

MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY

CONSTRUCTION PLAN FOR _____ BITUMINOUS SURFACING, BITUMINOUS RECLAMATION

LOCATED ON CR 72 BETWEEN 500' N OF 235TH AVE AND 400' W OF YUKON ST

CR 72			
GROSS LENGTH	5970.00 FEET	1.131 MILES	
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES	
NET LENGTH	5970.00 FEET	1.131 MILES	

END CP 21-10-72
CR 72, STA: 75+88.00

BEGIN CP 21-10-72
CR 72, STA: 16+18.00



PROJECT LOCATION



CITY OF ST. FRANCIS
ANOKA COUNTY
MN/DOT TRANSPORTATION DISTRICT - METRO
SECTION 28, 32, 33
TOWNSHIP 34 NORTH
RANGE 24 WEST

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 25 SHEETS

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3	TYPICAL SECTIONS
4 - 5	DETAILS
6 - 8	REMOVAL PLAN
9 - 11	CONSTRUCTION PLAN
12 - 13	DETOUR PLAN
14 - 25	SIGNING AND STRIPING PLANS

DESIGN DESIGNATION (CR 72)

ESAL 20	175,788	FUNCTIONAL CLASSIFICATION	MAJOR COLLECTOR
R VALUE	50	NO. OF TRAFFIC LANES	2
ADT (2019)	1488	NO. OF PARKING LANES	0
PROJ. ADT (2041)	1488	DESIGN SPEED	55 MPH
PROJ. HCADT (2041)	88	STOPPING SIGHT DISTANCE BASED ON:	
SOIL FACTOR	N/A	HEIGHT OF EYE	3.5'
		HEIGHT OF OBJECT	2.0'
		DESIGN SPEED NOT ACHIEVED AT:	
		STA.	TO STA.
			MPH

Approved 3-1-2021
ANOKA COUNTY ENGINEER

NO	DATE	BY	CKD	APPR	REVISION
	02/25/2021				2:04:29 PM

NAME: P:\21-01-00\CR_72_(235th-Yukon)\Base\Proposed\CR72_TITLE.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: GERALD J. AUGER JR.
SIGNATURE:
DATE: 02-24-2021 LICENSE NO. 26511

DRAWN BY: APA DATE: 02/25/2021
DESIGN BY: APA DATE: 02/25/2021
CHECKED BY: CSO DATE: 02/25/2021



ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 21-10-72

TITLE SHEET
Sheet 1 of 25 Sheets

STATEMENT OF ESTIMATED QUANTITIES

NOTES	ITEM NUMBER	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES ESTIMATED
	2021.501	MOBILIZATION	LUMP SUM	1
	2104.502	REMOVE SIGN TYPE C	EACH	6
1	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	20
1	2104.503	SAWING BIT PAVEMENT (FULL DEPTH)	LIN FT	93
2	2104.504	REMOVE CONCRETE DRIVEWAY PAVEMENT	SQ YD	70
3	2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SQ YD	119
	2104.504	REMOVE BITUMINOUS PAVEMENT	SQ YD	433
8	2105.507	COMMON EXCAVATION	CU YD	1310
9	2105.507	GRANULAR BORROW (LV)	CU YD	857
	2123.510	MOTOR GRADER	HOUR	28
4	2123.510	DOZER	HOUR	20
	2130.523	WATER	M GALLON	139
5	2211.509	AGGREGATE BASE CLASS 5	TON	117
	2215.504	FULL DEPTH RECLAMATION	SQ YD	20016
6	2215.507	HAUL FULL DEPTH RECLAMATION (LV)	CU YD	406
7	2221.509	SHOULDER BASE AGGREGATE CLASS 5	TON	536
	2232.504	MILL BITUMINOUS SURFACE (2.0")	SQ YD	67
10	2232.604	MILL BITUMINOUS PAVEMENT (SPECIAL)	SQ YD	22
	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	1022
11	2360.509	TYPE SP 9.5 WEARING COURSE MIX (3;B)	TON	113
	2360.509	TYPE SP 12.5 WEARING COURSE MIX (4;C)	TON	4577
	2501.502	18" RC PIPE APRON	EACH	2
	2501.503	18" RC PIPE CULVERT CLASS IV	LIN FT	40
2	2531.504	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	70
12	2540.602	MAIL BOX SUPPORT	EACH	9
13	2563.601	TRAFFIC CONTROL	LUMP SUM	1
	2563.601	DETOUR SIGNING	LUMP SUM	1
14	2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	UNIT DAY	20
	2564.518	SIGN PANELS TYPE C	SQ FT	18.00
1	2574.507	COMMON TOPSOIL BORROW	CU YD	1185
15	2575.504	EROSION CONTROL BLANKETS CATEGORY 0	SQ YD	356
15	2575.508	HYDRAULIC REINFORCED FIBER MATRIX	POUND	5741
16	2581.503	REMOVABLE PREFORM PAVEMENT MARKING TAPE	LIN FT	478
17	2582.503	4" SOLID LINE MULTI COMP	LIN FT	14451
17	2582.503	4" BROKEN LINE MULTI COMP	LIN FT	518
17	2582.503	4" DBLE SOLID LINE MULTI COMP	LIN FT	3532
17	2582.518	PAVT MSSG PREF THERMO	SQ FT	144
17	2582.603	PAVEMENT MARKING SPECIAL	LIN FT	18

CONSTRUCTION NOTES

1	REFERENCE DETAILS (SHEET 5)
2	ITEM FOR CONCRETE DRIVEWAYS. CONTRACTOR IS RESPONSIBLE FOR CONTACTING PROPERTY OWNER 48 HOURS BEFORE STARTING OPERATION. ACCESS TO PROPERTY SHALL BE MAINTAINED.
3	ITEM FOR BITUMINOUS DRIVEWAYS AND STREET APPROACHES. CONTRACTOR IS RESPONSIBLE FOR CONTACTING PROPERTY OWNER 48 HOURS BEFORE STARTING OPERATION.
4	TO BE USED FOR SPECIAL DITCH GRADING
5	GRAVEL BASE FOR BITUMINOUS DRIVEWAYS, CONCRETE DRIVEWAYS, AND CURB PATCHES.
6	ITEM TO BE USED TO HAUL RECLAMATION BASE FROM OLD ALIGNMENT TO BE USED AS AGGREGATE BASE FOR NEW ALIGNMENT. ALSO TO BE USED FOR HAULING AWAY RECLAIM FROM TIE IN POINTS.
7	ITEM INCLUDES 7 TONS FOR EACH GRAVEL ENTRANCE AND GRAVEL STREET APPROACH.
8	COMMON EX. TO BE SALVAGED AND USED ON SITE FOR NEW CURVE ALIGNMENT. ANY EXTRA MATERIAL TO BECOME PROPERTY OF THE CONTRACTOR.
9	ITEM USED FOR THE PLACEMENT OF SALVAGED COMMON EXCAVATION MATERIAL FROM THE OLD ALIGNMENT TO THE NEW ALIGNMENT.
10	TO BE USED FOR MILLING STREET APPROACHES AND/OR DETAIL MILLING AREAS AS IDENTIFIED IN THE PLAN.
11	ITEM FOR STREET APPROACHES AND BITUMINOUS DRIVEWAYS. STREET APPROACHES AND DRIVEWAYS SHALL BE PAVED AFTER MAINLINE, AND BEFORE FINAL STRIPING.
12	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.
13	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.
14	2 MESSAGE BOARDS, ONE ON THE EACH END OF PROJECT, SHALL BE INSTALLED 10 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS.
15	TYPE 3 FERTILIZER AND TYPE 25-121 SEED ARE INCIDENTAL TO THIS ITEM. SEE "BASIS OF PLANNED QUANTITIES" FOR APPLICATION RATES.
16	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.
17	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 3	350 LBS./ ACRE
2575	HYDRAULIC REINFORCED FIBER MATRIX	3900 LBS./ ACRE

MNDOT STANDARD PLATES


PLATE NO.	DESCRIPTION
8000J	CHANNELIZERS
9350A	MAILBOX SUPPORT (SWING-AWAY TYPE)

NO	DATE	BY	CKD	APPR	REVISION
	02/25/2021				2:04:32 PM

NAME: P:\21-01-00\CR_72_(235th-Yukon)\Base\Proposed\CR72_SEQ.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: GERALD J. AUGER JR.

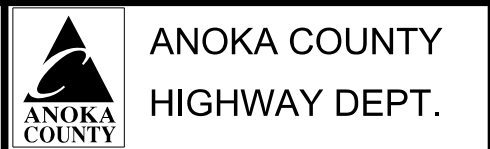
SIGNATURE: 

DATE: 02-24-2021 LICENSE NO. 26511

DRAWN BY: APA DATE: 02/25/2021

DESIGN BY: APA DATE: 02/25/2021

CHECKED BY: CSO DATE: 02/25/2021



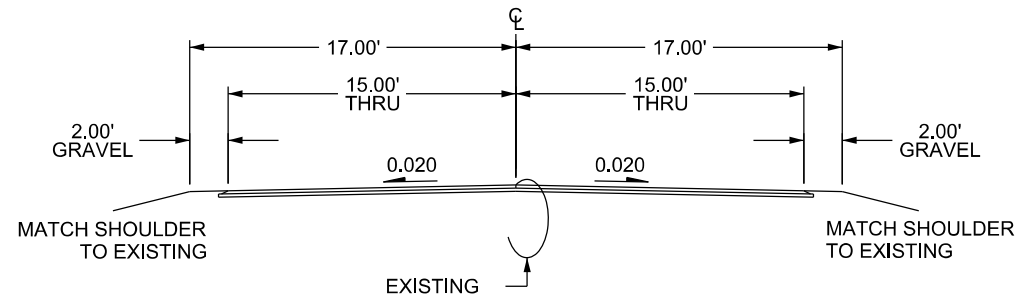
COUNTY PROJECT 21-10-72

STATEMENT OF ESTIMATED QUANTITIES

Sheet 2 of 25 Sheets

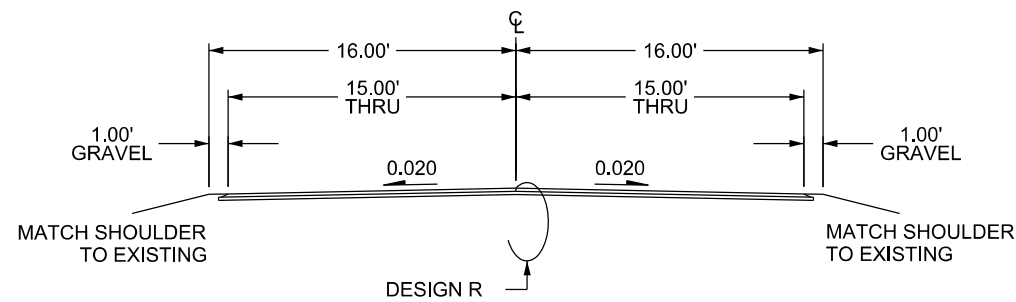
CR 72 - RUM RIVER BLVD
EXISTING SECTION

16+18.00 - 75+88.00



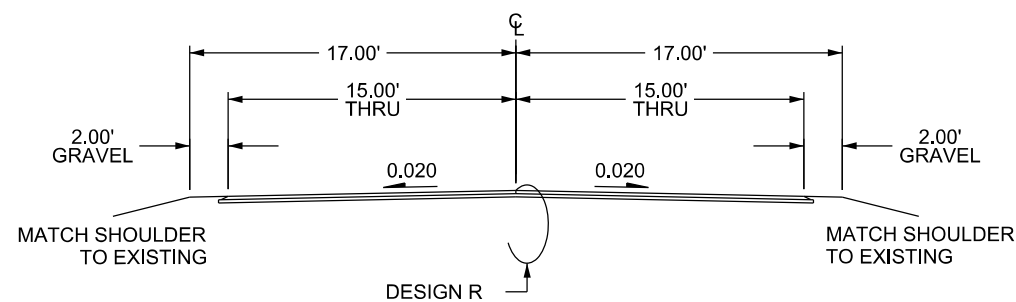
CR 72 - RUM RIVER BLVD
PROPOSED SECTION

16+18.00 - 64+00.00

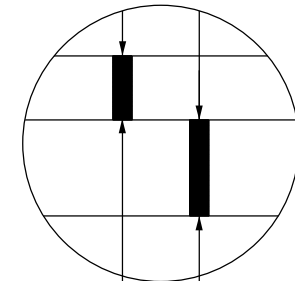


CR 72 - RUM RIVER BLVD
PROPOSED SECTION

64+00 - 75+88



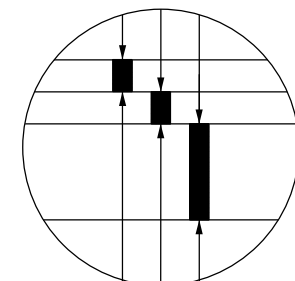
EXISTING SECTION



4" EXISTING BITUMINOUS

AGGREGATE BASE

DESIGN R
RECLAIM SECTION




2.0" BITUMINOUS WEAR(SPWEB440C)

2.0" BITUMINOUS WEAR(SPWEB440C)

RECLAIMED BITUMINOUS

NO	DATE	BY	CKD	APPR	REVISION	TIME
	02/25/2021					2:04:40 PM

NAME: P:\21-01-00\CR_72_(235th-Yukon)\Base\Proposed\CR72_TYPICALS.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: GERALD J. AUGER JR.
 SIGNATURE: 
 DATE: 02-24-2021 LICENSE NO. 26511

DRAWN BY: APA DATE: 02/25/2021
 DESIGN BY: APA DATE: 02/25/2021
 CHECKED BY: CSO DATE: 02/25/2021



ANOKA COUNTY
HIGHWAY DEPT.

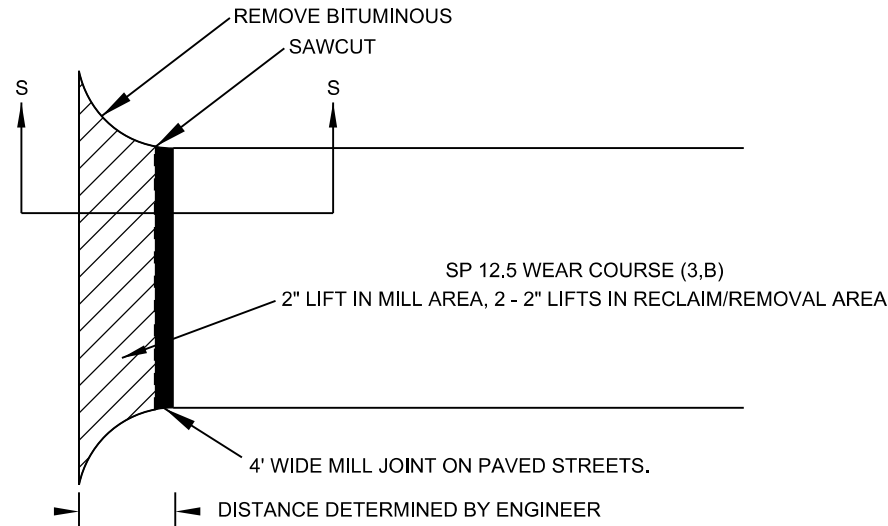
COUNTY PROJECT 21-10-72

TYPICAL SECTIONS
 Sheet 3 of 25 Sheets

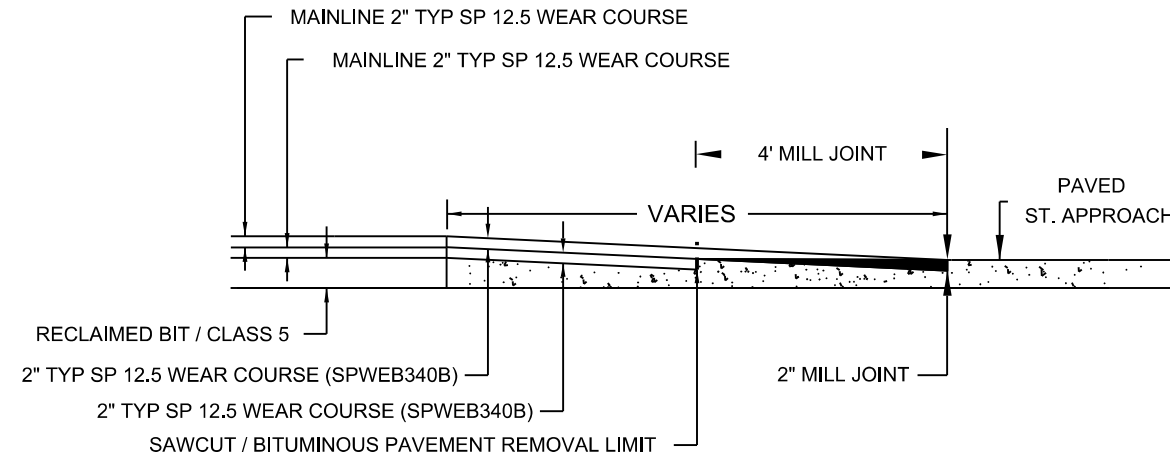
STREET APPROACH DETAIL (RECLAIM)

