

# MINNESOTA DEPARTMENT OF TRANSPORTATION

## ANOKA COUNTY

### CITY OF ST. FRANCIS

MINNESOTA PROJ. NO. STPM 0216(003)

**GOVERNING SPECIFICATIONS**  
 THE 2014 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AND THE 2014 EDITION OF THE "MATERIALS LAB SUPPLEMENTAL SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.  
 ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MOST RECENT EDITION OF THE MN MUTCD INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL LAYOUT
3 - 5	ESTIMATED QUANTITIES
6 - 7	QUANTITY TABULATIONS
8 - 10	EARTHWORK TABULATION & SUMMARY
11	CONSTRUCTION NOTES & STANDARD PLATES
12 - 16	PRIVATE UTILITY TABULATION
17 - 25	TYPICAL SECTIONS
26 - 35	MISCELLANEOUS DETAILS
36 - 54	CONSTRUCTION STAGING & TRAFFIC CONTROL
55 - 62	ALIGNMENT PLANS & TABULATIONS
63 - 65	MISCELLANEOUS REMOVAL PLAN
66 - 67	SIGN REMOVAL PLAN
68 - 69	SIGNAL REMOVAL PLAN
70 - 77	CONSTRUCTION PLAN & PROFILE
78 - 93	INTERSECTION DETAILS
94 - 95	GRADING PLAN
96 - 105	DRAINAGE & SUPERELEVATION PLAN
106 - 108	WATERMAIN PLAN
109 - 125	TURF ESTABLISHMENT & EROSION CONTROL
126 - 140	SIGNING & STRIPING PLAN
141 - 144	LIGHTING PLAN
145 - 191	CROSS SECTIONS
51 - 523	CITY UTILITY PLAN

#### CONSTRUCTION PLAN FOR ROUNDABOUT, GRADING, SURFACING, CURB & GUTTER, STORM SEWER, LIGHTING, SIGNING & STRIPING

LOCATED ON CSAH 24 FROM 400' WEST OF POPPY STREET TO 200' EAST OF KERRY STREET  
 LOCATED ON CR 72 FROM 300' SOUTH OF CSAH 24 TO 500' NORTH OF CSAH 24  
 LOCATED ON CSAH 9 FROM 500' SOUTH OF CSAH 24 TO KERRY STREET CONNECTION

GEOGRAPHICAL LEGAL DESCRIPTION: Commencing at the south quarter corner of Section 32, Township 34, Range 25; thence North along the Section line 800.00 feet +/- to the intersection of CSAH 24; thence easterly along the centerline of CSAH 24, 3200.00 feet to the end of the project.

- #### PLAN SYMBOLS
- STATE LINE
  - COUNTY LINE
  - TOWNSHIP OR RANGE LINE
  - SECTION LINE
  - QUARTER LINE
  - SIXTEENTH LINE
  - RIGHT-OF-WAY LINE
  - SLOPE EASEMENT
  - PRESENT RIGHT-OF-WAY
  - CONTROL OF ACCESS LINE
  - PROPERTY LINES (EXCEPT LAND LINES)
  - VACATED PLATTED PROPERTY
  - CORPORATE OR CITY LIMITS
  - TRUNK HIGHWAY CENTER LINE
  - RETAINING WALL
  - RAILROAD
  - RAILROAD RIGHT-OF-WAY
  - RIVER OR CREEK
  - DRY RUN
  - DRAINAGE DITCH
  - DRAIN TILE
  - CULVERT
  - DROP INLET
  - GUARD RAIL
  - BARBED WIRE FENCE
  - WOVEN WIRE FENCE
  - CHAIN LINK FENCE
  - RAILROAD SNOW FENCE
  - STONE WALL OR FENCE
  - HEDGE
  - RAILROAD CROSSING SIGN
  - RAILROAD CROSSING BELL
  - ELECTRIC WARNING SIGN
  - CROSSING GATE
  - MEANDER CORNER
  - SPRINGS
  - MARSH
  - TIMBER
  - ORCHARD
  - BRUSH
  - NURSERY
  - CATCH BASIN
  - FIRE HYDRANT
  - CATTLE GUARD
  - OVERPASS (HIGHWAY OVER)
  - UNDERPASS (HIGHWAY UNDER)
  - BRIDGE
  - BUILDING (ONE STORY FRAME)
  - F - FRAME
  - S - STONE
  - B - BRICK
  - IRON ROD OR PIPE
  - MONUMENT (STONE, CONCRETE, OR METAL)
  - WOODEN HUB
  - GRAVEL PIT
  - SAND PIT
  - BORROW PIT
  - ROCK QUARRY
- #### UTILITY SYMBOLS
- POWER POLE LINE
  - TELEPHONE OR TELEGRAPH POLE LINE
  - JOINT TELEPHONE AND POWER ON POWER POLE
  - ON TELEPHONE POLES
  - ANCHOR
  - STREET LIGHT
  - PEDESTAL (TELEPHONE CABLE TERMINAL)
  - GAS MAIN
  - WATER MAIN
  - CONDUIT
  - TELEPHONE CABLE IN CONDUIT
  - ELECTRIC CABLE IN CONDUIT
  - TELEPHONE MANHOLE
  - ELECTRIC MANHOLE
  - BURIED TELEPHONE CABLE
  - BURIED ELECTRIC CABLE
  - AERIAL TELEPHONE CABLE
  - FIBER OPTICS
  - SEWER (SANITARY OR STORM)
  - SEWER MANHOLE

#### DESIGN DESIGNATION

CSAH 24 (BRIDGE STREET)  
S.P. 002-624-026

R VALUE = 50  
 ADT (Current Year) 2015 = 8800  
 ADT (Future Year) 2035 = 14800  
 D (DIRECTIONAL DISTR.) = 50/50  
 HADT (Future Year) 2035 = 320  
 ESALS 1,249,000  
 DESIGN SPEED 40 MPH  
 BASED ON STOPPING SIGHT DISTANCE  
 HEIGHT OF EYE 3.5 HEIGHT OF OBJECT 2.0  
 DESIGN SPEED NOT ACHIEVED AT: N/A  
 FUNCTIONAL CLASSIFICATION MINOR ARTERIAL  
 NO. OF TRAFFIC LANES 2  
 NO. OF PARKING LANES 0  
 SHOULDER WIDTH 2  
 TON DESIGN 10

#### DESIGN DESIGNATION

CR 72 (RUM RIVER BOULEVARD)  
S.P. 002-624-026

R VALUE = 50  
 ADT (Current Year) 2015 = 2600  
 ADT (Future Year) 2035 = 5800  
 D (DIRECTIONAL DISTR.) = 50/50  
 HADT (Future Year) 2035 = 130  
 ESALS 305,000  
 DESIGN SPEED 55 MPH  
 BASED ON STOPPING SIGHT DISTANCE  
 HEIGHT OF EYE 3.5 HEIGHT OF OBJECT 2.0  
 DESIGN SPEED NOT ACHIEVED AT: N/A  
 FUNCTIONAL CLASSIFICATION MAJOR COLLECTOR  
 NO. OF TRAFFIC LANES 2  
 NO. OF PARKING LANES 0  
 SHOULDER WIDTH (2)  
 TON DESIGN 10

#### DESIGN DESIGNATION

CSAH 9 (LAKE GEORGE BOULEVARD)  
S.P. 002-624-026

R VALUE = 50  
 ADT (Current Year) 2015 = 6200  
 ADT (Future Year) 2035 = 7000  
 D (DIRECTIONAL DISTR.) = 50/50  
 HADT (Future Year) 2035 = 320  
 ESALS 543,000  
 DESIGN SPEED 55 MPH  
 BASED ON STOPPING SIGHT DISTANCE  
 HEIGHT OF EYE 3.5 HEIGHT OF OBJECT 2.0  
 DESIGN SPEED NOT ACHIEVED AT: RA APPROACHES  
 FUNCTIONAL CLASSIFICATION MINOR ARTERIAL  
 NO. OF TRAFFIC LANES 2  
 NO. OF PARKING LANES 0  
 SHOULDER WIDTH (2)  
 TON DESIGN 10

#### CSAH 24 (BRIDGE STREET)

S.P. 002-624-026

GROSS LENGTH 2459.55 ft 0.466 miles  
 BRIDGES-LENGTH 0.00 ft 0.000 miles  
 EXCEPTIONS-LENGTH 0.00 ft 0.000 miles  
 NET LENGTH 2459.55 ft 0.466 miles

#### CR 72 (RUM RIVER BOULEVARD)

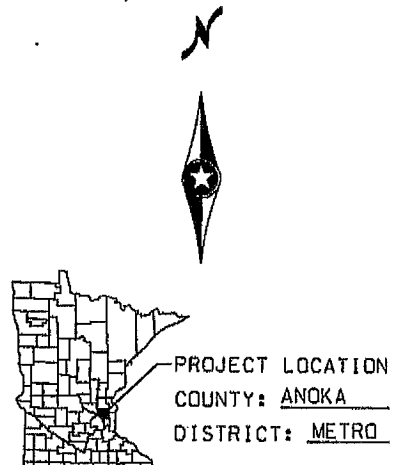
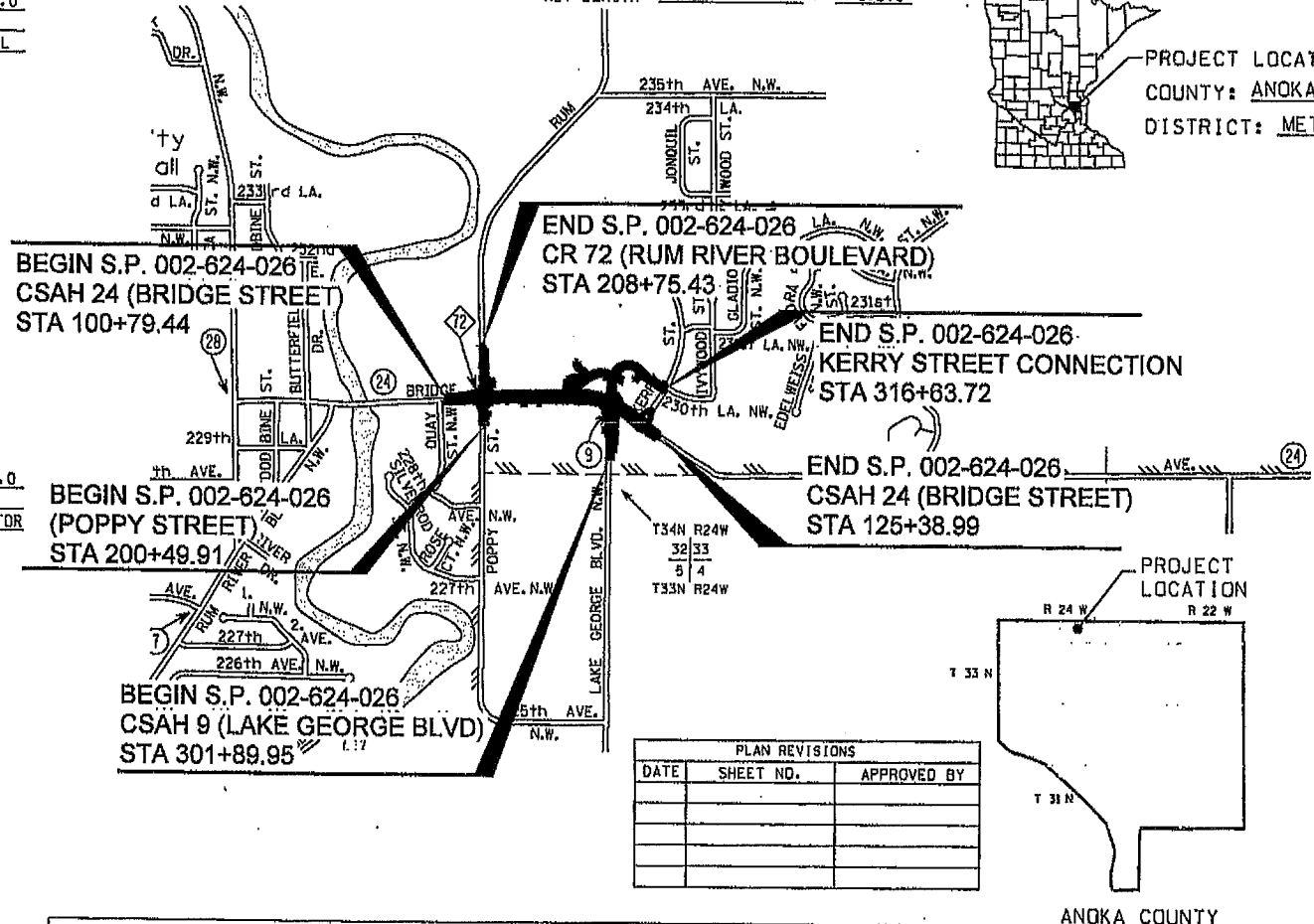
S.P. 002-624-026

GROSS LENGTH 825.52 ft 0.156 miles  
 BRIDGES-LENGTH 0.00 ft 0.000 miles  
 EXCEPTIONS-LENGTH 0.00 ft 0.000 miles  
 NET LENGTH 825.52 ft 0.156 miles

#### CSAH 9 (LAKE GEORGE BOULEVARD)

S.P. 002-624-026

GROSS LENGTH 1473.77 ft 0.279 miles  
 BRIDGES-LENGTH 0.00 ft 0.000 miles  
 EXCEPTIONS-LENGTH 0.00 ft 0.000 miles  
 NET LENGTH 1473.77 ft 0.279 miles



PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

**VARIANCE NOTE:**  
 THIS PROJECT HAS BEEN GRANTED A VARIANCE FROM MINNESOTA RULE 8820.9936, DATED FEBRUARY, 2013, SO AS TO PERMIT A HORIZONTAL CURVE DESIGN SPEED OF 25 MPH IN LIEU OF THE REQUIRED MINIMUM DESIGN STANDARD OF 30 MPH. THE VARIANCE WAS SIGNED BY MITCHELL RASMUSSEN ON DECEMBER 30, 2014.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF C/ASCE 38/02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITHIN THE CONSTRUCTION OF THIS PROJECT.

WSB & Associates, Inc. 701 Xenia Avenue South, Suite 300 • Minneapolis, MN 55416 • 763-541-8000 • Fax 763-541-1700 • www.wsbang.com  
 INFRASTRUCTURE • ENGINEERING • PLANNING • CONSTRUCTION

SIGNATURE: *Andrew Plovman* TYPED OR PRINTED NAME: ANDREW PLOVMAN, PE  
 DESIGN ENGINEER: I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 DATE: 6/15/2015 LICENSE NUMBER 44200

APPROVED: ANOKA COUNTY ENGINEER *[Signature]* DATE 6/17/15  
 APPROVED: CITY OF ST. FRANCIS *[Signature]* DATE 6-16-15  
 DISTRICT STATE AID ENGINEER *[Signature]* DATE 6-17-15  
 REVIEWED FOR COMPLIANCE WITH STATE AID AND FEDERAL AID RULES/POLICY  
 STATE AID ENGINEER *[Signature]* DATE 6-17-15

I HEREBY CERTIFY THAT THE FINAL FIELD REVISIONS, IF ANY, OF THE PLAN WERE MADE BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Date: 6/15/2015  
 User: F:\Projects\15B\_Files\15B\_2201\_Coad\Plan\15661sh.dwg

# CSAH 24 (Bridge Street NW)

## CR 72 - SECTION C

63 72 98 113 126

END S.P. 002-624-026  
CR 72 (RUM RIVER BOULEVARD)  
STA 208+75.43

## KERRY ST - SECTION E

65 74 100 115 128

END S.P. 002-624-026  
KERRY STREET  
STA 316+63.72

## CSAH 24 - SECTION A

63 70 96 113 126

## CSAH 24 - SECTION B

64 71 97 114 127

BEGIN S.P. 002-624-026  
CSAH 9 (LAKE GEORGE BLVD)  
STA 301+89.95

## CSAH 9 - SECTION D

64 73 99 114 127

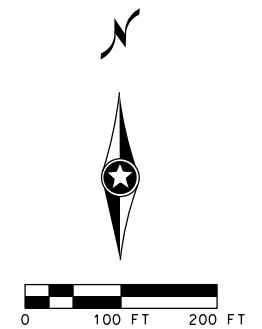
END S.P. 002-624-026  
CSAH 24 (BRIDGE STREET)  
STA 125+38.99

BEGIN S.P. 002-624-026  
CSAH 24 NB (BRIDGE STREET)  
STA 100+79.44

BEGIN S.P. 002-624-026  
POPPY STREET  
STA 200+49.91

### LEGEND

SHEET NO.	DESCRIPTION
(XXX)	MISCELLANEOUS REMOVALS
(XX)	CONSTRUCTION PLAN
(XXX)	DRAINAGE AND SUPERELEVATION PLAN
(XX)	TURF ESTABLISHMENT & EROSION CONTROL PLAN
(XXX)	SIGNING AND STRIPING PLAN

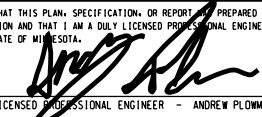


Date Printed: 6/30/2015  
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NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
Plan By: ACJ  
Checked By: DRS  
Approved By: AJP

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

CERTIFIED BY:   
LICENSED PROFESSIONAL ENGINEER - ANDREW PLODMAN, PE  
DATE: 6/15/15 LIC. NO: 44200

**WSB**  
& Associates, Inc.  
701 Xenia Avenue South, Suite 300  
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**ANOKA COUNTY**  
**CSAH 24 Improvements**  
Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**GENERAL LAYOUT**  
S.P. 002-624-026

SHEET  
2  
OF  
214  
SHEETS

ESTIMATED QUANTITIES

TABLE	SHEET	ITEM NUMBER	DESCRIPTION	NOTES	UNITS	PROJECT TOTAL	ROADWAY ANOKA COUNTY 100% PARTICIPATING S.P. 002-624-026	STORM SEWER 100% PARTICIPATING S.P. 002-624-026	ROADWAY CITY OF ST. FRANCIS NON-PARTICIPATING S.A.P. 235-020-001	UTILITIES CITY OF ST. FRANCIS NON-PARTICIPATING S.A.P. 235-020-001
						ESTIMATED	ESTIMATED	ESTIMATED	ESTIMATED	ESTIMATED
		2011.601	VIBRATION MONITORING		LUMP SUM	1	1			
		2021.501	MOBILIZATION		LUMP SUM	1.01	0.72	0.14	0.01	0.14
A	5	2101.501	CLEARING		ACRE	1.5	1.5			
A	5	2101.502	CLEARING		TREE	19	19.0			
A	5	2101.506	GRUBBING		ACRE	1.5	1.5			
A	5	2101.507	GRUBBING		TREE	19	19.0			
F	36	2102.502	PAVEMENT MARKING REMOVAL		LIN FT	6958	6958			
G	99	2104.501	REMOVE METAL CULVERT	1	LIN FT	373	373			
G	99	2104.501	REMOVE SEWER PIPE (STORM)		LIN FT	282	282			
S	S2	2104.501	REMOVE SEWER PIPE (SANITARY)		LIN FT	2603			2603	
A	5	2104.501	REMOVE CURB AND GUTTER		LIN FT	2078	2078			
		2104.501	REMOVE FENCE		LIN FT	709	709			
A	5	2104.503	REMOVE CONCRETE WALK		SQ FT	5638	5638			
A	5	2104.503	REMOVE CONCRETE MEDIAN		SQ FT	145	145			
F	36	2104.505	REMOVE BITUMINOUS PAVEMENT (TEMPORARY)		SQ YD	5993	5993			
A	5	2104.505	REMOVE BITUMINOUS PAVEMENT	2	SQ YD	23508	23508			
A	5	2104.505	REMOVE BITUMINOUS DRIVEWAY PAVEMENT		SQ YD	528	528			
A	5	2104.509	REMOVE LIGHTING UNIT		EACH	9	9			
S	S2	2104.509	REMOVE MANHOLE		EACH	9			9	
		2104.509	REMOVE HYDRANT		EACH	5	5			
G	99	2104.509	REMOVE DRAINAGE STRUCTURE		EACH	19		19		
A	5	2104.509	REMOVE LIGHT BASE FOUNDATION		EACH	9	9			
J	119	2104.509	REMOVE SIGN TYPE C		EACH	44	44			
		2104.509	REMOVE SIGNAL SYSTEM		EACH	1	1			
		2104.509	REMOVE SIGN BASE		EACH	2	2			
A, F	5, 36	2104.513	SAWING BIT PAVEMENT (FULL DEPTH)		LIN FT	10472	10472			
S	S2	2104.521	SALVAGE FENCE TYPE WOOD RAIL		LIN FT	151		151		
		2104.523	SALVAGE DRIVER FEEDBACK SIGN		EACH	2	2			
K	119	2104.523	SALVAGE SIGN TYPE C		EACH	15	10		5	
A	5	2104.523	SALVAGE MAIL BOX SUPPORT	3	EACH	9	9			
S	S2	2104.525	ABANDON SANITARY SEWER STRUCTURE		EACH	3			3	
S	S2	2104.603	ABANDON SANITARY SEWER PIPE		LIN FT	1058				1058
E	7-9	2106.607	EXCAVATION - COMMON		CU YD	11923	11923			
E	7-9	2106.607	EXCAVATION - SUBGRADE		CU YD	12884	12884			
E	7-9	2106.607	EXCAVATION - CHANNEL & POND	4	CU YD	6991		6991		
E	7-9	2106.607	COMMON EMBANKMENT (CV)		CU YD	12465	12465			
E	7-9	2106.607	SELECT GRANULAR EMBANKMENT (CV)		CU YD	14520	14520			
		2123.501	COMMON LABORERS	5	hour	20	20			
		2123.509	DOZER	5	hour	20	20			
		2123.510	10 CU YD TRUCK	5	hour	20	20			
		2123.514	3.0 CU YD FRONT END LOADER	5	hour	20	20			
		2123.610	TRACTOR MOUNTED BACKHOE	5	hour	20	20			
F	36	2211.501	AGGREGATE BASE CLASS 5		TON	689	689			
C	6	2211.503	AGGREGATE BASE (CV) CLASS 5	(P)	CU YD	4327	4327			
C	6	2221.503	AGGREGATE SHOULDERING (CV) CLASS 1		CU YD	5	5			
		2231.501	BITUMINOUS PATCHING MIXTURE		TON	200	200			
B	5	2301.504	CONCRETE PAVEMENT 7.0"	6	SQ YD	1207	1207			
		2301.602	1" DOWEL BAR		EACH	736	736			
C, F	6, 36	2360.501	TYPE SP 12.5 WEARING COURSE MIX (3,C)		TON	4159	4159			
C	6	2360.502	TYPE SP 12.5 NON WEAR COURSE MIX (3,B)		TON	3030	3030			
I	100-101	2501.515	15" RC PIPE APRON		EACH	1		1		
I	100-101	2501.515	18" RC PIPE APRON		EACH	7		7		
I	100-101	2501.515	21" RC PIPE APRON		EACH	2		2		
I	100-101	2501.515	24" RC PIPE APRON		EACH	6		6		
I	100-101	2501.602	TRASH GUARD FOR 15" PIPE APRON		EACH	1		1		
I	100-101	2501.602	TRASH GUARD FOR 18" PIPE APRON		EACH	7		7		
I	100-101	2501.602	TRASH GUARD FOR 21" PIPE APRON		EACH	2		2		
I	100-101	2501.602	TRASH GUARD FOR 24" PIPE APRON		EACH	6		6		
I	100-101	2503.521	22" SPAN RC PIPE-ARCH SEWER CL IIA		LIN FT	131		131		
I	100-101	2503.541	15" RC PIPE SEWER DES 3006 CL V		LIN FT	2468		2468		
I	100-101	2503.541	18" RC PIPE SEWER DES 3006 CL III		LIN FT	1628		1628		
I	100-101	2503.541	21" RC PIPE SEWER DES 3006 CL III		LIN FT	125		125		
I	100-101	2503.541	24" RC PIPE SEWER DES 3006 CL III		LIN FT	1136		1136		

NOTES

1. INCLUDES REMOVAL OF METAL APRON
  2. EXISTING BITUMINOUS PAVEMENT - CSAH 24: 3.5" - 5", CSAH 9: 7", SIDE STREETS <4". SEE SOIL BORINGS FOR ADDITIONAL INFORMATION.
  3. SEE SPECIAL PROVISIONS FOR SALVAGE OF EXISTING MAIL BOX & SUPPORT, AND TEMPORARY MAIL BOX SUPPORT.
  4. EXCAVATION SPECIAL INCLUDES EXCAVATION FOR WEST AND EAST POND.
  5. SPEC. 1903 DOES NOT APPLY, ITEM TO BE USED AT THE DISCRETION OF THE ENGINEER.
  6. REINFORCEMENT BARS ARE CONSIDERED INCIDENTAL.
  7. AGGREGATE BASE BELOW CONCRETE DRIVEWAY, CONCRETE AND BITUMINOUS WALK IS CONSIDERED INCIDENTAL.
- (P) SIGNIFIES PLAN QUANTITY.

BASIS FOR QUANTITIES

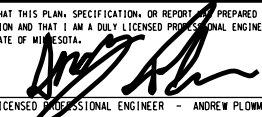
- UNIT WEIGHT OF BITUMINOUS MIX:  
 - 2360 MIX.....113 LBS/SY/IN
- TACK COAT:  
 - MILLED SURFACES.....0.05 GAL/SY  
 - NEW SURFACES.....0.05 GAL/SY
- TURF ESTABLISHMENT  
 - SEED MIXTURE 25-151.....120 LBS/ACRE  
 - SEED MIXTURE 33-261.....35 LBS/ACRE  
 - SEED MIXTURE 34-261.....31.5 LBS/ACRE
- COMMERCIAL FERTILIZER - TYPE 3.....450 LBS/ACRE

Date Printed: 8/12/15  
 WSB Filename: K:\0666-220\Cad\Plan\666es1.dgn

NO.	DATE	BY	CHK	REVISIONS
1	8/12/15			ADDED REMOVABLE PREFORMED PLASTIC MARKING TAPE QUANTITY

Design By: AJP  
 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

CERTIFIED BY:   
 LICENSED PROFESSIONAL ENGINEER - ANDREW PLOZMAN, PE  
 DATE: 6/15/15 LIC. NO: 44200

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**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA

**ESTIMATED QUANTITIES**  
 S.P. 002-624-026

SHEET  
 3R  
 OF  
 214  
 SHEETS

ESTIMATED QUANTITIES

NOTES

TABLE	SHEET	ITEM NUMBER	DESCRIPTION	NOTES	UNITS	PROJECT TOTAL	ROADWAY ANOKA COUNTY 100% PARTICIPATING S.P. 002-624-026	STORM SEWER 100% PARTICIPATING S.P. 002-624-026	ROADWAY CITY OF ST. FRANCIS NON-PARTICIPATING S.A.P. 235-020-001	UTILITIES CITY OF ST. FRANCIS NON-PARTICIPATING S.A.P. 235-020-001
						ESTIMATED	ESTIMATED	ESTIMATED	ESTIMATED	ESTIMATED
S	S2	2503.601	SANITARY SEWER BYPASS PUMPING		LUMP SUM	1				1
S	S2	2503.602	CONNECT TO EXISTING SANITARY SEWER		EACH	4				4
S	S2	2503.602	CONNECT TO EXISTING FORCE MAIN		EACH	2				2
I	100-101	2503.602	CONNECT INTO EXISTING DRAINAGE STRUCTURE		EACH	2		2		
S	S2	2503.602	CONNECT TO EXISTING SANITARY SEWER SER		EACH	8				8
S	S2	2503.602	8"X6" PVC SDR 26 WYE		EACH	1				1
S	S2	2503.602	18"X6" PVC SDR 26 WYE		EACH	7				7
S	S2	2503.602	18"X8" PVC SDR 26 WYE		EACH	1				1
		2503.603	6" OUTSIDE DROP		LN FT	7				7
S	S2	2503.603	8" OUTSIDE DROP		LN FT	21				21
S	S2	2503.603	18" OUTSIDE DROP		LN FT	8				8
S	S2	2503.603	8" PVC SANITARY SEWER PIPE SDR 35		LN FT	522				522
S	S2	2503.603	8" PVC SANITARY SEWER PIPE SDR 26		LN FT	428				428
S	S2	2503.603	18" PVC SANITARY SEWER PIPE SDR 26		LN FT	2482				2482
S	S2	2503.603	6" PVC SANITARY SERVICE PIPE		LN FT	41				41
		2503.603	10" ID FORCEMAIN PIPE SEWER		LN FT	167				167
S	S2	2503.603	10" ID TRENCHLESS INSTALLATION		LN FT	617				617
S	S2	2503.608	PIPE FITTINGS		POUND	184			46	138
		2504.601	IRRIGATION SERVICE		LUMP SUM	2	2			
		2504.602	CONNECT TO EXISTING WATER MAIN		EACH	2	1		1	
		2504.602	HYDRANT		EACH	5	5			
		2504.602	ADJUST GATE VALVE & BOX		EACH	8	8			
		2504.602	6" GATE VALVE AND BOX		EACH	5	5			
		2504.602	8" GATE VALVE AND BOX		EACH	2			2	
		2504.602	10"X8" WET TAP		EACH	1			1	
		2504.603	6" WATERMAIN DUCTILE IRON CL 52		LN FT	115	115			
		2504.603	10" WATERMAIN DUCTILE IRON CL 52		LN FT	25	25			
		2504.603	8" PVC WATERMAIN		LN FT	526		526		
		2504.608	DUCTILE IRON FITTINGS		POUND	2500	2500			
I	100-101	2506.501	CONST DRAINAGE STRUCTURE DES 48-4020		LN FT	292.02		292.02		
I	100-101	2506.501	CONST DRAINAGE STRUCTURE DES 60-4020		LN FT	109.05		109.05		
I	100-101	2506.502	CONST DRAINAGE STRUCTURE DESIGN SPECIAL 1		EACH	2		2		
H	99	2506.516	CASTING ASSEMBLY		EACH	95		95		
S	S2	2506.516	CASTING ASSEMBLY (SANITARY)		EACH	14				14
S	S2	2506.603	CONSTRUCT MANHOLE DESIGN 4007		LN FT	217				217
I	100-101	2511.501	RANDOM RIPRAP CLASS III		CU YD	24		24		
I	100-101	2511.515	GEOTEXTILE FILTER TYPE IV		SQ YD	54		54		
B	5	2521.501	4" CONCRETE WALK	7	SQ FT	21135	21135			
B	5	2521.501	6" CONCRETE WALK	7	SQ FT	5285	5285			
C	6	2521.511	3" BITUMINOUS WALK	7	SQ FT	44502	44502			
B	5	2531.501	CONCRETE CURB & GUTTER DESIGN B612		LN FT	1189	1189			
B	5	2531.501	CONCRETE CURB & GUTTER DESIGN B618 (MOD)		LN FT	5010	5010			
B	5	2531.501	CONCRETE CURB & GUTTER DESIGN B624		LN FT	9414	9414			
B	5	2531.501	CONCRETE CURB & GUTTER DESIGN S524		LN FT	761	761			
B	5	2531.507	8" CONCRETE DRIVEWAY PAVEMENT	7	SQ YD	107	107			
B	5	2531.618	TRUNCATED DOMES		SQ FT	1004	1004			
F	36	2533.507	PORTABLE PRECAST CONC BARRIER DES 8337		LN FT	2779	2779			
F	36	2533.508	RELOCATE PORT PRECAST CONC BAR DES 8337		LN FT	2260	2260			
		2540.601	TEMPORARY MAIL BOX SUPPORT	3	LUMP SUM	1	1			
		2540.602	INSTALL MAIL BOX SUPPORT	3	EACH	9	9			
O	135	2545.511	LIGHTING UNIT TYPE 9-30		EACH	32	32			
O	135	2545.515	LIGHT FOUNDATION DESIGN E		EACH	32	32			
O	135	2545.523	2" NON-METALLIC CONDUIT		LN FT	4057	4057			
O	135	2545.531	UNDERGROUND WIRE 1 COND NO 8		LN FT	20285	20285			
O	135	2545.541	SERVICE CABINET		EACH	2	2			
		2545.544	SERVICE EQUIPMENT		EACH	1	1			
O	135	2545.545	EQUIPMENT PAD B (MOD)		EACH	2	2			
O	135	2545.553	HANDHOLE		EACH	4	4			
F	36	2554.615	IMPACT ATTENUATOR		ASSEMBLY	8	8			
F	36	2554.615	RELOCATE IMPACT ATTENUATOR		ASSEMBLY	7	7			
		2557.501	WIRE FENCE DESIGN 60V-9322		LN FT	1092	1092			
		2557.523	METAL BRACE ASSEMBLY-CHAIN LINK FENCE		EACH	5	5			
		2557.527	ELECTRICAL GROUND		EACH	5	5			
S	S2	2557.603	INSTALL SALVAGED FENCE TYPE WOOD RAIL		LN FT	151			151	
		2563.601	TRAFFIC CONTROL		LUMP SUM	1.01	0.72	0.14	0.01	0.14
F	36	2563.602	MEDIAN BARRIER DELINEATOR		EACH	163	163			

- INCLUDES REMOVAL OF METAL APRON
  - EXISTING BITUMINOUS PAVEMENT - CSAH 24: 3.5" - 5", CSAH 9: 7", SIDE STREETS <4". SEE SOIL BORINGS FOR ADDITIONAL INFORMATION.
  - SEE SPECIAL PROVISIONS FOR SALVAGE OF EXISTING MAIL BOX & SUPPORT, AND TEMPORARY MAIL BOX SUPPORT.
  - EXCAVATION SPECIAL INCLUDES EXCAVATION FOR WEST AND EAST POND.
  - SPEC. 1903 DOES NOT APPLY, ITEM TO BE USED AT THE DISCRETION OF THE ENGINEER.
  - REINFORCEMENT BARS ARE CONSIDERED INCIDENTAL.
  - AGGREGATE BASE BELOW CONCRETE DRIVEWAY, CONCRETE AND BITUMINOUS WALK IS CONSIDERED INCIDENTAL.
- (P) SIGNIFIES PLAN QUANTITY.

BASIS FOR QUANTITIES

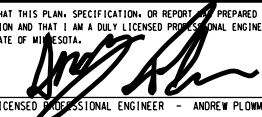
- UNIT WEIGHT OF BITUMINOUS MIX:  
 - 2360 MIX.....113 LBS/SY/IN
- TACK COAT:  
 - MILLED SURFACES.....0.05 GAL/SY  
 - NEW SURFACES.....0.05 GAL/SY
- TURF ESTABLISHMENT  
 - SEED MIXTURE 25-151.....120 LBS/ACRE  
 - SEED MIXTURE 33-261.....35 LBS/ACRE  
 - SEED MIXTURE 34-261.....31.5 LBS/ACRE
- COMMERCIAL FERTILIZER - TYPE 3.....450 LBS/ACRE

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NO.	DATE	BY	CHK	REVISIONS
1	8/12/15			ADDED REMOVABLE PREFORMED PLASTIC MARKING TAPE QUANTITY

Design By: AJP  
 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

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 LICENSED PROFESSIONAL ENGINEER - ANDREW PLOZMAN, PE  
 DATE: 6/15/15 LIC. NO: 44200

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**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA

**ESTIMATED QUANTITIES**  
 S.P. 002-624-026

ESTIMATED QUANTITIES

TABLE	SHEET	ITEM NUMBER	DESCRIPTION	NOTES	UNITS	PROJECT TOTAL		ROADWAY	STORM SEWER	ROADWAY	UTILITIES
						ANOKA COUNTY 100% PARTICIPATING S.P. 002-624-026	100% PARTICIPATING S.P. 002-624-026	CITY OF ST. FRANCIS NON-PARTICIPATING S.A.P. 235-020-001	CITY OF ST. FRANCIS NON-PARTICIPATING S.A.P. 235-020-001		
						ESTIMATED	ESTIMATED	ESTIMATED	ESTIMATED	ESTIMATED	
J	119	2564.531	SIGN PANELS TYPE C		SO FT	737.85	737.85				
M	119	2564.531	SIGN PANELS TYPE D		SO FT	693.80	693.80				
K	119	2564.602	INSTALL SIGN TYPE C		EACH	15	10			5	
		2565.601	INSTALL DRIVER FEEDBACK SIGN		EACH	2	2				
D	6	2573.502	SILT FENCE, TYPE MS		LIN FT	2126	2126				
D	6	2573.530	STORM DRAIN INLET PROTECTION		EACH	91	91				
D	6	2573.533	SEDIMENT CONTROL LOG TYPE WOOD FIBER		LIN FT	1054	1054				
		2573.535	STABILIZED CONSTRUCTION EXIT		LUMP SUM	1	1.0				
D	6	2573.560	CULVERT END CONTROLS		EACH	12	12				
D	6	2574.508	FERTILIZER TYPE 3		POUND	1210	1210				
E	7-9	2574.525	COMMON TOPSOIL BORROW		CU YD	2556	2556				
D	6	2575.501	SEEDING		ACRE	2.6	2.6				
D	6	2575.502	SEED MIXTURE 25-151		POUND	153	153				
D	6	2575.502	SEED MIXTURE 33-261		POUND	39	39				
D	6	2575.502	SEED MIXTURE 34-261		POUND	9	9				
D	6	2575.505	SODDING TYPE SALT TOLERANT		SQ YD	10669	10669				
D	6	2575.511	MULCH MATERIAL TYPE 3		TON	3.2	3.2				
D	6	2575.523	EROSION CONTROL BLANKETS CATEGORY 3		SQ YD	5360	5360				
		2575.571	RAPID STABILIZATION METHOD 3	5	M GAL	15	15				
F	36	2581.501	REMOVABLE PREFORMED PLASTIC MARKING TAPE		LIN FT	4351	4351				
N	127	2582.501	PAVT MSSG (RT ARROW) POLY PREF (GR IN)		EACH	5	5				
N	127	2582.502	4" SOLID LINE WHITE-PAINT		LIN FT	10093	10093				
N	127	2582.502	4" DOUBLE SOLID LINE YELLOW-PAINT		LIN FT	7626	7626				
N	127	2582.502	4" SOLID LINE WHITE-POLY PREF (GR IN)		LIN FT	448	448				
N	127	2582.502	8" DOTTED LINE WHITE-POLY PREF (GR IN)		LIN FT	271	271				
N	127	2582.502	4" SOLID LINE YELLOW-POLY PREF (GR IN)		LIN FT	188	188				
N	127	2582.502	24" SOLID LINE YELLOW-POLY PREF (GR IN)		LIN FT	203	203				
N	127	2582.502	4" SOLID LINE WHITE-EPOXY		LIN FT	3570	3570				
N	127	2582.502	4" BROKEN LINE YELLOW-EPOXY		LIN FT	207	207				
N	127	2582.502	4" DOUBLE SOLID LINE YELLOW-EPOXY		LIN FT	3006	3006				
N	127	2582.503	CROSSWALK MARKING-THERMOPLASTIC (GR IN)		SO FT	846	846				

NOTES

1. INCLUDES REMOVAL OF METAL APRON
  2. EXISTING BITUMINOUS PAVEMENT - CSAH 24: 3.5" - 5", CSAH 9: 7", SIDE STREETS <4". SEE SOIL BORINGS FOR ADDITIONAL INFORMATION.
  3. SEE SPECIAL PROVISIONS FOR SALVAGE OF EXISTING MAIL BOX & SUPPORT, AND TEMPORARY MAIL BOX SUPPORT.
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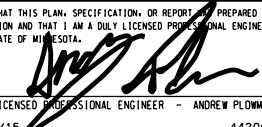
- UNIT WEIGHT OF BITUMINOUS MIX:  
 - 2360 MIX.....113 LBS/SY/IN
- TACK COAT:  
 - MILLED SURFACES.....0.05 GAL/SY  
 - NEW SURFACES.....0.05 GAL/SY
- TURF ESTABLISHMENT  
 - SEED MIXTURE 25-151.....120 LBS/ACRE  
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**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
 ESTIMATED QUANTITIES  
 S.P. 002-624-026

REMOVALS TABULATION													A
	CLEARING	GRUBBING	CLEARING	GRUBBING	REMOVE CURB AND GUTTER	REMOVE CONCRETE WALK	REMOVE CONCRETE MEDIAN	REMOVE BITUMINOUS PAVEMENT	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	REMOVE FENCE	SALVAGE MAILBOX SUPPORT	REMOVE LIGHTING UNIT	SAWING BIT PAVEMENT (FULL DEPTH)
	TREE	TREE	ACRE	ACRE	LIN FT	SQ FT	SQ FT	SQ YD	SQ YD	LIN FT	EACH	EACH	LIN FT
CSAH 24 (BRIDGE STREET)													
100+79 to 103+56	1	1			518	1247		1379			1	1	43
105+86 to 117+20						614		5996	39	709	2	2	135
109+75 to 124+39	1	1						2562			3		89
SUBTOTAL (CSAH 24)	2	2			518	1861		9937	39	709	6	3	267
POPPY STREET (SOUTH LEG)								632	73		1		83
CR 72 (NORTH LEG)								2195					221
CR 9 (SOUTH LEG)	6	6			93			2341			1		123
KERRY STREET CONNECTION			0.9	0.9					130				92
KERRY STREET CUL-DE-SAC	4	4			259			525					33
SCHOOL ENTRANCE	2	2	0.6	0.6		2377	145	3556				4	126
CSAH 24 & CR 72 ROUNDABOUT	3	3			235	1400		1948	286			1	67
CSAH 24 & CSAH 9 ROUNDABOUT	2	2			973			2374			1	1	136
TOTAL	19	19	1.5	1.5	2078	5638	145	23508	528	709	9	9	1148

CONCRETE TABULATION												B
	4" CONCRETE WALK	6" CONCRETE WALK	1" DOWEL BAR	7" CONCRETE PAVEMENT	8" CONCRETE DRIVEWAY PAVEMENT	CONCRETE CURB & GUTTER				TRUNCATED DOMES		
						DESIGN B612	DESIGN B618	DESIGN B624	DESIGN S524			
	SQ FT	SQ FT	EACH	SQ YD	SQ YD	LIN FT	LIN FT	LIN FT	LIN FT	SQ FT		
CSAH 24 (BRIDGE STREET)												
100+79 to 103+56	3995				28		365	552				
105+86 to 117+20	6145	591			33	120	2280	2272		120		
119+75 to 124+39	2272	154					642	617		40		
SUBTOTAL (CSAH 24)	12412	745			61	120	3287	3441		160		
POPPY STREET (SOUTH LEG)	1152				46	85	56	393				
CR 72 (NORTH LEG)	1600	303				50	304	965		32		
CR 9 (SOUTH LEG)	1228	151					252	483		40		
KERRY STREET CONNECTION	107	311					37	1753		48		
KERRY STREET CUL-DE-SAC		70					326			28		
SCHOOL ENTRANCE	152	352	195	307		439		1243	284	116		
CSAH 24 & CR 72 ROUNDABOUT	2492	1440	273	421		235	361	504	125	272		
CSAH 24 & CR 9 ROUNDABOUT	1992	1913	268	479		260	387	632	352	308		
TOTAL	21135	5285	736	1207	107	1189	5010	9414	761	1004		

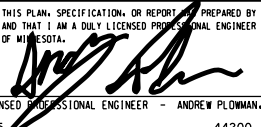
NOTES:  
(1) ROUNDABOUT AREA CONSISTS OF AREA INSIDE AND INCLUDING THE CROSSWALKS ON ALL LEGS OF ROUNDABOUT.

Note Printed 6/30/2015  
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Plan By: ACJ  
Checked By: DRS  
Approved By: AJP

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**ANOKA COUNTY**  
**CSAH 24 Improvements**  
Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**QUANTITY TABULATIONS**  
S.P. 002-624-026

BITUMINOUS AND AGGREGATE TABULATION													C
	TYPE SP 12.5 WEARING COURSE MIX (3,C) (SPWEB340C)			TYPE SP 12.5 NON WEARING COURSE MIX (3,B) (SPNWB330B)			3" BITUMINOUS WALK (SPWEA240B)	AGGREGATE BASE (CV) CLASS 5			AGGREGATE SHOULDERING (CV) CLASS 1		
	TOTAL AREA	MIX	DEPTH	TOTAL AREA	MIX	DEPTH	TOTAL AREA	TOTAL AREA	VOLUME	DEPTH	TOTAL AREA	VOLUME	DEPTH
	SQ YD	TON	INCH	SQ YD	TON	INCH	SQ FT	SQ YD	CU YD	INCH	SQ YD	CU YD	INCH
CSAH 24 (BRIDGE STREET)													
100+79 to 103+56	990	224	4	990	168	3		1168	195	6			
105+86 to 117+20	4015	907	4	4015	680	3	23019	4737	790	6			
109+75 to 124+39	2127	481	4	2127	361	3	5266	2510	418	6	55	2	7
SUBTOTAL (CSAH 24)	7132	1612		7132	1209		28285	8415	1403		55	2	7
POPPY STREET (SOUTH LEG)	573	65	2	573	97	3		676	113	6			
CR 72 (NORTH LEG)	1492	169	2	1492	253	3		1760	293	6			
CR 9 (SOUTH LEG)	2219	251	2	2219	376	3	3136	2618	436	6	63	3	5
KERRY STREET CONNECTION	2521	285	2	2521	427	3	7324	3278	546	6			
KERRY STREET CUL-DE-SAC	885	100	2	885	150	3		1151	192	6			
SCHOOL ENTRANCE	2710	306	2	2710	459	3	4917	3198	533	6			
CSAH 24 & CR 72 ROUNDABOUT	1602	362	4	1602	272	3	1620	1890	315	6			
CSAH 24 & CR 9 ROUNDABOUT	1948	440	4	1948	330	3	3805	2299	383	6			
DRIVEWAYS	617	70	2	617	70	2		678	113	6			

TURF ESTABLISHMENT & EROSION CONTROL TABULATION													D
	SOD TYPE SALT RESISTANT	SEEDING	SEED MIXTURE 25-151 120 LBS/ACRE	SEED MIXTURE 33-261 35 LBS/ACRE	SEED MIXTURE 34-261 31.5 LBS/ACRE	FERTILIZER TYPE 3 450 LBS/ACRE	TYPE 3 MULCH 2 TONS/ACRE	EROSION CONTROL BLANKETS CATEGORY 3	STORM DRAIN INLET PROTECTION	FILTER LOG TYPE WOOD FIBER BIOROLL	CULVERT END CONTROLS	SILT FENCE MACHINE SLICED	
	SQ YD	ACRE	POUNDS	POUNDS	POUNDS	POUNDS	TONS	SQ YD	EACH	LIN FT	EACH	LIN FT	
CSAH 24 (BRIDGE STREET)													
100+79 to 103+56	468	0.1	5	2		44	0.1	287	6			228	
105+86 to 117+20	3345	0.6	69			258	1.2		21				
109+75 to 124+39	2538								7		1		
SUBTOTAL (CSAH 24)	6351	0.7	75	2		302	1.3	287	34		1	228	
POPPY STREET (SOUTH LEG)	344			1		15		159	7	188		125	
CR 72 (NORTH LEG)		0.2	30			114	0.5		7				
CR 9 (SOUTH LEG)	1206								8				
KERRY STREET CONNECTION		0.1			4	60	0.3		12	756	4	609	
KERRY STREET CUL-DE-SAC	400								2				
SCHOOL ENTRANCE	973	1.0		33	5	498	0.3	4482	13	110	4	1030	
CSAH 24 & CR 72 ROUNDABOUT	386	0.3	33	1		131	0.5	91	4		3	108	
CSAH 24 & CR 9 ROUNDABOUT	1007	0.2	16	2		89	0.2	341	4			26	
TOTAL	10669	2.6	153	39	9	1210	3.2	5360	91	1054	12	2126	

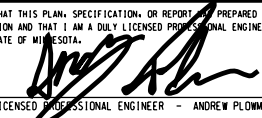
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**QUANTITY TABULATIONS**  
S.P. 002-624-026

**CSAH 24 IMPROVEMENTS**

**EXCAVATION**

COMMON EXCAVATION			
CSAH 24 (BRIDGE STREET)	4913	CU YD (EV)	
POPPY STREET	338	CU YD (EV)	
CR 72 (RUM RIVER BOULEVARD)	423	CU YD (EV)	
CSAH 9 (LAKE GEORGE BOULEVARD)	1273	CU YD (EV)	
KERRY STREET	1419	CU YD (EV)	
SCHOOL DRIVEWAY	1607	CU YD (EV)	
CIRCULATORY DRIVEWAY	157	CU YD (EV)	
WEST ROUNDABOUT	53	CU YD (EV)	
EAST ROUNDABOUT	1740	CU YD (EV)	
TOTAL	11923	CU YD (EV)	
SUBGRADE EXCAVATION			
CSAH 24 (BRIDGE STREET)	4844	CU YD (EV)	
POPPY STREET	339	CU YD (EV)	
CR 72 (RUM RIVER BOULEVARD)	928	CU YD (EV)	
CSAH 9 (LAKE GEORGE BOULEVARD)	1198	CU YD (EV)	
KERRY STREET	750	CU YD (EV)	
SCHOOL DRIVEWAY	1047	CU YD (EV)	
CIRCULATORY DRIVEWAY	200	CU YD (EV)	
WEST ROUNDABOUT	1696	CU YD (EV)	
EAST ROUNDABOUT	1882	CU YD (EV)	
TOTAL	12884	CU YD (EV)	
EXCAVATION - CHANNEL & POND			
WEST POND	829	CU YD (EV)	
EAST POND	6162	CU YD (EV)	
TOTAL	6991	CU YD (EV)	

**EMBANKMENT**

SELECT GRANULAR BORROW (CV)			
CSAH 24 (BRIDGE STREET)	4901	CU YD (CV)	
POPPY STREET	343	CU YD (CV)	
CR 72 (RUM RIVER BOULEVARD)	936	CU YD (CV)	
CSAH 9 (LAKE GEORGE BOULEVARD)	1215	CU YD (CV)	
KERRY STREET	1591	CU YD (CV)	
SCHOOL DRIVEWAY	1686	CU YD (CV)	
CIRCULATORY DRIVEWAY	270	CU YD (CV)	
WEST ROUNDABOUT	1696	CU YD (CV)	
EAST ROUNDABOUT	1882	CU YD (CV)	
TOTAL	14520	CU YD (CV)	
COMMON BORROW (CV)			
CSAH 24 (BRIDGE STREET)	4507	CU YD (CV)	
POPPY STREET	62	CU YD (CV)	
CR 72 (RUM RIVER BOULEVARD)	356	CU YD (CV)	
CSAH 9 (LAKE GEORGE BOULEVARD)	724	CU YD (CV)	
KERRY STREET	1705	CU YD (CV)	
SCHOOL DRIVEWAY	2057	CU YD (CV)	
CIRCULATORY DRIVEWAY	85	CU YD (CV)	
WEST POND	53	CU YD (CV)	
EAST POND	405	CU YD (CV)	
WEST ROUNDABOUT	1946	CU YD (CV)	
EAST ROUNDABOUT	565	CU YD (CV)	
TOTAL	12465	CU YD (CV)	
COMMON TOPSOIL BORROW (CV)			
CSAH 24 (BRIDGE STREET)	738	CU YD (CV)	
POPPY STREET	43	CU YD (CV)	
CR 72 (RUM RIVER BOULEVARD)	108	CU YD (CV)	
CSAH 9 (LAKE GEORGE BOULEVARD)	142	CU YD (CV)	
KERRY STREET	203	CU YD (CV)	
SCHOOL DRIVEWAY	157	CU YD (CV)	
CIRCULATORY DRIVEWAY	31	CU YD (CV)	
WEST POND	181	CU YD (CV)	
EAST POND	693	CU YD (CV)	
WEST ROUNDABOUT	125	CU YD (CV)	
EAST ROUNDABOUT	135	CU YD (CV)	
TOTAL	2556	CU YD (CV)	

GENERAL NOTES:

- ALL EMBANKMENT AND EXCAVATION MATERIAL NOT USED ON THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

NOTES:


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NO.	DATE	BY	CHK	REVISIONS

Design By:	AJP
Plan By:	ACJ
Checked By:	DRS
Approved By:	AJP


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CERTIFIED BY: \_\_\_\_\_  
 LICENSED PROFESSIONAL ENGINEER - ANDREW FLOHMAN, PE  
 DATE: 6/15/15 LIC. NO: 44200



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**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA

**EARTHWORK SUMMARY**  
 S.P. 002-624-026



EARTH WORK TABULATION <span style="float: right;">E</span>							
STA.	- STA.	EMBANKMENT					
		PAVEMENT CU YD (EV)	COMMON CU YD (EV)	SUBGRADE CU YD (EV)	TOPSOIL CU YD (CV)	SELECT GRADING CU YD (CV)	SELECT GRANULAR CU YD (CV)
CSAH 24							
100+75 - 101+00		12	24	33	5	13	33
101+00 - 101+25		24	49	67	9	24	67
101+25 - 101+50		24	48	67	10	24	67
101+50 - 101+75		24	50	67	10	31	67
101+75 - 102+00		24	58	67	9	34	67
102+00 - 102+25		24	60	68	9	32	68
102+25 - 102+50		24	60	70	10	39	70
102+50 - 102+75		24	62	73	12	53	73
102+75 - 103+00		24	64	75	13	70	75
103+00 - 103+25		24	66	76	13	71	76
103+25 - 103+50		24	64	81	12	68	81
103+50 - ROUNDABOUT							
ROUNDABOUT - 106+00							
106+00 - 106+25		24	64	66	7	38	66
106+25 - 106+50		24	67	61	6	30	61
106+50 - 106+75		24	72	61	7	26	61
106+75 - 107+00		24	77	62	7	25	62
107+00 - 107+25		25	77	62	7	29	62
107+25 - 107+50		25	70	62	9	46	62
107+50 - 107+75		24	66	62	10	67	62
107+75 - 108+00		24	65	62	10	74	62
108+00 - 108+25		24	64	62	10	76	62
108+25 - 108+50		24	64	62	11	85	62
108+50 - 108+80		29	74	74	13	92	74
108+80 - 109+00		19	46	50	8	57	50
109+00 - 109+25		24	56	62	12	98	62
109+25 - 109+50		24	52	62	12	119	62
109+50 - 109+75		24	48	62	13	118	62
109+75 - 110+00		24	44	62	13	112	62
110+00 - 110+25		24	42	61	14	120	62
110+25 - 110+50		31	36	60	13	113	62
110+50 - 110+75		31	34	60	12	92	62
110+75 - 111+00		24	39	60	12	89	62
111+00 - 111+25		24	41	60	12	99	62
111+25 - 111+50		24	43	60	12	100	62
111+50 - 111+75		24	49	60	11	98	62
111+75 - 112+00		24	55	60	11	99	62
112+00 - 112+25		24	59	61	11	79	62
112+25 - 112+43		18	45	45	7	36	45
112+43 - 112+75		31	88	81	12	49	81
112+75 - 113+00		24	75	67	9	31	68
113+00 - 113+25		25	78	70	8	26	73
113+25 - 113+50		35	78	72	8	26	75
113+50 - 113+75		34	86	74	9	28	75
113+75 - 114+00		24	96	69	10	34	75
114+00 - 114+25		25	115	71	11	25	75
114+25 - 114+50		43	111	75	11	15	75
114+50 - 114+75		55	99	75	9	14	75
114+75 - 115+00		39	108	69	11	30	69
115+00 - 115+25		26	110	64	12	40	64
115+25 - 115+50		24	111	65	11	38	65
115+50 - 115+75		24	112	67	10	38	67
115+75 - 116+00		24	111	69	9	37	70
116+00 - 116+25		24	109	69	9	43	70
116+25 - 116+50		24	109	68	10	36	68
116+50 - 116+75		25	107	64	11	41	64
116+75 - 117+00		25	107	62	12	54	62

EARTH WORK TABULATION <span style="float: right;">E</span>							
STA.	- STA.	EMBANKMENT					
		PAVEMENT CU YD (EV)	COMMON CU YD (EV)	SUBGRADE CU YD (EV)	TOPSOIL CU YD (CV)	SELECT GRADING CU YD (CV)	SELECT GRANULAR CU YD (CV)
117+00 - ROUNDABOUT							
ROUNDABOUT - 120+00							
120+00 - 120+25		25	120	73	19	196	77
120+25 - 120+50		25	116	70	21	236	78
120+50 - 120+75		24	113	73	20	222	78
120+75 - 121+00		24	102	77	17	186	79
121+00 - 121+25		24	85	78	13	136	80
121+25 - 121+50		25	71	78	11	100	78
121+50 - 121+75		25	60	76	11	107	76
121+75 - 122+00		27	49	74	8	69	74
122+00 - 122+25		35	35	73	5	20	73
122+25 - 122+50		35	34	72	6	19	72
122+50 - 122+75		26	37	68	7	37	68
122+75 - 123+00		25	40	69	7	34	69
123+00 - 123+25		32	38	74	6	8	74
123+25 - 123+50		38	30	73	5	3	73
123+50 - 123+75		31	33	71	5	6	71
123+75 - 124+00		25	35	69	5	15	69
124+00 - 124+25		25	34	67	5	21	67
124+25 - 124+50		12	17	33	3	11	33
TOTAL		1900	4913	4844	738	4507	4901

EARTH WORK TABULATION <span style="float: right;">E</span>							
STA.	- STA.	EMBANKMENT					
		PAVEMENT CU YD (EV)	COMMON CU YD (EV)	SUBGRADE CU YD (EV)	TOPSOIL CU YD (CV)	SELECT GRADING CU YD (CV)	SELECT GRANULAR CU YD (CV)
POPPY ST							
200+25 - 200+50		4	17	21	3	4	21
200+50 - 200+75		7	34	42	5	8	42
200+75 - 201+00		7	36	43	6	10	43
201+00 - 201+25		7	41	44	6	10	44
201+25 - 201+60		12	75	63	9	10	63
201+60 - 201+75		5	38	28	4	3	28
201+75 - 202+00		8	56	49	5	4	49
202+00 - 202+25		8	41	49	5	13	53
TOTAL		58	338	339	43	62	343


EARTH WORK TABULATION <span style="float: right;">E</span>							
STA.	- STA.	EMBANKMENT					
		PAVEMENT CU YD (EV)	COMMON CU YD (EV)	SUBGRADE CU YD (EV)	TOPSOIL CU YD (CV)	SELECT GRADING CU YD (CV)	SELECT GRANULAR CU YD (CV)
CR 72							
204+75 - 205+00		14	10	64	4	16	69
205+00 - 205+25		13	19	67	4	16	68
205+25 - 205+50		12	28	69	5	21	69
205+50 - 205+75		12	32	68	6	24	68
205+75 - 206+00		12	32	66	6	23	66
206+00 - 206+25		12	32	63	6	19	63
206+25 - 206+50		12	30	60	6	16	60
206+50 - 206+75		12	28	58	7	19	58
206+75 - 207+00		13	27	56	7	19	56
207+00 - 207+25		12	27	54	7	18	54
207+25 - 207+50		12	26	52	8	22	53
207+50 - 207+75		12	25	51	8	29	51
207+75 - 208+00		12	23	50	8	25	51
208+00 - 208+25		12	25	50	8	26	50
208+25 - 208+50		11	29	50	9	32	50
208+50 - 209+00		11	30	50	9	31	50
TOTAL		194	423	928	108	356	936


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 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

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 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**EARTHWORK TABULATIONS**  
 S.P. 002-624-026

SHEET  
 9  
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 214  
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EARTH WORK TABULATION							E	
STA.	-	STA.	EMBANKMENT					
			PAVEMENT	COMMON	SUBGRADE	TOPSOIL	SELECT GRADING	SELECT GRANULAR
			CU YD (EV)	CU YD (EV)	CU YD (EV)	CU YD (CV)	CU YD (CV)	
CSAH 9								
301+75	-	302+00	9	18	27	6	12	27
302+00	-	302+25	20	39	54	12	30	54
302+25	-	302+50	21	39	55	11	34	55
302+50	-	302+75	22	39	58	9	46	58
302+75	-	303+00	23	45	62	9	67	63
303+00	-	303+25	23	56	66	13	89	67
303+25	-	303+50	24	67	70	15	105	71
303+50	-	303+75	24	72	75	12	90	78
303+75	-	304+00	36	70	83	8	46	86
304+00	-	304+25	39	77	89	5	13	89
304+25	-	304+50	28	91	89	6	39	91
304+50	-	304+75	24	102	89	8	61	92
304+75	-	305+00	25	129	91	9	45	91
305+00	-	305+25	26	138	91	7	23	92
305+25	-	305+50	26	141	94	6	11	96
305+50	-	305+75	27	150	105	6	13	105
TOTAL			397	1273	1198	142	724	1215

EARTH WORK TABULATION							E	
STA.	-	STA.	EMBANKMENT					
			PAVEMENT	COMMON	SUBGRADE	TOPSOIL	SELECT GRADING	SELECT GRANULAR
			CU YD (EV)	CU YD (EV)	CU YD (EV)	CU YD (CV)	CU YD (CV)	
KERRY ST								
308+25	-	308+50	0	93	60	4	5	60
308+50	-	308+75	0	93	55	3	3	55
308+75	-	309+00	0	89	54	3	3	54
309+00	-	309+25	0	91	51	4	3	51
309+25	-	309+50	0	80	50	5	11	50
309+50	-	309+80	0	57	42	7	35	58
309+80	-	310+25	0	52	21	12	105	86
310+25	-	310+50	0	30	3	8	74	47
310+50	-	310+75	0	29	4	7	66	47
310+75	-	311+00	0	27	6	6	55	47
311+00	-	311+25	0	27	5	6	51	47
311+25	-	311+50	0	28	3	6	51	47
311+50	-	311+75	0	28	4	7	52	47
311+75	-	312+00	0	28	5	7	55	47
312+00	-	312+25	0	28	9	7	54	47
312+25	-	312+50	0	28	15	6	49	47
312+50	-	312+75	0	28	23	6	44	47
312+75	-	313+00	0	34	33	6	38	47
313+00	-	313+25	0	38	38	5	34	47
313+25	-	313+50	0	32	28	5	39	47
313+50	-	313+75	0	30	8	8	66	47
313+75	-	314+00	0	34	0	11	126	47
314+00	-	314+25	0	36	0	12	163	47
314+25	-	314+50	0	36	0	12	163	47
314+50	-	314+75	0	35	0	11	154	47
314+75	-	315+00	0	32	0	9	110	47
315+00	-	315+25	0	27	10	6	53	47
315+25	-	315+50	0	31	33	4	17	47
315+50	-	315+75	0	51	47	3	10	47
315+75	-	316+00	0	63	47	3	9	47
316+00	-	316+25	0	55	48	2	3	48
316+25	-	316+75	0	49	48	2	4	48
TOTAL			0	1419	750	203	1705	1591

EARTH WORK TABULATION							E	
STA.	-	STA.	EMBANKMENT					
			PAVEMENT	COMMON	SUBGRADE	TOPSOIL	SELECT GRADING	SELECT GRANULAR
			CU YD (EV)	CU YD (EV)	CU YD (EV)	CU YD (CV)	CU YD (CV)	
SCHOOL DR								
400+00	-	400+25	14	21	55	1	7	59
400+25	-	400+50	28	40	96	2	14	101
400+50	-	400+75	27	93	110	3	23	110
400+75	-	401+21	58	386	281	8	75	281
401+21	-	401+75	49	533	336	7	83	343
401+75	-	402+00	5	148	94	4	22	125
402+00	-	402+25	0	57	34	6	26	87
402+25	-	402+50	11	19	18	7	45	62
402+50	-	402+75	21	0	12	7	45	48
402+75	-	403+00	16	4	8	7	40	47
403+00	-	403+25	9	20	3	10	83	47
403+25	-	403+50	2	35	0	13	186	47
403+50	-	403+75	0	40	0	15	292	47
403+75	-	404+00	0	41	0	15	328	47
404+00	-	404+25	0	38	0	13	283	47
404+25	-	404+50	0	33	0	10	160	47
404+50	-	404+75	0	32	0	9	101	47
404+75	-	405+00	0	34	0	10	125	47
405+00	-	405+25	0	33	0	10	119	47
TOTAL			240	1607	1047	157	2057	1686

EARTH WORK TABULATION							E	
STA.	-	STA.	EMBANKMENT					
			PAVEMENT	COMMON	SUBGRADE	TOPSOIL	SELECT GRADING	SELECT GRANULAR
			CU YD (EV)	CU YD (EV)	CU YD (EV)	CU YD (CV)	CU YD (CV)	
CIRCULATORY DRIVEWAY								
500+35	-	500+50	4	7	5	4	15	23
500+50	-	500+75	14	0	13	7	22	38
500+75	-	501+00	13	1	20	6	18	38
501+00	-	501+25	6	16	30	5	13	38
501+25	-	501+50	2	39	37	3	7	38
501+50	-	501+75	5	43	38	3	4	38
501+75	-	502+00	8	35	38	2	4	38
502+00	-	502+25	4	16	19	1	2	19
TOTAL			56	157	200	31	85	270


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SHEET  
 10  
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 214  
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**CONSTRUCTION AND SOIL NOTES**

1. TOP OF THE GRADING GRADE IS DEFINED AS THE BOTTOM OF THE CLASS 5 AGGREGATE BASE.
2. STRIP ALL INPLACE TOPSOIL AND SLOPE DRESSING IN AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE AS SLOPE DRESSING.
3. SELECT GRADING AND COMMON BORROW MATERIAL SHALL CONSIST OF ALL SOILS ENCOUNTERED WITH THE EXCEPTION OF TOPSOIL, DEBRIS, PEAT, MUCK AND OTHER ORGANIC OR OTHER UNSTABLE MATERIAL.
4. GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF SPEC. 3149.2B1.
5. TEST ROLLING OF THE SUBGRADE WILL BE REQUIRED
6. AS A PRECAUTIONARY MEASURE FROM A SOILS STANDPOINT, TRAFFIC LANES TO BE USED DURING CONSTRUCTION MUST BE DELINEATED TO KEEP VEHICLES A SAFE DISTANCE AWAY FROM THE ADJACENT EXCAVATION. THE DELINEATION SHOULD COINCIDE WITH POINTS ESTABLISHED BY PROJECTING A 1(V):2(H) OR FLATTER SLOPE BETWEEN THE EDGE OF THE TRAFFIC SURFACE AND THE BOTTOM OF THE EXCAVATION.
7. WHERE CONNECTING TO IN-PLACE ROADWAYS AT THE TERMINI OF PROPOSED NEW CONSTRUCTION, CUT VERTICALLY TO THE BOTTOM OF THE IN-PLACE SURFACING, THEN AT A 1(V):20(H) TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.
8. THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF PRIVATE UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATIONS AS TO THE TYPE AND LOCATION OF PRIVATE UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. CONTRACTOR WILL CALL GOPHER STATE ONE CALL A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION.
9. USE TACK COAT BETWEEN ALL BITUMINOUS LAYERS AND PRIOR TO PLACING ANY BITUMINOUS MIXTURES ON EXISTING PAVEMENT. THE BITUMINOUS TACK COAT MATERIAL SHALL BE APPLIED AT A UNIFORM RATE OF 0.05 GAL/SQ YD BETWEEN BITUMINOUS LAYERS AND 0.07 TO 0.10 GAL/SQ YD ON CONCRETE OR MILLED BITUMINOUS SURFACES PRIOR TO BEING OVERLAID. THE APPLICATION RATES ARE FOR UNDILUTED EMULSIONS (AS SUPPLIED FROM THE REFINERY) OR MC AND RC LIQUID ASPHALTS. THE ASPHALT EMULSION MAY BE FURTHER DILUTED IN THE FIELD IN ACCORDANCE WITH SPEC. 2357. ALL APPLICATIONS OF TACK COAT SHALL BE CONSIDERED INCIDENTAL TO THE PAVEMENT.
10. TEMPORARY EROSION CONTROL - TEMPORARY EROSION CONTROL DEVICES AND THEIR SUGGESTED LOCATIONS HAVE BEEN SHOWN IN THE PLANS ALONG WITH PAY ITEMS FOR THEIR USE. THIS DOES NOT HOWEVER RELIEVE THE CONTRACTOR OF HIS OR HER RESPONSIBILITIES TO CONDUCT CONSTRUCTION IN A MANNER THAT WILL CONTROL EROSION. RESPONSIBILITY FOR CONTROLLING EROSION AND MAINTENANCE OF EROSION CONTROL AS SET IN MN/DOT SPECIFICATIONS 1717, 1803, 2101, 2105, 2573, 2575, AND IS AMENDED BY THE SPECIAL PROVISIONS.
11. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE CURRENT FIELD MANUAL.

THE FOLLOWING STANDARD PLATES APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT:

MN/DOT STANDARD PLATES	
PLATE NO.	DESCRIPTION
1103K	TYPICAL DOWEL BAR ASSEMBLY (2 SHEETS)
3000L	REINFORCED CONCRETE PIPE (5 SHEETS)
3006G	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
3007E	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPES
3133D	RIPRAP AT RCP OUTLETS
3145G	CONCRETE PIPE TIES
4002F	MANHOLE OR CATCH BASIN (MASONRY, FIELD CONSTRUCTION)-DESIGN C
4011E	PRECAST CONCRETE BASE
4020J	MANHOLE OR CATCH BASIN (FOR USE WITH OR WITHOUT TRAFFIC LOADS) (2 SHEETS)
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
4110F	COVER CASTING FOR MANHOLE (FOR USE IN ALL TRAFFIC AREAS)-CASTING NO. 715 AND 716
4126F	CATCH BASIN FRAME CASTING - CASTING NO. 801
4129G	CATCH BASIN FRAME CASTING (FOR SQUARE GRATE)-CASTING NO. 802A
4132F	CATCH BASIN FRAME CASTING (FOR SQUARE GRATE)-CASTING NO. 805
4140D	SPECIAL GRATE CASTINGS FOR CATCH BASIN (CONVEX & CONCAVE)
4143E	STOOL GRATE & CONCRETE FRAME
4149C	GRATE CASTING FOR CATCH BASINS - CASTING NO. 810
4154B	CATCH BASIN GRATE CASTING-CASTING NO. 816
4160D	CURB BOX CASTING FOR CATCH BASIN-CASTING NO. 823A AND 833A
4161F	CURB BOX CASTING FOR CATCH BASIN
4180J	MANHOLE OR CATCH BASIN STEP
7035N	CONCRETE WALK & CURB RETURNS AT ENTRANCES
7038A	DETECTABLE WARNING SURFACE TRUNCATED DOMES
7100H	CONCRETE CURB AND GUTTER (DESIGN B and DESIGN V)
7102J	CONCRETE CURB AND GUTTER (DESIGN BR, D, S, B4, B5 AND D3) (2 SHEETS)
7109C	MEDIAN NOSE AND ISLAND (UNDIVIDED TO DIVIDED ROADWAY)
7111J	INSTALLATION OF CATCH BASIN CASTINGS (CONCRETE CURB & GUTTER)
7113A	CONCRETE APPROACH NOSE DETAIL
8000I	STANDARD BARRICADES
8106C	EQUIPMENT PAD B (CAST-IN-PLACE OR PRECAST) (3 SHEETS)
8117G	PRECAST CONCRETE HANDHOLE WITH VEHICLE LOAD
8127D	LIGHT FOUNDATION - DESIGN E (40 FT. POLE OR LESS) (2 SHEETS)
8150C	INSTALLATION OF CULVERT MARKERS
9000E	APPROACHES AND ENTRANCES (RECOMMENDED STANDARDS)
9102E	TURF ESTABLISHMENT AREAS (AT PIPE CULVERT ENDS)
9350A	MAILBOX SUPPORT (SWING-AWAY TYPE)

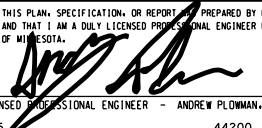
SEE LIGHTING PLANS FOR ADDITIONAL STANDARD PLATES.

Date Printed: 6/30/2015  
WSB Filename: K:\0666-220\Cad\Plan\666esm.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

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CERTIFIED BY:   
 LICENSED PROFESSIONAL ENGINEER - ANDREW PLONMAN, PE  
 DATE: 6/15/15 LIC. NO: 44200

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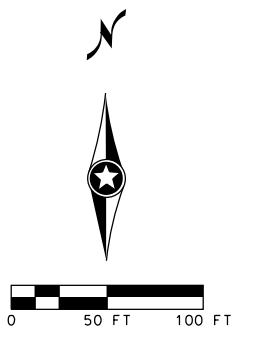
**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**CONSTRUCTION NOTES & STANDARD PLATES**  
 S.P. 002-624-026

SHEET  
**11**  
 OF  
**214**  
 SHEETS

END S.P. 002-624-026  
CR 72 (RUM RIVER BLVD)  
STA 208+75.43

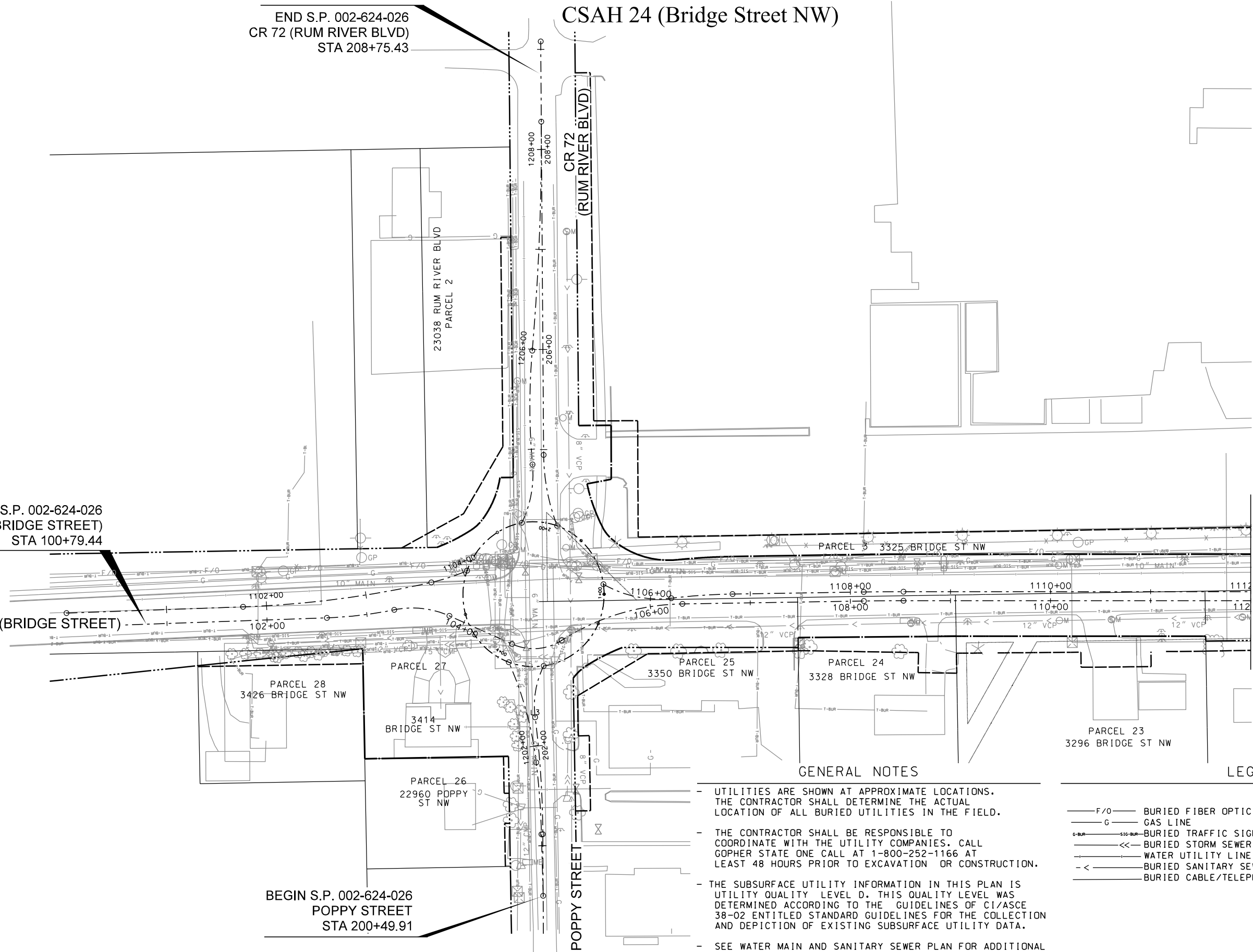
CSAH 24 (Bridge Street NW)



BEGIN S.P. 002-624-026  
CSAH 24 (BRIDGE STREET)  
STA 100+79.44

CSAH 24 (BRIDGE STREET)

BEGIN S.P. 002-624-026  
POPPY STREET  
STA 200+49.91



GENERAL NOTES

- UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL BURIED UTILITIES IN THE FIELD.
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- SEE WATER MAIN AND SANITARY SEWER PLAN FOR ADDITIONAL DETAILS REGARDING REMOVALS.

LEGEND

	BURIED FIBER OPTIC LINE		UTILITY PEDESTAL
	GAS LINE		CABINET
	BURIED TRAFFIC SIGNAL WIRE		HANDHOLE
	BURIED STORM SEWER LINE		POWER POLE
	WATER UTILITY LINE		MANHOLE
	BURIED SANITARY SEWER LINE		CATCH BASIN
	BURIED CABLE/TELEPHONE LINE		CONCRETE APRON
			LIGHT POLE
			HYDRANT
			VALVE

Date Printed: 6/30/2015  
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NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
Plan By: ACJ  
Checked By: DRS  
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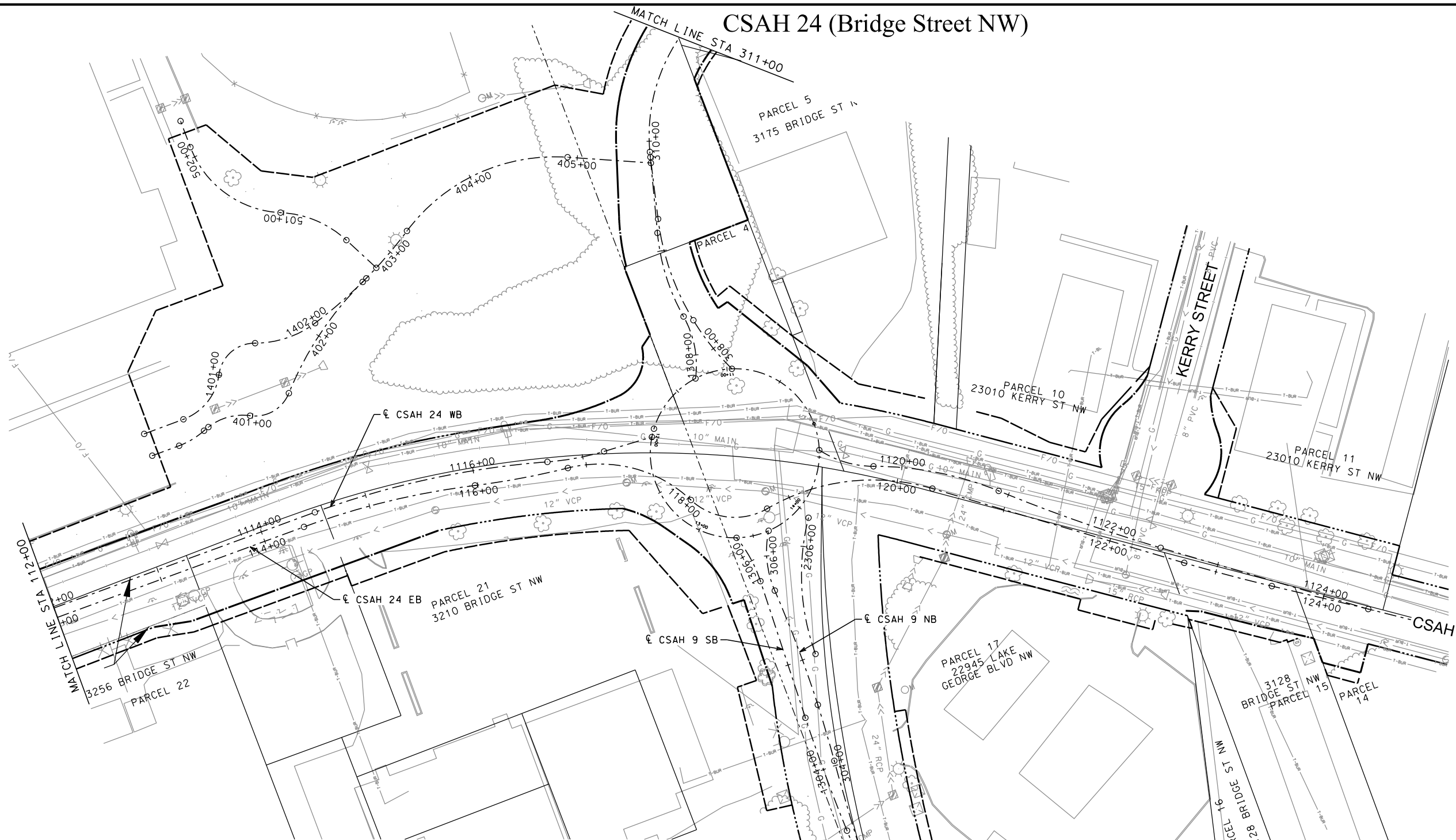
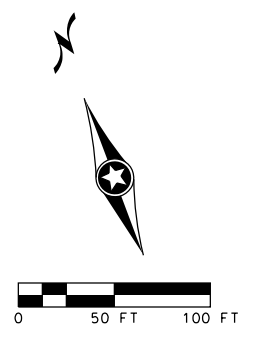
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**ANOKA COUNTY**  
**CSAH 24 Improvements**  
Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**EXISTING PRIVATE UTILITIES PLAN**  
S.P. 002-624-026

SHEET  
12  
OF  
214  
SHEETS

# CSAH 24 (Bridge Street NW)



END S.P. 002-624-026  
 CSAH 24 (BRIDGE STREET)  
 STA 125+38.99

### GENERAL NOTES

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- SEE WATER MAIN AND SANITARY SEWER PLAN FOR ADDITIONAL DETAILS REGARDING REMOVALS.

### LEGEND

- |         |                             |   |                  |
|---------|-----------------------------|---|------------------|
| — F/O — | BURIED FIBER OPTIC LINE     | ☒ | UTILITY PEDESTAL |
| — G —   | GAS LINE                    | □ | CABINET          |
| — S16 — | BURIED TRAFFIC SIGNAL WIRE  | ○ | HANDHOLE         |
| — S —   | BURIED STORM SEWER LINE     | ○ | POWER POLE       |
| — W —   | WATER UTILITY LINE          | ○ | MANHOLE          |
| — S —   | BURIED SANITARY SEWER LINE  | ○ | CATCH BASIN      |
| — C —   | BURIED CABLE/TELEPHONE LINE | ○ | CONCRETE APRON   |
|         |                             | ○ | LIGHT POLE       |
|         |                             | ○ | HYDRANT          |
|         |                             | ○ | VALVE            |

Date Printed: 6/30/2015  
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NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
 Plan By: ACJ  
 Checked By: DRS  
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 CERTIFIED BY: *[Signature]*  
 LICENSED PROFESSIONAL ENGINEER - ANDREW FLOMMAN, PE  
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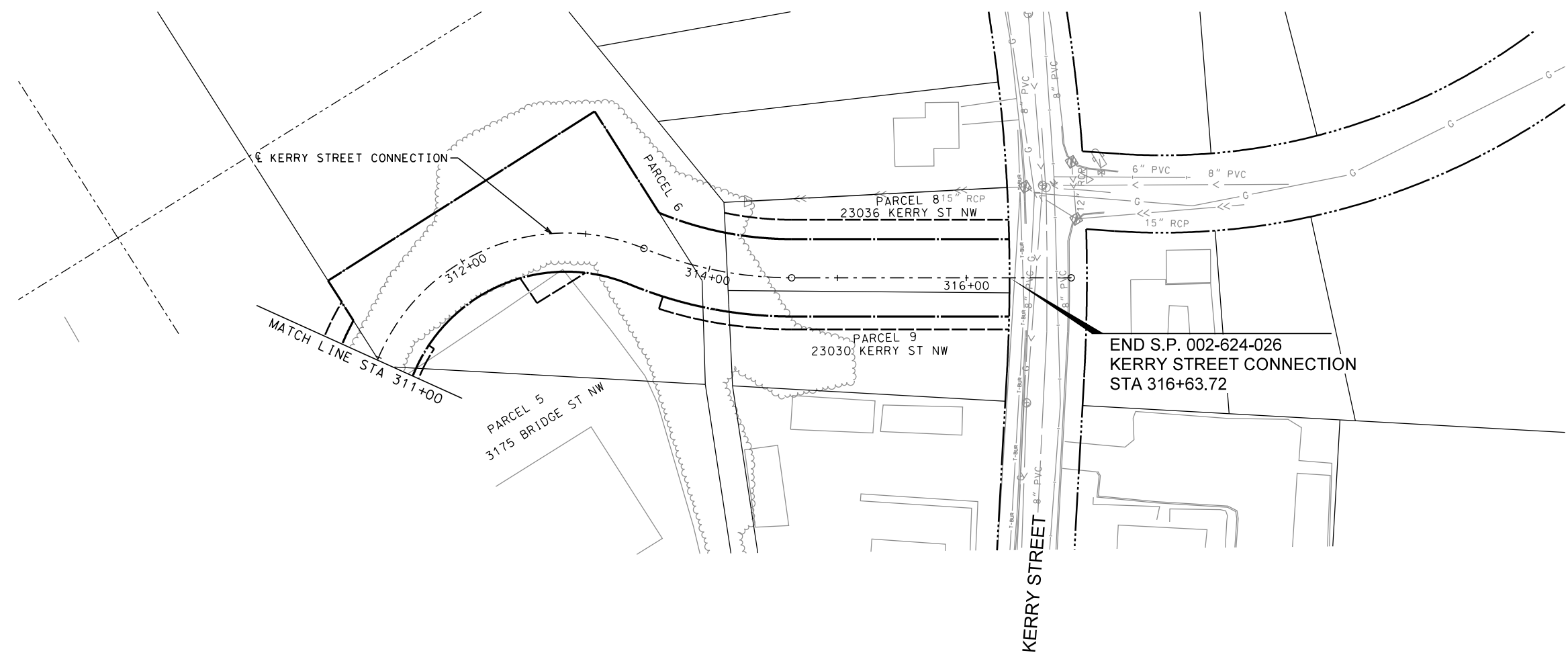
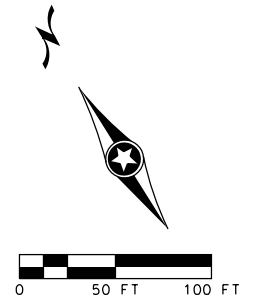
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**ANOKA COUNTY**  
**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**EXISTING PRIVATE UTILITIES PLAN**  
 S.P. 002-624-026

SHEET  
**13**  
 OF  
**214**  
 SHEETS

# Kerry Street Connection



### GENERAL NOTES

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### LEGEND

- |             |                             |  |                  |
|-------------|-----------------------------|--|------------------|
| — F/O —     | BURIED FIBER OPTIC LINE     |  | UTILITY PEDESTAL |
| — G —       | GAS LINE                    |  | CABINET          |
| — G-BUR —   | BURIED TRAFFIC SIGNAL WIRE  |  | HANDHOLE         |
| — S10-BUR — | BURIED STORM SEWER LINE     |  | POWER POLE       |
| — W —       | WATER UTILITY LINE          |  | MANHOLE          |
| — S —       | BURIED SANITARY SEWER LINE  |  | CATCH BASIN      |
| — C —       | BURIED CABLE/TELEPHONE LINE |  | CONCRETE APRON   |
|             |                             |  | LIGHT POLE       |
|             |                             |  | HYDRANT          |
|             |                             |  | VALVE            |

Note: Printed 6/30/2015  
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NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
 Plan By: ACJ  
 Checked By: DRS  
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CERTIFIED BY: ANDREW PLODMAN, PE  
 LICENSED PROFESSIONAL ENGINEER  
 DATE: 6/15/15 LIC. NO: 44200

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**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**EXISTING PRIVATE UTILITIES PLAN**  
 S.P. 002-624-026

SHEET  
**14**  
 OF  
**214**  
 SHEETS

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**COMMUNICATION (MIDCONTINENT)**

ALIGNMENT	STATION TO STATION	OFFSETS	DESCRIPTION	OWNER	ACTION				REMARKS
					ADJUST	RELOCATE	REMOVE	LEAVE AS IS	
CSAH 24 EB	100+00 TO 100+56	45' LT TO 48' LT	C-T	MIDCONTINENT				X	
CSAH 24 EB	100+56 TO 102+00	48' LT TO 142' RT	C-T	MIDCONTINENT				X	
CSAH 24 EB	102+00 TO 103+52	48' LT TO 42' LT	C-T	MIDCONTINENT				X	
CSAH 24 EB	103+52 TO 104+46	42' LT TO 78' LT	C-T	MIDCONTINENT	X				
CSAH 24 EB	104+46 TO 104+46	42' LT TO 60' RT	C-T	MIDCONTINENT	X				
CSAH 24 EB	104+46 TO 110+21	42' LT TO 38' LT	C-T	MIDCONTINENT	X				
CSAH 24 EB	110+21 TO 111+76	38' LT TO 41' RT	2-C-T	MIDCONTINENT				X	
CSAH 24 EB	111+76 TO 115+12	38' LT TO 44' LT	C-T	MIDCONTINENT				X	
CSAH 24 EB	115+12 TO 117+53	36' LT TO 48' LT	C-T	MIDCONTINENT	X				
CSAH 24 EB	117+53 TO 119+14	88' LT TO 200' RT	2-C-T	MIDCONTINENT	X				
CSAH 24 EB	119+14 TO 121+95	88' LT TO 37' LT	C-T	MIDCONTINENT	X				
CSAH 24 EB	121+95 TO 122+00	37' LT TO 504' LT	C-T	MIDCONTINENT				X	
CSAH 72 NB	202+43 TO 202+82	27' LT TO 38' LT	C-T	MIDCONTINENT				X	
CSAH 9 NB	304+38 TO 305+65	105' LT TO 9' RT	2-C-T	MIDCONTINENT				X	
CSAH 9 NB	305+65 TO 306+13	9' RT TO 12' RT	C-T	MIDCONTINENT				X	

**UTILITY ABBREVIATIONS**

P-BUR = BURIED POWER LINE  
 T-BUR = BURIED TELEPHONE LINE  
 TV-BUR = BURIED TELEVISION LINE  
 C-T = BURIED CABLE LINE  
 SIG BUR = BURIED SIGNAL LINE  
 WTR LN = BURIED WATER MAIN  
 GT VLV = GATE VALVE  
 SAN LN = BURIED SANITARY SEWER LINE  
 F/O BUR = BURIED FIBER OPTIC LINE  
 GAS MAIN = UNDERGROUND GAS MAIN  
 OHU = OVERHEAD COMMUNICATION LINE  
 PE = ELECTRIC  
 OHP = OVERHEAD POWER LINE  
 HH = HAND HOLE  
 MH = MANHOLE

**COMMUNICATION (CENTURY LINK)**

ALIGNMENT	STATION TO STATION	OFFSETS	DESCRIPTION	OWNER	ACTION				REMARKS
					ADJUST	RELOCATE	REMOVE	LEAVE AS IS	
CSAH 24 EB	100+00 TO 101+81	18' RT TO 51' LT	T-BUR	CENTURY LINK				X	
CSAH 24 EB	101+81 TO 103+00	38' RT TO 51' LT	6-T-BUR	CENTURY LINK				X	
CSAH 24 EB	103+00 TO 105+47	42' RT TO 127' LT	9-T-BUR	CENTURY LINK	X				
CSAH 24 EB	105+47 TO 106+00	22' RT TO 127' LT	6-T-BUR	CENTURY LINK	X				
CSAH 24 EB	106+00 TO 107+50	42' LT TO 22' RT	4-T-BUR	CENTURY LINK	X				
CSAH 24 EB	107+50 TO 108+14	43' LT TO 15' RT	4-T-BUR	CENTURY LINK				X	
CSAH 24 EB	108+14 TO 111+00	15' RT TO 49' LT	4-T-BUR	CENTURY LINK				X	
CSAH 24 EB	111+00 TO 114+18	10' RT TO 53' LT	4-T-BUR	CENTURY LINK				X	
CSAH 24 EB	114+18	7' RT TO 261' RT	T-BUR	CENTURY LINK				X	
CSAH 24 EB	114+18 TO 117+00	56' LT TO 13' RT	4-T-BUR	CENTURY LINK	X				
CSAH 24 EB	117+00 TO 119+22	13' RT TO 101' LT	4-T-BUR	CENTURY LINK	X				
CSAH 24 EB	119+22 TO 120+04	83' LT TO 22' RT	4-T-BUR	CENTURY LINK	X				
CSAH 24 EB	120+04 TO 121+51	40' LT TO 41' RT	5-T-BUR	CENTURY LINK				X	
CSAH 24 EB	121+51	166' LT TO 40' RT	T-BUR	CENTURY LINK				X	
CSAH 24 EB	121+51 TO 121+90	44' LT TO 39' RT	7-T-BUR	CENTURY LINK				X	
CSAH 24 EB	121+90	44' LT TO 161' LT	3-T-BUR	CENTURY LINK				X	
CSAH 24 EB	121+90	161' LT TO 502' LT	T-BUR	CENTURY LINK				X	
CSAH 24 EB	121+90 TO 123+38	173' LT TO 36' RT	5-T-BUR	CENTURY LINK				X	
CSAH 24 EB	123+38 TO 125+09	36' LT TO 40' RT	5-T-BUR	CENTURY LINK				X	
CSAH 72 NB	200+15 TO 201+00	14' RT TO 26' LT	3-T-BUR	CENTURY LINK				X	
CSAH 72 NB	201+00 TO 202+00	15' RT TO 24' LT	3-T-BUR	CENTURY LINK				X	
CSAH 72 NB	202+00 TO 202+35	20' LT TO 180' RT	4-T-BUR	CENTURY LINK				X	
CSAH 72 NB	202+35 TO 202+81	48' RT TO 26' LT	4-T-BUR	CENTURY LINK	X				
CSAH 72 NB	204+23 TO 205+00	13' RT TO 34' LT	4-T-BUR	CENTURY LINK	X				
CSAH 72 NB	205+00 TO 207+64	13' RT TO 34' LT	4-T-BUR	CENTURY LINK				X	
CSAH 9 NB	300+58 TO 303+00	26' RT TO 29' RT	T-BUR	CENTURY LINK				X	
CSAH 9 NB	303+00 TO 304+30	29' RT TO 39' RT	T-BUR	CENTURY LINK				X	
CSAH 9 NB	304+30	39' RT TO 137' LT	T-BUR	CENTURY LINK				X	
CSAH 9 NB	304+30 TO 306+23	39' RT TO 79' RT	T-BUR	CENTURY LINK	X				

**UTILITIES**

THE FOLLOWING IS A LIST OF UTILITY COMPANIES INVOLVED IN THIS PROJECT

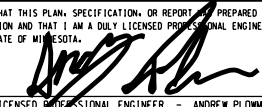
ANOKA COUNTY
COMCAST
CITY OF ST. FRANCIS
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MIDCONTINENT COMMUNICATIONS
CENTER POINT ENERGY
CITY OF OAK GROVE
CENTURY LINK
ZAYO BANDWIDTH

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**ANOKA COUNTY**  
**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**PRIVATE UTILITY TABULATION**  
 S.P. 002-624-026

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 MH = MANHOLE

**UTILITIES**

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ANOKA COUNTY
COMCAST
CITY OF ST. FRANCIS
CONNEXUS ENERGY
MIDCONTINENT COMMUNICATIONS
CENTER POINT ENERGY
CITY OF OAK GROVE
CENTURY LINK
ZAYO BANDWIDTH

**COMMUNICATION (COMCAST)**

ALIGNMENT	STATION TO STATION	OFFSETS	DESCRIPTION	OWNER	ACTION				REMARKS
					ADJUST	RELOCATE	REMOVE	LEAVE AS IS	
CSAH 24 EB	100+00 TO 125+08	53' LT TO 55' LT	F/O BUR	COMCAST	X				
CSAH 24 EB	113+15 TO 112+18	46' LT TO 303' LT	F/O BUR	COMCAST	X				

**GAS (CENTERPOINT)**

ALIGNMENT	STATION TO STATION	OFFSETS	DESCRIPTION	OWNER	ACTION				REMARKS
					ADJUST	RELOCATE	REMOVE	LEAVE AS IS	
CSAH 24 EB	100+00 TO 125+08	41' LT TO 16' LT	GAS	CENTERPOINT	X				
CSAH 72 NB	204+22 TO 207+14	29' LT TO 44' LT	GAS	CENTERPOINT	X				
POPPY STREET NB	200+00 TO 202+82	14' RT TO 16' RT	GAS	CENTERPOINT				X	
POPPY STREET NB	200+00 TO 200+17	16' RT TO 128' RT	GAS	CENTERPOINT				X	
POPPY STREET NB	201+38 TO 208+60	15' RT TO 69' LT	GAS	CENTERPOINT				X	
POPPY STREET NB	202+22 TO 201+86	20' RT TO 111' RT	GAS	CENTERPOINT				X	
CSAH 9 NB	301+22 TO 306+23	34' LT TO 18' RT	GAS	CENTERPOINT		X			
CSAH 9 NB	300+89 TO 306+23	28' RT TO 34' RT	GAS	CENTERPOINT		X			
CSAH 24 EB	119+04 TO 125+08	44' LT TO 28' LT	GAS	CENTERPOINT		X			
KERRY STREET NB	316+48 TO 316+53	382' RT TO 66' LT	GAS	CENTERPOINT				X	

**POWER (CONNEXUS)**

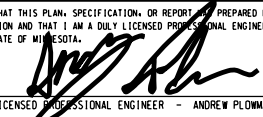
ALIGNMENT	STATION TO STATION	OFFSETS	DESCRIPTION	OWNER	ACTION				REMARKS
					ADJUST	RELOCATE	REMOVE	LEAVE AS IS	
CSAH 24 EB	101+84 TO 103+50	16' RT TO 23' RT	SIG-BUR	CONNEXUS		X			
CSAH 24 EB	103+50 TO 104+27	23' RT TO 6' LT	SIG-BUR	CONNEXUS		X			
CSAH 24 EB	104+27 TO 104+62	96' LT TO 23' RT	2-SIG-BUR	CONNEXUS		X			
CSAH 24 EB	104+62 TO 104+62	96' LT TO 266' LT	SIG-BUR	CONNEXUS		X			
CSAH 24 EB	104+62 TO 105+35	106' LT TO 23' RT	2-SIG-BUR	CONNEXUS		X			
CSAH 24 EB	105+35 TO 105+61	80' LT TO 40' LT	SIG-BUR	CONNEXUS		X			
CSAH 24 EB	105+61 TO 110+09	40' LT TO 32' LT	SIG-BUR	CONNEXUS		X			
CSAH 72 NB	204+32 TO 205+00	40' LT TO 16' LT	SIG-BUR	CONNEXUS		X			
CSAH 72 NB	205+00 TO 205+68	25' LT TO 26' LT	SIG-BUR	CONNEXUS		X			

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Design By: AJP  
 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

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CERTIFIED BY:   
 LICENSED PROFESSIONAL ENGINEER - ANDREW PLODMAN, PE  
 DATE: 6/15/15 LIC. NO: 44200

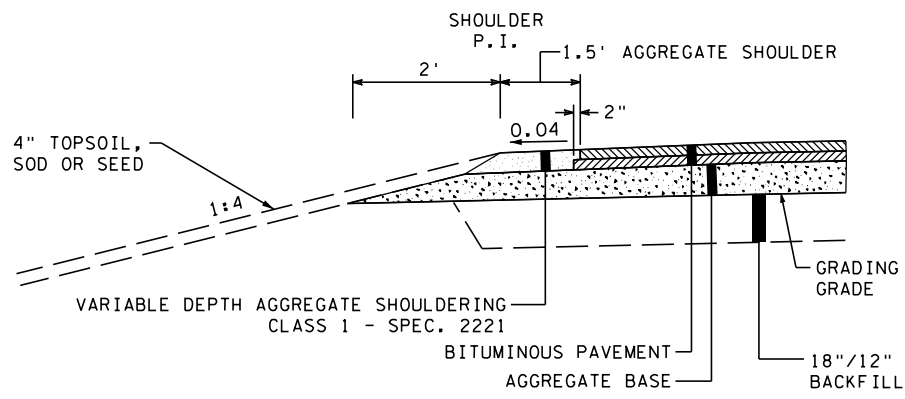
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**ANOKA COUNTY**  
**CSAH 24 Improvements**  
 Anoka County, Minnesota

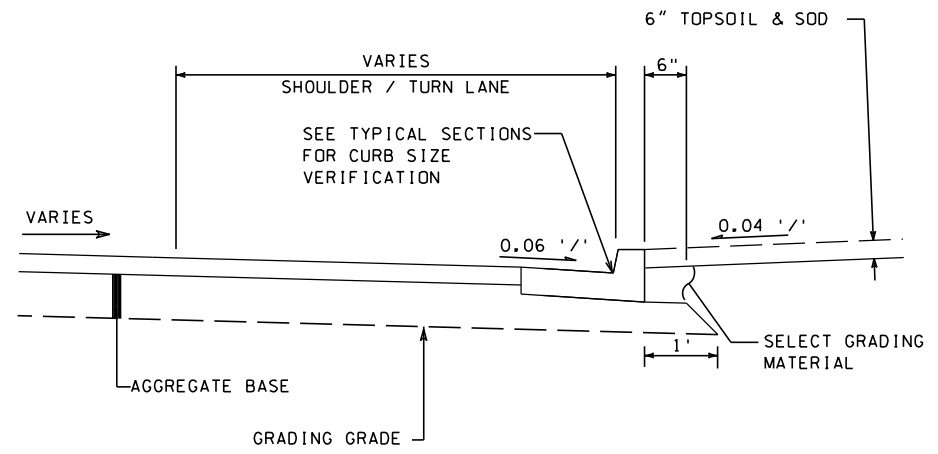
ANOKA COUNTY, MINNESOTA  
**PRIVATE UTILITY TABULATION**  
 S.P. 002-624-026

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**16**  
 OF  
**214**  
 SHEETS

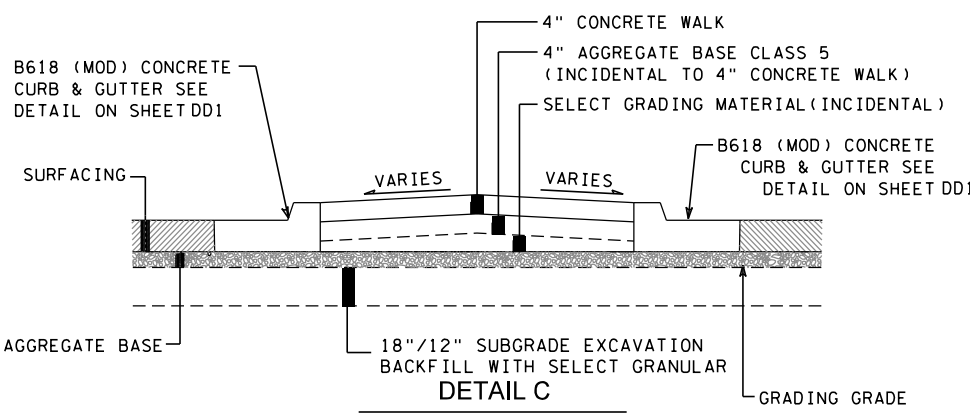




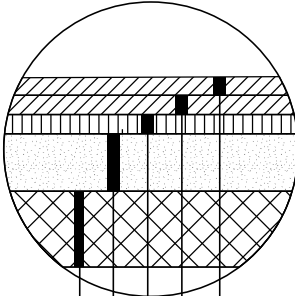
**DETAIL A**  
AGGREGATE SHOULDER DETAIL



**DETAIL B**  
CONCRETE CURB & GUTTER

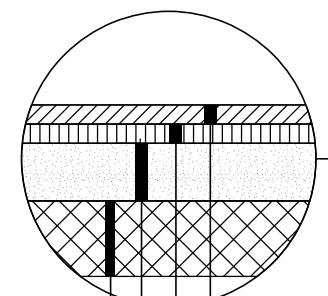


**DETAIL C**  
CONCRETE CURB & GUTTER MEDIAN



**INSET "A"**  
CSAH 24  
(BRIDGE STREET)

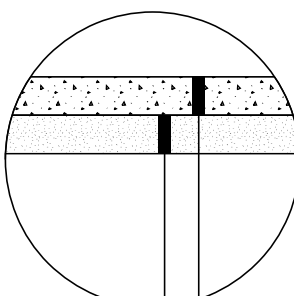
- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (SPWEB340C) - SPEC 2360
- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (SPWEB340C) - SPEC 2360
- 3" TYPE SP 12.5 NON WEARING COURSE MIXTURE (SPNWB330B) - SPEC 2360
- 6" AGGREGATE BASE (CV) CLASS 5
- 18" SELECT GRANULAR (CV)



**INSET "B"**

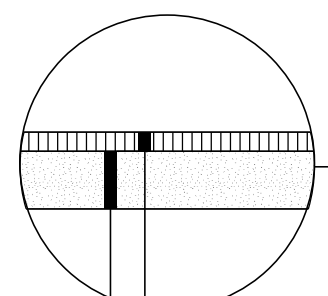
CR 72 (RUM RIVER BLVD)  
POPPY STREET  
CSAH 9 (LAKE GEORGE BLVD)  
KERRY STREET CONNECTION  
SCHOOL ENTRANCE

- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (SPWEB340C) - SPEC 2360
- 3" TYPE SP 12.5 NON WEARING COURSE MIXTURE (SPNWB330B) - SPEC 2360
- 6" AGGREGATE BASE (CV) CLASS 5
- 12" SELECT GRANULAR (CV)



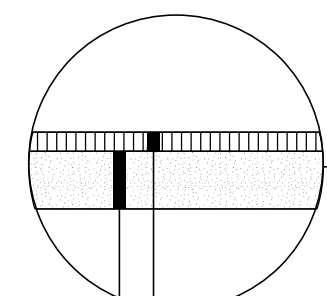
**INSET "C"**  
4" CONCRETE WALK

- 4" CONCRETE WALK
  - 4" AGGREGATE BASE (CV) CLASS 5 (INCIDENTAL)\*
- \*AGGREGATE BASE TO EXTEND 6" BEYOND THE EDGE OF FINISHED SURFACE



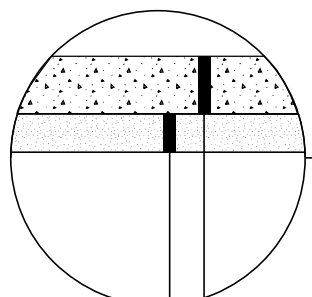
**INSET "D"**  
3" BITUMINOUS WALK

- 3" TYPE SP 9.5 WEARING COURSE MIXTURE (SPWEA240B) - SPEC 2360\*
  - 6" AGGREGATE BASE (CV) CLASS 5 (INCIDENTAL)\*\*
- \*PAID FOR AS 3" BITUMINOUS WALK  
\*\*AGGREGATE BASE TO EXTEND 6" BEYOND THE EDGE OF PAVEMENT



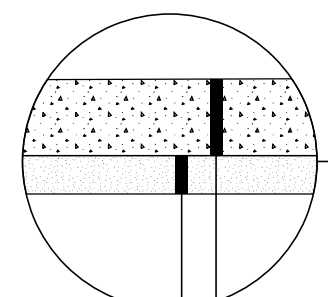
**INSET "E"**  
TEMPORARY PAVEMENT

- 3" TYPE SP 12.5 WEARING COURSE MIXTURE (SPWEB340C) - SPEC 2360
- 6" AGGREGATE BASE (CV) CLASS 5 (INCIDENTAL)



**INSET "F"**  
6" CONCRETE WALK  
(PED RAMPS & LANDINGS)

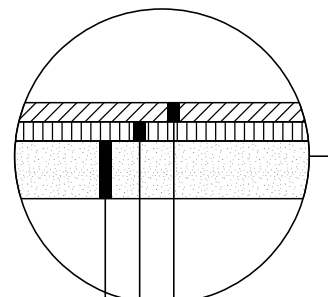
- 6" CONCRETE WALK
  - 4" AGGREGATE BASE (CV) CLASS 5 (INCIDENTAL)\*
- \*AGGREGATE BASE TO EXTEND 6" BEYOND THE EDGE OF FINISHED SURFACE



**INSET "G"**

8" CONCRETE DRIVEWAY PAVEMENT  
(COMMERCIAL DRIVEWAY)/  
7" CONCRETE PAVEMENT  
(TRUCK APRON)

- 8" CONCRETE DRIVEWAY PAVEMENT (COMMERCIAL DRIVEWAY)/ 7" CONCRETE PAVEMENT (TRUCK APRON)
- CONCRETE DRIVEWAY PAVEMENT (COMMERCIAL DRIVEWAY)/ TRUCK APRON
- 4" AGGREGATE BASE (CV) CLASS 5 (INCIDENTAL)
- 6" AGGREGATE BASE (CV) CLASS 5 (INCIDENTAL)



**INSET "H"**

BIUMINOUS DRIVEWAYS/PARKING LOTS

- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (SPWEB340C) - SPEC 2360
- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (SPWEB340C) - SPEC 2360
- 6" AGGREGATE BASE (CV) CLASS 5

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Design By: AJP  
Plan By: ACJ  
Checked By: DRS  
Approved By: AJP

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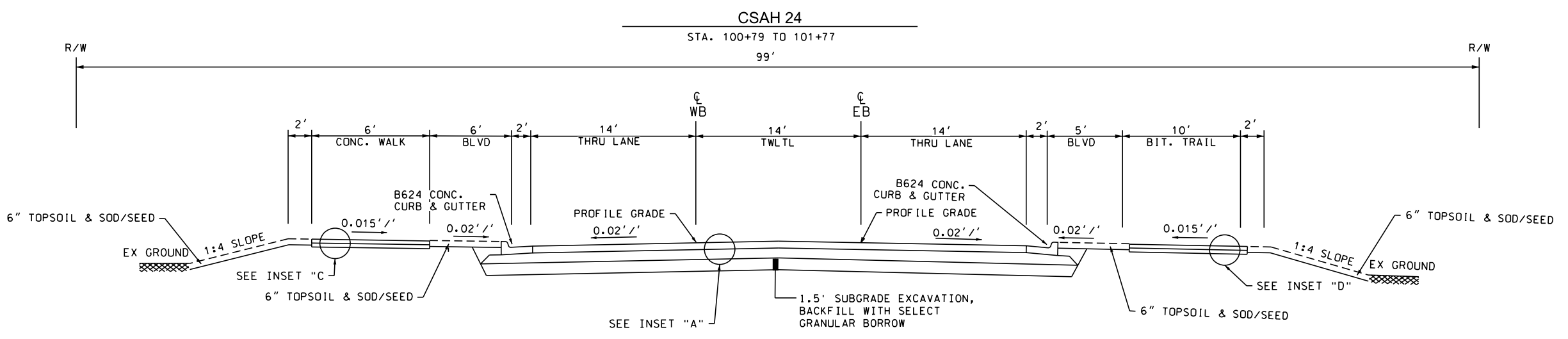
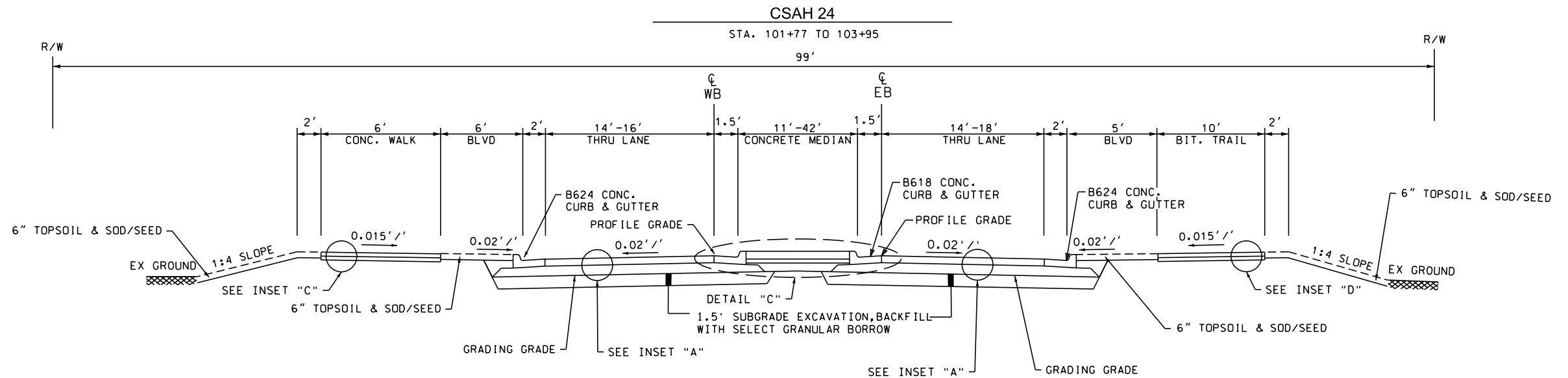
CERTIFIED BY: *[Signature]*  
LICENSED PROFESSIONAL ENGINEER - ANDREW FLOIDMAN, PE  
DATE: 6/15/15 LIC. NO: 44200

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Anoka County, Minnesota

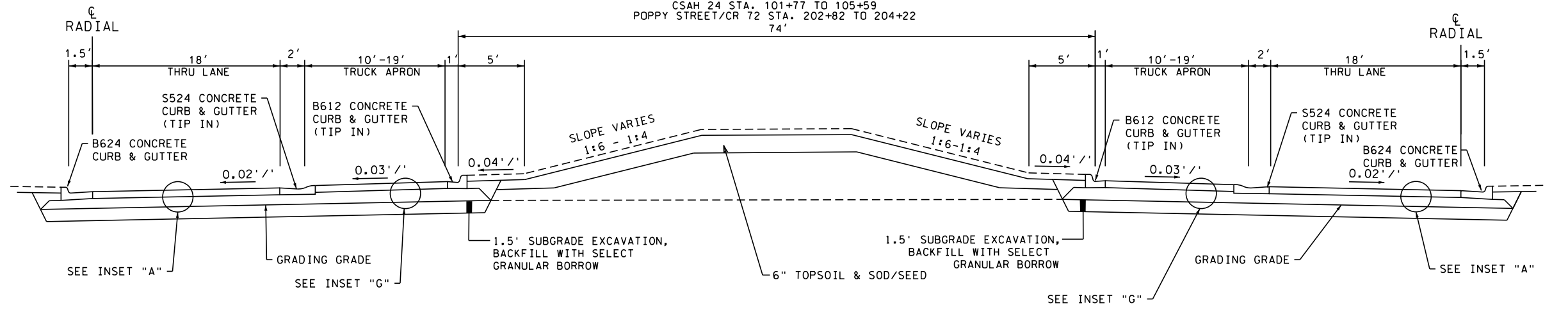
ANOKA COUNTY, MINNESOTA  
DETAILS & INSETS  
**TYPICAL SECTIONS**  
S.P. 002-624-026

SHEET  
17  
OF  
214  
SHEETS



**WEST ROUNDABOUT (CSAH 24/CR 72/POPPY STREET)**

RADIAL STA. 1+00 TO 5+49  
 CSAH 24 STA. 101+77 TO 105+59  
 POPPY STREET/CR 72 STA. 202+82 TO 204+22  
 74'



- NOTES:**
- \* UNLESS OTHERWISE SPECIFIED, THE SUBGRADE CROSS SLOPE WILL BE THE SAME AS THE FINISHED SLOPE.
  - ① ALL EDGE DIMENSIONS ARE FACE TO FACE OF CURB OR TO THE EDGE OF THE BITUMINOUS PAVEMENT.
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  - ④ THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCARIFYING, MOISTURE TREATING AND RECOMPACTING THE EXISTING SUBGRADE (BELOW SUBGRADE EXCAVATION LIMITS) (INCIDENTAL)

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NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

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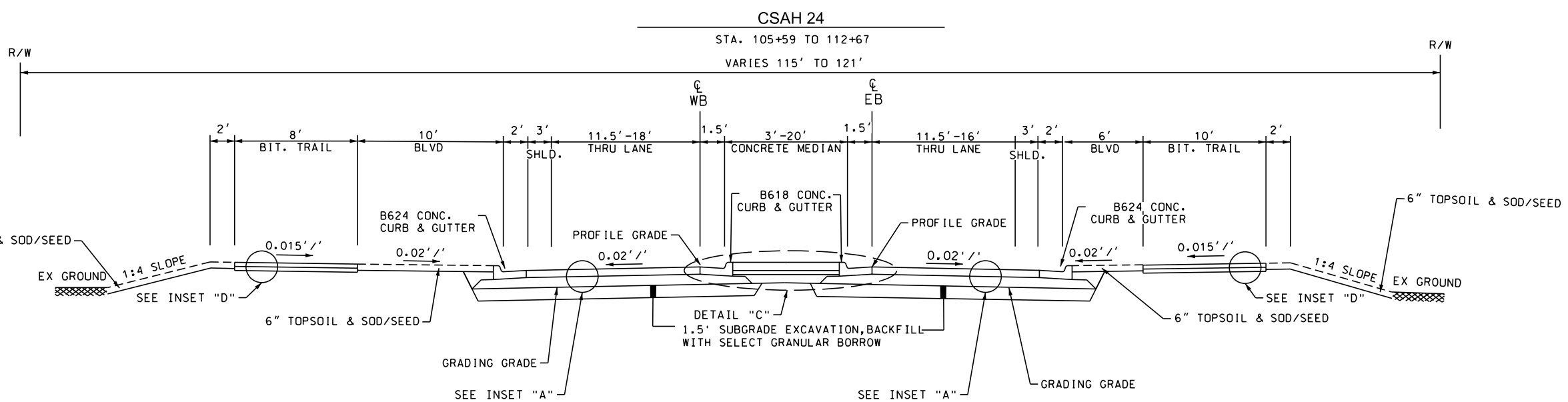
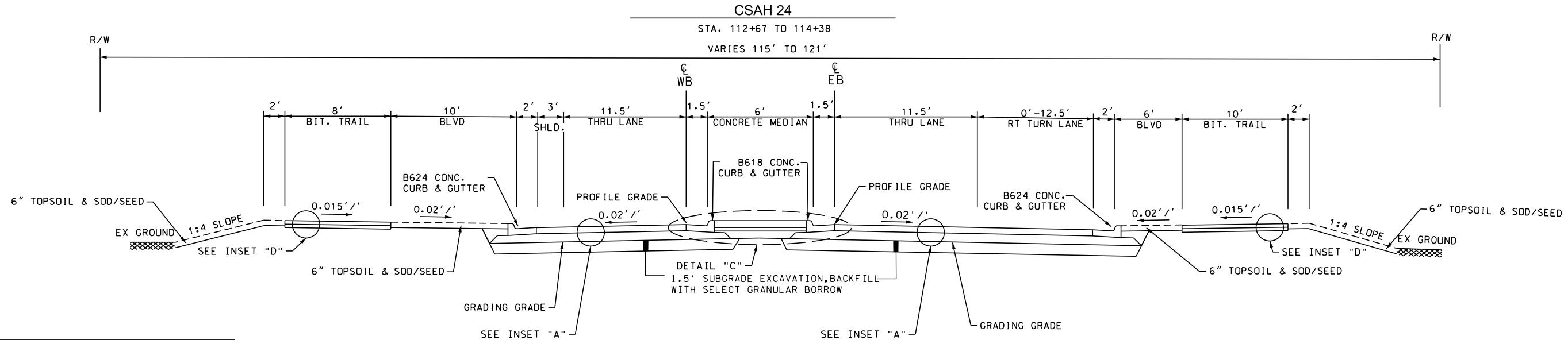
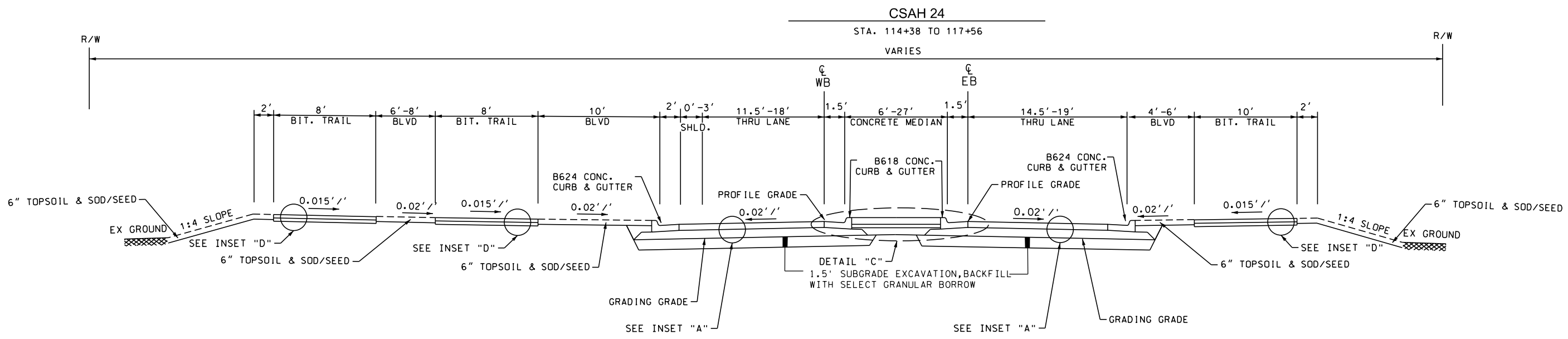
CERTIFIED BY: *[Signature]*  
 LICENSED PROFESSIONAL ENGINEER - ANDREW FLOMMAN, PE  
 DATE: 6/15/15 LIC. NO.: 44200

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**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**TYPICAL SECTIONS**  
 S.P. 002-624-026

SHEET  
**18**  
 OF  
**214**  
 SHEETS



**NOTES:**

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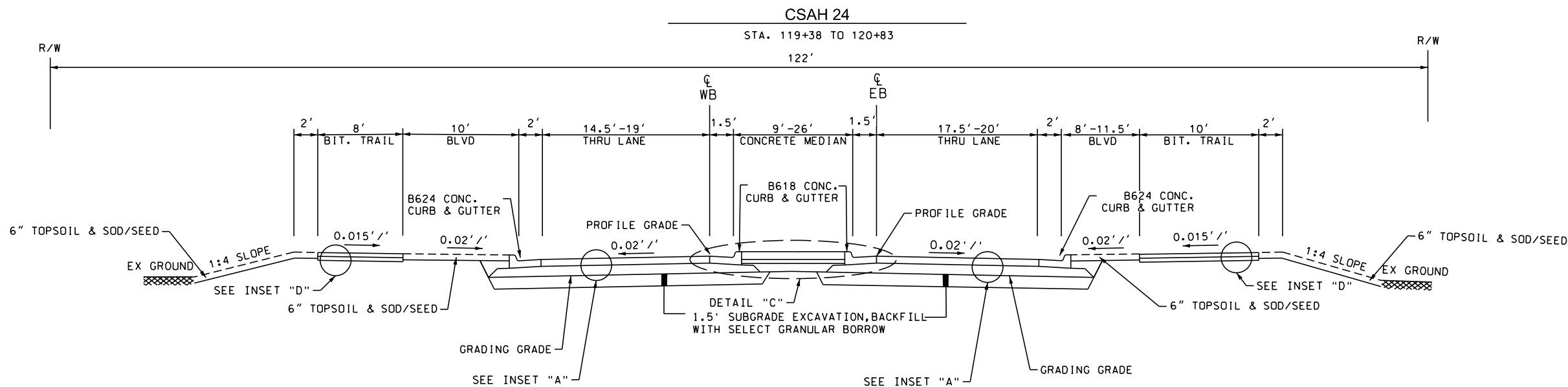
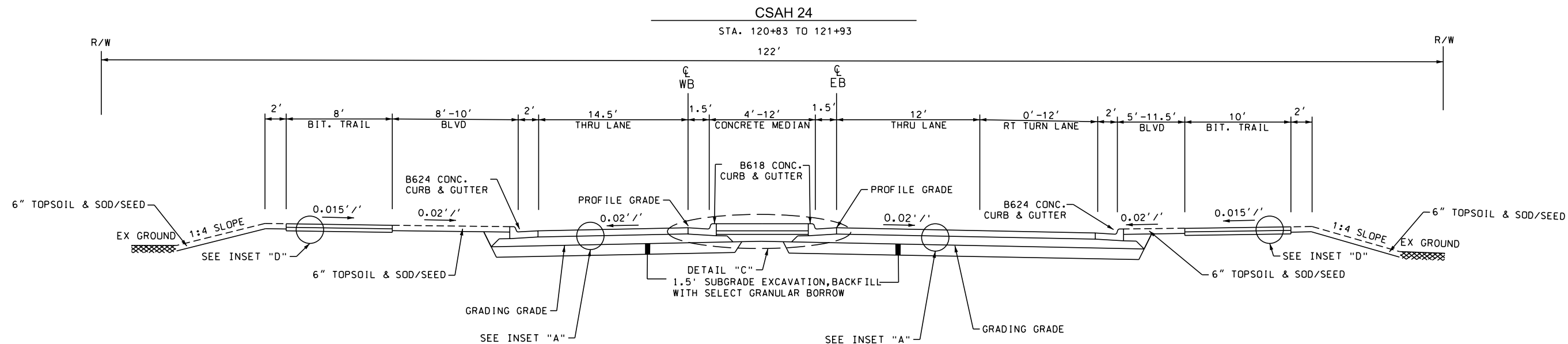
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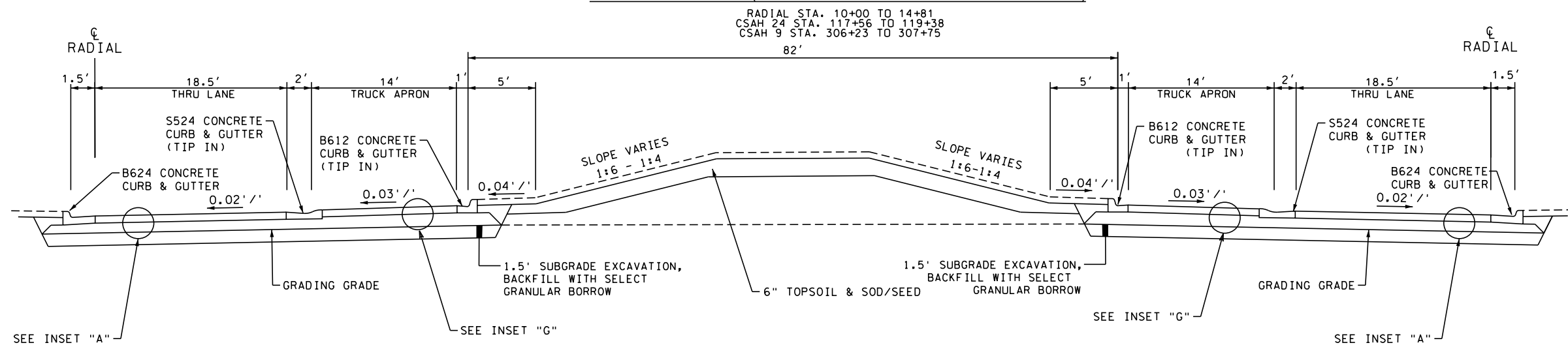
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**EAST ROUNDABOUT (CSAH 24/KERRY ST. CONNECTION/CSAH 9)**



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 Plan By: ACJ  
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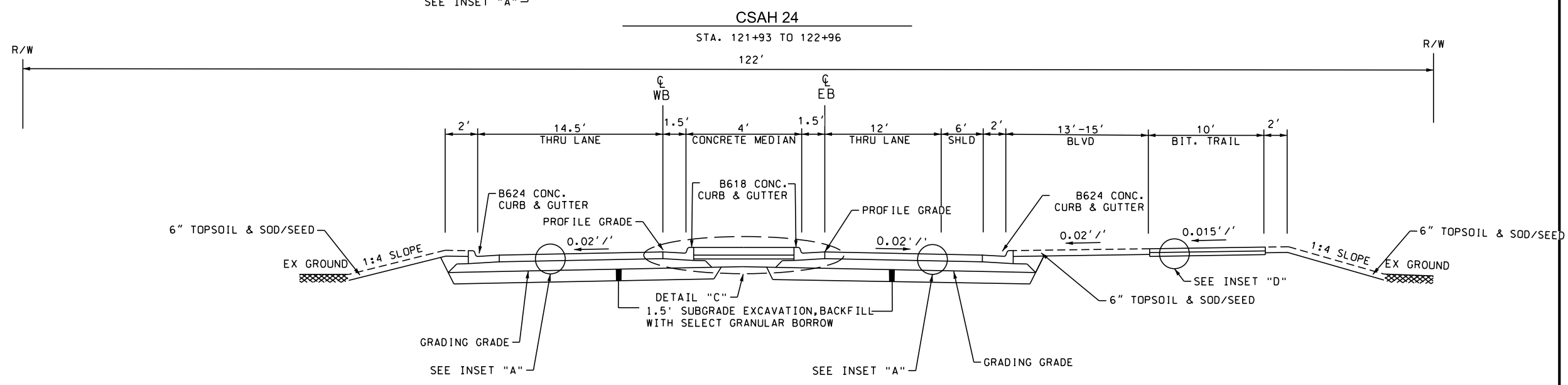
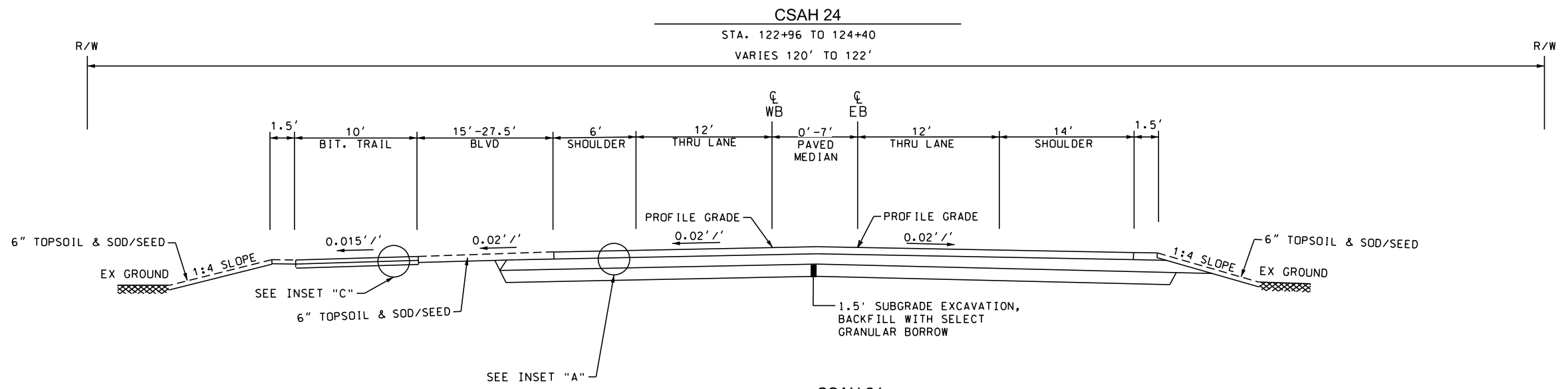
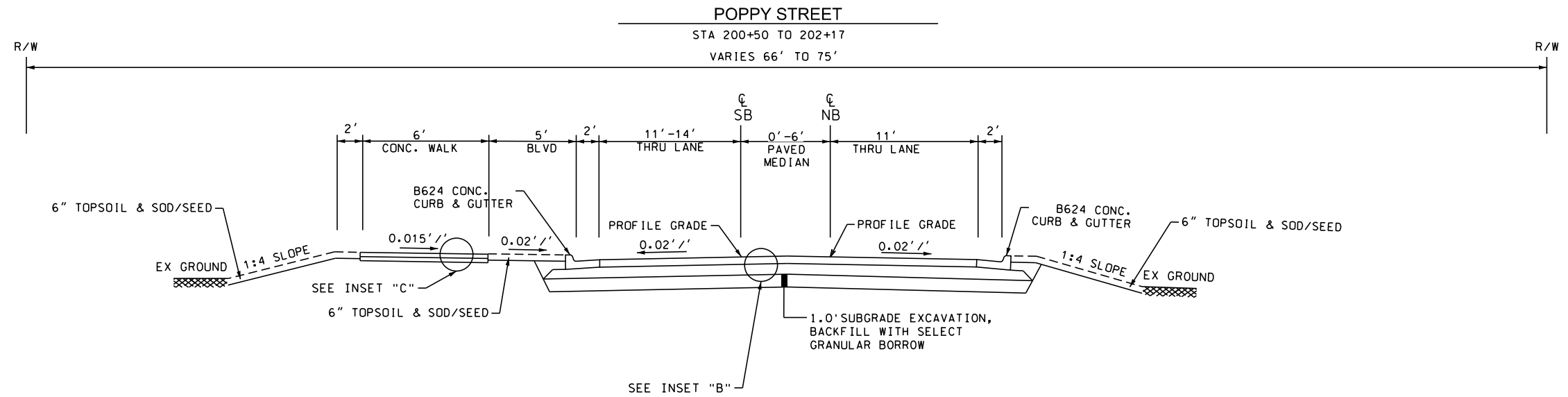
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CERTIFIED BY: *[Signature]*  
 LICENSED PROFESSIONAL ENGINEER - ANDREW FLODMAN, PE  
 DATE: 6/15/15 LIC. NO.: 44200

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**CSAH 24 Improvements**  
 Anoka County, Minnesota

**ANOKA COUNTY, MINNESOTA**  
**TYPICAL SECTIONS**  
 S.P. 002-624-026



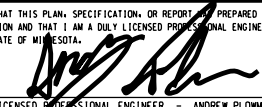
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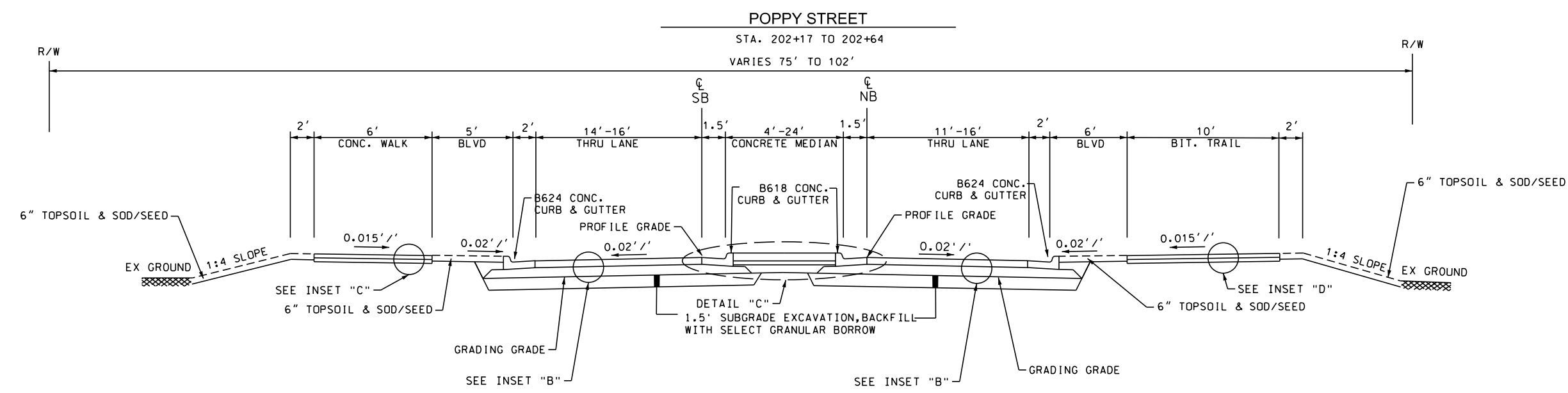
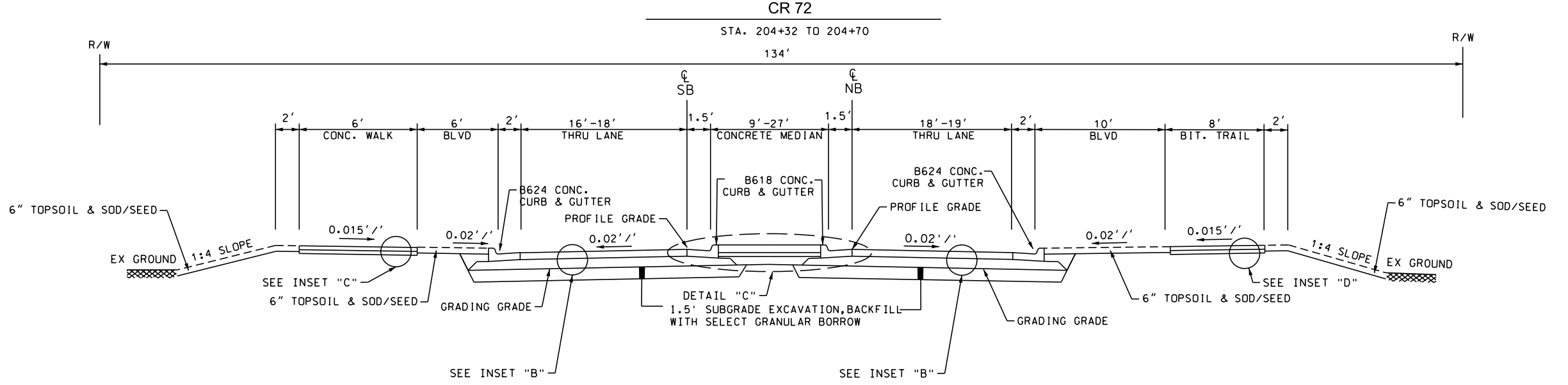
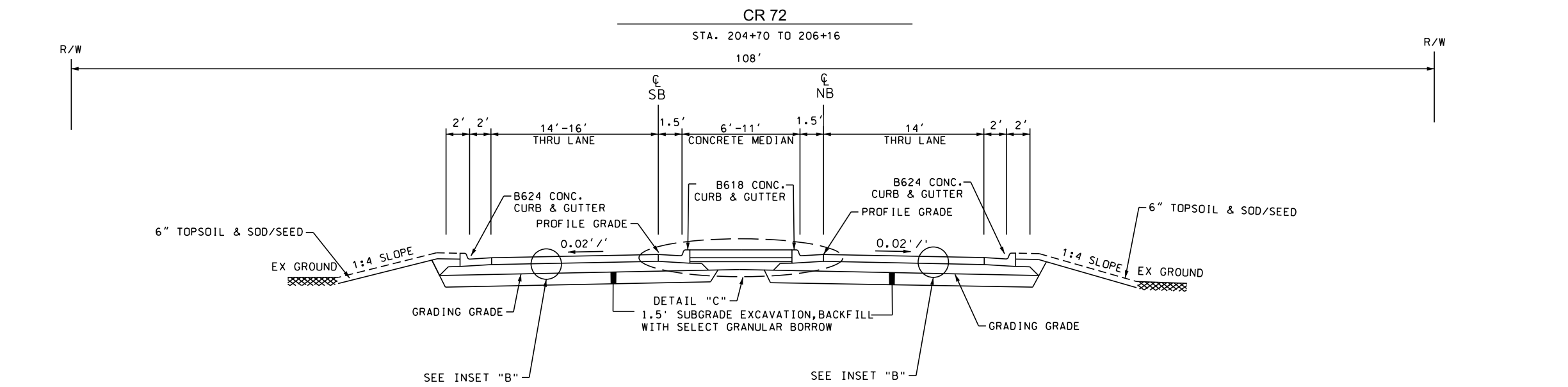
CERTIFIED BY:   
LICENSED PROFESSIONAL ENGINEER - ANDREW PLOZMAN, PE  
DATE: 6/15/15 LIC. NO.: 44200

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Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**TYPICAL SECTIONS**  
S.P. 002-624-026

SHEET  
**21**  
OF  
**214**  
SHEETS



- NOTES:**
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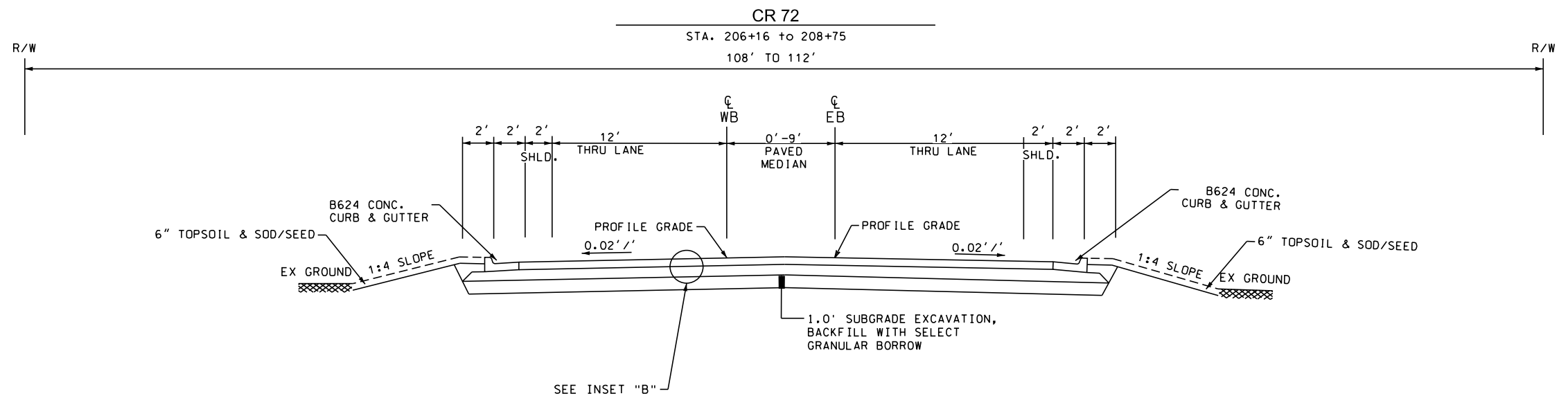
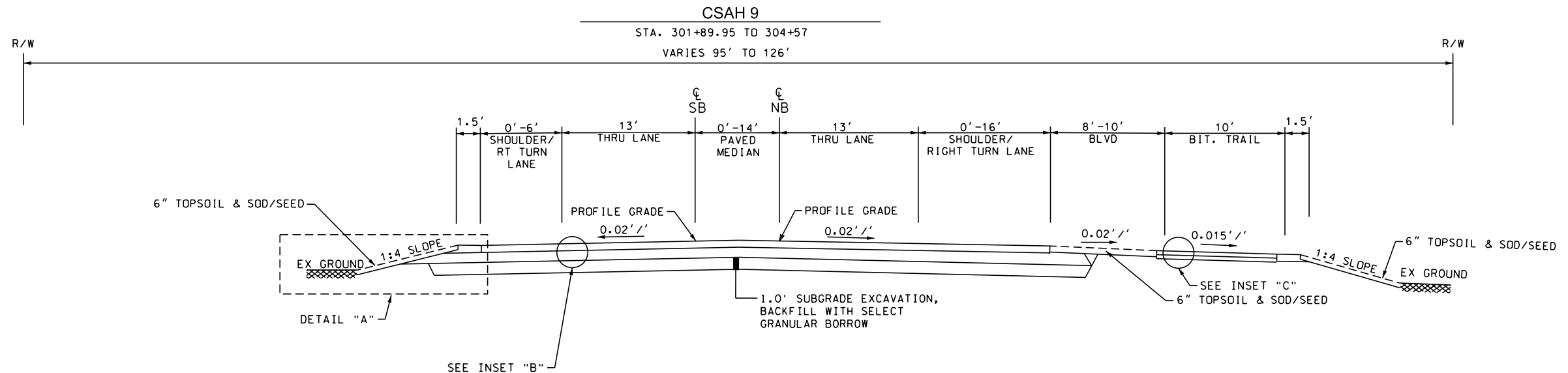
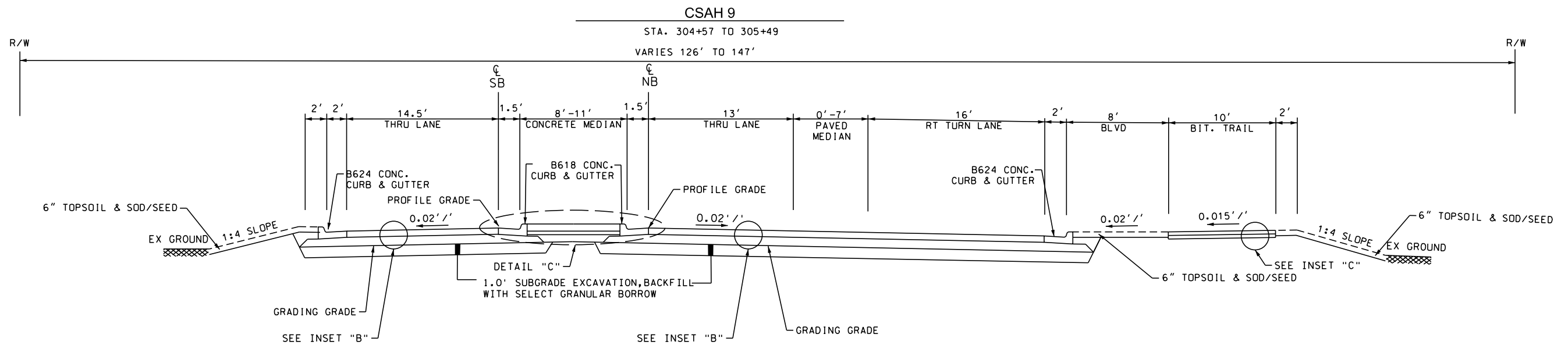
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 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**TYPICAL SECTIONS**  
 S.P. 002-624-026

SHEET  
**22**  
 OF  
**214**  
 SHEETS



- NOTES:**
- \* UNLESS OTHERWISE SPECIFIED, THE SUBGRADE CROSS SLOPE WILL BE THE SAME AS THE FINISHED SLOPE.
  - ① ALL EDGE DIMENSIONS ARE FACE TO FACE OF CURB OR TO THE EDGE OF THE BITUMINOUS PAVEMENT.
  - ② ALL EMBANKMENT MATERIAL SHALL BE APPROVED BY THE ENGINEER. ALL CONCRETE AND BITUMINOUS REMOVAL MUST BE DISPOSED OF OFF-SITE. REMOVAL AND DISPOSAL OF EXCESS MATERIAL SHALL BE INCIDENTAL.
  - ③ ALL EXISTING VEGETATION AND TOPSOIL SHALL BE STRIPPED AND 4" TOPSOIL SHALL BE PLACED ON ALL AREAS DISTURBED BY CONSTRUCTION, WITH THE EXCEPTION OF THE LANDSCAPE AREAS WHICH SHALL RECEIVE 18" OF TOPSOIL SPECIAL (SEE LANDSCAPE AREA PLANS FOR ADDITIONAL DETAILS AND LOCATIONS)
  - ④ THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCARIFYING, MOISTURE TREATING AND RECOMPACTING THE EXISTING SUBGRADE (BELOW SUBGRADE EXCAVATION LIMITS) (INCIDENTAL)

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Design By: AJP  
 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

CERTIFIED BY: *[Signature]*  
 LICENSED PROFESSIONAL ENGINEER - ANDREW FLOMMAN, PE  
 DATE: 6/15/15 LIC. NO.: 44200

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**ANOKA COUNTY**  
**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**TYPICAL SECTIONS**  
 S.P. 002-624-026

SHEET  
**23**  
 OF  
**214**  
 SHEETS

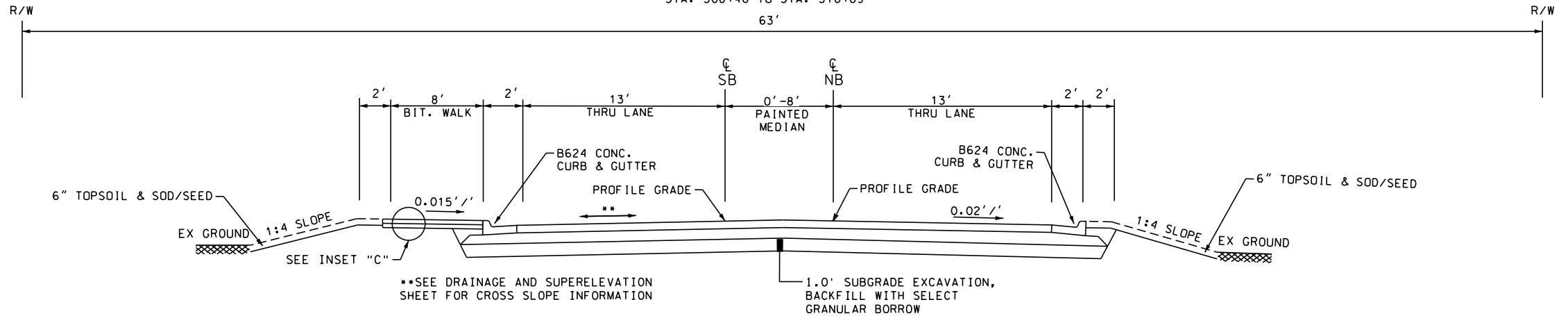
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**KERRY STREET CONNECTION**

STA. 308+46 TO STA. 310+09

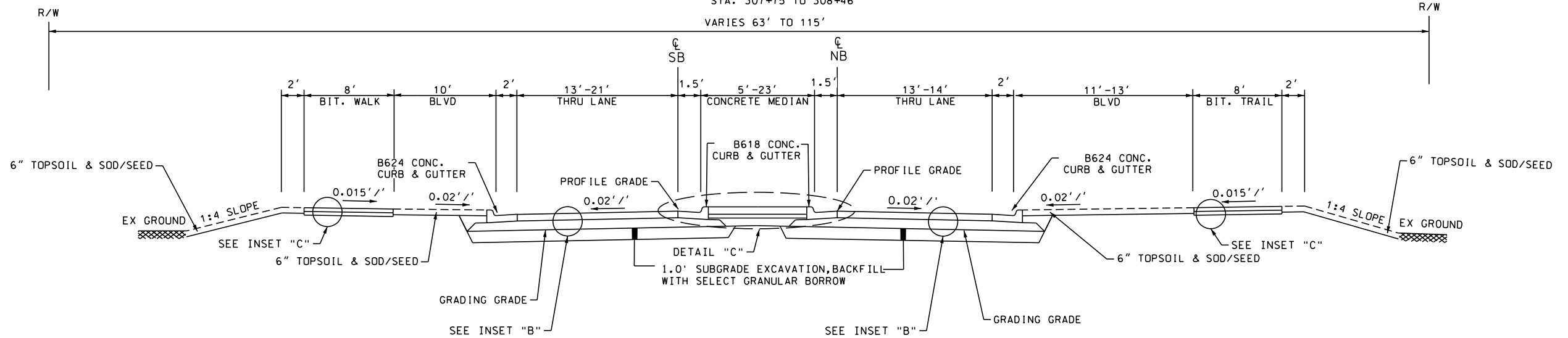
63'



**KERRY STREET CONNECTION**

STA. 307+75 TO 308+46

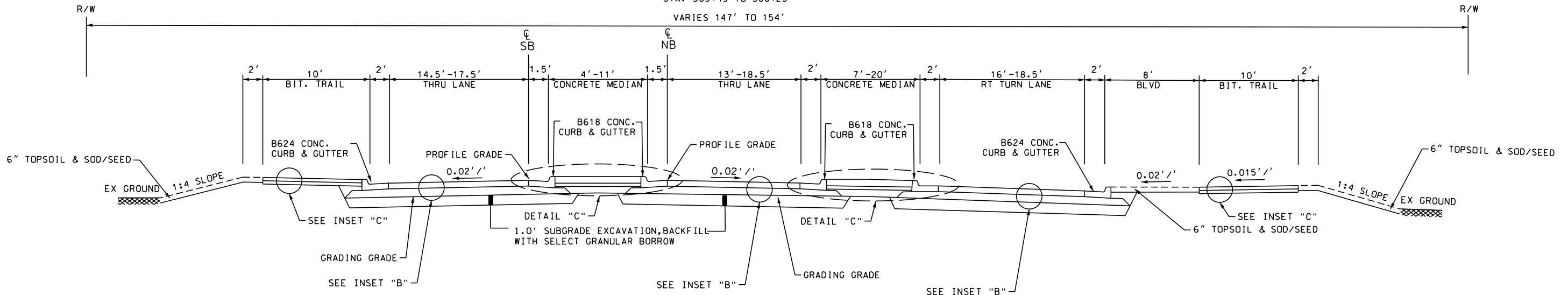
VARIES 63' TO 115'



**CSAH 9**

STA. 305+49 TO 306+23

VARIES 147' TO 154'



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**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA

**TYPICAL SECTIONS**  
 S.P. 002-624-026

SHEET  
**24**  
 OF  
**214**  
 SHEETS



KERRY STREET CONNECTION (NORTH LEG)

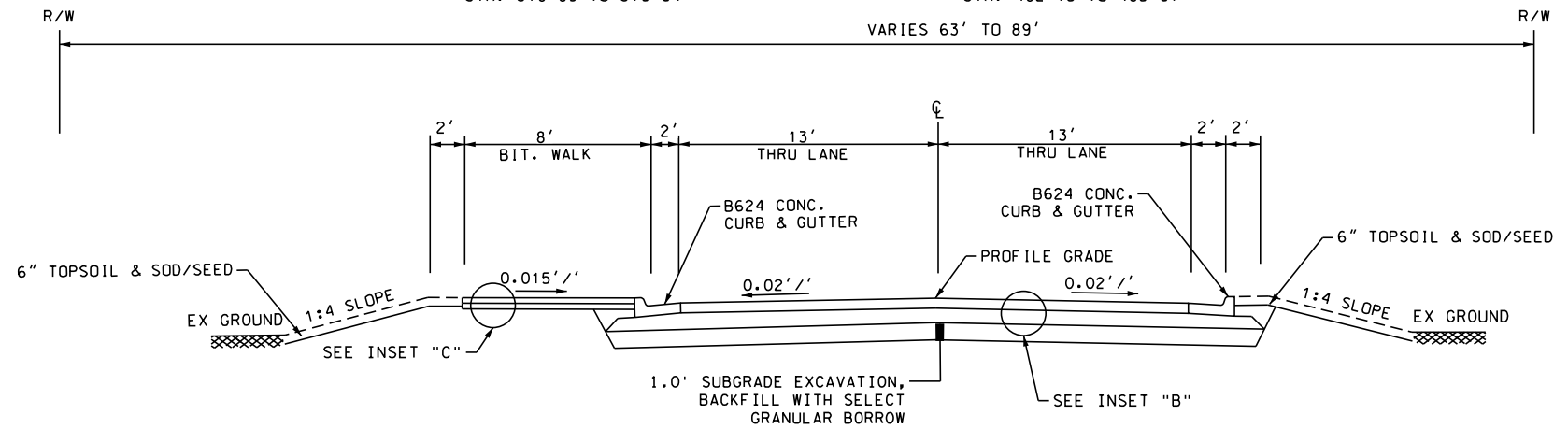
SCHOOL ENTRANCE

STA. 310+09 TO 316+64

STA. 402+15 TO 405+67

VARIES 63' TO 89'

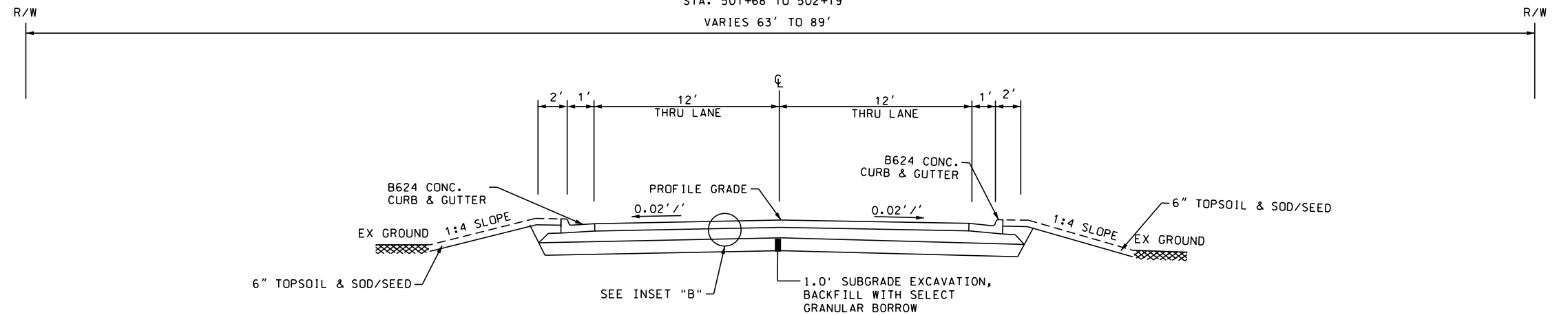
- NOTES:
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CIRCULATORY DRIVEWAY

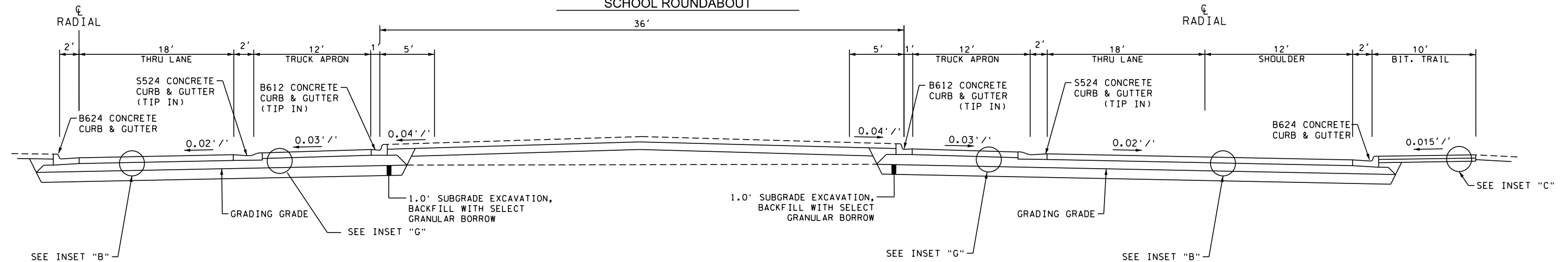
STA. 501+68 TO 502+19

VARIES 63' TO 89'



SCHOOL ROUNDABOUT

36'



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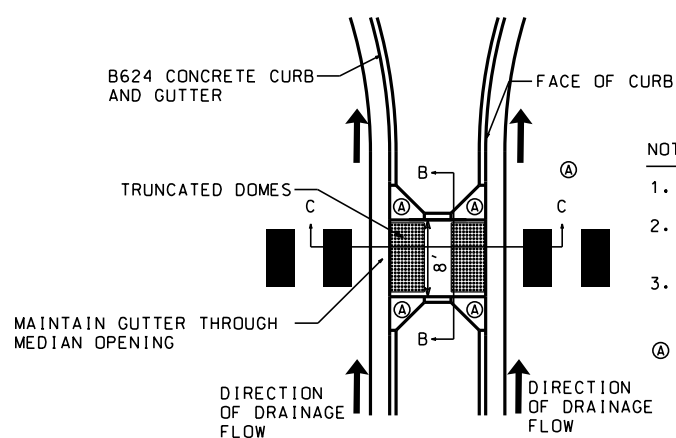
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 Anoka County, Minnesota

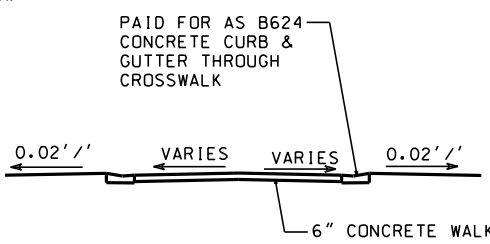
ANOKA COUNTY, MINNESOTA

**TYPICAL SECTIONS**  
 S.P. 002-624-026

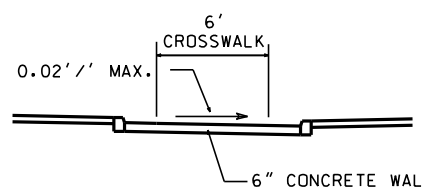
SHEET  
**25**  
 OF  
**214**  
 SHEETS



- NOTES:**
- CROSSING TO BE PAID FOR AS 6" CONCRETE WALK.
  - THE FACE OF CURB ALONG THE CROSSWALK SHALL BE PAID FOR AS B624 CURB AND GUTTER.
  - TRUNCATED DOMES SHALL BE PLACED AT EACH SIDE OF THE CROSSWALK. PAID FOR AS SQ. FT. OF TRUNCATED DOMES.
- Ⓐ SEE STANDARD PLAN 5-297.250 (SHEET 4 OF 5) APPROACH NOSE DETAIL

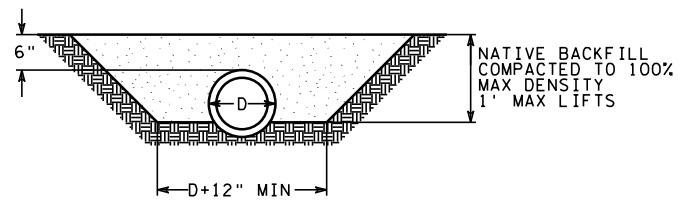


SECTION C-C

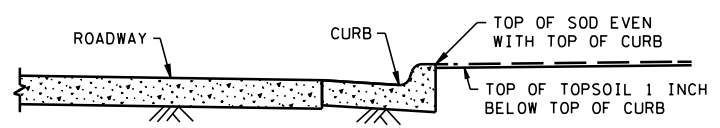


SECTION B-B

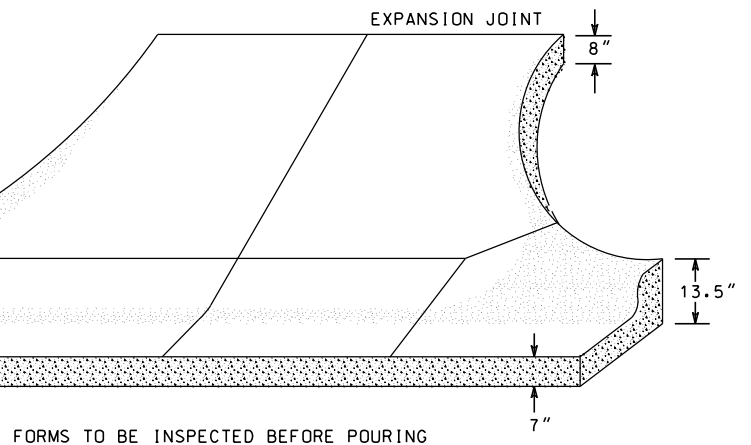
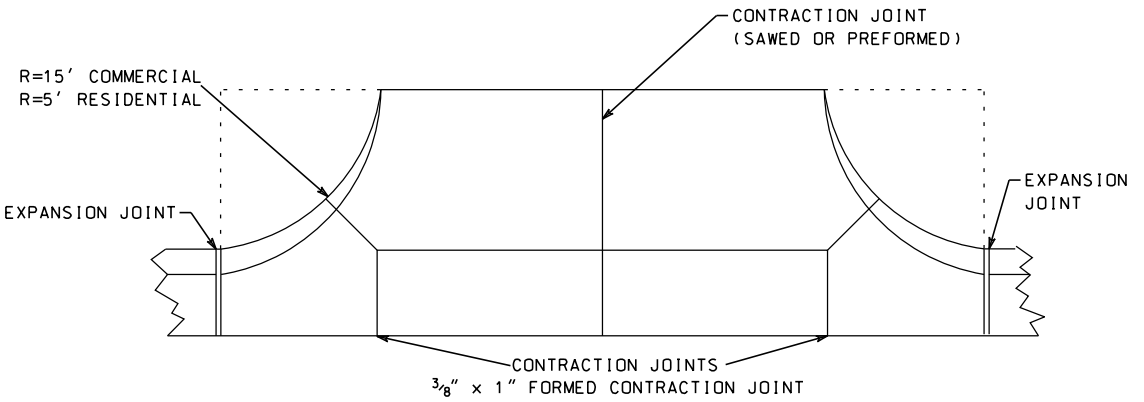
DEPRESSED MEDIAN CURB AT CROSSWALK  
NO SCALE



BEDDING METHOD FOR RCP AND DIP  
NO SCALE



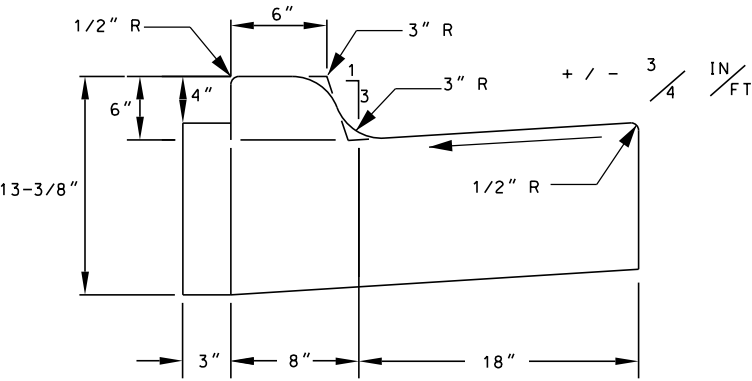
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED  
NO SCALE



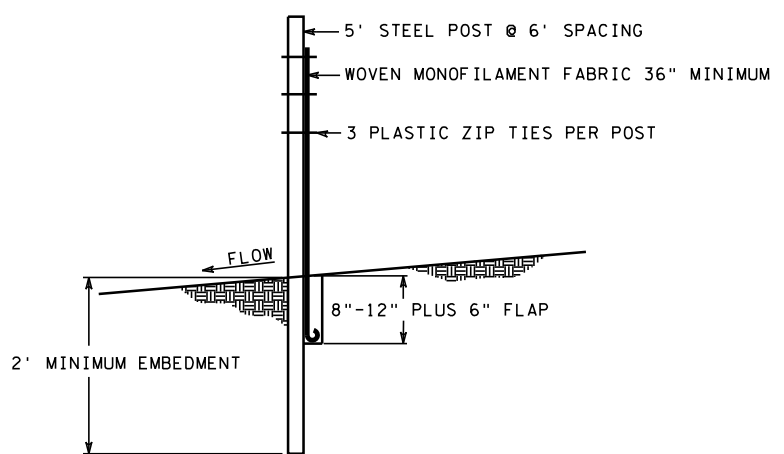
FORMS TO BE INSPECTED BEFORE POURING

- NOTE: COMMERCIAL DRIVEWAY ENTRANCE REQUIRED FOR APARTMENT UNITS OR MORE THAN 4 UNITS
- PAYMENT FOR DRIVEWAY PAVEMENT SHALL BE FROM BACK OF CURB TO TOP OF APRON. GUTTER SECTION WILL BE PAID FOR AS CURB AND GUTTER

STANDARD DRIVEWAY ENTRANCE  
(NO SCALE)



MEDIAN B618 MODIFIED CURB & GUTTER  
(NO VARIANCES ALLOWED)



- NOTES:**
- WOOD POSTS MAY BE USED. WOOD POST SPACING AT 4' MAXIMUM.
  - SILT FENCE MUST BE CLEANED OR REPLACED WHEN SILT DEPTH IS 1/3 HEIGHT OF FABRIC.

