

PLAN SYMBOLS

- COUNTY LINE _____
- TOWNSHIP OR RANGE LINE _____
- SECTION LINE _____
- QUARTER LINE _____
- SIXTEENTH LINE _____
- RIGHT OF WAY LINE _____
- SLOPE EASEMENT _____
- EXISTING RIGHT OF WAY _____
- PROPERTY LINE _____
- CORPORATE OR CITY LIMITS _____
- RETAINING WALL _____
- RAILROAD _____
- RAILROAD RIGHT OF WAY _____
- RIVER OR CREEK _____
- DRAINAGE DITCH _____
- CULVERT _____
- DROP INLET _____
- GUARD RAIL _____
- BARBED WIRE FENCE _____
- WOVEN WIRE FENCE _____
- CHAIN LINK FENCE _____
- WOOD FENCE _____
- STONE WALL OR FENCE _____
- HEDGE _____

- LOWLAND _____
- TIMBER _____
- ORCHARD _____
- BRUSH _____
- NURSERY _____

- CATTLE GUARD _____
- OVERPASS (Highway Over) _____
- UNDERPASS (Highway Under) _____
- BRIDGE _____

- BUILDING (One Story Frame) _____
- F-FRAME C-CONCRETE _____
- S-STONE T-TILE _____
- B-BRICK ST-STUCCO _____

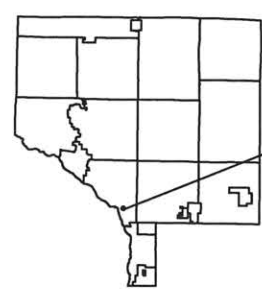
- RAILROAD CROSSING BELL _____
- RAILROAD CROSSING GATE _____
- MANHOLE _____
- CATCH BASIN _____
- FIRE HYDRANT _____
- CAST IRON MONUMENT _____
- IRON PIN _____
- GRAVEL PIT _____
- SAND PIT _____
- BORROW PIT _____
- ROCK QUARRY _____

UTILITY SYMBOLS

- POWER POLE LINE _____
- TELEPHONE OR TELEGRAPH _____
- POLE LINE _____
- JOINT TELEPHONE & POWER _____
- ON POWER POLES _____
- ON TELEPHONE POLES _____
- ANCHOR _____
- STEEL TOWER _____
- STREET LIGHT _____
- PEDESTAL (Cable Terminal) _____
- GAS MAIN _____
- WATERMAIN _____
- TELEPHONE CABLE IN CONDUIT _____
- ELECTRIC CABLE IN CONDUIT _____
- TELEPHONE MANHOLE _____
- ELECTRIC MANHOLE _____
- BURIED TELEPHONE CABLE _____
- BURIED ELECTRIC CABLE _____
- SEWER (Sanitary or Storm) _____
- SEWER MANHOLE _____

SCALES

- PLAN _____ 0' 100'
- PROFILE _____ 0' 100'
- HORIZONTAL _____ 0' 10'
- VERTICAL _____ 0' 10'
- X-SECTIONS _____ 0' 10'
- HORIZONTAL _____ 0' 10'
- VERTICAL _____ 0' 10'

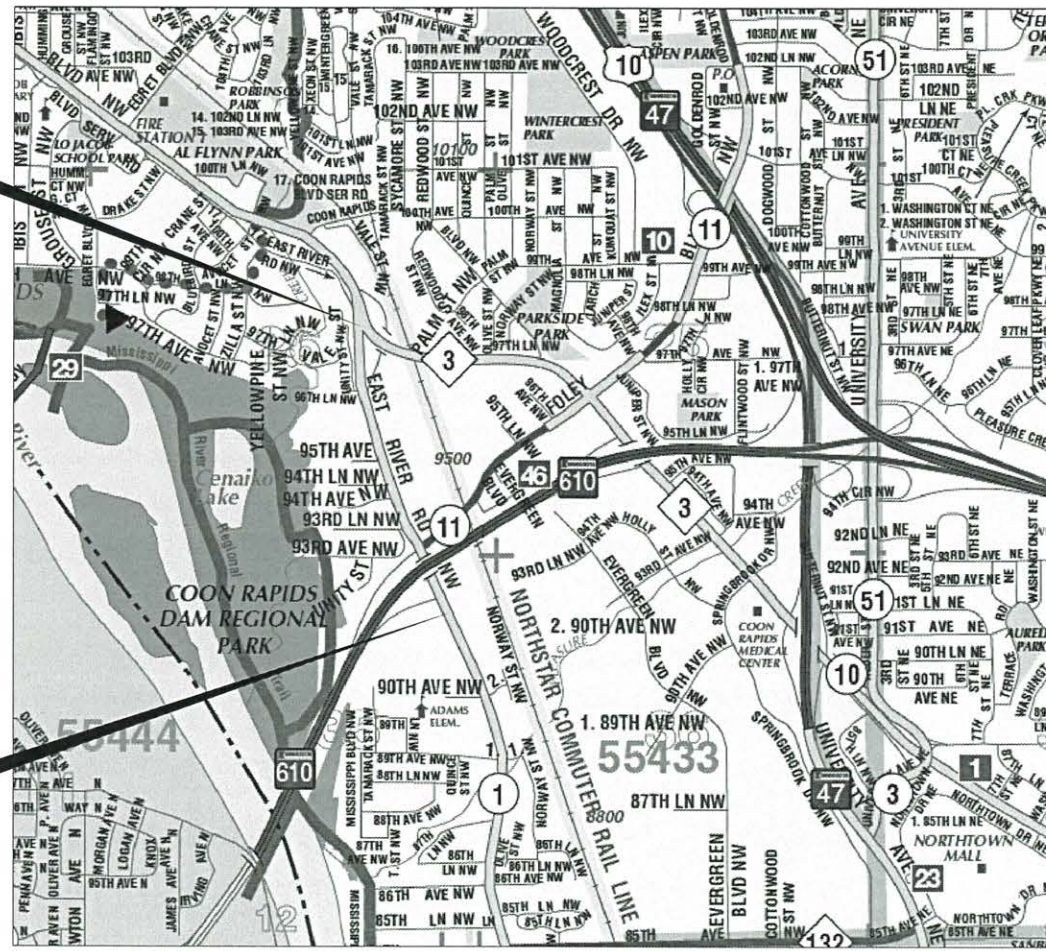


MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY

CONSTRUCTION PLAN FOR BITUMINOUS MILLING, BITUMINOUS SURFACING, DRAINAGE REPAIR, CURB & GUTTER

LOCATED ON C.S.A.H. 1 BETWEEN 300' SOUTH TH-610 OFF RAMP AND COON RAPIDS BLVD. JCT.

	C.S.A.H. 1	
GROSS LENGTH	4,970 FEET	0.941 MILES
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES
NET LENGTH	4,970 FEET	0.941 MILES



END C.P. 14-47-01
C.S.A.H. 1 STA. 60+30

BEGIN C.P. 14-47-01
C.S.A.H. 1 STA. 10+60

PROJECT LOCATION
CITY OF COON RAPIDS
ANOKA COUNTY
MN/DOT TRANSPORTATION DISTRICT - METRO
SECTION 26 & 35
TOWNSHIP 31 NORTH
RANGE 24 WEST



GOVERNING SPECIFICATIONS

THE 2014 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MNMUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS."

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3	TABULATIONS
4	TYPICAL SECTIONS
5	DETAILS
6-7	CONSTRUCTION PLAN
8-13	SIGNING AND STRIPING PLANS

THIS PLAN CONTAINS 13 SHEETS

Approved: 4/29/14
ANOKA COUNTY ENGINEER

NO	DATE	BY	CKD	APPR	REVISION	03/26/2014	10:16:55 AM
NAME: P:\14-01-00\CSAH_01_(No90th-CSAH3)\Base\PROPOSED\14-47-01.dgn							

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.
PRINT NAME: ANDREW WITTEK
SIGNATURE:
DATE: 4/29/14 LICENSE NO. 42757

DRAWN BY: JJ DATE: 03/26/2014
DESIGN BY: JJ DATE: 03/26/2014
CHECKED BY: DFF DATE: 03/26/2014



**ANOKA COUNTY
HIGHWAY DEPT.**

COUNTY PROJECT 14-47-01

TITLE SHEET
Sheet 1 of 13 Sheets

STATEMENT OF ESTIMATED QUANTITIES				
ITEM NO.	ITEM	NOTES	UNIT	TOTAL PROJECT QUANTITIES ESTIMATED
2021.501	MOBILIZATION		LUMP SUM	1
2104.501	REMOVE CURB AND GUTTER	1	LN FT	3590
2104.503	REMOVE CONCRETE WALK	1	SQ FT	4640
2104.505	REMOVE CONCRETE DRIVEWAY PAVEMENT	1	SQ YD	65
2104.505	REMOVE BITUMINOUS PAVEMENT	1	SQ YD	870
2104.509	REMOVE CASTING	1	EACH	46
2104.509	REMOVE DRAINAGE STRUCTURE	1	EACH	9
2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	1	LN FT	100
2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	1	LN FT	3630
2211.501	AGGREGATE BASE CLASS 5		TON	51
2232.501	MILL BITUMINOUS SURFACE (2.0")	2	SQ YD	36830
2232.604	MILL BITUMINOUS PAVEMENT (SPECIAL)	3	SQ YD	790
2357.502	BITUMINOUS MATERIAL FOR TACK COAT		GAL	1885
2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE (4,E)	4	TON	4360
2360.505	TYPE SP 12.5 BITUMINOUS MIXTURE FOR PATCHING	5	TON	76
2401.541	REINFORCEMENT BARS (EPOXY COATED)	6	LB	220
2502.541	6" PERF PE PIPE DRAIN	7	LN FT	425
2502.602	CONNECT INTO DRAINAGE STRUCTURE		EACH	4
2504.602	ADJUST GATE VALVE		EACH	11
2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	8	LN FT	22
2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 60-4020	8	LN FT	13
2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN H	8	EACH	2
2506.516	CASTING ASSEMBLY	9	EACH	46
2506.522	ADJUST FRAME AND RING CASTING	10	EACH	37
2506.602	GROUT CATCH BASIN OR MANHOLE	11	EACH	31
2506.602	CLEAN OUT CATCH BASIN		EACH	1
2521.501	4" CONCRETE WALK		SQ FT	2500
2521.501	6" CONCRETE WALK	12	SQ FT	2010
2531.501	CONCRETE CURB AND GUTTER DESIGN B624		LN FT	3590
2531.604	6" CONCRETE VALLEY GUTTER		SQ YD	56
2531.618	TRUNCATED DOMES		SQ FT	156
2545.602	ADJUST HANDHOLE		EACH	3
2550.602	LOOP DETECTOR DESIGN NMC	13	EACH	10
2563.601	TRAFFIC CONTROL	14	LUMP SUM	1
2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	15	UNIT DAY	14
2573.530	STORM DRAIN INLET PROTECTION	16	EACH	82
2575.505	SODDING TYPE SALT TOLERANT	17, 18	SQ YD	150
2575.523	EROSION CONTROL BLANKETS CATEGORY 0	17, 19	SQ YD	1034
2581.501	REMOVABLE PREFORMED PAVEMENT MARKING TAPE	20	LN FT	450
2582.502	4" SOLID LINE WHITE - EPOXY	21	LN FT	12010
2582.502	4" BROKEN LINE WHITE - EPOXY	21	LN FT	1800
2582.502	4" SOLID LINE YELLOW - EPOXY	21	LN FT	8245
2582.602	PAVEMENT MESSAGE (LT ARROW) PREFORMED THERMOPLASTIC	21	EACH	4
2582.602	PAVEMENT MESSAGE (RT ARROW) PREFORMED THERMOPLASTIC	21	EACH	3
2582.602	24" SOLID LINE WHITE PREFORMED THERMOPLASTIC	21	LN FT	96
2582.618	3' X 6' ZEBRA CROSSWALK - PREFORMED THERMOPLASTIC	21	SQ FT	504

