

MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY

CONSTRUCTION PLAN FOR _____ BITUMINOUS OVERLAY
LOCATED ON C.S.A.H. 20 BETWEEN C.S.A.H. 7 AND C.S.A.H. 9

STATE PROJ. NO. 002-620-008
C.S.A.H. 20

GROSS LENGTH	7814.00 FEET	1.47 MILES
BRIDGES-LENGTH	0.00 FEET	0.00 MILES
EXCEPTIONS-LENGTH	0.00 FEET	0.00 MILES
NET LENGTH	7814.00 FEET	1.47 MILES

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

GOVERNING SPECIFICATIONS

THE 2005 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	CONSTRUCTION DETAILS
6-8	PLAN
9	PERMANENT MARKING TABULATION
10-12	TEMPORARY SIGNING PLAN
13-15	PERMANENT SIGNING & STRIPING PLAN
16	PERMANENT SIGNING TABULATION
17-18	SIGNING & STRIPING DETAILS

PLAN SYMBOLS

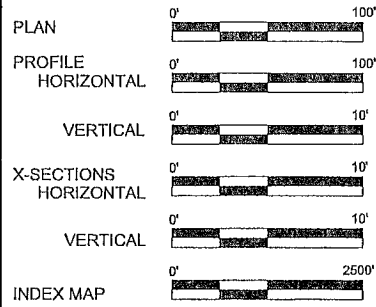
- COUNTY LINE _____
- TOWNSHIP OR RANGE LINE _____
- SECTION LINE _____
- QUARTER LINE _____
- SIXTEENTH LINE _____
- RIGHT OF WAY LINE _____
- SLOPE EASEMENT _____
- EXISTING RIGHT OF WAY _____
- PROPERTY LINE _____
- CORPORATE OR CITY LIMITS _____
- RETAINING WALL _____
- RAILROAD _____
- RAILROAD 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 _____

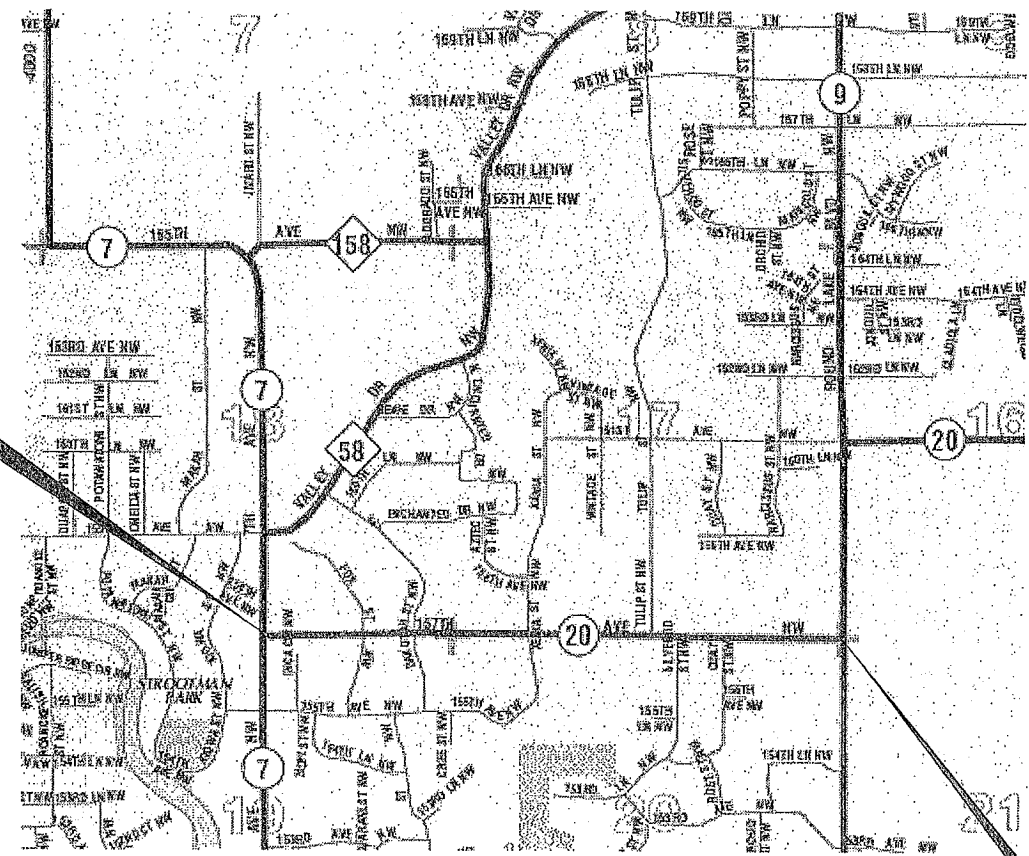
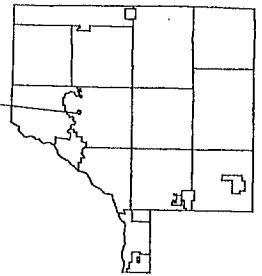
SCALES



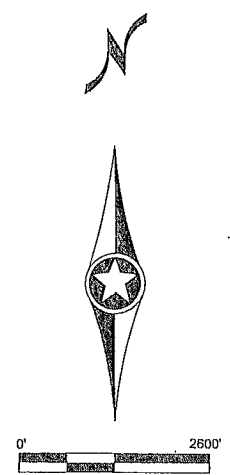
BEGIN S.P. 002-620-008
C.S.A.H. 20 STA. 5+76



PROJECT LOCATION
CITY OF ANDOVER
ANOKA COUNTY
MN/DOT TRANSPORTATION DISTRICT - METRO
SECTIONS 17,18,19,20
TOWNSHIP 32 NW
RANGE 24 W



CITY OF
ANDOVER



END S.P. 002-620-008
C.S.A.H. 20 STA. 83+90

Approved: *[Signature]* 6/17/2013
ANOKA COUNTY ENGINEER

Approved: *[Signature]* 6/18/2013
CITY OF ANDOVER

[Signature] 6/20/2013
DISTRICT STATE AID ENGINEER

[Signature] 6/20/2013
STATE AID ENGINEER

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-620-08\Plan1_TITILE.dgn 06/03/2013 11:07:31 AM

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: 6/17/13 LICENSE NO. 42757

DRAWN BY: JF DATE: 4/19/2013
 DESIGN BY: JF DATE: 4/19/2013
 CHECKED BY: GA DATE: 4/26/2013

ANOKA COUNTY
HIGHWAY DEPT.

SP 002-620-008

TITLE SHEET
Sheet 1 of 18 Sheets


STATEMENT OF ESTIMATED QUANTITIES					SP 002-620-008
TAB	NOTE NO.	ITEM NO.	ITEM	UNIT	TOTAL EST. QUANT.
		2021.501	MOBILIZATION	LUMP SUM	1
A	1	2104.505	REMOVE CONCRETE DRIVEWAY PAVEMENT	SQ YD	25
	14	2104.509	REMOVE SIGN TYPE C	EACH	14
B	2	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	51
C	3	2211.501	AGGREGATE BASE CLASS 5	TON	65
D	4	2221.501	AGGREGATE SHOULDERING CLASS 5	TON	312
E	5	2232.501	MILL BITUMINOUS SURFACE (2.0")	SQ YD	323
F	6	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	1552
G	7	2360.501	TYPE SP 12.5 WEARING COURSE MIX (4, E)	TON	3569
H	8	2531.507	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	25
I	9	2540.602	MAIL BOX SUPPORT	EACH	18
	10	2563.601	TRAFFIC CONTROL	LUMP SUM	1
J	11	2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	UNIT DAY	14
	15	2564.531	SIGN PANNELS TYPE C	SQ FT	92.25
	16	2564.550	DELINEATOR TYPE X4-13	EACH	9
	16	2564.552	HAZARD MARKER X4 - 2	EACH	2
K	12	2581.501	REMOVABLE PREFORMED PLASTIC MARKING	LIN FT	276
	13	2582.502	4" SOLID LINE WHITE - EPOXY	LIN FT	15270
	13	2582.502	4" SOLID LINE YELLOW - EPOXY	LIN FT	4330
	13	2582.502	4" BROKEN LINE YELLOW-EPOXY	LIN FT	1300
	13	2582.502	4" DOUBLE SOLID LINE YELLOW - EPOXY	LIN FT	1250

NOTES	
1	CONCRETE DR WAY #3747, #3611 AND #3537 TO BE SAWCUT, CONCRETE REMOVED AND CONCRETE REPAVED. LOCATION OF SAWCUT AND AREA TO BE CONCRETED TO BE DETERMINED BY ENGINEER.
2	CONCRETE DR WAY # 3747, #3611, #3537 LOCATION OF CONCRETE SAWCUT TO BE DETERMINED BY ENGINEER.
3	5 TONS AGGREGATE BASE CLASS 5 FOR ALL INPLACE GRAVEL DRIVEWAYS, AT THE DISCRETION OF THE ENGINEER.
4	SHOULDERING CLASS 5 FOR FINISHED 2' GRVL. SHLDR.(CALC. AT 2" DEPTH) STA. 10+00 - 78+88.
5	2" DEEP BY 4' WIDE MILL AT BEGINNING AND END OF PROJECT AND ALL PAVED ST APPROACHES. BITUMINOUS DRIVEWAYS ARE TO HAVE A 2' WIDE BY 2" DEEP MILL JOINT.
6	BITUMINOUS TACK COAT TO BE APPLIED TO ALL BITUMINOUS SURFACES PRIOR TO PAVING AT A RATE OF 0.05GAL / SQ YD
7	WEARING COURSE(4, E) ALL WEAR SURFACE. STA. 10+00 - 78+88 ITEM INCLUDES CONSTRUCTION OF SAFTY EDGE, REFER TO SPECIAL PROVISIONS.
8	CONCRETE DRIVEWAYS # 3747, #3611, #3537 TO BE SAWCUT, REMOVED AND REPAVED WITH 6" CONCRETE DRIVEWAY PAVEMENT LOCATION OF SAWCUT / REMOVAL TO BE DETERMINED BY THE ENGINEER.
9	NEW MAILBOXES TO BE INSTALLED AT THE EXISTING MAILBOX LOCATION. MAILBOX & INSTALLATION INCIDENTAL TO MAIL BOX SUPPORT. CONTRACTORS RESPONSIBILITY TO COORDINATE WITH LOCAL POSTAL AUTHORITY.
10	" ALL TRAFFIC CONTROL METHODS SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. " DO NOT PASS, PASS WITH CARE, NO CENTER STRIPE SIGNS TO BE INPLACE DURING PAVING OPERATIONS.
11	2 - MESSAGE BOARDS, ONE ON EACH END OF PROJECT WILL BE INSTALLED 7-DAYS PRIOR TO ANY CONSTRUCTION ACTIVITIES. REFERENCE " PERMANENT PAVEMENT MARKINGS/ QUANTITIES " SECTION OF THIS PLAN FOR DETAILS.
12	CL YLW SKIPS TO BE APPLIED AS SOON AS POSSIBLE (MUST BE APPLIED BEFORE CONTRACTOR LEAVES FOR THE DAY). THE CONTRACTOR WILL REMOVE ALL C/L SKIPS PRIOR TO THE FINAL PAINT STRIPING.
13	PERMANENT MARKINGS TO BE IN PLACE WITHIN 72 HOURS OF FINAL MAINLINE PAVING.
14	SEE SHEET 16 FOR TABULATIONS.
15	PAID AT THE CONTRACT PRICE <i>PER SQ FT</i> SHALL BE COMPENSATION IN FULL FOR ALL WORK, INSTALLATION, MATERIALS (INCLUDING CHANNEL POSTS) AND COSTS INVOLVED IN PERFORMING THE WORK AS SPECIFIED IN THIS PLAN. SEE SHEET 16 FOR QTY'S, AND SPECIAL PROVISIONS.
16	PAID AT THE CONTRACT PRICE <i>PER EACH</i> SHALL BE COMPENSATION IN FULL FOR ALL WORK, INSTALLATION, MATERIALS (INCLUDING CHANNEL POSTS) AND COSTS INVOLVED IN PERFORMING THE WORK AS SPECIFIED IN THIS PLAN. SEE SHEET 16 FOR QTY'S, AND SPECIAL PROVISIONS.

