

STATEMENT OF ESTIMATED QUANTITIES

Notes	Item Number	ITEM DESCRIPTION	Unit	TOTAL PROJECT QUANTITIES ESTIMATED
	2021.501	MOBILIZATION	LUMP SUM	1
	2104.502	REMOVE BITUMINOUS FLUME	EACH	1
24	2104.502	SALVAGE SIGN TYPE C	EACH	6
1	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	124
1	2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	589
	2104.503	REMOVE PIPE CULVERTS	LIN FT	82
1,2	2104.504	REMOVE CONCRETE DRIVEWAY PAVEMENT	SQ YD	212
1,3	2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SQ YD	738
1,3	2104.504	REMOVE BITUMINOUS PAVEMENT	SQ YD	1283
	2104.609	SALVAGE RANDOM RIPRAP	TON	22
	2105.607	COMMON EXCAVATION	CU YD	1147
4	2123.510	MOTOR GRADER	HOURL	20
5	2123.510	DOZER	HOURL	20
6	2130.523	WATER	M GALLON	20
7	2211.509	AGGREGATE BASE CLASS 5	TON	223
8	2215.504	FULL DEPTH RECLAMATION	SQ YD	28300
9	2215.507	HAUL FULL DEPTH RECLAMATION (LV)	CU YD	101
10	2221.509	SHOULDER BASE AGGREGATE CLASS 5	TON	507
11	2232.604	MILL BITUMINOUS PAVEMENT (SPECIAL)	SQ YD	136
	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	1391
12	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3;B)	TON	85
13	2360.509	TYPE SP 12.5 BITUMINOUS MIXTURE FOR PATCHING	TON	41
14,15	2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (4;C)	TON	295
	2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (4;C)	TON	6397
25,26	2501.502	18" RC SAFETY APRON	EACH	2
26	2503.503	18" RC PIPE SEWER DESIGN 3006 CLASS V	LIN FT	80
	2511.607	INSTALL RANDOM RIPRAP	CU YD	16
	2521.602	DRILL AND GROUT REINF BAR (EPOXY COATED)	EACH	62
	2531.503	CONCRETE CURB AND GUTTER DESIGN B618	LIN FT	1623
	2531.504	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	212
	2531.604	CONCRETE DRAINAGE FLUME	SQ YD	7
16	2540.602	MAIL BOX SUPPORT	EACH	24
	2563.601	TRAFFIC CONTROL SUPERVISOR	LUMP SUM	1
17,18	2563.601	TRAFFIC CONTROL	LUMP SUM	1
19	2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	UNIT DAY	15
20	2573.502	STORM DRAIN INLET PROTECTION	EACH	1
	2573.503	SEDIMENT CONTROL LOG TYPE WOOD FIBER	LIN FT	20
	2574.507	COMMON TOPSOIL BORROW	CU YD	1971
21	2575.508	HYDRAULIC REINFORCED FIBER MATRIX	POUND	926
22	2581.503	REMOVABLE PREFORMED PAVEMENT MARKING TAPE	LIN FT	286
23	2582.503	4" SOLID LINE MULTI-COMPONENT	LIN FT	14081
23	2582.503	4" BROKEN LINE MULTI-COMPONENT	LIN FT	1200
23	2582.503	4" DOUBLE SOLID LINE MULTI-COMPONENT	LIN FT	1050
23	2582.503	24" SOLID LINE PREFORM THERMO GROUND IN	LIN FT	23

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

MNDOT STANDARD PLATES

PLATE NO.	DESCRIPTION
3000M	REINFORCED CONCRETE PIPE (6 SHEETS)
3006H	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
3007F	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3022C	PRECAST CONCRETE SAFETY APRON (3 SHEETS)
7100H	CONCRETE CURB AND GUTTER (DESIGN B AND DESIGN V)
8000K	TEMPORARY CHANNELIZERS (3 SHEETS)
9350B	MAILBOX SUPPORT - SWING-AWAY TYPE

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 5-6) 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 SUPER ELEVATION/GRADE CORRECTION AREAS.
5	TO BE USED FOR DITCH GRADING AND FOR DRESSING DISTURBED AREAS AFTER CLEARING AND GRUBBING.
6	WATER TO BE USED FOR DUST CONTROL AS DIRECTED BY THE ENGINEER.
7	GRAVEL BASE FOR CONCRETE AND BITUMINOUS STREET APPROACHES AND DRIVEWAYS AND NEW CONCRETE CURB.
8	THIS WORK INCLUDES SPREADING, WATERING, COMPACTING, SHAPING, AND MAINTAINING THE BLENDED RECLAIMED MATERIAL TO THE SPECIFIC PROFILE AND CROSS SECTION.
9	ITEM USED TO HAUL EXCESS RECLAIM FROM TIE-IN POINTS AND REUSED ON SITE.
10	ITEM INCLUDES 7 TONS FOR EACH GRAVEL ENTRANCE AND GRAVEL STREET APPROACH.
11	TO BE USED FOR MILLING STREET APPROACHES AND/OR DETAIL MILLING AREAS AS IDENTIFIED IN THE PLAN.
12	ITEM FOR BITUMINOUS DRIVEWAYS. DRIVEWAYS SHALL BE PAVED AFTER MAINLINE AND BEFORE FINAL STRIPING.
13	ITEM INCLUDES BITUMINOUS PATCHING IN FRONT OF NEW CURB.
14	CONTRACTOR IS RESPONSIBLE FOR CONTACTING PROPERTY OWNER 48 HOURS BEFORE STARTING OPERATION.
15	STREET APPROACHES SHALL BE PAVED AFTER MAINLINE, AND BEFORE FINAL STRIPING
16	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.
17	CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN TEMPORARY SIGNAGE WHENEVER EXISTING SIGNAGE IS REMOVED. TEMPORARY SIGNAGE SHALL BE INCIDENTAL TO TRAFFIC CONTROL.
18	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 IN PLACE WHENEVER PERMANENT PAVEMENT MARKINGS ARE NOT PRESENT.
19	2 MESSAGE BOARDS, ONE ON THE EACH END OF PROJECT, SHALL BE INSTALLED 10 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS.
20	ALL DRAINAGE STRUCTURES AFFECTED BY THIS PROJECT MUST HAVE INLET PROTECTION.
21	TYPE 3 FERTILIZER AND TYPE 25-121 SEED ARE INCIDENTAL TO THIS ITEM. SEE "BASIS OF PLANNED QUANTITIES" FOR APPLICATION RATES.
22	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.
23	FINAL STRIPING SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING. CANNOT BE INSTALLED SOONER THAN 48 HOURS.
24	ITEM USED FOR SIGNS IN THE COMMON EXCAVATION AREA.
25	APRONS TO BE INSTALLED TO EXISTING CULVERT INVERT DEPTH. FIELD VERIFY DEPTHS.
26	CONTRACTOR TO FIELD VERIFY ALL PIPE AND APRON SIZES

BITUMINOUS STREET SUMMARY

LOCATION	BITUMINOUS	
	2360 TYPE SP 12.5 WEAR (4;C)	TON
JUNKITE ST NW	29	[1]
IODINE ST NW	29	[1]
GERMANIUM ST NW	18	[1]
FLUORINE ST NW (NORTH)	20	[1]
FLUORINE ST NW (SOUTH)	25	[1]
ERKIUM ST NW (NORTH)	19	[1]
ERKIUM ST NW (SOUTH)	24	[1]
BARIUM ST NW	29	[1]
YAKIMA ST NW	33	[1]
WACO ST NW	32	[1]
UTE ST NW	12	[1]
TONTO ST NW	26	[1]
PROJECT TOTAL	295	

BITUMINOUS SUMMARY NOTES:


[1] QUANTITY ESTIMATED FOR 2 LIFTS

NO	DATE	BY	CKD	APPR	REVISION
	01/09/2024				11:49:12 AM

NAME: P:\24-01-00\CR_27_(TH47-CSAH 7)\Base\Proposed\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: 12-08-2023 LICENSE NO. 26511

