

MINNESOTA DEPARTMENT OF TRANSPORTATION

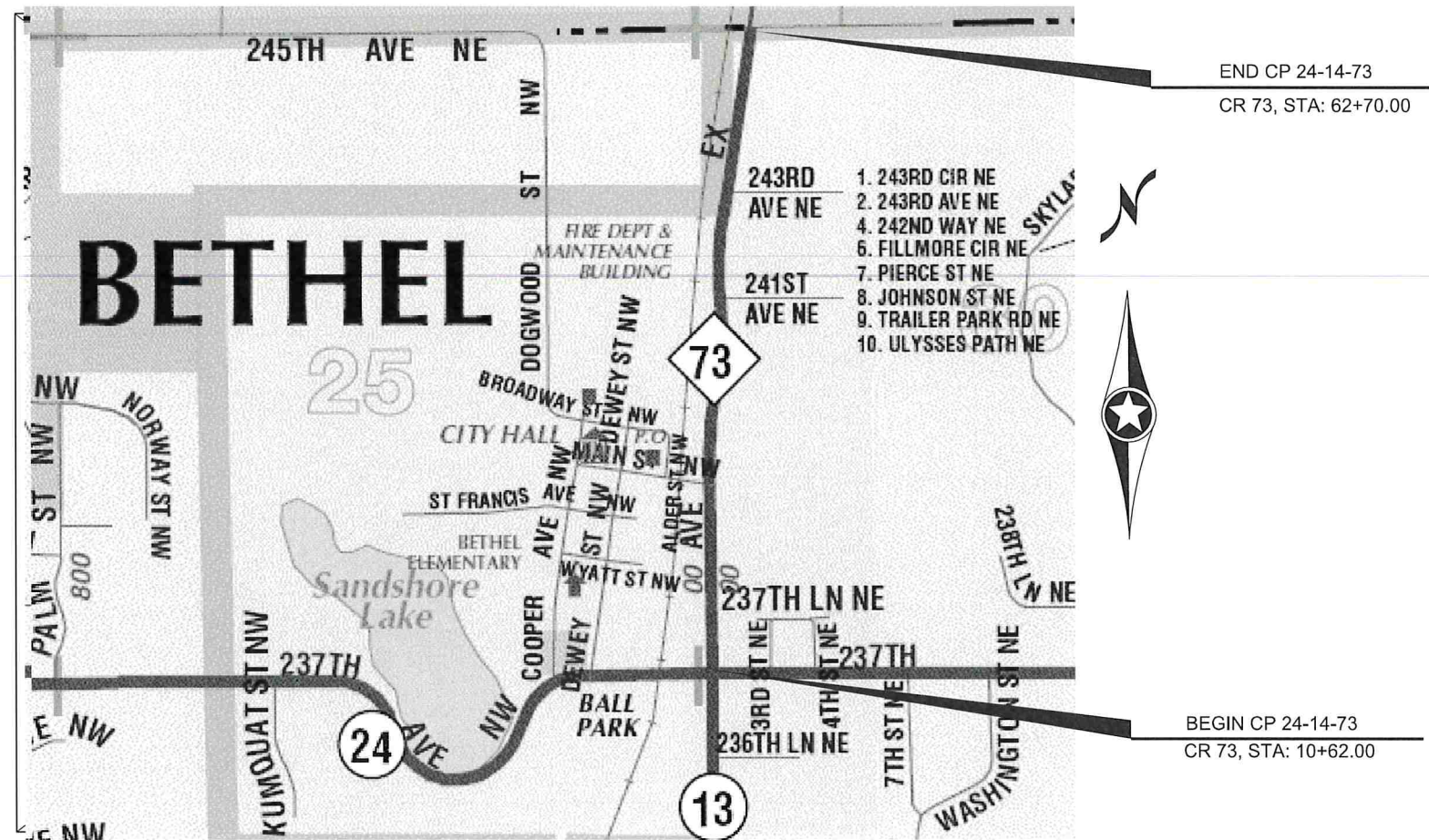
ANOKA COUNTY

CONSTRUCTION PLAN FOR BITUMINOUS SURFACING, BITUMINOUS RECLAMATION AND SEWER REPAIRS

LOCATED ON CR 73 BETWEEN CSAH 24 (237TH AVE NW) AND 245TH AVE NE

CR 73 (UNIVERSITY AVE NE)

GROSS LENGTH	5,208.00	FEET	0.986	MILES
EXCEPTIONS-LENGTH	0.00	FEET	0.000	MILES
NET LENGTH	5,208.00	FEET	0.986	MILES



GOVERNING SPECIFICATIONS

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

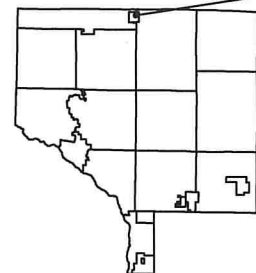
ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

THIS PLAN CONTAINS 14 SHEETS

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2-3	STATEMENT OF ESTIMATED QUANTITIES
4	TYPICAL SECTIONS
5-8	DETAILS
9-10	CONSTRUCTION PLAN
11	PERMANENT PAVEMENT MARKING NOTES AND TABULATIONS
12 - 13	TEMPORARY SIGNING AND PERMANENT STRIPING
14	TEMPORARY SIGNING NOTES AND TABULATIONS

PROJECT LOCATION



CITY OF BETHEL  
 ANOKA COUNTY  
 MN/DOT TRANSPORTATION DISTRICT - METRO  
 SECTION 30  
 TOWNSHIP 34 NORTH  
 RANGE 23 WEST

Approved: *[Signature]* 12-19-23  
 ANOKA COUNTY ENGINEER

DESIGN DESIGNATION ( CR 73 )

ESAL 20	154,759	FUNCTIONAL CLASSIFICATION	MINOR COLLECTOR
R VALUE	75	NO. OF TRAFFIC LANES	2
ADT (2024)	1310	NO. OF PARKING LANES	0
PROJ. ADT (2044)	1310	DESIGN SPEED	55 MPH
PROJ. HCADT (2044)	77	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

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: DLD DATE: 12/15/2023  
 DESIGN BY: DLD DATE: 12/15/2023  
 CHECKED BY: CSO DATE: 12/15/2023



ANOKA COUNTY  
 HIGHWAY DEPT.

COUNTY PROJECT 24-14-73

TITLE SHEET

Sheet 1 of 14 Sheets

NO	DATE	BY	CKD	APPR	REVISION	TIME
	12/15/2023					8:41:03 AM

NAME: P:\24-01-00\CR\_73\_(237TH AVE-N.CNTY LINE)\Base\Proposed\TITLE.dgn

### STATEMENT OF ESTIMATED QUANTITIES

Notes	Item Number	ITEM DESCRIPTION	Unit	TOTAL PROJECT QUANTITIES ESTIMATED
	2021.501	MOBILIZATION	LUMP SUM	1
1,2	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	41
1,2	2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	158
3	2104.504	REMOVE CONCRETE DRIVEWAY PAVEMENT	SQ YD	79
4	2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SQ YD	188
4	2104.504	REMOVE BITUMINOUS PAVEMENT	SQ YD	307
5	2123.510	MOTOR GRADER	HOUR	20
6	2130.523	WATER	M GALLON	20
7,8	2211.509	AGGREGATE BASE CLASS 5	TON	783
9	2215.504	FULL DEPTH RECLAMATION	SQ YD	14345
10	2215.507	HAUL FULL DEPTH RECLAMATION (LV)	CU YD	45
11	2221.509	SHOULDER BASE AGGREGATE CLASS 5	TON	417
12	2232.604	MILL BITUMINOUS PAVEMENT (SPECIAL)	SQ YD	92
	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	820
13	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3;B)	TON	22
14	2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (4;C)	TON	70
	2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (4;C)	TON	3771
15	2506.502	CASTING ASSEMBLY	EACH	3
16	2506.602	GROUT CATCH BASIN OR MANHOLE	EACH	3
3	2531.504	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	79
17	2540.602	MAIL BOX SUPPORT	EACH	21
	2563.601	TRAFFIC CONTROL SUPERVISOR	LUMP SUM	1
18,19,20	2563.601	TRAFFIC CONTROL	LUMP SUM	1
21	2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	UNIT DAY	20
	2574.507	COMMON TOPSOIL BORROW	CU YD	31
22	2575.508	HYDRAULIC REINFORCED FIBER MATRIX	POUND	147
23	2581.503	REMOVABLE PREFORMED PAVEMENT MARKING TAPE	LIN FT	210
24	2582.503	4" SOLID LINE MULTI-COMPONENT	LIN FT	12377
24	2582.503	4" BROKEN LINE MULTI-COMPONENT	LIN FT	1012

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT	
<b>MNDOT STANDARD PLATES</b>	
PLATE NO.	DESCRIPTION
4026B	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4110F	COVER CASTING FOR MANHOLE (FOR USE IN ALL TRAFFIC AREAS) – CASTING NO. 715
8000K	TEMPORARY CHANNELIZERS (3 SHEETS)
9350B	MAILBOX SUPPORT - SWING-AWAY TYPE

