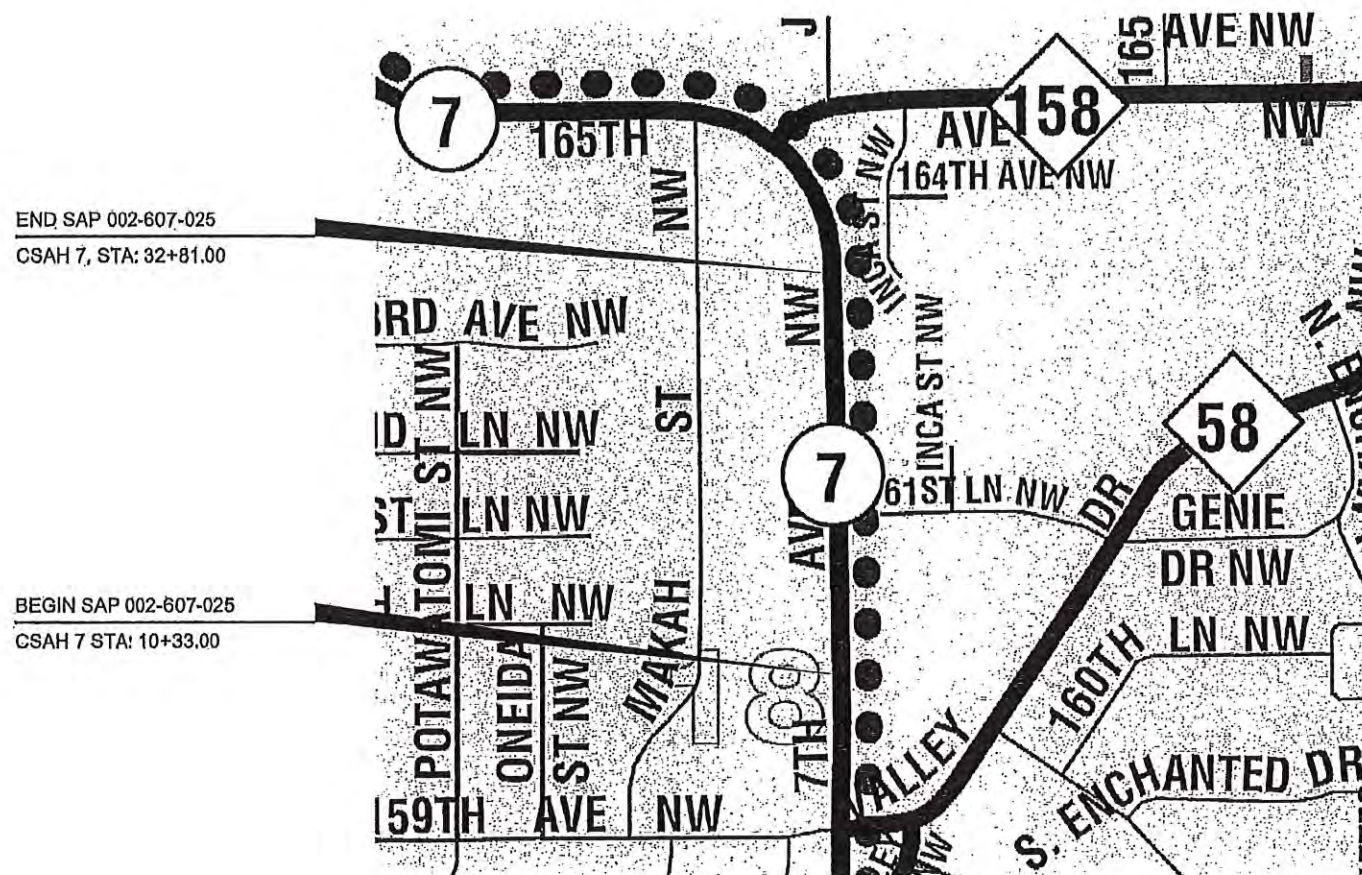


MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY

CONSTRUCTION PLAN FOR BITUMINOUS RECLAMATION, BITUMINOUS SURFACING, CURB & GUTTER

LOCATED ON CSAH 7 BETWEEN 850' SOUTH OF CR 158 AND 650' NORTH OF CR 58

CSAH 7			
GROSS LENGTH	2248.00	FEET	0.426 MILES
EXCEPTIONS-LENGTH	0.00	FEET	0.000 MILES
NET LENGTH	2248.00	FEET	0.426 MILES



END SAP 002-607-025
CSAH 7, STA: 32+81.00

BEGIN SAP 002-607-025
CSAH 7 STA: 10+33.00

PROJECT LOCATION



CITY OF ANDOVER
ANOKA COUNTY
MN/DOT TRANSPORTATION DISTRICT - METRO
SECTION 18
TOWNSHIP 32 NORTH
RANGE 24 WEST

DESIGN DESIGNATION (CSAH 07)			
ESAL 20	1,090,641	FUNCTIONAL CLASSIFICATION	A MINOR EXPANDER
R VALUE	70	NO. OF TRAFFIC LANES	2 NO. OF PARKING LANES 0
ADT (2019)	9232	DESIGN SPEED	65 MPH
PROJ. ADT (2039)	9232	STOPPING SIGHT DISTANCE BASED ON:	
PROJ. HCADT (2039)	545	HEIGHT OF EYE	3.5' HEIGHT OF OBJECT 2.0'
SOIL FACTOR	N/A	DESIGN SPEED NOT ACHIEVED AT:	
	10 TON DESIGN	STA.	TO STA. MPH

NO	DATE	BY	CHKD	APPR	REVISION	
	04/17/2019					1:20:31 PM

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: JOSEPH V. MACPHERSON
 SIGNATURE: *[Signature]*
 DATE: 5-2-19 LICENSE NO. 46732

DRAWN BY: APA DATE: 04/17/2019
 DESIGN BY: APA DATE: 04/17/2019
 CHECKED BY: CO DATE: 04/17/2019



**ANOKA COUNTY
HIGHWAY DEPT.**

STATE AID PROJECT 002-607-025

TITLE SHEET
Sheet 1 of 13 Sheets

GOVERNING SPECIFICATIONS

THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE WITH THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MNMUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS."

THIS PLAN CONTAINS 13 SHEETS

INDEX

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

Approved: *[Signature]* 5/2/2019
CITY OF ANDOVER ENGINEER

Approved: *[Signature]* 5/1/2019
ANOKA COUNTY ENGINEER

[Signature] DATE 5/1/19

DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY

[Signature] DATE 5/1/19

STATE AID ENGINEER: APPROVED FOR STATE AID FUNDING

STATEMENT OF ESTIMATED QUANTITIES

NOTES	ITEM NUMBER	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES ESTIMATED
	2021.501	MOBILIZATION	LUMP SUM	1
	2104.503	SAWING BIT PAVEMENT (FULL DEPTH)	LIN FT	37
1	2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SQ YD	105
2	2123.510	MOTOR GRADER	HOUR	10
	2130.523	WATER	M GALLON	79
3	2211.509	AGGREGATE BASE CLASS 5	TON	21
5	2215.504	FULL DEPTH RECLAMATION	SQ YD	11261
4	2215.507	HAUL FULL DEPTH RECLAMATION (LV)	CU YD	60
6	2221.509	SHOULDER BASE AGGREGATE CLASS 5	TON	196
7	2232.604	MILL BITUMINOUS PAVEMENT (SPECIAL)	SQ YD	32
	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	563
8	2360.509	TYPE SP 9.5 WEARING COURSE MIX (3;B)	TON	18
	2360.509	TYPE SP 12.5 WEARING COURSE MIX (4;C)	TON	2590
	2531.503	CONCRETE CURB & GUTTER DESIGN B418	LIN FT	365
9	2540.602	MAIL BOX SUPPORT	EACH	4
10	2563.601	TRAFFIC CONTROL	LUMP SUM	1
11	2563.602	PORTABLE CHANGEABLE MESSAGE SIGN	EACH	20
	2574.507	COMMON TOPSOIL BORROW	CU YD	80
12	2575.504	EROSION CONTROL BLANKETS CATEGORY 0	SQ YD	162
13	2581.503	REMOVABLE PREFORM PAVEMENT MARKING TAPE	LIN FT	180
14	2582.503	4" SOLID LINE MULTI COMP	LIN FT	5760
14	2582.503	4" BROKEN LINE MULTI COMP	LIN FT	300
14	2582.503	4" DBLE SOLID LINE MULTI COMP	LIN FT	900