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

STANDARD PLATES	
PLATE NO.	DESCRIPTION
9350 A	MAILBOX SUPPORT (SWING AWAY TYPE)
80001	STANDARD BARRICADES

BASIS OF QUANTITIES	
ITEM	RATE
AGGREGATE SHOULDERING CLASS 5	LENGTH * WIDTH * DEPTH / 27 = CU YD * 1.8 CV
BITUMINOUS MATERIAL FOR TACK COAT	0.05 GALLONS / SQ YD
TYPE SP 12.5 WEARING COURSE MIX (4,E)	A-SQ YDS * D-INCHES * 115LBS / 2000 = TONS

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: <u>ANDREW WITTER</u> SIGNATURE: <u>[Signature]</u> DATE: <u>6/17/13</u> LICENSE NO. <u>42757</u>					DRAWN BY <u>JF</u> DATE <u>4/19/2013</u> DESIGN BY <u>JF</u> DATE <u>4/19/2013</u> CHECKED BY <u>GA</u> DATE <u>4/26/2013</u>		 ANOKA COUNTY HIGHWAY DEPT.		STATEMENT OF ESTIMATED QUANTITIES SP 002-620-008		Sheet <u>2</u> of <u>18</u> Sheets	
NO	DATE	BY	CKD	APPR	REVISION	NAME: P:\02-620-08\Plan\2_SEQ.dgn 06/11/2013 8:44:30 AM						

A REMOVE CONCRETE DRIVEWAY PAVEMENT	
LOCATION	SQ YDS
#3747 STA 47+25	9
#3611 STA 56+50	6
#3537 STA 60+90	10
TOTAL SQ YDS	25

B SAWING CONCRETE PAVEMENT FULL DEPTH	
LOCATION	LIN FT
#3747 STA 47+25	19
#3611 STA 56+50	12
#3537 STA 60+90	20
TOTAL LIN FT	51

C AGGREGATE BASE CLASS 5						
ADDRESS	STATION	LOC.				TONS
F.E.	11+30	RT				5
F.E.	27+60	RT				5
3927	36+25	LT				5
3910	36+35	RT				5
3915	37+10	LT				5
3815	44+05	LT				5
3620	56+25	RT				5
F.E.	58+10	RT				5
F.E.	71+90	LT				5
F.E.	72+90	RT				5
F.E.	78+10	RT				5
3301	78+25	LT				5
F.E.	78+80	RT				5
TOTAL TONS						65

D AGGREGATE SHOULDERING CLASS - 5						
MAINLINE	STATION	STATION	LENGTH	WIDTH	DEPTH	CU YDS
LEB	10+00	78+88	6888	2	0.17	87
LWB	10+00	78+88	6888	2	0.17	87
SUB CU YDS						173
(CV) FACTOR X						1.8
TOTAL TONS						312

E MILL BITUMINOUS SURFACE 2.0"						
ADDRESS	STATION	LOC.	LENGTH	WIDTH		SQ YDS
CSAH 20	10+00	CEN.	40	4		18
4345	11+10	LT	29	2		6
FOX ST	19+00	RT	60	4		27
FOX ST	19+00	LT	45	4		20
DAKOTA ST	25+90	RT	57	4		25
DAKOTA ST	25+90	LT	52	4		23
3970	32+00	RT	16	2		4
3935	34+25	LT	21	2		5
XENIA ST	41+50	LT	54	4		24
XENIA ST	41+50	RT	75	4		33
3740	47+20	RT	24	2		5
3724	49+15	RT	30	2		7
3705	50+25	LT	26	2		6
3676	54+15	RT	32	2		7
3611	55+50	LT	21	2		5
TULIP ST	58+00	LT	71	4		32
SILVEROD ST	61+60	RT	59	4		26
QUAY ST	67+90	RT	57	4		25
3339	73+15	LT	16	2		4
3340	73+30	RT	19	2		4
CSAH 20	78+88	CEN.	40	4		18
TOTAL SQ YDS						323

F BITUMINOUS MATERIAL FOR TACK						
STA	STA			SQ YDS	GAL/SQYD	GAL
10+00	78+88			30690	0.05	1534.5
ADDRESS	STA	LOC		SQ YDS		
4345	11+10	LT		15	0.05	0.8
FOX ST	19+00	RT		29	0.05	1.5
FOX ST	19+00	LT		22	0.05	1.1
DAKOTA ST	25+90	RT		28	0.05	1.4
DAKOTA ST	25+90	LT		26	0.05	1.3
3970	32+00	RT		8	0.05	0.4
3935	34+25	LT		11	0.05	0.6
XENIA ST	41+50	LT		28	0.05	1.4
XENIA ST	41+50	RT		36	0.05	1.8
3740	47+20	RT		12	0.05	0.6
3724	49+15	RT		15	0.05	0.8
3705	50+25	LT		14	0.05	0.7
3676	54+15	RT		16	0.05	0.8
3611	55+50	LT		11	0.05	0.6
TULIP ST	58+00	LT		23	0.05	1.2
SILVEROD ST	61+60	RT		16	0.05	0.8
QUAY ST	67+90	RT		15	0.05	0.8
3339	73+15	LT		9	0.05	0.5
3340	73+30	RT		11	0.05	0.6
TOTAL GAL						1552

G TYPE SP 12.5 WEARING COURSE MIX (4 , E)						
STA - STA	LENGTH	WIDTH	DEPTH "	SQ YDS	SQ YDS	TONS
10+00 - 78+88	6888	40	2	30690	30690	3529
ADDRESS	STA	LOC	DEPTH "	SQ YDS		TONS
4345	11+10	LT	2	15		2
FOX ST	19+00	RT	2	29		3
FOX ST	19+00	LT	2	22		3
DAKOTA ST	25+90	RT	2	28		3
DAKOTA ST	25+90	LT	2	26		3
3970	32+00	RT	2	8		1
3935	34+25	LT	2	11		1
XENIA ST	41+50	LT	2	28		3
XENIA ST	41+50	RT	2	36		4
3740	47+20	RT	2	12		1
3724	49+15	RT	2	15		2
3705	50+25	LT	2	14		2
3676	54+15	RT	2	16		2
3611	55+50	LT	2	11		1
TULIP ST	58+00	LT	2	23		3
SILVEROD ST	61+60	RT	2	16		2
QUAY ST	67+90	RT	2	15		2
3339	73+15	LT	2	9		1
3340	73+30	RT	2	11		1
(SQ YDS X INCHES X 115LBS) / 2000						TOTAL TONS 3569

H 6" CONCRETE DRIVEWAY PAVEMENT	
LOCATION	SQ YDS
#3747 47+25	9
#3611 56+50	6
#3537 60+90	10
TOTAL SQ YDS	25

I MAIL BOX SUPPORT				
ADDRESS	STA	DRWAY LOC		QTY
4345	11+10	LT		1
3970	32+00	RT		1
3935	34+25	LT		1
3927	36+30	LT		1
3910	36+40	RT		1
3915	37+10	LT		1
3815	44+10	LT		1
3747	47+20	LT		1
3740	47+20	RT		1
3724	49+15	RT		1
3705	50+25	LT		1
3676	54+15	RT		1
3611	55+50	LT		1
3620	56+75	RT		1
3537	60+90	LT		1
3339	73+15	LT		1
3340	73+30	RT		1
3301	78+25	LT		1
TOTAL UNITS				18

J PORTABLE CHANGEABLE MESSAGE BOARD		
2 UNITS @ 7 DAYS EACH = TOTAL UNIT DAYS		
		14

K REMOVABLE PREFORMED PLASTIC MARKINGS				
BEG. STA.	END STA.	LENGTH	DIV BY 50'	X 2'
10+00	78+88	6888	137.8	276
TOTAL LIN FT				276

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-620-08\Plan3_TABS.dgn 06/03/2013 8:21:11 AM

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: 6/17/13 LICENSE NO. 42757

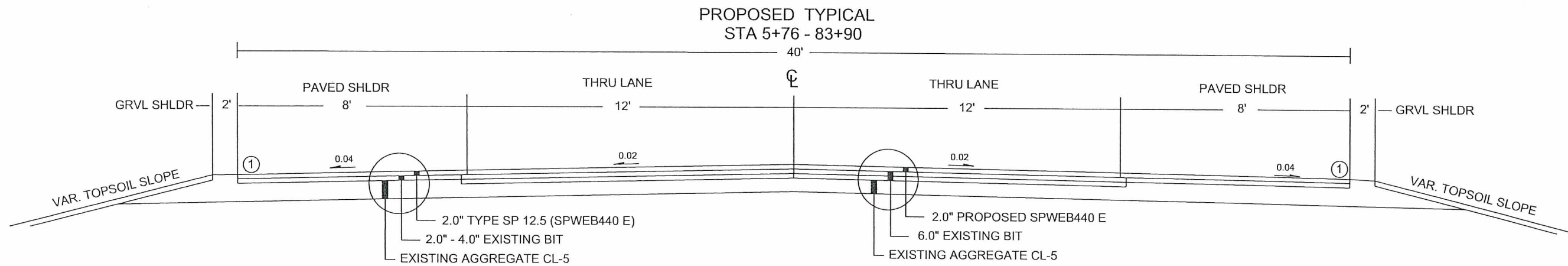
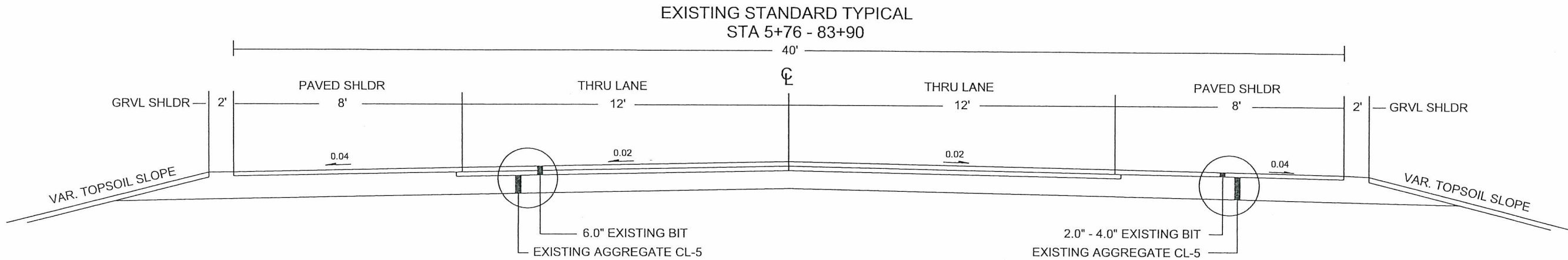
DRAWN BY: JF DATE: 4/19/2013
DESIGN BY: JF DATE: 4/19/2013
CHECKED BY: GA DATE: 4/26/2013



ANOKA COUNTY
HIGHWAY DEPT.