BITUMINOUS STREET

PLAN VIEW

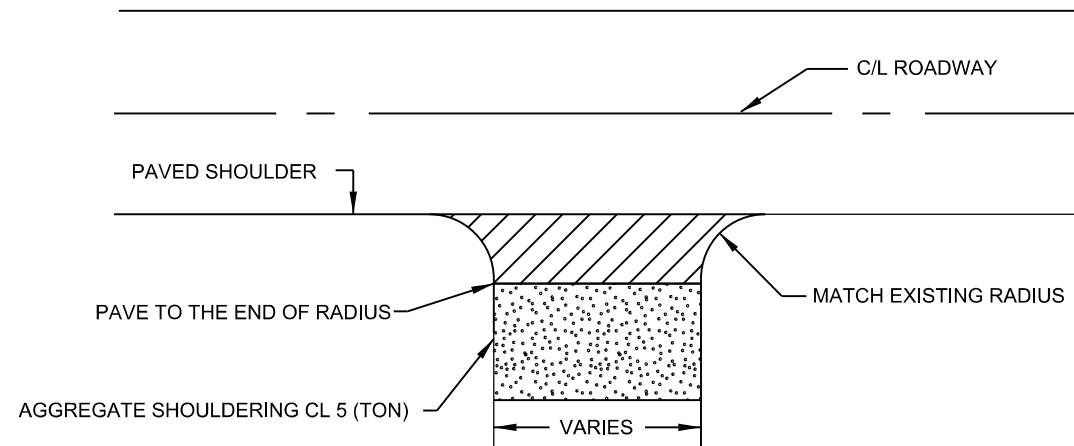


SECTION S - S



STREET APPROACH DETAIL

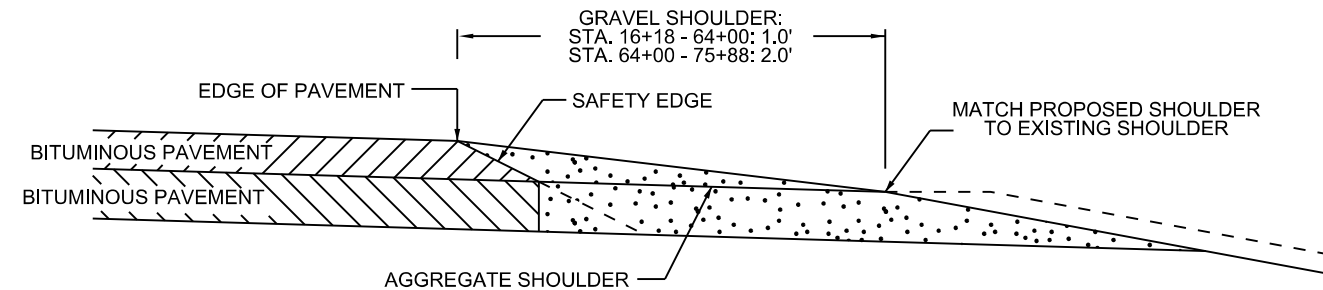
UNPAVED STREET



UNPAVED STREET APPROCHES, PAVED SEPRATE FROM MAINLINE

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 .

NO	DATE	BY	CKD	APPR	REVISION	DATE	TIME
						02/25/2021	2:04:42 PM

NAME: P:\21-01-00\CR_72_(235th-Yukon)\Base\Proposed\CR72_DETAILS.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: GERALD J. AUGER JR.

SIGNATURE:

DATE: 02-24-2021 LICENSE NO. 26511

DRAWN BY: APA DATE: 02/25/2021

DESIGN BY: APA DATE: 02/25/2021

CHECKED BY: CSO DATE: 02/25/2021



COUNTY PROJECT 21-10-72

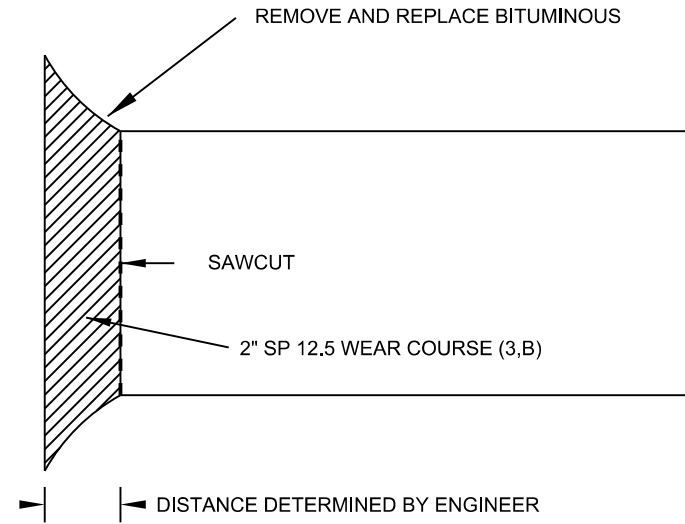
DETAILS

Sheet 4 of 25 Sheets

RECLAIM AREA - DRIVEWAY DETAIL

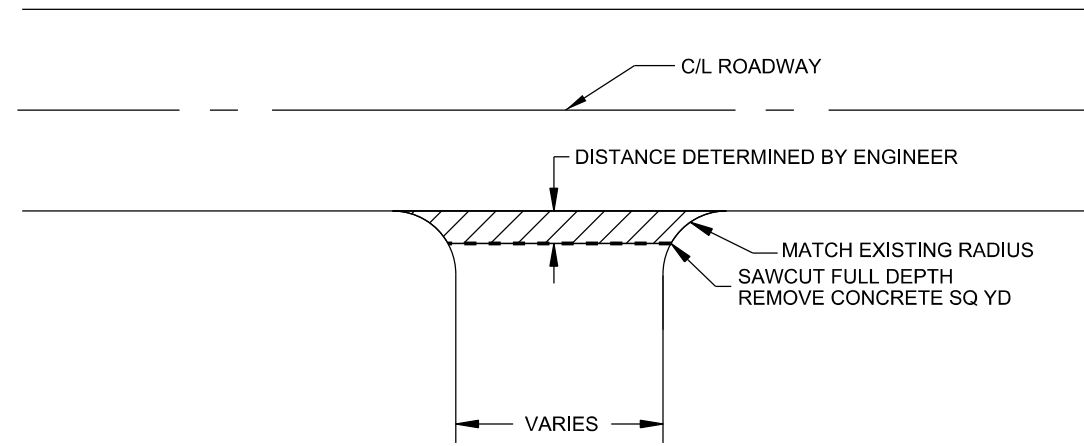
BITUMINOUS

PLAN VIEW



DRIVEWAY DETAIL

CONCRETE DRIVEWAY



NO	DATE	BY	CKD	APPR	REVISION	
	02/25/2021					2:04:42 PM
NAME: P:\21-01-00\CR_72_(235th-Yukon)\Base\Proposed\CR72_DETAILS.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: GERALD J. AUGER JR.

SIGNATURE:

DATE: 02-24-2021 LICENSE NO. 26511

DRAWN BY: APA DATE: 02/25/2021

DESIGN BY: APA DATE: 02/25/2021

CHECKED BY: CSO DATE: 02/25/2021



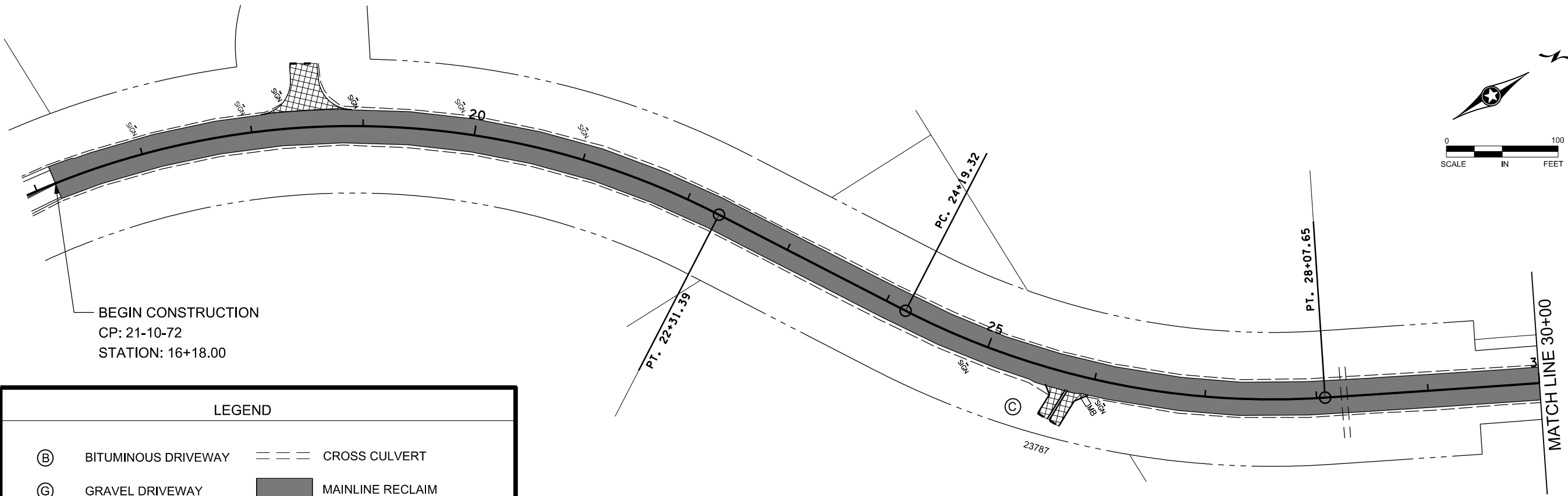
ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 21-10-72

DETAILS

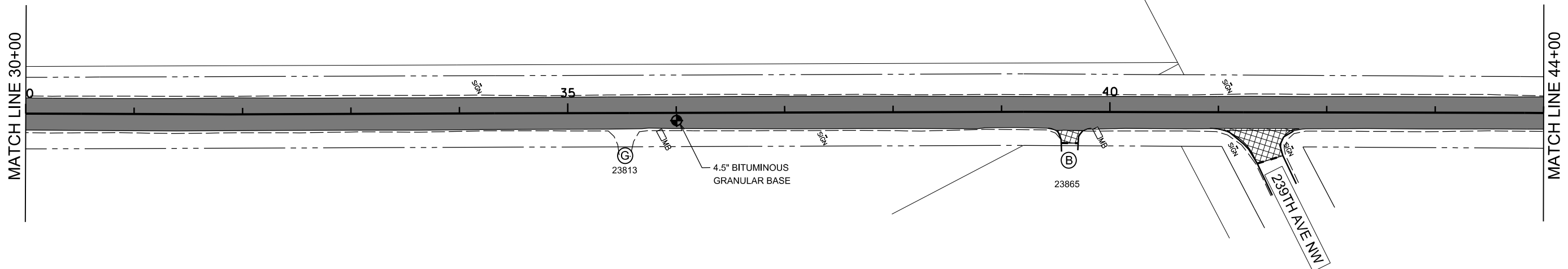
Sheet 5 of 25 Sheets

APAnders



BEGIN CONSTRUCTION
 CP: 21-10-72
 STATION: 16+18.00

LEGEND			
(B)	BITUMINOUS DRIVEWAY	---	CROSS CULVERT
(G)	GRAVEL DRIVEWAY	█	MAINLINE RECLAIM
(C)	CONCRETE DRIVEWAY	▨	REMOVE DRIVEWAY/ APPROACH
⊙	CORE LOCATION	▧	REMOVE ROAD
- - -	SAWCUT	---	R / W



NO	DATE	BY	CKD	APPR	REVISION	TIME
	02/25/2021	APA				2:04:44 PM

NAME: P:\21-01-00\CR_72_(235th-Yukon)\Base\Proposed\CR72_REM1.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: GERALD J. AUGER JR.
 SIGNATURE: *[Signature]*
 DATE: 02-24-2021 LICENSE NO. 26511

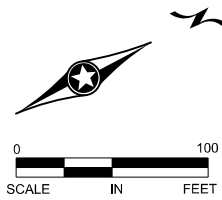
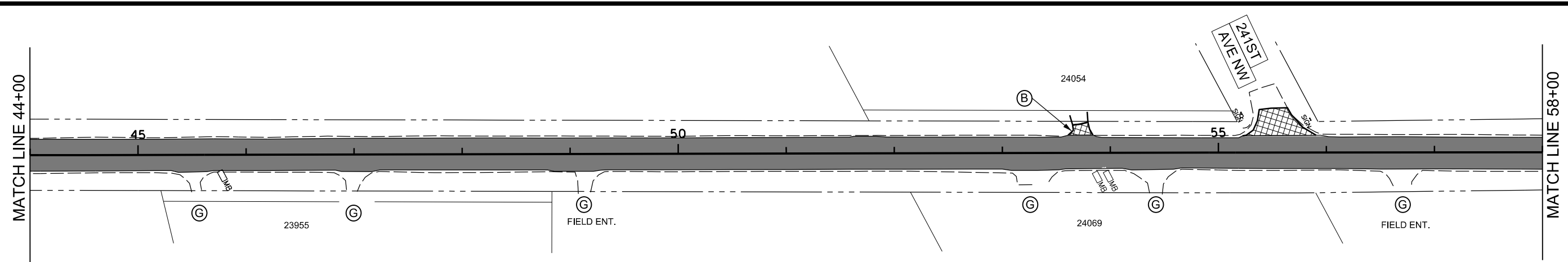
DRAWN BY: APA DATE: 02/25/2021
 DESIGN BY: APA DATE: 02/25/2021
 CHECKED BY: CO DATE: 02/25/2021

ANOKA COUNTY
HIGHWAY DEPT.

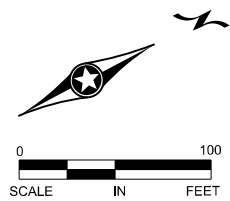
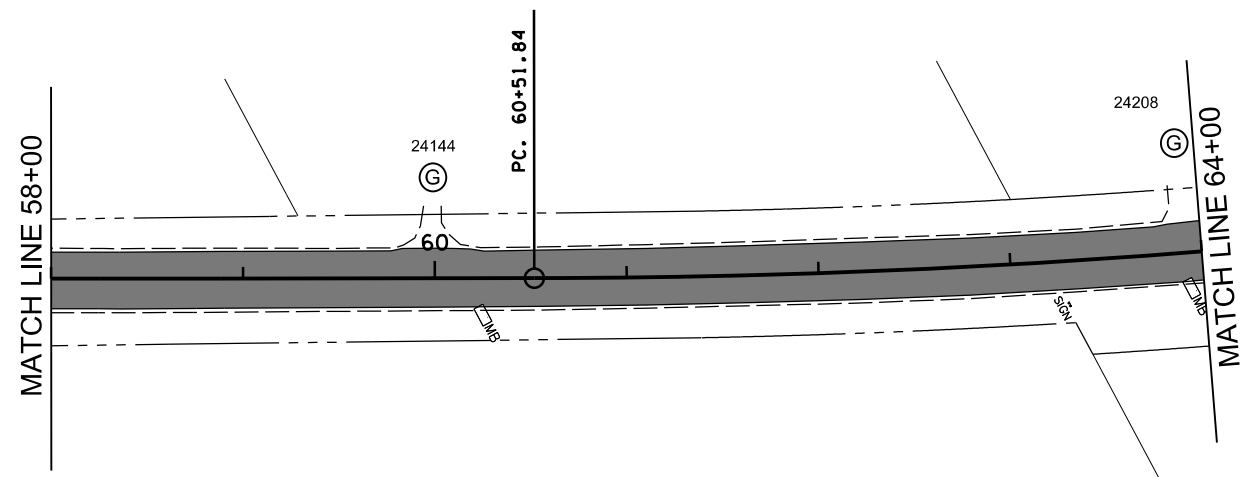
COUNTY PROJECT 20-10-72

REMOVAL PLAN
 STA 16+18 TO 44+00
 Sheet 6 of 25 Sheets

APAnders



LEGEND			
(B)	BITUMINOUS DRIVEWAY	---	CROSS CULVERT
(G)	GRAVEL DRIVEWAY	■	MAINLINE RECLAIM
(C)	CONCRETE DRIVEWAY	▨	REMOVE DRIVEWAY/ APPROACH
◆	CORE LOCATION	▧	REMOVE ROAD
---	SAWCUT	---	R / W



NO	DATE	BY	CKD	APPR	REVISION	
	02/25/2021					2:04:47 PM

NAME: P:\21-01-00\CR_72_(235th-Yukon)\Base\Proposed\CR72_REM2.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: GERALD J. AUGER JR.