CONSTRUCTION NOTES

1	ITEM FOR BITUMINOUS DRIVEWAYS AND STREET APPROACHES. CONTRACTOR IS RESPONSIBLE FOR CONTACTING PROPERTY OWNER 48 HOURS BEFORE STARTING OPERATION.
2	ITEM USED TO MOVE EXCESS RECLAIM MATERIAL AT THE RECLAIM AREA LIMITS TO CREATE A SMOOTH TRANSITION BETWEEN THE PROPOSED AND EXISTING PAVEMENT
3	ITEM USED FOR BITUMINOUS STREET APPROACH BASE MATERIAL, BITUMINOUS DRIVEWAY BASE MATERIAL.
4	MATERIAL SHALL BE HAULED AND USED FOR PROFILE CORRECTION AREAS. ITEM INCLUDES PLACEMENT, SHAPING, COMPACTION, AND MAINTENANCE OF MATERIAL. EXCESS MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR.
5	BITUMINOUS CURB REMOVAL INCIDENTAL TO FULL DEPTH RECLAMATION
6	ITEM INCLUDES 7 TONS FOR EACH GRAVEL ENTRANCE AND 20 TONS FOR EACH GRAVEL STREET APPROACH.
7	ITEM INCLUDES 2" DEEP MILL AT BEGINNING AND END OF PROJECT, ALL PAVED ST APPROACHES, AND DRIVEWAYS; SEE DETAILS FOR DIMENSIONS
8	ITEM FOR BITUMINOUS DRIVEWAYS. DRIVEWAYS SHALL BE PAVED AFTER MAINLINE AND BEFORE FINAL STRIPING.
9	MAILBOXES ARE TO BE INSTALLED AT THE EXISTING MAILBOX LOCATION OR AS DIRECTED BY THE LOCAL POSTAL AUTHORITY, CONTRACTOR IS RESPONSIBLE FOR CONTACTING. MAILBOX REMOVAL AND ALL MATERIALS ARE INCIDENTAL TO INSTALLATION.
10	ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO, AND BE INSTALLED IN ACCORDANCE WITH, THE MOST CURRENT REVISION OF THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". "DO NOT PASS, PASS WITH CARE, NO CENTER STRIPE, AND STOP HERE ON RED SIGNS SHALL BE INPLACE WHENEVER PERMANENT PAVEMENT MARKINGS ARE NOT PRESENT.
11	2 MESSAGE BOARDS, ONE ON THE EACH END OF PROJECT WILL BE INSTALLED 10 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS.
12	ITEM USED AT THE ENGINEERS DISCRETION FOR THE RESTORATION ALONG DRIVEWAYS, STREET APPROACHES, AND BY-PASS LANE CONSTRUCTION AREAS. TYPE 1 FERTILIZER AND TYPE 25-121 SEED ARE INCIDENTAL TO THIS ITEM. SEE "BASIS OF PLANNED QUANTITIES" FOR APPLICATION RATES.
13	CENTERLINE AND LANE DESIGNATION SKIPS TO BE APPLIED AS SOON AS POSSIBLE ON MILLED SURFACE AND EACH NEW LIFT OF PAVEMENT; SKIPS MUST BE INPLACE BEFORE THE CONTRACTOR LEAVES FOR THE DAY. CONTRACTOR IS TO REMOVE PRIOR TO FINAL STRIPING.
14	FINAL STRIPING SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING.

BASIS OF PLANNED QUANTITIES

2357	BITUMINOUS MATERIAL FOR TACK COAT	0.05 GAL / SQ YD
2211	AGGREGATE BASE CLASS 5	1.8 TONS / CU YD
2360	ALL BITUMINOUS PAVEMENT	115 LBS / SQ YD / IN THICKNESS
2581	REMOVABLE PREFORM PAVEMENT MARKING TAPE	2' AT 50' INTERVALS
2575	SEED MIXTURE 25-121	61 LBS. / ACRE
2574	FERTILIZER TYPE 1	350 LBS. / ACRE

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

MNDOT STANDARD PLATES

PLATE NUMBER	DESCRIPTION
7100H	CONCRETE CURB AND GUTTER (DESIGN B AND DESIGN V)
8000J	CHANNELIZERS (3 SHEETS)
9350A	MAILBOX SUPPORT (SWING-AWAY TYPE)

NO	DATE	BY	CHKD	APPR	REVISION	TIME
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NAME: P:\19-01-00\CSAH_07_(No\58-So\158)\Base\PROPOSED\CR 7_19-01-00\PROPOSED.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: JOSEPH J. MACPHERSON

SIGNATURE: *[Signature]*

DATE: 5-1-19 LICENSE NO. 45732

DRAWN BY: APA DATE: 04/17/2019

DESIGN BY: APA DATE: 04/17/2019

CHECKED BY: CO DATE: 04/17/2019



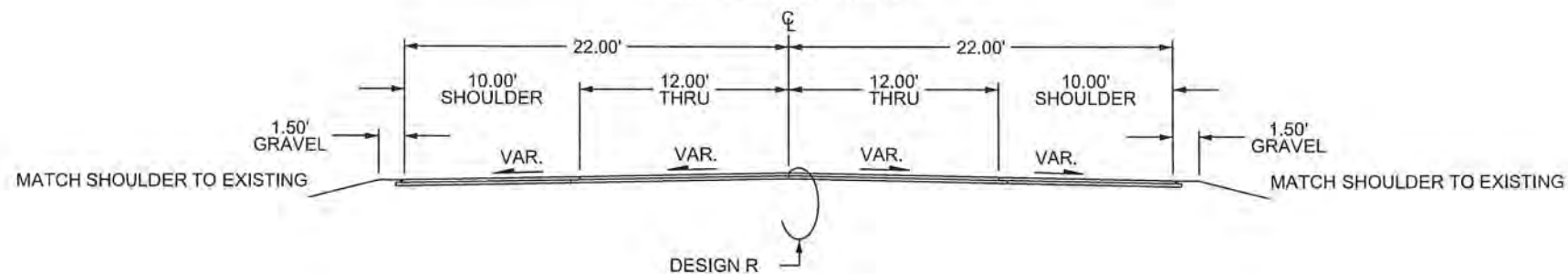
**ANOKA COUNTY
HIGHWAY DEPT.**

STATE AID PROJECT 002-607-025

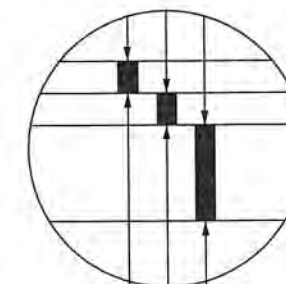
STATEMENT OF ESTIMATED QUANTITIES

Sheet 2 of 13 Sheets

CSAH 7
(PROPOSED) SECTION
 10+33.00 - 14+59.00
 18+24.00 - 32+81.00

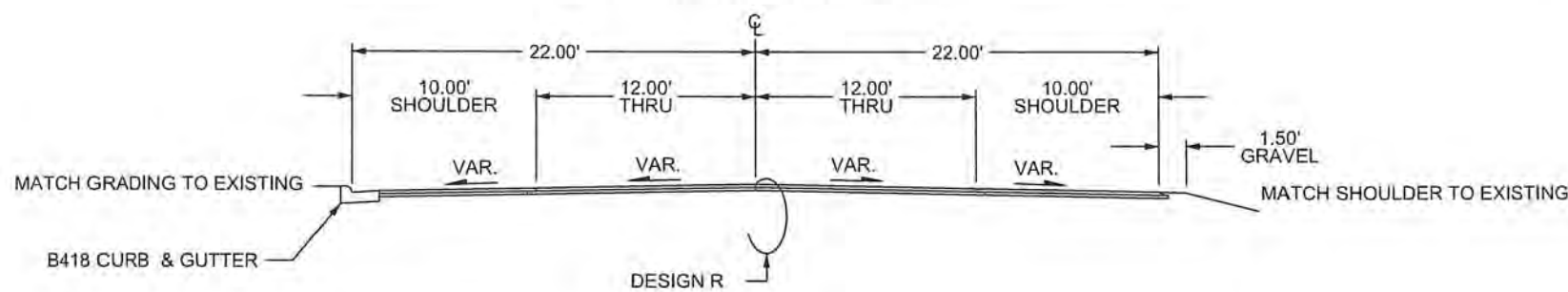


DESIGN R
RECLAIM SECTION



2.0" BITUMINOUS WEAR(SPWEB440C)
 2.0" BITUMINOUS WEAR(SPWEB440C)
 RECLAIMED BITUMINOUS

CSAH 7
(PROPOSED) SECTION
 14+59.00 - 18+24.00



NO	DATE	BY	CHKD	APPR	REVISION
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NAME: P:\19-01-00\CSAH_07_(No158-So1158)\Base\PROPOSED\CR 7_19-01-00\PROPOSED.dgn

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PRINT NAME: JOSEPH J. MACPHERSON
 SIGNATURE: *[Signature]*
 DATE: 3-1-19 LICENSE NO. 46732

DRAWN BY: APA DATE: 04/17/2019
 DESIGN BY: APA DATE: 04/17/2019
 CHECKED BY: CO DATE: 04/17/2019



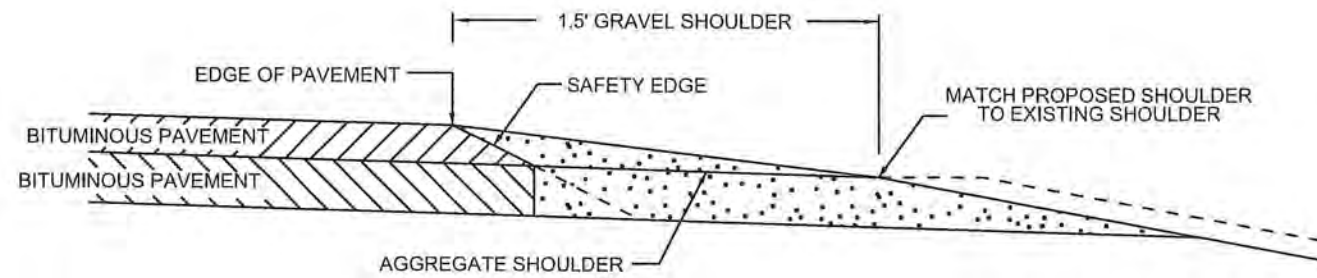
ANOKA COUNTY
HIGHWAY DEPT.