DRAWN BY DBK DATE 12/06/23

DESIGN BY DBK DATE 12/06/23

CHECKED BY CO DATE 12/06/23



**ANOKA COUNTY
HIGHWAY DEPT.**

COUNTY PROJECT 24-15-27

STATEMENT OF ESTIMATED QUANTITIES

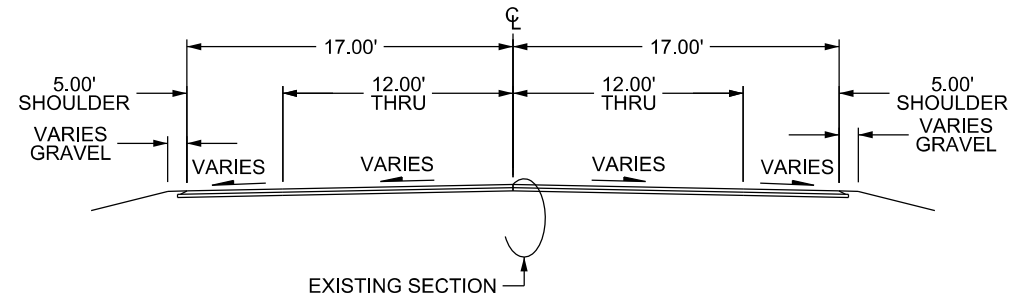
Sheet 2 of 16 Sheets

CR 27 - 179TH LN NW

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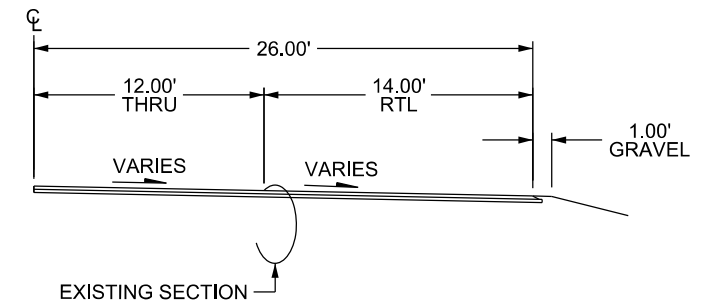
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81+95.25 - 82+11.51



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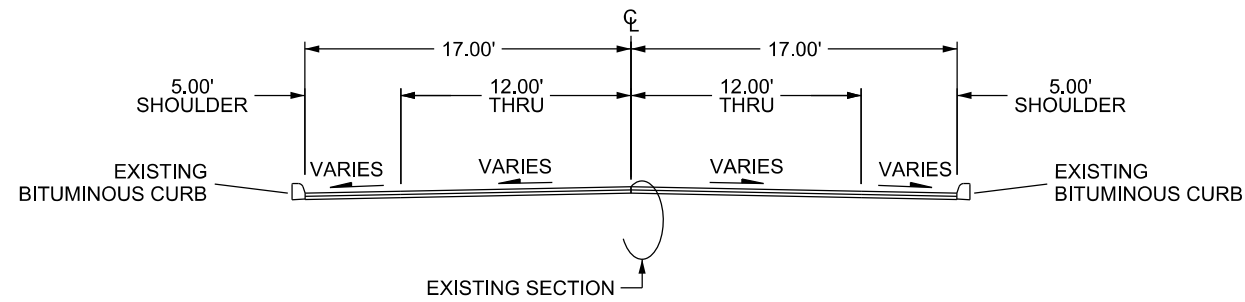
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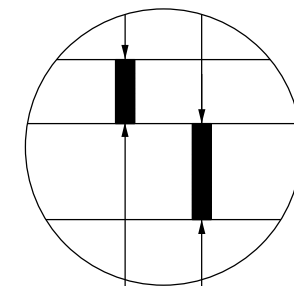
CR 27 - 179TH LN NW

EXISTING SECTION

72+57.72 - 81+95.25



EXISTING SECTION



4.5" EXISTING BITUMINOUS

EXISTING AGGREGATE BASE

NO	DATE	BY	CKD	APPR	REVISION	TIME
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NAME: P:\24-01-00\CR_27_(TH47-CSAH 7)\Base\Proposed\TYPICAL.dgn

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PRINT NAME: GERALD J. AUGER JR.

SIGNATURE: *[Signature]*

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ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 24-15-27

TYPICAL SECTIONS

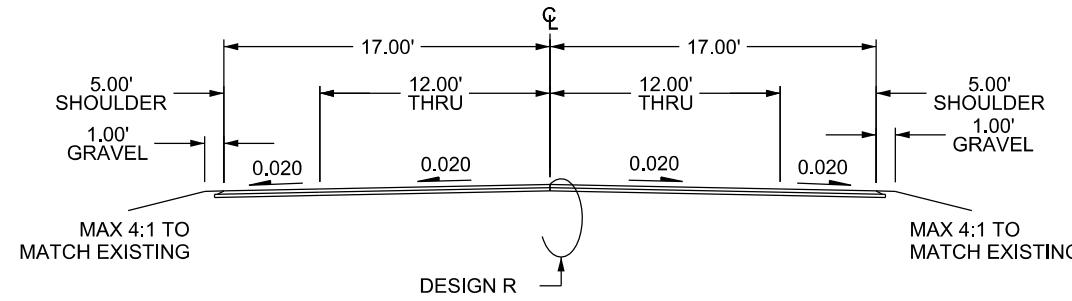
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CR 27 - 179TH LN NW

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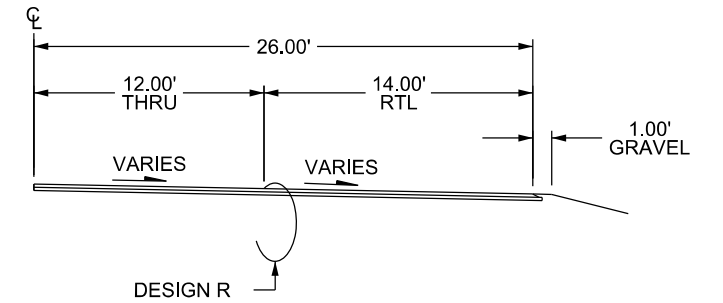
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81+95.25 - 82+11.51



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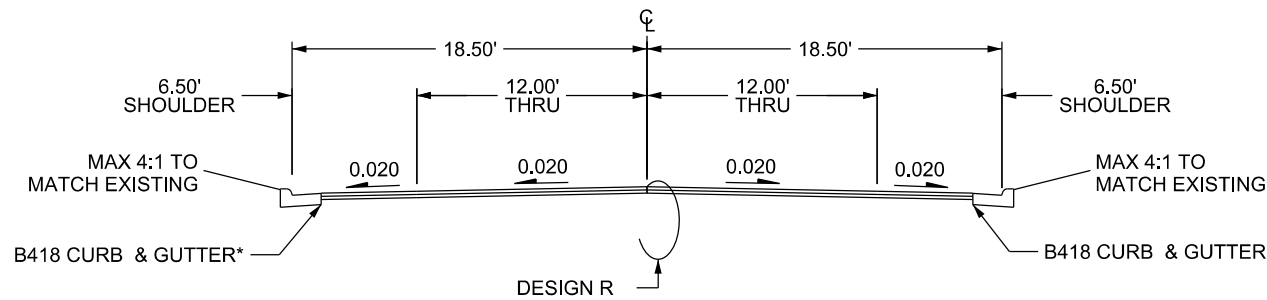
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CR 27 - 179TH LN NW

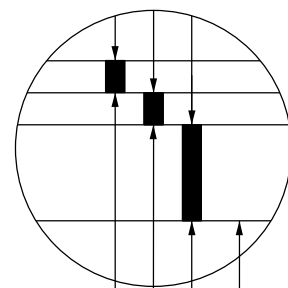
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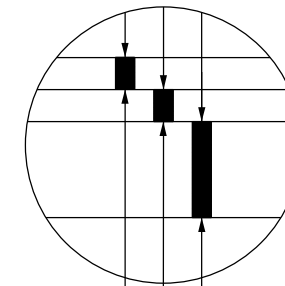
DESIGN E EXCAVATION SECTION