CONSTRUCTION NOTES	
1	REFERENCE DETAILS (PAGE 5) FOR REMOVAL DETAILS
2	DETAIL MILLING AROUND MANHOLES, CATCH BASINS, AND GATE VALVES IS INCIDENTAL TO THIS ITEM.
3	TO BE USED FOR JOINT MATCHING AT EXISTING STREET APPROACHES AND/OR DETAIL MILLING ALONG FACE OF CONCRETE CURB AND GUTTER. DETAIL MILLING AROUND MANHOLES, CATCH BASINS, AND GATE VALVES IS INCIDENTAL TO THIS ITEM.
4	STREET APPROACHES AND DRIVEWAYS ARE TO BE PAVED AFTER MAINLINE PAVING BUT BEFORE FINAL STRIPING.
5	ITEM INCLUDES BITUMINOUS PATCHING AROUND NEW CURB AND STORM STRUCTURE REPAIRS.
6	#4 REINFORCEMENT BARS TO BE INSTALLED IN VALLEY GUTTER (SEE PLAN, PAGE 7).
7	INCLUDES FILTER SOCK
8	CONNECTIONS TO EXISTING STORM SEWER ARE INCIDENTAL.
9	ITEM INCLUDES GROUTING AND FURNISH AND INSTALL.
10	SEE STORM TABULATIONS FOR RING HEIGHTS.
11	ITEM INCLUDES GROUTING OF INVERTS, DOGHOUSES, RINGS, AND CASTINGS AS REQUIRED (SEE DRAINAGE TAB, PAGE 3).
12	ISLAND NOSES PAID FOR AS 6" CONCRETE WALK (PLATE 7113A).
13	ONLY REQUIRED TO BE REPLACED IF HIT DURING MILLING OPERATION
14	DO NOT PASS, PASS WITH CARE AND NO CENTER STRIPE SIGNS TO BE INPLACE DURING MILLING, RECLAIMING OR PAVING OPERATIONS.
15	2 MESSAGE BOARDS, ONE ON EACH END OF THE PROJECT WILL BE INSTALLED 7 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS.
16	ALL DRAINAGE STRUCTURES AFFECTED BY THIS PROJECT MUST HAVE INLET PROTECTION.
17	TOPSOIL IS INCIDENTAL TO ALL TURF ESTABLISHMENT.
18	ITEM FOR TURF ESTABLISHMENT AROUND NEW SIDEWALK (STATION 13+00 LNB)
19	TYPE 4 FERTILIZER AND TYPE 240 SEED ARE INCIDENTAL TO BLANKET
20	CENTERLINE AND LANE DESIGNATION SKIPS TO BE APPLIED AS SOON AS POSSIBLE ON EACH NEW LIFT OF PAVEMENT; SKIPS MUST BE INPLACE BEFORE CONTRACTOR LEAVES FOR THE DAY. CONTRACTOR IS TO REMOVE PRIOR TO FINAL PAINT STRIPING.
21	FINAL STRIPING SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING.

BASIS OF PLANNED QUANTITIES		
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	0.05 GAL / SQ YD
2211.501	AGGREGATE BASE CLASS 5	1.8 TON / CUYD
2360.501	TYPE SP 12.5 WEARING COURSE MIX (4,E) SPWEB440E	115 LBS / SQYD / INCH THICKNESS
2401.541	REINFORCEMENT BARS (EPOXY COATED) #4 BAR	0.668 LBS / LN FT

MNDOT STANDARD PLATES	
PLATE NUMBER	DESCRIPTION
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4035N	CONCRETE WALK
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
4110F	COVER CASTING FOR MANHOLE
7038A	DETECTABLE WARNING SURFACE
7100H	CONCRETE CURB AND GUTTER
7113A	CONCRETE APPROACH NOSE DETAIL

NO	DATE	BY	CKD	APPR	REVISION	04/11/2014	3:19:10 PM
NAME: P:\14-01-00\CSAH_01 (No90th-CSAH3)\Base\PROPOSED\14-47-01.dgn							

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.

PRINT NAME: ANDREW WITTER

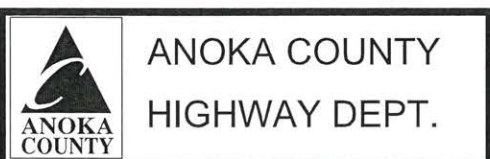
SIGNATURE: *Andrew Witter*

DATE: 4/28/14 LICENSE NO. 42757

DRAWN BY JJ DATE 04/11/2014

DESIGN BY JJ DATE 04/11/2014

CHECKED BY DFF DATE 04/11/2014



COUNTY PROJECT 14-47-01

STATEMENT OF ESTIMATED QUANTITIES

Sheet 2 of 13 Sheets

STORM DRAINAGE TAB

NUMBER	TYPE	ACTION	NEW CASTING	FURNISH AND INSTALL CASTING ASSEMBLY	REMOVE STRUCTURE	H (EACH)	48-4020 (LN FT)	60-4020 (LN FT)	ADJUST EACH FRAME AND RING CASTING (LN FT)	GROUT (EACH)	CLEAN (EACH)	CONNECT TO STORMSEWER
101	CB	RE-RING	R-3250-EVSP	1					1 (0.7)			
102	CB	RE-RING	R-3250-DVSP	1					1 (2.1)			
103	MH/SAN	GROUT								RINGS		
104	CB	RE-RING	R-3250-DVSP	1					1 (1.3)			
105	CB	RE-RING	R-3250-DVSP	1					1 (1.2)		1	
106	MH/SAN	GROUT								RINGS		
107	CB	RE-RING	R-3250-DVSP	1					1 (0.5)	INVERT		
108	CB	RE-RING	R-3250-DVSP	1					1 (1.0)	INVERT		
109	CB	RE-RING	R-3250-DVSP	1					1 (0.7)			
110	CB	RE-RING	R-3250-DVSP	1					1 (0.6)			
114	MH/SAN	GROUT								RINGS		
117	CB	RE-RING	R-3250-DVSP	1					1 (0.4)			
118	CB	RE-RING	R-3250-DVSP	1					1 (0.7)			
119	CB	RE-RING	R-3250-DVSP	1					1 (1.3)	INVERT		
120	CB	RE-RING	R-3250-DVSP	1					1 (1.1)	INVERT		
121	CB	RE-RING	R-3250-DVSP	1					1 (0.8)			
122	CB	RE-RING	R-3250-DVSP	1					1 (0.3)			
123	CB	RE-RING	R-3250-DVSP	1					1 (1.0)			
124	CB	RE-RING	R-3250-DVSP	1					1 (1.3)			
125	CB	RECONSTRUCT	R-3250-DVSP	1	1		3.3					
126	MH/STORM	RE-RING	A-7D	1					1 (0.0)	INVERT		
127	CB	RECONSTRUCT	R-3250-DVSP	1	1	1						
128	CB	GROUT								RINGS & INVERT		
129	CB	RECONSTRUCT	R-3250-DVSP	1	1		4.6					
131	CB	RE-RING	R-3250-DVSP	1					1 (0.8)			
132	CB	RE-RING	R-3250-DVSP	1					1 (1.1)			
133	CB	RECONSTRUCT	R-3250-DVSP	1	1		3.9					
134	CB	GROUT								RINGS		
135	CB	RE-RING	R-3250-DVSP	1					1 (1.3)			
136	CB	RE-RING	R-3250-DVSP	1					1 (1.2)			
137	CB	GROUT								RINGS		
138	CB	GROUT								RINGS		
139	CB	GROUT								RINGS		
140	CB	RE-RING	R-3250-DVSP	1					1 (1.6)			
141	CB	RE-RING	R-3250-DVSP	1					1 (1.5)	INVERT		
142	CB	GROUT								RINGS		
143	CB	GROUT								RINGS		
144	CB	RE-RING	R-3250-DVSP	1					1 (2.1)			
145	CB	RE-RING	R-3250-DVSP	1					1 (0.4)			
146	CB	GROUT								RINGS		
147	CB	RE-RING	R-3250-DVSP	1					1 (1.0)			
148	CB	GROUT								RINGS		
149	CB	GROUT								RINGS		
150	CB	GROUT								RINGS		
151	CB	RE-RING	R-3250-DVSP	1					1 (1.1)			
152	CB	RE-RING	R-3250-DVSP	1					1 (1.2)			
153	CB	GROUT								RINGS		
154	CB	RE-RING	R-3250-DVSP	1					1 (0.7)			
155	CB	RE-RING	R-3250-DVSP	1					1 (1.0)			
156	CB	RE-RING	R-3250-DVSP	1					1 (1.2)			
157	CB	RE-RING	R-3250-DVSP	1					1 (1.0)			
158	MH/SAN	GROUT								RINGS		
159	CB	GROUT								RINGS		
160	CB	GROUT								RINGS		
161	CB	GROUT								RINGS		
162	CB	RE-RING	R-3250-DVSP	1					1 (1.1)			
163	CB	GROUT								RINGS		
164	CB	RE-RING	R-3250-DVSP	1					1 (1.2)			
165	CB	RECONSTRUCT	R-3250-DVSP	1	1		5.2					2 (DRAIN TILE)
166	CB	RE-RING	R-3250-DVSP	1					1 (1.3)	INVERT		
167	CB	RECONSTRUCT	R-3250-EVSP	1	1	1						
168	CB	RECONSTRUCT	R-3250-DVSP	1	1			6.4				
169	CB	RECONSTRUCT	R-3250-DVSP	1	1		4.8					2 (DRAIN TILE)
170	CB	RECONSTRUCT	R-3250-DVSP	1	1			6.9				
171	CB	GROUT								RINGS / INVERT		
172	CB	GROUT								RINGS		
173	CB	RE-RING	R-3250-DVSP	1					1 (1.0)	INVERT		
174	CB	RE-RING	R-3250-DVSP	1					1 (1.4)	INVERT		
TOTALS:				46	9	2	22	13	37 (38.2)	31	1	4

