

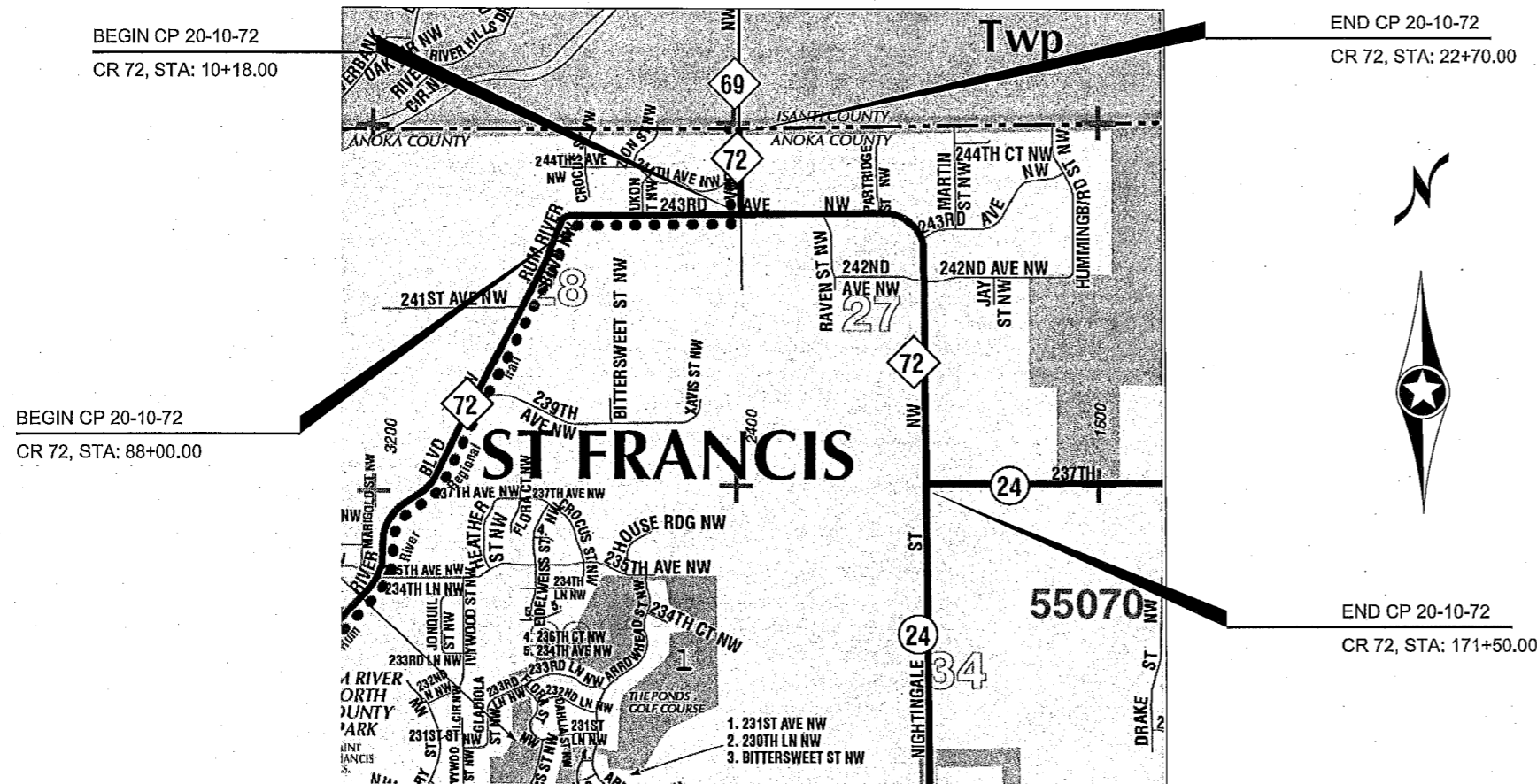
MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY

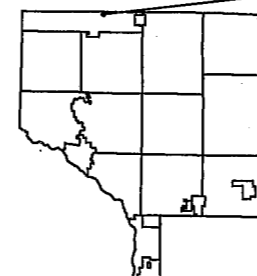
CONSTRUCTION PLAN FOR _____ MILL BITUMINOUS, BITUMINOUS SURFACING, AND BITUMINOUS RECLAMATION

LOCATED ON _____ CR 72 _____ BETWEEN _____ 400' West of Yukon ST NW _____ AND _____ North County Line _____

GROSS LENGTH	9602.00 FEET	1.819 MILES
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES
NET LENGTH	9602.00 FEET	1.819 MILES



PROJECT LOCATION



DESIGN DESIGNATION (CR 72)			
ESAL 20	204,779	FUNCTIONAL CLASSIFICATION	MINOR ARTERIAL
R VALUE	12	NO. OF TRAFFIC LANES	2
ADT (2017)	1926	DESIGN SPEED	55 MPH
PROJ. ADT (2040)	1926	STOPPING SIGHT DISTANCE BASED ON:	
PROJ. HCADT (2040)	114	HEIGHT OF EYE	3.5'
SOIL FACTOR	N/A	HEIGHT OF OBJECT	2.0'
TON DESIGN	10	DESIGN SPEED NOT ACHIEVED AT:	
		STA.	TO STA.

CITY OF ST FRANCIS
ANOKA COUNTY
MN/DOT TRANSPORTATION DISTRICT - METRO
SECTION 27
TOWNSHIP 34 NORTH
RANGE 24 WEST

Approved _____

[Signature]
ANOKA COUNTY ENGINEER
3-19-20

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 19 SHEETS

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3-4	TYPICAL SECTIONS
5-7	DETAILS
8-11	CONSTRUCTION PLAN
12-17	SIGNING AND STRIPING PLANS
A1 - A2	RIGHT TURN LANE PLANS

NO	DATE	BY	CKD	APPR	REVISION	TIME
	03/19/2020					6:51:33 AM

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: 03-17-2020 LICENSE NO. 26511

DRAWN BY SPH DATE 03/19/2020

DESIGN BY SPH DATE 03/19/2020

CHECKED BY APA DATE 03/19/2020



ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 20-10-72

TITLE SHEET

Sheet 1 of 17 Sheets

STATEMENT OF ESTIMATED QUANTITIES

NOTES	ITEM NUMBER	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES ESTIMATED
	2021.501	MOBILIZATION	LUMP SUM	1
	2104.502	SALVAGE SIGN TYPE SPECIAL	EACH	3
	2104.503	SAWING BIT PAVEMENT (FULL DEPTH)	LIN FT	296
1	2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SQ YD	205
	2104.504	REMOVE BITUMINOUS PAVEMENT	SQ YD	1190
15	2105.602	CONSTRUCT TURN LANES	EACH	2
2	2123.510	MOTOR GRADER	HOUR	32
	2130.523	WATER	M GALLON	231
3	2211.509	AGGREGATE BASE CLASS 5	TON	35
	2215.504	STABILIZED FULL DEPTH RECLAMATION	SQ YD	32989
4	2215.507	HAUL FULL DEPTH RECLAMATION (LV)	CU YD	80
16	2221.509	SHOULDER BASE AGGREGATE CLASS 5	TON	1081
5	2232.504	MILL BITUMINOUS SURFACE (2.0")	SQ YD	147
	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	1719
6	2360.509	TYPE SP 9.5 WEARING COURSE MIX (3;B)	TON	24
7	2360.509	TYPE SP 12.5 WEARING COURSE MIX (4;C)	TON	319
	2360.509	TYPE SP 12.5 WEARING COURSE MIX (4;C)	TON	7803
8	2540.602	MAIL BOX SUPPORT	EACH	20
9	2563.601	TRAFFIC CONTROL	LUMP SUM	1
10	2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	UNIT DAY	30
	2564.602	INSTALL SIGN TYPE SPECIAL	EACH	3
	2564.618	SIGN TYPE C	SQ FT	12.50
11	2574.507	COMMON TOPSOIL BORROW	CU YD	24
12	2575.504	EROSION CONTROL BLANKETS CATEGORY 0	SQ YD	1144
13	2581.503	REMOVABLE PREFORM PAVEMENT MARKING TAPE	LIN FT	384
14	2582.503	4" SOLID LINE MULTI COMP	LIN FT	26249
14	2582.503	4" BROKEN LINE MULTI COMP	LIN FT	1638
14	2582.503	4" DBLE SOLID LINE MULTI COMP	LIN FT	1563

