

# MINNESOTA DEPARTMENT OF TRANSPORTATION

## ANOKA COUNTY

CONSTRUCTION PLAN FOR BITUMINOUS SURFACING AND BITUMINOUS RECLAMATION

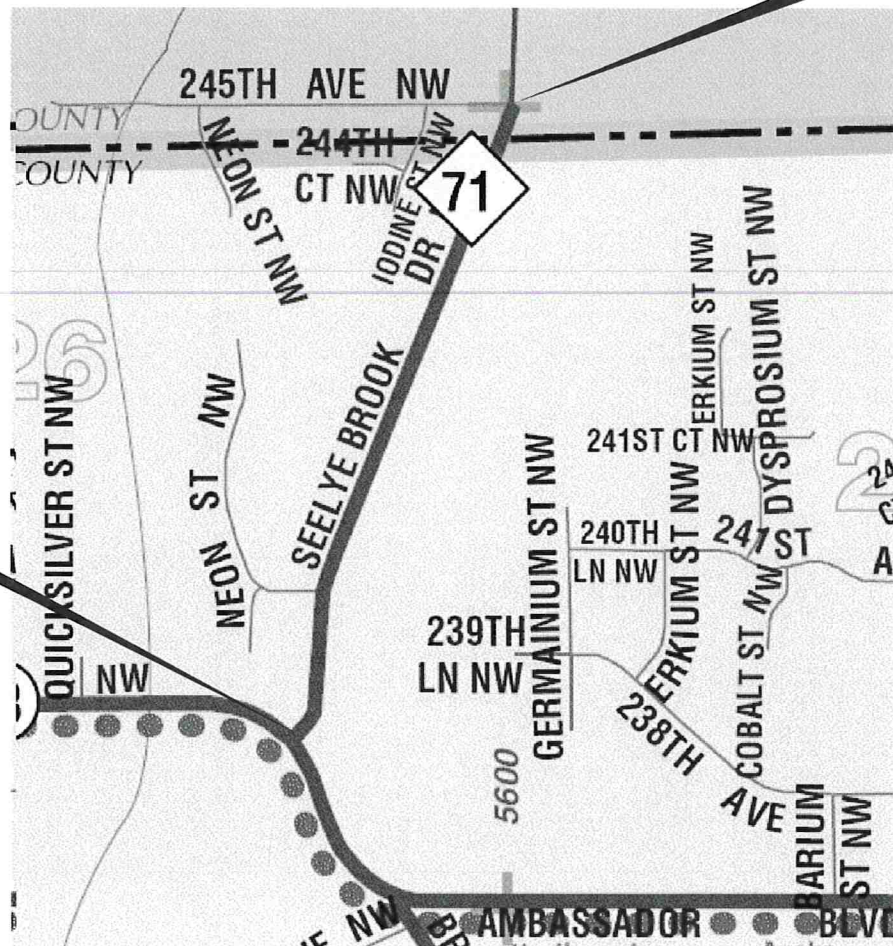
LOCATED ON CR 71 BETWEEN CSAH 28 (AMBASSADOR BLVD NW) AND 80' NORTH OF 245TH AVE NW

CR 71 (SEELYE BROOK DRIVE NW)

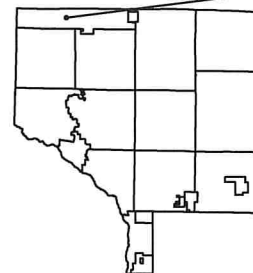
GROSS LENGTH	<u>4540.92</u>	FEET	<u>0.860</u>	MILES
EXCEPTIONS-LENGTH	<u>0.00</u>	FEET	<u>0.000</u>	MILES
NET LENGTH	<u>4540.92</u>	FEET	<u>0.860</u>	MILES

END CP 24-11-71  
CR 71, STA 56+24.72

BEGIN CP 24-11-71  
CR 71, STA: 10+83.80



### PROJECT LOCATION



#### DESIGN DESIGNATION ( CR 71 )

ESAL 20	<u>51,626</u>	FUNCTIONAL CLASSIFICATION	<u>MINOR COLLECTOR</u>
R VALUE	<u>75</u>	NO. OF TRAFFIC LANES	<u>2</u> NO. OF PARKING LANES <u>0</u>
ADT (2024)	<u>437</u>	DESIGN SPEED	<u>55</u> MPH
PROJ. ADT (2044)	<u>437</u>	STOPPING SIGHT DISTANCE BASED ON:	
PROJ. HCADT (2044)	<u>26</u>	HEIGHT OF EYE	<u>3.5'</u> HEIGHT OF OBJECT <u>2.0'</u>
SOIL FACTOR	<u>N/A</u>	DESIGN SPEED NOT ACHIEVED AT :	
<u>10</u> TON DESIGN		STA. _____ TO STA. _____	MPH _____

CITY OF ST. FRANCIS  
ANOKA COUNTY  
MN/DOT TRANSPORTATION DISTRICT - METRO  
SECTION 26  
TOWNSHIP 34 NORTH  
RANGE 25 WEST

#### GOVERNING SPECIFICATIONS

THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

THIS PLAN CONTAINS 12 SHEETS

#### INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3	SUPER ELEVATION TAB
4	TYPICAL SECTIONS
5-6	DETAILS
7-8	CONSTRUCTION PLAN
9	PERMANENT PAVEMENT MARKING NOTES AND TABULATIONS
10 - 11	TEMPORARY SIGNING AND PERMANENT STRIPING
12	TEMPORARY TRAFFIC CONTROL TABULATIONS

Approved [Signature] ANOKA COUNTY ENGINEER

12-19-23

NO	DATE	BY	CKD	APPR	REVISION	12/15/2023	12:17:34 PM

NAME: P:\24-01-00\CR\_71\_(AMBASSADOR-N, CO LINE)\Base\Proposed\CR71\_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: [Signature]  
DATE: 12-08-2023 LICENSE NO. 26511

DRAWN BY DBK DATE 12/15/2023  
DESIGN BY DBK DATE 12/15/2023  
CHECKED BY CO DATE 12/15/2023



ANOKA COUNTY  
HIGHWAY DEPT.

COUNTY PROJECT 24-11-71

TITLE SHEET

Sheet 1 of 12 Sheets

**STATEMENT OF ESTIMATED QUANTITIES**

Notes	Item Number	ITEM DESCRIPTION	Unit	TOTAL PROJECT QUANTITIES ESTIMATED
	2021.501	MOBILIZATION	LUMP SUM	1
1	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	23
1	2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	109
1,2	2104.504	REMOVE CONCRETE DRIVEWAY PAVEMENT	SQ YD	34
1,3	2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SQ YD	142
1,3	2104.504	REMOVE BITUMINOUS PAVEMENT	SQ YD	302
4	2123.510	MOTOR GRADER	hour	12
5	2130.523	WATER	M GALLON	20
6	2211.509	AGGREGATE BASE CLASS 5	TON	362
7	2215.504	FULL DEPTH RECLAMATION	SQ YD	12018
8	2215.507	HAUL FULL DEPTH RECLAMATION (LV)	CU YD	86
9	2221.509	SHOULDER BASE AGGREGATE CLASS 5	TON	459
10	2232.604	MILL BITUMINOUS PAVEMENT (SPECIAL)	SQ YD	56
	2301.602	DRILL AND GROUT DOWEL BAR (EPOXY COATED)	EACH	8
	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	667
11	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3;B)	TON	16
12,13	2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (4;C)	TON	29
	2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (4;C)	TON	3063
	2531.504	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	34
14	2540.602	MAIL BOX SUPPORT	EACH	12
	2563.601	TRAFFIC CONTROL SUPERVISOR	LUMP SUM	1
15,16	2563.601	TRAFFIC CONTROL	LUMP SUM	1
17	2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	UNIT DAY	20
	2574.507	COMMON TOPSOIL BORROW	CU YD	33
18	2575.508	HYDRAULIC REINFORCED FIBER MATRIX	POUND	63
19	2581.503	REMOVABLE PREFORMED PAVEMENT MARKING TAPE	LIN FT	182
20	2582.503	4" SOLID LINE MULTI-COMPONENT	LIN FT	10913
20	2582.503	4" BROKEN LINE MULTI-COMPONENT	LIN FT	630
20	2582.503	4" DOUBLE SOLID LINE MULTI-COMPONENT	LIN FT	1369