CASTING ASSEMBLIES SUMMARY					
ASSEMBLY	RING OR FRAME CASTING	COVER OR GRATE CASTING	CURB BOX	QUANTITY	DESCRIPTION
A-7D	700-7	715		1	STD. PLATE: 4101D, 4110F
NEENAH*	R-3250-DVSP	V	YES	43	
NEENAH*	R-3250-EVSP			2	
*OR APPROVED EQUAL					
ALL MANHOLE COVERS SHOULD BE LABELED AS STORM OR SANITARY					

NO	DATE	BY	CKD	APPR	REVISION	03/26/2014	10:17:15 AM
NAME: P:\14-01-00\CSAH_01_(Nof90th-CSAH3)\Base\PROPOSED\14-47-01.dgn							

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PRINT NAME: ANDREW WITTER

SIGNATURE: *Andrew Witter*

DATE: 4/23/14 LICENSE NO. 42757

DRAWN BY JJ DATE 03/26/2014

DESIGN BY JJ DATE 03/26/2014

CHECKED BY DFF DATE 03/26/2014



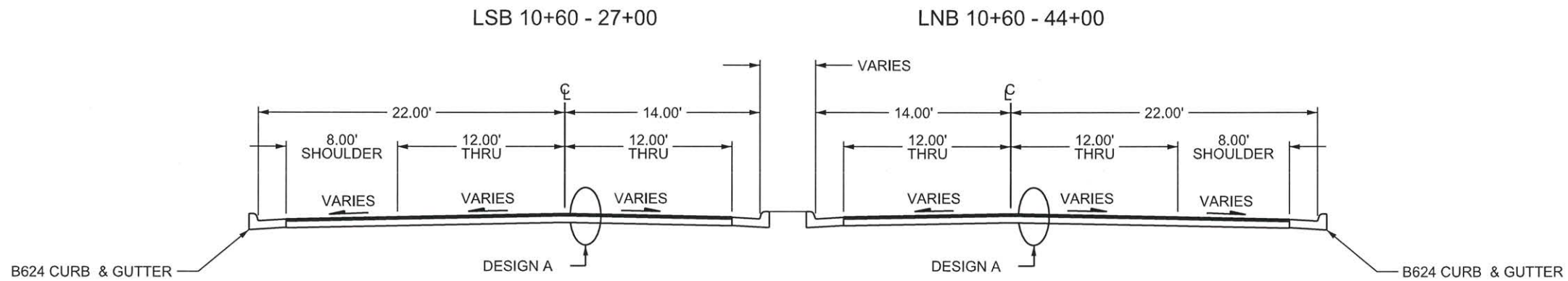
**ANOKA COUNTY
HIGHWAY DEPT.**

COUNTY PROJECT 14-47-01

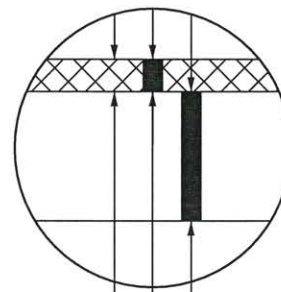
TABULATIONS

Sheet 3 of 13 Sheets

EAST RIVER ROAD (CSAH 1)
TYPICAL MAIN LINE



DESIGN A
MILL SECTION

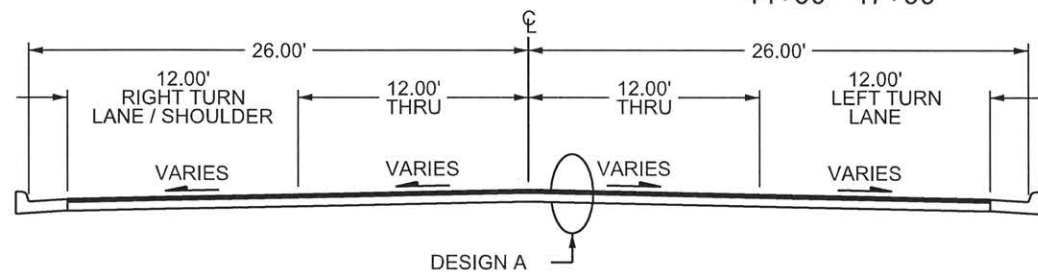


2.0" MILL BITUMINOUS
2.0" BITUMINOUS WEAR (SPWEB440E)
REMAINING BITUMINOUS

EAST RIVER ROAD (CSAH 1)
TYPICAL LSB TURN LANES

RIGHT TURN LANE
21+00 - 23+00
RTL / SHOULDER 27+00 - 48+00

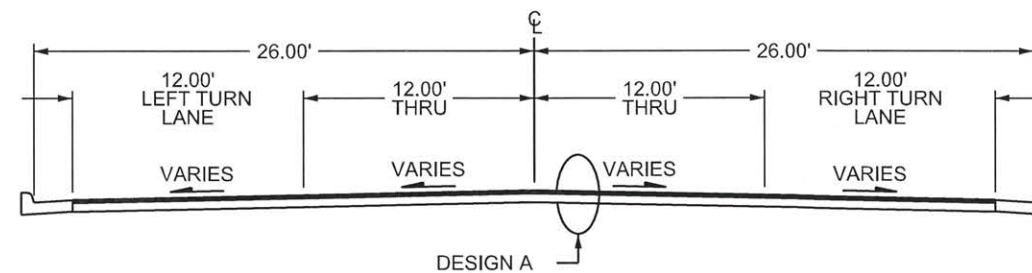
LEFT TURN LANE
14+00 - 15+00
21+00 - 22+00
30+50 - 33+00
36+00 - 39+00
44+00 - 47+00



EAST RIVER ROAD (CSAH 1)
TYPICAL LNB TURN LANES

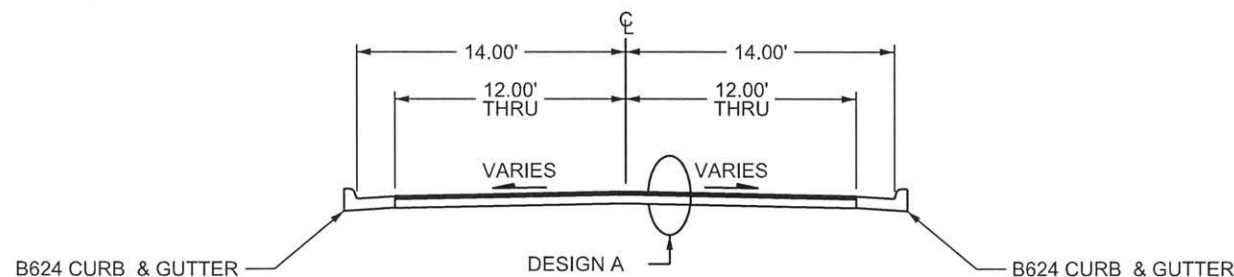
LEFT TURN LANE
16+00 - 20+00
23+00 - 24+00
27+00 - 30+00
41+00 - 43+00

RIGHT TURN LANE
16+00 - 20+00
27+00 - 30+00
40+50 - 43+50



EAST RIVER ROAD (CSAH 1)
TYPICAL THRU LANE

LNB 44+00 - 60+30
LSB 48+00 - 50+53



NO	DATE	BY	CKD	APPR	REVISION	04/11/2014	3:19:38 PM
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PRINT NAME: ANDREW WITTER
SIGNATURE: *Andrew Witter*
DATE: 4/11/2014 LICENSE NO. 42757

DRAWN BY: JJ DATE: 04/11/2014
DESIGN BY: JJ DATE: 04/11/2014
CHECKED BY: DFF DATE: 04/11/2014



ANOKA COUNTY
HIGHWAY DEPT.

