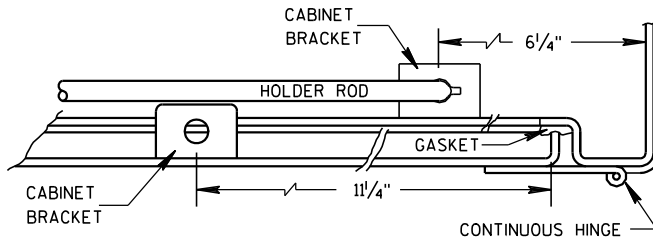
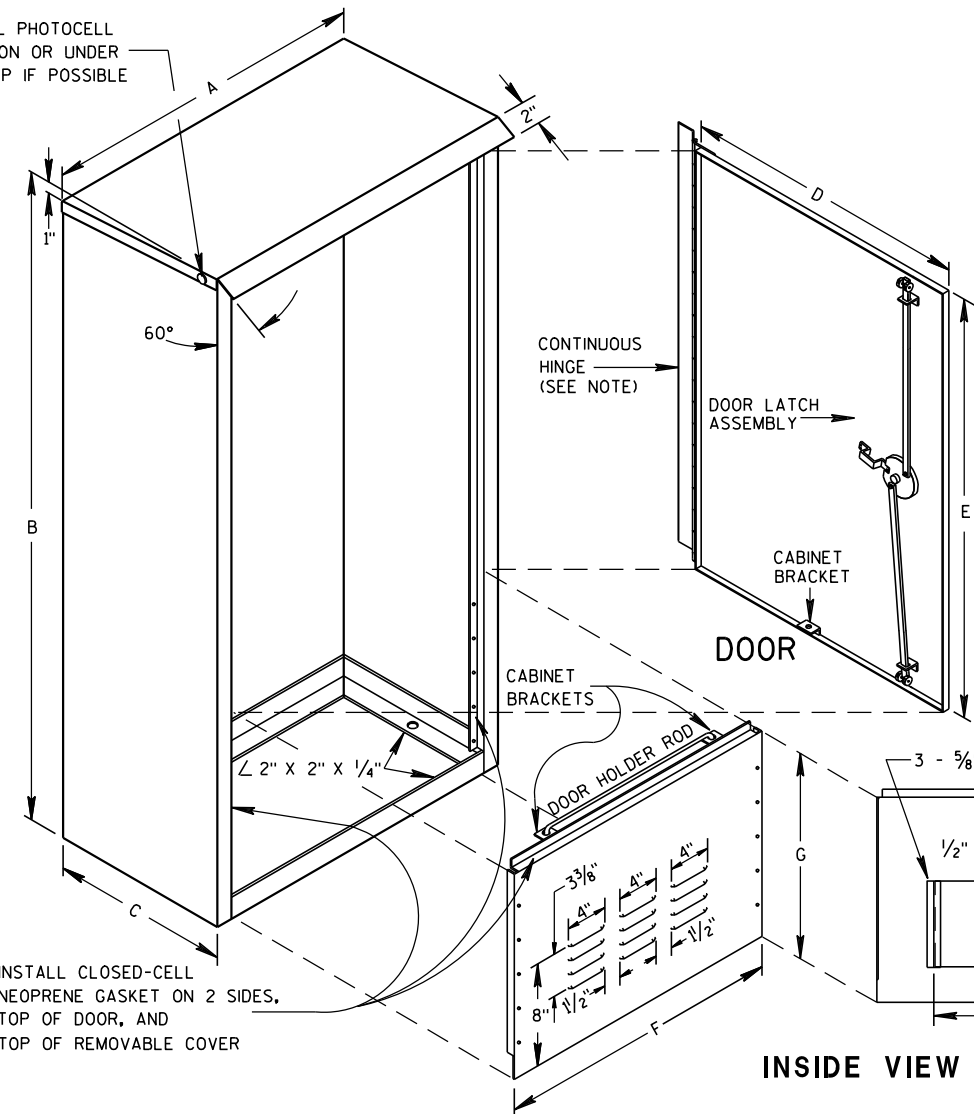
SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AND LOCATED AS REQUIRED BY THE LOCAL UTILITY AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

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

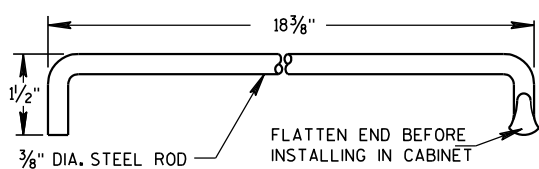
\* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

<b>CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/27/09 DATE	/S/ Joanna L. Bush STATE ELECTRICAL ENGINEER FOR HWYS
FHWA	

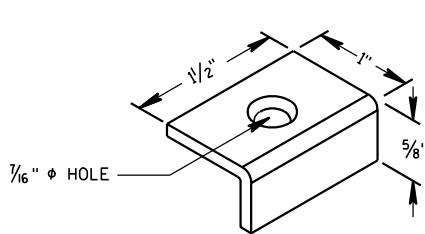
TYPICAL PHOTOCELL LOCATION OR UNDER DRIP LIP IF POSSIBLE



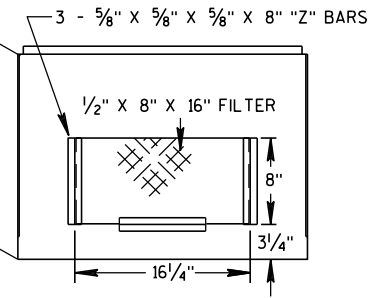
**HINGE & DOOR HOLDER**



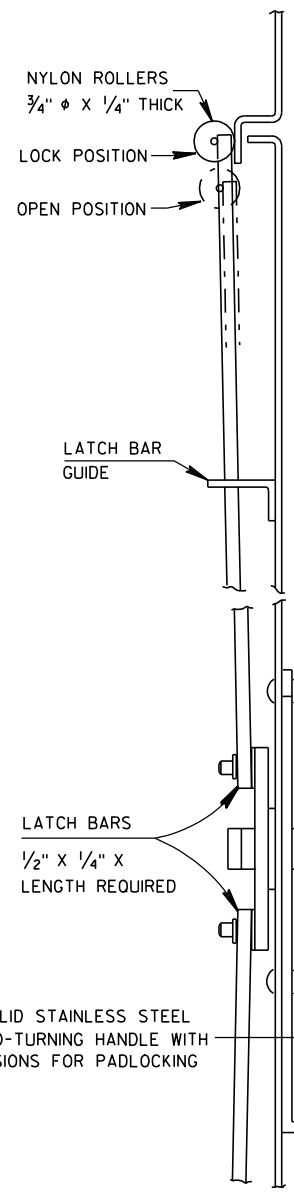
**HOLDER ROD**



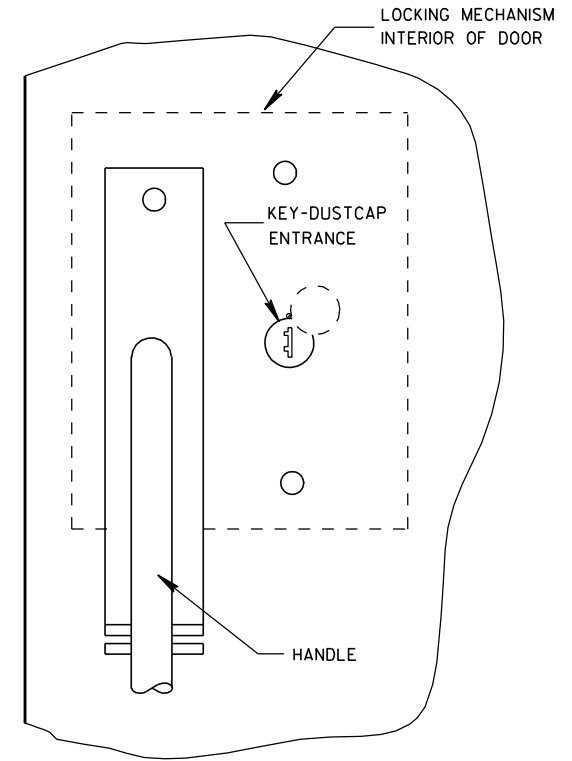
**CABINET BRACKET**



**INSIDE VIEW SHOWING FILTER**

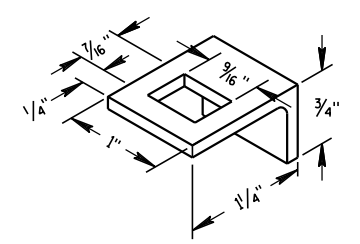


**SIDE VIEW**



**FRONT VIEW**

**LATCH ASSEMBLY**



**LATCH BAR GUIDE**

**GENERAL NOTES**

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

PRIME WITH PHOSPHATE TREATMENT AND PRIMER.

FINISH EXTERIOR SURFACES WITH RUSTOLEUM #906 SILVER GRAY OR APPROVED EQUAL.

FINISH INTERIOR WITH RUSTOLEUM #2766 HIGH GLOSS WHITE ENAMEL OR APPROVED EQUAL.

ALL SHEET METAL PARTS SHALL BE .125 INCH THICK ALUMINUM.

ALL SEAMS SHALL BE CONTINUOUSLY WELDED.

ALUMINUM SHALL BE TYPE 5052-H32.

CONTINUOUS HINGE SHALL BE HEAVY GAUGE ALUMINUM WITH 1/4\"/>

A SINGLE PHOTOCELL SHALL BE LOCATED ON THE NORTH-NORTHEAST SIDE OF THE CABINET UNLESS OTHERWISE CALLED FOR IN THE SPECIAL PROVISIONS. THE PHOTOCELL SHALL BE PLACED AS SHOWN AND SHALL BE AN APPROVED TYPE.

DOOR LATCH ASSEMBLY TO BE PROVIDED WITH THREE-POINT LOCKING MECHANISM.

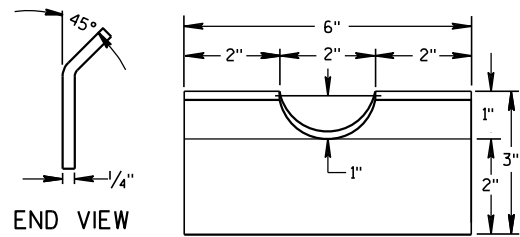
**TABLE OF DIMENSIONS (INCHES)**

MARK	CABINET TYPE		
	3060	3860	3866
A	30	38	38
B	60	60	66
C	16 1/2	16 1/2	24
D	26 1/2	34 3/4	33 3/4
E	38 3/4	38 3/4	38 3/4
F	26 1/2	34 3/4	33 3/4
G	19	19	25
H	16 1/2	16 1/2	24
H/2	8 1/4	8 1/4	12
J	30	38	38
J/2	15	19	19
K	13 3/4	13 3/4	21 1/4
L	27 1/2	35 1/2	35 1/2

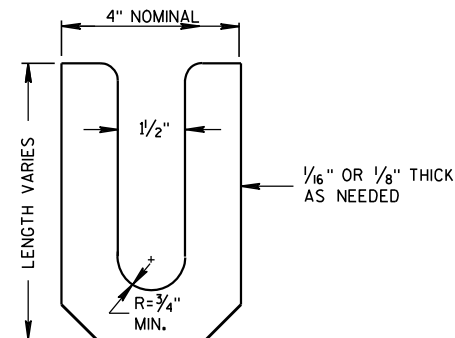
**SIGNAL OR LIGHTING CONTROL CABINET**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

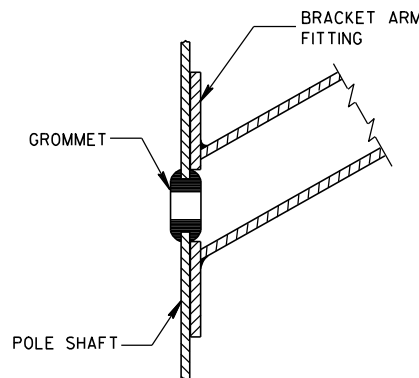
APPROVED  
10/21/96 /S/ Balu Ananthanarayanan  
DATE STATE ELECTRICAL ENGINEER FOR HWYS  
FHWA



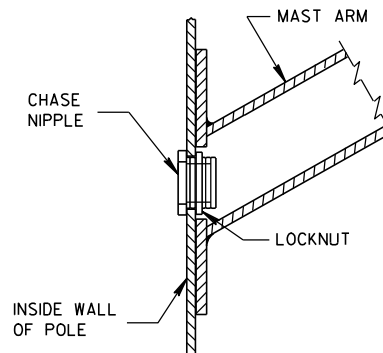
**FRONT VIEW  
RECTANGULAR CLAMP SHIM**  
(4 TO A SET)



**LEVELING SHIM**  
SHALL BE ALUMINUM



**TYPICAL APPLICATION OF  
GROMMET IN POLE SHAFT**

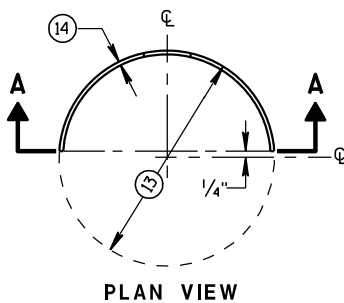


**TYPICAL APPLICATION OF  
CHASE NIPPLE IN POLE SHAFT**

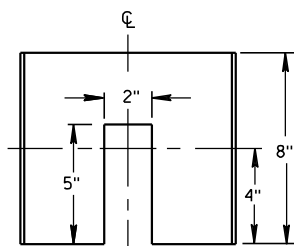
**GENERAL NOTES**

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.

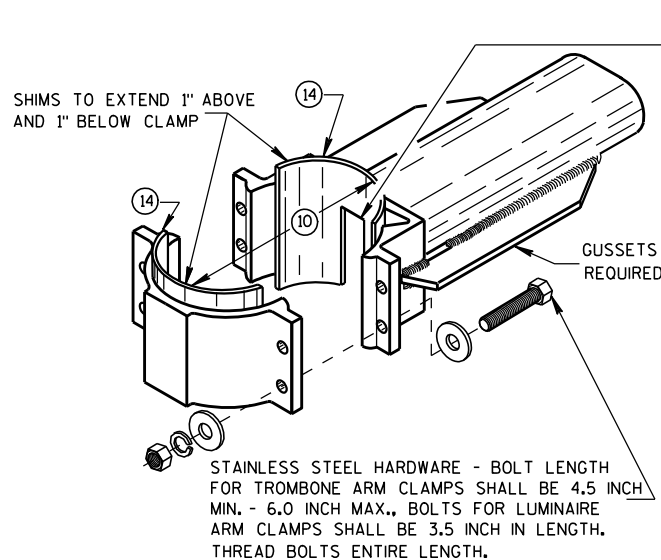
- (10) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.  
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.
- (11) INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)
- (12) BASE PLATE SLOTTED TO ACCEPT 1" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.
- (13) OUTSIDE SHIM DIAMETER - (4.5" O.D. FOR LUMINAIRE MAST ARM)  
(6.625" O.D. FOR TROMBONE MAST ARM)
- (14) VARIABLE SHIM THICKNESS - (0.10", 0.25", 0.35", 0.53" OR 0.70")  
SHIM THICKNESS FOR TROMBONE MAST ARMS MAY BE TYPICALLY 0.25", 0.35", 0.53" OR 0.70".  
SHIM THICKNESS FOR LUMINAIRE MAST ARMS MAY BE TYPICALLY 0.10", 0.25" OR 0.35".  
SHIM MATERIAL SHALL BE ALUMINUM ALLOY.  
SHIM THICKNESS SHALL BE IMPRESSED INTO EACH SHIM. NUMERALS SHALL BE 1/4" HIGH AND LEGIBLE.
- (15) 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.



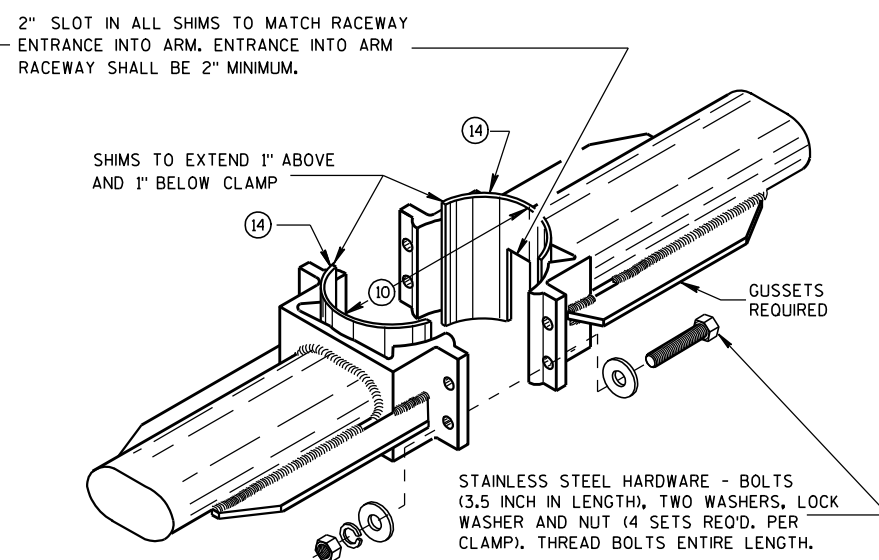
**PLAN VIEW**



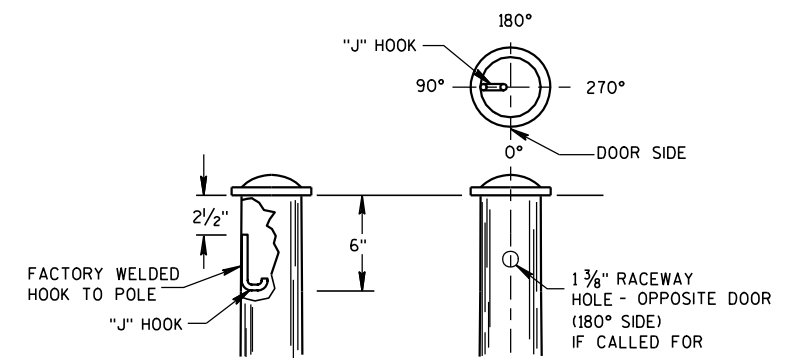
**SECTION A-A  
CIRCULAR CLAMP SHIM**  
(2 TO A SET)



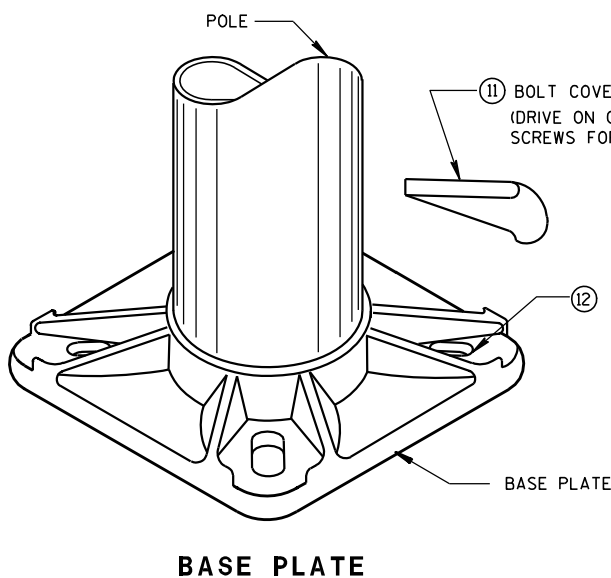
**TYPICAL TROMBONE MAST ARM AND SINGLE  
LUMINAIRE MAST ARM MOUNTING CLAMP**



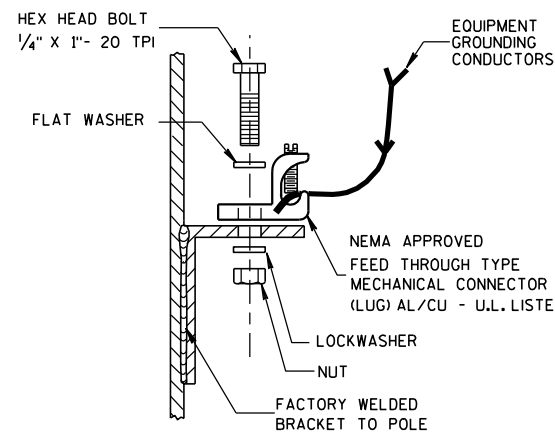
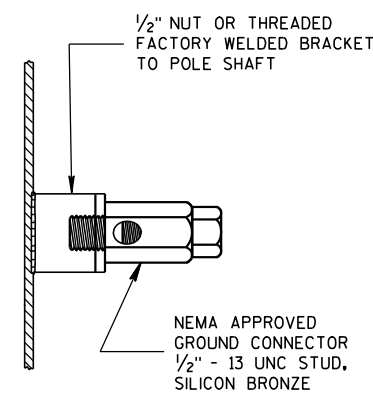
**TYPICAL LUMINAIRE MAST ARM  
(DOUBLE) MOUNTING BRACKETS**



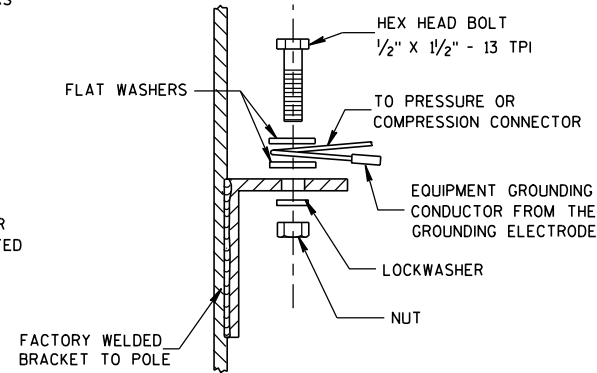
**TYPICAL "J" HOOK LOCATION**



**BASE PLATE**



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

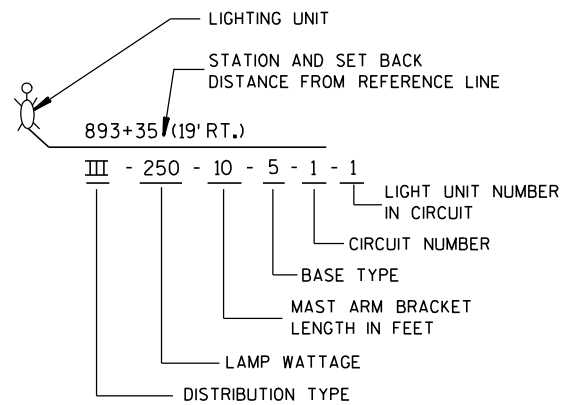


**HARDWARE DETAILS FOR  
POLE MOUNTINGS**

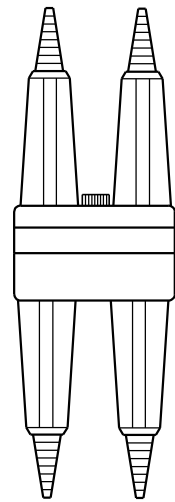
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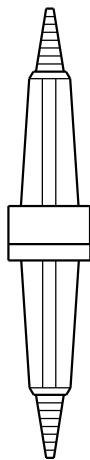




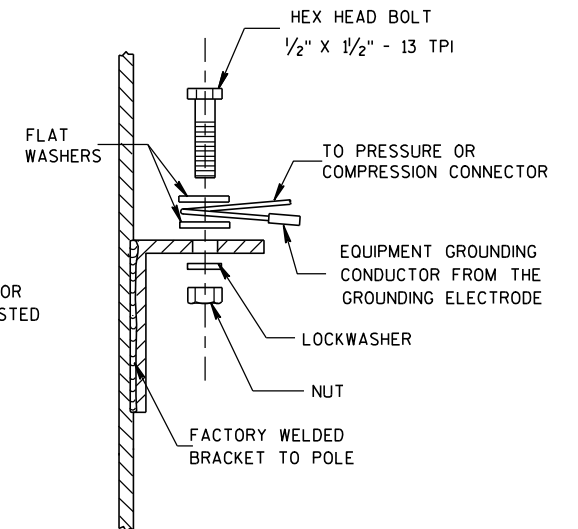
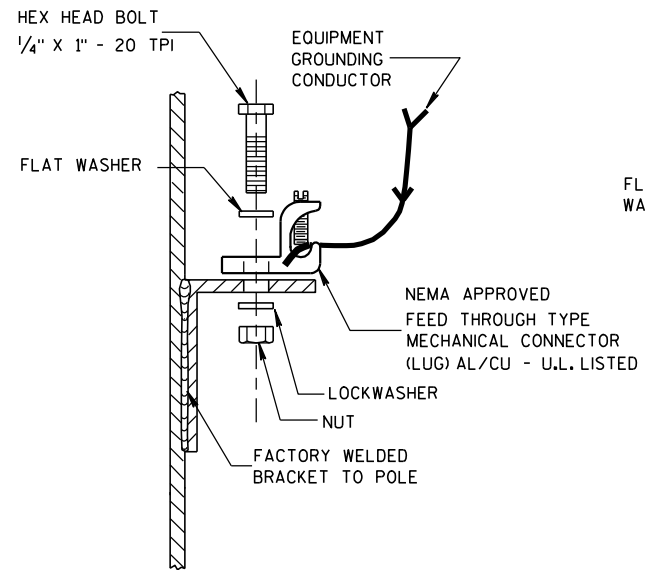
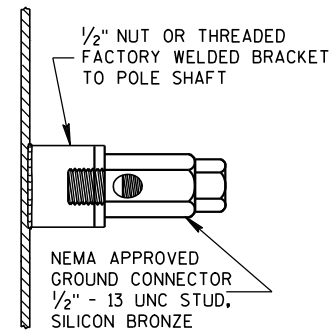
**LIGHTING UNIT CODE**  
(TYPICAL)



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



**DETAIL "B"**  
**BREAKAWAY**  
**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.

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

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 SPLICE CONNECTOR.

INSULATED EQUIPMENT GROUNDING CONDUCTORS FROM SYSTEM RACEWAY

EXOTHERMICALLY WELDED TO GROUNDING ELECTRODE

CONDUCTORS TO LUMINAIRE(S) 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 FNO 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 UNGROUNDING CIRCUIT CONDUCTORS FROM SYSTEM RACEWAY

ALTERNATE PHASE UNGROUNDING CIRCUIT CONDUCTOR PASSING THROUGH THIS POLE

TWIN LIGHTING UNITS REQUIRE INDIVIDUAL SETS OF UNGROUNDING 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 SPLICE 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 FNO FUSES (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 UNGROUNDING CIRCUIT CONDUCTORS FROM SYSTEM RACEWAY

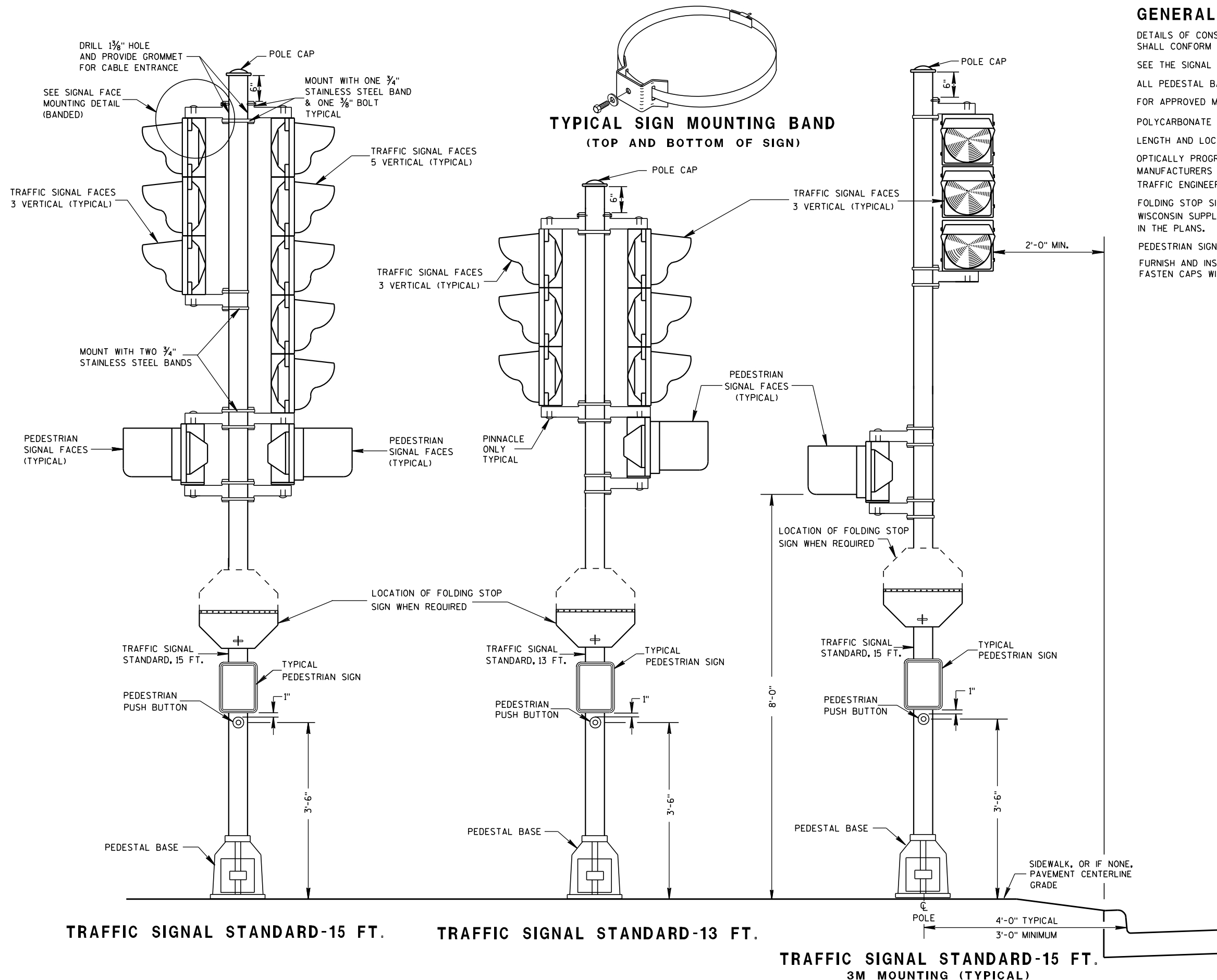
**3 WIRE - 120, 240 OR 480 VAC (UNGROUNDING CONDUCTOR)**  
**WITH GROUNDING CONDUCTOR AND**  
**WITH EQUIPMENT GROUNDING CONDUCTOR**

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

**NON-FREWAY LIGHTING UNIT**  
**POLE WIRING**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
3/2/2011 /S/ Thomas J. Goring  
DATE STATE ELECTRICAL ENGINEER FOR HWYS  
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**GENERAL NOTES**

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIAL PROVISIONS.

POLYCARBONATE MOUNTING BRACKETS SHALL BE USED.

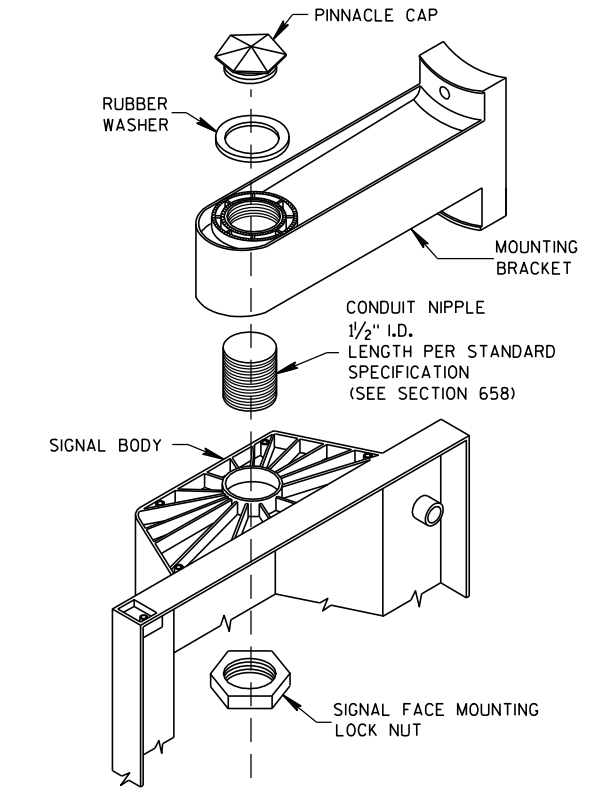
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

OPTICALLY PROGRAMMED SIGNAL FACES SHALL BE MASKED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS, AND UNDER THE DIRECTIONS OF THE DISTRICT TRAFFIC ENGINEER.

FOLDING STOP SIGNS SHALL BE IN ACCORDANCE WITH THE MUTCD AND/OR THE LATEST WISCONSIN SUPPLEMENT. THE SIGNS SHALL BE SIZED AND LOCATED AS CALLED FOR IN THE PLANS.

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

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.



**SIGNAL FACE MOUNTING DETAIL (BANDED)**

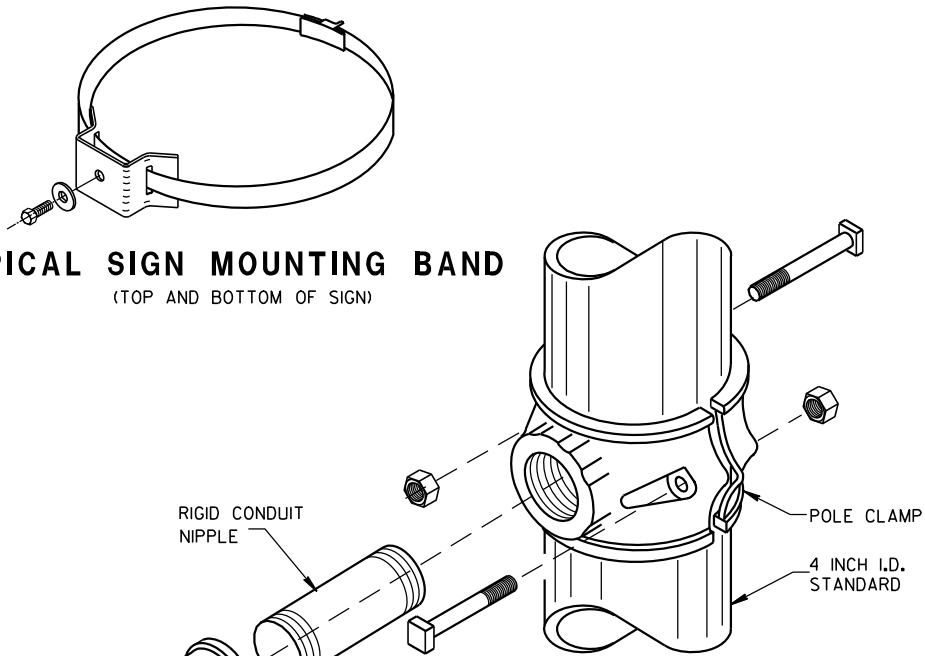
**TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.**

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DEPARTMENT OF TRANSPORTATION

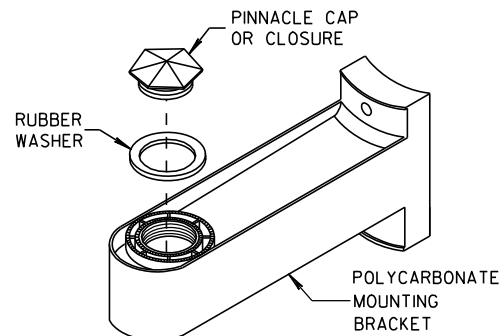
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**TYPICAL SIGN MOUNTING BAND**

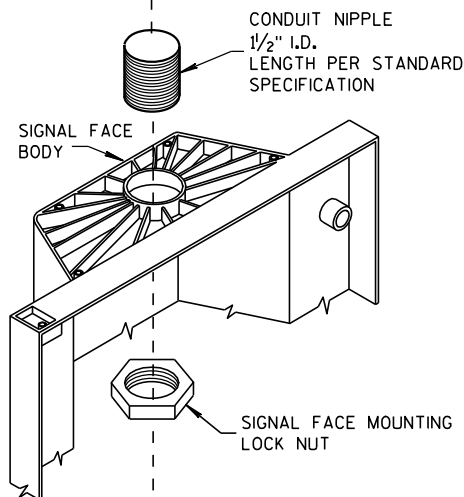
(TOP AND BOTTOM OF SIGN)



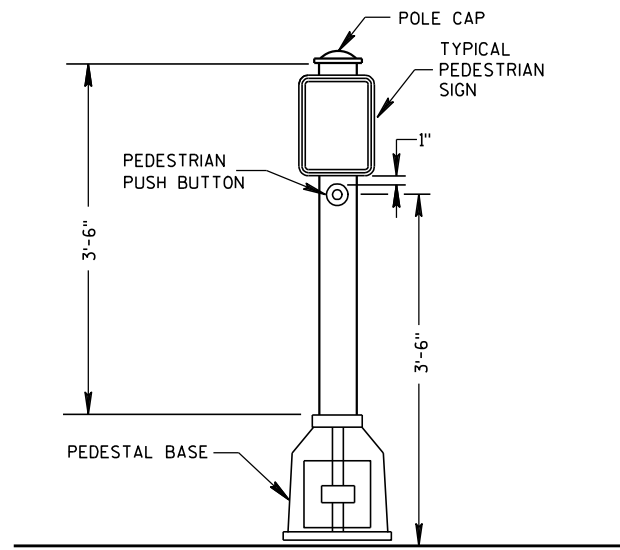
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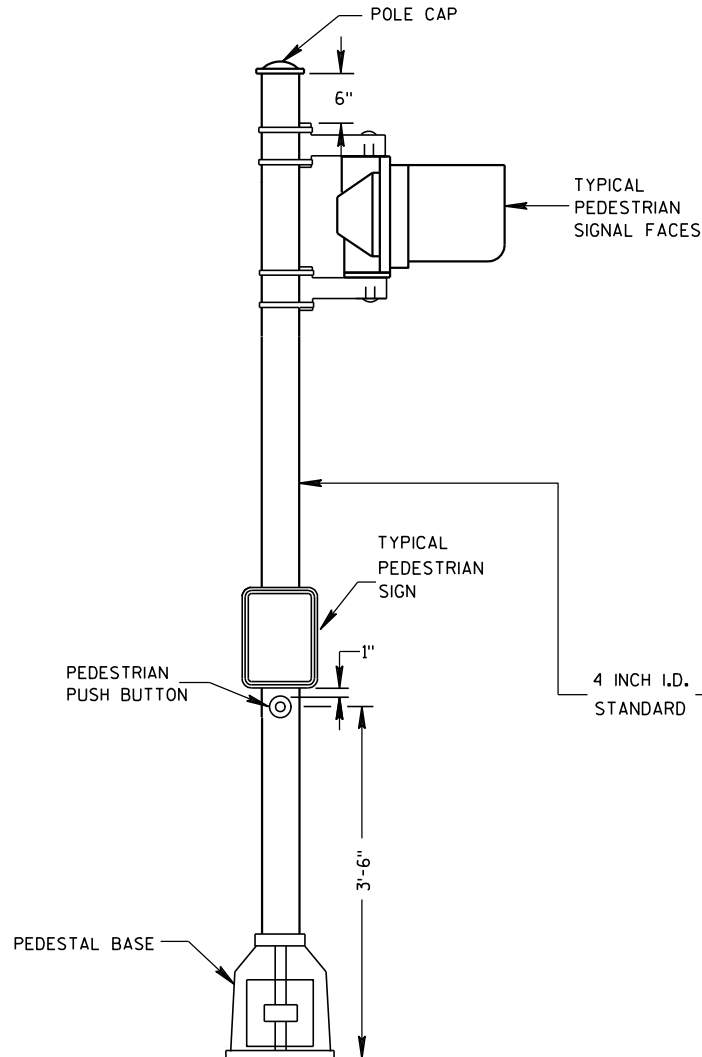
(BANDED)



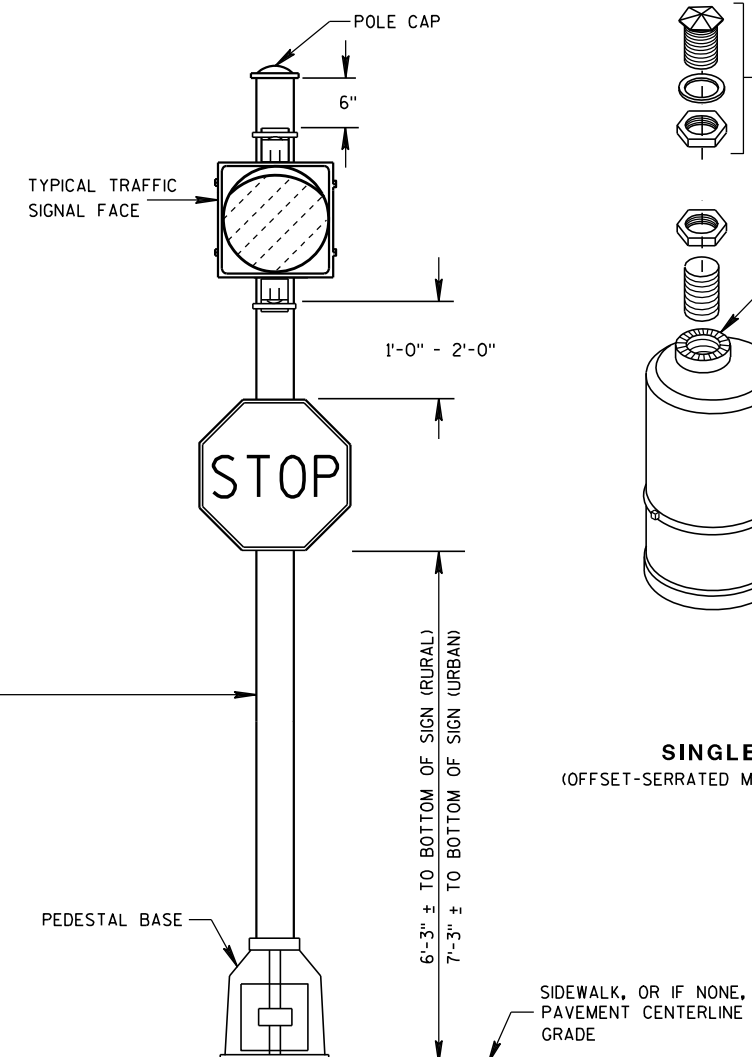
**SIGNAL FACE MOUNTING DETAILS**



**PEDESTRIAN PUSH BUTTON  
TYPICAL MOUNTING**



**PEDESTRIAN FACE STANDARD-10 FT.  
(WALK-DON'T WALK)**



**STANDARD FLASHER.  
10 FOOT, 13 FOOT OR 15 FOOT AS REQUIRED**

**GENERAL NOTES**

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIFICATIONS.

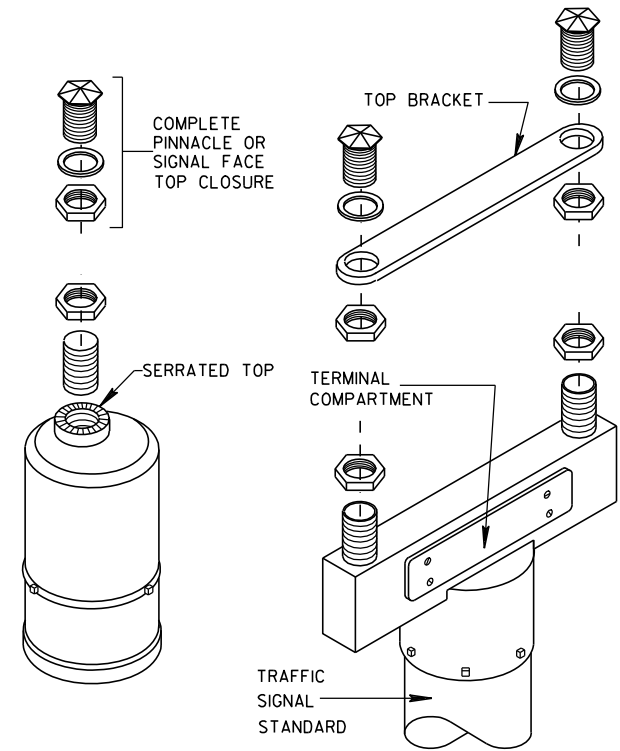
POLYCARBONATE SIGNAL FACE MOUNTING BRACKETS SHALL BE USED UNLESS ORNAMENTAL POLE CLAMPS ARE SPECIFIED.

LENGTH OF TRAFFIC STANDARDS SHALL BE AS SHOWN ON THE PLANS.

MOUNTINGS AND BRACKETS SHALL BE AS SHOWN ON THE PLANS OR DESCRIBED IN THE SPECIAL PROVISIONS (BY THE DISTRICT TRAFFIC ENGINEER).

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

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.



**SINGLE**  
(OFFSET-SERRATED MOUNTING)

**DOUBLE**  
(SERRATED MOUNTING)

**SLIPFITTERS**

**TRAFFIC SIGNAL STANDARD  
PEDESTRIAN AND FLASHER  
TYPICAL MOUNTING DETAILS**

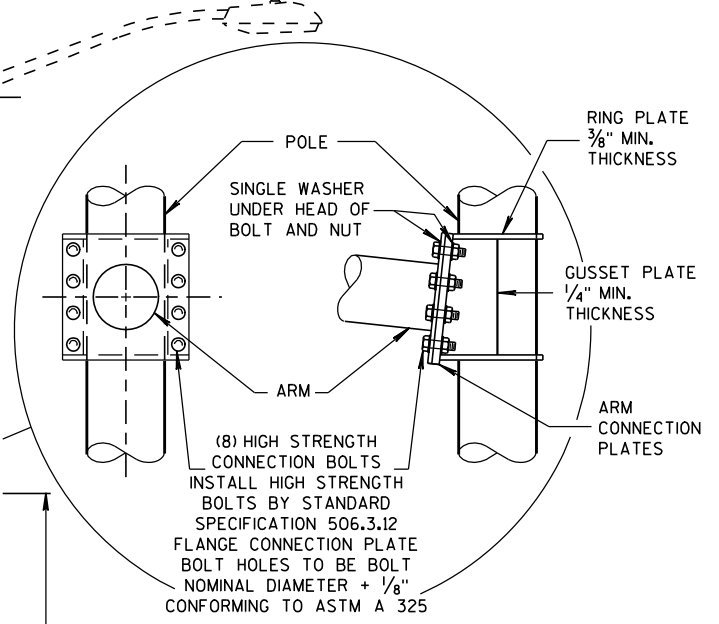
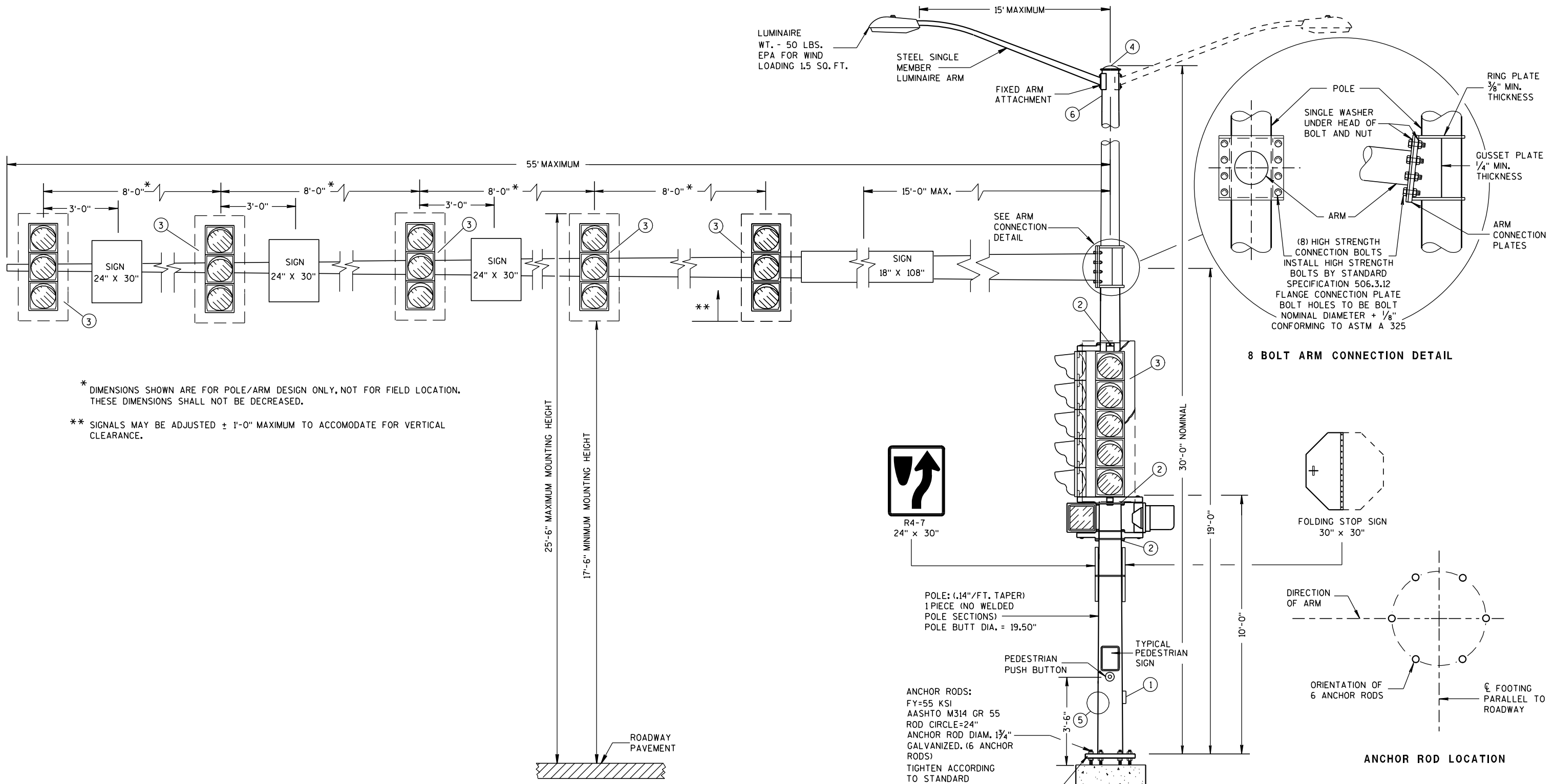
STATE OF WISCONSIN  
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APPROVED

5/11/10  
DATE

/s/ John Corbin  
STATE ELECTRICAL ENGINEER FOR HWYS

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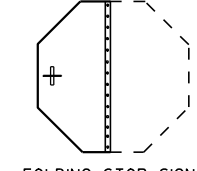


**8 BOLT ARM CONNECTION DETAIL**

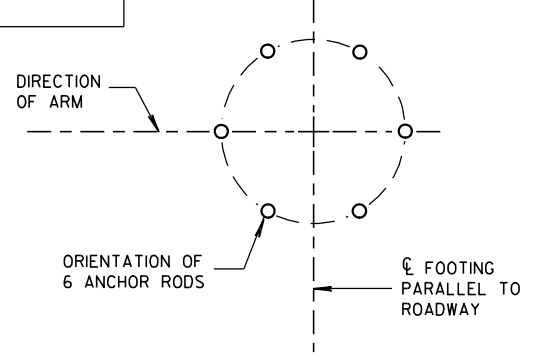
\* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.  
 \*\* SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMMODATE FOR VERTICAL CLEARANCE.



R4-7  
24" x 30"



FOLDING STOP SIGN  
30" x 30"



**ANCHOR ROD LOCATION**

POLE: (.14"/FT. TAPER)  
 1 PIECE (NO WELDED  
 ROD SECTIONS)  
 POLE BUTT DIA. = 19.50"

ANCHOR RODS:  
 FY=55 KSI  
 AASHTO M314 GR 55  
 ROD CIRCLE=24"  
 ANCHOR ROD DIAM. 1 3/4"  
 GALVANIZED. (6 ANCHOR  
 RODS)  
 TIGHTEN ACCORDING  
 TO STANDARD  
 SPECIFICATION 641.3.1.2

MINIMUM  
 BASE PLATE  
 THICKNESS = 1 3/4"

(MAXIMUM LOAD)  
**TYPE 13 POLE 35' - 55' MONOTUBE ARM**

<b>TYPE 13 POLE 35' - 55' MONOTUBE ARM</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 3/2/2011 DATE	/S/ Thomas J. Conring STATE ELECTRICAL ENGINEER FOR HWYS
FHWA	

**GENERAL NOTES**

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

POLE TYPES 9 AND 10 ARE FOR ARM LENGTHS 15-FOOT TO 30-FOOT.

POLE TYPES 12 AND 13 ARE FOR ARM LENGTHS 35-FOOT TO 55-FOOT.

MONOTUBE POLE AND ARM SHALL BE GALVANIZED STEEL.

RING-STIFFENED BUILT-UP BOX TYPE OF ATTACHMENT FOR TRAFFIC SIGNAL ARM.

ONE (1) PIECE POLE CONSTRUCTION (NO WELDED POLE SECTIONS).

STANDARD STRAIGHT ARM DESIGN (3% ± RISE).

SECTION 657, POLES OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

PROVIDE WIREWAY THRU POLE WALL AND ARM CONNECTION PLATES. PROVIDE ROUND, SMOOTH INSIDE SURFACE.

MANUFACTURER'S SUBMITTED POLE DESIGNS AND DRAWINGS SHALL BE SIGNED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER AND CERTIFIED AS BEING IN COMPLIANCE WITH THE LATEST AASHTO AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR TRAFFIC AND LIGHTING STRUCTURES AND AS FOLLOWS:

- CATEGORY III FATIGUE LOADS OF GALLOPING, TRUCK GUSTS ( AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 AND TYPE 10 STRUCTURES.
- CATEGORY II FATIGUE LOADS OF GALLOPING, TRUCK GUSTS ( AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 12 AND TYPE 13 STRUCTURES.
- 90 MPH (3-SECOND GUST) WIND SPEED AND A 50 YEAR DESIGN LIFE.

SECURE THE OPENING BELOW THE BASE PLATE WITH STAINLESS STEEL OR GALVANIZED STEEL MESH AND SECURE THE MESH WITH 3/4" S.S. BANDING AROUND THE LEVELING NUTS.

INDENT PRINT (NOMINAL 1/2" HIGH) THE POLE LENGTH AND FIRST TWO LETTERS OF THE MANUFACTURERS NAME ON TWO SIDES OF THE BASE PLATE 180 DEGREES APART, BEFORE GALVANIZING. THE ARM SHALL BE IDENTIFIED WITH THE SAME INFORMATION BY INDENT PRINT.

SIGNAL FACE SHALL BE MOUNTED 6 INCHES (NOMINAL) FROM THE END OF THE MONOTUBE ARM OR AS SHOWN ON THE PLAN CONSTRUCTION DETAIL OR AS DIRECTED BY THE PROJECT ENGINEER/ELECTRICAL OPERATIONS PERSONNEL. MOUNT ALL LIKE HEADS AT SAME ELEVATION.

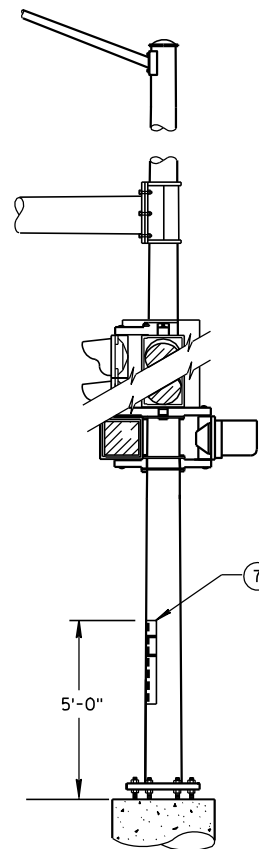
SIGN MOUNTING BRACKETS SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 637 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.

6

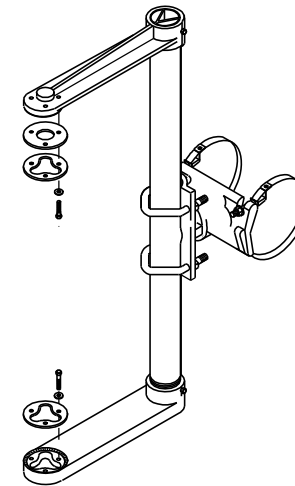
- ① DESIGN FOR MAXIMUM ALLOWABLE HANDHOLE WITH COVER ASSEMBLY WITH TWO 1/4" x 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.
- ② SIGNAL MOUNTING BRACKETS FOR POLE MOUNTING, MOUNT WITH CAP SCREW AND BANDING, (SEE SPECIFICATIONS SEC. 658).
- ③ SECURELY MOUNT BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURERS RECOMMENDATIONS.
- ④ THE TOP OF THE POLE SHAFT AND THE END OF THE MONOTUBE ARM SHALL BE EQUIPPED WITH A REMOVABLE, VENTILATED CAP HELD SECURELY IN PLACE WITH SET SCREWS.
- ⑤ FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR 1/4" x 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.
- ⑥ FACTORY-WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.
- ⑦ INSTALL DEPARTMENT PROVIDED STRUCTURAL IDENTIFICATION PLAQUES.

STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

MOUNTING HEIGHT SHALL BE 5'-0" ABOVE THE CURB OR SHOULDER . ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

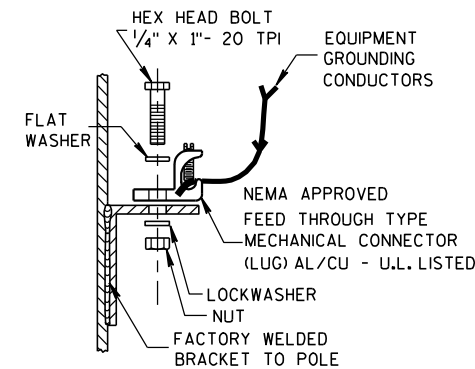


**STRUCTURAL IDENTIFICATION PLAQUE PLACEMENT**



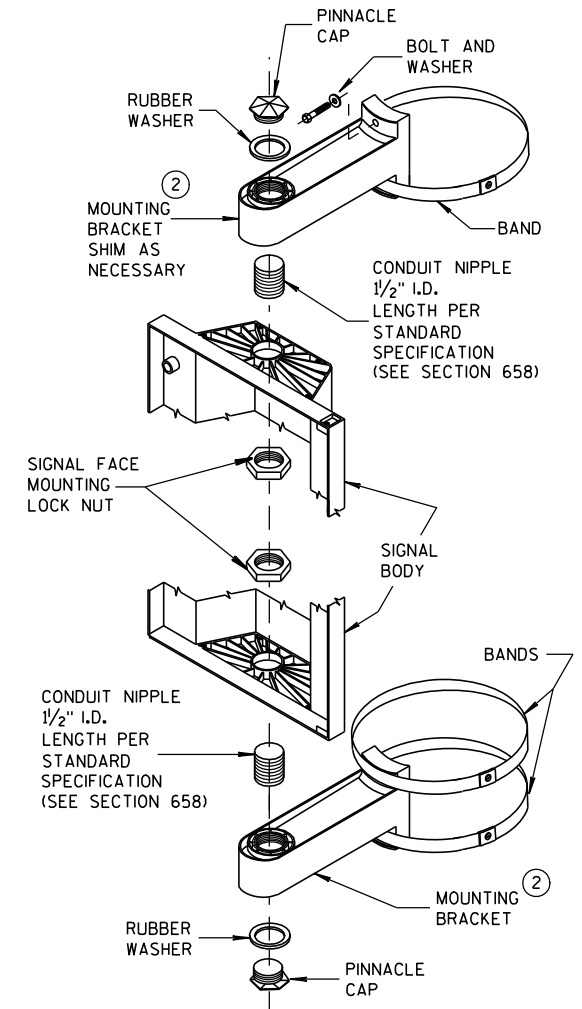
**SIGNAL FACE MOUNTING BRACKET DETAIL FOR MONOTUBE ARM**

(MOUNT PER MANUFACTURER'S RECOMMENDATION)

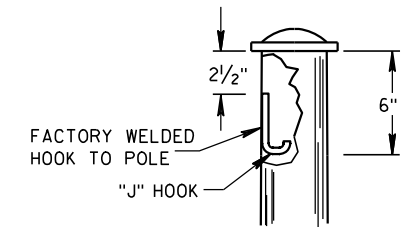


**TYPICAL GROUNDING CONNECTIONS**

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



**SIGNAL FACE VERTICAL MOUNTING DETAIL**



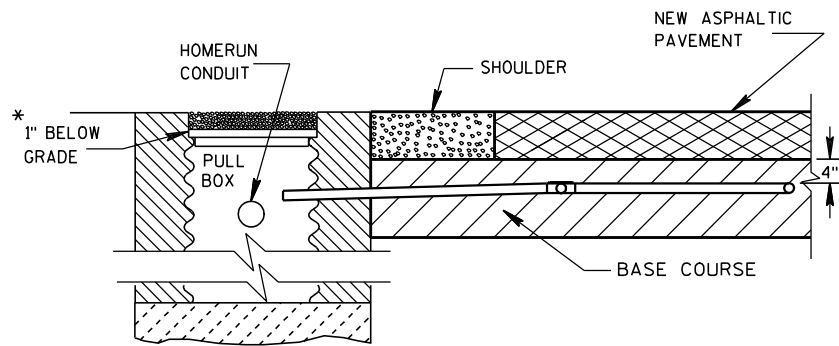
**"J" HOOK WIRE SUPPORT**

6

**GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
3/2/2011 /S/ Thomas J. Gorring  
DATE STATE ELECTRICAL ENGINEER FOR HWYS  
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**SECTION A-A  
NO CURB & GUTTER**

**DETECTOR LOOP INSTALLATION DETAIL**

\*RECESS PULL BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

**GENERAL NOTES**

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

LOOP SIZE, LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD-OUT CONDUIT TO DRAIN TO ROADSIDE PULL BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS SUCH AS 3M TYPE 82A1 OR APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

ANTI-SIEZE LUBRICATING MATERIAL SHALL BE USED ON ALL THREADS OF THREADED ASSEMBLIES BEFORE INSTALLATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

THE #12 AWG LOOP WIRE FROM THE LOOP TO THE ROADSIDE PULL BOX, SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE INSTALLATION.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL BOXES AT THE SIDE OF THE ROAD.

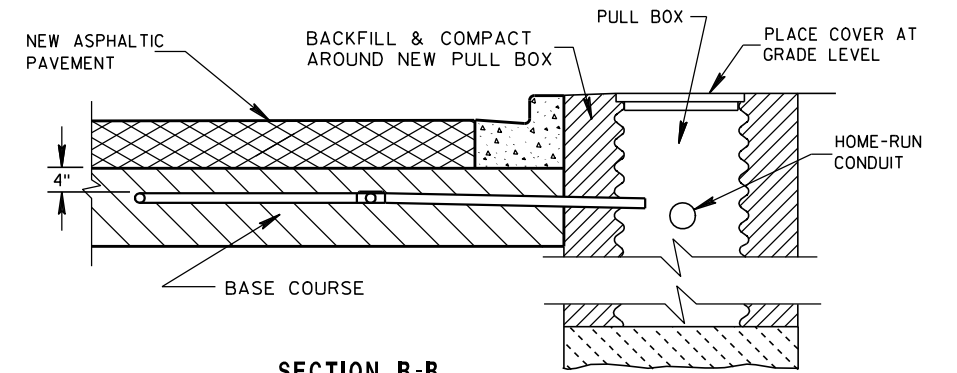
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL BOX, THROUGH THE LOOP DUCT, BACK TO THE ROADSIDE PULL BOX, AND BE INSTALLED IN ONE, NON-SPLICED, CONTINUOUS LENGTH.

PROTECTION OF THE CONDUIT AND CONDULET SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE THE ASPHALTIC PAVEMENT IS PLACED.

WHEN MULTIPLE LAYERS OF ASPHALTIC PAVEMENT ARE TO BE PLACED, LOOPS MAY BE INSTALLED BY SAWING A TWO INCH WIDE SLOT IN THE FIRST LAYER, DIG OUT THE ASPHALTIC MATERIAL AND BASE COURSE, PLACE THE LOOP, FILL THE SLOT WITH BASE COURSE MATERIAL AND NEW ASPHALTIC MATERIAL AND TAMP THE ASPHALTIC MATERIAL IN PLACE.

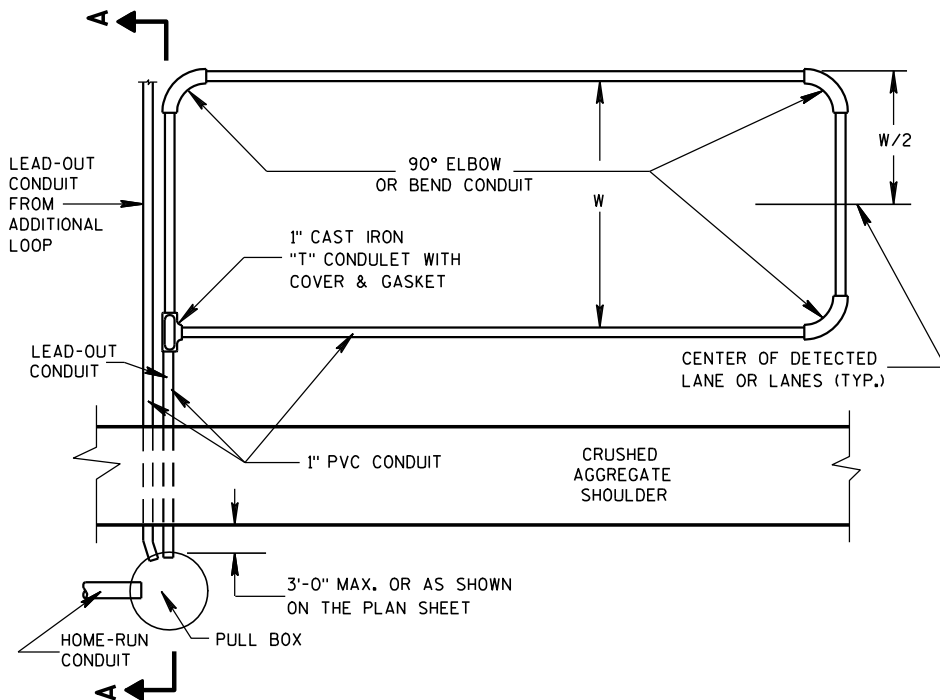
SHOULD TRAFFIC BE ALLOWED TO USE THE AREA OF ROADWAY WITH THE NEWLY INSTALLED LOOP BEFORE THE PLACEMENT OF THE NEXT LAYER OF ASPHALTIC PAVEMENT, THE SLOT/PAVEMENT OPENING SHALL BE SEALED WITH HOT Poured ELASTIC TYPE MATERIAL CONFORMING TO THE REQUIREMENTS OF THE "SPECIFICATION FOR JOINT SEALANTS, HOT Poured, FOR CONCRETE AND ASPHALT PAVEMENTS, ASTM DESIGNATION: D3405".

DRIVE A 1 1/2" MAX. PK NAIL INTO THE NEW ASPHALTIC PAVEMENT AND DIRECTLY ABOVE THE CONDULET AFTER THE FINAL LAYER OF NEW ASPHALTIC PAVEMENT IS COMPLETELY INSTALLED, IF REQUIRED BY THE DISTRICT TRAFFIC SECTION.

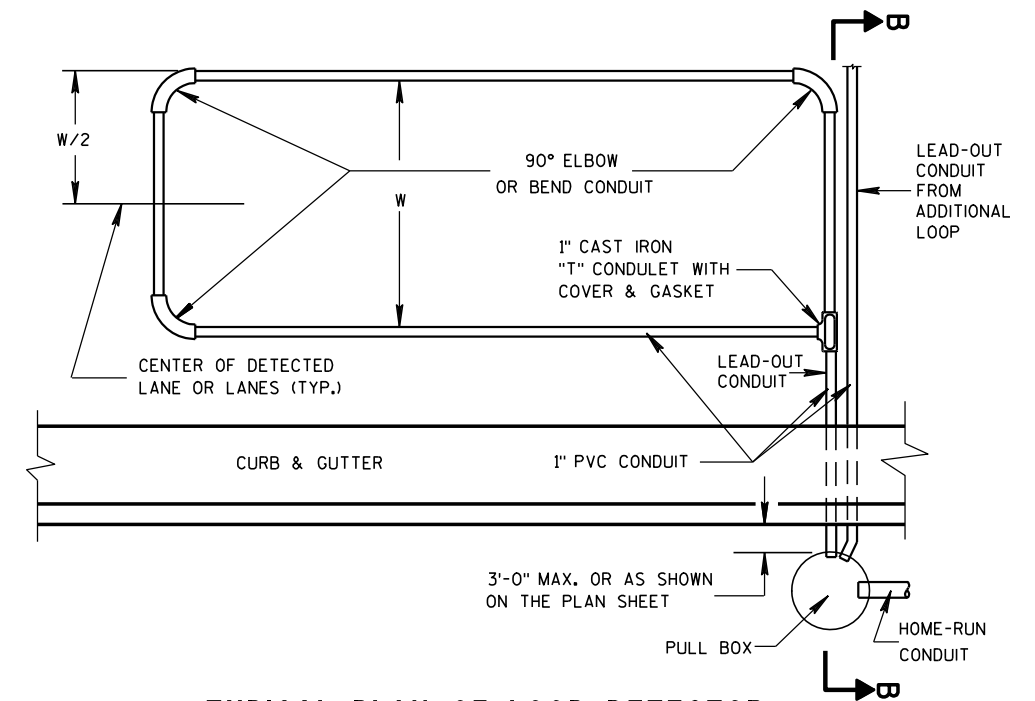


**SECTION B-B  
CURB & GUTTER**

**LOOP DETECTOR INSTALLATION DETAIL**



**TYPICAL PLAN OF LOOP DETECTOR**

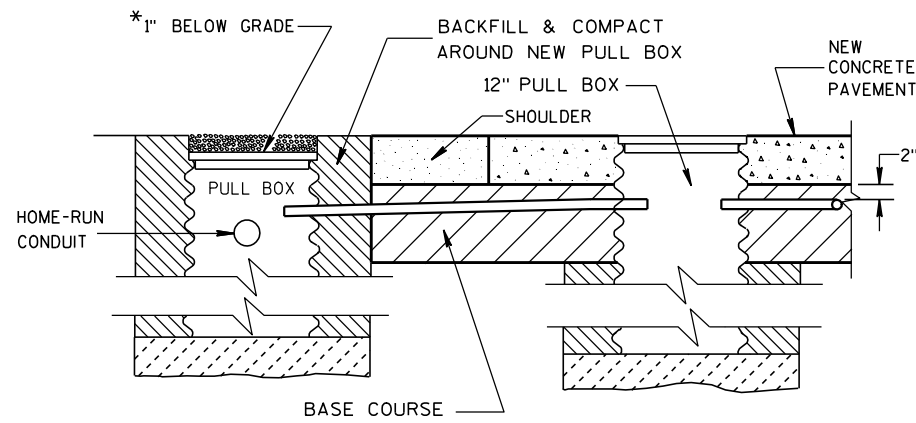


**TYPICAL PLAN OF LOOP DETECTOR**

**LOOP DETECTOR PLACED  
IN CRUSHED AGGREGATE BASE  
(NEW ASPHALTIC PAVEMENT)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE 6/7/06 /S/ Balu Ananthanarayanan  
STATE ELECTRICAL ENGINEER FOR HWYS  
FHWA



**SECTION A-A  
NO CURB & GUTTER**

**LOOP DETECTOR INSTALLATION DETAILS**

\*RECESS PULL BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

**GENERAL NOTES**

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

LOOP SIZE, LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS SUCH AS 3M TYPE 82A1 OR APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

ANTI-SIEZE LUBRICATING MATERIAL SHALL BE USED ON ALL THREADS OF THREADED ASSEMBLIES BEFORE INSTALLATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

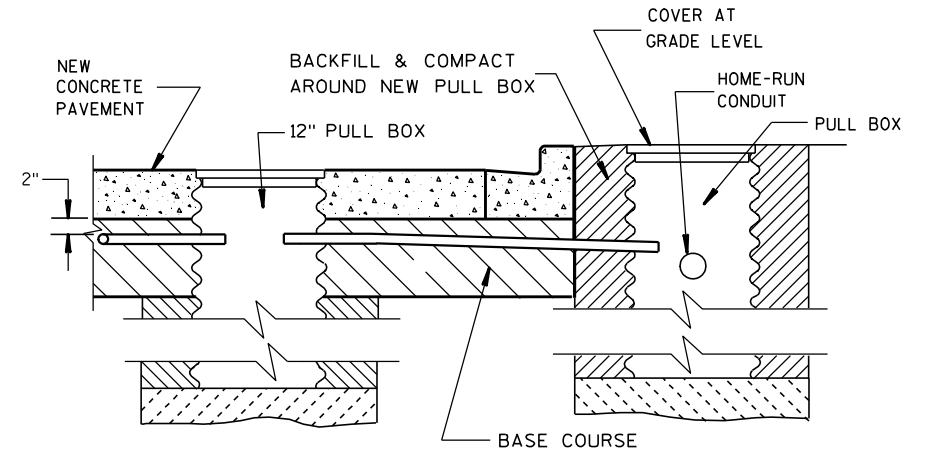
THE #12 AWG LOOP WIRE FROM THE LOOP TO THE ROADSIDE PULL BOX, SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE INSTALLATION.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL BOXES AT THE SIDE OF THE ROAD.

THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL BOX, THROUGH THE LOOP DUCT, BACK TO THE ROADSIDE PULL BOX, AND BE INSTALLED IN ONE, NON-SPLICED, CONTINUOUS LENGTH.

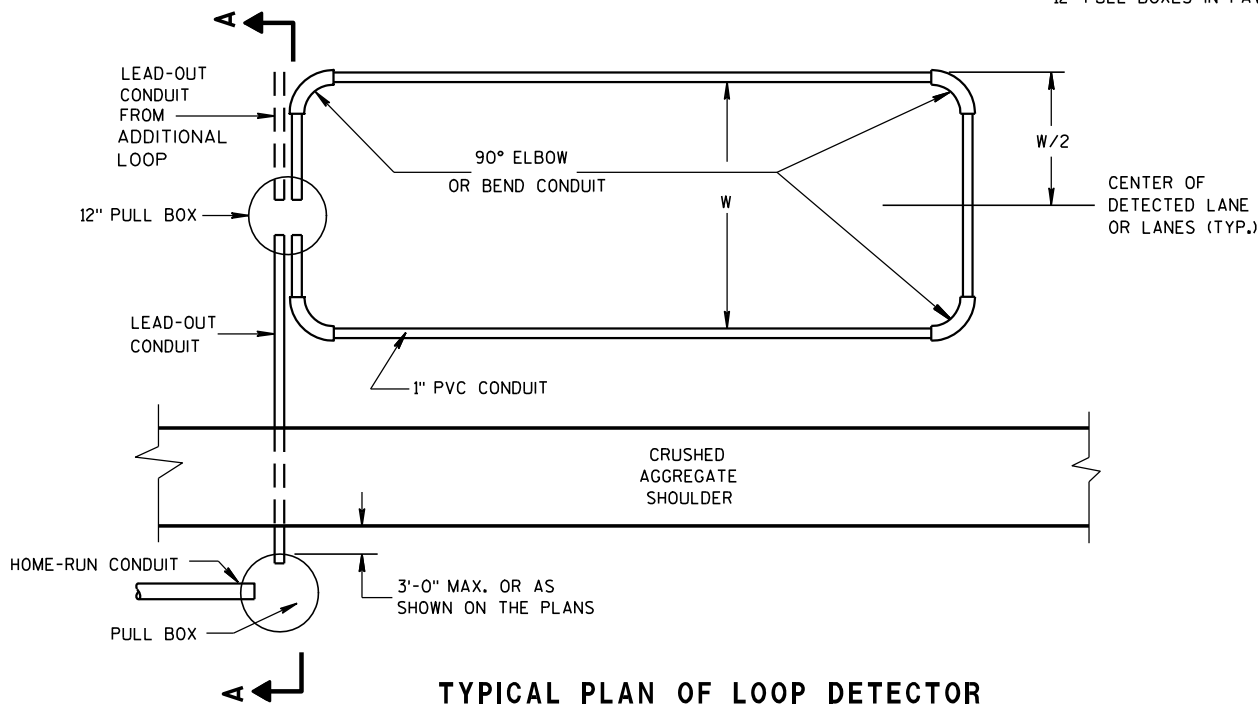
PROTECTION OF THE CONDUIT, CONDULET AND PULL BOX SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE THE NEW CONCRETE PAVEMENT IS PLACED.

12" PULL BOXES IN PAVEMENT SHALL BE CORRUGATED STEEL ONLY.

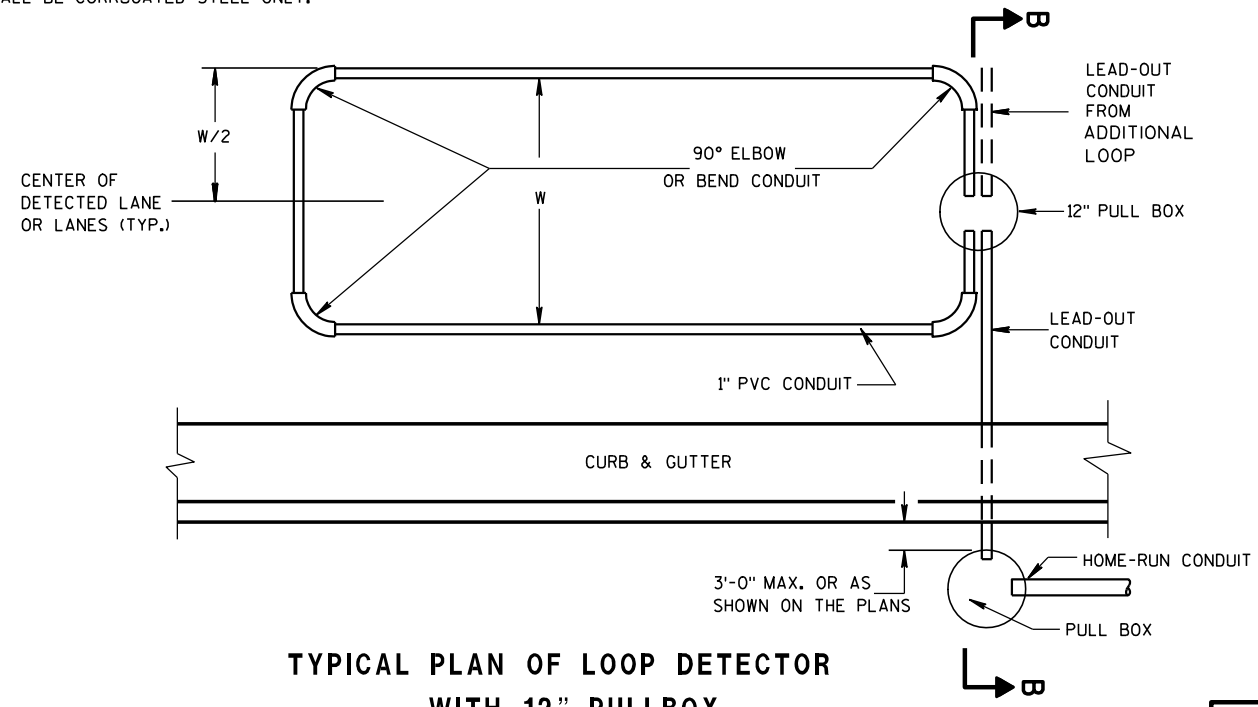


**SECTION B-B  
CURB & GUTTER**

**LOOP DETECTOR INSTALLATION DETAILS**

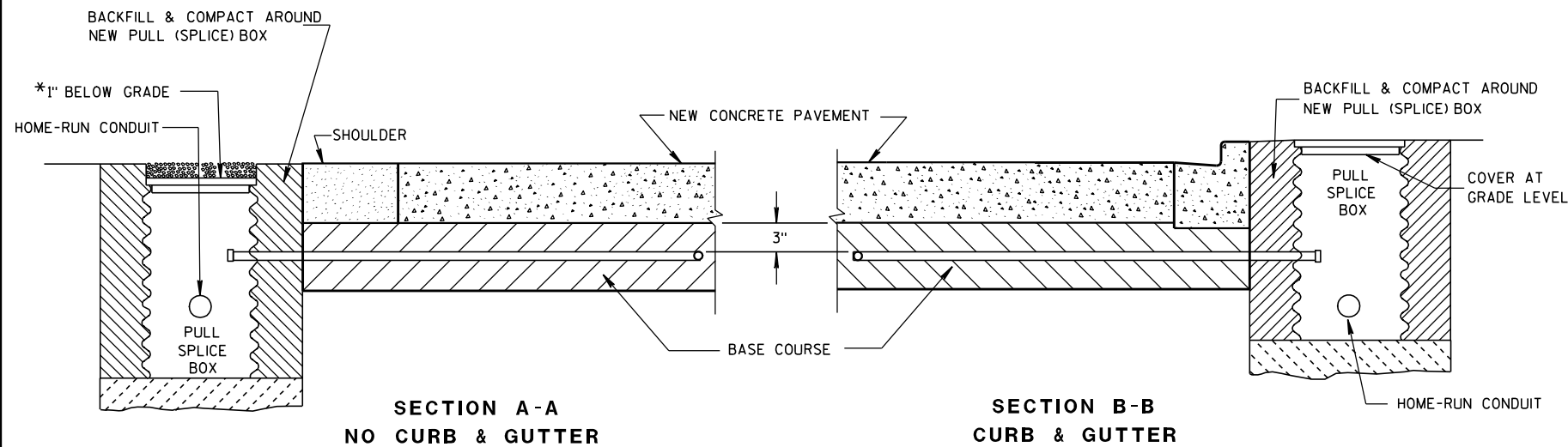


**TYPICAL PLAN OF LOOP DETECTOR  
WITH 12" PULLBOX**



**TYPICAL PLAN OF LOOP DETECTOR  
WITH 12" PULLBOX**

<b>LOOP DETECTOR PLACED IN CRUSHED AGGREGATE BASE (NEW CONCRETE PAVEMNET)</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	/S/ Balu Ananthanarayanan
6-7-06	DATE
	STATE ELECTRICAL ENGINEER FOR HWYS
FHWA	



\*RECESS PULL (SPlice) BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

**LOOP DETECTOR INSTALLATION DETAIL**

**GENERAL NOTES**

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

LOOP SIZE, CONFIGURATION LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPlice) BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS SUCH AS 3M TYPE 82A1 OR APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

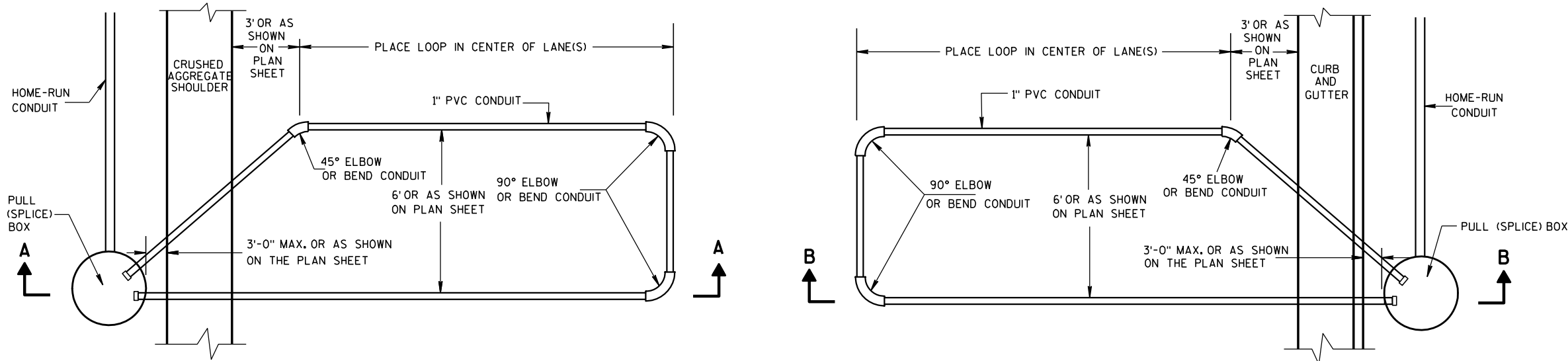
THE #12 AWG LOOP WIRE IN THE PULL (SPlice) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL (SPlice) BOXES AT THE SIDE OF THE ROAD.

THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPlice) BOX THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPlice) BOX, AND BE INSTALLED IN ONE, NON-SPLICE CONTINUOUS LENGTH.

PROTECTION OF THE CONDUIT IN THE BASE COURSE, SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER.



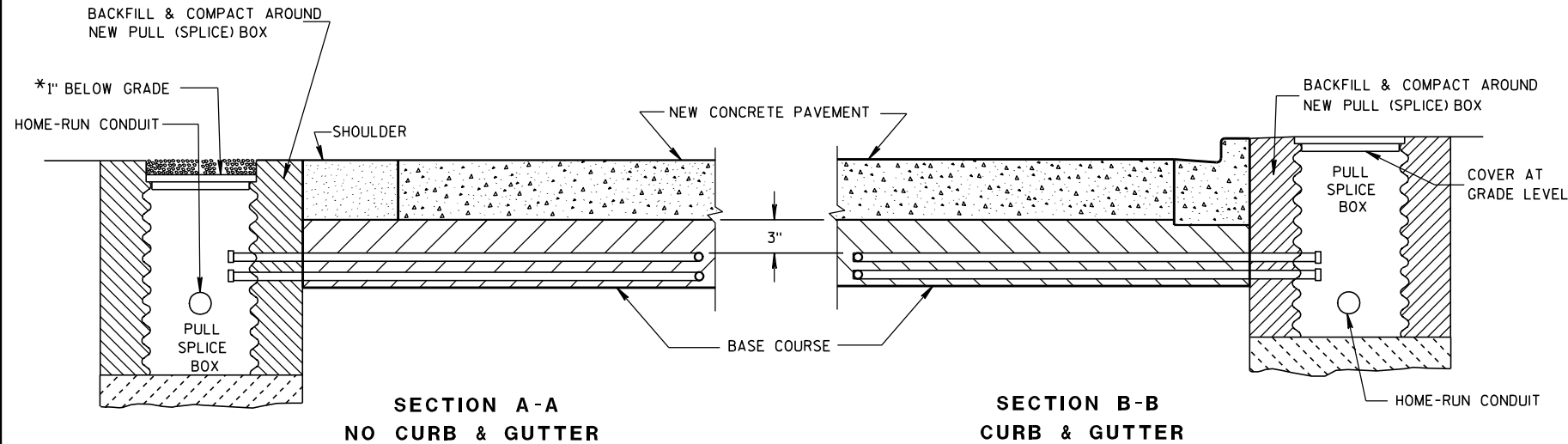
**TYPICAL PLAN OF LOOP DETECTOR WITH 18" OR 24" PULL (SPlice) BOX**

**LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
6/7/06 /S/ Balu Ananthanarayanan  
DATE STATE ELECTRICAL ENGINEER FOR HWYS  
FHWA





**SECTION A-A  
NO CURB & GUTTER**

\*RECESS PULL (SPLICE) BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

**SECTION B-B  
CURB & GUTTER**

**LOOP DETECTOR INSTALLATION DETAIL**

**GENERAL NOTES**

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

LOOP SIZE, CONFIGURATION LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPLICE) BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS SUCH AS 3M TYPE 82A1 OR APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

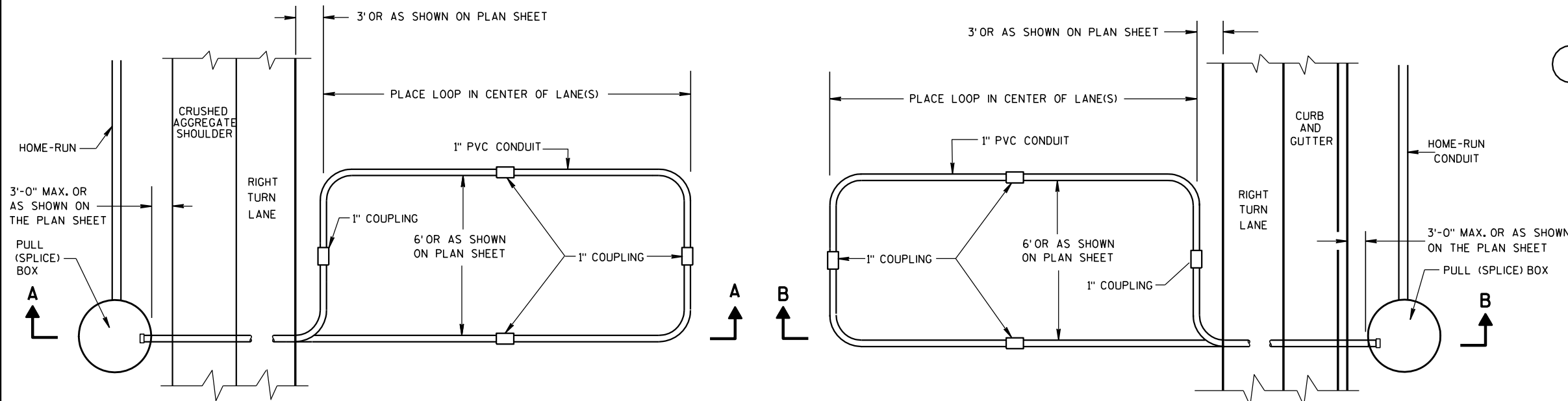
THE #12 AWG LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL (SPLICE) BOXES AT THE SIDE OF THE ROAD.

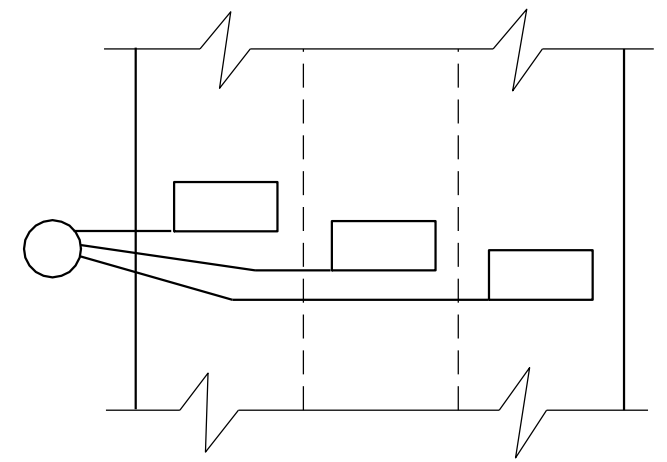
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPLICE) BOX, THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPLICE) BOX, AND BE INSTALLED IN ONE, NON-SPLICED CONTINUOUS LENGTH.

PROTECTION OF THE CONDUITS IN THE BASE COURSE SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER.



**TYPICAL PLAN OF LOOP DETECTOR WITH 24" PULL (SPLICE) BOX**

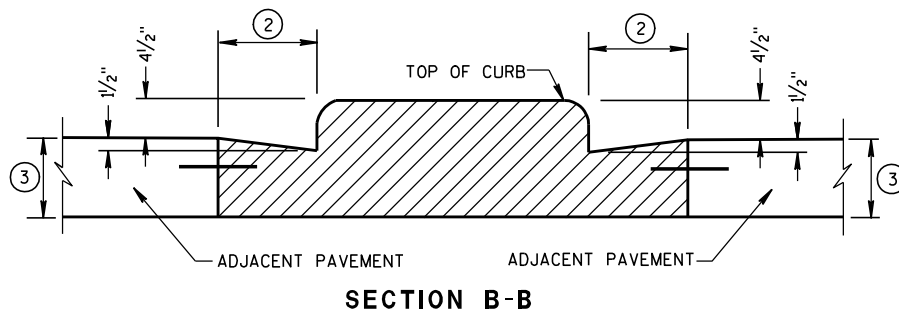
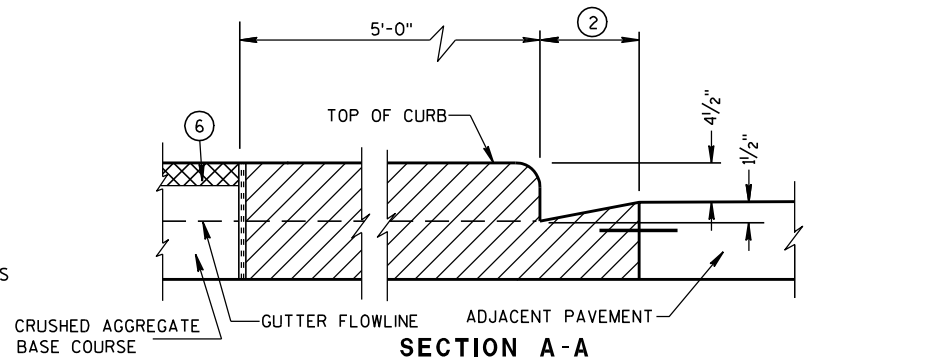
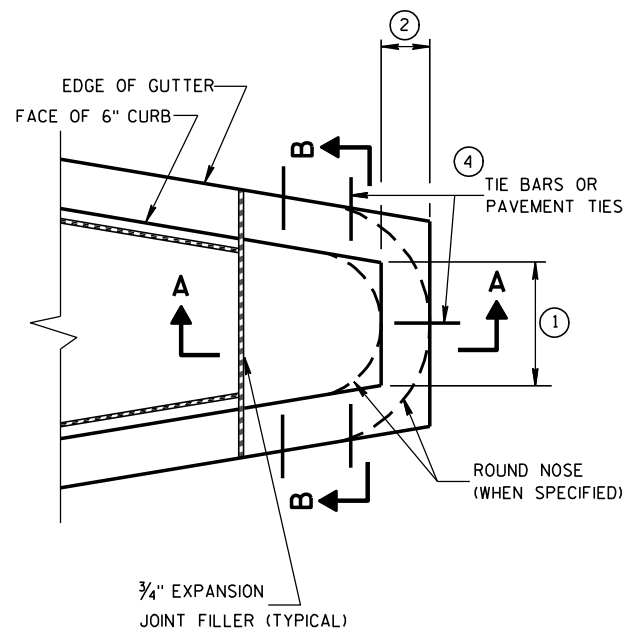
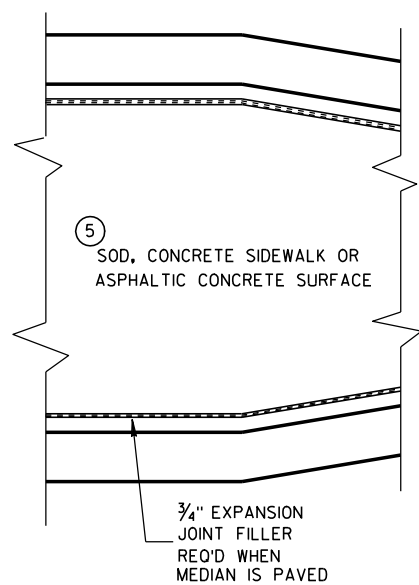


**MULTI-LANE INSTALLATION**

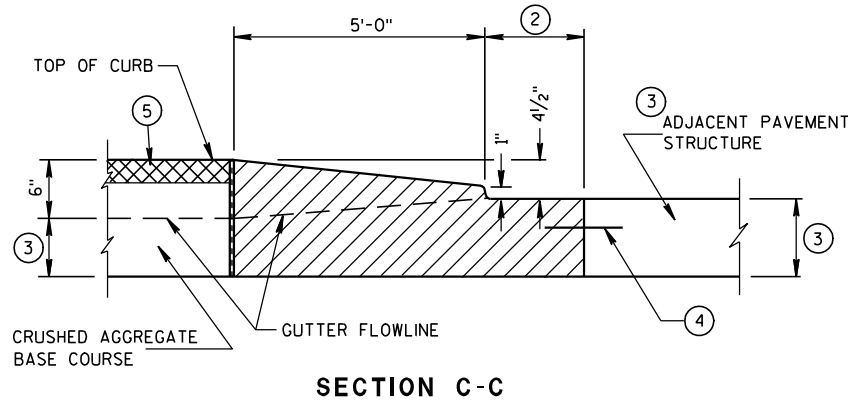
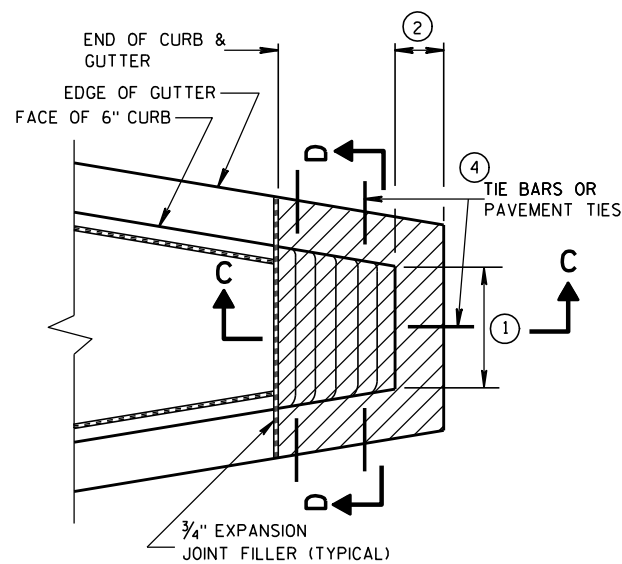
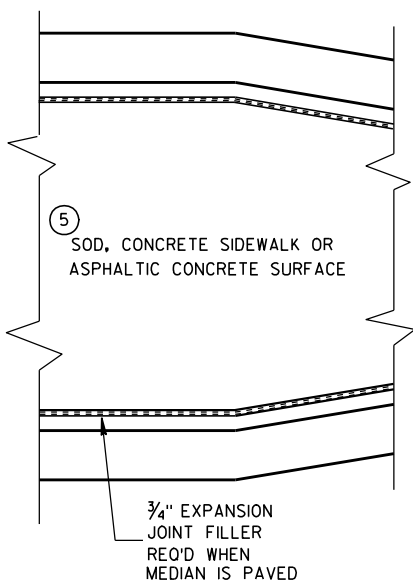
**LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

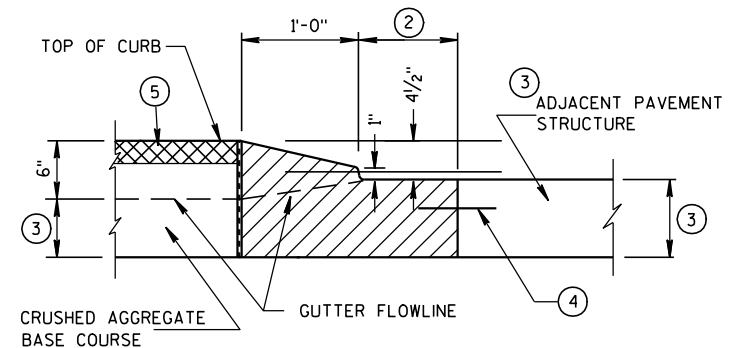
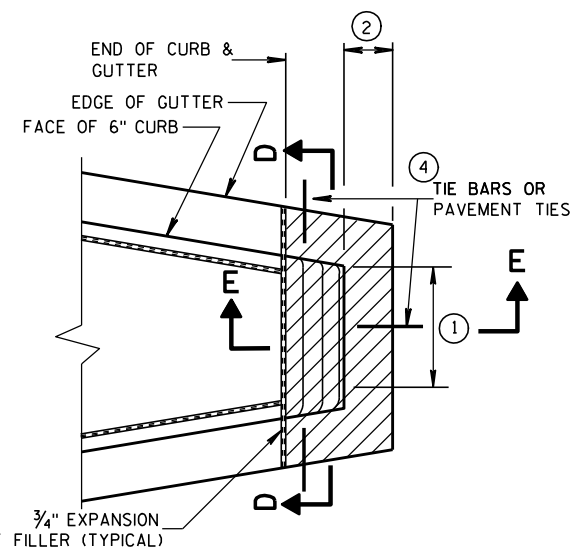
APPROVED  
6/7/06 /S/ Balu Ananthanarayanan  
DATE STATE ELECTRICAL ENGINEER FOR HWYS  
FHWA



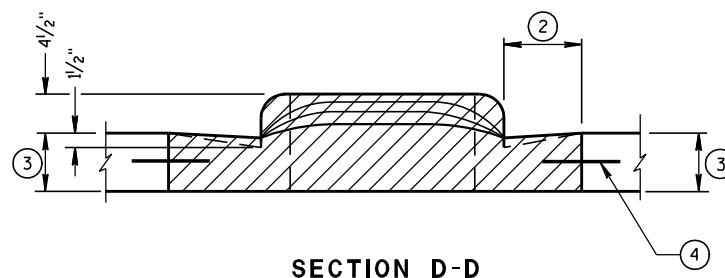
**CONCRETE MEDIAN BLUNT NOSE DETAIL**



**CONCRETE MEDIAN SLOPED NOSE TYPE 1**



**CONCRETE MEDIAN SLOPED NOSE TYPE 2**



**GENERAL NOTES**

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

- ① SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).
- ② WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.
- ③ DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:
  - (1) NEW OR EXISTING CONCRETE PAVEMENT.
  - (2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.
  - (3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

- ④ TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

- ⑤ SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

**CONCRETE MEDIAN NOSE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

6/8/2006

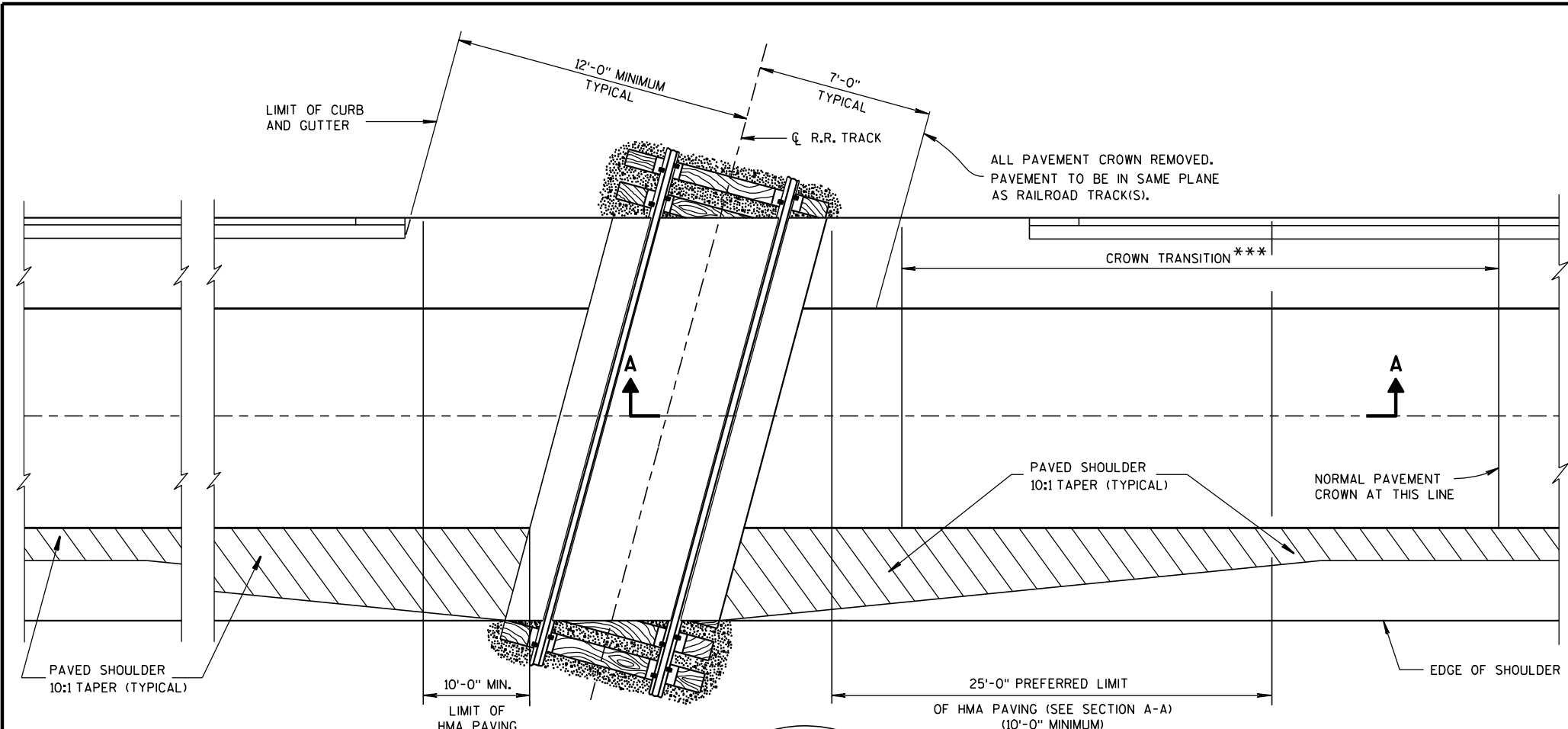
DATE

/s/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

ENGINEER

FHWA



**GENERAL NOTES**

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

TIMBER, CONCRETE OR RUBBER CROSSING SURFACE MATERIAL, RAILS, TIES, BALLAST, GEOTEXTILE FABRIC AND CROSSING DRAINAGE SYSTEM BY OTHERS UNLESS OTHERWISE PROVIDED.

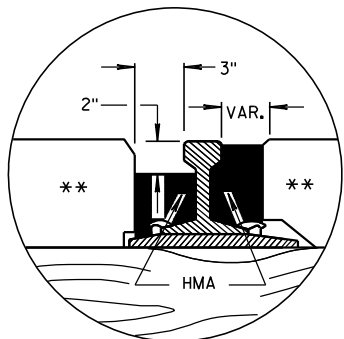
HMA PAVEMENT APPROACHES AND HMA PAVEMENT CROSSING SURFACES TO BE PLACED BY CONTRACTOR UNLESS OTHERWISE PROVIDED.

HMA FLANGEWAY AND FIELD FILLERS TO BE PLACED AND THOROUGHLY HAND COMPACTED BY THE CONTRACTOR WHEN NOT PROVIDED BY OTHERS. SEE DETAIL B. HMA FILLERS NOT REQUIRED WHEN RUBBER FILLERS ARE PROVIDED.

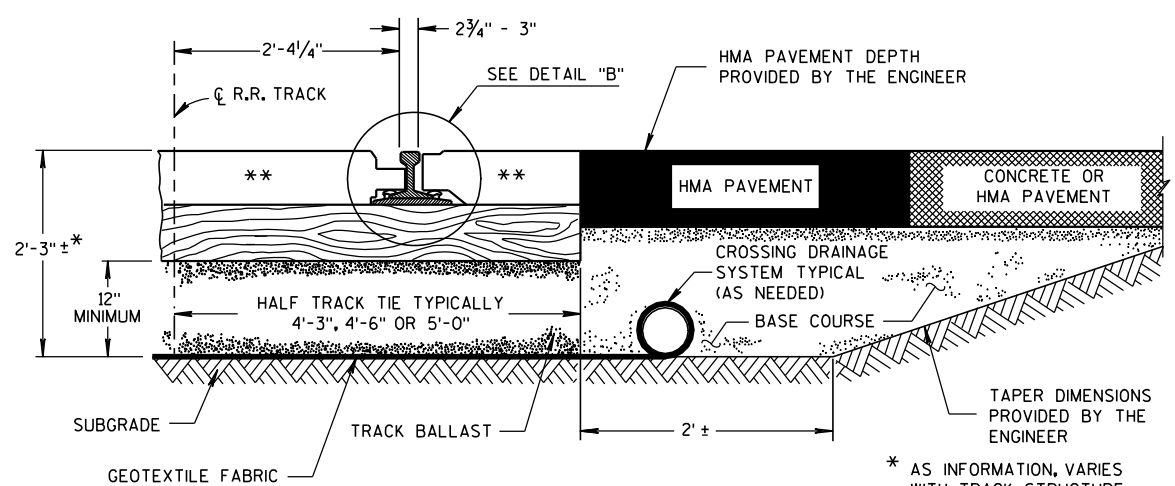
HMA PAVEMENT SHALL BE ROLLED PARALLEL TO THE TRACK.

\*\* CROSSING SURFACE MAY BE TIMBER, RUBBER, CONCRETE, HMA PAVEMENT OR A COMBINATION OF SUCH MATERIALS.

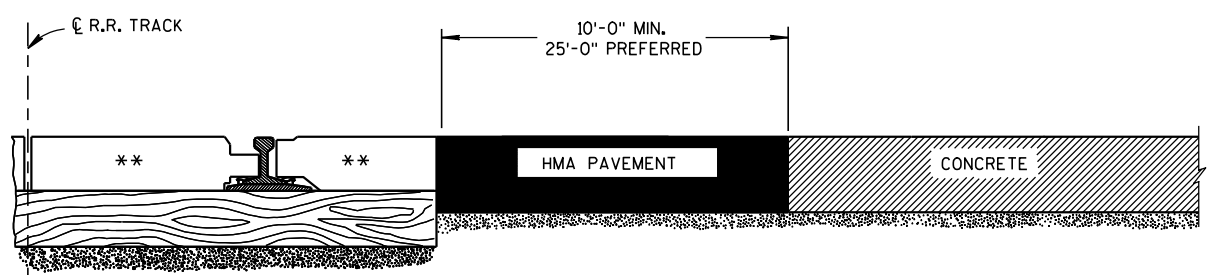
\*\*\* CROWN TRANSITION LENGTH SHOWN ELSEWHERE IN THE PLAN.



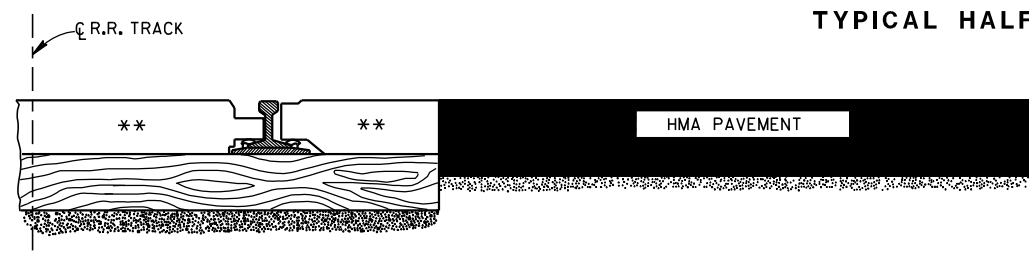
**DETAIL B  
HMA FLANGEWAY  
AND FIELD FILLERS**



**TYPICAL HALF SECTION**



**SECTION A-A  
CONCRETE PAVEMENT APPROACH**



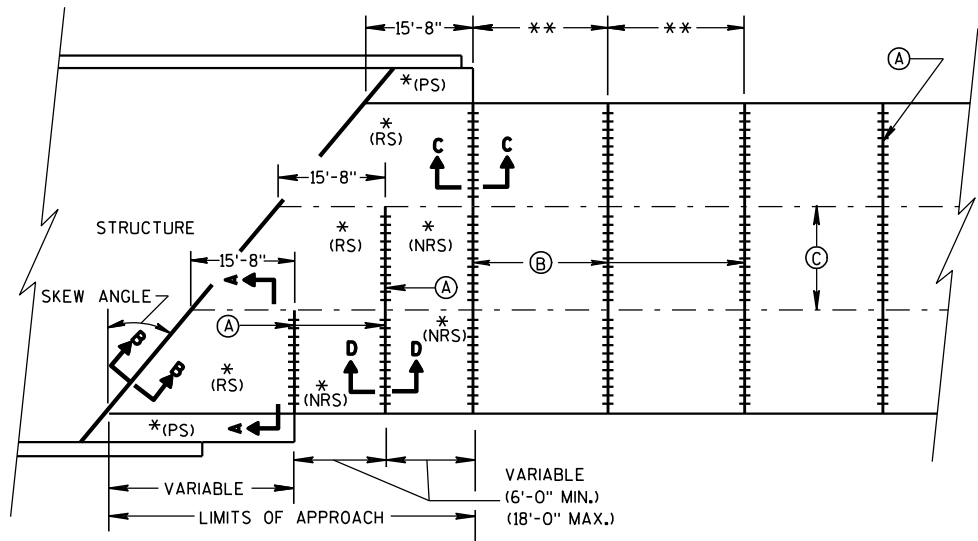
**SECTION A-A  
HMA PAVEMENT APPROACH**

**EXAMPLES OF PAVEMENT APPROACHES**

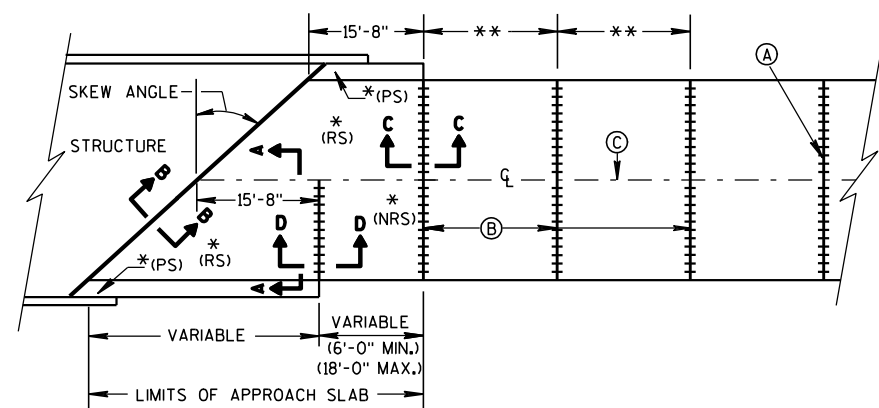
**PAVEMENT DETAILS  
FOR RAILROAD APPROACH**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

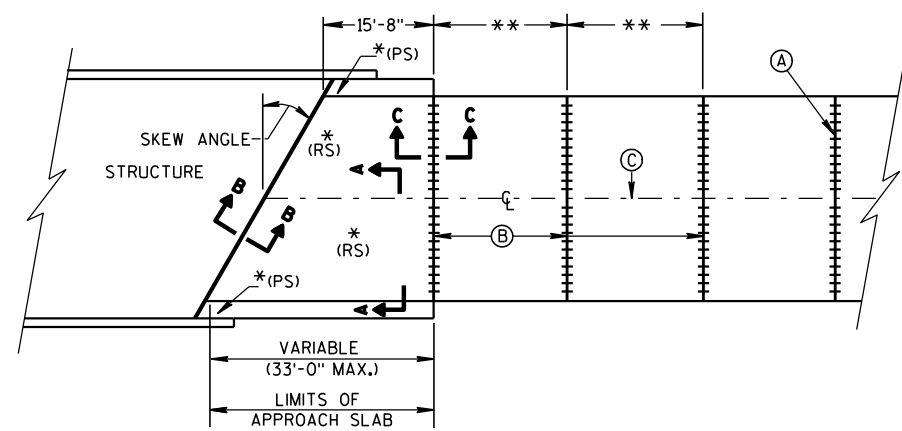
APPROVED  
8-28-09 /S/ Ronald E. Adams  
DATE CHIEF, RAILROADS & HARBORS SECTION  
FHWA



**SKewed Approach  
(Pavement More Than 2 Lanes)**

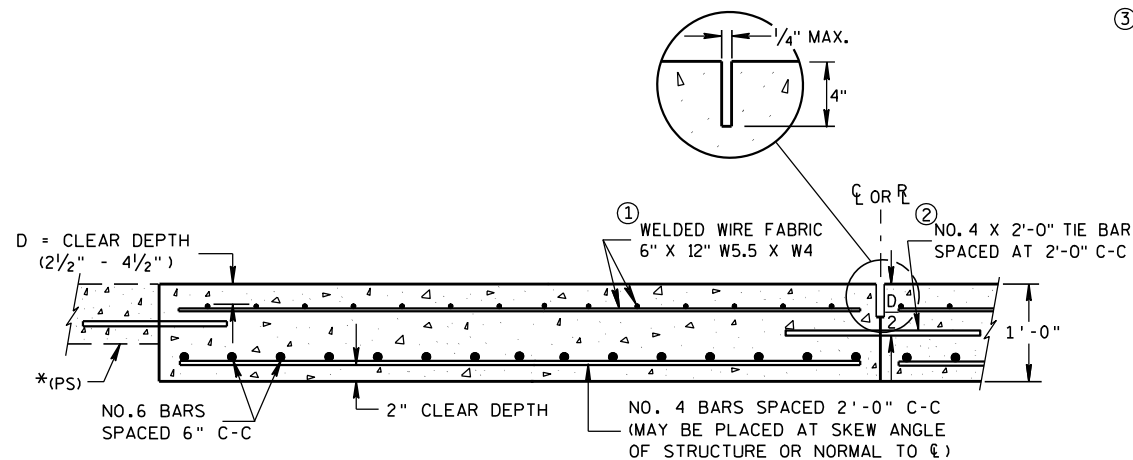


**SKEWS > 30°  
(Pavement Width ≤ 30')**

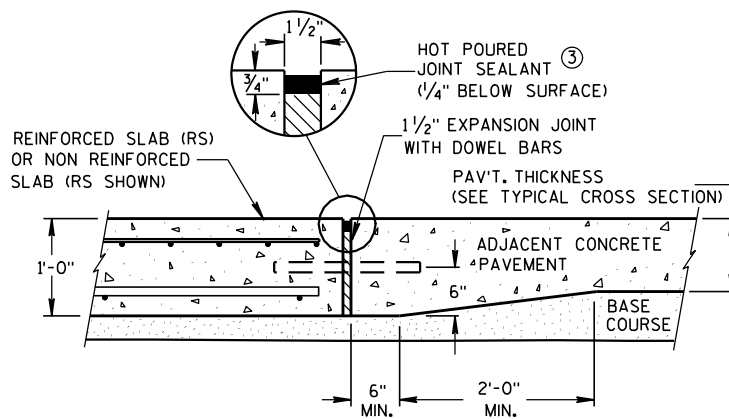


**SKEWS ≤ 30°  
(Pavement Width ≤ 30')  
Approach Slab and Adjacent Pavement**

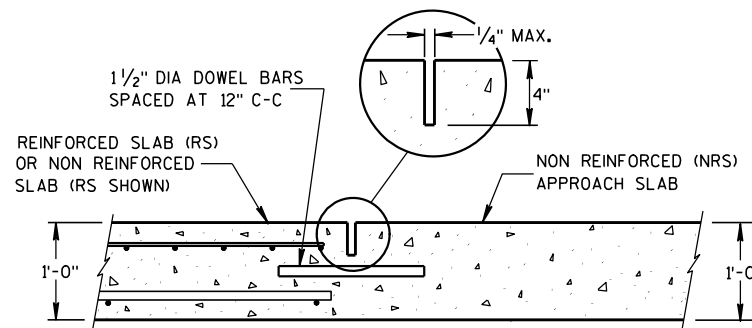
- \* (RS) = REINFORCED CONCRETE SLAB
- \* (PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN (SEE DETAILS ELSEWHERE IN THE PLAN)
- \* (NRS) = NON-REINFORCED CONCRETE SLAB
- \*\* STANDARD TRANSVERSE JOINT SPACING (SEE SDD 13C4, SDD 13C11, & SDD 13C13)
- (A) STANDARD CONTRACTION JOINT NORMAL TO  $R_L$  OR  $R_C$
- (B) 1/2" EXPANSION JOINT WITH DOWEL BARS NORMAL TO  $R_L$  OR  $R_C$
- (C) STANDARD LONGITUDINAL JOINT AND TIE BARS.



**SECTION A-A  
REINFORCEMENT POSITIONING DETAIL**



**SECTION C-C  
TRANSITION DETAIL  
Approach Slab to Adjacent Pavement**



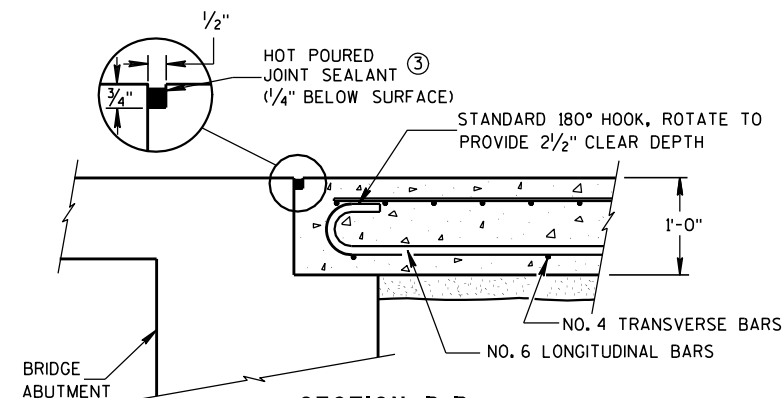
**SECTION D-D  
CONTRACTION JOINT**

**GENERAL NOTES**

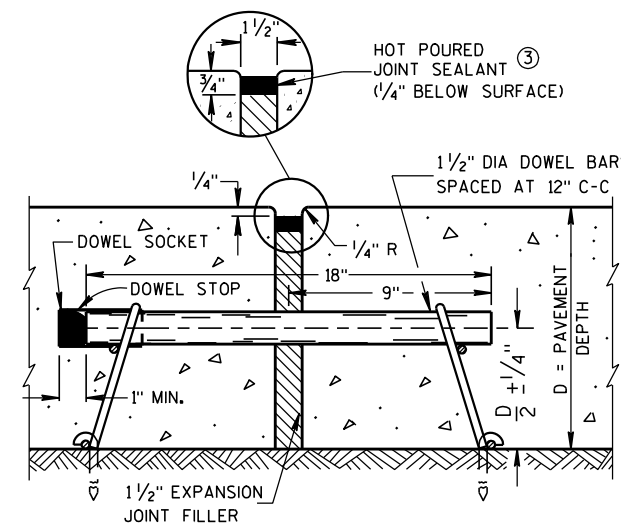
APPROACH SLABS ABUTTING AN HMA PAVEMENT OVER BASE COURSE DO NOT NEED TO BE DOWELED.

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

- ① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
- ② THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
- ③ USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.



**SECTION B-B  
BEND DETAIL  
BOTTOM REINFORCEMENT**

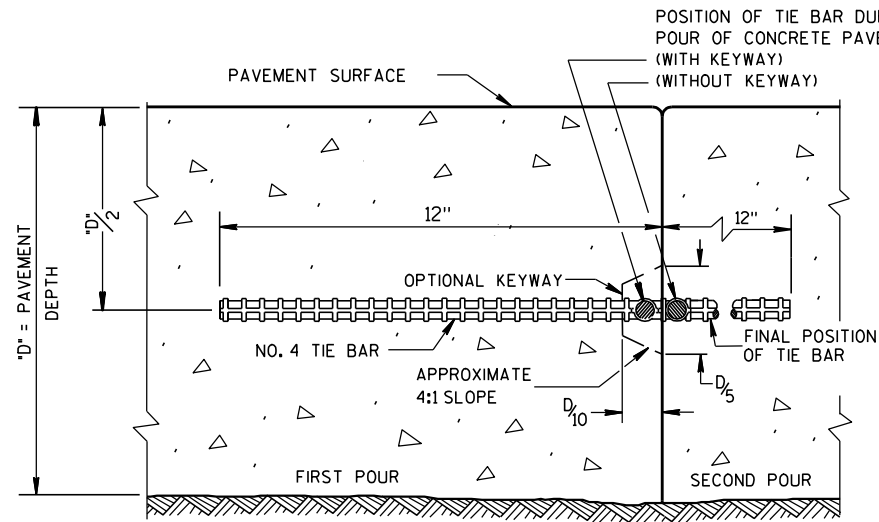


**EXPANSION JOINT**

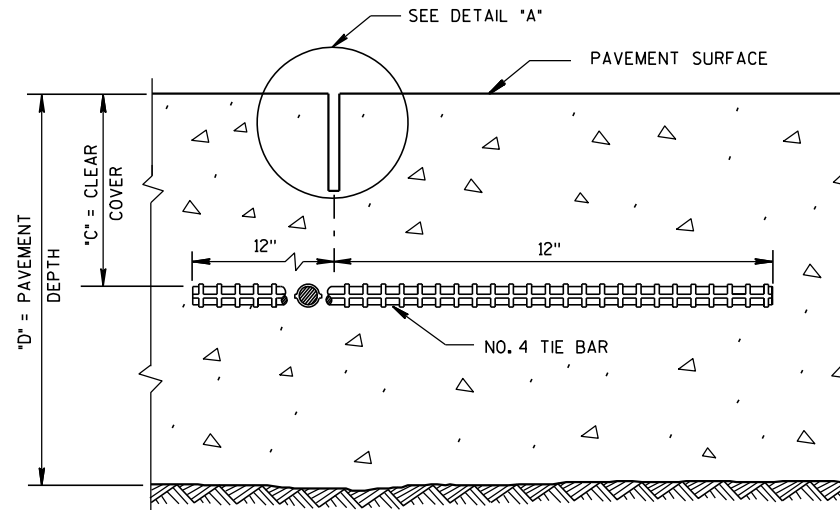
**CONCRETE PAVEMENT  
APPROACH SLAB**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
12/11/2009 /S/ Deb Bischoff  
DATE PAVEMENT POLICY & DESIGN ENGINEER  
FHWA



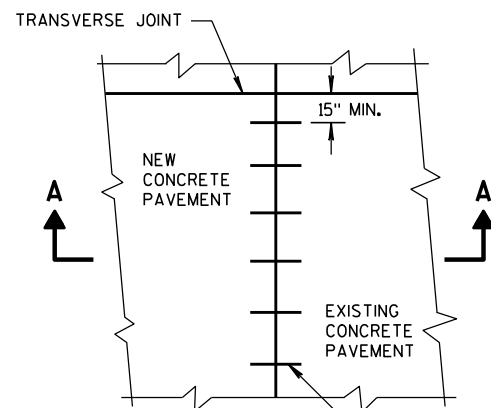
**CONSTRUCTION JOINT**



**SAWED JOINT**

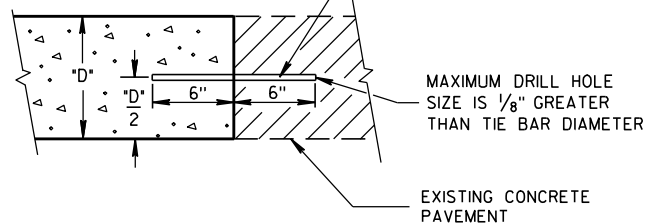
**GENERAL NOTES**

- DO NOT SEAL OR FILL LONGITUDINAL JOINTS.
- CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.
- CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.
- ① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

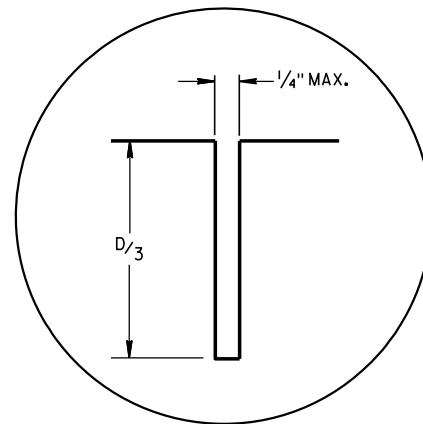


**PLAN VIEW**

NO. 6 TIE BARS SPACED 2'-6" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. ①

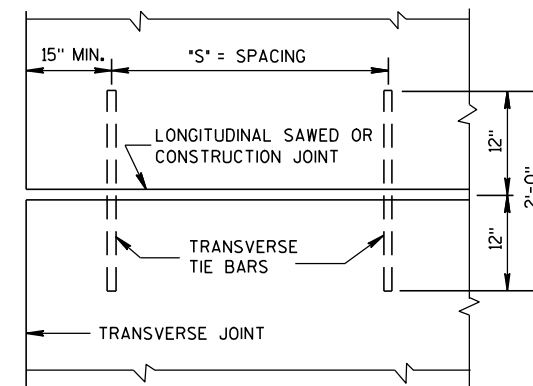


**SECTION A-A  
LONGITUDINAL CONSTRUCTION JOINT  
TIE BARS ANCHORED  
INTO EXISTING PAVEMENT**



**DETAIL "A"**

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH 24' OR 26'	≥ 30'
6, 6 1/2"	3" ± 1/2"	48"	42"
7, 7 1/2"	3 1/4" ± 1"	45"	36"
8, 8 1/2"	3 3/4" ± 1"	39"	30"
9, 9 1/2"	4 1/4" ± 1"	33"	27"
10, 10 1/2"	4 3/4" ± 1"	30"	24"
11, 11 1/2"	5 1/4" ± 1"	27"	21"
12"	5 3/4" ± 1"	24"	21"



**PLAN VIEW  
SHOWING LOCATION OF TIE BARS**

<b>CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10-5-2010 DATE	/S/ Deb Bischoff PAVEMENT POLICY & DESIGN ENGINEER
FHWA	

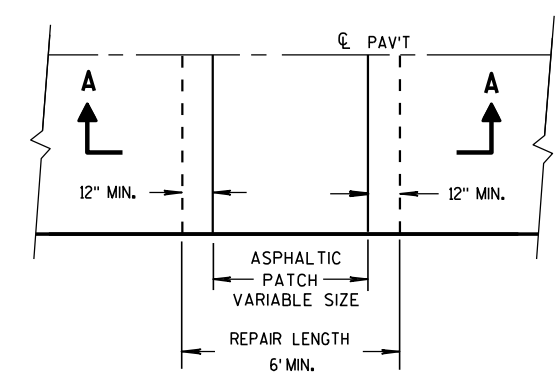
### GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES. ADDITIONAL SAW CUTS ARE NOT PAID FOR BY THE DEPARTMENT.

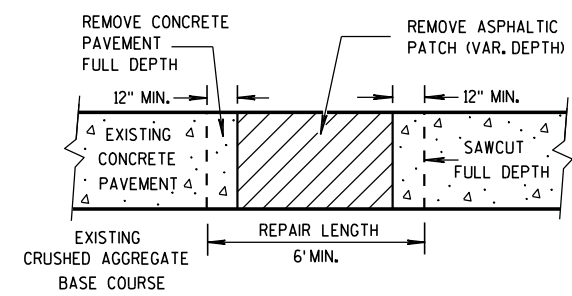
PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK IN THE SAME LANE.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

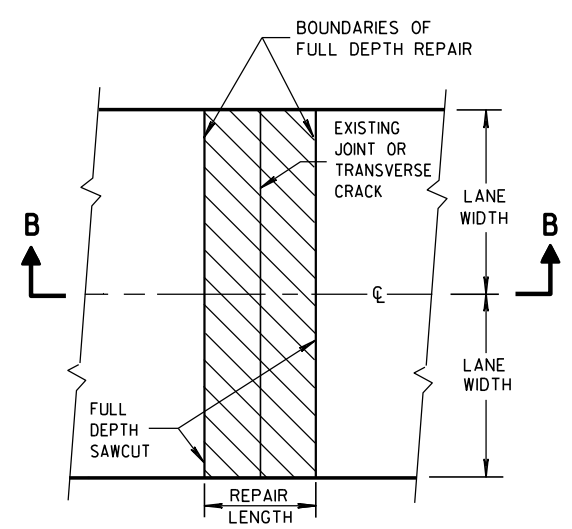
① DOWEL BARS MIGHT NOT EXIST.



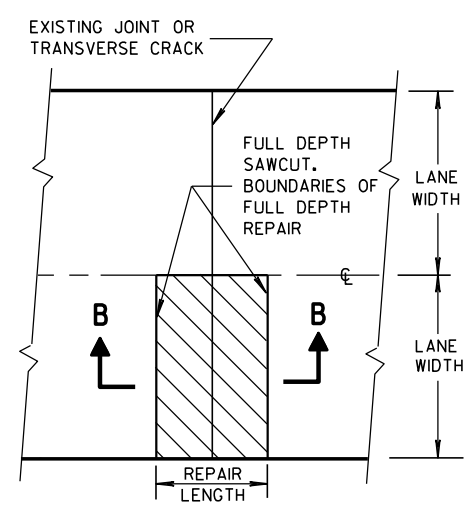
PLAN VIEW



SECTION A-A  
HMA PATCH REMOVAL



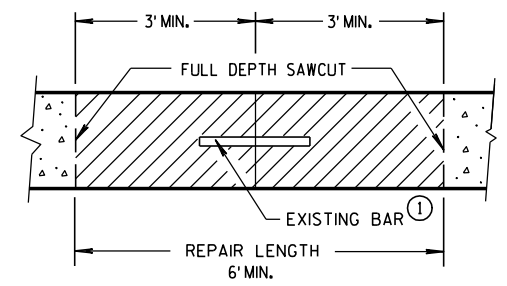
PLAN VIEW  
(DOUBLE LANE REPAIR)



PLAN VIEW  
(SINGLE LANE REPAIR)

### FULL DEPTH CONCRETE PAVEMENT REMOVAL

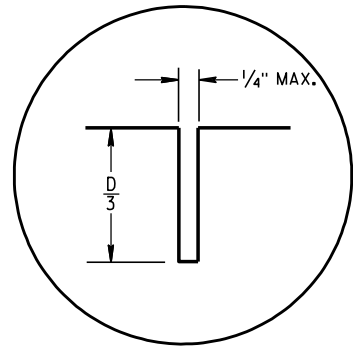
(SEE NOTE)



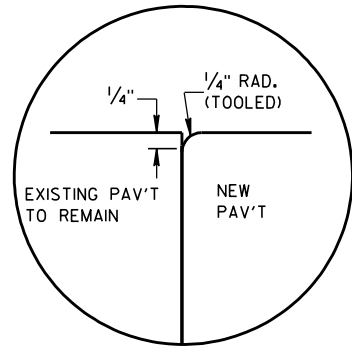
SECTION B-B  
CONCRETE REMOVAL

CONCRETE PAVEMENT REPAIR  
AND REPLACEMENT

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

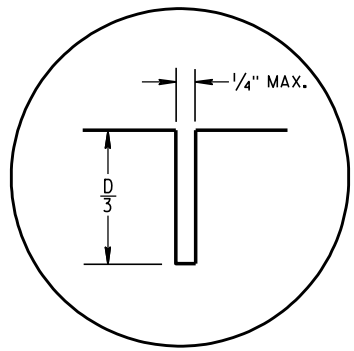


C1

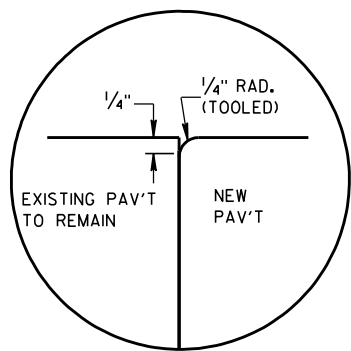


C2

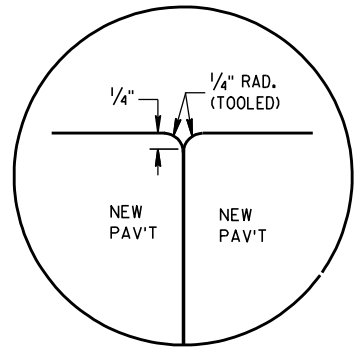
**TRANSVERSE JOINTS**



L1

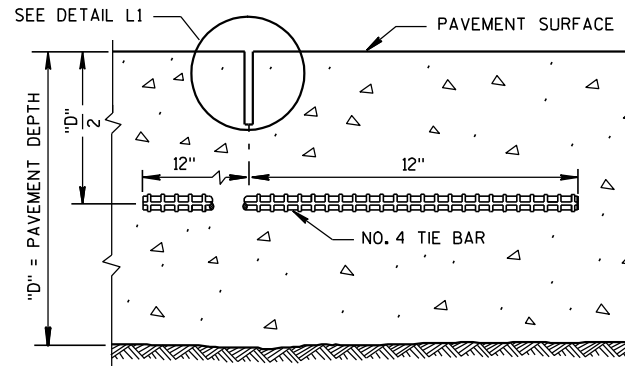


L2

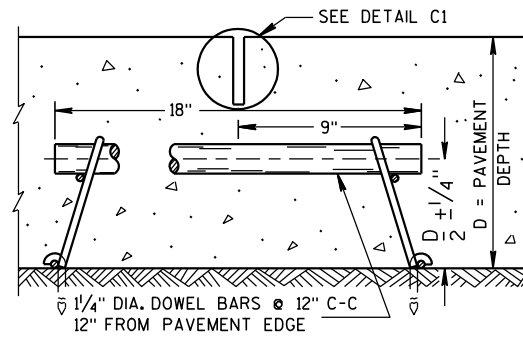


L3

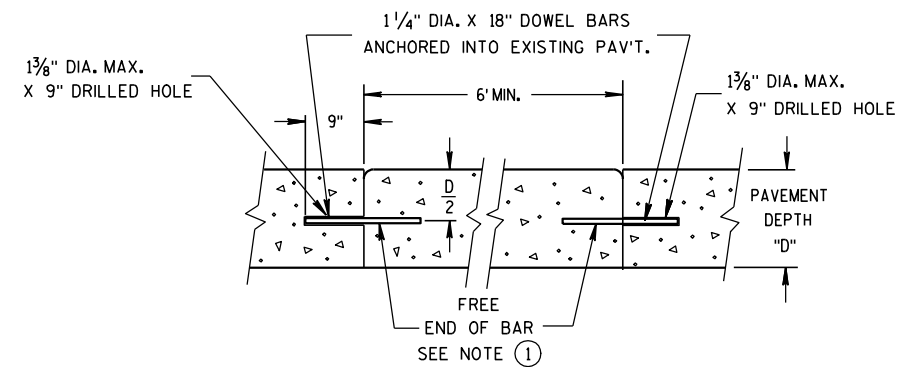
**LONGITUDINAL JOINTS**



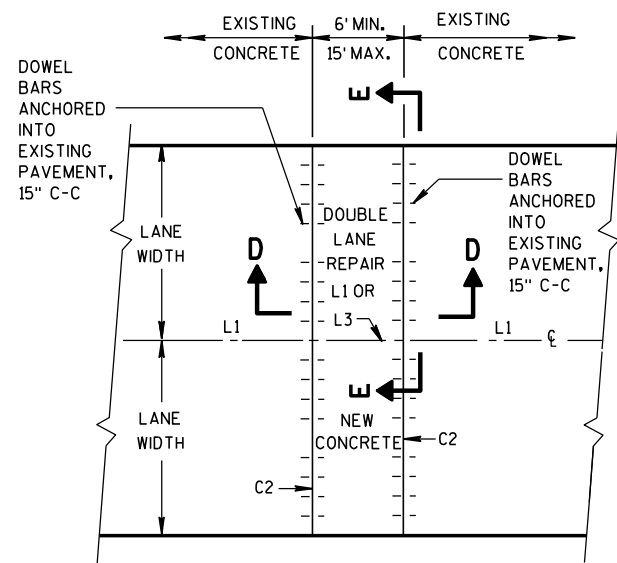
**SECTION C-C  
SAWED LONGITUDINAL JOINT**



**SECTION F-F  
CONTRACTION JOINT**

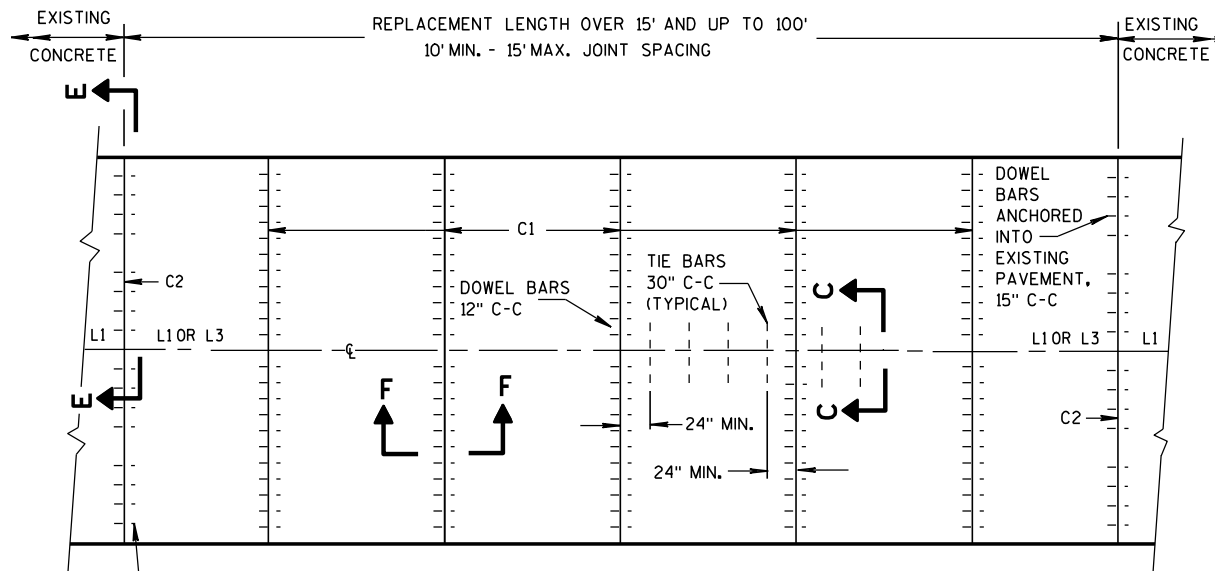


**SECTION D-D**



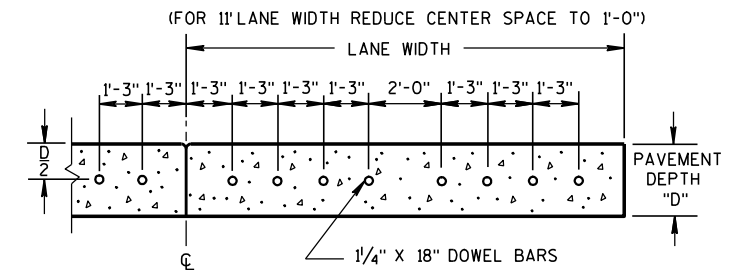
**PLAN VIEW**

**MULTI-LANE CONCRETE PAVEMENT REPAIR**



**PLAN VIEW**

**MULTI-LANE CONCRETE PAVEMENT REPLACEMENT**



**SECTION E-E  
SPACING OF DOWEL BARS  
ANCHORED INTO EXISTING PAVEMENT**

**GENERAL NOTES**

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

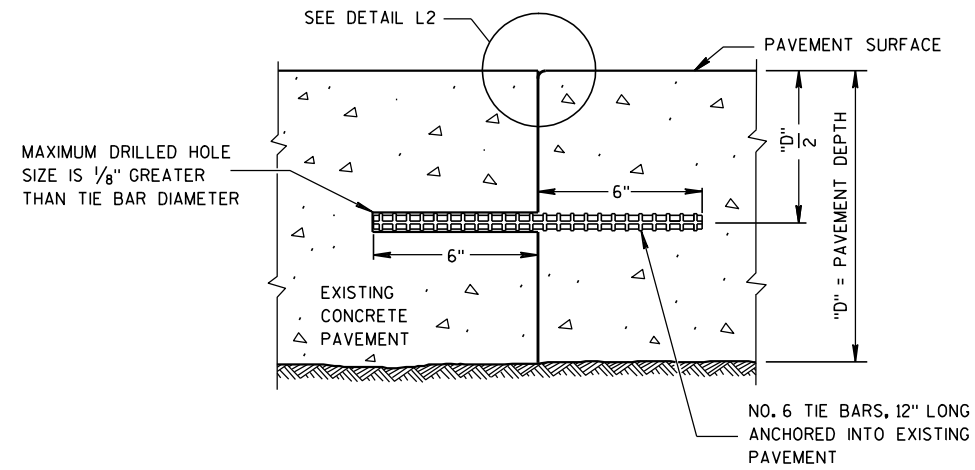
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 24 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

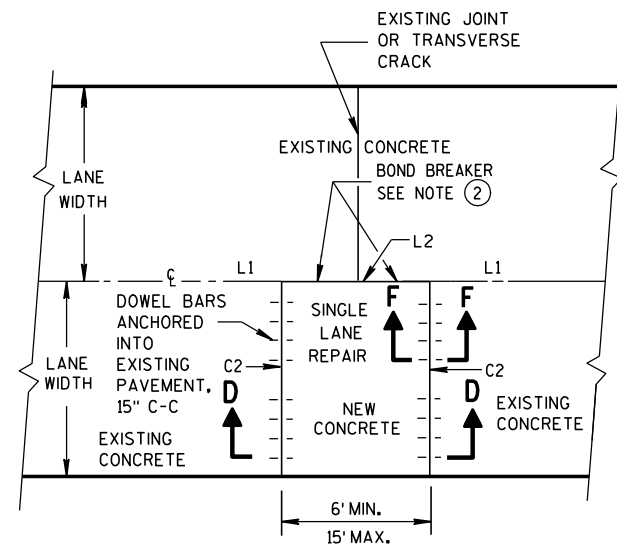
- ① APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

### GENERAL NOTES

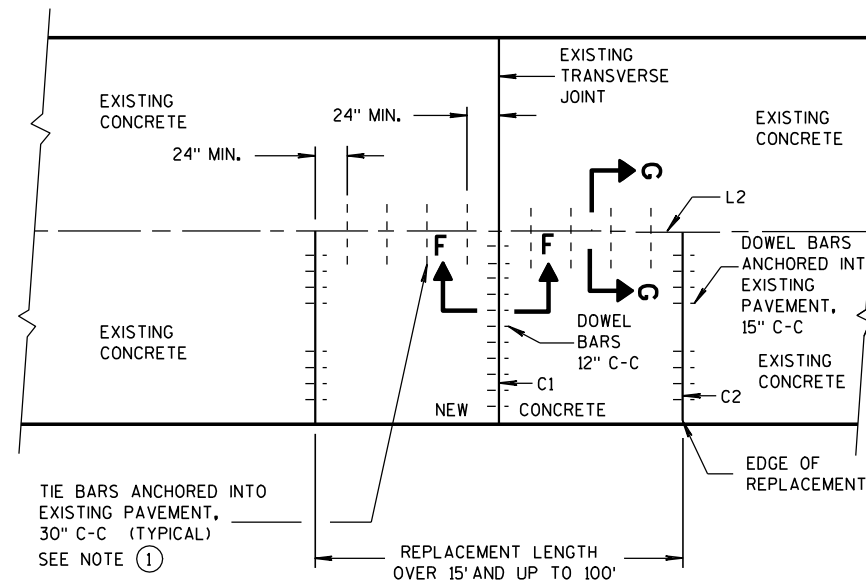
- ① WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.
- ② USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.



SECTION G-G  
**TIE BARS ANCHORED  
 INTO EXISTING PAVEMENT**



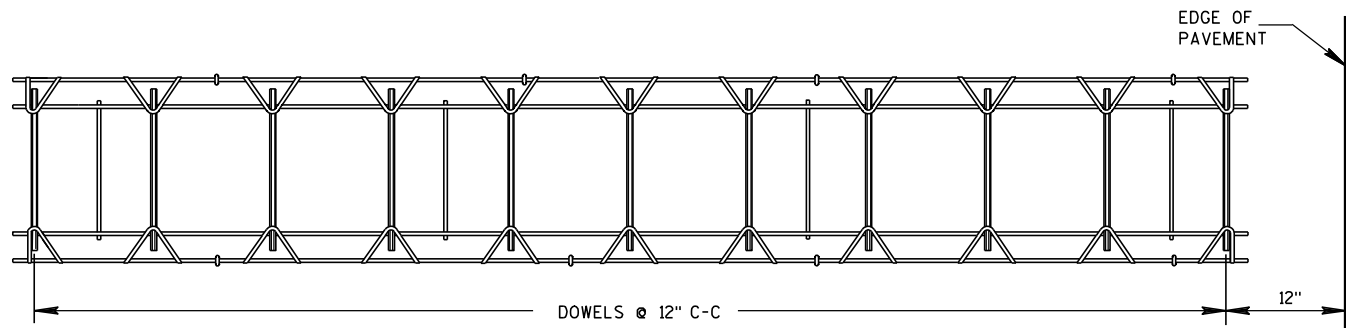
PLAN VIEW  
**SINGLE LANE  
 CONCRETE PAVEMENT REPAIR**



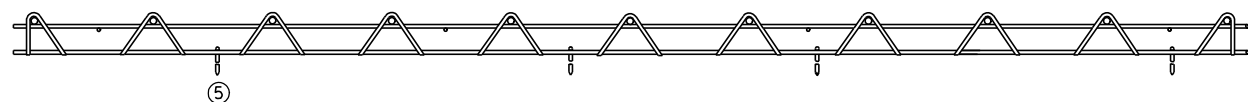
PLAN VIEW  
**SINGLE LANE  
 CONCRETE PAVEMENT REPLACEMENT**

<b>CONCRETE PAVEMENT REPAIR AND REPLACEMENT</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 11-1-2011	/S/ Deb Bischoff PAVEMENT POLICY & DESIGN ENGINEER
FHWA	





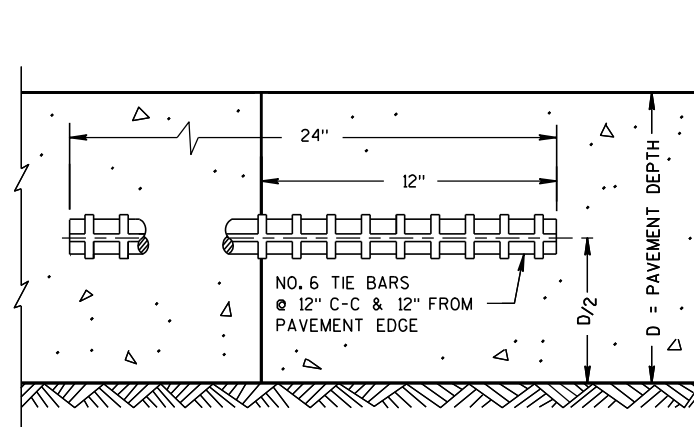
PLAN VIEW



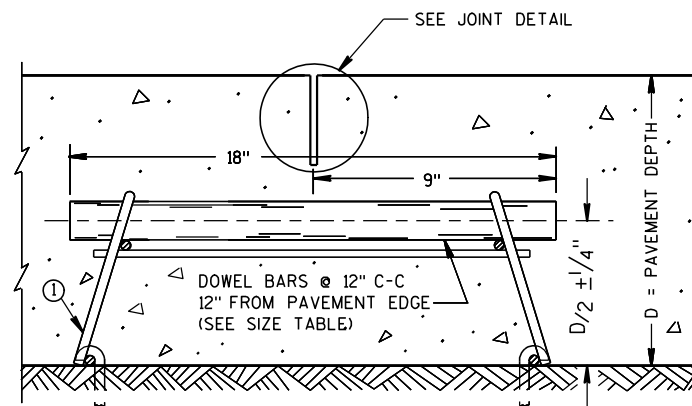
SIDE VIEW  
CONTRACTION JOINT DOWEL ASSEMBLY

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8", 8 1/2"	1 1/4"	15'
9", 9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'



TRANSVERSE CONSTRUCTION JOINT



DOWELED CONTRACTION JOINT

**GENERAL NOTES**

CONTRACTION JOINTS

CONSTRUCT CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, CENTER THE DOWEL ASSEMBLY ACROSS THE LANES. LOCATE THE INNER AND OUTER MOST DOWEL BARS SO THAT THE CENTER OF THE BARS ARE A MINIMUM OF 6 INCHES AND A MAXIMUM OF 12 INCHES FROM THE LONGITUDINAL JOINT AND THE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 4 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

THE CONTRACTOR MAY INSERT TIE BARS THROUGH THE HEADER BOARD AFTER THE CONCRETE HAS BEEN PLACED.

① THE ENGINEER MAY APPROVE THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. THE CONTRACTOR MAY USE MECHANICAL DOWEL BAR INSERTERS INSTEAD OF DOWEL ASSEMBLIES.

② ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY.

③ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

④ SPACE DOWEL BARS INSTALLED BY DRILLING 1'-3" ON CENTER. CENTER THE GROUPING OF DOWEL BARS INSIDE THE SLAB BASED ON ALL THE FOLLOWING SITUATIONS:

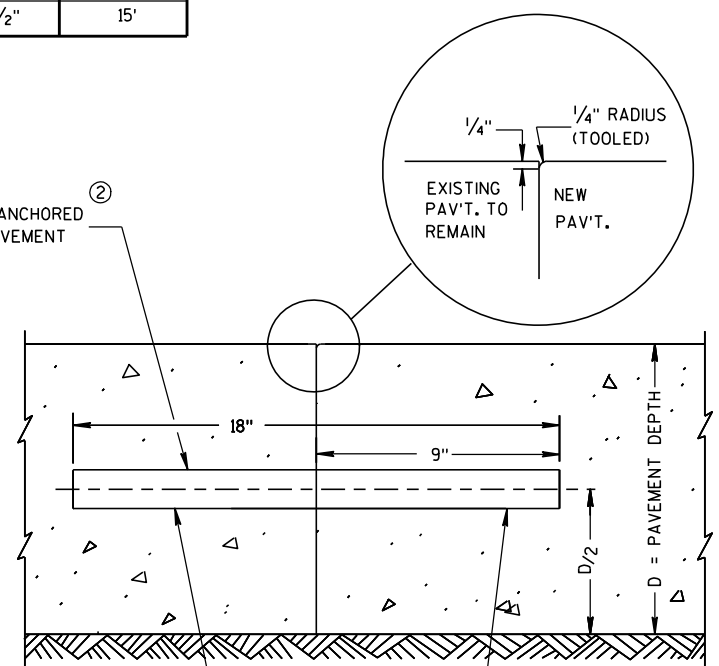
BETWEEN THE EDGES OF PAVEMENTS WITHOUT LONGITUDINAL JOINTS OR BETWEEN THE EDGE OF PAVEMENT AND NEAREST LONGITUDINAL JOINT OR BETWEEN TWO ADJACENT LONGITUDINAL JOINTS.

⑤ SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

6

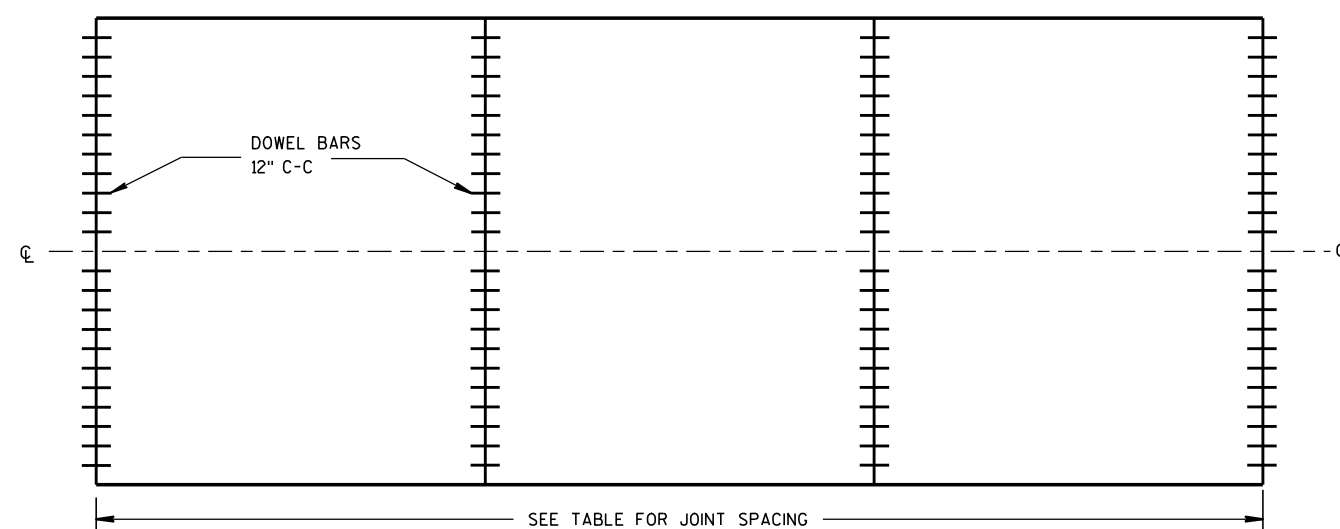
6

18" DOWEL BARS ANCHORED INTO EXISTING PAVEMENT

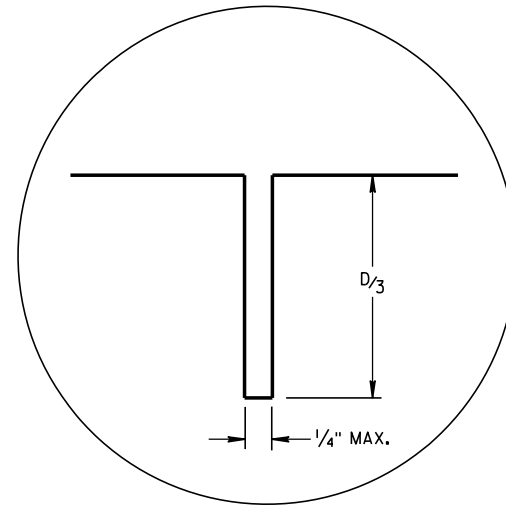


MAX. DRILLED HOLE SIZE IS 1/8" GREATER THAN DOWEL BAR DIA., 9" LENGTH  
GREASE END OF BAR

TRANSVERSE CONTRACTION JOINTS ABUTTING EXISTING PAVEMENT  
DOWEL BAR DETAIL



CONTRACTION JOINT LOCATIONS



JOINT DETAIL

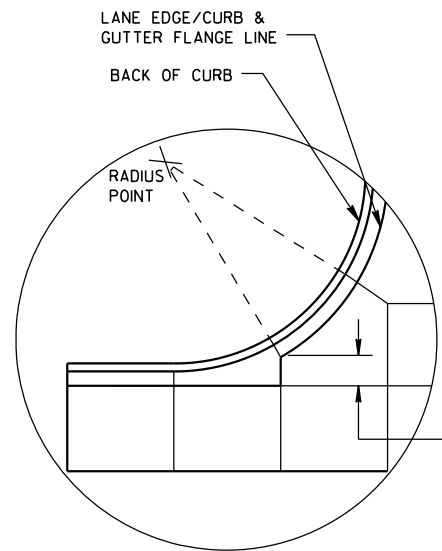
**URBAN DOWELED CONCRETE PAVEMENT**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

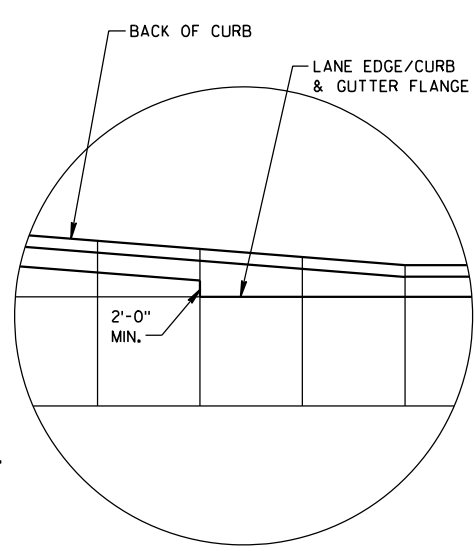
APPROVED  
12/11/2009 /S/ Deb Bischoff  
DATE PAVEMENT POLICY & DESIGN ENGINEER  
FHWA

S.D.D. 13 C 13-7

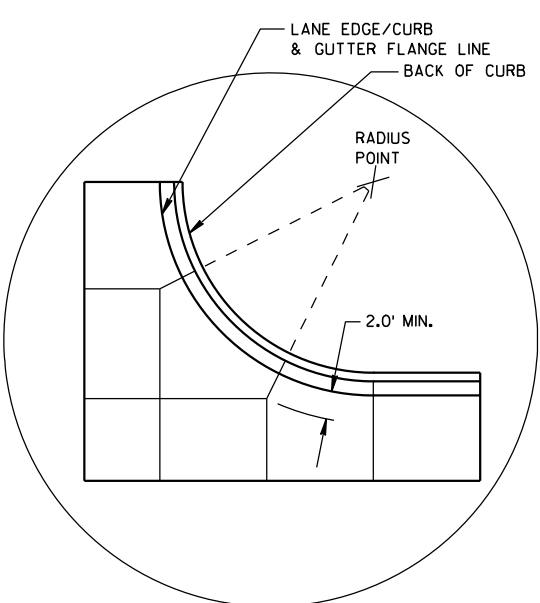
S.D.D. 13 C 13-7



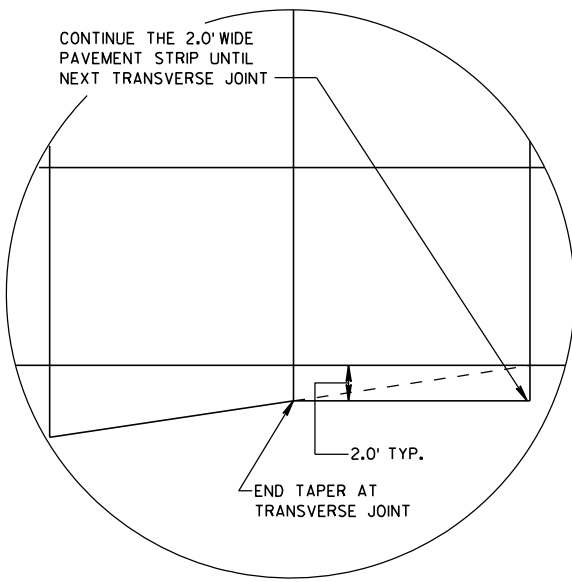
DETAIL "A"



DETAIL "B"



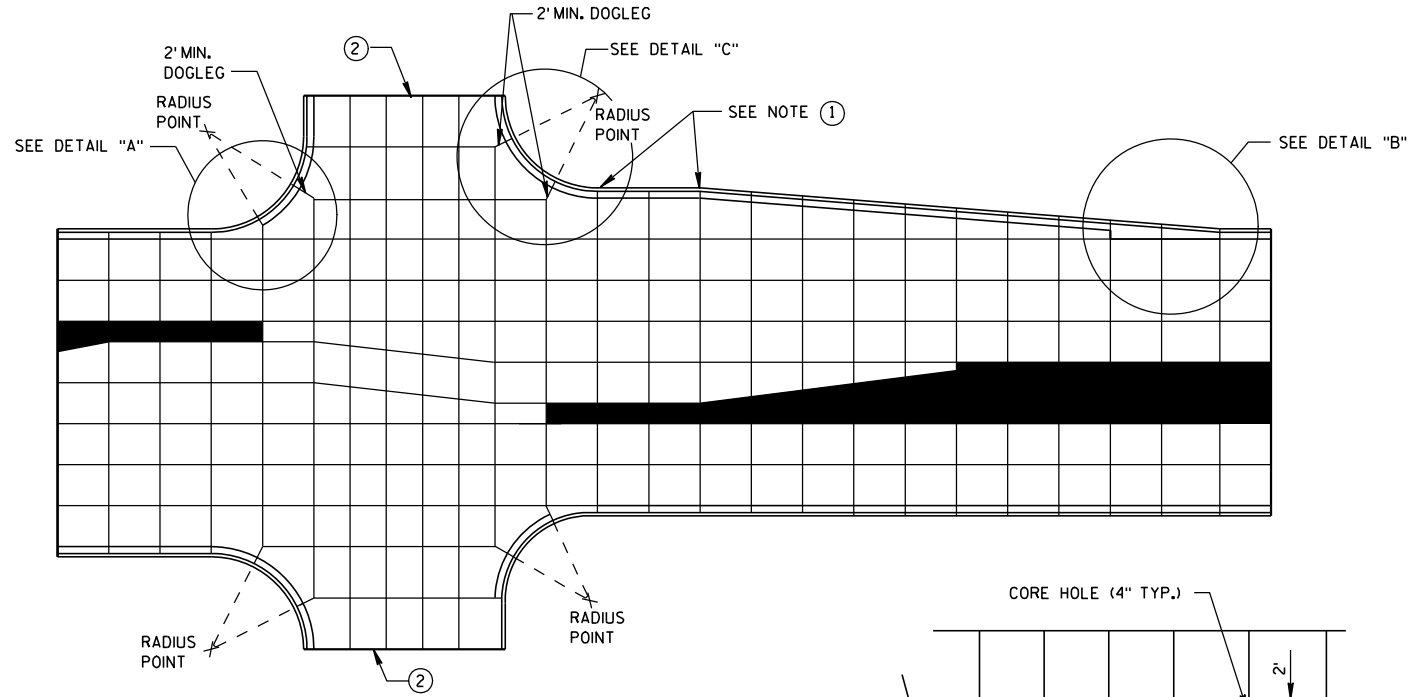
DETAIL "C"



DETAIL "D"

**GENERAL NOTES**

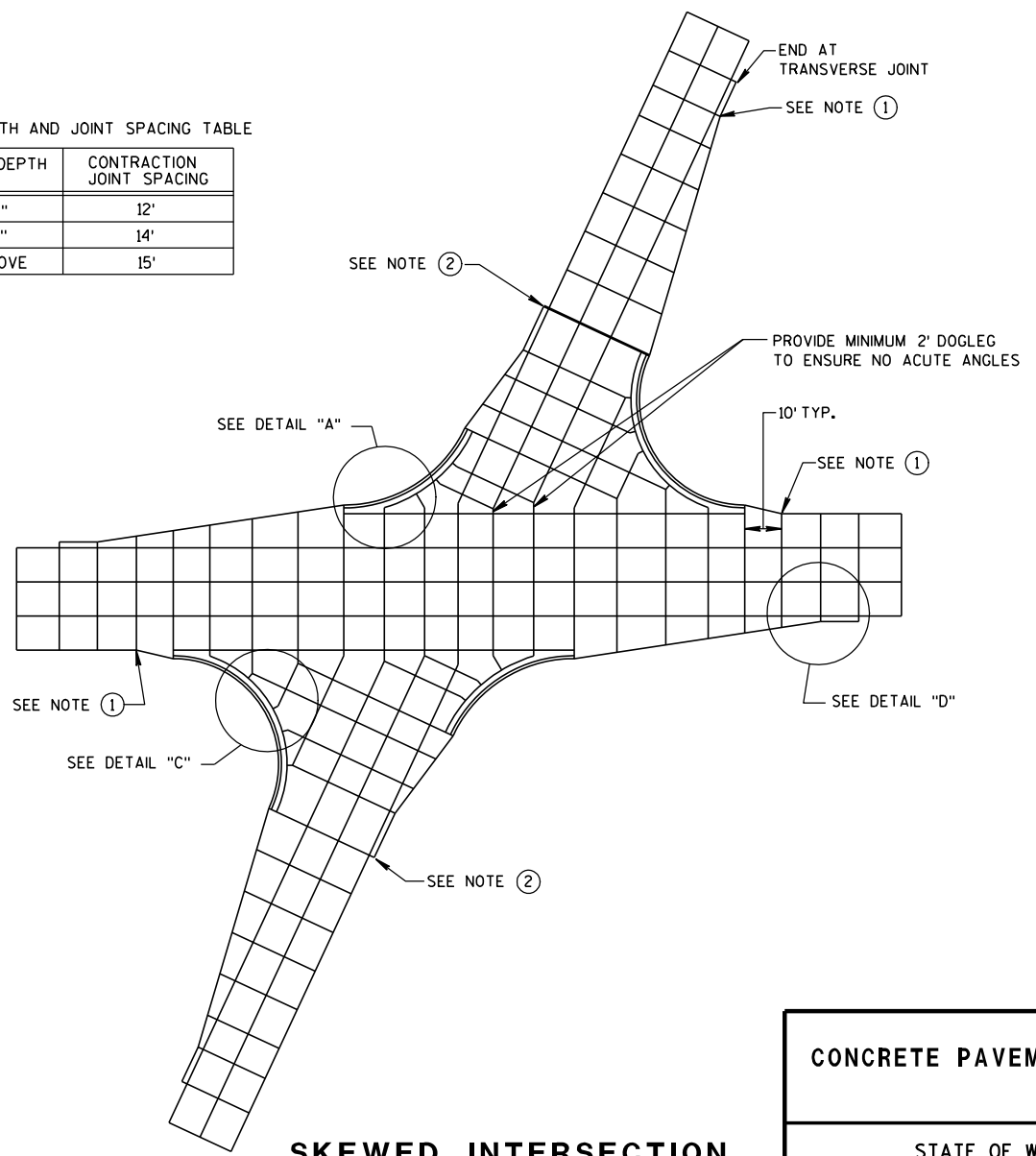
- THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.
  - ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.
  - CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.
  - ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.
  - AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.
  - SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.
  - AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.
  - CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
  2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
  3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



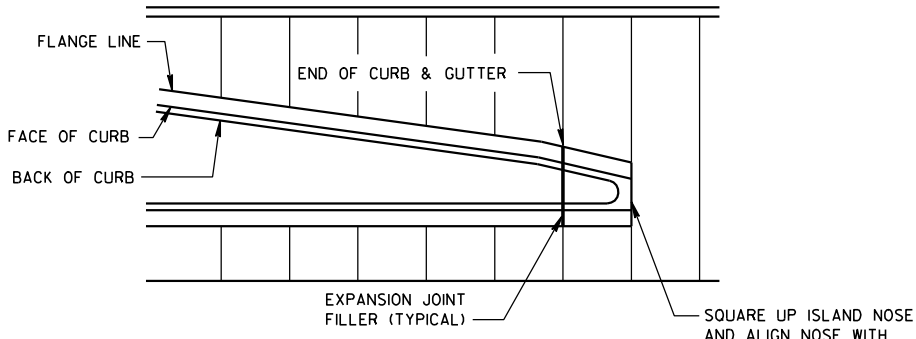
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

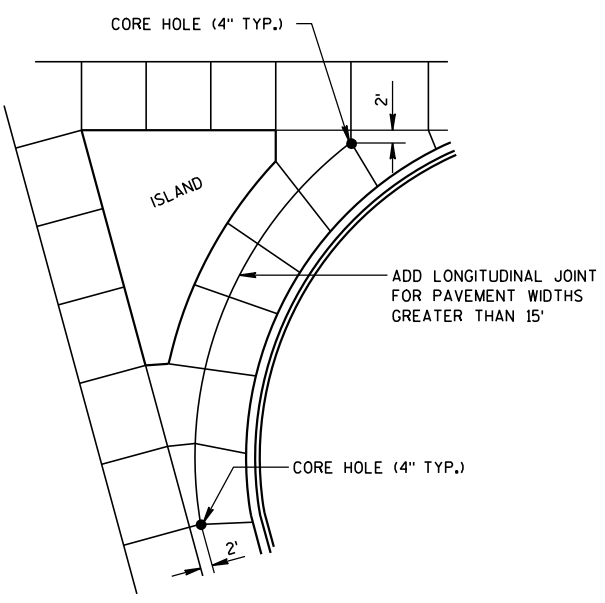
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 1/2"	12'
7", 7 1/2"	14'
8" & ABOVE	15'



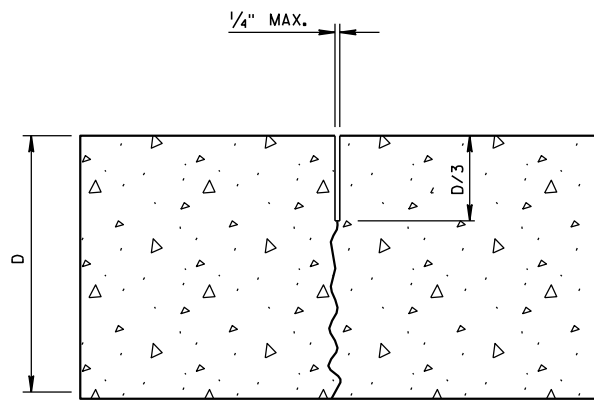
SKEWED INTERSECTION



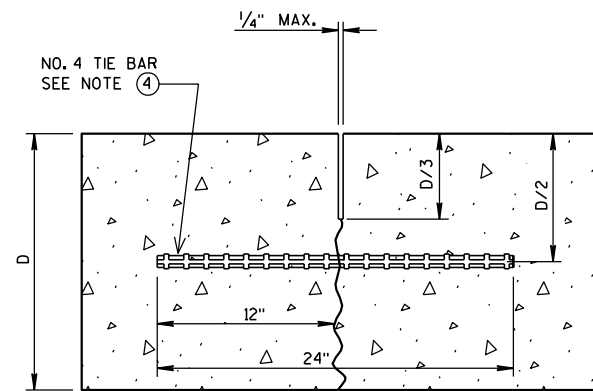
APPROACH TO MEDIAN



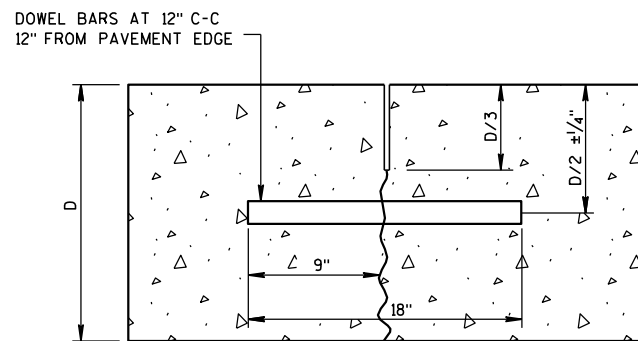
LARGE RIGHT TURN



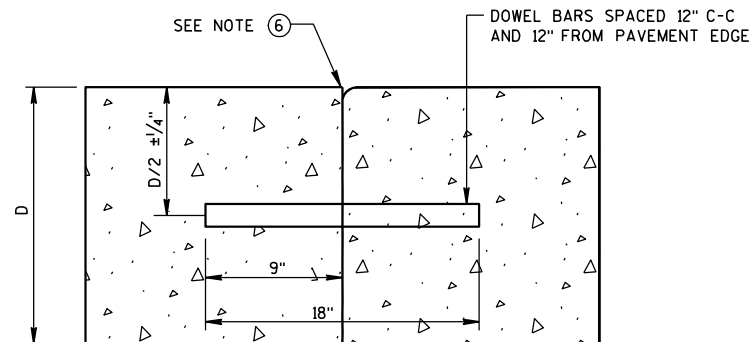
**UNDOWELED-TRANSVERSE**



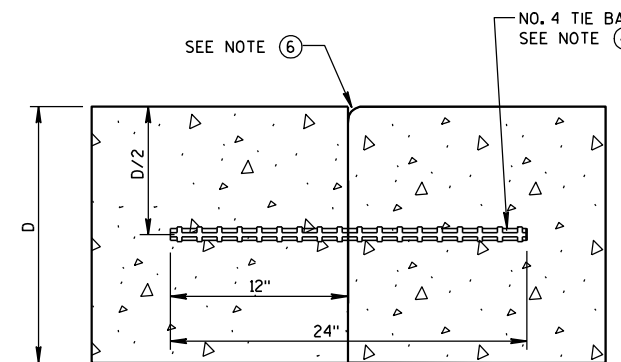
**TIED LONGITUDINAL**



**DOWELED-TRANSVERSE**



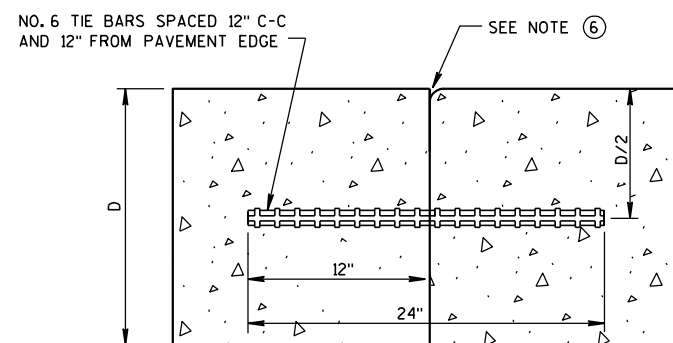
**DOWELED TRANSVERSE**



**TIED LONGITUDINAL**

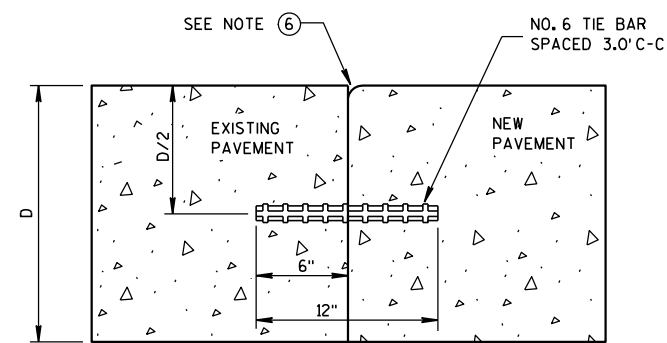
**CONTRACTION JOINTS**

SEE NOTE ②



**TIED TRANSVERSE**

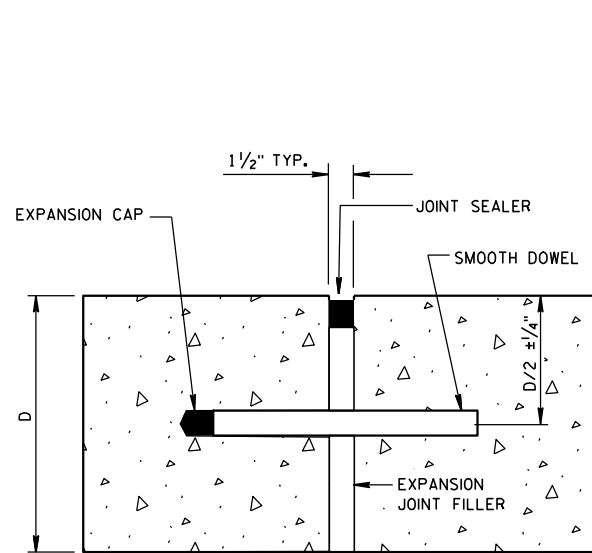
SEE NOTE ③



**TIED LONGITUDINAL TO EXISTING**

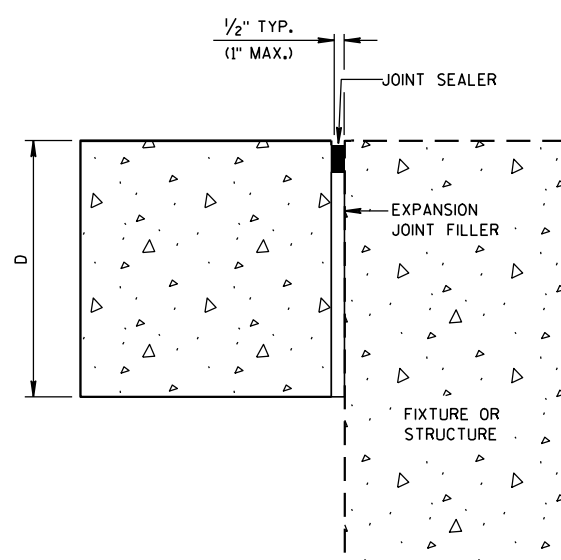
**CONSTRUCTION JOINTS**

SEE NOTE ⑤



**DOWELED-TRANSVERSE**

SEE NOTE ①



**UNTIED-LONGITUDINAL**

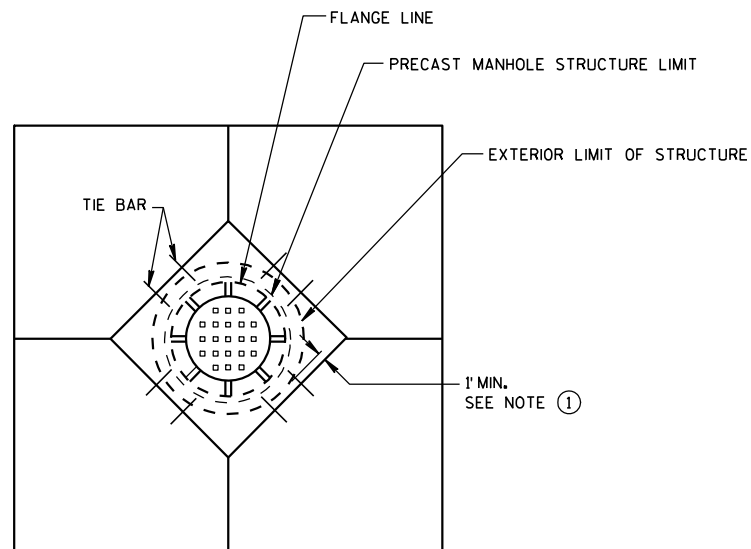
**EXPANSION JOINTS**

**GENERAL NOTES**

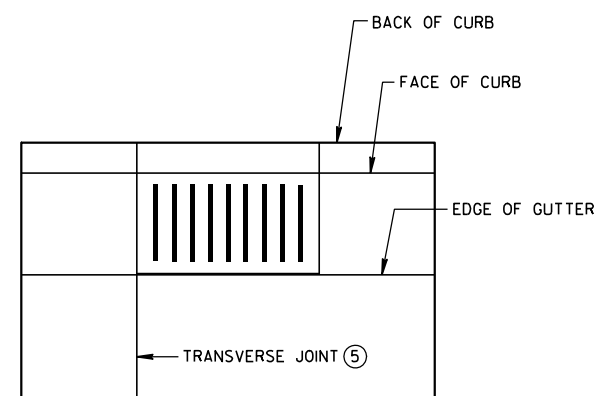
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 4 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO THE CONTRACTION JOINTS.
4. SPACE TIE BARS AT LONGITUDINAL CONSTRUCTION OR CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C1.
5. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
6. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.

**CONCRETE PAVEMENT  
JOINT TYPES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



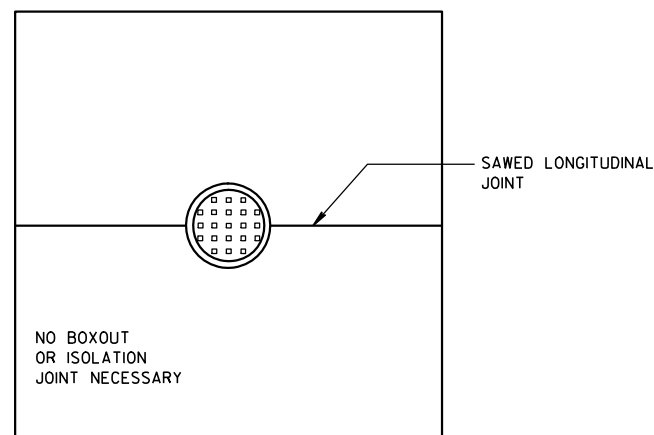
**DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS**



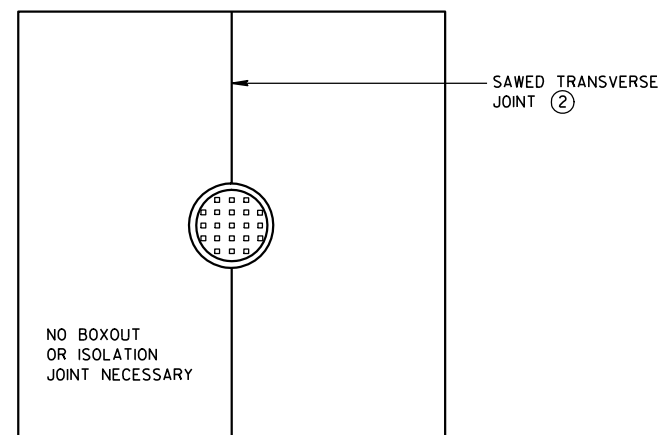
**INLET WITH TRANSVERSE JOINT**

**GENERAL NOTES**

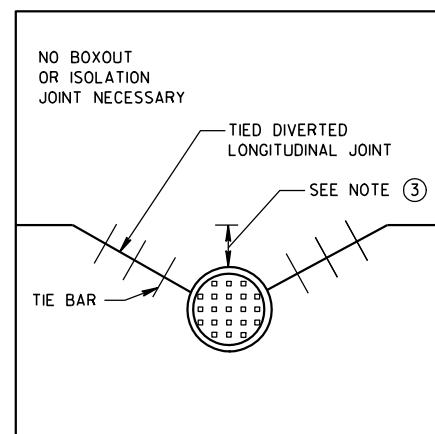
1. USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1 FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
2. ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
3. IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS GREATER THAN 2 FEET, DO NOT DIVERT JOINT AND SAW LONGITUDINAL JOINT AS NORMAL. IF DISTANCE IS 2 FEET OR LESS, DIVERT LONGITUDINAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE.
4. IF DISTANCE FROM THE EDGE OF MANHOLE TO THE NEAREST TRANSVERSE JOINT IS GREATER THAN 4 FEET, REDIRECT JOINT TO INTERSECT MANHOLE. IF DISTANCE IS 4 FEET OR LESS, PLACE REBAR REINFORCEMENT AROUND MANHOLE.
5. ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.