78+43.68 - 82+06.00



2.0" BITUMINOUS WEAR(SPWEB440C)
 2.0" BITUMINOUS WEAR(SPWEB440C)
 6.0" AGGREGATE BASE, CLASS 5
 GRADING GRADE

DESIGN R RECLAIM SECTION



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

*SEE CONSTRUCTION PLAN FOR CURB BEGIN AND END LOCATION

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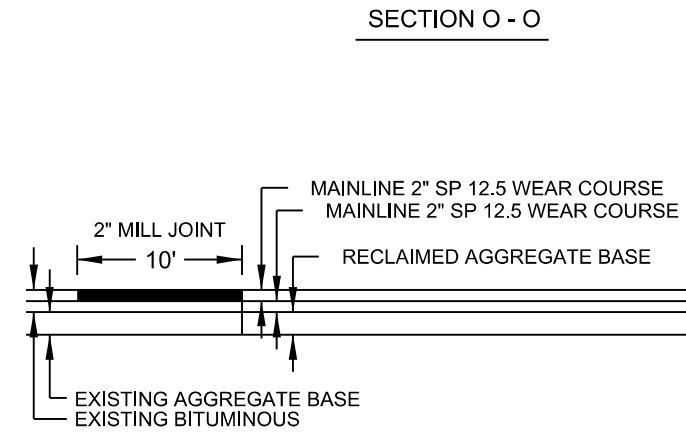
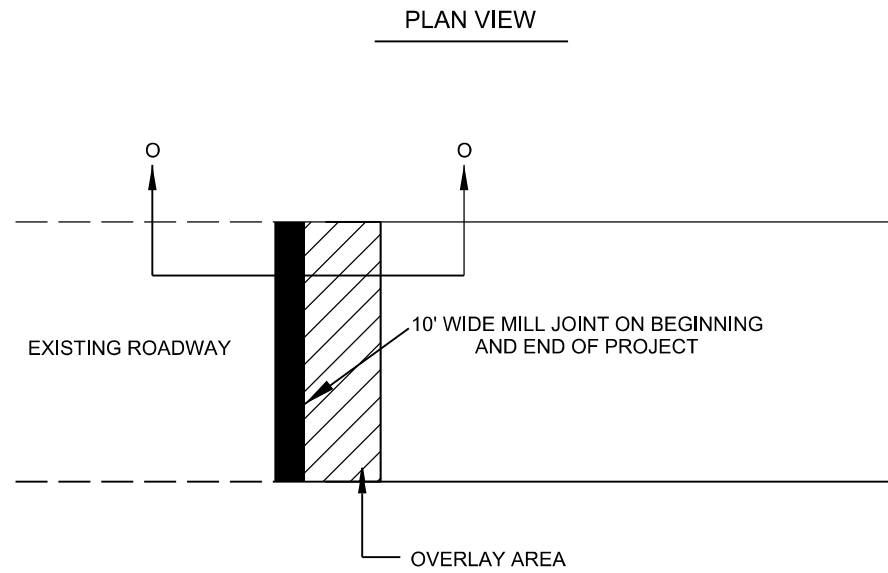
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ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 24-15-27

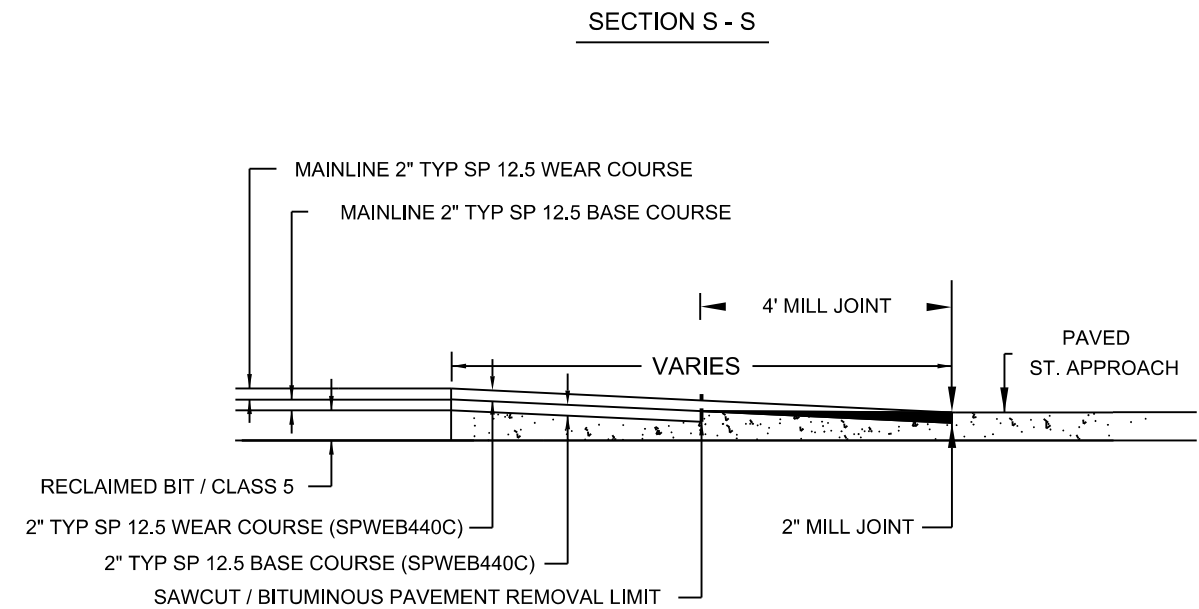
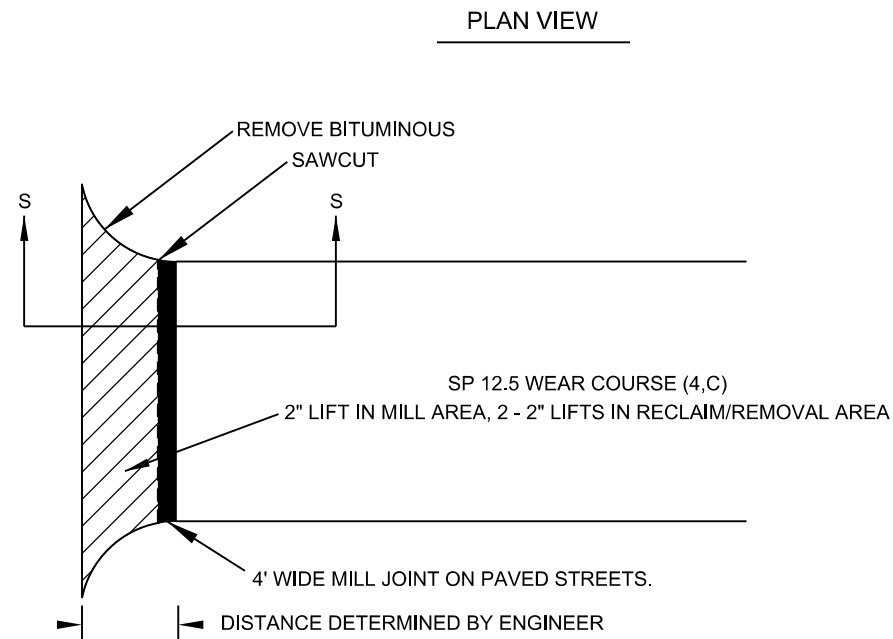
TYPICAL SECTIONS
 Sheet 4 of 16 Sheets

MAINLINE JOINT DETAIL (RECLAIM)



STREET APPROACH DETAIL (RECLAIM)

BITUMINOUS STREET



NO	DATE	BY	CKD	APPR	REVISION	12/21/2023	4:36:17 PM
NAME: P:\24-01-00\CR_27_(TH47-CSAH 7)\Base\Proposed\DETAILS.dgn							

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ANOKA COUNTY

HIGHWAY DEPT.