BITUMINOUS STREET SUMMARY		
LOCATION	BITUMINOUS	NOTES
	2360 TYPE SP 12.5 WEAR (4,C)	
	TON	
MAIN STREET	31	[1]
241st LANE	17	[1]
243rd AVE.	23	[1]
PROJECT TOTAL	70	

**BITUMINOUS SUMMARY NOTES:**  
 [1] QUANTITY ESTIMATED FOR 2 LIFTS

### CONSTRUCTION NOTES

1	REFERENCE DETAILS (PAGE 4)
2	REFERENCE DETAILS (PAGE 4-5) FOR REMOVAL DETAILS
3	ITEM FOR CONCRETE DRIVEWAYS. CONTRACTOR IS RESPONSIBLE FOR CONTACTING PROPERTY OWNER 48 HOURS BEFORE STARTING OPERATION.
4	ITEM FOR BITUMINOUS DRIVEWAYS AND STREET APPROACHES. CONTRACTOR IS RESPONSIBLE FOR CONTACTING PROPERTY OWNER 48 HOURS BEFORE STARTING OPERATION.
5	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 SUPER ELEVATION/GRADE CORRECTION AREAS.
6	WATER TO BE USE FOR DUST CONTROL AS DIRECTED BY THE ENGINEER.
7	ITEM FOR SUPERELEVATION / GRADE CORRECTION.
8	GRAVEL BASE FOR CONCRETE AND BITUMINOUS STREET APPROACHES AND DRIVEWAYS.
9	THIS WORK INCLUDES SPREADING, WATERING, COMPACTING, SHAPING, AND MAINTAINING THE BLENDED RECLAIMED MATERIAL TO THE SPECIFIC PROFILE AND CROSS SECTION. CONTRACTOR RESPONSIBILITY TO VERIFY DEPTH. NO ADDITIONAL COMPENSATION SHALL BE GIVEN IF EXISTING BITUMINOUS IS THICKER THAN CORES ON PLAN SHEETS.
10	ITEM USED TO HAUL EXCESS RECLAIM FROM TIE-IN POINTS AND REUSED ON SITE.
11	ITEM INCLUDES 7 TONS FOR EACH GRAVEL ENTRANCE AND GRAVEL STREET APPROACH.
12	TO BE USED FOR MILLING STREET APPROACHES AND/OR DETAIL MILLING AREAS AS IDENTIFIED IN THE PLAN.
13	ITEM FOR BITUMINOUS DRIVEWAYS. DRIVEWAYS SHALL BE PAVED AFTER MAINLINE AND BEFORE FINAL STRIPING.
14	STREET APPROACHES SHALL BE PAVED AFTER MAINLINE, AND BEFORE FINAL STRIPING
15	ITEM INCLUDES FULL REPLACEMENT OF CASTING ADJUSTMENT RINGS. SEE STORM TABULATIONS FOR RING HEIGHTS. CASTINGS IN ROADWAY SHALL BE INSTALLED BETWEEN BASE AND WEAR LIFT PAVING
16	ITEM INCLUDES GROUTING OF INVERTS, DOGHOUSES, RINGS, STRUCTURES AND CASTINGS AS DIRECTED BY PLAN AND ENGINEER. SEE DRAINAGE TAB, PAGE 7.
17	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.
18	CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN TEMPORARY SIGNAGE WHENEVER EXISTING SIGNAGE IS REMOVED. TEMPORARY SIGNAGE SHALL BE INCIDENTAL TO TRAFFIC CONTROL.
19	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.
20	DO NOT PASS, PASS WITH CARE AND NO CENTER STRIPE SIGNS MUST BE INPLACE DURING MILLING, RECLAIMING OR PAVING OPERATIONS.
21	2 MESSAGE BOARDS, ONE ON THE EACH END OF PROJECT, SHALL BE INSTALLED 10 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS.
22	TYPE 3 FERTILIZER AND TYPE 25-121 SEED ARE INCIDENTAL TO THIS ITEM. SEE "BASIS OF PLANNED QUANTITIES" FOR APPLICATION RATES.
23	CENTERLINE AND LANE DESIGNATION SKIPS TO BE APPLIED AS SOON AS POSSIBLE ON MILLED SURFACE AND EACH NEW LIFT OF PAVEMENT; SKIPS MUST BE IN PLACE BEFORE THE CONTRACTOR LEAVES FOR THE DAY. CONTRACTOR IS TO REMOVE PRIOR TO FINAL STRIPING.
24	FINAL STRIPING SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COARSE PAVING. CANNOT BE INSTALLED SOONER THAN 48 HOURS.

### 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

NO	DATE	BY	CKD	APPR	REVISION
	01/17/2024				3:45:52 PM

NAME: P:\24-01-00\CR\_73\_(237TH AVE-N.CNTY LINE)\Base\Proposed\SEQ.dgn

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CHECKED BY: CSO DATE: 01/17/2024



COUNTY PROJECT 24-14-73

STATEMENT OF ESTIMATED QUANTITIES

Sheet 2 of 14 Sheets

STORM DRAINAGE TAB							
NUMBER	TYPE	ACTION	NEW CASTING TYPE	FURNISH AND INSTALL CASTING ASSEMBLY	RING HEIGHT (INCIDENTAL)	GROUT CATCH BASIN OR MANHOLE	NOTES
				EACH	LIN FT	EACH	
300	MH	RE-RING	A-7D	1	0.2	1	
301	MH	RE-RING	A-7D	1	1	1	
302	MH	RE-RING	A-7D	1	1.3	1	
<b>TOTALS</b>				<b>3</b>	<b>2.5</b>	<b>3</b>	

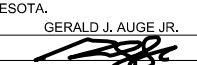
CASTING ASSEMBLIES SUMMARY						
ASSEMBLY	RING OR FRAME CASTING	COVER OR GRATE CASTING	CURB BOX	DESCRIPTION	NOTES	QUANTITY
A-7D	700-7	715		301-CP LID WITH RUBBER GASKET ON	CASTING COVER STAMPED "SANITARY SEWER" (NEENAH R-1733 WITH LID 301-CP)	3
ALL CASTING HEIGHTS TO BE VERIFIED IN THE FIELD						
ALL MANHOLE COVERS SHOULD BE LABELED AS STORM OR SANITARY						
NEW MANHOLE CASTINGS TO BE INSTALLED FLUSH WITH THE MILLED ASPHALT SURFACE.						
ALL MANHOLES TO BE WRAPPED WITH INF- SHIELD. THIS WORK IS INCIDENTAL TO THE CASTING ASSEMBLY.						
ADJUSTING RINGS TO BE INSTALLED AND GLUED DURING THE PAVING OPERATION.						
ADJUSTING RINGS TO BE RECESSED 1/4" FROM TOP OF FINISHED MAT						

SUPERELEVATION CORRECTION TAB 1, 2 & 3			
STATION	POINT	LEFT GRADE	RIGHT GRADE
25+50		-2.0%	-2.0%
26+00	BEGIN SUPER TRANS LT	-2.0%	-2.0%
26+50		-1.0%	-2.0%
27+00		0.0%	-2.0%
27+50		1.0%	-2.0%
28+00	BEGIN SUPER TRANS RT	2.0%	-2.0%
28+67	BEGIN FULL SUPER	3.0%	-3.0%
29+00		3.0%	-3.0%
29+50		3.0%	-3.0%
30+00		3.0%	-3.0%
30+50		3.0%	-3.0%
31+00		3.0%	-3.0%
31+50		3.0%	-3.0%
31+96	END FULL SUPER	3.0%	-3.0%
32+50		1.7%	-1.7%
33+00		0.6%	-0.6%
33+24		0.0%	0.0%
33+50		-0.6%	0.6%
34+00		-1.8%	1.8%
34+52	BEGIN FULL SUPER	-3.0%	3.0%
35+00		-3.0%	3.0%
35+50		-3.0%	3.0%
36+00		-3.0%	3.0%
36+50		-3.0%	3.0%
37+00		-3.0%	3.0%
37+50		-3.0%	3.0%
38+00		-3.0%	3.0%
38+50		-3.0%	3.0%
39+00		-3.0%	3.0%
39+49	END FULL SUPER	-3.0%	3.0%
40+00		-1.9%	1.9%
40+50		-0.8%	0.8%
40+86		0.0%	0.0%
41+00		0.3%	-0.3%
41+50		1.4%	-1.4%
42+00		2.5%	-2.5%
42+24	BEGIN FULL SUPER	3.0%	-3.0%
42+50		3.0%	-3.0%
43+00		3.0%	-3.0%
43+50		3.0%	-3.0%
44+00		3.0%	-3.0%
44+50		3.0%	-3.0%
45+00		3.0%	-3.0%
45+50		3.0%	-3.0%
46+00		3.0%	-3.0%
46+50		3.0%	-3.0%
47+00		3.0%	-3.0%
47+06	END FULL SUPER	3.0%	-3.0%
47+50	END SUPER TRANS RT	2.0%	-2.0%
48+00		1.0%	-2.0%
48+50		0.0%	-2.0%
49+00		-1.0%	-2.0%
49+50	END SUPER TRANS LT	-2.0%	-2.0%
50+00		-2.0%	-2.0%