SP 002-620-008

TABULATIONS



① SEE SAFETY EDGE DETAIL SHEET 5

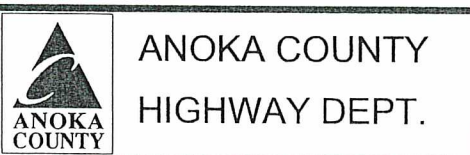
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-620-08\Plan4_TYPICALS.dgn 06/03/2013 8:24:10 AM

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: 6/7/13 LICENSE NO. 42757

DRAWN BY JF DATE 4/19/2013
DESIGN BY JF DATE 4/19/2013
CHECKED BY GA DATE 4/26/2013

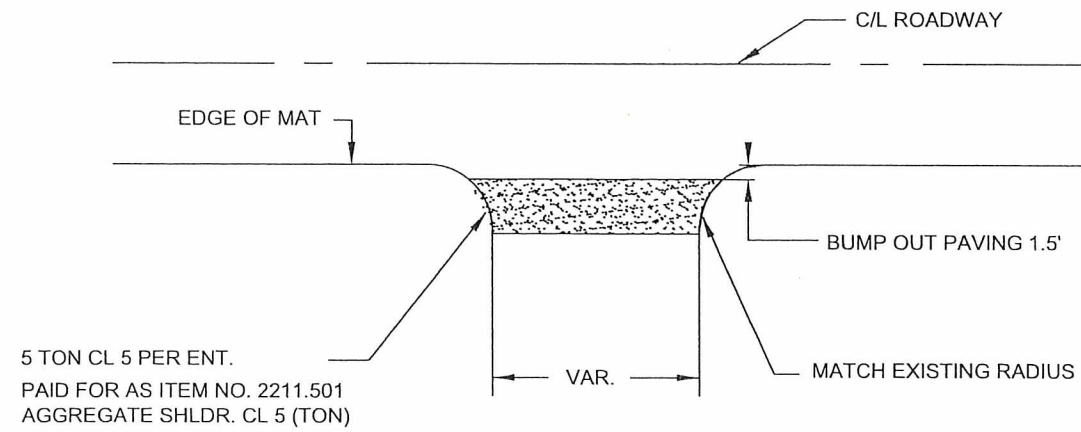


SP 002-620-008

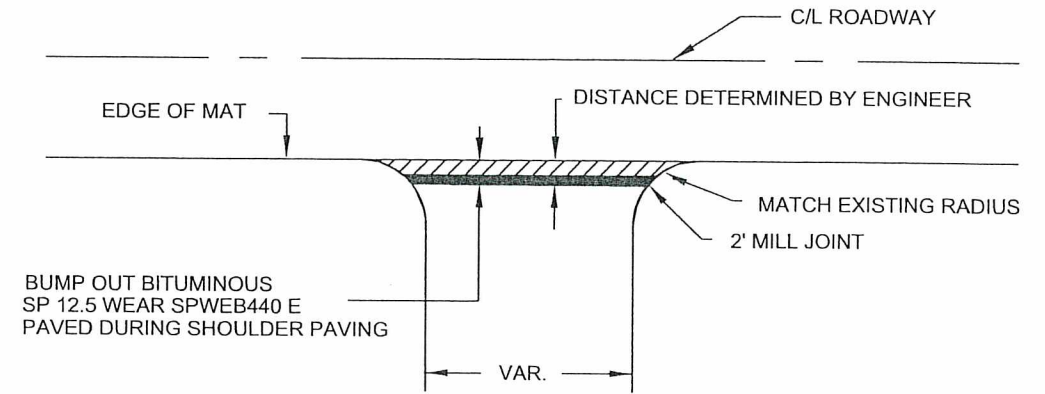
TYPICALS

Sheet 4 of 18 Sheets

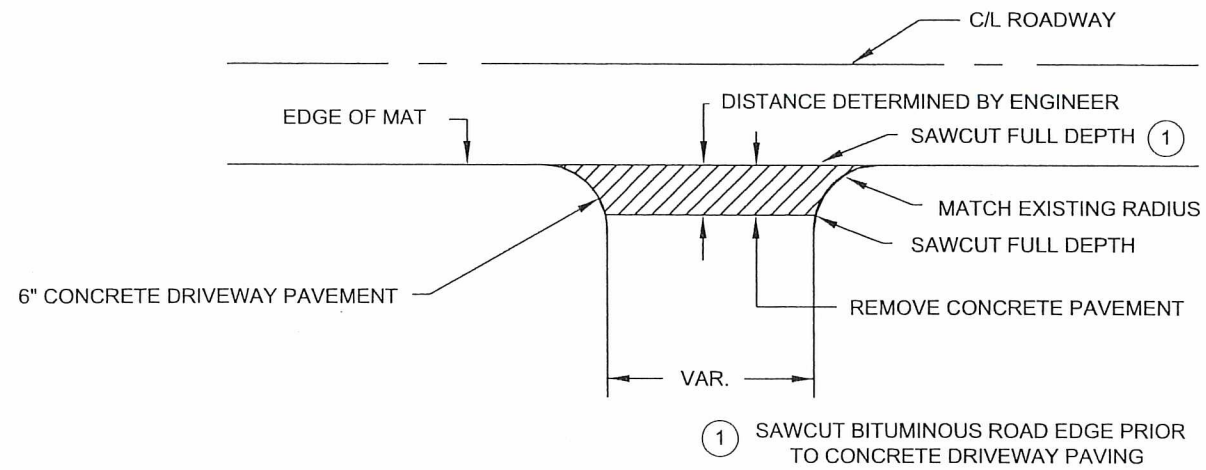
GRAVEL DR. WAYS AND FEILD ENT.
STA 5+76 - 83+90



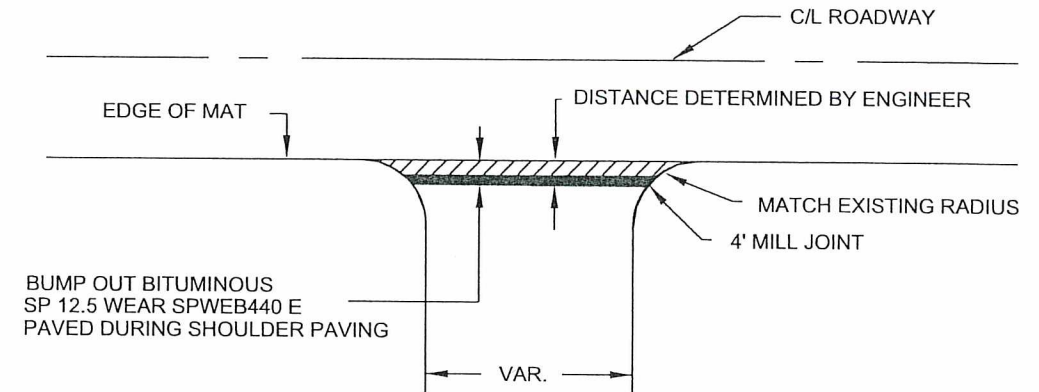
PAVED DR. WAYS
STA 5+76 - 83+90



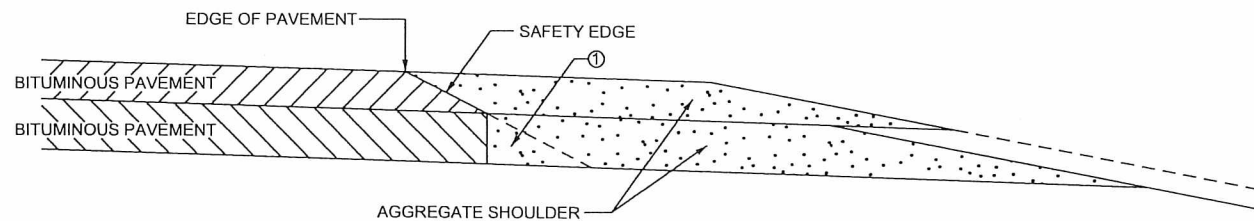
CONCRETE DR. WAYS
STA 5+76 - 83+90



PAVED STREET APPROACHES
STA 5+76 - 83+90



SAFETY EDGE



BITUMINOUS PAVEMENT
SAFETY EDGE TO BE USED IN ALL NON-CURB AREAS ON SHOULDER.

① OPTIONAL DESIGN EXTENDS SAFETY EDGE DEEPER THAN 6" AND WIDER THAN 10.5". SEE SPECIAL PROVISIONS.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-620-08\Plan\5_DETAILS.dgn 06/03/2013 8:26:02 AM

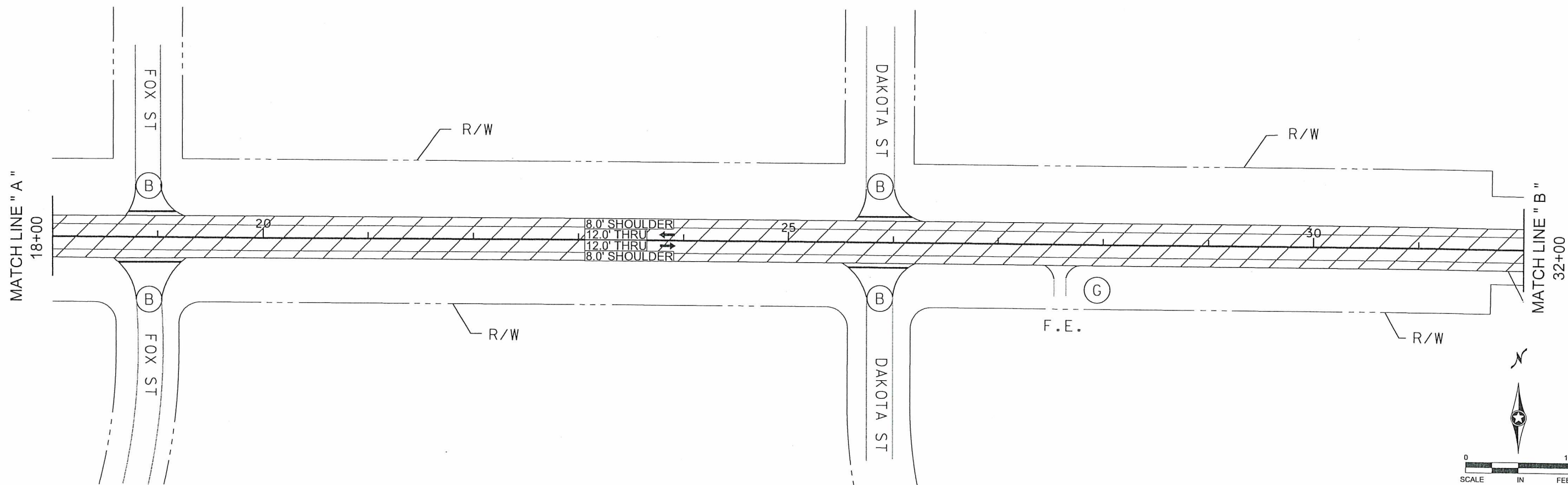
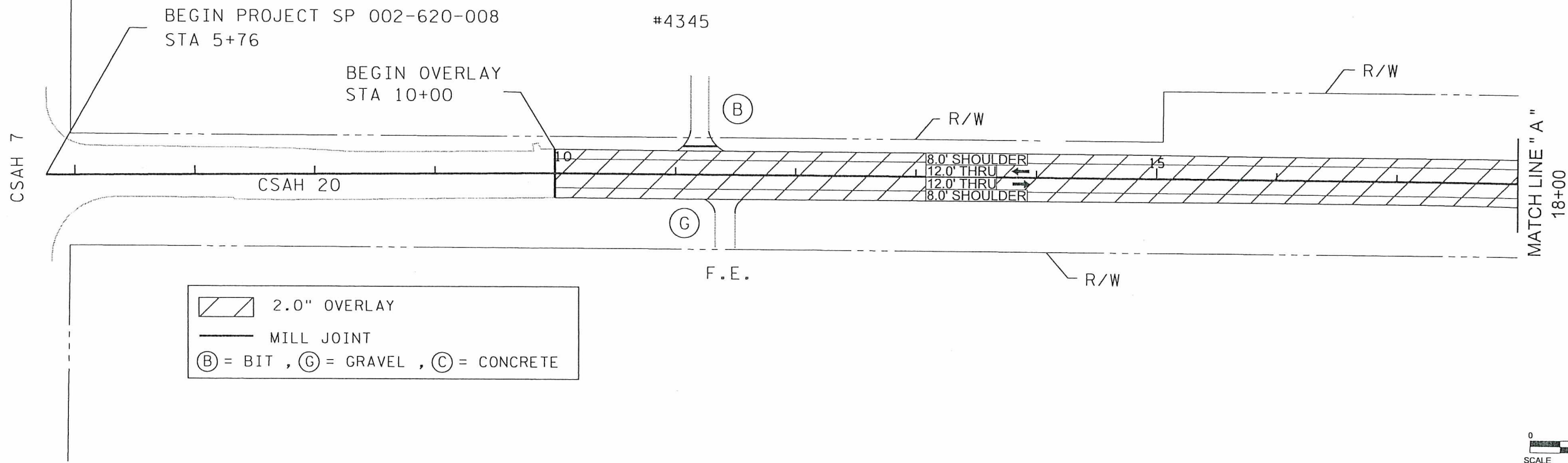
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: ANDREW WITTER
SIGNATURE: *Andrew Witter*
DATE: 4/17/13 LICENSE NO. 42757

DRAWN BY JF DATE 4/19/2013
DESIGN BY JF DATE 4/19/2013
CHECKED BY GA DATE 4/26/2013

ANOKA COUNTY
HIGHWAY DEPT.