STATE AID PROJECT 002-607-025

TYPICAL SECTIONS
 Sheet 3 of 13 Sheets

SHOULDER DETAIL

BITUMINOUS SAFETY EDGE
GRAVEL SHOULDER

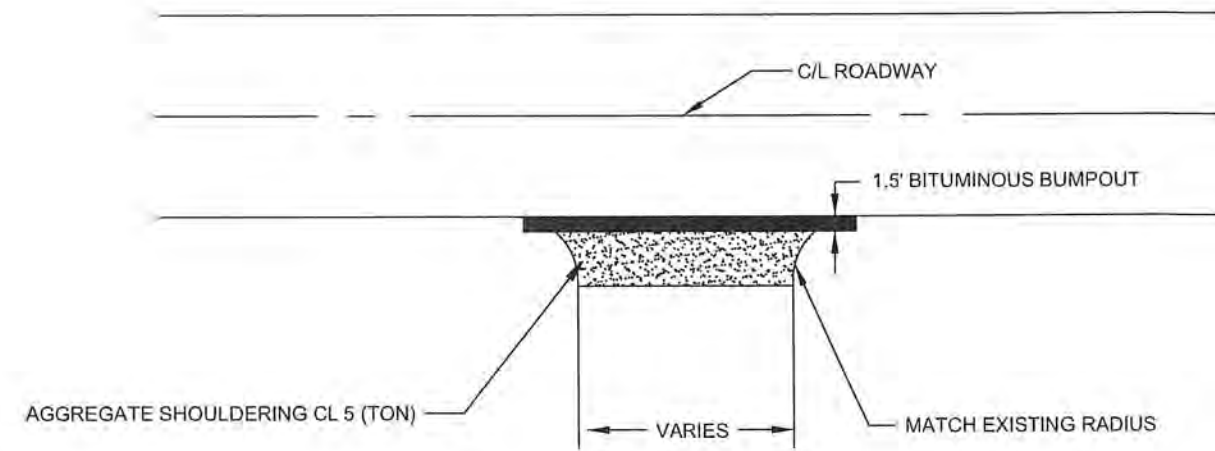


SAFETY EDGE TO BE USED IN ALL NON-CURB AREAS ON SHOULDER.

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

DRIVEWAY DETAIL

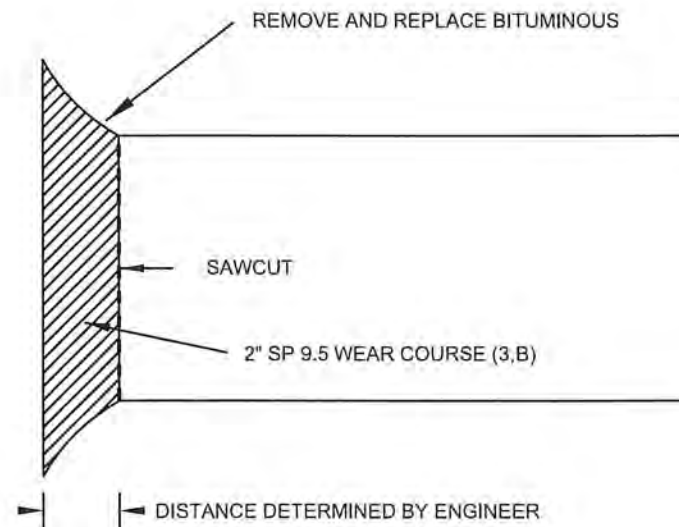
GRAVEL / FIELD ENTRANCE



RECLAIM AREA - DRIVEWAY DETAIL

BITUMINOUS

PLAN VIEW



NO	DATE	BY	CHKD	APPR	REVISION	
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PRINT NAME: JOSEPH J. MACPHERSON

SIGNATURE: *[Signature]*

DATE: 5-1-19 LICENSE NO. 46732

DRAWN BY: APA DATE: 04/17/2019

DESIGN BY: APA DATE: 04/17/2019

CHECKED BY: CD DATE: 04/17/2019

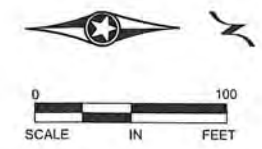
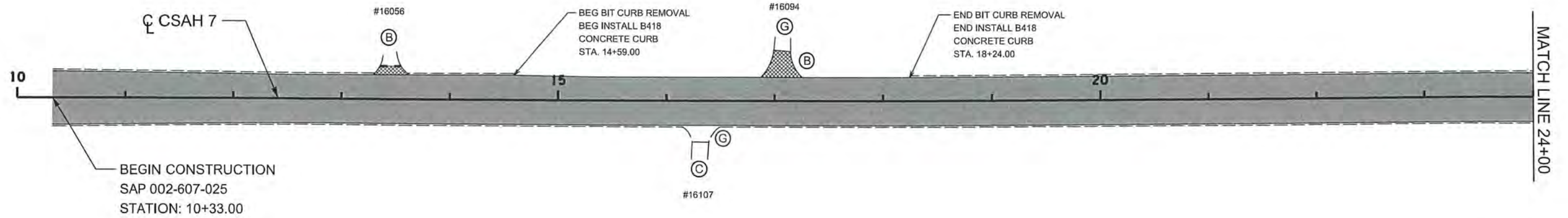


ANOKA COUNTY
HIGHWAY DEPT.

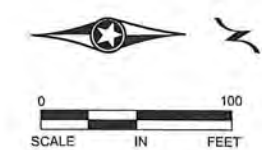
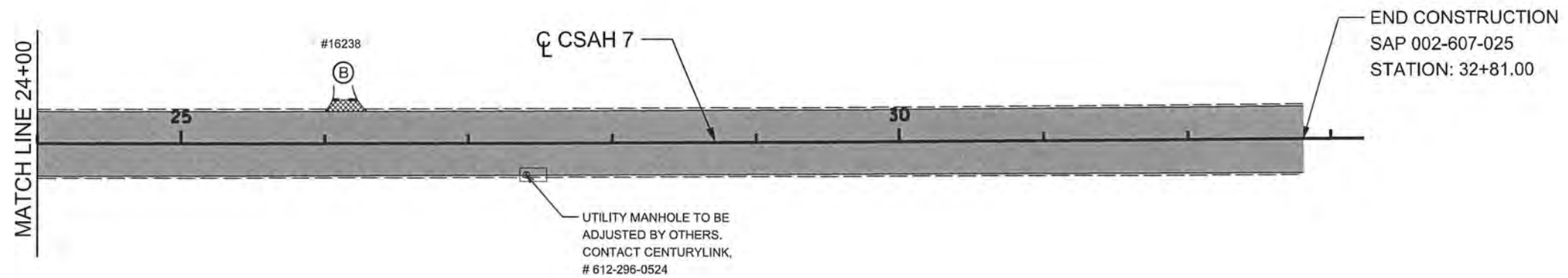
STATE AID PROJECT 002-607-025

DETAILS

Sheet 4 of 13 Sheets



LEGEND			
(B)	BITUMINOUS	[Hatched Box]	REMOVE AND REPLACE PAVEMENT
(C)	CONCRETE	[Solid Grey Box]	MAINLINE (RECLAIM)
(G)	GRAVEL	[Dashed Line]	R / W
---	SAWCUT		



NO	DATE	BY	CKD	APPR	REVISION	

NAME: P:\19-01-00\CSAH_07_(No\58-So\158)\Base\PROPOSED\ICR 7_19-01-00\PROPOSED.dgn

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PRINT NAME: JOSEPH J. MACPHERSON

SIGNATURE: *[Signature]*

DATE: 5-1-19 LICENSE NO. 46732

DRAWN BY: APA DATE: 04/17/2019

DESIGN BY: APA DATE: 04/17/2019

CHECKED BY: CO DATE: 04/17/2019

ANOKA COUNTY
HIGHWAY DEPT.

STATE AID PROJECT 002-607-025

CONSTRUCTION PLAN
STA 10+33 TO 32+81
Sheet 5 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.

MULTI COMPONENT (MULTI COMP):

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 MULTI COMP PAVEMENT MARKINGS.

THE MULTI COMP MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE MULTI COMP LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.

A MULTI COMP LINE SHALL BE APPLIED WITH A MINIMUM THICKNESS OF 20 MILS (WET) AND 4" WIDE. GLASS BEADS SHALL BE APPLIED AT A MINIMUM RATE OF 25LBS POUNDS 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 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.

PAVEMENT MARKING TABULATION		
ITEM	UNIT	TOTAL QUANTITY
4" SOLID LINE WHITE - MULTI COMP	LIN FT	4600
4" SOLID LINE YELLOW - MULTI COMP	LIN FT	1160
4" BROKEN LINE YELLOW - MULTI COMP	LIN FT	300
4" DOUBLE SOLID LINE YELLOW - MULTI COMP	LIN FT	900

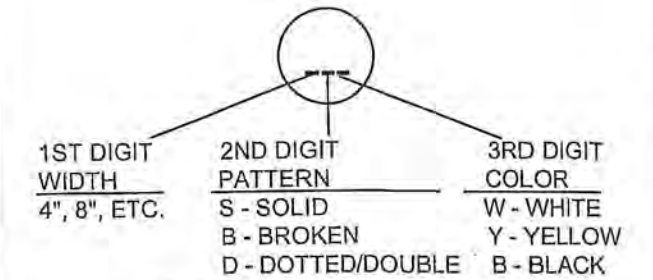
1 - 10' STRIPE, 40' GAP

SYMBOLS & MATERIALS LEGEND

- CROSSWALK BLOCK WHITE-POLY PREFORM
- ← PAVEMENT MESSAGE (LEFT ARROW) POLY PREFORM

STRIPING KEY

- CIRCLE - MULTI COMP
- SQUARE - POLY PREFORM THERMOPLASTIC
- △ TRIANGLE - PAINT
- ⬠ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