SIGNATURE: *[Signature]*

DATE: 02-24-2021 LICENSE NO. 26511

DRAWN BY: APA DATE: 02/25/2021

DESIGN BY: APA DATE: 02/25/2021

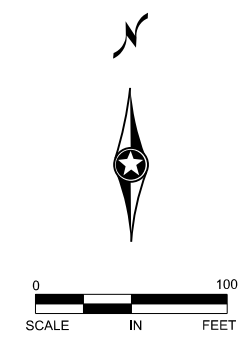
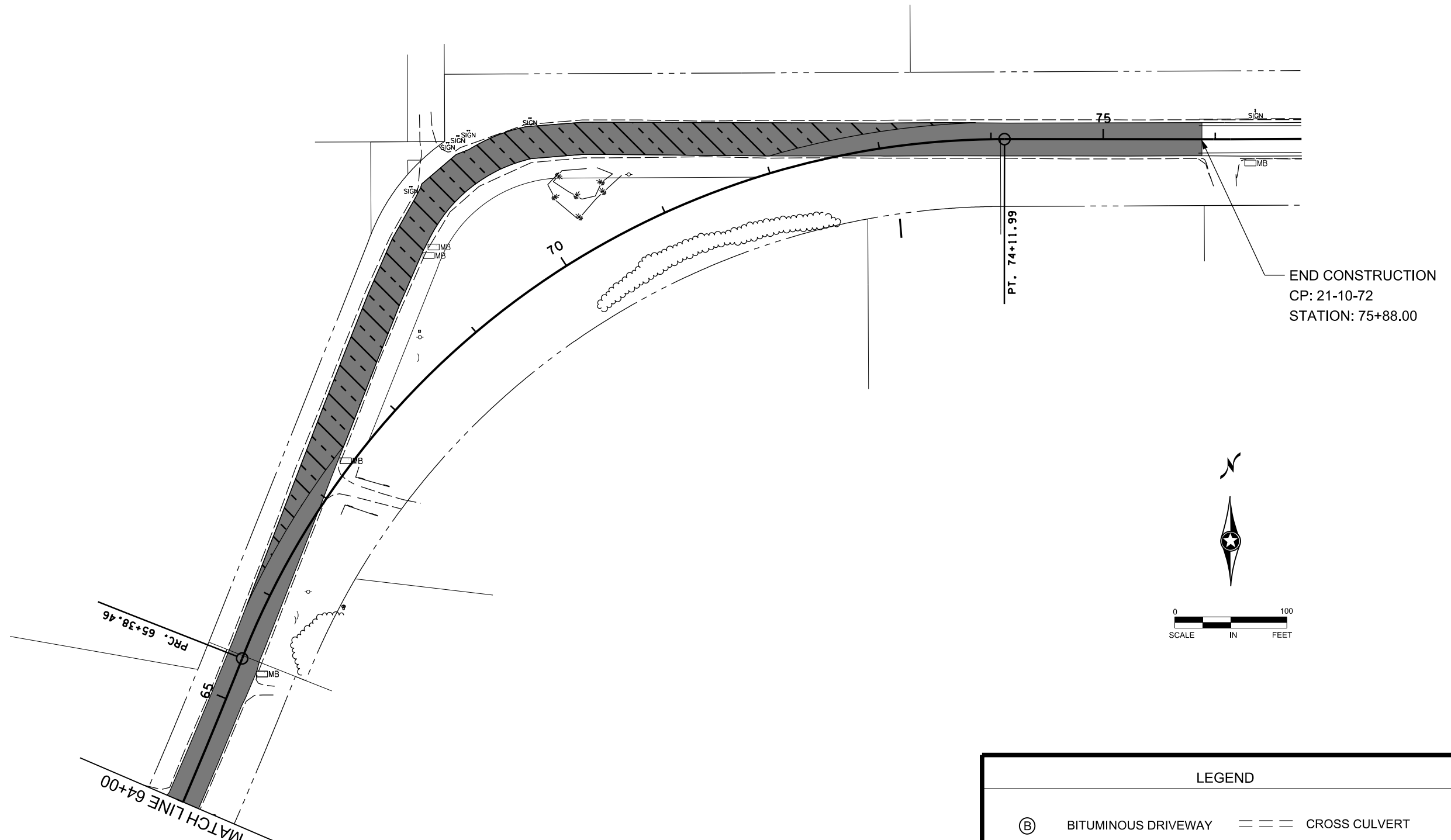
CHECKED BY: CO DATE: 02/25/2021



**ANOKA COUNTY
HIGHWAY DEPT.**

COUNTY PROJECT 21-10-72

REMOVAL PLAN
STA 44+00 TO 64+00
Sheet 7 of 25 Sheets



LEGEND	
(B) BITUMINOUS DRIVEWAY	--- CROSS CULVERT
(G) GRAVEL DRIVEWAY	[Hatched Box] MAINLINE RECLAIM
(C) CONCRETE DRIVEWAY	[Cross-hatched Box] REMOVE DRIVEWAY/ APPROACH
◆ CORE LOCATION	[Diagonal-hatched Box] REMOVE ROAD
- - - SAWCUT	----- R/W

NO	DATE	BY	CHKD	APPR	REVISION	
	02/25/2021					2:04:48 PM

NAME: P:\21-01-00\CR_72_(235th-Yukon)\Base\Proposed\CR72_REM3.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: GERALD J. AUGER JR.

SIGNATURE:

DATE: 02-24-2021 LICENSE NO. 26511

DRAWN BY: APA DATE: 02/25/2021

DESIGN BY: APA DATE: 02/25/2021

CHECKED BY: CSO DATE: 02/25/2021

**ANOKA COUNTY
HIGHWAY DEPT.**

COUNTY PROJECT 21-10-72

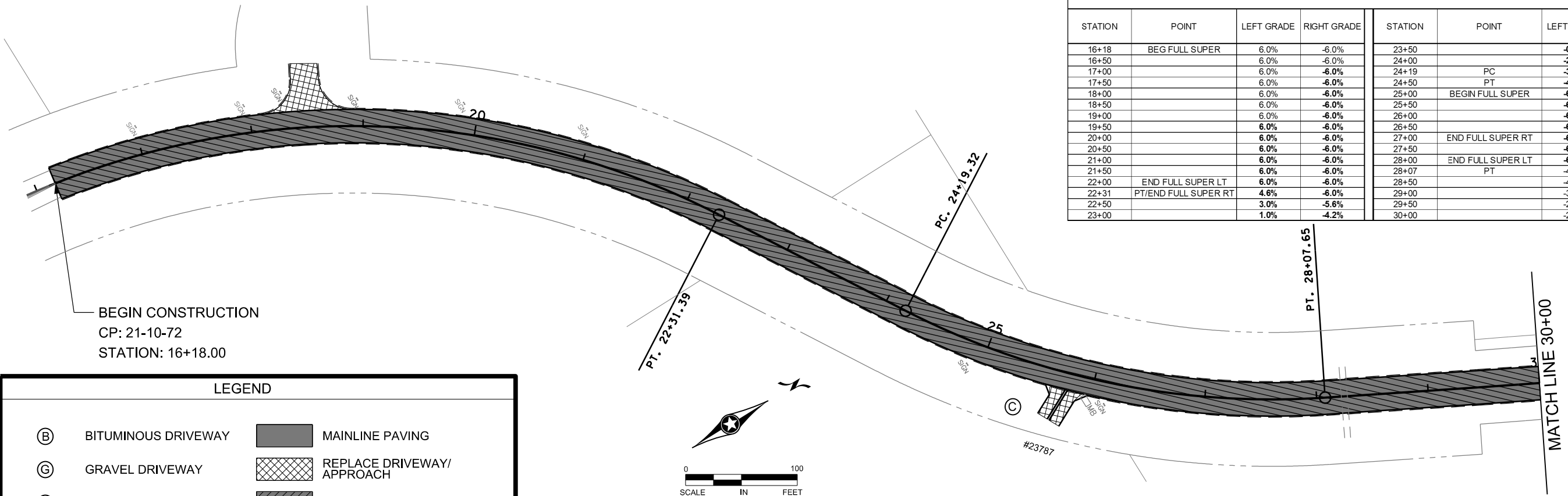
REMOVAL PLAN

STA 64+00 TO 75+88

Sheet 8 of 25 Sheets

SUPERELEVATION TAB 1

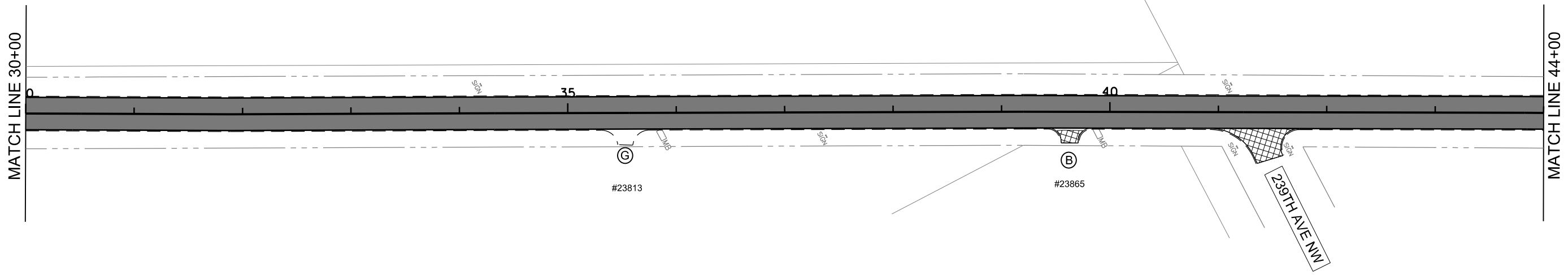
STATION	POINT	LEFT GRADE	RIGHT GRADE	STATION	POINT	LEFT GRADE	RIGHT GRADE
16+18	BEG FULL SUPER	6.0%	-6.0%	23+50		-0.5%	-2.0%
16+50		6.0%	-6.0%	24+00		-2.0%	0.3%
17+00		6.0%	-6.0%	24+19	PC	-3.5%	2.1%
17+50		6.0%	-6.0%	24+50	PT	-4.8%	4.2%
18+00		6.0%	-6.0%	25+00	BEGIN FULL SUPER	-6.0%	6.0%
18+50		6.0%	-6.0%	25+50		-6.0%	6.0%
19+00		6.0%	-6.0%	26+00		-6.0%	6.0%
19+50		6.0%	-6.0%	26+50		-6.0%	6.0%
20+00		6.0%	-6.0%	27+00	END FULL SUPER RT	-6.0%	6.0%
20+50		6.0%	-6.0%	27+50		-6.0%	4.6%
21+00		6.0%	-6.0%	28+00	END FULL SUPER LT	-6.0%	3.2%
21+50		6.0%	-6.0%	28+07	PT	-4.7%	1.8%
22+00	END FULL SUPER LT	6.0%	-6.0%	28+50		-4.0%	0.4%
22+31	PT/END FULL SUPER RT	4.6%	-6.0%	29+00		-3.3%	-1.0%
22+50		3.0%	-5.6%	29+50		-2.6%	-2.0%
23+00		1.0%	-4.2%	30+00		-2.0%	-2.0%



LEGEND

(B)	BITUMINOUS DRIVEWAY	[Hatched Box]	MAINLINE PAVING
(G)	GRAVEL DRIVEWAY	[Cross-hatched Box]	REPLACE DRIVEWAY/ APPROACH
(C)	CONCRETE DRIVEWAY	[Diagonal Hatched Box]	SUPER TRANSITION AREA
- - - -	CONSTRUCTION LIMITS	[Dotted Box]	CONSTRUCT DRIVEWAY EXTENSION
= = = =	CROSS CULVERT	[Wavy Hatched Box]	SPECIAL DITCH GRADING

R / W



NO	DATE	BY	CKD	APPR	REVISION	TIME
	02/25/2021					2:04:50 PM

NAME: P:\21-01-00\CR_72_(235th-Yukon)\Base\Proposed\CR72_CP1.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: GERALD J. AUGER JR.

SIGNATURE: *[Signature]*

DATE: 02-24-2021 LICENSE NO. 26511

DRAWN BY: APA DATE: 02/25/2021

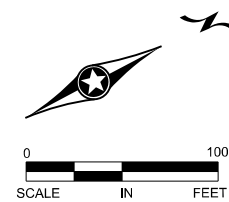
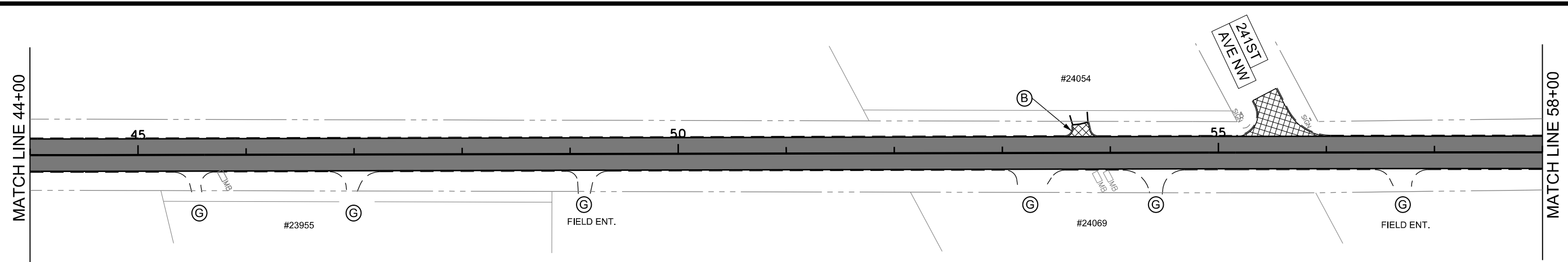
DESIGN BY: APA DATE: 02/25/2021

CHECKED BY: CO DATE: 02/25/2021

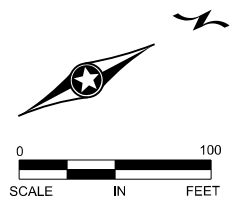
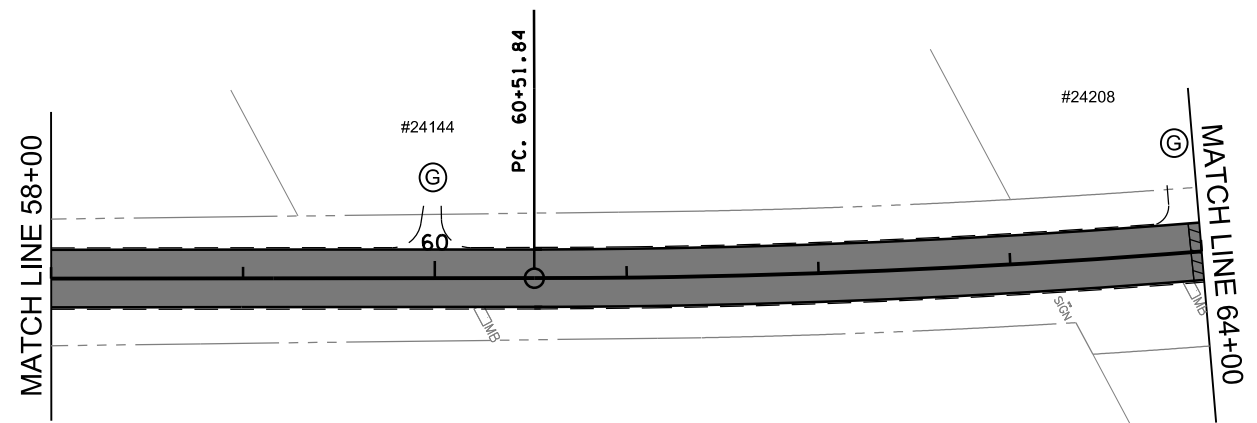
ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 21-10-72

CONSTRUCTION PLAN
STA 16+18 TO 44+00
Sheet 9 of 25 Sheets



LEGEND			
(B)	BITUMINOUS DRIVEWAY	[Solid Grey Box]	MAINLINE PAVING
(G)	GRAVEL DRIVEWAY	[Cross-hatched Box]	REPLACE DRIVEWAY/ APPROACH
(C)	CONCRETE DRIVEWAY	[Diagonal Hatched Box]	SUPER TRANSITION AREA
- - - -	CONSTRUCTION LIMITS	[Stippled Box]	CONSTRUCT DRIVEWAY EXTENSION
= = =	CROSS CULVERT	[Wavy Hatched Box]	SPECIAL DITCH GRADING
		R / W	



NO	DATE	BY	CKD	APPR	REVISION	
	02/25/2021					2:04:53 PM

NAME: P:\21-01-00\CR_72_(235th-Yukon)\Base\Proposed\CR72_CP2.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: GERALD J. AUGER JR.