CONSTRUCTION NOTES

1	ITEM FOR BITUMINOUS DRIVEWAYS AND STREET APPROACHES. CONTRACTOR IS RESPONSIBLE FOR CONTACTING PROPERTY OWNER 48 HOURS BEFORE STARTING OPERATION.
2	ITEM USED TO MOVE EXCESS RECLAIM MATERIAL AT THE RECLAIM AREA LIMITS TO CREATE A SMOOTH TRANSITION BETWEEN THE PROPOSED AND EXISTING PAVEMENT
3	GRAVEL BASE FOR BITUMINOUS DRIVEWAYS, AND CURB PATCHES.
4	MATERIAL SHALL BE HAULED AND USED FOR PROFILE CORRECTION AREAS. ITEM INCLUDES PLACEMENT, SHAPING, COMPACTION, AND MAINTENANCE OF MATERIAL. EXCESS MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR.
5	ITEM INCLUDES 2" DEEP MILL AT BEGINNING AND END OF PROJECT, ALL PAVED ST APPROACHES, AND DRIVEWAYS; SEE DETAILS FOR DIMENSIONS
6	ITEM FOR BITUMINOUS DRIVEWAYS. DRIVEWAYS SHALL BE PAVED AFTER MAINLINE AND BEFORE FINAL STRIPING.
7	ITEM FOR STREET APPROACHES. STREET APPROACHES SHALL BE PAVED AFTER MAINLINE, AND BEFORE FINAL STRIPING.
8	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.
9	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.
10	3 MESSAGE BOARDS, ONE ON THE EACH END OF PROJECT, SHALL BE INSTALLED 10 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS.
11	ITEM USED AT ENGINEER'S DISCRETION FOR RESTORATION OF DISTURBED AREAS ALONG DRIVEWAYS, STREET APPROACHES AND BEHIND CURB
12	TYPE 3 FERTILIZER AND TYPE 25-121 SEED ARE INCIDENTAL TO THIS ITEM. SEE "BASIS OF PLANNED QUANTITIES" FOR APPLICATION RATES.
13	CENTERLINE AND LANE DESIGNATION SKIPS TO BE APPLIED AS SOON AS POSSIBLE ON MILLED SURFACE AND EACH NEW LIFT OF PAVEMENT; SKIPS MUST BE INPLACE BEFORE THE CONTRACTOR LEAVES FOR THE DAY. CONTRACTOR IS TO REMOVE PRIOR TO FINAL STRIPING.
14	FINAL STRIPING SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING.
15	ITEMS INCLUDED IN THE TURNLANE BY THE EACH ARE - COMMON EXCAVATION, SELECT GRANULAR BORROW, TOPSOIL, AGG BASE CL-5. SHAPING OF SUBGRADE AND AGGREGATE BASE ARE INCIDENTAL TO CONSTRUCT TURN LANES ITEM.
16	ITEM INCLUDES 7 TONS FOR EACH GRAVEL ENTRANCE AND 14 TON FOR EACH GRAVEL STREET APPROACH.

MNDOT STANDARD PLATES


PLATE NO.	DESCRIPTION
8000J	CHANNELIZERS
9350A	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

NO	DATE	BY	CKD	APPR	REVISION	
	03/19/2020					6:51:35 AM

NAME: P:\20-01-00\CR_72_(CSAH24-NCL)\Base\Proposed\PROPOSED.dgn

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 SIGNATURE: 
 DATE: 03-17-2020 LICENSE NO. 26511

DRAWN BY: SPH DATE: 03/19/2020
 DESIGN BY: SPH DATE: 03/19/2020
 CHECKED BY: APA DATE: 03/19/2020

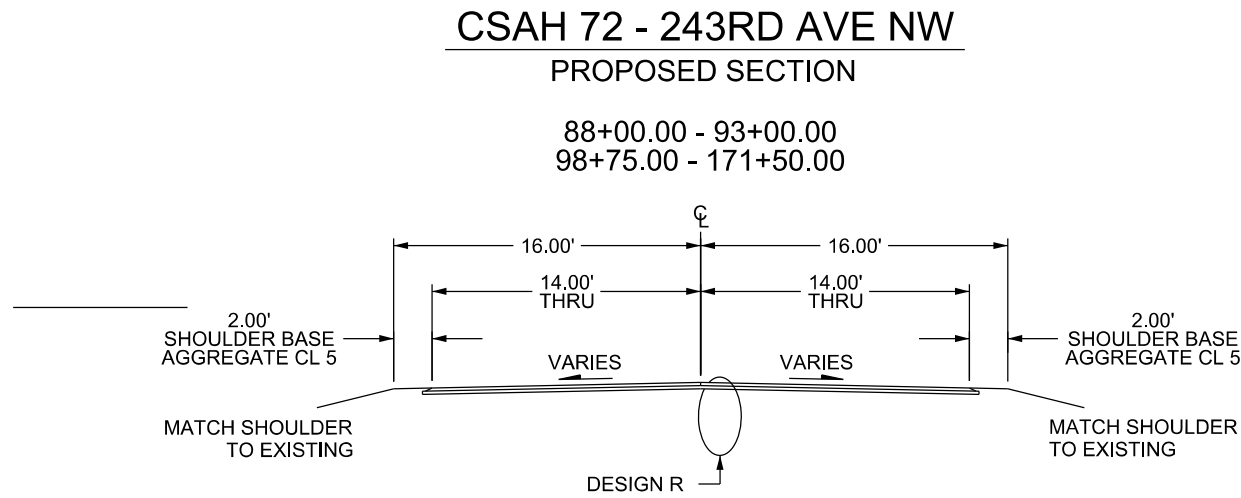
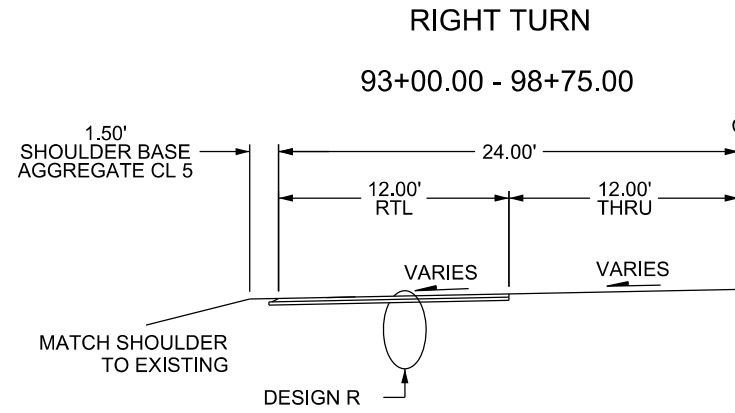
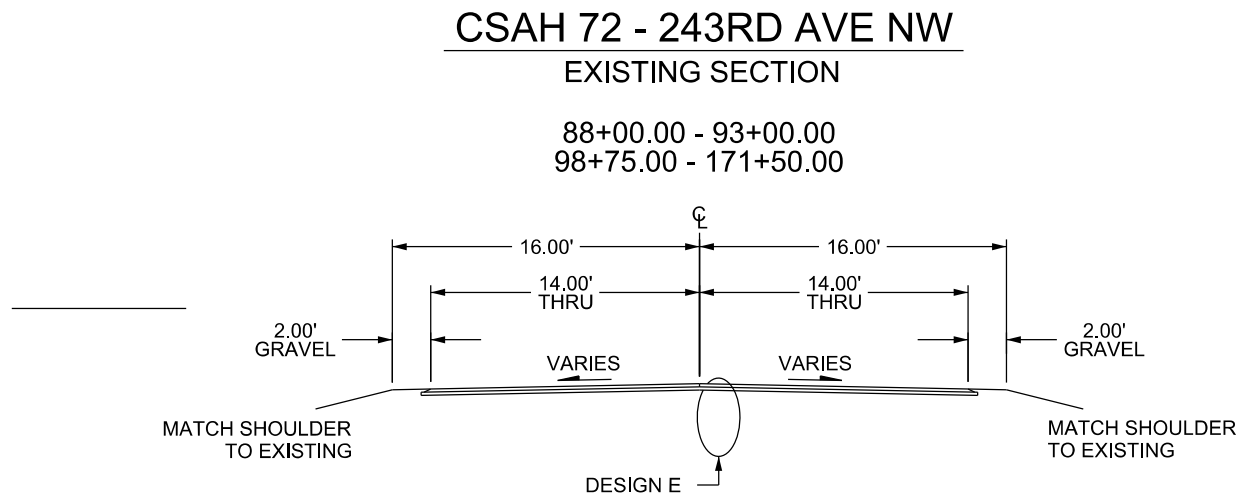
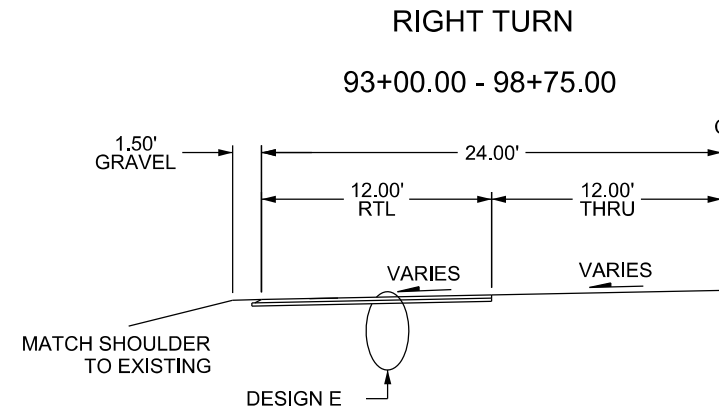