SP 002-620-008

CONSTRUCTION DETAILS
Sheet 5 of 18 Sheets



NO	DATE	BY	CKD	APPR	REVISION


NAME: P:\02-620-08\Plan6_PLAN.dgn 06/03/2013 8:32:35 AM

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: 6/17/13 LICENSE NO. 42757

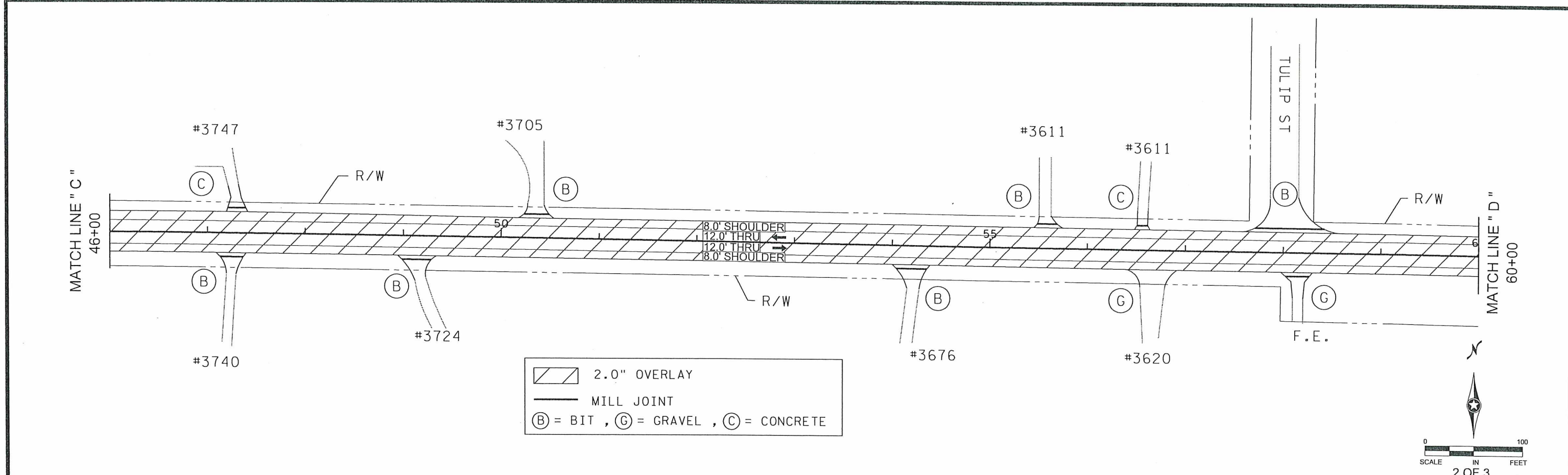
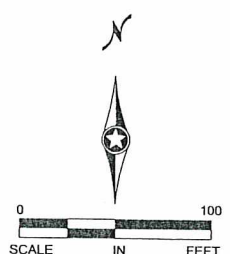
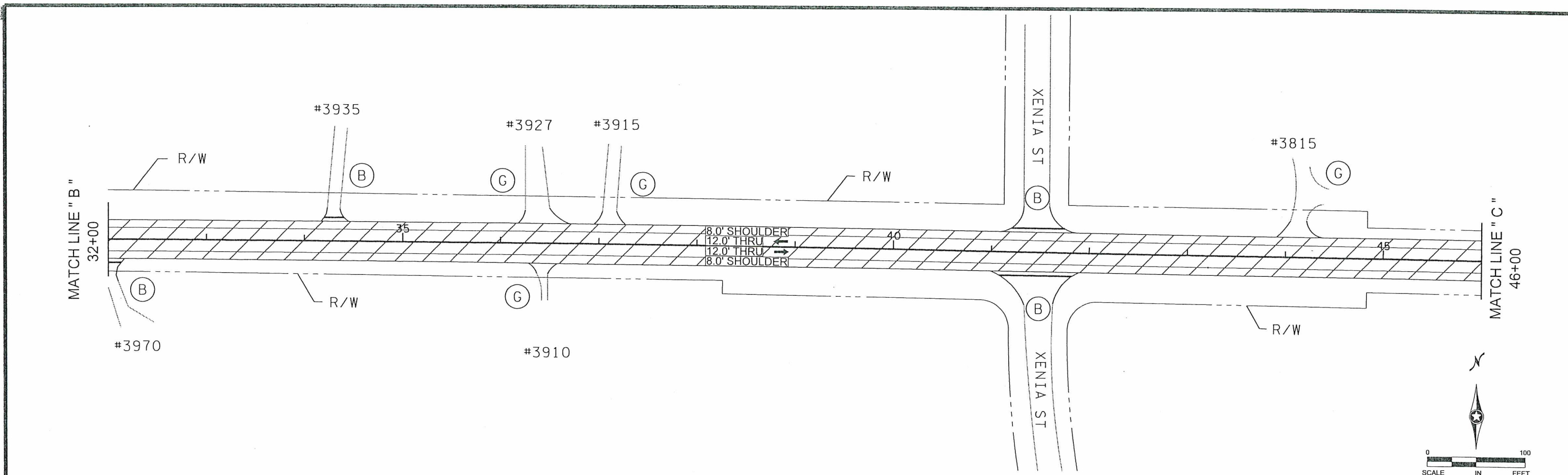
DRAWN BY: JF DATE: 4/19/2013
 DESIGN BY: JF DATE: 4/19/2013
 CHECKED BY: GA DATE: 4/22/2013

ANOKA COUNTY
HIGHWAY DEPT.

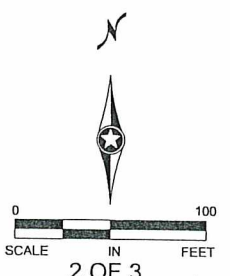


SP 002-620-008

PLAN
 STA 5+76 TO 32+00
 Sheet 6 of 18 Sheets



2.0" OVERLAY
 MILL JOINT
 (B) = BIT, (G) = GRAVEL, (C) = CONCRETE



NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-620-08\Plan6_PLAN.dgn					
06/03/2013 8:27:19 AM					

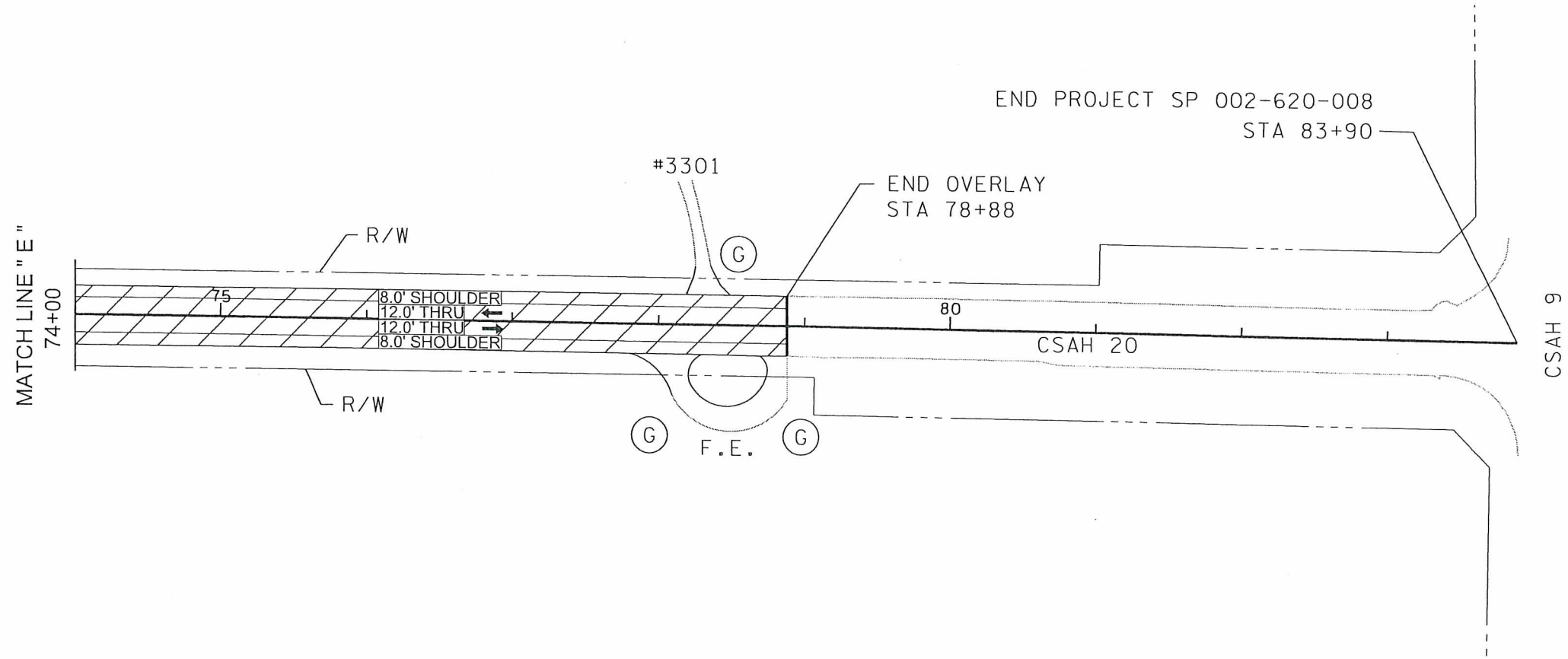
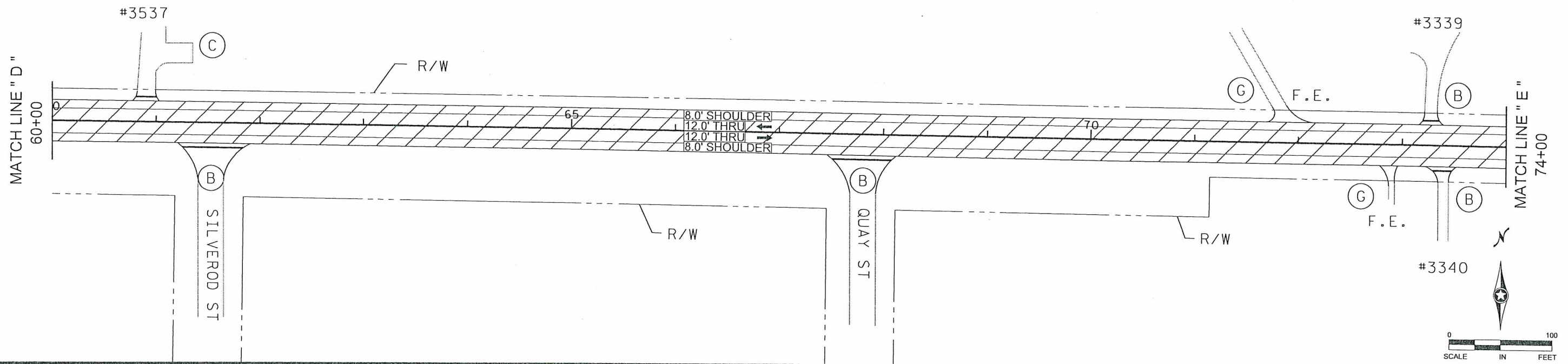
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: ANDREW WITTER
 SIGNATURE: *Andrew Witter*
 DATE: 6/17/13 LICENSE NO. 42757



DRAWN BY: JF DATE: 4/19/2013
 DESIGN BY: JF DATE: 4/19/2013
 CHECKED BY: GA DATE: 4/22/2013

ANOKA COUNTY
 HIGHWAY DEPT.