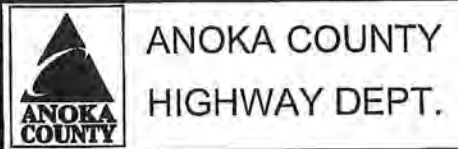


EXAMPLE: 4SW = 4" SOLID LINE WHITE - MULTI COMP

NO	DATE	BY	CHKD	APPR	REVISION

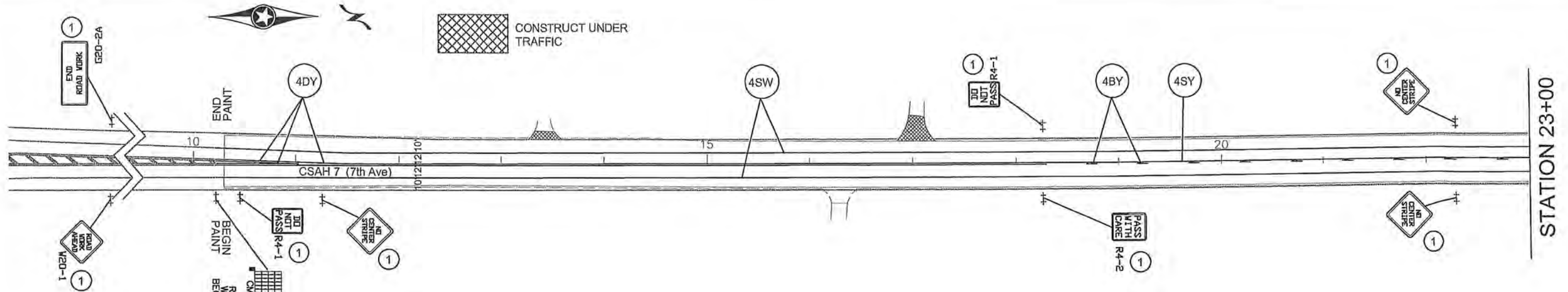
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: DOUGLAS W. FISCHER, P.E.
 SIGNATURE: *[Signature]*
 DATE: 5/1/19 REG. NO. 20235

DRAWN BY: TMV DATE: 04/10/19
 DESIGN BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____



STATE PROJECT NO. _____
 STATE AID PROJECT NO. 002-607-025
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. _____

PERMANENT MARKING TABULATION
 Sheet 6 of 13 Sheets

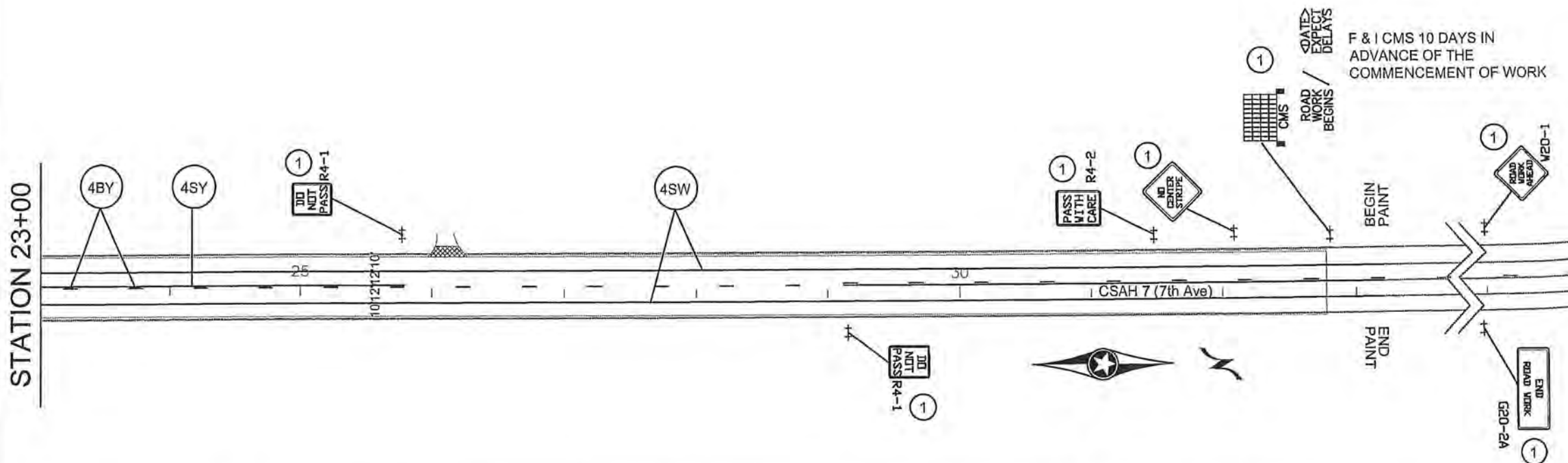


NOTES:

- 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 TEN 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.
- ACCESS SHALL BE MAINTAINED TO ALL DRIVEWAYS IN CONSTRUCTION AREA.
- 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.
- ALL EXISTING SIGNING SHALL REMAIN IN PLACE DURING CONSTRUCTION. ALL SALVAGED AND REINSTALLED SIGNS SHALL BE INSTALLED ON TEMPORARY SUPPORTS UNTIL THE PERMANENT INSTALLATION CAN BE MADE. THIS WILL BE CONSIDERED AS INCIDENTAL TO INSTALL SIGN TYPE C.

F & I CMS 10 DAYS IN ADVANCE OF THE COMMENCEMENT OF WORK

DATE / EXPECT DELAYS / ROAD WORK BEGINS / BEGIN PAINT



STRIPING KEY

- CIRCLE - MULTI COMP
- SQUARE - POLY PREFORM
- △ TRIANGLE - PAINT
- ⬠ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

SIGN NOTES:
① TEMPORARY TRAFFIC CONTROL SIGN

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\10-01-00\CSAH 7 (Nor00-Sol195)\Base\Traffic\Signing & Striping.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: *Douglas W. Fischer*

SIGNATURE: *[Signature]*

DATE: *5/1/19* LICENSE NO. *20235*

DRAWN BY: *TMV* DATE: *04/10/19*

DESIGN BY: _____ DATE: _____

CHECKED BY: _____ DATE: _____



**ANOKA COUNTY
HIGHWAY DEPT.**

STATE PROJECT NO. _____

STATE AID PROJECT NO. *002-607-025*

CITY PROJECT NO. _____

COUNTY PROJECT NO. _____

TEMPORARY SIGNING,
PERMANENT SIGNING
AND STRIPING PLAN

Sheet *7* of *13* Sheets

TEMPORARY TRAFFIC CONTROL SIGNS						
MUT.C.D. CODE	SIZE	PANEL AREA FT. ²	INSERT	QUANTITY		MOUNTING HEIGHT FT.
					No. POST	
W8-12	48" x 48"	16.00		4	2	7.0'
R4-1	24" x 30"	5.00		4	1	7.0'
R4-2	24" x 30"	5.00		2	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 (ESTIMATED 5)		
W8-11	48" x 48"	16.00		AS NEEDED		
W20-1	48" x 48"	16.00		AS NEEDED (ESTIMATED 2)		
REFLECTORIZED REBOUNDABLE DRUM				AS NEEDED (ESTIMATED 10)		
CMS sign to be installed a minimum of ten days prior to actual commencement of road work. Signs to be removed when road work begins.				2 AT 10 DAYS EA		

CHANGEABLE MESSAGE BOARD - MESSAGE SEQUENCE LAYOUT

		R	O	A	D		
		W	O	R	K		
		B	E	G	I	N	S

	<	D	A	T	E	>	
		E	X	P	E	C	T
		D	E	L	A	Y	S

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

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 TEN 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.
- ACCESS SHALL BE MAINTAINED TO ALL DRIVEWAYS IN CONSTRUCTION AREA.
- 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.
- ALL EXISTING SIGNING SHALL REMAIN IN PLACE DURING CONSTRUCTION. ALL SALVAGED AND REINSTALLED SIGNS SHALL BE INSTALLED ON TEMPORARY SUPPORTS UNTIL THE PERMANENT INSTALLATION CAN BE MADE. THIS WILL BE CONSIDERED AS INCIDENTAL TO INSTALL SIGN TYPE C.

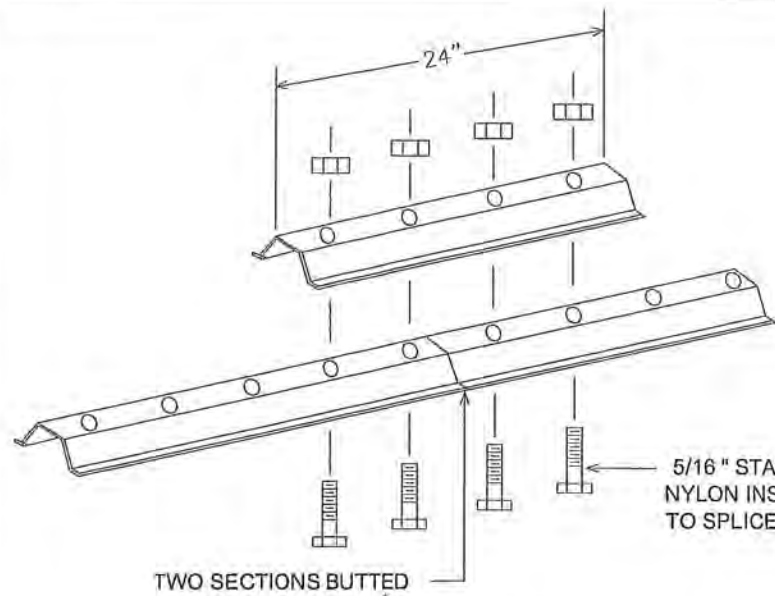
NO	DATE	BY	CKD	APPR	REVISION

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: Douglas W. Fricker
 SIGNATURE: [Signature]
 DATE: 5/1/19 LICENSE NO. 2235

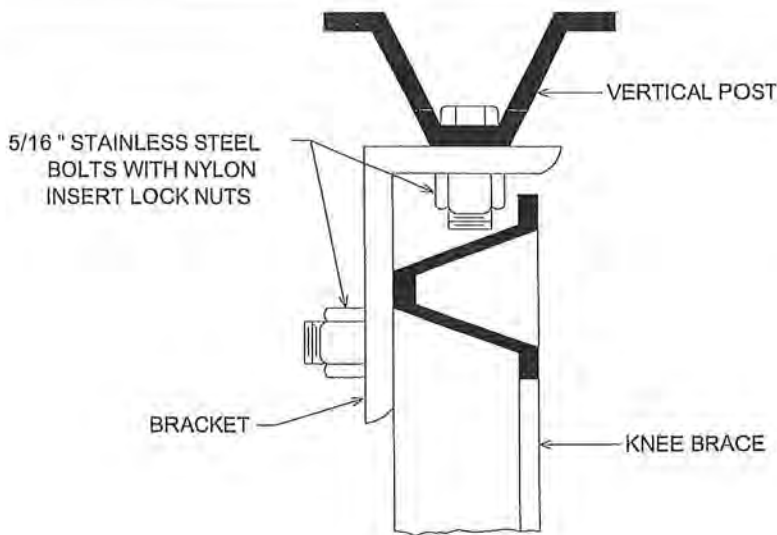
DRAWN BY: TMV DATE: 04/10/19
 DESIGN BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____

ANOKA COUNTY
HIGHWAY DEPT.