NO	DATE	BY	CKD	APPR	REVISION	12/15/2023	8:41:09 AM
NAME: P:\24-01-00\CR_73_(237TH AVE-N.CNTY LINE)\Base\Proposed\SEQ.dgn							

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**ANOKA COUNTY**  
**HIGHWAY DEPT.**

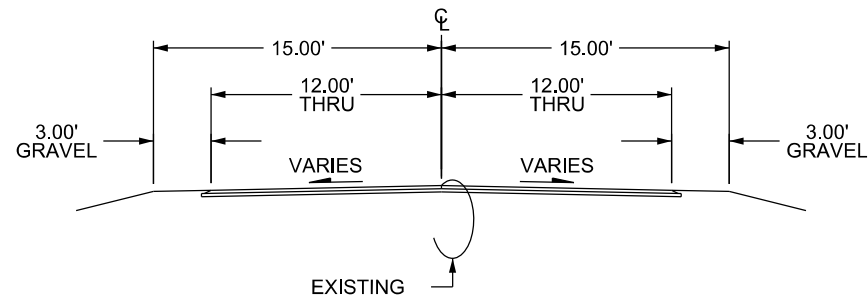
COUNTY PROJECT 24-14-73

STATEMENT OF ESTIMATED QUANTITIES

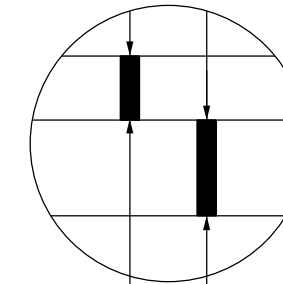
Sheet 3 of 14 Sheets

**CR 73 - UNIVERSITY AVE.**  
EXISTING SECTION

10+62.00 - 62+70.00



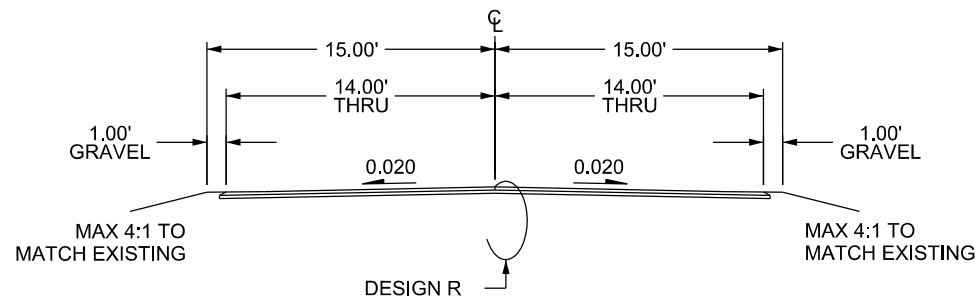
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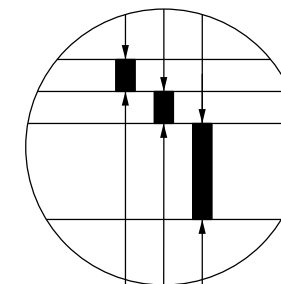
6.5" EXISTING BITUMINOUS  
EXISTING AGGREGATE BASE

**CR 73 - UNIVERSITY AVE.**  
PROPOSED SECTION

10+62.00 - 62+70.00



**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	8:41:10 AM
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**ANOKA COUNTY**  
**HIGHWAY DEPT.**

COUNTY PROJECT 24-14-73

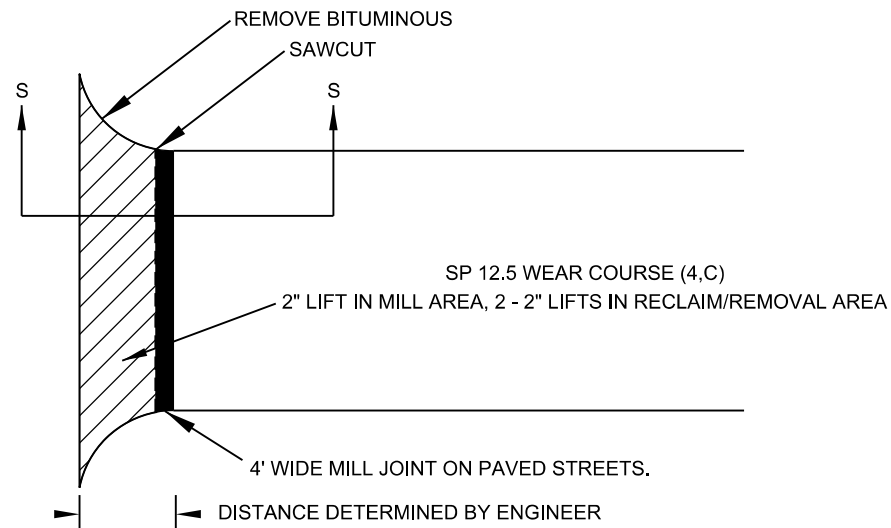
TYPICAL SECTIONS  
 Sheet 4 of 14 Sheets



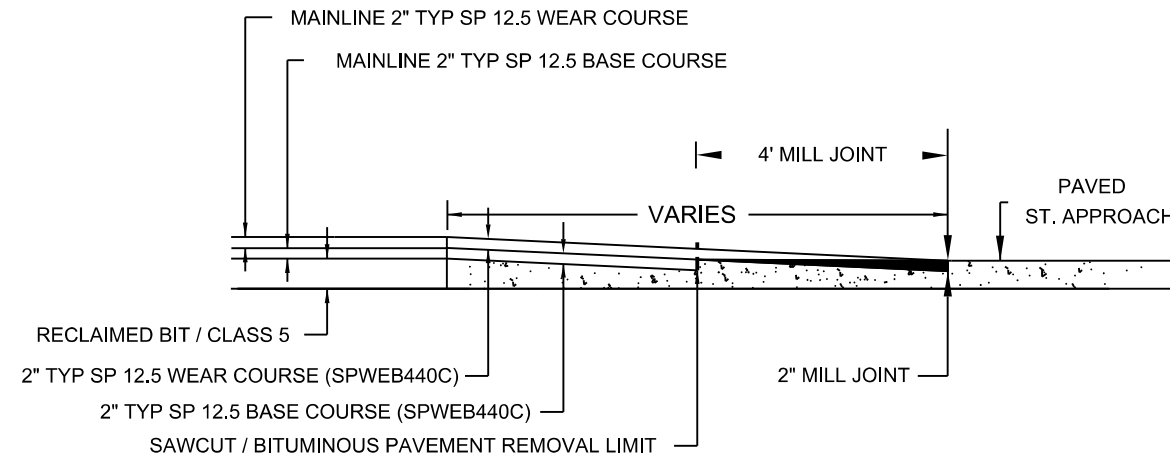
# STREET APPROACH DETAIL (RECLAIM)