SP 002-620-008

PLAN
 STA 32+00 TO 60+00
 Sheet 7 of 18 Sheets




 2.0" OVERLAY
 MILL JOINT
 (B) = BIT , (G) = GRAVEL , (C) = CONCRETE

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-620-08\Plan6_PLAN.dgn 06/03/2013 8:32:47 AM

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: 6/17/13 LICENSE NO. 42757

DRAWN BY: JF DATE: 4/19/2013
 DESIGN BY: JF DATE: 4/19/2013
 CHECKED BY: GA DATE: 4/22/2013


ANOKA COUNTY
HIGHWAY DEPT.

SP 002-620-008

PLAN
 STA 60+00 TO 83+90
 Sheet 8 of 18 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 EPOLY 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 APPLICAITON 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 FILD 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.

PERMANENT PAVEMENT MARKING QUANTITIES		
Item	Quantity	Units
4" Solid Line White - Epoxy	15270	Lin Ft
4" Solid Line Yellow - Epoxy	4330	Lin Ft
4" Broken Line Yellow - Epoxy (10 ft stripe / 40 ft gap)	1300	Lin Ft
4" Double Solid Line Yellow - Epoxy	1250	Lin Ft

SYMBOLS & MATERIALS LEGEND

█ CROSSWALK BLOCK WHITE PREFORMED THERMOPLASTIC

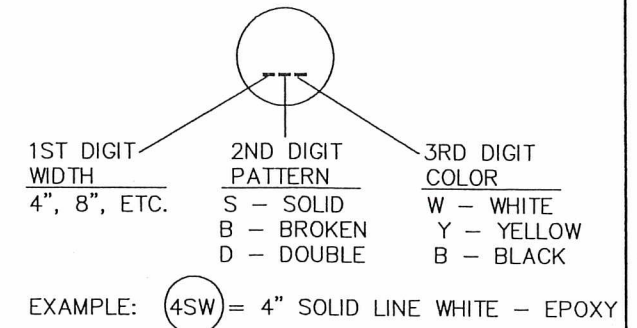
↩ PAVEMENT MESSAGE (LEFT ARROW) PREFORMED THERMOPLASTIC

STRIPING KEY

○ CIRCLE - EPOXY □ SQUARE PREFORMED THERMOPLASTIC

△ TRIANGLE - PAINT

⬠ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

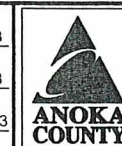


NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-620-008\Base\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: 4/13/13 LICENSE NO. 42757

DRAWN BY: MTH DATE 5/03/2013
 DESIGN BY: MTH DATE 5/13/2013
 CHECKED BY: JR DATE 05/xx/2013



ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-620-008

PERMANENT MARKING
TABULATION

Sheet 9 of 18 Sheets

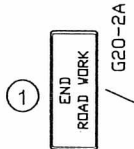
NOTES:

- 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.
- CONTRACTOR SHALL SUPPLY AND ERECT THE TEMPORARY TRAFFIC CONTROL SIGNS AS SHOWN ON THIS DRAWING AND DETAILED IN THE SPECIAL PROVISIONS FROM THE TIME WORK COMMENCES ON THIS ROADWAY UNTIL THIS ROADWAY IS PERMANENTLY STRIPED. ALL NECESSARY TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE PAID FOR AS PART OF TRAFFIC CONTROL LUMP SUM.

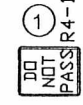
CSAH 7 (7th Ave)
Begin Project SP 002-620-008
Sta 5+76

BEGIN STRIPING

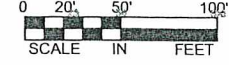
CMS signs to be installed a minimum of seven days prior to actual commencement of road work. Signs to be removed when road work begins.



G20-2A



Fox St



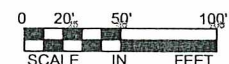
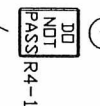
CSAH 20 (157th Ave)

STATION 21+00

SIGNING NOTES:
① TEMPORARY TRAFFIC CONTROL SIGN

STATION 21+00

Dakota St



CSAH 20 (157th Ave)

STATION 36+00

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-620-008\Base\TRAFFIC\02-620-008_Temporary_Signing.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: *Andrew Witter*
DATE: 6/17/13 LICENSE NO. 42757

DRAWN BY: MTH DATE 05/03/13
DESIGN BY: MTH DATE 05/03/13
CHECKED BY: RB DATE 05/20/13



ANOKA COUNTY
HIGHWAY DEPT.

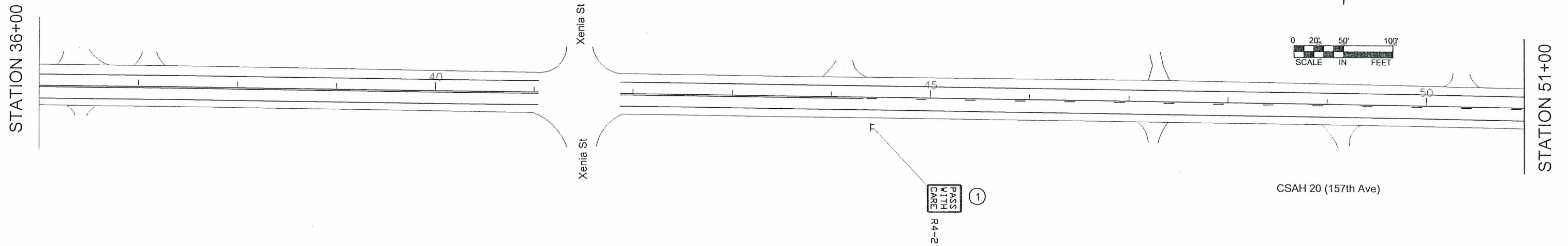
SP 002-620-008

TEMPORARY SIGNING
PLAN

Sheet 10 of 18 Sheets

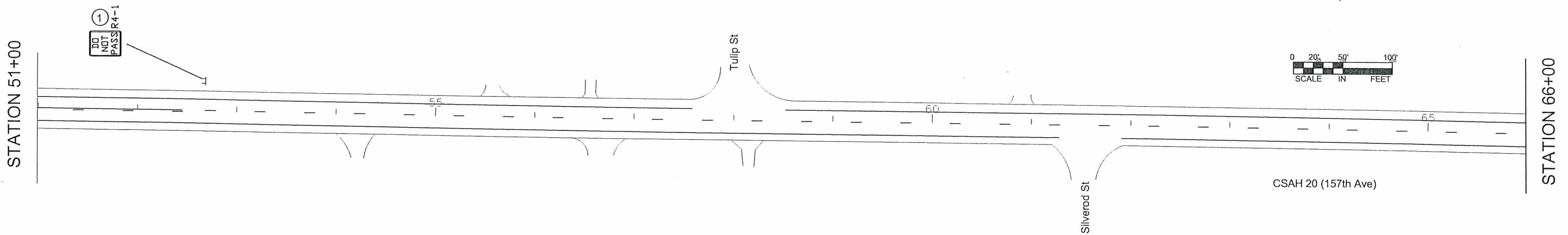
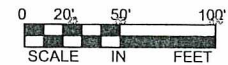
NOTES:

- 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.
- CONTRACTOR SHALL SUPPLY AND ERECT THE TEMPORARY TRAFFIC CONTROL SIGNS AS SHOWN ON THIS DRAWING AND DETAILED IN THE SPECIAL PROVISIONS FROM THE TIME WORK COMMENCES ON THIS ROADWAY UNTIL THIS ROADWAY IS PERMANENTLY STRIPED. ALL NECESSARY TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE PAID FOR AS PART OF TRAFFIC CONTROL LUMP SUM.



SIGNING NOTES:

- ① TEMPORARY TRAFFIC CONTROL SIGN



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-620-008\Base\TRAFFIC\02-620-008_Temporary Signing.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: *Andrew Witter*
 DATE: 6/17/13 LICENSE NO. 42757

DRAWN BY: MTH DATE 05/03/13
 DESIGN BY: MTH DATE 05/03/13
 CHECKED BY: RB DATE 05/20/13



ANOKA COUNTY
 HIGHWAY DEPT.

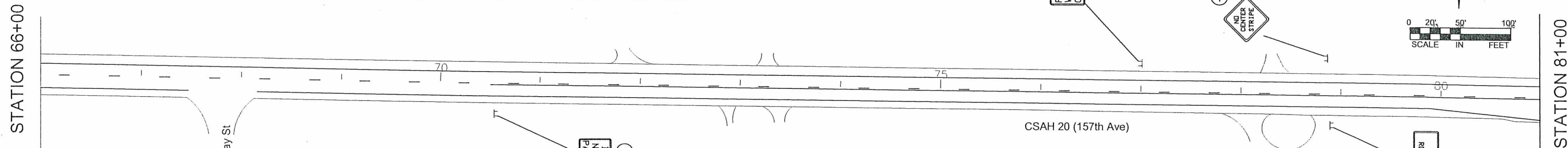
SP 002-620-008

TEMPORARY SIGNING
 PLAN

NOTES:

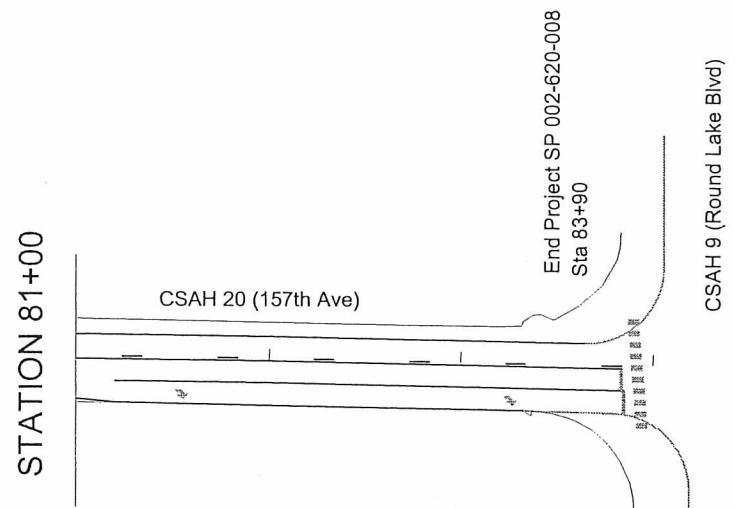
- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- CONTRACTOR SHALL COMPLY WITH THE LONGITUDINAL DROP-OFF GUIDELINES AS PER THE 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.
- CONTRACTOR SHALL SUPPLY AND ERECT THE TEMPORARY TRAFFIC CONTROL SIGNS AS SHOWN ON THIS DRAWING AND DETAILED IN THE SPECIAL PROVISIONS FROM THE TIME WORK COMMENCES ON THIS ROADWAY UNTIL THIS ROADWAY IS PERMANENTLY STRIPED. ALL NECESSARY TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE PAID FOR AS PART OF TRAFFIC CONTROL LUMP SUM.

CMS signs to be installed a minimum of seven days prior to actual commencement of road work. Signs to be removed when road work begins.