SIGNATURE: *[Signature]*

DATE: 02-24-2021 LICENSE NO. 26511

DRAWN BY: APA DATE: 02/25/2021

DESIGN BY: APA DATE: 02/25/2021

CHECKED BY: CO DATE: 02/25/2021

**ANOKA COUNTY
HIGHWAY DEPT.**

COUNTY PROJECT 21-10-72

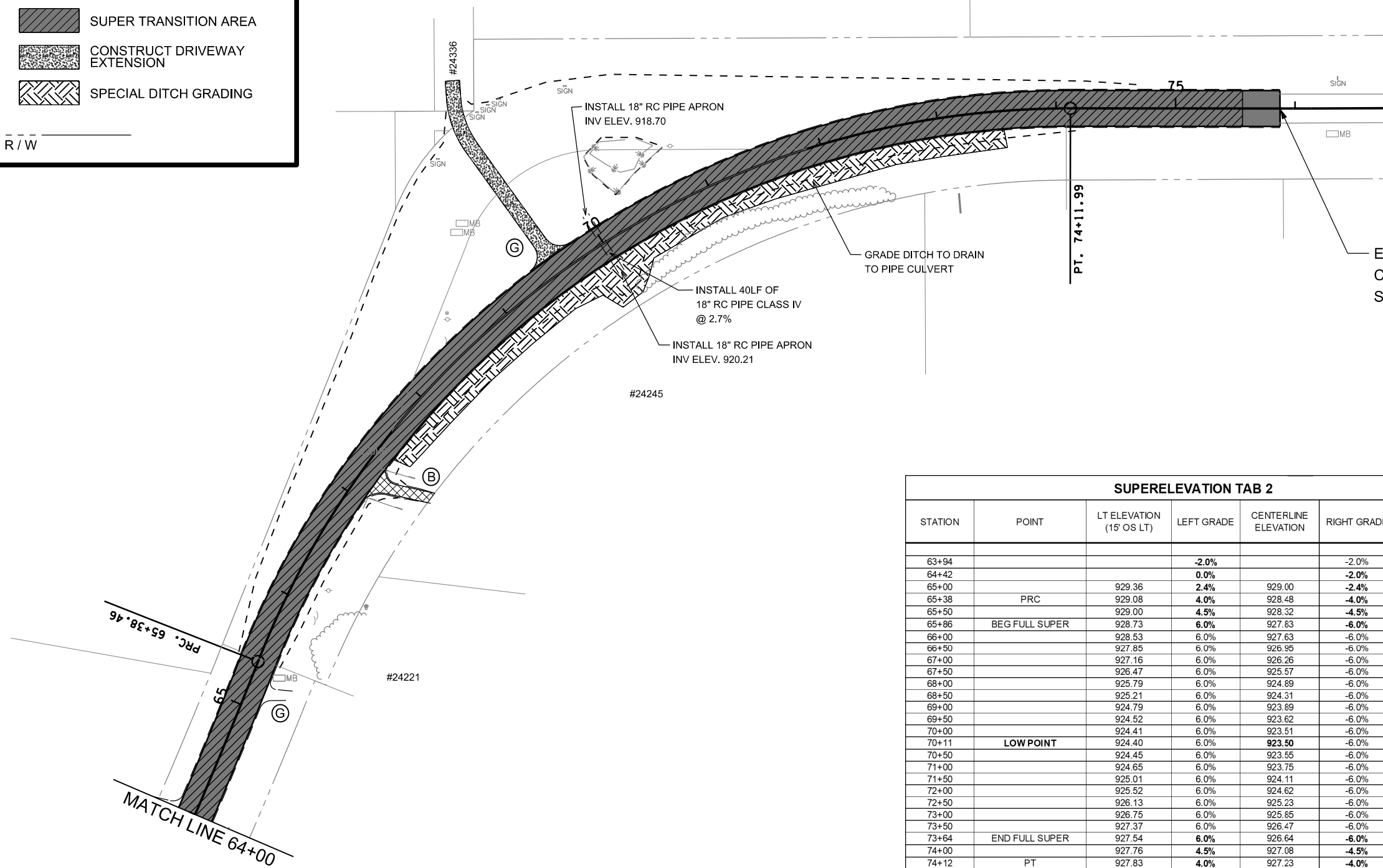
CONSTRUCTION PLAN
STA 44+00 TO 64+00
Sheet 10 of 25 Sheets

AP Anders

LEGEND

- (B) BITUMINOUS DRIVEWAY
- (G) GRAVEL DRIVEWAY
- (C) CONCRETE DRIVEWAY
- CONSTRUCTION LIMITS
- == CROSS CULVERT
- MAINLINE PAVING
- REPLACE DRIVEWAY/ APPROACH
- SUPER TRANSITION AREA
- CONSTRUCT DRIVEWAY EXTENSION
- SPECIAL DITCH GRADING

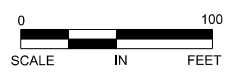
R / W



END CONSTRUCTION
CP: 21-10-72
STATION: 75+88.00

SUPERELEVATION TAB 2

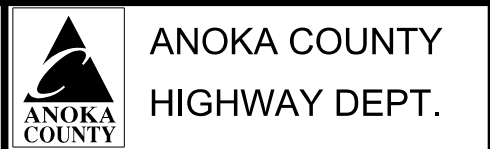
STATION	POINT	LT ELEVATION (15' OS LT)	LEFT GRADE	CENTERLINE ELEVATION	RIGHT GRADE	RT ELEVATION (15' OS RT)
63+94			-2.0%		-2.0%	
64+42			0.0%		-2.0%	
65+00		929.36	2.4%	929.00	-2.4%	928.64
65+38	PRC	929.08	4.0%	928.48	-4.0%	927.88
65+50		929.00	4.5%	928.32	-4.5%	927.65
65+86	BEG FULL SUPER	928.73	6.0%	927.83	-6.0%	926.93
66+00		928.53	6.0%	927.63	-6.0%	926.73
66+50		927.85	6.0%	926.95	-6.0%	926.05
67+00		927.16	6.0%	926.26	-6.0%	925.36
67+50		926.47	6.0%	925.57	-6.0%	924.67
68+00		925.79	6.0%	924.89	-6.0%	923.99
68+50		925.21	6.0%	924.31	-6.0%	923.41
69+00		924.79	6.0%	923.89	-6.0%	922.99
69+50		924.52	6.0%	923.62	-6.0%	922.72
70+00		924.41	6.0%	923.51	-6.0%	922.61
70+11	LOW POINT	924.40	6.0%	923.50	-6.0%	922.60
70+50		924.45	6.0%	923.55	-6.0%	922.65
71+00		924.65	6.0%	923.75	-6.0%	922.85
71+50		925.01	6.0%	924.11	-6.0%	923.21
72+00		925.52	6.0%	924.62	-6.0%	923.72
72+50		926.13	6.0%	925.23	-6.0%	924.33
73+00		926.75	6.0%	925.85	-6.0%	924.95
73+50		927.37	6.0%	926.47	-6.0%	925.57
73+64	END FULL SUPER	927.54	6.0%	926.64	-6.0%	925.74
74+00		927.76	4.5%	927.08	-4.5%	926.41
74+12	PT	927.83	4.0%	927.23	-4.0%	926.63
74+50			2.4%		-2.4%	
75+08			0.0%		-2.0%	
75+56			-2.0%		-2.0%	



NO	DATE	BY	CKD	APPR	REVISION	02/25/2021	2:04:54 PM
NAME: P:\21-01-00\CR_72_(235th-Yukon)\Base\Proposed\CR72_CP3.dgn							

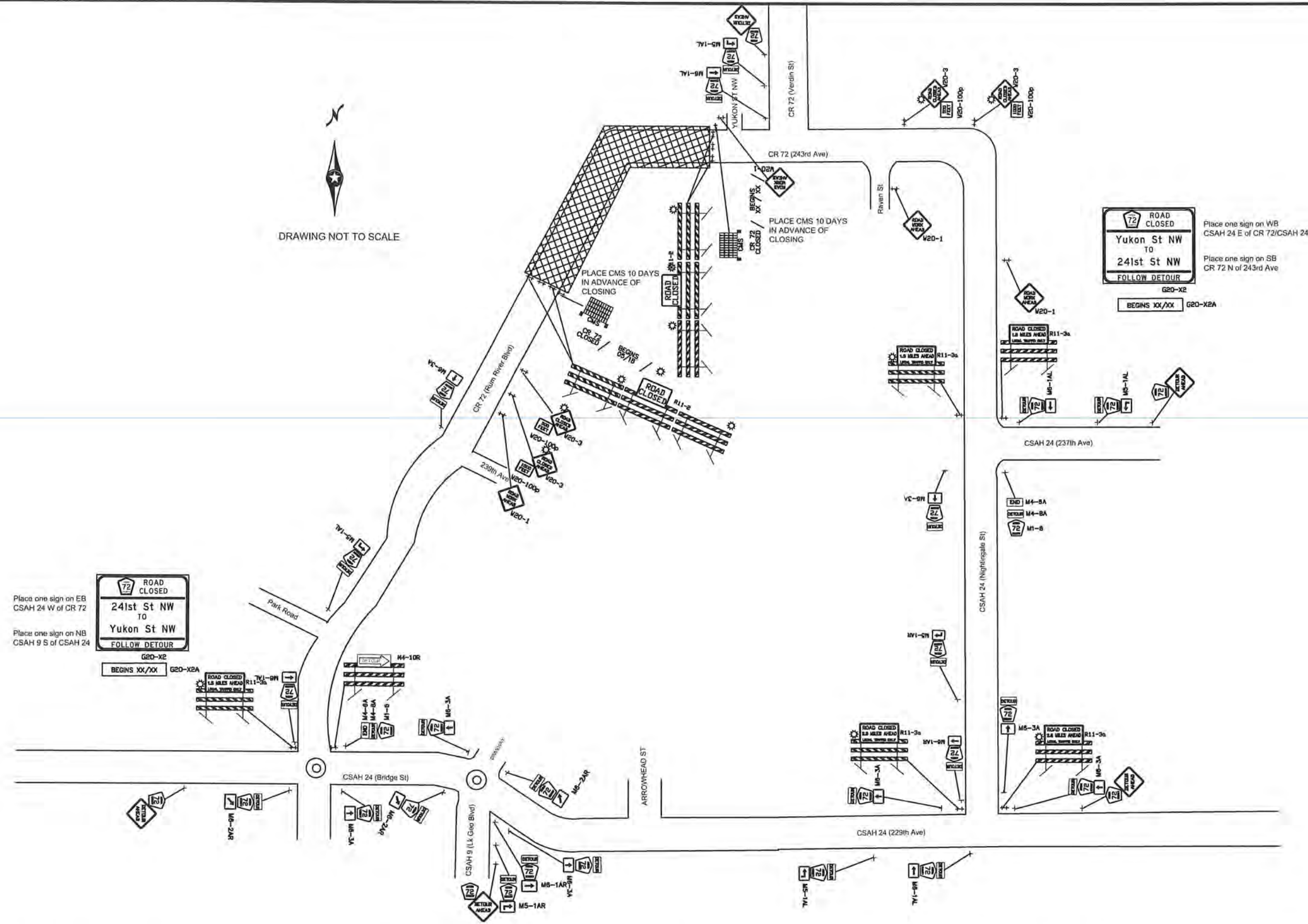
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: GERALD J. AUGER JR.
 SIGNATURE: *[Signature]*
 DATE: 02-24-2021 LICENSE NO. 26511

DRAWN BY: APA DATE: 02/25/2021
 DESIGN BY: APA DATE: 02/25/2021
 CHECKED BY: CO DATE: 02/25/2021



COUNTY PROJECT 21-10-72

CONSTRUCTION PLAN
 STA 64+00 TO 75+88
 Sheet 11 of 25 Sheets



ROAD CLOSED
Yukon St NW
TO
241st St NW
FOLLOW DETOUR
G20-X2
BEGINS XX/XX G20-X2A

Place one sign on WB
CSAH 24 E of CR 72/CSAH 24
Place one sign on SB
CR 72 N of 243rd Ave

ROAD CLOSED
241st St NW
TO
Yukon St NW
FOLLOW DETOUR
G20-X2
BEGINS XX/XX G20-X2A

Place one sign on EB
CSAH 24 W of CR 72
Place one sign on NB
CSAH 9 S of CSAH 24

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\21-01-00\CR_72_235th-Yukon\Bases\Traffic\Detour.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: JOSEPH J. MACPHERSON, P.E.
 SIGNATURE: *[Signature]*
 DATE: 8-1-24 LICENSE NO. 48732

DRAWN BY: TMV DATE: 12/15/20
 DESIGN BY: TMV DATE: 12/15/20
 CHECKED BY: DATE:



ANOKA COUNTY
HIGHWAY DEPT.

CP 21-10-72

DETOUR PLAN
 Sheet 12 of 25 Sheets

M. U. T. C. D. CODE	SIZE	INSERT	QUANTITY
W20-1	48' X 48'		4
M1-6	24' X 24'		5
W20-2	48' X 48'		5
W20-3	48' X 48'		4
W20-100p	24' X 18'		2
W20-100d	24' X 18'		2
M4-10R	48' X 18'		1
TYPE III	8 FOOT		SEE NOTE ②
R11-3a	48' X 30'		1
TYPE III	8 FOOT		SEE NOTE ②
FLASHER			1
R11-3a	48' X 30'		1
TYPE III	8 FOOT		SEE NOTE ②
FLASHER			1
R11-3a	48' X 30'		1
TYPE III	8 FOOT		SEE NOTE ②
FLASHER			1
R11-3a	48' X 30'		1
TYPE III	8 FOOT		SEE NOTE ②
FLASHER			1
R11-3a	48' X 30'		1
TYPE III	8 FOOT		SEE NOTE ②
FLASHER			1

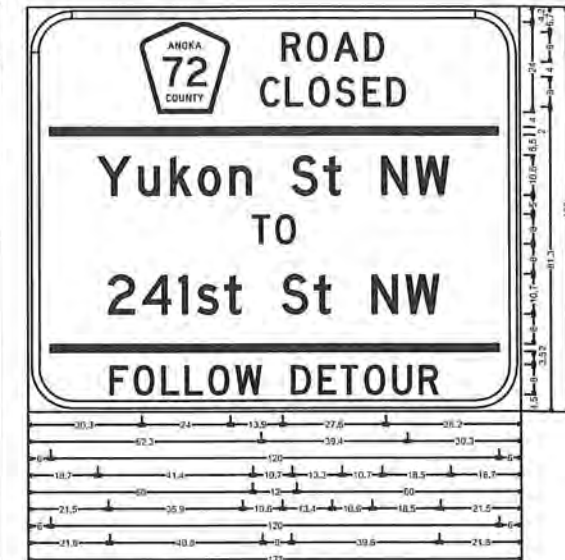
M. U. T. C. D. CODE	SIZE	INSERT	QUANTITY
R11-2	48' X 30'		SEE NOTE
TYPE III	8 FOOT		②
FLASHER			2
TYPE III	8 FOOT		SEE NOTE ②
FLASHER			2
TYPE III	8 FOOT		SEE NOTE ②
FLASHER			2
M4-8A	24' X 12'		23
M1-6	24' X 24'		23
	21' X 15'		4
			4
			2
			2
			8
			3
M4-6A	24' X 12'		2
M4-8A	24' X 12'		2
M1-6	24' X 24'		2
REFLECTORIZED REBOUNDABLE DRUM			10
CMS sign to be placed a minimum of ten days prior to actual commencement of road closure. Signs to be removed when road closure begins.			2

NOTES:

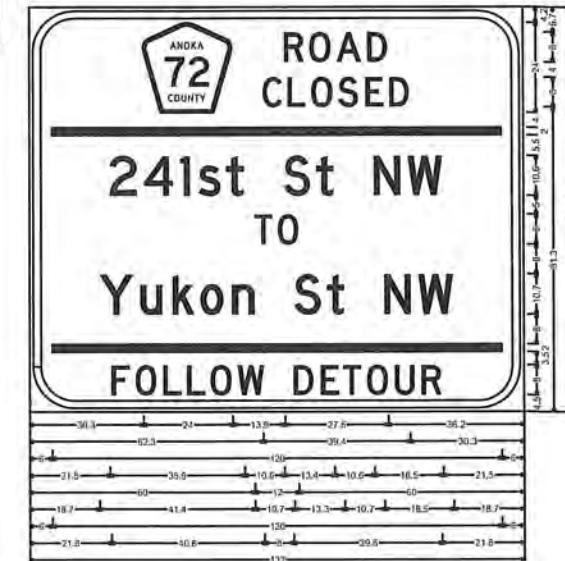
1. ALL BARRICADES SHALL BE PROPERLY WEIGHTED WITH SANDBAGS.
2. ALL BARRICADES SHALL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.
3. ALL BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL, DATED JANUARY 2018.
4. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL, DATED JANUARY 2018.
5. ADDITIONS OR CHANGES TO THIS PLAN MAY BE MADE AS DETERMINED BY THE ENGINEER.

M. U. T. C. D. CODE	SIZE	INSERT	QUANTITY
G20-X2	132' X 108'		2
			* 2
G20-X2	132' X 108'		2
			* 2

* G20-X1A SIGN TO BE PLACED A MINIMUM OF TEN DAYS PRIOR TO ACTUAL CLOSING DATE OF ROAD CLOSURE AND IMPLEMENTATION OF DETOUR SIGNING. SIGNS TO BE REMOVED AT TIME OF DETOUR INSTALLATION.



G20-X2_132x108.
12" Radius, 2.0" Border, 1.0" Internl. Back on Orange.
Postage: County 72 M-4; "ROAD"; D: "CLOSED"; G: "Yukon St NW"; D: "TO"; D:
"241st St NW"; D: "FOLLOW DETOUR"; D:



G20-X2_132x108.
12" Radius, 2.0" Border, 1.0" Internl. Back on Orange.
Postage: County 72 M-4; "ROAD"; D: "CLOSED"; G: "241st St NW"; D: "TO"; D:
"Yukon St NW"; D: "FOLLOW DETOUR"; D:

NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\21-01-00\CR_72_(235th-Yukon)\BaseTraffic\Detour.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: JOSEPH J. MACPHERSON, P.E.
SIGNATURE:
DATE: 3.1.21 LICENSE NO: 46732

DRAWN BY: TMV DATE: 12/15/20
DESIGN BY: TMV DATE: 12/15/20
CHECKED BY: DATE:


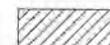
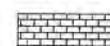


ANOKA COUNTY
HIGHWAY DEPT.