**ANOKA COUNTY
HIGHWAY DEPT.**


COUNTY PROJECT 20-10-72

STATEMENT OF ESTIMATED QUANTITIES

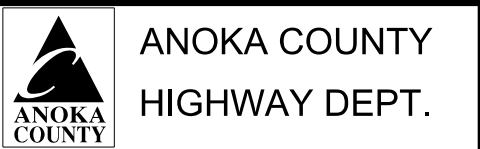
Sheet 2 of 17 Sheets



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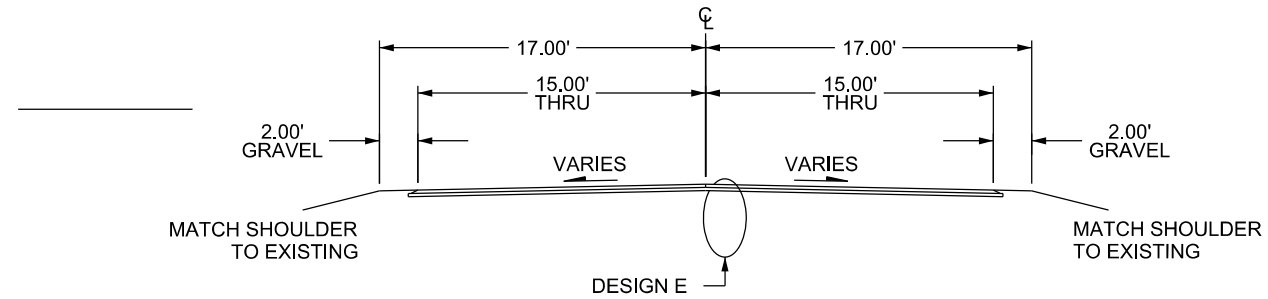
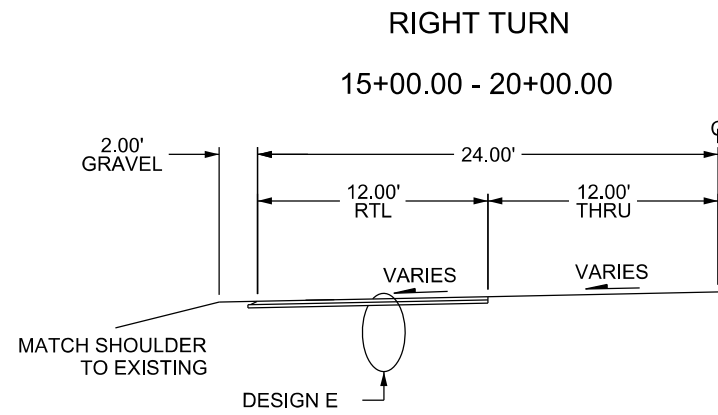
COUNTY PROJECT 20-10-72

TYPICAL SECTIONS
 Sheet 3 of 17 Sheets

CSAH 72 - VERDIN ST. NW

EXISTING SECTION

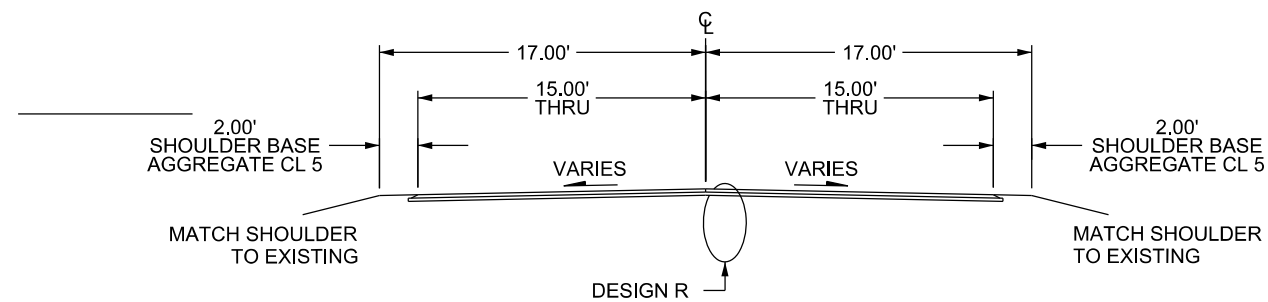
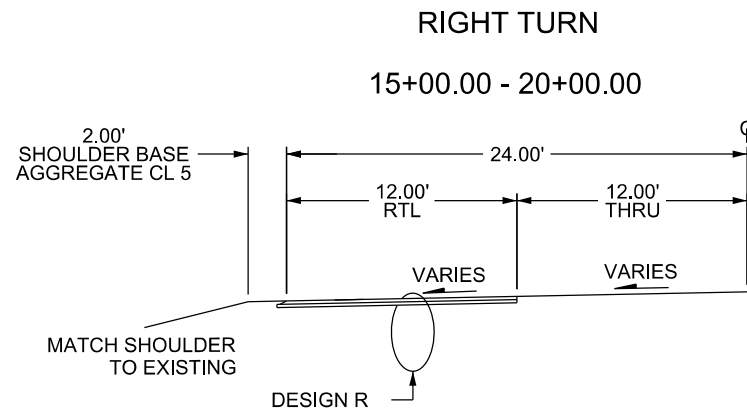
10+00.00 - 15+00.00
20+00.00 - 22+70.00



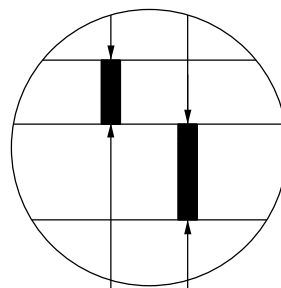
CSAH 72 - VERDIN ST. NW

PROPOSED SECTION

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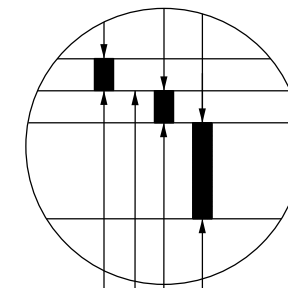


EXISTING SECTION



4.25" EXISTING BITUMINOUS
EXISTING AGGREGATE BASE

DESIGN R RECLAIM SECTION



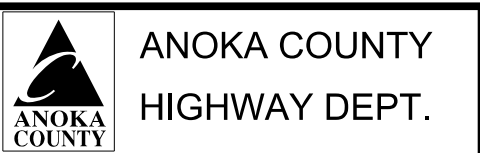
2.0" BITUMINOUS WEAR(SPWEB440C)
BIT MATERIAL FOR TACK COAT MNDOT SPEC 2357
2.0" BITUMINOUS WEAR(SPWEB440C)
RECLAIMED BITUMINOUS

NO	DATE	BY	CKD	APPR	REVISION	TIME
	03/19/2020					6:51:42 AM

NAME: P:\20-01-00\CR_72_(CSAH24-NCL)\Base\Proposed\PROPOSED.dgn

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PRINT NAME: GERALD J. AUGER JR.
SIGNATURE: *[Signature]*
DATE: 03-17-2020 LICENSE NO. 26511