TEMPORARY TRAFFIC CONTROL SIGNS

M.U.T.C.D. CODE	SIZE	PANEL AREA FT. ²	INSERT	QUANTITY		MOUNTING HEIGHT (To pavement edge) FT.
				No.	POST	
W8-12	48" x 48"	16.00	NO CENTER STRIPE	2	2	7.0'
R4-1	24" x 30"	5.00	DO NOT PASS R4-1	4	1	7.0'
R4-2	24" x 30"	5.00	PASS WITH CARE R4-2	4	1	7.0'
W8-1A	48" x 48"	16.00	BUMP AHEAD W8-1A	AS NEEDED		
W8-1A	48" x 48"	16.00	BUMP W8-1A	AS NEEDED		
W8-8	48" x 48"	16.00	ROUGH ROAD W8-8	AS NEEDED		
W8-11	48" x 48"	16.00	UNEVEN LANES W8-11	AS NEEDED		
CMS signs to be installed a minimum of seven days prior to actual commencement of road work. Signs to be removed when road work begins.					2	
G20-2A	48" x 24"	8.00	END ROAD WORK		2	



NO	DATE	BY	CKD	APPR	REVISION

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: 6/17/13 LICENSE NO. 42757

DRAWN BY: MTH DATE 05/03/13
 DESIGN BY: MTH DATE 05/03/13
 CHECKED BY: RB DATE 05/20/13

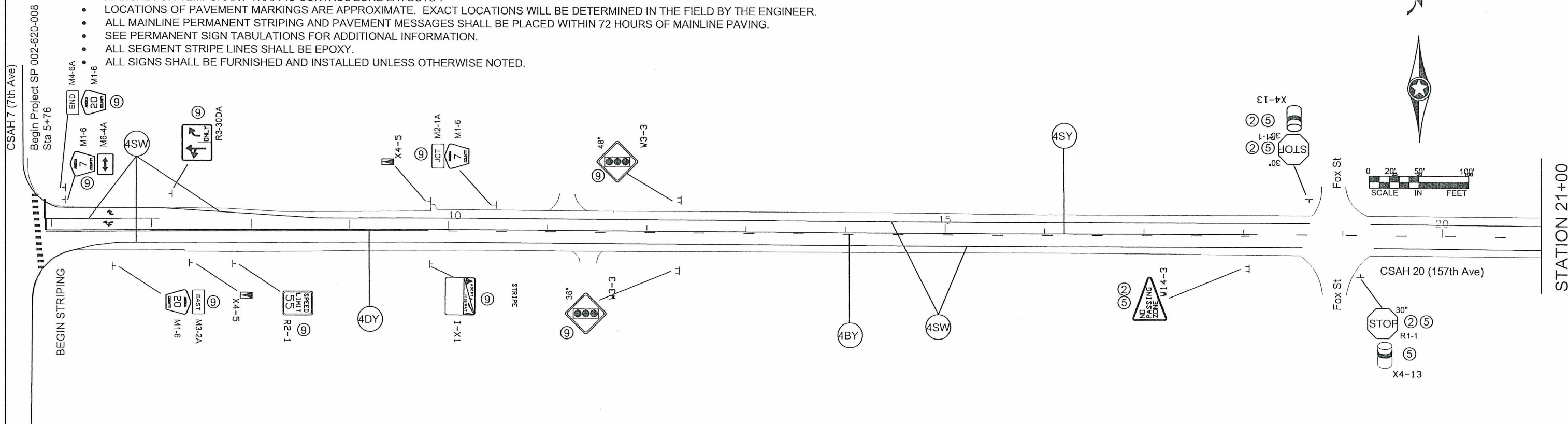
ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-620-008

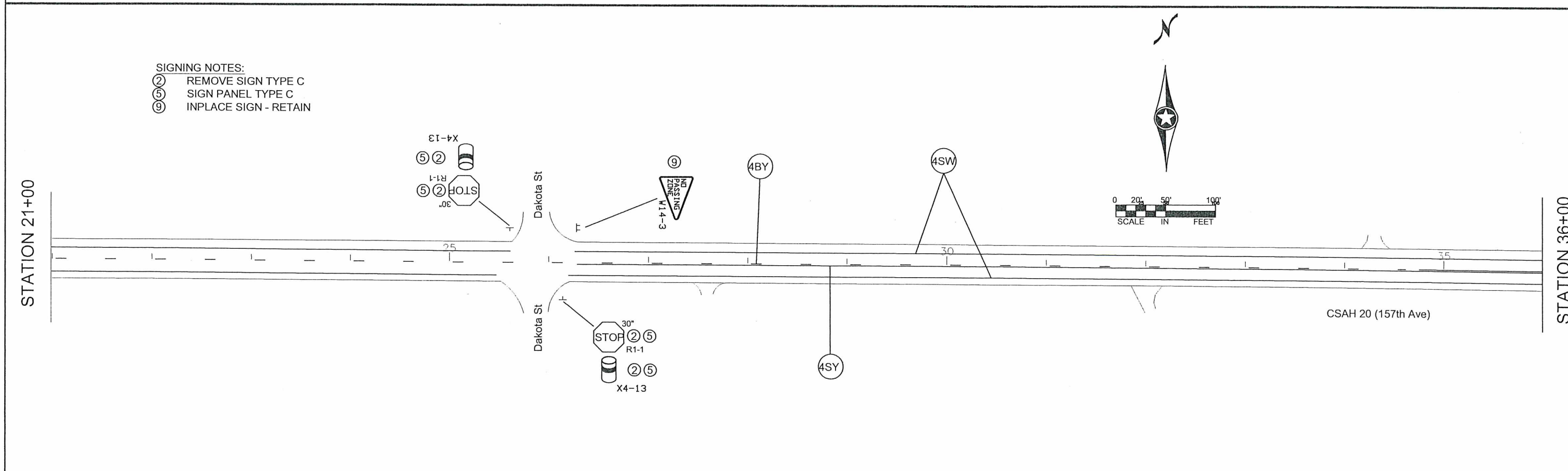
TEMPORARY SIGNING PLAN
 Sheet 12 of 18 Sheets

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".
- LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- ALL MAINLINE STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
- SEE PERMANENT SIGN TABULATIONS FOR ADDITIONAL INFORMATION.
- ALL SEGMENT STRIPE LINES SHALL BE EPOXY.
- ALL SIGNS SHALL BE FURNISHED AND INSTALLED UNLESS OTHERWISE NOTED.



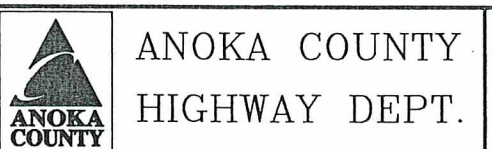
- SIGNING NOTES:
- ② REMOVE SIGN TYPE C
 - ⑤ SIGN PANEL TYPE C
 - ⑨ INPLACE SIGN - RETAIN



NO	DATE	BY	CKD	APPR	REVISION

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: 6/17/13 LICENSE NO. 42757

DRAWN BY: MTH DATE 05/03/13
 DESIGN BY: MTH DATE 05/03/13
 CHECKED BY: RB DATE 05/23/13



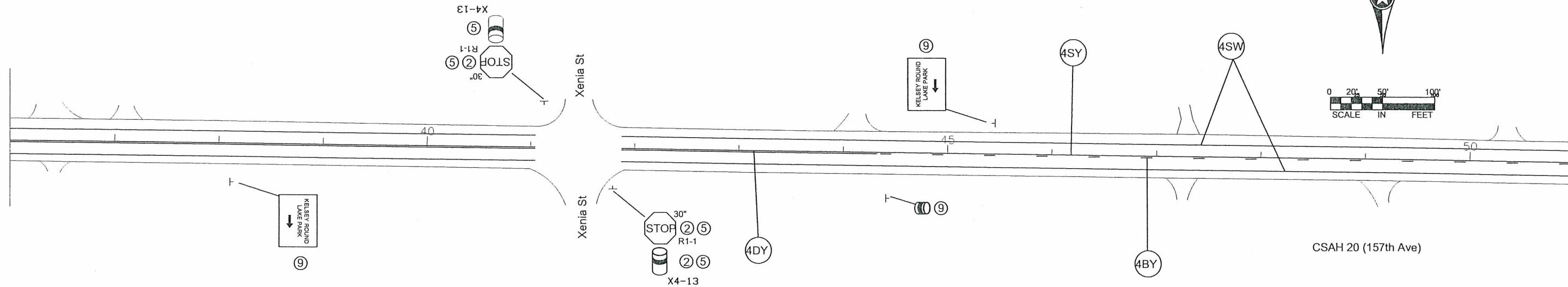
SP 002-620-008

PERMANENT SIGNING & STRIPING PLAN
 Sheet 13 of 18 Sheets

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".
- LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- ALL MAINLINE PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
- SEE PERMANENT SIGN TABULATIONS FOR ADDITIONAL INFORMATION.
- ALL SEGMENT STRIPE LINES SHALL BE EPOXY.
- ALL SIGNS SHALL BE FURNISHED AND INSTALLED UNLESS OTHERWISE NOTED.

STATION 36+00



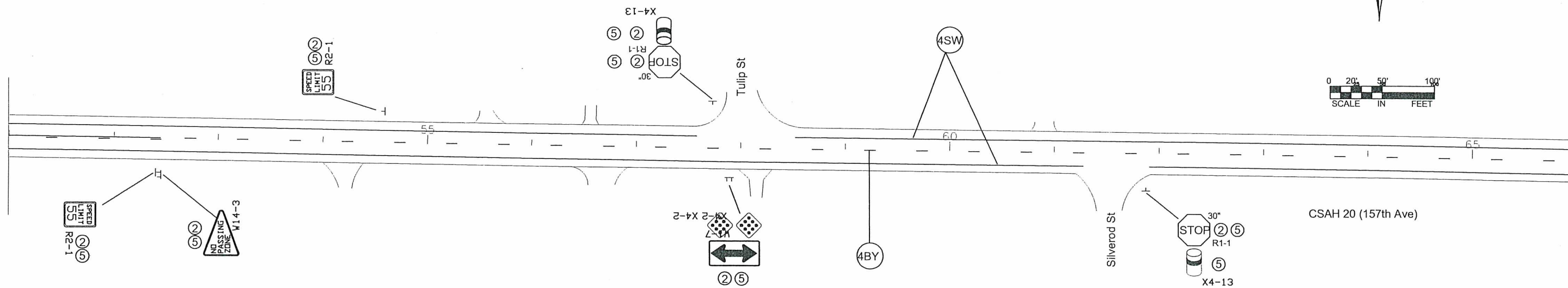
STATION 51+00

CSAH 20 (157th Ave)

SIGNING NOTES:

- ② REMOVE SIGN TYPE C
- ⑤ SIGN PANEL TYPE C
- ⑨ INPLACE SIGN - RETAIN

STATION 51+00



STATION 66+00

CSAH 20 (157th Ave)

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-620-008\Base\TRAFFIC\02-620-008_Permanent Signing & Striping Plan.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: *Andrew Witter*
 DATE: 6/17/13 LICENSE NO. 42757

DRAWN BY: MTH DATE 05/03/13
 DESIGN BY: MTH DATE 05/03/13
 CHECKED BY: RB DATE 05/23/13



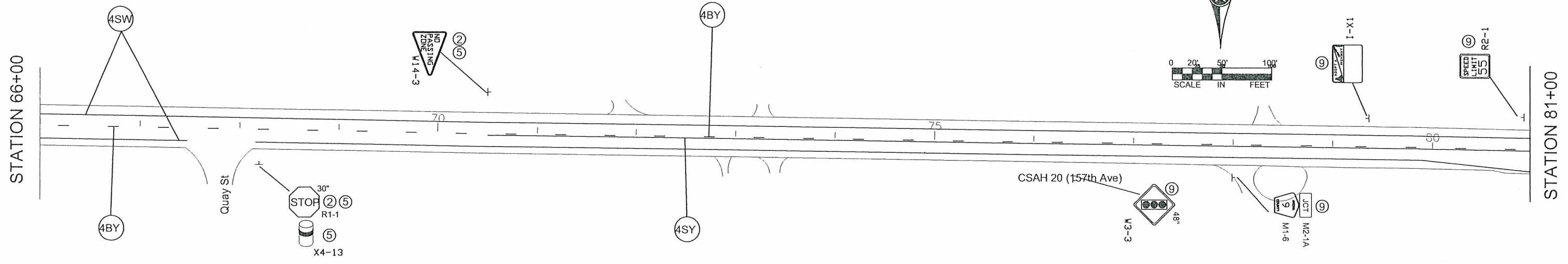
ANOKA COUNTY
 HIGHWAY DEPT.