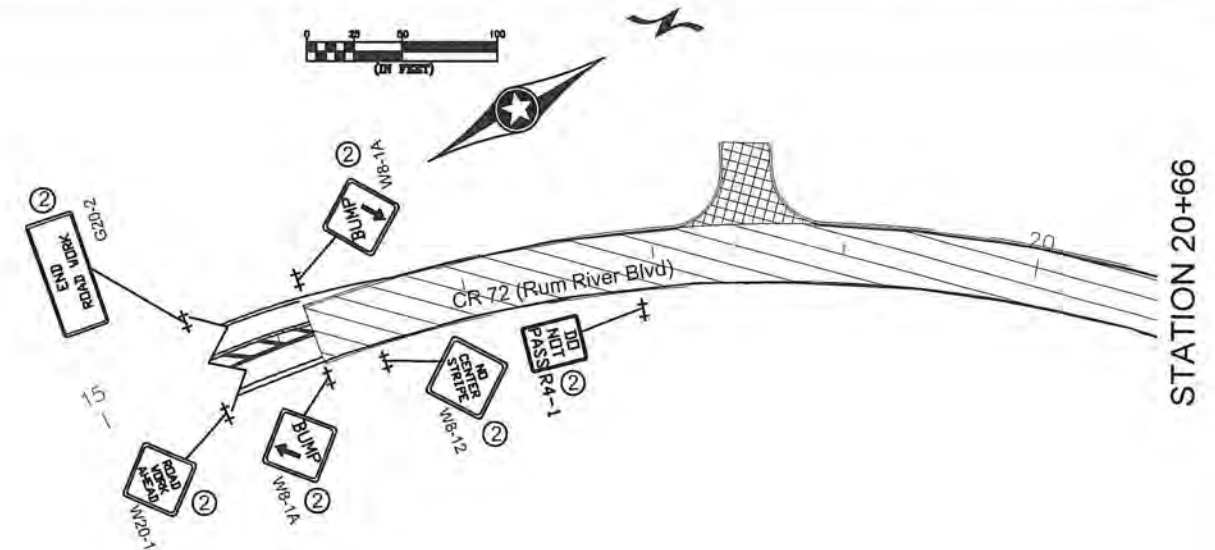
CP 21-10-72

DETOUR SIGN QUANTITIES

Sheet 13 of 25 Sheets

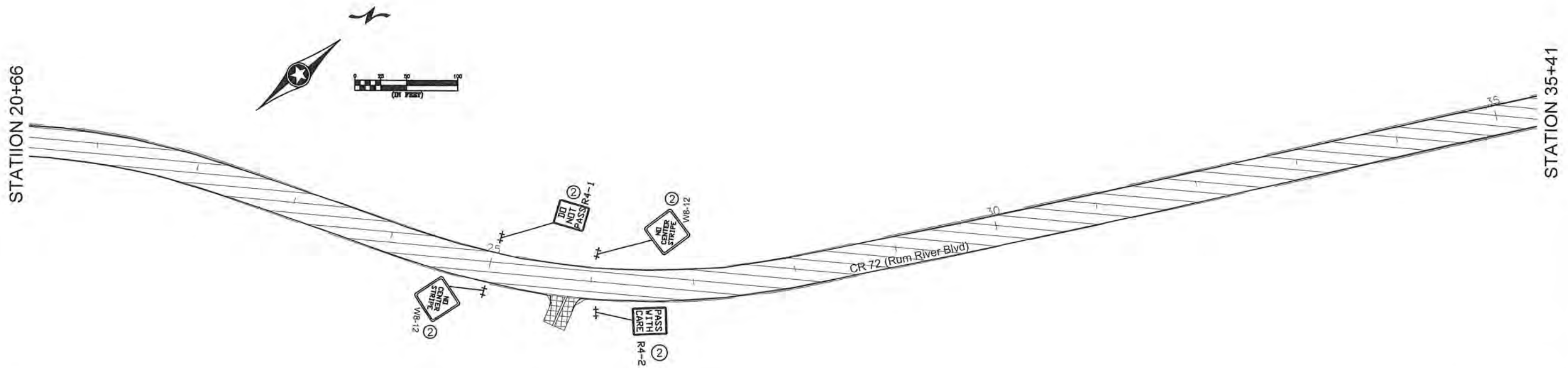
-  CONSTRUCT UNDER TRAFFIC
-  CONSTRUCT UNDER TRAFFIC
-  CONSTRUCT UNDER ROAD CLOSURE

- SIGN NOTES:
- ② TEMPORARY TRAFFIC CONTROL SIGN
 - ③ PLACE TEMPORARY TRAFFIC CONTROL SIGN WHEN ROADWAY OPENS TO TRAFFIC
 - ⑤ REMOVE 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.
- CONTRACTOR SHALL SUPPLY AND INSTALL THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) A MINIMUM TEN DAYS PRIOR TO ACTUAL COMMENCEMENT OF ROAD CLOSURE, 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.
- ROAD CLOSED BETWEEN STATION 64+00 AND STATION 75+87 DURING THE CONSTRUCTION OF NEW ALIGNMENT. REFER TO DETOUR PLAN.
- ACCESS SHALL BE MAINTAINED TO ALL STREETS AND DRIVEWAYS IN CONSTRUCTION AREA AND DURING THE ROAD CLOSURE.
- ALL EXISTING SIGNING SHALL REMAIN IN PLACE DURING CONSTRUCTION. ANY 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	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: JOSEPH J. MACPHERSON, P.E.


SIGNATURE: *[Signature]*

DATE: 3-1-21 LICENSE NO. 48732

DRAWN BY: TMV DATE 12/18/20

DESIGN BY: TMV DATE 12/18/20

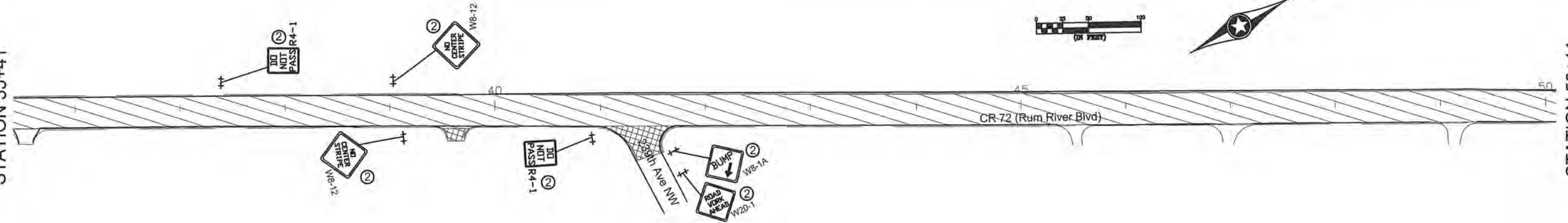
CHECKED BY: DATE

 ANOKA COUNTY HIGHWAY DEPT.

CP 21-10-72

STATION 35+41

STATION 50+11



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.
- CONTRACTOR SHALL SUPPLY AND INSTALL THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) A MINIMUM TEN DAYS PRIOR TO ACTUAL COMMENCEMENT OF ROAD CLOSURE, 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.
- ROAD CLOSED BETWEEN STATION 64+00 AND STATION 75+87 DURING THE CONSTRUCTION OF NEW ALIGNMENT. REFER TO DETOUR PLAN.
- ACCESS SHALL BE MAINTAINED TO ALL STREETS AND DRIVEWAYS IN CONSTRUCTION AREA AND DURING THE ROAD CLOSURE.
- ALL EXISTING SIGNING SHALL REMAIN IN PLACE DURING CONSTRUCTION. ANY 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.

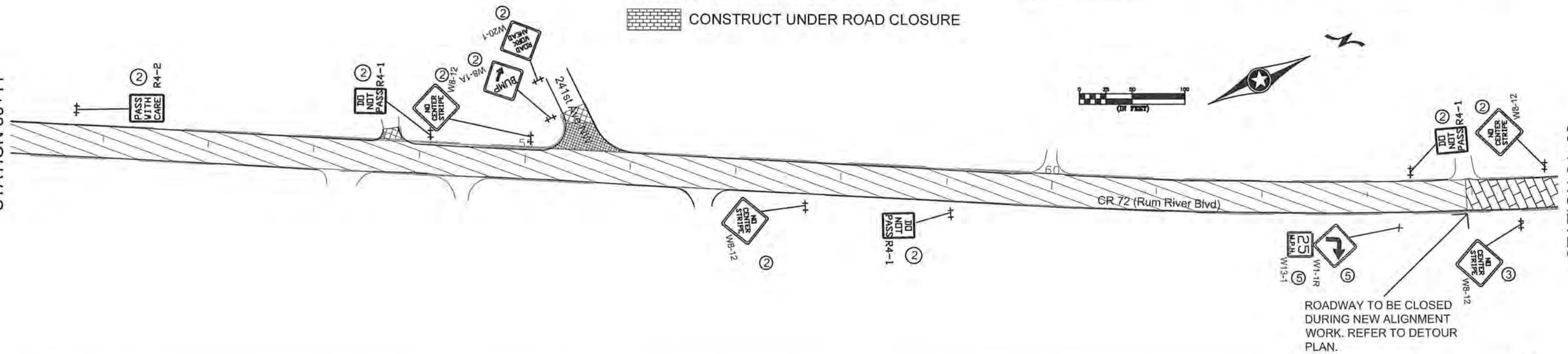
- CONSTRUCT UNDER TRAFFIC
- CONSTRUCT UNDER TRAFFIC
- CONSTRUCT UNDER ROAD CLOSURE

SIGN NOTES:

- ② TEMPORARY TRAFFIC CONTROL SIGN
- ③ PLACE TEMPORARY TRAFFIC CONTROL SIGN WHEN ROADWAY OPENS TO TRAFFIC
- ⑤ REMOVE SIGN

STATION 50+11

STATION 64+82



ROADWAY TO BE CLOSED DURING NEW ALIGNMENT WORK. REFER TO DETOUR PLAN.

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: JOSEPH J. MACPHERSON, P.E.
 SIGNATURE:
 DATE: 3-1-24 LICENSE NO. 46732

DRAWN BY: TMV DATE: 12/19/20
 DESIGN BY: TMV DATE: 12/16/20
 CHECKED BY: _____ DATE: _____

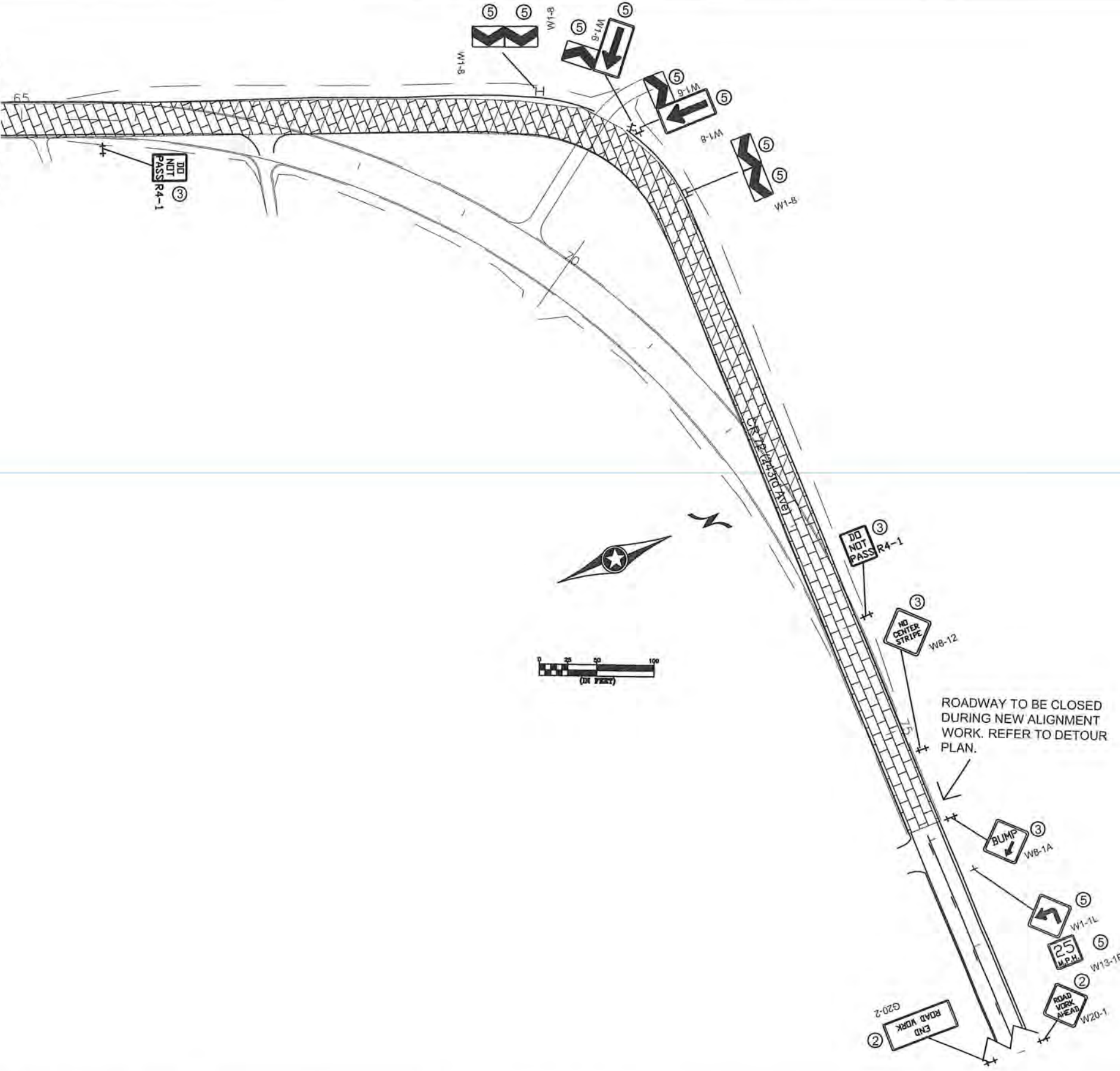


ANOKA COUNTY
 HIGHWAY DEPT.

CP 21-10-72

TRAFFIC CONTROL PLAN

STATION 64+82



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:121-01-00\CR_72_(235th-Yukon)\Base\Traffic\TC 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: JOSEPH J. MACPHERSON, P.E.

SIGNATURE: *[Signature]*

DATE: 7-1-20 LICENSE NO. 48732

DRAWN BY: TMV DATE: 12/16/20




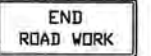








DESIGN BY: TMV DATE: 12/16/20

CHECKED BY: DATE:



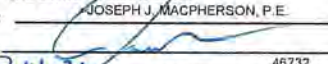
ANOKA COUNTY
HIGHWAY DEPT.

CP 21-10-72

TEMPORARY TRAFFIC CONTROL SIGNS					
M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY	No. POST	MOUNTING HEIGHT TO PAVEMENT EDGE) FT.
W8-12	48" x 48"		10	2	7.0'
R4-1	24" x 30"		9	1	7.0'
R4-2	24" x 30"		2	1	7.0'
G20-2	36" x 18"		2	2	7.0'
W8-1	48" x 48"		AS NEEDED		
W8-1A	48" x 48"		AS NEEDED (ESTIMATED 5)		
W8-8	48" x 48"		AS NEEDED		
W8-9	48" x 48"		AS NEEDED		
	48" x 48"		AS NEEDED		
W8-11	48" x 48"		AS NEEDED		
W20-1	48" x 48"		AS NEEDED (ESTIMATED 4)		
REFLECTORIZED REBOUNDABLE DRUM			AS NEEDED		

EXISTING SIGN TAB				
STATION	ADDRESS/ DESCRIPTION (NOTES)	REMOVE SIGN TYPE C	SIGN NUMBER	SIGN LEGEND
		EACH		
63+28	RT	1	W1-1R	RT CURVE
			W13-1P	25 MPH
		1	W1-8	CHEVRON
			W1-8	CHEVRON
		1	W1-6	RT ARROW
			W1-8	CHEVRON
		1	W1-6	RT ARROW
			W1-8	CHEVRON
		1	W1-8	CHEVRON
			W1-8	CHEVRON
76+37	LT	1	W1-1L	LT CURVE
			W13-1P	25 MPH
TOTAL		6		

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: JOSEPH J. MACPHERSON, P.E.
 SIGNATURE: 
 DATE: 3-1-21 LICENSE NO. 46732

DRAWN BY: TMV DATE: 12/18/20
 DESIGN BY: TMV DATE: 12/16/20
 CHECKED BY: DATE:



ANOKA COUNTY
 HIGHWAY DEPT.

CP 21-10-72

**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 BEANS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE MULTI COMP RESIN LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.

A MULTI COMP RESIN LINE SHALL BE APPLIED WITH A MINIMUM THICKNESS OF 20 MILS (WET) AND 4" WIDE. GLASS BEANS 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.