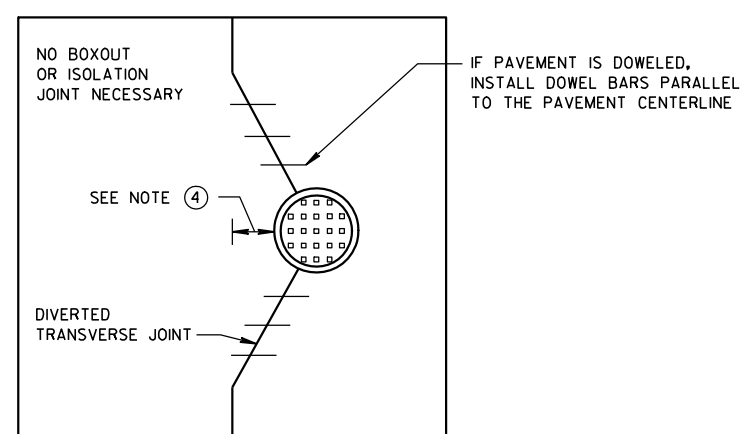
**MANHOLE WITH LONGITUDINAL JOINT**



**MANHOLE WITH TRANSVERSE JOINT**

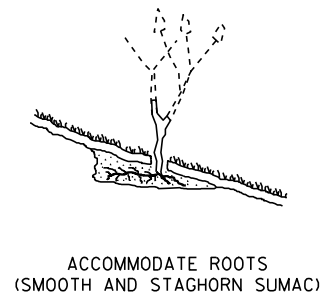
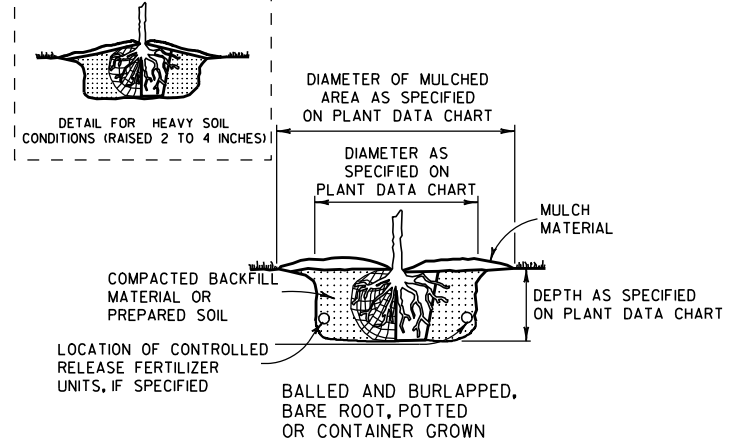
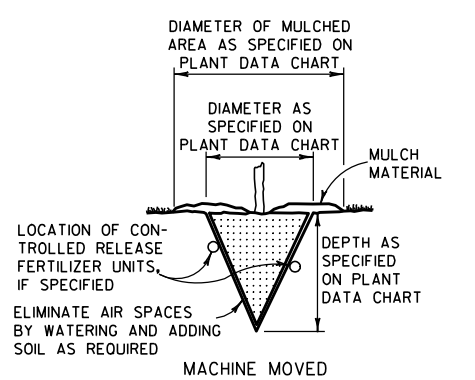


**MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT**

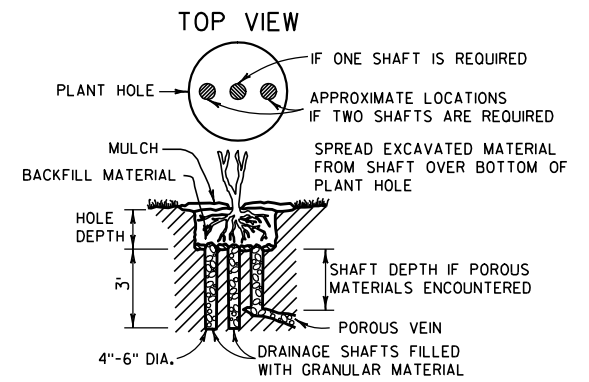
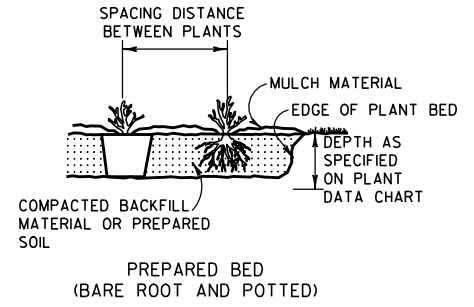


**MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT**

<b>CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10-5-2010 DATE	/S/ Deb Bischoff PAVEMENT POLICY & DESIGN ENGINEER
FHWA	



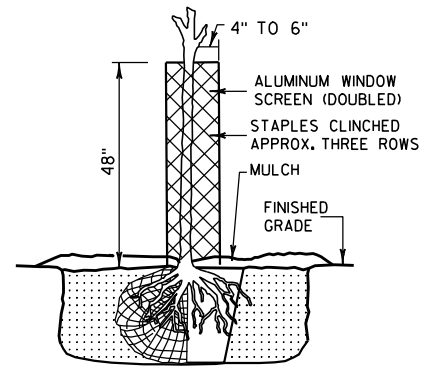
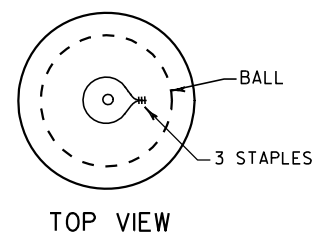
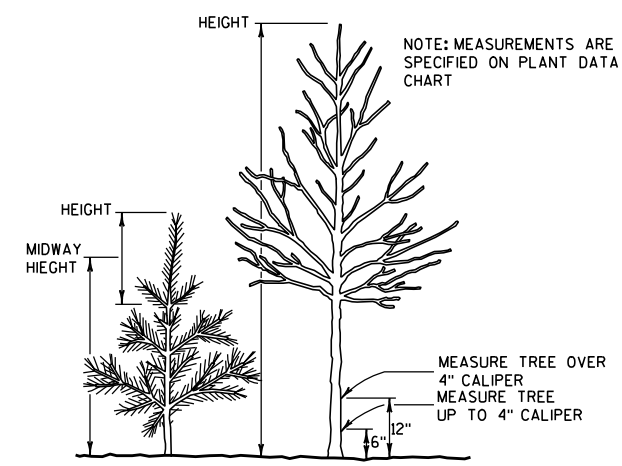
NOTE:  
 1) ENGINEER SHALL REQUIRE 3 SLITS IN POT TO SPEED DETERIORATION  
 2) METAL, PLASTIC OR OTHER NONDEGRADABLE POTS SHALL BE REMOVED PRIOR TO PLANTING



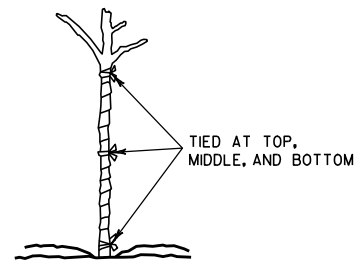
NOTE:  
 DRAINAGE SHAFT AS SPECIFIED ON PLANT DATA CHART

PLANTING

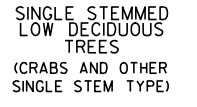
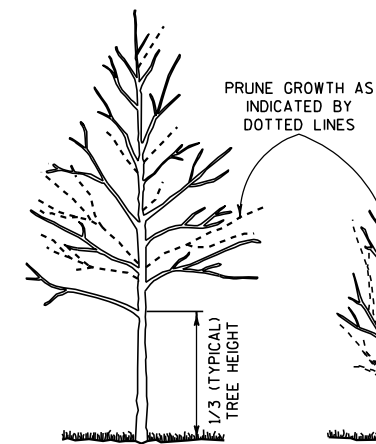
DRAINING



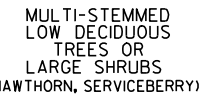
RODENT PROTECTION



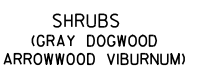
WRAPPING



SINGLE STEMMED LOW DECIDUOUS TREES (CRABS AND OTHER SINGLE STEM TYPE)



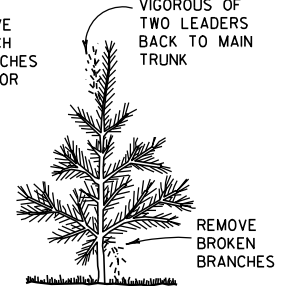
MULTI-STEMMED LOW DECIDUOUS TREES OR LARGE SHRUBS (HAWTHORN, SERVICEBERRY)



SHRUBS (GRAY DOGWOOD, ARROWWOOD, VIBURNUM)



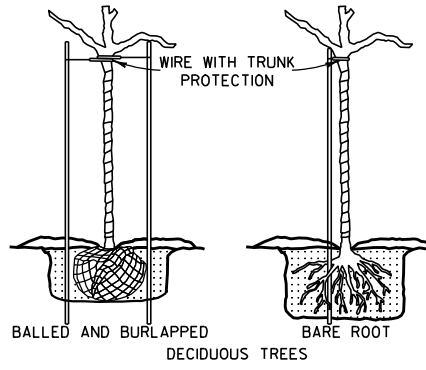
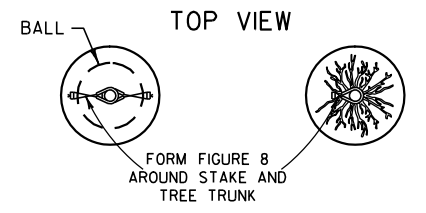
SUMAC



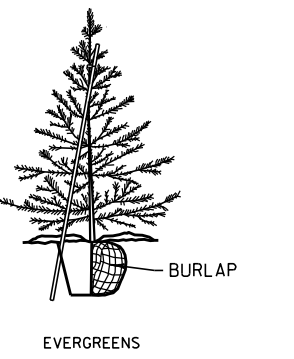
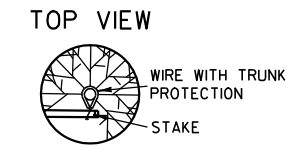
TREE TYPE EVERGREENS (PINE, SPRUCE, FIR) EVERGREENS USUALLY ARE NOT PRUNED

PRUNING

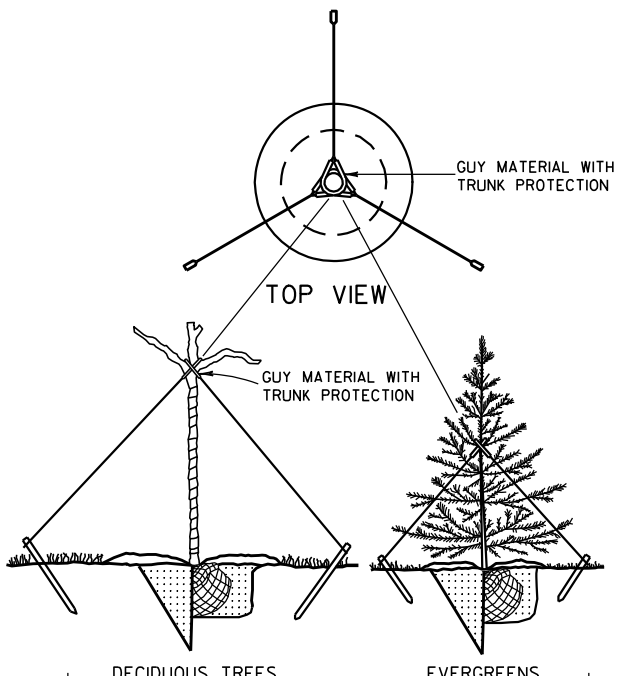
NOTE: WHEN PRUNING, PRESERVE CHARACTER AND SHAPE OF TREE. AVOID LEAVING STUBS - REMOVE BRANCH OR TWIG BACK TO THE NEAREST CROTCH  
 1) PRUNE TO REMOVE DEAD AND BROKEN BRANCHES  
 2) PRUNE TO REMOVE BRANCHES THAT TOUCH OR ARE TOO CLOSE TO OTHER BRANCHES



BRACING

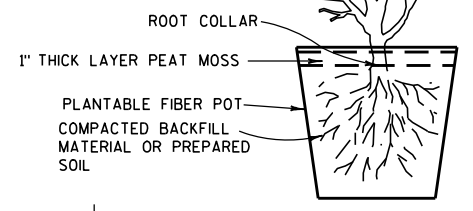


NOTE: BRACING STAKE  
 1) SHALL BE DRIVEN INTO THE GROUND AS CLOSE TO THE TREE AS POSSIBLE WITHOUT DAMAGING THE BRANCHES.  
 2) MAY BE DRIVEN AT SUCH AN ANGLE THAT IT DOES NOT PENETRATE THE BALL OR POT.  
 3) SHALL NOT PROTRUDE ABOVE THE TOP OF THE TREE; AND  
 4) SHALL HAVE A HOLE NEAR THE TOP TO HOLD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



GUYING

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



POTTING

NOTES

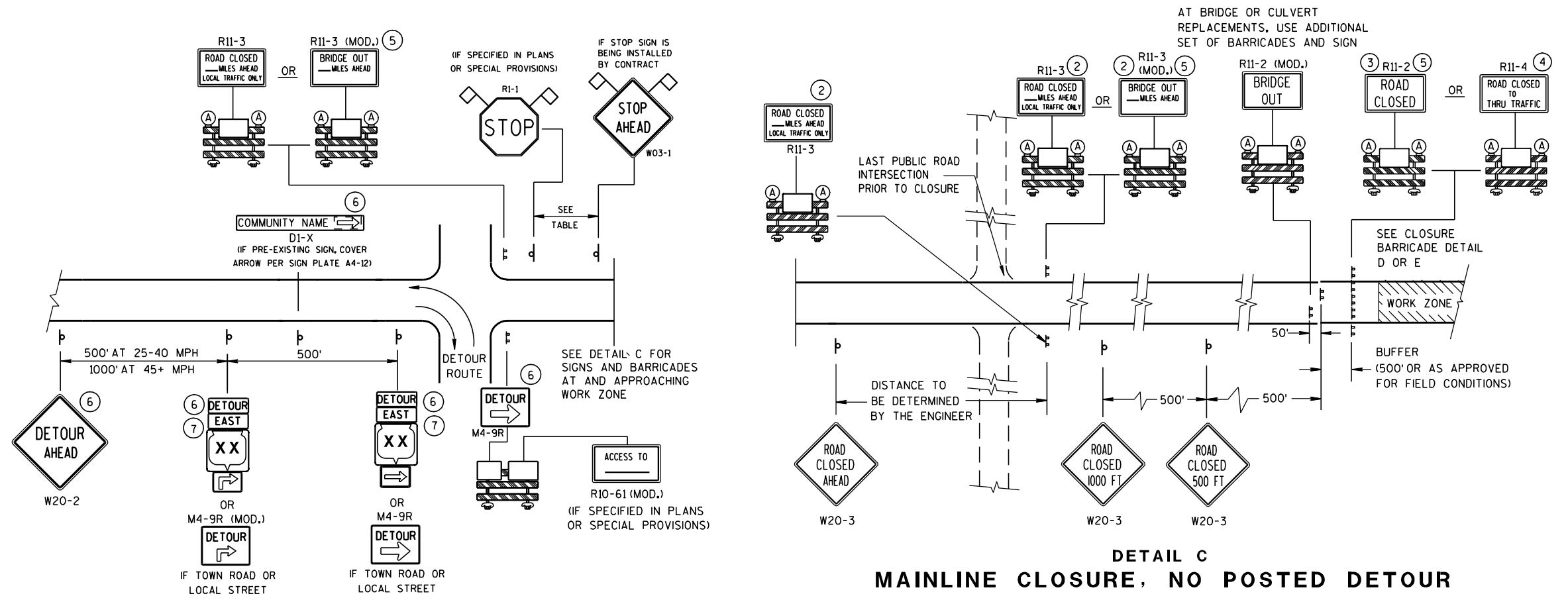
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

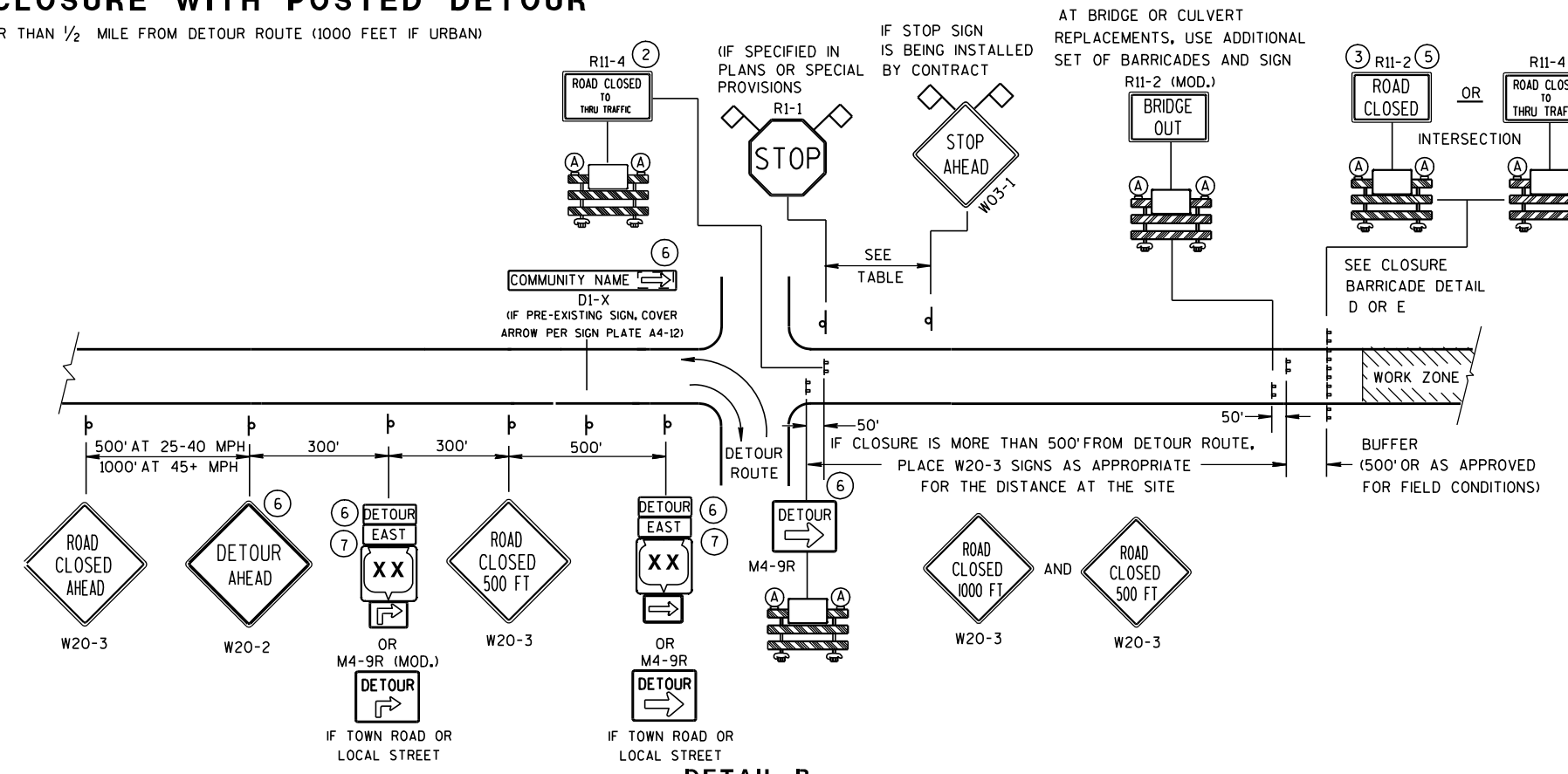
STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

APPROVED  
 4/11/94 /s/ Rory L. Rhinesmith  
 DATE CHIEF METHODS DEVELOPMENT ENGINEER  
 FHWA



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

**DETAIL C**  
**MAINLINE CLOSURE, NO POSTED DETOUR**



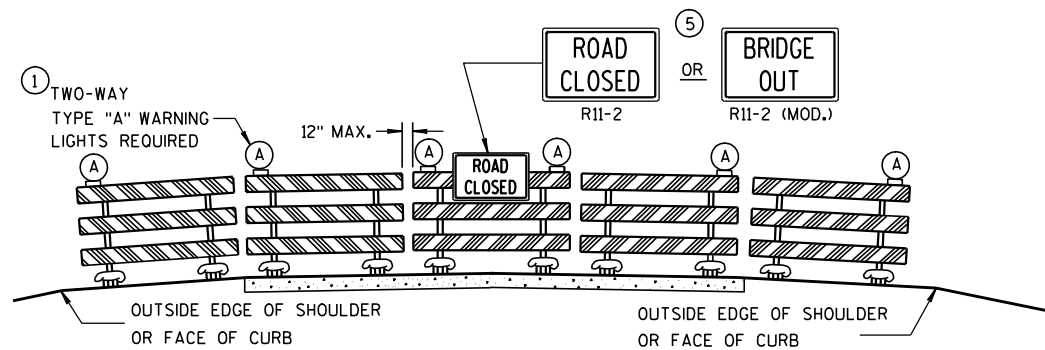
**DETAIL B**  
**MAINLINE CLOSURE WITH POSTED DETOUR**  
 WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

SEE SDD 15C2-4b  
 FOR GENERAL NOTES  
 AND FOOTNOTES ① THROUGH ⑦

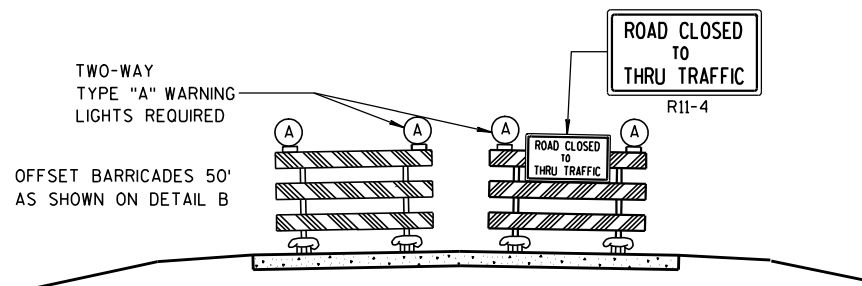
**LEGEND**

- ▬ POST MOUNTED SIGN
- ▬ TYPE III BARRICADES
- Ⓐ TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT (FOR NIGHT USE)
- ▨ WORK ZONE
- DETOUR EAST M4-8 M3-X
- MI-4 OR COUNTY MI-5A OR MI-6
- M05-1 OR M06-1
- ◇ FLAGS, 16" X 16" MIN., (ORANGE)

**BARRICADES AND SIGNS FOR MAINLINE CLOSURES**  
 STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION



**DETAIL D**  
**ROAD CLOSURE BARRICADE DETAIL**  
APPROACH VIEW



**DETAIL E**  
**LANE CLOSURE BARRICADE DETAIL**  
APPROACH VIEW

SEE SDD 15C2-4a 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.

THE REFLECTIVE SHEETING USED ON R11-2, R11-3, R11-4, R10-61 AND R1-1 SIGNS SHALL COMPLY WITH SUBSECTION 637.2.2.2 OF THE STANDARD SPECIFICATIONS.

"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 AND M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

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

<b>BARRICADES AND SIGNS FOR MAINLINE CLOSURES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
9/16/03 DATE	/S/ Thomas N. Notbohm CHIEF SIGNS AND MARKING ENGINEER
FHWA	

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

**GENERAL NOTES**

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

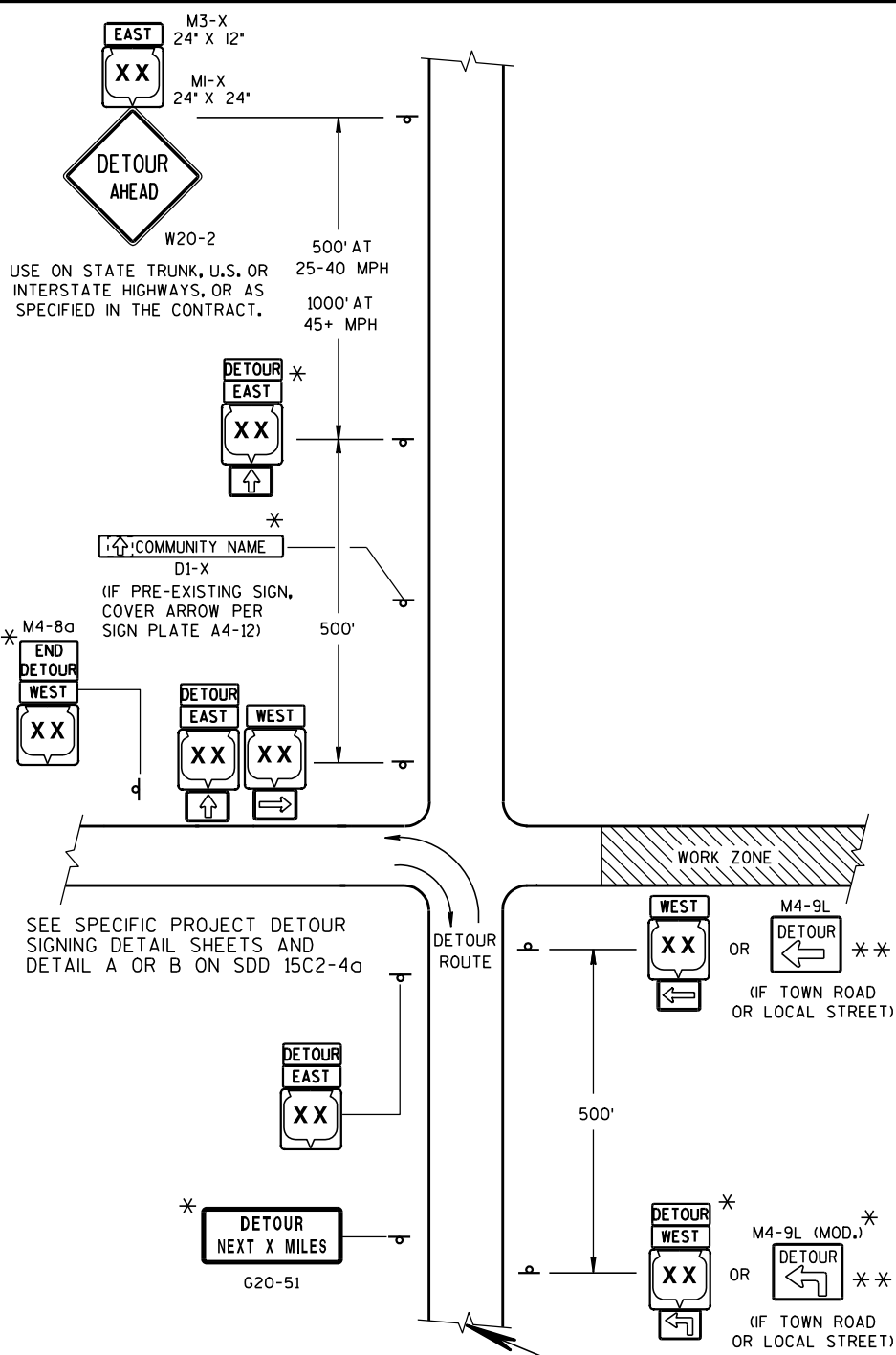
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X AND 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.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 SHALL BE 48" X 48".
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

\* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

\*\* FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD 15C2-4a

**LEGEND**

⌋ POST MOUNTED SIGN

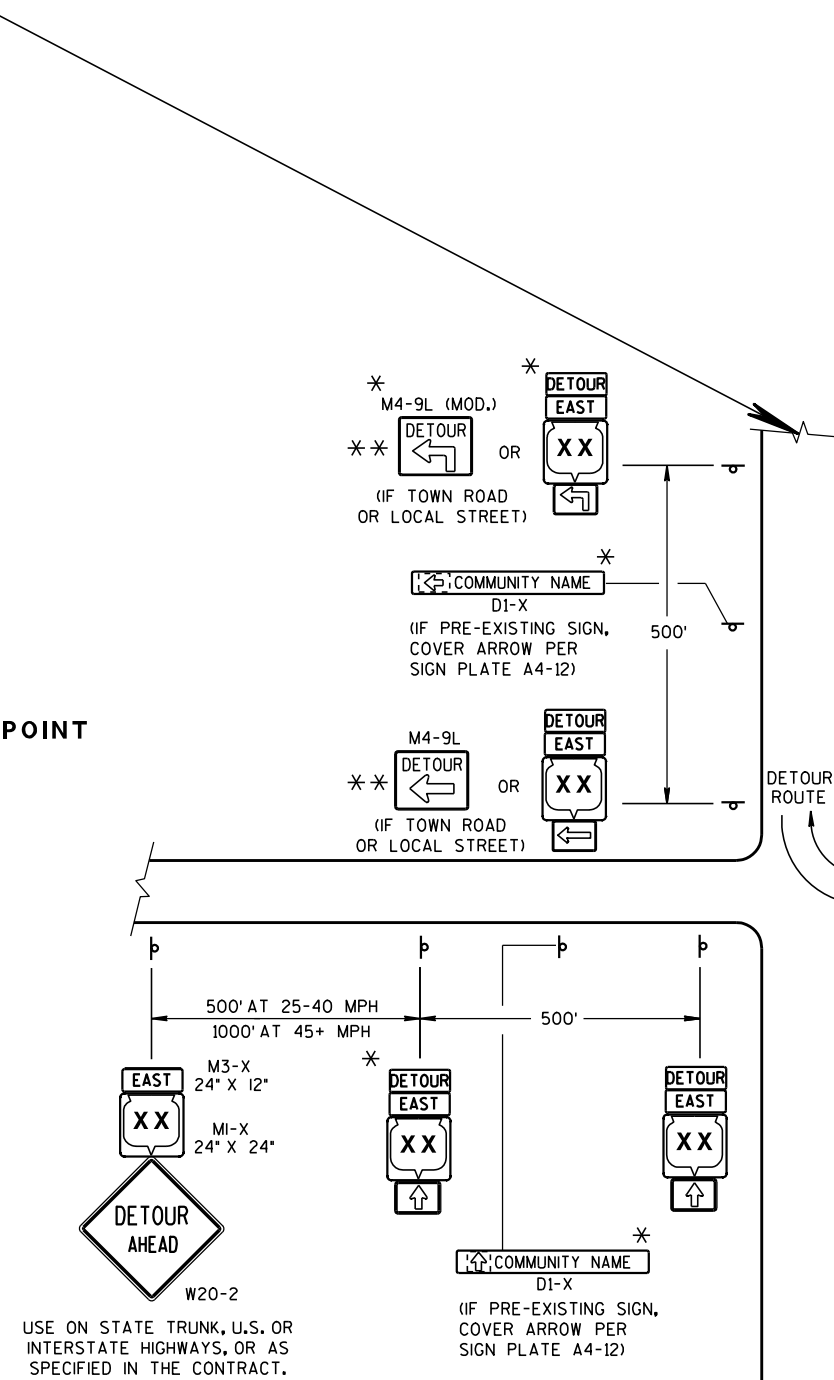
▨ WORK ZONE

DETOUR EAST M4-8  
DETOUR WEST M3-X

XX OR XX OR XX  
M1-4 M1-5A M1-6

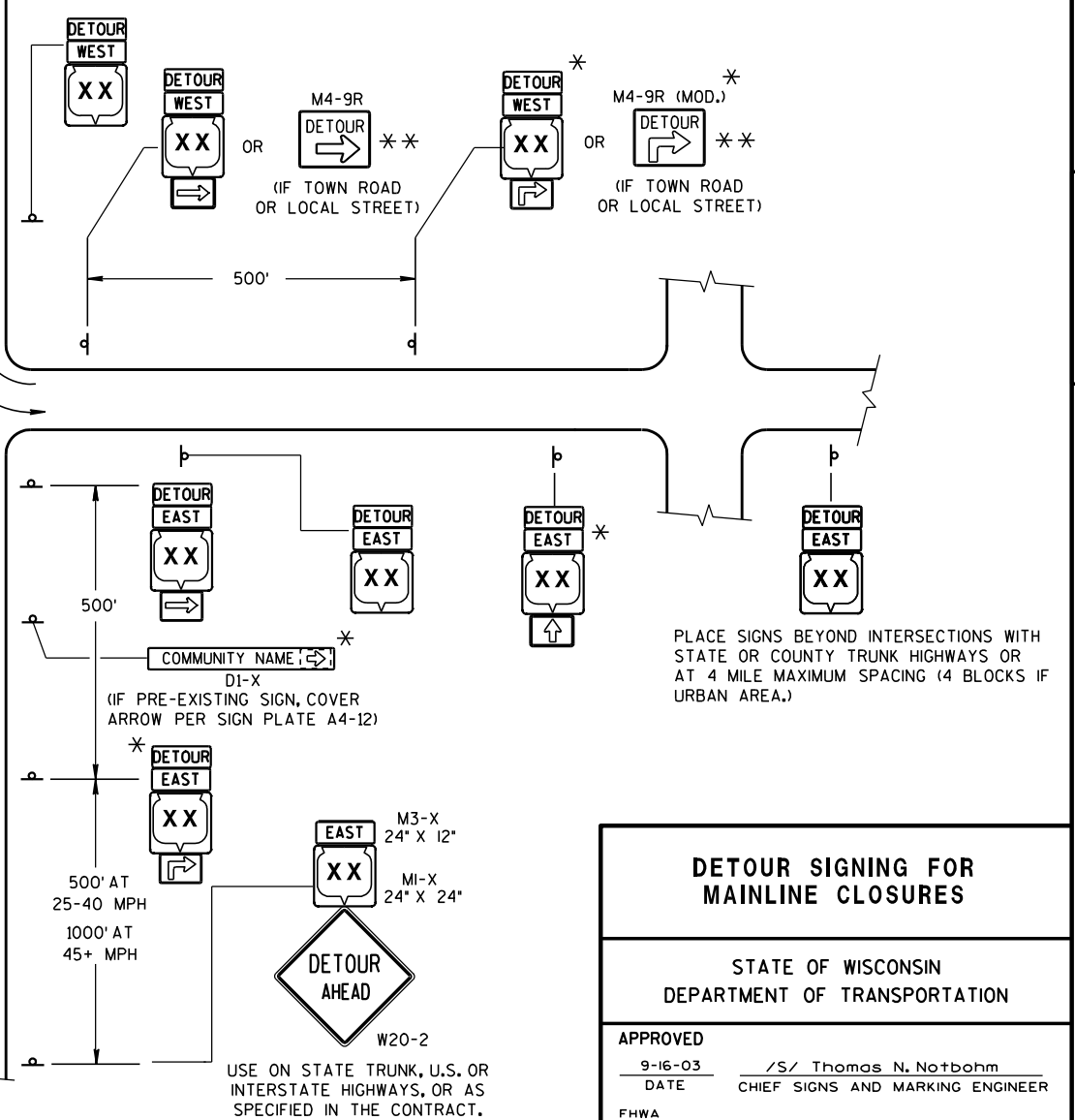
OR OR OR  
M05-1 M06-1 M06-1

**MATCH POINT**



USE ON STATE TRUNK, U.S. OR INTERSTATE HIGHWAYS, OR AS SPECIFIED IN THE CONTRACT.

**DETAIL F  
DETOUR SIGNING**



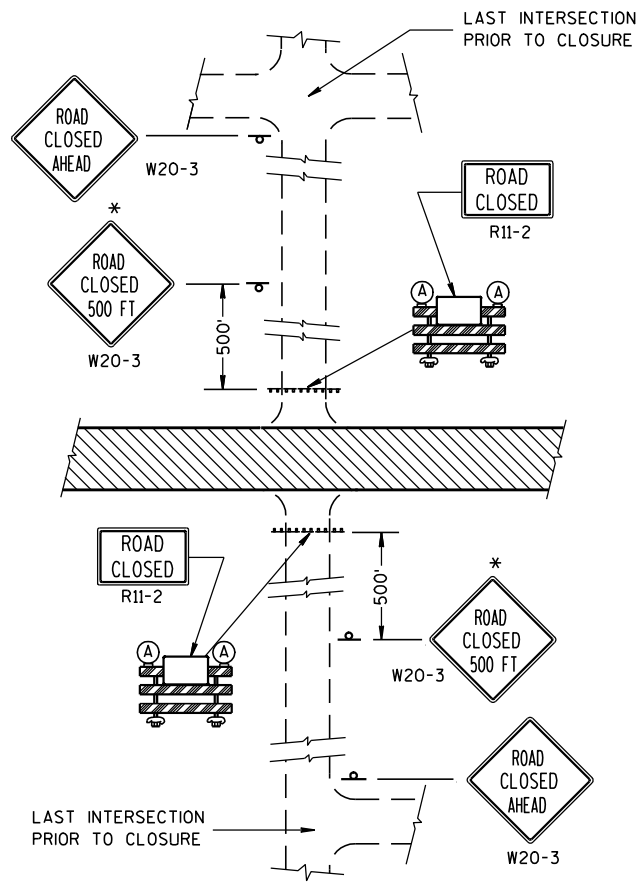
USE ON STATE TRUNK, U.S. OR INTERSTATE HIGHWAYS, OR AS SPECIFIED IN THE CONTRACT.

**DETOUR SIGNING FOR  
MAINLINE CLOSURES**

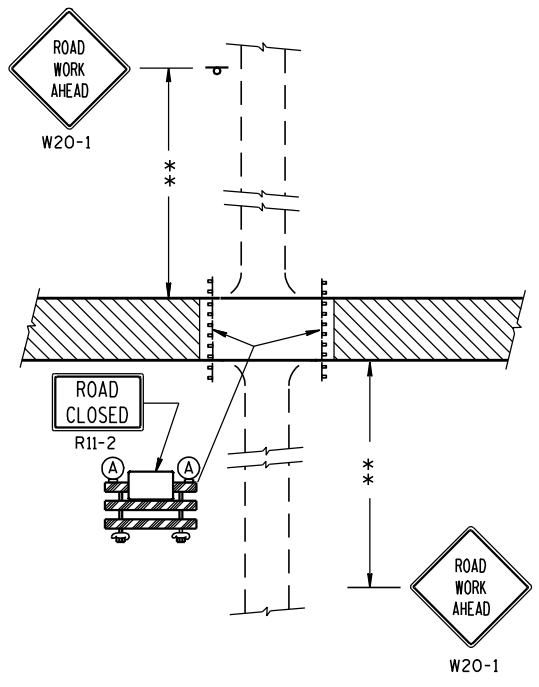
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
9-16-03 /S/ Thomas N. Notbohm  
DATE CHIEF SIGNS AND MARKING ENGINEER  
FHWA

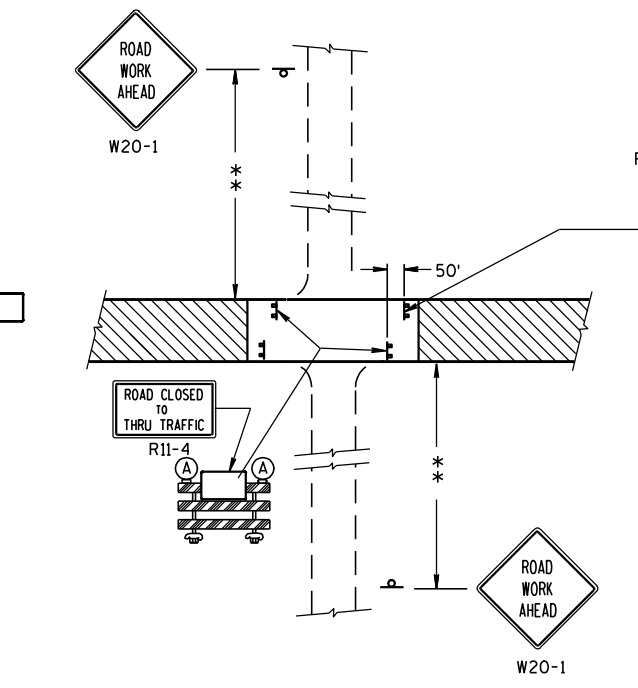




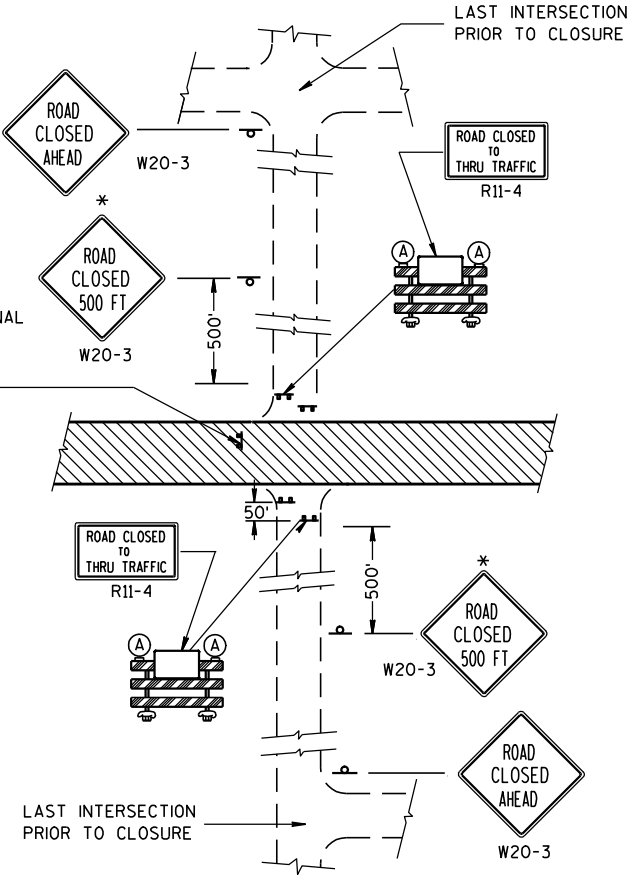
**DETAIL 1**  
(NO ACCESS TO PROJECT)



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



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



**DETAIL 4**  
(CONTRACTOR, LOCAL BUSINESS AND  
RESIDENT ACCESS TO PROJECT)

**GENERAL NOTES**

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

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

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

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

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

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

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

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

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

THE REFLECTIVE SHEETING USED ON R11-2, R11-3 AND R11-4 SIGNS SHALL COMPLY WITH SUBSECTION 637.2.2.2 OF THE STANDARD SPECIFICATIONS.

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**

- ⊥ POST MOUNTED WARNING SIGN
- ⊥ TYPE III BARRICADES
- Ⓐ TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT (FOR NIGHT USE)
- ▨ WORK AREA

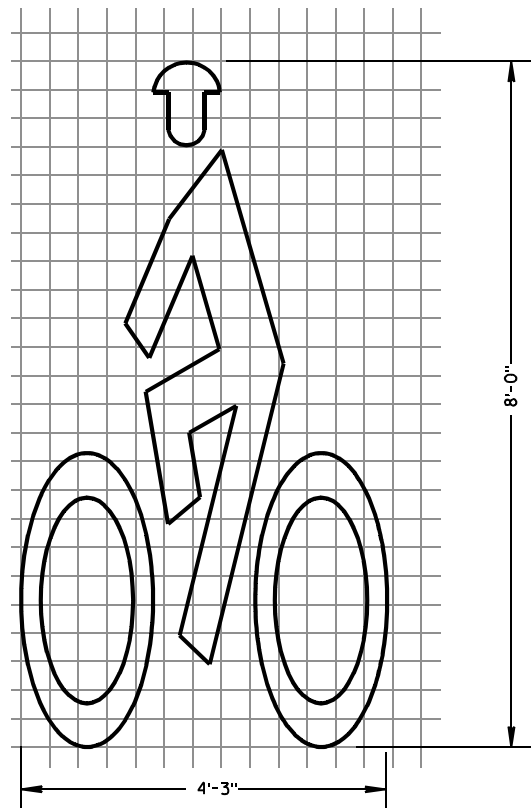
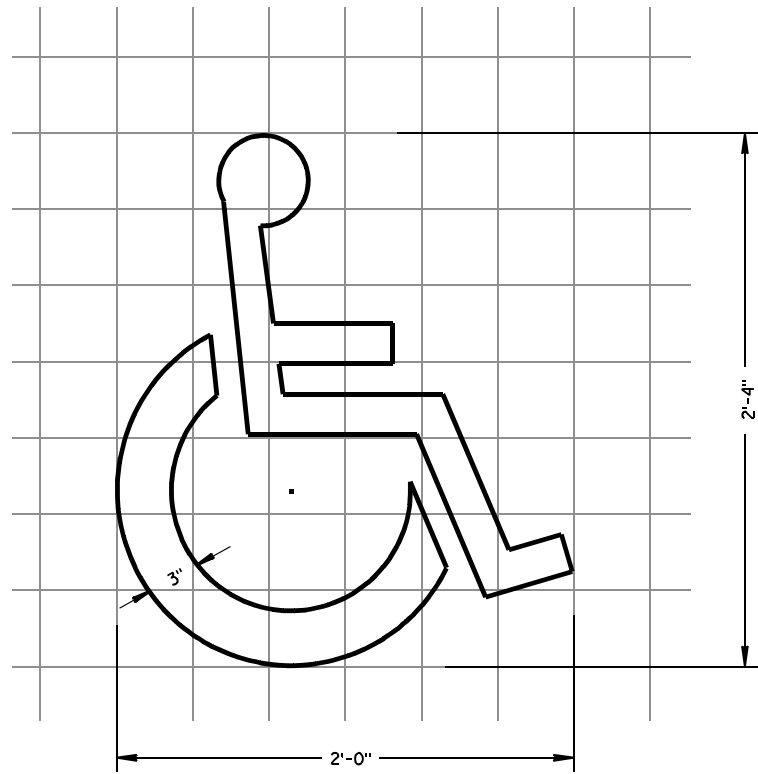
BARRICADES AND SIGNS FOR SIDEROAD CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	/S/ Thomas N. Notbohm
9-16-03 DATE	CHIEF SIGNS AND MARKING ENGINEER
FHWA	

### GENERAL NOTES

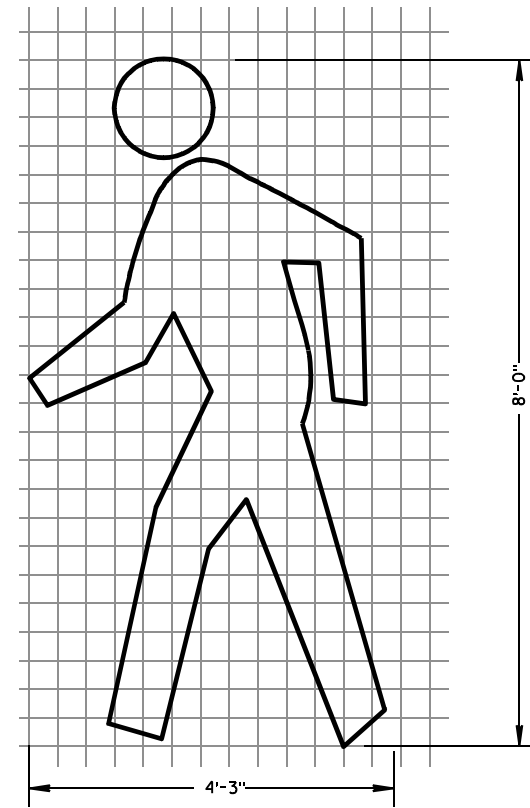
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

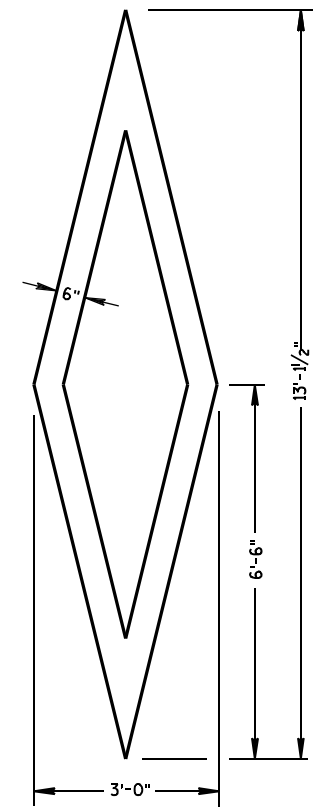
A DETAILED DRAWING OF THE HANDICAPPED PARKING SYMBOL IS ILLUSTRATED IN THE "STANDARD HIGHWAY SIGNS MANUAL" BY THE FEDERAL HIGHWAY ADMINISTRATION.



BIKE CROSSING SYMBOL



PEDESTRIAN SYMBOL



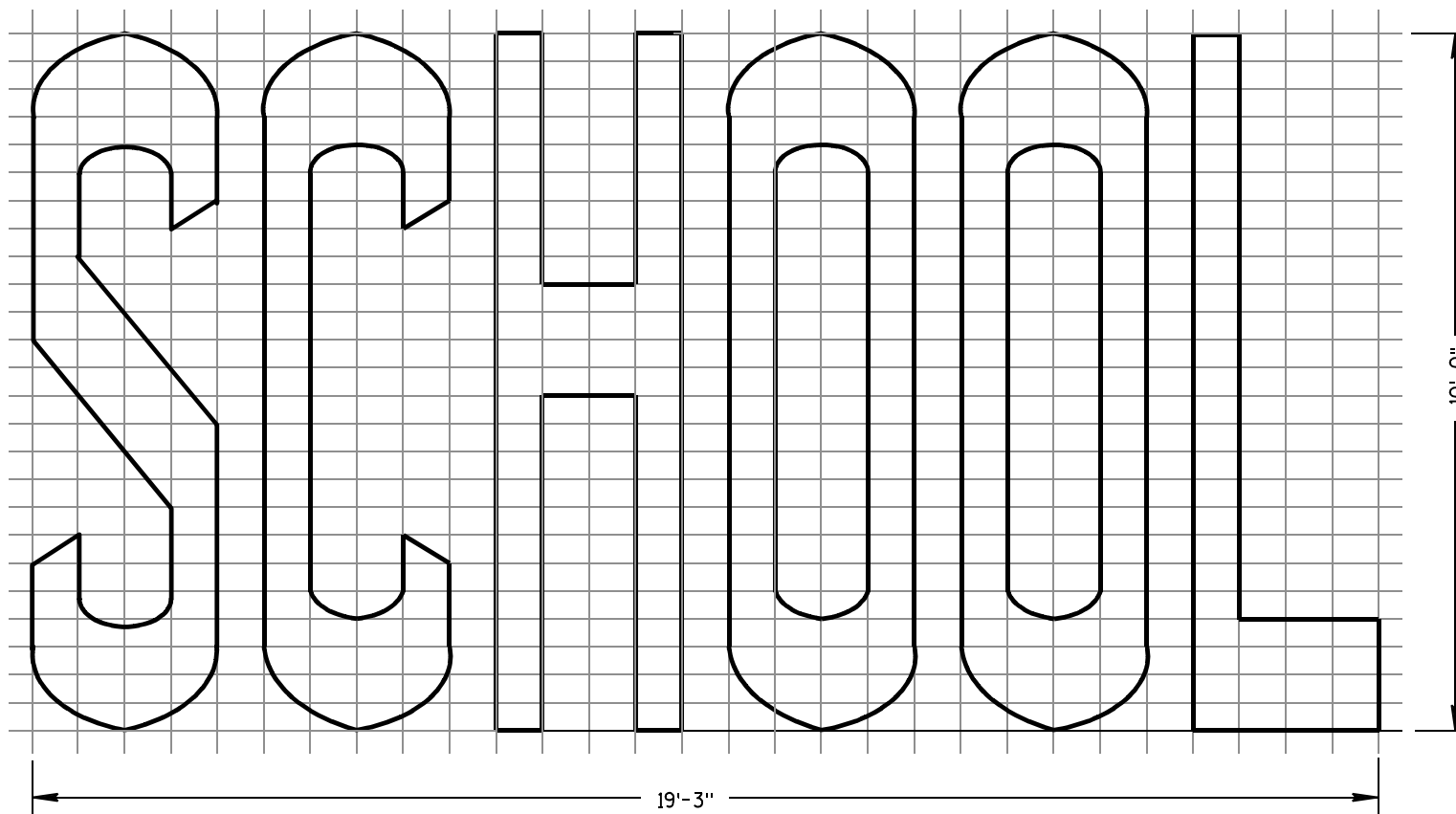
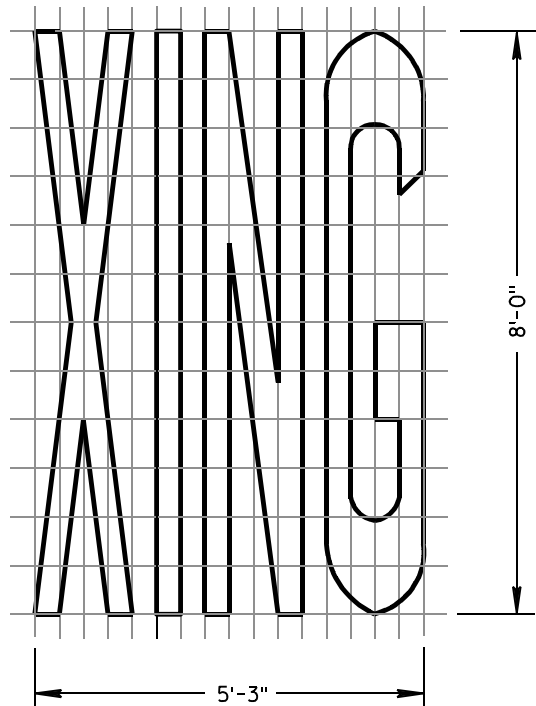
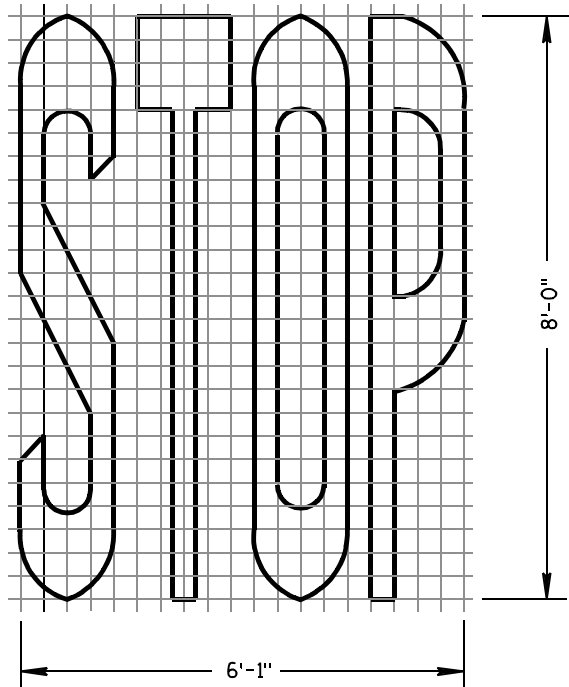
PREFERENTIAL LANE SYMBOL

<b>PAVEMENT MARKING SYMBOLS</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 7/1/11 DATE	/S/ Thomas N Notbohm STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

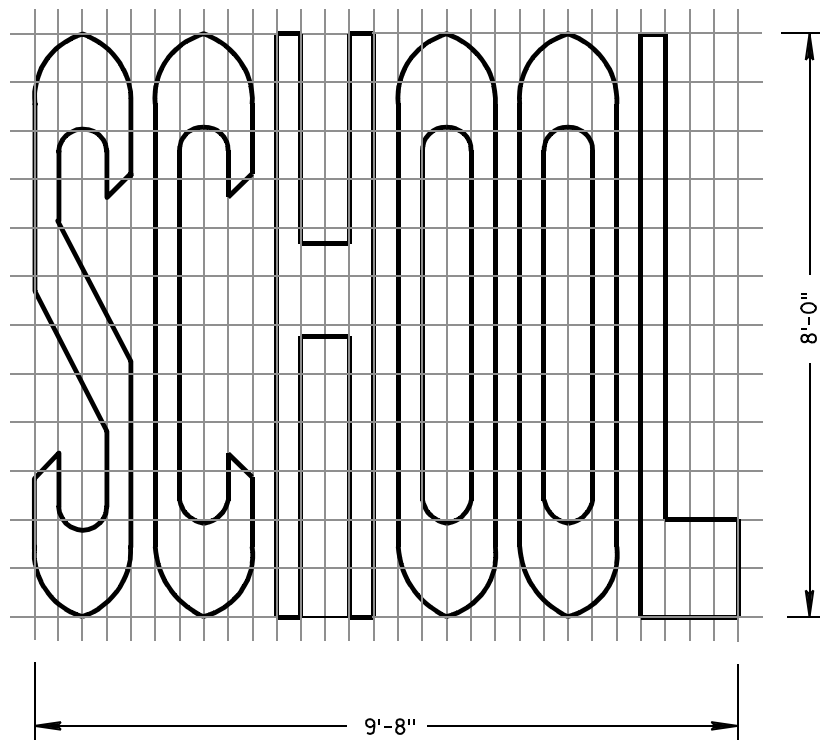
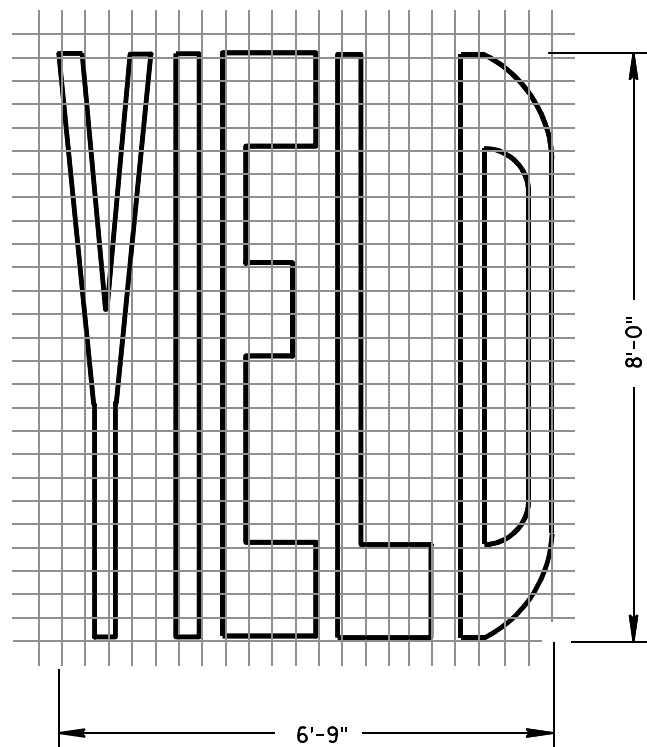
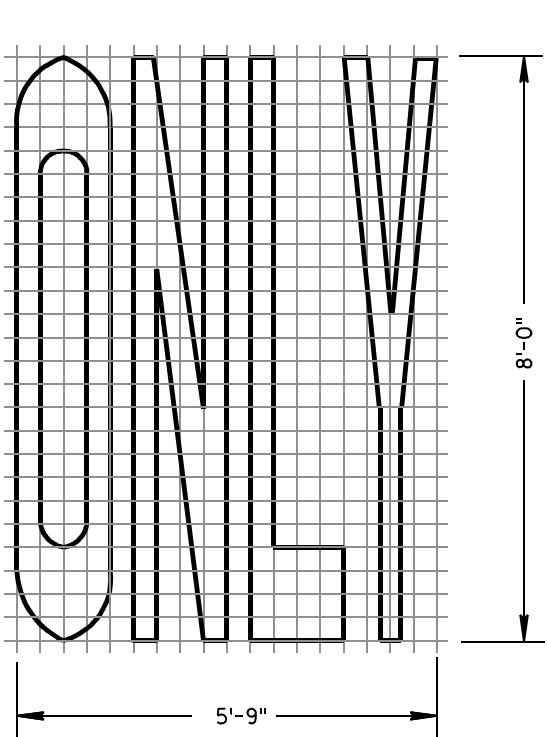
**GENERAL NOTES**

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

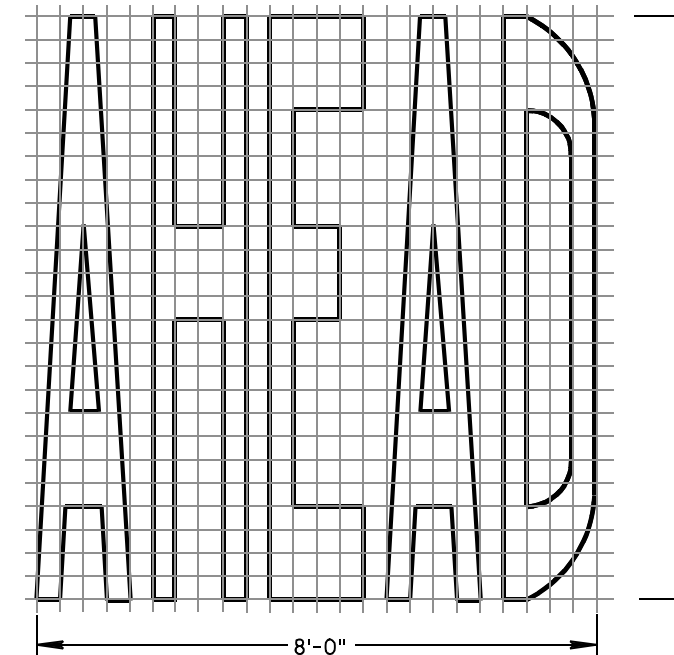
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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



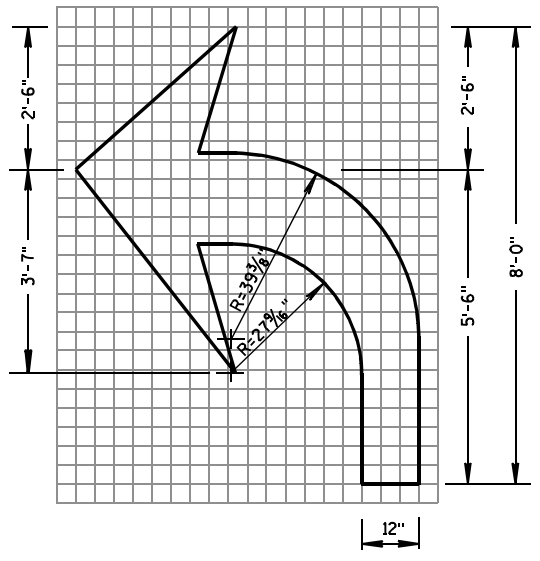
**TWO-LANE**



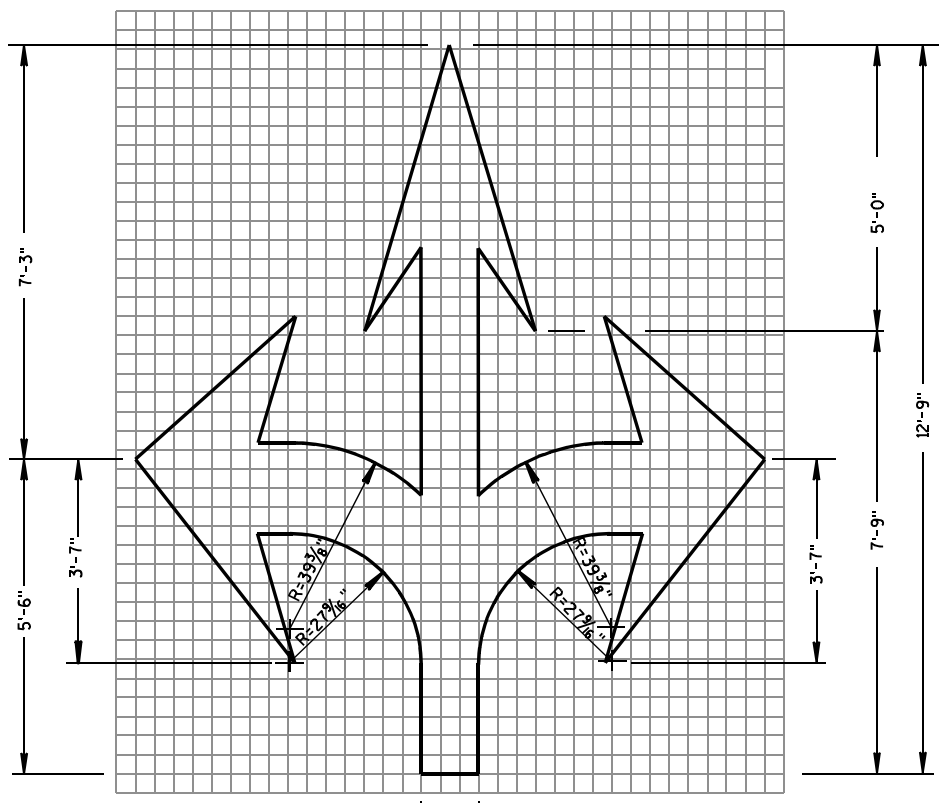
**SINGLE-LANE**



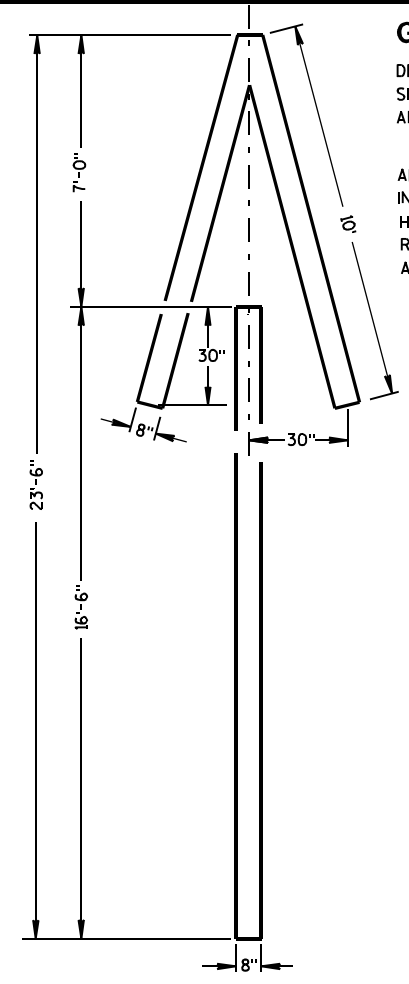
<b>PAVEMENT MARKING WORDS</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	/S/ Thomas N. Notbohm
7-1-11 DATE	STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



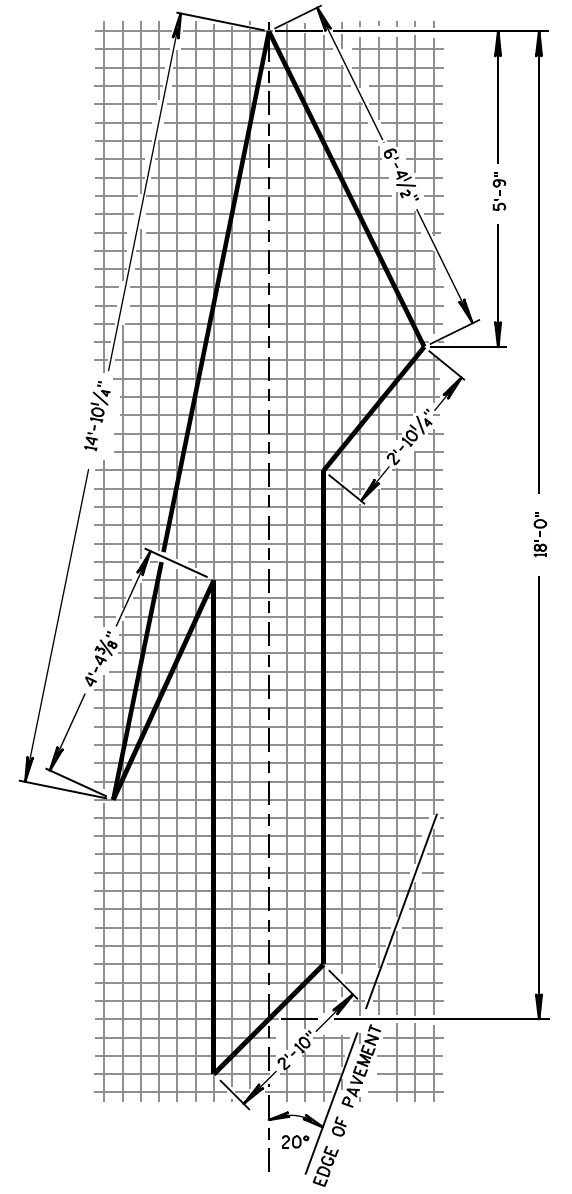
TYPE 2



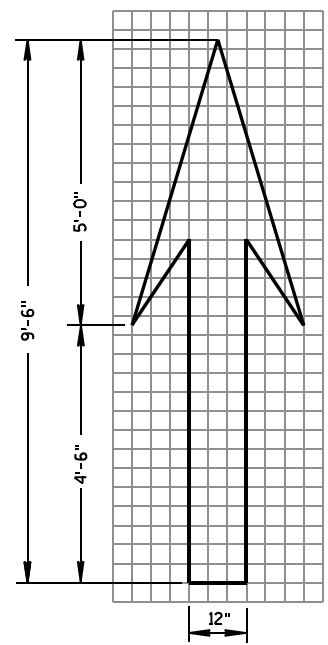
TYPE 6



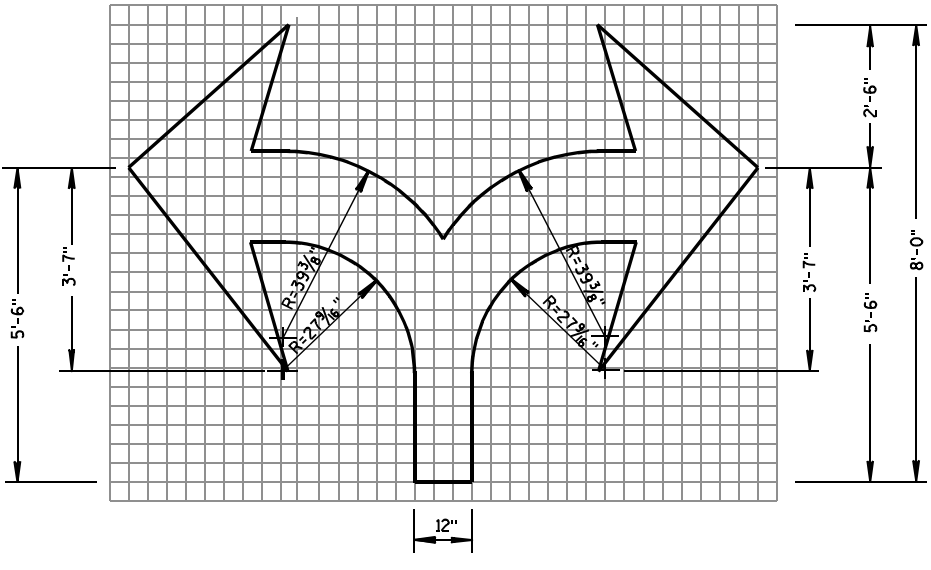
TYPE 4



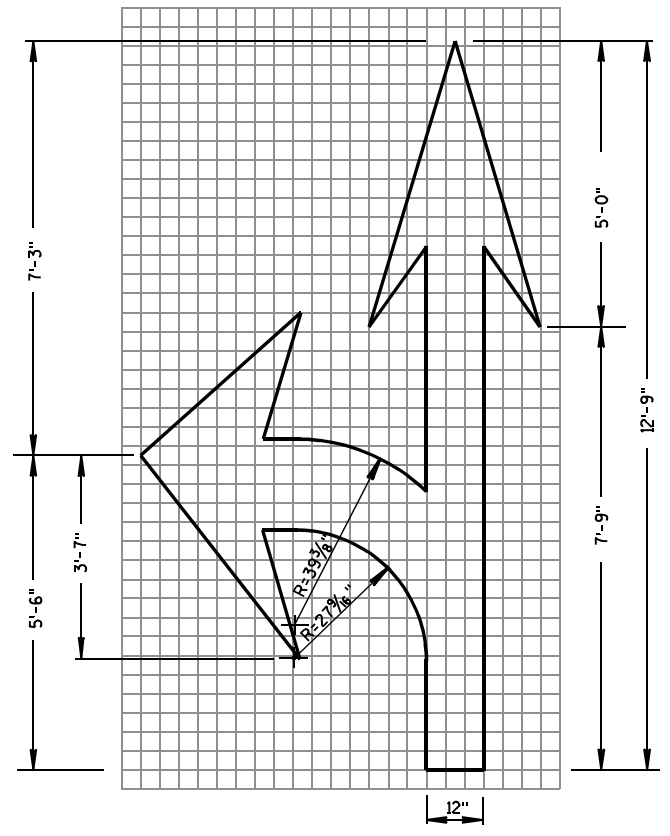
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



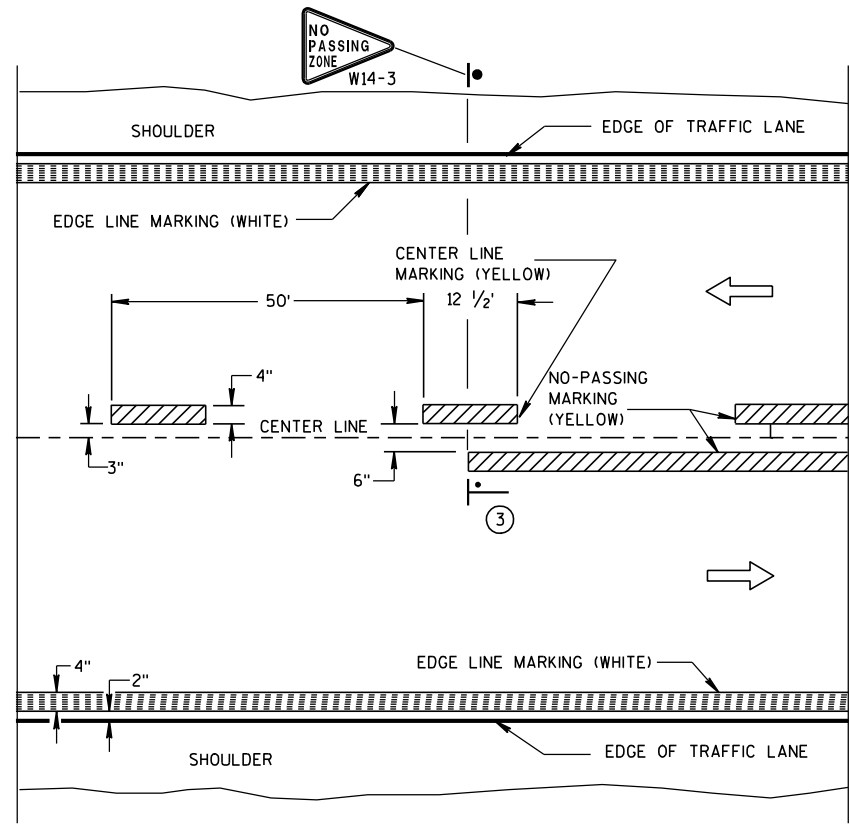
TYPE 3

GENERAL NOTES

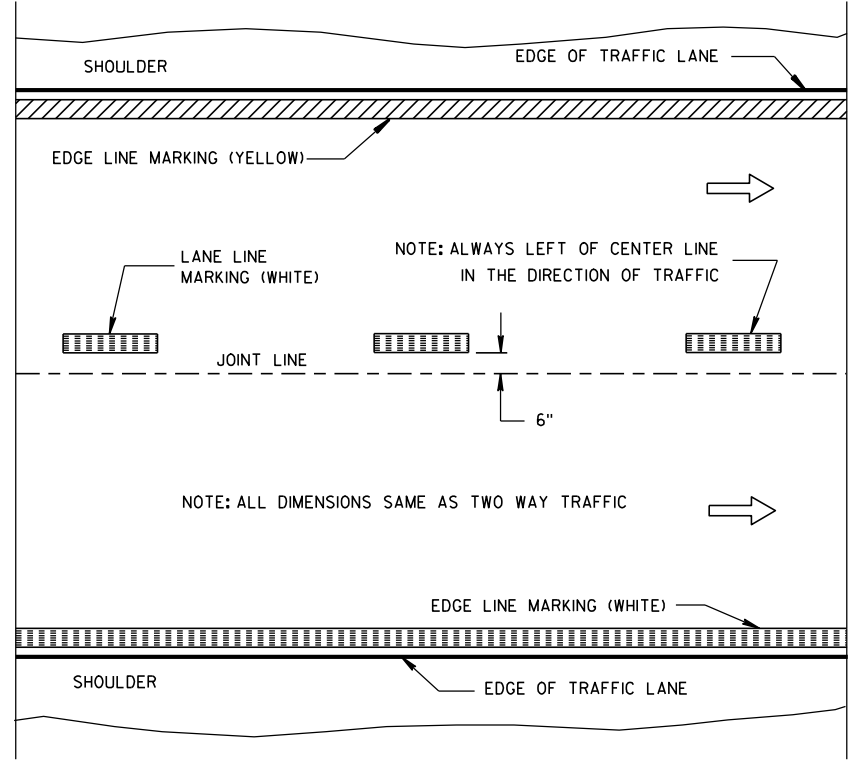
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

<b>PAVEMENT MARKING ARROWS</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	/S/ Thomas N. Notbohm
DATE	STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

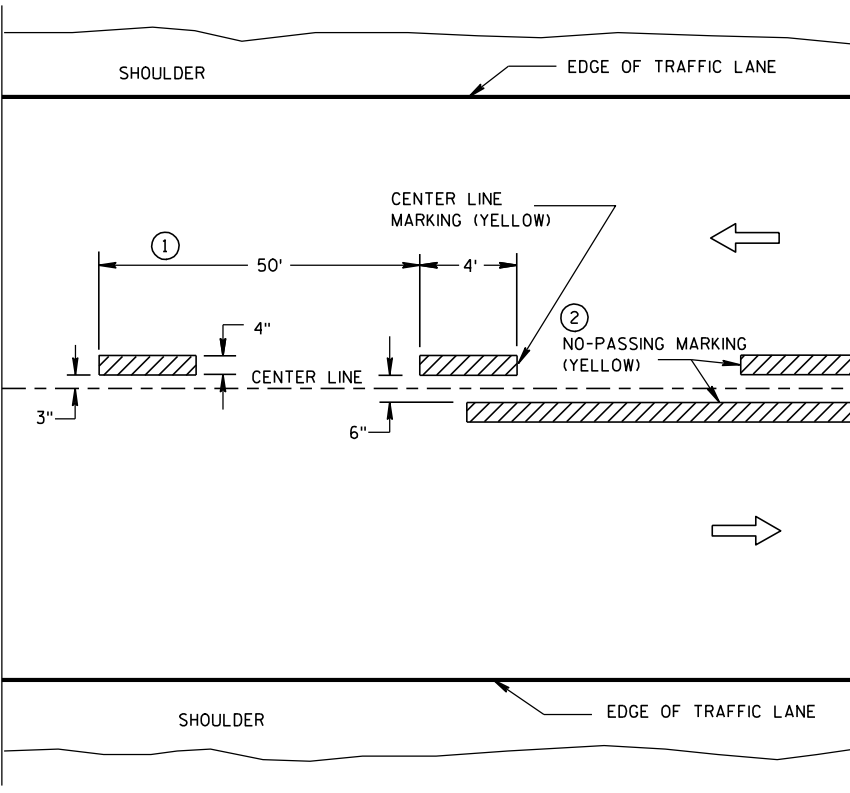


**TWO WAY TRAFFIC**

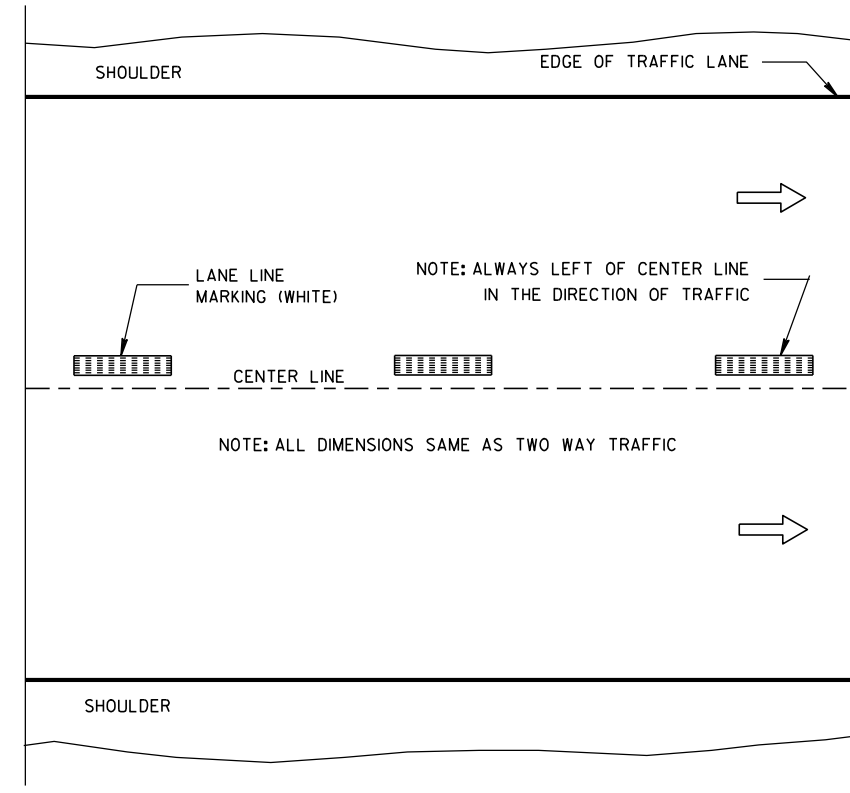


**ONE WAY TRAFFIC**

**PERMANENT PAVEMENT MARKING**



**TWO WAY TRAFFIC**



**ONE WAY TRAFFIC**

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

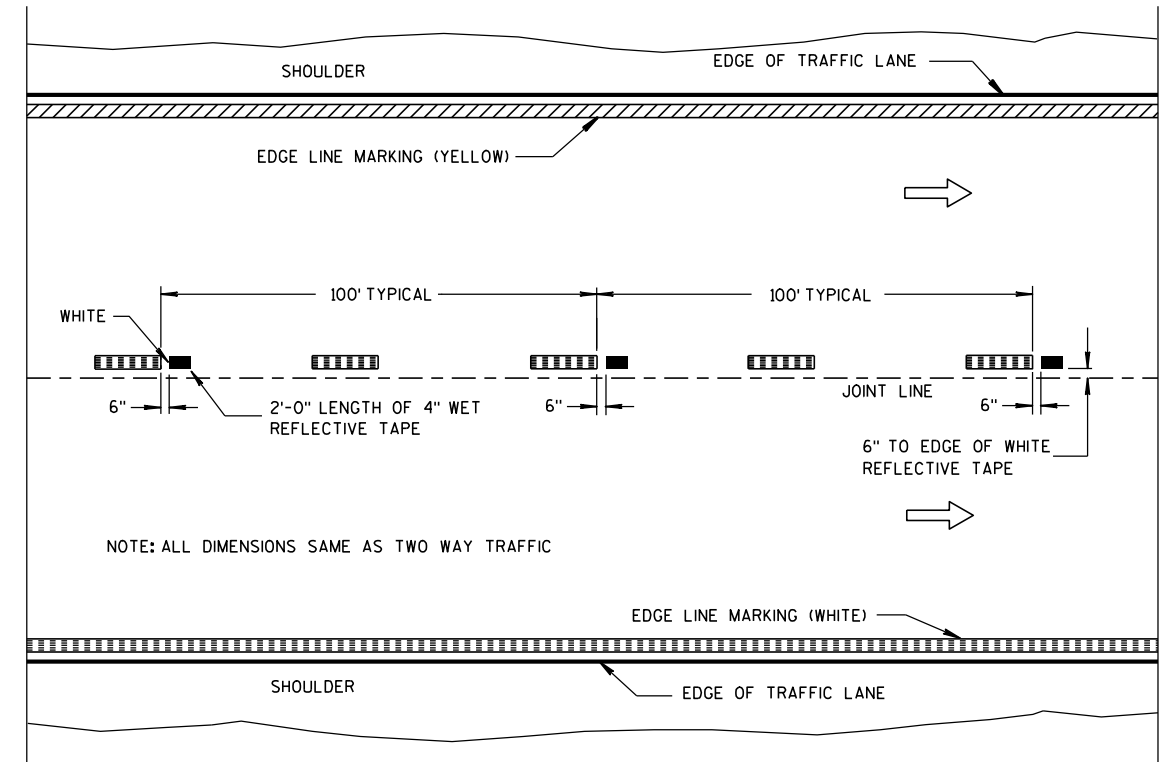
**GENERAL NOTES**

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

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

**NOTE**

ARROW SYMBOL ( → ) SHOWS DIRECTION OF TRAVEL



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

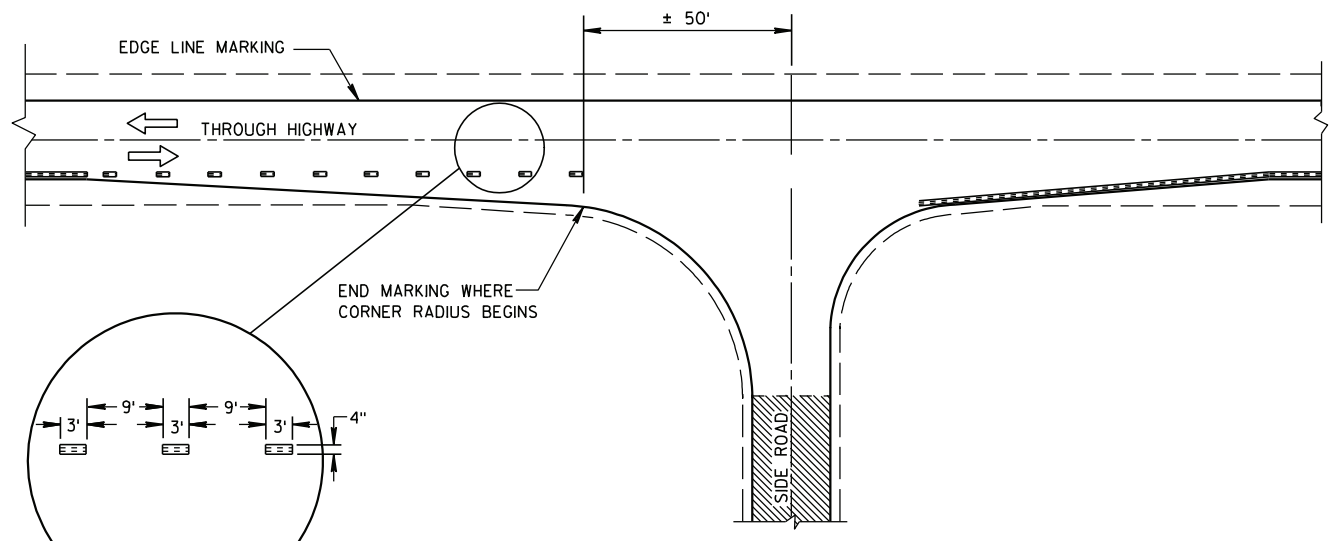
**LEGEND**

- "T" MARKING
- POST MOUNTED SIGN

**PAVEMENT MARKING  
(MAINLINE)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
6-23-11 /S/ Thomas N. Notbohm  
DATE STATE TRAFFIC ENGINEER OF DESIGN  
FHWA



**MINOR INTERSECTION WITHOUT CURBS**

⑦

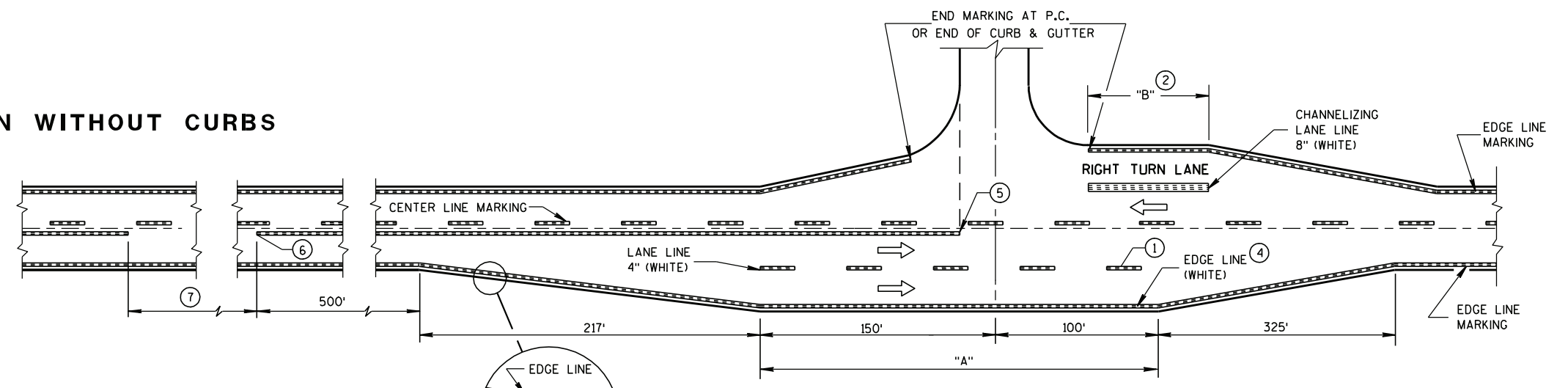
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792

**GENERAL NOTES**

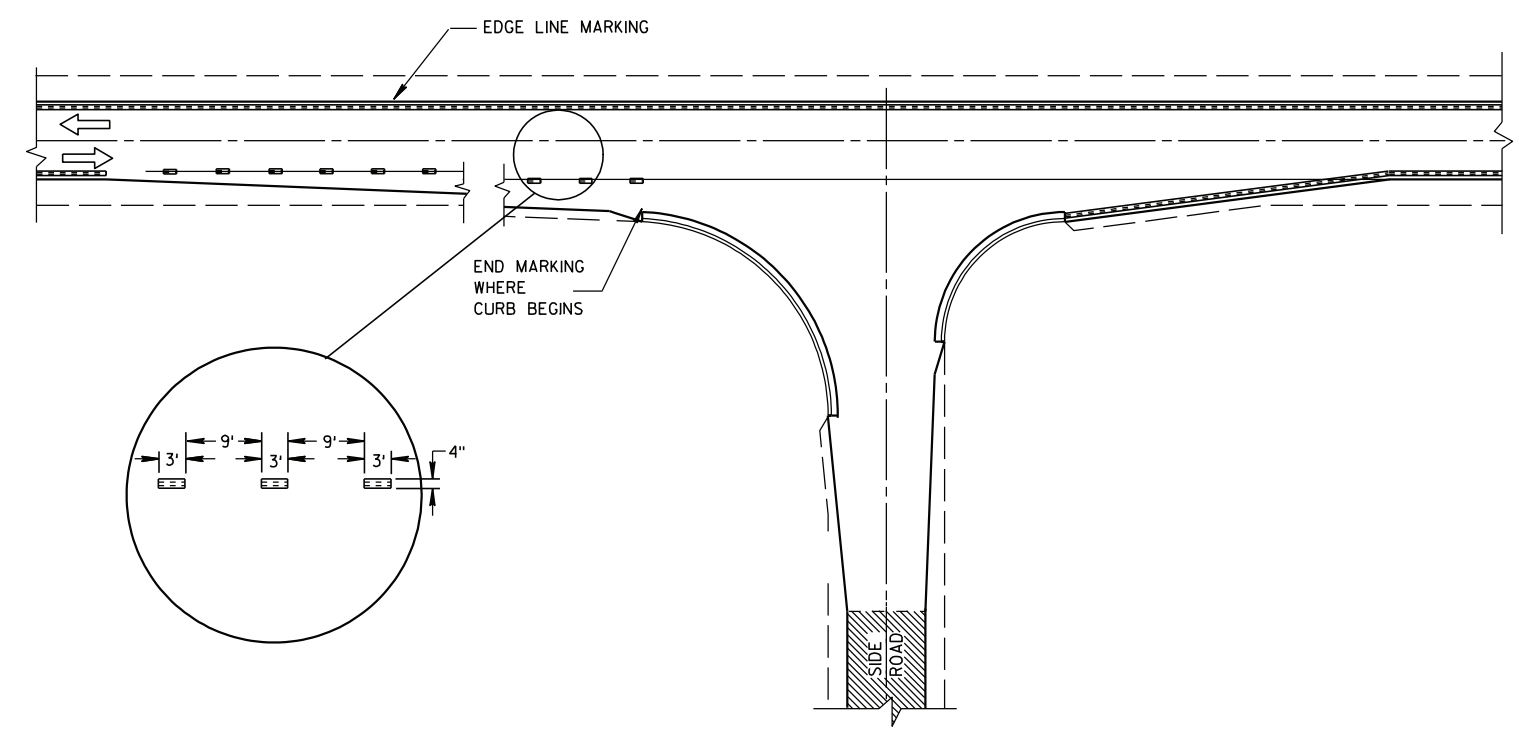
- EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
  - ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
  - ③ ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.
  - ④ THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.

- ⑤ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.
- ⑥ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
- ⑦ IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.
- ⑧ 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

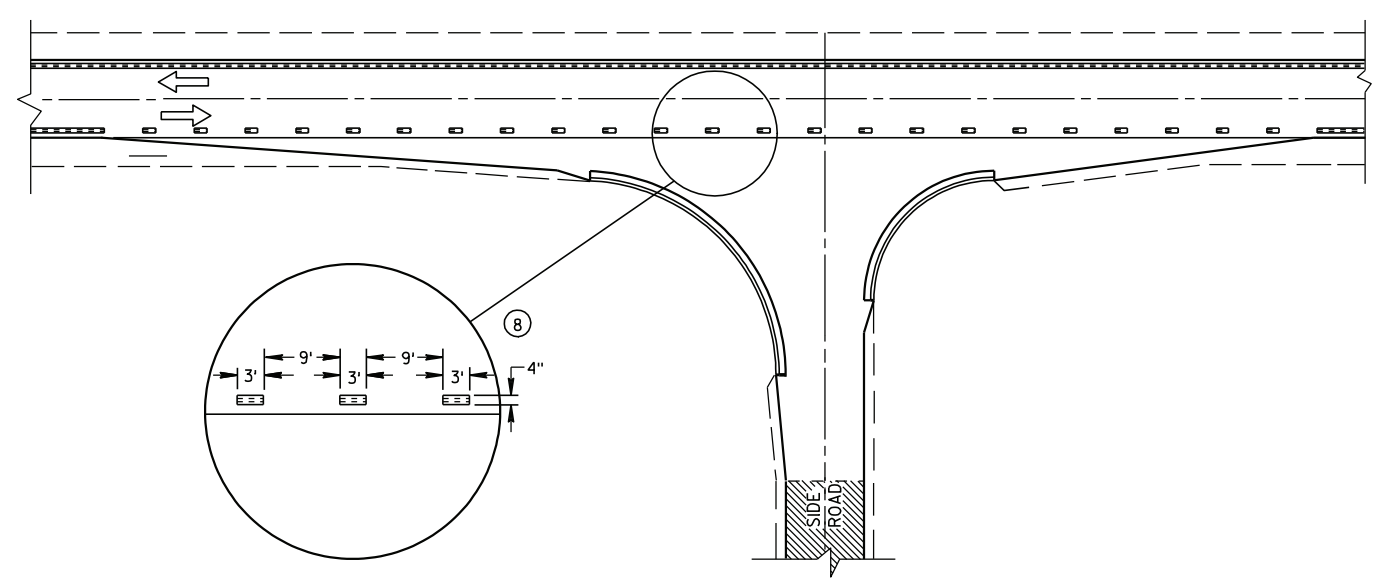
ARROW SYMBOL ( → ) SHOWS DIRECTION OF TRAVEL



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



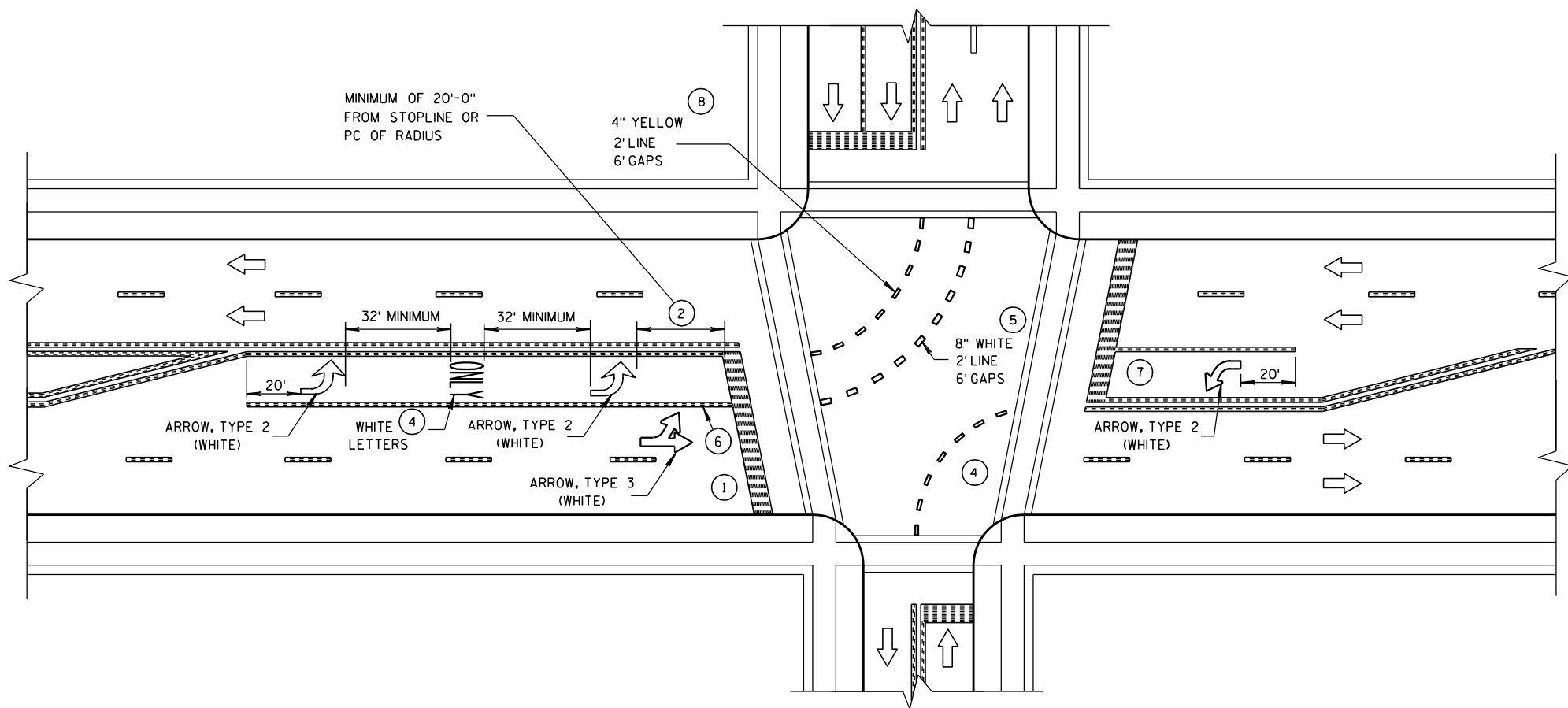
**MINOR INTERSECTION WITH CURBS**  
(TYPICAL MARKING)



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

**PAVEMENT MARKING (INTERSECTIONS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



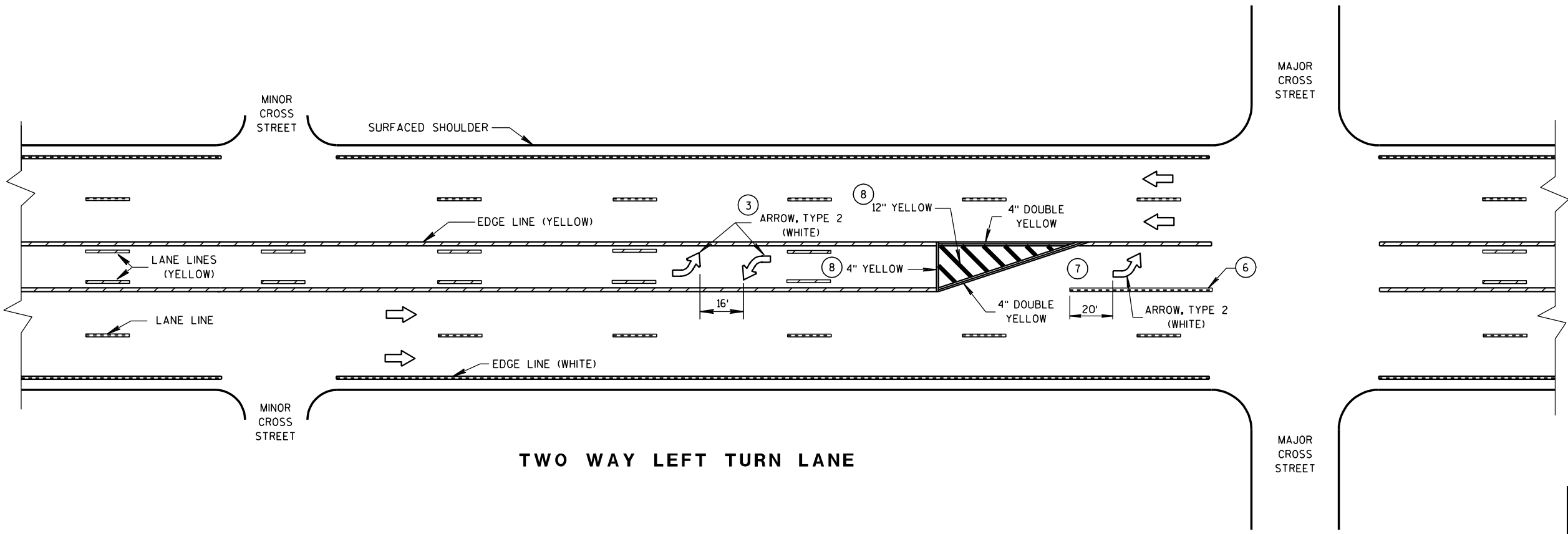
**GENERAL NOTES**

- ① STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
- ② DISTANCE MAY BE ADJUSTED TO ACCOMMODATE SHORT LEFT TURN LANES, AS APPROVED BY THE ENGINEER.
- ③ A SET OF ARROWS IS REQUIRED EVERY 400' OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- ④ ADD EXTRA ARROW AND ONLY PER 160' OR WHEN ON A CURVE.
- ⑤ 8" WHITE WITH 2' LINE 6' GAPS FOR DUAL TURN LANE.
- ⑥ 8" WHITE
- ⑦ ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108'.
- ⑧ REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:  
ARROW SYMBOL ( → )  
SHOWS DIRECTION OF TRAVEL

6

6



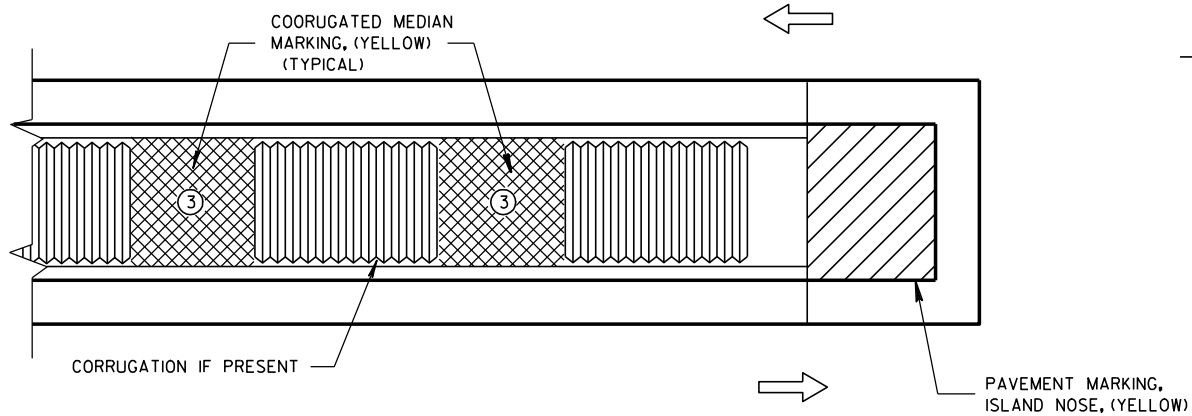
**TWO WAY LEFT TURN LANE**

**PAVEMENT MARKING  
(LEFT TURN LANE)**

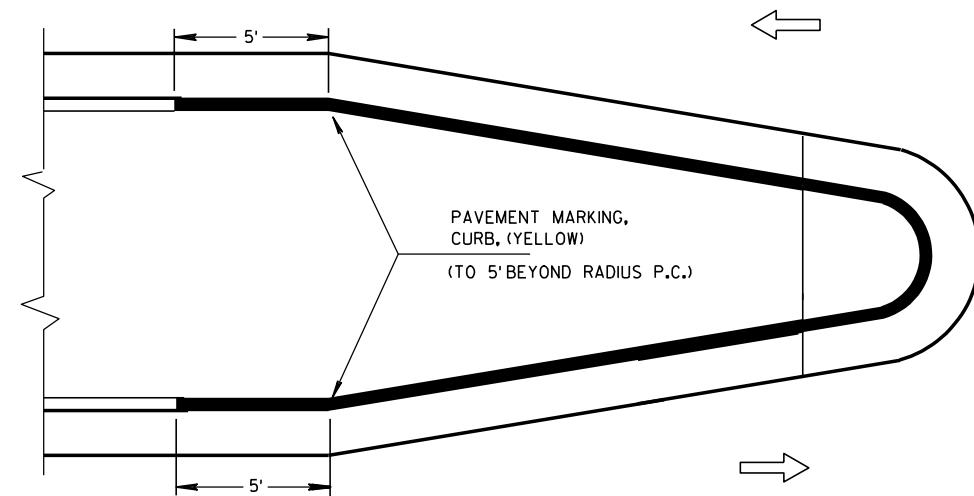
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

S.D.D. 15 C 8-14e

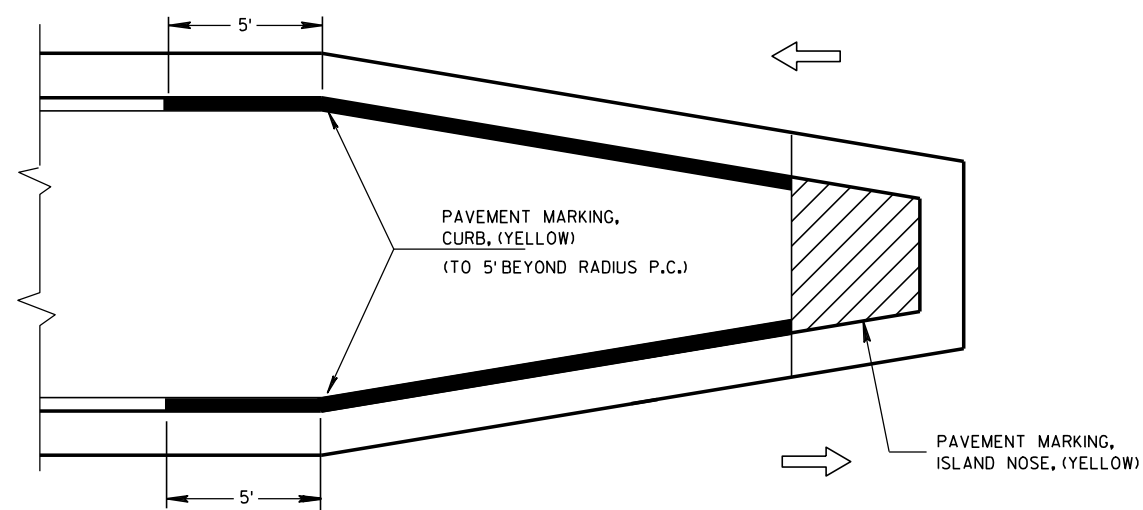
S.D.D. 15 C 8-14e



**MEDIAN ISLAND WITH SQUARE BLUNT NOSE**

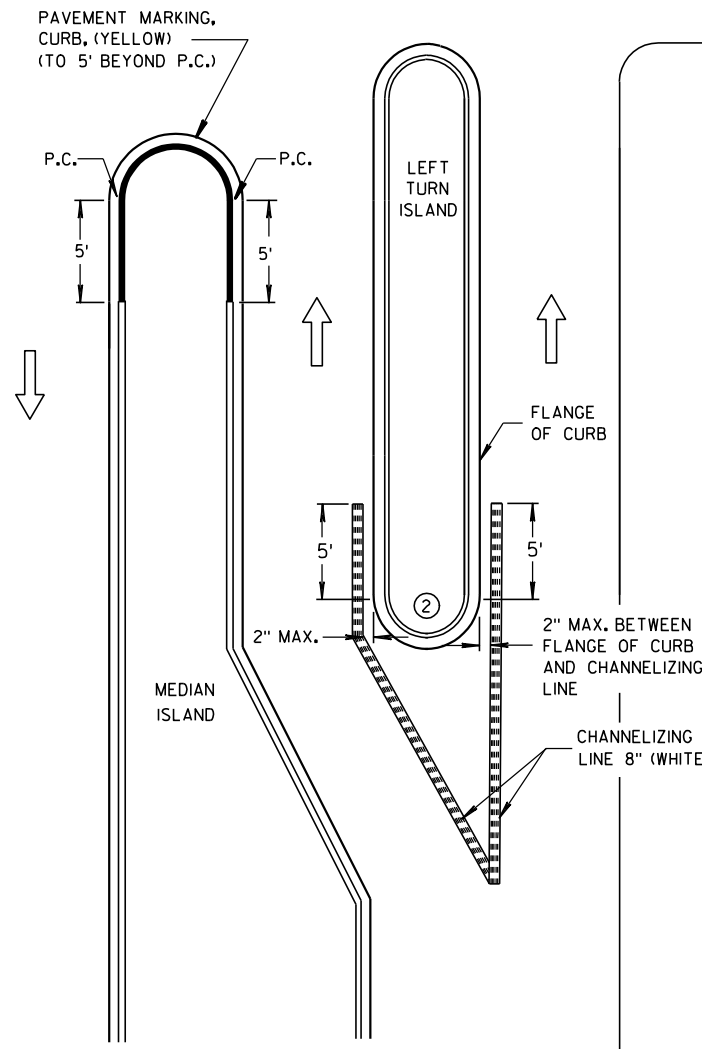


**MEDIAN ISLAND WITH ROUND BLUNT NOSE**



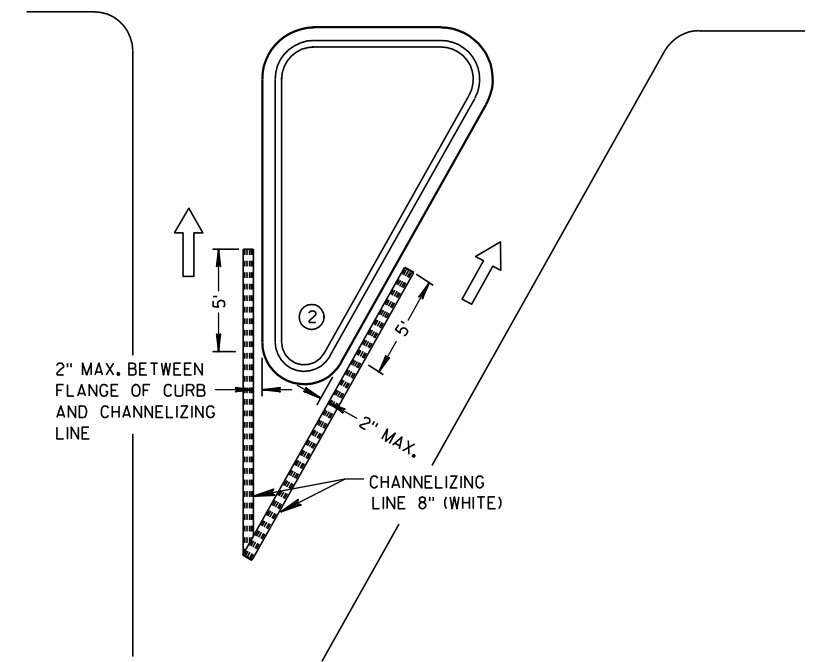
**MEDIAN ISLAND WITH SLOPED NOSE**

**TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS**

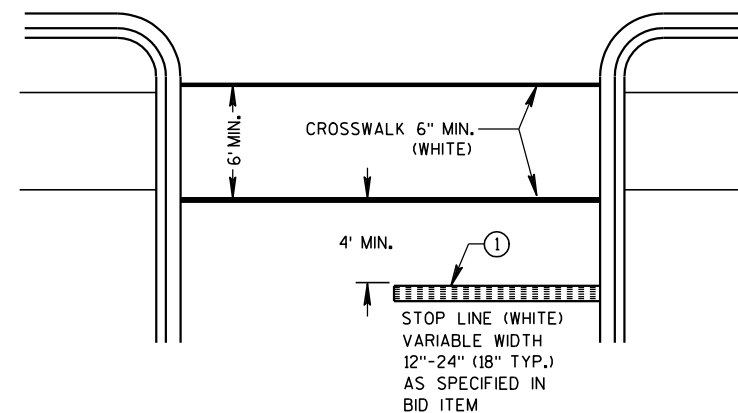


**LEFT TURN & MEDIAN ISLAND**

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



**RIGHT TURN ISLAND**



**STOP LINE AND CROSSWALK**

- LEGEND**
- ISLAND NOSE MARKING
  - CURB MAKING
  - CORRUGATED MEDIAN MARKING
  - DIRECTION OF TRAVEL

**PAVEMENT MARKING (ISLANDS, STOP LINE & CROSS WALK)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION





W14-3

500'

CENTERLINE OR LANE LINE (4) (3)

NO-PASSING ZONE MARKING (4)

2'-0"

(2)

PERPENDICULAR TO ROADWAY

(2)

2'-0"

(6)

6'-6"  
3'-0"

2'-0"

24'-0"

6'-0"

1'-6"

20'-0"

16'-0"

60'-0"

(5) (SEE TABLE)



W10-1

### PREFERRED PAVEMENT MARKING (3)

CENTERLINE OR LANE LINE (4) (3)

NO-PASSING ZONE MARKING (4)

20'-0"

8'-0"

2'-0"

2'-0"

22'-0"

6'-0"

22'-0"

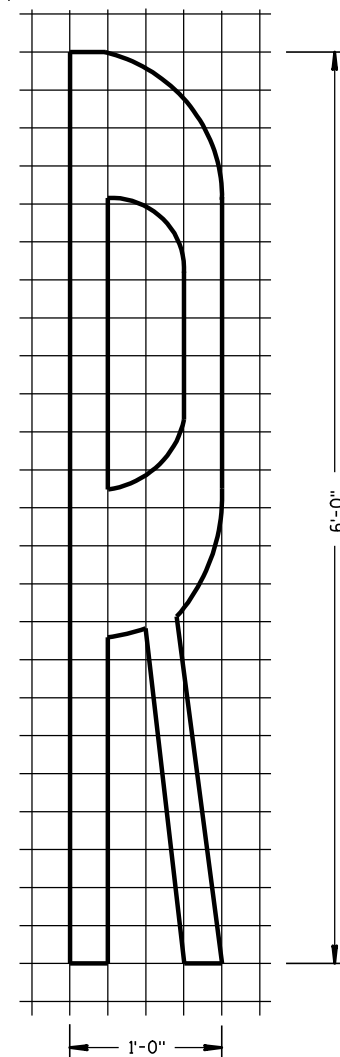
50'-0"

(5) (SEE TABLE)

### ALTERNATE PAVEMENT MARKING (3)

Posted Speed (M.P.H.)	Dimension Range (Feet)
25	150* - 250
30	200* - 300
35	250* - 450
40	300* - 500
45	400* - 650
50	550* - 800
55	750* - 1000
60	1000* - 1250
65	1000* - 1250

\* THE MINIMUM DISTANCES IN THE TABLE ARE DESIRABLE AND SHOULD BE USED. THE DISTANCES MAY BE INCREASED UP TO THE MAXIMUM TO ALLOW FOR FIELD CONDITIONS SUCH AS THE CLOSE PROXIMITY OF DRIVEWAYS, BRIDGES, SIDEROADS OR OTHER FEATURES THAT WOULD PROHIBIT THE MINIMUM DISTANCES FROM BEING USED.



### 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.

A THREE-LANE ROADWAY SHOULD BE MARKED WITH A CENTERLINE FOR TWO-LANE APPROACH OPERATION ON THE APPROACH TO A CROSSING.

ON MULTI-LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE. ALL LETTERS AND SYMBOLS SHALL BE IN CONFORMANCE WITH THE "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" (ADOPTED BY THE FEDERAL HIGHWAY ADMINISTRATION).

CENTER OR LANE LINES AND NO-PASSING ZONE MARKINGS SHOWN ON THIS DRAWING ARE REQUIRED AND PAID FOR UNDER OTHER ITEMS IN THE CONTRACT.

- (1) A PORTION OF THE PAVEMENT MARKING SYMBOL SHOULD BE DIRECTLY OPPOSITE THE ADVANCE WARNING SIGN (W10-1).
- (2) MINIMUM 8' FROM ANY RAILROAD WARNING DEVICES (SIGNALS, GATES, ETC.) OR 25' FROM THE NEAREST RAIL, WHICHEVER DISTANCE IS GREATER.
- (3) REFLECTIVE WHITE.
- (4) REFLECTIVE YELLOW 500' MINIMUM. MARKING LIMITS MAY BE EXTENDED AS DIRECTED BY THE ENGINEER TO MEET ADJACENT NO-PASSING ZONE MARKINGS.
- (5) TABLE BASED UPON 2C-4 WISCONSIN SUPPLEMENT OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- (6) FOR MULTIPLE TRACK CROSSINGS, THE BARRIER LINE SHALL EXTEND TO THE NEAR RAIL OF THE FURTHEST TRACK IN THE DIRECTION OF HIGHWAY TRAVEL.

### SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

1-9-2012 /S/ Thomas N. Notbohm  
DATE STATE TRAFFIC ENGINEER OF DESIGN

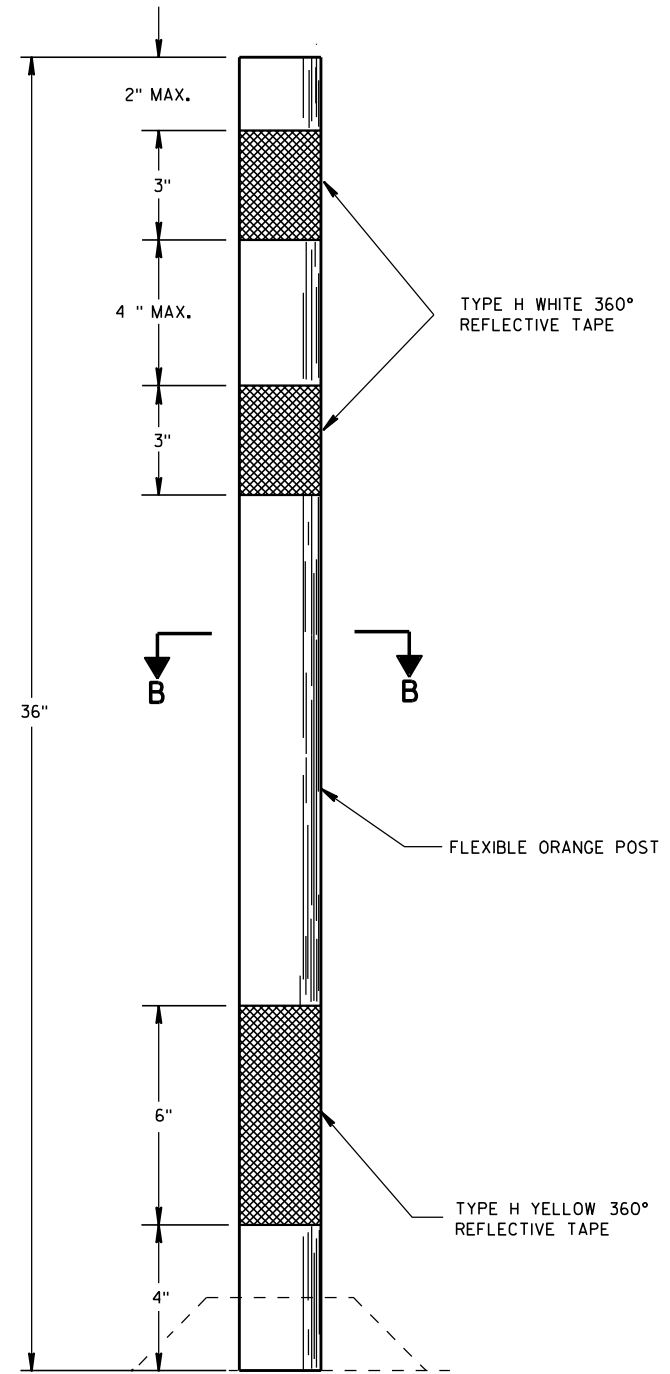
FHWA

6

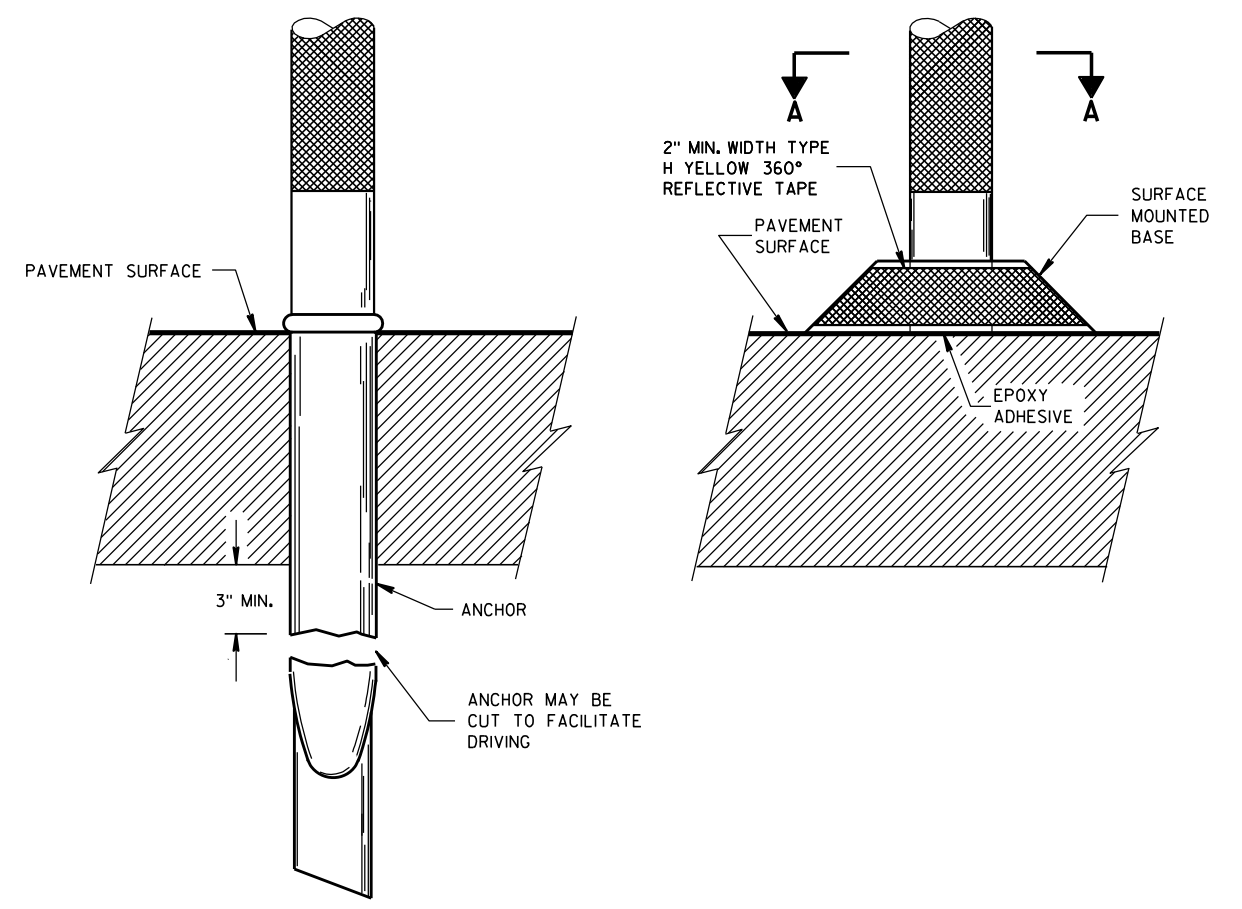
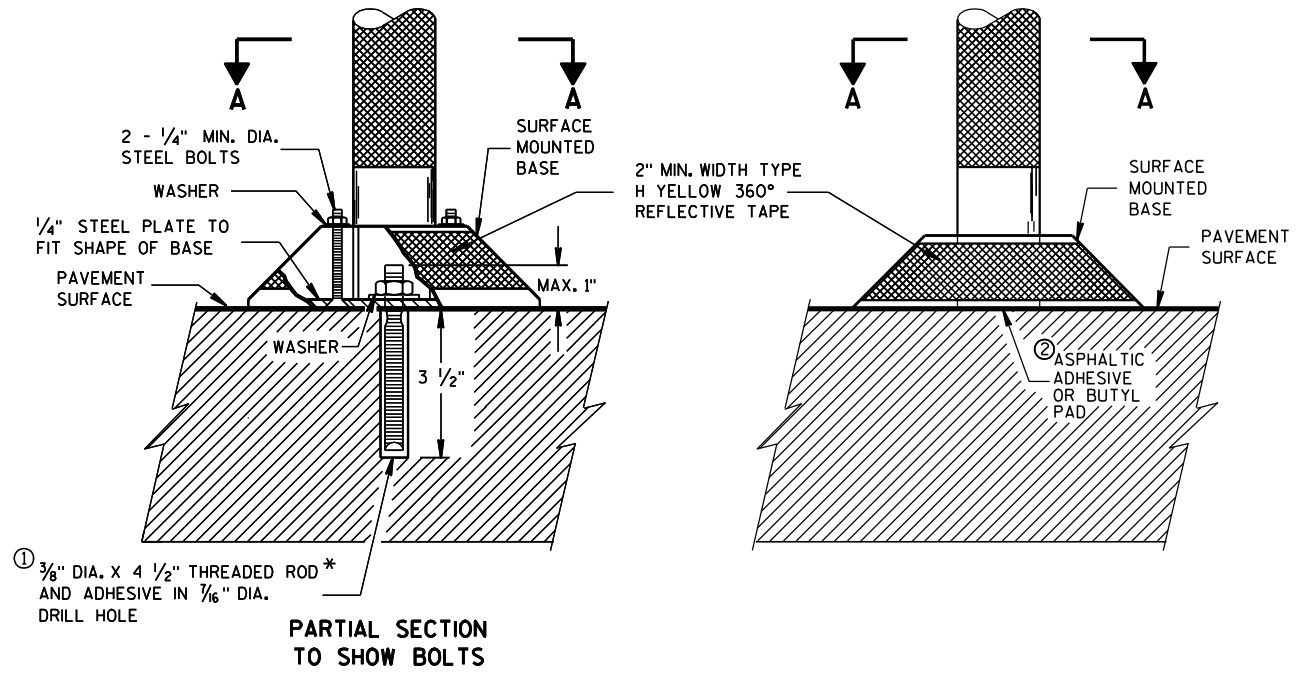
6

S.D.D. 15 C 9-9a

S.D.D. 15 C 9-9a



FLEXIBLE TUBULAR MARKER POST



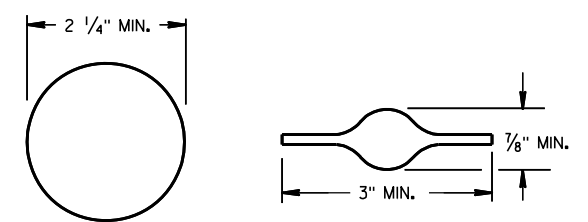
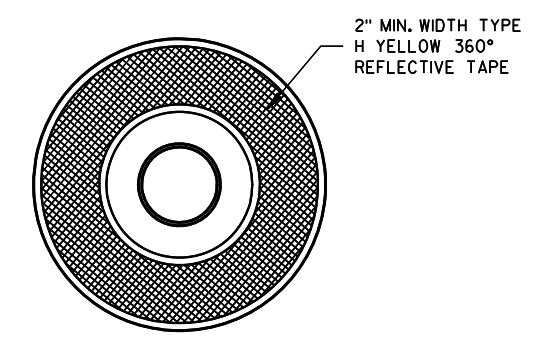
POST ANCHOR AND BASE ON PAVEMENT WHICH WILL BE REMOVED

GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

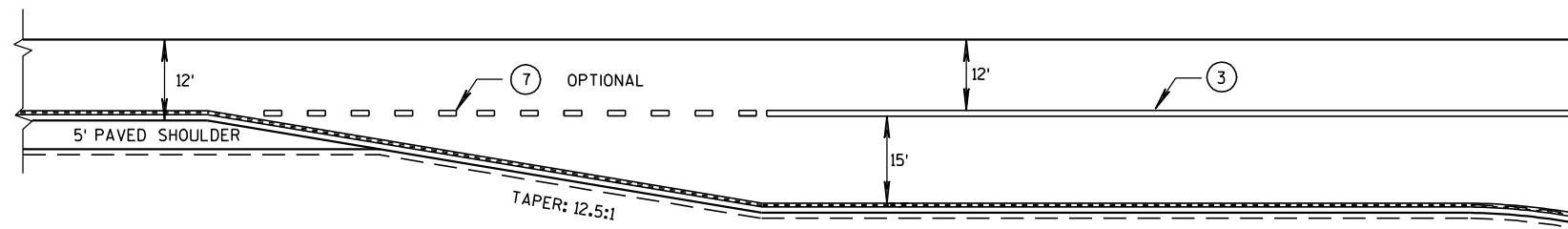
- ① THREADED ROD SHALL BE MACHINED DOWN TO 0.280 INCH DIA. 1 1/4 INCHES FROM THE TOP.
- ② THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.



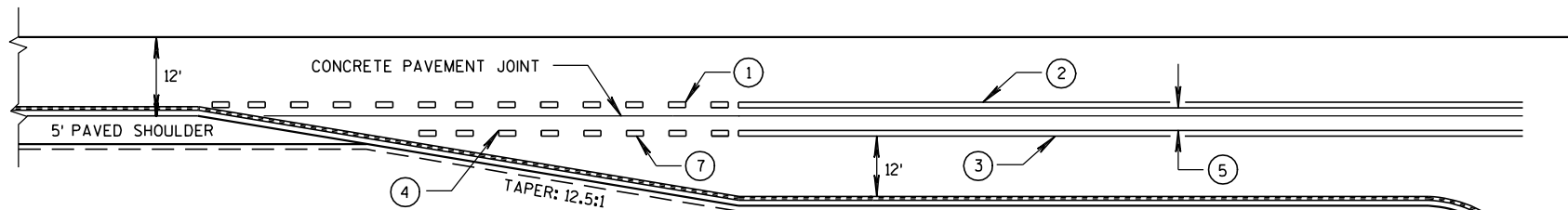
<b>FLEXIBLE TUBULAR MARKER POST, ANCHOR &amp; BASES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
2/17/94 DATE	/s/ Chester J. Spang DIRECTOR, OFFICE OF TRAFFIC
FHWA	

**GENERAL NOTES**

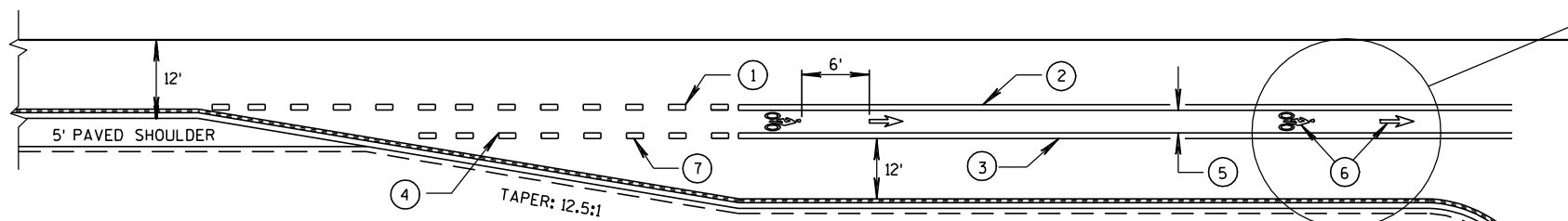
- ① 3' LINE, 9' GAP - 4-INCH WIDE, WHITE.
- ② 4-INCH, WHITE.
- ③ 8-INCH, WHITE.
- ④ IF SIGNED AND/OR MARKED AS A BICYCLE FACILITY INCLUDE SECOND LINE OF LINE-SPACE MARKING, OTHERWISE DO NOT.
- ⑤ BIKE ACCOMMODATION FOR CONCRETE PAVEMENT IS 5' WIDE. 2 LANE (3' LEFT, 2' RIGHT OF JOINT). 4 LANE (2' LEFT, 3' RIGHT OF JOINT). BIKE ACCOMMODATION FOR ASPHALT PAVEMENT IS A MINIMUM OF 4', 5' AT ≥ 45 MPH.
- ⑥ REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
- ⑦ 3' LINE, 9' GAP - 8-INCH WIDE, WHITE.



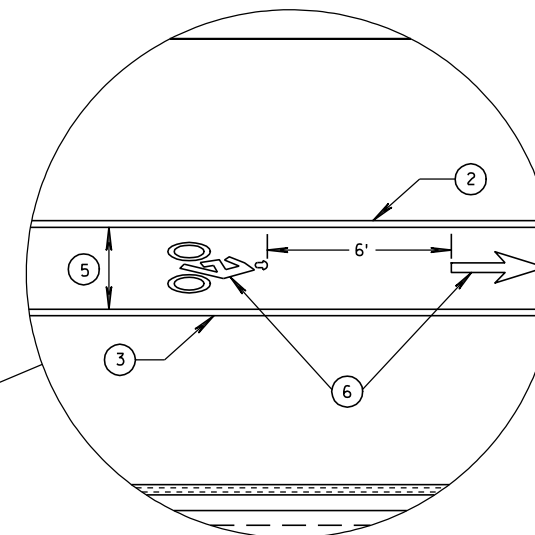
**WIDER TURN LANE**



**BIKE SLIP LANE ONLY WITHOUT SYMBOLS**



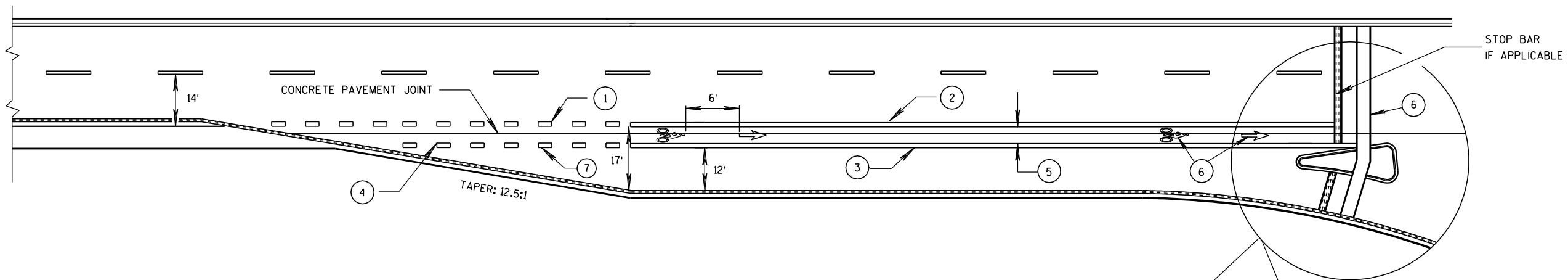
**BIKE LANE WITH SYMBOLS**



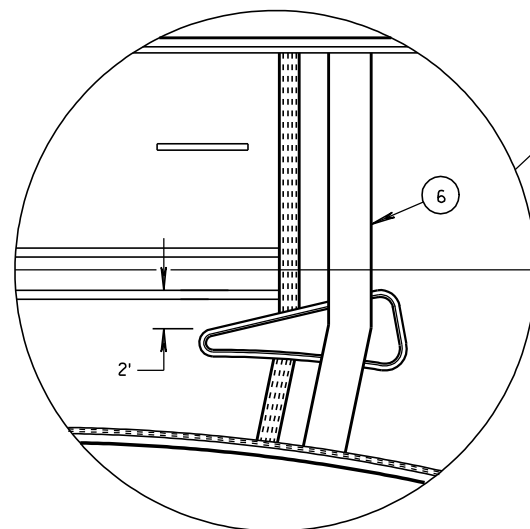
<b>BICYCLE LANE MARKING</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 2/6/2012	/S/ Thomas N. Notbohm STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

**GENERAL NOTES**

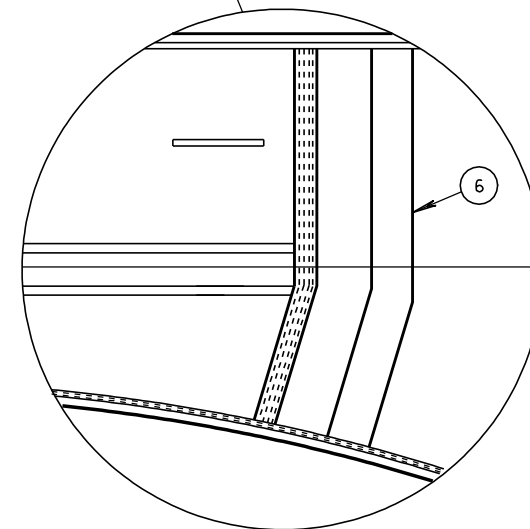
- ① 3' LINE, 9' GAP - 4-INCH WIDE, WHITE.
- ② 4-INCH, WHITE.
- ③ 8-INCH, WHITE.
- ④ IF SIGNED AND/OR MARKED AS A BICYCLE FACILITY INCLUDE SECOND LINE OF LINE-SPACE MARKING, OTHERWISE DO NOT.
- ⑤ BIKE ACCOMMODATION FOR CONCRETE PAVEMENT IS 5' WIDE.  
2 LANE (3' LEFT, 2' RIGHT OF JOINT).  
4 LANE (2' LEFT, 3' RIGHT OF JOINT).  
BIKE ACCOMMODATION FOR ASPHALT PAVEMENT IS A MINIMUM OF 4', 5' AT  $\geq 45$  MPH.
- ⑥ REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
- ⑦ 3' LINE, 9' GAP - 8-INCH WIDE, WHITE.



**BIKE LANE - 4-LANE DIVIDED WITH RIGHT TURN LANE**

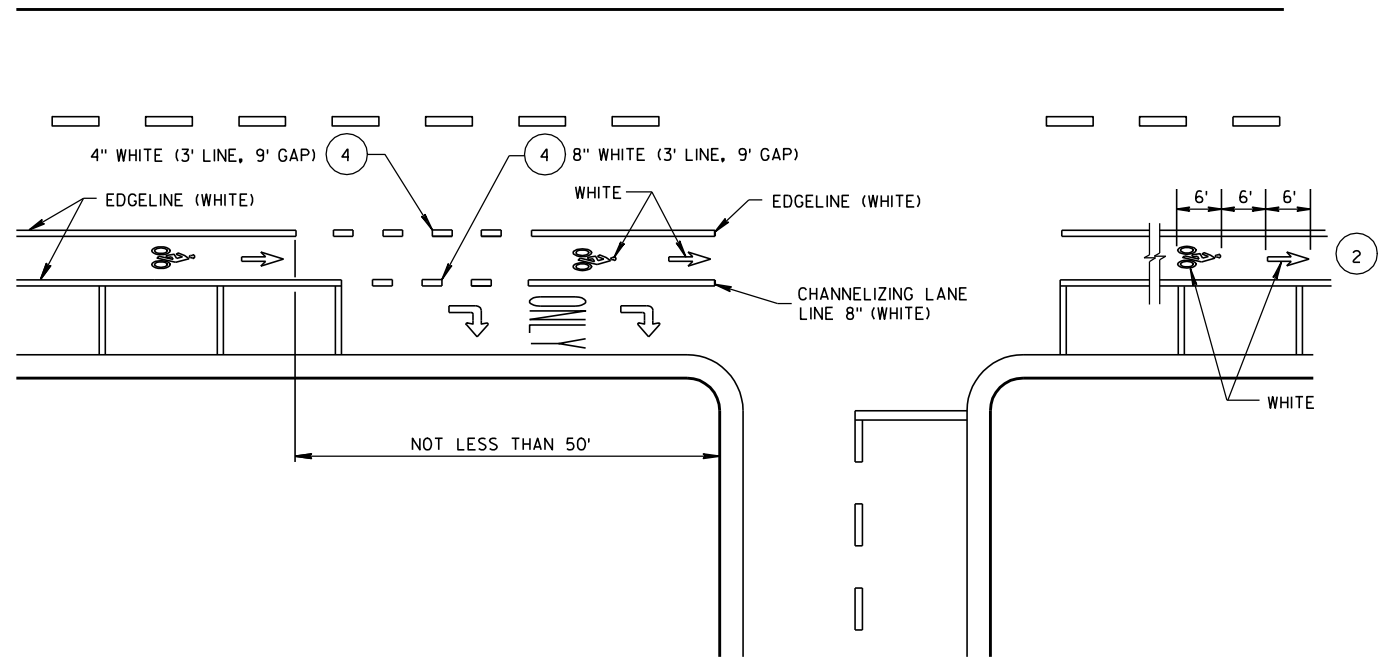


**4 LANE DIVIDED WITH ISLAND**

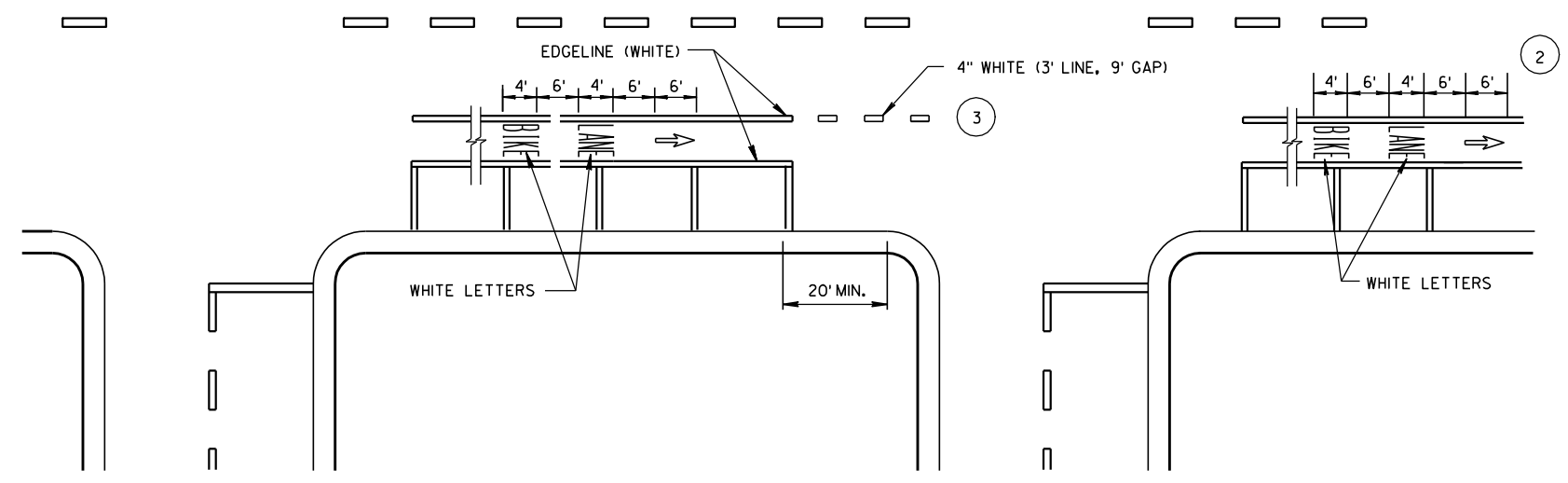


**4 LANE DIVIDED WITHOUT ISLAND**

<b>BICYCLE LANE MARKING</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 2/6/2012 DATE	/S/ Thomas N. Notbohm STATE TRAFFIC ENGINEER OF DESIGN
<small>FHWA</small>	



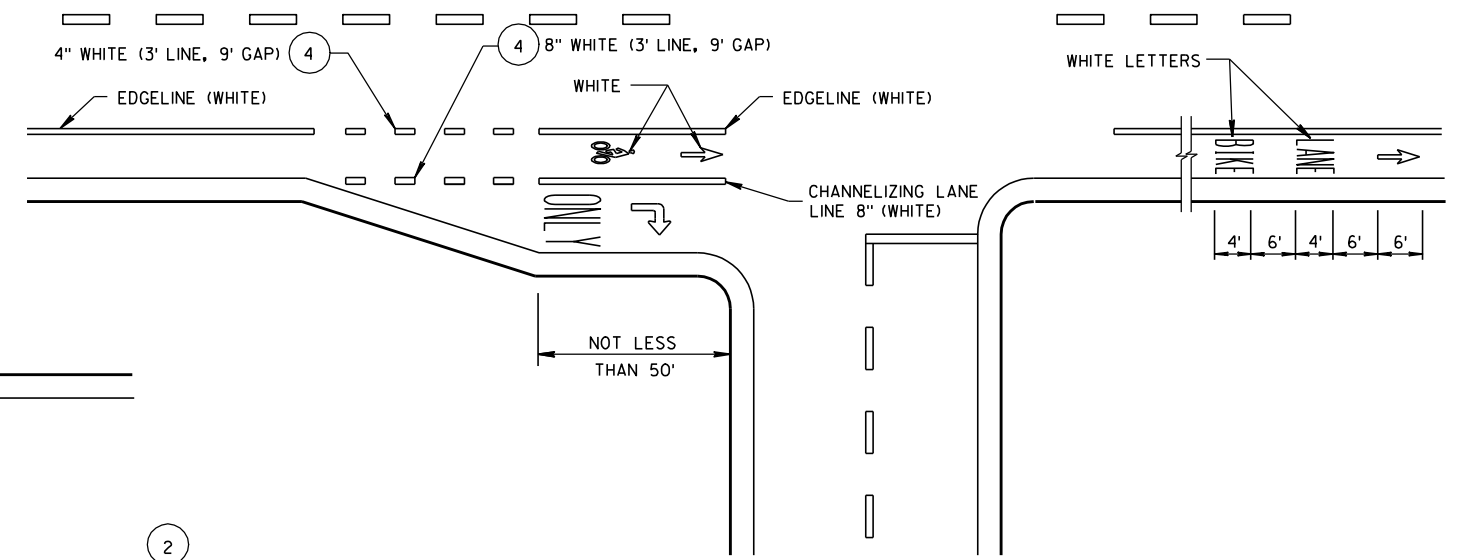
**DESIGNATED BICYCLE LANE**



**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.

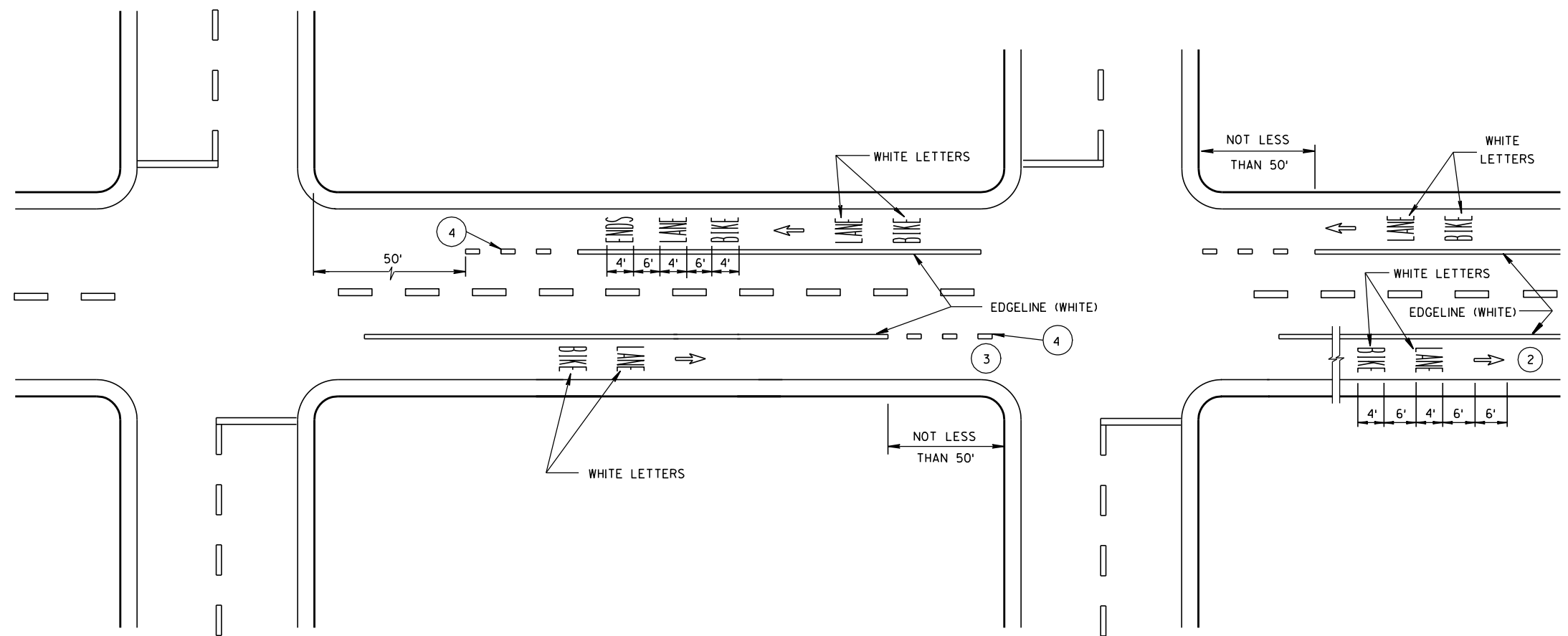


**DESIGNATED BICYCLE LANE NO PARKING, RIGHT TURN LANE**

<b>URBAN BICYCLE LANE MARKING</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 2/6/2012	/S/ Thomas N. Notbohm STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

**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.



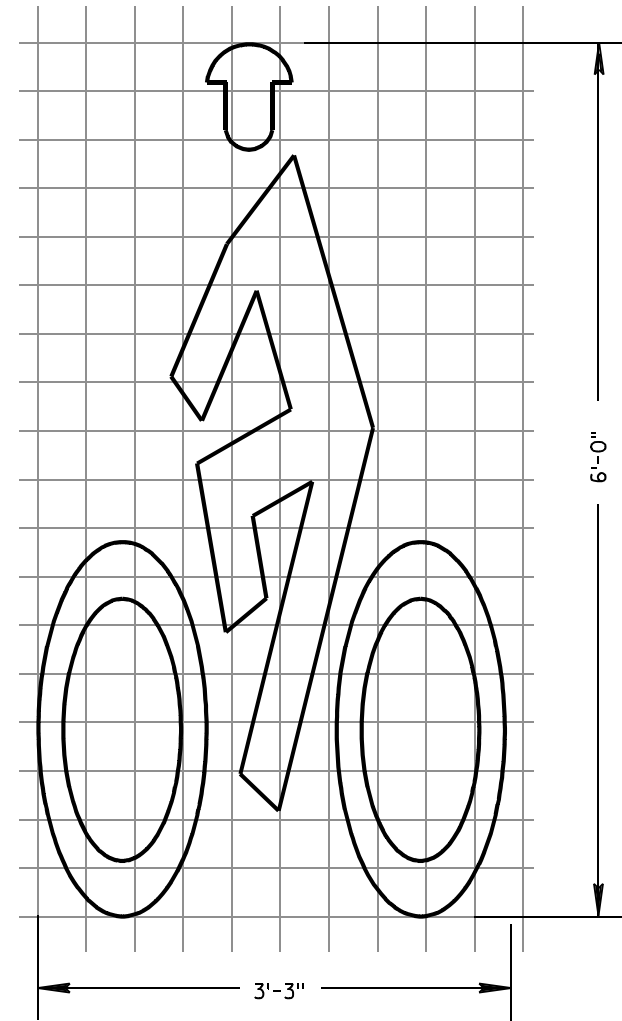
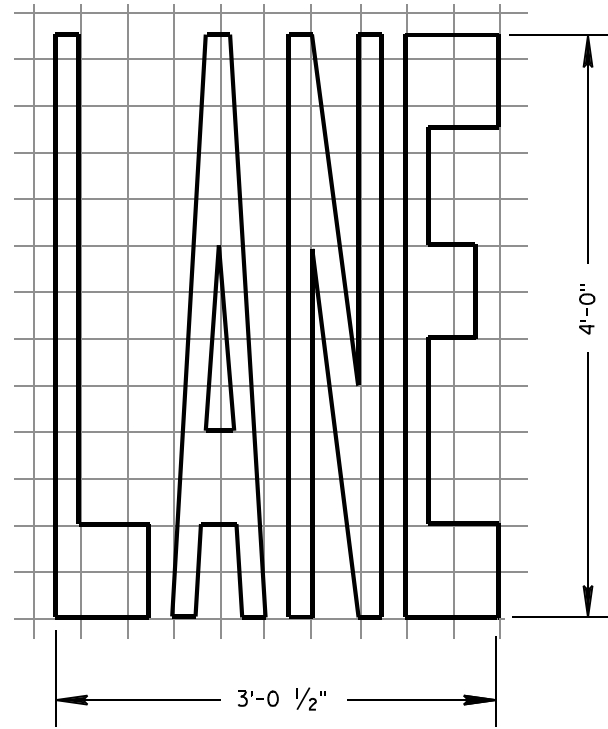
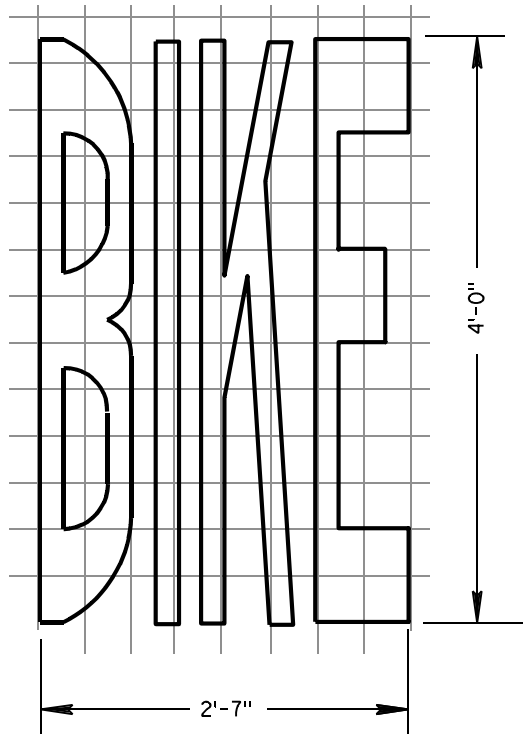
**DESIGNATED BICYCLE LANE  
NO PARKING**

<b>URBAN BICYCLE LANE MARKING</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE	/S/ Thomas N. Notbohm STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

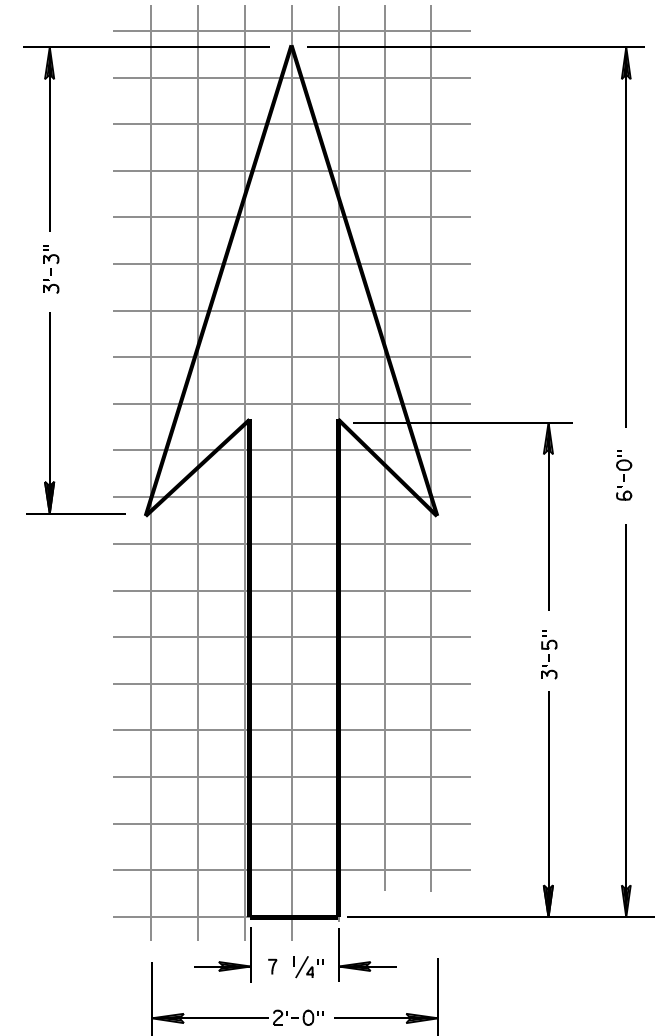
**GENERAL NOTES**

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

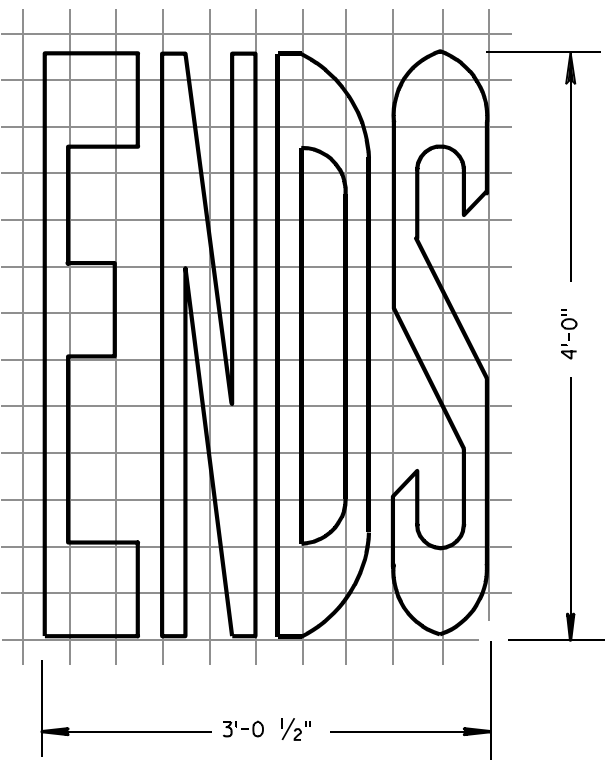
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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



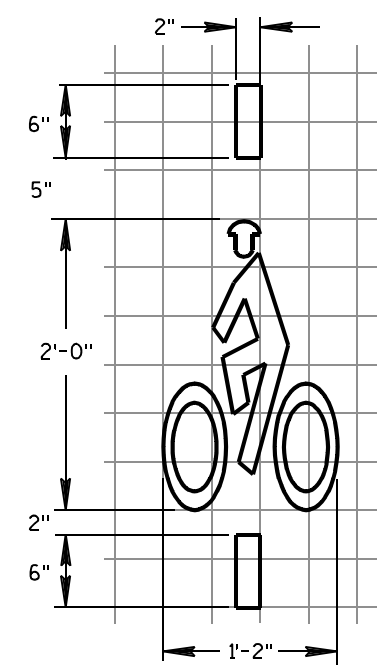
**BIKE LANE SYMBOL**



**BIKE LANE ARROW**



**BIKE LANE WORDS**



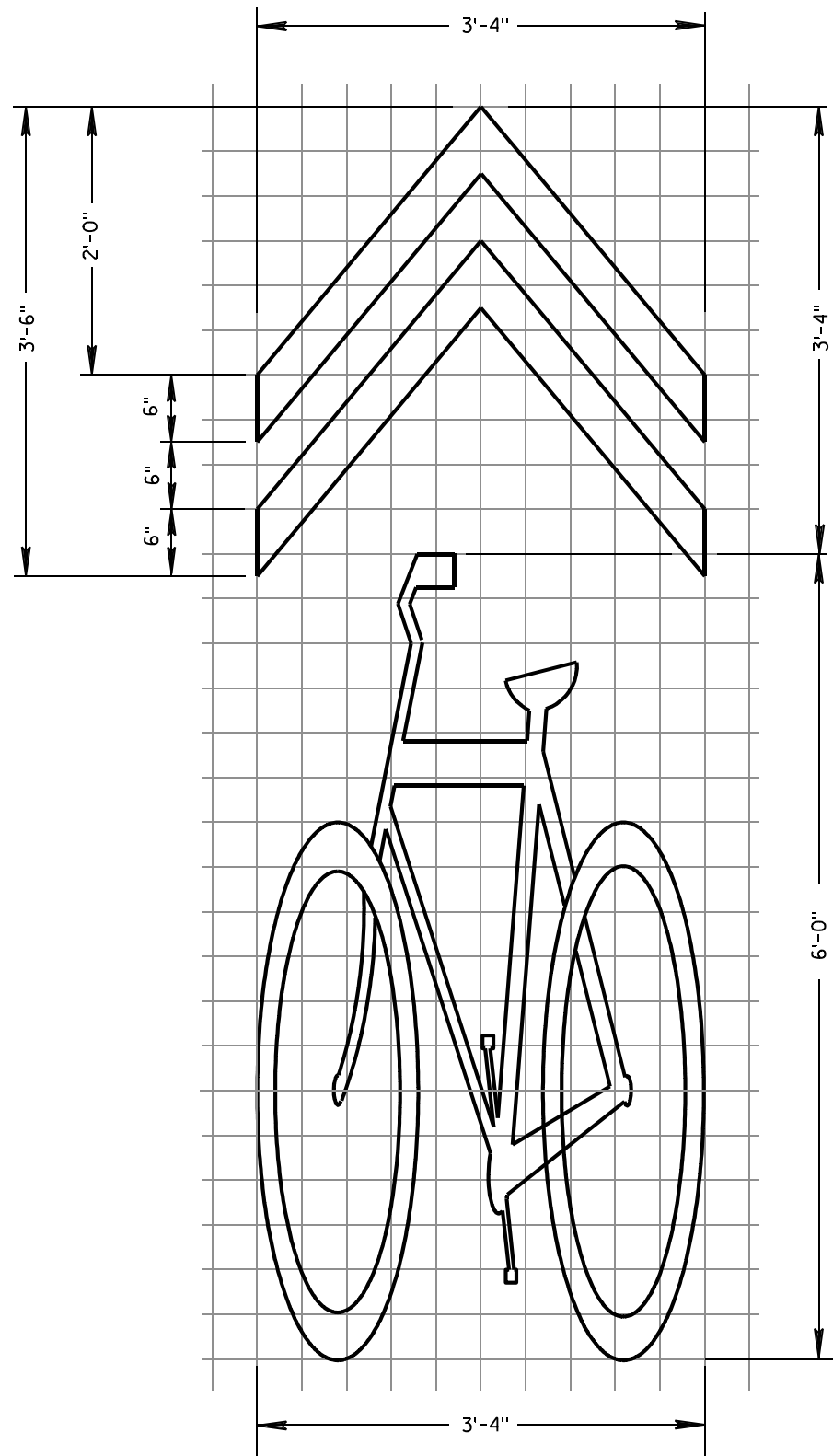
**BICYCLE DETECTOR PAVEMENT MARKING**

<b>PAVEMENT MARKING FOR BIKE LANES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 2-6-2012 DATE	/S/ Thomas N. Notbohm STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

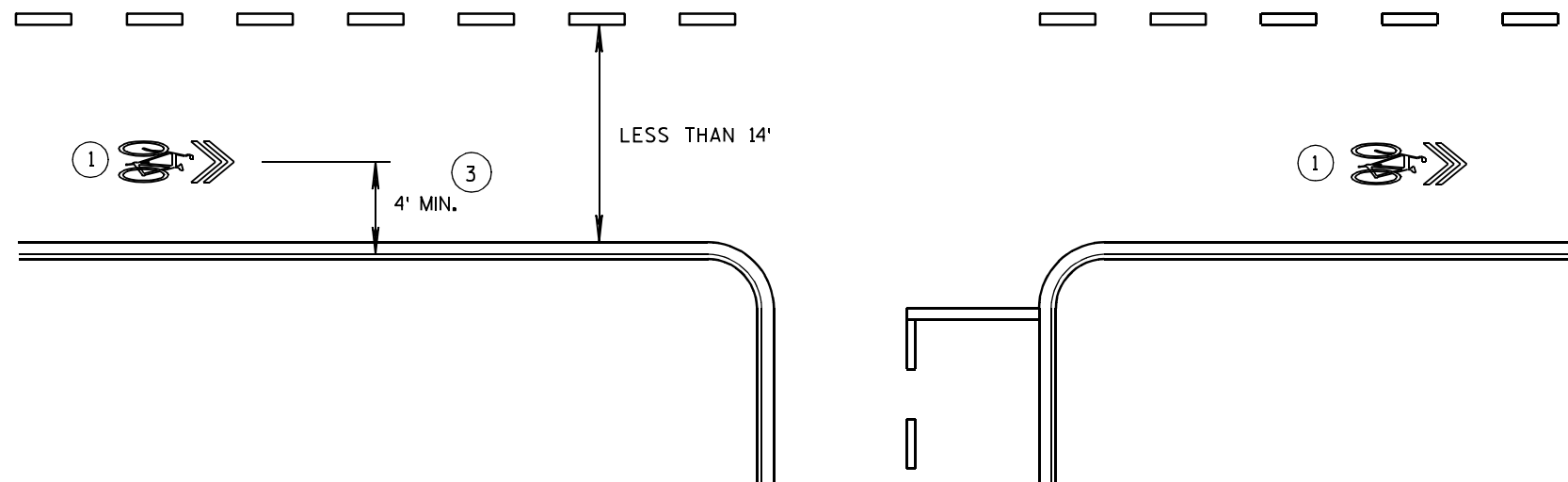
**GENERAL NOTES**

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.

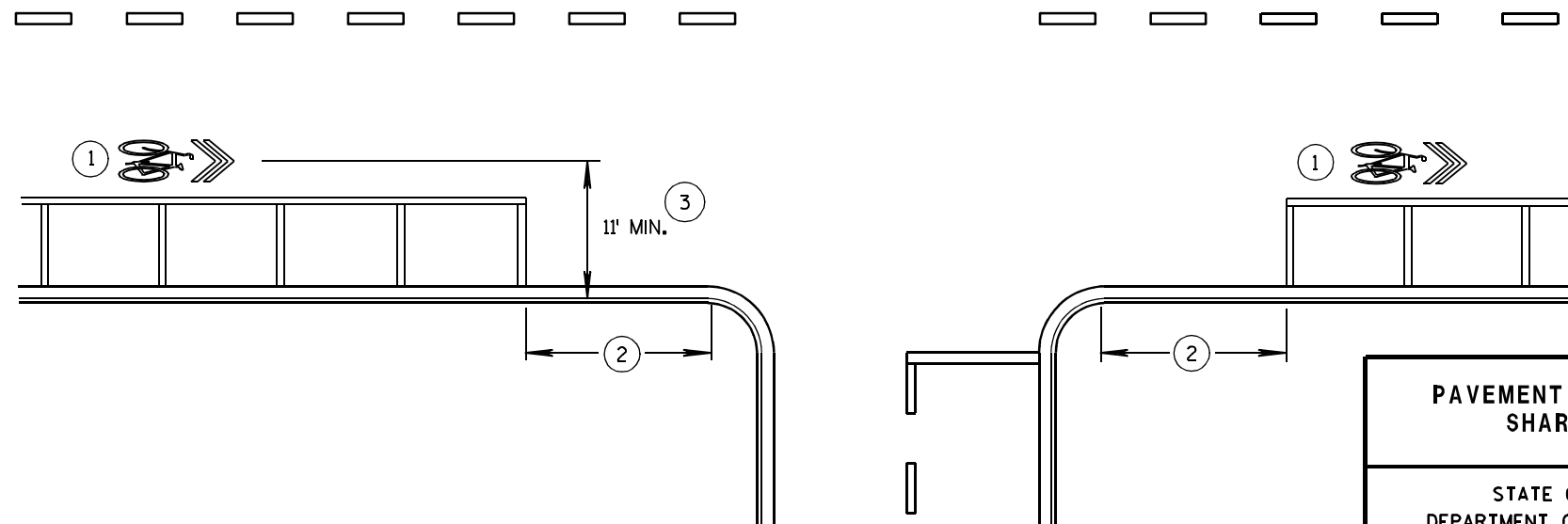
- ① SPACED A MAXIMUM OF 250 FEET.
- ② 20 FOOT MINIMUM FROM CURB RADIUS.
- ③ OR TO EDGE OF PAVEMENT WITHOUT CURB.



**BIKE SYMBOL FOR SHARED LANE**



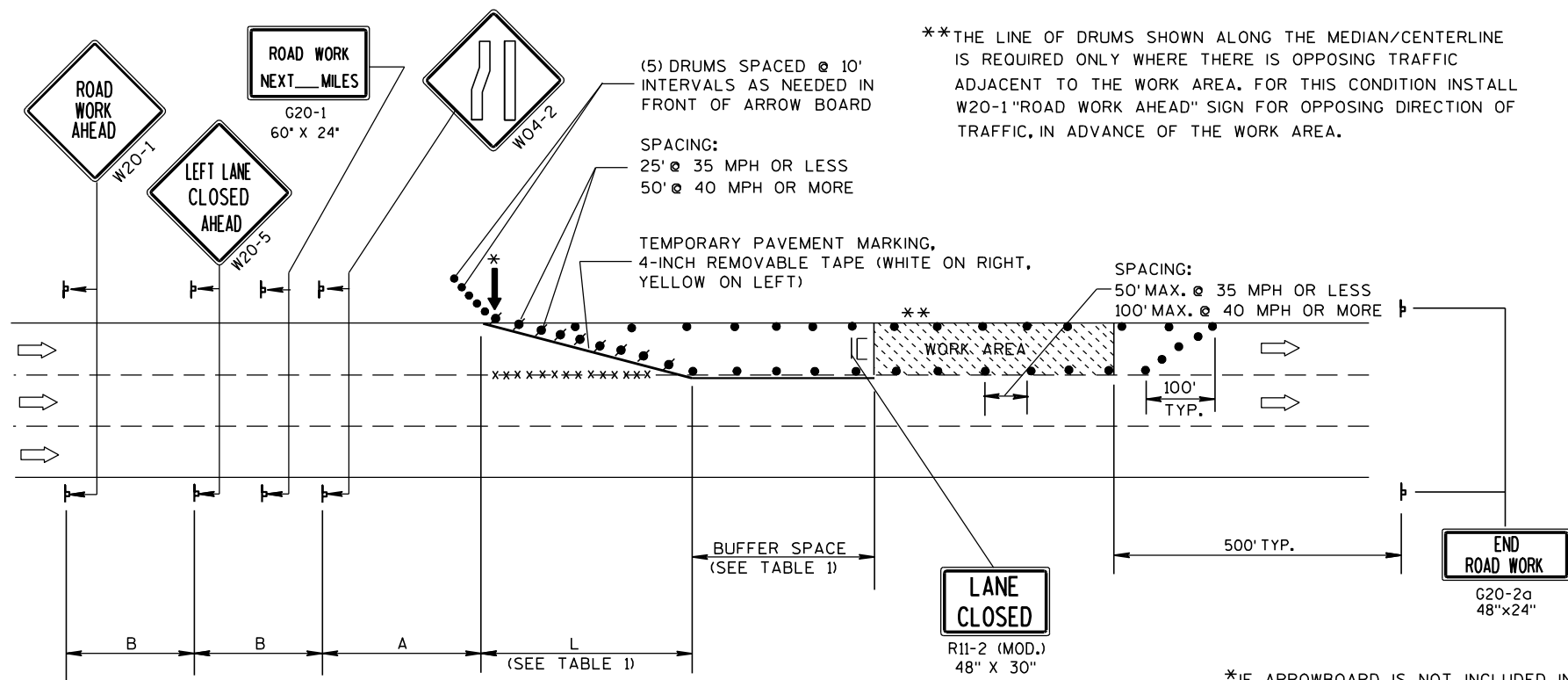
**WITHOUT PARKING**



**WITH PARKING**

<b>PAVEMENT MARKING FOR SHARED LANE</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 2-6-2012 DATE	/S/ Thomas N. Notbohm STATE TRAFFIC ENGINEER OF DESIGN
FHWA	





B=400' AT 25-30 MPH  
700' AT 35-40 MPH  
1000' AT 45-55 MPH

A=200' AT 25-30 MPH  
350' AT 35-40 MPH  
500' AT 45-55 MPH

TABLE 1  
TAPER AND BUFFER SPACE  
FOR 12' LANE WIDTH

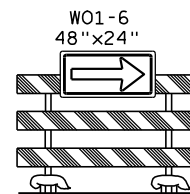
S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':  
 L = WS AT 45 MPH OR GREATER  
 L =  $\frac{WS^2}{60}$  AT 40 MPH OR LESS  
 L = TAPER LENGTH IN FEET  
 S = NON-CONSTRUCTION SPEED LIMIT (MPH)  
 W = WIDTH OF LANE CLOSURE

\*\*THE LINE OF DRUMS SHOWN ALONG THE MEDIAN/CENTERLINE IS REQUIRED ONLY WHERE THERE IS OPPOSING TRAFFIC ADJACENT TO THE WORK AREA. FOR THIS CONDITION INSTALL W20-1 "ROAD WORK AHEAD" SIGN FOR OPPOSING DIRECTION OF TRAFFIC, IN ADVANCE OF THE WORK AREA.

(PLACE BARRICADE AND SIGN APPROX. EVERY 1000' ACROSS THE CLOSED LANE)

\*IF ARROWBOARD IS NOT INCLUDED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE A TYPE III BARRICADE WITH W01-6 SIGN IN THE LANE CLOSURE TAPER.



LEGEND

- /● DRUM WITH/WITHOUT WARNING LIGHT, TYPE C (STEADY-BURN)
- ⌋ POST MOUNTED SIGN
- ↑ ARROW BOARD
- IC/C TYPE III BARRICADE (8' EQUIVALENT) AND WARNING LIGHTS, TYPE A (FLASHING) WITH/WITHOUT SIGN
- DIRECTION OF TRAFFIC FLOW
- x x x x REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)

GENERAL NOTES

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS.

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

W20-1, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

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

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

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

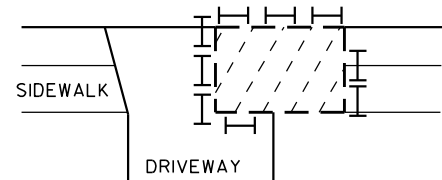
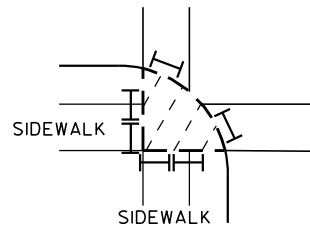
**TRAFFIC CONTROL,  
SINGLE LANE CLOSURE,  
NON-FREEWAY/EXPRESSWAY**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
5/23/00 /S/ Chester J. Spang  
DATE CHIEF SIGNS AND MARKING ENGINEER

FHWA

WARNING OF LOCALIZED SIDEWALK WORK AREAS

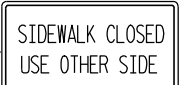
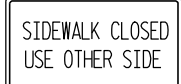


6

6

200' TYP.

IF WORK AREA ENCROACHES INTO THE ROADWAY, SEE OTHER TRAFFIC CONTROL DETAILS FOR ADDITIONAL TRAFFIC CONTROL



LEGEND

- POST MOUNTED SIGN
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- WORK AREA
- DIRECTION OF TRAFFIC FLOW

GENERAL NOTES :

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS, IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

\* "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.

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

TRAFFIC CONTROL, SIDEWALK CLOSURE

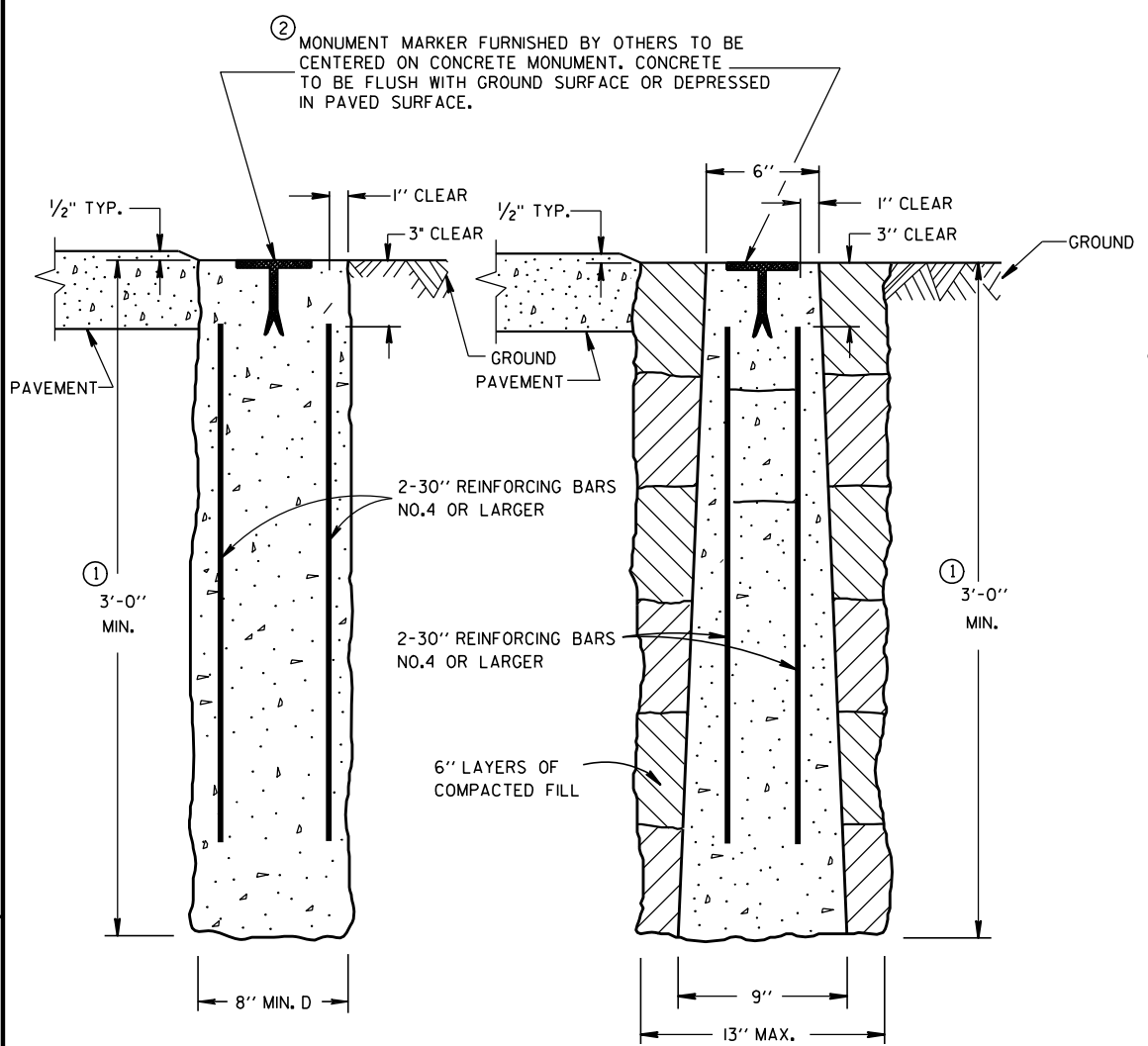
TRAFFIC CONTROL, SIDEWALK CLOSURE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

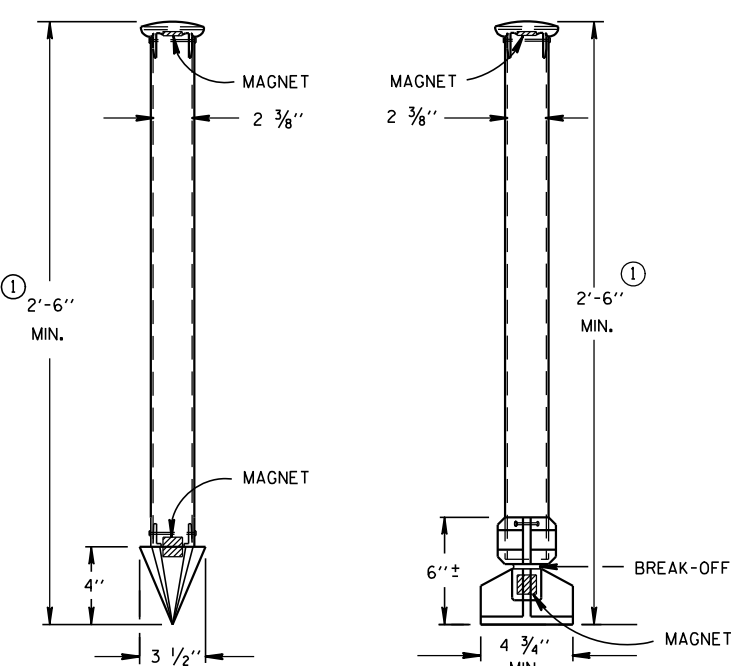
APPROVED  
5/23/2000 /S/ Chester J. Spang  
DATE CHIEF SIGNS AND MARKING ENGINEER  
FHWA

S.D.D. 15 D 30-1

S.D.D. 15 D 30-1



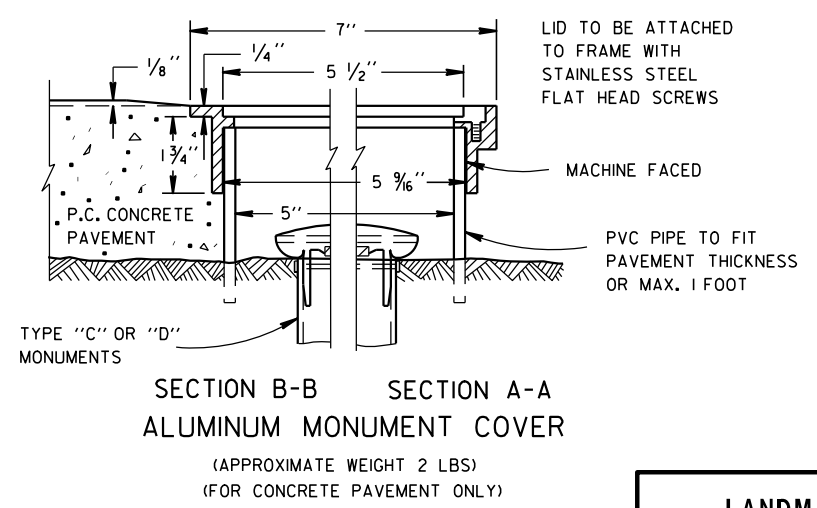
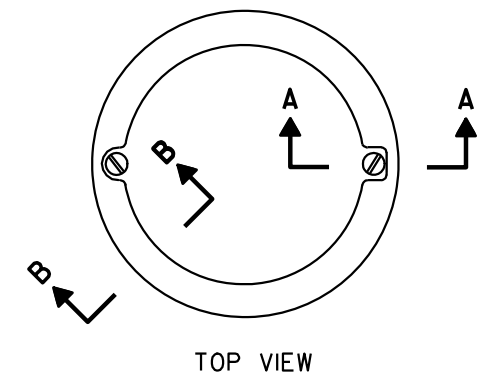
CAST-IN-PLACE  
PRECAST  
CONCRETE MONUMENTS  
TYPE A



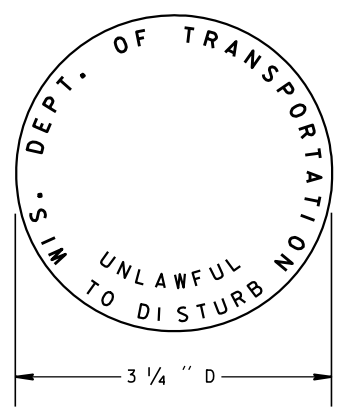
TYPE C  
DRIVE-IN MONUMENT  
TYPE D  
BREAK-OFF MONUMENT  
ALUMINUM MONUMENTS  
(INCLUDES MARKER)

GENERAL NOTES

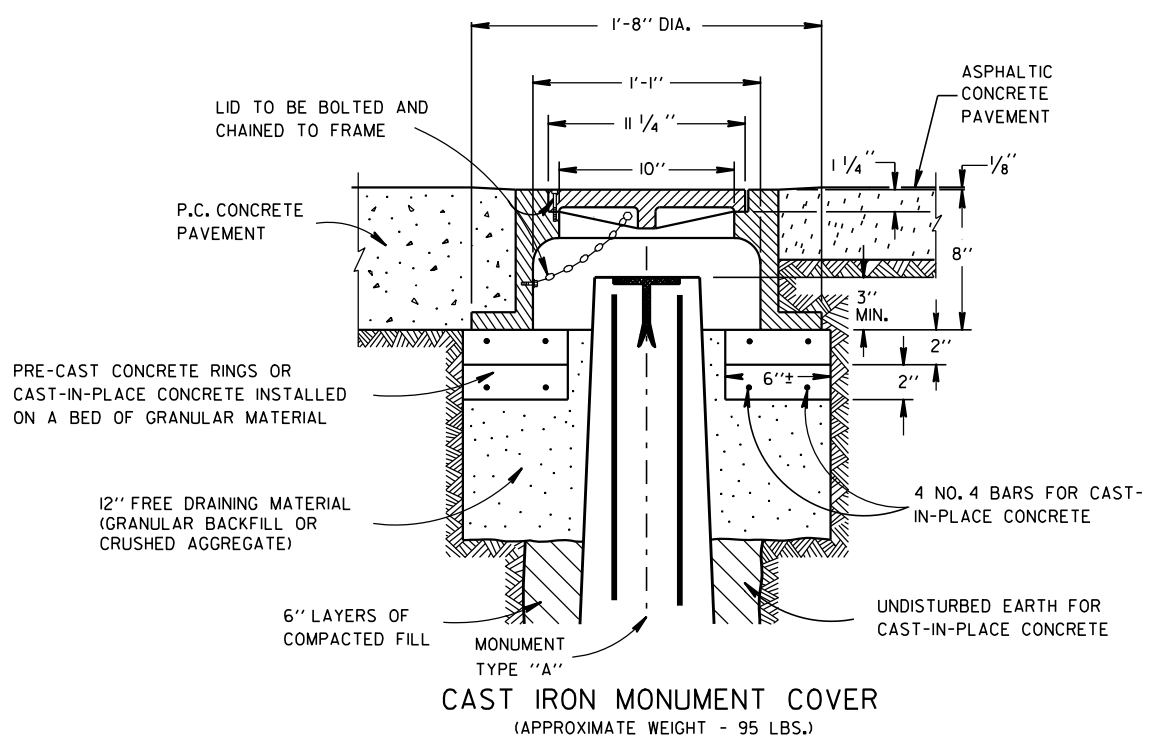
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- DETAILED DRAWINGS OF PROPOSED ALTERNATE DESIGNS FOR METAL MONUMENTS OR MONUMENT COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
- INSTALLED METAL MONUMENTS MUST BE EASILY DETECTED WITH A DIP NEEDLE. INSERT PERMANENT MAGNETS SHALL BE ATTACHED NEAR THE TOP AND BOTTOM OF THOSE MONUMENTS CONSTRUCTED OF A METAL ALLOY WHICH IS NOT ATTRACTIVE TO A DIP NEEDLE.
- THE CAST IRON MONUMENT COVER SHALL BE A "NON-ROCKING" TYPE. ADJUSTMENT OF THE COVER TO GRADE MAY BE ACCOMPLISHED BY THE USE OF MORTAR AND BRICK, OR BY EITHER PRECAST OR CAST-IN-PLACE REINFORCED CONCRETE GRADE RINGS.
- MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE ENGINEER.
- ALUMINUM MONUMENTS AND MONUMENT COVERS SHALL BE MADE FROM AN ALUMINUM AND MAGNESIUM ALLOY AS DETERMINED BY THE MANUFACTURER.
- THE MONUMENT COVERS DETAILED ON THIS DRAWING ARE NOT EQUAL ALTERNATES. MONUMENT COVERS SHALL BE CAST IRON UNLESS ALUMINUM IS SPECIFIED ELSEWHERE IN THE CONTRACT.
- MONUMENT SHALL BE CAST-IN-PLACE CONCRETE UNLESS PRECAST CONCRETE OR ALUMINUM MONUMENTS ARE SPECIFIED IN THE CONTRACT OR PERMITTED BY THE ENGINEER.
- ① MINIMUM LENGTH SHALL BE 4'-0" FOR MONUMENTS INSTALLED IN PAVED AREAS.
- ② AN OFFICIAL COUNTY MONUMENT MARKER SUPPLIED BY A COUNTY MAY BE REQUIRED FOR SOME SECTION CORNERS AND WITNESS MONUMENTS INSTEAD OF THIS WIS DOT MARKER.



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



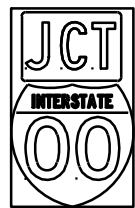
② WIS DOT MONUMENT MARKER LOGO  
FOR TYPES "A", "C" & "D"



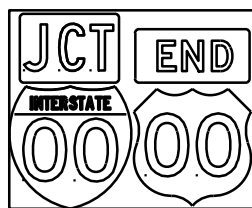
CAST IRON MONUMENT COVER  
(APPROXIMATE WEIGHT - 95 LBS.)