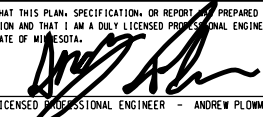
MACHINE SLICED SILT FENCE  
NO SCALE

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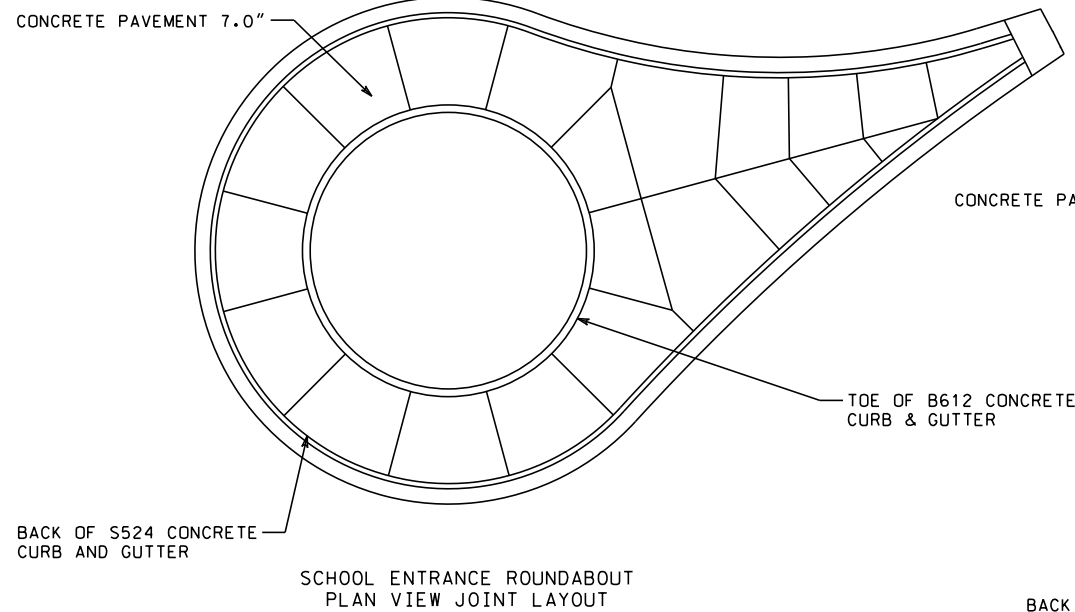
**CSAH 24 Improvements**  
Anoka County, Minnesota

**ANOKA COUNTY**

ANOKA COUNTY, MINNESOTA

MISCELLANEOUS DETAILS  
S.P. 002-624-026

SHEET  
26  
OF  
214  
SHEETS

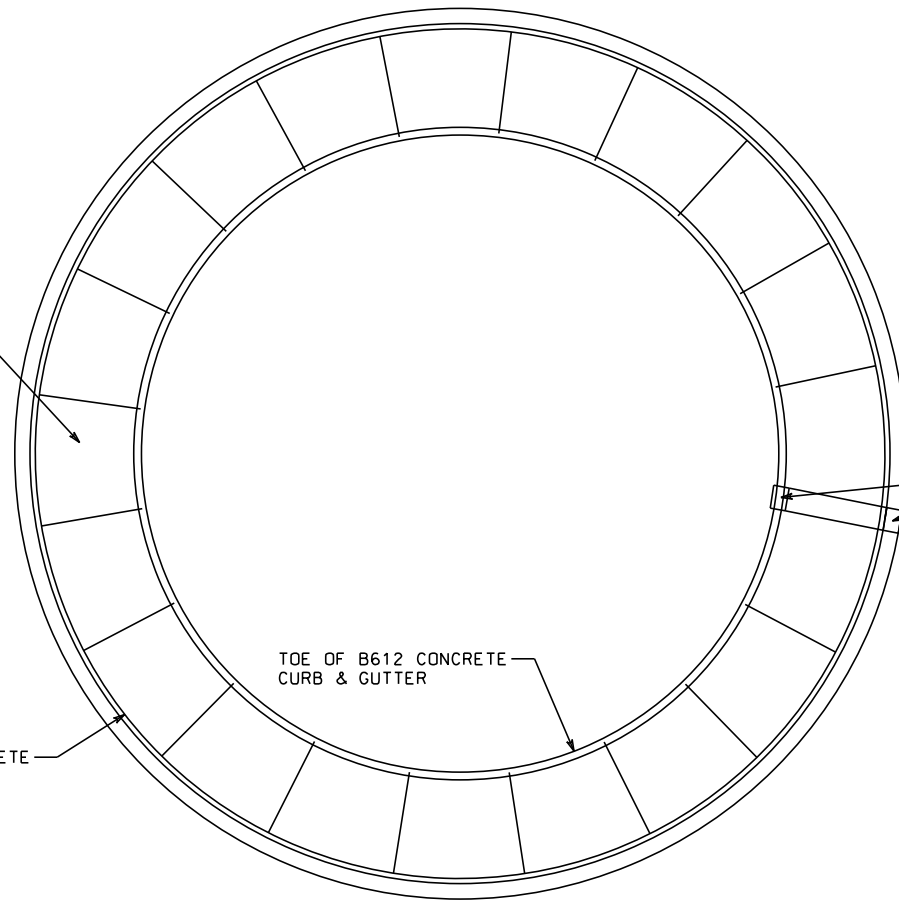


CONCRETE PAVEMENT 7.0"

TOE OF B612 CONCRETE CURB & GUTTER

BACK OF S524 CONCRETE CURB AND GUTTER

SCHOOL ENTRANCE ROUNDABOUT  
PLAN VIEW JOINT LAYOUT

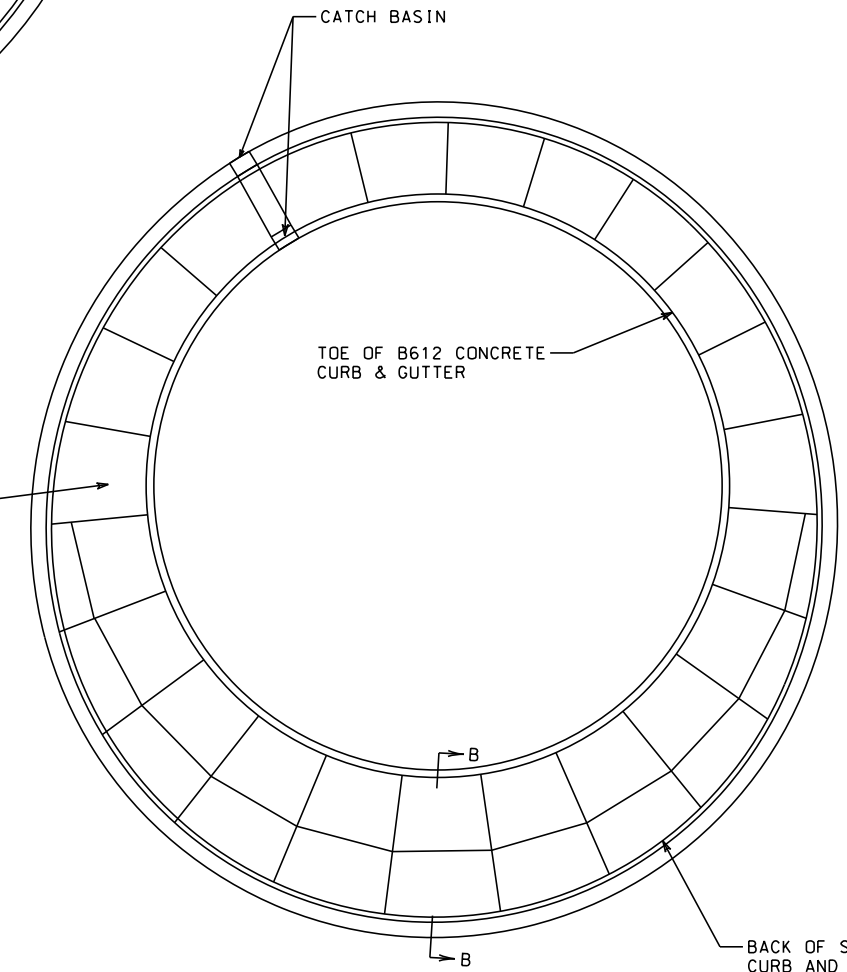


BACK OF S524 CONCRETE CURB AND GUTTER

TOE OF B612 CONCRETE CURB & GUTTER

CATCH BASIN

CSAH 24 & CSAH 9 ROUNDABOUT  
PLAN VIEW JOINT LAYOUT

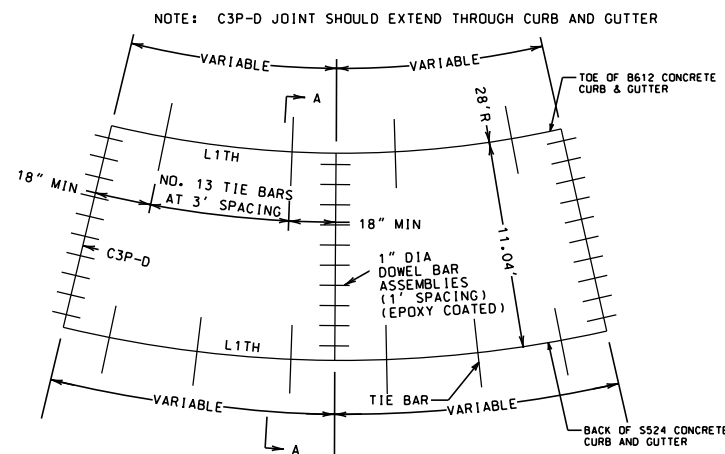


CATCH BASIN

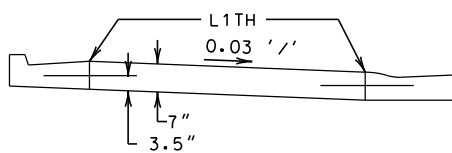
TOE OF B612 CONCRETE CURB & GUTTER

BACK OF S524 CONCRETE CURB AND GUTTER

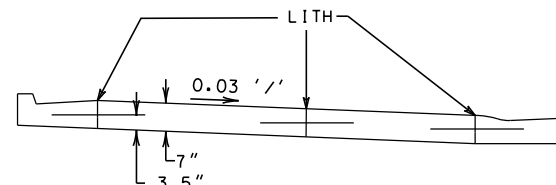
CSAH 24 & CR 72 ROUNDABOUT  
PLAN VIEW JOINT LAYOUT



NOTE: C3P-D JOINT SHOULD EXTEND THROUGH CURB AND GUTTER



SECTION A-A



SECTION B-B

GENERAL NOTES:

ALL REBARS ARE IN METRIC DESIGNATIONS  
SEE TYPICAL SECTIONS AND PLAN SHEETS FOR CURB AND GUTTER DETAILS.  
DOWEL BAR ASSEMBLIES SHALL BE SIMILAR TO THOSE SHOWN ON STANDARD PLATE 1103.  
ALL REINFORCING BARS SHALL BE EPOXY COATED IN ACCORDANCE WITH SPEC. 3301 AND SHALL MEET THE REQUIREMENTS OF GRADE 60 FOR AASHTO M-31 OR M-53.  
TIE BARS:  
USE NO. 13 BARS 2' LONG AT 3' SPACING.

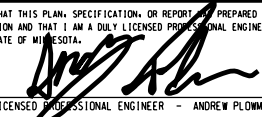
CONCRETE TRUCK APRON PAVEMENT  
NO SCALE

Date Printed: 6/30/2015  
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Anoka County, Minnesota

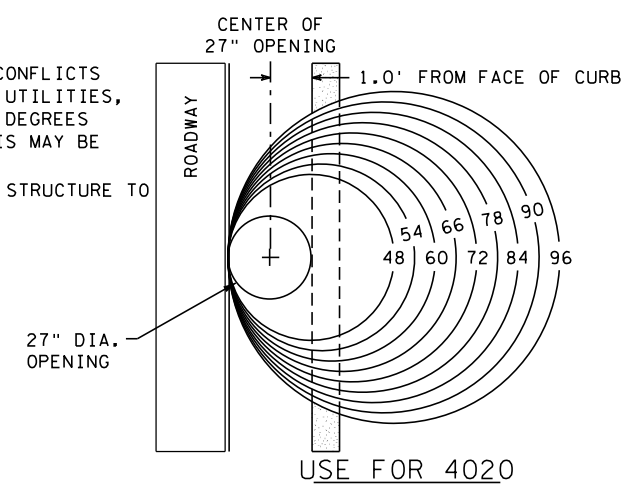
ANOKA COUNTY, MINNESOTA  
**MISCELLANEOUS DETAILS**  
S.P. 002-624-026

SHEET  
27  
OF  
214  
SHEETS

TABLE A

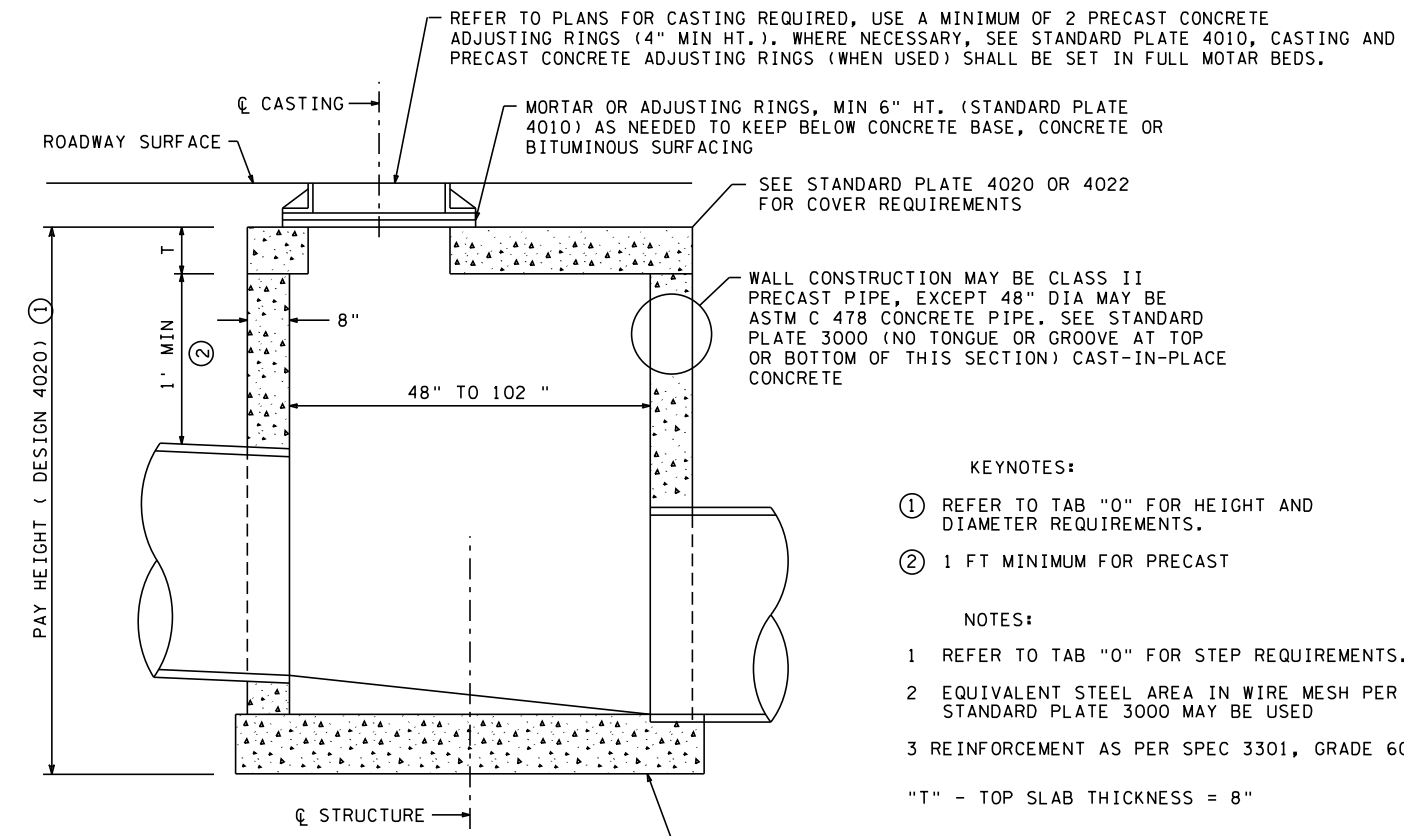
4020 DIAMETER	*OFFSET FEET
48"	0.79
54"	1.08
60"	1.29
66"	1.58
72"	1.79
78"	2.08
84"	2.29
90"	2.58
96"	2.88
102"	3.17
108"	3.29
120"	3.79

WHERE THE 4020 DIAMETER CONFLICTS WITH OTHER STRUCTURES OR UTILITIES, ROTATE THE STRUCTURE 180 DEGREES TO PROVIDE CLEARANCE. THIS MAY BE ADJUSTED IN THE FIELD.  
 \* OFFSET IS FROM CENTER OF STRUCTURE TO CENTER OF OPENING.



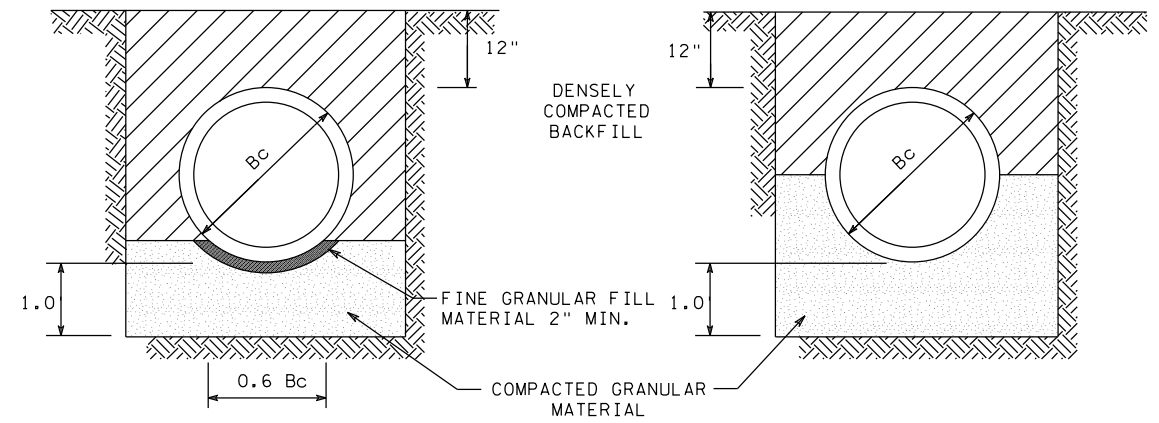
- THE FOLLOWING PLACEMENT LOCATIONS SHALL BE USED WITH CONCRETE CURB AND GUTTER.
1. THE CENTER OF GRATE STATION AND OFFSET LOCATION IS GIVEN IN THE DRAINAGE TABULATION
  2. THE OFFSET FROM THE CENTER OF STRUCTURE TO THE CENTER OF GRATE IS GIVEN IN TABLE "A" TO THE LEFT FOR 4020 STRUCTURES. OFFSET FOR 4005 STRUCTURES IS 0.9 FT.
  3. THE CENTER OF OPENING IS 1.0' TOWARD THE ROADWAY FROM THE FACE OF CURB.
  4. THE STRUCTURES THAT HAVE STEPS SHALL BE LOCATED ON THE ROADSIDE OF THE 27" OPENING AND MUST BE EASILY ACCESSIBLE. THE STEP LOCATION MAY NEED TO BE ADJUSTED IF THERE IS A LARGE PIPE DIRECTLY BELOW THE OPENING.

**STRUCTURE LOCATION**  
NO SCALE



8" POURED CONCRETE BASE, FOR ALTERNATE PRECAST CONCRETE BASE. SEE STANDARD PLATE 4011 (MODIFY DIAMETER AND 2 INCH RAISED AREA TO FIT REQUIRED DIAMETER.)

**VIEW OF INSTALLATION DRAINAGE STRUCTURE DESIGN 4020**  
NO SCALE



SHAPED SUBGRADE WITH GRANULAR FOUNDATION (FOR GRANULAR SOILS)

**CLASS B**  
B<sub>f</sub> = 1.9

GRANULAR FOUNDATION FOR COHESIVE SOILS

**LEGEND**

- B<sub>c</sub> = OUTSIDE DIAMETER
- H = BACKFILL COVER ABOVE TOP OF PIPE
- D = INSIDE DIAMETER
- d = DEPTH OF BEDDING MATERIAL BELOW PIPE

**NOTES:**

- FOR CLASS B BEDDINGS, SUBGRADES SHOULD BE EXCAVATED OR OVER EXCAVATED, IF NECESSARY, SO A UNIFORM FOUNDATION FREE OF PROTRUDING ROCKS MAY BE PROVIDED.
- PIPE BEDDING FOR PIPE LAYED IN TRENCHES WHERE UNSUITABLE SOILS ARE ENCOUNTERED IS INCIDENTAL.
- A MINIMUM OF ONE FOOT OF GRANULAR FOUNDATION SHALL BE PLACED BELOW BOTTOM OF PIPE, SEE SPECIFICATION.

**TRENCH BEDDING CLASS B**  
NO SCALE

- KEYNOTES:**
- ① REFER TO TAB "O" FOR HEIGHT AND DIAMETER REQUIREMENTS.
  - ② 1 FT MINIMUM FOR PRECAST
- NOTES:**
- 1 REFER TO TAB "O" FOR STEP REQUIREMENTS.
  - 2 EQUIVALENT STEEL AREA IN WIRE MESH PER STANDARD PLATE 3000 MAY BE USED
  - 3 REINFORCEMENT AS PER SPEC 3301, GRADE 60
- "T" - TOP SLAB THICKNESS = 8"

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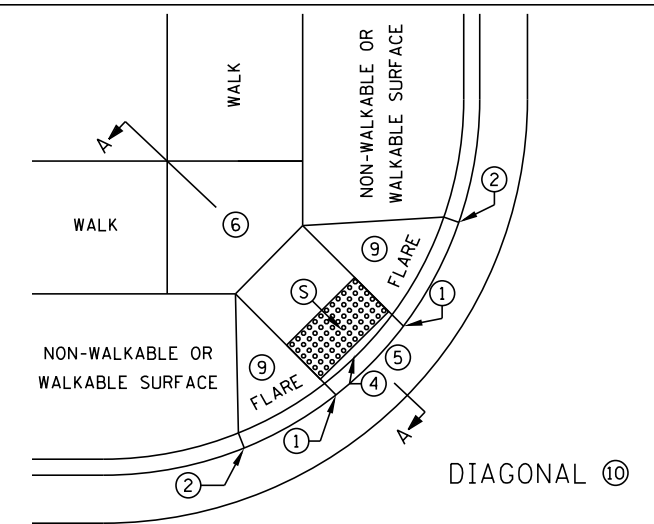
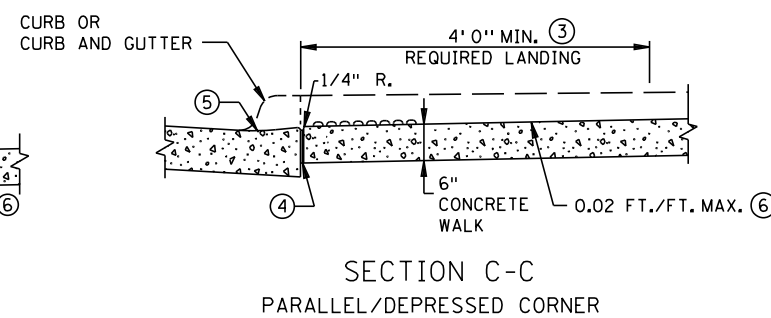
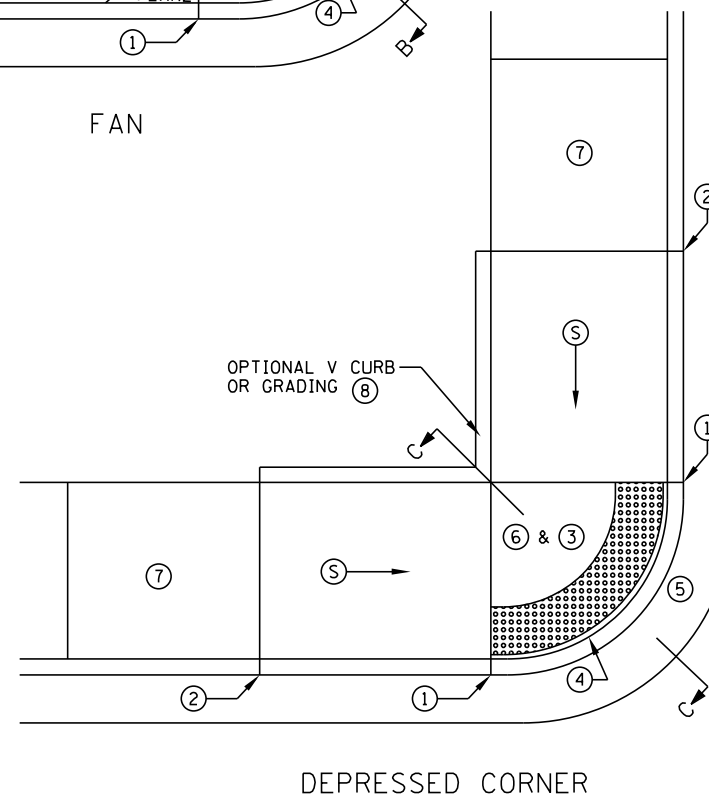
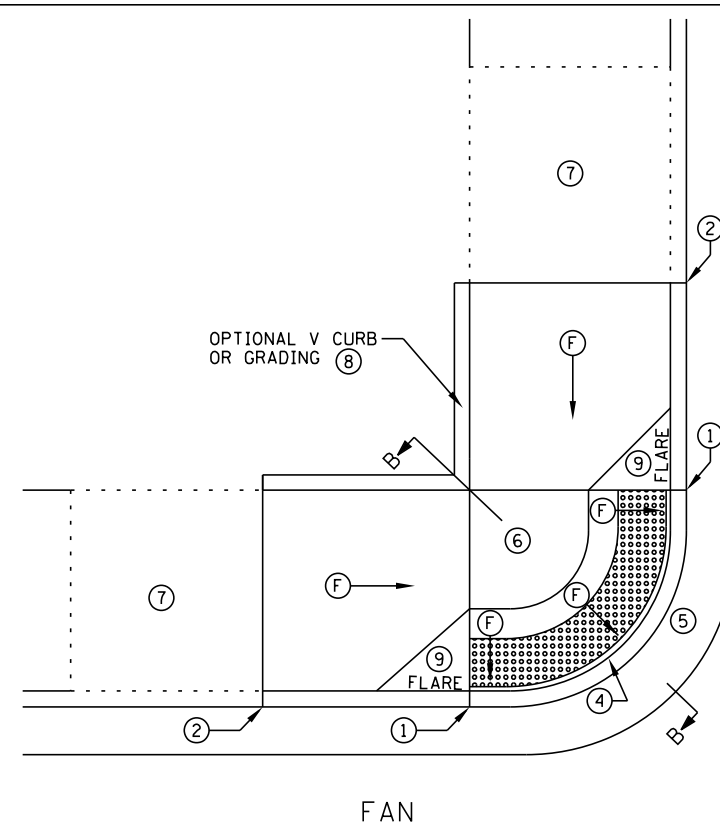
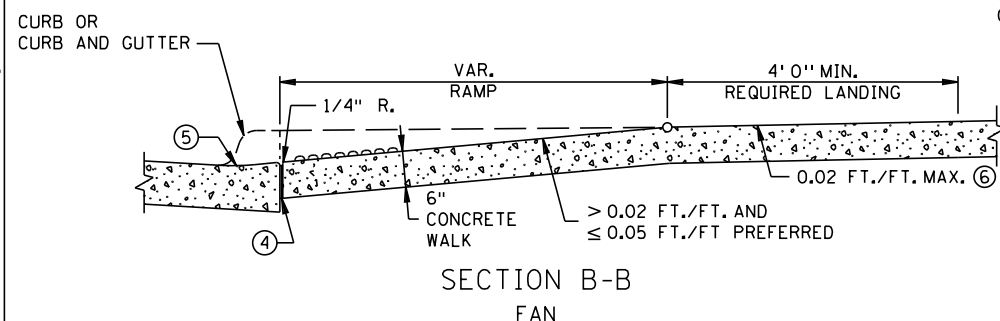
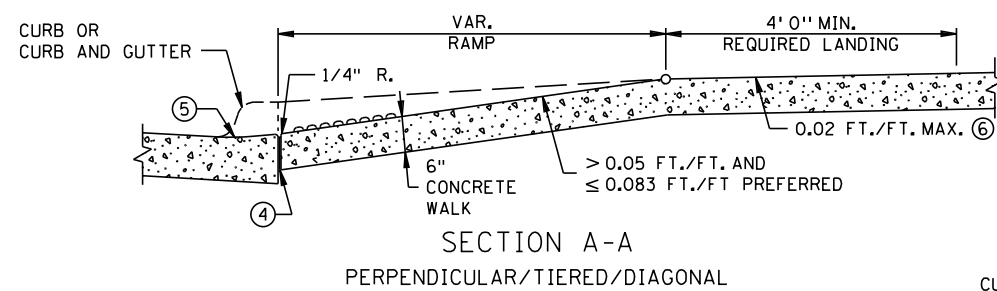
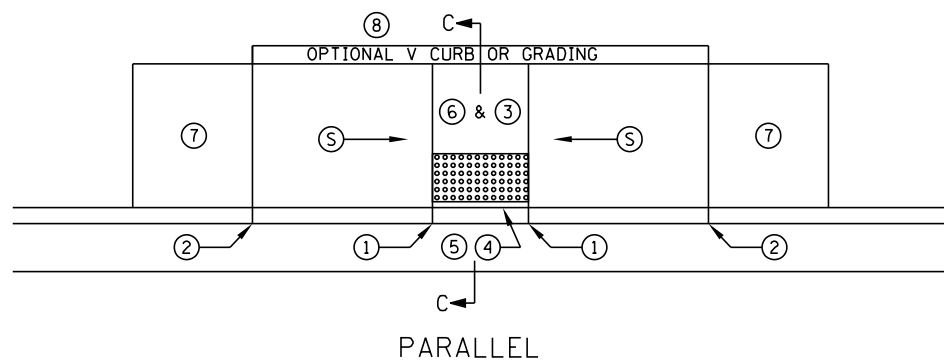
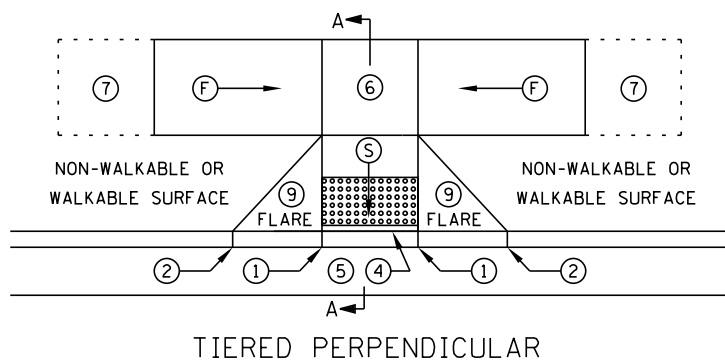
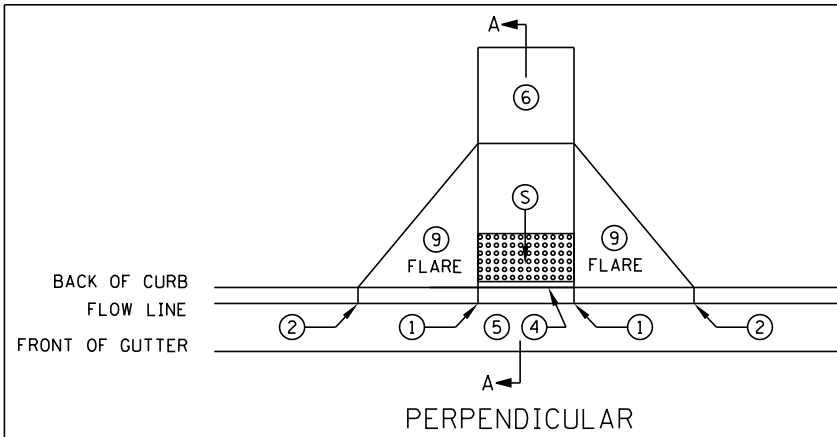
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 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**MISCELLANEOUS DETAILS**  
 S.P. 002-624-026

SHEET  
**28**  
 OF  
**214**  
 SHEETS



NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL.

TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS MAY BE CAST SEPARATELY, FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 5 WHEN LANDINGS ARE CAST SEPARATELY.

ALL SLOPES ARE ABSOLUTE, RATHER THAN RELATIVE TO SIDEWALK/ROADWAY GRADES.

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MINIMUM OF 24" IN THE PATH OF TRAVEL. SHARED USE PATHS SHALL HAVE DETECTABLE WARNING ACROSS THE ENTIRE WIDTH OF PATH WHEN THE PATH CROSSES A ROAD.

SEE STANDARD PLATE 7038 AND SHEET 4 OF 5 FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.

- ① 0" CURB HEIGHT.
- ② FULL CURB HEIGHT.
- ③ DETECTABLE WARNINGS MAY BE PART OF 4' X 4' LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.
- ④ 1/2" PREFORMED JOINT FILLER MATERIAL AASHTO M 213. JOINT FILLER SHALL BE PLACED FLUSH WITH THE BACK OF CURB AND ADJACENT SIDEWALK. JOINT SHALL BE FREE OF DEBRIS. RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.
- ⑤ SEE PEDESTRIAN ACCESS ROUTE CURB AND GUTTER DETAIL FOR INFORMATION ON CONSTRUCTING CURB AND GUTTER AT CURB OPENINGS. SEE SHEET NO. 3 OF 5.
- ⑥ 4' BY 4' MIN. LANDING WITH MAX. 2.0% SLOPE IN ALL DIRECTIONS.
- ⑦ IF LONGITUDINAL SLOPE IS GREATER THAN 5.0%, 4' X 4' MIN. LANDING WITH MAX 2.0% SLOPE IN ALL DIRECTIONS REQUIRED.
- ⑧ V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. SEE SHEET 5 OF 5.
- ⑨ SEE SHEET 4 OF 5, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS.
- ⑩ DIAGONAL RAMPS SHOULD ONLY BE USED AFTER ALL OTHER CURB RAMP TYPES HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.

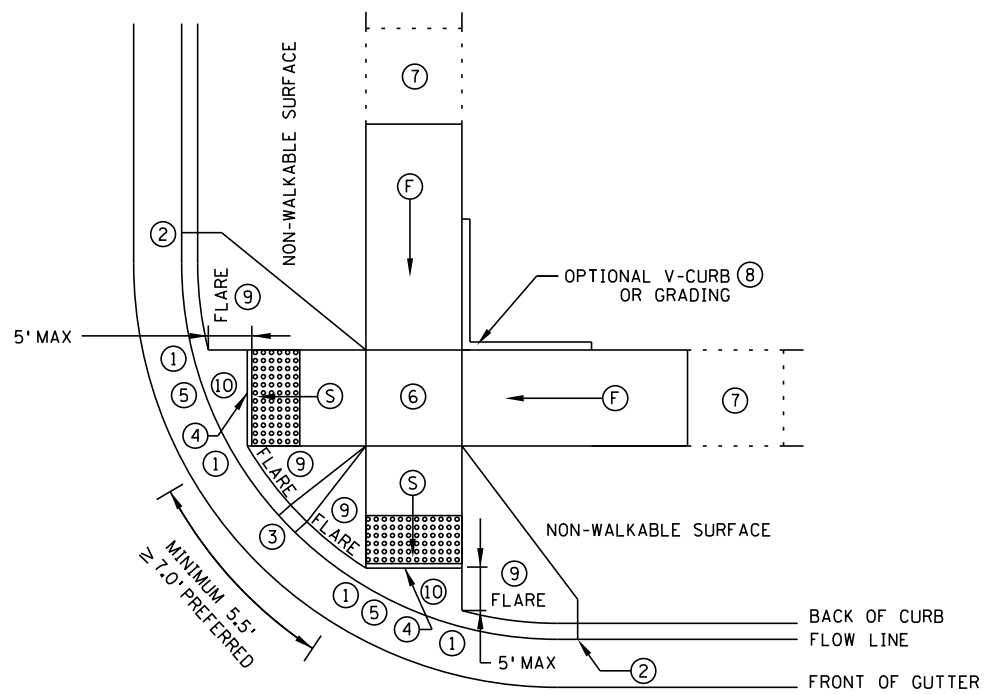
LEGEND	
THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.	
S	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%
F	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%

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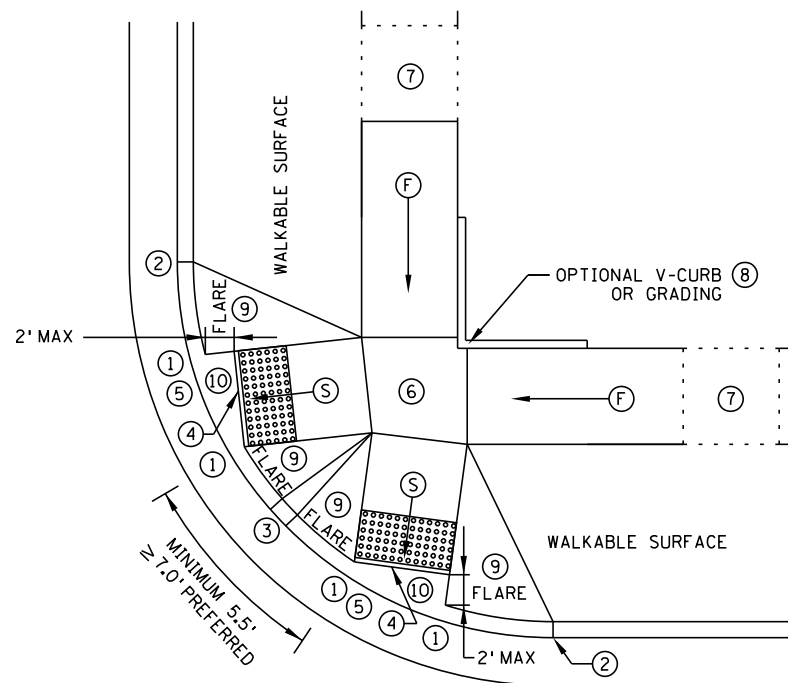
REVISION:  
APPROVED: 8-6-2014  
*Michael J. Anderson*  
OPERATIONS ENGINEER

MINNESOTA  
DEPARTMENT OF TRANSPORTATION  
REVISOR:  
*Christopher Ky*  
STATE DESIGN ENGINEER  
APPROVED:  
8-6-2014

PEDESTRIAN CURB RAMP DETAILS  
STANDARD PLAN 5-297.250 (SHEET 1 OF 5)  
S.P. 002-624-026  
SHEET NO. 29 OF 214

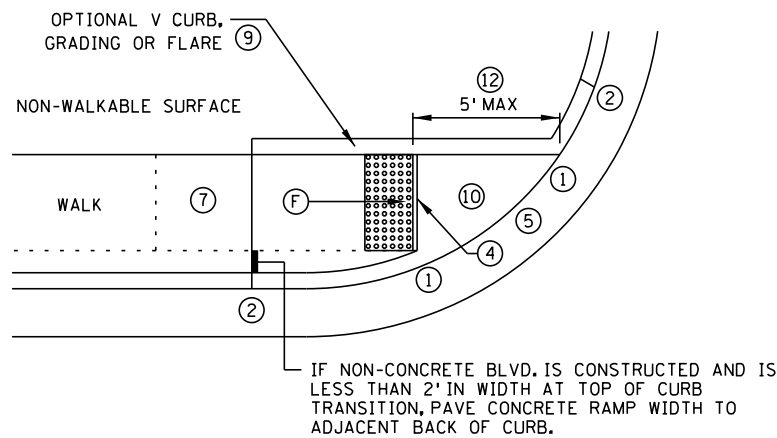


ADJACENT TO NON-WALKABLE SURFACE



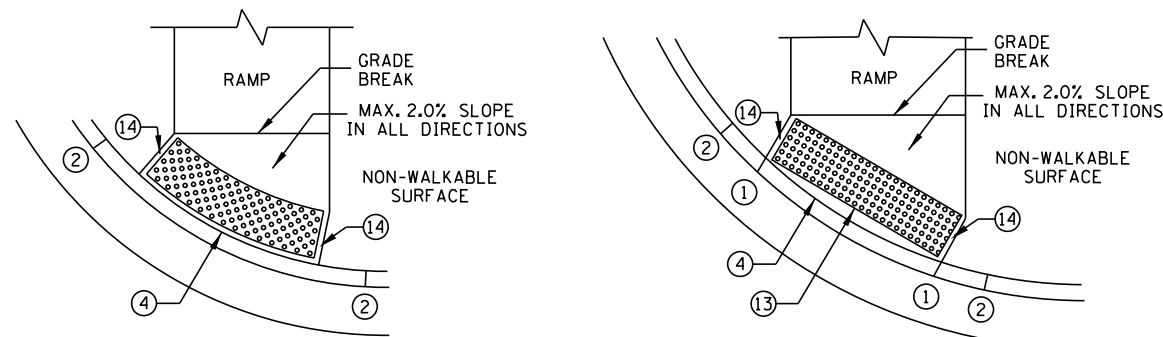
ADJACENT TO WALKABLE SURFACE

COMBINED DIRECTIONAL ⑮

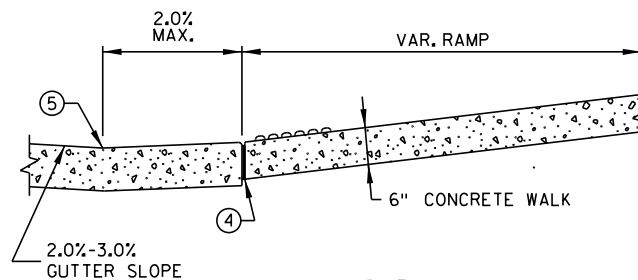
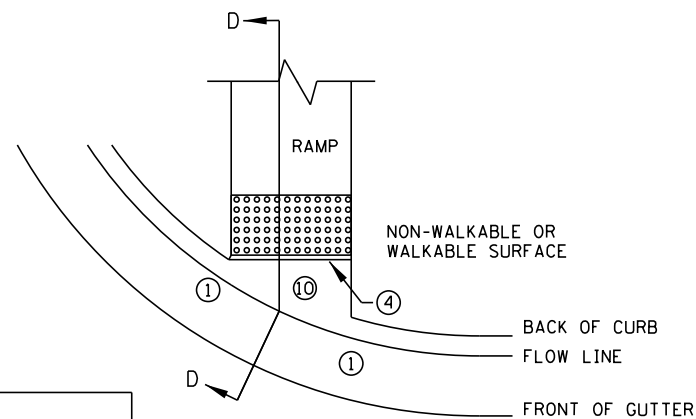


ONE-WAY DIRECTIONAL

IF NON-CONCRETE BLVD. IS CONSTRUCTED AND IS LESS THAN 2' IN WIDTH AT TOP OF CURB TRANSITION, PAVE CONCRETE RAMP WIDTH TO ADJACENT BACK OF CURB.



DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED



SECTION D-D

NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL.

TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS MAY BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 5 WHEN LANDINGS ARE CAST SEPARATELY.

ALL SLOPES ARE ABSOLUTE, RATHER THAN RELATIVE TO SIDEWALK/ROADWAY GRADES.

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MINIMUM OF 24" IN THE PATH OF TRAVEL. SHARED USE PATHS SHALL HAVE DETECTABLE WARNING ACROSS THE ENTIRE WIDTH OF PATH WHEN THE PATH CROSSES A ROAD.

SEE STANDARD PLATE 7038 AND SHEET 4 OF 5 FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.

- ① 0" CURB HEIGHT.
- ② FULL CURB HEIGHT.
- ③ 3" MINIMUM CURB HEIGHT, 4" PREFERRED.
- ④ 1/2" PREFORMED JOINT FILLER MATERIAL AASHTO M 213. JOINT FILLER SHALL BE PLACED FLUSH WITH THE BACK OF CURB AND ADJACENT SIDEWALK. JOINT SHALL BE FREE OF DEBRIS. RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MIN. TO 6" MAX. FROM THE BACK OF CURB.
- ⑤ SEE PEDESTRIAN ACCESS ROUTE CURB AND GUTTER DETAIL FOR INFORMATION ON CONSTRUCTING CURB AND GUTTER AT CURB OPENINGS. SEE SHEET NO. 3 OF 5.
- ⑥ 4' BY 4' MIN. LANDING WITH MAX. 2.0% SLOPE IN ALL DIRECTIONS.
- ⑦ IF LONGITUDINAL SLOPE IS GREATER THAN 5.0%, 4' X 4' MIN. LANDING WITH MAX 2.0% SLOPE IN ALL DIRECTIONS REQUIRED.
- ⑧ V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.
- ⑨ SEE SHEET 4 OF 5, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS.
- ⑩ MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.
- ⑪ TO BE USED FOR ALL DIRECTIONAL RAMPS.
- ⑫ PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.
- ⑬ RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.
- ⑭ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
- ⑮ FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. WHETHER A SURFACE IS WALKABLE OR NOT SHALL BE DETERMINED BY THE ENGINEER

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

- ⑤ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%
- ⑥ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%

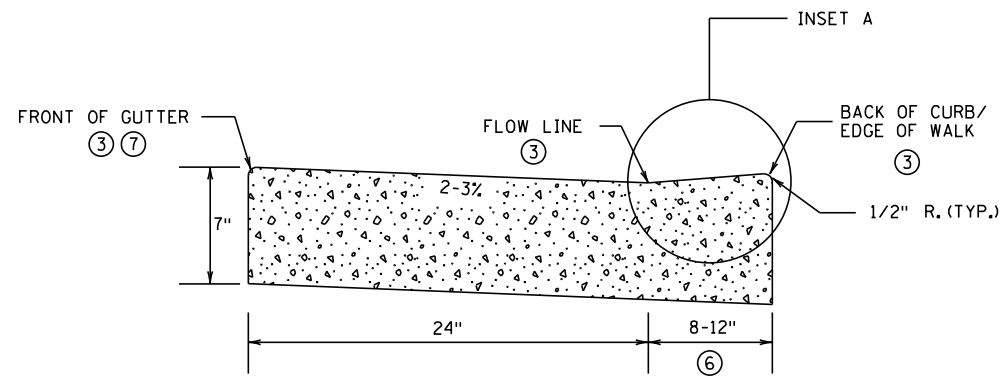
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APPROVED: 8-6-2014  
*Michael J. Anderson*  
OPERATIONS ENGINEER

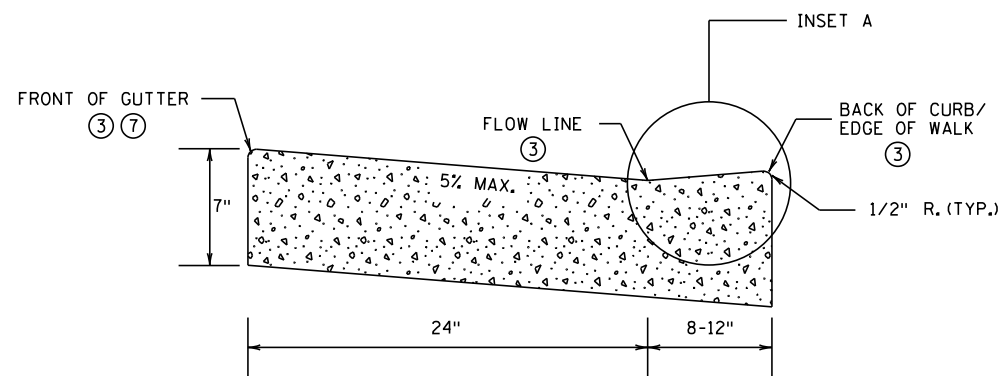
CURB FOR DIRECTIONAL RAMPS ⑪

MINNESOTA DEPARTMENT OF TRANSPORTATION  
REVISOR:  
*Christopher Ky*  
STATE DESIGN ENGINEER  
APPROVED:  
8-6-2014

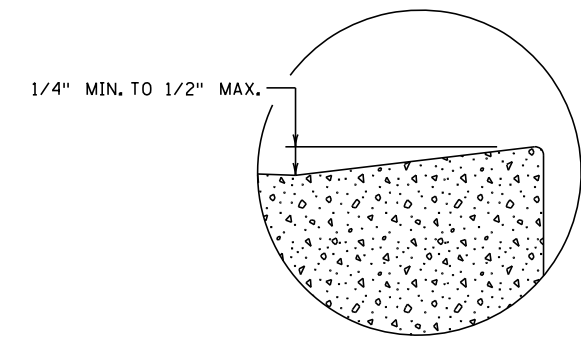
PEDESTRIAN CURB RAMP DETAILS  
STANDARD PLAN 5-297.250 (SHEET 2 OF 5)  
S.P. 002-624-026  
SHEET NO. 30 OF 214



NON PERPENDICULAR ①

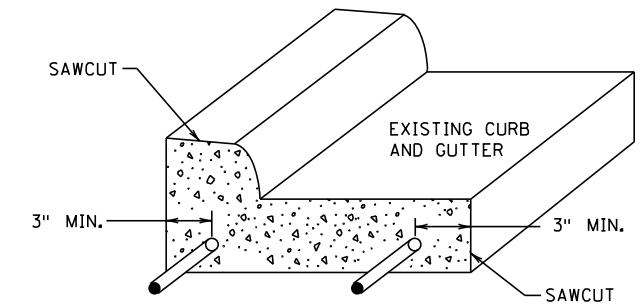
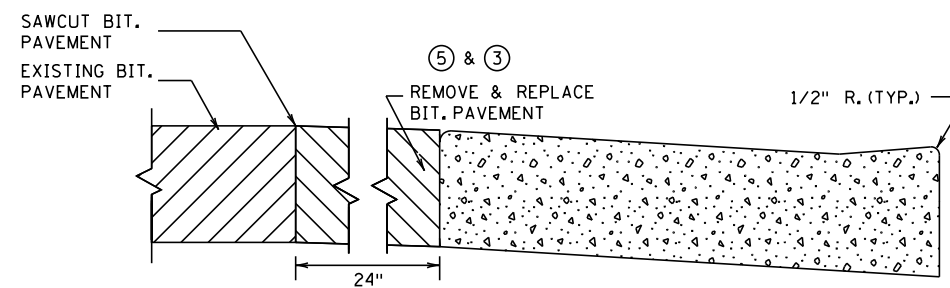
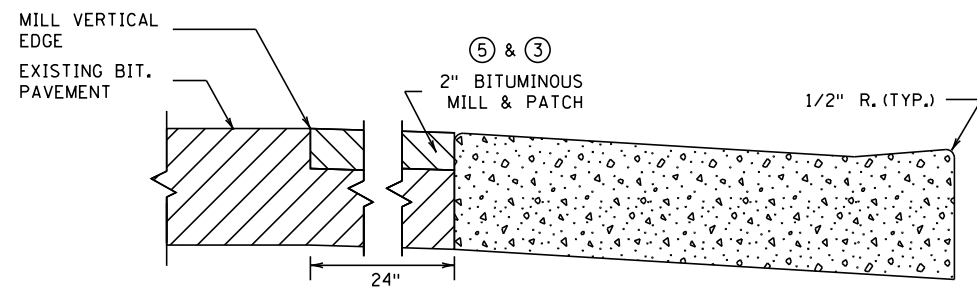


PERPENDICULAR ②

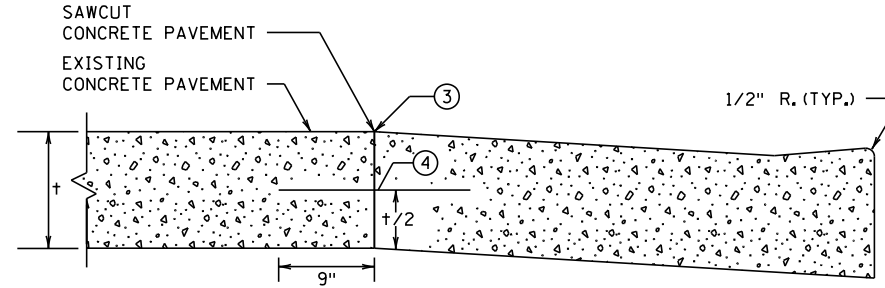
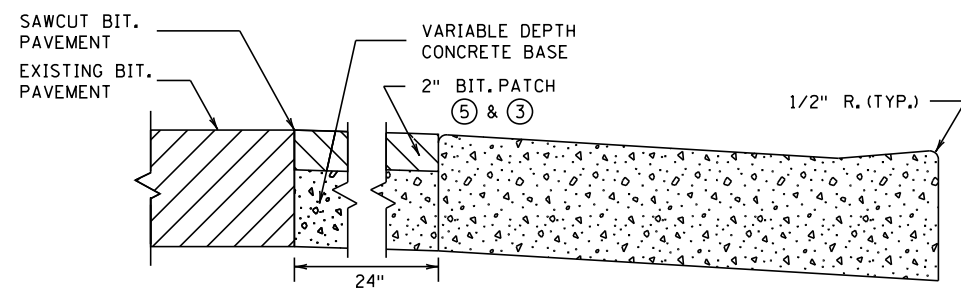


INSET A

PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL



CURB AND GUTTER REINFORCEMENT ⑧  
FOR USE ON CURB RAMP RETROFITS



PAVEMENT TREATMENT OPTIONS IN FRONT OF CURB & GUTTER FOR USE ON CURB RAMP RETROFITS

NOTES:

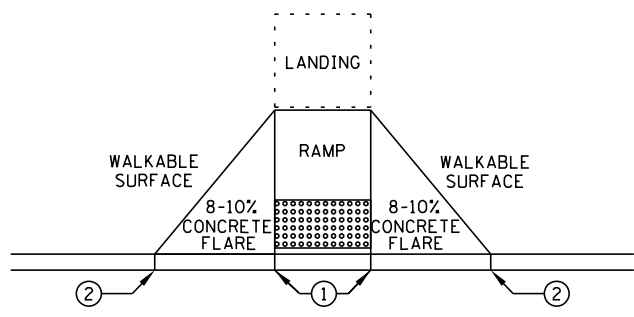
- POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM.
- NO PONDING SHALL BE PRESENT IN THE PAR.
- ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.
- ① FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS, DEPRESSED CORNERS, & ONE WAY AND COMBINED DIRECTIONALS.
- ② FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMPS.
- ③ THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4\".
- ④ DRILL AND GROUT NO. 4 EPOXY-COATED 18\" LONG TIE BARS AT 30\" CENTER TO CENTER INTO EXISTING CONCRETE PAVEMENT.
- ⑤ ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.
- ⑥ VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS.
- ⑦ TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. PAR GUTTER SHALL NOT BE OVERLAID.
- ⑧ WHERE PLAN SPECIFIES, DRILL AND GROUT 2 - NO. 4 X 12\" LONG REINFORCEMENT BARS (EPOXY COATED).

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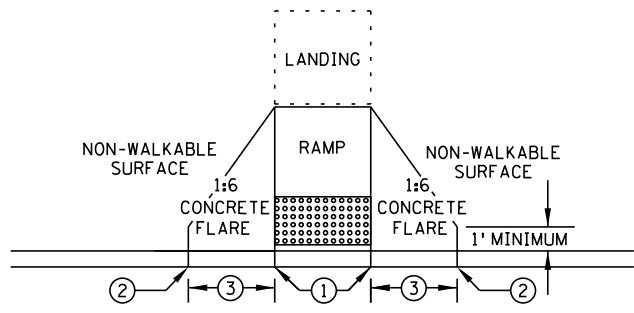
REVISION:  
APPROVED: 8-6-2014  
*Michael J. ...*  
OPERATIONS ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION  
REVISOR:  
*Christopher Ky*  
STATE DESIGN ENGINEER  
APPROVED:  
8-6-2014

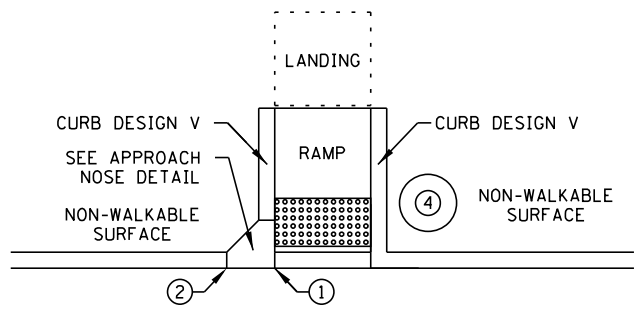
PEDESTRIAN CURB RAMP DETAILS  
STANDARD PLAN 5-297.250 (SHEET 3 OF 5)  
S.P. 002-624-026 SHEET NO. 31 OF 214



PAVED FLARES  
ADJACENT TO WALKABLE SURFACE

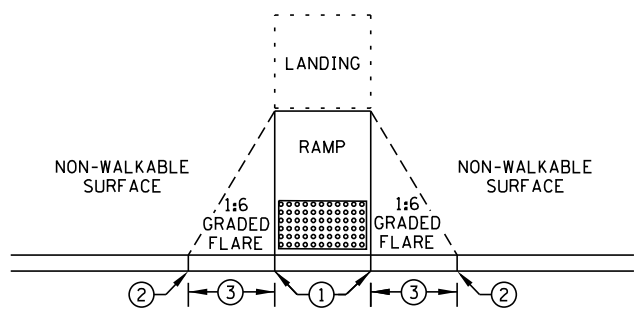


PAVED FLARES  
ADJACENT TO NON-WALKABLE SURFACE



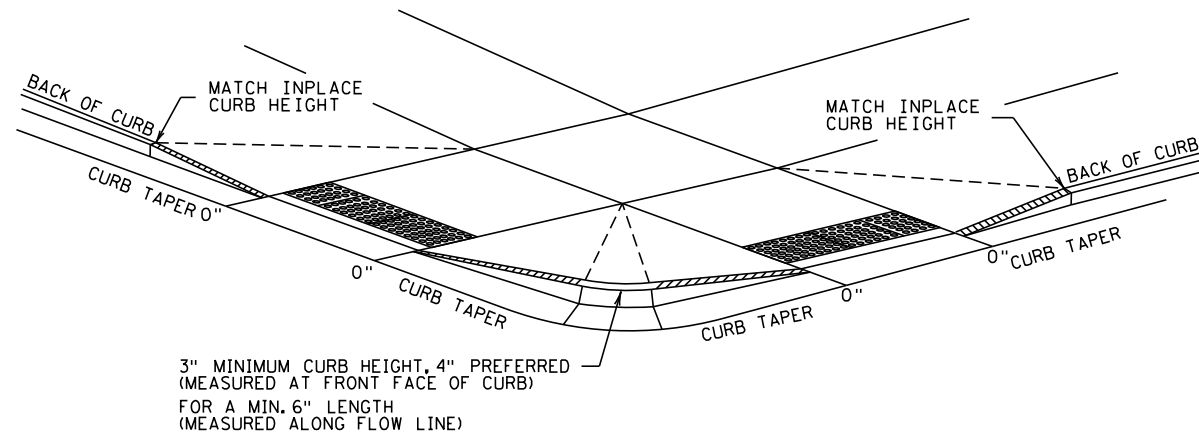
DIRECTION OF TRAFFIC

RETURNED CURB

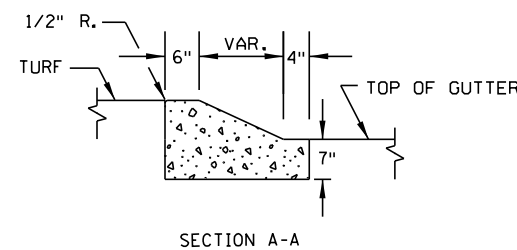
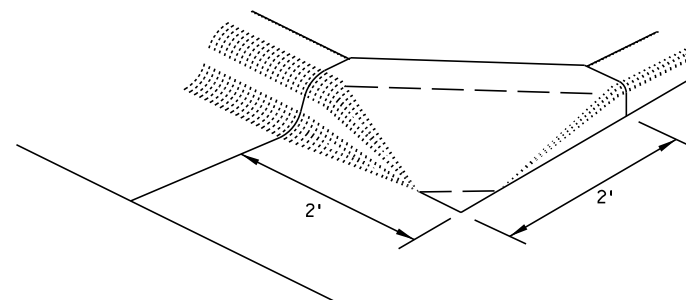


GRADED FLARES

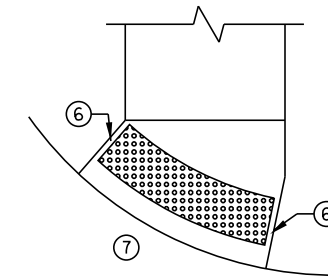
TYPICAL SIDE TREATMENT OPTIONS ⑤



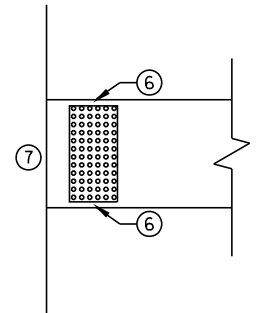
DETECTABLE EDGE WITH  
CURB AND GUTTER ⑧



APPROACH NOSE DETAIL  
FOR DOWNSTREAM SIDE OF TRAFFIC



RADIAL DETECTABLE WARNING



RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER

NOTES:

SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING. WHETHER A SURFACE IS WALKABLE OR NOT SHALL BE DETERMINED BY THE ENGINEER. CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8' LONG MEASURED ALONG THE RAMPS FROM THE BACK OF CURB.

- ① 0" CURB HEIGHT.
- ② FULL CURB HEIGHT.
- ③ 2' - 3' FLARE.
- ④ IMMOVABLE OBJECT OR OBSTRUCTION.
- ⑤ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED ON ALL RAMPS AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.
- ⑥ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
- ⑦ IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF ROADWAY TO PROVIDE VISUAL CONTRAST.
- ⑧ ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE DETECTABLE WARNINGS AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.

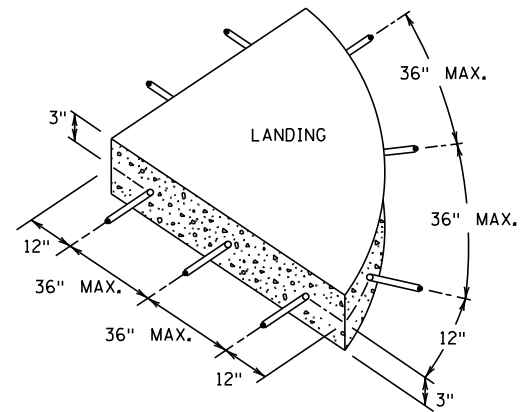
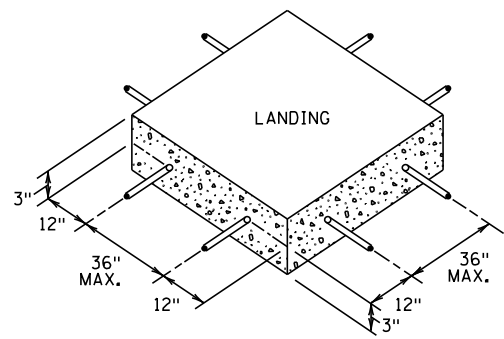
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REVISION:  
APPROVED: 8-6-2014  
*Michael J. Anderson*  
OPERATIONS ENGINEER

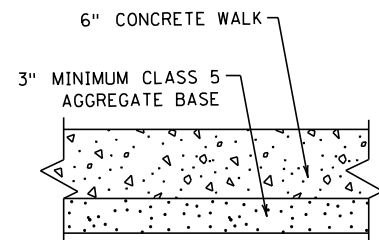
MINNESOTA  
DEPARTMENT OF TRANSPORTATION  
REVISOR:  
*Christopher Ky*  
STATE DESIGN ENGINEER  
APPROVED:  
8-6-2014

PEDESTRIAN CURB RAMP DETAILS  
STANDARD PLAN 5-297.250 (SHEET 4 OF 5)  
S.P. 002-624-026  
SHEET NO. 32 OF 214

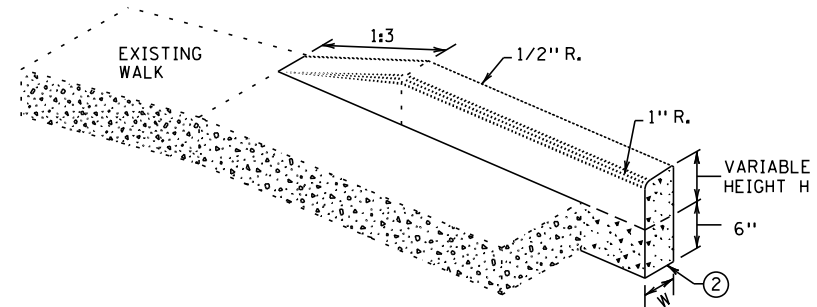




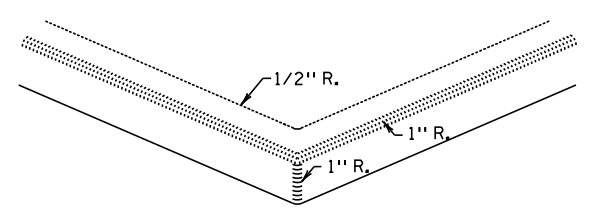
SIDEWALK REINFORCEMENT ⑥ ⑦



TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER

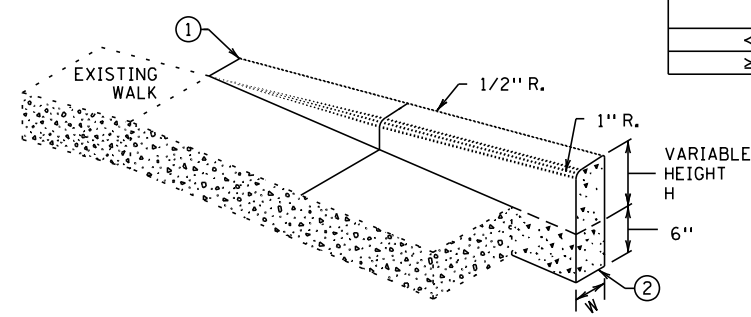


V CURB ADJACENT TO LANDSCAPE CURB WITHIN SIDEWALK LIMITS

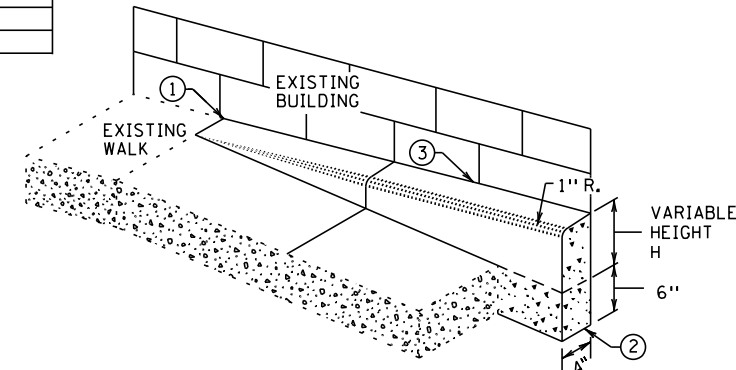


V CURB INTERSECTION

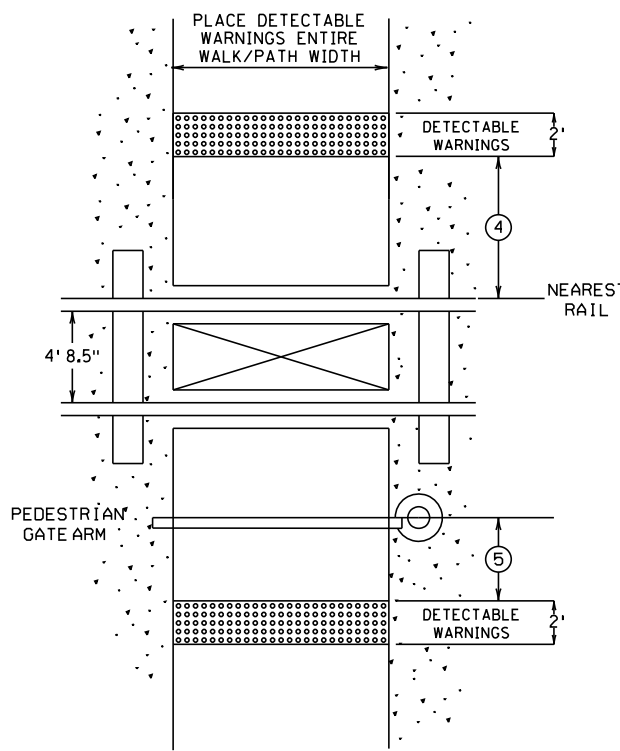
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"



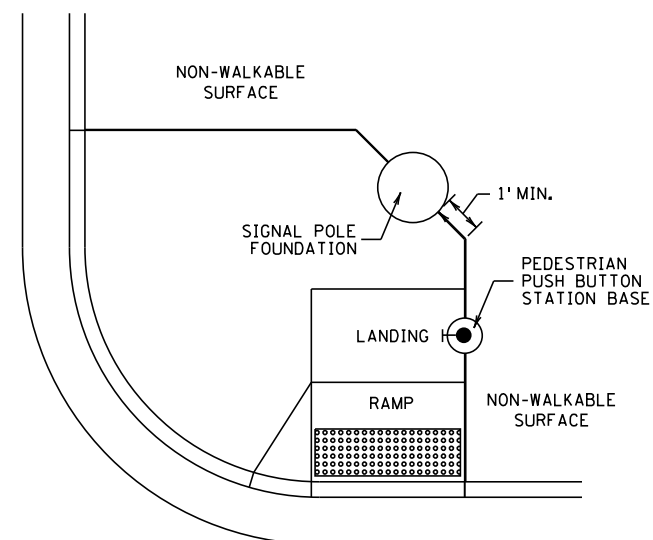
V CURB ADJACENT TO LANDSCAPE CURB OUTSIDE SIDEWALK LIMITS



V CURB ADJACENT TO BUILDING OR BARRIER



RAILROAD CROSSING PLAN VIEW



CONCRETE WALK EDGES ADJACENT TO CONCRETE STRUCTURES

NOTES:

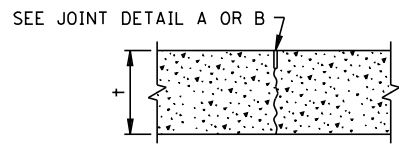
- ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS. WHERE RIGHT-OF-WAY ALLOWS, USE OF V CURB SHOULD BE MINIMIZED. GRADING ADJACENT TURF OR SLOPING PAVEMENT IS PREFERRED.
- V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. V CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL MATCH PREVIOUS TOP OF SIDEWALK ELEVATIONS.
- ① END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.
- ② ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.
- ③ EDGE BETWEEN NEW V CURB AND INPLACE STRUCTURE SHALL BE SEALED AND BOND BREAKER SHALL BE USED BETWEEN EXISTING STRUCTURE AND PLACED V-CURB.
- ④ NEAREST EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 12' MINIMUM TO 15' MAXIMUM FROM THE NEAREST RAIL. FOR SKEWED RAILWAYS IN NO INSTANCE SHALL THE DETECTABLE WARNING BE CLOSER THAN 12' MEASURED PERPENDICULAR TO THE NEAREST RAIL.
- ⑤ WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2' FROM THE APPROACHING SIDE OF THE GATE ARM.
- ⑥ WHEN PLAN SPECIFIES, DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS AT 36" MAX. CENTER TO CENTER (EPOXY COATED).
- ⑦ TO ENSURE RAMP AND LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS MAY BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET WHEN LANDINGS ARE CAST SEPARATELY.

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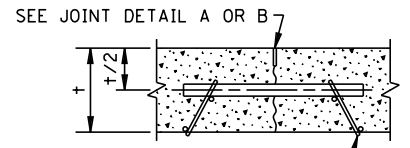
REVISION:  
APPROVED: 2-9-2015  
*Ann Sob...*  
OPERATIONS ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION  
REVISOR:  
*Christopher Ky*  
STATE DESIGN ENGINEER  
APPROVED:  
2-9-2015

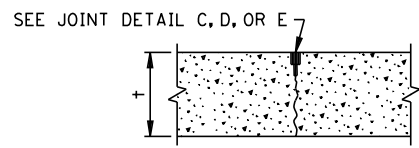
PEDESTRIAN CURB RAMP DETAILS  
STANDARD PLAN 5-297.250 (SHEET 5 OF 5)  
S.P. 002-624-026  
SHEET NO. 33 OF 214



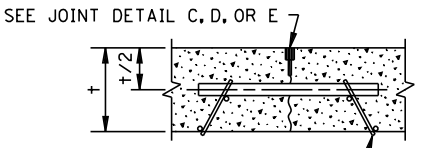
C1U & C2H



C1U-D & C2H-D



C3P, C4S, C5H



C3P-D, C4S-D, C5H-D

CONTRACTION JOINT REFERENCE, DETAIL & SEALER SPEC. TABLE

JOINT REFERENCE		JOINT DETAIL	JOINT SEALER SPEC.	JOINT WIDTH
WITHOUT DOWELS	WITH DOWELS			
C1U	C1U-D	A	UNSEALED	1/8"
C2H	C2H-D	B	3725	1/8"
C3P	C3P-D	C	3721	3/8"
C4S	C4S-D	D	3722	3/8"
C5H	C5H-D	E	3725	3/8"

LEGEND  
 C = CONTRACTION JOINT  
 U = UNSEALED  
 H = HOT Poured  
 P = PREFORMED  
 S = SILICONE  
 -D = DOWEL BARS

EXAMPLE  
 C2H-D

DOWEL BAR DIAMETER TABLE

PAVEMENT THICKNESS †	DOWEL BAR DIAMETER
LESS THAN 6"	NONE
6" - 6 1/2"	1" OR NONE
7" - 7 1/2"	1"
8" - 10"	1 1/4"
10 1/2" AND GREATER	1 1/2"

NOTES:

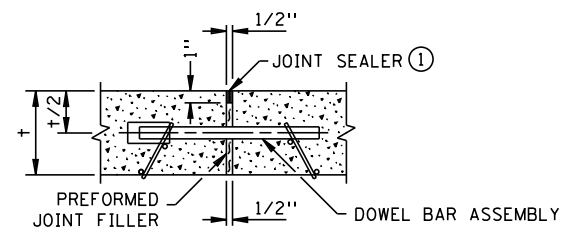
- SEE STANDARD PLATE 1103 FOR DOWEL BAR ASSEMBLY. SEE STANDARD PLATE 1150 FOR CONSTRUCTION OF HEADER JOINTS.
- JOINT WIDTH TOLERANCE IS + 1/16" TO - 1/32"
- FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- SEE STANDARD PLANS 5-297.217 AND 5-297.219, FOR CONCRETE MAINLINE/RAMP PAVEMENT.
- SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATION TO BE USED AND SPECIAL REINFORCEMENT REQUIRED.
- ① JOINT DEPTH SHALL BE:  
 FOR CONCRETE OVERLAYS - 1/3 THE PAVEMENT THICKNESS  
 FOR CONCRETE PAVEMENT - 1/4 THE PAVEMENT THICKNESS
- ② SEE CONTRACTION JOINT SEALER DETAIL. WHEN USING PREFORMED JOINT SEALER, THE DEPTH SHALL BE 1/4" MORE THAN THE PREFORMED SEALER, WHEN COMPRESSED, TO FIT THE JOINT DESIGN WIDTH. "a" DIMENSION SHALL APPLY AT ANY POINT THROUGHOUT "c" DEPTH. SHARP INTERNAL CORNERS WILL NOT BE PERMITTED. ALL CORNERS SHALL BE PROVIDED WITH SUITABLE FILLET.
- ③ WHEN SEALING, THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING.
- ④ PRIOR TO SEALING THE JOINT, A 1/2" DIA. CLOSED CELL BACKER ROD SHALL BE PLACED SUCH THAT THE TOP OF THE BACKER ROD IS 1/2" BELOW THE SURFACE OF THE PAVEMENT. NON SELF-LEVELING SILICONE SHALL BE TOOLED INTO THE JOINT MAINTAINING A SEAL AND BEAD THICKNESS OF 1/4".
- ⑤ PRIOR TO SEALING THE JOINT, A 1/2" DIA. CLOSED CELL BACKER ROD CAPABLE OF WITHSTANDING SEALANT TEMPERATURES OF 400 DEGREES F. SHALL BE PLACED 1/2" BELOW THE TOP OF PAVEMENT.

EXPANSION JOINT REFERENCE, DETAIL & SEALER SPEC. TABLE

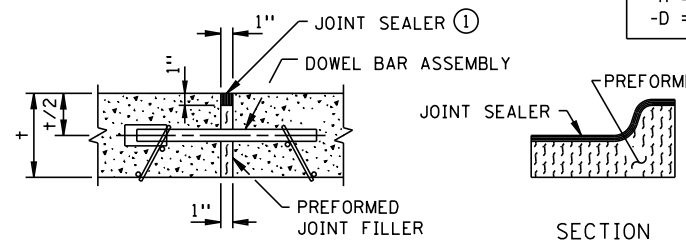
JOINT REFERENCE		JOINT DETAIL	JOINT SEALER SPEC.	JOINT WIDTH
WITHOUT DOWELS	WITH DOWELS			
E1H	E1H-D	A	3725	1/2"
E2H	E2H-D	B	3725	1"
E4H		C	3725	2"
	E4H-D	D	3725	2"
E8H		STANDARD PLAN 5-297.229	3725	4"

LEGEND  
 E = EXPANSION JOINT  
 NO. = JOINT REFERENCE  
 H = HOT Poured  
 -D = DOWEL BARS

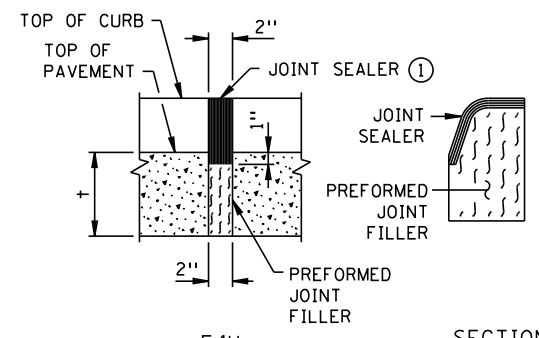
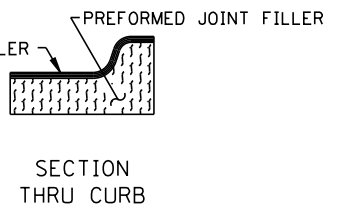
EXAMPLE  
 E4H-D



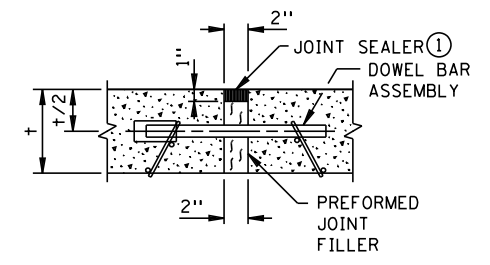
E1H-D (W/DOWELS) E1H (W/O DOWELS)  
 JOINT DETAIL A



E2H-D (W/DOWELS) E2H (W/O DOWELS)  
 JOINT DETAIL B

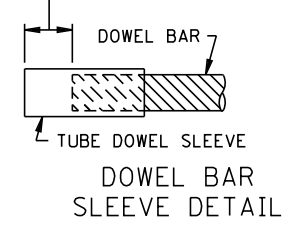


E4H (W/O DOWELS)  
 JOINT DETAIL C



E4H-D (W/DOWELS)  
 JOINT DETAIL D

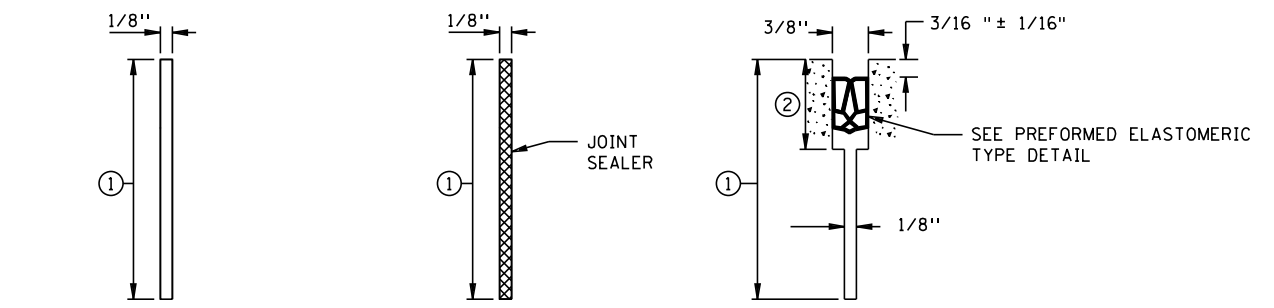
SPACE FROM END OF DOWEL BAR TO END OF SLEEVE TO BE EQUAL TO EXPANSION JOINT WIDTH (1" MIN.)



DOWEL BAR SLEEVE DETAIL

NOTES:

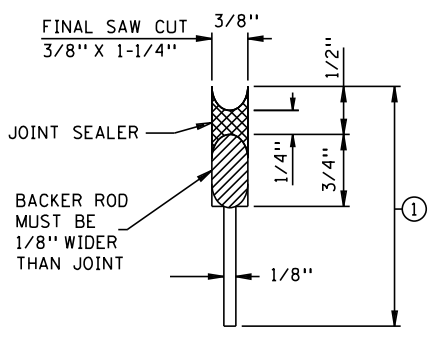
- PREFORMED JOINT FILLER MATERIAL, SPEC. 3702.
- FOR DOWEL BAR ASSEMBLY, SEE STANDARD PLATE 1103.
- ① JOINT SEALER SPEC. 3725. THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING. TOP OF SEALER, FLUSH TO 1/8" BELOW TOP OF PAVEMENT SURFACE. MAKE TOP OF SEALER FOR CURB SECTION D JOINTS FLUSH WITH SURFACE ±1/8".



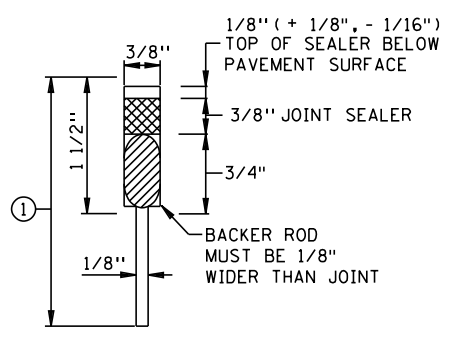
JOINT DETAIL A  
 SAWED & UNSEALED

JOINT DETAIL B  
 SAWED & SEALED

JOINT DETAIL C  
 SAWED AND SEALED



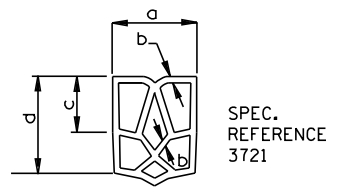
JOINT DETAIL D  
 SAWED AND SEALED



JOINT DETAIL E  
 SAWED AND SEALED

REQUIRED DIMENSIONS

JOINT TYPE	TRANSVERSE
NOMINAL SEALER SIZE	11/16"
USE IN ALL 3/8" JOINTS	
a	0.69" + 0.13" - 0.05"
b	0.08" ± 0.02"
c	0.25" MIN.
d	0.63" MIN.



TYPICAL SHAPE FOR SATISFACTORY INSTALLATION IN JOINT (5 CELL MIN.)

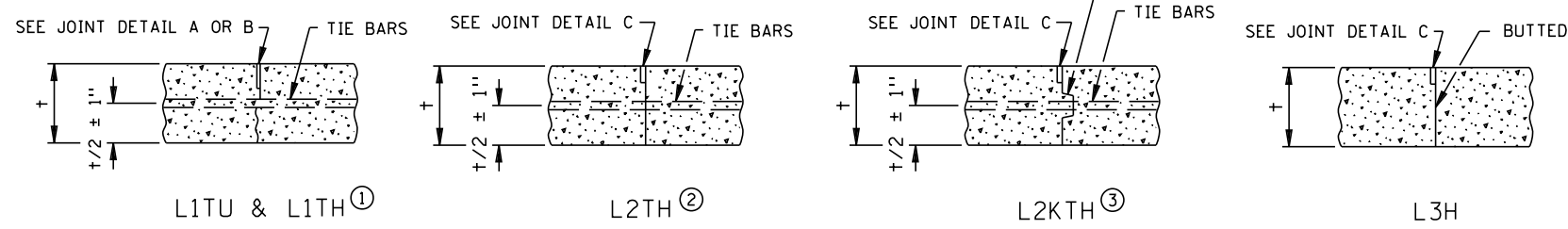
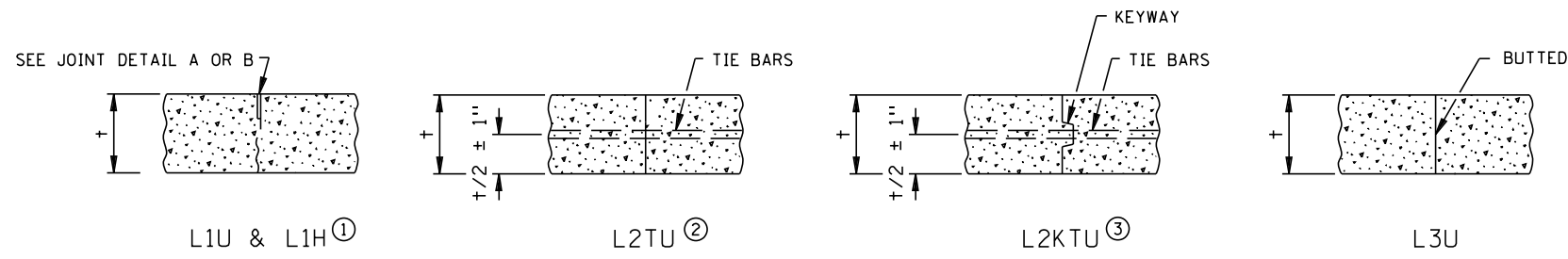
PREFORMED ELASTOMERIC TYPE DETAIL

REVISIONS:  
 APPROVED: 8-6-2014  
 DIRECTOR, OFFICE OF MATERIALS AND ROAD RESEARCH

CONTRACTION JOINTS  
 DESIGN C

MINNESOTA DEPARTMENT OF TRANSPORTATION  
 STATE DESIGN ENGINEER  
 Christopher Ky  
 APPROVED: 8-6-2014

PAVEMENT JOINTS  
 CONTRACTION (DESIGN C) AND EXPANSION (DESIGN E)  
 STANDARD PLAN 5-297.221 (SHEET 1 OF 2)  
 S.P. 002-624-026  
 SHEET NO. 34 OF 214



TIEBAR TABLE

PAVEMENT THICKNESS	TIEBAR SIZE	LENGTH
< 10-1/2"	NO. 4	30"
≥ 10-1/2"	NO. 5	36"
ALL THICKNESS WHEN TYING TO CURB AND GUTTER	NO. 4	30"

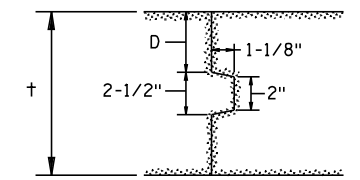
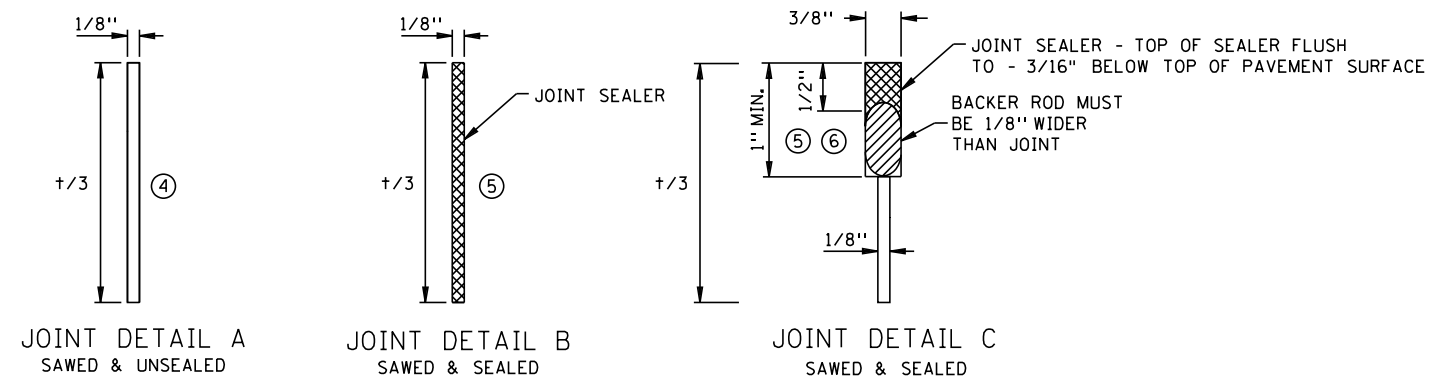
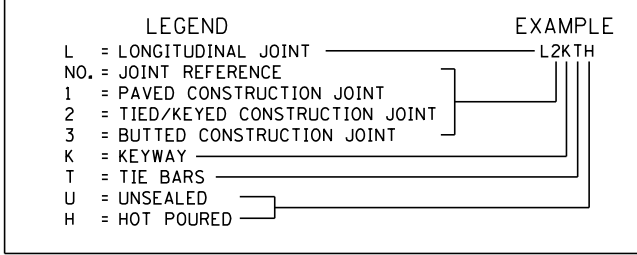
LONGITUDINAL JOINT REFERENCE, DETAIL & SEALER SPECIFICATION TABLE

JOINT REFERENCE			JOINT DETAIL	JOINT SEALER SPEC	JOINT WIDTH
WITHOUT TIE BARS	WITH TIE BARS	WITH KEYWAY & TIE BARS			
L1U	L1TU		A	UNSEALED	1/8"
L1H	L1TH		B	3725	1/8"
	L2TU	L2KTU	NONE	UNSEALED	
	L2TH	L2KTH	C	3725	3/8"
L3U			NONE	UNSEALED	
L3H			C	3725	3/8"

THE TIE BAR SPACING FOR ALL L2T AND L2KT JOINTS SHALL BE 3'-0" CENTER TO CENTER AND BENT 60° AS SHOWN, EXCEPT WHEN NOTED OTHERWISE IN THE PLANS.

TIE BARS IN THE L2T AND L2KT JOINTS SHALL BE THE SAME SIZE AND LENGTH AS USED FOR THE L1T JOINTS, WHEN TYING PAVEMENT TO PAVEMENT. TIE BARS IN THE L2KT JOINTS SHALL BE NO. 4 X 2' - 6", WHEN TYING CURB & GUTTER TO PAVEMENT.

ALL TIE BARS SHALL BE EPOXY COATED AND COMPLY WITH SPEC. 3301.



PAVEMENT KEYWAY DETAIL

NOTES:

NORMALLY, TIED PAVEMENT WIDTHS SHALL NOT EXCEED FOUR LANES, EXCEPT BRIDGE APPROACH PANELS AND PAVEMENT TAPERS.

JOINT WIDTH TOLERANCE IS + 1/16 IN. TO - 1/32 IN.

FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

TIED/KEYED AND BUTTED CONSTRUCTION JOINTS SHALL BE UNSEALED EXCEPT AS OTHERWISE NOTED IN THE PLAN OR REQUIRED BY THE ENGINEER.

SEE STANDARD PLANS 5-297.217 AND 5-297.219 FOR CONCRETE MAINLINE AND RAMP PAVEMENT.

SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATIONS TO BE USED AND SPECIAL REINFORCEMENT REQUIRED.

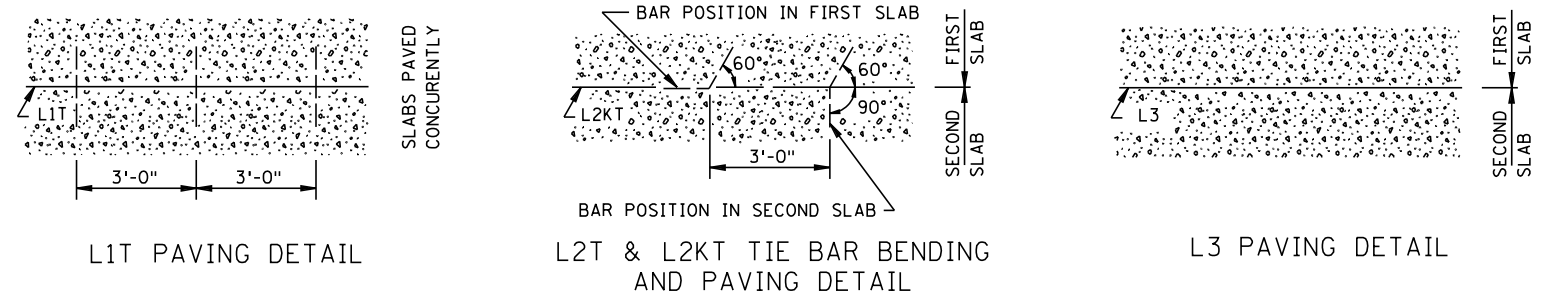
WHEN CURB AND GUTTER IS PLACED ADJACENT TO CONCRETE MAINLINE, THE TIEBARS SHALL BE PLACED A MINIMUM OF 2" ABOVE THE CURB AND GUTTER GRADE.

- ① SEE THE LONGITUDINAL JOINT REFERENCE, DETAIL & SEALER SPECIFICATION TABLE TO DETERMINE JOINT DETAIL.
- ② CONCRETE PAVEMENTS LESS THAN 7" SHALL USE L2TU AND L2TH JOINTS UNLESS OTHERWISE ALLOWED BY THE ENGINEER.
- ③ CONCRETE PAVEMENTS GREATER THAN OR EQUAL TO 7" SHALL USE L2KTU AND L2KTH JOINTS UNLESS OTHERWISE ALLOWED BY THE ENGINEER.
- ④ THE JOINT FACES SHALL BE CLEANED WITH WATER DURING THE SAW CUTTING OPERATION OR BY WATER BLASTING AFTER SAWING.
- ⑤ THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING.
- ⑥ PRIOR TO SEALING THE JOINT, A 1/2" DIAMETER CLOSED CELL BACKER ROD CAPABLE OF WITHSTANDING SEALANT TEMPERATURES OF 400 DEGREES F. SHALL BE PLACED 1/2" BELOW THE TOP OF THE PAVEMENT.

KEYWAY DIMENSION TABLE

t PAVEMENT THICKNESS	D (TOLERANCE ± 1/4")
< 7"	NO KEYWAY
7" TO 7-1/2"	3"
8" TO 10"	4"
≥ 10-1/2"	5"

KEYWAY (1-1/8" x 2" x 2-1/2") MAY BE FORMED WITH MOLD OR METAL FORM. OTHER APPROVED KEYWAY SHAPES GIVING EQUIVALENT CONSTRUCTION FEATURES MAY BE USED WITH APPROVAL OF THE ENGINEER.



L1T PAVING DETAIL

L2T & L2KT TIE BAR BENDING AND PAVING DETAIL

L3 PAVING DETAIL

REVISION:  
APPROVED: 8-6-2014  
DIRECTOR, OFFICE OF MATERIALS AND ROAD RESEARCH

MINNESOTA DEPARTMENT OF TRANSPORTATION  
REVISOR:  
APPROVED: 8-6-2014  
STATE DESIGN ENGINEER

PAVEMENT JOINTS  
LONGITUDINAL (DESIGN L)  
STANDARD PLAN 5-297.221 (SHEET 2 OF 2)  
S.P. 002-624-026  
SHEET NO. 35 OF 214

**NOTES & GUIDELINES**

**GENERAL INFORMATION:**

1. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN THE DEVICES IN THIS TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED.
2. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER.
3. ALL DISTANCES ARE APPROXIMATE.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH THE MN MUTCD.
5. AN ANNUAL FALL REVIEW OF ALL TRAFFIC CONTROLS WILL BE MADE TO PREPARE FOR WINTER MAINTENANCE OF THE PROJECT. THIS MAY INCLUDE ADJUSTMENTS OR EXCHANGE OF ONE TRAFFIC CONTROL DEVICE FOR ANOTHER. READJUSTMENTS MAY AGAIN BE REQUIRED IN THE SPRING.
6. IF THE CONTRACTOR DECIDES TO PERFORM THE CONSTRUCTION WORK IN A SEQUENCE OTHER THAN SHOWN IN THIS TRAFFIC CONTROL PLAN THE CONTRACTOR SHALL PROVIDE COMPLETE REVISED TRAFFIC CONTROL PLANS TO BE APPROVED BY THE ENGINEER.

**SIGNING:**

1. ALL TRAFFIC CONTROL DEVICES, INCLUDING OVERHEAD SIGNS ON ROADS OPEN TO TRAFFIC THAT ARE NOT CONSISTANT WITH TRAFFIC OPERATION SHALL BE COVERED, REMOVED OR REVISED AS DIRECTED BY THE ENGINEER.
2. WHEN SIGNS ARE INSTALLED, THEY SHALL BE MOUNTED ON POSTS DRIVEN INTO THE GROUND AT THE PROPER HEIGHT AND LATERAL OFFSET AS DETAILED IN THE MN MUTCD. IF THIS IS NOT POSSIBLE THEY WILL BE MOUNTED ON PORTABLE SUPPORTS AS APPROVED BY THE ENGINEER. WHEN THE SIGNS ARE REMOVED THE SIGN POSTS SHALL ALSO BE REMOVED AS SOON AS POSSIBLE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXTRA SIGNING NEEDED TO FACILITATE TRAFFIC SWITCHES OR FOR TRANSITIONING TRAFFIC FROM ONE STAGE TO ANOTHER.
4. ALL ORANGE WARNING AND ORANGE GUIDE SIGNS SHALL BE FABRICATED WITH SIGN SHEETING MATERIAL AS LISTED ON THE MN/DOT APPROVED PRODUCT LIST FOR "SHEETING FOR RIGID TEMPORARY WORK ZONE SIGNS".

BARRICADES SHALL BE FABRICATED WITH SIGN SHEETING MATERIAL AS LISTED ON THE MN/DOT APPROVED PRODUCT LIST FOR BARRICADE SHEETING. NOTE THAT ASTM TYPE VII SHEETING IS NOT ALLOWED ON BARRICADES AFTER JANUARY 1, 2010.

5. LONGITUDINAL DROPOFFS SHALL BE SIGNED AS SHOWN IN THE "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" FIELD MANUAL UNLESS OTHERWISE SPECIFIED IN THESE PLANS.
6. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE FINAL SIGNS TO ASSURE THAT THE FINAL SIGNS ARE INSTALLED AS NEEDED, OR PROVIDE TEMPORARY SIGNING AT THEIR EXPENSE UNTIL THE FINAL SIGNING IS INSTALLED.
7. ALL SIGN SHEETING MATERIAL FOR TEMPORARY TRAFFIC CONTROL SHALL BE DG3

**PAVEMENT MARKING:**

1. OBLITERATE ANY CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
2. PAINT, POLYMER LANE TAPE AND/OR TRPM'S ARE ACCEPTABLE TEMPORARY STRIPING ALTERNATIVES ACCORDING TO ACTUAL CONDITIONS ENCOUNTERED AS DIRECTED BY THE ENGINEER. GENERALLY, ONLY PAINT WILL BE USED BEFORE MAY 1ST OR WHEN THE OTHER MANUFACTURERS' SPECIFICATIONS CAN NOT BE MET.
3. TRPM'S (TEMPORARY RAISED PAVEMENT MARKERS) SHOULD BE USED TO SUPPLEMENT THE LONG TERM (MORE THAN 3 DAYS) EDGELINES ON ALL TRANSITION AREAS WHEN THE CONDITIONS ARE WITHIN THE MANUFACTURERS' SPECIFICATIONS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND INSTALLATION OF TEMPORARY AND FINAL STRIPING. MN/DOT TRAFFIC PERSONNEL WILL ASSIST IN THE SPOTTING OF TRANSITION AREAS, GORES AND TAPERS.

**BARRIER & DELINEATION:**












1. TOP MOUNTED BARRIER DELINEATORS WILL HAVE A MINIMUM OF 24 SQ. IN. OF REFLECTIVE SURFACE AREA AND BE PLACED AT 30' SPACES ON TOP OF THE BARRIER WHEN THE BARRIER IS WITHIN 10' OF TRAFFIC UNLESS OTHERWISE NOTED OR AS DIRECTED BY THE ENGINEER. IF THE TRAFFIC ENGINEER REQUIRES SIDE MOUNTED BARRIER DELINEATORS, THEY WILL HAVE A MINIMUM OF 12 SQ. IN. OF REFLECTIVE SURFACE AREA AND BE PLACED AT 30' SPACES. IF A SMALLER APPROVED BARRIER DELINEATOR IS USED IT SHALL BE AT ONE HALF THE SPACING AND ONE HALF THE BID PRICE.

**CONSTRUCTION INFORMATION SIGNING:**



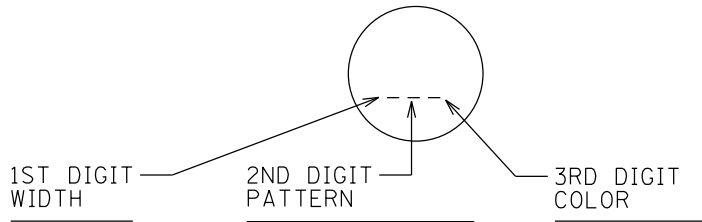
1. THE CONTRACTOR SHALL USE CONSTRUCTION INFORMATION SIGNING AS SHOWN IN THE PLAN AND WHICH ARE TO BE USED AS FOLLOWS:  
 G20-X1 CLOSURE NOTICE SIGNS PAIRED WITH G20-X3 WORK ENDS SIGNS TO DISPLAY THE CORRECT START DATE AND AN ESTIMATED FINISH DATE AS APPROVED BY THE PROJECT ENGINEER.  
 G20-X2 WORK ZONE ADVANCE NOTICE SIGNS WITH THE CORRECT STARTING DATE DISPLAYED BEFORE WORK BEGINS. ONCE WORK BEGINS, THE START DATE LEGEND SHALL BE COVERED BY THE SUGGESTED PLAQUE CONTAINED IN THIS PLAN. IF NO ALTERNATE MESSAGE IS SUGGESTED OR IF DIRECTED BY THE PROJECT ENGINEER, THE CORRECT ESTIMATED FINISH DATE, MONTH, OR SEASON SHALL BE DISPLAYED.  
 CONSTRUCTION INFORMATION SIGNING NOT VISIBLE TO THE MOTORING PUBLIC ONCE WORK BEGINS WILL BE MOVED BY THE CONTRACTOR TO A SITE IN ADVANCE OF THE WORK ZONE OR CLOSURE AS DIRECTED BY THE PLAN OR PROJECT ENGINEER.

**TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND**


**SYMBOL DESCRIPTION**

-  AREA CLOSED TO TRAFFIC / WORK AREA
-  TRAFFIC CONTROL SIGN
-  TYPE III BARRICADE = 
-  DRUM-LIKE CHANNELIZER = 
-  FLASHING ARROW BOARD TYPE C =   
(4' X 8' UNLESS OTHERWISE NOTED).
-  SOLID LINE PAVEMENT MARKING WITH TEMPORARY RAISED PAVEMENT MARKERS AT 10' SPACES
-  CONCRETE BARRIER WITH DELINEATORS AT 30' SPACES
-  IMPACT ATTENUATOR

**STRIPING KEY**

-  TRIANGLE - PAINT
  -  PENTAGON - REMOVEABLE PREFORMED PLASTIC MARKING
- 

1ST DIGIT WIDTH	2ND DIGIT PATTERN	3RD DIGIT COLOR
4" OR 8"	S - SOLID B - BROKEN D - DASH/DOUBLE	W - WHITE Y - YELLOW B - BLACK

EXAMPLE:  = 4" SOLID LINE WHITE - EPOXY

**INDEX**

**TRAFFIC CONTROL SHEET NO. DESCRIPTIONS**

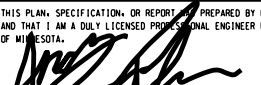
36	NOTES & GUIDELINES
37	PAY ITEM TABULATION SHEET
38	SIGN DETAILS
39 - 40	TRAFFIC CONTROL DETAILS
41 - 42	DETOURS
43 - 45	STAGE 1
46 - 48	STAGE 2
49 - 51	STAGE 3
52 - 54	STAGE 4

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NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

CERTIFIED BY:   
 LICENSED PROFESSIONAL ENGINEER - ANDREW FLOHMAN, PE  
 DATE: 6/15/15 LIC. NO: 44200

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**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**CONSTRUCTION STAGING & TRAFFIC CONTROL**  
 S.P. 002-624-026

SHEET  
**36**  
 OF  
**214**  
 SHEETS

TRAFFIC CONTROL TABULATION

F

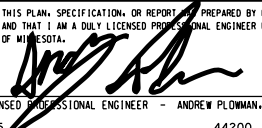
PROJECT STAGE	PAVEMENT MARKING REMOVAL	REMOVE BITUMINOUS PAVEMENT (TEMPORARY)	SAWING BIT PAVEMENT (FULL DEPTH)	AGGREGATE BASE CLASS 5	TYPE SP 12.5 WEARING COURSE MIXTURE (3,C) (SPWEB340C)	BITUMINOUS PATCHING MIXTURE	PORTABLE PRECAST CONC BARRIER DES 8337	RELOCATE PORT PRECAST CONC BAR DES 8337	IMPACT ATTENUATOR	RELOCATE IMPACT ATTENUATOR	MEDIAN BARRIER DELINEATOR	4" SOLID LINE WHITE - PAINT	4" DOUBLE SOLID LINE YELLOW - PAINT	REMOVABLE PREFORM PAVEMENT MARKING TAPE
	LIN FT	SQ YD	LIN FT	TON	TON	TON	LIN FT	LIN FT	ASSEMBLY	ASSEMBLY	EACH	LIN FT	LIN FT	LIN FT
STAGE 1	845		2687	689	500		484		2		16	1150	1742	1562
STAGE 2	900		2682				2295	484	3	2	87	6048	3215	1310
STAGE 3	1967	2952	663					1776	3	5	59	2895	2669	1479
STAGE 4	3246	3041	4440			200								
TOTAL	6958	5993	10472	689	500	200	2779	2260	8	7	163	10093	7626	4351

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1	8/12/15			ADDED REMOVABLE PREFORMED PLASTIC MARKING TAPE QUANTITY

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 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

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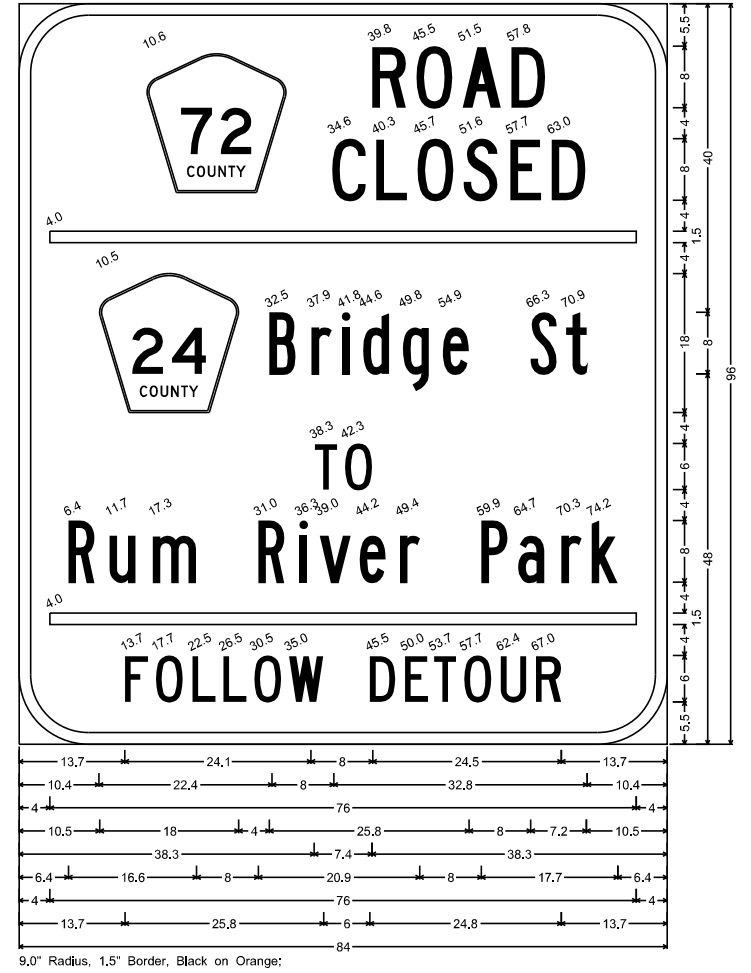
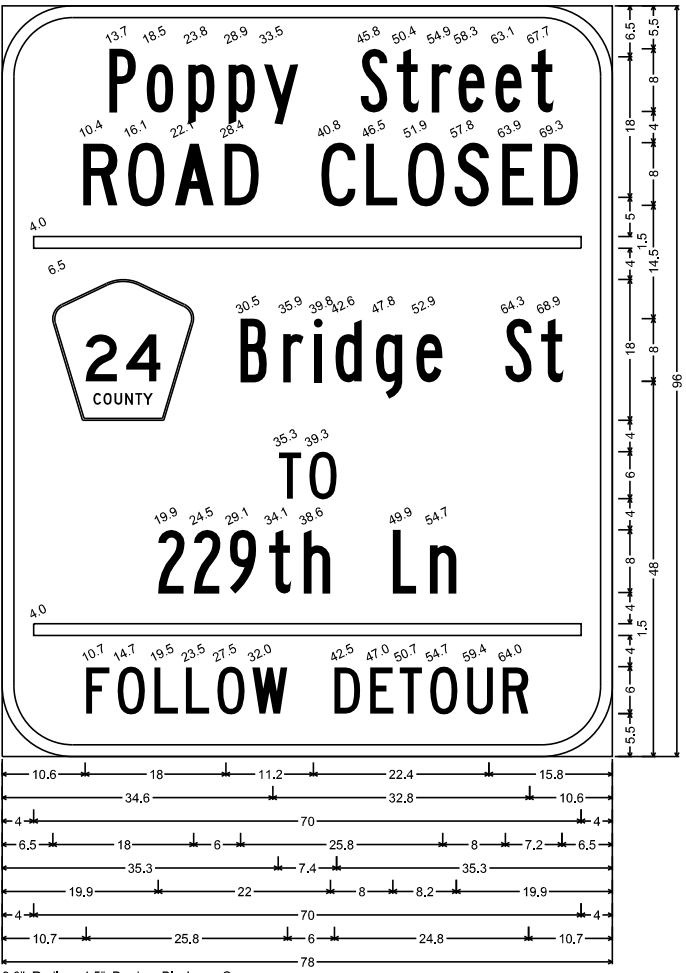
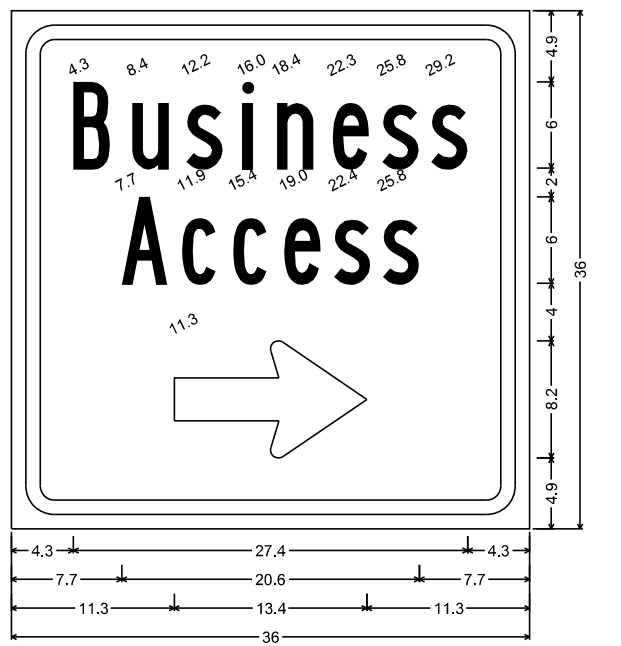
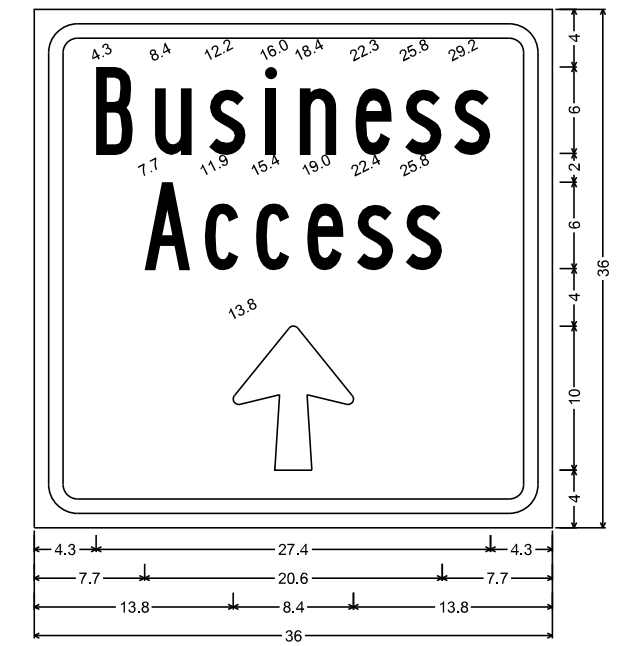
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 LICENSED PROFESSIONAL ENGINEER - ANDREW PLODMAN, PE  
 DATE: 6/15/15 LIC. NO: 44200

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**ANOKA COUNTY**  
**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
 TABULATION  
**CONSTRUCTION STAGING & TRAFFIC CONTROL**  
 S.P. 002-624-026

SHEET  
**37R**  
 OF  
**214**  
 SHEETS



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3.0" Radius, 1.0" Border, 1.0" Indent, Black on Orange;  
 [Business] B; [Access] B; Arrow 3 - 10.0" 90°;

3.0" Radius, 1.0" Border, 1.0" Indent, Black on Orange;  
 [Business] B; [Access] B;  
 Standard Arrow Custom 13.4" X 8.1" 0°;

9.0" Radius, 1.5" Border, Black on Orange;  
 [ROAD] C; [CLOSED] C; [Bridge St] B; [TO] C; [229th Ln] B; [FOLLOW DETOUR] C;

9.0" Radius, 1.5" Border, Black on Orange;  
 [Poppy Street] B; [ROAD CLOSED] C; [Bridge St] B; [TO] C; [Rum River Park] B;  
 [FOLLOW DETOUR] C;

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 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
 SIGN DETAILS  
 CONSTRUCTION STAGING & TRAFFIC CONTROL  
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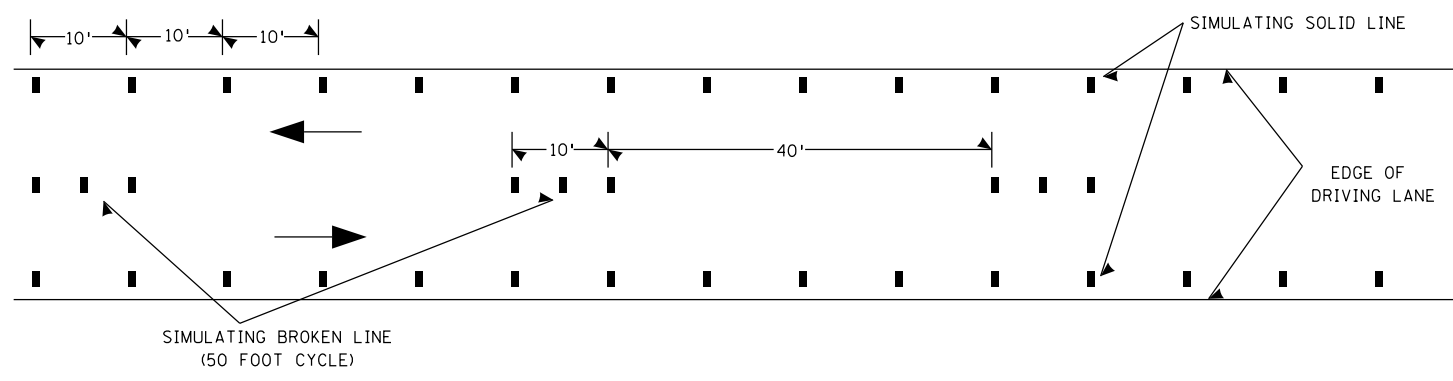
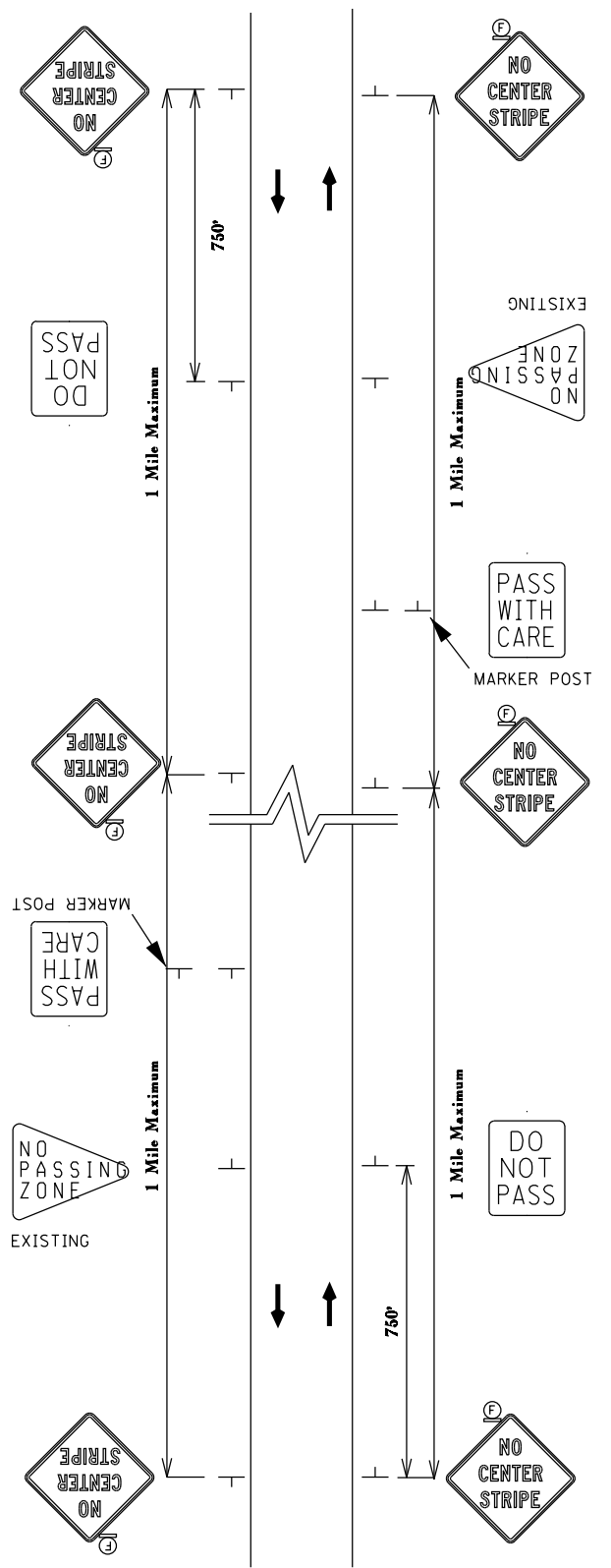
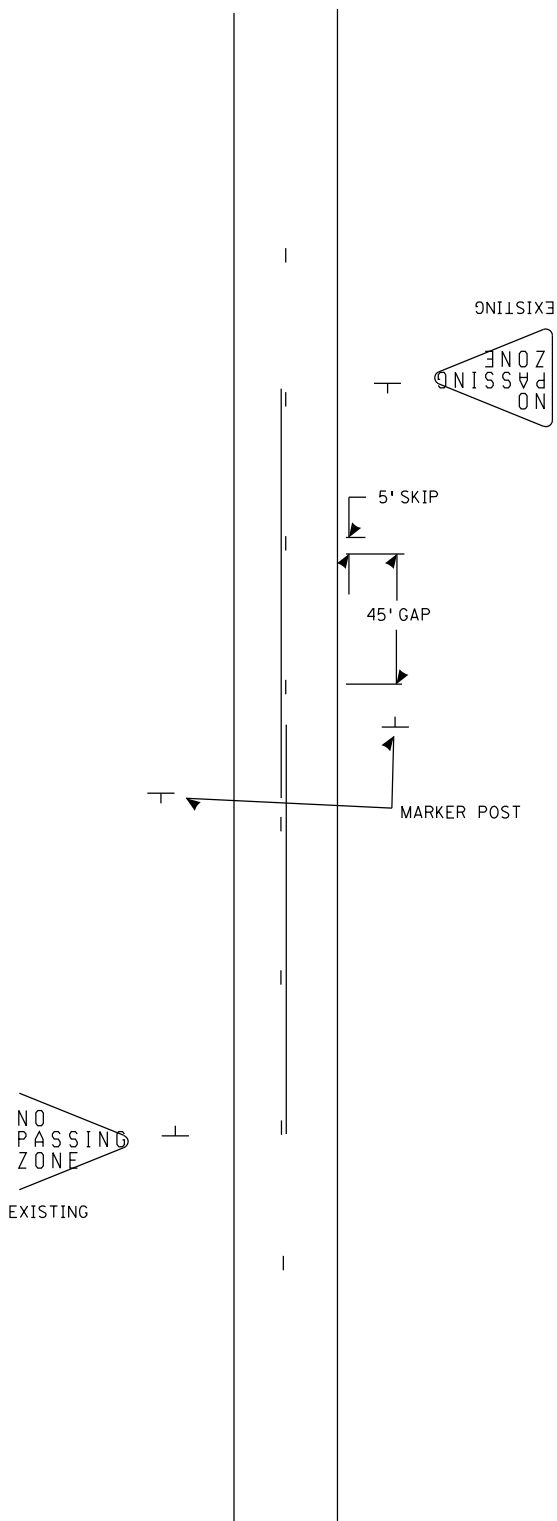
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 38  
 OF  
 214  
 SHEETS

**INTERIM PAVEMENT MARKING**

**TWO LANE, TWO WAY**

**TWO LANE, TWO WAY  
WITHOUT MARKINGS**

**SIMULATING A SOLID LINE AND A BROKEN LINE (50 FOOT CYCLE) WITH TRPMS**



**USING TRPM'S AS INTERIM PAVEMENT MARKING**

WHEN TRPM'S ARE USED TO SIMULATE A LINE THE FOLLOWING GUIDELINE APPLIES:

- SKIP STRIPE - USES 3 TRPM'S PER 10' SKIP STRIPE ON 5' CENTERS WITH A 40' GAP
- SOLID LINE - USES TRPM'S ON 10' CENTERS ON TANGENTS, FLATTER GRADES AND CURVES UNDER 6 DEGREES. FOR CURVES OVER 6 DEGREES AND STEEP GRADES, THIS SPACING SHALL BE REDUCED TO 5' CENTERS.

**GENERAL NOTES:**

- SEE SPECIAL PROVISIONS FOR INTERIM PAVEMENT MARKING GUIDELINES
  - THESE INTERIM PAVEMENT MARKING GUIDELINES APPLY TO ALL TEMPORARY TRAFFIC CONTROL ZONES OF AT LEAST 300' IN LENGTH ON TANGENT AND 50' ON CURVES OF 6 DEGREES OR GREATER.
  - 1. FOR ALL PROJECTS GREATER THAN 1.25 MILES IN LENGTH, INTERIM SKIP STRIPE PAVEMENT MARKINGS SHALL USE THE SAME CYCLE LENGTH AS FINAL PAVEMENT MARKINGS (50') AND SHALL BE A MINIMUM OF 5' LENGTH.
  - 2. ON PROJECTS GREATER THAN 300' IN LENGTH, BUT LESS THAN 1.25 MILES IN LENGTH, THE INTERIM MARKING SHALL MATCH THE CYCLE LENGTH AT EITHER END OF THE PROJECT. THE INTERIM STRIPE SHALL BE 5' IN LENGTH.
- ALL INTERIM MARKINGS SHALL BE INSTALLED PRIOR TO REMOVING LANE CLOSURE OR OPENING THE ROADWAY TO TRAFFIC.
- FINAL MARKINGS AND ALL OTHER PAVEMENT MARKINGS INCLUDING EDGELINES, CHANNELIZING LINES, LANE REDUCTION TRANSITIONS, GORE MARKINGS AND OTHER LONGITUDINAL MARKINGS AND THE VARIOUS NON-LONGITUDINAL MARKINGS (STOP LINES, RAIL ROAD CROSSINGS, CROSSWALKS, WORDS, SYMBOLS, ETC) SHOULD BE INSTALLED WITHIN 14 CALENDAR DAYS.
- NOTE: WHEN FINAL MARKINGS ARE TO BE EPOXY AND PAINT IS USED FOR INTERIM SOLID LINES, A 10 MIL THICK LAYER APPLICATION OF A WATER-BASED TRAFFIC MARKING PAINT SHALL BE USED. WITH A 10 MIL LAYER OF PAINT APPLIED, BEADS SHOULD BE APPLIED AT A RATE OF 6 LBS/GAL. REMOVAL OF THE 10 MIL LAYER OF PAINT IS NOT REQUIRED PRIOR TO PLACING THE EPOXY.

**USING SIGNING AS INTERIM PAVEMENT MARKING**

- ON LOW VOLUME ROADS WITH AN ADT (AVERAGE DAILY TRAFFIC) OF LESS THAN 400 VEHICLES, THE SIGNS MAY BE USED IN LIEU OF PAVEMENT MARKINGS FOR UP TO 14 CALENDAR DAYS (SEE SECTION 5A.1 OF THE MMUTCD) OR AS DIRECTED BY THE PROJECT ENGINEER.
- 1. IF NO INTERIM MARKINGS ARE USED A "NO CENTER STRIPE" SIGN (W8-12) SHALL BE USED FOR EACH DIRECTION OF TRAVEL. THIS SIGN SHALL BE REPEATED AT MAJOR INTERSECTIONS OR ONE MILE INTERVALS, WHICHEVER IS GREATER.
  - 2. IF NOT ALREADY IN PLACE, A "DO NOT PASS" SIGN (R4-1) SHALL BE INSTALLED ON THE RIGHT SIDE OF THE ROAD AT THE BEGINNING OF THE ZONE OPPOSITE OF THE "NO PASSING ZONE" SIGN (W14-3)

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ANOKA COUNTY, MINNESOTA  
 DETAILS  
**CONSTRUCTION STAGING & TRAFFIC CONTROL**  
 S.P. 002-624-026

SIGN DATA

SIGNS TO BE INSTALLED ON DRIVEN U-POSTS SHALL BE INSTALLED IN ACCORDANCE WITH TABLE 1 OR TABLE 2 BELOW. SIGN PANELS SHALL BE INSTALLED ON SIGN STRUCTURES TO MEET THE MINIMUM 5 FEET DEPICTED ON THE TYPICAL RURAL DESIGN DETAIL, THE 7 FEET DEPICTED ON THE TYPICAL URBAN DESIGN DETAIL, OR MINIMUM 7 AND 9 FEET DEPICTED ON THE TYPICAL MOUNTING DETAIL ON THIS SHEET.

TABLE 1

STANDARD CONSTRUCTION SIGNS IN MN/DOT STANDARD SIGNS MANUAL

PANEL SIZE (IN.)	POSTS			
	NO. & TYPE	SPACING (IN.)	KNEE BRACES QUANT.	LENGTH (FT.)
24 x 24	2-U	18		13
30 x 24	2-U	18		13
36 x 30	2-U	24		13
36 x 36	2-U	18		14
42 x 36	2-U	30		14
48 x 48	2-U	30		15
60 x 60	2-U	42	1	16
72 x 72	2-U	42	2	17
96 x 54	2-U	54	2	16
168 x 132	4-U	48	4	20

GENERAL NOTES:

1. POST LENGTHS ARE APPROXIMATE AND INCLUDE EMBEDMENT, BUT DO NOT INCLUDE ADDITIONAL LENGTH REQUIRED FOR SPLICE.
2. SEE STANDARD SIGNS MANUAL FOR PUNCHING HOLES.

TABLE 2

SPECIAL DESIGN CONSTRUCTION SIGNS

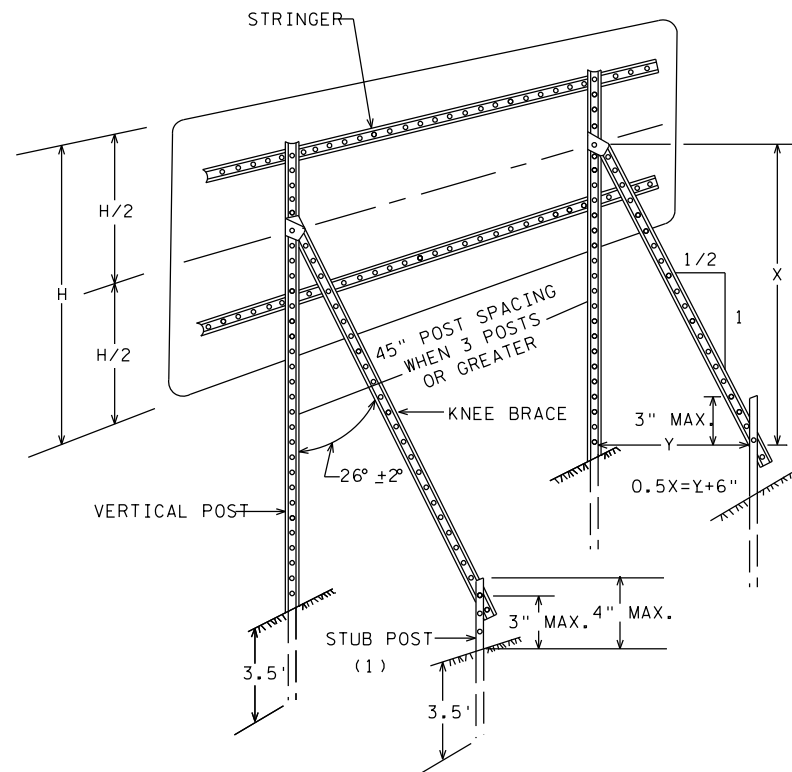
LENGTH (IN.)	HEIGHT (IN.)	POSTS			
		NO. & TYPE	SPACING (IN.)	KNEE BRACES QUANT.	LENGTH (FT.)
54 - 96	78	2-U	42	2	20
102 - 138	78	3-U	45	3	20
144 - 180	78	4-U	45	4	20

NOTES:

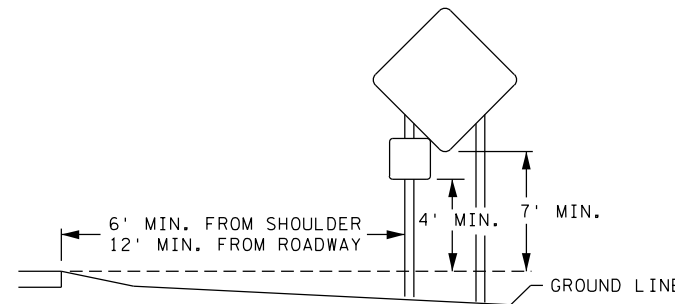
FOR TEMPORARY CONSTRUCTION SIGN FRAMING, THE CONTRACTOR MAY USE GRADE 5 ZINC PLATED BOLTS FOR ALL BOLTED CONNECTIONS, EXCEPT FOR THE KNEE BRACE CONNECTION TO THE REAR STUB POST, WHICH SHALL UTILIZE A 5/16 INCH STAINLESS STEEL BOLT AND NYLON INSERT LOCK NUT. ADDITIONAL SIGN FRAMING DETAILS CAN BE FOUND IN THE TRAFFIC ENGINEERING MANUAL PART 6.

IF THE CONTRACTOR ELECTS TO USE SOME OTHER TYPE OF SIGN SUPPORT (OTHER THAN U-CHANNEL SIGN POSTS) FOR MOUNTING CONSTRUCTION SIGNS, DETAILS OF THE PROPOSED SIGN STRUCTURE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING THE SIGN STRUCTURE COMPONENTS. ANY SIGN STRUCTURE TO BE SUBMITTED TO THE ENGINEER SHALL BE AN FHWA ACCEPTED BREAKAWAY SIGN SUPPORT. SIGN STRUCTURE SHALL ALSO BE APPROVED FOR 90 MPH WIND LOAD.

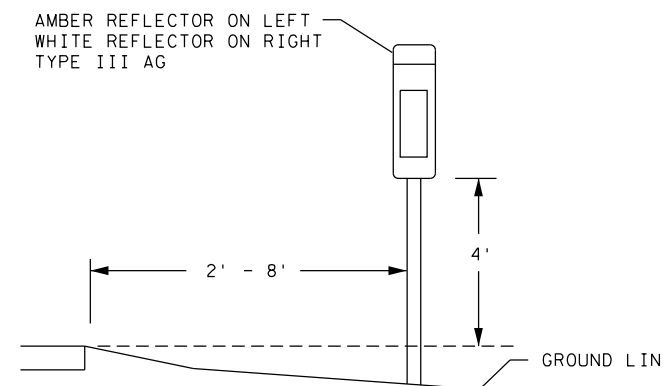
SIGNS SHOWN TO BE COVERED SHALL BE COVERED WITH THE SAME COLOR AS THE SIGN BACKGROUND. THE CONTRACTOR SHALL INSTALL COVERS OR ADDITIONAL SIGNS USING A MINIMUM 1/2" NYLON SPACER BETWEEN THE INPLACE SIGN AND THE COVERING MATERIAL. HOLES WILL BE DRILLED IN THE COVER AND THE INPLACE SIGN AND SHALL BE INSTALLED IN ACCORDANCE TO THE SIGN PANEL DETAIL. SPACERS ARE REQUIRED. MID-PANEL SPACING SHALL BE NO GREATER THAN 24".



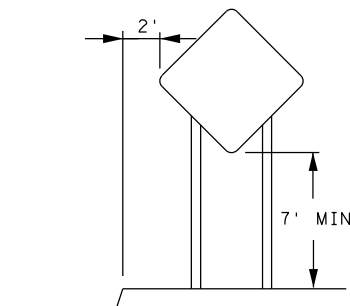
TYPICAL "A-FRAME" INSTALLATION TYPE "D" SIGNS



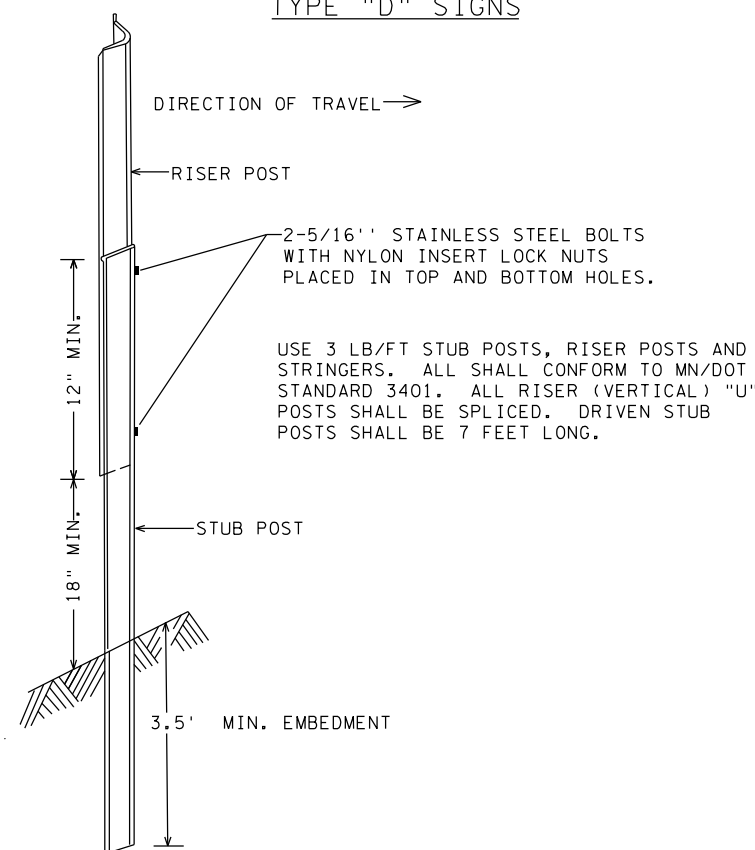
TYPICAL RURAL DESIGN



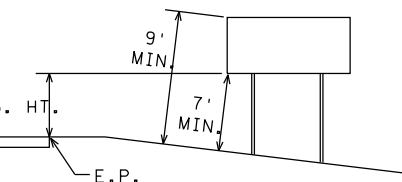
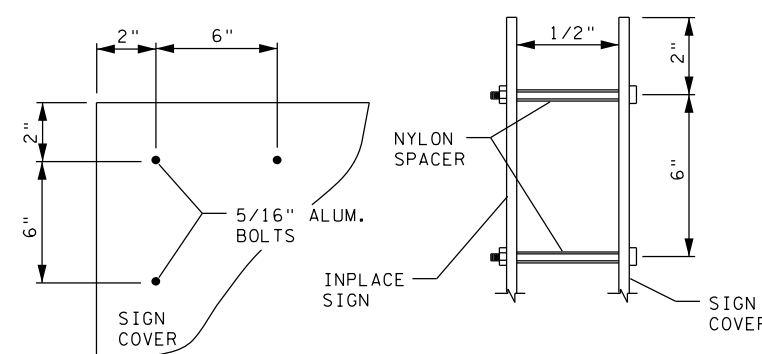
DELINEATION MOUNTING



TYPICAL URBAN DESIGN



"U" POST SPLICE



TYPICAL MOUNTING

(1) OFFSET STUB POST 1' TOWARD ROADWAY RELATIVE TO VERTICAL POST.

TYPICAL TEMPORARY SIGN FRAMING AND INSTALLATION DETAILS

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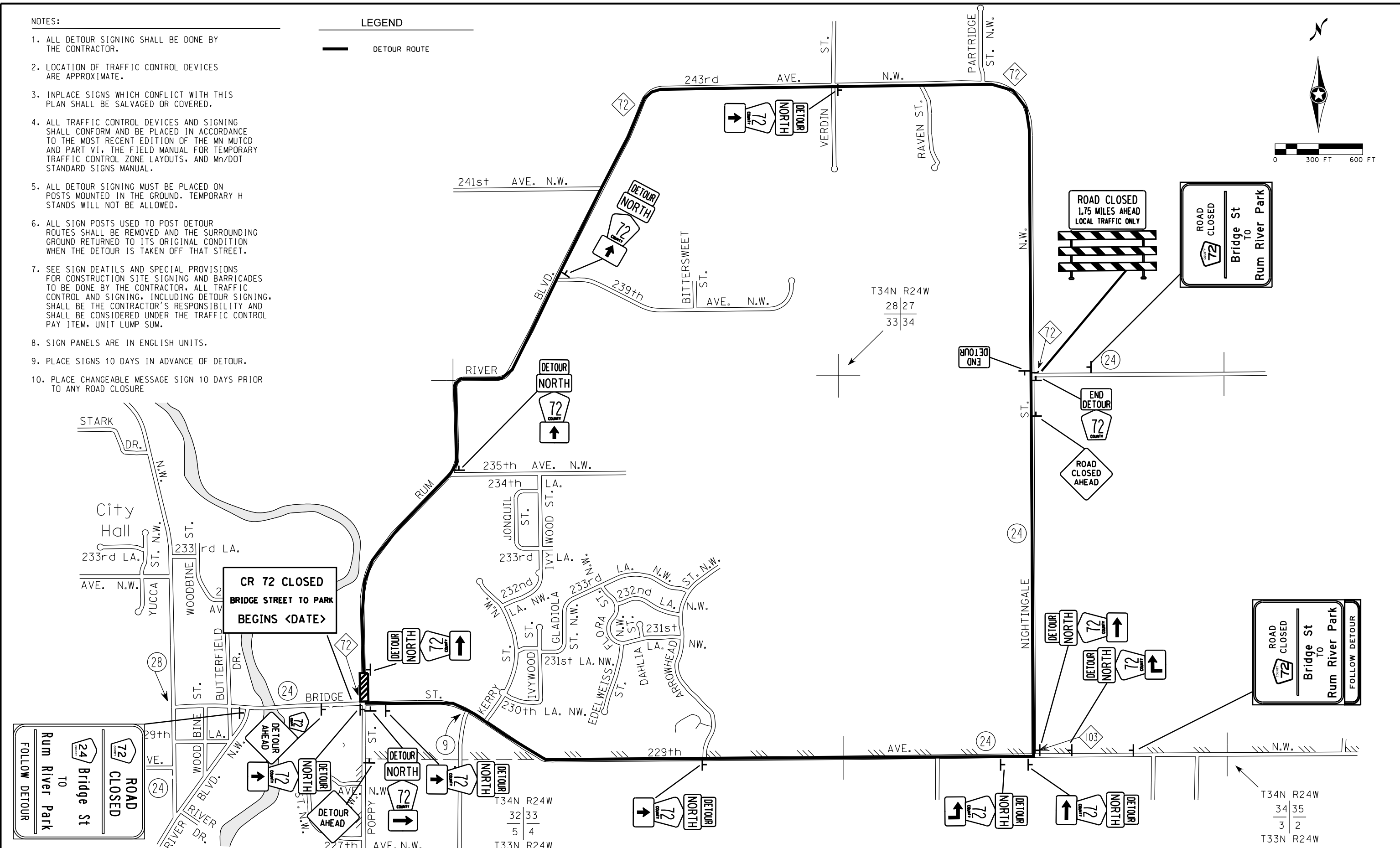
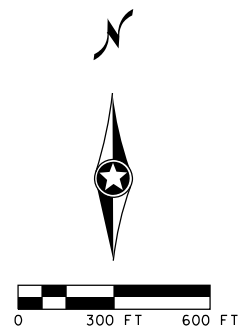


NOTES:

1. ALL DETOUR SIGNING SHALL BE DONE BY THE CONTRACTOR.
2. LOCATION OF TRAFFIC CONTROL DEVICES ARE APPROXIMATE.
3. INPLACE SIGNS WHICH CONFLICT WITH THIS PLAN SHALL BE SALVAGED OR COVERED.
4. ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE MOST RECENT EDITION OF THE MN MUTCD AND PART VI, THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS, AND Mn/DOT STANDARD SIGNS MANUAL.
5. ALL DETOUR SIGNING MUST BE PLACED ON POSTS MOUNTED IN THE GROUND. TEMPORARY H STANDS WILL NOT BE ALLOWED.
6. ALL SIGN POSTS USED TO POST DETOUR ROUTES SHALL BE REMOVED AND THE SURROUNDING GROUND RETURNED TO ITS ORIGINAL CONDITION WHEN THE DETOUR IS TAKEN OFF THAT STREET.
7. SEE SIGN DEATILS AND SPECIAL PROVISIONS FOR CONSTRUCTION SITE SIGNING AND BARRICADES TO BE DONE BY THE CONTRACTOR. ALL TRAFFIC CONTROL AND SIGNING, INCLUDING DETOUR SIGNING, SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE CONSIDERED UNDER THE TRAFFIC CONTROL PAY ITEM, UNIT LUMP SUM.
8. SIGN PANELS ARE IN ENGLISH UNITS.
9. PLACE SIGNS 10 DAYS IN ADVANCE OF DETOUR.
10. PLACE CHANGEABLE MESSAGE SIGN 10 DAYS PRIOR TO ANY ROAD CLOSURE

LEGEND

— DETOUR ROUTE



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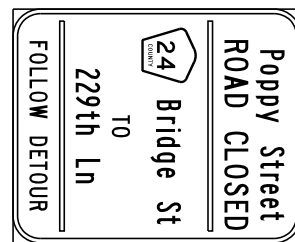
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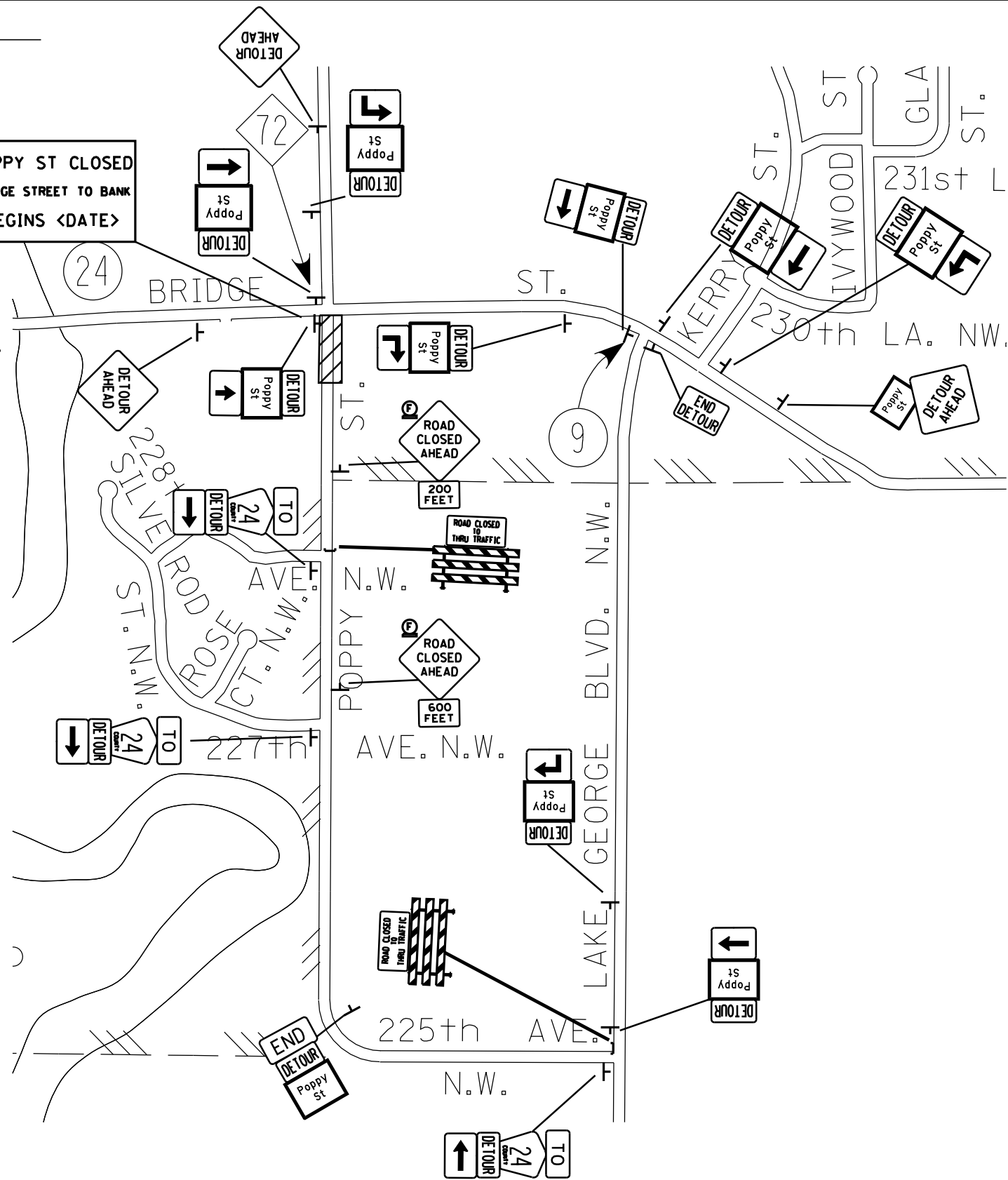
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LEGEND

— DETOUR ROUTE



POPPY ST CLOSED  
BRIDGE STREET TO BANK  
BEGINS <DATE>



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**42**  
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# STAGE 1 NARRATIVE

## TRAFFIC

PLACE ADVANCED WARNING SIGNS TEN(10) DAYS PRIOR TO CONSTRUCTION.

REDUCE CSAH 9 TRAFFIC TO 11' LANE AND SHIFT TO THE EAST.

REDUCE EB CSAH 24 TRAFFIC TO 11' LANE AND SHIFT TO THE NORTH AS NEEDED.

PLACE BARRIER TO PROTECT CONSTRUCTION AT CSAH 9.

CLOSE BACK DRIVEWAY OF THE HIGH SCHOOL.

CLOSE EAST ENTRANCE TO PARKING LOT OFF OF CSAH 9.

CONVERT EXISTING SIGNAL SYSTEM TO ALL WAY STOP.

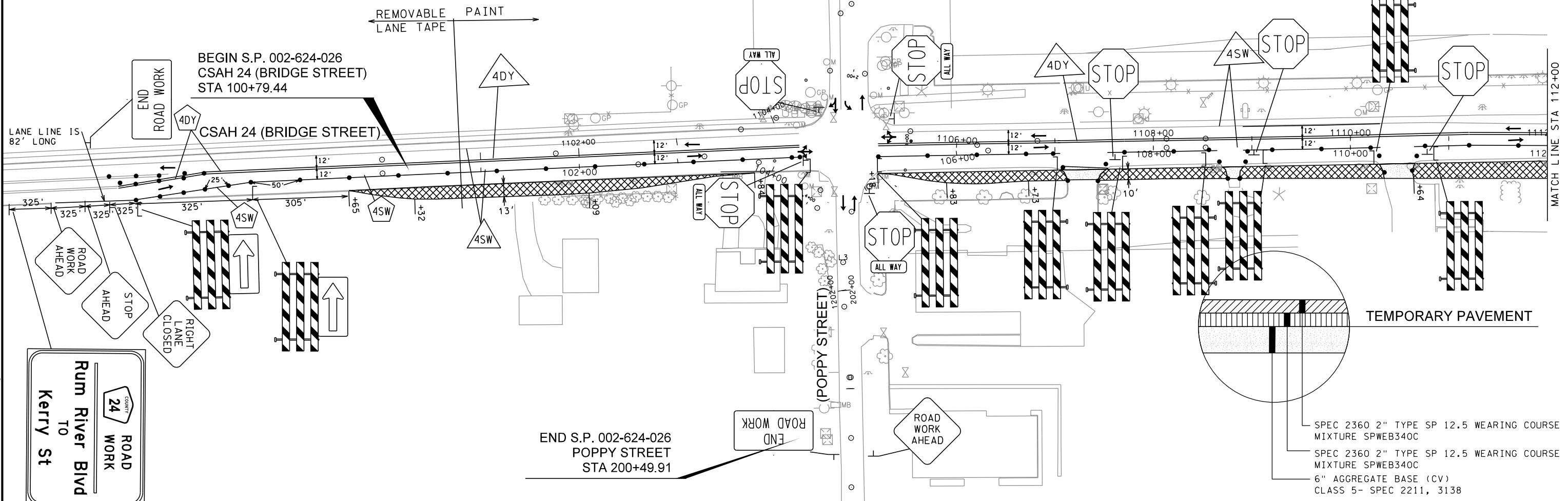
MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.

## CONSTRUCTION

CONSTRUCT TEMPORARY WIDENING ALONG SOUTH SIDE OF CSAH 24.

CONSTRUCT WEST HALF OF CSAH 9 AND UTILITIES.

BEGIN CONSTRUCTION OF NEW KERRY ST & HIGH SCHOOL CONNECTION.



## LEGEND

- UNDER CONSTRUCTION
- CONSTRUCTION UNDER TRAFFIC
- TEMPORARY BIT. PAVEMENT
- TRAFFIC CONTROL SIGN
- TYPE III BARRICADE
- PLACE 10 DAYS PRIOR TO ROAD CLOSURE
- TRAFFIC FLOW

## NOTES:

- OBLITERATE ALL CONFLICTING PAVEMENT MARKINGS.
- COVER ALL CONFLICTING SIGNS.

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE MN MUTCD AND PART VI, THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

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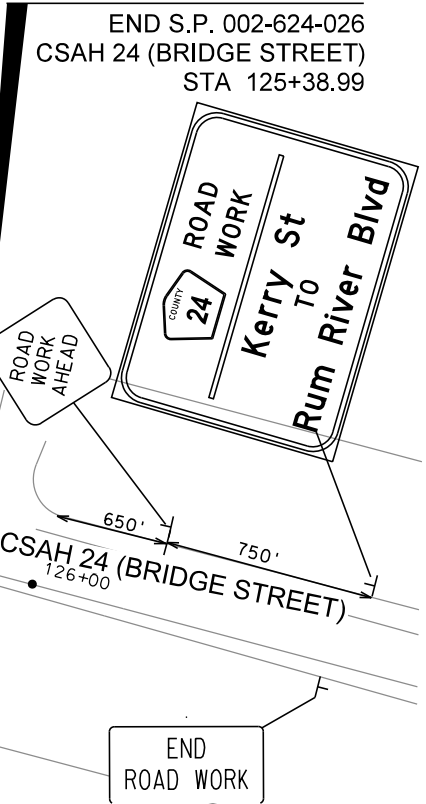
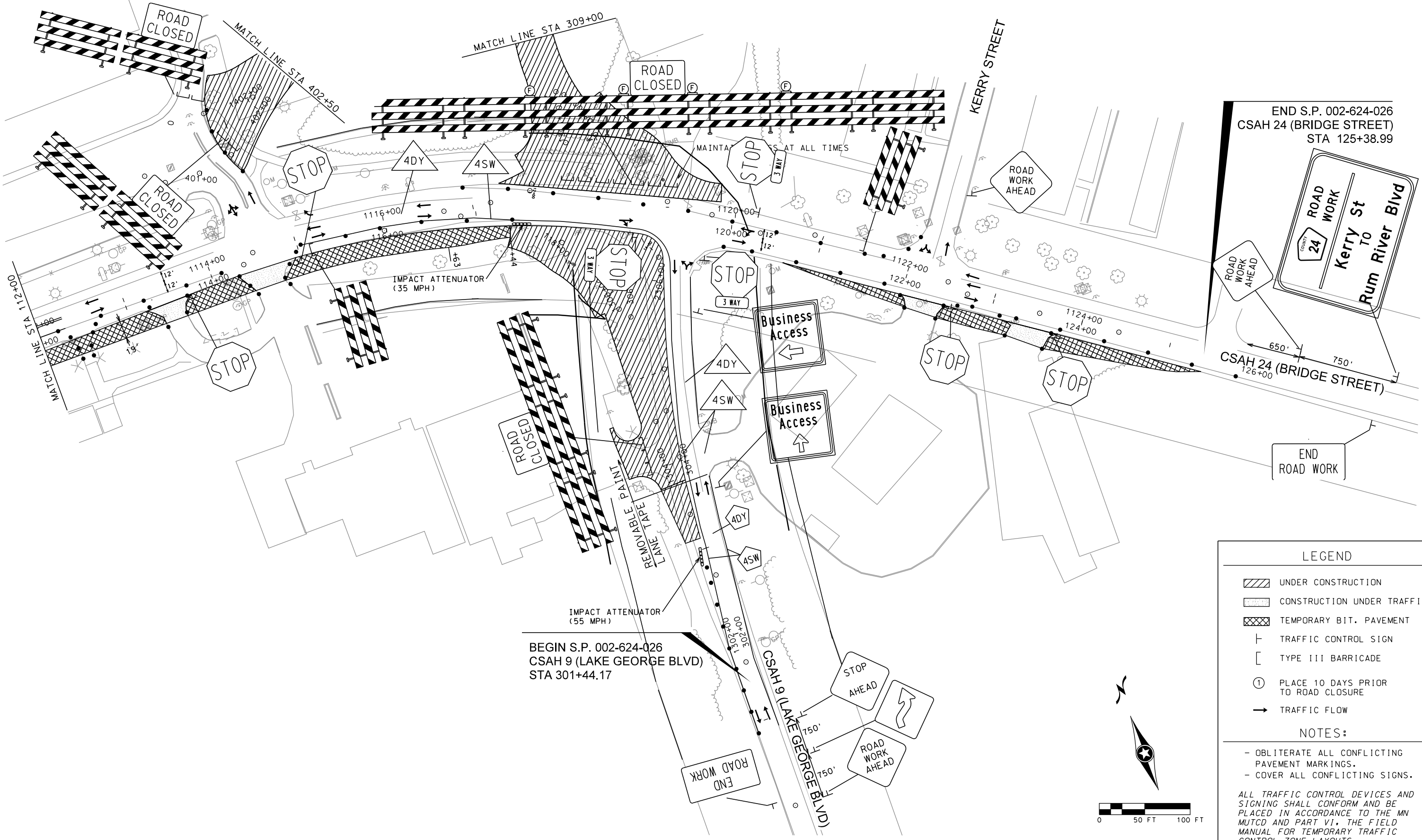
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**CSAH 24 Improvements**  
 Anoka County, Minnesota

**ANOKA COUNTY, MINNESOTA**  
 STAGE 1  
**CONSTRUCTION STAGING & TRAFFIC CONTROL**  
 S.P. 002-624-026

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**43**  
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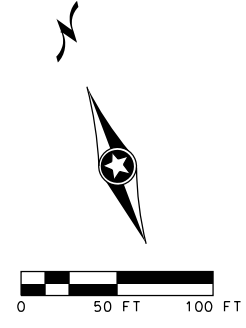
**LEGEND**

- UNDER CONSTRUCTION
- CONSTRUCTION UNDER TRAFFIC
- TEMPORARY BIT. PAVEMENT
- TRAFFIC CONTROL SIGN
- TYPE III BARRICADE
- PLACE 10 DAYS PRIOR TO ROAD CLOSURE
- TRAFFIC FLOW

**NOTES:**

- OBLITERATE ALL CONFLICTING PAVEMENT MARKINGS.
- COVER ALL CONFLICTING SIGNS.

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE MN MUTCD AND PART VI, THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.



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LICENSED PROFESSIONAL ENGINEER - ANDREW PLODMAN, PE  
DATE: 6/15/15 LIC. NO: 44200

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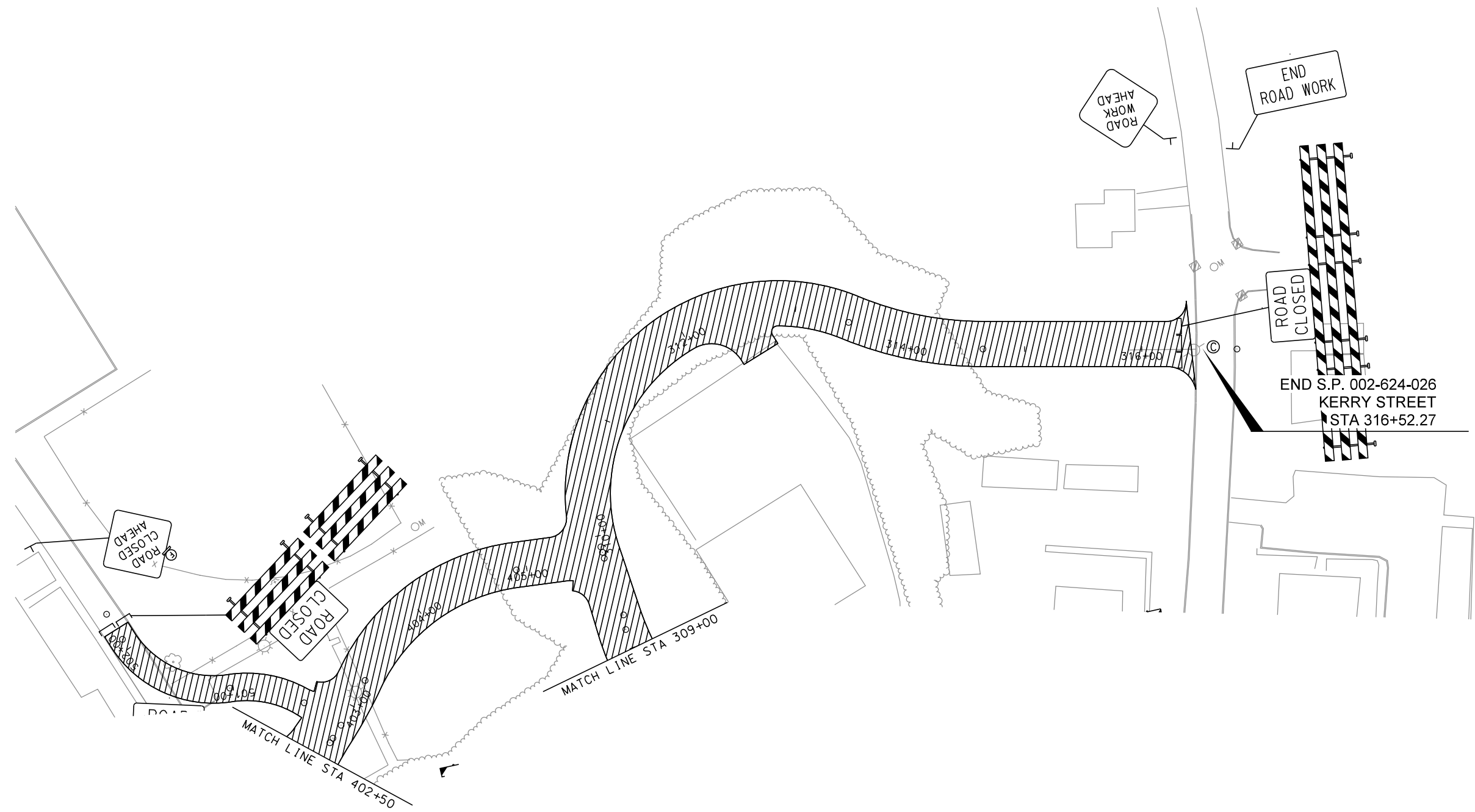
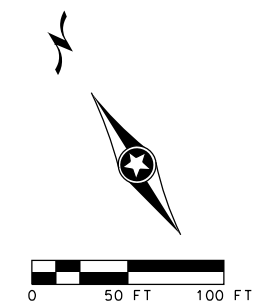
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**ANOKA COUNTY, MINNESOTA**

STAGE 1  
**CONSTRUCTION STAGING & TRAFFIC CONTROL**  
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SHEET  
**44**  
OF  
**214**  
SHEETS



**LEGEND**

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SHEET  
**45**  
 OF  
**214**  
 SHEETS

# STAGE 2 NARRATIVE

## TRAFFIC

REDUCE CSAH 24 TRAFFIC TO 11' LANES AND SHIFT TO THE SOUTH.

REDUCE CSAH 9 TRAFFIC TO 11' LANES AND SHIFT TO THE WEST.

PLACE BARRIER TO PROTECT CONSTRUCTION ON CSAH 24 AND CSAH 9.

CLOSE CSAH 72 AND DETOUR TRAFFIC.

MAINTAIN TEMPORARY PEDESTRIAN ACCESS AT CSAH 24 AND CSAH 72 AT ALL TIMES.

MAINTAIN ACCESS TO 23038 RUM RIVER BLVD FROM THE NORTH ON CSAH 72 AT ALL TIMES.

CLOSE WEST ACCESS TO BUSINESS ON EAST SIDE OF CSAH 9.

MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.

## CONSTRUCTION

CONSTRUCT NORTH SIDE OF CSAH 24.

CONSTRUCT EAST SIDE OF CSAH 9.

CONSTRUCT KERRY STREET INTERSECTION UNDER TRAFFIC.

CONSTRUCT ACCESS TO HIGH SCHOOL PARKING LOT.

CONSTRUCT UTILITIES ON NORTH SIDE OF CSAH 24 AND EAST SIDE OF CSAH 9.