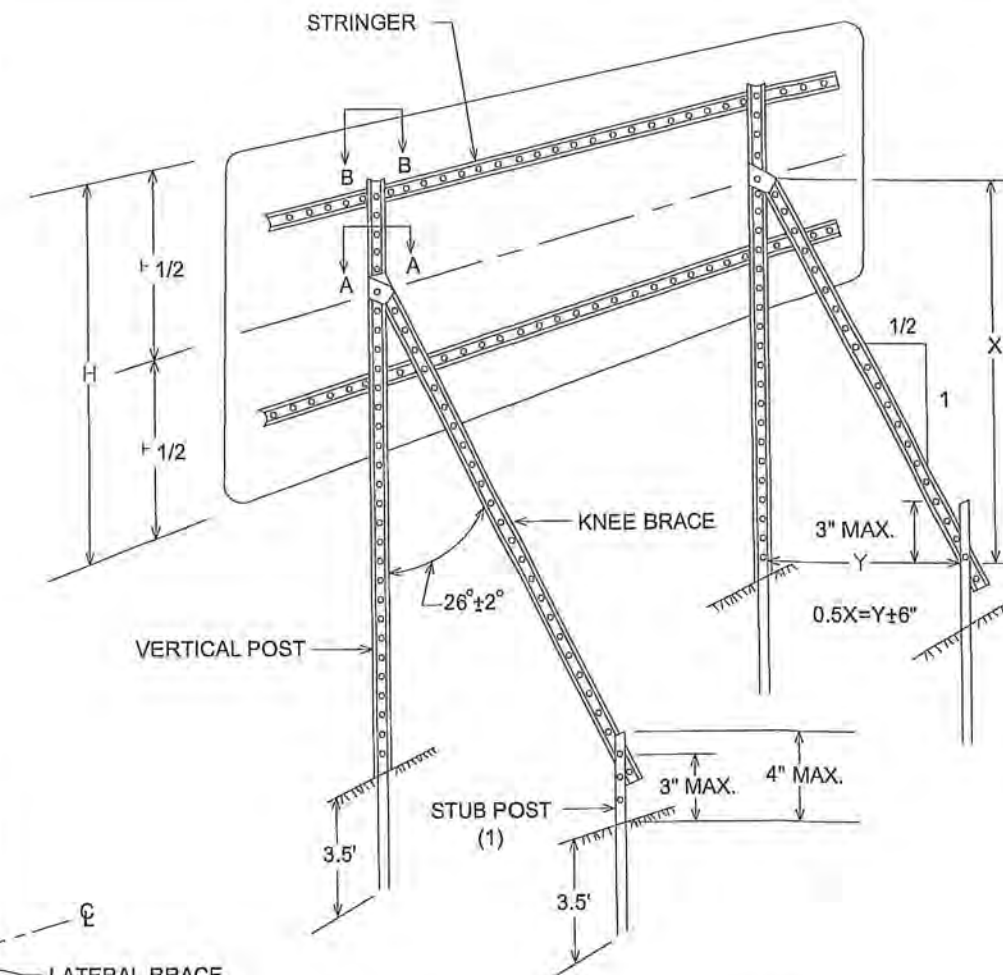
STATE PROJECT NO. _____
 STATE AID PROJECT NO. 002-607-025
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. _____



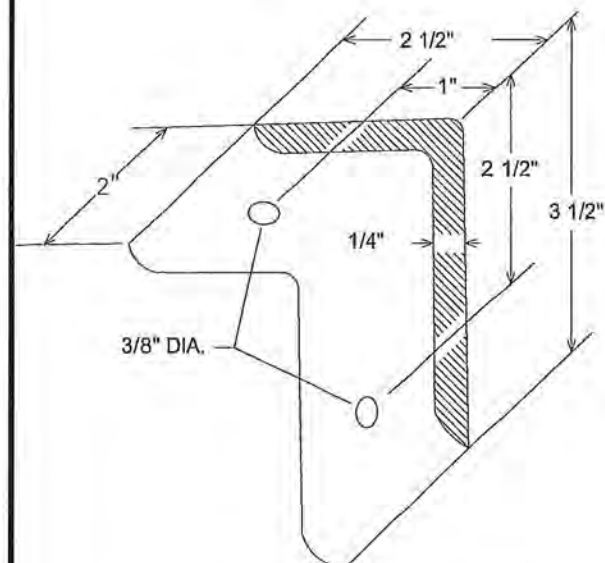
LATERAL BRACE OR STRINGER
SPLICE DETAIL (EXPLODED VIEW)



SECTION A-A

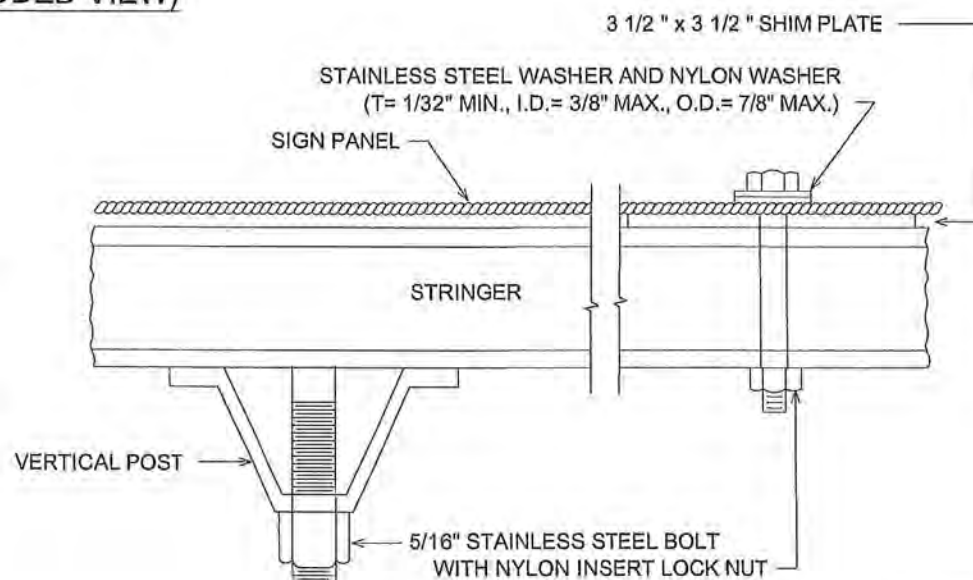


TYPICAL "A-FRAME" INSTALLATION
TYPE "D" SIGNS

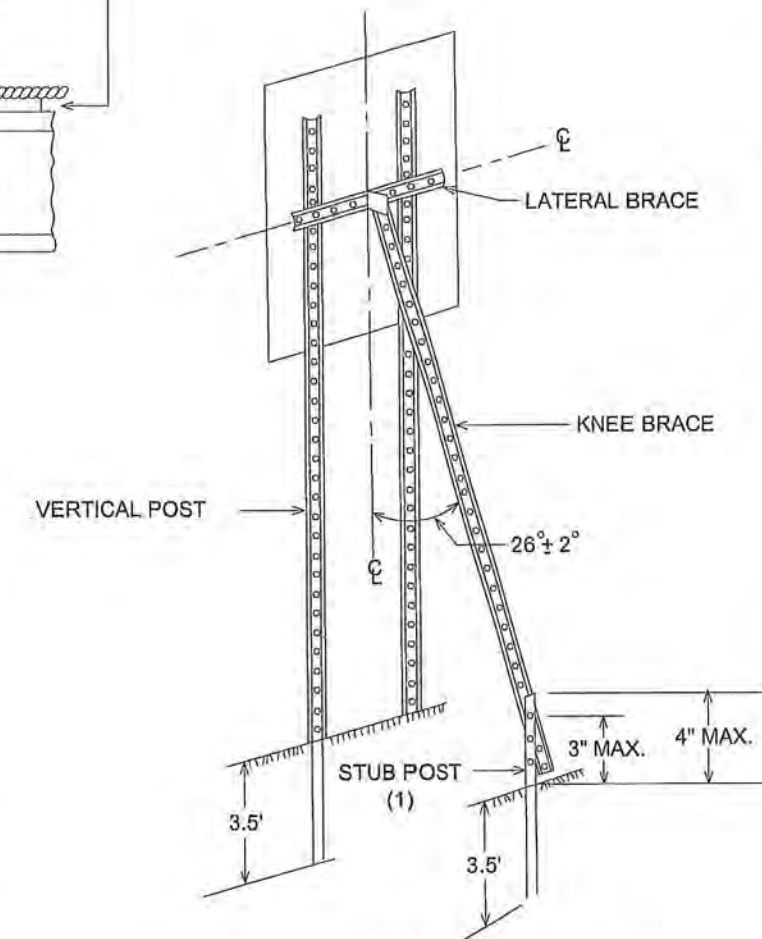


A-FRAME BRACKET

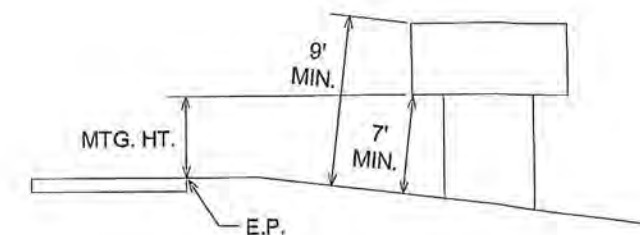
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