SP 002-620-008

PERMANENT SIGNING &
 STRIPING PLAN

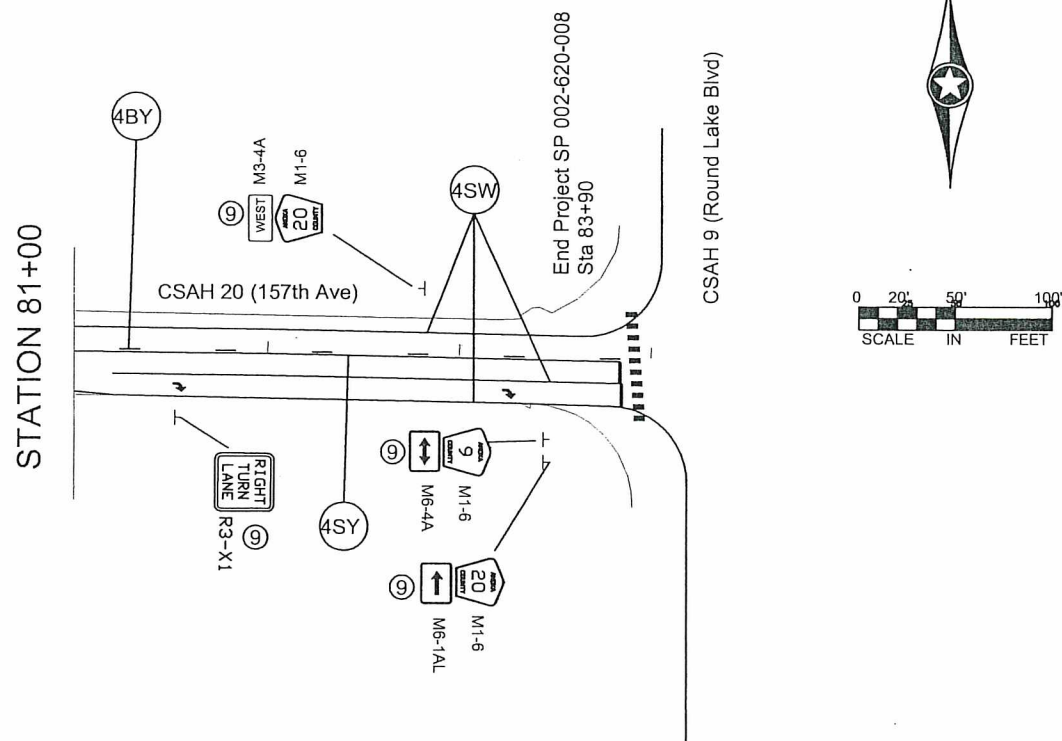
NOTES:

- 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".
- LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- ALL MAINLINE PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
- SEE PERMANENT SIGN TABULATIONS FOR ADDITIONAL INFORMATION.
- ALL SEGMENT STRIPE LINES SHALL BE EPOXY.
- ALL SIGNS SHALL BE FURNISHED AND INSTALLED UNLESS OTHERWISE NOTED.



SIGNING NOTES:

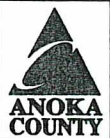
- ② REMOVE SIGN TYPE C
- ⑤ SIGN PANEL TYPE C
- ⑨ INPLACE SIGN - RETAIN



NO	DATE	BY	CHKD	APPR	REVISION
NAME: P:\002-620-008\Base\TRAFFIC\02-620-008_Permanent Signing & Striping Plan.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: *Andrew Witter*
 DATE: 6/11/13 LICENSE NO. 42757

DRAWN BY: MTH DATE 05/03/13
 DESIGN BY: MTH DATE 05/03/13
 CHECKED BY: RB DATE 05/23/13









ANOKA COUNTY
 HIGHWAY DEPT.

SP 002-620-008

PERMANENT SIGNING &
 STRIPING PLAN

Sheet 15 of 18 Sheets

SIGN REMOVAL AND PERMANENT MARKER SIGNS TABULATION							
STATION		REMOVE SIGN TYPE C	INSTALL DELINEATOR TYPE X4-13	INSTALL HAZARD MARKER X4-2	INSTALL CLEARANCE MARKER X4-4	INSTALL SNOW PLOW MARKER X4-5	SIGN NUMBER
		EACH	EACH	EACH	EACH	EACH	
18+00	Rt	1					W14-3
18+75	Lt	1	1				R1-1 X4-13
19+10	Rt	1	1				R1-1 X4-13
25+50	Lt	1	1				R1-1 X4-13
26+10	Rt	1	1				R1-1 X4-13
41+10	Lt	1	1				R1-1 X4-13
41+75	Rt	1	1				R1-1 X4-13
52+50	Rt	1					R2-1 W14-3
54+70	Lt	1					R2-1
57+80	Lt	1	1				R1-1 X4-13
57+80	Rt	1		1			W1-7 X4-2 X4-2
61+80	Rt	1	1				R1-1 X4-13
68+10	Rt	1	1				R1-1 X4-13
70+50	Lt	1					W14-3
TOTAL		14	9	2	0	0	

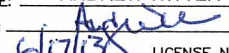
SIGN PANELS TYPE C						
M.U.T.C.D. CODE	SIZE	PANEL AREA FT. ²	INSERT	QUANTITY	No. POST	MOUNTING HEIGHT to Post Top (each) FT.
R1-1	30" X 30"	6.25		9	1	7.0'
X4-13	4" X 13"			9		
R2-1	24" X 30"	5.00		2	1	7.0'
W1-7	24" X 48"	8.00		1	2	7.0'
X4-2	18" X 18"	2.25		2		7.0'
W14-3	48" X 36"	6.00		3	2	7.0'

SIGN PANELS TYPE C						
SIGN DESIGNATION	SIGN SIZE	SIZE AREA (FT ²)	Total Installations	Total Area (ft ²)	Posts per Installation	Notes
R1-1	30" x 30"	6.25	9	56.25	1	
X4-13	4" x 13"	1.31	9	0	0	A, C
R2-1	24" x 30"	5	2	10	1	
W1-7	24" x 48"	8	1	8	2	
X4-2	18" x 18"	2.25	2			B
W14-3	48" x 36"	6	3	18	2	
Project Totals			26	92.25		

NOTES: This table illustrates quantities for F&I new type "C" signs only.

- A Delineator mounted below R1-1 sign post assembly
- B X4-2 paid for via pay item 2564.552 by the EACH
- C X4-13 paid for via pay item 2564.550 by the EACH

NO	DATE	BY	CKD	APPR	REVISION

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: 
 DATE: 6/17/13 LICENSE NO. 42757

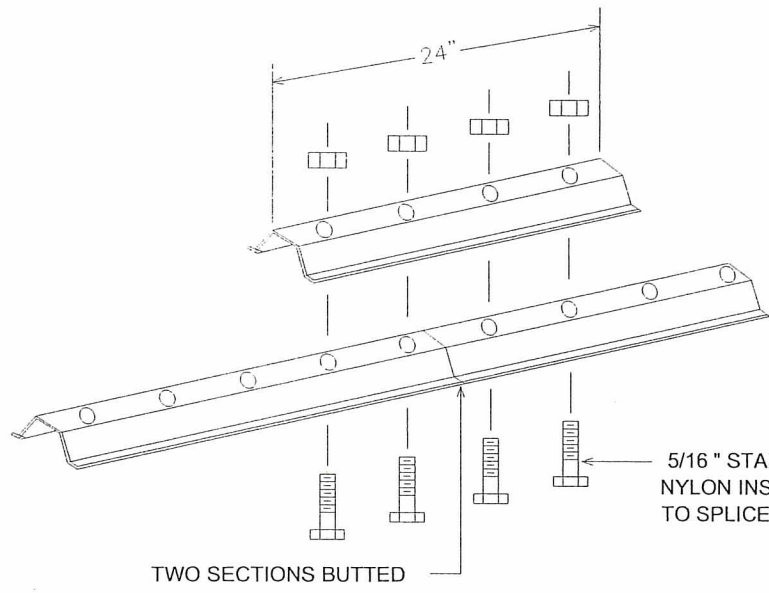
DRAWN BY: MTH DATE 05/03/13
 DESIGN BY: MTH DATE 05/03/13
 CHECKED BY: RB DATE 05/23/13



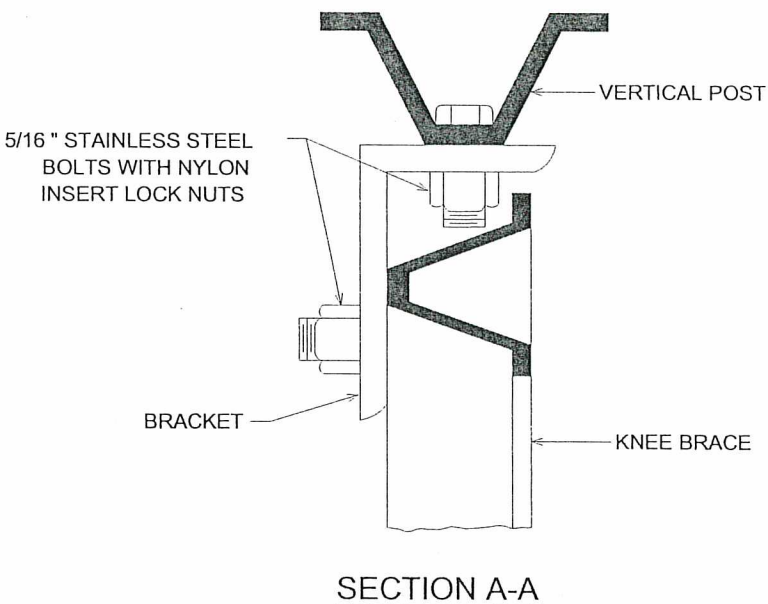
ANOKA COUNTY
 HIGHWAY DEPT.

SP 002-620-008

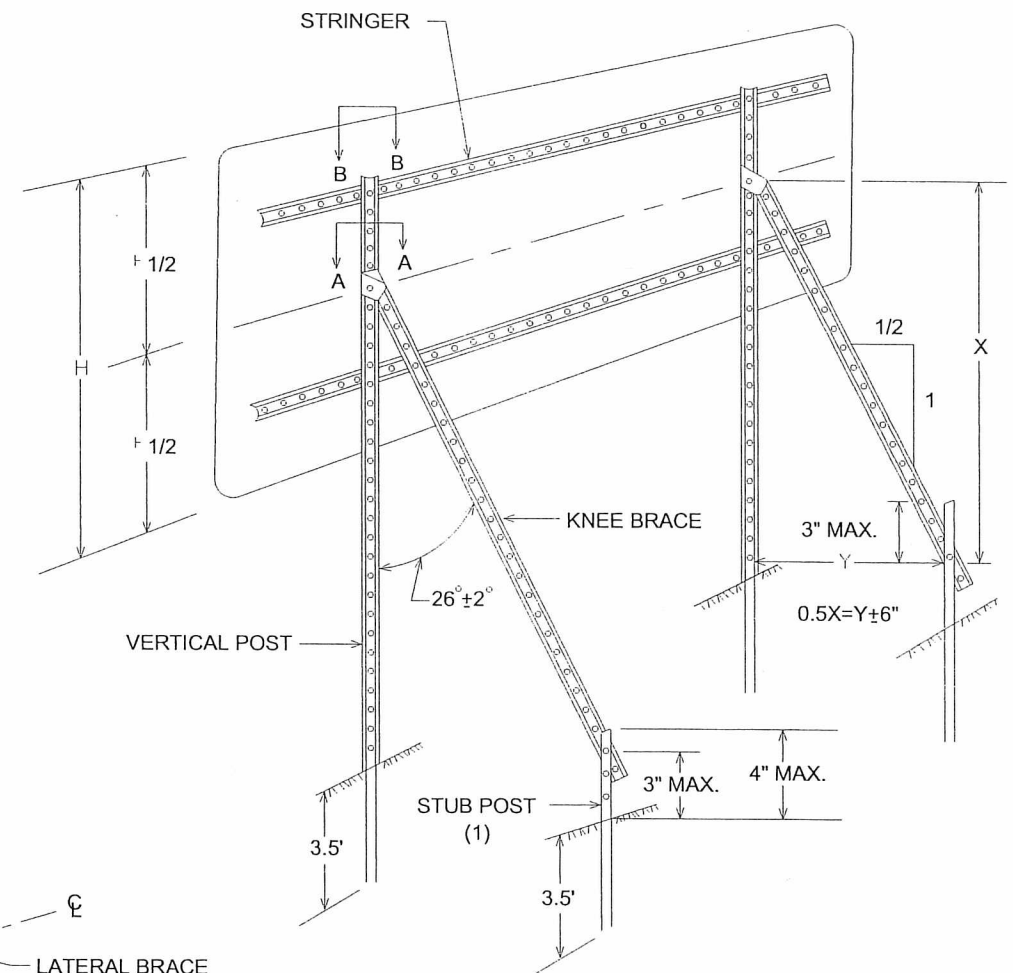
PERMANENT SIGNING
 TABULATION



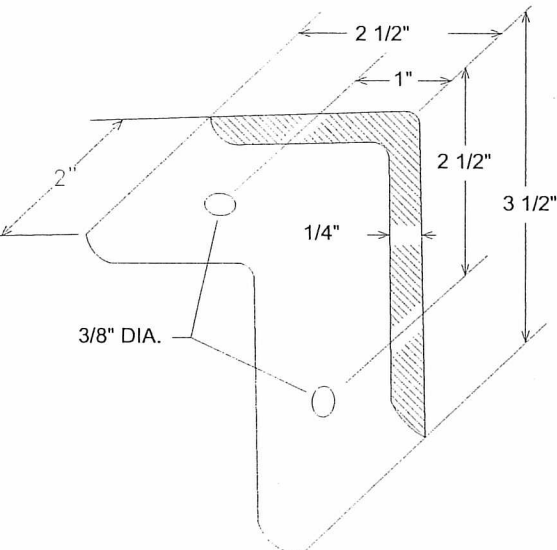
LATERAL BRACE OR STRINGER
SPLICE DETAIL (EXPLODED VIEW)