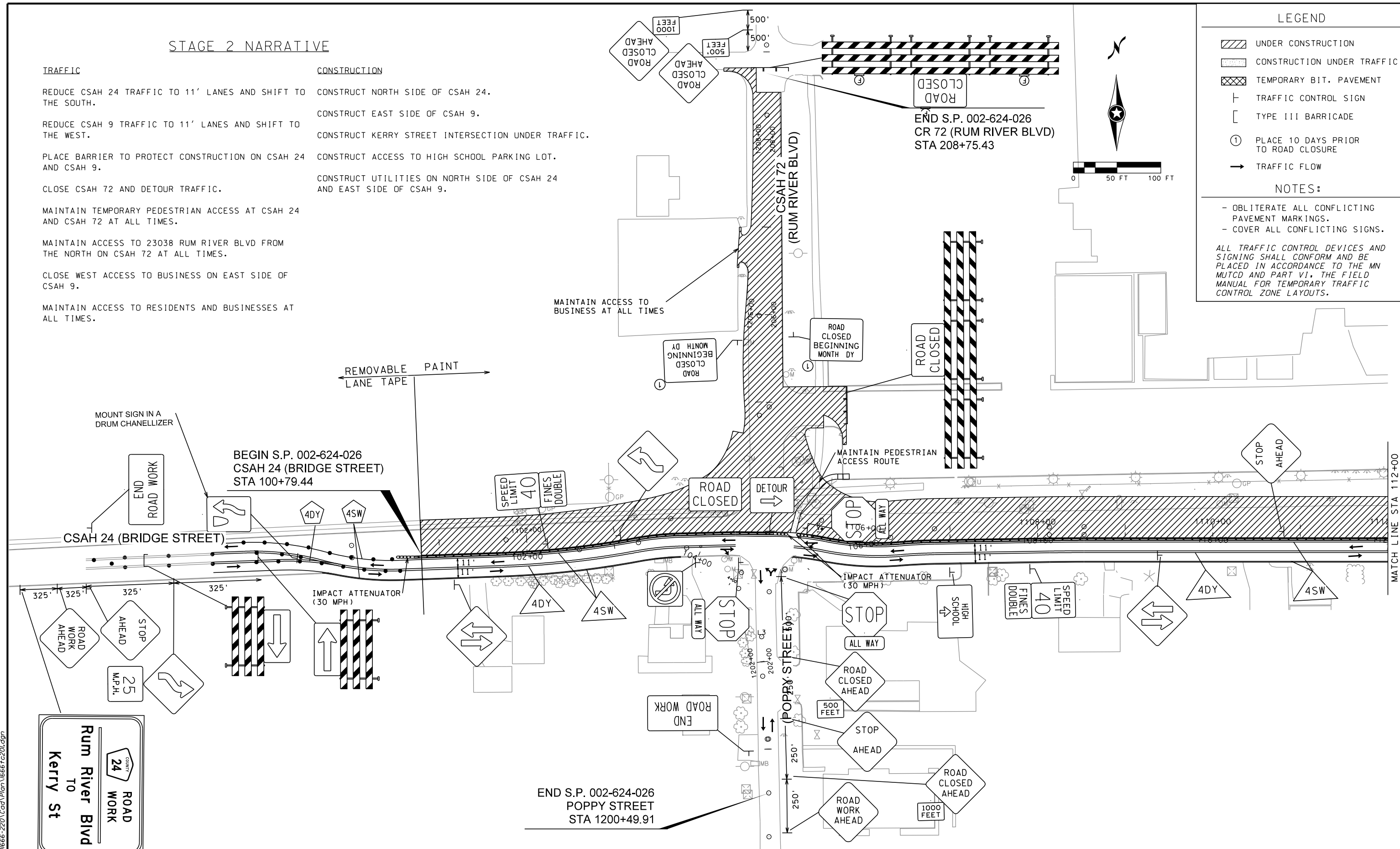
## LEGEND

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- CONSTRUCTION UNDER TRAFFIC
- TEMPORARY BIT. PAVEMENT
- TRAFFIC CONTROL SIGN
- TYPE III BARRICADE
- PLACE 10 DAYS PRIOR TO ROAD CLOSURE
- TRAFFIC FLOW

## NOTES:

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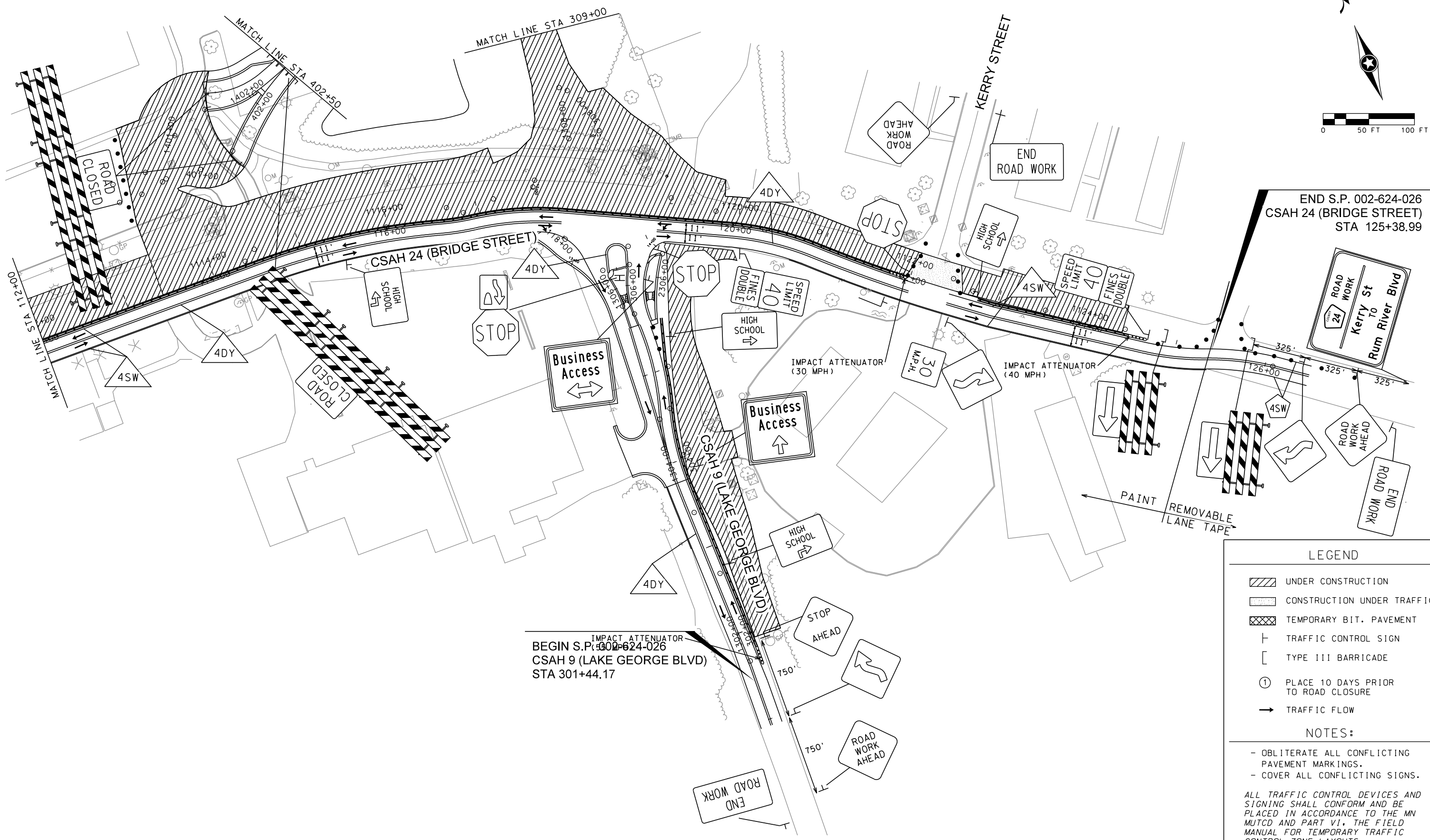
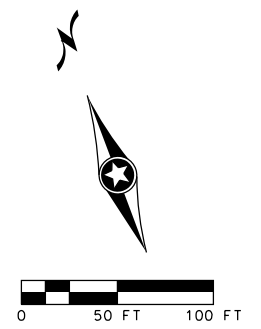
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**CONSTRUCTION STAGING & TRAFFIC CONTROL**  
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SHEET  
**46**  
 OF  
**214**  
 SHEETS



**LEGEND**

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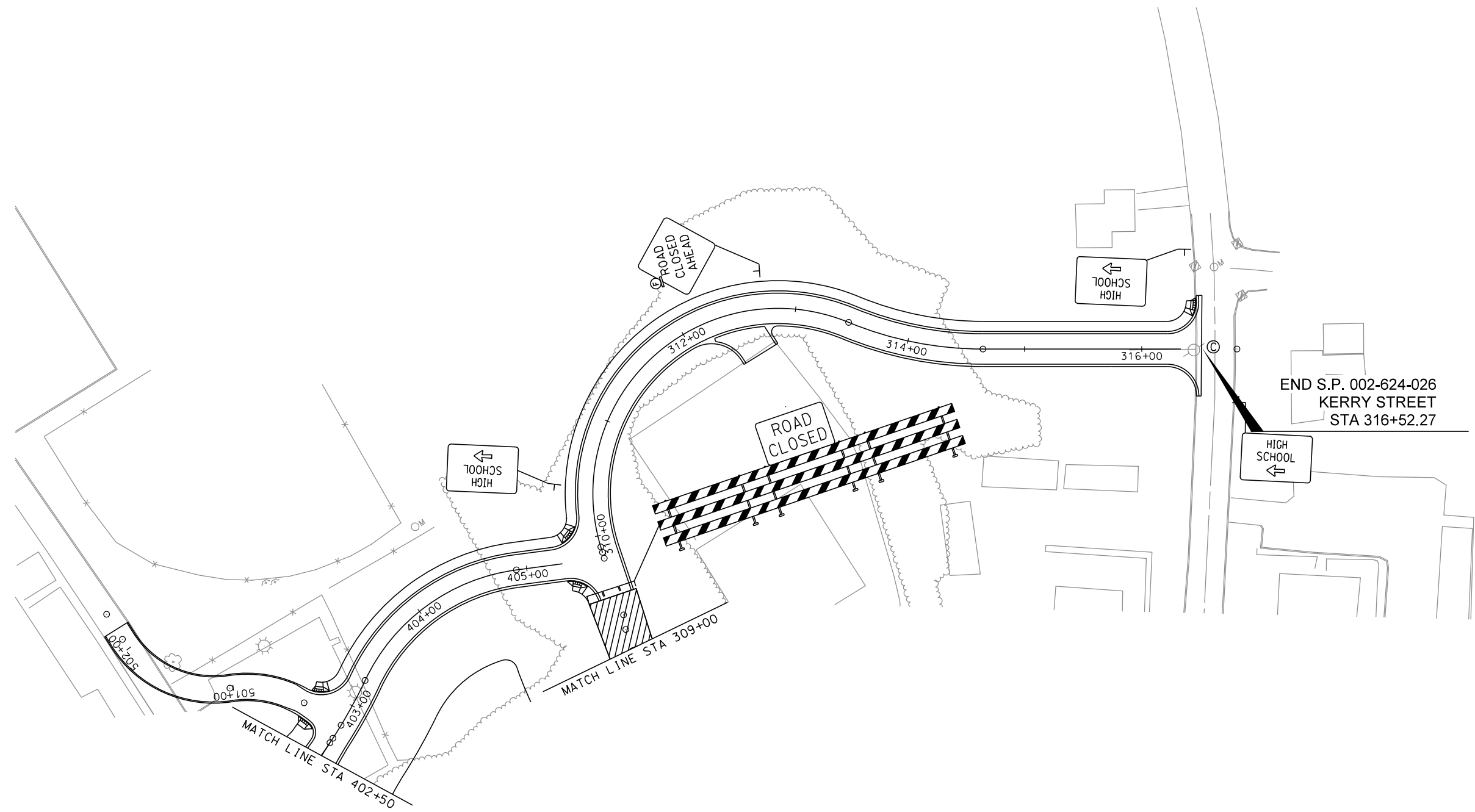
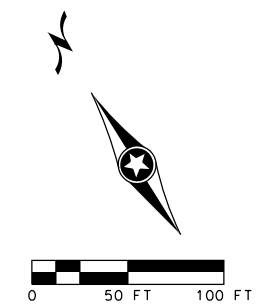
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SHEET  
**47**  
 OF  
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 SHEETS



**LEGEND**

- UNDER CONSTRUCTION
- CONSTRUCTION UNDER TRAFFIC
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 STAGE 2  
**CONSTRUCTION STAGING & TRAFFIC CONTROL**  
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SHEET  
**48**  
 OF  
**214**  
 SHEETS



# STAGE 3 NARRATIVE

## TRAFFIC

SHIFT TRAFFIC TO THE NORTH SIDE OF CSAH 24.  
 CLOSE POPPY STREET AND DETOUR TRAFFIC.  
 PERMANENTLY CLOSE KERRY STREET.  
 CSAH 72 INTERSECTION TO REMAIN ALL WAY STOP.  
 CSAH 9 INTERSECTION TO BE CHANGED TO AN ALL WAY STOP.  
 PROVIDE TEMPORARY PEDESTRIAN ACCESS AT ALL TIMES AT CSAH 24 AND CSAH 9 INTERSECTION.  
 MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.

## CONSTRUCTION

CONSTRUCT NORTH HALF OF CSAH 24.  
 CONSTRUCT ALL UTILITES ON THE NORTH HALF OF CSAH 24 AND EAST HALF CSAH 9.  
 CONSTRUCT EAST HALF OF CSAH 9.  
 CONSTRUCT CONNECTION TO HIGH SCHOOL PARKING LOT FROM KERRY STREET CONNECTION.  
 MAINTAIN TEMPORARY PEDESTRIAN ACCESS TO THE HIGH SCHOOL AT CSAH 24 AND CSAH 72.

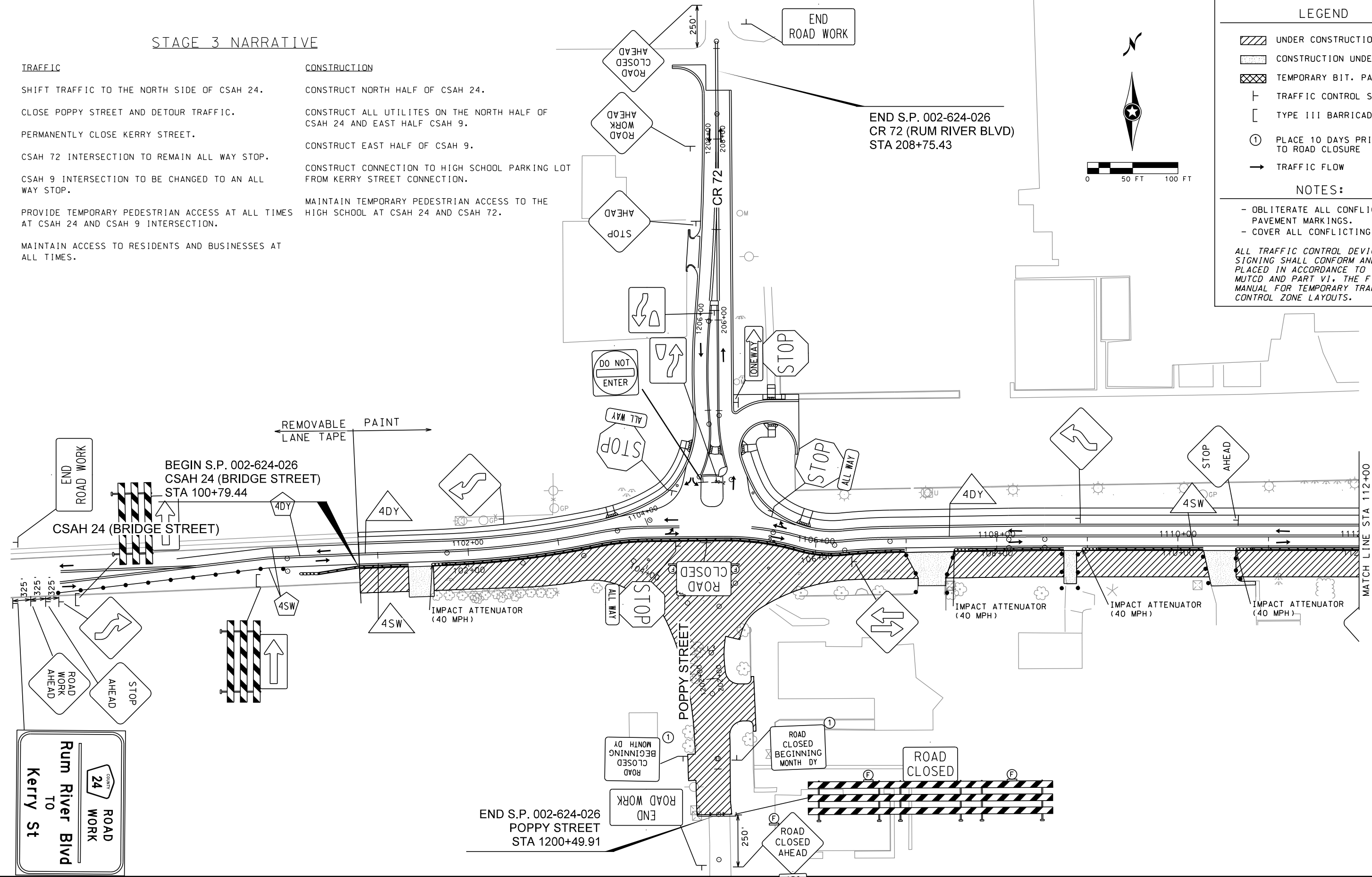
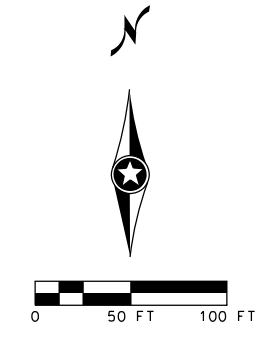
### LEGEND

- UNDER CONSTRUCTION
- CONSTRUCTION UNDER TRAFFIC
- TEMPORARY BIT. PAVEMENT
- TRAFFIC CONTROL SIGN
- TYPE III BARRICADE
- PLACE 10 DAYS PRIOR TO ROAD CLOSURE
- TRAFFIC FLOW

### NOTES:

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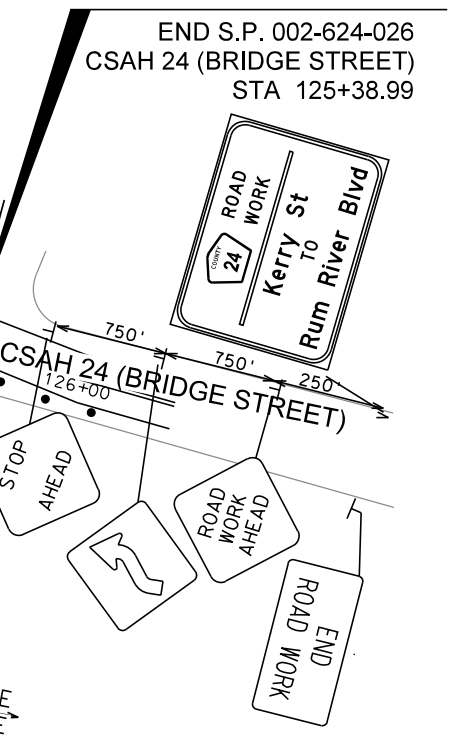
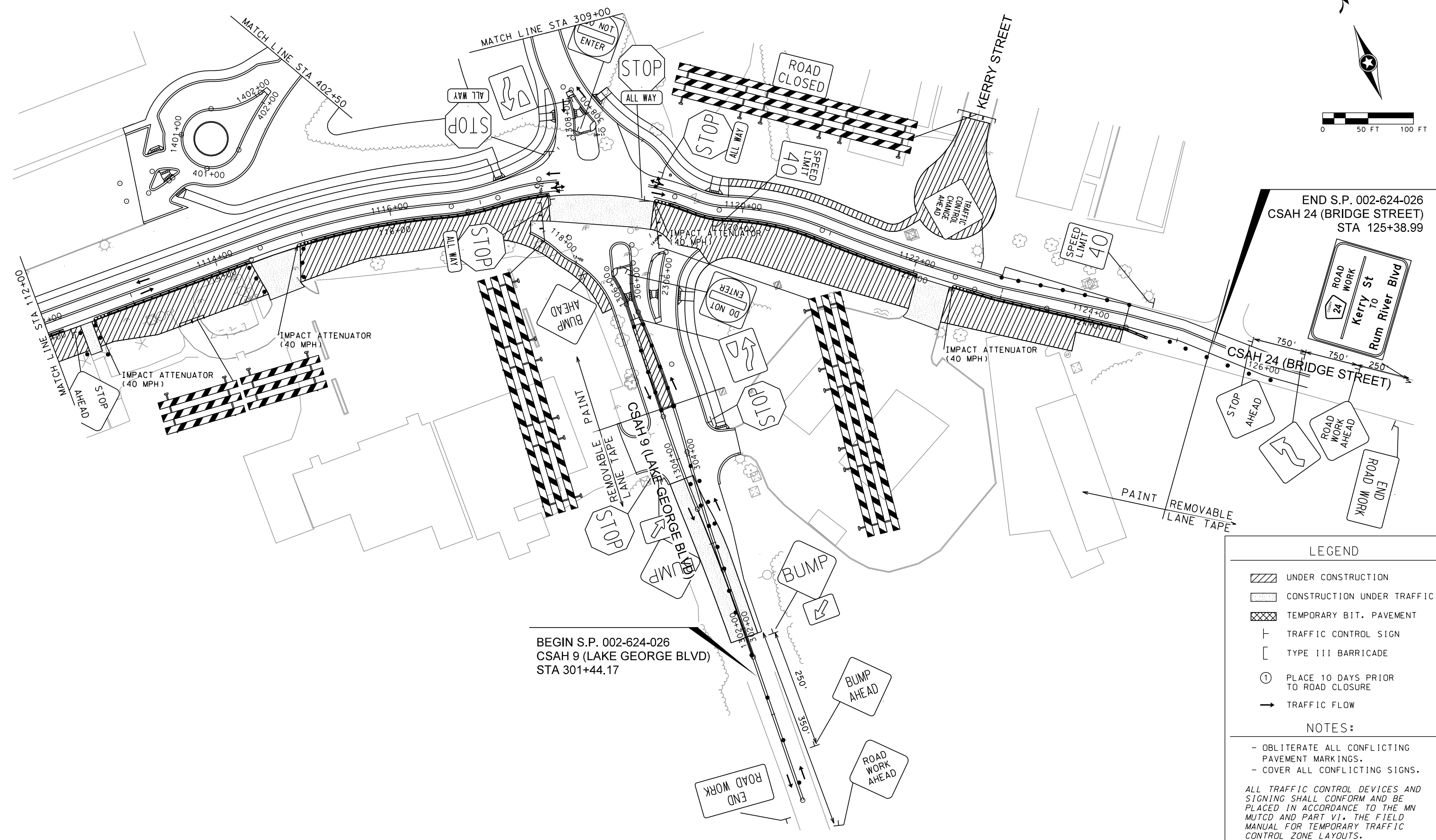
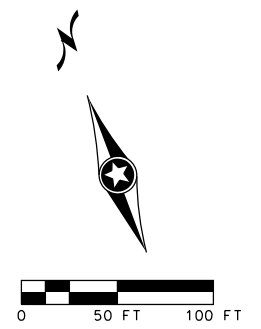
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**CONSTRUCTION STAGING & TRAFFIC CONTROL**  
 S.P. 002-624-026

SHEET  
**49**  
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**214**  
 SHEETS



BEGIN S.P. 002-624-026  
CSAH 9 (LAKE GEORGE BLVD)  
STA 301+44.17

**LEGEND**

- UNDER CONSTRUCTION
- CONSTRUCTION UNDER TRAFFIC
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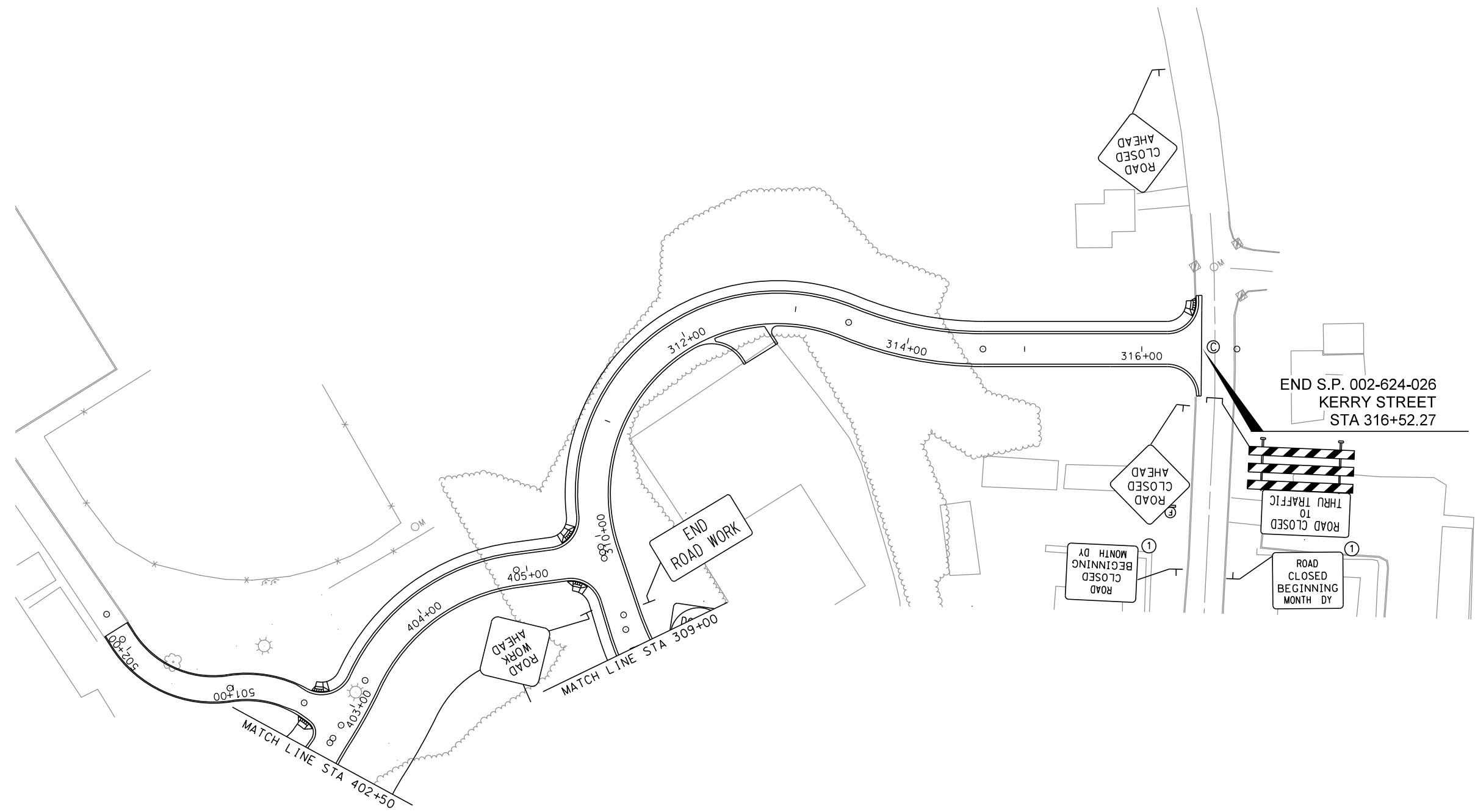
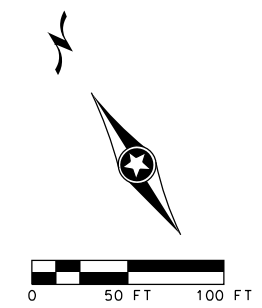
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 STAGE 3  
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SHEET  
**50**  
 OF  
**214**  
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**LEGEND**

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SHEET  
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# STAGE 4 NARRATIVE

## TRAFFIC

TRAFFIC IN PROPOSED CONDITION.

WEEKEND TRUCK CLOSURE OF ROUNDABOUTS FOR TRUCK APRON POUR TO BE COORDINATED WITH THE ENGINEER.

MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.

ALL SIGNS MUST BE PLACED ACCORDING TO THE MNDOT FIELD MANUAL

ALL PERMANENT SIGNING SHALL BE PLACED AS TEMPORARY SIGNING IN THIS PHASE.








SAWCUT 1' FROM PROPOSED TDE OF CURB TO INSTALL CURB. FILLING OF REMAINING 1' OF BITUMINOUS PAID FOR AS BITUMINOUS PATCHING MIXTURE.

## CONSTRUCTION

CONSTRUCT MEDIANS UNDER TRAFFIC.

POUR TRUCK APRONS IN COORDINATION WITH WEEKEND TRUCK ROUTE CLOSURE.

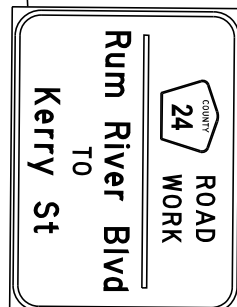
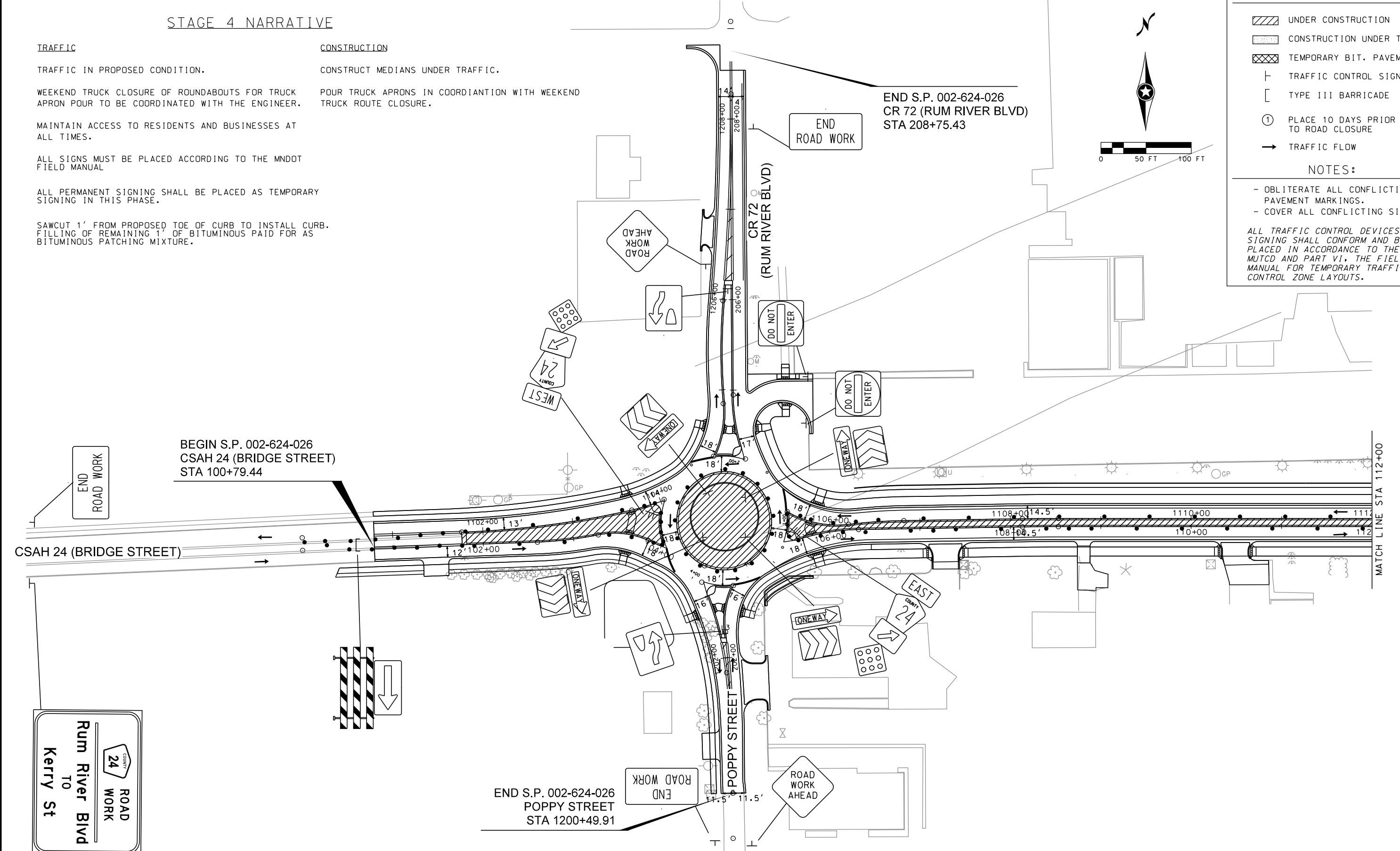
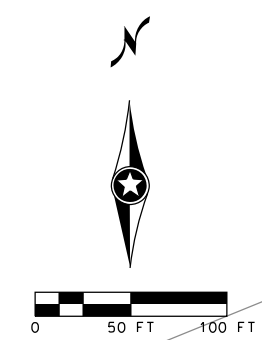
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-  UNDER CONSTRUCTION
-  CONSTRUCTION UNDER TRAFFIC
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-  TRAFFIC CONTROL SIGN
-  TYPE III BARRICADE
-  PLACE 10 DAYS PRIOR TO ROAD CLOSURE
-  TRAFFIC FLOW

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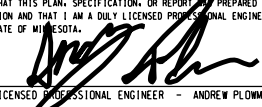
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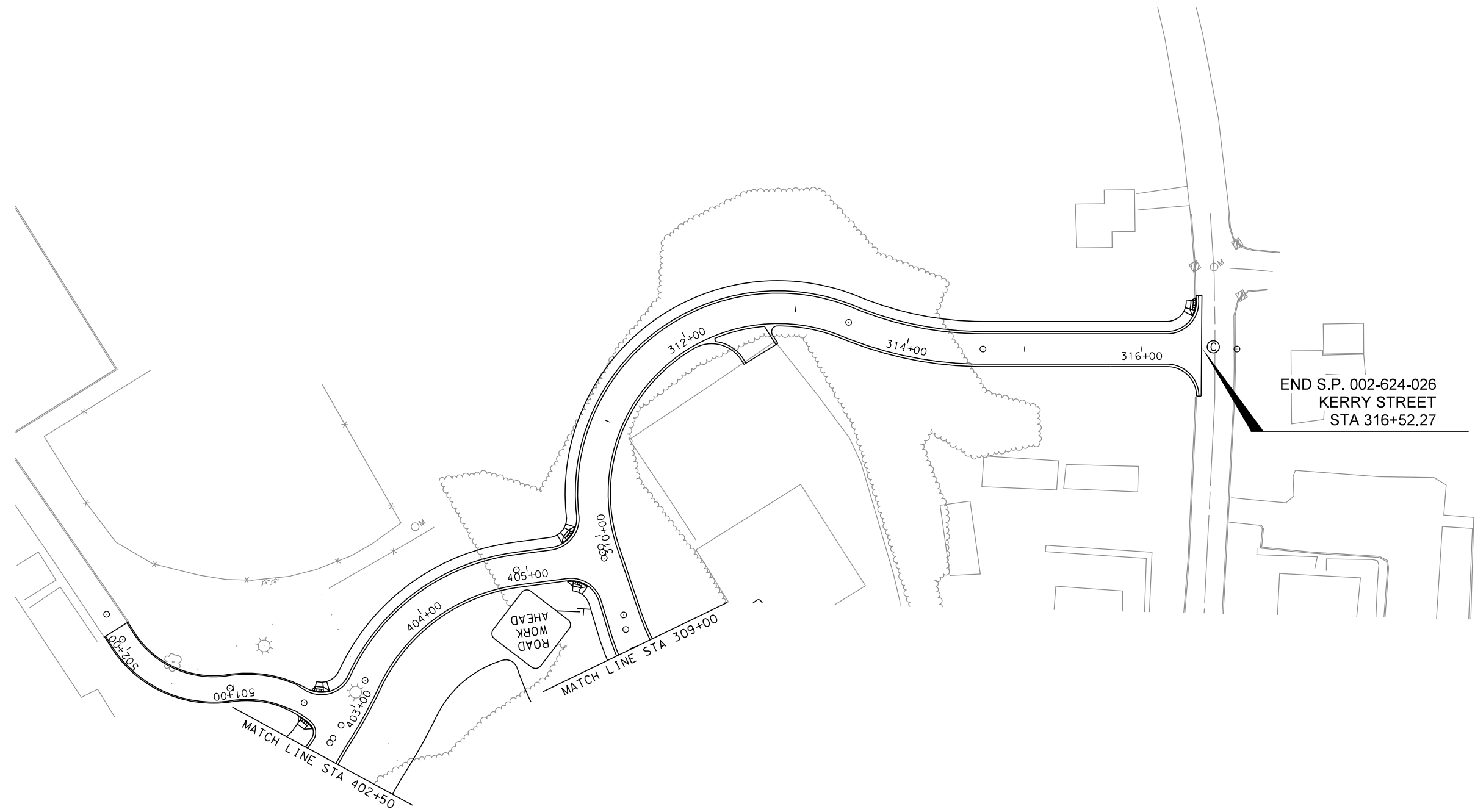
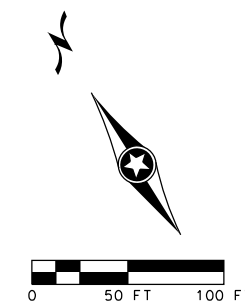

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**52**  
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**214**  
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**LEGEND**

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- OBLITERATE ALL CONFLICTING PAVEMENT MARKINGS.
- COVER ALL CONFLICTING SIGNS.

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE MN MUTCD AND PART VI, THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

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CERTIFIED BY: **ANDREW PLODMAN, PE**  
 LICENSED PROFESSIONAL ENGINEER  
 DATE: 6/15/15 LIC. NO: 44200

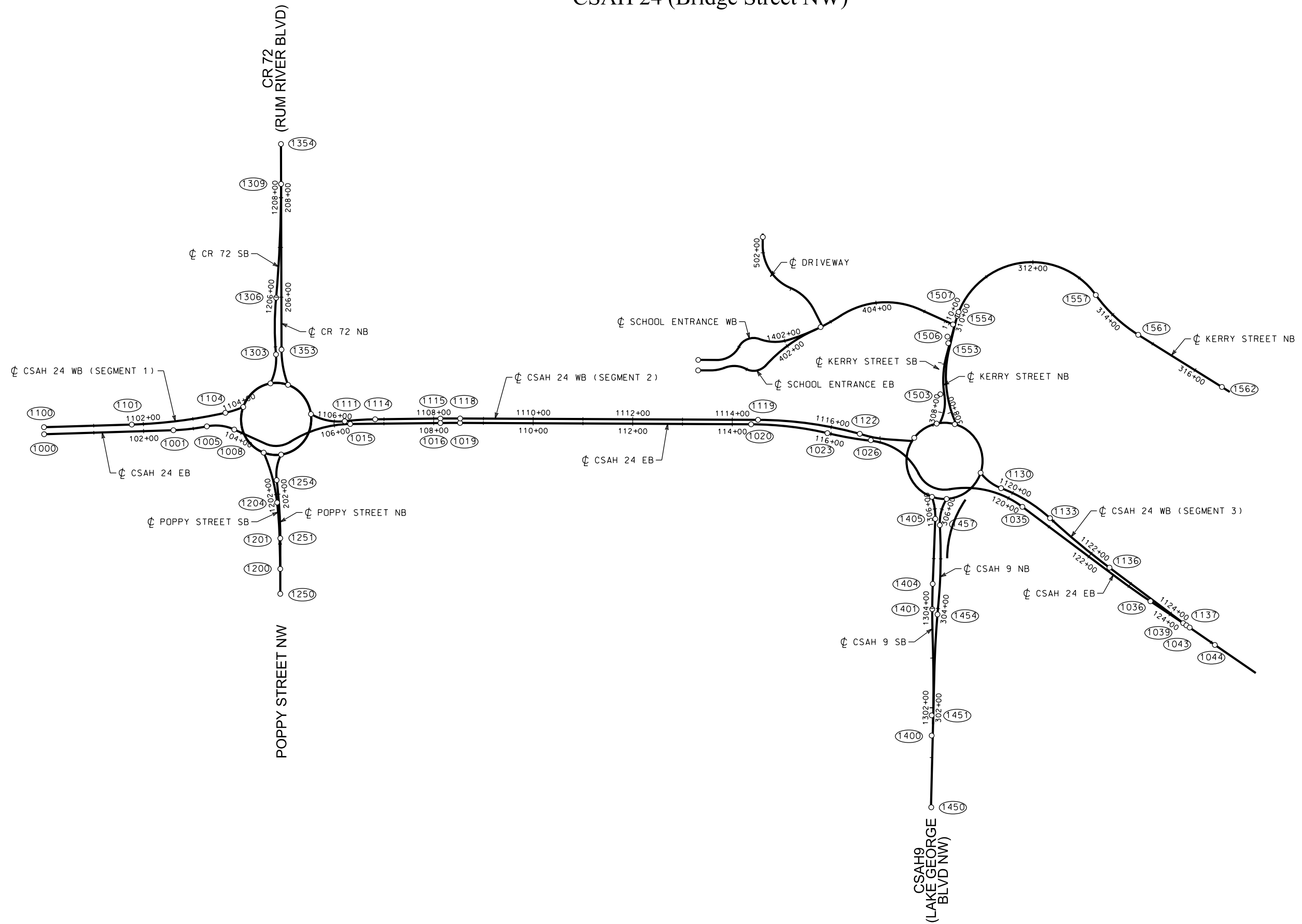
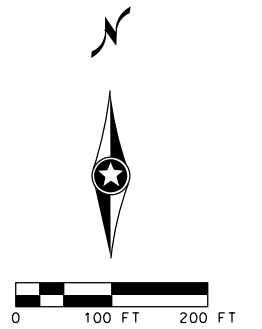
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**CSAH 24 Improvements**  
 Anoka County, Minnesota

**ANOKA COUNTY, MINNESOTA**  
 STAGE 4  
**CONSTRUCTION STAGING & TRAFFIC CONTROL**  
 S.P. 002-624-026

SHEET  
**54**  
 OF  
**214**  
 SHEETS

# CSAH 24 (Bridge Street NW)



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 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**ALIGNMENT PLAN & TABULATION**  
 S.P. 002-624-026

SHEET  
**55**  
 OF  
**214**  
 SHEETS

CSAH 24 EB - ALIGNMENT TABULATION

ITEM	CONTROL POINT	STATION	DELTA ANGLE	DEGREE OF CURVE - ARC	TANGENT	RADIUS	ARC LENGTH	EASTING	NORTHING	DIRECTION	DISTANCE
1000	BOP	100+00.00						477501.2077	228259.3033	N 88°14'03" E	259.8722
1001	PI	102+59.87						477760.9565	228267.3117	N 88°14'02" E	0.0000
1002	PC	102+59.87						477760.9565	228267.3117		
1003	RADIUS	N/A	09°37'14"	14°10'56"	33.9978	404.0000	67.8358	477748.5060	228671.1198		
1004	PI	102+93.87						477794.9382	228268.3594		
1005	PRC	103+27.71						477828.2668	228275.0715	N 78°36'48" E	0.0000
1006	RADIUS	N/A	35°52'02"	63°39'43"	29.1275	90.0000	56.3401	477846.0353	228186.8430		
1007	PI	103+56.84						477856.8210	228280.8221		
1008	PT	103+84.05						477883.3300	228268.7521	S 65°31'10" E	68.5577
1009	PC	104+52.61						477945.7245	228240.3427		
1010	RADIUS	N/A	56°55'48"	109°34'40"	28.3486	52.2878	51.9539	477967.3919	228287.9299		
1011	PI	104+80.95						477971.5246	228228.5955		
1012	PRC	105+04.56						477995.4470	228243.8060	N 57°33'03" E	0.0000
1013	RADIUS	N/A	31°47'45"	24°54'40"	65.5080	230.0000	127.6364	478118.8542	228049.7167		
1014	PI	105+70.07						478050.7270	228278.9545		
1015	PT	106+32.20						478116.2308	228279.7017	N 89°20'47" E	181.3117
1016	PC	108+13.51						478297.5307	228281.7697		
1017	RADIUS	N/A	00°54'35"	02°18'00"	19.7766	2491.0000	39.5524	478325.9433	225790.9318		
1018	PI	108+33.28						478317.3061	228281.9953		
1019	PT	108+53.06						478337.0825	228281.9069	S 89°44'38" E	584.7384
1020	PC	114+37.80						478921.8151	228279.2921		
1021	RADIUS	N/A	12°39'58"	08°11'06"	77.6889	700.0000	154.7445	478918.6848	227579.2991		
1022	PI	115+15.49						478999.5031	228278.9446		
1023	PRC	115+92.54						479075.2245	228261.5712	S 77°04'40" E	0.0000
1024	RADIUS	N/A	07°14'04"	08°11'06"	44.2520	700.0000	88.3864	479231.7642	228943.8434		
1025	PI	116+36.80						479118.3558	228251.6752		
1026	PRC	116+80.93						479162.3900	228247.2896	S 84°18'44" E	0.0000
1027	RADIUS	N/A	58°23'45"	47°44'47"	67.0601	120.0000	122.3041	479150.4972	228127.8804		
1028	PI	117+47.99						479229.1199	228240.6435		
1029	PRC	118+03.23						479258.4292	228180.3275	S 25°54'59" E	0.0000

CSAH 24 EB - ALIGNMENT TABULATION

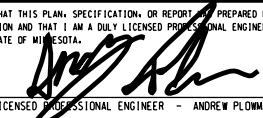
ITEM	CONTROL POINT	STATION	DELTA ANGLE	DEGREE OF CURVE - ARC	TANGENT	RADIUS	ARC LENGTH	EASTING	NORTHING	DIRECTION	DISTANCE
1030	RADIUS	N/A	73°58'16"	98°47'09"	43.6833	58.0000	74.8804	479310.5963	228205.6769		
1031	PI	118+46.92						479277.5214	228141.0373		
1032	PRC	118+78.11						479320.5558	228148.5384	N 80°06'45" E	0.0000
1033	RADIUS	N/A	46°43'31"	30°09'20"	82.0733	190.0000	154.9470	479353.1819	227961.3606		
1034	PI	119+60.19						479401.4100	228162.6318		
1035	PT	120+33.06						479467.0964	228113.4247	S 53°09'44" E	237.6981
1036	PC	122+70.76						479657.3350	227970.9128		
1037	RADIUS	N/A	03°08'10"	03°49'11"	41.0622	1500.0000	82.1038	480556.6600	229171.4188		
1038	PI	123+11.82						479690.1986	227946.2940		
1039	PT	123+52.86						479724.3598	227923.5100	S 56°17'54" E	78.9703
1040	PC	124+31.83						479790.0583	227879.6920		
1041	RADIUS	N/A	00°54'26"	05°43'46"	7.9183	1000.0000	15.8362	479235.1916	227047.7527		
1042	PI	124+39.75						479796.6458	227875.2984		
1043	PT	124+47.67						479803.1629	227870.8011	S 55°23'28" E	61.4489
1044	EOP	125+09.12						479853.7384	227835.8998		


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CSAH 24 WB (SEGMENT 1) - ALIGNMENT TABULATION

ITEM	CONTROL POINT	STATION	DELTA ANGLE	DEGREE OF CURVE - ARC	TANGENT	RADIUS	ARC LENGTH	EASTING	NORTHING	DIRECTION	DISTANCE
1100	BOP	1100+00.00						477500.7763	228273.2967	N 88°14'03" E	176.5310
1101	PC	1101+76.53						477677.2234	228278.7368		
1102	RADIUS	N/A	10°43'59"	05°39'02"	95.2525	1014.0000	189.9477	477645.9755	229292.2552		
1103	PI	1102+71.78						477772.4307	228281.6721		
1104	PRC	1103+66.48						477865.4258	228302.2867	N 77°30'04" E	0.0000
1105	RADIUS	N/A	10°47'48"	28°38'52"	18.8997	200.0000	37.6874	477822.1417	228497.5467		
1106	PI	1103+85.38						477883.8775	228306.3770		
1107	EOP	1104+04.17						477901.2364	228313.8513	N/A	0.0000

CSAH 24 WB (SEGMENT 2) - ALIGNMENT TABULATION

ITEM	CONTROL POINT	STATION	DELTA ANGLE	DEGREE OF CURVE - ARC	TANGENT	RADIUS	ARC LENGTH	EASTING	NORTHING	DIRECTION	DISTANCE
1108	PC	1105+50.47						478037.3634	228299.6641	S 59°48'13" E	0.0000
1109	RADIUS	N/A	36°42'15"	52°05'13"	36.4899	110.0000	70.4667	478092.6896	228394.7379		
1110	PI	1105+86.96						478068.9019	228281.3110		
1111	PRC	1106+20.94						478105.1566	228285.4466	N 83°29'32" E	0.0000
1112	RADIUS	N/A	05°51'15"	09°32'57"	30.6789	600.0000	61.3044	478173.1583	227689.3126		
1113	PI	1106+51.62						478135.6378	228288.9236		
1114	PT	1106+82.24						478166.3147	228289.2736	N 89°20'47" E	131.1219
1115	PC	1108+13.36						478297.4281	228290.7692		
1116	RADIUS	N/A	00°54'35"	02°17'31"	19.8481	2500.0000	39.6953	478325.9433	225790.9318		
1117	PI	1108+33.21						478317.2749	228290.9956		
1118	PT	1108+53.06						478337.1228	228290.9068	S 89°44'38" E	598.5580
1119	PC	1114+51.62						478935.6748	228288.2302		
1120	RADIUS	N/A	15°12'43"	07°20'44"	104.1563	780.0000	207.0874	478932.1868	227508.2380		
1121	PI	1115+55.77						479039.8300	228287.7644		
1122	PRC	1116+58.71						479140.2137	228259.9858	S 74°31'55" E	0.0000
1123	RADIUS	N/A	22°36'58"	20°27'46"	55.9904	280.0000	110.5230	479214.8900	228529.8440		
1124	PI	1117+14.70						479194.1760	228245.0531		
1125	EOP	1117+69.23						479249.7312	228252.0202	N/A	0.0000

CSAH 24 WB (SEGMENT 3) - ALIGNMENT TABULATION

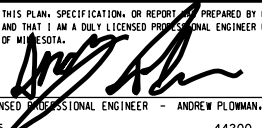
ITEM	CONTROL POINT	STATION	DELTA ANGLE	DEGREE OF CURVE - ARC	TANGENT	RADIUS	ARC LENGTH	EASTING	NORTHING	DIRECTION	DISTANCE
1127	PC	1119+22.97						479383.2505	228181.7268	S 36°28'58" E	0.0000
1128	RADIUS	N/A	33°03'41"	63°39'43"	26.7118	90.0000	51.9329	479455.6138	228235.2391		
1129	PI	1119+49.69						479399.1328	228160.2496		
1130	PRC	1119+74.91						479424.1603	228150.9143	S 69°32'39" E	0.0000
1131	RADIUS	N/A	22°12'16"	19°05'55"	58.8698	300.0000	116.2623	479319.3152	227869.8315		
1132	PI	1120+33.78						479479.3179	228130.3403		
1133	PRC	1120+91.17						479522.6099	228090.4472	S 47°20'23" E	0.0000
1134	RADIUS	N/A	05°49'21"	03°44'41"	77.8078	1530.0000	155.4816	480559.4125	229215.5874		
1135	PI	1121+68.98						479579.8286	228037.7209		
1136	PT	1122+46.65						479642.1010	227991.0713	S 53°09'44" E	193.0996
1137	EOP	1124+39.75						479796.6458	227875.2984		

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ANOKA COUNTY, MINNESOTA  
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 S.P. 002-624-026

POPPY STREET SB - ALIGNMENT TABULATION

ITEM	CONTROL POINT	STATION	DELTA ANGLE	DEGREE OF CURVE - ARC	TANGENT	RADIUS	ARC LENGTH	EASTING	NORTHING	DIRECTION	DISTANCE
1200	BOP	1200+50.02						477975.7987	227988.6371	N 01°20'07" W	61.4737
1201	PC	1201+11.49						477974.3661	228050.0941		
1202	RADIUS	N/A	05°11'03"	07°11'53"	36.0364	796.0000	72.0236	477178.5823	228031.5443		
1203	PI	1201+47.53						477973.5264	228086.1207		
1204	PRC	1201+83.52						477969.4347	228121.9240	N 06°31'10" W	0.0000
1205	RADIUS	N/A	17°03'47"	16°22'13"	52.5052	350.0000	104.2331	477621.6981	228082.1842		
1206	PI	1202+36.02						477963.4732	228174.0896		
1207	EOP	1202+87.75						477942.4673	228222.2098	N/A	0.0000

POPPY STREET NB - ALIGNMENT TABULATION

ITEM	CONTROL POINT	STATION	DELTA ANGLE	DEGREE OF CURVE - ARC	TANGENT	RADIUS	ARC LENGTH	EASTING	NORTHING	DIRECTION	DISTANCE
1250	BOP	200+00.00						477975.8320	227938.6169	N 00°02'22" W	111.5386
1251	PC	201+11.54						477975.7554	228050.1555		
1252	RADIUS	N/A	07°01'17"	05°59'36"	58.6509	956.0000	117.1549	477019.7557	228049.4990		
1253	PI	201+70.19						477975.7152	228108.8064		
1254	PRC	202+28.69						477968.5057	228167.0125	N 07°03'39" W	0.0000
1255	RADIUS	N/A	33°38'36"	63°39'43"	27.2097	90.0000	52.8468	478057.8231	228178.0755		
1256	PI	202+55.90						477965.1610	228194.0158	N/A	0.0000
1257	EOP	202+81.54						477977.3370	228218.3492		

CR 72 SB - ALIGNMENT TABULATION

ITEM	CONTROL POINT	STATION	DELTA ANGLE	DEGREE OF CURVE - ARC	TANGENT	RADIUS	ARC LENGTH	EASTING	NORTHING	DIRECTION	DISTANCE
1300	PC	1204+24.73						477956.0982	228361.4386	N 26°19'12" E	0.0000
1301	RADIUS	N/A	31°15'29"	52°05'13"	30.7727	110.0000	60.0112	477857.5018	228410.2110		
1302	PI	1204+55.50						477969.7424	228389.0211		
1303	PRC	1204+84.74						477967.0935	228419.6796	N 04°56'17" W	0.0000
1304	RADIUS	N/A	10°06'20"	08°52'18"	57.1012	645.8238	113.9061	478610.5202	228475.2710		
1305	PI	1205+41.84						477962.1783	228476.5688		
1306	PRC	1205+98.65						477967.3212	228533.4379	N 05°10'03" E	0.0000
1307	RADIUS	N/A	05°19'36"	02°19'29"	114.6528	2464.7741	229.1405	475512.5645	228755.4305		
1308	PI	1207+13.30						477977.6476	228647.6247		
1309	EOP	1208+27.79						477977.3291	228762.2771	N/A	0.0000

CR 72 NB - ALIGNMENT TABULATION

ITEM	CONTROL POINT	STATION	DELTA ANGLE	DEGREE OF CURVE - ARC	TANGENT	RADIUS	ARC LENGTH	EASTING	NORTHING	DIRECTION	DISTANCE
1350	PC	204+22.22						477991.4361	228358.3172	N 20°55'08" W	0.0000
1351	RADIUS	N/A	20°45'35"	28°38'52"	36.6341	200.0000	72.4649	478178.2536	228429.7261		
1352	PI	204+58.85						477978.3561	228392.5366		
1353	PT	204+94.68						477978.2544	228429.1706	N 00°09'33" W	413.1774
1354	EOP	209+07.86						477977.1067	228842.3464		

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ANOKA COUNTY, MINNESOTA  
**ALIGNMENT PLAN & TABULATION**  
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CSAH 9 SB - ALIGNMENT TABULATION

ITEM	CONTROL POINT	STATION	DELTA ANGLE	DEGREE OF CURVE - ARC	TANGENT	RADIUS	ARC LENGTH	EASTING	NORTHING	DIRECTION	DISTANCE
1400	BOP	1301+44.17						479284.6537	227653.6357	N 00°16'13" E	254.2299
1401	PC	1303+98.40						479285.8529	227907.8628		
1402	RADIUS	N/A	01°57'24"	03°49'11"	25.6168	1500.0000	51.2285	480785.8362	227900.7874		
1403	PI	1304+24.02						479285.9737	227933.4793		
1404	PT	1304+49.63						479286.9692	227959.0767	N 02°13'37" E	130.1959
1405	PC	1305+79.82						479292.0285	228089.1742		
1406	RADIUS	N/A	21°30'04"	47°44'47"	22.7839	120.0000	45.0317	479172.1192	228093.8373		
1407	PI	1306+02.61						479292.9139	228111.9409		
1408	EOP	1306+24.86						479285.3932	228133.4477	N/A	0.0000

KERRY STREET SB - ALIGNMENT TABULATION

ITEM	CONTROL POINT	STATION	DELTA ANGLE	DEGREE OF CURVE - ARC	TANGENT	RADIUS	ARC LENGTH	EASTING	NORTHING	DIRECTION	DISTANCE
1500	PC	1307+75.80						479294.6691	228280.5006	N 24°32'04" E	0.0000
1501	RADIUS	N/A	34°41'53"	57°17'45"	31.2405	100.0000	60.5596	479203.6978	228322.0244		
1502	PI	1308+07.04						479307.6413	228308.9204		
1503	PRC	1308+36.36						479302.1286	228339.6706	N 10°09'50" W	0.0000
1504	RADIUS	N/A	34°31'52"	29°10'10"	61.0498	196.4239	118.3813	479495.4701	228374.3320		
1505	PI	1308+97.41						479291.3556	228399.7624		
1506	PT	1309+54.74						479316.5435	228455.3730	N 24°22'02" E	54.2930
1507	EOP	1310+09.03						479338.9438	228504.8296		

CSAH 9 NB - ALIGNMENT TABULATION

ITEM	CONTROL POINT	STATION	DELTA ANGLE	DEGREE OF CURVE - ARC	TANGENT	RADIUS	ARC LENGTH	EASTING	NORTHING	DIRECTION	DISTANCE
1450	BOP	300+00.00						479283.9736	227509.4628	N 00°16'13" E	184.9156
1451	PC	301+84.92						479284.8459	227694.3763		
1452	RADIUS	N/A	05°55'44"	02°55'04"	101.6851	1963.6006	203.1888	481248.4247	227685.1142		
1453	PI	302+86.60						479285.3255	227796.0603		
1454	PRC	303+88.10						479296.3058	227897.1509	N 06°11'57" E	0.0000
1455	RADIUS	N/A	09°16'47"	05°09'47"	90.0655	1109.7477	179.7370	478193.0472	228016.9854		
1456	PI	304+78.17						479306.0314	227986.6897		
1457	PRC	305+67.84						479301.1912	228076.6250	N 03°04'50" W	0.0000
1458	RADIUS	N/A	35°11'07"	63°39'43"	28.5370	90.0000	55.2690	479391.0611	228081.4618		
1459	PI	305+96.38						479299.6576	228105.1208		
1460	EOP	306+23.11						479314.8240	228129.2938	N/A	0.0000

KERRY STREET SB - ALIGNMENT TABULATION

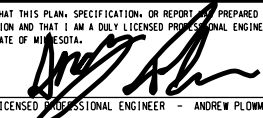
ITEM	CONTROL POINT	STATION	DELTA ANGLE	DEGREE OF CURVE - ARC	TANGENT	RADIUS	ARC LENGTH	EASTING	NORTHING	DIRECTION	DISTANCE
1550	PC	307+75.11						479331.0997	228279.3781	N 27°44'46" W	0.0000
1551	RADIUS	N/A	46°16'26"	27°33'24"	88.8440	207.9199	167.9230	479515.1129	228376.1759		
1552	PI	308+63.95						479289.7380	228358.0068		
1553	PT	309+43.03						479317.9697	228442.2459	N 18°31'40" E	57.9466
1554	PC	310+00.98						479336.3832	228497.1891		
1555	RADIUS	N/A	125°51'25"	36°15'47"	309.1381	158.0000	347.0658	479486.1939	228446.9820		
1556	PI	313+10.12						479434.6170	228790.3043		
1557	PRC	313+48.05						479614.6396	228538.9912	S 35°36'54" E	0.0000
1558	RADIUS	N/A	22°27'30"	19°05'55"	59.5601	300.0000	117.5911	479858.5238	228713.6924		
1559	PI	314+07.61						479649.3236	228490.5720		
1560	PT	314+65.64						479699.8738	228459.0746	S 58°04'24" E	198.0839
1561	EOP	316+63.72						479867.9927	228354.3213		


Note: Printed 6/30/2015  
 WSB Filename: K:\0666-220\Cad\Plan\666e-l.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

CERTIFIED BY:   
 LICENSED PROFESSIONAL ENGINEER - ANDREW PLONMAN, PE  
 DATE: 6/15/15 LIC. NO.: 44200


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**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**ALIGNMENT PLAN & TABULATION**  
 S.P. 002-624-026

SCHOOL ENTRANCE WB - ALIGNMENT TABULATION

ITEM	CONTROL POINT	STATION	DELTA ANGLE	DEGREE OF CURVE - ARC	TANGENT	RADIUS	ARC LENGTH	EASTING	NORTHING	DIRECTION	DISTANCE
1600	BOP	1400+08.31						478815.5904	228408.5824	S 89°59'48" E	37.8997
1601	PC	1400+46.21						478853.4901	228408.5802		
1602	RADIUS	N/A	62°02'30"	114°35'30"	30.0677	50.0000	54.1415	478853.4930	228458.5802		
1603	PI	1400+76.28						478883.5579	228408.5785		
1604	PI	1401+00.35						478897.6561	228435.1361	N 27°57'42" E	0.0000
1605	RADIUS	N/A	82°34'29"	173°37'25"	28.9783	33.0000	47.5596	478926.8037	228419.6630		
1606	PI	1401+29.33						478911.2435	228460.7315		
1607	PI	1401+47.91						478938.3802	228450.5658	S 69°27'49" E	0.0000
1608	RADIUS	N/A	37°04'16"	63°39'43"	30.1758	90.0000	58.2313	478969.9525	228534.8463		
1609	PI	1401+78.09						478966.6383	228439.9801		
1610	PI	1402+06.14						478995.5662	228448.5680	N 73°27'55" E	0.0000
1611	RADIUS	N/A	08°30'54"	13°48'22"	30.8946	415.0000	61.6755	478877.4587	228846.4067		
1612	PI	1402+37.04						479025.1832	228457.3605		
1613	EOP	1402+67.82						479053.1719	228470.4414	N/A	0.0000

SCHOOL ENTRANCE EB - ALIGNMENT TABULATION

ITEM	CONTROL POINT	STATION	DELTA ANGLE	DEGREE OF CURVE - ARC	TANGENT	RADIUS	ARC LENGTH	EASTING	NORTHING	DIRECTION	DISTANCE
1650	BOP	400+00.00						478815.5532	228387.5720	S 89°53'55" E	25.9864
1651	PC	400+25.99						478841.5396	228387.5261	S 89°53'55" E	0.0000
1652	RADIUS	N/A	21°27'02"	81°06'02"	13.3813	70.6478	26.4492	478841.6645	228458.1738		
1653	PI	400+39.37						478854.9209	228387.5024		
1654	PI	400+52.44						478867.3839	228392.3739	N 68°39'03" E	0.0000
1655	RADIUS	N/A	03°27'57"	67°24'24"	2.5717	85.0000	5.1418	478898.3283	228313.2067		
1656	PI	400+55.01						478869.7791	228393.3101		
1657	PI	400+57.58						478872.2265	228394.0998	N 72°07'00" E	0.0000
1658	RADIUS	N/A	46°05'04"	114°35'30"	21.2672	50.0000	40.2163	478887.5805	228346.5156		
1659	PI	400+78.84						478892.4662	228400.6305		
1660	PI	400+97.79						478911.2089	228390.5803	S 61°47'56" E	0.0000
1661	RADIUS	N/A	75°50'18"	173°37'25"	25.7075	33.0000	43.6797	478926.8037	228419.6630		
1662	PI	401+23.50						478933.8648	228378.4317		
1663	PI	401+41.47						478951.1871	228397.4269	N 42°21'46" E	0.0000
1664	RADIUS	N/A	23°14'05"	19°05'55"	61.6762	300.0000	121.6573	479172.8550	228195.2799		
1665	PI	402+03.15						478992.7460	228442.9989		
1666	PI	402+63.13						479048.9125	228468.4800	N 65°35'52" E	0.0000
1667	RADIUS	N/A	08°26'59"	13°48'22"	30.6571	415.0000	61.2029	478877.4587	228846.4067		
1668	PI	402+93.79						479076.8308	228481.1457		
1669	PI	403+24.33						479102.5850	228497.7763	N 57°08'52" E	0.0000
1670	RADIUS	N/A	57°13'09"	34°18'32"	91.0878	167.0000	166.7770	479193.1780	228357.4841		
1671	PI	404+15.42						479179.1054	228547.1890		
1672	PT	404+91.11						479262.0792	228509.6078	S 65°37'58" E	71.9890
1673	EOP	405+63.10						479327.6554	228479.9064		

DRIVEWAY - ALIGNMENT TABULATION

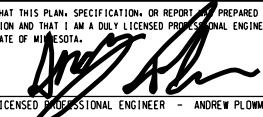
ITEM	CONTROL POINT	STATION	DELTA ANGLE	DEGREE OF CURVE - ARC	TANGENT	RADIUS	ARC LENGTH	EASTING	NORTHING	DIRECTION	DISTANCE
1700	BOP	500+00.00						479061.5038	228474.4492	N 24°12'46" W	32.6553
1701	PC	500+32.66						479048.1109	228504.2317		
1702	RADIUS	N/A	47°50'21"	62°16'41"	40.8065	92.0000	76.8156	478964.2044	228466.4999		
1703	PI	500+73.46						479031.3751	228541.4484		
1704	PI	501+09.47						478992.5544	228554.0230	N 72°03'08" W	0.0000
1705	RADIUS	N/A	72°03'08"	84°15'31"	49.4521	68.0000	85.5131	479013.5087	228618.7139		
1706	PI	501+58.92						478945.5087	228569.2617		
1707	PT	501+94.98						478945.5087	228618.7139	N 00°00'00" W	36.7062
1708	EOP	502+31.69						478945.5087	228655.4201		


Note: Printed 6/30/2015  
 WSB Filename: K:\0666-220\_Coad\Plan\666a-1.dgn


NO.	DATE	BY	CHK	REVISIONS

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 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

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CERTIFIED BY:   
 LICENSED PROFESSIONAL ENGINEER - ANDREW PLOZMAN, PE  
 DATE: 6/15/15 L.I.C. NO: 44200

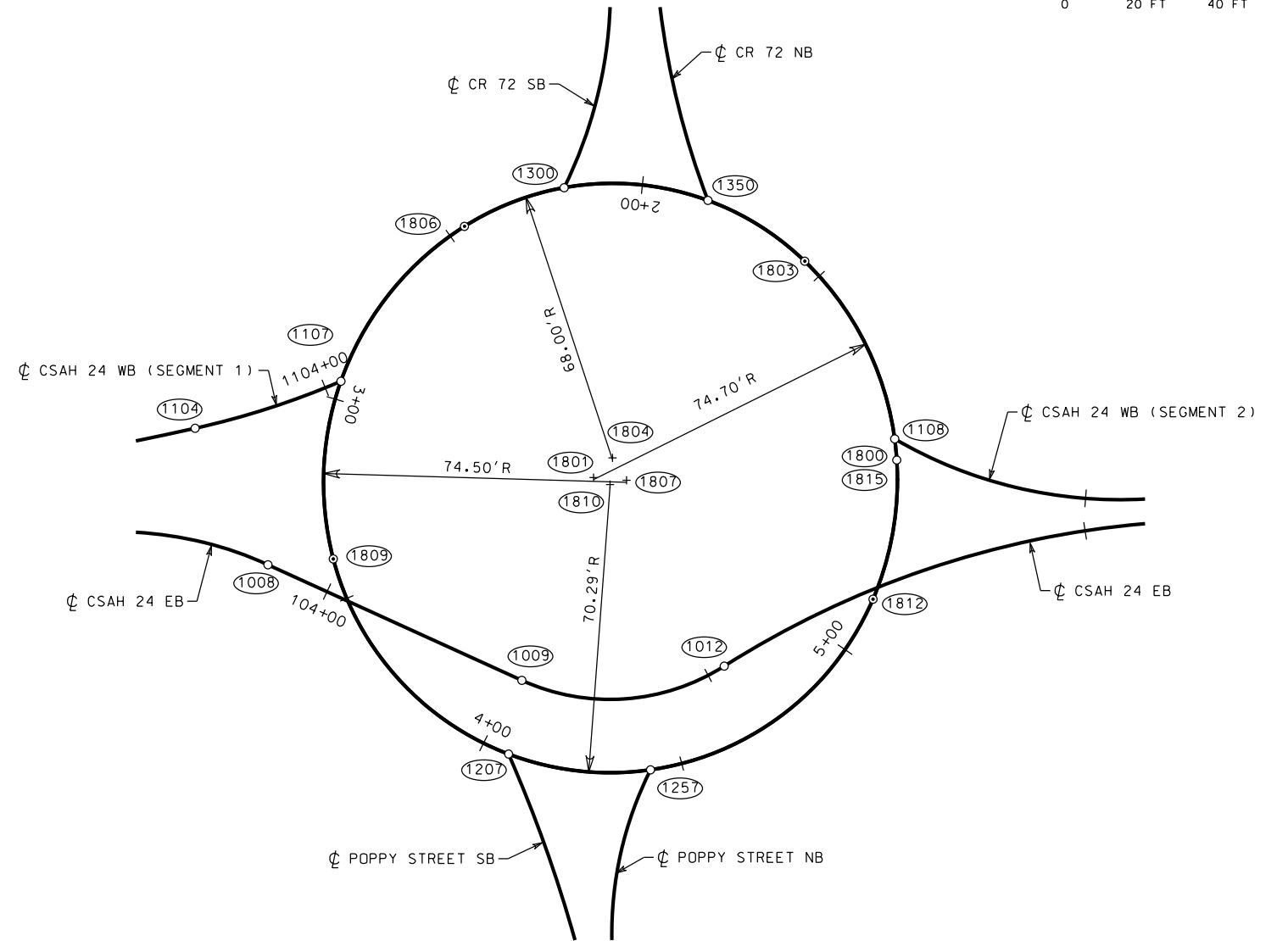
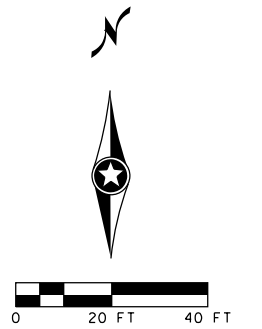

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 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**ALIGNMENT PLAN & TABULATION**  
 S.P. 002-624-026

RADIAL - ALIGNMENT TABULATION

ITEM	CONTROL POINT	STATION	DELTA ANGLE	DEGREE OF CURVE - ARC	TANGENT	RADIUS	ARC LENGTH	EASTING	NORTHING	DIRECTION	DISTANCE
1800	PC	1+00.00						478037.8798	228294.4867	N 03°41'58" W	0.0000
1801	RADIUS	N/A	42°15'58"	76°41'47"	28.8757	74.7045	55.1084	477963.3309	228289.6667		
1802	PI	1+28.88						478036.0167	228323.3022		
1803	PCC	1+55.11						478015.2573	228343.3734	N 45°57'56" W	0.0000
1804	RADIUS	N/A	76°21'54"	84°15'31"	53.4771	68.0000	90.6318	477967.9911	228294.4867		
1805	PI	2+08.59						477976.8115	228380.5448		
1806	PCC	2+45.74						477931.6246	228351.9451	S 57°40'10" W	0.0000
1807	RADIUS	N/A	72°18'28"	76°54'26"	54.4338	74.5000	94.0197	477971.4674	228288.9944		
1808	PI	3+00.17						477885.6293	228322.8338		
1809	PCC	3+39.76						477899.3856	228270.1670	S 14°38'18" E	0.0000
1810	RADIUS	N/A	142°12'23"	81°30'58"	205.3310	70.2878	174.4521	477967.3919	228287.9299		
1811	PI	5+45.09						477951.2762	228071.5009		
1812	PCC	5+14.21						478032.0174	228260.2910	N 23°09'19" E	0.0000
1813	RADIUS	N/A	26°51'14"	76°41'47"	17.8342	74.7045	35.0130	477963.3309	228289.6667		
1814	PI	5+32.05						478039.0303	228276.6885		
1815	PT	5+49.22						478037.8798	228294.4856	N/A	0.0000



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 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

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CERTIFIED BY: *[Signature]*  
 LICENSED PROFESSIONAL ENGINEER - ANDREW FLOHMAN, PE  
 DATE: 6/15/15 LIC. NO: 44200

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 Anoka County, Minnesota

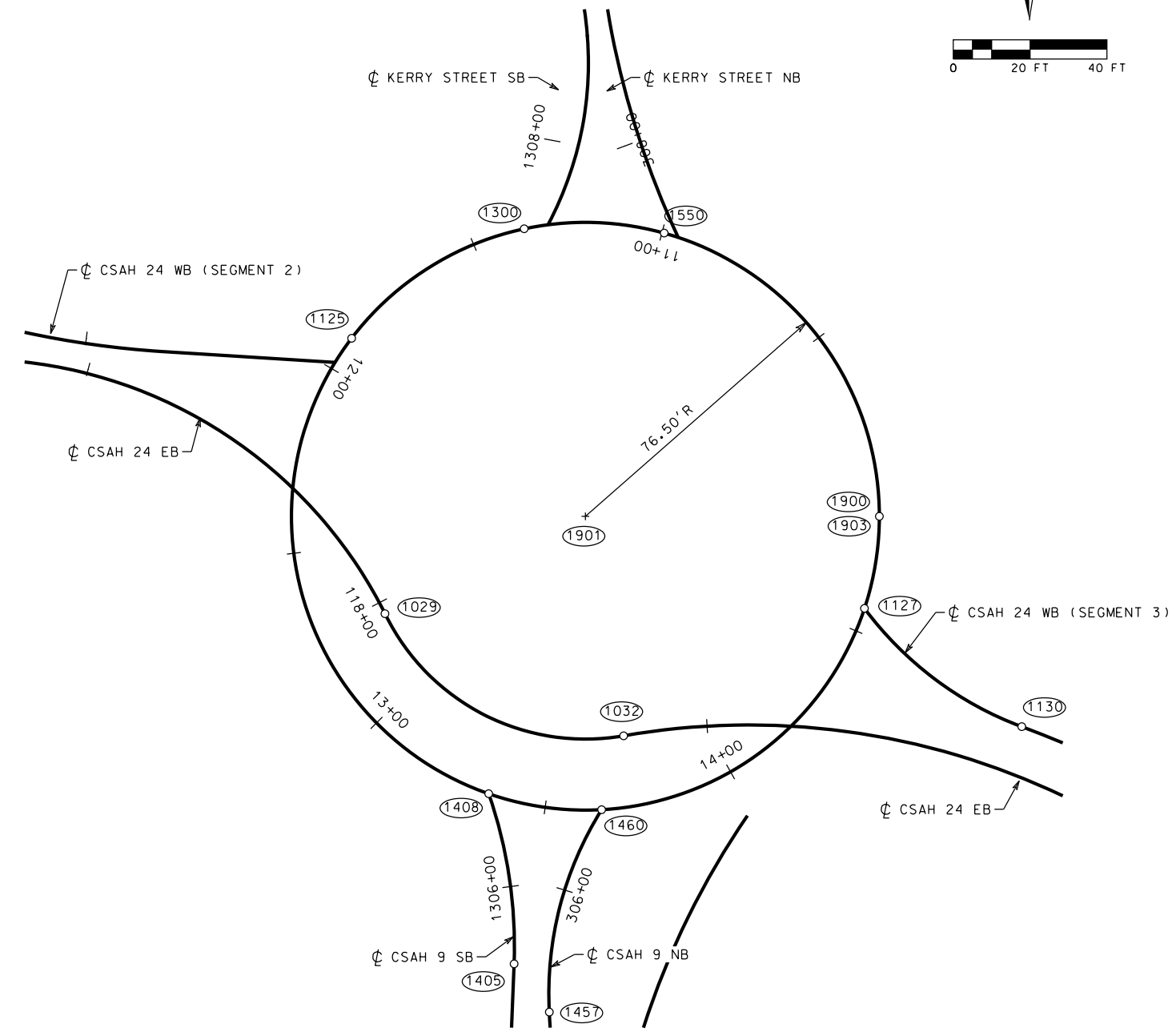
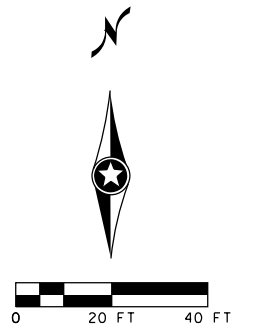
ANOKA COUNTY, MINNESOTA

**ALIGNMENT PLAN & TABULATION**  
 S.P. 002-624-026

SHEET  
**61**  
 OF  
**214**  
 SHEETS

RADIAL - ALIGNMENT TABULATION

ITEM	CONTROL POINT	STATION	DELTA ANGLE	DEGREE OF CURVE - ARC	TANGENT	RADIUS	ARC LENGTH	EASTING	NORTHING	DIRECTION	DISTANCE
1900	PC	10+00.00						479387.0963	228205.6769	N 00°00'00" W	0.0000
1901	RADIUS	N/A	359°59'30"	74°53'47"	-0.0055	76.5000	480.6527	479310.5963	228205.6769		
1902	PI	10+00.01						479387.0963	228205.6719		
1903	PT	14+80.65						479387.0963	228205.6659	N/A	0.0000



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 Checked By: DRS  
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 DATE: 6/15/15 LIC. NO: 44200

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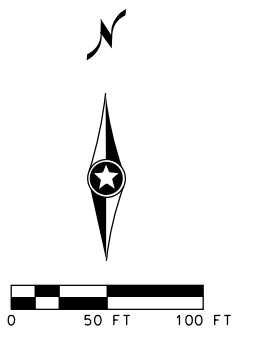
**ANOKA COUNTY**  
**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**ALIGNMENT PLAN & TABULATION**  
 S.P. 002-624-026

SHEET  
**62**  
 OF  
**214**  
 SHEETS

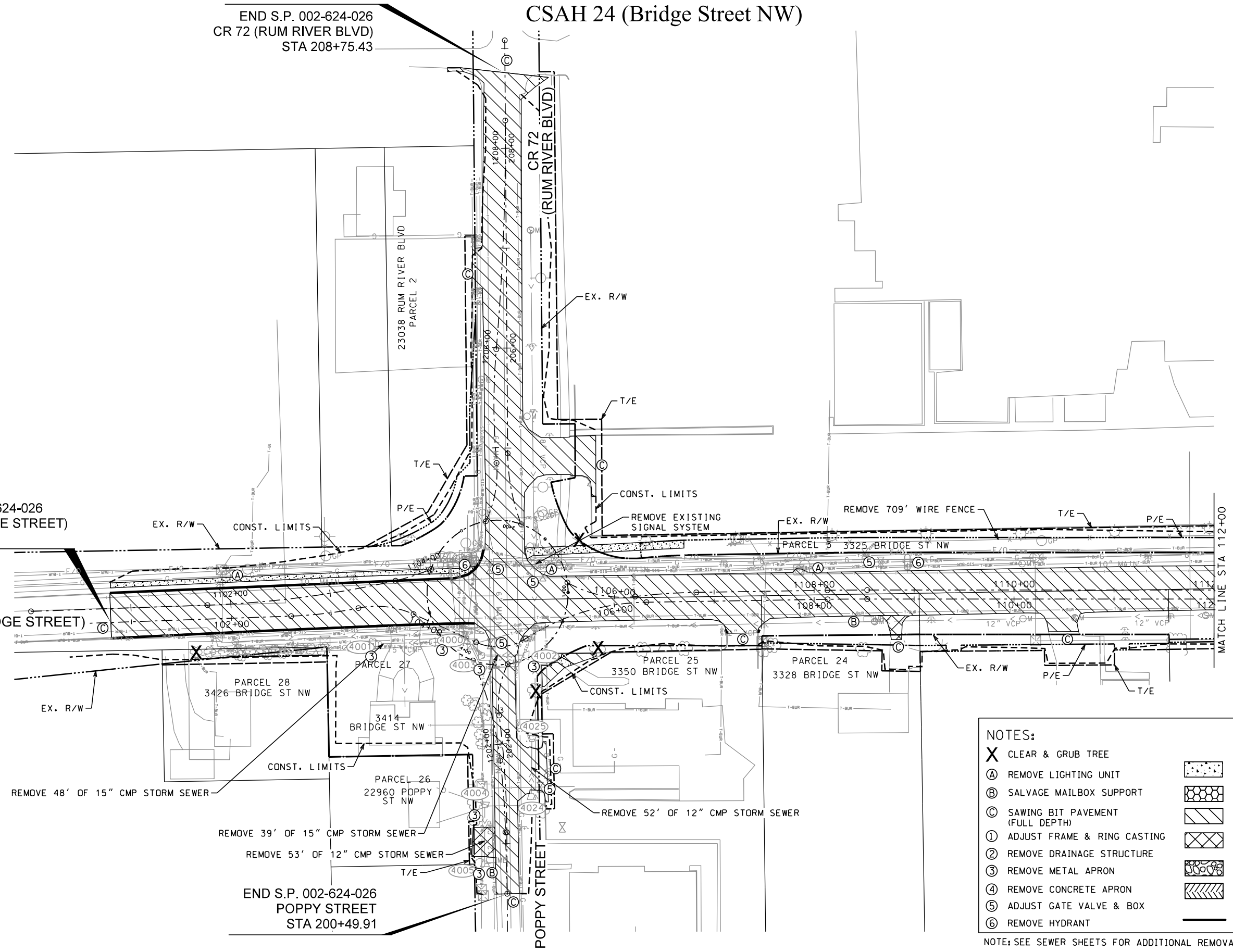
END S.P. 002-624-026  
CR 72 (RUM RIVER BLVD)  
STA 208+75.43

# CSAH 24 (Bridge Street NW)



BEGIN S.P. 002-624-026  
CSAH 24 (BRIDGE STREET)  
STA 100+79.44

CSAH 24 (BRIDGE STREET)



- NOTES:**
- X CLEAR & GRUB TREE
  - A REMOVE LIGHTING UNIT
  - B SALVAGE MAILBOX SUPPORT
  - C SAWING BIT PAVEMENT (FULL DEPTH)
  - ① ADJUST FRAME & RING CASTING
  - ② REMOVE DRAINAGE STRUCTURE
  - ③ REMOVE METAL APRON
  - ④ REMOVE CONCRETE APRON
  - ⑤ ADJUST GATE VALVE & BOX
  - ⑥ REMOVE HYDRANT
  - REMOVE CONCRETE WALK
  - REMOVE CONCRETE MEDIAN
  - REMOVE BITUMINOUS PAVEMENT
  - REMOVE BITUMINOUS DRIVEWAY PAVEMENT
  - REMOVE GRAVEL DRIVEWAY
  - REMOVE TREES
  - REMOVE CONCRETE CURB & GUTTER (SAWCUT INCIDENTAL)
- NOTE: SEE SEWER SHEETS FOR ADDITIONAL REMOVALS

Note: Printed 6/30/2015  
 WSB Filename: K:\0666-220\Coord\Plan\666mr01.dgn

NO.	DATE	BY	CHK	REVISIONS

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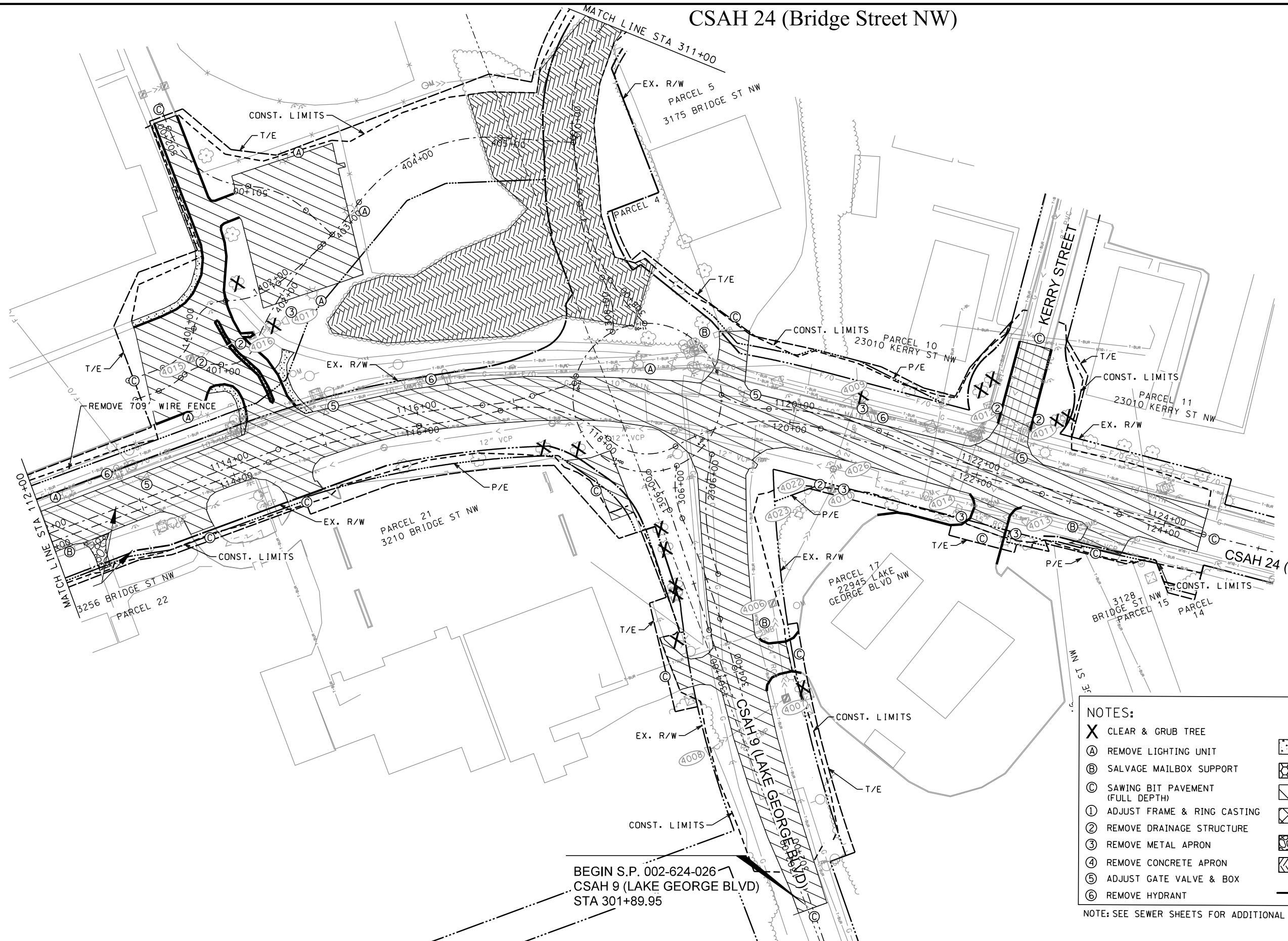
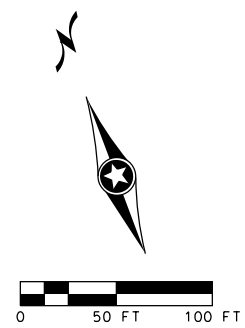
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ANOKA COUNTY, MINNESOTA  
**MISCELLANEOUS REMOVALS**  
 S.P. 002-624-026

SHEET  
**63**  
 OF  
**214**  
 SHEETS

# CSAH 24 (Bridge Street NW)



END S.P. 002-624-026  
 CSAH 24 (BRIDGE STREET)  
 STA 125+38.99

BEGIN S.P. 002-624-026  
 CSAH 9 (LAKE GEORGE BLVD)  
 STA 301+89.95

- NOTES:**
- X CLEAR & GRUB TREE
  - (A) REMOVE LIGHTING UNIT
  - (B) SALVAGE MAILBOX SUPPORT
  - (C) SAWING BIT PAVEMENT (FULL DEPTH)
  - (1) ADJUST FRAME & RING CASTING
  - (2) REMOVE DRAINAGE STRUCTURE
  - (3) REMOVE METAL APRON
  - (4) REMOVE CONCRETE APRON
  - (5) ADJUST GATE VALVE & BOX
  - (6) REMOVE HYDRANT
  - [Pattern] REMOVE CONCRETE WALK
  - [Pattern] REMOVE CONCRETE MEDIAN
  - [Pattern] REMOVE BITUMINOUS PAVEMENT
  - [Pattern] REMOVE BITUMINOUS DRIVEWAY PAVEMENT
  - [Pattern] REMOVE GRAVEL DRIVEWAY
  - [Pattern] REMOVE TREES
  - [Pattern] REMOVE CONCRETE CURB & GUTTER (SAWCUT INCIDENTAL)

NOTE: SEE SEWER SHEETS FOR ADDITIONAL REMOVALS

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 DATE: 6/15/15 LIC. NO: 44200

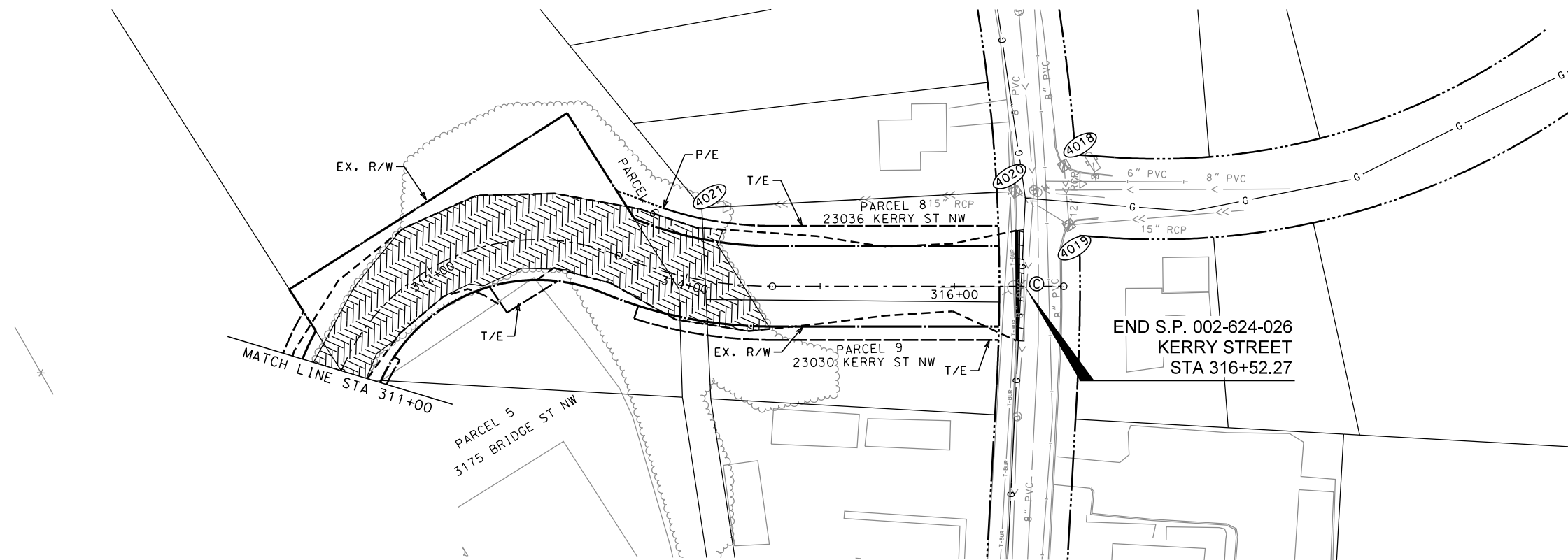
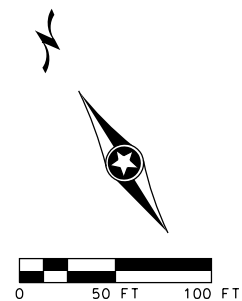
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**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**MISCELLANEOUS REMOVALS**  
 S.P. 002-624-026

SHEET  
**64**  
 OF  
**214**  
 SHEETS





- NOTES:**
- X CLEAR & GRUB TREE
  - Ⓐ REMOVE LIGHTING UNIT
  - Ⓑ SALVAGE MAILBOX SUPPORT
  - Ⓒ SAWING BIT PAVEMENT (FULL DEPTH)
  - ① ADJUST FRAME & RING CASTING
  - ② REMOVE DRAINAGE STRUCTURE
  - ③ REMOVE METAL APRON
  - ④ REMOVE CONCRETE APRON
  - ⑤ ADJUST GATE VALVE & BOX
  - ⑥ REMOVE HYDRANT
- REMOVE CONCRETE WALK
  - REMOVE CONCRETE MEDIAN
  - REMOVE BITUMINOUS PAVEMENT
  - REMOVE BITUMINOUS DRIVEWAY PAVEMENT
  - REMOVE GRAVEL DRIVEWAY
  - REMOVE TREES
  - REMOVE CONCRETE CURB & GUTTER (SAWCUT INCIDENTAL)

NOTE: SEE SEWER SHEETS FOR ADDITIONAL REMOVALS

Date Printed: 6/30/2015  
WSB Filename: K:\0666-220\Coord\Plan\666mr03.dgn

NO.	DATE	BY	CHK	REVISIONS

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CERTIFIED BY:   
 LICENSED PROFESSIONAL ENGINEER - ANDREW PLONMAN, PE  
 DATE: 6/15/15 LIC. NO: 44200

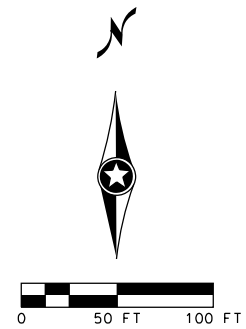
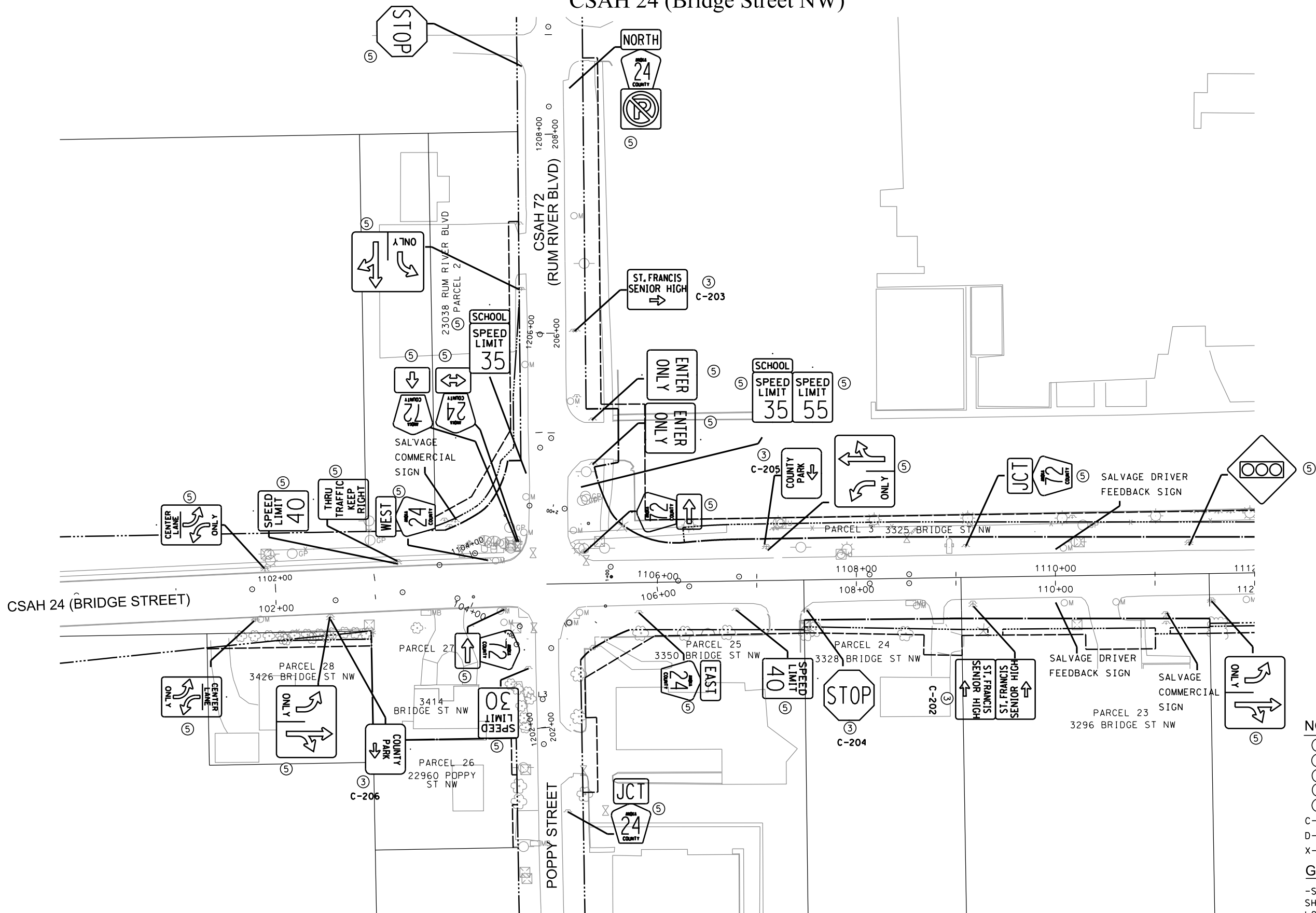
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**ANOKA COUNTY**  
**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**MISCELLANEOUS REMOVALS**  
 S.P. 002-624-026

SHEET  
**65**  
 OF  
**214**  
 SHEETS

# CSAH 24 (Bridge Street NW)



- NOTES**
- ② INPLACE TO REMAIN
  - ③ SALVAGE SIGN
  - ④ REMOVE
  - ⑤ REMOVE SIGN TYPE C
  - ⑥ REMOVE SIGN TYPE SPECIAL
- C-XXX SIGN TYPE C  
D-XXX SIGN TYPE D  
X-XXX SIGN TYPE SPECIAL
- GENERAL NOTES**
- SALVAGED SIGNS TO BE REMOVED SHALL BE KEPT IN A SAFE LOCATION DURING CONSTRUCTION OR RETAINED IN PLACE/INSTALL AS TEMP AS APPLICABLE.

Date Printed: 6/30/2015  
 File Name: K:\0666-220\Coord\Plan\666ssr-01.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

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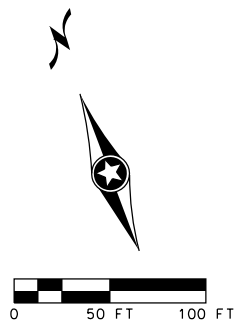
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 LICENSED PROFESSIONAL ENGINEER - ANDREW PLOMANN, PE  
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**ANOKA COUNTY**  
**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**SIGN REMOVAL PLAN**  
 S.P. 002-624-026

# CSAH 24 (Bridge Street NW)



END S.P. 002-624-026  
CSAH 24 (BRIDGE STREET)  
STA 125+38.99

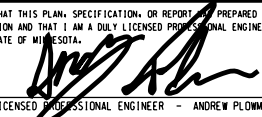
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**CSAH 24 Improvements**  
Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA

**SIGN REMOVAL PLAN**  
S.P. 002-624-026

SHEET  
**67**  
OF  
**214**  
SHEETS

**NOTES :**

- ① LOCATIONS OF POLES, EQUIPMENT PAD, LOOP DETECTORS AND HANDHOLES WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- ② SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
- ③ LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 21 mm N.M.C. (SEE SPECIAL PROVISIONS AND DETAILS.)
- ④ NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS PER Mn/DOT STANDARD PLATE NO. M8114.
- ⑤ EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
- ⑥ ALL VEHICLE SIGNAL INDICATIONS AND ALL "HAND" PEDESTRIAN INDICATIONS SHALL BE L.E.D. TYPE. (SEE SPECIAL PROVISIONS.)
- ⑦ EACH PEDESTRIAN INDICATION SHALL BE A SINGLE SECTION HAND / WALKING PERSON INDICATION. (SEE SPECIAL PROVISIONS.)
- ⑧ SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGN PANELS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
- ⑨ THE PAVEMENT MARKINGS AND DIMENSIONS SHOWN ARE APPROXIMATE. PERMANENT PAVEMENT MARKINGS WILL BE FURNISHED AND INSTALLED BY ANOKA COUNTY.
- ⑩ THE POWER LINES ON THE NORTH SIDE OF C.S.A.H. 24 ARE TO BE RAISED BY CONNEXUS ENERGY. CONTRACTOR SHALL COORDINATE WORK WITH CONNEXUS FORCES.
- ⑪ EQUIPMENT PAD SHALL BE CONSTRUCTED ON EARTH FILL AT A MINIMUM ELEVATION OF 0.5 m ABOVE THE EXISTING TOE OF SLOPE ELEVATION. ALL SIDE SLOPES SHALL BE 4:1. ALL GRADING WORK SHALL BE CONSIDERED INCIDENTAL TO THE SIGNAL SYSTEM.

**A** EQUIPMENT PAD (SEE DETAIL AND NOTE 11)  
 INSTALL CONTROLLER AND CABINET (TO BE FURNISHED BY ANOKA COUNTY)  
 CONTROLLER CABINET TO SERVICE CABINET VIA H.H. 14 :  
 35 mm R.S.C. (METERED SIGNAL SERVICE)  
 2-1/C #4  
 1-1/C #6 BARE GROUND  
 CONTR. CABINET TO H.H. 1 :  
 103 mm R.S.C.  
 4-12/C #12  
 7-3/C #12  
 4-2/C #14  
 2-3/C #20  
 CONTR. CABINET TO H.H. 2 :  
 103 mm R.S.C.  
 4-12/C #12  
 7-3/C #12  
 8-2/C #14  
 2-3/C #20

**B** SERVICE CABINET (SEE DETAIL)  
 CABINET FOUNDATION (SEE DETAIL)  
 SERVICE CABINET TO S.O.P. VIA H.H. 13 :  
 53 mm R.S.C. (POWER FEED)  
 3-1/C #4 (CONNECTION AT S.O.P. BY CONNEXUS)  
 SERVICE CABINET TO CONTROLLER CABINET VIA H.H. 14 :  
 35 mm R.S.C. (METERED SIGNAL SERVICE)  
 2-1/C #4  
 1-1/C #6 BARE GROUND  
 SERVICE CABINET TO H.H. 2 :  
 35 mm R.S.C. (UNMETERED LIGHTING SERVICE)  
 2-3/C #12 (LUM.)

**①** PA90 POLE FOUNDATION  
 TYPE PA90-A-9.1  
 1-ONE WAY SIGNAL OVERHEAD (END MOUNTED)  
 1-ONE WAY SIGNAL OVERHEAD AT 2.9 m  
 1-TYPE 10B POLE MOUNTED AT 0'  
 1-TYPE 10B POLE MOUNTED AT 270'  
 2-PEDESTRIAN PUSH BUTTONS  
 R10-12 SIGN PANEL (900 mm x 1200 mm)  
 MOUNTED OVERHEAD (ADJACENT TO 6-3)  
 TYPE "D" SIGN PANEL (4110 mm x 910 mm)  
 MOUNTED OVERHEAD (D-1)  
 EXTEND INTO HH 2:  
 78 mm R.S.C.  
 2-12/C #12  
 4-3/C #12  
 1-3/C #20

**LEGEND**  
 CONSTRUCT 100 mm CONCRETE WALK PER Mn/DOT 2521 OVER 100 mm OF COMPACTED CLASS 5 AGGREGATE BASE (ALL WALK WORK SHALL BE CONSIDERED INCIDENTAL TO THE SIGNAL SYSTEM).

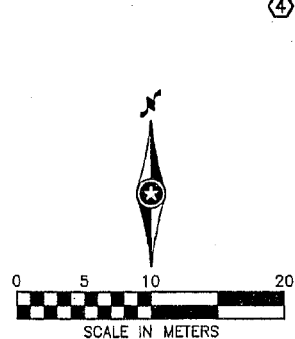
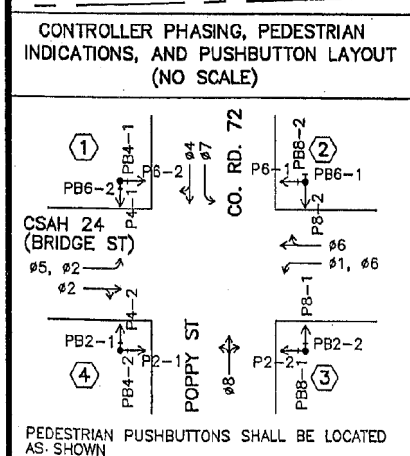
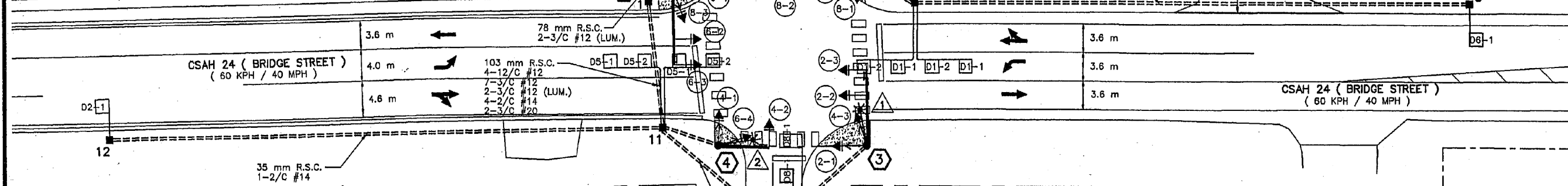
**CONTRACTOR NOTE :**  
 ANOKA COUNTY HIGHWAY DEPARTMENT WILL BE SUPPLYING THE POLES, MAST ARMS AND HEADS FOR INSTALLATION BY THE CONTRACTOR. (SEE SPECIAL PROVISIONS)

LOOP DETECTORS					
NUMBER	SIZE (m)	FUNCTION	LOCATION m*	TYPE	
D1-1	2-1.7x1.7	11	1.3, 10.1	NMC	
D1-2	2-1.7x1.7	11	-3.0, 5.7	NMC	
D2-1	1.7x1.7	1	76	NMC	
D4-1	1.7x1.7	3	55	NMC	
D4-2	1.7x1.7	3	55	NMC	
D4-3	1.7x3.5, 1.7x3.0	1	-3.0, 1.3	NMC	
D4-4	2-1.7x1.7	1	-3.0, 1.3	NMC	
D5-1	2-1.7x1.7	10	-3.0, 5.7	NMC	
D5-2	2-1.7x1.7	10	1.3, 10.1	NMC	
D6-1	1.7x1.7	1	76	NMC	
D7-1	1.7x3.5	7	15	NMC	
D8-1	1.7x3.0, 1.7x1.7	1	-3.0, 1.3	NMC	

\* LOCATION IS DISTANCE FROM STOP BAR TO FRONT OF DETECTOR

- LOOP DETECTOR FUNCTION CODES:
- 1) CALL AND EXTEND
  - 2) CALL ONLY
  - 3) EXTEND ONLY
  - 4) CALL ONLY - DENSITY
  - 5) DELAYED CALL ONLY
  - 6) DELAYED CALL ONLY - DENSITY
  - 7) DELAYED CALL - IMMEDIATE EXTEND
  - 8) CARRY OVER (STRETCH)
  - 9) ADVISORY DETECTOR
  - 10) CALL #5 DURING #4 AND #8, EXTEND #5 AND #2
  - 11) CALL #1 DURING #4 AND #8, EXTEND #1 AND #6

REMOVE EXISTING ENTRANCE (LUMP SUM ITEM NO. 2103.501)  
 - SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH) AS SHOWN AND AS DIRECTED BY THE ENGINEER  
 - REMOVE BITUMINOUS PAVEMENT BETWEEN THE SAWCUTS  
 - REGRADE DITCH AREA TO MATCH EXISTING DITCH SECTION  
 - SOD ALL DISTURBED AREAS WITH SODDING TYPE LAWN PER Mn/DOT SPEC. 2575)

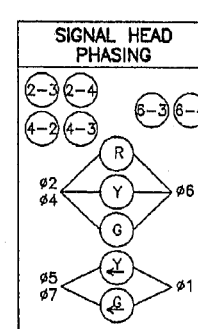


**SIGNAL SYSTEM OPERATION**

- SIGNAL SYSTEM FLASH MODE IS ALL RED
- NORMAL OPERATION IS 4 PHASE, WITH PHASES 1, 5 AND 7 BEING PROTECTED/PERMITTED LEFT TURNS.
- PHASES 2 AND 6 SHALL BE ON RECALL TO VEHICLE MINIMUM

**④** PA90 POLE FOUNDATION  
 TYPE PA90-A-6.1-D12.2-2.7 (DAVT AT 350°)  
 LUMINAIRE - 200 WATT H.P.S. WITH PEC AND CHECK SWITCH  
 1-ONE WAY SIGNAL OVERHEAD (END MOUNTED)  
 1-TYPE 10B POLE MOUNTED AT 0'  
 1-TYPE 10B POLE MOUNTED AT 270'  
 2-PEDESTRIAN PUSH BUTTONS  
 R10-12 SIGN PANEL (900 mm x 1200 mm)  
 MOUNTED OVERHEAD (ADJACENT TO 4-2)  
 TYPE "D" SIGN PANEL (3200 mm x 460 mm)  
 MOUNTED OVERHEAD (D-4)  
 EXTEND INTO HH 11:  
 78 mm R.S.C.  
 2-12/C #12  
 3-3/C #12  
 1-3/C #12 (LUM.)  
 1-3/C #20

**③** PA90 POLE FOUNDATION  
 TYPE PA90-A-9.1-D12.2-2.7 (DAVT AT 350°)  
 LUMINAIRE - 200 WATT H.P.S. WITH PEC AND CHECK SWITCH  
 1-ONE WAY SIGNAL OVERHEAD (END MOUNTED)  
 1-ONE WAY SIGNAL OVERHEAD AT 2.9 m  
 1-TYPE 10B POLE MOUNTED AT 0'  
 1-TYPE 10B POLE MOUNTED AT 270'  
 2-PEDESTRIAN PUSH BUTTONS  
 R10-12 SIGN PANEL (900 mm x 1200 mm)  
 MOUNTED OVERHEAD (ADJACENT TO 2-3)  
 TYPE "D" SIGN PANEL (4110 mm x 910 mm)  
 MOUNTED OVERHEAD (D-3)  
 EXTEND INTO HH 9:  
 78 mm R.S.C.  
 2-12/C #12  
 4-3/C #12  
 1-3/C #12 (LUM.)  
 1-3/C #20



**SIGNAL FACES**  
 (ALL INDICATIONS SHALL BE 300 mm)

FACE	RED LED	YELLOW LED	GREEN LED	RTA LED	YTA LED	GTA LED
2-1	●	●	●			
2-2	●	●	●			
2-3	●	●	●			
2-4	●	●	●			
4-1	●	●	●			
4-2	●	●	●			
4-3	●	●	●			
6-1	●	●	●			
6-2	●	●	●			
6-3	●	●	●			
6-4	●	●	●			
8-1	●	●	●			
8-2	●	●	●			
8-3	●	●	●			

NO.	DATE	BY	CHK	APPR	REVISION

**PARSONS**  
 Barton-Aschman Associates, Inc.  
 A Unit of Parsons Transportation Group Inc.

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
  
 Steven M. Brown  
 LICENSED PROFESSIONAL ENGINEER - ANOKA COUNTY, MINN.  
 DATE 6/28/99 REG. NO. 21817

DRAWN BY: SNB DATE 6/99  
 DESIGN BY: SNB DATE 6/99  
 CHECKED BY: LEW DATE 6/99

STATE PROJECT NO. \_\_\_\_\_  
 STATE AID PROJECT NO. 02-624-23  
 COUNTY PROJECT NO. \_\_\_\_\_



**ANOKA COUNTY**  
 HIGHWAY DEPT.

TRAFFIC SIGNAL SYSTEM  
 INTERSECTION LAYOUT  
 CSAH 24 (BRIDGE ST) @ CO. RD. 72  
 Sheet 5 of 7 Sheets

Note: Printed 6/30/2015  
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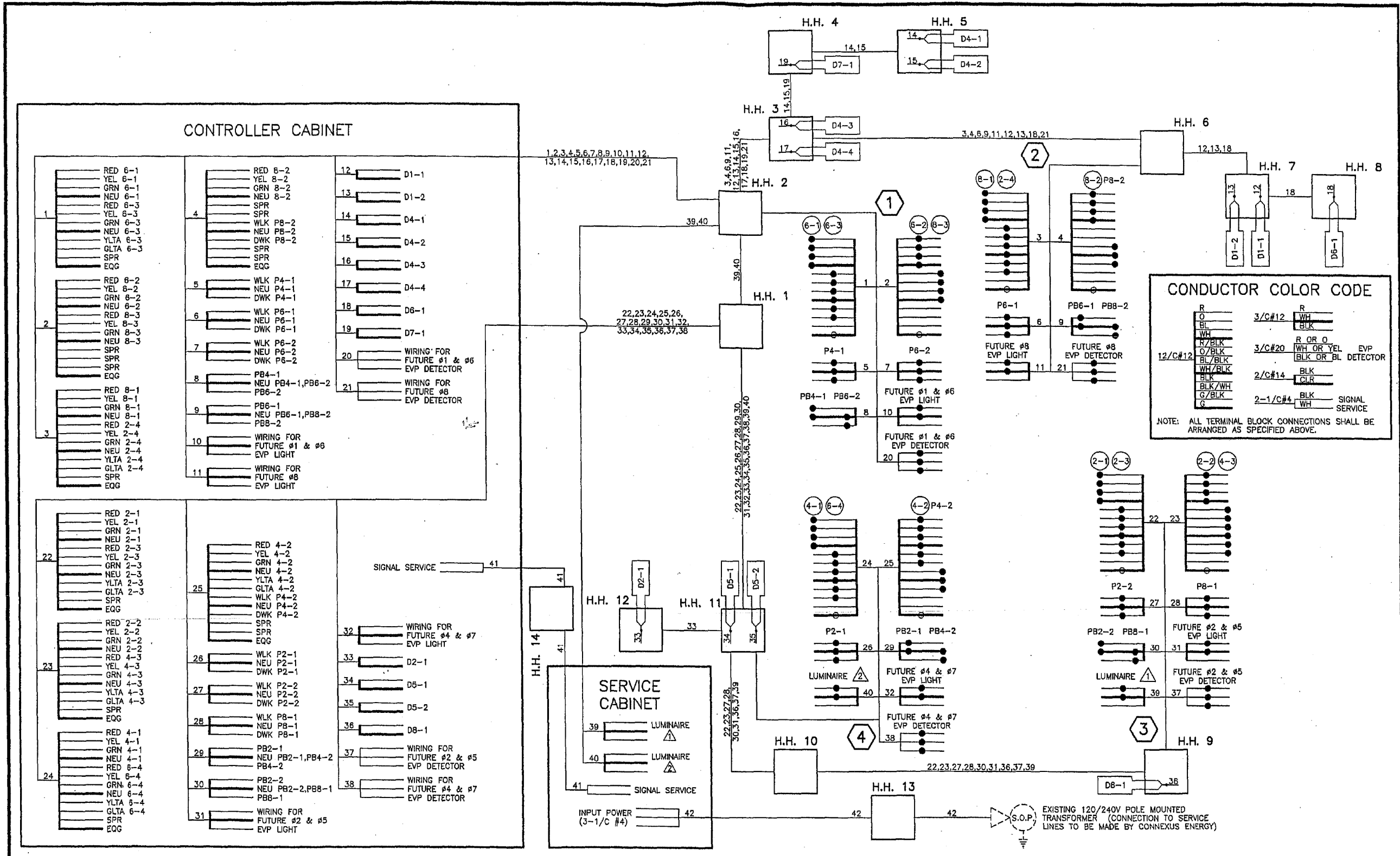
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 Steven M. Brown  
 LICENSED PROFESSIONAL ENGINEER - ANOKA COUNTY, MINN.  
 DATE: 6/15/15 LIC. NO: 40886

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**ANOKA COUNTY**  
**CSAH 24 Improvements**  
 Anoka County, Minnesota

**ANOKA COUNTY, MINNESOTA**  
**SIGNAL REMOVAL PLAN**  
 S.P. 002-624-026

SHEET  
**68**  
 OF  
**214**  
 SHEETS



**CONDUCTOR COLOR CODE**

R	3/C#12	R	WH
O	BLK	WH	OR YEL
BL	WH	BLK	OR BL
WH	3/C#20	BLK	OR YEL
R/BLK	BLK/BLK	BLK	OR BL
O/BLK	WH/BLK	BLK	OR YEL
BL/BLK	BLK	BLK	OR BL
WH/BLK	2/C#14	BLK	OR YEL
BLK	CLR	BLK	OR YEL
BLK/WH	2-1/C#4	BLK	OR YEL
G/BLK	WH	BLK	OR YEL
G	SIGNAL SERVICE	WH	OR YEL

NOTE: ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

NO.	DATE	BY	CHK	APPR	REVISION

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Baron-Aschman Associates, Inc.  
A Unit of Parsons Transportation Group Inc.

**minnesota metric**

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*Mark M. Thompson*  
DATE: 6/28/22 REG. NO. 21817

DRAWN BY: SNB DATE 6/99  
DESIGN BY: SNB DATE 6/99  
CHECKED BY: LEW DATE 6/99

STATE PROJECT NO. \_\_\_\_\_  
STATE PROJECT NO. \_\_\_\_\_  
STATE AID PROJECT NO. 02-624-23  
COUNTY PROJECT NO. \_\_\_\_\_



**ANOKA COUNTY**  
**HIGHWAY DEPT.**

TRAFFIC SIGNAL SYSTEM  
FIELD WIRING DIAGRAM  
CSAH 24 (BRIDGE ST) • CO. RD. 72  
Sheet 6 of 7 Sheets

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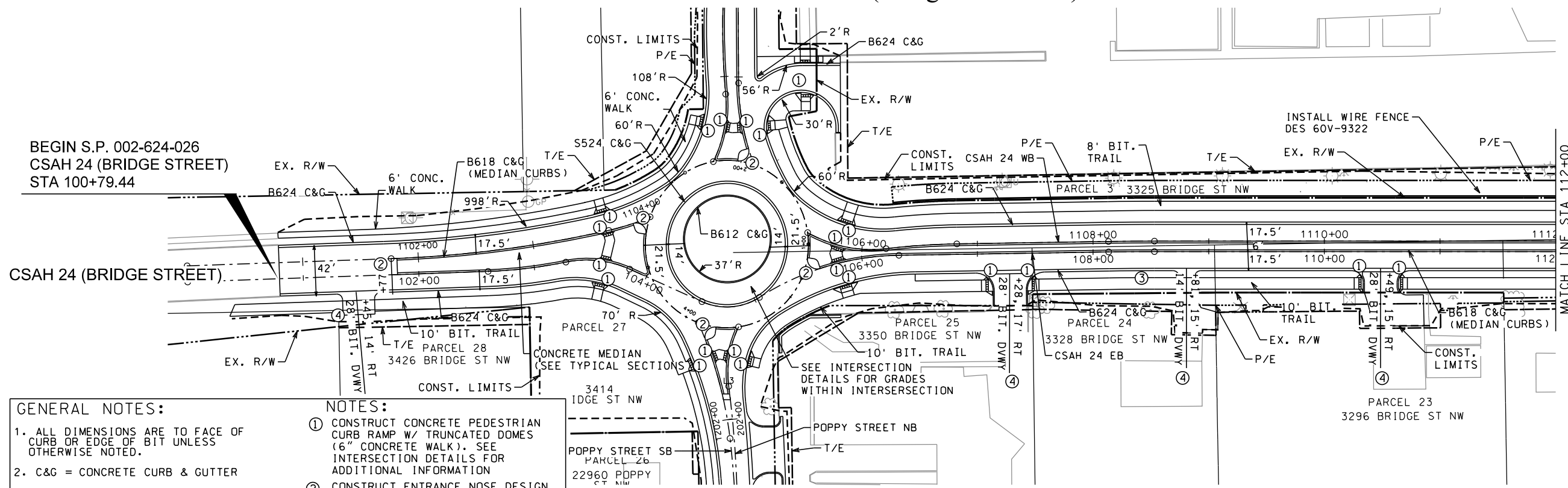
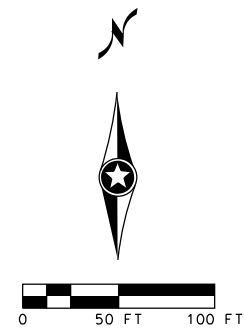
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**SIGNAL REMOVAL PLAN**  
S.P. 002-624-026

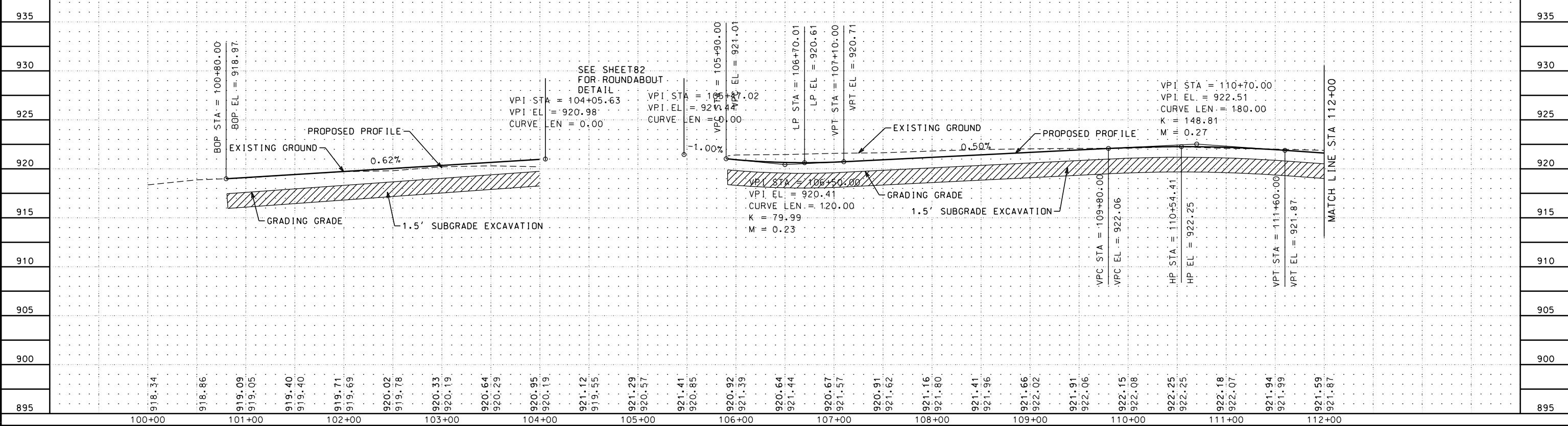
SHEET  
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# CSAH 24 (Bridge Street NW)



- GENERAL NOTES:**
1. ALL DIMENSIONS ARE TO FACE OF CURB OR EDGE OF BIT UNLESS OTHERWISE NOTED.
  2. C&G = CONCRETE CURB & GUTTER
  3. SEE MISCELLANEOUS DETAILS FOR SPLITTER ISLAND PEDESTRIAN CUT-THROUGH DETAILS
- NOTES:**
- ① CONSTRUCT CONCRETE PEDESTRIAN CURB RAMP W/ TRUNCATED DOMES (6" CONCRETE WALK). SEE INTERSECTION DETAILS FOR ADDITIONAL INFORMATION
  - ② CONSTRUCT ENTRANCE NOSE DESIGN 7113
  - ③ INSTALL MAIL BOX SUPPORT
  - ④ BIT. DRIVEWAY - SEE TYPICAL SECTIONS

## CSAH 24 EB Profile



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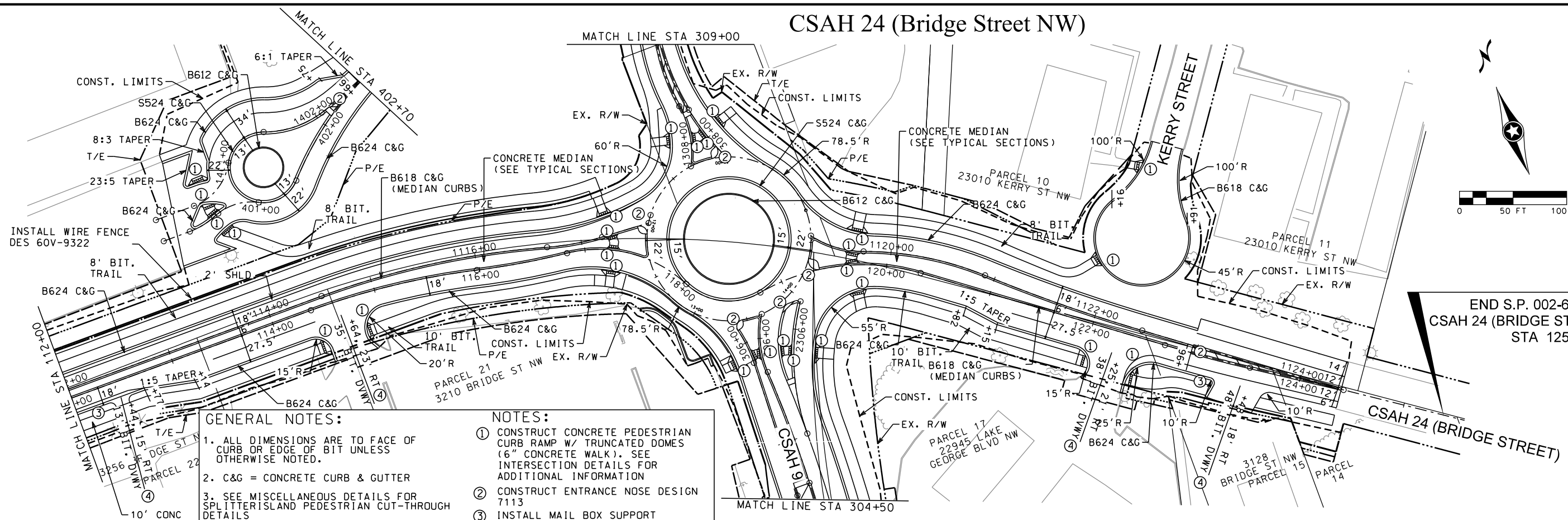
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ANOKA COUNTY, MINNESOTA  
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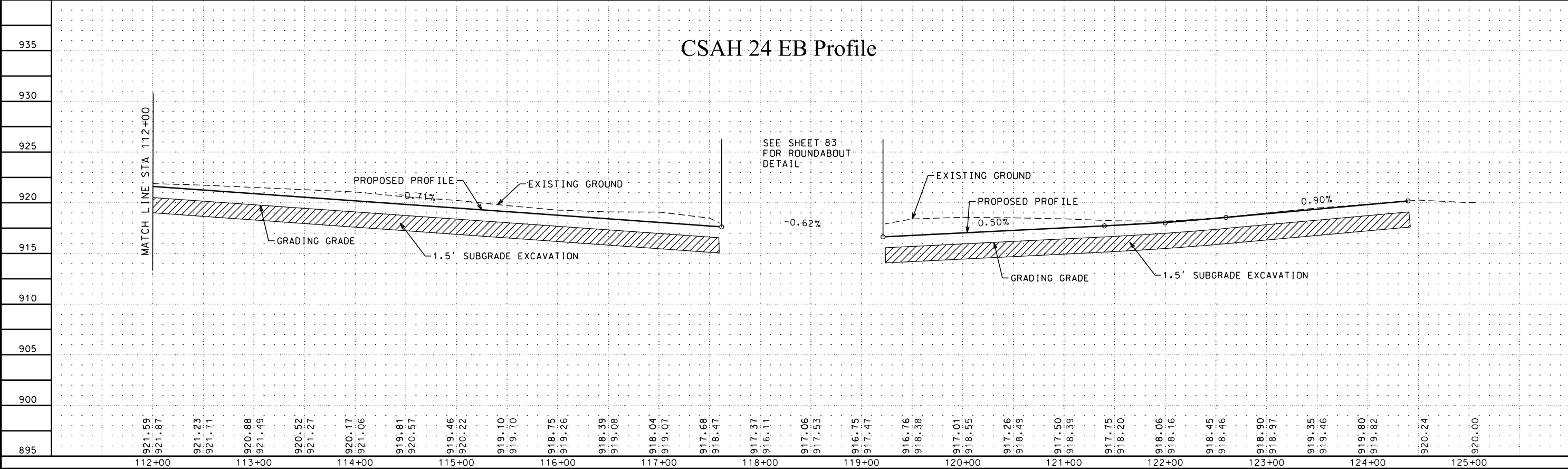
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# CSAH 24 (Bridge Street NW)



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## CSAH 24 EB Profile

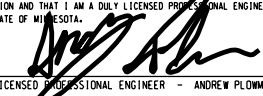


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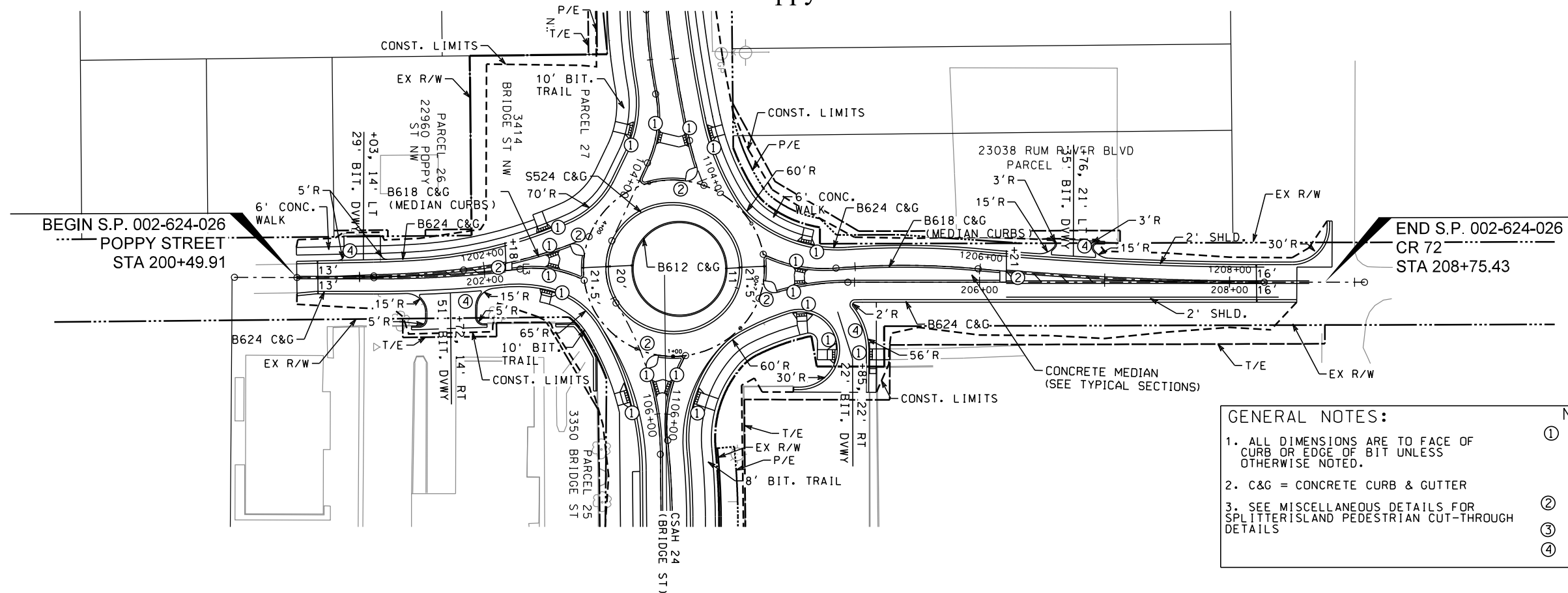
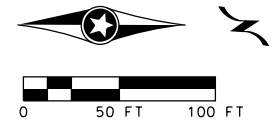
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**ANOKA COUNTY**  
**CSAH 24 Improvements**  
Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**CONSTRUCTION PLAN**  
S.P. 002-624-026

SHEET  
**71**  
OF  
**214**  
SHEETS

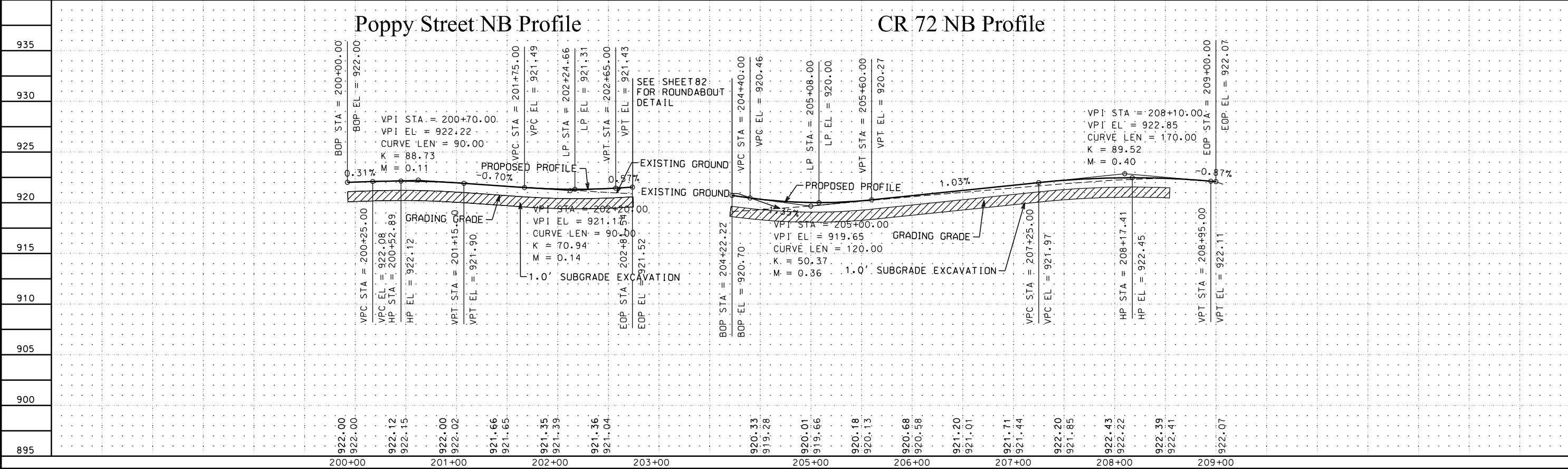
# Poppy Street / CR 72



- GENERAL NOTES:**
- ALL DIMENSIONS ARE TO FACE OF CURB OR EDGE OF BIT UNLESS OTHERWISE NOTED.
  - C&G = CONCRETE CURB & GUTTER
  - SEE MISCELLANEOUS DETAILS FOR SPLITTER ISLAND PEDESTRIAN CUT-THROUGH DETAILS
- NOTES:**
- CONSTRUCT CONCRETE PEDESTRIAN CURB RAMP W/ TRUNCATED DOMES (6" CONCRETE WALK). SEE INTERSECTION DETAILS FOR ADDITIONAL INFORMATION
  - CONSTRUCT ENTRANCE NOSE DESIGN 7113
  - INSTALL MAIL BOX SUPPORT
  - BIT. DRIVEWAY - SEE TYPICAL SECTIONS

### Poppy Street NB Profile

### CR 72 NB Profile



Note: Printed 6/30/2015  
 WSB Filename: K:\0666-2201\Coord\Plan\666cp03.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

CERTIFIED BY: *[Signature]*  
 LICENSED PROFESSIONAL ENGINEER - ANDREW FLOMMAN, PE  
 DATE: 6/15/15 LIC. NO: 44200

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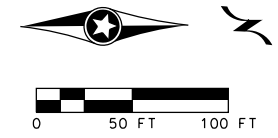
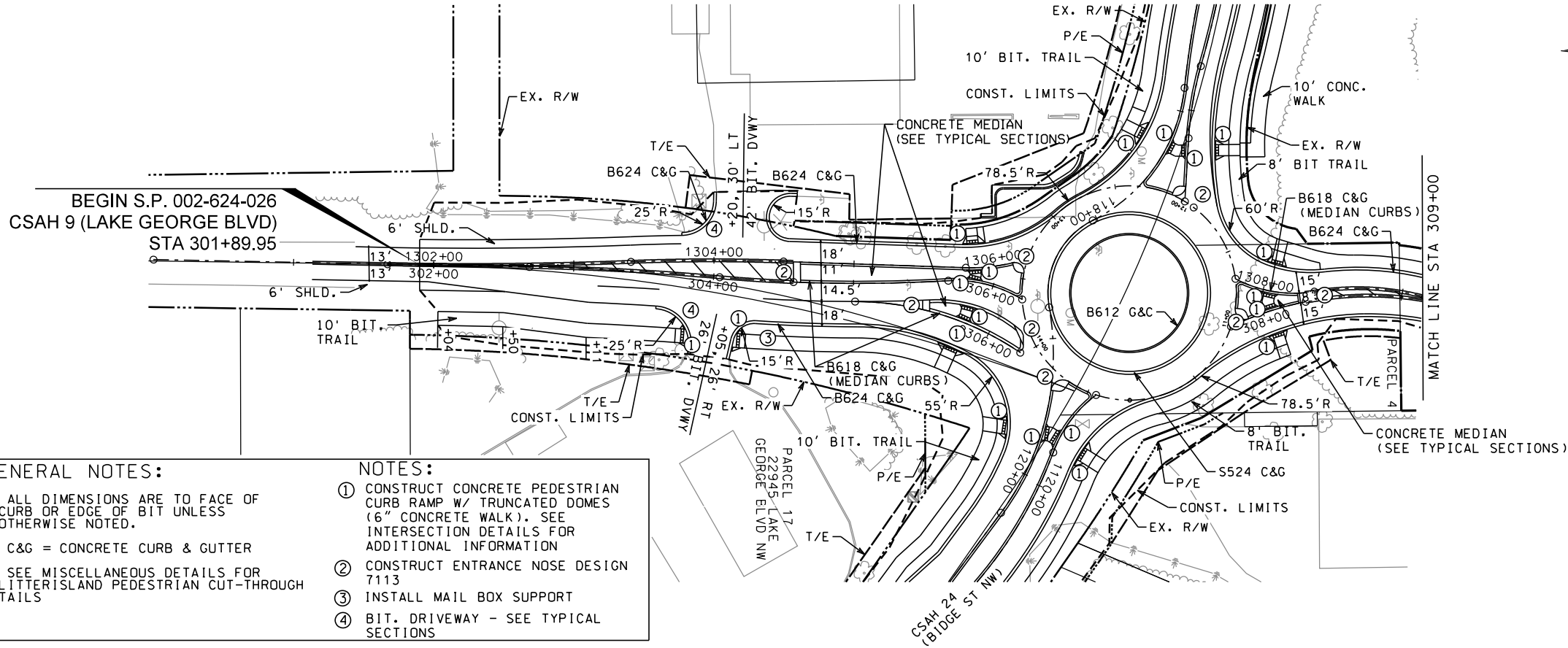
**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**CONSTRUCTION PLAN**  
 S.P. 002-624-026

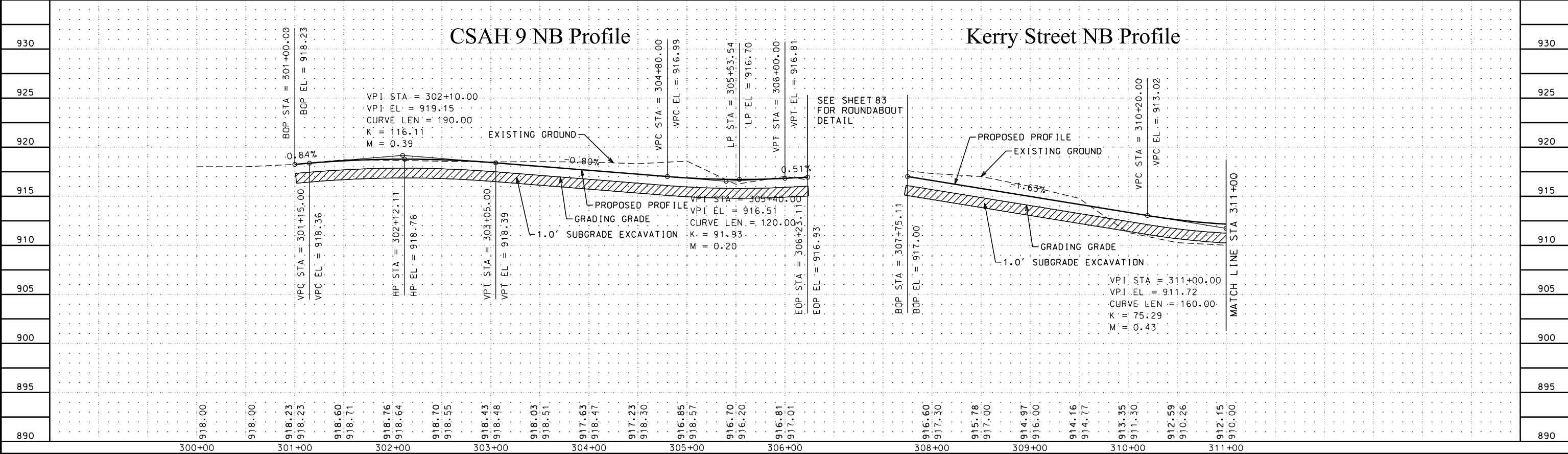
SHEET  
**72**  
 OF  
**214**  
 SHEETS



# CSAH 9 / Kerry Street Connection



- GENERAL NOTES:**
1. ALL DIMENSIONS ARE TO FACE OF CURB OR EDGE OF BIT UNLESS OTHERWISE NOTED.
  2. C&G = CONCRETE CURB & GUTTER
  3. SEE MISCELLANEOUS DETAILS FOR SPLITTER ISLAND PEDESTRIAN CUT-THROUGH DETAILS
- NOTES:**
- ① CONSTRUCT CONCRETE PEDESTRIAN CURB RAMP W/ TRUNCATED DOMES (6" CONCRETE WALK). SEE INTERSECTION DETAILS FOR ADDITIONAL INFORMATION
  - ② CONSTRUCT ENTRANCE NOSE DESIGN 7113
  - ③ INSTALL MAIL BOX SUPPORT
  - ④ BIT. DRIVEWAY - SEE TYPICAL SECTIONS



Date Printed: 6/30/2015  
WSB Filename: K:\0666-2201\Coord\Plan\666cp04.dgn

NO.	DATE	BY	CHK	REVISIONS

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Plan By: ACJ  
Checked By: DRS  
Approved By: AJP

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CERTIFIED BY: *[Signature]*  
LICENSED PROFESSIONAL ENGINEER - ANDREW FLOMMAN, PE  
DATE: 6/15/15 LIC. NO: 44200

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**ANOKA COUNTY**

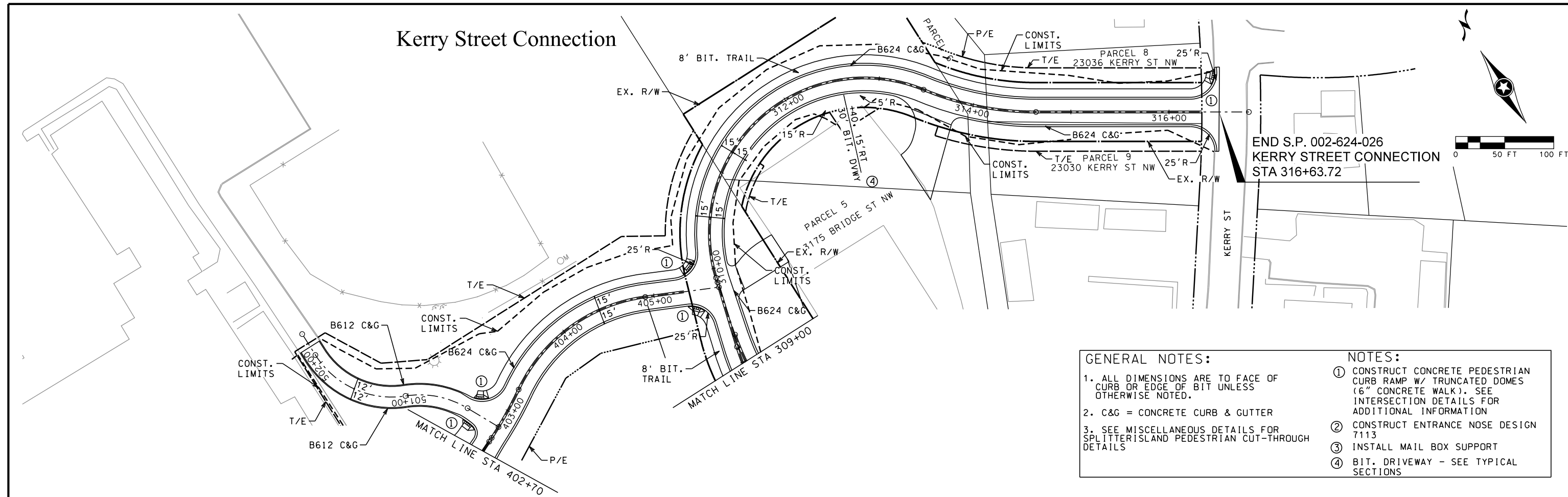
**CSAH 24 Improvements**  
Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA

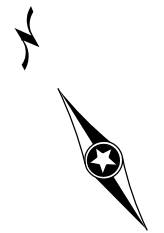
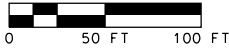
**CONSTRUCTION PLAN**  
S.P. 002-624-026

SHEET  
**73**  
OF  
**214**  
SHEETS

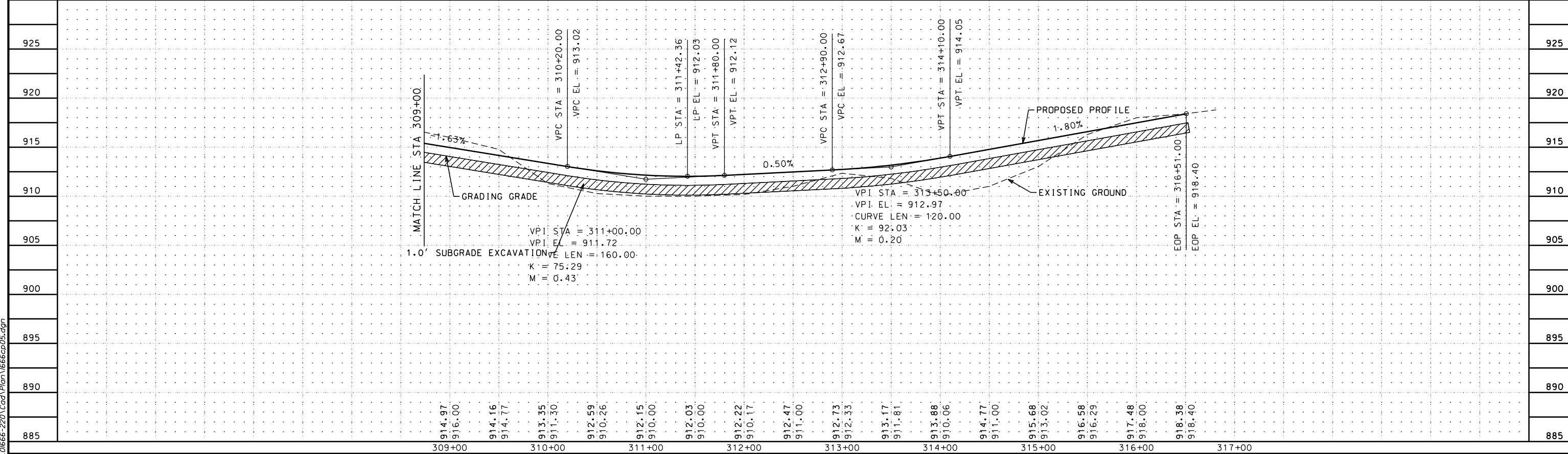
# Kerry Street Connection



END S.P. 002-624-026  
 KERRY STREET CONNECTION  
 STA 316+63.72



- GENERAL NOTES:**
1. ALL DIMENSIONS ARE TO FACE OF CURB OR EDGE OF BIT UNLESS OTHERWISE NOTED.
  2. C&G = CONCRETE CURB & GUTTER
  3. SEE MISCELLANEOUS DETAILS FOR SPLITTER ISLAND PEDESTRIAN CUT-THROUGH DETAILS
- NOTES:**
- ① CONSTRUCT CONCRETE PEDESTRIAN CURB RAMP W/ TRUNCATED DOMES (6" CONCRETE WALK). SEE INTERSECTION DETAILS FOR ADDITIONAL INFORMATION
  - ② CONSTRUCT ENTRANCE NOSE DESIGN 7113
  - ③ INSTALL MAIL BOX SUPPORT
  - ④ BIT. DRIVEWAY - SEE TYPICAL SECTIONS



Note: Printed 6/30/2015  
 WSB Filename: K:\0666-2201\Coord\Plan\666cp05.dgn

NO.	DATE	BY	CHK	REVISIONS

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 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

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CERTIFIED BY: *[Signature]*  
 LICENSED PROFESSIONAL ENGINEER - ANDREW FLODMAN, PE  
 DATE: 6/15/15 LIC. NO: 44200

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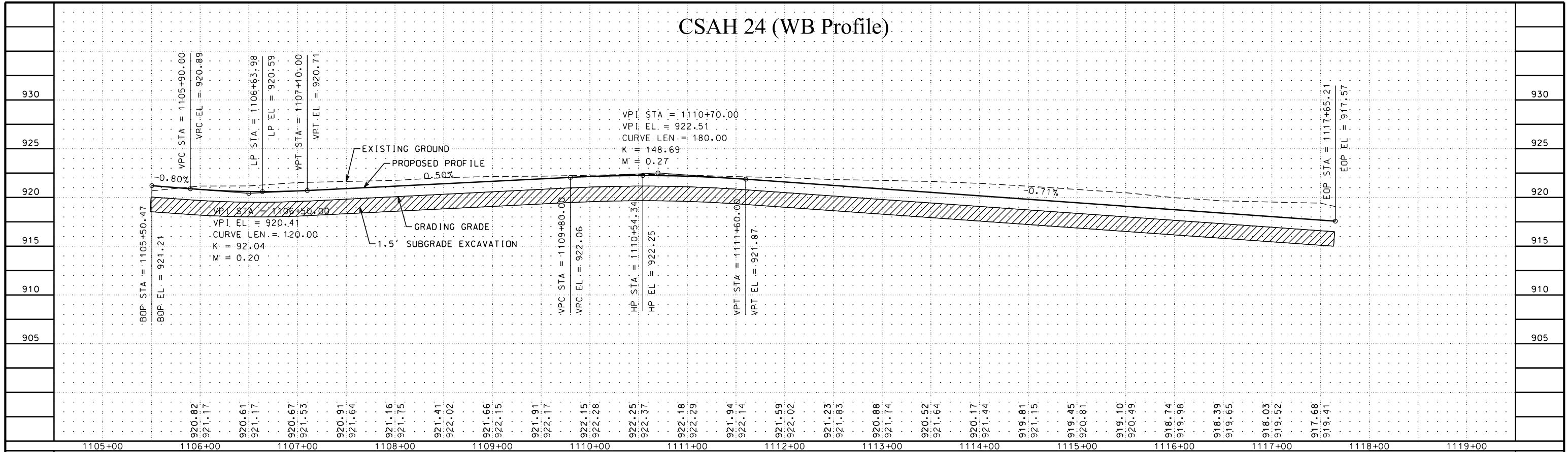
**ANOKA COUNTY**

ANOKA COUNTY, MINNESOTA

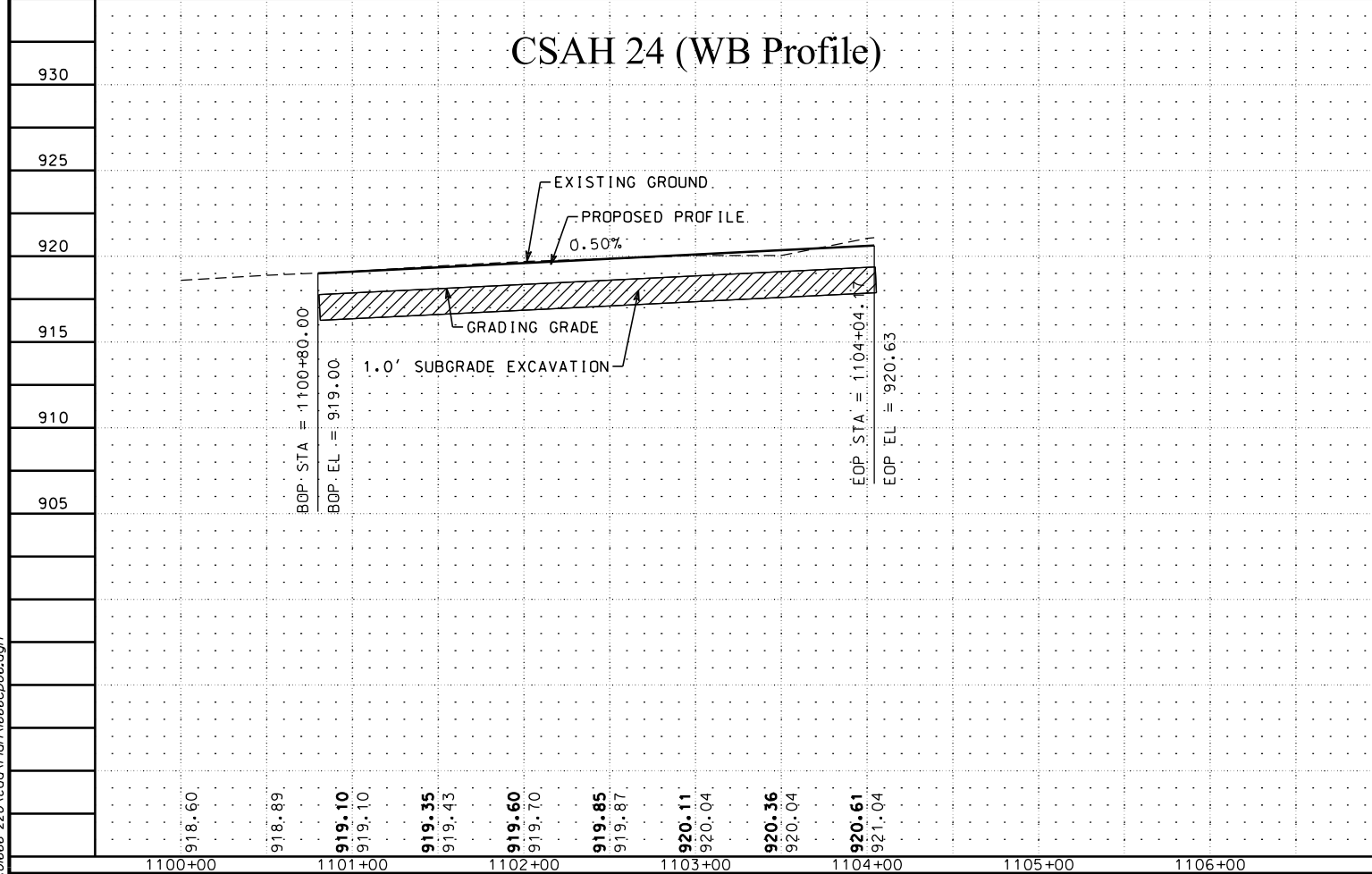
**CONSTRUCTION PLAN**  
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SHEET  
**74**  
 OF  
**214**  
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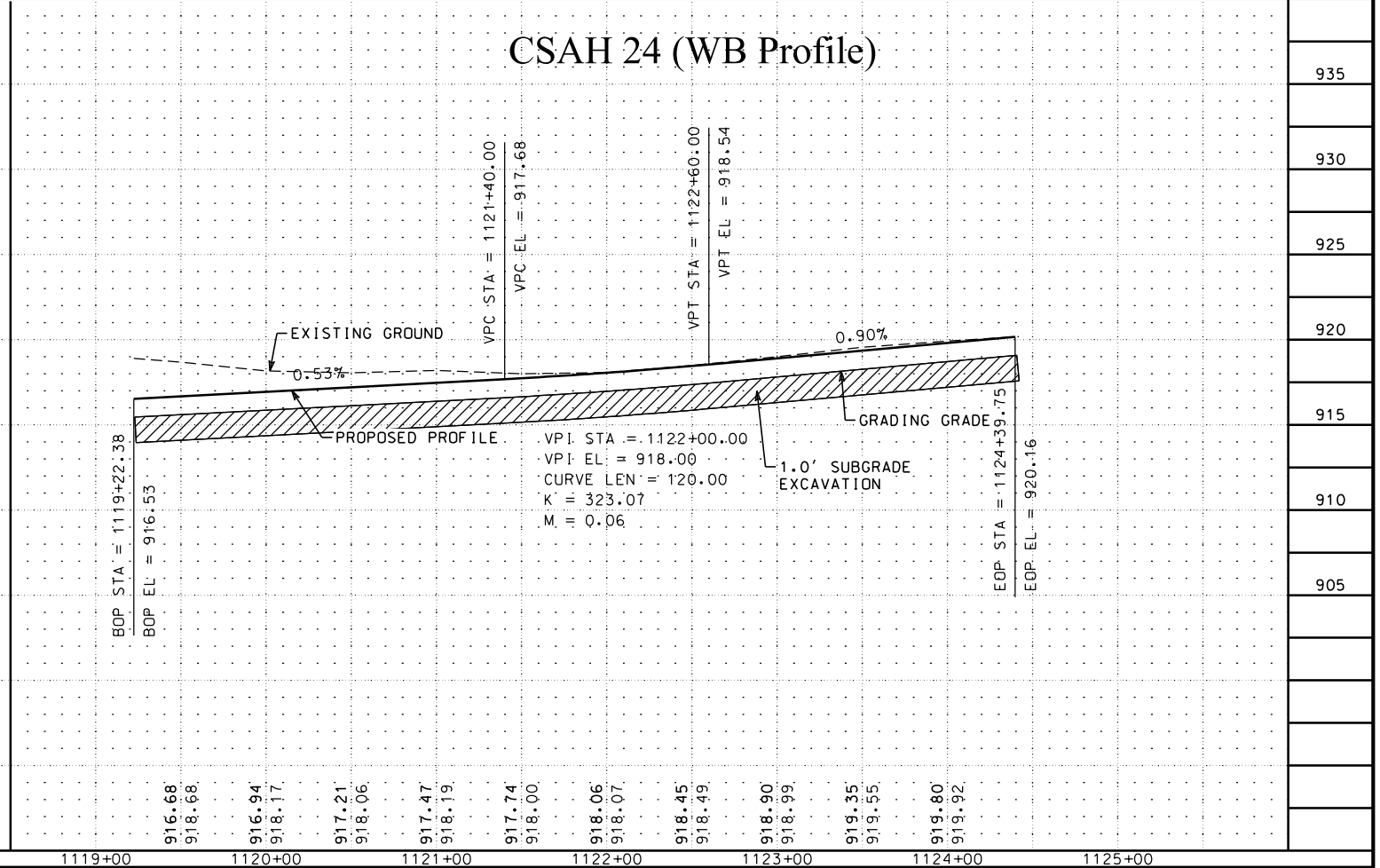
# CSAH 24 (WB Profile)



# CSAH 24 (WB Profile)



# CSAH 24 (WB Profile)



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 DATE: 6/15/15 LIC. NO: 44200

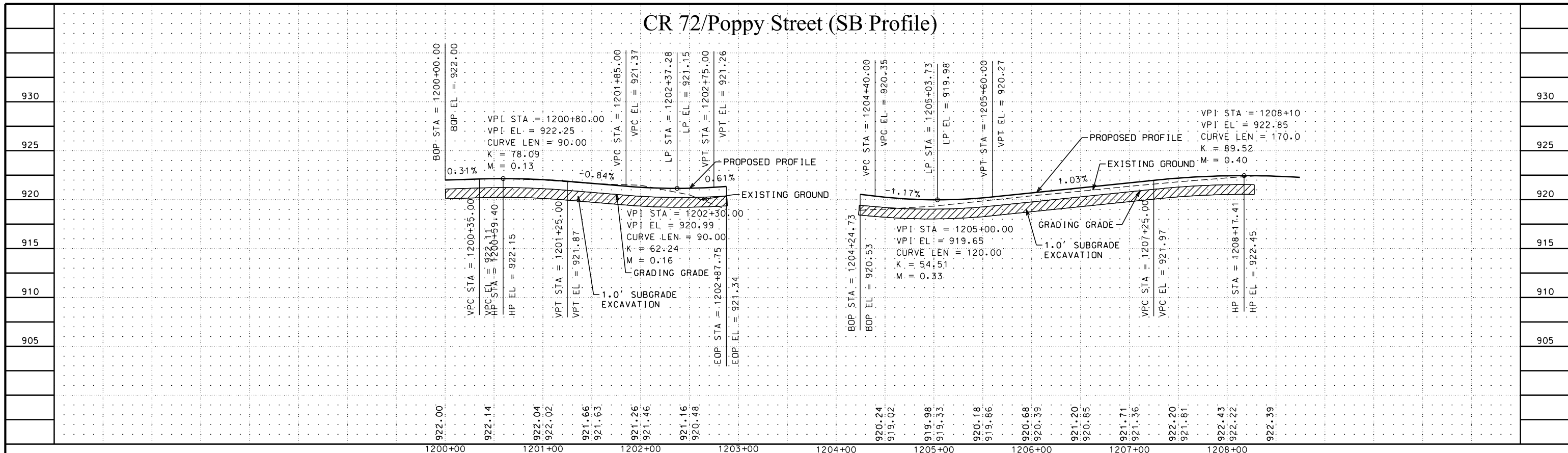
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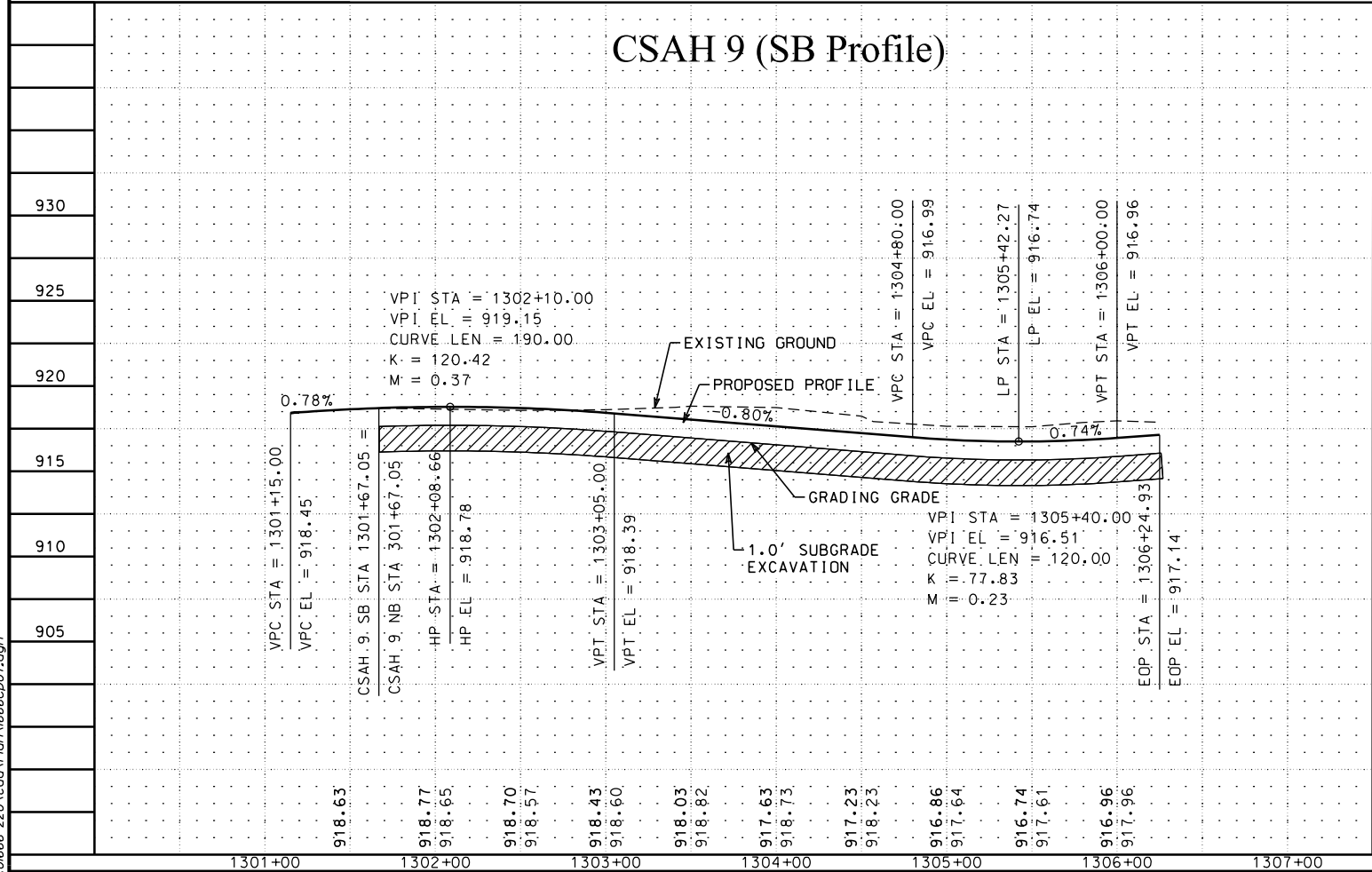
ANOKA COUNTY, MINNESOTA  
**CONSTRUCTION PLAN**  
 S.P. 002-624-026

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 OF  
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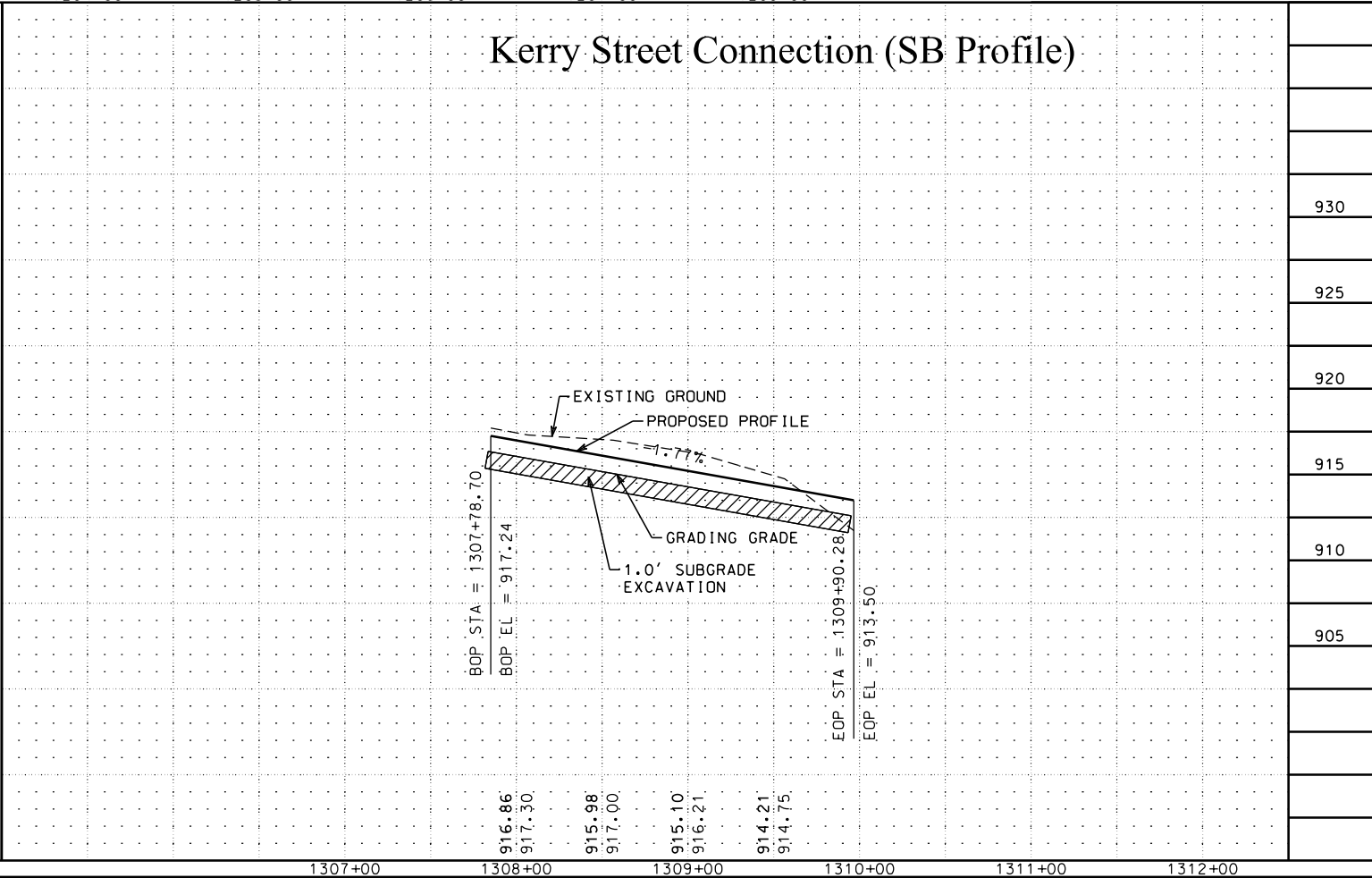
# CR 72/Poppy Street (SB Profile)



# CSAH 9 (SB Profile)



# Kerry Street Connection (SB Profile)



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 WSB Filename: K:\0666-220\Coord\Plan\666cp07.dgn