SECTION B-B

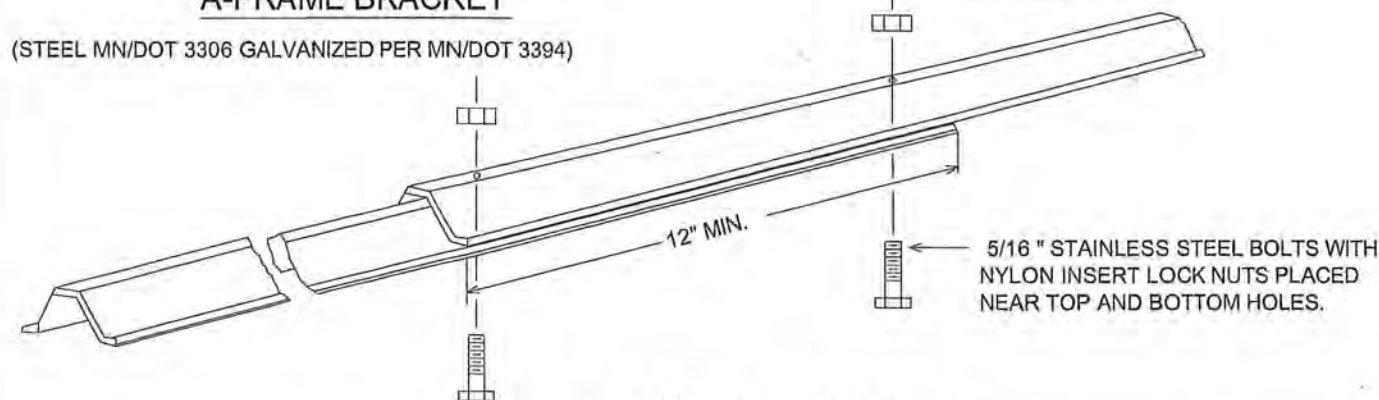


TYPICAL "A-FRAME" INSTALLATION
TYPE "C" SIGNS



TYPICAL MOUNTING

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



KNEE BRACE SPLICE

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 REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: DOUGLAS W. FISCHER, P.E.
SIGNATURE: *[Signature]*
DATE: 5/11/19 REG. NO. 20235

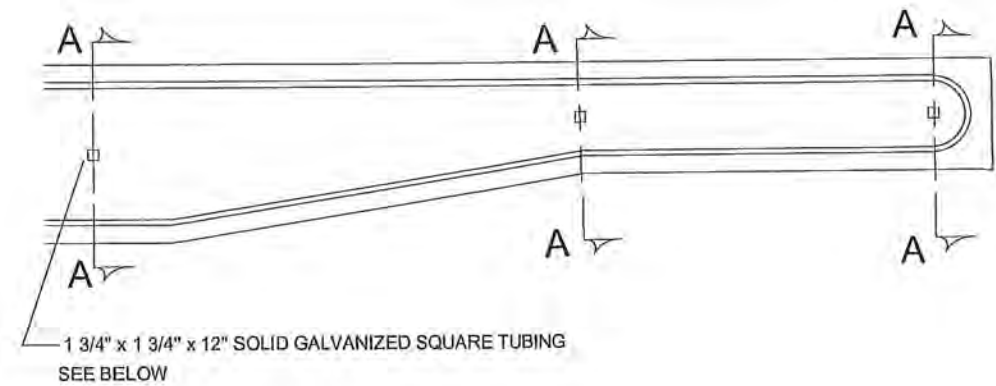
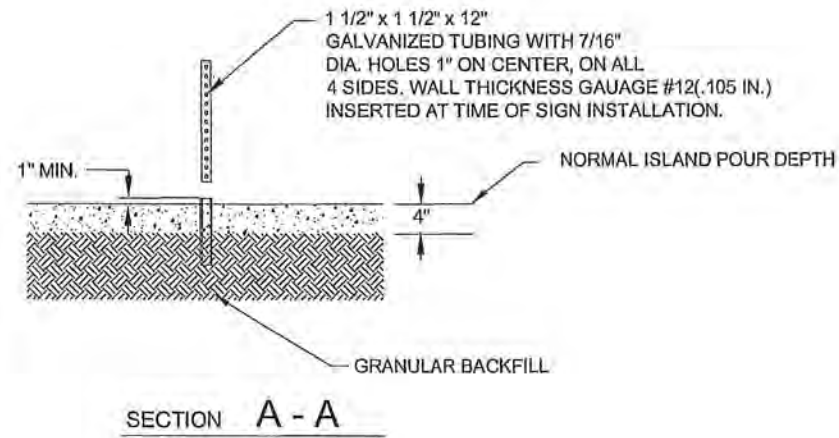
DRAWN BY: TMV DATE: 04/10/19
DESIGN BY: DATE:
CHECKED BY: DATE:
ANOKA COUNTY



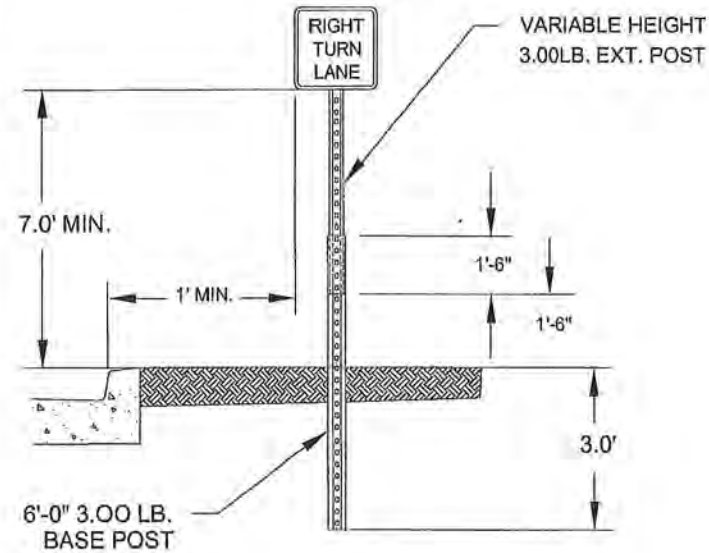
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
STATE AID PROJECT NO. 002-607-025
CITY PROJECT NO. _____
COUNTY PROJECT NO. _____

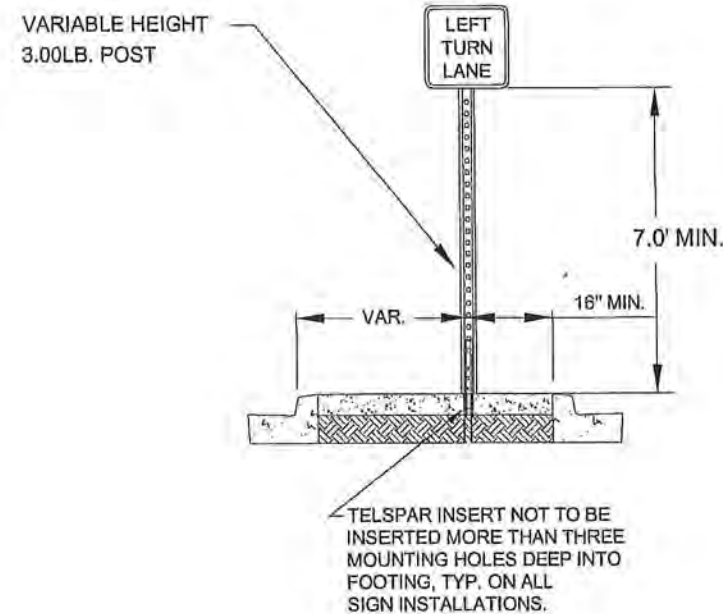
SIGNING & STRIPING
DETAILS



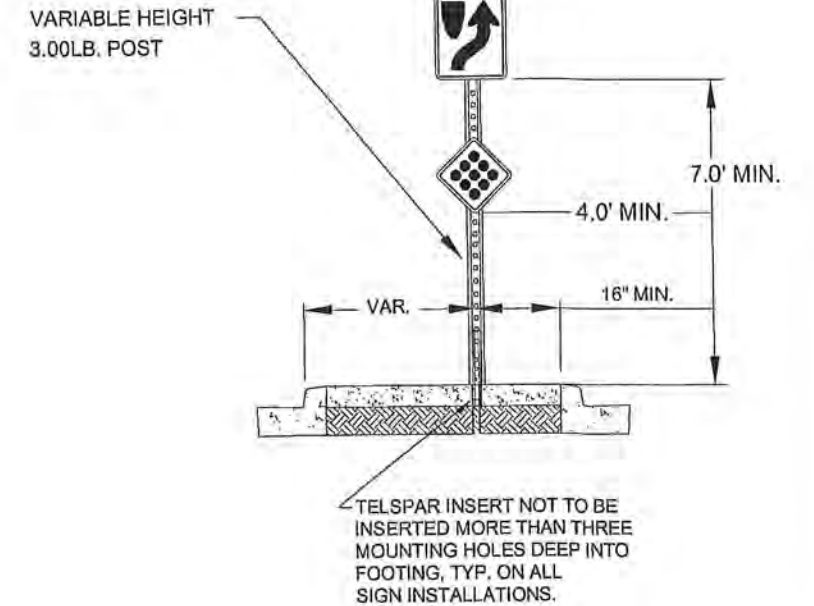
GROUND POST MOUNT SIGN
INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN
INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN
SIGN INSTALLATION TYPICAL
KEEP RIGHT/CLUSTER