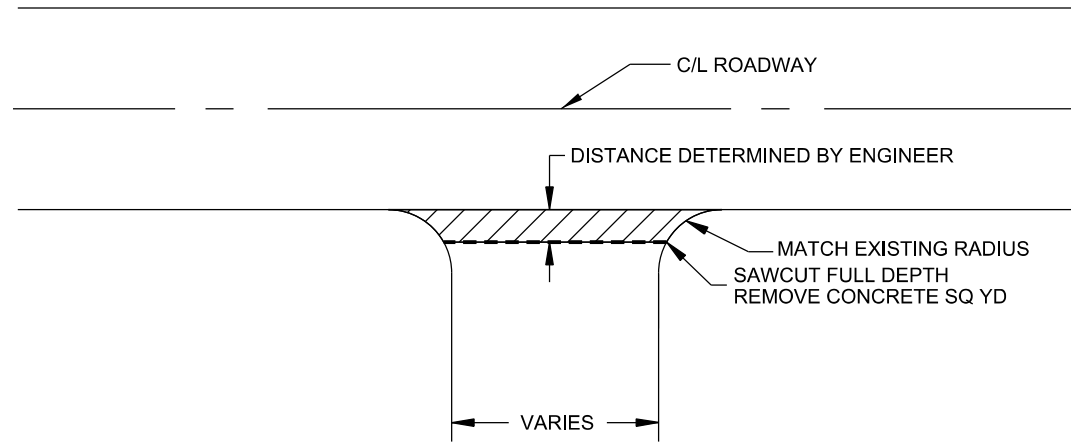
COUNTY PROJECT 24-15-27

DETAILS

Sheet 5 of 16 Sheets

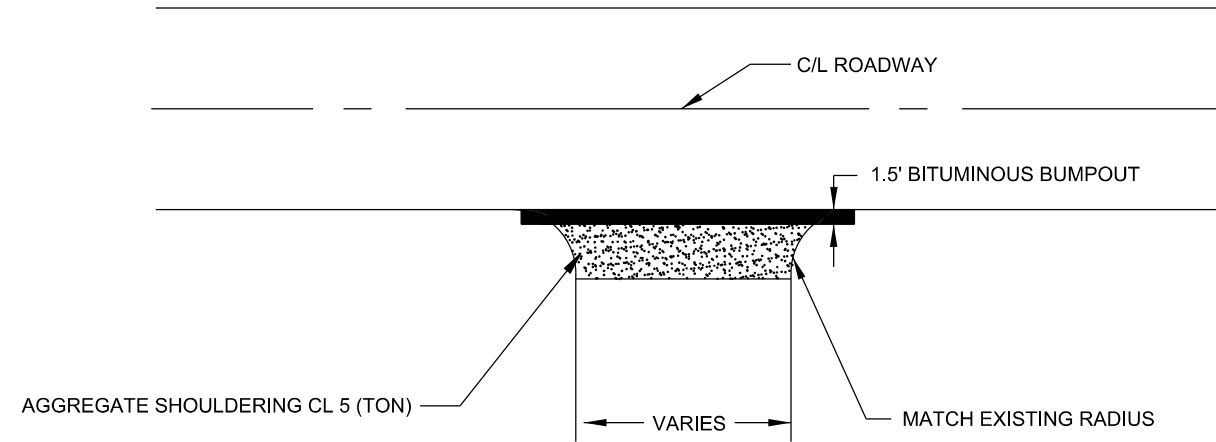
DRIVEWAY DETAIL

CONCRETE DRIVEWAY



DRIVEWAY DETAIL

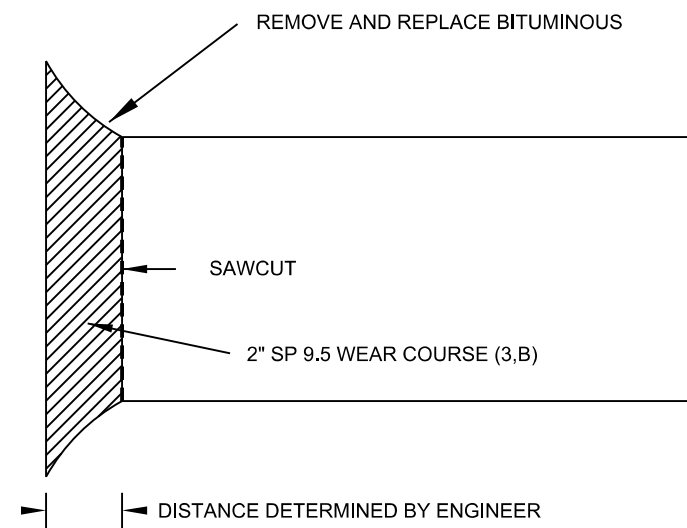
GRAVEL / FIELD ENTRANCE



RECLAIM AREA - DRIVEWAY DETAIL

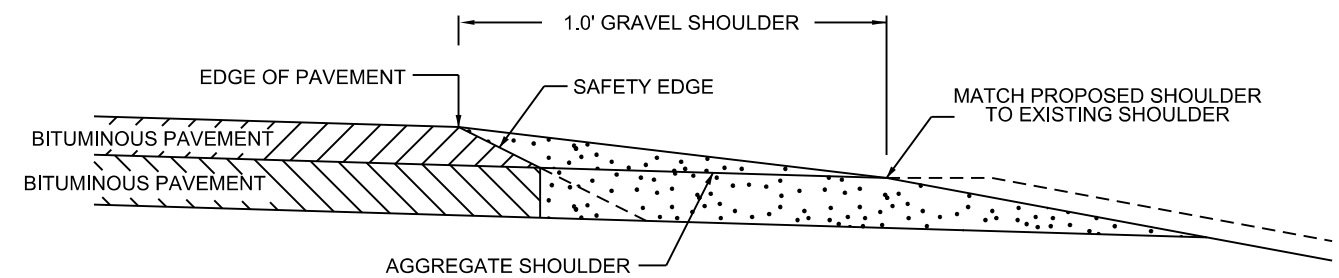
BITUMINOUS

PLAN VIEW



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	12/21/2023	4:36:17 PM

NAME: P:\24-01-00\CR_27_(TH47-CSAH 7)\Base\Proposed\DETAILS.dgn

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SIGNATURE: *[Signature]*

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DRAWN BY DBK DATE 12/06/23

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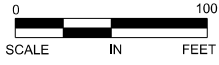
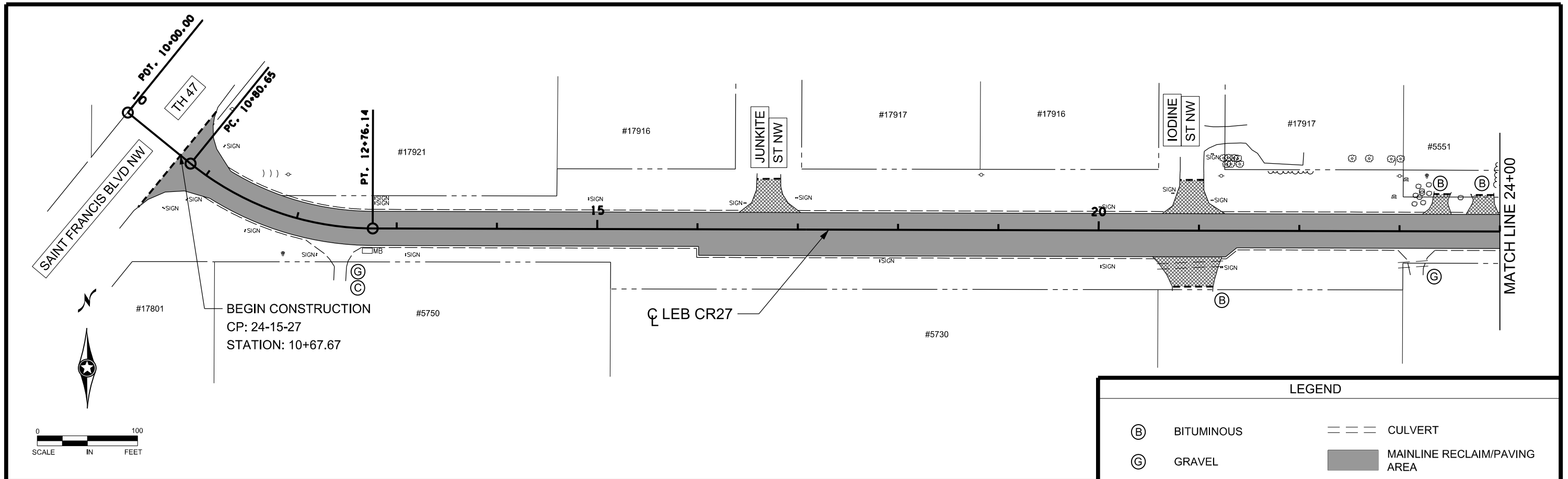
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ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 24-15-27

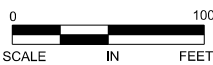
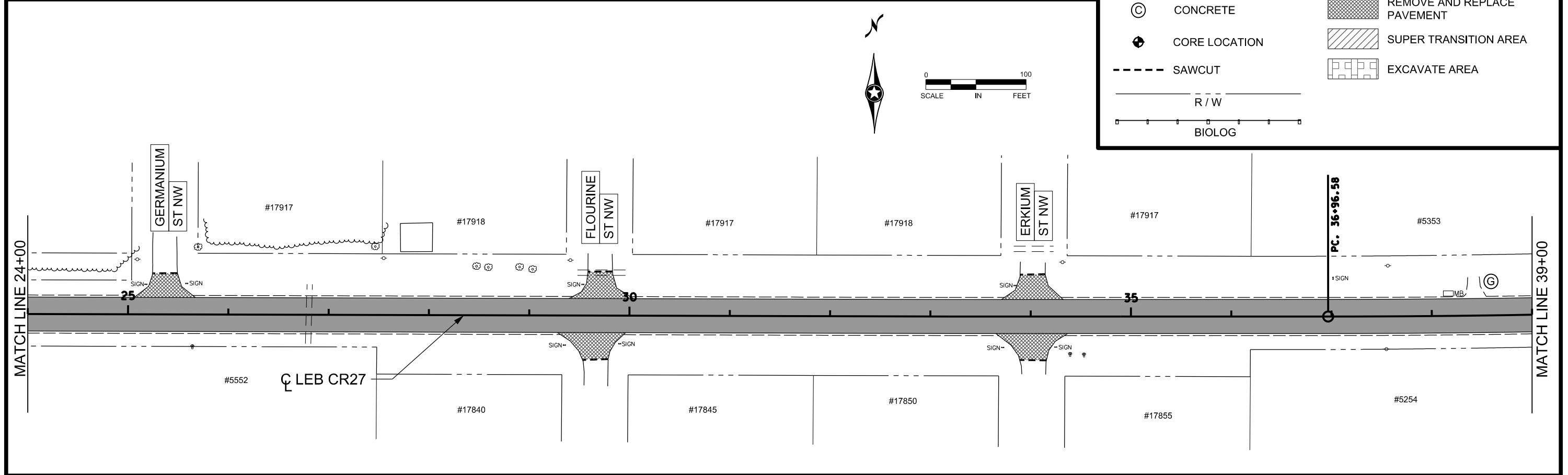
DETAILS

Sheet 6 of 16 Sheets



LEGEND

(B)	BITUMINOUS	---	CULVERT
(G)	GRAVEL	■	MAINLINE RECLAIM/PAVING AREA
(C)	CONCRETE	▨	REMOVE AND REPLACE PAVEMENT
⊕	CORE LOCATION	▧	SUPER TRANSITION AREA
- - -	SAWCUT	▩	EXCAVATE AREA
---	R / W		
0 50 100	SCALE IN FEET		



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NAME: P:\24-01-00\CR_27_(TH47-CSAH 7)\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.