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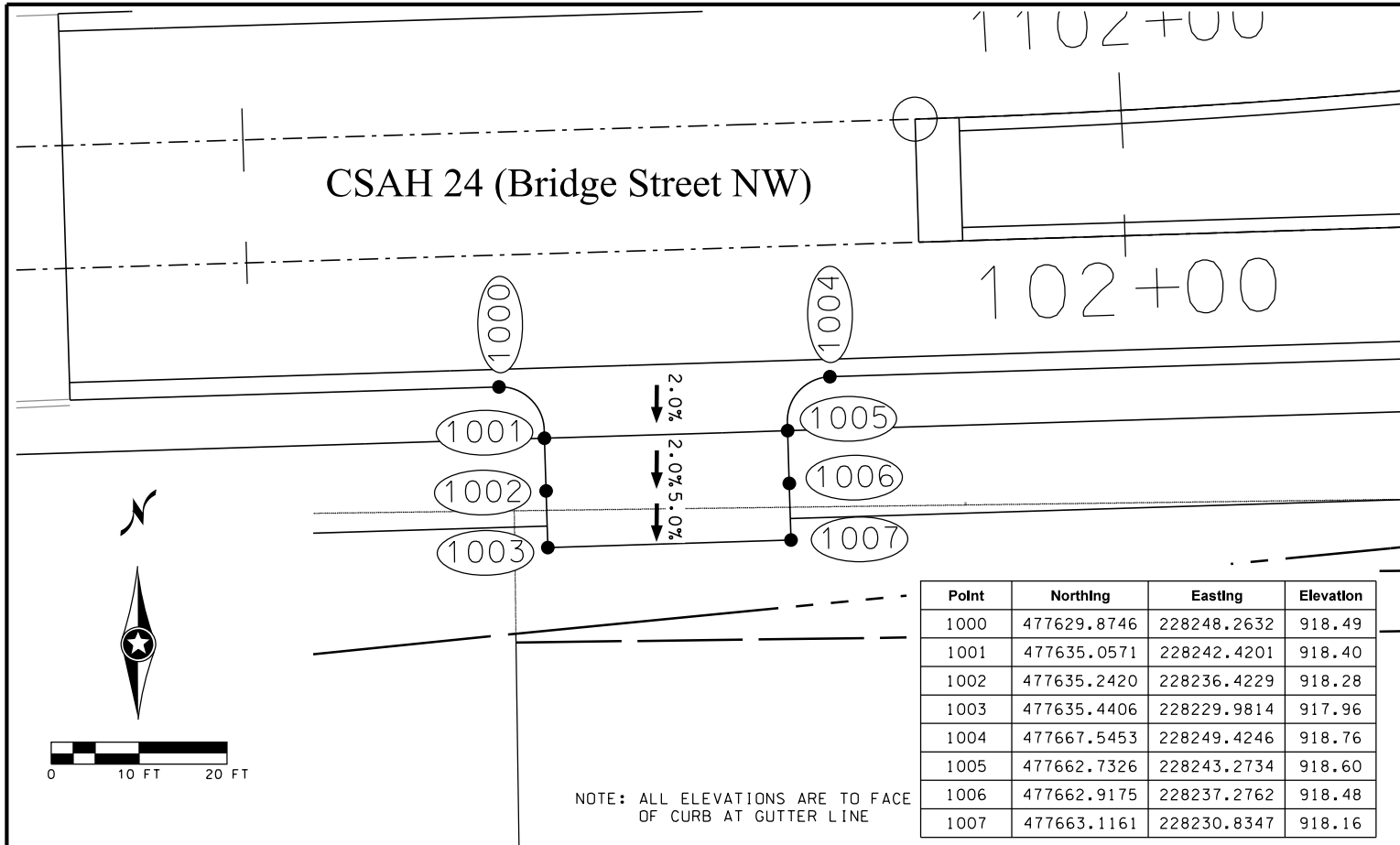
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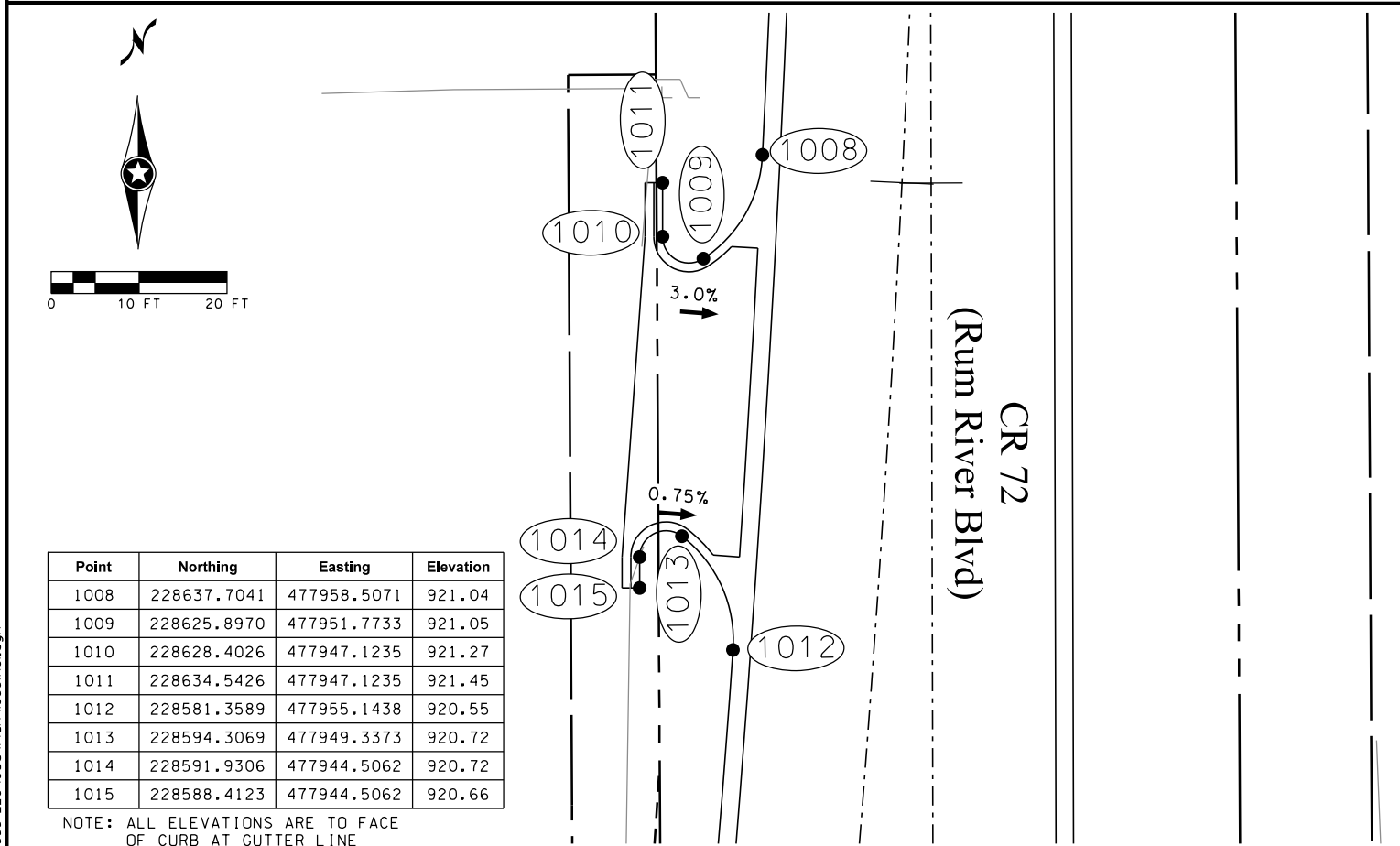
SHEET  
**76**  
 OF  
**214**  
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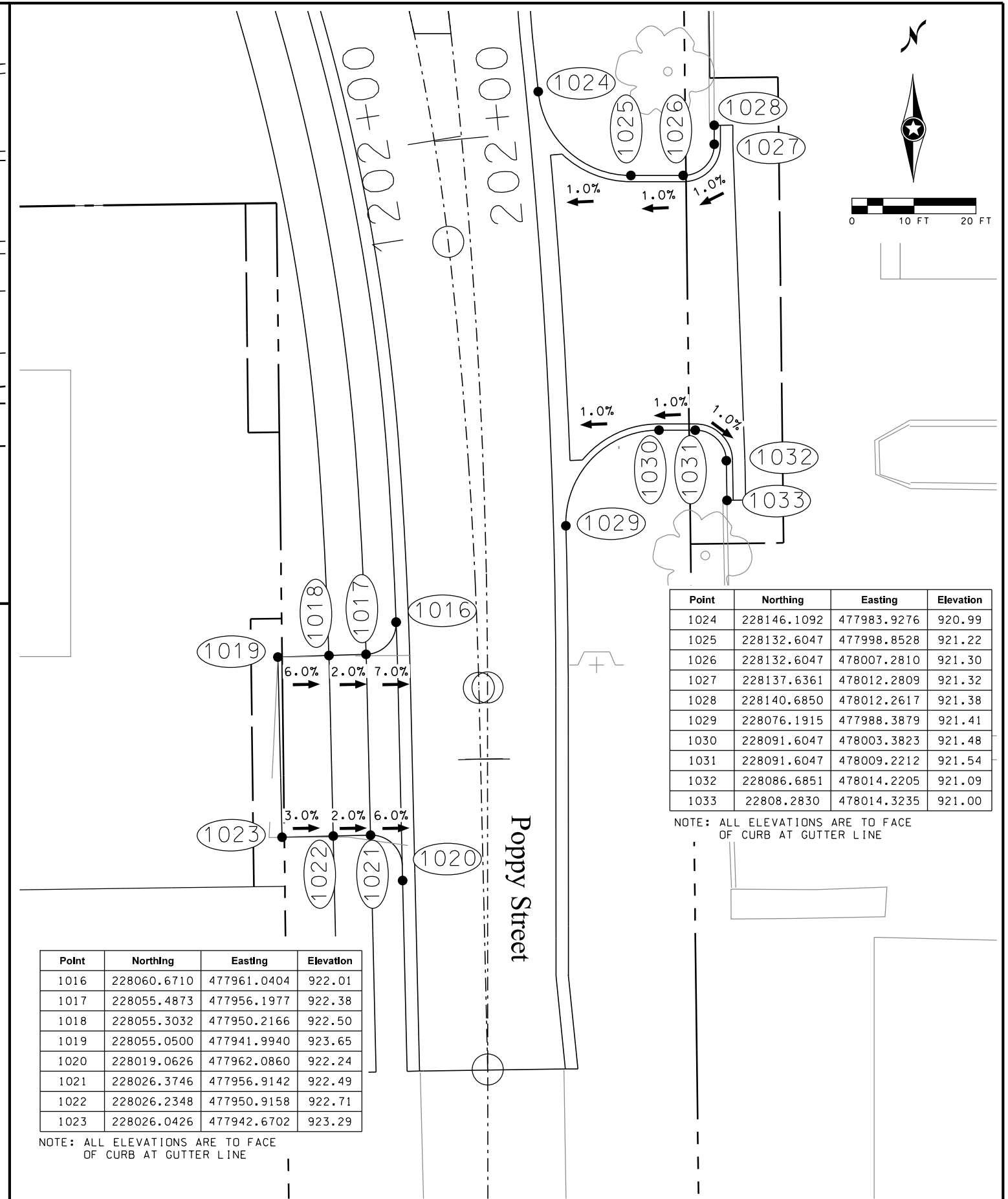
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1000	477629.8746	228248.2632	918.49
1001	477635.0571	228242.4201	918.40
1002	477635.2420	228236.4229	918.28
1003	477635.4406	228229.9814	917.96
1004	477667.5453	228249.4246	918.76
1005	477662.7326	228243.2734	918.60
1006	477662.9175	228237.2762	918.48
1007	477663.1161	228230.8347	918.16

NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE



Point	Northing	Easting	Elevation
1008	228637.7041	477958.5071	921.04
1009	228625.8970	477951.7733	921.05
1010	228628.4026	477947.1235	921.27
1011	228634.5426	477947.1235	921.45
1012	228581.3589	477955.1438	920.55
1013	228594.3069	477949.3373	920.72
1014	228591.9306	477944.5062	920.72
1015	228588.4123	477944.5062	920.66

NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE



Point	Northing	Easting	Elevation
1016	228060.6710	477961.0404	922.01
1017	228055.4873	477956.1977	922.38
1018	228055.3032	477950.2166	922.50
1019	228055.0500	477941.9940	923.65
1020	228019.0626	477962.0860	922.24
1021	228026.3746	477956.9142	922.49
1022	228026.2348	477950.9158	922.71
1023	228026.0426	477942.6702	923.29

NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE

Point	Northing	Easting	Elevation
1024	228146.1092	477983.9276	920.99
1025	228132.6047	477998.8528	921.22
1026	228132.6047	478007.2810	921.30
1027	228137.6361	478012.2809	921.32
1028	228140.6850	478012.2617	921.38
1029	228076.1915	477988.3879	921.41
1030	228091.6047	478003.3823	921.48
1031	228091.6047	478009.2212	921.54
1032	228086.6851	478014.2205	921.09
1033	22808.2830	478014.3235	921.00

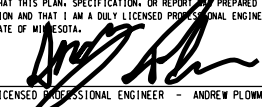
NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE

Date Printed: 6/30/2015  
File Name: K:\0666-220\_Coord\Plan\666in01.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
Plan By: ACJ  
Checked By: DRS  
Approved By: AJP

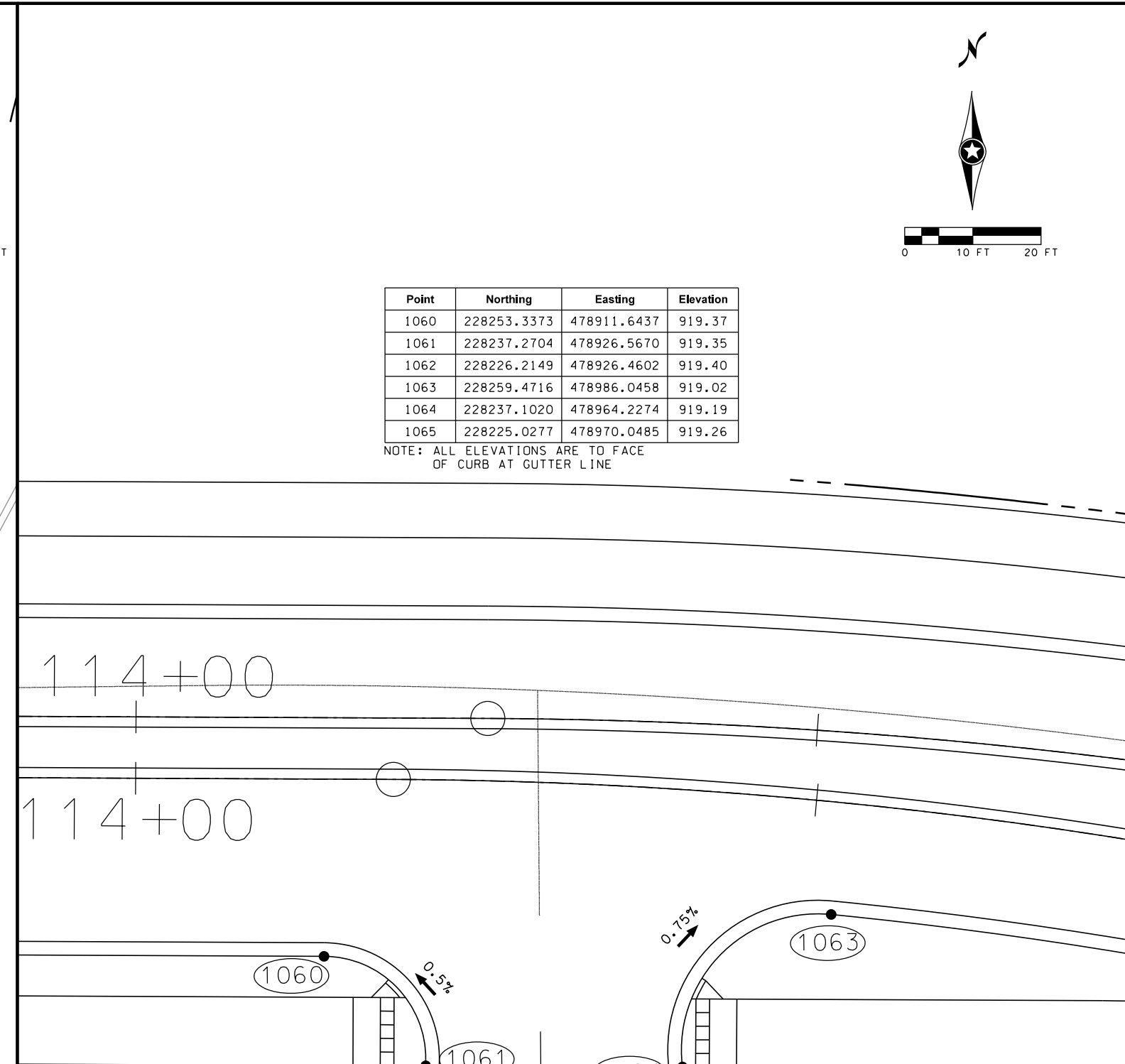
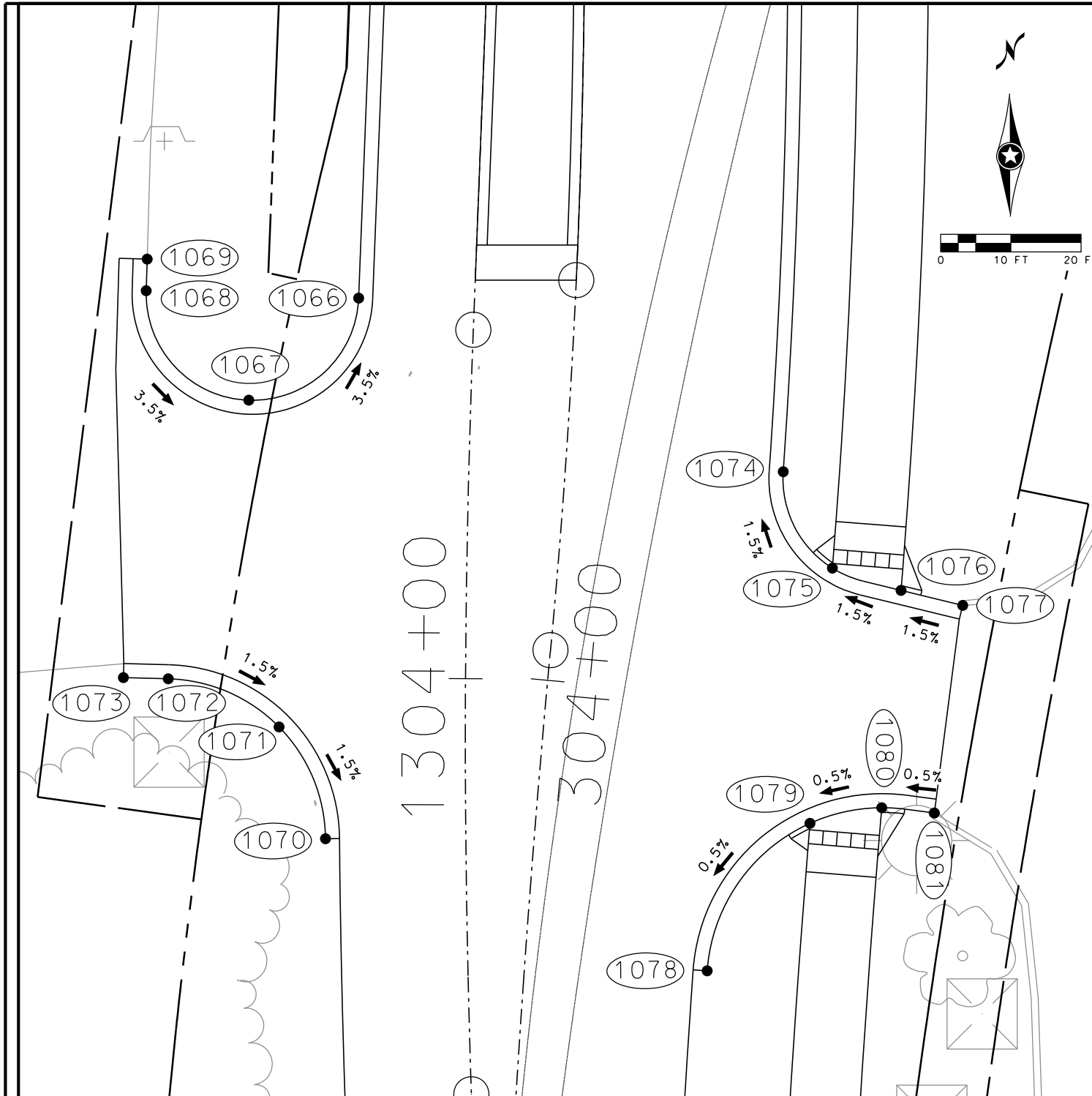
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CERTIFIED BY:   
LICENSED PROFESSIONAL ENGINEER - ANDREW PLODMAN, PE  
DATE: 6/15/15 LIC. NO: 44200

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Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**INTERSECTION DETAILS**  
S.P. 002-624-026



Point	Northing	Easting	Elevation
1060	228253.3373	478911.6437	919.37
1061	228237.2704	478926.5670	919.35
1062	228226.2149	478926.4602	919.40
1063	228259.4716	478986.0458	919.02
1064	228237.1020	478964.2274	919.19
1065	228225.0277	478970.0485	919.26

NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE

Point	Northing	Easting	Elevation
1066	227963.5860	479270.6321	916.70
1067	227949.0389	479254.9759	917.30
1068	227964.6316	479240.3609	917.76
1069	227969.1328	479240.4969	917.73
1070	227886.5898	479265.9025	917.17
1071	227902.5054	479259.2989	916.96
1072	227909.3674	479243.4931	916.75
1073	227909.5310	479237.1134	916.69

NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE

Point	Northing	Easting	Elevation
1074	227938.8673	479331.1170	916.56
1075	227925.1297	479338.1165	916.79
1076	227921.9574	479347.8917	916.96
1077	227919.8100	479356.6860	917.09
1078	227867.7805	479320.2779	917.15
1079	227888.7938	479334.9316	917.01
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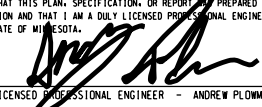
NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE

Note Printed 6/30/2015  
WSB Filename: K:\0666-220\_Coord\Plan\666in02.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
Plan By: ACJ  
Checked By: DRS  
Approved By: AJP

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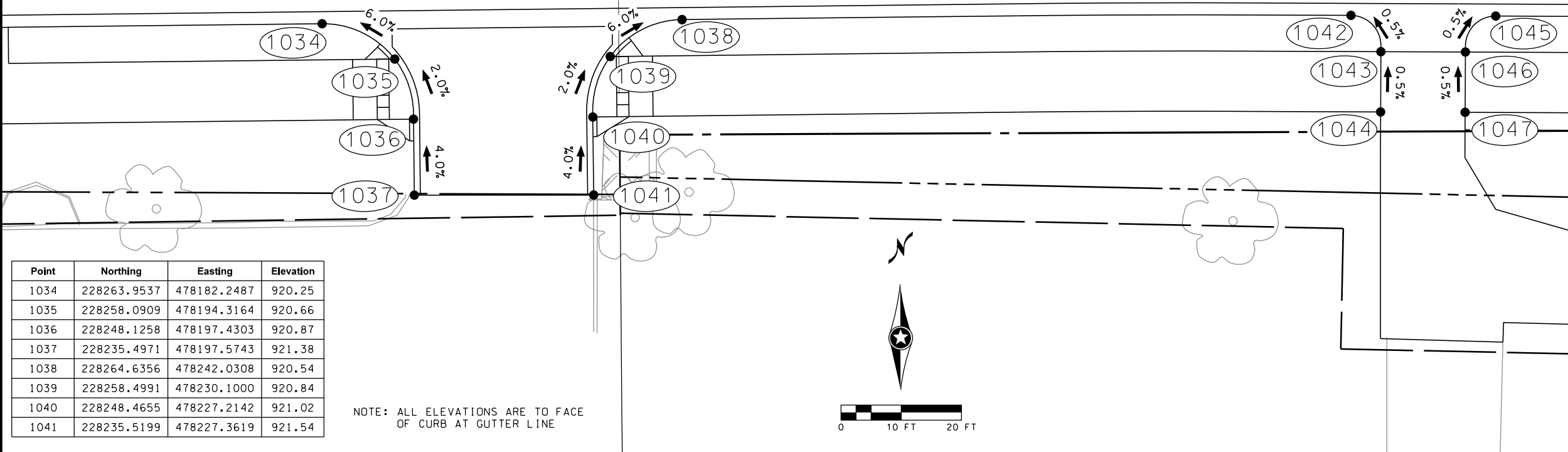
CERTIFIED BY:   
LICENSED PROFESSIONAL ENGINEER - ANDREW PLOZMAN, PE  
DATE: 6/15/15 LIC. NO: 44200

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**ANOKA COUNTY, MINNESOTA**  
**INTERSECTION DETAILS**  
S.P. 002-624-026

108+00



Point	Northing	Easting	Elevation
1034	228263.9537	478182.2487	920.25
1035	228258.0909	478194.3164	920.66
1036	228248.1258	478197.4303	920.87
1037	228235.4971	478197.5743	921.38
1038	228264.6356	478242.0308	920.54
1039	228258.4991	478230.1000	920.84
1040	228248.4655	478227.2142	921.02
1041	228235.5199	478227.3619	921.54

NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE

Point	Northing	Easting	Elevation
1042	228265.3350	478353.1113	921.10
1043	228259.3127	478358.0844	921.15
1044	228249.3128	478358.0397	921.20
1045	228265.2276	478377.1485	921.22
1046	228259.2500	478372.1219	921.21
1047	228249.2501	478372.0772	921.23

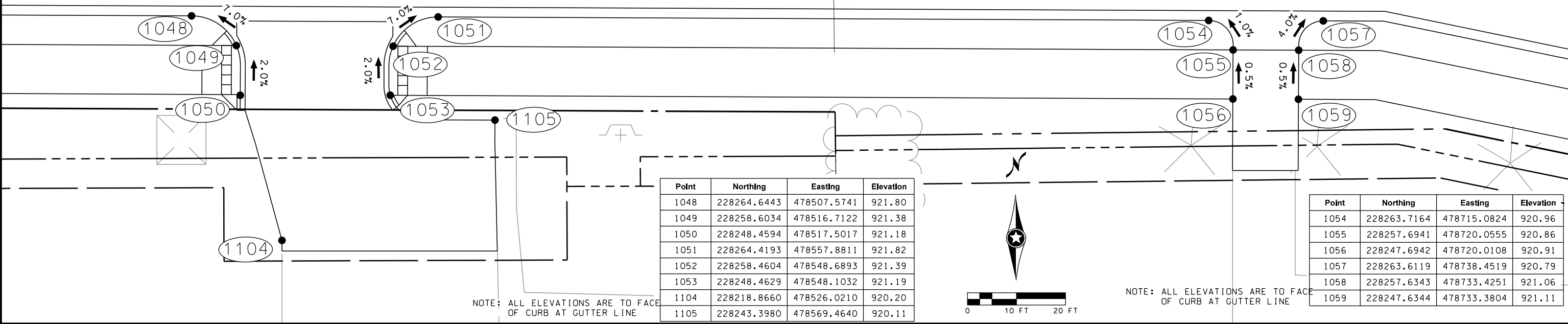
NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE

110+00

1112+00

10+00

112+00



Point	Northing	Easting	Elevation
1048	228264.6443	478507.5741	921.80
1049	228258.6034	478516.7122	921.38
1050	228248.4594	478517.5017	921.18
1051	228264.4193	478557.8811	921.82
1052	228258.4604	478548.6893	921.39
1053	228248.4629	478548.1032	921.19
1104	228218.8660	478526.0210	920.20
1105	228243.3980	478569.4640	920.11

NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE

Point	Northing	Easting	Elevation
1054	228263.7164	478715.0824	920.96
1055	228257.6941	478720.0555	920.86
1056	228247.6942	478720.0108	920.91
1057	228263.6119	478738.4519	920.79
1058	228257.6343	478733.4251	921.06
1059	228247.6344	478733.3804	921.11

NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE

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NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
Plan By: ACJ  
Checked By: DRS  
Approved By: AJP

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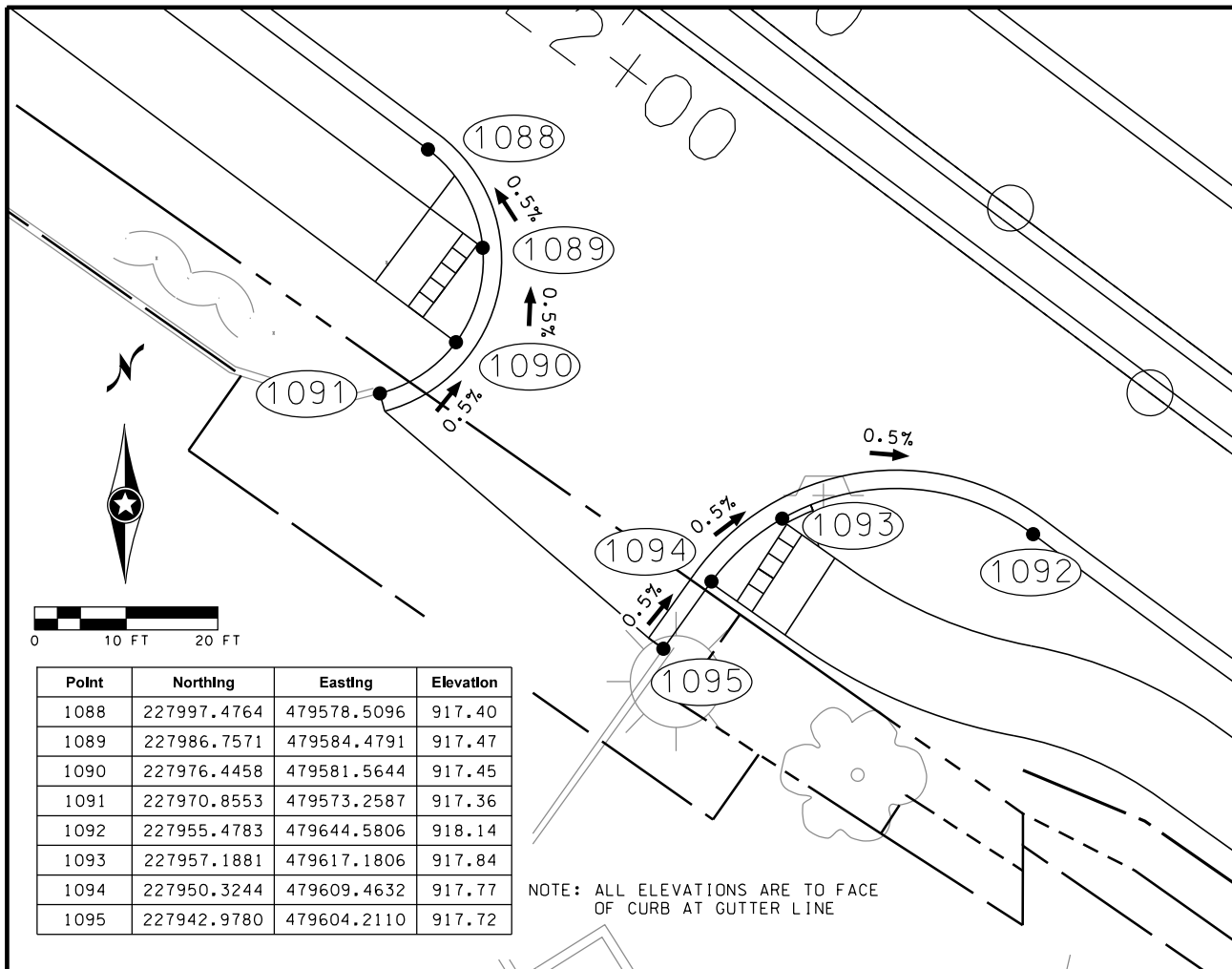
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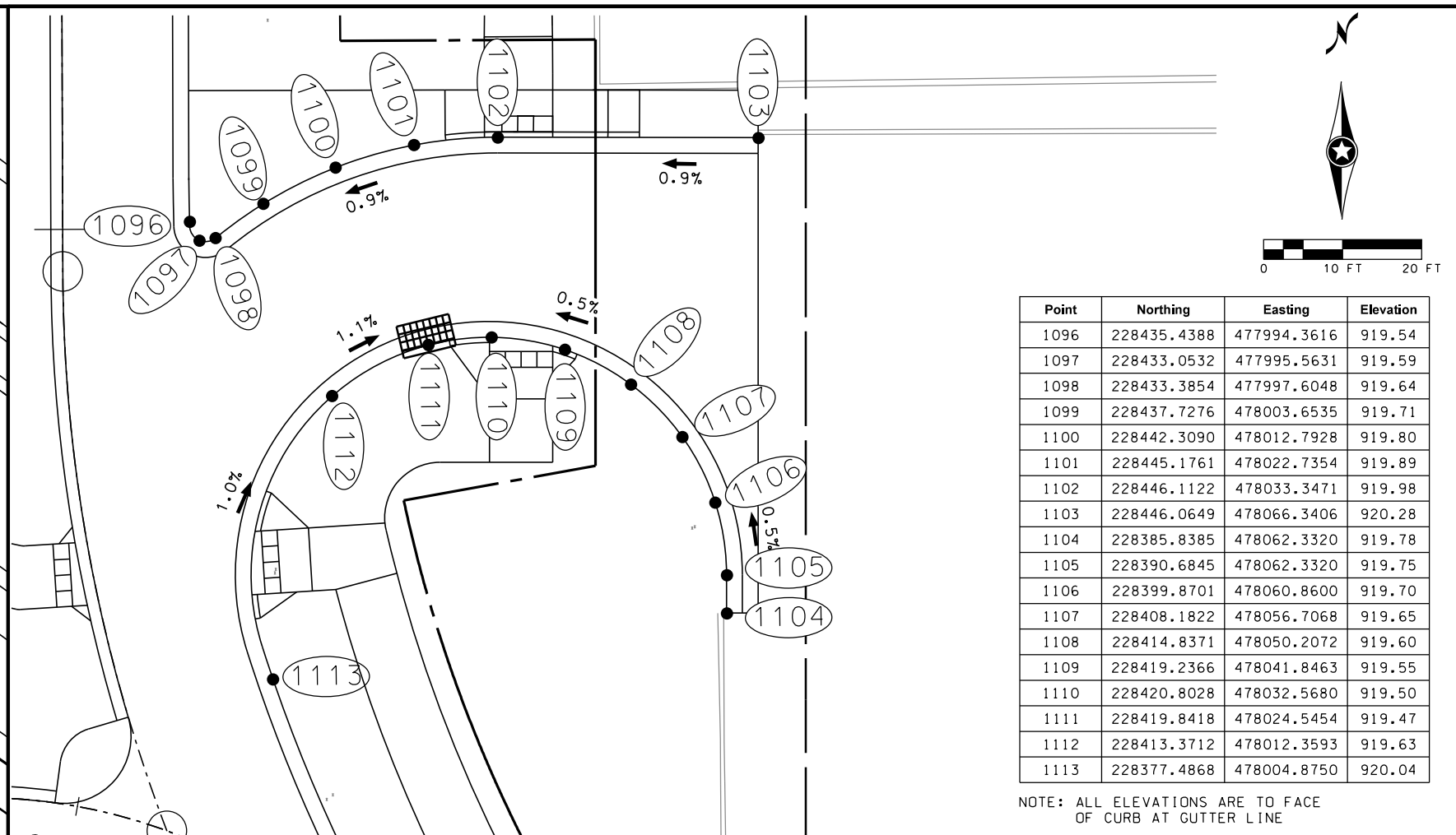
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**80**  
OF  
**214**  
SHEETS





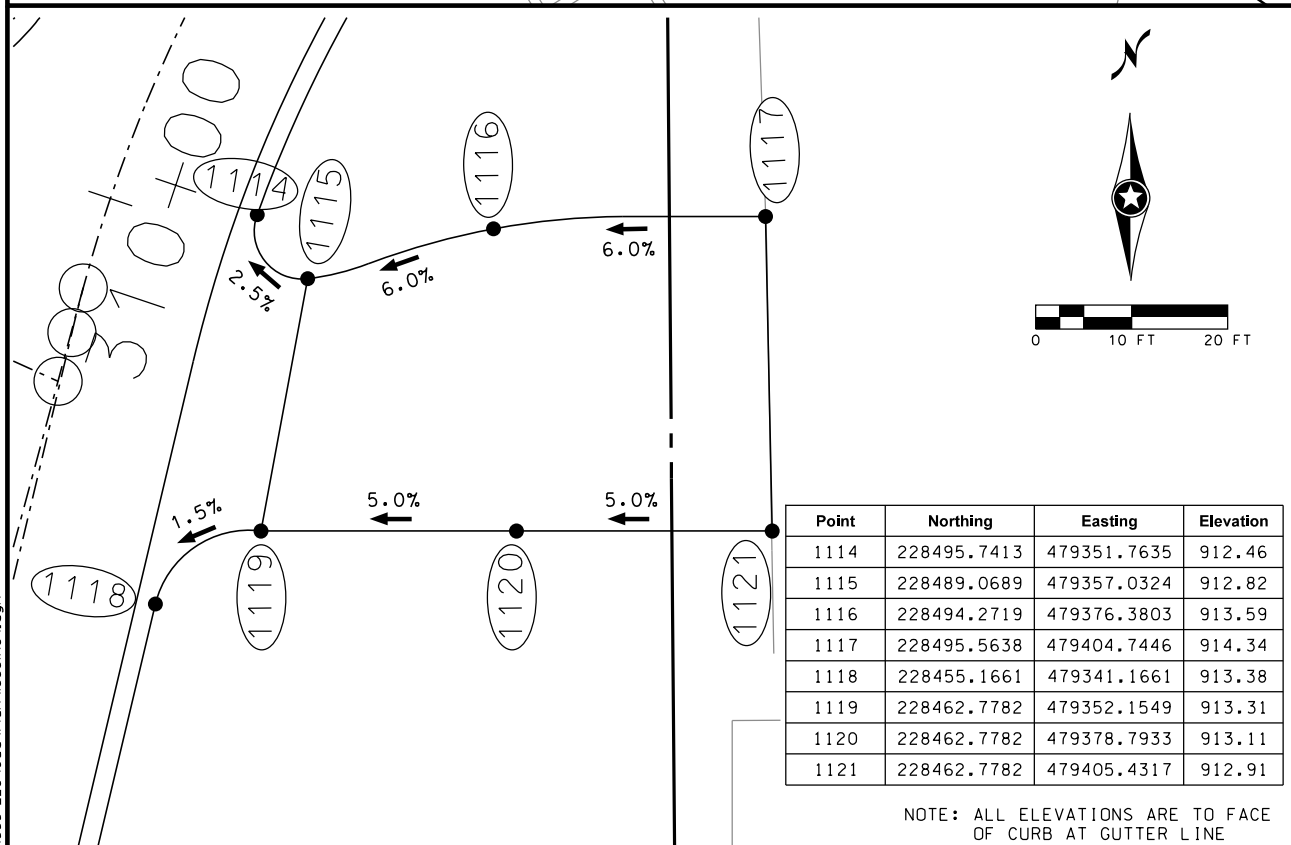
Point	Northing	Easting	Elevation
1088	227997.4764	479578.5096	917.40
1089	227986.7571	479584.4791	917.47
1090	227976.4458	479581.5644	917.45
1091	227970.8553	479573.2587	917.36
1092	227955.4783	479644.5806	918.14
1093	227957.1881	479617.1806	917.84
1094	227950.3244	479609.4632	917.77
1095	227942.9780	479604.2110	917.72

NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE



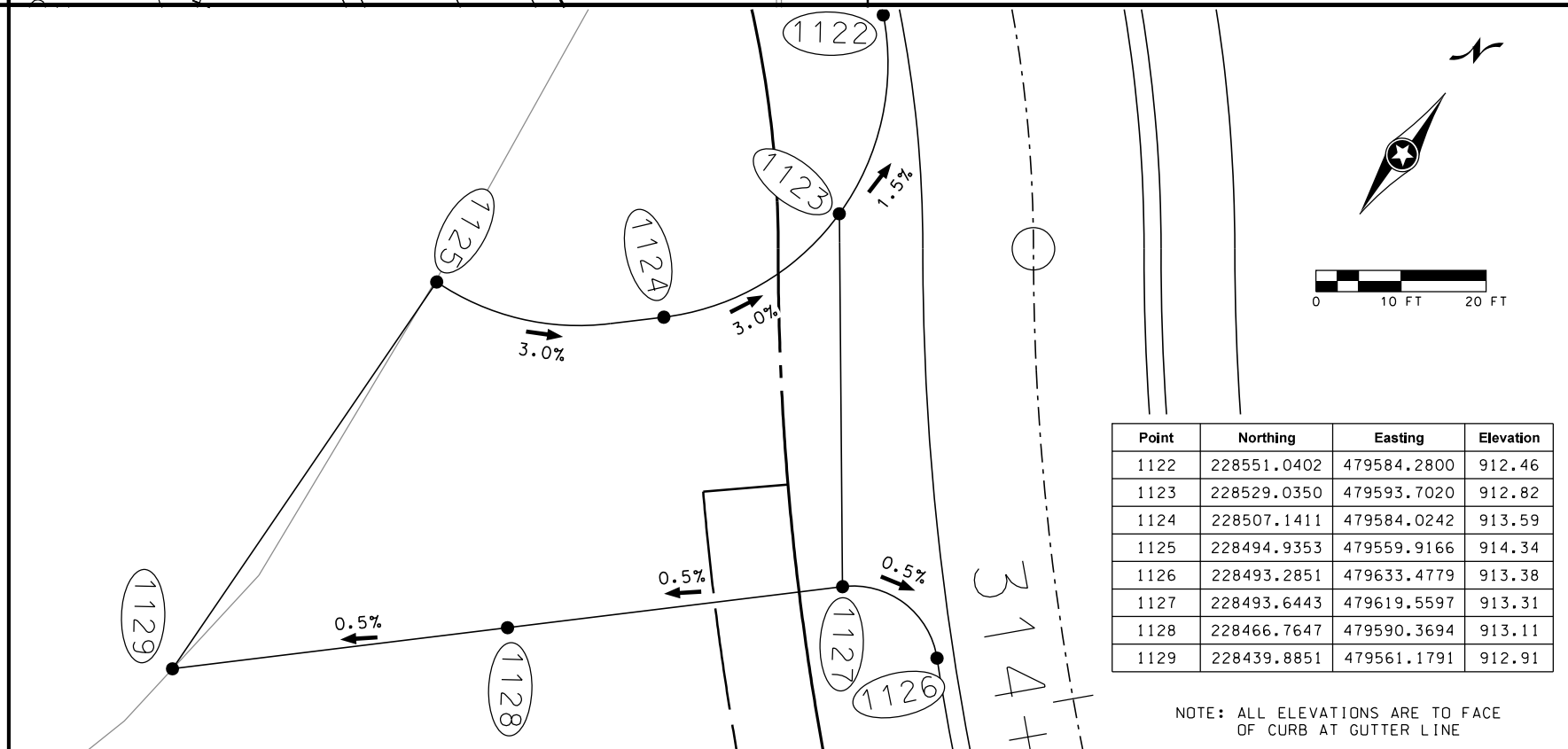
Point	Northing	Easting	Elevation
1096	228435.4388	477994.3616	919.54
1097	228433.0532	477995.5631	919.59
1098	228433.3854	477997.6048	919.64
1099	228437.7276	478003.6535	919.71
1100	228442.3090	478012.7928	919.80
1101	228445.1761	478022.7354	919.89
1102	228446.1122	478033.3471	919.98
1103	228446.0649	478066.3406	920.28
1104	228385.8385	478062.3320	919.78
1105	228390.6845	478062.3320	919.75
1106	228399.8701	478060.8600	919.70
1107	228408.1822	478056.7068	919.65
1108	228414.8371	478050.2072	919.60
1109	228419.2366	478041.8463	919.55
1110	228420.8028	478032.5680	919.50
1111	228419.8418	478024.5454	919.47
1112	228413.3712	478012.3593	919.63
1113	228377.4868	478004.8750	920.04

NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE



Point	Northing	Easting	Elevation
1114	228495.7413	479351.7635	912.46
1115	228489.0689	479357.0324	912.82
1116	228494.2719	479376.3803	913.59
1117	228495.5638	479404.7446	914.34
1118	228455.1661	479341.1661	913.38
1119	228462.7782	479352.1549	913.31
1120	228462.7782	479378.7933	913.11
1121	228462.7782	479405.4317	912.91

NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE



Point	Northing	Easting	Elevation
1122	228551.0402	479584.2800	912.46
1123	228529.0350	479593.7020	912.82
1124	228507.1411	479584.0242	913.59
1125	228494.9353	479559.9166	914.34
1126	228493.2851	479633.4779	913.38
1127	228493.6443	479619.5597	913.31
1128	228466.7647	479590.3694	913.11
1129	228439.8851	479561.1791	912.91


NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE

Note: Printed 6/30/2015  
WSB Filename: K:\0666-220\Coord\Plan\666in04.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
Plan By: ACJ  
Checked By: DRS  
Approved By: AJP

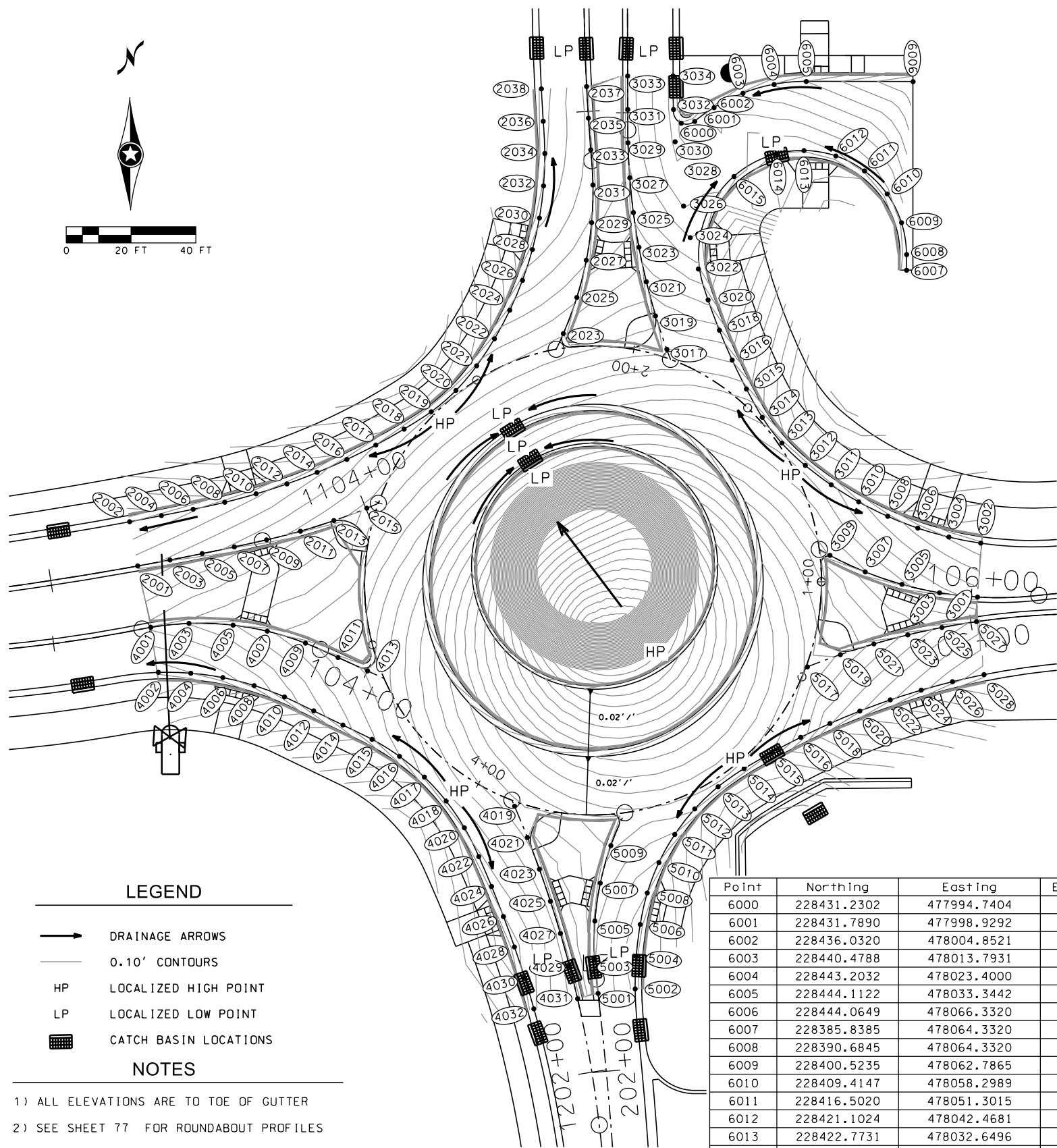
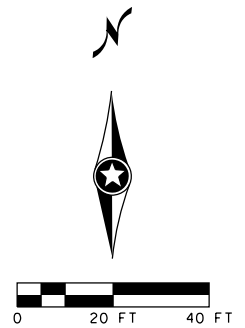
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

CERTIFIED BY:   
LICENSED PROFESSIONAL ENGINEER - ANDREW PLOJMAN, PE  
DATE: 6/15/15 LIC. NO: 44200

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**ANOKA COUNTY**  
**CSAH 24 Improvements**  
Anoka County, Minnesota

**ANOKA COUNTY, MINNESOTA**  
**INTERSECTION DETAILS**  
S.P. 002-624-026



**LEGEND**

- DRAINAGE ARROWS
- 0.10' CONTOURS
- HP** LOCALIZED HIGH POINT
- LP** LOCALIZED LOW POINT
- CATCH BASIN LOCATIONS

**NOTES**

- 1) ALL ELEVATIONS ARE TO TOE OF GUTTER
- 2) SEE SHEET 77 FOR ROUNDABOUT PROFILES

Point	Northing	Easting	Elevation
6000	228431.2302	477994.7404	919.71
6001	228431.7890	477998.9292	919.76
6002	228436.0320	478004.8521	919.83
6003	228440.4788	478013.7931	919.92
6004	228443.2032	478023.4000	920.01
6005	228444.1122	478033.3442	920.10
6006	228444.0649	478066.3320	920.40
6007	228385.8385	478064.3320	919.90
6008	228390.6845	478064.3320	919.87
6009	228400.5235	478062.7865	919.82
6010	228409.4147	478058.2989	919.77
6011	228416.5020	478051.3015	919.72
6012	228421.1024	478042.4681	919.67
6013	228422.7731	478032.6496	919.62
6014	228421.7959	478024.1259	919.59
6015	228414.7897	478011.0566	919.75

Point	Northing	Easting	Elevation
3001	228284.9275	478086.2339	920.76
3002	228301.5623	478087.2118	920.43
3003	228286.2499	478074.5134	920.84
3004	228303.451	478077.3953	920.49
3005	228288.8475	478062.9031	920.92
3006	228306.223	478067.7908	920.56
3007	228292.7132	478051.5683	921.01
3008	228309.8556	478058.4776	920.64
3009	228297.8128	478040.6748	921.09
3010	228314.3186	478049.5326	920.72
3011	228319.5753	478041.0298	920.82
3012	228325.5822	478033.0393	920.86
3013	228332.4713	478025.7989	920.84
3014	228340.4248	478019.7552	920.76
3015	228349.1429	478014.8544	920.64
3016	228358.1231	478010.4571	920.49
3017	228361.4127	477990.2821	920.50
3018	228367.3117	478006.514	920.33
3019	228371.781	477986.8316	920.38
3020	228376.686	478003.0352	920.17
3021	228382.2996	477983.9582	920.26
3022	228386.2224	478000.0292	920.03
3023	228392.9332	477981.667	920.16
3024	228395.8972	477997.5036	919.90
3025	228403.647	477979.9612	920.08
3026	228405.686	477995.4647	919.79
3027	228414.4063	477978.8412	920.01
3028	228415.5646	477993.9176	919.71
3029	228425.1768	477978.3053	919.97
3030	228425.5081	477992.8661	919.68
3031	228435.4526	477978.2369	919.95
3032	228435.4917	477992.3129	919.67
3033	228445.8147	477978.2081	919.95
3034	228445.8536	477992.2081	919.67
4001	228275.5719	477830.9629	920.32
4002	228261.6811	477833.3226	920.04
4003	228276.7831	477842.7534	920.40
4004	228261.419	477843.314	920.10
4005	228276.2467	477856.3781	920.49
4006	228260.0507	477853.2147	920.16
4007	228274.3894	477866.9071	920.58
4008	228257.5931	477862.9027	920.23
4009	228270.691	477878.7387	920.67
4010	228254.0763	477872.2585	920.35
4011	228266.2645	477888.7935	920.75
4012	228249.7737	477881.285	920.46
4013	228262.1217	477897.8921	920.82
4014	228245.4204	477890.2877	920.56
4015	228241.025	477899.2694	920.68
4016	228235.7517	477907.7566	920.80
4017	228229.3542	477915.4319	920.92
4018	228221.9557	477922.1477	920.96
4019	228220.3567	477943.2698	921.27
4020	228213.6987	477927.7745	920.92
4021	228210.6846	477947.2556	921.22
4022	228204.7574	477932.2388	920.88
4023	228200.8927	477950.9523	921.17
4024	228195.5647	477936.1743	920.84
4025	228191.0083	477954.35	921.14
4026	228186.2633	477939.8455	920.79
4027	228181.0411	477957.447	921.13
4028	228176.8609	477943.2495	920.76
4029	228171.0006	477960.2415	921.14
4030	228167.365	477946.3835	920.82
4031	228160.8965	477962.7324	921.16
4032	228157.7835	477949.245	920.88

Point	Northing	Easting	Elevation
2001	228294.5295	477826.9161	920.07
2002	228308.1783	477824.4409	919.79
2003	228296.3885	477836.883	920.12
2004	228310.0655	477834.2611	919.84
2005	228298.3473	477846.8313	920.17
2006	228312.0505	477844.0621	919.89
2007	228300.4055	477856.7602	920.22
2008	228314.1957	477853.8296	919.94
2009	228302.5817	477866.736	920.27
2010	228316.7896	477863.4862	919.98
2011	228305.2685	477877.1786	920.32
2012	228319.8629	477873.0012	920.03
2013	228308.5261	477887.496	920.38
2014	228323.408	477882.3506	920.08
2015	228312.3499	477897.6542	920.43
2016	228327.4159	477891.5112	920.14
2017	228331.8766	477900.46	920.20
2018	228336.779	477909.1746	920.26
2019	228342.1782	477917.5819	920.29
2020	228348.7004	477925.1478	920.28
2021	228356.3434	477931.5724	920.22
2022	228364.687	477937.0784	920.14
2023	228366.2889	477958.3525	920.29
2024	228373.496	477941.8041	920.04
2025	228377.4571	477962.5122	920.18
2026	228382.6976	477945.7107	919.94
2027	228388.9313	477965.4239	920.09
2028	228392.2159	477948.7657	919.85
2029	228400.5499	477967.0767	920.01
2030	228401.9723	477950.944	919.77
2031	228412.1559	477967.4846	919.96
2032	228411.8861	477952.2276	919.72
2033	228423.0285	477966.8129	919.93
2034	228421.8755	477952.6059	919.69
2035	228432.7821	477966.0956	919.92
2036	228431.8611	477952.126	919.67
2037	228442.5532	477965.5257	919.92
2038	228441.844	477951.5437	919.64
5001	228162.5516	477969.0476	921.30
5002	228163.9173	477980.5151	921.07
5003	228173.2112	477967.9547	921.31
5004	228173.9086	477980.8385	921.02
5005	228184.8916	477968.0816	921.33
5006	228183.8293	477982.0676	921.05
5007	228196.6359	477969.7578	921.37
5008	228193.5775	477984.2693	921.10
5009	228208.1727	477973.0048	921.42
5010	228202.9111	477987.8328	921.19
5011	228211.611	477992.7447	921.29
5012	228219.4838	477998.8956	921.41
5013	228226.3544	478006.1488	921.48
5014	228231.9496	478014.1283	921.46
5015	228236.9832	478022.7681	921.40
5016	228241.6314	478031.6212	921.25
5017	228263.3727	478033.7008	921.38
5018	228245.8853	478040.6705	921.01
5019	228267.1579	478043.8923	921.28
5020	228249.7364	478049.8983	920.91
5021	228270.451	478054.2295	921.18
5022	228253.1775	478059.2867	920.82
5023	228273.2472	478064.6871	921.07
5024	228256.2018	478068.8176	920.72
5025	228275.5435	478075.2393	920.97
5026	228258.8034	478078.4724	920.63
5027	228277.3379	478085.861	920.88
5028	228260.9773	478088.2324	920.55

Date Printed: 6/30/2015  
 WSB Filename: K:\0666-220\Coord\Plan\666in05.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

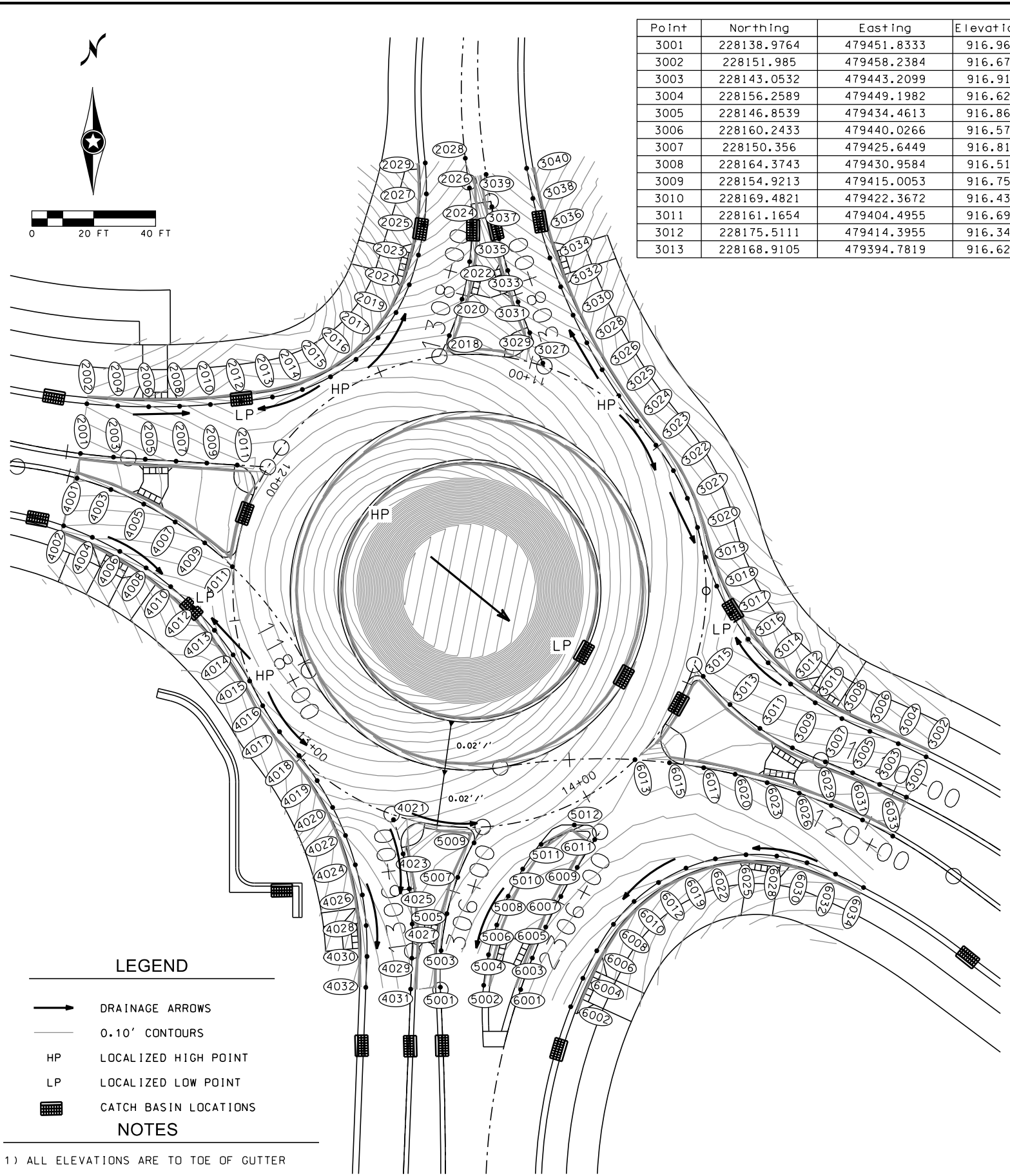
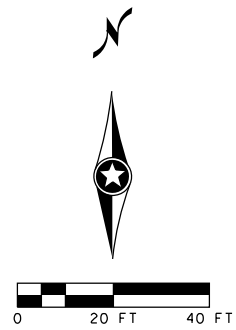
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 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**INTERSECTION DETAILS**  
 S.P. 002-624-026

SHEET  
**82**  
 OF  
**214**  
 SHEETS



Point	Northing	Easting	Elevation
3001	228138.9764	479451.8333	916.96
3002	228151.985	479458.2384	916.67
3003	228143.0532	479443.2099	916.91
3004	228156.2589	479449.1982	916.62
3005	228146.8539	479434.4613	916.86
3006	228160.2433	479440.0266	916.57
3007	228150.356	479425.6449	916.81
3008	228164.3743	479430.9584	916.51
3009	228154.9213	479415.0053	916.75
3010	228169.4821	479422.3672	916.43
3011	228161.1654	479404.4955	916.69
3012	228175.5111	479414.3955	916.34
3013	228168.9105	479394.7819	916.62

Point	Northing	Easting	Elevation
3014	228182.3867	479407.1414	916.26
3015	228178.0353	479386.132	916.55
3016	228190.0244	479400.6944	916.18
3017	228198.3298	479395.134	916.37
3018	228207.2005	479390.5289	916.47
3019	228216.5272	479386.9358	916.55
3020	228226.1704	479384.3002	916.59
3021	228235.6026	479381.0001	916.62
3022	228244.5243	479376.4988	916.67
3023	228252.783	479370.8729	916.72
3024	228260.6177	479364.6658	916.76
3025	228268.7496	479358.8478	916.77
3026	228277.1762	479353.4656	916.75
3027	228279.3176	479334.2855	916.98
3028	228285.8744	479348.5341	916.67
3029	228289.1398	479330.0396	916.81
3030	228294.8199	479344.0671	916.50
3031	228299.1276	479326.2627	916.63
3032	228303.988	479340.0768	916.34
3033	228309.2611	479322.9591	916.46
3034	228313.3534	479336.5744	916.18
3035	228319.5205	479320.1326	916.29
3036	228322.89	479333.5695	916.01
3037	228329.8858	479317.7864	916.11
3038	228332.5715	479331.0705	915.84
3039	228340.3372	479315.9233	915.94
3040	228342.3711	479329.0842	915.68
4001	228242.0919	479183.7128	918.02
4002	228226.7254	479179.3769	917.70
4003	228238.4264	479194.6588	917.94
4004	228222.9841	479188.647	917.61
4005	228233.6953	479205.263	917.86
4006	228218.431	479197.5467	917.51
4007	228227.929	479215.4114	917.77
4008	228213.1026	479206.0048	917.42
4009	228221.1726	479224.9919	917.69
4010	228207.0411	479213.9542	917.33
4011	228213.485	479233.8973	917.61
4012	228200.295	479221.3315	917.24
4013	228192.918	479228.0778	917.38
4014	228184.9688	479234.1395	917.47
4015	228176.5107	479239.4682	917.50
4016	228168.5107	479243.7313	917.47
4017	228160.1121	479249.1463	917.42
4018	228152.3816	479255.4592	917.36
4019	228144.2827	479261.3178	917.27
4020	228135.6393	479266.3386	917.13
4021	228131.6975	479285.9902	917.13
4022	228126.5378	479270.4714	916.80
4023	228120.5973	479289.0974	917.04
4024	228117.0692	479273.6749	916.72
4025	228109.3038	479291.1183	916.96
4026	228107.3281	479275.9171	916.65
4027	228097.9179	479292.0498	916.88
4028	228097.4118	479277.1757	916.58
4029	228086.8555	479291.9384	916.82
4030	228087.4194	479277.4379	916.53
4031	228076.852	479291.5494	916.78
4032	228077.4155	479277.0603	916.49
2001	228250.0729	479184.7944	918.00
2002	228266.1619	479186.8705	917.68
2003	228248.9383	479195.4599	917.93
2004	228265.4754	479196.8462	917.59
2005	228248.2343	479205.7623	917.85
2006	228265.205	479206.8418	917.51
2007	228247.6015	479215.711	917.78
2008	228265.3512	479216.84	917.43

Point	Northing	Easting	Elevation
2009	228246.9713	479225.6185	917.71
2010	228265.9138	479226.8235	917.31
2011	228246.3448	479235.4678	917.64
2012	228266.8917	479236.7748	917.19
2013	228268.3118	479246.8523	917.25
2014	228270.7722	479256.5317	917.30
2015	228274.8842	479265.633	917.34
2016	228280.5217	479273.877	917.22
2017	228287.5116	479281.0104	917.03
2018	228288.2302	479304.0606	917.11
2019	228295.6392	479286.8143	916.83
2020	228299.9826	479308.172	916.89
2021	228304.6551	479291.1106	916.60
2022	228312.1068	479310.6114	916.67
2023	228314.2681	479294.0525	916.38
2024	228324.1616	479311.3673	916.45
2025	228324.0916	479295.8951	916.17
2026	228335.9617	479310.5366	916.24
2027	228334.0589	479296.6371	915.98
2028	228345.5543	479309.1993	916.07
2029	228344.047	479296.2693	915.81
5001	228077.5084	479301.148	916.70
5002	228078.1243	479315.155	916.42
5003	228089.3411	479301.4067	916.73
5004	228087.9946	479316.7282	916.43
5005	228101.2655	479303.267	916.78
5006	228097.6295	479319.3861	916.45
5007	228113.0212	479306.7759	916.84
5008	228106.9103	479323.096	916.49
5009	228124.3282	479311.9254	916.90
5010	228115.7226	479327.8121	916.54
5011	228123.9575	479333.4763	916.65
5012	228129.9449	479344.4739	916.62
6001	228076.7151	479327.0954	916.37
6002	228071.1702	479343.2874	915.94
6003	228086.9194	479330.8881	916.38
6004	228080.3592	479347.2284	915.96
6005	228096.9365	479335.2152	916.41
6006	228089.2937	479351.7167	916.01
6007	228106.819	479340.1115	916.46
6008	228097.8366	479357.1042	916.07
6009	228116.2171	479345.3923	916.51
6010	228105.2351	479363.8129	916.13
6011	228125.138	479351.0192	916.56
6012	228111.3492	479371.7099	916.19
6013	228151.0481	479364.0749	916.62
6015	228150.0782	479375.22	916.68
6017	228148.4522	479386.2987	916.73
6019	228115.991	479380.5528	916.24
6020	228146.364	479396.4684	916.78
6022	228119.0181	479390.0701	916.33
6023	228143.6308	479406.825	916.83
6025	228120.3377	479399.9698	916.40
6026	228140.241	479417.2273	916.89
6028	228119.9091	479409.9477	916.46
6029	228136.2024	479427.5481	916.94
6030	228117.7455	479419.6977	916.54
6031	228131.5635	479437.627	917.00
6032	228114.0582	479428.9419	916.61
6033	228126.3314	479447.4402	917.05
6034	228109.7375	479437.9591	916.67

**LEGEND**

- DRAINAGE ARROWS
- 0.10' CONTOURS
- LOCALIZED HIGH POINT
- LOCALIZED LOW POINT
- CATCH BASIN LOCATIONS

**NOTES**

- 1) ALL ELEVATIONS ARE TO TOE OF GUTTER
- 2) SEE SHEET 77 FOR ROUNDABOUT PROFILES

Date Printed: 6/30/2015  
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 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

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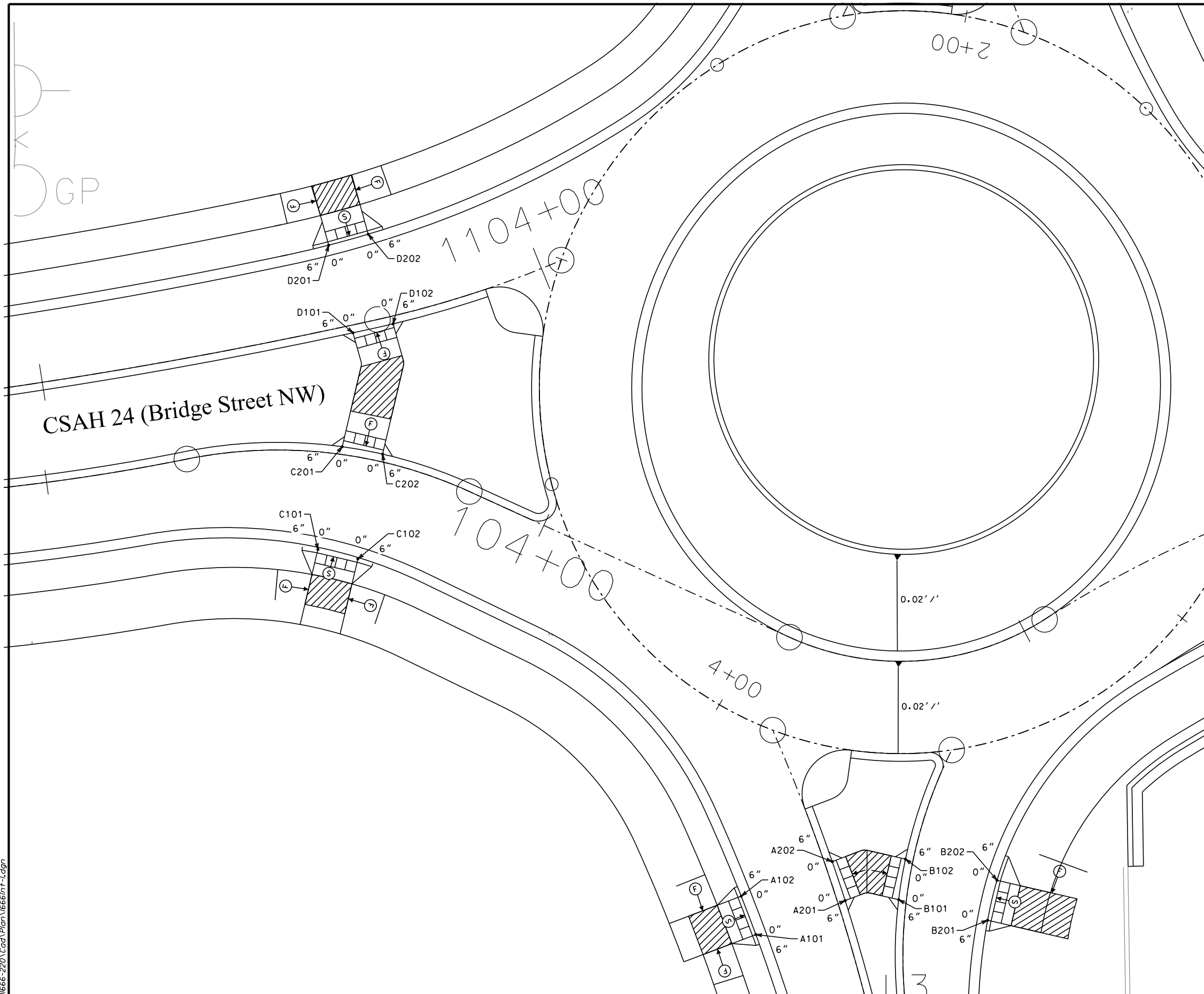
CERTIFIED BY:   
 LICENSED PROFESSIONAL ENGINEER - ANDREW PLODMAN, PE  
 DATE: 6/15/15 LIC. NO: 44200

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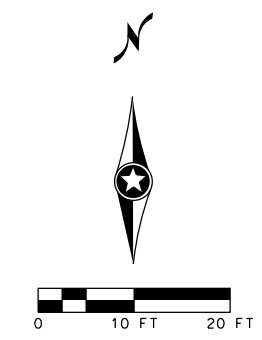
**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**INTERSECTION DETAILS**  
 S.P. 002-624-026



GUTTER POINTS			
Point Number	NORTHING	EASTING	ELEV.
A101	477939.1622	228182.3694	920.89
A102	477936.3189	228189.8471	920.89
A201	477956.5777	228188.9916	921.2
A202	477954.0577	228196.5923	921.23
B101	477966.9978	228189.1673	921.21
B102	477968.3170	228197.0735	921.24
B201	477984.3353	228185.1538	920.92
B202	477986.1665	228192.9414	920.94
C101	477853.8142	228257.4504	920.03
C102	477861.6000	228255.6116	920.09
C201	477858.5456	228277.4836	920.39
C202	477866.4252	228276.0420	920.44
D101	477860.6509	228299.7054	920.38
D102	477868.4706	228301.4449	920.42
D201	477855.9102	228316.7747	919.43

NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE



LEGEND	
XXX	CONTROL POINTS AT GUTTER FLOW LINE
	TRUNCATED DOMES (SEE STANDARD PLATE 7038)
	CONSTRUCT CONCRETE CURB & GUTTER
	LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
	DRAINAGE FLOW ARROW
	MAX. 2.0% LONGITUDINAL SLOPE EACH DIRECTION TO CENTER OF CUT THRU, CROSS SLOPE SHALL NOT EXCEED 2.0% (SEE MISCELLANEOUS DETAIL)

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Design By: AJP  
 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

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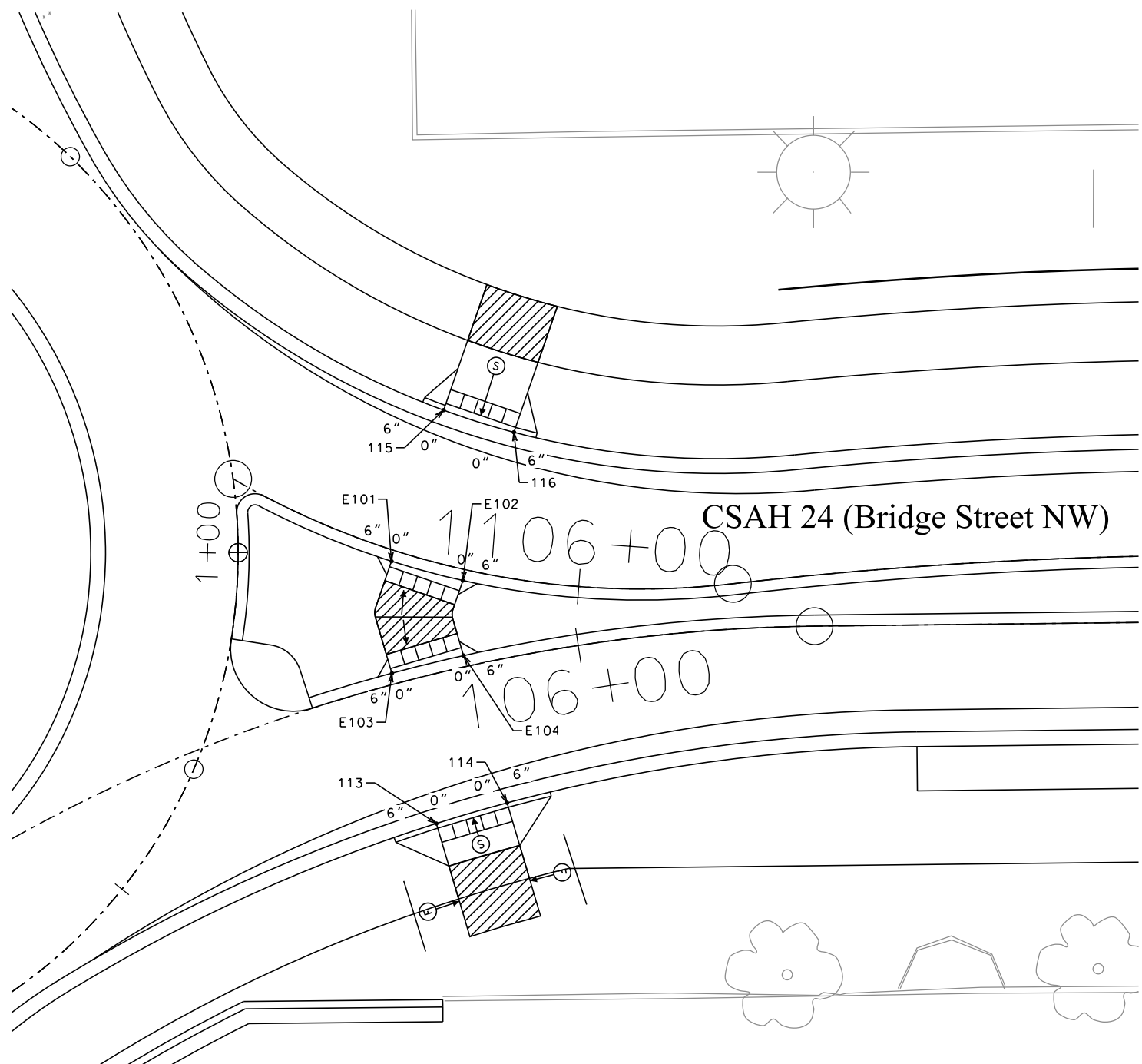
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 LICENSED PROFESSIONAL ENGINEER - ANDREW PLODMAN, PE  
 DATE: 6/15/15 LIC. NO: 44200

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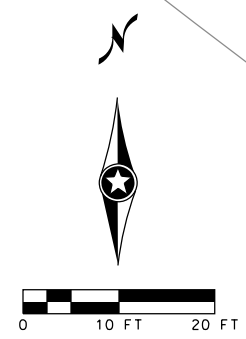
**ANOKA COUNTY**  
**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**INTERSECTION DETAILS**  
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SHEET  
**84**  
 OF  
**214**  
 SHEETS



CSAH 24 (Bridge Street NW)

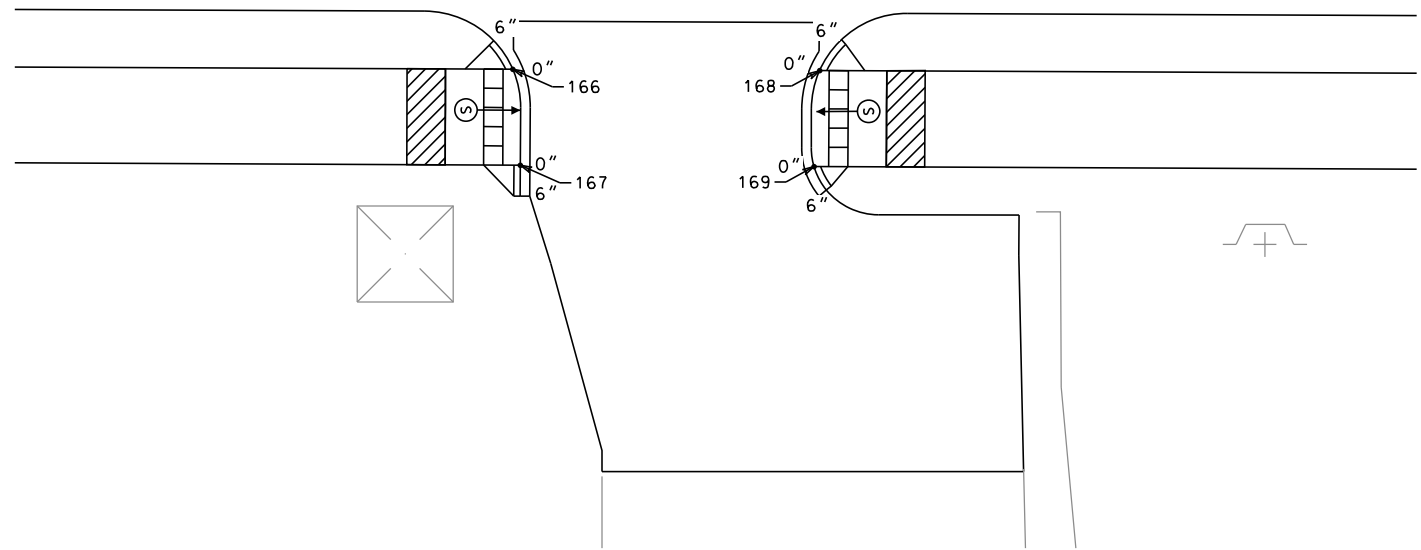


GUTTER POINTS			
Point Number	NORTHING	EASTING	ELEV.
113	228252.9275	478064.9304	920.64
114	228255.7265	478074.5307	920.54
E101	228288.4978	478058.8474	920.86
E102	228285.8878	478068.5251	920.79
E103	228273.3188	478058.9014	921.04
E104	228275.7017	478068.6248	920.94
115	228309.0052	478065.9123	920.51
116	228306.0026	478075.4547	920.44

NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE

1110+00

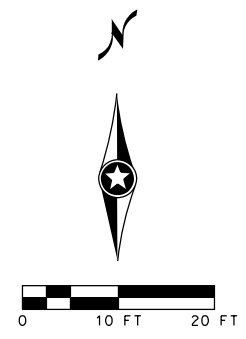
110+00



**GUTTER POINTS**

Point Number	NORTHING	EASTING	ELEV.
SW QUAD			
166	228302.3886	478227.5390	921.38
167	228292.3849	478228.3291	921.18
SE QUAD			
168	228302.2456	478259.5161	921.39
169	228292.2481	478258.9300	921.19

NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE



**LEGEND**

- XXX — CONTROL POINTS AT GUTTER FLOW LINE
- [ ] TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB & GUTTER
- [ / / ] LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- (S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- (F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- DRAINAGE FLOW ARROW
- (1) MAX. 2.0% LONGITUDINAL SLOPE EACH DIRECTION TO CENTER OF CUT THRU, CROSS SLOPE SHALL NOT EXCEED 2.0% (SEE MISCELLANEOUS DETAIL)

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NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

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CERTIFIED BY: *[Signature]*  
 LICENSED PROFESSIONAL ENGINEER - ANDREW FLOMMAN, PE  
 DATE: 6/15/15 LIC. NO: 44200

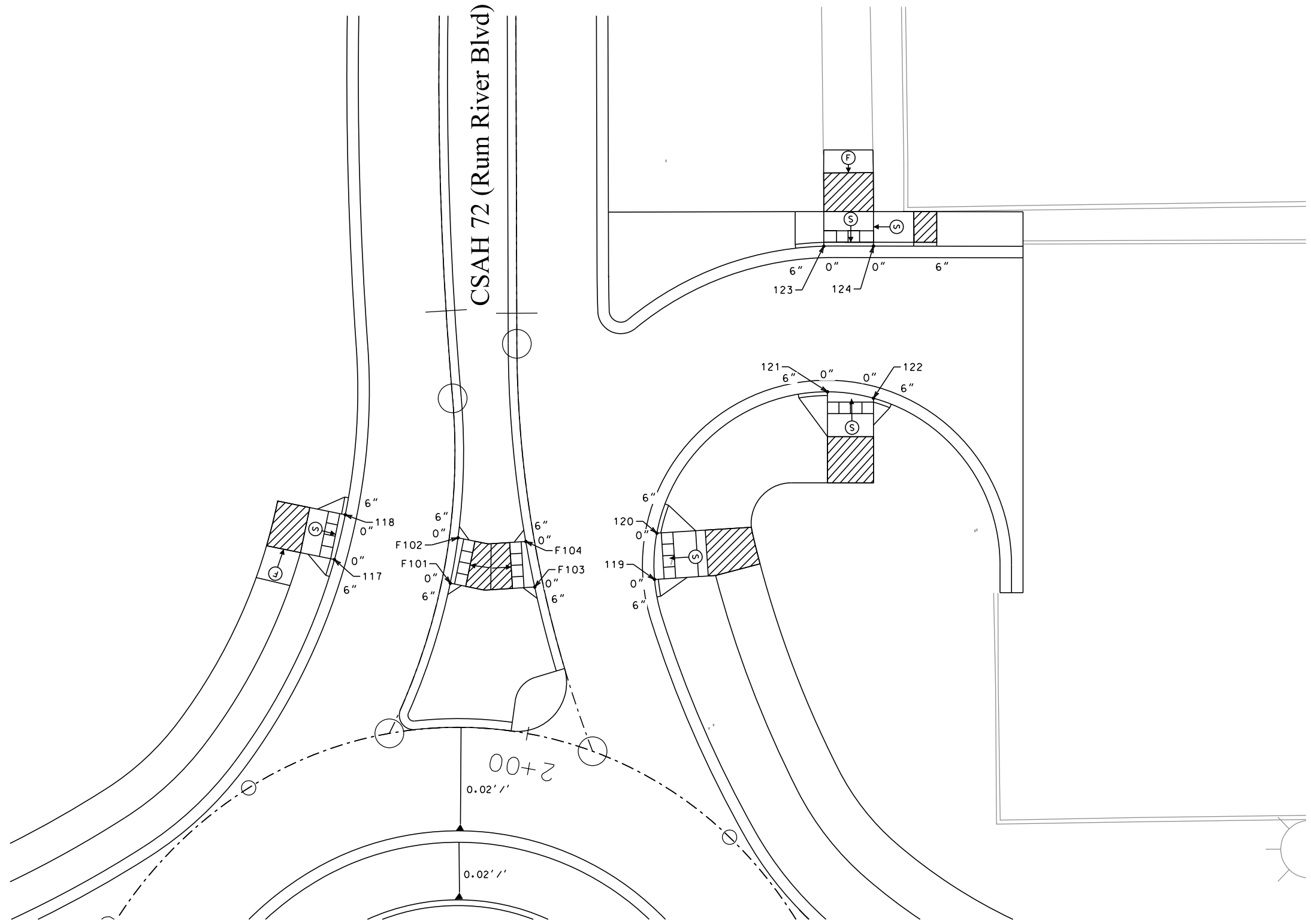
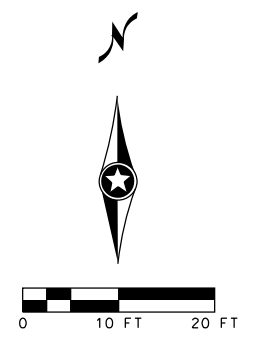
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**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**INTERSECTION DETAILS**  
 S.P. 002-624-026

GUTTER POINTS			
Point Number	NORTHING	EASTING	ELEV.
117	228391.6525	477946.5341	919.63
118	228399.4314	477948.4254	919.62
F101	228387.5365	477966.6908	920.01
F102	228395.4269	477968.0359	919.96
F103	228386.8735	477981.3802	920.12
F104	228394.7908	477979.8225	920.03
119	228388.1988	478002.2045	919.77
120	228396.2403	478002.6047	919.65
121	228420.8284	478032.2793	919.58
122	228419.7203	478040.2792	919.68
123	228446.1434	478031.6516	919.97
124	228446.1551	478040.2793	920.07

NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE



LEGEND	
XXX	CONTROL POINTS AT GUTTER FLOW LINE
[Symbol]	TRUNCATED DOMES (SEE STANDARD PLATE 7038)
[Symbol]	CONSTRUCT CONCRETE CURB & GUTTER
[Symbol]	LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
[Symbol]	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
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[Symbol]	DRAINAGE FLOW ARROW
[Symbol]	MAX. 2.0% LONGITUDINAL SLOPE EACH DIRECTION TO CENTER OF CUT THRU, CROSS SLOPE SHALL NOT EXCEED 2.0% (SEE MISCELLANEOUS DETAIL)

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 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

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 CERTIFIED BY: [Signature]  
 LICENSED PROFESSIONAL ENGINEER - ANDREW FLOMMAN, PE  
 DATE: 6/15/15 LIC. NO: 44200

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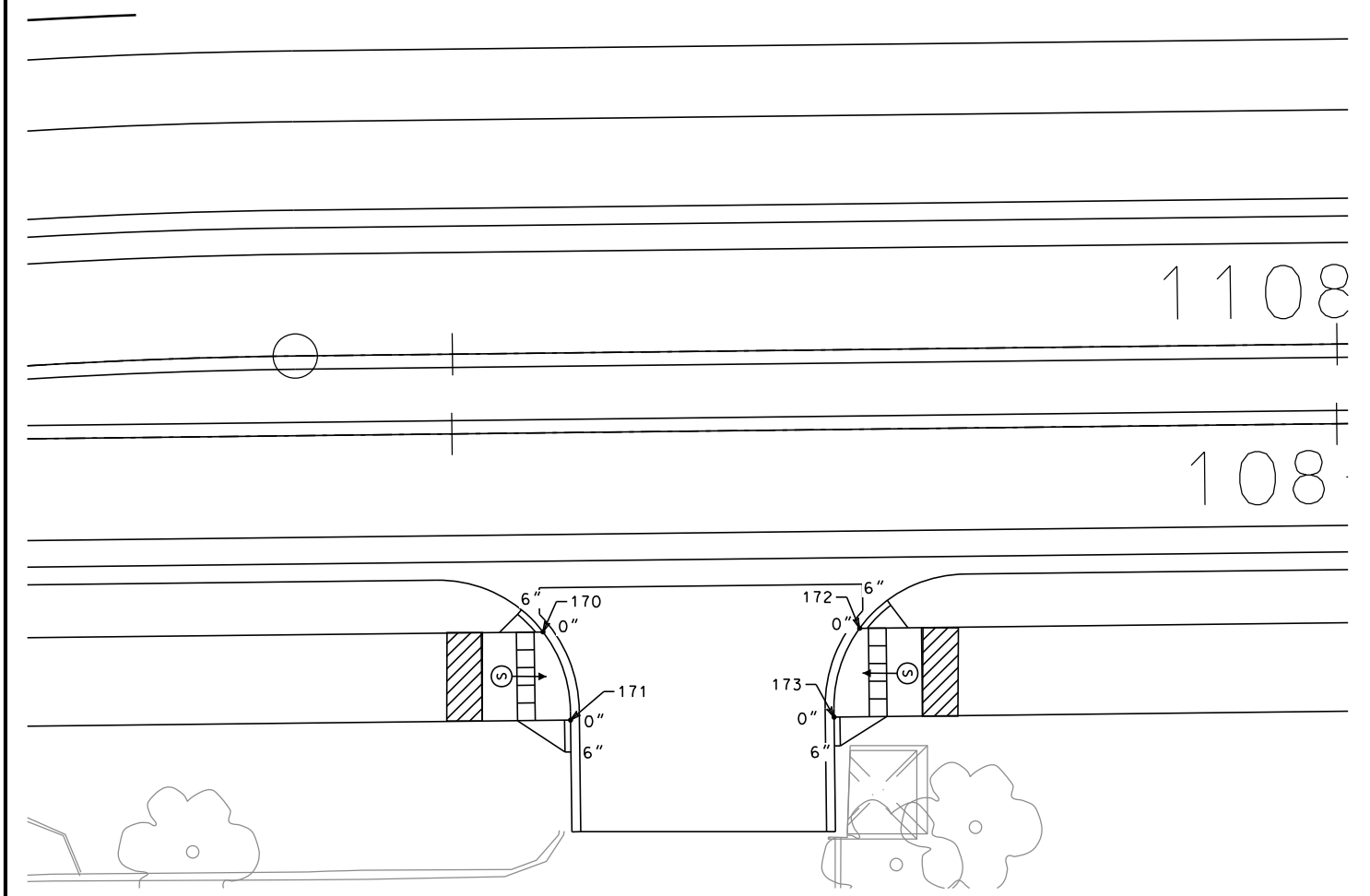
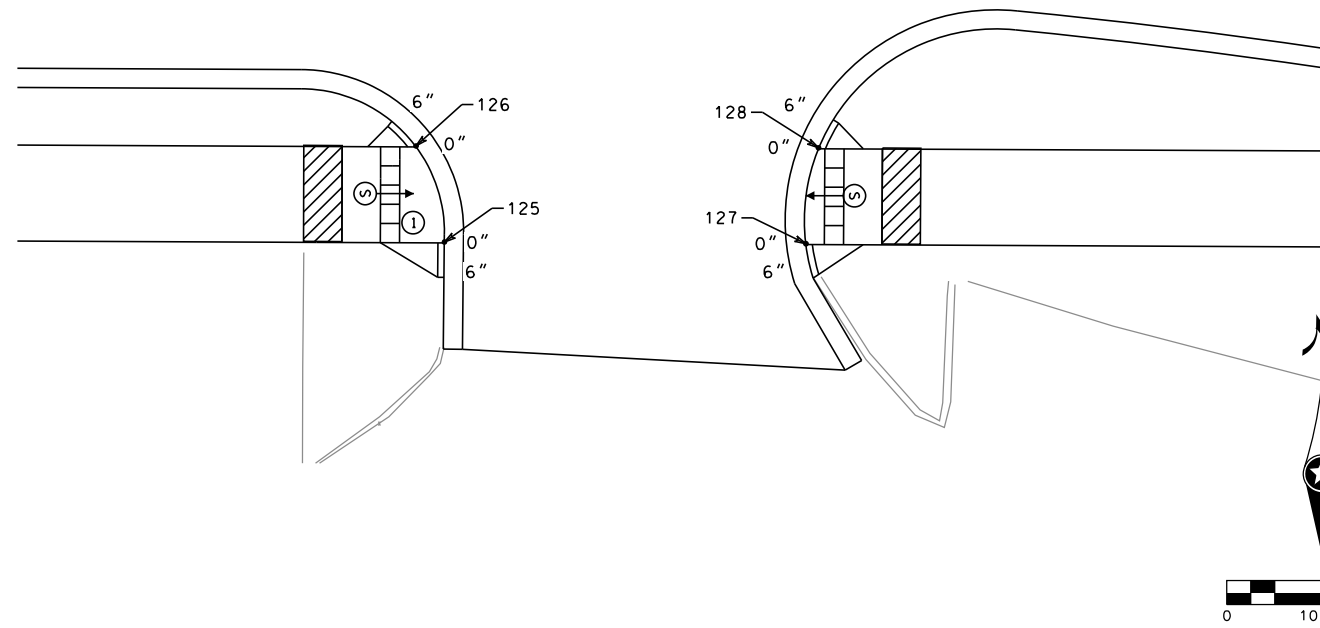
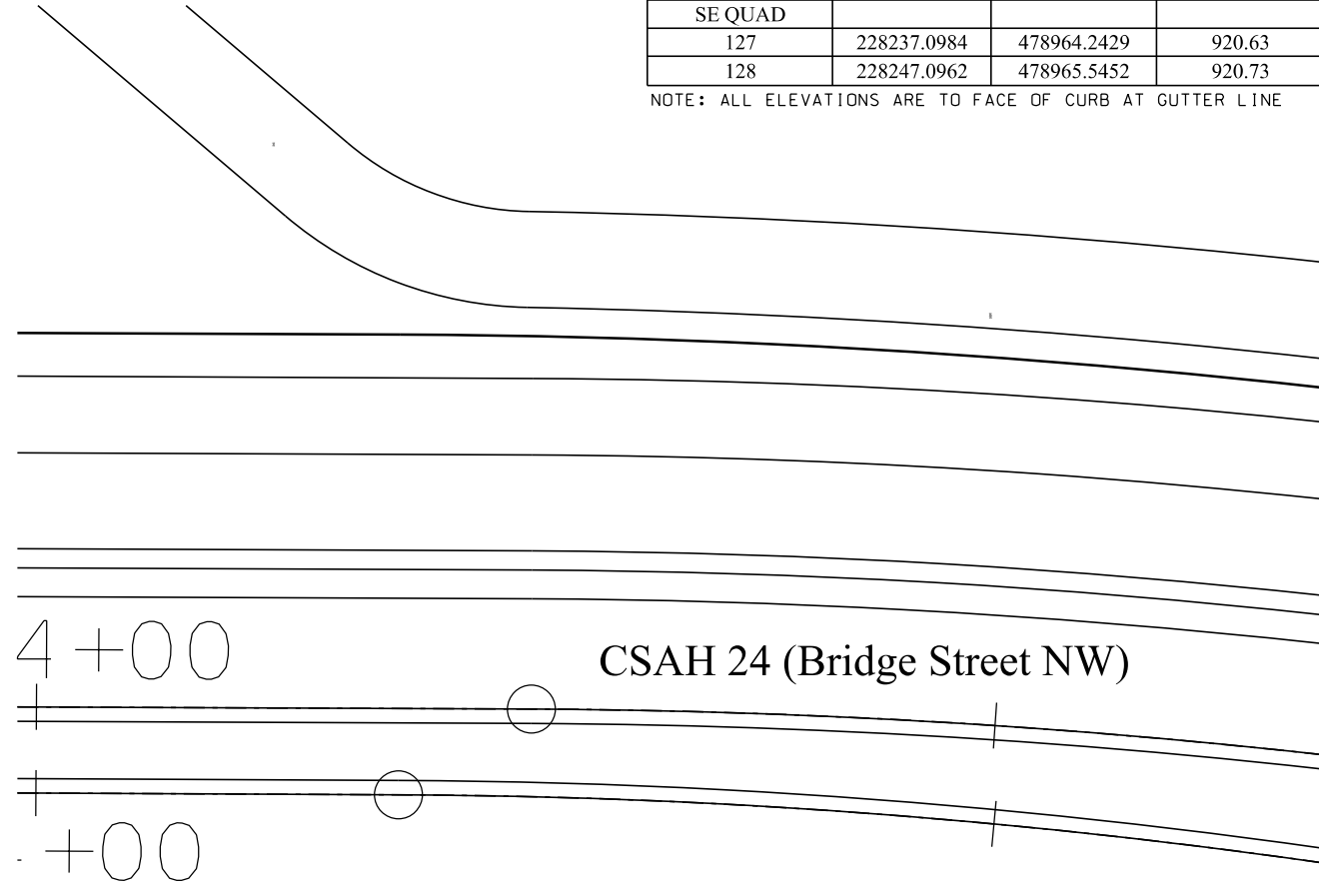
**ANOKA COUNTY**  
**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**INTERSECTION DETAILS**  
 S.P. 002-624-026

SHEET  
**86**  
 OF  
**214**  
 SHEETS

GUTTER POINTS			
Point Number	NORTHING	EASTING	ELEV.
SW QUAD			
125	228237.2700	478926.5671	919.35
126	228247.2833	478923.6168	919.3
SE QUAD			
127	228237.0984	478964.2429	920.63
128	228247.0962	478965.5452	920.73

NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE



GUTTER POINTS			
Point Number	NORTHING	EASTING	ELEV.
SW QUAD			
170	228310.6708	479020.6021	920.66
171	228300.7057	479023.7159	920.87
SE QUAD			
172	228311.0790	479056.3856	920.84
173	228301.0454	479053.4999	921.02

NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE

LEGEND	
XXX	CONTROL POINTS AT GUTTER FLOW LINE
[Symbol]	TRUNCATED DOMES (SEE STANDARD PLATE 7038)
[Symbol]	CONSTRUCT CONCRETE CURB & GUTTER
[Symbol]	LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
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[Symbol]	DRAINAGE FLOW ARROW
[Symbol]	MAX. 2.0% LONGITUDINAL SLOPE EACH DIRECTION TO CENTER OF CUT THRU, CROSS SLOPE SHALL NOT EXCEED 2.0% (SEE MISCELLANEOUS DETAIL)

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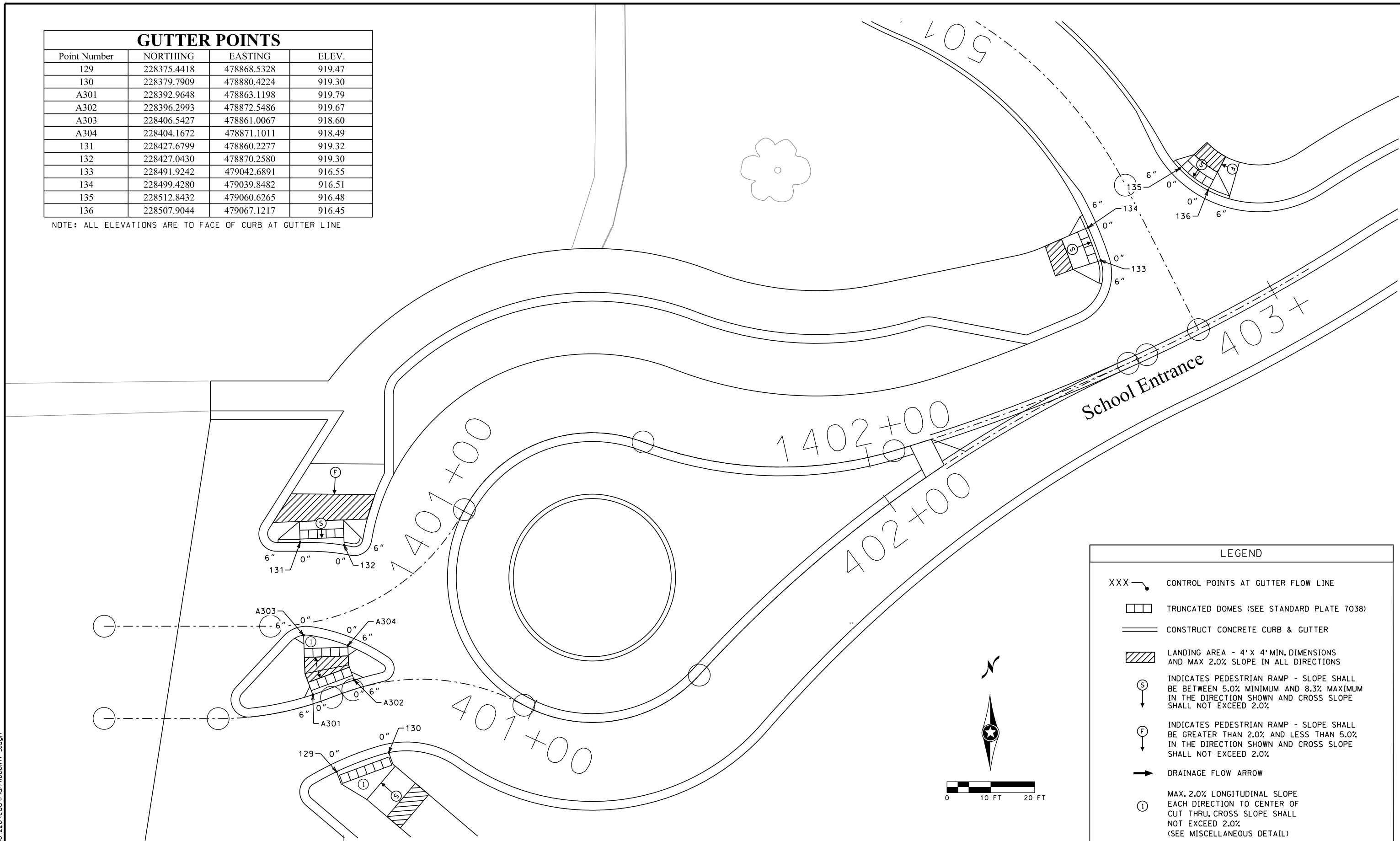
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**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**INTERSECTION DETAILS**  
 S.P. 002-624-026

SHEET  
**87**  
 OF  
**214**  
 SHEETS

GUTTER POINTS			
Point Number	NORTHING	EASTING	ELEV.
129	228375.4418	478868.5328	919.47
130	228379.7909	478880.4224	919.30
A301	228392.9648	478863.1198	919.79
A302	228396.2993	478872.5486	919.67
A303	228406.5427	478861.0067	918.60
A304	228404.1672	478871.1011	918.49
131	228427.6799	478860.2277	919.32
132	228427.0430	478870.2580	919.30
133	228491.9242	479042.6891	916.55
134	228499.4280	479039.8482	916.51
135	228512.8432	479060.6265	916.48
136	228507.9044	479067.1217	916.45

NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE



LEGEND	
XXX	CONTROL POINTS AT GUTTER FLOW LINE
[Symbol]	TRUNCATED DOMES (SEE STANDARD PLATE 7038)
[Symbol]	CONSTRUCT CONCRETE CURB & GUTTER
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[Symbol]	DRAINAGE FLOW ARROW
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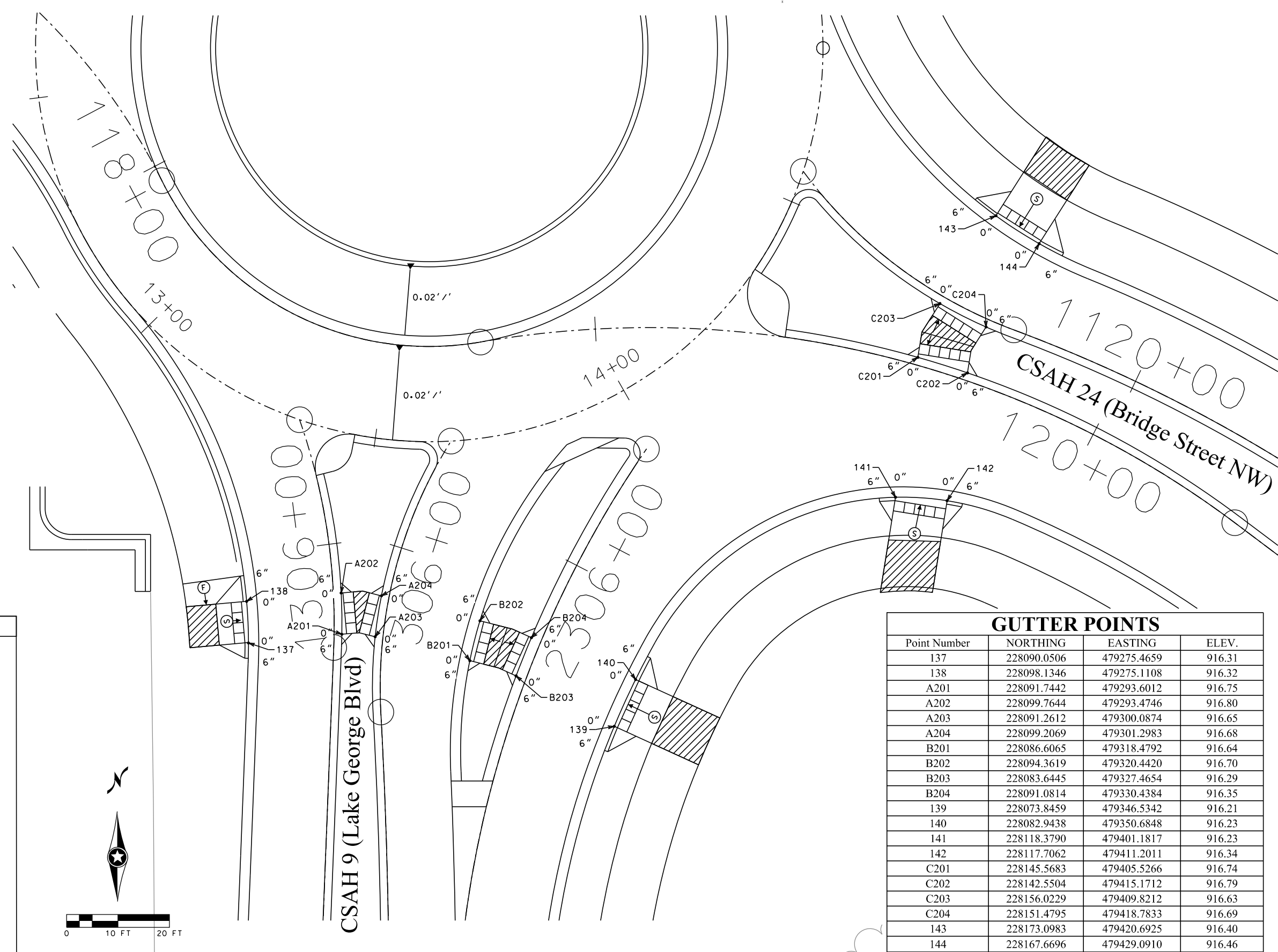
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 Anoka County, Minnesota

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**INTERSECTION DETAILS**  
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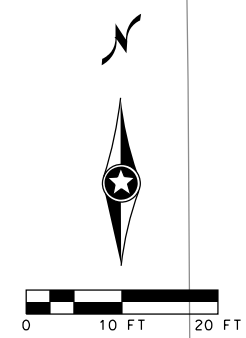
SHEET  
**88**  
 OF  
**214**  
 SHEETS





**LEGEND**

- XXX — CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB & GUTTER
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- DRAINAGE FLOW ARROW
- MAX. 2.0% LONGITUDINAL SLOPE EACH DIRECTION TO CENTER OF CUT THRU, CROSS SLOPE SHALL NOT EXCEED 2.0% (SEE MISCELLANEOUS DETAIL)



**GUTTER POINTS**

Point Number	NORTHING	EASTING	ELEV.
137	228090.0506	479275.4659	916.31
138	228098.1346	479275.1108	916.32
A201	228091.7442	479293.6012	916.75
A202	228099.7644	479293.4746	916.80
A203	228091.2612	479300.0874	916.65
A204	228099.2069	479301.2983	916.68
B201	228086.6065	479318.4792	916.64
B202	228094.3619	479320.4420	916.70
B203	228083.6445	479327.4654	916.29
B204	228091.0814	479330.4384	916.35
139	228073.8459	479346.5342	916.21
140	228082.9438	479350.6848	916.23
141	228118.3790	479401.1817	916.23
142	228117.7062	479411.2011	916.34
C201	228145.5683	479405.5266	916.74
C202	228142.5504	479415.1712	916.79
C203	228156.0229	479409.8212	916.63
C204	228151.4795	479418.7833	916.69
143	228173.0983	479420.6925	916.40
144	228167.6696	479429.0910	916.46

NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE

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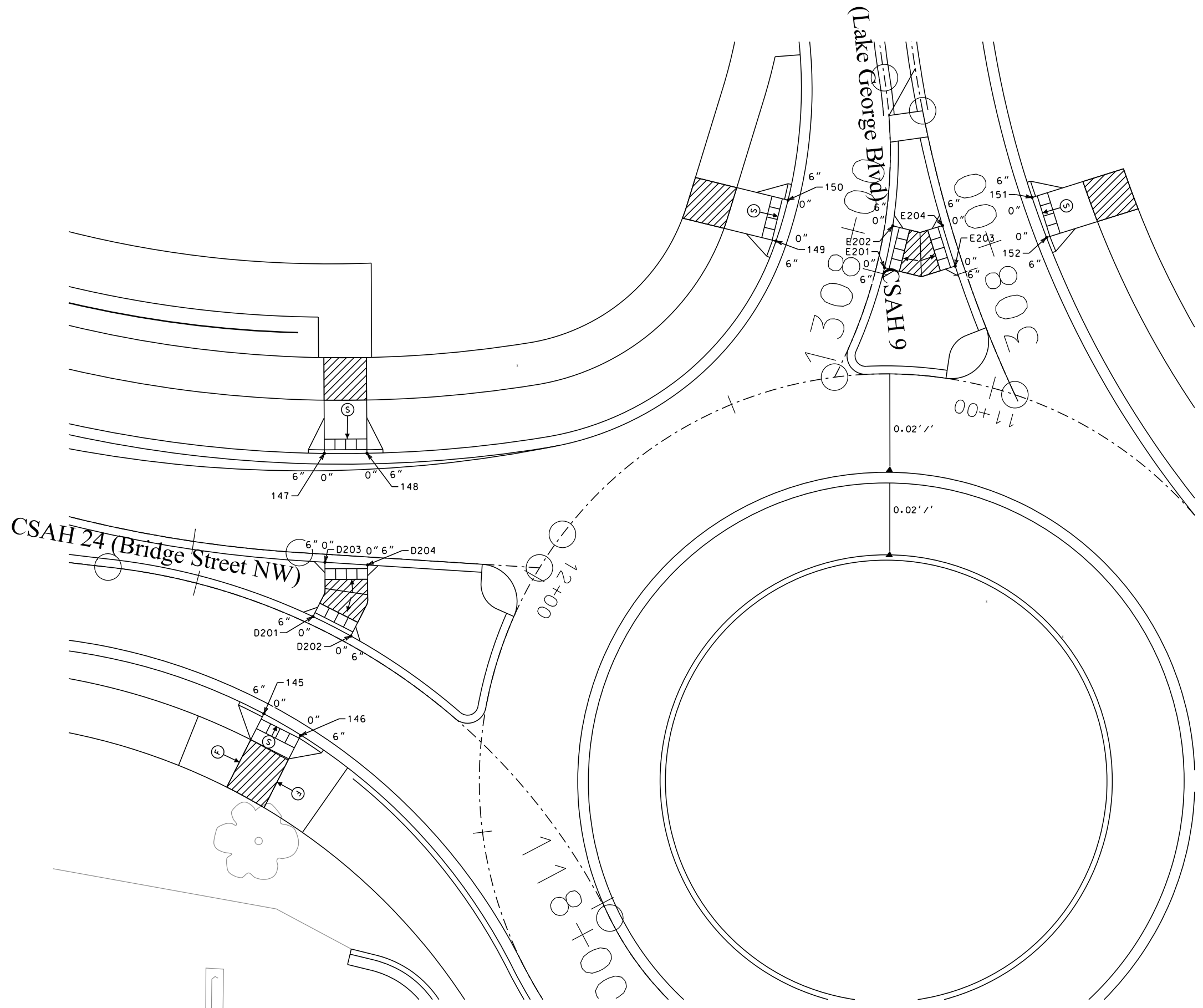
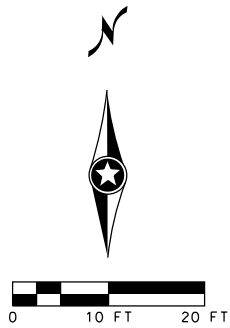
ANOKA COUNTY, MINNESOTA

**INTERSECTION DETAILS**  
 S.P. 002-624-026

### GUTTER POINTS

Point Number	NORTHING	EASTING	ELEV.
145	228218.3063	479193.6209	917.41
146	228214.2058	479200.5120	917.34
D201	228236.5444	479202.8448	917.79
D202	228232.9024	479209.9678	917.73
D203	228246.7741	479205.0977	917.77
D204	228246.2650	479213.1008	917.71
147	228267.2243	479204.9924	917.47
148	228267.2465	479212.9924	917.42
149	228307.1324	479289.8710	915.85
150	228314.8162	479292.1276	915.76
E201	228302.1360	479310.2776	916.75
E202	228309.9928	479311.8274	916.61
E203	228302.4212	479323.5507	916.48
E204	228310.0550	479321.1581	916.36
151	228315.3372	479338.0122	916.00
152	228307.8030	479340.7228	916.14

NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE



### LEGEND

- XXX — CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB & GUTTER
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- DRAINAGE FLOW ARROW
- MAX. 2.0% LONGITUDINAL SLOPE EACH DIRECTION TO CENTER OF CUT THRU, CROSS SLOPE SHALL NOT EXCEED 2.0% (SEE MISCELLANEOUS DETAIL)

Date Printed: 6/30/2015  
WSB Filename: K:\0666-2201\Coad\Plan\666int-7.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

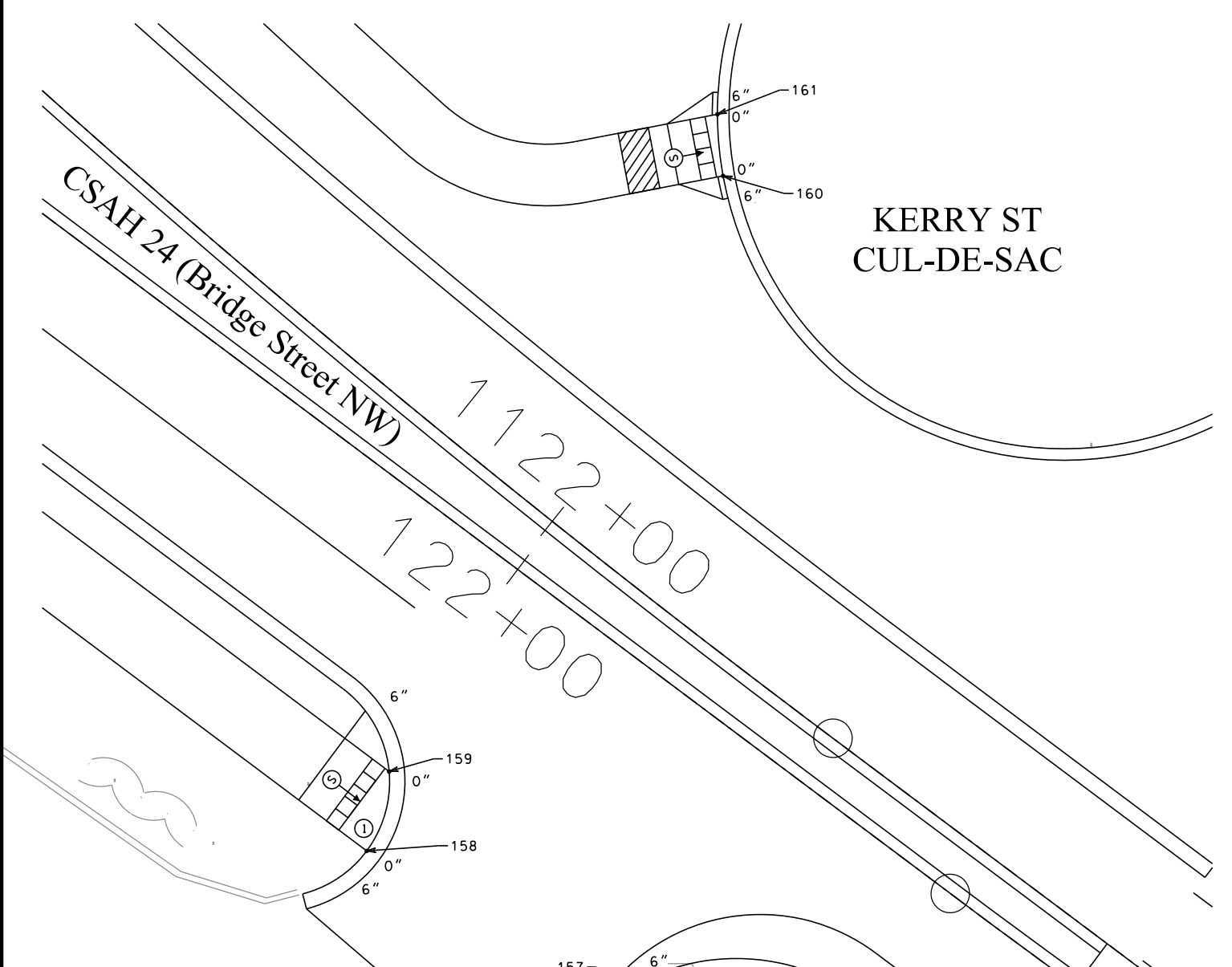
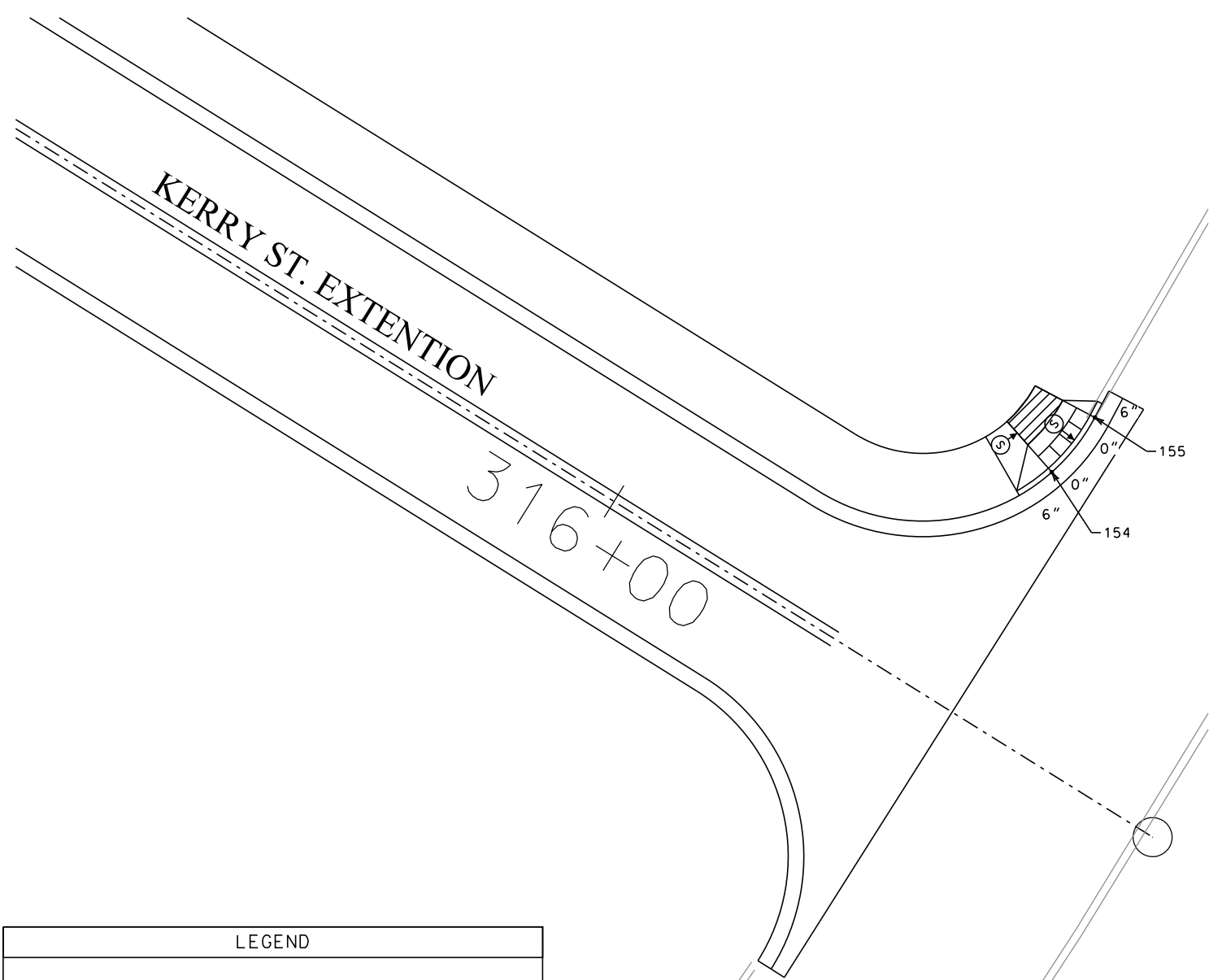
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CERTIFIED BY:   
 LICENSED PROFESSIONAL ENGINEER - ANDREW PLONMAN, PE  
 DATE: 6/15/15 LIC. NO: 44200

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**ANOKA COUNTY**  
**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**INTERSECTION DETAILS**  
 S.P. 002-624-026



**LEGEND**

- XXX — CONTROL POINTS AT GUTTER FLOW LINE
- ▭ TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB & GUTTER
- ▨ LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- Ⓢ ↓ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- Ⓣ ↓ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- DRAINAGE FLOW ARROW
- Ⓛ MAX. 2.0% LONGITUDINAL SLOPE EACH DIRECTION TO CENTER OF CUT THRU, CROSS SLOPE SHALL NOT EXCEED 2.0% (SEE MISCELLANEOUS DETAIL)

**GUTTER POINTS**

Point Number	NORTHING	EASTING	ELEV.
<b>KERRY ST EXT.</b>			
154	228391.1219	479871.0444	917.57
155	228398.1280	479876.5695	917.48
<b>CSAH 24</b>			
156	227950.2880	479609.4371	917.77
157	227957.1884	479617.1807	917.84
158	227976.4461	479581.5644	917.45
159	227986.7573	479584.4792	917.47
<b>CUL-DE-SAC</b>			
160	228064.0873	479627.8386	918.17
161	228072.0928	479627.1067	918.24

NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE

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NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
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 Checked By: DRS  
 Approved By: AJP

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 DATE: 6/15/15 LIC. NO: 44200

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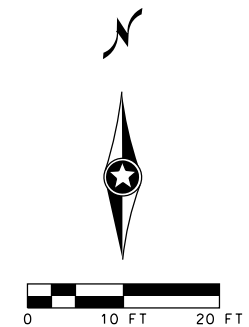
**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA

**INTERSECTION DETAILS**  
 S.P. 002-624-026

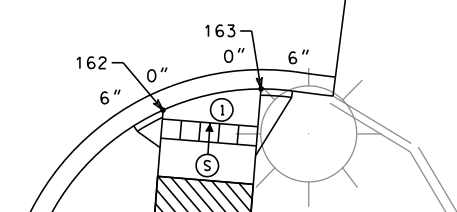
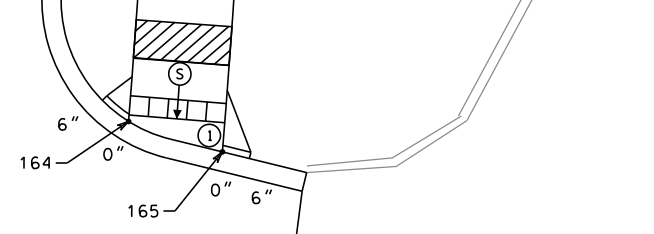
GUTTER POINTS			
Point Number	NORTHING	EASTING	ELEV.
SE QUAD			
162	227888.7941	479334.9312	916.79
163	227891.0069	479345.1506	916.96
NE QUAD			
164	227925.1300	479338.1161	917.01
165	227921.9578	479347.8913	917.03

NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE



LEGEND	
XXX	CONTROL POINTS AT GUTTER FLOW LINE
	TRUNCATED DOMES (SEE STANDARD PLATE 7038)
	CONSTRUCT CONCRETE CURB & GUTTER
	LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
	DRAINAGE FLOW ARROW
	MAX. 2.0% LONGITUDINAL SLOPE EACH DIRECTION TO CENTER OF CUT THRU. CROSS SLOPE SHALL NOT EXCEED 2.0% (SEE MISCELLANEOUS DETAIL)

1304+00  
304+00



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NO.	DATE	BY	CHK	REVISIONS

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Checked By: DRS  
Approved By: AJP

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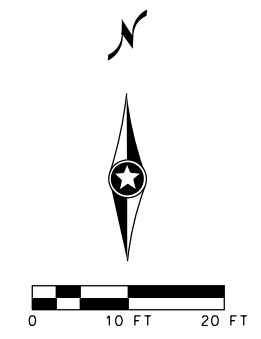
CERTIFIED BY:   
LICENSED PROFESSIONAL ENGINEER - ANDREW PLODMAN, PE  
DATE: 6/15/15 L.I.C. NO: 44200

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**CSAH 24 Improvements**  
Anoka County, Minnesota

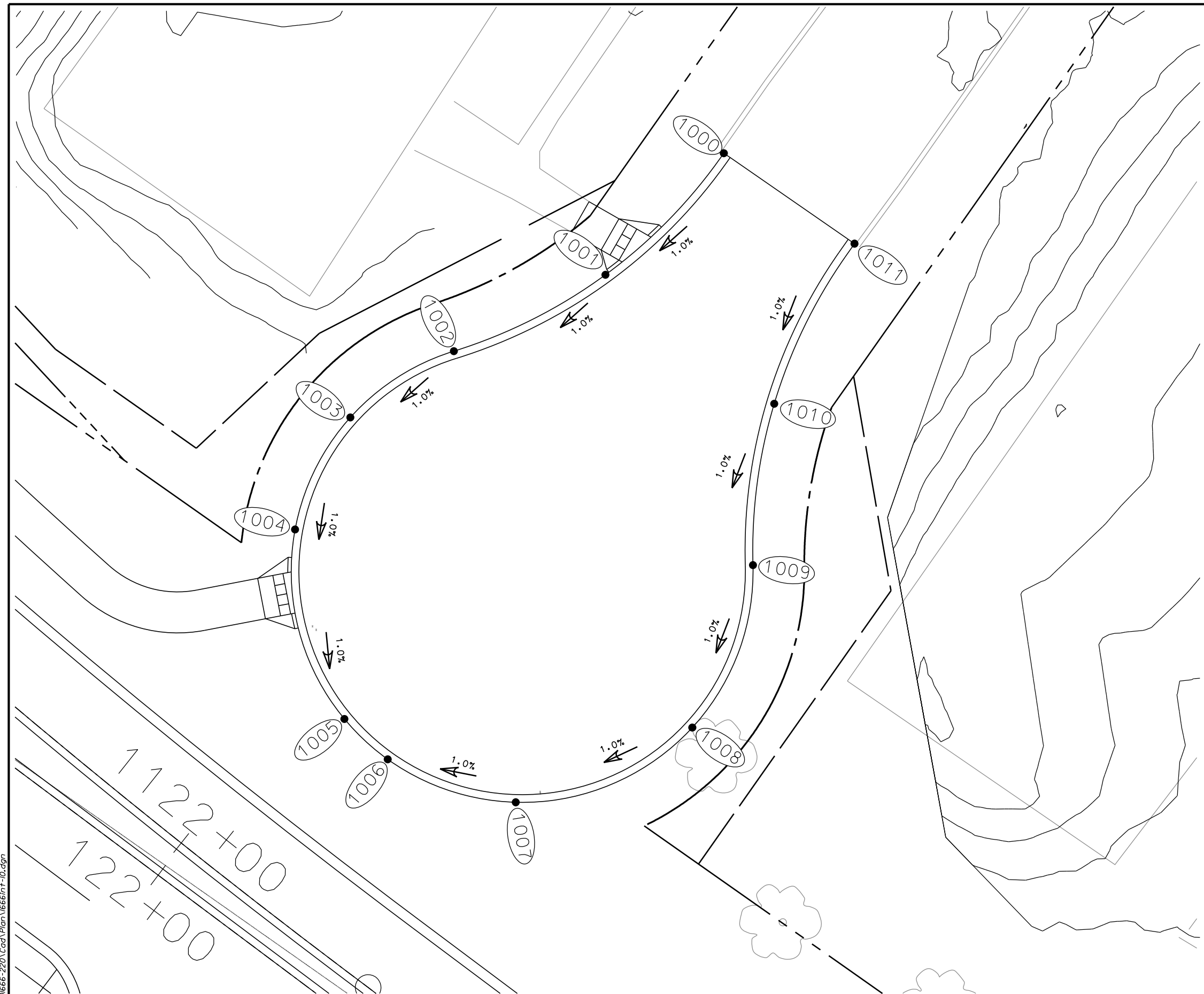
ANOKA COUNTY, MINNESOTA  
**INTERSECTION DETAILS**  
S.P. 002-624-026

SHEET  
**92**  
OF  
**214**  
SHEETS



Point	Northing	Easting	Elevation
1000	228153.7467	479711.4157	919.40
1001	228130.0378	479688.3403	919.09
1002	228115.1557	479658.7919	918.78
1003	228102.2315	479638.6201	918.55
1004	228080.3828	479627.8622	918.32
1005	228043.4403	479637.4718	917.95
1006	228035.5765	479645.9174	917.95
1007	228027.1878	479670.8624	918.19
1008	228041.7591	479705.2750	918.53
1009	228073.4345	479717.0888	918.84
1010	228104.9007	479721.2436	919.12
1011	228136.1093	479736.8850	919.43

NOTE: ALL ELEVATIONS ARE TO FACE OF CURB AT GUTTER LINE



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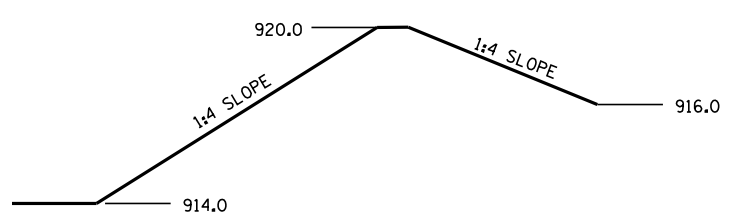
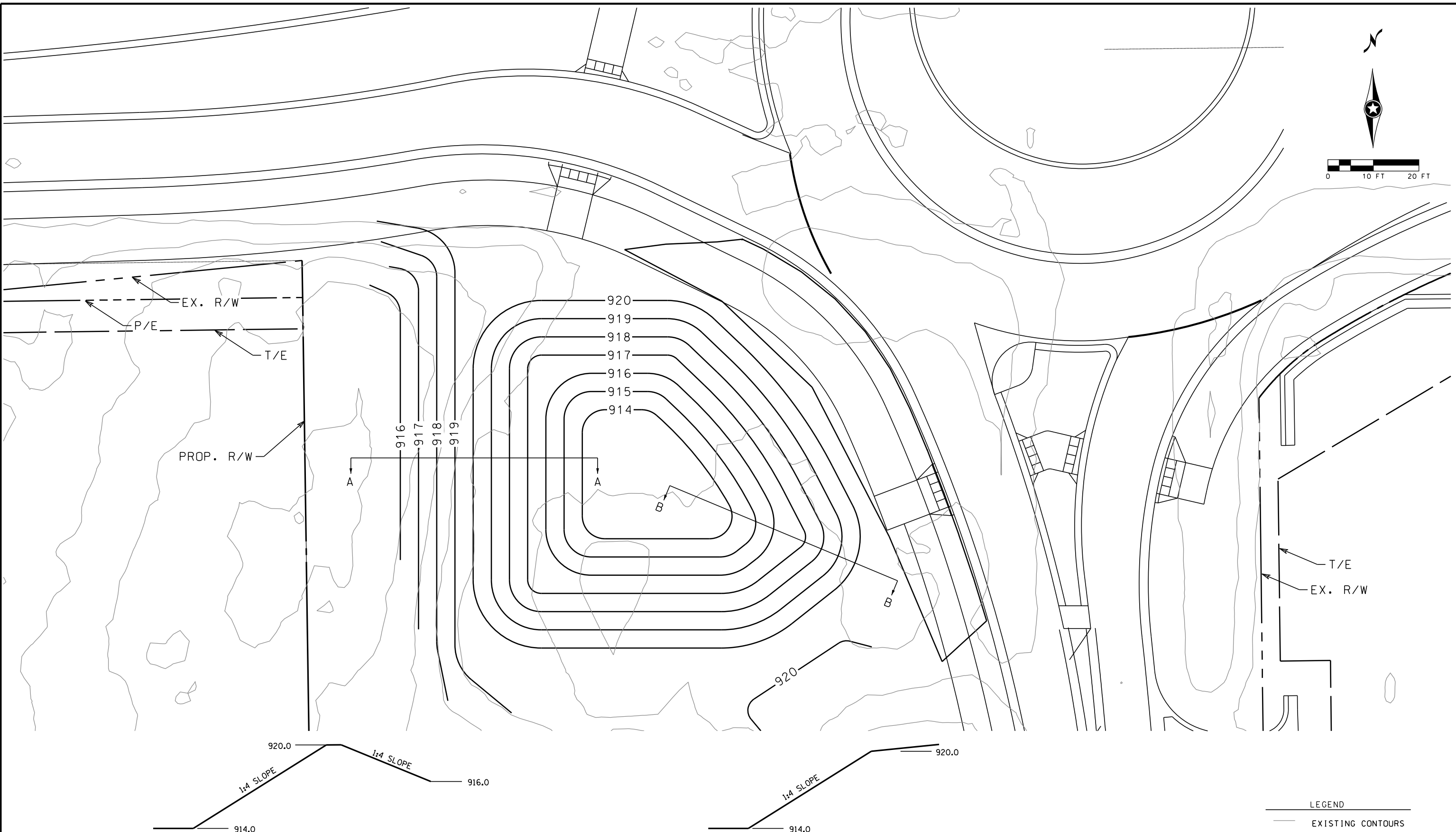
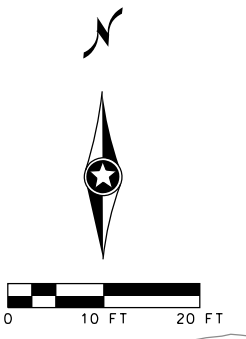
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 DATE: 6/15/15 LIC. NO: 44200

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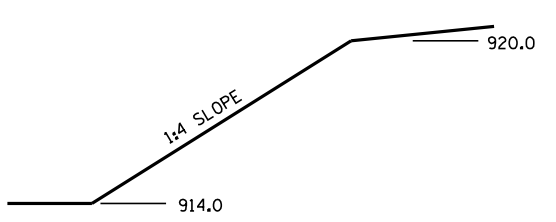
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**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**INTERSECTION DETAILS**  
 S.P. 002-624-026

SHEET  
**93**  
 OF  
**214**  
 SHEETS



SECTION A-A  
NO SCALE



SECTION B-B  
NO SCALE

LEGEND

	EXISTING CONTOURS
	PROPOSED CONTOURS

Date Printed: 6/30/2015  
WSB Filename: K:\0666-220\_Coord\Plan\666gp01.dgn

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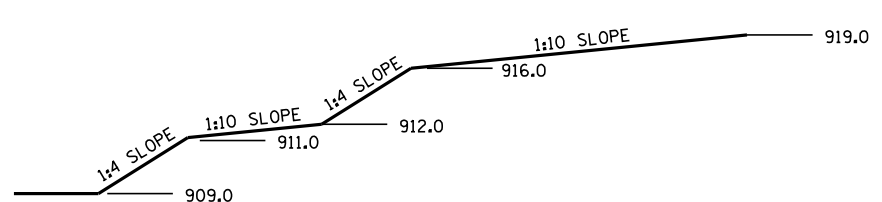
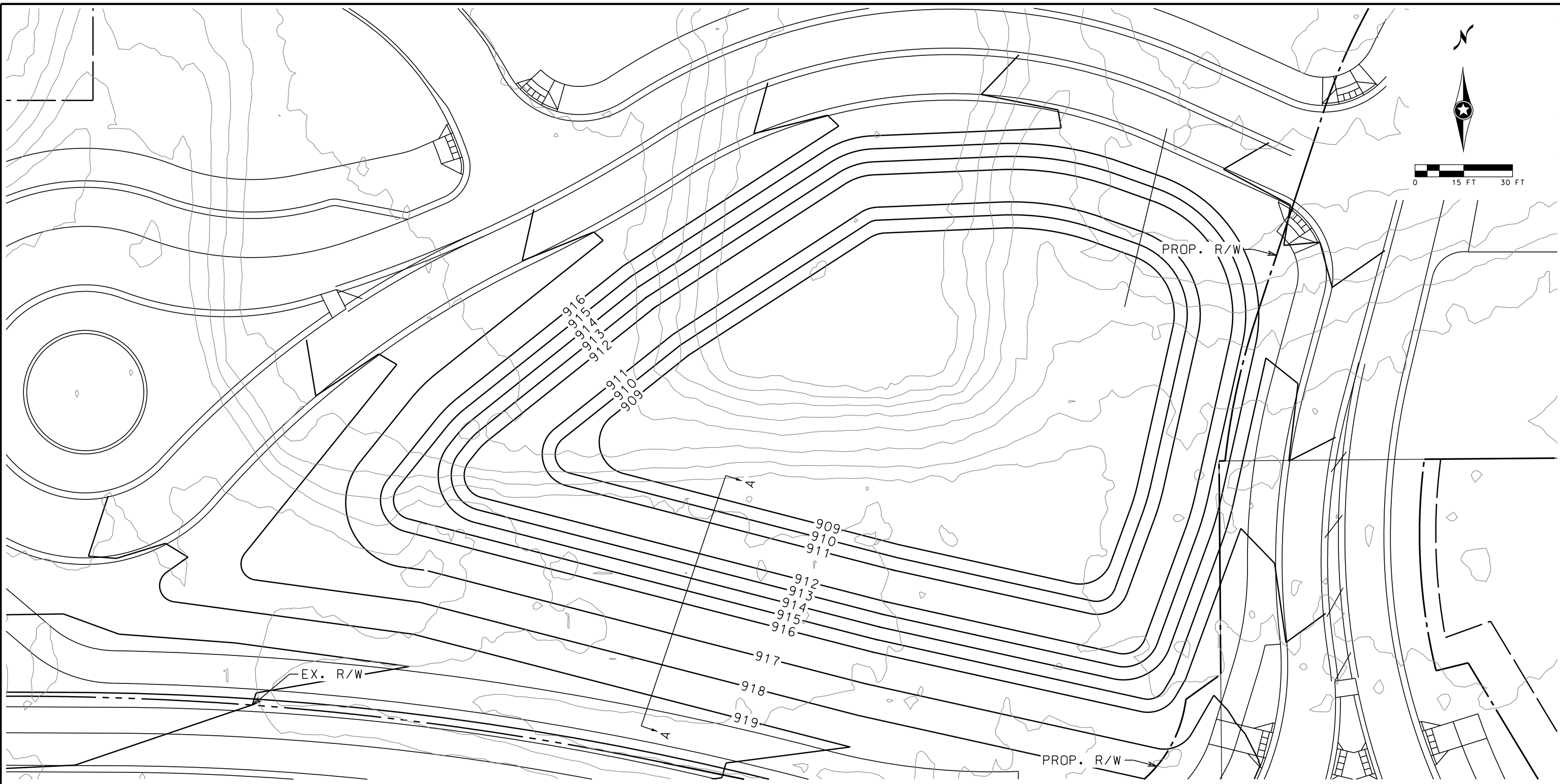
CERTIFIED BY:   
 LICENSED PROFESSIONAL ENGINEER - ANDREW PLODMAN, PE  
 DATE: 6/15/15 LIC. NO: 44200

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**ANOKA COUNTY**  
**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**GRADING PLAN**  
 S.P. 002-624-026

SHEET  
**94**  
 OF  
**214**  
 SHEETS



SECTION A-A  
NO SCALE

LEGEND

	EXISTING CONTOURS
	PROPOSED CONTOURS

Note: Printed 6/30/2015  
 WSB Filename: K:\0666-220\Coord\Plan\666gp02.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

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 LICENSED PROFESSIONAL ENGINEER - ANDREW PLODMAN, PE  
 DATE: 6/15/15 LIC. NO: 44200

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 Anoka County, Minnesota

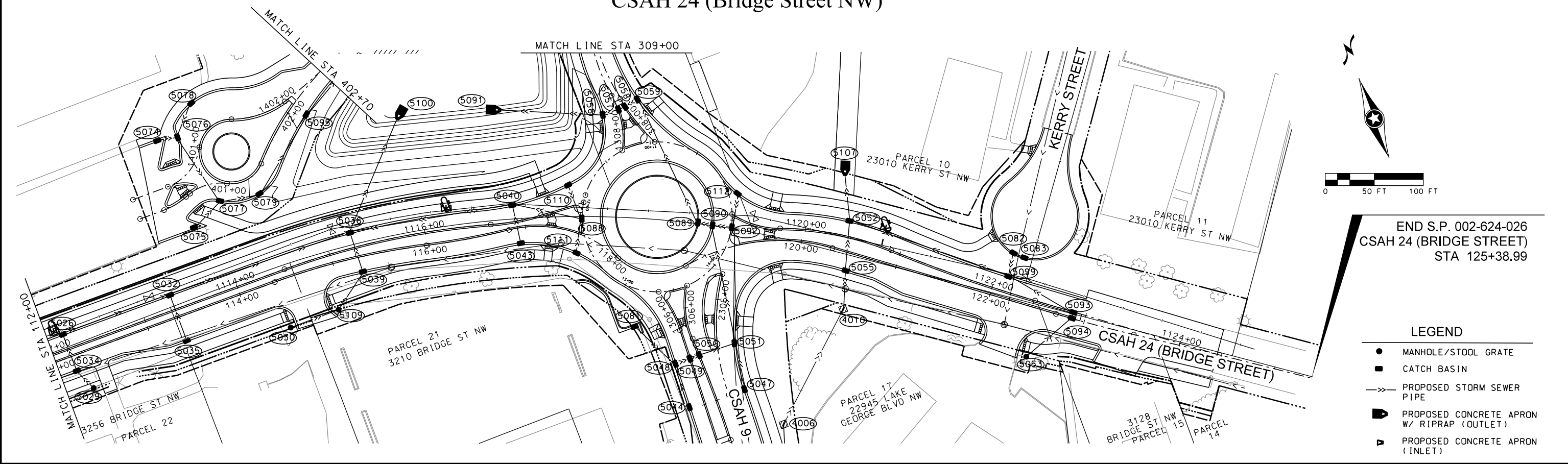
ANOKA COUNTY, MINNESOTA  
**POND GRADING PLAN**  
 S.P. 002-624-026

SHEET  
**95**  
 OF  
**214**  
 SHEETS



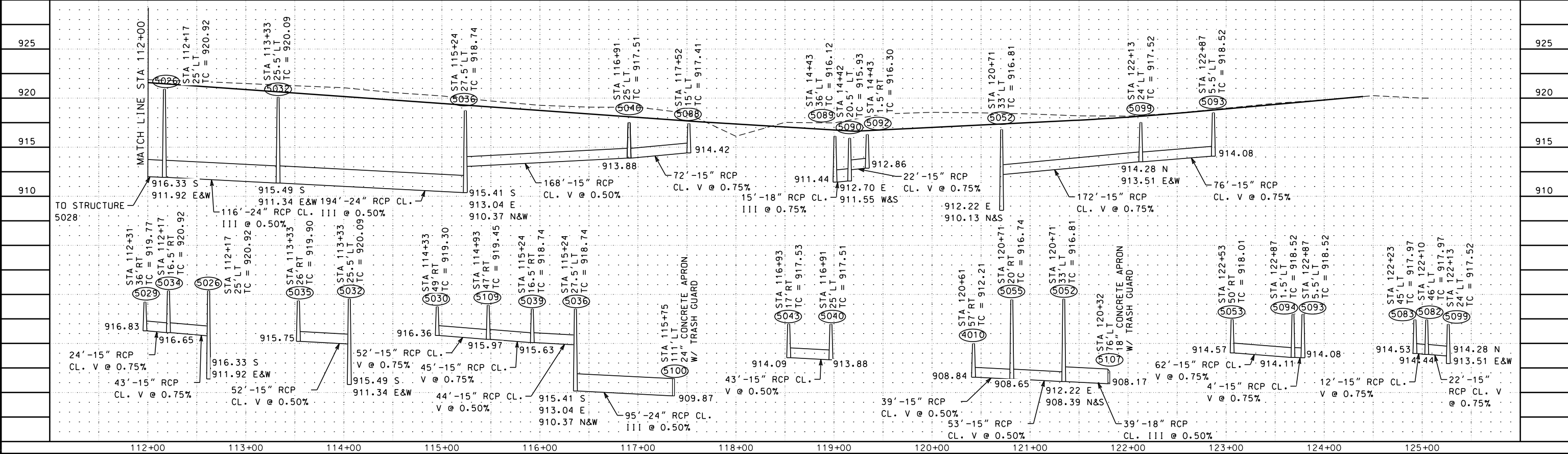


# CSAH 24 (Bridge Street NW)



END S.P. 002-624-026  
CSAH 24 (BRIDGE STREET)  
STA 125+38.99

- LEGEND**
- MANHOLE/STOOL GRATE
  - CATCH BASIN
  - PROPOSED STORM SEWER PIPE
  - ▭ PROPOSED CONCRETE APRON W/ RIPRAP (OUTLET)
  - ▭ PROPOSED CONCRETE APRON (INLET)



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
Plan By: ACJ  
Checked By: DRS  
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DATE: 6/15/15 LIC. NO: 44200

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Anoka County, Minnesota

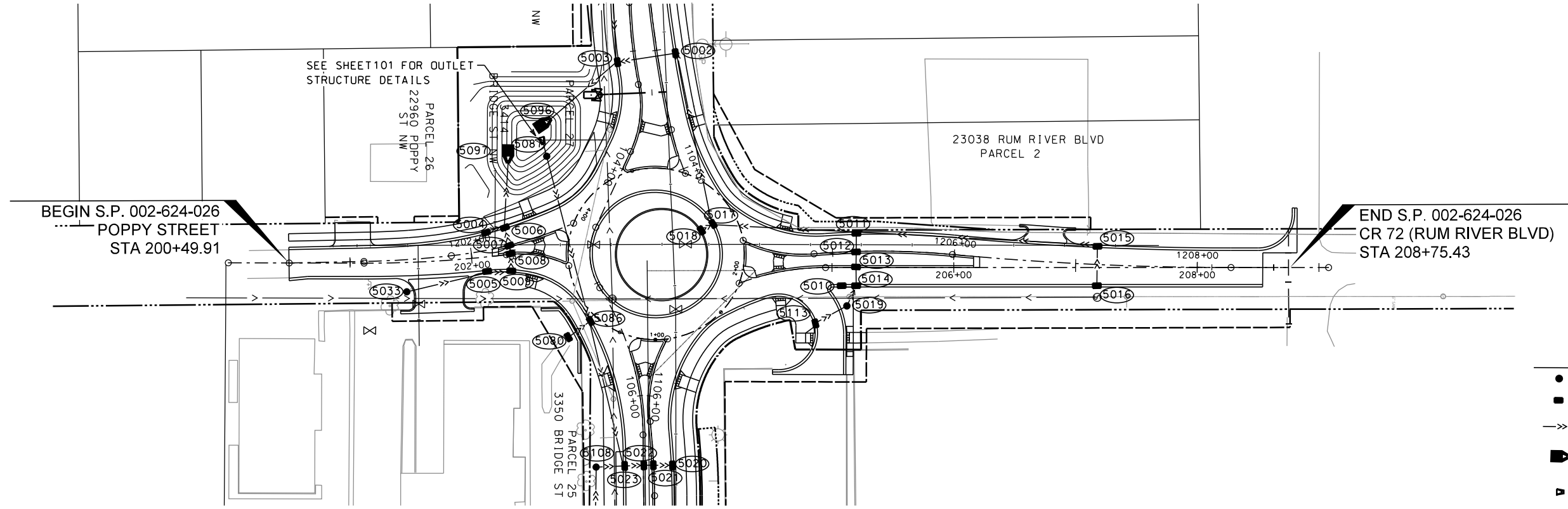
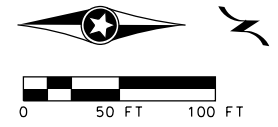
ANOKA COUNTY, MINNESOTA

**DRAINAGE & SUPERELEVATION PLAN**  
S.P. 002-624-026

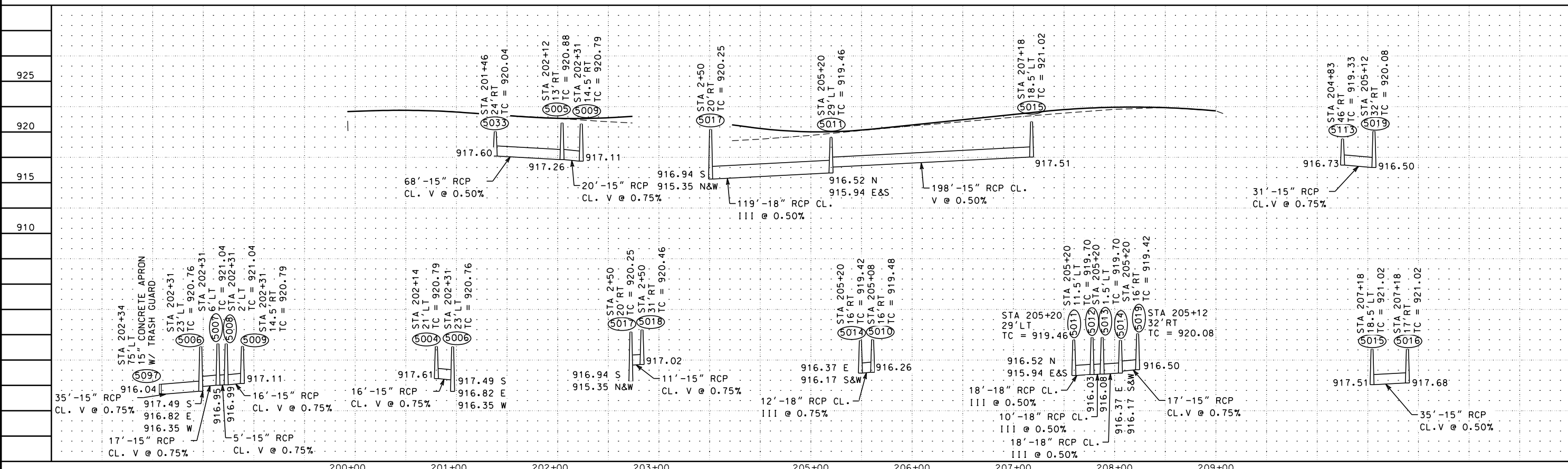
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**214**  
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# Poppy Street / CR 72



- LEGEND**
- MANHOLE/STOOL GRATE
  - CATCH BASIN
  - PROPOSED STORM SEWER PIPE
  - ▣ PROPOSED CONCRETE APRON W/ RIPRAP (OUTLET)
  - ▣ PROPOSED CONCRETE APRON (INLET)



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 Checked By: DRS  
 Approved By: AJP

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 DATE: 6/15/15 LIC. NO: 44200

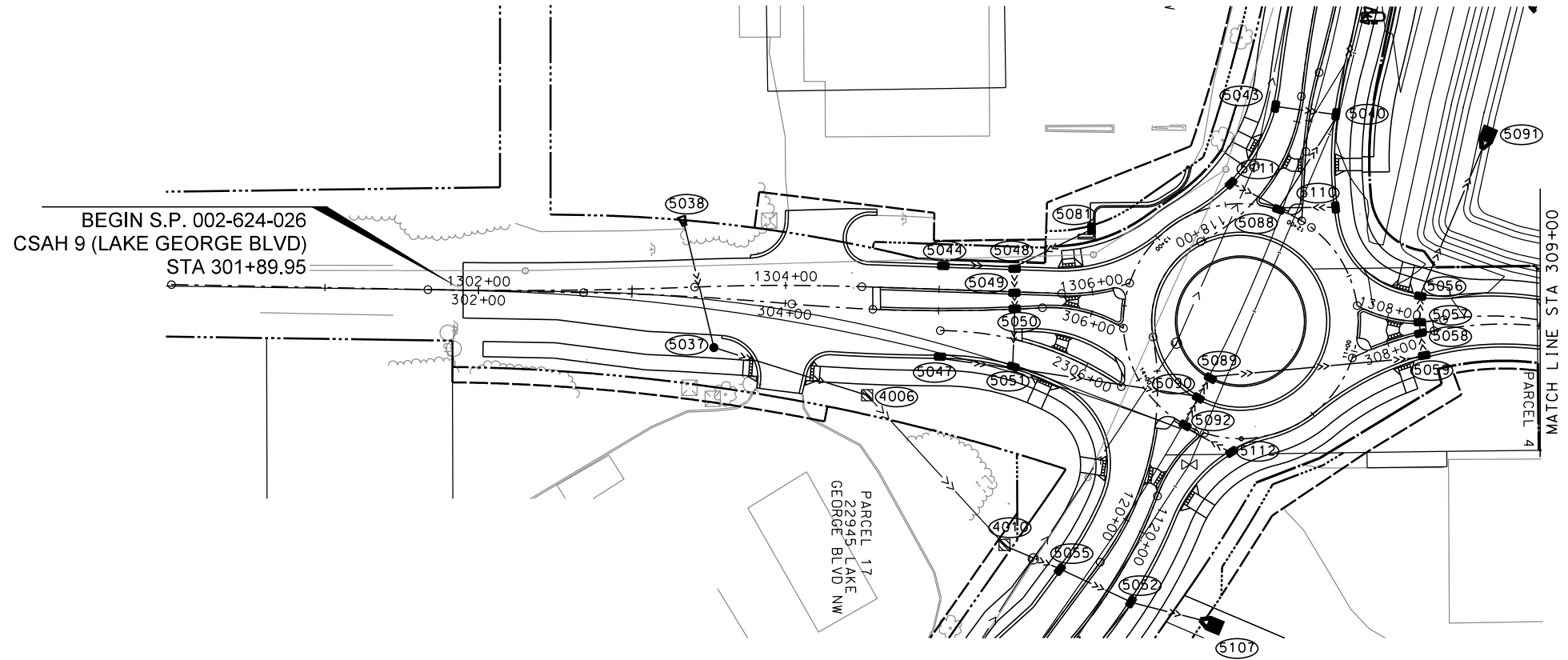
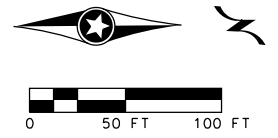
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 Anoka County, Minnesota

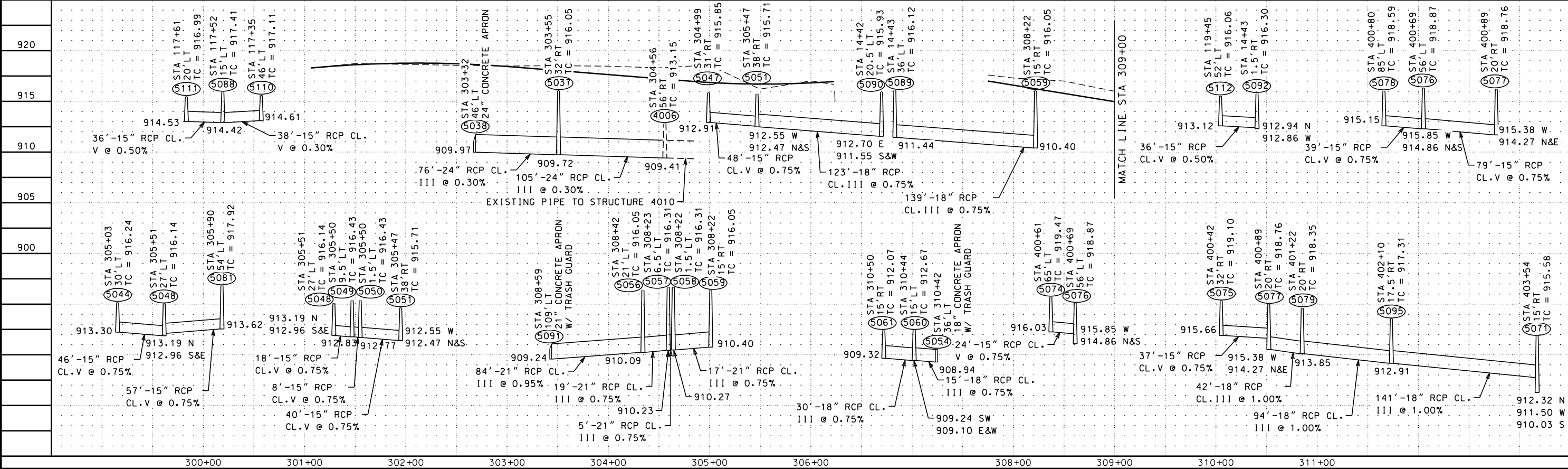
ANOKA COUNTY, MINNESOTA  
**DRAINAGE & SUPERELEVATION PLAN**  
 S.P. 002-624-026

SHEET  
**98**  
 OF  
**214**  
 SHEETS

# CSAH 9 / Kerry Street Connection



- LEGEND**
- MANHOLE/STOOL GRATE
  - CATCH BASIN
  - PROPOSED STORM SEWER PIPE
  - ▣ PROPOSED CONCRETE APRON W/ RIPRAP (OUTLET)
  - ▣ PROPOSED CONCRETE APRON (INLET)



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NO.	DATE	BY	CHK	REVISIONS

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CERTIFIED BY: *[Signature]*  
 LICENSED PROFESSIONAL ENGINEER - ANDREW FLOMMAN, PE  
 DATE: 6/15/15 LIC. NO: 44200

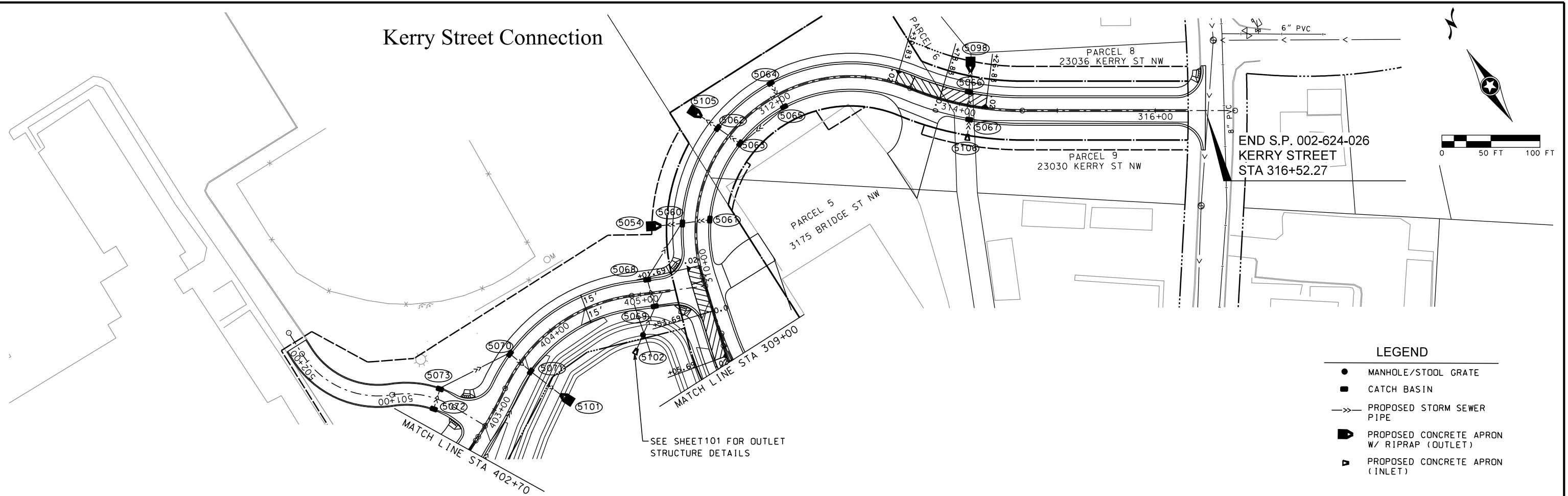
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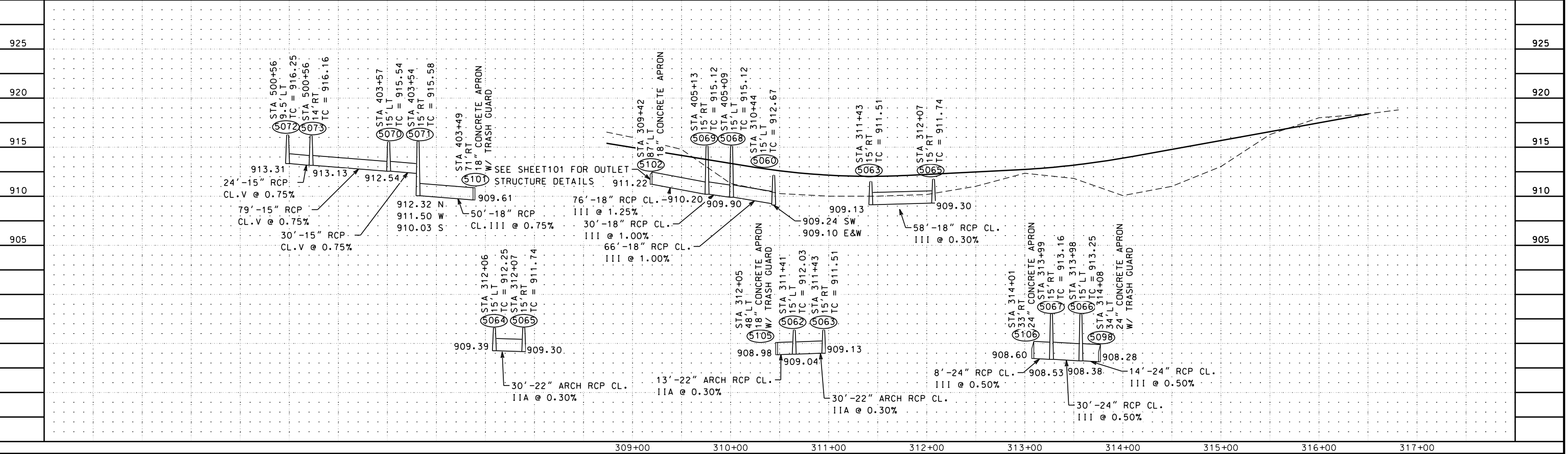
ANOKA COUNTY, MINNESOTA  
**DRAINAGE & SUPERELEVATION PLAN**  
 S.P. 002-624-026

SHEET  
**99**  
 OF  
**214**  
 SHEETS

# Kerry Street Connection



- LEGEND**
- MANHOLE/STOOL GRATE
  - CATCH BASIN
  - > PROPOSED STORM SEWER PIPE
  - ▭ PROPOSED CONCRETE APRON W/ RIPRAP (OUTLET)
  - ▭ PROPOSED CONCRETE APRON (INLET)



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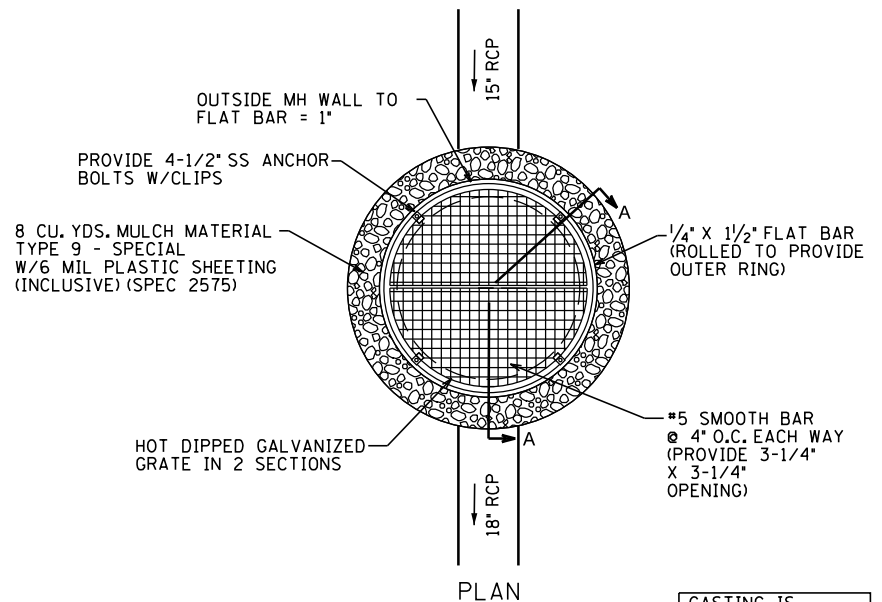
CERTIFIED BY: *[Signature]*  
 LICENSED PROFESSIONAL ENGINEER - ANDREW FLOMMAN, PE  
 DATE: 6/15/15 L.C. NO: 44200

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 Anoka County, Minnesota

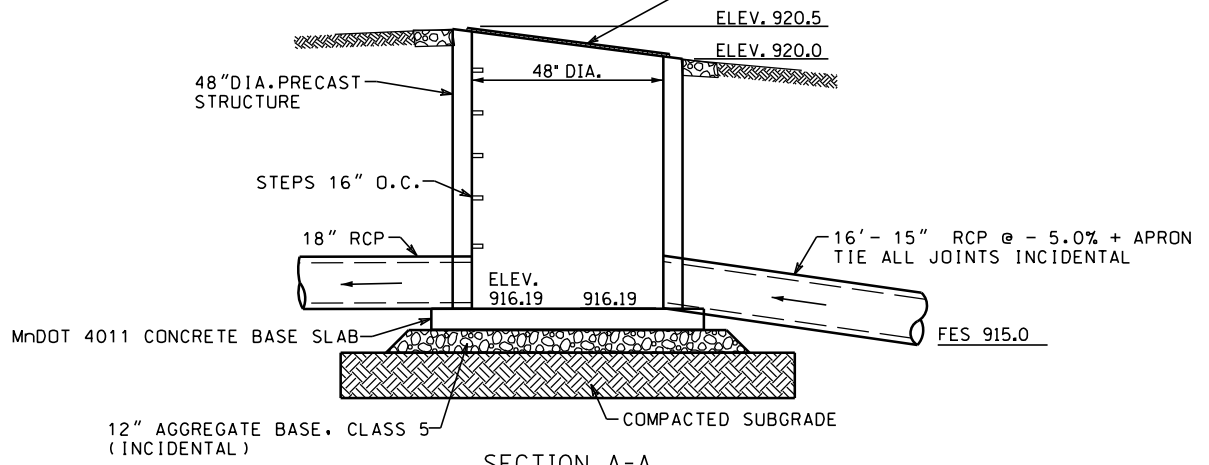
ANOKA COUNTY, MINNESOTA  
**DRAINAGE & SUPERELEVATION PLAN**  
 S.P. 002-624-026

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**214**  
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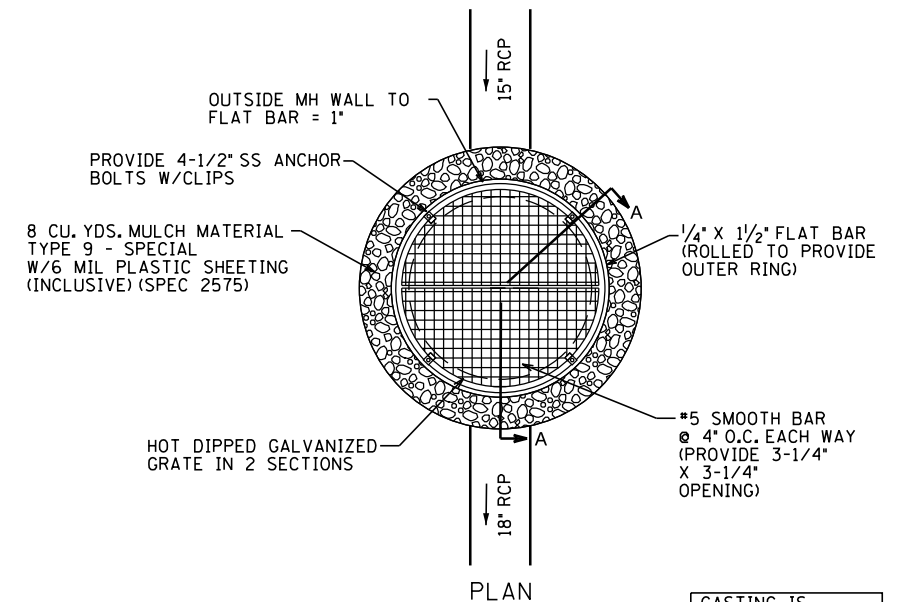
PLAN

CASTING IS INCLUSIVE TO DESIGN SPECIAL 1



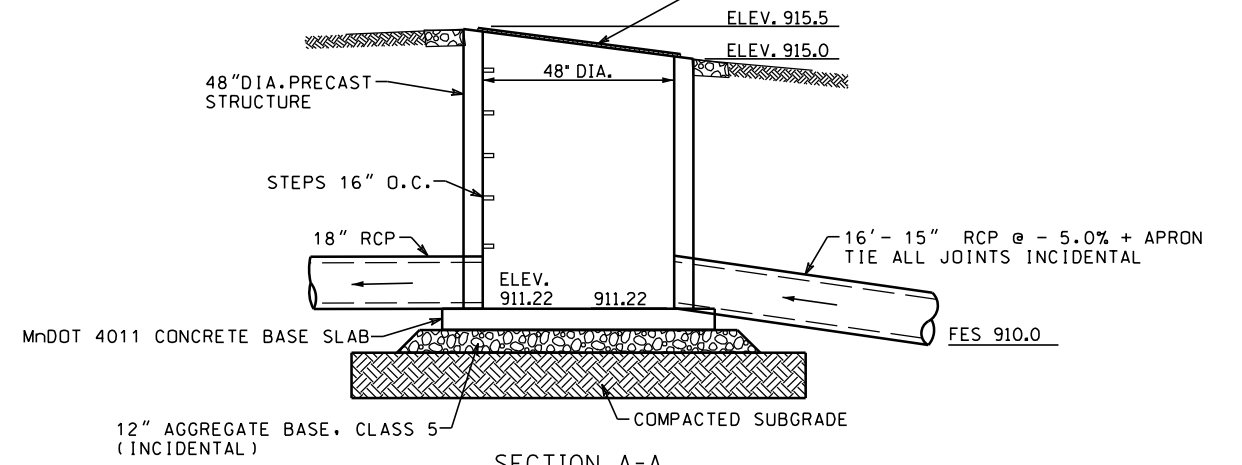
SECTION A-A

NOTE: SEE SHEET 96 FOR PIPE PROFILES  
 OUTLET CONTROL STRUCTURE - POND 1  
 DESIGN SPECIAL 1 (STRUCTURE 5087)



PLAN

CASTING IS INCLUSIVE TO DESIGN SPECIAL 1



SECTION A-A

NOTE: SEE SHEET 100 FOR PIPE PROFILES  
 OUTLET CONTROL STRUCTURE - POND 2  
 DESIGN SPECIAL 1 (STRUCTURE 5102)

Note: Printed 6/30/2015  
 WSB Filename: K:\0666-220\Cad\Plan\666dr.dwg

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Design By: AJP  
 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

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 CERTIFIED BY: *[Signature]*  
 LICENSED PROFESSIONAL ENGINEER - ANDREW FLODMAN, PE  
 DATE: 6/15/15 LIC. NO: 44200

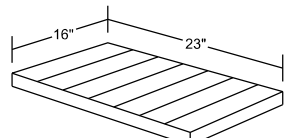
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**ANOKA COUNTY**  
**CSAH 24 Improvements**  
 Anoka County, Minnesota

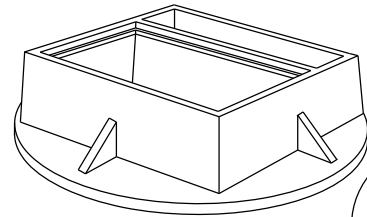
ANOKA COUNTY, MINNESOTA  
**DRAINAGE DETAILS**  
 S.P. 002-624-026

SHEET  
**101**  
 OF  
**214**  
 SHEETS

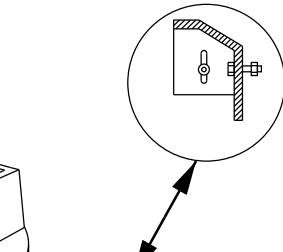
**FRAME RING AND CASTING TYPE A  
FRAME RING AND CASTING TYPE B**  
TO BE USED FOR MEDIAN CATCH BASINS



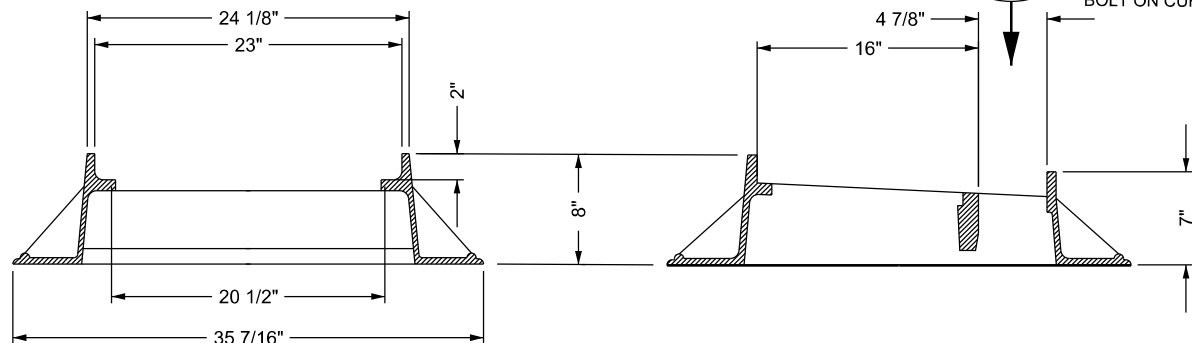
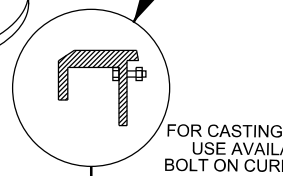
GRATE AREA 23" X 16" X 2"  
MUST BE DIRECTIONAL AND BIKE SAFE  
SIMILAR TO MNDOT STD PLATE 4152  
OR MNDOT STD PLATE 4154



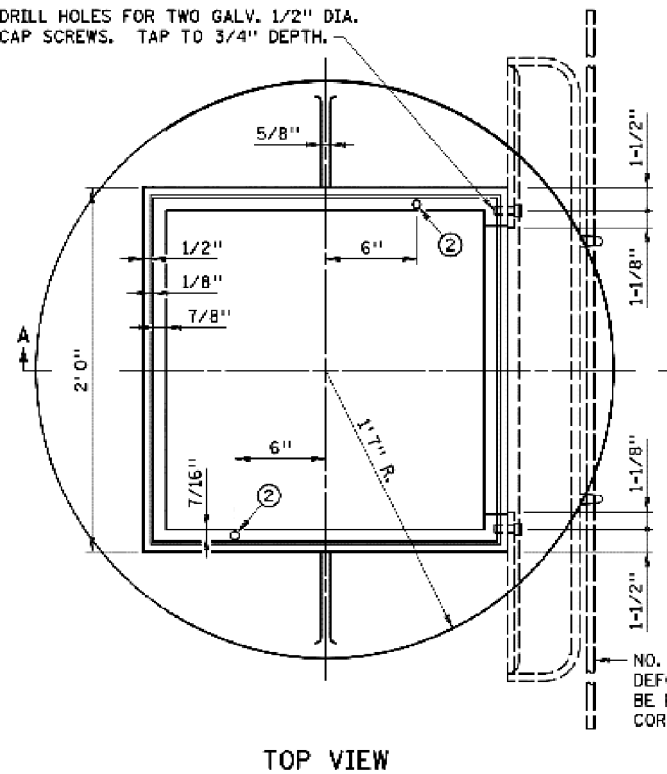
FOR CASTING TYPE A  
USE AVAILABLE  
BOLT ON CURB BOX



FOR CASTING TYPE B  
USE AVAILABLE  
BOLT ON CURB PLATE

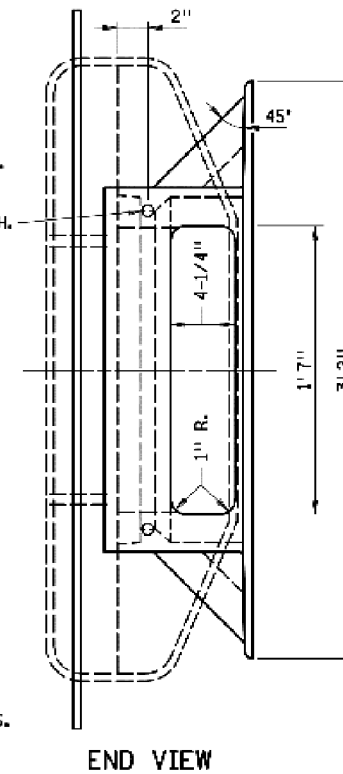


DRILL HOLES FOR TWO GALV. 1/2" DIA.  
CAP SCREWS. TAP TO 3/4" DEPTH.