E PAVEMENT MARKING TABULATION		
ITEM	UNIT	TOTAL QUANTITY
4" SOLID LINE WHITE - MULTI COMP	LIN FT	12200
4" BROKEN LINE YELLOW - MULTI COMP	LIN FT	518
4" SOLID LINE YELLOW - MULTI COMP	LIN FT	2251
4" DOUBLE LINE YELLOW - MULTI COMP	LIN FT	3532
24" SOLID LINE YELLOW - THERMOPLASTIC (PMS*)	LIN FT	18

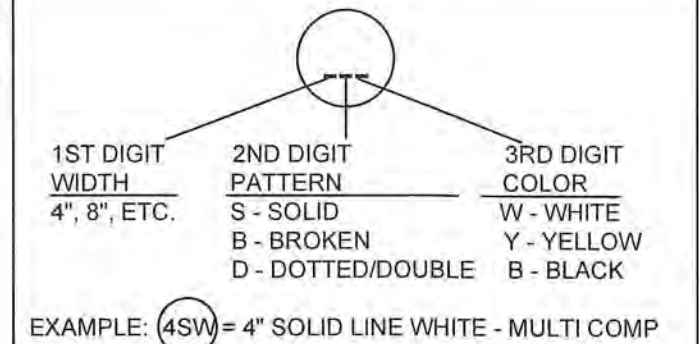
1 10' STRIPE, 40' GAP
* PAVEMENT MARKING SPECIAL

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



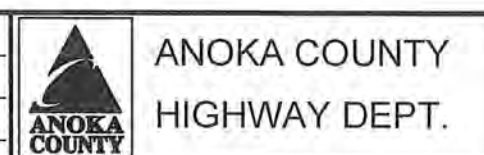
NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\20-01-00\CR_72_(235th-Yukon)\Base\Traffic\Perm Pvmr Mrkg Guide Notes.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: JOSEPH J. MACPHERSON, P.E.
SIGNATURE: *[Signature]*
DATE: 3-1-24 LICENSE NO: 46732

DRAWN BY TMV DATE 12/16/20
DESIGN BY TMV DATE 12/16/20
CHECKED BY DATE



CP 21-10-72

NOTES:

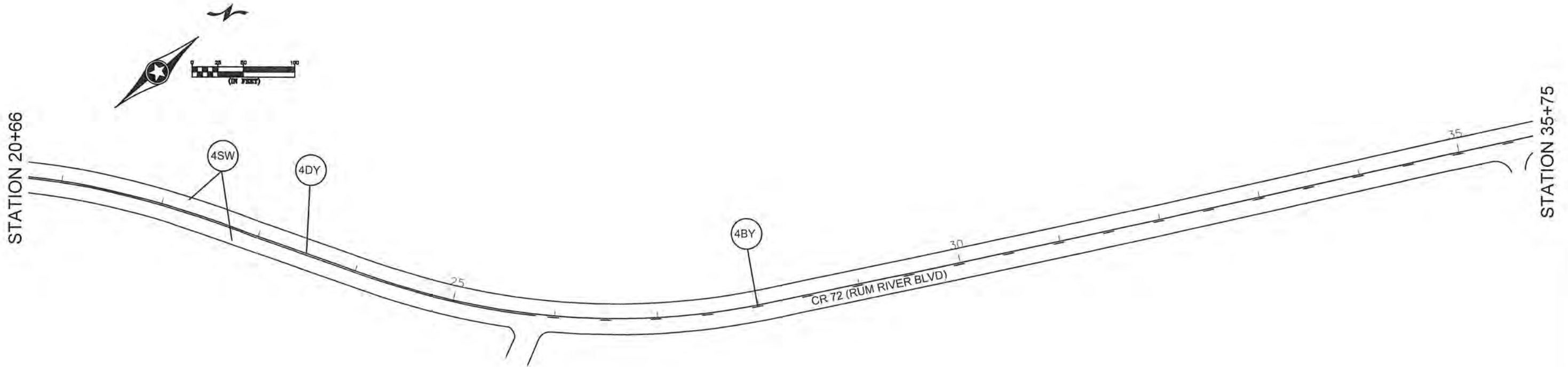
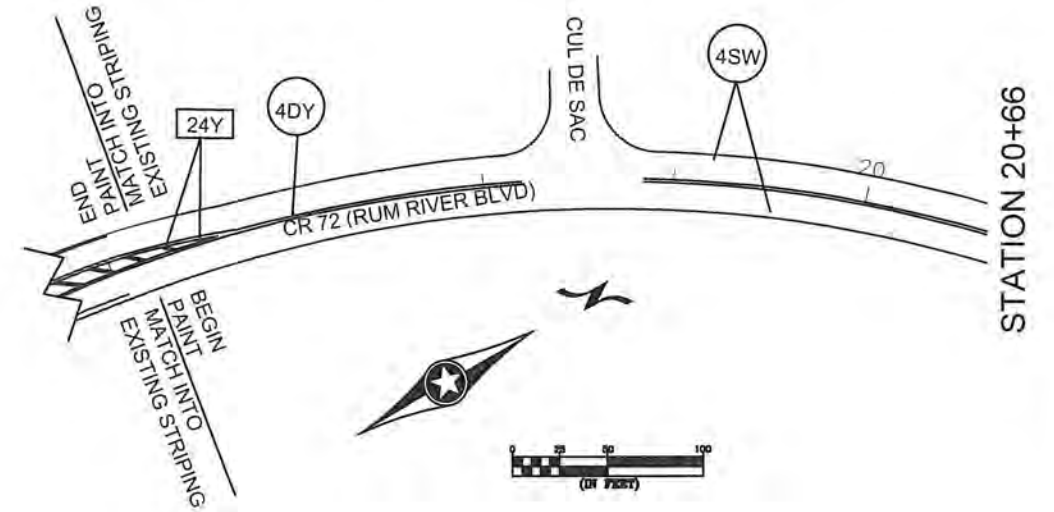
- LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- ACCESS SHALL BE MAINTAINED TO ALL STREETS AND DRIVEWAYS IN CONSTRUCTION AREA.
- ALL PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
- ANY REQUIRED PERMANENT SIGNING SHALL BE INSTALLED THE SAME DAY AS PERMANENT STRIPING.

STRIPING KEY

- CIRCLE - MULTI COMP
- SQUARE - POLY PREFORM

SIGN NOTES:

- ① FURNISH & 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: JOSEPH J. MACPHERSON, P.E.

SIGNATURE: *[Signature]*

DATE: 3-1-21 LICENSE NO. 46732

DRAWN BY: TMV DATE: 12/16/20

DESIGN BY: TMV DATE: 12/16/20

CHECKED BY: _____ DATE: _____

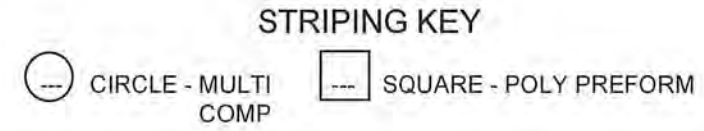
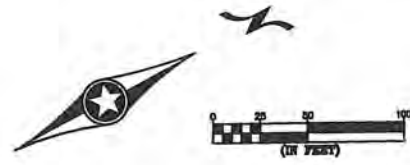


ANOKA COUNTY
HIGHWAY DEPT.

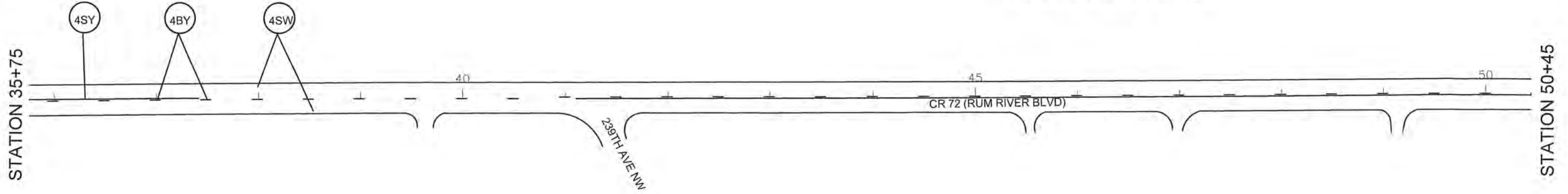
CP 21-10-72

PERMANENT SIGNING & STRIPING PLAN

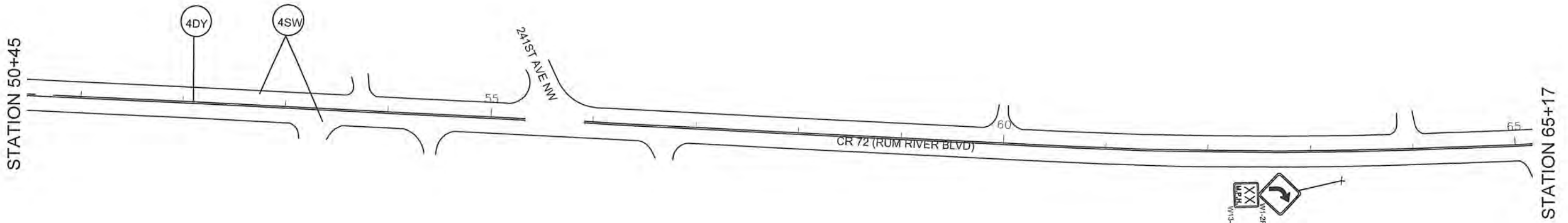
Sheet 19 of 25 Sheets



SIGN NOTES:
 ① FURNISH & INSTALL SIGN TYPE C



- NOTES:**
- LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - ACCESS SHALL BE MAINTAINED TO ALL STREETS AND 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.



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\21-01-00\CR_72_(235th-Yukon)\BaseTraffic\Perm 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: JOSEPH J. MACPHERSON, P.E.

SIGNATURE: *[Signature]*

DATE: 3-1-21 LICENSE NO. 46732

DRAWN BY: TMV DATE: 12/18/20

DESIGN BY: TMV DATE: 12/18/20

CHECKED BY: DATE:



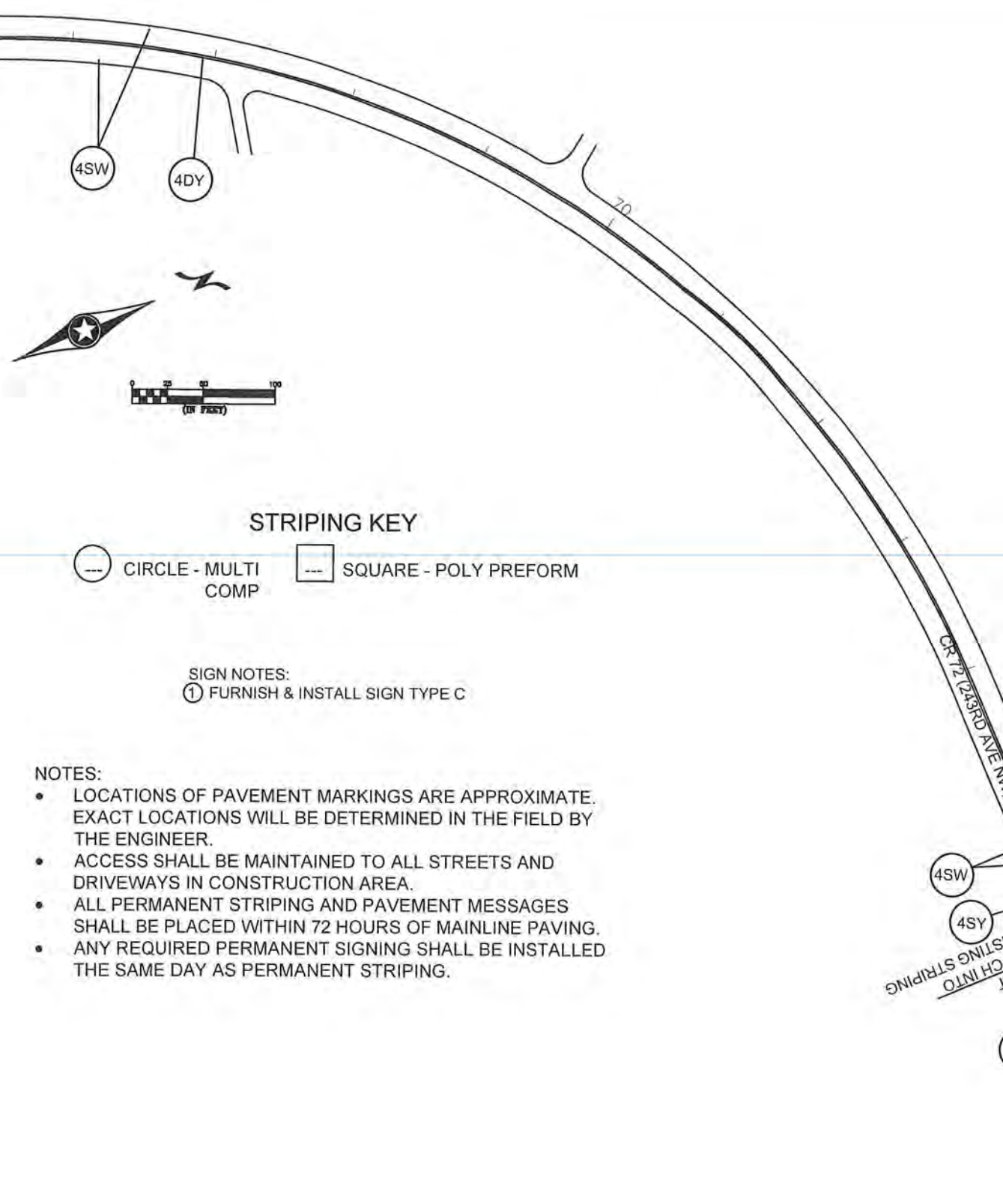
ANOKA COUNTY
HIGHWAY DEPT.

CP 21-10-72

PERMANENT SIGNING & STRIPING PLAN

Sheet 20 of 25 Sheets

STATION 65+17



F & I SIGN PANELS TYPE C							
M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY	PANEL AREA	TOTAL AREA	MOUNTING POST PER INSTALLATION	MOUNTING HEIGHT To pavement edge
				SQ. FT.	SQ. FT.		
W1-2L	36" x 36"		1	9.00	9.00	1	7.0'
W1-2R	36" x 36"		1	9.00	9.00	1	7.0'
TOTAL TYPE C SIGN SQ FT					18.00		

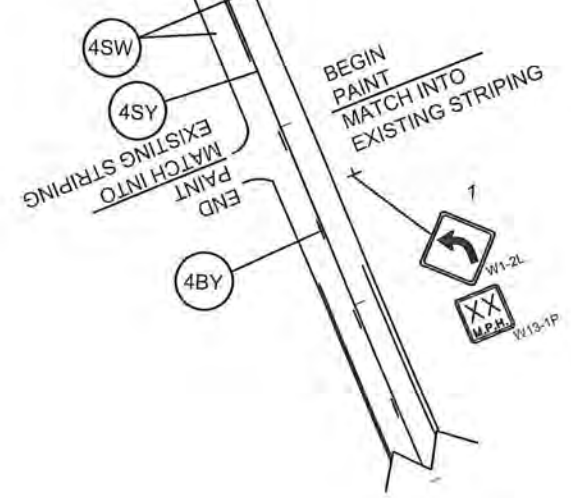
STRIPING KEY

- CIRCLE - MULTI COMP
- SQUARE - POLY PREFORM

SIGN NOTES:
 ① FURNISH & INSTALL SIGN TYPE C

NOTES:

- LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- ACCESS SHALL BE MAINTAINED TO ALL STREETS AND 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.



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\21-01-00\CR_72_(235th-Yukon)\Base\Traffic\Perm 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: JOSEPH J. MACPHERSON, P.E.

SIGNATURE:

DATE: 3-1-21 LICENSE NO. 46732

DRAWN BY: TMV DATE: 12/16/20

DESIGN BY: TMV DATE: 12/15/20

CHECKED BY: _____ DATE: _____

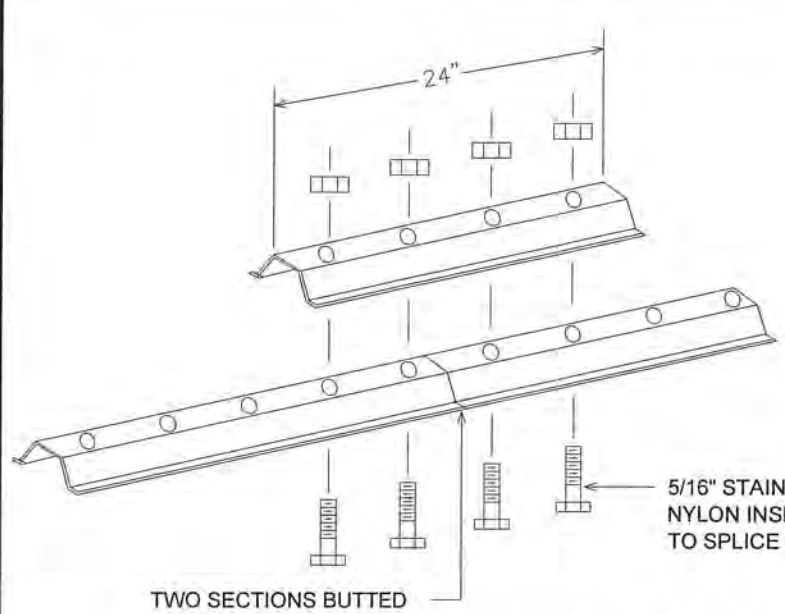


ANOKA COUNTY
HIGHWAY DEPT.