DRAWN BY SPH DATE 03/19/2020
DESIGN BY SPH DATE 03/19/2020
CHECKED BY APA DATE 03/19/2020



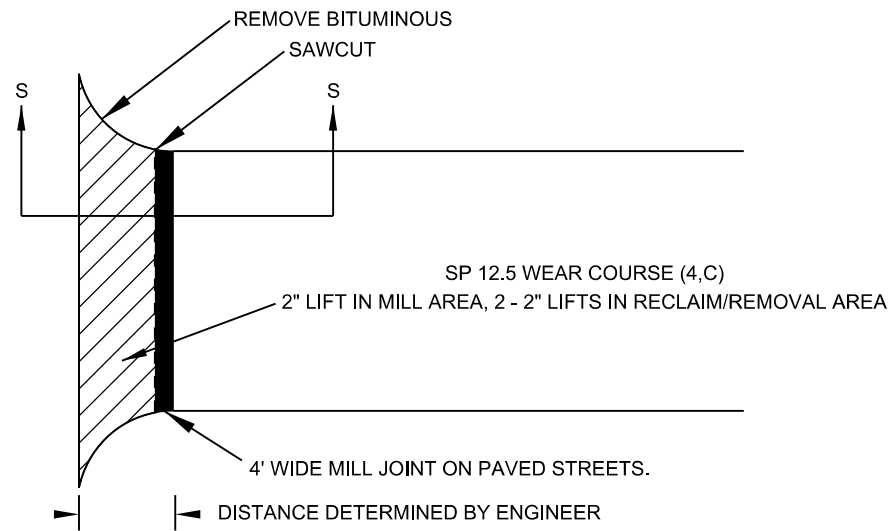
COUNTY PROJECT 20-10-72

TYPICAL SECTIONS
Sheet 4 of 17 Sheets

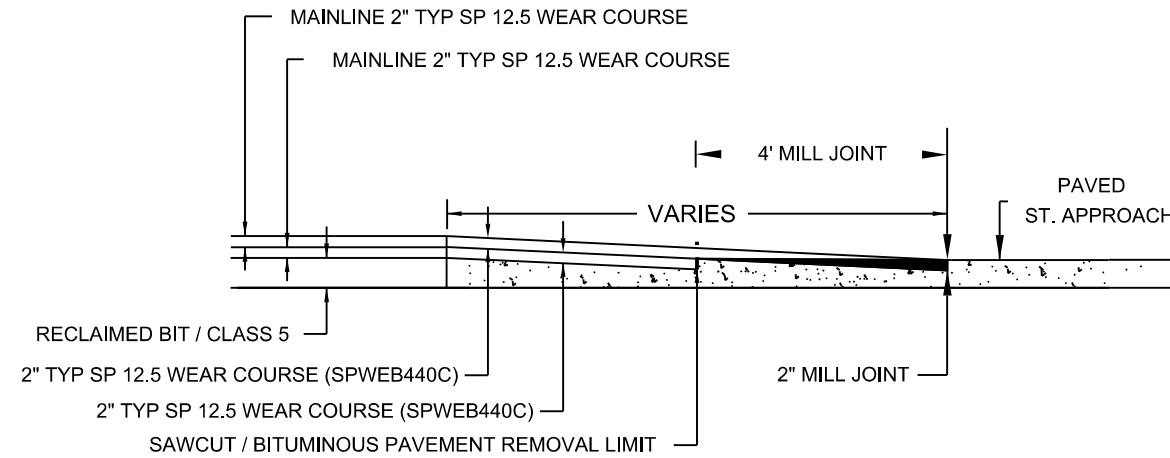
STREET APPROACH DETAIL (RECLAIM)

BITUMINOUS STREET

PLAN VIEW

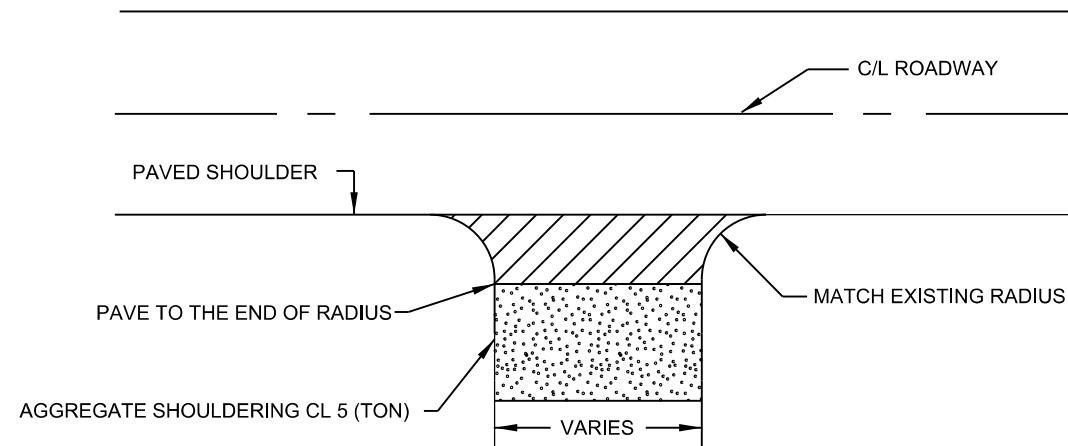


SECTION S - S



STREET APPROACH DETAIL

UNPAVED STREET



UNPAVED STREET APPROACHES, PAVED SEPRATE FROM MAINLINE

NO	DATE	BY	CKD	APPR	REVISION	03/19/2020	6:51:43 AM
NAME: P:\20-01-00\CR_72_(CSAH24-NCL)\Base\Proposed\PROPOSED.dgn							

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 SIGNATURE: *[Signature]*
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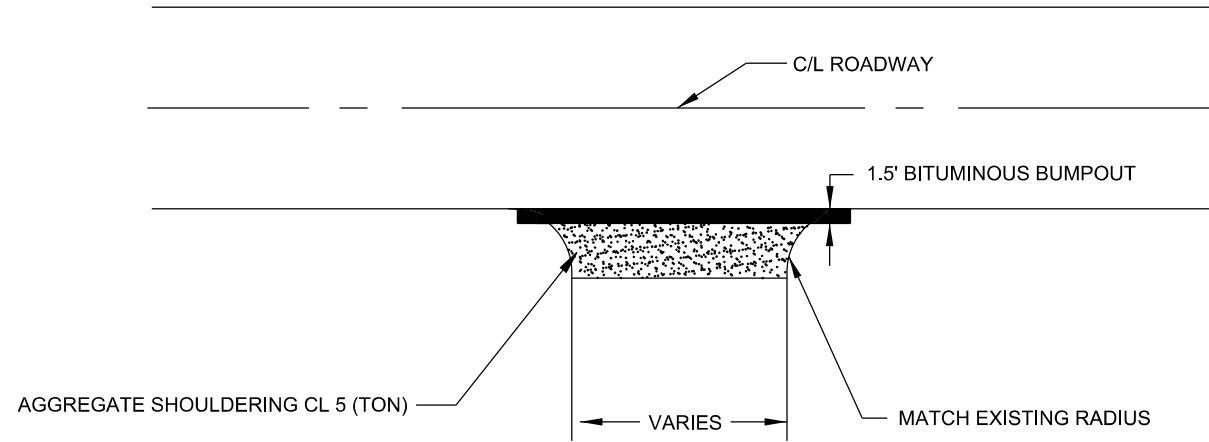
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 CHECKED BY APA DATE 03/19/2020

**ANOKA COUNTY
HIGHWAY DEPT.**

COUNTY PROJECT 20-10-72

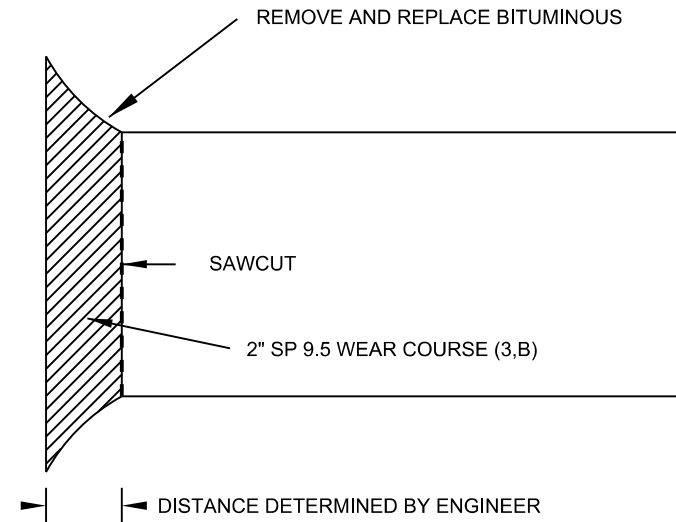
DETAILS
 Sheet 5 of 17 Sheets

DRIVEWAY DETAIL
GRAVEL / FIELD ENTRANCE



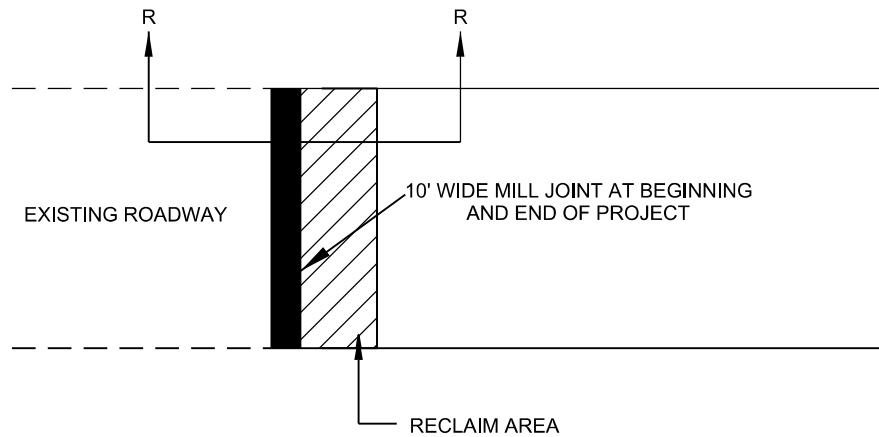
RECLAIM AREA - DRIVEWAY DETAIL

BITUMINOUS
PLAN VIEW

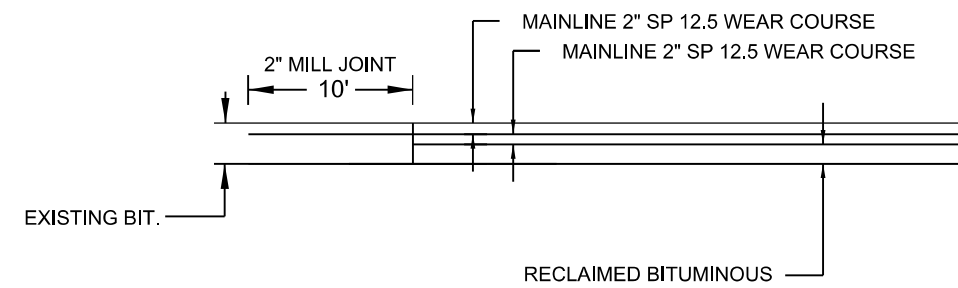


MAINLINE JOINT DETAIL (RECLAIM)

PLAN VIEW



SECTION R - R



NO	DATE	BY	CKD	APPR	REVISION	03/19/2020	6:51:43 AM

NAME: P:\20-01-00\CR_72_(CSAH24-NCL)\Base\Proposed\PROPOSED.dgn

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PRINT NAME: GERALD J. AUGER JR.