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

**MNDOT STANDARD PLATES**

PLATE NO.	DESCRIPTION
8000K	TEMPORARY CHANNELIZERS (3 SHEETS)
9350C	MAILBOX SUPPORT - SWING-AWAY TYPE - SHEET 1 OF 3

**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

**CONSTRUCTION NOTES**

1	REFERENCE DETAILS (PAGE 4-5) FOR REMOVAL DETAILS
2	ITEM FOR CONCRETE DRIVEWAYS. CONTRACTOR IS RESPONSIBLE FOR CONTACTING PROPERTY OWNER 48 HOURS BEFORE STARTING OPERATION.
3	ITEM FOR BITUMINOUS DRIVEWAYS AND STREET APPROACHES. CONTRACTOR IS RESPONSIBLE FOR CONTACTING PROPERTY OWNER 48 HOURS BEFORE STARTING OPERATION.
4	ITEM USED TO MOVE EXCESS RECLAIM MATERIAL AT THE RECLAIM AREA LIMITS TO CREATE A SMOOTH TRANSITION BETWEEN THE PROPOSED AND EXISTING PAVEMENT AND FOR SUPERELEVATION/GRADE CORRECTION AREAS.
5	WATER TO BE USED FOR DUST CONTROL AS DIRECTED BY THE ENGINEER.
6	GRAVEL BASE FOR CONCRETE AND BITUMINOUS STREET APPROACHES AND DRIVEWAYS, AND SUPERELEVATION / GRADE CORRECTION
7	THIS WORK INCLUDES SPREADING, WATERING, COMPACTING, SHAPING, AND MAINTAINING THE BLENDED RECLAIMED MATERIAL TO THE SPECIFIC PROFILE AND CROSS SECTION.
8	ITEM USED TO HAUL EXCESS RECLAIM FROM TIE-IN POINTS AND REUSED ON SITE.
9	ITEM INCLUDES 7 TONS FOR EACH GRAVEL ENTRANCE AND GRAVEL STREET APPROACH.
10	TO BE USED FOR MILLING STREET APPROACHES AND/OR DETAIL MILLING AREAS AS IDENTIFIED IN THE PLAN.
11	ITEM FOR BITUMINOUS DRIVEWAYS. DRIVEWAYS SHALL BE PAVED AFTER MAINLINE AND BEFORE FINAL STRIPING.
12	CONTRACTOR IS RESPONSIBLE FOR CONTACTING PROPERTY OWNER 48 HOURS BEFORE STARTING OPERATION.
13	STREET APPROACHES SHALL BE PAVED AFTER MAINLINE, AND BEFORE FINAL STRIPING
14	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.
15	CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN TEMPORARY SIGNAGE WHENEVER EXISTING SIGNAGE IS REMOVED. TEMPORARY SIGNAGE SHALL BE INCIDENTAL TO TRAFFIC CONTROL.
16	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.
17	2 MESSAGE BOARDS, ONE ON THE EACH END OF PROJECT, SHALL BE INSTALLED 10 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS.
18	TYPE 3 FERTILIZER AND TYPE 25-121 SEED ARE INCIDENTAL TO THIS ITEM. SEE "BASIS OF PLANNED QUANTITIES" FOR APPLICATION RATES.
19	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.
20	FINAL STRIPING SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING. CANNOT BE INSTALLED SOONER THAN 48 HOURS.

**BITUMINOUS STREET SUMMARY**

LOCATION	BITUMINOUS	
	2360 TYPE SP 12.5 WEAR (4,C)	TONES
240th Ave NW	29	[1]
245th Ave NW	40	[1]
PROJECT TOTAL	29	

**BITUMINOUS SUMMARY NOTES:**

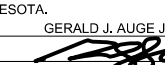
[1] QUANTITY ESTIMATED FOR 2 LIFT

NO	DATE	BY	CKD	APPR	REVISION
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NAME: P:\24-01-00\CR\_71\_(AMBASSADOR-N. CO LINE)\Base\Proposed\CR71\_SEQ.dgn

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PRINT NAME: GERALD J. AUGER JR.

SIGNATURE: 

DATE: 12-08-2023 LICENSE NO. 26511

DRAWN BY DBK DATE 12/05/23

DESIGN BY DBK DATE 12/05/23

CHECKED BY CO DATE 12/05/23



**ANOKA COUNTY  
HIGHWAY DEPT.**

COUNTY PROJECT 24-11-71

STATEMENT OF ESTIMATED QUANTITIES

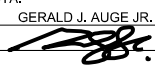
Sheet 2 of 12 Sheets

SUPERELEVATION CORRECTION TAB CURVE 1			
STATION	POINT	LEFT GRADE	RIGHT GRADE
10+90	BEG RT TRANS & MATCH EXISTING	-2.5%	-2.5%
11+00		-2.5%	-2.0%
11+50	PC	-2.5%	-0.5%
12+00		-2.5%	1.0%
12+50	BEG LT TRANS	-2.5%	2.5%
13+00	BEG LT/RT FULL SUPER	-4.0%	4.0%
13+50		-4.0%	4.0%
14+00		-4.0%	4.0%
14+50	END LT/RT FULL SUPER	-4.0%	4.0%
15+00		-2.5%	2.5%
15+25	END LT TRANS & PT	-2.0%	1.8%
15+50		-2.0%	1.0%
16+00		-2.0%	-0.5%
16+50	END RT TRANS	-2.0%	-2.0%
17+00		-2.0%	-2.0%

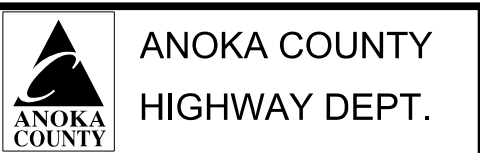
SUPERELEVATION CORRECTION TAB CURVE 2			
STATION	POINT	LEFT GRADE	RIGHT GRADE
17+50	BEG LT TRANS	-2.0%	-2.0%
18+00		-0.7%	-2.0%
18+50		0.7%	-2.0%
19+00	BEG RT TRANS	2.0%	-2.0%
19+25	PC	3.0%	-3.0%
19+50		4.0%	-4.0%
20+00	BEG LT/RT FULL SUPER	5.0%	-5.0%
20+50		5.0%	-5.0%
21+00		5.0%	-5.0%
22+50		5.0%	-5.0%
22+00	END LT/RT FULL SUPER & PT	5.0%	-5.0%
22+50		4.0%	-4.0%
23+00		3.0%	-3.0%
23+50	END RT TRANS	2.0%	-2.0%
24+00		0.7%	-2.0%
24+50		-0.7%	-2.0%
25+00	END LT TRANS	-2.0%	-2.0%
25+50		-2.0%	-2.0%