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\19-01-00\CSAH 7 (1st158-Soft158)\Base\Traffic\Sign & Stripe Details.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE: *[Signature]*

DATE: 5/17/19 REG. NO. 20235

DRAWN BY: TMV DATE: 04/10/19

DESIGN BY: DATE:

CHECKED BY: DATE:



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

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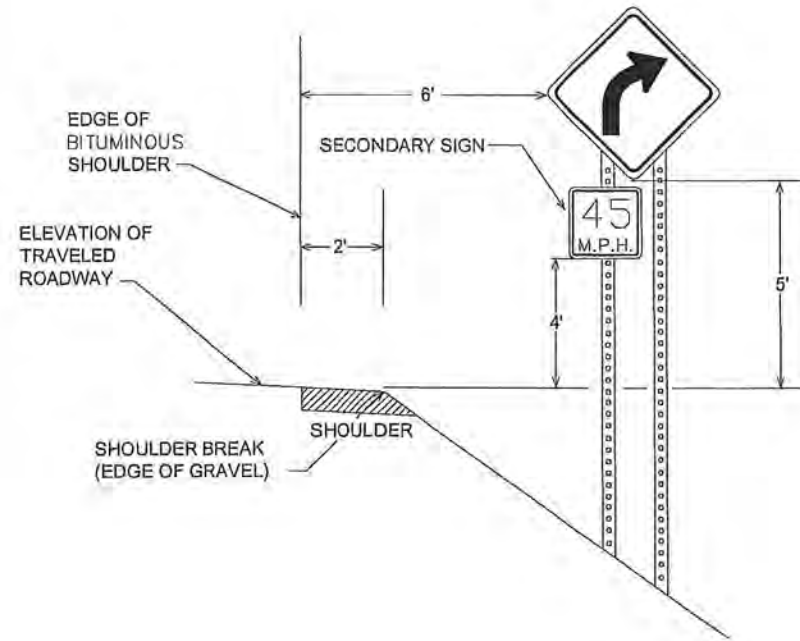
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COUNTY PROJECT NO. _____

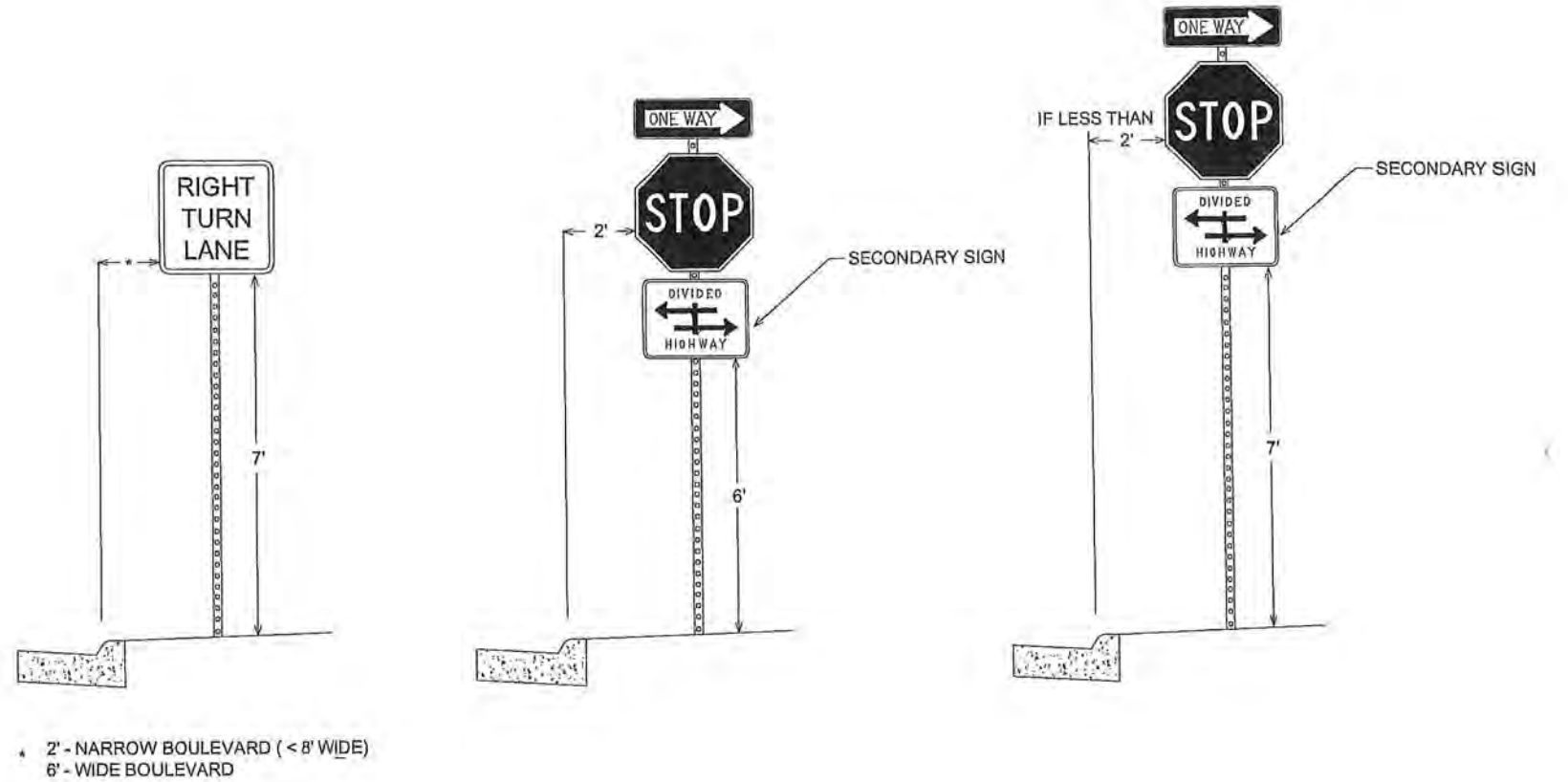
SIGNING & STRIPING
DETAILS

Sheet 10 of 13 Sheets

TYPICAL SIGN PLACEMENT
(RURAL)

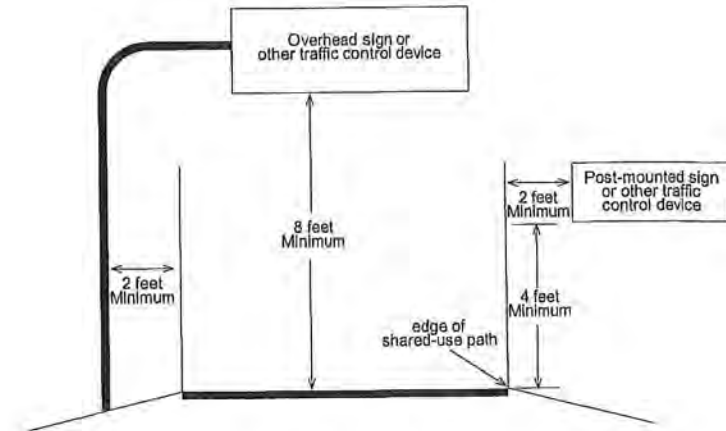


TYPICAL SIGN PLACEMENT
(URBAN)



NOTES:

- ALL DIMENSIONS ARE MINIMUMS
- MAINTAIN A CLEAR DISTANCE OF 2' BETWEEN SIGNS AND BITUMINOUS TRAIL
- 7' SIGN CLEARANCE IF A CLEAR DISTANCE OF 2' BETWEEN SIGNS AND BITUMINOUS TRAIL CANNOT BE MAINTAINED



TYPICAL SIGN PLACEMENT
SHARED-USE PATH

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 REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: DOUGLAS W. FISCHER, P.E.
 SIGNATURE: *Douglas W. Fischer*
 DATE: 5/1/19 REG. NO. 20235

DRAWN BY: TMV DATE: 04/10/19
 DESIGN BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____