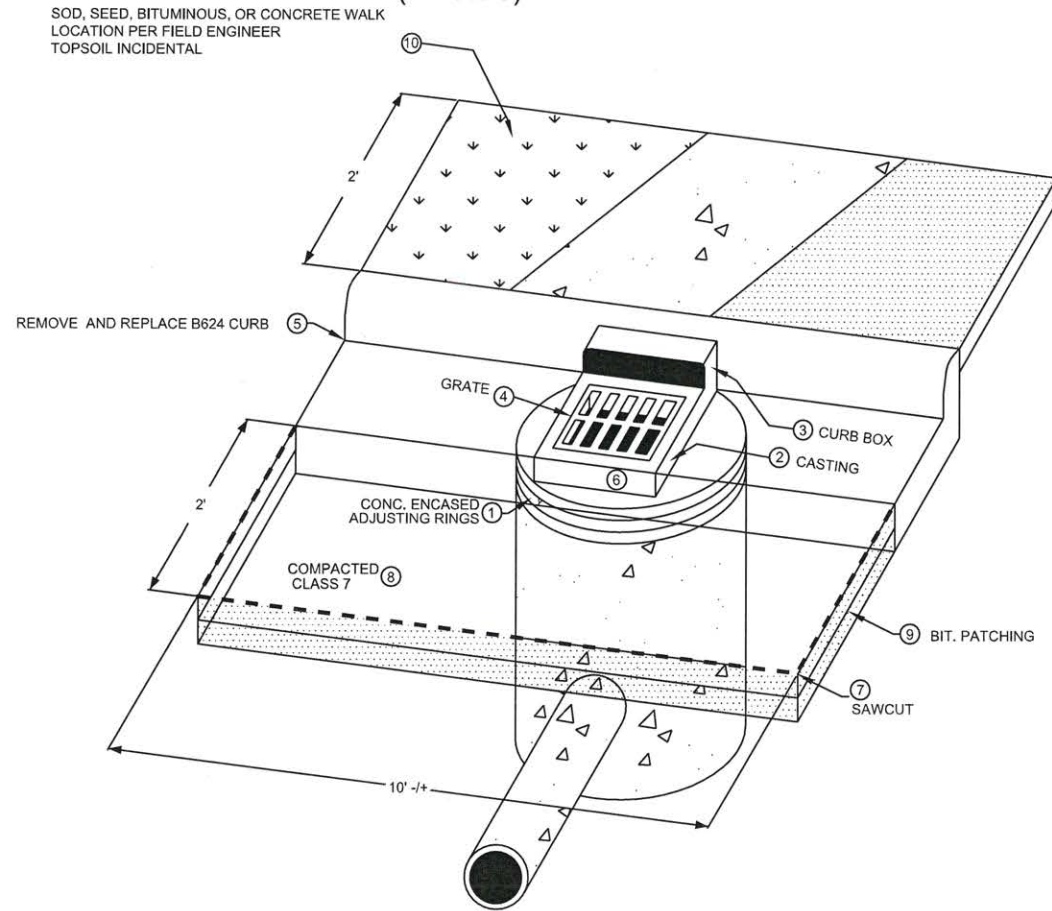
COUNTY PROJECT 14-47-01

TYPICAL SECTIONS
Sheet 4 of 13 Sheets

CATCH BASIN DETAIL

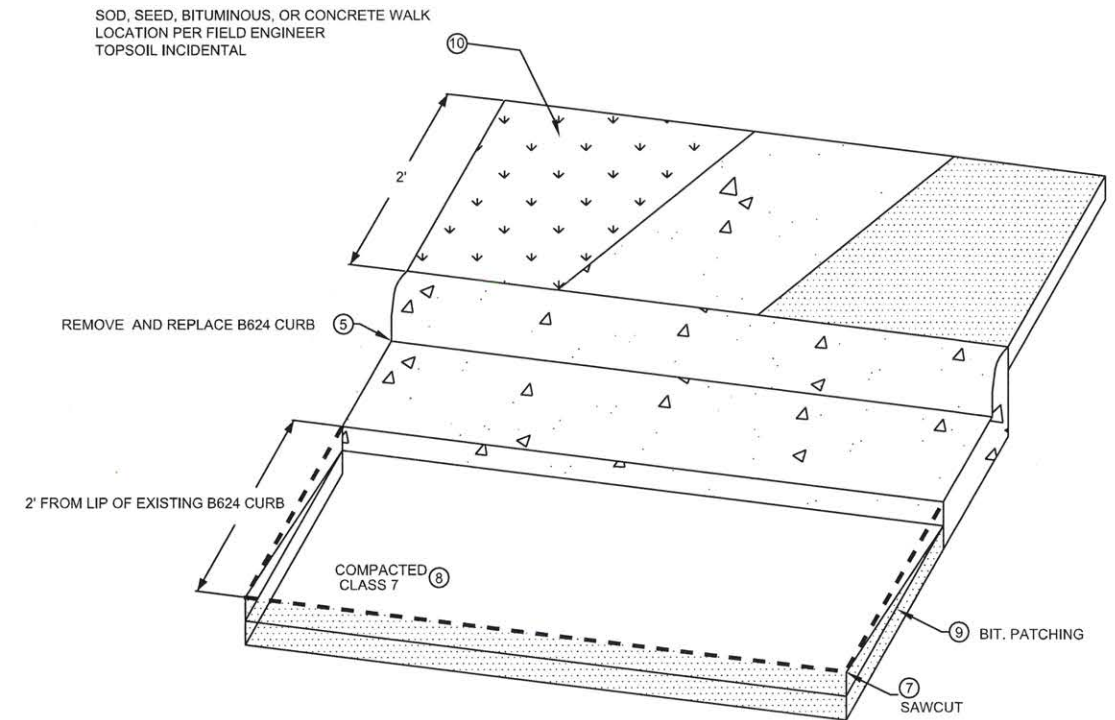
SEE STRUCTURE TAB FOR LOCATION

(PAGE 3)



NEW CURB DETAIL

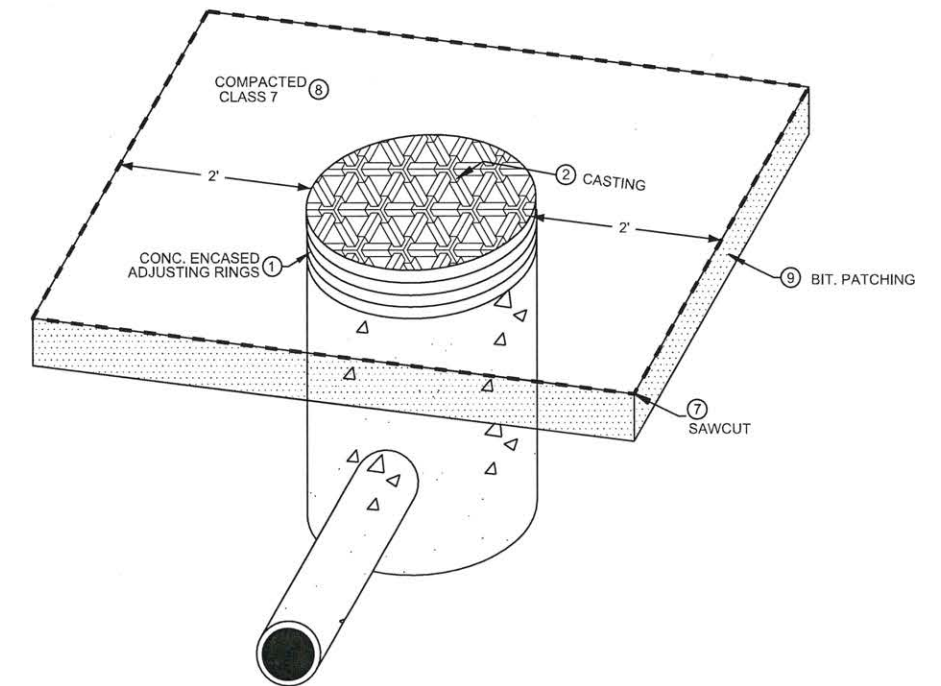
SEE PLAN FOR LOCATION



MANHOLE DETAIL

SEE STRUCTURE TAB FOR LOCATION

(PAGE 3)



NOTES

FOR TRAFFIC CONTROL AT CATCH BASIN AND MANHOLE REPAIRS REFER TO THE MINNESOTA MANUAL ON TEMPORARY TRAFFIC CONTROL LAYOUTS FIELD MANUAL.

- ① CONCRETE ENCASED CONCRETE ADJUSTING RINGS STANDARD PLATE 4026A
- ② RING AND FRAME CASTING. REFERENCE CASTING ASSEMBLIES SUMMARY CHART FOR CASTING TYPE
- ③ CURB BOX MATCHES CASTING REFERENCE CHART FOR CASTING TYPE
- ④ GRATE CASTING. REFERENCE CASTING ASSEMBLIES SUMMARY CHART FOR CASTING TYPE
- ⑤ CONCRETE CURB AND GUTTER DESIGN B STANDARD PLATE 7100H
- ⑥ INSTALLATION OF CATCH BASIN CASTINGS REFERENCE STANDARD PLATE PER TYPE OF CASTING
- ⑦ SAWCUT BIT PAVEMENT / CONCRETE CURB FULL DEPTH.
- ⑧ ADD AND COMPACT CL-7 AROUND REPAIRED STRUCTURE. ITEM INCIDENTAL TO C.B. REPAIR
- ⑨ REMOVE VAR. DEPTH BITUMINOUS, PATCH WITH 2, 3" LIFTS OF BITUMINOUS, TOP LIFT SHOULD TAPER TO BOTTOM LIFT AT CURB.
- ⑩ REPLACE DISTURBED AREA BEHIND CATCH BASIN WITH EITHER SOD (RESIDENTIAL AREAS), EROSION CONTROL BLANKET, BITUMINOUS, OR CONCRETE

NO	DATE	BY	CKD	APPR	REVISION	03/26/2014	10:17:27 AM
NAME: P:\14-01-00\CSAH_01_(No90th-CSAH3)\Base\PROPOSED\14-47-01.dgn							

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.