SUPERELEVATION CORRECTION TAB CURVE 3			
STATION	POINT	LEFT GRADE	RIGHT GRADE
51+20		-2.0%	-2.0%
51+50		-2.0%	-2.0%
52+00	BEG RT TRANS	-2.0%	-2.0%
52+50		-2.0%	-1.0%
53+00		-2.0%	0.5%
53+50	BEG LT TRANS	-2.0%	2.0%
54+00		-3.5%	3.5%
54+35	PC	-4.6%	4.6%
54+50	BEG LT/RT FULL SUPER	-5.0%	5.0%
55+00	END LT/RT FULL SUPER	-5.0%	5.0%
55+50		-3.9%	3.9%
56+00		-2.8%	2.8%
56+25	PT & MATCH EXISTING	-2.3%	2.2%

NO	DATE	BY	CKD	APPR	REVISION	12/15/2023	12:17:39 PM
NAME: P:\24-01-00\CR_71_(AMBASSADOR-N. CO LINE)\Base\Proposed\CR71_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.  
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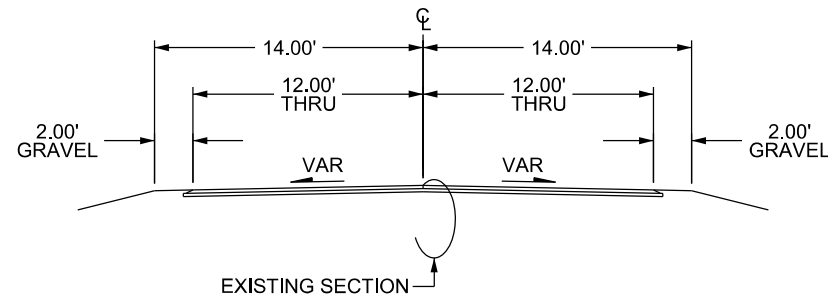


COUNTY PROJECT 24-11-71

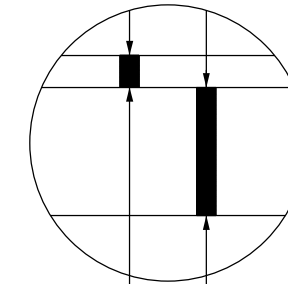
SUPER ELEVATION  
TAB  
Sheet 3 of 12 Sheets

### CR 71 - SEELYE BROOK DR NW EXISTING SECTION

10+83.80 - 56+24.72



### EXISTING SECTION

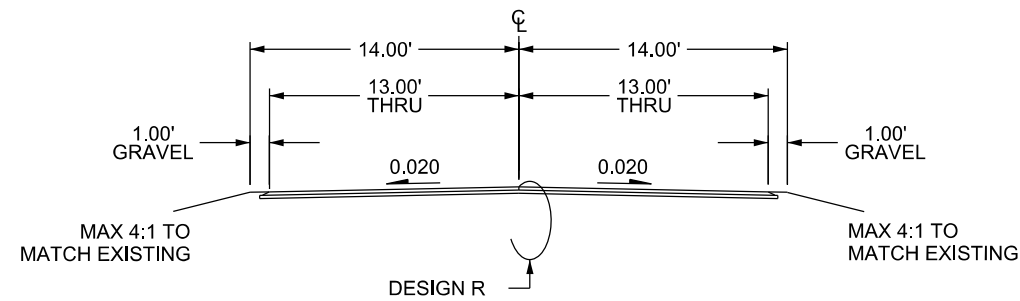


4.5" EXISTING BITUMINOUS

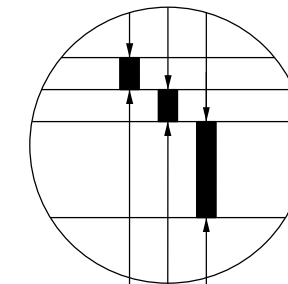
EXISTING AGGREGATE BASE

### CR 71 - SEELYE BROOK DR NW PROPOSED SECTION

10+83.80 - 56+24.72



### DESIGN R RECLAIM SECTION



2.0" BITUMINOUS WEAR(SPWEB440C)

2.0" BITUMINOUS WEAR(SPWEB440C)

RECLAIMED BITUMINOUS

NO	DATE	BY	CKD	APPR	REVISION	12/15/2023	12:17:41 PM
NAME: P:\24-01-00\CR_71_(AMBASSADOR-N. CO LINE)\Base\Proposed\CR71_TYPICALS.dgn							

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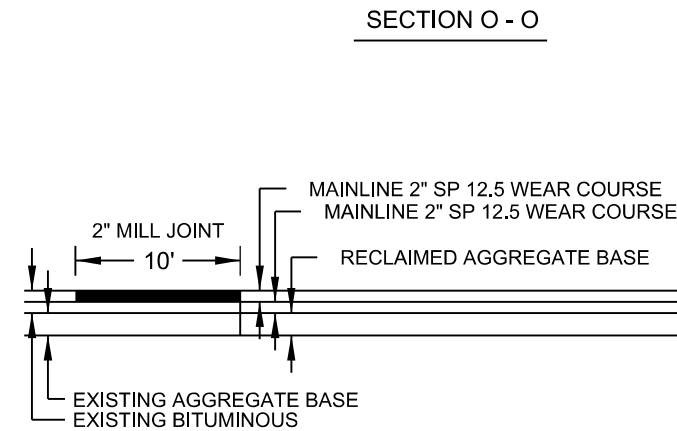
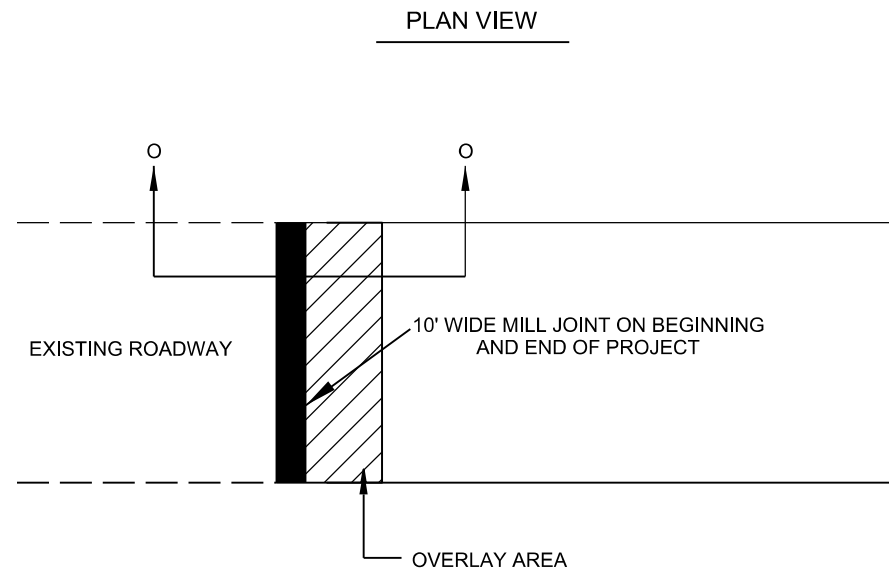
ANOKA COUNTY  
HIGHWAY DEPT.