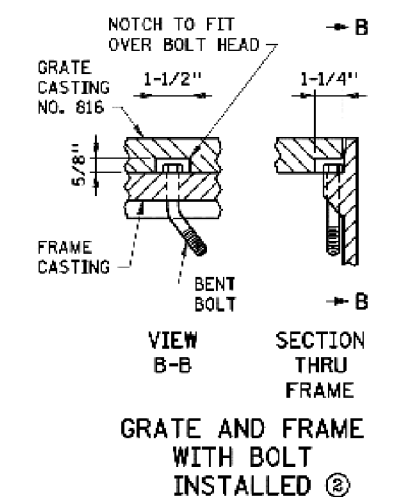
TOP VIEW

DRILL HOLES  
FOR TWO GALV.  
1/2" DIA. CAP  
SCREWS. TAP  
TO 3/4" DEPTH.

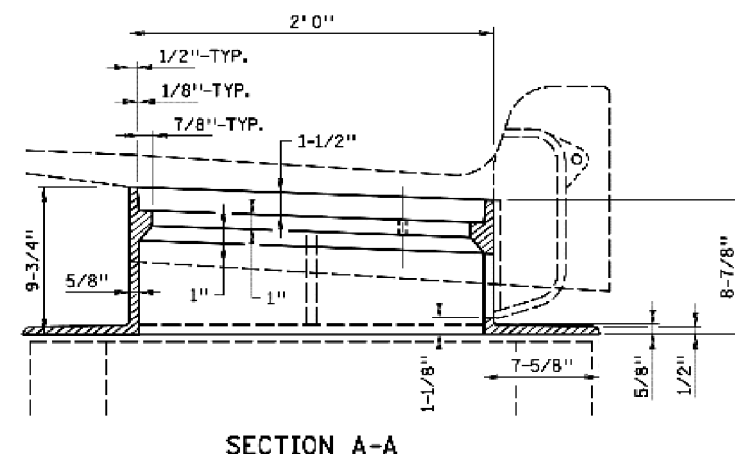


END VIEW

NO. 4 X 5' 0"  
DEFORMED BAR TO  
BE PLACED THROUGH  
CORED HOLES IN LUGS.



VIEW B-B  
SECTION  
THRU  
FRAME  
GRATE AND FRAME  
WITH BOLT  
INSTALLED ②



SECTION A-A

CASTINGS USED FOR ASSEMBLY	
GRATE	NO. 816 (MNDOT STD PLATE 4154B)
CURB BOX ①	NO. 823A (MNDOT STD PLATE 4160) OR

- NOTES:**
- USE 1/4" FILLETS IN ALL CORNERS.
  - SEE MNDOT STANDARD PLATE 7111 FOR INSTALLATION REQUIREMENTS.
  - ① APPLIES TO DESIGN B OR V CURB AND CURB AND GUTTER.
  - ② AT LOCATIONS INDICATED IN TOP VIEW, PROVIDE 9/16" DIA. HOLES WHEN GRATE NO 816 (MNDOT STD PLATE 4154) IS USED WITH THIS FRAME. FIELD PLACE 1/2" DIA X 4" LONG GALV BOLT IN UP STREAM SIDE AND BENT UNDERSIDE TO PREVENT REMOVAL. THIS WILL PREVENT GRATE NO. 816 (MNDOT STD PLATE 4154) FROM BEING PLACED IN WRONG AND NOT BEING BICYCLE SAFE

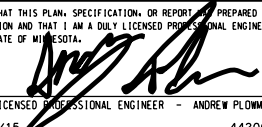
FOR FRAME CASTING FOR TYPE E & F SEE MNDOT STD PLATE 4101  
FOR GRATE CASTING TYPE E SEE S MNDOT STD PLATE 4140 "CONCAVE"  
FOR GRATE CASTING TYPE F SEE S MNDOT STD PLATE 4110  
FOR FRAME CASTING FOR TYPE G SEE MNDOT STD PLATE 4126  
SEE MNDOT STD PLATE 4161 FOR CURB BOX ON G TYPE CASTING  
FOR TYPE G CASTINGS USE GRATE NO 810 - MNDOT STD PLATE 4149

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Plan By: ACJ  
Checked By: DRS  
Approved By: AJP

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CERTIFIED BY:   
LICENSED PROFESSIONAL ENGINEER - ANDREW PLODMAN, PE  
DATE: 6/15/15 LIC. NO: 44200

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**CSAH 24 Improvements**  
Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**DRAINAGE DETAILS**  
S.P. 002-624-026

**EXISTING STORM TABULATION**

**G**

EXISTING STRUCTURE NUMBER	ALIGNMENT	STATION	OFFSET	SIDE	EXISTING TOP OF CASTING	INVERT	DRAINS TO STRUCTURE NUMBER	TYPE	REMOVE SEWER PIPE (STORM)	REMOVE METAL CUL VERT	EXISTING PIPE SIZE/TYPE	REMOVE DRAINAGE STRUCTURE	REMARKS
4000	CSAH 24	104+10	18	RT	919.40	917.97	4001	FES		48	15" CMP	X	
4001	CSAH 24	103+54	38	RT	919.27	917.73	DITCH	FES				X	
4002	CSAH 24	104+96	14	RT	919.94	918.81	4003	FES		39	15" CMP	X	
4003	CSAH 24	104+64	10	RT	919.53	918.26	DITCH	FES				X	
4004	Poppy Street	201+37	22	LT			4005	FES		53	12" CMP	X	
4005	Poppy Street	200+83	23	LT			DITCH	FES				X	
4006	CSAH 9	304+56	56	RT	913.15	909.41	4010	STOOL			24" RCP		CONNECT TO EXISTING DRAINAGE STRUCTURE
4007	CSAH 9	303+60	45	RT	912.81	909.36	4006	STOOL	98		24" RCP	X	
4008	CSAH 9	303+32	46	LT	912.37	909.80	4007	FES		93	24" CMP	X	
4009	CSAH 24	120+59	30	LT			DITCH	FES				X	
4010	CSAH 24	120+61	57	RT	912.21	908.84	4026	FES		22	24" CMP		CONNECT TO EXISTING DRAINAGE STRUCTURE
4011	CSAH 24	122+40	63	LT	917.80	914.80	4012	CB	33		15" RCP	X	
4012	CSAH 24	122+07	64	LT	917.67	914.32	DITCH	CB				X	
4013	CSAH 24	122+53	36	RT	916.08	914.55	4014	FES	48		15" RCP	X	
4014	CSAH 24	122+05	37	RT	916.02	914.48	DITCH	FES				X	
4015	School Roundabout	400+70	11	LT	919.37	916.62	4016	CB	68		15" RCP	X	
4016	School Roundabout	401+46	7	LT	919.23	916.18	4017	CB	35		15" RCP	X	
4017	School Roundabout	401+75	16	RT		916.11	DITCH	FES				X	
4018	Kerry Street	316+81	90	LT	918.10	914.00	4019	CB			12" RCP		
4019	Kerry Street	316+81	45	LT	918.04	912.74	4020	CB			12" RCP		
4020	Kerry Street	316+46	71	LT	918.19	912.39	4021	CB			15" RCP		
4021	Kerry Street	314+26	57	LT		910.02	DITCH	FES					
4022	CSAH 24	120+37	71	RT		912.51	DITCH	FES					
4023	CSAH 24	120+36	88	RT		912.72	4022	FES					
4024	Poppy Street	201+49	25	RT		919.36	4025	FES		52	12" CMP	X	
4025	Poppy Street	202+00	29	RT		919.31	DITCH	FES				X	
4026	CSAH 24	120+57	36	RT	915.98	908.28	4009	MH		66	24" CMP	X	
TOTALS									282	373		19	

**CASTING TABULATION**

**H**

ASSEMBLY	RING OR FRAME	COVER OR GRATE	CURB BOX	STANDARD PLATE NUMBER	USE	TOTAL
C	SEE DRAINAGE DETAILS					61
D	SEE DRAINAGE DETAILS					25
M-11	ROUND CONC	731		4143		9
TOTAL						95

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 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

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*Andrew Plodman*

CERTIFIED BY: *Andrew Plodman*  
 LICENSED PROFESSIONAL ENGINEER - ANDREW PLODMAN, PE  
 DATE: 6/15/15 LIC. NO: 44200

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**ANOKA COUNTY**

**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA

**DRAINAGE TABULATION**  
 S.P. 002-624-026

SHEET  
**103**  
 OF  
**214**  
 SHEETS

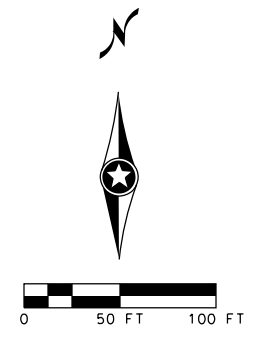




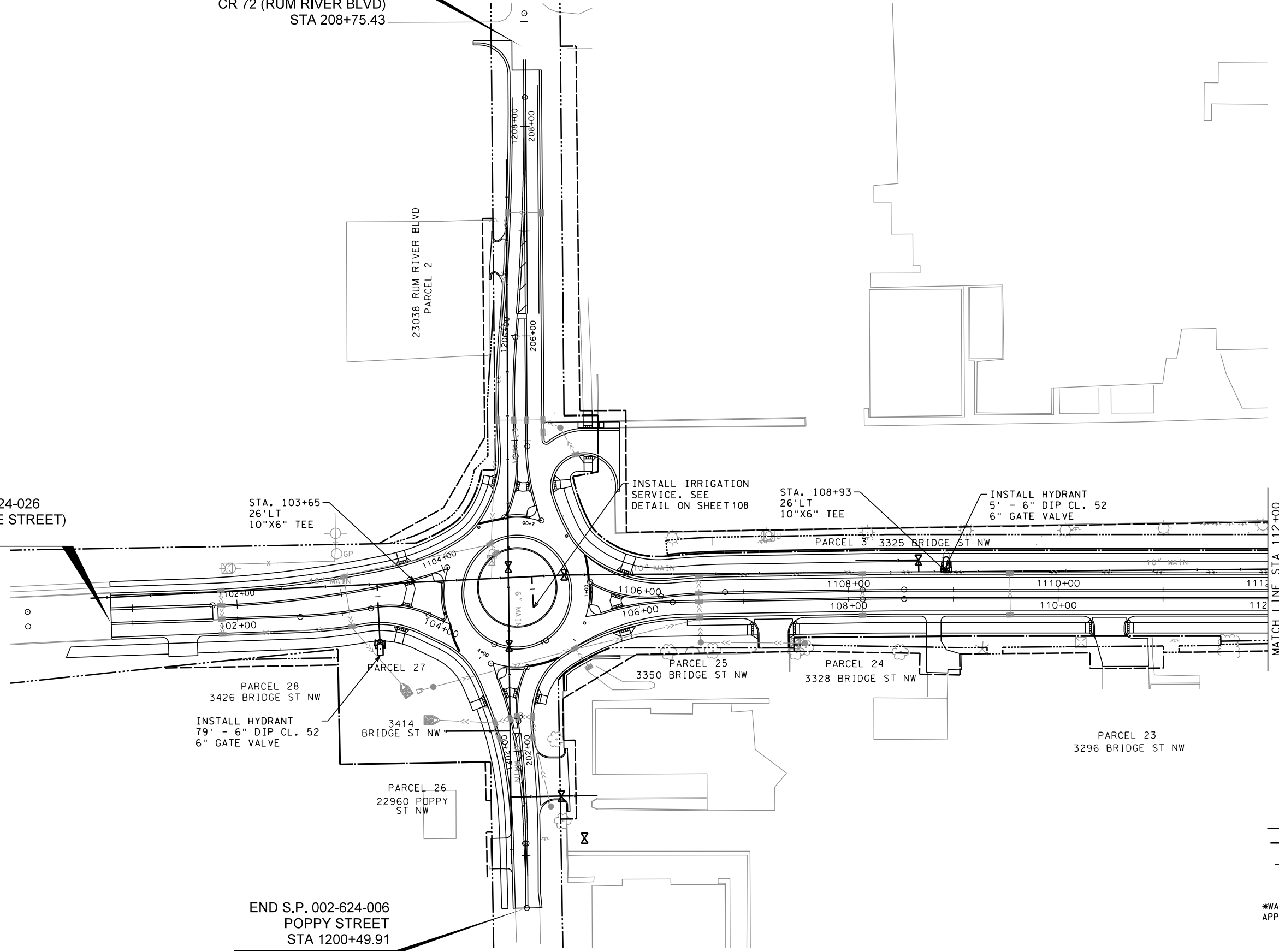


END S.P. 002-624-026  
CR 72 (RUM RIVER BLVD)  
STA 208+75.43

# CSAH 24 (Bridge Street NW)



BEGIN S.P. 002-624-026  
CSAH 24 (BRIDGE STREET)  
STA 100+79.44



END S.P. 002-624-006  
POPPY STREET  
STA 1200+49.91

**LEGEND**

- PROPOSED WATER MAIN
- PROPOSED STORM SEWER (SEE DRAINAGE PLAN FOR ADDITIONAL INFORMATION)

\*WATERMAIN IS ASSUMED TO HAVE A DEPTH OF APPROXIMATELY 7.5' WITHIN THE PROJECT AREA.

Date Printed: 6/30/2015  
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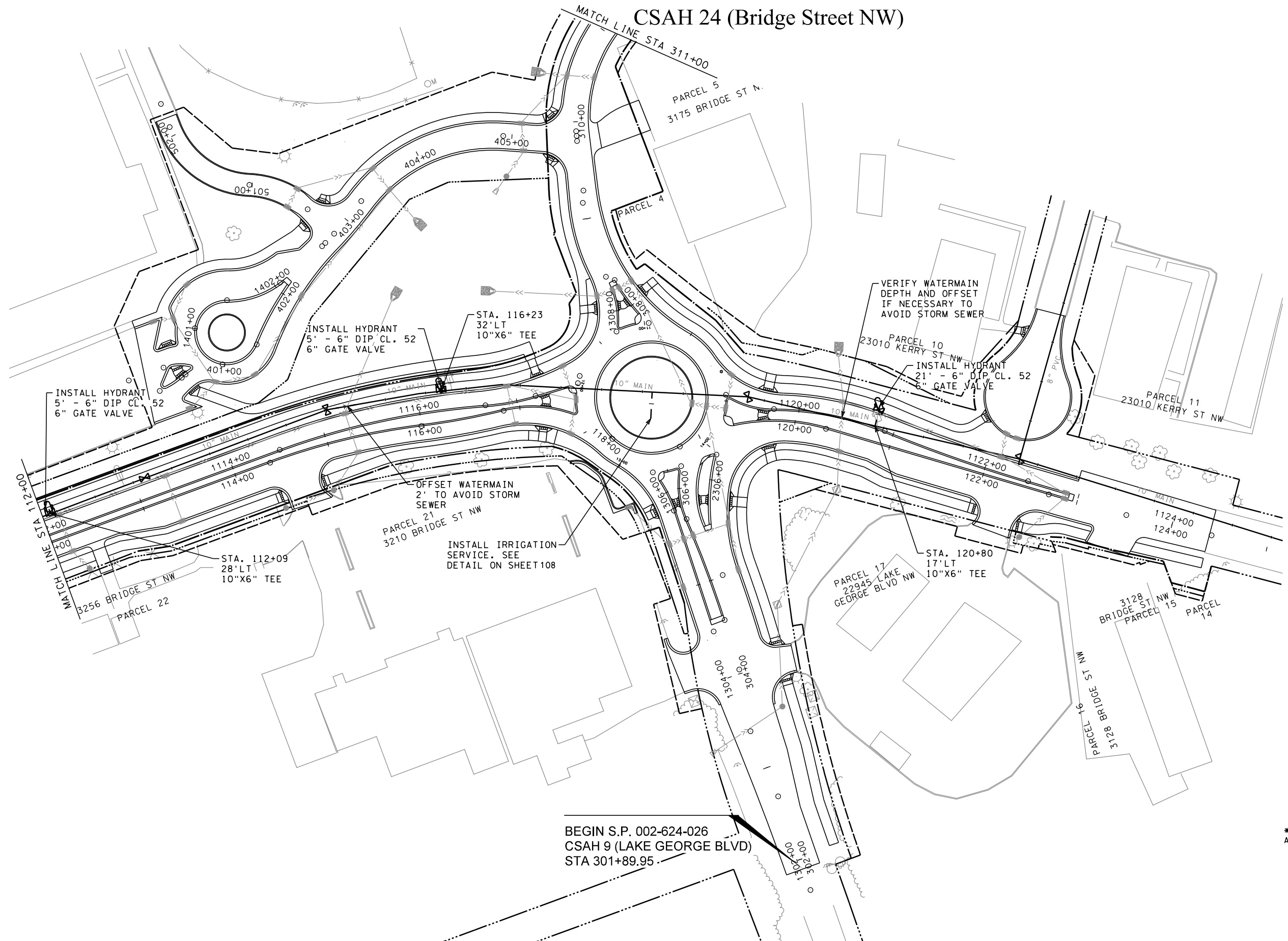
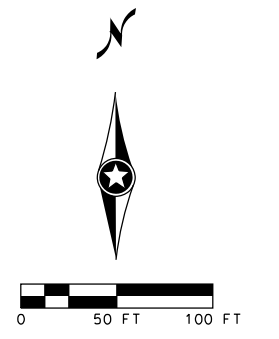
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**CSAH 24 Improvements**  
Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**WATERMAIN PLAN**  
S.P. 002-624-026

SHEET  
**106**  
OF  
**214**  
SHEETS

CSAH 24 (Bridge Street NW)



END S.P. 002-624-026  
CSAH 24 (BRIDGE STREET)  
STA 125+38.99

BEGIN S.P. 002-624-026  
CSAH 9 (LAKE GEORGE BLVD)  
STA 301+89.95

- LEGEND**
- |— PROPOSED WATER MAIN
  - >>- PROPOSED STORM SEWER (SEE DRAINAGE PLAN FOR ADDITIONAL INFORMATION)
- \*WATERMAIN IS ASSUMED TO HAVE A DEPTH OF APPROXIMATELY 7.5' WITHIN THE PROJECT AREA.

Date Printed: 6/30/2015  
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Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**WATERMAIN PLAN**  
S.P. 002-624-026

SHEET  
**107**  
OF  
**214**  
SHEETS



# STORMWATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE

## PROJECT SITE EVALUATION, ASSESSMENT, AND PLANNING

THIS NARRATIVE IS TO SERVE AS A GUIDANCE PLAN AND MUST BE AMENDED AND MODIFIED AS SITE CONDITIONS CHANGE DURING CONSTRUCTION.

## PROJECT LOCATION/DESCRIPTION

PROJECT/SITE NAME: CSAH 24 IMPROVEMENTS  
 PROJECT NUMBERS: S.P. 002-624-026, WSB 01666-220  
 PROJECT LOCATION: STREET: CSAH 24 CITY/TOWNSHIP: ST. FRANCIS COUNTY: ANOKA  
 STATE: MINNESOTA ZIP: 55070  
 LATITUDE/LONGITUDE: 45.3871/-93.3484

## CONTACT INFORMATION/RESPONSIBLE PARTIES

ANOKA COUNTY OWNS THE LAND, ADJACENT ROADS, AND EASEMENT AREAS ASSOCIATED WITH THE PROJECT. ANOKA COUNTY IS THE OWNER PERMITTEE APPLYING FOR PERMIT COVERAGE AND WILL BE RESPONSIBLE FOR DEVELOPING THIS SWPPP AND THE LONG-TERM MAINTENANCE PLAN OF THE PERMANENT STORMWATER MANAGEMENT SYSTEM FOR THIS PROJECT (IF APPLICABLE). THE OWNER WILL ENSURE THAT THE DESCRIBED WORK IN THE SWPPP IS BEING COMPLETED BY THE OPERATOR PERMITTEE.

OWNER/PERMITTEE: ANOKA COUNTY HIGHWAY DEPARTMENT (GINA PIZZO, SENIOR ENGINEER)  
 1440 BUNKER LAKE BOULEVARD  
 ANDOVER, MN 55304  
 763-862-4248/ GINA.PIZZO@CO.ANOKA.MN.US

THE PRIMARY CONTRACTOR WILL ENTER INTO A CONTRACT WITH ANOKA COUNTY TO COMPLETE THE REQUIRED WORK FOR THIS PROJECT. THE PRIMARY CONTRACTOR WILL BECOME (UNDER CONTRACT) THE OPERATOR CO-PERMITTEE ON THE NPDES PERMIT (THROUGH EXECUTION OF A NPDES PERMIT MODIFICATION FORM), AND THEREBY AGREE TO IMPLEMENT THIS SWPPP IN COOPERATION WITH THE OWNER. THE OPERATOR IS RESPONSIBLE FOR DEVELOPING A CHAIN OF RESPONSIBILITY PRIOR TO STARTING CONSTRUCTION (REFER TO SWPPP AMENDMENT SECTION). THE NPDES PERMIT MODIFICATION FORM SHALL BE SUBMITTED TO THE MPCA AFTER THE PROJECT IS AWARDED TO THE PRIMARY CONTRACTOR, PRIOR TO LETTING THE PROJECT.

THE OPERATOR WILL INSURE THAT INDIVIDUALS OVERSEEING OR IMPLEMENTING THE SWPPP HAVE BEEN PROPERLY TRAINED AND THAT CERTIFICATIONS WILL BE MADE AVAILABLE UPON REQUEST. THIS INCLUDES ANY SUB-CONTRACTORS THAT THE OPERATOR EMPLOYS UNDER SEPARATE CONTRACT. THE OPERATOR WILL PROVIDE THE CONTACT INFORMATION FOR THE EROSION CONTROL SUPERVISOR, SITE SUPERINTENDENT/FOREMAN, AND BMP INSTALLERS. THE EROSION CONTROL SUPERVISOR SHALL BE A RESPONSIBLE EMPLOYEE OF THE PRIME CONTRACTOR AND/OR DULY AUTHORIZED BY THE PRIME CONTRACTOR TO REPRESENT THE PRIME CONTRACTOR ON ALL MATTERS PERTAINING TO THE NPDES CONSTRUCTION STORMWATER PERMIT COMPLIANCE. THE EROSION CONTROL SUPERVISOR SHALL HAVE AUTHORITY OVER ALL OPERATOR OPERATIONS WHICH INFLUENCE NPDES PERMIT COMPLIANCE, INCLUDING GRADING, EXCAVATION, BRIDGE CONSTRUCTION, CULVERT INSTALLATION, UTILITY WORK, CLEARING/GRUBBING, DEWATERING, AND ANY OTHER OPERATION THAT INCREASES THE EROSION POTENTIAL ON THE PROJECT.

THE OPERATOR WILL PERFORM A PRECONSTRUCTION SITE VISIT TO ADDRESS ANY AREAS OF CONCERN PERTAINING TO ENVIRONMENTAL COMPLIANCE. THE OPERATOR WILL IMPLEMENT AND MAINTAIN BMPs FOR THE DURATION OF CONSTRUCTION PROJECT. THE OPERATOR WILL COMPLETE THE REQUIRED SITE INSPECTIONS TO REMAIN IN COMPLIANCE WITH NPDES PERMIT REQUIREMENTS PART II.B, II.C, III.B-F, IV, V, AND APPLICABLE CONSTRUCTION ACTIVITY REQUIREMENTS FOUND IN APPENDIX A, PART C.

OPERATOR/PERMITTEE: (TO BE DETERMINED THROUGH TRANSFER OF NPDES-CSW PERMIT)

WSB & ASSOCIATES HAS BEEN CONTRACTED BY THE OWNER TO DEVELOP THE SWPPP PLAN FOR THIS PROJECT. THIS SWPPP WAS PREPARED BY AN INDIVIDUAL THAT HAS BEEN PROPERLY TRAINED IN ACCORDANCE TOM PART III.F OF THE NPDES PERMIT (CERTIFICATION CARDS ARE AVAILABLE UPON REQUEST). WSB & ASSOCIATES WILL OFFER GUIDANCE FOR COMPLIANCE WITH THE NPDES PERMIT BEFORE, DURING, AND AFTER CONSTRUCTION OF THE PROJECT.

SWPPP DEVELOPER:  
 WSB & ASSOCIATES, INC. (GREG BECKIUS)  
 477 TEMPERANCE STREET  
 ST. PAUL, MN 55101  
 651-286-8468/GBECKIUS@WSBENG.COM

WATER RESOURCE ENGINEER:  
 WSB & ASSOCIATES, INC. (EARTH EVANS)  
 701 KENIA AVE. SOUTH, SUITE 300  
 MINNEAPOLIS, MN 55416  
 763-287-4877/EEVANS@WSBENG.COM

AGENCY CONTACTS			
AGENCY	PERMIT	NAME	PHONE NUMBER/E-MAIL
MPCA (EMERGENCY)	N/A	STATE DUTY OFFICER	1-800-422-0798
MPCA	NPDES-CSW #C000XXXX	NOEL KEPLER	651-757-2749/NOEL.KEPLER@STATE.MN.US
ACOE	N/A	N/A	N/A
DNR	N/A	N/A	N/A
WCA	N/A	N/A	N/A
WATERSHED DISTRICT	N/A	N/A	N/A

## PROJECT DESCRIPTION & SCHEDULE

THE PROPOSED PROJECT INCLUDES THE RECONSTRUCTION OF CSAH 24 (BRIDGE STREET) IN ST. FRANCIS. CSAH 24 WILL BE RECONSTRUCTED TO A 10-FOOT ROADWAY. RECONSTRUCTION AT THE INTERSECTIONS OF CSAH 9 AND CSAH 72 WILL INCLUDE REPLACING THE EXISTING INTERSECTION STOPS WITH A ROUNDABOUT AND CHANNELIZATION. THE PROJECT ALSO INCLUDES CONSTRUCTION OF A NEW STORMWATER POND AND INFILTRATION BASIN TO ACCOMMODATE THE PERMANENT STORMWATER MANAGEMENT REQUIREMENTS THAT ARE TRIGGERED BECAUSE OF THE INCREASED IMPERVIOUS SURFACES.

TENTATIVE CONSTRUCTION SCHEDULE (OPERATOR SHOULD PROVIDE ESTIMATED CONSTRUCTION SCHEDULE TO THE ENGINEER)	
CONSTRUCTION ACTIVITIES:	ESTIMATED DATES OF SOIL DISTURBANCE ACTIVITIES:
CLEARING AND GRUBBING OPERATIONS, GRADING, TEMP. POND	APRIL - AUGUST 2015
CULVERT REMOVAL AND REPLACEMENT	JUNE - AUGUST 2015
CURB & GUTTER/SIDEWALK	AUGUST - OCTOBER 2015
PAVING	SEPTEMBER - OCTOBER 2015
INITIAL TURF	NOVEMBER 2015
LANDSCAPING, FINAL TURF, MISC.	APRIL - AUGUST 2016

## PRE-CONSTRUCTION IMPERVIOUS SURFACE AND DISTURBED AREA CALCULATIONS

TOTAL AREA TO BE DISTURBED = 13.1 ACRES  
 IMPERVIOUS AREA: PRE-CONSTRUCTION = 6.5 ACRES / POST-CONSTRUCTION = 9.9 ACRES  
 NET INCREASE OF IMPERVIOUS AREA = 3.4 ACRES

## PERMANENT STORMWATER MANAGEMENT SYSTEMS

THE NPDES PERMANENT WATER QUALITY VOLUME (PART III.D) FROM THE NET NEW IMPERVIOUS SURFACES OF THE PROJECT IS PROVIDED IN THE DRAINAGE POND AND AN INFILTRATION BASIN ON THE PROJECT SITE. HYDROLOGIC AND WATER QUALITY MODELING DATA IS AVAILABLE UPON REQUEST.

LOCATION OF SWPPP COMPONENTS		
DESCRIPTION	TITLE	LOCATION
SWPPP NARRATIVE	STORM WATER POLLUTION PREVENTION PLAN NARRATIVE	PLAN SHEET
SITE CONDITIONS	STORM WATER POLLUTION PREVENTION PLAN NARRATIVE	PLAN SHEET
SITE MAP (SOILS, WATER RESOURCES, POTENTIAL POLLUTANT GENERATING ACTIVITIES)	SWPPP WATER RESOURCES & SOILS MAP, SWPPP NARRATIVE	PLAN SHEET
CONSTRUCTION PHASING/STAGING, BUFFERS, & AREAS NOT TO BE DISTURBED	SWPPP NARRATIVE	PLAN SHEET
DIRECTION OF FLOW (PRE- & POST- CONSTRUCTION)	DRAINAGE PLAN	PLAN SHEET
IMPERVIOUS SURFACES	CONSTRUCTION PLAN & PROFILE	PLAN SHEET
TEMPORARY EROSION & SEDIMENT CONTROL BMPs/STEEP SLOPES (3:1), DNR FISH EXCLUSION "WORK IN WATER RESTRICTIONS- REFER TO SWPPP",	TEMPORARY EROSION AND SEDIMENT CONTROL PLAN, SWPPP NARRATIVE	PLAN SHEET
PERMANENT EROSION CONTROL BMPs	TURF ESTABLISHMENT PLAN, SWPPP NARRATIVE	PLAN SHEET
STORM SEWER	DRAINAGE PLAN	PLAN SHEET
GRADING	GRADING PLAN	PLAN SHEET
ESTIMATED BMP QUANTITIES	ESTIMATED QUANTITIES	PLAN SHEET
BMP DETAILS/SPECIFICATIONS	MISC. DETAILS, SWPPP NARRATIVE	PLAN SHEET
HYDROLOGIC/WATER QUALITY MODELING		AVAILABLE UPON REQUEST

## EXISTING SITE CONDITIONS, SOILS, & WATER RESOURCES

SOILS AND NATIVE TOPSOIL: NATIVE TOPSOIL WILL BE STRIPPED AND STOCKPILED FOR FINAL GRADING OPERATIONS, WHERE INDICATED IN THE CONSTRUCTION PLANS AND SPECIFICATIONS. METHODS AND EQUIPMENT TO MINIMIZE SOIL COMPACTION (IN PROPOSED INFILTRATION AREAS, DRIP LINE OF TREES TO BE PRESERVED, ETC.) SHALL BE DETERMINED BY THE OPERATOR'S SWPPP AMENDMENT. TRACKED VEHICLES ARE PREFERRED AND WHEELED VEHICLES ARE DISCOURAGED IN THESE AREAS.

THE FOLLOWING USDA-NRCS MAPPED SOILS ARE SHOWN AS "NOT HIGHLY ERODIBLE LAND", "POTENTIALLY HIGHLY ERODIBLE LAND", AND "HIGHLY ERODIBLE LAND" ON THE SWPPP SITE MAP.

USDA-NRCS MAPPED SOIL SURVEY UNIT NO., NAME, TEXTURE, SLOPE PERCENTAGE	APPROXIMATE PARTICLE SIZE RANGE (MM)		
	SAND (0.05-2.00+)	SILT (0.002-0.05)	CLAY (<0.002)
IW - ISANTI FINE SANDY LOAM	50-70%	0-50%	15-20%
LNA - LINO LOAMY FINE SAND, 0-4% SLOPES	70-85%	0-30%	15-20%
ZMB - ZIMMERMAN FINE SAND, 1-6% SLOPES	85-100%	0-15%	0-10%

DESCRIPTION OF RECEIVING WATERS (LOCATED WITHIN 1-MILE): STORMWATER FROM THIS PROJECT WILL BE CONVEYED INTO A DRAINAGE POND AND INFILTRATION BASIN ON SITE. THE INFILTRATION ULTIMATELY GOES THROUGH THE POND, AND THE POND OUTLETS TO AN EXISTING CREEK/CHANNEL THROUGH THE PROJECT. ADJACENT WETLANDS RECEIVE A MINIMAL AMOUNT OF STORMWATER RUNOFF. THE STORMWATER ULTIMATELY DISCHARGES TO THE RUM RIVER LOCATED WEST OF THE PROJECT SITE. THE NPDES PERMANENT WATER QUALITY VOLUME (PART III.D) FROM THE NET NEW IMPERVIOUS SURFACES OF THE PROJECT IS PROVIDED IN THE CONSTRUCTED POND AND INFILTRATION BASIN. HYDROLOGIC AND WATER QUALITY MODELING DATA IS AVAILABLE UPON REQUEST.

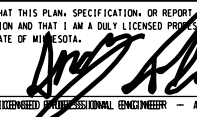
DESCRIPTION OF IMPAIRED WATERS OR WATER SUBJECT TO TMDLS: A SPECIAL AND IMPAIRED WATERS SEARCH WAS COMPLETED USING THE MPCA SEARCH ENGINE (HTTP://PCA-GIS02.PCA.STATE.MN.US/CSW/INDEX.HTML) ON 11/13/2014. BASED ON THIS REVIEW, THE FOLLOWING SPECIAL WATER IS LOCATED WITHIN ONE MILE OF, AND DOWNSTREAM OF ANY PROJECT DISCHARGE POINTS: RUM RIVER IS CLASSIFIED AS A SCENIC AND RECREATIONAL RIVER, THEREFORE APPENDIX A REQUIREMENTS APPLY TO THIS PROJECT.

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NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

CERTIFIED BY:   
 LICENSED PROFESSIONAL ENGINEER - ANOKA COUNTY, MINN.  
 DATE: 6/15/15 LIC. NO: 40886

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**ADDITIONAL BMPS FOR SPECIAL OR IMPAIRED WATERS DURING CONSTRUCTION ACTIVITY (APPENDIX A)**

ALL REQUIREMENTS IN APPENDIX A ARE IN ADDITION TO BMPS ALREADY SPECIFIED IN THE PERMIT. WHERE PROVISIONS OF APPENDIX A CONFLICT WITH REQUIREMENTS ELSEWHERE IN THE PERMIT, THE PROVISIONS IN APPENDIX A TAKE PRECEDENCE. ALL BMPS USED TO COMPLY WITH THIS APPENDIX MUST BE DOCUMENTED IN THE SWPPP FOR THE PROJECT (APPENDIX A).

**C.1.A EXPOSED SOILS:** OPERATOR SHALL STABILIZE ALL EXPOSED SOIL AREAS WITHIN (7) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED (APPENDIX A.C.1.A).

**C.1.B TEMPORARY BASIN:** OPERATOR SHALL ADHERE TO THE REQUIREMENTS DESCRIBED IN PART III.B. 1-5 OF THE NPDES CONSTRUCTION PERMIT FOR COMMON DRAINAGE LOCATIONS THAT SERVE AN AREA WITH FIVE (5) OR MORE ACRES DISTURBED.

**C.2 POST CONSTRUCTION:** THE WATER QUALITY VOLUME THAT MUST BE TREATED BY THE PROJECT'S PERMANENT STORMWATER MANAGEMENT SYSTEM DESCRIBED IN PART III.C. SHALL BE ONE (1) INCH OF RUNOFF FROM THE NEW IMPERVIOUS SURFACES CREATED BY THE PROJECT. WHERE SITE CONDITIONS ALLOW, AT LEAST 1/2 INCH OF THE WATER QUALITY VOLUME MUST BE INFILTRATED. SEE PART III.C.2 FOR MORE INFORMATION ON INFILTRATION DESIGN AND APPROPRIATE SITE CONDITIONS. IF IT IS DETERMINED THAT SITE CONDITIONS ARE NOT APPROPRIATE FOR INFILTRATION (E.G. LACK OF 3 FT. OF SEPARATION TO SEASONALLY SATURATED GROUND WATER, PROXIMITY TO BEDROCK, CONTAMINATED SOILS) THE REASONS SHOULD BE DOCUMENTED IN THE SWPPP FOR THE PROJECT. INFILTRATION IS NOT REQUIRED IN HYDROLOGIC SOIL GROUP D SOILS.

**C.3 BUFFER ZONE:** AN UNDISTURBED BUFFER ZONE OF NOT LESS THAN 100 LINEAR FEET FROM THE SPECIAL WATER (NOT INCLUDING TRIBUTARIES) SHALL BE MAINTAINED AT ALL TIMES. EXCEPTIONS FROM THIS REQUIREMENT FOR AREAS, SUCH AS WATER CROSSINGS, LIMITED WATER ACCESS AND RESTORATION OF THE BUFFER ARE ALLOWED IF THE PERMITTEE FULLY DOCUMENTS IN THE SWPPP THE CIRCUMSTANCES AND REASONS THAT THE BUFFER ENCROACHMENT IS NECESSARY. REPLACEMENT OF EXISTING IMPERVIOUS SURFACE WITHIN THE BUFFER IS ALLOWED UNDER THIS PERMIT. ALL POTENTIAL WATER QUALITY, SCENIC AND OTHER ENVIRONMENTAL IMPACTS OF THESE EXCEPTIONS MUST BE MINIMIZED BY THE USE OF ADDITIONAL OR REDUNDANT BMPS AND DOCUMENTED IN THE SWPPP FOR THE PROJECT.

**POTENTIAL FOR SEDIMENT AND/OR OTHER POLLUTANT(S) DISCHARGING FROM THE PROJECT SITE**

THE TEMPORARY EROSION AND SEDIMENT CONTROL BMPS IN THIS SWPPP HAVE BEEN DESIGNED TO MINIMIZE THE POTENTIAL OF SEDIMENTS DISCHARGING OFF-SITE FROM A 0.5 INCH RAINFALL WITHIN A 24 HOUR PERIOD. THE NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATE FOR THE PROJECT LOCATION WAS REVIEWED AND USED FOR ANTICIPATED INSPECTION FREQUENCY, BMP DESIGN, AND ESTIMATING CONSTRUCTION ACTIVITIES IN THIS SWPPP. ATLAS 14 RESULTS DO NOT NECESSARILY REFLECT ANY DESIGN CRITERIA IN THE PERMANENT STORMWATER MANAGEMENT SYSTEM.

ROUTINE INSPECTION AND BMP MAINTENANCE BY THE OPERATOR IS CRUCIAL IN ENSURING THE FUNCTIONALITY OF EACH BMP. STEEP SLOPES AND OTHER ENVIRONMENTALLY SENSITIVE AREAS THAT ARE AT A HIGHER RISK OF SEDIMENTATION ARE DEFINED IN THE SWPPP (IF APPLICABLE).

**CONSTRUCTION PHASING/STAGING, BUFFERS, & AREAS NOT TO BE DISTURBED**

THE PRESERVED AREAS OF EXISTING VEGETATION WILL BE IDENTIFIED ON THE PLAN SHEETS AS "DO NOT DISTURB AREA". THE OPERATOR IS RESPONSIBLE FOR PRESERVING A 50 FOOT NATURAL BUFFER OR (IF INFEASIBLE) PROVIDE REDUNDANT SEDIMENT CONTROL BMPS, WHEN A SURFACE WATER IS LOCATED WITHIN 50 FEET AND RECEIVES DRAINAGE FROM THE PROJECT'S GRADING LIMITS. THIS REQUIREMENT DOES NOT APPLY TO ADJACENT ROAD SIDE DITCHES, JUDICIAL/COUNTY DITCHES, STORMWATER CONVEYANCES, STORM DRAIN INLETS, AND SEDIMENT BASINS.

THE SCHEDULE FOR INSTALLING TEMPORARY BMPS SHALL BE INCORPORATED INTO THE OPERATOR'S WEEKLY SCHEDULE FOR EACH CONSTRUCTION STAGE AND PRESENTED TO THE OWNER'S REPRESENTATIVE (PER MNDOT SPEC 1717.D).

**ENVIRONMENTALLY SENSITIVE AREAS**

**STEEP SLOPES:** EXISTING AND PROPOSED SLOPES 1 IN 3 (33.33% AND STEEPER) THAT ARE PROPOSED TO BE DISTURBED ARE ILLUSTRATED ON THE PLAN SET. STEEP SLOPES MAYBE TEMPORARILY CREATED DURING GRADING OPERATIONS, AT WHICH TIME TEMPORARY BMPS MUST BE IMPLEMENTED BY THE OPERATOR (THROUGH AN APPROVED SWPPP AMENDMENT) WITHIN 14 DAYS OF NO LONGER WORKING THE STEEP SLOPE.

**CONTAMINATED PROPERTIES:** THE MPCA'S "WHAT'S IN MY NEIGHBORHOOD" DATABASE (PCA-GIS02.PCA.STATE.MN.US/WIMN2/INDEX.HTML) WAS REVIEWED ON 11/13/2014. THE RESULTS OF THIS REVIEW SHOW AN ACTIVE TANK SITE AND AN ACTIVE HAZARDOUS WASTE LOCATED ADJACENT TO THE PROJECT BOUNDARY. THESE SITES COULD PRODUCE CONTAMINATED SOILS, AND THE CONTRACTOR WILL TAKE APPROPRIATE ACTION TO HANDLE AND DISPOSE OF THE MATERIAL.

**STORMWATER POLLUTION MITIGATION MEASURES (AS IDENTIFIED FROM ENVIRONMENTAL REVIEW):** NO FORMAL ENVIRONMENTAL REVIEW WAS REQUIRED FOR THIS PROJECT, THEREFORE, NO ADDITIONAL STORMWATER RELATED MITIGATION MEASURES APPLY.

**KARST AREAS:** THERE ARE NO KNOWN KARST AREAS WITHIN OR ADJACENT TO THE PROJECT LIMITS.

**SITE PLAN REQUIRED AREAS:** NO AREAS OF "HIGH ENVIRONMENTAL RISKS" ARE KNOWN TO BE LOCATED WITHIN OR IMMEDIATELY ADJACENT TO THE PROJECT LIMITS.

**FLOOD CONTINGENCY PLAN:** NO PROJECT ACTIVITIES ARE LOCATED WITHIN A 100-YEAR FLOODPLAIN OR FLOODWAY, THEREFORE, A FLOOD CONTINGENCY PLAN IS NOT REQUIRED. THE PROJECT ENGINEER (AT THEIR DISCRETION) MAY REQUIRE A PREVENTATIVE FLOOD CONTINGENCY PLAN FOR SPECIFIC PROJECT ACTIVITIES AND AREAS THAT ARE NOT LOCATED IN A 100-YEAR FLOODPLAIN OR FLOODWAY.

**FISH EXCLUSION DATES:** OPERATOR IS PROHIBITED FROM CONDUCTING IN-STREAM WORK DURING THE FISH SPAWNING AND MIGRATION DATES OF APRIL 15 TO JUNE 30 FOR NON-TROUT WATERS. IF WORK MUST BE CONDUCTING DURING THIS TIMEFRAME, CONTRACTOR SHALL CONTACT THE LOCAL DNR FISHERIES MANAGER FOR WRITTEN APPROVAL PRIOR TO CONDUCTING THE IN-STREAM WORK.

**AQUATIC INVASIVE SPECIES:** ALL IN-STREAM AND DEWATERING EQUIPMENT SHALL BE DECONTAMINATED OF ALL AQUATIC PLANTS AND PROHIBITED INVASIVE SPECIES PRIOR TO USING WITHIN SURFACE WATERS ON-SITE AND TRANSPORTING OFF-SITE. ALL

DECONTAMINATION ACTIVITIES SHALL MEET THE CHAPTER 1 STANDARDS OF THE MINNESOTA DNR'S BEST PRACTICES MANUAL FOR MEETING DNR GENERAL PUBLIC WATERS WORK PERMIT GP 2004-0001.

**WETLANDS:** THERE ARE SEVERAL WETLANDS WITHIN THE PROJECT AREA AND MUST BE PROTECTED TO THE MAXIMUM EXTENT POSSIBLE. 0.794 ACRES OF WETLAND FILLED/EXCAVATION HAS BEEN PERMITTED AS ILLUSTRATED ON THE PLAN SHEETS. PERMITTED AREAS OF WETLAND IMPACT WILL BE PROTECTED WITH SILT FENCE ALONG THE PERIMETER OF THE FILL OR EXCAVATION LIMITS.

**APPLICABLE FEDERAL, TRIBAL, STATE OR LOCAL PROGRAMS:** THE PROJECT FALLS UNDER THE JURISDICTION OF SEVERAL ENTITIES, AS IDENTIFIED IN THE "AGENCY CONTACTS" TABLE OF PAGE 1 OF THE SWPPP. THE MORE STRINGENT OF LOCAL VS. STATE VS. FEDERAL RULES SHALL APPLY WHERE THEY CONFLICT. INFORMATION PERTAINING TO THE STATE NPDES PERMIT CAN BE FOUND AT: (HTTP://WWW.PCA.STATE.MN.US/INDEX.PHP/WATER/WATER-TYPES-AND-PROGRAMS/STORMWATER/CONSTRUCTION-STORMWATER/INDEX.HTML). THE OPERATOR IS RESPONSIBLE TO COMPLY WITH ALL APPLICABLE PERMITS, MNDOT SPECIAL PROVISION, MNDOT SPEC BOOK (2014 EDITION), MNDOT SPECIFICATIONS 1717.

**SEQUENCE OF CONSTRUCTION/TIMING OF BMP INSTALLATION**

NO CONSTRUCTION OPERATIONS, INCLUDING REMOVALS, THAT REQUIRE EROSION & SEDIMENT CONTROL PER THE SWPPP CAN COMMENCE UNTIL THE OPERATOR'S EROSION CONTROL SUPERVISOR CERTIFIES THE PROPER INSTALLATION OF BMP'S AND A CHAIN OF RESPONSIBILITY FOR SWPPP IMPLEMENTATION IS CREATED FOR ALL OPERATORS ON THE SITE. PERIMETER SEDIMENT CONTROLS (SILT FENCE, INLET PROTECTION, CONSTRUCTION ENTRANCES, ETC.) SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION. THESE PRACTICES SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION IS ACHIEVED. OPERATOR SHALL IMPLEMENT THE NECESSARY ON SITE BMP'S IN ACCORDANCE WITH THE NPDES PERMIT REQUIREMENTS TO PREVENT NUISANCE CONDITIONS (MN RULES 7050.2010) FROM ANY DISCHARGES UNDER COVERAGE OF THE NPDES PERMIT. IN SOME CASES, MULTIPLE OR REDUNDANT APPLICATIONS OF SOME BMP'S MAY BE NEEDED TO MEET THESE REQUIREMENTS.

**INSPECTION, SWPPP AMENDMENTS, RECORD KEEPING, & TRAINING**

1. THE SWPPP CHAIN OF RESPONSIBILITY MUST BE AMENDED BY THE OPERATOR WHEN THE IDENTITY OF RESPONSIBLE SITE OPERATORS (EROSION CONTROL SUPERVISOR, SUB-CONTRACTORS, ETC.) ARE KNOWN.
2. THE OPERATOR MUST INSPECT THE ENTIRE CONSTRUCTION SITE AT LEAST ONCE EVERY SEVEN (7) DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS. THE OPERATOR SHALL PROVIDE A RAINFALL GAUGE ON-SITE, WITHIN ONE MILE OF THE SITE, OR SOURCE OF THE WEATHER REPORTING SYSTEM THAT USES SITE SPECIFIC RAINFALL DATA FROM RADAR SUMMARIES. THE LOCATION AND SOURCE OF THE RAINFALL GAUGE OR REPORTING SYSTEM MUST BE DOCUMENT IN THE FIRST SWPPP INSPECTION REPORT. THE INSPECTION FREQUENCY MAY BE REDUCED TO ONCE PER MONTH, IF SITE CONDITIONS MEET PART IV.E.3 OF THE NPDES PERMIT. ALL INSPECTIONS AND MAINTENANCE CONDUCTED MUST BE RECORDED IN WRITING BY THE OPERATOR AND RETAINED WITH THE SWPPP. RECORDS OF EACH INSPECTION AND MAINTENANCE ACTIVITY SHALL INCLUDE:
  - A. DATE, TIME, AND NAME OF PERSON(S) CONDUCTING INSPECTIONS;
  - B. FINDINGS OF INSPECTIONS, INCLUDING RECOMMENDATIONS FOR CORRECTIVE ACTIONS;
  - C. CORRECTIVE ACTIONS TAKEN (INCLUDING DATES, TIMES, AND PARTY COMPLETING MAINTENANCE ACTIVITIES); INCLUDING DOCUMENTATION/PHOTOS OF IMPLEMENTED BMPS INTENDED TO CORRECT A PROBLEM BUT FAILED.
  - D. DATE AND AMOUNT OF ALL RAINFALL EVENTS GREATER THAN 1/2 INCH (0.5 INCHES) IN 24 HOURS;
  - E. DOCUMENTATION OF CHANGES MADE TO THE SWPPP.
3. SWPPP AMENDMENTS AND SITE PLANS WILL BE PREPARED BY THE OPERATOR AND SUBMITTED TO THE OWNER FOR REVIEW AND WRITTEN APPROVAL BY THE PROJECT OWNER (OR DESIGNATED REPRESENTATIVE). ALL OWNER ACCEPTED AND DENIED SWPPP AMENDMENTS AND SITE PLANS MUST BE RECORDED IN WRITING RETAINED WITH THE SWPPP.
4. THE SWPPP SHALL BE AMENDED TO INCLUDE ADDITIONAL OR MODIFIED BMPS, DESIGNED TO CORRECT IDENTIFIED PROBLEMS OR ADDRESS SITUATIONS (UNDER PART III.B OF THE NPDES PERMIT), PRIOR TO CONDUCTING SPECIFIC STAGES/PHASES OF THE PROJECT, AS REQUIRED BY THE OWNER AND DEFINED IN THIS PROJECT SWPPP.

SUMMARY OF OPERATOR PREPARED SWPPP AMENDMENTS (REQUIRED BY OWNER)		
SWPPP AMENDMENT NAME	SWPPP AMENDMENT DETAILS	SUBMITTAL TIMEFRAME
OPERATOR CHAIN OF RESPONSIBILITY	REFER TO "CONTACT INFORMATION/RESPONSIBLE PARTIES" SECTION	7 DAY PRIOR TO INITIATING WORK
BMP AMENDMENTS	SUBSTITUTED, ADDITIONAL, OR REDUNDANT BMPS TO COMPENSATE FOR FAILING/FAILED BMPS	DURING/AFTER CONSTRUCTION ACTIVITIES
METHODS TO MINIMIZE SOIL COMPACTION	REFER TO "EXISTING SITE CONDITIONS, SOILS, AND WATER RESOURCES" SECTION	7 DAYS PRIOR TO WORK WITHIN INFILTRATION BASINS AND PRESERVED TREE AREAS
STEEP SLOPES PHASING PLAN	REFER TO "ENVIRONMENTALLY SENSITIVE AREAS" SECTION	
SPILL PREVENTION & RESPONSE PLAN	REFER TO "POLLUTION PREVENTION MEASURES"	7 DAY PRIOR TO INITIATING WORK
DEWATERING PLAN	REFER TO "DEWATERING" SECTION	7 DAYS PRIOR TO ACTIVITY

5. THE SWPPP (ORIGINAL OR COPIES), ALL CHANGES TO THE SWPPP, PROJECT MANUAL, AND INSPECTIONS/MAINTENANCE RECORDS MUST BE KEPT AT THE SITE DURING CONSTRUCTION BY THE OPERATOR WHO HAS OPERATIONAL CONTROL OF THAT PORTION OF THE SITE. THE SWPPP CAN BE KEPT IN THE FIELD OFFICE OR ON SITE VEHICLE DURING NORMAL WORKING HOURS.
6. THE OPERATOR MUST ASSIGN A TRAINED INDIVIDUAL(S) (PURSUANT TO PARTS III.A.3 & III.F) TO OVERSEE THE IMPLEMENTATION, MAINTENANCE, AND REPAIR OF BMPS. THIS INDIVIDUAL(S) SHALL ALSO PERFORM INSPECTIONS, REVISE/AMEND THE SWPPP (DOCUMENT IN SWPPP AS NECESSARY), AND BE AVAILABLE FOR AN ONSITE INSPECTION WITHIN 72 HOURS UPON REQUEST BY THE PERMITTED OWNER (OR ITS DESIGNEE), LOCAL GOVERNMENT UNITS, OR MPCA.

**POLLUTION PREVENTION MANAGEMENT MEASURES**

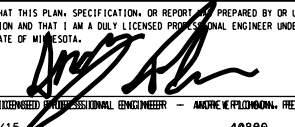
POTENTIAL SOURCES OF POLLUTANTS FROM CONSTRUCTION ACTIVITIES INCLUDE:

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NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP


I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

CERTIFIED BY:   
 LICENSED PROFESSIONAL ENGINEER - ANOKA COUNTY, MINN.  
 DATE: 6/15/15 LIC. NO: 40886

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- SEDIMENT AND FUGITIVE DUST GENERATED FROM CLEARING AND GRUBBING, IMPORT/EXPORT OPERATIONS, REMOVALS/COMPACTION, MASS/FINE GRADING, EXCAVATIONS, TRENCHING, TOPSOIL STRIPING STOCKPILING, WET/DRY PAVEMENT CUTTING, STREET CONSTRUCTION.
- BASIC/ACIDIC PH LEVELS FROM CURB AND GUTTER, MANHOLE STRUCTURES, SIDEWALKS, DRIVEWAY APRONS, FOUNDATIONS, BRIDGE ABUTMENTS, WET/DRY PAVEMENT CUTTING, MASONRY WASHOUT/CLEANOUT.
- EXCESS NUTRIENTS FROM LANDSCAPING INSTALLATIONS, SOIL ADDITIVES, FERTILIZATION, MULCHING
- HYDROCARBONS FROM STREET CONSTRUCTION, DEMOLITION/REMOVALS, WET/DRY PAVEMENT CUTTING

OPERATOR WILL COMPLY WITH ALL OF THE POLLUTION PREVENTION AND MANAGEMENT MEASURES IDENTIFIED IN THE NPDES-CSW PERMIT. OPERATOR WILL SUBMIT A SPILL PREVENTION AND RESPONSE PLAN (SPRP) TO THE ENGINEER PRIOR TO ANY CONSTRUCTION ACTIVITY. THE SPRP MUST SATISFACTORILY ADDRESS (AT A MINIMUM) THE FOLLOWING NPDES REQUIREMENTS BY THE PROPOSED IMPLEMENTATION AND MAINTENANCE OF APPROPRIATE BMPs:

**NO-EXPOSURE:** CONSTRUCTION AND BUILDING PRODUCTS (THAT HAVE THE POTENTIAL TO LEACH POLLUTANTS), PESTICIDES, HERBICIDES, INSECTICIDES, FERTILIZERS, TREATMENT CHEMICALS, AND LANDSCAPING MATERIALS MUST BE UNDER COVER (PLASTIC SHEETING OR TEMPORARY ROOFS) TO MINIMIZE CONTACT WITH STORMWATER AND PRECIPITATION.

**SOLID WASTE:** (SEDIMENT, ASPHALT, CONCRETE MILLINGS, CONSTRUCTION, AND DEMOLITION DEBRIS) AND OTHER WASTES MUST BE DISPOSED OF PROPERLY AND SHALL COMPLY WITH MPCA DISPOSAL REQUIREMENTS (CH. 7035).

**HAZARDOUS MATERIALS:** (E.G. GAS, DIESEL, OIL, ANTIFREEZE, PAINT SOLVENTS, SOAPS, DETERGENTS, WOOD PRESERVATIVES, CLEANING SOLVENTS, CURING COMPOUNDS, ACIDS, ETC.) MUST BE STORED IN SEALED CONTAINERS (WITH SECONDARY SPILL CONTAINMENT) IN RESTRICTED ACCESS AREAS TO PREVENT VANDALISM. STORAGE AND DISPOSAL OF HAZARDOUS WASTES AND MATERIALS MUST BE IN COMPLIANCE WITH MPCA REGULATIONS (CH. 7045) INCLUDING SECONDARY CONTAINMENT.

**PORTABLE TOILETS:** MUST BE POSITIONED AND SECURED SO THEY ARE NOT TIPPED OR KNOCKED OVER.

**EQUIPMENT/VEHICLE FUELING, EXTERNAL WASHING, AND MAINTENANCE PRACTICES:** WHEN VEHICLE FUELING, MAINTENANCE, OR EXTERNAL WASHING MUST OCCUR ON-SITE, THE ACTIVITY IS LIMITED TO A CONTAINED PORTION OF THE STAGING AREA, UNLESS INFEASIBLE THROUGH A SWPPP AMENDMENT. PROCEDURES FOR SPILL RESPONSE AND MATERIALS FOR CONTAINMENT AND CLEAN UP (DRIP PANS, DRY ABSORBENTS, AND SPILL KITS) WILL BE AVAILABLE AT ALL TIMES ON-SITE. ENGINE DEGREASING IS PROHIBITED ON-SITE.

**CONCRETE, STUCCO, PAINT, CURING COMPOUNDS, SOLVENTS, AND OTHER WASHOUT WASTES:** TEMPORARY OR LONG-TERM STORAGE OF WASHOUT WASTE IS PROHIBITED ON-SITE (SLURRY MUST BE HAULED IMMEDIATELY OFF-SITE). OPERATOR MUST SUBMIT A CONCRETE WASHOUT PLAN TO THE PROJECT ENGINEER FOR APPROVAL OF ALL ON-SITE WASHOUT LOCATIONS. ON-SITE WASHOUT LOCATIONS MUST BE LOCATED 200 FEET FROM AN ENVIRONMENTALLY SENSITIVE AREA AND SURFACE WATERS, HAVE "CONCRETE WASHOUT AREA" SIGNAGE, AND BE CONTAINED IN A LEAK PROOF CONTAINER OR IMPERMEABLE LINER. LIQUID AND SOLID WASTES SHOULD NOT CONTACT THE GROUND (UNLESS PERMITTED IN THE CONCRETE WASHOUT PLAN), BE CONTAINED TO PREVENT RUNOFF FROM THE WASHOUT LOCATION, AND MUST BE DISPOSED OF PROPERLY AND IN COMPLIANCE WITH MPCA REGULATIONS.

**BURNING:** BURNING OF GARBAGE, CONSTRUCTION DEBRIS, TREES, BRUSH, OR OTHER VEGETATIVE MATERIAL IS NOT ALLOWED ON SITE, UNLESS PRIOR APPROVAL IS GRANTED BY THE OWNER.

**EROSION CONTROL PRACTICES, PROCEDURES, & MAINTENANCE STANDARDS**

THE OPERATOR IS RESPONSIBLE FOR THE INSTALLATION, OPERATION, AND CONTINUED MAINTENANCE OF ALL TEMPORARY AND PERMANENT WATER QUALITY MANAGEMENT BMPs, AS WELL AS ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPs, FOR THE DURATION OF THE CONSTRUCTION WORK AT THE SITE, UNTIL FINAL STABILIZATION IS ACHIEVED. ALL BMPs MUST BE ADEQUATELY LOCATED, DESIGNED, INSTALLED, AND MAINTAINED TO PREVENT EROSION FROM A MINIMUM 0.5 INCH TOTAL RAINFALL EVENT WITHIN 24 HOURS.

ALL NONFUNCTIONAL BMPs MUST BE REPAIRED, REPLACED, OR SUPPLEMENTED WITH FUNCTIONAL BMPs BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS UNLESS ANOTHER TIME FRAME IS SPECIFIED IN THE SWPPP. ALL ERODED MATERIAL THAT LEAVES THE SITE SHALL BE COLLECTED BY THE OPERATOR AND RETURNED TO THE SITE AT THE OPERATOR'S EXPENSE AND INCIDENTAL TO THE PROJECT COST.

TEMPORARY OR PERMANENT STABILIZATION SHALL BE INITIATED AS SOON AS POSSIBLE, BUT NO LATER THAN THE END OF THE NEXT WORK DAY FOLLOWING THE DAY EARTH-DISTURBING ACTIVITIES IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. ALL EXPOSED SOIL AREAS SHALL BE STABILIZED WITHIN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. INITIATED STABILIZATION IS DEFINED AS COMPLETING ONE (OR MORE) OF THE FOLLOWING: SOIL PREPARATION FOR VEGETATION, MULCHING (OR OTHER TEMPORARY NON-VEGETATIVE BMP), SEEDING/PLANTING, OR SCHEDULING STABILIZATION MEASURES TO BE FULLY INSTALLED AND COMPLETED WITHIN THE 7 DAY TIMEFRAME.

ALL EXPOSED SOILS WITHIN 200 FEET AND DRAINING TO A DNR PUBLIC WATERS MUST BE STABILIZED WITHIN 24 HOURS OF TEMPORARILY OR PERMANENTLY CEASING WORK, DURING THE FISH SPAWNING PERIOD. TEMPORARY STOCKPILES WITHOUT SIGNIFICANT SILT, CLAY OR ORGANIC COMPONENTS (E.G., CLEAN AGGREGATE STOCKPILES, DEMOLITION CONCRETE STOCKPILES, SAND STOCKPILES) AND THE CONSTRUCTED BASE COMPONENTS OF ROADS, PARKING LOTS AND SIMILAR SURFACES ARE EXEMPT FROM THIS REQUIREMENT.

**TEMPORARY STABILIZATION BMPs SHALL ONLY BE IMPLEMENTED WHEN PERMANENT STABILIZATION BMPs CANNOT BE IMPLEMENTED WITHIN THE 7 DAY TIMEFRAME FOR EXPOSED SOILS.**

**TEMPORARY/PERMANENT DRAINAGE DITCHES & SWALES:** THE NORMAL WETTED PERIMETER (2-YEAR, 24-HOUR PRECIPITATION EVENT) OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH, CHANNEL, OR SWALE THAT DRAINS WATER FROM ANY PORTION OF THE CONSTRUCTION SITE, OR DIVERTS WATER AROUND THE SITE, MUST BE STABILIZED WITHIN THE LAST 200 LINEAL FEET FROM THE PROPERTY EDGE, OR FROM THE POINT OF DISCHARGE INTO ANY SURFACE WATER WITHIN 24 HOURS OF CONNECTION. STABILIZATION REMAINING OF THE REMAINING PORTIONS OF THE CHANNEL MUST BE STABILIZED WITHIN 7 DAYS. ALL STORMWATER CONVEYANCE CHANNELS MUST USE EROSION CONTROL AND VELOCITY DISSIPATION DEVICES WITHIN AND ALONG THE LENGTH OF THE CHANNEL AND AT ANY OUTLETS. TEMPORARY OR PERMANENT DITCHES OR SWALES THAT ARE BEING USED AS A TEMPORARY SEDIMENT CONTAINMENT SYSTEM (WITH PROPERLY DESIGNED ROCK DITCH CHECKS, BIO ROLLS, SILT DIKES ETC.) DO NOT NEED TO BE STABILIZED. THESE AREAS MUST BE STABILIZED WITHIN 24 HOURS AFTER NO LONGER BEING USED AS A SEDIMENT CONTAINMENT SYSTEM. MULCH, HYDROMULCH,

TACKIFIER, OR POLYACRYLAMIDE BELOW THE WETTED PERIMETER OF A DITCH, SWALE, OR OTHER SURFACE WATER CONVEYANCE IS NOT ACCEPTABLE STABILIZATION.

**EROSION CONTROL BLANKETS/MATS:** OPERATOR SHALL VERIFY DURING REGULAR INSPECTIONS THAT NO GULLIES, RILLS, OR SCOUR HOLES HAVE FORMED UNDER EROSION CONTROL BLANKETS AND MATS. ALL REPAIRS MUST BE COMPLETED WITHIN 24 HOURS OF DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS.

**MULCH:** OPERATOR MUST APPLY MULCH IN A UNIFORM PATTERN OVER THE DISTURBED SOILS, TO ACHIEVE A MINIMUM OF 90% GROUND COVER.

**DUST CONTROL:** DUST FROM THE SITE WILL BE CONTROLLED BY INCREASED STREET SWEEPING AND/OR USING A MOBILE PRESSURE-TYPE DISTRIBUTOR TRUCK TO APPLY POTABLE WATER TO DISTURBED AREAS. THE MOBILE UNIT WILL APPLY WATER AT A RATE NECESSARY TO PREVENT RUNOFF AND PONDING.

**STORM SEWER OUTLETS:** PIPE OUTLETS MUST HAVE TEMPORARY OR PERMANENT ENERGY DISSIPATION WITHIN 24 HOURS AFTER HYDRAULIC CONNECTION TO A RECEIVING SURFACE WATER.

**TEMPORARY & PERMANENT EROSION CONTROL BMPs**

**MULCH:** APPLY TO DISTURBED SLOPES LESS THAN 1:3 WITH BLOWER EQUIPMENT OR CONCURRENTLY WITH HYDROMULCH AT 2 TONS/ACRE. IMMEDIATELY OVERSPRAY (IF NOT HYDROMULCHED) WITH TACKIFIER (PER MANUFACTURERS RECOMMENDED RATES) OR DISC-ANCHORED.

**RAPID STABILIZATION METHOD #3:** THIS WORK SHALL CONSIST OF OPERATIONS NECESSARY TO RAPIDLY STABILIZE SMALL CRITICAL AREAS WITHIN 200FT OF SURFACE WATERS, TO PREVENT OFF SITE SEDIMENTATION AND OR TO COMPLY WITH PERMIT REQUIREMENTS. INSTALL PER MNDOT SPECIFICATIONS 2575.3N.

**RAPID STABILIZATION METHOD #4:** (WOOD FIBER, NATURAL NET ONLY) IS AN ACCEPTABLE BMP FOR DISTURBED AREAS ADJACENT TO ENVIRONMENTALLY SENSITIVE AREAS, SURFACE WATERS, AND WITHIN THE LAST 200 FEET OF DITCH BOTTOMS.

**TEMPORARY WINTER COVER:** AREAS OF EXPOSED SOILS THAT ARE NOT COMPLETED BEFORE THE WINTER WILL BE STABILIZED WITH TYPE #3 (CERTIFIED AS WEED FREE) ADJACENT TO WETLAND OR STORMWATER PONDS. ALL OTHER DISTURBED AREAS SHALL BE STABILIZED WITH TYPE #1 MULCH, UNLESS ALTERNATIVE MORE PROTECTIVE BMPs ARE SPECIFIC WITHIN THE SWPPP. ALL EXPOSED SOILS SHALL BE STABILIZED BEFORE CONSTRUCTION IS COMPLETED FOR THE SEASON.

**HYDRO-MULCH TYPE #5:** HYDRAULIC SOIL STABILIZER IN COMBINATION WITH A TACKIFIER WILL BE INSTALLED PER MANUFACTURERS SPECIFICATIONS TO EXPOSED SOILS AREAS TO PROVIDE TEMPORARY LONG-TERM OR PERMANENT COVER FOR VEGETATION ESTABLISHMENT.

**SEED MIX/EROSION CONTROL BLANKET:** SEED MIX IN COMBINATION WITH AN EROSION CONTROL BLANKET WILL BE INSTALLED PER MANUFACTURERS SPECIFICATIONS TO EXPOSED SOILS AREAS TO PROVIDE PERMANENT COVER FOR VEGETATION ESTABLISHMENT.

**RIPRAP:** RIPRAP WITH A GEOTEXTILE LINER WILL BE APPLIED AT ALL OUTLETS TO SLOW DOWN WATER VELOCITY.

**SEDIMENT CONTROL PRACTICES, PROCEDURES, & MAINTENANCE STANDARDS**

**DOWN GRADIENT SYSTEMS:** IF THE DOWN GRADIENT TREATMENT SYSTEM IS OVERLOADED, ADDITIONAL UP GRADIENT SEDIMENT CONTROL PRACTICES OR REDUNDANT BMPs MUST BE INSTALLED TO ELIMINATE THE OVERLOADING, AND THE SWPPP MUST BE AMENDED TO IDENTIFY THESE ADDITIONAL PRACTICES.

**PERIMETER CONTROL BMPs (SILT FENCES, CHIP/SLASH MULCH SACKS, BIOROLLS, FLOATING SILT CURTAIN, ETC.):** PERIMETER CONTROL BMPs SHALL BE INSTALLED ON ALL DOWN GRADIENT PERIMETERS AND UPGRADIENT OF ANY BUFFER AREAS, PRIOR TO INITIATING UPGRADIENT LAND DISTURBANCE ACTIVITIES. UPLAND PERIMETER CONTROLS BMPs SHALL BE PLACED AS CLOSE AS POSSIBLE TO FOLLOW A SINGLE CONTOUR ELEVATION. ALL SILT FENCES MUST BE REPAIRED, REPLACED, OR MAINTAINED WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES 1/2 OF THE HEIGHT OF THE FENCE. ALL REPAIRS MUST BE COMPLETED BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS. FLOATING SILT CURTAIN SHALL BE INSTALLED AS CLOSE TO THE SHORELINE AS POSSIBLE FOR SHORELAND/IN-WATER SHORT-TERM CONSTRUCTION ACTIVITIES. AFTER THE SHORT-TERM ACTIVITY IS COMPLETE, AN UPLAND PERIMETER CONTROL MUST BE INSTALLED IF EXPOSED SOILS CONTINUE TO DRAIN TO THE SURFACE WATER.

**50 FOOT NATURAL BUFFER(S):** REFER TO "CONSTRUCTION PHASING/STAGING, BUFFERS, & AREAS NOT TO BE DISTURBED" SECTION OF THIS SWPPP.

**TEMPORARY SEDIMENTATION BASINS:** WHERE TEN (10) OR MORE ACRES OF DISTURBED SOIL DRAIN TO A COMMON LOCATION, A TEMPORARY SEDIMENT BASIN MUST BE PROVIDED PRIOR TO RUNOFF LEAVING THE CONSTRUCTION SITE OR ENTERING SURFACE WATERS. ALL TEMPORARY BASINS SHALL BE CONSTRUCTED AND OPERATIONAL PRIOR TO GRADING TEN (10) OR MORE ACRES. BASINS MUST PROVIDE A LIVE STORAGE VOLUME FROM A TWO YEAR 24-HOUR STORM EVENT FROM EACH ACRE (DISTURBED AND UNDISTURBED) DRAINING TO THE BASIN. AT A MINIMUM, IF CALCULATIONS ARE NOT PERFORMED THE BASIN SHALL PROVIDE 3,600 CUBIC FEET OF LIVE STORAGE FROM EACH ACRE. THE BASIN INTAKE MUST BE DESIGNED TO WITHDRAW WATER FROM THE SURFACE, PREVENT SHORT CIRCUITING AND THE DISCHARGE OF FLOATING DEBRIS, INCLUDE AN EMERGENCY OVERFLOW ABOVE THE LIVE STORAGE ELEVATION, AND PROVIDE ENERGY DISSIPATION AT THE BASIN OUTLET. BASINS MUST BE DRAINED AND SEDIMENT REMOVED WHEN THE DEPTH OF COLLECTED SEDIMENT IN THE BASIN REACHES 1/2 THE LIVE STORAGE VOLUME. DRAINAGE AND REMOVAL MUST BE COMPLETED WITHIN 72 HOURS OF DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS. IF A BASIN IS INFEASIBLE WITHIN THE PROJECT LIMITS, EQUIVALENT SEDIMENT CONTROL BMPs MUST BE IMPLEMENTED AND DOCUMENTED IN THE SWPPP OR SWPPP AMENDMENT.

**TEMPORARY STOCKPILES:** ALL STOCKPILES MUST HAVE SILT FENCE OR EQUIVALENT PERIMETER SEDIMENT CONTROLS IMPLEMENTED AND MAINTAINED AT ALL TIMES. PILES CANNOT BE PLACED IN BUFFER AREAS OR SURFACE WATERS, INCLUDING STORMWATER CONVEYANCES SUCH AS CURB AND GUTTER SYSTEMS, OR CONDUITS AND DITCHES UNLESS THERE IS A BYPASS IN PLACE TO PREVENT STORMWATER RUN-ON INTO THE STOCKPILE.

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NO.	DATE	BY	CHK	REVISIONS																																				

**CONSTRUCTION SITE ENTRANCE/VEHICLE TRACKING:** OPERATOR MUST MINIMIZE SEDIMENT FROM LEAVING THE CONSTRUCTION SITE (OR ONTO STREETS WITHIN THE SITE) BY IMPLEMENTING BMPS SUCH AS ROCK PADS, SLASH MULCH, CONCRETE OR STEEL WASH RACKS, OR EQUIVALENT SYSTEMS. STREET SWEEPING MUST BE USED DAILY DURING CONSTRUCTION OPERATIONS IF SUCH BMPS ARE NOT ADEQUATE TO PREVENT SEDIMENT FROM BEING TRACKED ONTO THE STREET. TRACKED SEDIMENT MUST BE REMOVED FROM ALL PAVED SURFACES (ON AND OFF-SITE) WITHIN 24 HOURS OF DISCOVERY, OR SOONER AS DIRECTED BY THE PROJECT OWNER. MULTIPLE STREET SWEEPINGS AT THE OPERATOR'S EXPENSE MAY BE REQUIRED ON ALL ENTRY/EXIT POINTS TO THE SITE AT THE DISCRETION OF THE PROJECT OWNER.

**SURFACE WATERS:** INCLUDING OFF-SITE AND DOWNSTREAM DRAINAGE DITCHES, CATCH BASINS, AND CONVEYANCE SYSTEMS, MUST BE INSPECTED FOR EVIDENCE OF EROSION AND SEDIMENT DEPOSITION. THE REMOVAL AND STABILIZATION OF EXPOSED SOILS MUST TAKE PLACE WITHIN SEVEN (7) DAYS OF DISCOVERY UNLESS PRECLUDED BY LEGAL, REGULATORY, OR PHYSICAL ACCESS CONSTRAINTS. IF PRECLUDED, REMOVAL AND STABILIZATION MUST TAKE PLACE WITHIN SEVEN (7) CALENDAR DAYS OF OBTAINING ACCESS. THE PERMITTEES ARE RESPONSIBLE FOR CONTACTING ALL LOCAL, REGIONAL, STATE AND FEDERAL AGENCIES AND RECEIVING ANY APPLICABLE PERMITS, PRIOR TO CONDUCTING ANY WORK.

**INLET PROTECTION:** ALL STORM DRAIN INLETS (INCLUDING DOWN GRADIENT, OFF-SITE) MUST BE PROTECTED BY APPROPRIATE BMPS DURING CONSTRUCTION UNTIL ALL SOURCES WITH POTENTIAL FOR DISCHARGING TO THE INLET HAVE BEEN STABILIZED. SILT FENCE IS NOT AN ACCEPTABLE CATCH BASIN INLET PROTECTION BMP. CONTACTOR SHALL CLEAN, REMOVE AND DISPOSE OF SEDIMENT, AND/OR REPLACE STORM DRAIN INLET PROTECTION ON A ROUTINE BASIS TO ENSURE THE DEVICE IS FULLY FUNCTIONAL PRIOR TO THE NEXT FORECASTED PRECIPITATION EVENT (30% OR GREATER). INLET PROTECTION MAY BE REMOVED FOR A PARTICULAR INLET IF A SPECIFIC SAFETY CONCERN (STREET FLOODING/FREEZING) HAS BEEN IDENTIFIED AND THE PERMITTEE(S) HAVE RECEIVED WRITTEN CORRESPONDENCE FROM THE JURISDICTIONAL AUTHORITY (E.G. CITY/COUNTY/TOWNSHIP/MNDOT ENGINEER) VERIFYING THE NEED FOR REMOVAL. WRITTEN CORRESPONDENCE MUST BE DOCUMENTED IN THE SWPPP AND AVAILABLE WITHIN 72 HOURS UPON REQUEST. PERMISSION TO REMOVE INLET PROTECTION BASED ON A SPECIFIC SAFETY CONCERN MUST STILL BE OBTAINED FROM THE LOCAL JURISDICTIONAL AUTHORITY WITHIN 30 DAYS OF REMOVAL.

**CHEMICAL TREATMENTS:** OPERATOR MUST AMEND THE SWPPP TO INCLUDE THE INTENDED USES AND LOCATIONS OF FLOCCULANTS, POLYMERS, AND OTHER SEDIMENTATION TREATMENT CHEMICALS. CHEMICAL TREATMENTS MAY ONLY BE APPLIED IN AREAS WHERE TREATED STORMWATER IS DIRECTED TO A RECEIVING SEDIMENT CONTROL SYSTEM (NOT DIRECTLY DISCHARGED TO NATURAL WATER BODIES). THIS INCLUDES DOCUMENTING THE EXPECTED SOIL TYPES, MANUFACTURER'S RECOMMENDED DOSING, APPLICATION RATES/QUANTITIES, AND MONITORING RESULTS (TURBIDITY, PH).

**TEMPORARY & PERMANENT SEDIMENT CONTROL BMPS**

**SILT FENCE:** SILT FENCES SHALL BE PLACED, AS CLOSE AS POSSIBLE TO FOLLOW A SINGLE CONTOUR ELEVATION. ALL SILT FENCES MUST BE REPAIRED, REPLACED, OR SUPPLEMENTED WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES 1/2 OF THE HEIGHT OF THE FENCE. ALL REPAIRS MUST BE COMPLETED WITHIN 24 HOURS OF DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS.

**SEDIMENT CONTROL LOGS:** EROSION CONTROL BIOROLLS WILL BE STAKED PLACED IN ACCORDANCE TO THE PLAN SHEETS WHERE THE SITE SLOPES OFF OF THE PROJECT LOCATION AT A 1:3 OR LESS. BIOROLLS WILL BE FILLED WITH A STRAW MATERIAL AND CLEANED OUT OR REPLACED WHEN THE SEDIMENT REACHED 1/2 OF THE HEIGHT OF THE ROLL.

**CONSTRUCTION ENTRANCE:** A ROCK CONSTRUCTION ENTRANCE WILL BE PUT IN PLACE IN ACCORDANCE TO ALL ENTRANCES TO AND FROM THE PROJECT SITE.

**TEMPORARY SEED/MULCH:** TEMPORARY SEED MIX IN COMBINATION WITH A HYDRAULIC SOIL STABILIZER AND TACKIFIER MIX WILL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS TO EXPOSED SOILS AREAS TO PROVIDE TEMPORARY LONG-TERM OR PERMANENT COVER FOR VEGETATION ESTABLISHMENT WITHIN AND NO LATER THAN 14 DAYS OF THE EXPOSED SOIL NOT BEING WORKED.

**DEWATERING, STREAM DIVERSION, AND BASIN DRAINING**

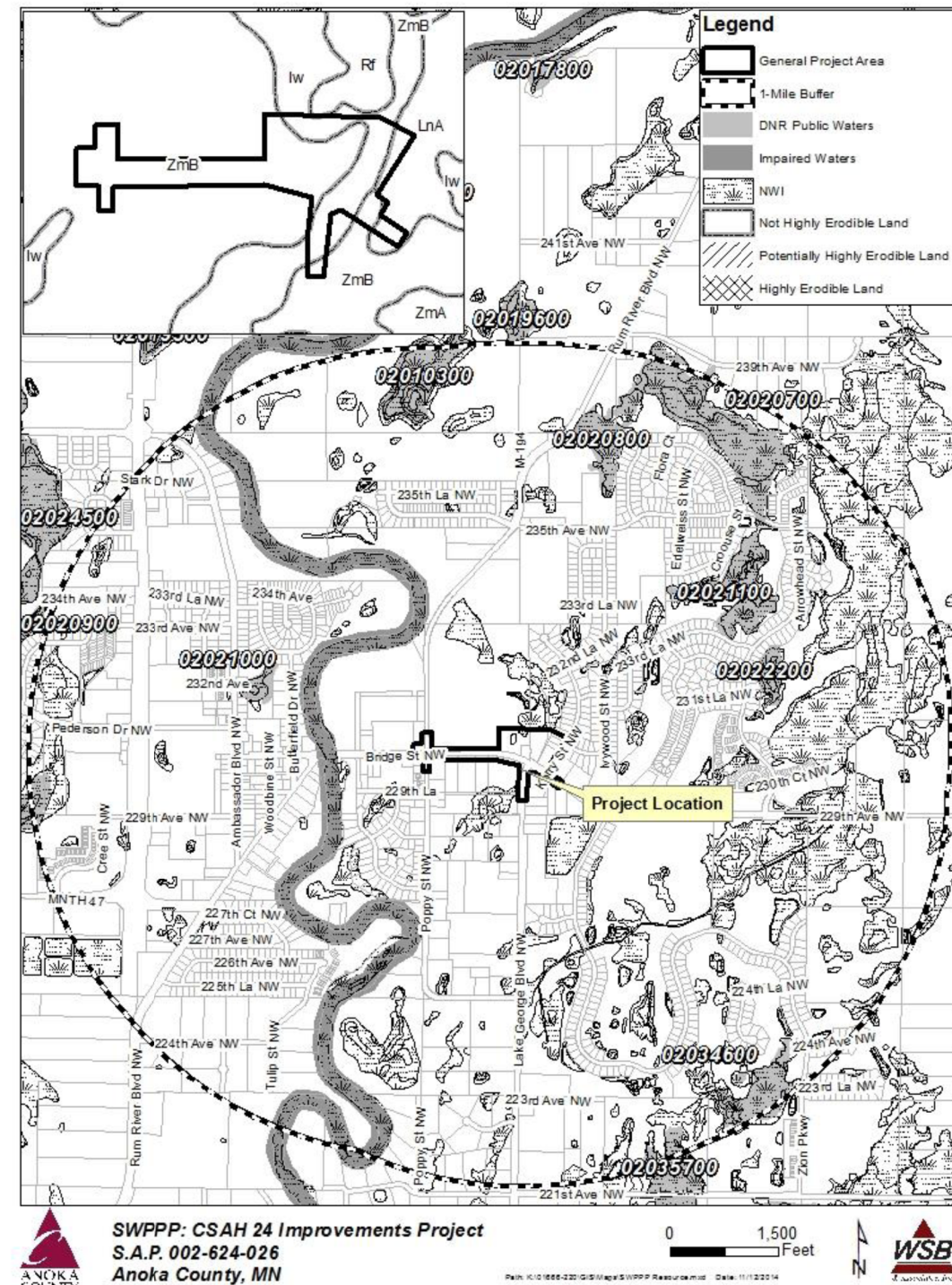
DEWATERING, STREAM DIVERSION, OR BASIN DRAINING IS ANTICIPATED DURING CONSTRUCTION OF THIS PROJECT. WHEN DEWATERING OR BASIN DRAINING IS REQUIRED, THE CONTRACTOR SHALL SUBMIT A DEWATERING PLAN AND NARRATIVE TO THE PROJECT ENGINEER FOR APPROVAL PRIOR TO UNDERTAKING THESE ACTIVITIES. DEWATERING PLAN MUST INCLUDE BMP'S TO PREVENT SEDIMENT TRANSPORT, EROSION, AND ADVERSE IMPACTS TO DOWNSTREAM RECEIVING WATERS. THE DEWATERING PLAN MUST ALSO INCLUDE ANY SPECIFIC CHEMICAL TREATMENTS (FLOC, POLYMERS, ETC.) THAT WILL BE USED. IF AN APPROVED TMDL WASTE LOAD ALLOCATION IS ESTABLISHED FOR CONSTRUCTION ACTIVITIES ON A RECEIVING WATERBODY, THE OPERATOR MUST IMPLEMENT ALL NECESSARY BMP'S TO MEET THE ASSIGNED WLA. THE DEWATERING PLAN AND DNR APPROPRIATIONS PERMIT WILL BECOME PART OF THE SWPPP. WATER THAT IS TURBID OR HAS SEDIMENT MUST BE DISCHARGED TO A TEMPORARY OR PERMANENT SEDIMENTATION BASIN (AND/OR OTHER APPROPRIATE BMPS) ON THE PROJECT SITE WHENEVER POSSIBLE. DISCHARGE FROM THE TEMPORARY OR PERMANENT SEDIMENTATION BASIN MUST BE VISUALLY CHECKED TO ENSURE ADEQUATE TREATMENT IS OBTAINED IN THE BASIN AND THAT NUISANCE CONDITIONS (SEE MINN. R. 7050.0210, SUBP. 2), IMPACTS TO WETLANDS, AND EROSION IN RECEIVING CHANNELS OR ON DOWNSLOPE PROPERTIES WILL NOT RESULT FROM THE DISCHARGE. THE DISCHARGE MUST BE DISPERSED OVER NATURAL ROCK RIPRAP, SAND BAGS, PLASTIC SHEETING, OR OTHER ACCEPTED ENERGY DISSIPATION MEASURES. ADEQUATE SEDIMENTATION CONTROL MEASURES AND ADDITIONAL FILTRATION BMPS ARE REQUIRED FOR DISCHARGE WATER THAT CONTAINS SUSPENDED SOLIDS, OIL, OR GREASE.

**FINAL STABILIZATION**

FINAL STABILIZATION IS ACHIEVED WHEN THE FOLLOWING FOUR PARAMETERS ARE COMPLETED, PRIOR TO SUBMISSION OF THE NOTICE OF TERMINATION TO MPCA. SEE PERMANENT EROSION CONTROL PRACTICES FOR SPECIFIC METHODS AND APPLICATIONS.

- 70% VEGETATIVE COVER:** ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND ALL EXPOSED SOILS ARE STABILIZED BY A UNIFORM, LIVE PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70% OVER THE ENTIRE PVIOUS SURFACE AREA, OR OTHER EQUIVALENT MEANS NECESSARY TO PREVENT SOIL FAILURE UNDER EROSION CONDITIONS. REFER TO PART IV.G.5 IF THE PROJECT IS ON AGRICULTURAL LAND.
- FINAL CLEAN OUT OF PERMANENT STORMWATER MANAGEMENT SYSTEMS & CONVEYANCE SYSTEMS:** ALL SEDIMENT MUST BE REMOVED FROM PERMANENT STORMWATER MANAGEMENT SYSTEMS, CONVEYANCE SYSTEMS, AND DITCHES MUST BE STABILIZED WITH PERMANENT COVER.

- REMOVAL OF ALL TEMPORARY SYNTHETIC BMPS:** ALL TEMPORARY SYNTHETIC AND STRUCTURAL EROSION PREVENTION AND SEDIMENT CONTROL BMPS (SUCH AS SILT FENCE) MUST BE REMOVED ON THE PORTIONS OF THE SITE FOR WHICH THE PERMITTEE IS RESPONSIBLE. BMPS DESIGNED TO DECOMPOSE ON SITE (SUCH AS SOME COMPOST LOGS) MAY BE LEFT IN PLACE.
- OPERATOR PROVIDES THE OWNER ALL INSPECTION AND SWPPP AMENDMENT RECORDS FOR THE PROJECT.** OWNER IS RESPONSIBLE FOR KEEPING ALL RECORDS (AS DEFINED IN PART II.E.1-5) ON FILE FOR THREE YEARS AFTER SUBMITTAL OF THE NOTICE OF TERMINATION.



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NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
Plan By: ACJ  
Checked By: DRS  
Approved By: AJP

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

CERTIFIED BY: *[Signature]*  
LICENSED PROFESSIONAL ENGINEER - ANOKA COUNTY, MN  
DATE: 6/15/15 LIC. NO: 40886

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**ANOKA COUNTY**

**CSAH 24 Improvements**  
Anoka County, Minnesota

**ANOKA COUNTY, MINNESOTA**

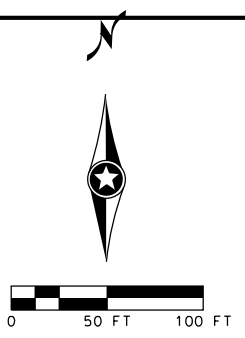
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**SWPPP**  
S.P. 002-624-026

SHEET  
**112**  
OF  
**214**  
SHEETS

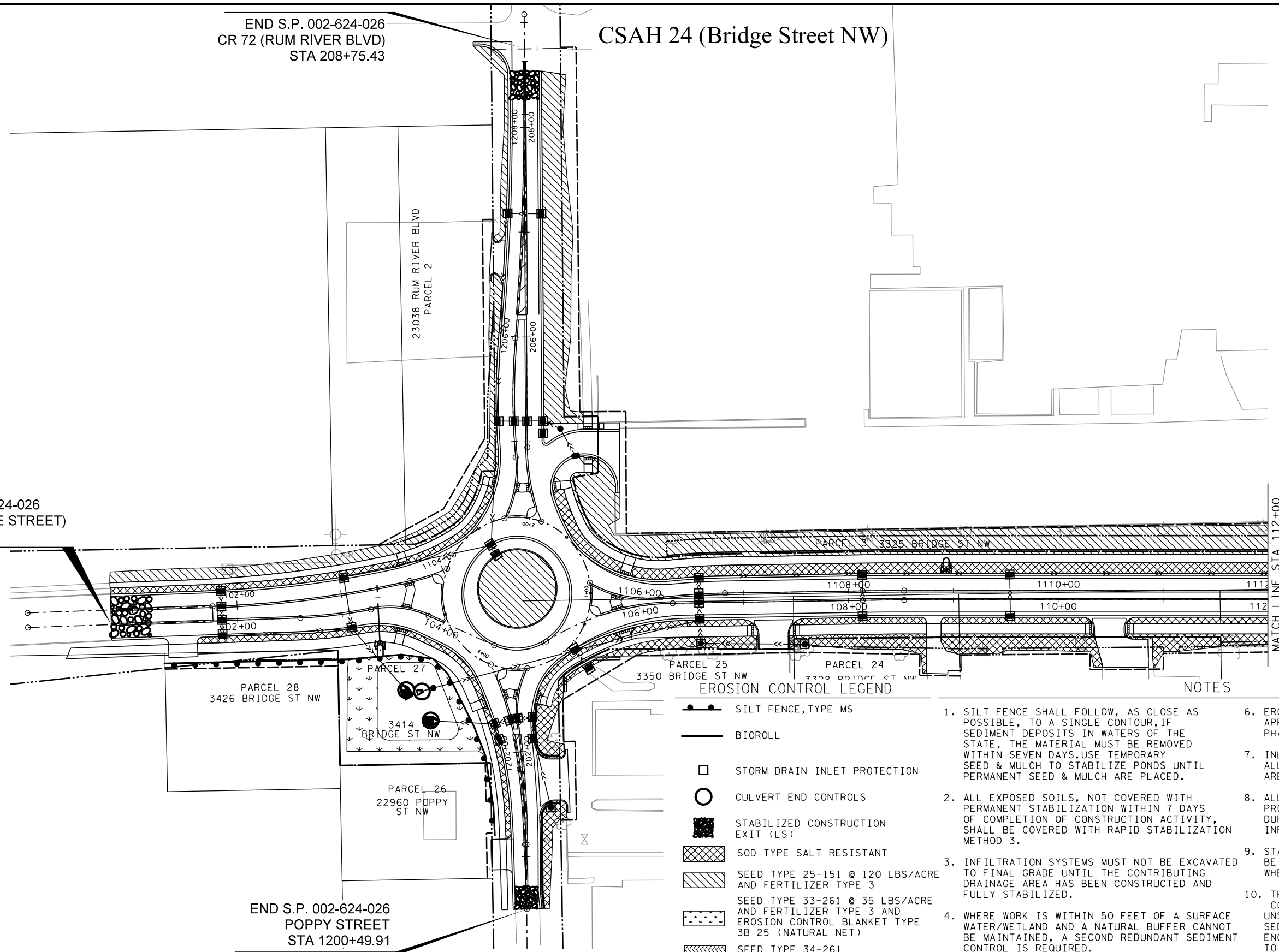


END S.P. 002-624-026  
CR 72 (RUM RIVER BLVD)  
STA 208+75.43

CSAH 24 (Bridge Street NW)



BEGIN S.P. 002-624-026  
CSAH 24 (BRIDGE STREET)  
STA 100+79.44



EROSION CONTROL LEGEND

- SILT FENCE, TYPE MS
- BIOROLL
- STORM DRAIN INLET PROTECTION
- CULVERT END CONTROLS
- STABILIZED CONSTRUCTION EXIT (LS)
- SOD TYPE SALT RESISTANT
- SEED TYPE 25-151 @ 120 LBS/ACRE AND FERTILIZER TYPE 3
- SEED TYPE 33-261 @ 35 LBS/ACRE AND FERTILIZER TYPE 3 AND EROSION CONTROL BLANKET TYPE 3B 25 (NATURAL NET)
- SEED TYPE 34-261 @ 31.5 LBS/ACRE

NOTES

1. SILT FENCE SHALL FOLLOW, AS CLOSE AS POSSIBLE, TO A SINGLE CONTOUR, IF SEDIMENT DEPOSITS IN WATERS OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN SEVEN DAYS. USE TEMPORARY SEED & MULCH TO STABILIZE PONDS UNTIL PERMANENT SEED & MULCH ARE PLACED.
2. ALL EXPOSED SOILS, NOT COVERED WITH PERMANENT STABILIZATION WITHIN 7 DAYS OF COMPLETION OF CONSTRUCTION ACTIVITY, SHALL BE COVERED WITH RAPID STABILIZATION METHOD 3.
3. INFILTRATION SYSTEMS MUST NOT BE EXCAVATED TO FINAL GRADE UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN CONSTRUCTED AND FULLY STABILIZED.
4. WHERE WORK IS WITHIN 50 FEET OF A SURFACE WATER/WETLAND AND A NATURAL BUFFER CANNOT BE MAINTAINED, A SECOND REDUNDANT SEDIMENT CONTROL IS REQUIRED.
5. ALL STREETS IN AND ADJACENT TO THE PROJECT SHALL REMAIN CLEAN AND PASSABLE AT ALL TIMES. ANY SEDIMENT OR DEBRIS SHALL BE REMOVED WITHIN 24 HOURS, OR AS OFTEN AS NEEDED TO ENSURE PUBLIC SAFETY.
6. EROSION CONTROL MUST BE IN PLACE AND APPROVED BY THE ENGINEER BEFORE ANY PHASE OF CONSTRUCTION CAN BEGIN.
7. INLET PROTECTION WILL BE INSTALLED AT ALL CATCH INLETS WITHIN THE PROJECT AREA PER STANDARD DETAILS.
8. ALL STORM SEWER STRUCTURES SHALL BE PROTECTED FROM INFILTRATION OF SILT DURING CONSTRUCTION BY APPROVED INFILTRATION PROTECTION.
9. STABILIZATION OF DISTURBED AREAS SHALL BE DONE BY PERMANENT TURF ESTABLISHMENT WHENEVER POSSIBLE.
10. THE CONTRACTOR SHALL PROVIDE PERIMETER CONTROL DAY-TO-DAY AT DISTURBED UNSTABILIZED AREAS WHERE EROSION OR SEDIMENTATION COULD BE A PROBLEM. THE ENGINEER SHALL DIRECT THE CONTRACTOR AS TO WHERE PLACEMENT OF PERIMETER CONTROL WILL BE REQUIRED.
11. ADDITIONAL EROSION AND SEDIMENT CONTROL MAY BE ADDED DURING ANY PHASE OF CONSTRUCTION BY THE ENGINEER.

END S.P. 002-624-026  
POPPY STREET  
STA 1200+49.91

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NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
Plan By: ACJ  
Checked By: DRS  
Approved By: AJP

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

CERTIFIED BY:   
LICENSED PROFESSIONAL ENGINEER - ANDREW PLOIMMAN, PE  
DATE: 6/15/15 LIC. NO.: 44200

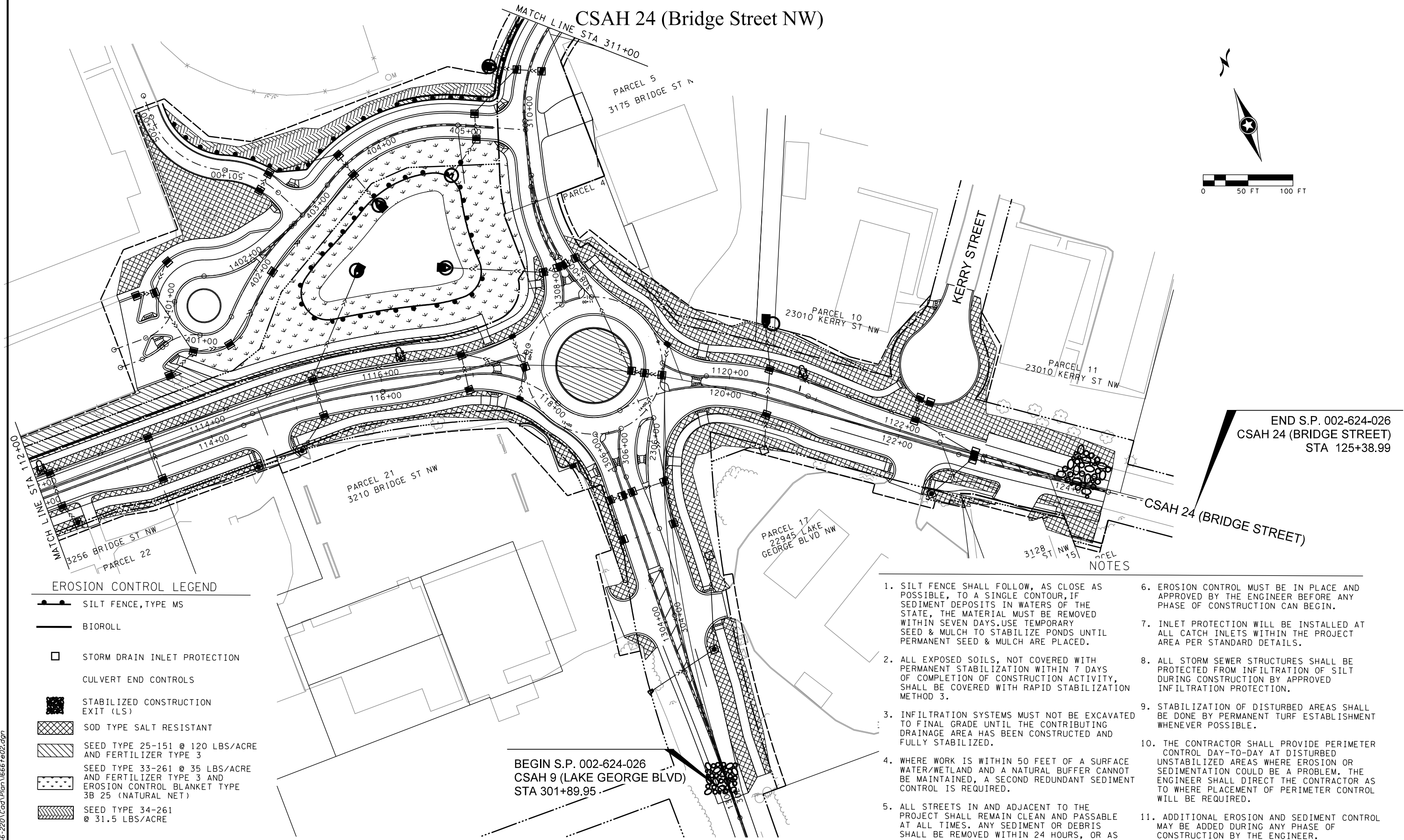
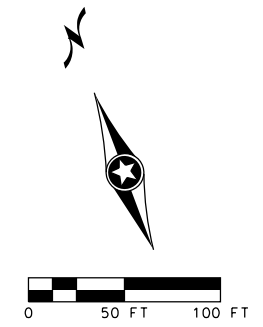
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**CSAH 24 Improvements**  
Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**TURF ESTABLISHMENT & EROSION CONTROL**  
S.P. 002-624-026

SHEET  
**113**  
OF  
**214**  
SHEETS

# CSAH 24 (Bridge Street NW)



END S.P. 002-624-026  
CSAH 24 (BRIDGE STREET)  
STA 125+38.99

BEGIN S.P. 002-624-026  
CSAH 9 (LAKE GEORGE BLVD)  
STA 301+89.95

### EROSION CONTROL LEGEND

- SILT FENCE, TYPE MS
- BIOROLL
- STORM DRAIN INLET PROTECTION
- CULVERT END CONTROLS
- STABILIZED CONSTRUCTION EXIT (LS)
- SOD TYPE SALT RESISTANT
- SEED TYPE 25-151 @ 120 LBS/ACRE AND FERTILIZER TYPE 3
- SEED TYPE 33-261 @ 35 LBS/ACRE AND FERTILIZER TYPE 3 AND EROSION CONTROL BLANKET TYPE 3B 25 (NATURAL NET)
- SEED TYPE 34-261 @ 31.5 LBS/ACRE

1. SILT FENCE SHALL FOLLOW, AS CLOSE AS POSSIBLE, TO A SINGLE CONTOUR, IF SEDIMENT DEPOSITS IN WATERS OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN SEVEN DAYS. USE TEMPORARY SEED & MULCH TO STABILIZE PONDS UNTIL PERMANENT SEED & MULCH ARE PLACED.
2. ALL EXPOSED SOILS, NOT COVERED WITH PERMANENT STABILIZATION WITHIN 7 DAYS OF COMPLETION OF CONSTRUCTION ACTIVITY, SHALL BE COVERED WITH RAPID STABILIZATION METHOD 3.
3. INFILTRATION SYSTEMS MUST NOT BE EXCAVATED TO FINAL GRADE UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN CONSTRUCTED AND FULLY STABILIZED.
4. WHERE WORK IS WITHIN 50 FEET OF A SURFACE WATER/WETLAND AND A NATURAL BUFFER CANNOT BE MAINTAINED, A SECOND REDUNDANT SEDIMENT CONTROL IS REQUIRED.
5. ALL STREETS IN AND ADJACENT TO THE PROJECT SHALL REMAIN CLEAN AND PASSABLE AT ALL TIMES. ANY SEDIMENT OR DEBRIS SHALL BE REMOVED WITHIN 24 HOURS, OR AS OFTEN AS NEEDED TO ENSURE PUBLIC SAFETY.
6. EROSION CONTROL MUST BE IN PLACE AND APPROVED BY THE ENGINEER BEFORE ANY PHASE OF CONSTRUCTION CAN BEGIN.
7. INLET PROTECTION WILL BE INSTALLED AT ALL CATCH INLETS WITHIN THE PROJECT AREA PER STANDARD DETAILS.
8. ALL STORM SEWER STRUCTURES SHALL BE PROTECTED FROM INFILTRATION OF SILT DURING CONSTRUCTION BY APPROVED INFILTRATION PROTECTION.
9. STABILIZATION OF DISTURBED AREAS SHALL BE DONE BY PERMANENT TURF ESTABLISHMENT WHENEVER POSSIBLE.
10. THE CONTRACTOR SHALL PROVIDE PERIMETER CONTROL DAY-TO-DAY AT DISTURBED UNSTABILIZED AREAS WHERE EROSION OR SEDIMENTATION COULD BE A PROBLEM. THE ENGINEER SHALL DIRECT THE CONTRACTOR AS TO WHERE PLACEMENT OF PERIMETER CONTROL WILL BE REQUIRED.
11. ADDITIONAL EROSION AND SEDIMENT CONTROL MAY BE ADDED DURING ANY PHASE OF CONSTRUCTION BY THE ENGINEER.

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File Name: K:\0666-2201\Cad\Plan\6661e02.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
Plan By: ACJ  
Checked By: DRS  
Approved By: AJP

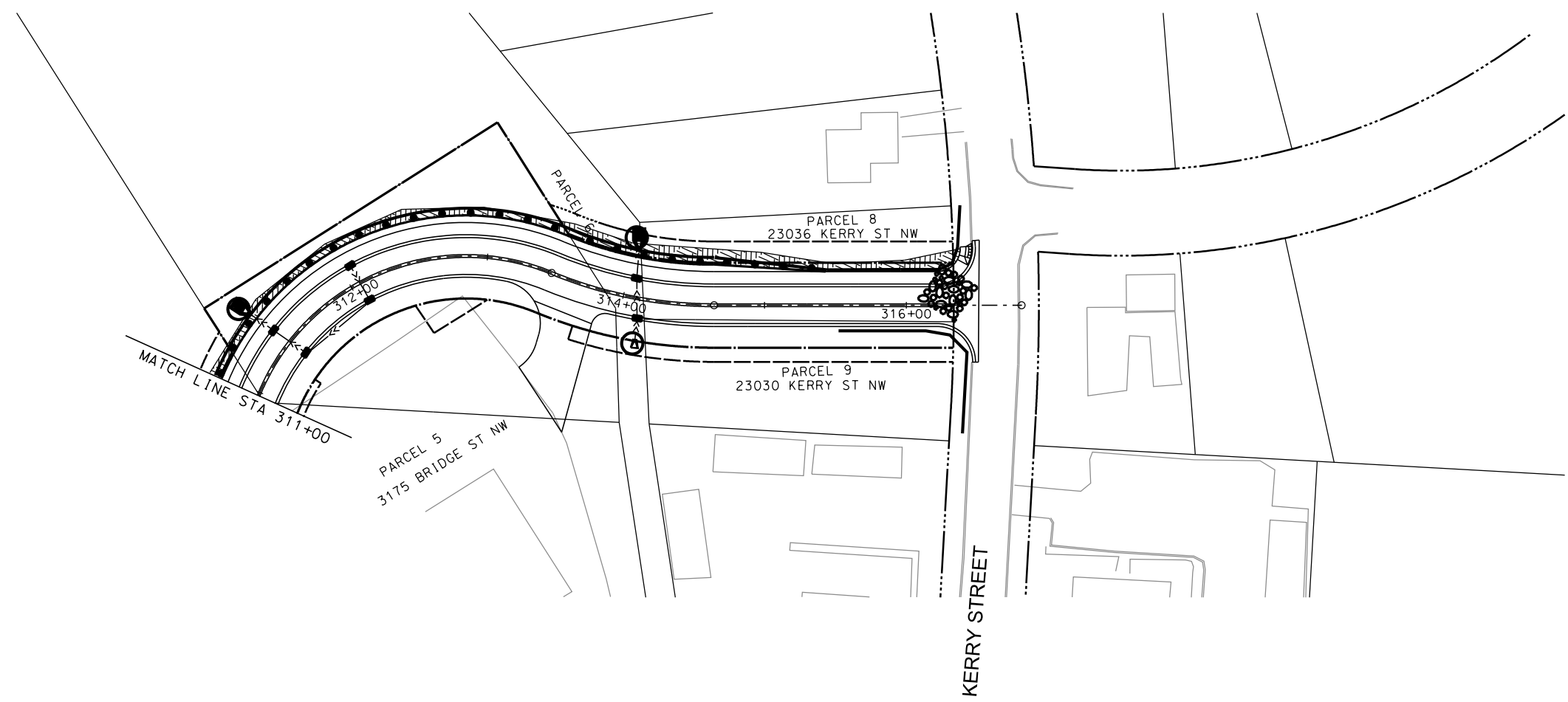
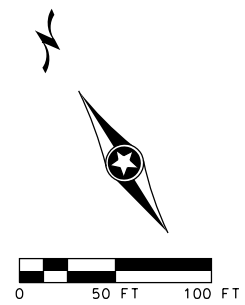
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

CERTIFIED BY:   
LICENSED PROFESSIONAL ENGINEER - ANDREW PLODMAN, PE  
DATE: 6/15/15 LIC. NO: 44200

**WSB**  
& Associates, Inc.  
701 Xenia Avenue South, Suite 300  
Minneapolis, MN 55416  
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**ANOKA COUNTY**  
**CSAH 24 Improvements**  
Anoka County, Minnesota

# Kerry Street Extention



### EROSION CONTROL LEGEND

- SILT FENCE, TYPE MS
- BIOROLL
- STORM DRAIN INLET PROTECTION
- CULVERT END CONTROLS
- STABILIZED CONSTRUCTION EXIT (LS)
- SOD TYPE SALT RESISTANT
- SEED TYPE 25-151 @ 120 LBS/ACRE AND FERTILIZER TYPE 3
- SEED TYPE 33-261 @ 35 LBS/ACRE AND FERTILIZER TYPE 3 AND EROSION CONTROL BLANKET TYPE 3B 25 (NATURAL NET)
- SEED TYPE 34-261 @ 31.5 LBS/ACRE

### NOTES

1. SILT FENCE SHALL FOLLOW, AS CLOSE AS POSSIBLE, TO A SINGLE CONTOUR, IF SEDIMENT DEPOSITS IN WATERS OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN SEVEN DAYS. USE TEMPORARY SEED & MULCH TO STABILIZE PONDS UNTIL PERMANENT SEED & MULCH ARE PLACED.
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9. STABILIZATION OF DISTURBED AREAS SHALL BE DONE BY PERMANENT TURF ESTABLISHMENT WHENEVER POSSIBLE.
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11. ADDITIONAL EROSION AND SEDIMENT CONTROL MAY BE ADDED DURING ANY PHASE OF CONSTRUCTION BY THE ENGINEER.

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WSB Filename: K:\0666-220\Cad\Plan\6661e03.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

CERTIFIED BY: \_\_\_\_\_  
 LICENSED PROFESSIONAL ENGINEER - ANDREW PLODMAN, PE  
 DATE: 6/15/15 LIC. NO: 44200

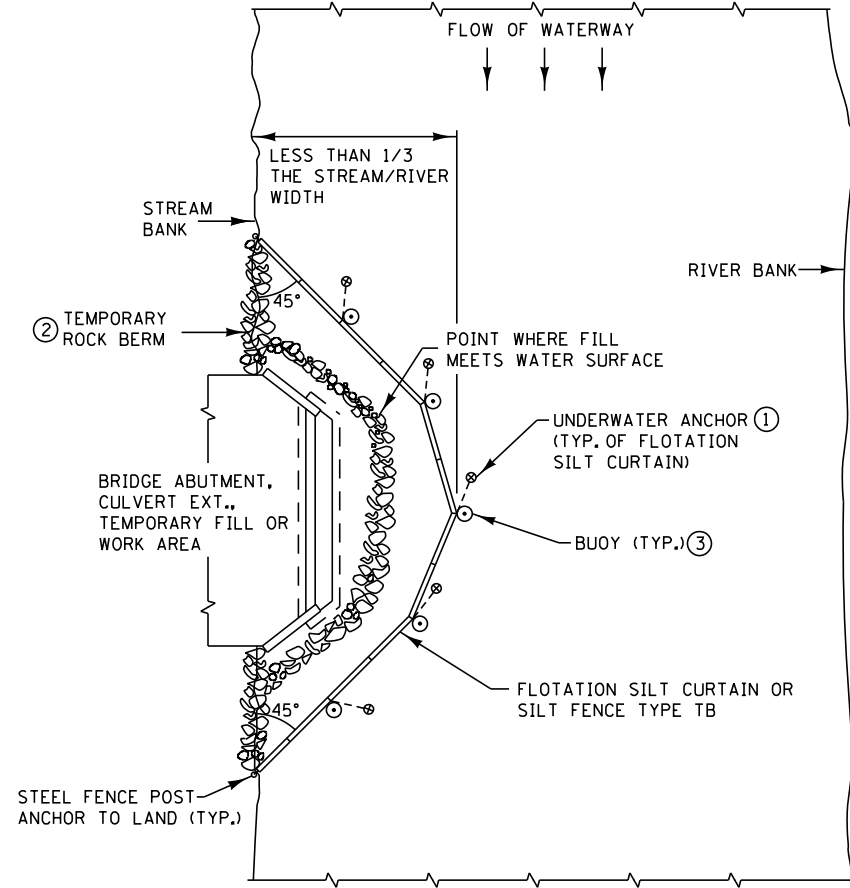
701 Xenia Avenue South, Suite 300  
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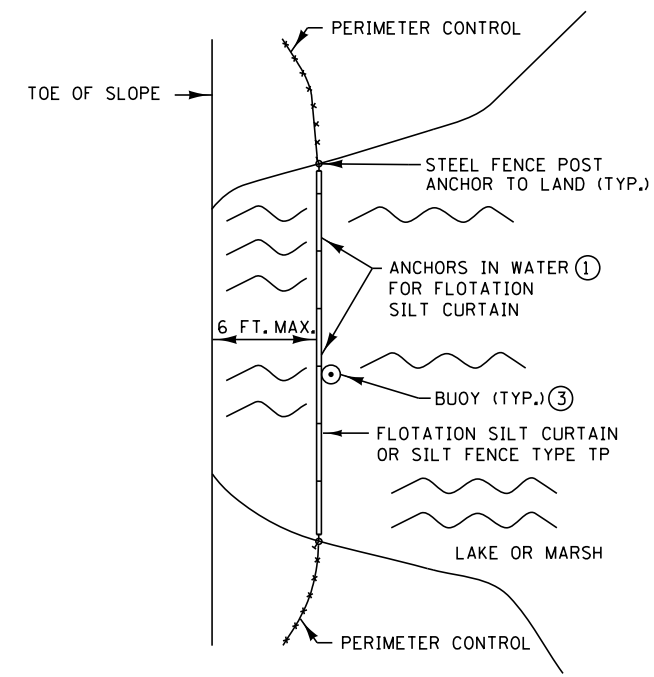
**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**TURF ESTABLISHMENT & EROSION CONTROL**  
 S.P. 002-624-026

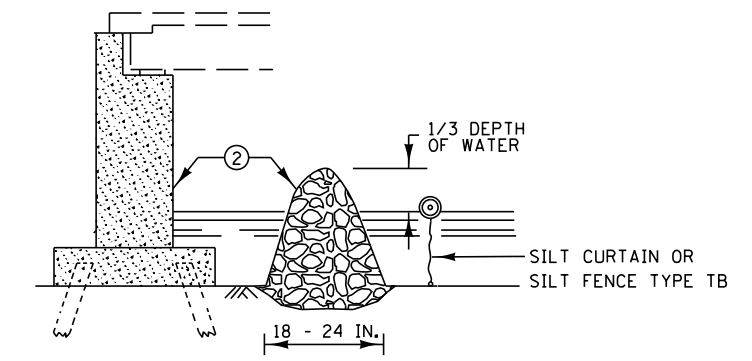
SHEET  
**115**  
 OF  
**214**  
 SHEETS



PLAN VIEW FOR STREAM (5)



PLAN VIEW FOR LAKE OR MARSH (5)

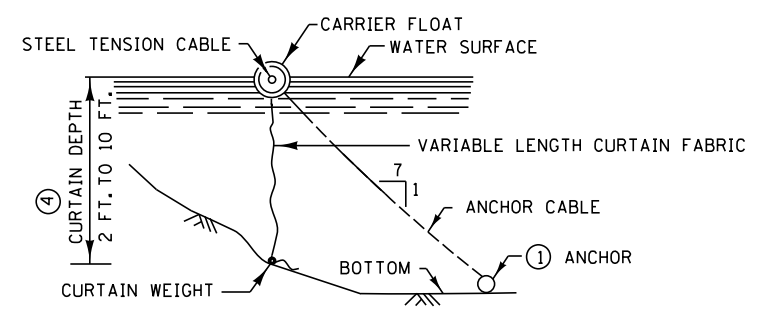


TEMPORARY ROCK BERM FOR SEDIMENT CONTROL

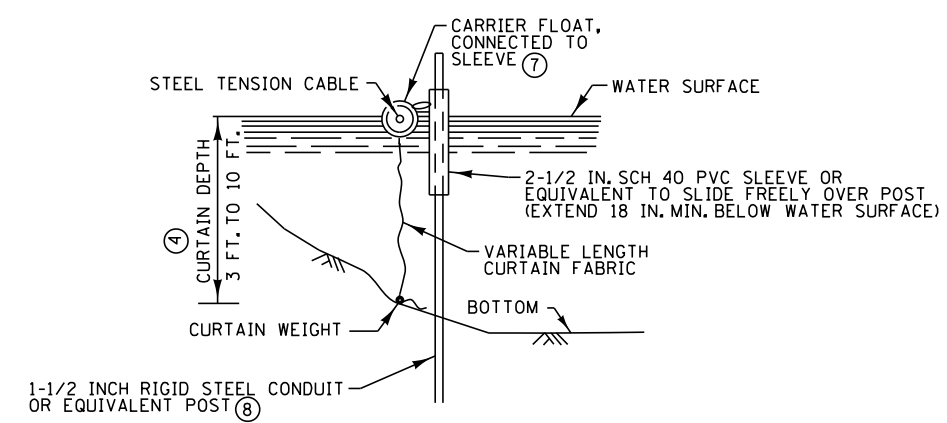
INSTALLATION GUIDELINES  
SILT FENCE TYPE TB  
MINIMUM WATER DEPTH: 1 FT.  
MAXIMUM WATER DEPTH: 3 FT.  
MAXIMUM WATER VELOCITY: 5 FT./SEC.

INSTALLATION GUIDELINES (4)  
FLOTATION SILT CURTAIN  
TYPE: STILL WATER  
MINIMUM WATER DEPTH: 3 FT.  
MAXIMUM WATER DEPTH: 10 FT.  
MAXIMUM WATER VELOCITY: 2 FT./SEC.  
MAXIMUM WAVE HEIGHT: 1 FT

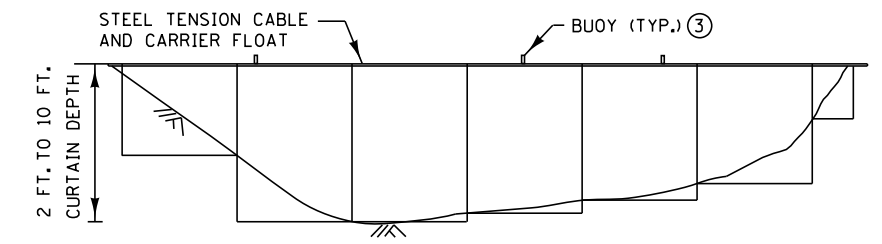
INSTALLATION GUIDELINES (4)  
FLOTATION SILT CURTAIN  
TYPE: MOVING WATER  
MINIMUM WATER DEPTH: 3 FT.  
MAXIMUM WATER DEPTH: 10 FT.  
MAXIMUM WATER VELOCITY: 5 FT./SEC.  
MAXIMUM WAVE HEIGHT: 2 FT.



FLOTATION SILT CURTAIN



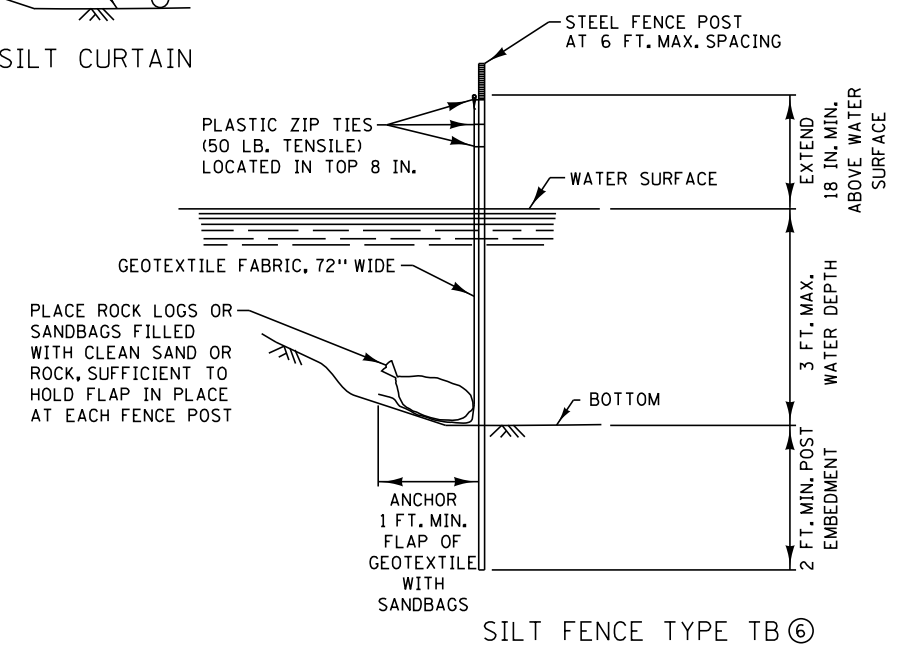
ALTERNATE FLOTATION SILT CURTAIN



FRONT VIEW FOR FLOTATION SILT CURTAIN

NOTES:

- SEE SPECS. 2573, 3886, 3887 & 3893.
- (1) FOR ANCHOR SPACING AND WEIGHT REQUIREMENTS, SEE SPEC. 2573.
- (2) IN AREAS WHERE THE PLAN CALLS FOR RIPRAP AT A BRIDGE, CULVERT, OR SLOPE, A TEMPORARY ROCK BERM CONSTRUCTED FROM THE RIPRAP CAN BE USED TO PROVIDE ADDITIONAL PROTECTION. WHEN THE WORK IS COMPLETE THE RIPRAP CAN THEN BE MOVED TO THE PERMANENT LOCATION INDICATED IN THE PLANS. THE TEMPORARY ROCK BERM IS INCIDENTAL.
- (3) ON U.S. COAST GUARD OR OTHER MOTORIZED WATERWAYS, BUOYS ARE REQUIRED TO MARK THE ENDS AND SPECIAL AREAS FOR VISIBILITY. PLACE BUOYS AS REQUIRED FOR NAVIGATIONAL PURPOSES.
- (4) MINIMUM WATER DEPTH APPLIES TO THE DEEPEST POINT ALONG THE FLOTATION SILT CURTAIN OR SILT FENCE TYPE TB FOR DETERMINING APPLICABILITY OF FLOTATION SILT CURTAIN OR SILT FENCE TYPE TB.
- (5) SILT CURTAIN SHOULD BE REMOVED WHEN THE AREA CONTRIBUTING DIRECT RUNOFF HAS BEEN TEMPORARILY OR PERMANENTLY STABILIZED. SILT CURTAIN SHOULD ALSO BE REMOVED BEFORE WINTER IF ICE UP OR ICE FLOW IS ANTICIPATED.
- (6) EMBED POST INTO BOTTOM A MINIMUM OF 40% OF THE WATER DEPTH (INCLUDING WAVE HEIGHT), BUT IN NO CASE SHALL EMBEDMENT BE LESS THAN 2 FEET.
- (7) ANCHOR FLOAT MUST BE CONNECTED SECURELY TO SLEEVE WITH A MINIMUM TENSILE STRENGTH OF 100 LBS. CONNECTION METHOD MUST ALLOW FOR SLEEVE TO MOVE FREELY ON POST.
- (8) PROVIDE SUFFICIENT NUMBER OF POST ANCHORS TO MAINTAIN SILT CURTAIN POSITION.



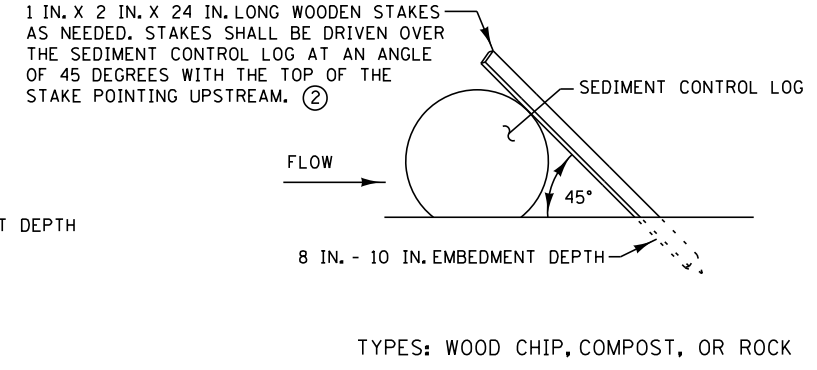
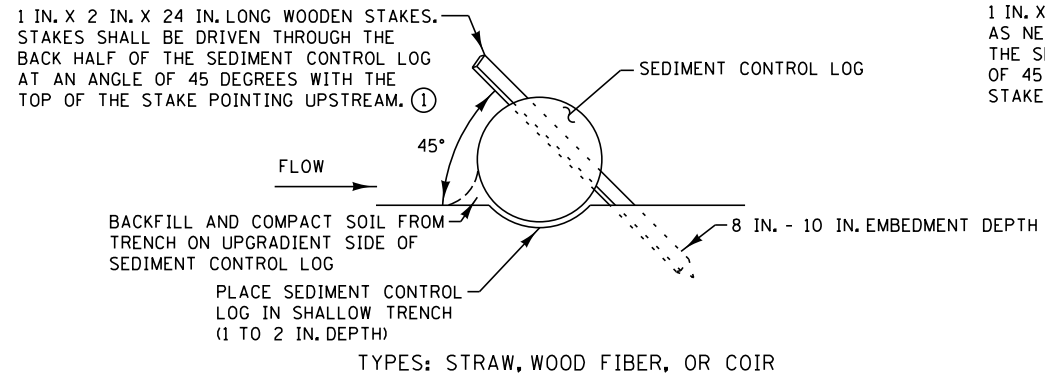
SILT FENCE TYPE TB (6)

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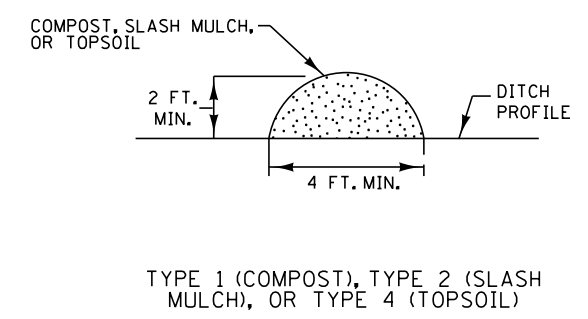
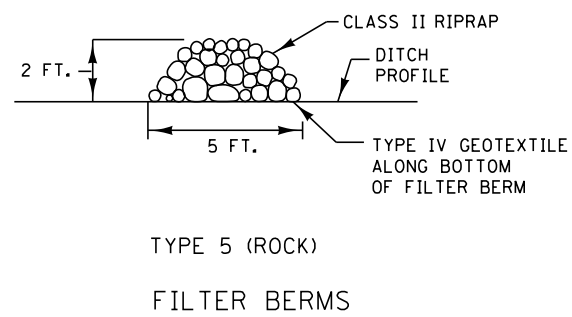
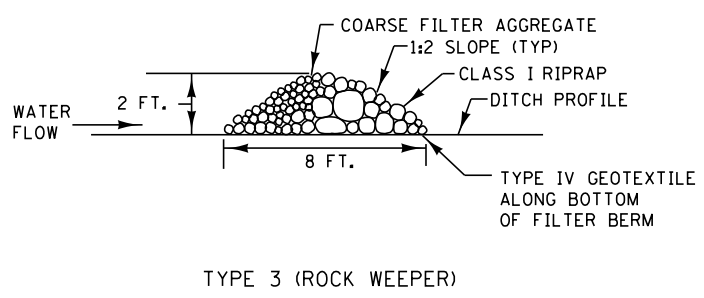
REVISION:  
APPROVED: 8-6-2014  
*Chris Elmer*  
CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION  
REVISOR:  
*Christopher Ky*  
STATE DESIGN ENGINEER  
APPROVED:  
8-6-2014

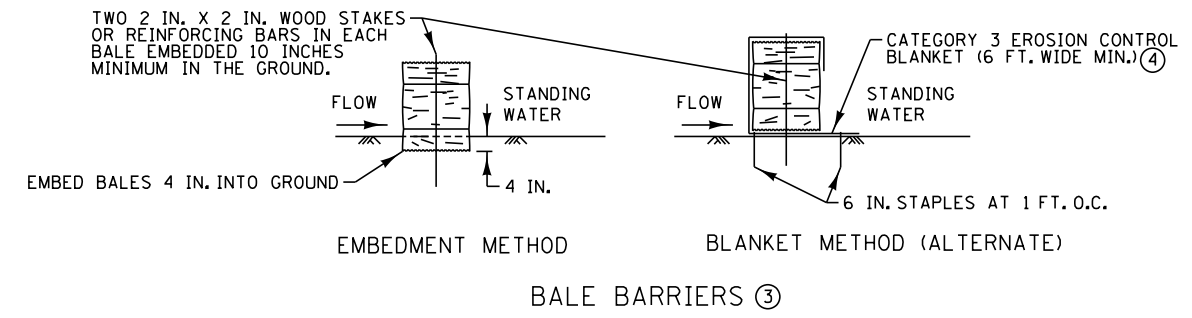
TEMPORARY SEDIMENT CONTROL  
SILT CURTAIN OR SILT FENCE TYPE TB  
STANDARD PLAN 5-297.405 (SHEET 1 OF 7)  
S.P. 002-624-026  
SHEET NO. 116 OF 214



SEDIMENT CONTROL LOGS



FILTER BERMS



NOTES:

- SEE SPECS. 2573, 3149, 3874, 3882, 3886, & 3897.
- ① SPACE BETWEEN STAKES SHALL BE A MAXIMUM OF 1 FOOT FOR DITCH CHECKS OR 2 FEET FOR OTHER APPLICATIONS.
- ② PLACE STAKES AS NEEDED TO PREVENT MOVEMENT OF SEDIMENT CONTROL LOGS PLACED ON SLOPES OR AS NEEDED DUE TO OTHER FACTORS. STAKES SHALL BE INCIDENTAL.
- ③ TO BE USED FOR CRITICAL PERIMETER CONTROL AREAS WHERE STANDING WATER OCCURS (6 INCH MAX. DEPTH). BALES SHALL CONSIST OF TYPE 1 MULCH OF APPROXIMATELY 14 IN. X 18 IN. X 36 IN. LONG. BALES SHALL BE PLACED ON EDGE AND BUTTED TIGHT TO ADJACENT BALES.
- ④ INSTEAD OF TRENCHING, PLACE BALE ON THE BLANKET AND WRAP BLANKET AROUND THE BALE. PLACE STAKE THROUGH BALE AND BLANKET.

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REVISIONS:

APPROVED: 8-6-2014

*[Signature]*  
CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

REVISOR:

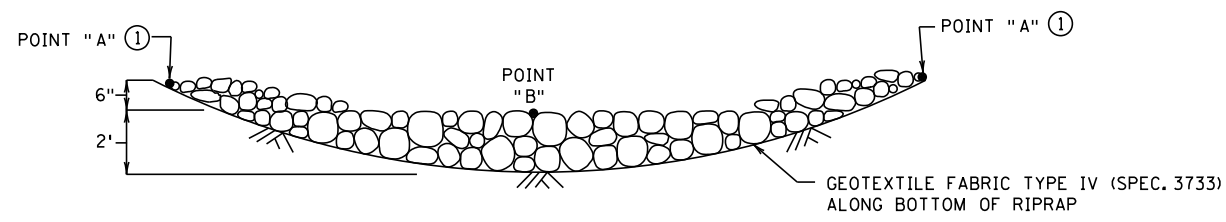
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STATE DESIGN ENGINEER

APPROVED: 8-6-2014

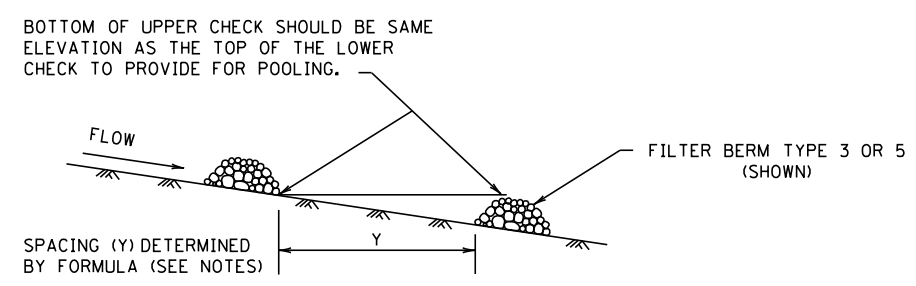
TEMPORARY SEDIMENT CONTROL  
FILTER BERMS, SEDIMENT CONTROL LOGS, AND BALE BARRIERS  
STANDARD PLAN 5-297.405 (SHEET 2 OF 7)

S.P. 002-624-026

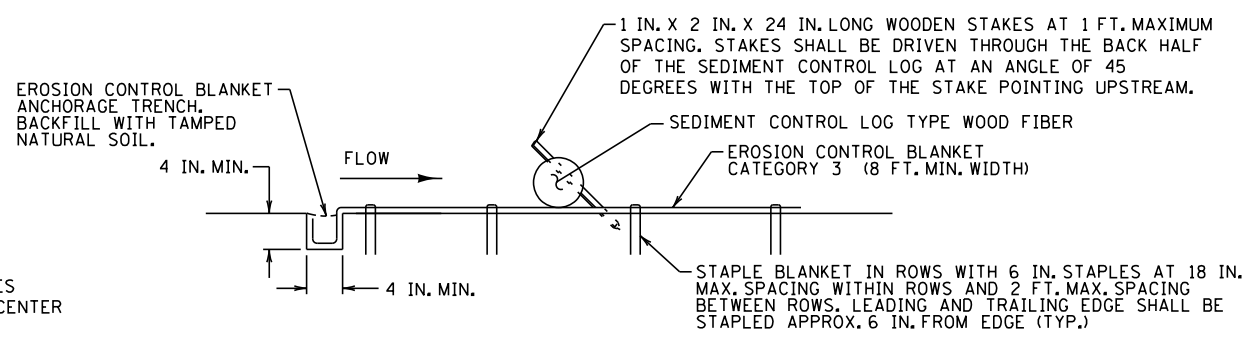
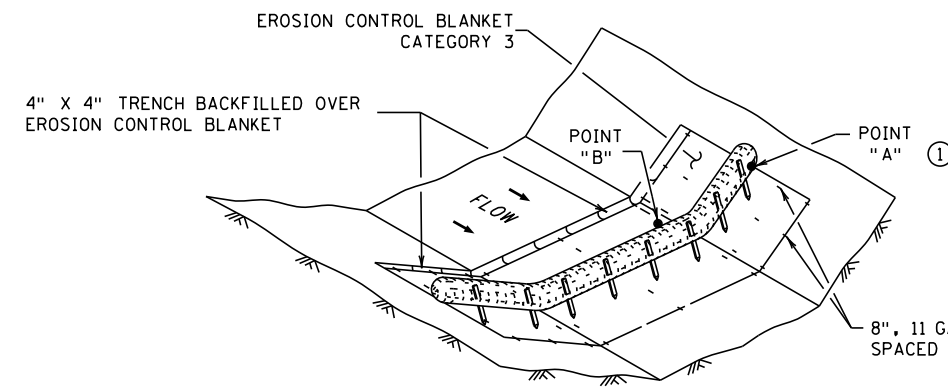
SHEET NO. 117 OF 214



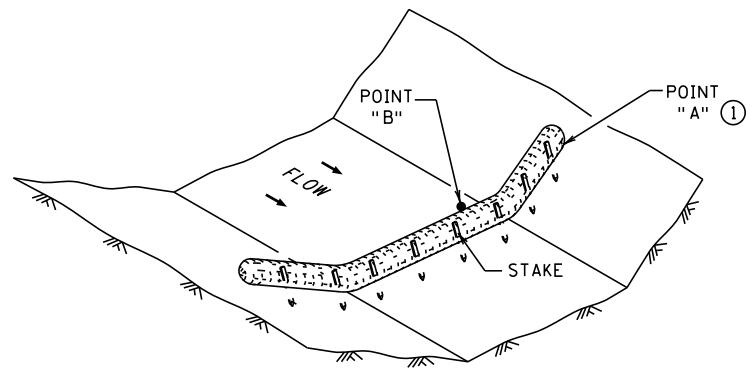
ROCK DITCH CHECKS  
 FILTER BERMS TYPE 3 (ROCK WEEPER) OR FILTER TYPE 5 (ROCK) ②③  
 (FOR USE ON ROUGH GRADED AREAS)



DITCH CHECK SPACING  
 (FOR ALL FILTER BERM TYPES)



SEDIMENT CONTROL LOG TYPE BLANKET SYSTEM ④



SEDIMENT CONTROL LOG TYPE WOOD FIBER, OR TYPE COMPOST ⑤  
 (FOR USE ON ROUGH GRADED AREAS)

NOTES:

- SEE SPECS. 2573, 3601, 3733, 3885, 3886 & 3889.
- FOR DITCH CHECKS, PLACE SEDIMENT CONTROL LOG PERPENDICULAR TO FLOW AND IN A CRESCENT SHAPE WITH THE ENDS FACING UPSTREAM.
- APPROXIMATE SPACING BETWEEN EACH DITCH CHECK SHOULD BE DETERMINED FROM THE FOLLOWING SPACING FORMULA:  

$$\text{APPROXIMATE SPACING OF DITCH CHECKS (FT.)} = Y = \frac{\text{DITCH CHECK HEIGHT (FT)}}{\% \text{ CHANNEL SLOPE}} \times 100$$
- ① POINT "A" MUST BE A MINIMUM OF 6 INCHES HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.
- ② PERMANENT ROCK DITCH CHECKS PLACED WITHIN THE CLEAR ZONE ARE TO BE 18" OR LESS IN HEIGHT. A 1:6 APPROACH AND DEPARTURE SLOPE SHALL BE PROVIDED.
- ③ DITCH GRADE 3% - 5%, MAX. FLOW VELOCITY 12 FT./SEC..
- ④ DITCH GRADE 1.5% - 3%, MAX. FLOW VELOCITY 4.5 FT./SEC..
- ⑤ DITCH GRADE 1.5% - 3%, MAX. FLOW VELOCITY 1.5 FT./SEC..

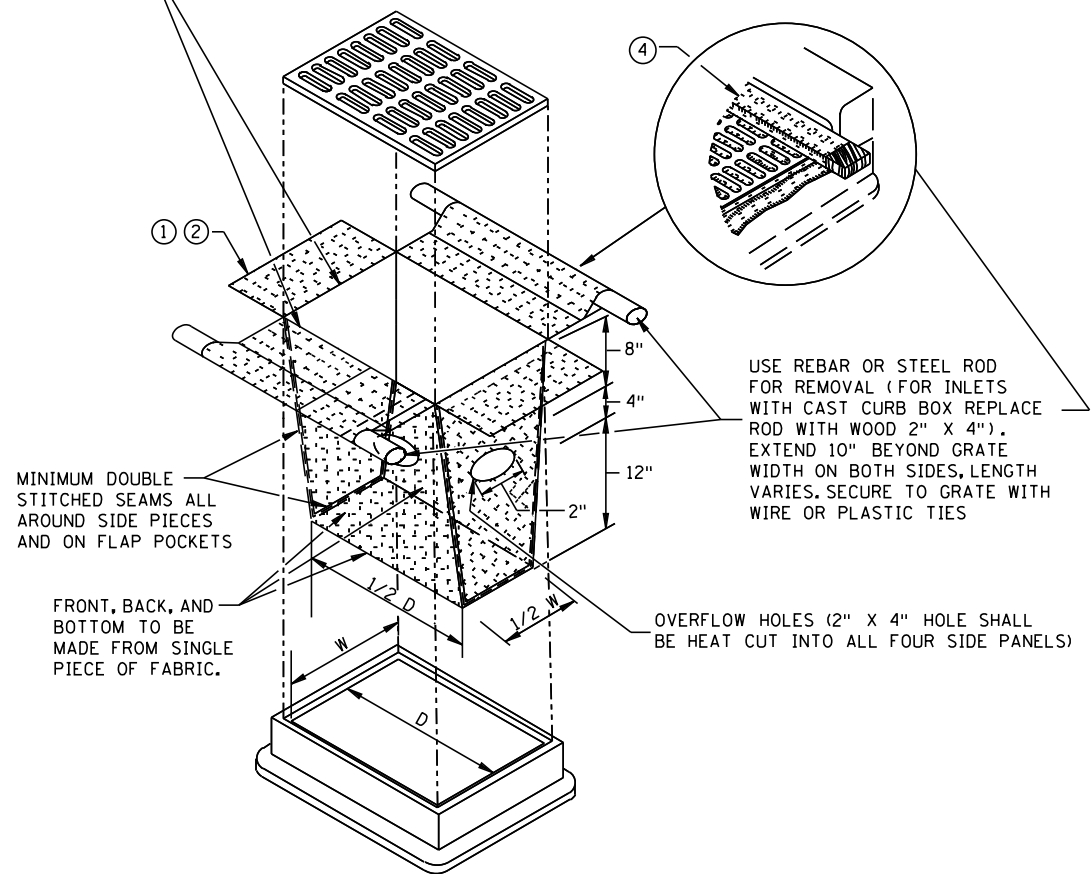
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REVISION:  
 APPROVED: 8-6-2014  
  
 CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION  
  
 STATE DESIGN ENGINEER  
 REVISED:  
 APPROVED:  
 8-6-2014

TEMPORARY SEDIMENT CONTROL  
 DITCH CHECK  
 STANDARD PLAN 5-297.405 (SHEET 3 OF 7)  
 S.P. 002-624-026  
 SHEET NO. 118 OF 214

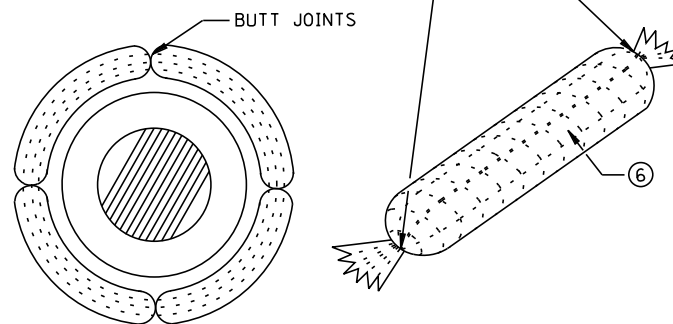
INLET SPECIFICATIONS AS PER THE PLAN  
DIMENSION LENGTH AND WIDTH TO MATCH  
FLAP POCKET



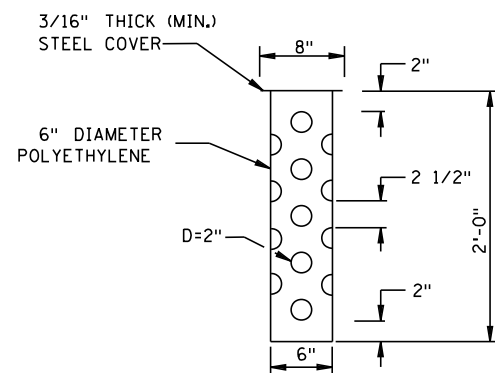
**FILTER BAG INSERT ③**

(CAN BE INSTALLED IN ANY INLET TYPE  
WITH OR WITHOUT A CURB BOX)

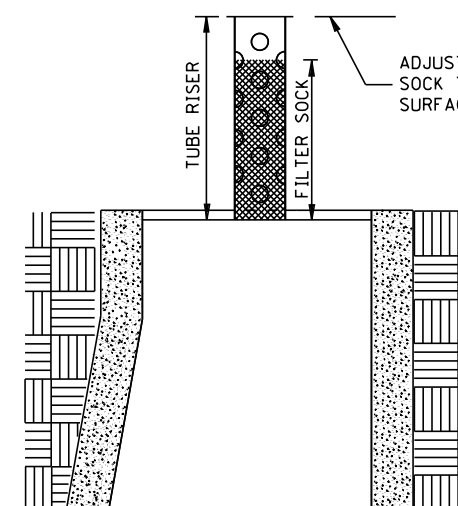
ENDS SECURELY CLOSED TO  
PREVENT LOSS OF OPEN GRADED  
AGGREGATE FILL. SECURED WITH  
50 PSI. ZIP TIE.



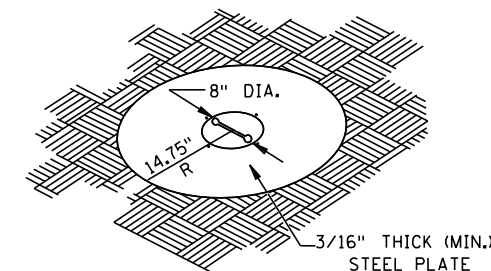
**ROCK LOG/COMPOST LOG**



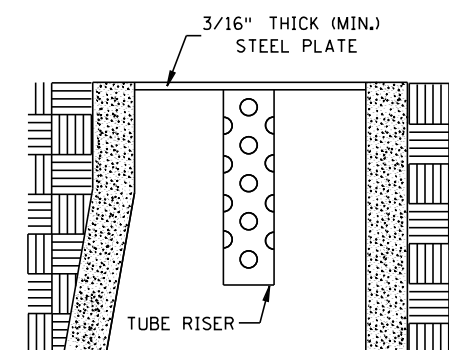
**TUBE RISER**



**SECTION  
(UP POSITION)**

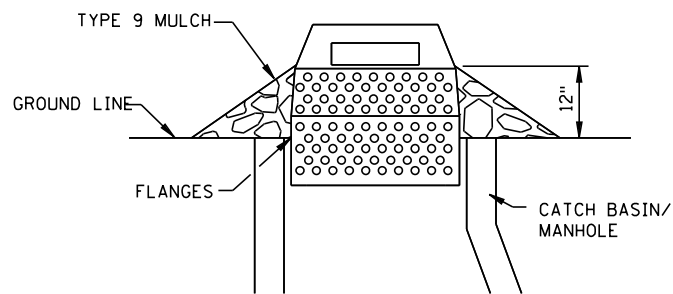


**PERSPECTIVE VIEW**



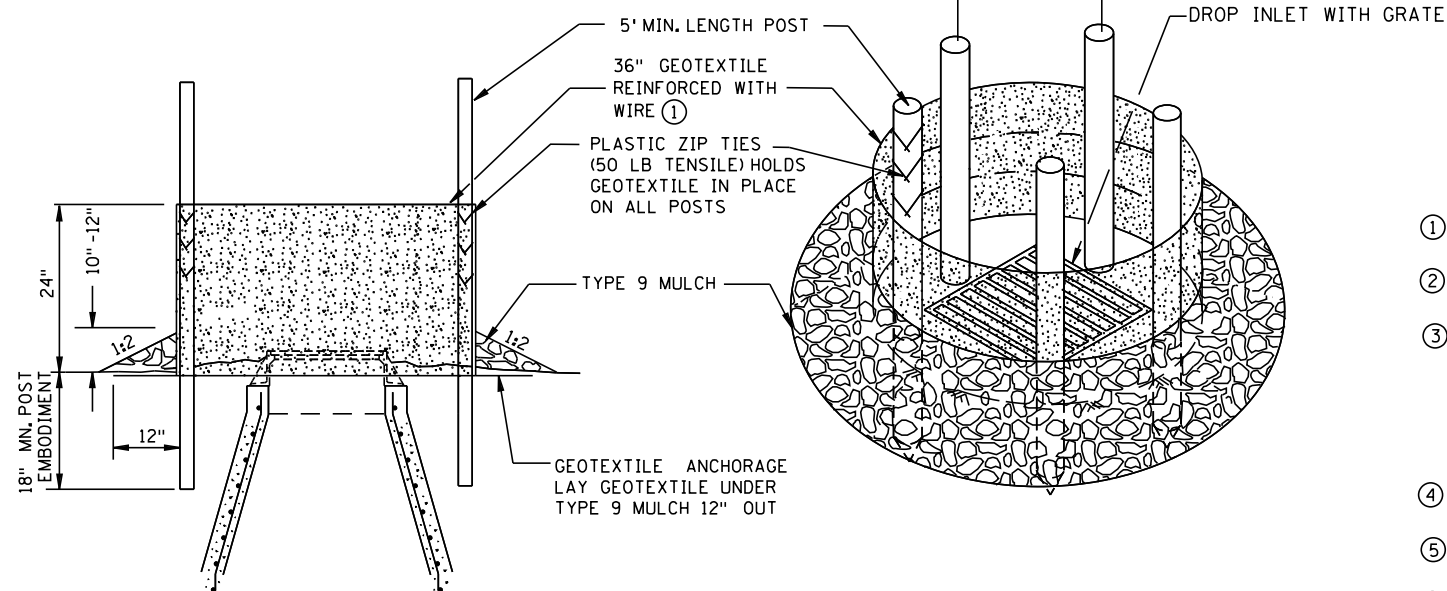
**SECTION  
(DOWN POSITION)**

**POP-UP HEAD**



**SEDIMENT CONTROL INLET HAT**

NOTE:  
THE SEDIMENT CONTROL BARRIER SHALL BE A METAL  
OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE  
THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW  
FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING,  
FLANGES AND A LID/COVER.



**SILT FENCE RING AND ROCK FILTER BERM**  
USE WHERE INLET DRAINS IN AN AREA WITH SLOPES AT 1:3 OR LESS

**NOTES:**

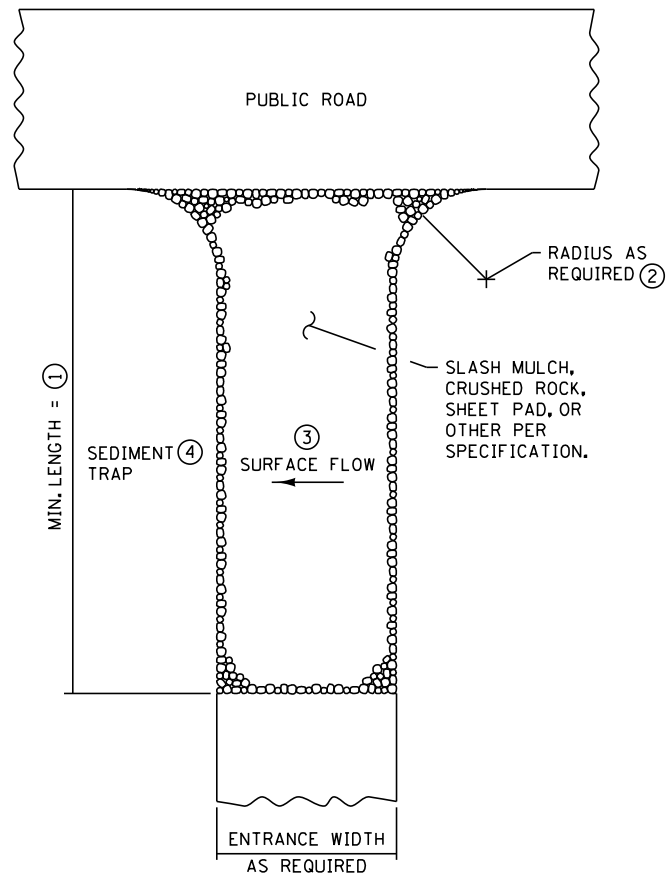
- SEE SPECS. 2573, 3137, & 3886.
- DEVICES MUST BE ADJUSTED ACCORDINGLY AS TO NOT CAUSE FLOODING ON ROADWAY THAT WOULD IMPEDE TRAFFIC FLOW.
- ① ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.
- ② FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ③ INSTALLATION NOTES:  
DO NOT PLACE FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE PLACED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH SIDE CLEARANCE.
- ④ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.
- ⑤ SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE FLOODING OF THE ROADWAY.
- ⑥ GEOTEXTILE SOCK BETWEEN 4-10 FEET LONG AND 4-6 INCH DIAMETER. SEAM TO BE JOINED BY TWO ROWS OF STITCHING WITH A PLASTIC MESH BACKING OR PROVIDE A HEAT BONDED SEAM (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE CONFORMING TO SPEC. 3137 TABLE 3137-1; CA-3 GRADATION.

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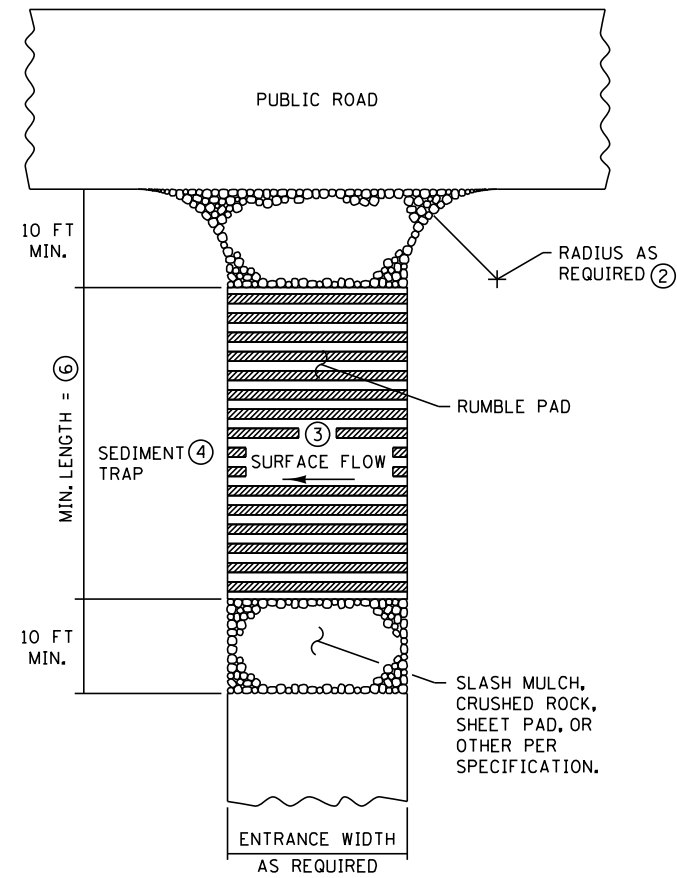
REVISION:  
APPROVED: 8-6-2014  
*[Signature]*  
CHIEF ENVIRONMENTAL OFFICER

MINNESOTA  
DEPARTMENT OF TRANSPORTATION  
REVISOR:  
APPROVED: 8-6-2014  
*[Signature]*  
STATE DESIGN ENGINEER

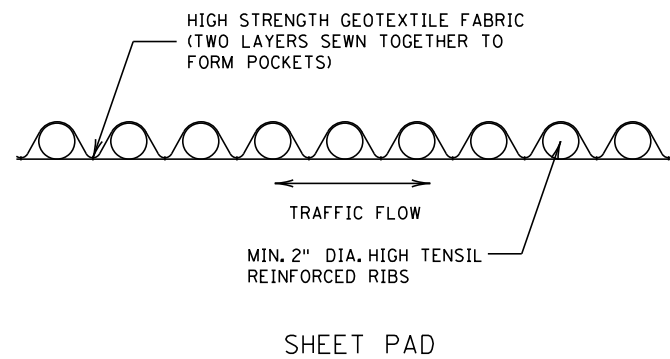
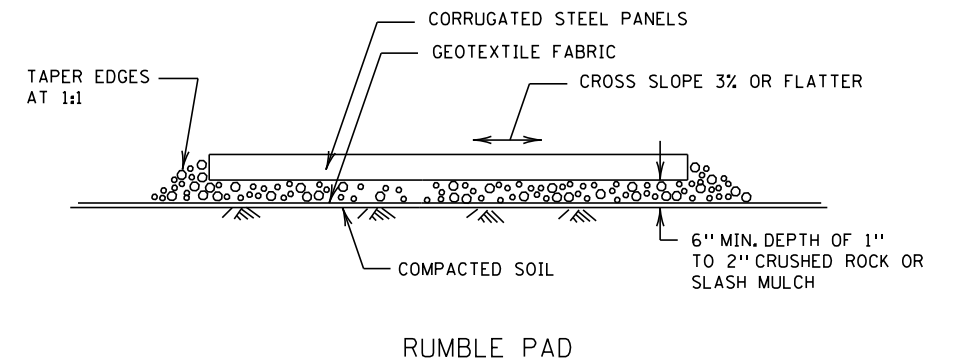
TEMPORARY SEDIMENT CONTROL  
STORM DRAIN INLET PROTECTION  
STANDARD PLAN 5-297.405 (SHEET 4 OF 7)  
S.P. 002-624-026  
SHEET NO. 119 OF 214



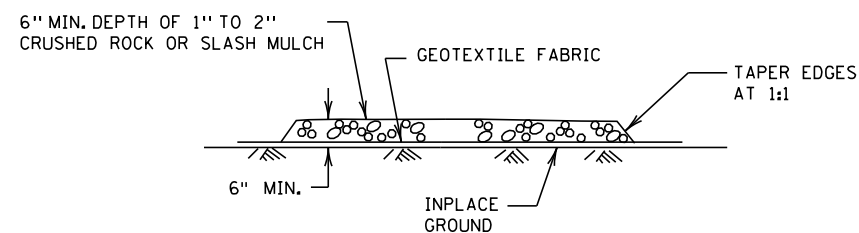
SLASH MULCH, CRUSHED ROCK, OR SHEET PAD CONSTRUCTION EXIT ⑤⑦



RUMBLE PAD CONSTRUCTION EXIT ⑤⑦



SHEET PAD



SLASH MULCH OR CRUSHED ROCK

NOTES:

SEE SPECS. 2573 & 3882.

- ① MINIMUM LENGTH SHALL BE THE GREATER OF 50 FEET OR A LENGTH SUFFICIENT TO ALLOW A MINIMUM OF 5 TIRE ROTATIONS ON THE PROVIDED PAD. MINIMUM LENGTH SHALL BE CALCULATED USING THE LARGEST TIRE WHICH WILL BE USED IN TYPICAL OPERATIONS.
- ② PROVIDE RADIUS OR WIDEN PAD SUFFICIENTLY TO PREVENT VEHICLE TIRES FROM TRACKING OFF OF PAD WHEN LEAVING SITE.
- ③ IF RUNOFF FROM DISTURBED AREAS FLOWS TOWARD CONSTRUCTION EXITS, PREVENT RUNOFF FROM DRAINING DIRECTLY TO PUBLIC ROAD OVER CONSTRUCTION EXIT BY CROWNING THE EXIT OR SLOPING TO ONE SIDE. IF SURFACE GRADING IS INSUFFICIENT, PROVIDE OTHER MEANS OF INTERCEPTING RUNOFF.
- ④ IF RUNOFF FROM CONSTRUCTION EXITS WILL DRAIN OFF OF PROJECT SITE, PROVIDE SEDIMENT TRAP WITH STABILIZED OVERFLOW.
- ⑤ IF A TIRE WASH OFF IS REQUIRED THE CONSTRUCTION EXITS SHALL BE GRADED TO DRAIN THE WASH WATER TO A SEDIMENT TRAP.
- ⑥ MINIMUM LENGTH OF RUMBLE PAD SHALL BE 20 FEET, OR AS REQUIRED TO REMOVE SEDIMENT FROM TIRES. IF SIGNIFICANT SEDIMENT IS TRACKED FROM THE SITE, THE RUMBLE PAD SHALL BE LENGTHENED OR THE DESIGN MODIFIED TO PROVIDE ADDITIONAL VIBRATION. WASH-OFF LENGTH SHALL BE AS REQUIRED TO EFFECTIVELY REMOVE CONSTRUCTION SEDIMENT FROM VEHICLE TIRES.
- ⑦ MAINTENANCE OF CONSTRUCTION EXITS SHALL OCCUR WHEN THE EFFECTIVENESS OF SEDIMENT REMOVAL HAS BEEN REDUCED. MAINTENANCE SHALL CONSIST OF REMOVING SEDIMENT AND CLEANING THE MATERIALS OR PLACING ADDITIONAL MATERIAL (SLASH MULCH OR CRUSHED ROCK) OVER SEDIMENT FILLED MATERIAL TO RESTORE EFFECTIVENESS.