LANDMARK REFERENCE MONUMENTS AND COVERS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 9/22/1999 DATE	/s/ Rory L. Rhinesmith CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

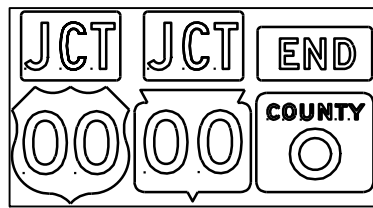
# TYPICAL ASSEMBLIES



J1-1



J1-2



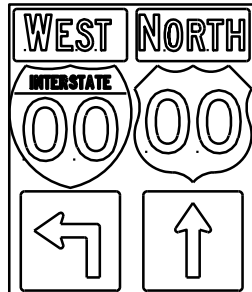
J1-3



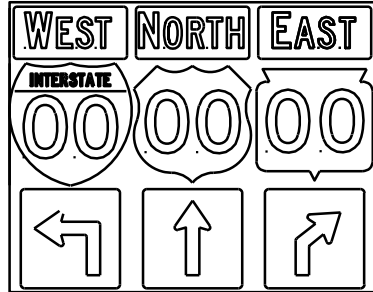
JV



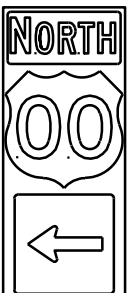
J2-1



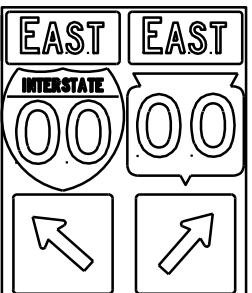
J2-2



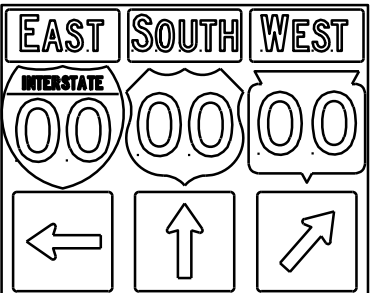
J2-3



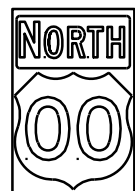
J3-1



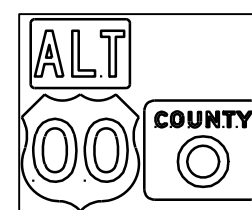
J3-2



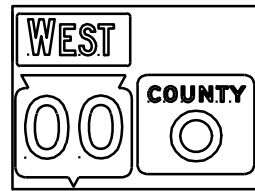
J3-3



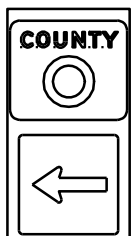
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1

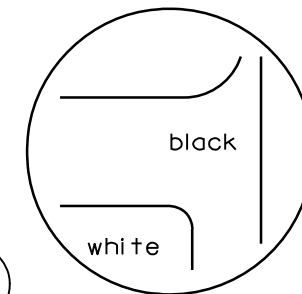
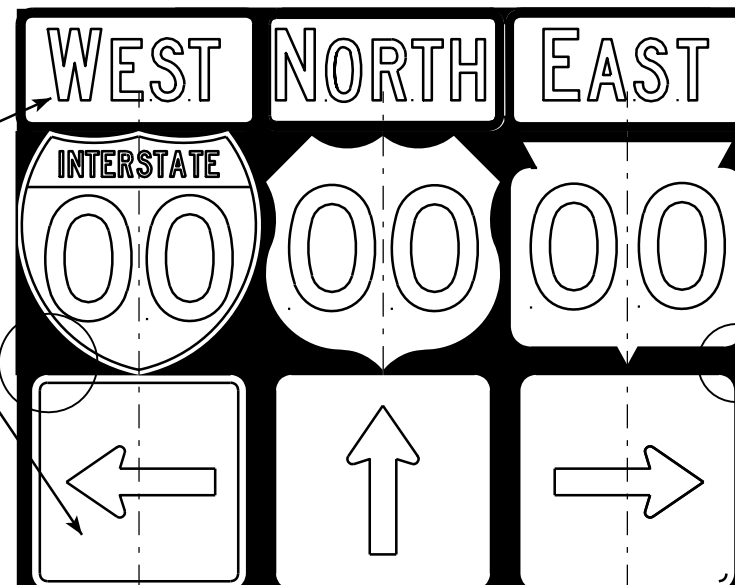
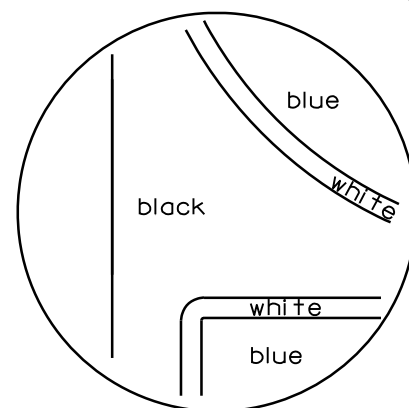


J23-1



J22-1

[blue background with interstate]

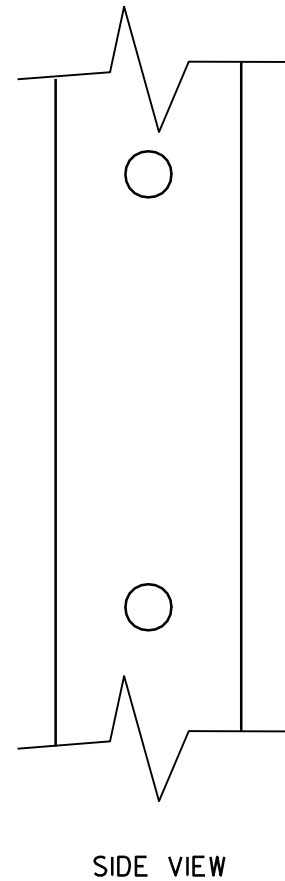
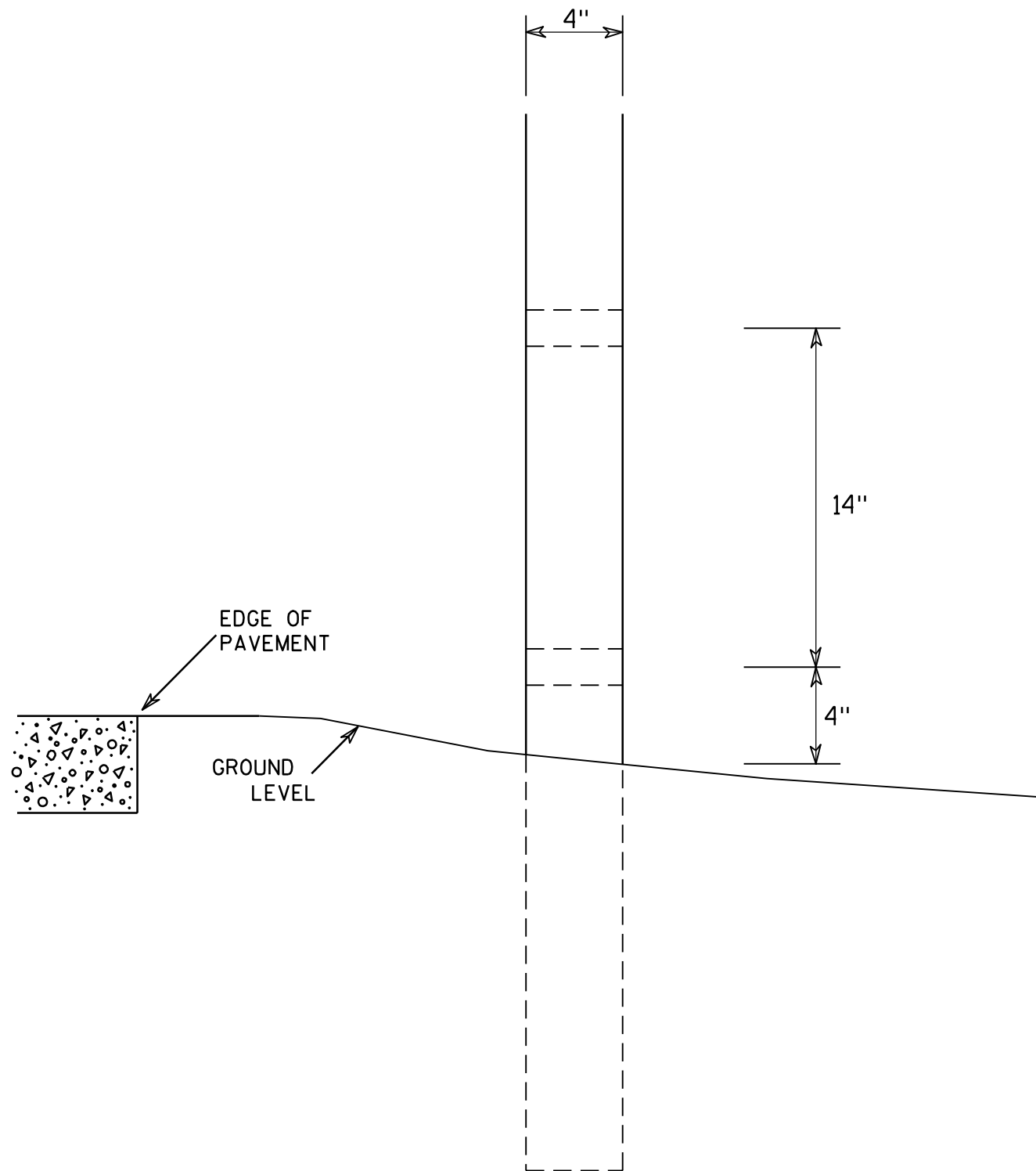


[black background]

## NOTES

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

ROUTE MARKERS & COMPONENTS IN TYPICAL ASSEMBLIES	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 10/21/09	PLATE NO. A2-1S.6



GENERAL NOTES

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

7

7

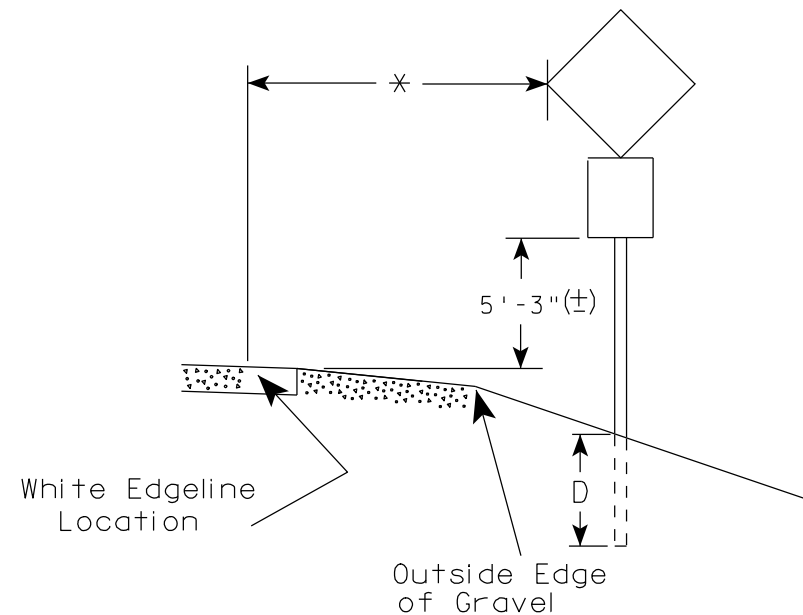
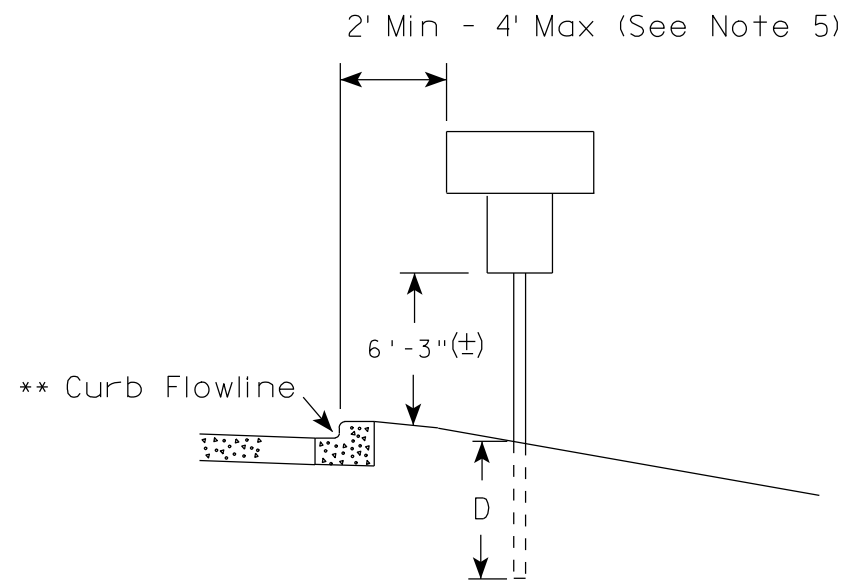
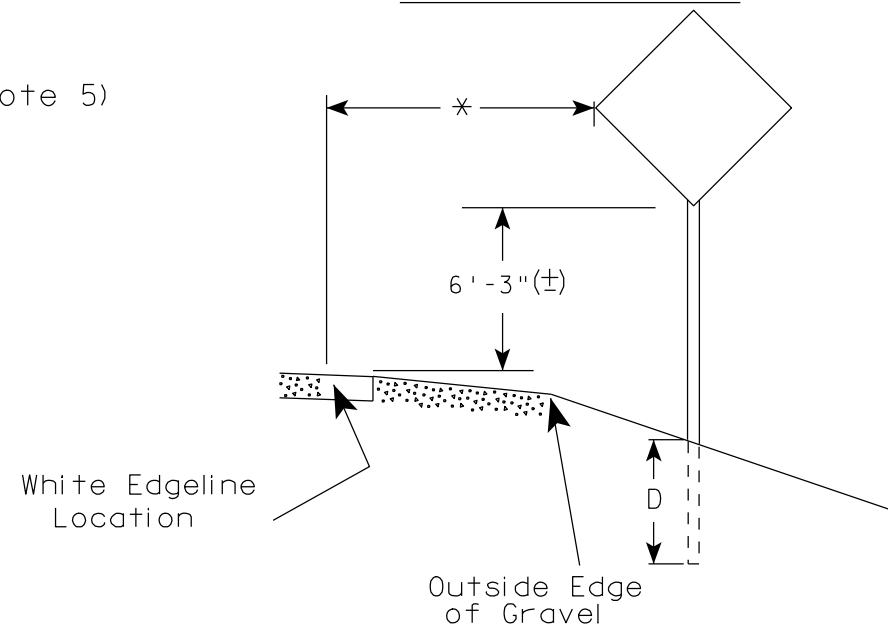
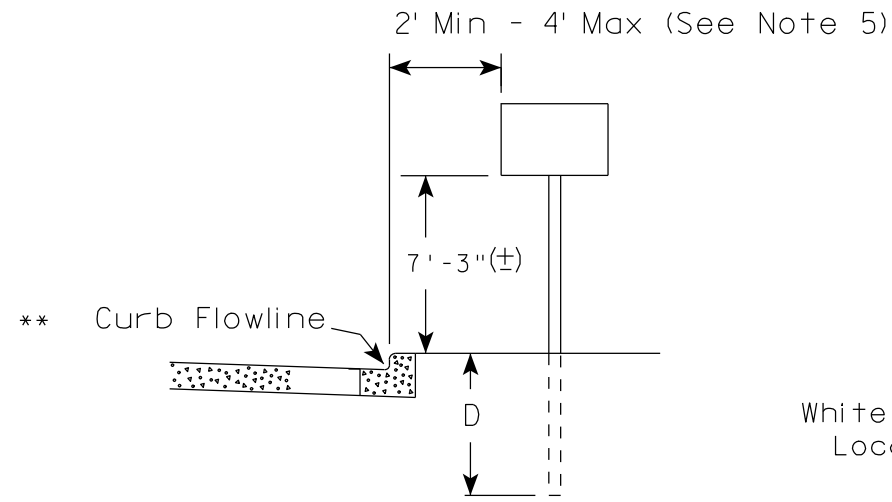
<b>4 X 6 WOOD POST MODIFICATIONS</b>	
<i>WISCONSIN DEPT OF TRANSPORTATION</i>	
APPROVED	<i>Chester J Spang</i> for State Traffic Engineer
DATE <u>3/27/97</u>	PLATE NO. <u>A4-11.2</u>

GENERAL NOTES

URBAN AREA

RURAL AREA (See Note 2)

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



POST EMBEDMENT DEPTH

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

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

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

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 9/21/2011 PLATE NO. A4-3.16

**GENERAL NOTES**

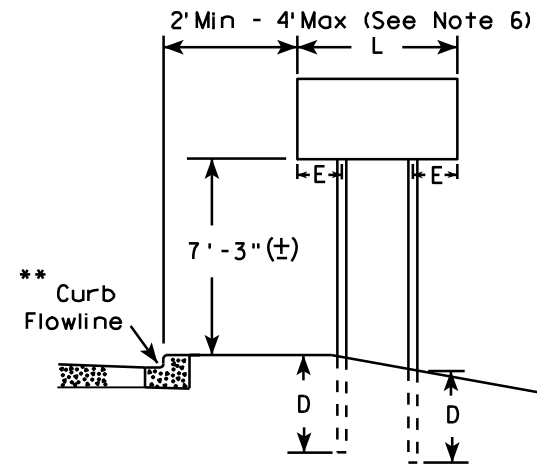
1. For multiple post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (±).

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

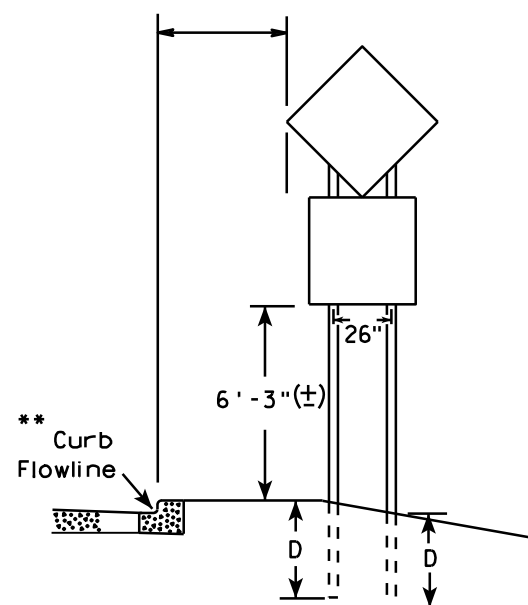
\*\* The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of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

\*\*\* See A4-3 sign plate for signs 4' or less in width or 20 S.F. or less in area.

**URBAN AREA**

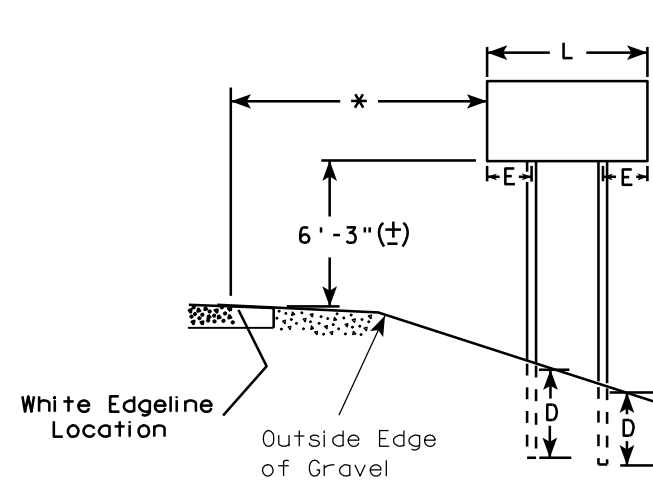


2' Min - 4' Max (See Note 6)



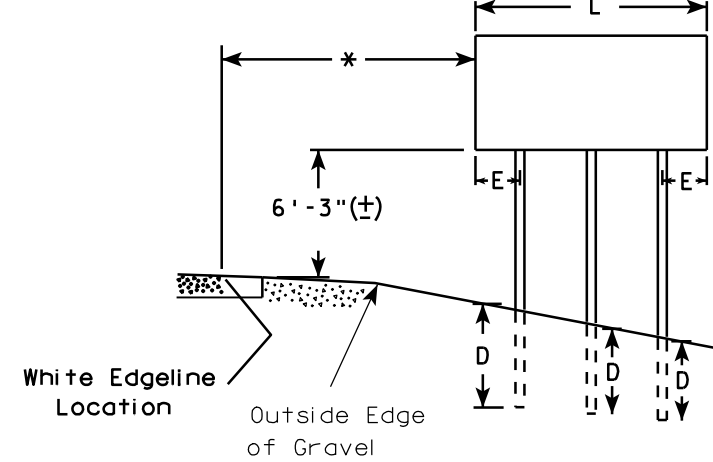
**48" DIAMOND WARNING SIGN**

**RURAL AREA (See Note 3)**



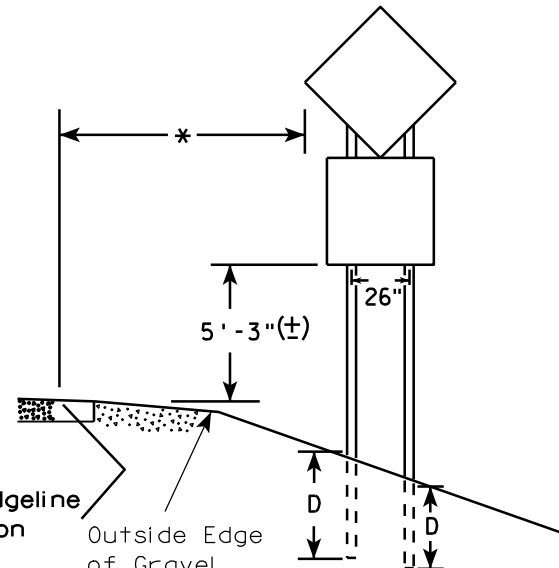
White Edgeline Location

Outside Edge of Gravel



White Edgeline Location

Outside Edge of Gravel



**48" DIAMOND WARNING SIGN**

\*\*\*

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

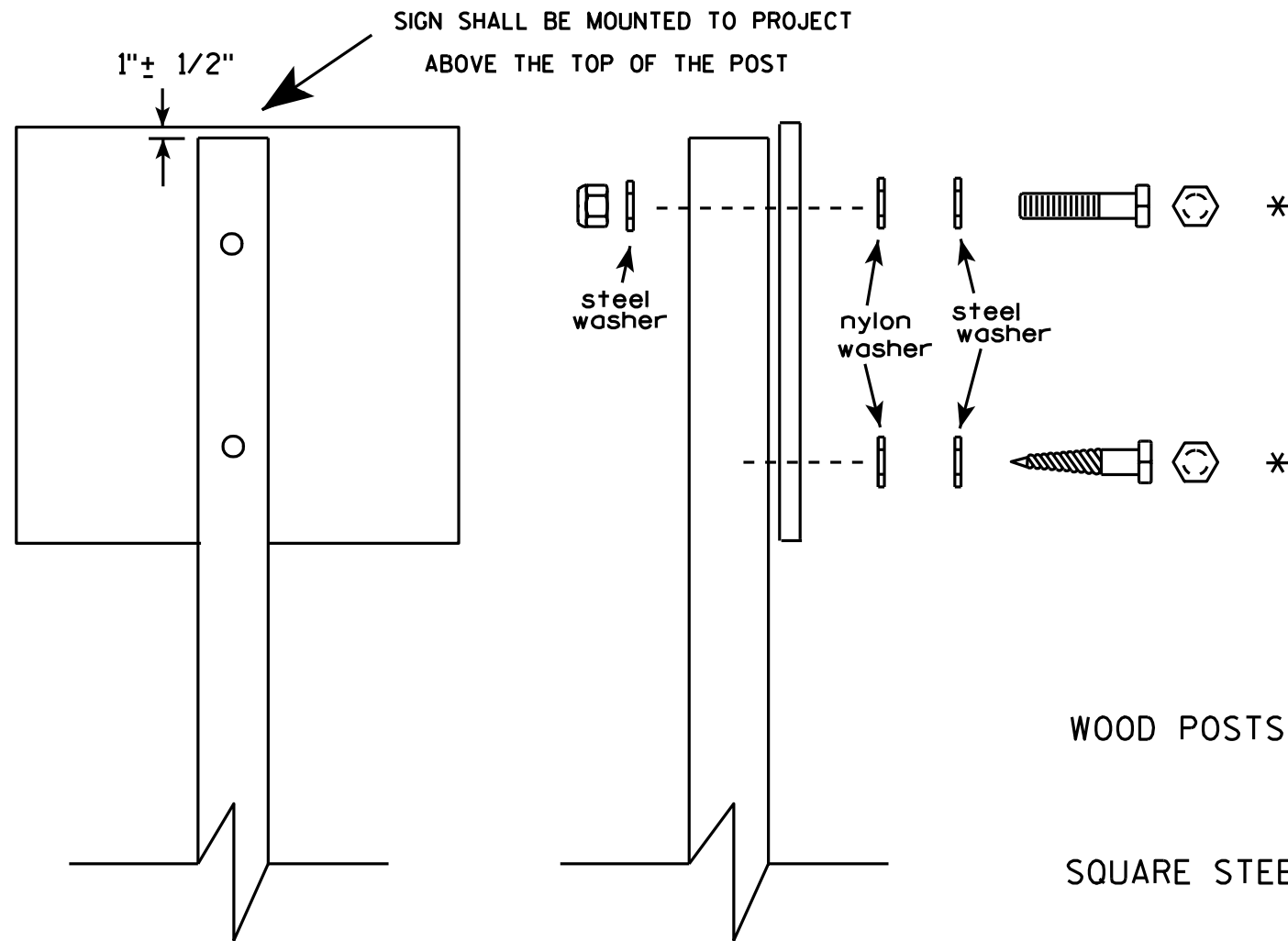
SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

**POST EMBEDMENT DEPTH**

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 9/21/2011	PLATE NO. A4-4.11



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

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

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

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL

O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.

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

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

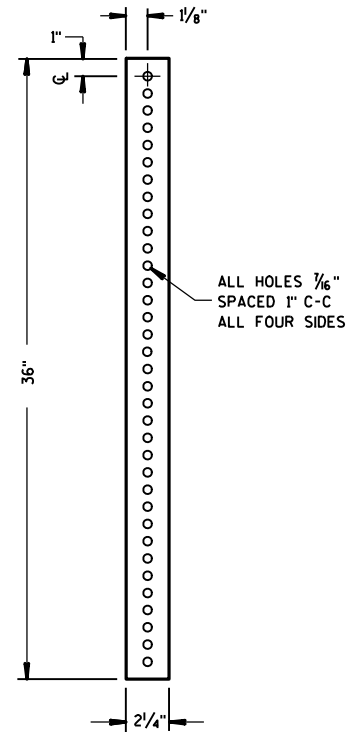
APPROVED *Matthew R Rauch*  
For State Traffic Engineer

DATE 3/23/10 PLATE NO. A4-8.7

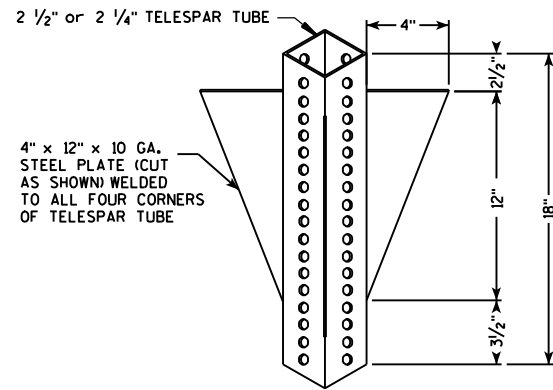


**TELESCOPIC TUBING ANCHORS  
TWO PIECE SYSTEM**

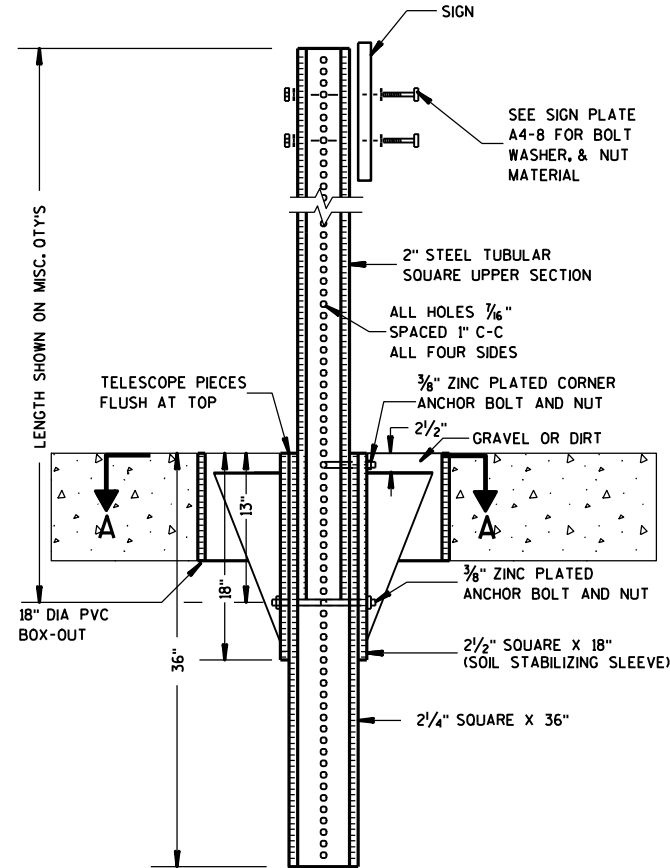
2 1/4" SQUARE  
12 GAUGE  
PERFORATED  
GALVANIZED FINISH



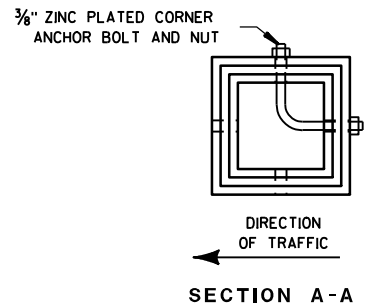
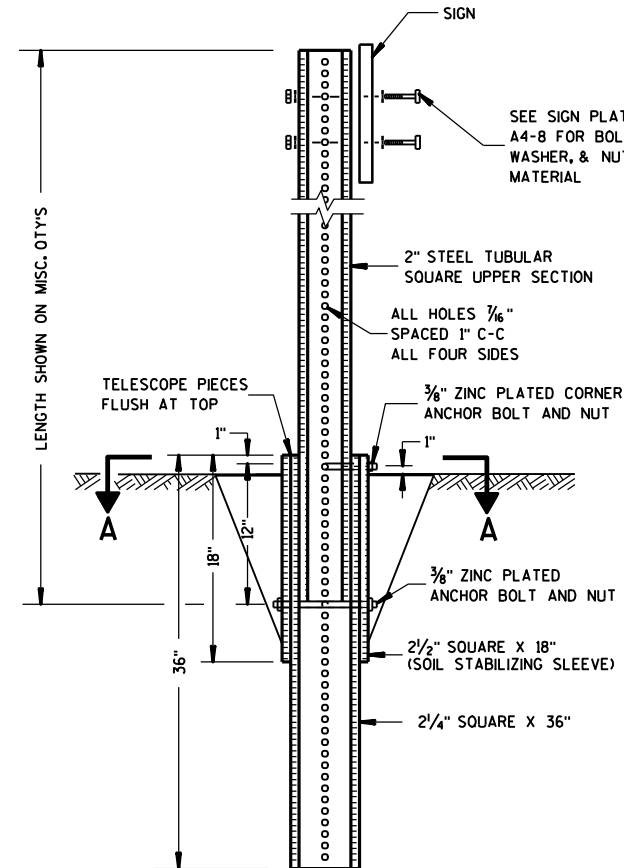
2 1/2" SQUARE  
12 GAUGE  
OMNI-DIRECTIONAL  
PERFORATED  
SOIL STABILIZING SLEEVE  
GALVANIZED FINISH



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



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



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

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

**TUBULAR STEEL  
SIGN POST  
A4-9**

WISCONSIN DEPT OF TRANSPORTATION  
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer  
DATE 5/30/12 PLATE NO. A4-9.7

PROJECT NO:

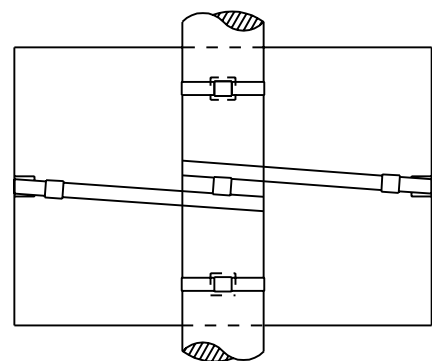
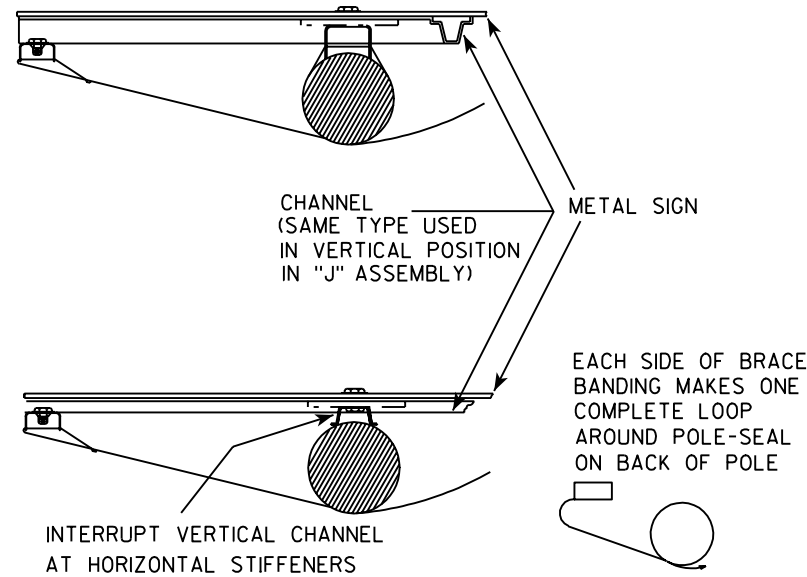
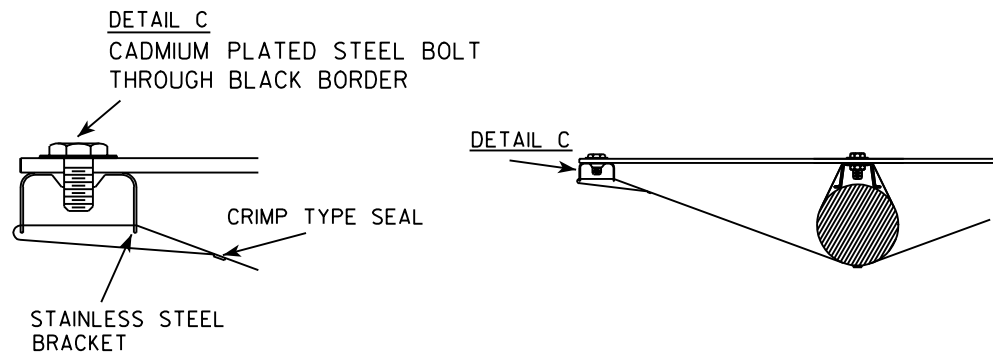
HWY:

COUNTY:

SHEET NO:

E

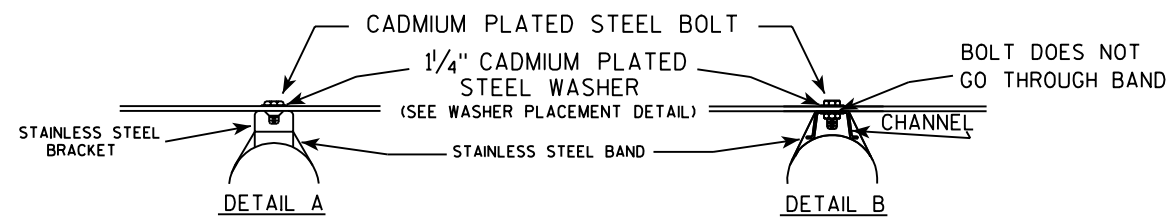
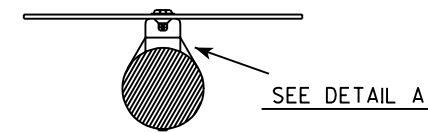
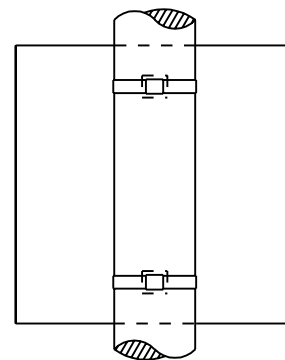
BRACE BANDING



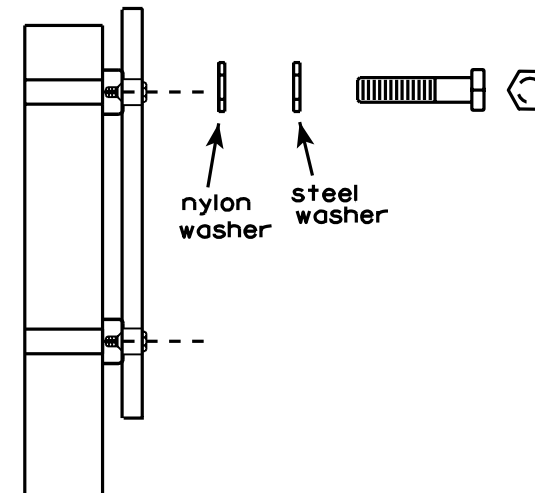
BRACE BANDING SHALL BE TIGHTENED FIRMLY BUT NOT SO TIGHT AS TO APPRECIABLY CURVE FACE OF SIGN.

BRACKET BANDING

SINGLE SIGN



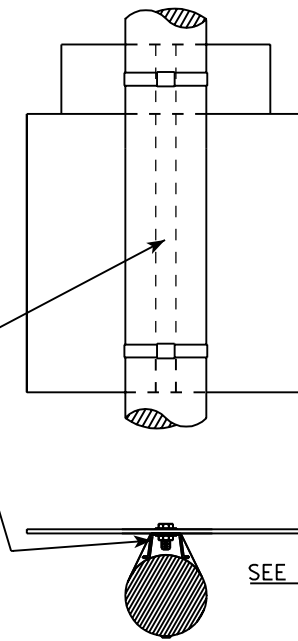
WASHER PLACEMENT



WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL  
1-1/4" O.D. X 3/8" I.D. X .080 NYLON  
FOR ALL TYPE H SIGNS

"J" ASSEMBLY



GENERAL NOTES

1. Signs 4' or greater in width shall have one brace band installed at the center of the sign.
2. Signs 3' or greater in height shall have three bracket bands installed. Signs less than 3' in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.

STANDARD SIGN  
SIGN BANDING DETAILS

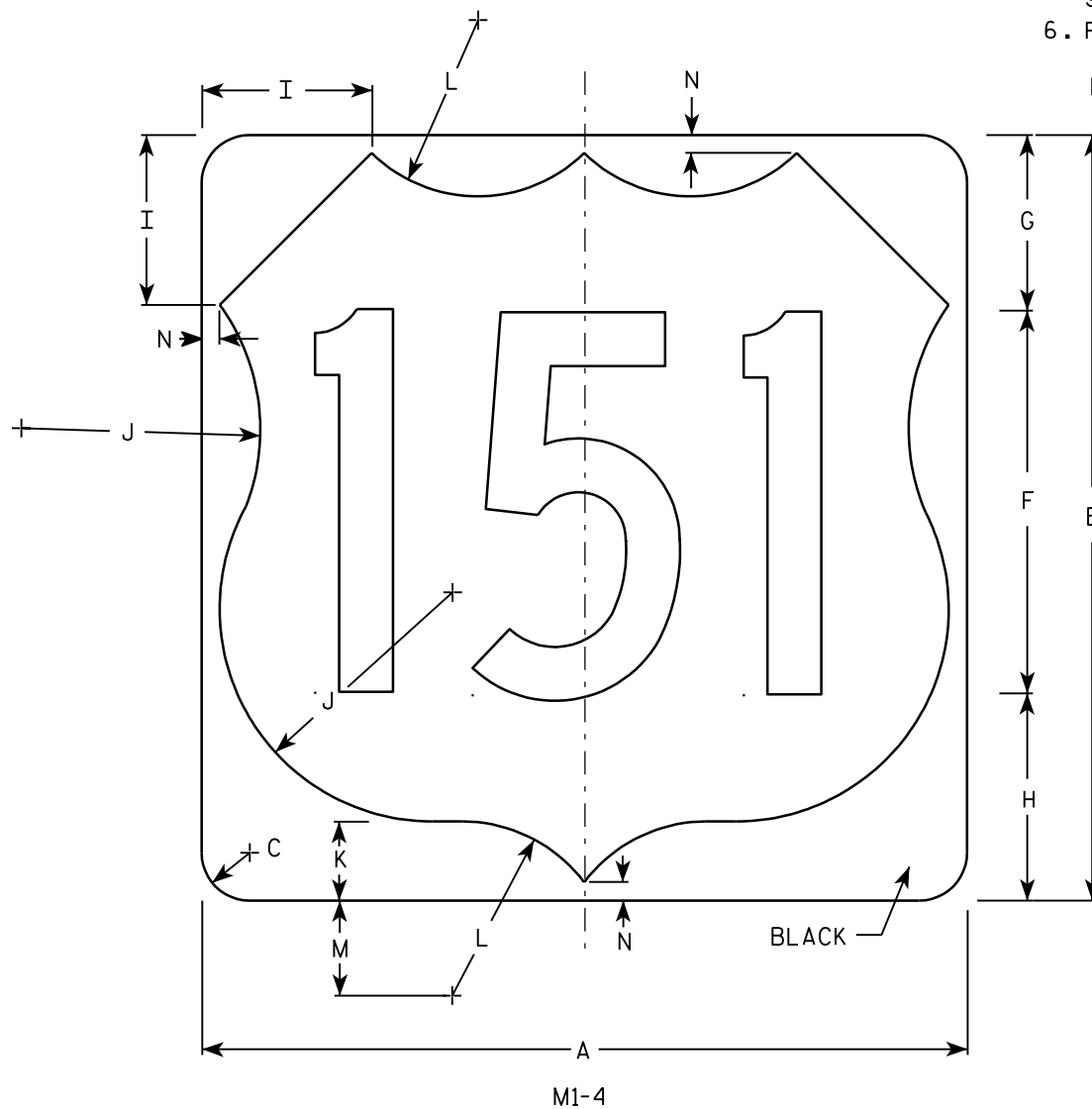
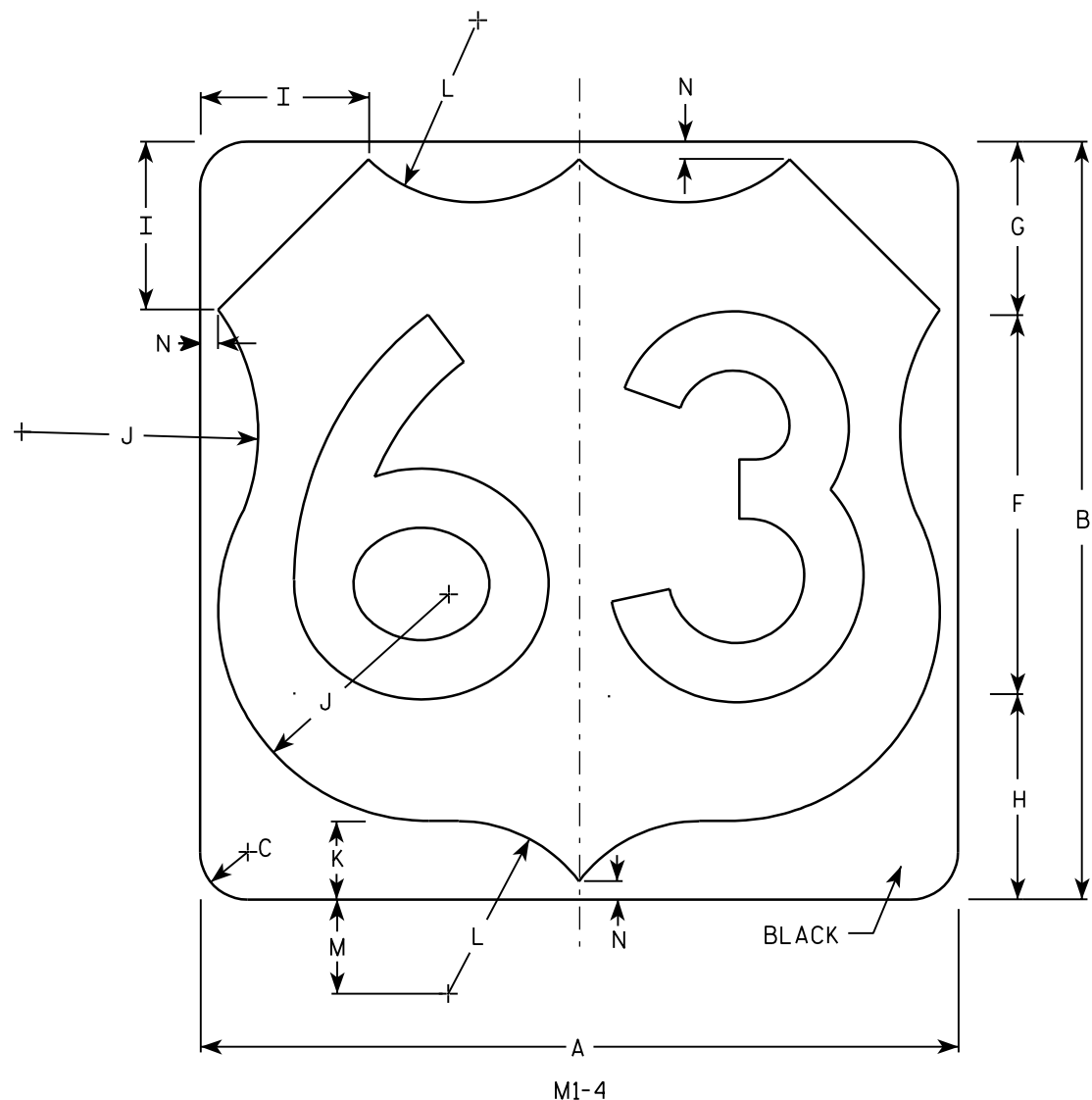
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 11/08/05 PLATE NO. A5-9.2

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White & Black - See Note 6  
Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and adjust spacing as per Plate A10-1.
6. Permanent Signs  
Background - Type H Reflective  
Detour or other temporary signs  
Background - Reflective



Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m <sup>2</sup>
1																												
2	24	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0	.36
3	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
4	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
5	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81

USH MARKER  
M1-4 FOR ASSEMBLIES

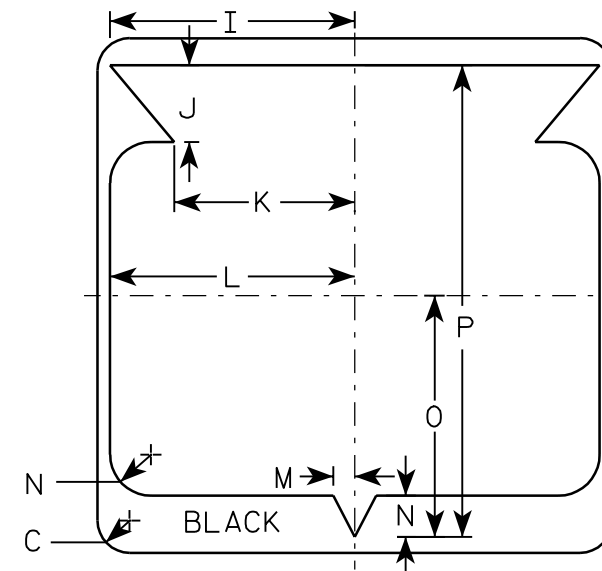
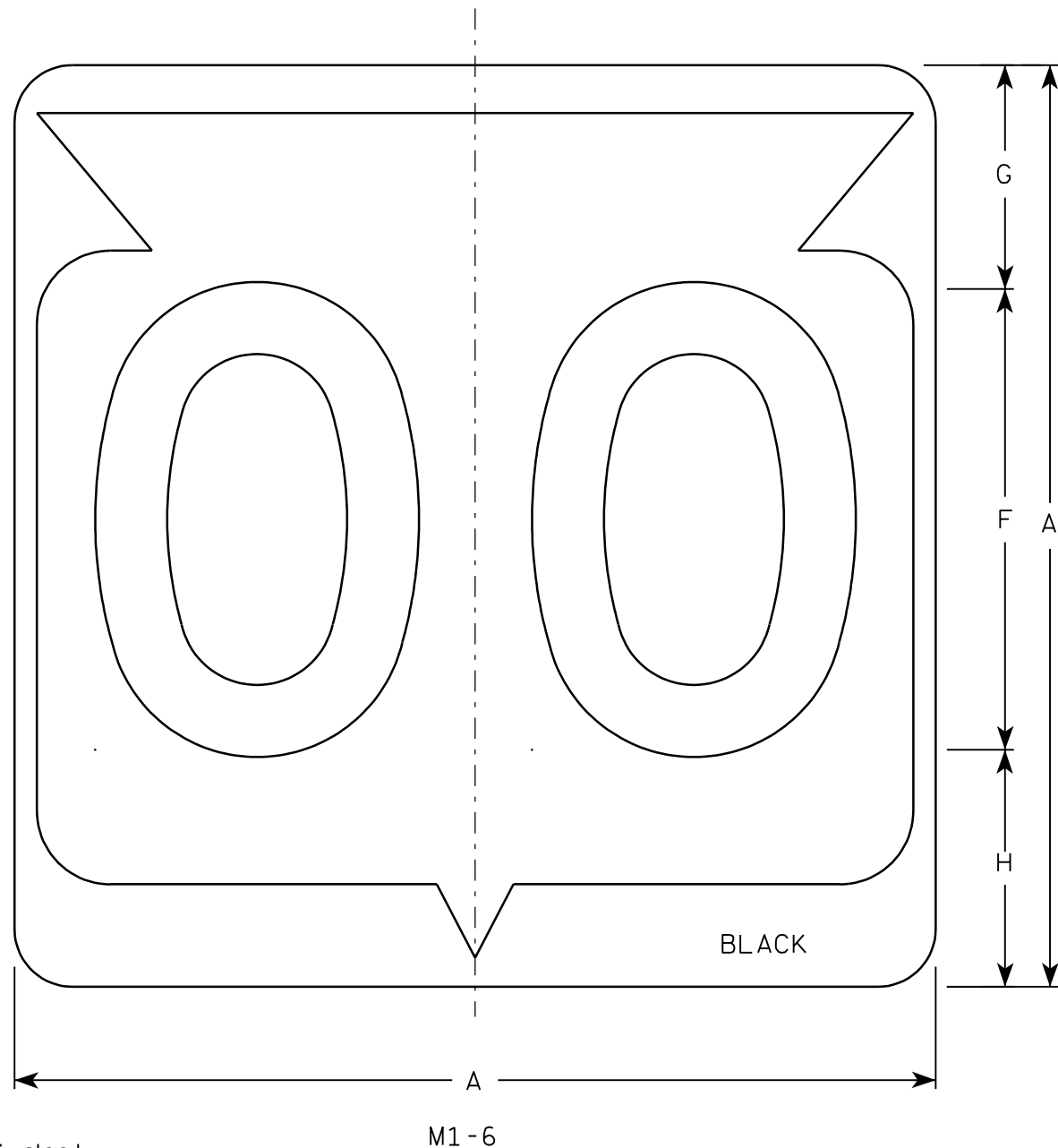
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 08/25/05 PLATE NO. M1-4.9

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White & Black - See Note 6  
Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs  
Background - Type H Reflective  
Detour or temporary Signs  
Background - Reflective



7

Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m <sup>2</sup>
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

STATE ROUTE MARKER  
M1-6 FOR ASSEMBLIES

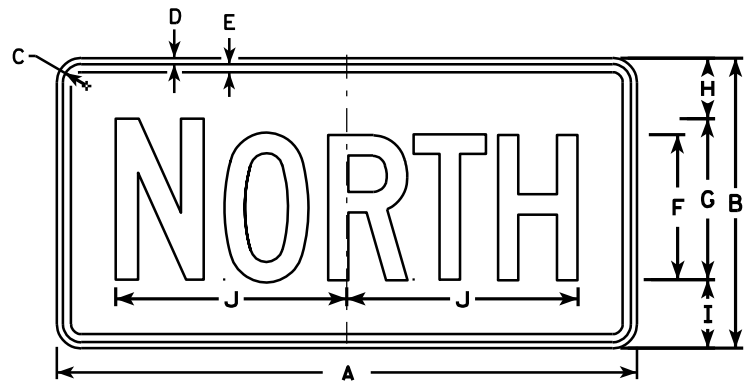
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Chester J. Spang*  
for State Traffic Engineer

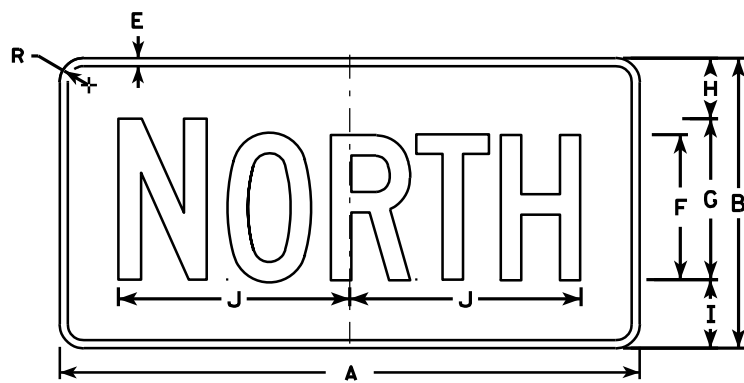
DATE 3/20/02 PLATE NO. M1-6.9

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

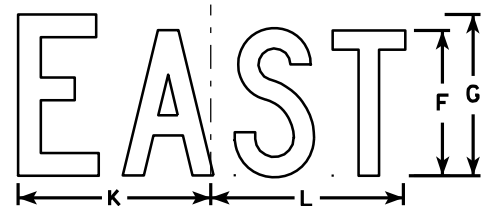
7



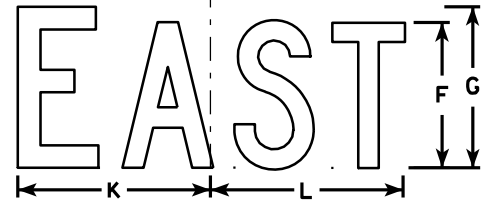
M3-1  
MK3-1  
M03-1



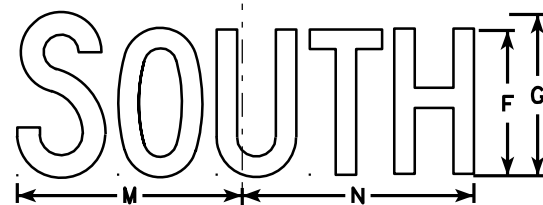
MB3-1  
MG3-1  
MM3-1  
MN3-1



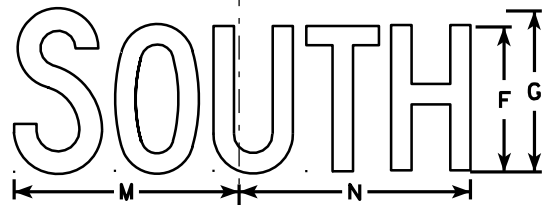
M3-2  
MK3-2  
M03-2



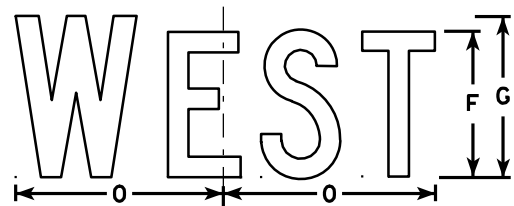
MB3-2  
MG3-2  
MM3-2  
MN3-2



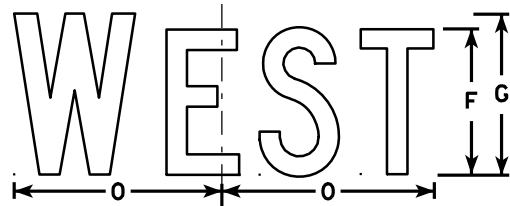
M3-3  
MK3-3  
M03-3



MB3-3  
MG3-3  
MM3-3  
MN3-3



M3-4  
MK3-4  
M03-4



MB3-4  
MG3-4  
MM3-4  
MN3-4

NOTES

- All Signs Type II - See Note 5 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:  
Background - See note 5  
Message - See note 5
- Message Series - C
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M3-1 thru M3-4 Background - White - Type H Reflective (Detour or temporary signs - Reflective)  
Message - Black  
MB3-1 thru MB3-4 Background - Blue  
Message - White - Type H Reflective (Detour or temporary signs - Reflective)  
MG3-1 thru MG3-4 Background - Green  
Message - White - Type H Reflective  
MK3-1 thru MK3-4 Background - Green  
Message - White - Type H Reflective  
MM3-1 thru MM3-4 Background - White - Type H Reflective  
Message - Green  
MN3-1 thru MN3-4 Background - Brown  
Message - White - Type H Reflective  
M03-1 thru M03-4 Background - Orange - Reflective  
Message - Black
- Note the first letter of each direction is larger than the remainder of the message.

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	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	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

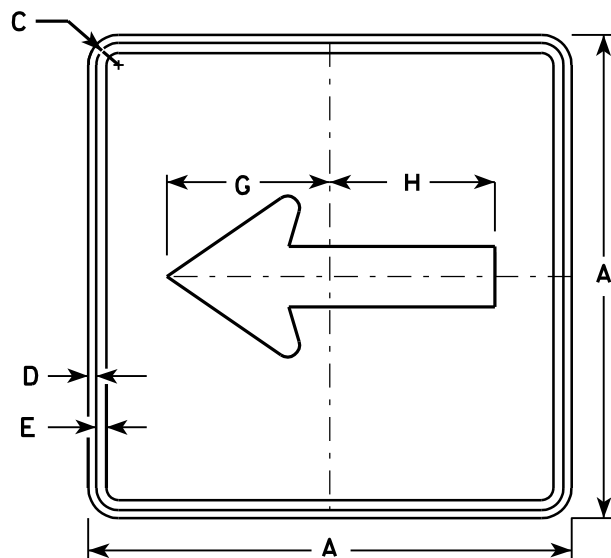
STANDARD SIGNS  
M3-1 thru M3-4  
SERIES

WISCONSIN DEPT OF TRANSPORTATION

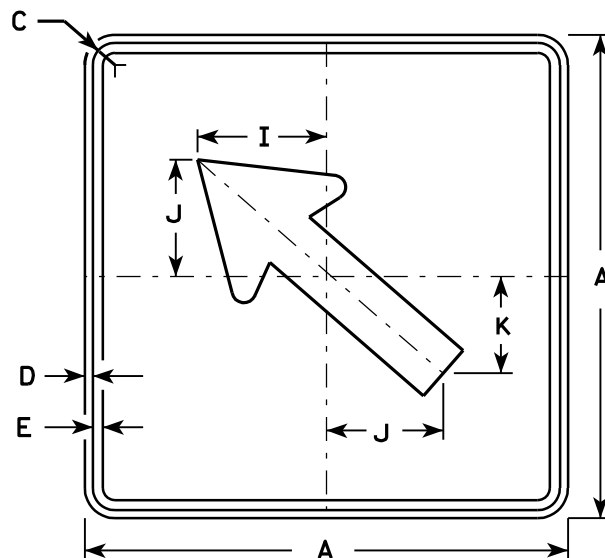
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 11/10/10 PLATE NO. M3-1.12

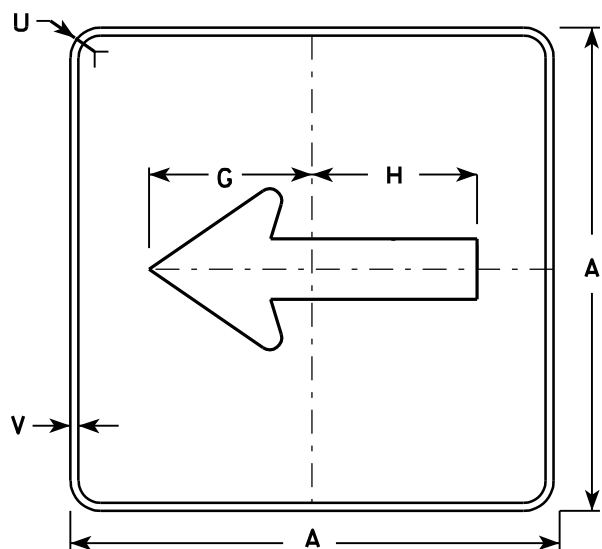
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**



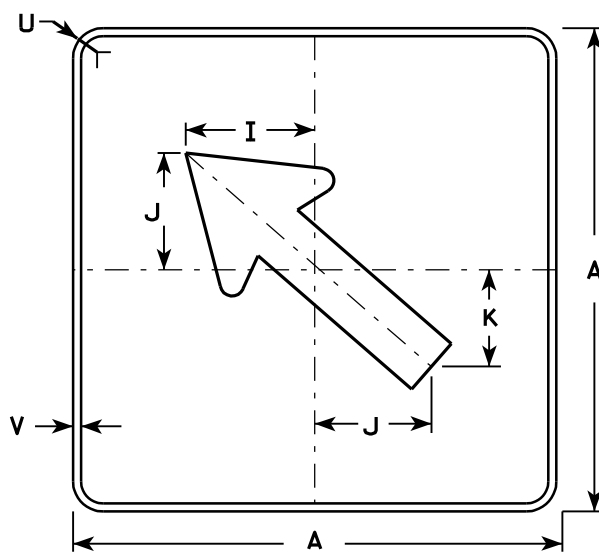
M6-1  
MK6-1  
MM6-1  
MO6-1  
MR6-1



M6-2  
MK6-2  
MM6-2  
MO6-2  
MR6-2



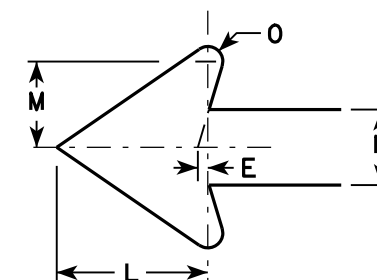
MB6-1  
MG6-1  
MN6-1



MB6-2  
MG6-2  
MN6-2

**NOTES**

- Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:  
Background - See note 4  
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M6-1 and M6-2 Background - White - Type H Reflective (Detour or temporary Signs - Reflective)  
Message - Black  
MB6-1 and MB6-2 Background - Blue  
Message - White - Type H Reflective (Detour or temporary Signs - Reflective)  
MG6-1 and MG6-2 Background - Green  
Message - White - Type H Reflective  
MK6-1 and MK6-2 Background - Green  
Message - White - Type H Reflective  
MM6-1 and MM6-2 Background - White - Type H Reflective  
Message - Green  
MN6-1 and MN6-2 Background - Brown  
Message - White - Type H Reflective  
MO6-1 and MO6-2 Background - Orange - Reflective  
Message - Black  
MR6-1 and MR6-2 Background - Brown  
Message - Yellow - Type H Reflective



7

Metric equivalent for this sign is:

SIZE	
1	
2	525 mm X 525 mm
3	750 mm X 750 mm
4	750 mm X 750 mm
5	750 mm X 750 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m <sup>2</sup>
1																												
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06	0.28
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25	0.56
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25	0.56
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25	0.56

**STANDARD SIGN  
M6-1 & M6-2  
SERIES**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/16/10 PLATE NO. M6-1.12

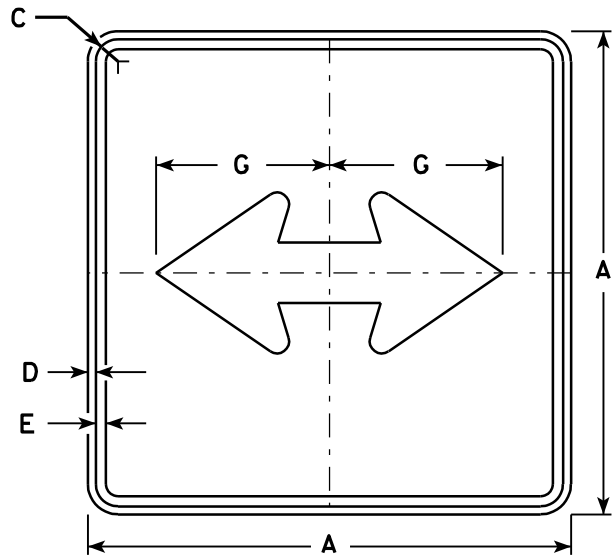
PROJECT NO:

HWY:

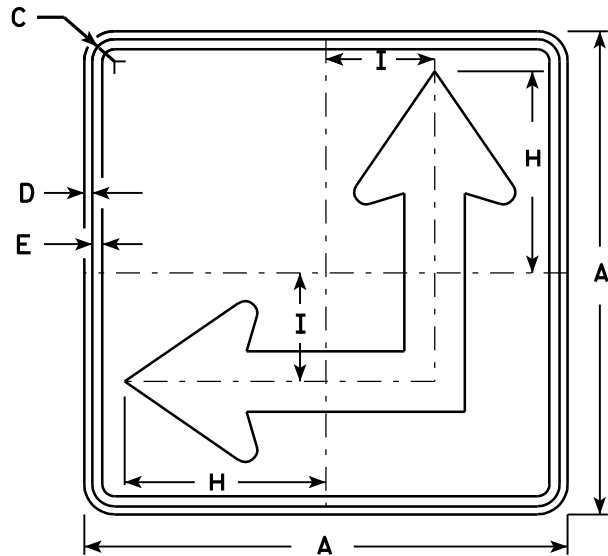
COUNTY:

SHEET NO:

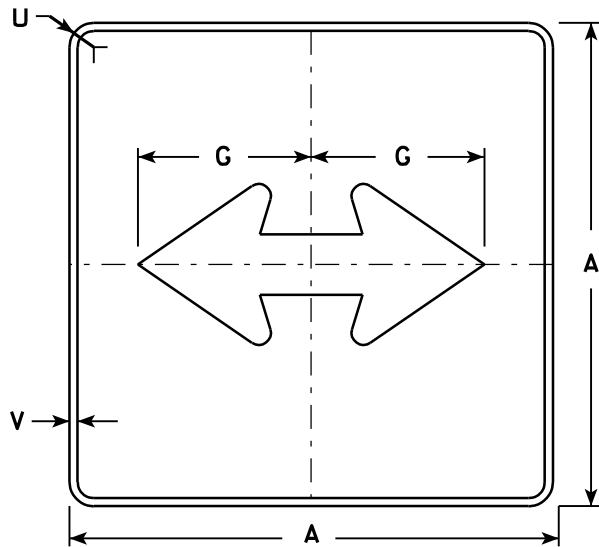
E



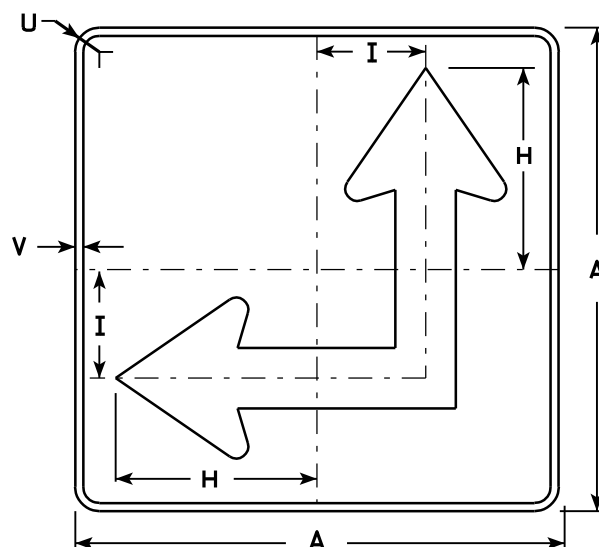
M6-4  
MK6-4  
MM6-4  
MO6-4  
MR6-4



M6-6  
MK6-6  
MM6-6  
MO6-6  
MR6-6



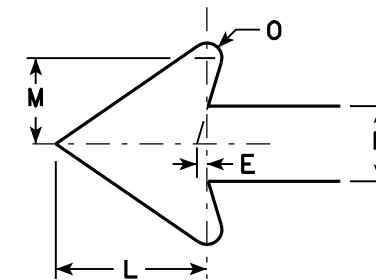
MB6-4  
MG6-4  
MN6-4



MB6-6  
MG6-6  
MN6-6

**NOTES**

- Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:  
Background - See Note 4  
Message - See Note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M6-4 and M6-6 Background - White - Type H Reflective  
(Detour or temporary Signs - Reflective)  
Message - Black  
MB6-4 and MB6-6 Background - Blue  
Message - White - Type H Reflective  
(Detour or temporary Signs - Reflective)  
MG6-4 and MG6-6 Background - Green  
Message - White - Type H Reflective  
MK6-4 and MK6-6 Background - Green  
Message - White - Type H Reflective  
MM6-4 and MM6-6 Background - White - Type H Reflective  
Message - Green  
MN6-4 and MN6-6 Background - Brown  
Message - White - Type H Reflective  
MO6-4 and MO6-6 Background - Orange - Reflective  
Message - Black  
MR6-4 and MR6-6 Background - Brown  
Message - Yellow - Type H Reflective
- M6-6R same as M6-6L except arrow points ahead and right.



7

7

Metric equivalent for this sign is:

SIZE	
1	
2	525 mm X 525 mm
3	750 mm X 750 mm
4	750 mm X 750 mm
5	750 mm X 750 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m <sup>2</sup>
1																												
2	21		1 1/8	3/8	3/8		7 1/2	8 3/4	4 1/4			5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06	0.28
3	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25	0.56
4	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25	0.56
5	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25	0.56

**STANDARD SIGN**  
**M6-4 & M6-6**  
**SERIES**

WISCONSIN DEPT OF TRANSPORTATION

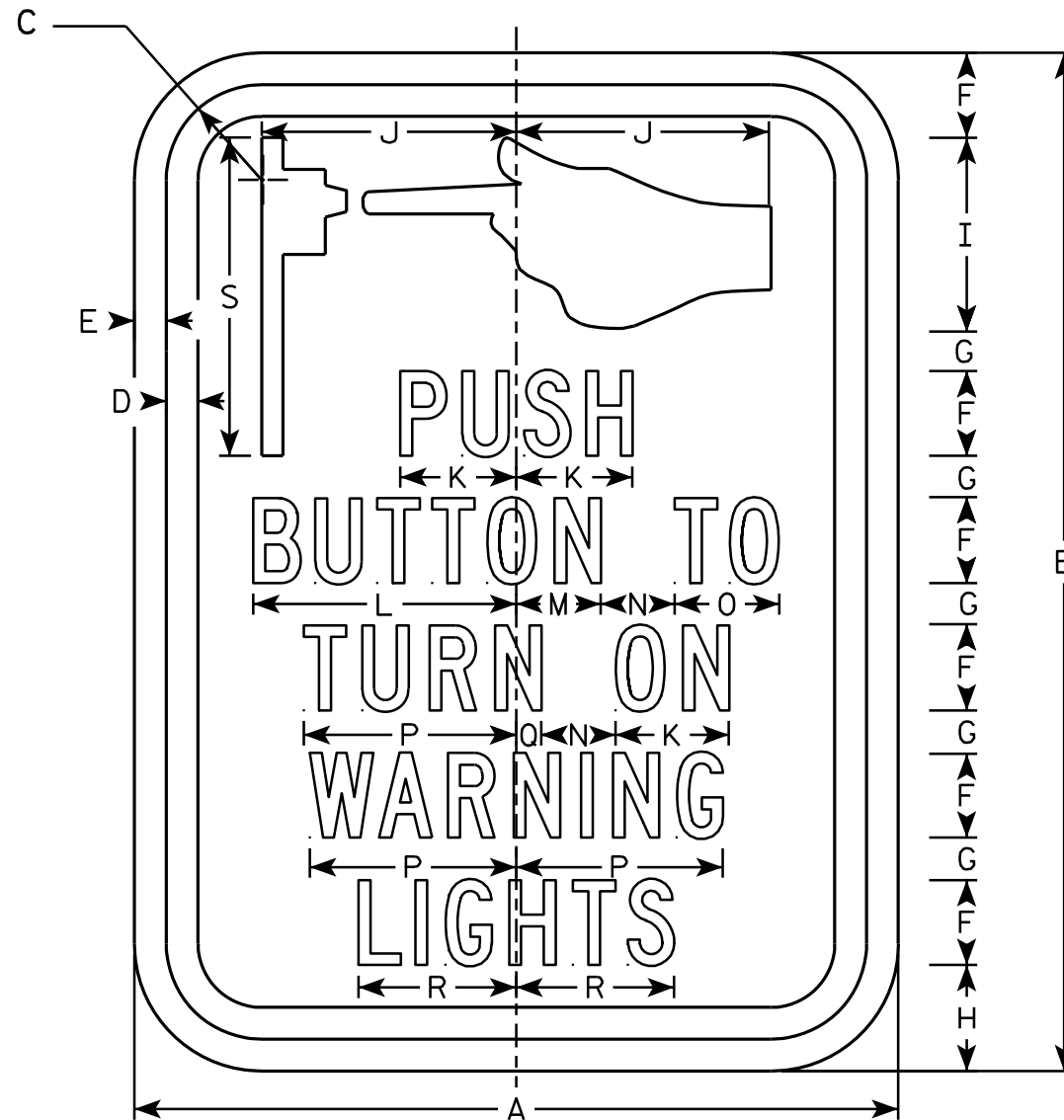
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/16/10 PLATE NO. M6-4.7

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E

**NOTES**

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - 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.
5. Size (1) comes as a decal only.



R10-25

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	6	9	1 1/8	3/8	3/8	3/4	3/8	1	1 3/4	2	7/8	2 1/8	5/8	5/8	7/8	1 5/8	1/4	1 1/4	2 7/8								.38
2S	9	12	1 1/8	3/8	3/8	1	1/2	1 1/4	2 1/4	3	1 3/8	3 1/8	1	7/8	1 1/4	2 1/2	1/4	1 7/8	3 3/4								.75
2M	9	12	1 1/8	3/8	3/8	1	1/2	1 1/4	2 1/4	3	1 3/8	3 1/8	1	7/8	1 1/4	2 1/2	1/4	1 7/8	3 3/4								.75
3																											
4																											
5																											

**STANDARD SIGN**  
R10-25

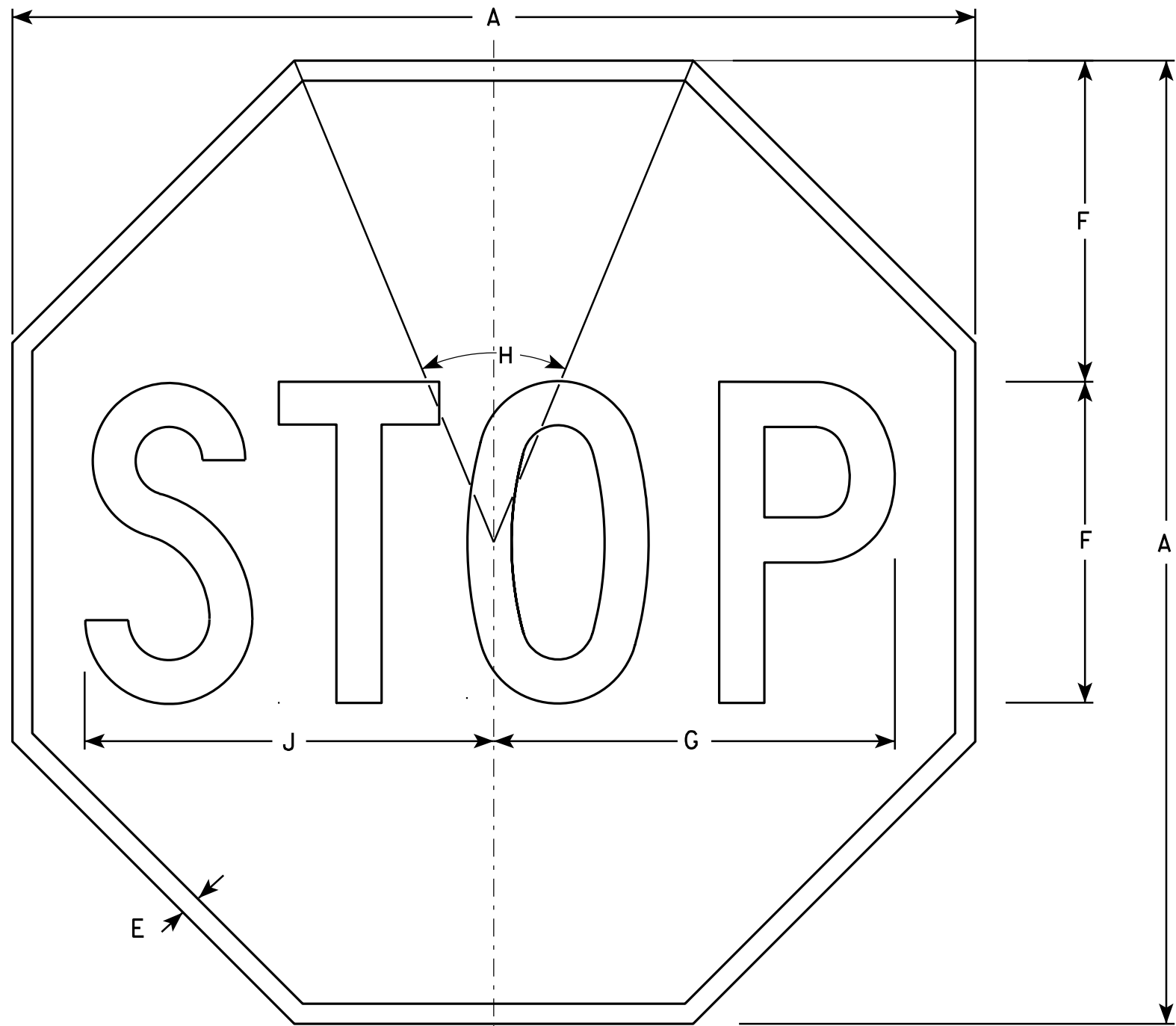
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 11/8/10 PLATE NO. R10-25.1

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E





**NOTES**

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

7

7

R1-1

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

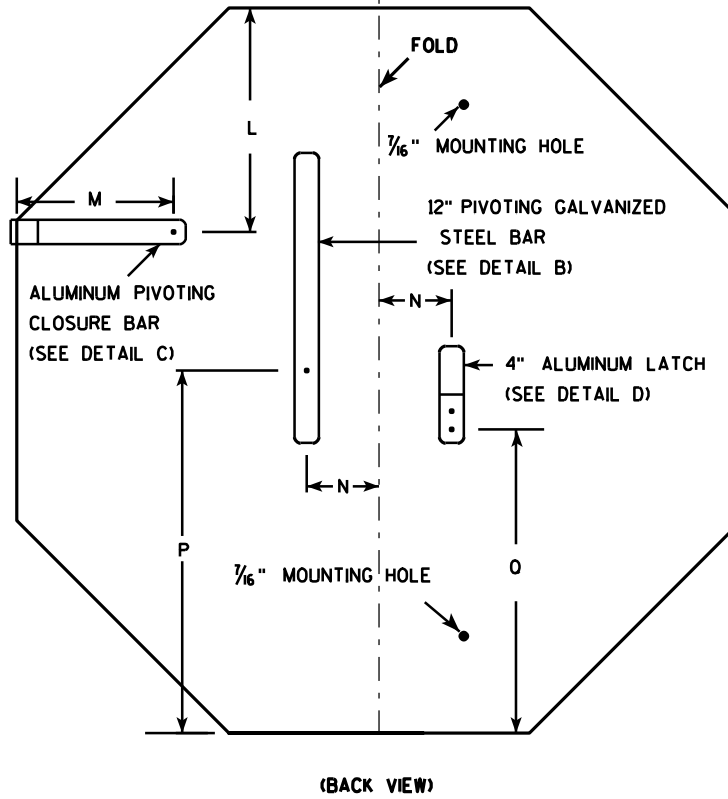
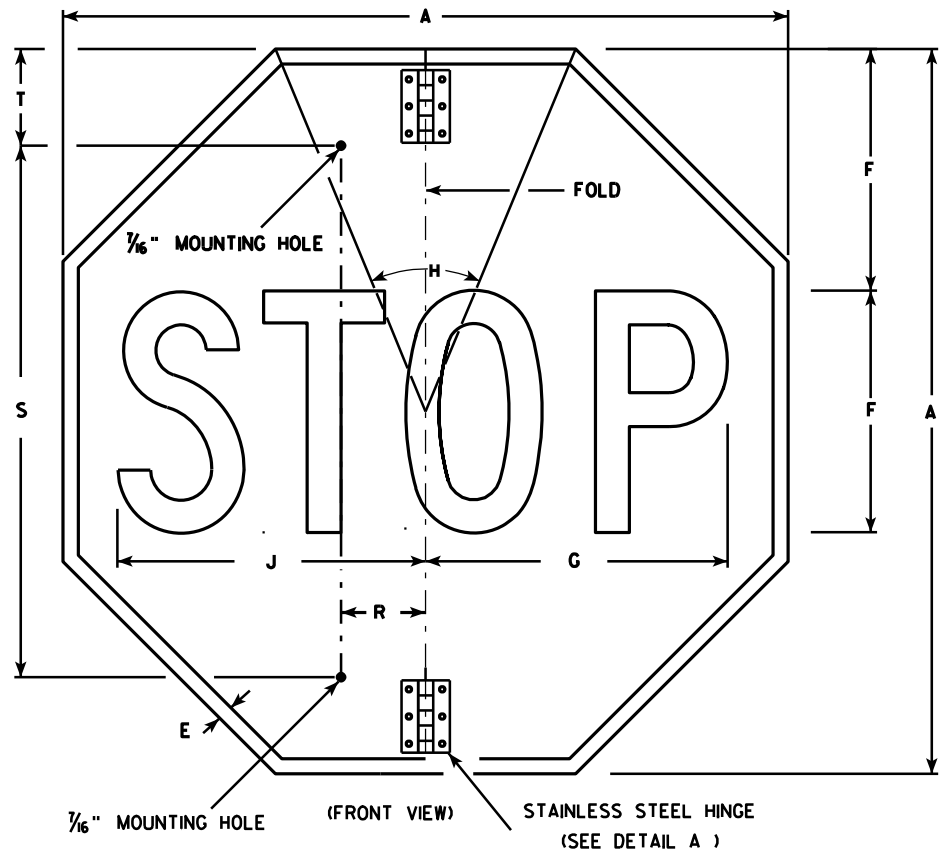
**STANDARD SIGN**  
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

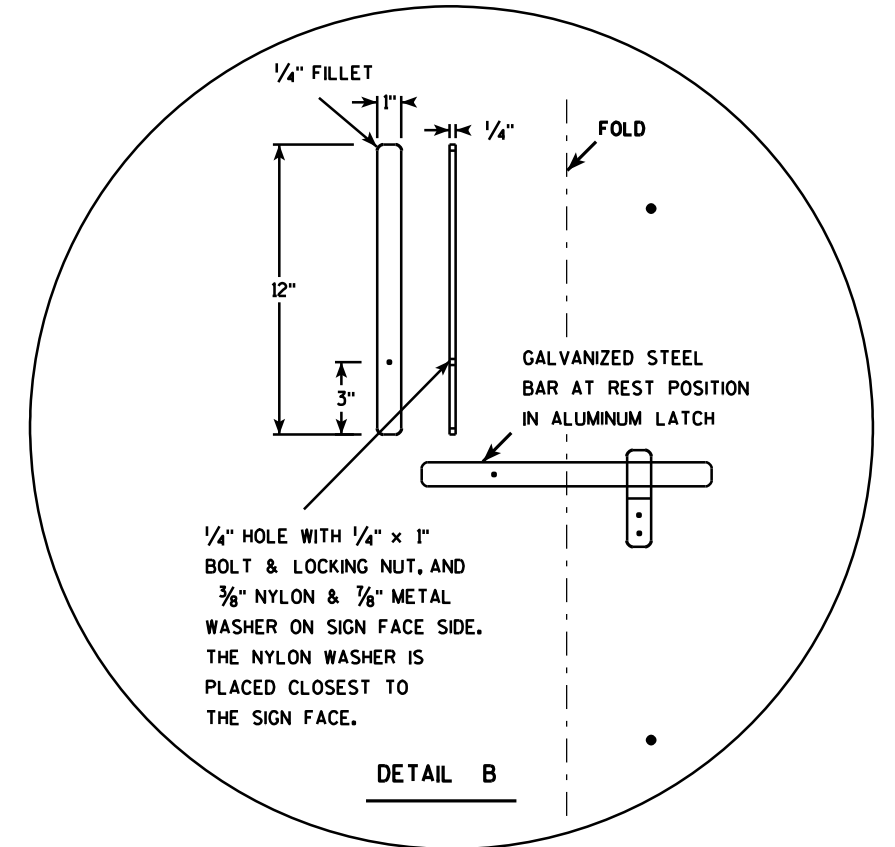
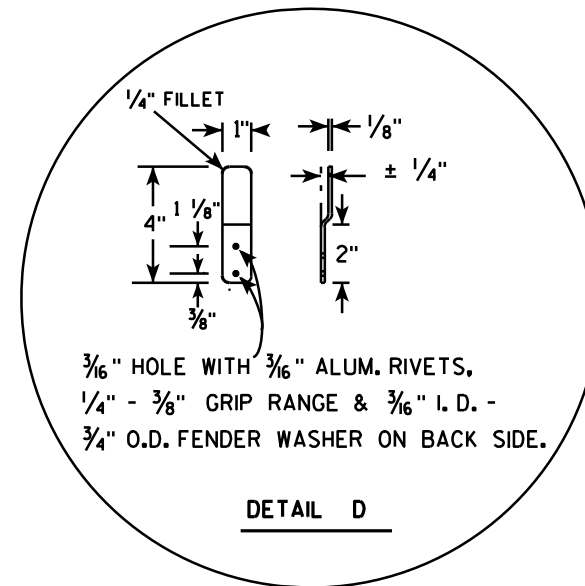
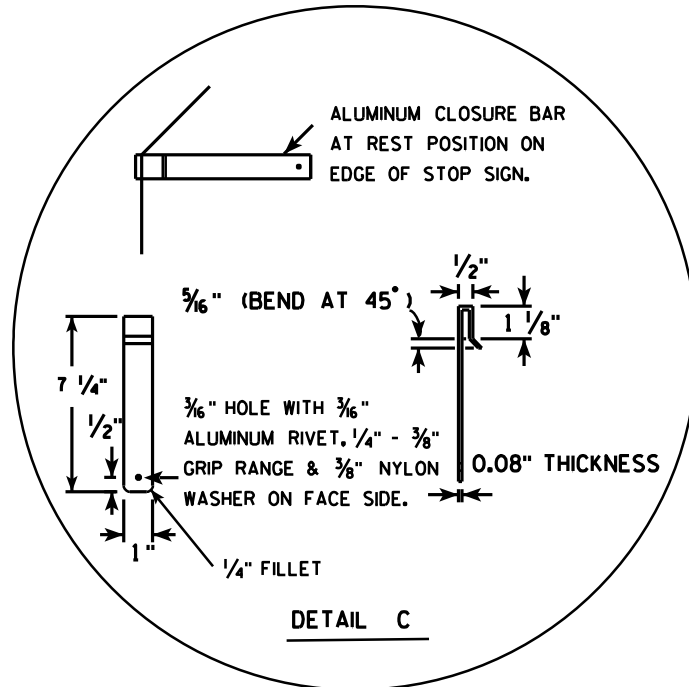
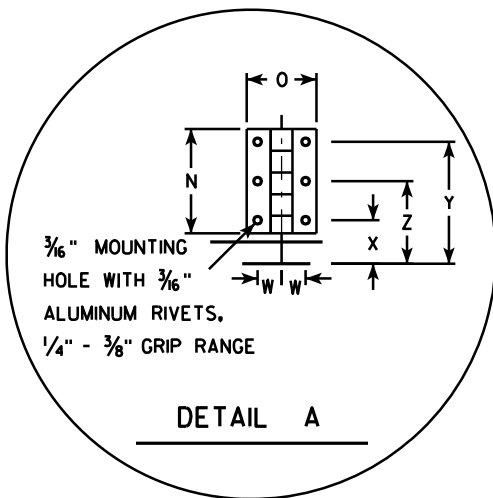
DATE 12/03/10 PLATE NO. R1-1.12

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



**NOTES**

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Red  
Message - White
3. Message Series - C
4. All hardware used on the folding STOP sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30				5/8	10	12 1/2	45		12 3/4		9 1/4	6 1/2	3	2	15	12 3/8	2 1/2	22	5		1/16	1 1/4	3 1/2	2 3/8	5.18	
2M	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5		1/16	1 1/4	3 1/2	2 3/8	7.46	
3	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5		1/16	1 1/4	3 1/2	2 3/8	7.46	
4																											
5																											

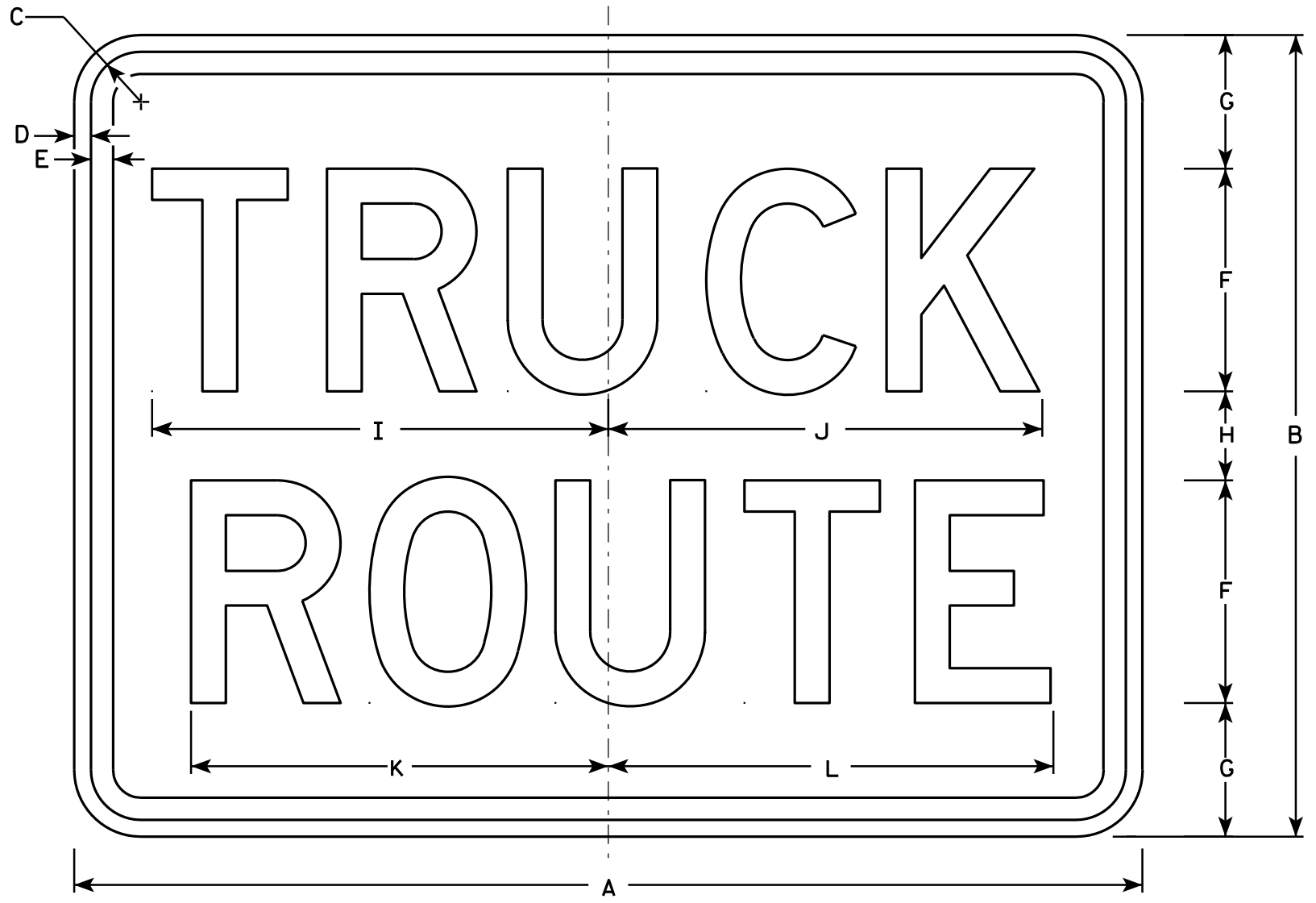
**STANDARD SIGN**  
R1-1F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1F.3

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**



R14-1

NOTES

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

7

7

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

**STANDARD SIGN**  
R14-1

WISCONSIN DEPT OF TRANSPORTATION

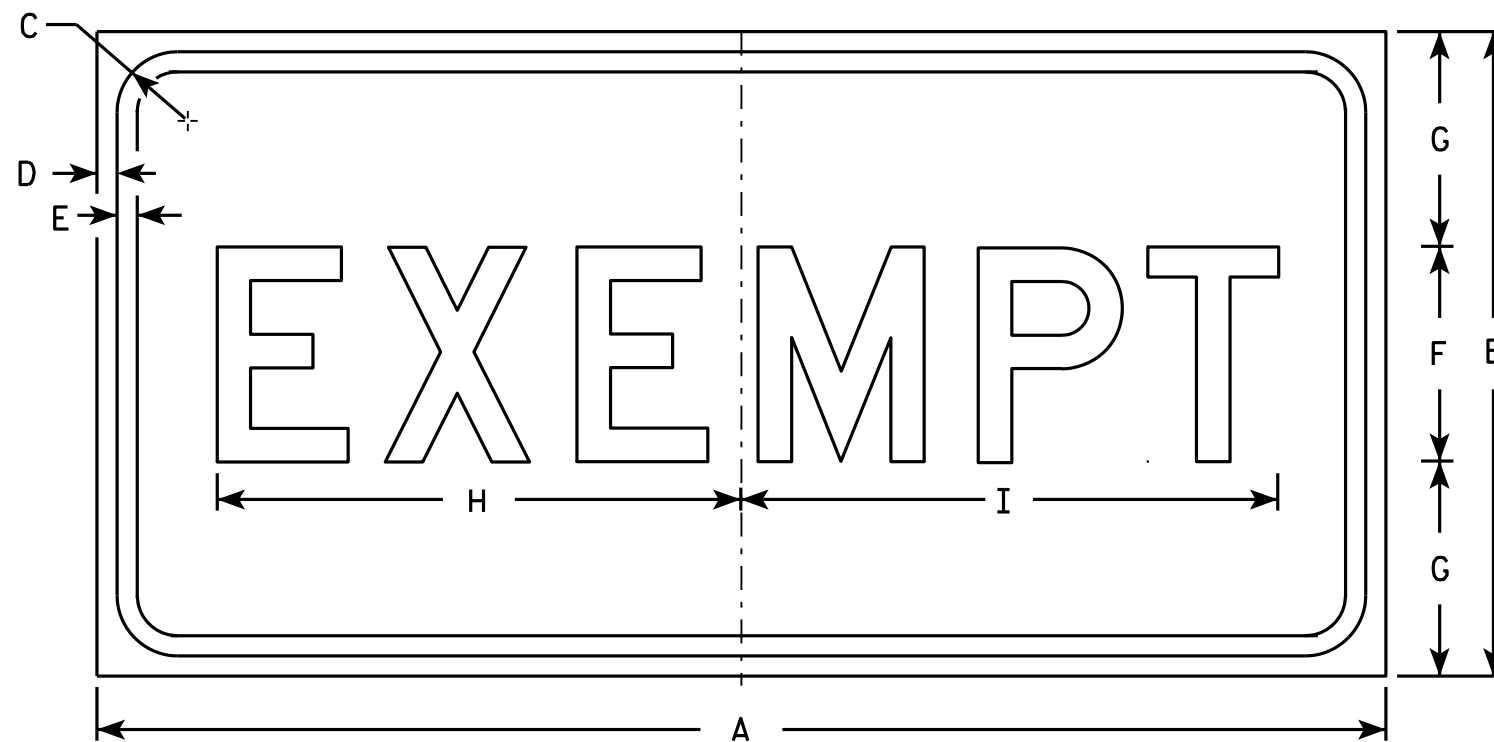
APPROVED *Matthew R. Raush*  
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R14-1.6

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - See Note 5  
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. Background - R15-3 is White.  
W10-1A is Yellow.



R15-3  
and  
W10-1A

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

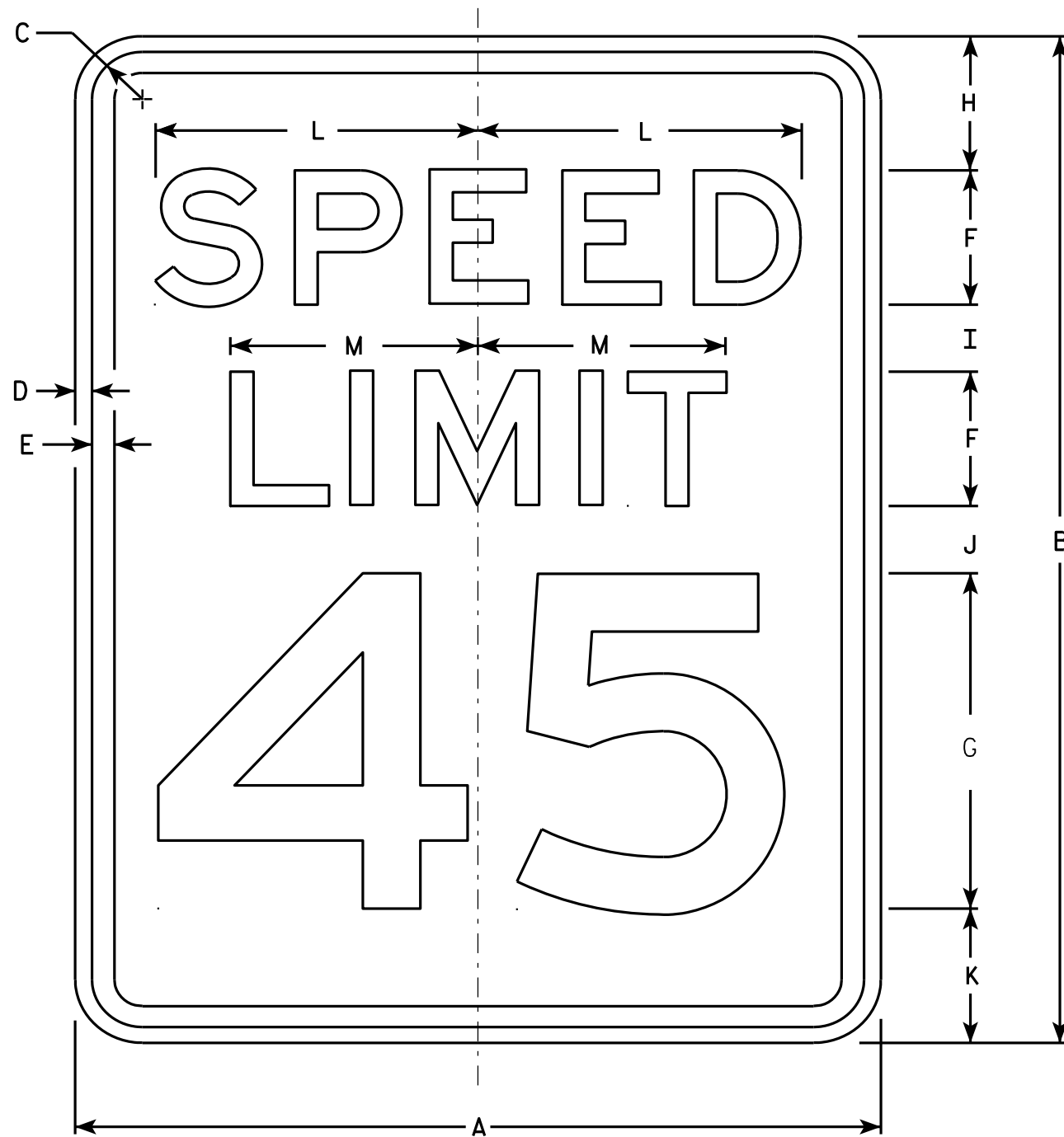
**STANDARD SIGN**  
R15-3 & W10-1A

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/15/11 PLATE NO. R15-3.6

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ **E**



R2-1

NOTES

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

7

7

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

STANDARD SIGN  
R2-1

WISCONSIN DEPT OF TRANSPORTATION

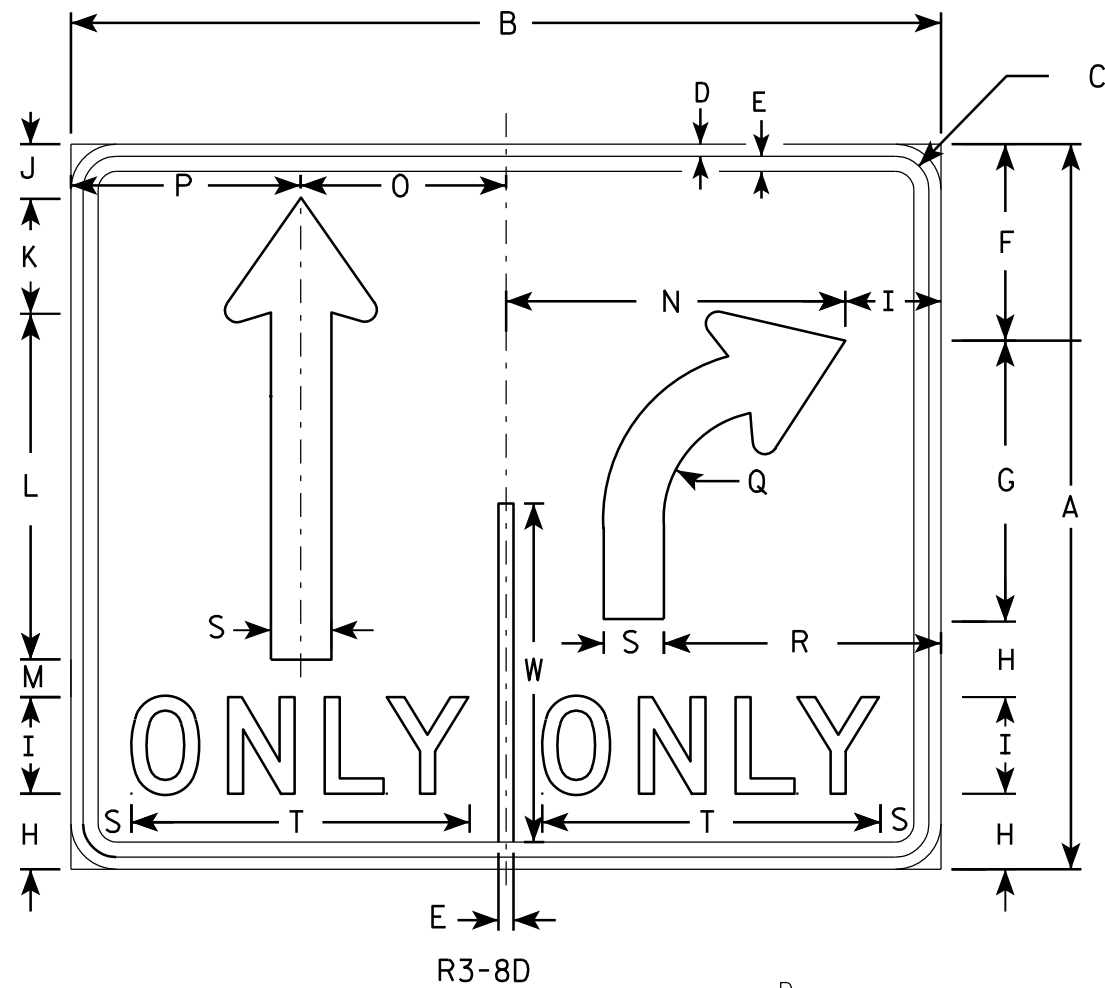
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

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

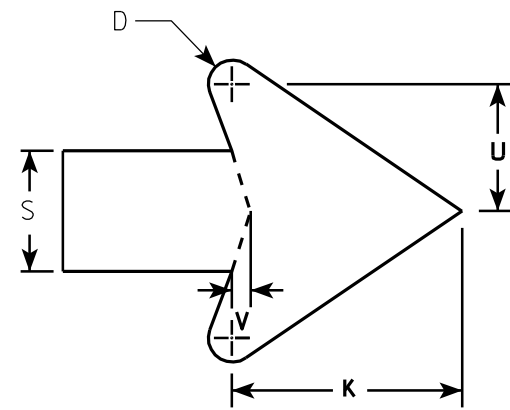
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E

**NOTES**

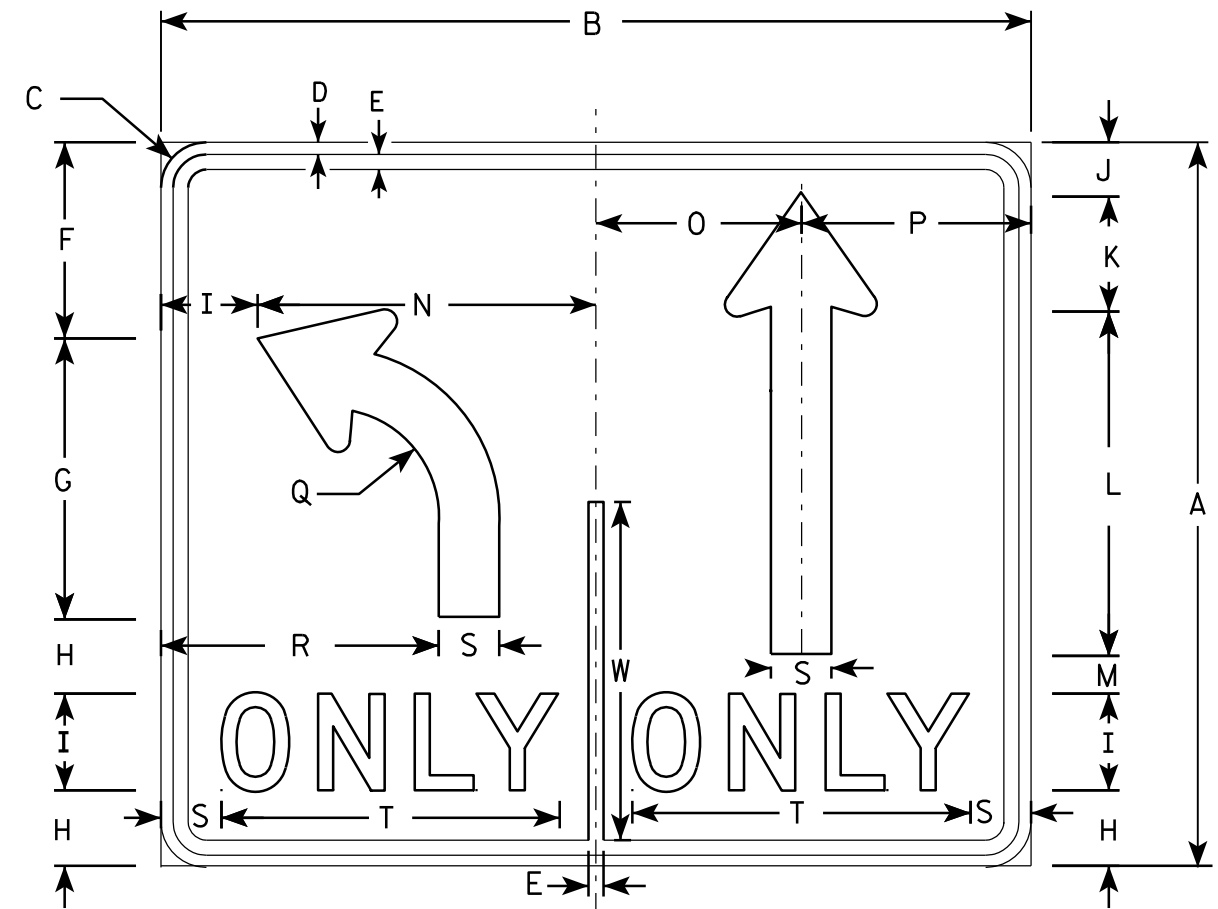
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - WHITE  
Message - BLACK
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded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



R3-8D



ARROW DETAIL



R3-8E

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	2 1/4	4 3/4	14 1/4	1 5/8	14	8 1/2	9 1/2	4 1/2	11 1/2	2 1/2	14	2 5/8	3/8	14			7.5	
2M	30	36	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	2 1/4	4 3/4	14 1/4	1 5/8	14	8 1/2	9 1/2	4 1/2	11 1/2	2 1/2	14	2 5/8	3/8	14			7.5	
3																											
4	48	54	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	3 1/2	7 1/8	21 1/2	4 3/4	21	12 3/4	14 1/4	7 1/4	17 1/8	3 3/4	20 5/8	4	5/8	22 3/8			18.0	
5	48	54	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	3 1/2	7 1/8	21 1/2	4 3/4	21	12 3/4	14 1/4	7 1/4	17 1/8	3 3/4	20 5/8	4	5/8	22 3/8			18.0	

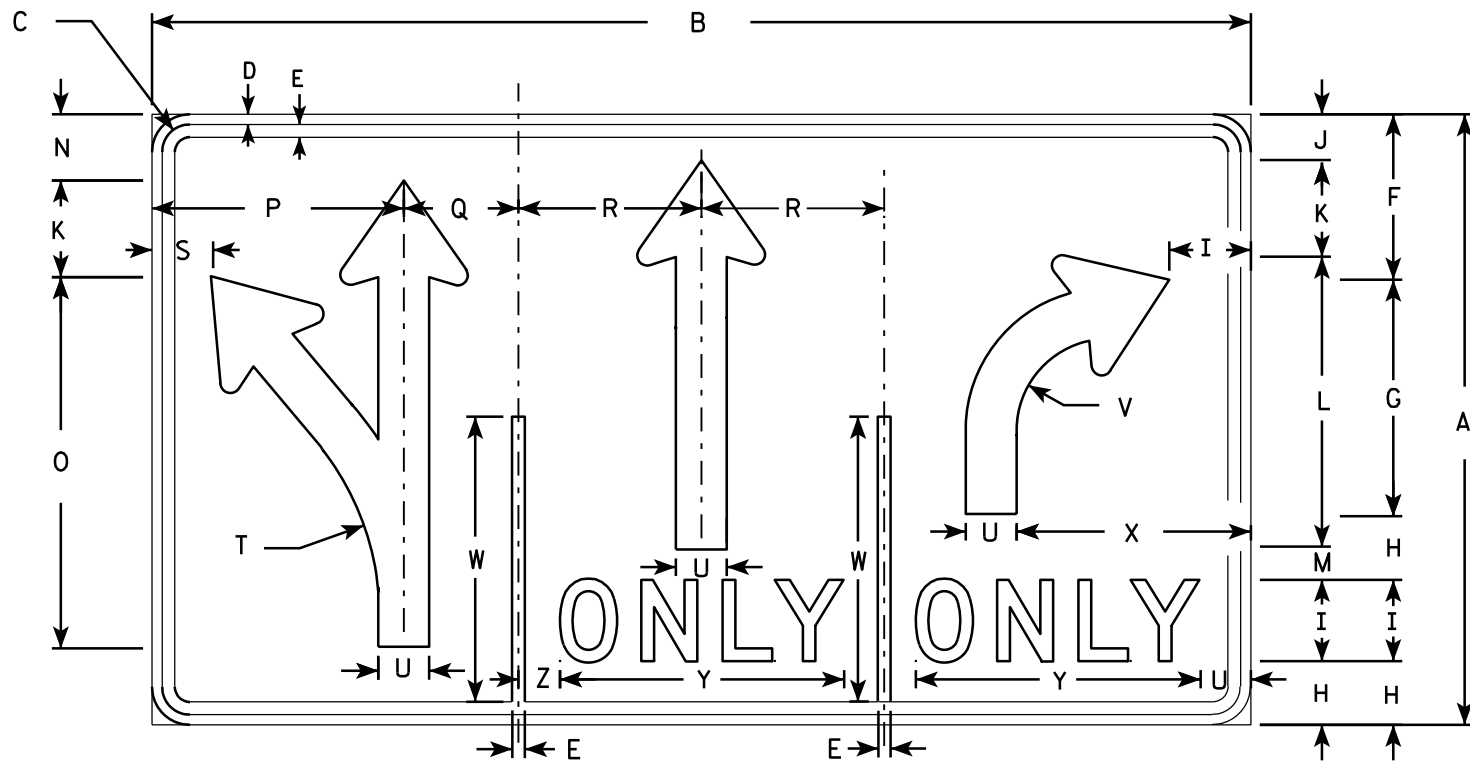
STANDARD SIGN  
R3-8D & R3-8E

WISCONSIN DEPT OF TRANSPORTATION

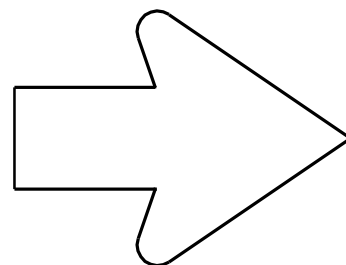
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/18/2011 PLATE NO. R3-8D.2

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



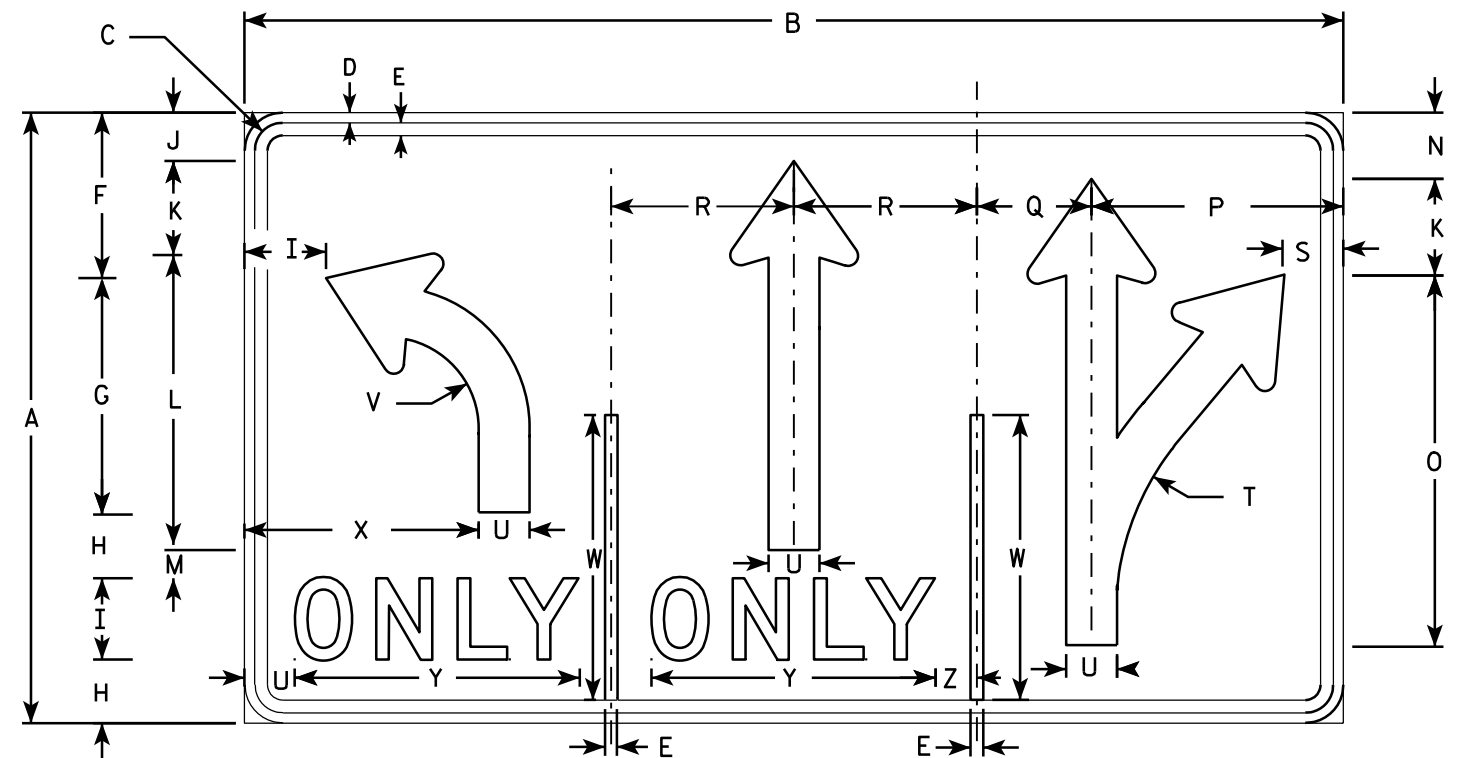
R3-8L



SEE R3-8 FOR ARROW DETAIL

**NOTES**

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



R3-8M

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	54	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	2 1/4	4 3/4	14 1/4	1 5/8	3 1/4	18 1/4	12 3/8	5 5/8	9	3	13 1/4	2 1/2	4 1/2	14	11 1/2	14	2	11.25
2M	30	54	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	2 1/4	4 3/4	14 1/4	1 5/8	3 1/4	18 1/4	12 3/8	5 5/8	9	3	13 1/4	2 1/2	4 1/2	14	11 1/2	14	2	11.25
3																											
4	48	84	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	3 1/2	7	29 1/8	2 7/8	5 1/4	29 1/8	18 5/8	8 3/4	14	4 3/8	21 7/8	3 3/4	7 1/4	22 3/8	17 1/4	20 5/8	3 1/4	28.0
5	48	84	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	3 1/2	7	29 1/8	2 7/8	5 1/4	29 1/8	18 5/8	8 3/4	14	4 3/8	21 7/8	3 3/4	7 1/4	22 3/8	17 1/4	20 5/8	3 1/4	28.0

**STANDARD SIGN**  
**R3-8L & R3-8M**

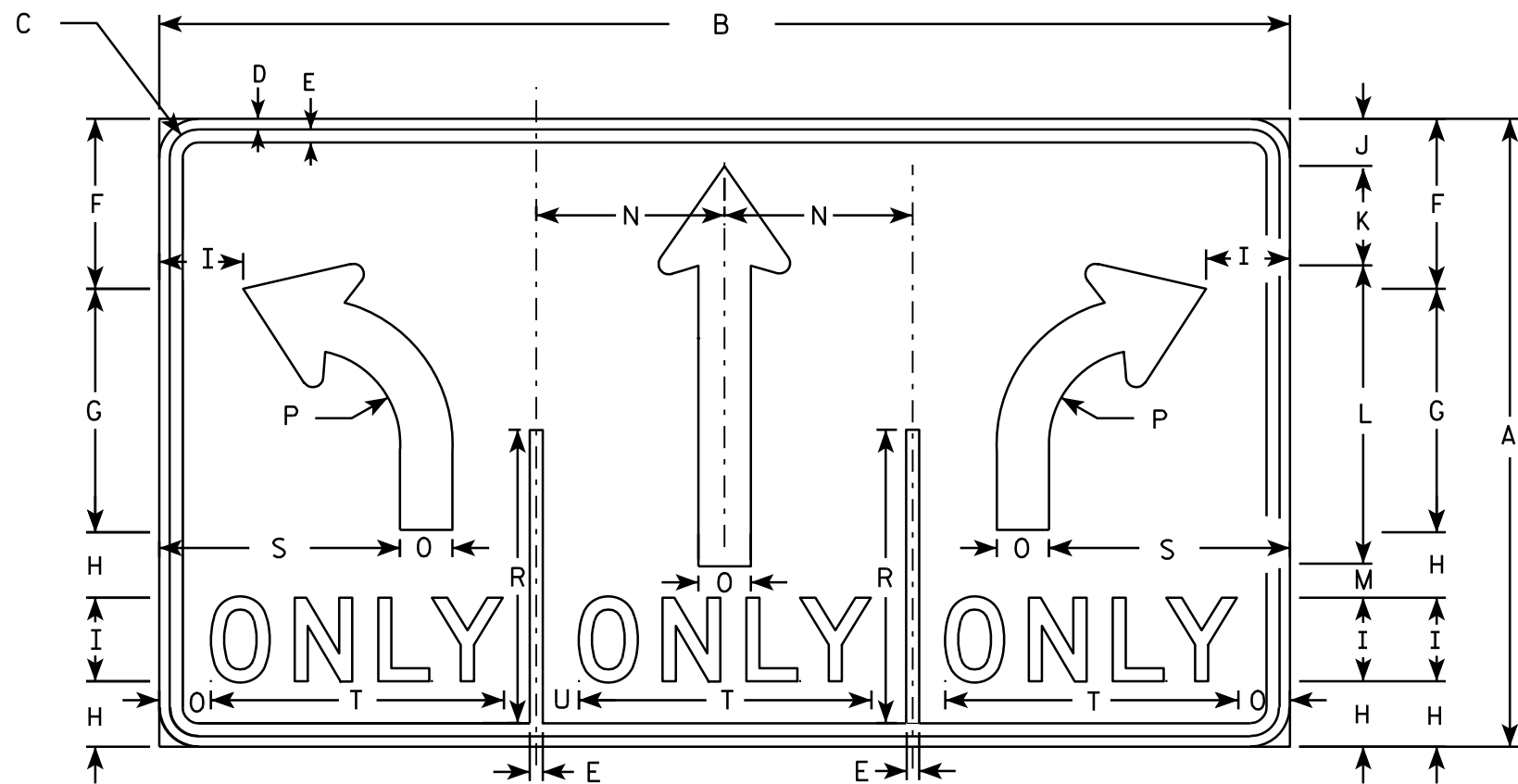
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

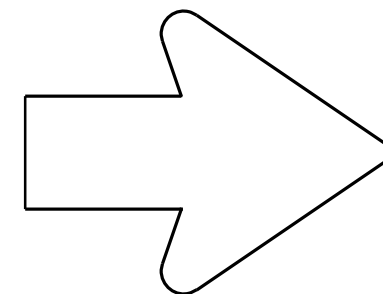
DATE 3/21/2011 PLATE NO. R3-8L.2

**NOTES**

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



R3-8W



SEE R3-8 FOR ARROW DETAIL

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	54	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	2 1/4	4 3/4	14 1/4	1 5/8	9	2 1/2	4 1/2		14	11 1/2	14	2						11.25
2M	30	54	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	2 1/4	4 3/4	14 1/4	1 5/8	9	2 1/2	4 1/2		14	11 1/2	14	2						11.25
3																											
4	48	84	2 1/4	3/4	1	13	18 1/2	5 1/4	6	3 3/4	7	29 1/8	2 3/8	14	3 3/4	7 1/4		22 3/8	17 1/4	20 1/2	3 1/4						28.0
5	48	84	2 1/4	3/4	1	13	18 1/2	5 1/4	6	3 3/4	7	29 1/8	2 7/8	14	3 3/4	7 1/4		22 3/8	17 1/4	20 1/2	3 1/4						28.0

**STANDARD SIGN  
R3-8W**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/24/2011 PLATE NO. R3-8W.4

PROJECT NO:

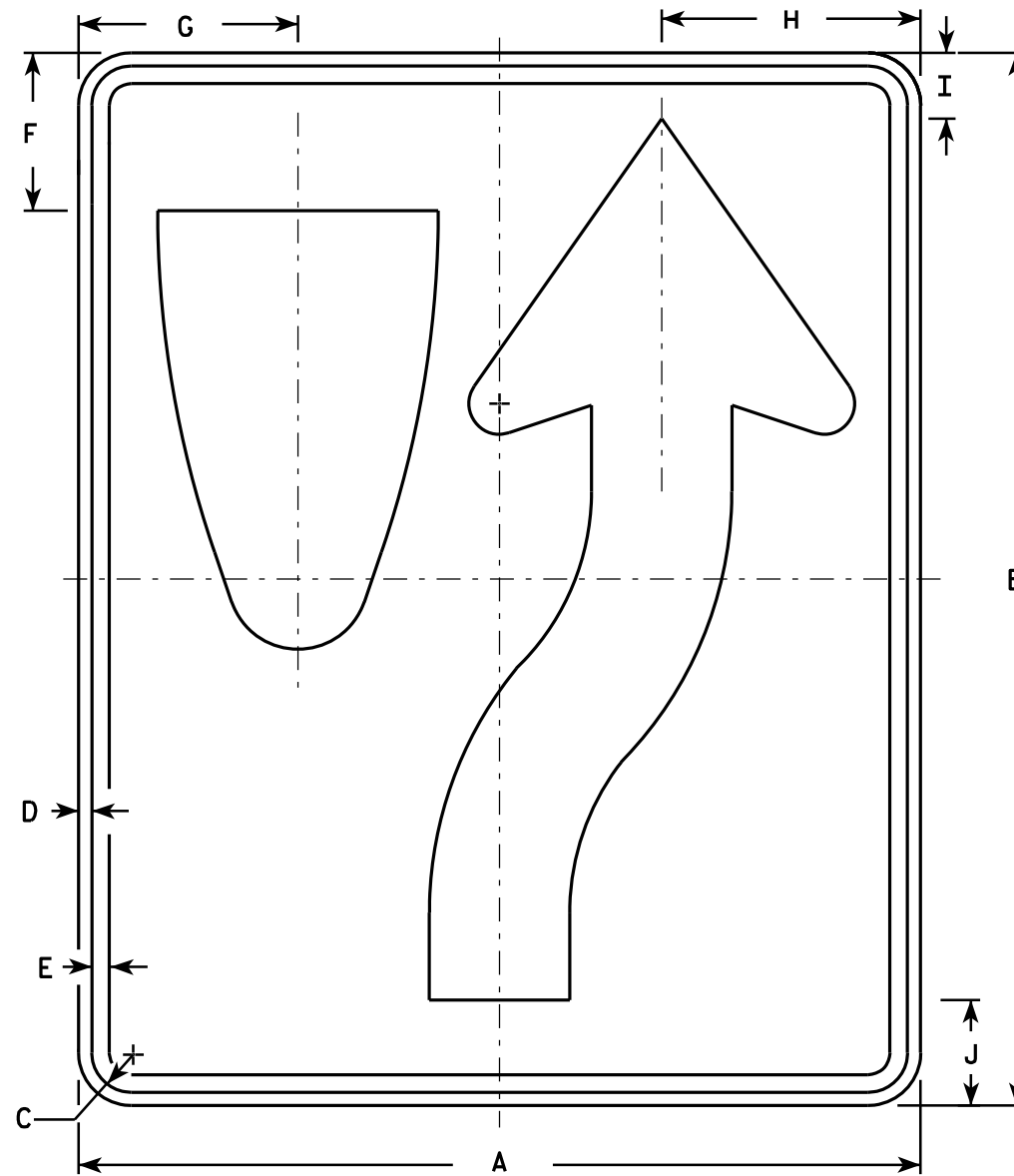
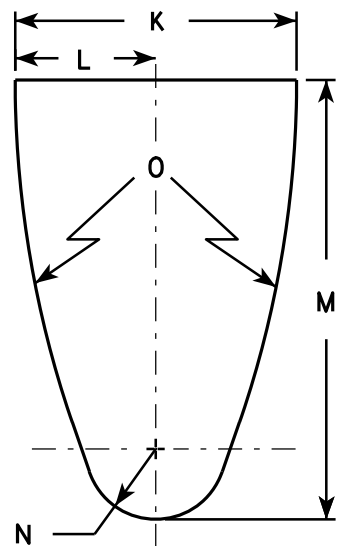
SHEET NO:

E

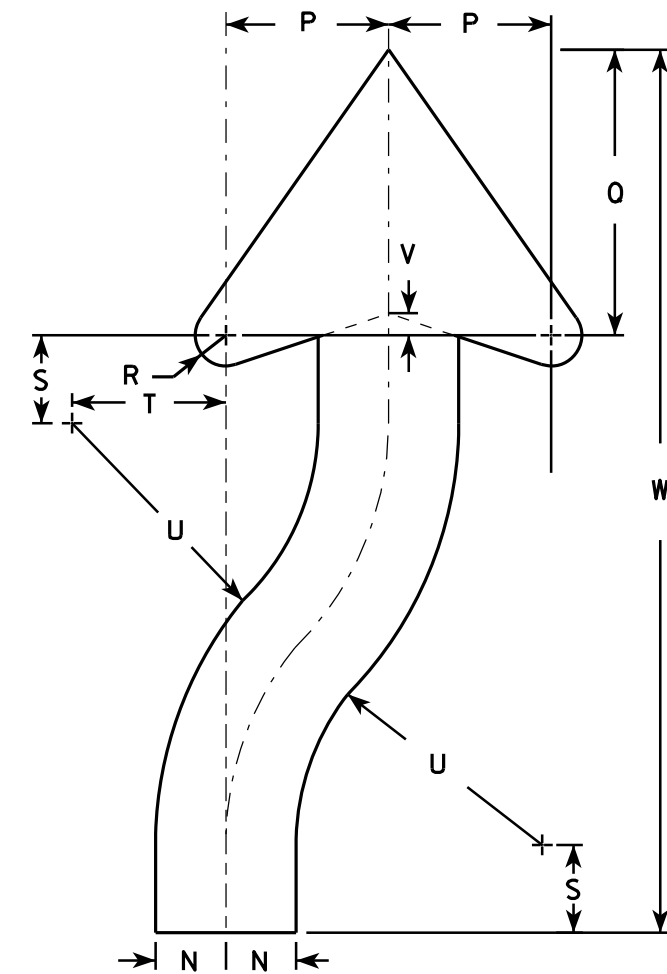


**NOTES**

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
2. Color:  
Background - White  
Message - Black
3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
4. R4-8 is the same as R4-7 except Legend is reversed.



R4-7



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

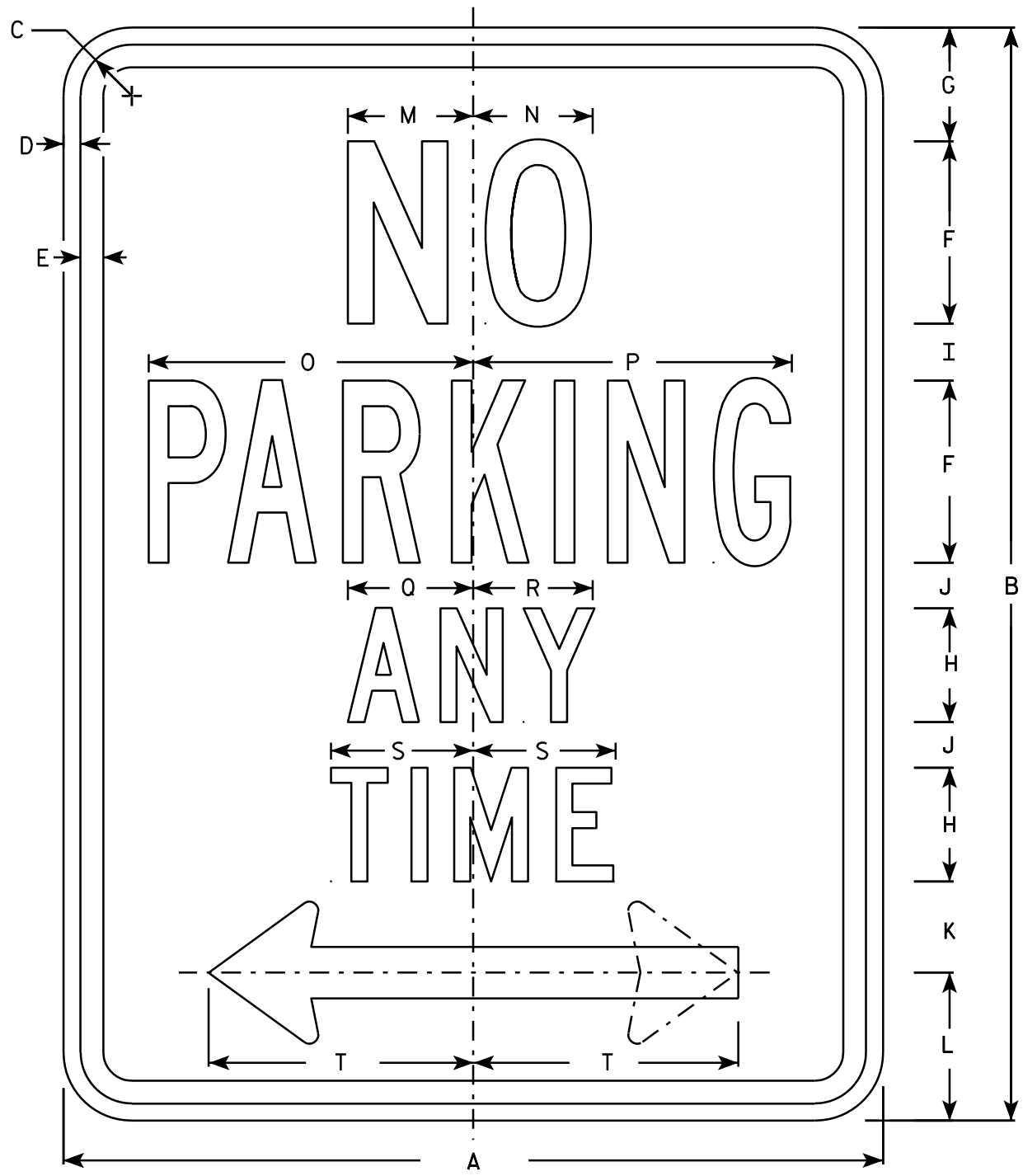
**STANDARD SIGN**  
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

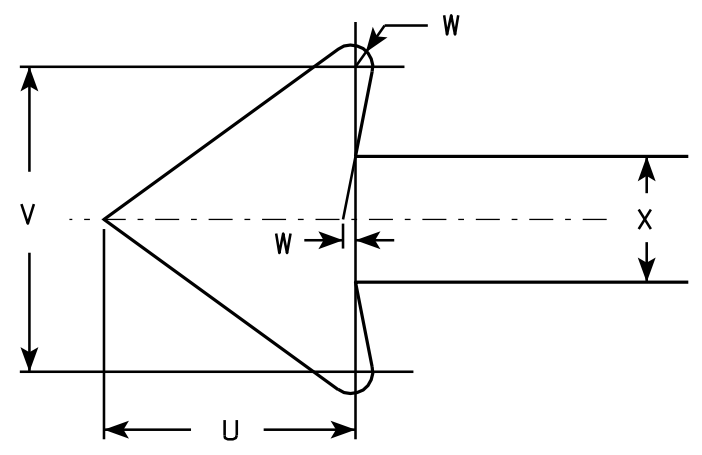
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



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)



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	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

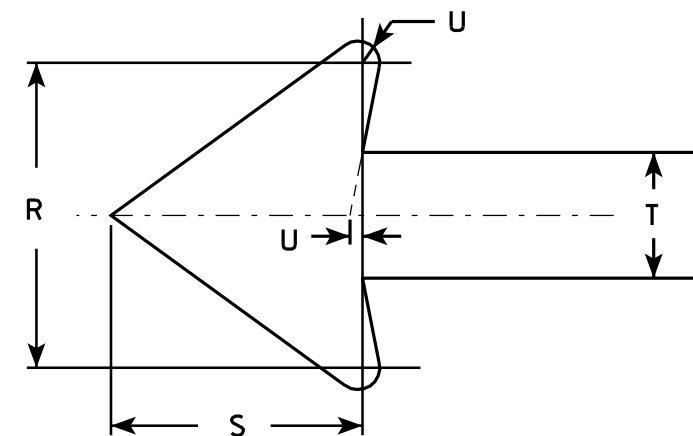


R7-2

\* - 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.



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	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

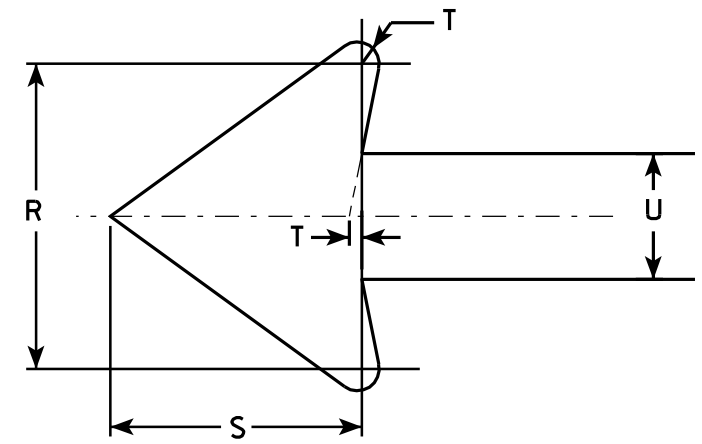


R7-5

\* - 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 - Green
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. R7-5D (double arrow)  
R7-5L (left arrow)  
R7-5R (right arrow)
7. Lines 1, 2 & 3 are series C Copy  
Line 4 Series B Copy.



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/8	3/8	3/8	2	2	2 1/4	1 1/4	4	2 1/2	2 1/8	2	2 7/8	4 5/8	4 1/2	3 7/8	1 3/4	1 1/2	1/8	3/4						1.5
2S	18	24	1 1/8	3/8	1/2	3	3	2 5/8	1 1/4	5 5/8	3 1/4	3 1/8	3 1/8	4 1/4	6 7/8	6 3/4	5 7/8	2 5/8	2 1/4	1/4	1 1/8						3.0
2M	24	30	1 1/8	3/8	1/2	4	3	3	2	6	3 1/2	4 1/4	4 1/8	5 3/4	9 1/8	9 1/8	7 3/4	3 1/2	3	1/4	1 1/2						5.0
3	24	30	1 1/8	3/8	1/2	4	3	3	2	6	3 1/2	4 1/4	4 1/8	5 3/4	9 1/8	9 1/8	7 3/4	3 1/2	3	1/4	1 1/2						5.0
4																											
5																											

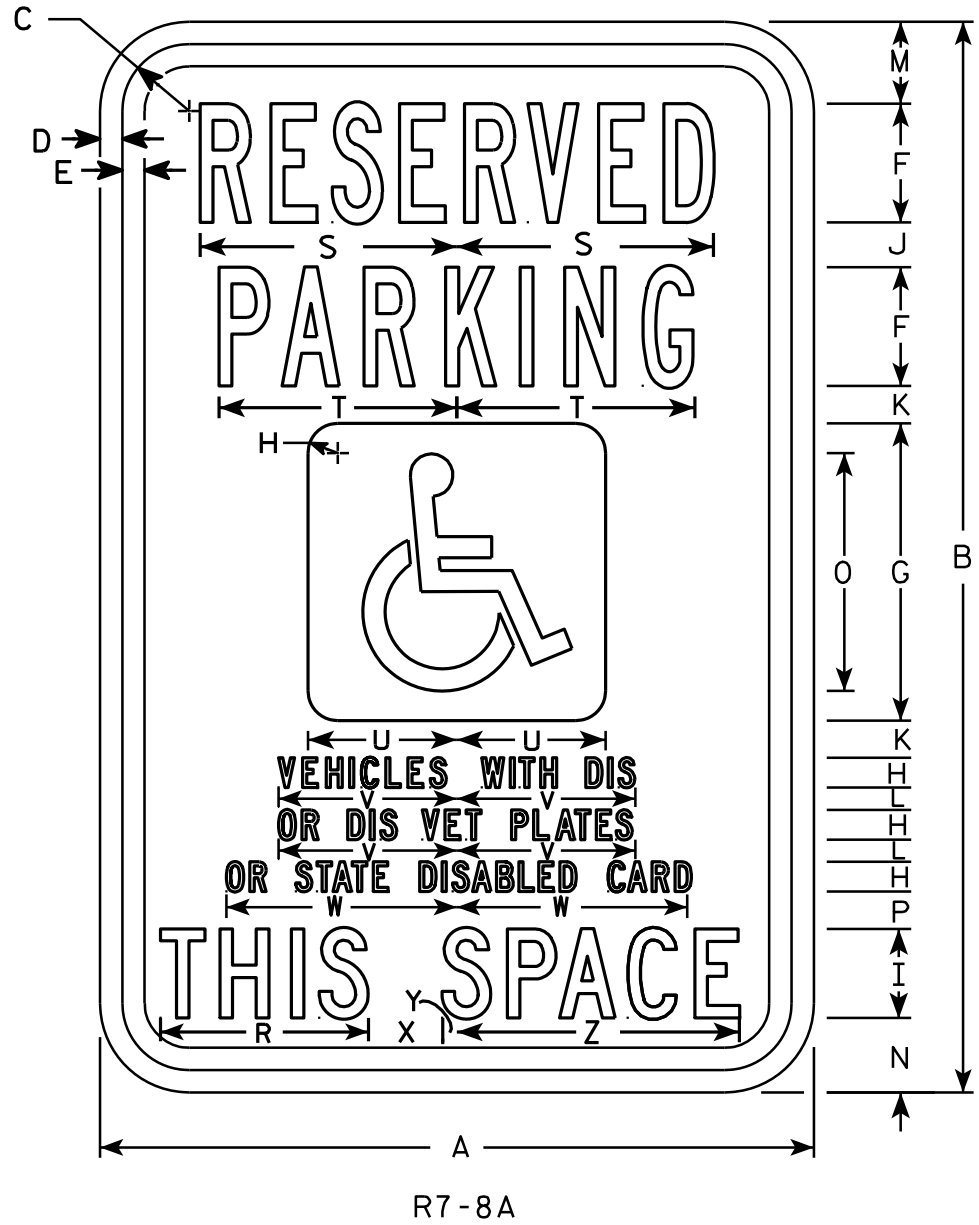
**STANDARD SIGN**  
R7-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Raub*  
for State Traffic Engineer

DATE 03/31/2011 PLATE NO. R7-5.8

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



**NOTES**

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Sign is white Type H Reflective; paraplegic background is blue.  
Message - Legend and border are green; paraplegic symbol is white
3. Message Series - Lines 1 & 2 are Series B  
Lines 3, 4, 5 & 6 are Series C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	18	1 1/8	3/8	3/8	2	5	1/2	1 1/2	3/4	5/8	3/8	1 3/8	1 1/4	4	5/8		3 1/2	4 3/8	4	2 1/2	3	3 7/8	1 1/4	1/4	4 3/4	1.5
2M	18	24	1 1/8	3/8	1/2	3	6	3/4	2	7/8	5/8	1/2	1 7/8	2	5	3/4		4 5/8	6 1/2	5 3/8	3	4 1/2	5 7/8	1 1/2	1/4	6 3/8	3.0
3	18	24	1 1/8	3/8	1/2	3	6	3/4	2	7/8	5/8	1/2	1 7/8	2	5	3/4		4 5/8	6 1/2	5 3/8	3	4 1/2	5 7/8	1 1/2	1/4	6 3/8	3.0
4																											
5																											

**STANDARD SIGN**  
**R7-8A**

WISCONSIN DEPT OF TRANSPORTATION

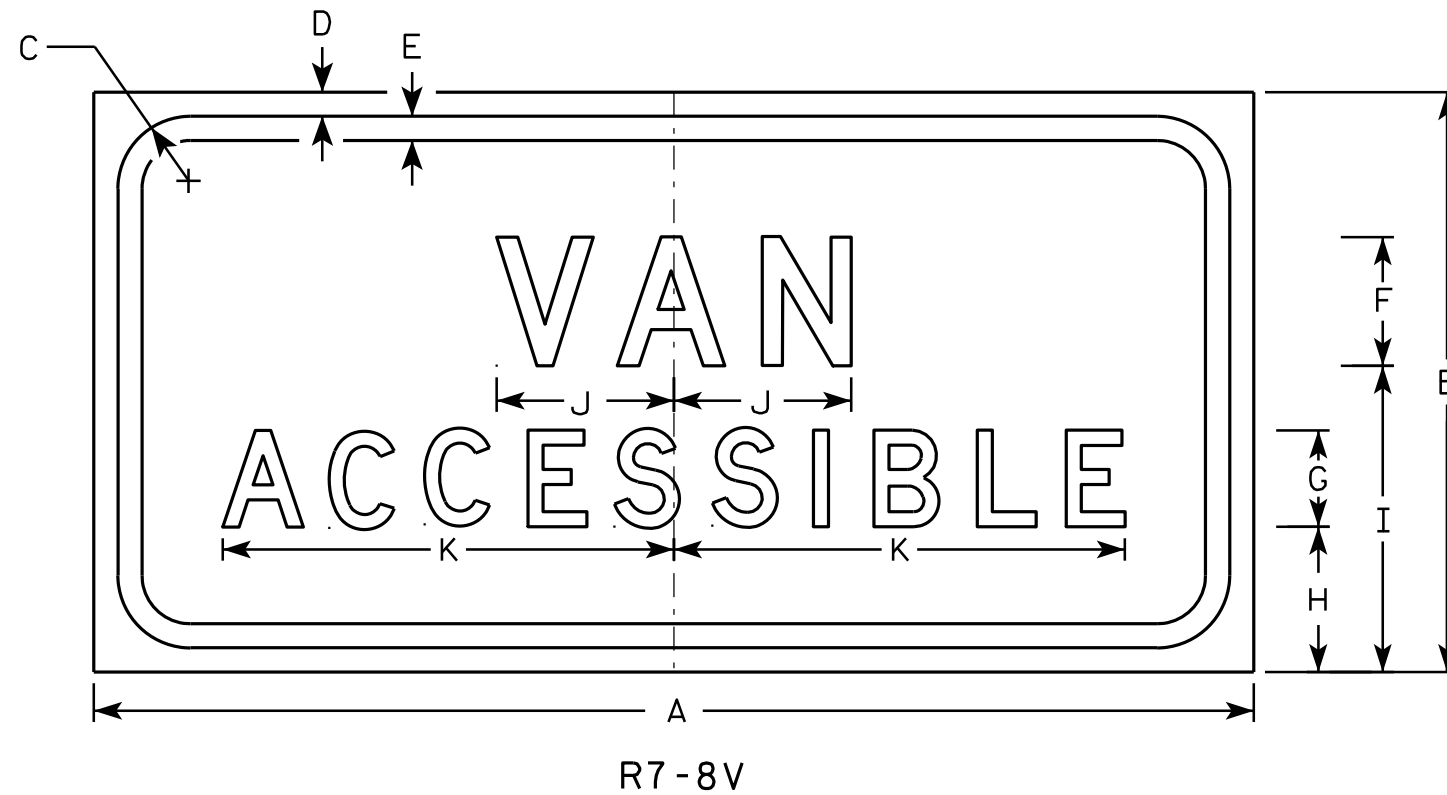
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 4/25/2011 PLATE NO. R7-8A.6

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E

NOTES

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



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	6	1 1/8	3/8	3/8	1 1/2	1	1 5/8	3 1/2	2	4 1/4																0.50
2M	18	9	1 1/8	3/8	3/8	2	1 1/2	2 1/4	4 3/4	2 3/4	7																0.75
3	18	9	1 1/8	3/8	3/8	2	1 1/2	2 1/4	4 3/4	2 3/4	7																0.75
4																											
5																											

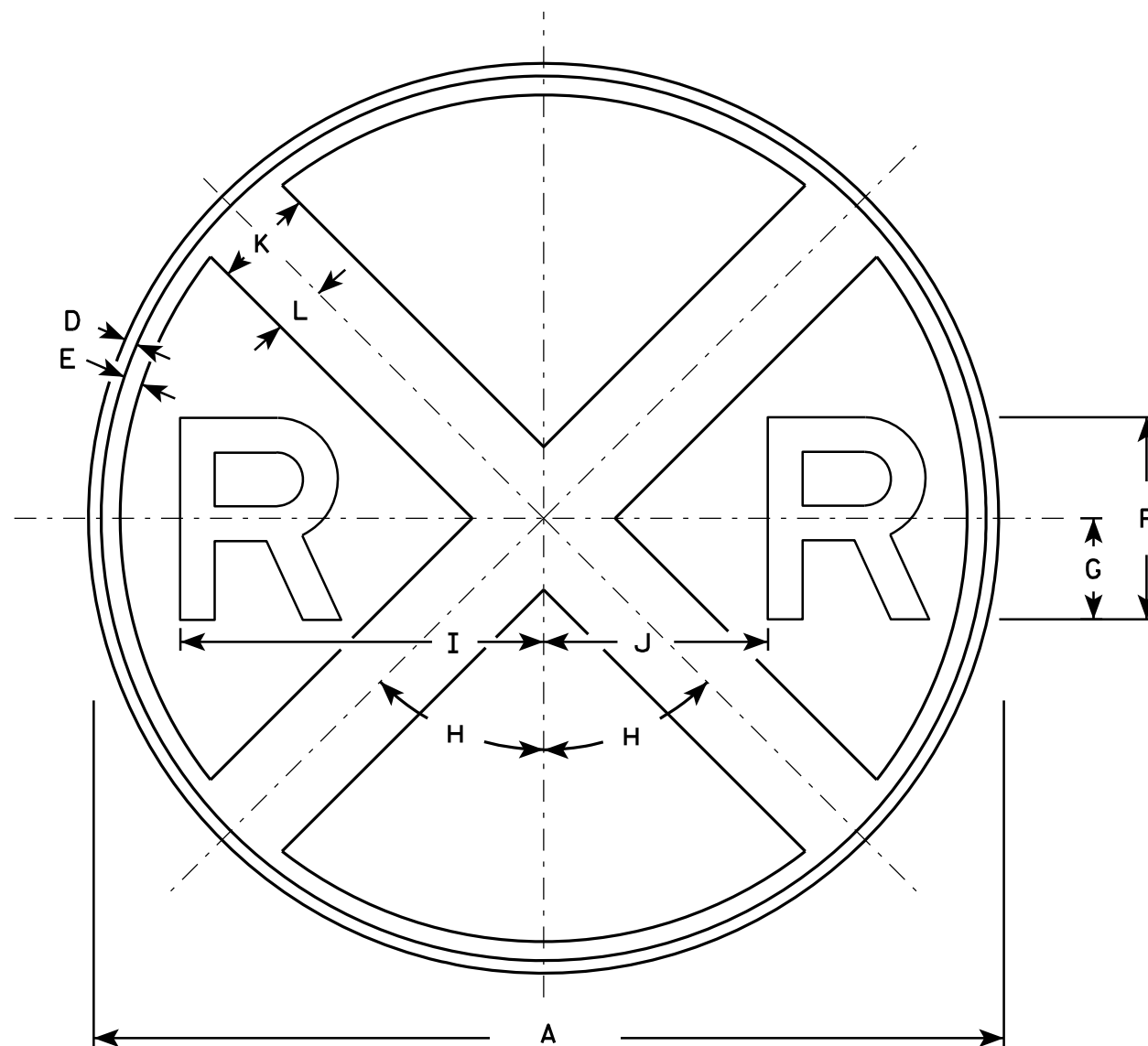
**STANDARD SIGN**  
R7-8V

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-8V.5

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



W10-1

NOTES

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

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30			3/8	5/8	7	3 1/2	45°	12 3/8	7 1/8	3	1 1/2															4.91
2S	36			5/8	3/4	8	4	45°	14 3/8	8 5/8	4	2															7.07
2M	36			5/8	3/4	8	4	45°	14 3/8	8 5/8	4	2															7.07
3																											
4	48			3/4	1 1/4	10	5	45°	18 3/8	11 5/8	5	2 1/2															12.57
5																											

STANDARD SIGN  
W10-1

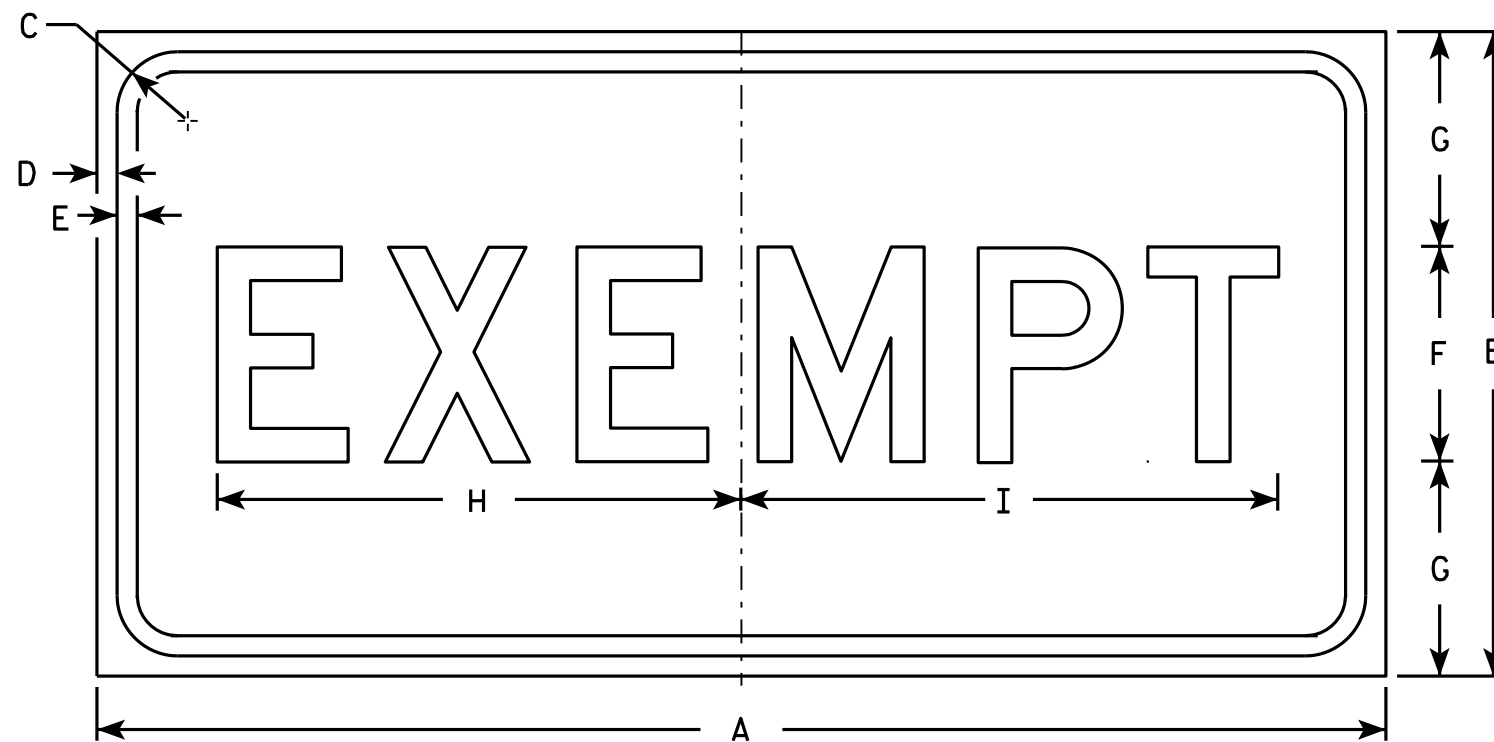
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer  
DATE 3/15/11 PLATE NO. W10-1.7

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - See Note 5  
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. Background - R15-3 is White.  
W10-1A is Yellow.



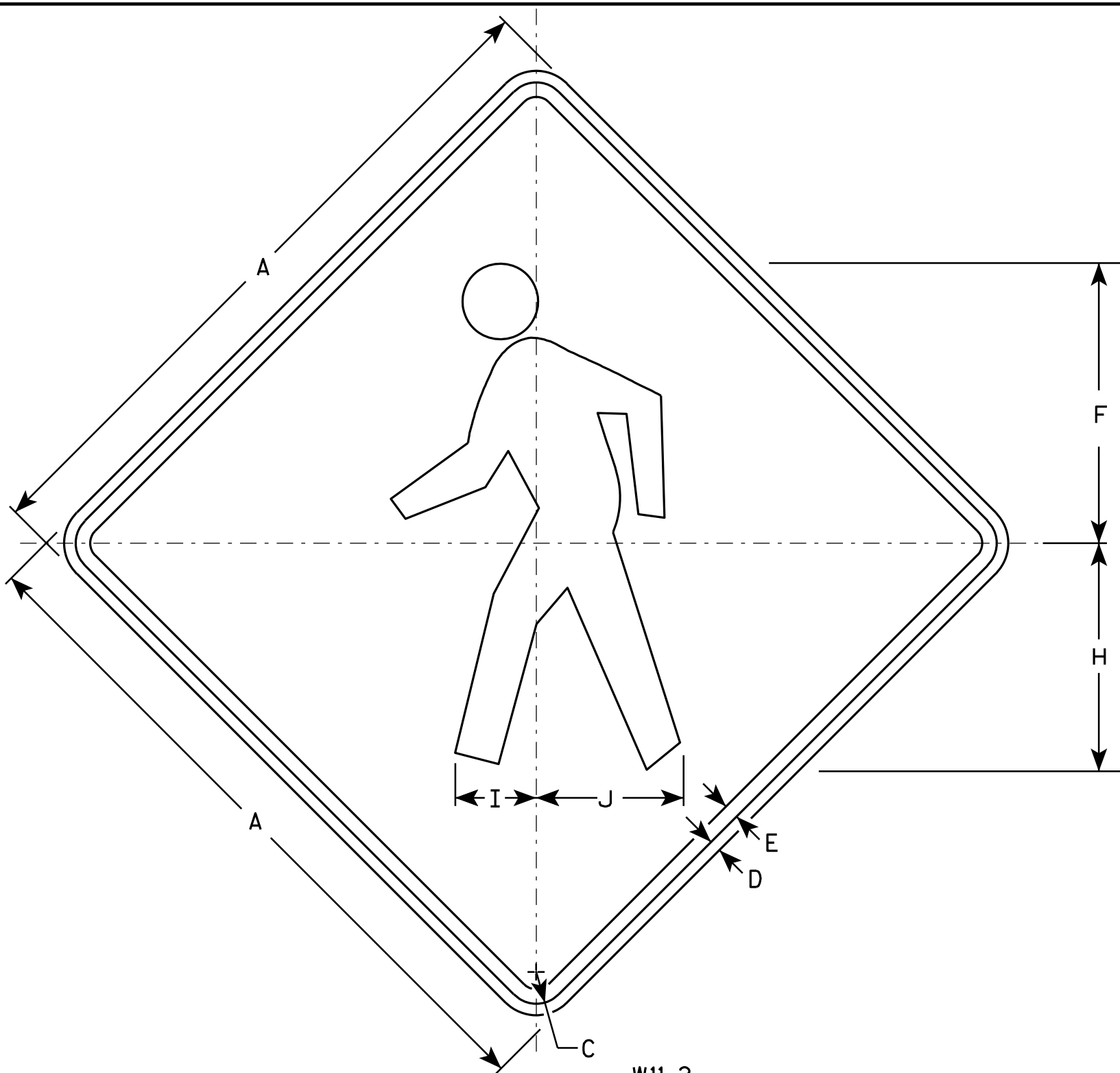
R15-3  
and  
W10-1A

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

<b>STANDARD SIGN</b>	
<b>R15-3 &amp; W10-1A</b>	
<small>WISCONSIN DEPT OF TRANSPORTATION</small>	
<small>APPROVED</small>	<i>Matthew R. Rauch</i> <small>for State Traffic Engineer</small>
<small>DATE</small> 3/15/11	<small>PLATE NO.</small> R15-3.6

<b>PROJECT NO:</b>	<b>HWY:</b>	<b>COUNTY:</b>	<b>SHEET NO:</b> E
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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.

W11-2

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	9 3/4		7 7/8	2 7/8	5 1/8																	4.0
2S	30		1 3/8	1/2	5/8	12 1/8		9 7/8	3 1/2	6 3/8																	6.25
2M	36		1 5/8	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
3	36		1 5/8	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
4	48		2 1/4	3/4	1	19 3/8		15 3/4	5 5/8	10 1/4																	16.0
5																											

**STANDARD SIGN**  
**W11-2**

WISCONSIN DEPT OF TRANSPORTATION

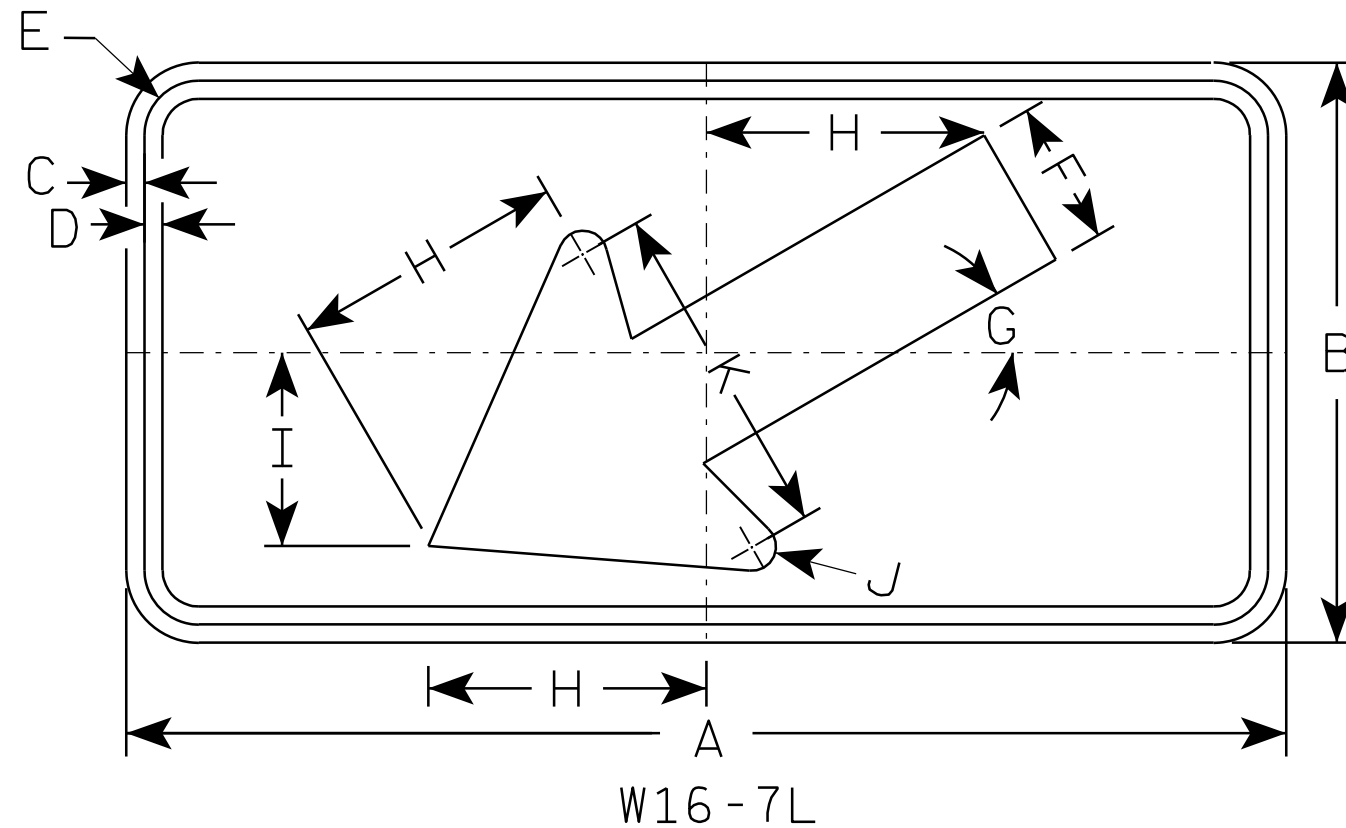
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 6/7/10 PLATE NO. W11-2.7

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - 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. W16-7R is the same as W16-L except the arrow is reversed along the vertical centerline.