## BITUMINOUS STREET

PLAN VIEW



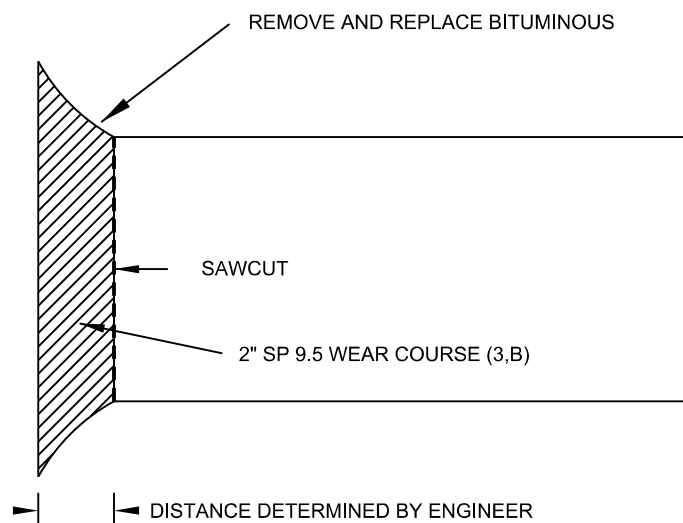
SECTION S - S



# RECLAIM AREA - DRIVEWAY DETAIL

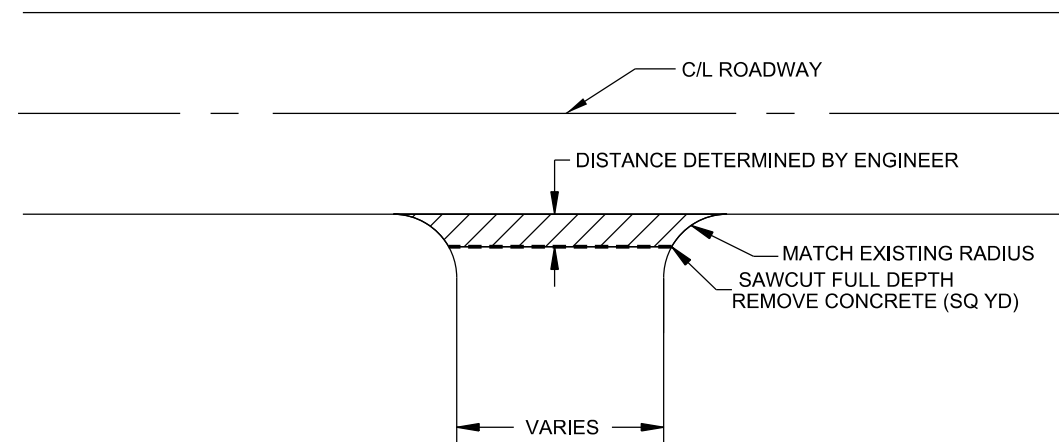
## BITUMINOUS

PLAN VIEW



# DRIVEWAY DETAIL

## CONCRETE DRIVEWAY



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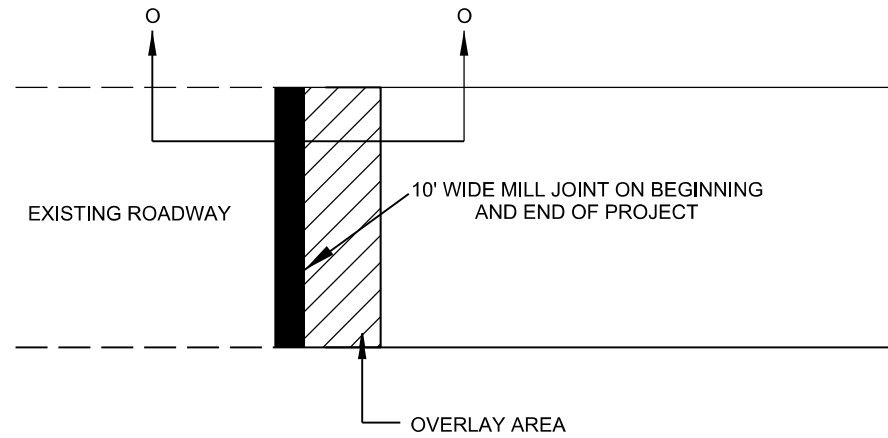


COUNTY PROJECT 24-14-73

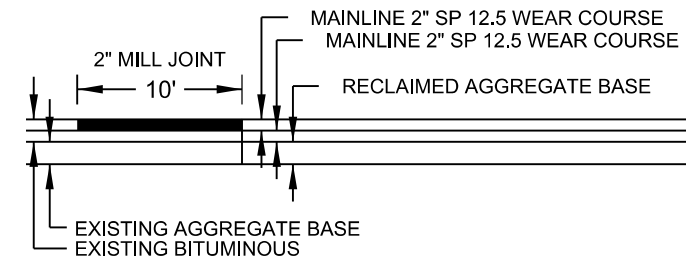
DETAILS  
 Sheet 5 of 14 Sheets

# MAINLINE JOINT DETAIL (OVERLAY)

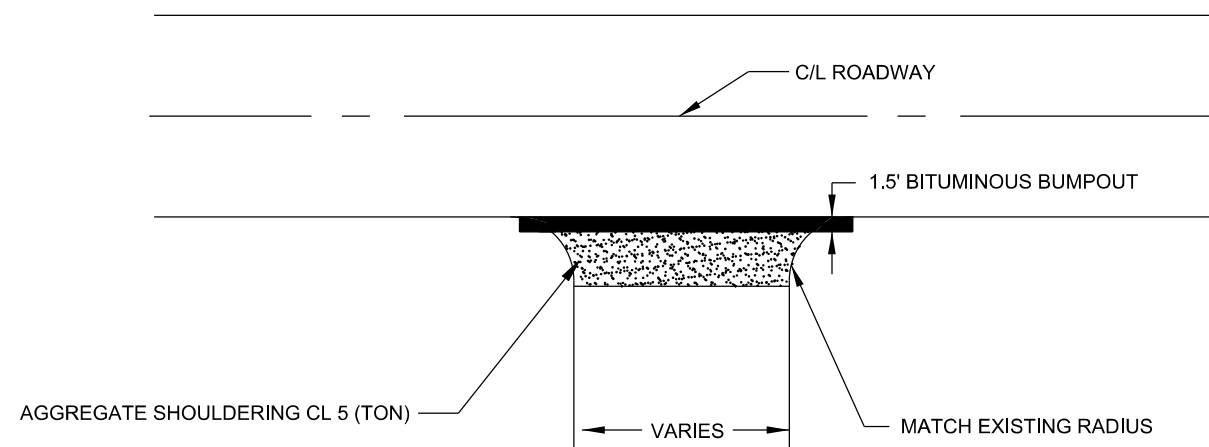
### PLAN VIEW



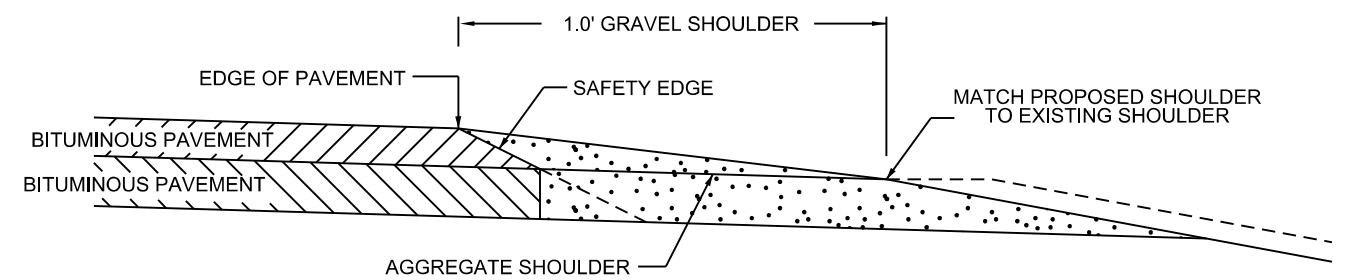
### SECTION O - O



### DRIVEWAY DETAIL GRAVEL / FIELD ENTRANCE



### 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.

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HIGHWAY DEPT.