COUNTY PROJECT 24-11-71

TYPICAL SECTIONS

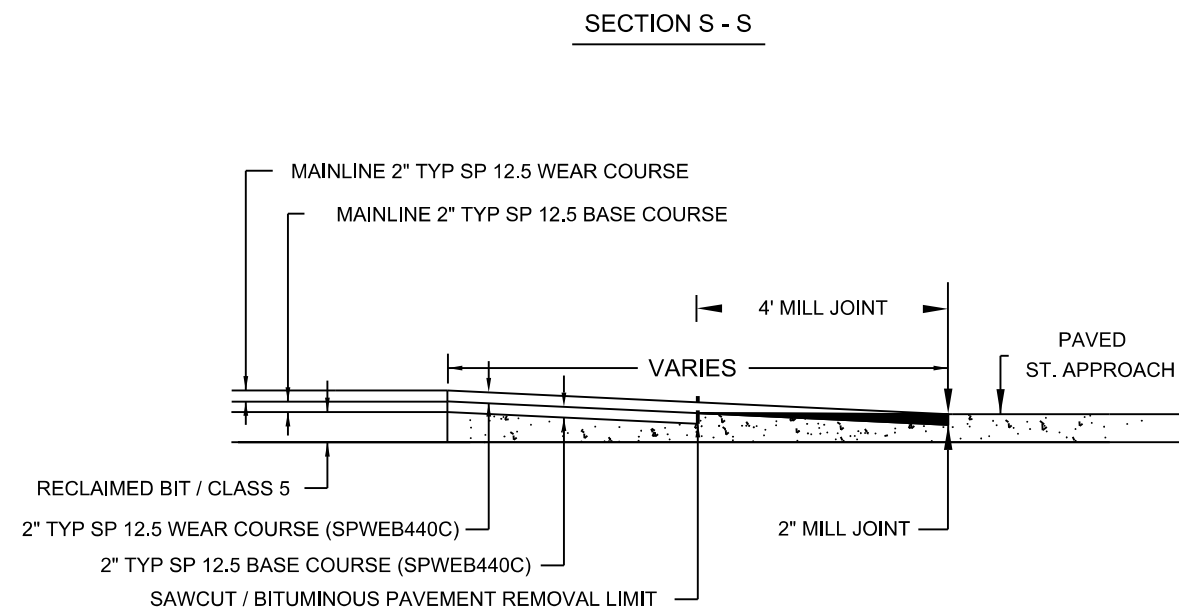
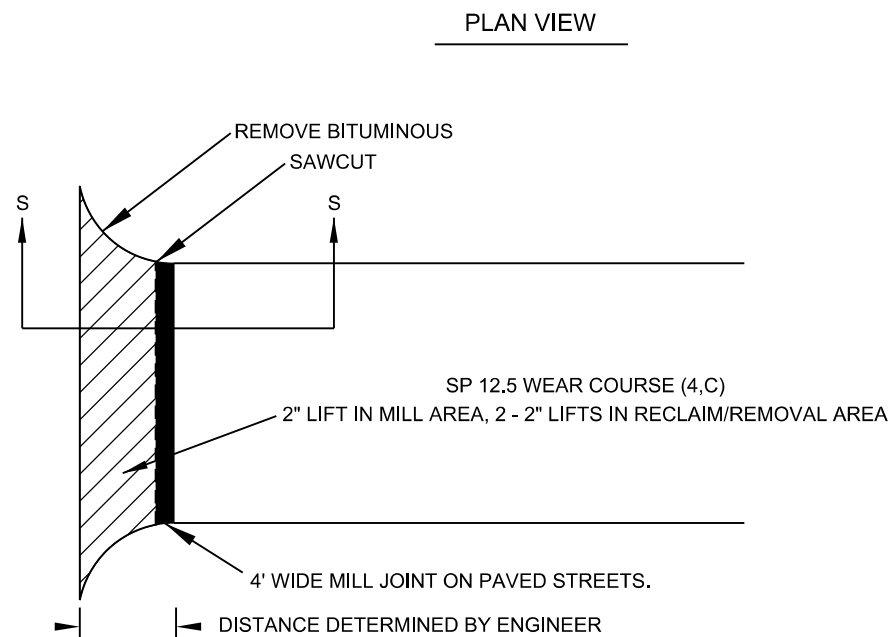
Sheet 4 of 12 Sheets

### MAINLINE JOINT DETAIL (RECLAIM)



### STREET APPROACH DETAIL (RECLAIM)

BITUMINOUS STREET



NO	DATE	BY	CKD	APPR	REVISION	12/15/2023	12:17:41 PM
NAME: P:\24-01-00\CR_71_(AMBASSADOR-N. CO LINE)\Base\Proposed\CR71_DETAILS.dgn							

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**ANOKA COUNTY  
HIGHWAY DEPT.**