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	3/8	3/8	1 1/8	3	30°	5 3/4	4	1/2	7																2.0
2M	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
3	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
4																											8
5																											8

**STANDARD SIGN**  
**W16-7**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 11/02/10 PLATE NO. W16-7.5

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

STH 35 (TOWER AVENUE), STA 688+68 TO 692+12\* EXP Fact= 1.3

STATION	END AREA		VOLUME		CUMULATIVE VOLUME		MASS HAUL (CY)
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)	CUT (CY)	FILL (CY)	
688+68	209	0					
688+75	209	0	55	0	55	0	55
689+00	212	0	195	0	250	0	250
689+25	281	0	230	0	480	0	480
689+50	289	0	265	0	745	0	745
689+75	299	0	270	0	1015	0	1015
690+00	297	0	275	0	1290	0	1290
690+25	311	0	280	0	1570	0	1570
690+50	310	0	290	0	1860	0	1860
690+75	312	0	290	0	2150	0	2150
691+00	313	0	290	0	2440	0	2440
691+25	323	0	295	0	2735	0	2735
691+50	328	0	300	0	3035	0	3035
691+75	334	0	305	0	3340	0	3340
692+00	289	0	290	0	3630	0	3630
692+12	289	0	130	0	3760	0	3760

STH 35 (TOWER AVENUE), \*STA 692+12 TO 716+82\*\* EXP Fact= 1.3

STATION	END AREA		VOLUME		CUMULATIVE VOLUME		MASS HAUL (CY)
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)	CUT (CY)	FILL (CY)	
692+12	272	0					
692+25	272	0	130	0	130	0	130
692+50	228	0	230	0	360	0	360
692+75	205	0	200	0	560	0	560
693+00	223	0	200	0	760	0	760
693+25	276	0	230	0	990	0	990
693+50	284	0	260	0	1250	0	1250
693+75	340	0	290	0	1540	0	1540
694+00	343	0	315	0	1855	0	1855
694+25	343	0	320	0	2175	0	2175
694+50	343	0	320	0	2495	0	2495
694+75	345	0	320	0	2815	0	2815
695+00	344	0	320	0	3135	0	3135
695+25	338	0	315	0	3450	0	3450
695+50	335	0	310	0	3760	0	3760
695+75	331	0	310	0	4070	0	4070
696+00	326	0	305	0	4375	0	4375
696+25	234	0	260	0	4635	0	4635
696+50	219	0	210	0	4845	0	4845
696+75	175	0	180	0	5025	0	5025
697+00	160	0	155	0	5180	0	5180
697+25	161	0	150	0	5330	0	5330
697+50	210	0	170	0	5500	0	5500
697+75	223	0	200	0	5700	0	5700
698+00	327	0	255	0	5955	0	5955
698+25	319	0	300	0	6255	0	6255
698+50	316	0	295	0	6550	0	6550
698+75	305	0	290	0	6840	0	6840
699+00	314	0	285	0	7125	0	7125
699+25	314	0	290	0	7415	0	7415
699+50	316	0	290	0	7705	0	7705
699+75	315	0	290	0	7995	0	7995
700+00	312	0	290	0	8285	0	8285
700+25	313	0	290	0	8575	0	8575
700+50	229	0	250	0	8825	0	8825
700+75	214	0	205	0	9030	0	9030
701+00	211	0	195	0	9225	0	9225
701+25	156	0	170	0	9395	0	9395
701+50	175	0	155	0	9550	0	9550
701+75	214	0	180	0	9730	0	9730
702+00	217	0	200	0	9930	0	9930
702+25	250	0	215	0	10145	0	10145
702+50	319	0	265	0	10410	0	10410
702+75	313	0	295	0	10705	0	10705
703+00	312	0	290	0	10995	0	10995
703+25	316	0	290	0	11285	0	11285

STH 35 (TOWER AVENUE), \*STA 692+12 TO 716+82\*\* (CONT) EXP Fact= 1.3

STATION	END AREA		VOLUME		CUMULATIVE VOLUME		MASS HAUL (CY)
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)	CUT (CY)	FILL (CY)	
703+50	311	0	290	0	11575	0	11575
703+75	308	0	285	0	11860	0	11860
704+00	305	0	285	0	12145	0	12145
704+25	303	0	280	0	12425	0	12425
704+50	302	0	280	0	12705	0	12705
704+75	260	0	260	0	12965	0	12965
705+00	261	0	240	0	13205	0	13205
705+06	253	0	60	0	13265	0	13265
705+25	232	0	165	0	13430	0	13430
705+50	246	0	220	0	13650	0	13650
705+74	264	0	230	0	13880	0	13880
705+75	264	0	5	0	13885	0	13885
706+00	266	0	245	0	14130	0	14130
706+25	320	0	270	0	14400	0	14400
706+50	326	0	300	0	14700	0	14700
706+75	323	0	300	0	15000	0	15000
707+00	322	0	300	0	15300	0	15300
707+25	321	0	300	0	15600	0	15600
707+50	318	0	295	0	15895	0	15895
707+75	313	0	290	0	16185	0	16185
708+00	313	0	290	0	16475	0	16475
708+25	309	0	290	0	16765	0	16765
708+50	319	0	290	0	17055	0	17055
708+75	316	0	295	0	17350	0	17350
709+00	238	0	255	0	17605	0	17605
709+20	234	0	170	0	17775	0	17775
709+25	187	0	45	0	17820	0	17820
709+50	189	0	175	0	17995	0	17995
709+75	193	0	175	0	18170	0	18170
710+00	191	0	180	0	18350	0	18350
710+25	273	0	215	0	18565	0	18565
710+40	237	0	135	0	18700	0	18700
710+50	238	0	90	0	18790	0	18790
710+75	278	0	240	0	19030	0	19030
711+00	274	0	255	0	19285	0	19285
711+25	324	0	275	0	19560	0	19560
711+50	347	0	310	0	19870	0	19870
711+75	341	0	320	0	20190	0	20190
712+00	346	0	320	0	20510	0	20510
712+25	352	0	325	0	20835	0	20835
712+50	344	0	320	0	21155	0	21155
712+75	342	0	320	0	21475	0	21475
713+00	335	0	315	0	21790	0	21790
713+25	338	0	310	0	22100	0	22100
713+50	259	0	275	0	22375	0	22375
713+75	258	0	240	0	22615	0	22615
713+89	257	0	135	0	22750	0	22750
714+00	252	0	100	0	22850	0	22850
714+25	210	0	215	0	23065	0	23065
714+50	216	0	195	0	23260	0	23260
714+75	212	0	200	0	23460	0	23460
715+00	287	0	230	0	23690	0	23690
715+09	265	0	95	0	23785	0	23785
715+25	273	0	155	0	23940	0	23940
715+50	278	0	255	0	24195	0	24195
715+75	270	0	255	0	24450	0	24450
716+00	257	0	245	0	24695	0	24695
716+25	201	0	210	0	24905	0	24905
716+50	166	0	170	0	25075	0	25075
716+75	181	0	160	0	25235	0	25235
716+82	181	0	50	0	25285	0	25285

\* STATION EQUATION (STA 692+12.00 AHEAD = STA 692+12.03 BACK)  
 \*\* RR CROSSING STA 716+82.37 - 717+06.09

STH 35 (TOWER AVENUE), \*\*STA 717+06 TO 737+84 EXP Fact= 1.3

STATION	END AREA		VOLUME		CUMULATIVE VOLUME		MASS HAUL (CY)
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)	CUT (CY)	FILL (CY)	
717+06	175	0					
717+25	175	0	125	0	125	0	125
717+50	162	0	155	0	280	0	280
717+75	172	0	155	0	435	0	435
718+00	176	0	160	0	595	0	595
718+25	190	0	170	0	765	0	765
718+35	199	0	70	0	835	0	835
718+50	169	0	105	0	940	0	940
718+75	173	0	160	0	1100	0	1100
719+00	172	0	160	0	1260	0	1260
719+25	175	0	160	0	1420	0	1420
719+35	236	0	75	0	1495	0	1495
719+50	235	0	135	0	1630	0	1630
719+75	252	0	225	0	1855	0	1855
720+00	257	0	235	0	2090	0	2090
720+25	254	0	235	0	2325	0	2325
720+50	252	0	235	0	2560	0	2560
720+75	249	0	230	0	2790	0	2790
721+00	253	0	230	0	3020	0	3020
721+25	255	0	235	0	3255	0	3255
721+44	255	0	180	0	3435	0	3435
721+50	256	0	55	0	3490	0	3490
721+70	261	0	190	0	3680	0	3680
721+75	261	0	50	0	3730	0	3730
722+00	259	0	240	0	3970	0	3970
722+25	227	0	225	0	4195	0	4195
722+50	219	0	205	0	4400	0	4400
722+55	220	0	40	0	4440	0	4440
722+75	172	0	145	0	4585	0	4585
723+00	174	0	160	0	4745	0	4745
723+25	173	0	160	0	4905	0	4905
723+50	173	0	160	0	5065	0	5065
723+55	236	0	35	0	5100	0	5100
723+75	236	0	175	0	5275	0	5275
724+00	253	0	225	0	5500	0	5500
724+25	258	0	235	0	5735	0	5735
724+50	254	0	235	0	5970	0	5970
724+75	252	0	235	0	6205	0	6205
725+00	257	0	235	0	6440	0	6440
725+25	256	0	240	0	6680	0	6680
725+50	252	0	235	0	6915	0	6915
725+75	257	0	235	0	7150	0	7150
725							

STH 35 (TOWER AVENUE), \*\*STA 717+06 TO 737+84 (CONT) EXP Fact= 1.3

STATION	END AREA		VOLUME		CUMULATIVE VOLUME		MASS HAUL (CY)
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)	CUT (CY)	FILL (CY)	
732+50	225	0	200	0	12640	0	12640
732+75	229	0	210	0	12850	0	12850
733+00	231	0	215	0	13065	0	13065
733+25	226	0	210	0	13275	0	13275
733+50	228	0	210	0	13485	0	13485
733+75	238	0	215	0	13700	0	13700
734+00	238	0	220	0	13920	0	13920
734+25	245	0	225	0	14145	0	14145
734+50	236	0	225	0	14370	0	14370
734+75	239	0	220	0	14590	0	14590
735+00	242	0	225	0	14815	0	14815
735+25	220	0	215	0	15030	0	15030
735+50	192	0	190	0	15220	0	15220
735+65	191	0	105	0	15325	0	15325
735+75	205	0	75	0	15400	0	15400
736+00	152	0	165	0	15565	0	15565
736+25	150	0	140	0	15705	0	15705
736+50	156	0	140	0	15845	0	15845
736+65	190	0	95	0	15940	0	15940
736+75	140	0	60	0	16000	0	16000
737+00	200	1	155	0	16155	0	16155
737+25	212	0	190	0	16345	0	16345
737+50	194	1	190	0	16535	0	16535
737+75	187	1	175	0	16710	0	16710
737+84	187	1	65	0	16775	0	16775

\*\* RR CROSSING STA 716+82.37 - 717+06.09

14TH STREET, STA 137+70 TO 139+76 EXP Fact= 1.3

STATION	END AREA		VOLUME		CUMULATIVE VOLUME		MASS HAUL (CY)
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)	CUT (CY)	FILL (CY)	
137+70	172	0	30	0	30	0	30
137+75	173	0	160	0	190	0	190
138+00	172	0	155	0	345	0	345
138+25	162	0	145	0	490	0	490
138+50	156	0	145	0	635	0	635
138+75	154	0	145	0	780	0	780
139+00	164	0	155	0	935	0	935
139+25	171	0	160	0	1095	0	1095
139+54	128	0	120	0	1215	0	1215
139+76	171	0	0	0	1215	0	1215

13TH STREET, STA 127+60 TO 129+76 EXP Fact= 1.3

STATION	END AREA		VOLUME		CUMULATIVE VOLUME		MASS HAUL (CY)
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)	CUT (CY)	FILL (CY)	
127+60	179	0	100	0	100	0	100
127+75	189	0	175	0	275	0	275
128+00	186	0	165	0	440	0	440
128+25	171	0	160	0	600	0	600
128+50	171	0	160	0	760	0	760
128+75	186	0	165	0	925	0	925
129+00	193	0	175	0	1100	0	1100
129+25	136	0	175	0	1275	0	1275
129+54	193	0	135	0	1410	0	1410
129+76	193	0	0	0	1410	0	1410

13TH STREET, STA 130+24 TO 132+50 EXP Fact= 1.3

STATION	END AREA		VOLUME		CUMULATIVE VOLUME		MASS HAUL (CY)
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)	CUT (CY)	FILL (CY)	
130+24	179	0	125	0	125	0	125
130+46	126	0	165	0	290	0	290
130+75	179	0	165	0	455	0	455
131+00	175	0	165	0	620	0	620
131+25	176	0	165	0	785	0	785
131+50	177	0	165	0	950	0	950
131+75	178	0	160	0	1110	0	1110
132+00	167	0	155	0	1265	0	1265
132+25	172	0	65	0	1330	0	1330
132+35	172	0	95	0	1425	0	1425
132+50	174	0	0	0	1425	0	1425

12TH STREET, STA 117+50 TO 119+76 EXP Fact= 1.3

STATION	END AREA		VOLUME		CUMULATIVE VOLUME		MASS HAUL (CY)
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)	CUT (CY)	FILL (CY)	
117+50	172	0	160	0	160	0	160
117+75	177	0	165	0	325	0	325
118+00	176	0	160	0	485	0	485
118+25	171	0	155	0	640	0	640
118+50	170	0	155	0	795	0	795
118+75	184	0	165	0	960	0	960
119+00	197	0	175	0	1135	0	1135
119+25	144	0	185	0	1320	0	1320
119+54	197	0	140	0	1460	0	1460
119+76	197	0	0	0	1460	0	1460

12TH STREET, STA 120+24 TO 122+50 EXP Fact= 1.3

STATION	END AREA		VOLUME		CUMULATIVE VOLUME		MASS HAUL (CY)
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)	CUT (CY)	FILL (CY)	
120+24	195	0	140	0	140	0	140
120+46	154	0	185	0	325	0	325
120+75	195	0	175	0	500	0	500
121+00	181	0	165	0	665	0	665
121+25	178	0	60	0	725	0	725
121+35	177	0	105	0	830	0	830
121+50	181	0	165	0	995	0	995
121+75	172	0	155	0	1150	0	1150
122+00	164	0	155	0	1305	0	1305
122+25	167	0	155	0	1460	0	1460
122+50	167	0	0	0	1460	0	1460

11TH STREET, STA 107+25 TO 109+76 EXP Fact= 1.3

STATION	END AREA		VOLUME		CUMULATIVE VOLUME		MASS HAUL (CY)
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)	CUT (CY)	FILL (CY)	
107+25	166	0	150	0	150	0	150
107+50	162	0	150	0	300	0	300
107+75	160	0	145	0	445	0	445
108+00	157	0	140	0	585	0	585
108+25	143	1	130	0	715	0	715
108+50	133	0	130	0	845	0	845
108+75	145	0	140	0	985	0	985
109+00	154	0	150	0	1135	0	1135
109+25	171	0	165	0	1300	0	1300
109+54	132	0	125	0	1425	0	1425
109+76	171	0	0	0	1425	0	1425

10TH STREET (BROADWAY STREET), STA 96+59 TO 99+70 EXP Fact= 1.3

STATION	END AREA		VOLUME		CUMULATIVE VOLUME		MASS HAUL (CY)
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)	CUT (CY)	FILL (CY)	
96+59	38	1	25	0	25	0	25
96+75	44	2	40	0	65	0	65
97+00	45	2	50	0	115	0	115
97+25	60	1	55	0	170	0	170
97+50	60	0	135	0	305	0	305
97+75	232	0	220	0	525	0	525
98+00	245	0	230	0	755	0	755
98+25	249	0	250	0	1005	0	1005
98+50	287	0	260	0	1265	0	1265
98+75	275	0	260	0	1525	0	1525
99+00	282	0	260	0	1785	0	1785
99+25	283	0	130	0	1915	0	1915
99+38	265	0	315	0	2230	0	2230
99+70	265	0	0	0	2230	0	2230

10TH STREET (BROADWAY STREET), STA 100+30 TO 103+38 EXP Fact= 1.3

STATION	END AREA		VOLUME		CUMULATIVE VOLUME		MASS HAUL (CY)
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)	CUT (CY)	FILL (CY)	
100+30	245	0	290	0	290	0	290
100+52	245	0	120	0	410	0	410
100+75	261	0	240	0	650	0	650
101+00	258	0	235	0	885	0	885
101+25	251	0	230	0	1115	0	1115
101+50	248	0	230	0	1345	0	1345
101+75	246	0	150	0	1495	0	1495
102+00	81	0	70	0	1565	0	1565
102+25	72	0	65	0	1630	0	1630
102+50	68	0	60	0	1690	0	1690
102+75	66	0	55	0	1745	0	1745
103+00	49	0	45	0	1790	0	1790
103+25	43	0	10	0	1800	0	1800
103+38	0	0	0	0	1800	0	1800

9TH STREET (WINTER STREET), STA 86+59 TO 89+70 EXP Fact= 1.3

STATION	END AREA		VOLUME		CUMULATIVE VOLUME		MASS HAUL (CY)
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)	CUT (CY)	FILL (CY)	
86+59	36	0	20	0	20	0	20
86+75	35	1	30	0	50	0	50
87+00	30	2	30	0	80	0	80
87+25	32	1	35	0	115	0	115
87+50	44	1	40	0	155	0	155
87+75	47	1	40	0	195	0	195
88+00	43	0	40	0	235	0	235
88+25	45	0	100	0	335	0	335
88+50	237	0	45	0	380	0	380
88+75	264	0	230	0	610	0	610
89+00	278	0	250	0	860	0	860
89+25	290	0	265	0	1125	0	1125
89+38	265	0	135	0	1260	0	1260
89+70	265	0	315	0	1575	0	1575

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9TH STREET (WINTER STREET), STA 90+30 TO 92+86 EXP Fact= 1.3

STATION	END AREA		VOLUME		CUMULATIVE VOLUME		MASS HAUL (CY)
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)	CUT (CY)	FILL (CY)	
90+30	240	0					
90+62	240	0	285	0	285	0	285
90+75	251	0	120	0	405	0	405
91+00	226	1	220	0	625	0	625
91+25	219	1	205	0	830	0	830
91+50	45	2	120	0	950	0	950
91+75	59	0	50	0	1000	0	1000
92+00	51	1	50	0	1050	0	1050
92+25	52	0	50	0	1100	0	1100
92+50	48	1	45	0	1145	0	1145
92+75	44	1	45	0	1190	0	1190
92+86	42	1	20	0	1210	0	1210

8TH STREET, STA 78+85 TO 79+76 EXP Fact= 1.3

STATION	END AREA		VOLUME		CUMULATIVE VOLUME		MASS HAUL (CY)
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)	CUT (CY)	FILL (CY)	
78+85	133	0					
79+00	146	0	80	0	80	0	80
79+25	151	0	140	0	220	0	220
79+44	162	0	110	0	330	0	330
79+76	162	0	190	0	520	0	520

8TH STREET, STA 80+24 TO 81+25 EXP Fact= 1.3

STATION	END AREA		VOLUME		CUMULATIVE VOLUME		MASS HAUL (CY)
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)	CUT (CY)	FILL (CY)	
80+24	164	0					
80+56	164	0	80	0	80	0	80
80+75	145	0	110	0	190	0	190
81+00	133	1	130	0	320	0	320
81+25	139	0	125	0	445	0	445

7TH STREET, STA 68+70 TO 69+76 EXP Fact= 1.3

STATION	END AREA		VOLUME		CUMULATIVE VOLUME		MASS HAUL (CY)
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)	CUT (CY)	FILL (CY)	
68+70	152	0					
69+00	159	0	175	0	175	0	175
69+25	172	0	155	0	330	0	330
69+44	183	0	125	0	455	0	455
69+76	183	0	215	0	670	0	670

7TH STREET, STA 70+24 TO 71+25 EXP Fact= 1.3

STATION	END AREA		VOLUME		CUMULATIVE VOLUME		MASS HAUL (CY)
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)	CUT (CY)	FILL (CY)	
70+24	165	0					
70+56	165	0	195	0	195	0	195
70+75	150	0	110	0	305	0	305
71+00	146	0	135	0	440	0	440
71+25	146	0	135	0	575	0	575

6TH STREET, STA 58+75 TO 59+76 EXP Fact= 1.3

STATION	END AREA		VOLUME		CUMULATIVE VOLUME		MASS HAUL (CY)
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)	CUT (CY)	FILL (CY)	
58+75	151	0					
59+00	153	0	140	0	140	0	140
59+25	160	0	145	0	285	0	285
59+44	166	0	115	0	400	0	400
59+76	166	0	195	0	595	0	595

6TH STREET, STA 60+24 TO 61+85 EXP Fact= 1.3

STATION	END AREA		VOLUME		CUMULATIVE VOLUME		MASS HAUL (CY)
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)	CUT (CY)	FILL (CY)	
60+24	176	0					
60+56	176	0	210	0	210	0	210
60+75	174	0	120	0	330	0	330
61+00	166	0	155	0	485	0	485
61+25	155	1	150	0	635	0	635
61+35	152	2	55	0	690	0	690
61+50	65	0	60	0	750	0	750
61+80	60	0	70	0	820	0	820
61+85	60	0	10	0	830	0	830

5TH STREET, STA 48+80 TO 49+76 EXP Fact= 1.3

STATION	END AREA		VOLUME		CUMULATIVE VOLUME		MASS HAUL (CY)
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)	CUT (CY)	FILL (CY)	
48+80	160	0					
49+00	161	0	120	0	120	0	120
49+25	154	0	145	0	265	0	265
49+44	154	0	110	0	375	0	375
49+76	154	0	185	0	560	0	560

5TH STREET, STA 50+24 TO 51+35 EXP Fact= 1.3

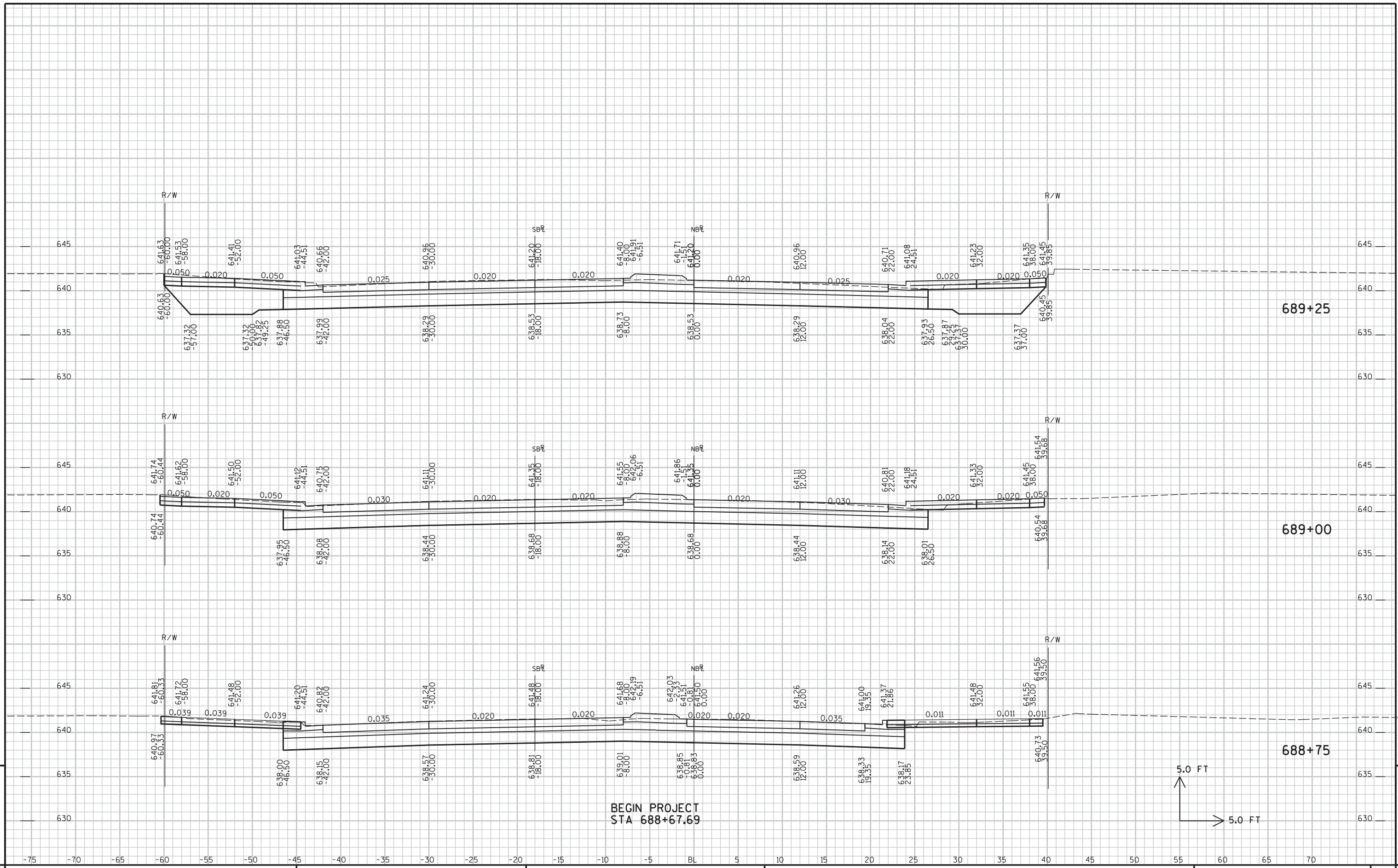
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	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)	CUT (CY)	FILL (CY)	
50+24	159	2					
50+56	159	2	190	5	190	5	185
50+75	159	3	110	0	300	5	295
51+00	145	6	140	5	440	10	430
51+25	141	6	130	5	570	15	555
51+35	138	4	50	0	620	15	605

4TH STREET, STA 37+85 TO 39+76 EXP Fact= 1.3

STATION	END AREA		VOLUME		CUMULATIVE VOLUME		MASS HAUL (CY)
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)	CUT (CY)	FILL (CY)	
37+85	151	0					
38+00	160	0	85	0	85	0	85
38+25	133	0	135	0	220	0	220
38+50	126	1	120	0	340	0	340
38+75	131	0	120	0	460	0	460
39+00	145	0	130	0	590	0	590
39+25	142	0	135	0	725	0	725
39+44	148	0	100	0	825	0	825
39+76	148	0	175	0	1000	0	1000

4TH STREET, STA 40+24 TO 41+75 EXP Fact= 1.3

STATION	END AREA		VOLUME		CUMULATIVE VOLUME		MASS HAUL (CY)
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)	CUT (CY)	FILL (CY)	
40+24	158	1					
40+56	158	1	185	0	185	0	185
40+75	140	2	105	0	290	0	290
41+00	139	3	130	5	420	5	415
41+25	133	2	125	5	545	10	535
41+50	143	1	130	0	675	10	665
41+75	160	0	140	0	815	10	805

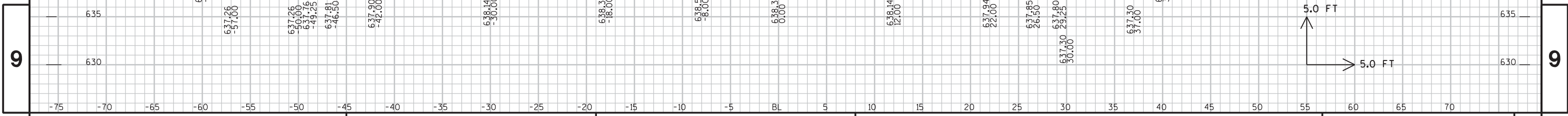
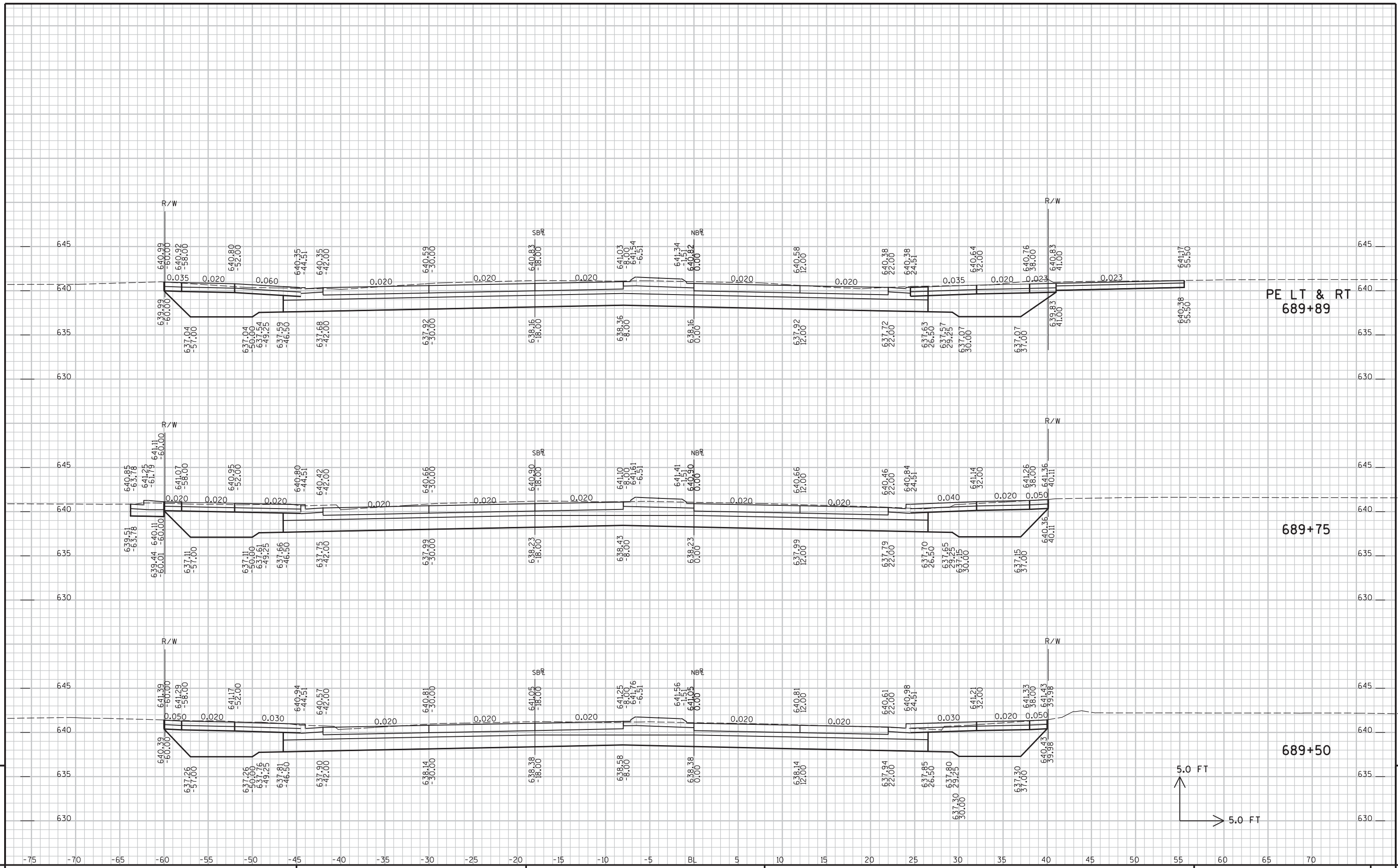


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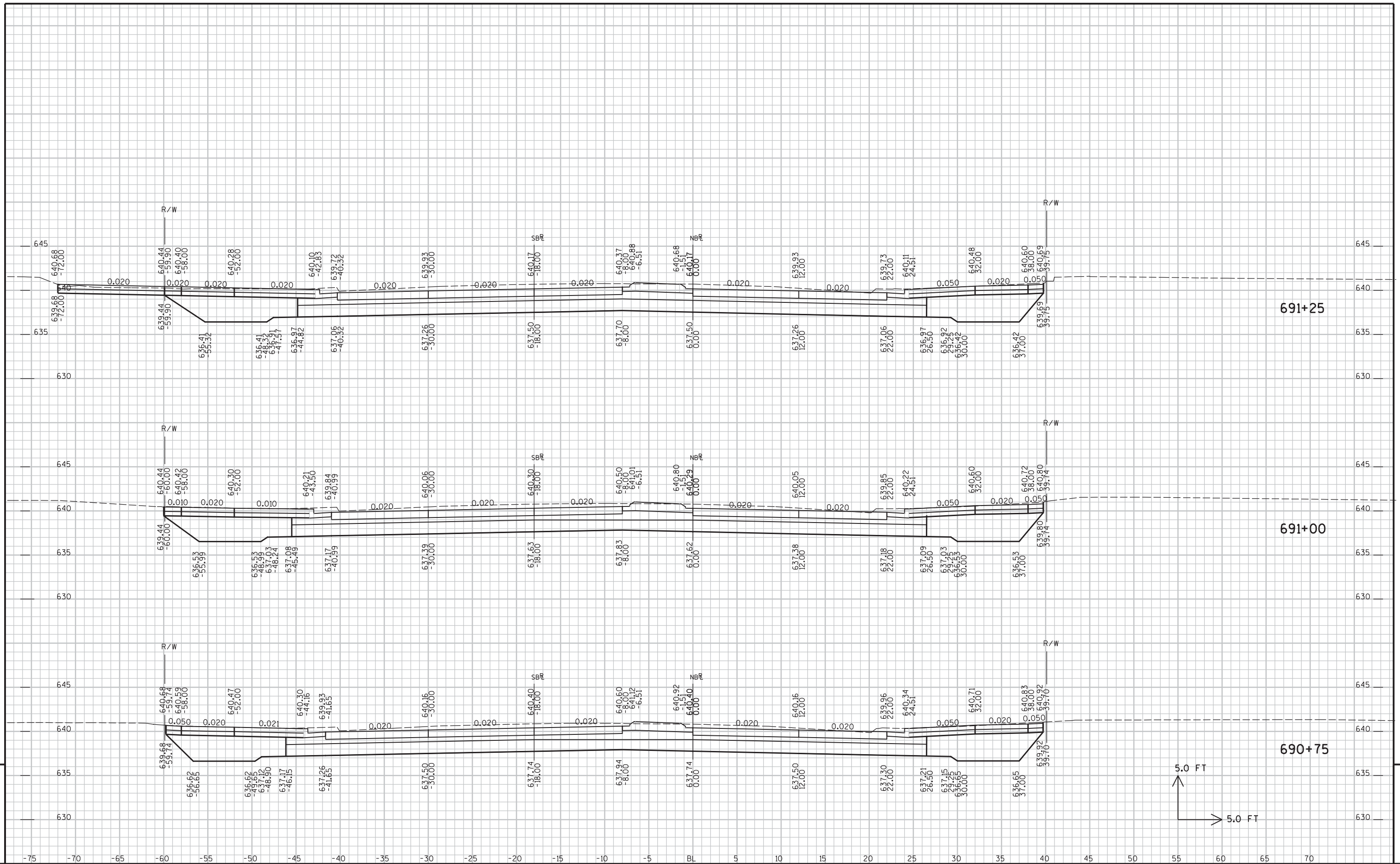
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PROJECT NO : 1195-13-71

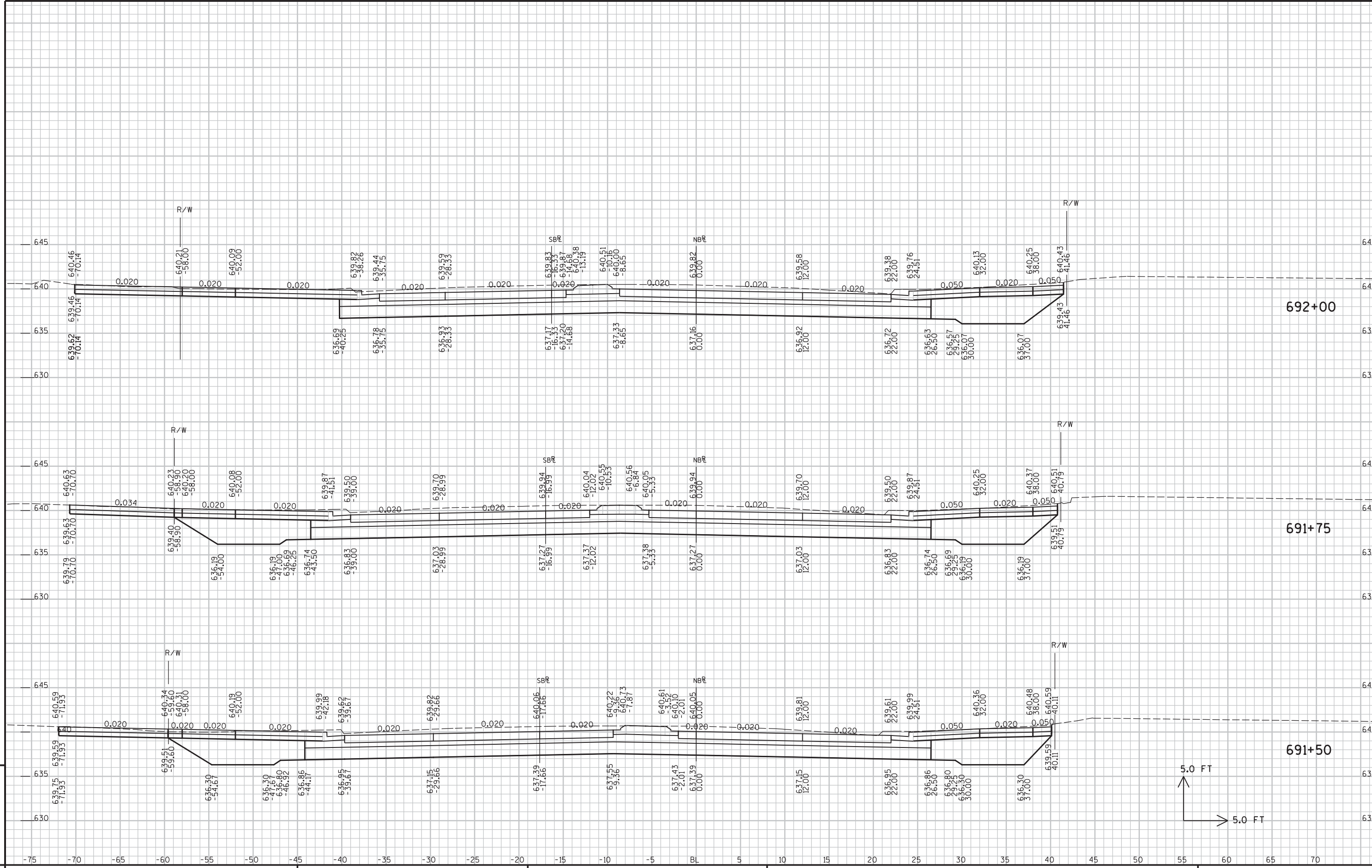
HWY : STH 35 (TOWER AVENUE)

COUNTY : DOUGLAS

CROSS SECTIONS - STH 35 (TOWER AVENUE)

SHEET NO:

E



PROJECT NO : 1195-13-71

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COUNTY : DOUGLAS

CROSS SECTIONS - STH 35 (TOWER AVENUE)

SHEET NO:

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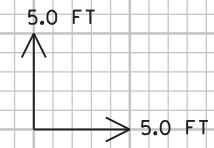
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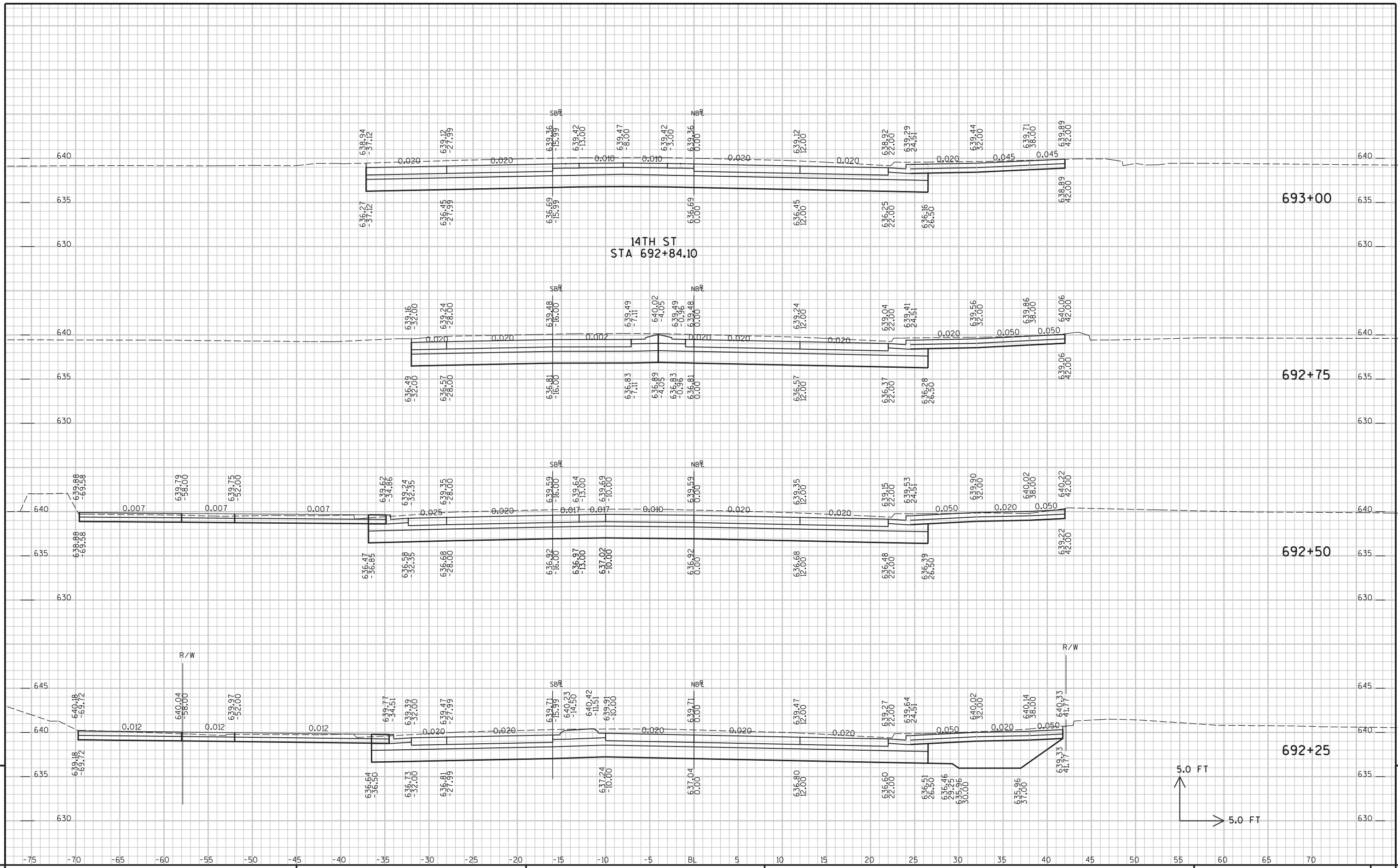
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PROJECT NO : 1195-13-71

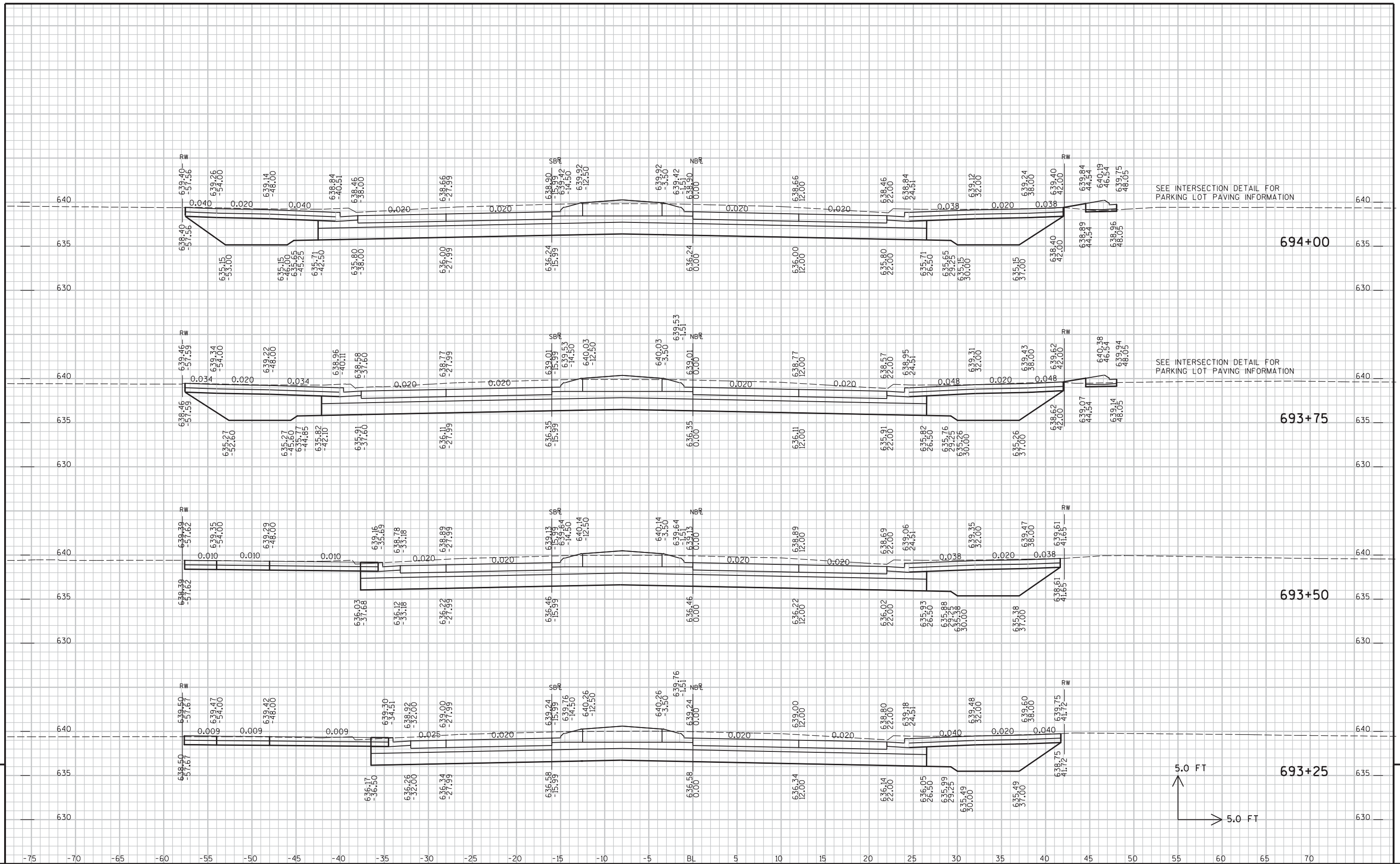
HWY : STH 35 (TOWER AVENUE)

COUNTY : DOUGLAS

CROSS SECTIONS - STH 35 (TOWER AVENUE)

SHEET NO:

E



SEE INTERSECTION DETAIL FOR  
PARKING LOT PAVING INFORMATION

SEE INTERSECTION DETAIL FOR  
PARKING LOT PAVING INFORMATION

PROJECT NO : 1195-13-71

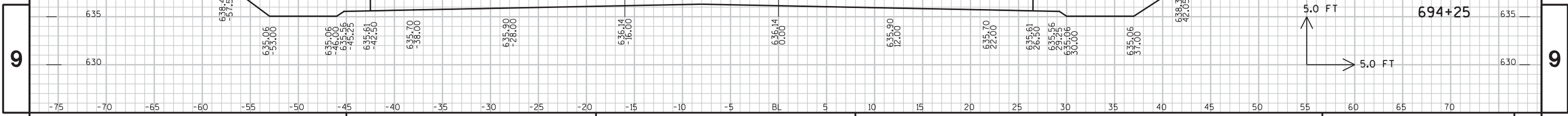
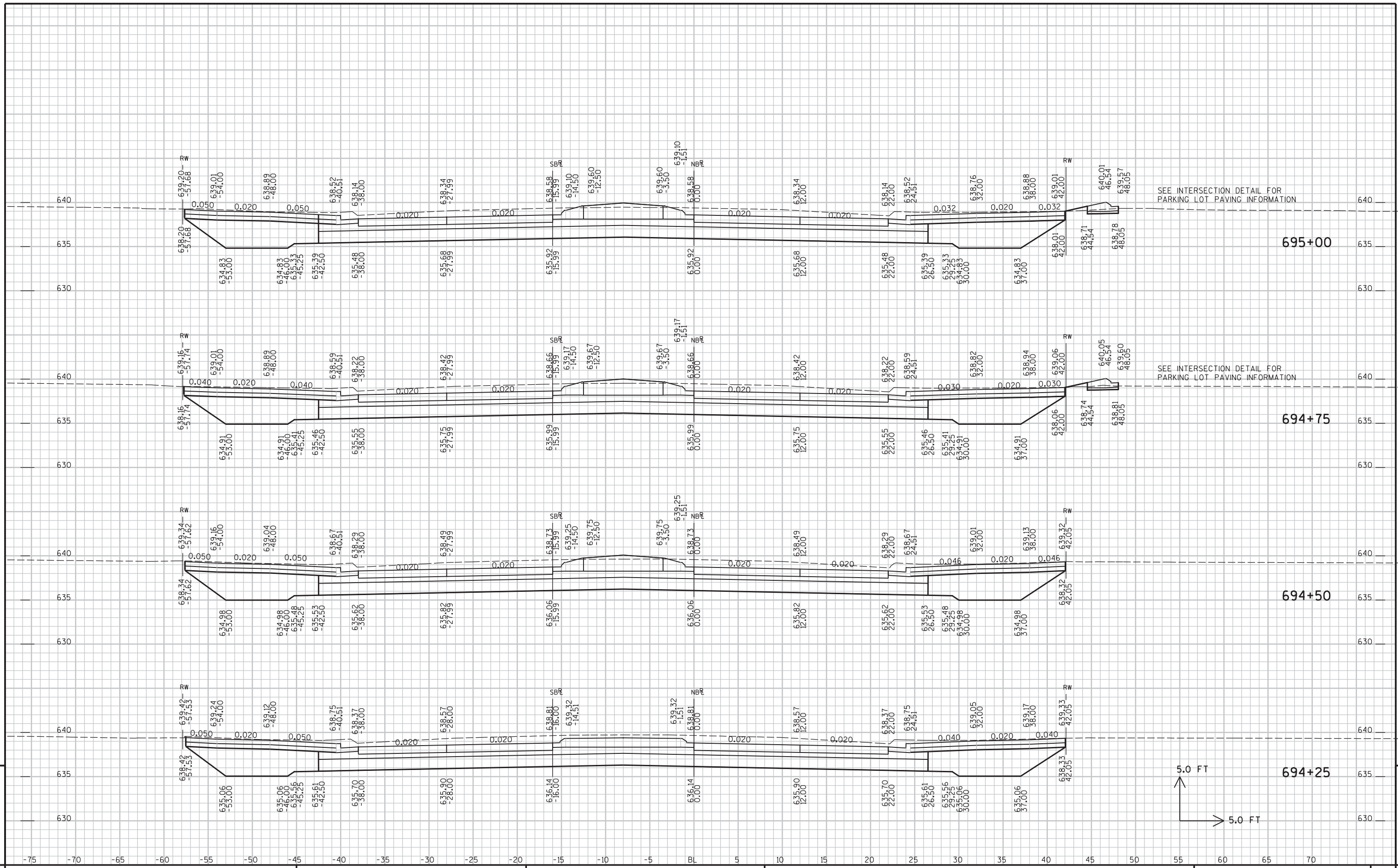
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COUNTY : DOUGLAS

CROSS SECTIONS - STH 35 (TOWER AVENUE)

SHEET NO:

E



PROJECT NO : 1195-13-71

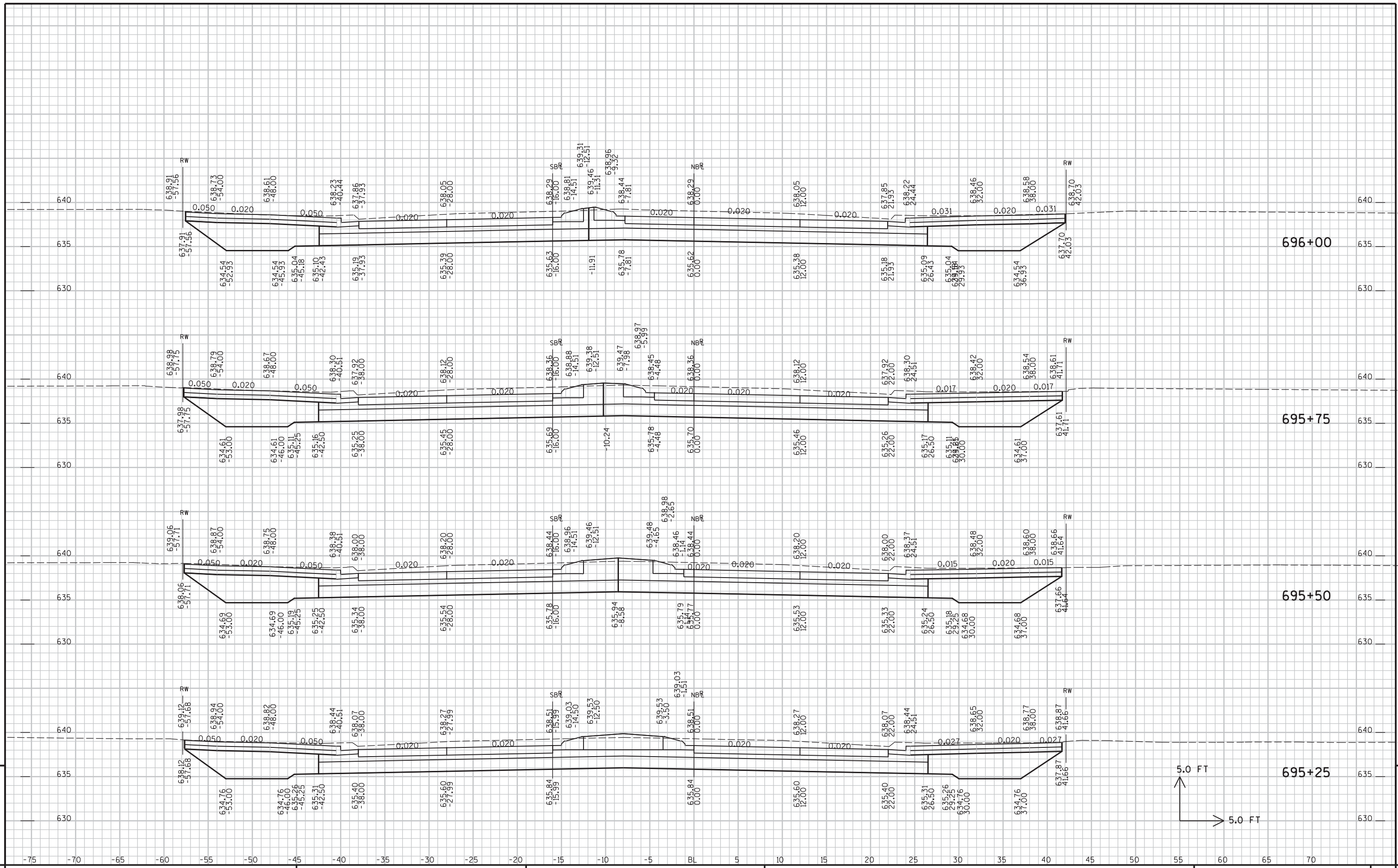
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COUNTY : DOUGLAS

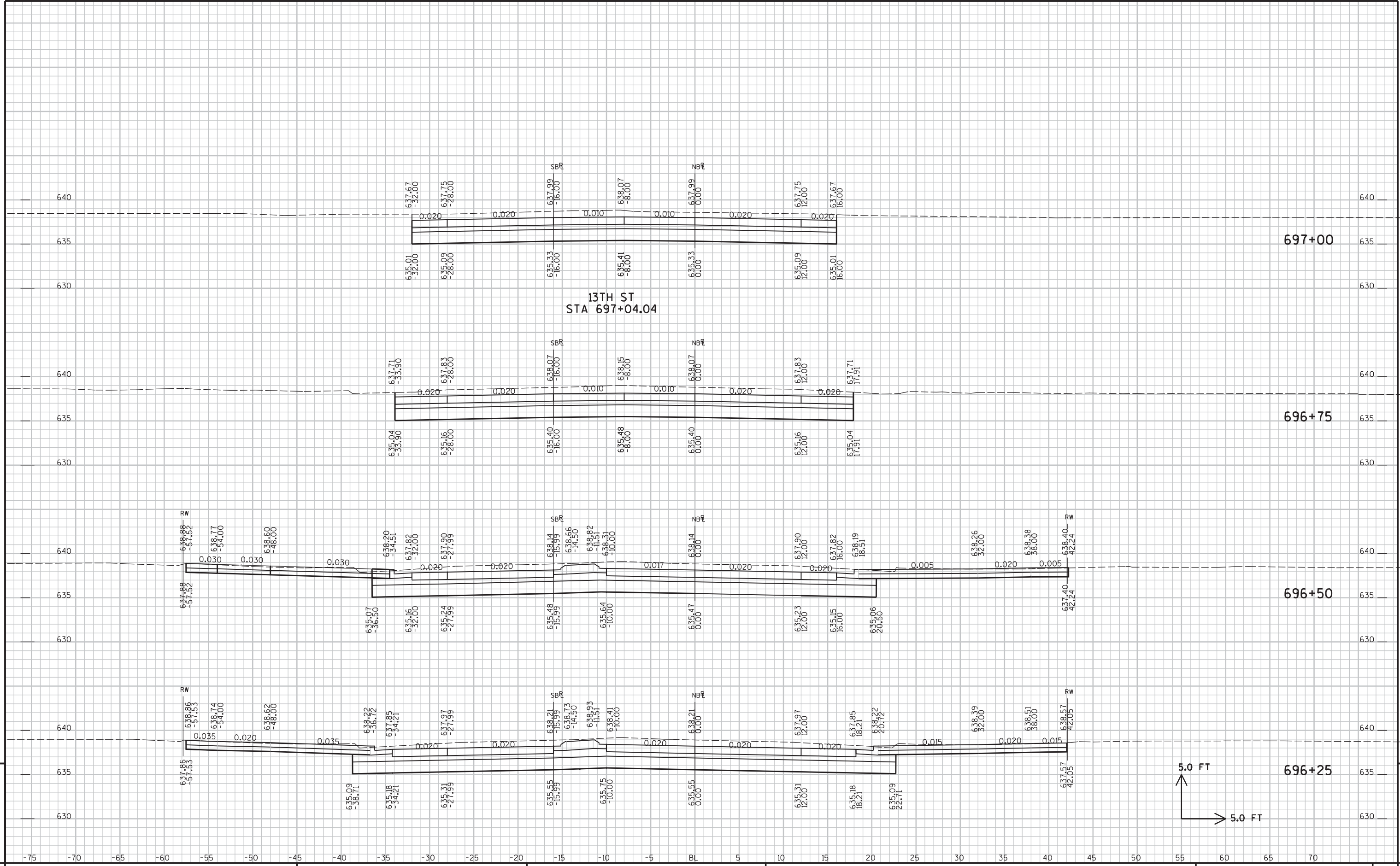
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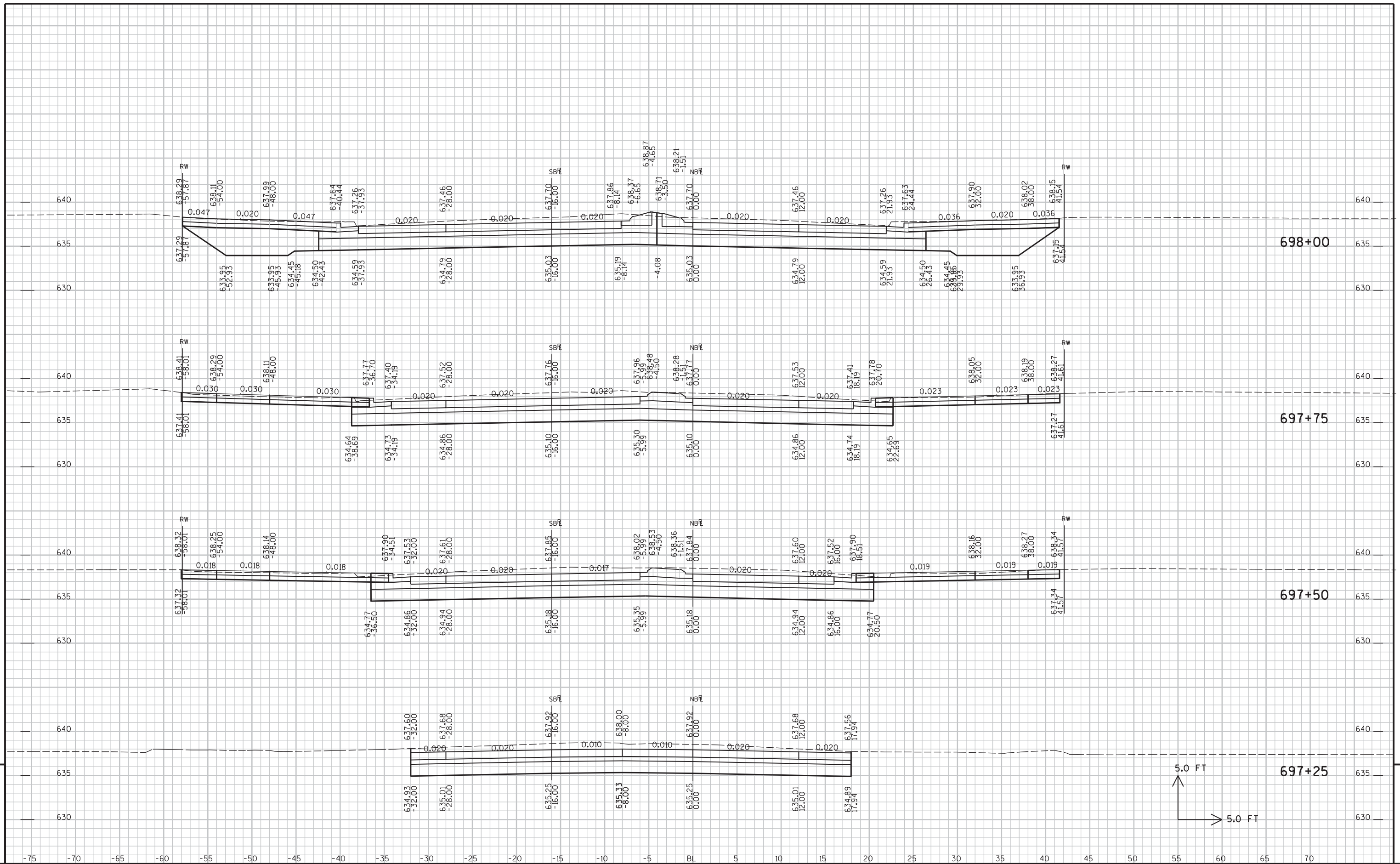
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PROJECT NO : 1195-13-71

HWY : STH 35 (TOWER AVENUE)

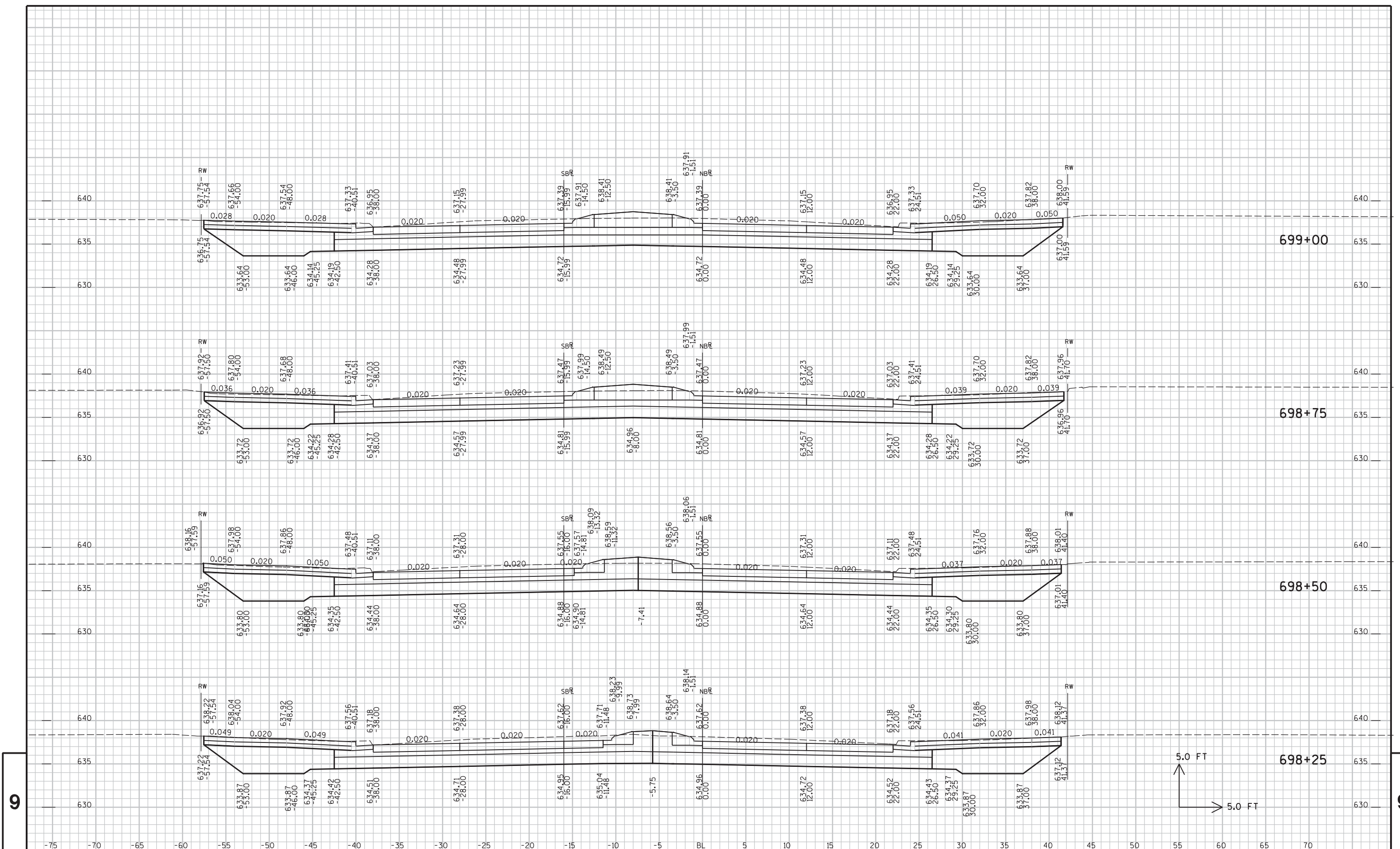
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PROJECT NO : 1195-13-71

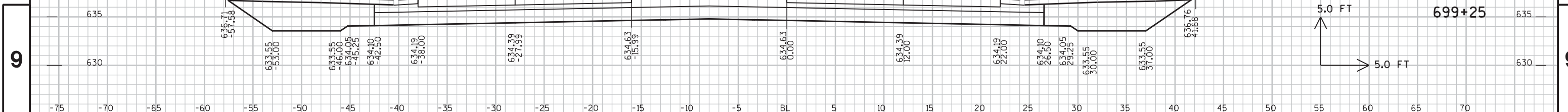
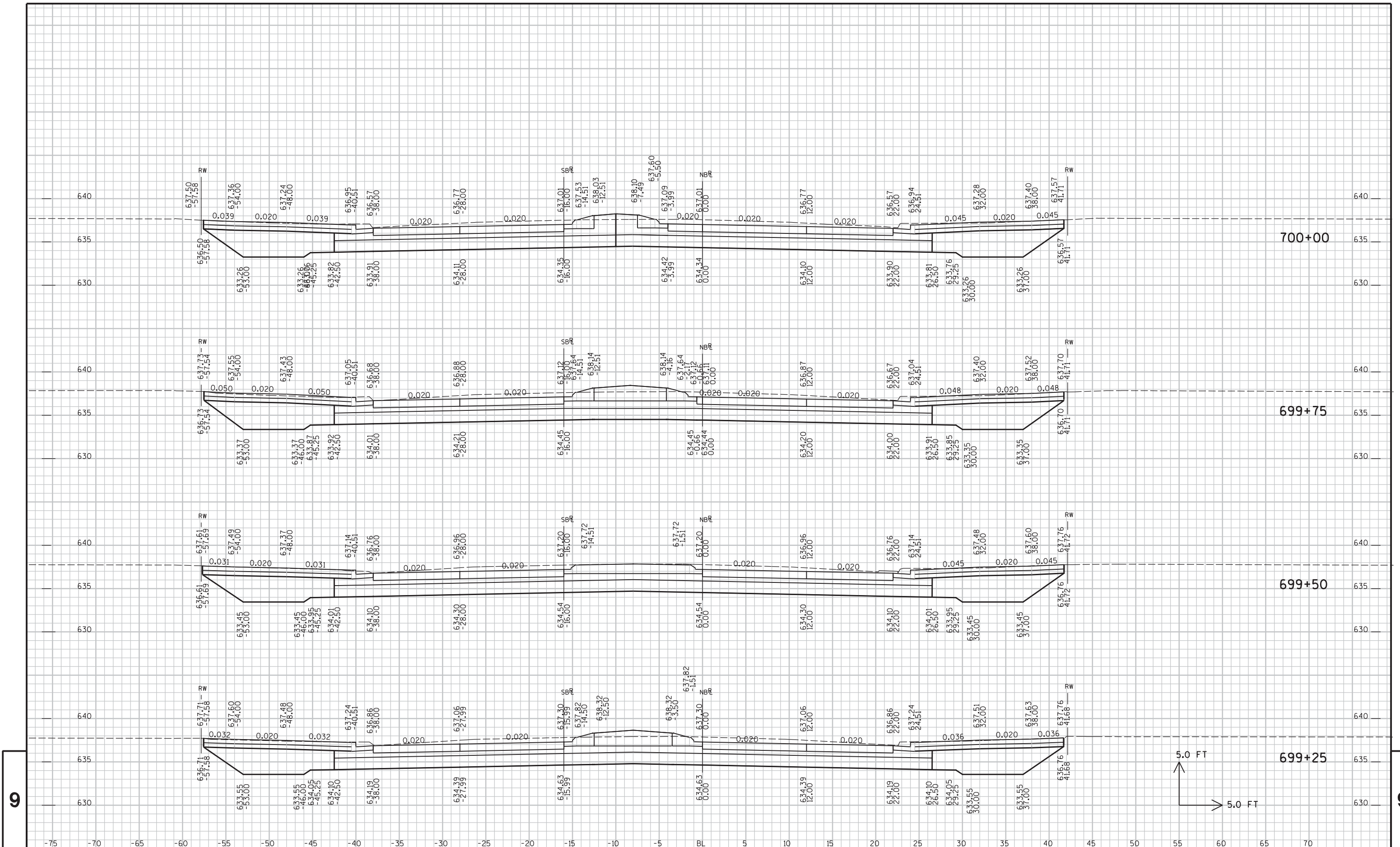
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COUNTY : DOUGLAS

CROSS SECTIONS - STH 35 (TOWER AVENUE)

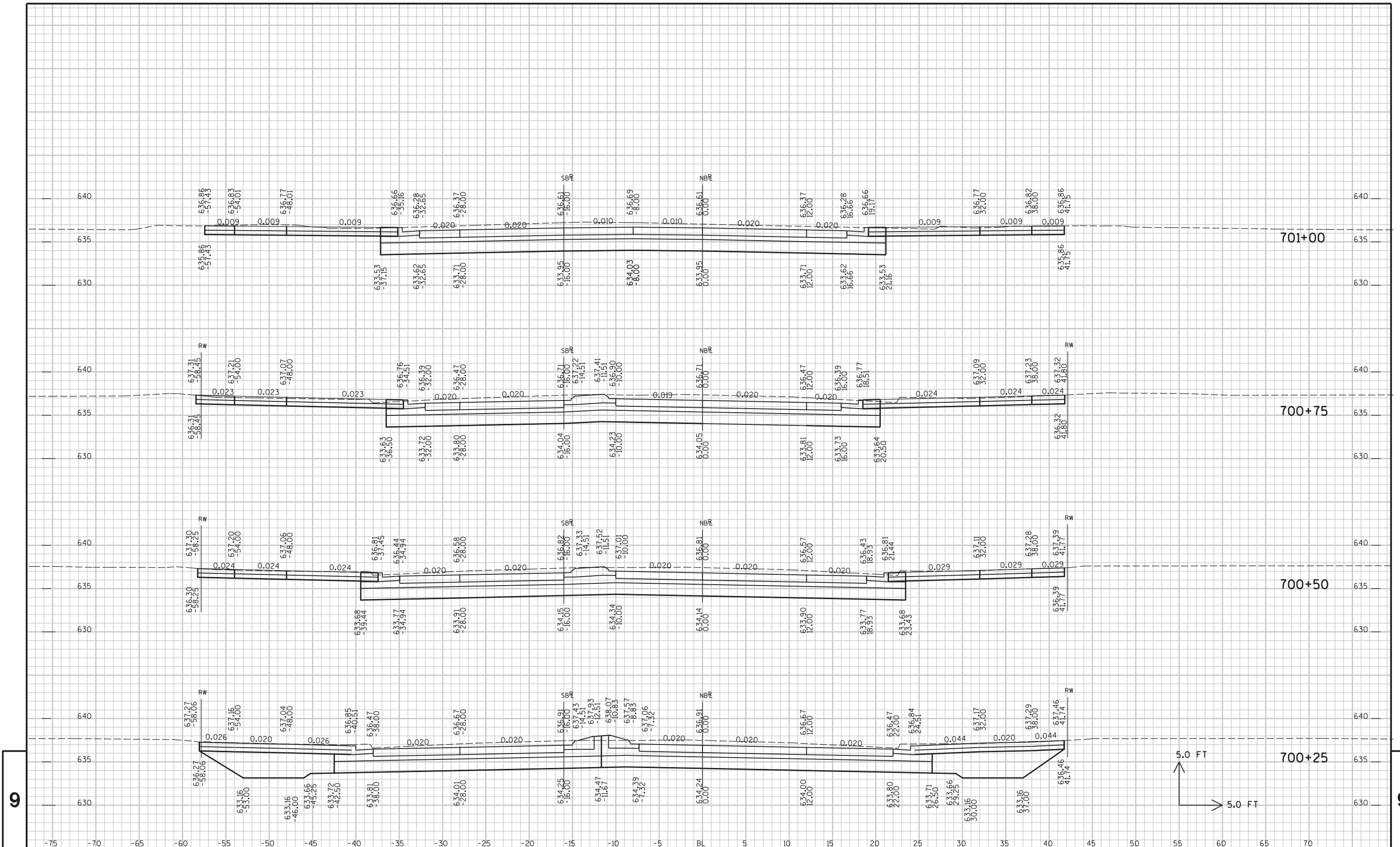
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PROJECT NO : 1195-13-71      HWY : STH 35 (TOWER AVENUE)      COUNTY : DOUGLAS      CROSS SECTIONS - STH 35 (TOWER AVENUE)      SHEET NO:      E

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PROJECT NO : 1195-13-71

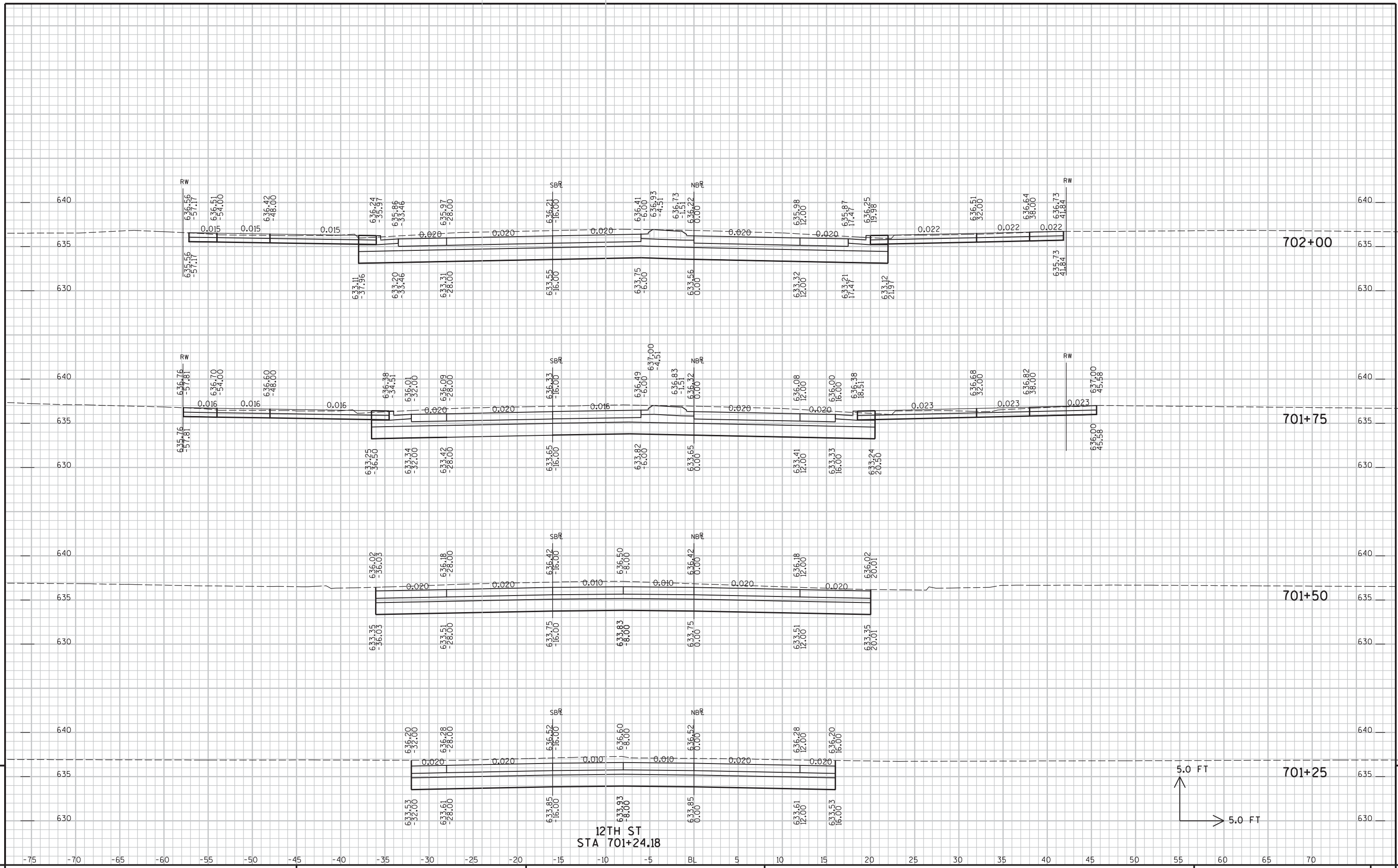
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COUNTY : DOUGLAS

CROSS SECTIONS - STH 35 (TOWER AVENUE)

SHEET NO:

E



PROJECT NO : 1195-13-71

HWY : STH 35 (TOWER AVENUE)

COUNTY : DOUGLAS

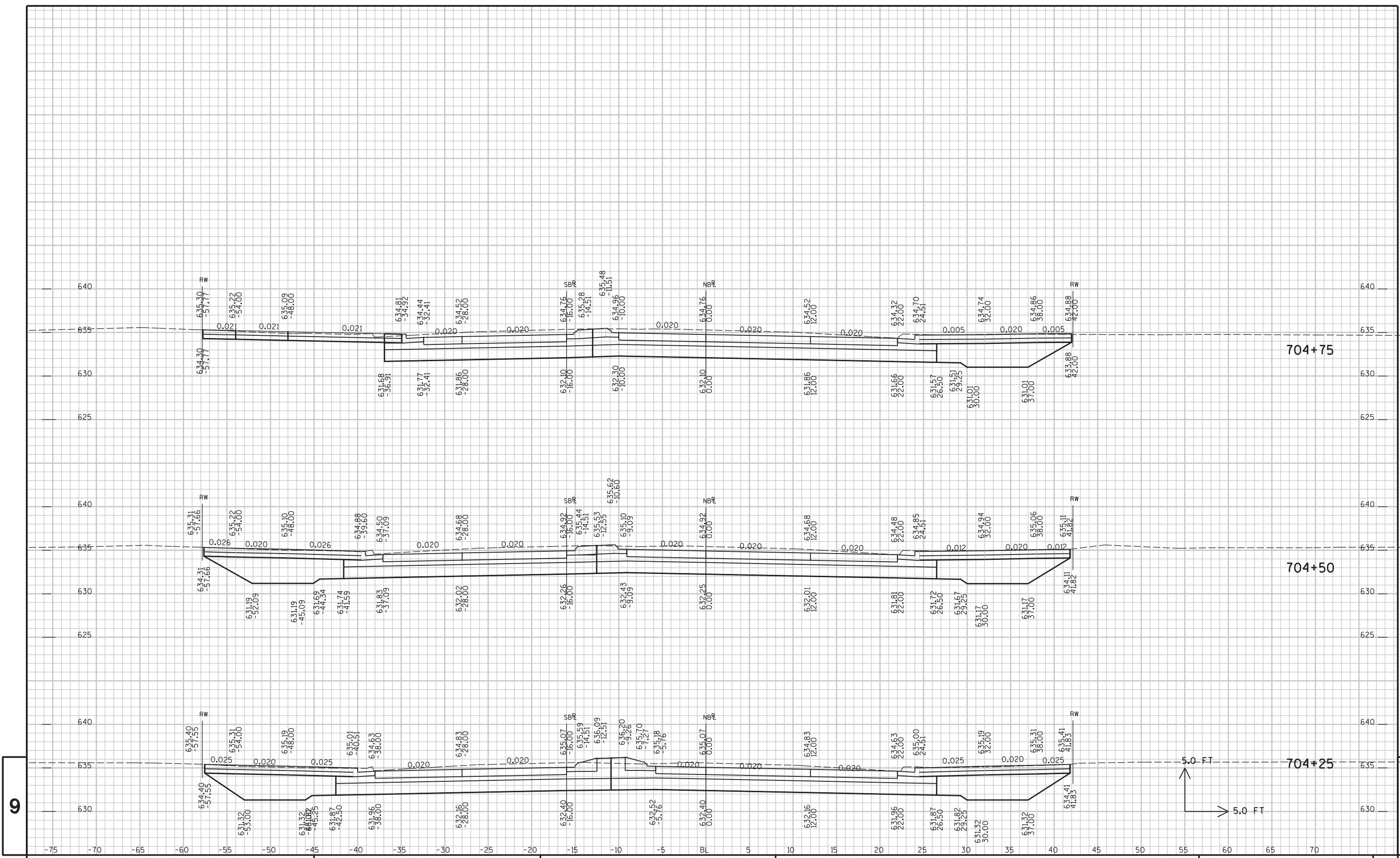
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PROJECT NO : 1195-13-71

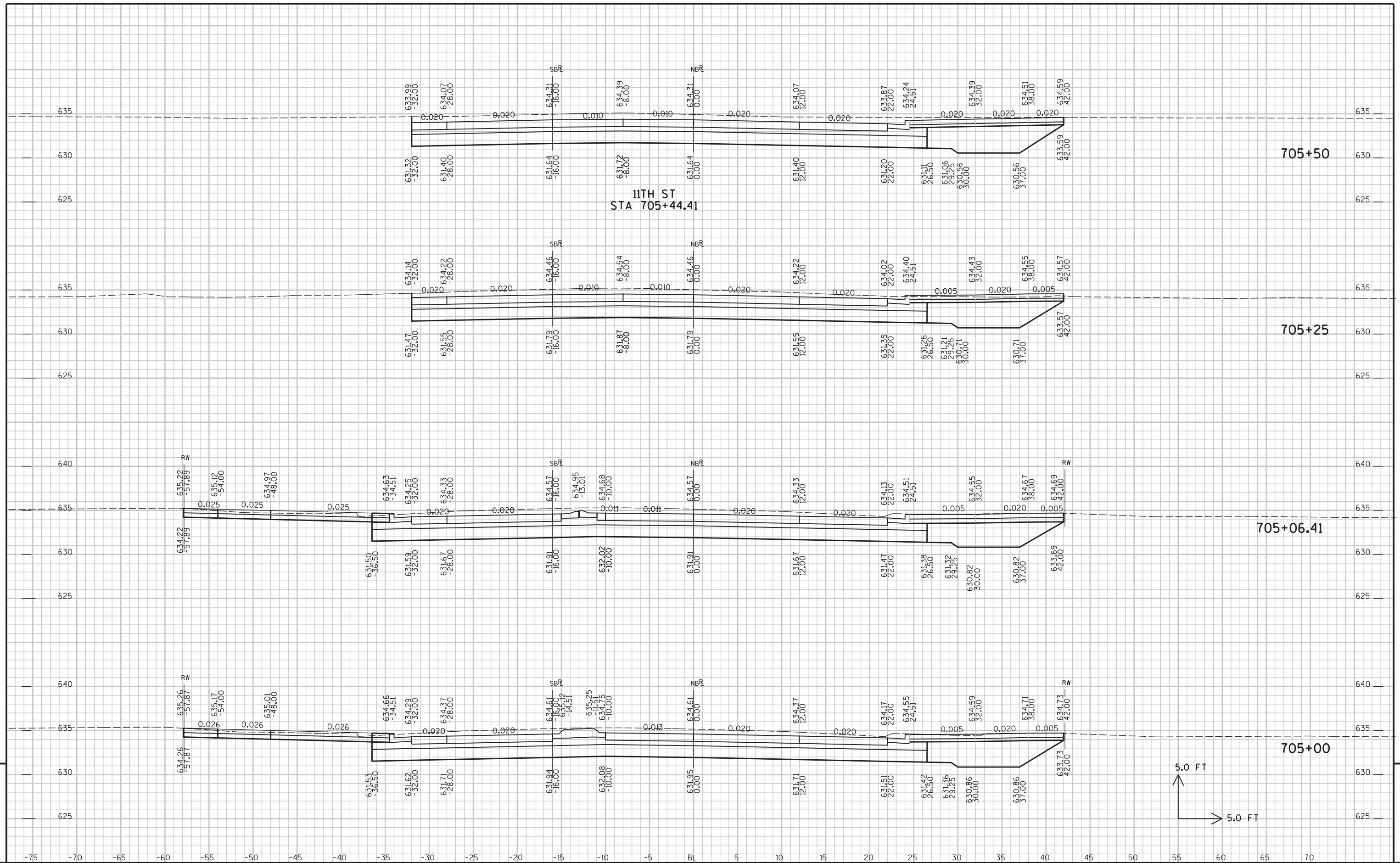
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COUNTY : DOUGLAS

CROSS SECTIONS - STH 35 (TOWER AVENUE)

SHEET NO:

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PROJECT NO : 1195-13-71

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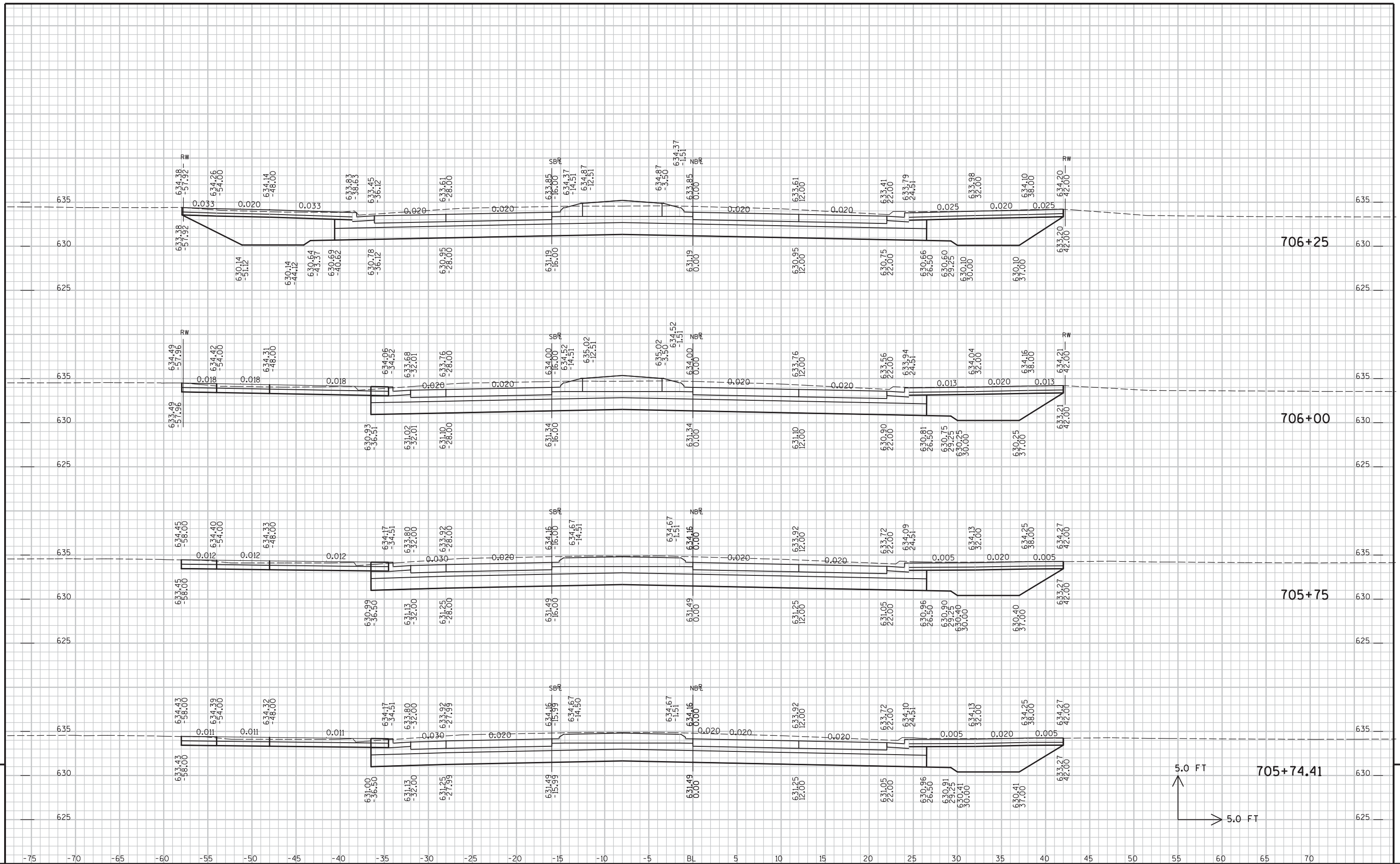
COUNTY : DOUGLAS

CROSS SECTIONS - STH 35 (TOWER AVENUE)

SHEET NO:

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PROJECT NO : 1195-13-71

HWY : STH 35 (TOWER AVENUE)

COUNTY : DOUGLAS

CROSS SECTIONS - STH 35 (TOWER AVENUE)

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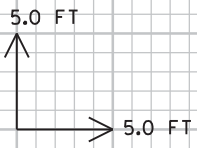
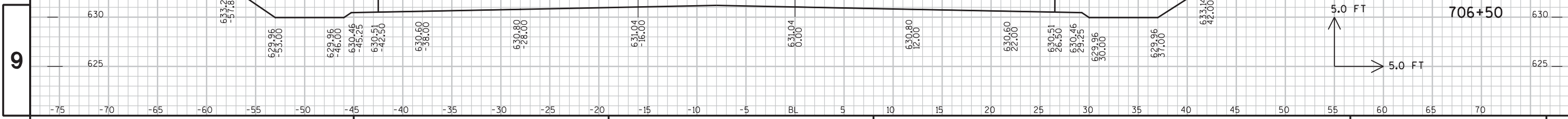
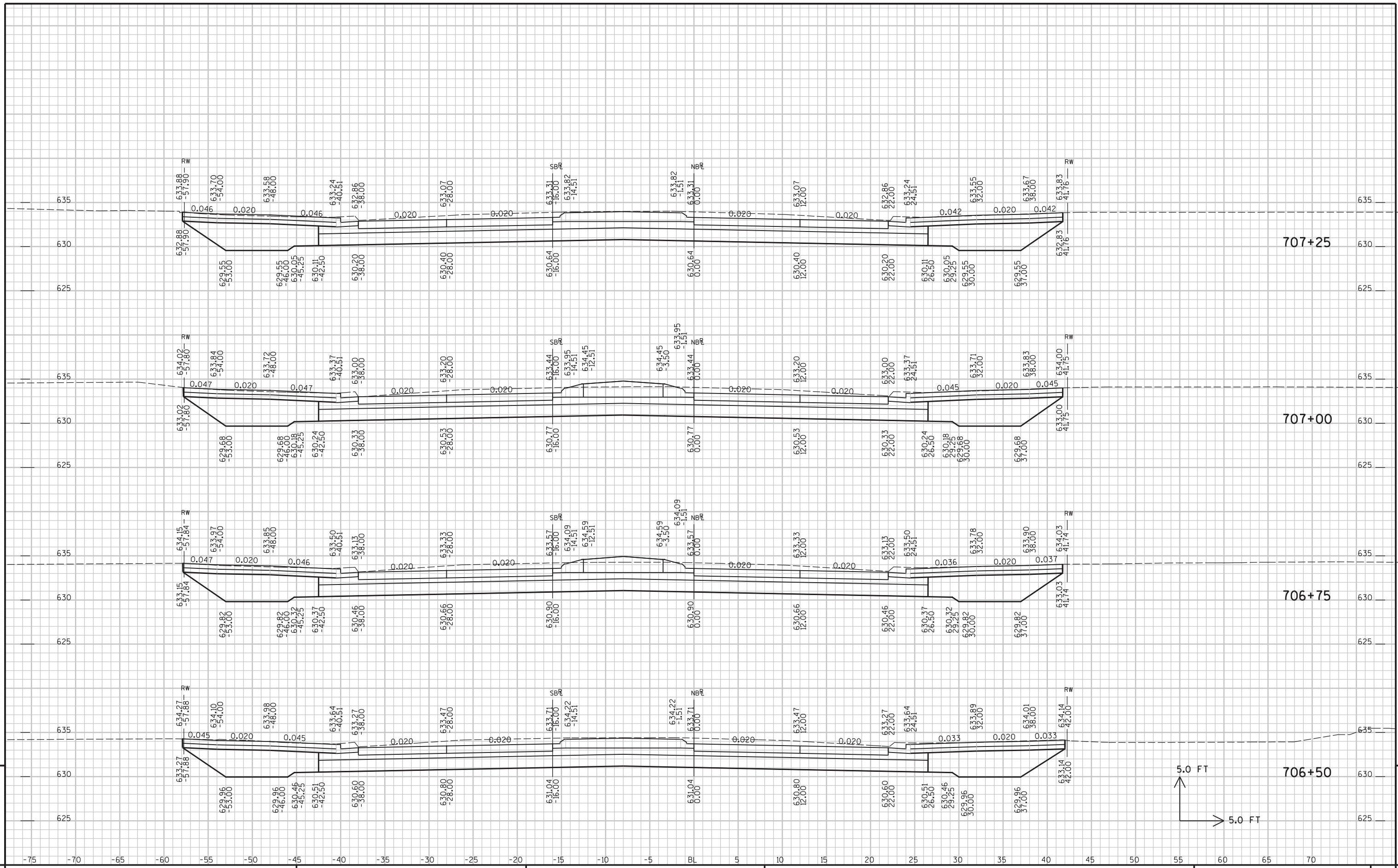
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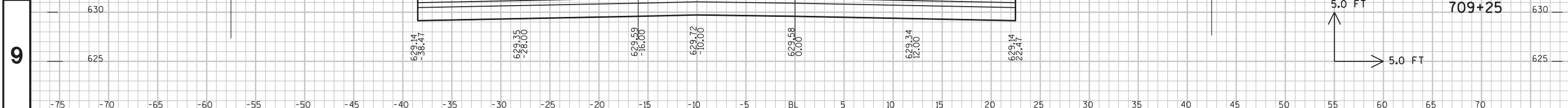
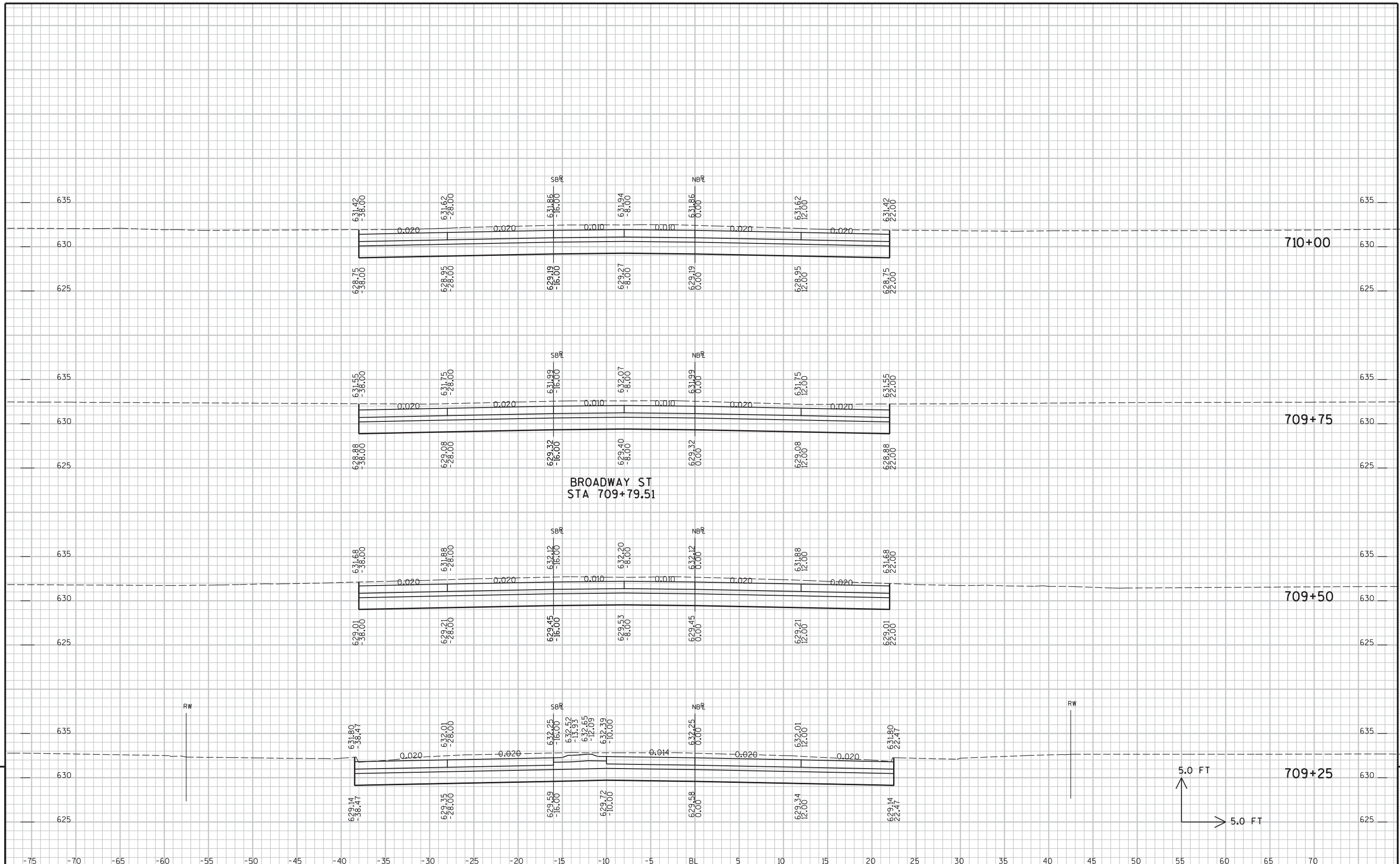


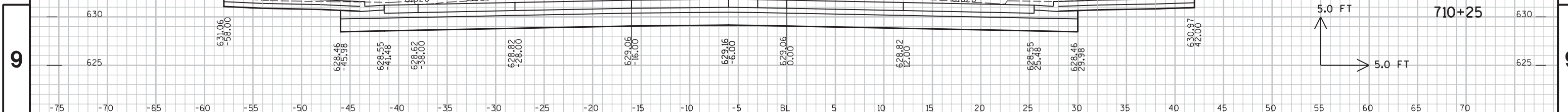
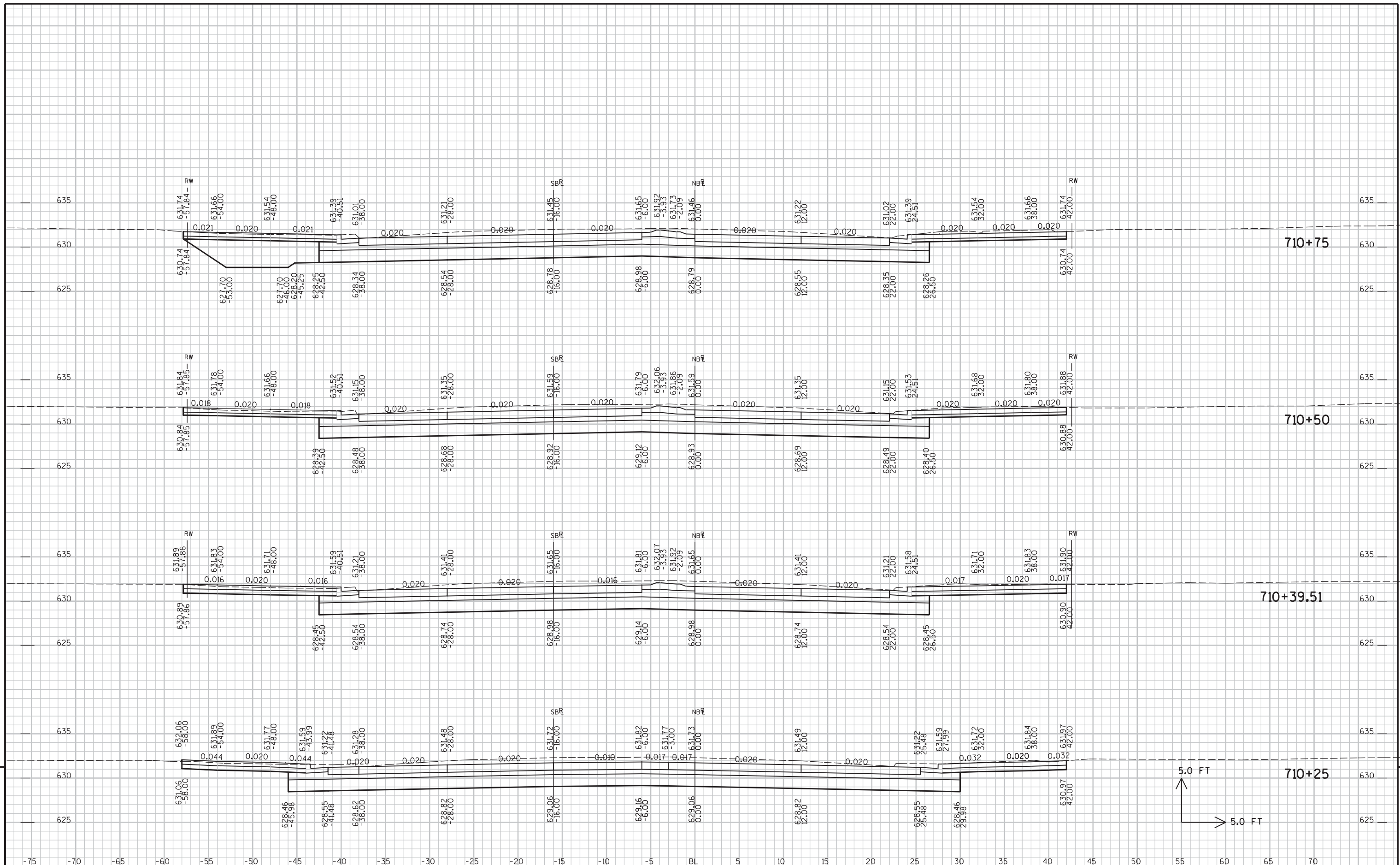
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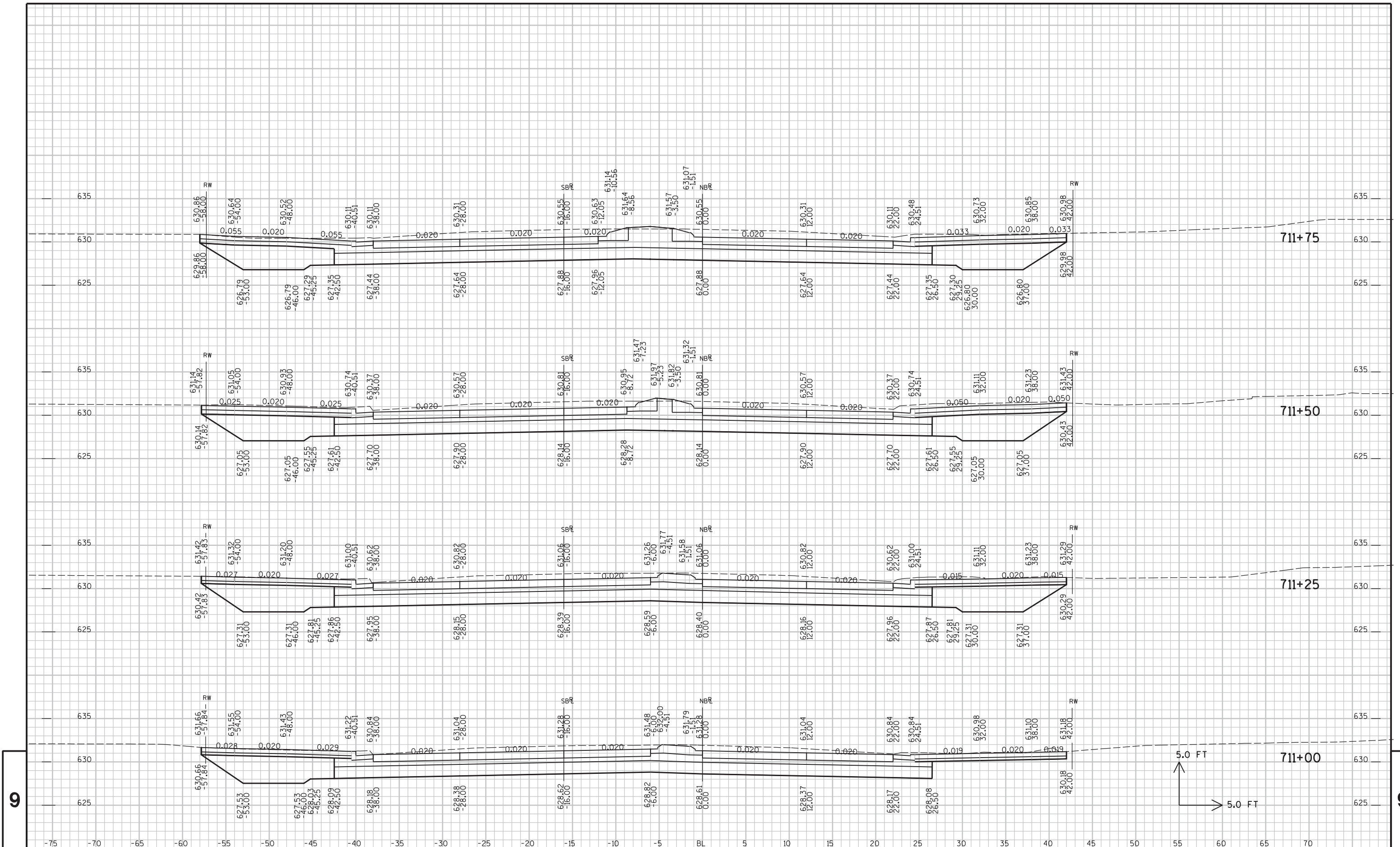
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PROJECT NO : 1195-13-71

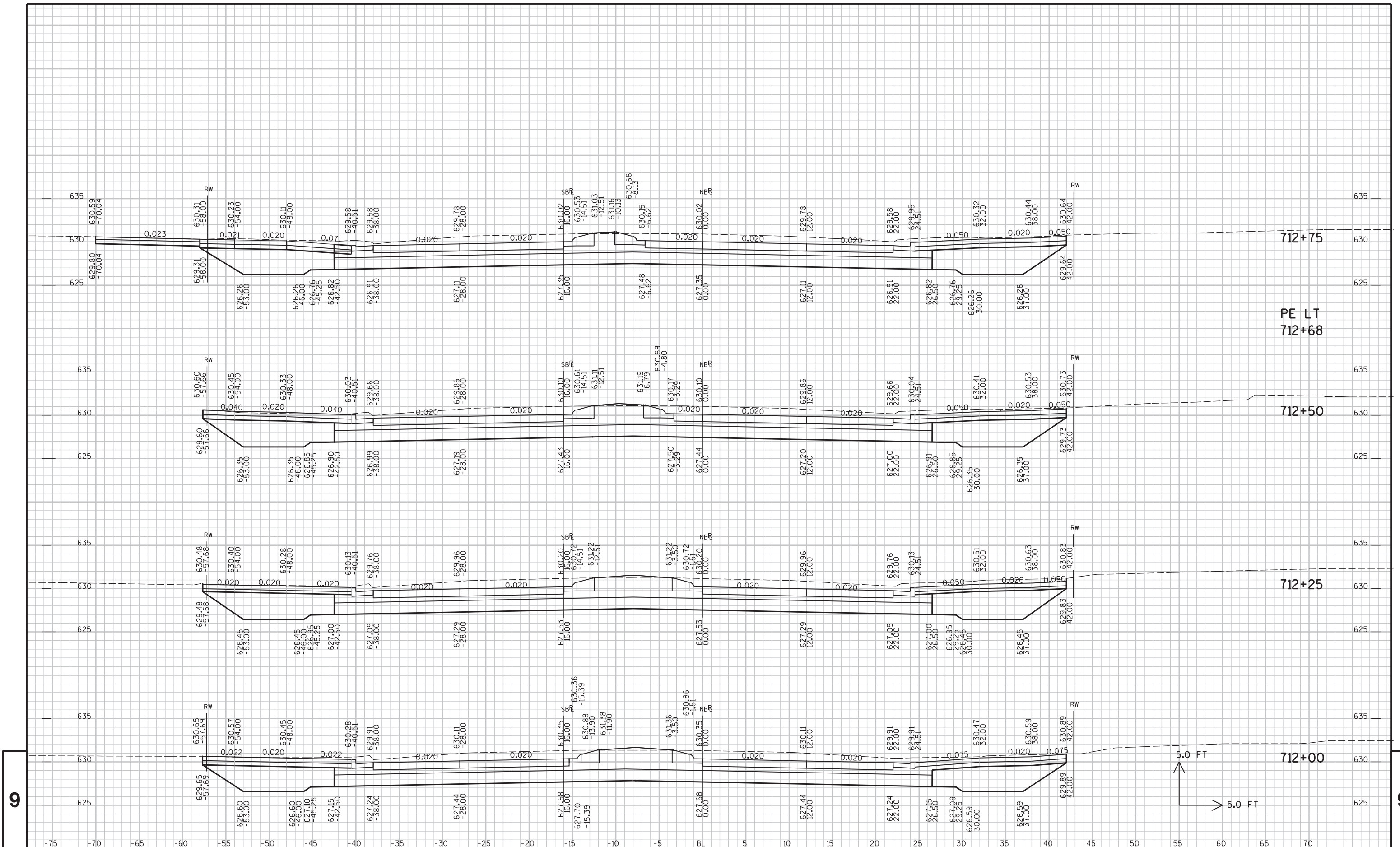
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COUNTY : DOUGLAS

CROSS SECTIONS - STH 35 (TOWER AVENUE)

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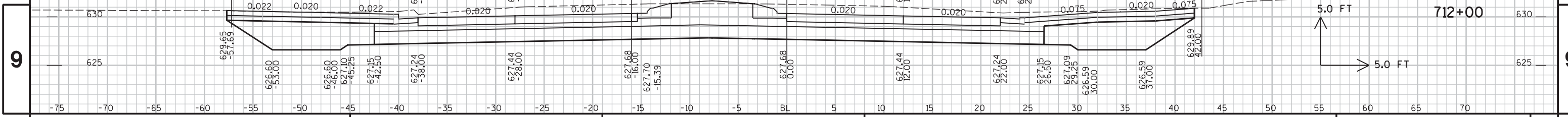
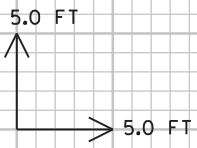


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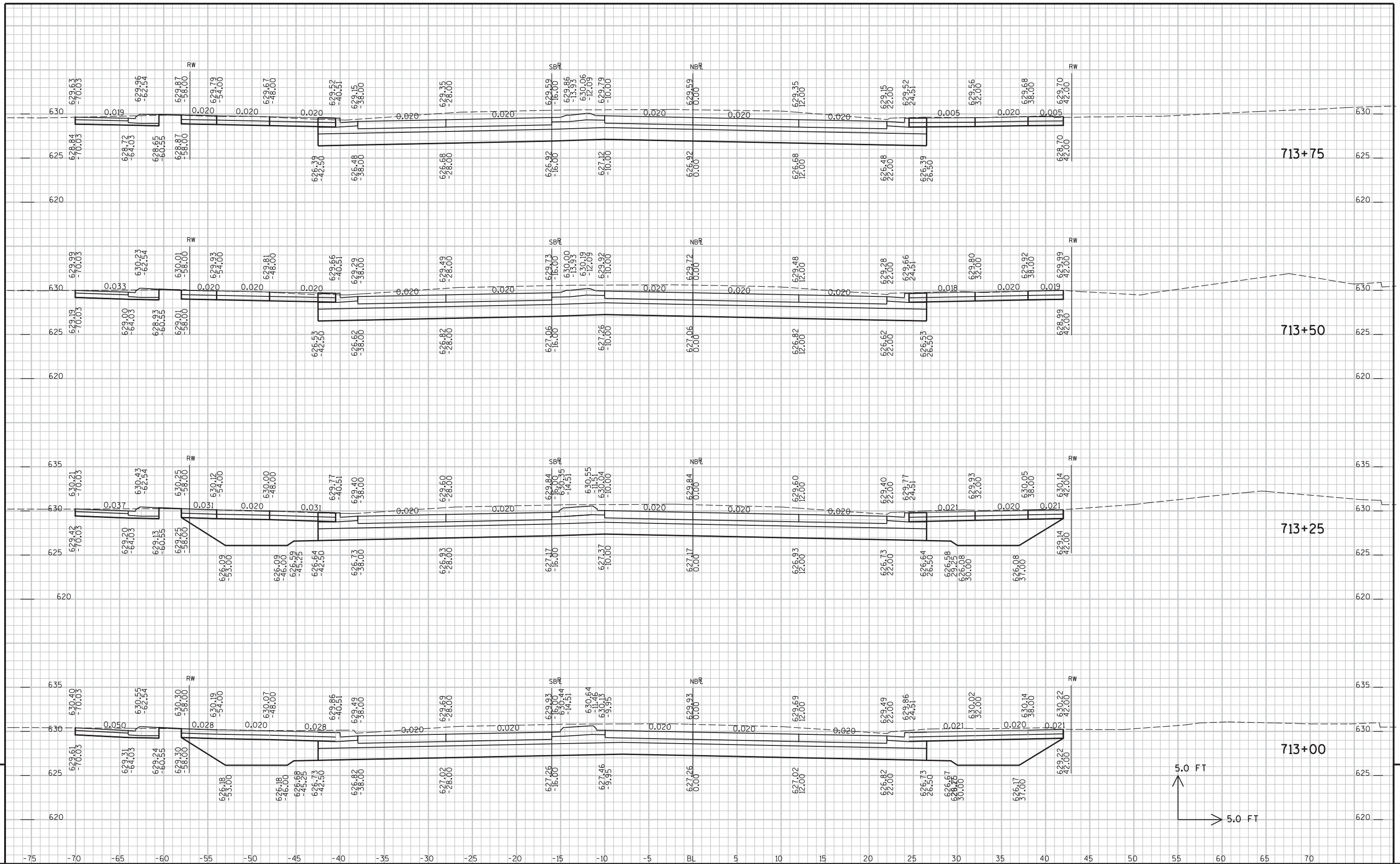
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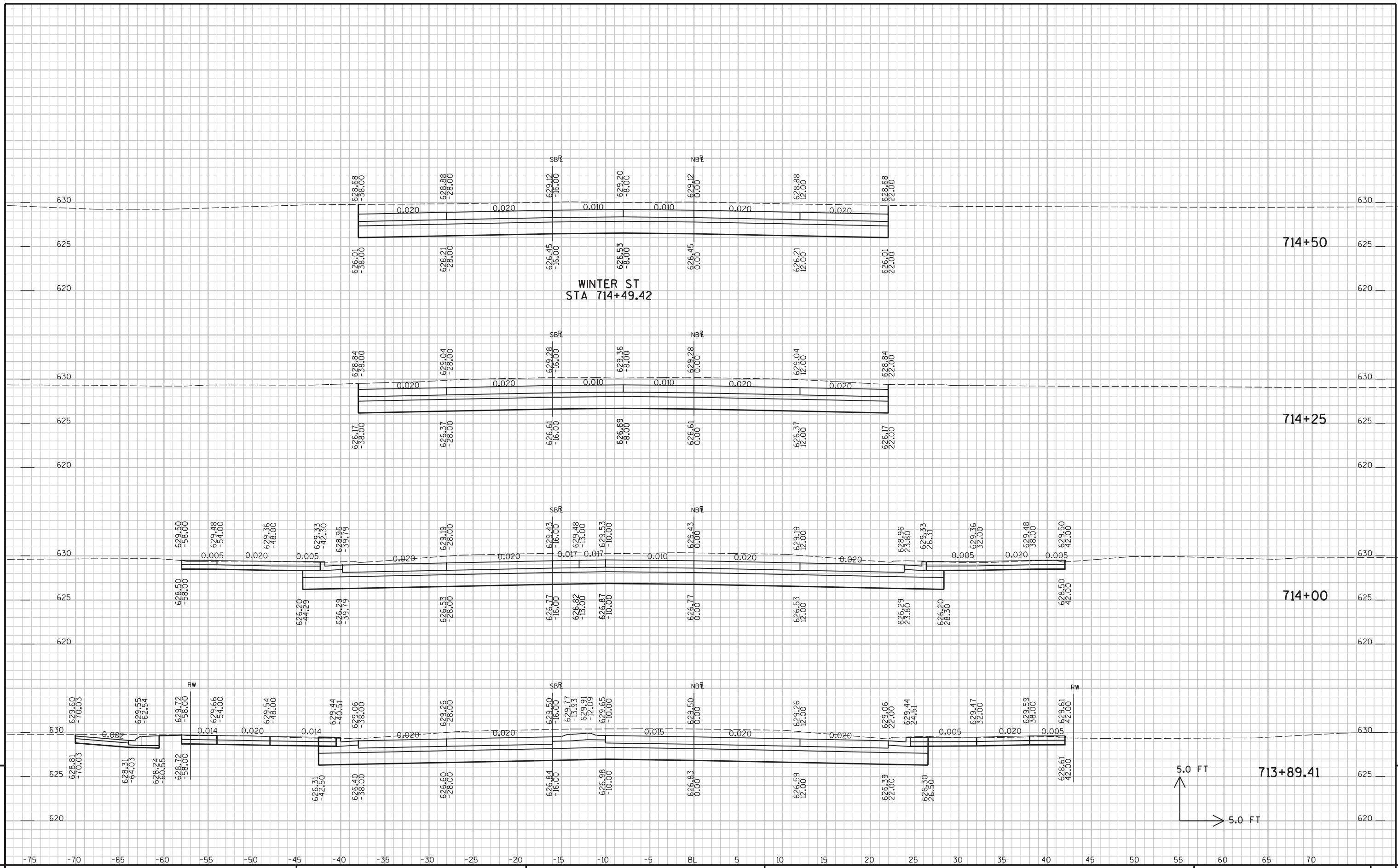
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COUNTY : DOUGLAS

CROSS SECTIONS - STH 35 (TOWER AVENUE)

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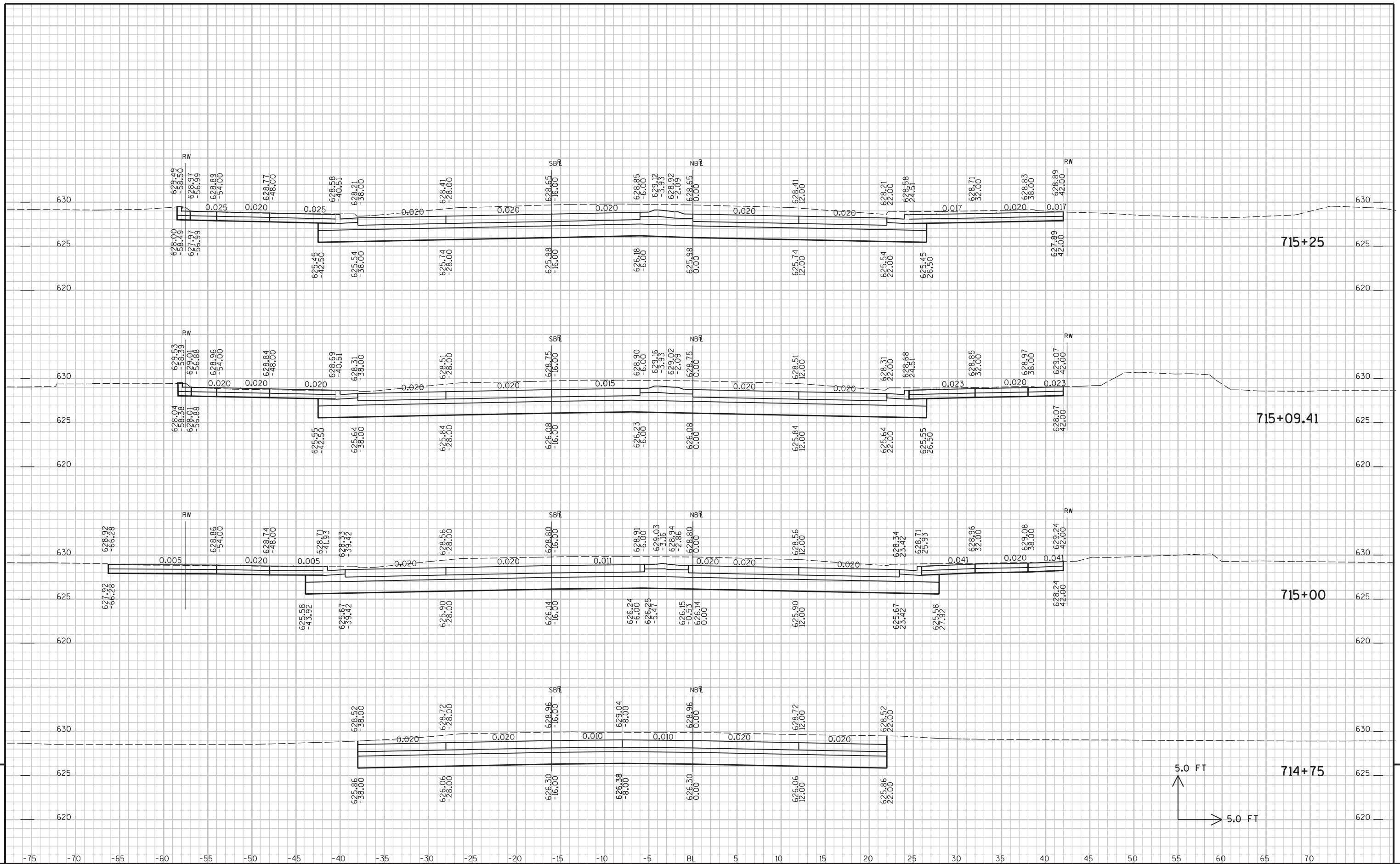


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PROJECT NO : 1195-13-71

HWY : STH 35 (TOWER AVENUE)

COUNTY : DOUGLAS

CROSS SECTIONS - STH 35 (TOWER AVENUE)

SHEET NO:

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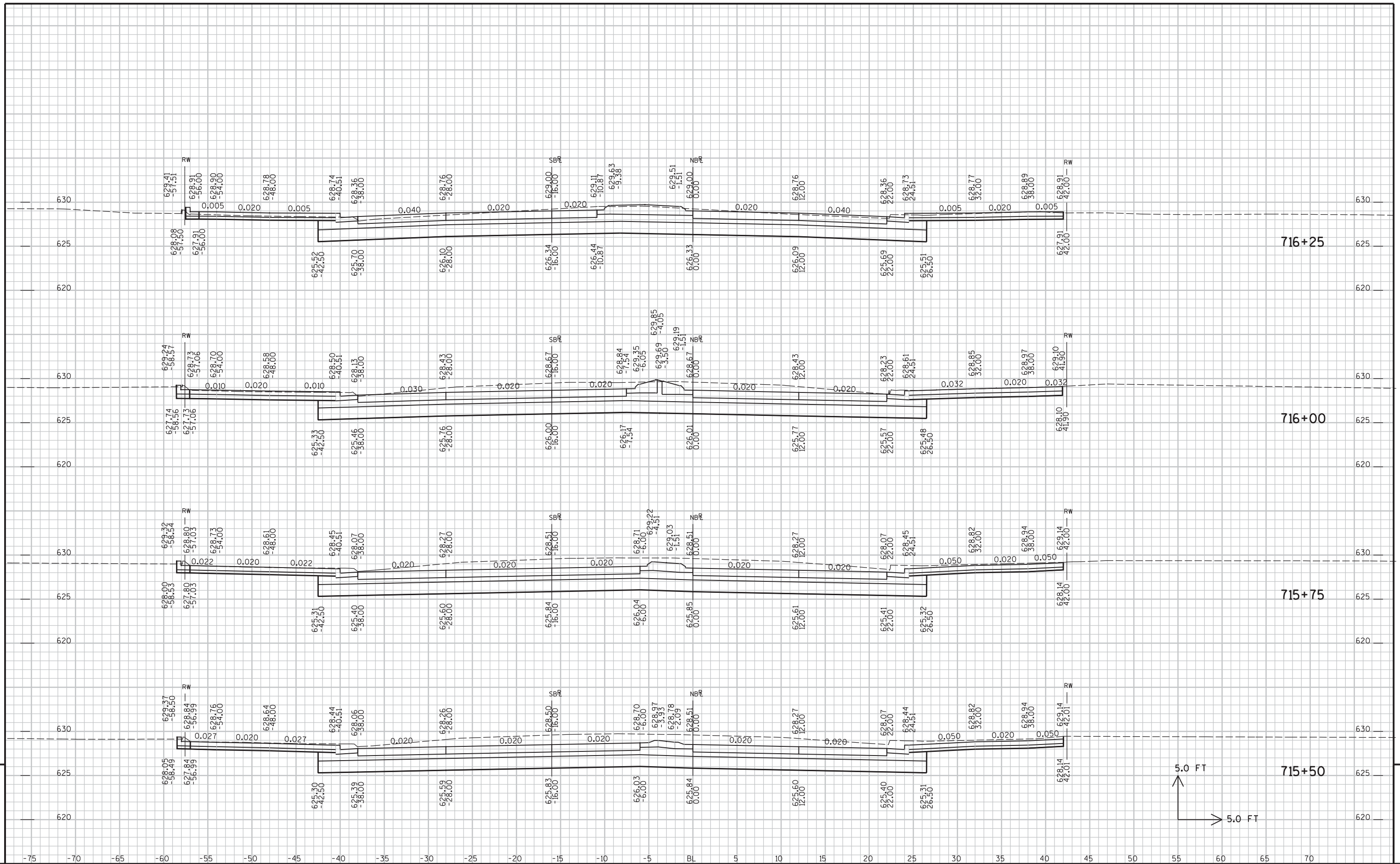
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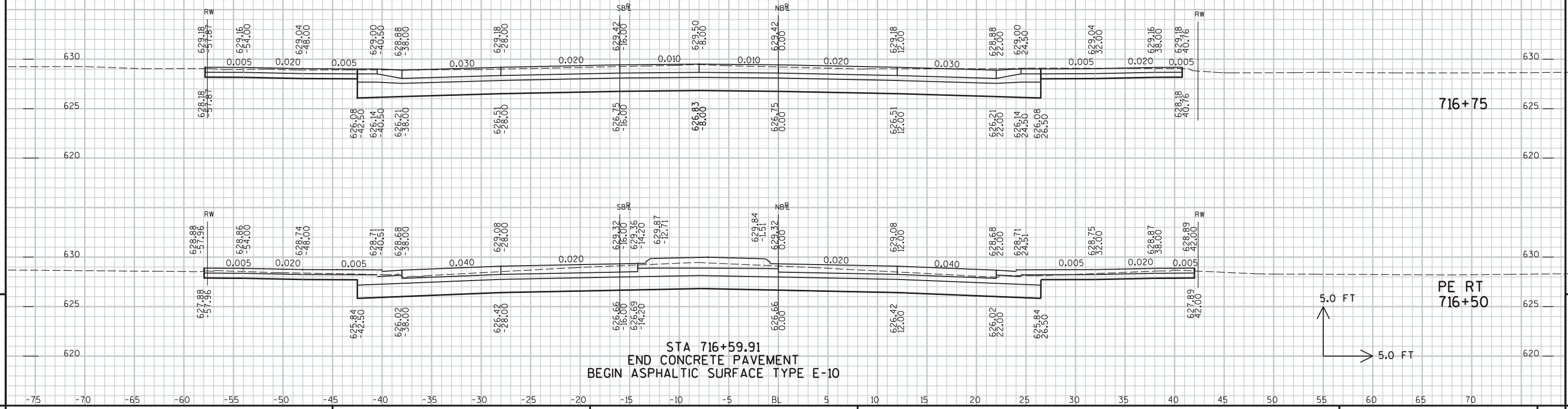
COUNTY : DOUGLAS

CROSS SECTIONS - STH 35 (TOWER AVENUE)

SHEET NO:

E

RAILROAD  
STA 716+95.00



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PROJECT NO : 1195-13-71

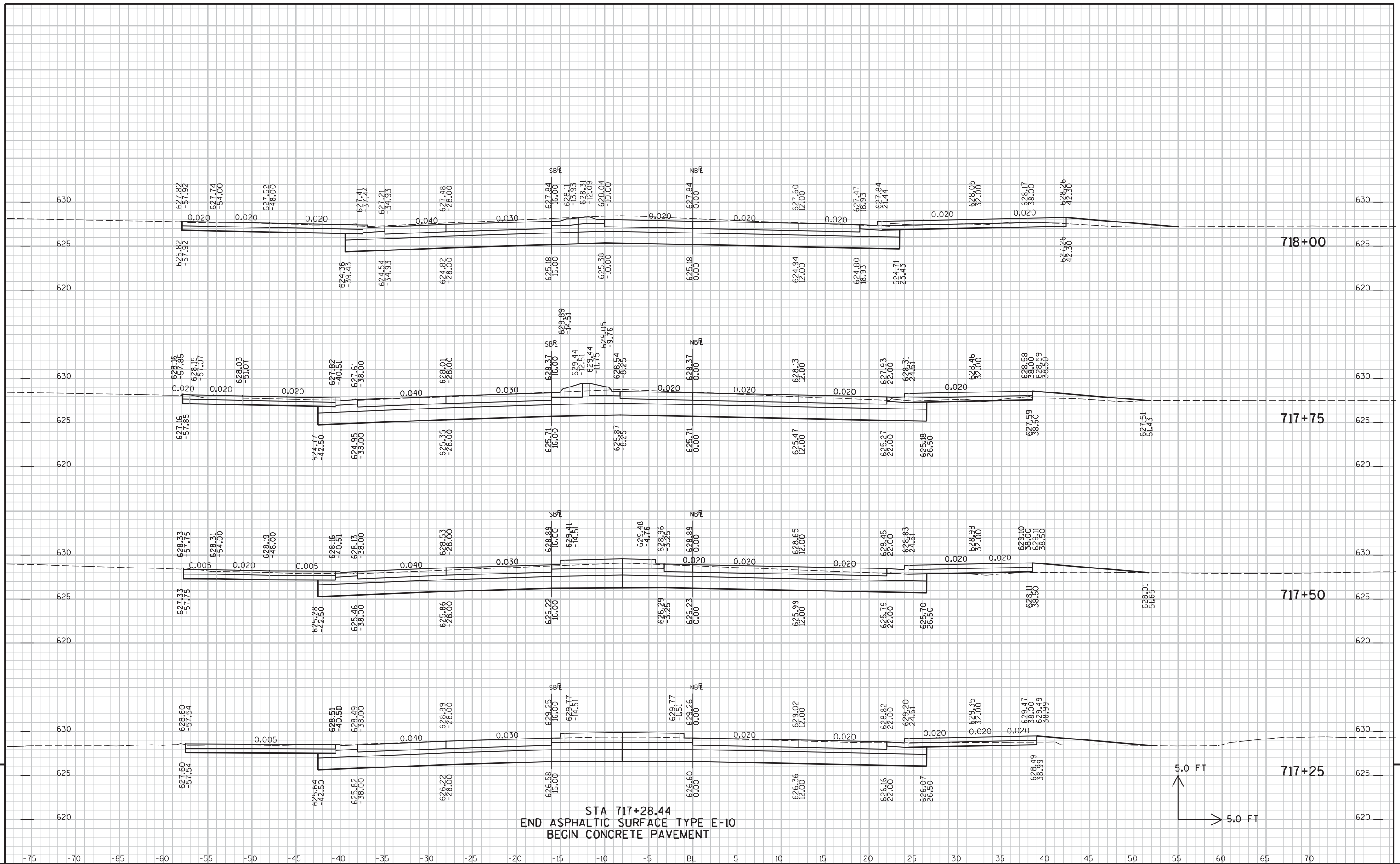
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COUNTY : DOUGLAS

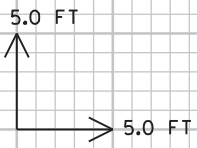
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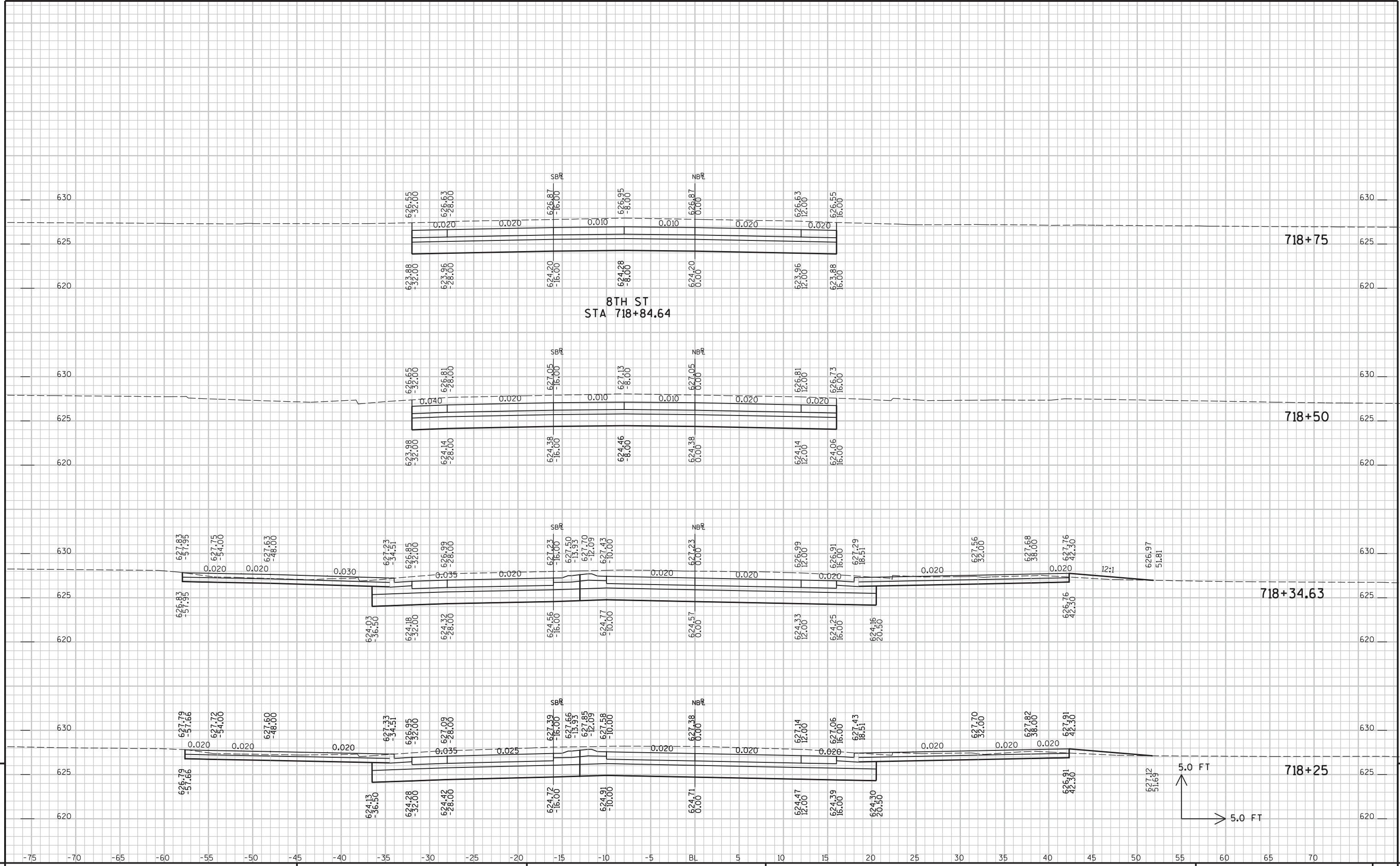
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STA 717+28.44  
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 BEGIN CONCRETE PAVEMENT



PROJECT NO : 1195-13-71	HWY : STH 35 (TOWER AVENUE)	COUNTY : DOUGLAS	CROSS SECTIONS - STH 35 (TOWER AVENUE)	SHEET NO:	E
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PROJECT NO : 1195-13-71

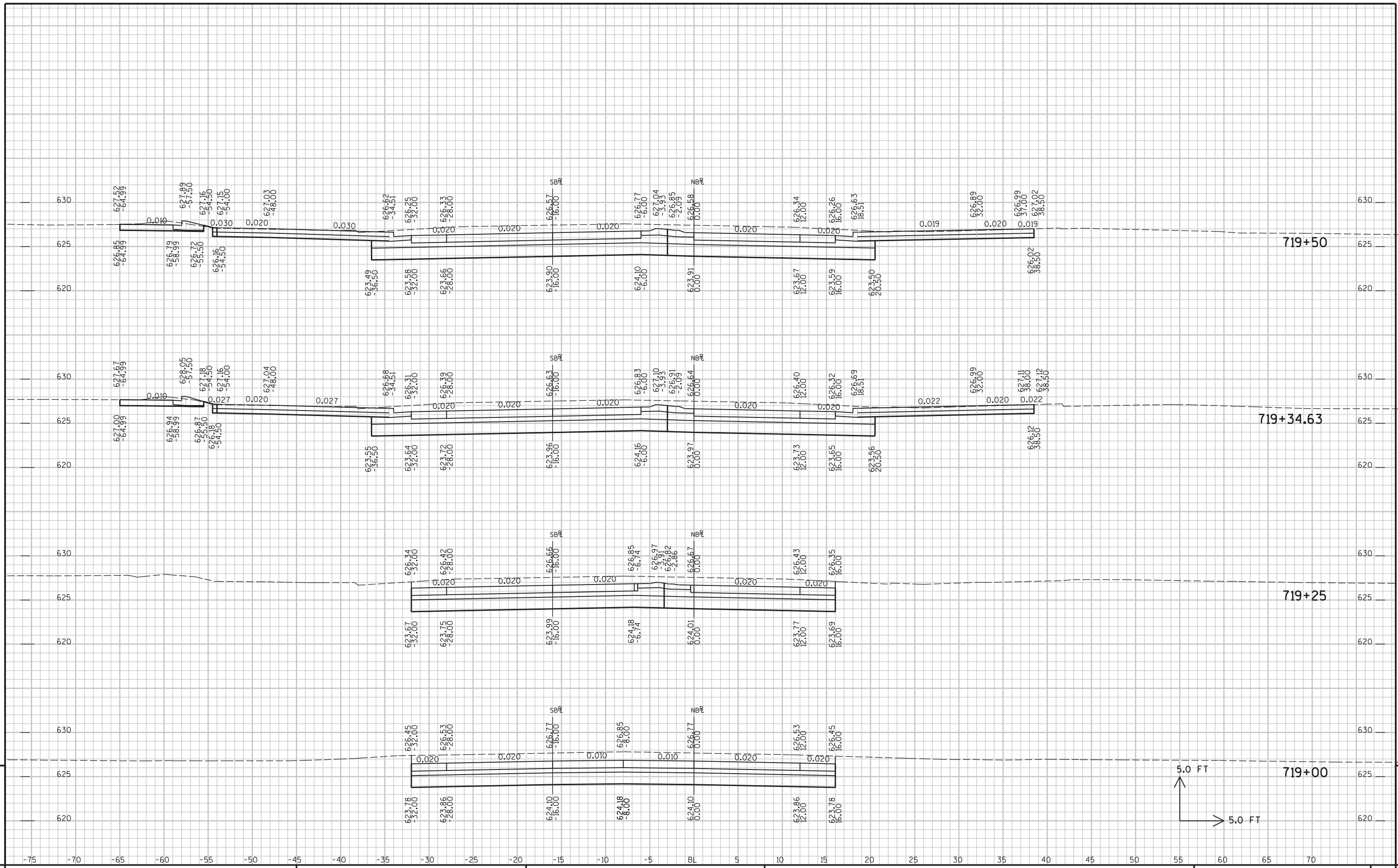
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COUNTY : DOUGLAS

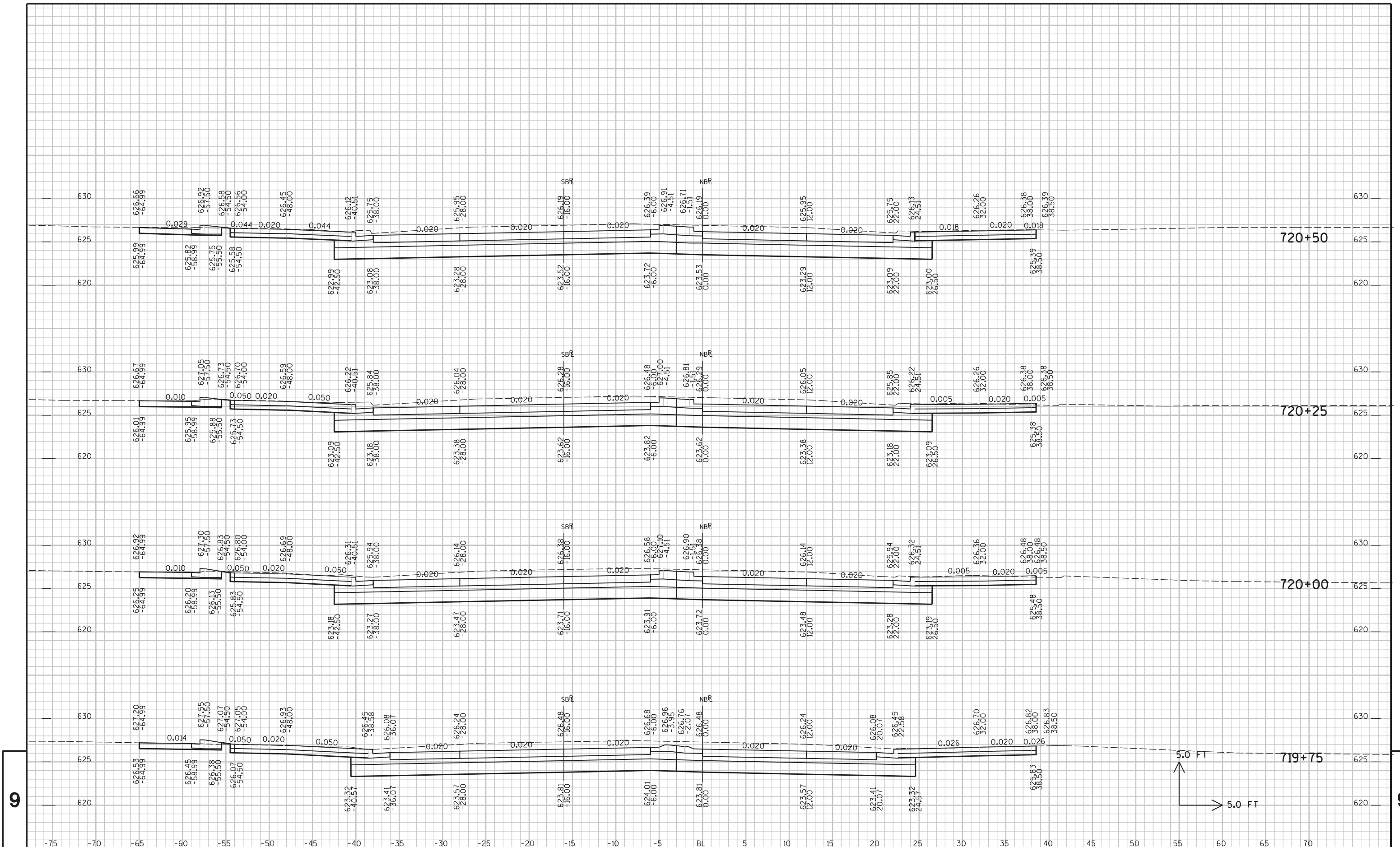
CROSS SECTIONS - STH 35 (TOWER AVENUE)

SHEET NO:

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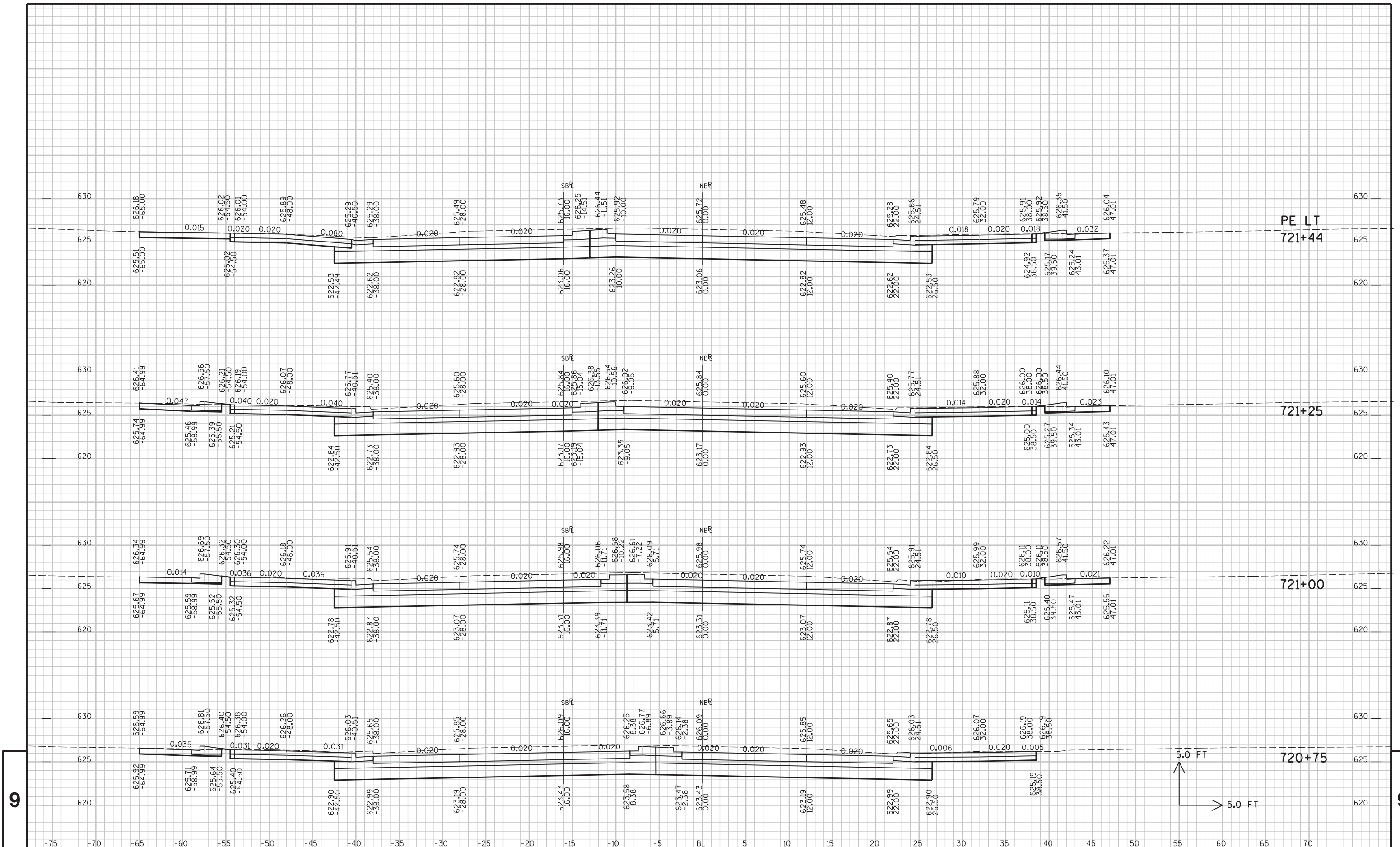
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COUNTY : DOUGLAS

CROSS SECTIONS - STH 35 (TOWER AVENUE)

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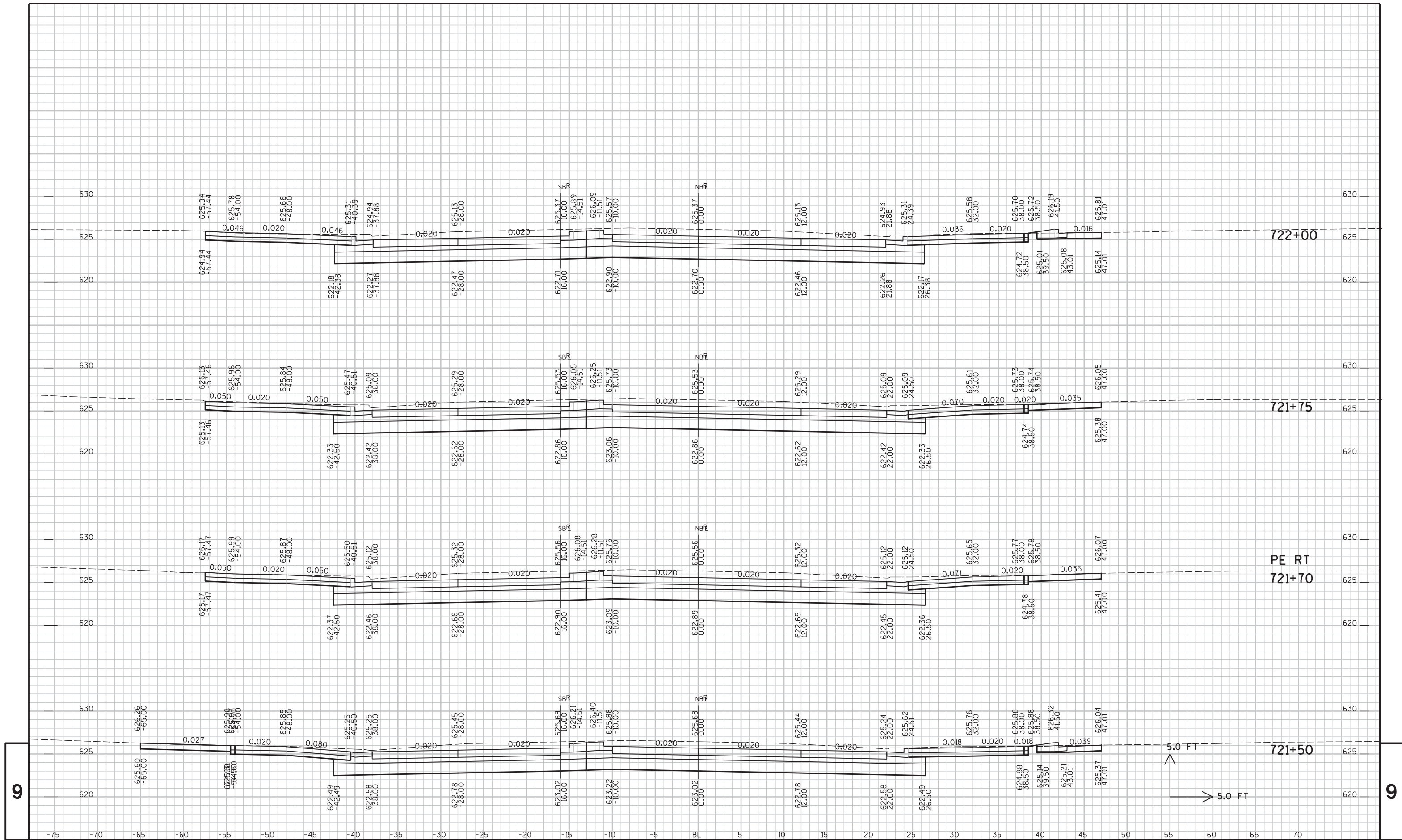
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COUNTY : DOUGLAS

CROSS SECTIONS - STH 35 (TOWER AVENUE)

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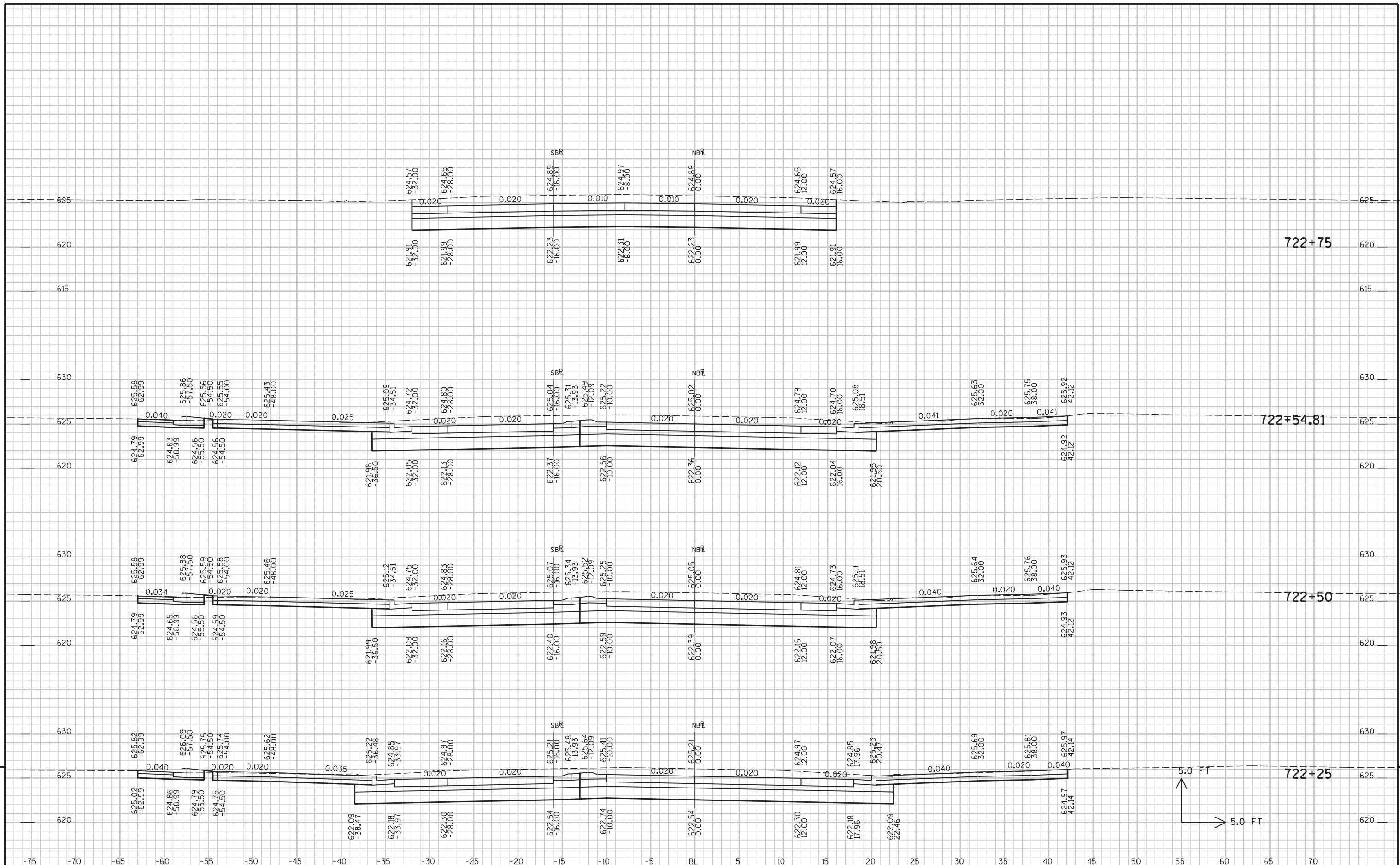
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COUNTY : DOUGLAS

CROSS SECTIONS - STH 35 (TOWER AVENUE)

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CROSS SECTIONS - STH 35 (TOWER AVENUE)

SHEET NO:

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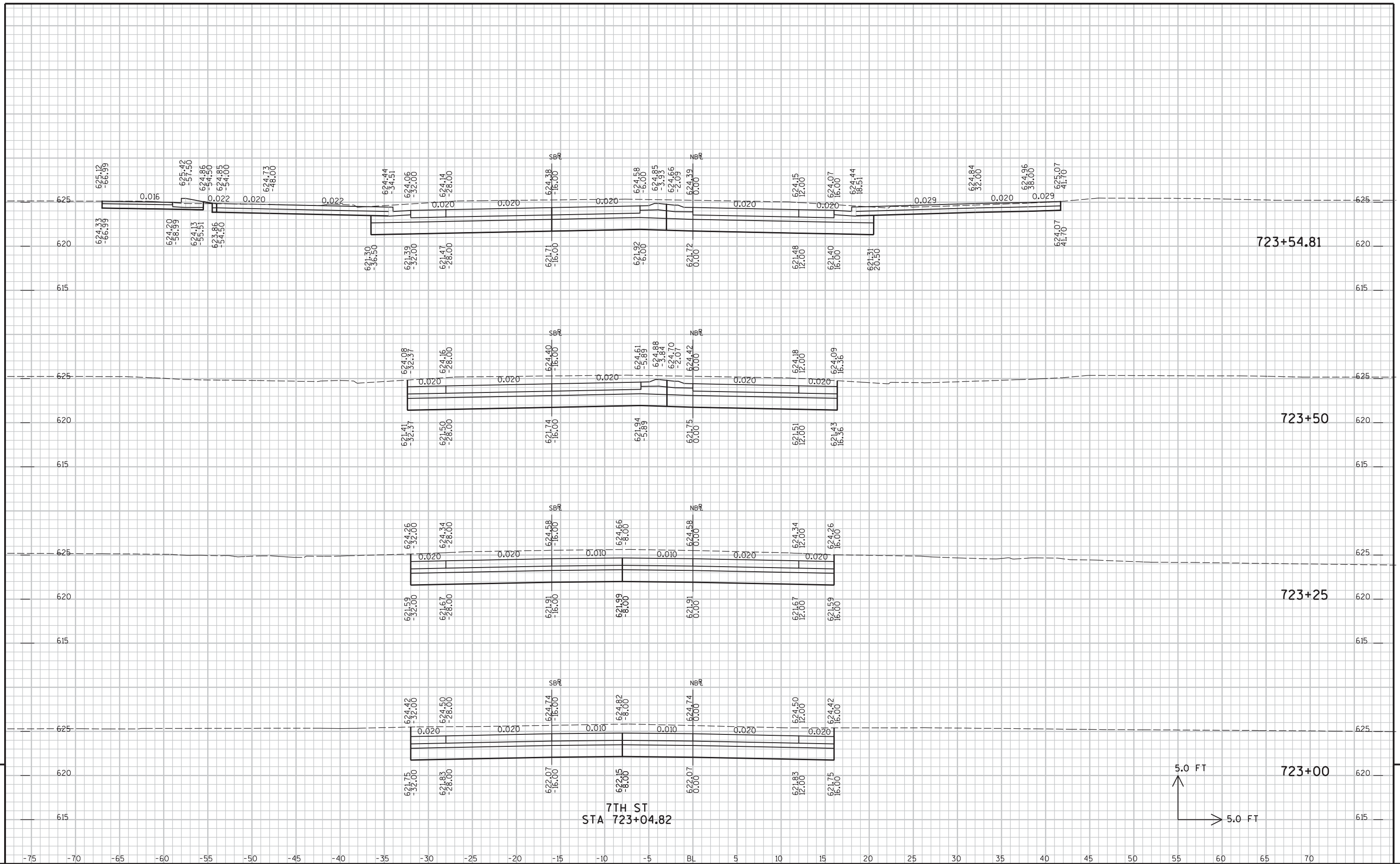
PLOT TIME : 8:37:25 AM

PLOT DATE : 1/14/2013

PLOT BY : SEH

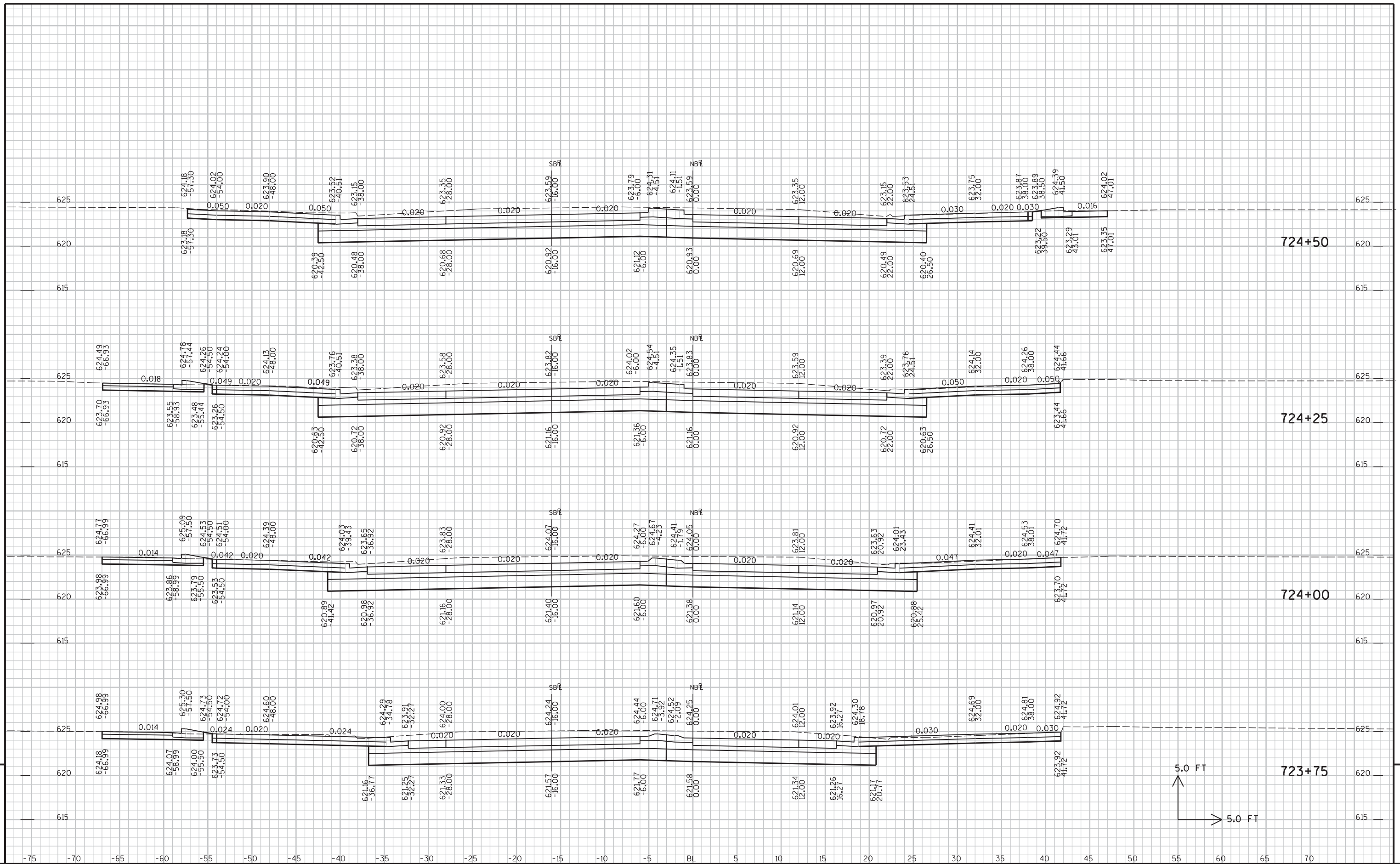
PLOT NAME :

PLOT SCALE : N/A



9

9



PROJECT NO : 1195-13-71

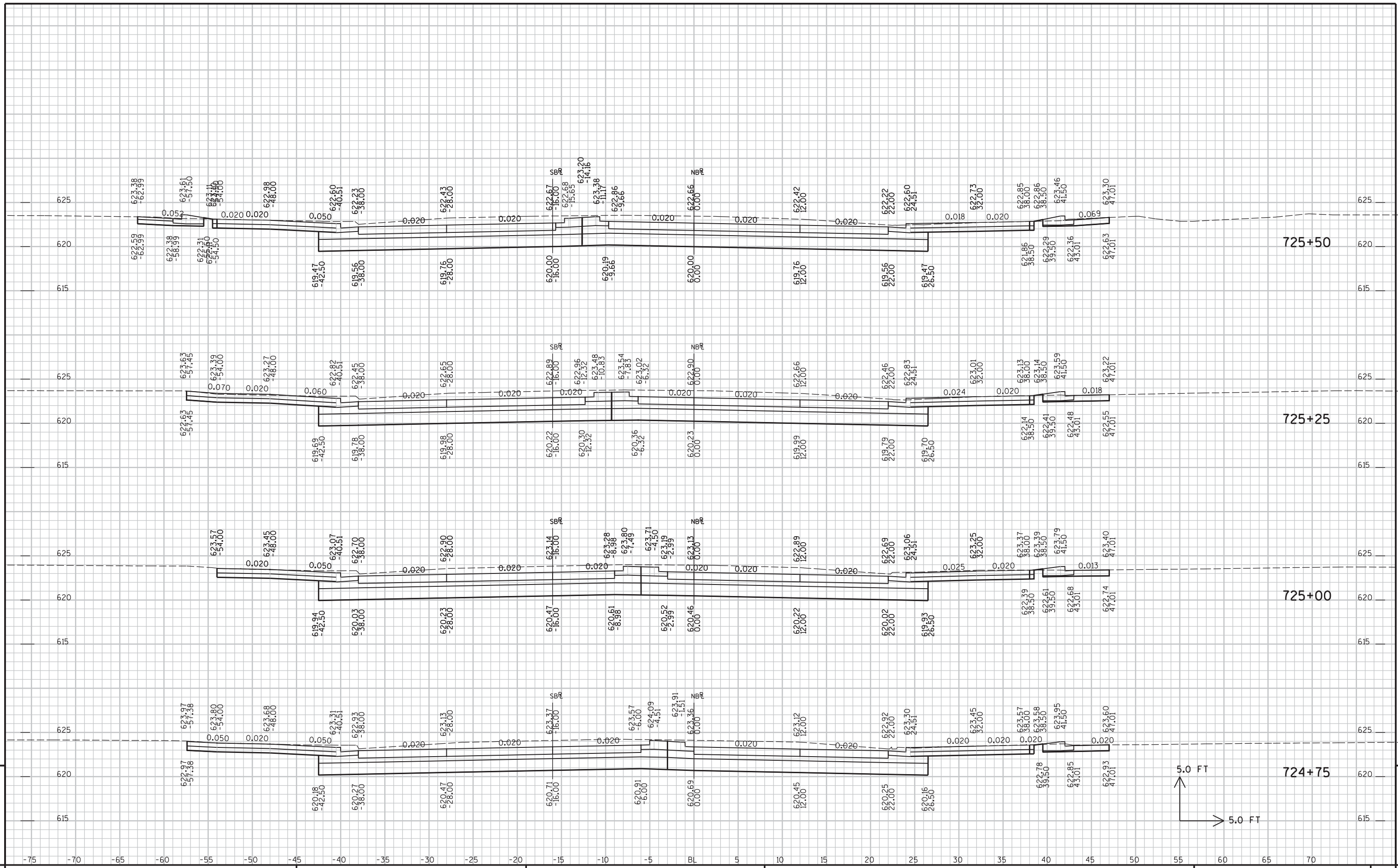
HWY : STH 35 (TOWER AVENUE)

COUNTY : DOUGLAS

CROSS SECTIONS - STH 35 (TOWER AVENUE)

SHEET NO:

E



PROJECT NO : 1195-13-71

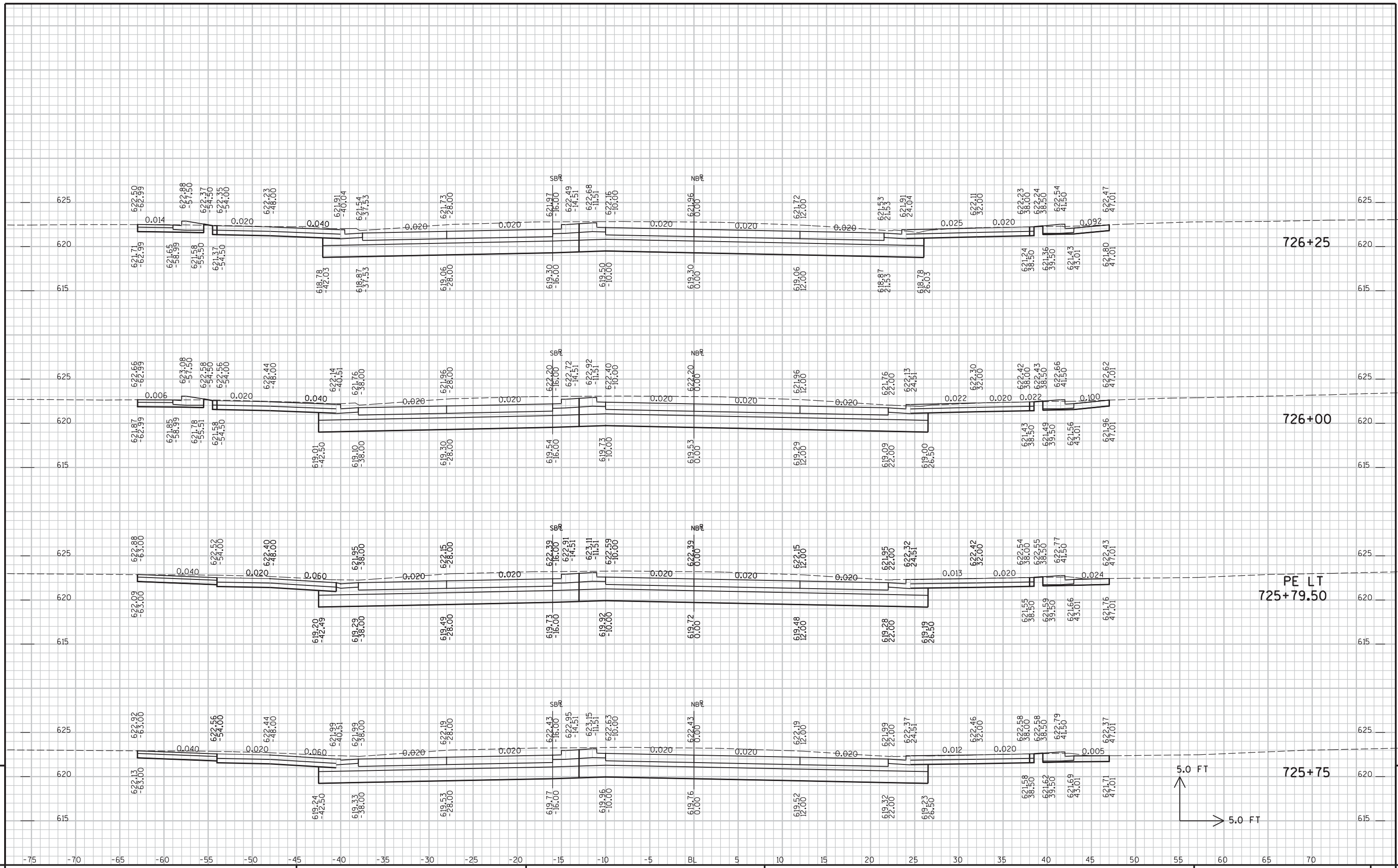
HWY : STH 35 (TOWER AVENUE)

COUNTY : DOUGLAS

CROSS SECTIONS - STH 35 (TOWER AVENUE)

SHEET NO:

E



PROJECT NO : 1195-13-71

HWY : STH 35 (TOWER AVENUE)

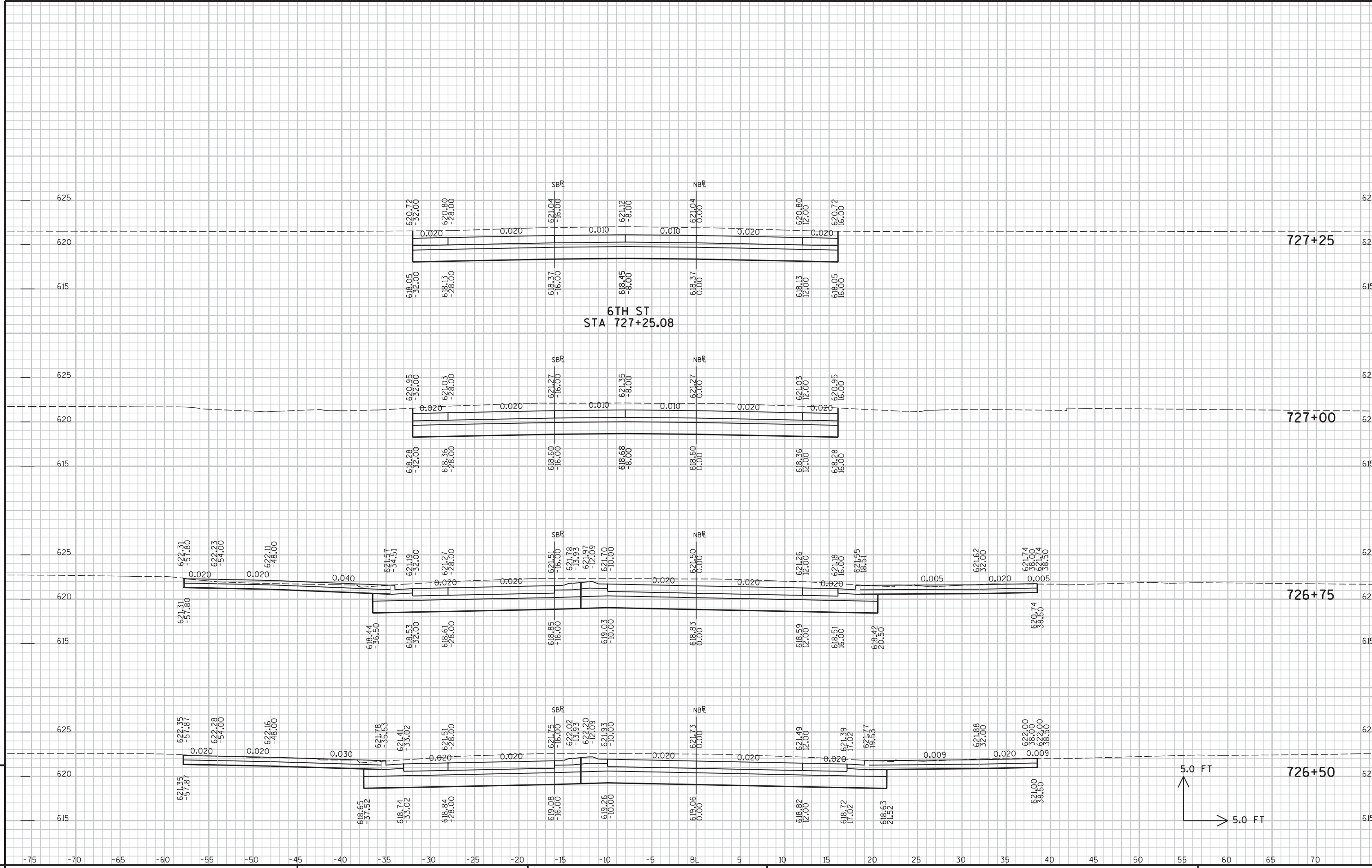
COUNTY : DOUGLAS

CROSS SECTIONS - STH 35 (TOWER AVENUE)

SHEET NO:

E





PROJECT NO : 1195-13-71

HWY : STH 35 (TOWER AVENUE)

COUNTY : DOUGLAS

CROSS SECTIONS - STH 35 (TOWER AVENUE)

SHEET NO:

E

FILE NAME : \\SEHCF1\Projects\UZ\W\W\116687\CAD\090201\_XS.dgn

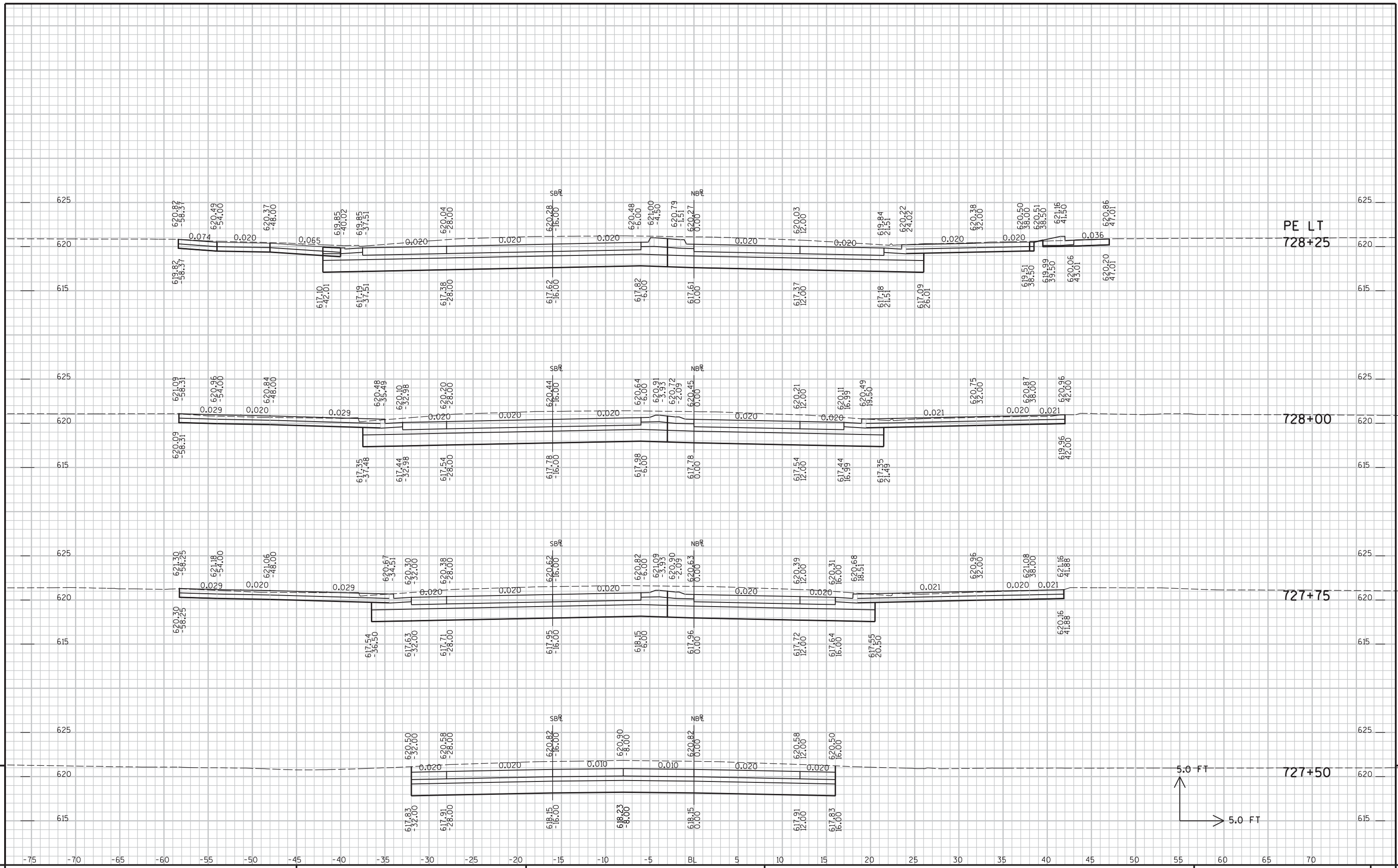
PLOT TIME : 8:37:27 AM

PLOT DATE : 1/14/2013

PLOT BY : SEH

PLOT NAME :

PLOT SCALE : N/A



PROJECT NO : 1195-13-71

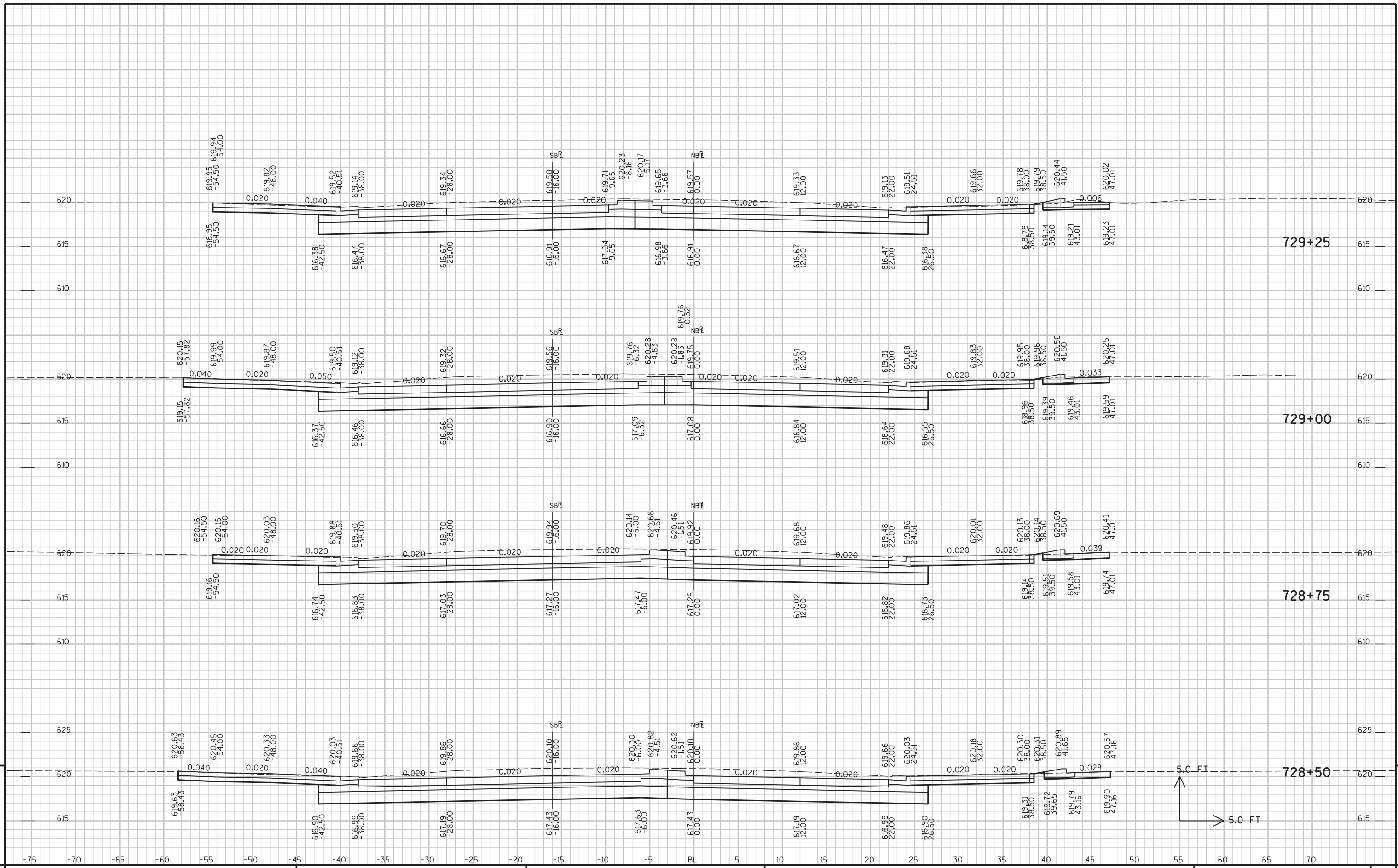
HWY : STH 35 (TOWER AVENUE)

COUNTY : DOUGLAS

CROSS SECTIONS - STH 35 (TOWER AVENUE)

SHEET NO:

E



PROJECT NO : 1195-13-71

HWY : STH 35 (TOWER AVENUE)

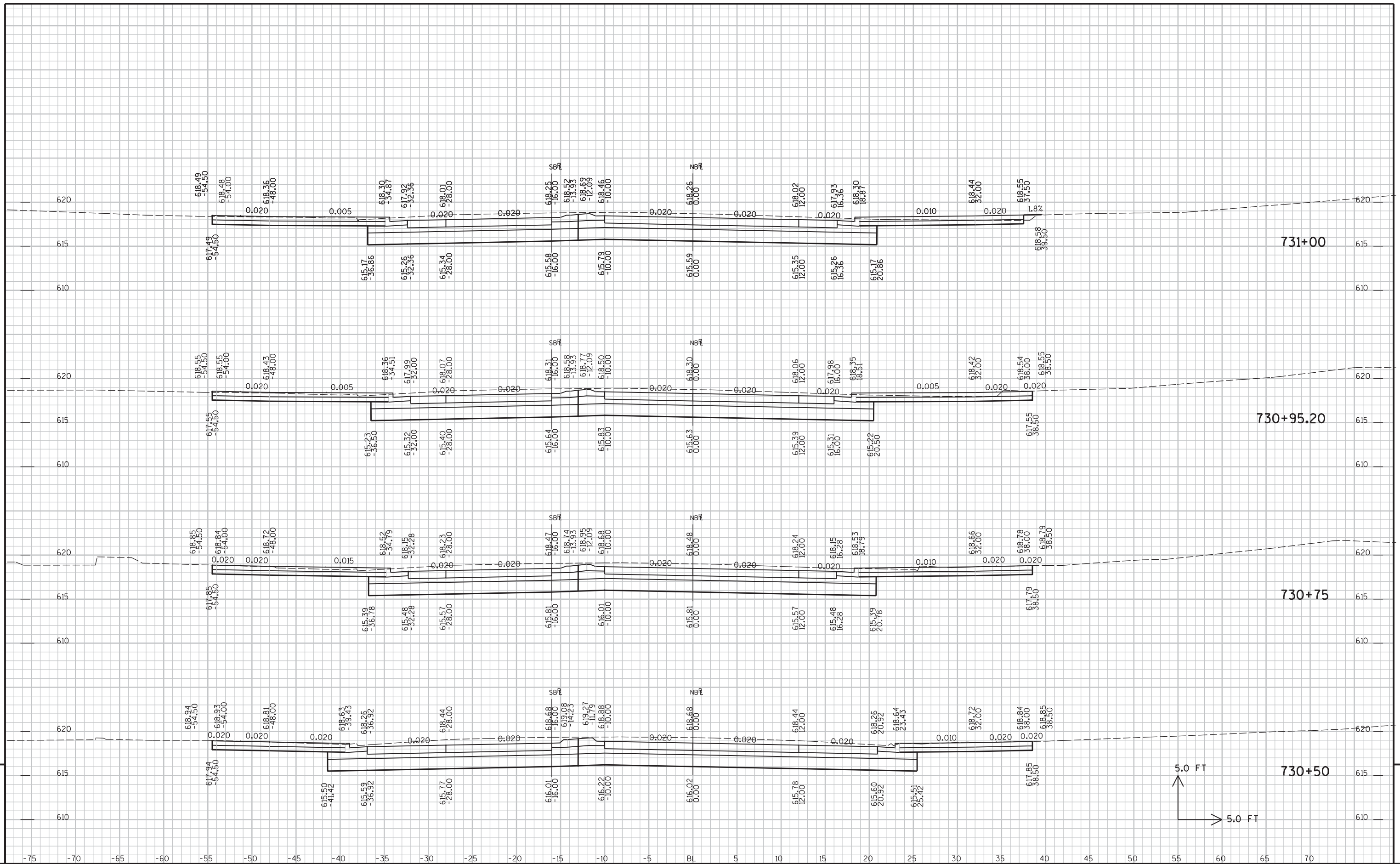
COUNTY : DOUGLAS

CROSS SECTIONS - STH 35 (TOWER AVENUE)

SHEET NO:

E





PROJECT NO : 1195-13-71

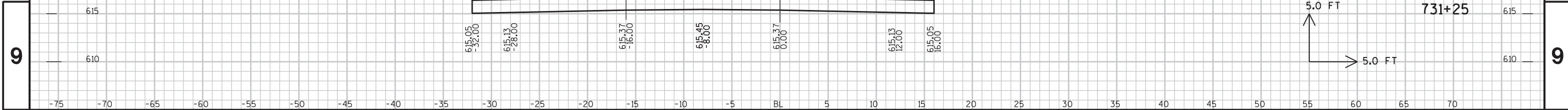
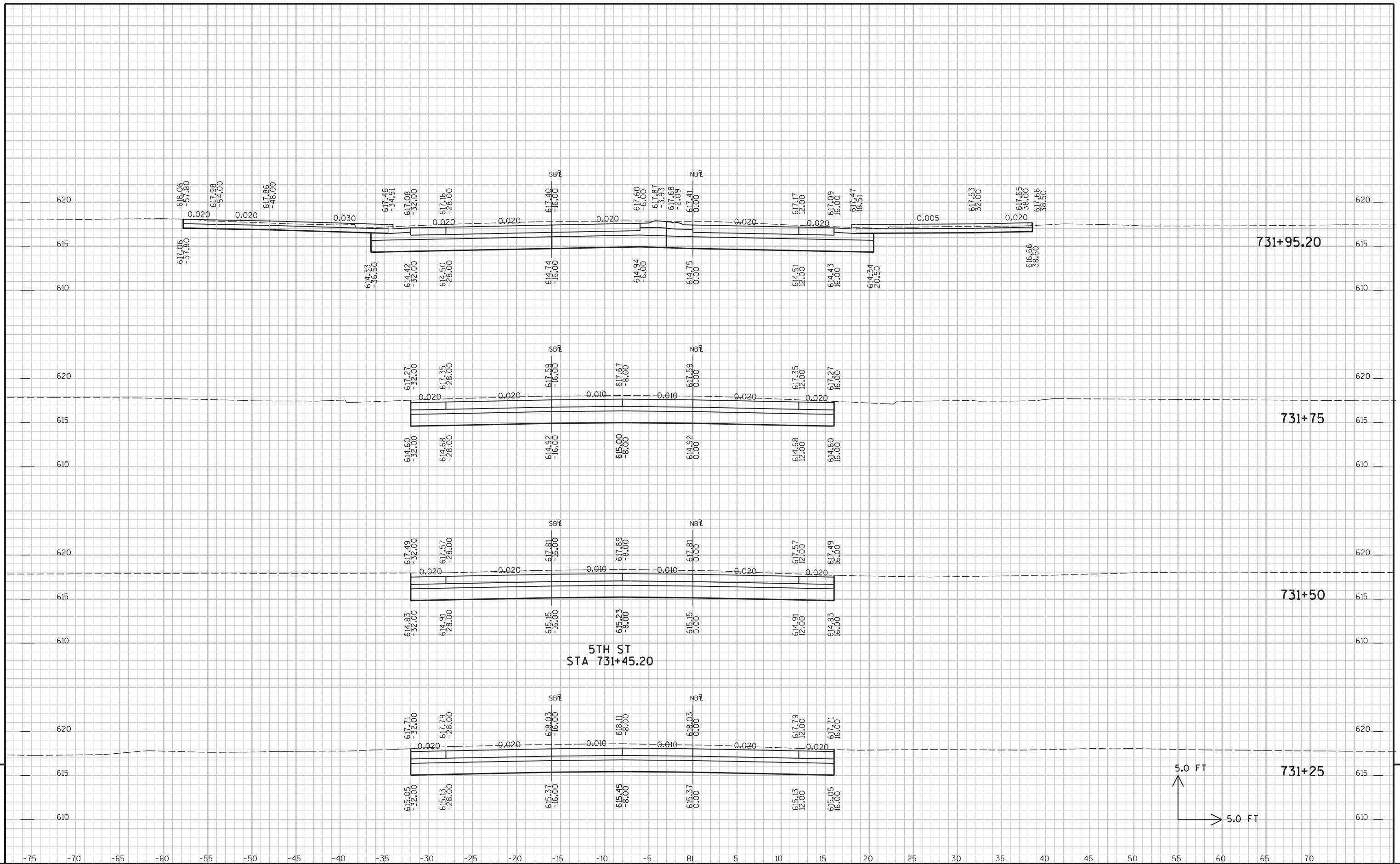
HWY : STH 35 (TOWER AVENUE)

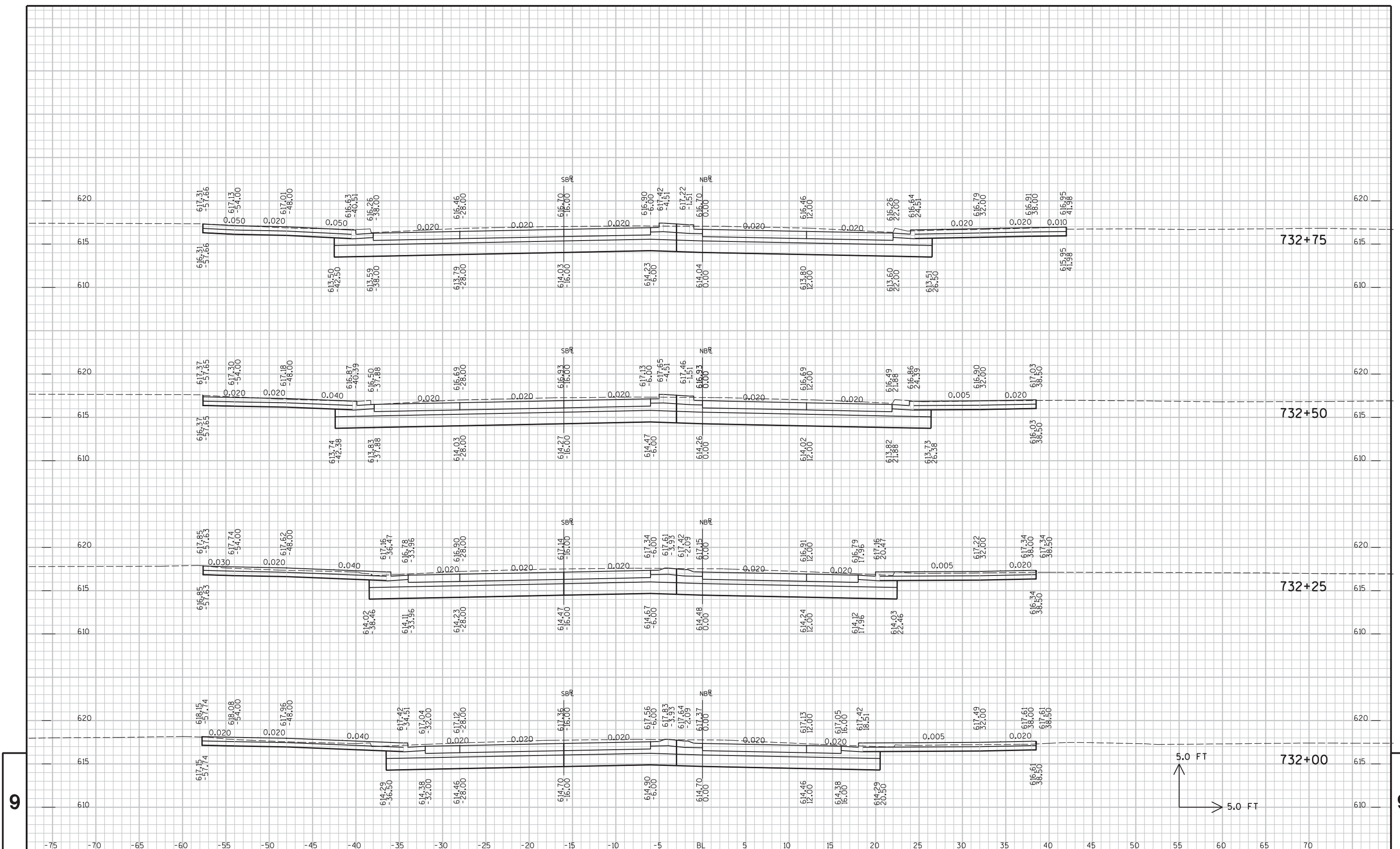
COUNTY : DOUGLAS

CROSS SECTIONS - STH 35 (TOWER AVENUE)

SHEET NO:

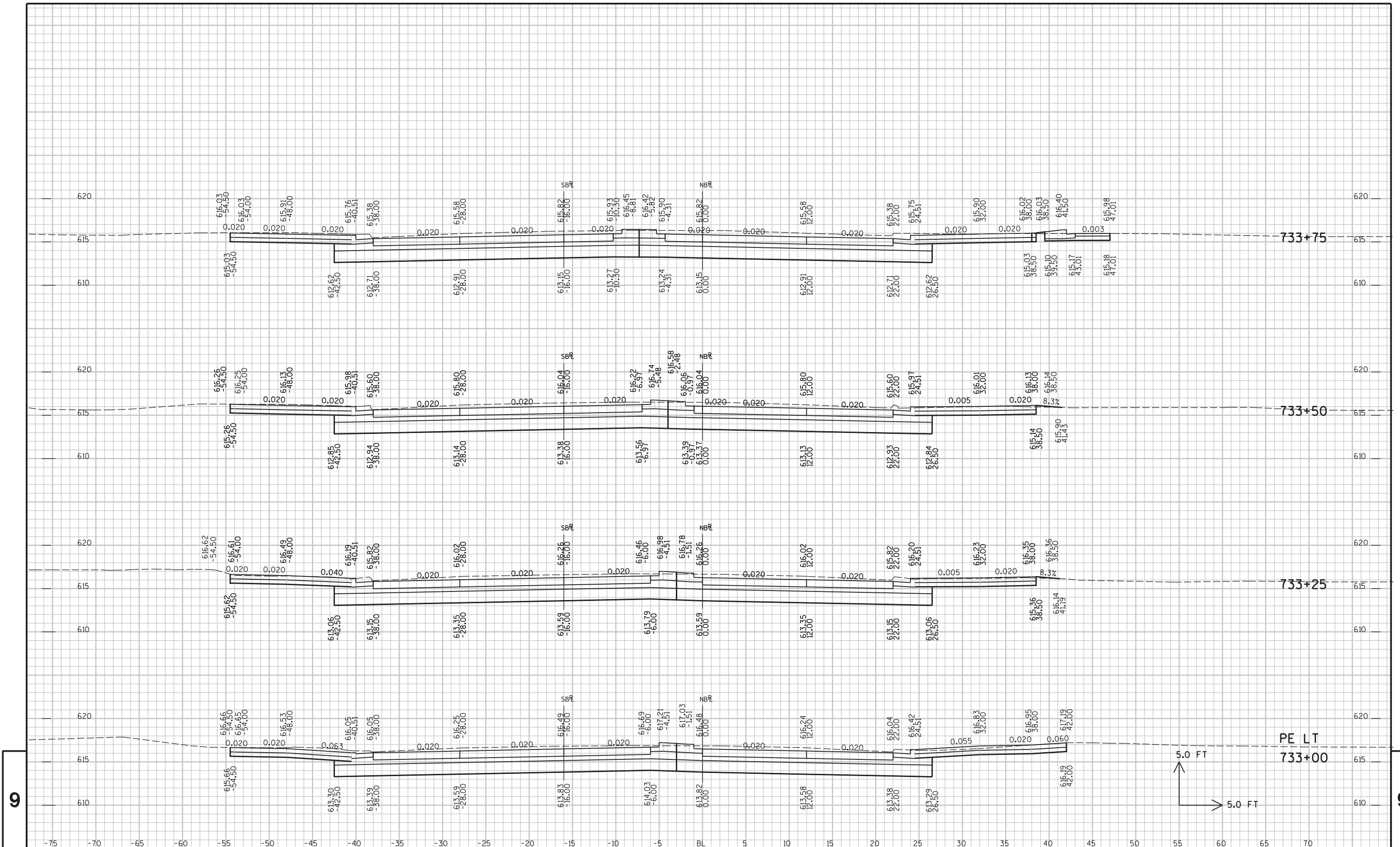
E





9
732+00
732+25
732+50
732+75
9

PROJECT NO : 1195-13-71	HWY : STH 35 (TOWER AVENUE)	COUNTY : DOUGLAS	CROSS SECTIONS - STH 35 (TOWER AVENUE)	SHEET NO:	<b>E</b>
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PROJECT NO : 1195-13-71

HWY : STH 35 (TOWER AVENUE)

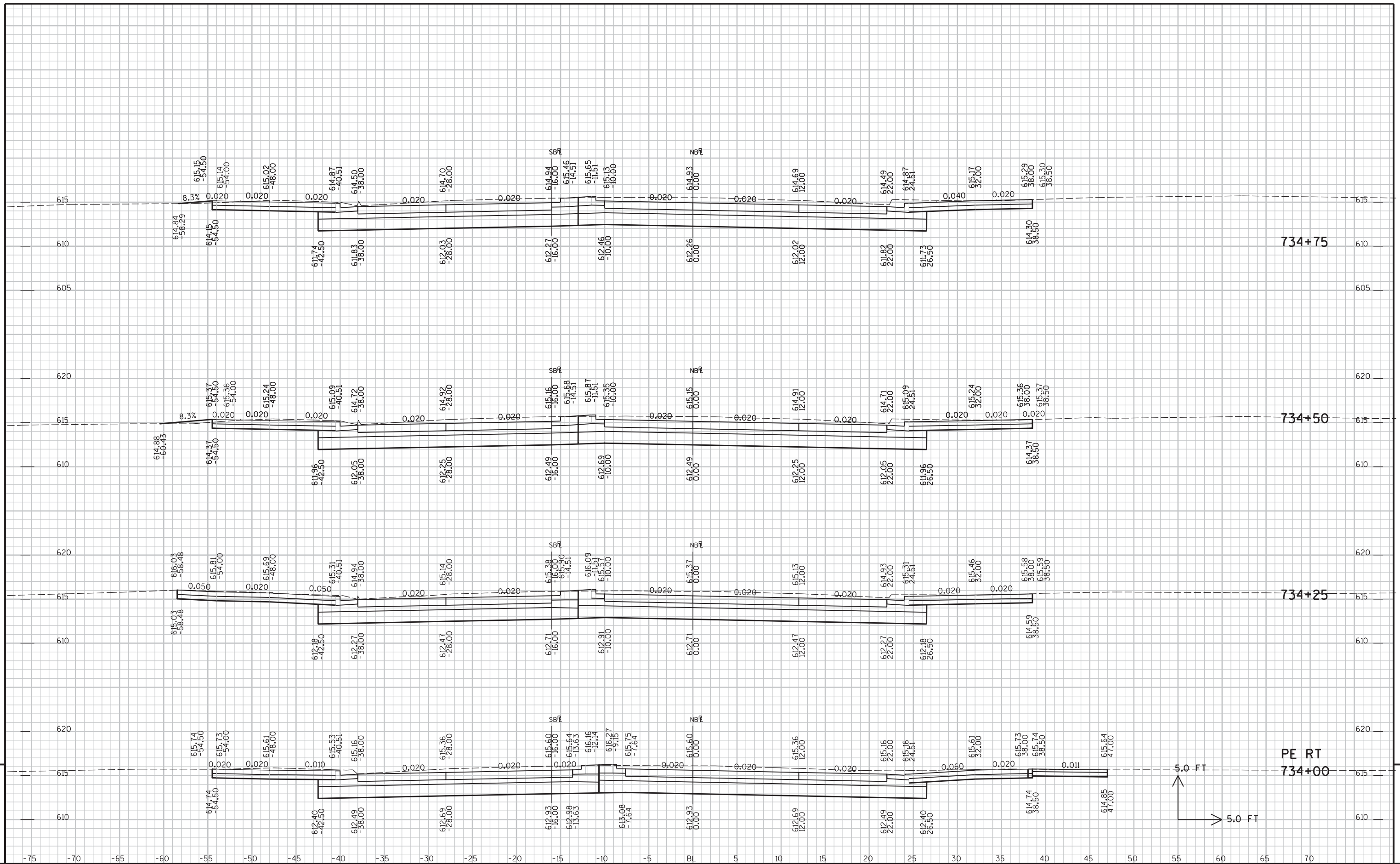
COUNTY : DOUGLAS

CROSS SECTIONS - STH 35 (TOWER AVENUE)

SHEET NO:

E





PROJECT NO : 1195-13-71

HWY : STH 35 (TOWER AVENUE)

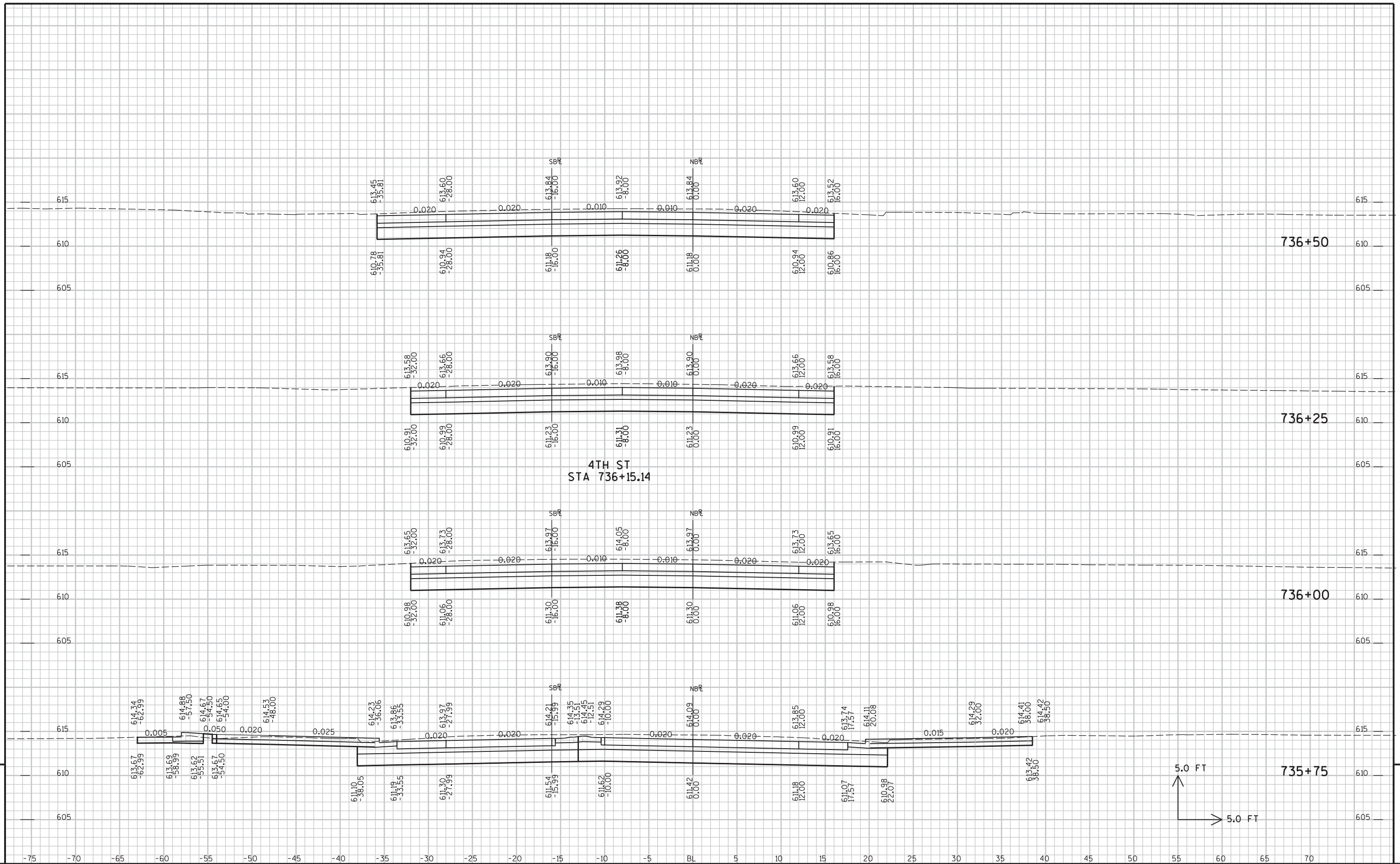
COUNTY : DOUGLAS

CROSS SECTIONS - STH 35 (TOWER AVENUE)

SHEET NO:

E





PROJECT NO : 1195-13-71

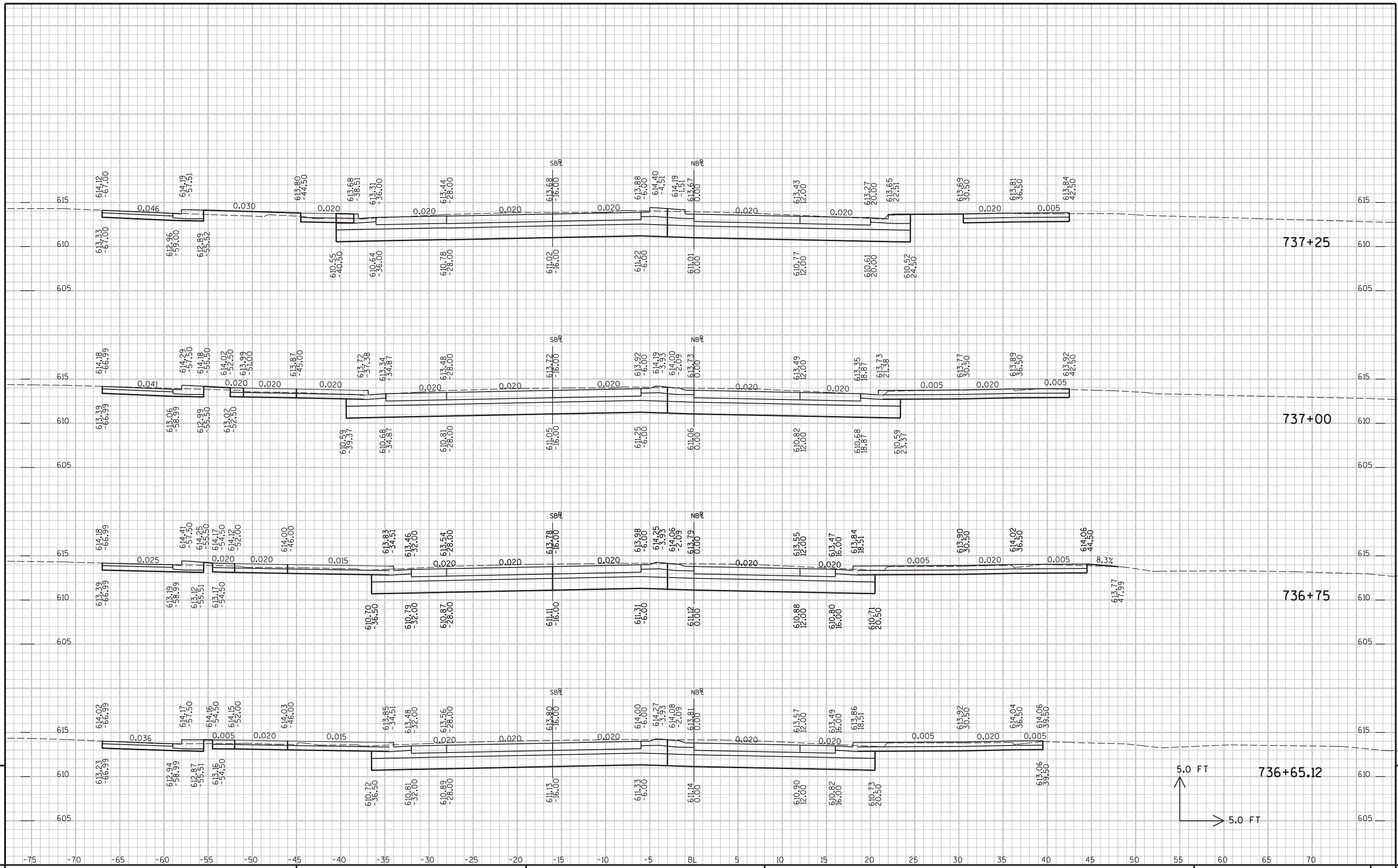
HWY : STH 35 (TOWER AVENUE)

COUNTY : DOUGLAS

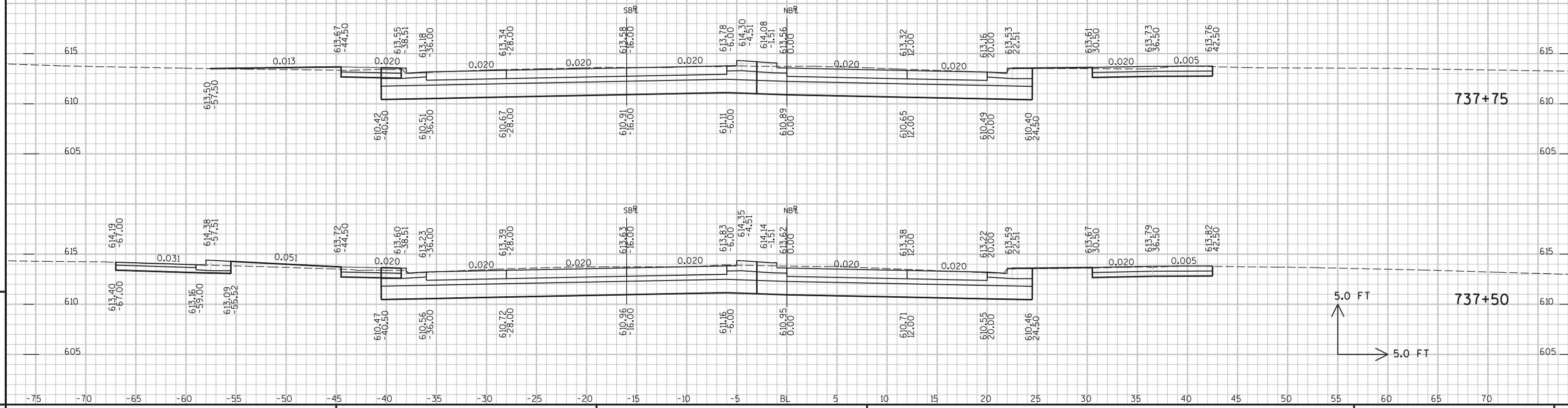
CROSS SECTIONS - STH 35 (TOWER AVENUE)

SHEET NO:

E



END FULL CONCRETE PAVEMENT REPLACEMENT  
STA 737+84.09



PROJECT NO : 1195-13-71

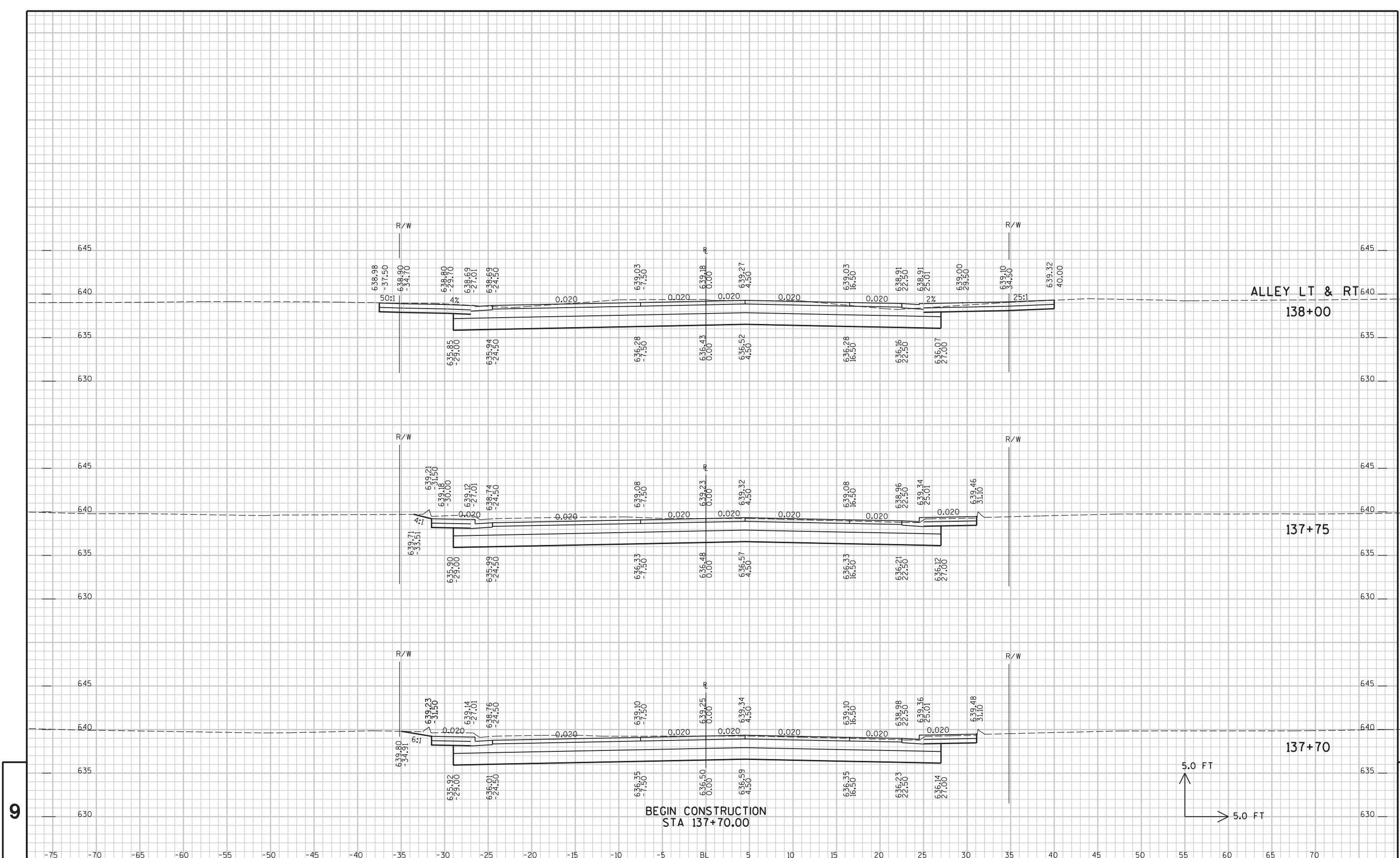
HWY : STH 35 (TOWER AVENUE)

COUNTY : DOUGLAS

CROSS SECTIONS - STH 35 (TOWER AVENUE)

SHEET NO:

E



9

PROJECT NO : 1195-13-71

HWY : STH 35 (TOWER AVENUE)

COUNTY : DOUGLAS

CROSS SECTIONS - 14TH STREET

SHEET NO:

E

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 BL 5 10 15 20 25 30 35 40 45 50 55 60 65 70

645

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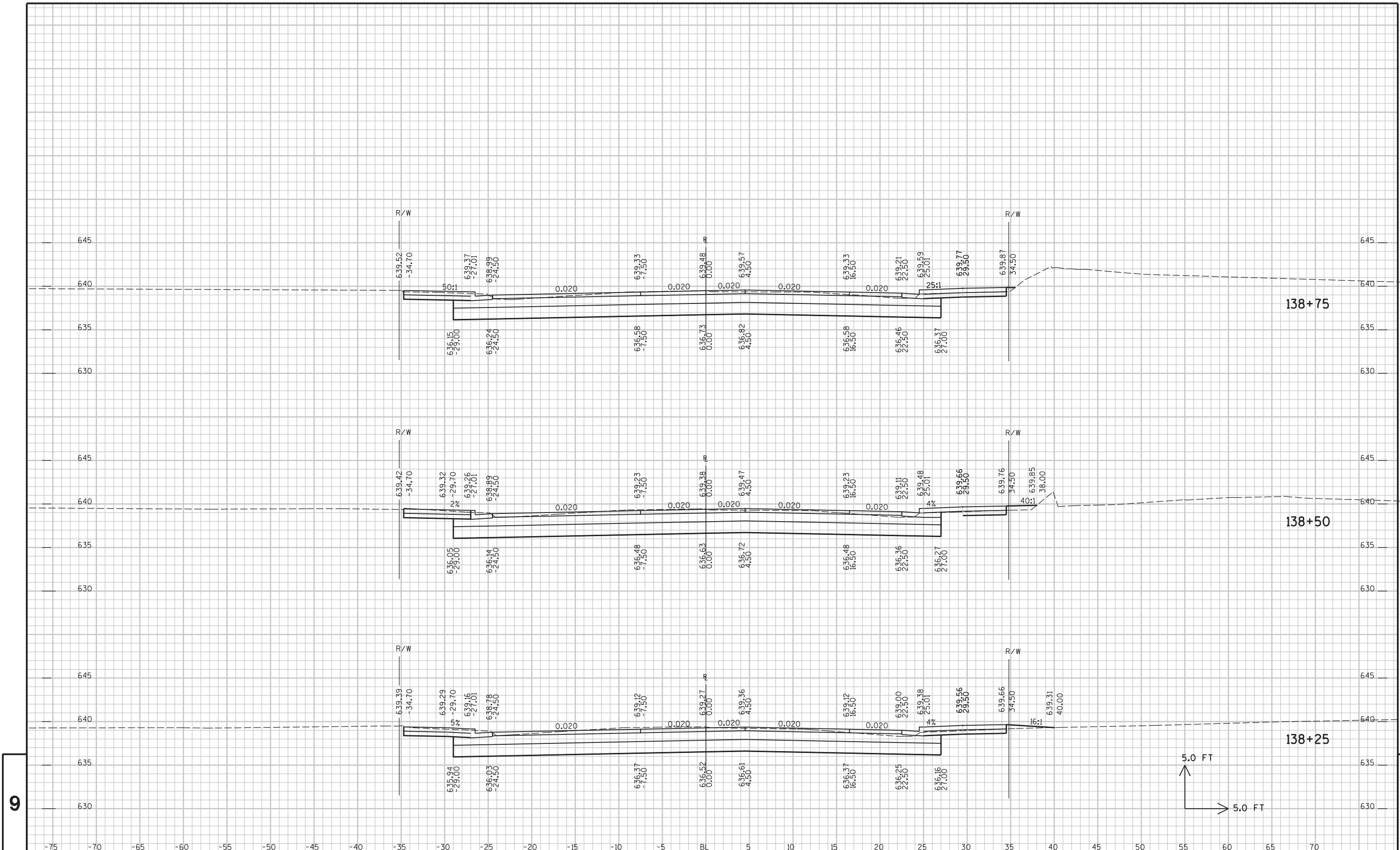
635

630

5.0 FT

5.0 FT

BEGIN CONSTRUCTION STA 137+70.00



END CONSTRUCTION  
STA 140+50.00

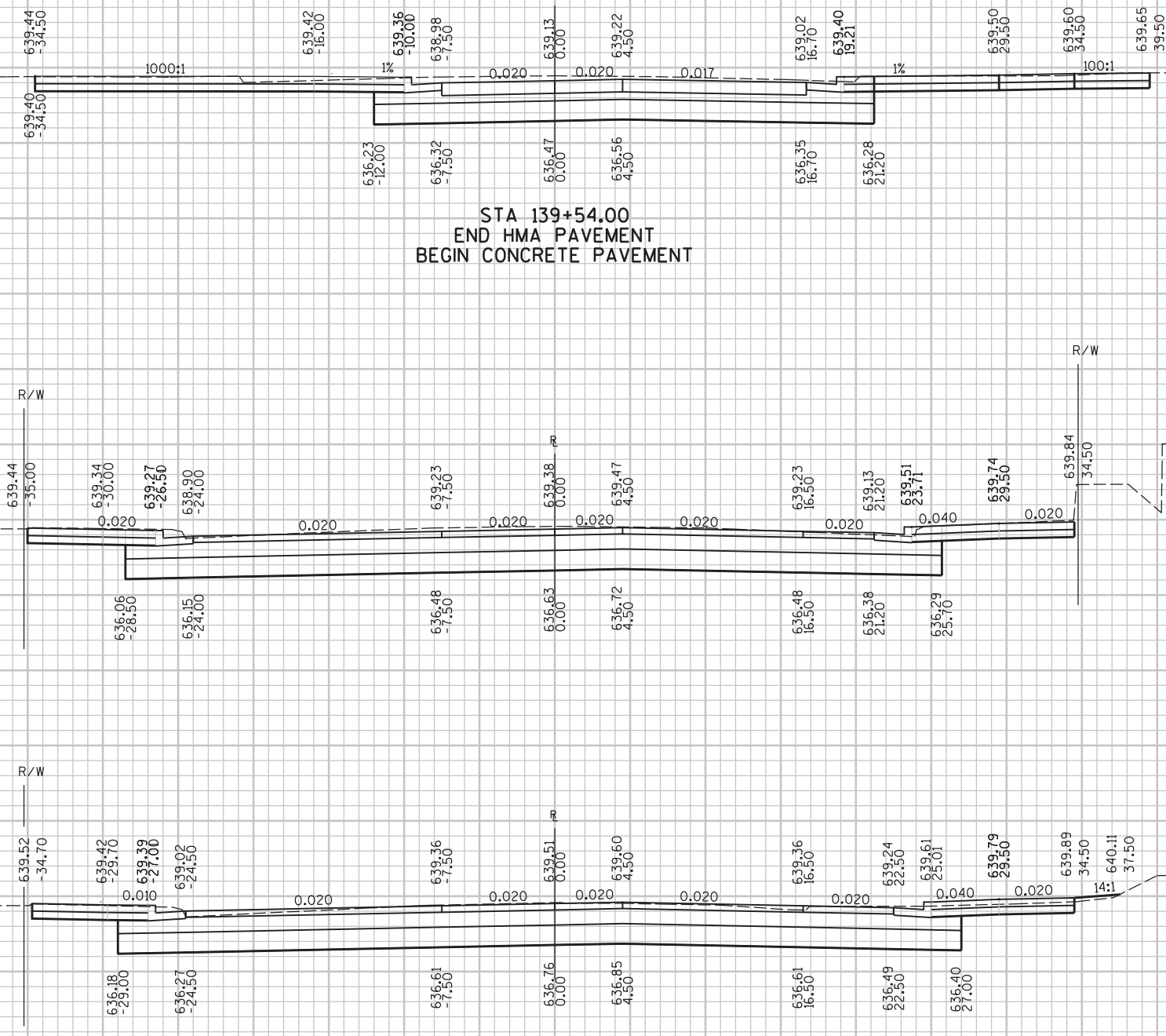
STH 35 (TOWER AVENUE)  
STA 140+08.00

STA 139+54.00  
END HMA PAVEMENT  
BEGIN CONCRETE PAVEMENT

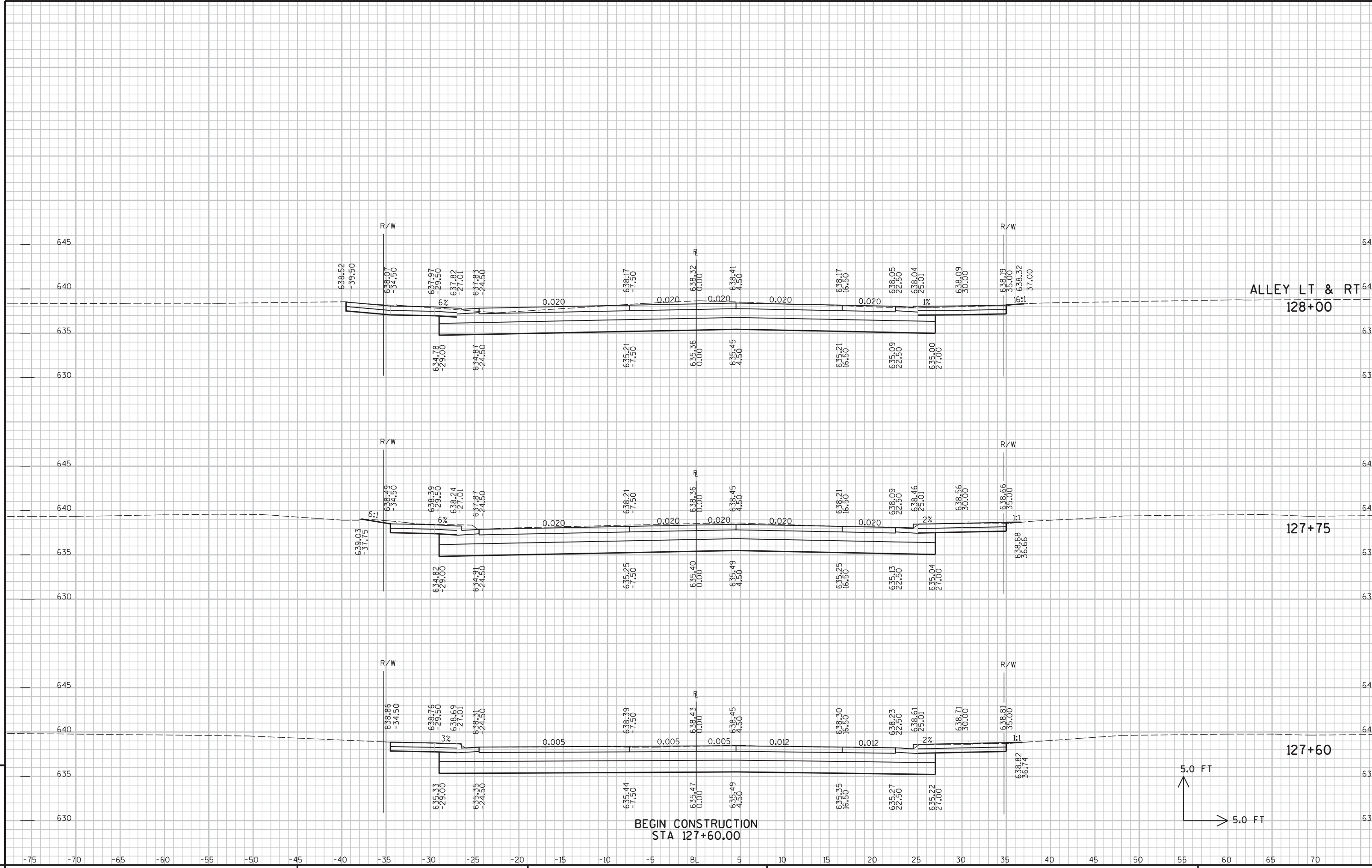
139+54

139+25

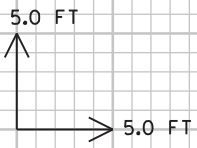
139+00

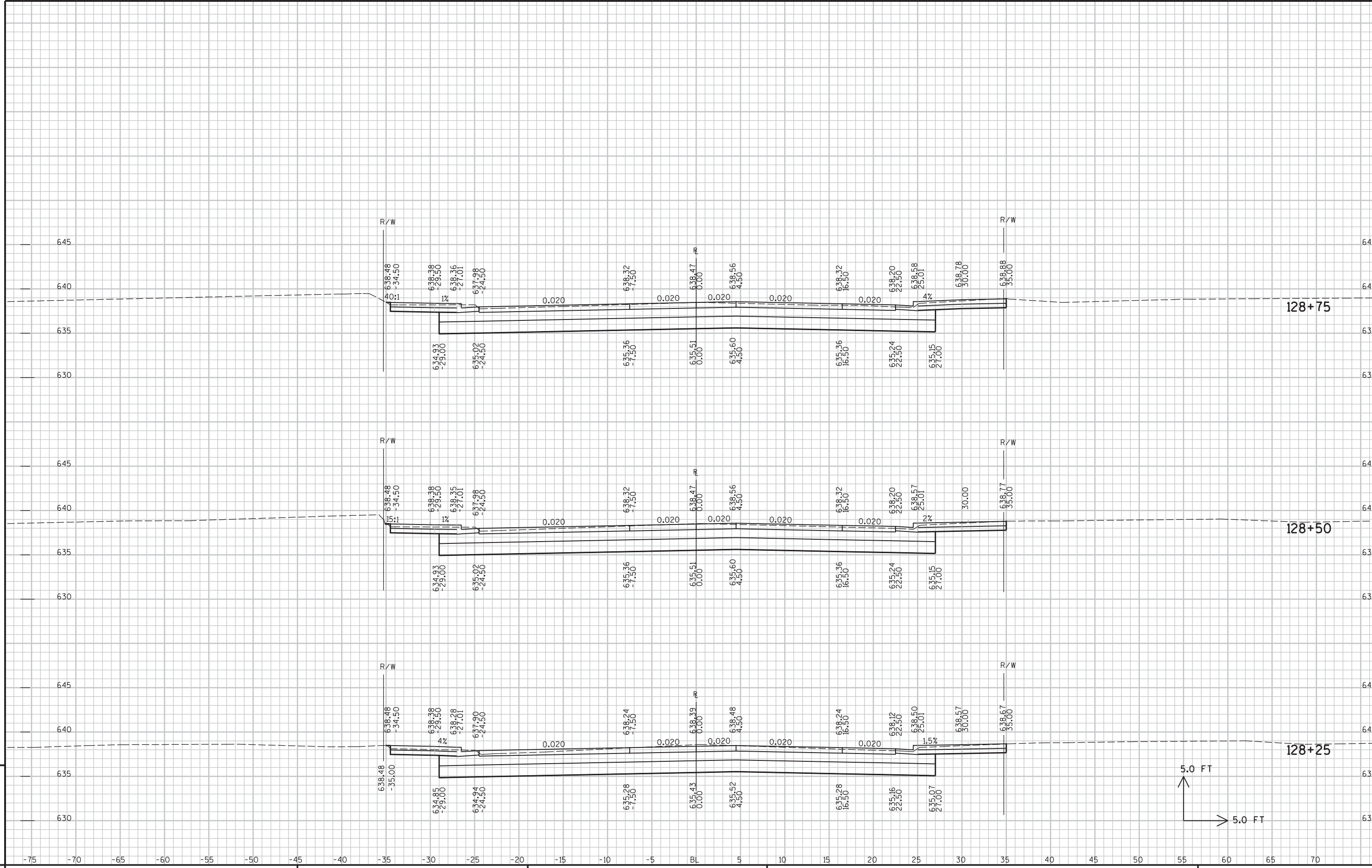


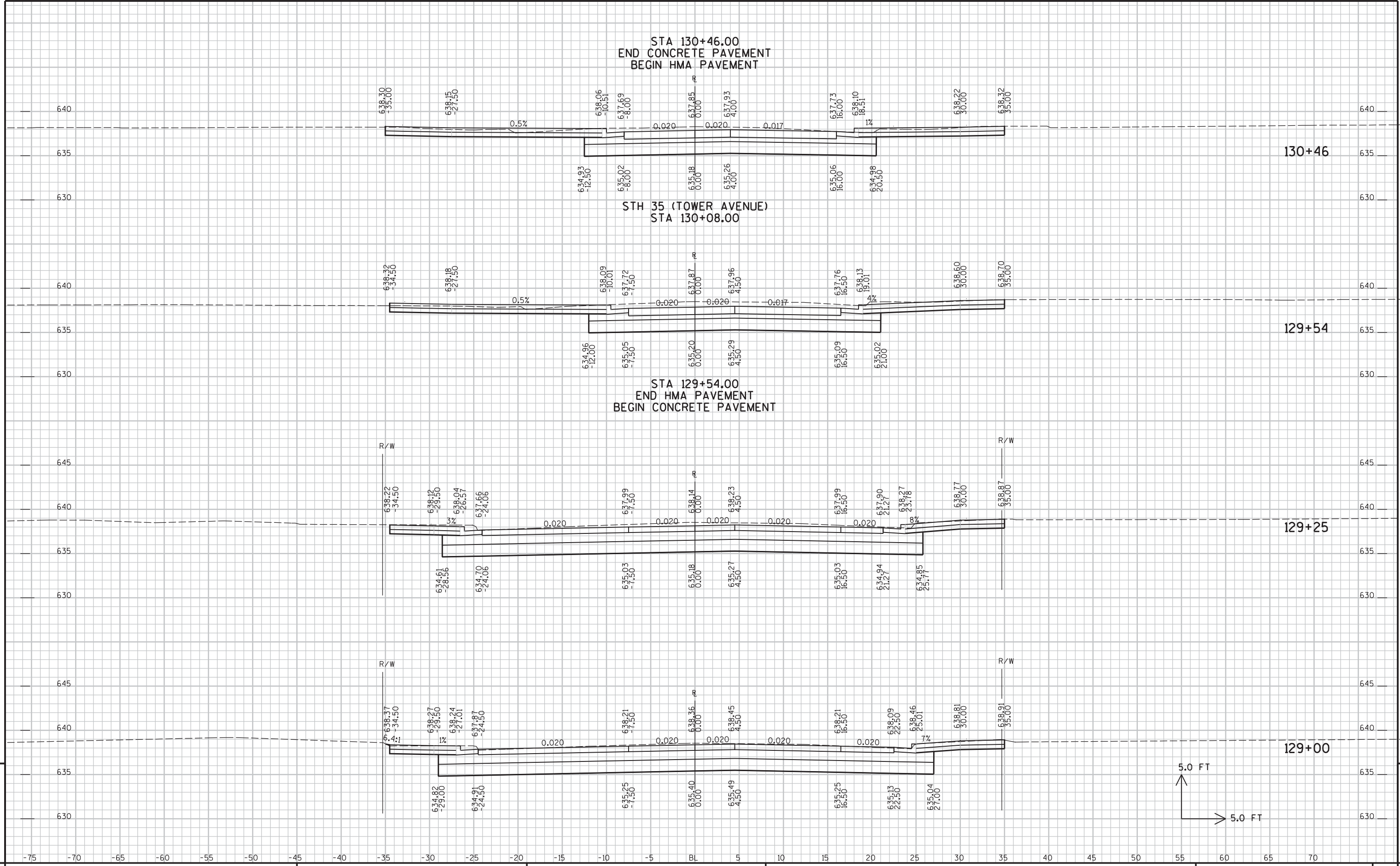




BEGIN CONSTRUCTION  
STA 127+60.00







PROJECT NO : 1195-13-71

HWY : STH 35 (TOWER AVENUE)

COUNTY : DOUGLAS

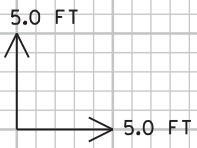
CROSS SECTIONS - 13TH STREET

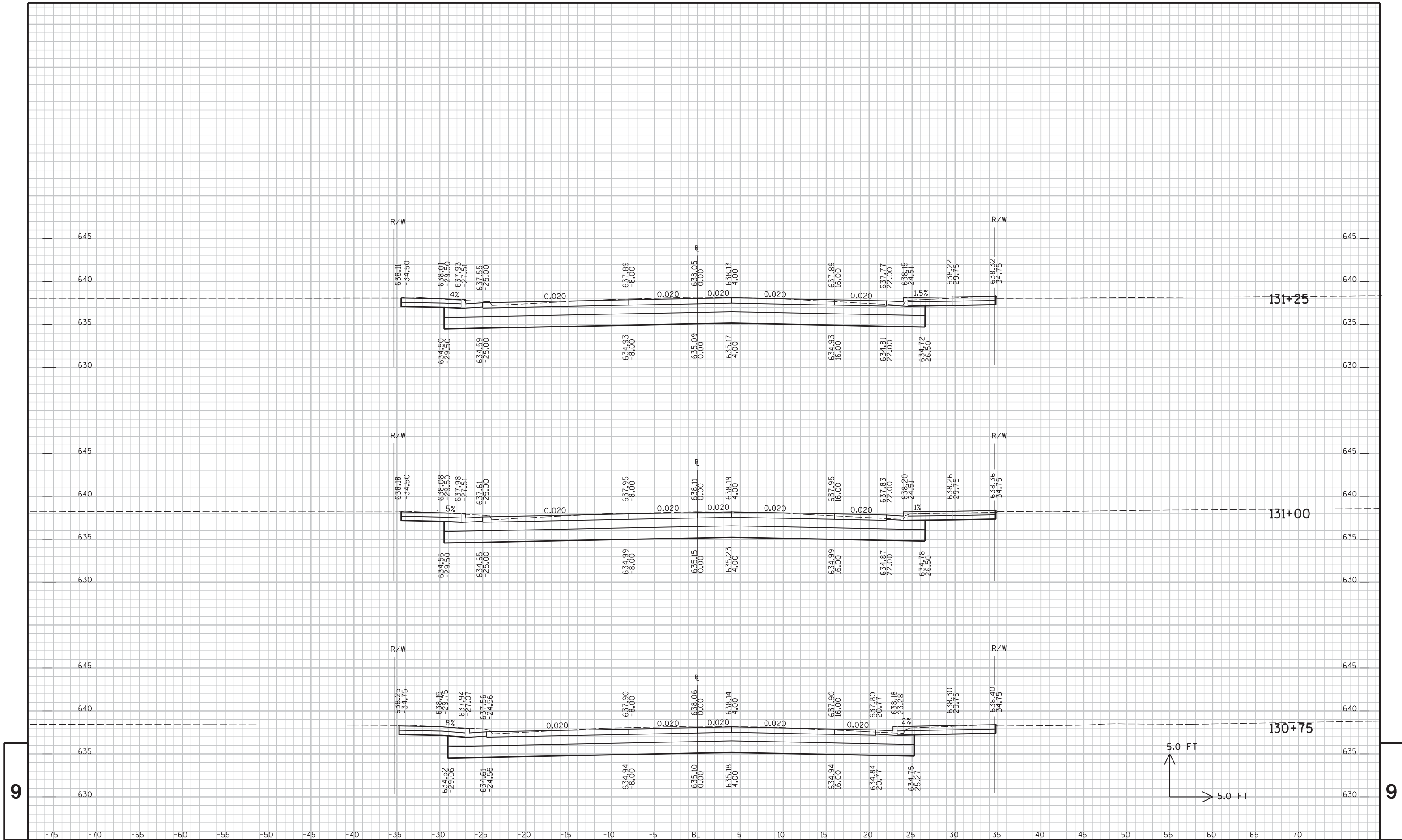
SHEET NO:

E

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PROJECT NO : 1195-13-71

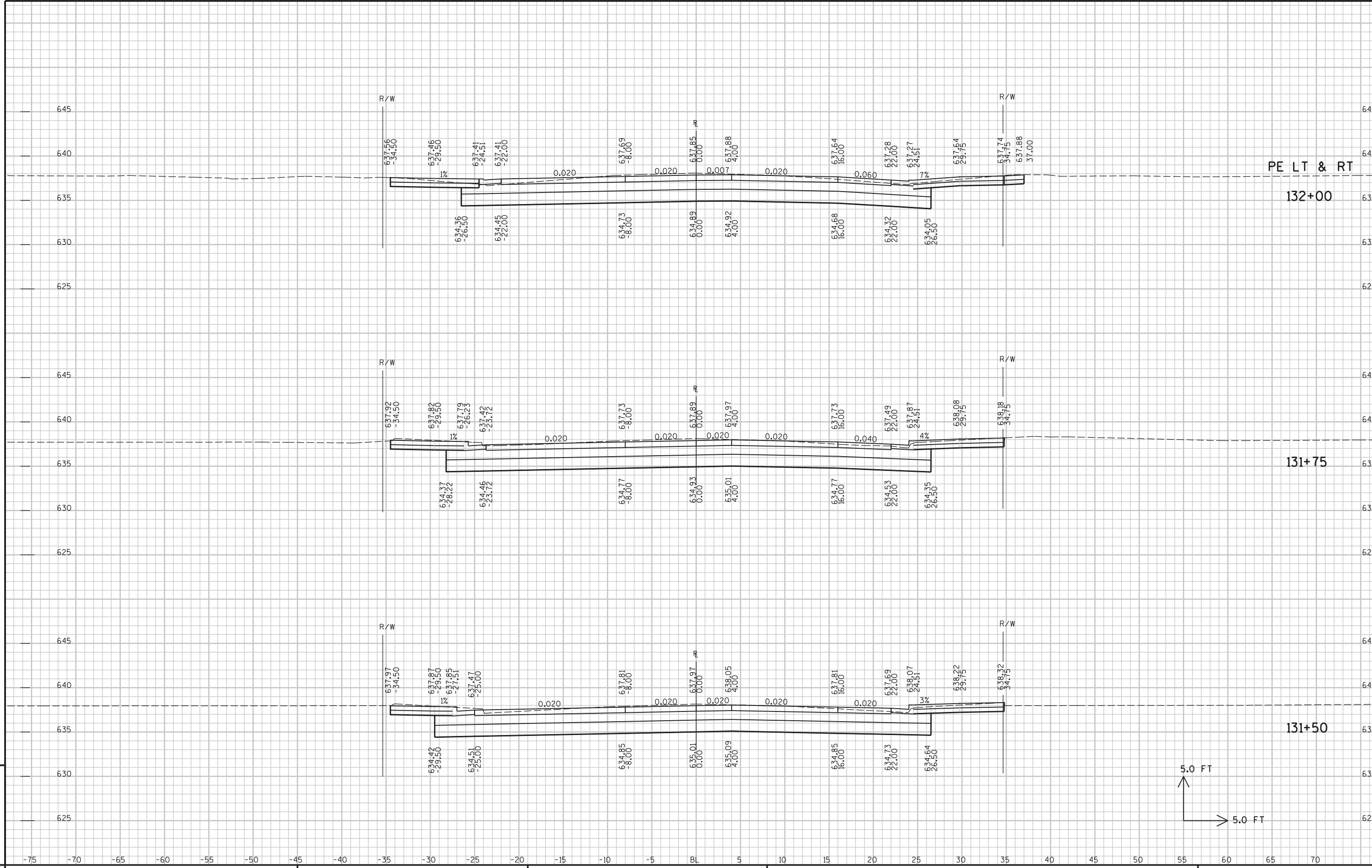
HWY : STH 35 (TOWER AVENUE)

COUNTY : DOUGLAS

CROSS SECTIONS - 13TH STREET

SHEET NO:

E

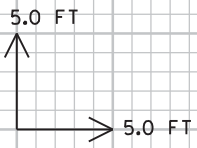


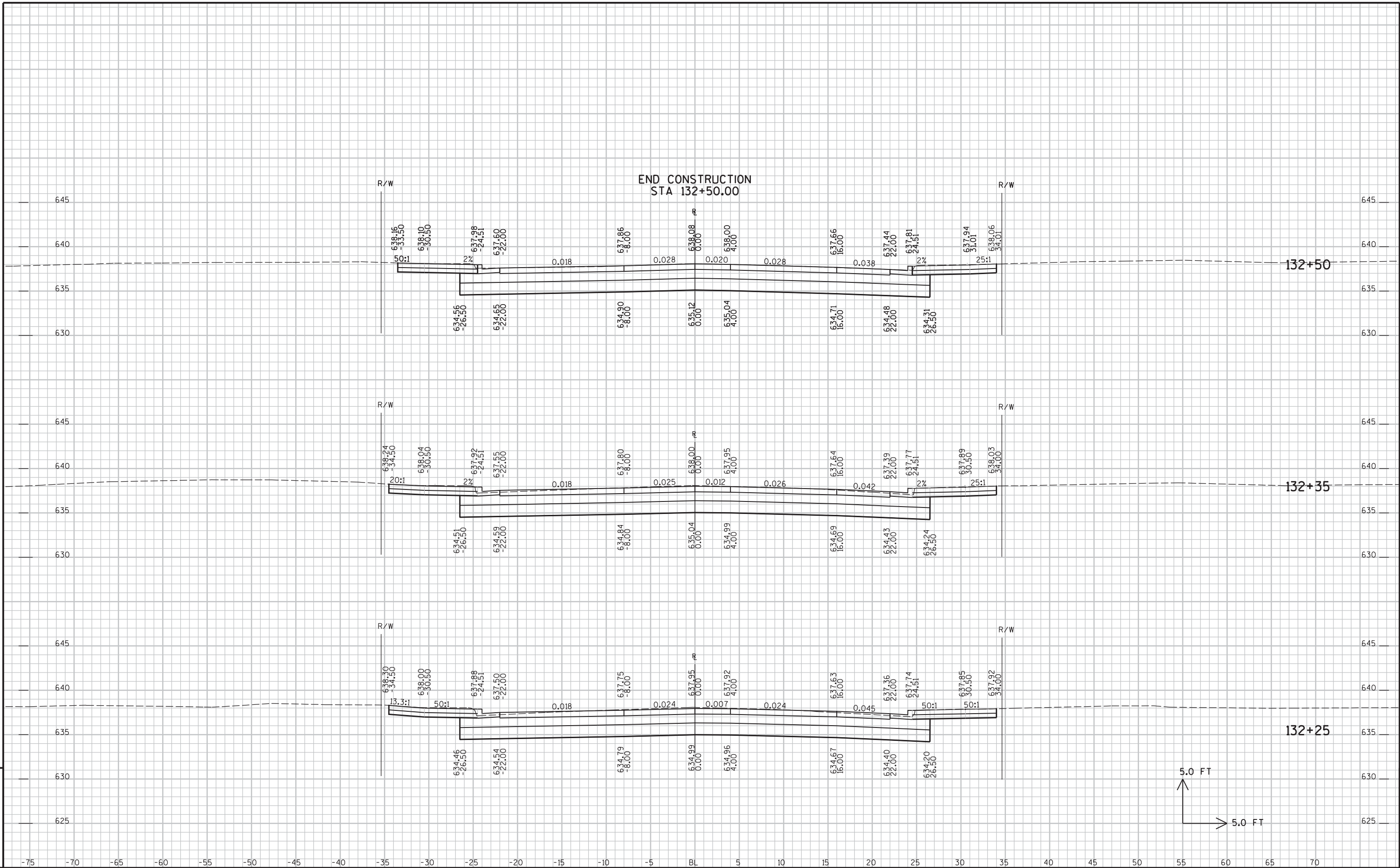
PE LT & RT

132+00

131+75

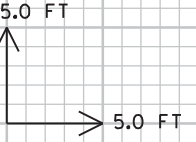
131+50

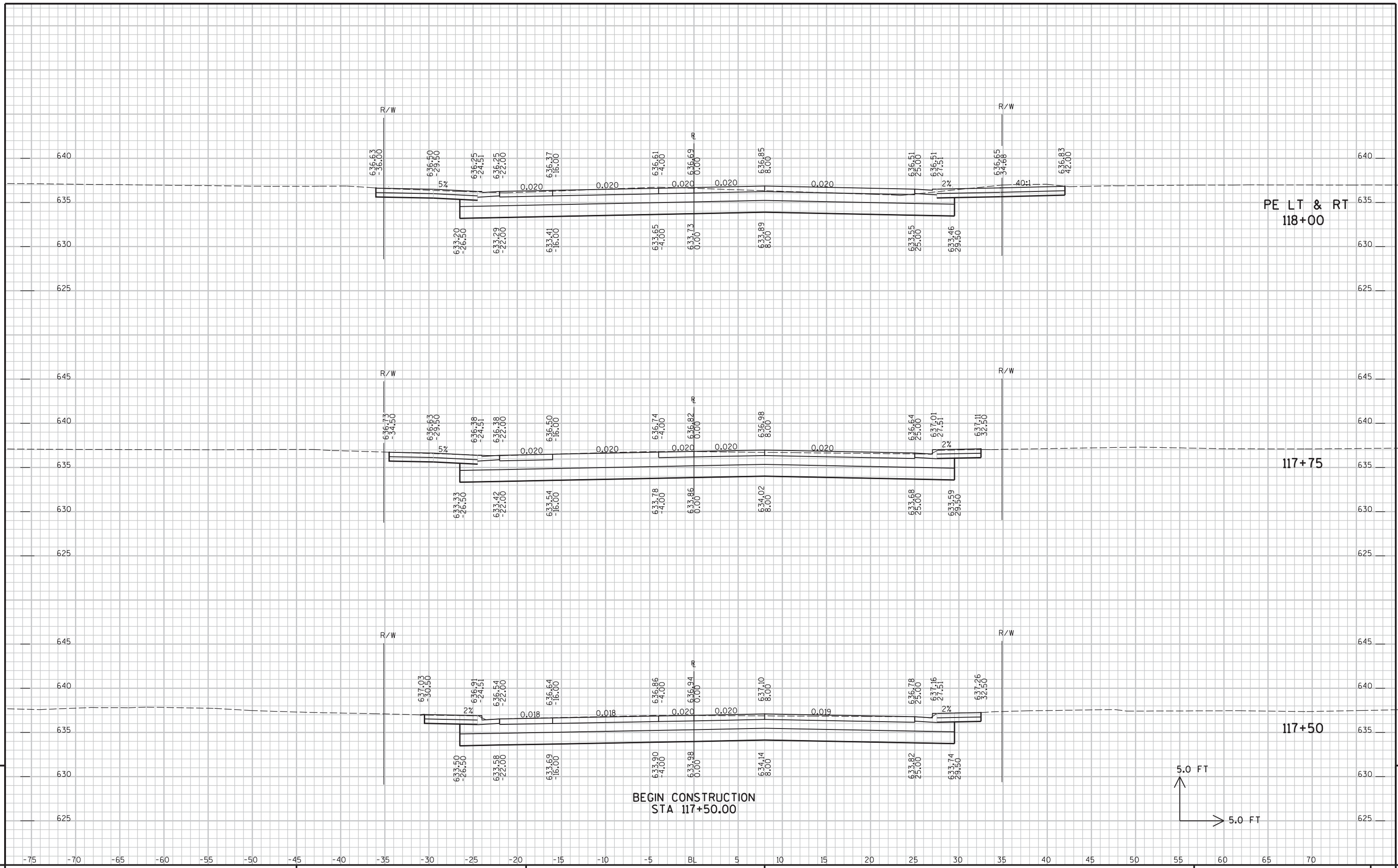




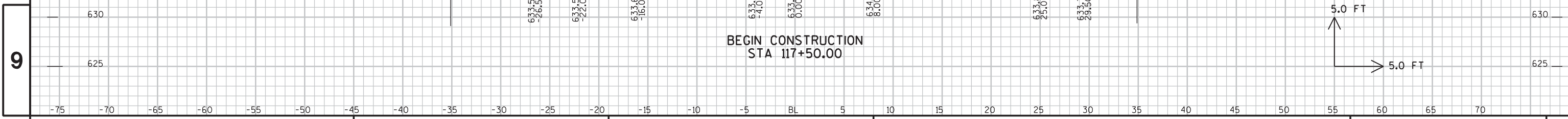
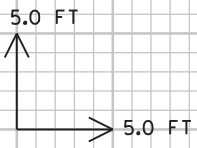
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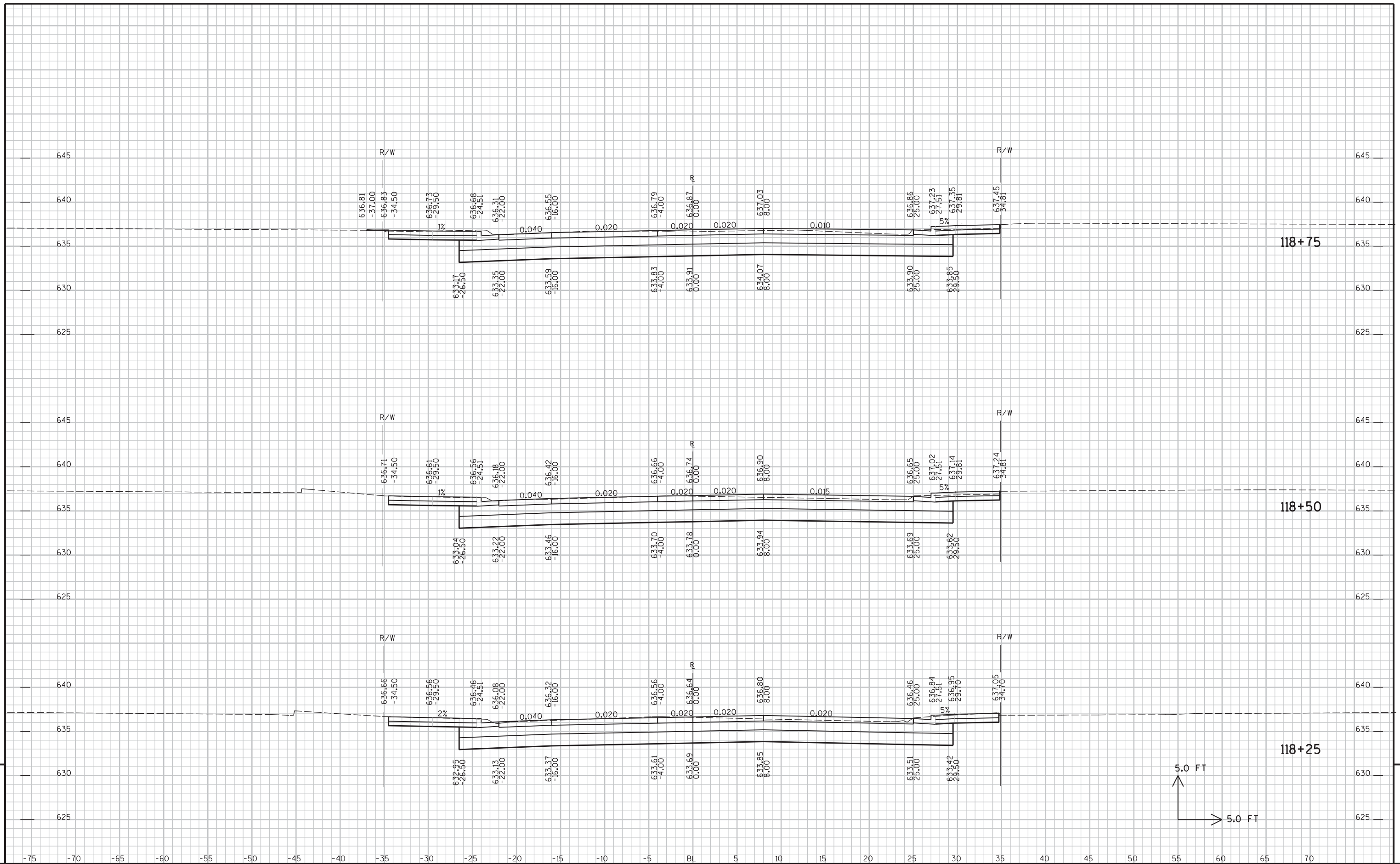
9





BEGIN CONSTRUCTION  
STA 117+50.00





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PROJECT NO : 1195-13-71

HWY : STH 35 (TOWER AVENUE)

COUNTY : DOUGLAS

CROSS SECTIONS - 12TH STREET

SHEET NO:

E

FILE NAME : \\SEHCF1\Projects\UZ\W\Witnw\116687\CAD\090204\_XS.dgn

PLOT TIME : 8:37:33 AM

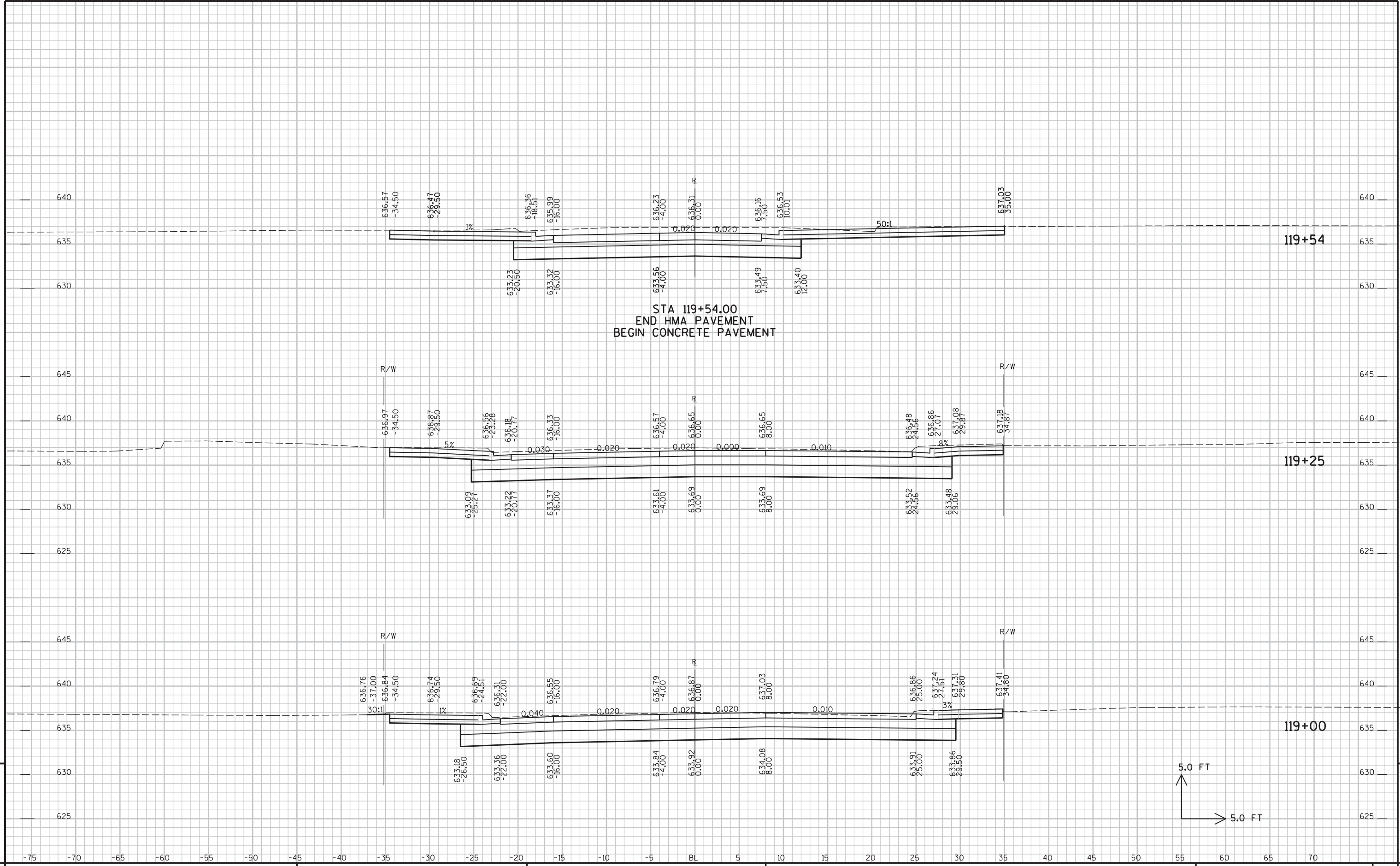
PLOT DATE : 1/14/2013

PLOT BY : SEH

PLOT NAME :

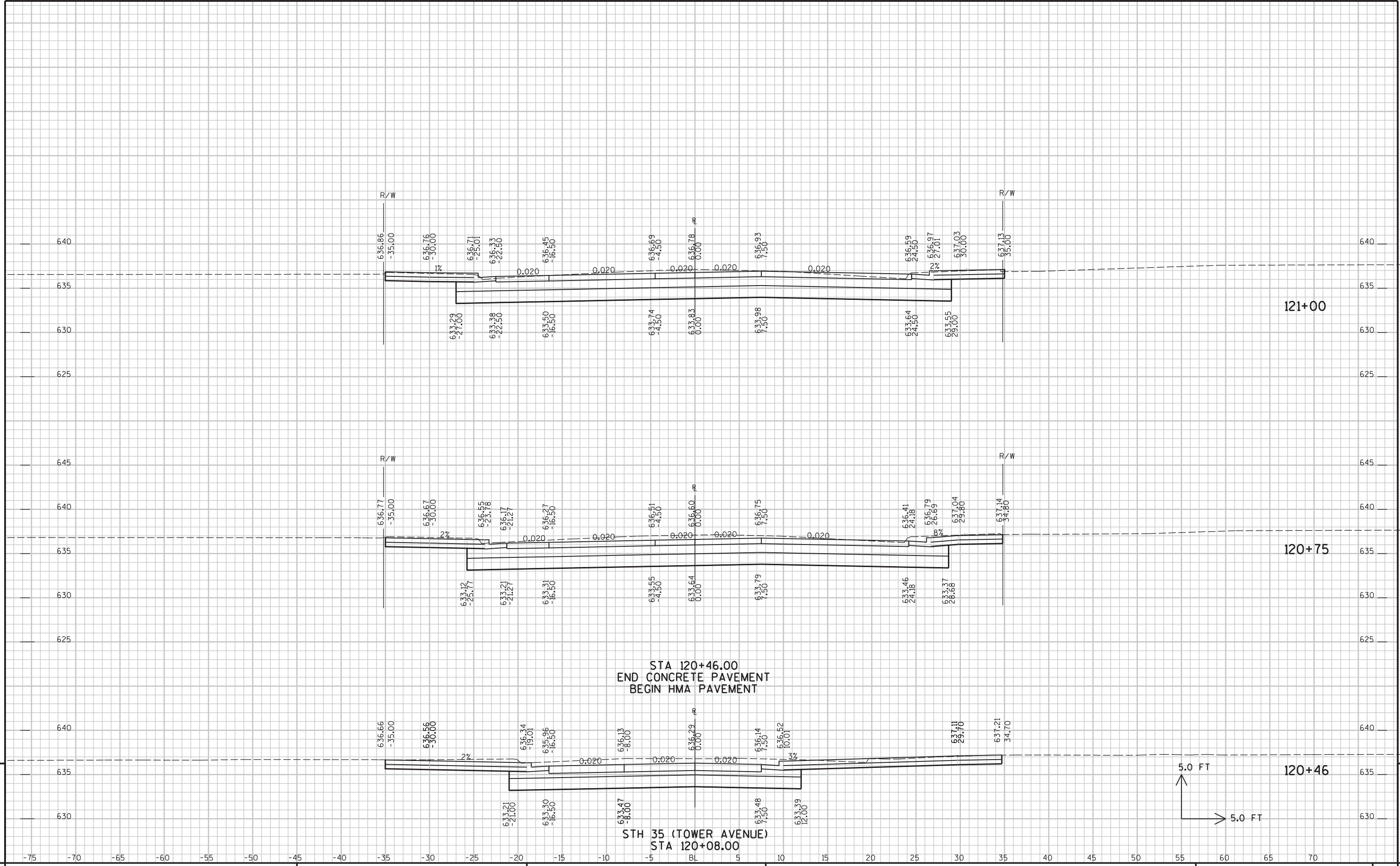
PLOT SCALE : N/A





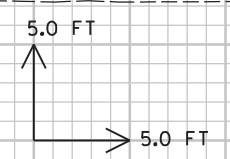
PROJECT NO : 1195-13-71      HWY : STH 35 (TOWER AVENUE)      COUNTY : DOUGLAS      CROSS SECTIONS - 12TH STREET      SHEET NO:      E

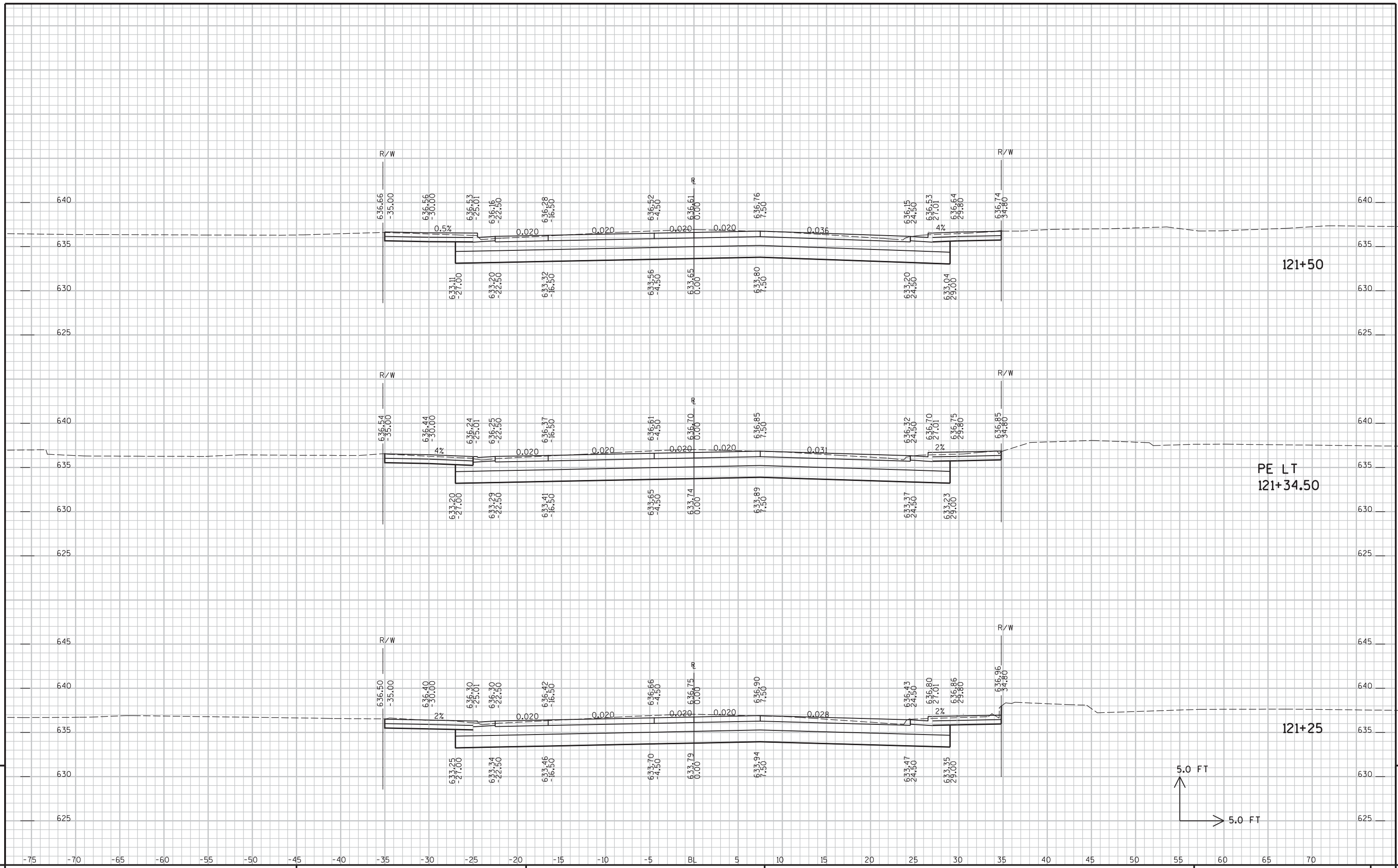
FILE NAME : \\SEHCF1\Projects\UZ\N\Witnw\116687\CAD\090204\_XS.dgn      PLOT TIME : 8:37:34 AM      PLOT DATE : 1/14/2013      PLOT BY : SEH      PLOT NAME :      PLOT SCALE : N/A



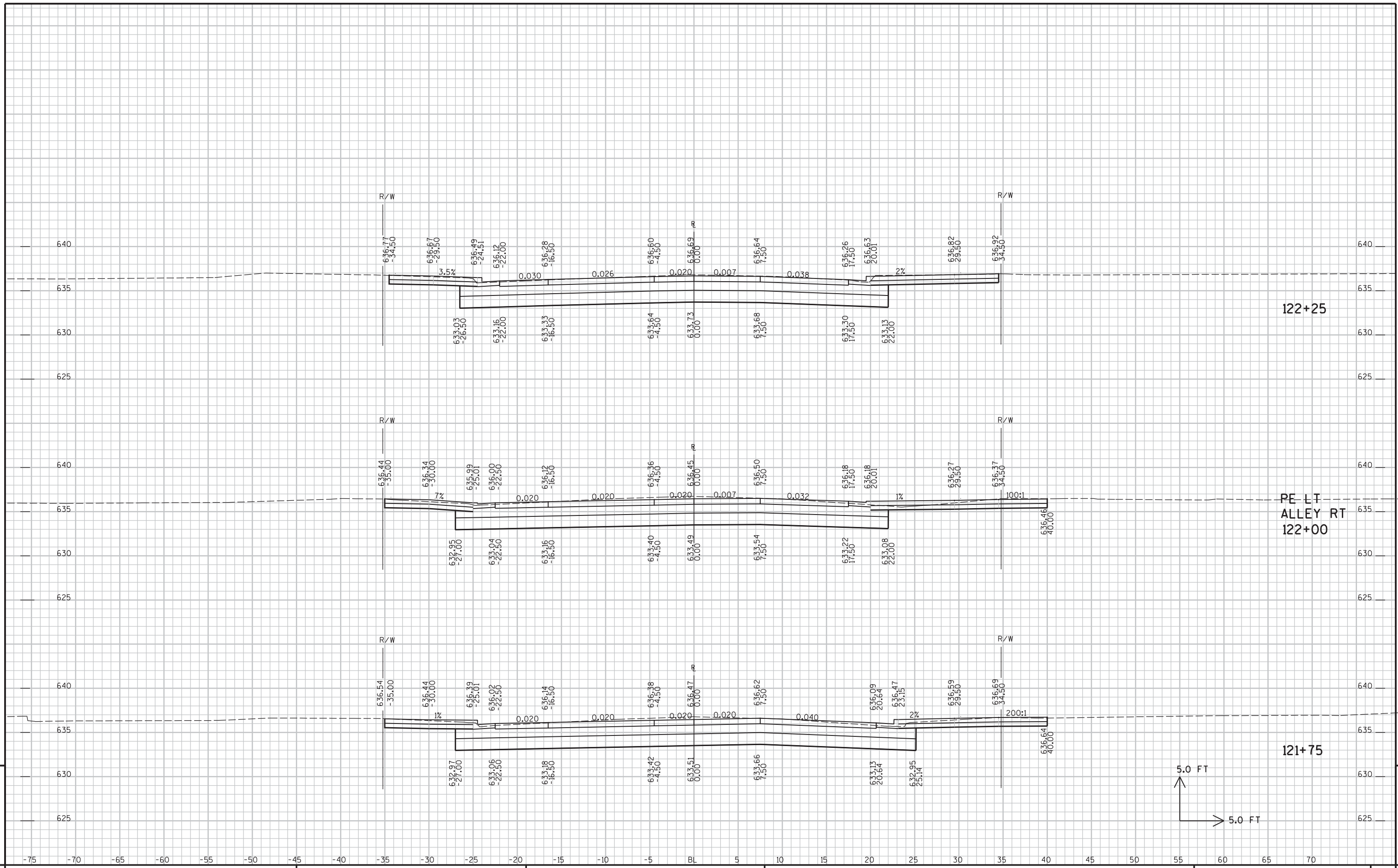
STA 120+46.00  
 END CONCRETE PAVEMENT  
 BEGIN HMA PAVEMENT

STH 35 (TOWER AVENUE)  
 STA 120+08.00





9
5.0 FT
5.0 FT
9



9

9

PROJECT NO : 1195-13-71

HWY : STH 35 (TOWER AVENUE)

COUNTY : DOUGLAS

CROSS SECTIONS - 12TH STREET

SHEET NO:

E

FILE NAME : \\SEHCF1\Projects\UZ\W\Witnw\116687\CAD\090204\_XS.dgn

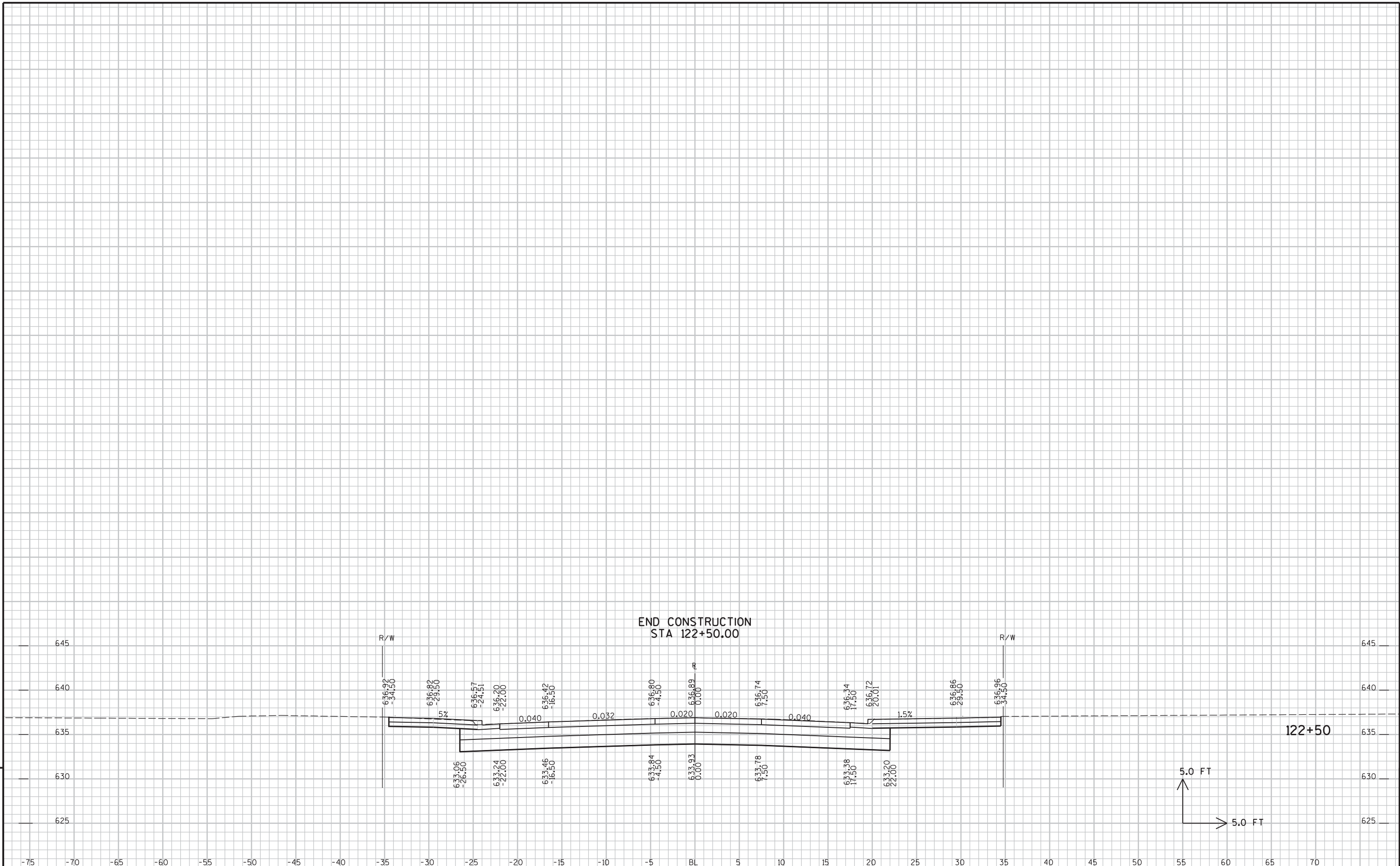
PLOT TIME : 8:37:34 AM

PLOT DATE : 1/14/2013

PLOT BY : SEH

PLOT NAME :

PLOT SCALE : N/A



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PROJECT NO : 1195-13-71

HWY : STH 35 (TOWER AVENUE)

COUNTY : DOUGLAS

CROSS SECTIONS - 12TH STREET

SHEET NO:

E

FILE NAME : \\SEHCF1\Projects\UZ\W\Witnw\116687\CAD\090204\_XS.dgn

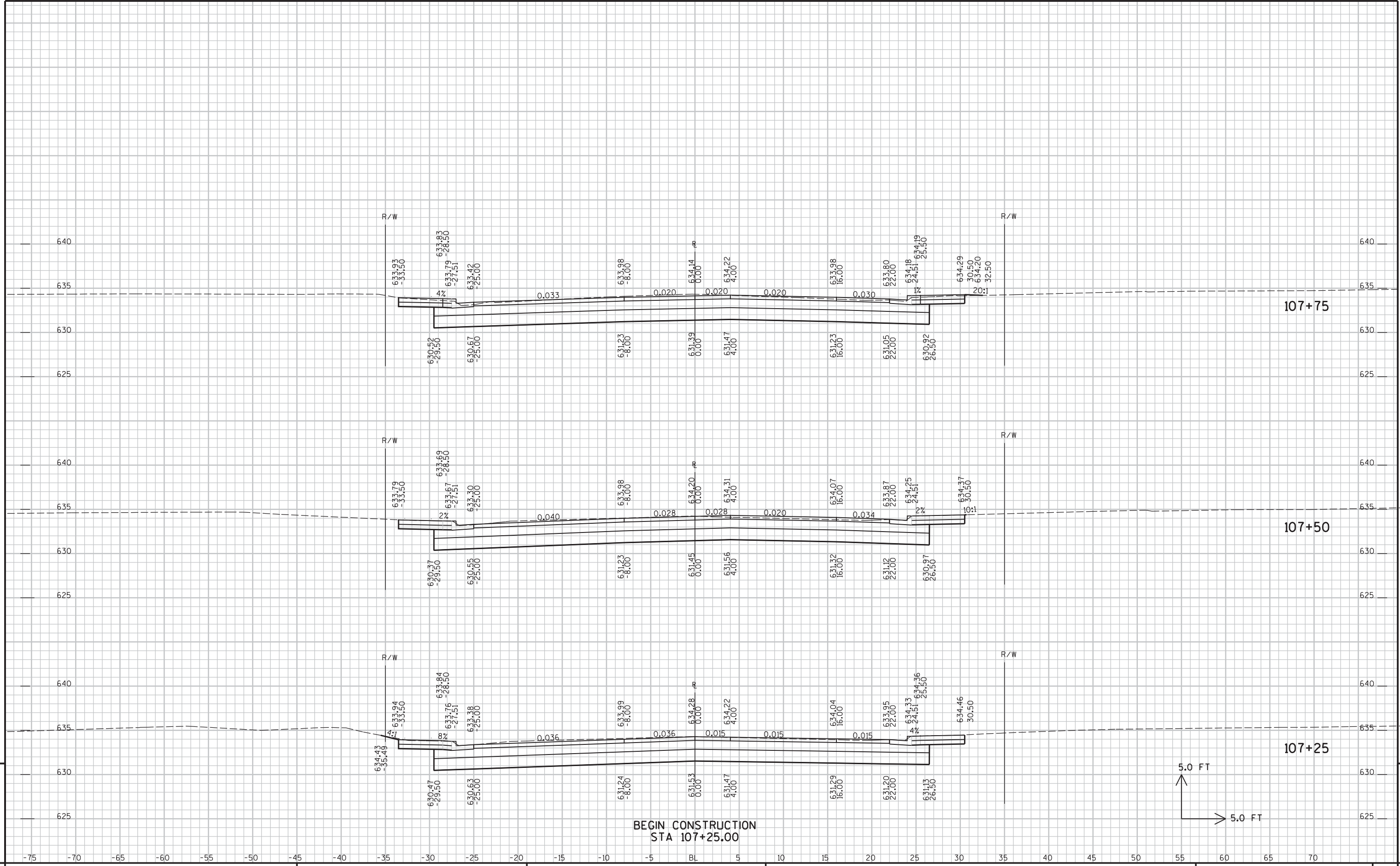
PLOT TIME : 8:37:49 AM

PLOT DATE : 1/14/2013

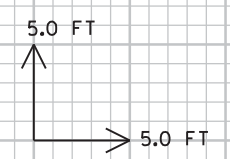
PLOT BY : SEH

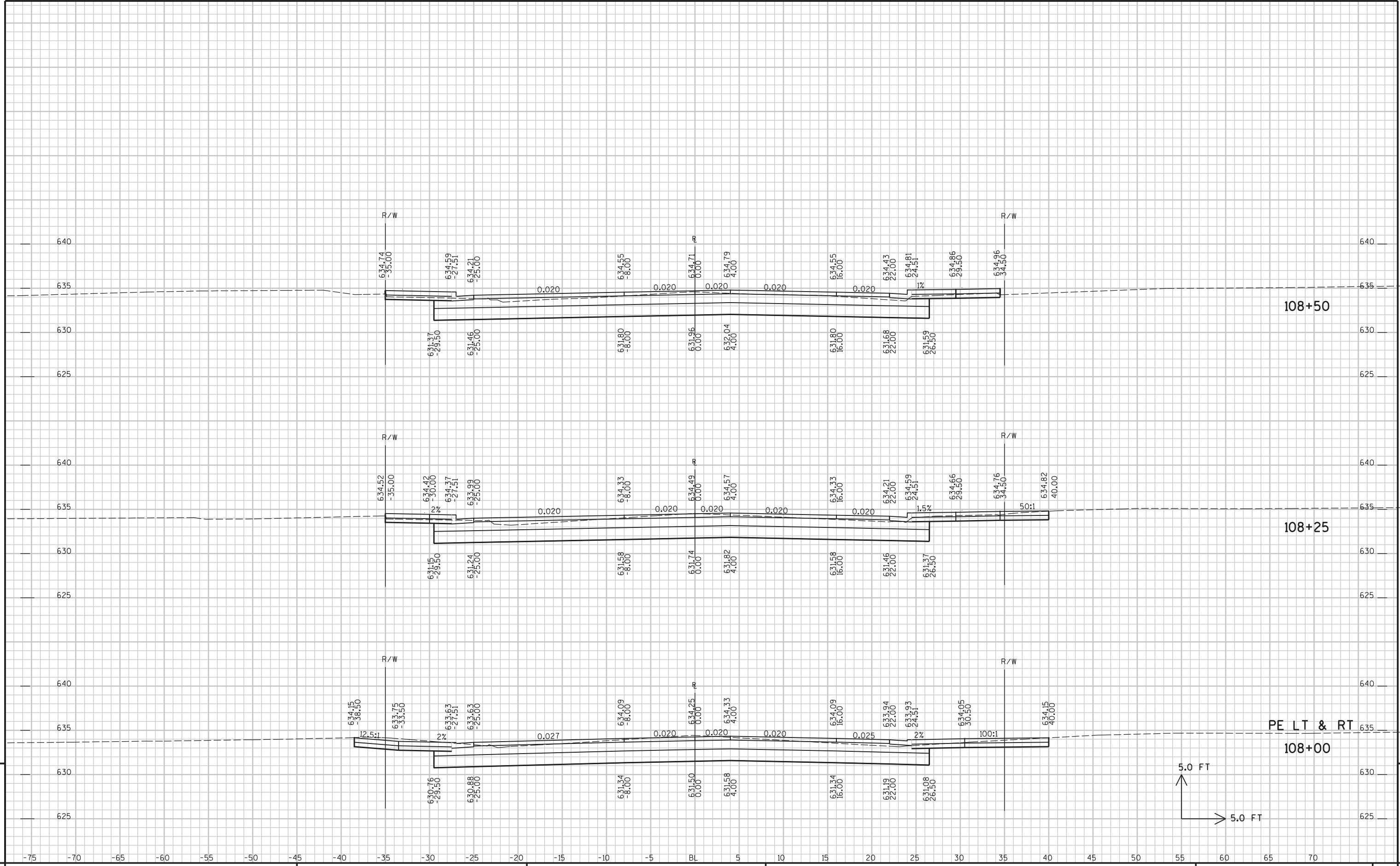
PLOT NAME :

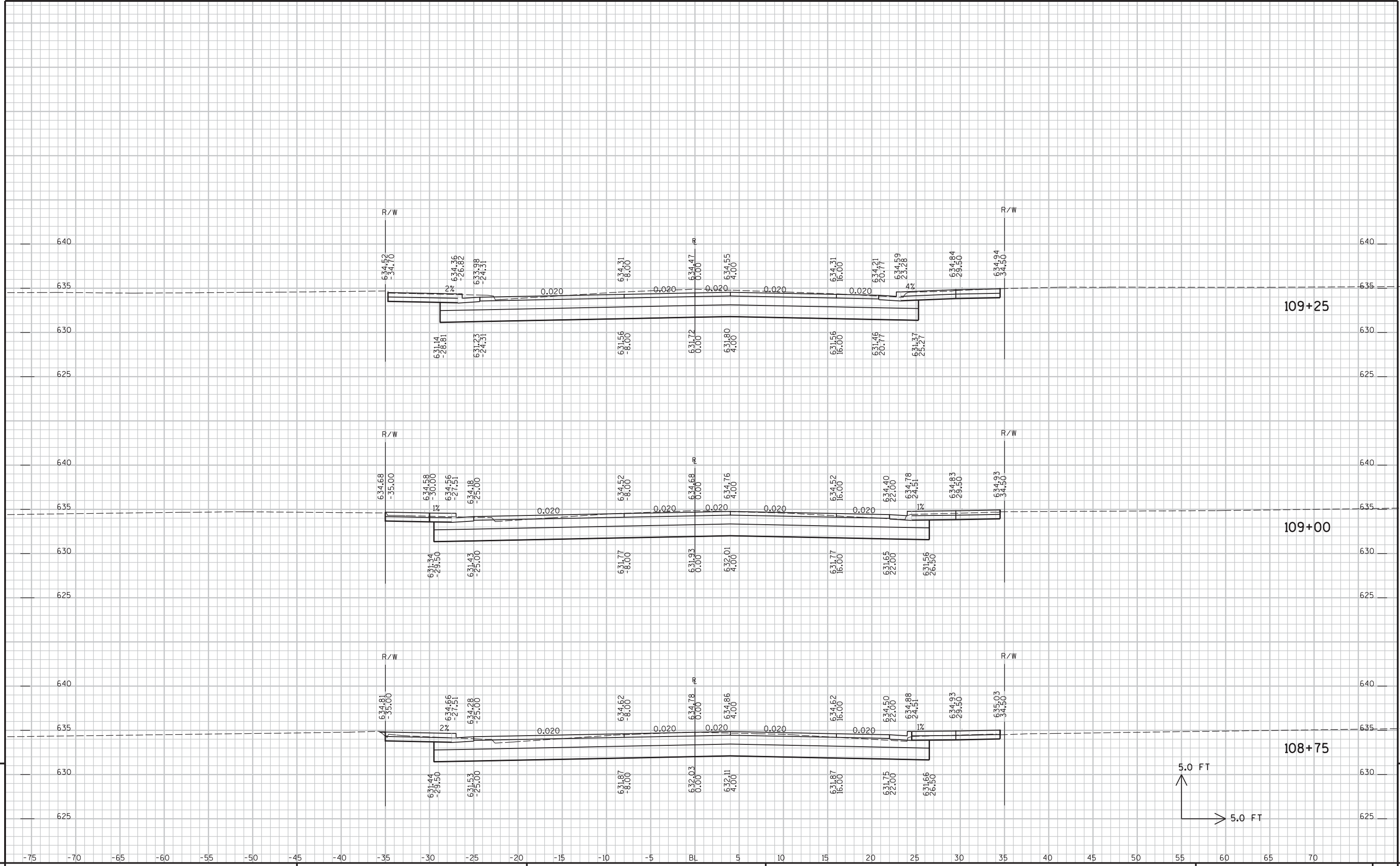
PLOT SCALE : N/A



BEGIN CONSTRUCTION  
STA 107+25.00







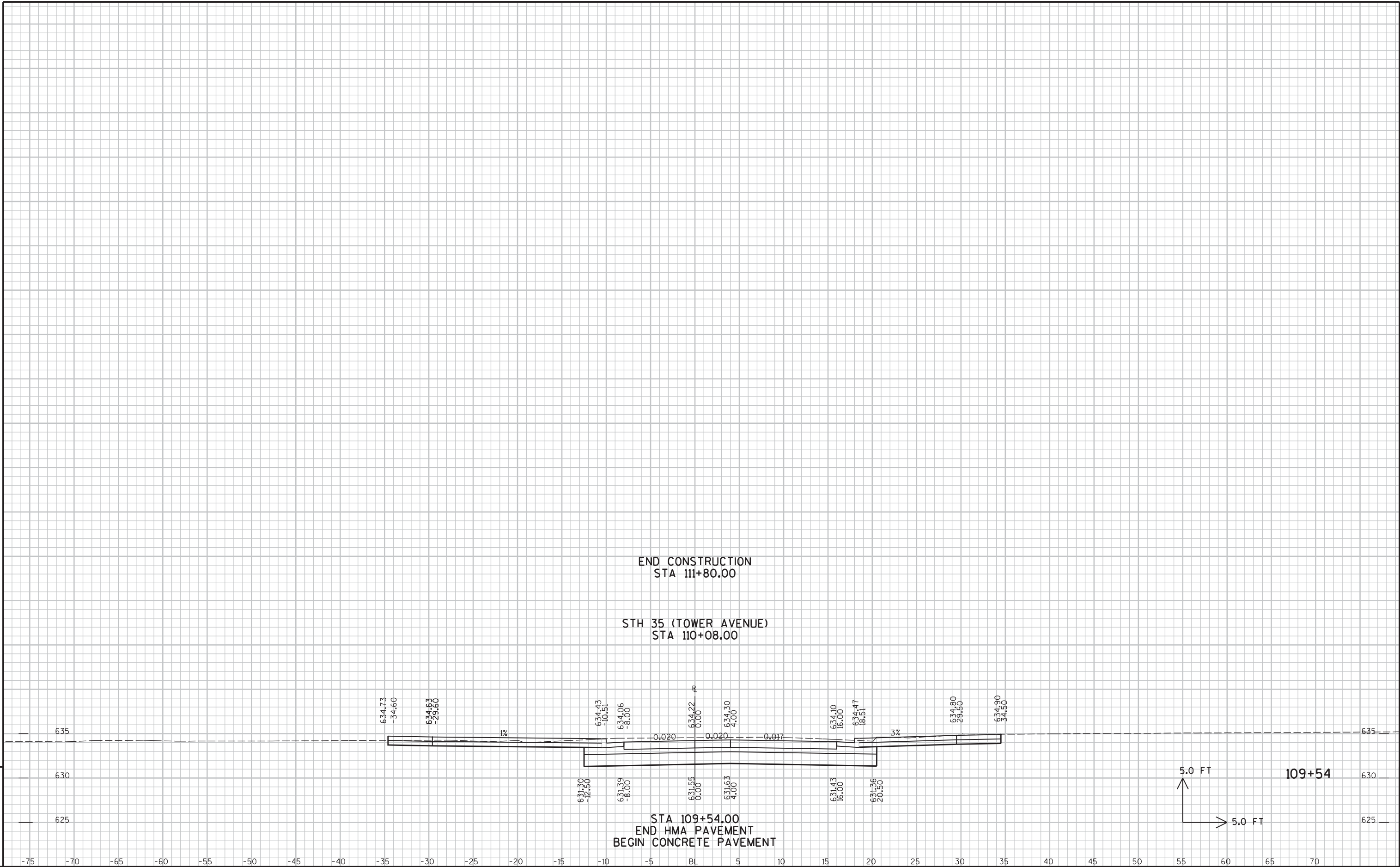
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PROJECT NO : 1195-13-71      HWY : STH 35 (TOWER AVENUE)      COUNTY : DOUGLAS      CROSS SECTIONS - 11TH STREET      SHEET NO:      E

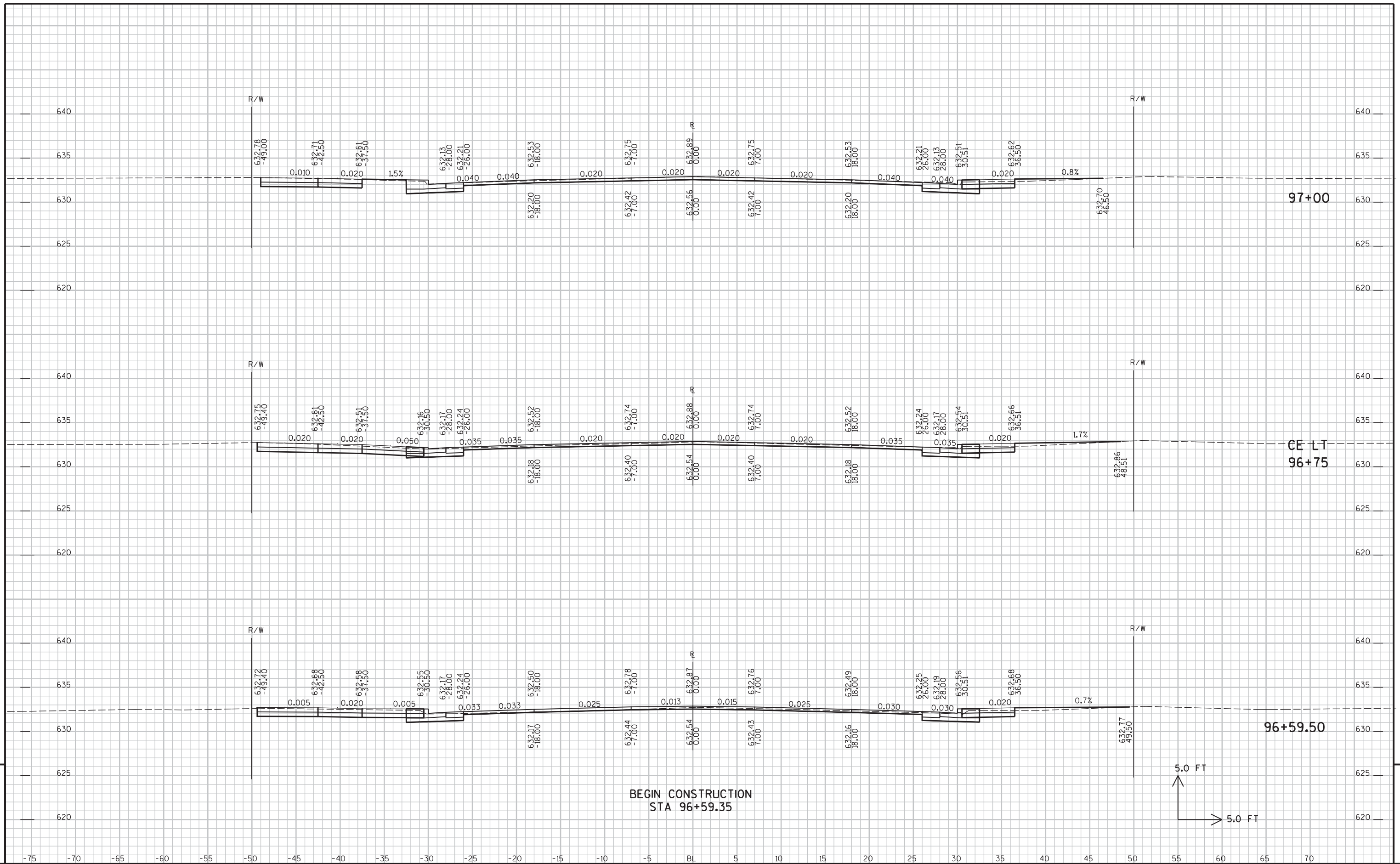
FILE NAME : \\SEHCF1\Projects\UZ\W\Witnw\116687\CAD\090205\_XS.dgn      PLOT TIME : 8:37:50 AM      PLOT DATE : 1/14/2013      PLOT BY : SEH      PLOT NAME :      PLOT SCALE : N/A



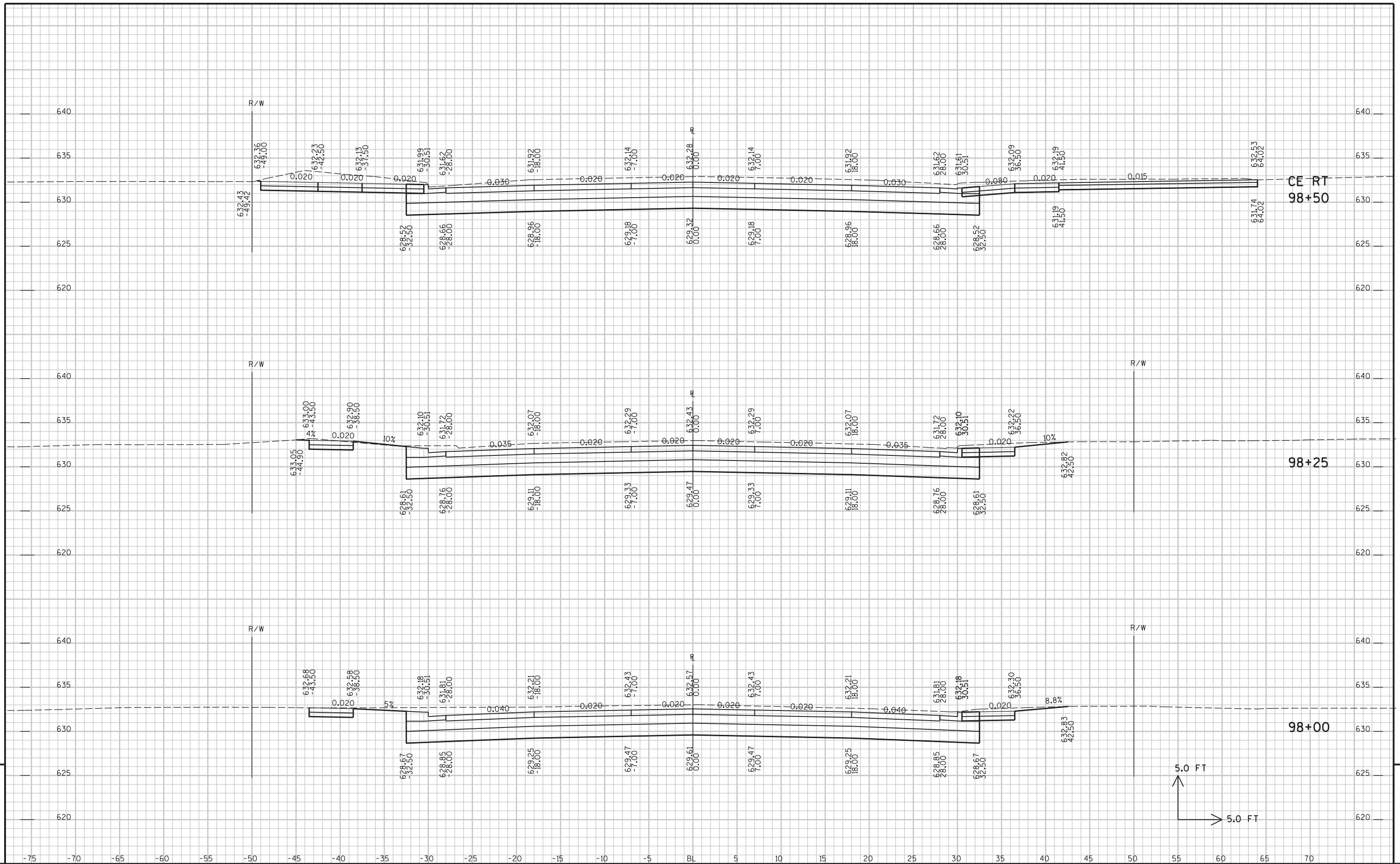


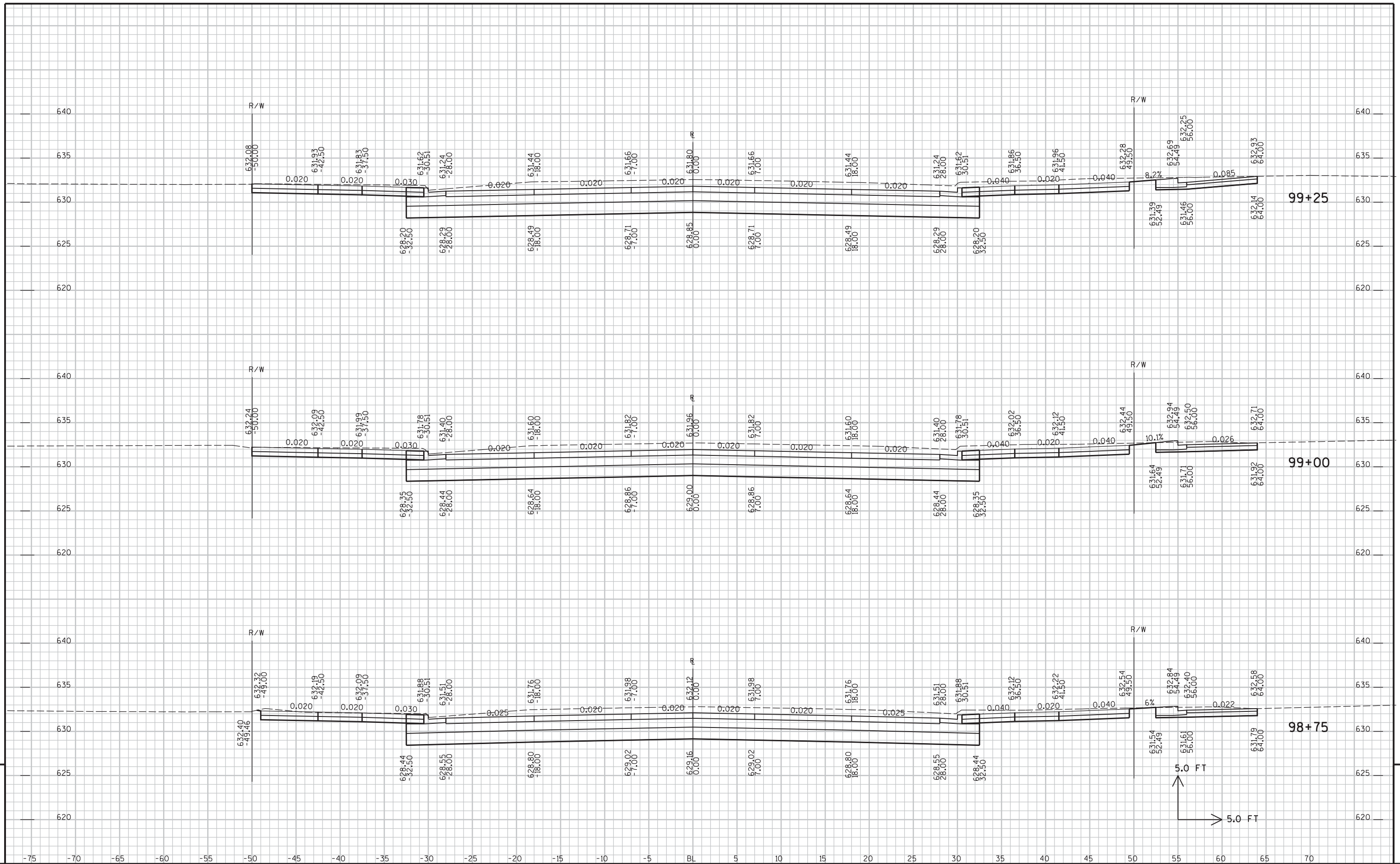
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PROJECT NO : 1195-13-71

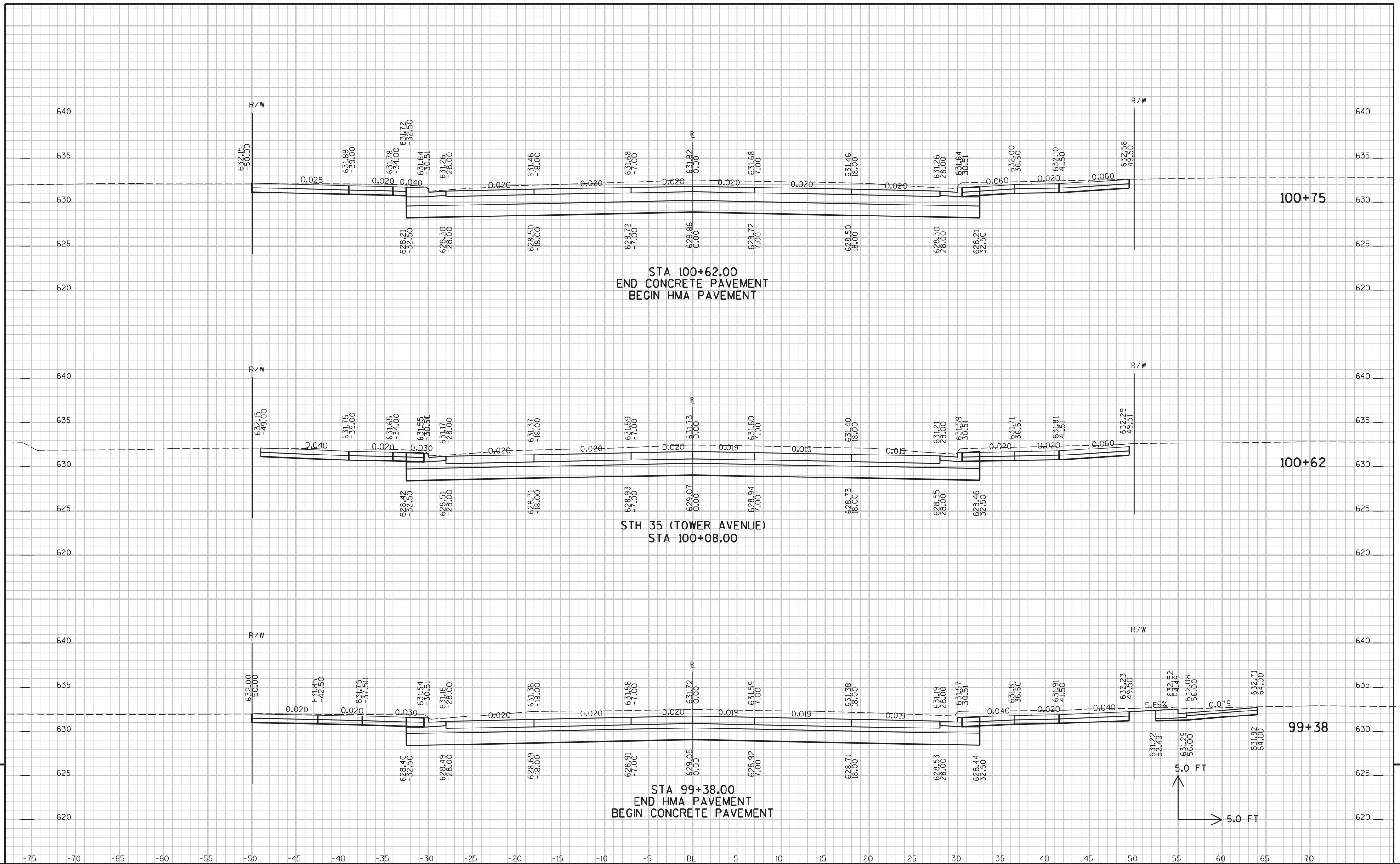
HWY : STH 35 (TOWER AVENUE)

COUNTY : DOUGLAS

CROSS SECTIONS - BROADWAY STREET

SHEET NO:

E



PROJECT NO : 1195-13-71

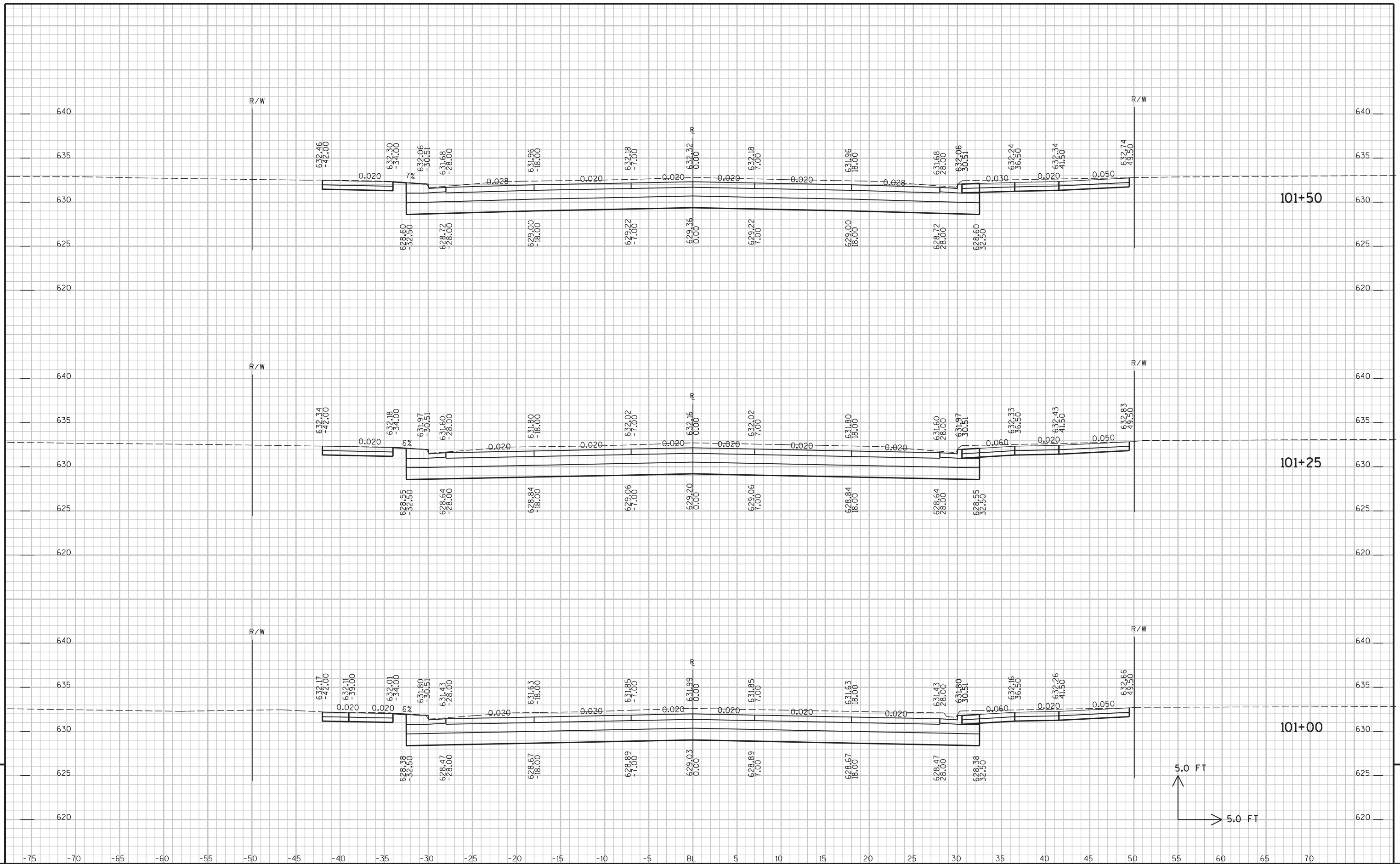
HWY : STH 35 (TOWER AVENUE)

COUNTY : DOUGLAS

CROSS SECTIONS - BROADWAY STREET

SHEET NO:

E



PROJECT NO : 1195-13-71

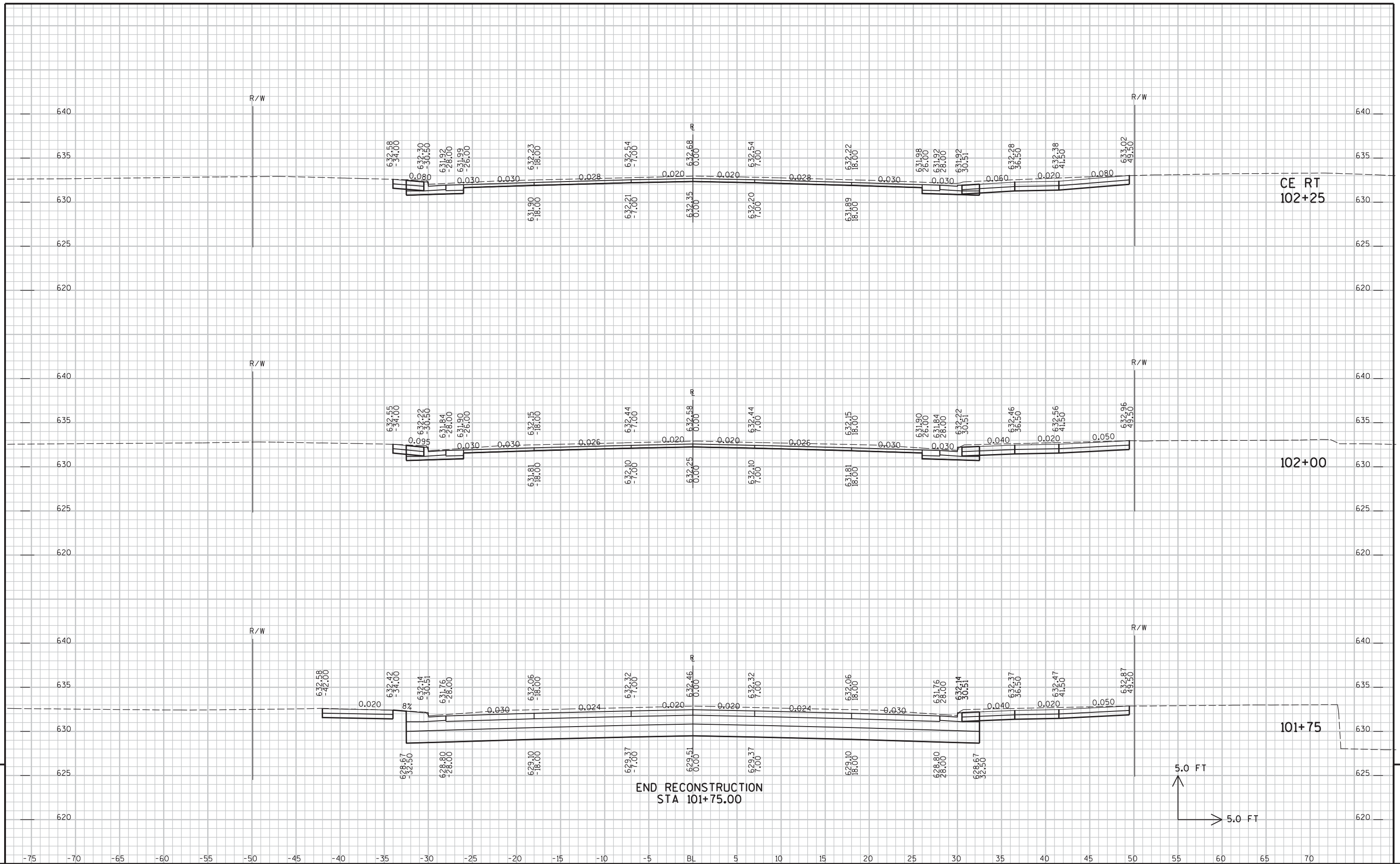
HWY : STH 35 (TOWER AVENUE)

COUNTY : DOUGLAS

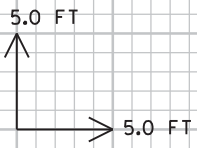
CROSS SECTIONS - BROADWAY STREET

SHEET NO:

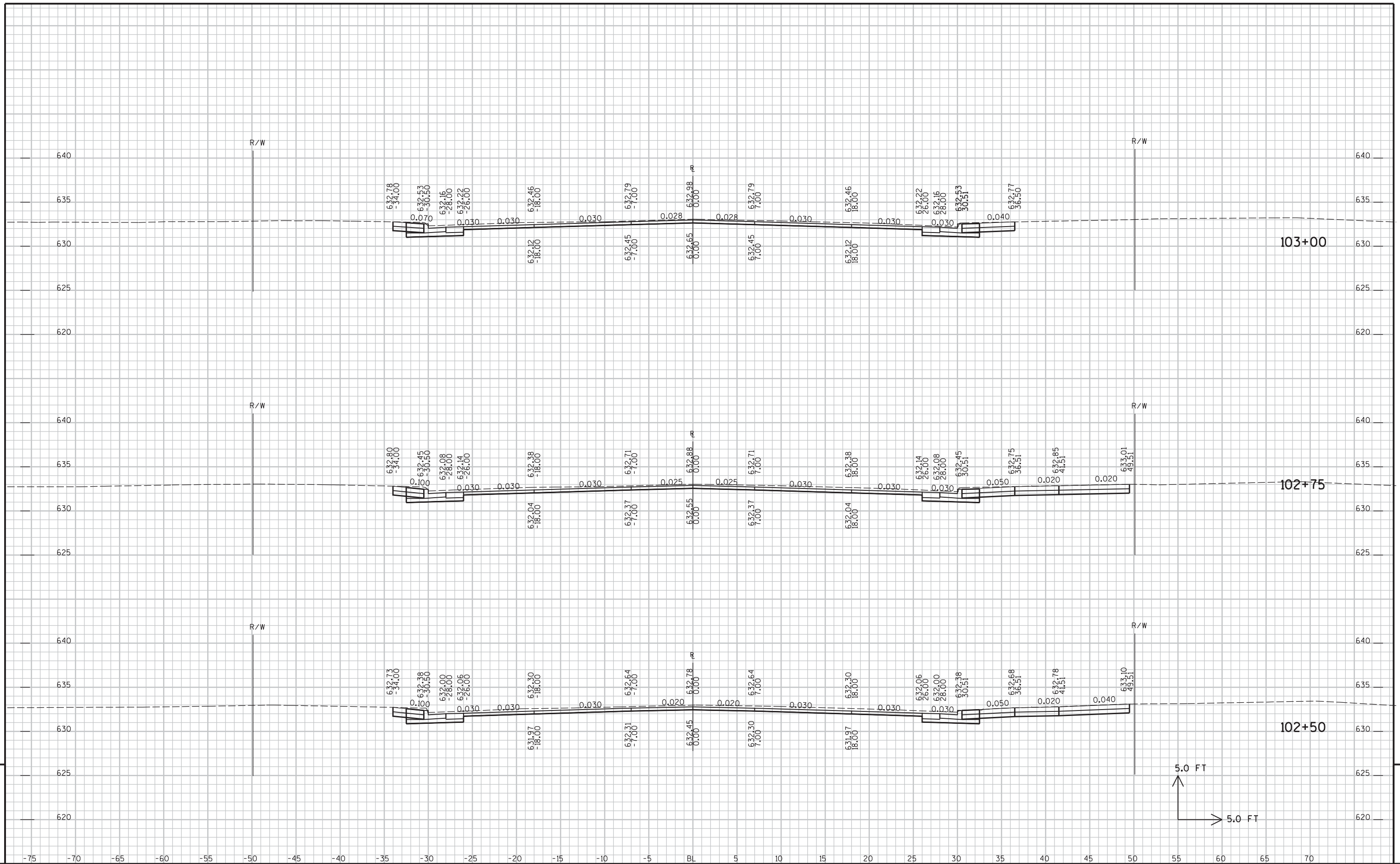
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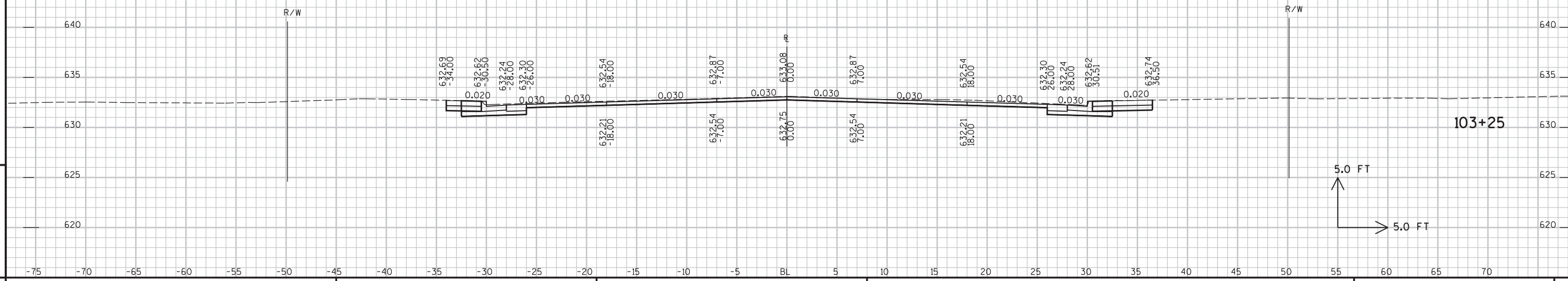
END RECONSTRUCTION  
STA 101+75.00





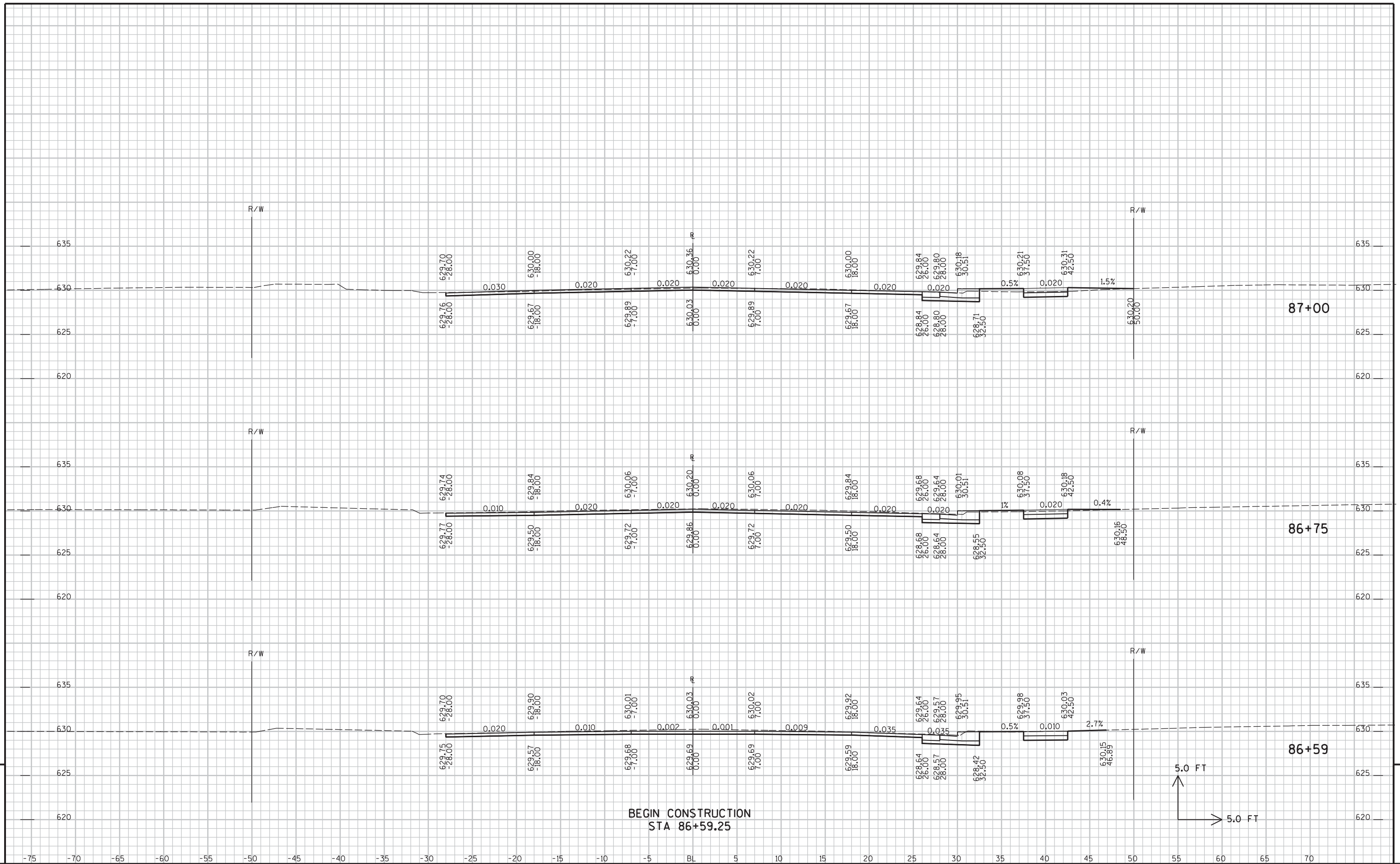


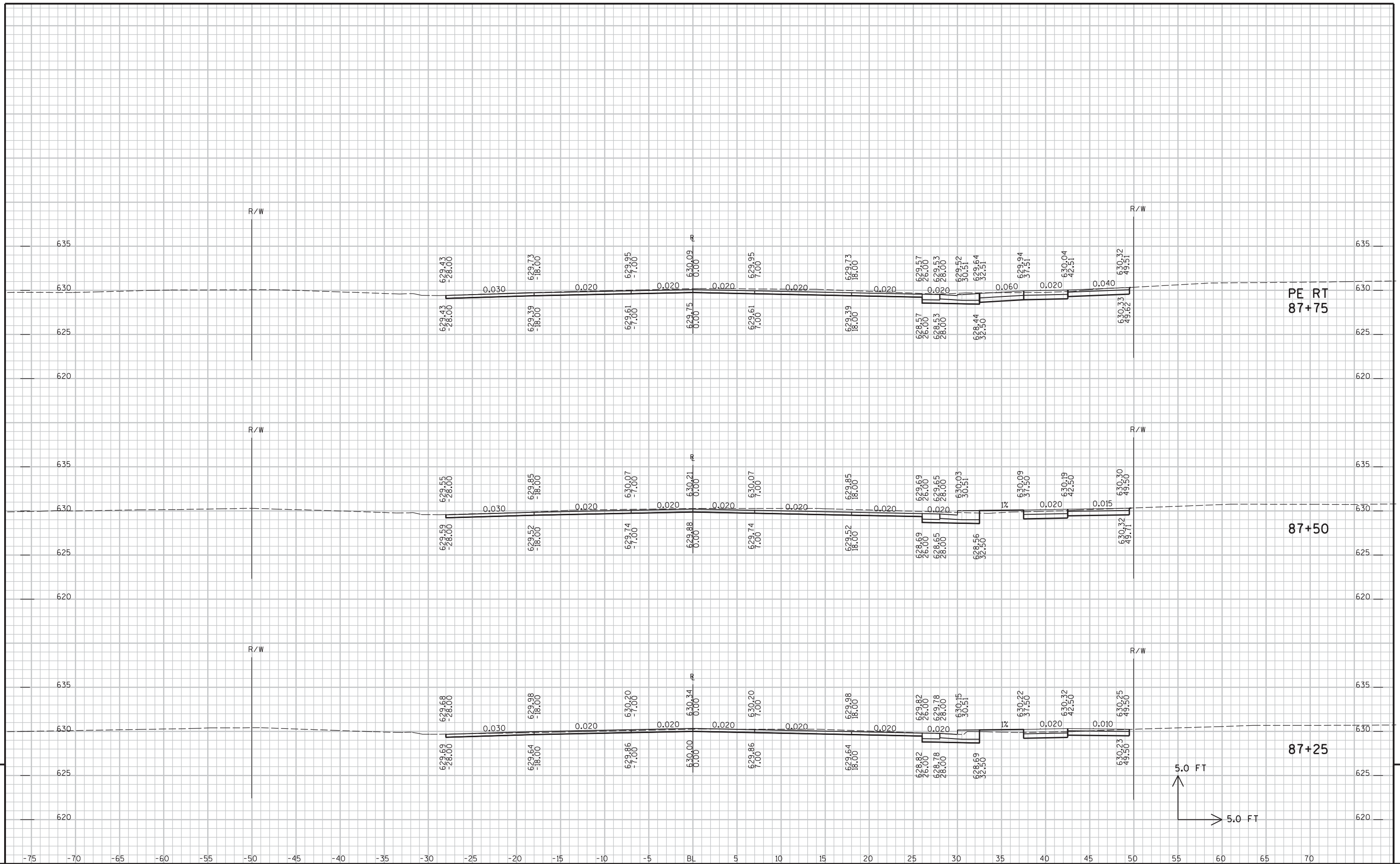
END CONSTRUCTION  
STA 103+37.73



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PROJECT NO : 1195-13-71

HWY : STH 35 (TOWER AVENUE)

COUNTY : DOUGLAS

CROSS SECTIONS - WINTER STREET

SHEET NO:

9

9

PE RT  
87+75

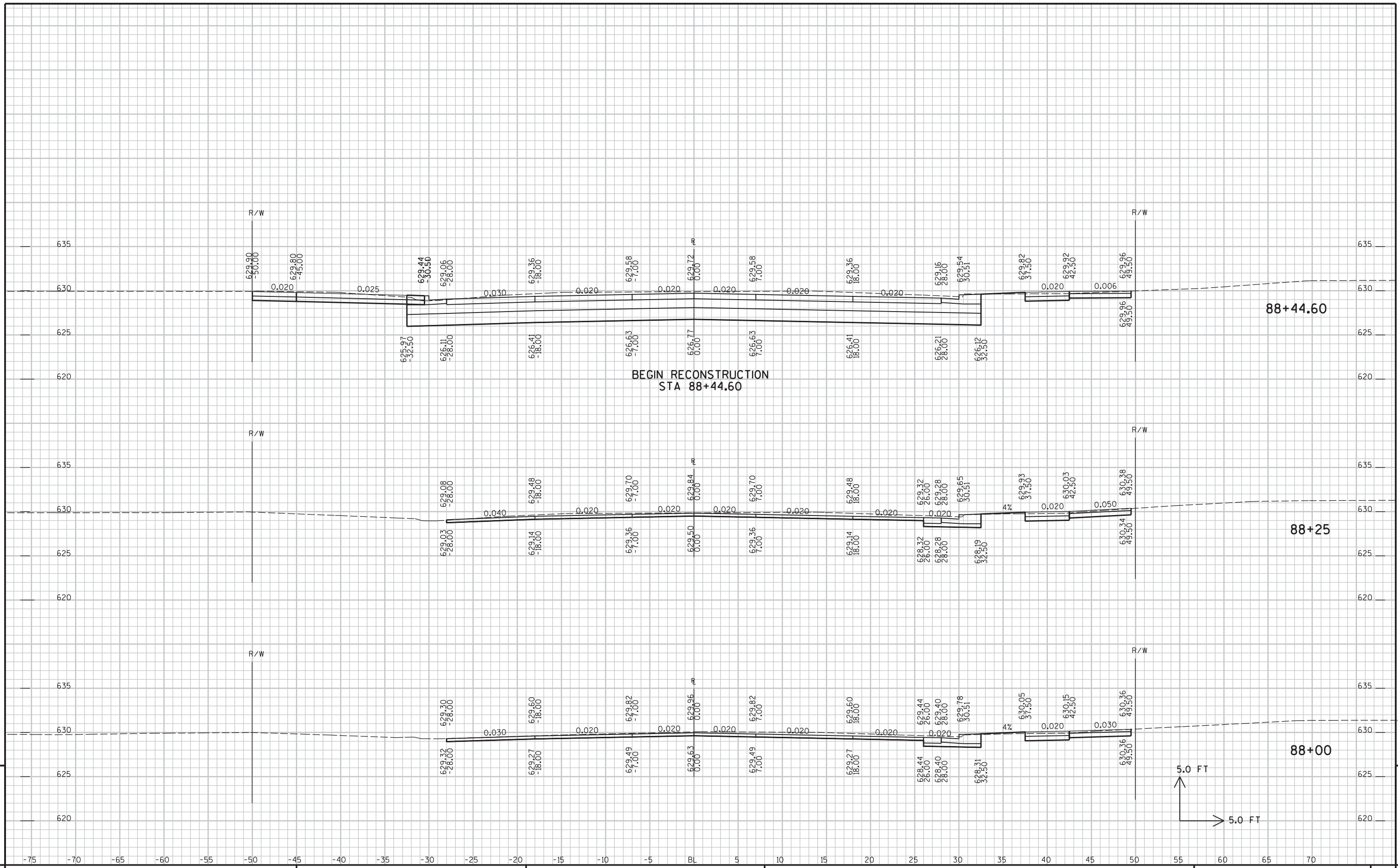
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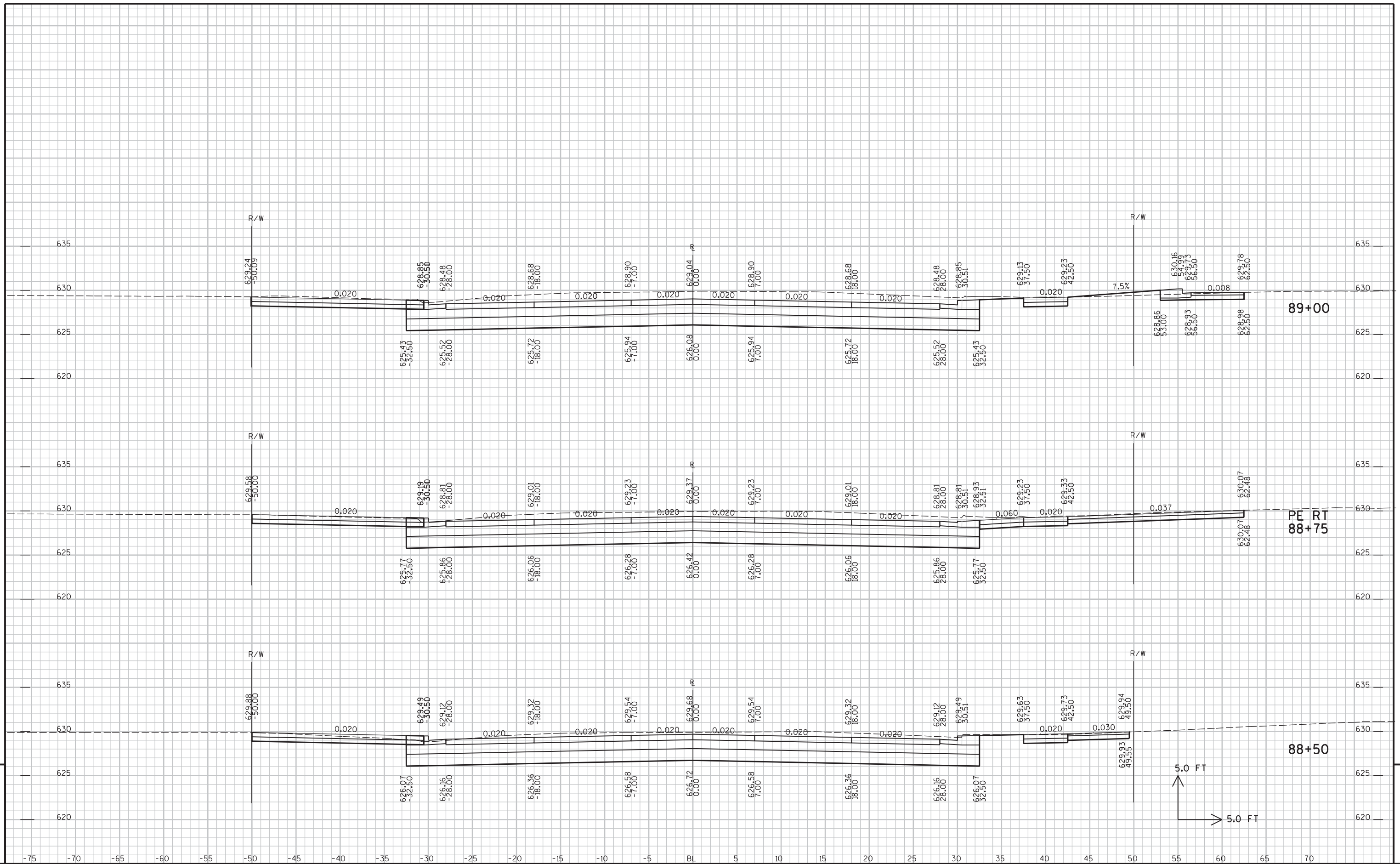
87+25

5.0 FT

5.0 FT

E





PROJECT NO : 1195-13-71

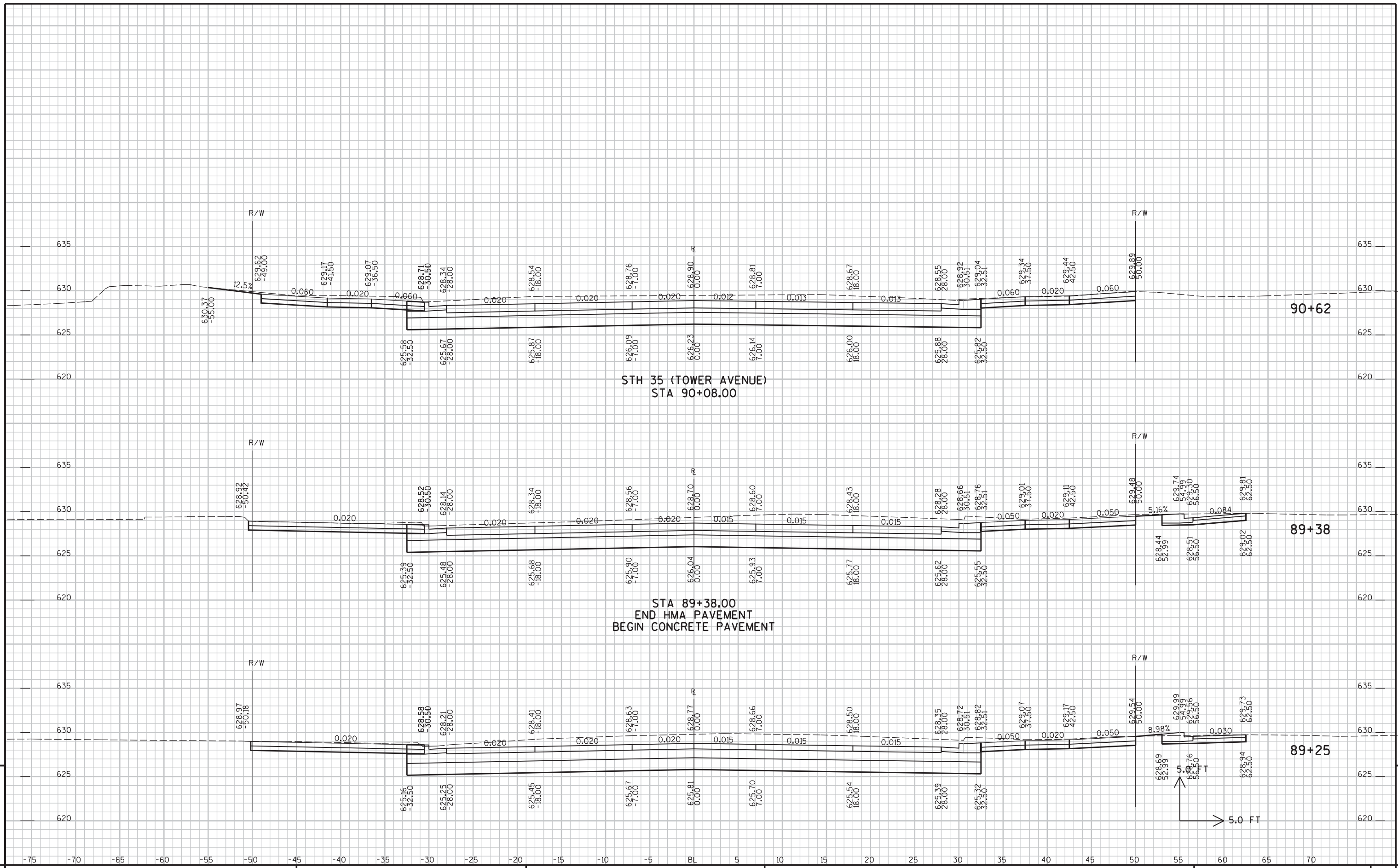
HWY : STH 35 (TOWER AVENUE)

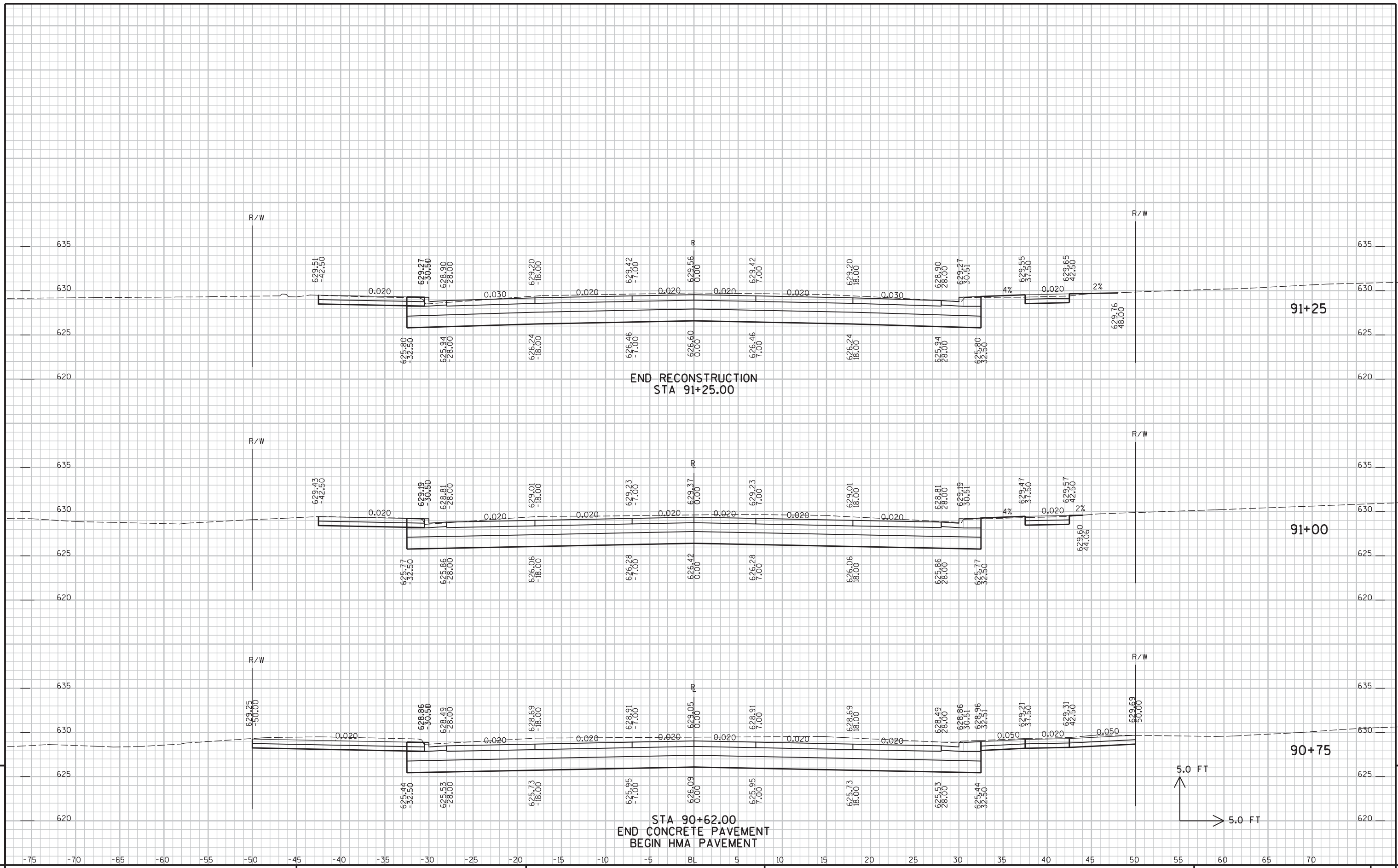
COUNTY : DOUGLAS

CROSS SECTIONS - WINTER STREET

SHEET NO:

E





PROJECT NO : 1195-13-71

HWY : STH 35 (TOWER AVENUE)

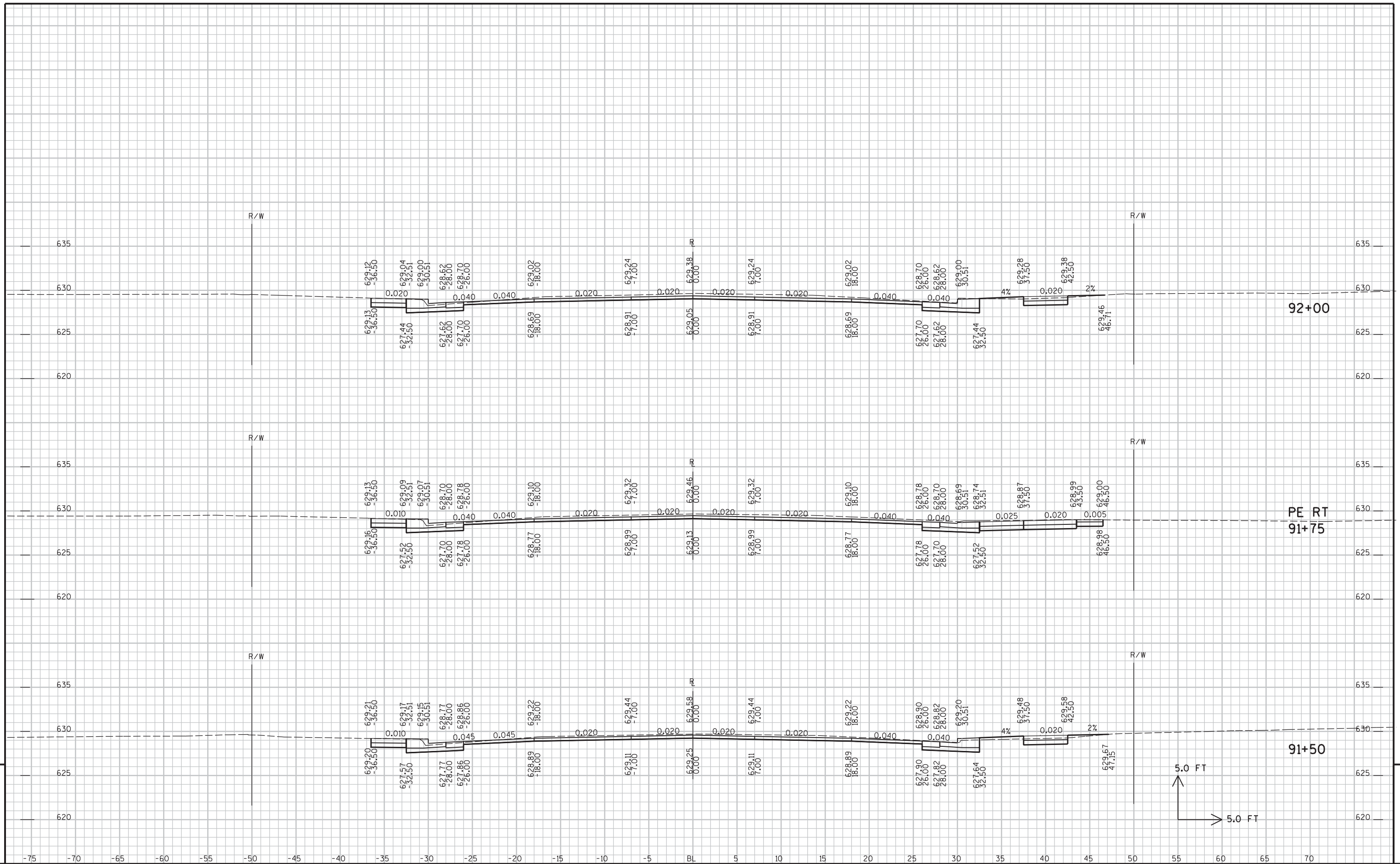
COUNTY : DOUGLAS

CROSS SECTIONS - WINTER STREET

SHEET NO:

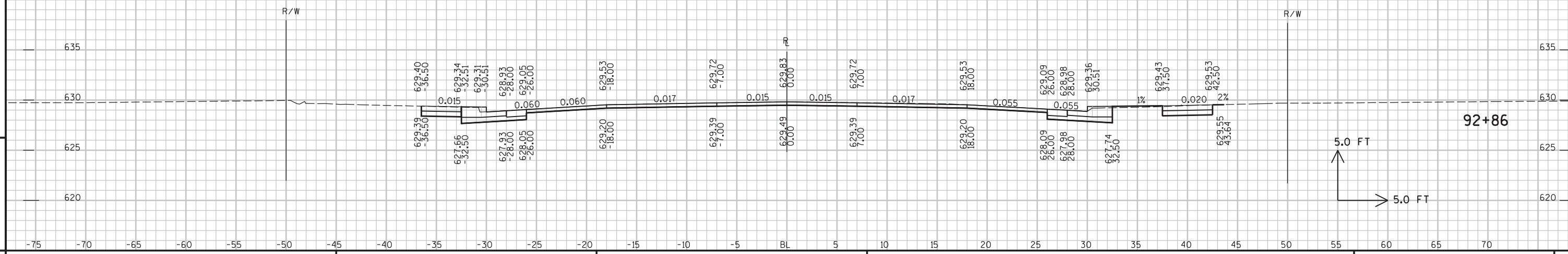
E







END CONSTRUCTION  
STA 92+86.00



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635

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625

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R/W

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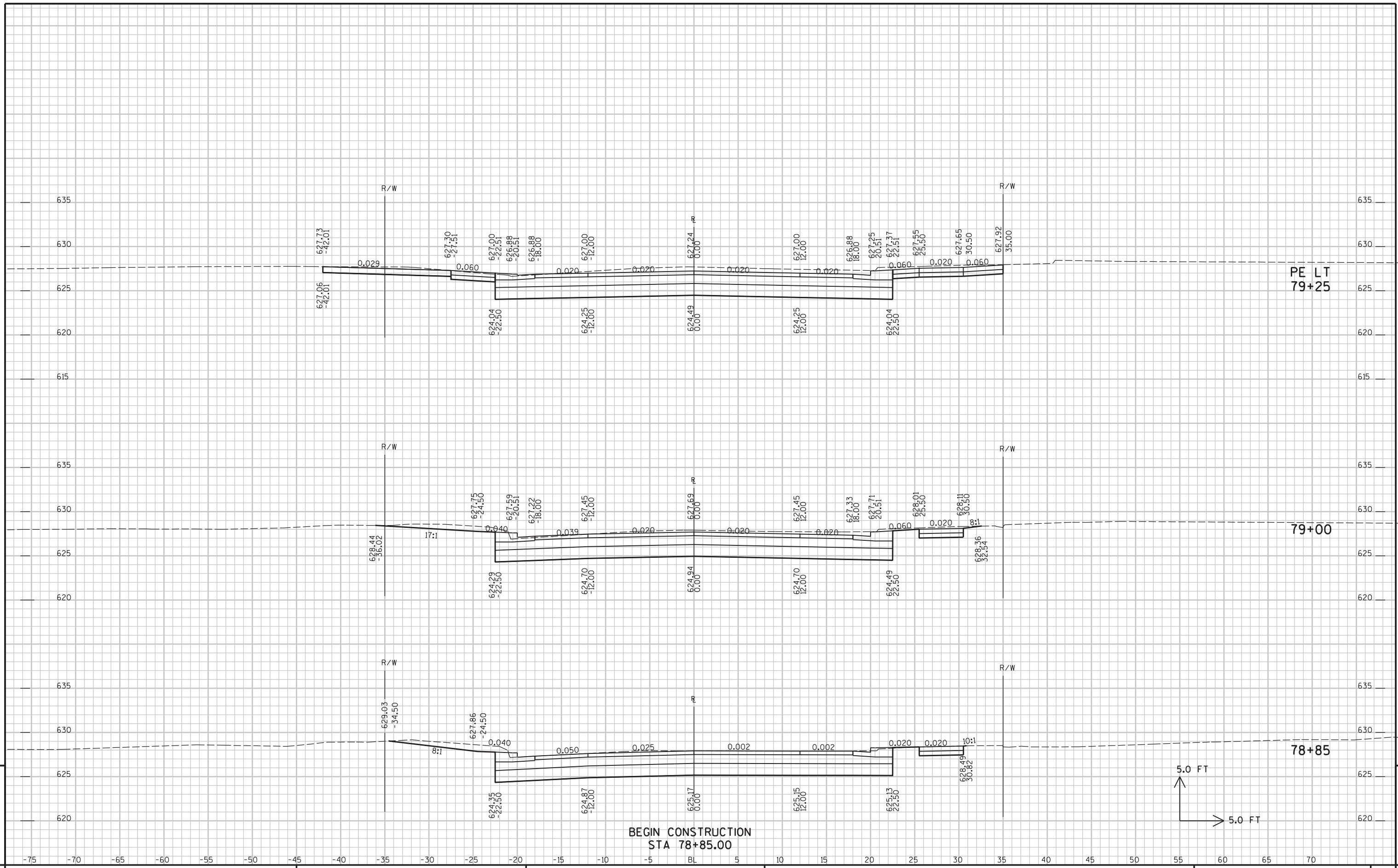
70

92+86

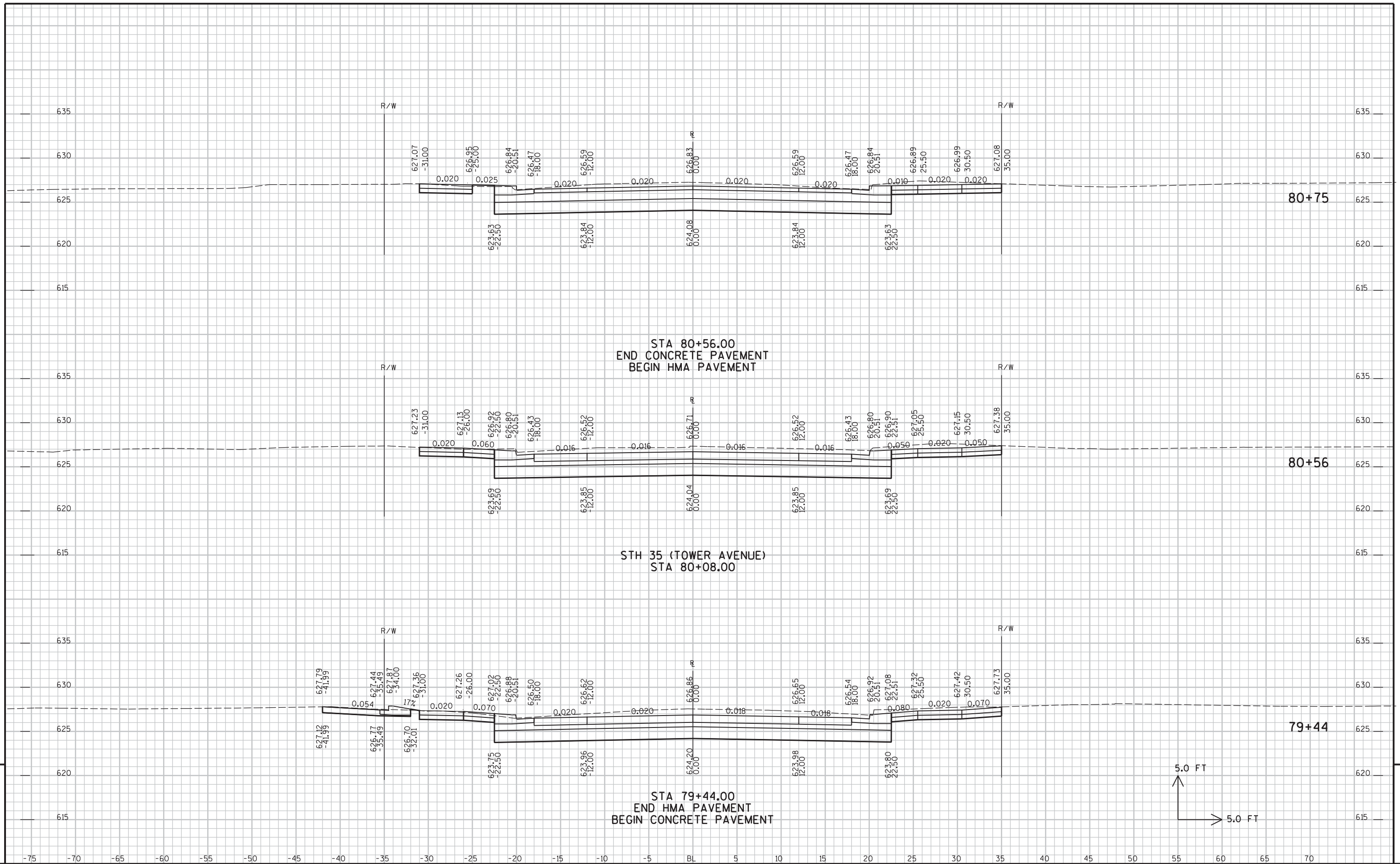
5.0 FT

5.0 FT

9



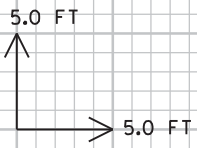
PROJECT NO : 1195-13-71      HWY : STH 35 (TOWER AVENUE)      COUNTY : DOUGLAS      CROSS SECTIONS - 8TH STREET      SHEET NO:      E

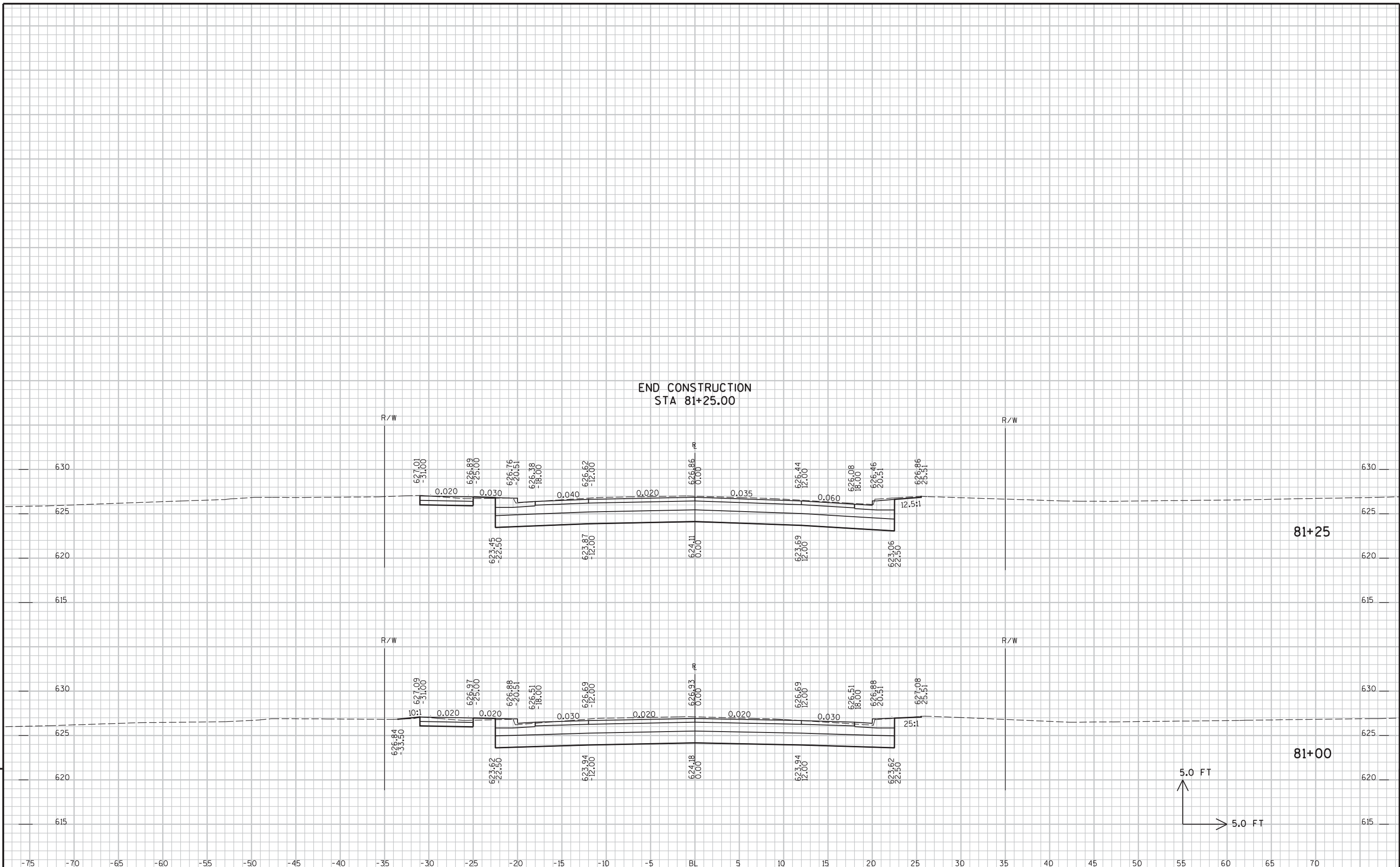


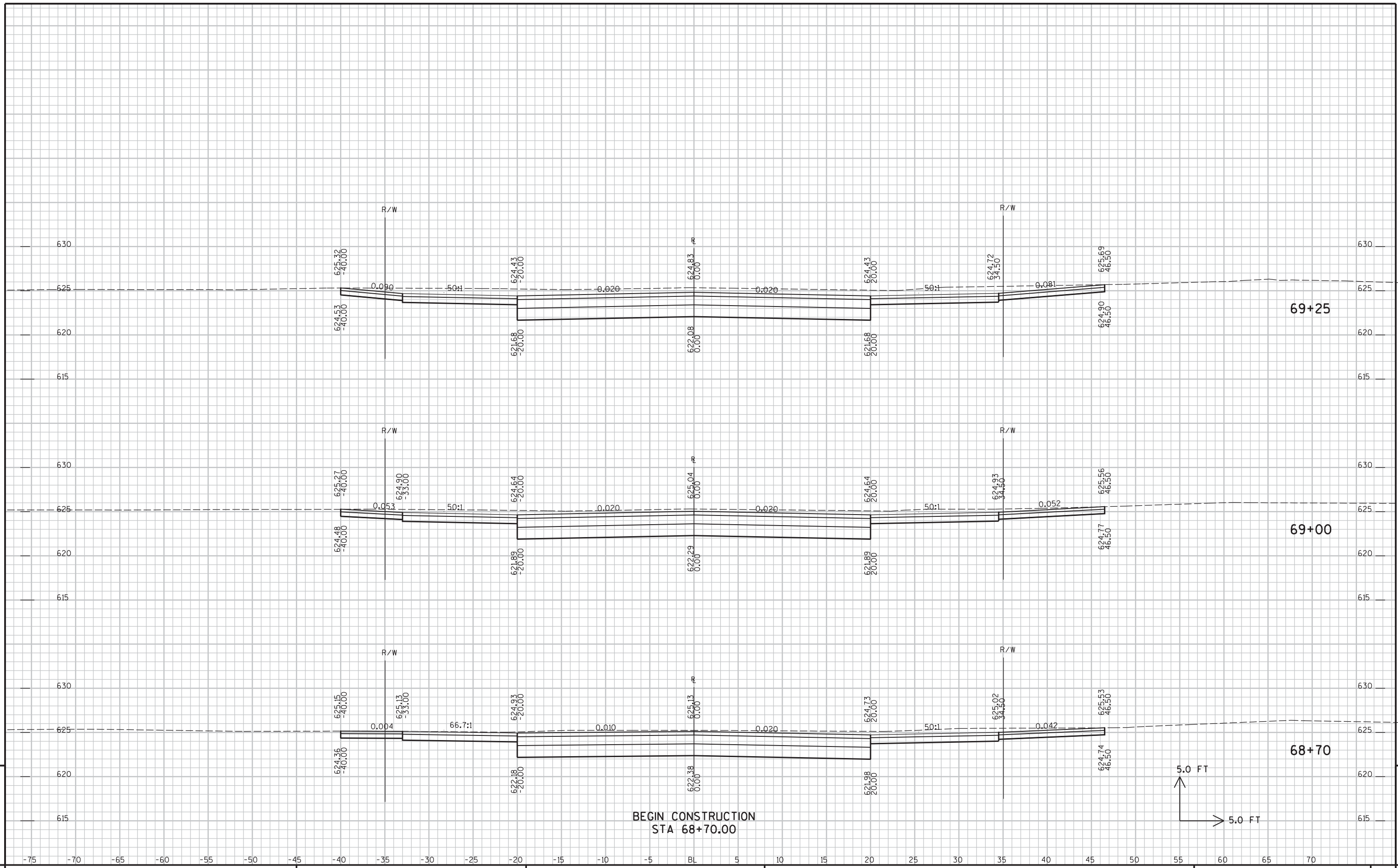
STA 80+56.00  
END CONCRETE PAVEMENT  
BEGIN HMA PAVEMENT

STH 35 (TOWER AVENUE)  
STA 80+08.00

STA 79+44.00  
END HMA PAVEMENT  
BEGIN CONCRETE PAVEMENT

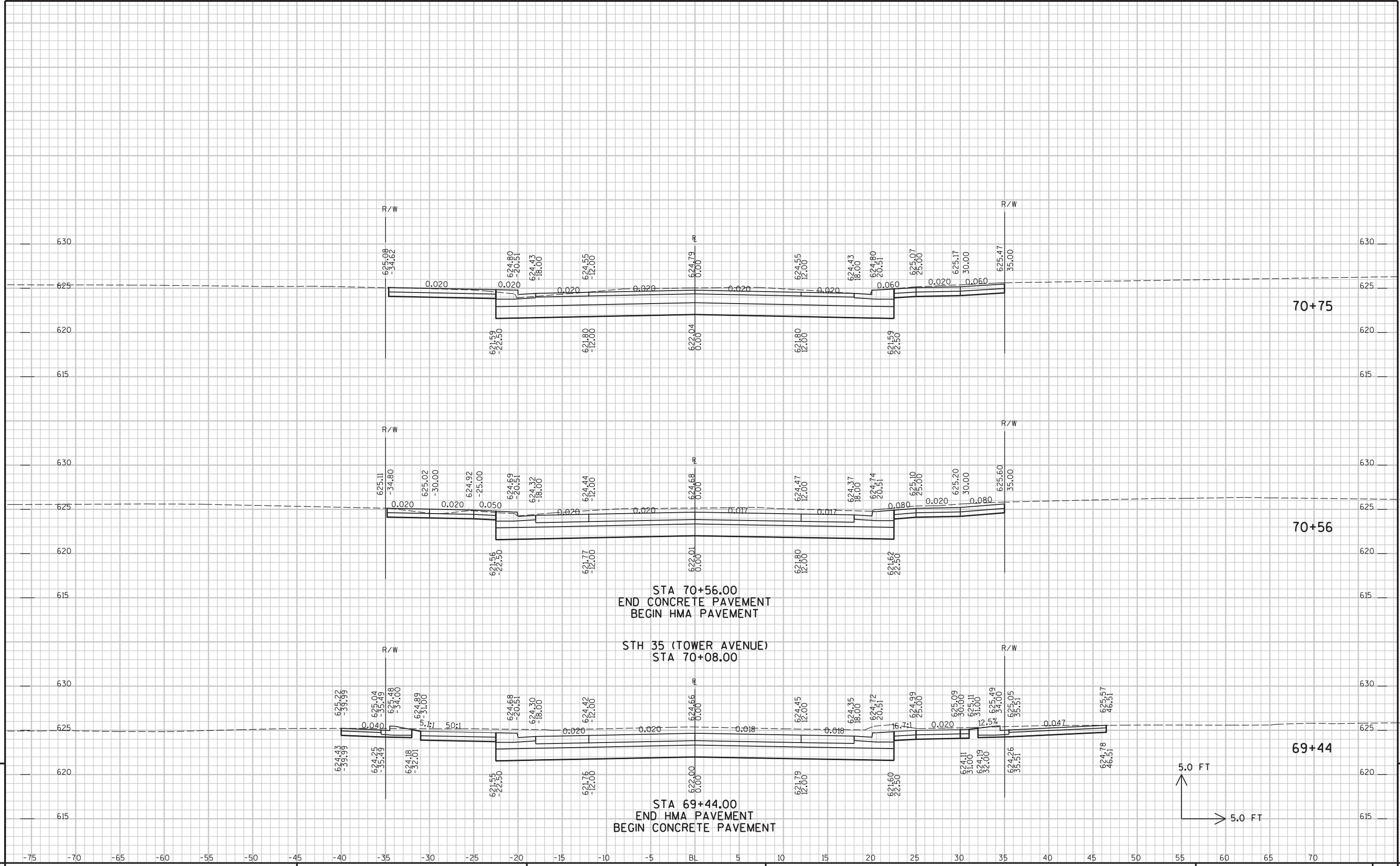






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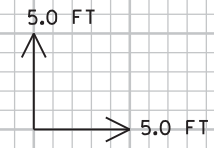
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STA 70+56.00  
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 BEGIN HMA PAVEMENT

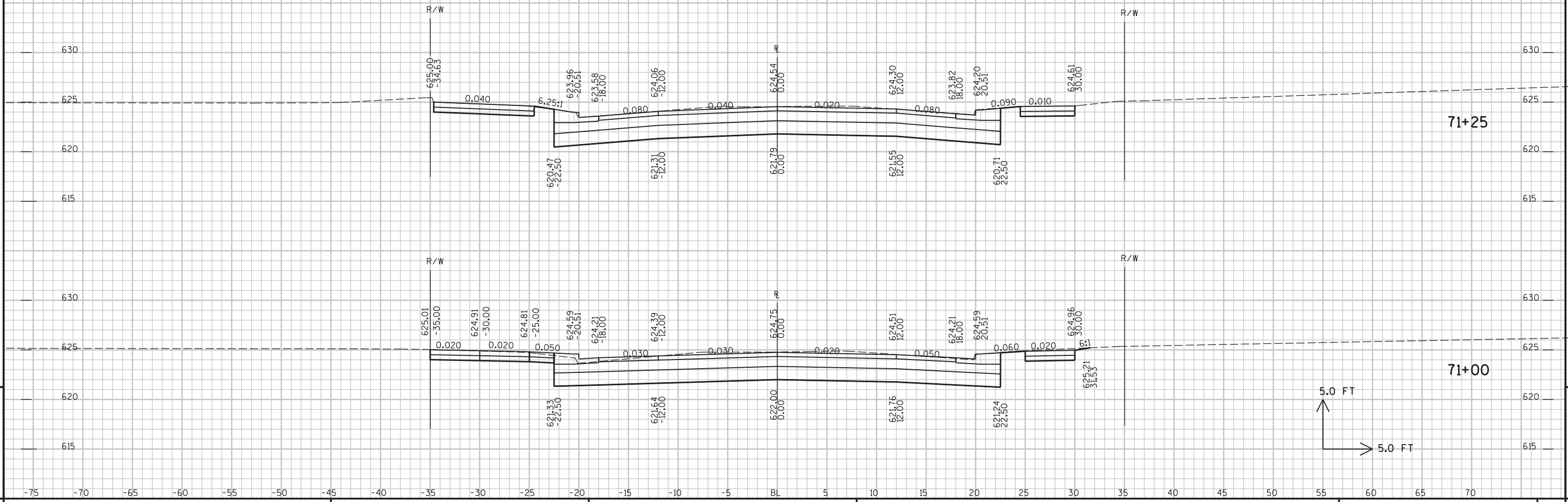
STH 35 (TOWER AVENUE)  
 STA 70+08.00

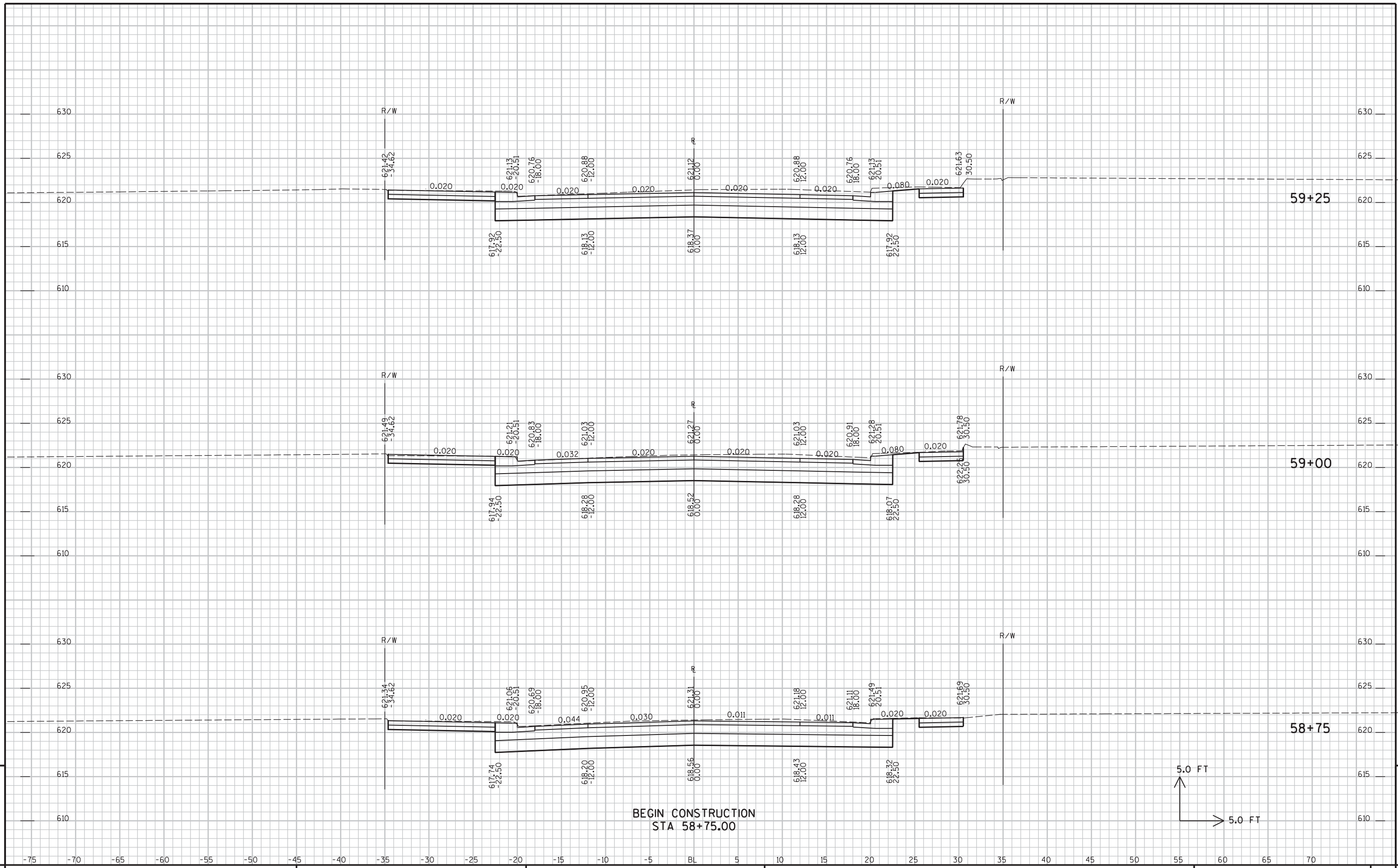
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 BEGIN CONCRETE PAVEMENT



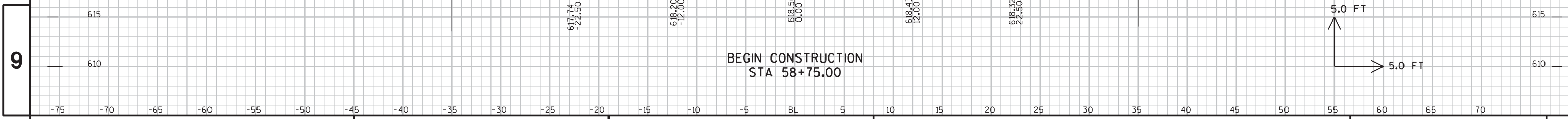
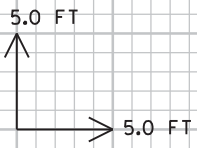


END CONSTRUCTION  
STA 71+25.00





BEGIN CONSTRUCTION  
STA 58+75.00



PROJECT NO : 1195-13-71

HWY : STH 35 (TOWER AVENUE)

COUNTY : DOUGLAS

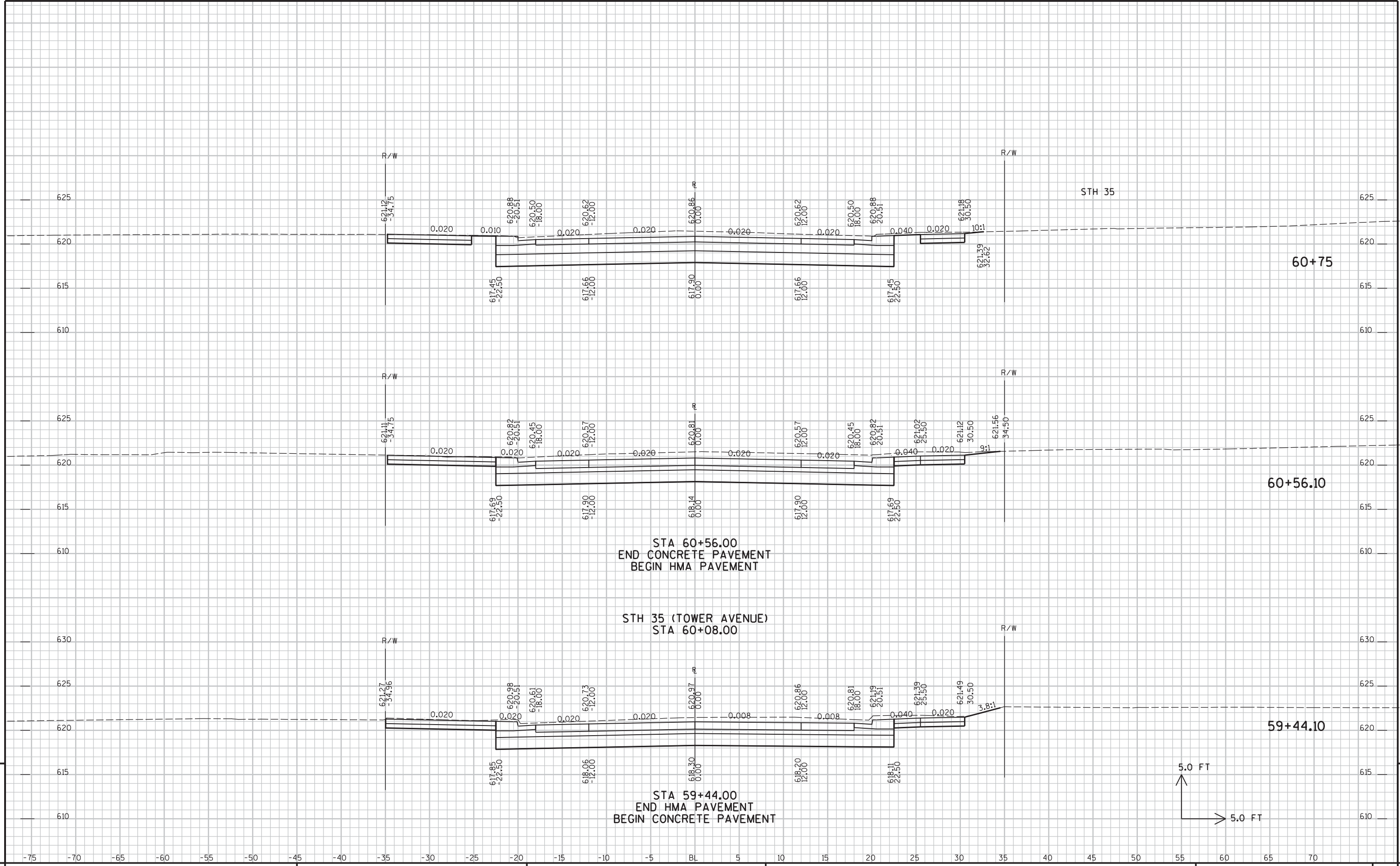
CROSS SECTIONS - 6TH STREET

SHEET NO:

E

9

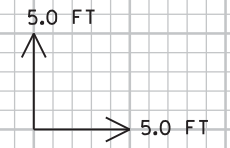
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STA 60+56.00  
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BEGIN HMA PAVEMENT

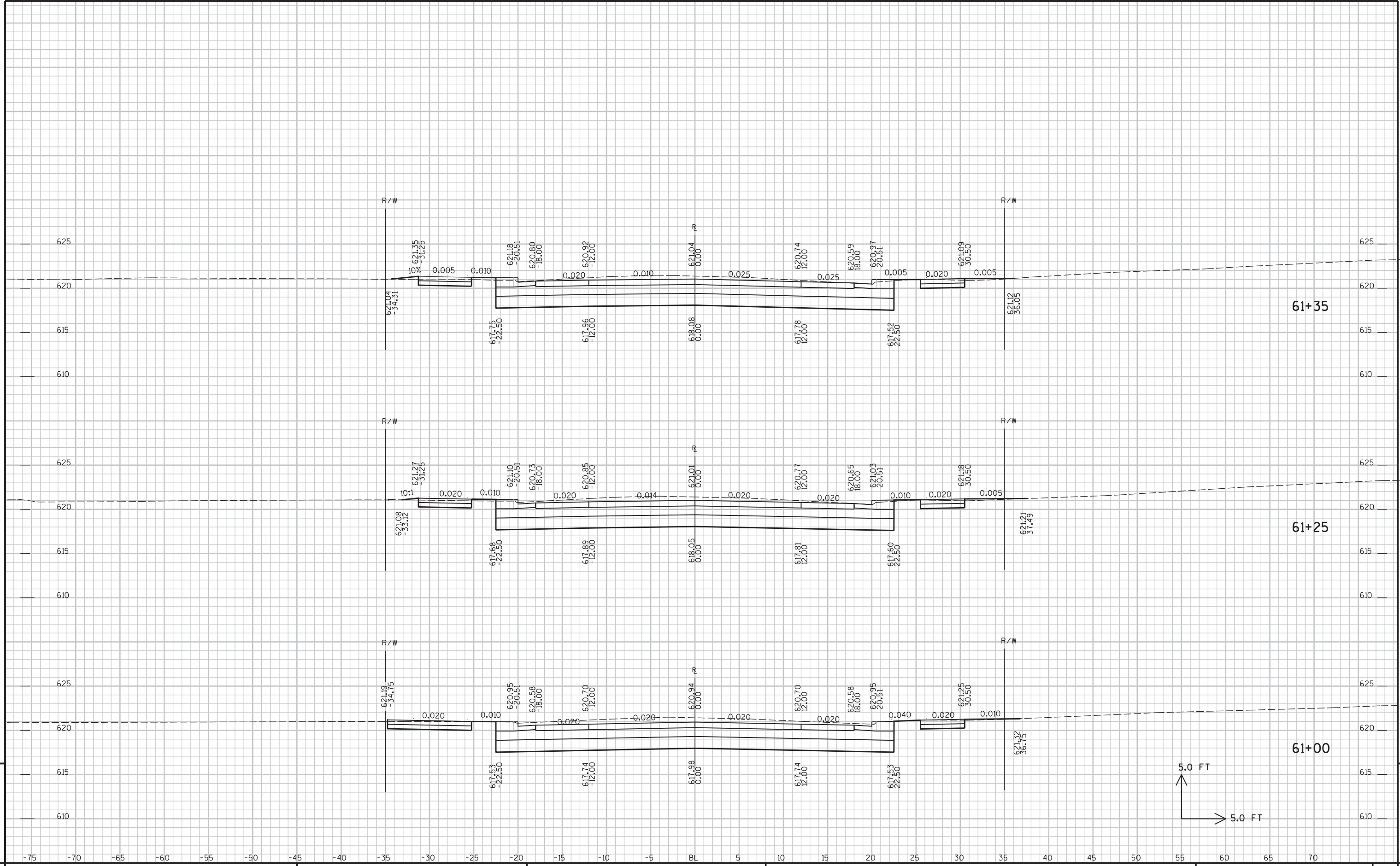
STH 35 (TOWER AVENUE)  
STA 60+08.00

STA 59+44.00  
END HMA PAVEMENT  
BEGIN CONCRETE PAVEMENT

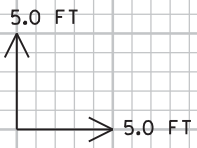
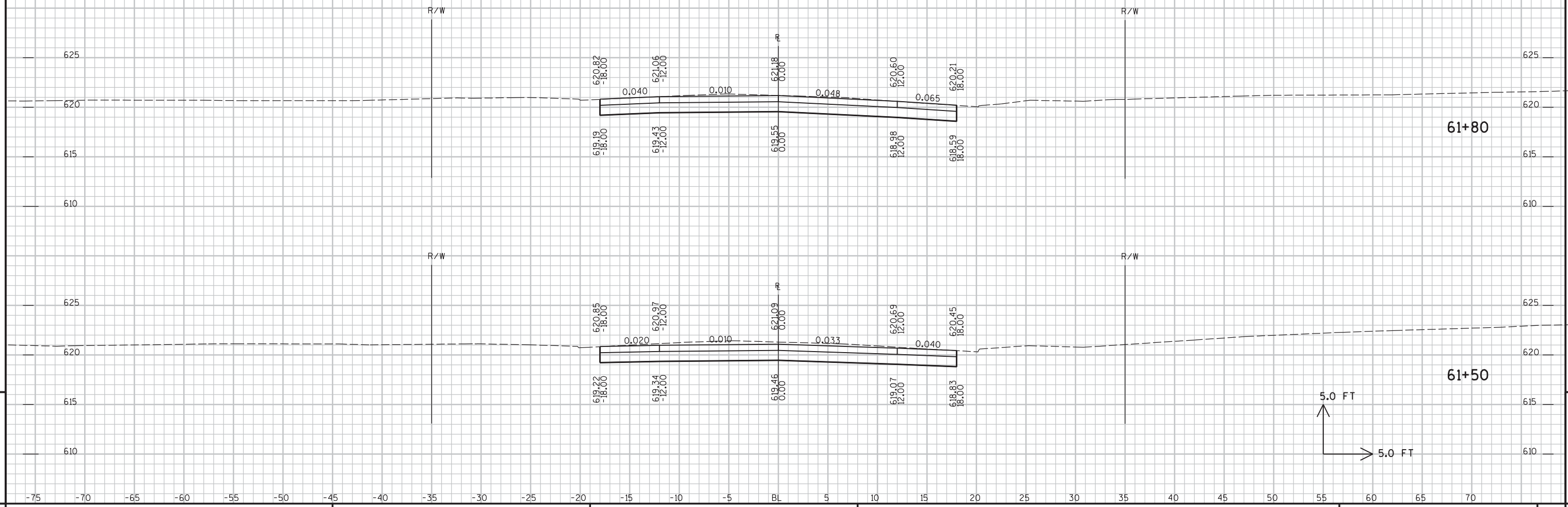


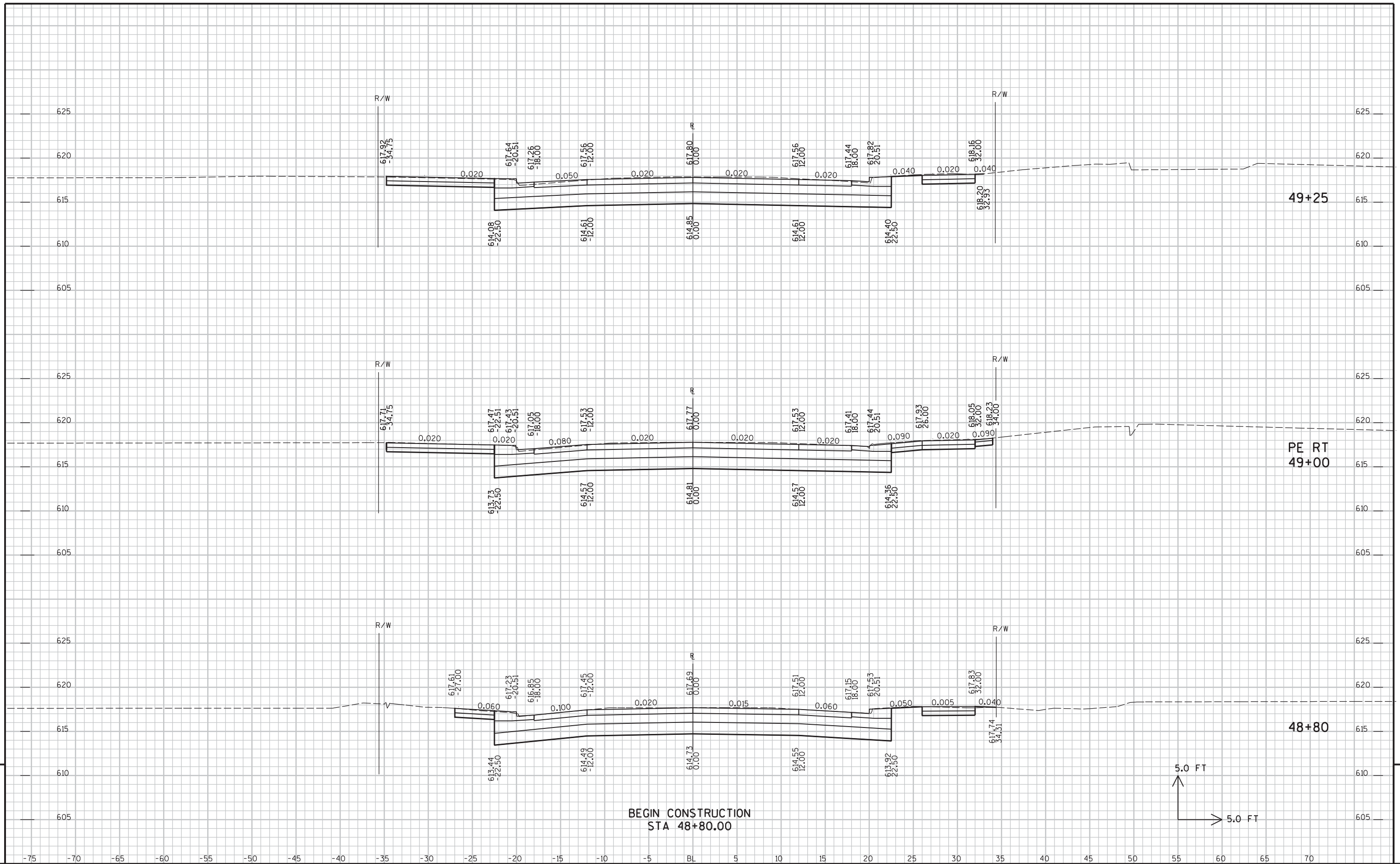
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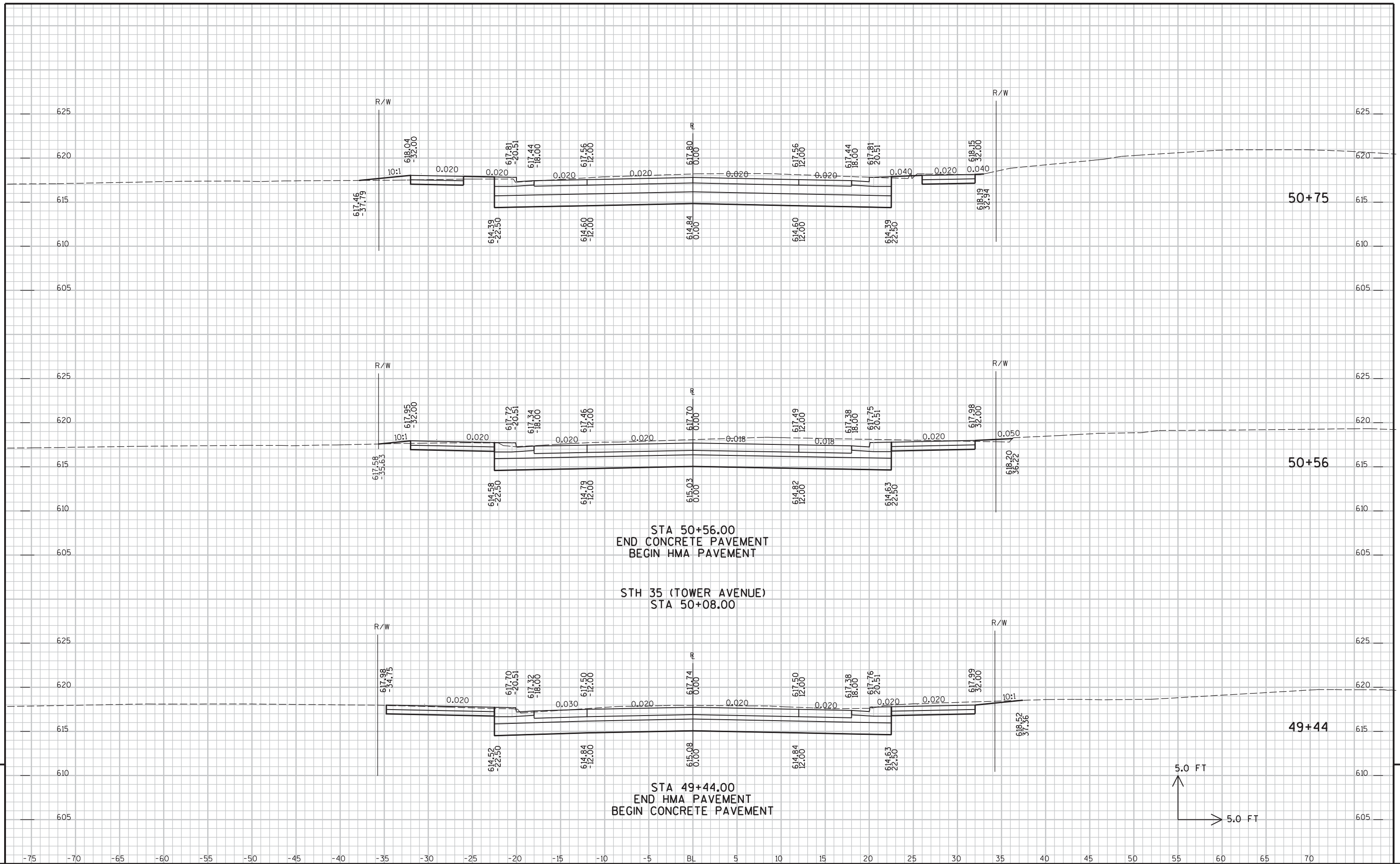
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STA 61+84.91