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SIGNATURE:

DATE: 12-08-2023 LICENSE NO. 26511

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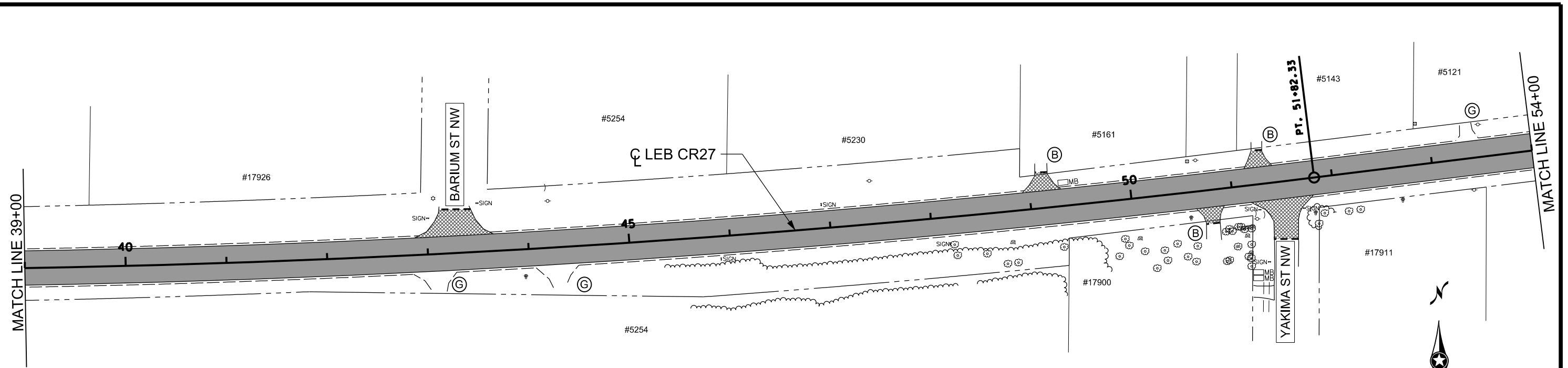
**ANOKA COUNTY
HIGHWAY DEPT.**

COUNTY PROJECT 24-15-27

CONSTRUCTION PLAN

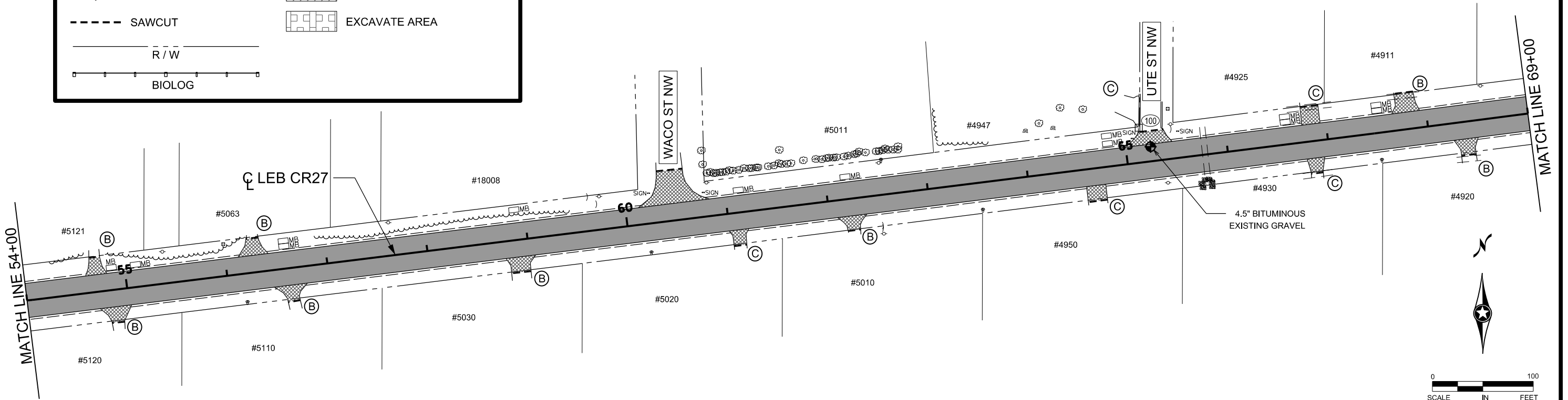
STA 10+67.67 TO 39+00.00

Sheet 7 of 16 Sheets



LEGEND

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



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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 12/06/23

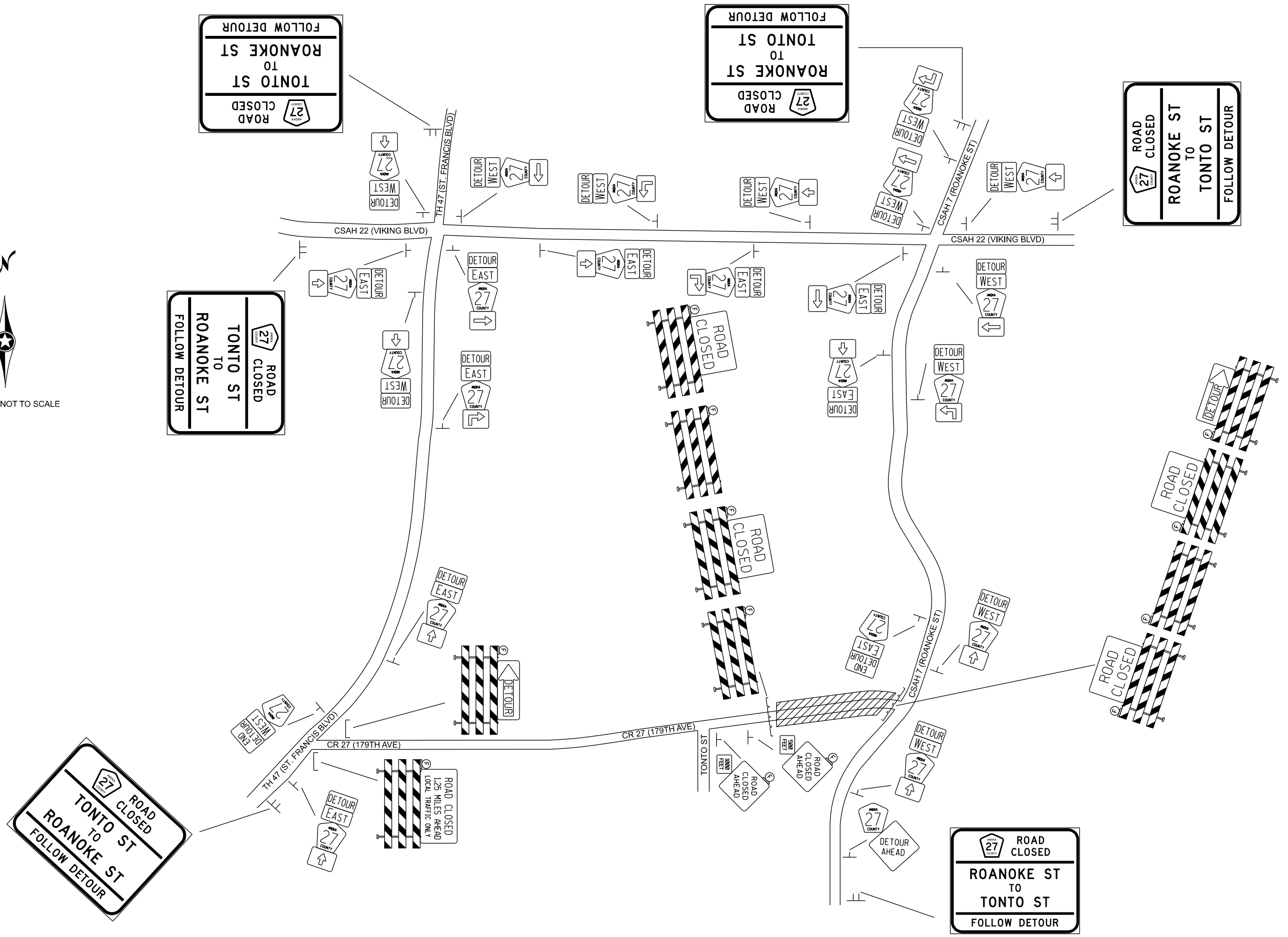
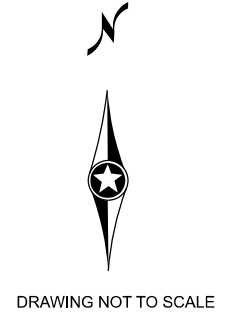
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CHECKED BY CO DATE 12/06/23

**ANOKA COUNTY
HIGHWAY DEPT.**

COUNTY PROJECT 24-15-27

CONSTRUCTION PLAN
STA 39+00.00 TO 69+00.00
Sheet 8 of 16 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\24-01-00\CR_27_(TH47-CSAH 7)\BaseTraffic\CR 27 - Detour Plan

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: 1/10/2024 LICENSE NO. 45129

DRAWN BY: ALS DATE: 12/20/23
 DESIGN BY: DATE:
 CHECKED BY: DATE:
 DATE: 1/10/2024

ANOKA COUNTY
HIGHWAY DEPT.