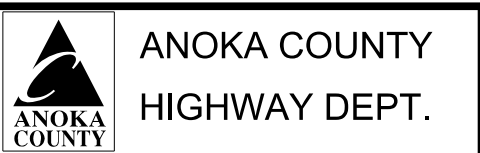
SIGNATURE: *[Signature]*

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DESIGN BY SPH DATE 03/19/2020

CHECKED BY APA DATE 03/19/2020




COUNTY PROJECT 20-10-72

DETAILS

Sheet 6 of 17 Sheets

SUPERELEVATION CORRECTION TAB			
STATION	POINT	LEFT GRADE	RIGHT GRADE
125+00		-2.0%	-2.0%
125+50		-2.0%	-2.0%
126+00	BEGIN SUPER RT	-2.0%	-2.0%
126+50	BEGIN SUPER LT	-2.0%	-2.8%
127+00		-0.7%	-3.6%
127+50		0.7%	-4.4%
128+00		2.0%	-5.2%
128+15	PC	2.4%	-5.4%
128+50	BEGIN FULL SUPER RT	3.3%	-6.0%
129+00		4.7%	-6.0%
129+50	BEGIN FULL SUPER LT	6.0%	-6.0%
130+00		6.0%	-6.0%
130+50		6.0%	-6.0%
131+00		6.0%	-6.0%
131+50		6.0%	-6.0%
132+00		6.0%	-6.0%
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133+00		6.0%	-6.0%
133+50		6.0%	-6.0%
134+00		6.0%	-6.0%
134+50		6.0%	-6.0%
135+00		6.0%	-6.0%
135+50		6.0%	-6.0%
136+00	END FULL SUPER LT	6.0%	-6.0%
136+50		4.7%	-6.0%
137+00		3.3%	-6.0%
137+12	PT	3.0%	-6.0%
137+50		2.0%	-6.0%
138+00		0.7%	-6.0%
138+50	END FULL SUPER RT	-0.7%	-6.0%
139+00	END SUPER LT	-2.0%	-5.0%
139+50		-2.0%	-4.0%
140+00		-2.0%	-3.0%
140+50	END SUPER RT	-2.0%	-2.0%
141+00		-2.0%	-2.0%
141+50		-2.0%	-2.0%
142+00		-2.0%	-2.0%

NO	DATE	BY	CKD	APPR	REVISION	03/19/2020	6:51:44 AM
NAME: P:\20-01-00\CR_72_(CSAH24-NCL)\Base\Proposed\PROPOSED.dgn							

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: GERALD J. AUGER JR.
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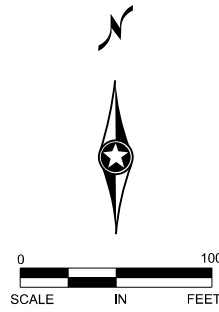


ANOKA COUNTY
 HIGHWAY DEPT.

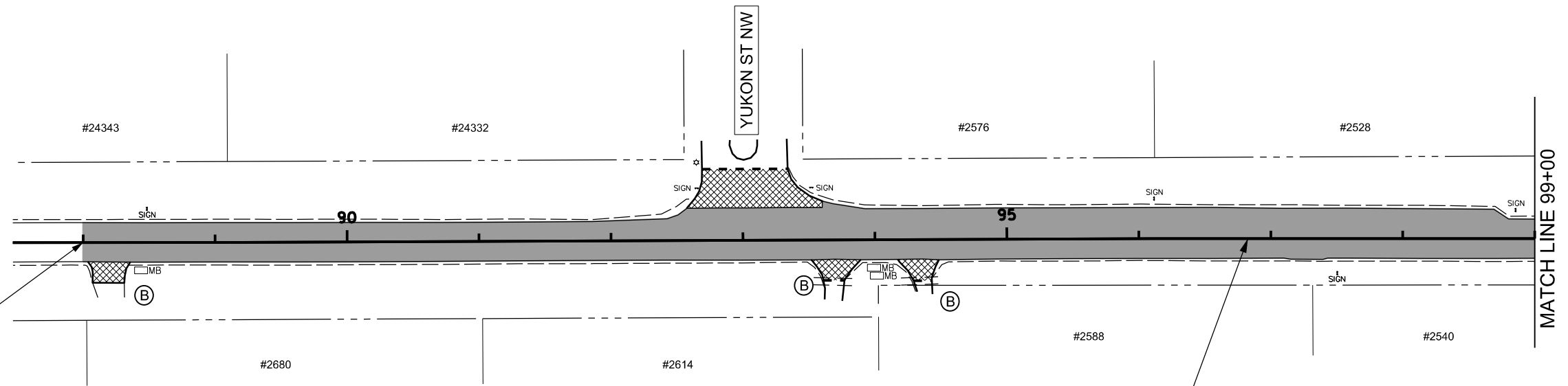
COUNTY PROJECT 20-10-72

SUPERELEVATION TABLE
 Sheet 7 of 17 Sheets

APAnders



BEGIN CONSTRUCTION
CP: 20-10-72
STATION: 88+00



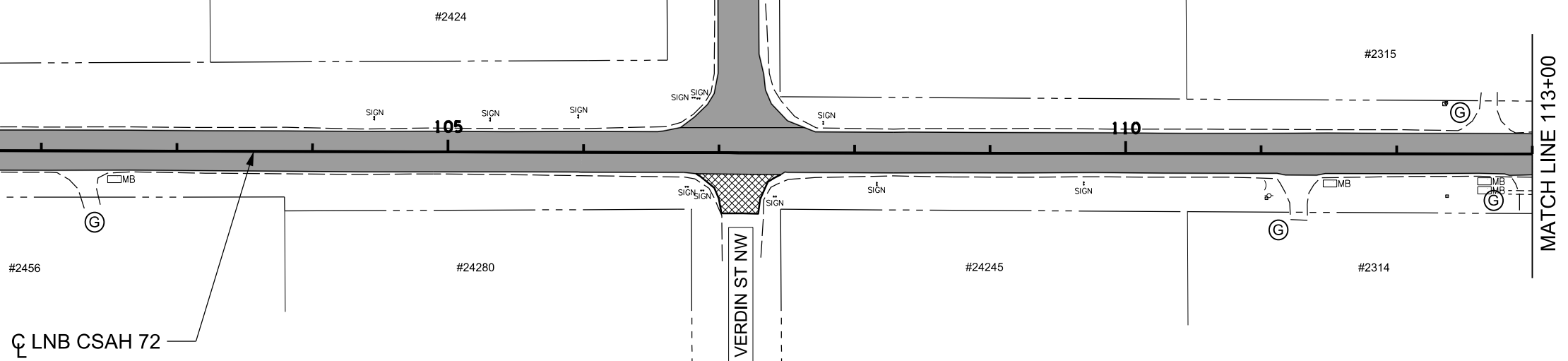
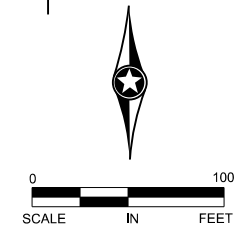
LEGEND