COUNTY PROJECT 24-14-73

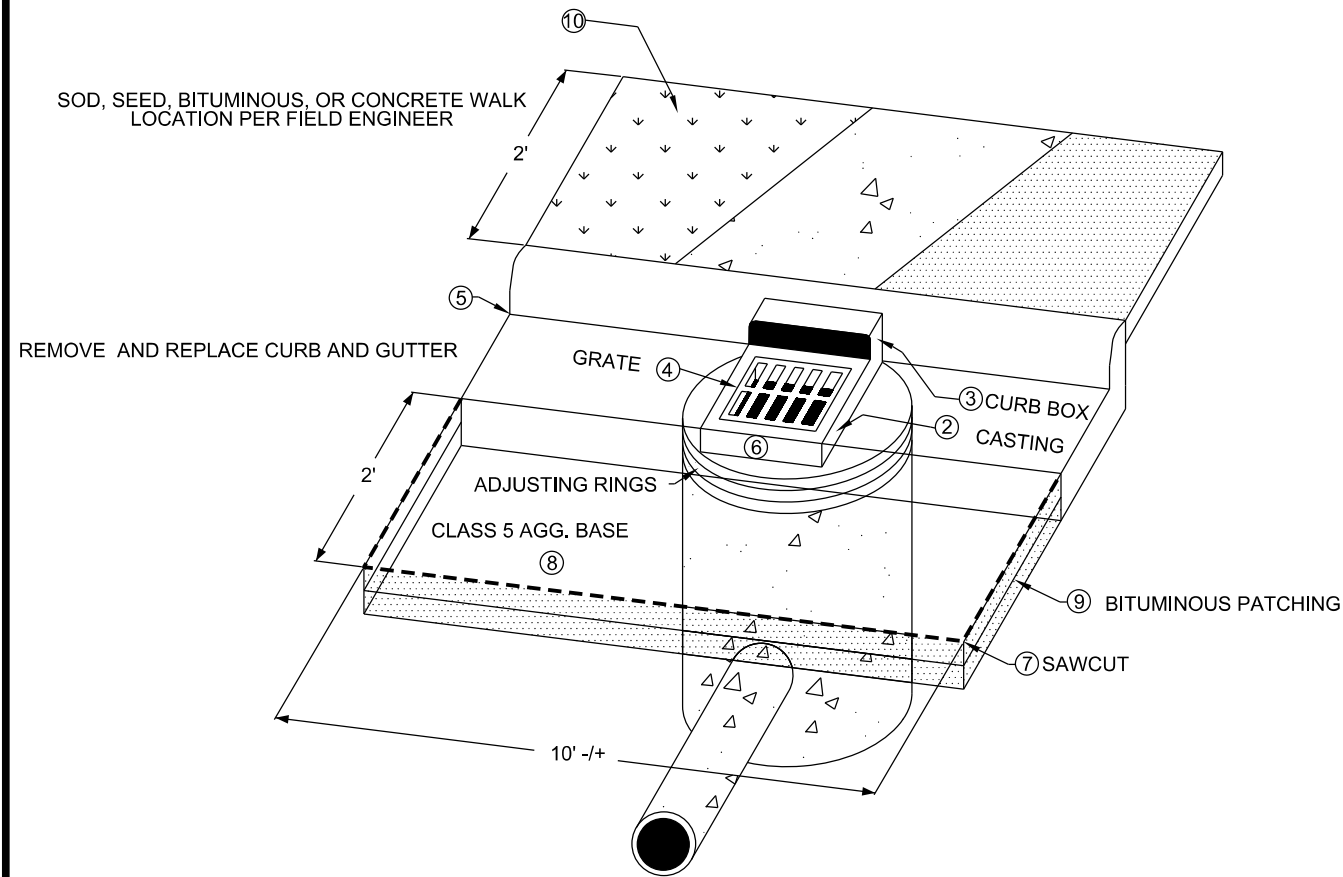
DETAILS

Sheet 6 of 14 Sheets

### CATCH BASIN DETAIL

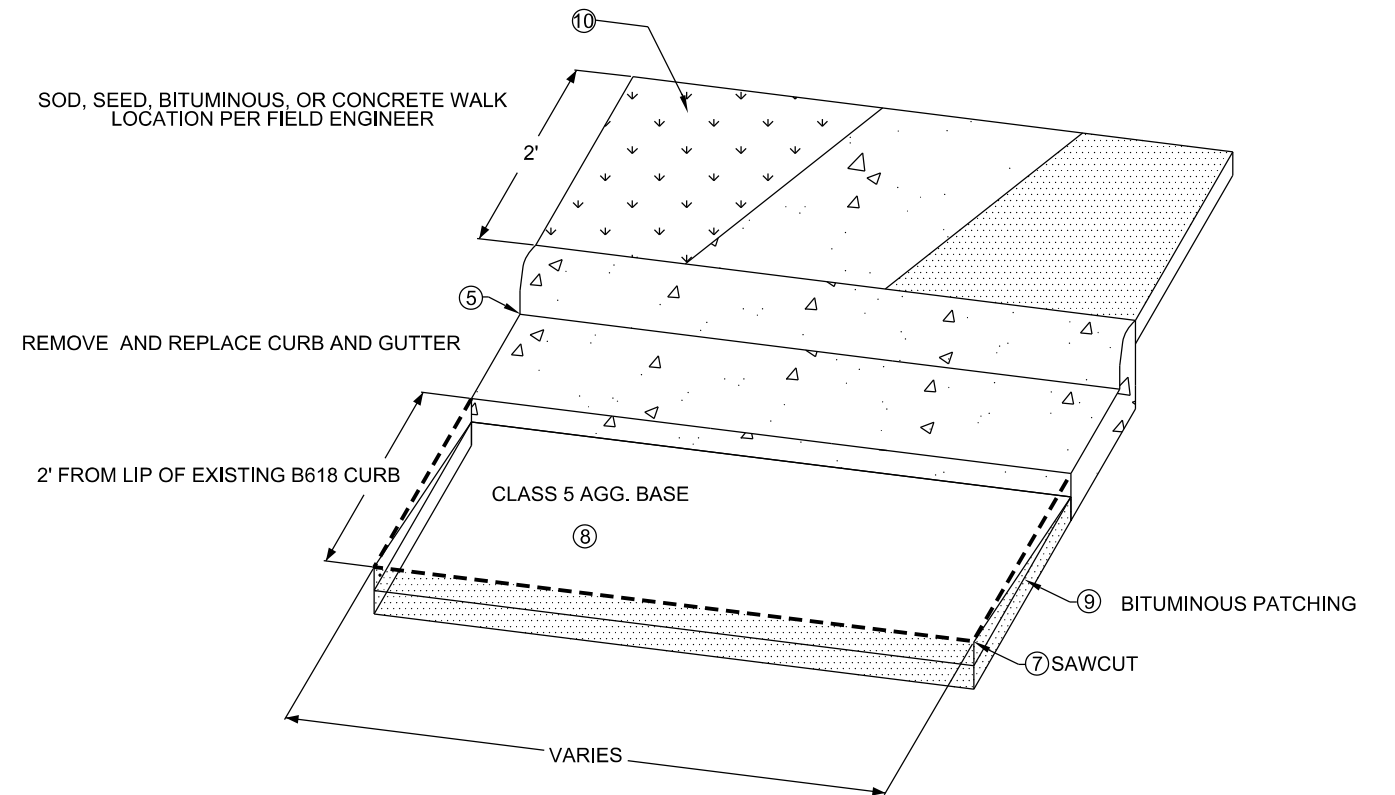
SEE STRUCTURE TAB FOR LOCATION

(PAGE 3)



### NEW CURB DETAIL

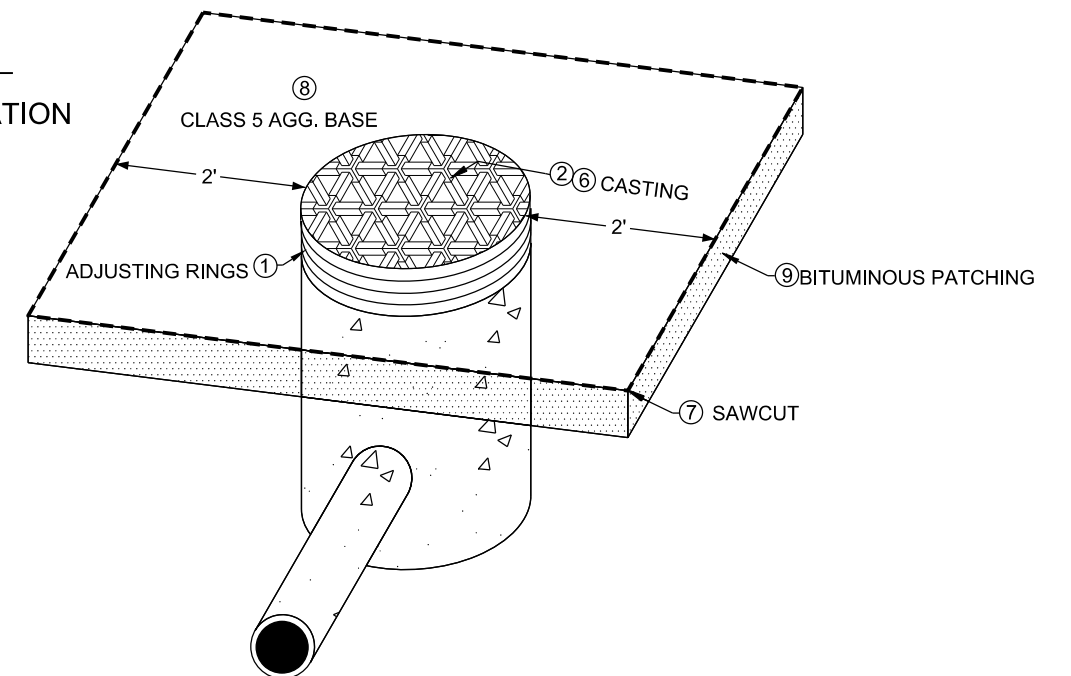
SEE PLAN FOR LOCATION



### MANHOLE DETAIL

SEE STRUCTURE TAB FOR LOCATION

(PAGE 3)



### NOTES

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

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

NO	DATE	BY	CKD	APPR	REVISION	12/15/2023	8:41:11 AM
NAME: P:\24-01-00\CR_73_(237TH AVE-N.CNTY LINE)\Base\Proposed\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: 12-08-2023 LICENSE NO. 26511

DRAWN BY DLD DATE 12/15/2023  
 DESIGN BY DLD DATE 12/15/2023  
 CHECKED BY CSO DATE 12/15/2023



ANOKA COUNTY  
 HIGHWAY DEPT.