COUNTY PROJECT 24-11-71

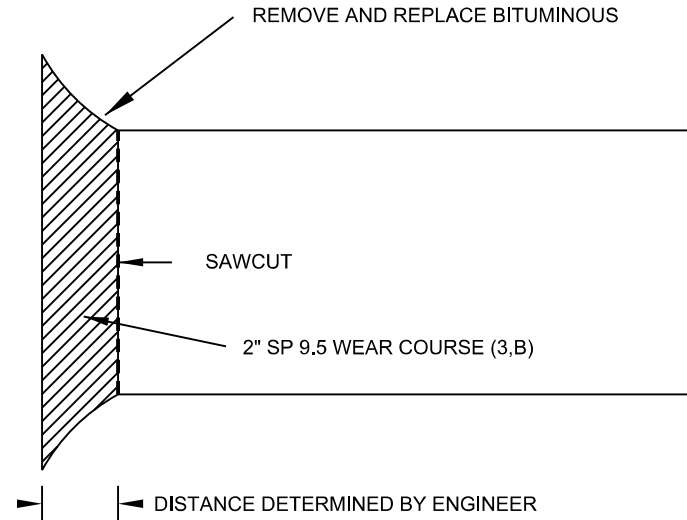
**DETAILS**

Sheet 5 of 12 Sheets

### RECLAIM AREA - DRIVEWAY DETAIL

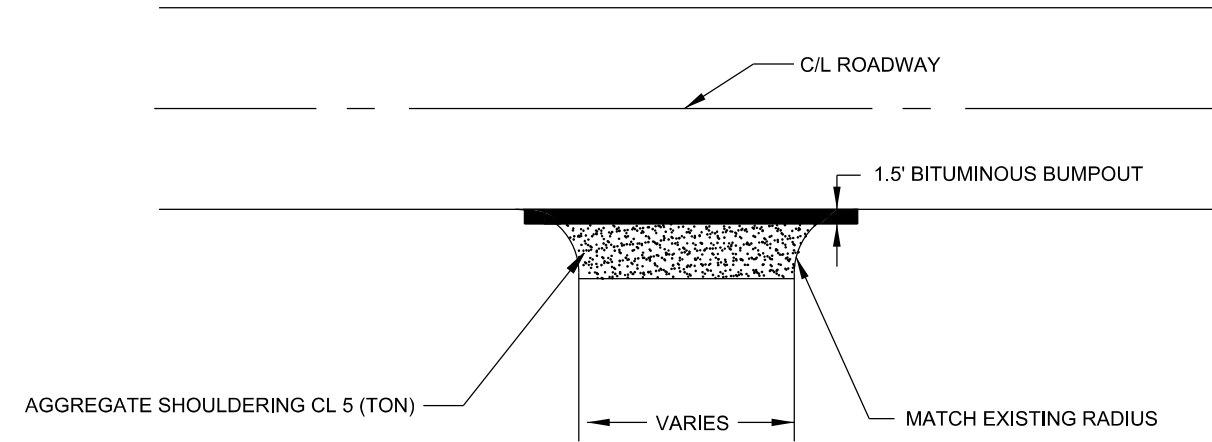
BITUMINOUS

PLAN VIEW



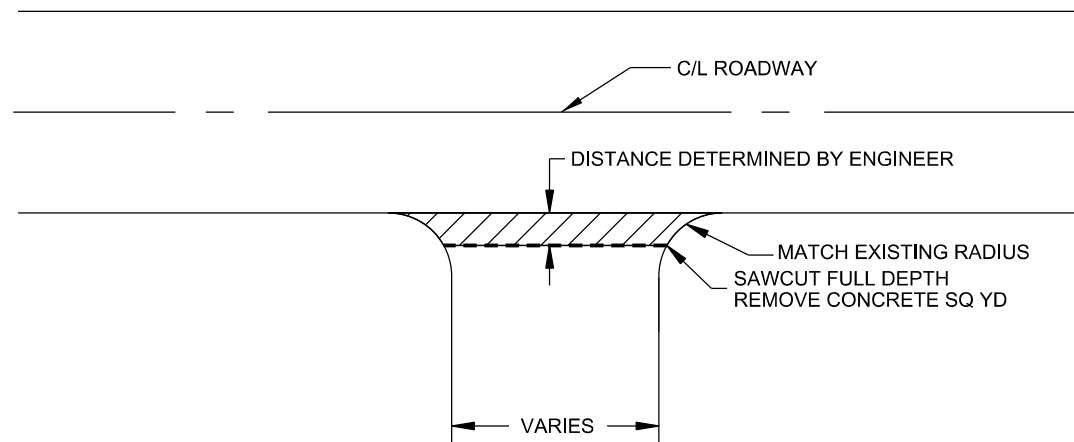
### DRIVEWAY DETAIL

GRAVEL / FIELD ENTRANCE



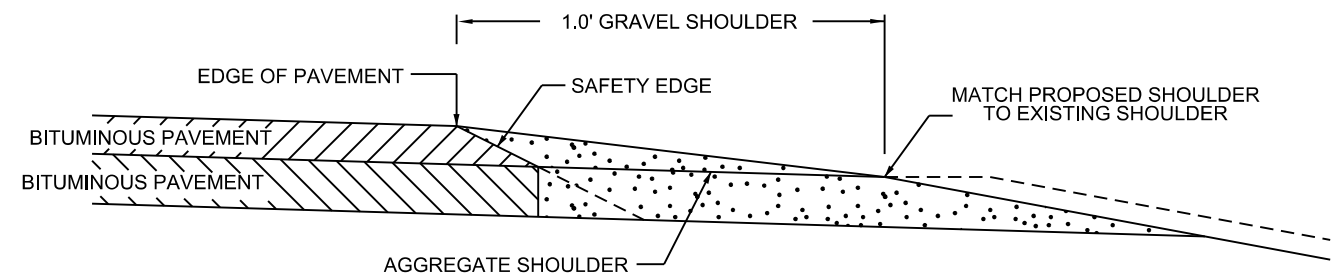
### DRIVEWAY DETAIL

CONCRETE DRIVEWAY



### 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	12/15/2023	12:17:41 PM
NAME: P:\24-01-00\CR_71_(AMBASSADOR-N. CO LINE)\Base\Proposed\CR71_DETAILS.dgn							

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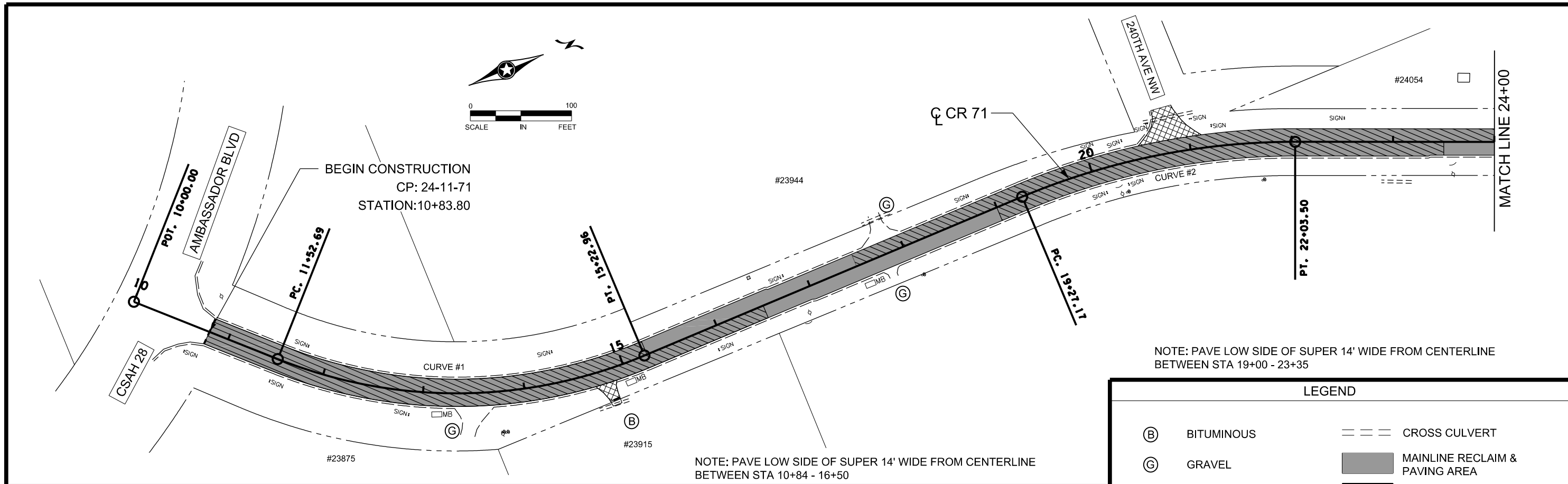
ANOKA COUNTY  
HIGHWAY DEPT.

COUNTY PROJECT 24-11-71

DETAILS

Sheet 6 of 12 Sheets

DBKost

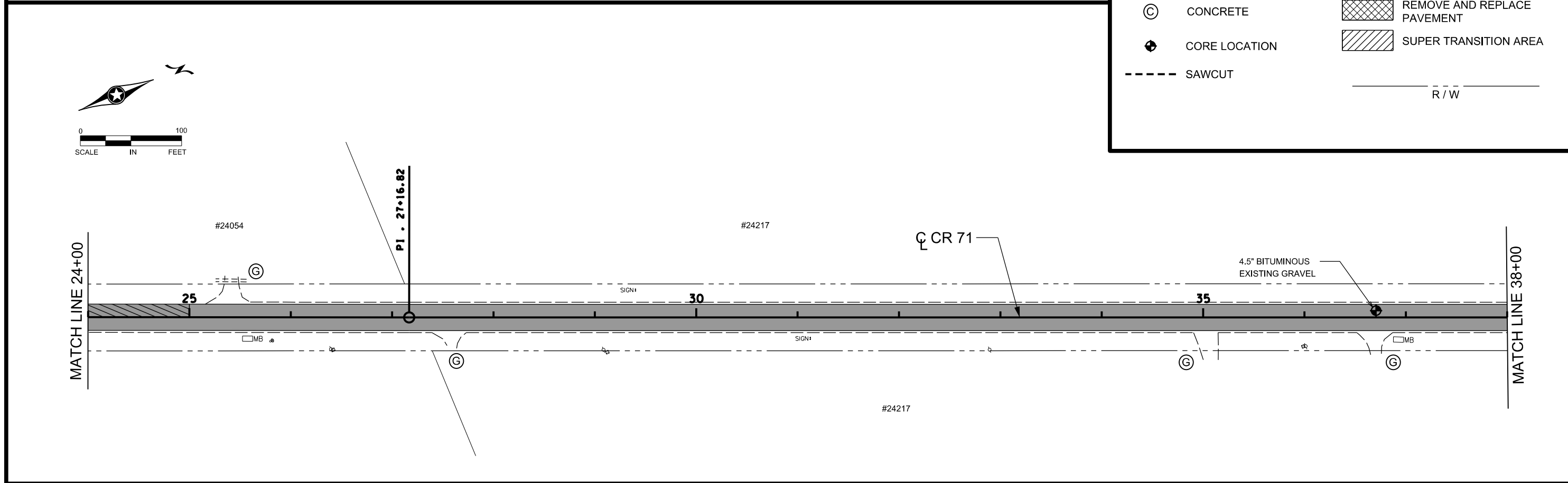


NOTE: PAVE LOW SIDE OF SUPER 14' WIDE FROM CENTERLINE BETWEEN STA 10+84 - 16+50

NOTE: PAVE LOW SIDE OF SUPER 14' WIDE FROM CENTERLINE BETWEEN STA 19+00 - 23+35

**LEGEND**

(B)	BITUMINOUS	---	CROSS CULVERT
(G)	GRAVEL	[Hatched Box]	MAINLINE RECLAIM & PAVING AREA
(C)	CONCRETE	[Cross-hatched Box]	REMOVE AND REPLACE PAVEMENT
+	CORE LOCATION	[Diagonal-hatched Box]	SUPER TRANSITION AREA
- - -	SAWCUT	---	R/W