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

CL LNB CSAH 72

SEE SHEET 11 FOR
CONSTRUCTION ON
VERDIN ST NW

MATCH LINE 99+00



CL LNB CSAH 72

NO	DATE	BY	CKD	APPR	REVISION	
	03/19/2020					6:51:47 AM

NAME: P:\20-01-00\CR_72_(CSAH24-NCL)\Base\Proposed\PROPOSED.dgn

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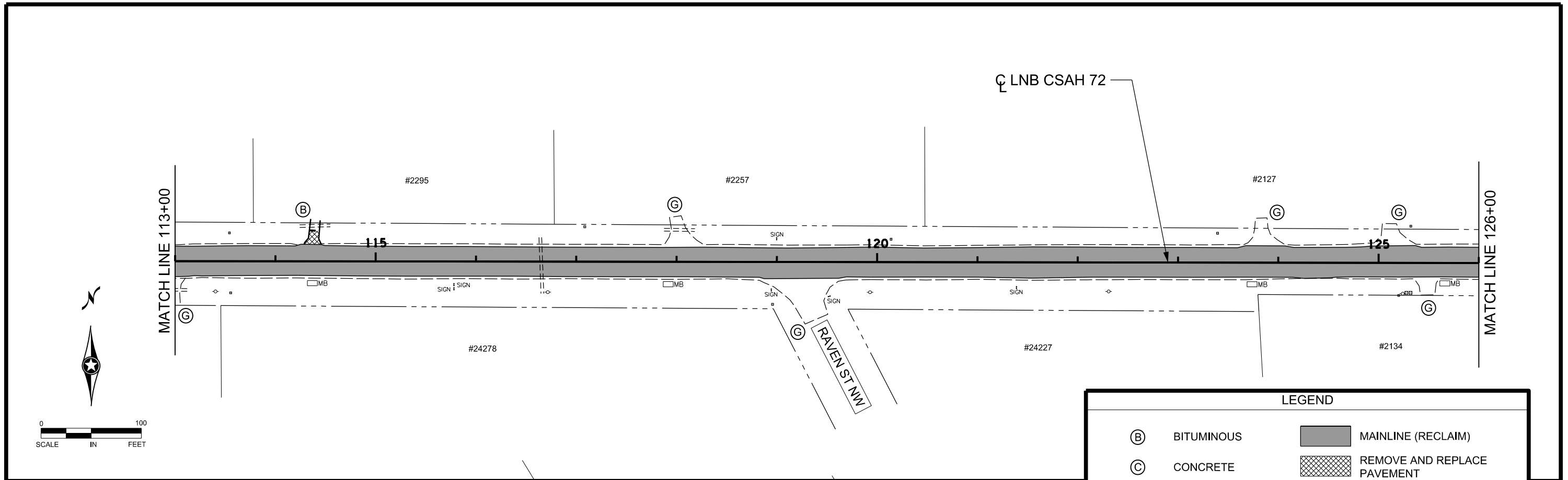
ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 20-10-72

CONSTRUCTION PLAN

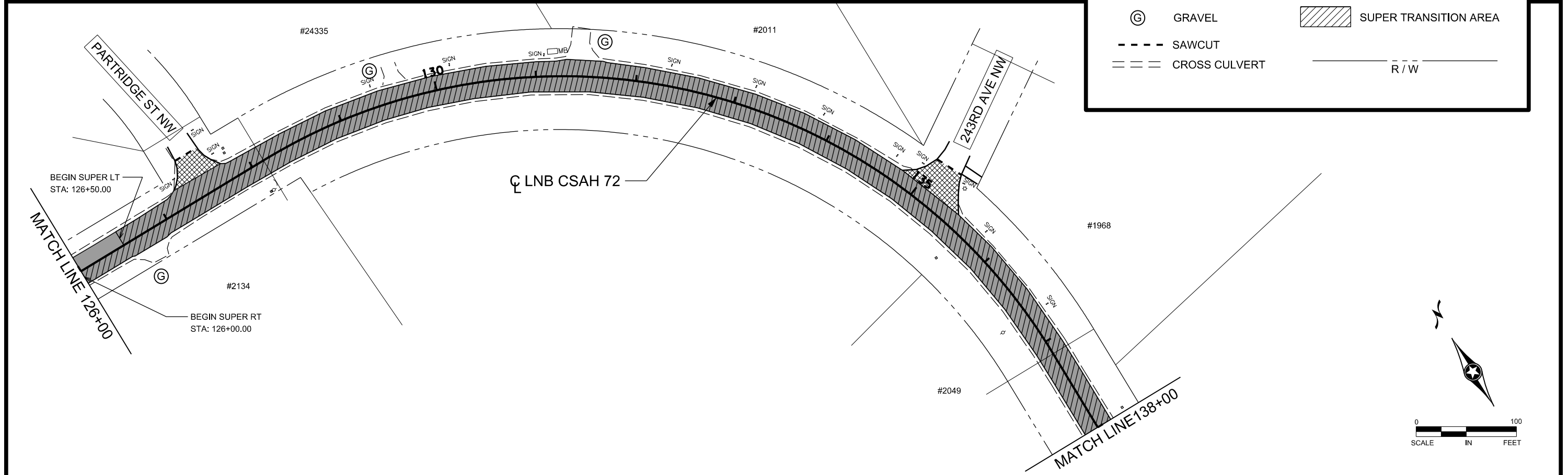
STA 88+00 TO 113+00

Sheet 8 of 17 Sheets



LEGEND

(B)	BITUMINOUS		MAINLINE (RECLAIM)
(C)	CONCRETE		REMOVE AND REPLACE PAVEMENT
(G)	GRAVEL		SUPER TRANSITION AREA
- - -	SAWCUT		
==	CROSS CULVERT		
		—	R / W



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						03/19/2020	6:51:47 AM

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SIGNATURE:

DATE: 03-17-2020 LICENSE NO. 26511

DRAWN BY SPH DATE 03/19/2020

DESIGN BY SPH DATE 03/19/2020

CHECKED BY APA DATE 03/19/2020

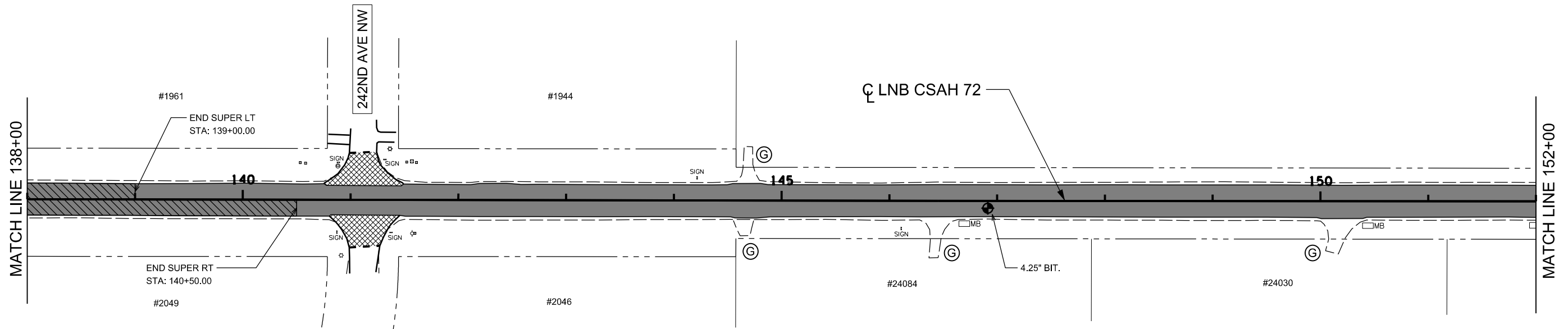
**ANOKA COUNTY
HIGHWAY DEPT.**

COUNTY PROJECT 20-10-72

CONSTRUCTION PLAN

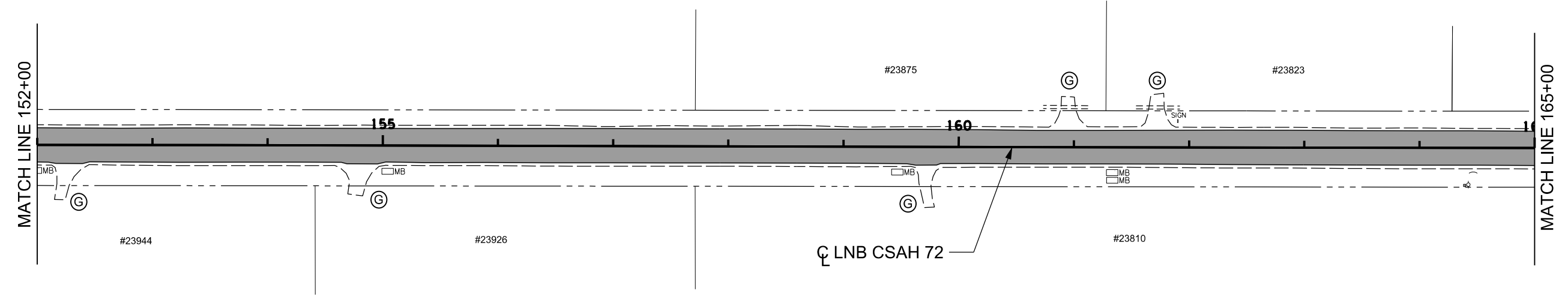
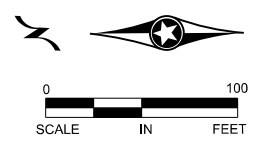
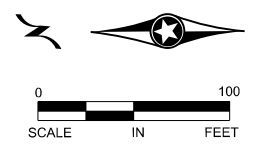
STA 113+00 TO 138+00