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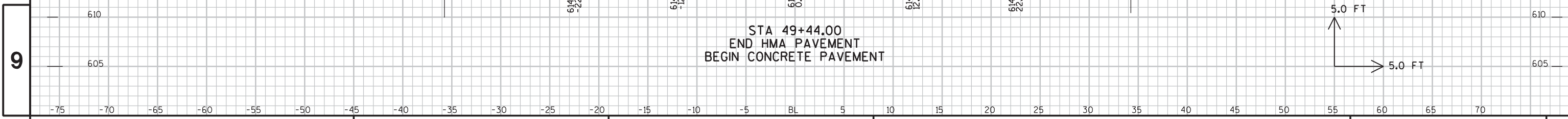
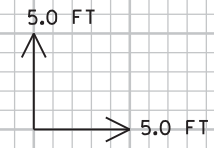
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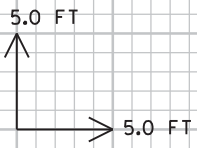
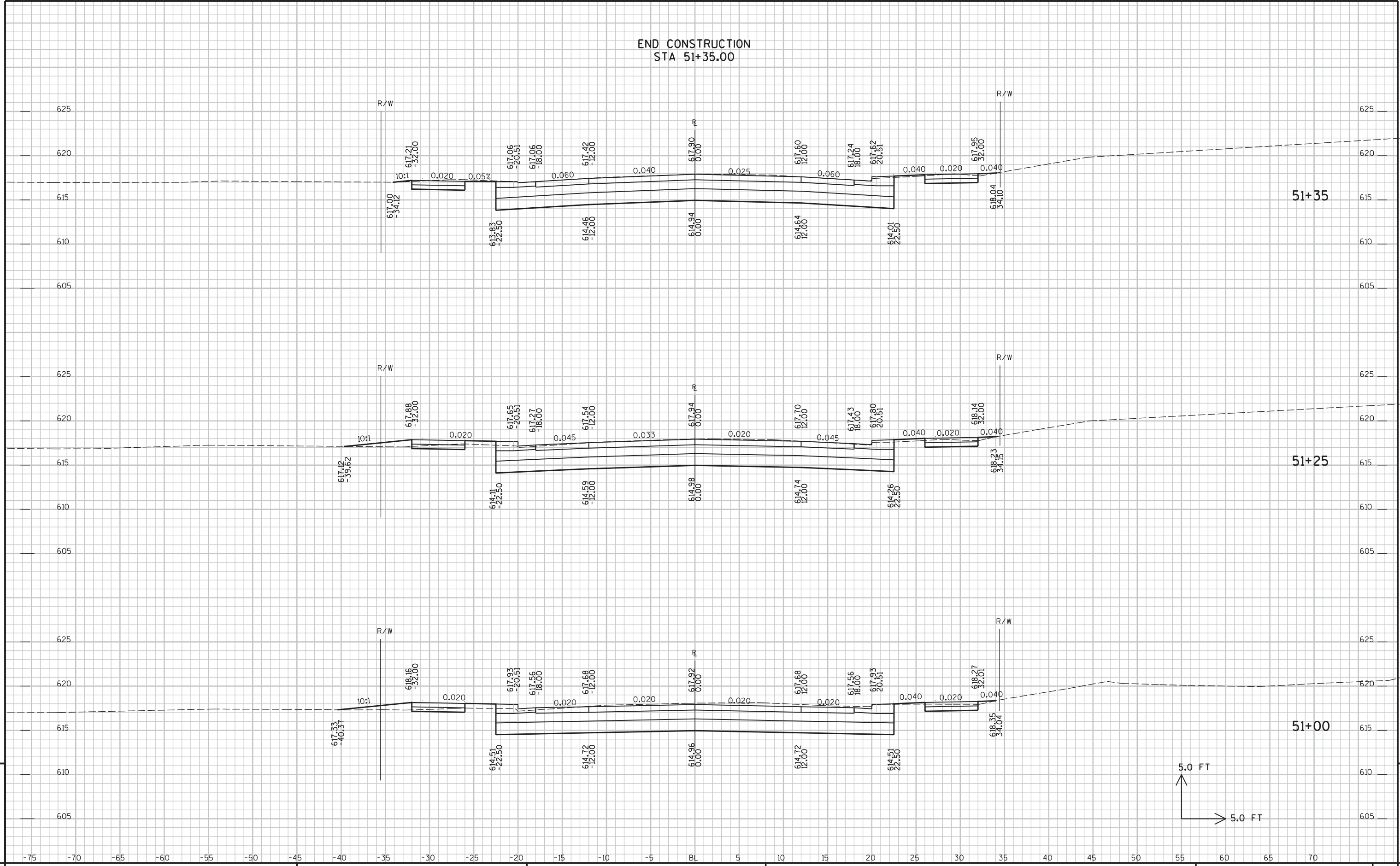
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BEGIN HMA PAVEMENT

STH 35 (TOWER AVENUE)  
STA 50+08.00

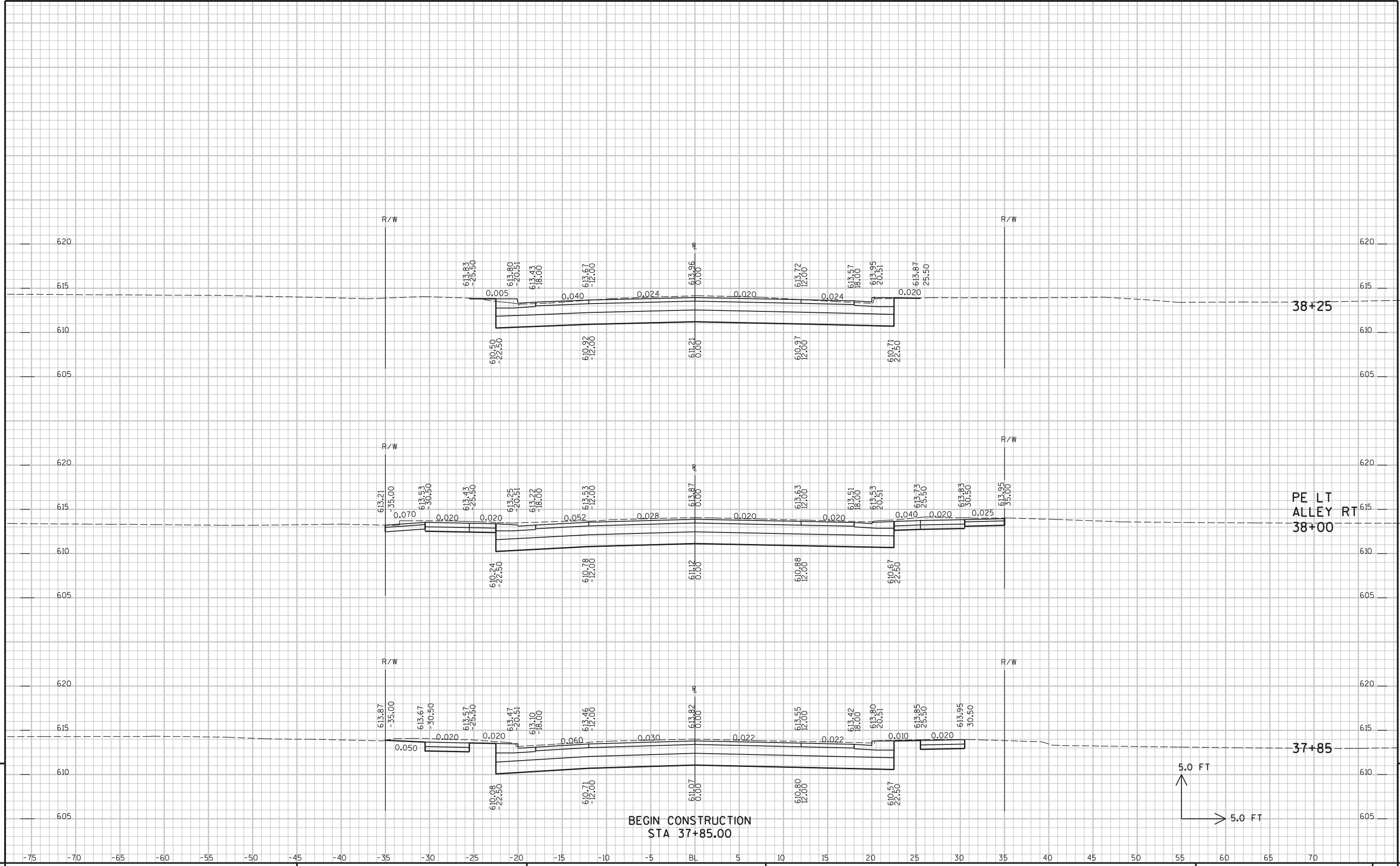
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END HMA PAVEMENT  
BEGIN CONCRETE PAVEMENT



END CONSTRUCTION  
STA 51+35.00







PROJECT NO : 1195-13-71

HWY : STH 35 (TOWER AVENUE)

COUNTY : DOUGLAS

CROSS SECTIONS - 4TH STREET

SHEET NO:

E

FILE NAME : \\SEHCF1\Projects\1195-13-71\11668\CAD\090212\_XS.dgn

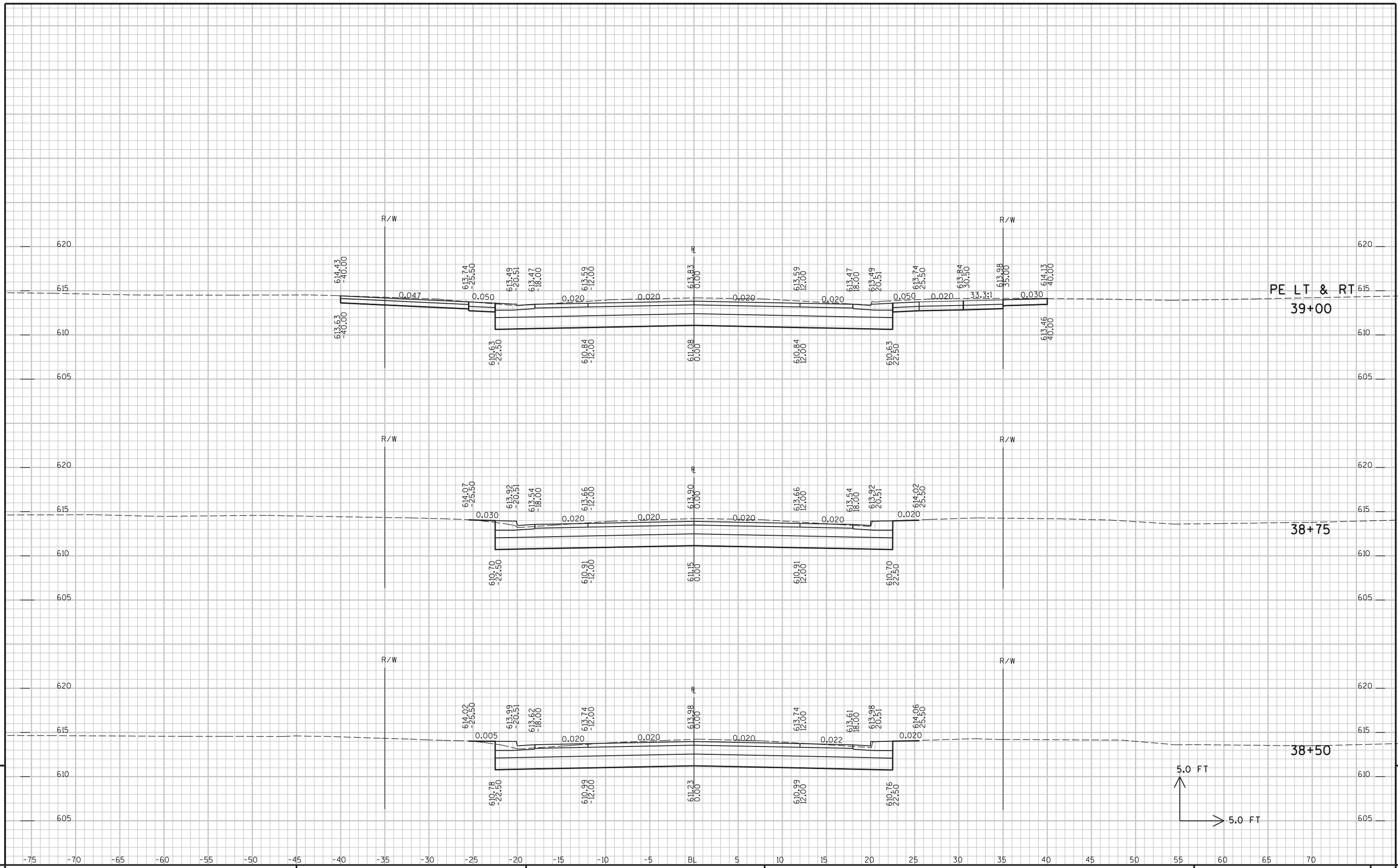
PLOT TIME : 8:37:59 AM

PLOT DATE : 1/14/2013

PLOT BY : SEH

PLOT NAME :

PLOT SCALE : N/A



PROJECT NO : 1195-13-71

HWY : STH 35 (TOWER AVENUE)

COUNTY : DOUGLAS

CROSS SECTIONS - 4TH STREET

SHEET NO:

E

FILE NAME : \\SEH\Projects\1195-13-71\11668\CAD\090212\_XS.dgn

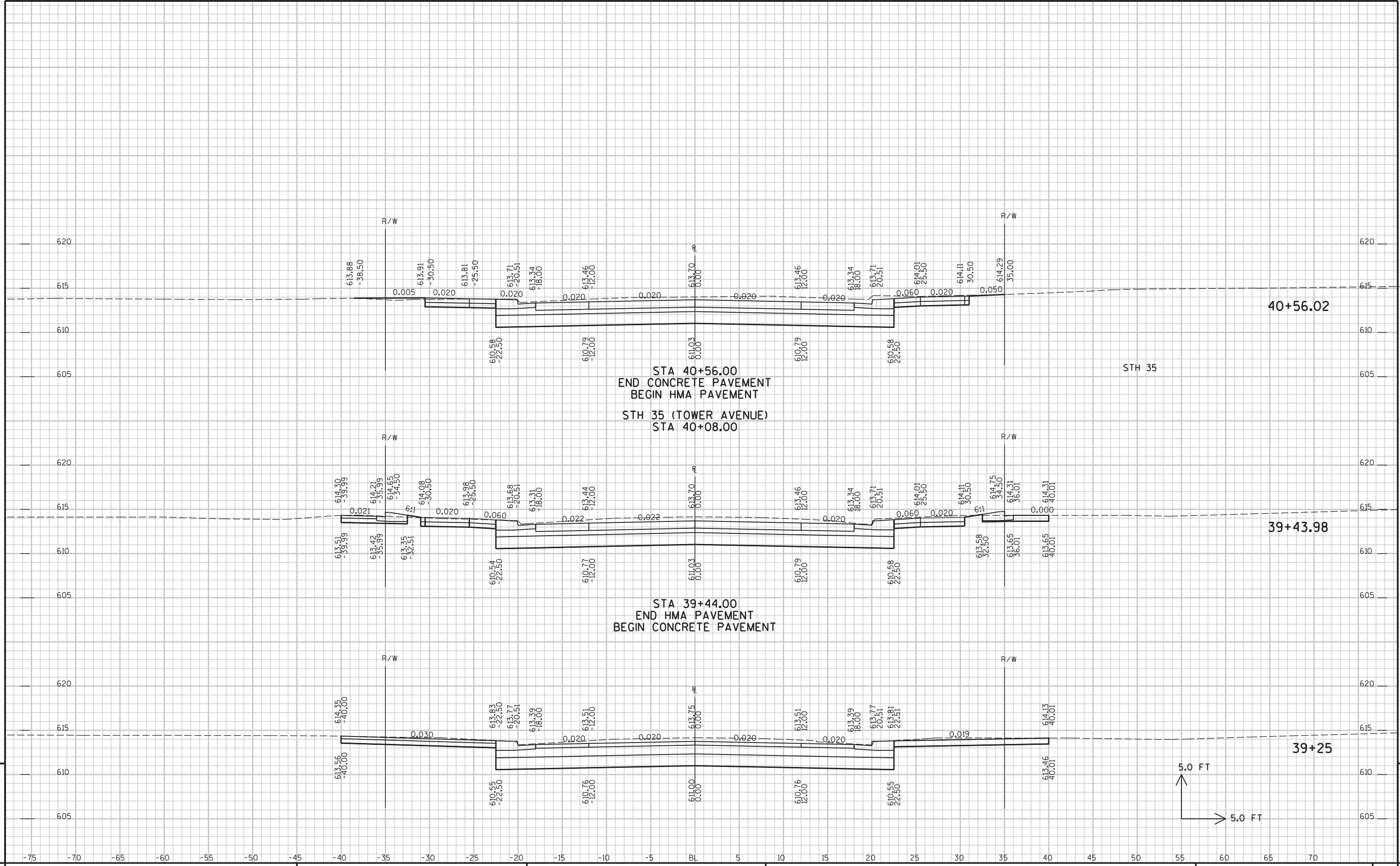
PLOT TIME : 8:37:59 AM

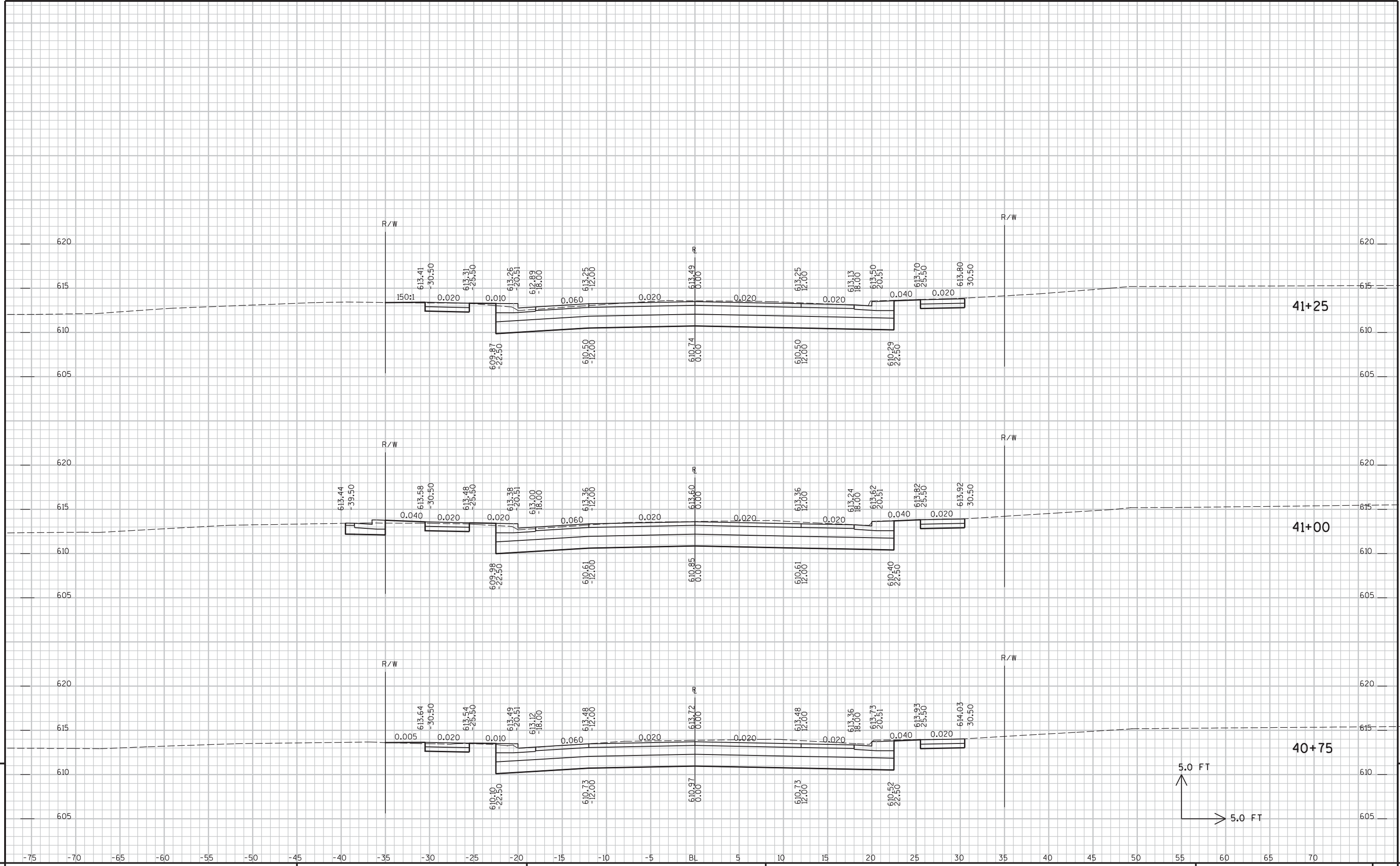
PLOT DATE : 1/14/2013

PLOT BY : SEH

PLOT NAME :

PLOT SCALE : N/A





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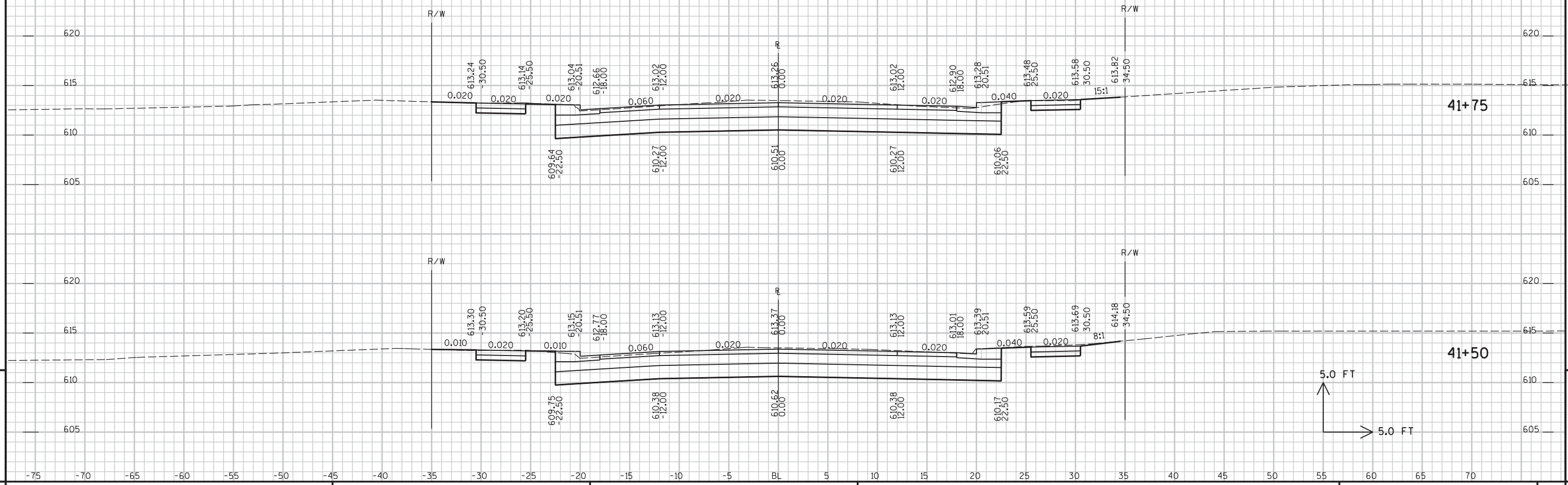
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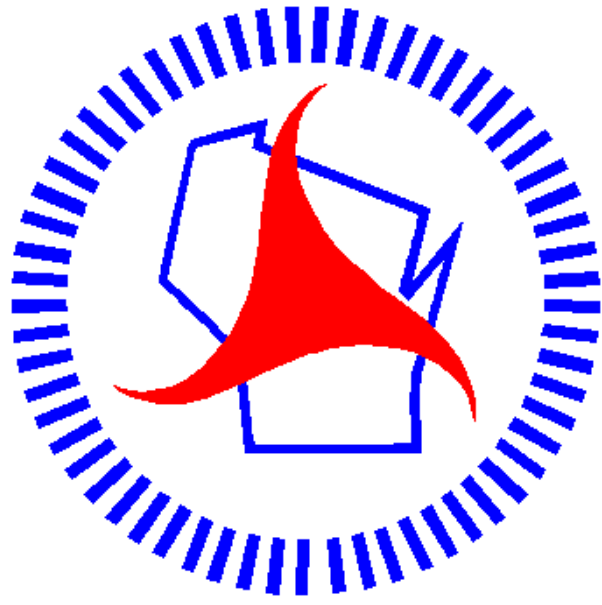
PROJECT NO : 1195-13-71      HWY : STH 35 (TOWER AVENUE)      COUNTY : DOUGLAS      CROSS SECTIONS - 4TH STREET      SHEET NO:

FILE NAME : \\SEHCF\Projects\1195-13-71\11668\CAD\090212\_XS.dgn      PLOT TIME : 8:38:00 AM      PLOT DATE : 1/14/2013      PLOT BY : SEH      PLOT NAME :      PLOT SCALE : N/A

E

END CONSTRUCTION  
STA 41+75.00





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SUP MAR 13

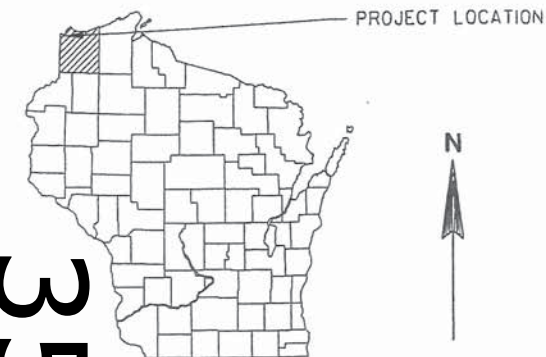
PROJECT ID: 8998-13-76  
WITH: 1195-13-71, 8998-00-08, 8998-00-21, 8010-07-74, 1195-13-72

COUNTY: DOUGLAS

ORDER OF SHEETS

Section No. 1	Title
Section No. 2	Typical Sections and Details
Section No. 3	Estimate of Quantities
Section No. 3	Miscellaneous Quantities
<del>Section No. 4</del>	<del>Right of Way Plat</del>
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>
<del>Section No. 9</del>	<del>Computer Earthwork Data</del>
<del>Section No. 9</del>	<del>Gross Sections</del>

TOTAL SHEETS = 82



STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

CITY OF SUPERIOR, HAMMOND AVENUE

WINTER STREET INTERSECTION TRAFFIC SIGNAL / INTERCONNECT

LOCAL STREET

DOUGLAS COUNTY

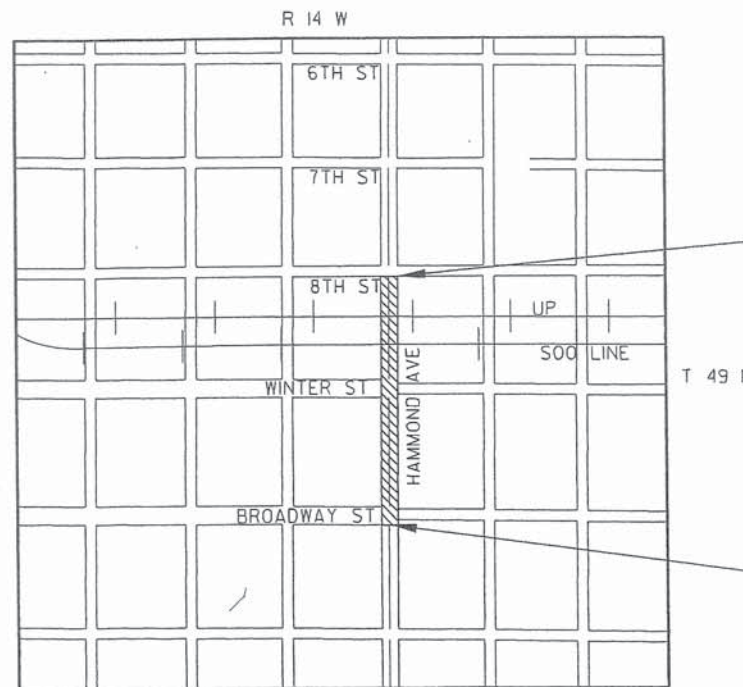
STATE PROJECT NUMBER  
**8998-13-76**

DESIGN DESIGNATION

A.A.D.T. (2013)	=	13,180
A.A.D.T. (2033)	=	17,750
D.H.V.	=	
D.D.	=	50/50
T.	=	2.4%
DESIGN SPEED	=	35 MPH
ESALS	=	

CONVENTIONAL SYMBOLS

COUNTY LINE	COMBUSTIBLE FLUIDS	
CORPORATE LIMITS	UNDERGROUND UTILITIES	
PROPERTY LINE	GAS	G
LOT LINE	ELECTRIC	E
LIMITED EASEMENT	TELEPHONE OR TELEGRAPH	T
EARTHWORK BALANCE POINT	TV/CABLE	TV
EXISTING RIGHT OF WAY	SERVICE PEDESTAL	
PROPOSED OR NEW R/W LINE	POWER POLE	
SURVEY LINE	TELEPHONE POLE	
SLOPE INTERCEPT	RAILROAD	
ORIGINAL GROUND	SANITARY SEWER	SAN
MARSH OR ROCK PROFILE (To be noted as such)	STORM SEWER	SS
MARSH AREA	WATER	W
WOODED OR SHRUB AREA	EXISTING CULVERT	
	PROPOSED CULVERT (Box or Pipe)	
	CULVERT (Profile View)	



END PROJECT  
STA 117+29.96

Y = 576664.570  
X = 1442454.008

BEGIN PROJECT  
STA 108+00.00

Y = 575735.080  
X = 1442424.442



TOTAL NET LENGTH OF CENTERLINE = 0.175 MI (URBAN)

Coordinates on this plan are referenced to an assumed coordinate system.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8998-13-76	WISC 2012749	1

ACCEPTED FOR  
CITY of SUPERIOR  
DATE: 9/7/2012

ORIGINAL PLANS PREPARED BY:  
SHORT ELLIOTT HENDRICKSON, INC



STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WISDOT
Designer	ANNA DAVEY
Project Manager	BRENDAN D. DIRKES
Regional Examiner	DANIEL OJIBWAY
Regional Supervisor	ROBERT J. ANDERSON
C.O. Examiner	LARRY JONES

APPROVED FOR THE DEPARTMENT  
DATE: 9/7/12

E

**STANDARD ABBREVIATIONS**

ABUT	ABUTMENT	HYD	HYDRANT
AC	ACRE	ID	INSIDE DIAMETER
AGG	AGGREGATE	INV	INVERT
AECPRC	APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE	IP	IRON PIPE ON PIN
ASPH	ASPHALTIC	LHF	LEFT-HAND FORWARD
AVG	AVERAGE	L	LENGTH OF CURVE
ADT	AVERAGE DAILY TRAFFIC	LF	LINEAR FOOT
BF	BACK FACE	LC	LONG CHORD OF CURVE
BM	BENCH MARK	LS	LUMP SUM
BR	BRIDGE	MH	MANHOLE
CE	COMMERCIAL ENTRANCE	MOR	MID POINT OF RADIUS
CL OR C/L OR €	CENTER LINE	NC	NORMAL CROWN
Δ	CENTRAL ANGLE OR DELTA	NO	NUMBER
CONC	CONCRETE	OBLIT	OBLITERATE
CPRC	CULVERT PIPE REINFORCED CONCRETE	PAVT	PAVEMENT
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL	PE	PRIVATE ENTRANCE
CR	CREEK	PVRC	POINT OF VERTICAL REVERSE CURVE
CY	CUBIC YARD	QOR	QUARTER POINT OF RADIUS
C & G	CURB AND GUTTER	R	RADIUS
D	DEGREE OF CURVE	REQ'D	REQUIRED
DHV	DESIGN HOUR VOLUME	RES	RESIDENCE OR RESIDENTIAL
DISCH	DISCHARGE	RHF	RIGHT-HAND FORWARD
DG	DITCH GRADE	R/W	RIGHT-OF-WAY
DWY	DRIVEWAY	R	RIVER
X	EAST GRID COORDINATE	RDWY	ROADWAY
EAT	STEEL PLATE BEAM GUARD	R/L OR €	REFERENCE LINE
EOR	END POINT OF RADIUS	SALV	SALVAGED
EL	ELEVATION	SAN	SANITARY SEWER
ENT	ENTRANCE	SF	SQUARE FEET
ESALS	EQUIVALENT SINGLE AXLE LOADS	SY	SQUARE YARD
EXC	EXCAVATION	SDD	STANDARD DETAIL DRAWINGS
EBS	EXCAVATION BELOW SUBGRADE	STA	STATION
EXIST	EXISTING	SS	STORM SEWER
FC	FACE OF CURB	SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
FF	FACE TO FACE	SE	SUPERELEVATION RATE
FERT	FERTILIZE	TC	TOP OF CURB
FE	FIELD ENTRANCE	T OR TN	TOWN
FL	FLOW LINE	T	TRUCKS (PERCENT OF)
FO	FIBER OPTIC	TYP	TYPICAL
CWT	HUNDREDWEIGHT	VAR	VARIABLE
		VC	VERTICAL CURVE
		Y	NORTH GRID COORDINATE
		YD	YARD

**GENERAL NOTES**

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

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

ALL UTILITIES WILL BE RELOCATED OR ADJUSTED BY THEIR OWNERS WHERE REQUIRED. MUNICIPAL WATER AND SANITARY SEWER ADJUSTMENTS WILL REQUIRE COORDINATION WITH THE CONTRACTOR.

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

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE 4-INCH SALVAGED TOPSOILED/TOPSOILED, FERTILIZED, AND SODDED/SEEDED AND MULCHED. FINISHED SODDED/AND/SEEDED SURFACE SHALL BE 1-INCH BELOW THE TOP OF ADJACENT CONCRETE.

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

CONSTRUCT INSIDE EDGE OF SIDEWALK 1/4-INCH HIGHER THAN THE TOP OF CURB, WHEN THEY ARE ADJACENT TO EACH OTHER.

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

ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH THE FOLLOWING LAYER THICKNESSES:

PAVEMENT THICKNESS (INCH)	LOWER LAYER (INCH)	UPPER LAYER (INCH)
5.5	2.5	2

**UTILITY CONTACTS**

CHARTER COMMUNICATIONS  
640 GARFIELD AVENUE  
DULUTH, MINNESOTA 55802  
TELEPHONE: 218.529.8042  
ATTENTION: JOHN OUADE  
EMAIL: JOUADE@CHARTER.COM

CENTRUY LINK  
20 S. WILSON AVENUE  
RICE LAKE, WISCONSIN 54868  
TELEPHONE: 715.234.5528  
ATTENTION: MONTY PARKER  
EMAIL: MONTY.PARKER@CENTURYLINK.COM

CITY OF SUPERIOR  
PUBLIC WORKS  
1316 N 14TH STREET  
SUPERIOR, WISCONSIN 54880  
TELEPHONE: 715.392.033  
ATTENTION: JEFF GOETZMAN  
EMAIL: GOETZMAN@CI.SUPERIOR.WI.US

SUPERIOR WATER LIGHT AND POWER  
2915 HILL AVENUE  
P.O. BOX 519  
SUPERIOR WISCONSIN 54880  
TELEPHONE: 715.395.6315  
ATTENTION: KEVIN HABERMAN  
KHABERMAN@SWLP.COM

TELEPHONE: 218.355.5949  
ATTENTION: TIM MELBY (WATER & GAS)  
EMAIL: TMELBY@SWLP.COM



CALL 811 OR (800)242.8511  
(877)500.9592 (EMERGENCY ONLY)  
www.DiggersHotline.com

**DESIGN CONTACTS**

SEH INC.  
421 FRENETTE DRIVE  
CHIPPEWA FALLS, WI 54729  
TELEPHONE: 715.720.6261  
ATTENTION: JARROD STARREN  
EMAIL: JSTARREN@SEHINC.COM

**DNR CONTACTS**

STATE OF WISCONSIN  
NORTHWEST DISTRICT  
810 W. MAPLE STREET  
SPOONER, WISCONSIN 54801  
TELEPHONE: 715.635.4229  
ATTENTION: AMY CRONK  
EMAIL: AMY.CRONK@WISCONSIN.GOV

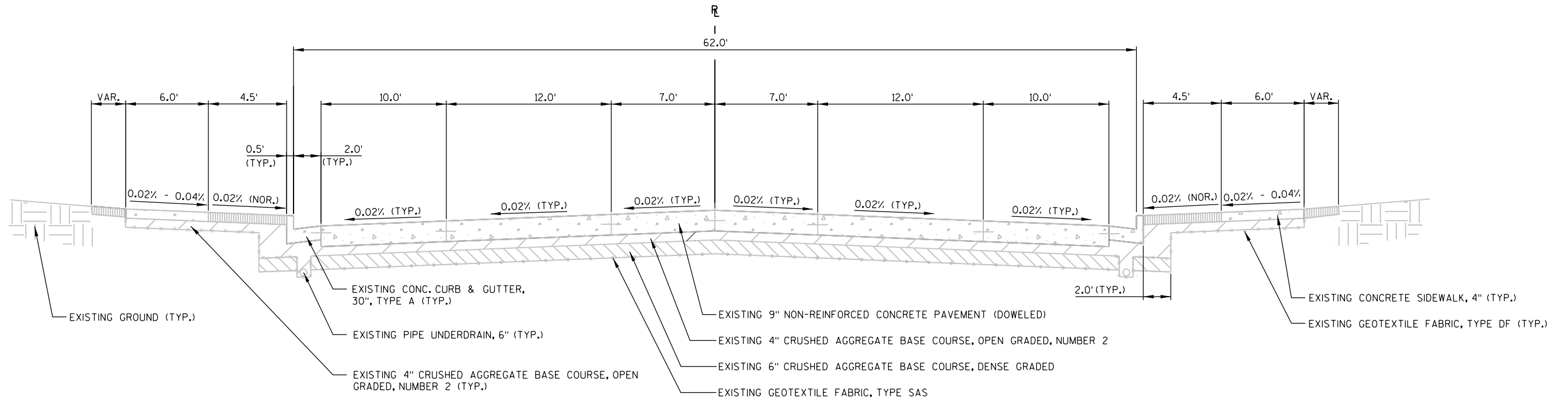
**RR CONTACTS**

CANADIAN PACIFIC RAILWAY  
JAMES KRIEGER, ENGINEER OF PUBLIC WORKS  
120 SOUTH 6TH STREET  
9TH FLOOR  
MINNEAPOLIS, MN 55402  
PHONE: (612) 904-5994  
FAX: (612) 904-6010  
JIM.KRIEGER@CPR.CA

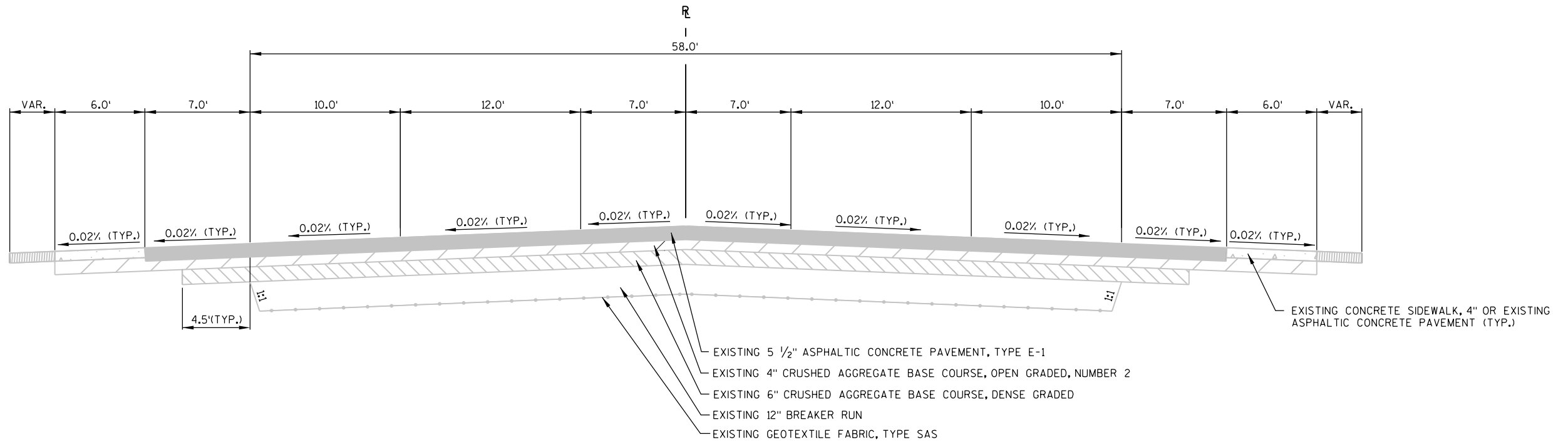
UNION PACIFIC RAILROAD COMPANY  
101 N WACKER DRIVE, SUITE 1920  
CHICAGO, IL 60606  
TELEPHONE: 312.777.2043  
ATTENTION: JOHN VENICE  
EMAIL: JVENICE@UP.COM

UNION PACIFIC RAILROAD COMPANY  
"CALL BEFORE YOU DIG"  
1-800-848-8715

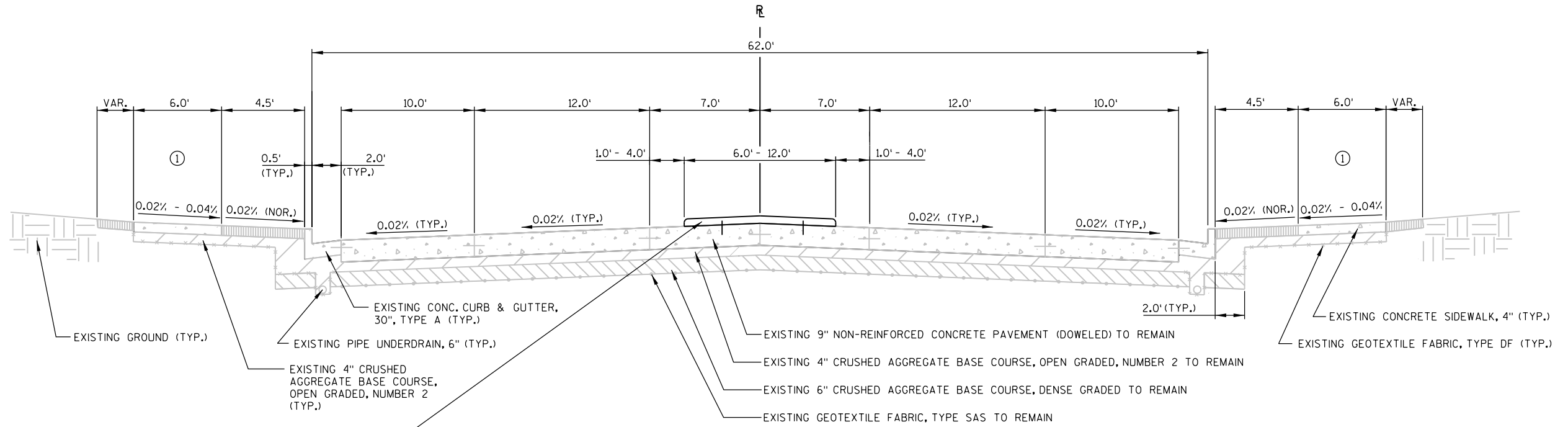




**TYPICAL EXISTING SECTION**  
 HAMMOND AVENUE  
 STA. 113+79.96 TO STA. 114+98.00  
 STA. 115+88.50 - STA 117+25.32

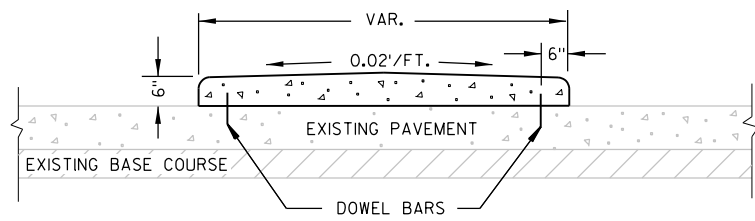


**TYPICAL EXISTING SECTION**  
 HAMMOND AVENUE  
 STA. 114+98.00 TO STA. 115+88.50



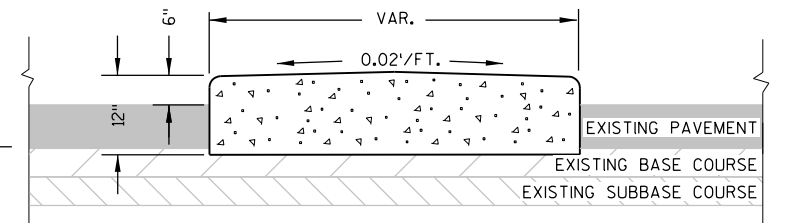
**TYPICAL FINISHED SECTION**

HAMMOND AVENUE  
STA. 113+79.96 TO STA. 114+98.00  
STA. 115+88.50 TO 117+25.32



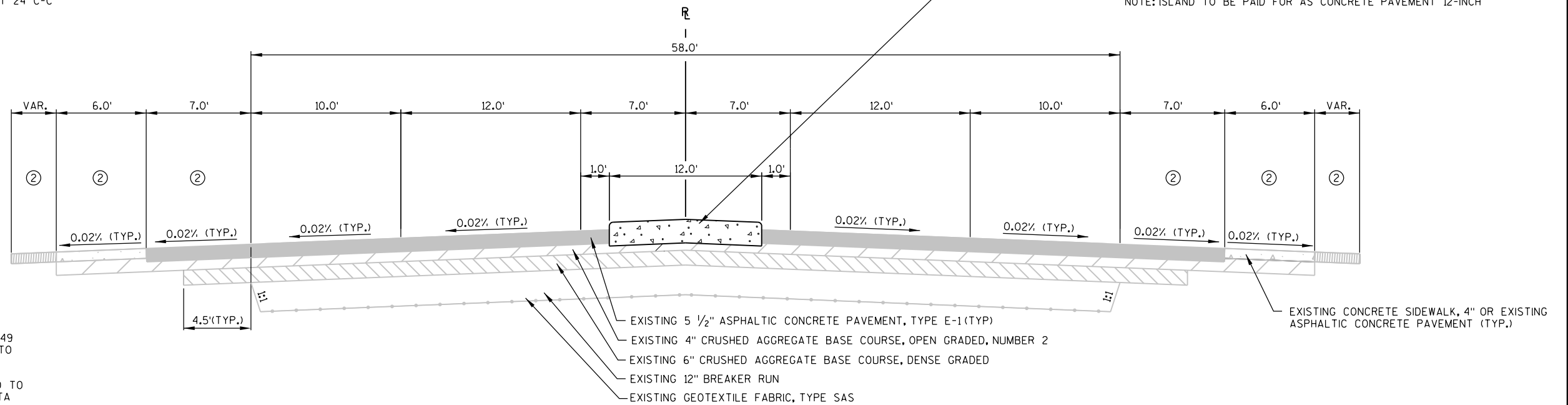
**CONCRETE SAFETY ISLAND**

NOTE: ISLAND DOWELLED TO EXISTING PAVEMENT WITH NO. 5 X 10" EPOXY COATED REINF. BARS 6" INTO PAVEMENT 24" C-C



**CONCRETE SAFETY ISLAND**

NOTE: ISLAND TO BE PAID FOR AS CONCRETE PAVEMENT 12-INCH

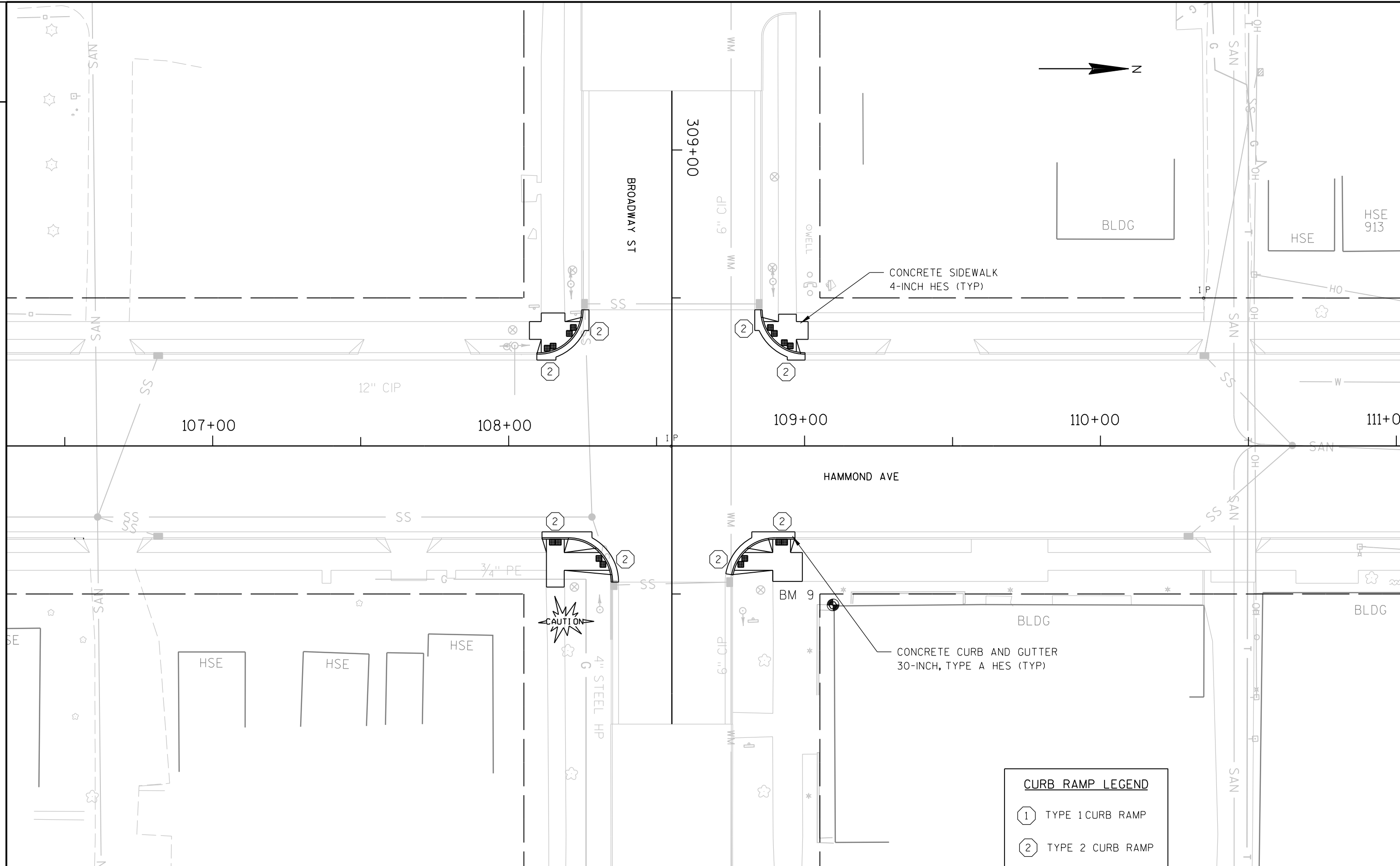


**TYPICAL FINISHED SECTION**

HAMMOND AVENUE  
STA. 114+98.00 TO STA. 115+88.50

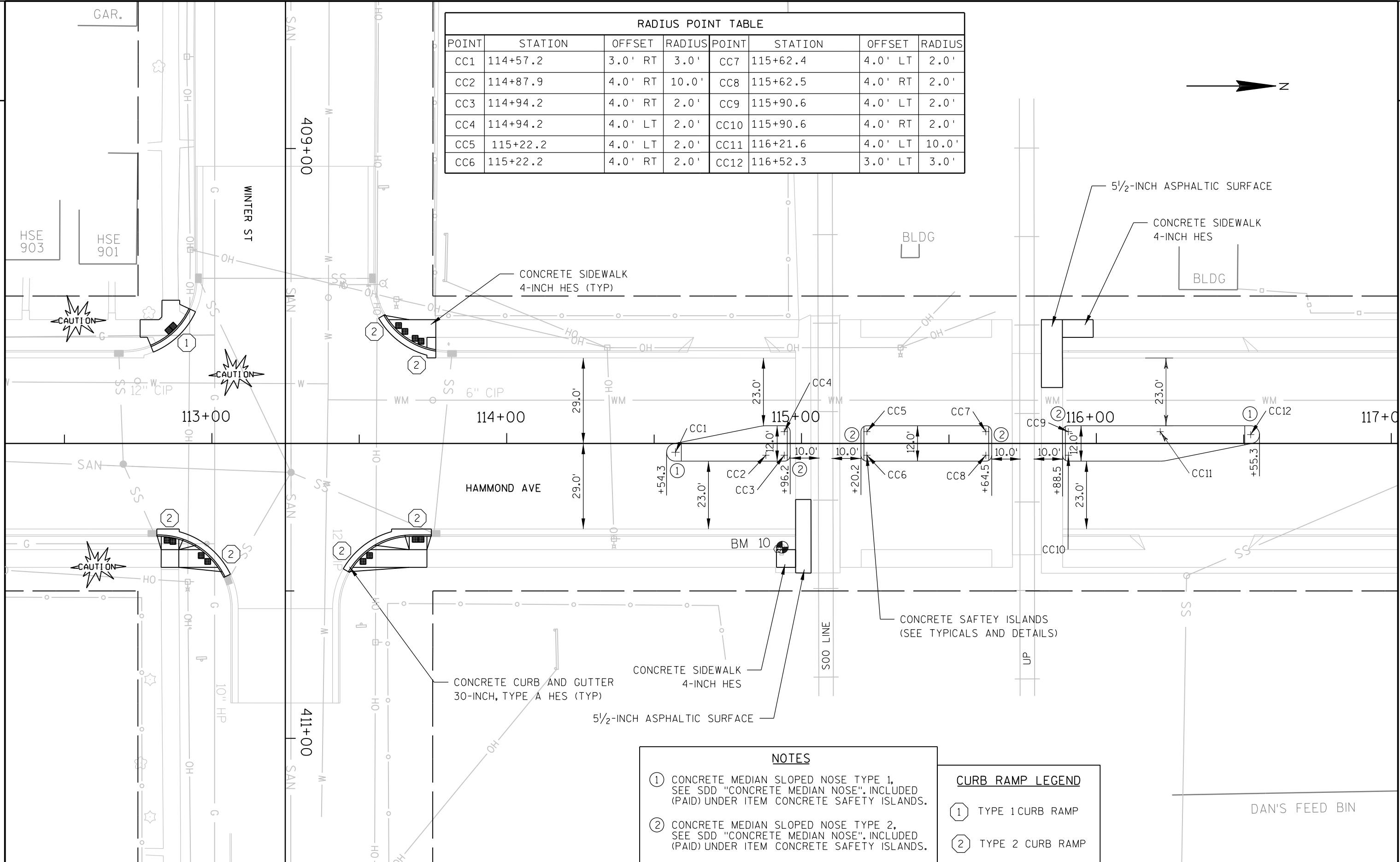
**NOTES:**

- ① CONCRETE SIDEWALK, 4" HES STA 114+91.49 TO STA 114+98.00 AND STA 115+88.50 TO STA 115+98.95
- ② 5 1/2" ASPHALTIC SURFACE STA 114+98.00 TO STA 115+03.17 AND STA 115+81.35 TO STA 115+88.50



PROJECT NO: 8998-13-76	HWY: HAMMOND AVE	COUNTY: DOUGLAS	INTERSECTION DETAIL	SHEET	E
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RADIUS POINT TABLE							
POINT	STATION	OFFSET	RADIUS	POINT	STATION	OFFSET	RADIUS
CC1	114+57.2	3.0' RT	3.0'	CC7	115+62.4	4.0' LT	2.0'
CC2	114+87.9	4.0' RT	10.0'	CC8	115+62.5	4.0' RT	2.0'
CC3	114+94.2	4.0' RT	2.0'	CC9	115+90.6	4.0' LT	2.0'
CC4	114+94.2	4.0' LT	2.0'	CC10	115+90.6	4.0' RT	2.0'
CC5	115+22.2	4.0' LT	2.0'	CC11	116+21.6	4.0' LT	10.0'
CC6	115+22.2	4.0' RT	2.0'	CC12	116+52.3	3.0' LT	3.0'



**NOTES**

① CONCRETE MEDIAN SLOPED NOSE TYPE 1, SEE SDD "CONCRETE MEDIAN NOSE". INCLUDED (PAID) UNDER ITEM CONCRETE SAFETY ISLANDS.








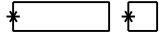








② CONCRETE MEDIAN SLOPED NOSE TYPE 2, SEE SDD "CONCRETE MEDIAN NOSE". INCLUDED (PAID) UNDER ITEM CONCRETE SAFETY ISLANDS.

**CURB RAMP LEGEND**

① TYPE 1 CURB RAMP

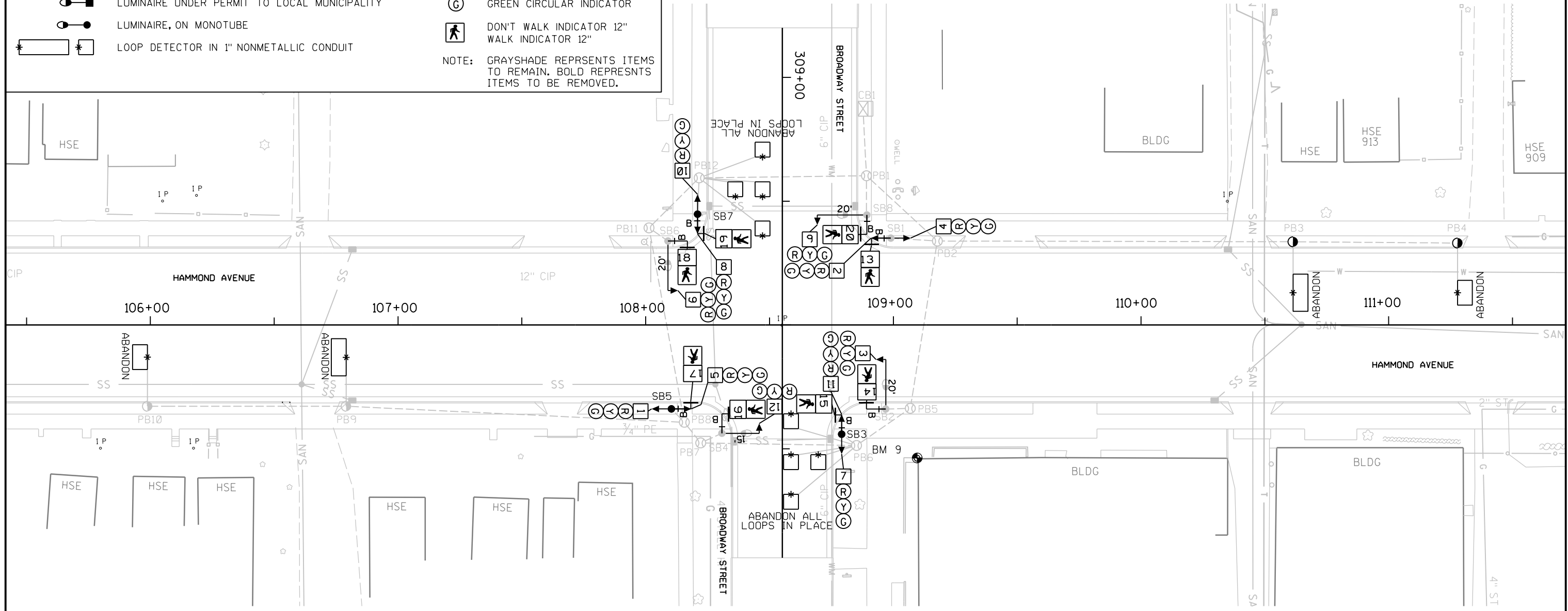
② TYPE 2 CURB RAMP

LEGEND

-  CONTROL CABINET
  -  NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
  -  SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
  -  SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
  -  PEDESTRIAN HEAD WITH PUSH BUTTON
  -  LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
  -  LUMINAIRE, ON MONOTUBE
  -  LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
  -  PULL BOX, 24" X 36"
  -  PULL BOX, 24" X 42"
  -  SIGNAL HEAD NUMBER
  -  RED CIRCULAR INDICATOR
  -  YELLOW CIRCULAR INDICATOR
  -  GREEN CIRCULAR INDICATOR
  -  DON'T WALK INDICATOR 12"
  -  WALK INDICATOR 12"
- NOTE: GRAYSHADE REPRESENTS ITEMS TO REMAIN. BOLD REPRESENTS ITEMS TO BE REMOVED.

CONSTRUCTION NOTES:

1. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. REMOVED LOOP DETECTOR CONDUIT TO REMAIN IN PLACE. LOOP DETECTOR WIRE AND LEAD-IN CABLE TO BE REMOVED BY THE CONTRACTOR.
3. EXISTING CONDUIT RUNS TO REMAIN IN PLACE. CONTRACTOR TO REMOVE ANY TRAFFIC SIGNAL CONDUCTORS REMAINING IN THE CONDUIT.
4. EXISTING INTERSECTION LIGHTING TO REMAIN IN PLACE AND ACTIVE.
5. TRAFFIC SIGNAL TO REMAIN IN OPERATION UNTIL TRAFFIC SIGNAL AT HAMMOND AVENUE & WINTER STREET IS FULLY OPERATIONAL.



TRAFFIC CONTROL SIGNAL  
 HAMMOND AVENUE  
 BROADWAY STREET  
 CITY OF SUPERIOR  
 DOUGLAS COUNTY

MUNICIPAL CONTACT: J. GOETZMAN  
 DESIGNED BY: SEH  
 REVISED BY:

PAGE 1 OF 1

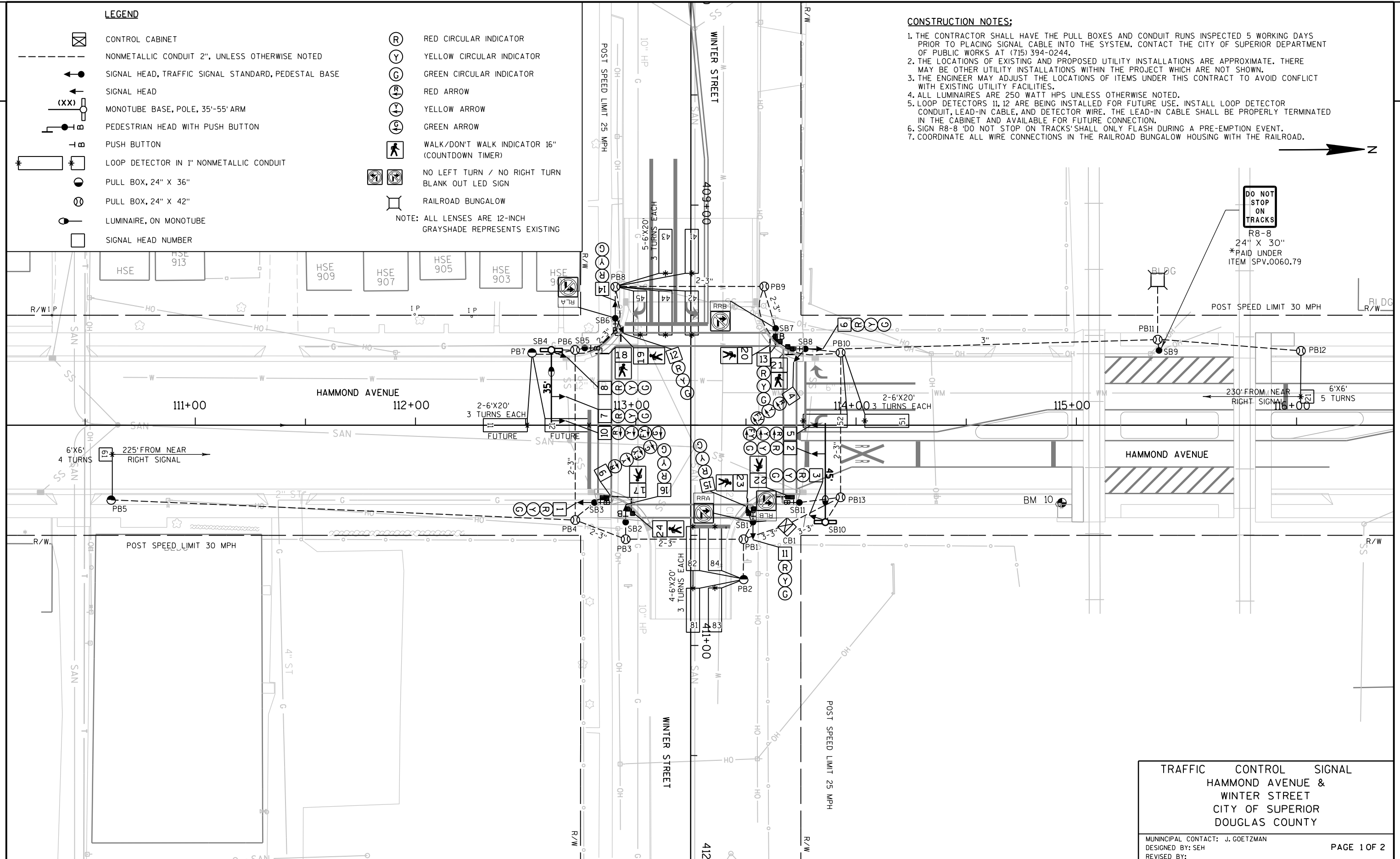
LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- SIGNAL HEAD
- MONOTUBE BASE, POLE, 35'-55' ARM
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"
- LUMINAIRE, ON MONOTUBE
- SIGNAL HEAD NUMBER

- RED CIRCULAR INDICATOR
  - YELLOW CIRCULAR INDICATOR
  - GREEN CIRCULAR INDICATOR
  - RED ARROW
  - YELLOW ARROW
  - GREEN ARROW
  - WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
  - NO LEFT TURN / NO RIGHT TURN  
BLANK OUT LED SIGN
  - RAILROAD BUNGALOW
- NOTE: ALL LENSES ARE 12-INCH  
GRAYSHADE REPRESENTS EXISTING

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO THE SYSTEM. CONTACT THE CITY OF SUPERIOR DEPARTMENT OF PUBLIC WORKS AT (715) 394-0244.
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
3. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
4. ALL LUMINAIRES ARE 250 WATT HPS UNLESS OTHERWISE NOTED.
5. LOOP DETECTORS 11, 12 ARE BEING INSTALLED FOR FUTURE USE. INSTALL LOOP DETECTOR CONDUIT, LEAD-IN CABLE, AND DETECTOR WIRE. THE LEAD-IN CABLE SHALL BE PROPERLY TERMINATED IN THE CABINET AND AVAILABLE FOR FUTURE CONNECTION.
6. SIGN R8-8 'DO NOT STOP ON TRACKS' SHALL ONLY FLASH DURING A PRE-EMPTION EVENT.
7. COORDINATE ALL WIRE CONNECTIONS IN THE RAILROAD BUNGALOW HOUSING WITH THE RAILROAD.



TRAFFIC CONTROL SIGNAL HAMMOND AVENUE & WINTER STREET CITY OF SUPERIOR DOUGLAS COUNTY	
MUNICIPAL CONTACT: J. GOETZMAN DESIGNED BY: SEH REVISED BY:	PAGE 1 OF 2

SEQUENCE OF OPERATION

		Ø1				Ø2			
		CLEAR TO				CLEAR TO			
HEAD NUMBERS		R/W	* *			R/W	* *		
Ø1									
Ø2	6, 7, 8					G	Y	R	
Ø3									
Ø4	14, 15, 16					R	R	R	
Ø5	9, 10					-	-	-	
Ø6	1, 2, 3					R	R	R	
Ø7									
Ø8	11, 12, 13					R	R	R	
OLA	4, 5					FY	Y	R	
OLC	9, 10					R	R	R	
Ø2P	19, 20					*	DW	DW	
Ø4P	17, 18					DW	DW	DW	
Ø6P	23, 24					DW	DW	DW	
Ø8P	21, 22					DW	DW	DW	

		Ø5				Ø6			
		CLEAR TO				CLEAR TO			
HEAD NUMBERS		R/W	* *			R/W	* *		
Ø1									
Ø2	6, 7, 8	R	R	R		R	R	R	
Ø3									
Ø4	14, 15, 16	R	R	R		R	R	R	
Ø5	9, 10	G	-	-		-	-	-	
Ø6	1, 2, 3	R	R	R		G	Y	R	
Ø7									
Ø8	11, 12, 13	R	R	R		R	R	R	
OLA	4, 5	R	R	R		R	R	R	
OLC	9, 10	R	R	R		FY	Y	R	
Ø2P	19, 20	DW	DW	DW		DW	DW	DW	
Ø4P	17, 18	DW	DW	DW		DW	DW	DW	
Ø6P	23, 24	DW	DW	DW		*	DW	DW	
Ø8P	21, 22	DW	DW	DW		*	DW	DW	

BARRIER

DETECTOR LOGIC

DETECTOR NUMBER	AMPLIFIER CHANNEL NUMBER	DETECTOR OPERATION			PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
		CALLS AND EXTENDS	CALLS ONLY	EXTENDS ONLY							
11	FUTURE									6X20	3
12	FUTURE									6X20	3
21	2	X			2	2				6X6	5
41	3	X			4	4				6X20	3
42	4	X			4	4	X			6X20	3
43	4	X			4	4				6X20	3
44	5	X			4	4				6X20	3
45	5	X			4	4	X			6X20	3
51	6	X			5	5				6X20	3
52	6	X			5	5				6X20	3
61	7	X			6	6				6X6	4
81	8	X			8	8				6X20	3
82	8	X			8	8	X			6X20	3
83	9	X			8	8				6X20	3
84	9	X			8	8	X			6X20	3

CONTROLLER LOGIC

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

OVERLAPS

O.L. "E" =  
O.L. "F" =  
O.L. "G" =  
O.L. "H" =

SPECIAL OVERLAPS

	PROTECTED	PERMISSIVE
O.L. "A"	N/A	2
O.L. "B"		
O.L. "C"	N/A	6
O.L. "D"		

TYPE OF LIGHTING

BY OTHER AGENCY	
IN TRAFFIC SIGNAL CABINET	X
IN SEPARATE LIGHTING CABINET	

TYPE OF INTERCONNECT COMMUNICATION

NONE	X
TBC	
CLOSED LOOP TWISTED PAIR*	
CLOSED LOOP FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	
RADIO	

LOCATION OF MASTER CONTROLLER NO:  
SIGNAL SYSTEM #:

CHART 1

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

HAMMOND AVENUE &  
WINTER STREET  
CITY OF SUPERIOR  
DOUGLAS COUNTY

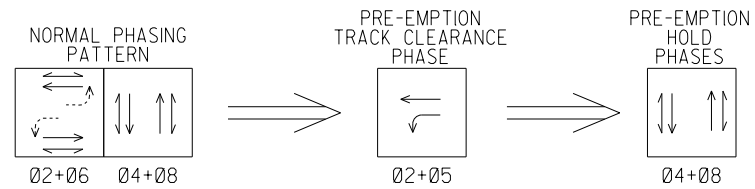
SIGNAL NO.

CONTROLLER TYPE: ECONOLITE ASC/3 2100

DATE 8/12

PAGE NO. 2 OF 2

RAILROAD PRE-EMPTION PHASING (SEE NOTES 4, 5, AND 6)



GENERAL NOTES:

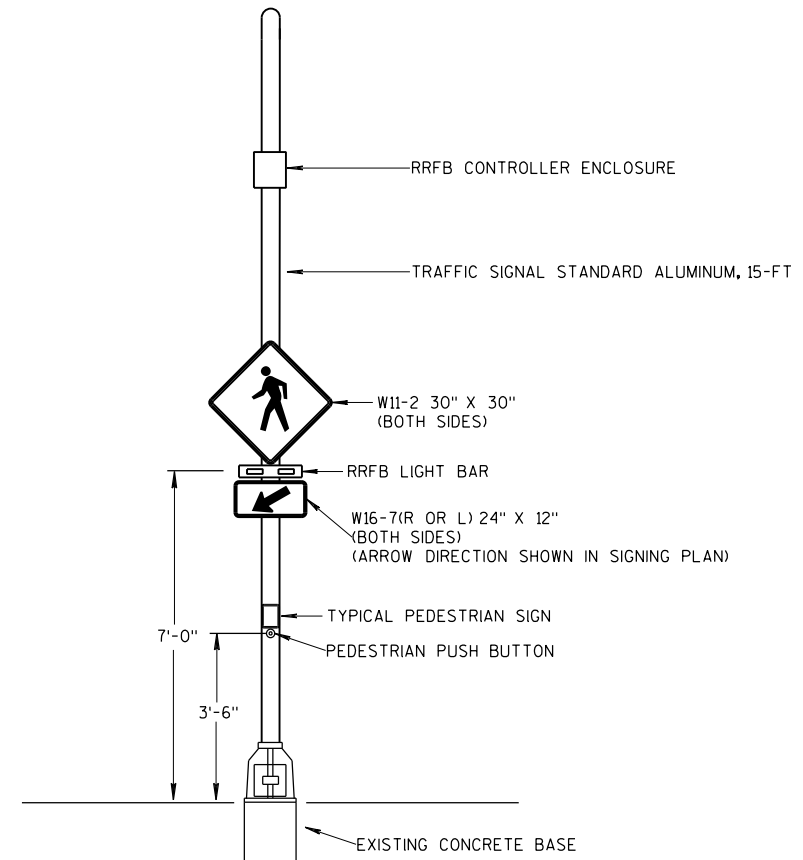
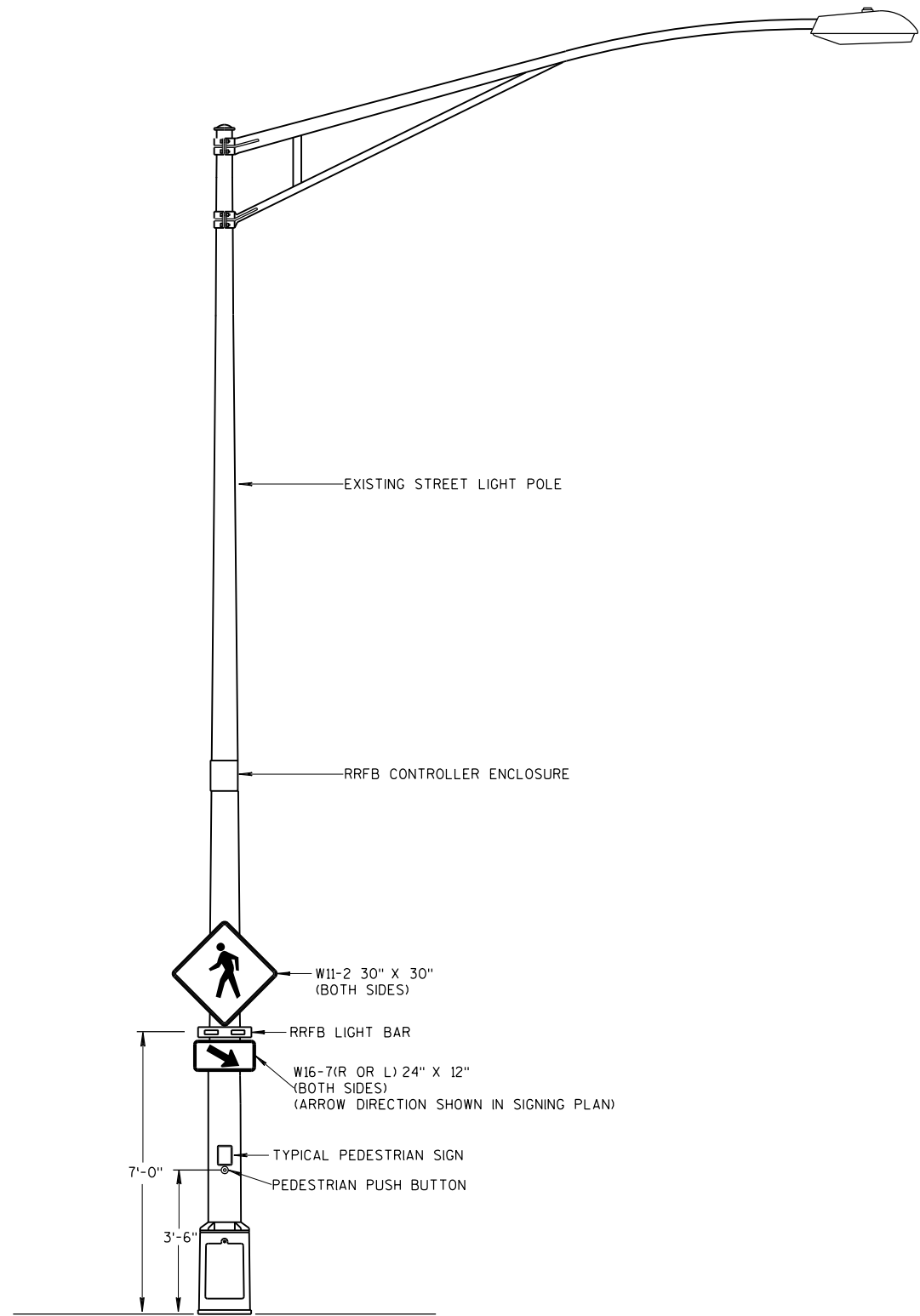
- ANY ACTUATED PHASE FOR WHICH THERE IS NO CALL SHALL BE SKIPPED.
- WHEN ONE PHASE IS ON ALONE, ANY NONCONFLICTING PHASE MAY START TIMING CONCURRENTLY WITHOUT A CLEARANCE INTERVAL. (SEE CHART 1)
- IF PHASES 2 AND 6 ARE TIMING CONCURRENTLY, THEY SHALL TERMINATE TOGETHER DUE TO PERMISSIVE LEFT TURN CONFLICT.
- IN THE EVENT OF A RAILROAD PRE-EMPTION CALL, PHASES 2 AND 5 SHALL RECEIVE A GREEN INDICATION TO CLEAR THE NORTH APPROACH, FOLLOWING THE TRACK CLEARANCE INTERVAL, THE CONTROLLER SHALL CYCLE THROUGH PHASES 4 & 8 BASED ON DEMAND. AT THE END OF PRE-EMPTION, THE CONTROLLER SHALL RETURN TO PHASE 2 & 6 GREEN. IF PHASES 2 & 6 HAVE A GREEN INDICATION AT THE TIME OF A PRE-EMPTION CALL THEY SHALL TERMINATE SHALL BOTH TERMINATE PRIOR TO THE PRE-EMPTION PROGRAM PRIOR TO START OF PRE-EMPTION PROGRAM.
- IN THE EVENT OF A RAILROAD PRE-EMPTION CALL, WHILE THE PRE-EMPTION TRACK CLEARANCE AND HOLD PHASES ARE ACTIVE:
  - "NO RIGHT TURN" BLANK OUT SIGNS SHALL BE ILLUMINATED.
  - "NO LEFT TURN" BLANK OUT SIGNS SHALL BE ILLUMINATED.
  - LED ENHANCED DO NOT STOP ON TRACK (R8-8) E SIGN.
- BATTERY BACKUP REQUIRED FOR RAILROAD PRE-EMPTION. REQUEST "GATE DOWN" AND "CLEARANCE" TIMING.

- \*\* CLEARANCE TO A PHASE IN CONFLICT WITH THIS PHASE ON (SEE CHART 1)
- \* WHEN CALLED, TIMED STEADY WALK, THEN FLASHING DON'T WALK, THEN GOES STEADY DON'T WALK
- # PHASE 5 SHALL ONLY BE CALLED DURING PREEMPTION

TYPE OF PRE-EMPT	
NONE	
RAILROAD	X
EMERGENCY VEHICLE	
GTT	
TOMAR	
HARDWARE	
OTHER	
QUEUE DETECTOR	
LIFT BRIDGE	







RRFB FRONT ELEVATION  
HAMMOND AVE & BROADWAY STREET

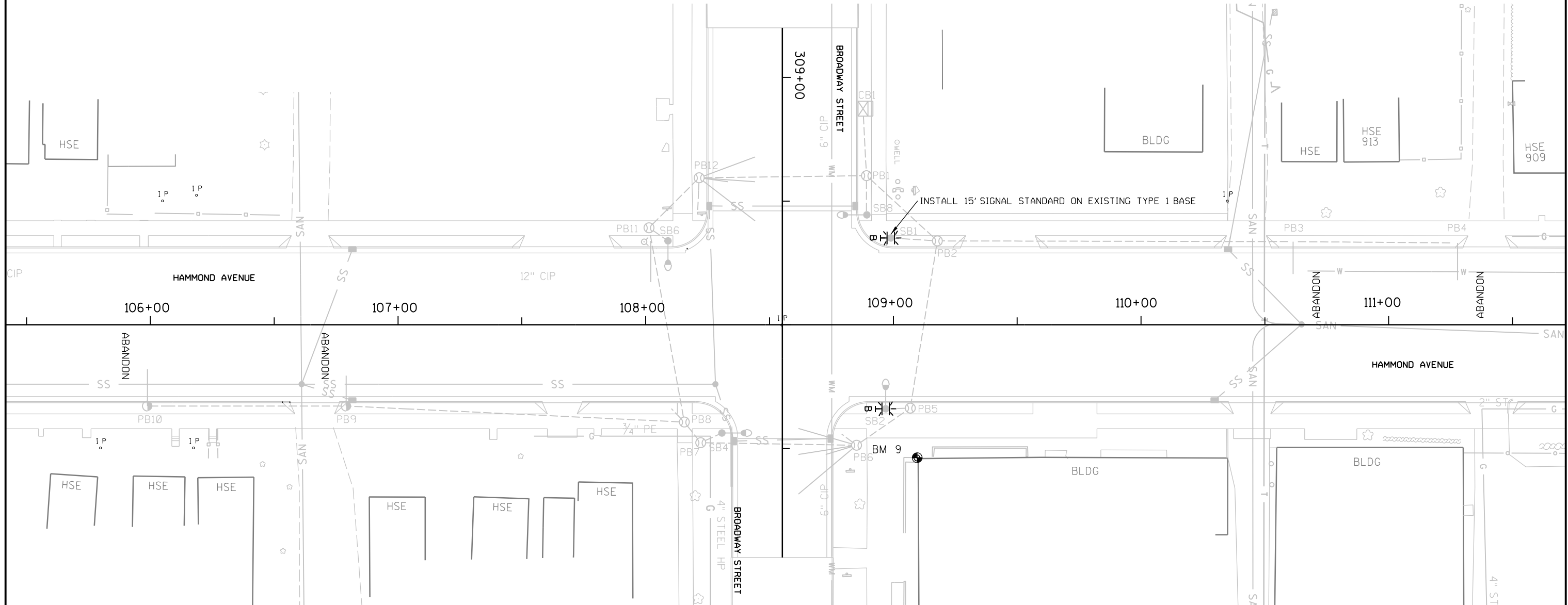
**2**

LEGEND

- EXISTING SIGNAL BASE
- ⊞- PUSH BUTTON
- NONMETALLIC CONDUIT 2" UNLESS OTHERWISE NOTED
- ⊞ RECTANGULAR RAPID FLASHING BEACON (RRFB)

**CONSTRUCTION NOTES:**

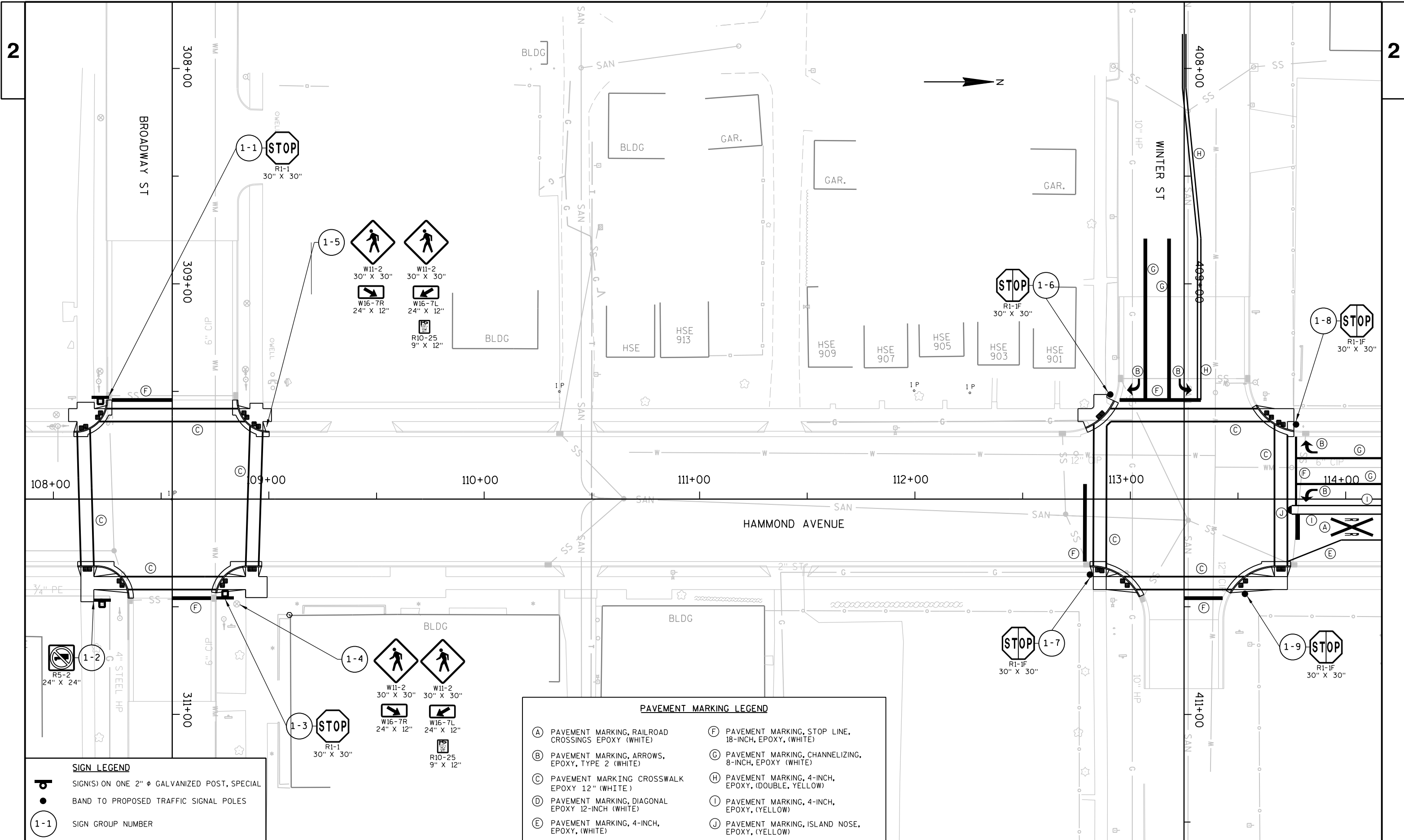
1. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. SEE SIGNING PLAN FOR ADDITIONAL DETAILS.
3. SYSTEM POWER TO BE PROVIDED BY EXISTING SIGNAL CABINET.



TRAFFIC CONTROL SIGNAL  
 HAMMOND AVENUE  
 BROADWAY STREET  
 CITY OF SUPERIOR  
 DOUGLAS COUNTY

MUNICIPAL CONTACT: J. GOETZMAN  
 DESIGNED BY: SEH  
 REVISED BY:

PAGE 1 OF 1



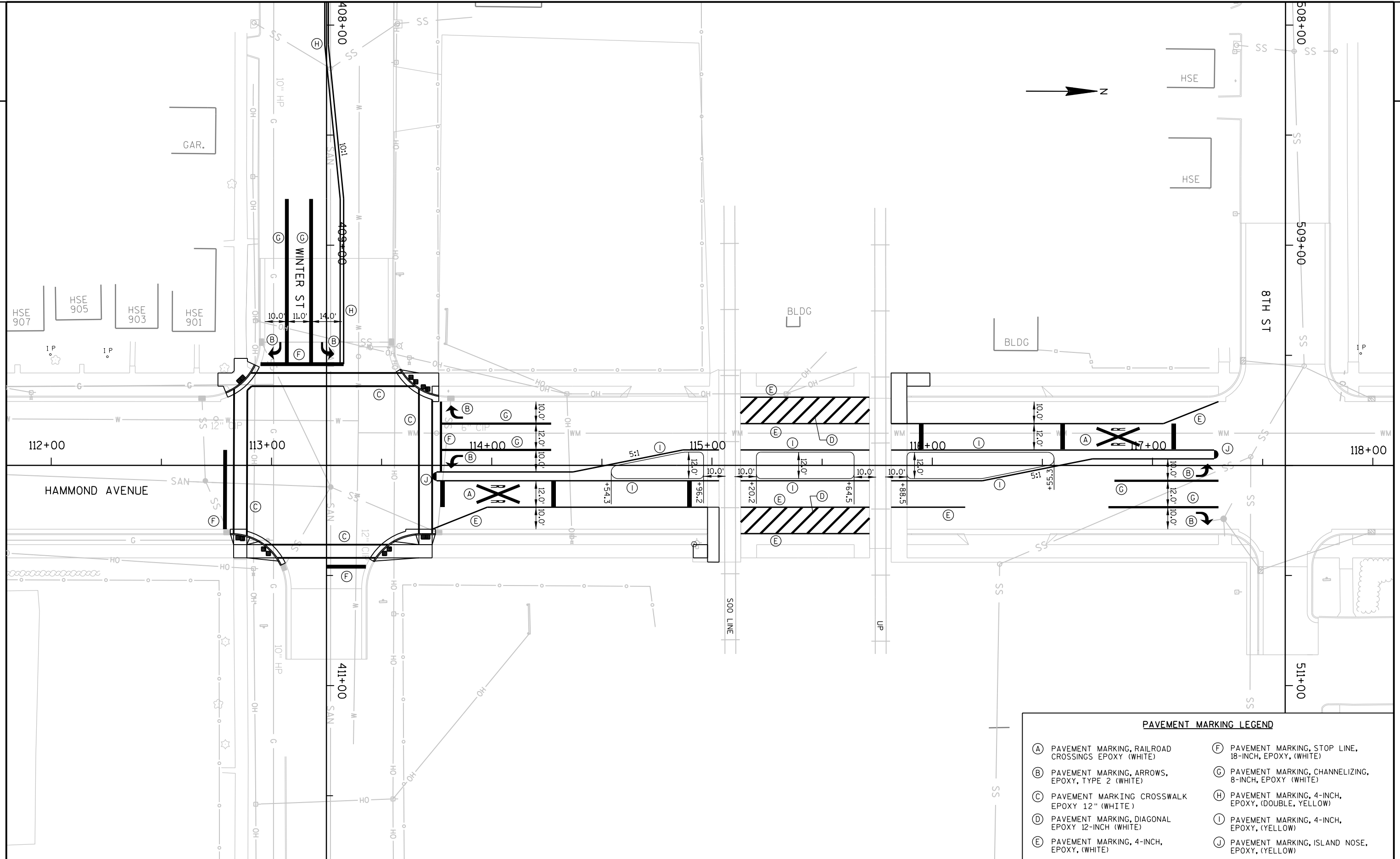
**SIGN LEGEND**

	SIGN(S) ON ONE 2" Ø GALVANIZED POST, SPECIAL
	BAND TO PROPOSED TRAFFIC SIGNAL POLES
	SIGN GROUP NUMBER

	W11-2 30" X 30"		W11-2 30" X 30"
	W16-7R 24" X 12"		W16-7L 24" X 12"
	R10-25 9" X 12"		

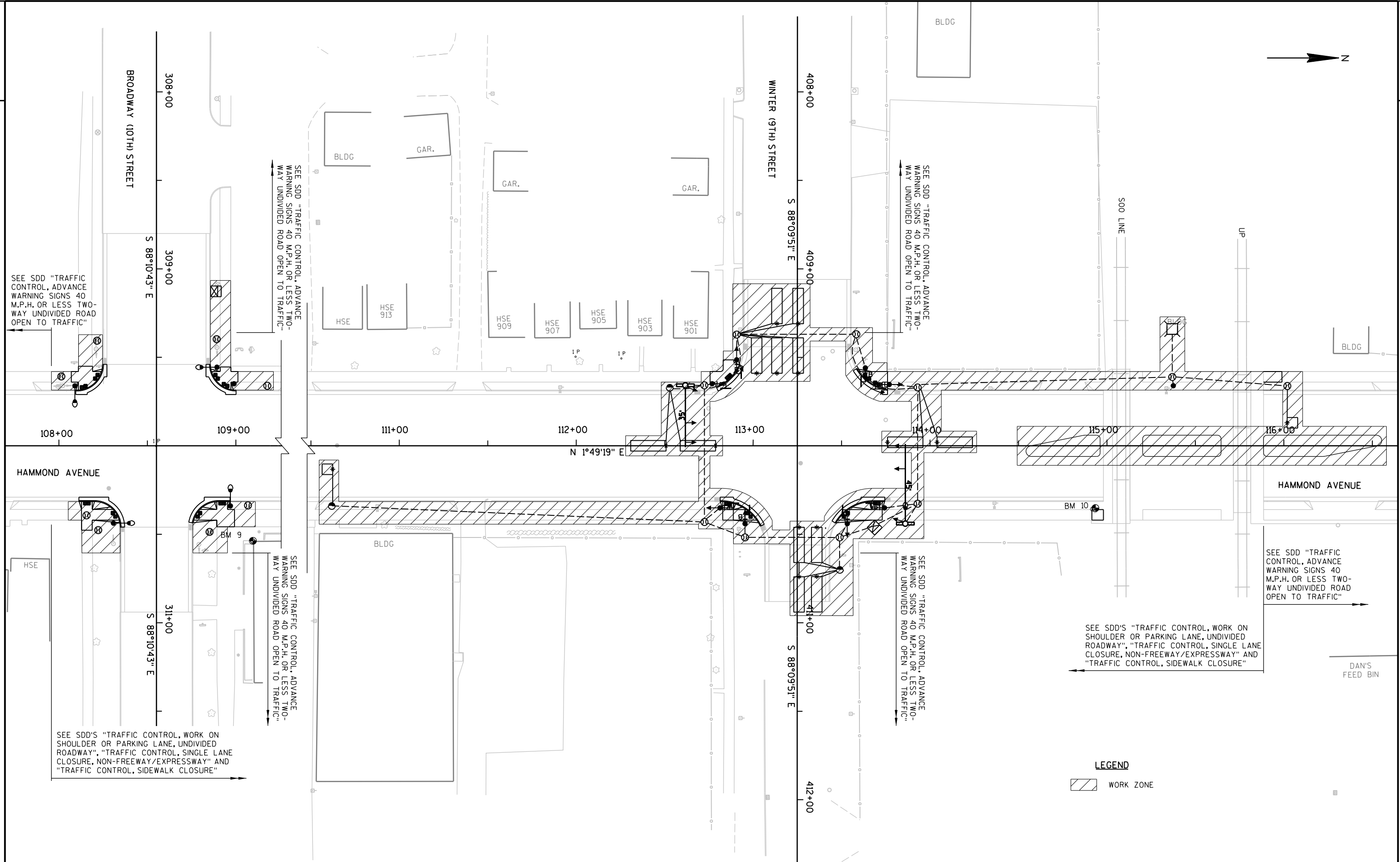
**PAVEMENT MARKING LEGEND**

(A) PAVEMENT MARKING, RAILROAD CROSSINGS EPOXY (WHITE)	(F) PAVEMENT MARKING, STOP LINE, 18-INCH, EPOXY, (WHITE)
(B) PAVEMENT MARKING, ARROWS, EPOXY, TYPE 2 (WHITE)	(G) PAVEMENT MARKING, CHANNELIZING, 8-INCH, EPOXY (WHITE)
(C) PAVEMENT MARKING CROSSWALK EPOXY 12" (WHITE)	(H) PAVEMENT MARKING, 4-INCH, EPOXY, (DOUBLE, YELLOW)
(D) PAVEMENT MARKING, DIAGONAL EPOXY 12-INCH (WHITE)	(I) PAVEMENT MARKING, 4-INCH, EPOXY, (YELLOW)
(E) PAVEMENT MARKING, 4-INCH, EPOXY, (WHITE)	(J) PAVEMENT MARKING, ISLAND NOSE, EPOXY, (YELLOW)



**PAVEMENT MARKING LEGEND**

(A) PAVEMENT MARKING, RAILROAD CROSSINGS EPOXY (WHITE)	(F) PAVEMENT MARKING, STOP LINE, 18-INCH, EPOXY, (WHITE)
(B) PAVEMENT MARKING, ARROWS, EPOXY, TYPE 2 (WHITE)	(G) PAVEMENT MARKING, CHANNELIZING, 8-INCH, EPOXY (WHITE)
(C) PAVEMENT MARKING CROSSWALK EPOXY 12" (WHITE)	(H) PAVEMENT MARKING, 4-INCH, EPOXY, (DOUBLE, YELLOW)
(D) PAVEMENT MARKING, DIAGONAL EPOXY 12-INCH (WHITE)	(I) PAVEMENT MARKING, 4-INCH, EPOXY, (YELLOW)
(E) PAVEMENT MARKING, 4-INCH, EPOXY, (WHITE)	(J) PAVEMENT MARKING, ISLAND NOSE, EPOXY, (YELLOW)



PROJECT NO: 8998-13-76	HWY: HAMMOND AVENUE	COUNTY: DOUGLAS	TRAFFIC CONTROL	SHEET	E
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DATE 29JAN13

## ESTIMATE OF QUANTITIES

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	8998-13-76 QUANTITY
0020	204.0100	REMOVING PAVEMENT	SY	92.000	92.000
0050	204.0150	REMOVING CURB & GUTTER	LF	212.000	212.000
0060	204.0155	REMOVING CONCRETE SIDEWALK	SY	145.000	145.000
0080	204.0195	REMOVING CONCRETE BASES	EACH	3.000	3.000
0290	213.0100	FINISHING ROADWAY (PROJECT) 03. 8998-13-76	EACH	1.000	1.000
0360	415.0120	CONCRETE PAVEMENT 12-INCH	SY	59.000	59.000
0400	416.0610	DRILLED TIE BARS	EACH	70.000	70.000
0410	416.0620	DRILLED DOWEL BARS	EACH	302.000	302.000
0480	465.0105	ASPHALTIC SURFACE	TON	11.000	11.000
0490	465.0125	ASPHALTIC SURFACE TEMPORARY	TON	4.000	4.000
0580	602.0515	CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA	SF	120.000	120.000
0600	602.2400	CONCRETE SAFETY ISLANDS	SF	1,081.000	1,081.000
0890	619.1000	MOBILIZATION	EACH	0.012	0.012
0940	625.0500	SALVAGED TOPSOIL	SY	450.000	450.000
0950	627.0200	MULCHING	SY	475.000	475.000
1010	629.0210	FERTILIZER TYPE B	CWT	0.300	0.300
1020	630.0140	SEEDING MIXTURE NO. 40	LB	9.000	9.000
1030	630.0200	SEEDING TEMPORARY	LB	9.000	9.000
1190	634.0811	POSTS TUBULAR STEEL 2X2-1NCH X 11-FT	EACH	3.000	3.000
1210	637.0202	SIGNS REFLECTIVE TYPE II	SF	48.860	48.860
1220	637.0402	SIGNS REFLECTIVE FOLDING TYPE II	SF	20.720	20.720
1230	638.2602	REMOVING SIGNS TYPE II	EACH	7.000	7.000
1240	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	2.000	2.000
1280	643.0100	TRAFFIC CONTROL (PROJECT) 03. 8998-13-76	EACH	1.000	1.000
1290	643.0300	TRAFFIC CONTROL DRUMS	DAY	6,720.000	6,720.000
1300	643.0410	TRAFFIC CONTROL BARRICADES TYPE II	DAY	1,880.000	1,880.000
1310	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	80.000	80.000
1340	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	1,960.000	1,960.000
1350	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	560.000	560.000
1370	643.0900	TRAFFIC CONTROL SIGNS	DAY	1,040.000	1,040.000
1440	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	1,565.000	1,565.000
1450	646.0126	PAVEMENT MARKING EPOXY 8-INCH	LF	348.000	348.000
1460	646.0600	REMOVING PAVEMENT MARKINGS	LF	1,030.000	1,030.000
1470	647.0110	PAVEMENT MARKING RAILROAD CROSSINGS EPOXY	EACH	2.000	2.000
1490	647.0166	PAVEMENT MARKING ARROWS EPOXY TYPE 2	EACH	6.000	6.000
1570	647.0566	PAVEMENT MARKING STOP LINE EPOXY 18-INCH	LF	169.000	169.000
1580	647.0606	PAVEMENT MARKING ISLAND NOSE EPOXY	EACH	2.000	2.000
1600	647.0726	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH	LF	278.000	278.000
1610	647.0776	PAVEMENT MARKING CROSSWALK EPOXY 12-INCH	LF	980.000	980.000
1620	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	300.000	300.000
1660	650.5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	LF	210.000	210.000
1710	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 02. 8998-13-76	LS	1.000	1.000
1750	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	177.000	177.000
1760	652.0235	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	LF	262.000	262.000
1770	652.0605	CONDUIT SPECIAL 2-INCH	LF	301.000	301.000
1780	652.0615	CONDUIT SPECIAL 3-INCH	LF	806.000	806.000
1790	652.0800	CONDUIT LOOP DETECTOR	LF	1,390.000	1,390.000

DATE 29JAN13

## ESTIMATE OF QUANTITIES

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	8998-13-76 QUANTITY
1800	652.0900	LOOP DETECTOR SLOTS	LF	1,057.000	1,057.000
1820	653.0135	PULL BOXES STEEL 24X36-1INCH	EACH	2.000	2.000
1830	653.0140	PULL BOXES STEEL 24X42-1INCH	EACH	11.000	11.000
1860	654.0101	CONCRETE BASES TYPE 1	EACH	9.000	9.000
1880	654.0217	CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL	EACH	1.000	1.000
1890	655.0230	CABLE TRAFFIC SIGNAL 5-14 AWG	LF	969.000	969.000
1900	655.0260	CABLE TRAFFIC SIGNAL 12-14 AWG	LF	1,751.000	1,751.000
1910	655.0305	CABLE TYPE UF 2-12 AWG GROUNDED	LF	279.000	279.000
1920	655.0515	ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG	LF	1,123.000	1,123.000
1930	655.0610	ELECTRICAL WIRE LIGHTING 12 AWG	LF	288.000	288.000
1980	655.0700	LOOP DETECTOR LEAD IN CABLE	LF	2,697.000	2,697.000
1990	655.0800	LOOP DETECTOR WIRE	LF	3,339.000	3,339.000
2010	656.0200	ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 02. HAMMOND AVE & WINTER ST	LS	1.000	1.000
2050	657.0100	PEDESTAL BASES	EACH	10.000	10.000
2070	657.0415	TRAFFIC SIGNAL STANDARDS ALUMI NUM 11-FT	EACH	2.000	2.000
2080	657.0420	TRAFFIC SIGNAL STANDARDS ALUMI NUM 13-FT	EACH	5.000	5.000
2090	657.0425	TRAFFIC SIGNAL STANDARDS ALUMI NUM 15-FT	EACH	3.000	3.000
2100	658.0110	TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL	EACH	14.000	14.000
2110	658.0115	TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL	EACH	2.000	2.000
2120	658.0215	BACKPLATES SIGNAL FACE 3 SECTION 12-1INCH	EACH	14.000	14.000
2130	658.0220	BACKPLATES SIGNAL FACE 4 SECTION 12-1INCH	EACH	2.000	2.000
2140	658.0416	PEDESTRIAN SIGNAL FACE 16-1INCH	EACH	8.000	8.000
2150	658.0500	PEDESTRIAN PUSH BUTTONS	EACH	8.000	8.000
2160	658.0600	LED MODULES 12-1INCH RED BALL	EACH	12.000	12.000
2170	658.0605	LED MODULES 12-1INCH YELLOW BALL	EACH	12.000	12.000
2180	658.0610	LED MODULES 12-1INCH GREEN BALL	EACH	12.000	12.000
2190	658.0615	LED MODULES 12-1INCH RED ARROW	EACH	4.000	4.000
2200	658.0620	LED MODULES 12-1INCH YELLOW ARROW	EACH	8.000	8.000
2210	658.0625	LED MODULES 12-1INCH GREEN ARROW	EACH	2.000	2.000
2220	658.0635	LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-1INCH	EACH	8.000	8.000
2240	658.5069	SIGNAL MOUNTING HARDWARE (LOCATION) 02. HAMMOND AVE & WINTER ST.	LS	1.000	1.000
2250	659.0125	LUMINAIRE UTILITY HPS 250 WATTS	EACH	2.000	2.000
2270	690.0150	SAWING ASPHALT	LF	232.000	232.000
2280	690.0250	SAWING CONCRETE	LF	390.000	390.000
2590	SPV.0060	SPECIAL 22. NO LEFT TURN BLANK OUT LED SIGN	EACH	2.000	2.000
2760	SPV.0060	SPECIAL 39. CONCRETE BASES TYPE 13, CONTRACTOR SUPPLIED ANCHOR BOLTS & ROD TEMPLATE	EACH	2.000	2.000
2890	SPV.0060	SPECIAL 52. MONOTUBE ARMS 35-FT	EACH	1.000	1.000
2910	SPV.0060	SPECIAL 54. NO RIGHT TURN BLANK OUT LED SIGN	EACH	2.000	2.000
3140	SPV.0060	SPECIAL 77. MONOTUBE ARMS 45-FT	EACH	1.000	1.000
3150	SPV.0060	SPECIAL 78. LUMINAIRE ARM STEEL 15-FOOT	EACH	2.000	2.000
3160	SPV.0060	SPECIAL 79. LED ENHANCED DO NOT STOP ON TRACK (R8-8) E SIGN	EACH	1.000	1.000
3170	SPV.0060	SPECIAL 80. POLES TYPE 13	EACH	2.000	2.000
3430	SPV.0090	SPECIAL 25. CONCRETE CURB AND GUTTER CURE AND SEAL TREATMENT	LF	210.000	210.000

DATE 29JAN13

E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	8998-13-76 QUANTITY
3600	SPV.0090	SPECIAL 42. CONCRETE CURB & GUTTER 30-INCH TYPE A HES	LF	102.000	102.000
3720	SPV.0105	SPECIAL 11. REMOVE TRAFFIC SIGNALS HAMMOND AVE & BROADWAY ST	LS	1.000	1.000
3730	SPV.0105	SPECIAL 12. REMOVE LOOP DETECTOR WIRE & LEAD-IN CABLE BROADWAY ST	LS	1.000	1.000
3740	SPV.0105	SPECIAL 13. TRAFFIC SIGNAL CONTROLLER AND CABINET HAMMOND AVE & WINTER ST	LS	1.000	1.000
3750	SPV.0105	SPECIAL 14. RECTANGULAR RAPID FLASHING BEACON (RRFB) SYSTEM HAMMOND AVE & BROADWAY ST	LS	1.000	1.000
3800	SPV.0165	SPECIAL 03. CURE AND SEAL TREATMENT CONCRETE SAFETY ISLANDS	SF	1,610.000	1,610.000
3810	SPV.0165	SPECIAL 04. CURE AND SEAL TREATMENT CONCRETE SIDEWALK	SF	1,460.000	1,460.000
3860	SPV.0165	SPECIAL 09. CONCRETE SIDEWALK 4-INCH HES	SF	1,460.000	1,460.000

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**REMOVING PAVEMENT**

STATION	LOCATION	204.0100 SY
CATEGORY 0010		
HAMMOND AVENUE		
114+98 - 115+03	RT	15
115+81 - 115+88	LT	18
CATEGORY 0010 ITEM TOTAL		33
CATEGORY 0020		
HAMMOND AVENUE		
115+20 - 115+65	LT & RT	59
CATEGORY 0020 ITEM TOTAL		59
ITEM TOTAL		92

\* REMOVE ASPHALT PAVEMENT

**REMOVING CURB & GUTTER**

STATION	LOCATION	204.0150 LF
HAMMOND AVENUE		
108+11 - 108+27	LT	25
108+11 - 108+37	RT	33
108+83 - 108+97	LT	24
108+73 - 108+97	RT	28
112+80 - 112+94	LT	19
112+81 - 113+06	RT	28
113+45 - 113+74	RT	33
113+57 - 113+76	LT	22
ITEM TOTAL		212

**REMOVING CONCRETE SIDEWALK**

STATION	LOCATION	204.0155 SY
HAMMOND AVENUE		
108+08 - 108+24	LT	17
108+10 - 108+33	RT	25
108+86 - 109+01	LT	14
108+76 - 108+99	RT	24
112+76 - 112+91	LT	13
112+83 - 113+02	RT	14
113+48 - 113+73	RT	16
113+60 - 113+76	LT	10
114+91 - 114+98	RT	5
115+88 - 115+99	LT	7
ITEM TOTAL		145

**REMOVING CONCRETE BASES**

NUMBER	204.0195 EACH	
HAMMOND AVENUE & BROADWAY STREET		
SB3	1	
SB5	1	
SB7	1	
ITEM TOTAL		3

**CONCRETE PAVEMENT**

STATION	LOCATION	415.0120 12-INCH SY
CATEGORY 0020		
HAMMOND AVENUE		
115+20 - 115+65	LT & RT	59
ITEM TOTAL		59

**CONCRETE SIDEWALK**

STATION	LOCATION	SPV.0165.09 4-INCH HES SF	SPV.0165.04 CURE AND SEAL TREATMENT SF
HAMMOND AVENUE			
108+08 - 108+24	LT	154	154
108+10 - 108+33	RT	233	233
108+86 - 109+01	LT	123	123
108+76 - 108+99	RT	235	235
112+76 - 112+92	LT	130	130
112+81 - 113+04	RT	152	152
113+46 - 113+74	RT	218	218
113+58 - 113+76	LT	112	112
114+91 - 114+98	RT	39	39
115+88 - 115+99	LT	64	64
ITEM TOTAL		1460	1460

**CONCRETE CURB & GUTTER**

STATION	LOCATION	416.0610 DRILLED TIE BARS EACH	SPV.0090.42 30-INCH TYPE A HES LF	SPV.0090.25 CURE AND SEAL TREATMENT LF
HAMMOND AVENUE				
108+11 - 108+27	LT	8	24	24
108+11 - 108+37	RT	12	32	32
108+83 - 108+97	LT	7	24	24
108+73 - 108+97	RT	11	28	28
112+80 - 112+94	LT	6	19	19
112+81 - 113+06	RT	9	28	28
113+45 - 113+74	RT	10	33	33
113+57 - 113+76	LT	7	22	22
ITEM TOTALS		70	210	210

**CONCRETE SAFETY ISLANDS**

STATION	LOCATION	416.0620 DRILLED DOWEL BARS EACH	602.2400 SF	SPV.0165.03 CURE AND SEAL TREATMENT SF
CATEGORY 0020				
HAMMOND AVENUE				
114+54 - 114+89	LT & RT	100	391	391
115+20 - 115+65	LT & RT			529*
116+01 - 116+30	LT & RT	202	690	690
ITEM TOTAL		302	1081	1610

\* INCLUDES AREA OF CONCRETE PAVEMENT 12-INCH

**CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA**

STATION	LOCATION	602.0515 SF
HAMMOND AVENUE		
108+14	LT	8
108+16	RT	8
108+21	LT	8
108+32	RT	8
108+79	RT	8
108+89	LT	8
108+92	RT	8
108+94	LT	8
112+87	LT	8
112+86	RT	8
112+98	RT	8
113+52	RT	8
113+64	LT	8
113+70	LT	8
113+70	RT	8
ITEM TOTAL		120

**ASPHALTIC SURFACE**

STATION	LOCATION	465.0105 TON
HAMMOND AVENUE		
114+98 - 115+03	RT	5
115+81 - 115+88	LT	6
ITEM TOTAL		11

**ASPHALTIC SURFACE TEMPORARY**

STATION	LOCATION	465.0125 TON
HAMMOND AVENUE		
112+50 - 113+00	LT	2
112+50 - 113+00	RT	2
ITEM TOTALS		4

\* PLACE BEHIND SIDEWALK AT WINTER & HAMMOND FOR PEDESTRIAN BYPASS OF SIDEWALK, AS DIRECTED BY THE ENGINEER.

**SIGNING ITEMS**

SIGN GROUP NUMBER	SIGN CODE	SIGN MESSAGE	SIGN SIZE W X H (INCHES)	634.0811 POSTS TUBULAR STEEL 2X2-INCH X 11-FT EACH	637.0202 SIGNS REFLECTIVE TYPE II SF	637.0402 REFLECTIVE FOLDING SIGNS TYPE II SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
HAMMOND AVENUE									
1-1	R1-1	STOP	30X30	1	5.18			1	REMOVE EXISTING SIGN & POST FROM WINTER & HAMMOND
1-2	R5-2	NO TRUCKS	24X24	1	4.00			1	EXISTING SIGN BANDED TO TRAFFIC SIGNAL
1-3	R1-1	STOP	30X30	1	5.18			1	REMOVE EXISTING SIGN & POST FROM WINTER & HAMMOND
1-4	W11-2	PEDESTRIAN CROSSING	30X30		6.25				BAND TO PEDESTRIAN SIGNAL
	W16-7R	DIAGONAL RIGHT ARROW	24X12		2.00				
	W11-2	PEDESTRIAN CROSSING	30X30		6.25				
	W16-7L	DIAGONAL LEFT ARROW	24X12		2.00				
	R10-25	PUSH BUTTON TO TURN CN WARNING LIGHTS	9X12		0.75				
1-5	W11-2	PEDESTRIAN CROSSING	30X30		6.25				BAND TO PEDESTRIAN SIGNAL
	W16-7R	DIAGONAL RIGHT ARROW	24X12		2.00				
	W11-2	PEDESTRIAN CROSSING	30X30		6.25				
	W16-7L	DIAGONAL LEFT ARROW	24X12		2.00				
	R10-25	PUSH BUTTON TO TURN CN WARNING LIGHTS	9X12		0.75				
1-6	R1-1F	STOP	30X30			5.18	1		REMOVE EXISTING SIGN FROM BROADWAY & HAMMOND SIGNAL
1-7	R1-1F	STOP	30X30			5.18	1		REMOVE EXISTING SIGN FROM BROADWAY & HAMMOND SIGNAL
1-8	R1-1F	STOP	30X30			5.18	1		REMOVE EXISTING SIGN FROM BROADWAY & HAMMOND SIGNAL
1-9	R1-1F	STOP	30X30			5.18	1		REMOVE EXISTING SIGN FROM BROADWAY & HAMMOND SIGNAL
ITEM TOTALS				3	48.86	20.72	7	2	

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**TRAFFIC CONTROL ITEMS**

STATION	DRUMS 643.0300 DAY	BARRICADES TYPE II 643.0410 DAY	BARRICADES TYPE III 643.0420 DAY	WARNING LIGHTS TYPE A 643.0705 DAY	WARNING LIGHTS TYPE C 643.0715 DAY	SIGNS 643.0900 DAY	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW) LF
							LF
HAMMOND AVENUE 108+00 - 117+29.96	6720	1880	80	1960	560	1040	300
<b>ITEM TOTALS</b>	<b>6720</b>	<b>1880</b>	<b>80</b>	<b>1960</b>	<b>560</b>	<b>1040</b>	<b>300</b>

**CONSTRUCTION STAKING CURB GUTTER  
AND CURB & GUTTER**

STATION	LOCATION	650.5500 LF
HAMMOND AVENUE		
108+11 - 108+27	LT	24
108+11 - 108+37	RT	32
108+83 - 108+97	LT	24
108+73 - 108+97	RT	28
112+80 - 112+94	LT	19
112+81 - 113+06	RT	28
113+45 - 113+74	RT	33
113+57 - 113+76	LT	22
<b>ITEM TOTAL</b>		<b>210</b>

**\*CONDUIT**

FROM	TO	652.0225	652.0235	652.0605	652.0615
		CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	CONDUIT SPECIAL 2-INCH LF	CONDUIT SPECIAL 3-INCH LF
HAMMOND AVENUE & WINTER STREET					
CB1	PB1		60		
PB1	PB2	18			
PB1	PB3				106
PB1	SB1	9			
PB3	PB4				50
PB3	SB2	8			
PB4	PB5			211	
PB4	PB6				154
PB4	SB3			12	
PB6	PB7	20			
PB6	PB8		86		
PB6	SB4	11			
PB6	SB5	5			
PB8	PB9				136
PB8	SB6	14			
PB9	PB10		116		
PB9	SB7	20			
PB10	PB11				144
PB10	PB13				132
PB10	SB8	16			
PB11	PB12			65	
PB11	SB9	10			
PB11	RR BUNGALOW	27			
PB13	SB10			13	
PB13	SB11	19			
PB13	CB1				84
<b>ITEM TOTALS</b>		<b>177</b>	<b>262</b>	<b>301</b>	<b>806</b>

**PAVEMENT MARKING**

STATION	LOCATION	646.0106	646.0126	646.0600	647.0110	647.0166	647.0566	647.0606	647.0726	647.0776
		EPOXY 4-INCH LF	EPOXY 8-INCH LF	REMOVING PAVEMENT MARKING LF	RAILROAD CROSSINGS EPOXY EACH	ARROWS EPOXY TYPE 2 EACH	STOP LINE EPOXY 18-INCH LF	ISLAND NOSE EPOXY EACH	DIAGONAL EPOXY 12-INCH LF	CROSSWALK EPOXY 12-INCH LF
HAMMOND AVENUE 108+00 - 109+00	LT & RT				1	2	46			474
112+75 - 115+00	LT & RT	385	100	515	1	2	68	1		506
115+00 - 117+25.32	LT & RT	830	98	515	1	2		1	278	
WINTER STREET 407+57 - 409+58	LT & RT	350	150			2	55			
<b>ITEM TOTALS</b>		<b>1565</b>	<b>348</b>	<b>1030</b>	<b>2</b>	<b>6</b>	<b>169</b>	<b>2</b>	<b>278</b>	<b>980</b>

**PULL BOXES STEEL**

NUMBER	LOCATION	653.0135	653.0140
		24 X 36 -INCH EACH	24 X 42 -INCH EACH
HAMMOND AVENUE & WINTER STREET			
PB1	113+49, 51.8' RT		1
PB2	113+49, 70.0' RT	1	
PB3	112+95, 51.8' RT		1
PB4	112+72, 43.1' RT		1
PB5	110+63, 34.2' RT		1
PB6	112+72, 34.2' LT		1
PB7	112+52, 33.0' LT	1	
PB8	112+90, 62.9' LT		1
PB9	113+58, 63.1' LT		1
PB10	113+93, 33.0' LT		1
PB11	115+37, 38.9' LT		1
PB12	116+02, 33.8' LT		1
PB13	113+93, 32.7' RT		1
<b>ITEM TOTALS</b>		<b>2</b>	<b>11</b>

**LOOP DETECTOR SCHEDULE**

LOOP NUMBER	HOME RUN PB	LOCATION*	SIZE (FT)X(FT)	NO. OF TURNS	PAVEMENT TYPE	SDD INSTALLATION REFERENCE	652.0800 CONDUIT LOOP DETECTOR LF	652.0900 LOOP DETECTOR SLOTS LF	655.0700 LOOP DETECTOR LEAD IN CABLE LF	655.0800 LOOP DETECTOR WIRE LF
HAMMOND AVENUE & WINTER STREET										
11	PB7	HAMMOND AVE, 112+51, 0.0'	6X20	3	CONCRETE	LOOP DETECTOR INSTALLED IN EXISTING CONCRETE PAVEMENT	112	82	212	246
12	PB7	HAMMOND AVE, 112+79, 0.0'	6X20	3	CONCRETE	LOOP DETECTOR INSTALLED IN EXISTING CONCRETE PAVEMENT	112	82	212	246
21	PB12	HAMMOND AVE, 116+02, 13.0' LT	6X6	5	CONCRETE	LOOP DETECTOR INSTALLED IN EXISTING CONCRETE PAVEMENT	60	42	320	210
41	PB8	WINTER ST, 409+31, 0.5' LT	6X20	3	ASPHALT	LOOP DETECTOR INSTALLED IN EXISTING ASPHALTIC PAVEMENT	116	84	237	252
42	PB8	WINTER ST, 409+59, 0.5' LT	6X20	3	CONCRETE	LOOP DETECTOR INSTALLED IN EXISTING CONCRETE PAVEMENT	116	84	237	252
43	PB8	WINTER ST, 409+31, 11.5' RT	6X20	3	ASPHALT	LOOP DETECTOR INSTALLED IN EXISTING ASPHALTIC PAVEMENT	92	72	237	216
44	PB8	WINTER ST, 409+59, 11.5' RT	6X20	3	CONCRETE	LOOP DETECTOR INSTALLED IN EXISTING CONCRETE PAVEMENT	92	72	237	216
45	PB8	WINTER ST, 409+59, 23.0' RT	6X20	3	CONCRETE	LOOP DETECTOR INSTALLED IN EXISTING CONCRETE PAVEMENT	70	61	237	183
51	PB10	HAMMOND AVE, 114+4, 2.0' RT	6X20	3	CONCRETE	LOOP DETECTOR INSTALLED IN EXISTING CONCRETE PAVEMENT	116	84	111	252
52	PB10	HAMMOND AVE, 113+76, 2.0' RT	6X20	3	CONCRETE	LOOP DETECTOR INSTALLED IN EXISTING CONCRETE PAVEMENT	112	82	111	246
61	PB5	HAMMOND AVE, 110+62, 13.2' RT	6X6	5	CONCRETE	LOOP DETECTOR INSTALLED IN EXISTING CONCRETE PAVEMENT	60	42	326	210
81	PB2	WINTER ST, 410+74, 1.0' LT	6X20	3	ASPHALT	LOOP DETECTOR INSTALLED IN EXISTING ASPHALTIC PAVEMENT	92	72	55	216
82	PB2	WINTER ST, 410+46, 1.0' LT	6X20	3	CONCRETE	LOOP DETECTOR INSTALLED IN EXISTING CONCRETE PAVEMENT	92	72	55	216
83	PB2	WINTER ST, 410+74, 11.0' LT	6X20	3	ASPHALT	LOOP DETECTOR INSTALLED IN EXISTING ASPHALTIC PAVEMENT	74	63	55	189
84	PB2	WINTER ST, 410+46, 11.0' LT	6X20	3	CONCRETE	LOOP DETECTOR INSTALLED IN EXISTING CONCRETE PAVEMENT	74	63	55	189
<b>ITEM TOTALS</b>							<b>1390</b>	<b>1057</b>	<b>2697</b>	<b>3339</b>

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

PROJECT NO: 8998-13-76

HWY: HAMMOND AVENUE

COUNTY: DOUGLAS

MISCELLANEOUS QUANTITIES

SHEET

E

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**CONCRETE BASES**

NUMBER	LOCATION	654.0101 CONCRETE BASES TYPE 1 EACH	654.0217 CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH	SPV.0060.39 CONCRETE BASES TYPE 13, CONTRACTOR SUPPLIED ANCHOR BOLTS & ANCHOR ROD TEMPLATE EACH
<b>HAMMOND AVENUE &amp; WINTER STREET</b>				
SB1	113+53, 44.0' RT	1		
SB2	112+95, 44.0' RT	1		
SB3	112+81, 35.1' RT	1		
SB4	112+62, 34.2 LT			1
SB5	112+77, 35.1 LT	1		
SB6	112+91, 48.6 LT	1		
SB7	113+63, 44.0 LT	1		
SB8	113+80, 34.7' LT	1		
SB9	115+38, 34.0' LT	1		
SB10	113+86, 44.0' RT			1
SB11	113+74, 35.1' RT	1		
CB1	113+68, 45.5' RT		1	
<b>ITEM TOTALS</b>		<b>9</b>	<b>1</b>	<b>2</b>

**LIGHTING WIRE**

FROM	TO	655.0305 CABLE TYPE UF 2 - 12 AWG GROUNDED LF	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG L.F.
<b>HAMMOND AVENUE &amp; WINTER STREET</b>			
CB1	SB4	221	
SB4	LUMINAIRE		144
CB1	SB10	58	
SB9	LUMINAIRE		144
<b>ITEM TOTALS</b>		<b>279</b>	<b>288</b>

**ELECTRICAL WIRE**

FROM	TO	655.0515 TRAFFIC SIGNALS 10 AWG LF
<b>HAMMOND AVENUE &amp; WINTER STREET</b>		
<b>GROUND (GREEN)</b>		
CB1	SB1	46
SB1	SB3	90
SB3	SB2	69
SB3	SB4	124
SB4	SB5	30
SB5	SB6	82
SB6	SB7	122
SB7	SB8	114
SB8	SB10	115
SB10	SB11	46
SB11	CB1	64
<b>BONDING JUMPERS</b>		
PB1	SB1	19
PB3	SB2	18
PB4	SB3	26
PB6	SB5	15
PB8	SB6	24
PB9	SB7	30
PB10	SB8	26
PB11	BUNGALOW	40
PB13	SB10	23
<b>ITEM TOTAL</b>		<b>1123</b>

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**TRAFFIC SIGNAL CABLE NO. 14 (ABOVE GROUND)**

FROM	TO	655.0230 CABLE TRAFFIC SIGNAL 5 - 14 AWG LF
<b>HAMMOND AVENUE &amp; WINTER STREET</b>		
SB	HEAD 11	19
SB	HEAD 15	19
SB1	HEAD 23	15
SB1	RLB	20
SB1	RRA	20
SB2	HEAD 16	19
SB2	HEAD 24	15
SB3	HEAD 1	21
SB3	HEAD 9	21
SB3	HEAD 17	15
SB4	HEAD 7	49
SB4	HEAD 8	19
SB4	HEAD 10	60
SB5	HEAD 18	15
SB6	HEAD 12	19
SB6	HEAD 14	19
SB6	HEAD 19	15
SB6	RLA	20
SB7	HEAD 13	19
SB7	HEAD 20	15
SB7	RRB	20
SB8	HEAD 4	19
SB8	HEAD 6	19
SB8	HEAD 21	15
SB10	HEAD 2	59
SB10	HEAD 3	19
SB10	HEAD 5	72
SB11	HEAD 22	15
<b>ITEM SUB TOTAL</b>		<b>672</b>

\* QUANTITY ALSO LISTED ELSEWHERE.

**TRAFFIC SIGNAL CABLE NO. 14 (BELOW GROUND)**

FROM	TO	655.0230 CABLE TRAFFIC SIGNAL 5 - 14 AWG LF	655.0260 CABLE TRAFFIC SIGNAL 12 - 14 AWG LF
<b>HAMMOND AVENUE &amp; WINTER STREET</b>			
CB1	SB1		46
CB1	SB2		104
CB1	SB3		143
CB1	SB4		221
CB1	SB5		215
CB1	SB6		269
CB1	SB7		201
CB1	SB8		133
CB1	SB9	297	
CB1	SB10		58
CB1	SB11		64
CB1	RR BUNGALOW		297
<b>ITEM SUB TOTALS</b>		<b>297</b>	<b>1751</b>
<b>ITEM TOTALS</b>		<b>969</b>	<b>1751</b>

\* QUANTITY ALSO LISTED ELSEWHERE.

**CONTROL CABINET**

NUMBER	LOCATION	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) LS	SPV.0105.13 TRAFFIC SIGNAL CONTROLLER AND CABINET LS
<b>HAMMOND AVENUE &amp; WINTER STREET</b>			
CB1	113+68, 45.6' RT	1	1
<b>ITEM TOTALS</b>		<b>1</b>	<b>1</b>

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

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CAST BASES, POLES, TROMBONE ARMS, LUMINAIRES

NUMBER	657.0100 PEDESTAL BASES EACH	657.0415 TRAFFIC SIGNAL STANDARDS ALUMINUM 11 - FT EACH	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13 - FT EACH	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15 - FT EACH	SPV.0060.80 POLES TYPE 13 EACH	SPV.0060.52 MONOTUBE ARMS 35-FT EACH	SPV.0060.77 MONOTUBE ARMS 45-FT EACH	SPV.0060.78 LUMINAIRE ARM STEEL 15-FOOT EACH	659.0125 LUMINAIRES UTILITY HPS 250 WATTS EACH
HAMMOND AVENUE & WINTER STREET									
SB1	1		1						
SB2	1		1						
SB3	1			1					
SB4					1				1
SB5	1	1				1		1	
SB6	1		1						
SB7	1		1						
SB8	1		1						
SB9	1			1					
SB10					1		1	1	1
SB11	1	1							
HAMMOND AVENUE & BROADWAY STREET									
SB1	1			1					
ITEM TOTALS	10	2	5	3	2	1	1	2	2

TRAFFIC SIGNAL AND PEDESTRIAN FACES, PUSH BUTTONS, AND BACKPLATES

SIGNAL HEAD NUMBER	SIGNAL BASE NUMBER	658.0110 TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL EACH	658.0115 TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL EACH	658.0215 BACKPLATES SIGNAL FACE 3 SECTION 12-INCH EACH	658.0220 BACKPLATES SIGNAL FACE 4 SECTION 12-INCH EACH	658.0416 PEDESTRIAN SIGNAL FACE 16-INCH EACH	658.0500 PEDESTRIAN PUSH BUTTONS EACH	658.0600 LED MODULES 12-INCH RED BALL EACH	658.0605 LED MODULES 12-INCH YELLOW BALL EACH	658.0610 LED MODULES 12-INCH GREEN BALL EACH	658.0615 LED MODULES 12-INCH RED ARROW EACH	658.0620 LED MODULES 12-INCH YELLOW ARROW EACH	658.0625 LED MODULES 12-INCH GREEN ARROW EACH	658.0635 LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH EACH	SPV.0060.22 NO LEFT TURN BLANK OUT LED SIGN EACH	SPV.0060.54 NO RIGHT TURN BLANK OUT LED SIGN EACH
PROJECT 8998-13-50																
HAMMOND AVENUE & WINTER STREET																
1	SB3	1		1				1	1	1						
2	SB10	1		1				1	1	1						
3	SB10	1		1				1	1	1						
4	SB8	1		1							1	2				
5	SB10	1		1							1	2				
6	SB8	1		1				1	1	1						
7	SB4	1		1				1	1	1						
8	SB4	1		1				1	1	1						
9	SB3		1		1						1	2	1			
10	SB4		1		1						1	2	1			
11	SB1	1		1				1	1	1						
12	SB6	1		1				1	1	1						
13	SB7	1		1				1	1	1						
14	SB6	1		1				1	1	1						
15	SB1	1		1				1	1	1						
16	SB2	1		1				1	1	1						
17	SB3					1	1							1		
18	SB5					1	1							1		
19	SB6					1	1							1		
20	SB7					1	1							1		
21	SB8					1	1							1		
22	SB11					1	1							1		
23	SB1					1	1							1		
24	SB2					1	1							1		
RLA	SB6														1	
RRB	SB7															1
RLB	SB1														1	
RRA	SB1															1
ITEM TOTALS		14	2	14	2	8	8	12	12	12	4	8	2	8	2	2

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

**SIGNAL MOUNTING HARDWARE**

LOCATION	658.5069.01 LS
HAMMOND AVENUE & WINTER STREET	1
<b>ITEM TOTAL</b>	<b>1</b>

**RECTANGULAR RAPID FLASHING  
BEACON (RRFB) SYSTEM**

LOCATION	SPV.0105.14 HAMMOND AVENUE & BROADWAY STREET LS
STA 108+99	1
<b>ITEM TOTALS</b>	<b>1</b>

**LED ENHANCED DO NOT STOP  
ON TRACK (R8-8) E SIGN**

LOCATION	SPV.0060.79 HAMMOND AVENUE & WINTER STREET LS
SB9	1
<b>ITEM TOTALS</b>	<b>1</b>

**SAWING ASPHALT**

STATION	LOCATION	690.0150 LF
CATEGORY 0010		
HAMMOND AVENUE		
114+98 - 115+03	RT	61
115+81 - 115+89	LT	61
CATEGORY 0010 ITEM TOTAL		122
CATEGORY 0020		
HAMMOND AVENUE		
115+20 - 115+65	LT & RT	110
CATEGORY 0020 ITEM TOTAL		110
<b>ITEM TOTAL</b>		<b>232</b>

**SALVAGED TOPSOIL, MULCHING AND SEEDING**

STATION - STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	630.0140 SEEDING MIXTURE NO. 40 LB	630.0200 SEEDING TEMPORARY LB	629.0210 FERTILIZER TYPE B CWT	REMARKS
HAMMOND AVENUE							
108+00 - 109+00	UNDISTRIBUTED	150	160	3	3	0.1	AT SIGNAL REMOVAL / INSTALLATION LOCATIONS AND ASPHALT SURFACE TEMPORARY LOCATIONS
112+50 - 117+30	UNDISTRIBUTED	300	315	6	6	0.2	
<b>ITEM TOTALS</b>		<b>450</b>	<b>475</b>	<b>9</b>	<b>9</b>	<b>0.3</b>	

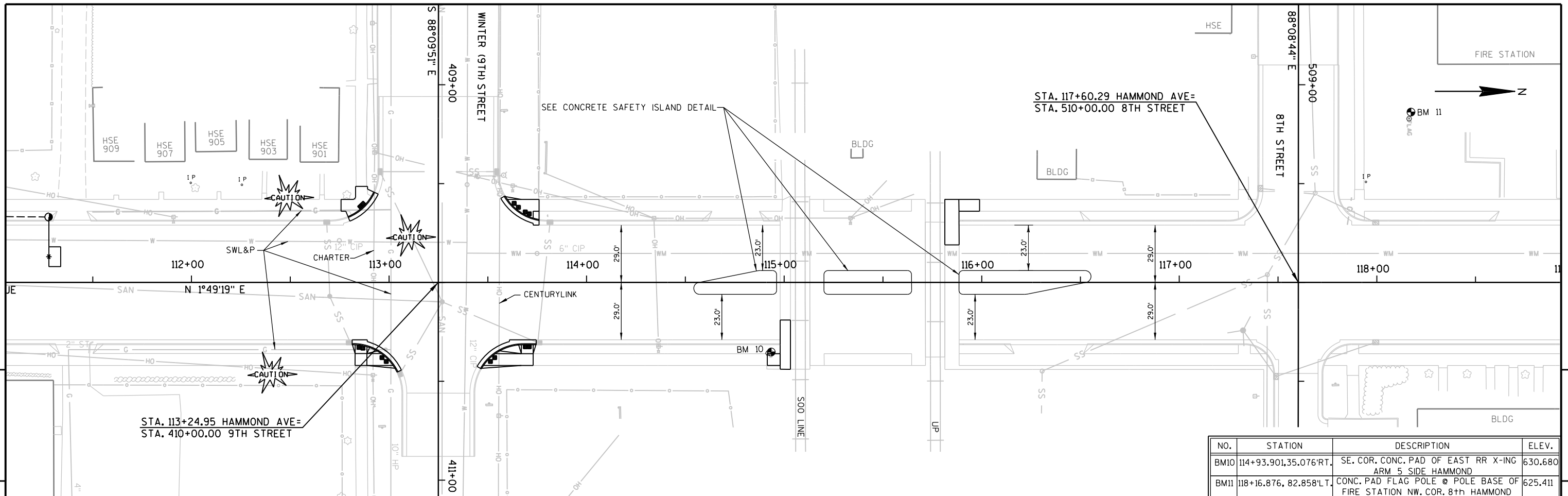
**SAWING CONCRETE**

STATION	LOCATION	690.0250 LF
HAMMOND AVENUE		
108+08 - 108+27	LT	49
108+10 - 108+37	RT	55
108+74 - 108+99	RT	57
108+83 - 109+01	LT	48
112+76 - 112+94	LT	37
112+81 - 113+06	RT	49
113+45 - 113+74	RT	47
113+56 - 113+76	LT	36
114+91	RT	6
115+99	LT	6
<b>ITEM TOTAL</b>		<b>390</b>

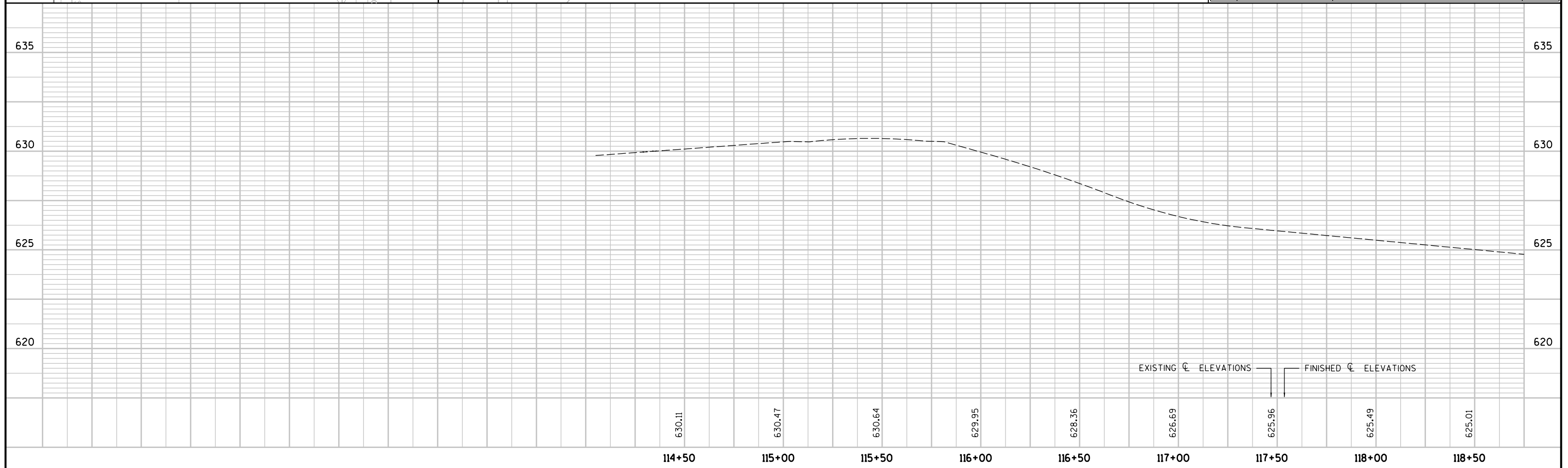
**REMOVING TRAFFIC SIGNAL ITEMS**

LOCATION	SPV.0105.11 REMOVING TRAFFIC SIGNALS LS	SPV.0105.12 REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE LS
HAMMOND AVENUE & BROADWAY STREET	1	1
<b>ITEM TOTALS</b>	<b>1</b>	<b>1</b>

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR  
ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

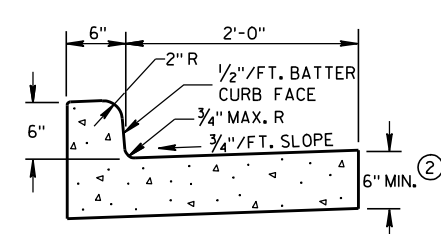


NO.	STATION	DESCRIPTION	ELEV.
BM10	114+93.901, 35.076 RT.	SE. COR. CONC. PAD OF EAST RR X-ING ARM 5 SIDE HAMMOND	630.680
BM11	118+16.876, 82.858 LT.	CONC. PAD FLAG POLE @ POLE BASE OF FIRE STATION NW. COR. 8th HAMMOND	625.411

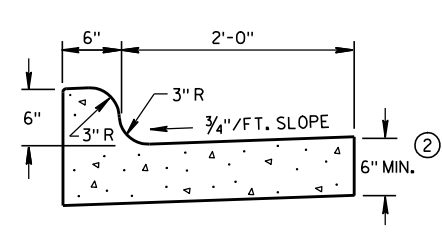


## Standard Detail Drawing List

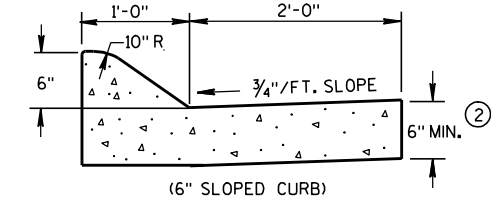
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D05-14A	CURB RAMPS TYPES 1 AND 1-A
08D05-14B	CURB RAMPS TYPES 2 AND 3
08D05-14C	CURB RAMPS TYPE 4A
08D05-14D	CURB RAMPS TYPE 4B
08D05-14E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
09B02-07	CONDUIT
09B04-09	PULL BOX
09C02-06	CONCRETE BASES, TYPES 1, 2 & 5
09C03-03	TRANSFORMER/PEDESTAL BASES
09C06-05	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09C12-02A	CONCRETE BASE TYPE 13
09C12-02B	CONCRETE BASE TYPE 13
09C13-01	CONCRETE BASE TYPE 10 & TYPE 13 EXTENSION
09D01-04	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D02-02	SIGNAL OR LIGHTING CONTROL CABINET
09E01-11G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-04	NON-FREEWAY LIGHTING UNIT POLE WIRING
09E06-04	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09E07-05	TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS
09E08-04D	TYPE 13 POLE 35' -55' MONOTUBE ARM
09E08-04E	GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
09F12-03	LOOP DETECTOR INSTALLED IN EXISTING CONCRETE PAVEMENT
09F13-03	LOOP DETECTOR INSTALLED IN EXISTING ASPHALTIC PAVEMENT
11B02-02	CONCRETE MEDIAN NOSE
13B01-10	PAVEMENT DETAILS FOR RAILROAD APPROACH
13C01-15	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C09-09A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-09B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-09C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C13-07	URBAN DOWELED CONCRETE PAVEMENT
15C02-04A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C03-01	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C05-01	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M. P. H. OR LESS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-14A	PAVEMENT MARKING (MAINLINE)
15C08-14B	PAVEMENT MARKING (INTERSECTIONS)
15C08-14E	PAVEMENT MARKING (LEFT TURN LANE)
15C08-14F	PAVEMENT MARKING (ISLANDS, STOP LINE & CROSS WALK)
15C09-09A	SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS
15D20-01	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D28-01	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE



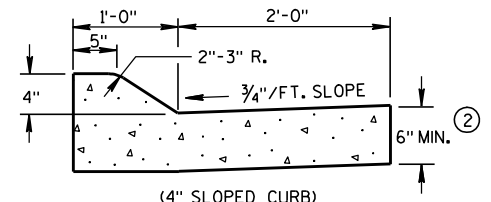
TYPES A & D ①



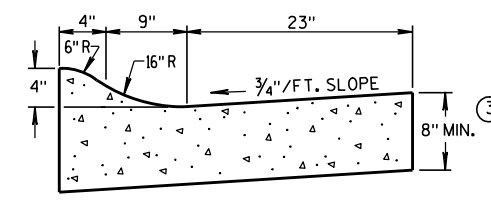
TYPES K & L ①



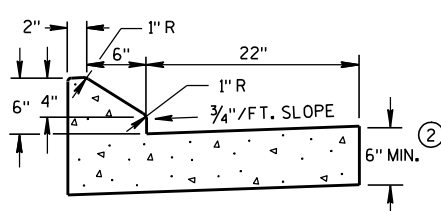
(6" SLOPED CURB)



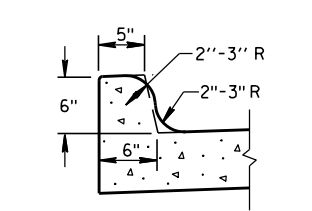
(4" SLOPED CURB)



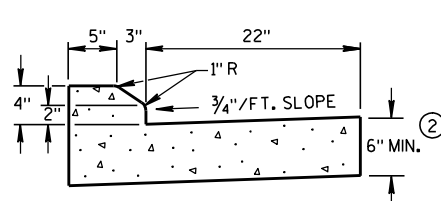
4" SLOPED CURB TYPES R & T ① ④



6" SLOPED CURB TYPES G & J ①

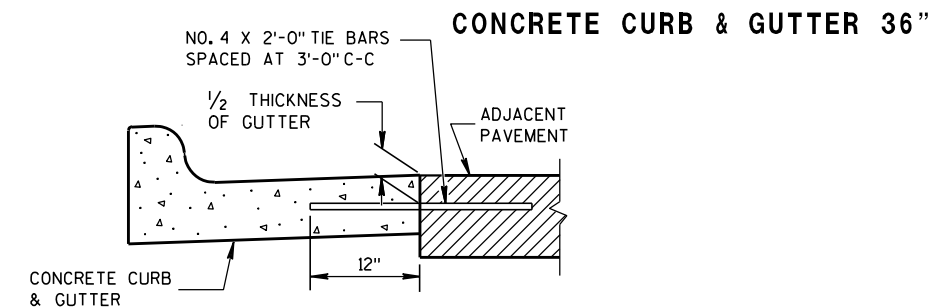


OPTIONAL CURB SHAPE FOR TYPES K & L ①

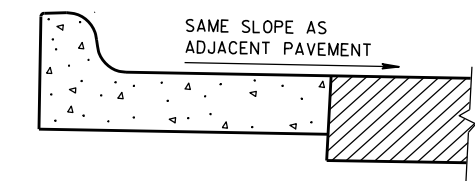


4" SLOPED CURB TYPES G & J ①

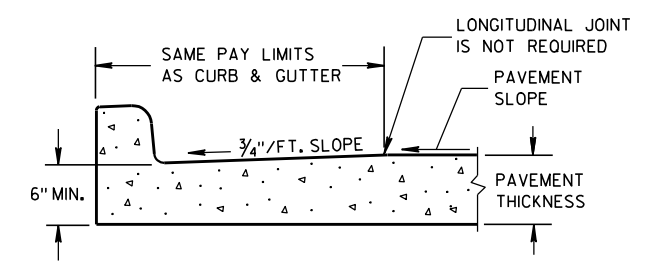
CONCRETE CURB & GUTTER 30"



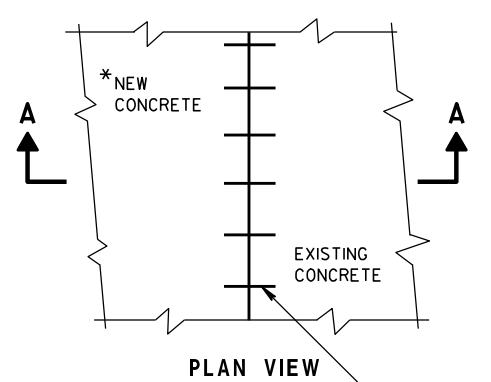
TYPICAL TIE BAR LOCATION ①



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



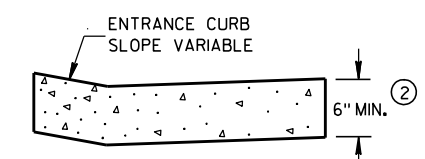
PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



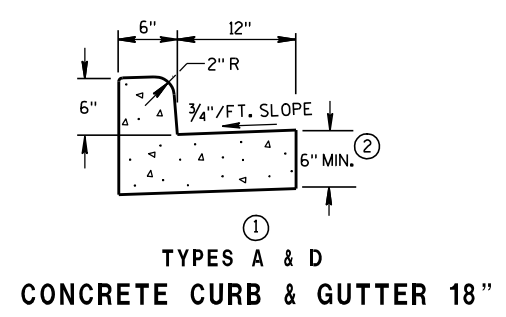
PLAN VIEW

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

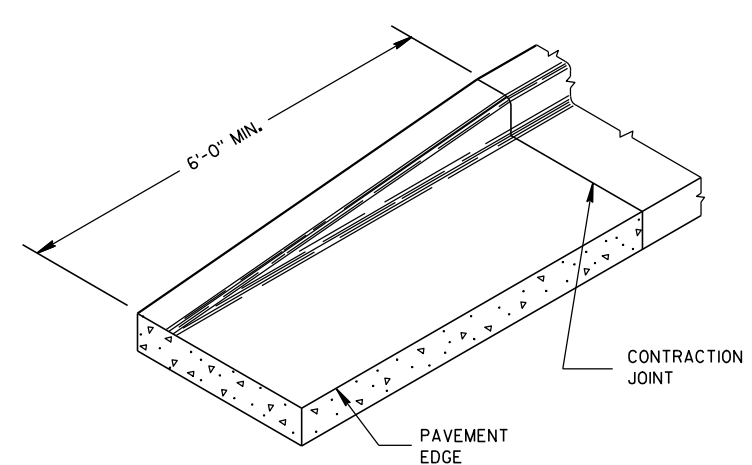
NO. 6 TIE BARS SPACED 2'-6" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT.



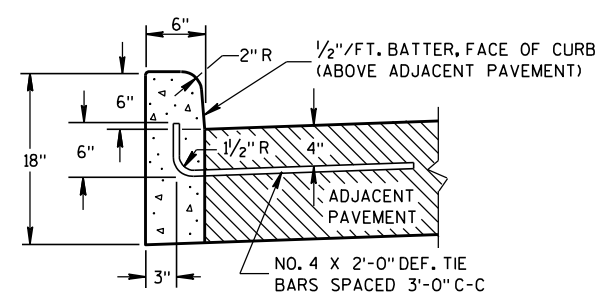
DRIVEWAY ENTRANCE CURB  
(WHEN DIRECTED BY THE ENGINEER)



TYPES A & D  
CONCRETE CURB & GUTTER 18"

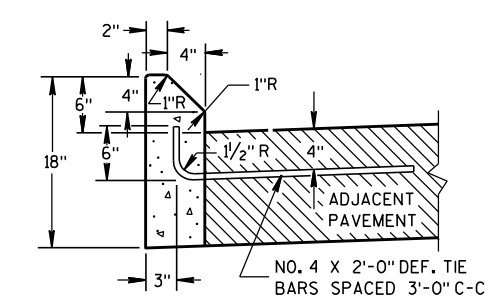


END SECTION CURB & GUTTER



TYPES A & D

CONCRETE CURB



TYPES G & J

**GENERAL NOTES**

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

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

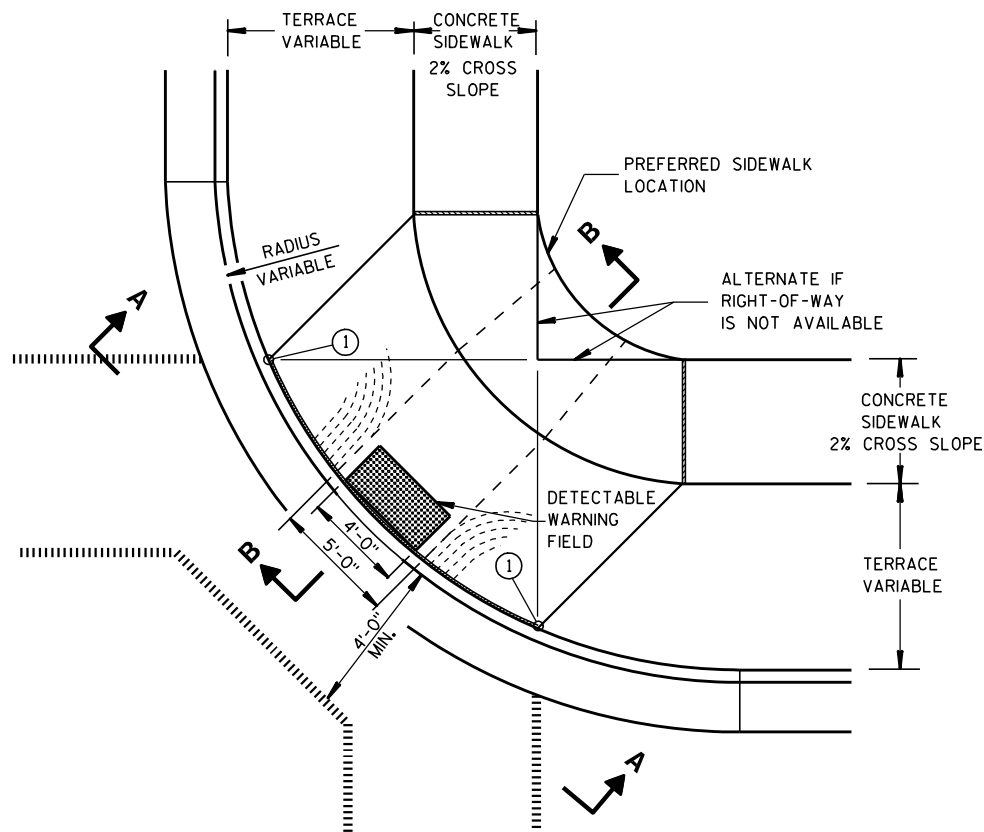
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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

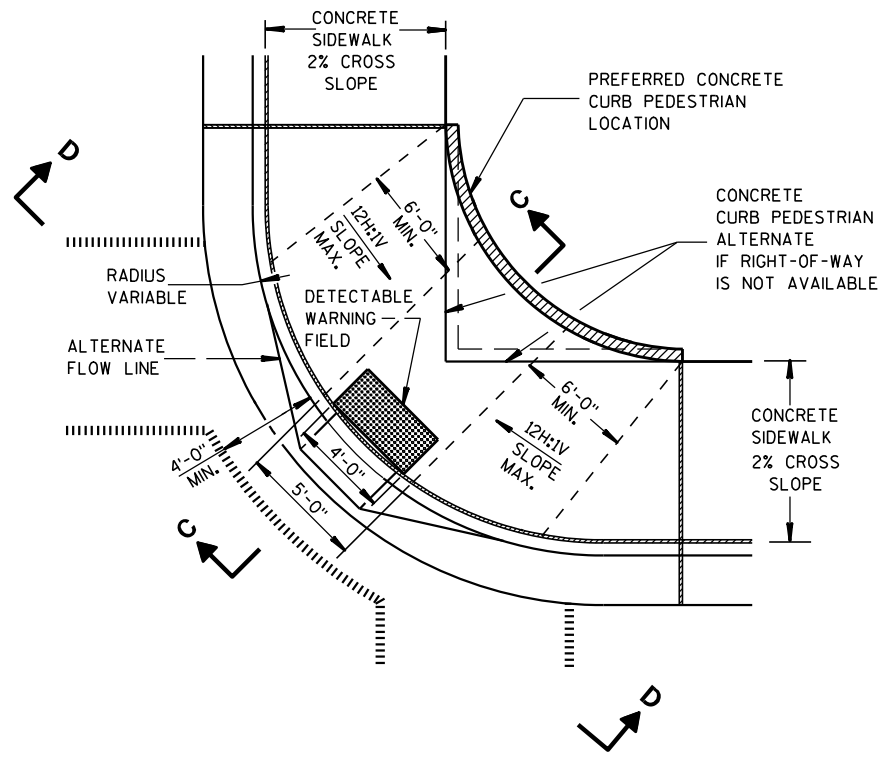
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER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

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





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



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

**GENERAL NOTES**

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

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

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

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

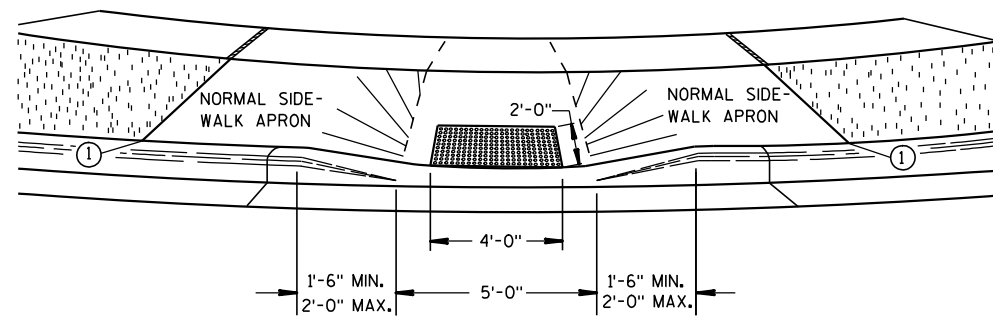
SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

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

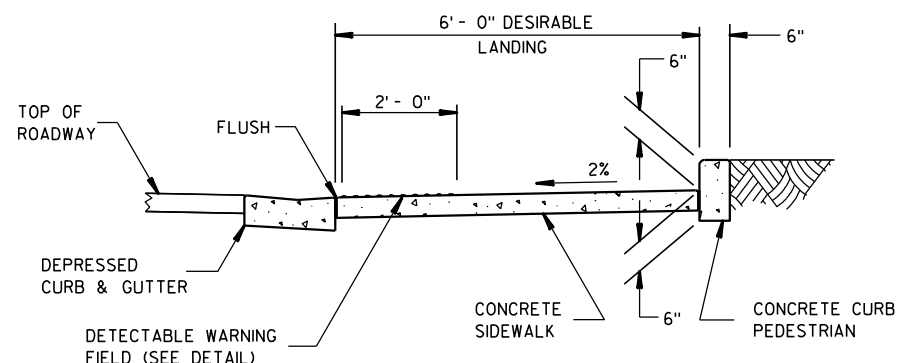
- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

**LEGEND**

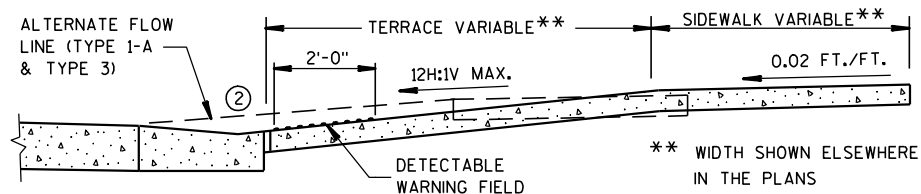
- 1/2" EXPANSION JOINT-SIDEWALK
- - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



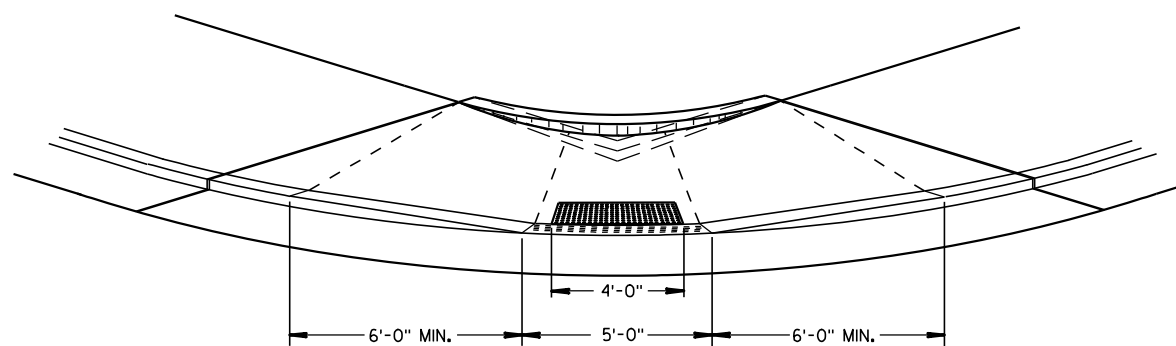
**VIEW A-A**



**SECTION C-C**



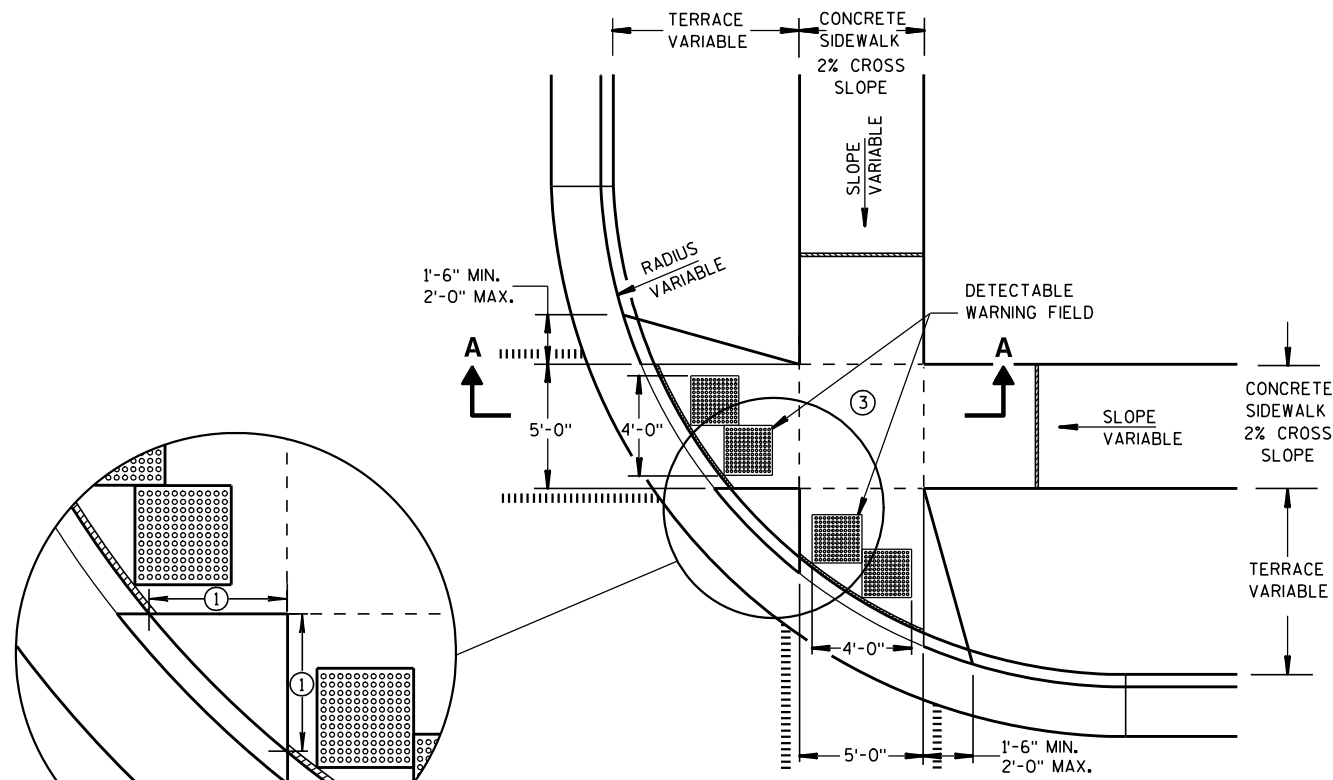
**SECTION B-B**



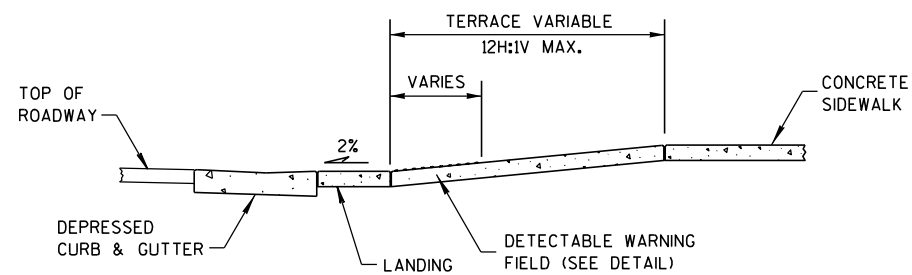
**VIEW D-D**

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

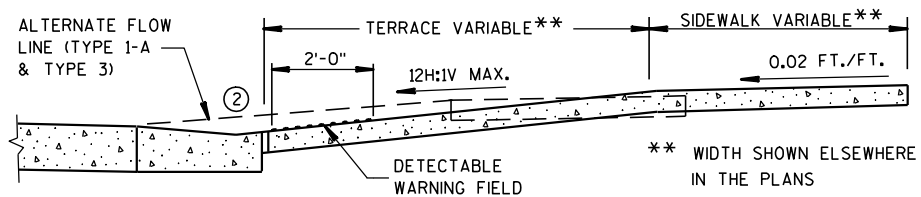
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



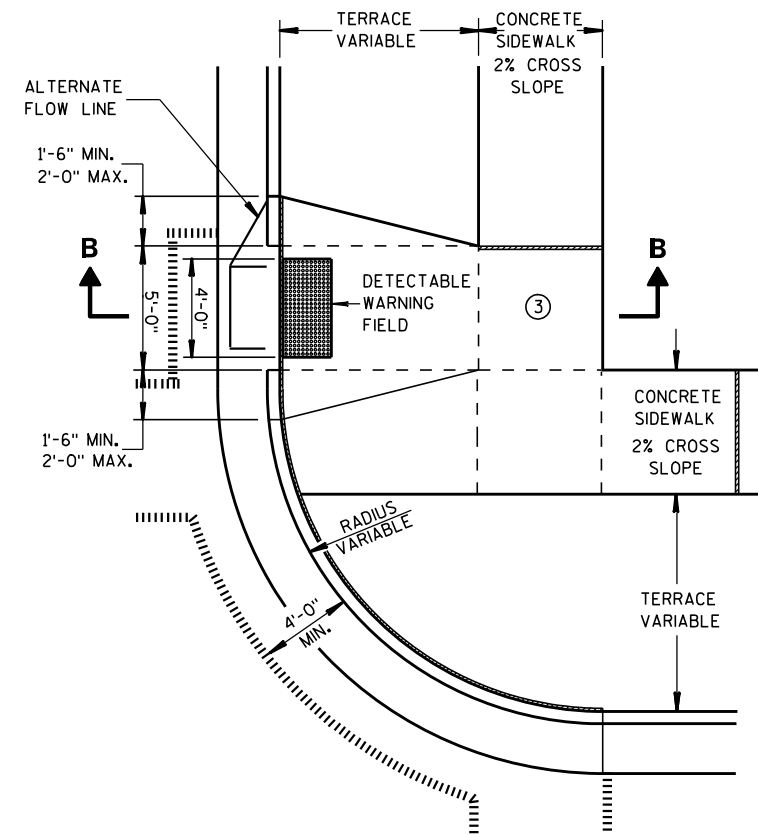
**PLAN VIEW  
TYPE 2 RAMP**  
(ON LINE WITH SIDEWALK)



**SECTION A-A**



**SECTION B-B**



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

**GENERAL NOTES**

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

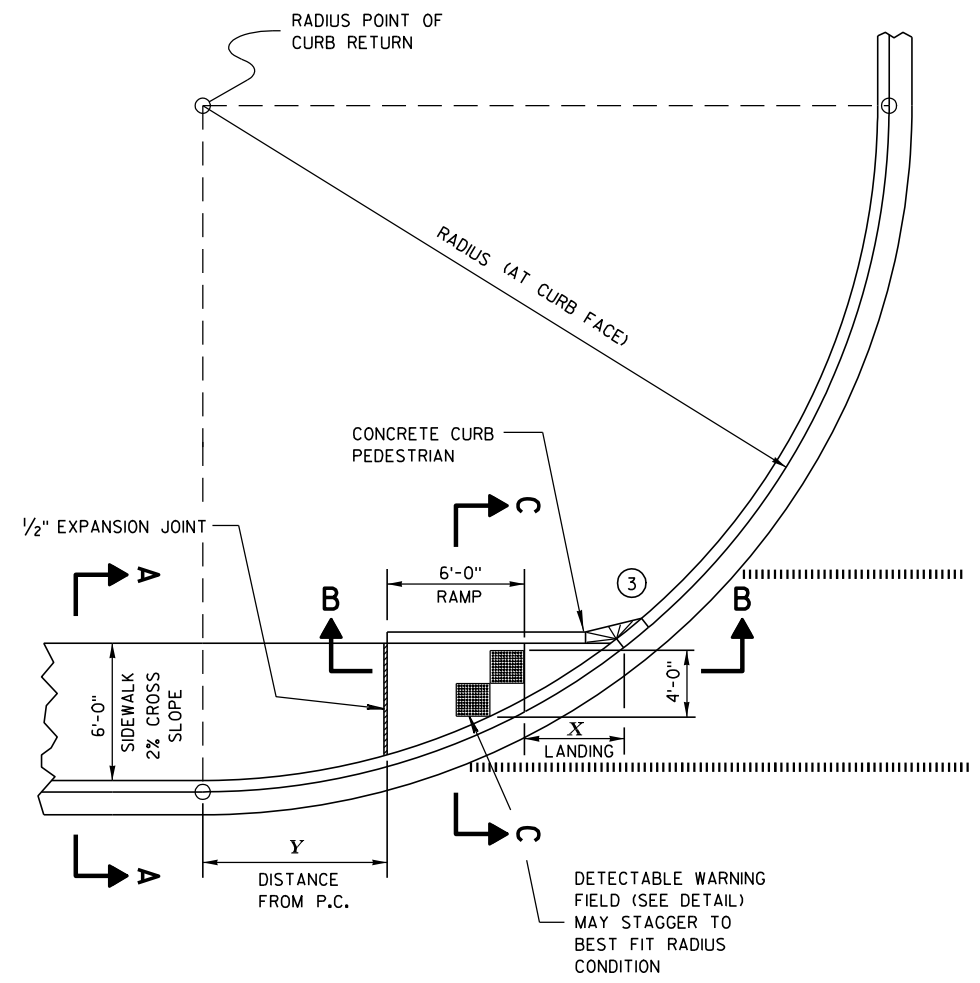
- ① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.
- ③ PROVIDE LANDING AT TOP OF RAMP WITH NO MORE THAN 2% SLOPE IN ANY DIRECTION.

**LEGEND**

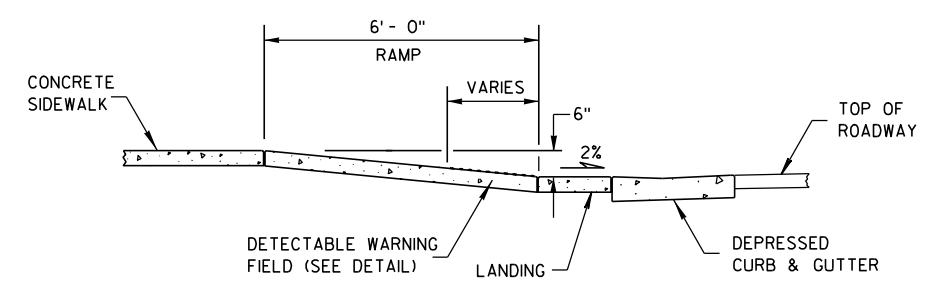
- ===== 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

**CURB RAMPS  
TYPES 2 AND 3**

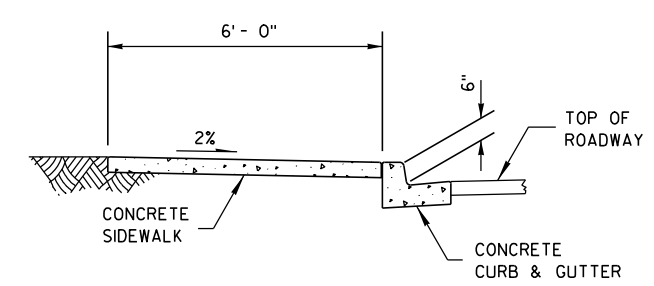
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



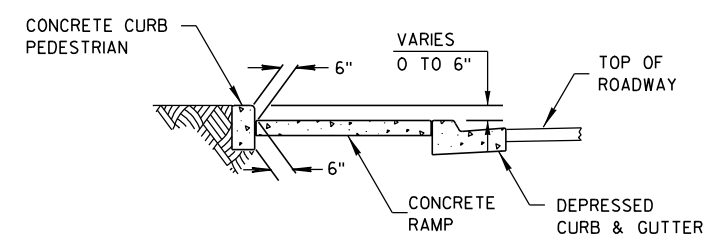
**CURB RAMP TYPE 4A  
PLAN VIEW**



**SECTION B-B**



**SECTION A-A**



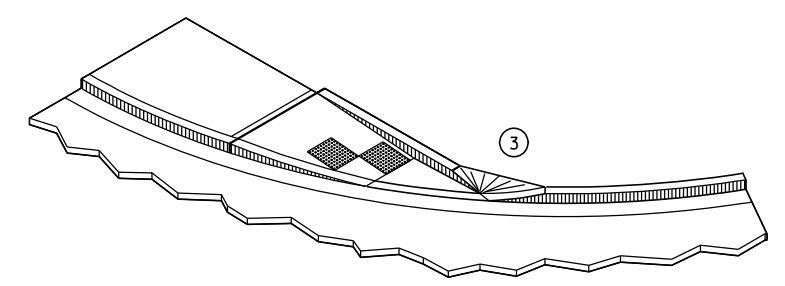
**SECTION C-C**

RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-1 <sup>3</sup> / <sub>4</sub> "	2'-7 <sup>1</sup> / <sub>4</sub> "
30 FEET	7'-11 <sup>3</sup> / <sub>4</sub> "	4'-8 <sup>1</sup> / <sub>4</sub> "
40 FEET	9'-5 <sup>1</sup> / <sub>4</sub> "	6'-5"
50 FEET	10'-8 <sup>3</sup> / <sub>4</sub> "	7'-11 <sup>1</sup> / <sub>4</sub> "
60 FEET	11'-10 <sup>1</sup> / <sub>4</sub> "	9'-3 <sup>1</sup> / <sub>2</sub> "

INTERMEDIATE RADII CAN BE INTERPOLATED

**GENERAL NOTES**

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.
- SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
- ③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.



**ISOMETRIC VIEW**

**LEGEND**

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

**CURB RAMPS  
TYPE 4A**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

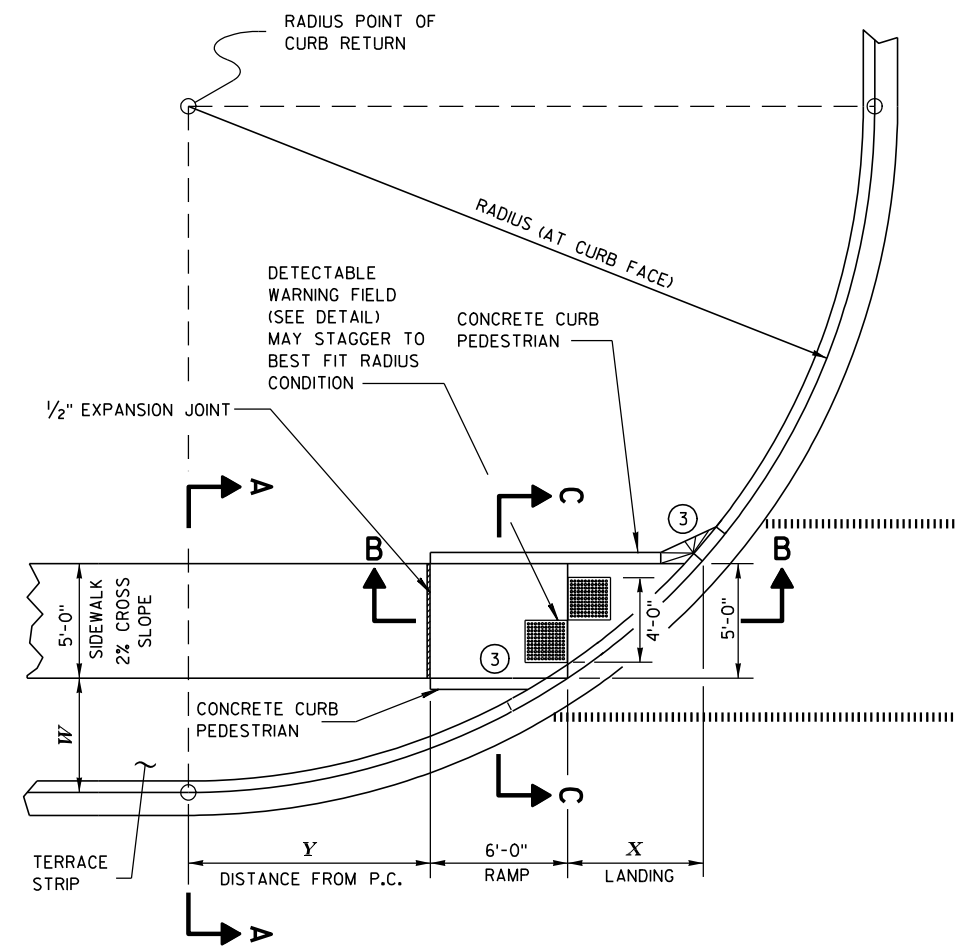
### GENERAL NOTES

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

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

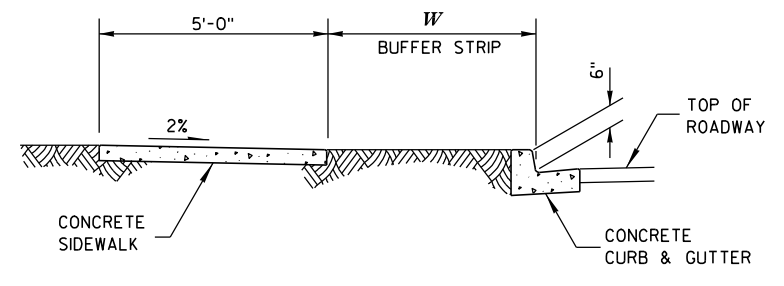
- ③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.



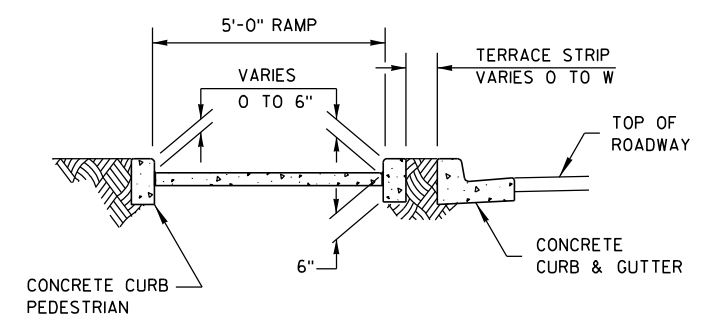
### CURB RAMP TYPE 4B PLAN VIEW

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'-5 1/2"	4'-6 1/2"	4'-8 1/2"	6'-0"	4'-1"	7'-2 3/4"	3'-7"	8'-3 1/2"	3'-1 1/2"	9'-2 1/2"
30 FEET	7'-3 3/4"	7'-1"	6'-5 1/2"	8'-11 1/2"	5'-9 1/4"	10'-7"	5'-2 1/2"	12'-0"	4'-8 3/4"	13'-3 1/4"
40 FEET	8'-9 1/2"	9'-2 1/2"	7'-10"	11'-5 1/4"	7'-1"	13'-4 1/2"	6'-5 3/4"	15'-3 1/4"	5'-11 1/2"	16'-7 1/4"
50 FEET	10'-3 1/4"	11'-3 1/4"	9'-1 1/4"	13'-7 1/4"	8'-2 1/2"	15'-9 1/2"	7'-6 1/2"	17'-9"	6'-11 3/4"	19'-6 1/4"
60 FEET	11'-2 1/2"	12'-8 3/4"	10'-3 1/4"	15'-6 1/2"	9'-2 1/4"	17'-11 3/4"	8'-5 3/4"	20'-1 3/4"	7'-10 1/2"	22'-1 1/2"
70 FEET	12'-2 3/4"	14'-3 1/4"	11'-1 1/4"	17'-4"	10'-1"	19'-11 3/4"	9'-3 3/4"	22'-4 1/4"	8'-8 1/4"	24'-6 1/4"
80 FEET	13'-2"	15'-8 1/2"	11'-10 1/2"	18'-11 3/4"	10'-10 3/4"	21'-10"	10'-1"	24'-4 3/4"	9'-5"	26'-8 3/4"
90 FEET	14'-1 1/2"	17'-1 1/2"	12'-8 1/4"	20'-6 1/2"	11'-7 3/4"	23'-7"	10'-9 3/4"	26'-3 3/4"	10'-1 1/4"	28'-9 1/2"
100 FEET	14'-10 1/2"	18'-3 3/4"	13'-5 1/2"	22'-0"	12'-4 1/4"	25'-2 3/4"	11'-5 3/4"	28'-1 1/2"	10'-9"	30'-9"

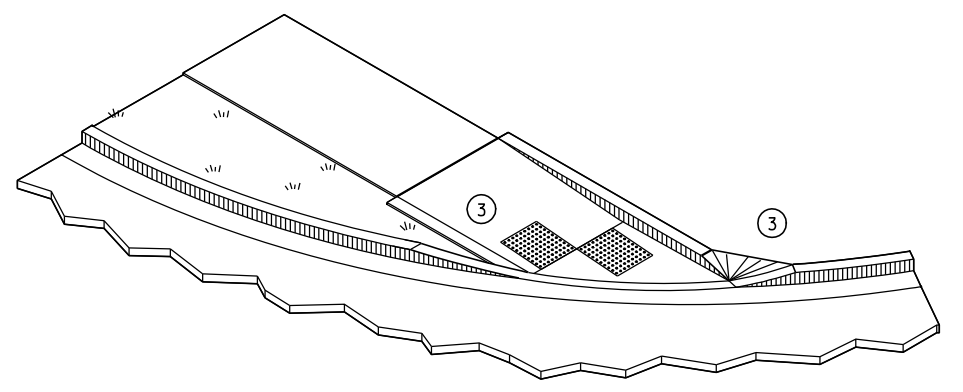
INTERMEDIATE RADII CAN BE INTERPOLATED



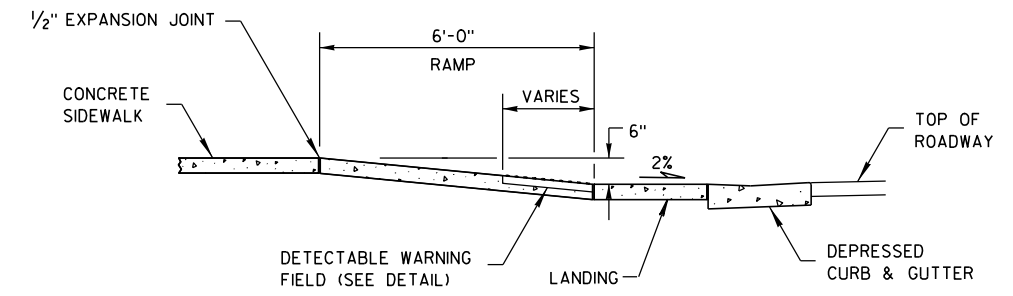
### SECTION A-A



### SECTION C-C



### ISOMETRIC VIEW



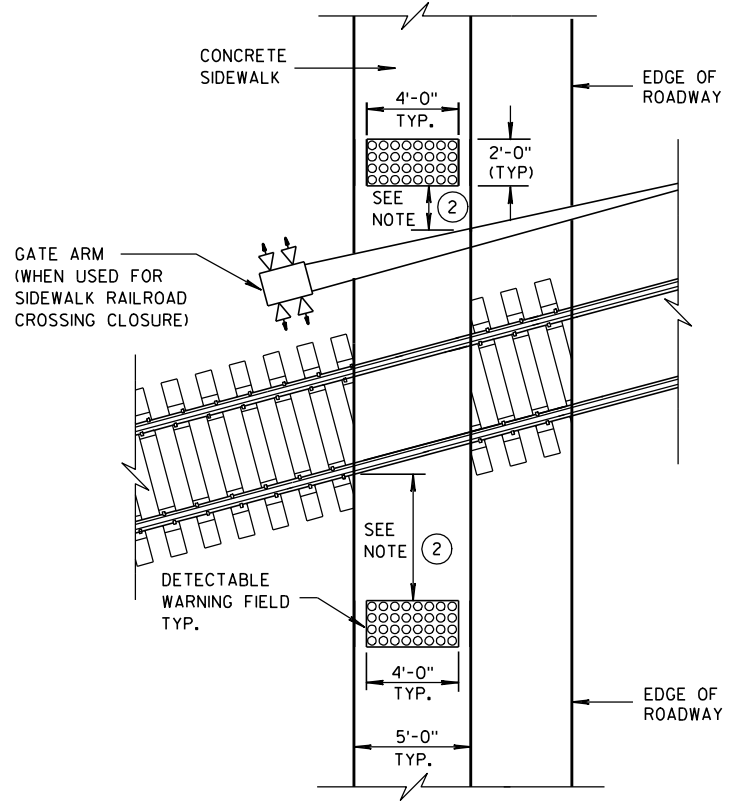
### SECTION B-B

### LEGEND

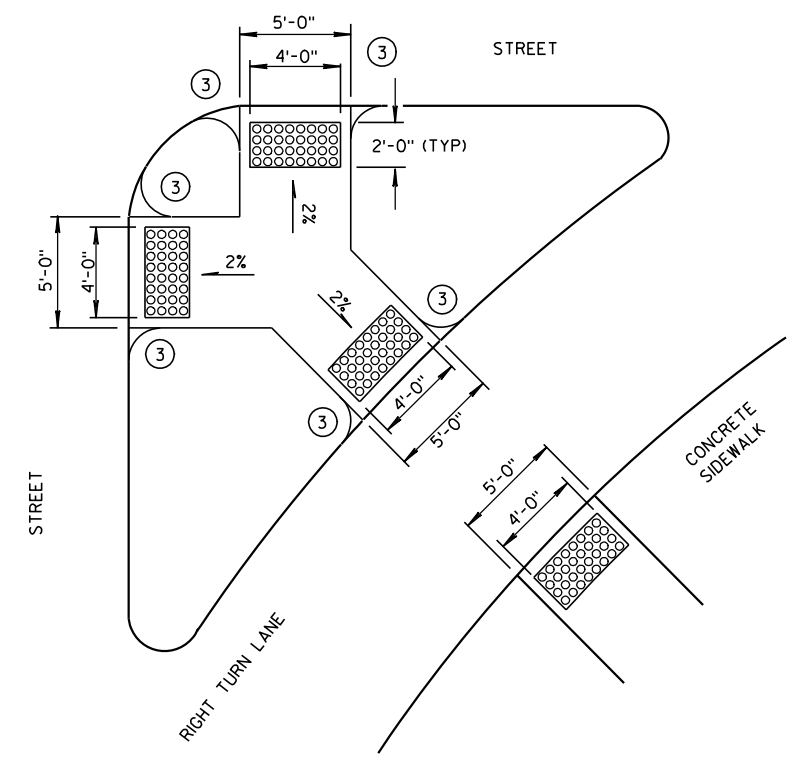
- 1/2" EXPANSION JOINT-SIDEWALK
- - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)

**CURB RAMPS  
TYPE 4B**

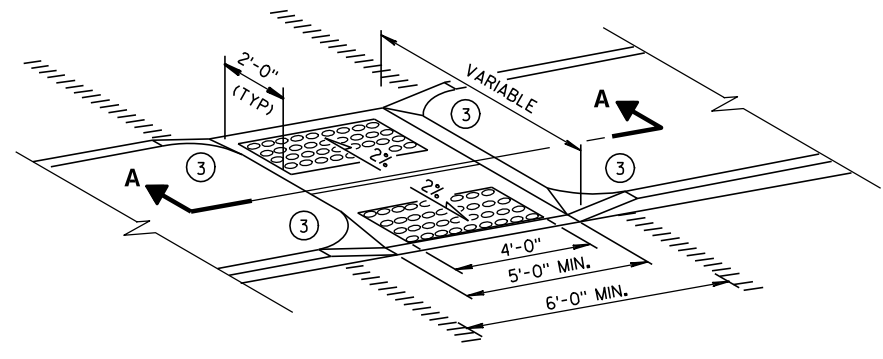
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



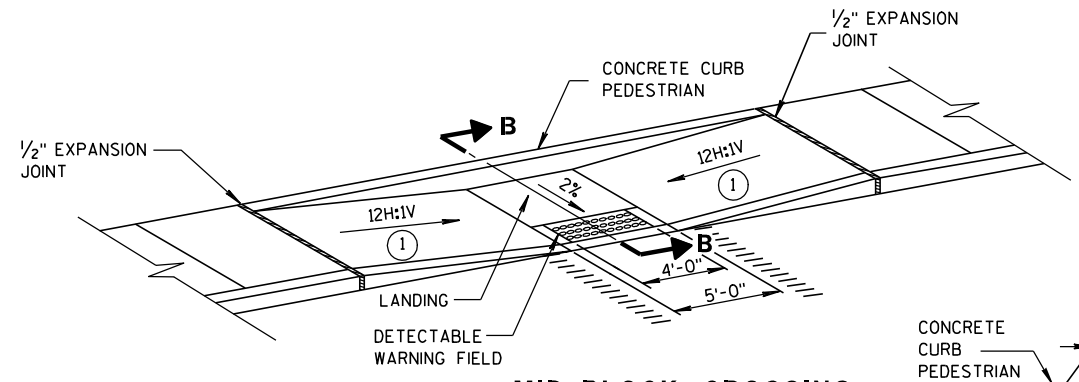
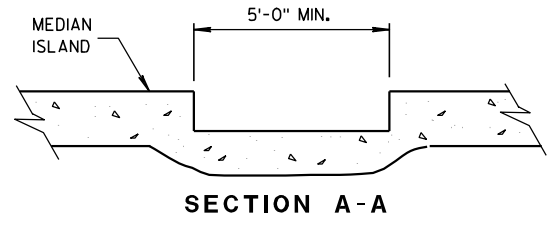
**TYPE 8  
DETECTABLE WARNINGS  
AT RAILROAD CROSSING**



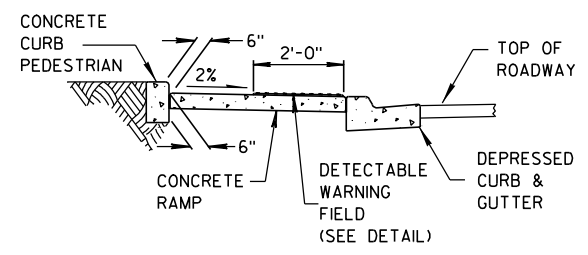
**TYPE 6  
DETECTABLE WARNING AT ISLANDS**



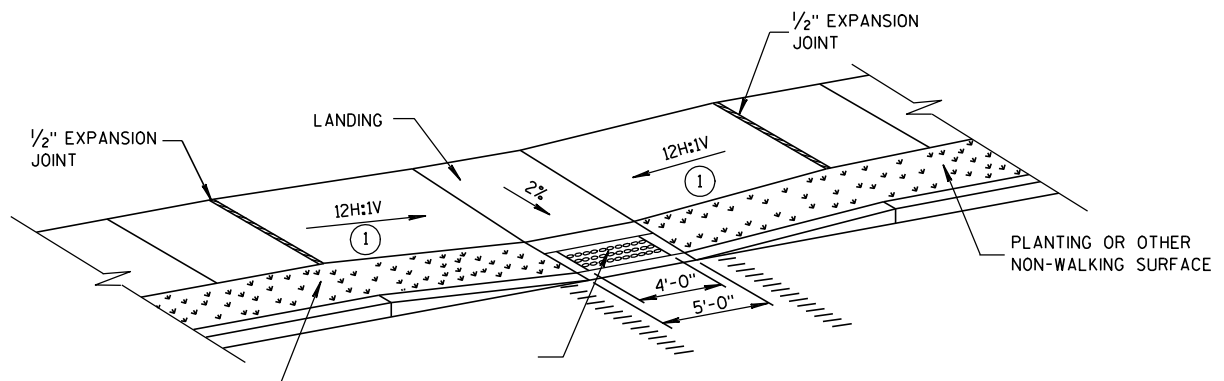
**MEDIAN ISLAND  
NON-ELEVATED CROSSING  
TYPE 5**



**MID-BLOCK CROSSING  
TYPE 7A**



**SECTION B-B**



**MID-BLOCK CROSSING  
TYPE 7B**

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

**GENERAL NOTES**

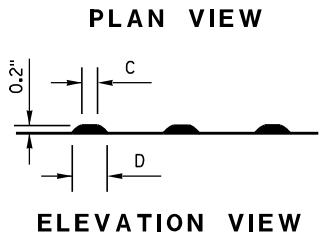
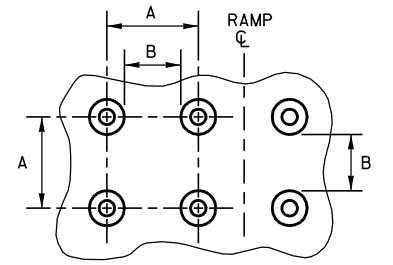
- ① SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
- ① SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- ② THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.
- ③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

**LEGEND**

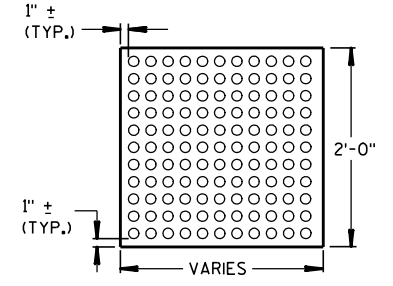
- ===== 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- ||||||| PAVEMENT MARKING CROSSWALK (WHITE)

	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.