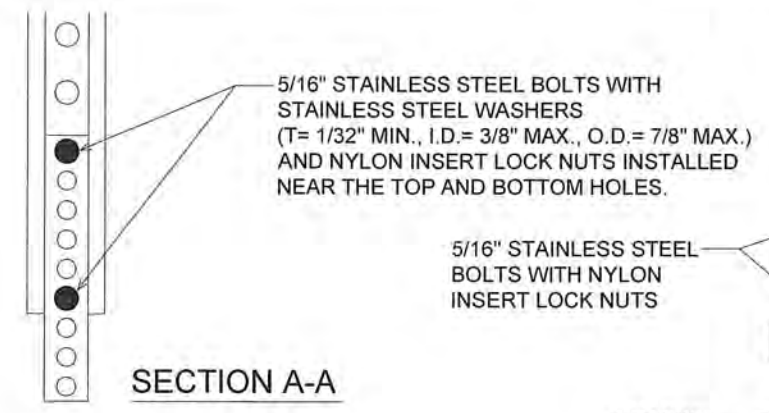
CP 21-10-72

PERMANENT SIGNING & STRIPING PLAN

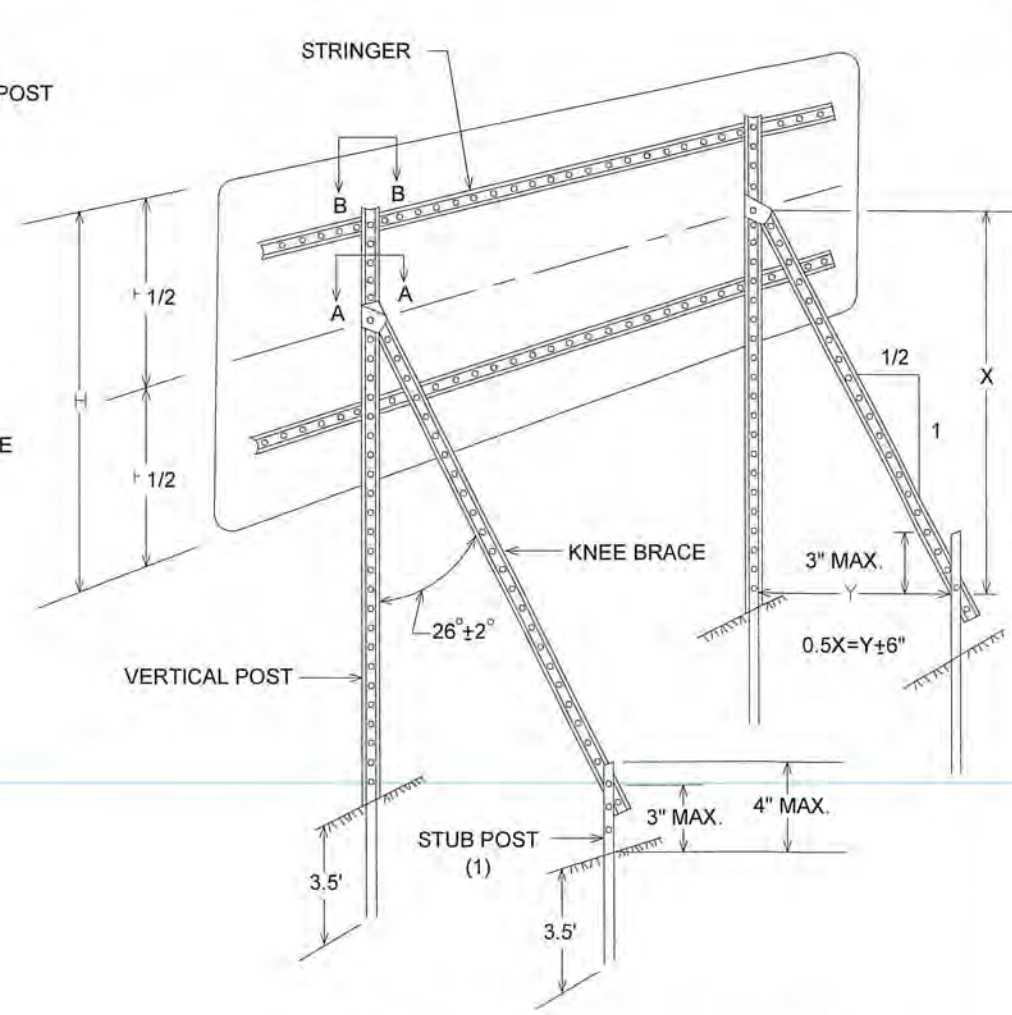
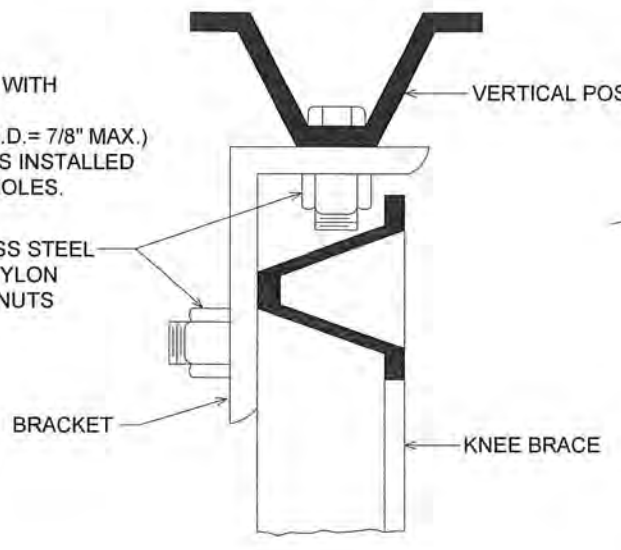
Sheet 21 of 25 Sheets



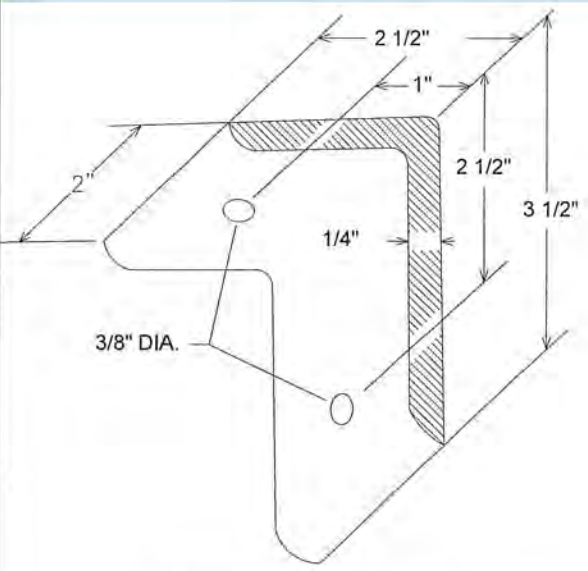
**LATERAL BRACE OR STRINGER
SPLICE DETAIL (EXPLODED VIEW)**



SECTION A-A

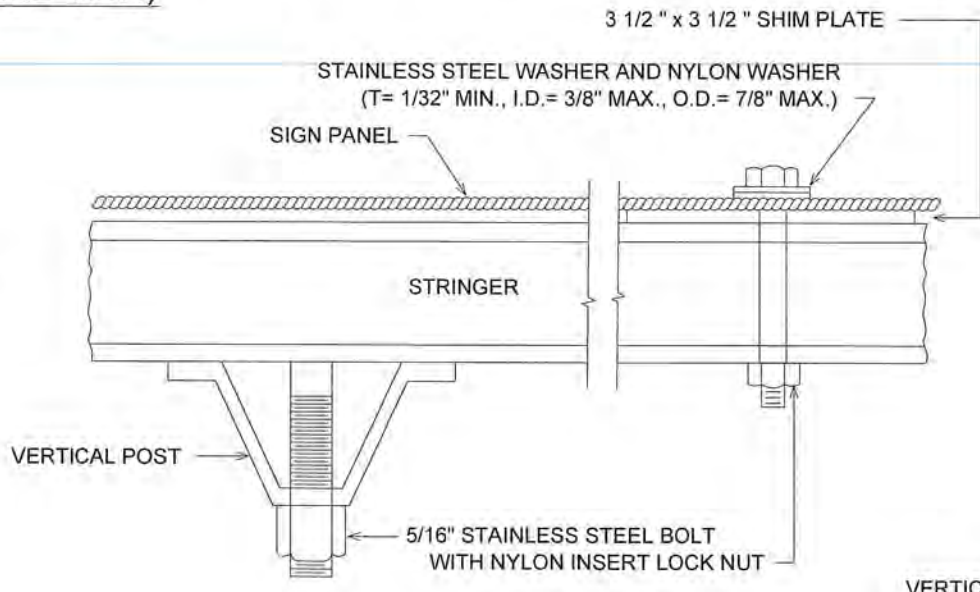


**TYPICAL "A-FRAME" INSTALLATION
TYPE "D" SIGNS**

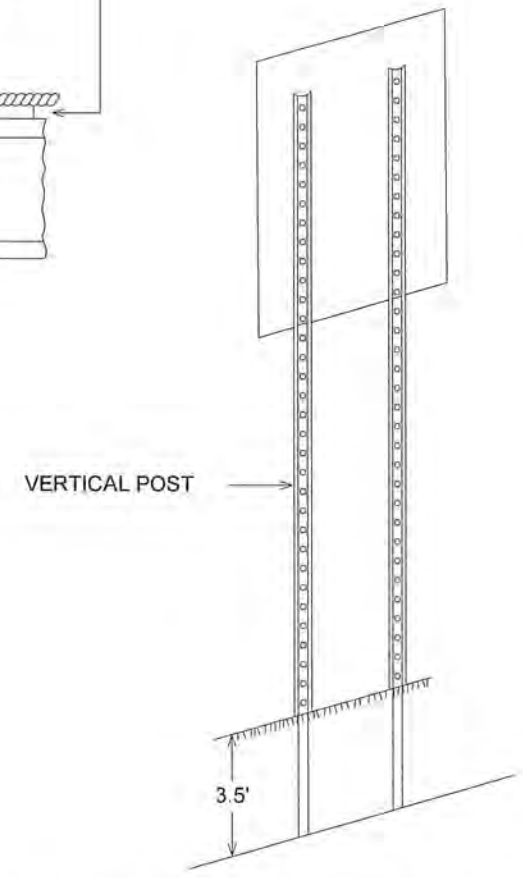


A-FRAME BRACKET

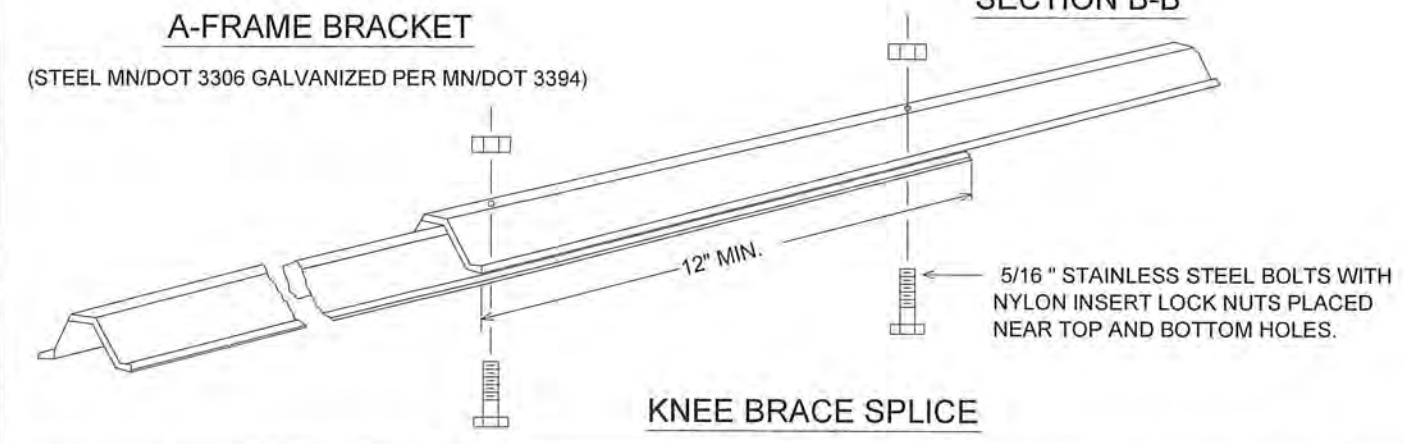
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



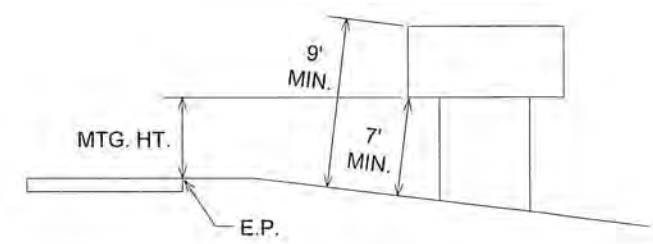
SECTION B-B



**TYPICAL INSTALLATION 36" AND LARGER
TYPE "C" SIGNS**



KNEE BRACE SPLICE



TYPICAL MOUNTING

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

**TYPE C & D SIGN
STRUCTURAL DETAILS**

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\21-01-00\CR_72_(235th-Yukon)\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 LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: JOSEPH J. MACPHERSON, P.E.

SIGNATURE: *[Signature]*

DATE: 3-1-26 LICENSE NO. 46732

DRAWN BY: TMV DATE: 12/17/20

DESIGN BY: TMV DATE: 12/17/20

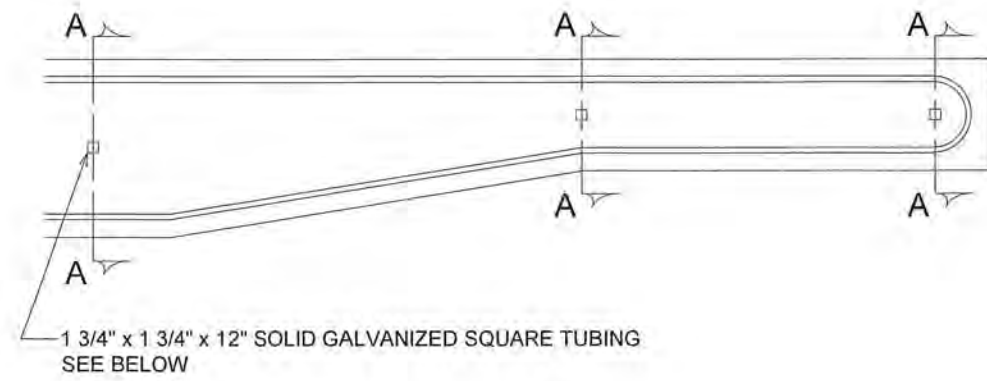
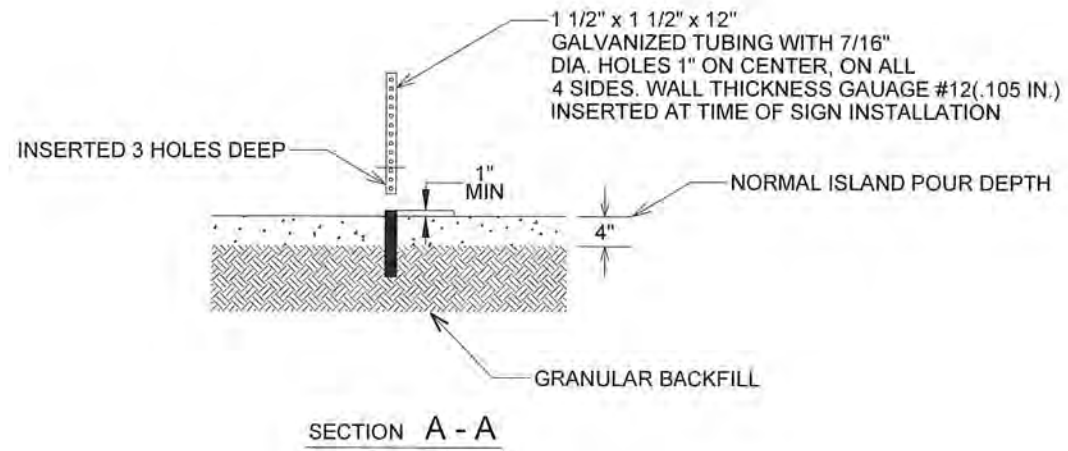
CHECKED BY: DATE:



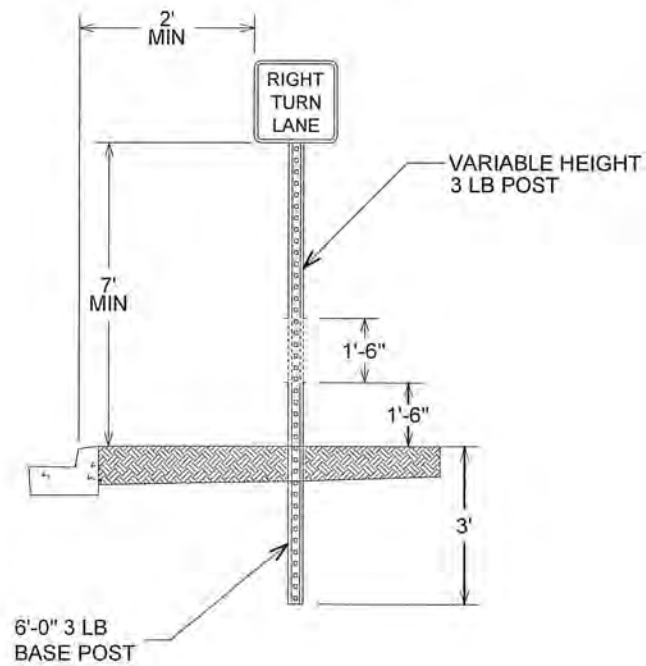
**ANOKA COUNTY
HIGHWAY DEPT.**

CP 21-10-72

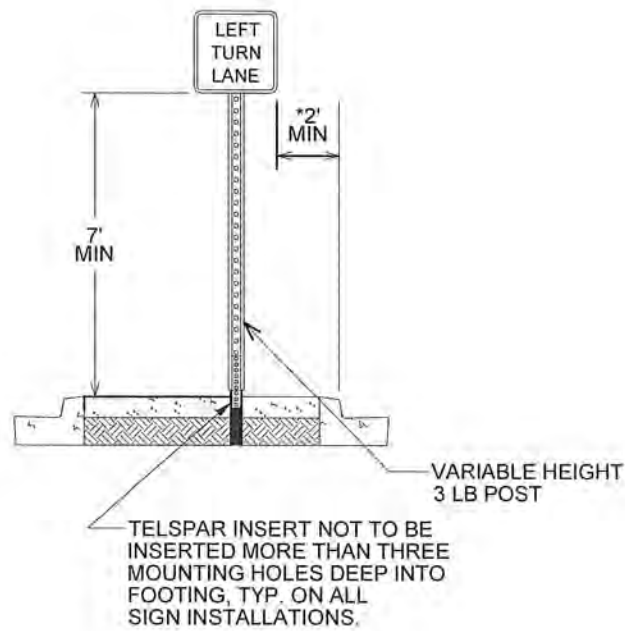
**SIGNING & STRIPING
DETAILS**



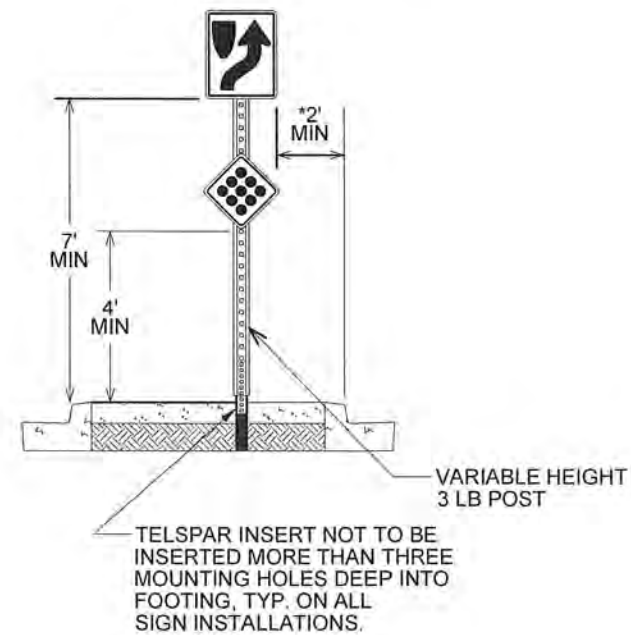
GROUND POST MOUNT SIGN INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN INSTALLATION TYPICAL



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



*1' MIN FOR NARROW URBAN LOCATIONS

INSTALLATION NEAR SIDEWALK (MN MUTCD)
 The minimum height, measured vertically from the bottom of the sign to the sidewalk, of signs installed above sidewalks shall be 7 feet. If the bottom of a secondary sign that is mounted below another sign is mounted lower than 7 feet above a pedestrian sidewalk or pathway, the secondary sign shall not project more than 4 inches into the pedestrian facility.