PRINT NAME: ANDREW WITTER
 SIGNATURE: *Andrew Witter*
 DATE: 4/28/14 LICENSE NO. 42757

DRAWN BY JJ DATE 03/26/2014

DESIGN BY JJ DATE 03/26/2014

CHECKED BY DFF DATE 03/26/2014

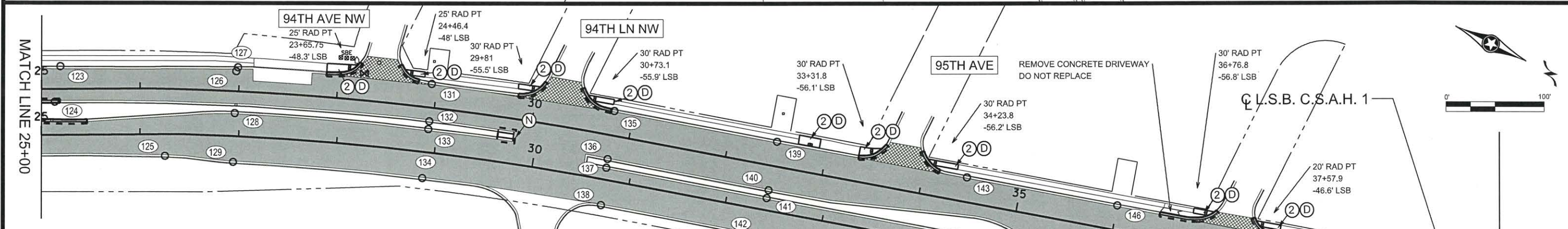
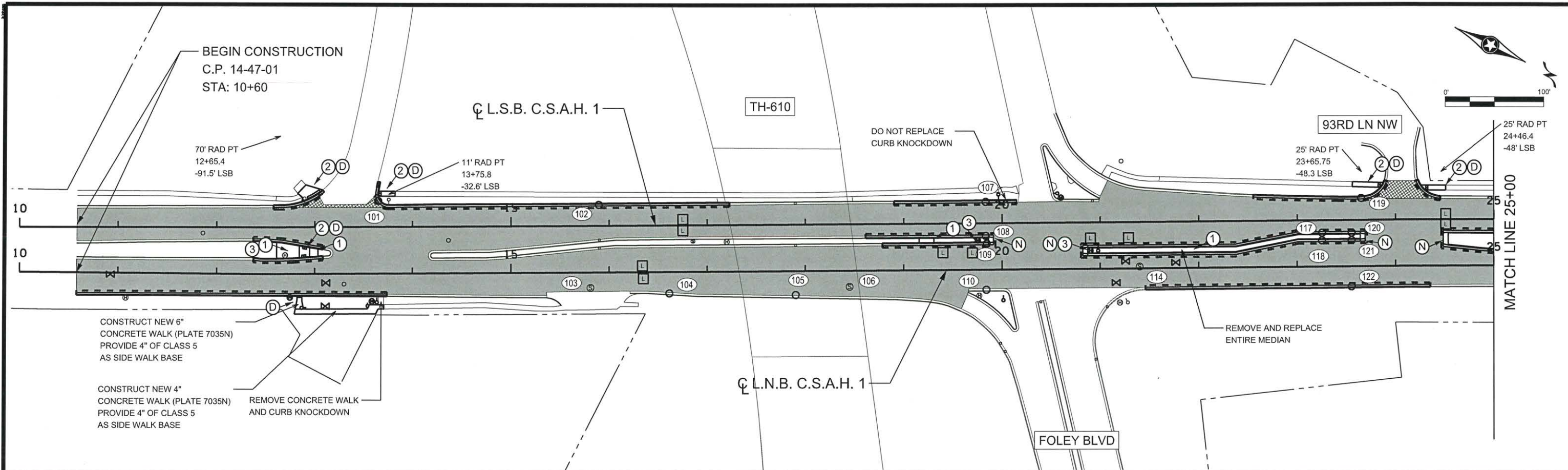


ANOKA COUNTY
 HIGHWAY DEPT.

COUNTY PROJECT 14-47-01

DETAILS

Sheet 5 of 13 Sheets



LEGEND

(N)	REMOVE AND REPLACE NOSE	○	SEWER WORK LOCATION
(D)	TRUNCATED DOMES	□	APRX. LOOP LOCATION
(1)	4" CONCRETE WALK (REMOVE AND REPLACE)	⊗	ADJUST GATE VALVE
(2)	6" CONCRETE WALK (REMOVE AND REPLACE)	- - -	SAWCUT / CURB REPLACEMENT
(3)	ADJUST HANDHOLE	■	MAINLINE MILL AREA
		▨	STREET APPROACH MILL AREA

--- R / W

NO	DATE	BY	CKD	APPR	REVISION	DATE	TIME
						03/26/2014	10:17:27 AM

NAME: P:\14-01-00\CSAH_01 (No\90th-CSAH3)\Base\PROPOSED\14-47-01.dgn

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.

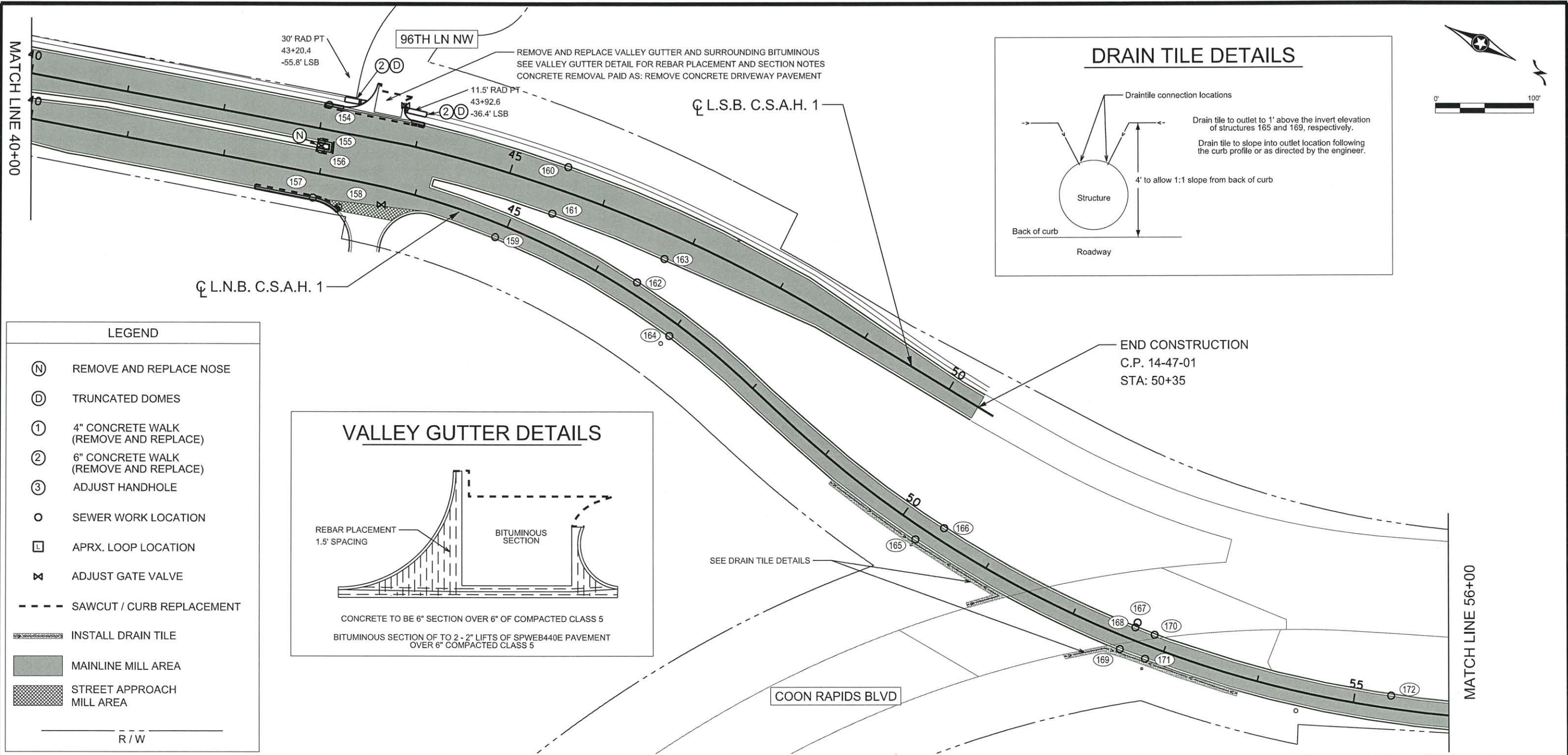
PRINT NAME: ANDREW WITTER
 SIGNATURE: *Andrew Witter*
 DATE: 4/28/14 LICENSE NO. 42757

DRAWN BY: JJ DATE: 03/26/2014
 DESIGN BY: JJ DATE: 03/26/2014
 CHECKED BY: DFF DATE: 03/26/2014

ANOKA COUNTY HIGHWAY DEPT.

COUNTY PROJECT 14-47-01

CONSTRUCTION PLAN
 STA 10+00 TO 40+00
 Sheet 6 of 13 Sheets



LEGEND

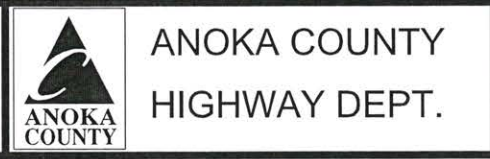
- (N) REMOVE AND REPLACE NOSE
- (D) TRUNCATED DOMES
- (1) 4" CONCRETE WALK (REMOVE AND REPLACE)
- (2) 6" CONCRETE WALK (REMOVE AND REPLACE)
- (3) ADJUST HANDHOLE
- O SEWER WORK LOCATION
- APRX. LOOP LOCATION
- ⊗ ADJUST GATE VALVE
- - - SAWCUT / CURB REPLACEMENT
- ▨ INSTALL DRAIN TILE
- MAINLINE MILL AREA
- ▩ STREET APPROACH MILL AREA
- R / W

NO	DATE	BY	CKD	APPR	REVISION	03/26/2014	10:17:28 AM
NAME: P:\14-01-00\CSAH_01_(No\90th-CSAH3)\Base\PROPOSED\14-47-01.dgn							

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.

PRINT NAME: ANDREW WITTER
 SIGNATURE: *Andrew Witter*
 DATE: 4/28/14 LICENSE NO. 42757

DRAWN BY JJ DATE 03/26/2014
 DESIGN BY JJ DATE 03/26/2014
 CHECKED BY DFF DATE 03/26/2014



COUNTY PROJECT 14-47-01

CONSTRUCTION PLAN
 STA 40+00 TO 60+30
 Sheet 7 of 13 Sheets

PERMANENT PAVEMENT MARKING PLAN
NOTES AND GUIDELINES

GENERAL INFORMATION:

THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. ANOKA COUNTY HIGHWAY DEPARTMENT WILL PLACE NECESSARY "SPOTTING" AT APPROPRIATE POINTS TO PROVIDE HORIZONTAL CONTROL FOR STRIPING AND TO DETERMINE NECESSARY STARTING AND CUTOFF POINTS, LONGITUDINAL JOINTS, PAVEMENT EDGES AND EXISTING MARKINGS MAY SERVE AS HORIZONTAL CONTROL WHEN SO DIRECTED.

EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY A YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE RADIUS FOR THE INTERSECTION OR AT MARKED STOP LINES OR CROSSWALKS.

A TOLERANCE OF 1/4 INCH UNDER OR 1/4 INCH OVER THE SPECIFIED WIDTH WILL BE ALLOWED FOR STRIPING PROVIDED THE VARIATION IS GRADUAL AND DOES NOT DETRACT FROM THE GENERAL APPEARANCE. BROKEN LINE SEGMENTS MAY VARY UP TO ONE-HALF FOOT FROM THE SPECIFIED LENGTHS PROVIDED THE OVER AND UNDER VARIATIONS ARE REASONABLY COMPENSATORY. ALIGNMENT DEVIATIONS FROM THE CONTROL GUIDE SHALL NOT EXCEED 1 INCH. MATERIAL SHALL NOT BE APPLIED OVER LONGITUDINAL JOINTS, ESTABLISHMENT OF APPLICATION TOLERANCES SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLY AS CLOSELY AS PRACTICABLE WITH THE PLANNED DIMENSIONS.