NO	DATE	BY	CKD	APPR	REVISION	12/15/2023	12:17:42 PM

NAME: P:\24-01-00\CR\_71\_(AMBASSADOR-N. CO LINE)\Base\Proposed\CR71\_CP1.dgn

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**ANOKA COUNTY  
HIGHWAY DEPT.**

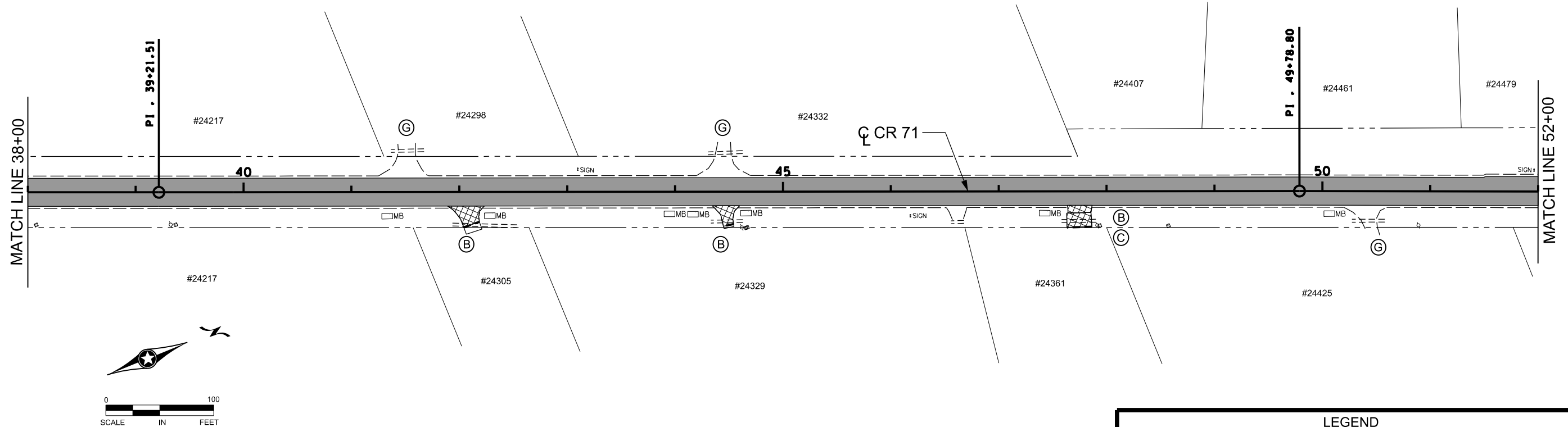
COUNTY PROJECT 24-11-71

**CONSTRUCTION PLAN**

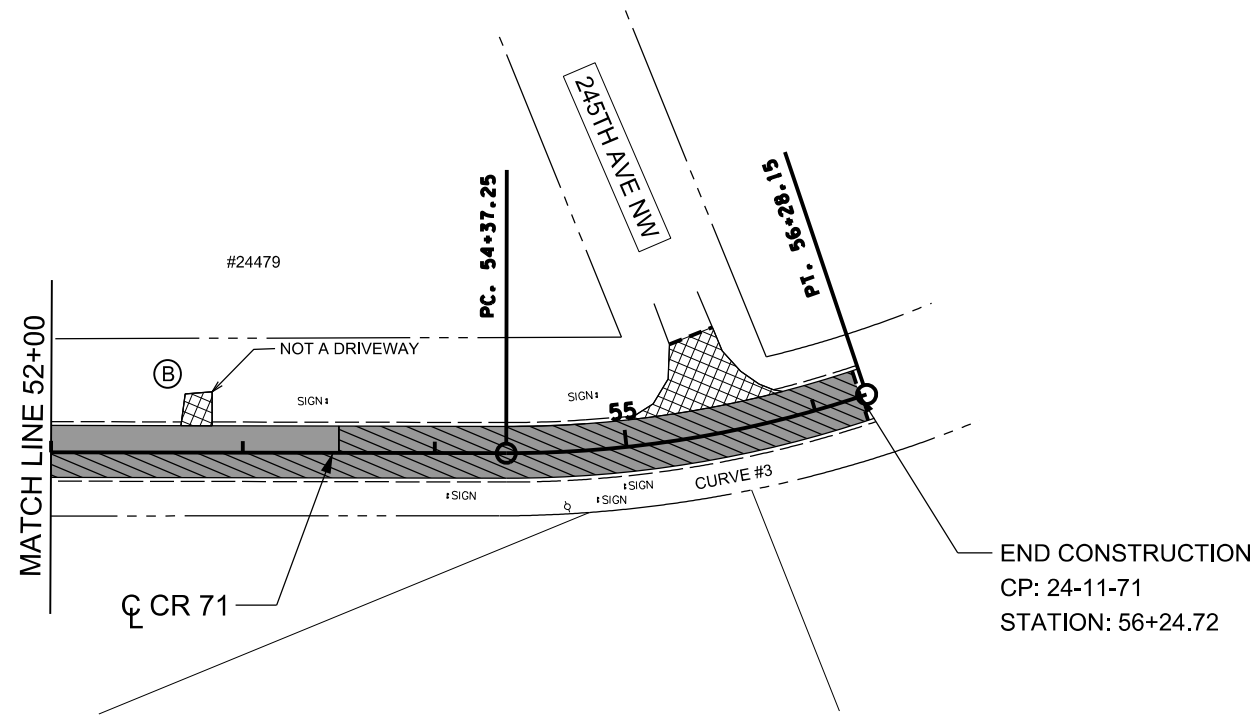
STA 10+83.80 TO 38+00.00

Sheet 7 of 12 Sheets

DBKost



NOTE: PAVE LOW SIDE OF SUPER 14' WIDE FROM CENTERLINE BETWEEN STA 51+50 - 56+24



**LEGEND**

(B)	BITUMINOUS	---	CROSS CULVERT
(G)	GRAVEL	█	MAINLINE RECLAIM & PAVING AREA
(C)	CONCRETE	▨	REMOVE AND REPLACE PAVEMENT
⊕	CORE LOCATION	▩	SUPER TRANSITION AREA
---	SAWCUT	---	R/W

NO	DATE	BY	CHKD	APPR	REVISION	12/15/2023	12:17:43 PM
NAME: P:\24-01-00\CR_71_(AMBASSADOR-N. CO LINE)\Base\Proposed\CR71_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: 12-08-2023 LICENSE NO. 26511

DRAWN BY DBK DATE 12/15/2023

DESIGN BY DBK DATE 12/15/2023

CHECKED BY CO DATE 12/15/2023

**ANOKA COUNTY  
HIGHWAY DEPT.**

COUNTY PROJECT 24-11-71

**CONSTRUCTION PLAN**

STA 38+00.00 TO 56+24.72

Sheet 8 of 12 Sheets



**PERMANENT PAVEMENT MARKING PLAN  
NOTES & GUIDELINES**

**GENERAL INFORMATION:**

1. 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.
2. 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.
3. 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.
4. PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.
5. 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.