**TRUNCATED DOMES  
DETECTABLE WARNING  
PATTERN DETAIL**

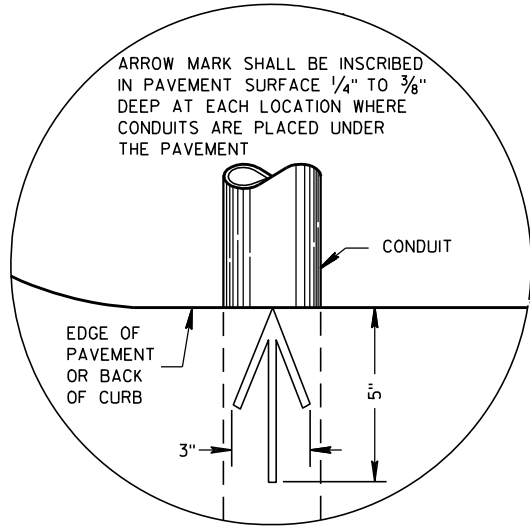


**DETECTABLE WARNING  
FIELD (TYPICAL)**

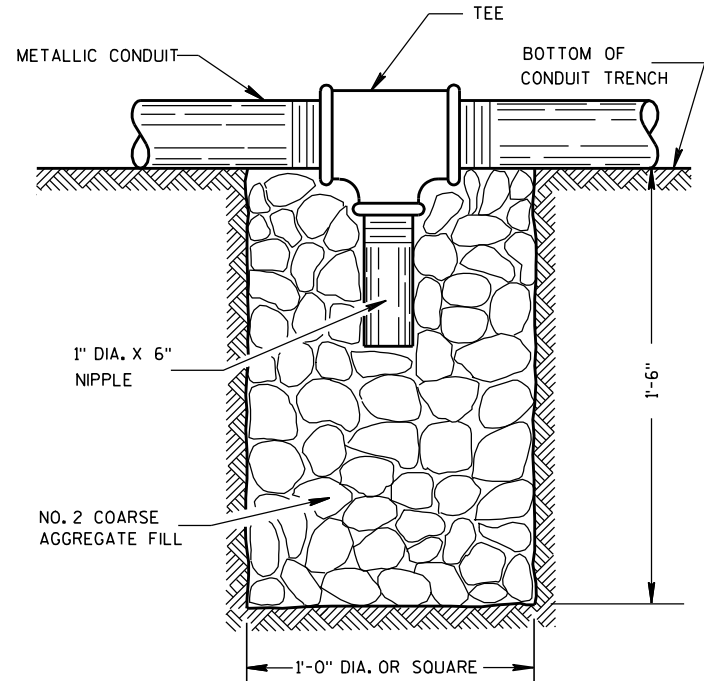
**CURB RAMPS  
TYPES 5, 6, 7A, 7B & 8**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE 2-9-10 /S/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT ENGINEER  
FHWA

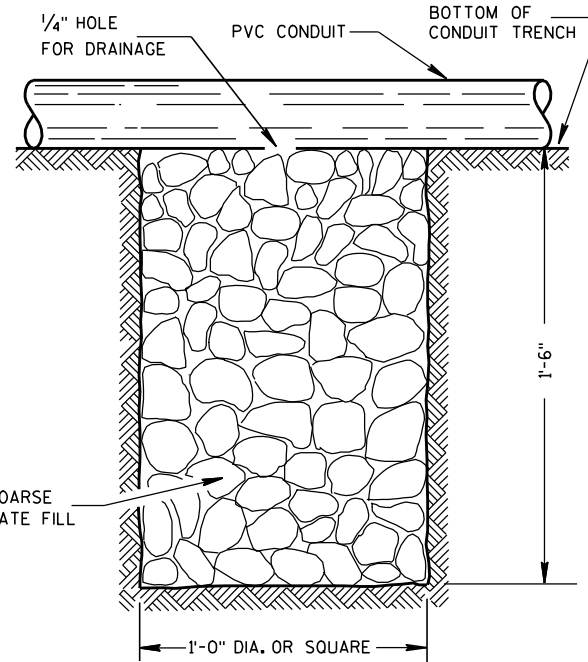


**PLAN VIEW  
ARROW MARK**



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 EMERSON TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

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

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

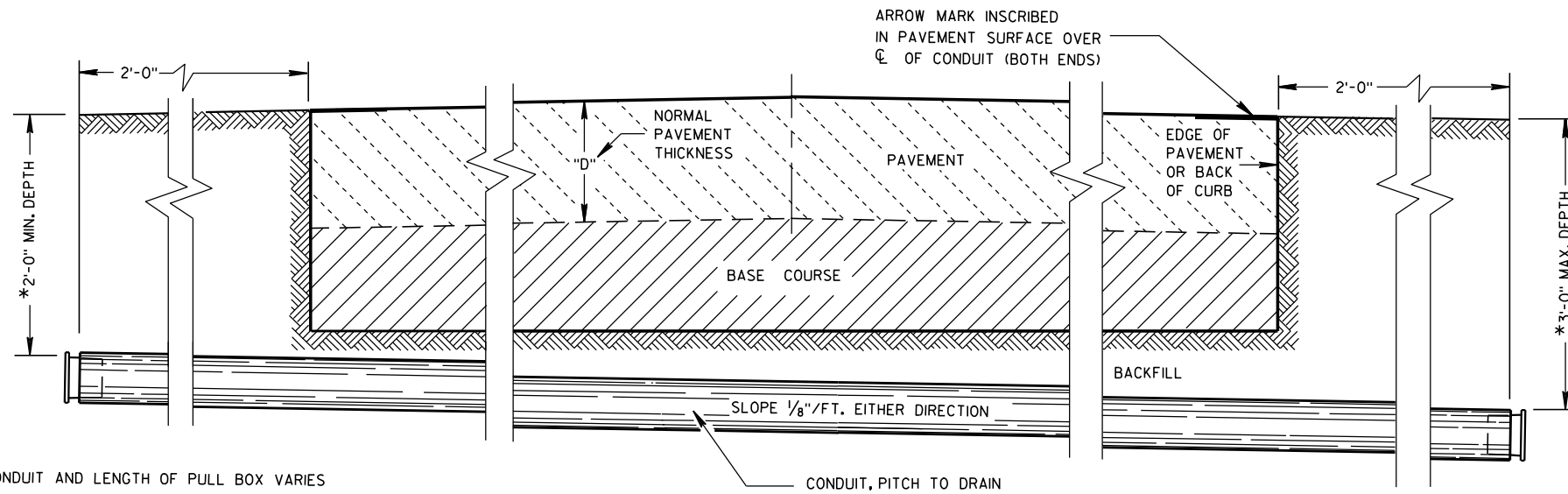
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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

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

POLY ROPE OR A PULL WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

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



\*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

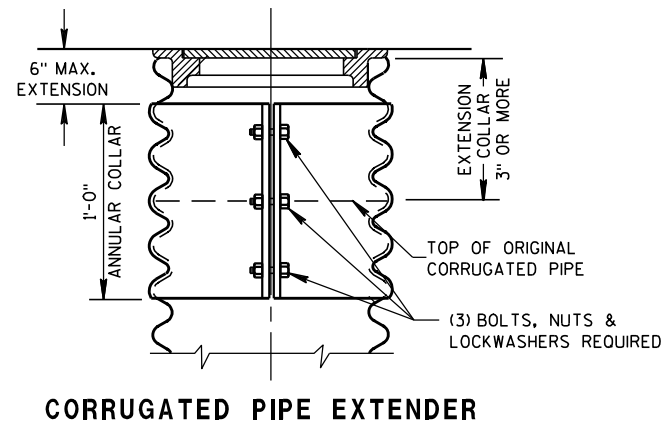
APPROVED  
10/23/03 /S/ Balu Ananthanarayanan  
DATE STATE ELECTRICAL ENGINEER FOR HWYS  
FHWA

**TABLE OF NOMINAL DIMENSIONS AND WEIGHTS**

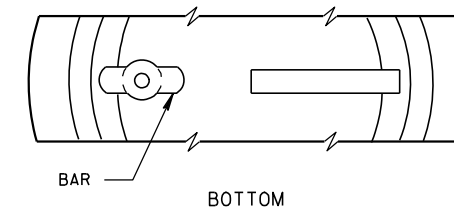
DIMENSION IN INCHES		CORRUGATED STEEL PIPE									
		A	12	12	12	18	18	18	24	24	24
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24	
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48	
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	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	
<b>WEIGHT IN POUNDS *</b>											
FRAME AND COVER		60	60	60	110	110	110	155	155	155	

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

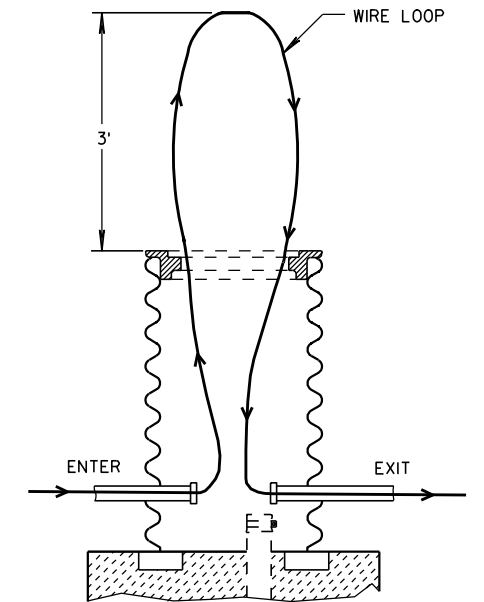
\*\* NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



**CORRUGATED PIPE EXTENDER**



**ALTERNATE COVER (LOCKING)  
TIGHTENING BAR TYPE**



**MEASUREMENT DETAIL FOR  
WIRE/CABLE IN THE PULL BOX**

**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. THE MECHANICAL CONNECTION (INSIDE AND OUTSIDE) TO THE PULL BOX, SHALL BE TOTALLY AND PERMANENTLY SEALED WITH A SILICONE OR RUBBERIZED CAULKING COMPOUND AS APPROVED BY THE ENGINEER.

GROUNDING LUGS ARE NOT REQUIRED IN PULL BOXES WHEN VOLTAGES OF LESS THAN 50 VOLTS AC ARE THE ONLY VOLTAGES ENCOUNTERED IN THE BOXES.

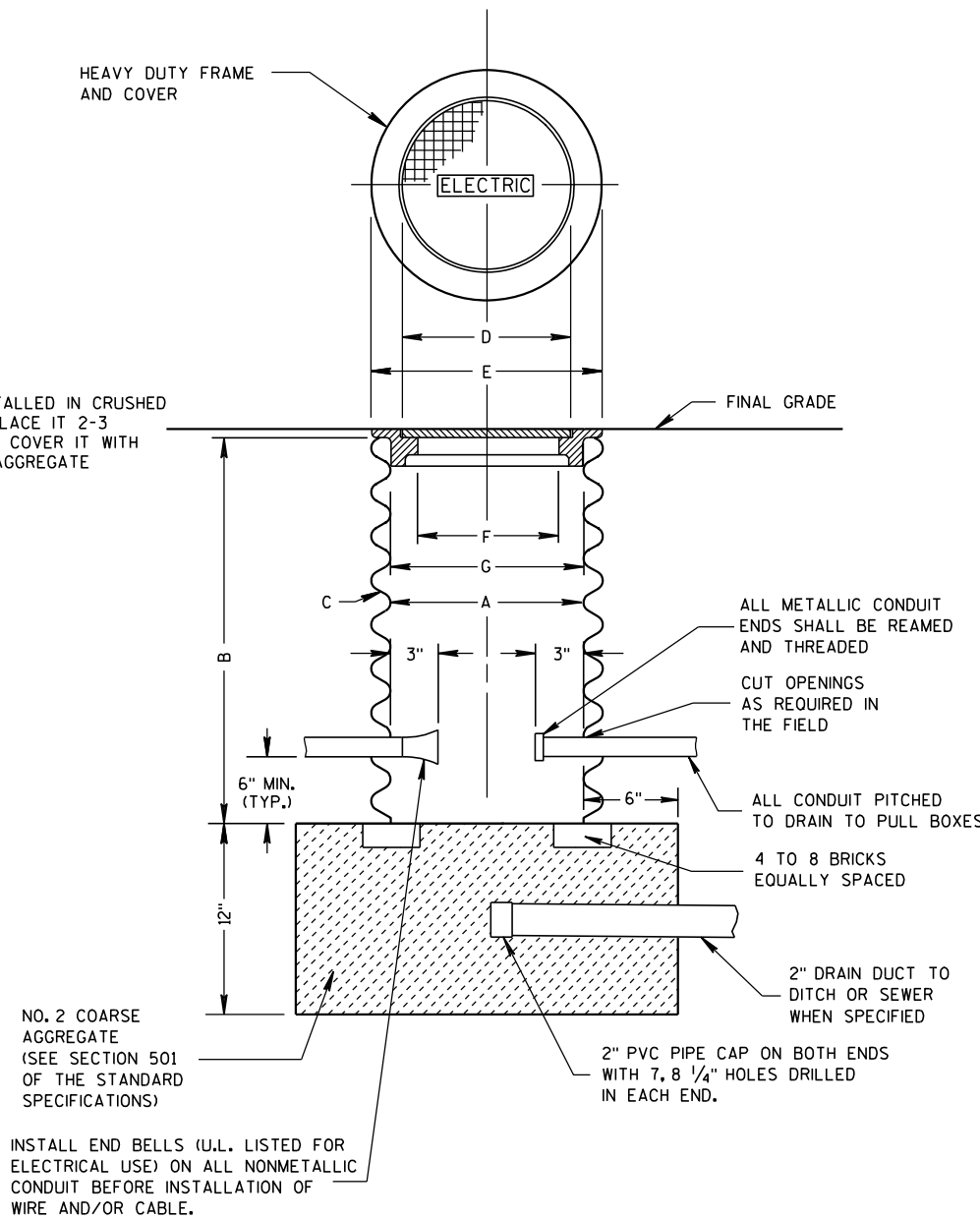
ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

S.D.D. 9B2, "CONDUIT", APPLIES TO THIS DRAWING.

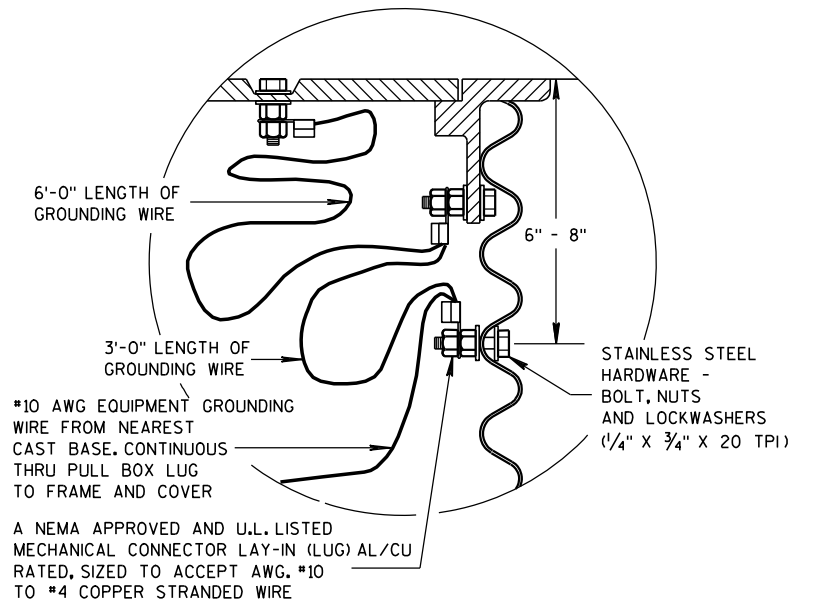
WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.

IF PULL BOX EQUIPMENT GROUNDING IS REQUIRED USING AN EQUIPMENT GROUNDING ELECTRODE IN EACH PULL BOX, THE EQUIPMENT GROUNDING ELECTRODE SHALL BE 5/8" X 8'-0", COPPERCLAD AND BE EXOTHERMICALLY WELDED TO A #4 AWG, COPPER, STRANDED WIRE (BARE OR GREEN INSULATED). THE #4 AWG WIRE SHALL BE 4 FEET IN LENGTH, NEATLY COILED, TAPED AND AVAILABLE FOR USE WHEN REQUIRED.

WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE



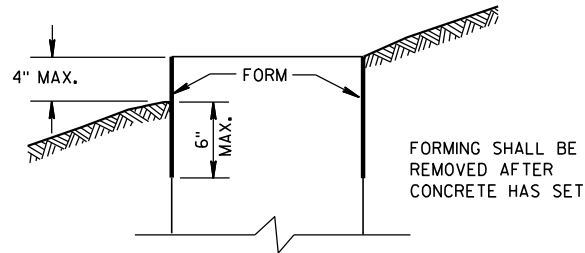
**PULL BOX**



**EQUIPMENT GROUNDING LUG AND  
LOCATION IN STEEL PULL BOXES**

<b>PULL BOX</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 9/27/06 DATE	/S/ Balu Ananthanarayanan STATE ELECTRICAL ENGINEER FOR HWYS
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
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 2 AND TYPE 5 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 AND 641.2.2 OF THE STANDARD SPECIFICATIONS, ASTM A-449, OR ASTM A-687 (GRADE 105).

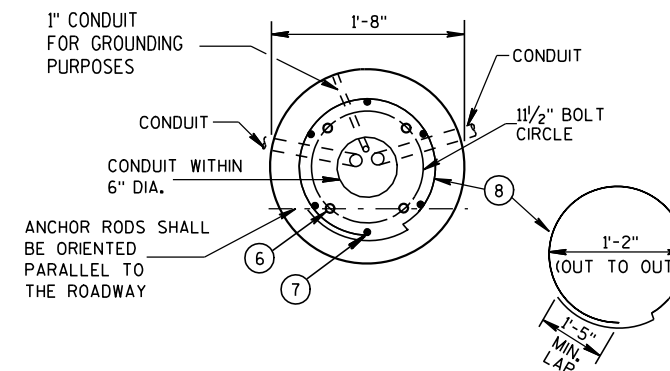
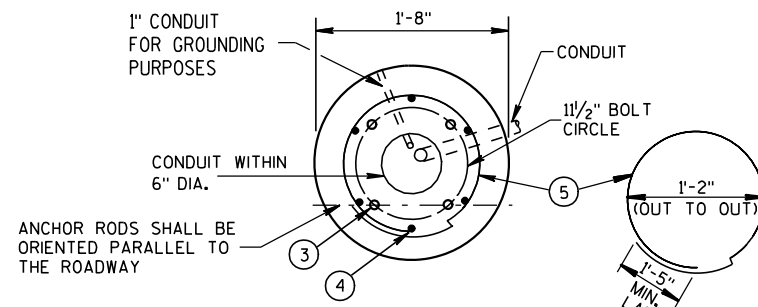
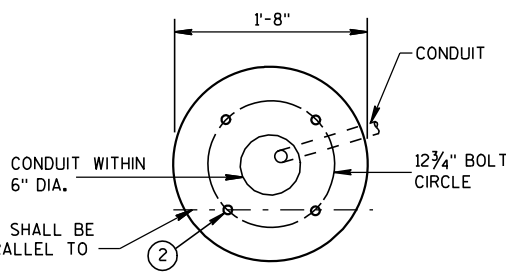
WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

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

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

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

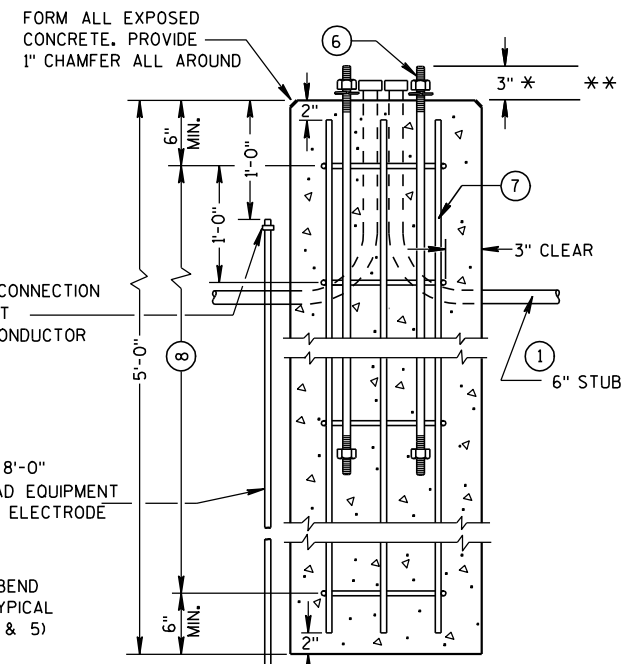
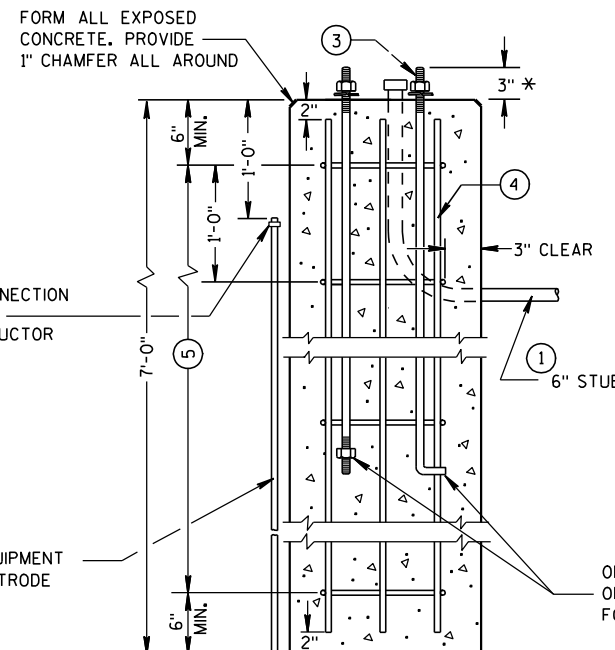
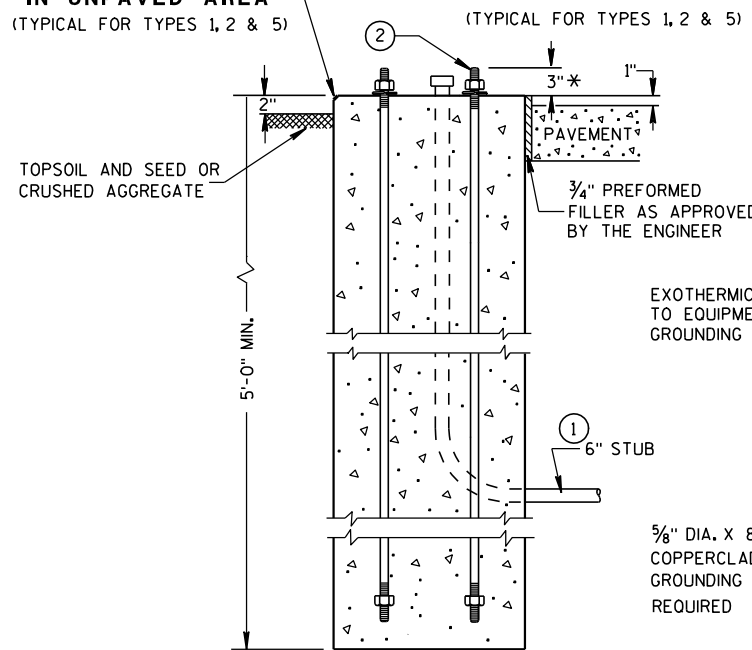
BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).



FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

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

**HALF SECTION IN PAVEMENT**  
(TYPICAL FOR TYPES 1, 2 & 5)



**CONCRETE BASES**

\* ANY ANCHOR ROD PROJECTION SHORTER THAN 2 3/4" OR LONGER THAN 3 1/4" 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.

- 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.

**CONCRETE BASES,  
TYPES 1, 2 & 5**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
3/3/10 DATE /S/ Joanna L. Bush  
STATE ELECTRICAL ENGINEER FOR HWYS  
FHWA



**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, ASTM A-325, (92,000 YIELD) HEAVY HEX NUT AND BE GALVANIZED IN ACCORDANCE WITH ASTM A-153, CLASS C.

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 AND U.L. LISTED MECHANICAL CONNECTOR (LUG) AL/CU RATED AND SIZED TO ACCEPT #10 AWG STRANDED WIRE, SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

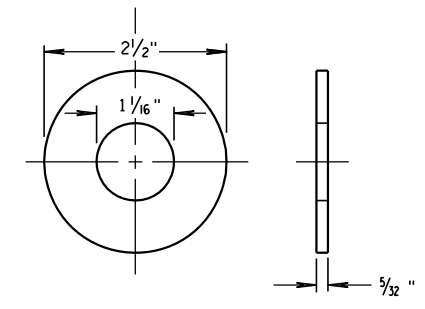
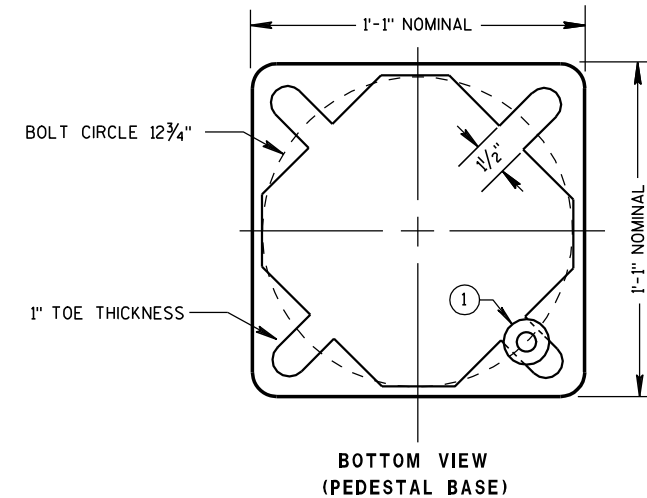
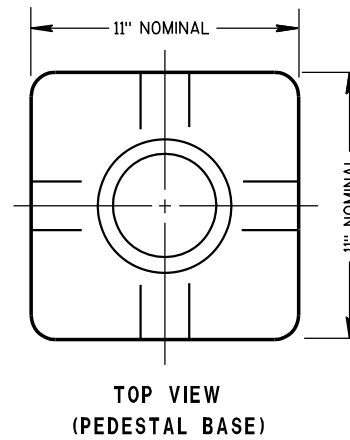
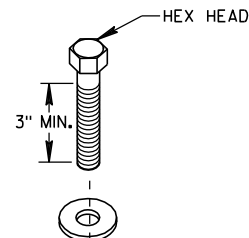
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

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.



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 AND U.L. LISTED MECHANICAL CONNECTOR (LUG) AL/CU RATED AND SIZED TO ACCEPT #10 AWG STRANDED WIRE, SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

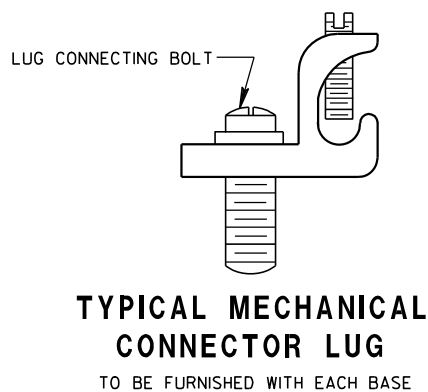
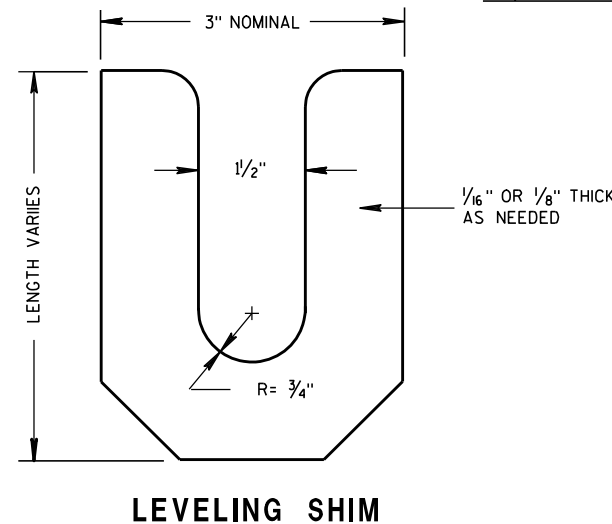
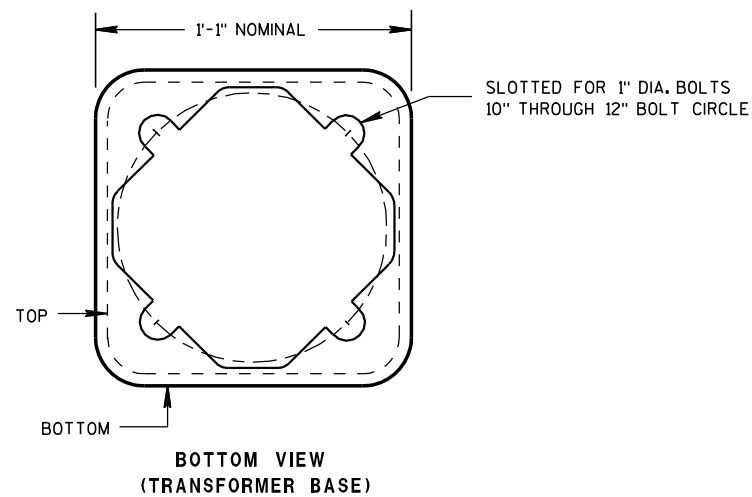
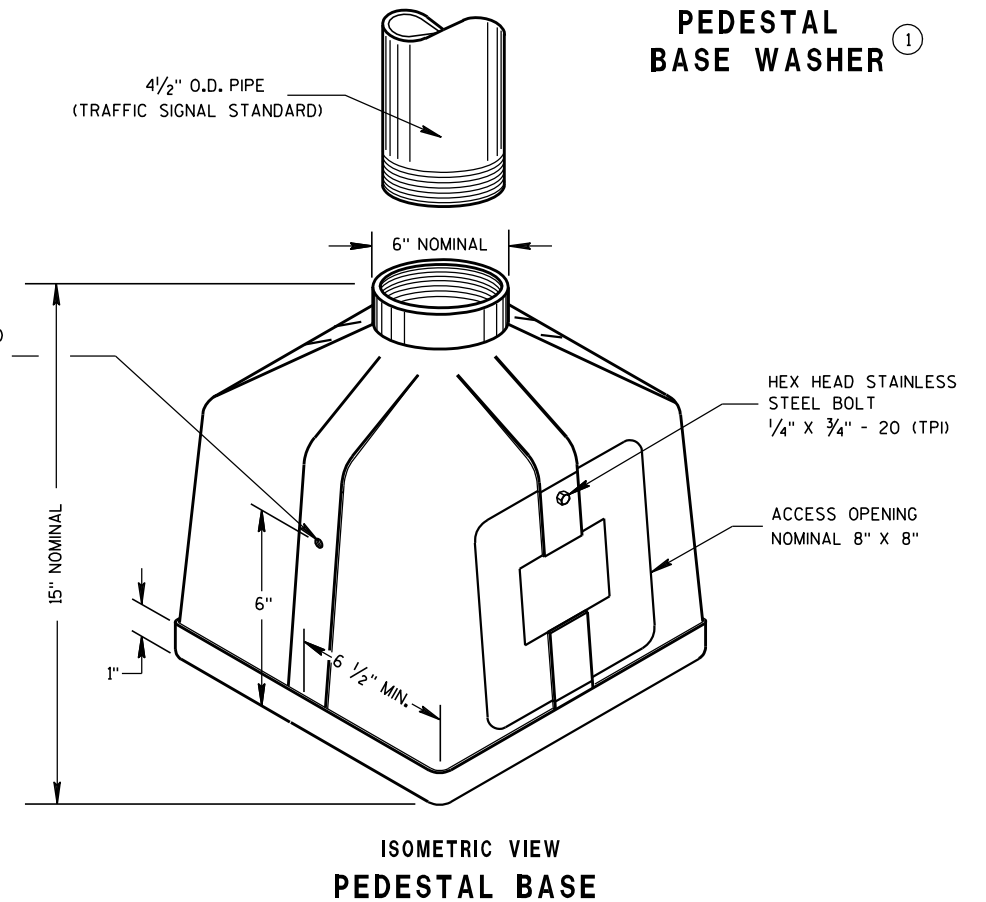
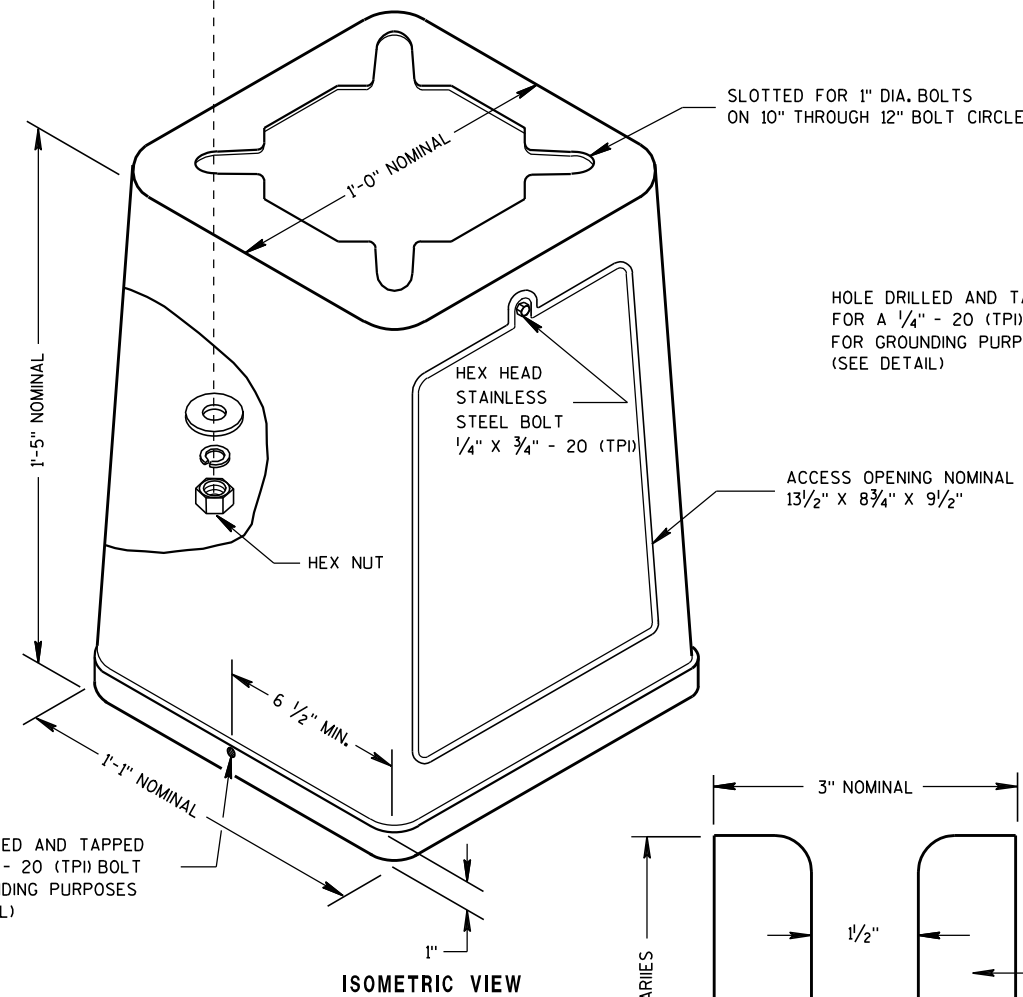
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

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.



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

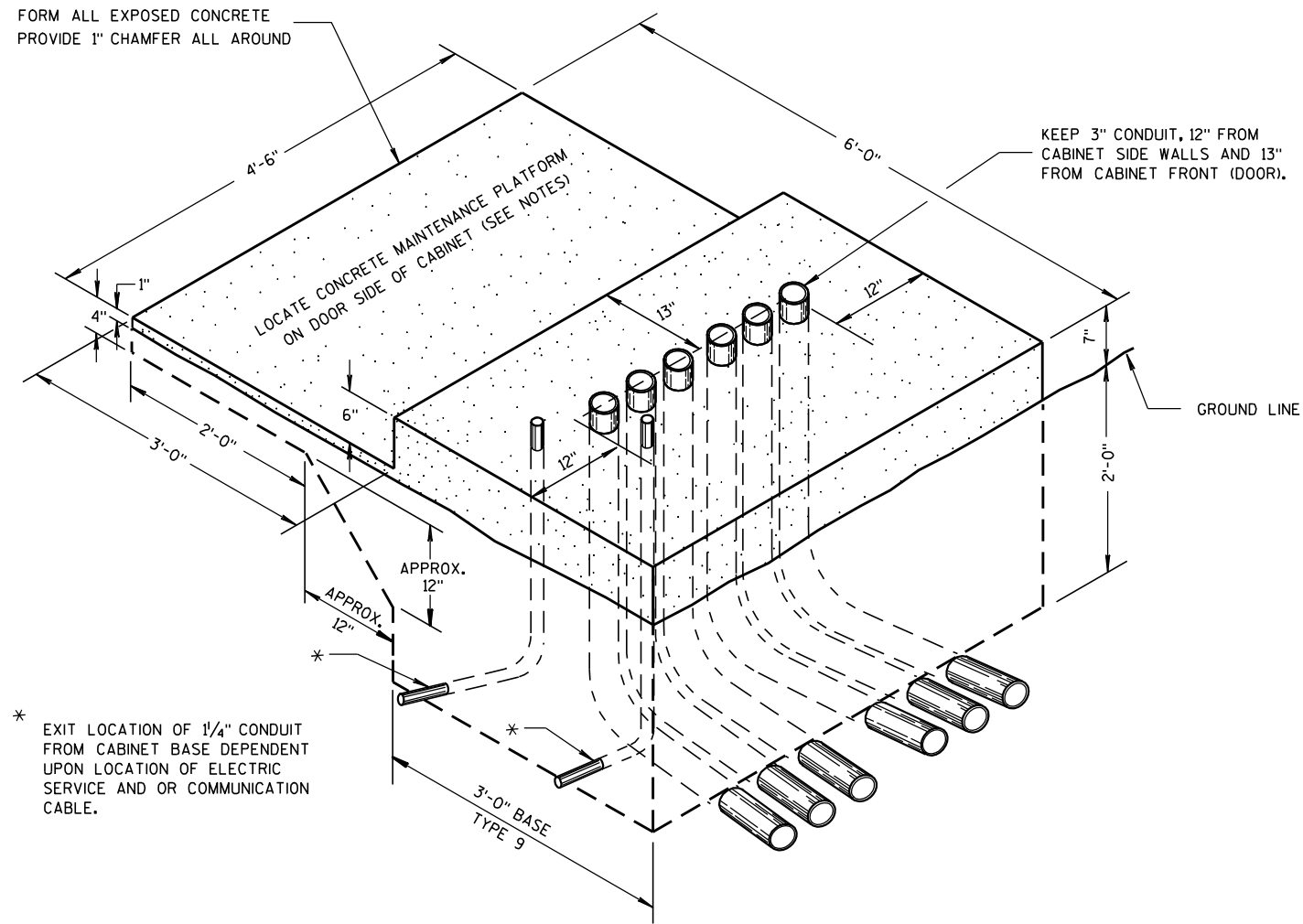
<b>TRANSFORMER/PEDESTAL BASES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/27/09 DATE	/s/ Joanna L. Bush STATE ELECTRICAL ENGINEER FOR HWYS
FHWA	

6

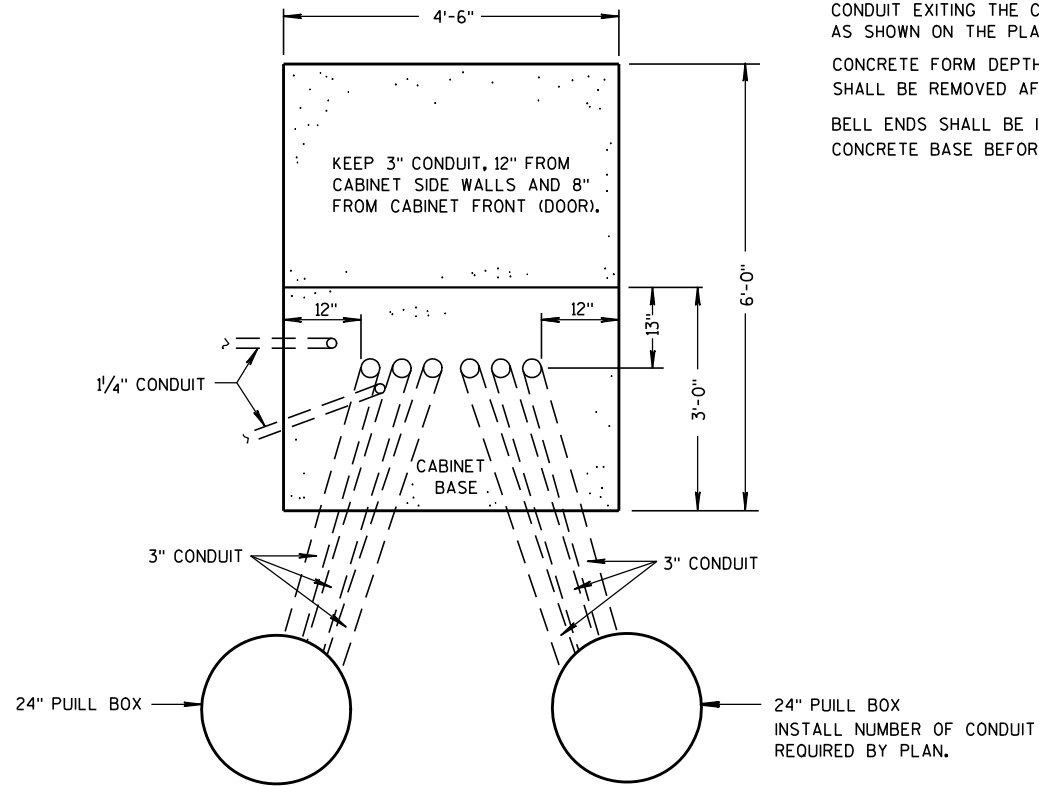
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S.D.D. 9 C 3-3

S.D.D. 9 C 3-3



**ISOMETRIC VIEW  
TYPE 9, SPECIAL**  
(C.Y. CONCRETE = APPROX. 1.56)

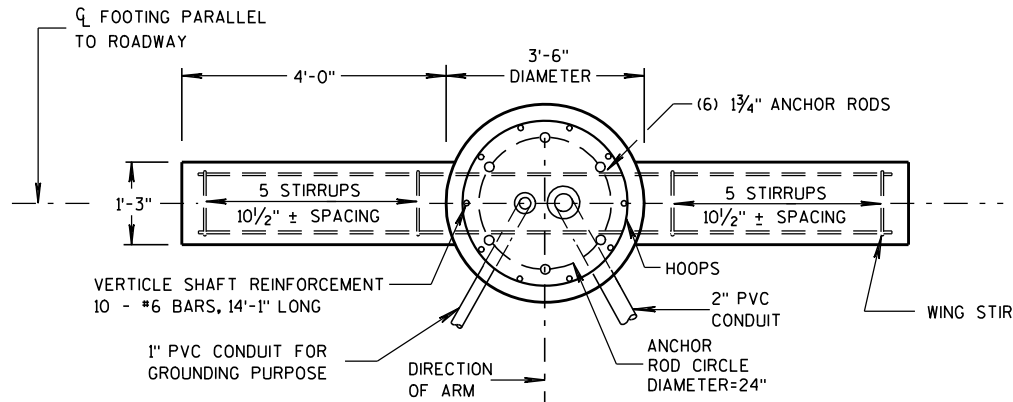


**PLAN VIEW  
CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL**

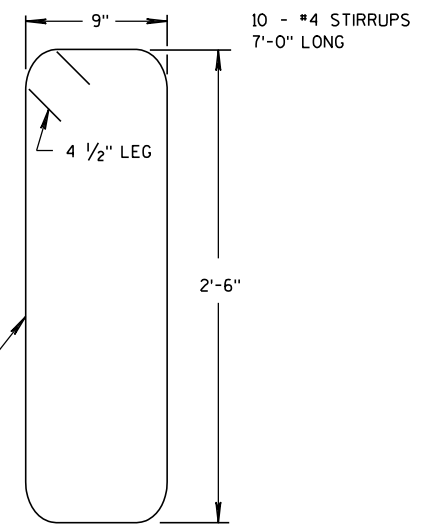
**GENERAL NOTES**

- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.
- INSTALL FOUR 1/2 INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.
- WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.
- CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.
- DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.
- DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.
- ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.
- CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL. MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL. MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED. MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.
- ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.
- CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.
- PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.
- ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.
- CONDUIT EXITING THE CONCRETE BASE (SIX THREE INCH) SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.
- CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.
- BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

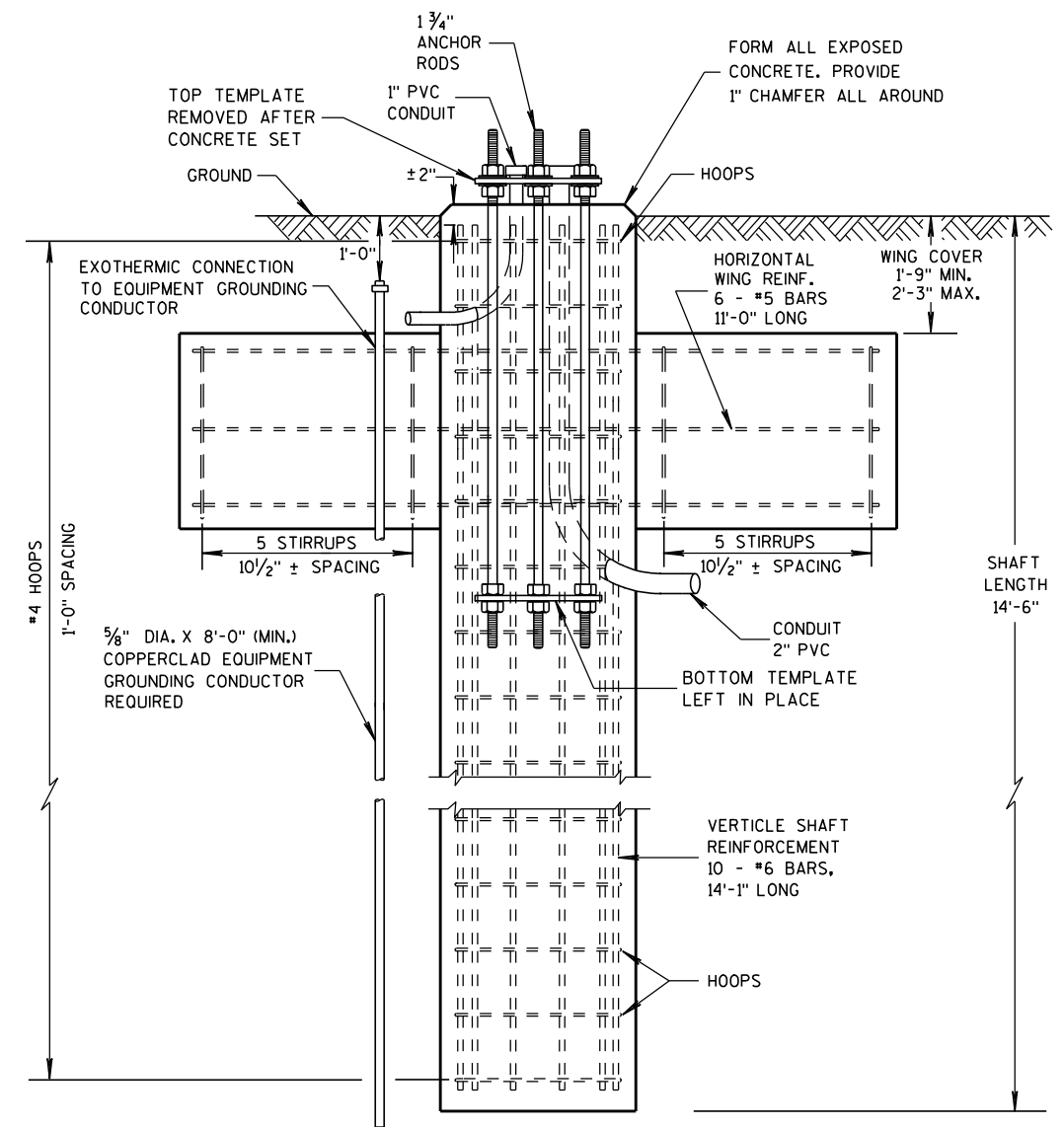
<b>CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 2/27/07 DATE	/S/ Balu Ananthanarayanan STATE ELECTRICAL ENGINEER FOR HWYS
FHWA	



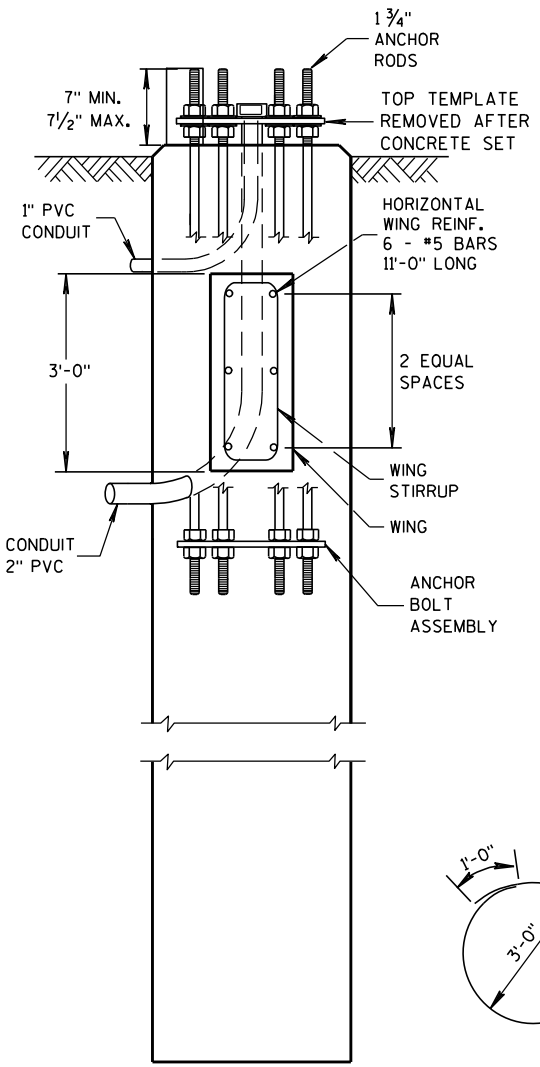
**PLAN VIEW**



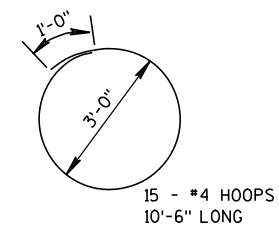
**WING STIRRUP**



**ELEVATION VIEW**



**SIDE VIEW**



**HOOP DETAIL**

**GENERAL NOTES**

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

ORIENT ANCHOR RODS IN FOOTING AND PROVIDE ANCHOR ROD PROJECTION ABOVE TOP OF CONCRETE FOOTING BASE PER THIS SHEET.

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF THE UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

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

BASES (SHAFT), BELOW THE WING, SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

TOP SURFACE OF THE CONCRETE BASE SHALL BE TROWEL FINISHED AND LEVEL.

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

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

CONDUIT HEIGHT ABOVE CONCRETE BASE SHALL BE 4 1/2" INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL ENDS INSTALLED. ALL CONDUIT SHALL SLOPE TO PULL BOX.

ALL CONDUIT ENDS AT THE TOP OF THE 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.

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

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTOR FITTINGS, UL LISTED FOR ELECTRICAL USE, SHALL BE USED.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE 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.

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

THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVEL 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, (GREATER THAN 36-INCHES IF INSTALLED IN BREAKER-RUN), EXCEPT WITH THE WRITTEN APPROVAL OF THE ENGINEER.

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

CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, AASHTO M314 GRADE 55	fy=55,000 p.s.i.
TEMPLATES, ASTM A709 GRADE 36	fy=36,000 p.s.i.

**(FOR TYPE 12 & 13 POLES)**

CONCRETE = 6.3 C.Y.  
H.S. REINFORCEMENT = 433 LBS.

TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION.  
SEE S.D.D. 9C13-1 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.

**CONCRETE BASE TYPE 13**

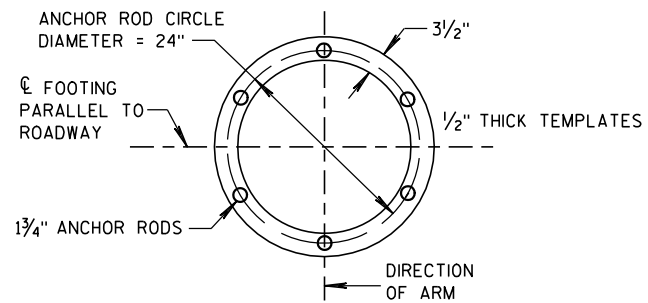
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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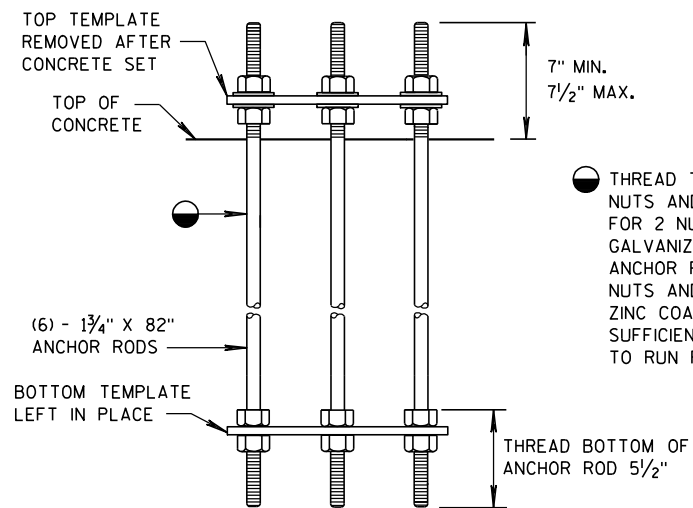
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S.D.D. 9 C 12-2a

S.D.D. 9 C 12 -2a



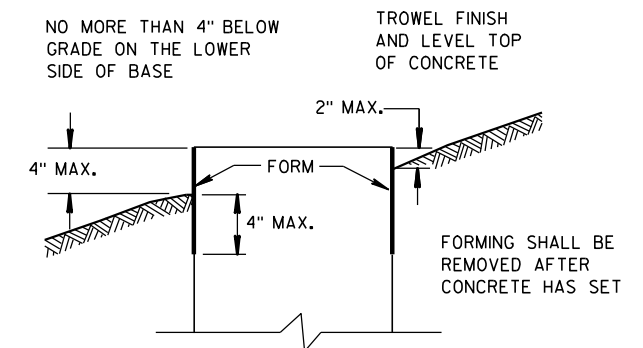
**TOP AND BOTTOM TEMPLATES**



● THREAD TOP 7 1/2" OF ANCHOR ROD FOR 2 NUTS AND 2 WASHERS AND BOTTOM 5 1/2" FOR 2 NUTS PER ANCHOR ROD. HOT-DIP GALVANIZE THE ENTIRE LENGTH OF THE ANCHOR RODS (AASHTO M111) AND HOT-DIP NUTS AND WASHERS (AASHTO M232). USE ZINC COATED NUTS MANUFACTURED WITH SUFFICIENT ALLOWANCE TO ALLOW NUTS TO RUN FREELY ON THE THREADS.

**ANCHOR BOLT ASSEMBLY DETAIL**

**CONCRETE BASE TYPE 13 ANCHOR ASSEMBLY**



**FORMING DETAIL**

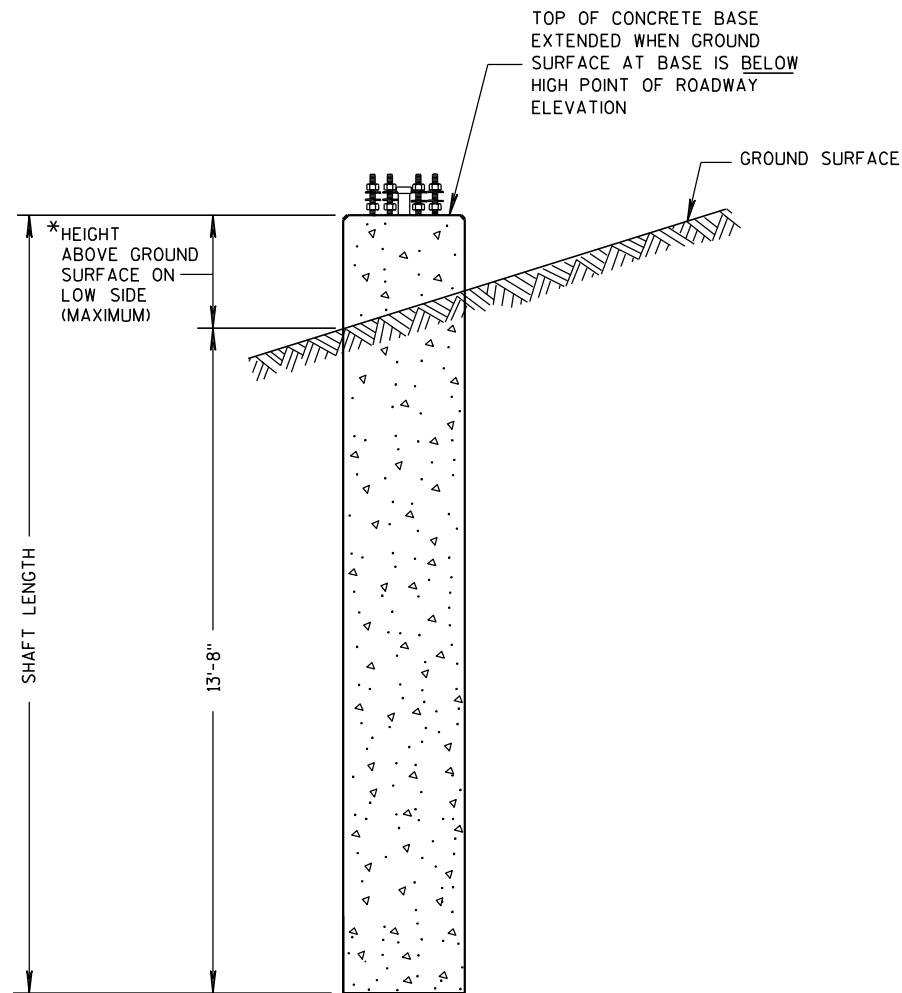
<b>CONCRETE BASE TYPE 13</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
3-2-11 DATE	/S/ Thomas J. Goring STATE ELECTRICAL ENGINEER FOR HWYS
FHWA	

**REINFORCEMENT AND CONCRETE QUANTITIES  
ADJUSTED FOR EXTENDED TYPE 10 CONCRETE BASE**

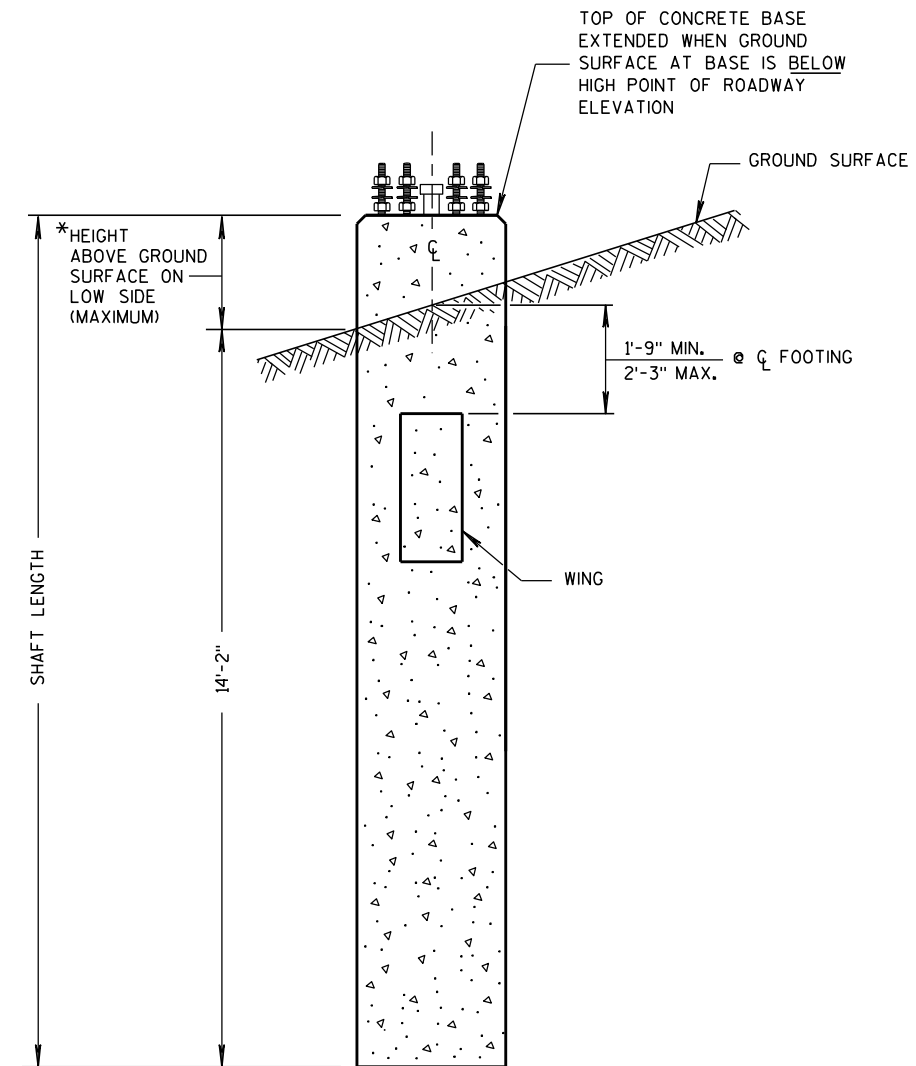
HEIGHT INCREASE REQUIRED	* HEIGHT ABOVE GROUND SURFACE ON LOW SIDE (MAXIMUM)	SHAFT LENGTH	LENGTH OF #6 VERTICAL REINF.	NO. OF #4 HOOPS	C.Y. OF CONCRETE	LBS. OF HOOP BAR STEEL	LBS. OF VERTICAL BAR STEEL
>0" TO 6"	10"	14'-6"	14'-1"	16	2.6	78	127
>6" TO 1'-0"	1'-4"	15'-0"	14'-7"	16	2.7	78	131
>1'-0" TO 1'-6"	1'-10"	15'-6"	15'-1"	17	2.8	83	136
>1'-6" TO 2'-0"	2'-4"	16'-0"	15'-7"	17	2.9	83	141

**REINFORCEMENT AND CONCRETE QUANTITIES  
ADJUSTED FOR EXTENDED TYPE 13 CONCRETE BASE**

HEIGHT INCREASE REQUIRED	* HEIGHT ABOVE GROUND SURFACE ON LOW SIDE (MAXIMUM)	SHAFT LENGTH	LENGTH OF #6 VERTICAL REINF.	NO. OF #4 HOOPS	C.Y. OF CONCRETE	LBS. OF H.S. BAR STEEL
>0" TO 6"	10"	15'-0"	14'-7"	16	6.5	447
>6" TO 1'-0"	1'-4"	15'-6"	15'-1"	16	6.6	454
>1'-0" TO 1'-6"	1'-10"	16'-0"	15'-7"	17	6.8	469
>1'-6" TO 2'-0"	2'-4"	16'-6"	16'-1"	17	7.0	476

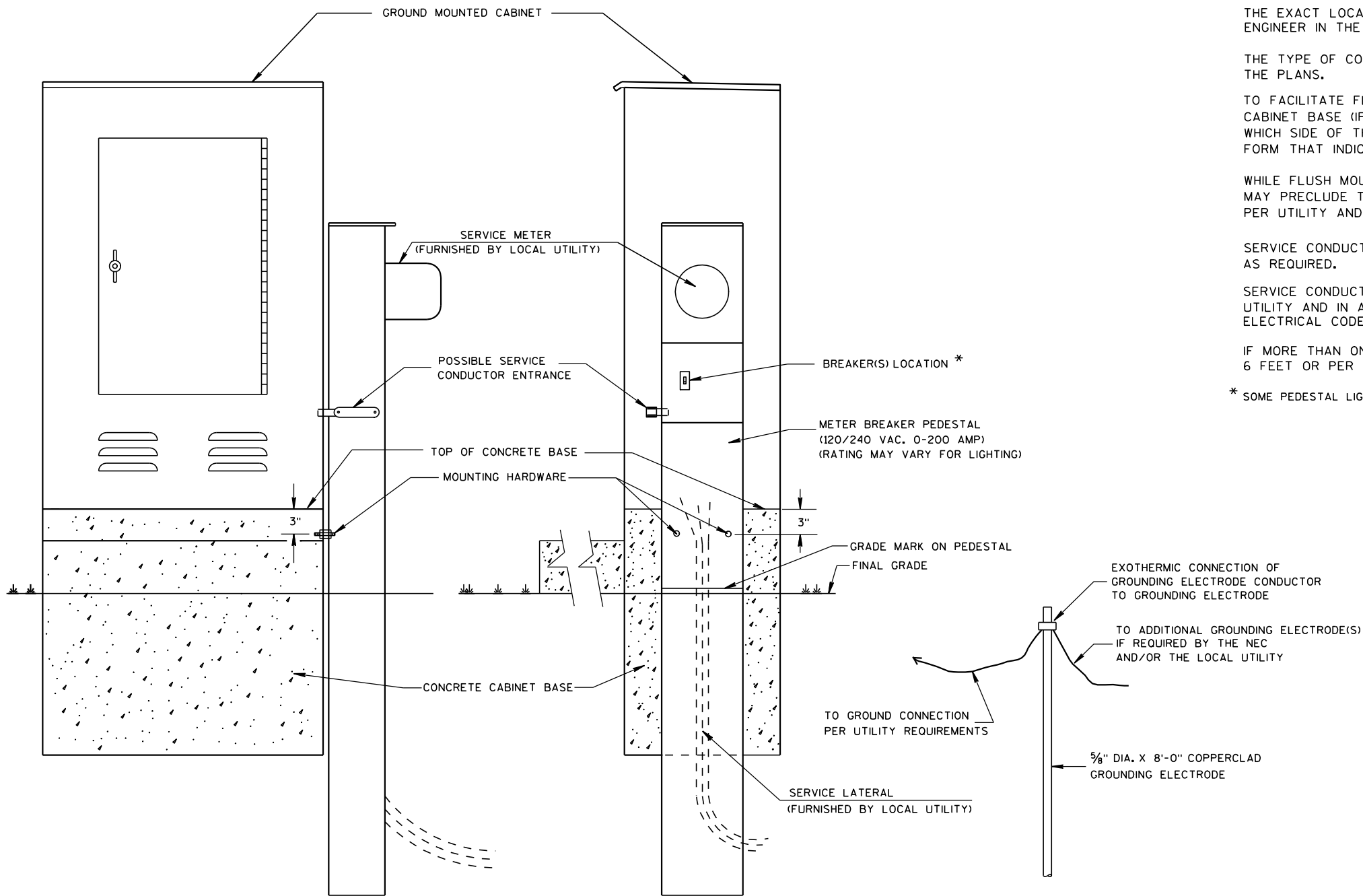


**CONCRETE BASE TYPE 10 (EXTENDED)**



**CONCRETE BASE TYPE 13 (EXTENDED)**

<b>CONCRETE BASE TYPE 10 &amp; TYPE 13 EXTENSION</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 3-3-10	/S/ Joanna L. Bush STATE ELECTRICAL ENGINEER FOR HWYS
FHWA	



TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

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

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

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

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

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

SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT, NIPPLES AND/OR CONDULETS AS REQUIRED.

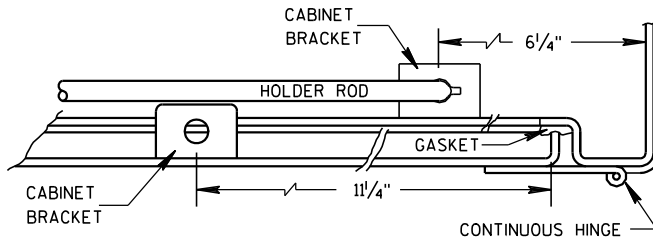
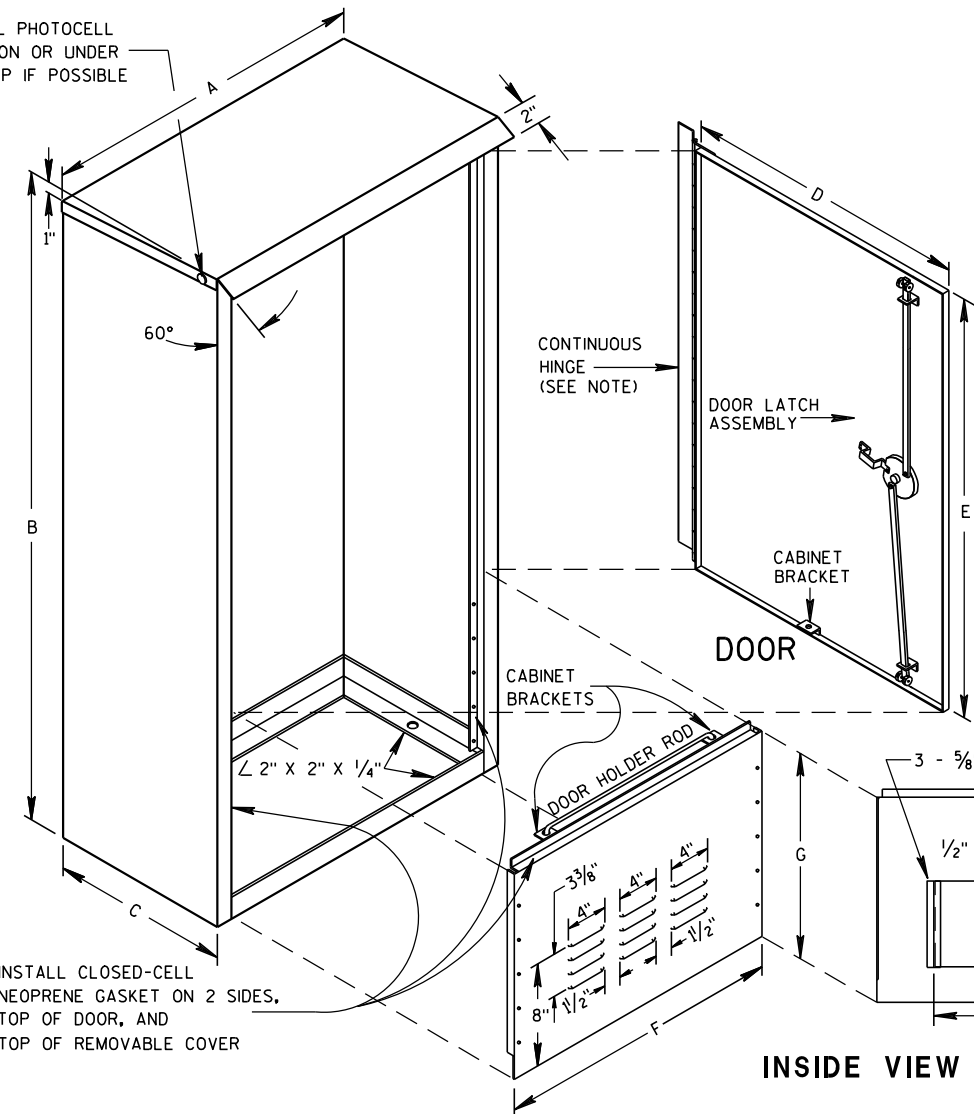
SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AND LOCATED AS REQUIRED BY THE LOCAL UTILITY AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

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

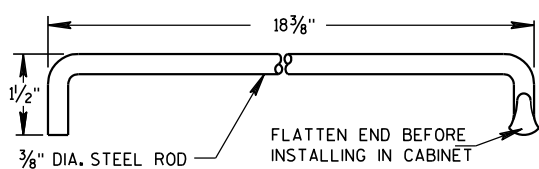
\* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

<b>CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/27/09 DATE	/S/ Joanna L. Bush STATE ELECTRICAL ENGINEER FOR HWYS
FHWA	

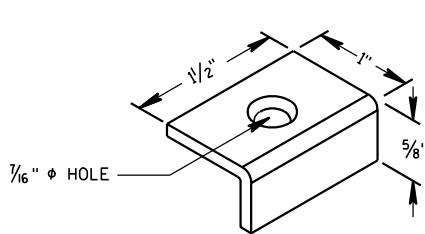
TYPICAL PHOTOCELL LOCATION OR UNDER DRIP LIP IF POSSIBLE



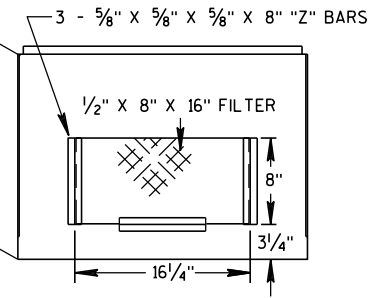
**HINGE & DOOR HOLDER**



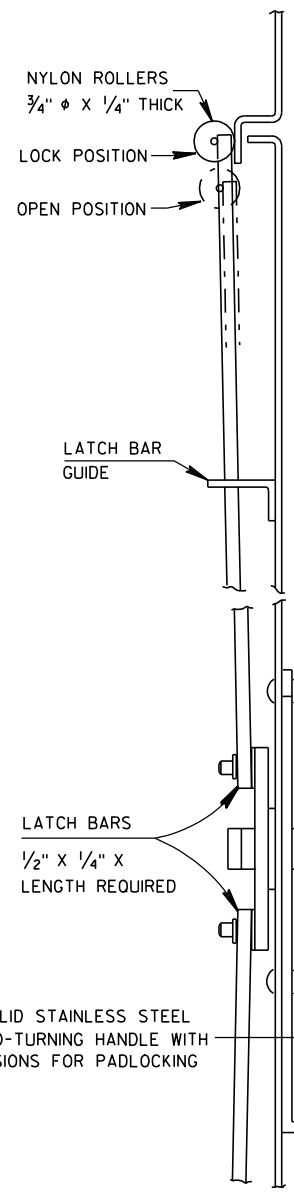
**HOLDER ROD**



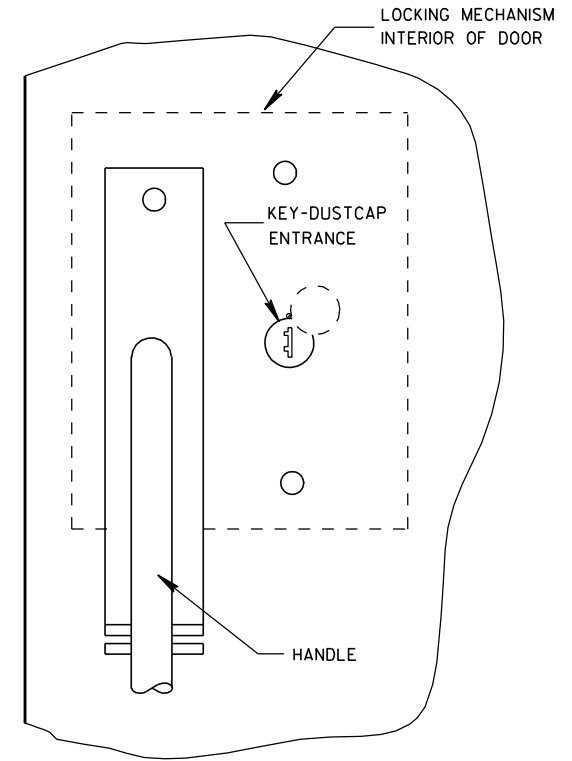
**CABINET BRACKET**



**INSIDE VIEW SHOWING FILTER**

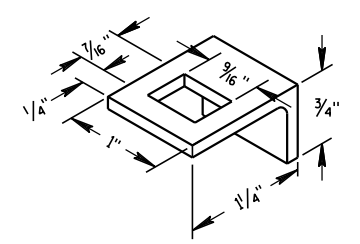


**SIDE VIEW**



**FRONT VIEW**

**LATCH ASSEMBLY**



**LATCH BAR GUIDE**

**GENERAL NOTES**

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

PRIME WITH PHOSPHATE TREATMENT AND PRIMER.

FINISH EXTERIOR SURFACES WITH RUSTOLEUM #906 SILVER GRAY OR APPROVED EQUAL.

FINISH INTERIOR WITH RUSTOLEUM #2766 HIGH GLOSS WHITE ENAMEL OR APPROVED EQUAL.

ALL SHEET METAL PARTS SHALL BE .125 INCH THICK ALUMINUM.

ALL SEAMS SHALL BE CONTINUOUSLY WELDED.

ALUMINUM SHALL BE TYPE 5052-H32.

CONTINUOUS HINGE SHALL BE HEAVY GAUGE ALUMINUM WITH 1/4\"/>

A SINGLE PHOTOCELL SHALL BE LOCATED ON THE NORTH-NORTHEAST SIDE OF THE CABINET UNLESS OTHERWISE CALLED FOR IN THE SPECIAL PROVISIONS. THE PHOTOCELL SHALL BE PLACED AS SHOWN AND SHALL BE AN APPROVED TYPE.

DOOR LATCH ASSEMBLY TO BE PROVIDED WITH THREE-POINT LOCKING MECHANISM.

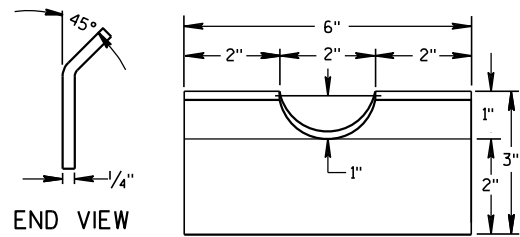
**TABLE OF DIMENSIONS (INCHES)**

MARK	CABINET TYPE		
	3060	3860	3866
A	30	38	38
B	60	60	66
C	16 1/2	16 1/2	24
D	26 1/2	34 3/4	33 3/4
E	38 3/4	38 3/4	38 3/4
F	26 1/2	34 3/4	33 3/4
G	19	19	25
H	16 1/2	16 1/2	24
H/2	8 1/4	8 1/4	12
J	30	38	38
J/2	15	19	19
K	13 3/4	13 3/4	21 1/4
L	27 1/2	35 1/2	35 1/2

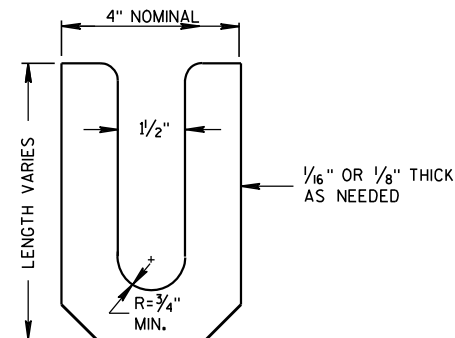
**SIGNAL OR LIGHTING CONTROL CABINET**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

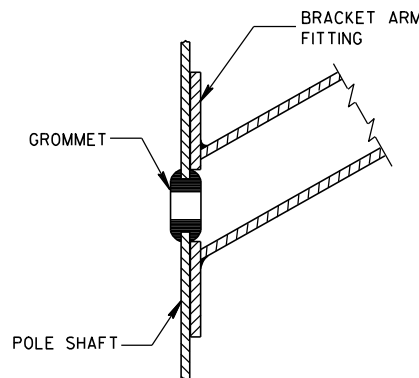
APPROVED  
10/21/96 /S/ Balu Ananthanarayanan  
DATE STATE ELECTRICAL ENGINEER FOR HWYS  
FHWA



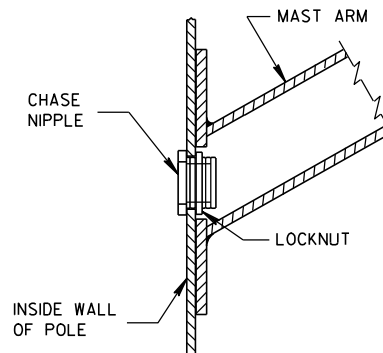
**FRONT VIEW  
RECTANGULAR CLAMP SHIM**  
(4 TO A SET)



**LEVELING SHIM**  
SHALL BE ALUMINUM



**TYPICAL APPLICATION OF  
GROMMET IN POLE SHAFT**

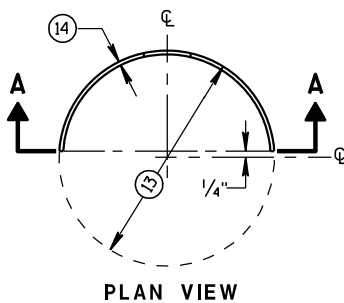


**TYPICAL APPLICATION OF  
CHASE NIPPLE IN POLE SHAFT**

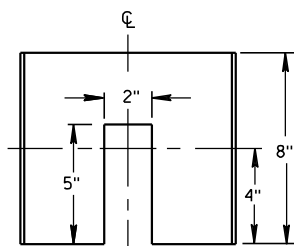
**GENERAL NOTES**

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.

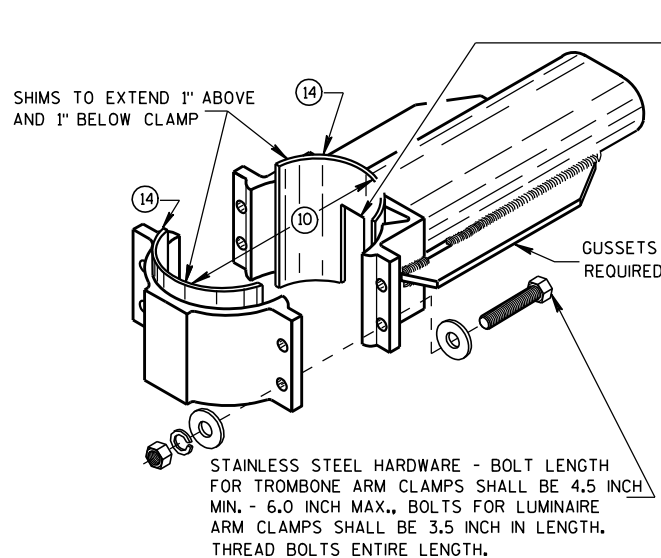
- (10) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.  
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.
- (11) INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)
- (12) BASE PLATE SLOTTED TO ACCEPT 1" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.
- (13) OUTSIDE SHIM DIAMETER - (4.5" O.D. FOR LUMINAIRE MAST ARM)  
(6.625" O.D. FOR TROMBONE MAST ARM)
- (14) VARIABLE SHIM THICKNESS - (0.10", 0.25", 0.35", 0.53" OR 0.70")  
SHIM THICKNESS FOR TROMBONE MAST ARMS MAY BE TYPICALLY 0.25", 0.35", 0.53" OR 0.70".  
SHIM THICKNESS FOR LUMINAIRE MAST ARMS MAY BE TYPICALLY 0.10", 0.25" OR 0.35".  
SHIM MATERIAL SHALL BE ALUMINUM ALLOY.  
SHIM THICKNESS SHALL BE IMPRESSED INTO EACH SHIM. NUMERALS SHALL BE 1/4" HIGH AND LEGIBLE.
- (15) 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.



**PLAN VIEW**

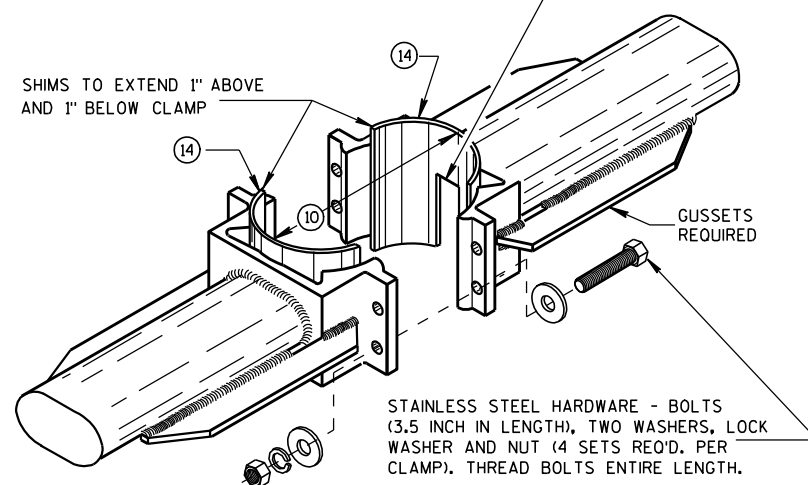


**SECTION A-A  
CIRCULAR CLAMP SHIM**  
(2 TO A SET)



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

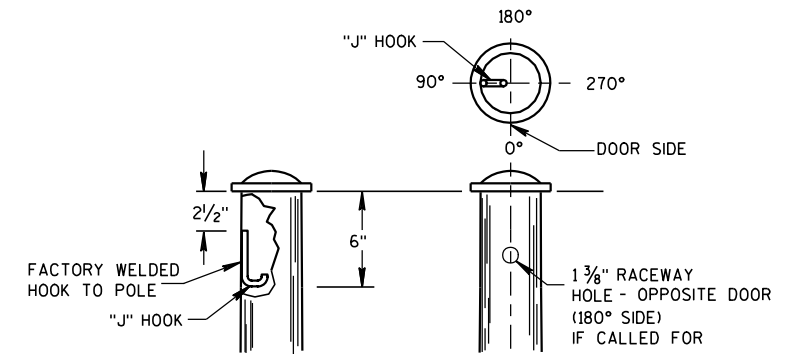
2" SLOT IN ALL SHIMS TO MATCH RACEWAY ENTRANCE INTO ARM. ENTRANCE INTO ARM RACEWAY SHALL BE 2" MINIMUM.



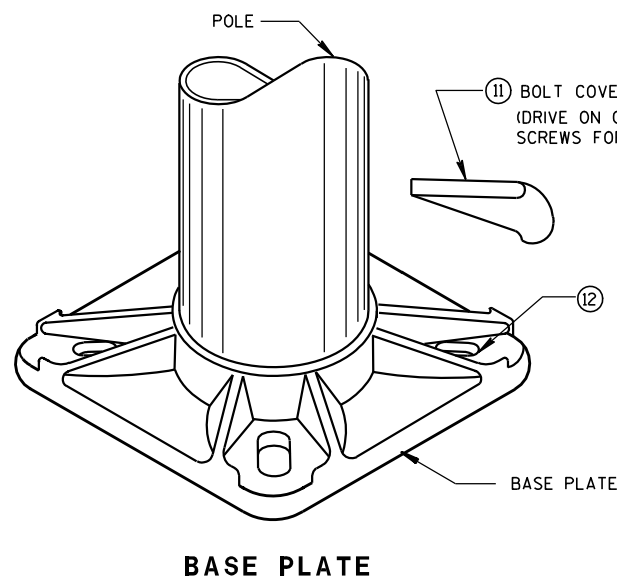
**TYPICAL LUMINAIRE MAST ARM  
(DOUBLE) MOUNTING BRACKETS**

STAINLESS STEEL HARDWARE - BOLT LENGTH FOR TROMBONE ARM CLAMPS SHALL BE 4.5 INCH MIN. - 6.0 INCH MAX., BOLTS FOR LUMINAIRE ARM CLAMPS SHALL BE 3.5 INCH IN LENGTH. THREAD BOLTS ENTIRE LENGTH.

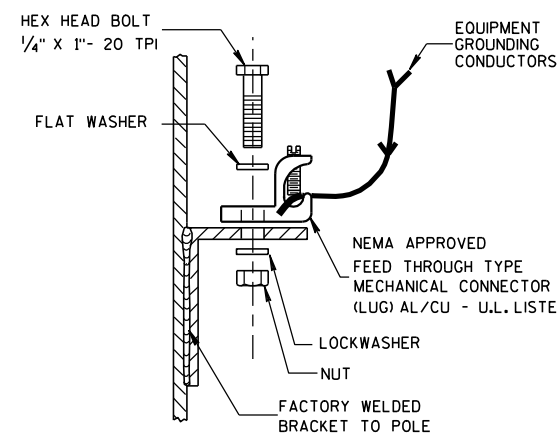
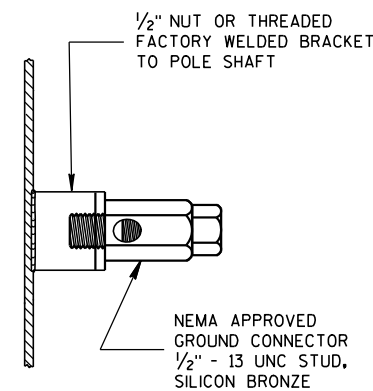
STAINLESS STEEL HARDWARE - BOLTS (3.5 INCH IN LENGTH, TWO WASHERS, LOCK WASHER AND NUT (4 SETS REQ'D. PER CLAMP). THREAD BOLTS ENTIRE LENGTH.



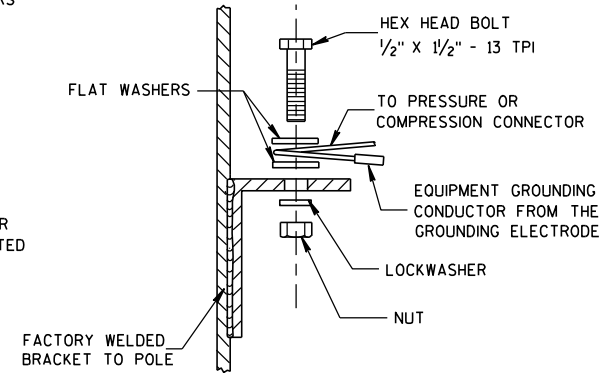
**TYPICAL "J" HOOK LOCATION**



**BASE PLATE**



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

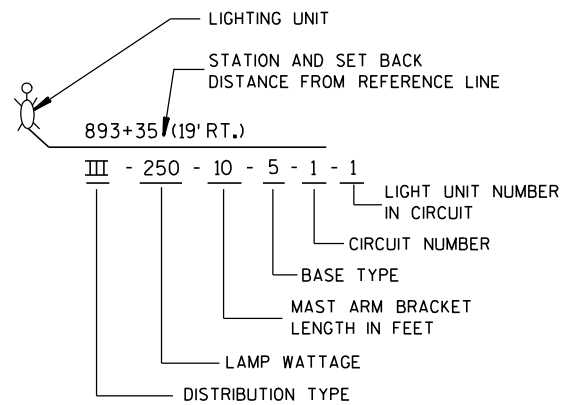


**HARDWARE DETAILS FOR  
POLE MOUNTINGS**

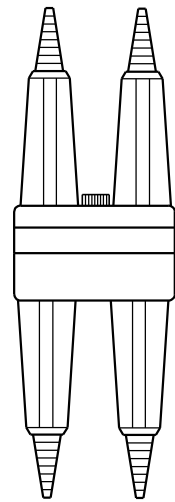
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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3/2/11 /S/ Thomas J. Goring  
DATE STATE ELECTRICAL ENGINEER FOR HWYS  
FHWA

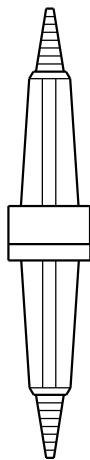




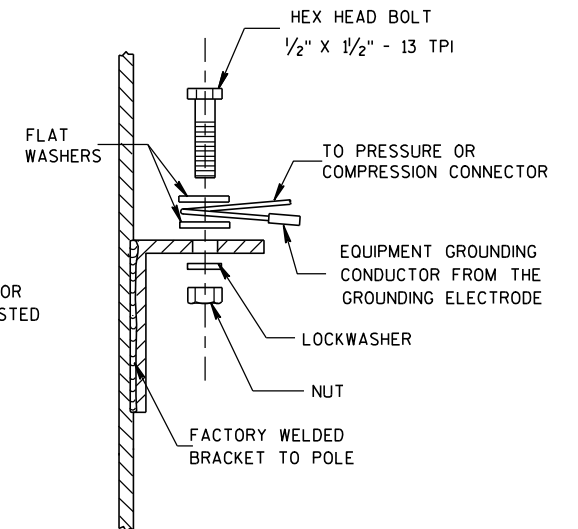
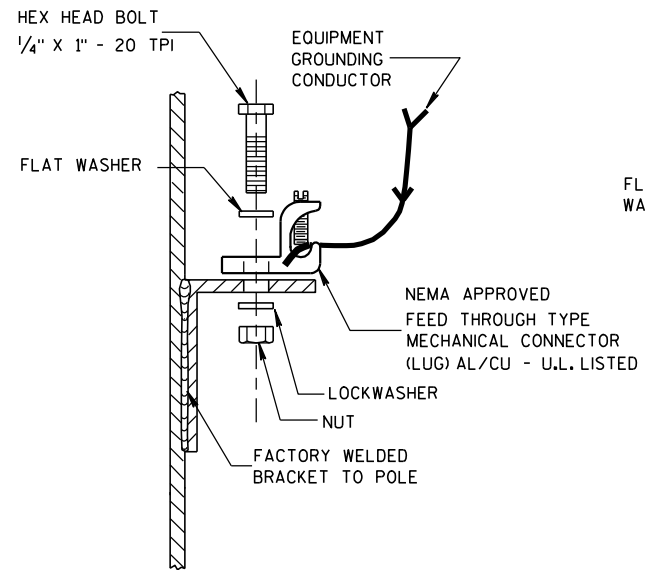
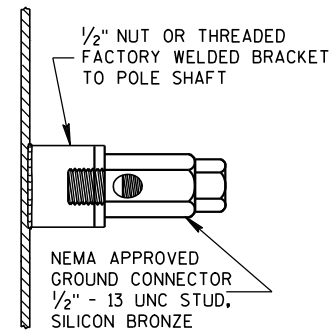
**LIGHTING UNIT CODE**  
(TYPICAL)



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



**DETAIL "B"**  
**BREAKAWAY**  
**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.

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

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 SPLICE 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 FNO 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 UNGROUNDING CIRCUIT CONDUCTORS FROM SYSTEM RACEWAY

ALTERNATE PHASE UNGROUNDING CIRCUIT CONDUCTOR PASSING THROUGH THIS POLE

TWIN LIGHTING UNITS REQUIRE INDIVIDUAL SETS OF UNGROUNDING 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 SPLICE 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 FNO FUSES (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 UNGROUNDING CIRCUIT CONDUCTORS FROM SYSTEM RACEWAY

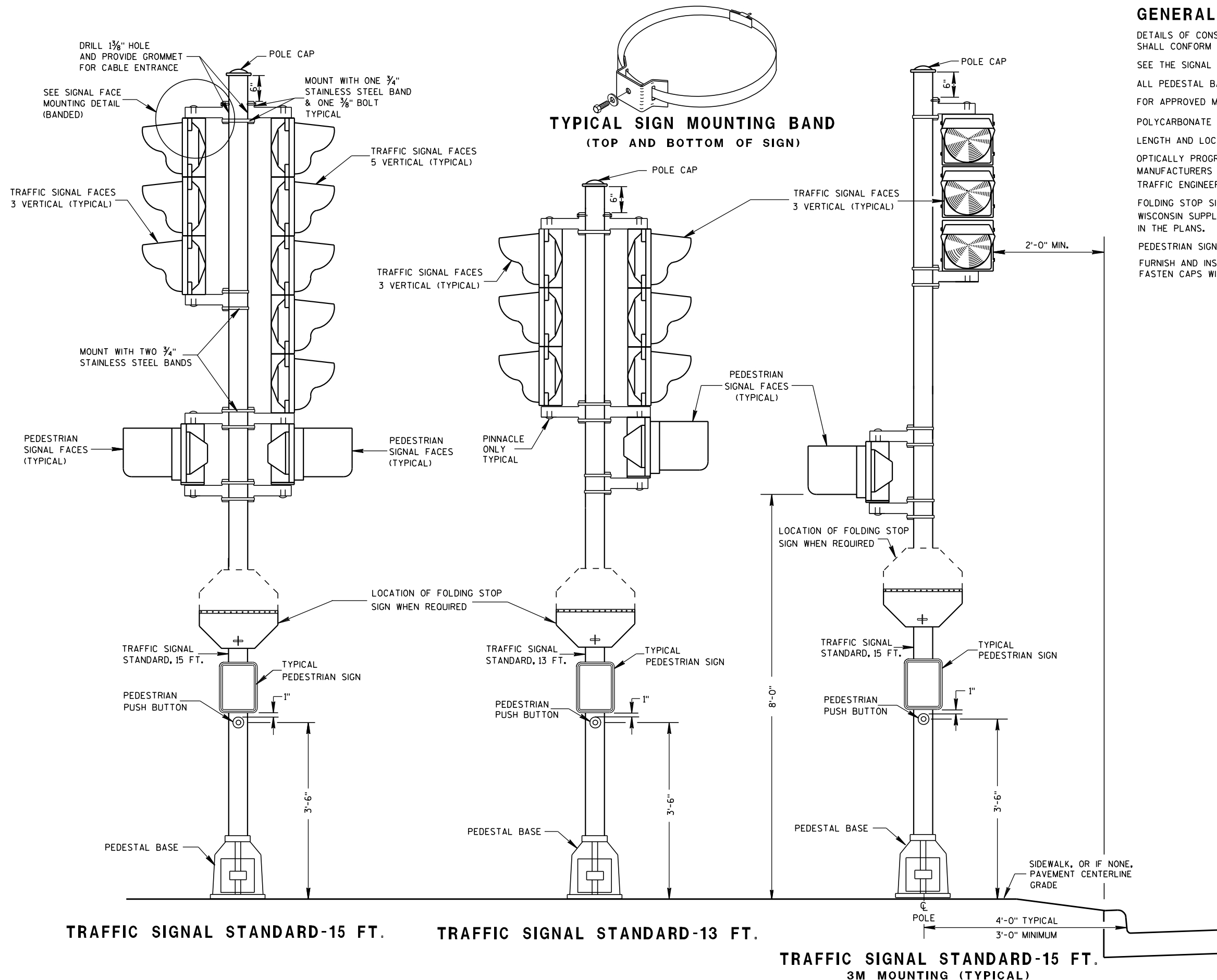
**3 WIRE - 120, 240 OR 480 VAC (UNGROUNDING CONDUCTOR)**  
**WITH GROUNDING CONDUCTOR AND**  
**WITH EQUIPMENT GROUNDING CONDUCTOR**

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

**NON-FREWAY LIGHTING UNIT**  
**POLE WIRING**

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TRAFFIC SIGNAL STANDARD-15 FT.

TRAFFIC SIGNAL STANDARD-13 FT.

TRAFFIC SIGNAL STANDARD-15 FT. 3M MOUNTING (TYPICAL)

**GENERAL NOTES**

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIAL PROVISIONS.

POLYCARBONATE MOUNTING BRACKETS SHALL BE USED.

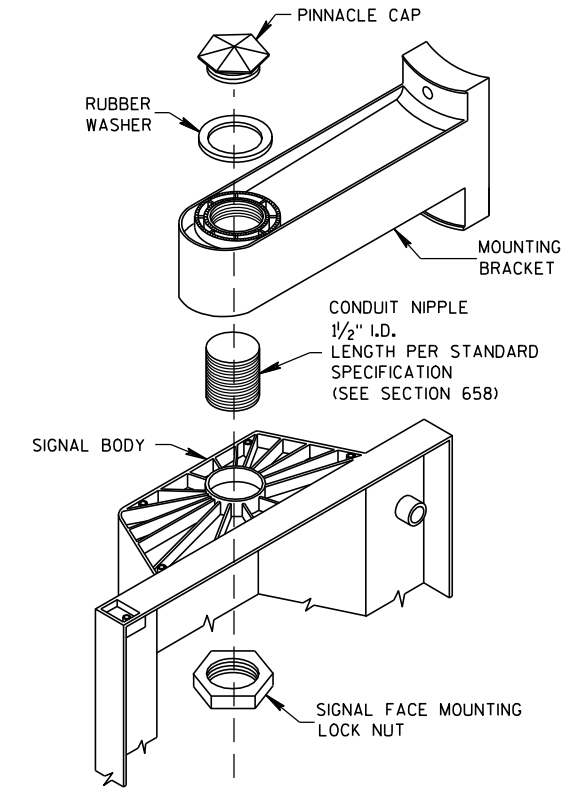
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

OPTICALLY PROGRAMMED SIGNAL FACES SHALL BE MASKED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS, AND UNDER THE DIRECTIONS OF THE DISTRICT TRAFFIC ENGINEER.

FOLDING STOP SIGNS SHALL BE IN ACCORDANCE WITH THE MUTCD AND/OR THE LATEST WISCONSIN SUPPLEMENT. THE SIGNS SHALL BE SIZED AND LOCATED AS CALLED FOR IN THE PLANS.

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

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.



**SIGNAL FACE MOUNTING DETAIL (BANDED)**

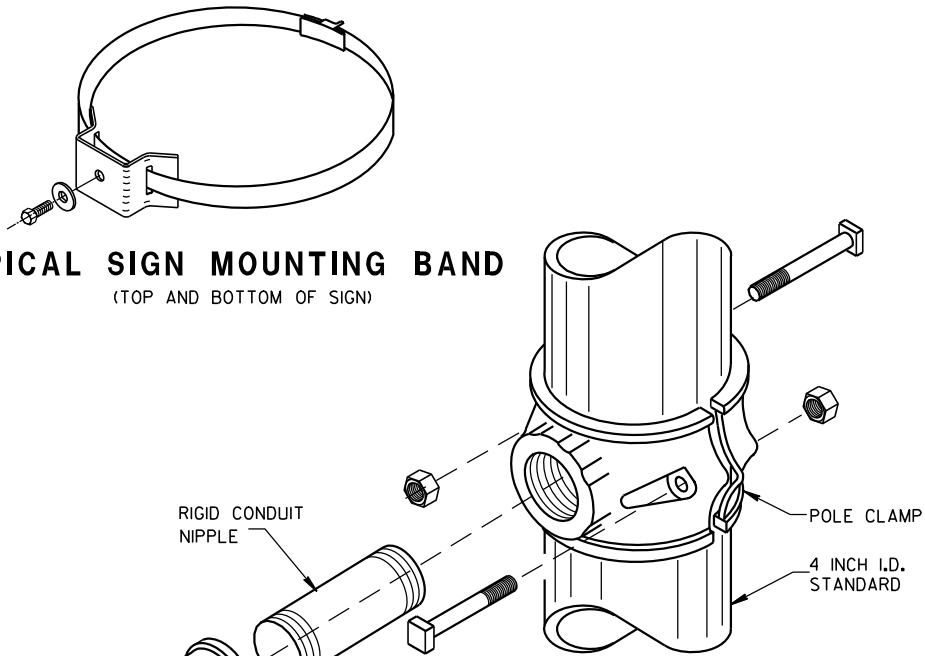
**TRAFFIC SIGNAL STANDARD  
POLY BRACKET MOUNTINGS  
(TYPICAL) 13 FT. OR 15 FT.**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

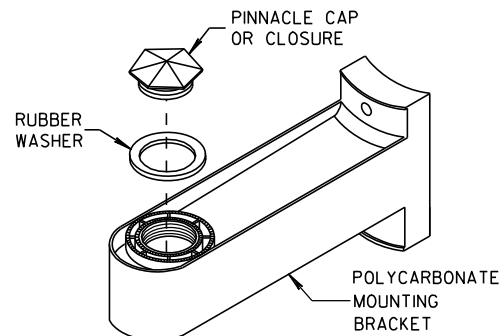
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5/11/10 /S/ John Corbin  
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**TYPICAL SIGN MOUNTING BAND**

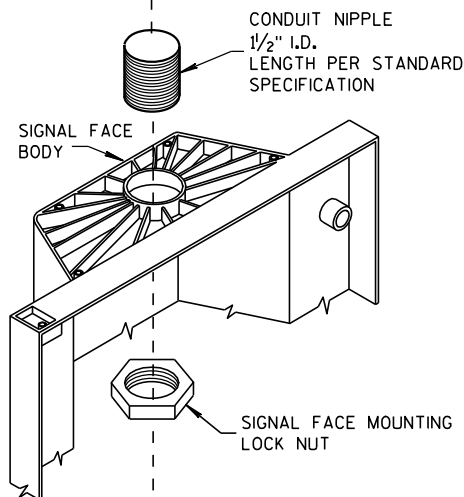
(TOP AND BOTTOM OF SIGN)



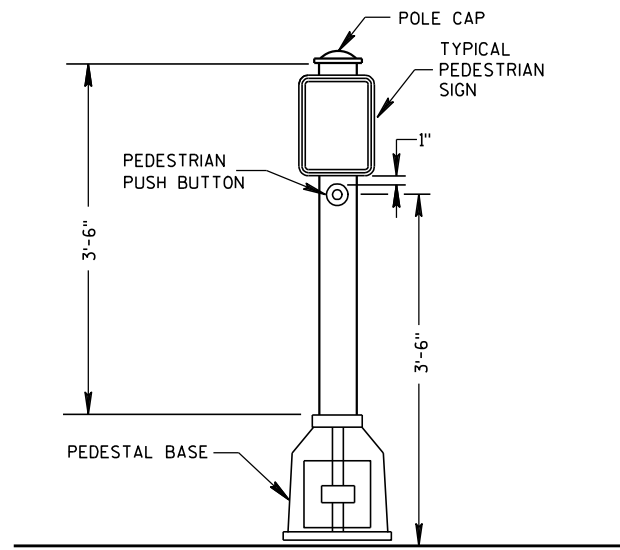
(ORNAMENTAL)



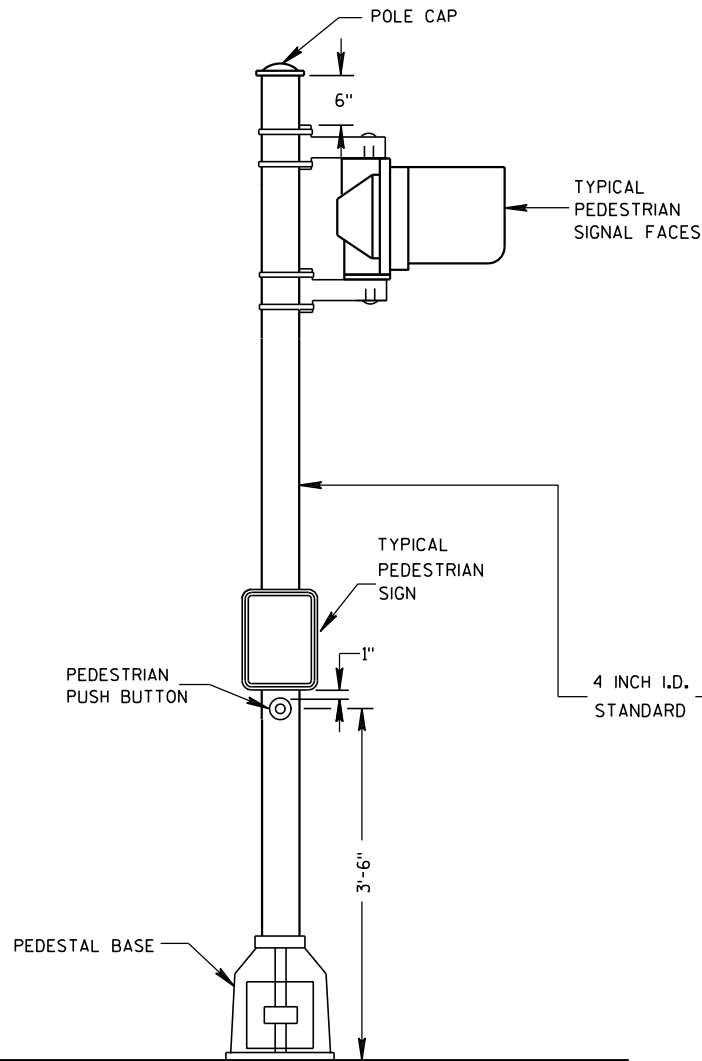
(BANDED)



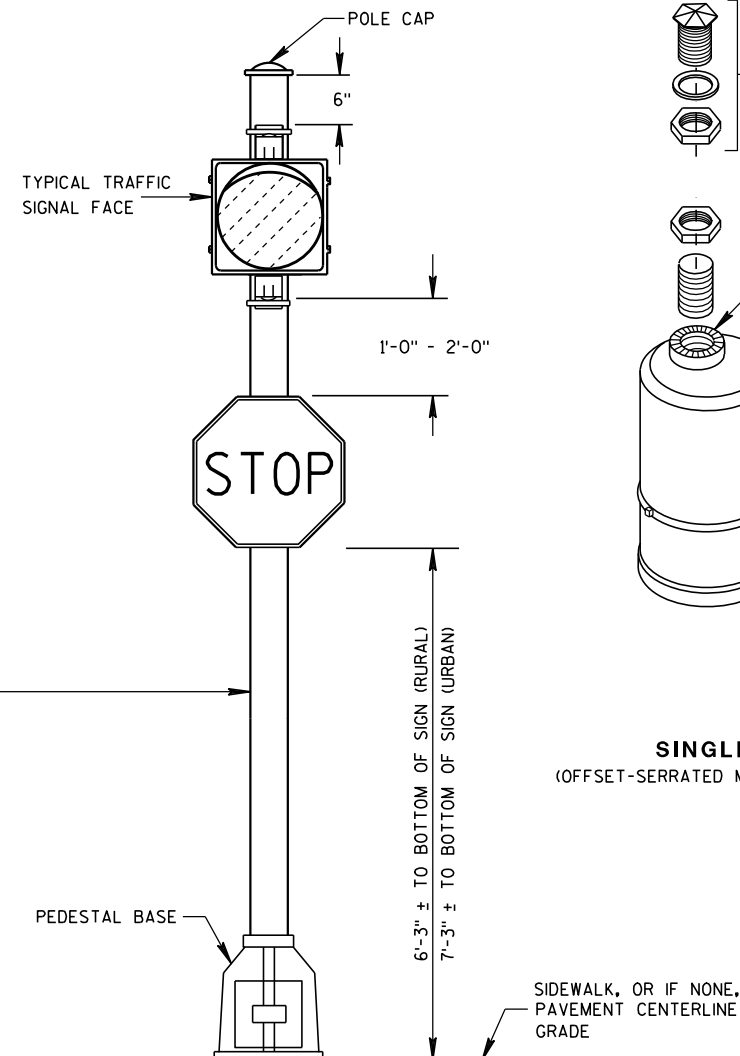
**SIGNAL FACE MOUNTING DETAILS**



**PEDESTRIAN PUSH BUTTON  
TYPICAL MOUNTING**



**PEDESTRIAN FACE STANDARD-10 FT.  
(WALK-DON'T WALK)**



**STANDARD FLASHER.  
10 FOOT, 13 FOOT OR 15 FOOT AS REQUIRED**

**GENERAL NOTES**

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIFICATIONS.

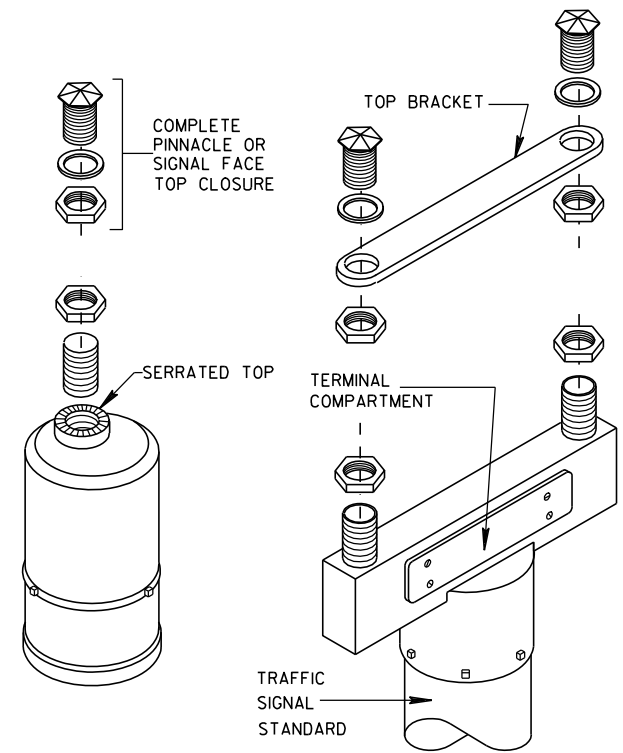
POLYCARBONATE SIGNAL FACE MOUNTING BRACKETS SHALL BE USED UNLESS ORNAMENTAL POLE CLAMPS ARE SPECIFIED.

LENGTH OF TRAFFIC STANDARDS SHALL BE AS SHOWN ON THE PLANS.

MOUNTINGS AND BRACKETS SHALL BE AS SHOWN ON THE PLANS OR DESCRIBED IN THE SPECIAL PROVISIONS (BY THE DISTRICT TRAFFIC ENGINEER).

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

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.



**SINGLE**  
(OFFSET-SERRATED MOUNTING)

**DOUBLE**  
(SERRATED MOUNTING)

**SLIPFITTERS**

**TRAFFIC SIGNAL STANDARD  
PEDESTRIAN AND FLASHER  
TYPICAL MOUNTING DETAILS**

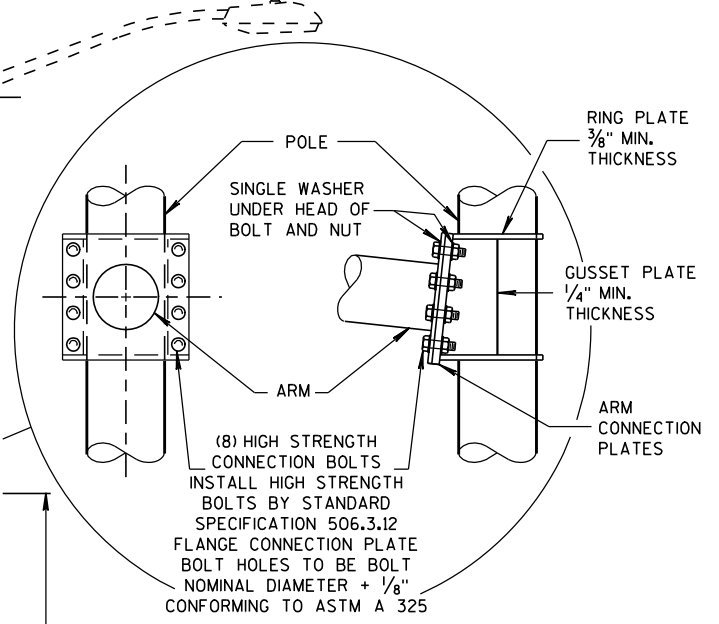
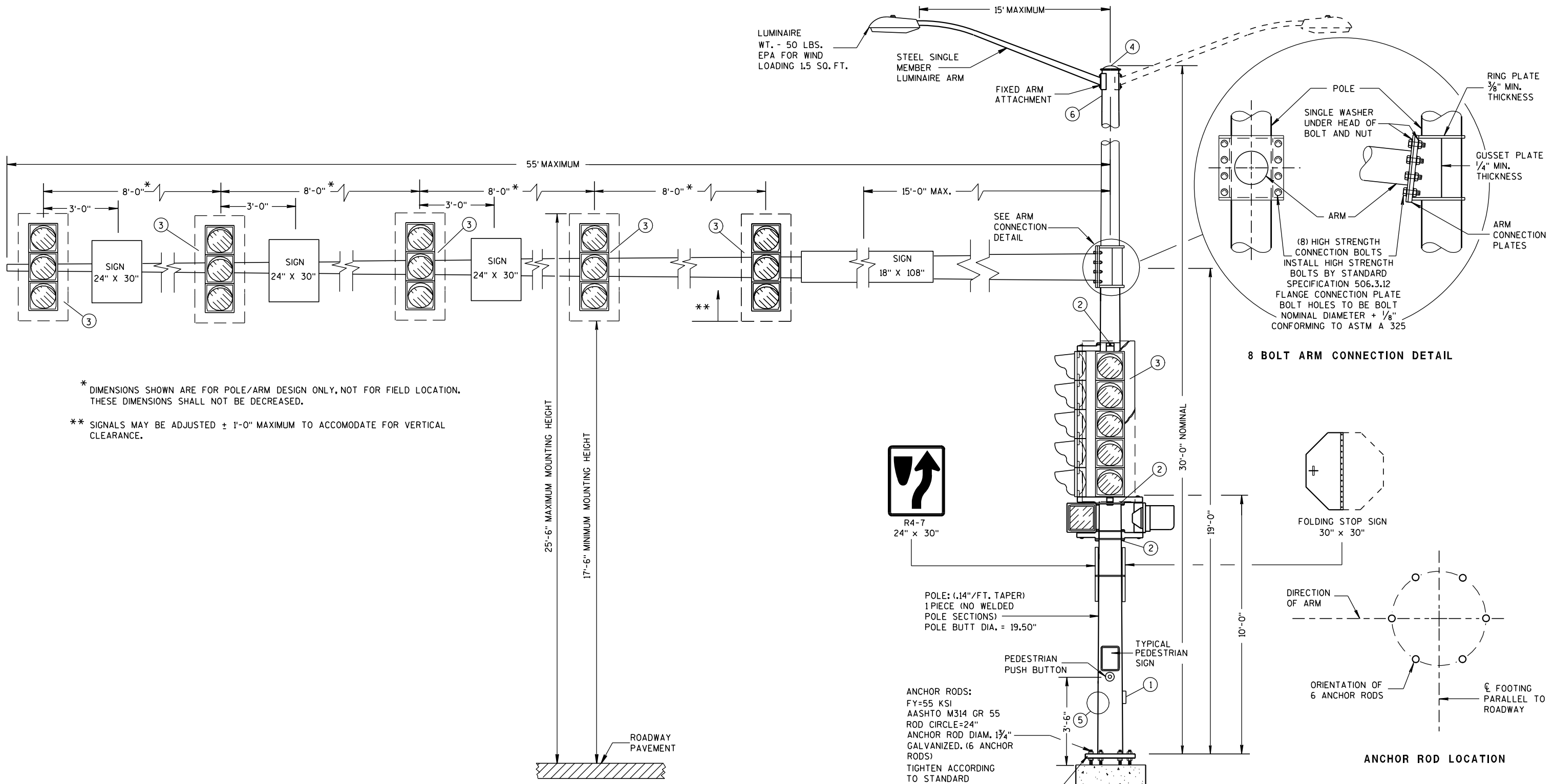
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

5/11/10  
DATE

/s/ John Corbin  
STATE ELECTRICAL ENGINEER FOR HWYS

FHWA

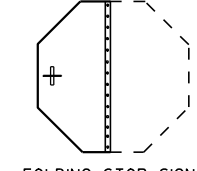


**8 BOLT ARM CONNECTION DETAIL**

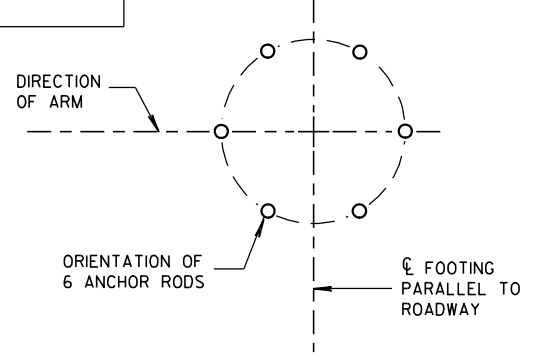
\* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.  
 \*\* SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.



R4-7  
24" x 30"



FOLDING STOP SIGN  
30" x 30"



**ANCHOR ROD LOCATION**

POLE: (.14"/FT. TAPER)  
 1 PIECE (NO WELDED  
 ROD SECTIONS)  
 POLE BUTT DIA. = 19.50"

ANCHOR RODS:  
 FY=55 KSI  
 AASHTO M314 GR 55  
 ROD CIRCLE=24"  
 ANCHOR ROD DIAM. 1 3/4"  
 GALVANIZED. (6 ANCHOR  
 RODS)  
 TIGHTEN ACCORDING  
 TO STANDARD  
 SPECIFICATION 641.3.1.2

MINIMUM  
 BASE PLATE  
 THICKNESS = 1 3/4"

(MAXIMUM LOAD)

**TYPE 13 POLE 35' - 55' MONOTUBE ARM**

**TYPE 13 POLE  
 35' - 55' MONOTUBE ARM**

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

APPROVED  
 3/2/2011 /S/ Thomas J. Conring  
 DATE STATE ELECTRICAL ENGINEER FOR HWYS  
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**GENERAL NOTES**

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

POLE TYPES 9 AND 10 ARE FOR ARM LENGTHS 15-FOOT TO 30-FOOT.

POLE TYPES 12 AND 13 ARE FOR ARM LENGTHS 35-FOOT TO 55-FOOT.

MONOTUBE POLE AND ARM SHALL BE GALVANIZED STEEL.

RING-STIFFENED BUILT-UP BOX TYPE OF ATTACHMENT FOR TRAFFIC SIGNAL ARM.

ONE (1) PIECE POLE CONSTRUCTION (NO WELDED POLE SECTIONS).

STANDARD STRAIGHT ARM DESIGN (3% ± RISE).

SECTION 657, POLES OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

PROVIDE WIREWAY THRU POLE WALL AND ARM CONNECTION PLATES. PROVIDE ROUND, SMOOTH INSIDE SURFACE.

MANUFACTURER'S SUBMITTED POLE DESIGNS AND DRAWINGS SHALL BE SIGNED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER AND CERTIFIED AS BEING IN COMPLIANCE WITH THE LATEST AASHTO AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR TRAFFIC AND LIGHTING STRUCTURES AND AS FOLLOWS:

- CATEGORY III FATIGUE LOADS OF GALLOPING, TRUCK GUSTS ( AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 AND TYPE 10 STRUCTURES.
- CATEGORY II FATIGUE LOADS OF GALLOPING, TRUCK GUSTS ( AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 12 AND TYPE 13 STRUCTURES.
- 90 MPH (3-SECOND GUST) WIND SPEED AND A 50 YEAR DESIGN LIFE.

SECURE THE OPENING BELOW THE BASE PLATE WITH STAINLESS STEEL OR GALVANIZED STEEL MESH AND SECURE THE MESH WITH 3/4" S.S. BANDING AROUND THE LEVELING NUTS.

INDENT PRINT (NOMINAL 1/2" HIGH) THE POLE LENGTH AND FIRST TWO LETTERS OF THE MANUFACTURERS NAME ON TWO SIDES OF THE BASE PLATE 180 DEGREES APART, BEFORE GALVANIZING. THE ARM SHALL BE IDENTIFIED WITH THE SAME INFORMATION BY INDENT PRINT.

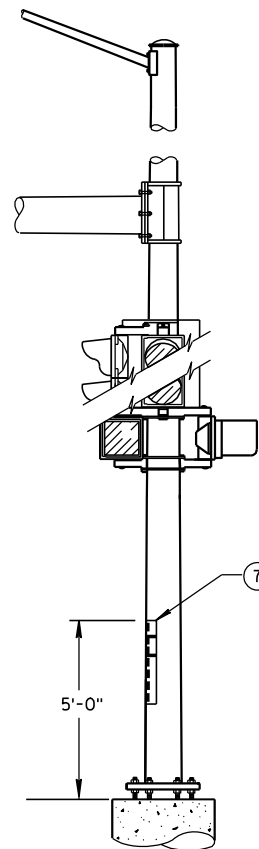
SIGNAL FACE SHALL BE MOUNTED 6 INCHES (NOMINAL) FROM THE END OF THE MONOTUBE ARM OR AS SHOWN ON THE PLAN CONSTRUCTION DETAIL OR AS DIRECTED BY THE PROJECT ENGINEER/ELECTRICAL OPERATIONS PERSONNEL. MOUNT ALL LIKE HEADS AT SAME ELEVATION.

SIGN MOUNTING BRACKETS SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 637 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.

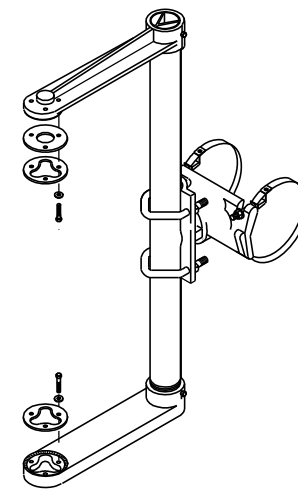
- ① DESIGN FOR MAXIMUM ALLOWABLE HANDHOLE WITH COVER ASSEMBLY WITH TWO 1/4" x 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.
- ② SIGNAL MOUNTING BRACKETS FOR POLE MOUNTING, MOUNT WITH CAP SCREW AND BANDING, (SEE SPECIFICATIONS SEC. 658).
- ③ SECURELY MOUNT BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURERS RECOMMENDATIONS.
- ④ THE TOP OF THE POLE SHAFT AND THE END OF THE MONOTUBE ARM SHALL BE EQUIPPED WITH A REMOVABLE, VENTILATED CAP HELD SECURELY IN PLACE WITH SET SCREWS.
- ⑤ FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR 1/4" x 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.
- ⑥ FACTORY-WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.
- ⑦ INSTALL DEPARTMENT PROVIDED STRUCTURAL IDENTIFICATION PLAQUES.

STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

MOUNTING HEIGHT SHALL BE 5'-0" ABOVE THE CURB OR SHOULDER . ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

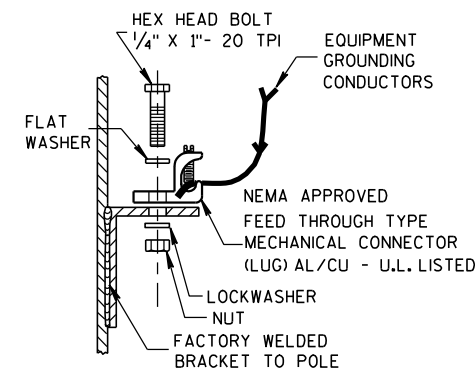


**STRUCTURAL IDENTIFICATION PLAQUE PLACEMENT**



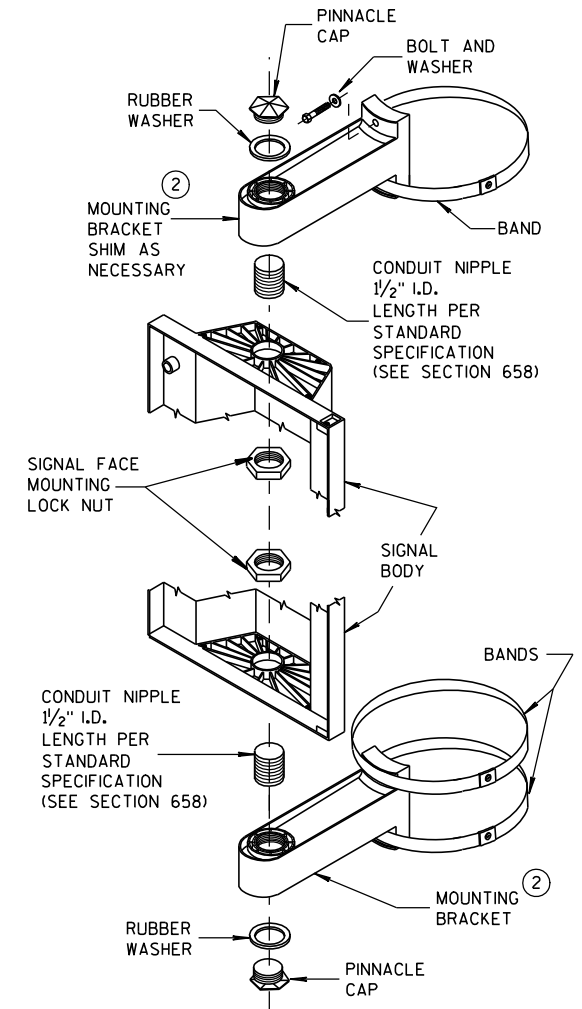
**SIGNAL FACE MOUNTING BRACKET  
DETAIL FOR MONOTUBE ARM**

(MOUNT PER MANUFACTURER'S RECOMMENDATION)

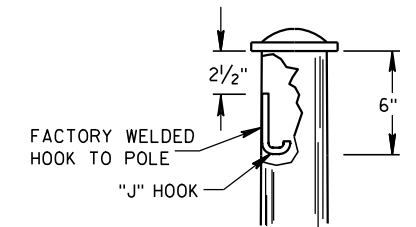


**TYPICAL GROUNDING CONNECTIONS**

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



**SIGNAL FACE  
VERTICAL MOUNTING DETAIL**



**"J" HOOK WIRE SUPPORT**

**GENERAL NOTES AND HARDWARE  
DETAILS FOR TYPE 9, 10, 12 & 13  
POLES WITH MONOTUBE ARMS**

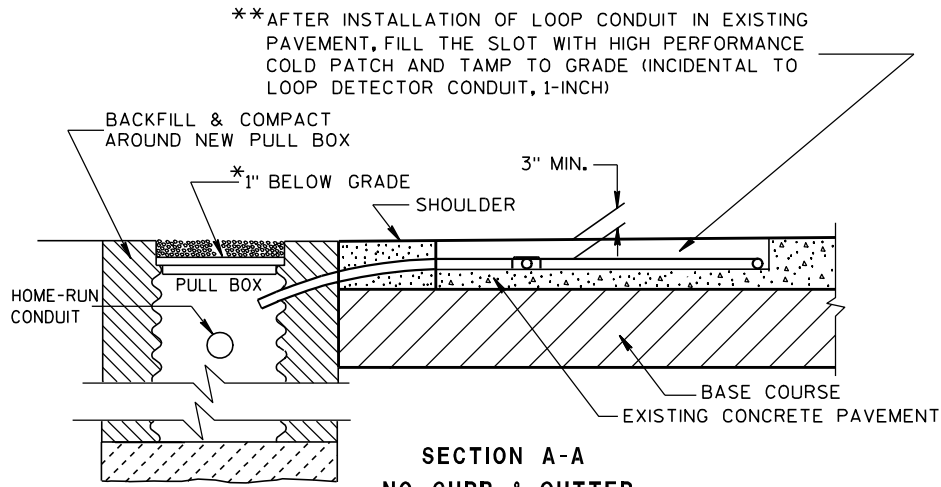
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011  
DATE

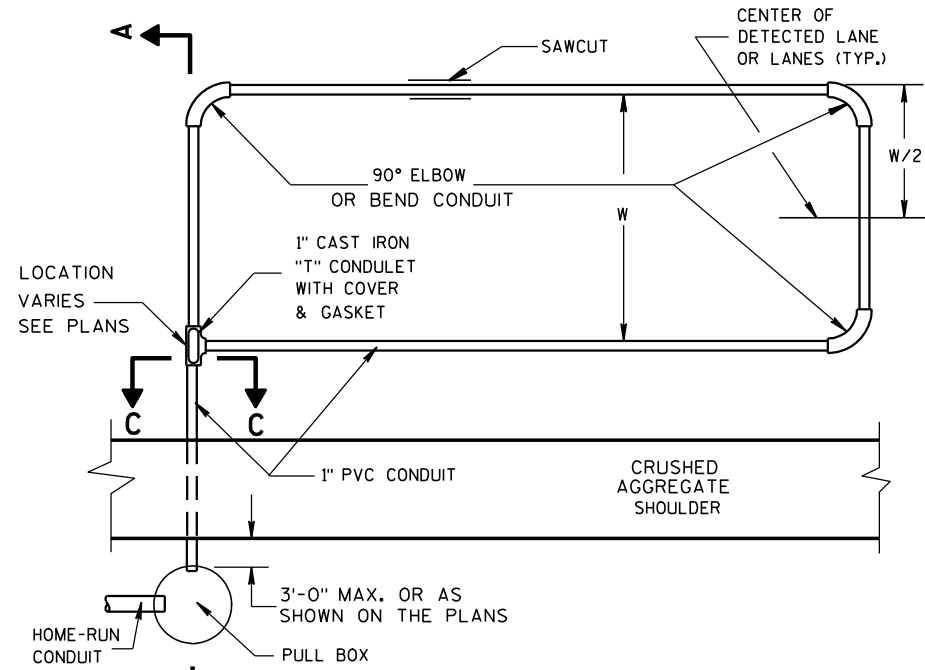
/s/ Thomas J. Gorring  
STATE ELECTRICAL ENGINEER FOR HWYS

FHWA

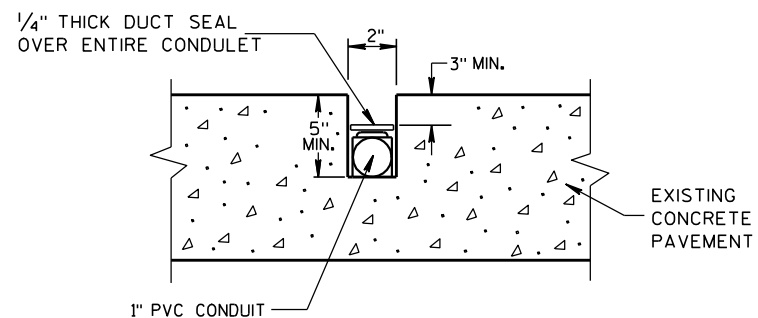


**SECTION A-A  
NO CURB & GUTTER  
LOOP DETECTOR INSTALLATION DETAIL**

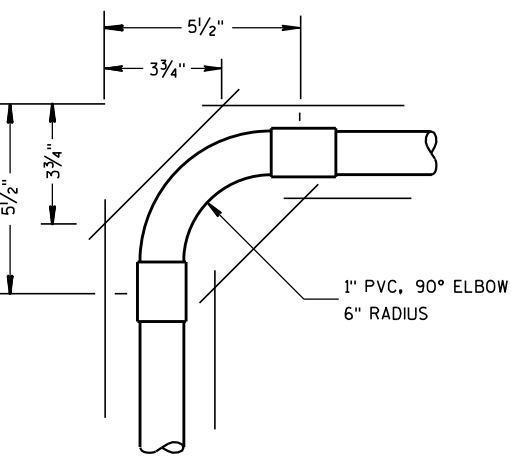
\*\*RECESS PULL BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.



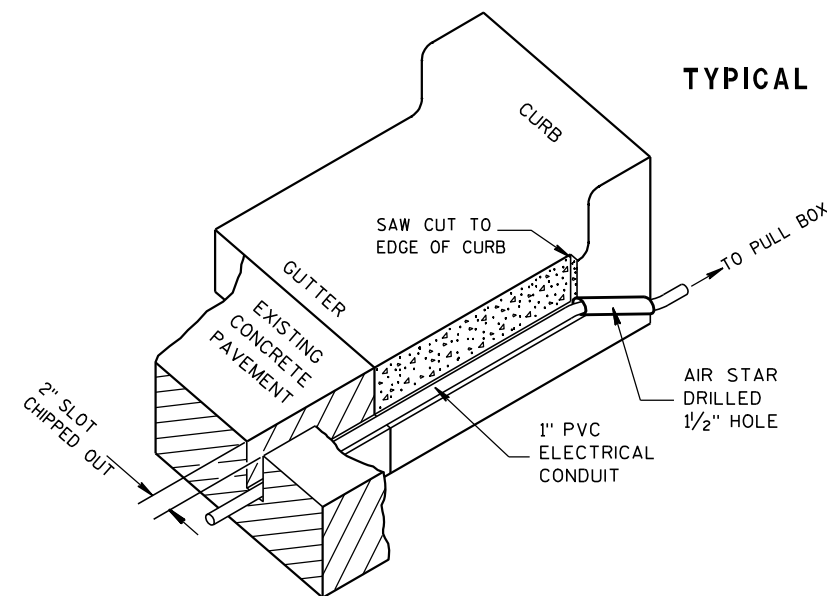
**TYPICAL PLAN OF LOOP DETECTOR**



**SIDE VIEW  
SECTION C-C  
LOOP DETECTOR SLOT DETAIL**



**TOP VIEW  
CORNER SAW SLOT DETAIL**



**ISOMETRIC VIEW  
TYPICAL SAW CUT DETAIL FOR LEAD-IN CONDUIT**

**GENERAL NOTES**

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

LOOP SIZE, LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS SUCH AS 3M TYPE 82A1 OR APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

BEFORE PLACING THE 1 INCH CONDUIT IN THE CLEANED OUT SLOT, PLACE SOME OF THE TAR OR EPOXY SEALANT IN THE SLOT TO A DEPTH OF APPROXIMATELY 1/2 INCH.

ONCE THE 2" LOOP SLOT HAS BEEN CHIPPED OUT, THE LOOP INSTALLATION SHALL BE COMPLETED PRIOR TO OPENING THE LANE(S) TO TRAFFIC.

ANTI-SIEZE LUBRICATING MATERIAL SHALL BE USED ON ALL THREADS OF THREADED ASSEMBLIES BEFORE INSTALLATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

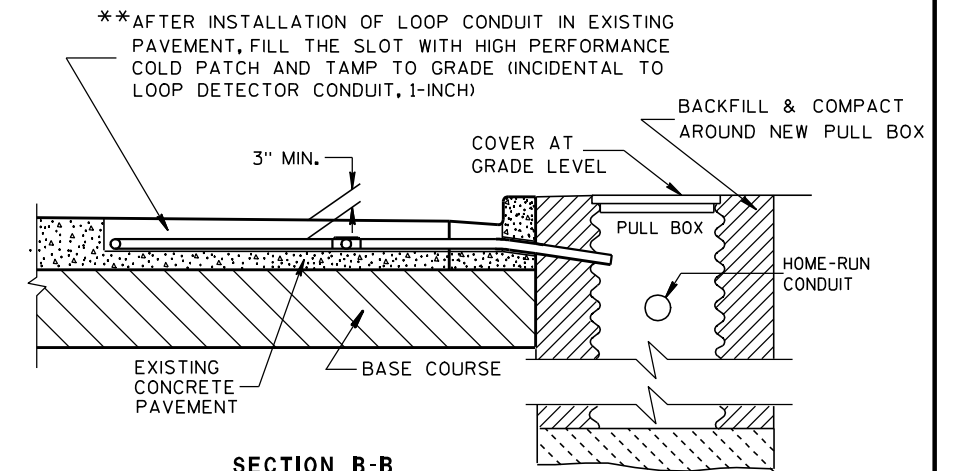
THE #12 AWG LOOP WIRE FROM THE LOOP TO THE ROADSIDE PULL BOX, SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE INSTALLATION.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL BOXES AT THE SIDE OF THE ROAD.

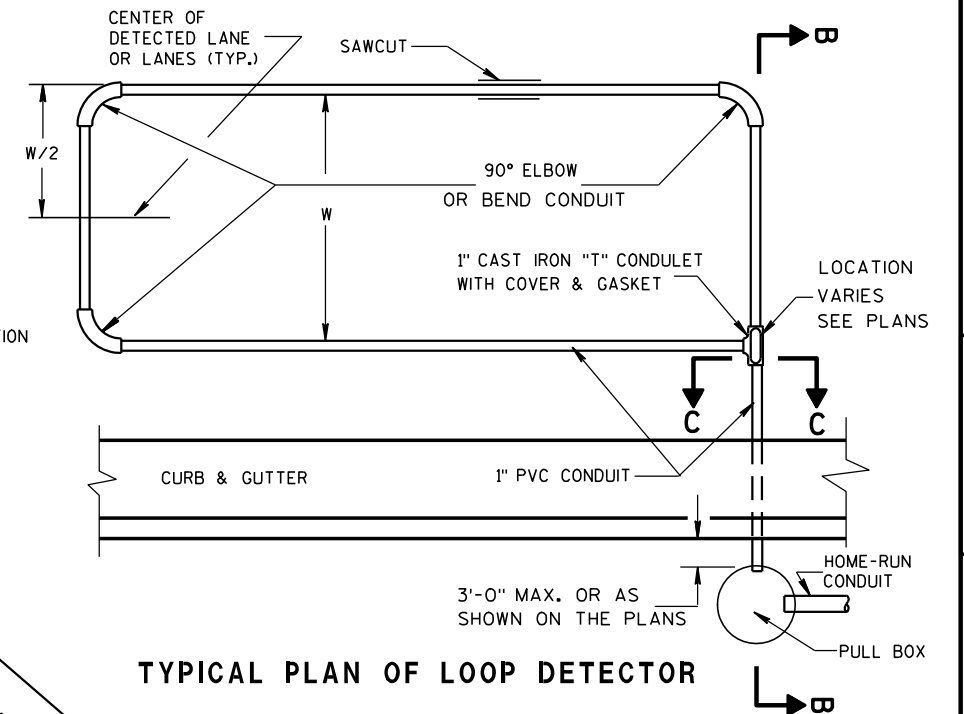
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL BOX, THROUGH THE LOOP CONDUIT BACK TO THE ROADSIDE PULL BOX, AND BE INSTALLED IN ONE, NON-SPLICED, CONTINUOUS LENGTH.

\*\* AFTER THE HIGH PERFORMANCE COLD PATCH HAS BEEN TAMPED, SEAL THE SLOT/HIGH PERFORMANCE COLD PATCH/PAVEMENT OPENING WITH HOT POURED ELASTIC TYPE MATERIAL CONFORMING TO THE REQUIREMENTS OF THE "SPECIFICATION FOR JOINT SEALANTS, HOT POURED, FOR CONCRETE AND ASPHALT PAVEMENTS, ASTM DESIGNATION: D3405".

IN THE EVENT HIGH PERFORMANCE COLD PATCH IS NOT AVAILABLE, AND FLEXIBLE TYPE EPOXY IS USED AS A LOOP SLOT FILLER, THE 2 INCH SLOT SHALL BE TOTALLY CLEAN AND DRY BEFORE ITS INSTALLATION. EPOXY USE SHALL BE APPROVED BY THE DISTRICT TRAFFIC ENGINEER AND THE FURNISHED EPOXY SHALL BE INSTALLED AFTER WRITTEN APPROVAL BY THE PROJECT ENGINEER.



**SECTION B-B  
CURB & GUTTER  
LOOP DETECTOR INSTALLATION DETAIL**



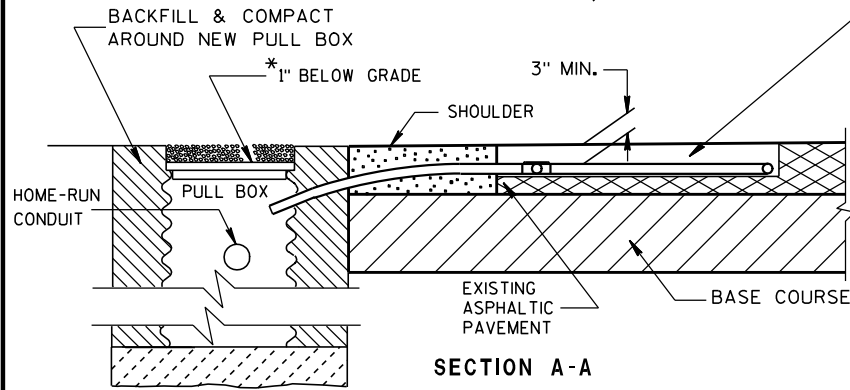
**TYPICAL PLAN OF LOOP DETECTOR**

**LOOP DETECTOR INSTALLED IN EXISTING CONCRETE PAVEMENT**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

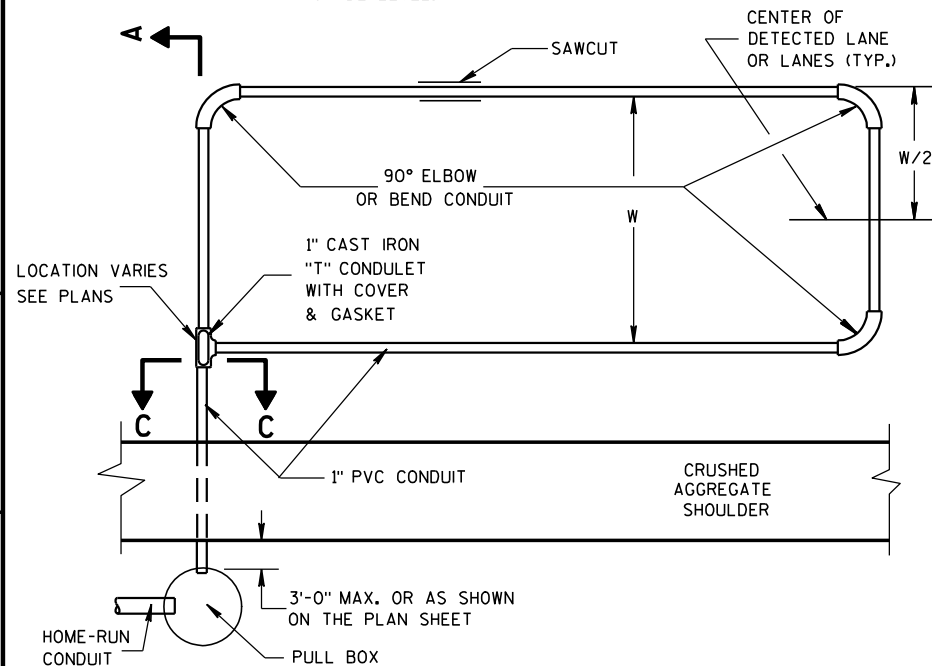
APPROVED  
6/7/06 /S/ Balu Ananthanarayanan  
DATE STATE ELECTRICAL ENGINEER FOR HWYS  
FHWA

\*\*AFTER INSTALLATION OF LOOP CONDUIT IN EXISTING PAVEMENT, FILL THE SLOT WITH HIGH PERFORMANCE COLD PATCH AND TAMP TO GRADE (INCIDENTAL TO LOOP DETECTOR CONDUIT, 1-INCH)

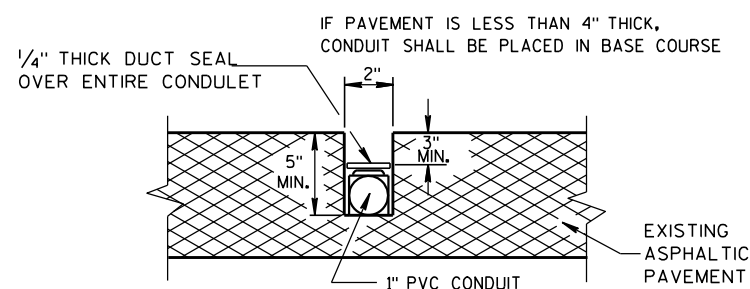


**SECTION A-A  
NO CURB & GUTTER  
TYPICAL PLAN OF LOOP DETECTOR**

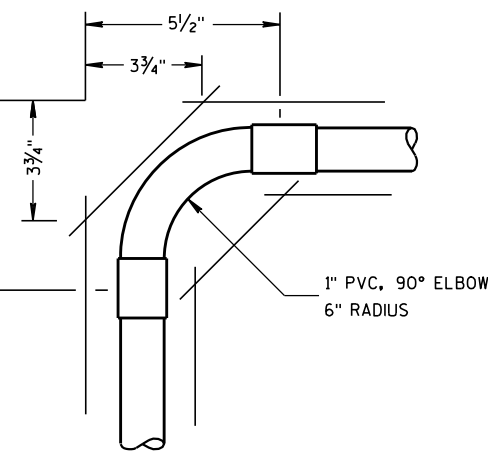
\*RECESS PULL BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.



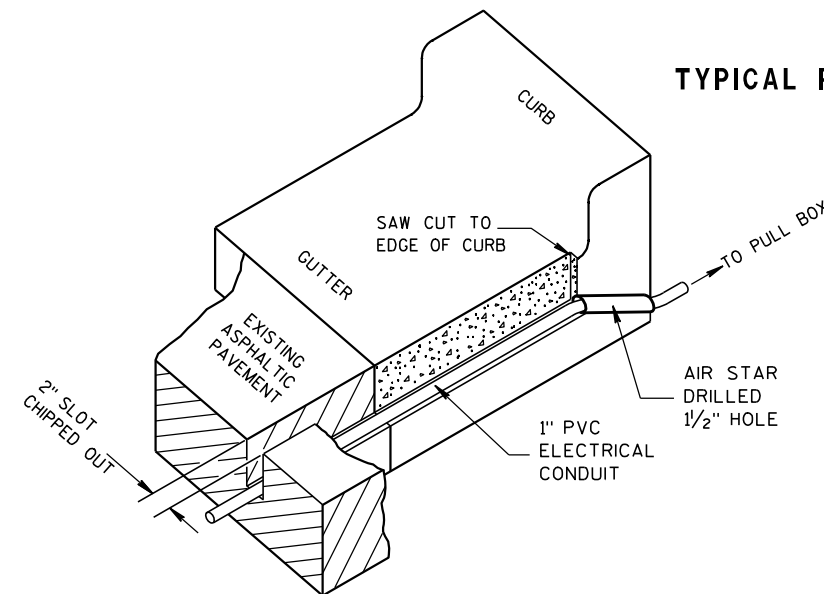
**TYPICAL PLAN OF DETECTOR LOOP**



**SIDE VIEW SECTION C-C  
LOOP DETECTOR SLOT DETAIL**



**TOP VIEW  
CORNER SAW SLOT DETAIL**



**ISOMETRIC VIEW  
TYPICAL SAW CUT DETAIL FOR LEAD-IN CONDUIT**

**GENERAL NOTES**

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

LOOP SIZE, LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS SUCH AS 3M TYPE 82A1 OR APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

ANTI-SIEZE LUBRICATING MATERIAL SHALL BE USED ON ALL THREADS OF THREADED ASSEMBLIES BEFORE INSTALLATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

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SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL BOXES AT THE SIDE OF THE ROAD.

THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL BOX, THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL BOX, AND BE INSTALLED IN ONE, NON-SPLICED, CONTINUOUS LENGTH.

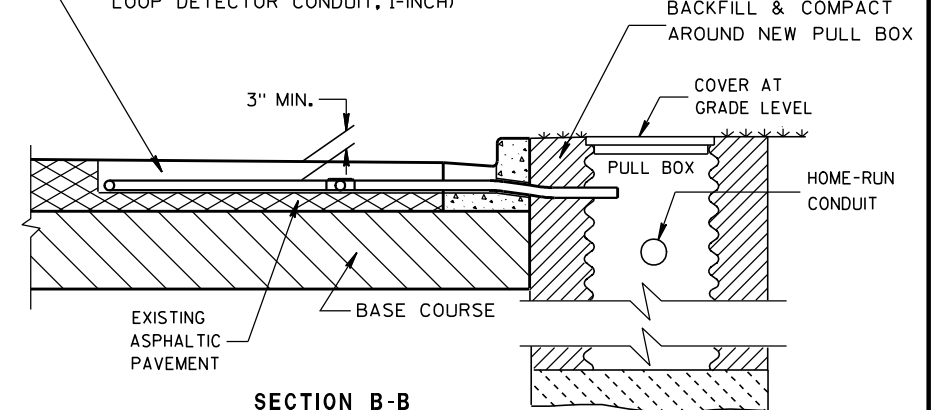
IN THE EVENT THAT THE EXISTING PAVEMENT IS MORE THAN 5 INCHES THICK, AND THEREFORE, THE 1 INCH CONDUIT DOES NOT REQUIRE INSTALLATION BELOW THE PAVEMENT INTO THE BASE COURSE, PLACE SOME OF THE TAR OR EPOXY SEALANT IN THE SLOT TO A DEPTH OF APPROXIMATELY 1/2 INCH BEFORE INSTALLATION OF THE CONDUIT. IF THE CONDUIT MUST BE PLACED IN THE BASE COURSE, DO NOT PLACE THE TAR OR EPOXY SEALANT IN THE SLOT.

ONCE THE 2" LOOP SLOT HAS BEEN CHIPPED OUT, THE LOOP INSTALLATION SHALL BE COMPLETED PRIOR TO OPENING THE LANE(S) TO TRAFFIC.

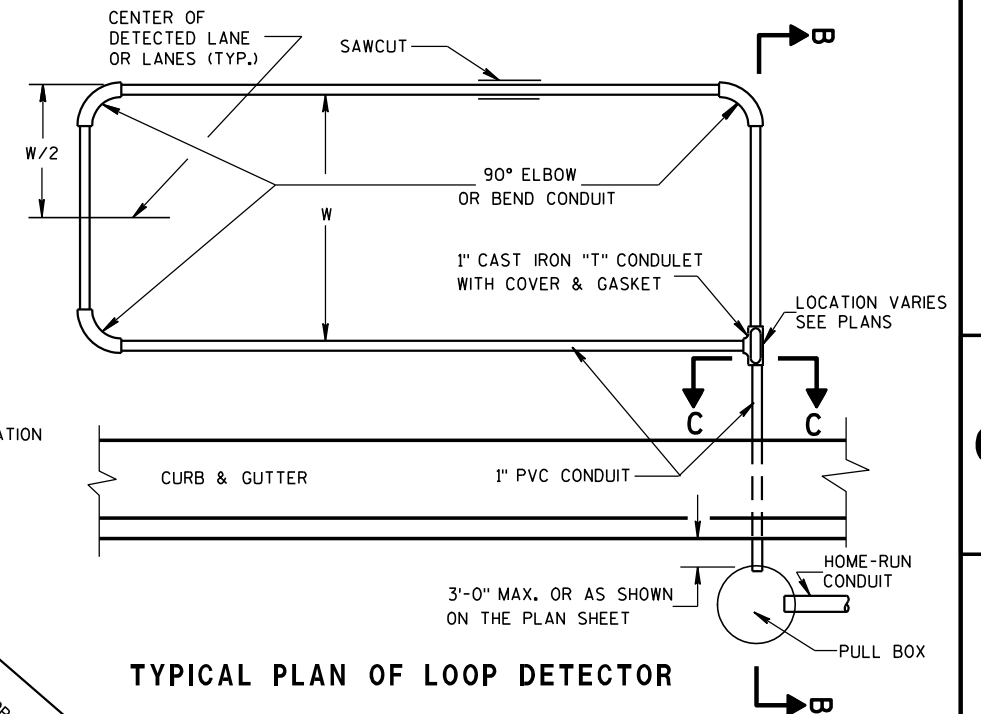
\*\* AFTER THE HIGH PERFORMANCE COLD PATCH HAS BEEN TAMPED, SEAL THE SLOT/HIGH PERFORMANCE COLD PATCH/PAVEMENT OPENING WITH HOT POURED ELASTIC TYPE MATERIAL CONFORMING TO THE REQUIREMENTS OF THE "SPECIFICATION FOR JOINT SEALANTS, HOT POURED, FOR CONCRETE AND ASPHALT PAVEMENTS, ASTM DESIGNATION: D3405".

IN THE EVENT HIGH PERFORMANCE COLD PATCH IS NOT AVAILABLE, AND FLEXIBLE TYPE EPOXY IS USED AS A LOOP SLOT FILLER, THE 2 INCH SLOT SHALL BE TOTALLY CLEAN AND DRY BEFORE ITS INSTALLATION. EPOXY USE SHALL BE APPROVED BY THE DISTRICT TRAFFIC ENGINEER AND THE FURNISHED EPOXY SHALL BE INSTALLED AFTER WRITTEN APPROVAL BY THE PROJECT ENGINEER.

\*\*AFTER INSTALLATION OF LOOP CONDUIT IN EXISTING PAVEMENT, FILL THE SLOT WITH HIGH PERFORMANCE COLD PATCH AND TAMP TO GRADE (INCIDENTAL TO LOOP DETECTOR CONDUIT, 1-INCH)



**SECTION B-B  
CURB & GUTTER  
LOOP DETECTOR INSTALLATION DETAIL**

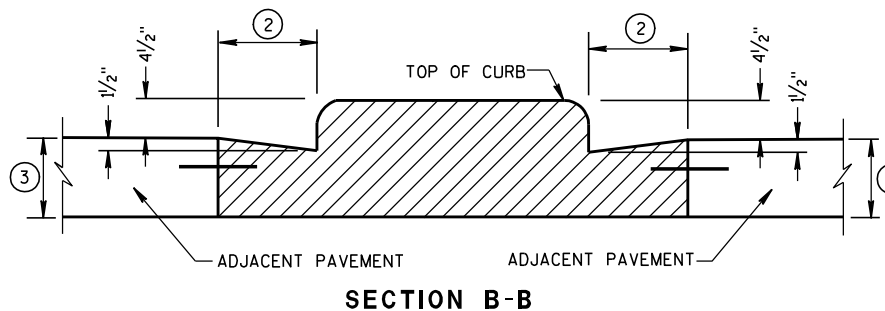
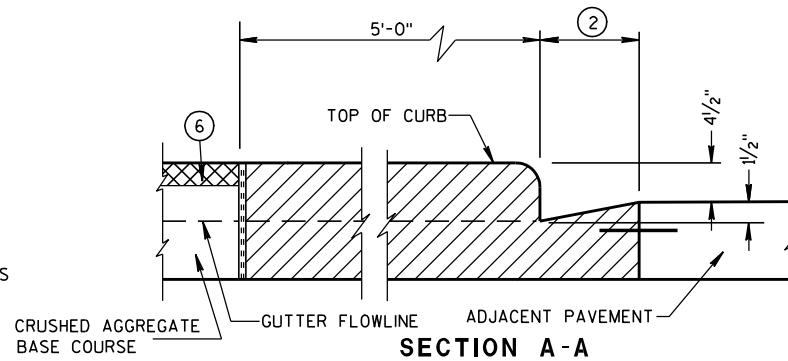
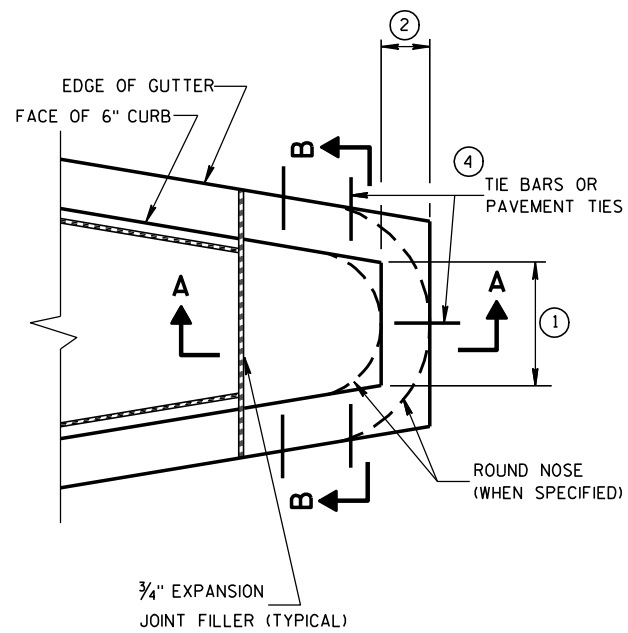
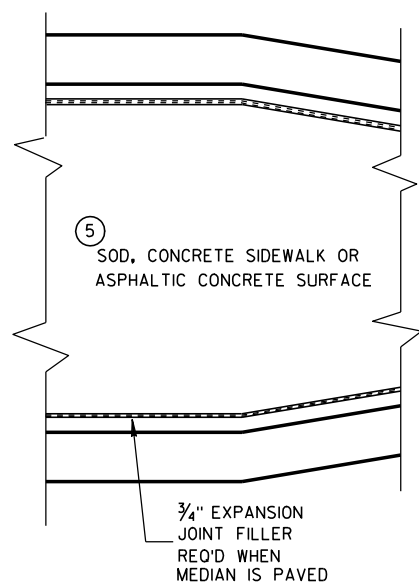


**TYPICAL PLAN OF LOOP DETECTOR**

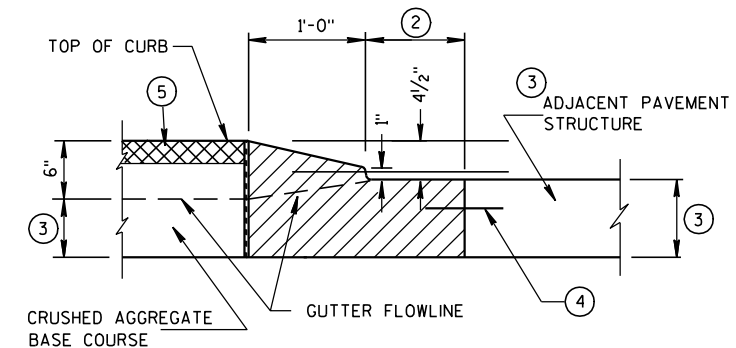
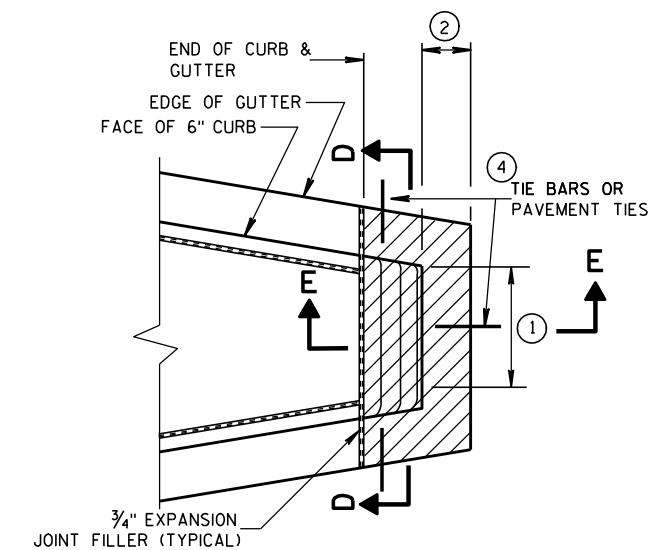
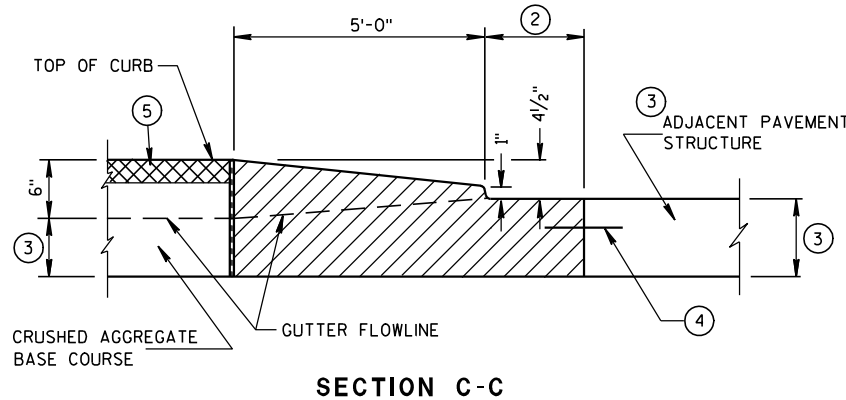
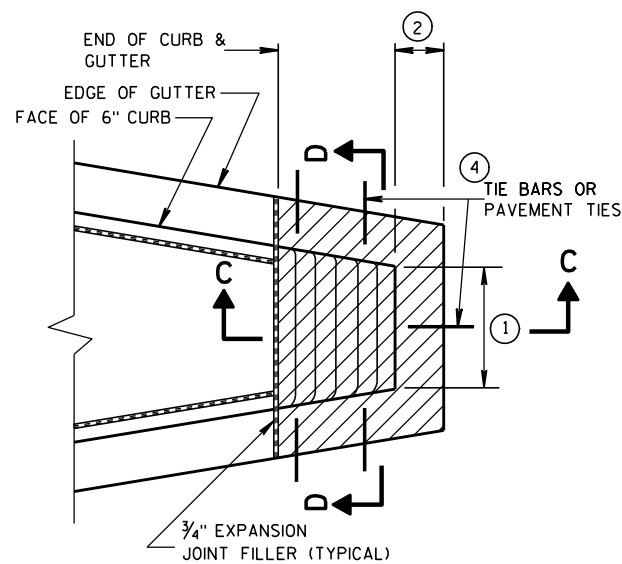
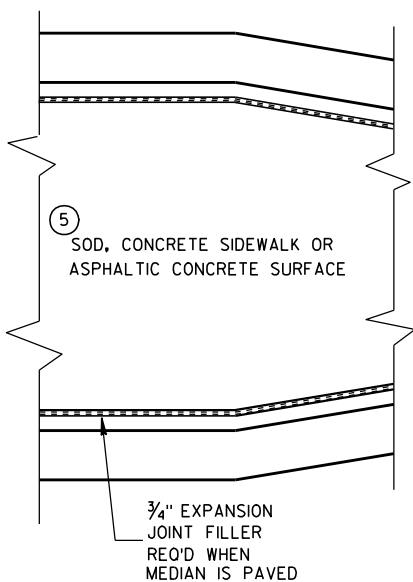
**LOOP DETECTOR INSTALLED IN EXISTING ASPHALTIC PAVEMENT**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
6/7/06 /S/ Balu Ananthanarayanan  
DATE STATE ELECTRICAL ENGINEER FOR HWYS  
FHWA

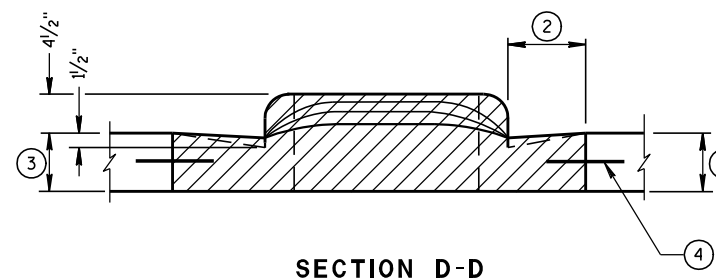


**CONCRETE MEDIAN BLUNT NOSE DETAIL**



**CONCRETE MEDIAN SLOPED NOSE TYPE 2**

**CONCRETE MEDIAN SLOPED NOSE TYPE 1**



**GENERAL NOTES**

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

- ① SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).
- ② WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.
- ③ DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:
  - (1) NEW OR EXISTING CONCRETE PAVEMENT.
  - (2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.
  - (3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

- ④ TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

- ⑤ SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

**CONCRETE MEDIAN NOSE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

6/8/2006

DATE

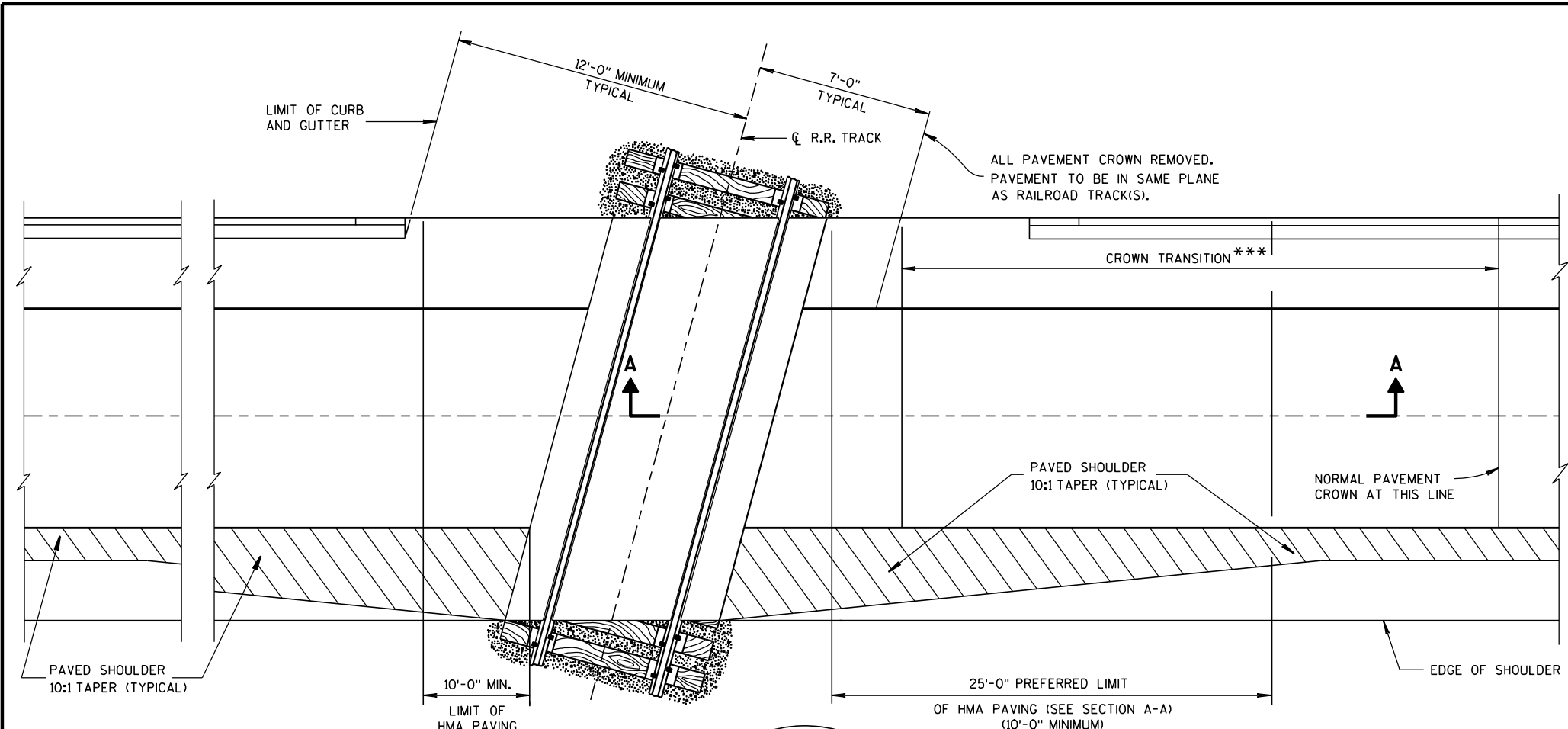
/s/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

ENGINEER

FHWA





**GENERAL NOTES**

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

TIMBER, CONCRETE OR RUBBER CROSSING SURFACE MATERIAL, RAILS, TIES, BALLAST, GEOTEXTILE FABRIC AND CROSSING DRAINAGE SYSTEM BY OTHERS UNLESS OTHERWISE PROVIDED.

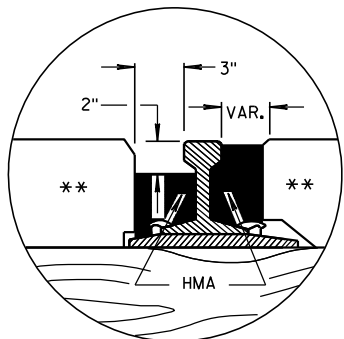
HMA PAVEMENT APPROACHES AND HMA PAVEMENT CROSSING SURFACES TO BE PLACED BY CONTRACTOR UNLESS OTHERWISE PROVIDED.

HMA FLANGEWAY AND FIELD FILLERS TO BE PLACED AND THOROUGHLY HAND COMPACTED BY THE CONTRACTOR WHEN NOT PROVIDED BY OTHERS. SEE DETAIL B. HMA FILLERS NOT REQUIRED WHEN RUBBER FILLERS ARE PROVIDED.

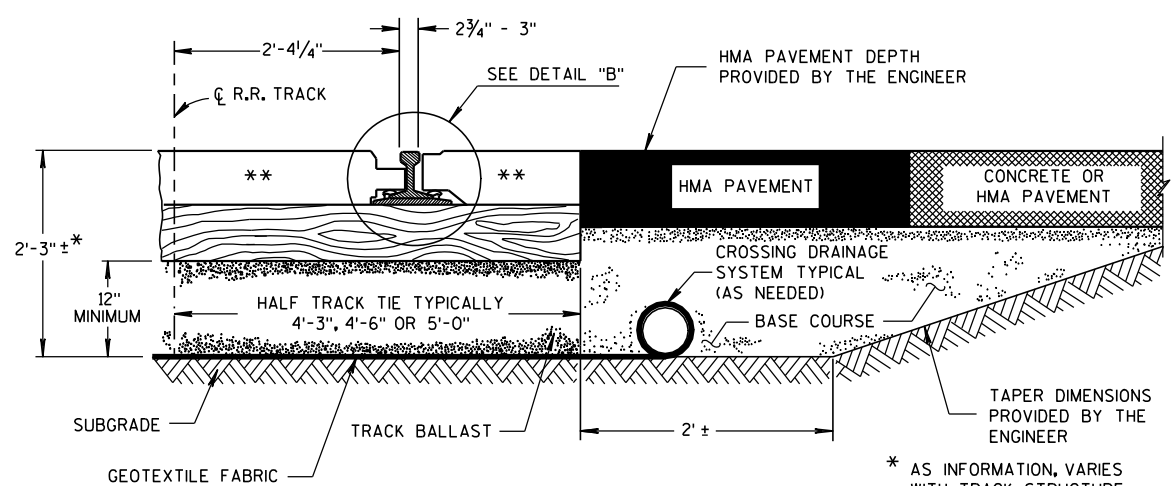
HMA PAVEMENT SHALL BE ROLLED PARALLEL TO THE TRACK.

\*\* CROSSING SURFACE MAY BE TIMBER, RUBBER, CONCRETE, HMA PAVEMENT OR A COMBINATION OF SUCH MATERIALS.

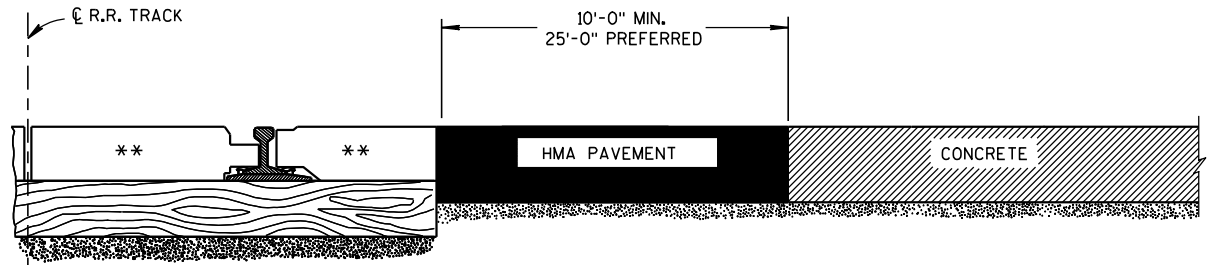
\*\*\* CROWN TRANSITION LENGTH SHOWN ELSEWHERE IN THE PLAN.



**DETAIL B  
HMA FLANGEWAY  
AND FIELD FILLERS**



**TYPICAL HALF SECTION**



**SECTION A-A  
CONCRETE PAVEMENT APPROACH**



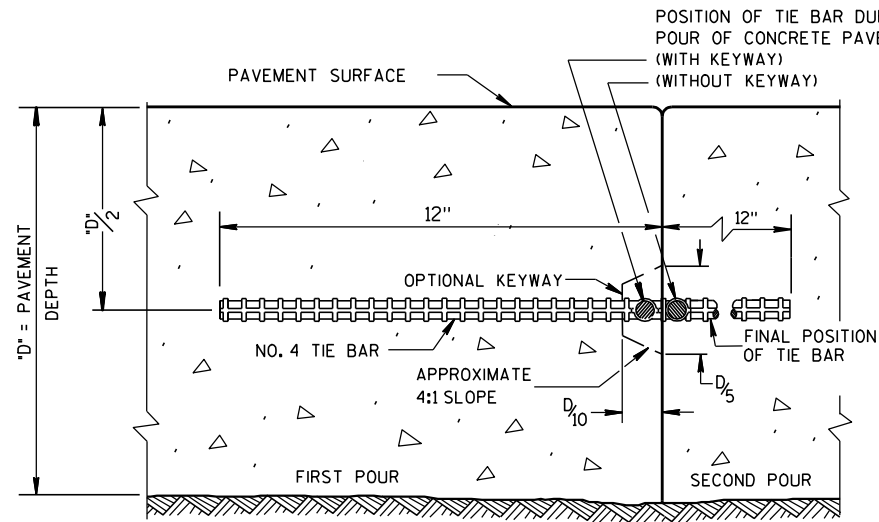
**SECTION A-A  
HMA PAVEMENT APPROACH**

**EXAMPLES OF PAVEMENT APPROACHES**

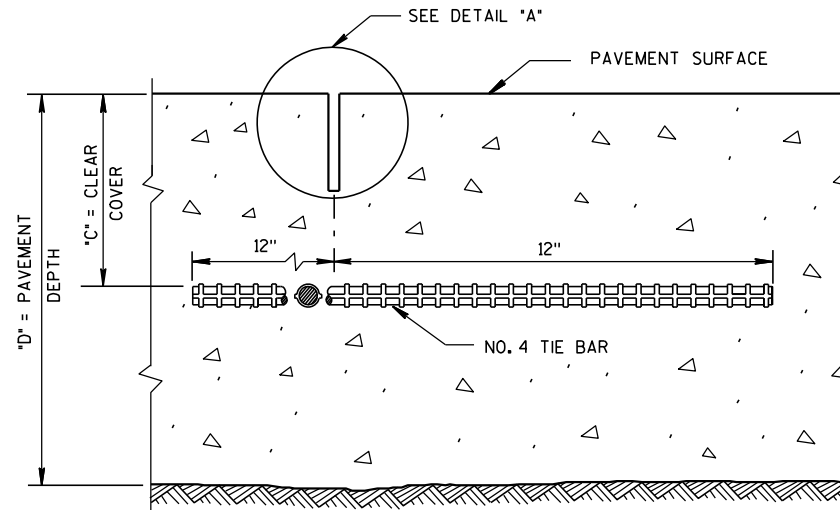
**PAVEMENT DETAILS  
FOR RAILROAD APPROACH**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
8-28-09 /S/ Ronald E. Adams  
DATE CHIEF, RAILROADS & HARBORS SECTION  
FHWA



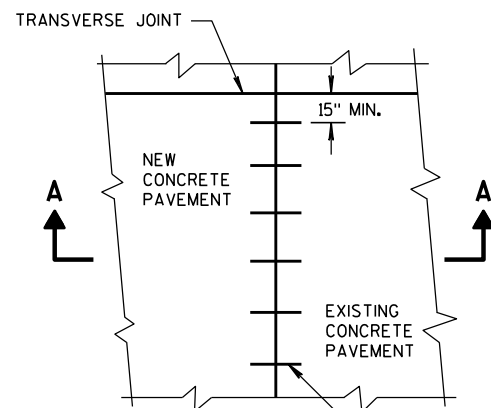
**CONSTRUCTION JOINT**



**SAWED JOINT**

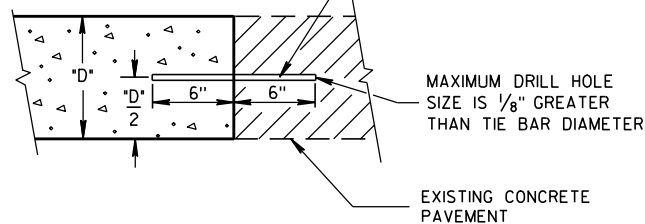
**GENERAL NOTES**

- DO NOT SEAL OR FILL LONGITUDINAL JOINTS.
- CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.
- CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.
- ① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

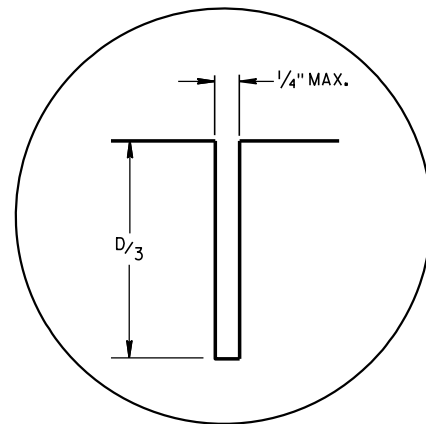


**PLAN VIEW**

NO. 6 TIE BARS SPACED 2'-6" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. ①

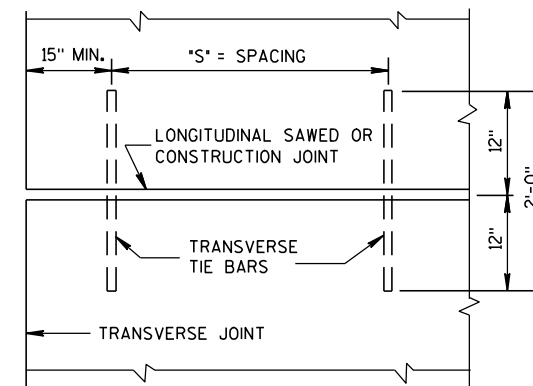


**SECTION A-A  
LONGITUDINAL CONSTRUCTION JOINT  
TIE BARS ANCHORED  
INTO EXISTING PAVEMENT**



**DETAIL "A"**

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH 24' OR 26'	≥ 30'
6, 6 1/2"	3" ± 1/2"	48"	42"
7, 7 1/2"	3 1/4" ± 1"	45"	36"
8, 8 1/2"	3 3/4" ± 1"	39"	30"
9, 9 1/2"	4 1/4" ± 1"	33"	27"
10, 10 1/2"	4 3/4" ± 1"	30"	24"
11, 11 1/2"	5 1/4" ± 1"	27"	21"
12"	5 3/4" ± 1"	24"	21"



**PLAN VIEW  
SHOWING LOCATION OF TIE BARS**

<b>CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10-5-2010 DATE	/S/ Deb Bischoff PAVEMENT POLICY & DESIGN ENGINEER
FHWA	

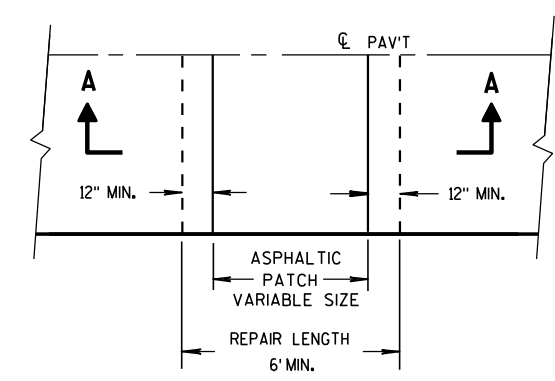
### GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES. ADDITIONAL SAW CUTS ARE NOT PAID FOR BY THE DEPARTMENT.