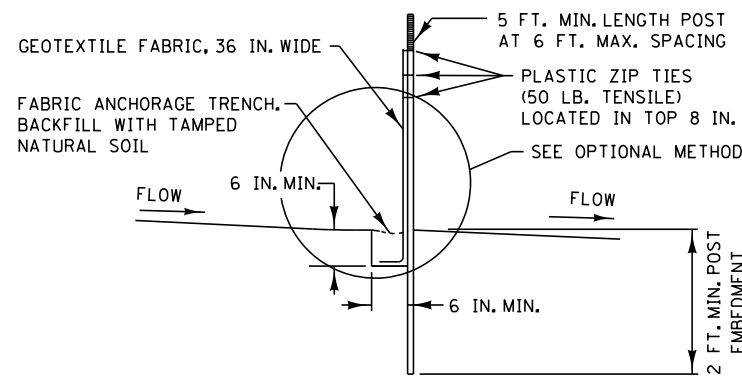
DATE PRINTED: 6/30/2015  
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*[Signature]*  
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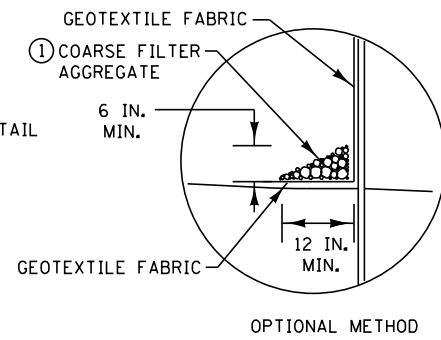
MINNESOTA  
DEPARTMENT OF TRANSPORTATION  
*[Signature]*  
STATE DESIGN ENGINEER  
APPROVED: 8-6-2014

REVISID:  
TEMPORARY SEDIMENT CONTROL  
CONSTRUCTION EXITS  
STANDARD PLAN 5-297.405 (SHEET 5 OF 7)  
S.P. 002-624-026  
SHEET NO. 120 OF 214

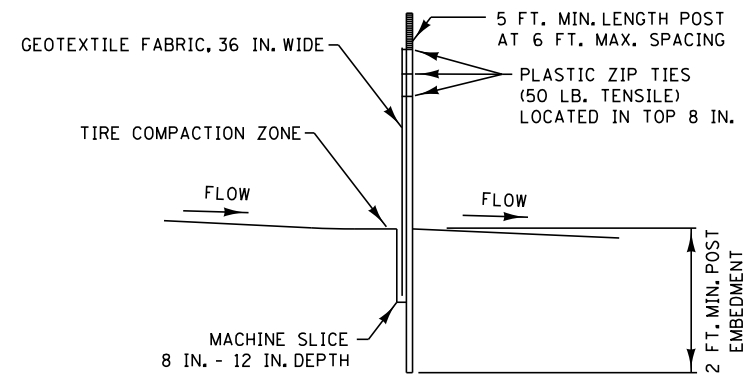




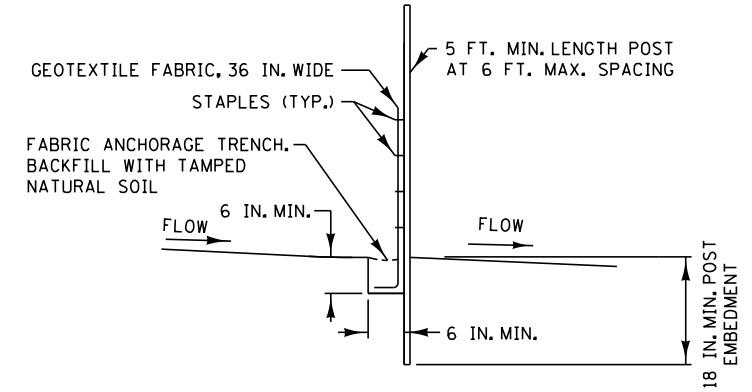
SILTS FENCE TYPE HI ②  
(HAND INSTALLED)



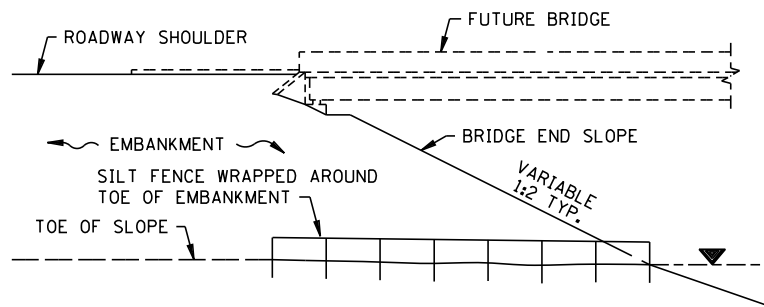
OPTIONAL METHOD



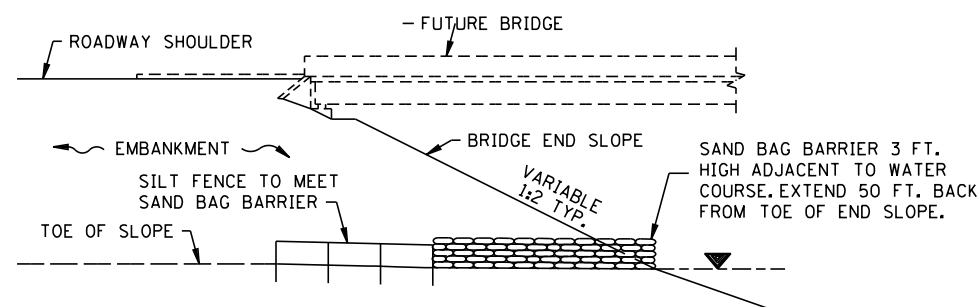
SILTS FENCE TYPE MS ②  
(MACHINE SLICED)



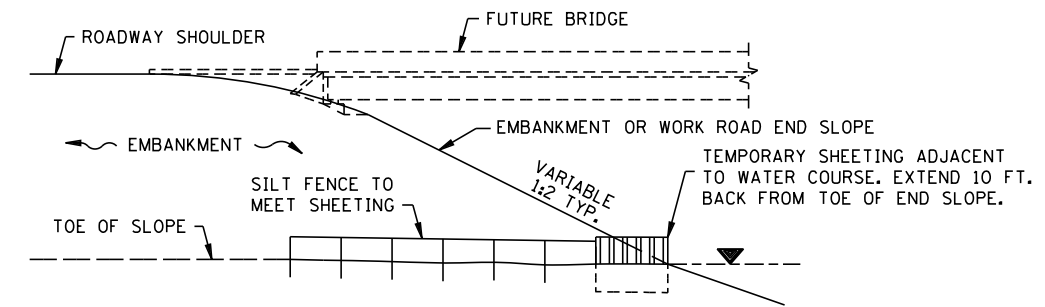
SILTS FENCE TYPE PA ③  
(PREASSEMBLED)



SILTS FENCE ONLY ④

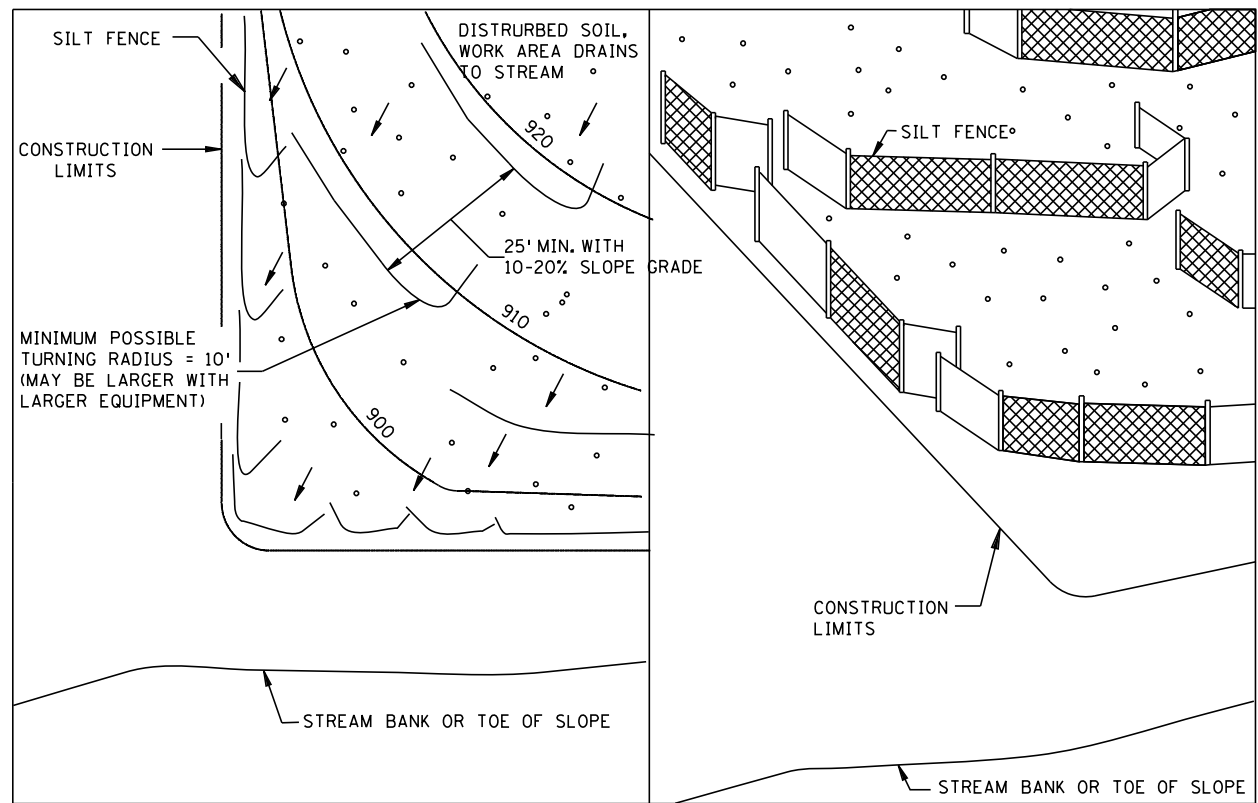


SILTS FENCE WITH SAND BAGS ⑤



SILTS FENCE WITH SHEETING ⑥

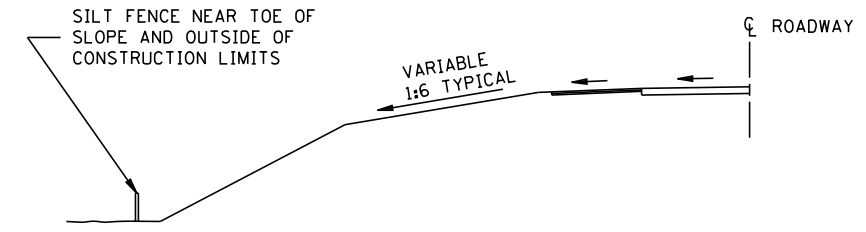
INSTALLATION AT BRIDGE EMBANKMENT ADJACENT TO WATER



PLAN VIEW

PERSPECTIVE VIEW

J-HOOK INSTALLATION



LOCATION AT TOE OF ROADWAY EMBANKMENT

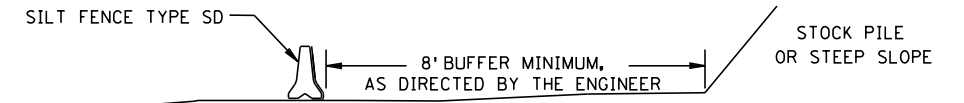
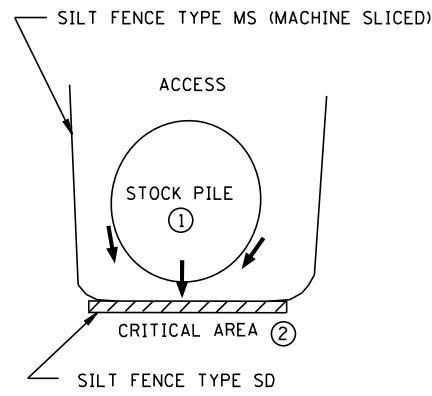
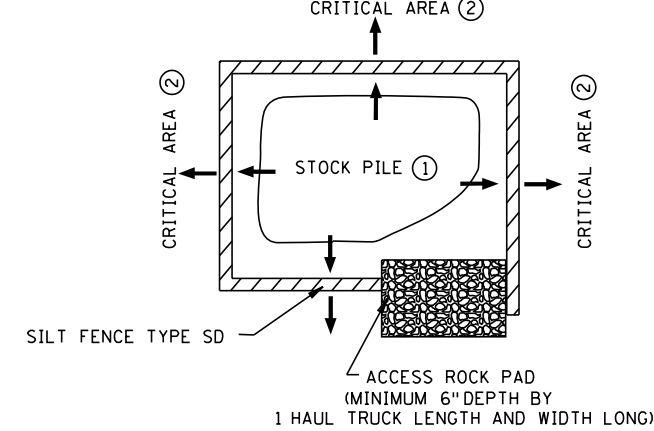
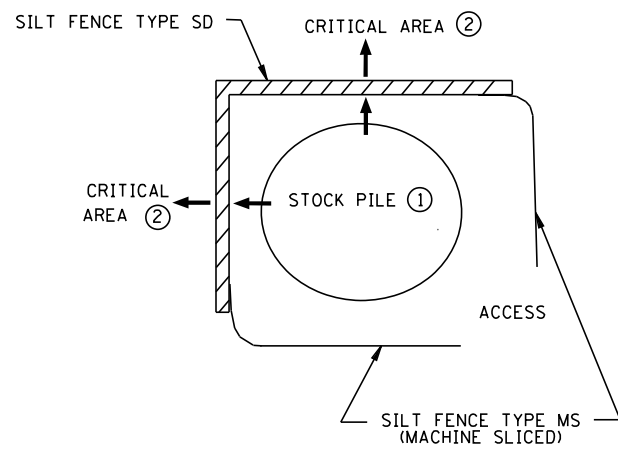
- NOTES:  
SEE SPECS. 2573, 3149 & 3886.
- ① COARSE FILTER AGGREGATE (SPEC. 3149) SHALL BE INCIDENTAL.
  - ② TO PROTECT AREAS FROM SHEET FLOW. MAXIMUM CONTRIBUTING AREA: 1 ACRE.
  - ③ TO PROTECT AREAS FROM SHEET FLOW. MAXIMUM CONTRIBUTING AREA: 0.25 ACRE.
  - ④ WATER COURSE FLOW VELOCITY: STANDING. CONTRIBUTING SLOPE AREA: 1/2 ACRE.
  - ⑤ WATER COURSE FLOW VELOCITY: 1 TO 7 FT./SEC. CONTRIBUTING SLOPE AREA: 1 ACRE.
  - ⑥ WATER COURSE FLOW VELOCITY: 8 TO 15 FT./SEC. CONTRIBUTING SLOPE AREA: 3 ACRES.

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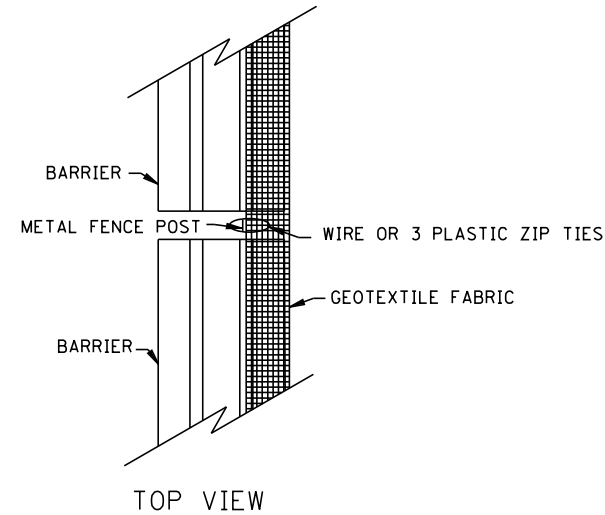
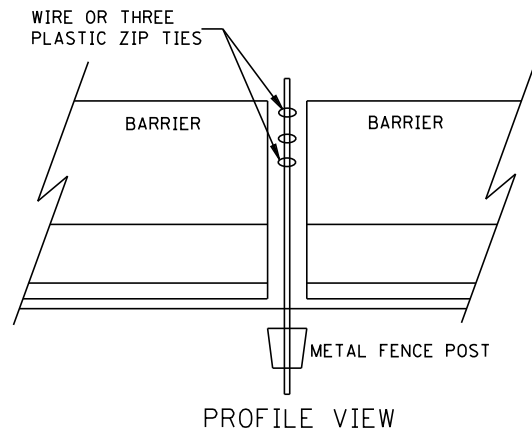
MINNESOTA DEPARTMENT OF TRANSPORTATION  
REVISED:  
*[Signature]*  
STATE DESIGN ENGINEER  
APPROVED:  
8-6-2014

TEMPORARY SEDIMENT CONTROL  
SILTS FENCE  
STANDARD PLAN 5-297.405 (SHEET 6 OF 7)  
S.P. 002-624-026  
SHEET NO. 121 OF 214

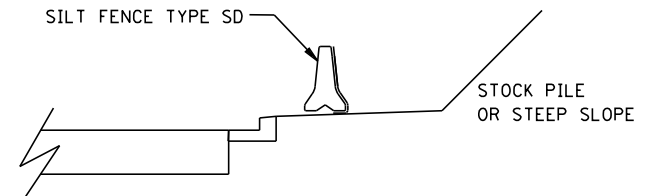


STOCK PILE CONTAINMENT

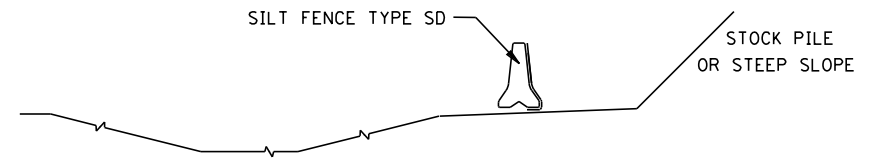
STOCKPILE SEDIMENT CONTROL



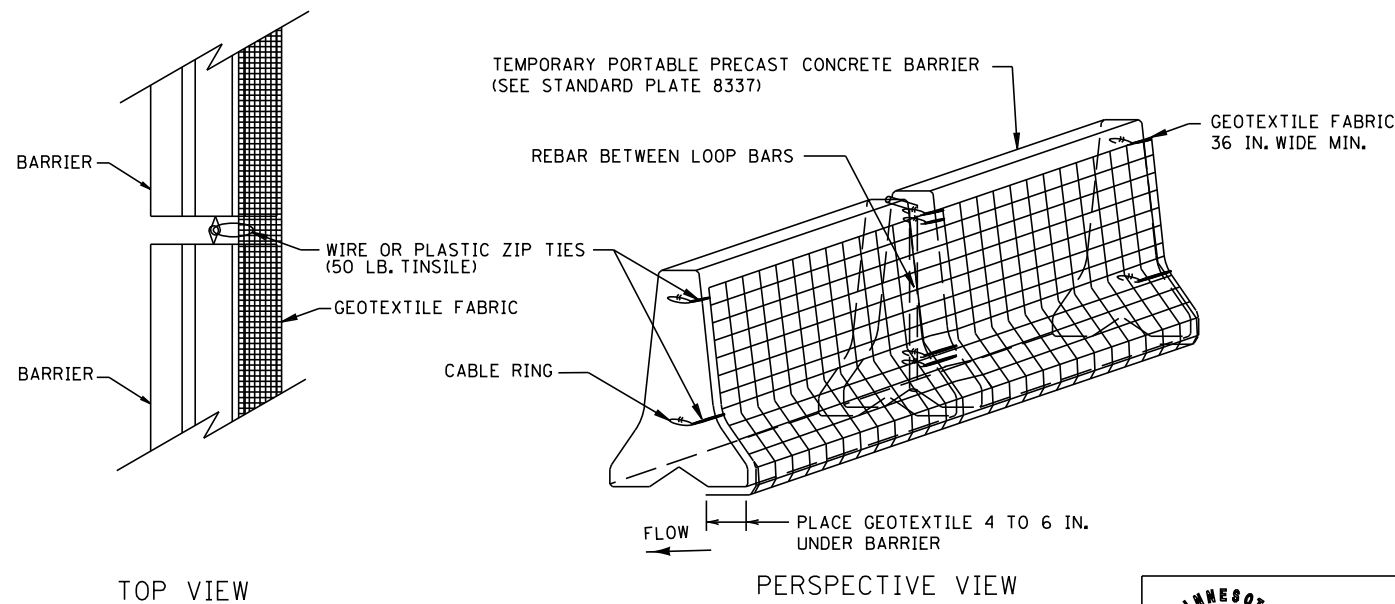
SILT FENCE TYPE SD (SUPER DUTY) BARRIER WITHOUT LOOP BARS



CURB AND GUTTER PROTECTION SYSTEM



DITCH PROTECTION SYSTEM



SILT FENCE TYPE SD (SUPER DUTY) BARRIER WITH LOOP BARS

NOTES:

SEE SPECS. 2533, 2573 & 3886.

SILT FENCE TYPE SD USED TO PROTECT CRITICAL AREAS FROM SHEET FLOW, AND AREAS WHERE OTHER SILT FENCES CANNOT BE PLACED. MAXIMUM CONTRIBUTING AREA: 1 ACRE.

PLACE SILT FENCE TYPE SD ALONG A CONSTANT ELEVATION.

SILT FENCE TYPE SD CAN UTILIZE EITHER A CONCRETE, OR WATER FILLED, TEMPORARY MEDIAN BARRIER.

① PLACING STOCK PILES NEXT TO AN ENVIRONMENTALLY SENSITIVE AREA IS NOT RECOMMENDED. WHEN THERE ARE NO FEASIBLE ALTERNATIVES, PLACE SILT FENCE SD AS SHOWN OR AS DIRECTED BY THE ENGINEER.

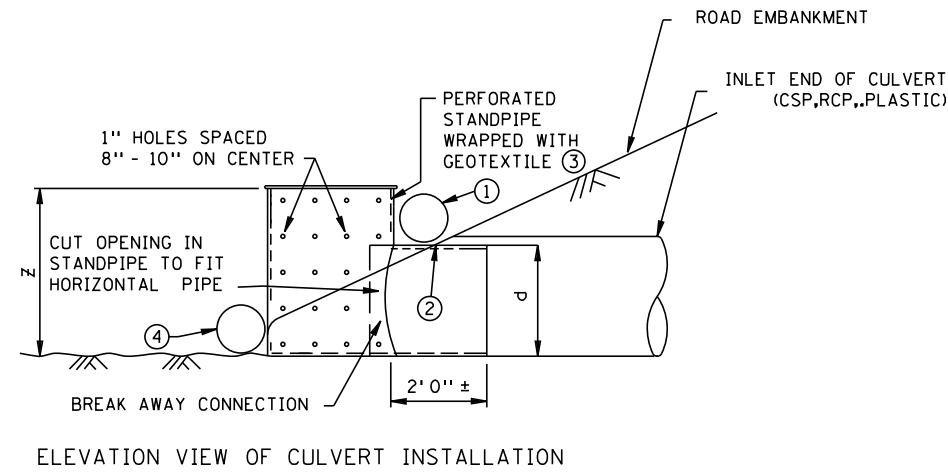
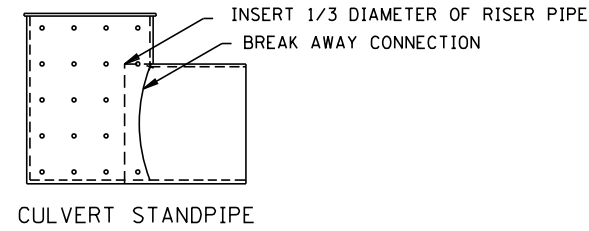
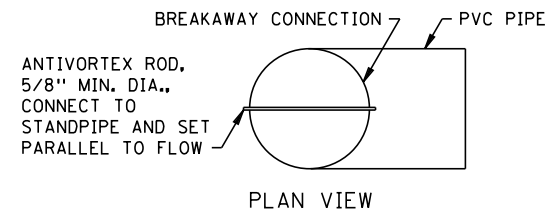
② CRITICAL AREAS INCLUDE WETLANDS, JUDICIAL DITCHES, STREAMS, WATER BODIES, AND OTHER AREAS REQUIRING PROTECTION.

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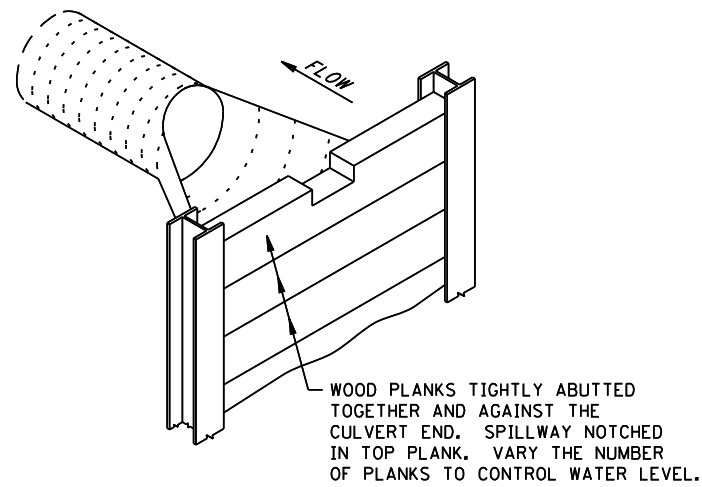
REVISED:  
TEMPORARY SEDIMENT CONTROL  
SUPER DUTY SILT FENCE  
STANDARD PLAN 5-297.405 (SHEET 7 OF 7)  
S.P. 002-624-026  
SHEET NO. 122 OF 214



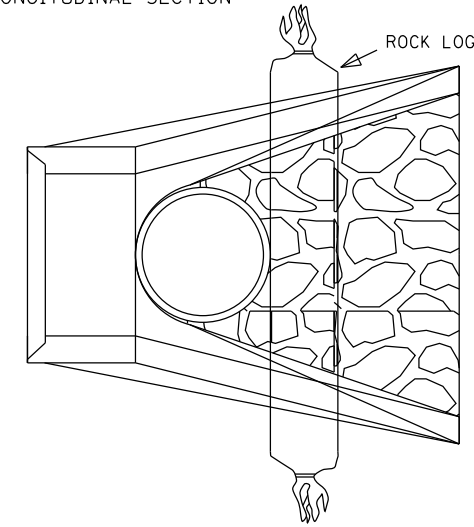
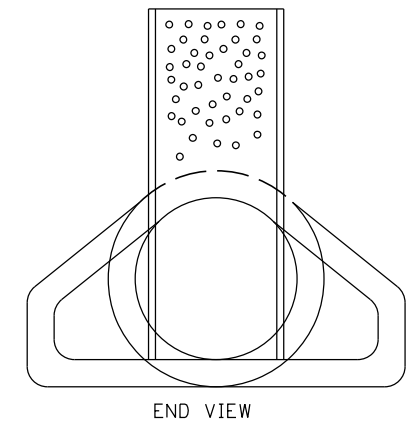
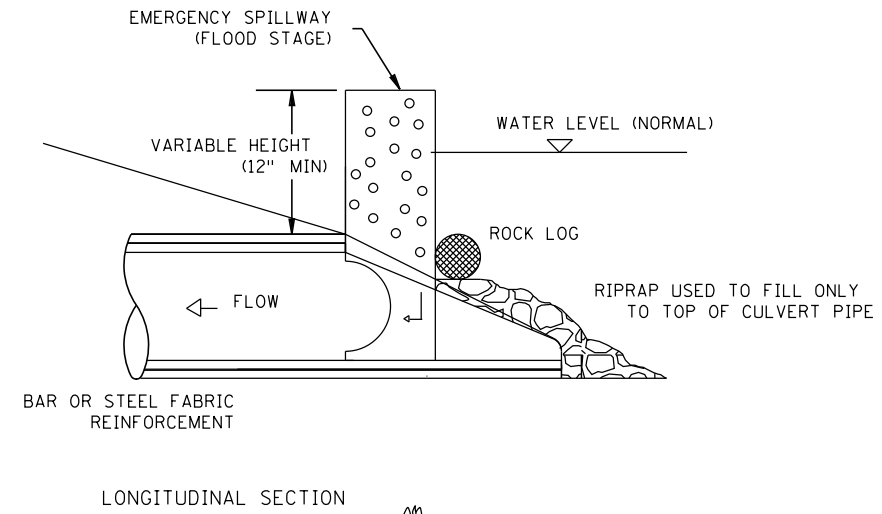
CULVERT STANDPIPE PROTECTION (D-RISER)

CULVERT SIZE: 12" - 36"

d = O.D. DIAMETER OF STANDPIPE TO FIT INTO I.D. DIAMETER OF PLAN CULVERT  
 z = LENGTH OF PERFORATED STANDPIPE (MIN d+12" )



WOOD PLANK WEIR FOR SEDIMENT CONTROL AT CULVERT INLETS



NOTE: ROCK LOG MAINLY USED TO HOLD RISER PIPE IN PLACE

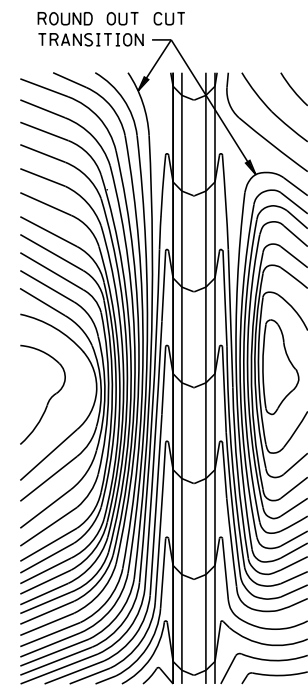
CULVERT STANDPIPE PROTECTION (D-RISER)

FOR SEDIMENT CONTROL ON CULVERT INLET

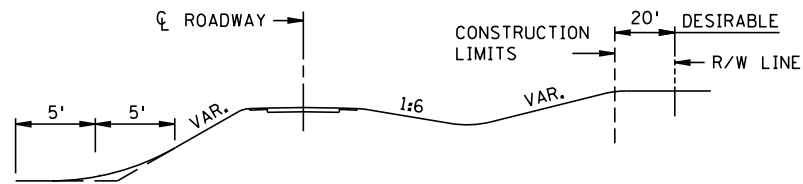
NOTES:

- SEE SPECS. 2573, 3891 & 3893.
- MANUFACTURED ALTERNATIVES LISTED ON Mn/DOT'S APPROVED PRODUCTS LIST MAY BE SUBSTITUTED.
- ① ROCK LOG OR SANDBAG TO HOLD STANDPIPE AND ACT AS A SEAL BETWEEN RISER PIPE AND CULVERT.
- ② INSTALL CULVERT APRON AND SLIDE TEMPORARY STANDPIPE INTO CSP OR RCP CULVERT. AFTER VEGETATION IS ESTABLISHED REMOVE TEMPORARY STANDPIPE.
- ③ ALL GEOTEXTILE USED FOR CULVERT PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886 FOR MACHINE SLICED.
- ④ ROCK LOG OR RIP RAP TO HOLD STANDPIPE AND ACT AS A FILTER BETWEEN RISER PIPE AND CULVERT.

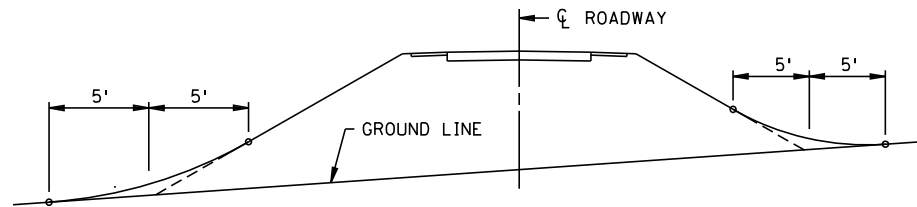
TEMPORARY SEDIMENT CONTROL  
 CULVERT PROTECTION



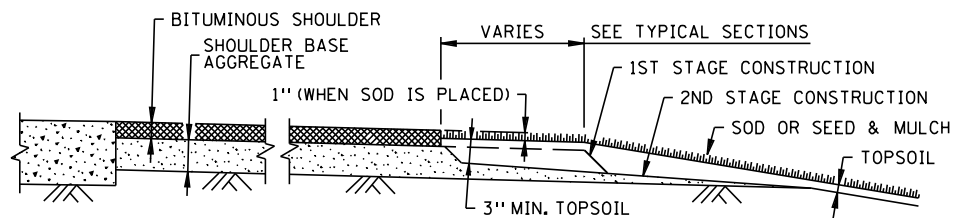
CONTOURING ROAD CUTS



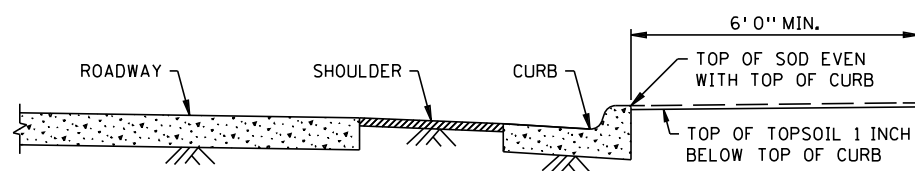
ROUNDING SHOULDERS AND BACKSLOPES



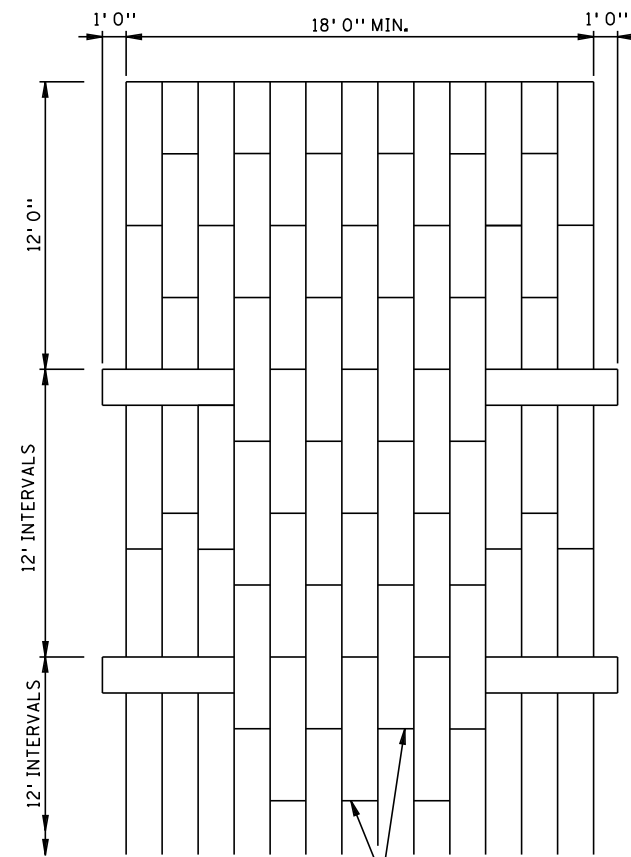
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



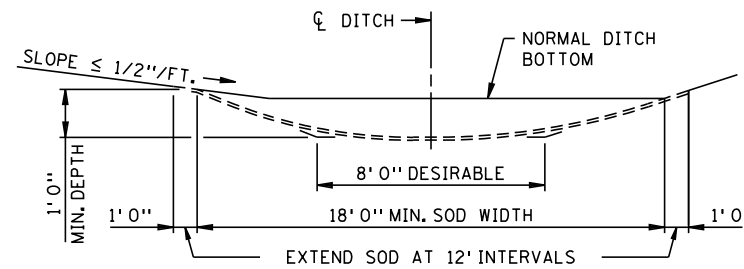
SHAPING AND TOPSOILING INSLOPES



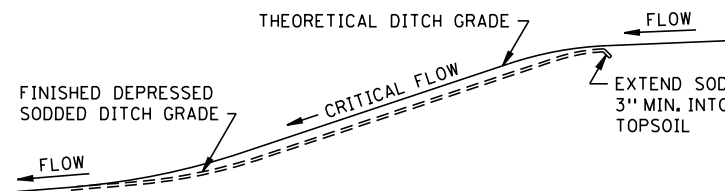
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



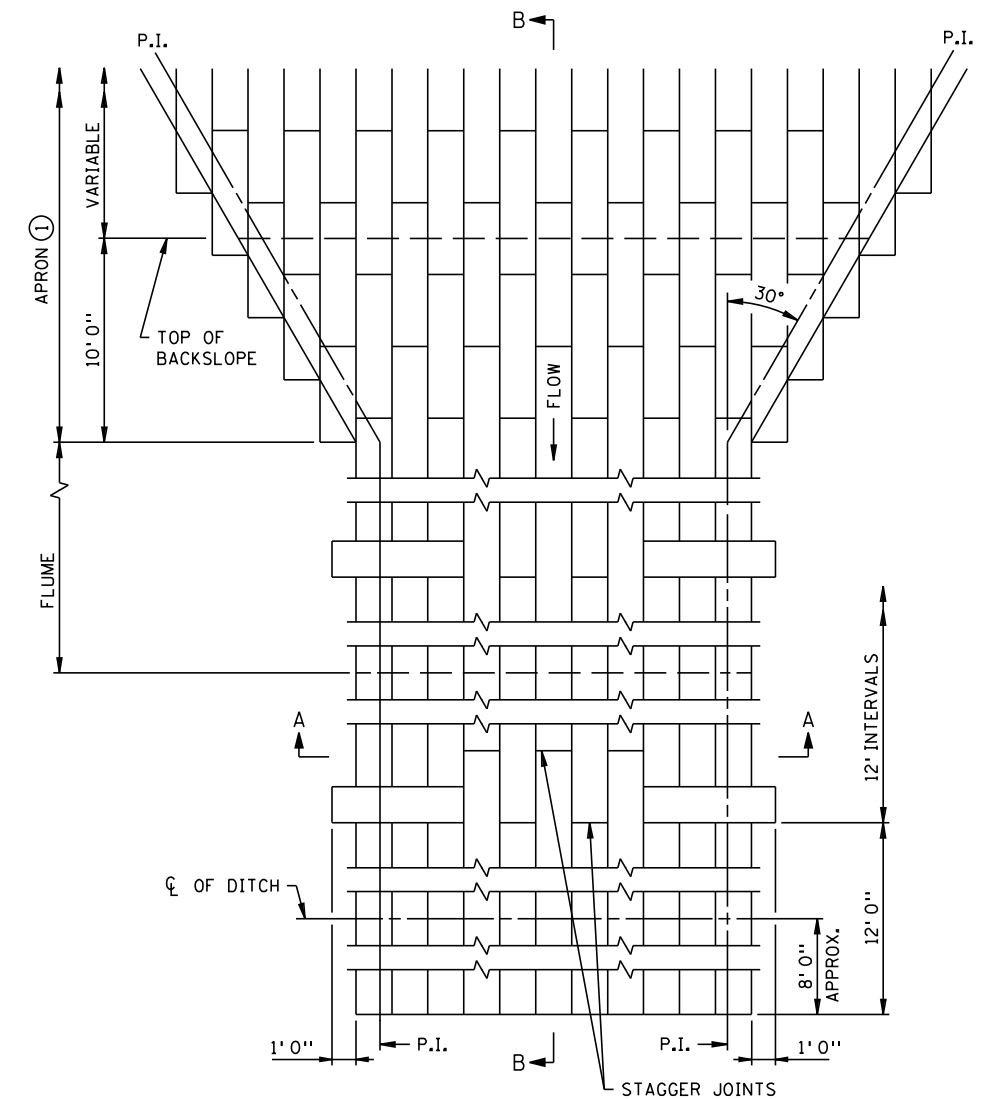
STAGGER JOINTS  
PLAN VIEW



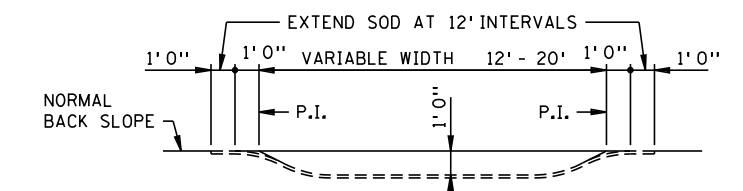
SODDED DITCH CROSS SECTION  
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.),  
FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



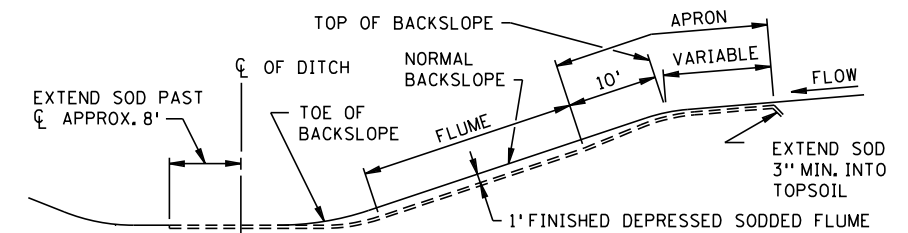
SODDED DITCH DETAILS



PLAN VIEW



SECTION A-A



SECTION B-B  
SODDED FLUME DETAILS

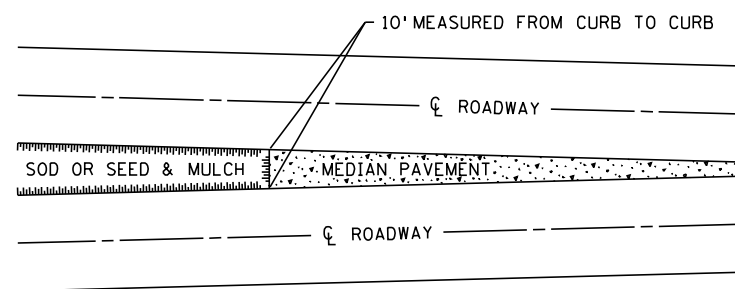
NOTES:  
SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.  
① CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

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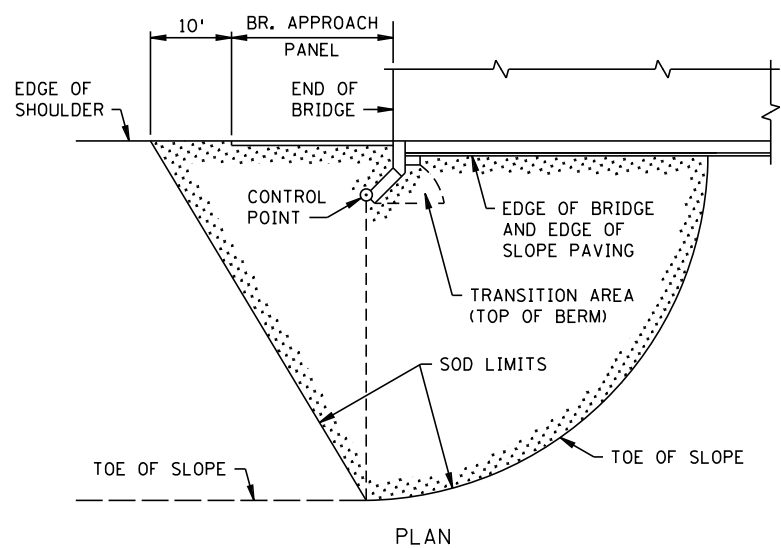
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MINNESOTA DEPARTMENT OF TRANSPORTATION  
*[Signature]*  
STATE DESIGN ENGINEER  
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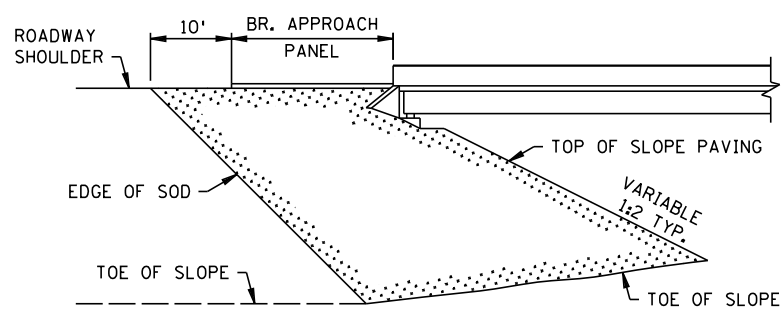
PERMANENT EROSION CONTROL  
ALONG ROADWAYS, DITCHES AND FLUMES  
STANDARD PLAN 5-297.404 (SHEET 1 OF 1)  
S.P. 002-624-026  
SHEET NO. 124 OF 214



SODDING LIMITS AT GORE AREA

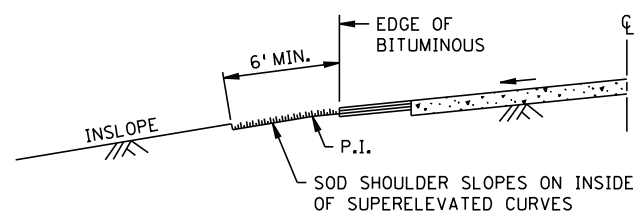


PLAN

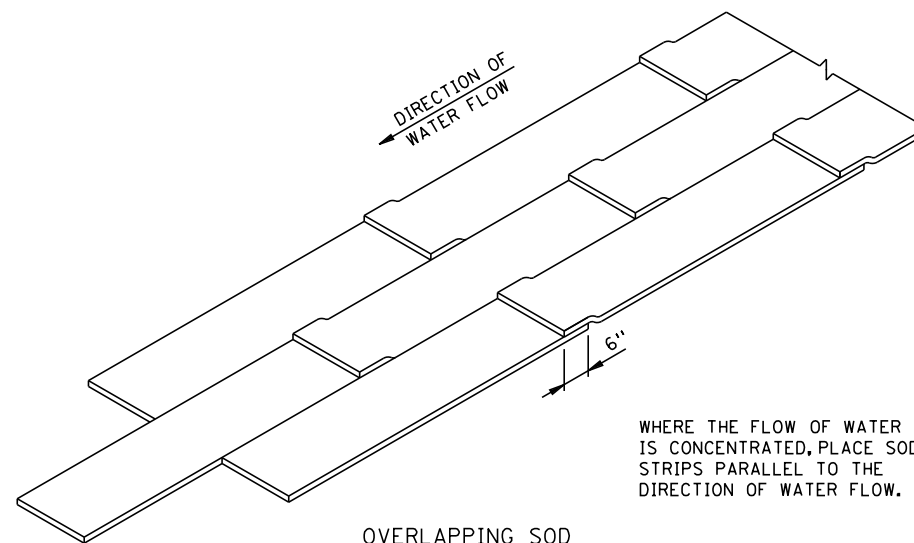


ELEVATION

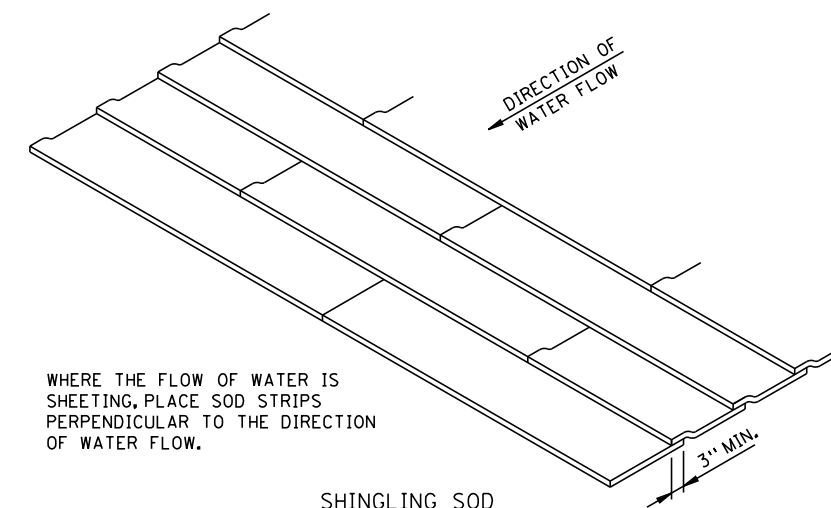
SODDING LIMITS AT BRIDGE APPROACH FILLS



SODDING INSLOPES OF SUPERELEVATED CURVES



OVERLAPPING SOD

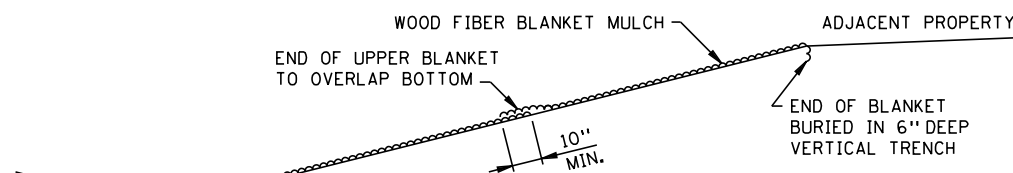


SHINGLING SOD

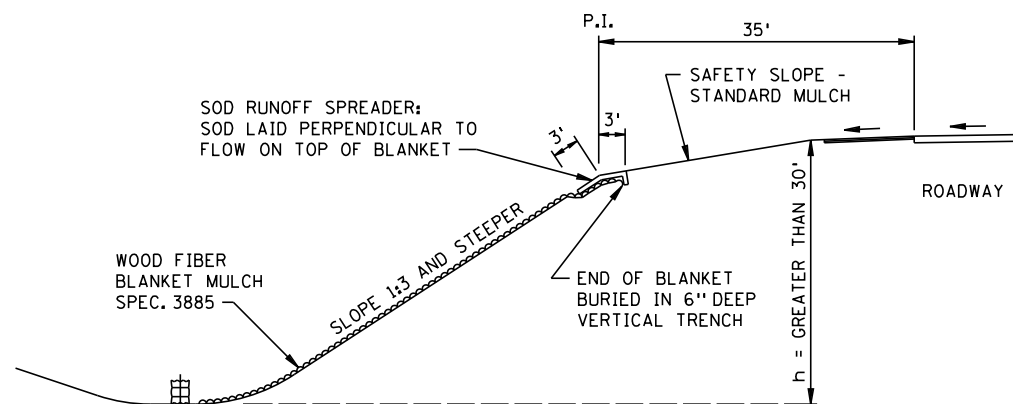
WHERE THE FLOW OF WATER IS CONCENTRATED, PLACE SOD STRIPS PARALLEL TO THE DIRECTION OF WATER FLOW.

WHERE THE FLOW OF WATER IS SHEETING, PLACE SOD STRIPS PERPENDICULAR TO THE DIRECTION OF WATER FLOW.

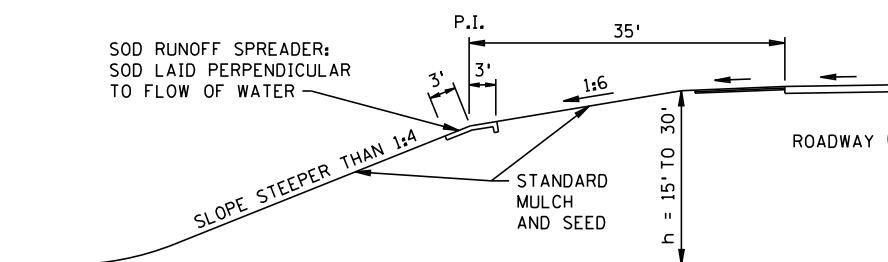
SPECIAL SOD PLACEMENT TECHNIQUES



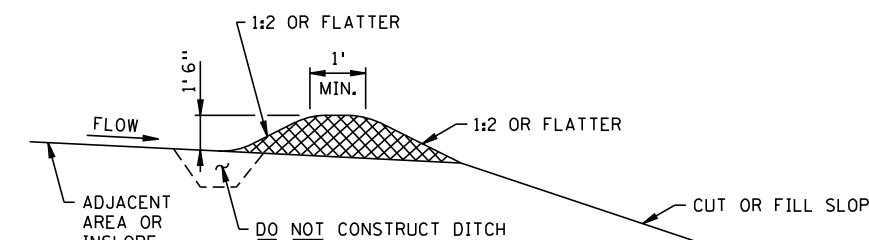
WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE



WOOD FIBER BLANKET INSTALLATION ON AN INSLOPE (WHEN REQUIRED)



BROKEN-BACK SAFETY FILL SLOPE



PERMANENT SLOPE PROTECTION DIKE

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REVISOR:  
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STATE DESIGN ENGINEER  
APPROVED: 8-6-2014

PERMANENT SEDIMENT CONTROL  
ALONG ROADWAYS AND AT GORE AREAS & BRIDGE APPROACH FILLS  
STANDARD PLAN 5-297.406 (SHEET 1 OF 1)  
S.P. 002-624-026  
SHEET NO. 125 OF 214

REMOVE SIGN TYPE C							J
SIGN NO	QTY	POSTS		PANEL		PANEL	
		NO & TYPE	KNEE BRACES QTY	SIZE			
C-101	1	2U		24	x	36	CENTER LANE LEFT ONLY
C-102	4	2U		36	x	30	LT ONLY; ST-RT ONLY
C-103	1	1U		24	x	24	COUNTY ROAD 72
C-104	2	1U		21	x	15	LEFT ARROW
C-105	5	1U		21	x	15	WEST
C-106	1	1U		24	x	24	COUNTY ROAD 24
C-107	1	1U		30	x	36	SPEED LIMIT
C-108	1	1U		36	x	48	THRU TRAFFIC KEEP RIGHT
C-109	1	1U		21	x	15	JCT
C-110	1	1U		24	x	24	COUNTY ROAD 24
C-111	2	1U		24	x	24	COUNTY ROAD 72
C-112	1	1U		21	x	15	THRU ARROW
C-113	2	1U		24	x	24	COUNTY ROAD 24
C-114	1	1U		21	x	15	DOUBLE HEADED ARROW
C-115	2	1U		20	x	24	ENTER ONLY
C-116	1	1U		24	x	24	COUNTY ROAD 72
C-117	1	1U		21	x	15	RIGHT ARROW
C-118	2	1U		21	x	15	EAST
C-119	1	1U		24	x	24	COUNTY ROAD 24
C-120	1	1U		30	x	30	SIGNAL AHEAD
C-121	2	1U		21	x	15	JCT
C-122	1	1U		24	x	24	COUNTY ROAD 72
C-123	2	1U		30	x	30	STOP
C-124	1	1U		36	x	36	SCHOOL X-ING
C-125	1	2U		36	x	24	STOP FOR Peds
C-126	1	0		12	x	18	BRIDGE ST NW
C-127	1	1U		12	x	18	KERRY ST
C-128	1	1U		12	x	12	NO PARKING
C-129	1	1U		24	x	24	CSAH 9
C-130	1	1U		21	x	15	LEFT ARROW
C-131	1	1U		24	x	24	LIBRARY
TOTAL	44						

SIGN PANELS TYPE C											L		
SIGN NO	QTY	NO & TYPE	POSTS			MTG HT (1)	PANEL			CODE NO	PANEL LEGEND	NOTES	
			KNEE BRACES QTY	LEN FEET	SPACING INCH		SIZE INCH	AREA SQ FT	TOTAL AREA SQ FT				
C-1	2	T	0	15	7	24	x	30	5	10	R4-7	KEEP RIGHT	(2)(3)
C-2	8	1U	0	13	7	18	x	18	2.25	4.5	X4-2	HAZARD MARKER	
C-3	8	1U	0	17	7	30	x	30	6.25	50	R1-1	STOP SIGN	
C-4	8	1U	0	14	7	36	x	36	9	72	W2-6A	ROUNDABOUT ARROWS	
C-5	6	T	0	13	7	24	x	24	4	32	W13-1	15 MPH ADVISORY	
C-6	1	T	0	13	7	36	x	36	9	72	W3-2	YIELD AHEAD SYMBOL	
C-7	2	1U	0	13	7	18	x	24	3	18	R6-1	ONE WAY	(2)(3)
C-8	1	T	0	13	7	30	x	30	6.25	6.25	R5-1	DO NOT ENTER	(2)(3)
C-9	16	1U	0	13	7	30	x	30	6.25	12.5	R3-X1	RIGHT TURN LANE	
C-10	1	1U	0	13	7	30	x	30	6.25	6.25	W14-1	DEAD END	
C-11	16	1U	0	14	7	30	x	30	6.25	100	W11-2	PEDESTRIAN CROSSING	
C-12	1	1U	0	11	7	24	x	18	3	48	W16-7mp	LEFT DOWN ARROW	
C-13	1	1U	0	11	7	30	x	30	6.25	50	R6-1r	ONE WAY	
C-14	1	1U	0	11	7	30	x	24	5	40	R6-4	ROUNDABOUT CHEVRON	
C-15	1	1U	0	11	7	18	x	18	2.25	2.25	X4-2	HAZARD MARKER	(5)
C-16	1	1U	0	11	7	18	x	18	2.25	2.25	X4-2	HAZARD MARKER	(6)
C-17	1	1U	0	11	7	18	x	18	2.25	2.25	X4-2	HAZARD MARKER	(7)
C-18	1	1U	0	11	7	18	x	18	2.25	2.25	X4-2	HAZARD MARKER	(8)
C-19	1	1U	0	11	7	18	x	18	2.25	2.25	X4-2	HAZARD MARKER	(9)
C-20	1	1U	0	11	7	18	x	18	2.25	2.25	X4-2	HAZARD MARKER	(10)
C-21	1	1U	0	15	7	30	x	30	6.25	6.25	W1-2R	CURVE AHEAD	
C-22	1	1U	0	15	7	18	x	18	2.25	2.25	W13-1	25 MPH ADVISORY	
C-23	1	1U	0	15	7	30	x	30	6.25	6.25	W1-2L	CURVE AHEAD	
C-24	1	1U	0	15	7	18	x	18	2.25	2.25	W13-1	25MPH ADVISORY	
C-25	6	T	0	17	7	X			0	0		NO U-TURN	
C-26	2	1U	0	13	7	24	x	30	5	30	R4-7	KEEP RIGHT	(2)(3)
C-27	3	1U	0	13	7	18	x	18	2.25	13.5	X4-2	HAZARD MARKER	
C-28	4	1U	0	13	7	30	x	30	6.25	12.5	R5-1	DO NOT ENTER	
C-29	4	1U	0	13	7	18	x	24	3	9	R6-1	ONE WAY	(11)
C-30	4	1U	0	13	7	18	x	18	2.25	9	X4-11	TYPE 4 OBJECT MARKER	
C-31	9	1U	0		7	18	x	24	3	27	R6-1	ONE WAY	
C-32	4	T	0	17	7	36	x	36	3.9	35.1	R1-2	YIELD	(4)
C-33	4	T	0	17	7	X			0	0	M3-4a	WEST	
C-34	4	T	0	17	7	24	x	30	5	20	M1-6	ANOKA 24 COUNTY	(2)(3)
C-35	1	T	0	17	7	18	x	18	2.25	9	M6-2aL	DIGAONAL LEFT UP	
C-36	1	T	0	17	7	X			0	0	M3-4a	WEST	
C-37	1	T	0	17	7	24	x	30	5	5	M1-6	ANOKA 72 COUNTY	(2)(3)
C-38	1	T	0	17	7	18	x	18	2.25	2.25	M6-2aL	DIGAONAL LEFT UP	
C-39	1	T	0	17	7	X			0	0	M3-4a	WEST	
C-40	1	T	0	17	7	24	x	30	5	5	M1-6	ANOKA 9 COUNTY	(2)(3)
C-41	1	T	0	17	7	18	x	18	2.25	2.25	M6-2aL	DIGAONAL LEFT UP	
C-42	1	1U	0	13	7	30	x	30	6.25	6.25	R3-7	RIGHT LANE MUST TURN RIGHT	
TOTAL										737.85			

NOTES:  
(1) MOUNTING HEIGHT MIN. FROM BOTTOM OF THE TOPMOST SIGN. SEE DETAILS.  
(2) MOUNT IN CONCRETE. SEE SIGNING DETAILS.  
(3) MOUNT IN MEDIAN.  
(4) YIELD SIGNS SHALL BE 36" EQUILATERAL TRIANGLE.  
(5) MOUNT BELOW SIGN D-3  
(6) MOUNT BELOW SIGN D-2  
(7) MOUNT BELOW SIGN D-4  
(8) MOUNT BELOW SIGN D-1  
(9) MOUNT BELOW SIGN D-6  
(10) MOUNT BELOW SIGN D-5  
(11) MOUNT ABOVE SIGN C-207  
T - DENOTE TELSPAR POST SOCKETS, PLACED IN CONCRETE  
GENERAL NOTES:  
1. POST LENGTHS ARE APPROXIMATE AND INCLUDE EMBEDMENT, BUT DO NOT INCLUDE ADDITIONAL LENGTH REQUIRED FOR SPLICE.  
2. SEE SIGN DETAIL SHEETS FOR STRUCTURAL DETAILS.  
3. SEE STANDARD SIGNS MANUAL FOR PUNCHING CODE AND DETAILED DRAWINGS OF TYPE C SIGN PANELS.

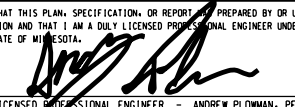
SALVAGE & INSTALL SIGN TYPE C							K
SIGN NO	QTY	POSTS		PANEL		PANEL	
		NO & TYPE	KNEE BRACES QTY	SIZE			
C-201	1	2U		24	x	36	CENTER LANE LEFT ONLY
C-202	1	2U		42	x	36	ST. FRANCIS SENIOR HIGH (LEFT)
C-203	2	2U		42	x	36	ST. FRANCIS SENIOR HIGH (RIGHT)
C-204	1	1U		30	x	30	STOP
C-205	1	1U		36	x	36	COUNTY PARK (LEFT)
C-206	1	1U		36	x	36	COUNTY PARK (RIGHT)
C-207	3	1U		30	x	30	STOP


SIGN PANELS TYPE D											M		
SIGN NO	QTY	NO & TYPE	POSTS			MTG HT (1)	PANEL			PANEL LEGEND	NOTES		
			KNEE BRACES QTY	LEN FEET	SPACING INCH		SIZE INCH	AREA SQ FT	TOTAL AREA SQ FT				
D-1	1	2U	2	16	54	7	84	x	60	35	35	CSAH 72, POPPY STREET ROUNDABOUT AHEAD	(1)
D-2	1	3U	3	16	45	7	126	x	66	57.8	57.8	ROUNDABOUT LEGEND (CSAH 72 LT, CSAH 24 THRU,	(1)
D-3	2	2U	2	16	54	7	84	x	60	35	70	CSAH 24, BRIDGE STREET ROUNDABOUT AHEAD	(1)
D-4	1	3U	3	17	45	7	120	x	78	65	65	ROUNDABOUT LEGEND (CSAH 24 LT, POPPY ST THRU,	(1)
D-5	1	2U	2	16	54	7	84	x	60	35	35	CSAH 72, POPPY STREET ROUNDABOUT AHEAD	(1)
D-6	1	3U	3	16	45	7	132	x	66	60.5	60.5	ROUNDABOUT LEGEND (CSAH 9 LT, CSAH 24 THRU,	(1)
D-7	1	2U	2	16	54	7	84	x	60	35	35	CSAH 24, BRIDGE STREET ROUNDABOUT AHEAD	(1)
D-8	1	3U	3	17	45	7	108	x	78	58.5	58.5	ROUNDABOUT LEGEND (CSAH 24 LT, CSAH 72 THRU,	(1)
D-9	2	2U	2	17	54	7	84	x	78	45.5	91	CSAH 9, LK GEORGE BLVD KERRY ST ROUNDABOUT	(1)
D-10	1	3U	3	16	45	7	132	x	66	60.5	60.5	ROUNDABOUT LEGEND (KERRY ST SFHS LT, CSAH 24	(1)
D-11	1	3U	3	16	45	7	132	x	66	60.5	60.5	ROUNDABOUT LEGEND (CSAH 9 LT, CSAH 24 THRU,	(1)
D-12	1	3U	3	17	45	7	120	x	78	65	65	ROUNDABOUT LEGEND (CSAH 24 LT, KERRY ST THRU,	(1)
TOTAL											693.8		


NOTES:  
(1) USE 3 POUND POSTS.  
GENERAL NOTES:  
1. POST LENGTHS ARE APPROXIMATE AND INCLUDE EMBEDMENT, BUT DO NOT INCLUDE ADDITIONAL LENGTH REQUIRED FOR SPLICE.  
2. SEE SIGN DETAIL SHEETS FOR STRUCTURAL DETAILS.  
3. SEE STANDARD SIGNS MANUAL FOR PUNCHING CODE AND DETAILED DRAWINGS OF TYPE C SIGN PANELS.

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NO.	DATE	BY	CHK	REVISIONS

Design By:	AJP	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  CERTIFIED BY: _____ LICENSED PROFESSIONAL ENGINEER - ANDREW PLOJMAN, PE DATE: 6/15/15 LIC. NO: 44200
Plan By:	ACJ	
Checked By:	DRS	
Approved By:	AJP	


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**CSAH 24 Improvements**  
Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**SIGNING & STRIPING PLAN**  
S.P. 002-624-026

SHEET  
**126**  
OF  
**214**  
SHEETS

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE MNDOT "TRAFFIC ENGINEERING MANUAL" AND THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) INCLUDING PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" WITH THE FOLLOWING EXCEPTIONS AND AS DIRECTED BY THE ENGINEER.

THESE GUIDELINES ARE TYPICAL. MODIFICATION MAY BE REQUIRED FOR UNUSUAL CONDITIONS OR TO CONFORM TO THE REQUIREMENTS OF OTHER AGENCIES.

ALL SIGNING, STRIPING AND PAVEMENT MARKINGS MAINTAINED BY THE ANOKA COUNTY SHALL CONFORM TO THE REQUIREMENTS OF ANOKA COUNTY.

**SIGNING TYPE C**  
ALL SIGNING SHALL USE DG3 SIGN SHEETING.

ALL SIGNS SHALL BE CONVENTIONAL ROAD SIZE AS SHOWN IN THE MN MUTCD APPENDIX C EXCEPT AS FOLLOWS:

- ALL STOP SIGNS (R1-1) SHALL BE A MINIMUM OF 36" X 36"
- ALL NO PARKING SIGNS (R8-3A) SHALL BE 18" X 18"
- ALL PEDESTRIAN CROSSING SIGNS (W11-2) SHALL BE A MINIMUM OF 36" X 36"
- ALL SCHOOL CROSSING SIGNS (S1-1) SHALL BE A MINIMUM OF 36" X 36"

ALL SIGNS SHALL HAVE HOLES PUNCHED ONLY FOR THE NUMBER OF POSTS REQUIRED.

ALL SIGN POSTS SHALL BE 3 POUNDS PER FOOT, BLACK STEEL "U" POSTS.

**NUMBER OF POSTS:**

- SIGN WIDTH 35" OR LESS USE 1 POST
- SIGN WIDTH 36" - 70" USE 2 POSTS
- SIGN WIDTH OVER 70" AS REQUIRED (PLACE A POST APPROXIMATELY EVERY 2')

LATERAL BRACES MAY BE USED AS A STIFFENER FOR SIGNS IF REQUIRED BY THE ENGINEER.

KNEE BRACES SHALL NOT BE USED UNLESS REQUIRED BY THE ENGINEER.

MOUNTING HEIGHT TO THE BOTTOM EDGE OF THE LOWEST SIGN SHALL BE 7.0' EXCEPT AS FOLLOWS:

- OBJECT MARKERS AND SNOW PLOW MARKERS 5.0'
- OBJECT MARKER IF MOUNTED BELOW A KEEP RIGHT 4.5'

ALL SIGNS MOUNTED IN CONCRETE OR LANDSCAPE PAVER SURFACING SHALL USE A SIGN SOCKET WHICH SHALL BE PLACED IN CONCRETE. ALL SIGN SOCKETS LOCATED ON RAISED ISLANDS SHALL USE DOUBLE SIGN SOCKETS. SEE TYPICAL SIGN SOCKET DETAIL.

ALL KEEP RIGHT SIGNS (R4-7) SHALL HAVE REAR DELINEATION AS SHOWN IN THE REAR DELINEATION DETAIL AND AN OM1-1 MOUNTED BELOW THE KEEP RIGHT SIGN.

"NO PARKING" SIGNS SHALL, WHERE POSSIBLE, BE GROUPED WITH OTHER SIGNS TO REDUCE THE NUMBER OF SIGN POSTS.

ADOPT A HIGHWAY SIGN (I-X1) SHALL NOT BE USED. IF REQUIRED 36" X 24" ADOPT A HIGHWAY SIGNS SHALL BE FURNISHED BY HENNEPIN COUNTY FOR INSTALLATION BY THE CONTRACTOR.

A SCHOOL CROSSING SIGN (S1-1) WITH AHEAD PLAQUE (W16-9P) MOUNTED BELOW THE SCHOOL CROSSING SIGN SHALL BE IN ADVANCE OF ALL SCHOOL CROSSING SIGNS (S1-1).

ALL SIGNS SHOWN IN THE MN MUTCD WITH OPTIONAL FLUORESCENT YELLOW-GREEN BACKGROUND COLOR SHALL USE THE FLUORESCENT YELLOW-GREEN BACKGROUND COLOR.

"NO PASSING ZONE" SIGN (W14-3) SHALL BE USED ON THE LEFT WITH A "DO NOT PASS" SIGN (R4-1) ON THE RIGHT.

MERGE WITH DEMOUNTABLE ARROW SIGN (W20-X3) SHALL NOT BE USED. A LANE ENDS MERGE SIGN (W9-2) FOLLOWED BY A LANE REDUCTION SIGN (W4-2) SHALL BE USED.

ALL INPLACE SIGNS WITHIN THE CONSTRUCTION LIMITS SHALL BE PROTECTED INPLACE, SALVAGED OR SALVAGED AND REINSTALLED AS SHOWN IN THE PLANS AND AS DIRECTED BY THE ENGINEER. SALVAGED SIGNS SHALL NOT BE REINSTALLED UNLESS THEY ARE IN GOOD CONDITION AND ARE STILL APPLICABLE.

ALL SALVAGED SIGNS NOT REINSTALLED SHALL BE COMPLETELY DISASSEMBLED BY THE CONTRACTOR AND BROKEN DOWN INTO THEIR BASIC COMPONENTS (SIGN PANELS, POST, NUTS AND BOLTS) WHICH SHALL BE RETURNED TO THEIR OWNERS.

**PERMANENT STRIPING AND PAVEMENT MARKINGS**

ALL THE FOLLOWING CONDITIONS SHALL BE FOLLOWED, EXCEPT WHERE SPECIFICALLY REVISED IN THE PLAN.

ALL LONGITUDINAL LINES SHALL BE 4" WIDE EPOXY GROUND IN (GROOVED).

A BROKEN LINE SHALL BE 4" WIDE EPOXY, GROUND IN (GROOVED) AND SHALL HAVE A 10' LENGTH AND 30' GAP (40' TOTAL)

A DOTTED LINE (CAT TRACKS) SHALL BE A 4" WIDE EPOXY GROUND IN (GROOVED) LINE AND SHALL HAVE A 2' LENGTH AND 6' GAP.

CROSSHATCHING (HASH MARKS) SHALL BE 24" WIDE EPOXY GROUND IN (GROOVED) LINE.

INSTALLED AT 45 DEGREES WITH AN 18' PERPENDICULAR GAP. THEY SHALL ONLY BE PLACED WHEN AT LEAST 2 BARS OF MINIMUM 6' LENGTH CAN BE INSTALLED AT STANDARD SPACING.

ON BITUMINOUS PAVEMENTS LONGITUDINAL LINES SHALL NOT BE PLACED IMMEDIATELY ADJACENT (2' OR LESS FROM THE FACE OF CURB) TO CONCRETE CURB AND GUTTER, RAISED CONCRETE OR MONOLITHIC ISLANDS EXCEPT RIGHT TURN ISLANDS.

STOP BARS SHALL NOT BE PLACED EXCEPT AT RAILROAD CROSSINGS AND SIGNALIZED INTERSECTION APPROACHES WITHOUT CROSSWALK MARKINGS.

ALL PAVEMENT MESSAGES SHALL BE THERMOPLASTIC.

**FULL WIDTH TURN LANES:**

- UNDER 250' USE 1 ARROW PLACED AT THE CENTER OF THE TURN LANE.
- OVER 250' USE 2 ARROWS PLACED AS SHOWN IN THE MNDOT "TRAFFIC ENGINEERING MANUAL."
- PAVEMENT MESSAGE "ONLY" SHALL NOT BE USED.

CROSSWALK MARKINGS SHALL BE OF THE "ZEBRA" STYLE. THEY SHALL MATCH IN WIDTH THE FACILITY THAT ENTERS THE CROSSWALK MARKINGS WITH A MINIMUM WIDTH OF 6'.

CROSSWALK MARKINGS SHALL WHERE POSSIBLE CONNECT PEDESTRIAN CURB RAMPS WITH A STRAIGHT LINE, AT 90 DEGREES TO THE ROADWAY AND BE PLACED IN FRONT OF MEDIAN NOSES.

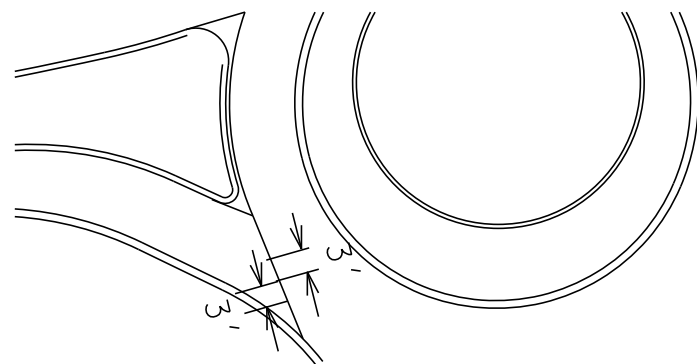
CROSSWALK MARKINGS SHALL NOT BE PLACED ACROSS FREE RIGHT TURN LANES, SLIP LANES OR AT SIGNED TRAIL CROSSING LOCATIONS.

**PAVEMENT MARKING TABULATION**

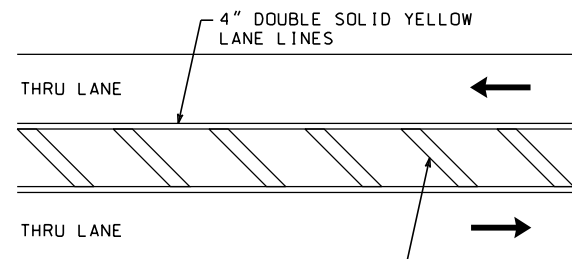
LOCATION	EPOXY				POLY PREFORM				
	4" SOLID WHITE	4" BROKEN YELLOW	4" DOUBLE SOLID YELLOW	24" SOLID YELLOW	4" SOLID WHITE	4" SOLID YELLOW	8" DOTTED WHITE	PAVT MSG RT ARROW	CROSSWALK MARKINGS
	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	EA	SQ FT
CSAH 24 (BRIDGE STREET)									
100+79 to 103+56		207							
105+86 to 117+20	2016							2	
109+75 to 124+39	455		305	32				1	
SUBTOTAL (CSAH 24)	2471	207	305	32				3	
POPPY STREET (SOUTH LEG)			318	13					
CR 72 (NORTH LEG)	511		441	26					
CR 9 (SOUTH LEG)	422		562	97				1	
KERRY STREET CONNECTION			1003	27					
KERRY STREET CUL-DE-SAC									
SCHOOL ENTRANCE	166		378	8					
CSAH 24 & CR 72 ROUNDABOUT					263	98	111		378
CSAH 24 & CR 9 ROUNDABOUT					186	90	160	1	468
TOTAL	3570	207	3006	203	448	188	271	5	846

**NOTES:**

- (1) ROUNDABOUT AREA CONSISTS OF AREA INSIDE AND INCLUDING THE CROSSWALKS ON ALL LEGS OF ROUNDABOUT.
- (2) POLY PREFORM TO BE THERMOPLASTIC



**8" WHITE DOTTED LINE WHITE**  
EPOXY (GR IN)  
(8" DOTTED LINE WHITE DETAIL)



**STRIPED MEDIAN DETAIL**  
(EPOXY)

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Design By: AJP  
Plan By: ACJ  
Checked By: DRS  
Approved By: AJP

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

CERTIFIED BY: LICENSED PROFESSIONAL ENGINEER - ANDREW FLOMMAN, PE  
DATE: 6/15/15 LIC. NO: 44200

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**CSAH 24 Improvements**  
Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**SIGNING & STRIPING PLAN**  
S.P. 002-624-026

SHEET  
**127**  
OF  
**214**  
SHEETS

END S.P. 002-624-026  
CR 72 (RUM RIVER BLVD)  
STA 208+75.43

CSAH 24 (Bridge Street NW)

SYMBOLS & MATERIALS LEGEND

**NOTES**

- ① F & I
- ⑥ INSTALL SALVAGED SIGN
- ⑧ INSTALLED BY OTHERS

C-XXX "C" TYPE SIGN  
D-XXX "D" TYPE SIGN  
X-XXX "SPECIAL" SIGN

1ST DIGIT WIDTH  
4", 8", ETC.

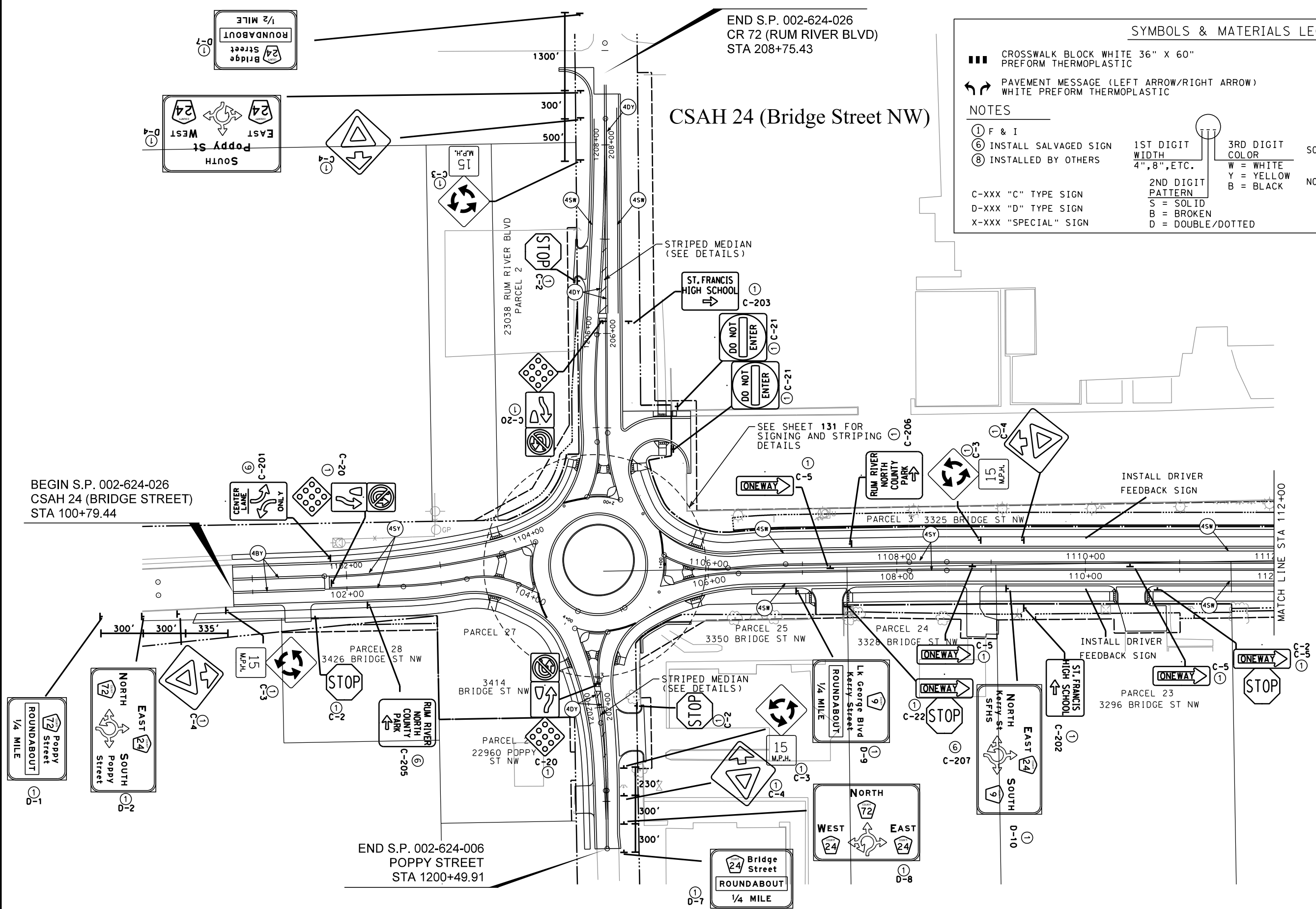
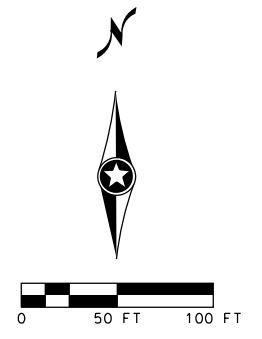
2ND DIGIT PATTERN  
S = SOLID  
B = BROKEN  
D = DOUBLE/DOTTED

3RD DIGIT COLOR  
W = WHITE  
Y = YELLOW  
B = BLACK

EXAMPLE: 4SW = 4"  
SOLID LINE WHITE - EPOXY (GR IN)

NOTE: ALL 4" OR 8" STRIPING TO BE EPOXY.  
ALL 12" STRIPING TO BE PERFORMED THERMOPLASTIC

■■■ CROSSWALK BLOCK WHITE 36" X 60"  
 PREFORM THERMOPLASTIC  
 ↶ ↷ PAVEMENT MESSAGE (LEFT ARROW/RIGHT ARROW)  
 WHITE PREFORM THERMOPLASTIC  
 ○ CIRCLE - EPOXY  
 ▭ PENTAGON - POLY PREFORM THERMOPLASTIC



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 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

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 LICENSED PROFESSIONAL ENGINEER - ANDREW FLODIN, PE  
 DATE: 6/15/15 LIC. NO: 44200

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**ANOKA COUNTY**

**CSAH 24 Improvements**  
 Anoka County, Minnesota

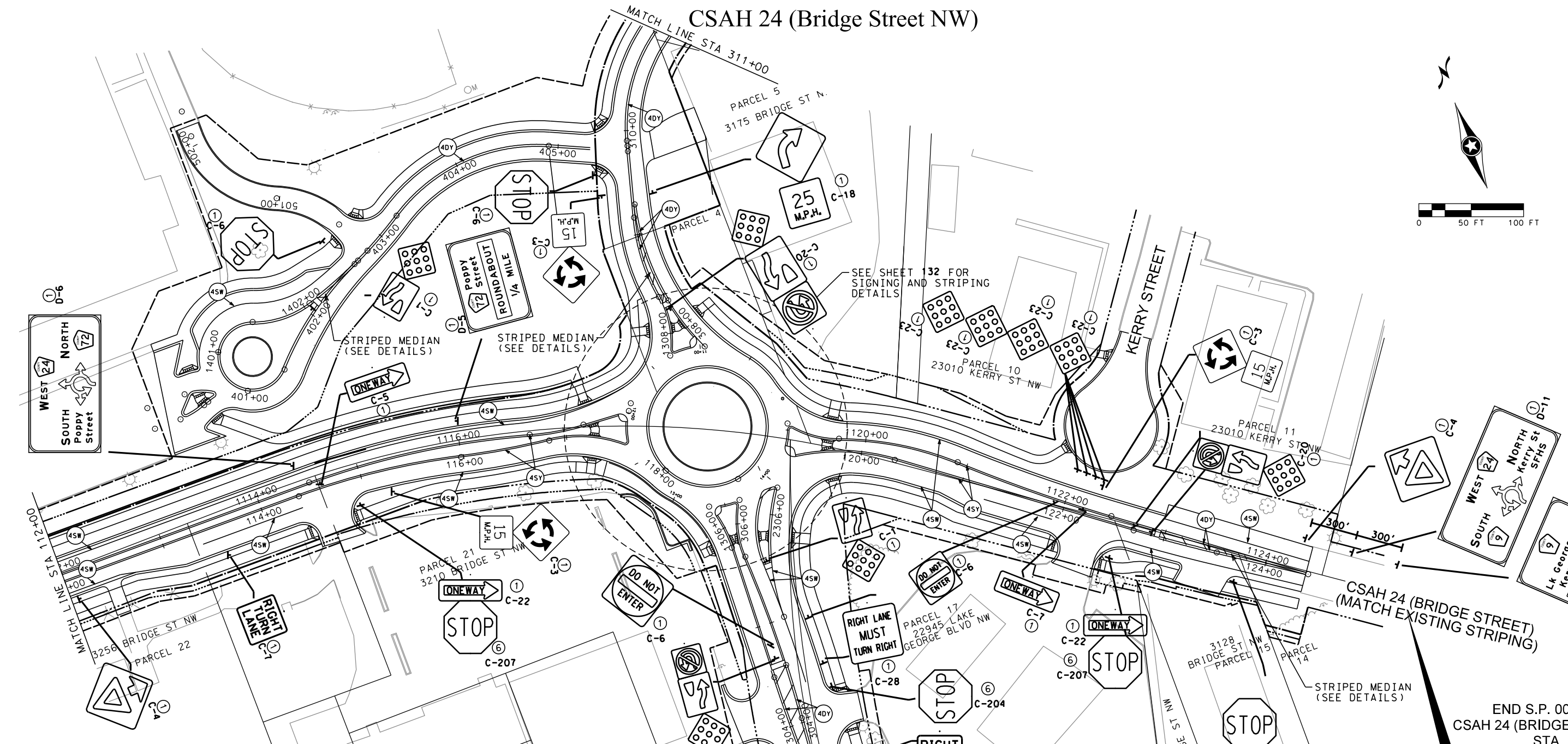
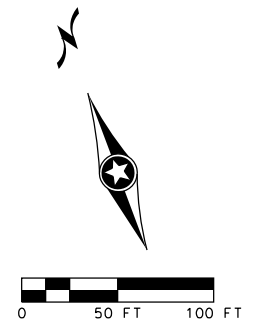
ANOKA COUNTY, MINNESOTA

**SIGNING & STRIPING PLAN**  
 S.P. 002-624-026

SHEET  
**128**  
 OF  
**214**  
 SHEETS



# CSAH 24 (Bridge Street NW)



## SYMBOLS & MATERIALS LEGEND

- CROSSWALK BLOCK WHITE 36" X 60" PREFORM THERMOPLASTIC
- ↔ PAVEMENT MESSAGE (LEFT ARROW/RIGHT ARROW) WHITE PREFORM THERMOPLASTIC
- ① F & I
- ⑥ INSTALL SALVAGED SIGN
- ⑧ INSTALLED BY OTHERS
- C-XXX "C" TYPE SIGN
- D-XXX "D" TYPE SIGN
- X-XXX "SPECIAL" SIGN
- CIRCLE - EPOXY
- ⬠ PENTAGON - POLY PREFORM THERMOPLASTIC
- EXAMPLE: (4SW) = 4"
- SOLID LINE WHITE - EPOXY (GR IN)
- NOTE: ALL 4" OR 8" STRIPING TO BE EPOXY. ALL 12" STRIPING TO BE PREFORMED THERMOPLASTIC
- 1ST DIGIT WIDTH 4", 8", ETC.
- 2ND DIGIT PATTERN S = SOLID B = BROKEN D = DOUBLE/DOTTED
- 3RD DIGIT COLOR W = WHITE Y = YELLOW B = BLACK

BEGIN S.P. 002-624-026  
CSAH 9 (LAKE GEORGE BLVD)  
STA 301+89.95

END S.P. 002-624-026  
CSAH 24 (BRIDGE STREET)  
STA 125+38.99

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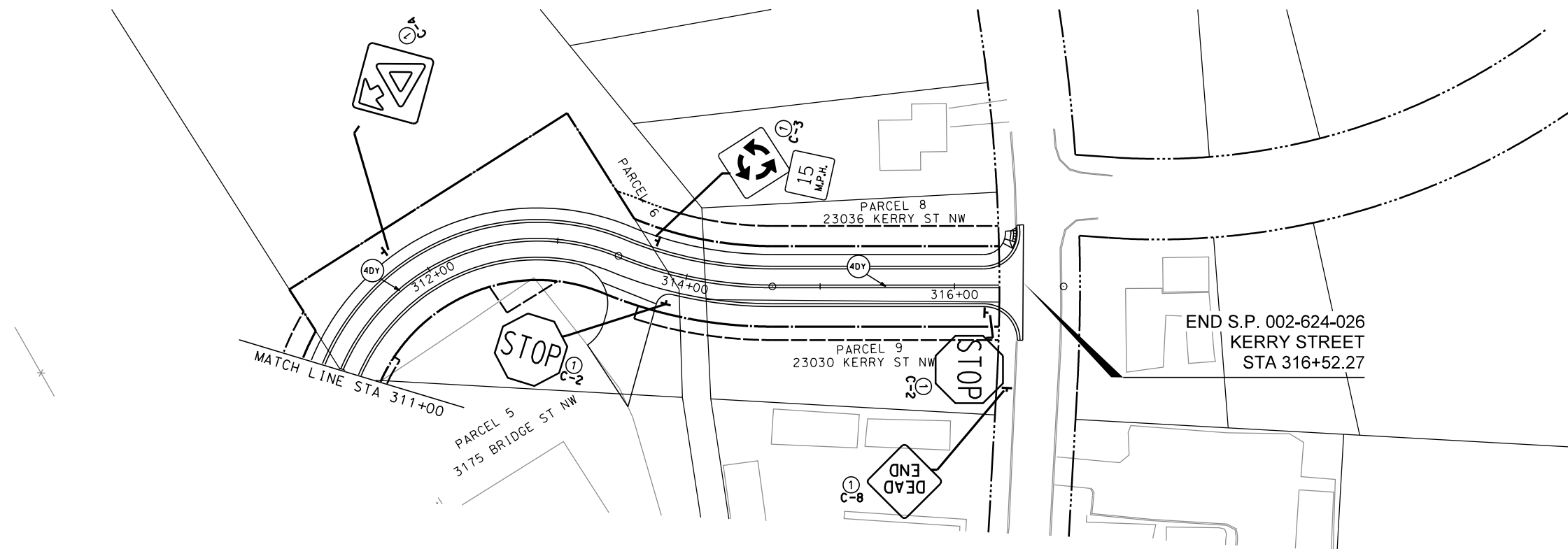
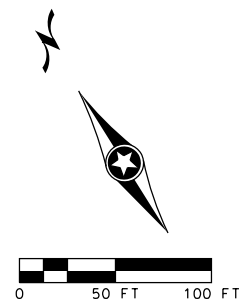
CERTIFIED BY: *[Signature]*  
LICENSED PROFESSIONAL ENGINEER - ANDREW FLODMAN, PE  
DATE: 6/15/15 LIC. NO: 44200

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**ANOKA COUNTY**  
**CSAH 24 Improvements**  
Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**SIGNING & STRIPING PLAN**  
S.P. 002-624-026

SHEET  
**129**  
OF  
**214**  
SHEETS



**SYMBOLS & MATERIALS LEGEND**

<p>▬▬▬ CROSSWALK BLOCK WHITE 36" X 60" PREFORM THERMOPLASTIC</p> <p>↶↷ PAVEMENT MESSAGE (LEFT ARROW/RIGHT ARROW) WHITE PREFORM THERMOPLASTIC</p> <p><b>NOTES</b></p> <p>① F &amp; I ⑥ INSTALL SALVAGED SIGN ⑧ INSTALLED BY OTHERS</p> <p>C-XXX "C" TYPE SIGN D-XXX "D" TYPE SIGN X-XXX "SPECIAL" SIGN</p>	<p>1ST DIGIT WIDTH: 4", 8", ETC.</p> <p>2ND DIGIT PATTERN: S = SOLID B = BROKEN D = DOUBLE/DOTTED</p> <p>3RD DIGIT COLOR: W = WHITE Y = YELLOW B = BLACK</p>	<p>○ CIRCLE - EPOXY</p> <p>⬠ PENTAGON - POLY PREFORM THERMOPLASTIC</p> <p>EXAMPLE: ④SW = 4"</p> <p>SOLID LINE WHITE - EPOXY (GR IN)</p> <p>NOTE: ALL 4" OR 8" STRIPING TO BE EPOXY. ALL 12" STRIPING TO BE PREFORMED THERMOPLASTIC</p>
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NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

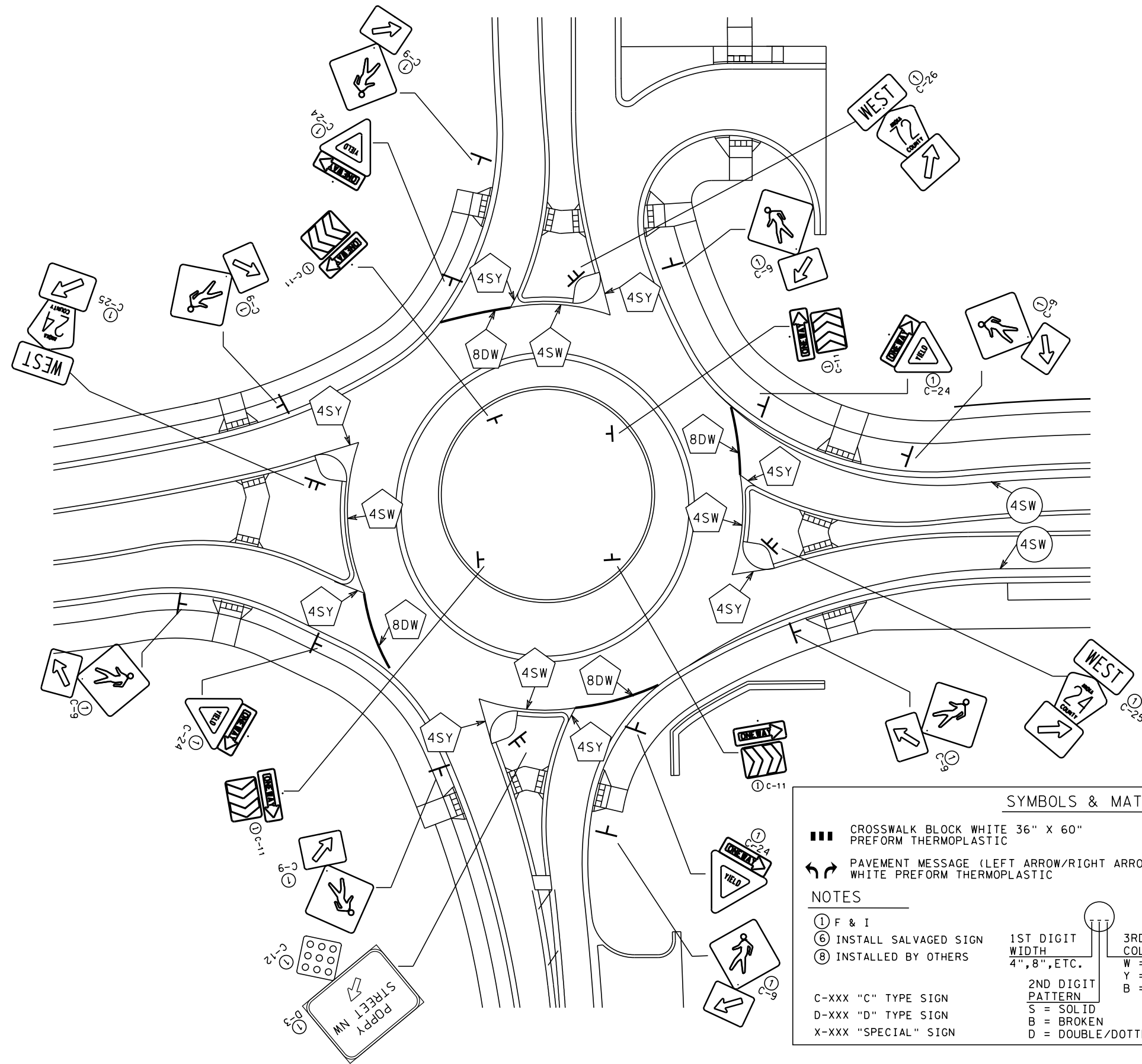
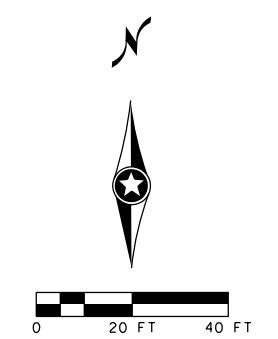
CERTIFIED BY:   
 LICENSED PROFESSIONAL ENGINEER - ANDREW PLODMAN, PE  
 DATE: 6/15/15 LIC. NO: 44200

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SHEET  
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**SYMBOLS & MATERIALS LEGEND**

	CROSSWALK BLOCK WHITE 36" X 60" PREFORM THERMOPLASTIC		CIRCLE - EPOXY
	PAVEMENT MESSAGE (LEFT ARROW/RIGHT ARROW) WHITE PREFORM THERMOPLASTIC		PENTAGON - POLY PREFORM THERMOPLASTIC

**NOTES**

① F & I	⑥ INSTALL SALVAGED SIGN	⑧ INSTALLED BY OTHERS
C-XXX "C" TYPE SIGN	D-XXX "D" TYPE SIGN	X-XXX "SPECIAL" SIGN

<b>1ST DIGIT WIDTH</b> 4", 8", ETC.	<b>2ND DIGIT PATTERN</b> S = SOLID B = BROKEN D = DOUBLE/DOTTED	<b>3RD DIGIT COLOR</b> W = WHITE Y = YELLOW B = BLACK
--	--	--

EXAMPLE: (4SW) = 4" SOLID LINE WHITE - EPOXY (GR IN)

NOTE: ALL 4" OR 8" STRIPING TO BE EPOXY.  
ALL 12" STRIPING TO BE PREFORMED THERMOPLASTIC

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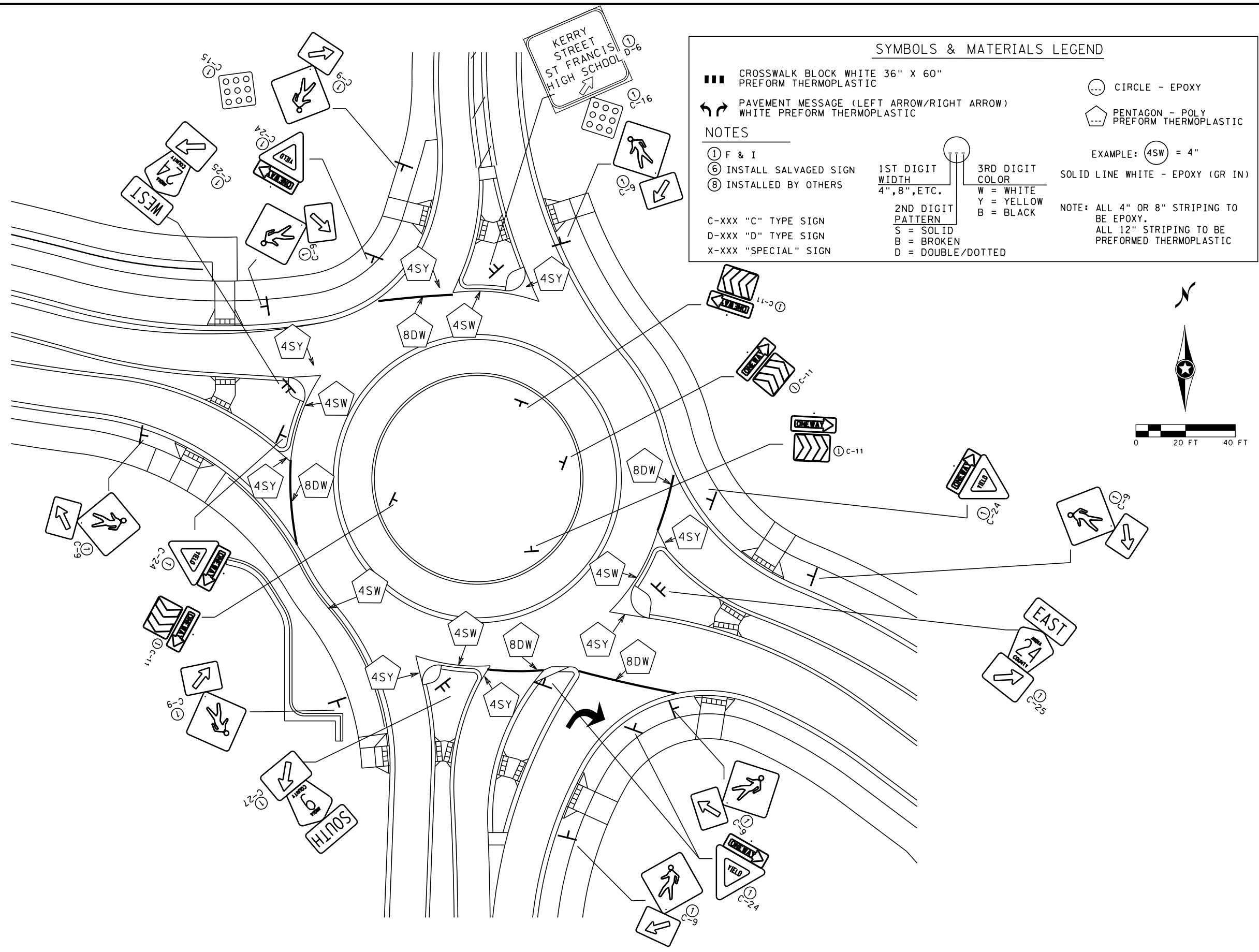
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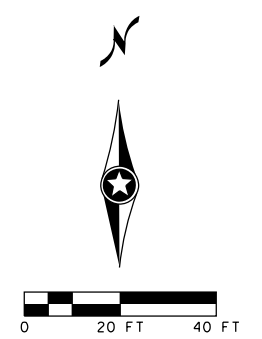
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 OF  
**214**  
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### SYMBOLS & MATERIALS LEGEND

<p>■ CROSSWALK BLOCK WHITE 36" X 60" PREFORM THERMOPLASTIC</p> <p>↔ PAVEMENT MESSAGE (LEFT ARROW/RIGHT ARROW) WHITE PREFORM THERMOPLASTIC</p> <p><b>NOTES</b></p> <p>① F &amp; I ⑥ INSTALL SALVAGED SIGN ⑧ INSTALLED BY OTHERS</p> <p>C-XXX "C" TYPE SIGN D-XXX "D" TYPE SIGN X-XXX "SPECIAL" SIGN</p>	<p>○ CIRCLE - EPOXY</p> <p>⬠ PENTAGON - POLY PREFORM THERMOPLASTIC</p> <p>EXAMPLE: (4SW) = 4"</p> <p>SOLID LINE WHITE - EPOXY (GR IN)</p> <p>NOTE: ALL 4" OR 8" STRIPING TO BE EPOXY. ALL 12" STRIPING TO BE PREFORMED THERMOPLASTIC</p>
--	--

1ST DIGIT WIDTH 4", 8", ETC.	2ND DIGIT PATTERN S = SOLID B = BROKEN D = DOUBLE/DOTTED	3RD DIGIT COLOR W = WHITE Y = YELLOW B = BLACK
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CERTIFIED BY: *[Signature]*  
 LICENSED PROFESSIONAL ENGINEER - ANDREW FLOMMAN, PE  
 DATE: 6/15/15 LIC. NO: 44200

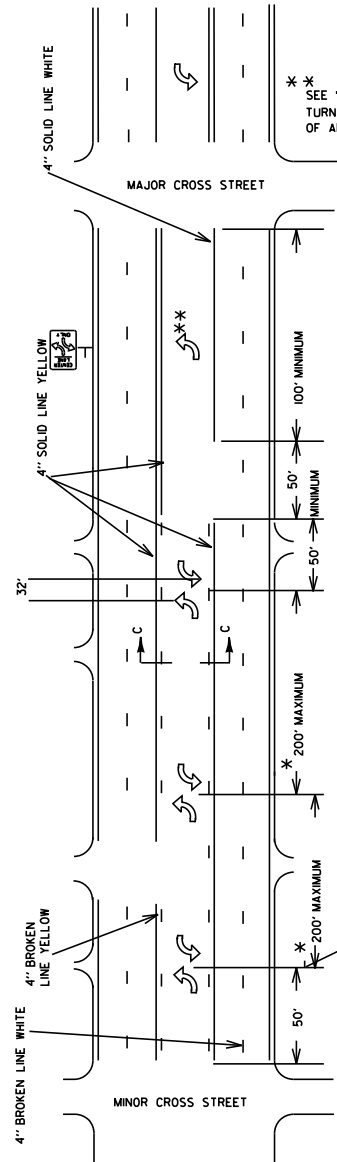
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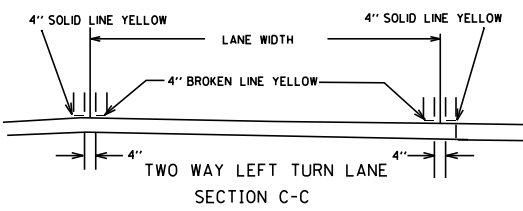
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 OF  
**214**  
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**TWO-WAY LEFT TURN LANE**

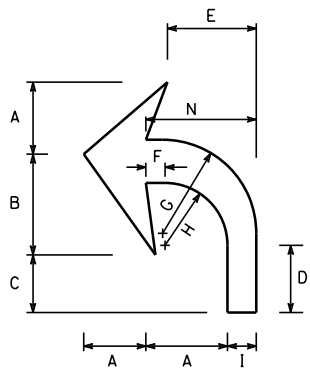


\*\* SEE "TYPICAL MESSAGE PLACEMENT FOR TURN LANES" FOR NUMBER AND PLACEMENT OF ARROWS.

\* THESE DISTANCES SHOULD BE EQUAL. THE ARROWS ARE PLACED TO SHOW THE OPERATION AND DO NOT HAVE TO LINE UP WITH ANY OF THE DRIVEWAYS.



NOTE:  
 IN AREAS WITH DESIGNATED CITY BLOCKS, INSTALL ONE SIGN PER BLOCK EACH DIRECTION.  
 IN AREAS WITH NO DESIGNATED CITY BLOCKS, INSTALL ONE SIGN EVERY 600 FEET EACH DIRECTION.  
 SIGN LOCATIONS SHALL BE DETERMINED BY PROJECT ENGINEER.

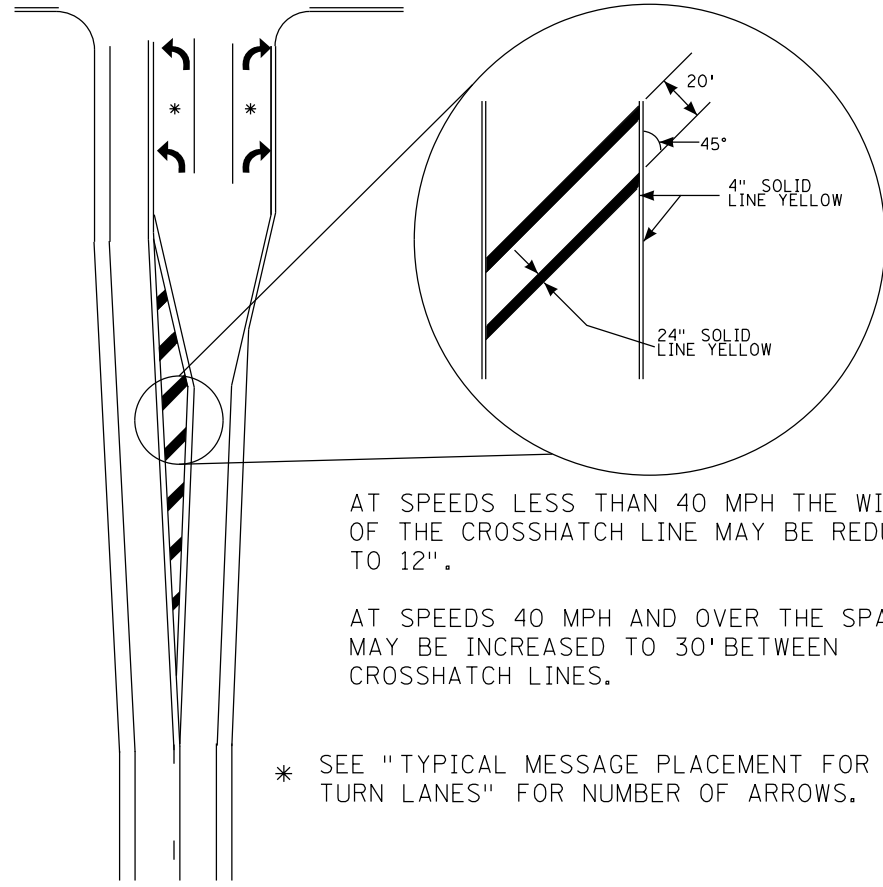


SIZE 6' x 8'

**PAVEMENT MARKING DETAILS**  
(EPOXY) (GR IN)

DIMENSION TABLE	
A	2' - 6"
B	3' - 6"
C	2' - 0"
D	2' - 6"
E	3' - 1"
F	0' - 8"
G	3' - 3"
H	2' - 2"
I	1' - 0"
J	1' - 0"
K	1' - 3"
L	5' - 0"
M	7' - 8"
N	3' - 10"
P	4' - 6"

**TYPICAL MARKINGS FOR PAINTED MEDIAN**



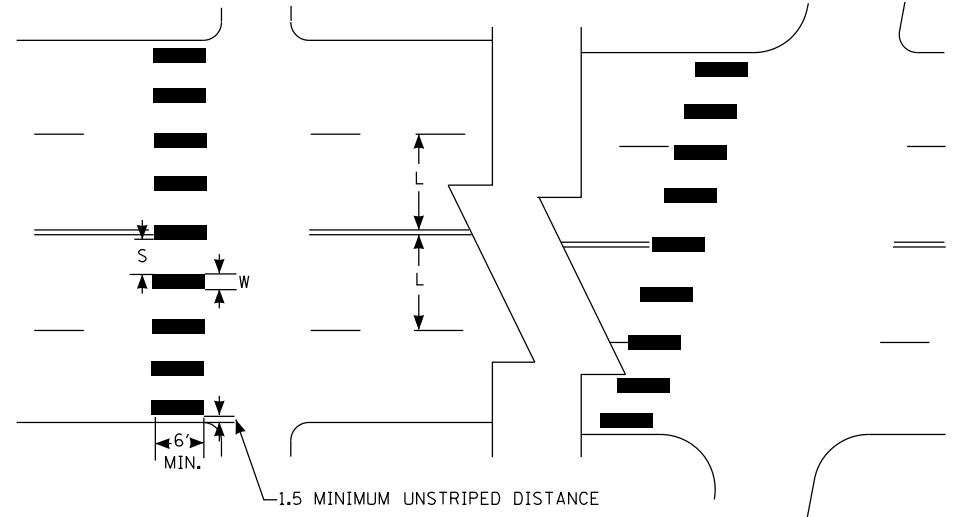
AT SPEEDS LESS THAN 40 MPH THE WIDTH OF THE CROSSHATCH LINE MAY BE REDUCED TO 12".

AT SPEEDS 40 MPH AND OVER THE SPACING MAY BE INCREASED TO 30' BETWEEN CROSSHATCH LINES.

\* SEE "TYPICAL MESSAGE PLACEMENT FOR TURN LANES" FOR NUMBER OF ARROWS.

**MARKINGS FOR PEDESTRIAN CROSSWALKS**

(L) WIDTH OF INSIDE LANE	(W) WIDTH OF PAINTED AREA	(S) WIDTH OF SPACE
9'	2.0'	2.5'
10'	2.5'	2.5'
11'	2.5'	3.0'
12'	3.0'	3.0'
13'	3.0'	3.5'



**NOTES:**

1. PAINTED AREAS TO BE CENTERED ON CENTERLINE AND LANE LINES.
2. A MINIMUM OF 1.5 FT. CLEAR DISTANCE SHALL BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS DISTANCE IT MUST BE OMITTED.
3. ON TWO LANE TWO WAY STREETS, USE SPACING SHOWN FOR AN 11 FT. INSIDE LANE.
4. FOR DIVIDED ROADWAYS, ADJUSTMENTS IN SPACING OF THE BLOCKS SHOULD BE MADE IN THE MEDIAN SO THAT THE BLOCKS ARE MAINTAINED IN THEIR PROPER LOCATION ACROSS THE TRAVELED PORTION OF THE ROADWAY.
5. AT SKEWED CROSSWALKS, THE BLOCKS ARE TO REMAIN PARALLEL TO THE LANE LINES AS SHOWN.

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 Checked By: DRS  
 Approved By: AJP

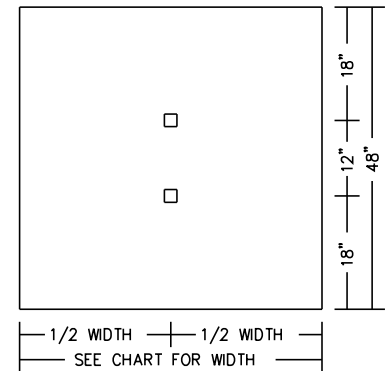
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 DATE: 6/15/15 LIC. NO: 44200

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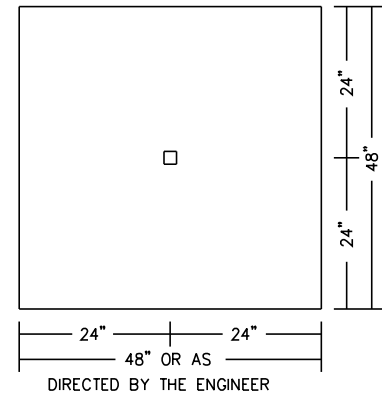
**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**SIGNING & STRIPING PLAN**  
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CONCRETE PAD FOR DOUBLE SIGN SOCKETS  
WHEN LOCATED ON RAISED ISLANDS  
WITH LANDSCAPE PAVER SURFACING  
(NO SCALE)



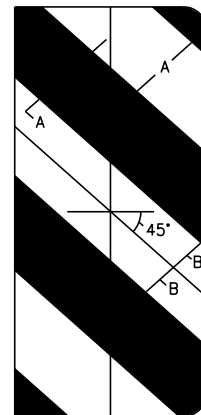
CONCRETE PAD FOR SIGN SOCKETS  
IN ALL OTHER LOCATIONS  
WITH LANDSCAPE PAVER SURFACING  
(NO SCALE)



CONCRETE PAD FOR SIGN SOCKETS	
WIDTH OF RAISED ISLAND (*)	WIDTH OF CONCRETE PAD
LESS THAN 12'	VARIABLE (**)
12' OR MORE	48" (***)

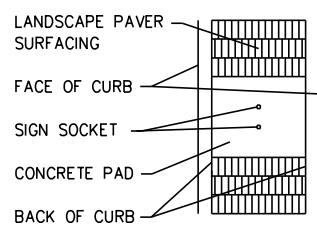
- (\*) AS MEASURED FROM FACE OF CURB TO FACE OF CURB.
- (\*\*) THE CONCRETE SHALL BE PLACED FROM BACK OF CURB TO BACK OF CURB, OR AS DIRECTED BY THE ENGINEER.
- (\*\*\*) OR AS DIRECTED BY THE ENGINEER.

REAR DELINEATION FOR R4-7  
(NO SCALE)

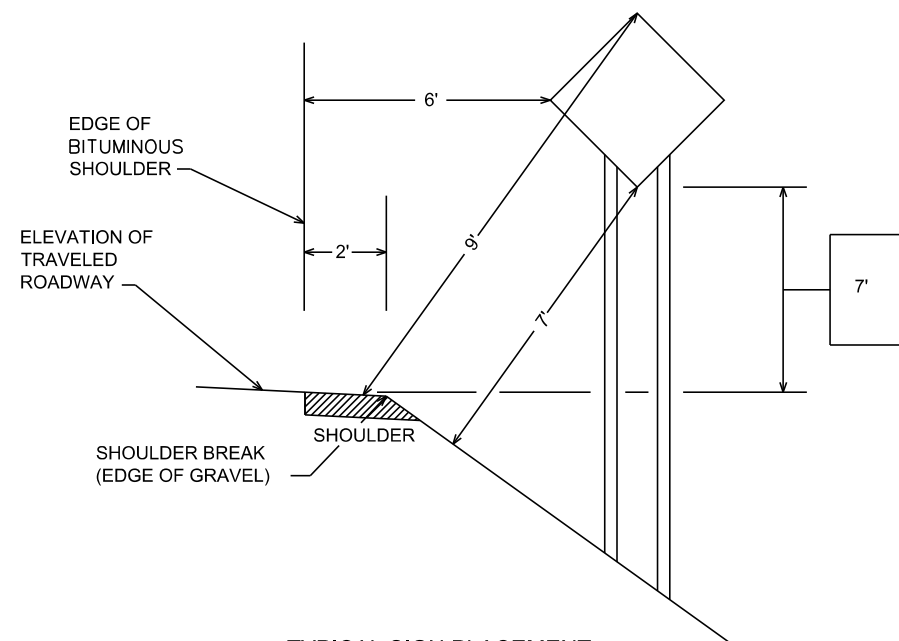


REAR DELINEATION FOR R4-7 DIMENSIONS			
SIZE	12" x 30"	15" x 36"	18" x 48"
MOUNT ON	24" x 30"	30" x 36"	36" x 48"
RADIUS	1.50"	1.88"	2.25"
A	5.00"	6.00"	6.00"
B	2.50"	3.00"	3.00"

COLOR: YELLOW & BLACK DG3 SIGN SHEETING ONLY.



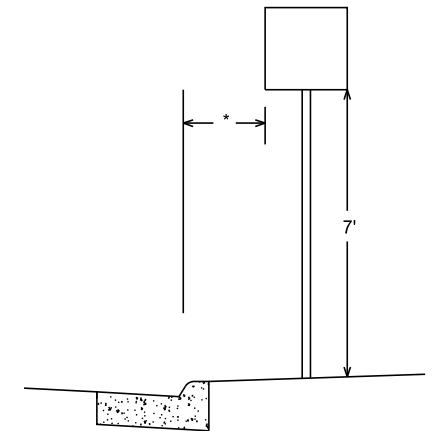
RURAL



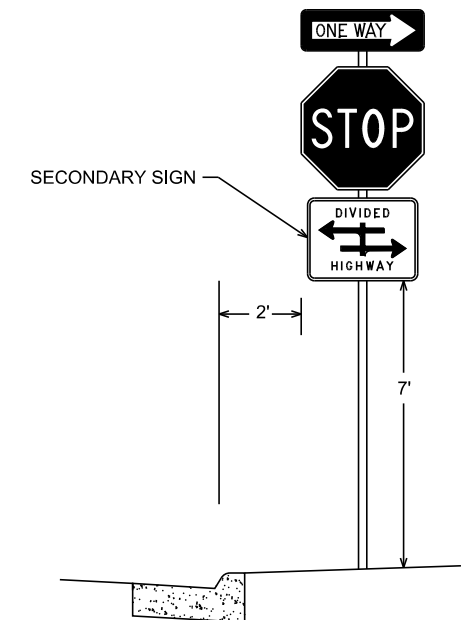
TYPICAL SIGN PLACEMENT

URBAN

- \* 2' - NARROW BOULEVARD (< 8' WIDE)
- 6' - WIDE BOULEVARD



TYPICAL SIGN PLACEMENT



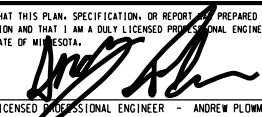
- NOTE:
- ALL DIMENSIONS ARE MINIMUMS
  - MAINTAIN 2' CLEAR FROM SIGNS TO BITUMINOUS TRAIL

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Checked By: DRS  
Approved By: AJP

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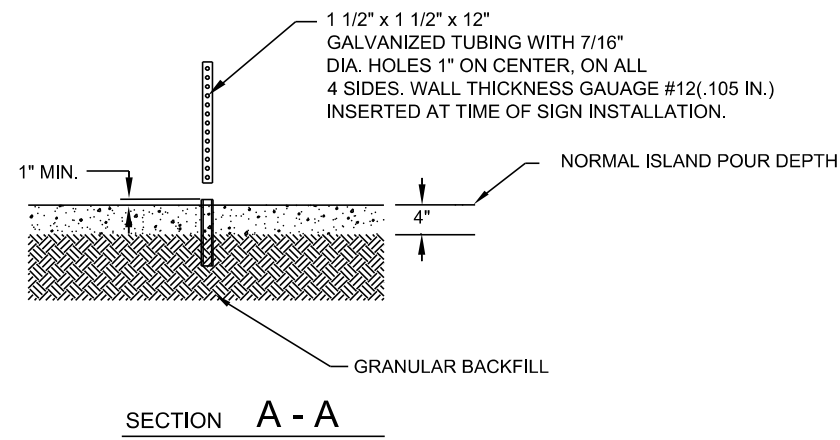
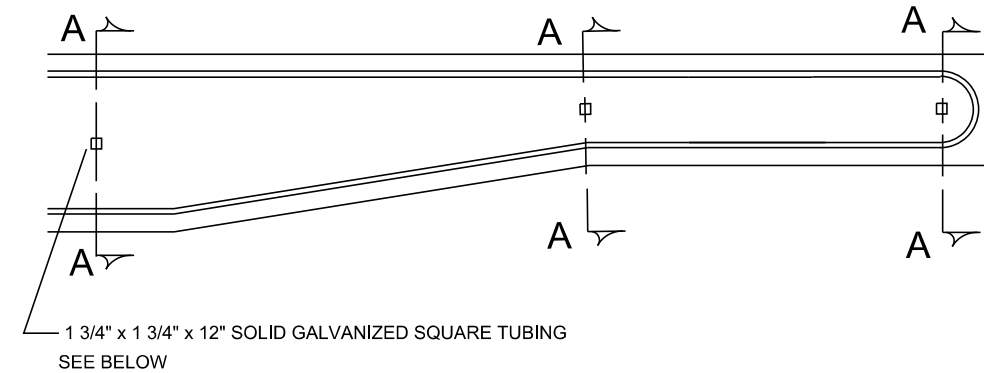
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LICENSED PROFESSIONAL ENGINEER - ANDREW PLONMAN, PE  
DATE: 6/15/15 L.I.C. NO: 44200

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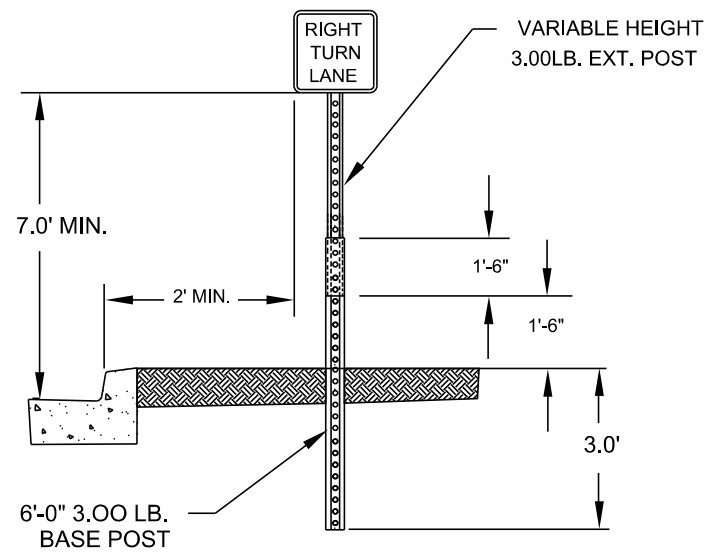
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Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**SIGNING & STRIPING PLAN**  
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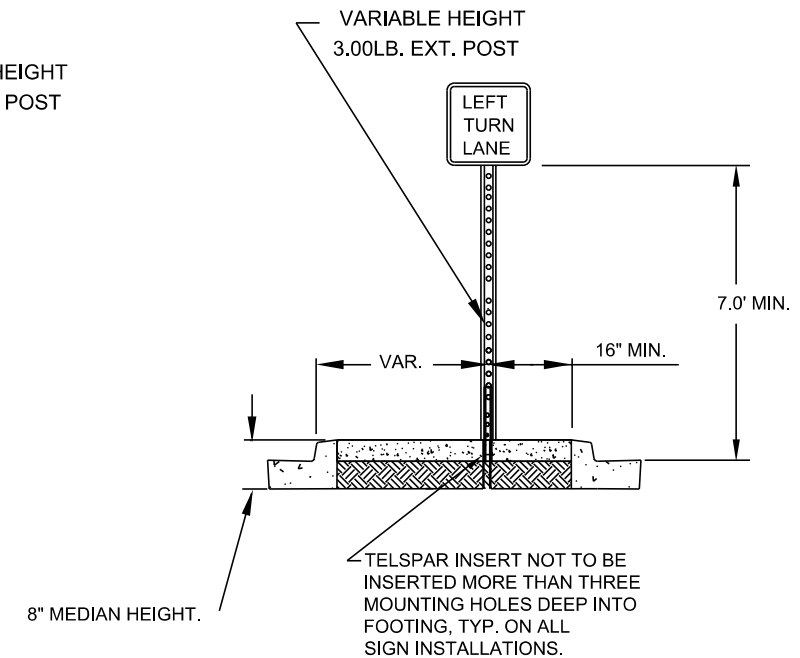
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GROUND POST MOUNT SIGN  
INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN  
INSTALLATION TYPICAL



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1	5/10/11	MJS	AP	REPLACED MNDOT DETAIL WITH ANOKA COUNTY DETAIL

Design By: AJP  
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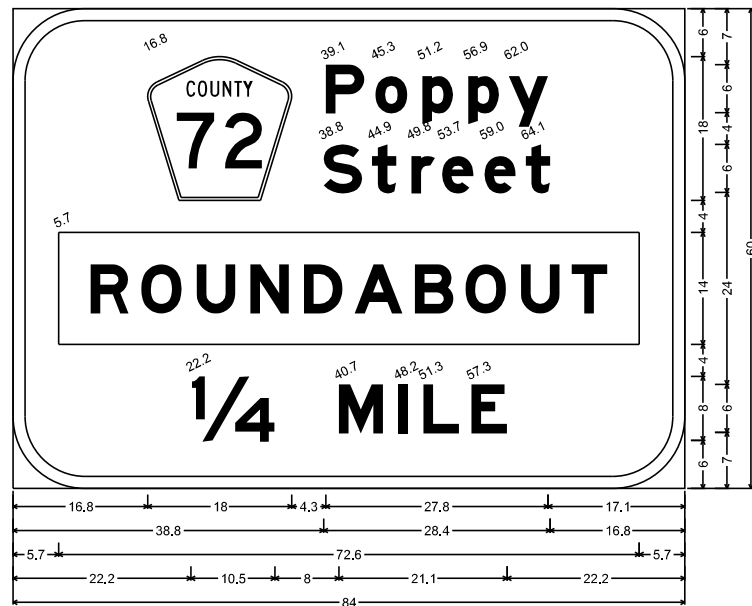
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 DATE: 6/15/15 LIC. NO: 40886

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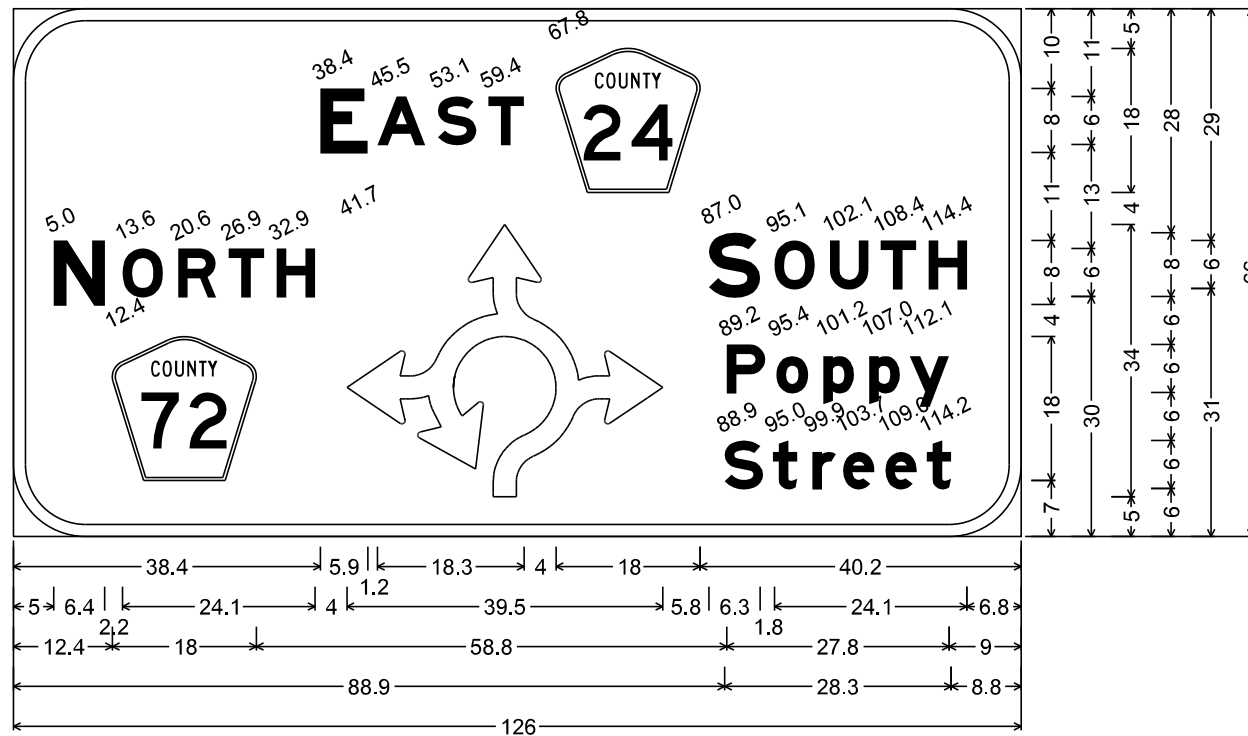
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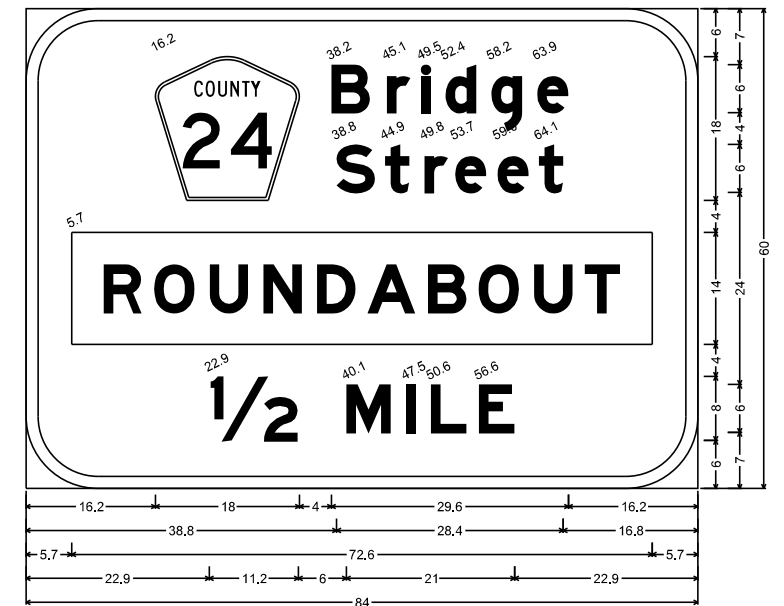
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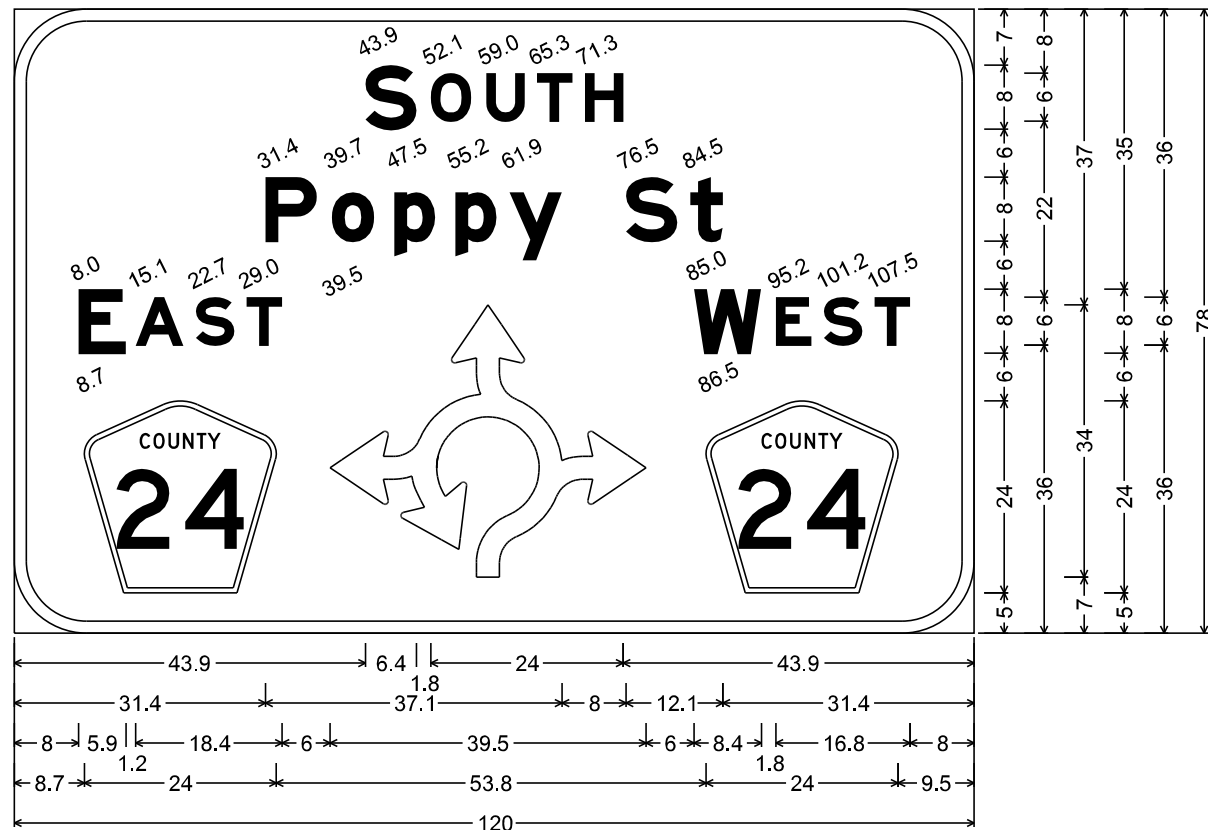
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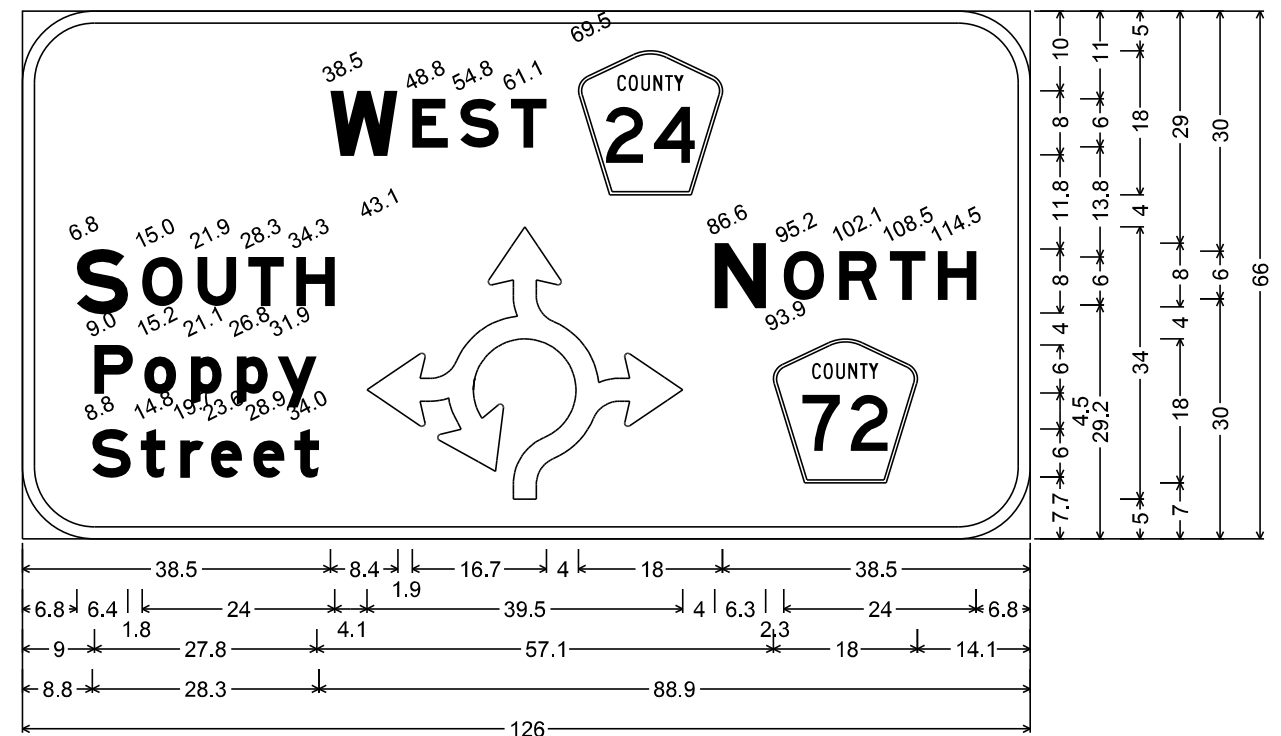
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 [Street] E Mod;



9.0" Radius, 1.5" Border, White on Green;  
 [Bridge] E Mod; [Street] E Mod; Rectangle Yellow;  
 [1/2 MILE] E Mod;



9.0" Radius, 1.5" Border, White on Green;  
 [SOUTH] E Mod; [Poppy St] E Mod; [EAST] E Mod; [WEST] E Mod;



9.0" Radius, 1.5" Border, White on Green;  
 [WEST] E Mod; [SOUTH] E Mod; [Poppy] E Mod; [Street] E Mod; RA Arrow-4hd;  
 [NORTH] E Mod;

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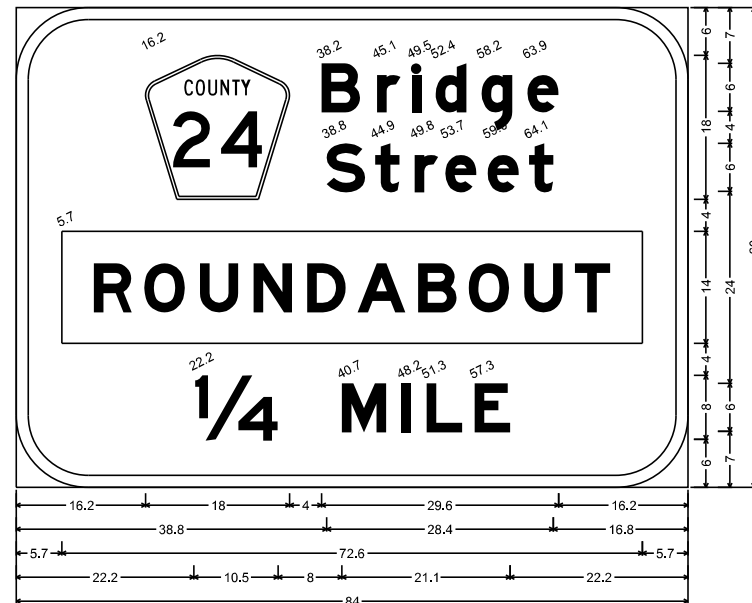
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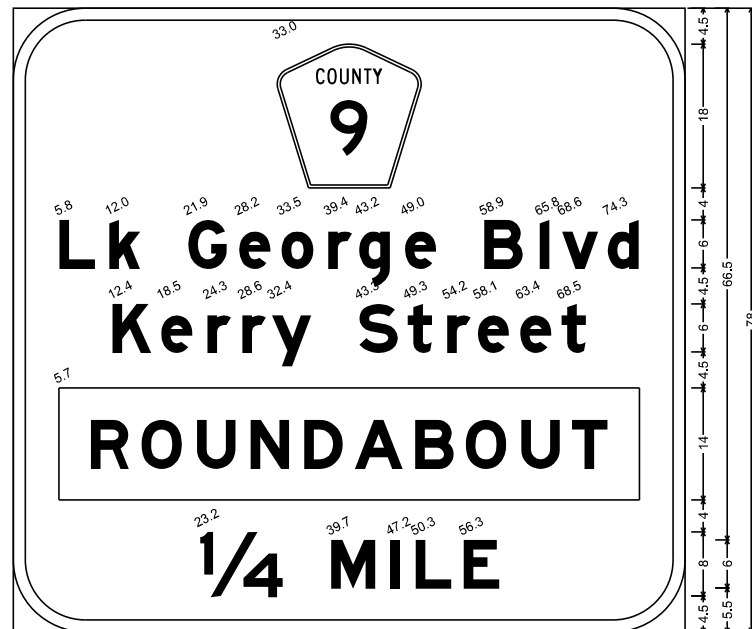
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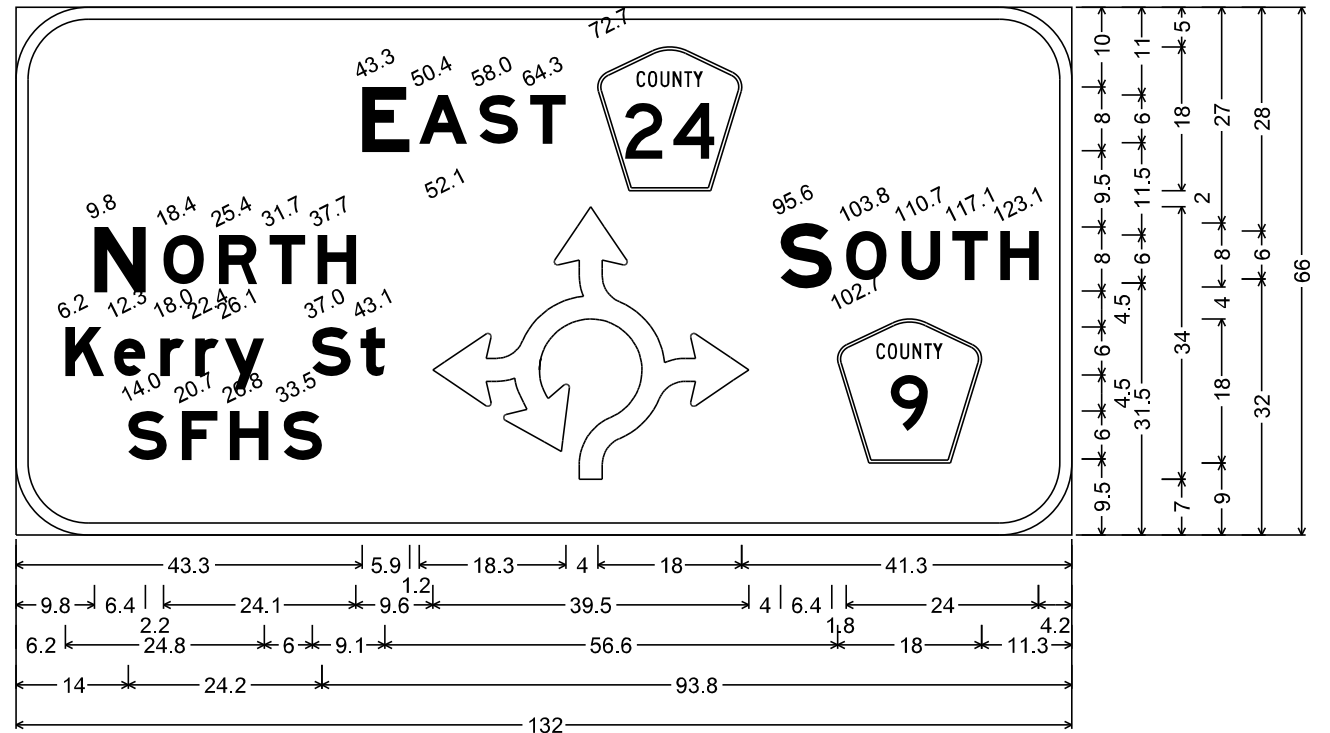




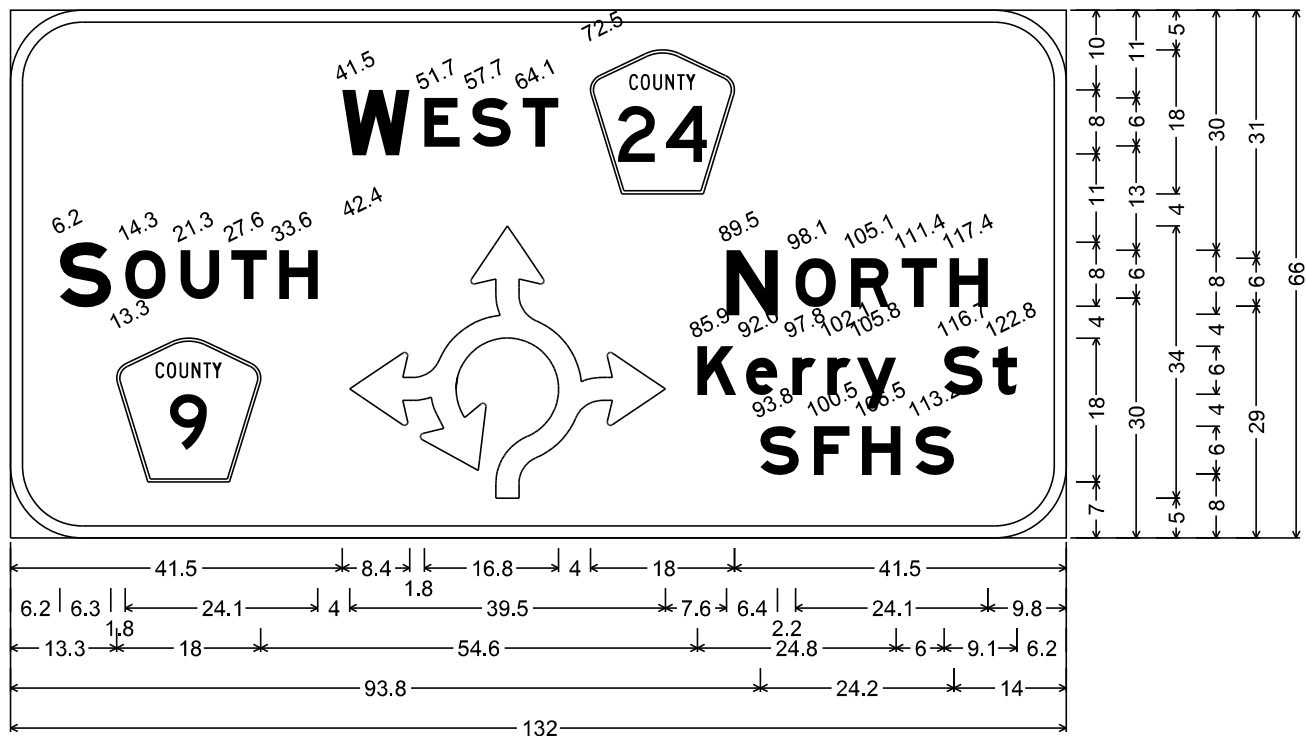
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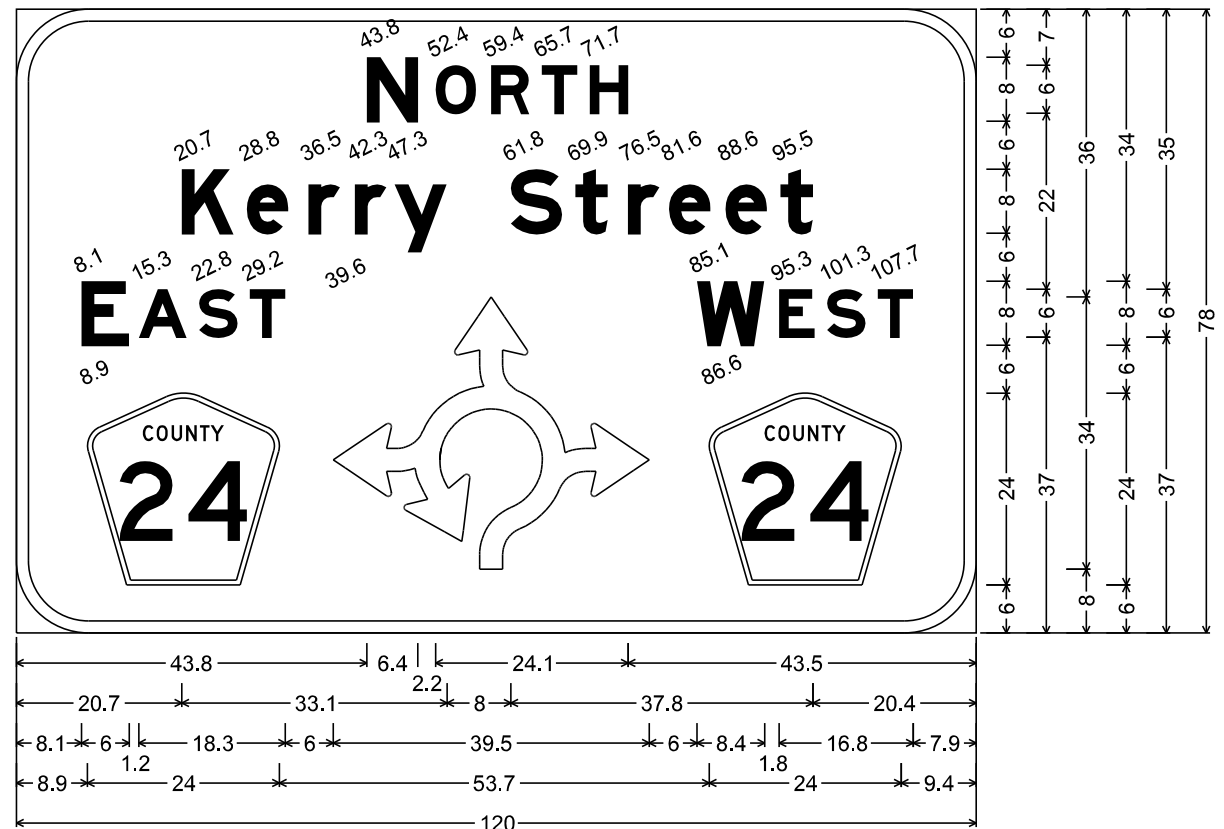
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 [1/4 MILE] E Mod;



9.0" Radius, 1.5" Border, White on Green;  
 [EAST] E Mod; [NORTH] E Mod; [Kerry St] E Mod; [SFHS] E Mod; RA Arrow-4hd;  
 [SOUTH] E Mod;



9.0" Radius, 1.5" Border, White on Green;  
 [WEST] E Mod; [SOUTH] E Mod; RA Arrow-4hd; [NORTH] E Mod; [Kerry St] E Mod;  
 [SFHS] E Mod;



9.0" Radius, 1.5" Border, White on Green;  
 [NORTH] E Mod; [Kerry Street] E Mod; [EAST] E Mod; RA Arrow-4hd;  
 [WEST] E Mod;

Note: Printed 6/30/2015  
 WSB Filename: K:\0666-2201\_Coord\Plan\6666ss080.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

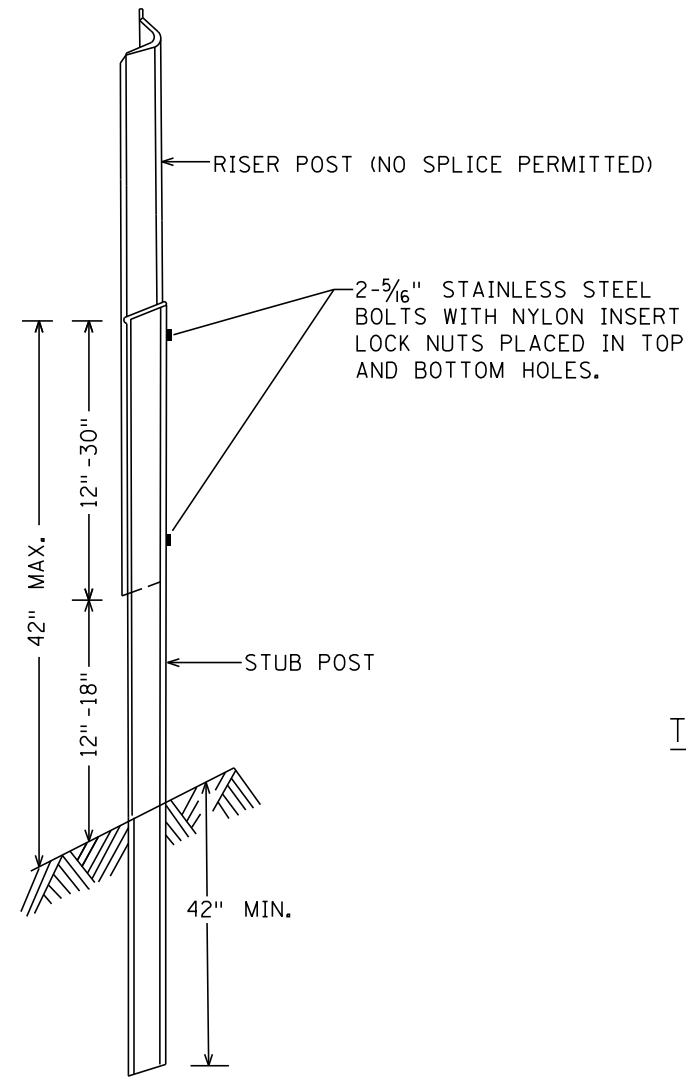
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 CERTIFIED BY: *[Signature]*  
 LICENSED PROFESSIONAL ENGINEER - ANOKA COUNTY, MINN. P.E.  
 DATE: 6/15/15 LIC. NO: 40886

**WSB**  
 & Associates, Inc.  
 701 Xenia Avenue South, Suite 300  
 Minneapolis, MN 55416  
 www.ws beng.com  
 763-541-4800 - Fax 763-541-1700  
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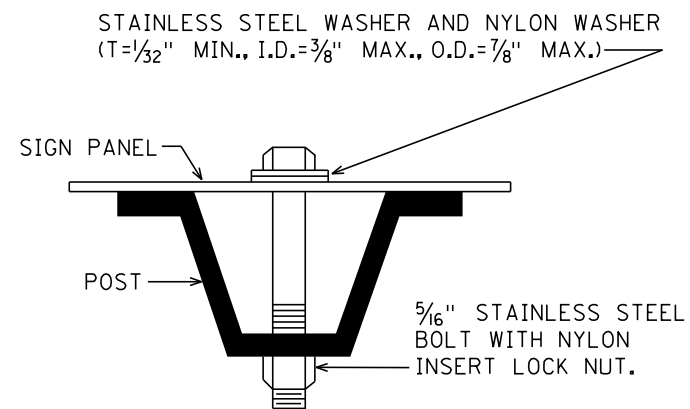
**ANOKA COUNTY**  
**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**SIGNING & STRIPING PLAN**  
 S.P. 002-624-026

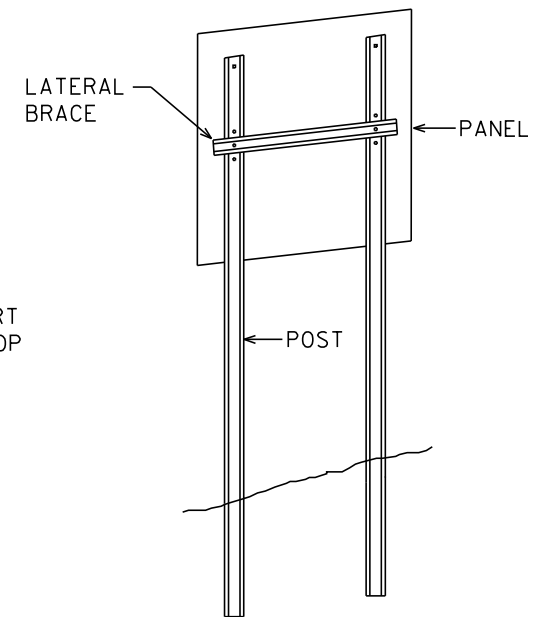
TYPE C & D POST



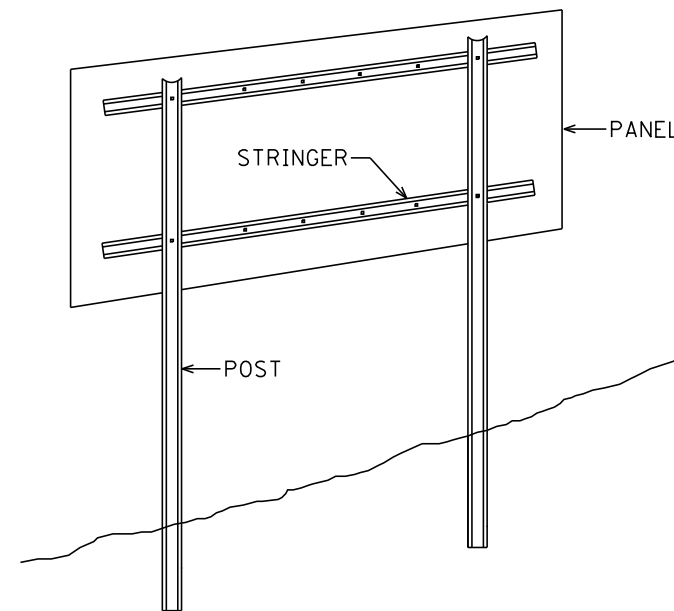
U POST BREAKAWAY SPLICE



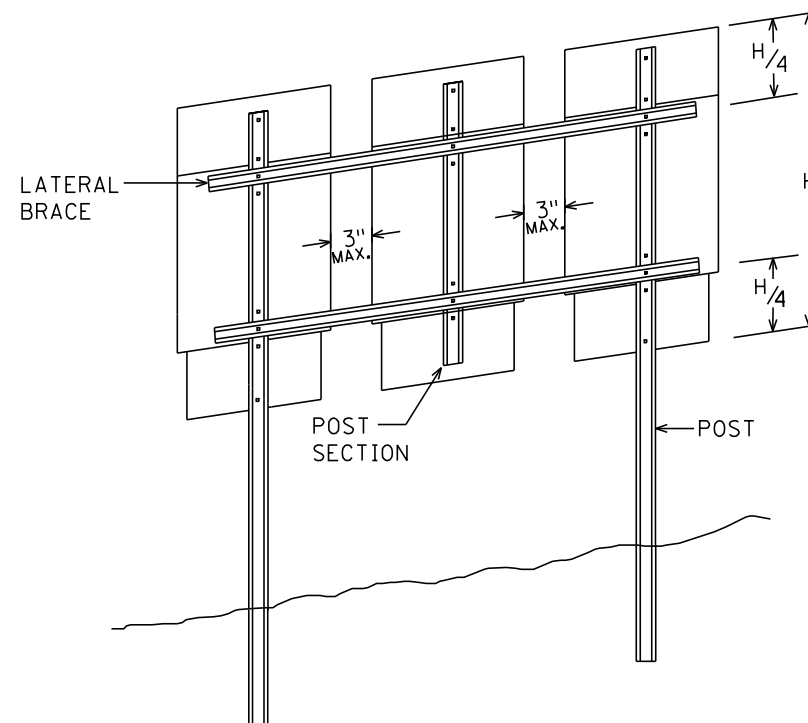
U POST MOUNTING  
TYPE C SIGNS



TYPICAL TYPE C INSTALLATION



TYPICAL TYPE D INSTALLATION

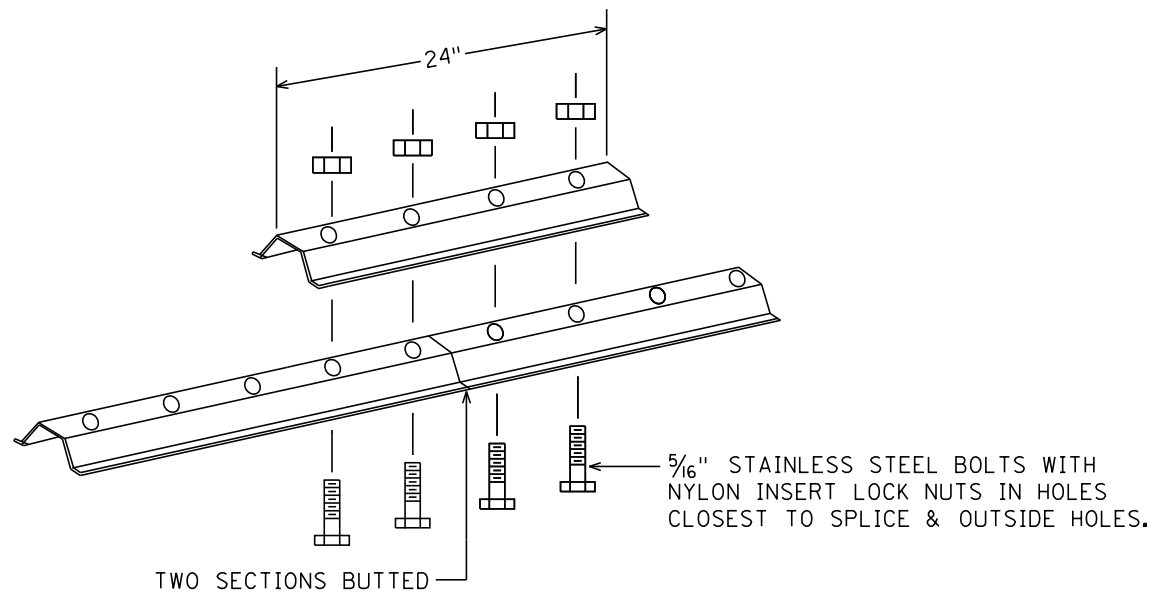


MODIFIED TYPE C INSTALLATION

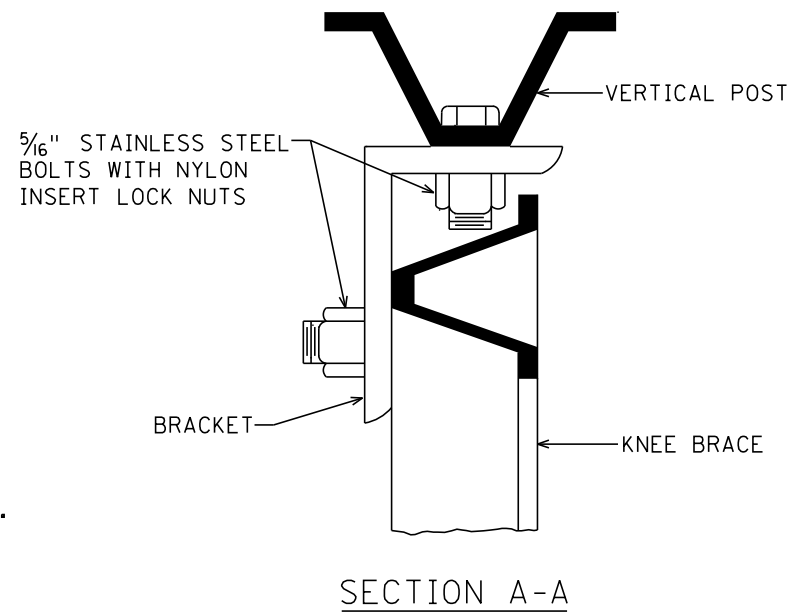
NOTES:

1. USE 3 LB/FT STUB POSTS. SHALL CONFORM TO MNDOT 3401.
2. USE 2.5 LB/FT RISER POSTS, STRINGERS, KNEE BRACES AND LATERAL BRACES. ALL SHALL CONFORM TO MNDOT 3401.
3. SEE SIGN DATA SHEETS FOR NUMBER OF POSTS, KNEE BRACES, POST LENGTHS AND SPACINGS, AS DETERMINED FROM TEM CHARTS 6.3 AND 6.4.
4. IF MORE THAN TWO POSTS ARE NEEDED, THE MINIMUM SPACING SHALL BE 45" BETWEEN POSTS.
5. TYPE D SIGN PANELS SHALL BE BOLTED TO STRINGERS AT 24" MAXIMUM INTERVALS IN ACCORDANCE WITH THE TYPE D STRINGER AND PANEL-JOINT DETAIL (SEE STANDARD SIGNS MANUAL).
6. MOUNTING (PUNCH CODE) FOR TYPE C SIGN PANELS SHALL BE AS INDICATED IN THE STANDARD SIGNS MANUAL UNLESS OTHERWISE SPECIFIED.
7. ALL RISER (VERTICAL) U POSTS SHALL BE SPLICED. DRIVEN STUB POSTS SHALL BE AT LEAST 7' LONG.
8. USE STAINLESS STEEL 5/16" BOLTS, WASHERS AND NYLON INSERT LOCK NUTS AS SHOWN FOR ALL GROUND MOUNTED AND OVERHEAD MOUNTED SIGNS.
9. STAINLESS STEEL WASHER WITH SAME DIMENSIONS SHALL BE PROVIDED BETWEEN ALL NYLON WASHERS AND BOLT HEADS.
10. BRACING STUBS SHALL BE NO MORE THAN 4" ABOVE GROUND AND EMBEDDED AT LEAST 42".
11. A-FRAME BRACKET SHALL BE STEEL CONFORMING TO MNDOT 3306 AND GALVANIZED IN ACCORDANCE WITH MNDOT 3394.
12. COLLARS SHALL BE USED TO SHIM OVERLAYS AND LEGEND COMPONENTS AWAY FROM PANEL WHERE INTERFERENCE WITH BOLT HEADS IS ENCOUNTERED. MNDOT 3352.2A6.
13. 2 POST TYPE C SIGNS SHALL BE REINFORCED WITH AT LEAST ONE LATERAL BRACE. INSTALLATIONS WHERE THE TOTAL PANEL HEIGHT IS 60" OR MORE SHALL HAVE TWO LATERAL BRACES LOCATED APPROXIMATELY AT THE QUARTER POINTS.
14. WHERE 2 SINGLE POST TYPE C SIGNS ARE INSTALLED SIDE BY SIDE, THEY SHALL BE REINFORCED Laterally BY AT LEAST 2 BRACES, BOLTED AT EACH POST AND LOCATED APPROXIMATELY AT THE QUARTER POINTS.
15. WHERE 3 OR MORE TYPE C SIGNS ARE INSTALLED SIDE BY SIDE, THEY SHALL BE REINFORCED Laterally BY AT LEAST 2 BRACES, BOLTED AT EACH POST AND POST SECTION AND LOCATED APPROXIMATELY AT THE QUARTER POINTS AS SHOWN IN MODIFIED TYPE C INSTALLATION.

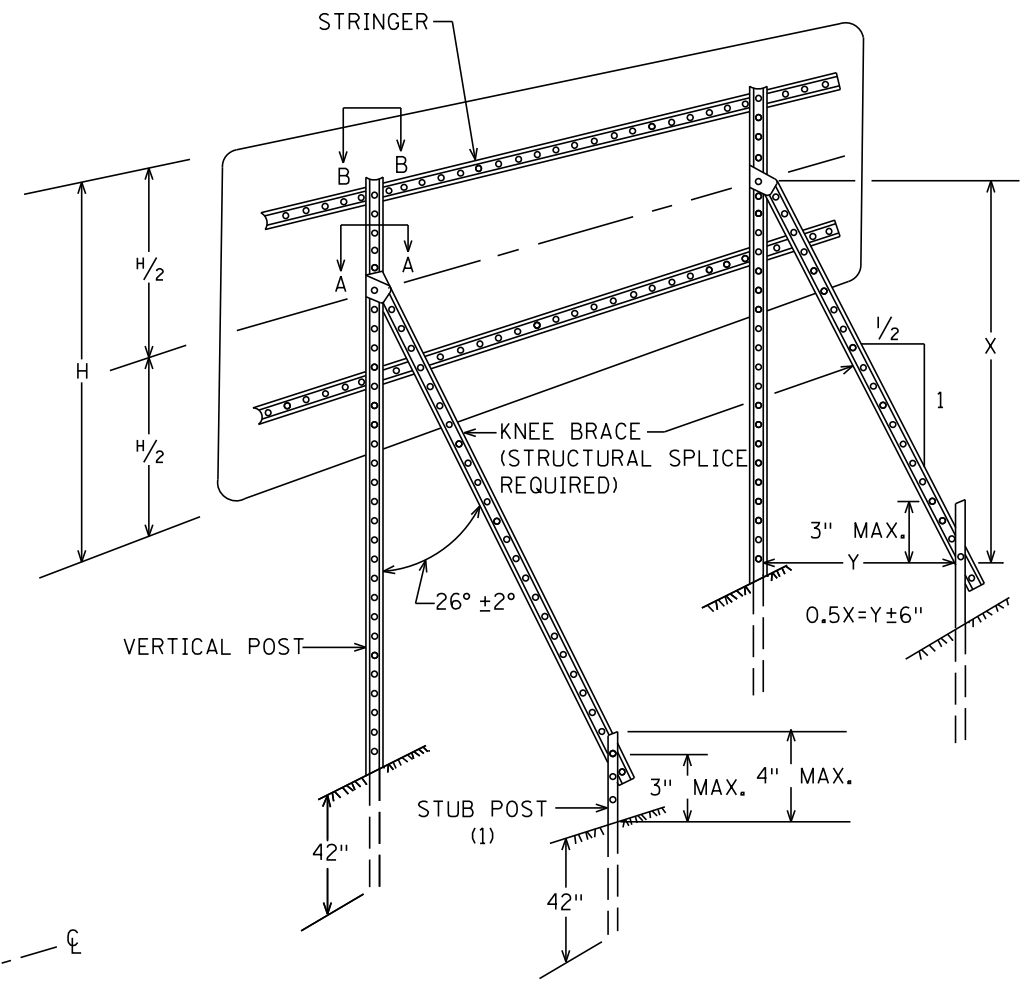
TYPE C & D SIGN  
STRUCTURAL DETAILS



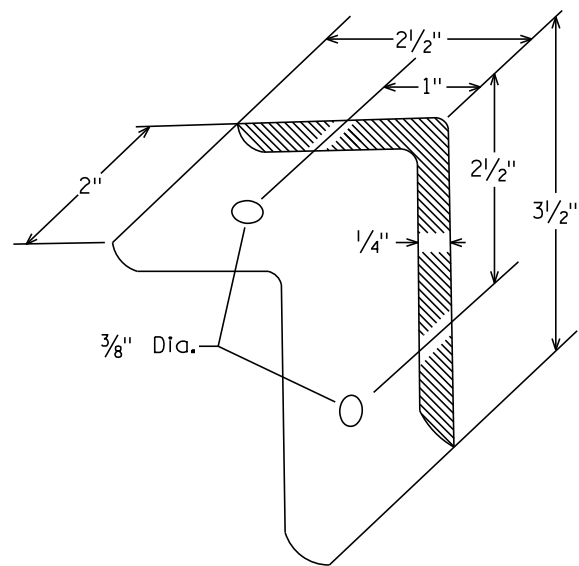
LATERAL BRACE OR STRINGER  
SPLICE DETAIL (EXPLODED VIEW)



SECTION A-A

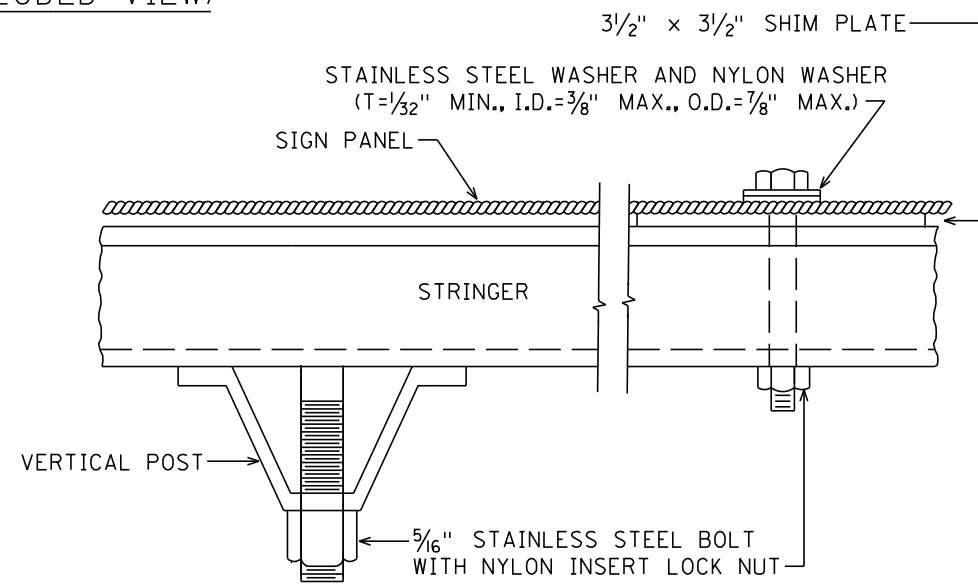


TYPICAL "A-FRAME" INSTALLATION  
TYPE "D" SIGNS

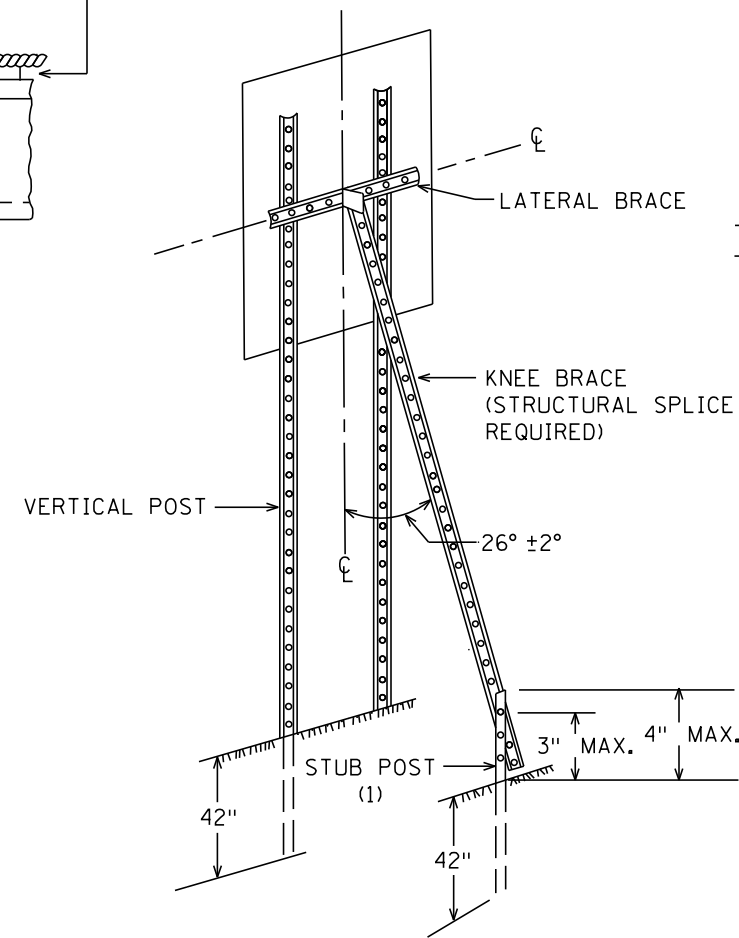


A-FRAME BRACKET

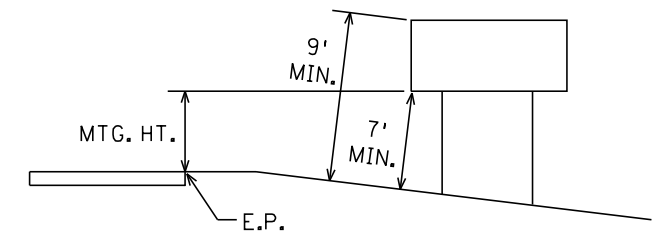
(STEEL MNDOT 3306 GALVANIZED PER MNDOT 3394)



SECTION B-B

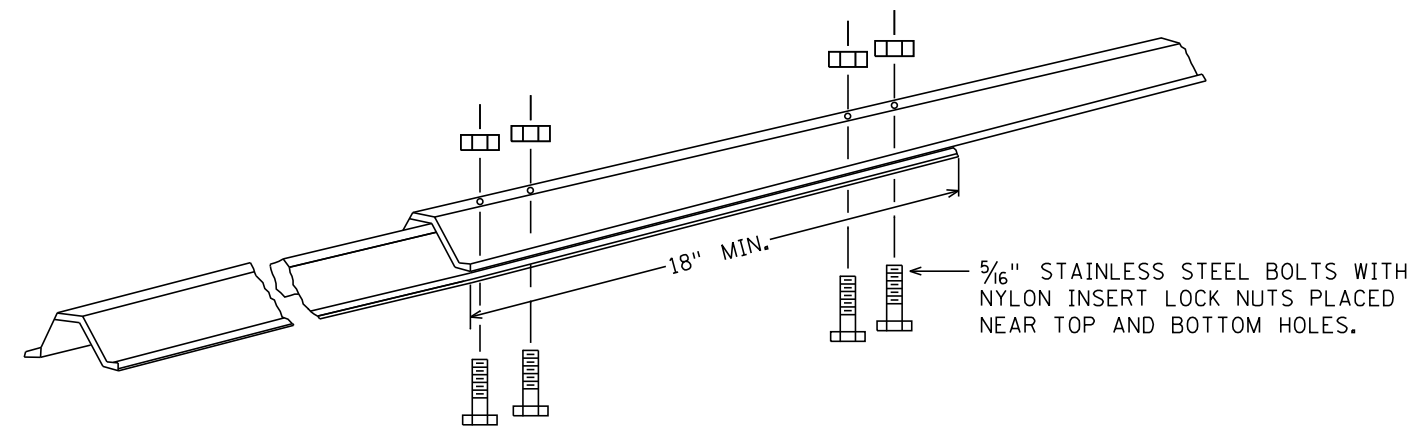


TYPICAL "A-FRAME" INSTALLATION  
TYPE "C" SIGNS



TYPICAL MOUNTING

(1) OFFSET STUB POST 1' TOWARD ROADWAY  
RELATIVE TO VERTICAL POST. ATTACH STUB  
POST AND KNEE BRACE BACK TO BACK.