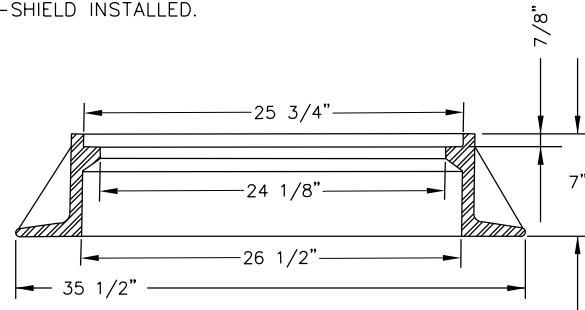
COUNTY PROJECT 24-14-73

DETAILS

Sheet 7 of 14 Sheets

### STANDARD MANHOLE CASTING

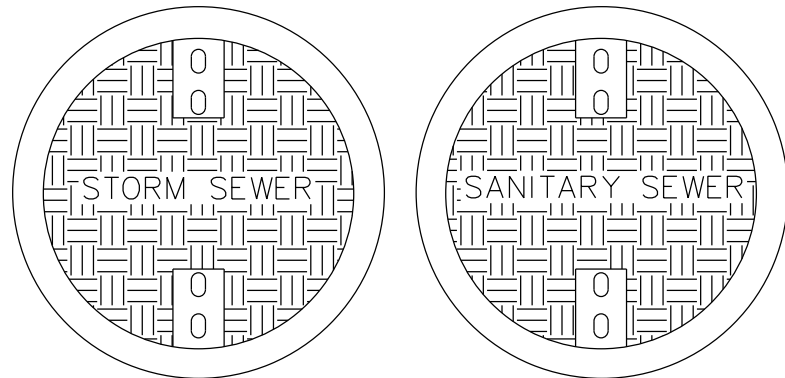
CASTING - NEENAH FOUNDRY NO. R-1733 SERIES MANHOLE FRAME OR APPROVED EQUAL. CASTING & RINGS TO HAVE INFI-SHIELD INSTALLED.



COVER-ESS BROTHER 301-CP LID. OR EQUAL WITH RUBBER GASKET ON THE BOTTOM OF THE LID.

NEENAH R1733-5044

NEENAH R1733-5044



NOTE: ALL LIDS MUST HAVE RUBBER GASKET ON THE BOTTOM OF THE LID.

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NAME: P:\24-01-00\CR_73_(237TH AVE-N.CNTY LINE)\Base\Proposed\DETAILS.dgn							

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HIGHWAY DEPT.

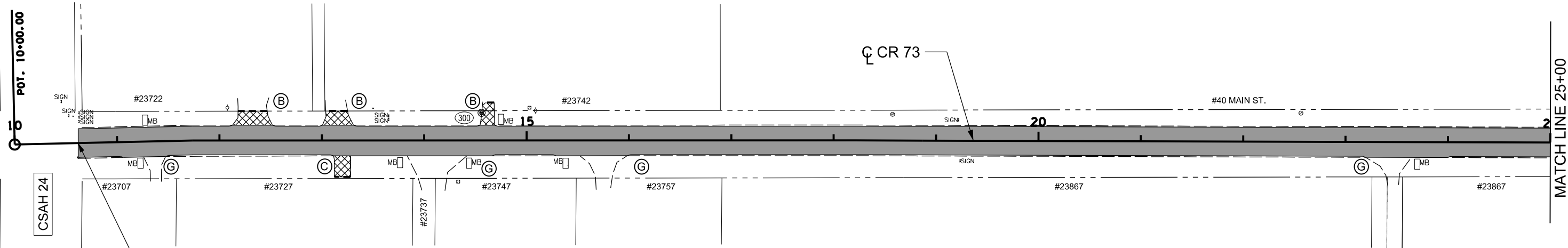
COUNTY PROJECT 24-14-73

DETAILS

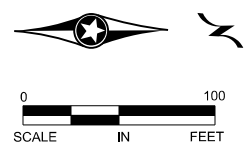
Sheet 8 of 14 Sheets



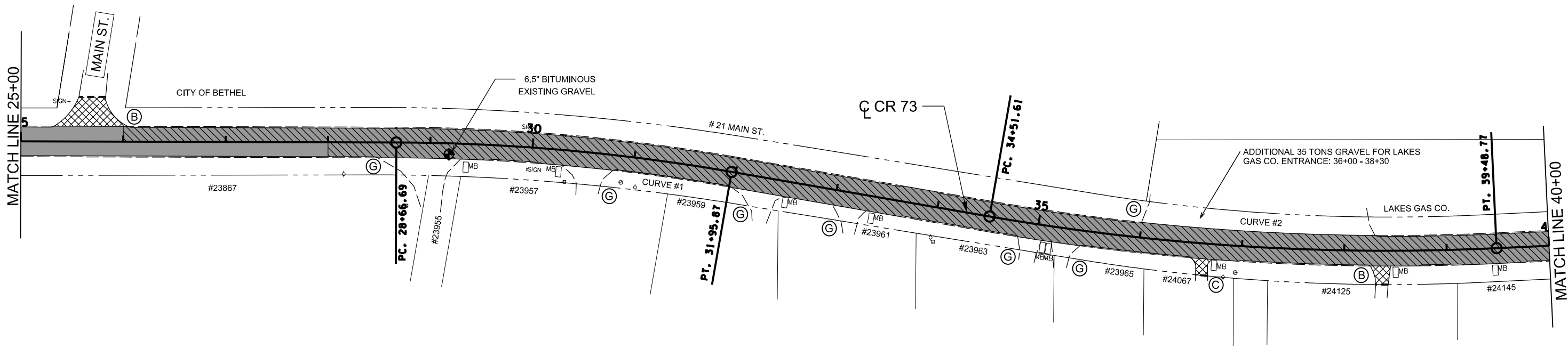
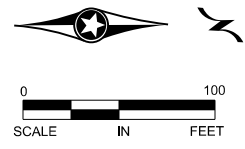
DBKost



BEGIN CONSTRUCTION  
 CP: 24-14-73  
 STATION: 10+62.00



LEGEND			
(B)	BITUMINOUS	---	CROSS CULVERT
(G)	GRAVEL	[Solid Grey Box]	MAINLINE RECLAIM AND PAVING
(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	TIME
	12/15/2023					8:41:12 AM

NAME: P:\24-01-00\CR\_73\_(237TH AVE-N.CNTY LINE)\Base\Proposed\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: 12-08-2023 LICENSE NO. 26511