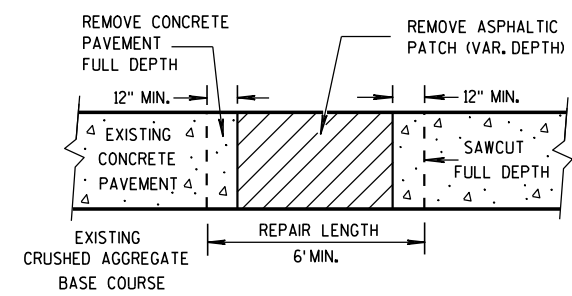
PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK IN THE SAME LANE.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

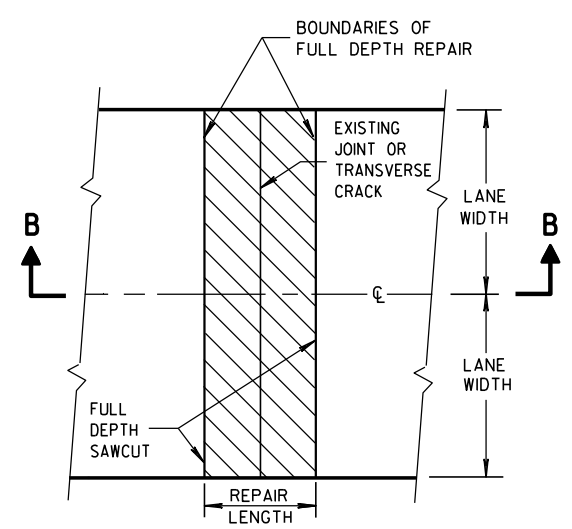
① DOWEL BARS MIGHT NOT EXIST.



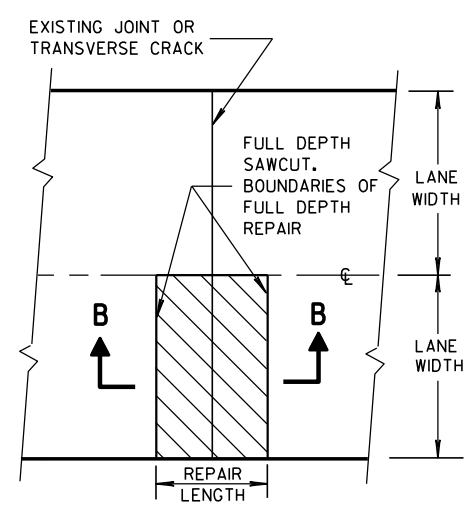
**PLAN VIEW**



**SECTION A-A  
HMA PATCH REMOVAL**



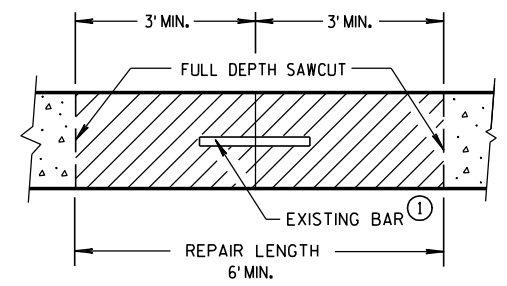
**PLAN VIEW  
(DOUBLE LANE REPAIR)**



**PLAN VIEW  
(SINGLE LANE REPAIR)**

### FULL DEPTH CONCRETE PAVEMENT REMOVAL

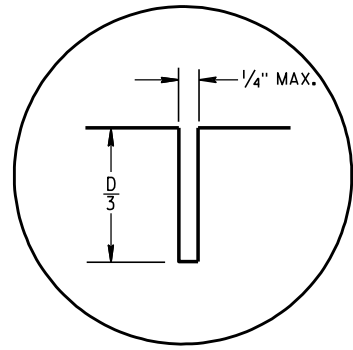
(SEE NOTE)



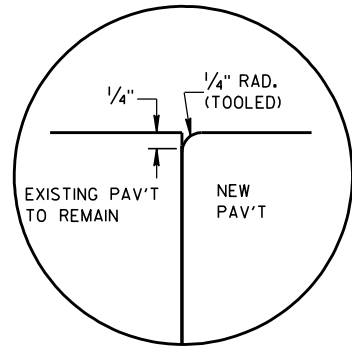
**SECTION B-B  
CONCRETE REMOVAL**

**CONCRETE PAVEMENT REPAIR  
AND REPLACEMENT**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

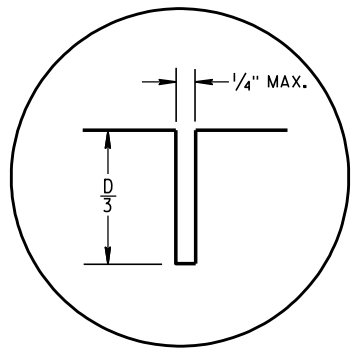


C1

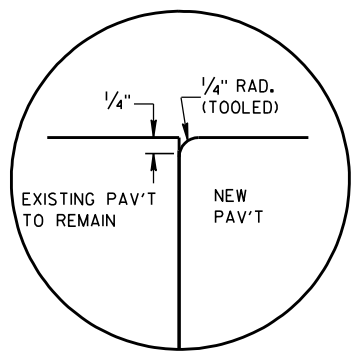


C2

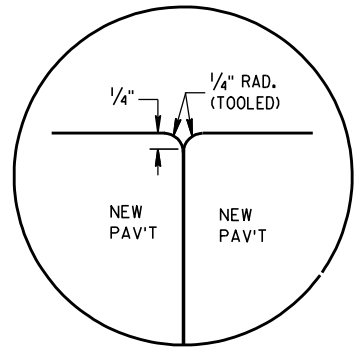
**TRANSVERSE JOINTS**



L1

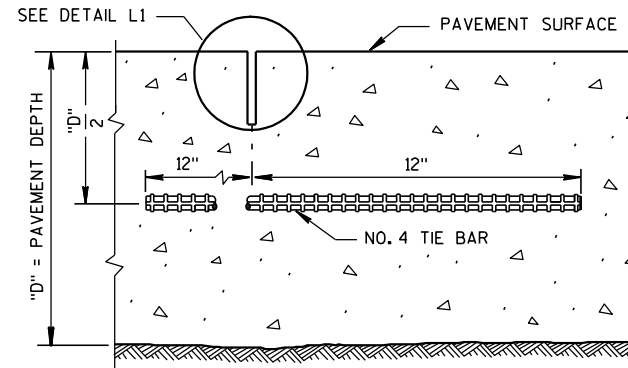


L2

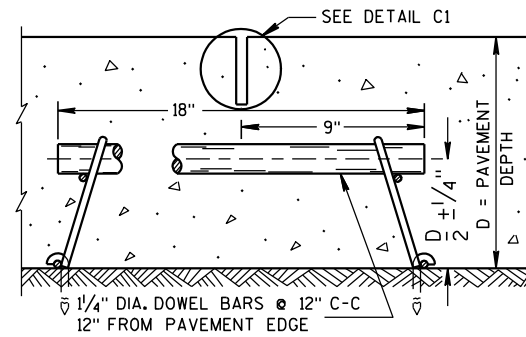


L3

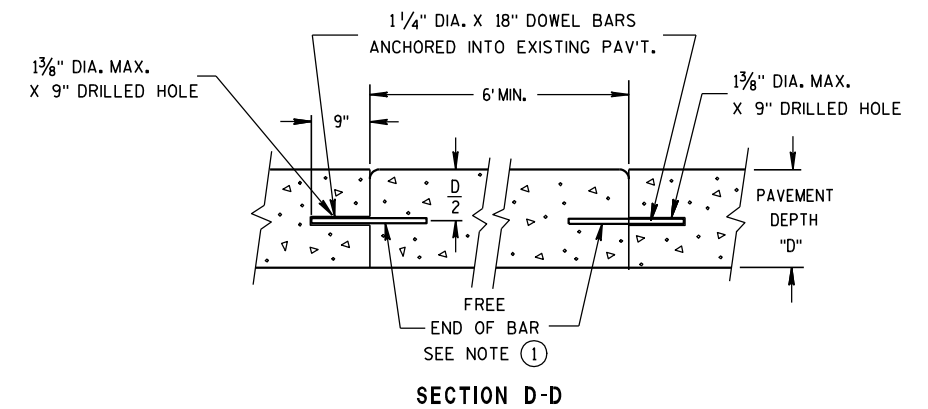
**LONGITUDINAL JOINTS**



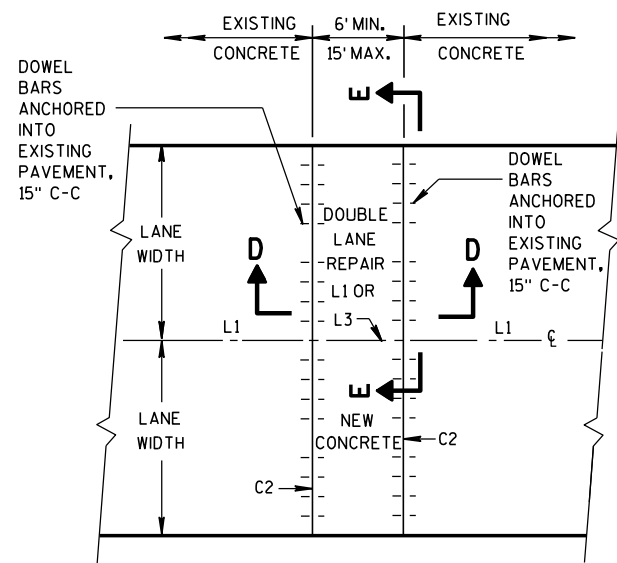
**SECTION C-C  
SAWED LONGITUDINAL JOINT**



**SECTION F-F  
CONTRACTION JOINT**

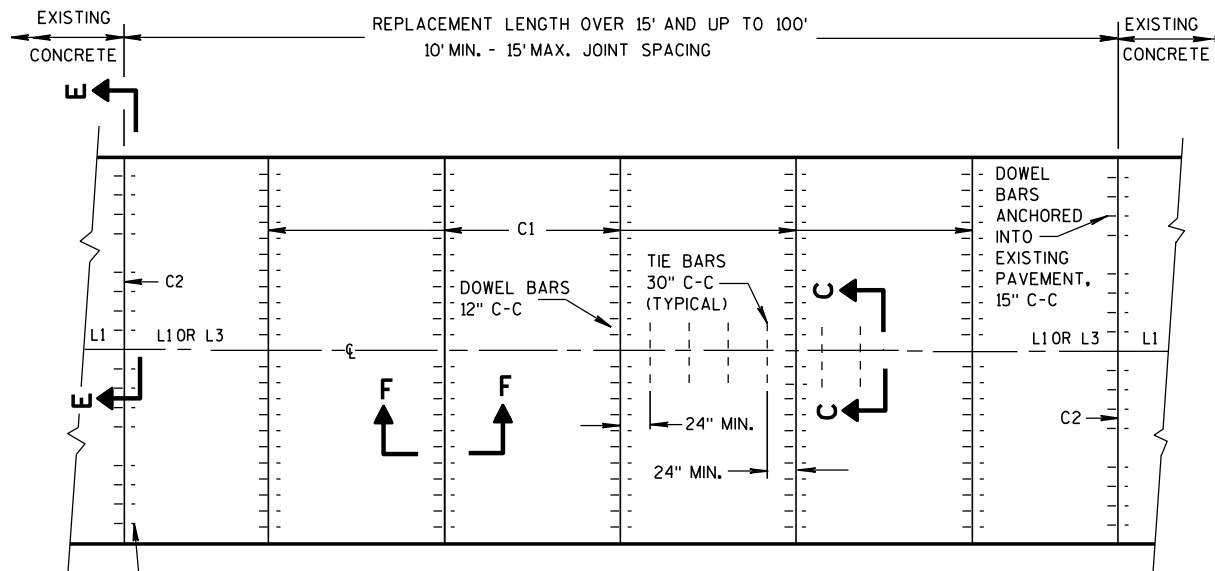


**SECTION D-D**



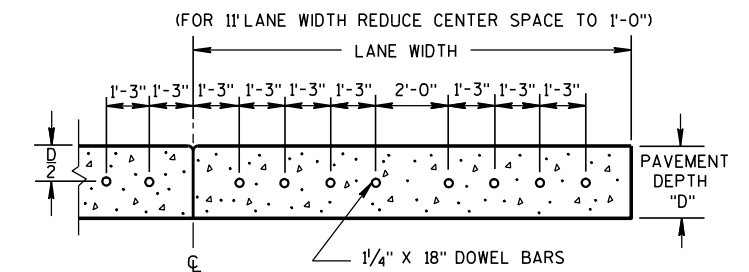
**PLAN VIEW**

**MULTI-LANE CONCRETE PAVEMENT REPAIR**



**PLAN VIEW**

**MULTI-LANE CONCRETE PAVEMENT REPLACEMENT**



**SECTION E-E  
SPACING OF DOWEL BARS  
ANCHORED INTO EXISTING PAVEMENT**

**GENERAL NOTES**

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

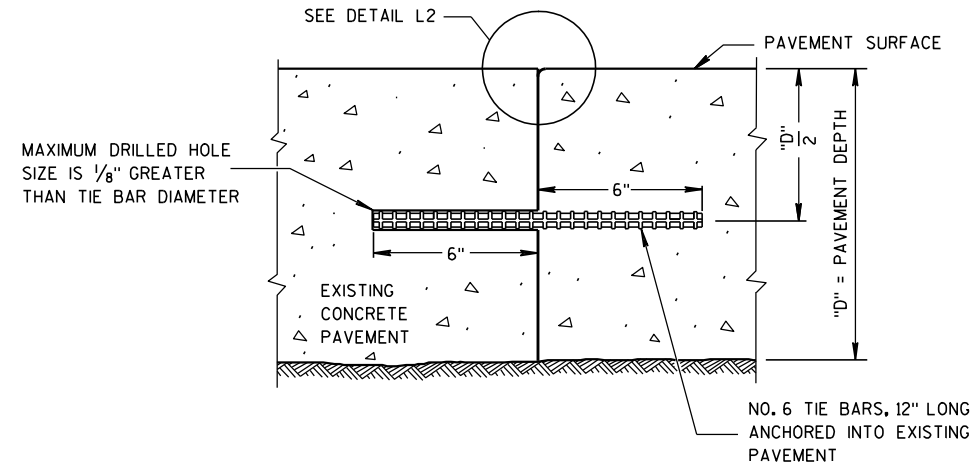
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 24 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

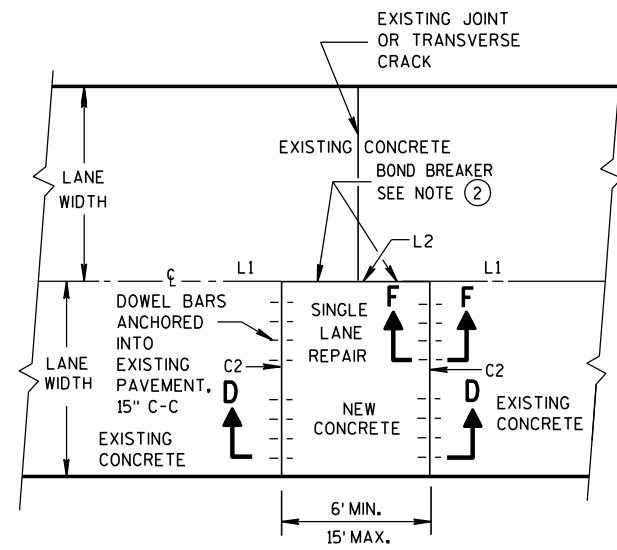
- ① APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

### GENERAL NOTES

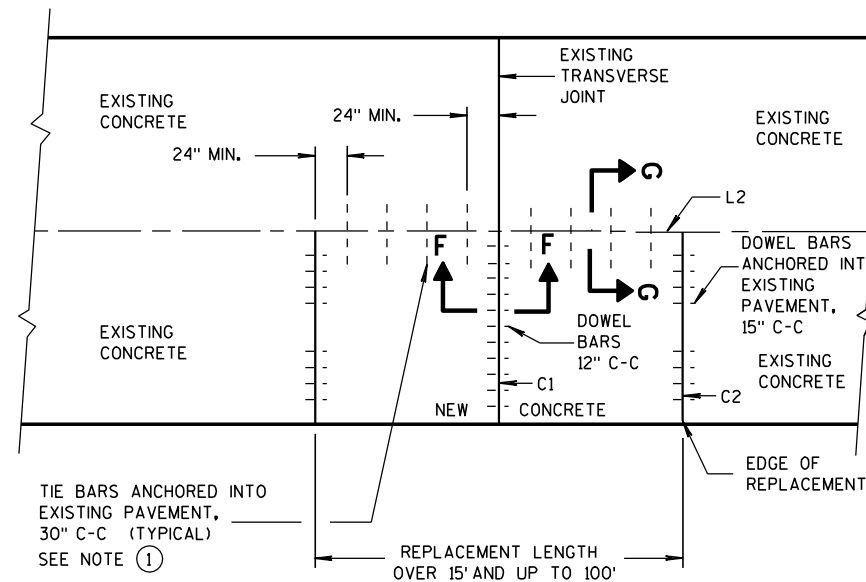
- ① WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.
- ② USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.



SECTION G-G  
**TIE BARS ANCHORED  
 INTO EXISTING PAVEMENT**



PLAN VIEW  
**SINGLE LANE  
 CONCRETE PAVEMENT REPAIR**

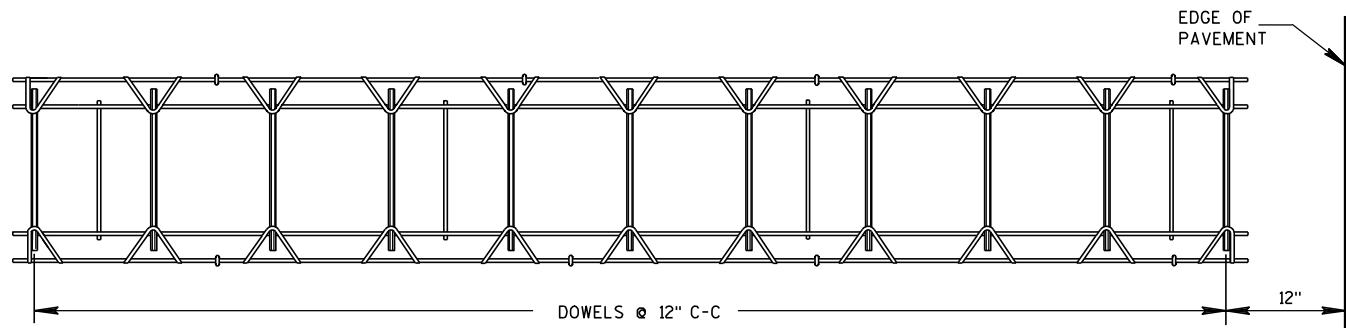


PLAN VIEW  
**SINGLE LANE  
 CONCRETE PAVEMENT REPLACEMENT**

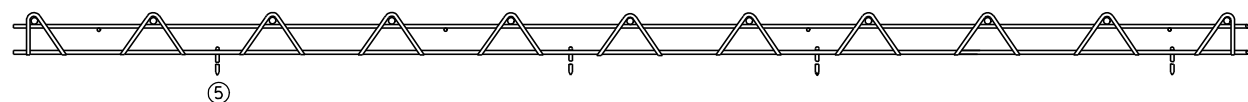
**CONCRETE PAVEMENT  
 REPAIR AND REPLACEMENT**

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

APPROVED  
 DATE 11-1-2011 /S/ Deb Bischoff  
 PAVEMENT POLICY & DESIGN ENGINEER  
 FHWA



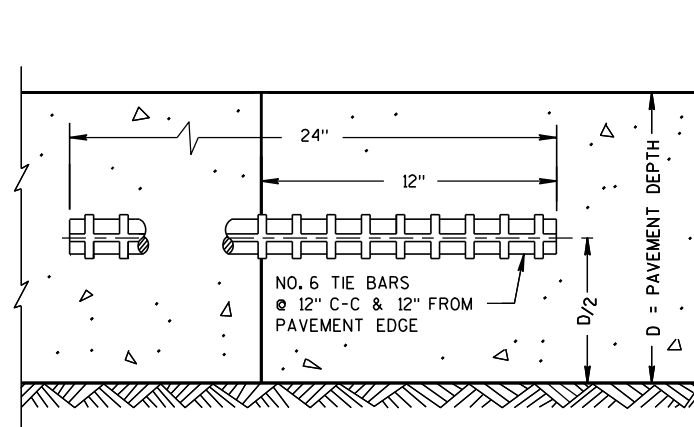
PLAN VIEW



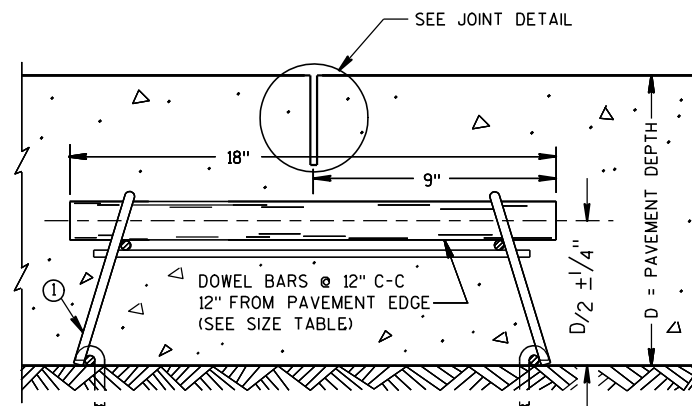
SIDE VIEW  
CONTRACTION JOINT DOWEL ASSEMBLY ①

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8", 8 1/2"	1 1/4"	15'
9", 9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'



TRANSVERSE CONSTRUCTION JOINT



DOWELED CONTRACTION JOINT

**GENERAL NOTES**

CONTRACTION JOINTS

CONSTRUCT CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, CENTER THE DOWEL ASSEMBLY ACROSS THE LANES. LOCATE THE INNER AND OUTER MOST DOWEL BARS SO THAT THE CENTER OF THE BARS ARE A MINIMUM OF 6 INCHES AND A MAXIMUM OF 12 INCHES FROM THE LONGITUDINAL JOINT AND THE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 4 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

THE CONTRACTOR MAY INSERT TIE BARS THROUGH THE HEADER BOARD AFTER THE CONCRETE HAS BEEN PLACED.

① THE ENGINEER MAY APPROVE THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. THE CONTRACTOR MAY USE MECHANICAL DOWEL BAR INSERTERS INSTEAD OF DOWEL ASSEMBLIES.

② ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY.

③ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

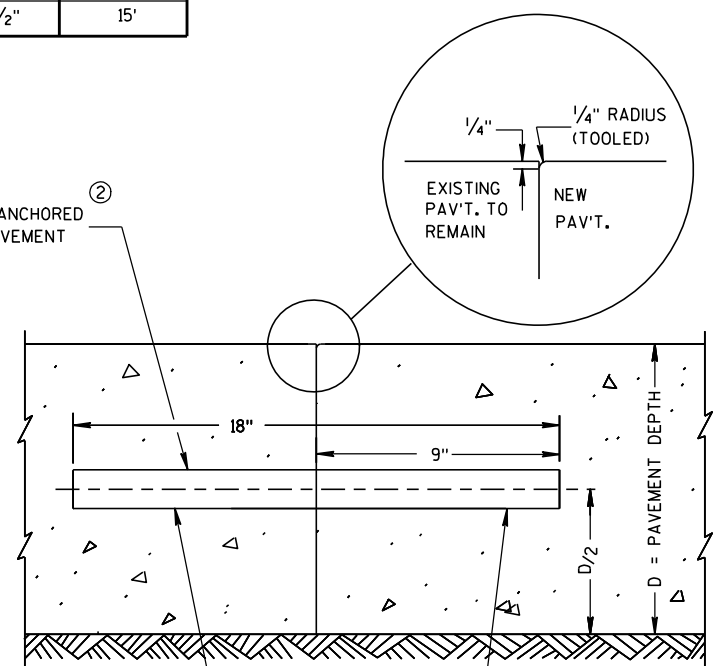
④ SPACE DOWEL BARS INSTALLED BY DRILLING 1'-3" ON CENTER. CENTER THE GROUPING OF DOWEL BARS INSIDE THE SLAB BASED ON ALL THE FOLLOWING SITUATIONS:

BETWEEN THE EDGES OF PAVEMENTS WITHOUT LONGITUDINAL JOINTS OR BETWEEN THE EDGE OF PAVEMENT AND NEAREST LONGITUDINAL JOINT OR BETWEEN TWO ADJACENT LONGITUDINAL JOINTS.

⑤ SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

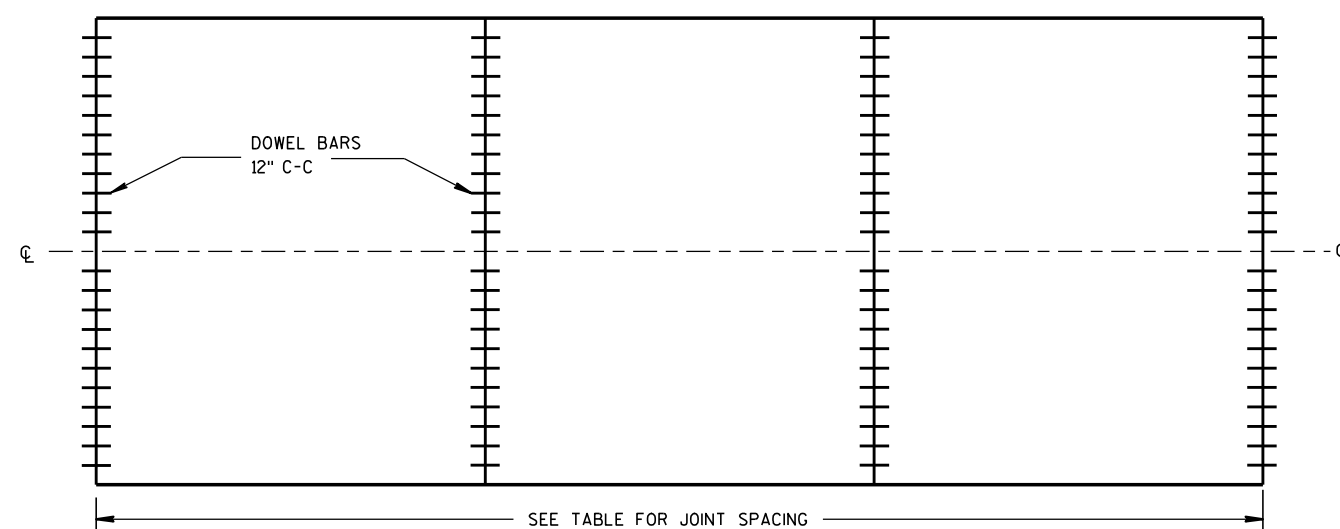
6

18" DOWEL BARS ANCHORED INTO EXISTING PAVEMENT ②

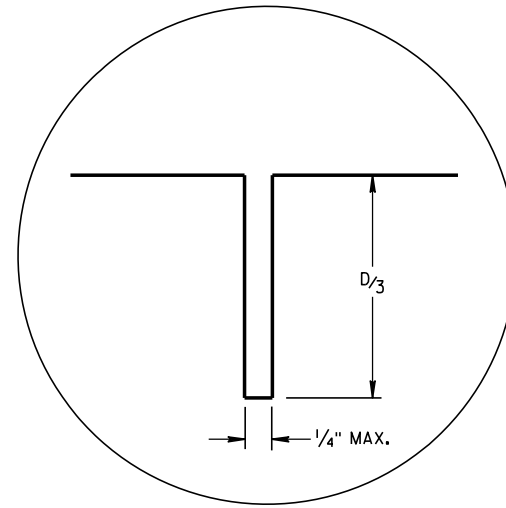


MAX. DRILLED HOLE SIZE IS 1/8" GREATER THAN DOWEL BAR DIA., 9" LENGTH

TRANSVERSE CONTRACTION JOINTS ABUTTING EXISTING PAVEMENT  
DOWEL BAR DETAIL ④



CONTRACTION JOINT LOCATIONS



JOINT DETAIL

6

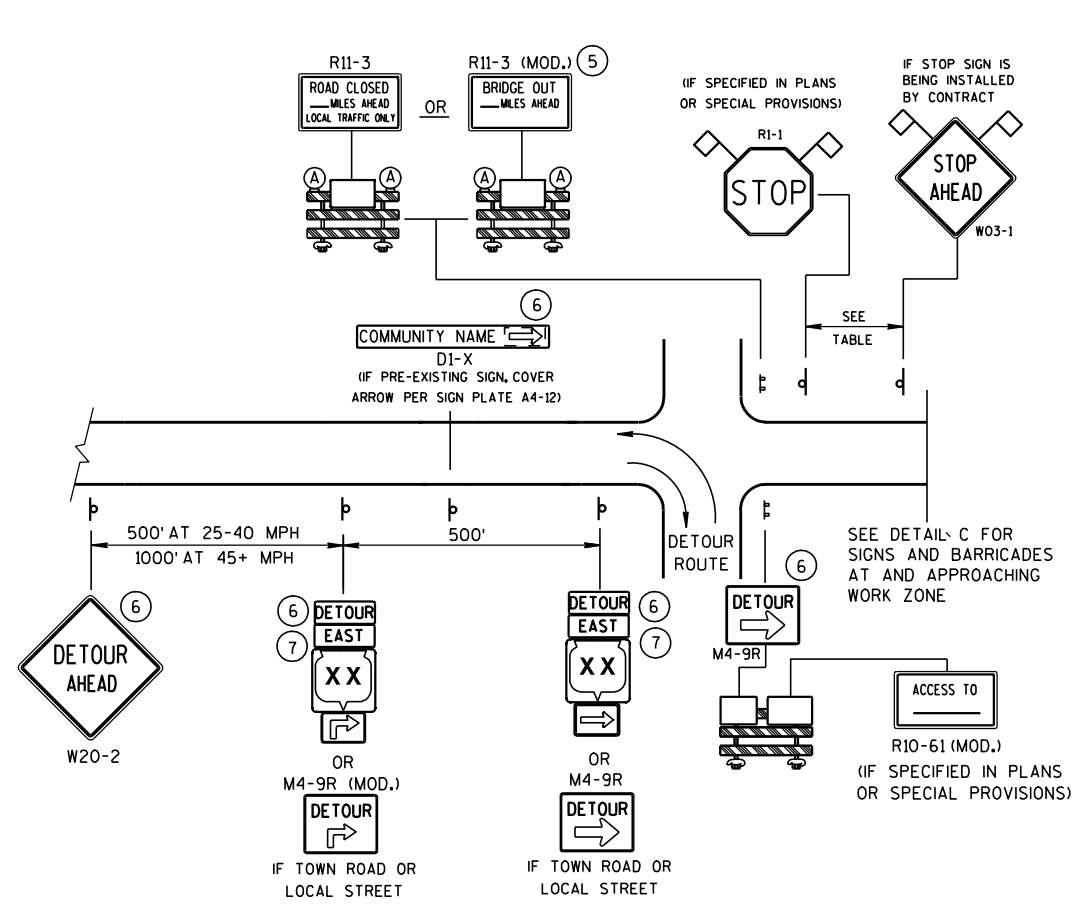
S.D.D. 13 C 13-7

S.D.D. 13 C 13-7

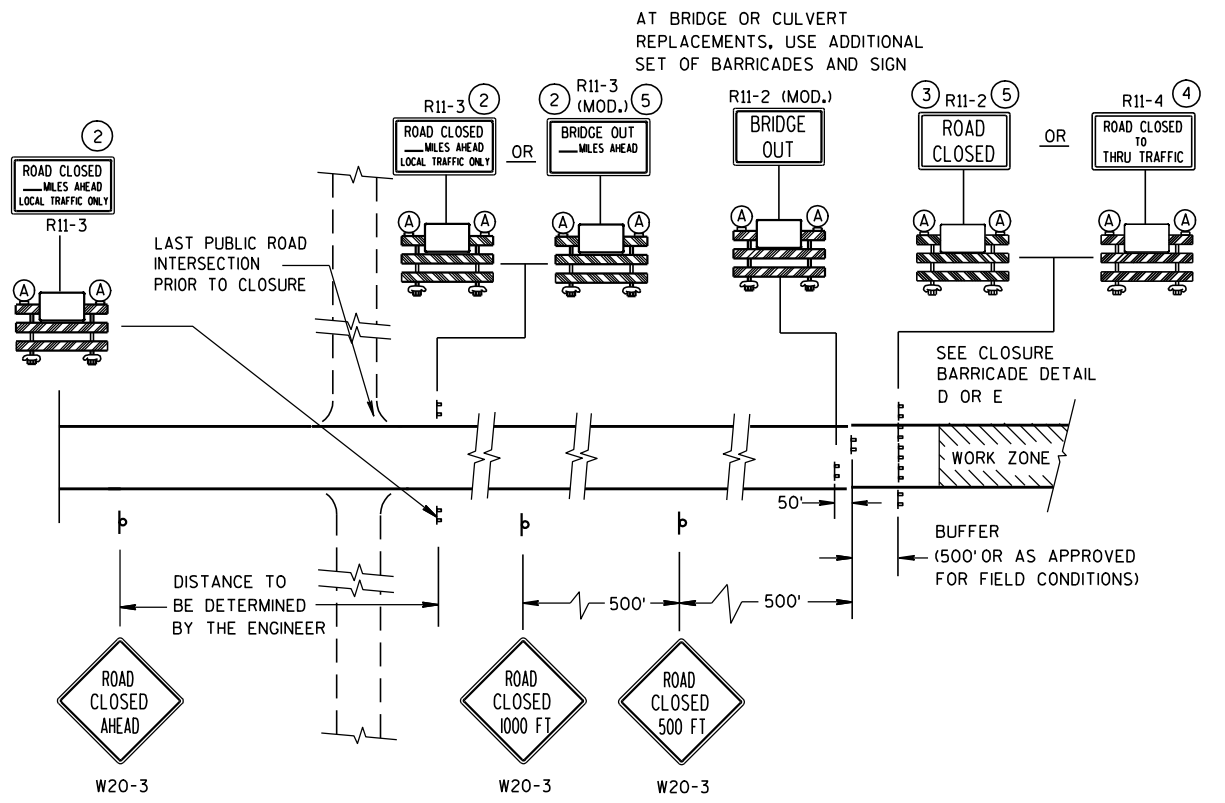
**URBAN DOWELED CONCRETE PAVEMENT**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
12/11/2009 /S/ Deb Bischoff  
DATE PAVEMENT POLICY & DESIGN ENGINEER  
FHWA



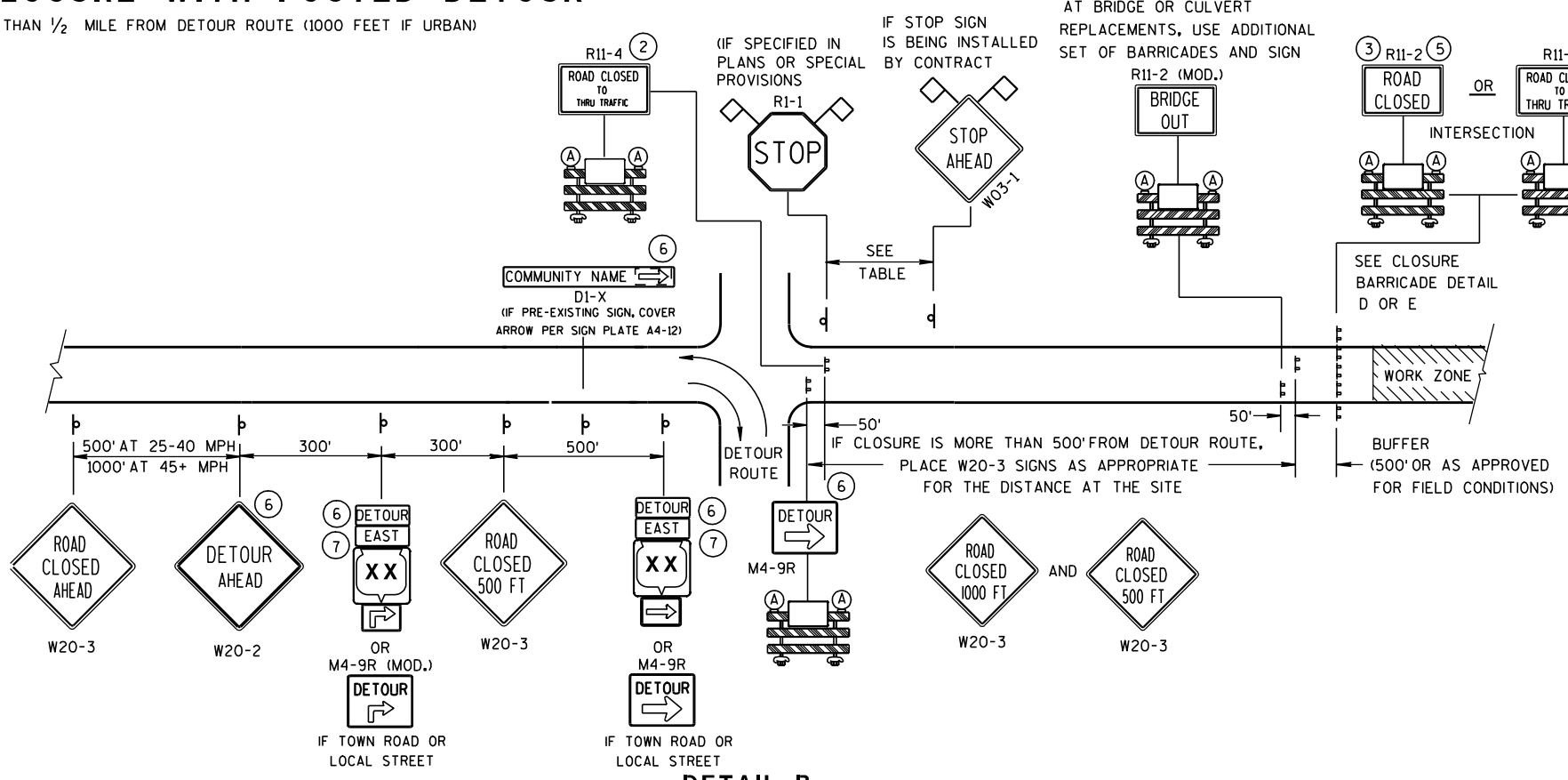
**DETAIL A**  
**MAINLINE CLOSURE WITH POSTED DETOUR**  
 WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



**DETAIL C**  
**MAINLINE CLOSURE, NO POSTED DETOUR**

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

SEE SDD 15C2-4b  
 FOR GENERAL NOTES  
 AND FOOTNOTES ① THROUGH ⑦

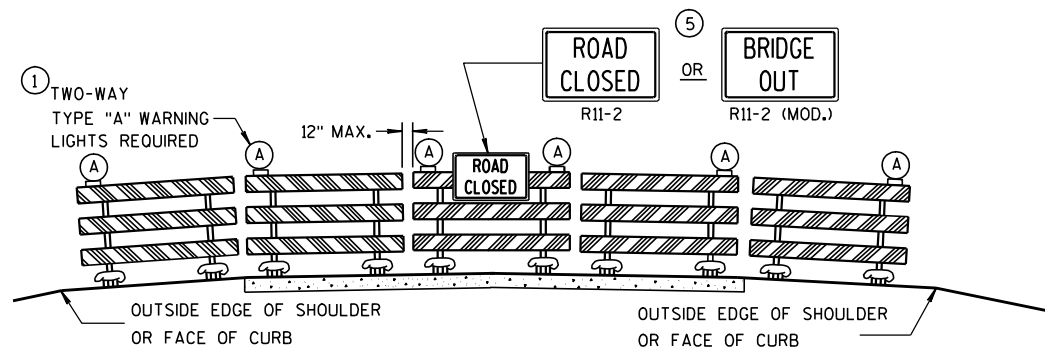


**DETAIL B**  
**MAINLINE CLOSURE WITH POSTED DETOUR**  
 WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

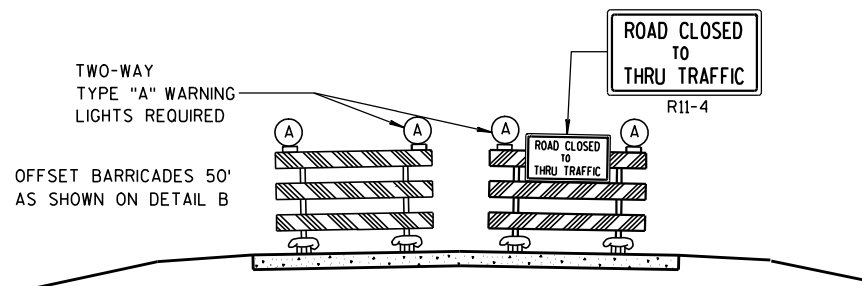
**LEGEND**

- ⌋ POST MOUNTED SIGN
- ⌋ TYPE III BARRICADES
- Ⓐ TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT (FOR NIGHT USE)
- ▨ WORK ZONE
- DETOUR EAST M4-8 M3-X
- MI-4 OR COUNTY MI-5A OR MI-6
- M05-1 OR M06-1
- ◇ FLAGS, 16" X 16" MIN., (ORANGE)

**BARRICADES AND SIGNS FOR MAINLINE CLOSURES**  
 STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION



**DETAIL D**  
**ROAD CLOSURE BARRICADE DETAIL**  
APPROACH VIEW



**DETAIL E**  
**LANE CLOSURE BARRICADE DETAIL**  
APPROACH VIEW

SEE SDD 15C2-4a 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.

THE REFLECTIVE SHEETING USED ON R11-2, R11-3, R11-4, R10-61 AND R1-1 SIGNS SHALL COMPLY WITH SUBSECTION 637.2.2.2 OF THE STANDARD SPECIFICATIONS.

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

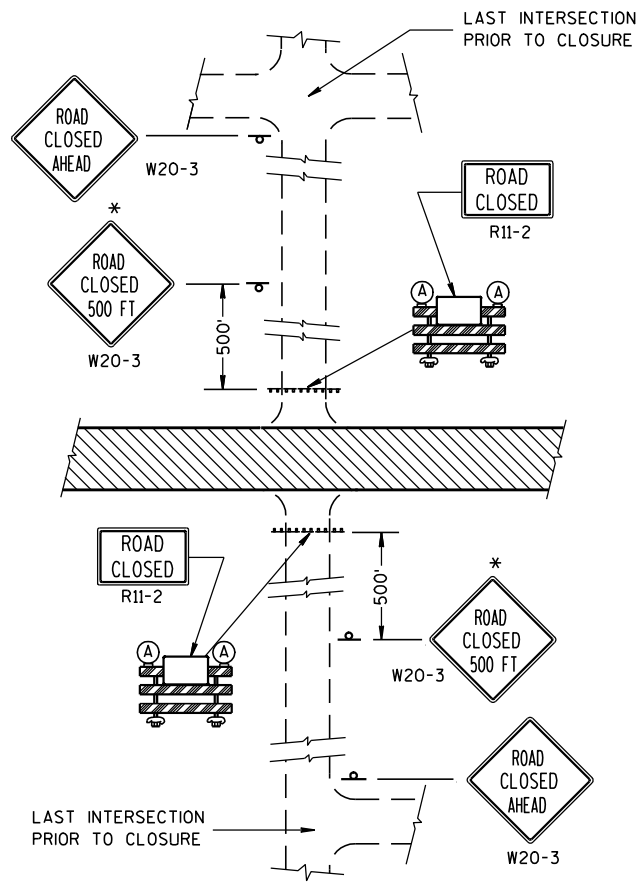
ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

- 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 AND M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

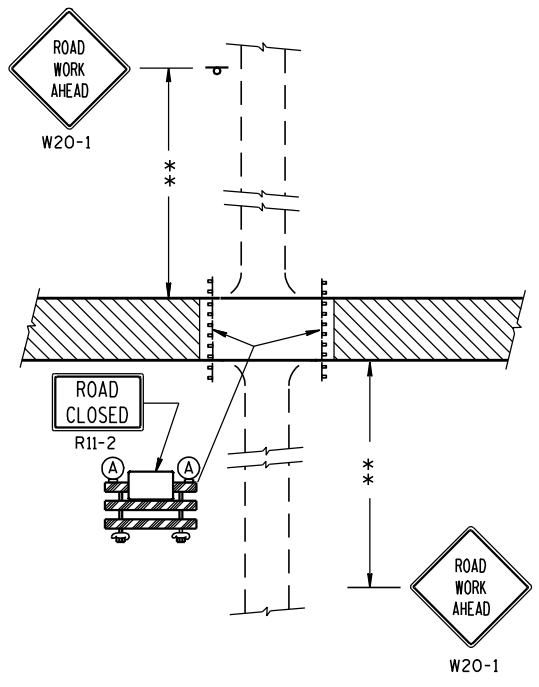
- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).
- ② THESE SIGNS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

<b>BARRICADES AND SIGNS FOR MAINLINE CLOSURES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
9/16/03 DATE	/S/ Thomas N. Notbohm CHIEF SIGNS AND MARKING ENGINEER
FHWA	

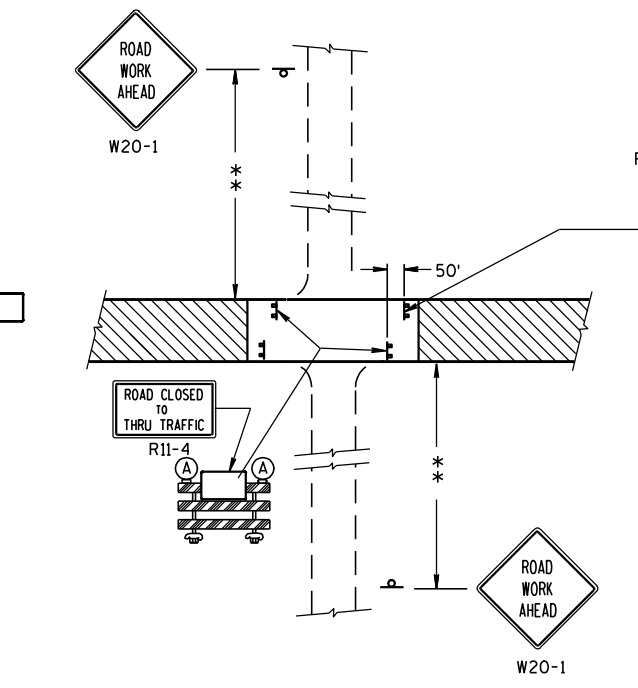




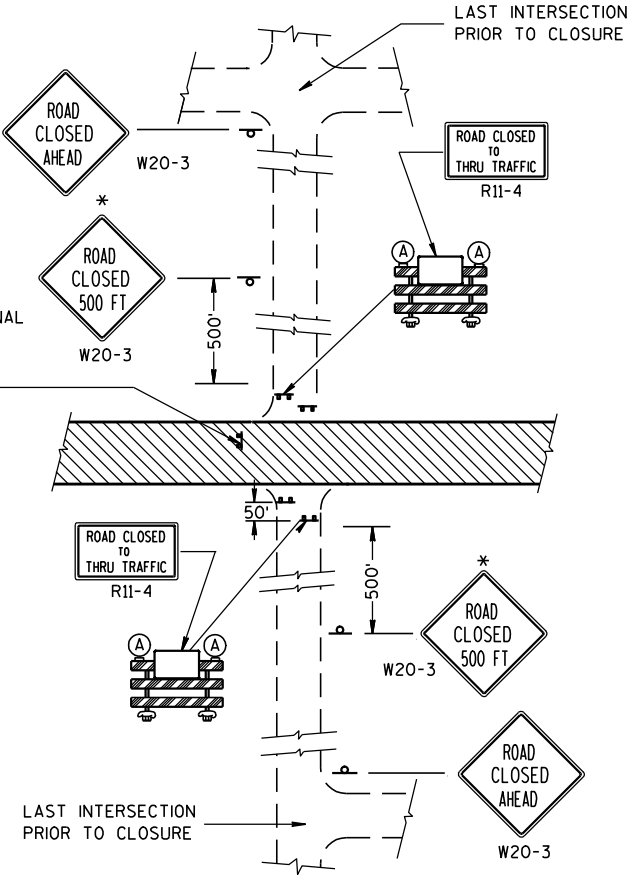
**DETAIL 1**  
(NO ACCESS TO PROJECT)



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



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



**DETAIL 4**  
(CONTRACTOR, LOCAL BUSINESS AND  
RESIDENT ACCESS TO PROJECT)

**GENERAL NOTES**

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

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

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

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

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

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

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

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

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

THE REFLECTIVE SHEETING USED ON R11-2, R11-3 AND R11-4 SIGNS SHALL COMPLY WITH SUBSECTION 637.2.2.2 OF THE STANDARD SPECIFICATIONS.

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".

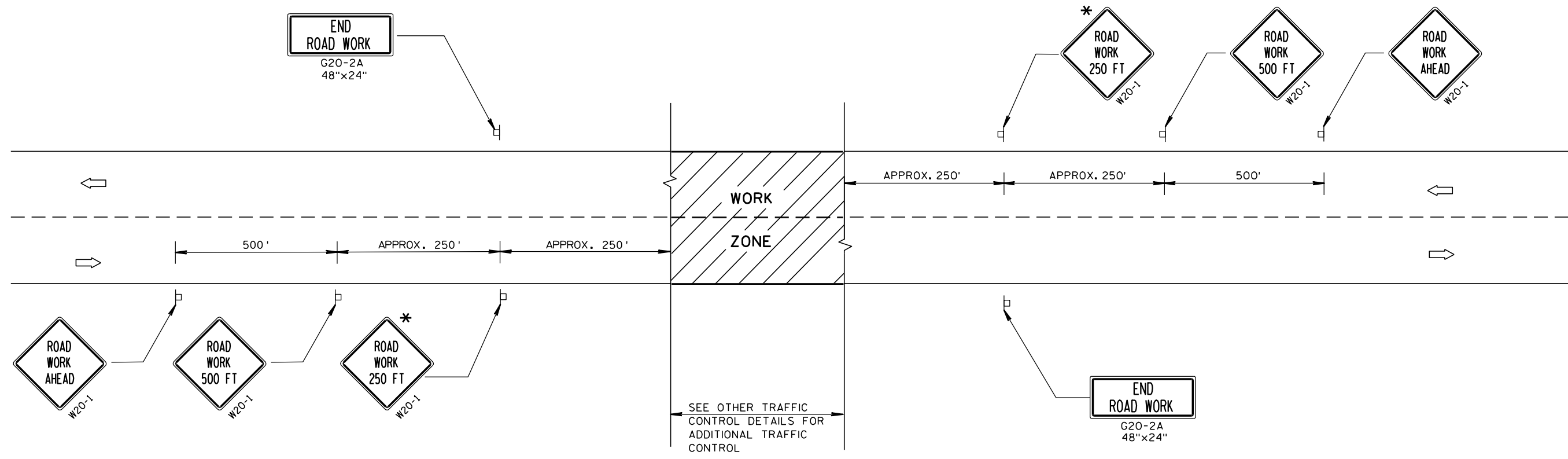
\*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

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

**LEGEND**

- ⊥ POST MOUNTED WARNING SIGN
- ⊥ TYPE III BARRICADES
- Ⓐ TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT (FOR NIGHT USE)
- ▨ WORK AREA

<b>BARRICADES AND SIGNS FOR SIDEROAD CLOSURES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
9-16-03 DATE	/S/ Thomas N. Notbohm CHIEF SIGNS AND MARKING ENGINEER
FHWA	



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

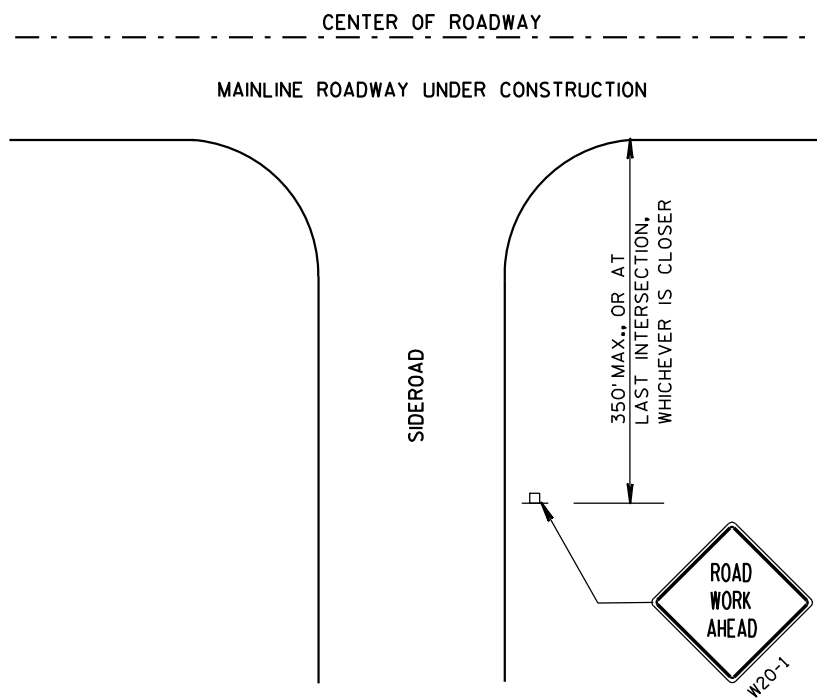
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS, IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

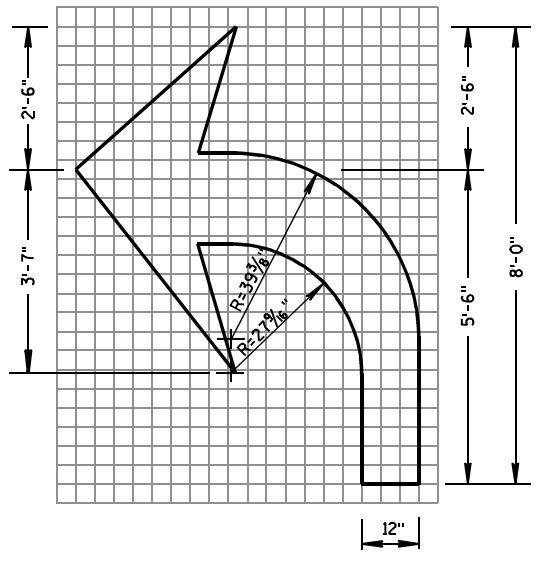
\* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FT" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



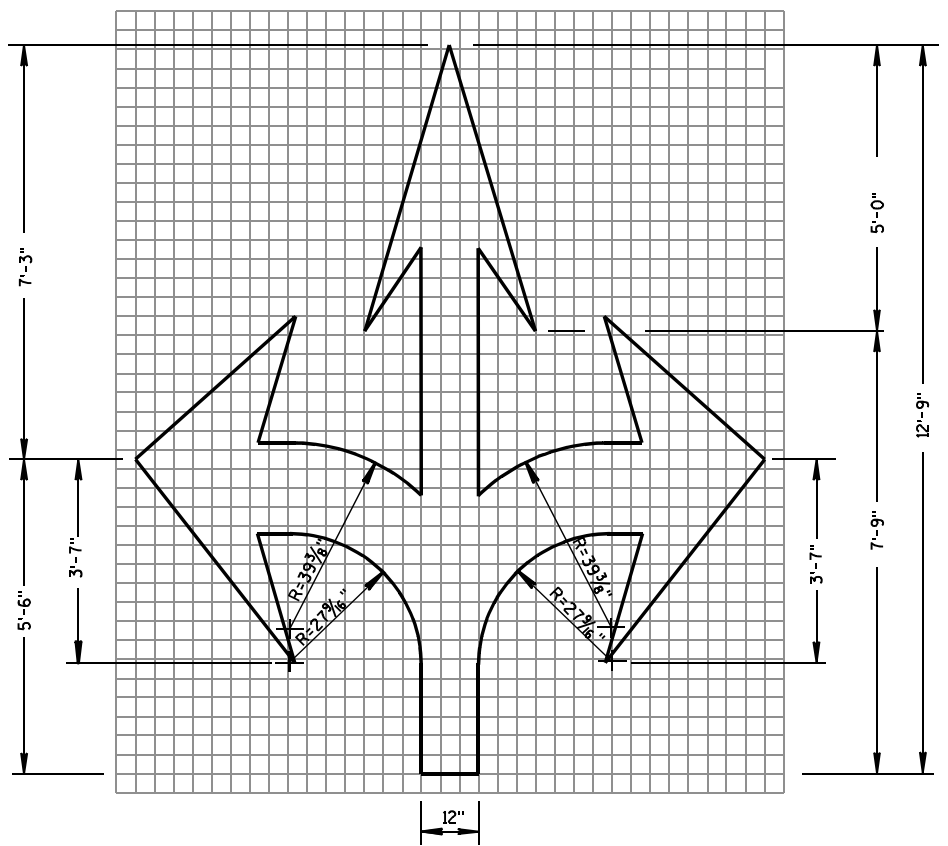
LEGEND

- ⊔ POST MOUNTED SIGN
- ➡ DIRECTION OF TRAFFIC FLOW

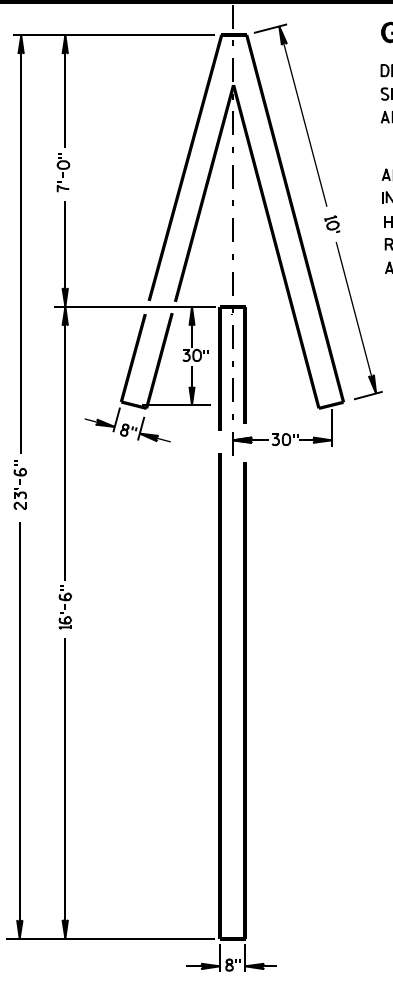
<b>TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 5/23/00	/s/ Chester J. Spang CHIEF SIGNS AND MARKING ENGINEER
FHWA	



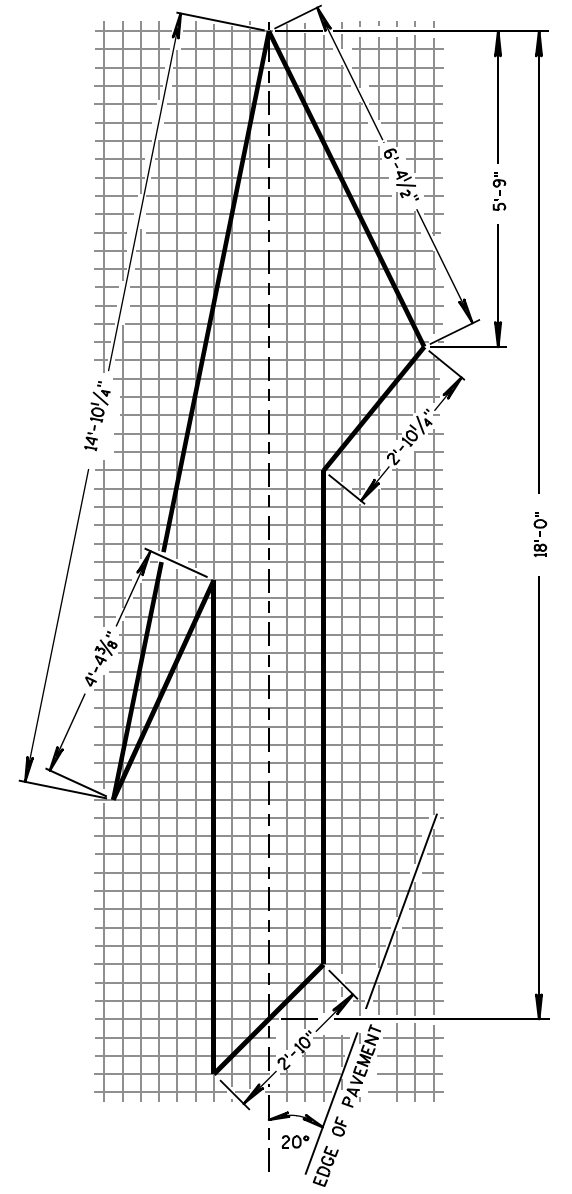
TYPE 2



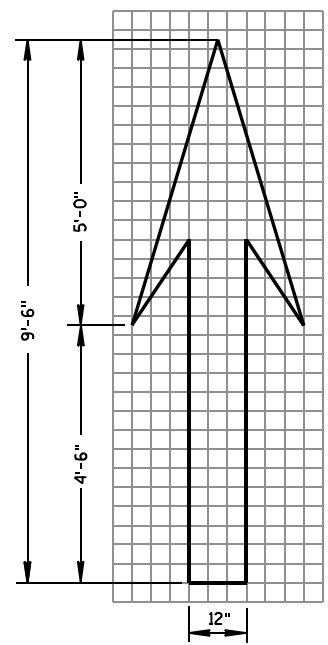
TYPE 6



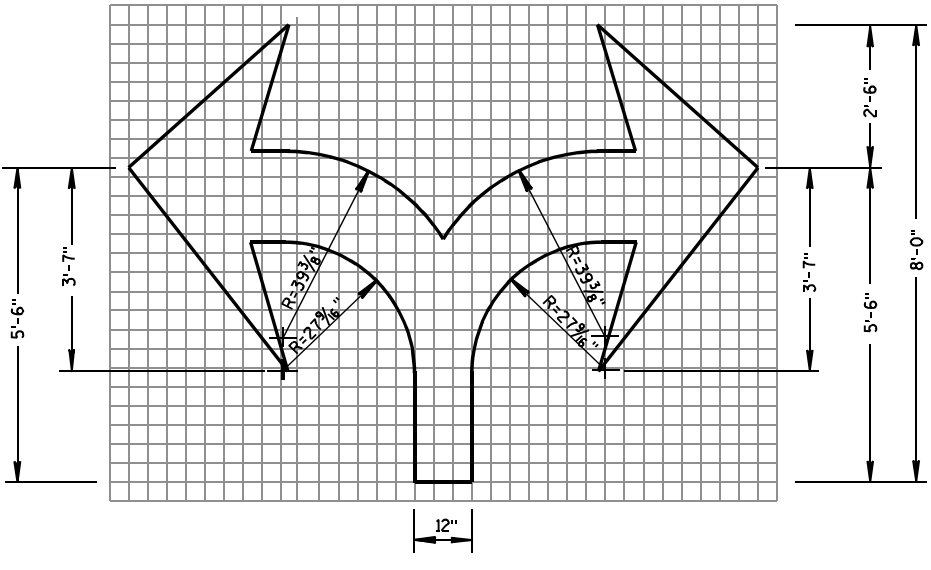
TYPE 4



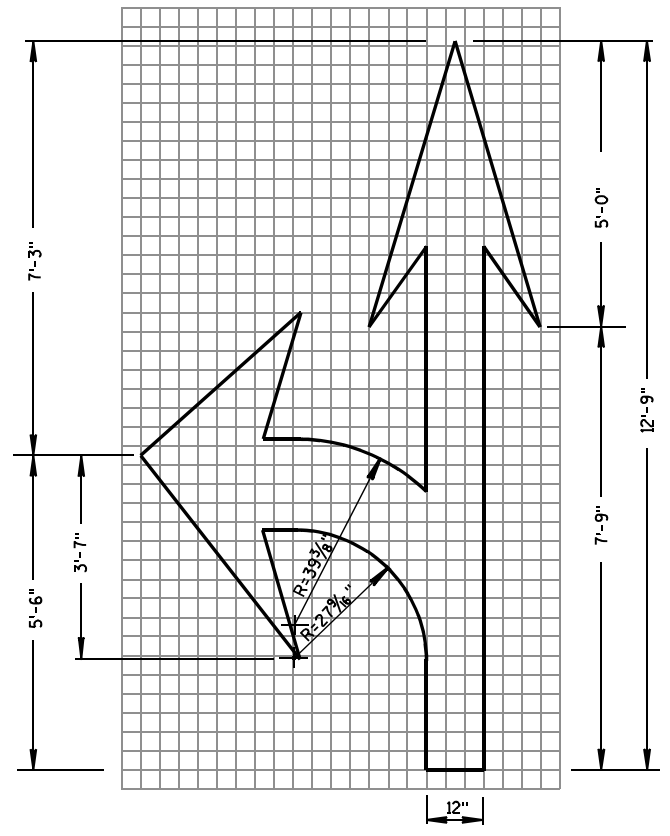
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



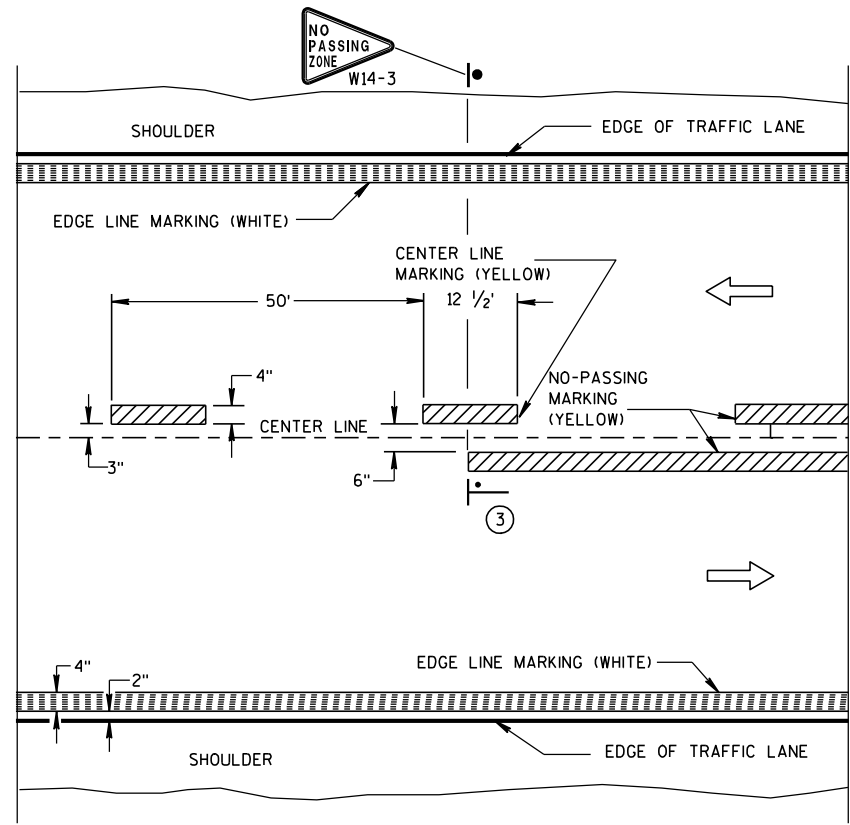
TYPE 3

GENERAL NOTES

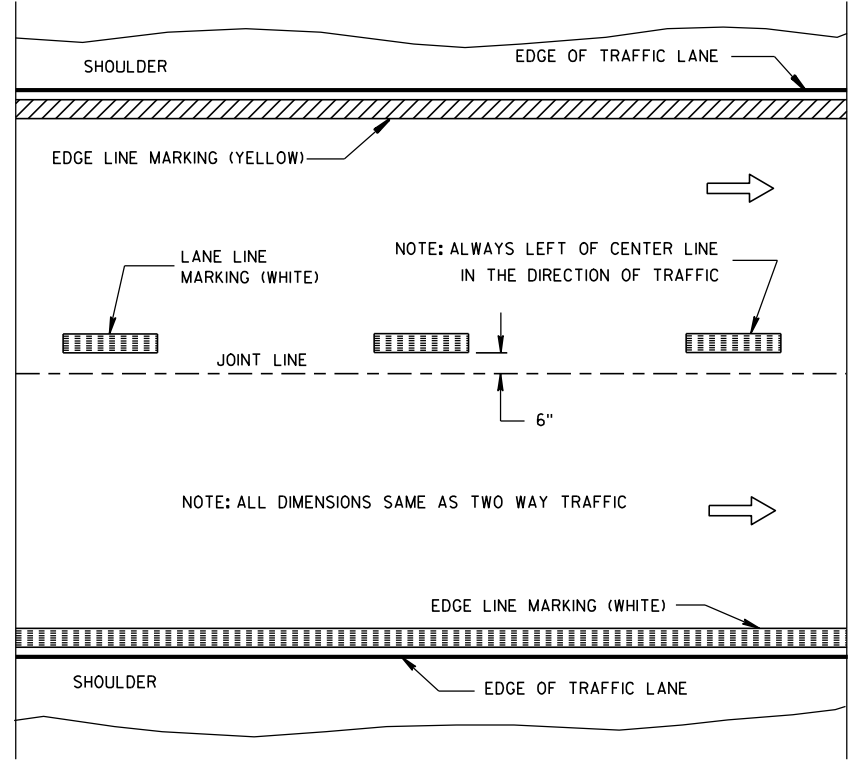
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

<b>PAVEMENT MARKING ARROWS</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	/S/ Thomas N. Notbohm
DATE	STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

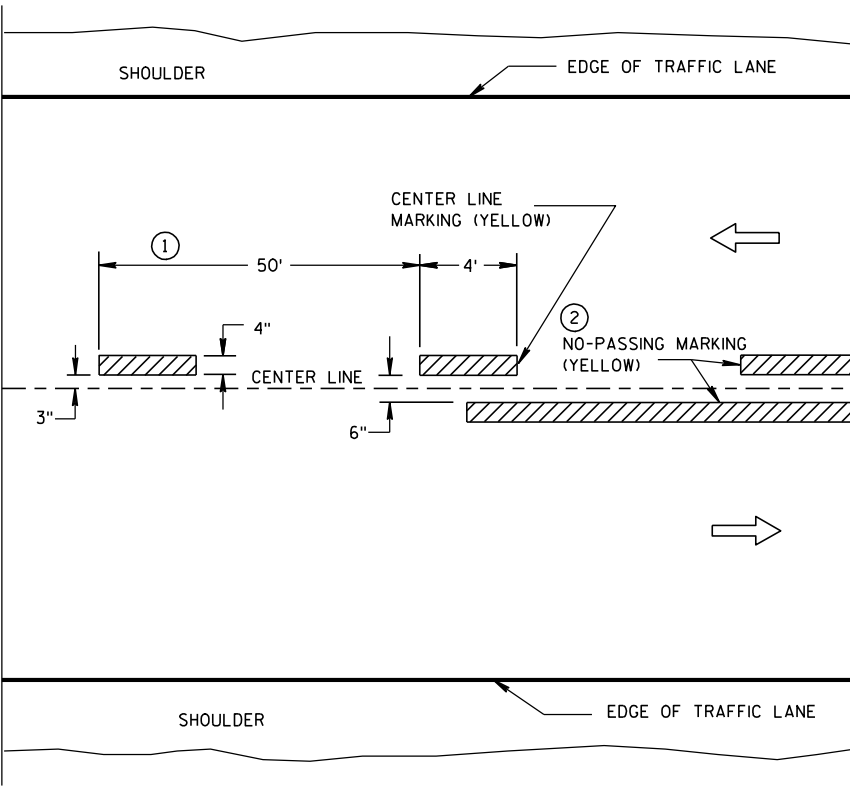


**TWO WAY TRAFFIC**

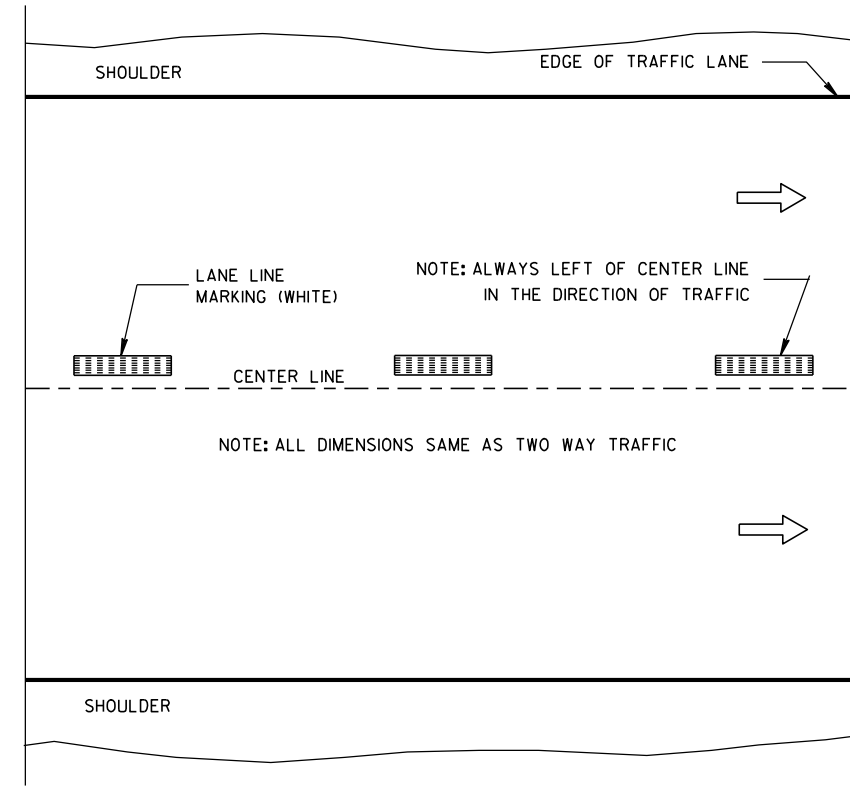


**ONE WAY TRAFFIC**

**PERMANENT PAVEMENT MARKING**



**TWO WAY TRAFFIC**



**ONE WAY TRAFFIC**

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

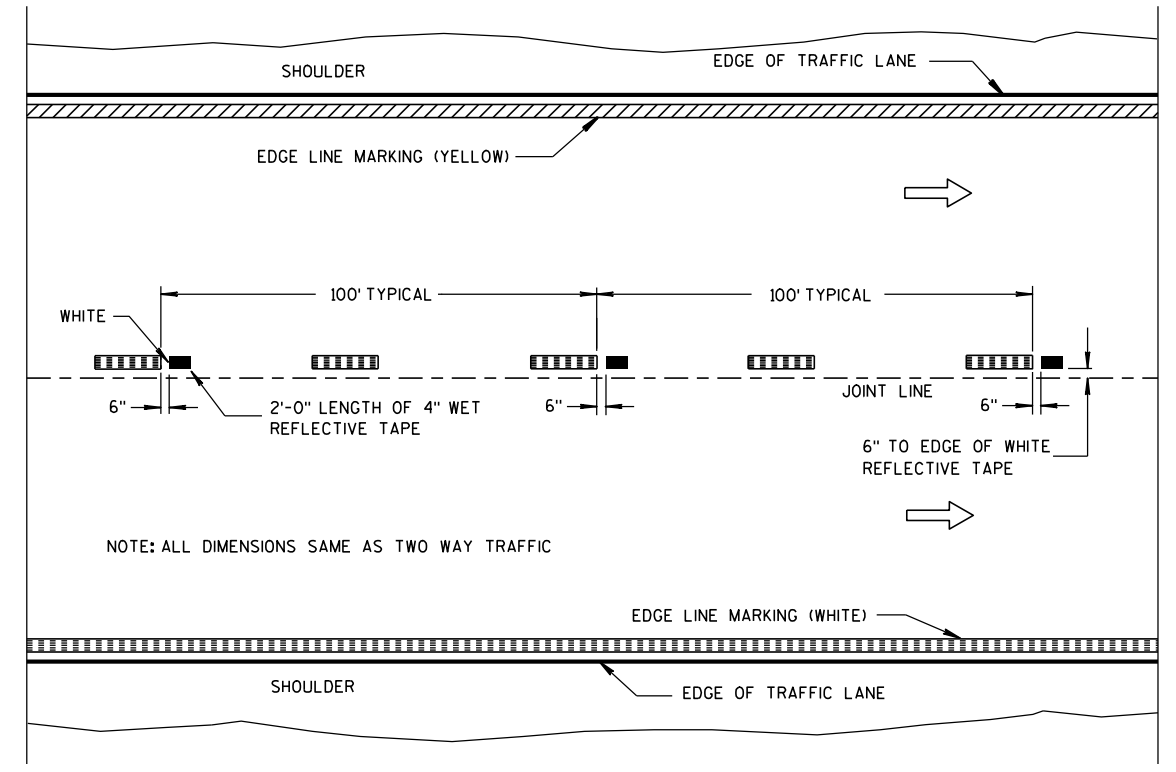
**GENERAL NOTES**

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

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

**NOTE**

ARROW SYMBOL ( → ) SHOWS DIRECTION OF TRAVEL



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

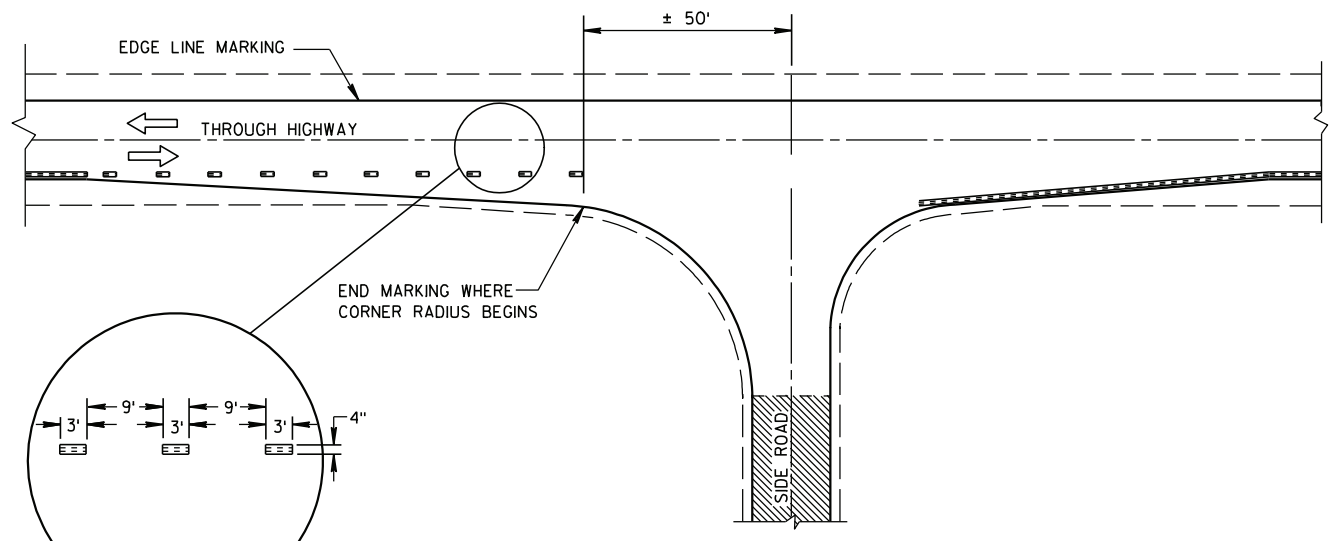
**LEGEND**

- "T" MARKING
- POST MOUNTED SIGN

**PAVEMENT MARKING  
(MAINLINE)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

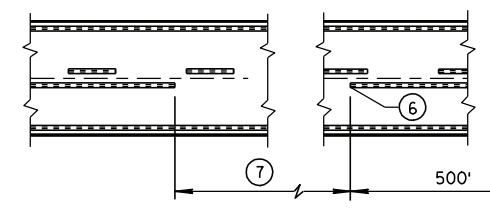
APPROVED  
6-23-11 /S/ Thomas N. Notbohm  
DATE STATE TRAFFIC ENGINEER OF DESIGN  
FHWA



**MINOR INTERSECTION WITHOUT CURBS**

⑦

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

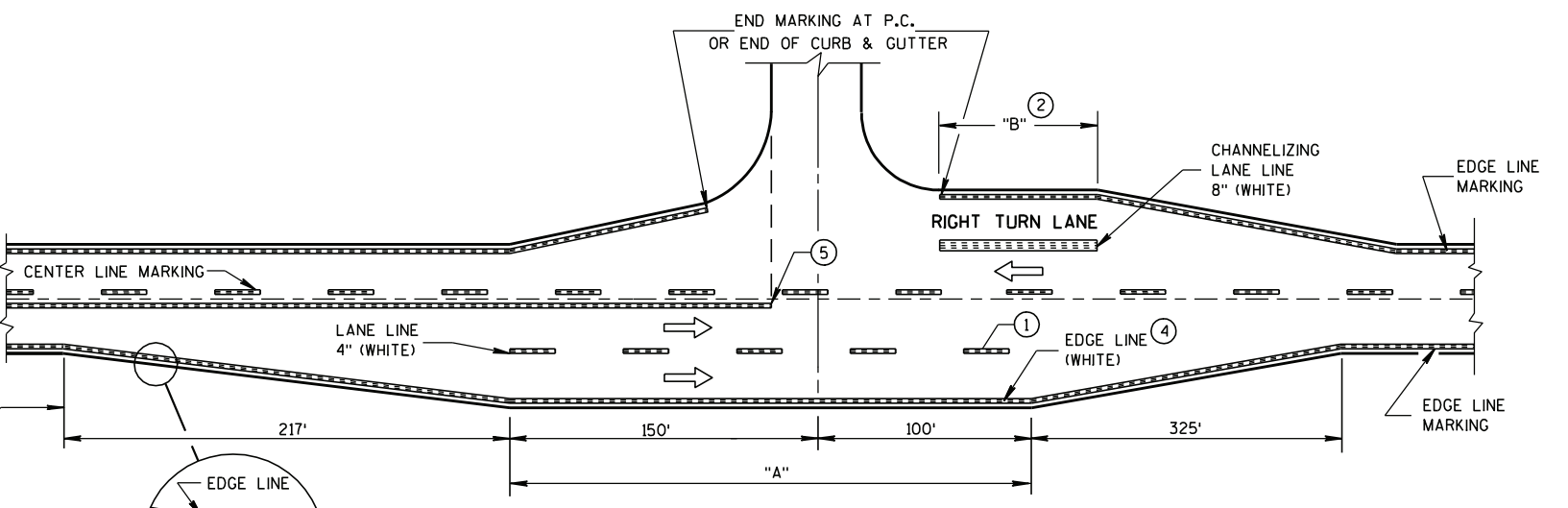


**GENERAL NOTES**

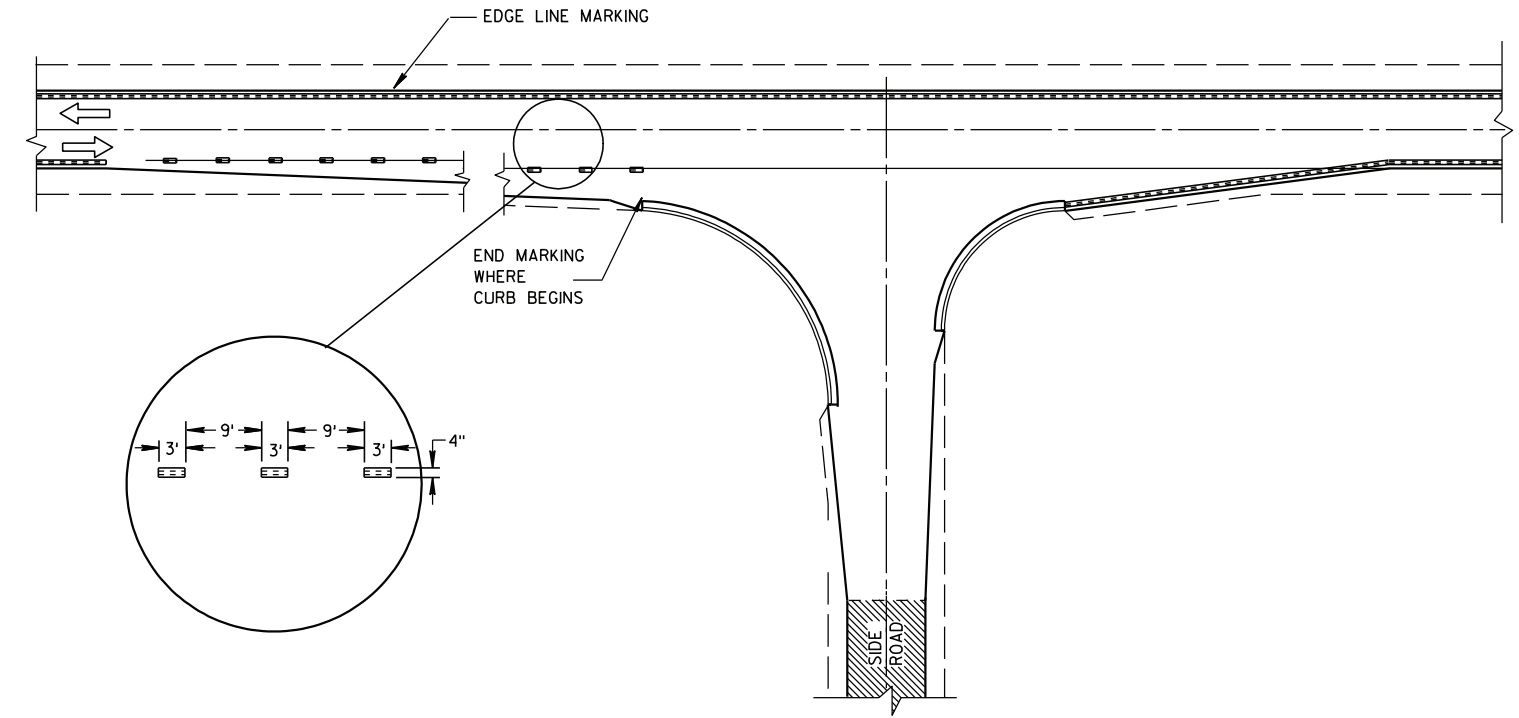
- EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
  - ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
  - ③ ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.
  - ④ THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.

- ⑤ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.
- ⑥ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
- ⑦ IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.
- ⑧ 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

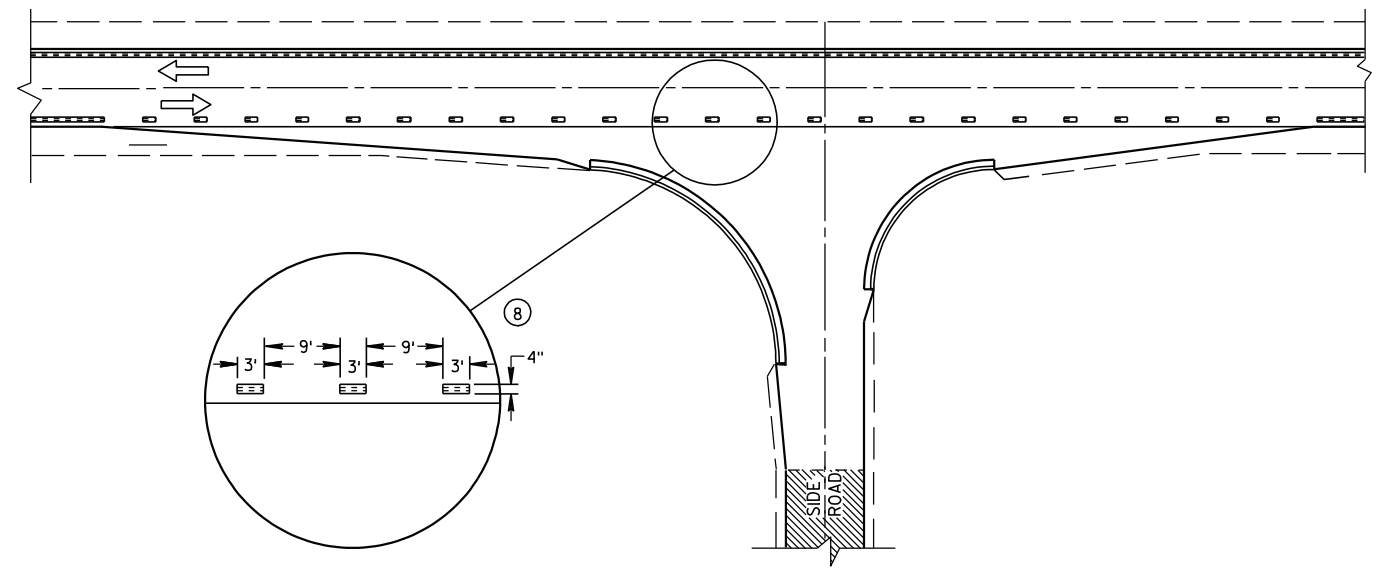
ARROW SYMBOL ( → ) SHOWS DIRECTION OF TRAVEL



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



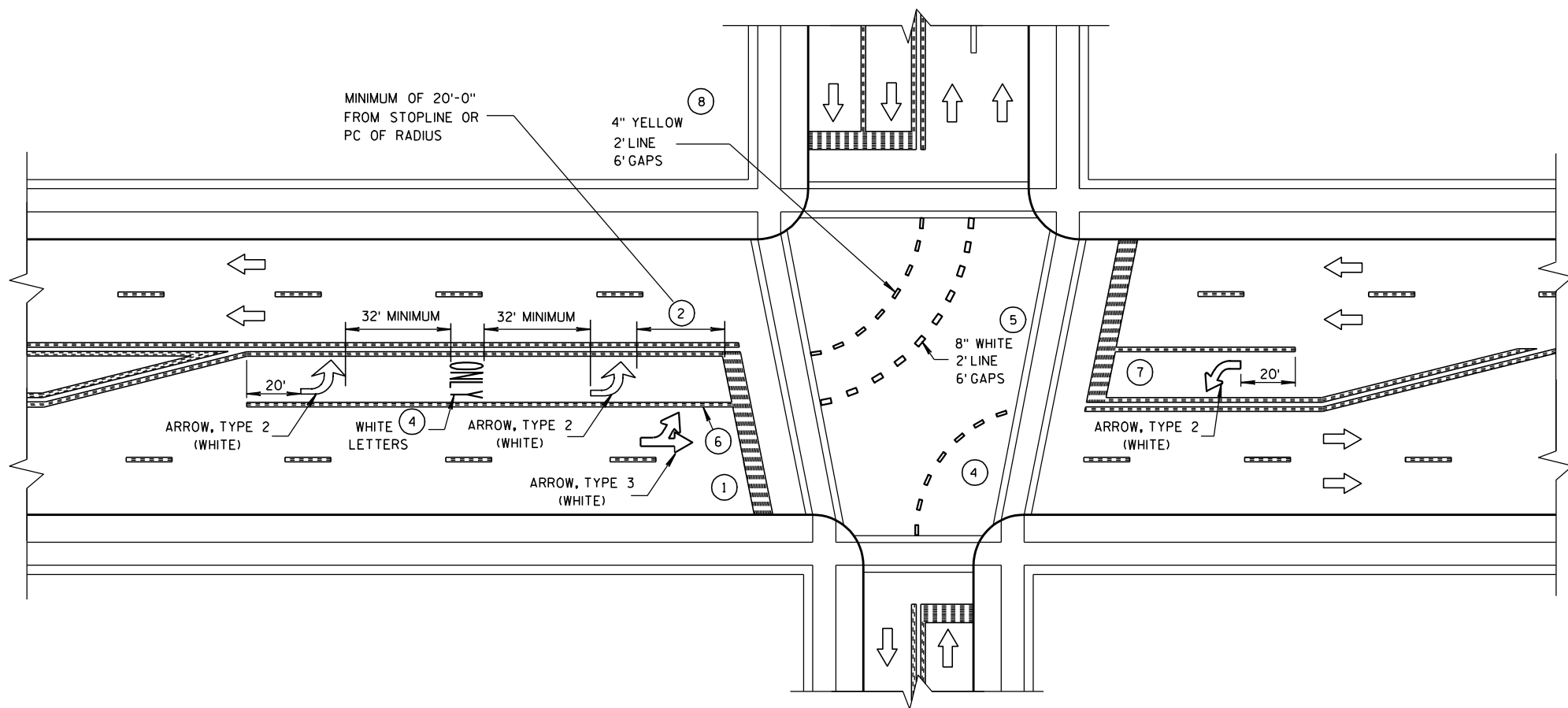
**MINOR INTERSECTION WITH CURBS  
(TYPICAL MARKING)**



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

**PAVEMENT MARKING  
(INTERSECTIONS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



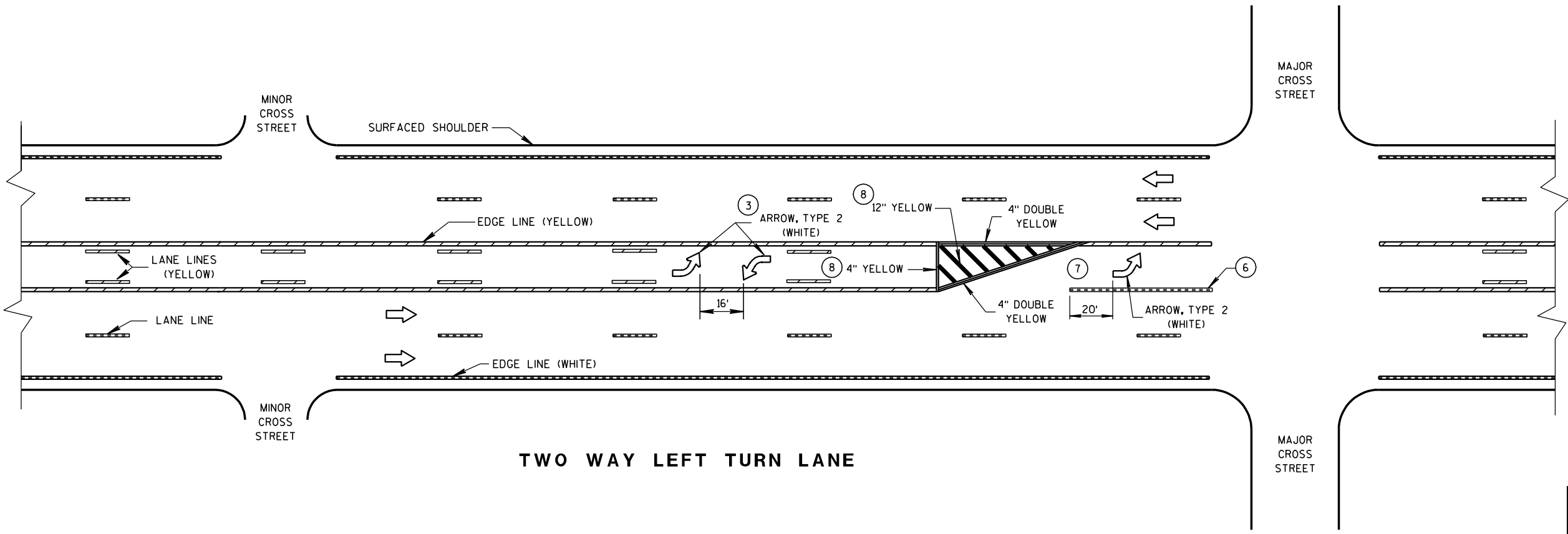
**GENERAL NOTES**

- ① STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
- ② DISTANCE MAY BE ADJUSTED TO ACCOMMODATE SHORT LEFT TURN LANES, AS APPROVED BY THE ENGINEER.
- ③ A SET OF ARROWS IS REQUIRED EVERY 400' OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- ④ ADD EXTRA ARROW AND ONLY PER 160' OR WHEN ON A CURVE.
- ⑤ 8" WHITE WITH 2' LINE 6' GAPS FOR DUAL TURN LANE.
- ⑥ 8" WHITE
- ⑦ ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108'.
- ⑧ REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:  
ARROW SYMBOL ( → )  
SHOWS DIRECTION OF TRAVEL

6

6



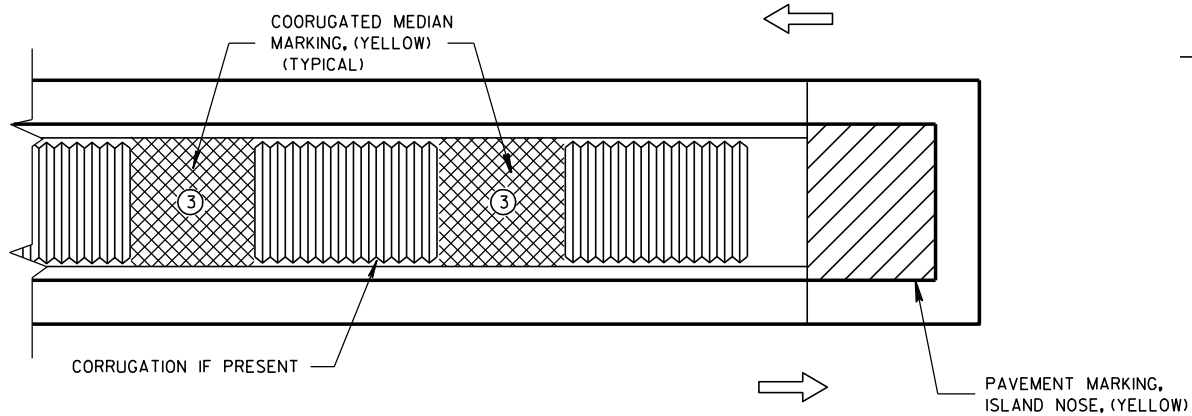
**TWO WAY LEFT TURN LANE**

**PAVEMENT MARKING  
(LEFT TURN LANE)**

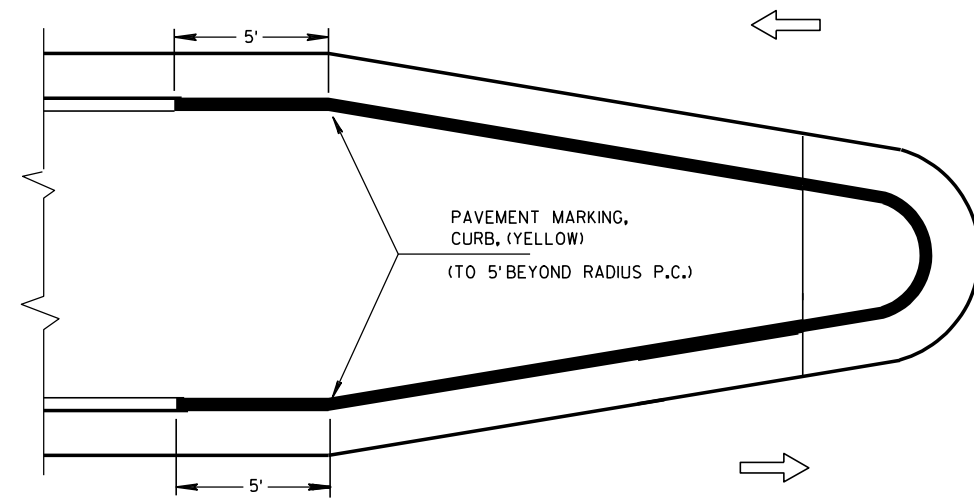
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

S.D.D. 15 C 8-14e

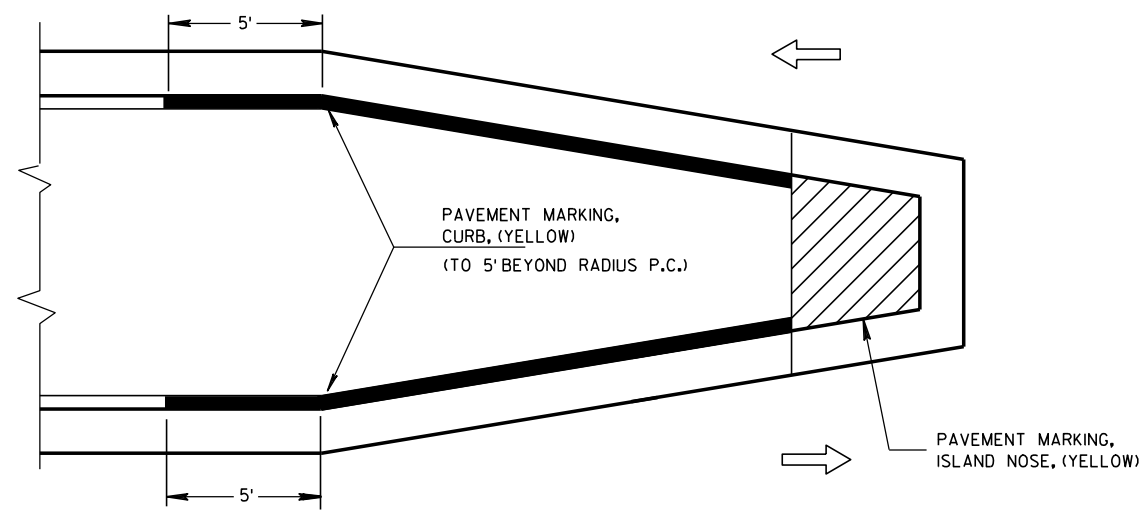
S.D.D. 15 C 8-14e



**MEDIAN ISLAND WITH SQUARE BLUNT NOSE**

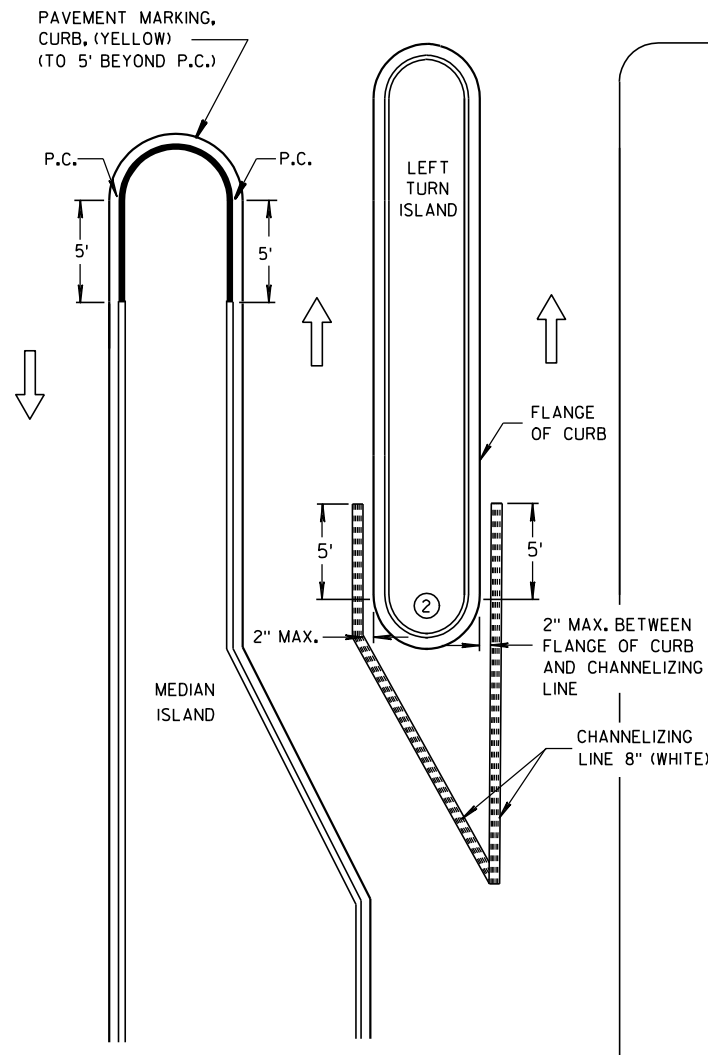


**MEDIAN ISLAND WITH ROUND BLUNT NOSE**



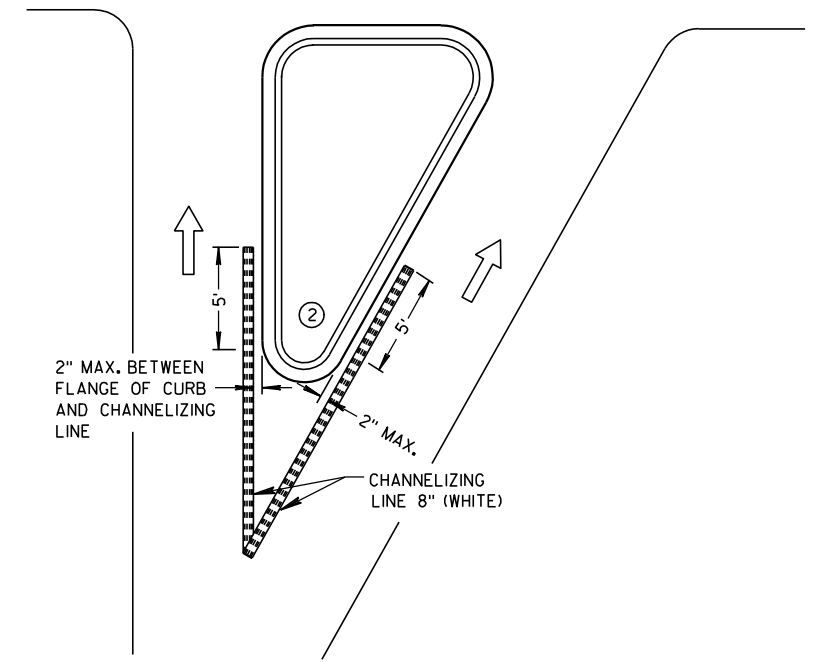
**MEDIAN ISLAND WITH SLOPED NOSE**

**TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS**

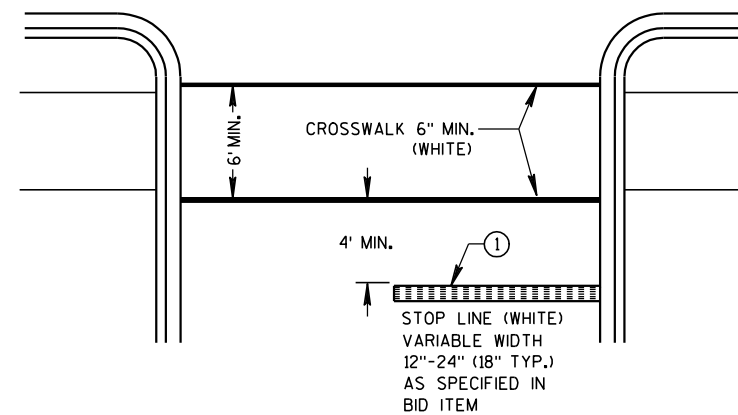


**LEFT TURN & MEDIAN ISLAND**

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



**RIGHT TURN ISLAND**



**STOP LINE AND CROSSWALK**

- LEGEND**
- ISLAND NOSE MARKING
  - CURB MAKING
  - CORRUGATED MEDIAN MARKING
  - DIRECTION OF TRAVEL

**PAVEMENT MARKING (ISLANDS, STOP LINE & CROSS WALK)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



W14-3

500'

CENTERLINE OR LANE LINE (4) (3)

NO-PASSING ZONE MARKING (4)

2'-0"

(2)

PERPENDICULAR TO ROADWAY

(2)

2'-0"

(6)

6'-6"  
3'-0"

2'-0"

2'-0"

24'-0"

6'-0"

1'-6"

20'-0"

16'-0"

60'-0"

(5) (SEE TABLE)



W10-1

### PREFERRED PAVEMENT MARKING (3)

CENTERLINE OR LANE LINE (4) (3)

NO-PASSING ZONE MARKING (4)

20'-0"

2'-0"

2'-0"

8'-0"

22'-0"

6'-0"

22'-0"

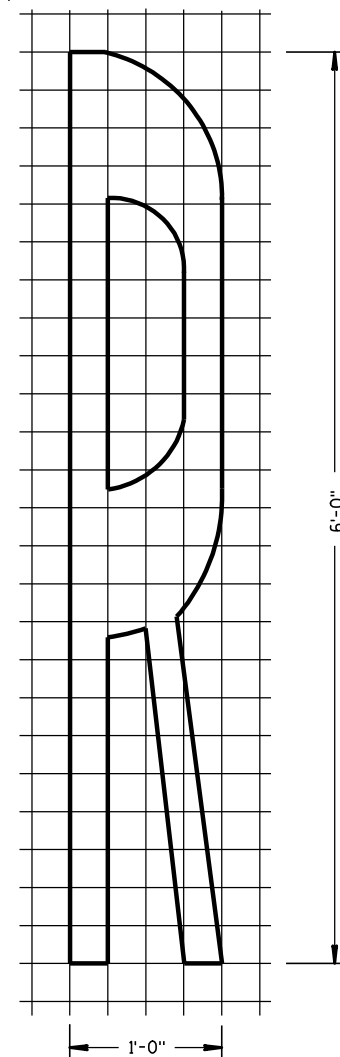
50'-0"

(5) (SEE TABLE)

### ALTERNATE PAVEMENT MARKING (3)

Posted Speed (M.P.H.)	Dimension Range (Feet)
25	150* - 250
30	200* - 300
35	250* - 450
40	300* - 500
45	400* - 650
50	550* - 800
55	750* - 1000
60	1000* - 1250
65	1000* - 1250

\* THE MINIMUM DISTANCES IN THE TABLE ARE DESIRABLE AND SHOULD BE USED. THE DISTANCES MAY BE INCREASED UP TO THE MAXIMUM TO ALLOW FOR FIELD CONDITIONS SUCH AS THE CLOSE PROXIMITY OF DRIVEWAYS, BRIDGES, SIDEROADS OR OTHER FEATURES THAT WOULD PROHIBIT THE MINIMUM DISTANCES FROM BEING USED.



### 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.

A THREE-LANE ROADWAY SHOULD BE MARKED WITH A CENTERLINE FOR TWO-LANE APPROACH OPERATION ON THE APPROACH TO A CROSSING.

ON MULTI-LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE. ALL LETTERS AND SYMBOLS SHALL BE IN CONFORMANCE WITH THE "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" (ADOPTED BY THE FEDERAL HIGHWAY ADMINISTRATION).

CENTER OR LANE LINES AND NO-PASSING ZONE MARKINGS SHOWN ON THIS DRAWING ARE REQUIRED AND PAID FOR UNDER OTHER ITEMS IN THE CONTRACT.

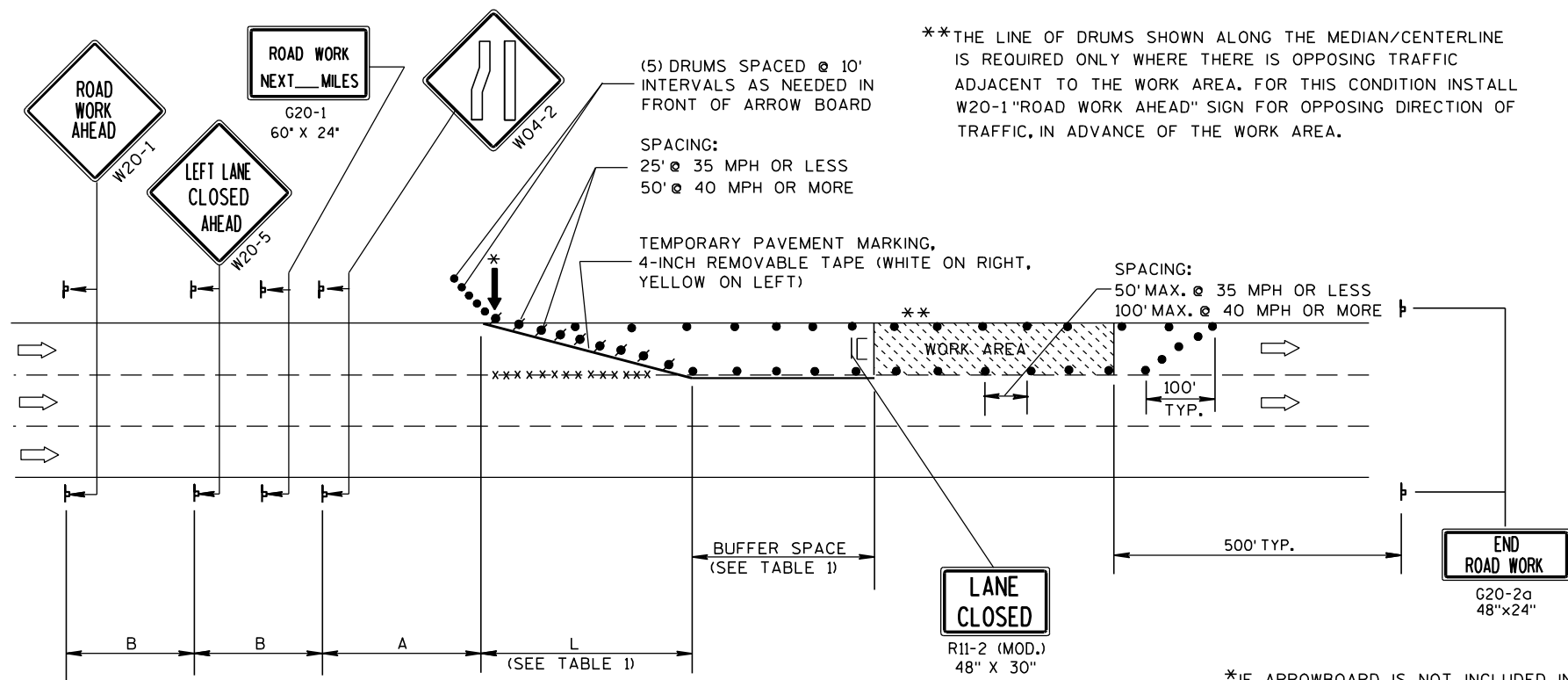
- (1) A PORTION OF THE PAVEMENT MARKING SYMBOL SHOULD BE DIRECTLY OPPOSITE THE ADVANCE WARNING SIGN (W10-1).
- (2) MINIMUM 8' FROM ANY RAILROAD WARNING DEVICES (SIGNALS, GATES, ETC.) OR 25' FROM THE NEAREST RAIL, WHICHEVER DISTANCE IS GREATER.
- (3) REFLECTIVE WHITE.
- (4) REFLECTIVE YELLOW 500' MINIMUM. MARKING LIMITS MAY BE EXTENDED AS DIRECTED BY THE ENGINEER TO MEET ADJACENT NO-PASSING ZONE MARKINGS.
- (5) TABLE BASED UPON 2C-4 WISCONSIN SUPPLEMENT OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- (6) FOR MULTIPLE TRACK CROSSINGS, THE BARRIER LINE SHALL EXTEND TO THE NEAR RAIL OF THE FURTHEST TRACK IN THE DIRECTION OF HIGHWAY TRAVEL.

### SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
1-9-2012 /S/ Thomas N. Notbohm  
DATE STATE TRAFFIC ENGINEER OF DESIGN  
FHWA





B=400' AT 25-30 MPH  
700' AT 35-40 MPH  
1000' AT 45-55 MPH

A=200' AT 25-30 MPH  
350' AT 35-40 MPH  
500' AT 45-55 MPH

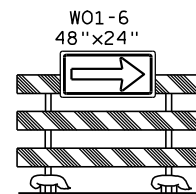
TABLE 1  
TAPER AND BUFFER SPACE  
FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':  
 L = WS AT 45 MPH OR GREATER  
 L =  $\frac{WS^2}{60}$  AT 40 MPH OR LESS  
 L = TAPER LENGTH IN FEET  
 S = NON-CONSTRUCTION SPEED LIMIT (MPH)  
 W = WIDTH OF LANE CLOSURE

(PLACE BARRICADE AND SIGN APPROX. EVERY 1000' ACROSS THE CLOSED LANE)

\*IF ARROWBOARD IS NOT INCLUDED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE A TYPE III BARRICADE WITH W01-6 SIGN IN THE LANE CLOSURE TAPER.



LEGEND

- /● DRUM WITH/WITHOUT WARNING LIGHT, TYPE C (STEADY-BURN)
- ⌋ POST MOUNTED SIGN
- ↑ ARROW BOARD
- IC/C TYPE III BARRICADE (8' EQUIVALENT) AND WARNING LIGHTS, TYPE A (FLASHING) WITH/WITHOUT SIGN
- DIRECTION OF TRAFFIC FLOW
- x x x x REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)

GENERAL NOTES

- THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.
- THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.
- THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.
- ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.
- "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
- REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS.
- ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.
- W20-1, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.
- OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.
- CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.
- PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.
- CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.
- BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.
- WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

**TRAFFIC CONTROL,  
SINGLE LANE CLOSURE,  
NON-FREEWAY/EXPRESSWAY**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
5/23/00 /S/ Chester J. Spang  
DATE CHIEF SIGNS AND MARKING ENGINEER

FHWA

**GENERAL NOTES**

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

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

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

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

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

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

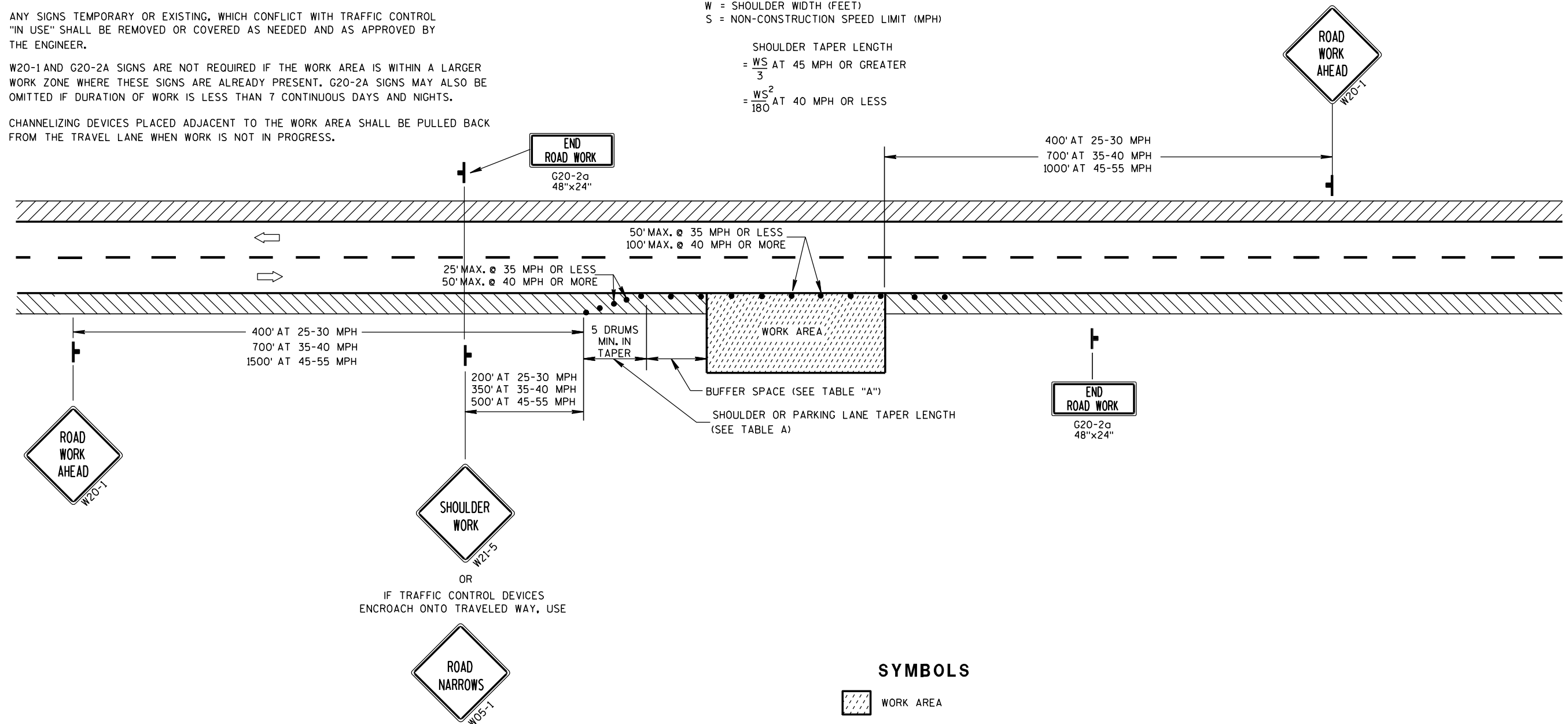
CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

**TABLE A**

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

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

SHOULDER TAPER LENGTH  
 =  $\frac{WS}{3}$  AT 45 MPH OR GREATER  
 =  $\frac{WS^2}{180}$  AT 40 MPH OR LESS



**SYMBOLS**

- WORK AREA
- DRUM
- POST MOUNTED SIGN
- DIRECTION OF TRAFFIC FLOW

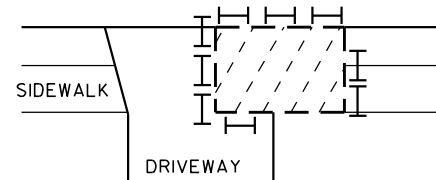
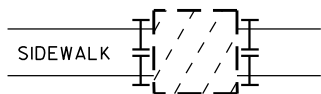
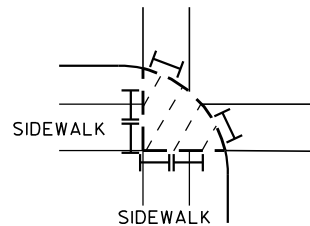
**TRAFFIC CONTROL,  
WORK ON SHOULDER OR  
PARKING LANE,  
UNDIVIDED ROADWAY**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
 5/23/00 /S/ Chester J. Spang  
 DATE CHIEF SIGNS AND MARKING ENGINEER

FHWA

WARNING OF LOCALIZED SIDEWALK WORK AREAS

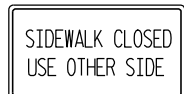


6

6

200' TYP.

IF WORK AREA ENCROACHES INTO THE ROADWAY,  
SEE OTHER TRAFFIC CONTROL DETAILS FOR  
ADDITIONAL TRAFFIC CONTROL



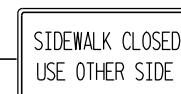
R5-8a  
24"x12"  
2 1/2" SERIES B  
BLACK LETTERS  
ON REFLECTIVE  
WHITE BACKGROUND



R5-8  
24"x12"  
3" SERIES C  
BLACK LETTERS  
ON REFLECTIVE  
WHITE BACKGROUND



R5-8  
24"x12"  
3" SERIES C  
BLACK LETTERS  
ON REFLECTIVE  
WHITE BACKGROUND



R5-8a  
24"x12"  
2 1/2" SERIES B  
BLACK LETTERS  
ON REFLECTIVE  
WHITE BACKGROUND

LEGEND

- POST MOUNTED SIGN
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- WORK AREA
- DIRECTION OF TRAFFIC FLOW

GENERAL NOTES :

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS, IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

\* "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.

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

TRAFFIC CONTROL,  
SIDEWALK CLOSURE

TRAFFIC CONTROL,  
SIDEWALK CLOSURE

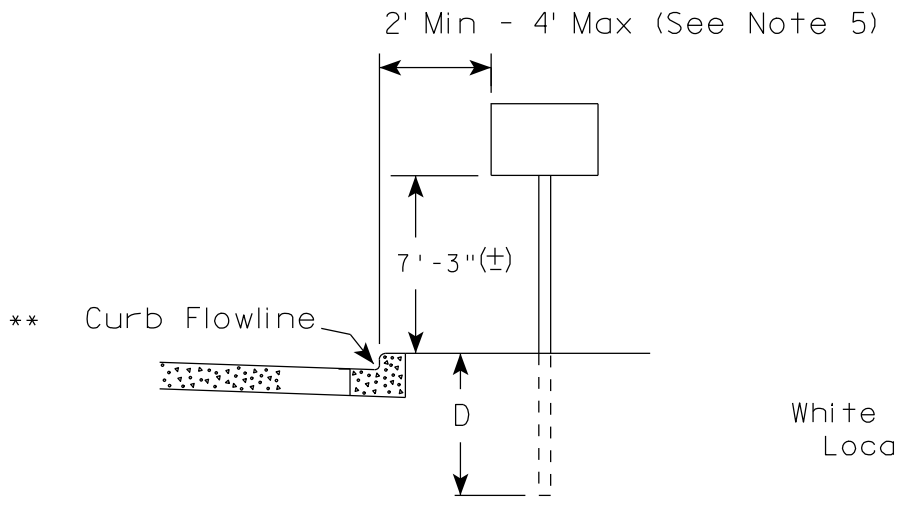
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
5/23/2000 /S/ Chester J. Spang  
DATE CHIEF SIGNS AND MARKING ENGINEER  
FHWA

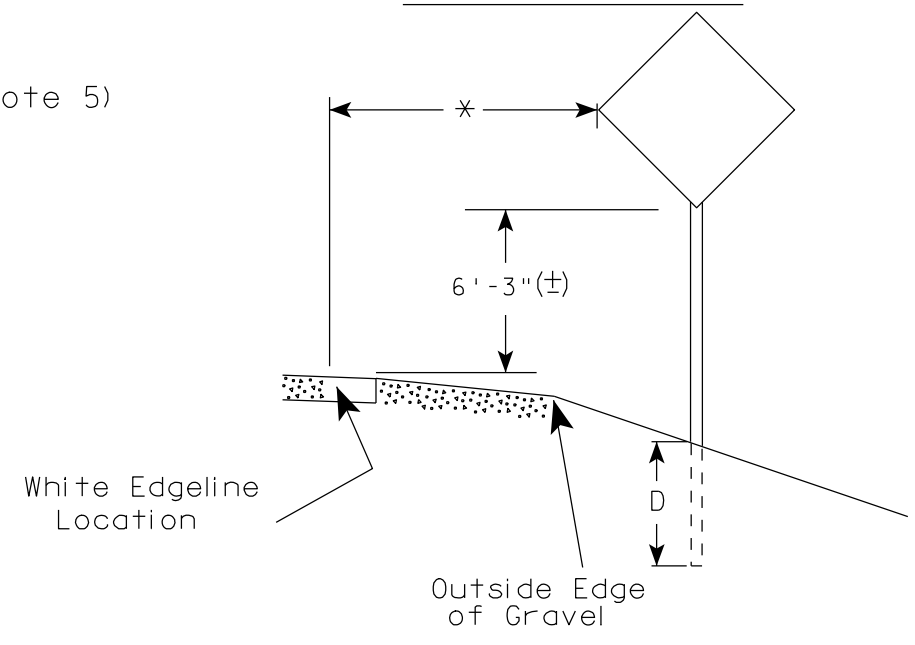
S.D.D. 15 D 30-1

S.D.D. 15 D 30-1

URBAN AREA



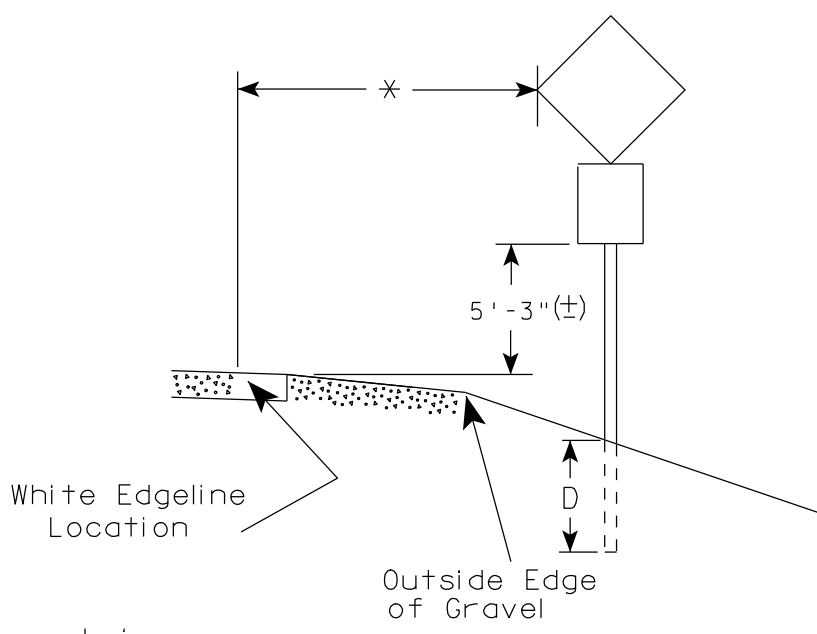
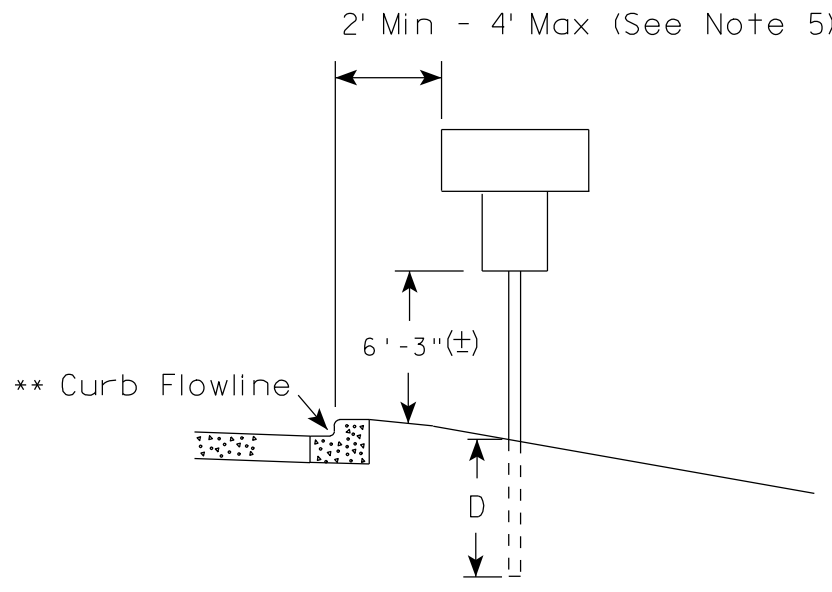
RURAL AREA (See Note 2)



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

URBAN AREA



POST EMBEDMENT DEPTH

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

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

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

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 9/21/2011 PLATE NO. A4-3.16

**GENERAL NOTES**

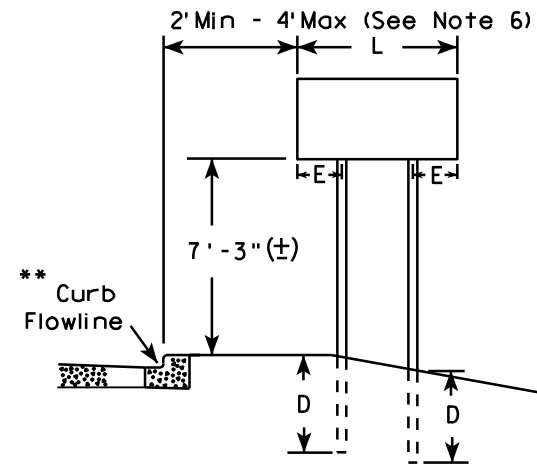
1. For multiple post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (±).

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

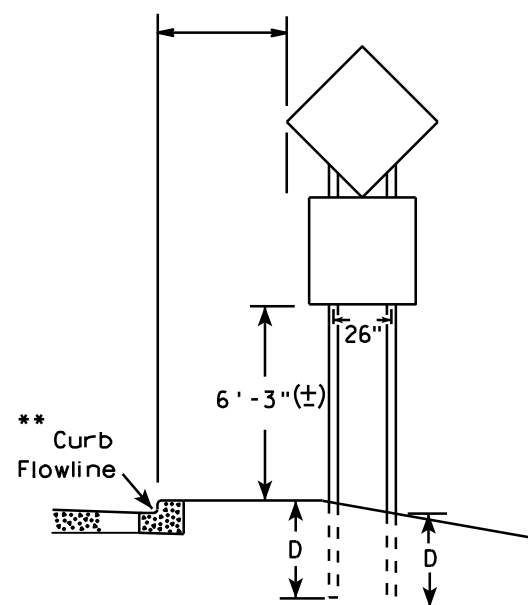
\*\* The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of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

\*\*\* See A4-3 sign plate for signs 4' or less in width or 20 S.F. or less in area.

**URBAN AREA**

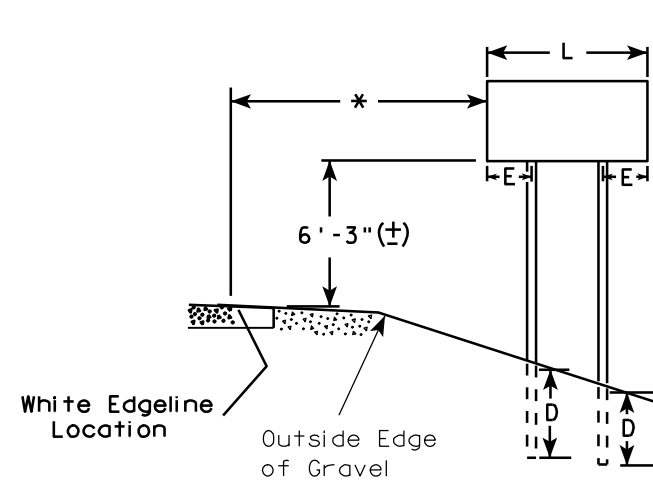


2' Min - 4' Max (See Note 6)



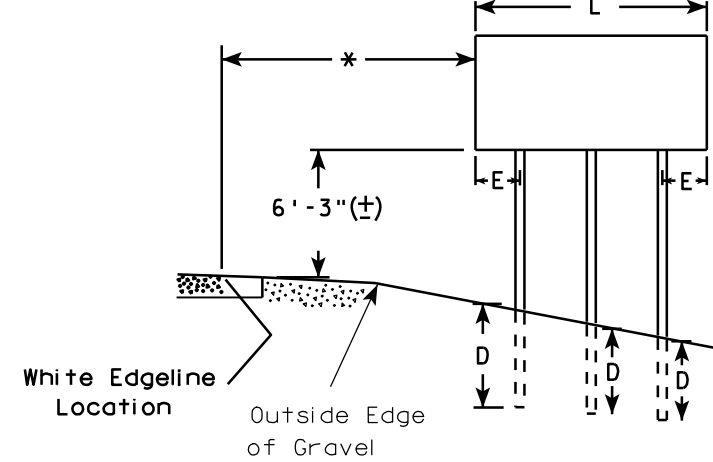
**48" DIAMOND WARNING SIGN**

**RURAL AREA (See Note 3)**



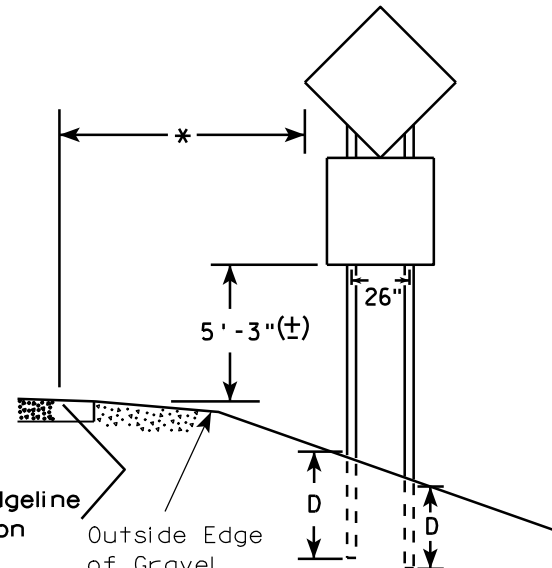
White Edgeline Location

Outside Edge of Gravel



White Edgeline Location

Outside Edge of Gravel



**48" DIAMOND WARNING SIGN**

\*\*\*

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

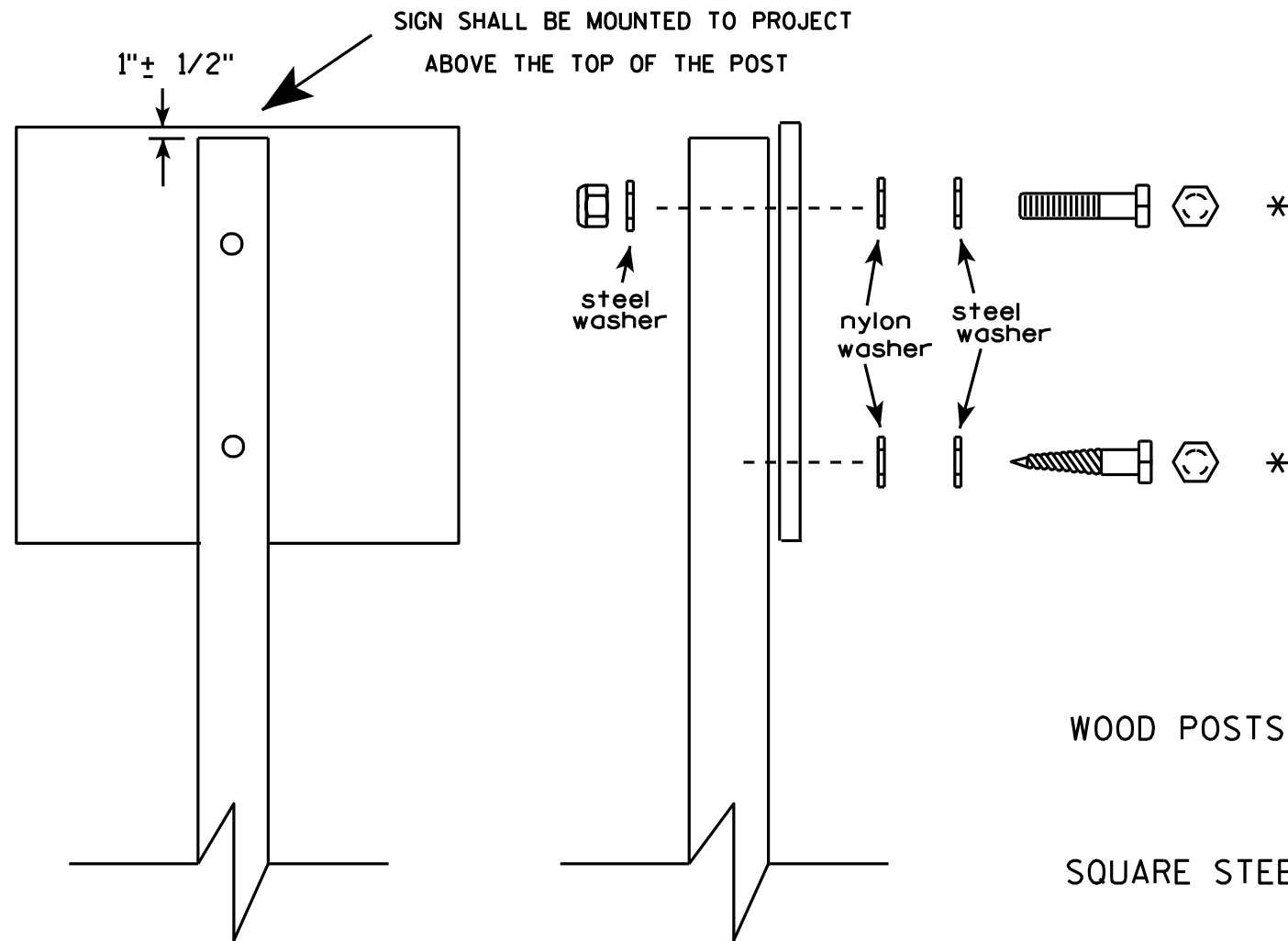
SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

**POST EMBEDMENT DEPTH**

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 9/21/2011	PLATE NO. A4-4.11



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

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

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

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL

O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.

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

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

ATTACHMENT OF SIGNS TO POSTS

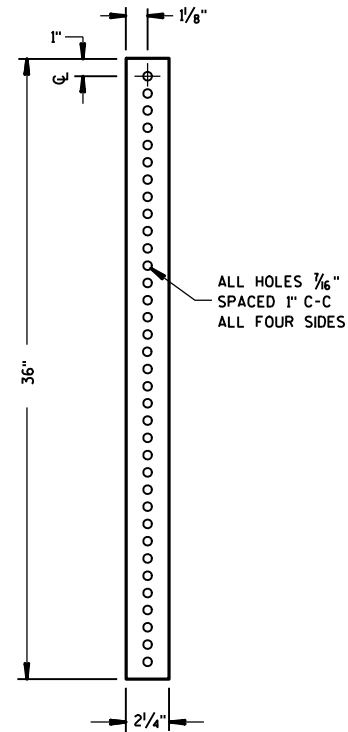
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*  
For State Traffic Engineer

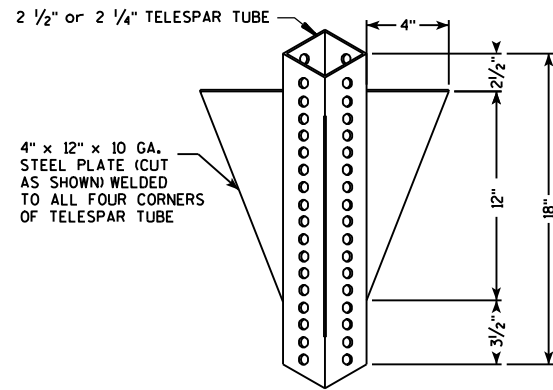
DATE 3/23/10 PLATE NO. A4-8.7

**TELESCOPIC TUBING ANCHORS  
TWO PIECE SYSTEM**

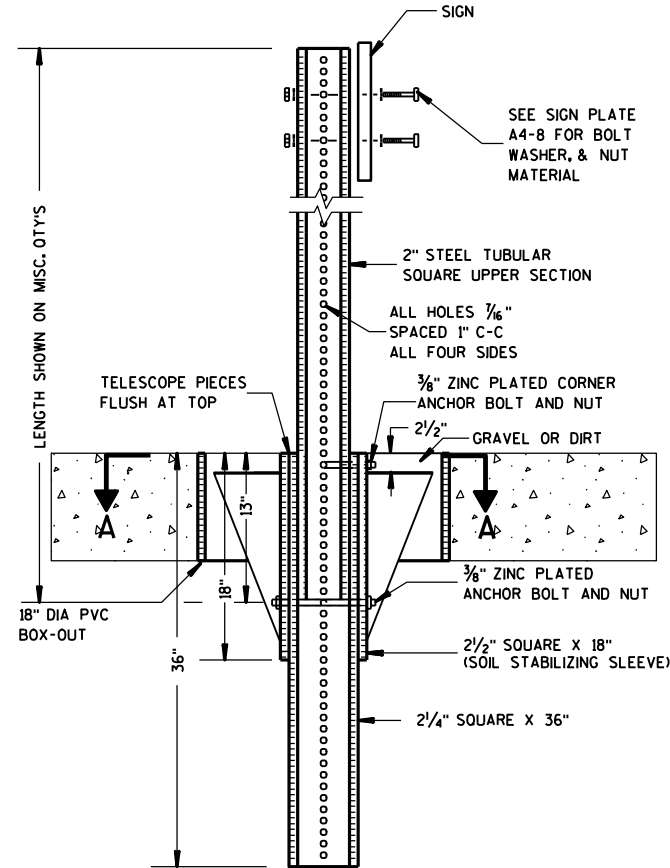
2 1/4" SQUARE  
12 GAUGE  
PERFORATED  
GALVANIZED FINISH



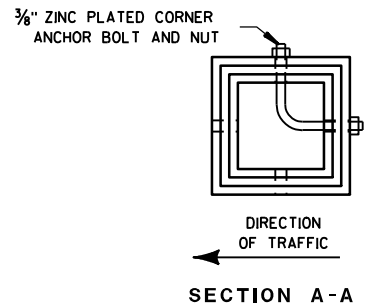
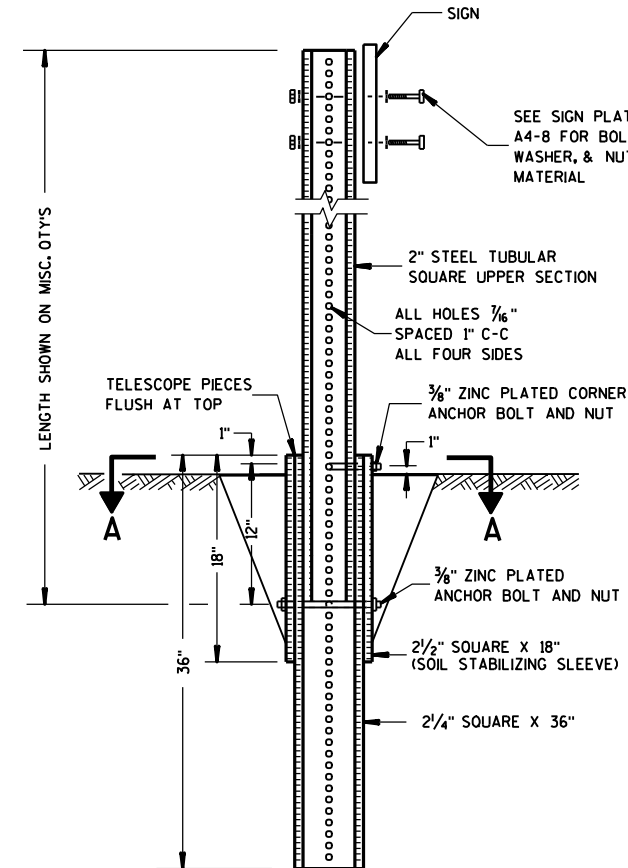
2 1/2" SQUARE  
12 GAUGE  
OMNI-DIRECTIONAL  
PERFORATED  
SOIL STABILIZING SLEEVE  
GALVANIZED FINISH



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



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



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

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

**TUBULAR STEEL  
SIGN POST  
A4-9**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*

for State Traffic Engineer  
DATE 5/30/12 PLATE NO. A4-9.7

PROJECT NO:

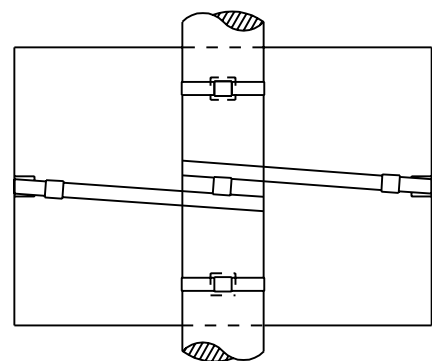
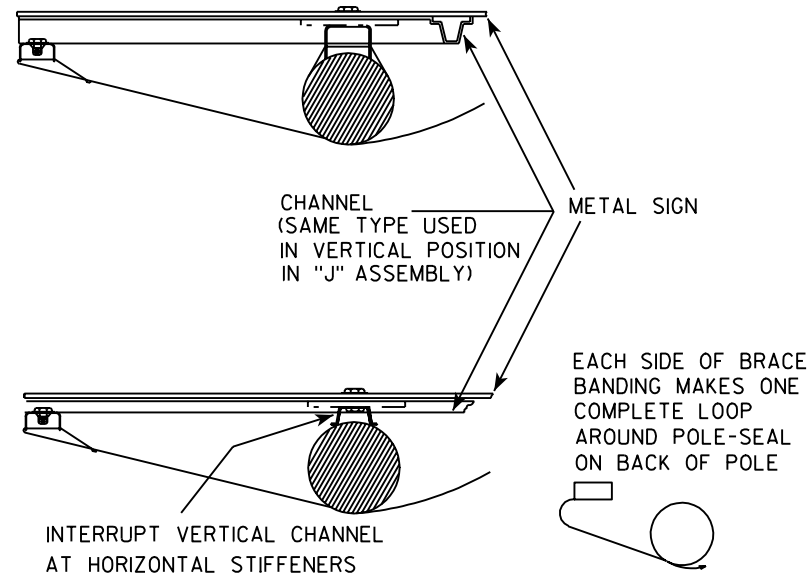
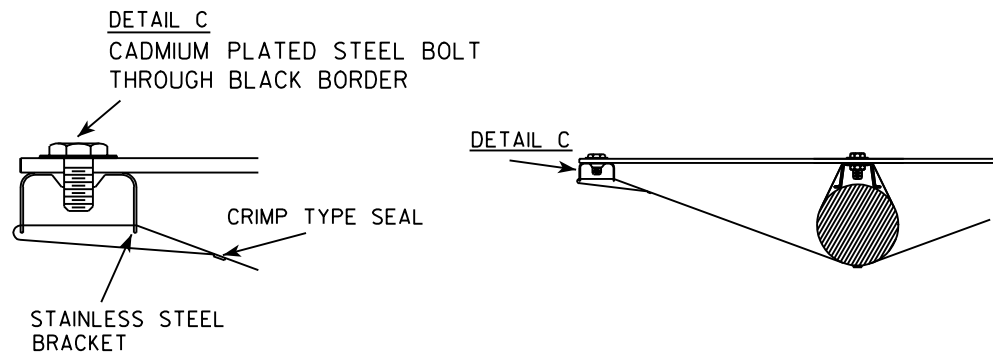
HWY:

COUNTY:

SHEET NO:

E

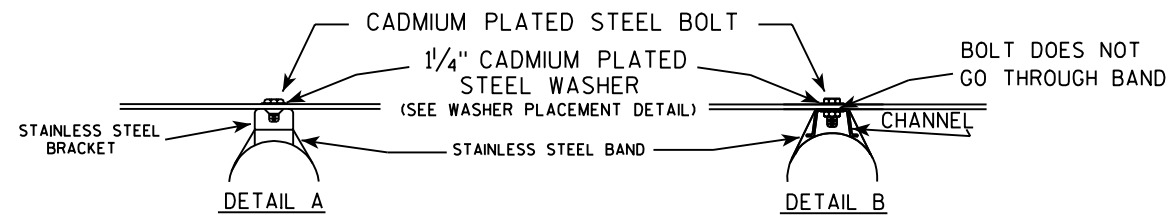
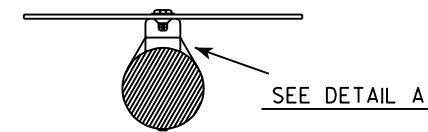
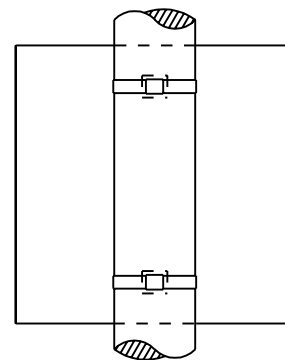
BRACE BANDING



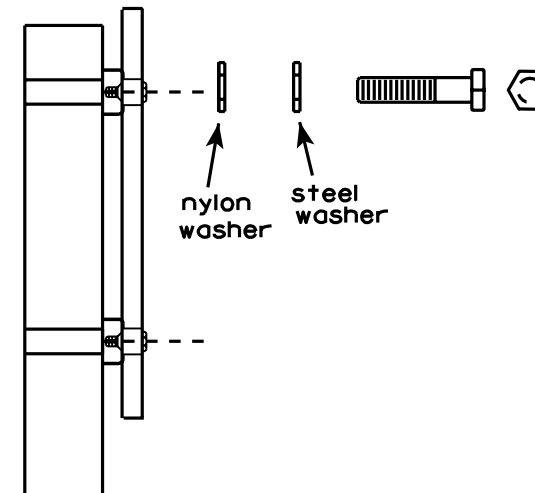
BRACE BANDING SHALL BE TIGHTENED FIRMLY BUT NOT SO TIGHT AS TO APPRECIABLY CURVE FACE OF SIGN.

BRACKET BANDING

SINGLE SIGN



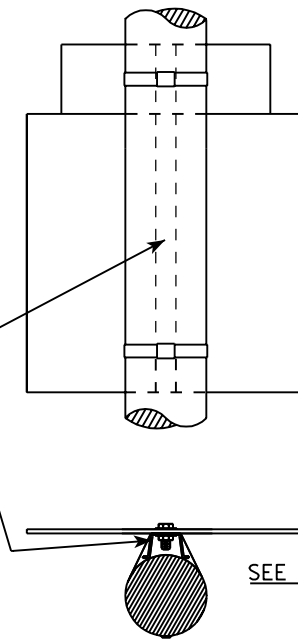
WASHER PLACEMENT



WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL  
1-1/4" O.D. X 3/8" I.D. X .080 NYLON  
FOR ALL TYPE H SIGNS

"J" ASSEMBLY



GENERAL NOTES

1. Signs 4' or greater in width shall have one brace band installed at the center of the sign.
2. Signs 3' or greater in height shall have three bracket bands installed. Signs less than 3' in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.

STANDARD SIGN  
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 11/08/05 PLATE NO. A5-9.2

PROJECT NO:

HWY:

COUNTY:

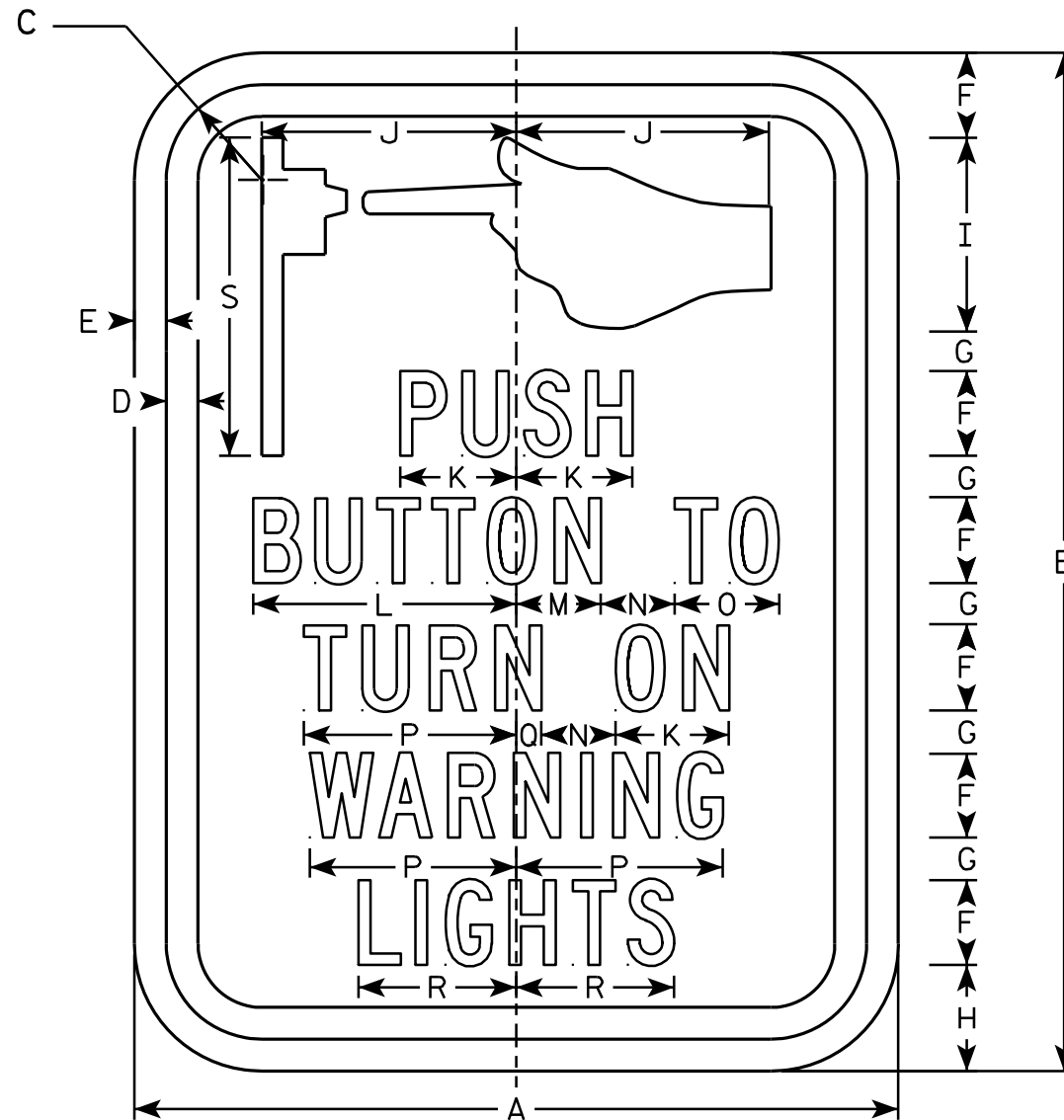
SHEET NO:

E



**NOTES**

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



R10-25

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	6	9	1 1/8	3/8	3/8	3/4	3/8	1	1 3/4	2	7/8	2 1/8	5/8	5/8	7/8	1 5/8	1/4	1 1/4	2 7/8								.38
2S	9	12	1 1/8	3/8	3/8	1	1/2	1 1/4	2 1/4	3	1 3/8	3 1/8	1	7/8	1 1/4	2 1/2	1/4	1 7/8	3 3/4								.75
2M	9	12	1 1/8	3/8	3/8	1	1/2	1 1/4	2 1/4	3	1 3/8	3 1/8	1	7/8	1 1/4	2 1/2	1/4	1 7/8	3 3/4								.75
3																											
4																											
5																											

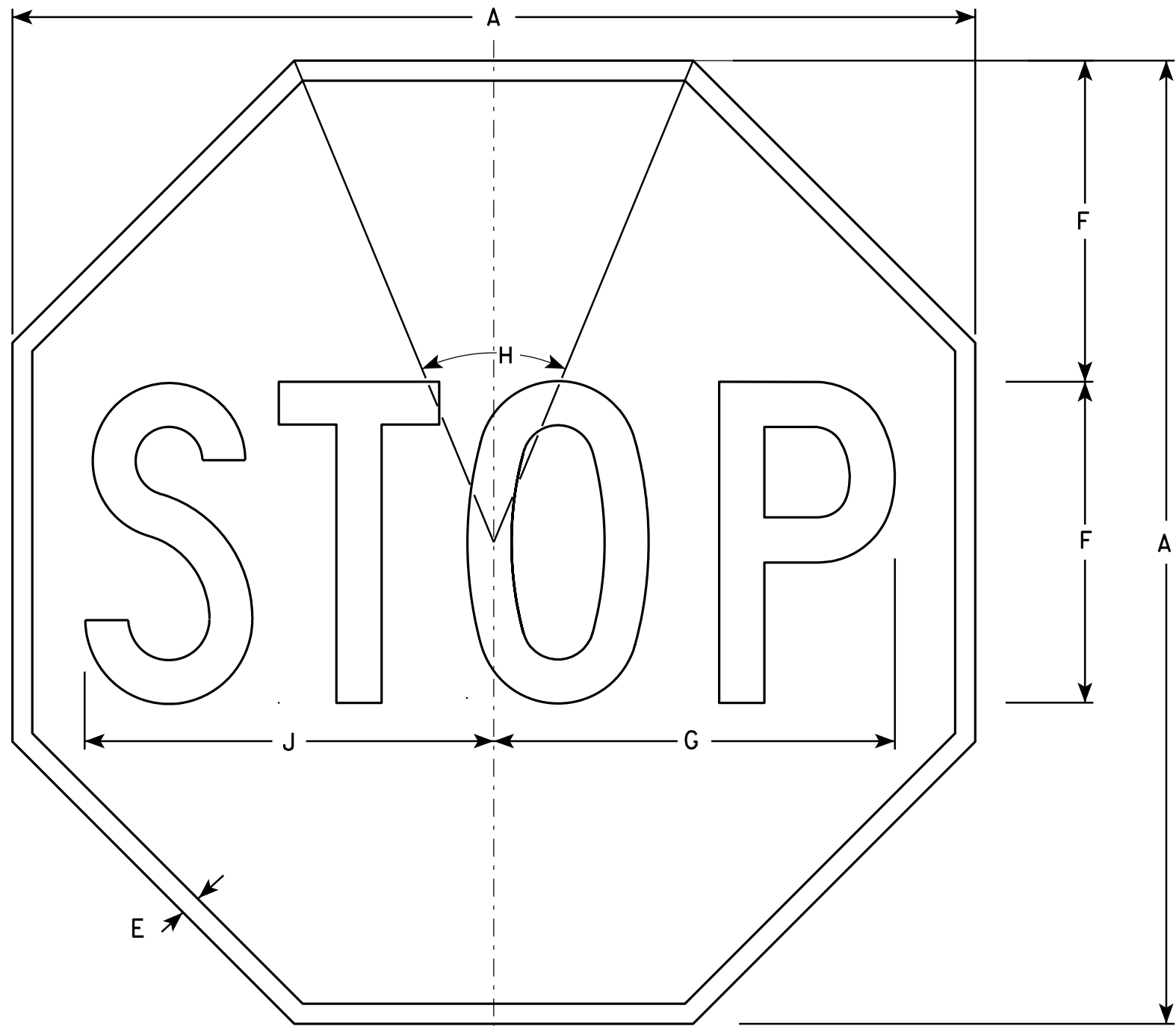
**STANDARD SIGN**  
R10-25

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 11/8/10 PLATE NO. R10-25.1

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



**NOTES**

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

7

7

R1-1

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

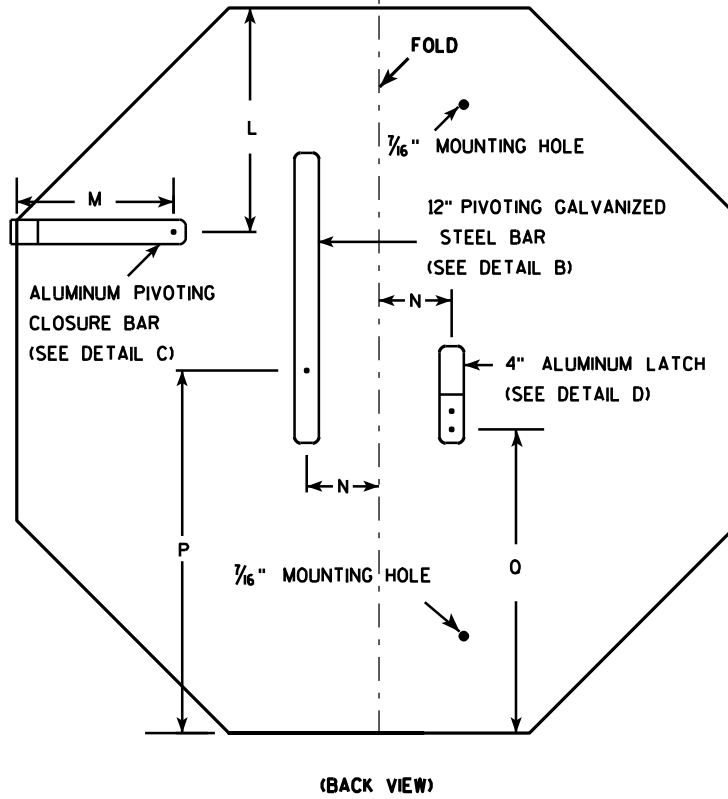
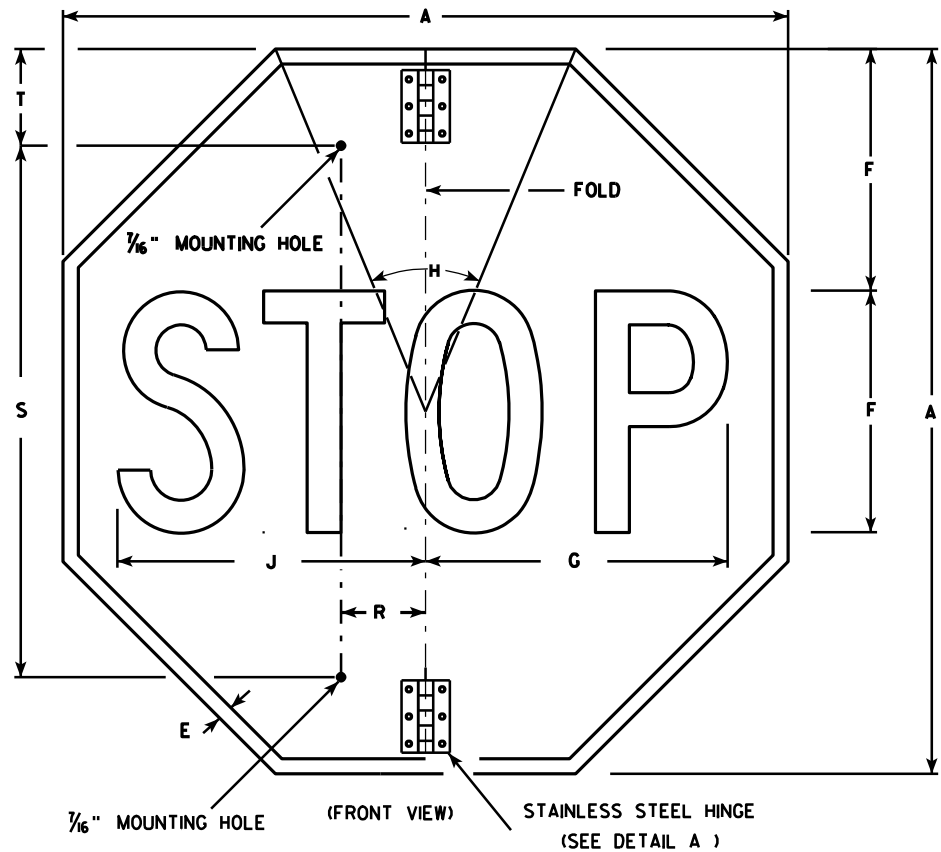
**STANDARD SIGN**  
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

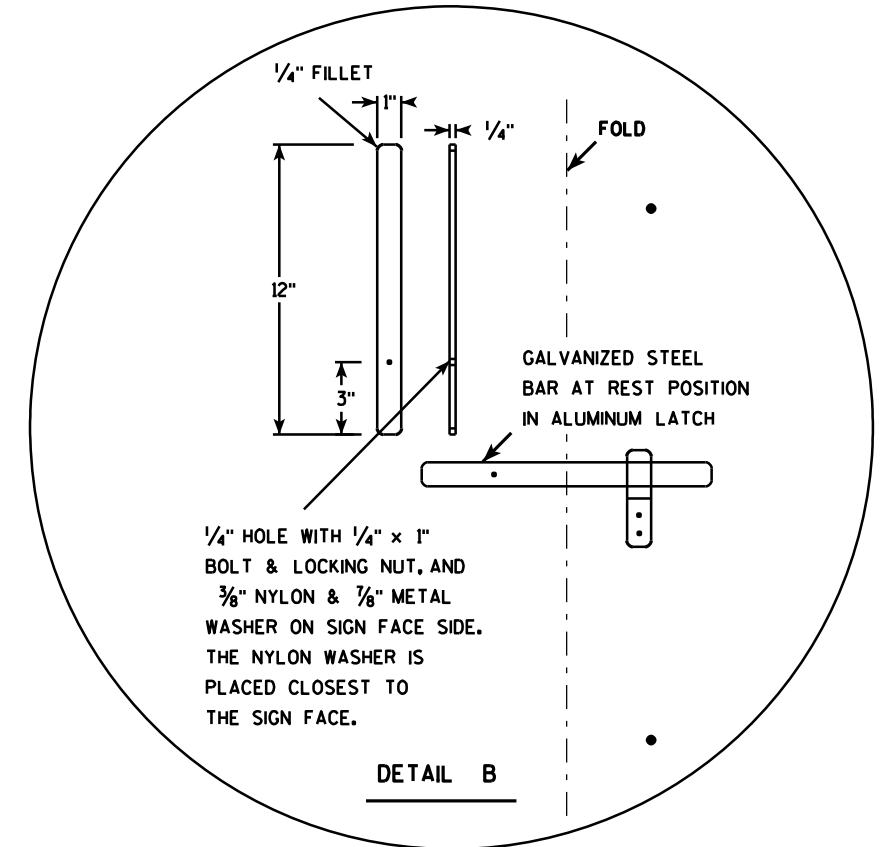
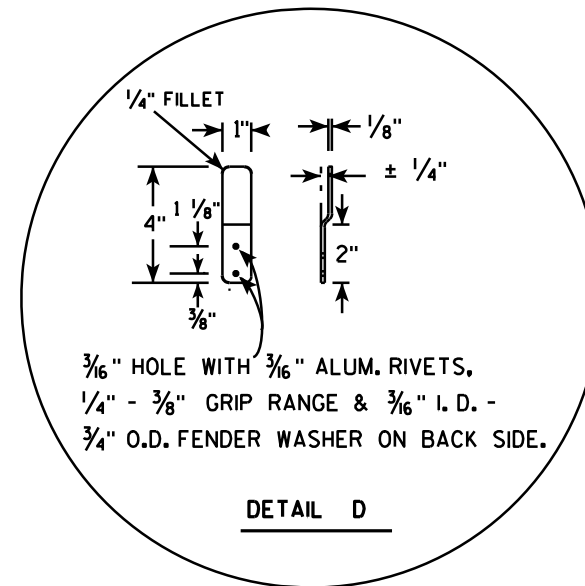
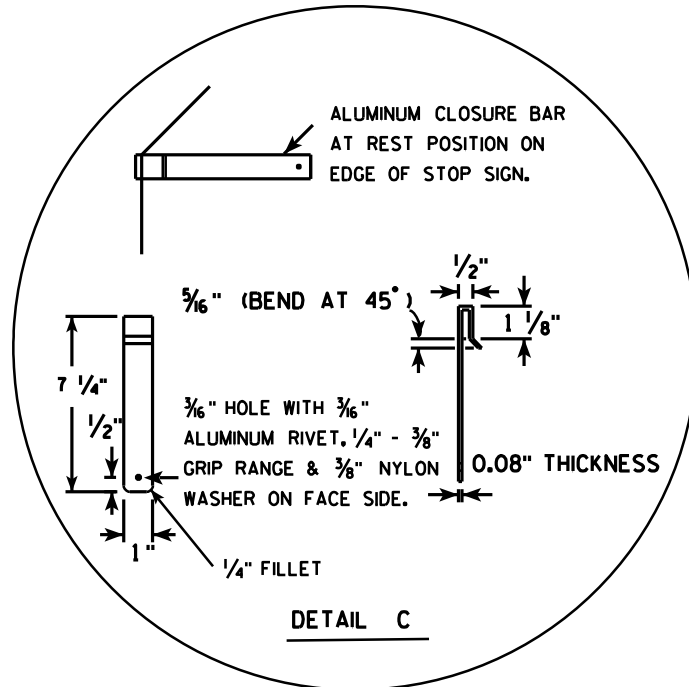
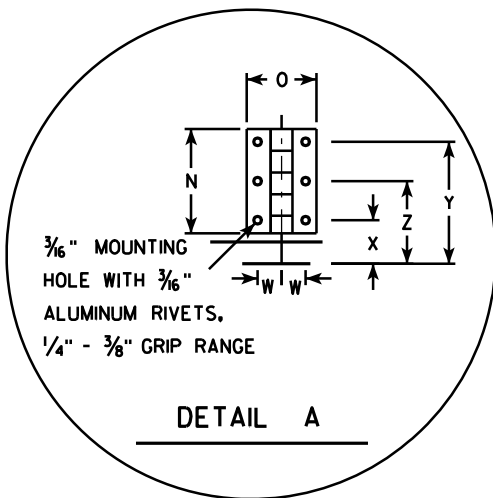
DATE 12/03/10 PLATE NO. R1-1.12

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



**NOTES**

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Red  
Message - White
3. Message Series - C
4. All hardware used on the folding STOP sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30				5/8	10	12 1/2	45		12 3/4		9 1/4	6 1/2	3	2	15	12 3/8	2 1/2	22	5			1 1/8	1 1/4	3 1/2	2 3/8	5.18
2M	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			1 1/8	1 1/4	3 1/2	2 3/8	7.46
3	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			1 1/8	1 1/4	3 1/2	2 3/8	7.46
4																											
5																											

**STANDARD SIGN**  
R1-1F

WISCONSIN DEPT OF TRANSPORTATION

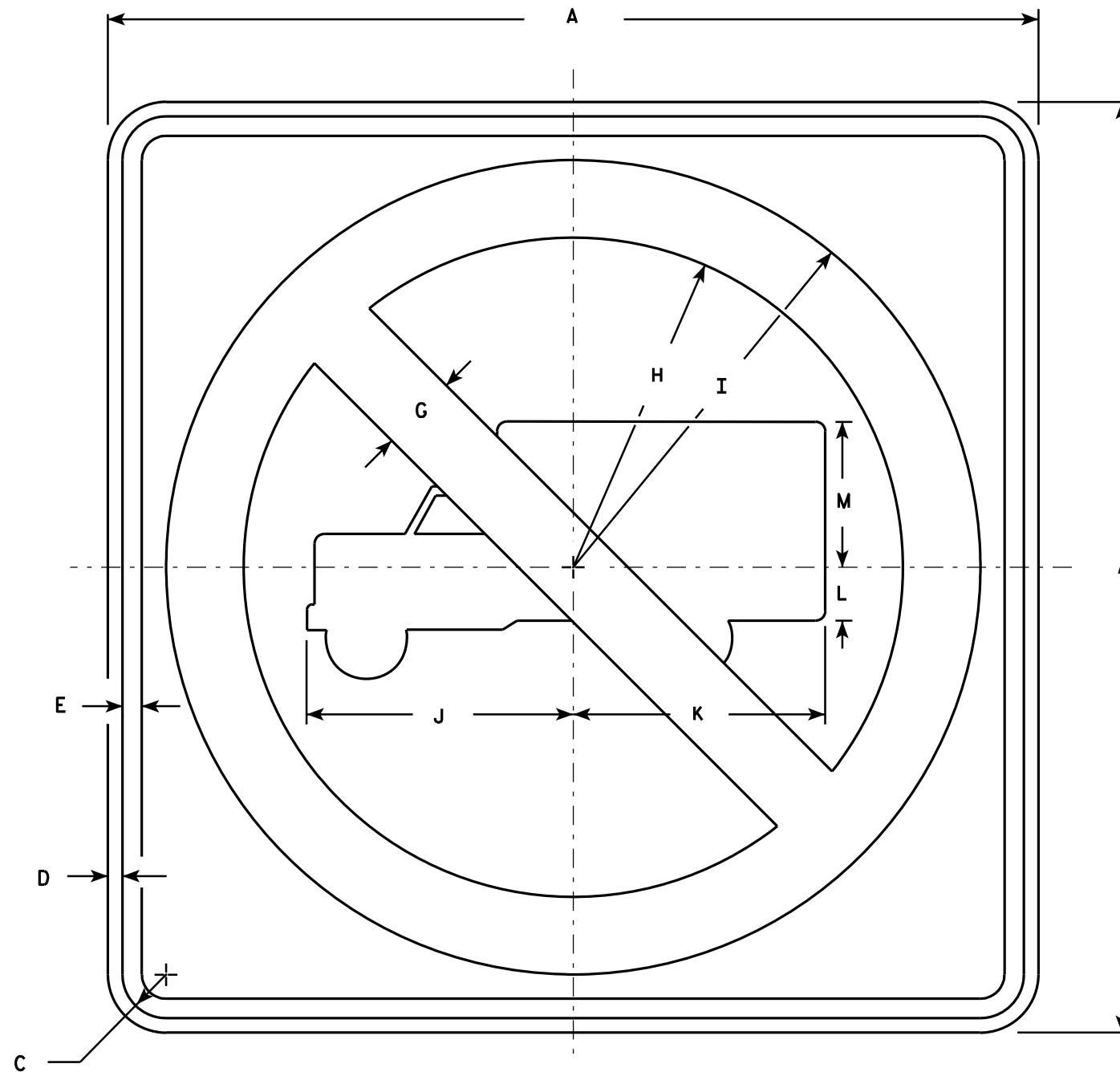
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1F.3

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Circle & Diagonal - Reflective red.  
Truck Symbol & Border - Non-reflective black.



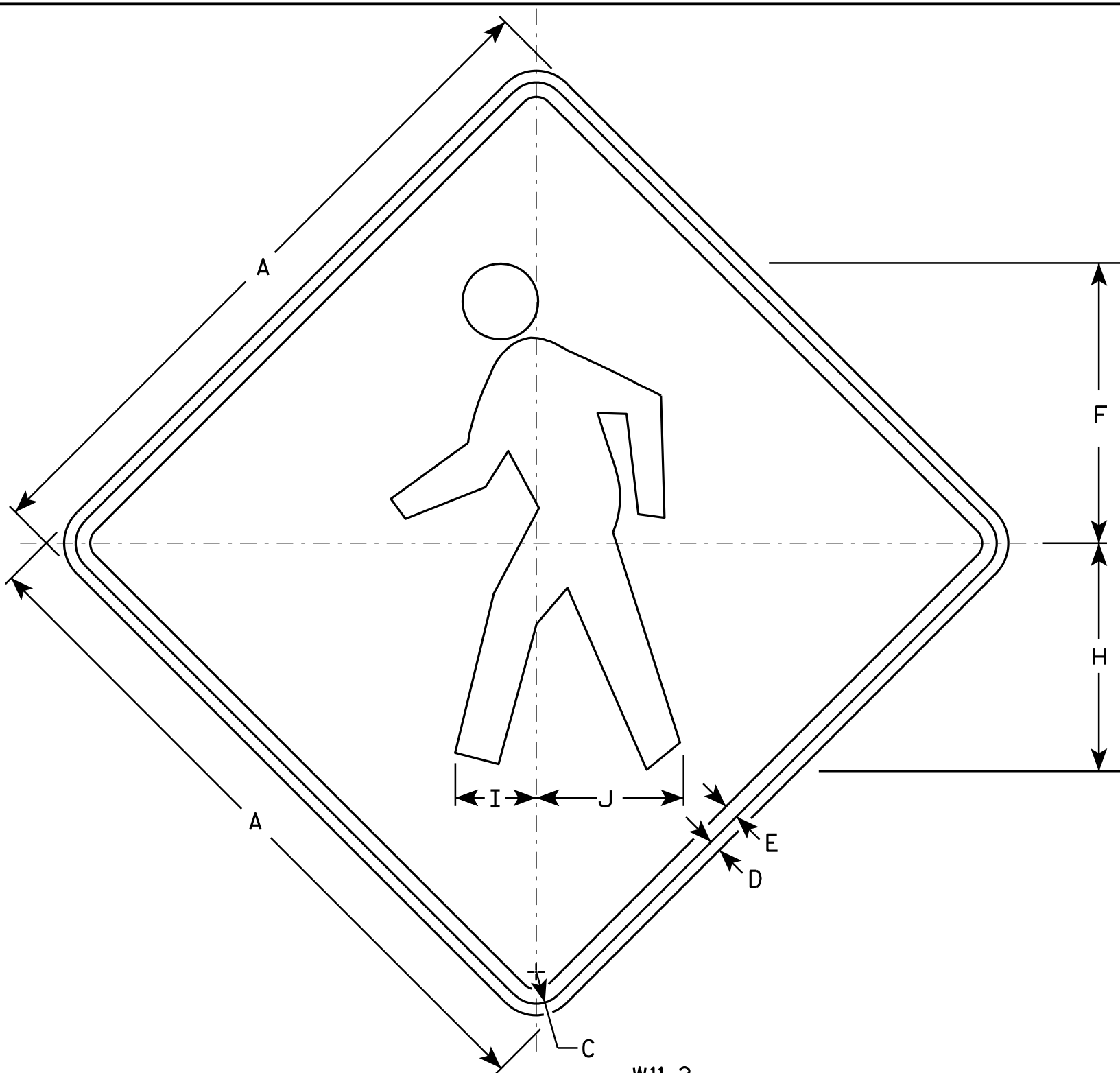
R5-2

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		2	8 1/2	10 1/2	6 7/8	6 1/2	1 3/8	3 3/4														4.0
2M	24		1 1/8	3/8	1/2		2	8 1/2	10 1/2	6 7/8	6 1/2	1 3/8	3 3/4														4.0
3	30		1 3/8	1/2	5/8		2 1/2	10 5/8	13 1/8	8 1/2	8 1/8	1 5/8	4 3/4														6.25
4	36		1 5/8	5/8	3/4		3	12 3/4	15 3/4	10 1/4	9 3/4	2	5 3/4														9.0
5	48		2 1/4	3/4	1		4	17	21	13 5/8	13	2 5/8	7 5/8														16.0

STANDARD SIGN  
R5-2

WISCONSIN DEPT OF TRANSPORTATION  
 APPROVED *Matthew R. Rauch*  
 for State Traffic Engineer  
 DATE 3/29/2011 PLATE NO. R5-2.6

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
Message - Black
3. 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.

W11-2

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	9 3/4		7 7/8	2 7/8	5 1/8																	4.0
2S	30		1 3/8	1/2	5/8	12 1/8		9 7/8	3 1/2	6 3/8																	6.25
2M	36		1 5/8	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
3	36		1 5/8	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
4	48		2 1/4	3/4	1	19 3/8		15 3/4	5 5/8	10 1/4																	16.0
5																											

**STANDARD SIGN**  
**W11-2**

WISCONSIN DEPT OF TRANSPORTATION

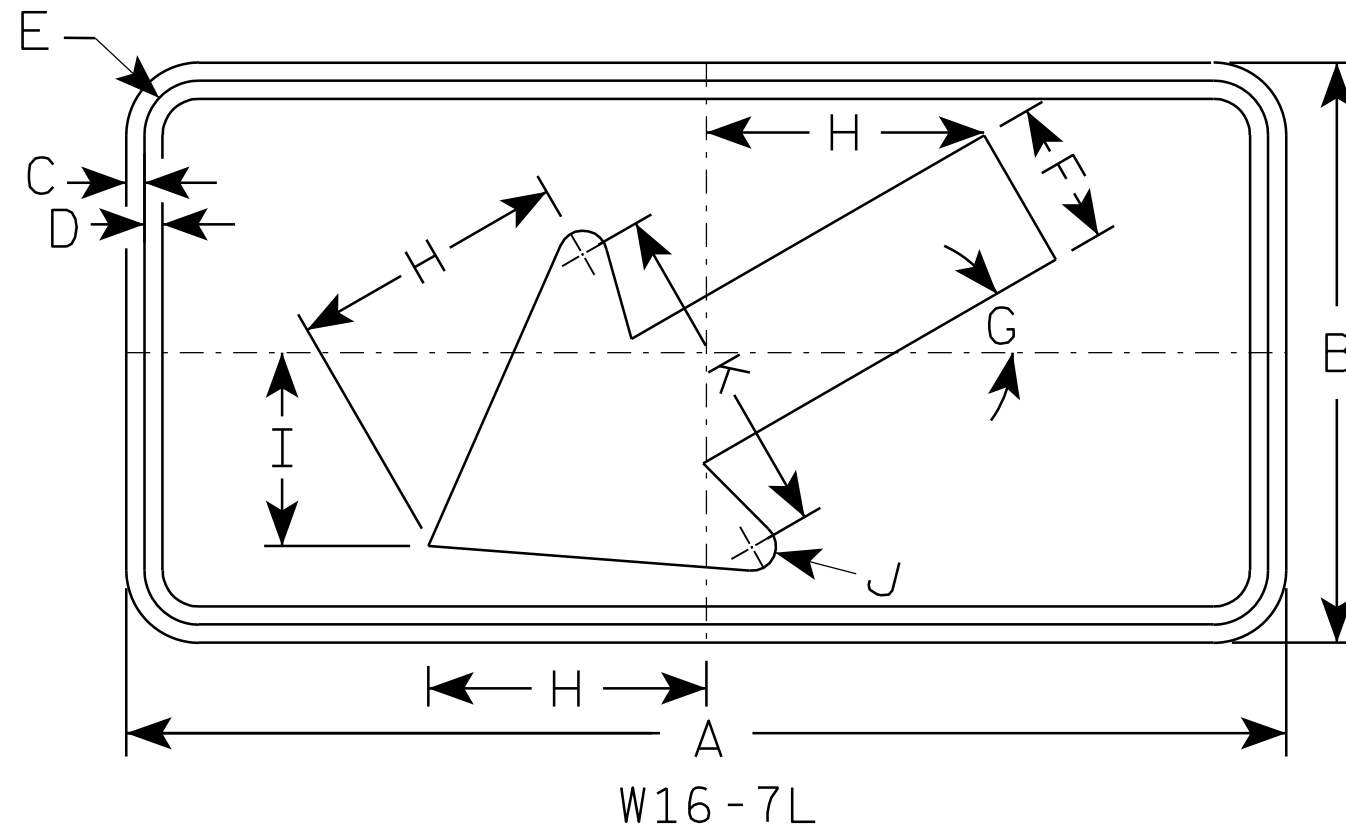
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 6/7/10 PLATE NO. W11-2.7

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - 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. W16-7R is the same as W16-L except the arrow is reversed along the vertical centerline.



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	3/8	3/8	1 1/8	3	30°	5 3/4	4	1/2	7																2.0
2M	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
3	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
4																											8
5																											8

**STANDARD SIGN**  
**W16-7**

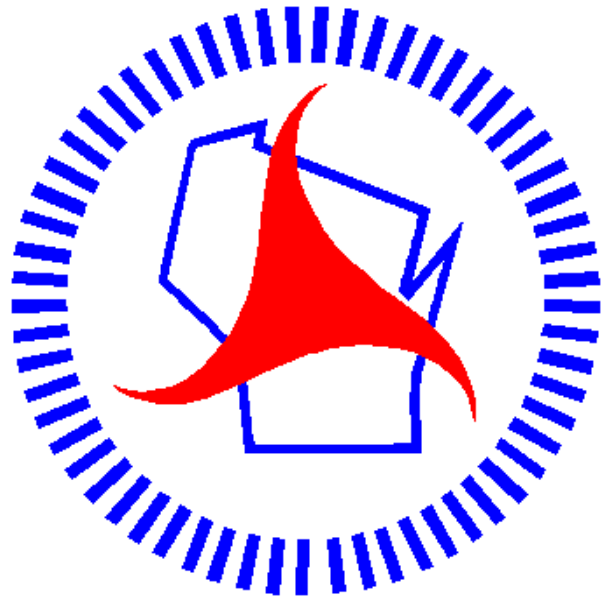
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 11/02/10 PLATE NO. W16-7.5

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E

# Notes



## *Wisconsin Department of Transportation*

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