CP 24-15-27

DETOUR SIGNING
 Sheet 10 of 16 Sheets

TEMPORARY TRAFFIC CONTROL SIGN QUANTITIES

NOTES: TYP.

- 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 M.U.T.C.D.

BARRICADE MOUNTED				
SIGN	MUTCD CODE	COLOR	SIZE	QUANTITY
	R11-2M	BLACK ON WHITE	48"X30"	4
	M4-10R	BLACK ON WHITE	48"X18"	1
	M4-10L	BLACK ON WHITE	48"X18"	1
	R11-3a	BLACK ON WHITE	60"X30"	1

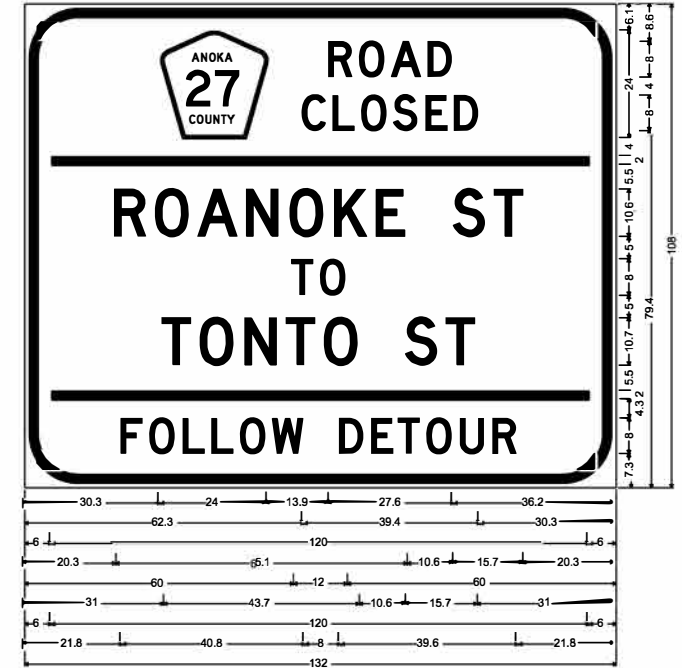
"M" SERIES				
SIGN	MUTCD CODE	COLOR	SIZE	QUANTITY
	M4-8	BLACK ON ORANGE	24"X12"	21
	M4-8A	BLACK ON ORANGE	30"X24"	2
	M3-1	WHITE ON BLUE	24"X12"	10
	M3-3	WHITE ON BLUE	24"X12"	13
	M1-6M	WHITE AND YELLOW ON BLUE	24"X24"	24
	M5-1aL	WHITE ON BLUE	21"X15"	2
	M5-1aR	WHITE ON BLUE	21"X15"	3
	M6-1aL	WHITE ON BLUE	21"X15"	2
	M6-1aR	WHITE ON BLUE	21"X15"	3
	M6-3a	WHITE ON BLUE	21"X15"	11

DEVICES				
SIGN	MUTCD CODE	COLOR	SIZE	QUANTITY
	TYPE III		8 FOOT	5
	TYPE III		8 FOOT	5
	DRUM			
	TYPE A			12
	TYPE C			2 (10 DAYS)

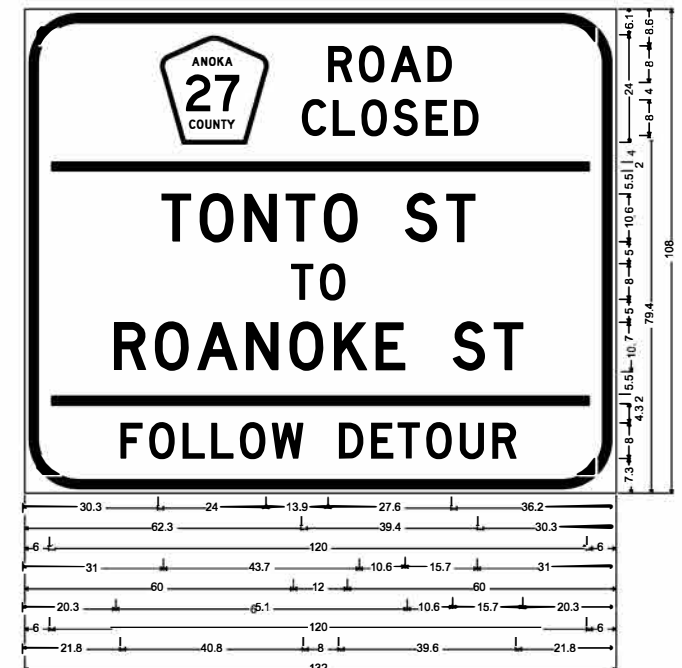
PCMS SIGNS TO BE INSTALLED A MINIMUM OF 10 DAYS PRIOR TO ACTUAL COMMENCEMENT OF ROAD WORK. SIGNS TO BE REMOVED WHEN ROAD WORK BEGINS.

"W" SERIES				
SIGN	MUTCD CODE	COLOR	SIZE	QUANTITY
	W20-2	BLACK ON ORANGE	48"X48"	1
	W20-3	BLACK ON ORANGE	48"X48"	2
	W20-100P	BLACK ON YELLOW	30"X24"	1
	W20-100P	BLACK ON YELLOW	30"X24"	1

"G" SERIES				
SIGN	MUTCD CODE	COLOR	SIZE	QUANTITY
	G20-X2	BLACK ON ORANGE	96"X84"	3
	G20-X2	BLACK ON ORANGE	96"X84"	3



G20-X2_132x108;
12.0" Radius, 2.0" Border, 1.0" Indent, Black on, None;
Pentagonal County 27 M1-6; "ROAD", D; "CLOSED", D; "ROANOKE ST", D; "TO", D;
"TONTO ST", D; "FOLLOW", D; "DETOUR", D;



G20-X2_132x108;
12.0" Radius, 2.0" Border, 1.0" Indent, Black on, None;
Pentagonal County 27 M1-6; "ROAD", D; "CLOSED", D; "TONTO ST", D; "TO", D;
"ROANOKE ST", D; "FOLLOW", D; "DETOUR", D;

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: SEAN R. THIEL
 SIGNATURE: *Sean R. Thiel*
 DATE: 1/10/2024 LICENSE NO. 45129

DRAWN BY: ALS DATE: 12/20/23
 DESIGN BY: ALS DATE: 12/20/23
 CHECKED BY: _____ DATE: _____



ANOKA COUNTY
HIGHWAY DEPT.