EPOXY:

THE ROAD SURFACE SHALL BE CLEANED AT THE DIRECTION OF THE ENGINEER JUST PRIOR TO APPLICATION. PAVEMENT CLEANING SHALL CONSIST OF AT LEAST BRUSHING WITH A ROTARY BROOM (NON-METALLIC) OR AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. NEW PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENT AND/OR LAITANCE ON LOW SPEED (SPEED LIMIT 35 MPH OR LESS) URBAN PORTLAND CEMENT CONCRETE ROADWAYS. SANDBLAST CLEANING SHALL BE USED FOR ALL EPOXY PAVEMENT MARKINGS.

THE EPOXY MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEANS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE EPOXY RESIN LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.

AN EPOXY RESIN LINE 4" WIDE AND 15 MILL THICKNESS (WET), REQUIRES AN APPLICATION RATE OF ONE (1) GALLON OF COMPONENTS FOR 320 FEET OF LINE. GLASS BEADS SHALL BE APPLIED AT A POUND PER GALLON RATE SUFFICIENT TO ACHIEVE AN ACCEPTABLE NO-TRACK SYSTEM.

OPERATIONS SHALL BE CONDUCTED ONLY WHEN THE ROAD PAVEMENT SURFACE TEMPERATURES ARE 50 DEGREES FAHRENHEIT OR GREATER.

PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.

PREFORMED THERMOPLASTIC:

THE PREFORMED THERMOPLASTIC MARKINGS SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS ON CLEAN AND DRY SURFACES. SEE SPECIAL PROVISIONS FOR PREFORMED THERMOPLASTIC MARKING SPECIFICATIONS.

PAINT:

AT THE TIME OF APPLYING THE MARKING MATERIAL, THE APPLICATION AREA SHALL BE FREE OF CONTAMINATION. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE PRIOR TO THE LINE APPLICATION IN A MANNER AND TO THE EXTENT REQUIRED BY THE ENGINEER.

GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE PAINT LINE.

EXCEPT WHEN USED AS A TEMPORARY MARKING, PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR TEMPERATURE IS 50 DEGREES FARHENHEIT OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILM OR DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL CAN BE APPLIED.

THE FILLING OF TANKS, POURING OF MATERIALS OR CLEANING OF EQUIPMENT SHALL NOT BE PERFORMED ON UNPROTECTED PAVEMENT SURFACES UNLESS ADEQUATE PROVISIONS ARE MADE TO PREVENT SPILLAGE OF MATERIAL.

PAVEMENT MARKING TABULATION		
ITEM	UNIT	TOTAL QUANTITY
4" SOLID LINE WHITE - EPOXY PAINT	LIN FT	12010
4" SOLID LINE YELLOW -EPOXY PAINT	LIN FT	8245
4" BROKEN LINE WHITE - EPOXY PAINT	LIN FT	1800
24" SOLID LINE WHITE PREFORMED THERMO- PLASTIC	LIN FT	96
3' X 6' PREFORMED THERMO- PLASTIC ZEBRA CROSSWALK	SQ FT	504
PAVEMENT MESSAGE (LT ARROW) THERMO-PLASTIC	EACH	4
PAVEMENT MESSAGE (RT ARROW) THERMO-PLASTIC	EACH	3

SYMBOLS & MATERIALS LEGEND

■ CROSSWALK BLOCK WHITE PREFORMED THERMOPLASTIC

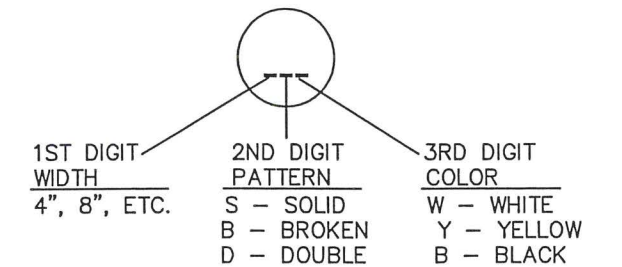
↶ PAVEMENT MESSAGE (LEFT ARROW) PREFORMED THERMOPLASTIC

STRIPING KEY

○ CIRCLE - EPOXY □ SQUARE PREFORMED THERMOPLASTIC

△ TRIANGLE - PAINT

⬠ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



EXAMPLE: (4SW) = 4" SOLID LINE WHITE -- EPOXY

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\13-01-00\CSAH 18\Bases\TRAFFIC\Perm pvmt mrkg guide notes_guidelines.dwg

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.
 PRINT NAME: ANDREW WITTER
 SIGNATURE: *[Signature]*
 DATE: 9/28/14 LICENSE NO. 42757

DRAWN BY: RLB DATE: 3/16/14
 DESIGN BY: RLB DATE: 3/16/14
 CHECKED BY: JR DATE: 3/16/14

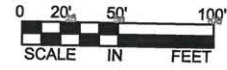


ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
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 COUNTY PROJECT NO. 14-47-01

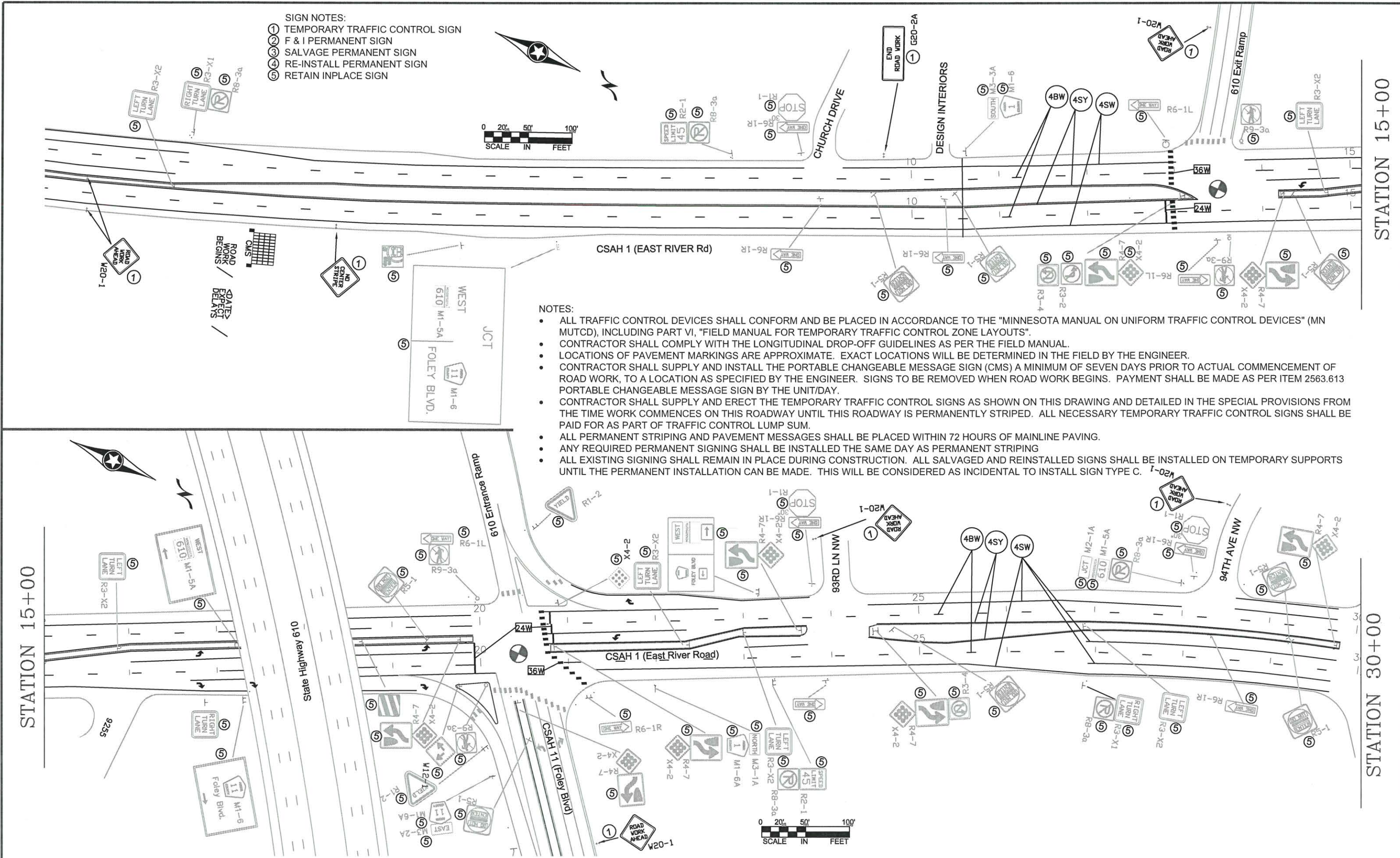
PERMANENT MARKING
TABULATION
 Sheet 8 of 13 Sheets

- SIGN NOTES:
- ① TEMPORARY TRAFFIC CONTROL SIGN
 - ② F & I PERMANENT SIGN
 - ③ SALVAGE PERMANENT SIGN
 - ④ RE-INSTALL PERMANENT SIGN
 - ⑤ RETAIN INPLACE SIGN



NOTES:

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- CONTRACTOR SHALL COMPLY WITH THE LONGITUDINAL DROP-OFF GUIDELINES AS PER THE FIELD MANUAL.
- LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- CONTRACTOR SHALL SUPPLY AND INSTALL THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) A MINIMUM OF SEVEN DAYS PRIOR TO ACTUAL COMMENCEMENT OF ROAD WORK, TO A LOCATION AS SPECIFIED BY THE ENGINEER. SIGNS TO BE REMOVED WHEN ROAD WORK BEGINS. PAYMENT SHALL BE MADE AS PER ITEM 2563.613 PORTABLE CHANGEABLE MESSAGE SIGN BY THE UNIT/DAY.
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- ALL PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
- ANY REQUIRED PERMANENT SIGNING SHALL BE INSTALLED THE SAME DAY AS PERMANENT STRIPING
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NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-617-19\base\Traffic\Curves from CSAH 18 to CSAH 22.dwg

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.