NO	DATE	BY	CHKD	APPR	REVISION
NAME: P:\21-01-00\CR_72_(235th-Yukon)\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 LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: JOSEPH J. MACPHERSON, P.E.

SIGNATURE: *[Signature]*

DATE: 3-1-24 LICENSE NO. 46732

DRAWN BY: TMV DATE: 12/17/20

DESIGN BY: TMV DATE: 12/17/20

CHECKED BY: _____ DATE: _____

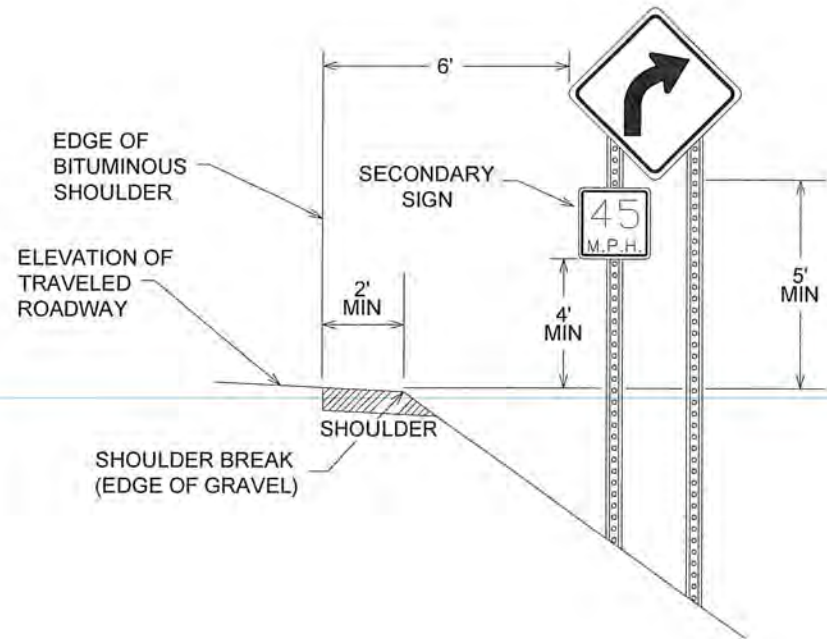


ANOKA COUNTY
 HIGHWAY DEPT.

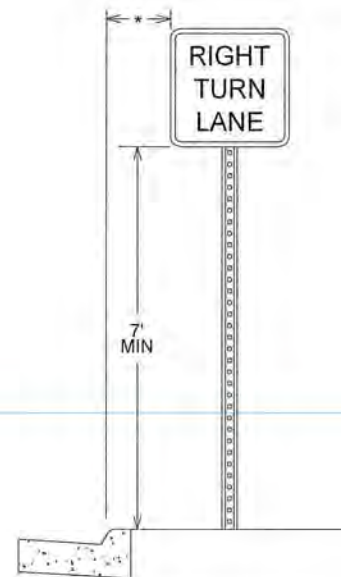
CP 21-10-72

SIGNING & STRIPING
 DETAILS

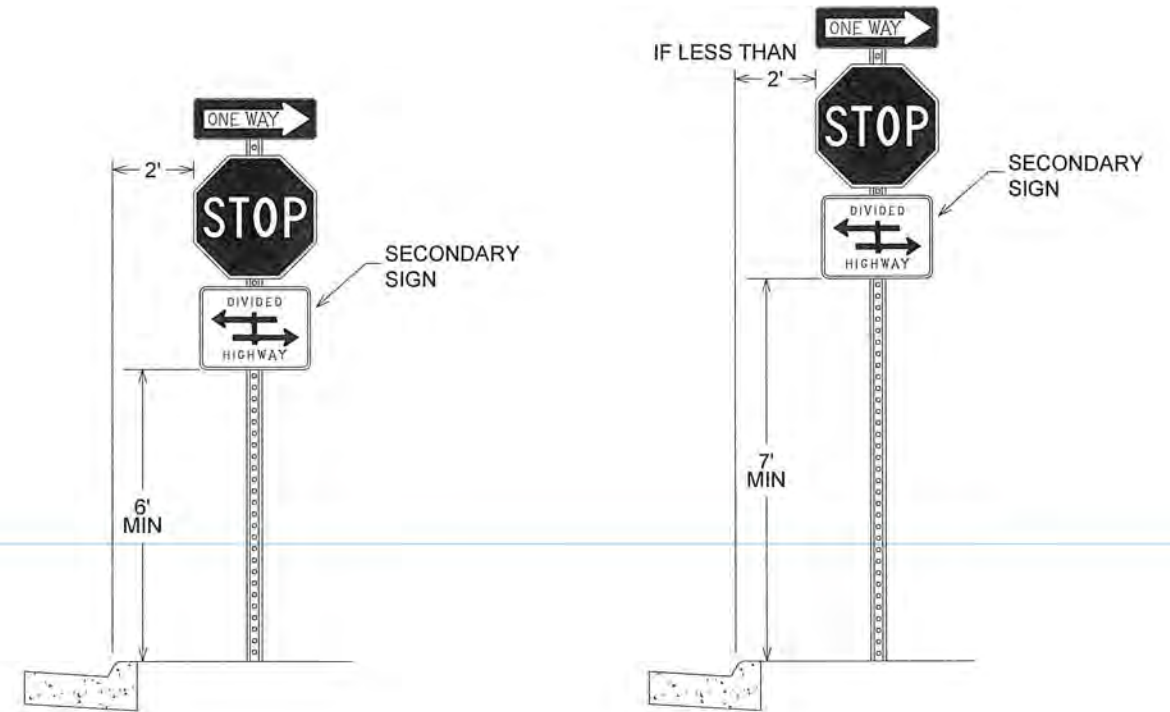
TYPICAL SIGN PLACEMENT
(RURAL)



TYPICAL SIGN PLACEMENT
(URBAN)



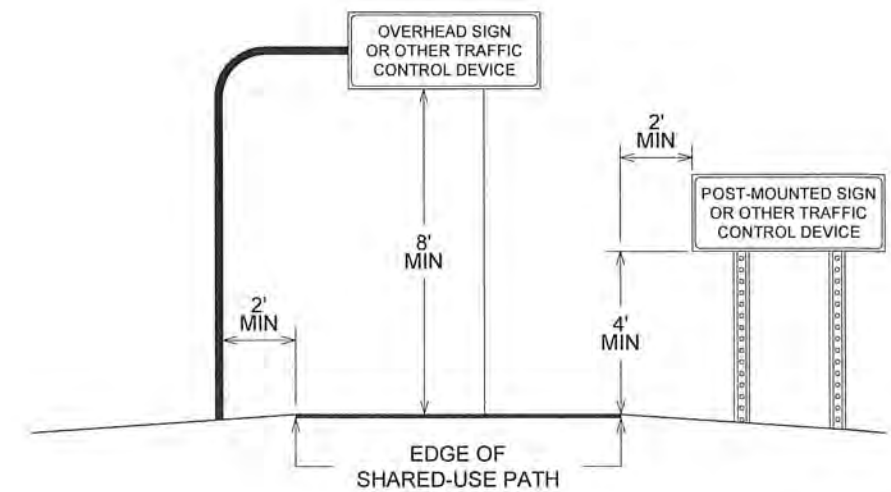
*2' - NARROW BOULEVARD (≤ 8' WIDE)
6' - WIDE BOULEVARD




NOTES:

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

TYPICAL SIGN PLACEMENT
SHARED-USE PATH



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: JOSEPH J. MACPHERSON, P.E.
 SIGNATURE: 
 DATE: 12/17/20 LICENSE NO. 46732

DRAWN BY: TMV DATE: 12/17/20
 DESIGN BY: TMV DATE: 12/17/20
 CHECKED BY: _____ DATE: _____

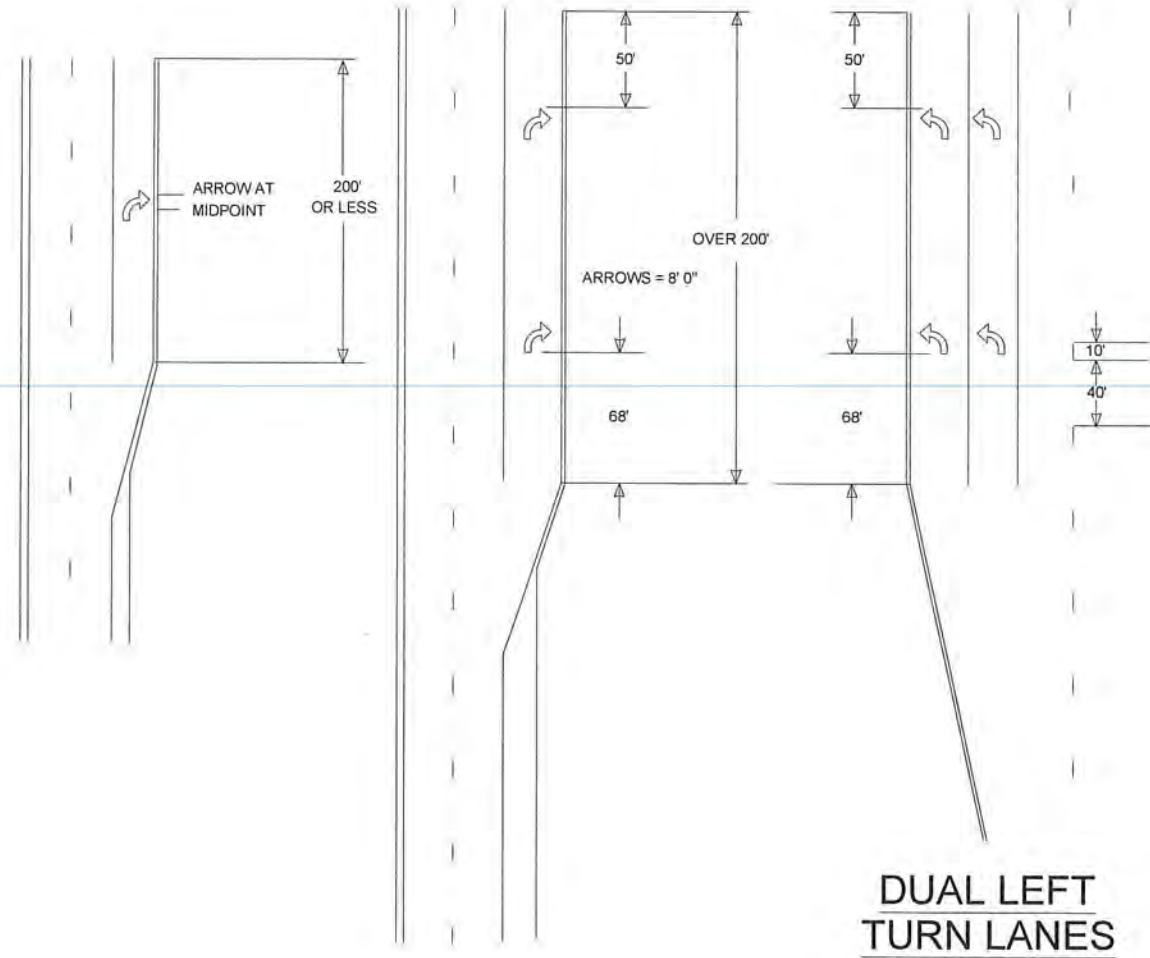


ANOKA COUNTY
HIGHWAY DEPT.

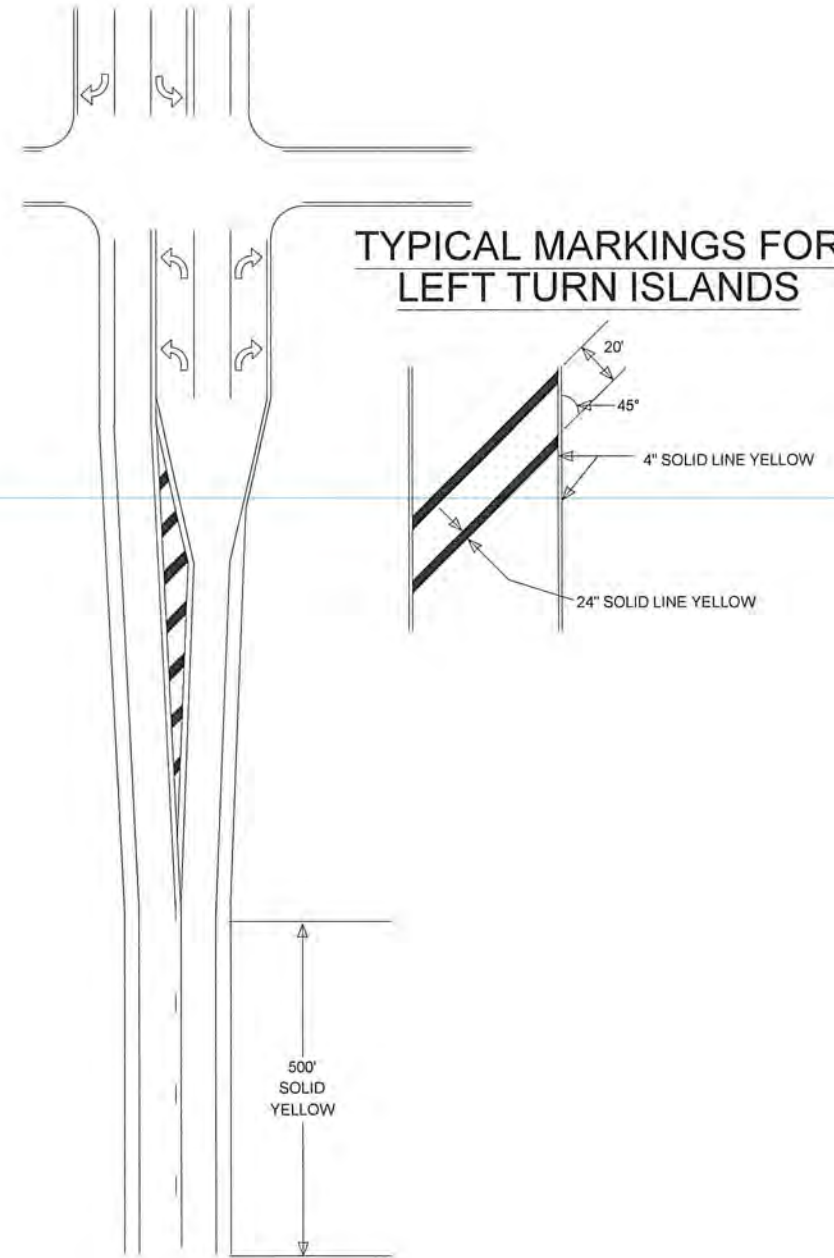
CP 21-10-72

SIGNING & STRIPING
DETAILS

**TYPICAL MESSAGE PLACEMENT
FOR TURN LANES**



**TYPICAL MARKINGS FOR
LEFT TURN ISLANDS**



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\21-01-00\CR_72_(235th-Yukon)\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 LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: JOSEPH J. MACPHERSON, P.E.

SIGNATURE: *[Signature]*

DATE: 3-1-21 LICENSE NO. 46732

DRAWN BY: TMV DATE: 12/17/20

DESIGN BY: TMV DATE: 12/17/20

CHECKED BY: _____ DATE: _____



**ANOKA COUNTY
HIGHWAY DEPT.**

CP 21-10-72

**SIGNING & STRIPING
DETAILS**

Sheet 25 of 25 Sheets