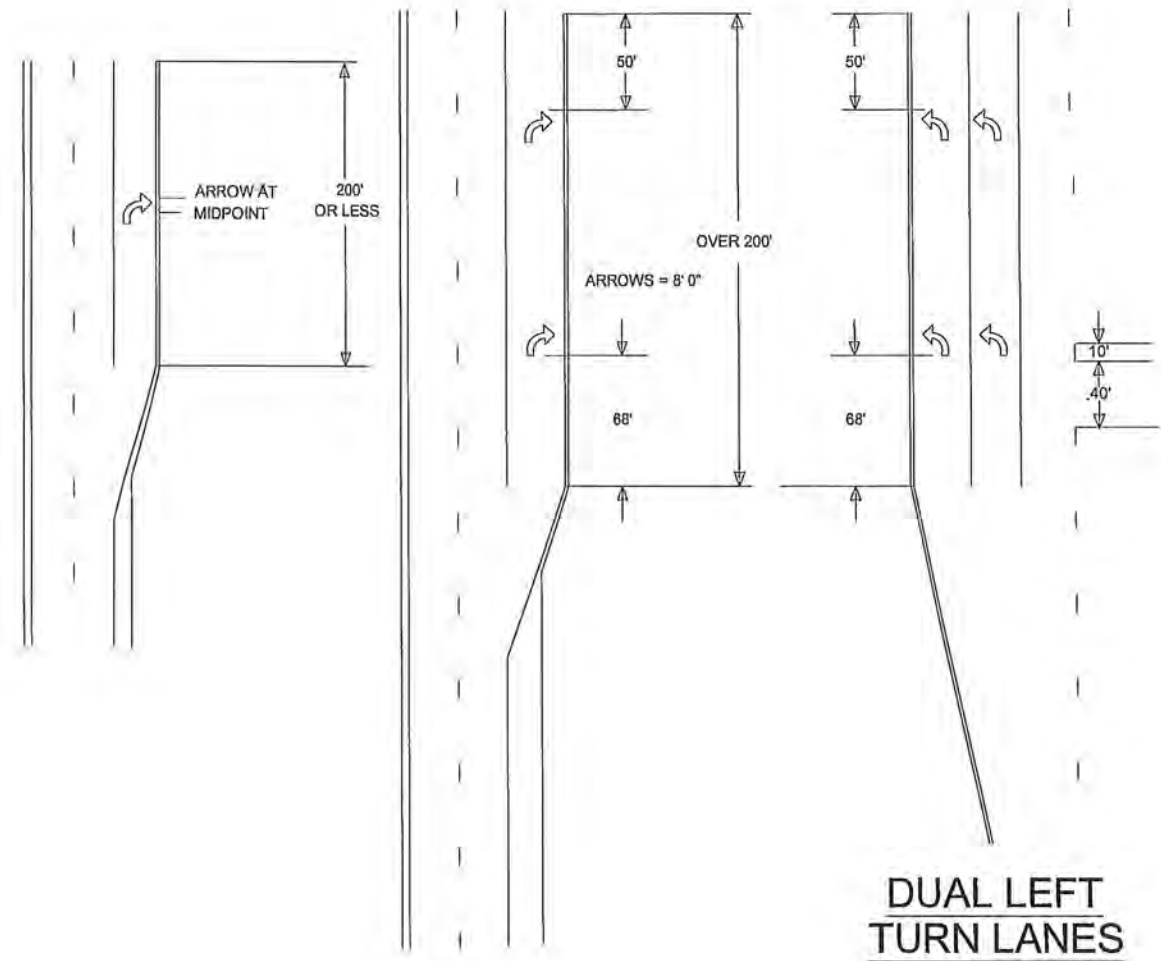


ANOKA COUNTY
HIGHWAY DEPT.

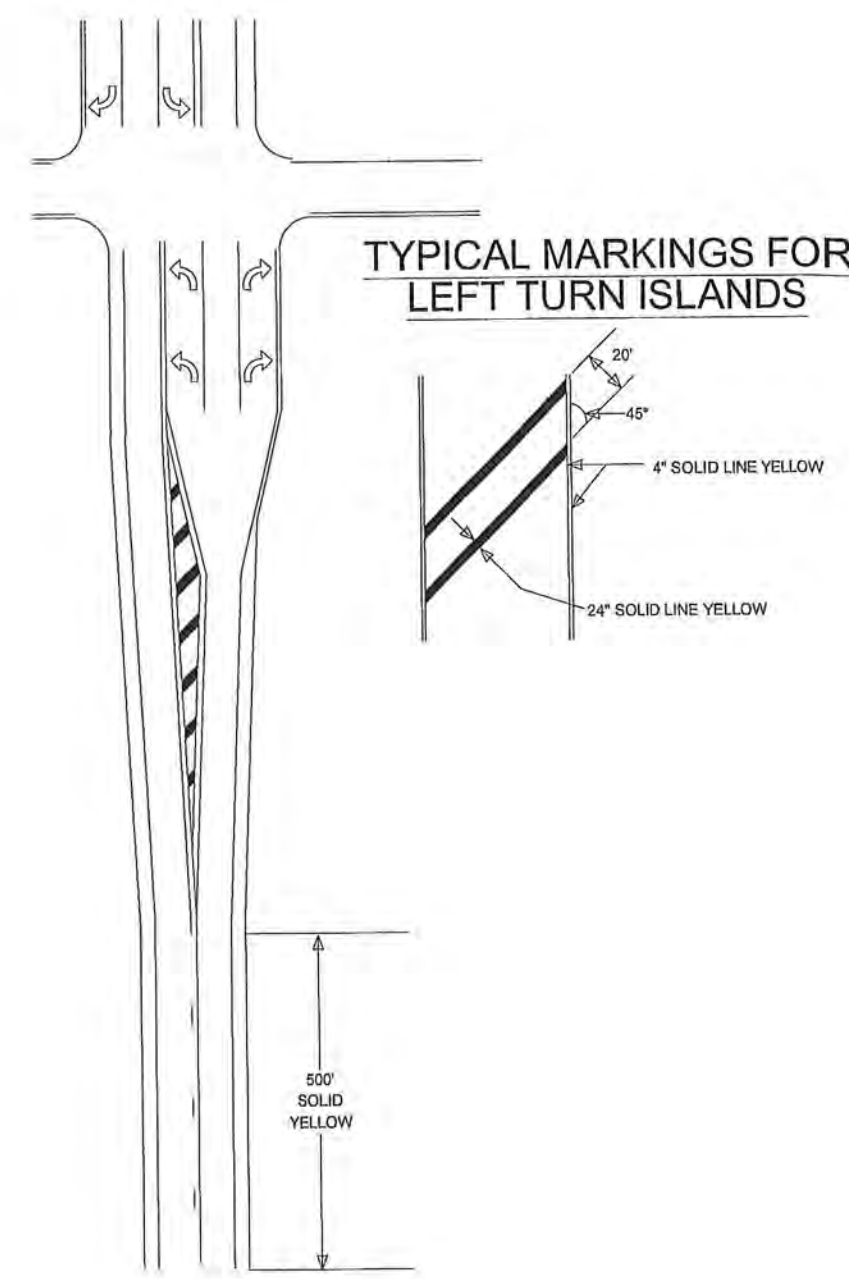
STATE PROJECT NO. _____
 STATE AID PROJECT NO. 002-607-025
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SIGNING & STRIPING
DETAILS

**TYPICAL MESSAGE PLACEMENT
FOR TURN LANES**



**TYPICAL MARKINGS FOR
LEFT TURN ISLANDS**



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 REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: DOUGLAS W. FISCHER, P.E.

SIGNATURE: *[Signature]*

DATE: 5/11/19 REG. NO. 20235

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**ANOKA COUNTY
HIGHWAY DEPT.**

STATE PROJECT NO. _____

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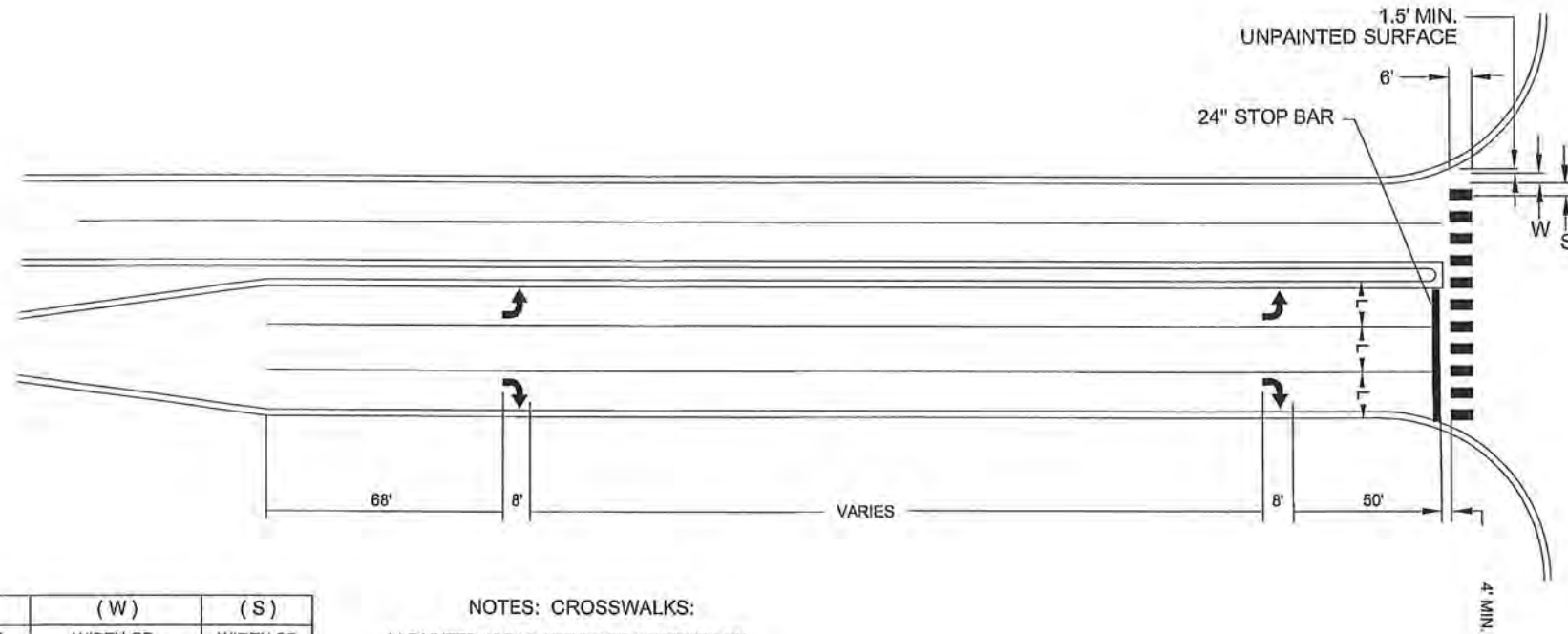
CITY PROJECT NO. _____

COUNTY PROJECT NO. _____

**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' (3.3mm) 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: DOUGLAS W. FISCHER, P.E.
 SIGNATURE: *[Signature]*
 DATE: 5/1/19 REG. NO. 20235

DRAWN BY: TMV DATE: 04/10/19
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ANOKA COUNTY
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SIGNING & STRIPING
 DETAILS