CP 24-15-27

DETOUR SIGNING
TABULATIONS

**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.


PAVEMENT MARKING TABULATION		
ITEM	UNIT	TOTAL QUANTITY
4" SOLID LINE WHITE - MULTI COMP	LIN FT	13630
4" DOUBLE LINE YELLOW - MULTI COMP	LIN FT	1050
4" SOLID LINE YELLOW - MULTI COMP	LIN FT	451
4" BROKEN LINE YELLOW - MULTI COMP	LIN FT	1200
24" SOLID LINE WHITE - PREF THERMOPLASTIC GROUND IN	LIN FT	23

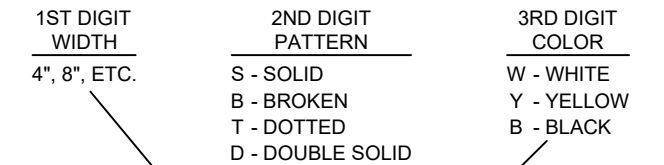
PAVEMENT MARKING SYMBOLS & MATERIALS LEGEND

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

STRIPING KEY


 CIRCLE - MULTI-COMP

 OCTAGON - PREF THERMO

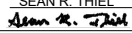


GW

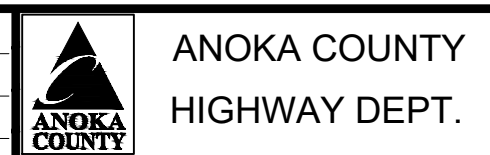
GW = GROUND IN, WET REFLECTIVE

EXAMPLE:  = 4" SOLID LINE WHITE MULTI-COMP

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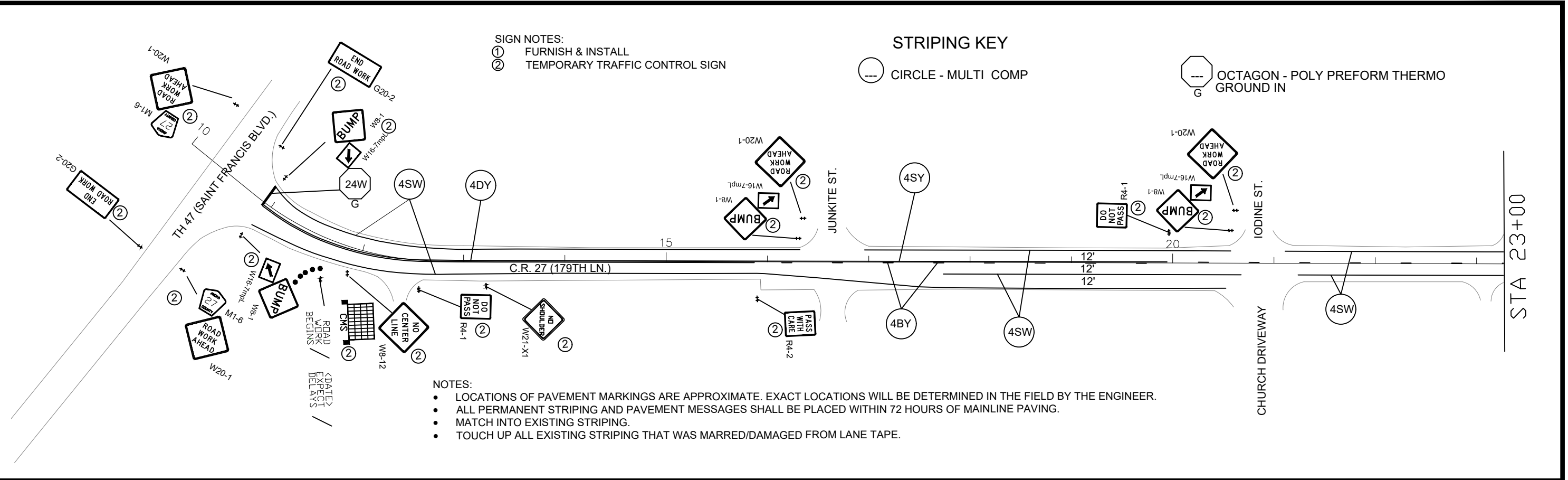
PERMANENT PAVEMENT MARKING PLAN NOTES & TABULATIONS
 Sheet 12 of 16 Sheets

SIGN NOTES:
 ① FURNISH & INSTALL
 ② TEMPORARY TRAFFIC CONTROL SIGN

STRIPING KEY

○ CIRCLE - MULTI COMP

⬡ OCTAGON - POLY PREFORM THERMO GROUND IN




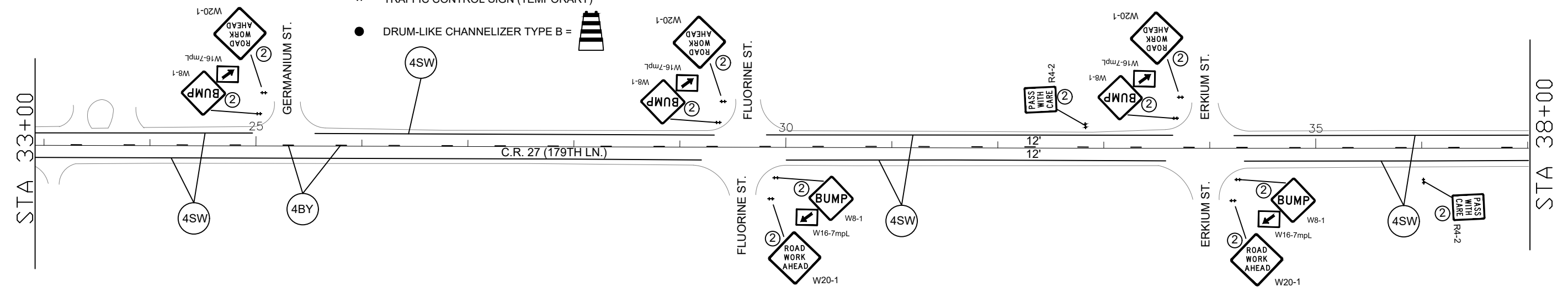
- NOTES:
- LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - ALL PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
 - MATCH INTO EXISTING STRIPING.
 - TOUCH UP ALL EXISTING STRIPING THAT WAS MARR'D/DAMAGED FROM LANE TAPE.

TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

SYMBOL DESCRIPTION

++ TRAFFIC CONTROL SIGN (TEMPORARY)

● DRUM-LIKE CHANNELIZER TYPE B = 



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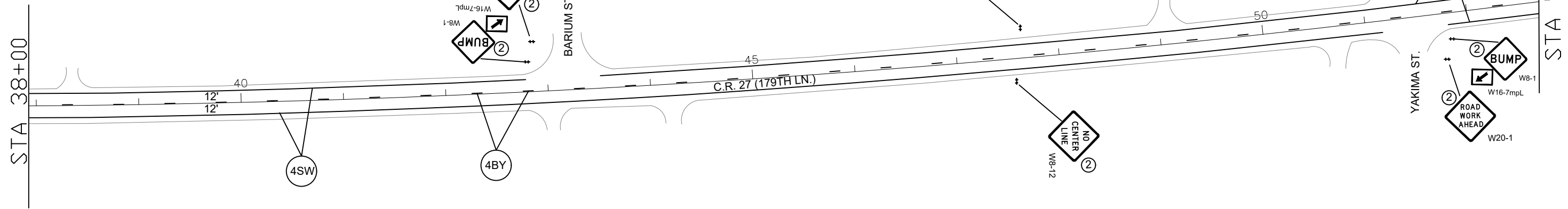
TEMPORARY SIGNING AND PERMANENT STRIPING
 Sheet 13 of 16 Sheets

SIGN NOTES:
 ① FURNISH & INSTALL
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STRIPING KEY

○ CIRCLE - MULTI COMP

⬡ OCTAGON - POLY PREFORM THERMO GROUND IN



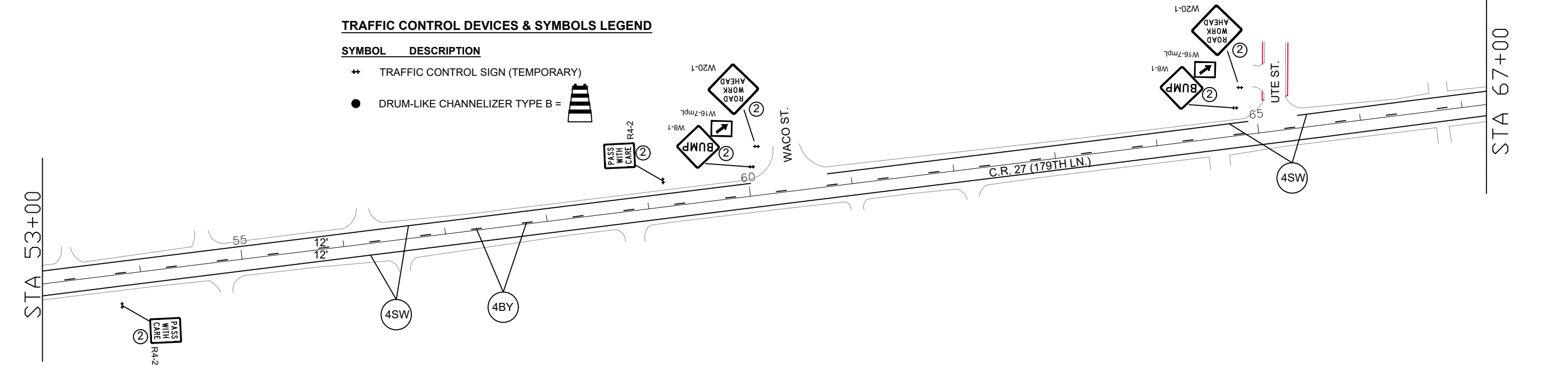
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TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