**MULTI-COMPONENT (MULTI-COMP):**

1. 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.
2. 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.
3. 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 25 LBS POUNDS PER GALLON RATE SUFFICIENT TO ACHIEVE AN ACCEPTABLE NO-TRACK SYSTEM.
4. PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR AND PAVEMENT SURFACE TEMPERATURES ARE 40° OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILM OR DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL CAN BE APPLIED.

PERMANENT PAVEMENT MARKING TABULATIONS			
ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	
		WHITE	YELLOW
4" SOLID LINE MULTI-COMP	LIN FT	8930	1953
4" SOLID DOUBLE LINE MULTI-COMP	LIN FT		1369
4" BROKEN LINE MULTI-COMP	LIN FT		630

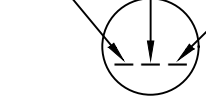
**PAVEMENT MARKING SYMBOLS & MATERIALS LEGEND**

— — BROKEN LINE - 50' CYCLE (10' LINE, 40' GAP)

**STRIPING KEY**

○ --- CIRCLE - MULTI-COMP

<u>1ST DIGIT WIDTH</u>	<u>2ND DIGIT PATTERN</u>	<u>3RD DIGIT COLOR</u>
4", 8", ETC.	S - SOLID B - BROKEN T - DOTTED D - DOUBLE SOLID	W - WHITE Y - YELLOW B - BLACK



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

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\24-01-00\CR\_71\_(AMBASSADOR-N.CNTY LINE)\Base\Traffic\Permanent Pavement Marking Plan Notes & Tabulations.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: SEAN R. THIEL  
SIGNATURE: *Sean R. Thiel*  
DATE: 1/9/2024 LICENSE NO. 45129

DRAWN BY: FL DATE: 11/07/23  
DESIGN BY: FL DATE: 11/07/23  
CHECKED BY: SRT DATE: \_\_\_\_\_



**ANOKA COUNTY  
HIGHWAY DEPT.**

CP 24-11-71

PERMANENT PAVEMENT  
MARKING PLAN  
NOTES & TABULATIONS



Sheet 9 of 12 Sheets

**NOTES: (TYP.)**

- 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 PLACE THE PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) 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 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.
- 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.

**TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND**


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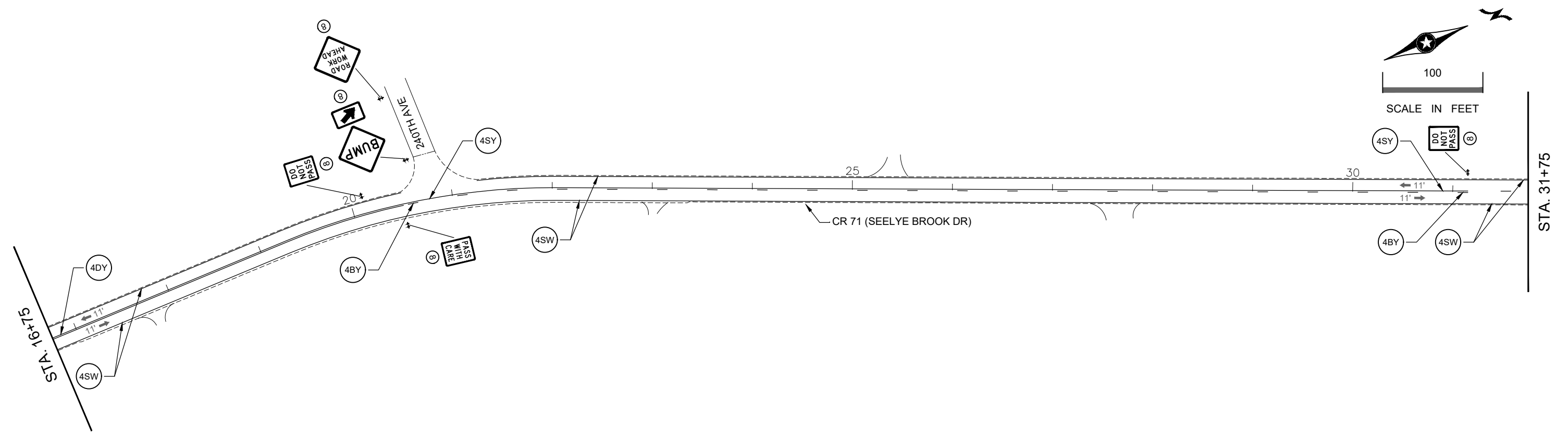
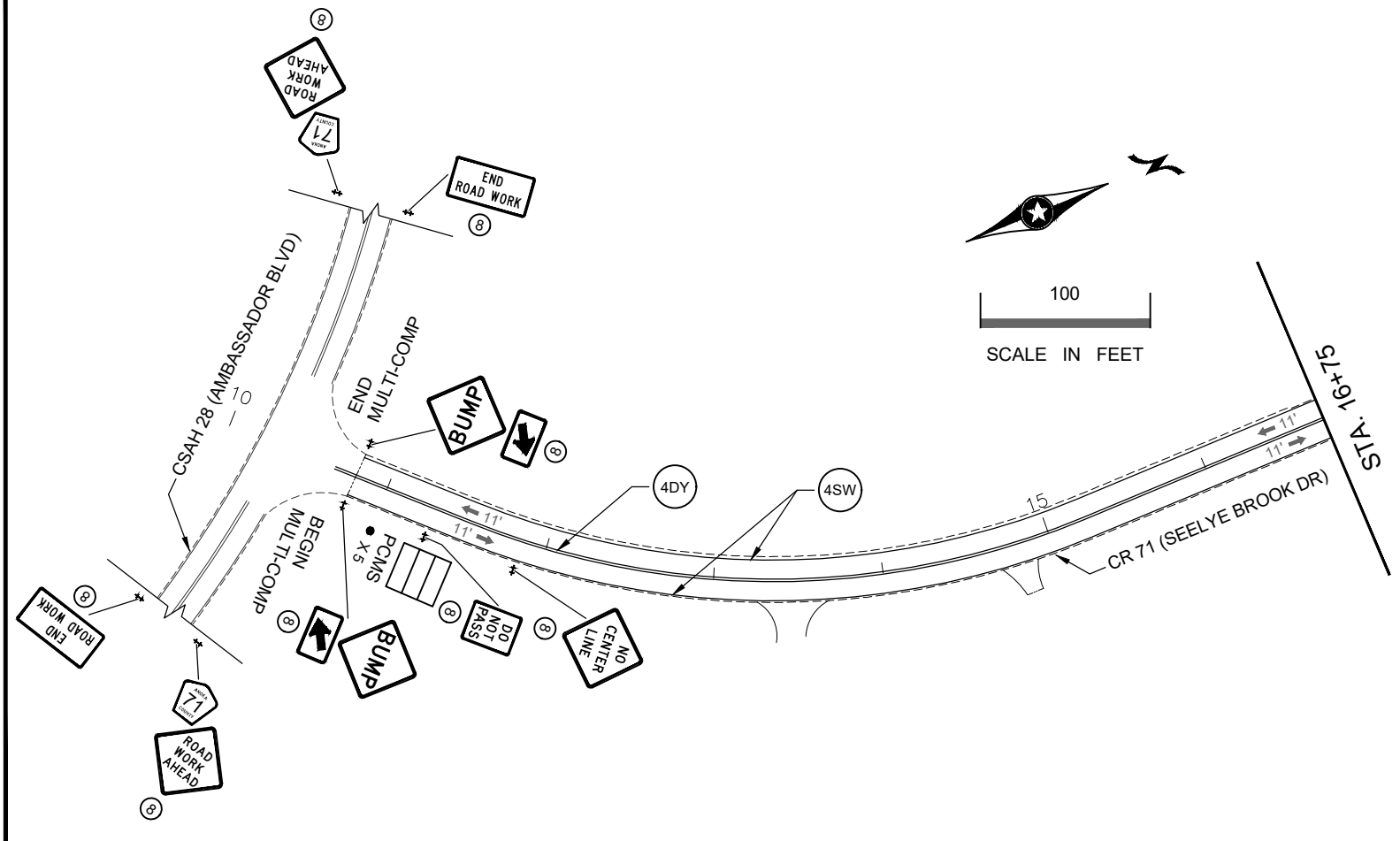
- ⊥ TRAFFIC CONTROL SIGN (SINGLE POST)
- ⊕ TRAFFIC CONTROL SIGN (TEMPORARY)
- DRUM-LIKE CHANNELIZER TYPE B = 
-  PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