PRINT NAME: ANDREW WITTER
 SIGNATURE: *[Signature]*
 DATE: 4/28/14 REG. NO. 42757

DRAWN BY: RLB DATE: 1/7/14
 DESIGN BY: RLB DATE: 1/7/14
 CHECKED BY: JR DATE: 1/7/14

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
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 COUNTY PROJECT NO. 14-47-01

TEMPORARY SIGNING
 PERMANENT SIGNING
 AND STRIPING

Sheet 9 of 13 Sheets

STATION 30+00

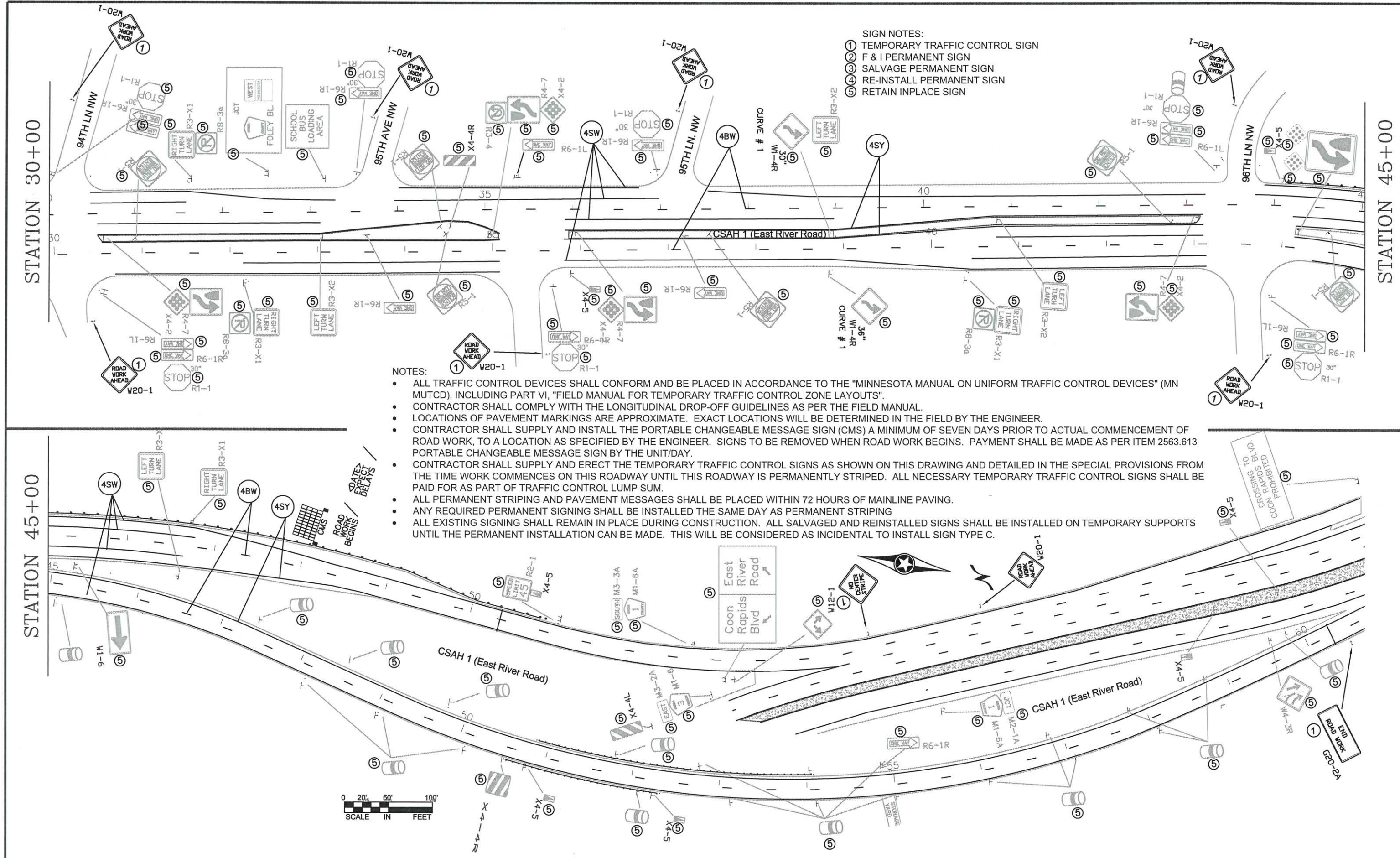
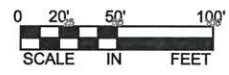
STATION 45+00

- SIGN NOTES:
- ① TEMPORARY TRAFFIC CONTROL SIGN
 - ② F & I PERMANENT SIGN
 - ③ SALVAGE PERMANENT SIGN
 - ④ RE-INSTALL PERMANENT SIGN
 - ⑤ RETAIN INPLACE SIGN

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STATION 45+00



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NAME: P:\02-617-19\base\Traffic\Curves from CSAH 18 to CSAH 22.dwg

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PRINT NAME: ANDREW WITTER

SIGNATURE: *[Signature]*

DATE: 4/28/14 REG. NO. 42757

DRAWN BY: RLB DATE: 1/7/14

DESIGN BY: RLB DATE: 1/7/14

CHECKED BY: JR DATE: 1/7/14

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

STATE AID PROJECT NO. _____

STATE AID PROJECT NO. _____

COUNTY PROJECT NO. 14-47-01

TEMPORARY SIGNING
PERMANENT SIGNING
AND STRIPING

Sheet 10 of 13 Sheets

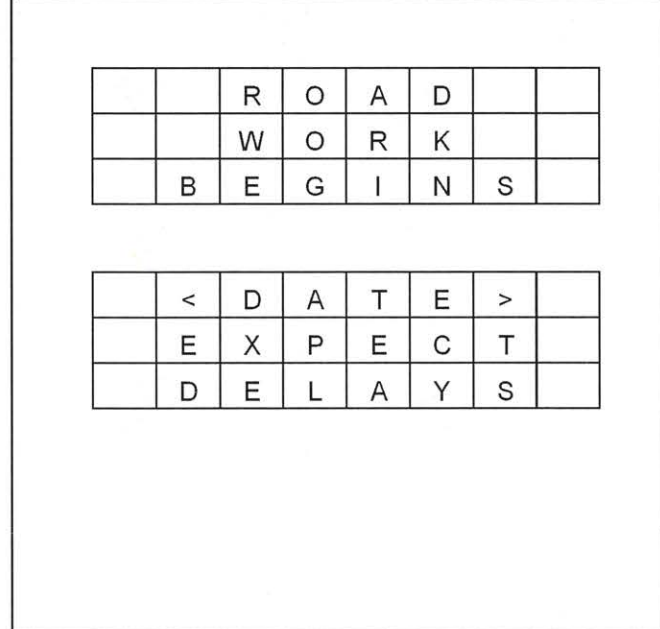
TEMPORARY TRAFFIC CONTROL SIGNS

M.U.T.C.D. CODE	SIZE	PANEL AREA	INSERT	QUANTITY		MOUNTING HEIGHT TO PAVEMENT EDGE
		FT. ²			No. POST	FT.
W8-12	48" x 48"	16.00		2	2	7.0'
R4-1	24" x 30"	5.00		0	1	7.0'
R4-2	24" x 30"	5.00		0	1	7.0'
G20-2A	48" x 24"	8.00		2	2	7.0'
W8-1A	48" x 48"	16.00		AS NEEDED		
W8-1A	48" x 48"	16.00		AS NEEDED		
W8-8	48" x 48"	16.00		AS NEEDED		
W8-9	48" x 48"	16.00		AS NEEDED		
	48" x 48"	16.00		AS NEEDED		
W8-11	48" x 48"	16.00		AS NEEDED		
W20-1	48" x 48"	16.00		AS NEEDED (ESTIMATED 14)		
CMS sign to be installed a minimum of seven days prior to actual commencement of road work. Signs to be removed when road work begins.				2		

NOTES:

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CHANGEABLE MESSAGE BOARD - MESSAGE SEQUENCE LAYOUT



NO	DATE	BY	CKD	APPR	REVISION

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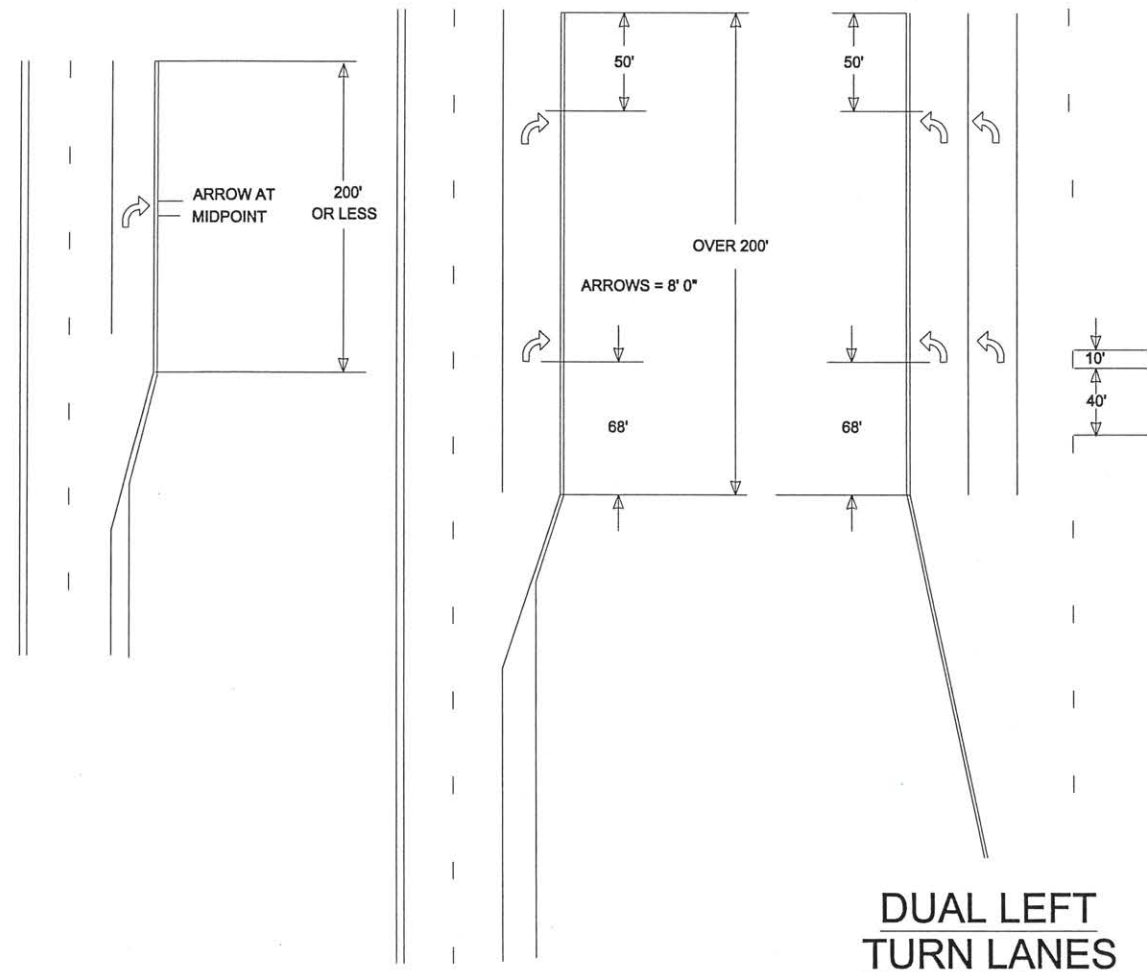
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: ANDREW WITTER
 SIGNATURE:
 DATE: 1/28/14 REG. NO. 42757