DRAWN BY: DLD DATE: 12/15/2023  
 DESIGN BY: DLD DATE: 12/15/2023  
 CHECKED BY: CSO DATE: 12/15/2023

**ANOKA COUNTY**  
**HIGHWAY DEPT.**

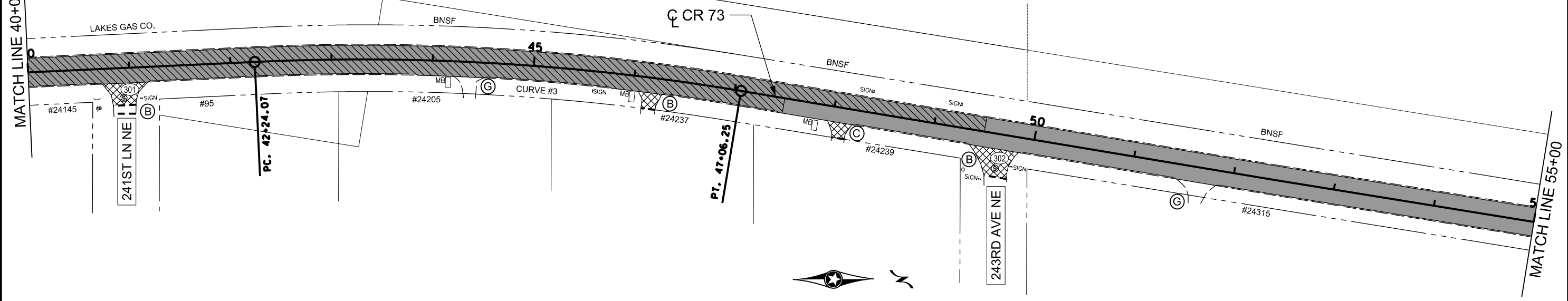
COUNTY PROJECT 24-14-73

CONSTRUCTION PLAN  
 STA 10+62.00 TO 40+00.00  
 Sheet 9 of 14 Sheets

DBKost

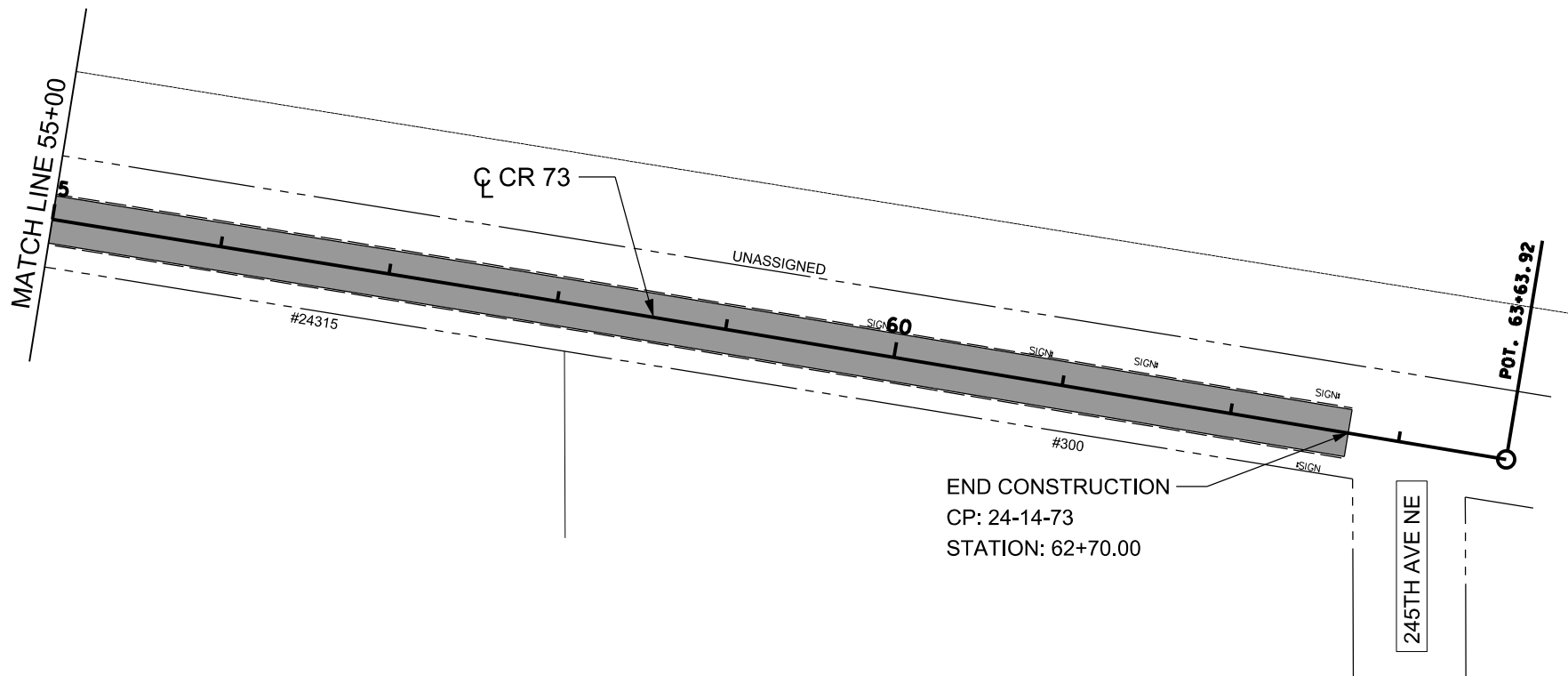
MATCH LINE 40+00

MATCH LINE 55+00



**LEGEND**

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



END CONSTRUCTION  
 CP: 24-14-73  
 STATION: 62+70.00

NO	DATE	BY	CKD	APPR	REVISION	TIME
	12/15/2023					8:41:13 AM

NAME: P:\24-01-00\CR\_73\_(237TH AVE-N.CNTY LINE)\Base\Proposed\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: DLD DATE: 12/15/2023

DESIGN BY: DLD DATE: 12/15/2023

CHECKED BY: CSO DATE: 12/15/2023

**ANOKA COUNTY**  
**HIGHWAY DEPT.**

COUNTY PROJECT 24-14-73

**CONSTRUCTION PLAN**

STA 40+00.00 TO 62+70.00

Sheet 10 of 14 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):**

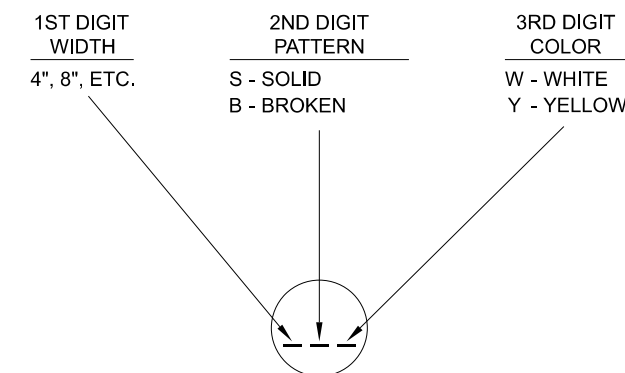
1. THE ROAD SURFACE SHALL BE CLEANED AT THE DIRECTION OF THE ENGINEER JUST PRIOR TO APPLICATION. PAVEMENT CLEANING SHALL CONSIST OF AT LEAST BRUSHING WITH A ROTARY BROOM (NON-METALLIC) OR AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. NEW PORTLAND CEMENT CONCRETE SURFACES 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 PER MANUFACTURER'S SPECIFICATIONS.
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 STRIPING**

PERMANENT PAVEMENT MARKING TABULATION			
ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	
		WHITE	YELLOW
4" SOLID LINE MULTI-COMP	LIN FT	10387	1990
4" BROKEN LINE MULTI-COMP	LIN FT		1012

**PAVEMENT MARKING SYMBOLS & MATERIALS LEGEND**

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



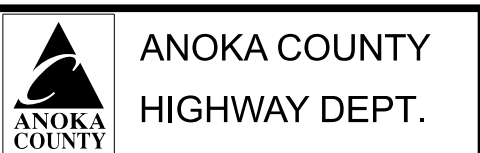
EXAMPLE:  $\textcircled{4SW}$  = 4" SOLID LINE WHITE MULTI-COMP

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NAME: P:\24-01-00\CR\_73\_(237TH AVE-N,CNTY LINE)\Base\Traffic\CR 73 - Signing & Striping

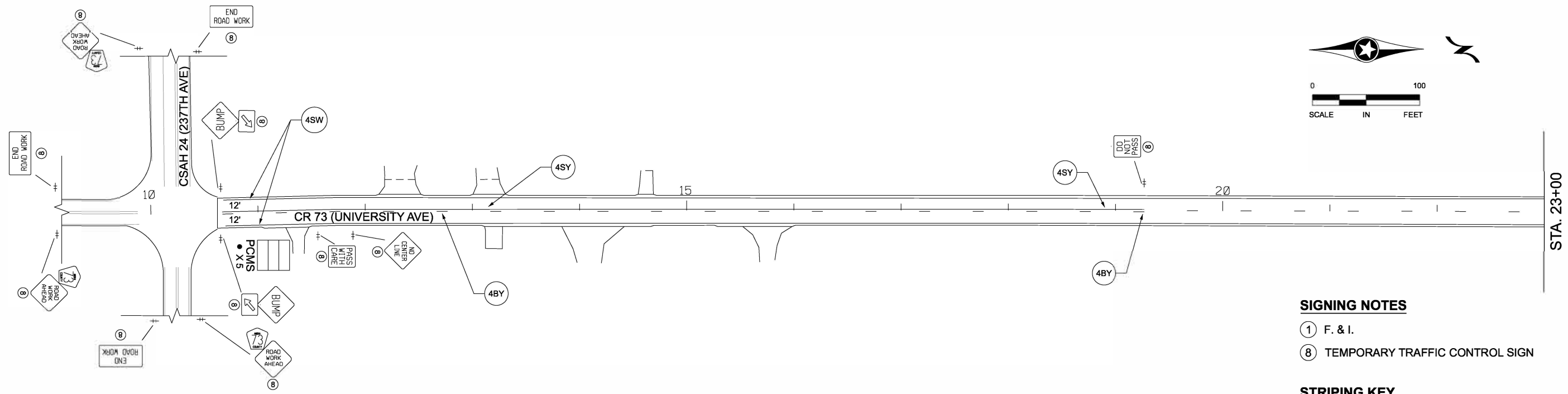
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: SEAN R. THIEL  
 SIGNATURE: *Sean R. Thiel*  
 DATE: 1/12/2024 LICENSE NO. 45129

DRAWN BY ALS DATE 11/17/23  
 DESIGN BY ALS DATE 11/17/23  
 CHECKED BY DATE

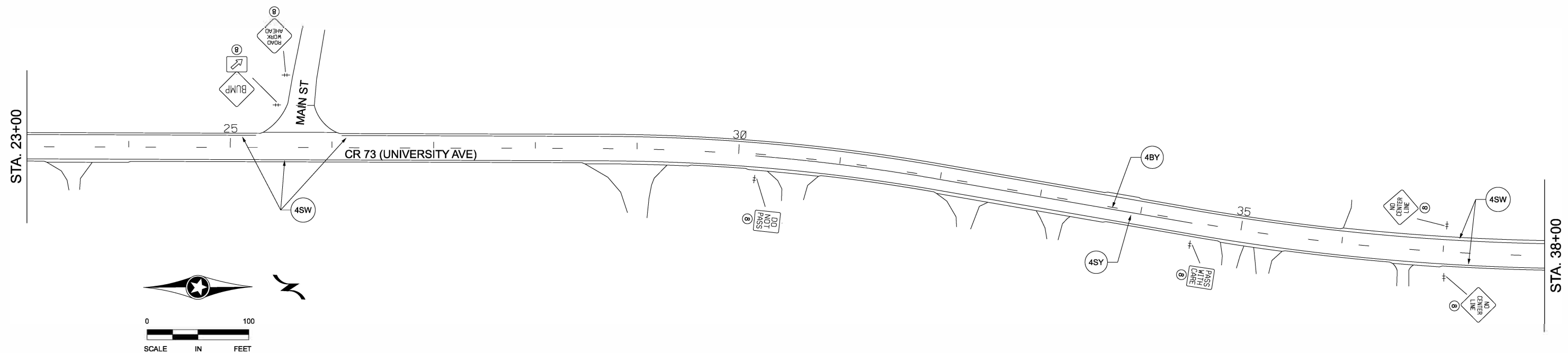


CP 24-14-73

PERMANENT PAVEMENT MARKING NOTES AND TABULATIONS  
 Sheet 11 of 14 Sheets



- SIGNING NOTES**
- ① F. & I.
  - ⑧ TEMPORARY TRAFFIC CONTROL SIGN
- STRIPING KEY**
- MULTI-COMP



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:124-01-00\CR\_73\_(237TH AVE-N.CNTY LINE)\Base\Traffic\CR 73 - Signing & Striping