**SIGNING NOTES**

- Ⓢ TEMPORARY TRAFFIC CONTROL SIGN

**STRIPING KEY**

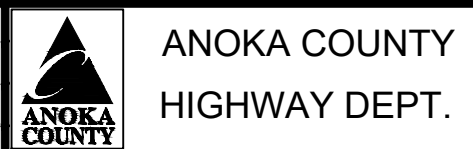
-  CIRCLE - MULTI-COMP



NO	DATE	BY	CHKD	APPR	REVISION

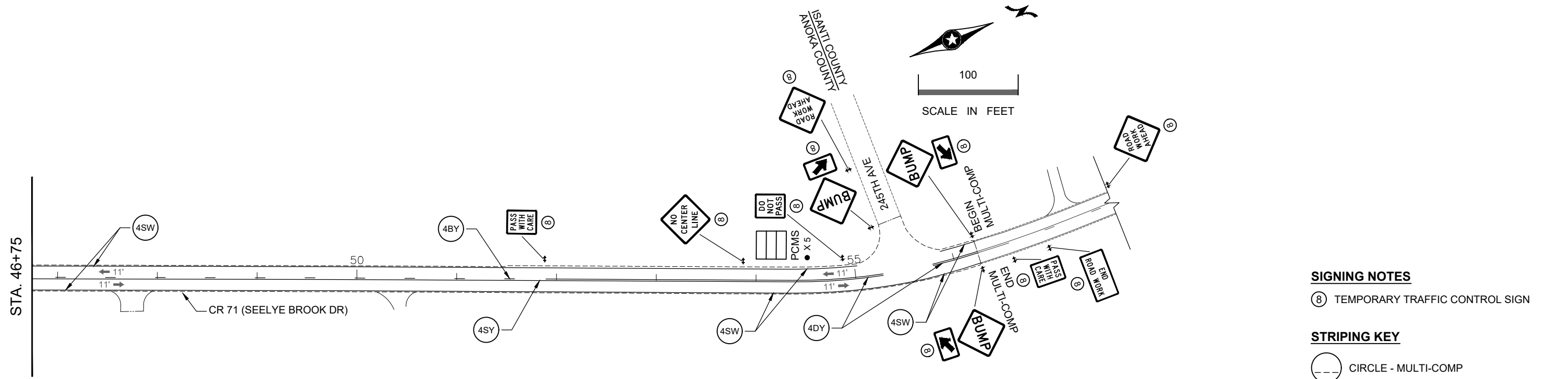
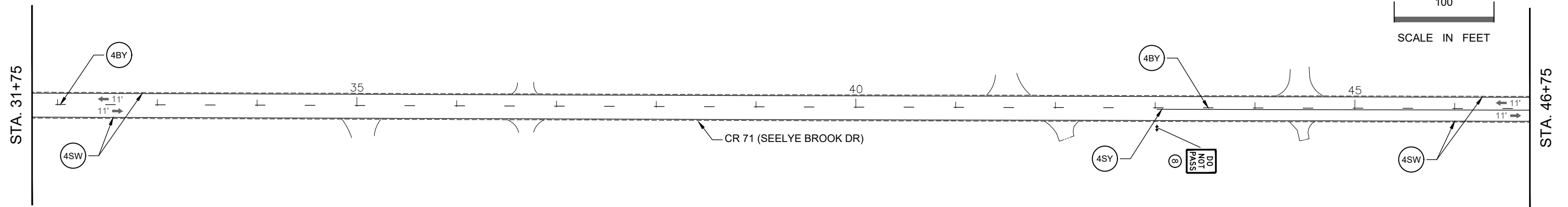
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: SEAN R. THIEL  
 SIGNATURE: *Sean R. Thiel*  
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CP 24-11-71

TEMPORARY SIGNING AND PERMANENT STRIPING  
 Sheet 10 of 12 Sheets



- SIGNING NOTES**
- Ⓢ TEMPORARY TRAFFIC CONTROL SIGN
- STRIPING KEY**
- CIRCLE - MULTI-COMP

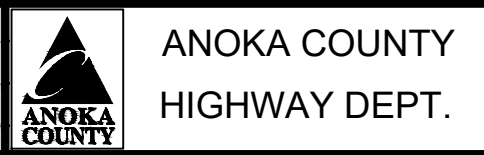
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\24-01-00\CR\_71 (AMBASSADOR-N.CNTY LINE)\Base\Traffic\Temporary Signing & Permanent Striping.dwg

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
## TEMPORARY TRAFFIC CONTROL SIGNS AND DEVICES

"W" SERIES				
SIGN	MUTCD CODE	COLOR	SIZE	QUANTITY
	W3-4	BLACK ON ORANGE	48" X 48"	AS NEEDED
	W8-1	BLACK ON ORANGE	48" X 48"	6
	W16-7PL	BLACK ON ORANGE	30" X 18"	6
	W8-8	BLACK ON ORANGE	48" X 48"	AS NEEDED
	W8-9	BLACK ON ORANGE	48" X 48"	AS NEEDED
	W8-11	BLACK ON ORANGE	48" X 48"	AS NEEDED
	W8-12	BLACK ON ORANGE	48" X 48"	2
	W8-23	BLACK ON ORANGE	48" X 48"	AS NEEDED
	W20-1	BLACK ON ORANGE	48" X 48"	AS NEEDED (ESTIMATED 5)
	W20-4	BLACK ON ORANGE	48" X 48"	AS NEEDED
	W20-7	BLACK ON ORANGE	48" X 48"	AS NEEDED

"R" SERIES				
SIGN	MUTCD CODE	COLOR	SIZE	QUANTITY
	R4-1	BLACK ON WHITE	24" X 30"	5
	R4-2	BLACK ON WHITE	24" X 30"	3

"M" SERIES				
SIGN	MUTCD CODE	COLOR	SIZE	QUANTITY
	M1-6M	WHITE AND YELLOW ON BLUE	24 X 24	2

"G" SERIES				
SIGN	MUTCD CODE	COLOR	SIZE	QUANTITY
	G20-2	BLACK ON ORANGE	48" X 24"	3

DEVICES		
ITEM	MUTCD CODE	QUANTITY
	DRUM	AS NEEDED (ESTIMATED 10)
(2) 	TYPE C	2 (10 DAYS EACH)

### PCMS - 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

### NOTES:

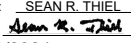
- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.
- ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MUTCD.

### SPECIFIC NOTES:


1. U-CHANNEL 3LBS PER FOOT BLACK POST.
2. PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) TO BE INSTALLED A MINIMUM OF 10 DAYS PRIOR TO ACTUAL COMMENCEMENT OF ROAD WORK. SIGNS TO BE REMOVED WHEN ROAD WORK BEGINS.

NO	DATE	BY	CKD	APPR	REVISION				
NAME: P:\24-01-00\CR_71_(AMBASSADOR-N.CNTY LINE)\Base\Traffic\Temporary Signing & Permanent Striping.dwg									

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**ANOKA COUNTY**

**HIGHWAY DEPT.**

CP 24-11-71