DRAWN BY: RLB DATE 1/7/14
 DESIGN BY: RLB DATE 1/7/14
 CHECKED BY: JR DATE 1/7/14

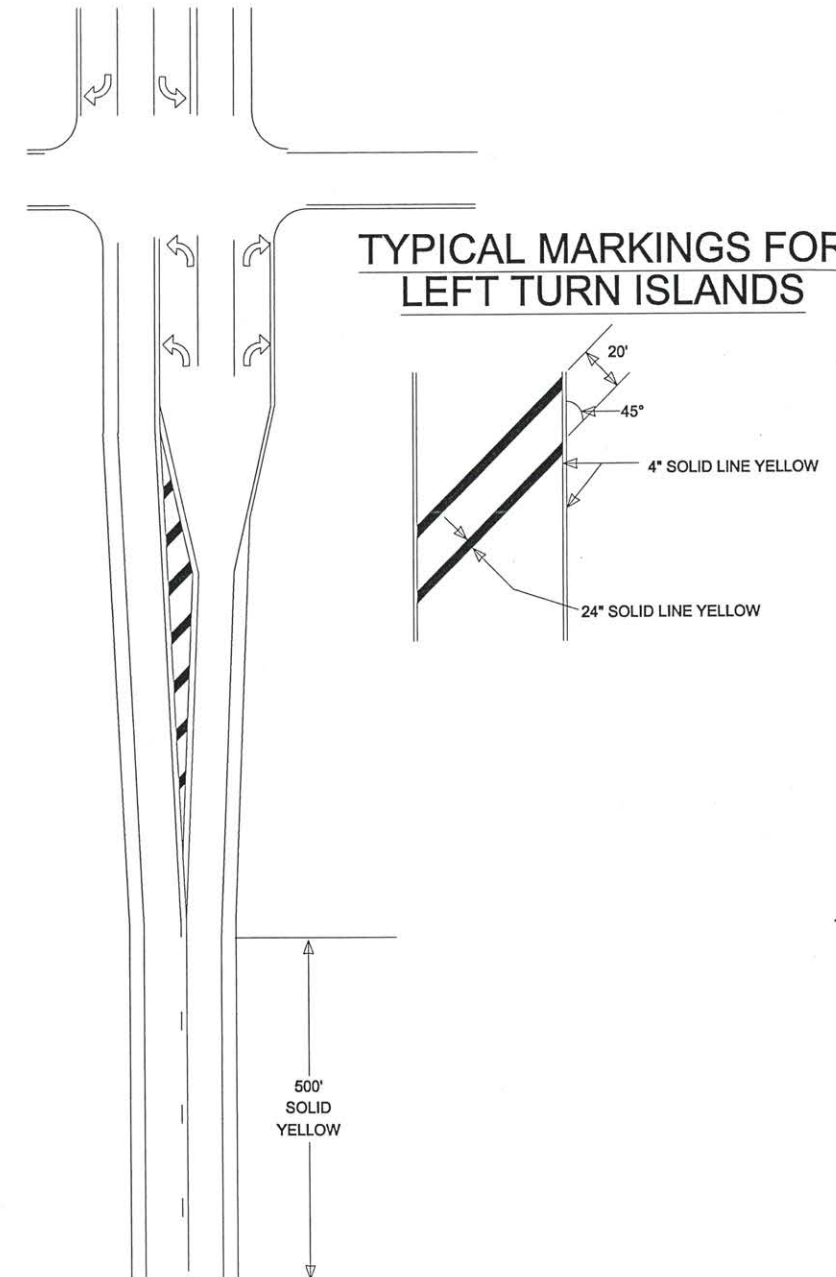
ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
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 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 14-47-01

**TYPICAL MESSAGE PLACEMENT
FOR TURN LANES**



**TYPICAL MARKINGS FOR
LEFT TURN ISLANDS**



NO	DATE	BY	CKD	APPR	REVISION

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PRINT NAME: **ANDREW WITTER**

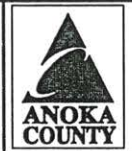
SIGNATURE: *Andrew Witter*

DATE: **4/28/14** REG. NO. **42757**

DRAWN BY: **RLB** DATE: **2/6/14**

DESIGN BY: **RLB** DATE: **2/6/14**

CHECKED BY: **JR** DATE: **2/6/14**



**ANOKA COUNTY
HIGHWAY DEPT.**

STATE PROJECT NO. _____

STATE AID PROJECT NO. _____

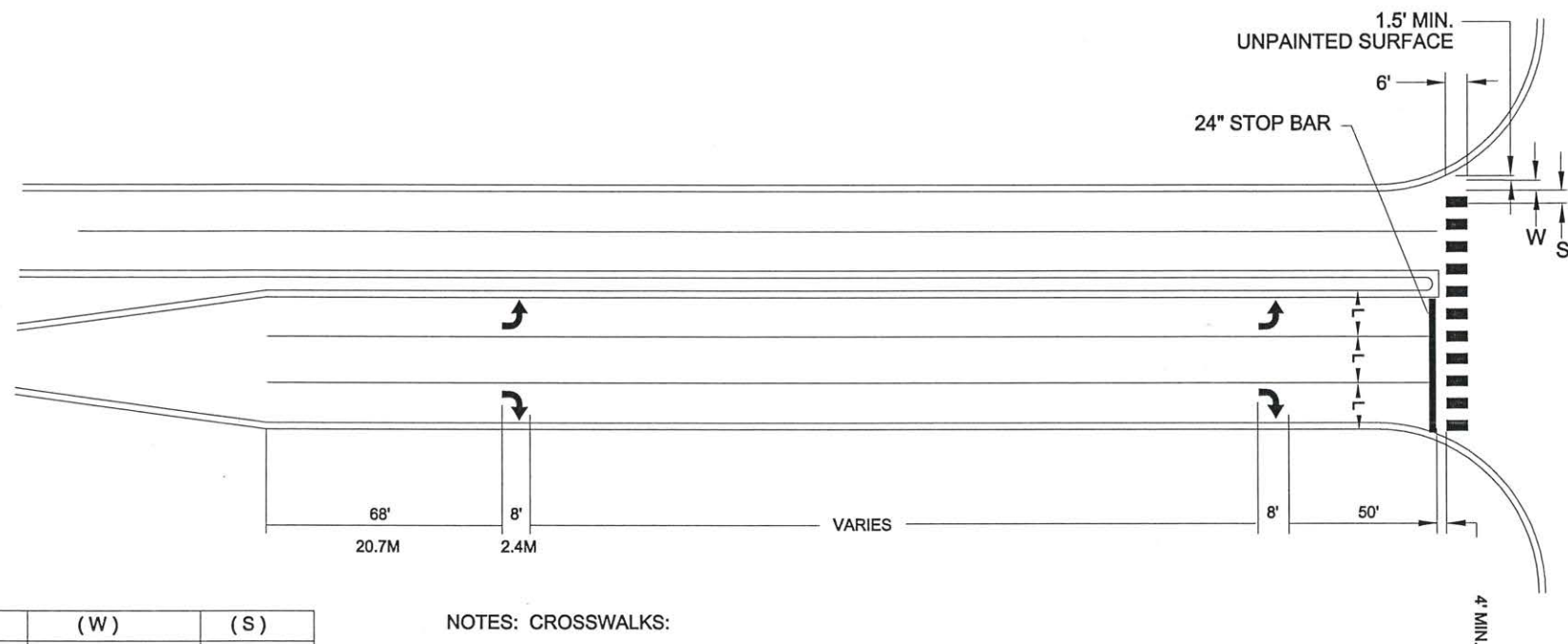
STATE AID PROJECT NO. _____

COUNTY PROJECT NO. **14-47-01**

**SIGNING & STRIPING
DETAILS**

Sheet **12** of **13** Sheets

MARKINGS FOR PEDESTRIAN CROSSWALKS



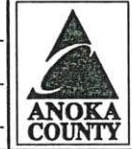
(L)	(W)	(S)
WIDTH OF INSIDE LANE	WIDTH OF PAINTED AREAS	WIDTH OF SPACE
9'	2.0'	2.5'
10'	2.5'	2.5'
11'	2.5'	3.0'
12'	3.0'	3.0'
13'	3.0'	3.5'

NOTES: CROSSWALKS:

- 1.) PAINTED AREAS ARE TO BE CENTERED ON CENTER AND LANE LINES, EVEN IF INTERSECTION IS NOT ALIGNED.
- 2.) LOCATION OF ZEBRA CROSSWALKS AND STOP BARS, SIGNAL LOOPS AND PED RAMP ARE APPROXIMATE. FINAL LOCATIONS ARE TO BE DETERMINED AND FIELD VERIFIED DURING CONSTRUCTION BY THE FIELD ENGR.
- 3.) ZEBRA CROSSWALKS ARE TO BE PARALLEL TO THE DRIVING LANE OR LANES. EVEN IF THE STREET IS ON AN ANGLE TO THE INTERSECTION.
- 4.) A MIN. OF 1.5' (450mm) CLEAR DISTANCE MUST BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS AREA, IT MUST BE OMITTED.
- 5.) ON TWO LANE STREETS, USE SPACING SHOWN FOR AN 11' (3.3m) INSIDE LANE.

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.
 PRINT NAME: ANDREW WITTER
 SIGNATURE: [Signature]
 DATE: 4/28/14 REG. NO. 42757

DRAWN BY: RLB DATE: 2/6/14
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 CHECKED BY: JR DATE: 2/6/14



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SIGNING & STRIPING
 DETAILS

Sheet 13 of 13 Sheets

NO	DATE	BY	CKD	APPR	REVISION