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

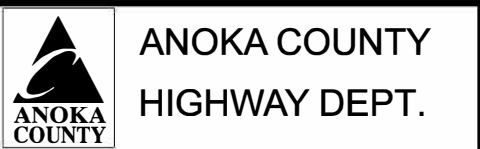
SIGNATURE: *Sean R. Thiel*

DATE: 1/12/2024 LICENSE NO. 45129

DRAWN BY: ALS DATE: 11/07/23

DESIGN BY: ALS DATE: 11/07/23

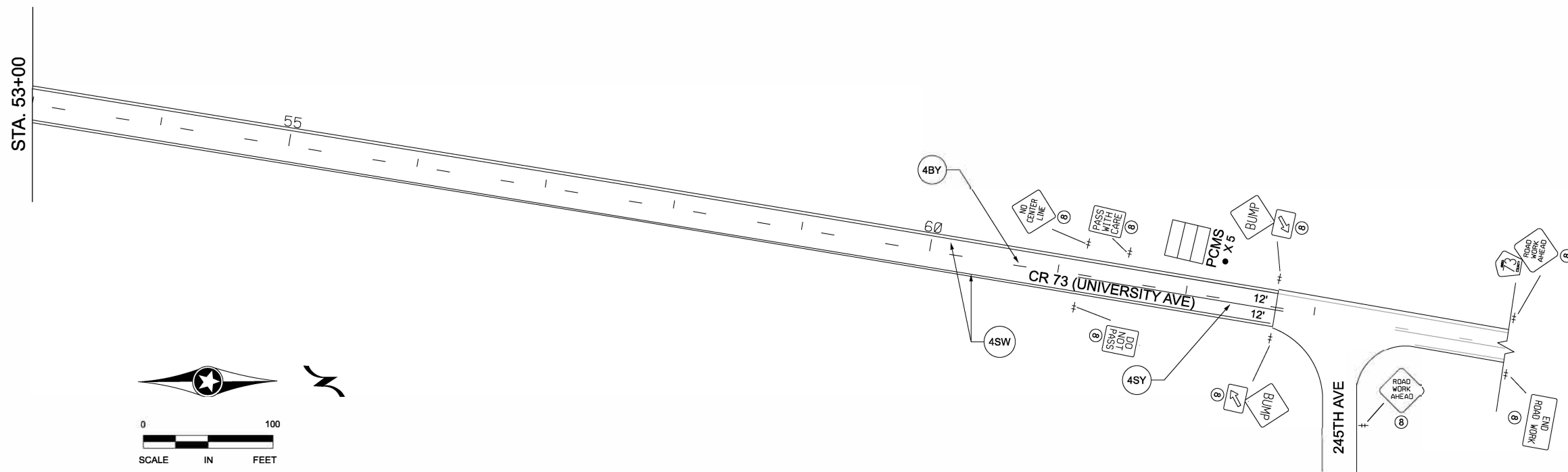
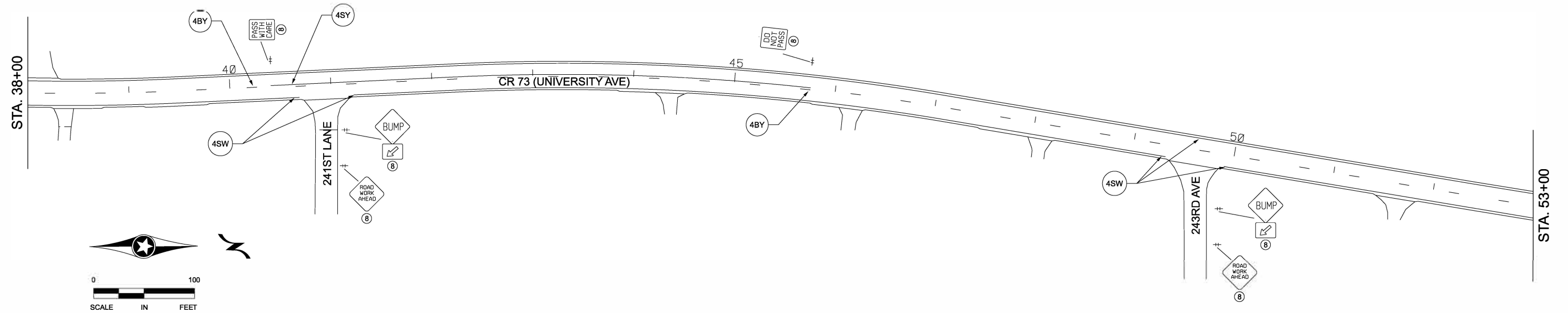
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CP 24-14-73

TEMPORARY SIGNING AND PERMANENT STRIPING

Sheet 12 of 14 Sheets



**SIGNING NOTES**

- ① F. & I.
- ⑧ TEMPORARY TRAFFIC CONTROL SIGN

**STRIPING KEY**



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:124-01-00\CR\_73 (237TH AVE-N.CNTY LINE)\Base\Traffic\CR 73 - Signing & Striping

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PRINT NAME: SEAN R. THIEL

SIGNATURE: *Sean R. Thiel*

DATE: 1/12/2024 LICENSE NO. 45129

DRAWN BY: ALS DATE: 11/07/23

DESIGN BY: ALS DATE: 11/07/23

CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



CP 24-14-73

TEMPORARY SIGNING AND PERMANENT STRIPING

Sheet 13 of 14 Sheets

**TEMPORARY TRAFFIC CONTROL SIGNS AND DEVICES**

<b>"W" SERIES</b>				
SIGN	MUTCD CODE	COLOR	SIZE	QUANTITY
	W3-4	BLACK ON ORANGE	48" X 48"	AS NEEDED
	W8-1	BLACK ON ORANGE	48" X 48"	7
	W16-7PL	BLACK ON ORANGE	30" X 18"	7
	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"	4
	W8-23	BLACK ON ORANGE	48" X 48"	AS NEEDED
	W20-1	BLACK ON ORANGE	48" X 48"	AS NEEDED (ESTIMATED 8)
	W20-4	BLACK ON ORANGE	48" X 48"	AS NEEDED
	W20-7	BLACK ON ORANGE	48" X 48"	AS NEEDED

<b>"R" SERIES</b>				
SIGN	MUTCD CODE	COLOR	SIZE	QUANTITY
	R4-1	BLACK ON WHITE	24" X 30"	4
	R4-2	BLACK ON WHITE	24" X 30"	3

<b>"M" SERIES</b>				
SIGN	MUTCD CODE	COLOR	SIZE	QUANTITY
	M1-6M	WHITE AND YELLOW ON BLUE	24 X 24	4

<b>"G" SERIES</b>				
SIGN	MUTCD CODE	COLOR	SIZE	QUANTITY
	G20-2	BLACK ON ORANGE	48" X 24"	4

<b>DEVICES</b>		
ITEM	MUTCD CODE	QUANTITY
	DRUM	AS NEEDED (ESTIMATED 10)
	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
	D	E	L	A	Y
	S				

**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."
- ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MN MUTCD.
- 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.

**SIGNING NOTES**

- ① F. & I.
- ⑧ TEMPORARY TRAFFIC CONTROL SIGN

**TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND**

**SYMBOL DESCRIPTION**

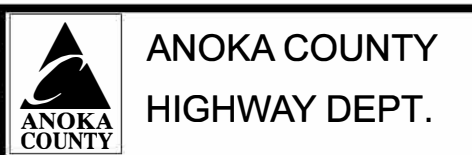
- ± TRAFFIC CONTROL SIGN (SINGLE POST)
- ++ TRAFFIC CONTROL SIGN (TEMPORARY)
- DRUM-LIKE CHANNELIZER TYPE B =
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\24-01-00\CR\_73\_(237TH AVE-N.CNTY LINE)\Base\Traffic\CR 73 - Signing & Striping

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