Sheet 9 of 17 Sheets



LEGEND

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

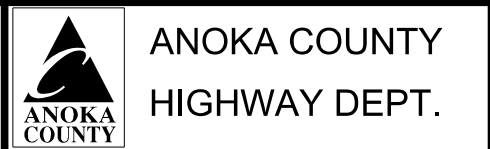


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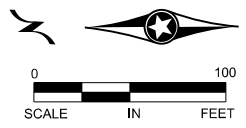
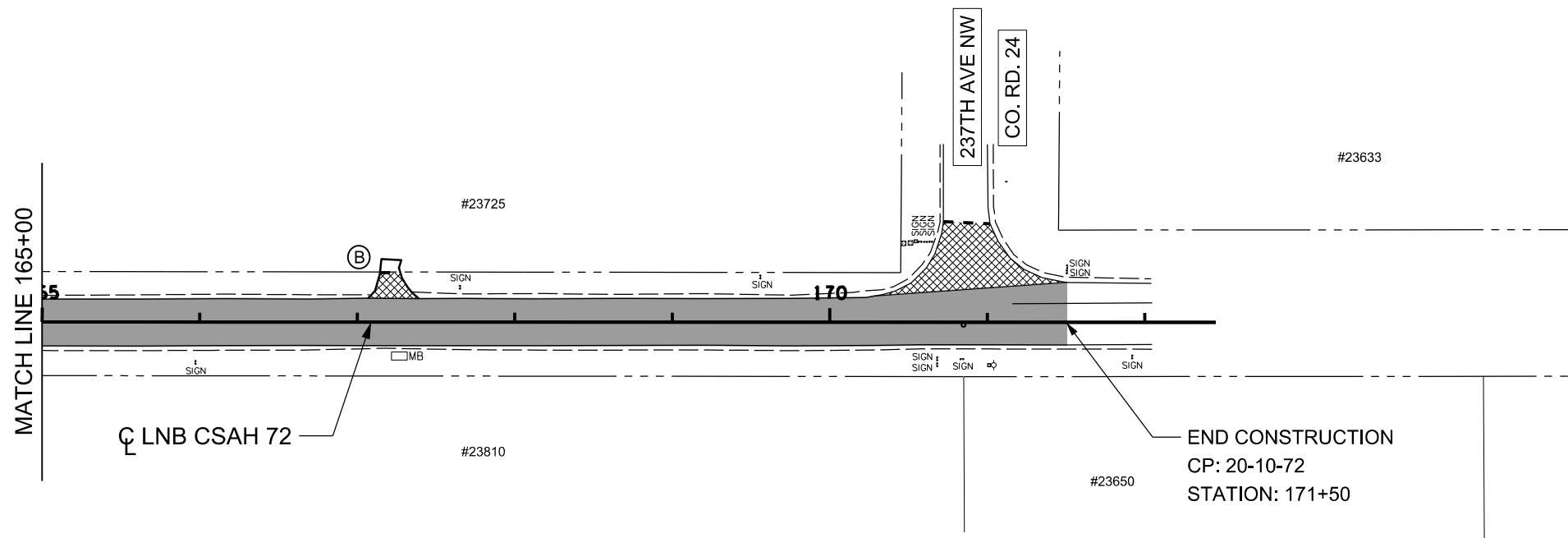
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: GERALD J. AUGER JR.
 SIGNATURE: *[Signature]*
 DATE: 03-17-2020 LICENSE NO. 26511

DRAWN BY SPH DATE 03/19/2020
 DESIGN BY SPH DATE 03/19/2020
 CHECKED BY APA DATE 03/19/2020

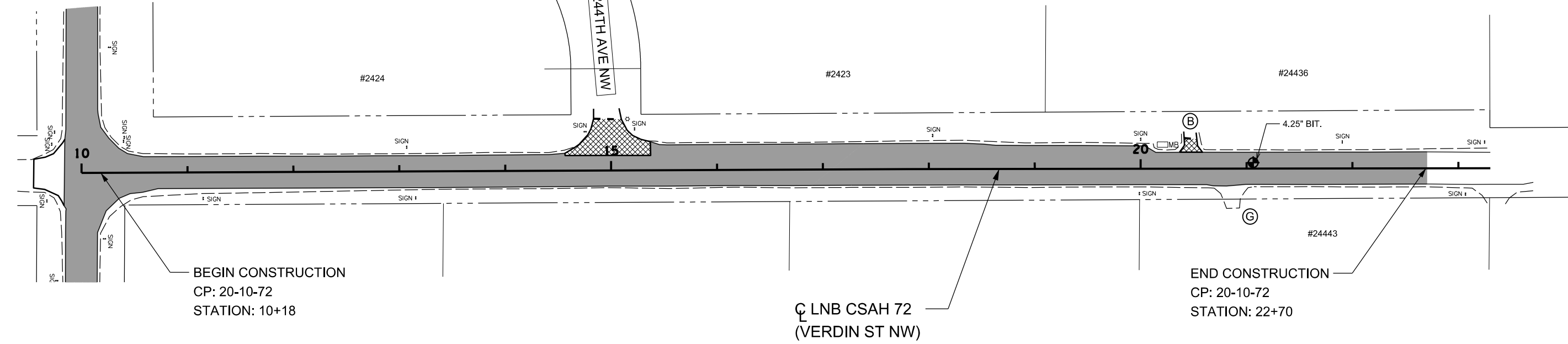
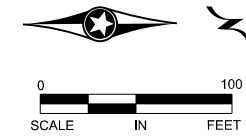


COUNTY PROJECT 20-10-72

CONSTRUCTION PLAN
 STA 138+00 TO 165+00
 Sheet 10 of 17 Sheets



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



NO	DATE	BY	CKD	APPR	REVISION	
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NAME: P:\20-01-00\CR_72_(CSAH24-NCL)\Base\Proposed\PROPOSED.dgn

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 SIGNATURE: *[Signature]*
 DATE: 03-17-2020 LICENSE NO. 26511

DRAWN BY SPH DATE 03/19/2020
 DESIGN BY SPH DATE 03/19/2020
 CHECKED BY APA DATE 03/19/2020

ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 20-10-72

CONSTRUCTION PLAN
 STA 165+00 TO 171+50
 STA 10+18 TO 22+70
 Sheet 11 of 17 Sheets

PERMANENT PAVEMENT MARKING PLAN
NOTES AND GUIDELINES

GENERAL INFORMATION:

THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. ANOKA COUNTY HIGHWAY DEPARTMENT WILL PLACE NECESSARY "SPOTTING" AT APPROPRIATE POINTS TO PROVIDE HORIZONTAL CONTROL FOR STRIPING AND TO DETERMINE NECESSARY STARTING AND CUTOFF POINTS. LONGITUDINAL JOINTS, PAVEMENT EDGES AND EXISTING MARKINGS MAY SERVE AS HORIZONTAL CONTROL WHEN SO DIRECTED.

EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY A YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE RADIUS FOR THE INTERSECTION OR AT MARKED STOP LINES OR CROSSWALKS.

A TOLERANCE OF 1/4 INCH UNDER OR 1/4 INCH OVER THE SPECIFIED WIDTH WILL BE ALLOWED FOR STRIPING PROVIDED THE VARIATION IS GRADUAL AND DOES NOT DETRACT FROM THE GENERAL APPEARANCE. BROKEN LINE SEGMENTS MAY VARY UP TO ONE-HALF FOOT FROM THE SPECIFIED LENGTHS PROVIDED THE OVER AND UNDER VARIATIONS ARE REASONABLY COMPENSATORY. ALIGNMENT DEVIATIONS FROM THE CONTROL GUIDE SHALL NOT EXCEED 1 INCH. MATERIAL SHALL NOT BE APPLIED OVER LONGITUDINAL JOINTS. ESTABLISHMENT OF APPLICATION TOLERANCES SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLY AS CLOSELY AS PRACTICABLE WITH THE PLANNED DIMENSIONS.

MULTI COMPONENT (MULTI COMP):

THE ROAD SURFACE SHALL BE CLEANED AT THE DIRECTION OF THE ENGINEER JUST PRIOR TO APPLICATION. PAVEMENT CLEANING SHALL CONSIST OF AT LEAST BRUSHING WITH A ROTARY BROOM (NON-METALLIC) OR AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. NEW PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENT AND/OR LAITANCE ON LOW SPEED (SPEED LIMIT 35 MPH OR LESS) URBAN PORTLAND CEMENT CONCRETE ROADWAYS. SANDBLAST CLEANING SHALL BE USED FOR ALL MULTI COMP PAVEMENT MARKINGS.

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

A MULTI COMP LINE SHALL BE APPLIED WITH A MINIMUM THICKNESS OF 20 MILS (WET) AND 4" WIDE. GLASS BEADS SHALL BE APPLIED AT A MINIMUM RATE OF 25LBS POUNDS PER GALLON RATE SUFFICIENT TO ACHIEVE AN ACCEPTABLE NO-TRACK SYSTEM.

OPERATIONS SHALL BE CONDUCTED ONLY WHEN THE ROAD PAVEMENT SURFACE TEMPERATURES ARE 50 DEGREES FAHRENHEIT OR GREATER.

PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.