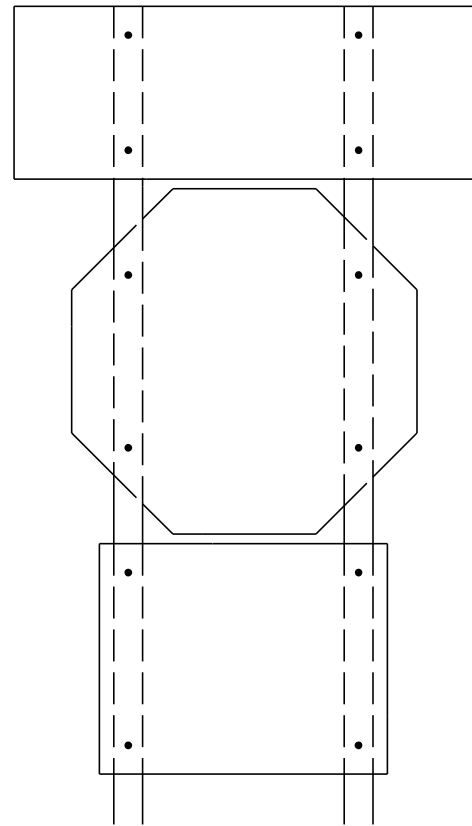


STRUCTURAL SPLICE

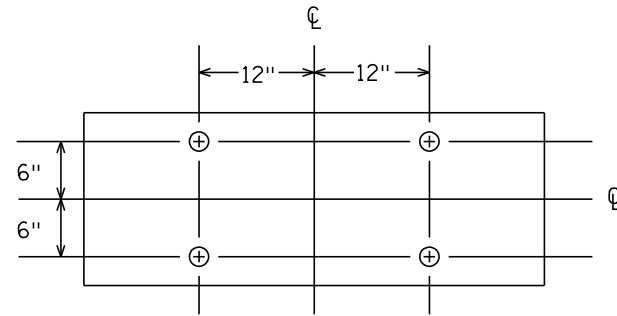
(USE WHEN IT IS NECESSARY TO FABRICATE THE CORRECT LENGTH OF POST FROM TWO PIECES)

TYPE C & D SIGN  
STRUCTURAL DETAILS

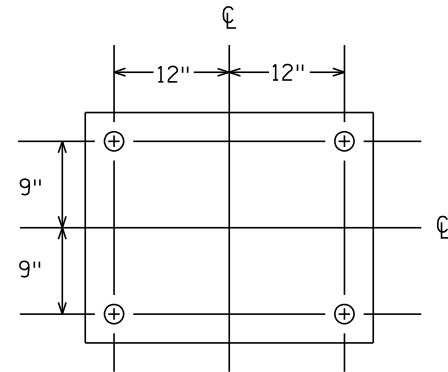
Sheet 2 of 3



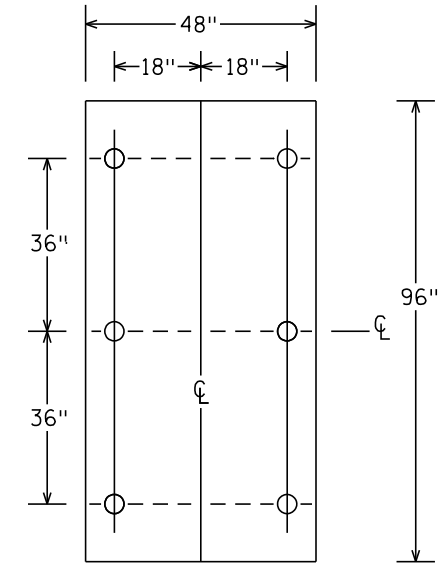
R6-1, R1-1 & (R6-3 OR R6-3a)  
MOUNTING



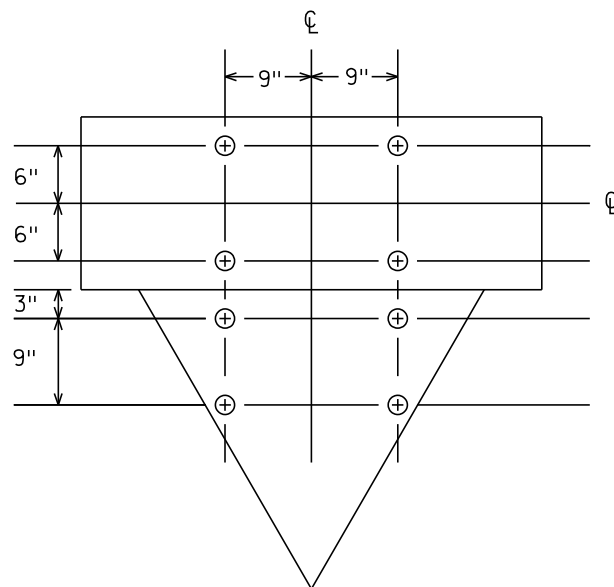
PUNCHING FOR R6-1(54" x 18")



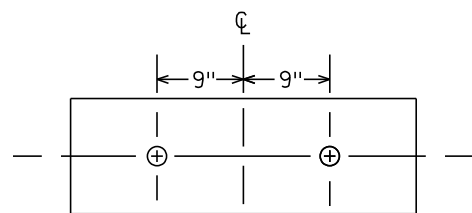
PUNCHING FOR R6-3 OR R6-3a(30" x 24")



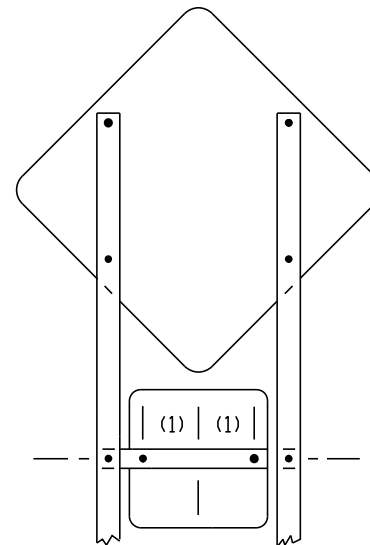
PUNCHING FOR R2-4b  
SPEED LIMIT



PUNCHING FOR R6-1(54" x 18")  
& R1-2(36" x 36" x 36")



PUNCHING FOR R6-1(36" x 12")



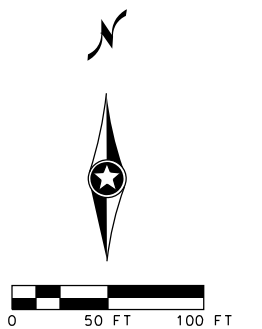
WARNING SIGN [30" x 30 OR 48" x 48"] AND  
WARNING PLAQUE [18" x 18" OR 30" x 30"]  
PUNCHING AND MOUNTING

- (1) 6" FOR WARNING PLAQUE (18" x 18")
- 12" FOR WARNING PLAQUE (30" x 30")

TYPE C & D SIGN  
STRUCTURAL DETAILS

Sheet 3 of 3

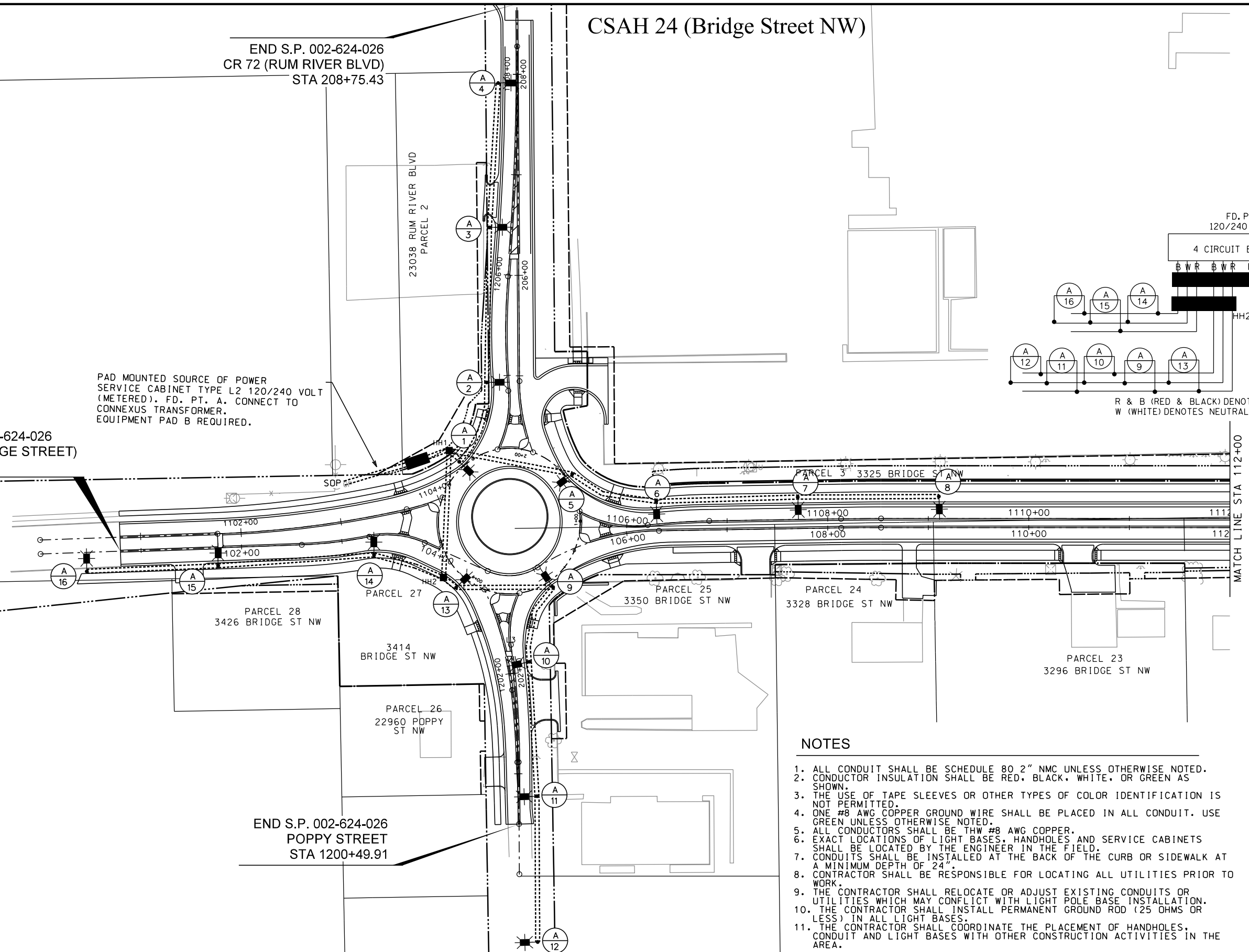
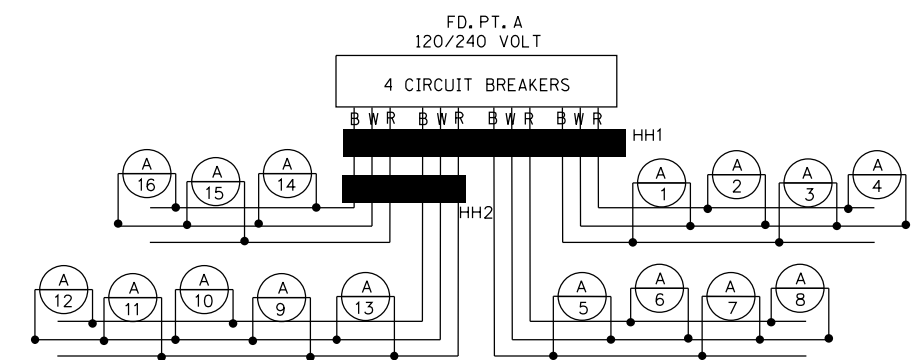
# CSAH 24 (Bridge Street NW)



END S.P. 002-624-026  
CR 72 (RUM RIVER BLVD)  
STA 208+75.43

BEGIN S.P. 002-624-026  
CSAH 24 (BRIDGE STREET)  
STA 100+79.44

PAD MOUNTED SOURCE OF POWER  
SERVICE CABINET TYPE L2 120/240 VOLT  
(METERED). FD. PT. A. CONNECT TO  
CONNEXUS TRANSFORMER.  
EQUIPMENT PAD B REQUIRED.



## NOTES

- ALL CONDUIT SHALL BE SCHEDULE 80 2" NMC UNLESS OTHERWISE NOTED.
- CONDUCTOR INSULATION SHALL BE RED, BLACK, WHITE, OR GREEN AS SHOWN.
- THE USE OF TAPE SLEEVES OR OTHER TYPES OF COLOR IDENTIFICATION IS NOT PERMITTED.
- ONE #8 AWG COPPER GROUND WIRE SHALL BE PLACED IN ALL CONDUIT. USE GREEN UNLESS OTHERWISE NOTED.
- ALL CONDUCTORS SHALL BE THW #8 AWG COPPER.
- EXACT LOCATIONS OF LIGHT BASES, HANDHOLES AND SERVICE CABINETS SHALL BE LOCATED BY THE ENGINEER IN THE FIELD.
- CONDUITS SHALL BE INSTALLED AT THE BACK OF THE CURB OR SIDEWALK AT A MINIMUM DEPTH OF 24".
- CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES PRIOR TO WORK.
- THE CONTRACTOR SHALL RELOCATE OR ADJUST EXISTING CONDUITS OR UTILITIES WHICH MAY CONFLICT WITH LIGHT POLE BASE INSTALLATION.
- THE CONTRACTOR SHALL INSTALL PERMANENT GROUND ROD (25 OHMS OR LESS) IN ALL LIGHT BASES.
- THE CONTRACTOR SHALL COORDINATE THE PLACEMENT OF HANDHOLES, CONDUIT AND LIGHT BASES WITH OTHER CONSTRUCTION ACTIVITIES IN THE AREA.

## LEGEND

- LIGHTING UNIT 9-30
- PERMANENT GROUND ROD
- CONDUIT
- HANDHOLE
- SERVICE CABINET (PAD MOUNT)

END S.P. 002-624-026  
POPPY STREET  
STA 1200+49.91

Date Printed: 6/30/2015  
File Name: R:\0666-220\Coord\Plan\666p01.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
Plan By: ACJ  
Checked By: DRS  
Approved By: AJP

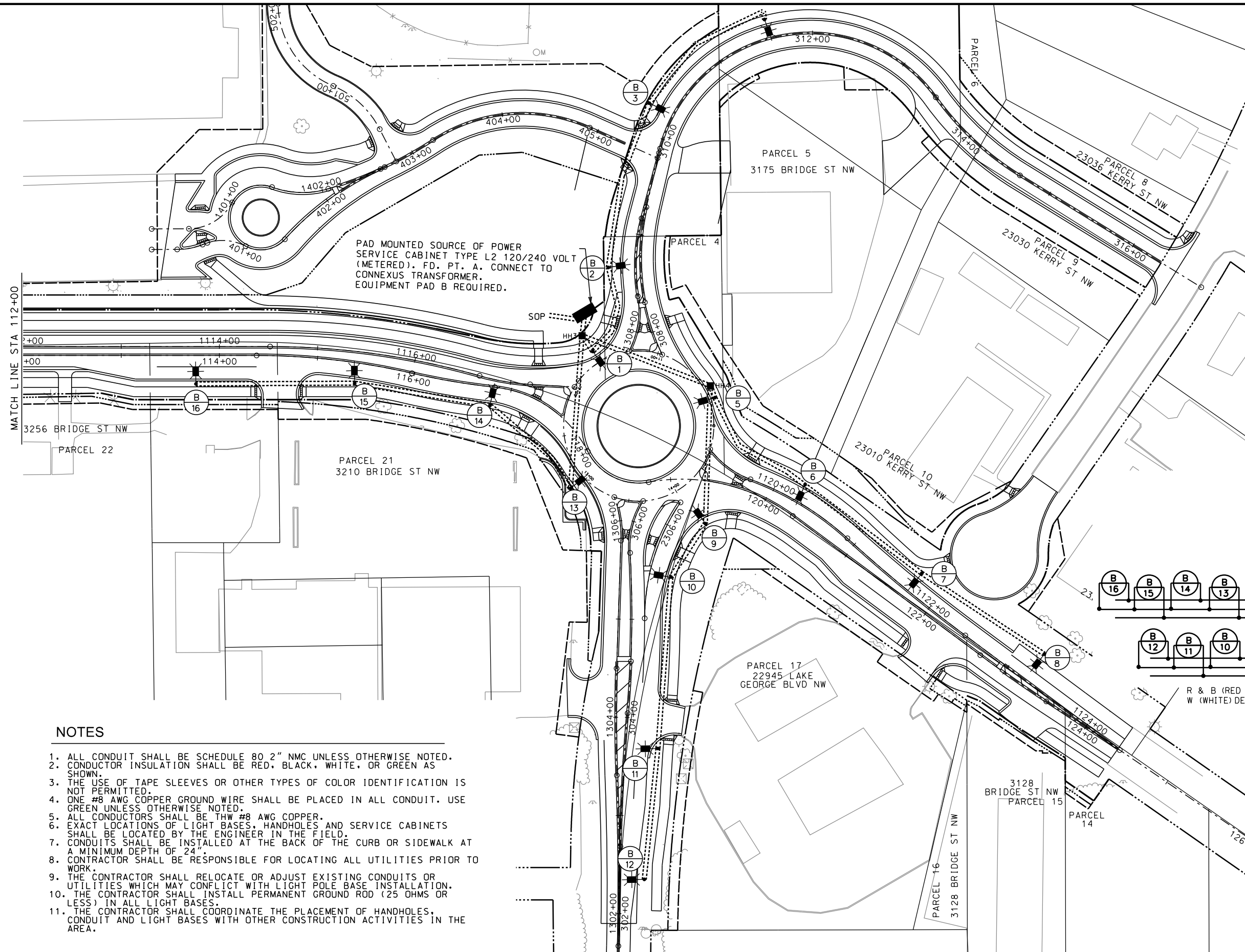
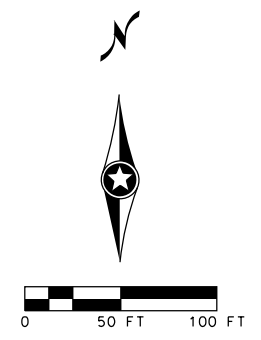
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

CERTIFIED BY:   
LICENSED PROFESSIONAL ENGINEER - ANDREW PLOZMAN, PE  
DATE: 6/15/15 LIC. NO: 44200

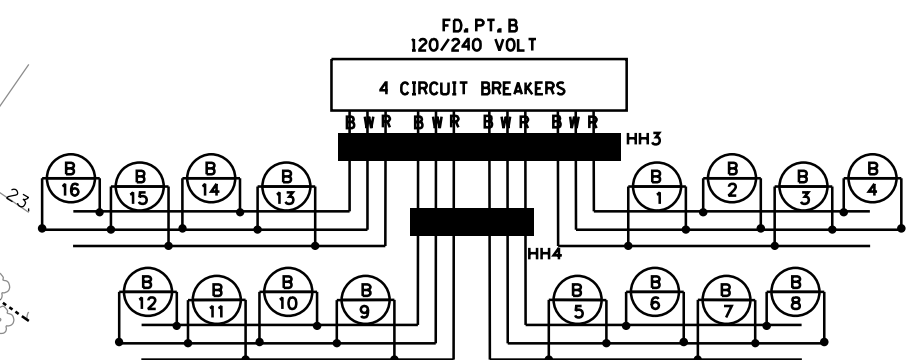
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**ANOKA COUNTY**  
**CSAH 24 Improvements**  
Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**LIGHTING PLAN**  
S.P. 002-624-026



PAD MOUNTED SOURCE OF POWER SERVICE CABINET TYPE L2 120/240 VOLT (METERED). FD. PT. A. CONNECT TO CONNEXUS TRANSFORMER. EQUIPMENT PAD B REQUIRED.



R & B (RED & BLACK) DENOTE CURRENT CARRYING CONDUCTORS  
W (WHITE) DENOTES NEUTRAL. GROUND NOT SHOWN.

**NOTES**

1. ALL CONDUIT SHALL BE SCHEDULE 80 2" NMC UNLESS OTHERWISE NOTED.
2. CONDUCTOR INSULATION SHALL BE RED, BLACK, WHITE, OR GREEN AS SHOWN.
3. THE USE OF TAPE SLEEVES OR OTHER TYPES OF COLOR IDENTIFICATION IS NOT PERMITTED.
4. ONE #8 AWG COPPER GROUND WIRE SHALL BE PLACED IN ALL CONDUIT. USE GREEN UNLESS OTHERWISE NOTED.
5. ALL CONDUCTORS SHALL BE THW #8 AWG COPPER.
6. EXACT LOCATIONS OF LIGHT BASES, HANDHOLES AND SERVICE CABINETS SHALL BE LOCATED BY THE ENGINEER IN THE FIELD.
7. CONDUITS SHALL BE INSTALLED AT THE BACK OF THE CURB OR SIDEWALK AT A MINIMUM DEPTH OF 24".
8. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES PRIOR TO WORK.
9. THE CONTRACTOR SHALL RELOCATE OR ADJUST EXISTING CONDUITS OR UTILITIES WHICH MAY CONFLICT WITH LIGHT POLE BASE INSTALLATION.
10. THE CONTRACTOR SHALL INSTALL PERMANENT GROUND ROD (25 OHMS OR LESS) IN ALL LIGHT BASES.
11. THE CONTRACTOR SHALL COORDINATE THE PLACEMENT OF HANDHOLES, CONDUIT AND LIGHT BASES WITH OTHER CONSTRUCTION ACTIVITIES IN THE AREA.

**LEGEND**

- LIGHTING UNIT 9-30
- PERMANENT GROUND ROD
- CONDUIT
- HANDHOLE
- SERVICE CABINET (PAD MOUNT)

Date Printed: 6/30/2015  
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Design By: AJP  
Plan By: ACJ  
Checked By: DRS  
Approved By: AJP

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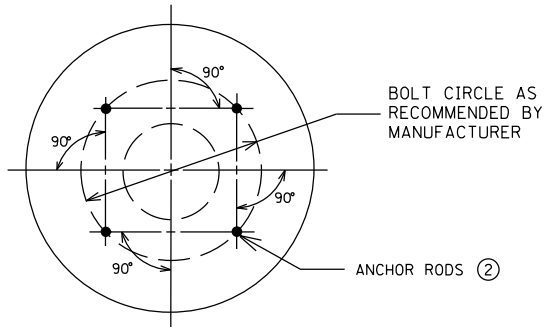
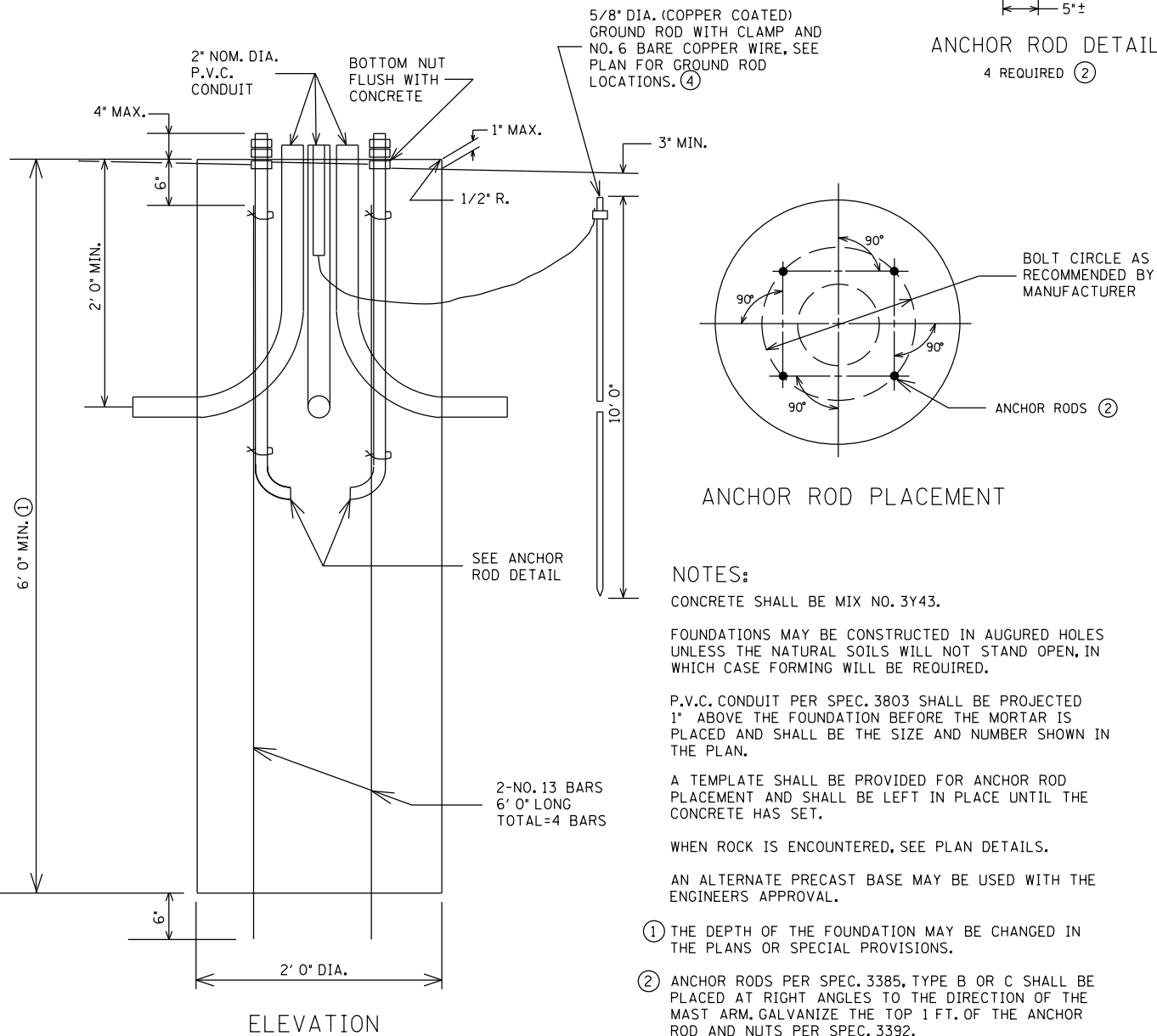
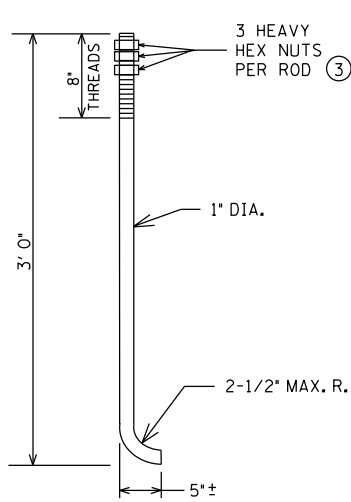
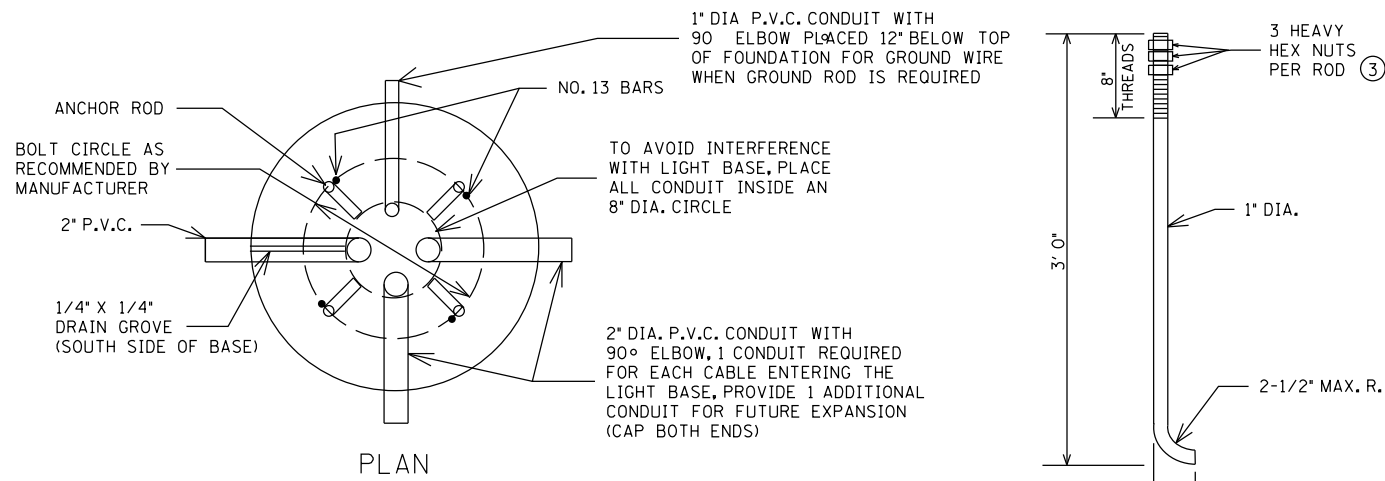
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DATE: 6/15/15 LIC. NO: 44200

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**CSAH 24 Improvements**  
Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
**LIGHTING PLAN**  
S.P. 002-624-026

SHEET  
**142**  
OF  
**214**  
SHEETS



**NOTES:**

CONCRETE SHALL BE MIX NO. 3Y43.

FOUNDATIONS MAY BE CONSTRUCTED IN AUGURED HOLES UNLESS THE NATURAL SOILS WILL NOT STAND OPEN, IN WHICH CASE FORMING WILL BE REQUIRED.

P.V.C. CONDUIT PER SPEC. 3803 SHALL BE PROJECTED 1" ABOVE THE FOUNDATION BEFORE THE MORTAR IS PLACED AND SHALL BE THE SIZE AND NUMBER SHOWN IN THE PLAN.

A TEMPLATE SHALL BE PROVIDED FOR ANCHOR ROD PLACEMENT AND SHALL BE LEFT IN PLACE UNTIL THE CONCRETE HAS SET.

WHEN ROCK IS ENCOUNTERED, SEE PLAN DETAILS.

AN ALTERNATE PRECAST BASE MAY BE USED WITH THE ENGINEERS APPROVAL.

(1) THE DEPTH OF THE FOUNDATION MAY BE CHANGED IN THE PLANS OR SPECIAL PROVISIONS.

(2) ANCHOR RODS PER SPEC. 3385, TYPE B OR C SHALL BE PLACED AT RIGHT ANGLES TO THE DIRECTION OF THE MAST ARM. GALVANIZE THE TOP 1 FT. OF THE ANCHOR ROD AND NUTS PER SPEC. 3392.

(3) WRAP THREADS OF ANCHOR RODS BELOW BOTTOM NUT WITH 3 LAYERS OF PLASTIC ELECTRICAL TAPE.

(4) PLACE GROUND ROD 3' TO 6' DEEP AND WITHIN 1' OF BASE.

THE FOLLOWING STANDARD PLATES APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT:

STANDARD PLATES	
8106C	EQUIPMENT PAD B MODIFIED (3 SHEETS)
8127D	LIGHT FOUNDATION DESIGN E (2 SHEETS)

FEEDPOINT A

LIGHTING STANDARDS AND BASES

NO.	STATION	LT. SB	RT. NB	LOCATION	TYPE	MH
1	2+63	--	--	RADIAL	9-30	30
2	1204+95	--	--	SB CSAH 72	9-30	30
3	1206+46	--	--	SB CSAH 72	9-30	30
4	1207+91	--	--	SB CSAH 72	9-30	30
5	1+45	--	--	RADIAL	9-30	30
6	1106+32	--	--	WB CSAH 24	9-30	30
7	1107+71	--	--	WB CSAH 24	9-30	30
8	1109+11	--	--	WB CSAH 24	9-30	30
9	4+79	--	--	RADIAL	9-30	30
10	202+10	--	--	NB CSAH 72	9-30	30
11	200+77	--	--	NB CSAH 72	9-30	30
12	199+33	--	--	NB CSAH 72	9-30	30
13	3+97	--	--	RADIAL	9-30	30
14	103+29	--	--	EB CSAH 24	9-30	30
15	101+76	--	--	EB CSAH 24	9-30	30
16	100+45	--	--	EB CSAH 24	9-30	30

FEEDPOINT B

LIGHTING STANDARDS AND BASES

NO.	STATION	LT. SB	RT. NB	LOCATION	TYPE	MH
1	11+62	--	--	RADIAL	9-30	30
2	1308+66	--	--	SB KERRY STREET	9-30	30
3	310+26	--	--	SB KERRY STREET	9-30	30
4	311+56	--	--	SB KERRY STREET	9-30	30
5	10+27	--	--	RADIAL	9-30	30
6	120+25	--	--	WB CSAH 24	9-30	30
7	122+73	--	--	WB CSAH 24	9-30	30
8	123+23	--	--	WB CSAH 24	9-30	30
9	13+86	--	--	RADIAL	9-30	30
10	305+42	--	--	NB CSAH 9	9-30	30
11	303+71	--	--	NB CSAH 9	9-30	30
12	302+35	--	--	NB CSAH 9	9-30	30
13	12+97	--	--	RADIAL	9-30	30
14	116+80	--	--	EB CSAH 24	9-30	30
15	115+41	--	--	EB CSAH 24	9-30	30
16	113+76	--	--	EB CSAH 24	9-30	30

Date Printed: 6/30/2015  
File Name: K:\0666-220\Coord\Plan\666p03.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
 Plan By: ACJ  
 Checked By: DRS  
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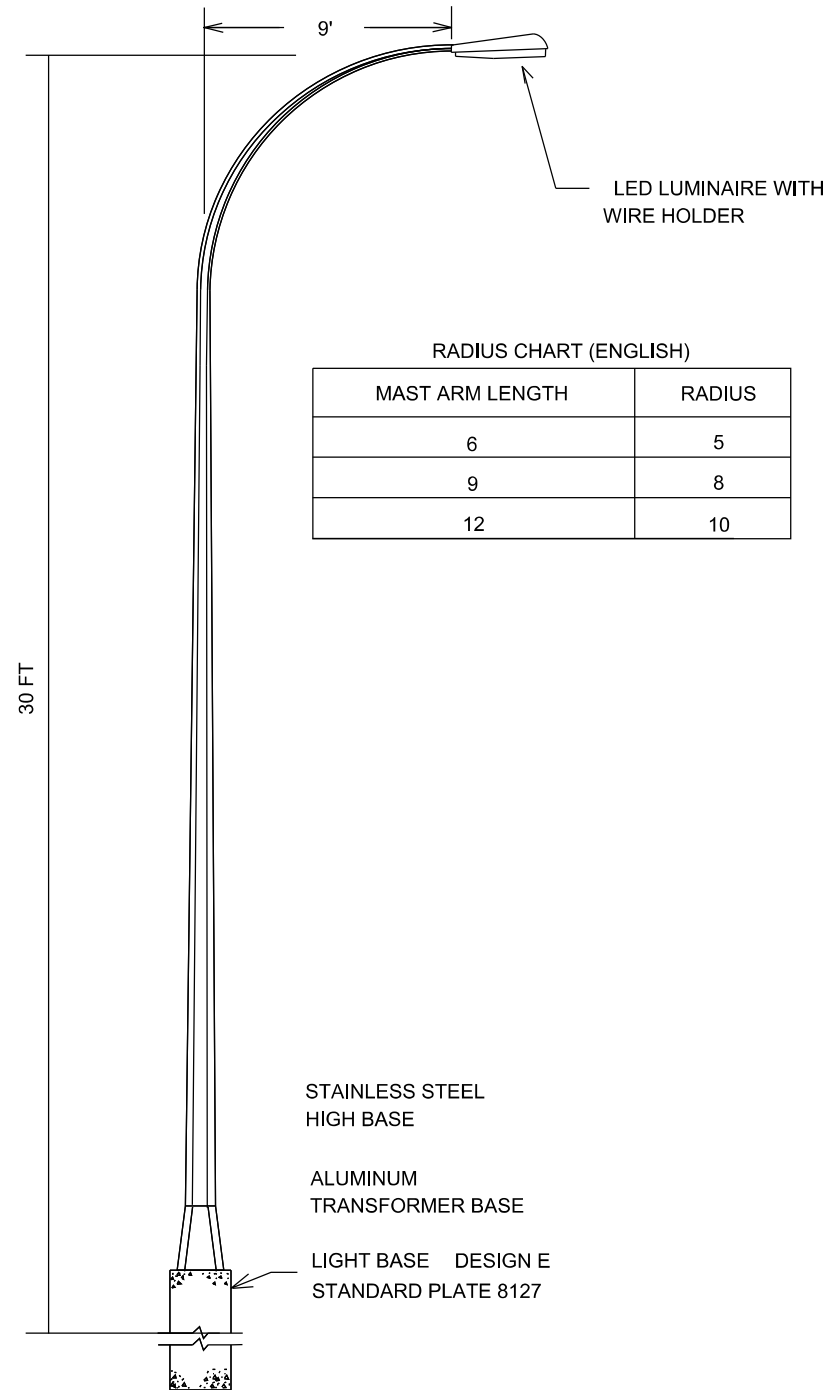
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**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA

**LIGHTING DETAILS**  
 S.P. 002-624-026



LIGHTING UNIT TYPE 9-30

BREAKAWAY

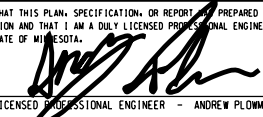
LIGHTING TABULATION							
	LIGHTING UNIT TYPE 9-30	LIGHT FOUNDATION DESIGN E	2" NON-METALLIC CONDUIT	UNDERGROUND WIRE 1 COND NO 8	SERVICE CABINET	EQUIPMENT PAD B	HANDHOLE
	EACH	EACH	LN FT	LN FT	EACH	EACH	EACH
CSAH 24 (BRIDGE STREET)							
100+79 to 103+56	3	3	350	1750			
105+86 to 117+20	6	6	637	3185			
119+75 to 124+39	3	3	321	1605			
SUBTOTAL (CSAH 24)	12	12	1308	6540			
POPPY STREET (SOUTH LEG)	3	3	316	1580			
CR 72 (NORTH LEG)	3	3	322	1610			
CR 9 (SOUTH LEG)	3	3	309	1545			
KERRY STREET CONNECTION	3	3	367	1835			
CSAH 24 & CR 72 ROUNDABOUT	4	4	628	3140	1	1	2
CSAH 24 & CR 9 ROUNDABOUT	4	4	807	4035	1	1	2
TOTAL	32	32	4057	20285	2	2	4

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 Approved By: AJP

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 DATE: 6/15/15 LIC. NO: 44200

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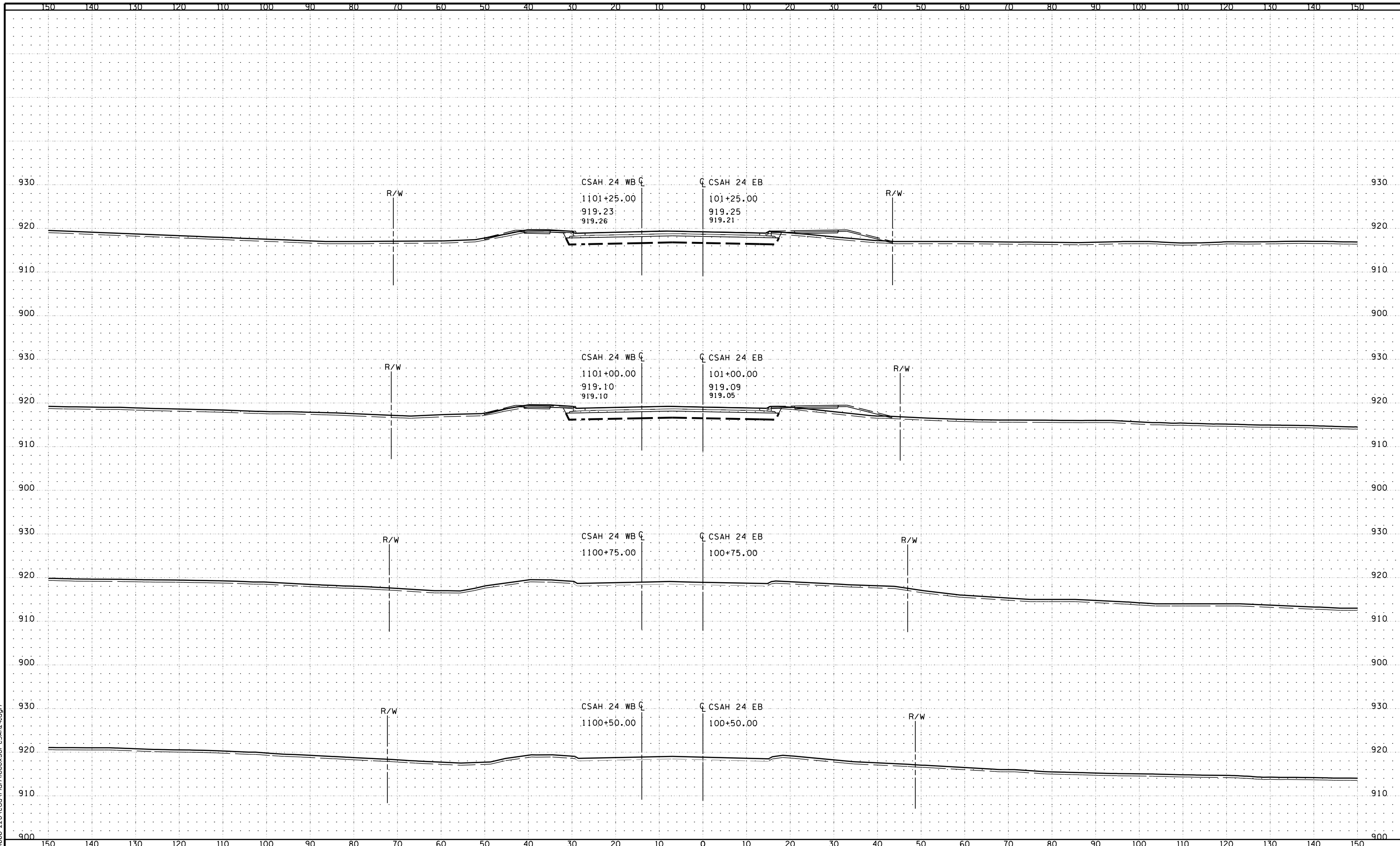
**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA

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SHEET  
**144**  
 OF  
**214**  
 SHEETS





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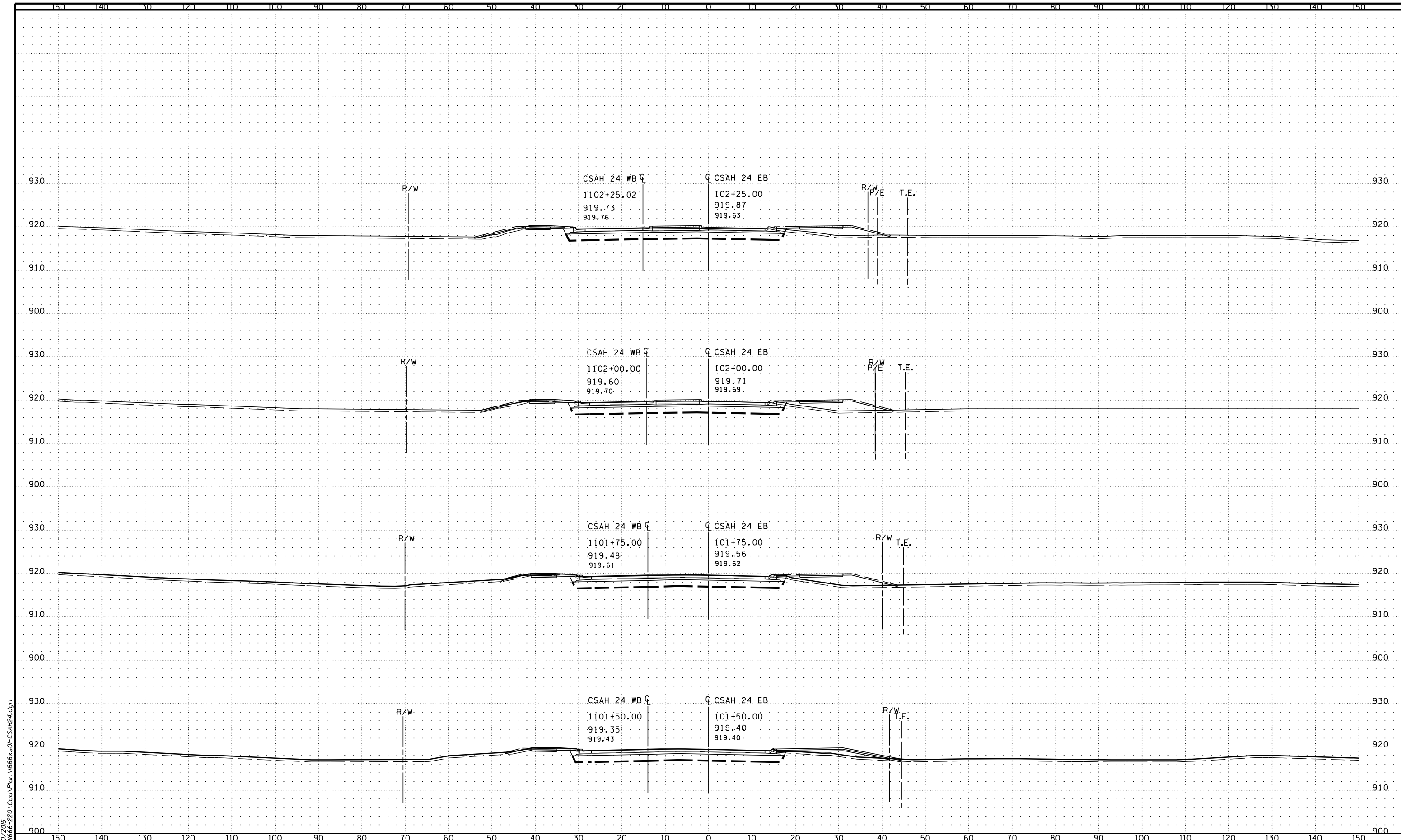
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**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
 CSAH 24  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**145**  
 OF  
**214**  
 SHEETS



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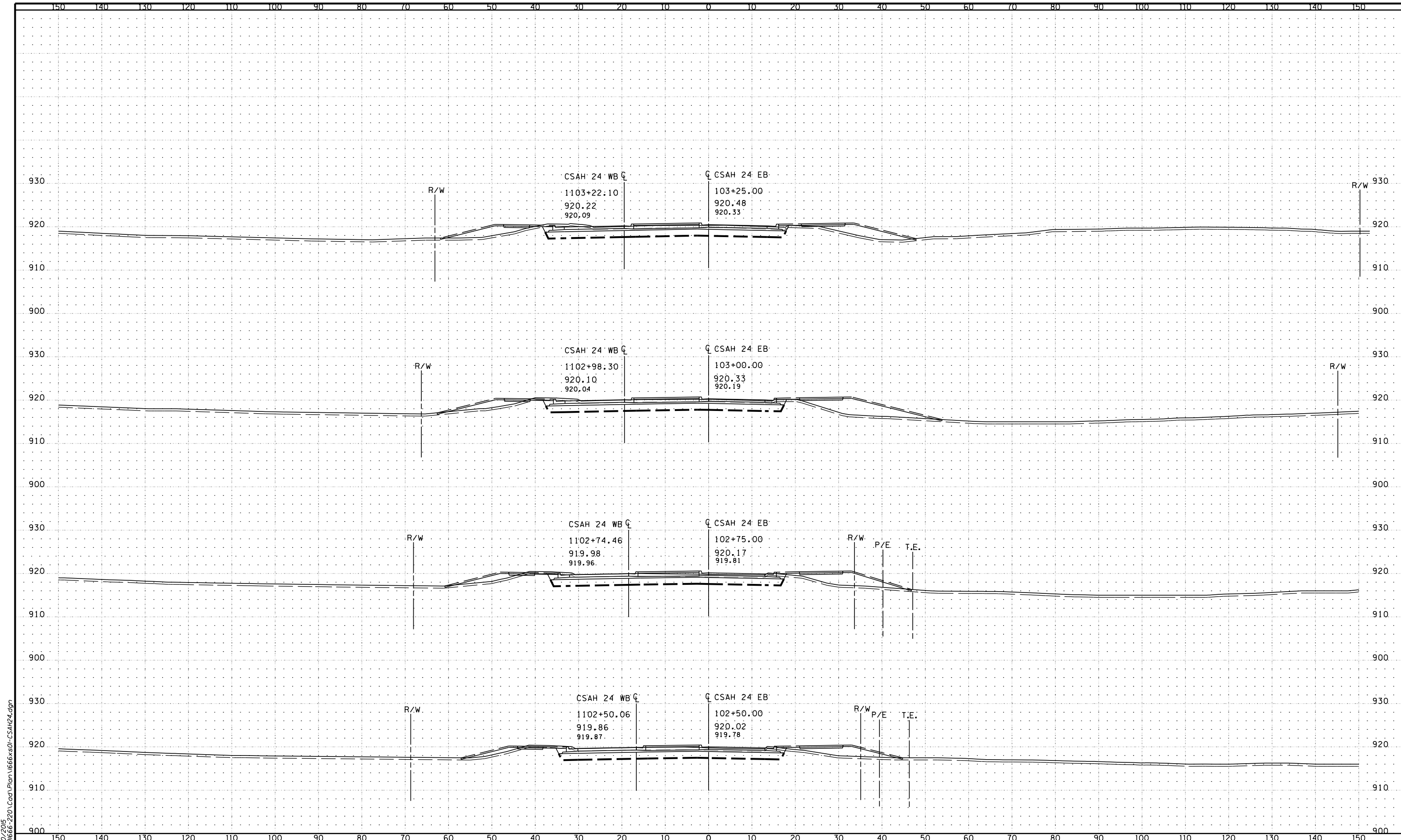
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ANOKA COUNTY, MINNESOTA  
 CSAH 24  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**146**  
 OF  
**214**  
 SHEETS



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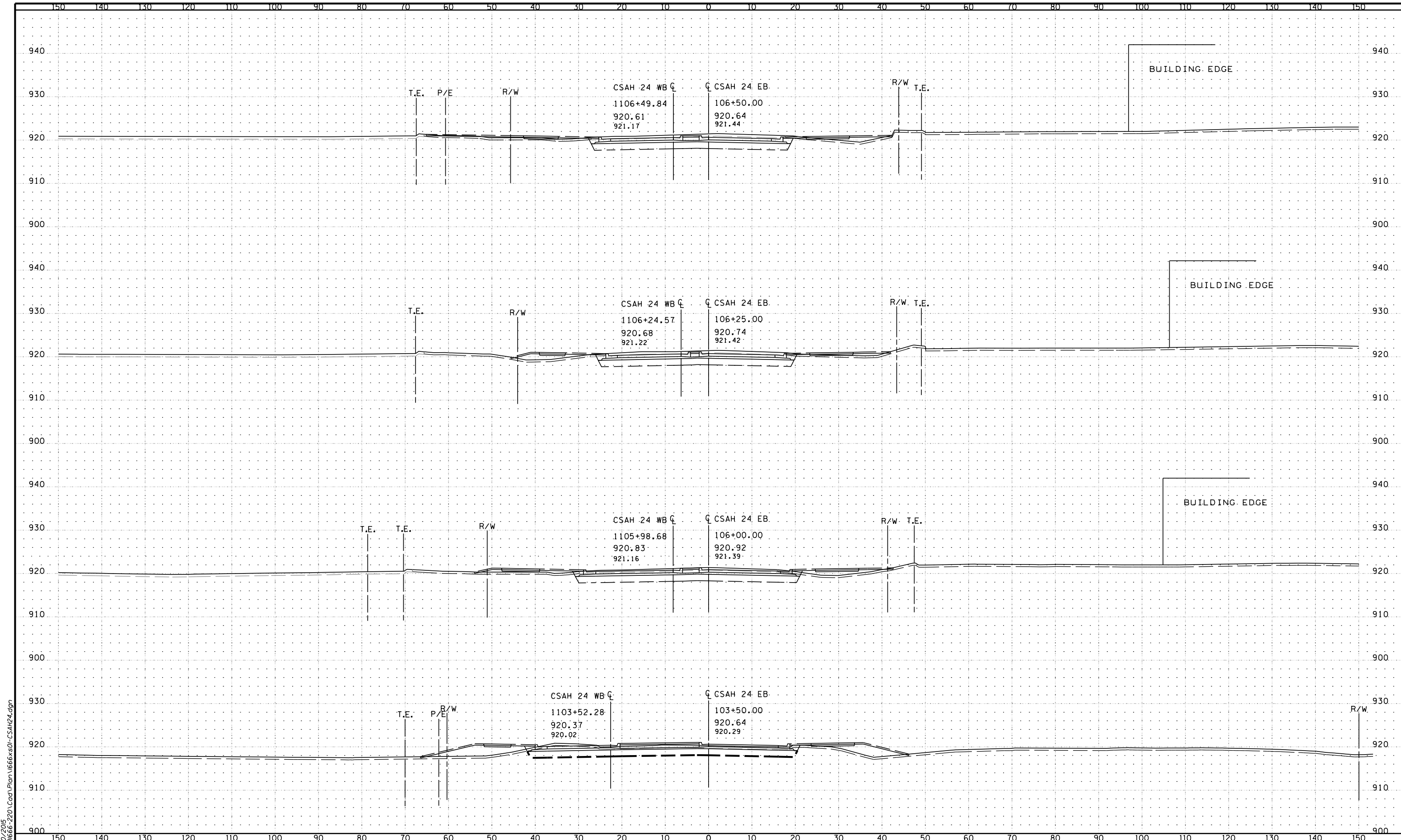
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 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
 CSAH 24  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**147**  
 OF  
**214**  
 SHEETS



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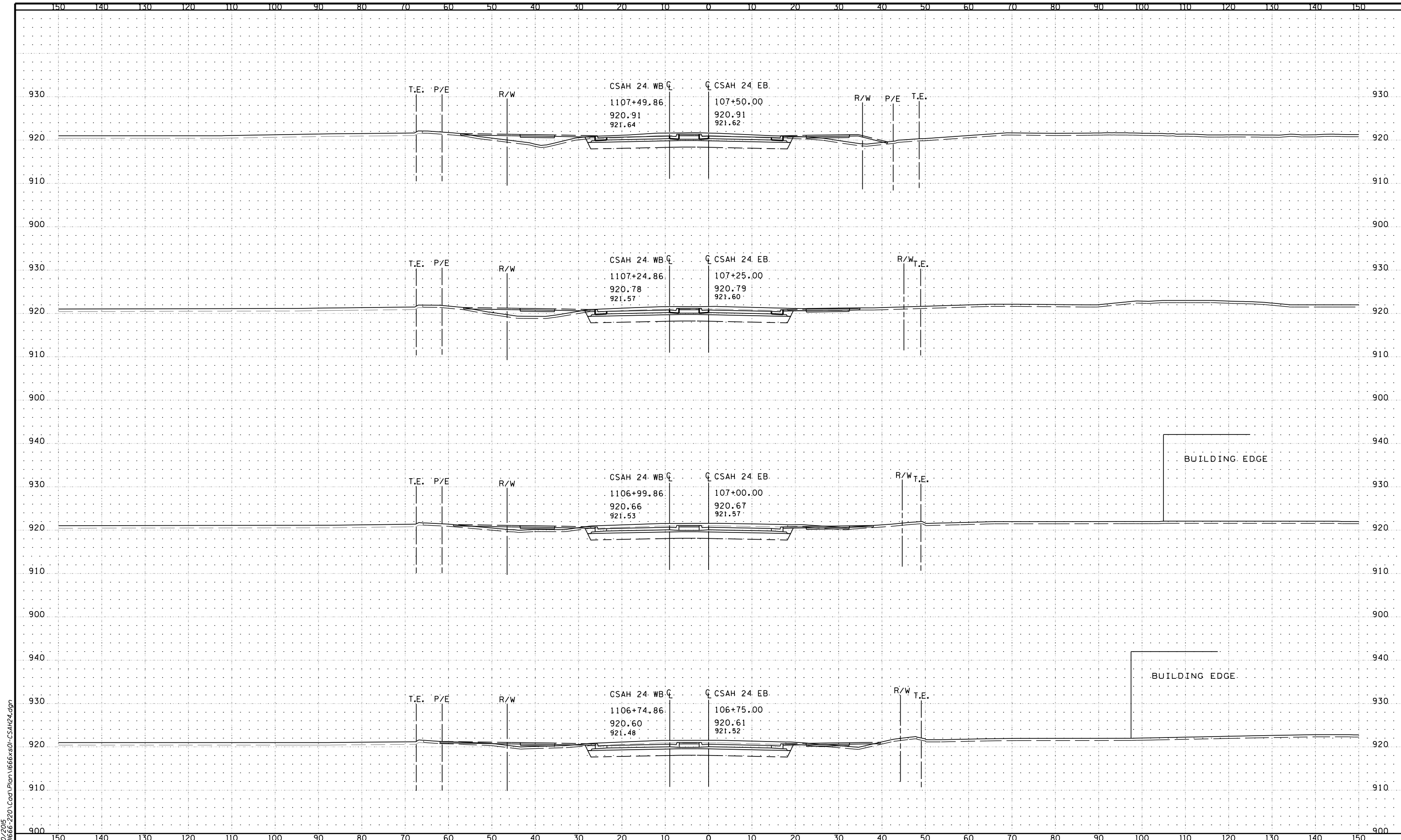
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ANOKA COUNTY, MINNESOTA  
 CSAH 24  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**148**  
 OF  
**214**  
 SHEETS



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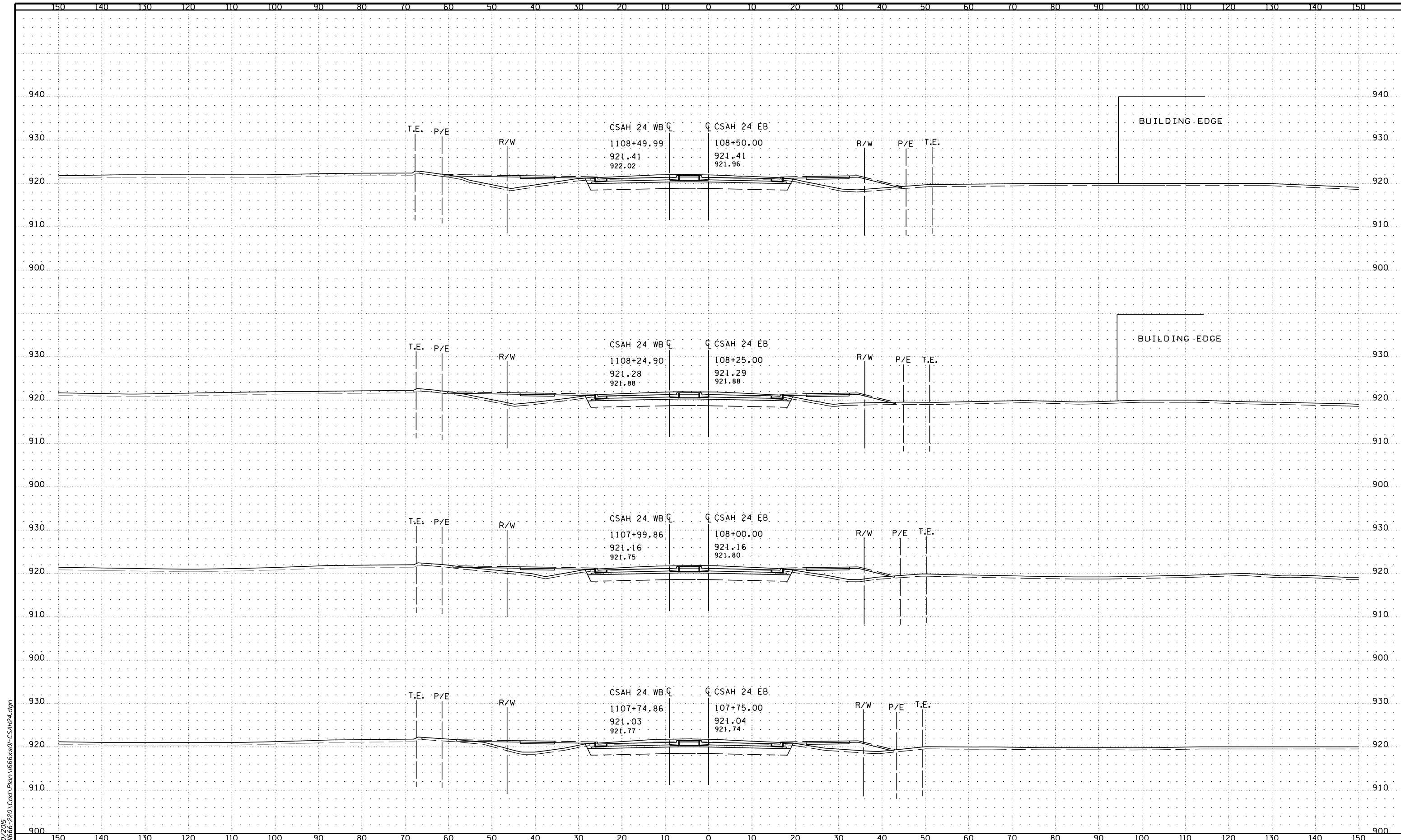
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ANOKA COUNTY, MINNESOTA  
 CSAH 24  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**149**  
 OF  
**214**  
 SHEETS



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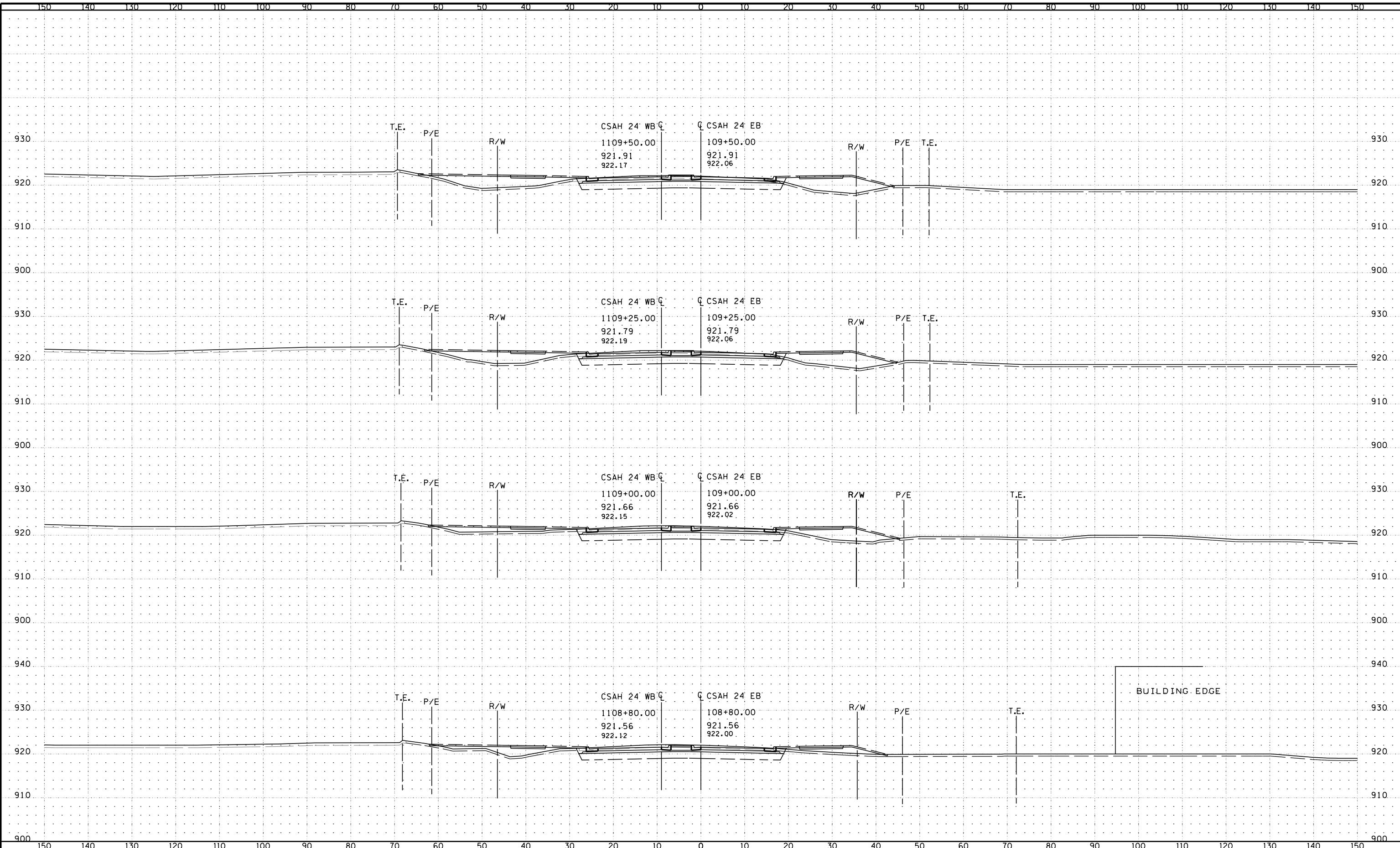
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ANOKA COUNTY, MINNESOTA  
 CSAH 24  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**150**  
 OF  
**214**  
 SHEETS

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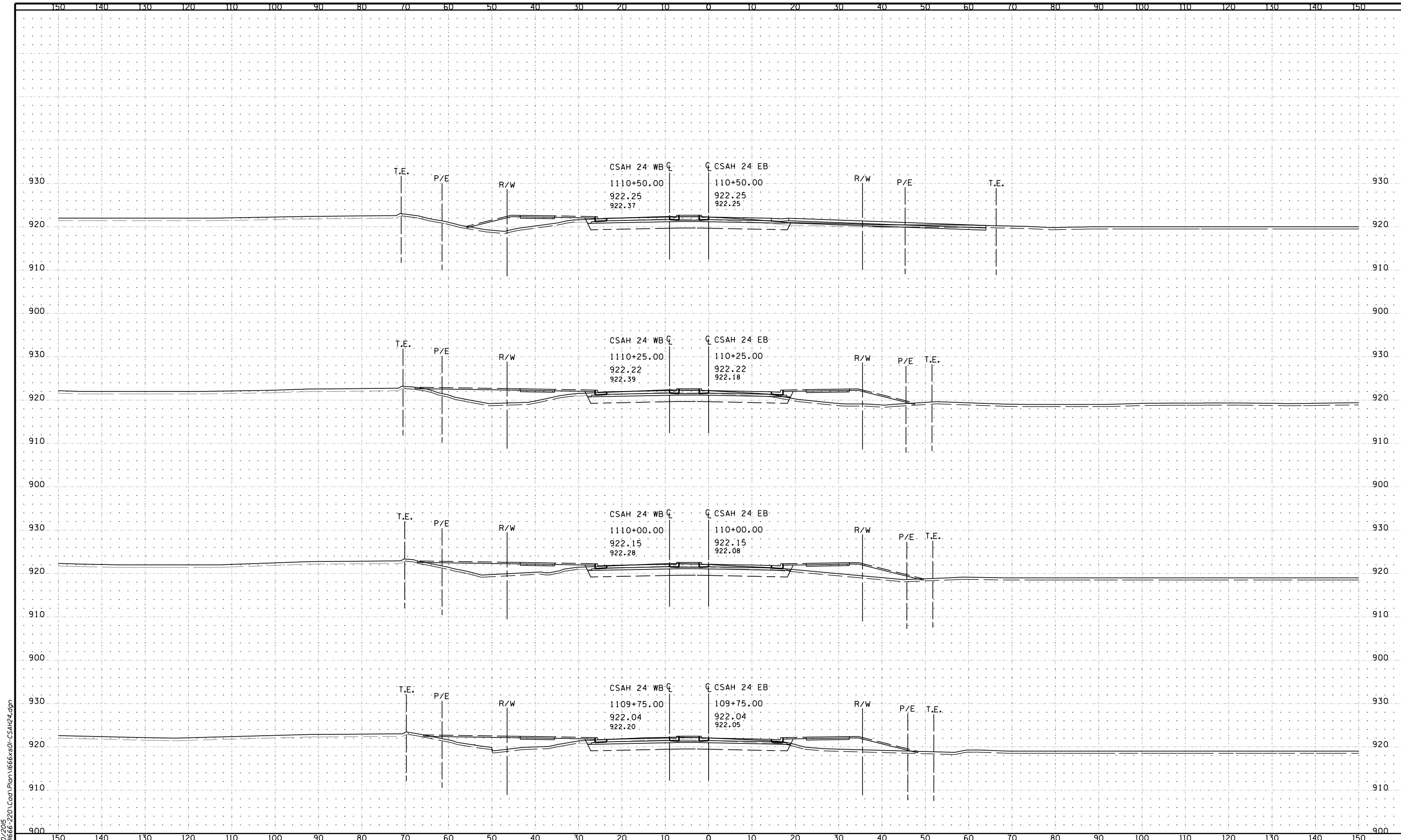
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 Anoka County, Minnesota

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 CSAH 24  
**CROSS SECTIONS**  
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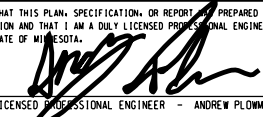
SHEET  
**151**  
 OF  
**214**  
 SHEETS




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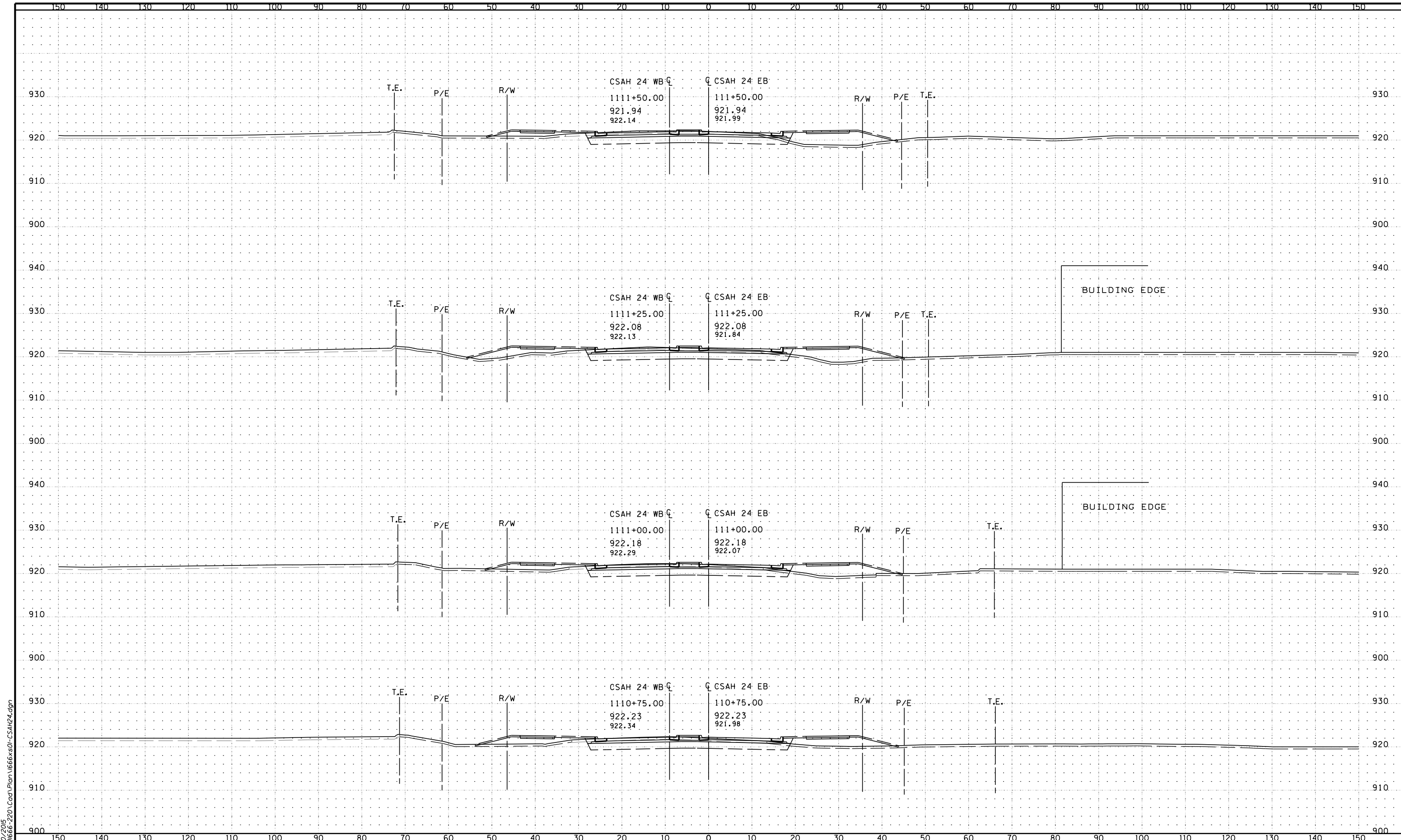

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ANOKA COUNTY, MINNESOTA  
 CSAH 24  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**152**  
 OF  
**214**  
 SHEETS





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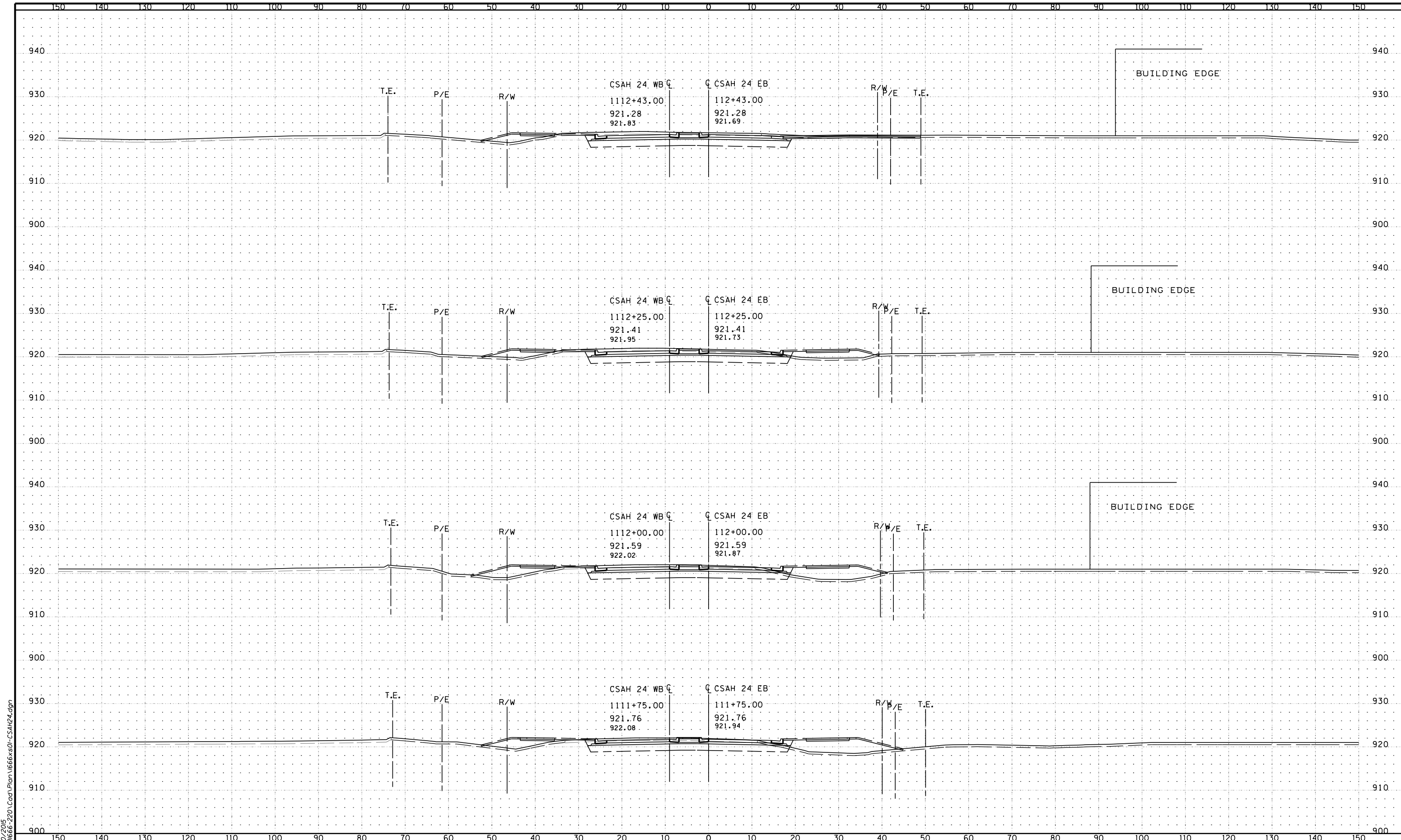
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ANOKA COUNTY, MINNESOTA  
 CSAH 24  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**153**  
 OF  
**214**  
 SHEETS



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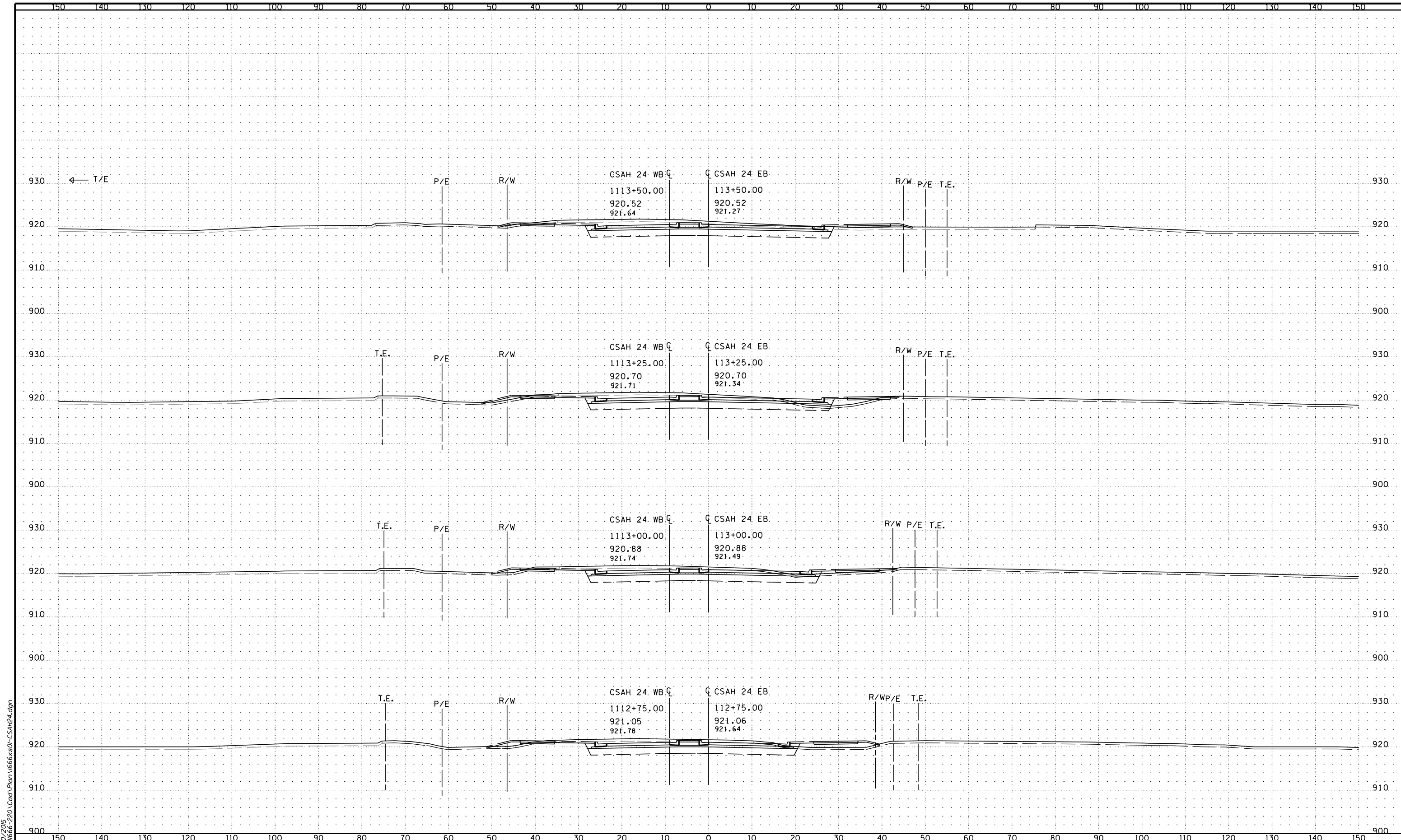
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ANOKA COUNTY, MINNESOTA  
 CSAH 24  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**154**  
 OF  
**214**  
 SHEETS



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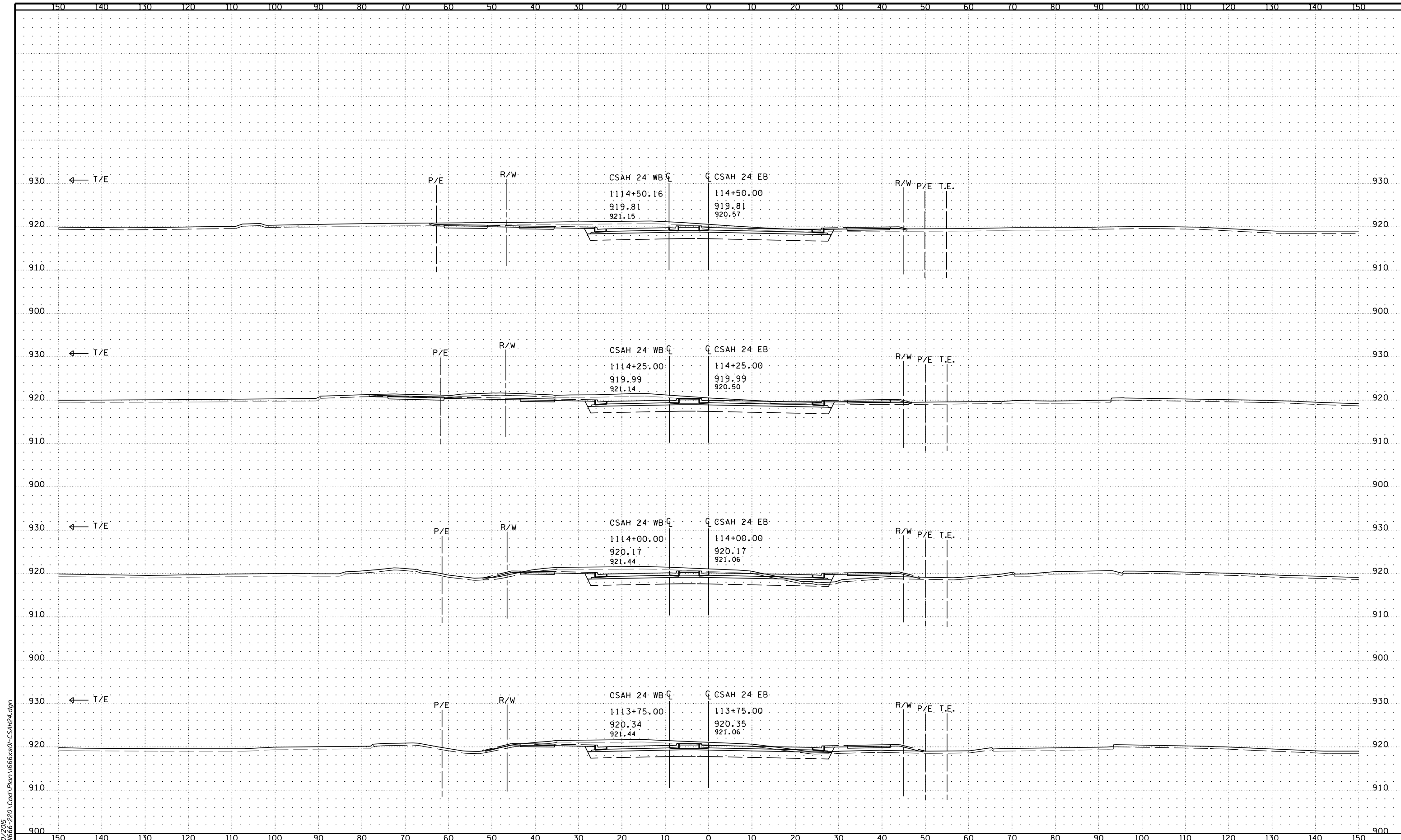
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 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
 CSAH 24  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**155**  
 OF  
**214**  
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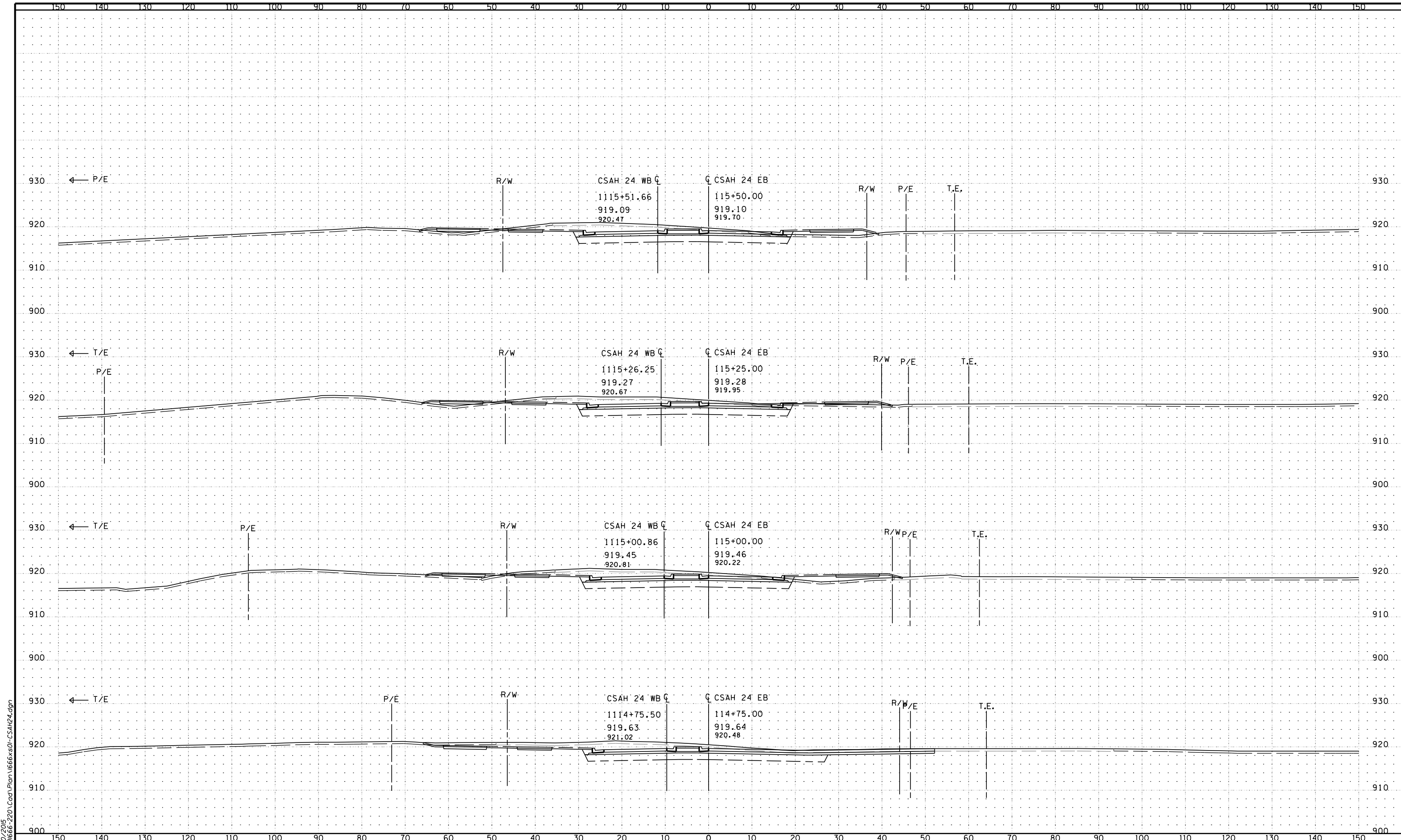
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 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
 CSAH 24  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**156**  
 OF  
**214**  
 SHEETS



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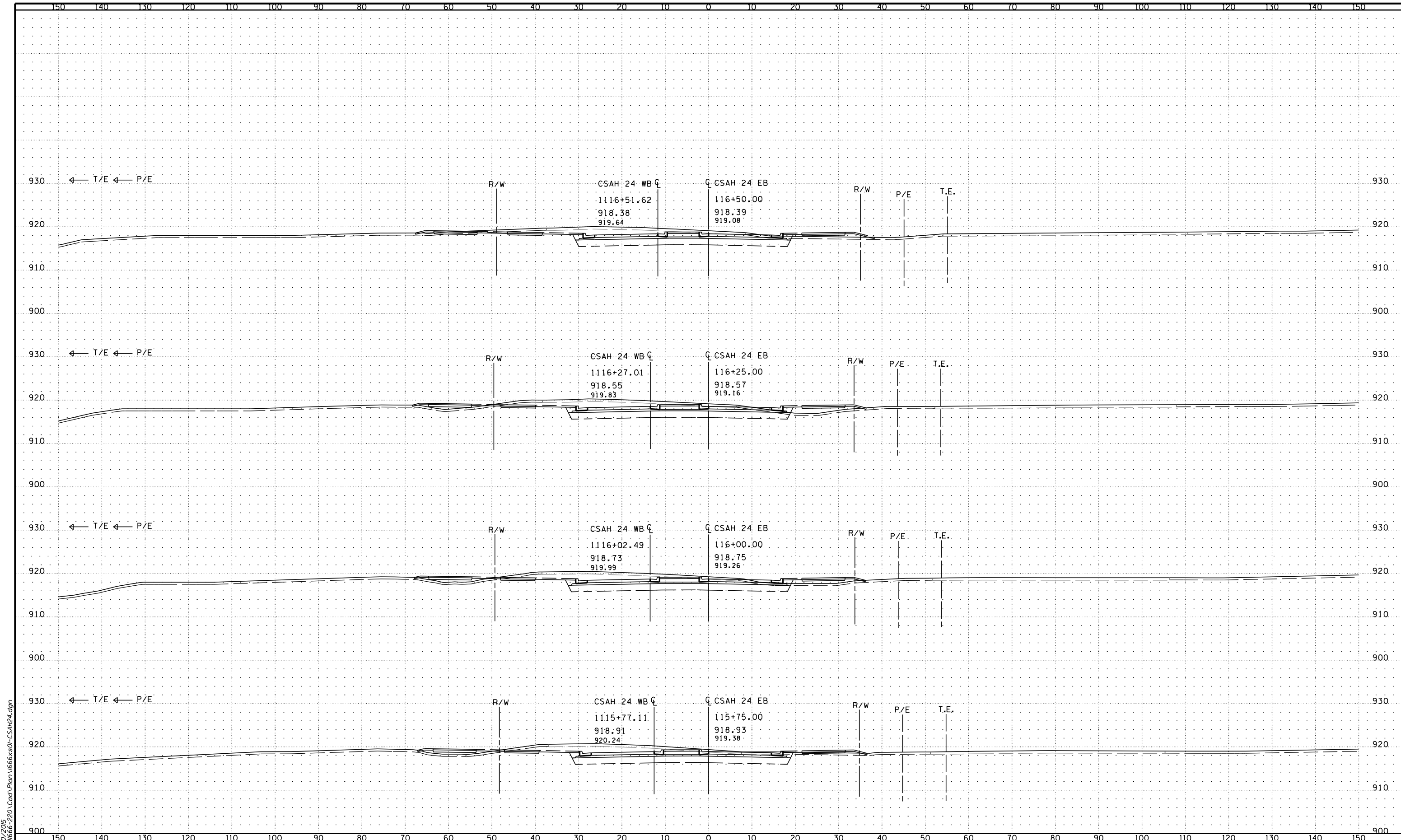
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 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
 CSAH 24  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**157**  
 OF  
**214**  
 SHEETS



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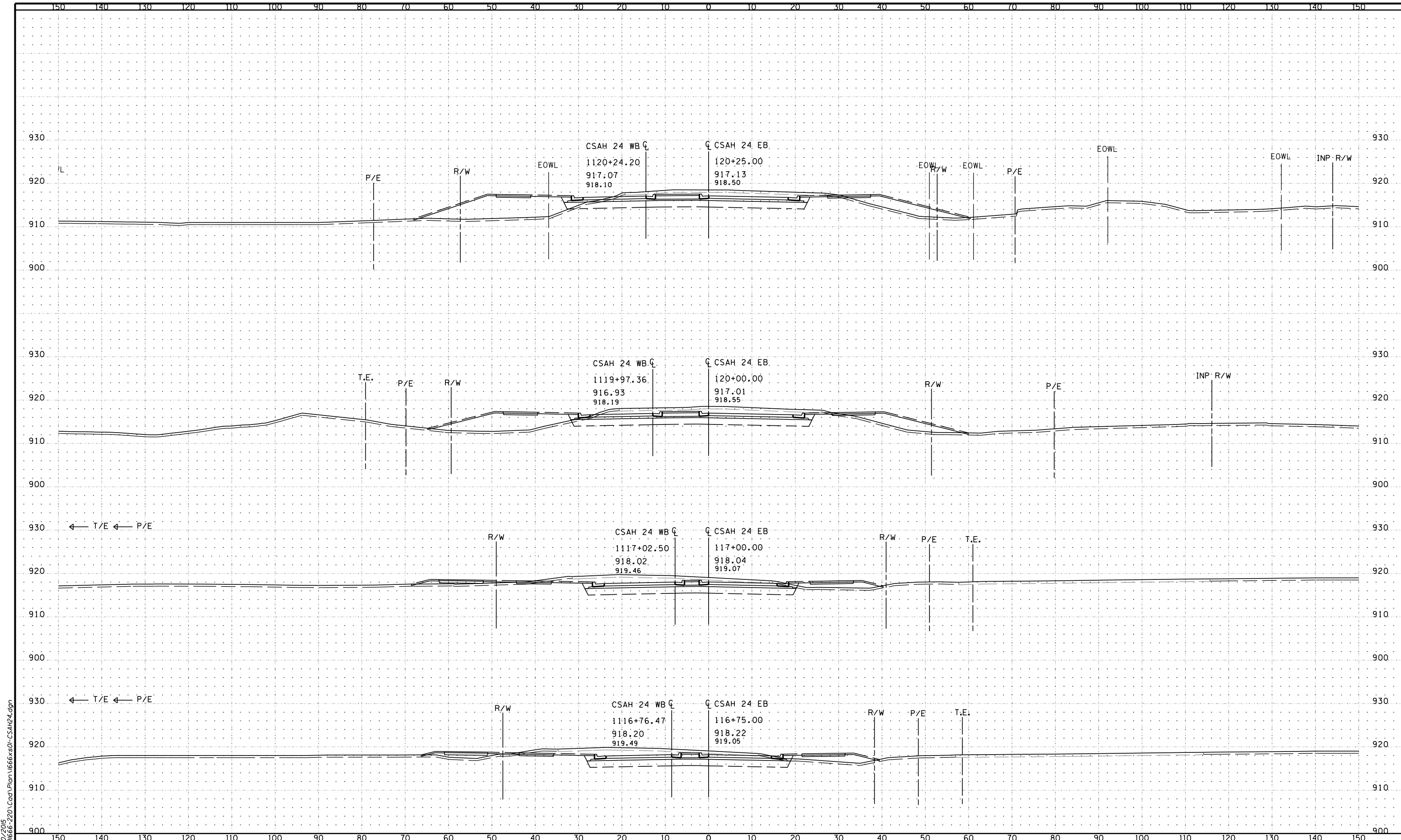
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ANOKA COUNTY, MINNESOTA  
 CSAH 24  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**158**  
 OF  
**214**  
 SHEETS



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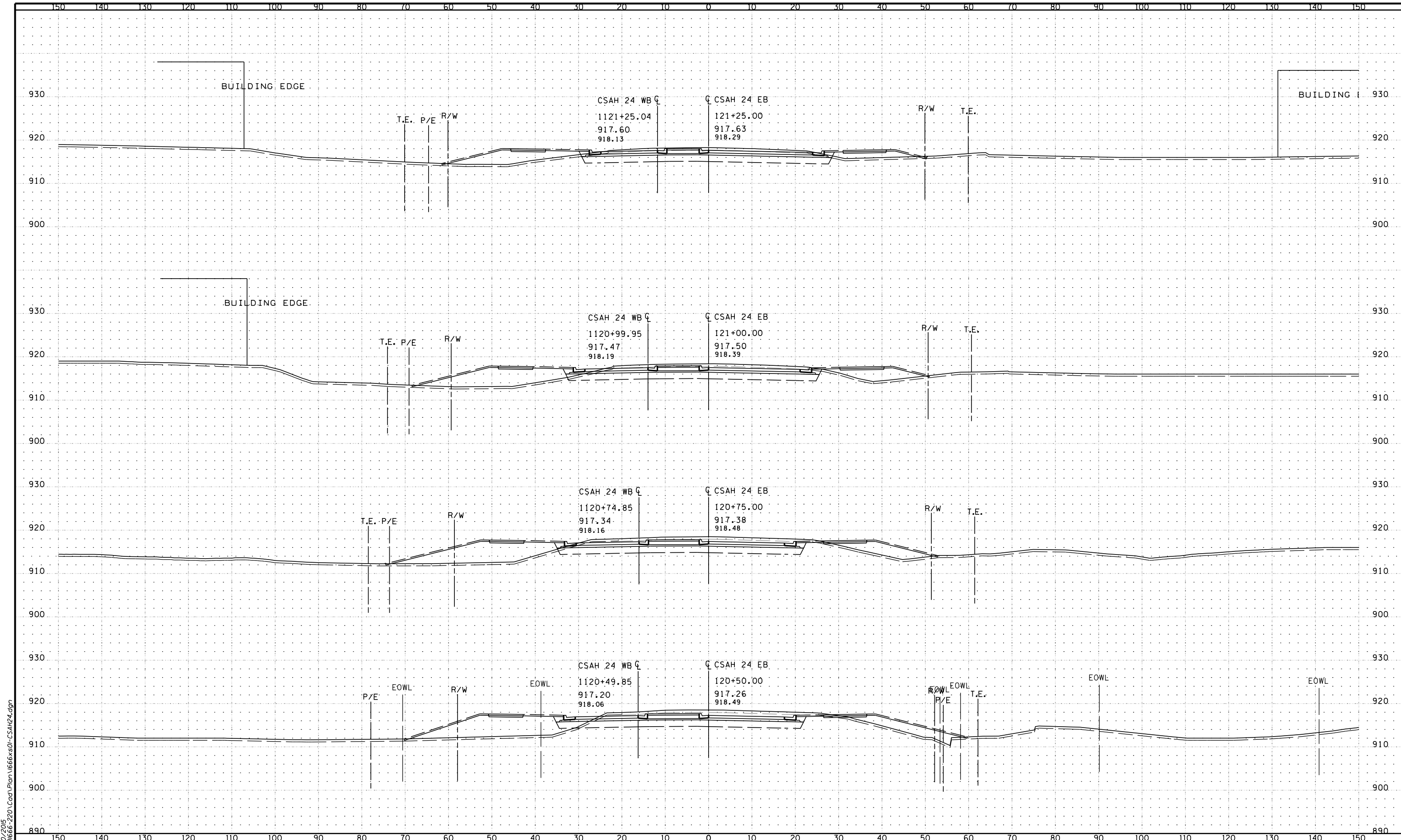
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SHEET  
**159**  
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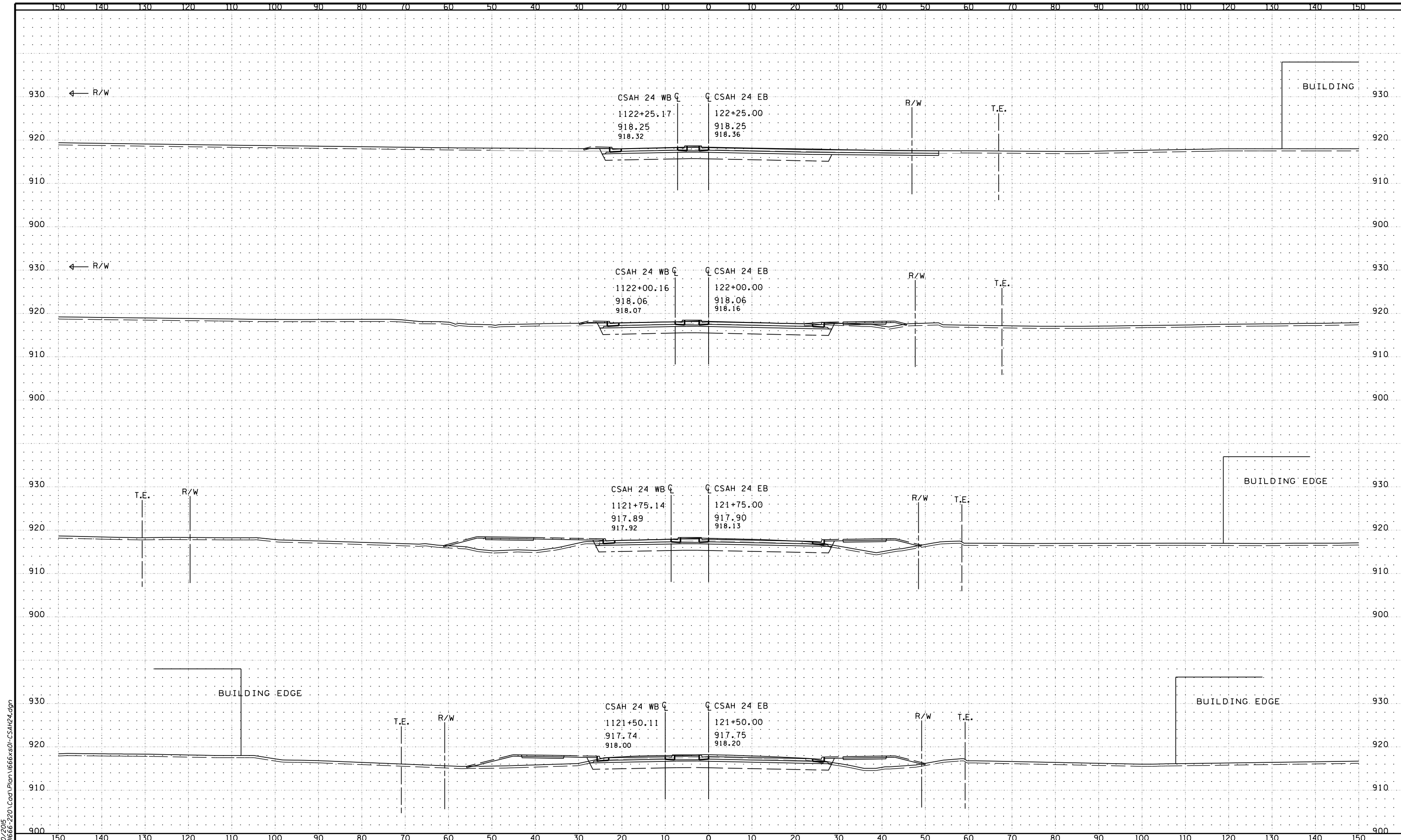
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ANOKA COUNTY, MINNESOTA  
 CSAH 24  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**160**  
 OF  
**214**  
 SHEETS





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 Checked By: DRS  
 Approved By: AJP

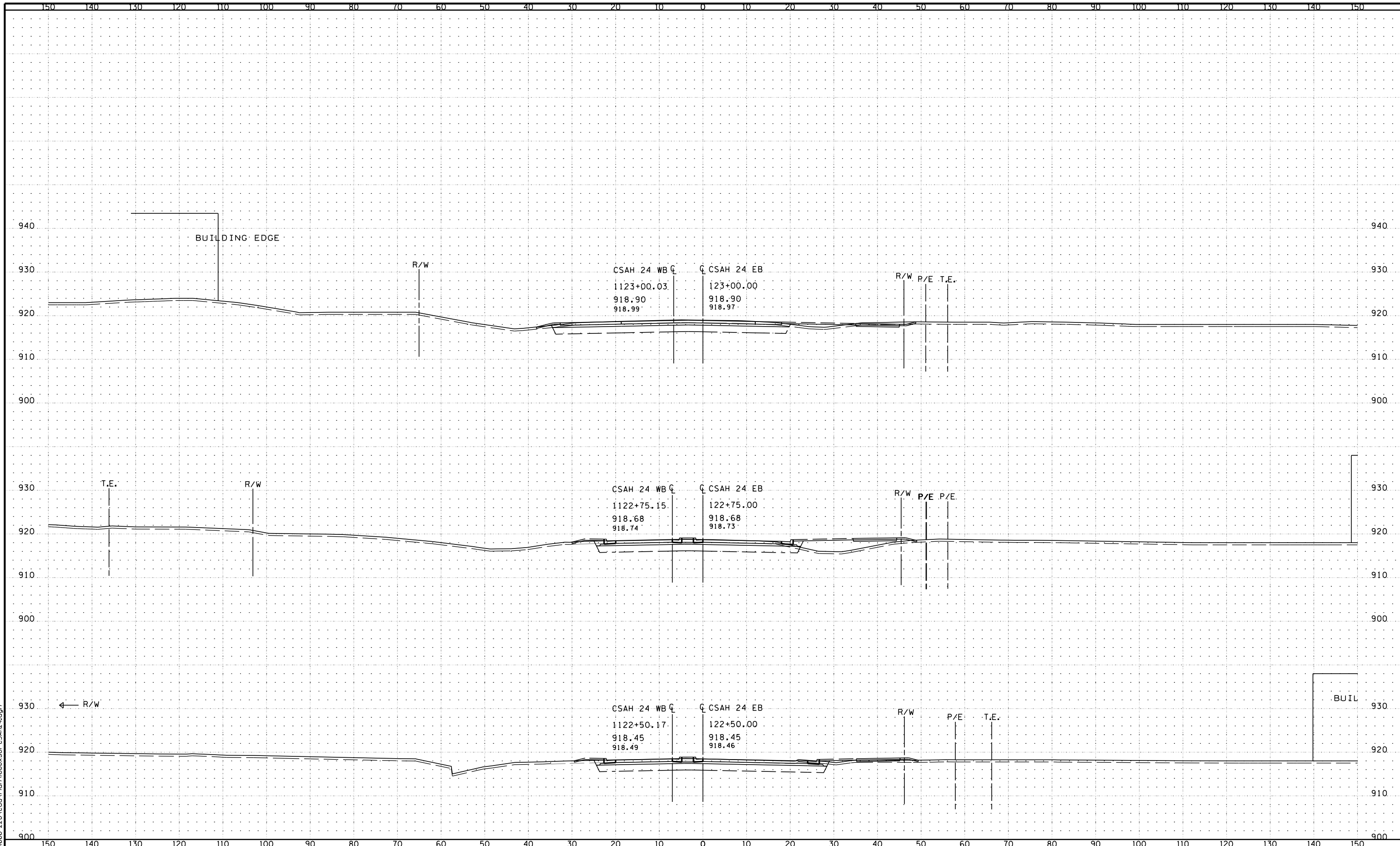
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 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
 CSAH 24  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**161**  
 OF  
**214**  
 SHEETS



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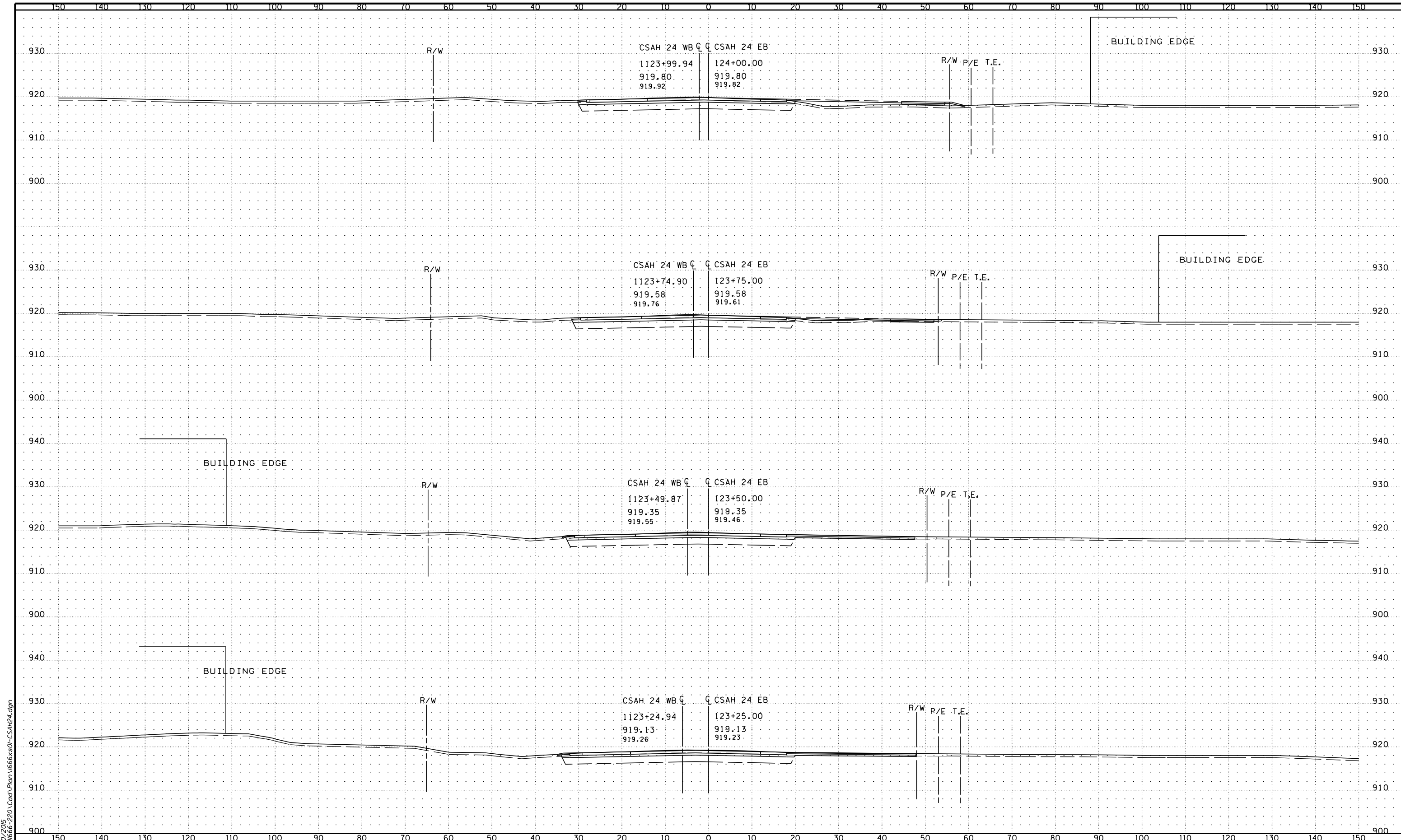
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 S.P. 002-624-026

SHEET  
**162**  
 OF  
**214**  
 SHEETS



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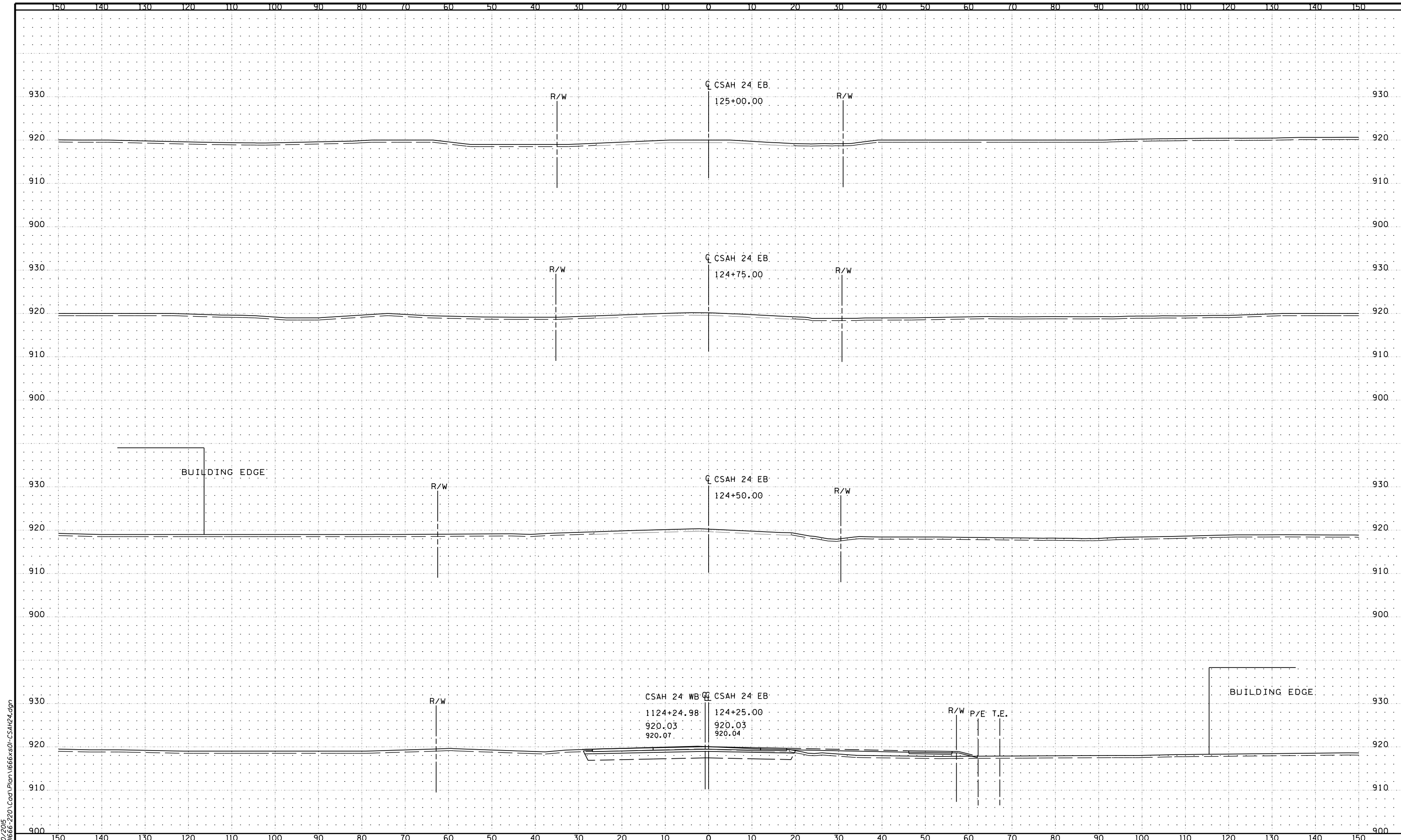
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 CSAH 24  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**163**  
 OF  
**214**  
 SHEETS



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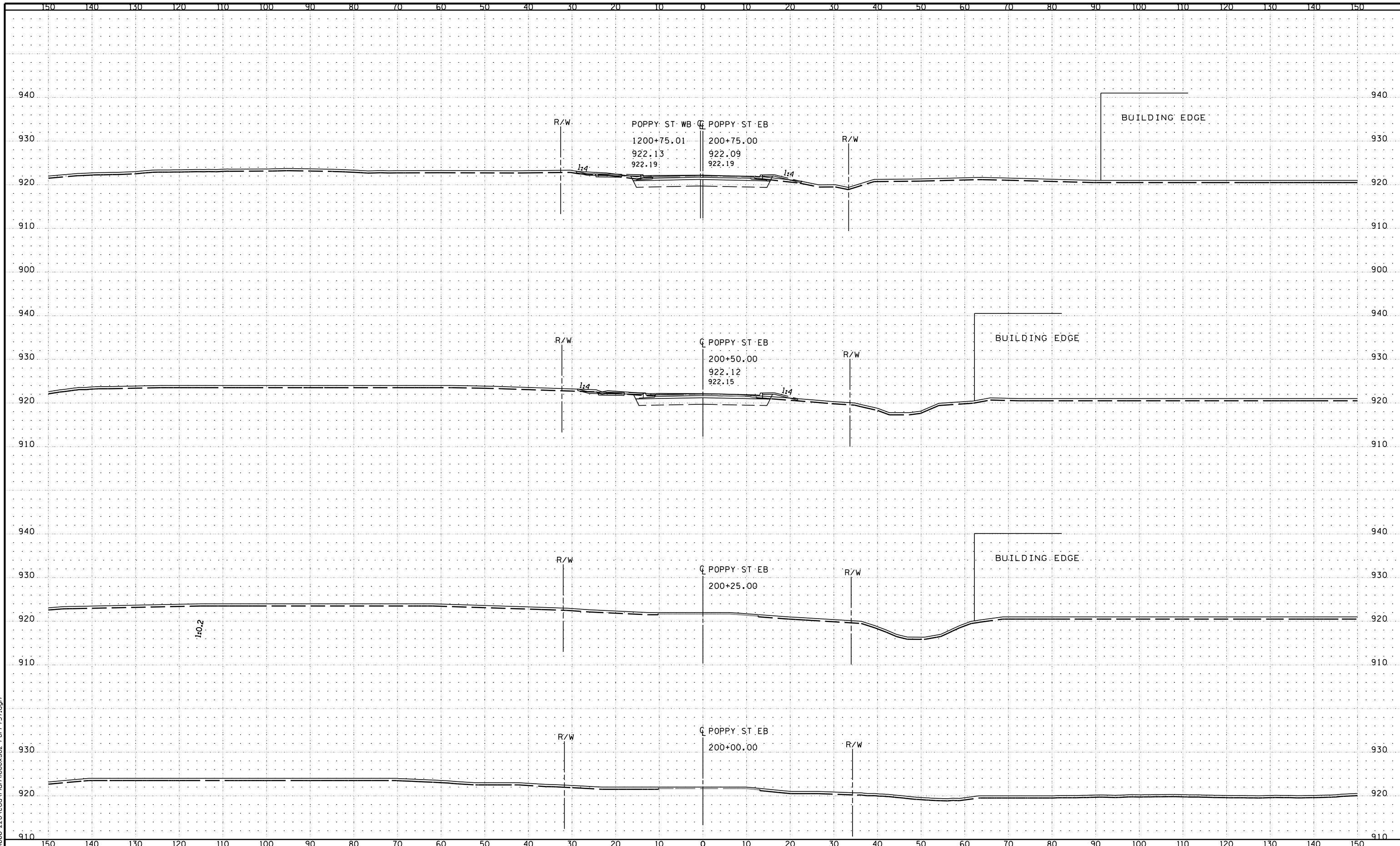
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 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
 CSAH 24  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**164**  
 OF  
**214**  
 SHEETS



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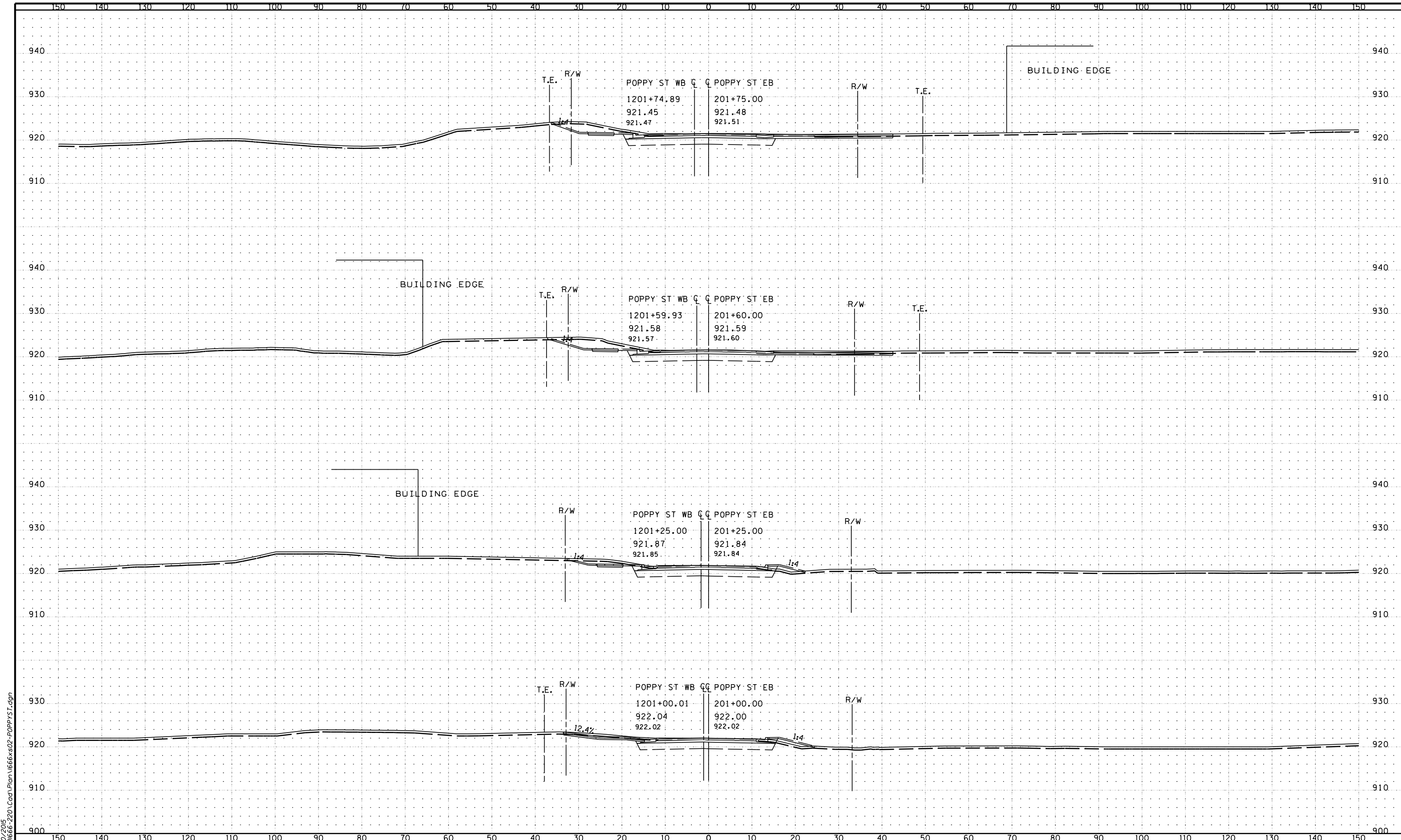
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 POPPY STREET  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**165**  
 OF  
**214**  
 SHEETS



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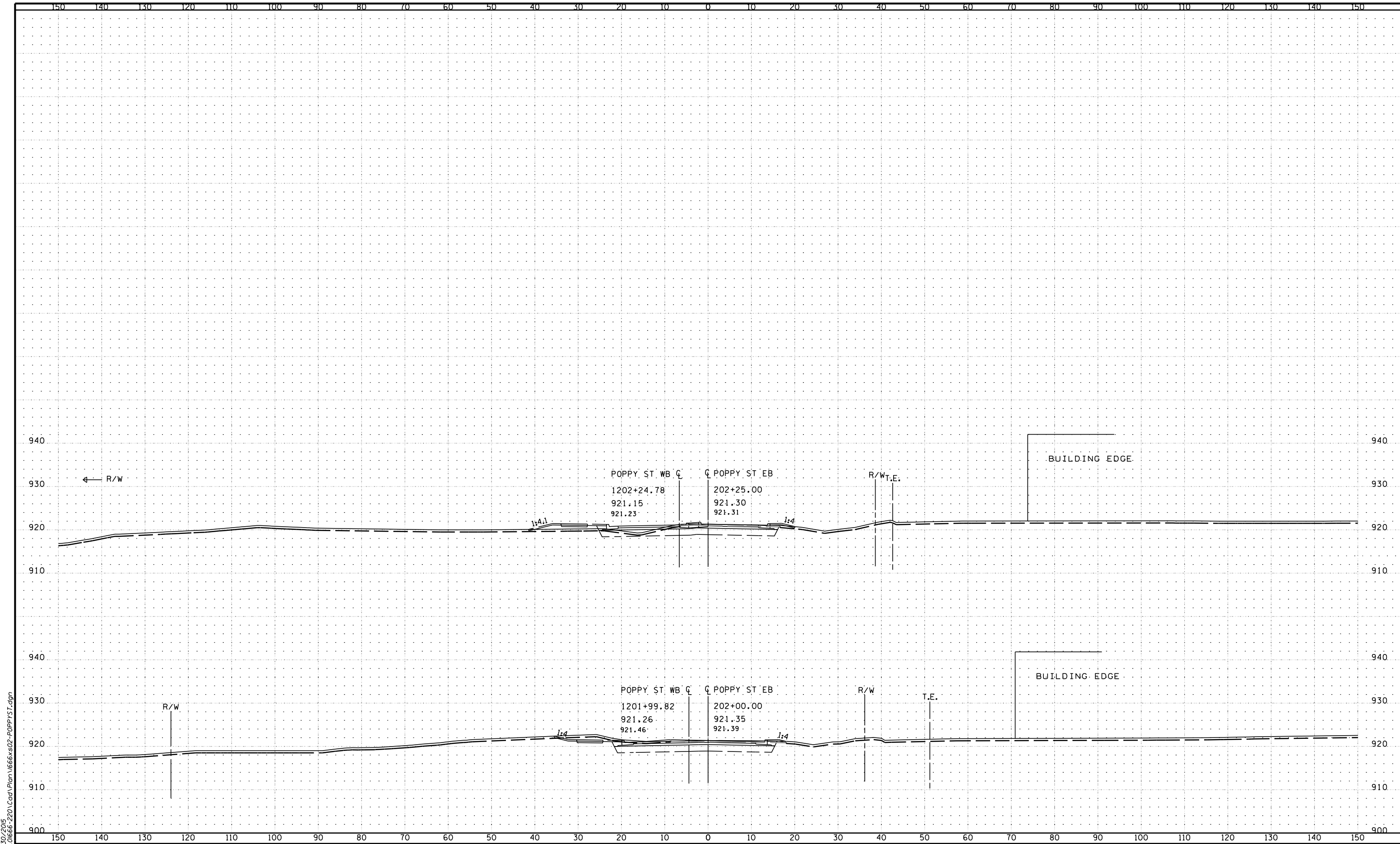
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**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**166**  
 OF  
**214**  
 SHEETS



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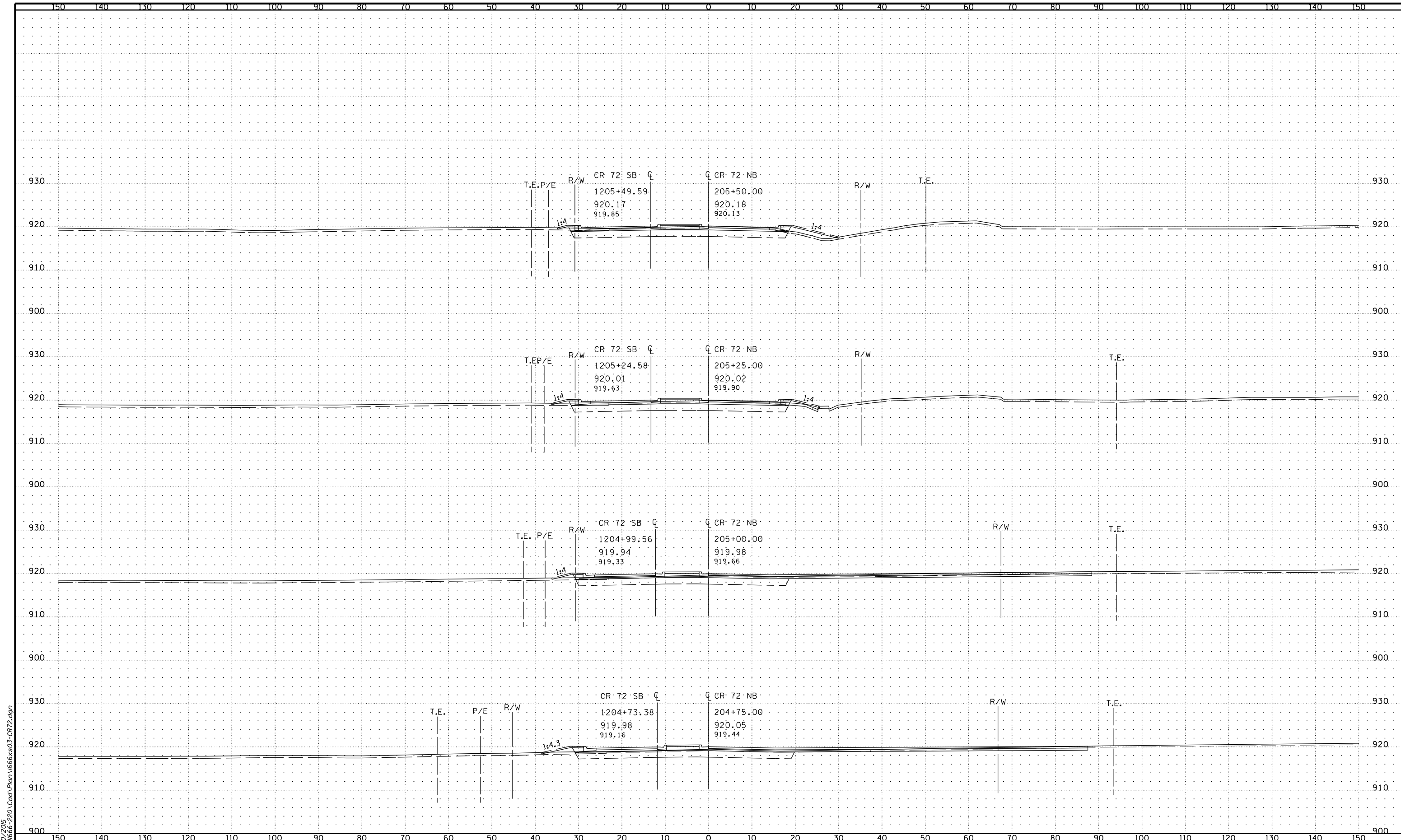
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 POPPY STREET  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**167**  
 OF  
**214**  
 SHEETS



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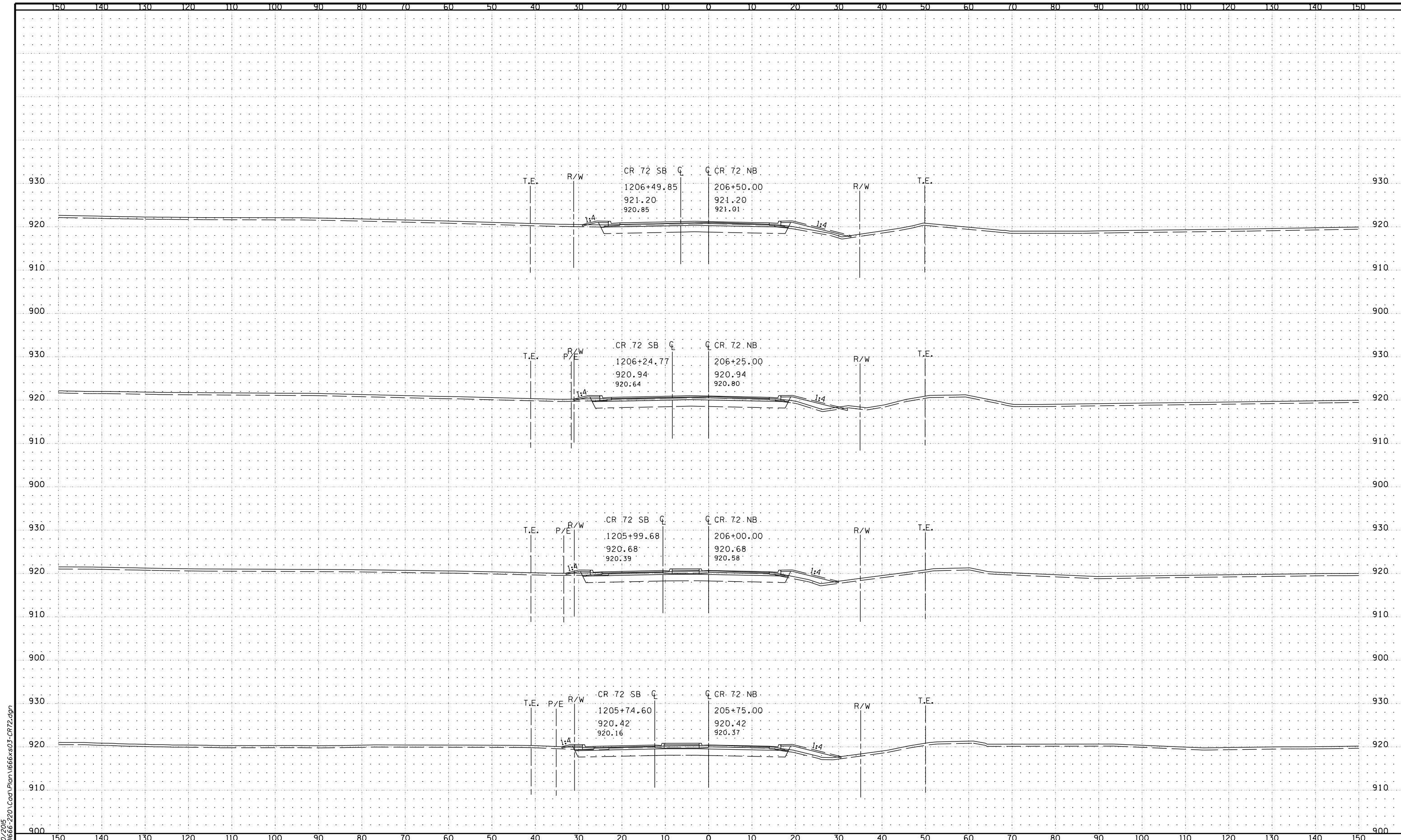
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 CR 72  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**168**  
 OF  
**214**  
 SHEETS





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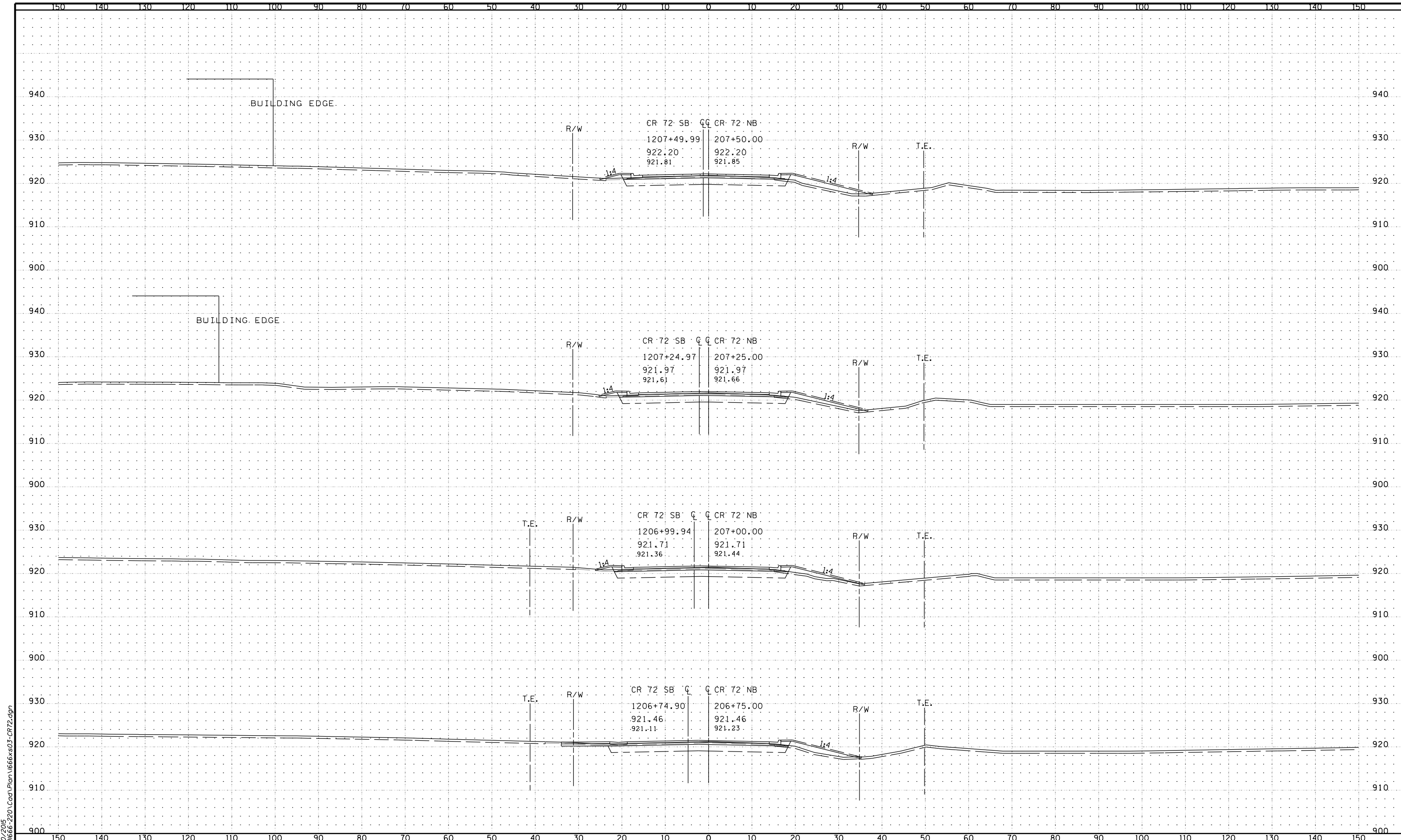
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ANOKA COUNTY, MINNESOTA  
 CR 72  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**169**  
 OF  
**214**  
 SHEETS



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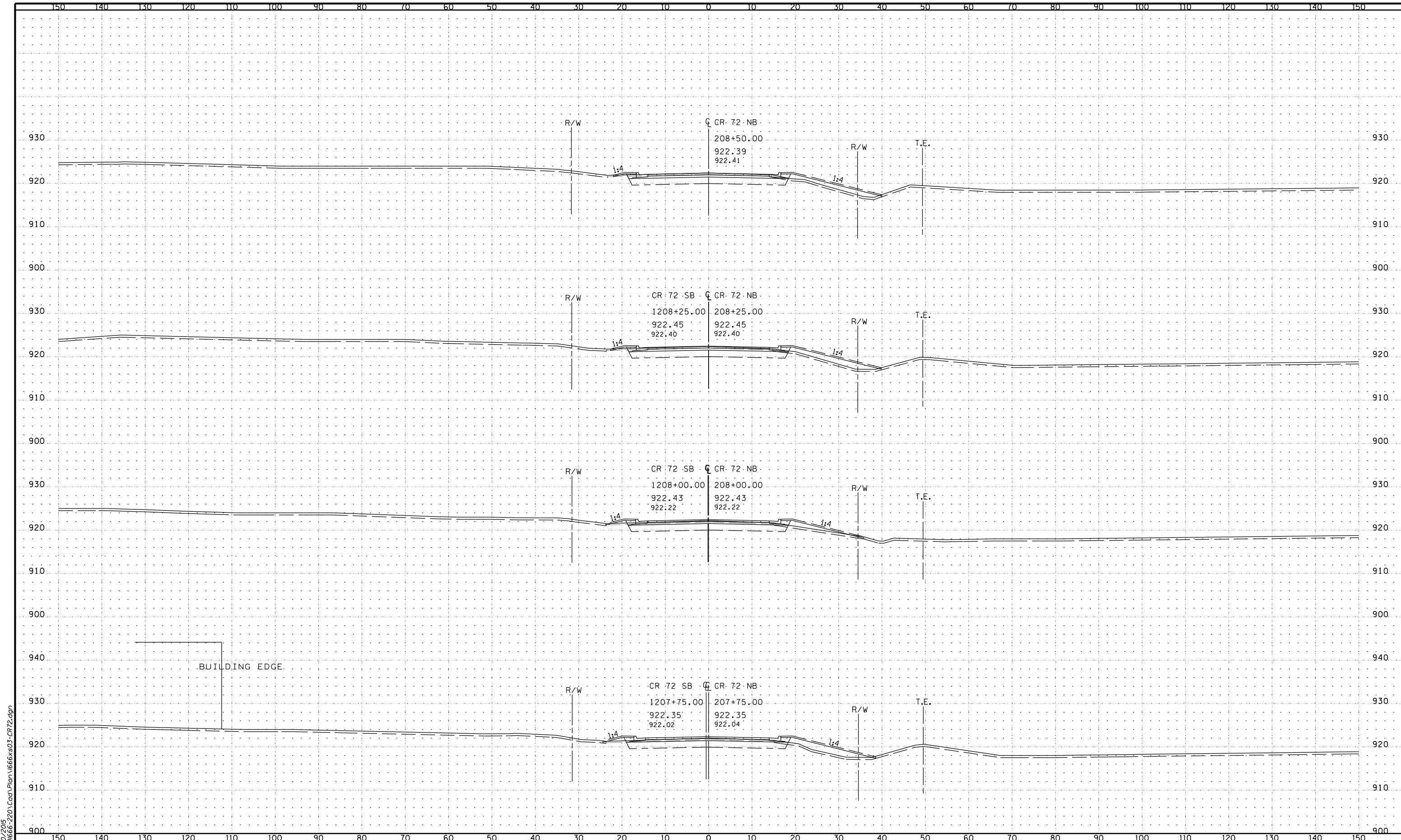
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 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
 CR 72  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**170**  
 OF  
**214**  
 SHEETS



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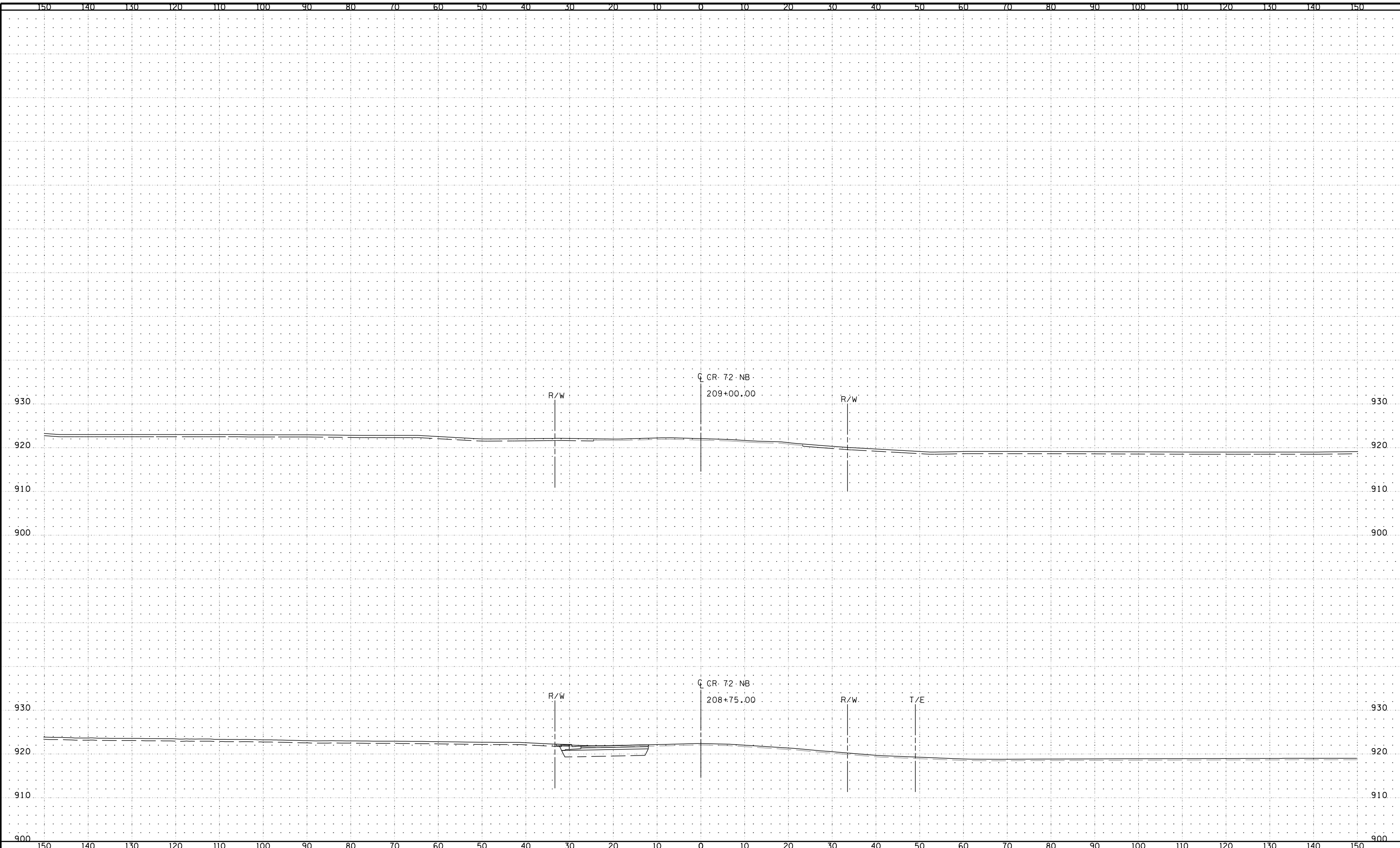
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ANOKA COUNTY, MINNESOTA  
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**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**171**  
 OF  
**214**  
 SHEETS

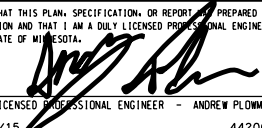
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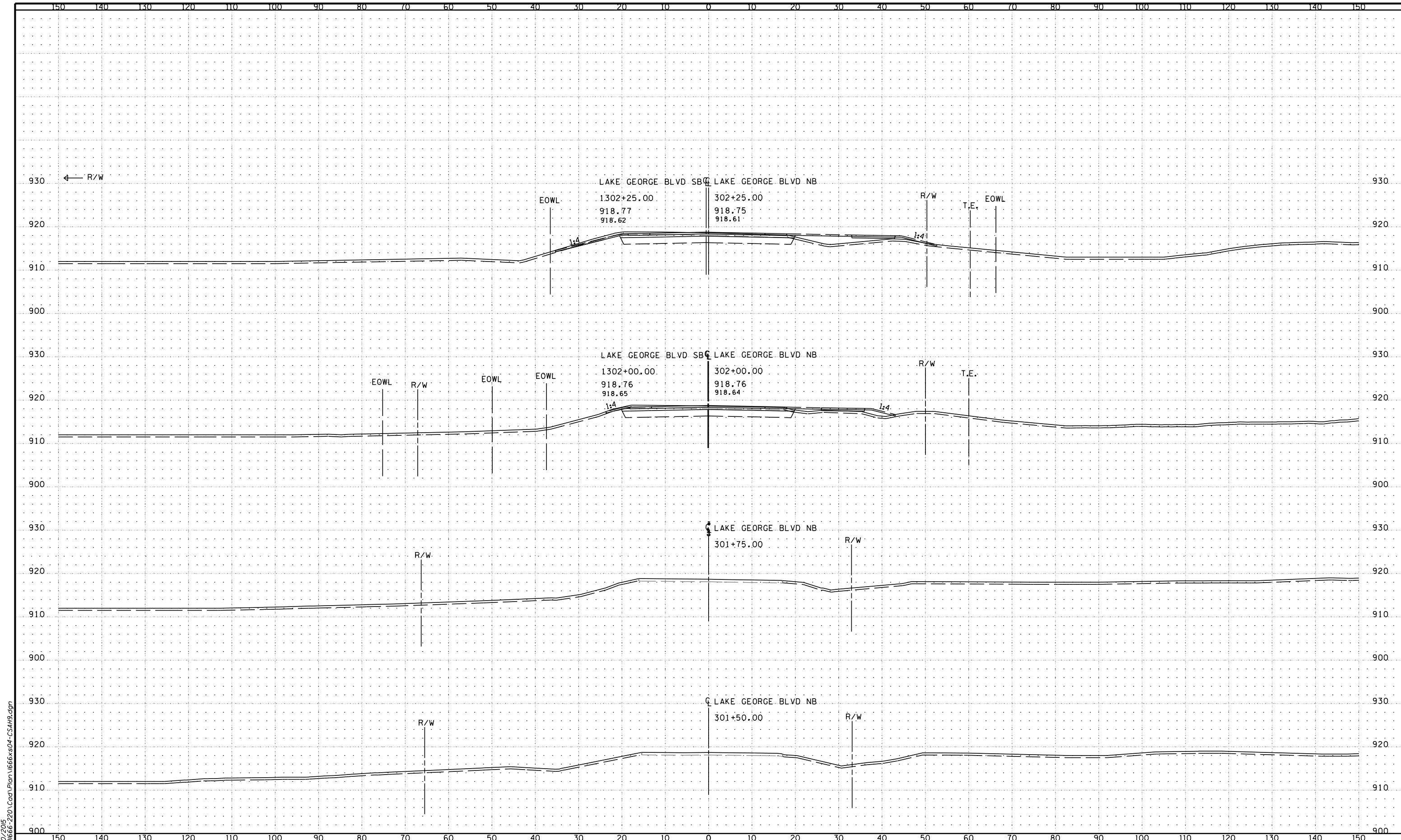

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**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**172**  
 OF  
**214**  
 SHEETS



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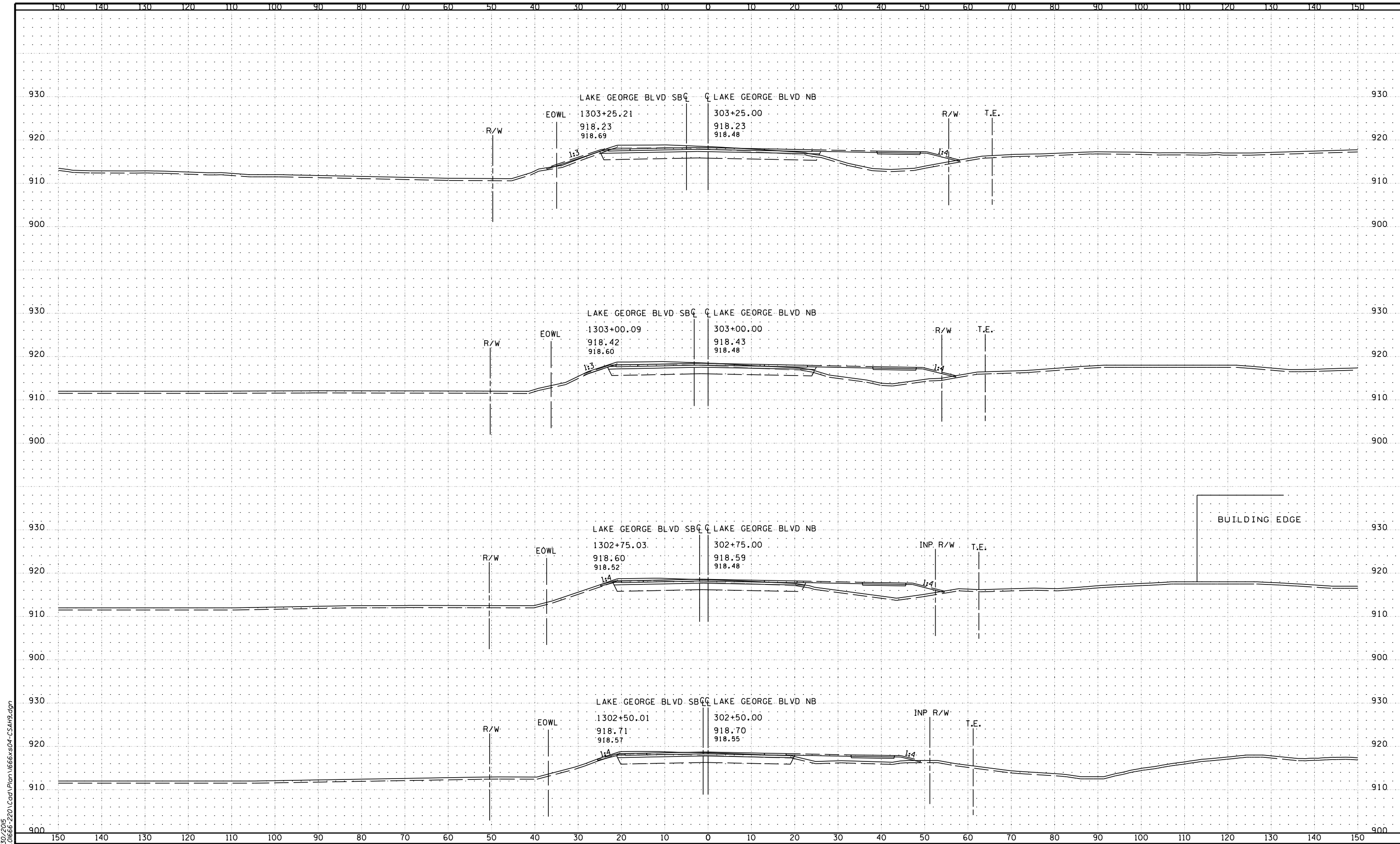
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**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**173**  
 OF  
**214**  
 SHEETS



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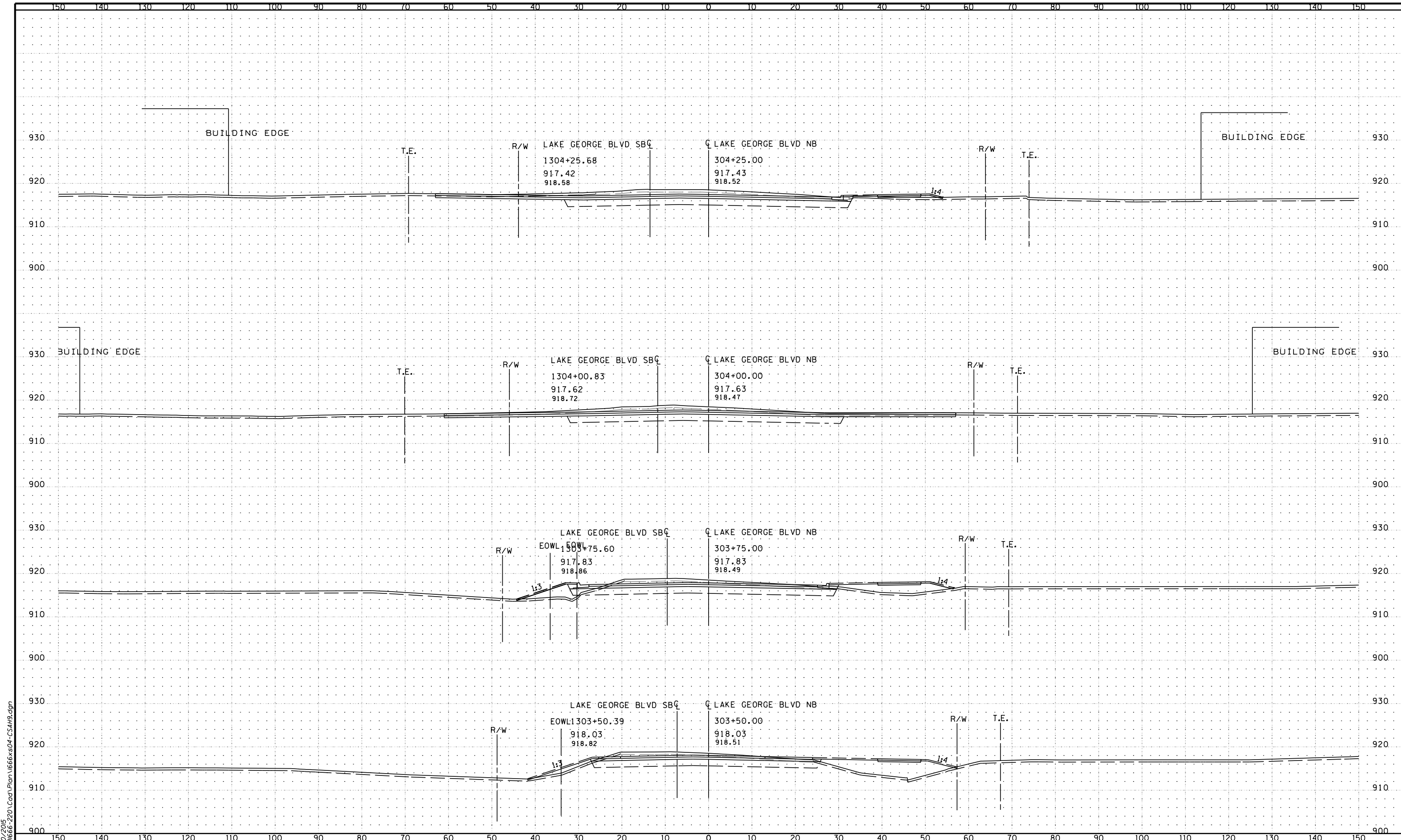
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ANOKA COUNTY, MINNESOTA  
 CSAH 9  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**174**  
 OF  
**214**  
 SHEETS



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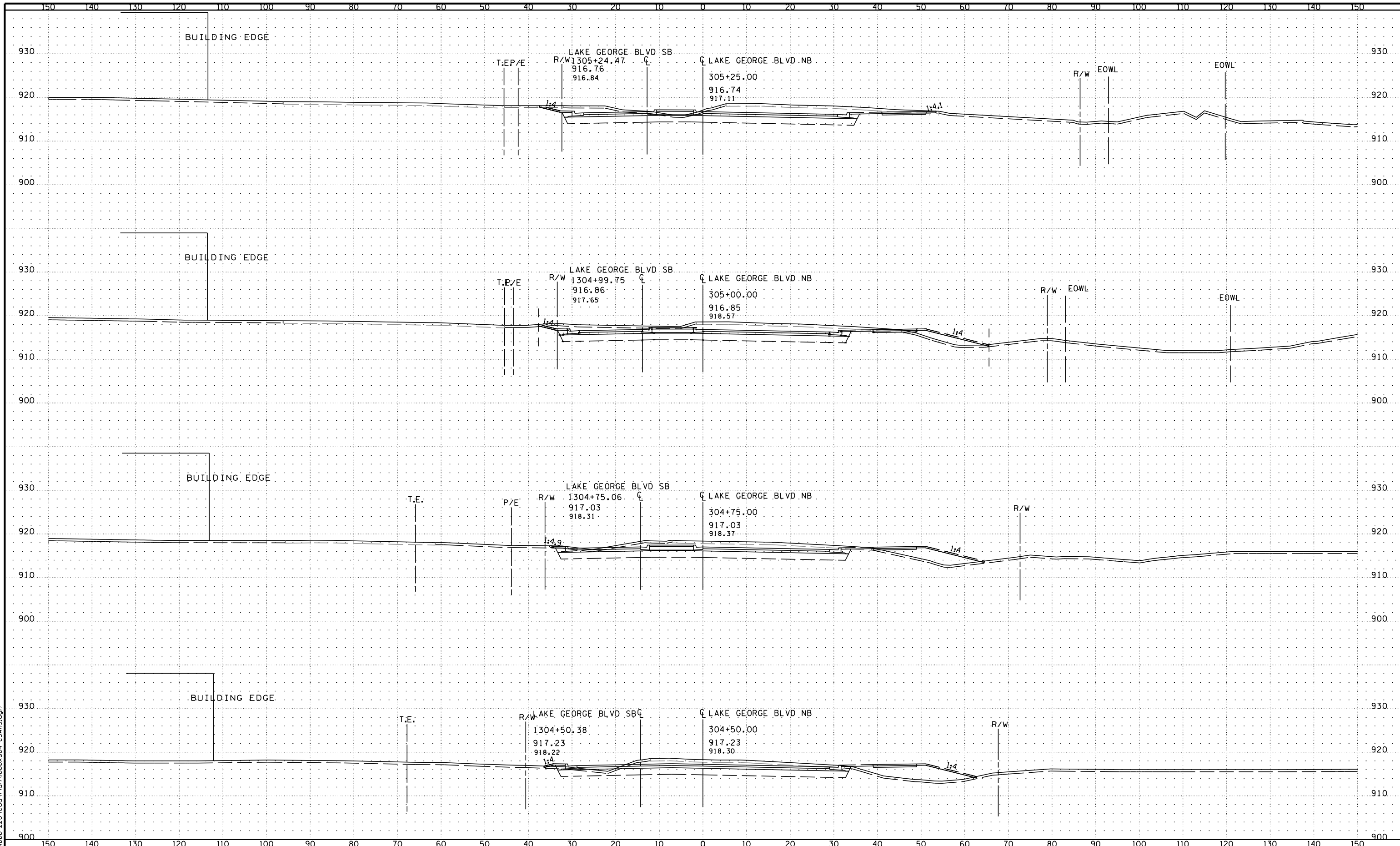
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 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
 CSAH 9  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**175**  
 OF  
**214**  
 SHEETS