SECTION A-A

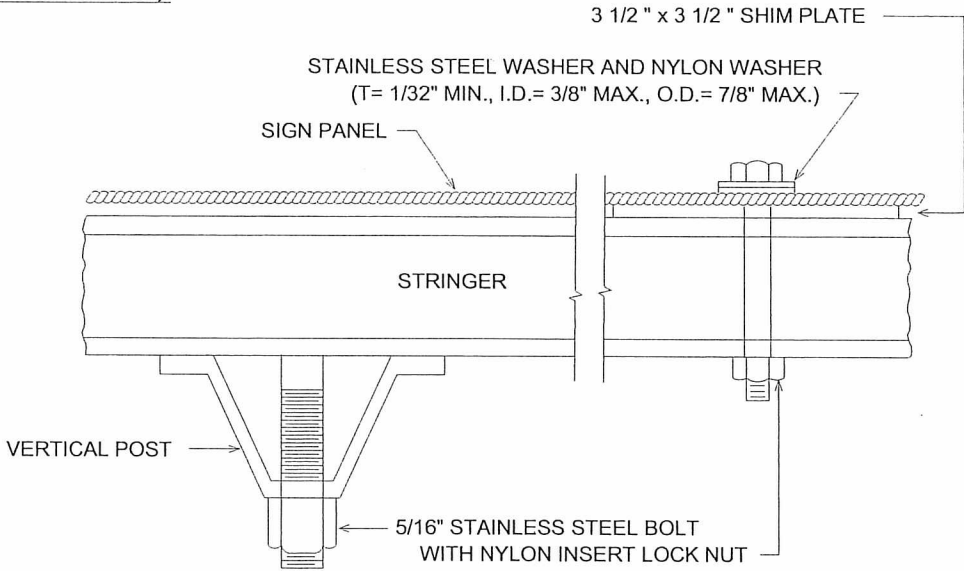


TYPICAL "A-FRAME" INSTALLATION
TYPE "D" SIGNS

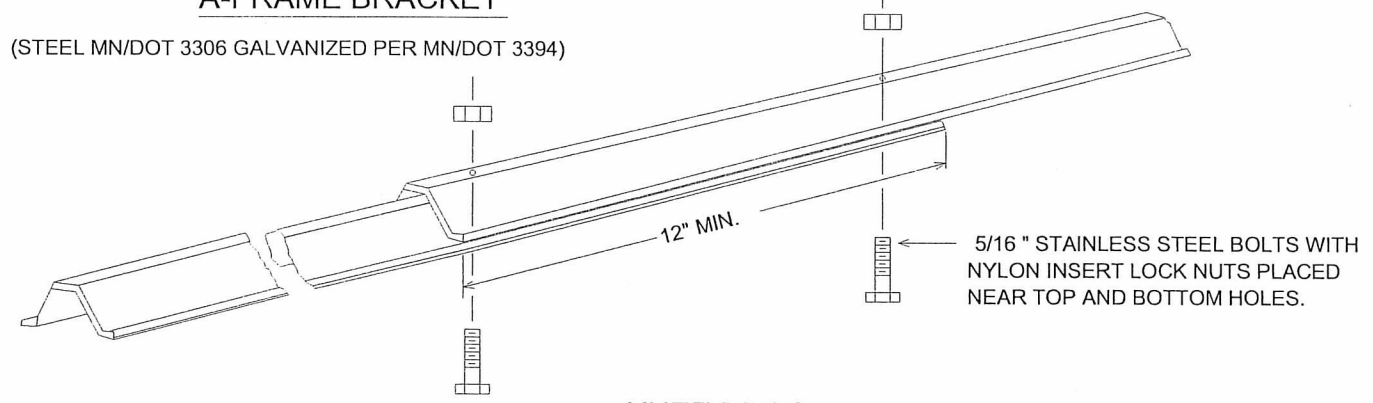


A-FRAME BRACKET

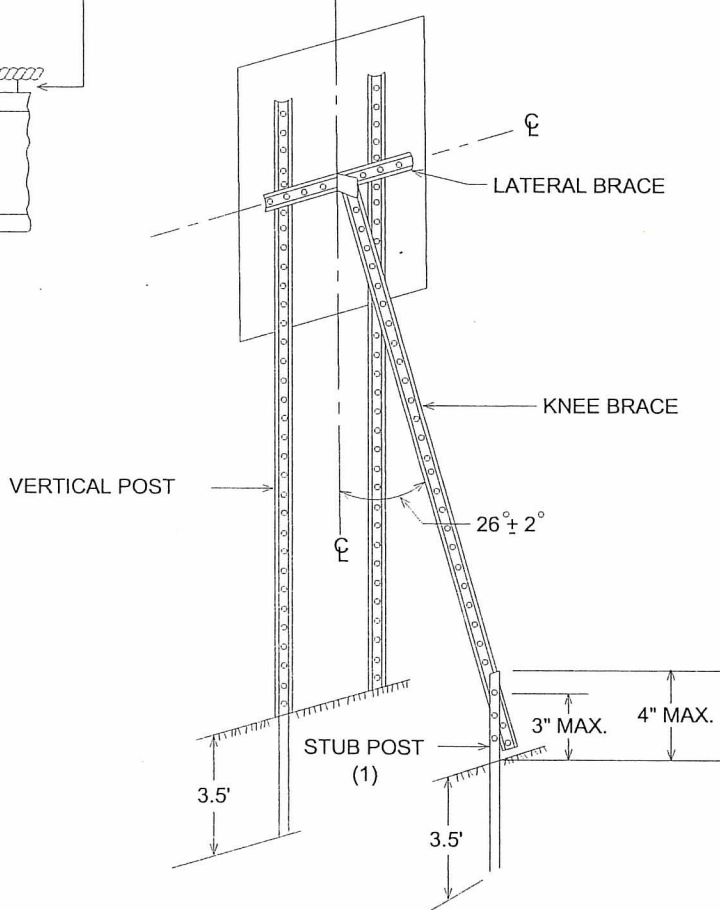
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



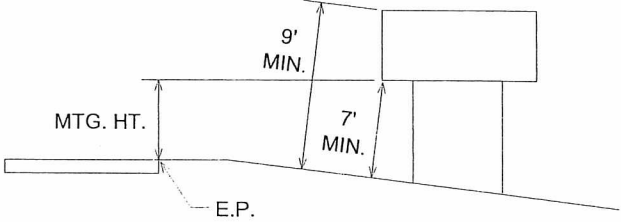
SECTION B-B



KNEE BRACE SPLICE



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



TYPICAL MOUNTING

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

TYPE C & D SIGN
STRUCTURAL DETAILS

NO	DATE	BY	CHKD	APPR	REVISION

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: 6/17/13 LICENSE NO. 42757

DRAWN BY MTH DATE 2-10-13
 DESIGN BY MTH DATE 2-10-13
 CHECKED BY RB DATE 5-20-13



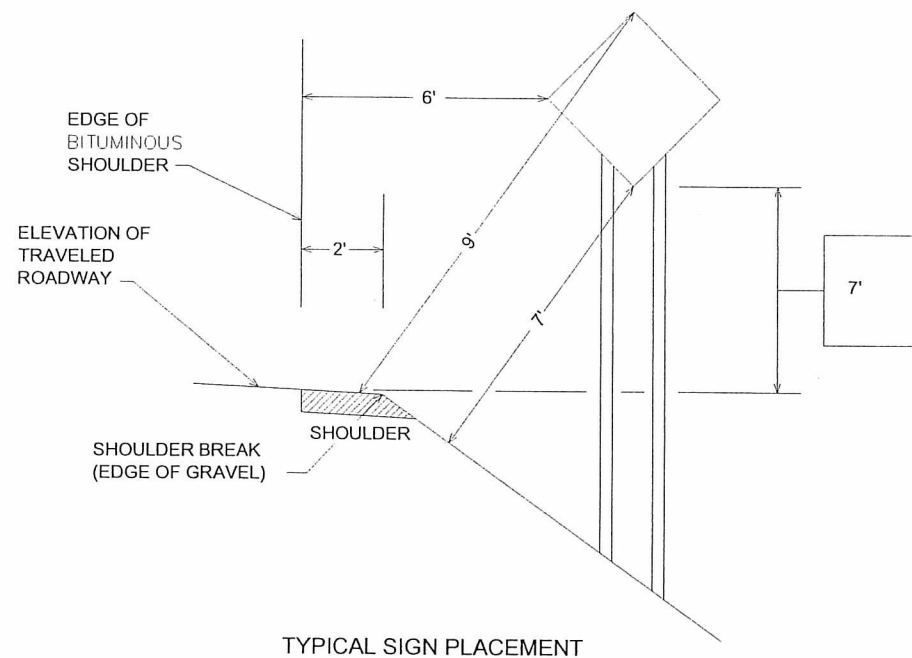
ANOKA COUNTY
HIGHWAY DEPT.

SP 002-620-008

SIGNING & STRIPING DETAILS

Sheet 17 of 18 Sheets

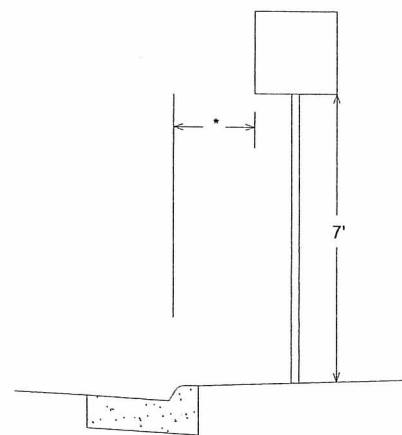
RURAL



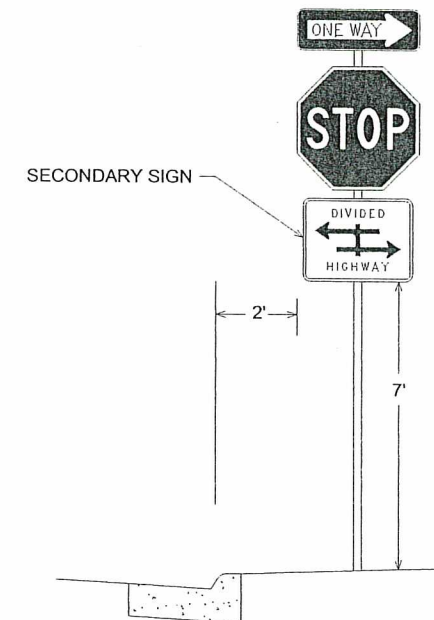
TYPICAL SIGN PLACEMENT

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

NO	DATE	BY	CKD	APPR	REVISION

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: 4/7/13 LICENSE NO. 42757

DRAWN BY MTH DATE 2-10-13
 DESIGN BY MTH DATE 2-10-13
 CHECKED BY RB DATE 05-20-13



ANOKA COUNTY
 HIGHWAY DEPT.

SP 002-620-008

SIGNING & STRIPING DETAILS

Sheet 18 of 18 Sheets