SYMBOL DESCRIPTION

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● DRUM-LIKE CHANNELIZER TYPE B =



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ANOKA COUNTY
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CP 24-15-27

TEMPORARY SIGNING AND
 PERMANENT STRIPING

Sheet 14 of 16 Sheets

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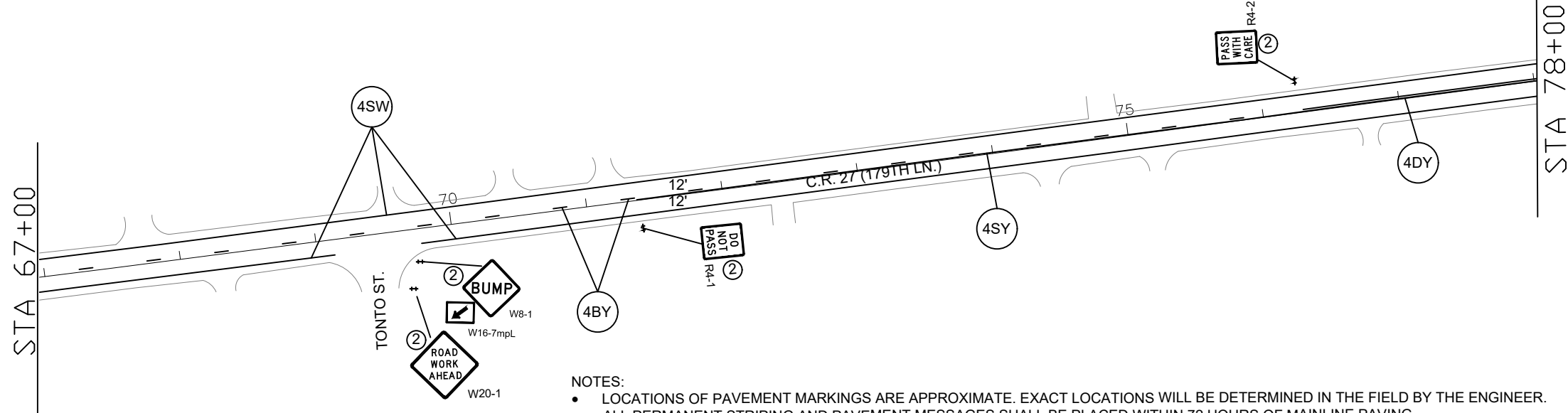
NAME: P:124-01-00/CR_27_(TH47-CSAH 7)BaseTraffic

- SIGN NOTES:
- ① FURNISH & INSTALL
 - ② TEMPORARY TRAFFIC CONTROL SIGN

STRIPING KEY

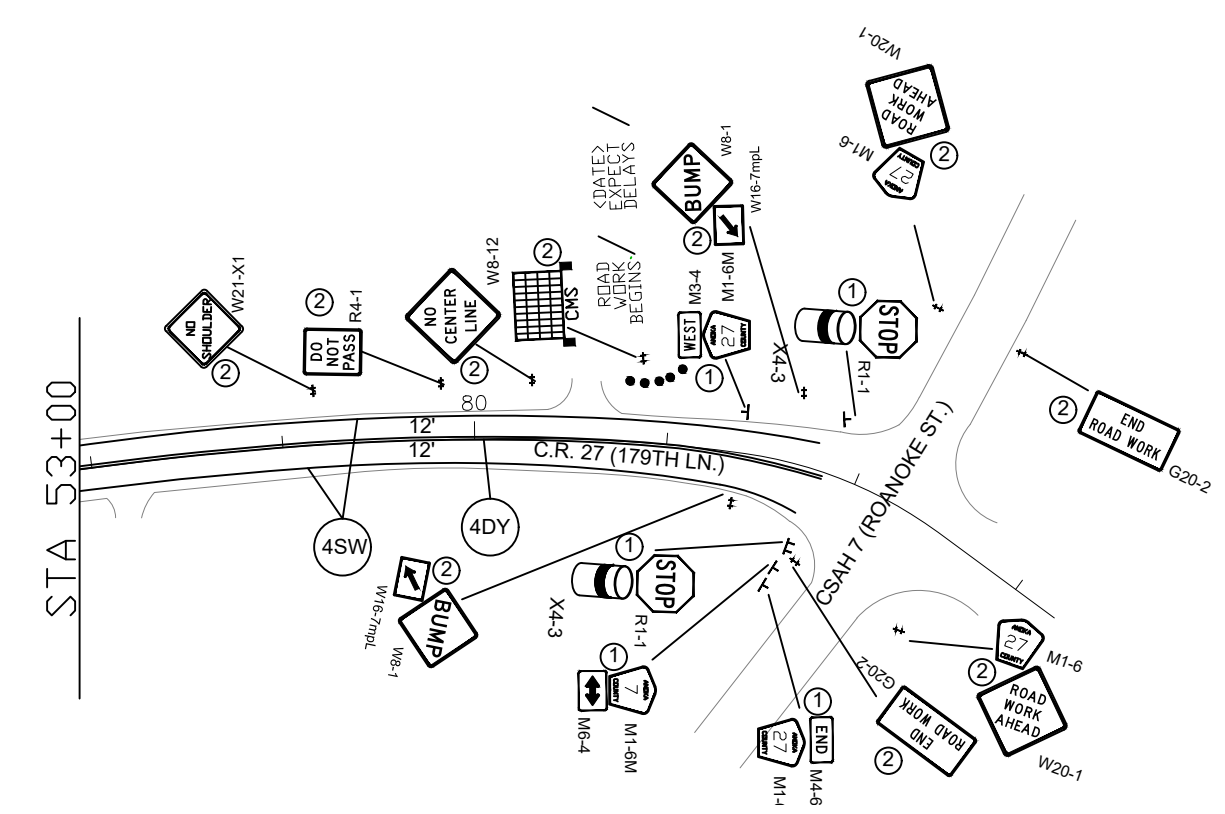
○ CIRCLE - MULTI COMP

⬡ OCTAGON - POLY PREFORM THERMO GROUND IN



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TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

SYMBOL DESCRIPTION

- ++ TRAFFIC CONTROL SIGN (TEMPORARY)
- DRUM-LIKE CHANNELIZER TYPE B =

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ANOKA COUNTY
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TEMPORARY SIGNING AND
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Sheet 15 of 16 Sheets

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:24-01-00/CR_27_(TH47-CSAH 7)BaseTraffic

TYPE C SIGN PANELS - ANOKA COUNTY CR 103							
M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY	SQ FT PANEL AREA	SQ FT TOTAL AREA	MOUNTING POST PER INSTALLATION	MOUNTING HEIGHT
R1-1	36" x 36"		1	9	9	1	7.0'
R1-1	48" x 48"		1	16	16	1	7.0'
X4-3	9" high 6" diameter		2	0.375	0.75	1	7.0'
M3-4	24" x 12"		1	2	2	1	7.0'
M4-6	24" x 12"		1	2	2	1	7.0'
M6-4	21" x 15"		1	2.19	2.19	1	7.0'
M1-6M	24" x 24"		2	4	8	1	7.0'
M1-6M	24" x 24"		1	4	4	1	7.0'
TYPE C SIGN PANEL TOTALS			10		43.94		

TEMPORARY TRAFFIC CONTROL SIGNS			
M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY
W8-12	48" x 48"		4
R4-1	24" x 30"		4
R4-2	24" x 30"		6
G20-2	36" x 18"		4
W8-1	48" x 48"		16
W16-7P	48" x 48"		16
M1-6M	24" x 24"		4
W20-1	48" x 48"		AS NEEDED (ESTIMATED 16)
W8-23	48" x 48"		AS NEEDED
W8-8	48" x 48"		AS NEEDED

TEMPORARY TRAFFIC CONTROL SIGNS			
M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY
W8-9	48" x 48"		AS NEEDED
W8-11	48" x 48"		AS NEEDED
W8-1	48" x 48"		AS NEEDED
W3-4	48" x 48"		AS NEEDED
W20-4	48" x 48"		AS NEEDED
W20-7	48" x 48"		AS NEEDED (ESTIMATED 2)
REFLECTORIZED REBOUNDABLE DRUM			AS NEEDED (ESTIMATED 10)
CMS sign to be placed a minimum of ten days prior to actual commencement of road work. Signs to be removed when road work begins.			2 AT 10 DAYS EA

CHANGEABLE MESSAGE BOARD - MESSAGE SEQUENCE LAYOUT

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

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

CMS SIGN TO BE PLACED A MINIMUM OF TEN DAYS PRIOR TO ACTUAL COMMENCEMENT OF ROAD WORK. SIGNS TO BE REMOVED WHEN ROAD WORK BEGINS.

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