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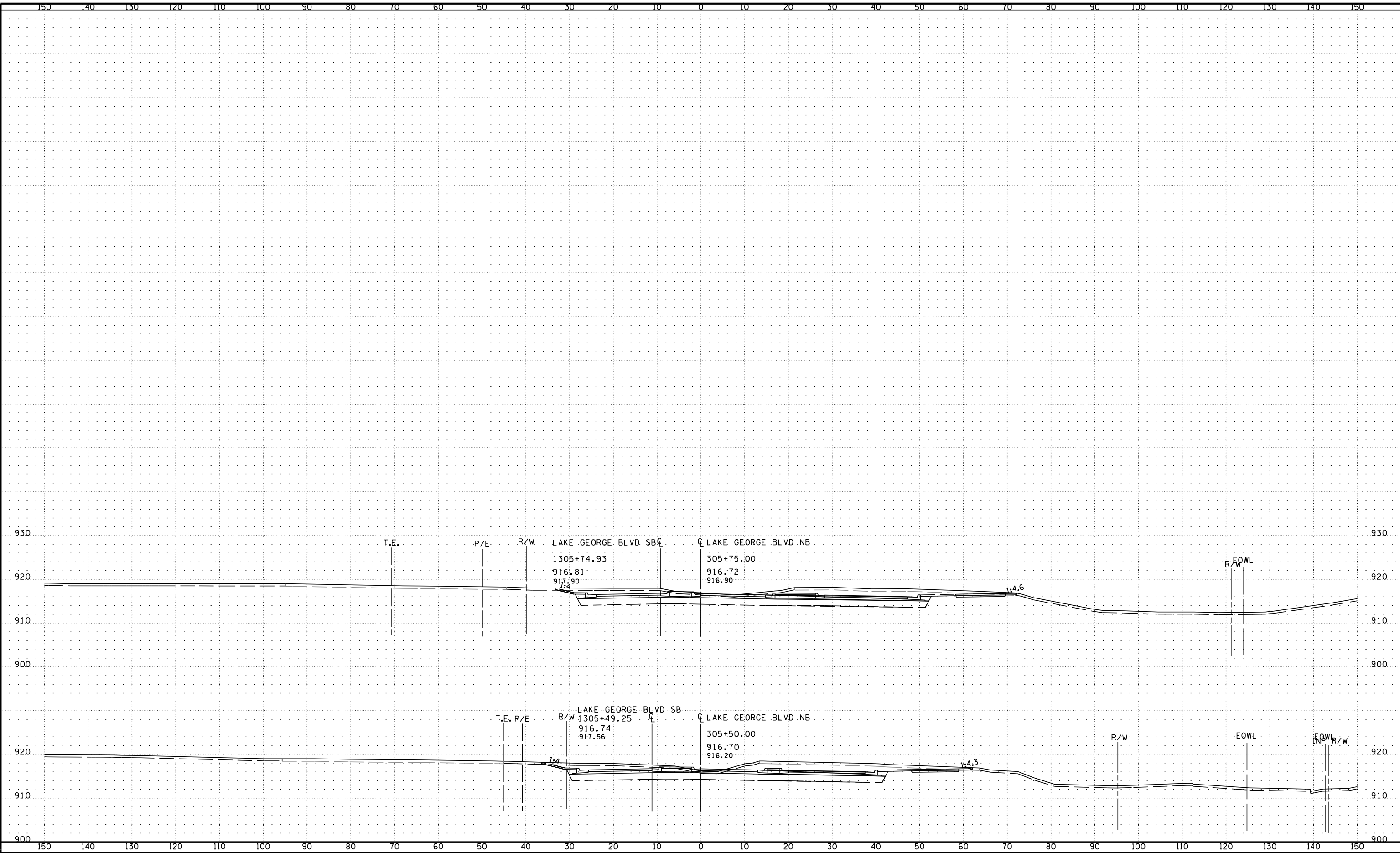
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 CSAH 9  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**176**  
 OF  
**214**  
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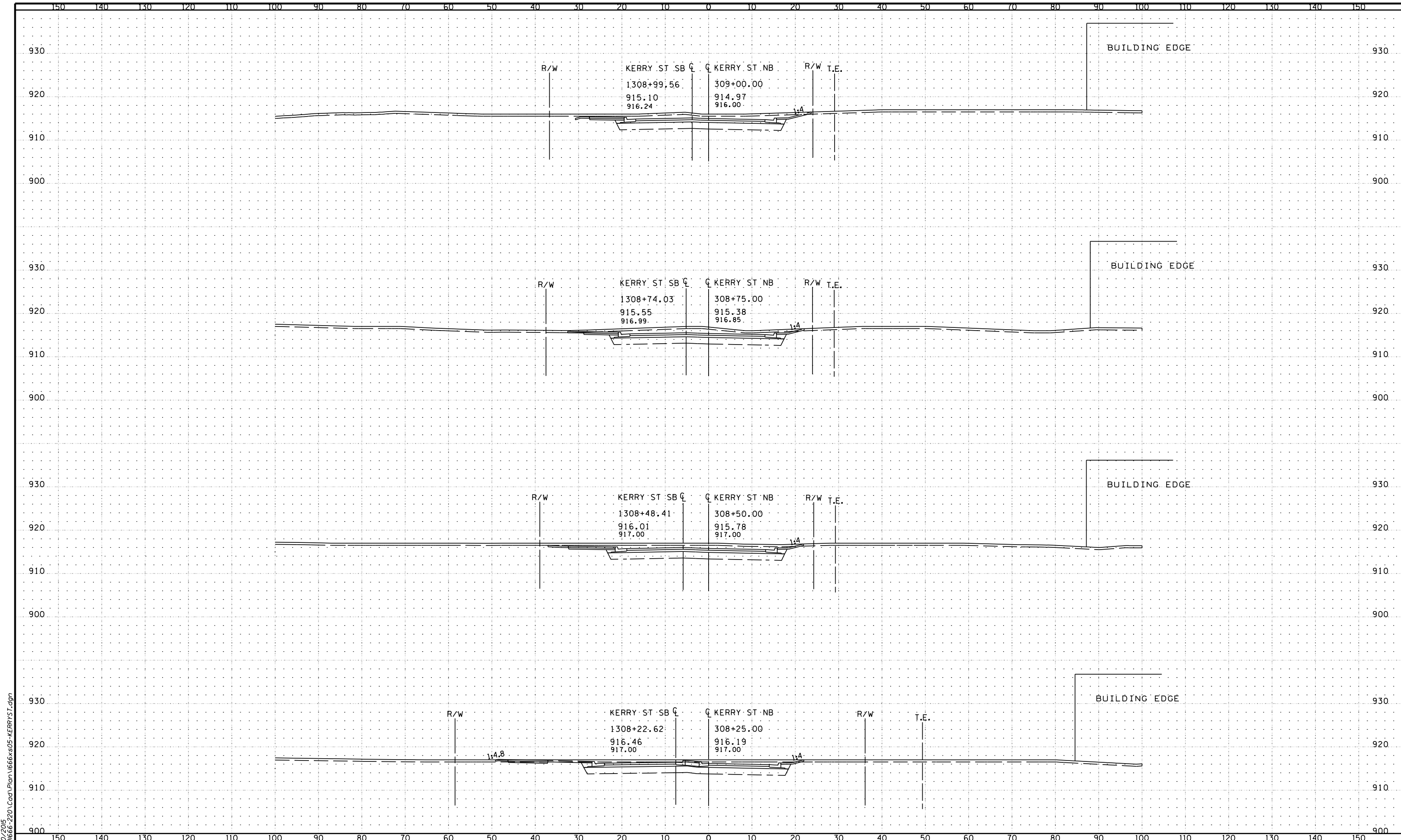
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 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
 CSAH 9  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**177**  
 OF  
**214**  
 SHEETS



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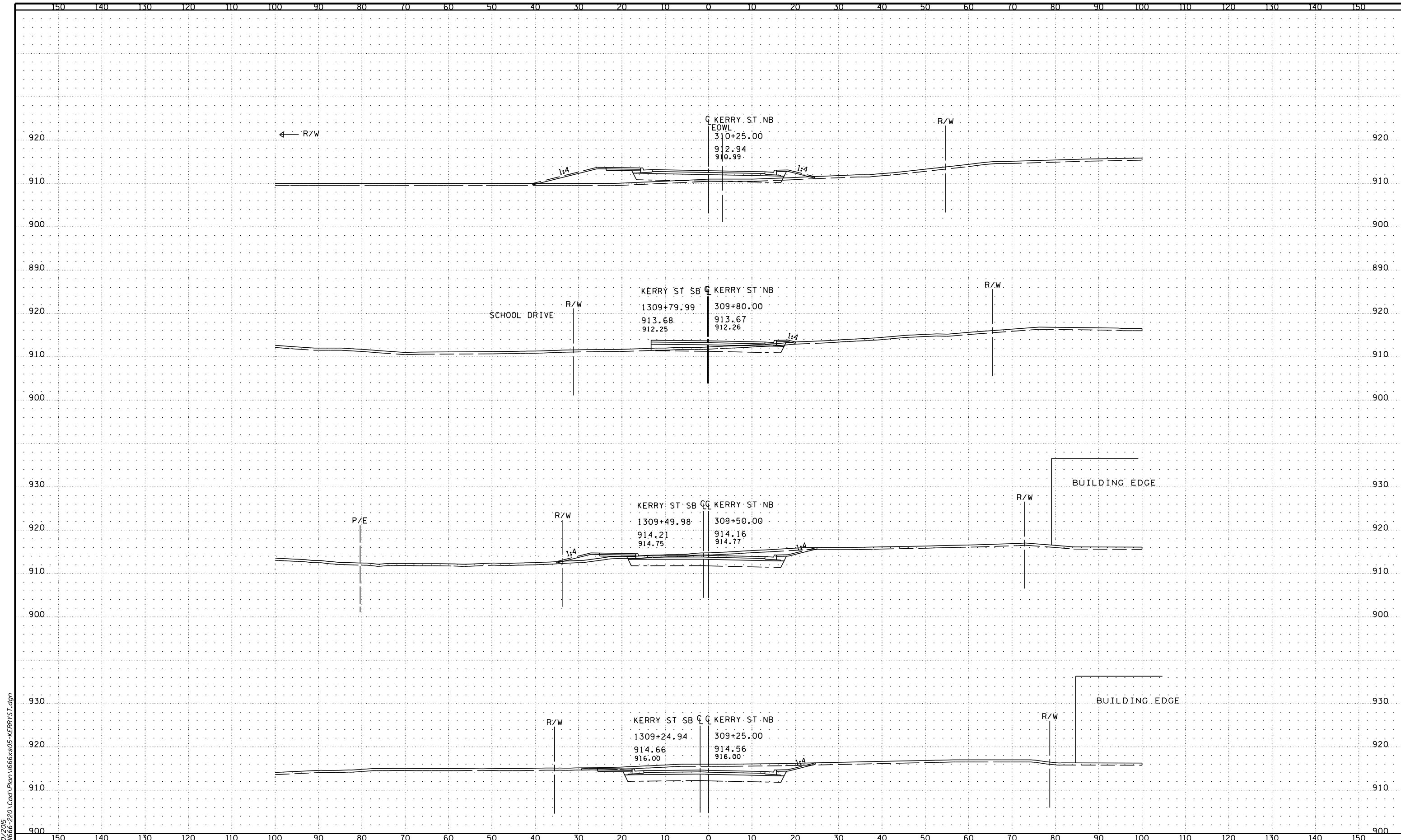
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**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
 KERRY STREET  
**CROSS SECTIONS**  
 S.P. 002-624-026

SHEET  
**178**  
 OF  
**214**  
 SHEETS



Date Printed: 6/30/2015  
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NO.	DATE	BY	CHK	REVISIONS

Design By: AJP  
 Plan By: ACJ  
 Checked By: DRS  
 Approved By: AJP

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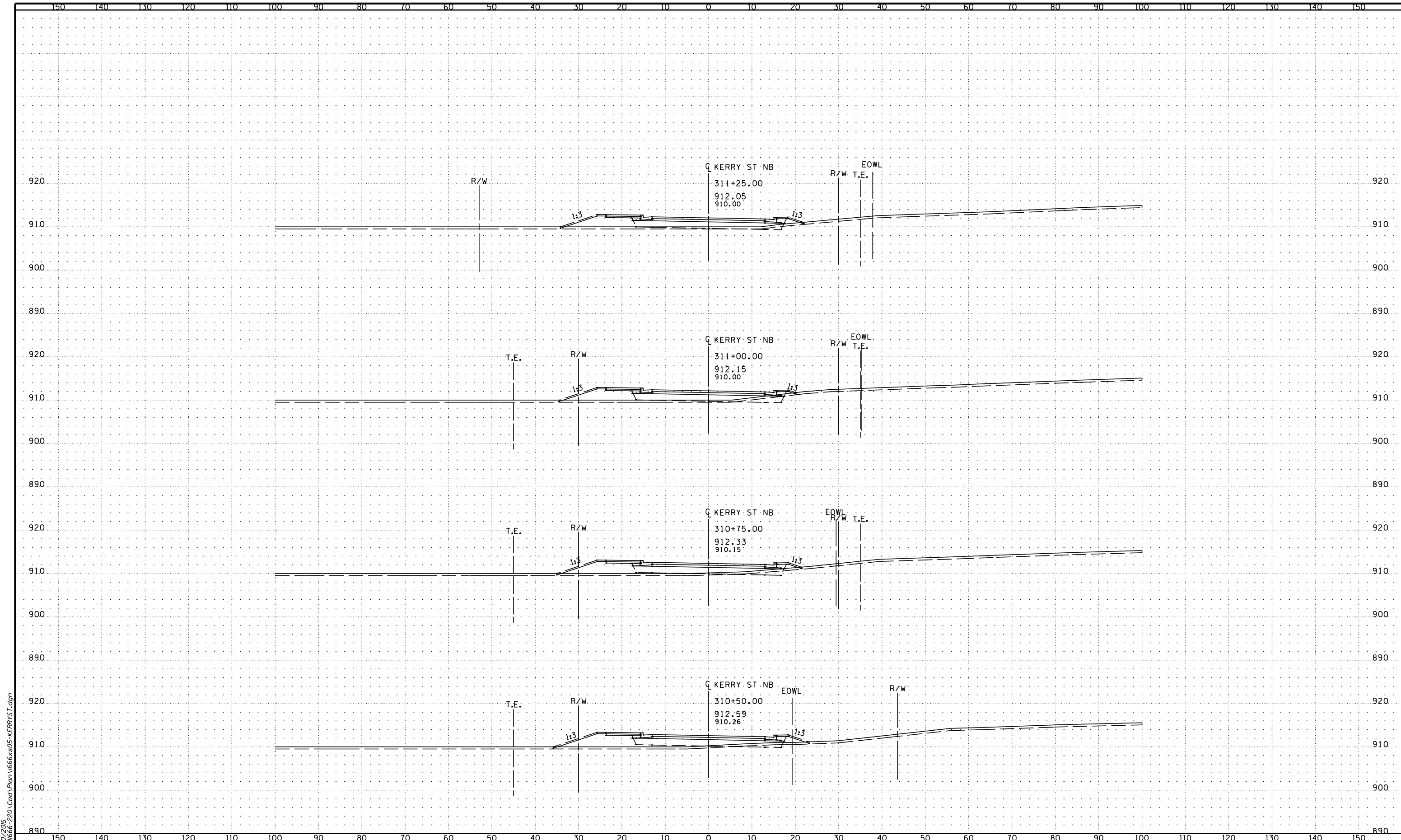
CERTIFIED BY: *[Signature]*  
 LICENSED PROFESSIONAL ENGINEER - ANDREW FLOMMAN, PE  
 DATE: 6/15/15 LIC. NO: 44200

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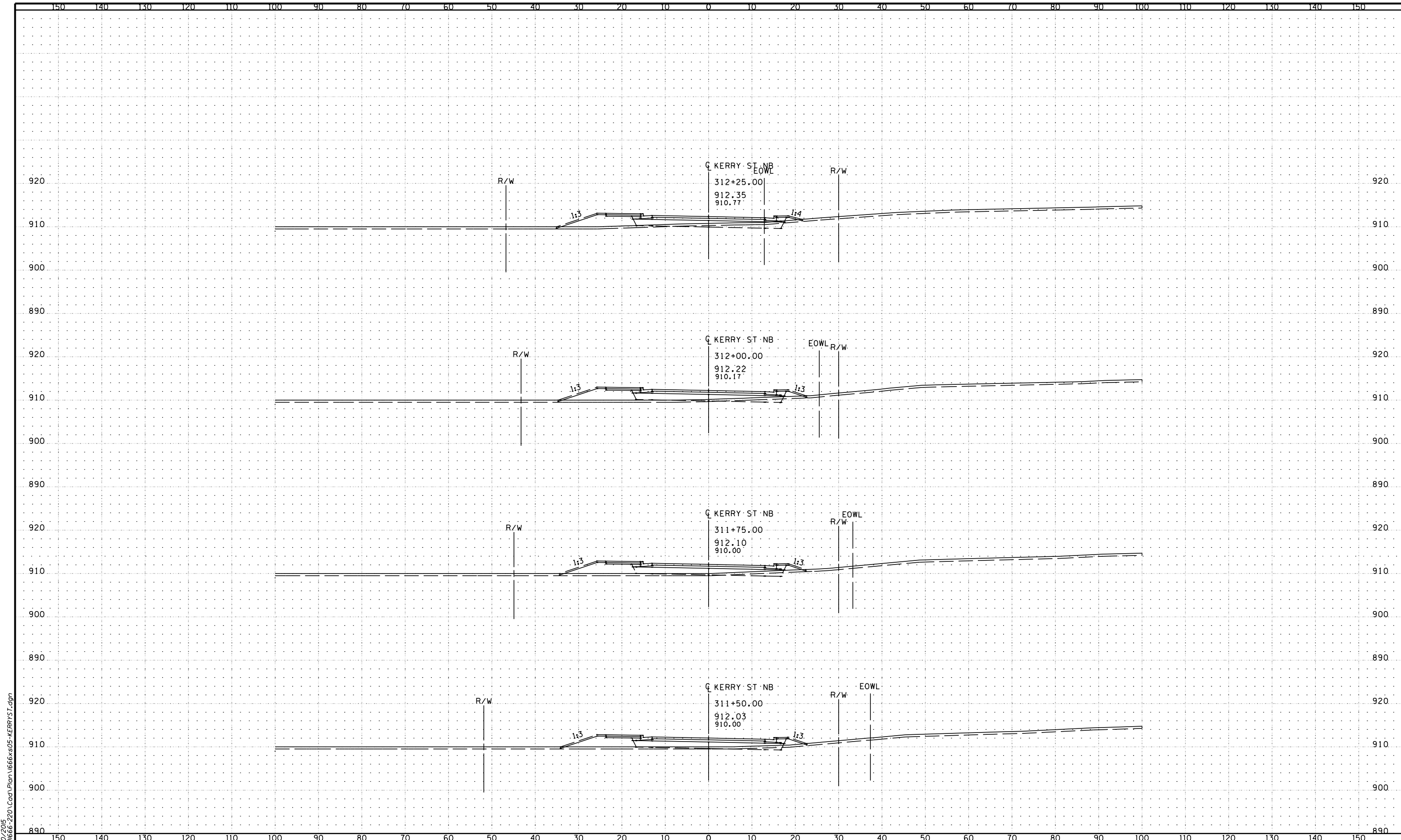
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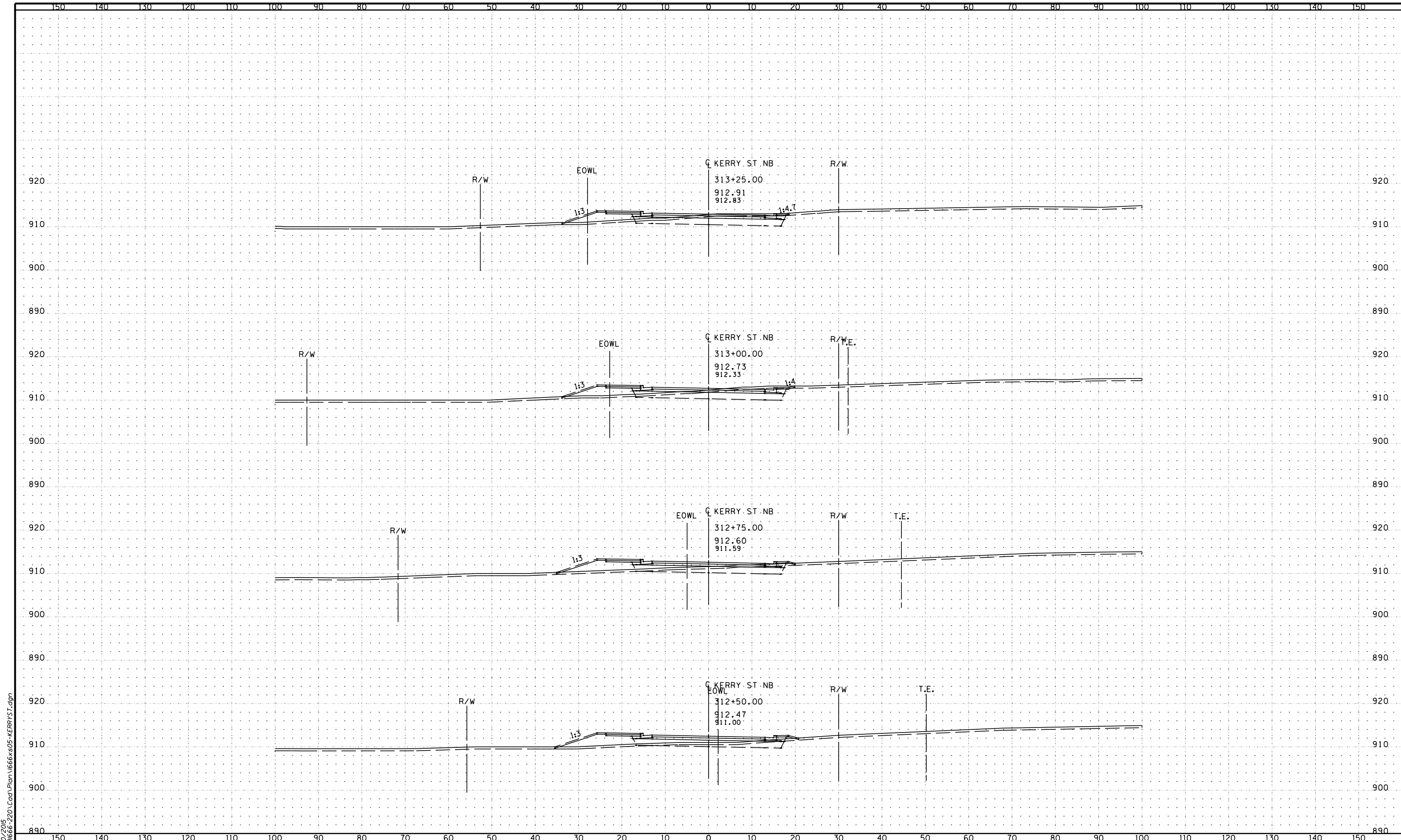
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SHEET  
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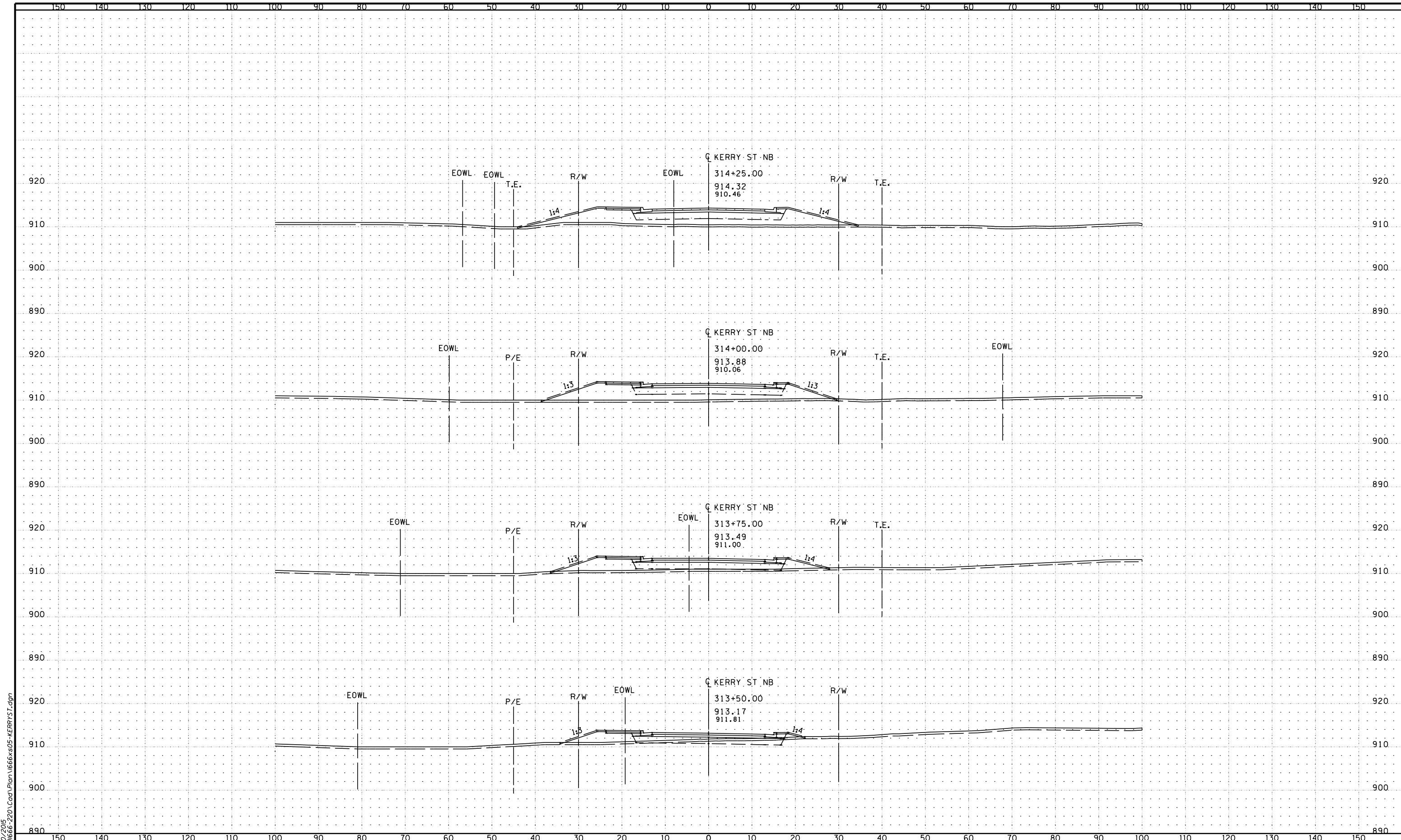
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ANOKA COUNTY, MINNESOTA  
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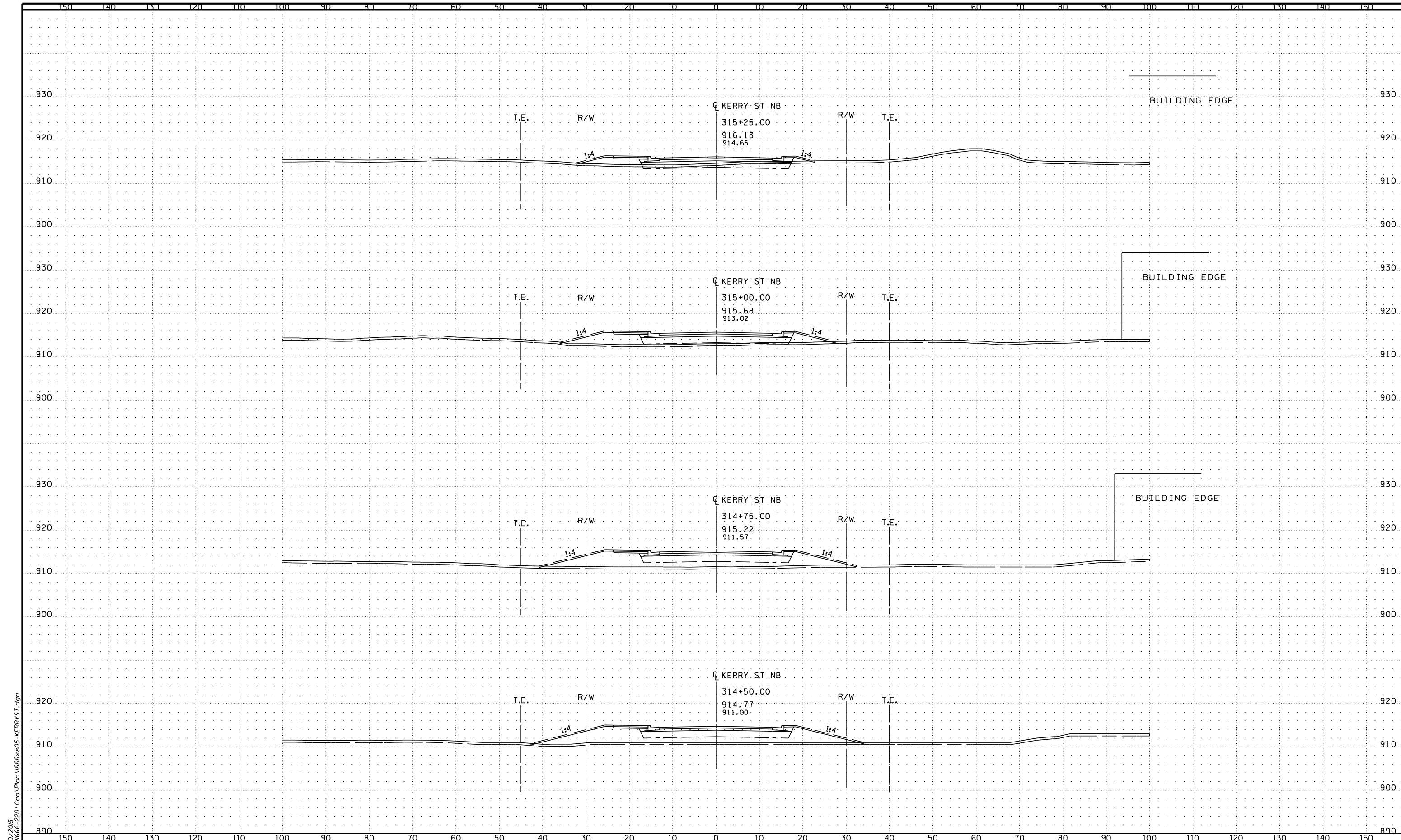
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SHEET  
**183**  
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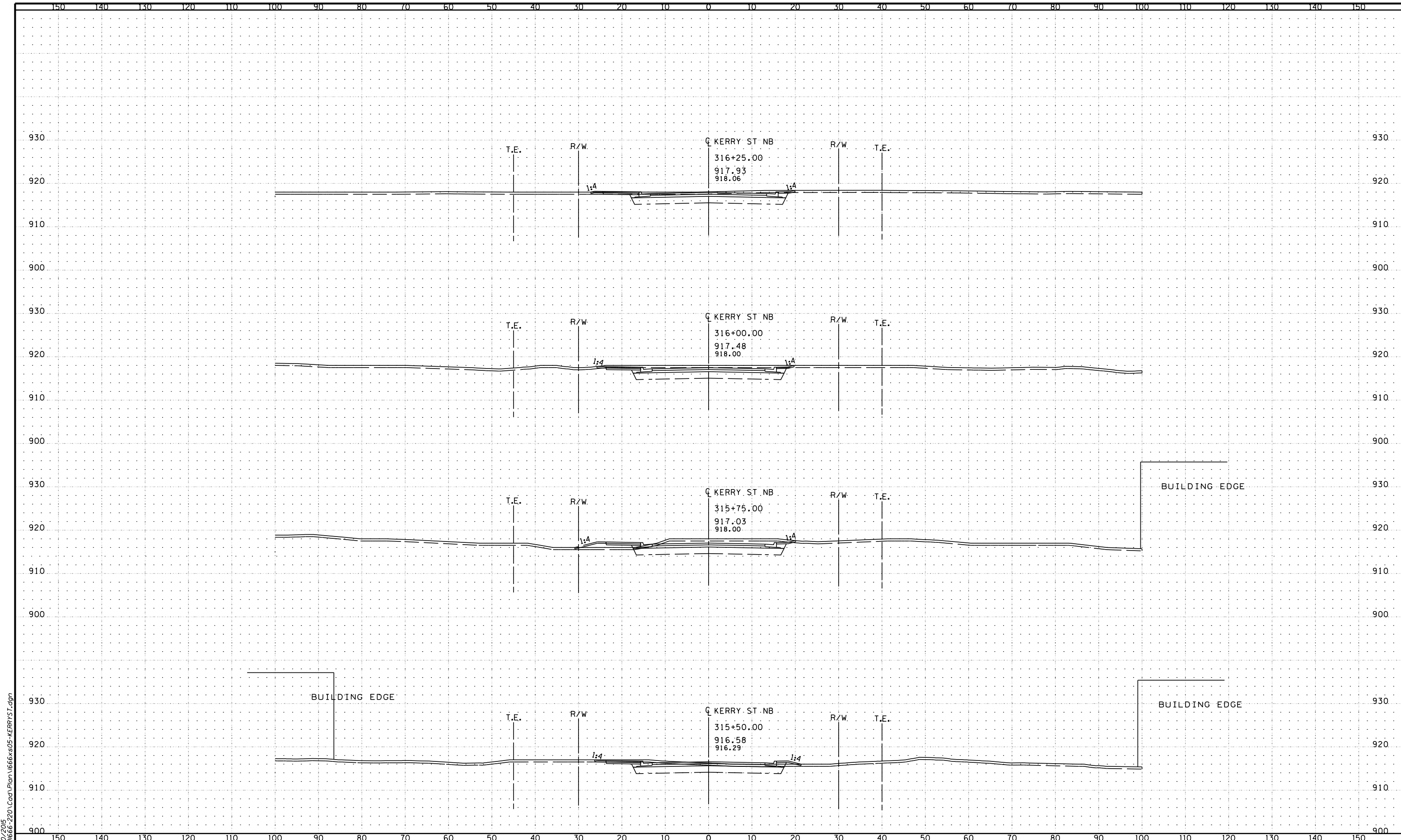
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**ANOKA COUNTY**  
**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
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SHEET  
**184**  
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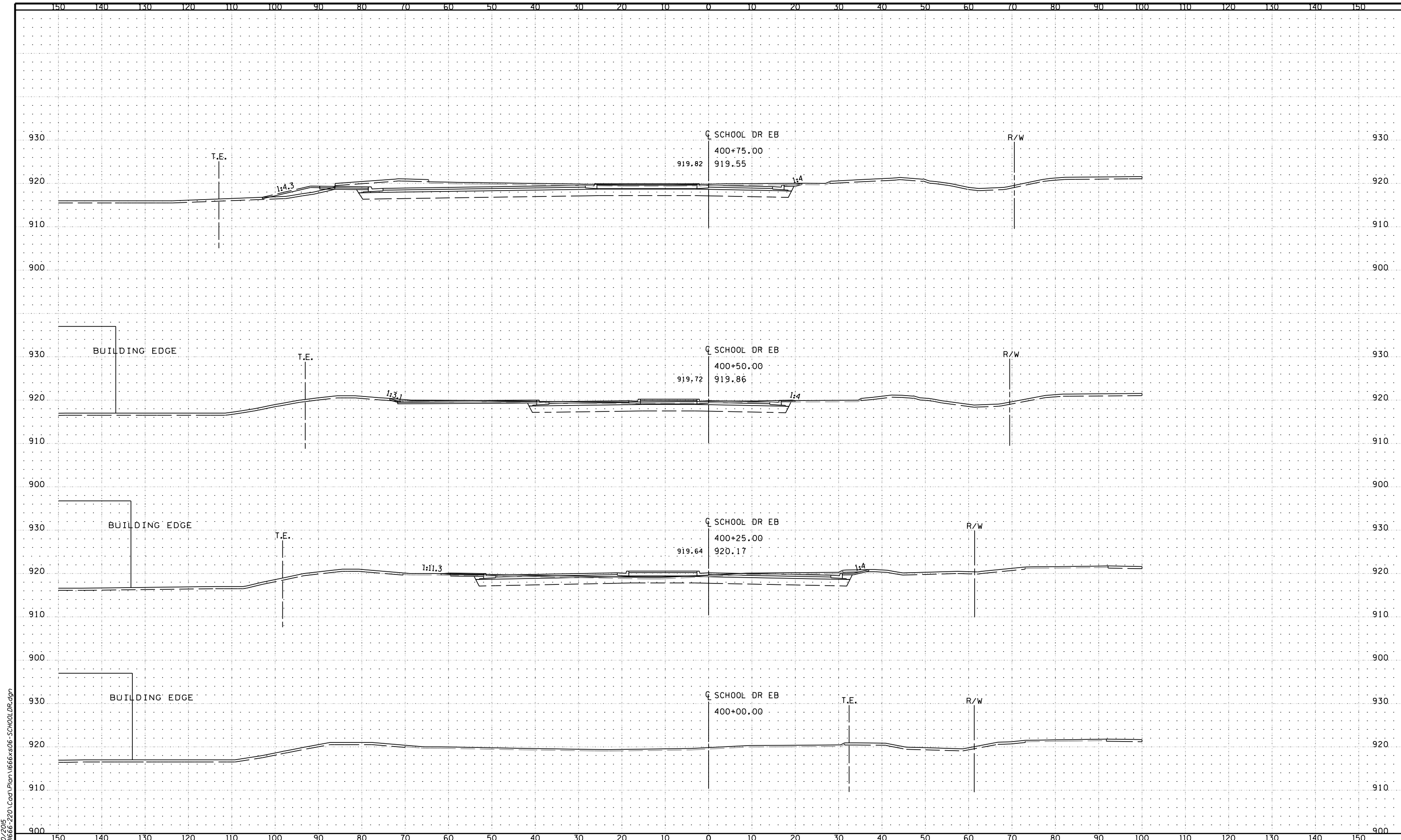
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**CSAH 24 Improvements**  
 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
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SHEET  
**185**  
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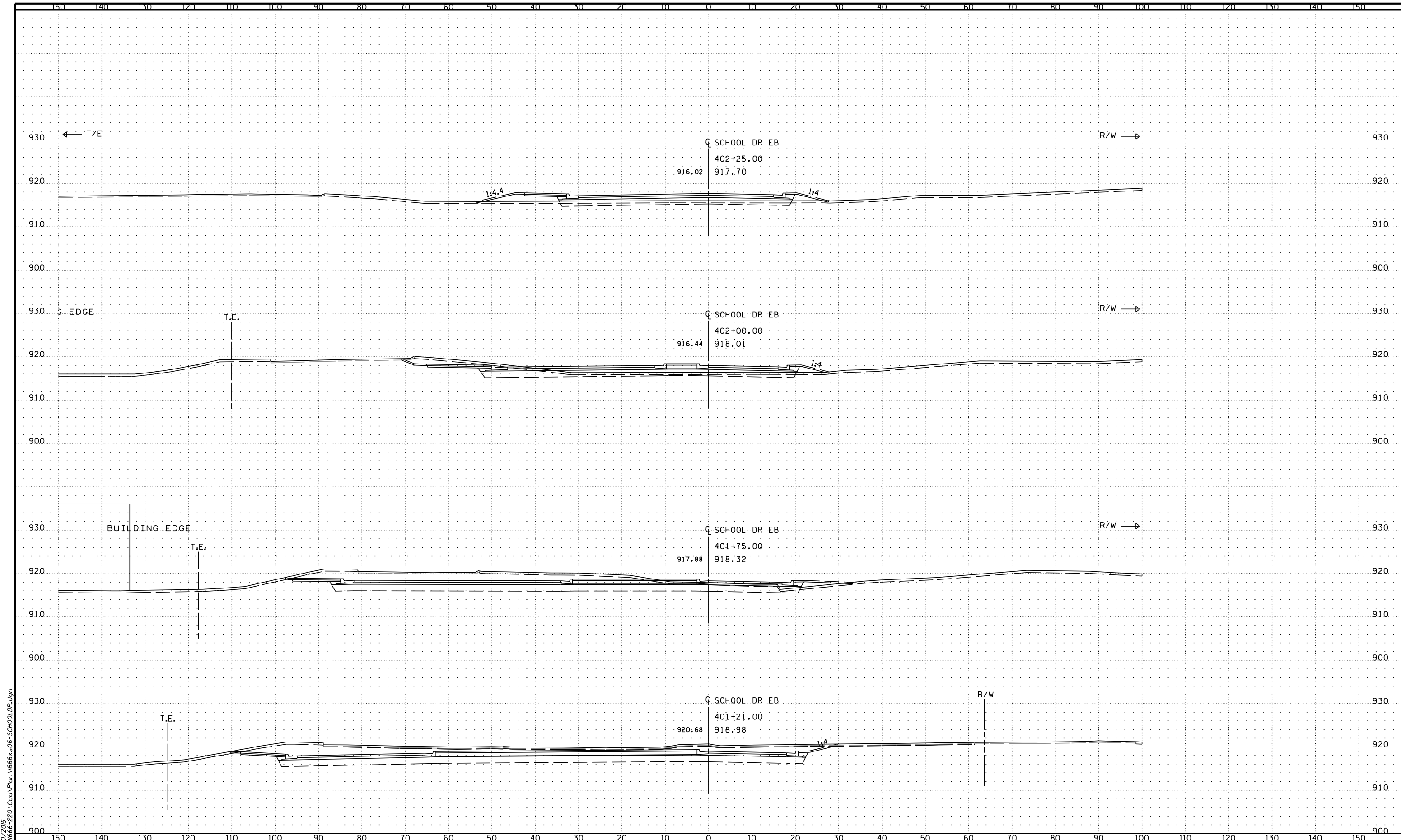
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ANOKA COUNTY, MINNESOTA  
 SCHOOL DRIVEWAY  
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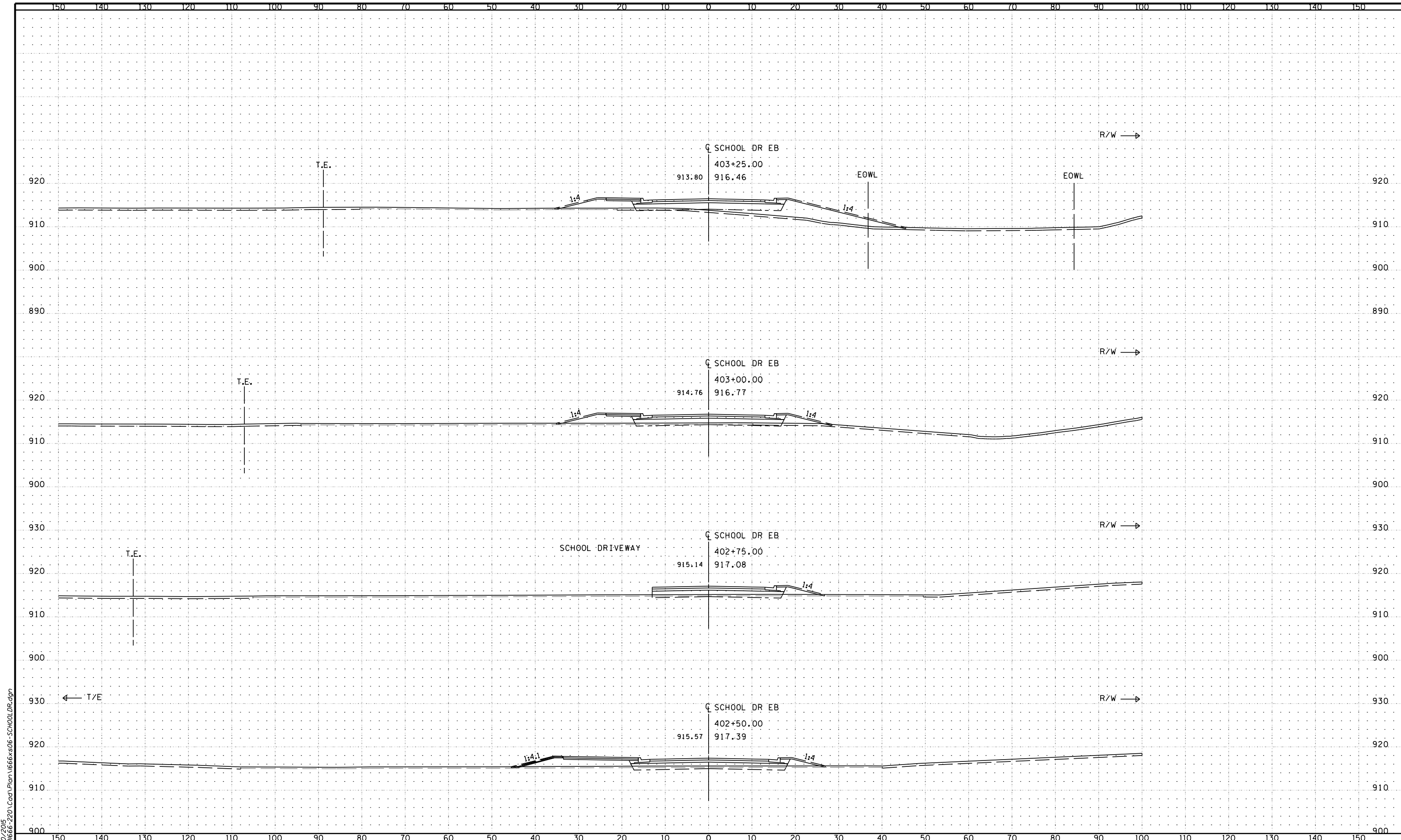
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 Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA  
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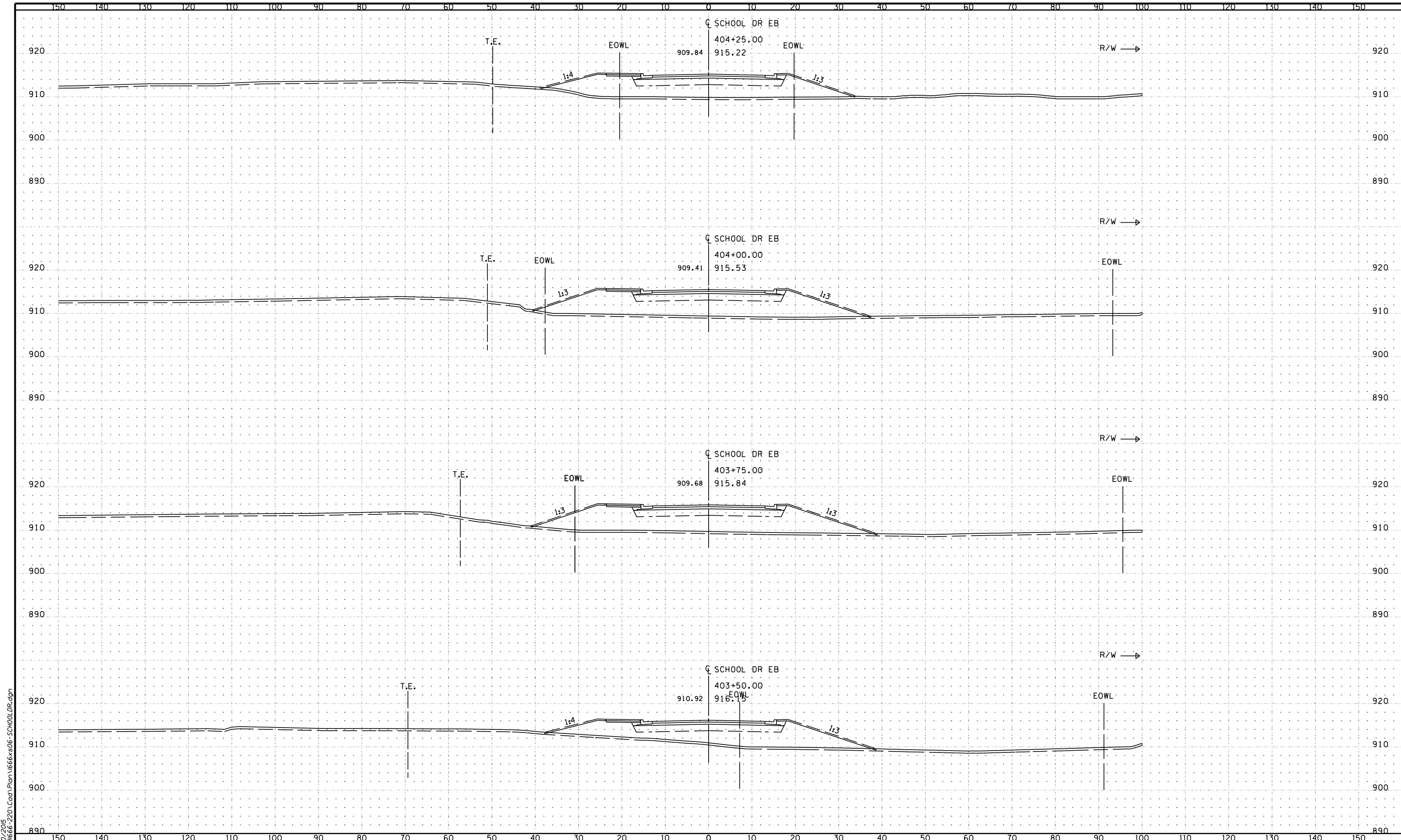
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ANOKA COUNTY, MINNESOTA  
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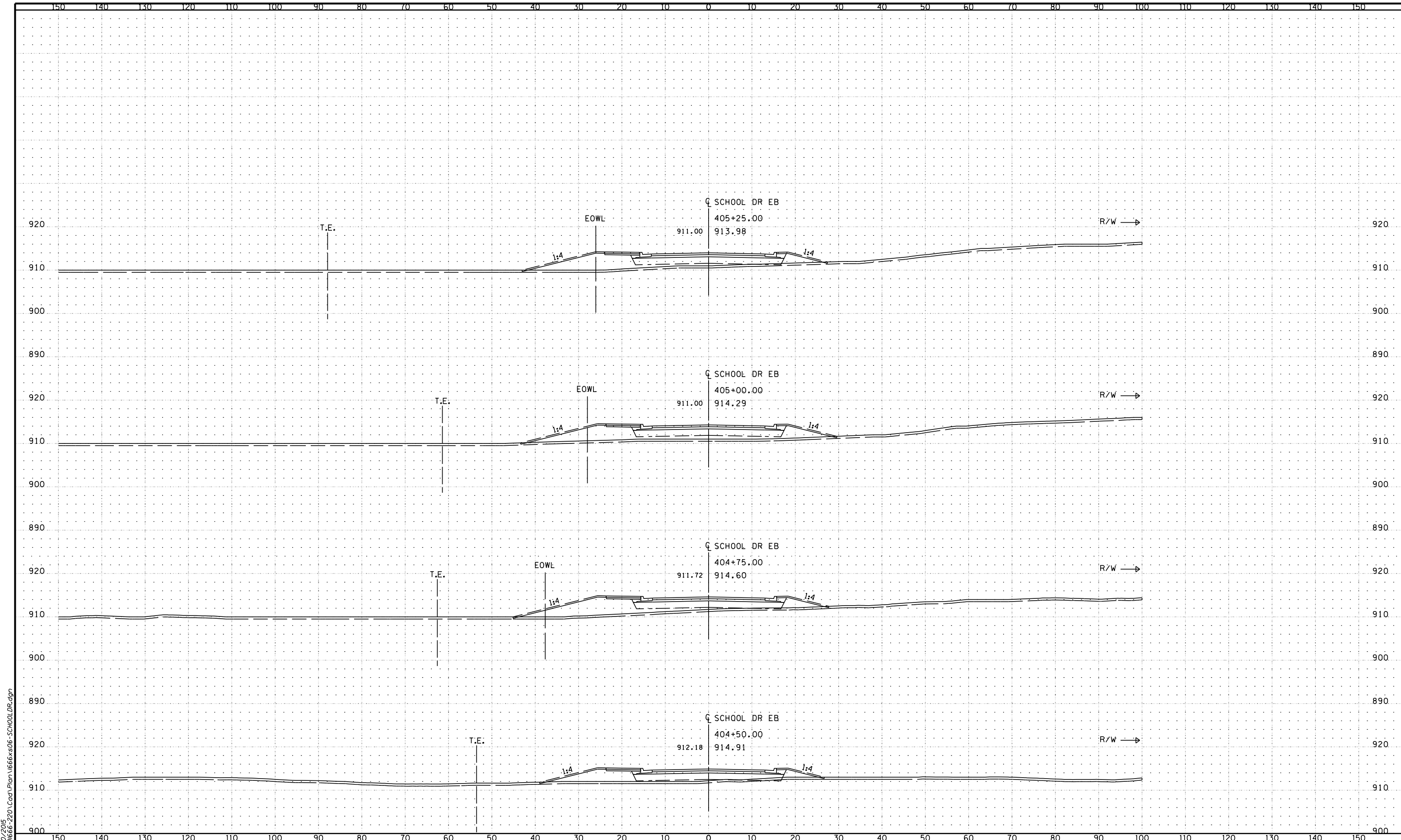
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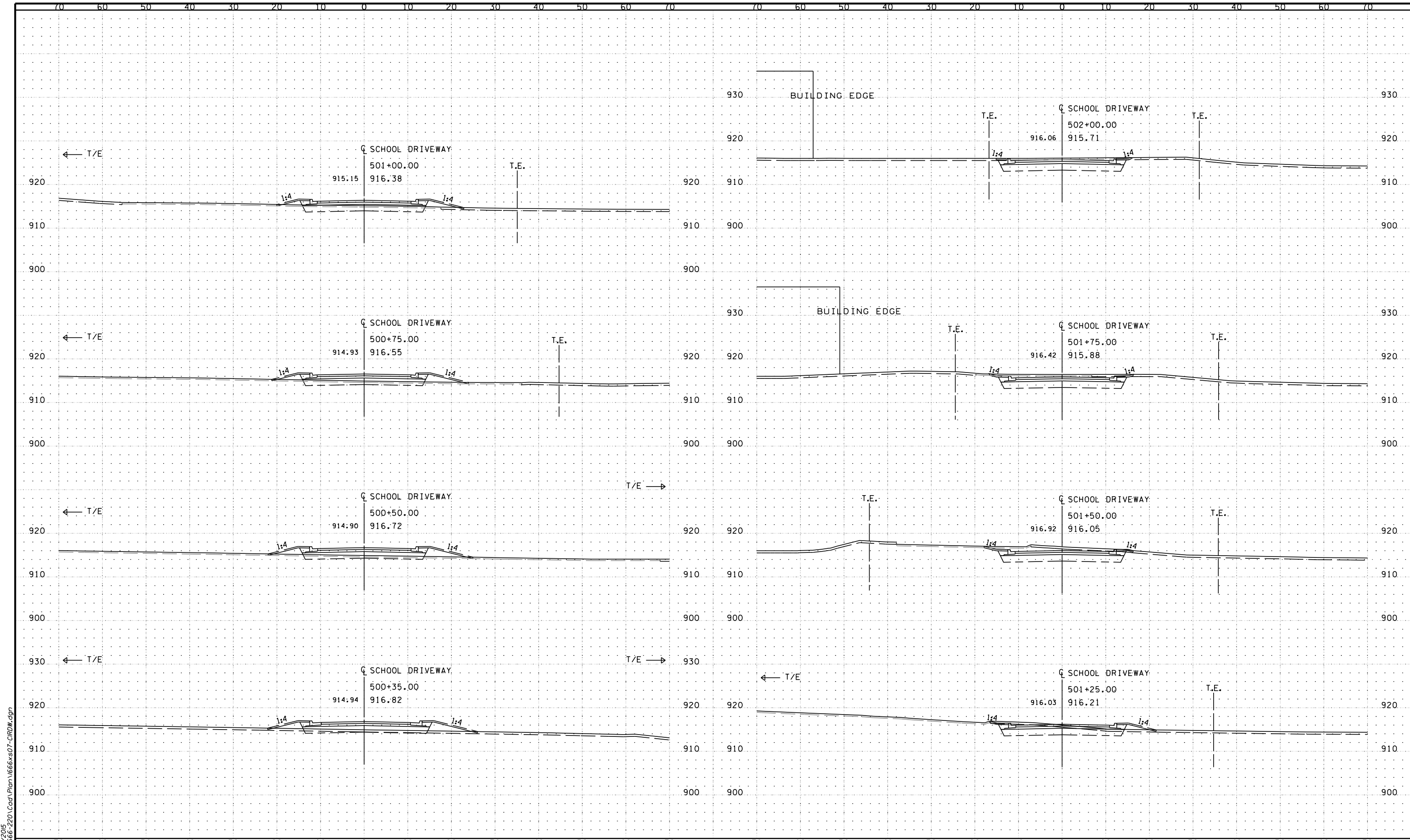

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ANOKA COUNTY, MINNESOTA  
 CIRCULATORY DRIVEWAY  
**CROSS SECTIONS**  
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SHEET  
**191**  
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**214**  
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**SCHEDULE OF QUANTITIES - FOR INFORMATION ONLY**

ITEM NO.	MN/DOT SPEC NO.	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	CITY OF ST. FRANCIS NON-PARTICIPATING	NOTES
1	2104	REMOVE SANITARY SEWER PIPE	LIN FT	2603	2603	
2	2104	REMOVE SANITARY SEWER STRUCTURE	EACH	9	9	
3	2104	SALVAGE FENCE TYPE WOOD RAIL	LIN FT	151	151	
4	2104	SALVAGE SIGN	EACH	5	5	
5	2104	ABANDON SANITARY SEWER STRUCTURE	EACH	3	3	
6	2104	ABANDON SANITARY SEWER PIPE	LIN FT	1058	1058	
7	2503	SANITARY SEWER BYPASS	LUMP SUM	1	1	
8	2503	8" X 6" PVC SDR 26 WYE	EACH	1	1	
9	2503	18" X 6" PVC SDR 26 WYE	EACH	7	7	
10	2503	18" X 8" PVC SDR 26 WYE	EACH	1	1	
11	2503	CONNECT TO EXISTING SANITARY SEWER SERVICE	EACH	8	8	
12	2503	CONNECT TO EXISTING FORCEMAIN	EACH	2	2	
13	2503	CONNECT TO EXISTING SANITARY SEWER	EACH	4	4	
14	2503	8" PVC SANITARY SEWER PIPE SDR 35	LIN FT	522	522	
15	2503	8" PVC SANITARY SEWER PIPE SDR 26	LIN FT	428	428	
16	2503	18" PVC SANITARY SEWER PIPE SDR 26	LIN FT	2482	2482	
17	2503	6" PVC SEWER SERVICE	LIN FT	41	41	
18	2503	CONSTRUCT 6" OUTSIDE DROP	LIN FT	7	7	
19	2503	CONSTRUCT 8" OUTSIDE DROP	LIN FT	21	21	
20	2503	CONSTRUCT 18" OUTSIDE DROP	LIN FT	8	8	
21	2503	10" ID FORCEMAIN PIPE SEWER	LIN FT	167	167	
22	2503	10" ID TRENCHLESS INSTALLATION	LIN FT	617	617	
23	2504	CONNECT TO EXISTING WATERMAIN	EACH	1	1	
24	2504	8" GATE VALVE AND BOX	EACH	2	2	
25	2504	10" X 8" WET TAP WATERMAIN	EACH	1	1	
26	2504	8" PVC C-900 DR 18 WATERMAIN	LIN FT	526	526	
27	2504	PIPE FITTINGS	POUND	184	184	
28	2506	CASTING ASSEMBLY (SANITARY)	EACH	14	14	
29	2506	CONSTRUCT SANITARY MANHOLE, DES. 4007	LIN FT	217	217	
30	2557	INSTALL SALVAGED FENCE TYPE WOOD RAIL	LIN FT	151	151	
31	2564	INSTALL SALVAGED SIGN	EACH	5	5	

BASIS FOR QUANTITIES	
MATERIAL	CONVERSIONS
TYPE SP 12.5 (NON)WEARING COURSE	146.6 LB/CU FT
AGGREGATE SURFACING CLASS 2	1.6 TON/CU YD
TACK COAT	0.05 GAL/SQ YD
SEED MIXTURE 25-131	61 LB/ACRE
FERTILIZER TYPE 2 22-5-10	300 LB/ACRE

NOTES:  
 (1) THIS PROJECT TO BE COORDINATED WITH PROJECT S.P. 002-624-026

S.P. 002-624-026      S.A.P. 235-020-001

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*Jared A. Voge*  
 Jared A. Voge      LIC. NO. 45063      DATE 4/06/2015



DESIGNED: CLH  
 DRAWN: KGA  
 CHECKED: CLH



**BOLTON & MENK, INC.**  
 Consulting Engineers & Surveyors  
 MANKATO, MN FAIRMONT, MN SLEEPY EYE, MN BURNSVILLE, MN WILLMAR, MN  
 CHASKA, MN RAMSEY, MN MAPLEWOOD, MN BAXTER, MN ROCHESTER, MN  
 AMES, IA SPENCER, IA DES MOINES, IA FARGO, ND

REV.	BY	DATE

ANOKA COUNTY/ST. FRANCIS, MINNESOTA  
 2015 BRIDGE STREET IMPROVEMENTS  
 ESTIMATED QUANTITIES

(A) REMOVALS						
ROAD ALIGNMENT	STATION	REMOVE		SALVAGE & INSTALL	ABANDON	
		SANITARY SEWER STRUCTURE	SANITARY SEWER PIPE	FENCE TYPE WOOD RAIL	SANITARY SEWER STRUCTURE	SEWER PIPE (SANITARY)
		(EACH)	(LIN FT)	(LIN FT)	(EACH)	(LIN FT)
CSAH 24	101+80-117+50	4	1021	151	2	783
CSAH 24	117+50-124+40.24	2	455		1	210
COUNTY RD 72	200+00-209+00.93	1	625			
<b>TOTAL</b>		<b>7</b>	<b>2101</b>	<b>151</b>	<b>3</b>	<b>993</b>

(B) CONSTRUCT SANITARY SEWER																				
LINE	STRUCT ID	STREET	STATION	OFFSET	TOP OF CASTING ELEV.	INVERT OUT ELEV.	FLOWS TO STRUCT	INVERT IN ELEV.	PIPE GRADE (%)	CASTING (EACH)	CONSTRUCT SAN MANHOLE DES 4007 (LIN FT)	6" OUTSIDE DROP (LIN FT)	8" OUTSIDE DROP (LIN FT)	18" OUTSIDE DROP (LIN FT)	8" PVC SDR 35 (LIN FT)	8" PVC SDR 26 (LIN FT)	18" PVC SDR 26 (LIN FT)	CONNECT TO EXISTING SANITARY (EACH)	NOTES	
1	C	CSAH 24	100+79.50	19.1' RT	919.06	902.52	D	901.38	0.40	1	16.54					284				
2	D	CSAH 24	103+72.03	22.0' RT	920.70	901.28	E	900.70	0.40	1	19.42					144				
3	E	CSAH 24	105+02.62	25.0' RT	921.86	899.50	Q	898.95	0.12	1	22.36		6.61	2.69			455	1		
4	F	CSAH 24	105+99.29	22.0' RT	921.00	902.29	E	902.19	0.12	1	18.71						87			
5	G	CSAH 24	110+60.58	19.5' RT	922.28	902.94	F	902.39	0.12	1	19.34	3.39					458		(2)	
6	H	CSAH 24	111+91.78	19.0' RT	921.67	903.20	G	903.04	0.12	1	18.47	3.38					131		(2)	
7	I	CSAH 24	115+56.96	20.0' RT	919.11	903.73	H	903.30	0.12	1	15.38		4.07				360			
8	J	CSAH 24	117+55.47	27.5' RT	917.69	904.05	I	903.83	0.12	1	13.64			2.23			183			
9	K	CSAH 24	119+83.75	34.0' RT	917.11	906.64	J	906.38	0.12	1	10.47			2.69			220			
10	L	CSAH 24	122+22.51	25.0' RT	917.69	909.61	K	909.33	0.12	1	8.08						230		(2)	
11	M	CSAH 24	124+39.37	24.7' RT	919.41	910.07	L	909.81	0.12	1	9.34						218			
13	Q	COUNTY RD 72	207+61.91	24.0' RT	921.12	898.85	-	898.71	0.12	1	22.27		10.70				113	1		
15	-	CSAH 9	301+90.03	12.7' LT	-	907.51	Y	907.35	0.40	-	-				40					
16	Y	CSAH 9	302+30.31	10.0' LT	918.45	907.25	Z	905.79	0.40	1	11.20				364					
17	Z	CSAH 9	305+93.04	37.4' LT	916.99	905.16	L	904.72	0.40	1	11.83				98					
18	-	CSAH 9	302+29.81	33.5' LT	-	907.43	Y	907.35	0.40	-	-				20				(1)	
<b>TOTAL</b>											<b>14</b>	<b>217.05</b>	<b>6.77</b>	<b>21.38</b>	<b>7.61</b>	<b>522</b>	<b>428</b>	<b>2455</b>	<b>2</b>	

BASIS FOR QUANTITIES	
MATERIAL	CALCULATION
SANITARY MANHOLE	RIM - INVERT

NOTES:  
(1) STUB FOR FUTURE EXPANSION, CAP END  
(2) FIELD VERIFY AND LOCATE EXISTING SERVICE TO NORTH BEFORE STRUCTURE APPROVAL

(C) CONSTRUCT FORCEMAIN SANITARY SEWER							
LINE	STREET	FROM STATION	TO STATION	10" ID TRENCHLESS INSTALLATION (LIN FT)	10" ID FORCEMAIN PIPE SEWER (LIN FT)	CONNECT TO EXISTING SANITARY (EACH)	PIPE FITTINGS (POUNDS)
1	CSAH 24	100+79.79	103+43.82	265		1	
2	CSAH 24	103+43.82	105+04.98		85		64
3	COUNTY ROAD 72	203+13.24	205+22.26		82		140
4	COUNTY ROAD 72	205+22.26	208+75.43	352		1	
<b>TOTAL</b>				<b>617</b>	<b>167</b>	<b>2</b>	<b>204</b>

(E) STANDARD PLATES	
PLATE NO.	DESCRIPTION
4005L	MANHOLE TYPE B CONE SECTIONS
4007C	PRECAST MECHANICAL JOINT SEWER MANHOLE
4101D	RING CASTING FOR MANHOLE OF CATCH BASIN
4108F	ADJUSTING RINGS
8000I	STANDARD BARRICADES

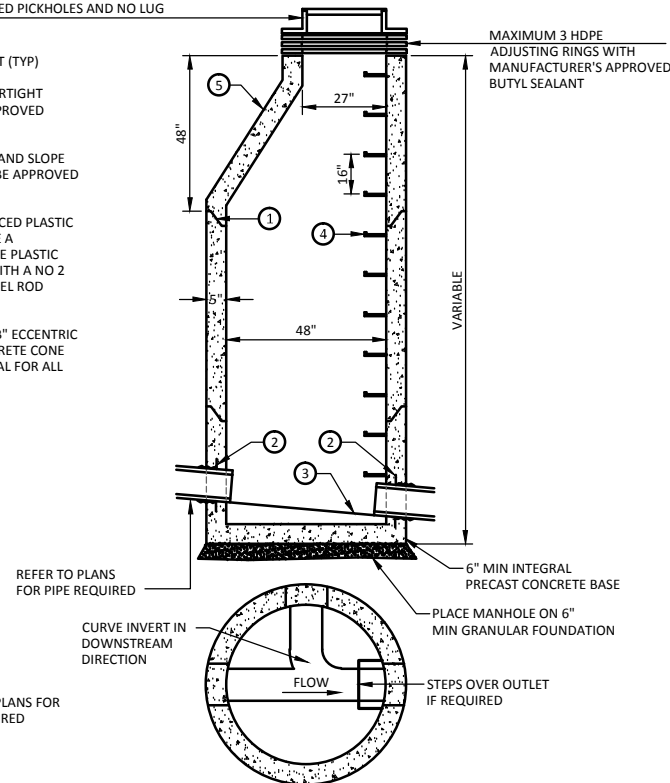
(D) SANITARY SERVICE CONSTRUCTION									
LINE	STREET	STATION	OFFSET	LOCATION	6" PVC SEWER SERVICE (LIN FT)	8" X 6" WYE (EACH)	18" X 6" WYE (EACH)	18" X 8" WYE (EACH)	CONNECT TO EXISTING SERVICE (EACH)
1	CSAH 24	103+89.91	15.8'	RT	6	1			1
2	CSAH 24	106+34.16	24.0'	RT	4		1		1
3	CSAH 24	107+47.16	23.8'	RT	4		1		1
4	CSAH 24	110+60.67	19.5'	RT	4			1	
5	CSAH 24	111+34.11	19.9'	RT	4		1		1
6	CSAH 24	112+32.90	16.9'	RT	4		1		1
7	CSAH 24	121+27.95	30.9'	RT	5		1		1
8	CSAH 24	122+82.86	23.2'	RT	5		1		1
9	CSAH 24	124+42.08	24.8'	RT	5		1		1
<b>TOTAL</b>					<b>41</b>	<b>1</b>	<b>7</b>	<b>1</b>	<b>8</b>

(F) WATERMAIN CONSTRUCTION								
LINE	STREET	STATION	LOCATION	8" PVC C-900 DR 18 (LIN FT)	8" GATE VALV & BOX (EACH)	10" X 8" WET TAP (EACH)	PIPE FITTINGS (POUNDS)	CONNECT TO EXISTING WATERMAIN (EACH)
1	CSAH 9	301+89.97	LT	407				
2	CSAH 9	305+89.89	LT	119	1	1	46	1
<b>TOTAL</b>				<b>526</b>	<b>1</b>	<b>1</b>	<b>46</b>	<b>1</b>

S.P. 002-624-026 S.A.P. 235-020-001

CASTING WITH SELF SEAL LID LETTERED "SANITARY SEWER" WITH TWO CONCEALED PICKHOLES AND NO LUG

- ① RUBBER GASKET (TYP)
- ② FLEXIBLE WATERTIGHT SEAL TO BE APPROVED BY ENGINEER
- ③ SHAPE, DEPTH AND SLOPE OF INVERT TO BE APPROVED BY ENGINEER
- ④ STEEL REINFORCED PLASTIC STEPS SHALL BE A POLYPROPYLENE PLASTIC REINFORCED WITH A NO 2 DEFORMED STEEL ROD GRADE 60
- ⑤ MNDOT TYPE "B" ECCENTRIC PRECAST CONCRETE CONE SECTION TYPICAL FOR ALL MANHOLES

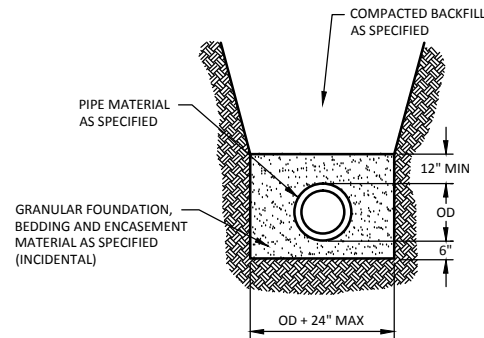


**SANITARY MANHOLE**  
NOT TO SCALE

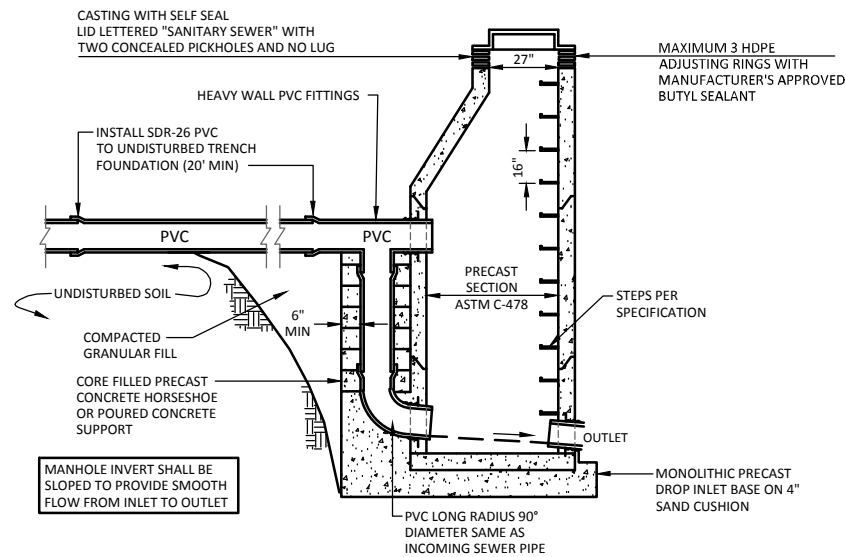
REFER TO PLANS FOR PIPE REQUIRED

CURVE INVERT IN DOWNSTREAM DIRECTION

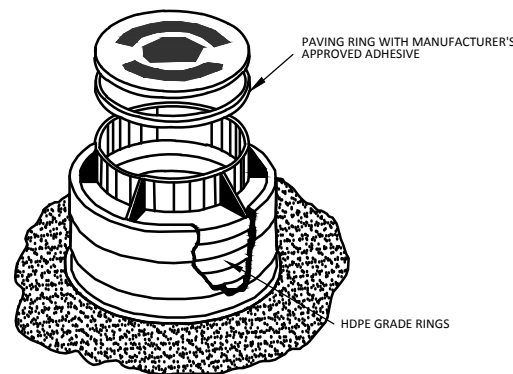
REFER TO PLANS FOR PIPE REQUIRED



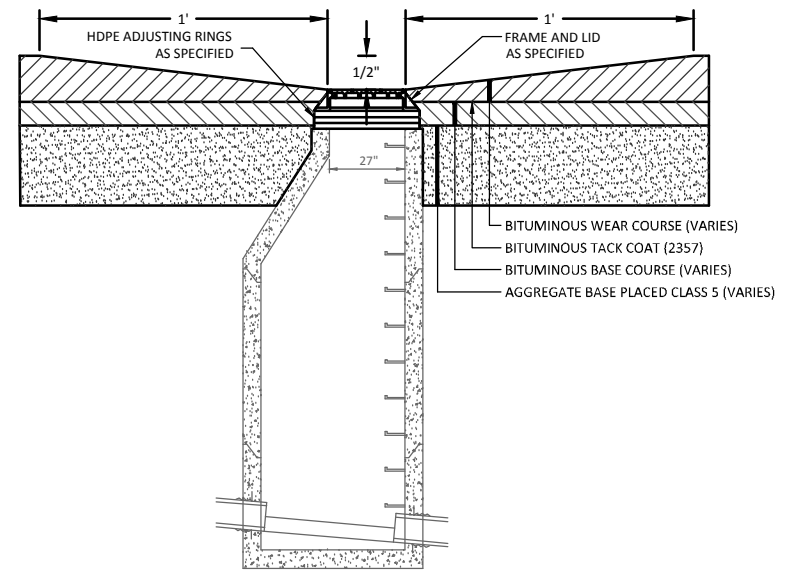
**PVC SANITARY SEWER TRENCH**  
NOT TO SCALE



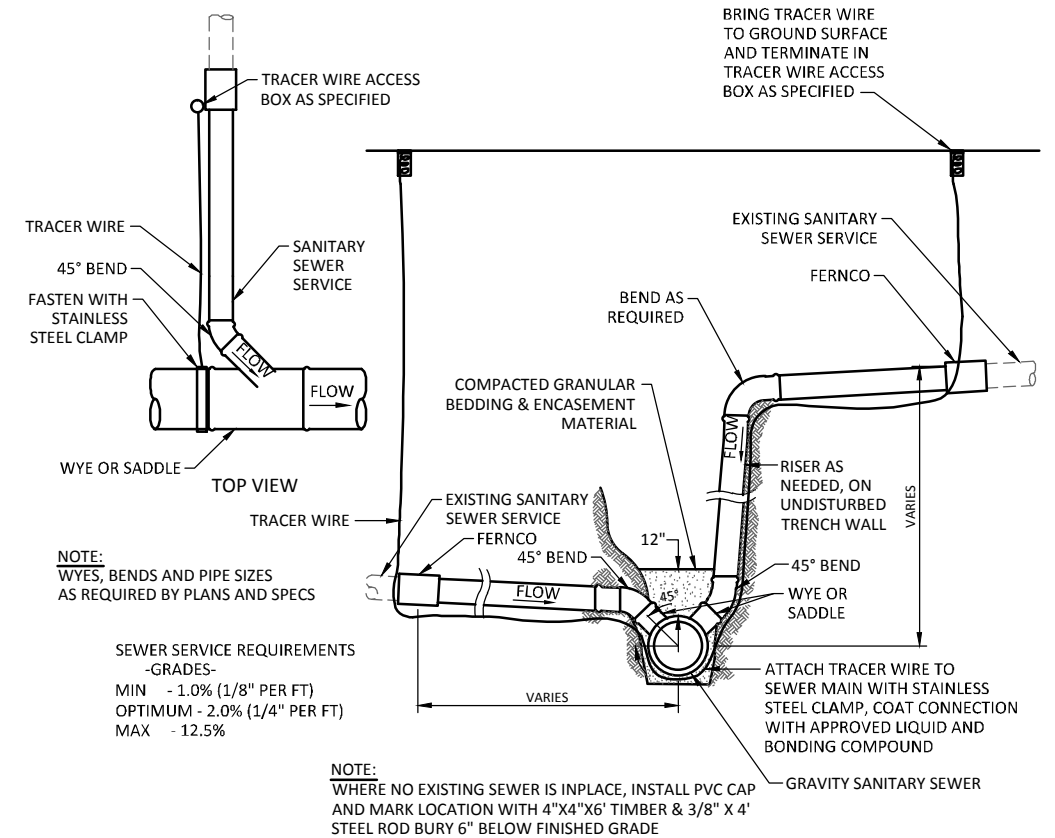
**SANITARY MANHOLE WITH OUTSIDE DROP**  
NOT TO SCALE



**CASTING AND GRADE ADJUSTMENT**  
NOT TO SCALE



**MANHOLE PAVING DETAIL**  
NOT TO SCALE



**SANITARY SEWER SERVICE AND SERVICE RISER, RECONSTRUCTION, WITH TRACER WIRE ACCESS BOX**  
NOT TO SCALE

S.P. 002-624-026

S.A.P. 235-020-001

NOTE: DETAILS ARE NOT TO SCALE

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Jared A. Voge  
LIC NO. 45063 DATE 4/06/2015

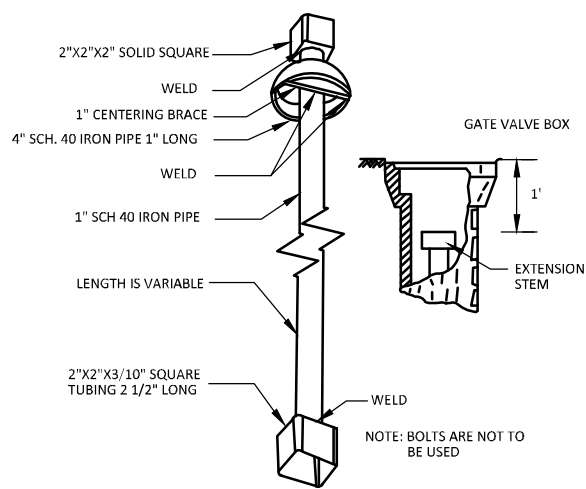


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REV.	BY	DATE	ANOKA COUNTY/ST. FRANCIS, MINNESOTA
			2015 BRIDGE STREET IMPROVEMENTS
			DETAILS

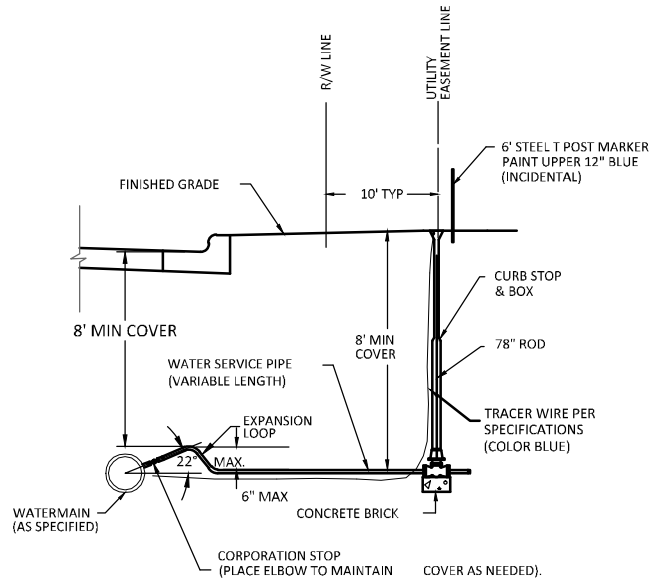
SHEET  
S4  
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S23



**GATE VALVE EXTENSION STEM**  
NOT TO SCALE

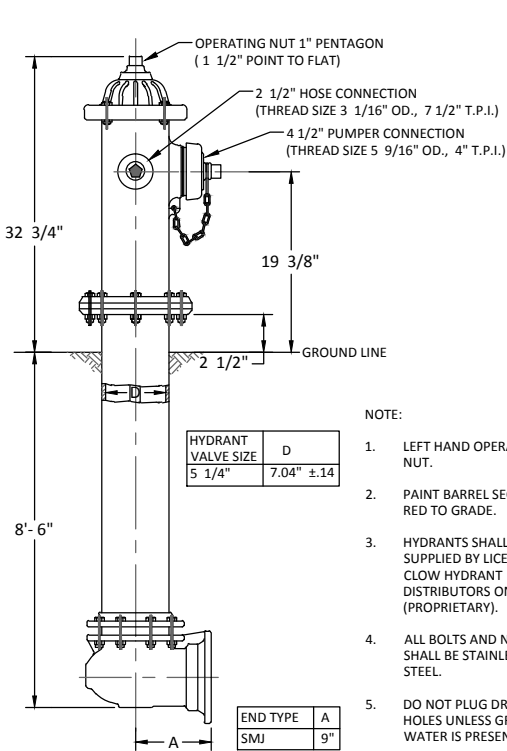
AFTER FABRICATION, THE ENTIRE GATE VALVE EXTENSION STEM SHALL BE PAINTED WITH A SHOP APPLIED PRIMER AND EXTERIOR EPOXY PAINT

NOTE: BOLTS ARE NOT TO BE USED



**WATER SERVICE INSTALLATION**  
NOT TO SCALE

NOTE: WHERE NO EXISTING WATER SERVICE IS IN PLACE, INSTALL 0.5' FLARED & CRIMPED WATER SERVICE LINE AND STEEL "T" FENCE POST AT CURB STOP.



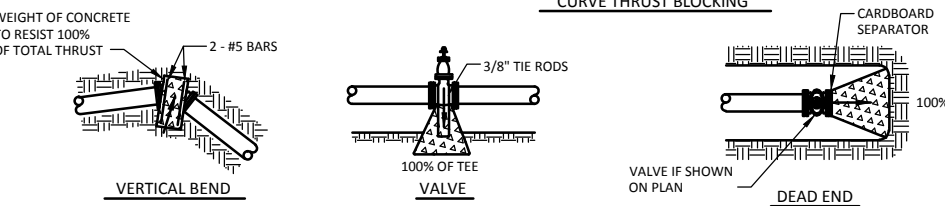
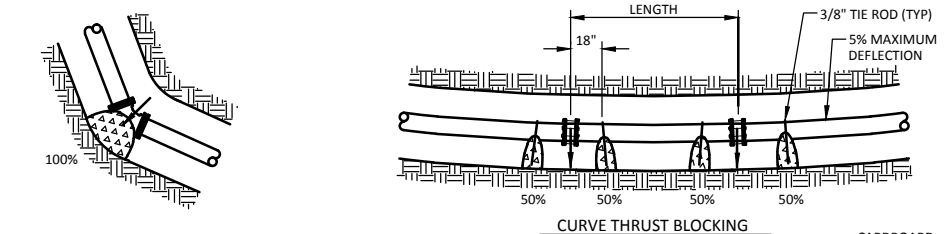
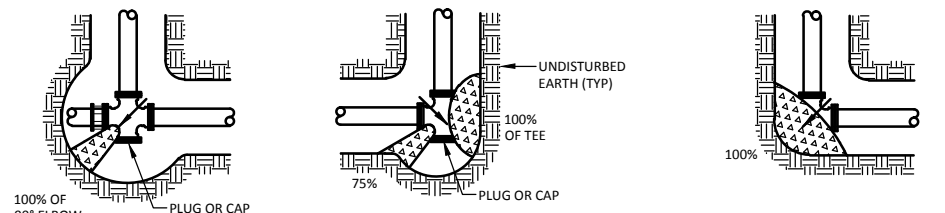
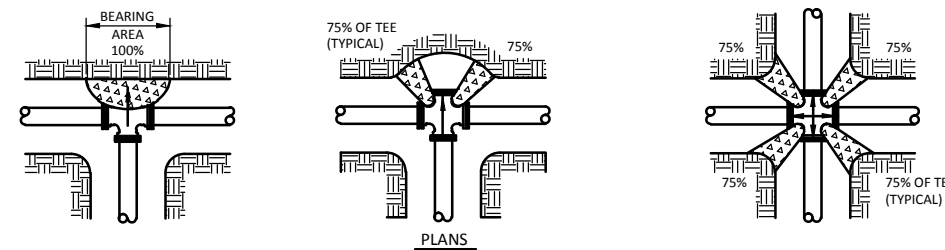
**CLOW MEDALLION HYDRANT MODEL F2545**  
NOT TO SCALE

NOTE:

- LEFT HAND OPERATING NUT.
- PAINT BARREL SECTION RED TO GRADE.
- HYDRANTS SHALL BE SUPPLIED BY LICENSED CLOW HYDRANT DISTRIBUTORS ONLY. (PROPRIETARY).
- ALL BOLTS AND NUTS SHALL BE STAINLESS STEEL.
- DO NOT PLUG DRAIN HOLES UNLESS GROUND WATER IS PRESENT.

HYDRANT VALVE SIZE	D
5 1/4"	7.04" ±.14

END TYPE	A
SMJ	9"



100% BEARING AREA (SQ FT)

PIPE SIZE	DEAD END OR TEE	90° ELBOW	45° ELBOW	22 1/2° ELBOW
4	2.4	3.4	1.9	0.9
6	4.9	6.9	3.8	1.9
8	8.4	11.8	6.4	3.4
10	13.7	19.3	10.5	5.4
12	19.4	27.3	14.9	7.7
14	26.3	37.0	20.1	10.3
16	34.0	47.9	26.2	13.3
18	43.9	61.8	33.7	17.2
20	54.3	76.4	41.7	21.2
24	77.9	109.8	59.8	30.5

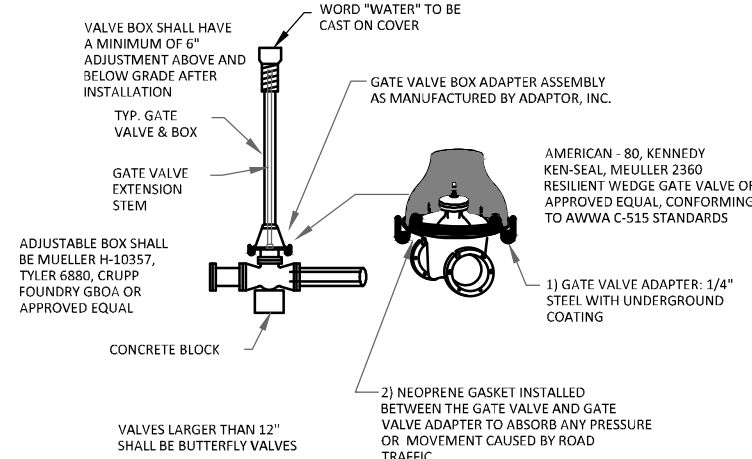
- ARROWS ( → ) INDICATE THRUST DIRECTION
- NOTES:
- FIGURE (100%) AT THRUST BLOCK INDICATES PER CENT OF TOTAL THRUST TO BE APPLIED FOR BEARING AREA.
  - RESTRAINING RODS ARE REQUIRED AT ALL TEES AND AT BENDS DEFLECTING 22-1/2° OR MORE.
  - SEE SOILS REPORT FOR BEARING STRENGTH OF SOIL. IN ABSENCE OF A SOILS REPORT, AN AVERAGE SOIL (SPADABLE MEDIUM CLAY) CAN BE ASSUMED TO HAVE A BEARING STRENGTH OF 2000 PSI.

SIDE THRUST PER 100 LB/SQ IN PRESSURE PER DEGREE OF DEFLECTION

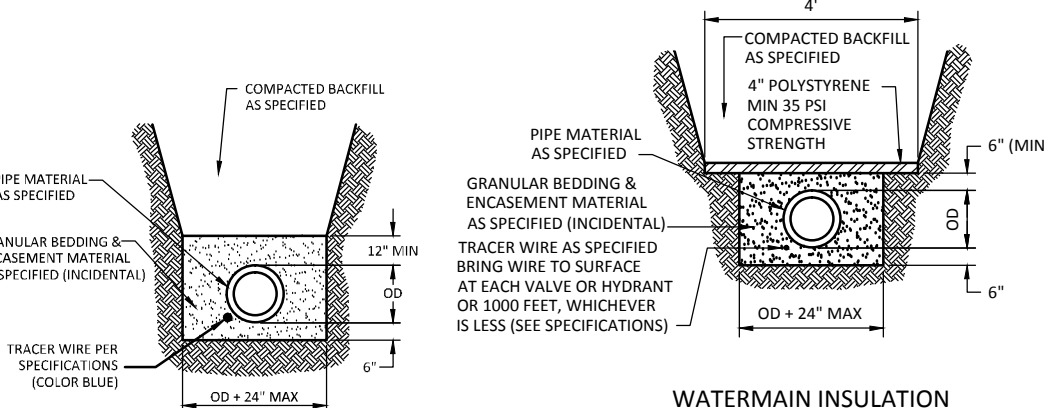
PIPE SIZE	SIDE THRUST-LB	PIPE SIZE	SIDE THRUST-LB
4	35	14	377
6	72	16	486
8	122	18	665
10	197	20	790
12	278	24	1150

MULTIPLY THRUST BY DEGREE OF DEFLECTION TO OBTAIN TOTAL THRUST

**CONCRETE THRUST BLOCKS**  
NOT TO SCALE

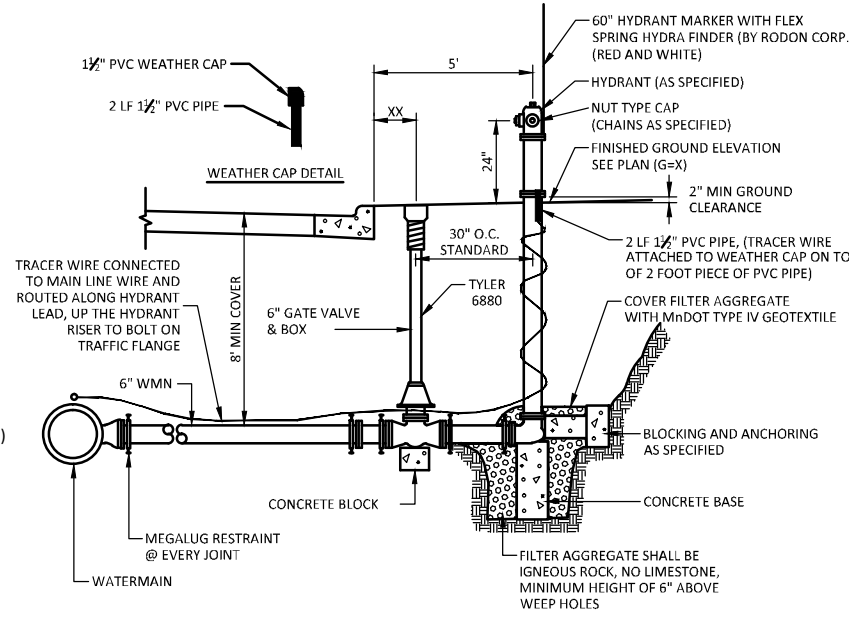


**GATE VALVE INSTALLATION**  
NOT TO SCALE



**WATERMAIN INSULATION**  
NOT TO SCALE

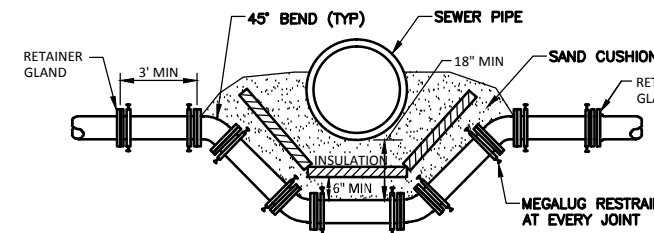
**PVC C-900 WATERMAIN TRENCH**  
NOT TO SCALE



**HYDRANT INSTALLATION, MEGALUGS**  
NOT TO SCALE

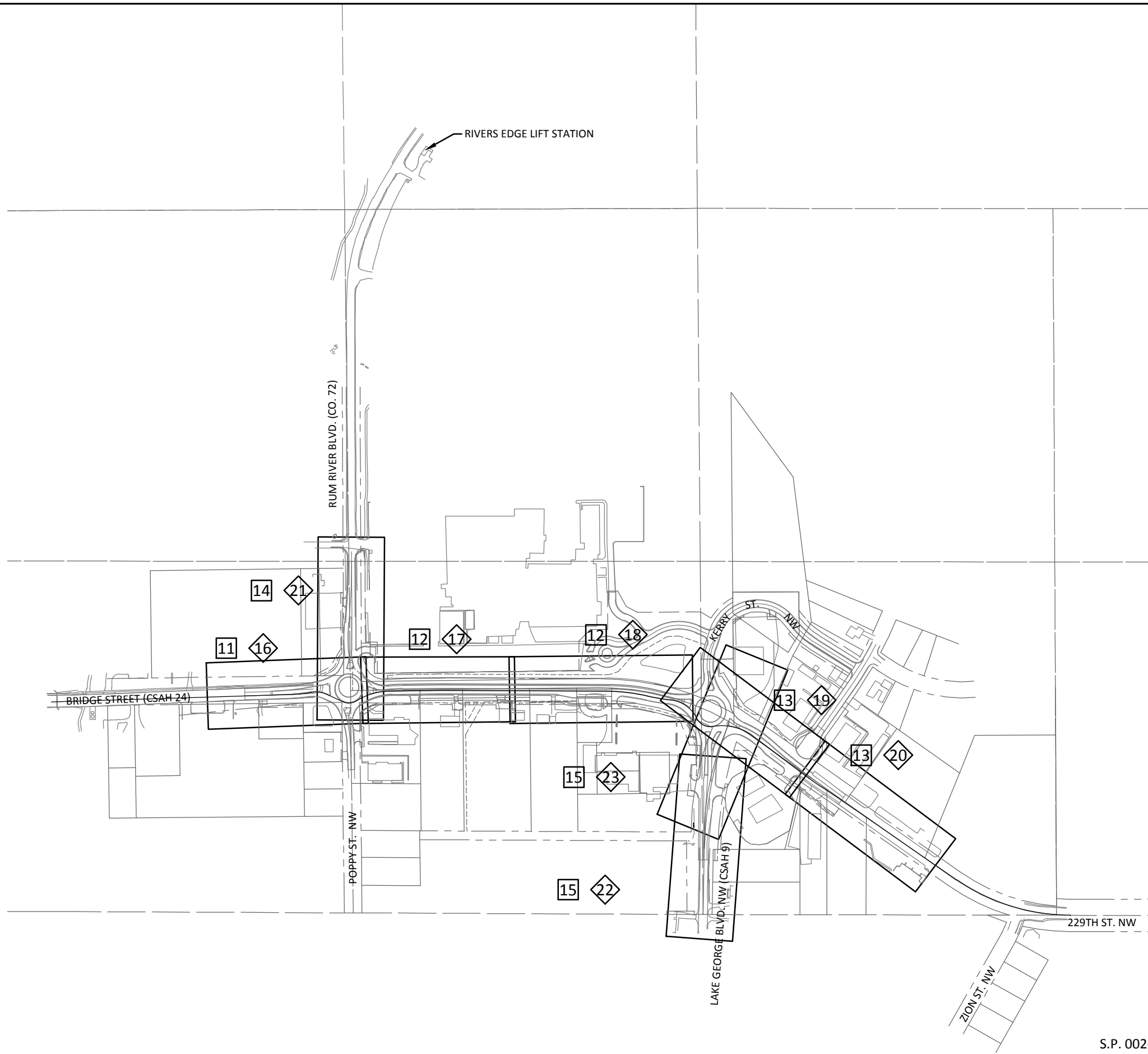
NOTE: ALL HYDRANTS SHALL BE GIVEN ONE ADDITIONAL COAT OF PAINT AFTER INSTALLATION. ALL ABRASSED SURFACES SHALL BE CLEANED PRIOR TO APPLICATION OF FINAL FIELD COAT.

HYDRANTS LOCATED WHERE THE GROUNDWATER TABLE IS ABOVE THE DRAIN OUTLET SHALL HAVE THE OUTLET DRAIN PLUGGED AND SHALL BE EQUIPPED WITH A TAG STATING "PUMP AFTER USE." PUMPER NOZZLE SHALL BE PAINTED BLACK.



**WATERMAIN OFFSET**

- NOTES:
- PROVIDE MEGALUG RESTRAINT AT JOINT ON BENDS AND AS SHOWN THIS DETAIL.
  - COAT ALL ANCHORAGE AS PER SPECS.
  - PROVIDE SAND CUSHION BETWEEN TOP OF WATERMAIN AND BOTTOM OF SEWER PIPE, MIN DIMENSIONS AS SHOWN THIS DETAIL. (INCIDENTAL)
  - INSULATION TO BE 4" THICK POLYSTYRENE.
  - IN AREAS OF GREATER LONGITUDINAL SPACE, THE WATERMAIN SHALL BE GRADUALLY LOWERED AND RAISED, USING NO BENDS, OVER A DISTANCE OF 200'.



**LEGEND**

- | SHEET NO. | DESCRIPTION    |
|-----------|----------------|
| XX        | REMOVALS       |
| YY        | PLAN & PROFILE |

S.P. 002-624-026      S.A.P. 235-020-001

0      200      400  
SCALE      FEET

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*Jared A. Voge*  
Jared A. Voge  
LIC. NO. 45063      DATE 4/06/2015



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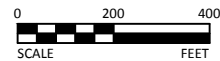
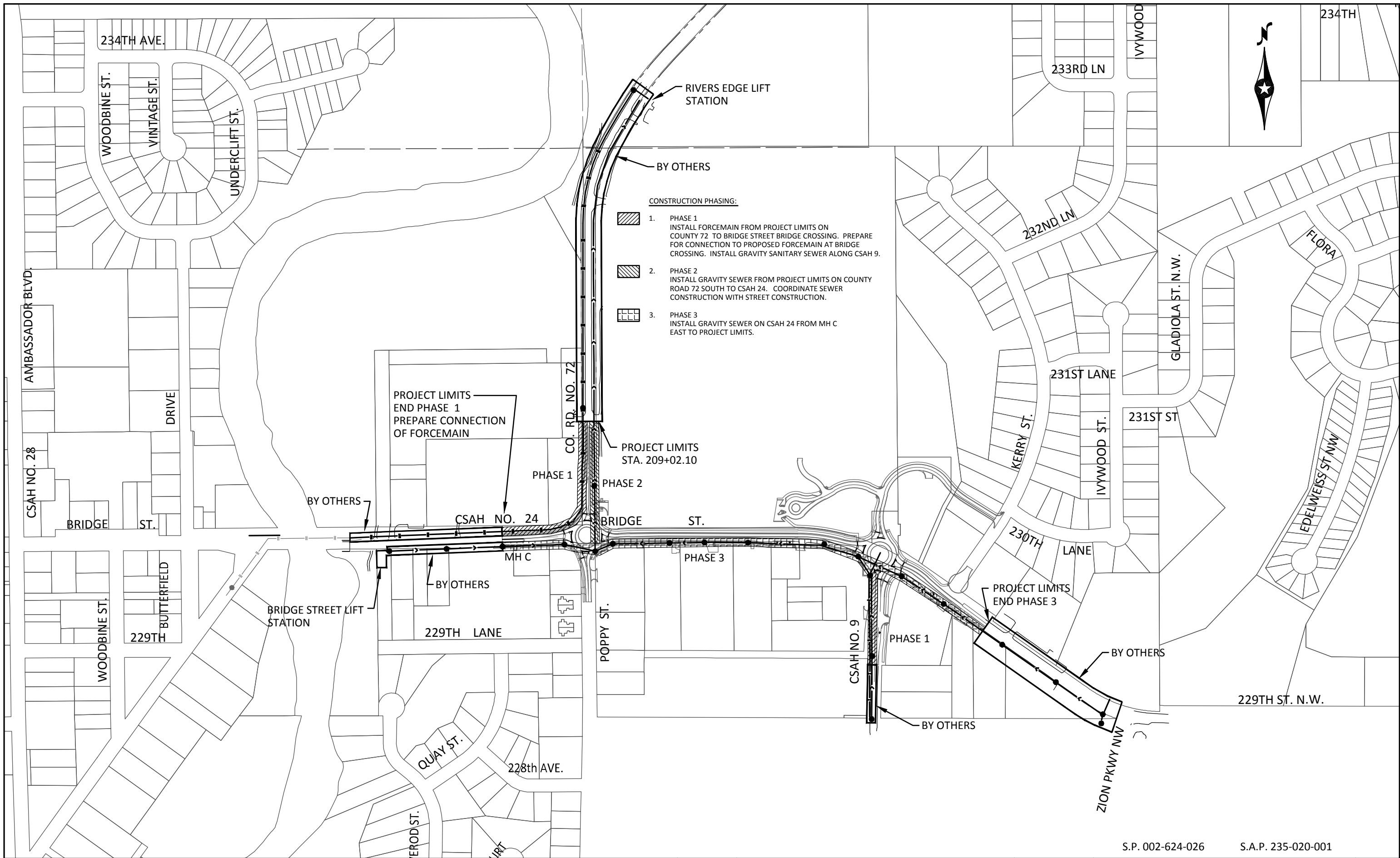
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REV.	BY	DATE

ANOKA COUNTY/ST. FRANCIS, MINNESOTA  
2015 BRIDGE STREET IMPROVEMENTS  
GENERAL PLAN LAYOUT

SHEET 56 OF S23

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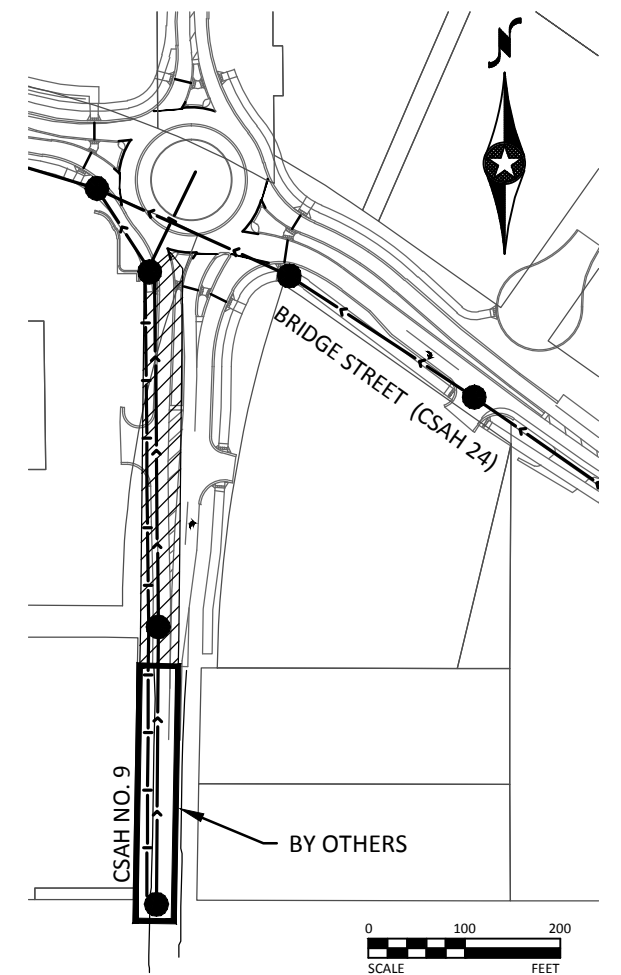
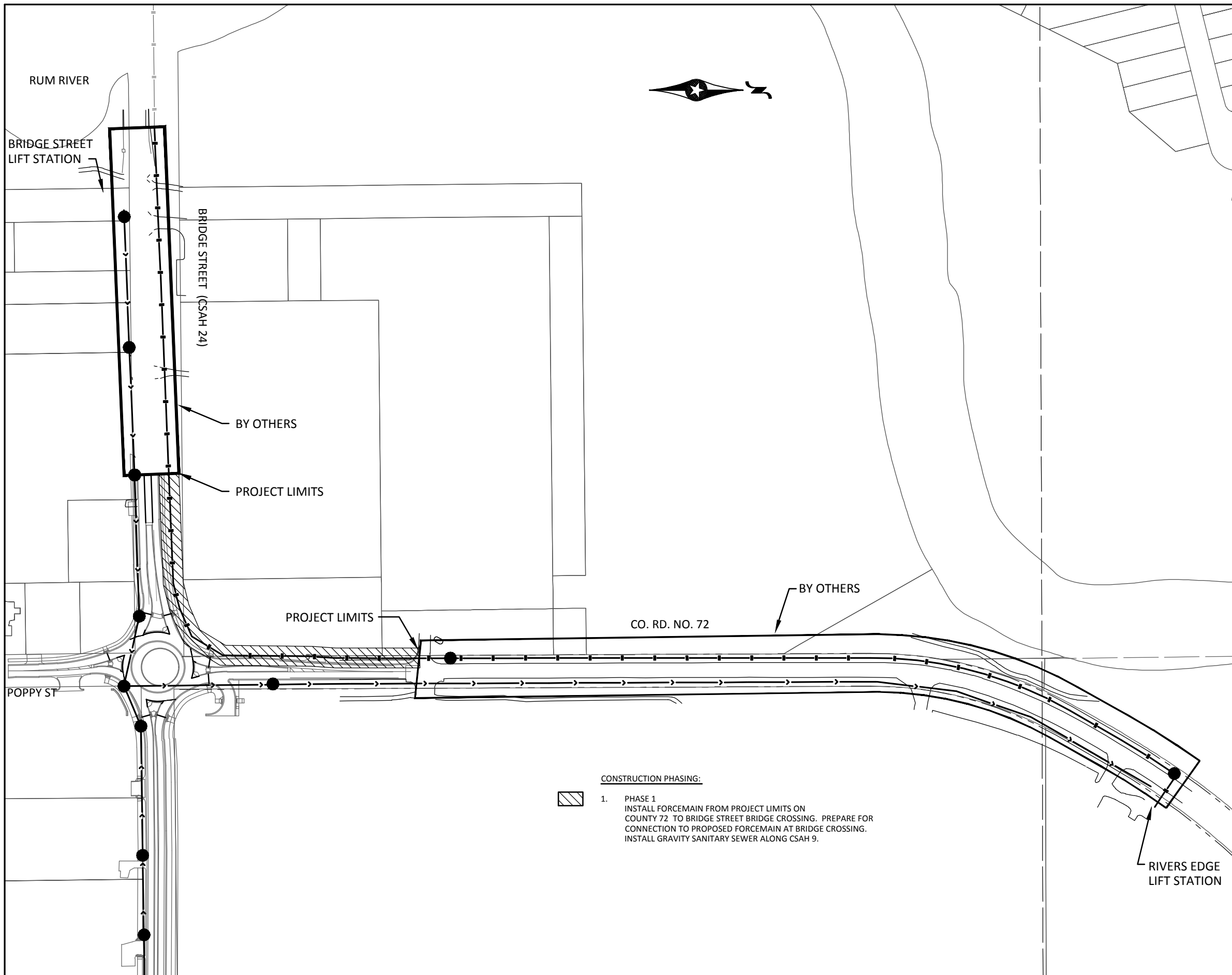
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ANOKA COUNTY/ST. FRANCIS, MINNESOTA  
 2015 BRIDGE STREET IMPROVEMENTS  
 SANITARY SEWER CONSTRUCTION PHASING PLAN

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 OF  
 S23

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CSAH 24 & CSAH 9

CONSTRUCT CSAH 9 SANITARY SEWER UNDER TRAFFIC. CONTRACTOR TO PROVIDE TRAFFIC CONTROL TO ACCOMMODATE CONSTRUCTION.

**CONSTRUCTION PHASING:**

- 1. PHASE 1  
 INSTALL FORCEMAIN FROM PROJECT LIMITS ON COUNTY 72 TO BRIDGE STREET BRIDGE CROSSING. PREPARE FOR CONNECTION TO PROPOSED FORCEMAIN AT BRIDGE CROSSING.  
 INSTALL GRAVITY SANITARY SEWER ALONG CSAH 9.

S.P. 002-624-026

S.A.P. 235-020-001

0 100 200  
SCALE FEET

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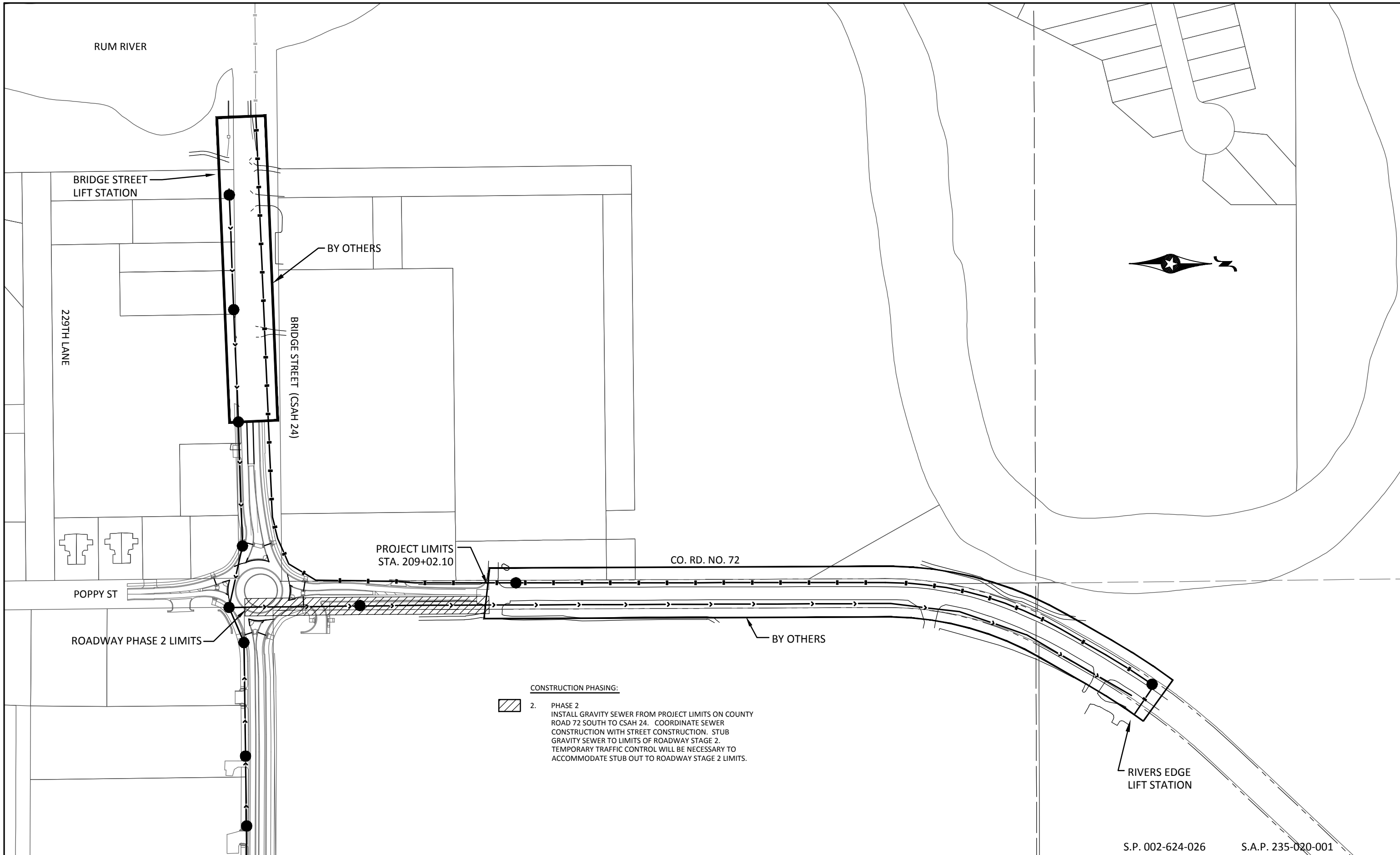
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 AMES, IA SPENCER, IA DES MOINES, IA FARGO, ND

REV.	BY	DATE

ANOKA COUNTY/ST. FRANCIS, MINNESOTA  
 2015 BRIDGE STREET IMPROVEMENTS  
 SANITARY SEWER CONSTRUCTION PHASING - PHASE 1

SHEET 58 OF S23

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**CONSTRUCTION PHASING:**

2. PHASE 2  
 INSTALL GRAVITY SEWER FROM PROJECT LIMITS ON COUNTY ROAD 72 SOUTH TO CSAH 24. COORDINATE SEWER CONSTRUCTION WITH STREET CONSTRUCTION. STUB GRAVITY SEWER TO LIMITS OF ROADWAY STAGE 2. TEMPORARY TRAFFIC CONTROL WILL BE NECESSARY TO ACCOMMODATE STUB OUT TO ROADWAY STAGE 2 LIMITS.

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0 100 200  
 SCALE FEET

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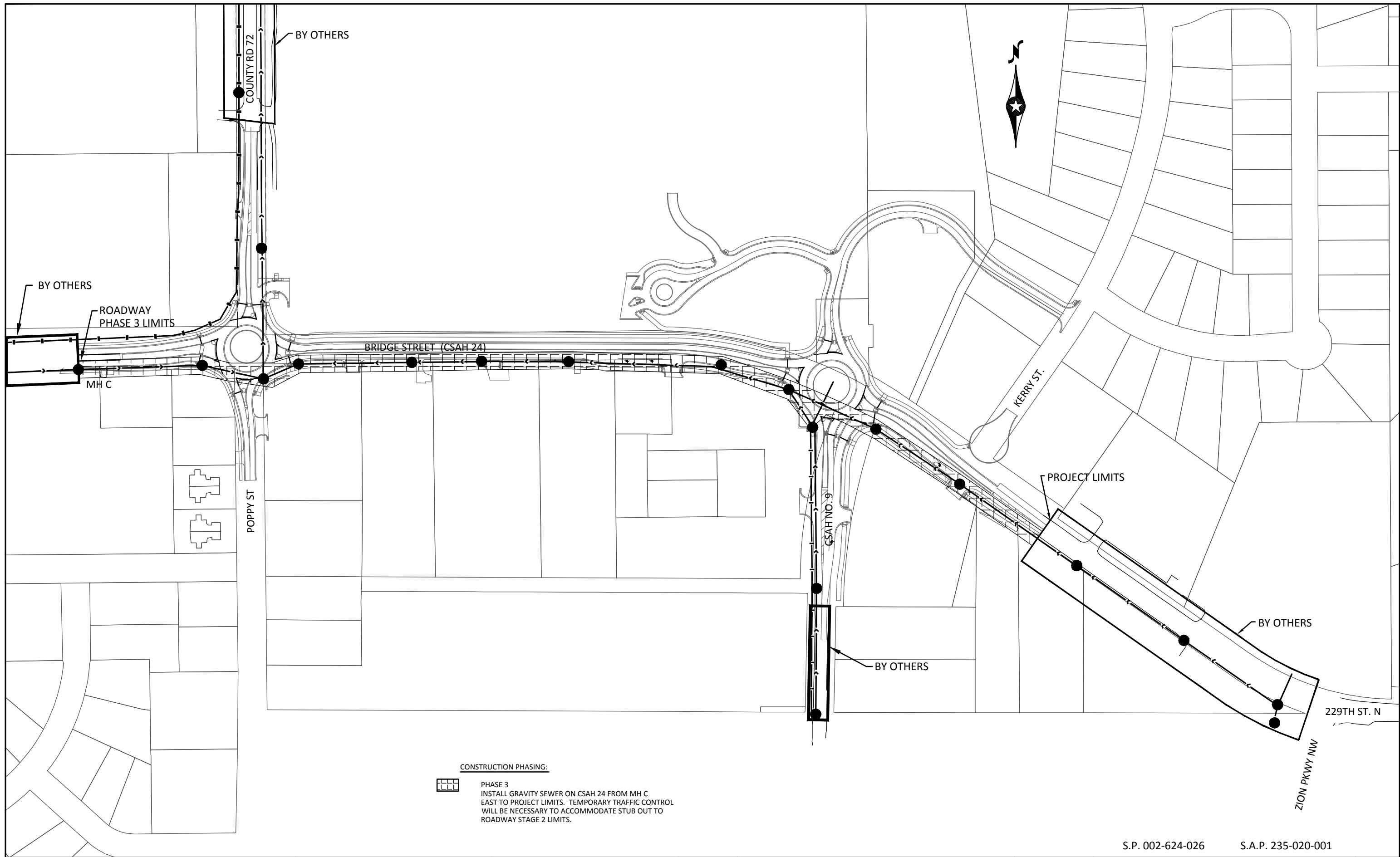
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			S23

ANOKA COUNTY/ST. FRANCIS, MINNESOTA  
 2015 BRIDGE STREET IMPROVEMENTS  
 SANITARY SEWER CONSTRUCTION PHASING - PHASE 2

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**CONSTRUCTION PHASING:**



PHASE 3  
 INSTALL GRAVITY SEWER ON CSAH 24 FROM MH C  
 EAST TO PROJECT LIMITS. TEMPORARY TRAFFIC CONTROL  
 WILL BE NECESSARY TO ACCOMMODATE STUB OUT TO  
 ROADWAY STAGE 2 LIMITS.



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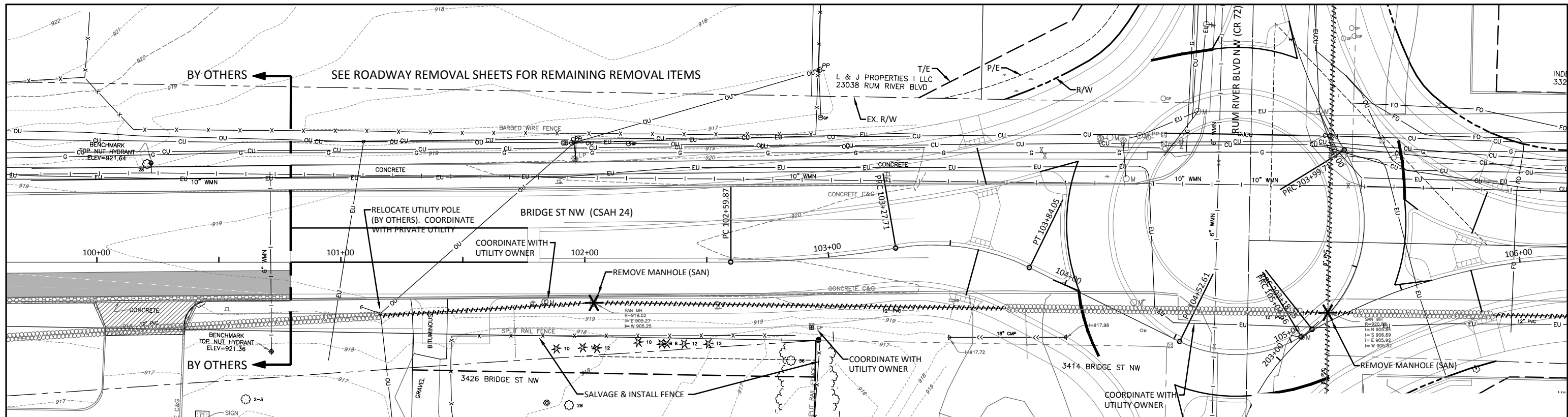
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ANOKA COUNTY/ST. FRANCIS, MINNESOTA  
 2015 BRIDGE STREET IMPROVEMENTS  
 SANITARY SEWER CONSTRUCTION PHASING - PHASE 3

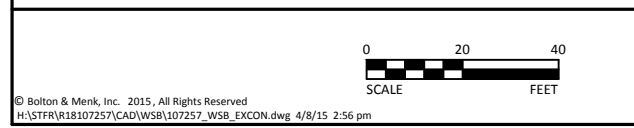
SHEET  
 S10  
 OF  
 S23



**LEGEND**

	BITUMINOUS PAVEMENT REMOVAL (BY OTHERS)		CONCRETE CURB REMOVAL (BY OTHERS)
	CONCRETE REMOVAL (BY OTHERS)		ABANDON PIPE SEWER
	REMOVE MANHOLE (SAN)		PIPE SEWER REMOVALS
	CLEAR & GRUB TREE		

- NOTES:**
- BULKHEAD ALL EXISTING PIPE ENDS TO BE ABANDONED IN PLACE.
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  - REMOVAL OF ALL EXISTING SEWER SERVICE PIPE IS INCIDENTAL.
  - SEE ROADWAY PLANS FOR FURTHER REMOVALS



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Jared A. Voge  
 LIC. NO. 45063 DATE 4/06/2015



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REV.	BY	DATE

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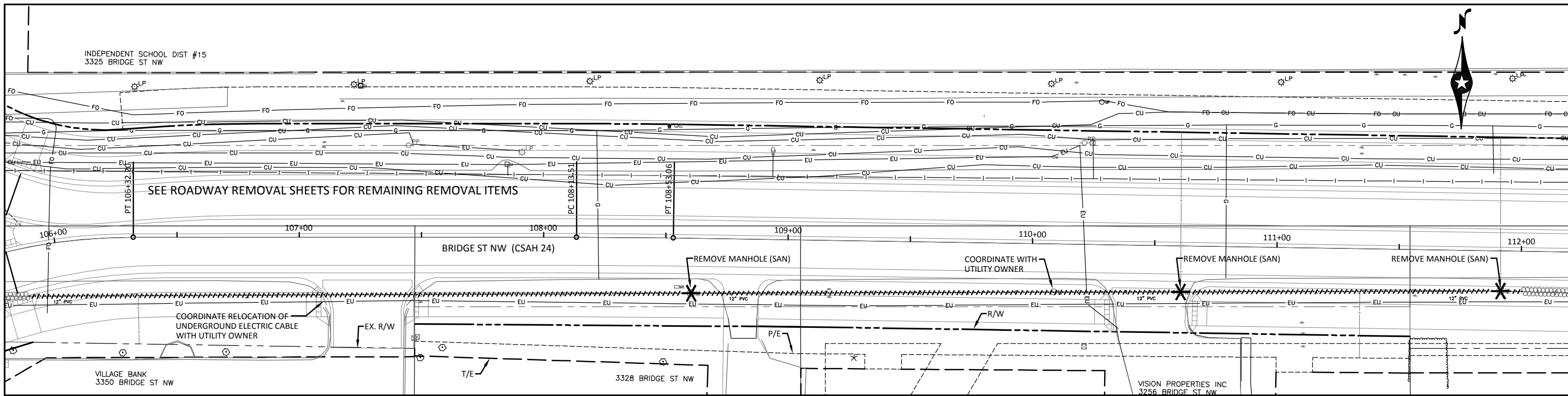
ANOKA COUNTY/ST. FRANCIS, MINNESOTA

2015 BRIDGE STREET IMPROVEMENTS

EXISTING CONDITIONS & REMOVALS

SHEET  
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 S23

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SEE ROADWAY REMOVAL SHEETS FOR REMAINING REMOVAL ITEMS

COORDINATE RELOCATION OF UNDERGROUND ELECTRIC CABLE WITH UTILITY OWNER

REMOVE MANHOLE (SAN)

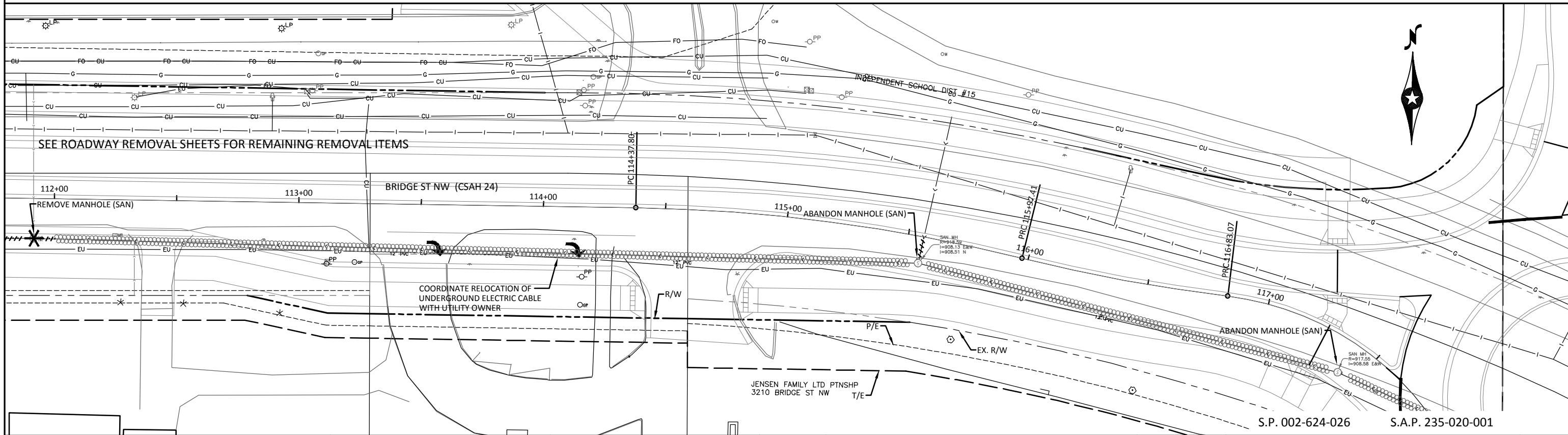
COORDINATE WITH UTILITY OWNER

REMOVE MANHOLE (SAN)

REMOVE MANHOLE (SAN)

LEGEND	
	BITUMINOUS PAVEMENT REMOVAL
	CONCRETE REMOVAL
	REMOVE MANHOLE (SAN)
	CONCRETE CURB REMOVAL
	ABANDON PIPE SEWER
	PIPE SEWER REMOVALS

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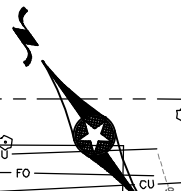
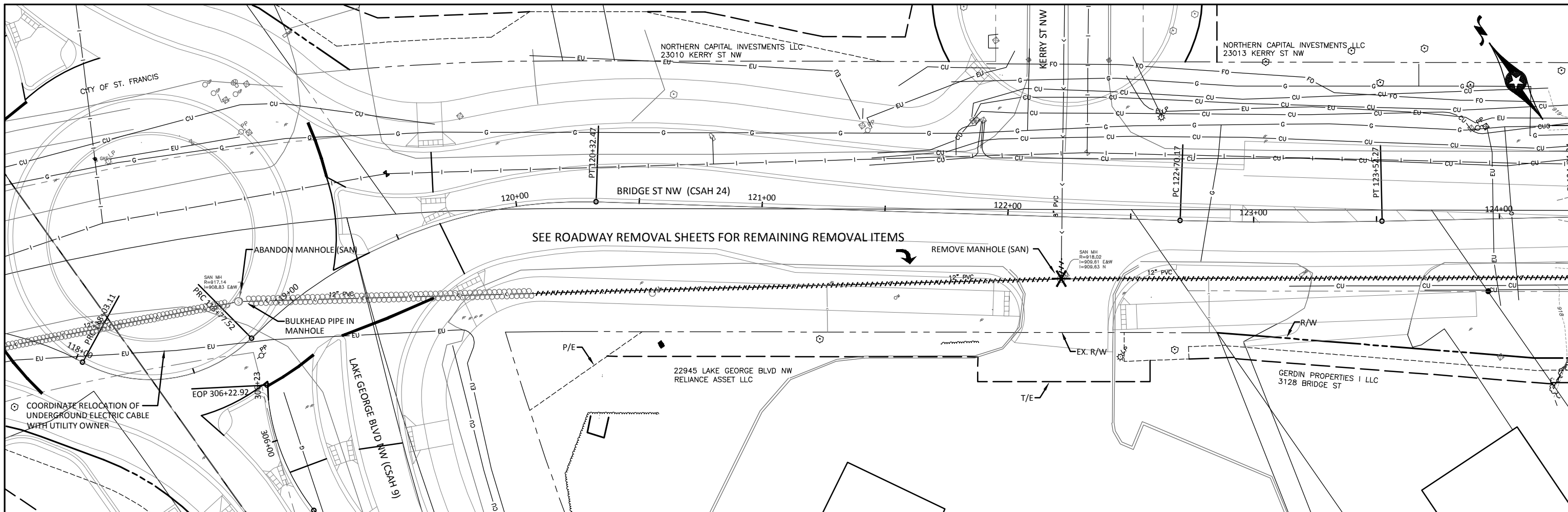
ABANDON MANHOLE (SAN)

ABANDON MANHOLE (SAN)

JENSEN FAMILY LTD PTNSHP  
3210 BRIDGE ST NW

S.P. 002-624-026 S.A.P. 235-020-001

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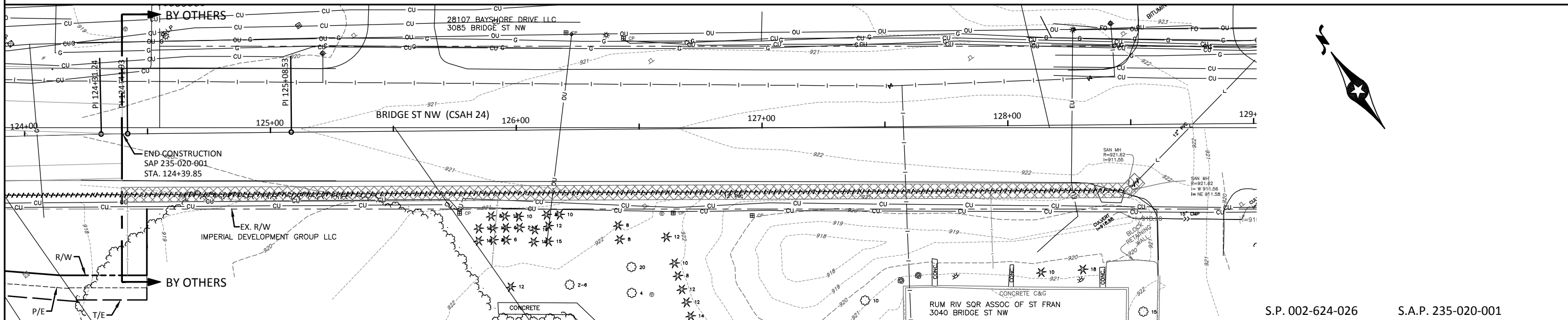


**LEGEND**

	REMOVE MANHOLE (SAN)		PIPE SEWER REMOVALS
	ABANDON PIPE SEWER		BY OTHERS

**NOTES:**

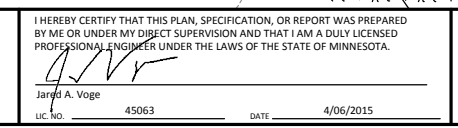
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Jared A. Voge  
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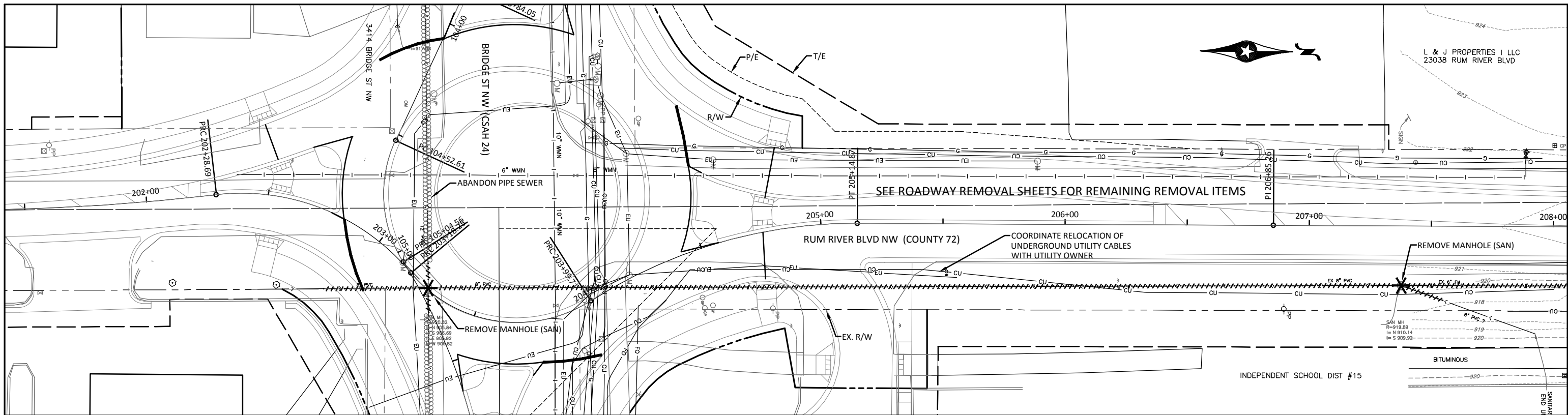
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ANOKA COUNTY/ST. FRANCIS, MINNESOTA  
2015 BRIDGE STREET IMPROVEMENTS

EXISTING CONDITIONS & REMOVALS

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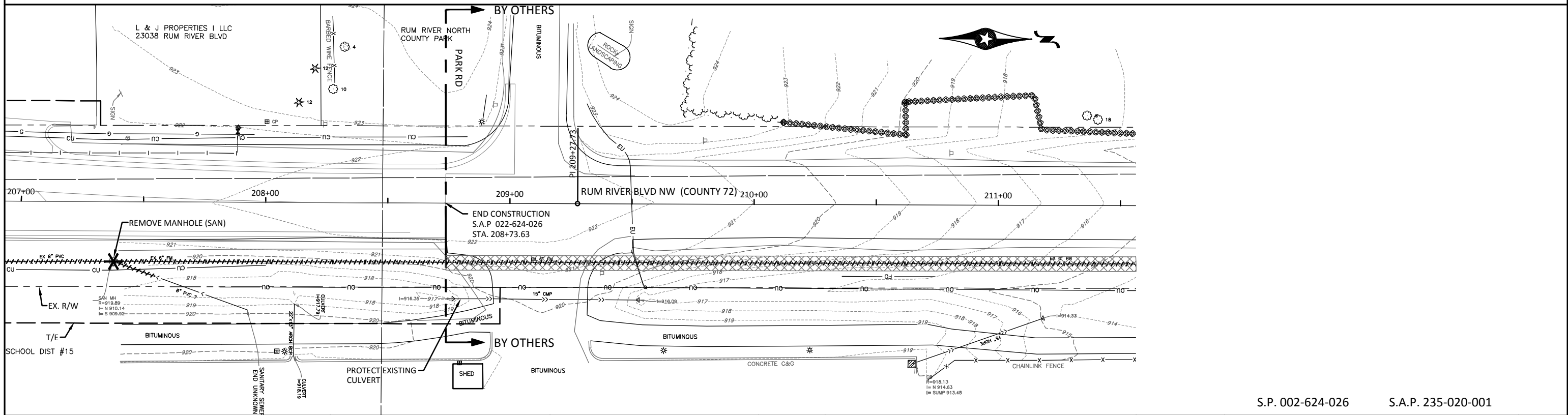


**LEGEND**

- REMOVE MANHOLE (SAN)
- ABANDON PIPE SEWER
- PIPE SEWER REMOVALS
- BY OTHERS

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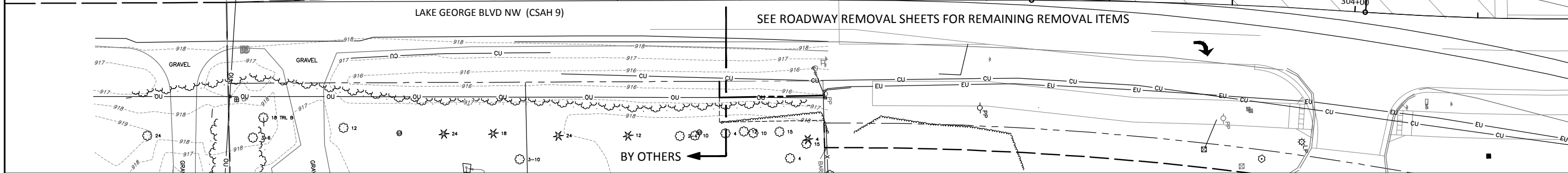
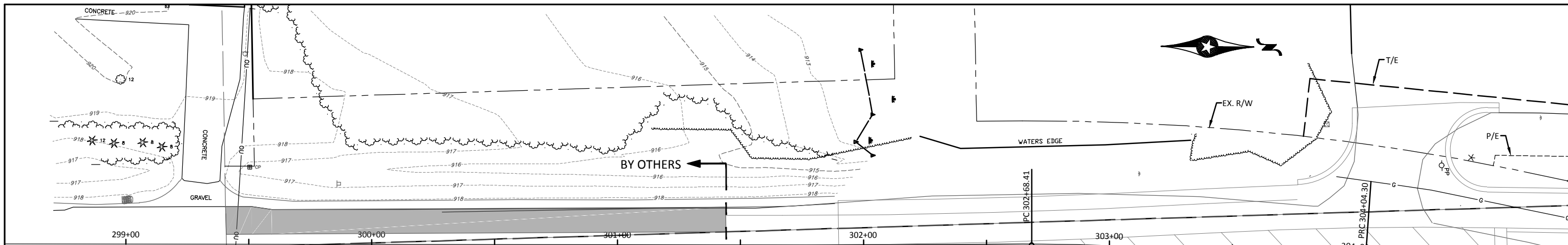
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ANOKA COUNTY/ST. FRANCIS, MINNESOTA  
2015 BRIDGE STREET IMPROVEMENTS  
EXISTING CONDITIONS & REMOVALS

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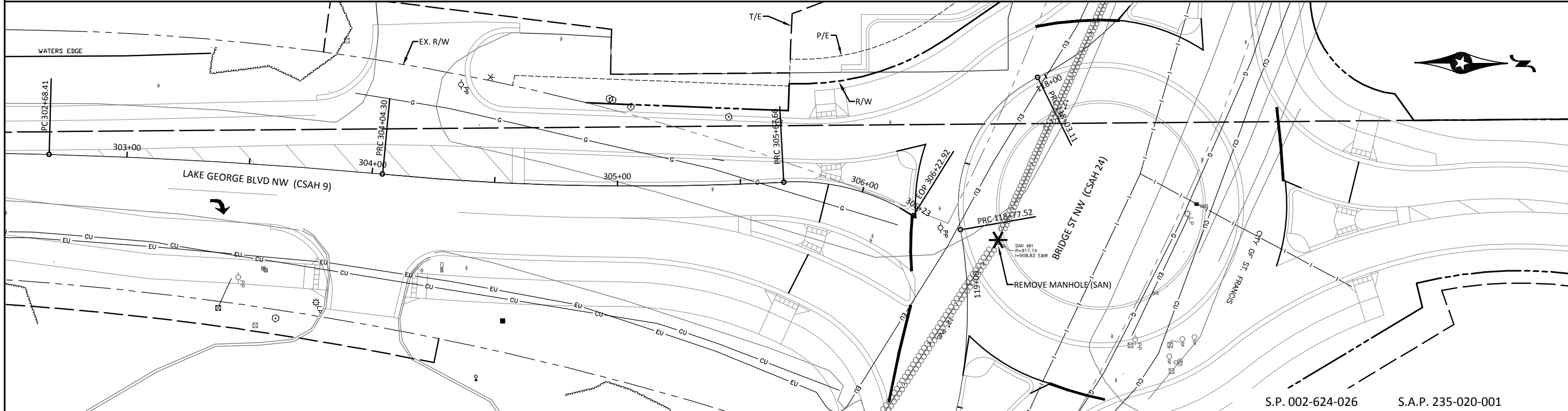


**LEGEND**

- REMOVE MANHOLE (SAN)
- ABANDON PIPE SEWER
- BITUMINOUS PAVEMENT REMOVAL (BY OTHERS)

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City of  
**St. Francis**

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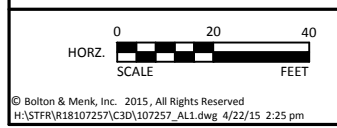
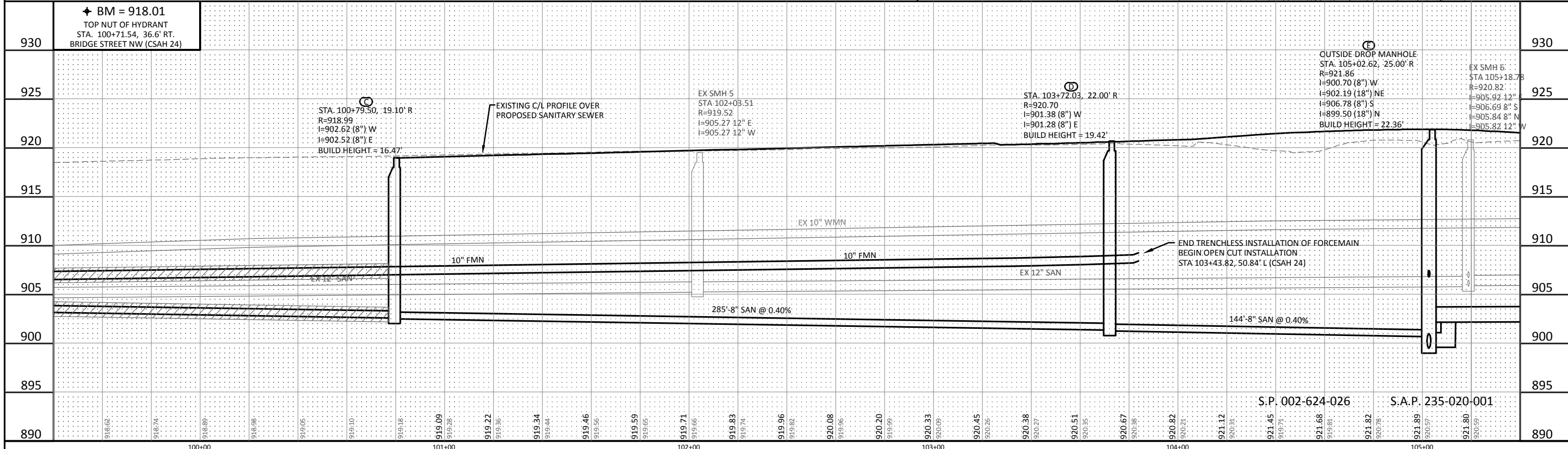
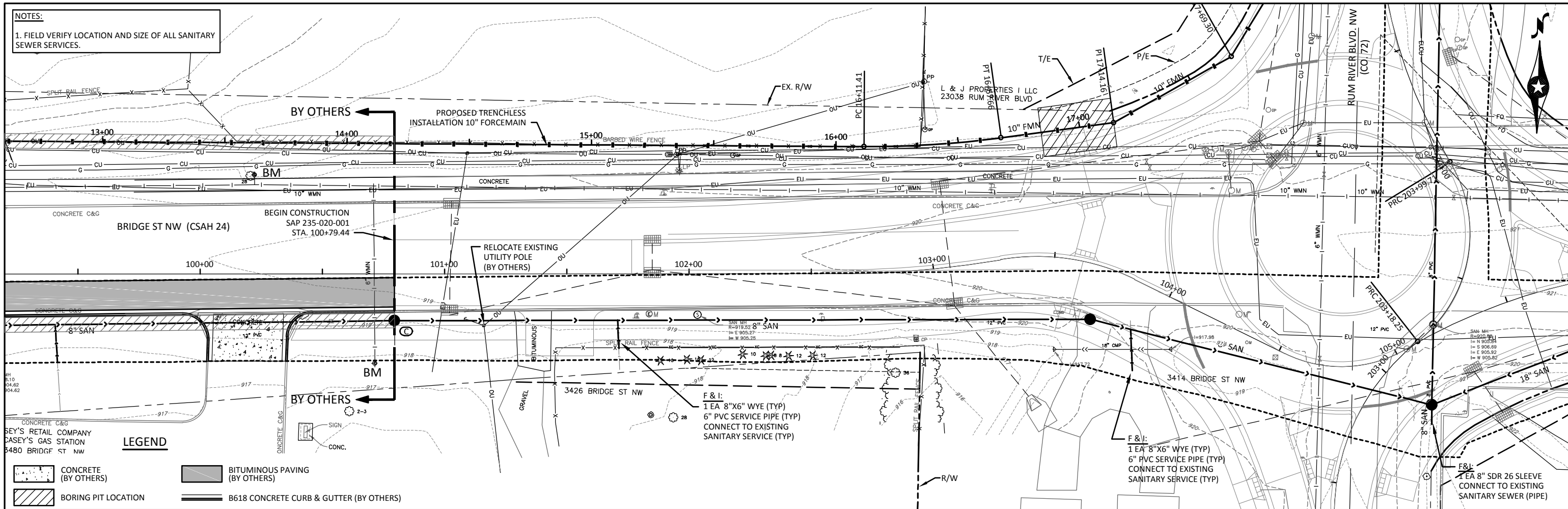
ANOKA COUNTY/ST. FRANCIS, MINNESOTA  
2015 BRIDGE STREET IMPROVEMENTS

EXISTING CONDITIONS & REMOVALS

SHEET S15 OF S23

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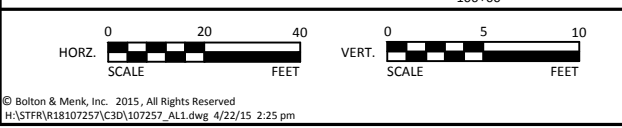
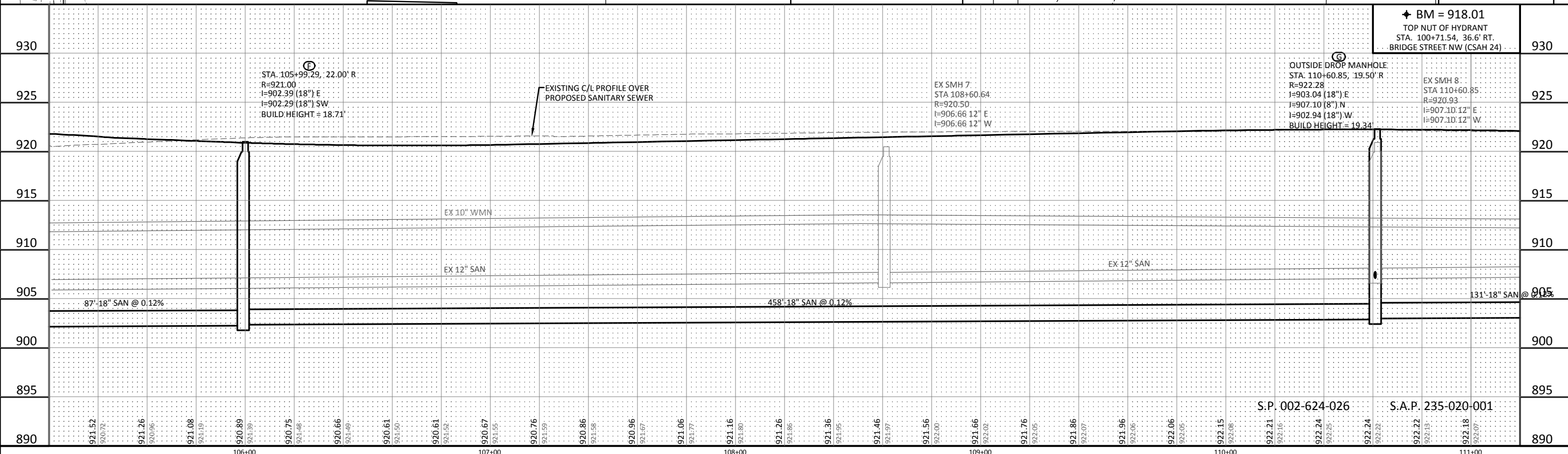
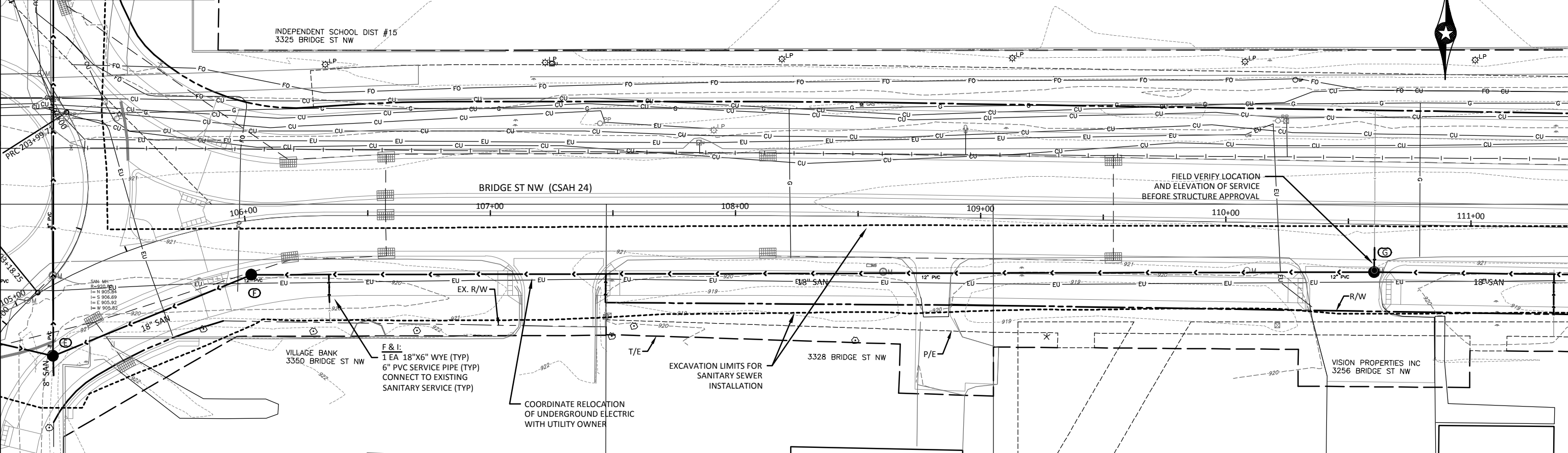
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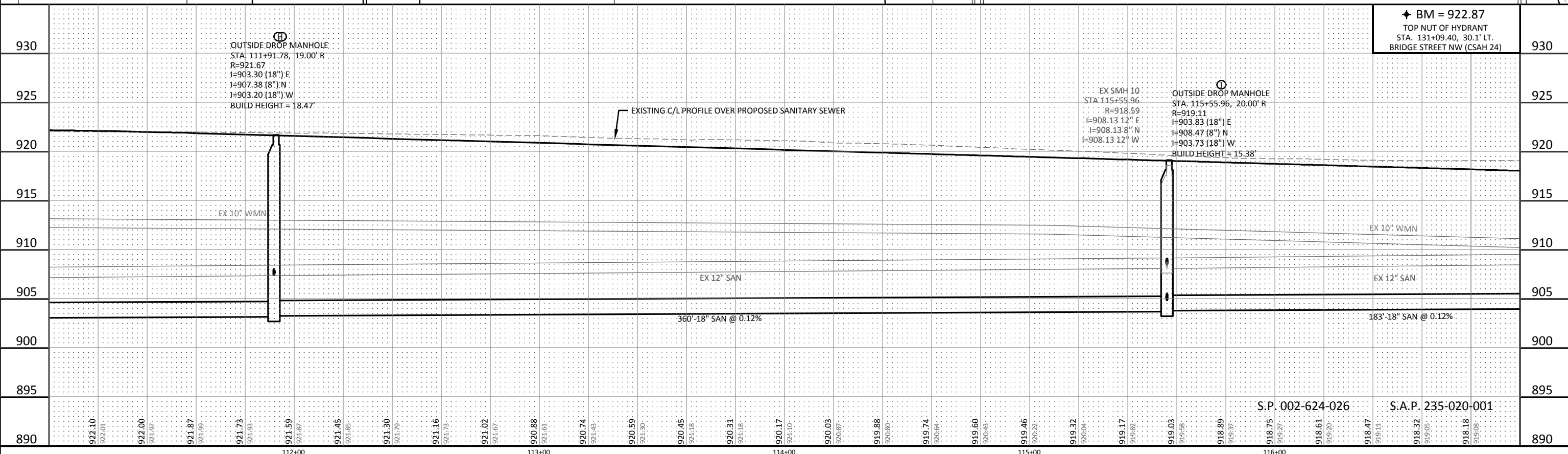
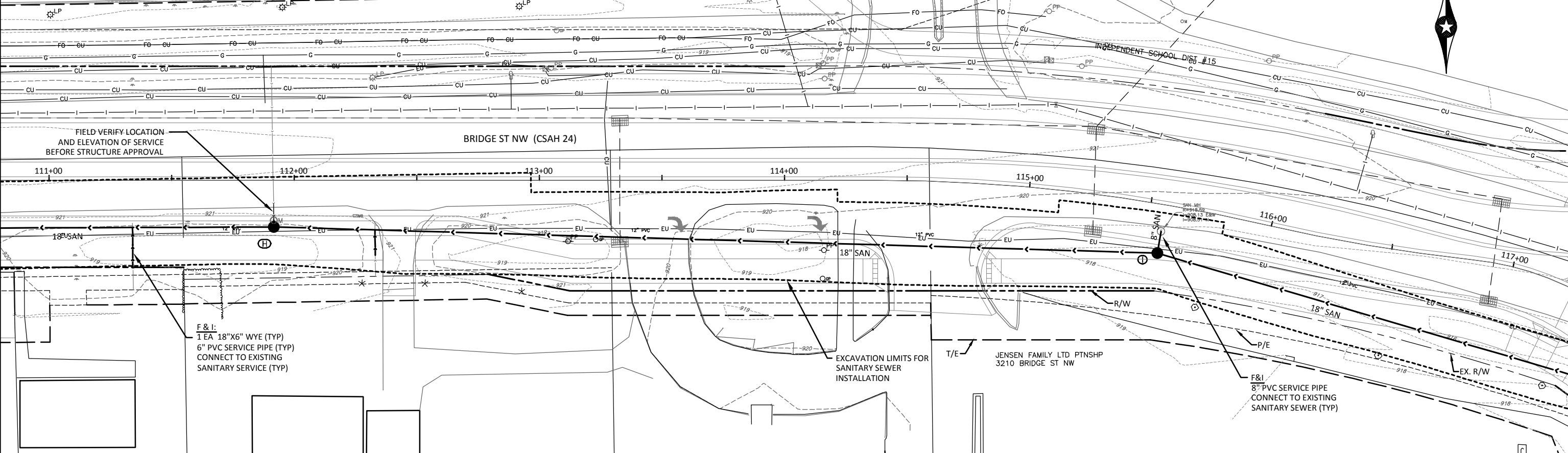
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ANOKA COUNTY/ST. FRANCIS, MINNESOTA  
 2015 BRIDGE STREET IMPROVEMENTS  
 PLAN & PROFILE - BRIDGE ST NW (CSAH 24)

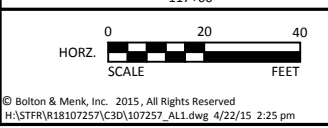
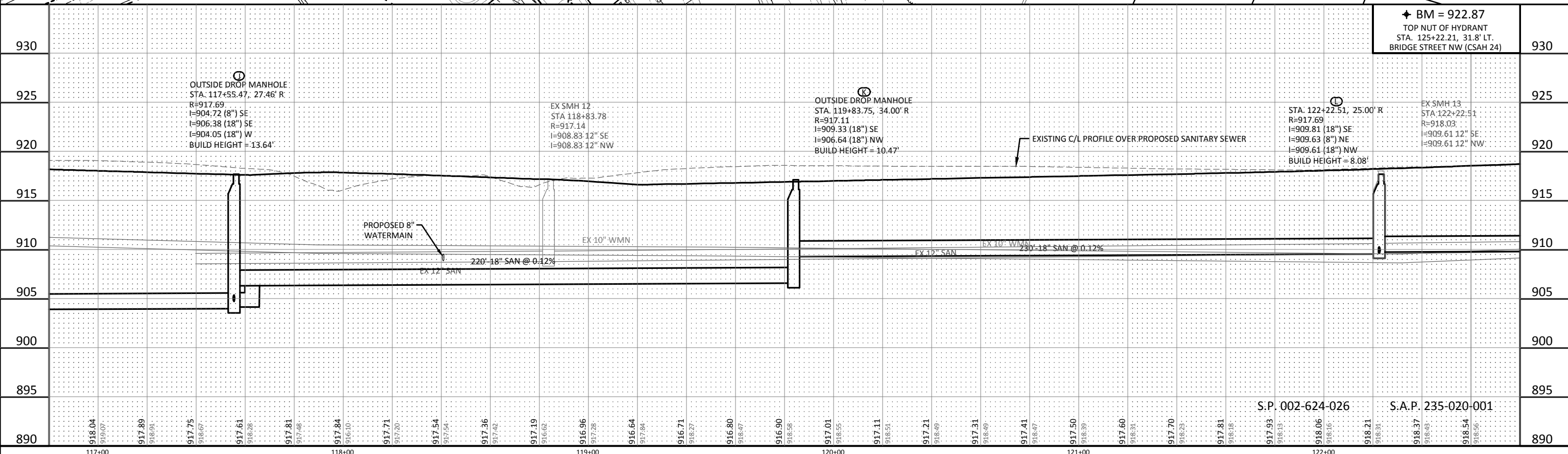
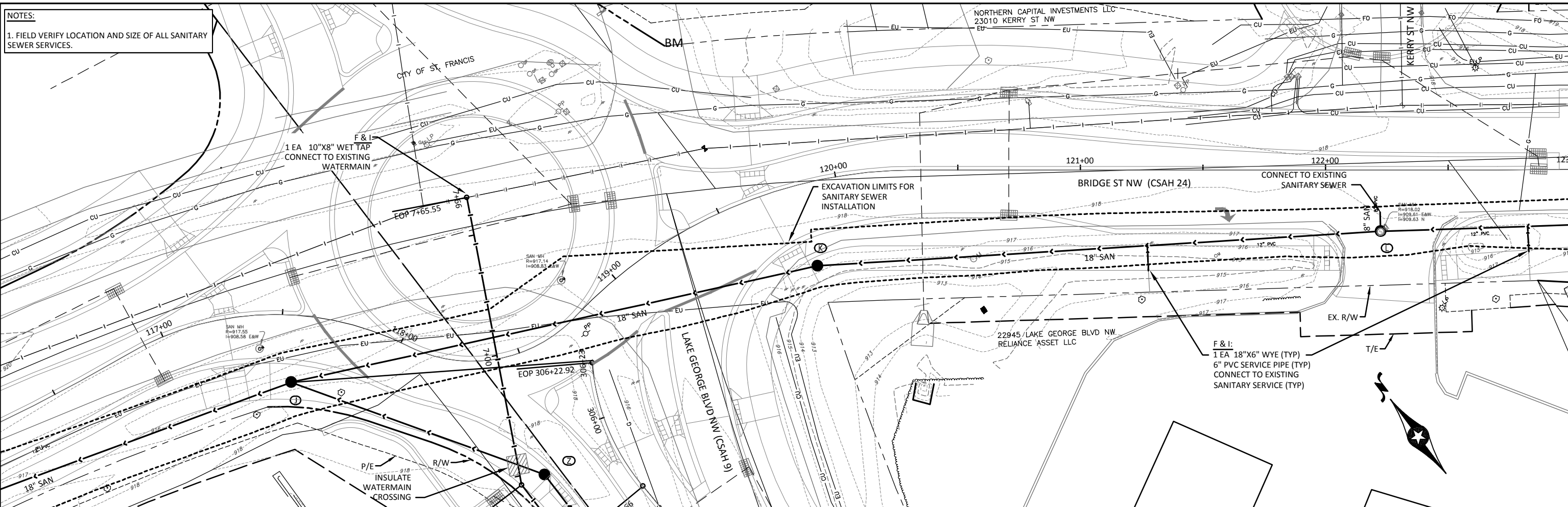


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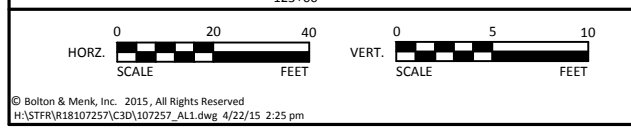
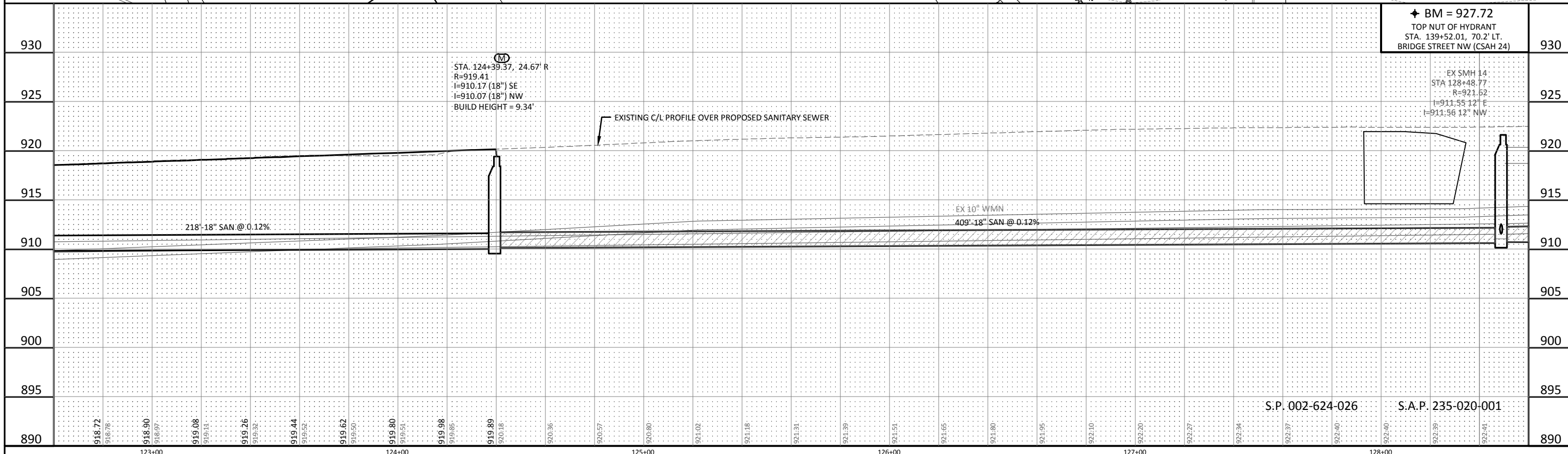
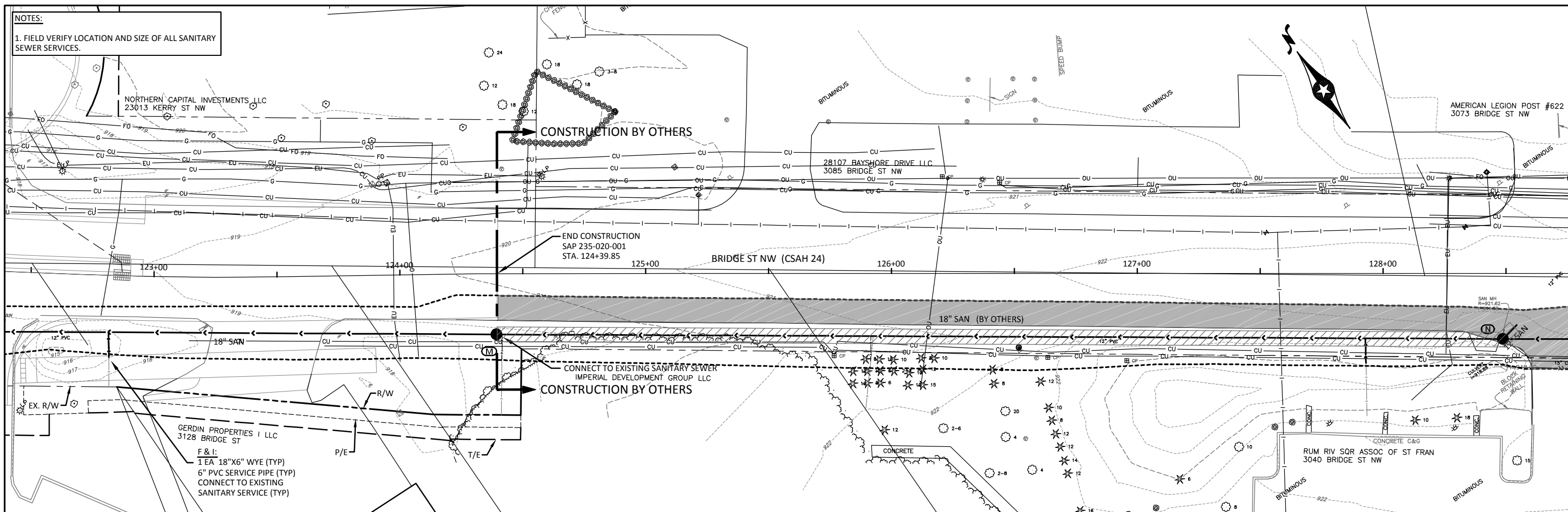
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ANOKA COUNTY/ST. FRANCIS, MINNESOTA  
 2015 BRIDGE STREET IMPROVEMENTS  
 PLAN & PROFILE - BRIDGE ST NW (CSAH 24)

SHEET S19 OF S23

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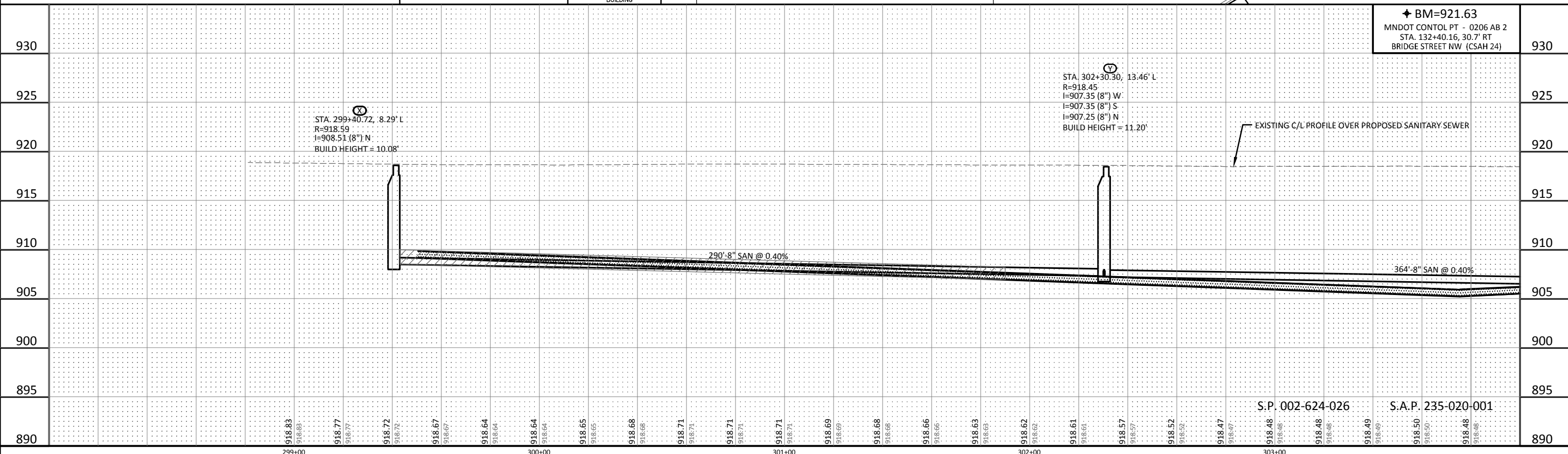
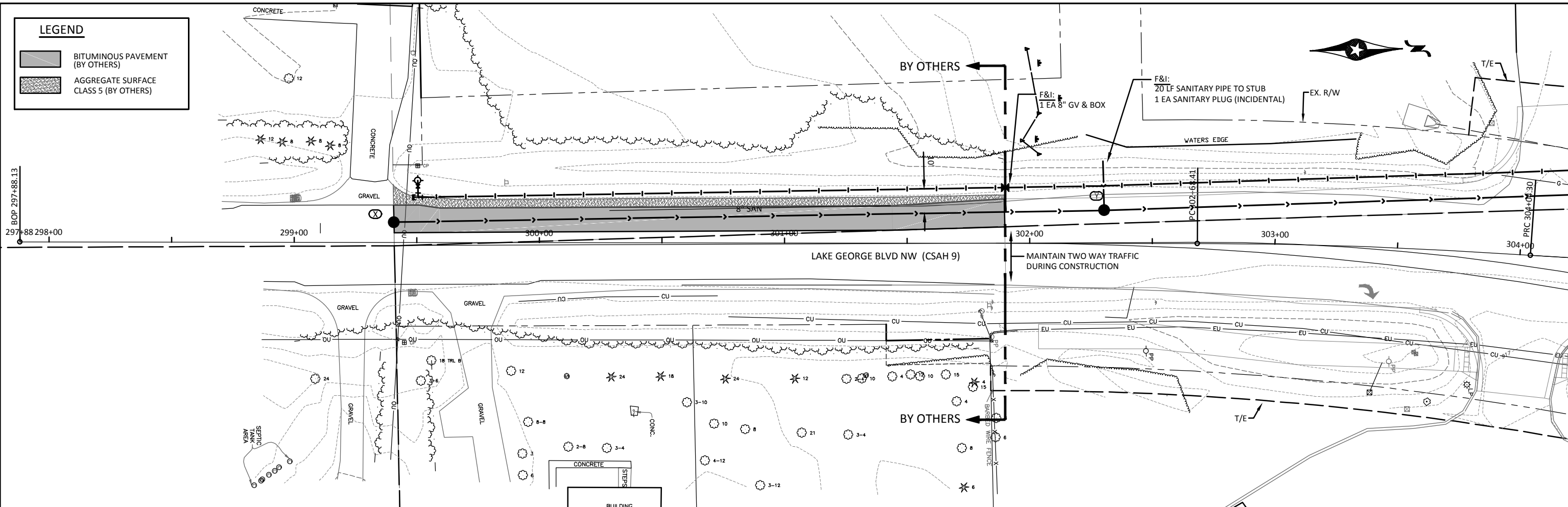
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DESIGNED CLH	REV.	BY	DATE	ANOKA COUNTY/ST. FRANCIS, MINNESOTA 2015 BRIDGE STREET IMPROVEMENTS PLAN & PROFILE - BRIDGE ST NW (CSAH 24)	SHEET S20 OF S23
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<p>HORZ. SCALE FEET</p>	<p>VERT. SCALE FEET</p>	<p>I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.</p> <p>Jared A. Voge          Lic. No. 45063      DATE: 4/06/2015</p>		<p><b>BOLTON &amp; MENK, INC.</b>          Consulting Engineers &amp; Surveyors          MANKATO, MN FAIRMONT, MN SLEEPY EYE, MN BURNSVILLE, MN WILLMAR, MN          CHASKA, MN RAMSEY, MN MAPLEWOOD, MN BAXTER, MN ROCHESTER, MN          AMES, IA SPENCER, IA DES MOINES, IA FARGO, ND</p>	<table border="1" style="width:100%; border-collapse: collapse;"> <tr><th>REV.</th><th>BY</th><th>DATE</th></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>	REV.	BY	DATE							<p>ANOKA COUNTY/ST. FRANCIS, MINNESOTA          2015 BRIDGE STREET IMPROVEMENTS          PLAN &amp; PROFILE - LAKE GEORGE BLVD NW (CSAH 9)</p>	<p>SHEET          S22          OF          S23</p>
REV.	BY	DATE														