PERFORMED THERMOPLASTIC:

THE PERFORMED THERMOPLASTIC MARKINGS SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS ON CLEAN AND DRY SURFACES. SEE SPECIAL PROVISIONS FOR PERFORMED THERMOPLASTIC MARKING SPECIFICATIONS.

PAINT:

AT THE TIME OF APPLYING THE MARKING MATERIAL, THE APPLICATION AREA SHALL BE FREE OF CONTAMINATION. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE PRIOR TO THE LINE APPLICATION IN A MANNER AND TO THE EXTENT REQUIRED BY THE ENGINEER.

GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE PAINT LINE.

EXCEPT WHEN USED AS A TEMPORARY MARKING, PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR TEMPERATURE IS 50 DEGREES FARHENHEIT OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILD OR DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL CAN BE APPLIED.

THE FILLING OF TANKS, POURING OF MATERIALS OR CLEANING OF EQUIPMENT SHALL NOT BE PERFORMED ON UNPROTECTED PAVEMENT SURFACES UNLESS ADEQUATE PROVISIONS ARE MADE TO PREVENT SPILLAGE OF MATERIAL.

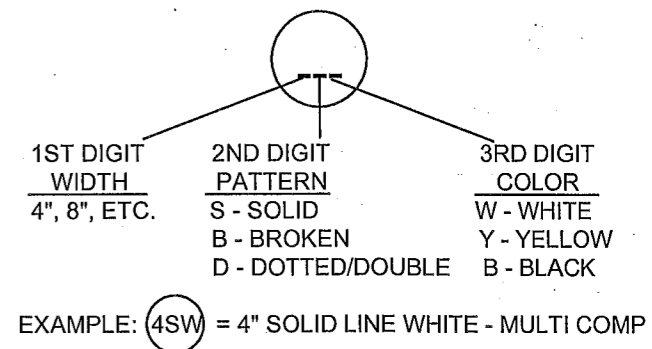
PAVEMENT MARKING TABULATION		
ITEM	UNIT	TOTAL QUANTITY
4" SOLID LINE WHITE - MULTI COMP	LIN FT	19416
4" BROKEN LINE YELLOW - MULTI COMP **10' STRIPE, 40' GAP**	LIN FT	1638
4" SOLID LINE YELLOW - MULTI COMP	LIN FT	6833
4" DOUBLE LINE YELLOW - MULTI COMP	LIN FT	1563

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 PERFORMED PLASTIC MARKING

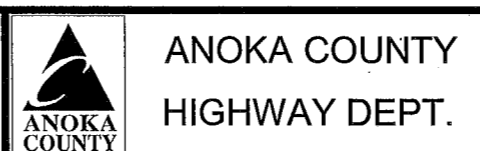


NO	DATE	BY	CKD	APPR	REVISION

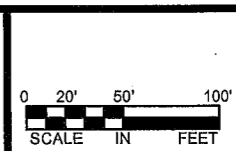
NAME: P:\20-01-00\CR 72\Bases\Traffic\Permanent Pavement Marking Plan.dwg

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: 3-19-20 LICENSE NO. 46732

DRAWN BY: FL DATE: 01/10/20
 DESIGN BY: FL DATE: 01/10/20
 CHECKED BY: JKR DATE: 01/23/20



CP 20-10-72



PERMANENT MARKING TABULATION
 Sheet 12 of 17 Sheets

NOTES: (TYP.)

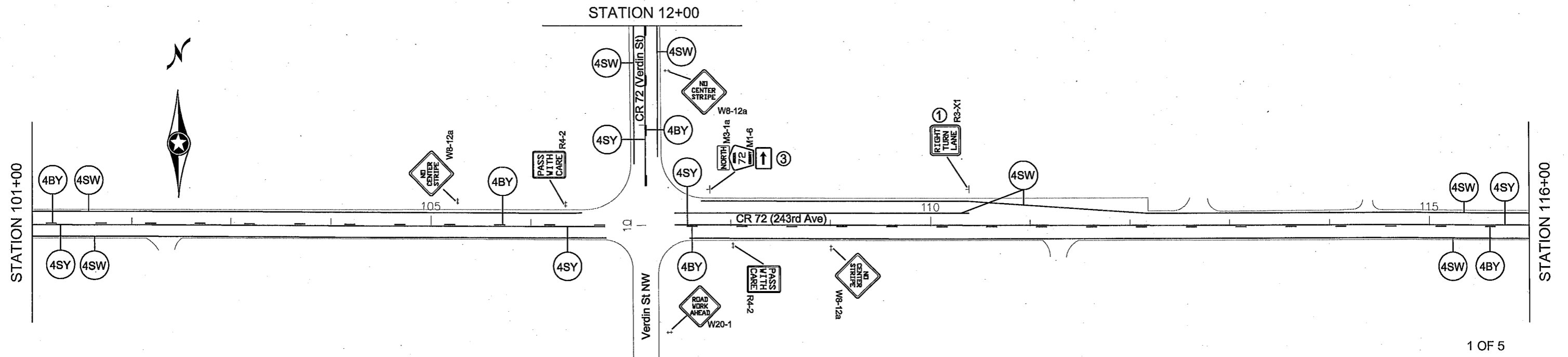
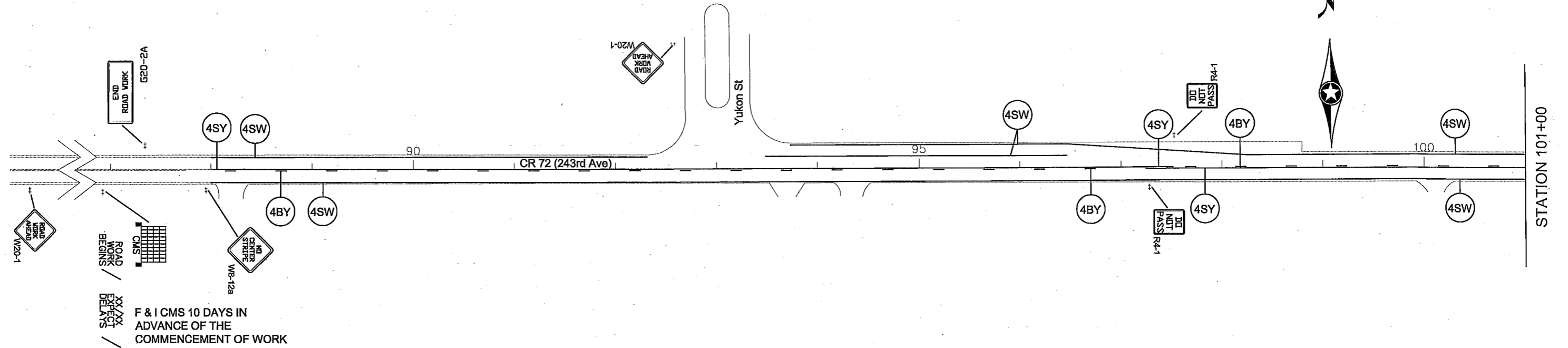
- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- CONTRACTOR SHALL COMPLY WITH THE LONGITUDINAL DROP-OFF GUIDELINES AS PER THE FIELD MANUAL.
- LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- CONTRACTOR SHALL SUPPLY AND INSTALL THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) A MINIMUM TEN DAYS PRIOR TO ACTUAL COMMENCEMENT OF ROAD WORK, TO A LOCATION AS SPECIFIED BY THE ENGINEER. SIGNS TO BE REMOVED WHEN ROAD WORK BEGINS. PAYMENT SHALL BE MADE AS PER ITEM 2563.613 PORTABLE CHANGEABLE MESSAGE SIGN BY THE UNIT/DAY.
- CONTRACTOR SHALL SUPPLY AND ERECT THE TEMPORARY TRAFFIC CONTROL SIGNS AS SHOWN ON THIS DRAWING AND DETAILED IN THE SPECIAL PROVISIONS FROM THE TIME WORK COMMENCES ON THIS ROADWAY UNTIL THIS ROADWAY IS PERMANENTLY STRIPED. ALL NECESSARY TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE PAID FOR AS PART OF TRAFFIC CONTROL LUMP SUM.
- ACCESS SHALL BE MAINTAINED TO ALL 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.

STRIPING KEY:

○ CIRCLE - MULTI COMP

SIGNING NOTES:

- ① F&I
- ③ SALVAGE & REINSTALL

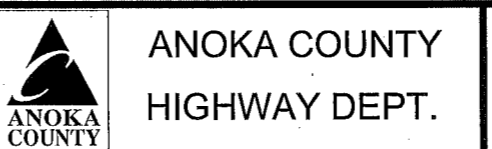


1 OF 5

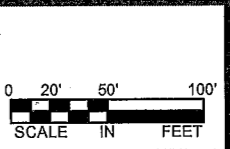
NO	DATE	BY	CKD	APPR	REVISION

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 PRINT NAME: JOSEPH J. MACPHERSON, P.E.
 SIGNATURE: *[Signature]*
 DATE: 5-11-20 LICENSE NO. 46732

DRAWN BY FL DATE 01/10/20
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CP 20-10-72



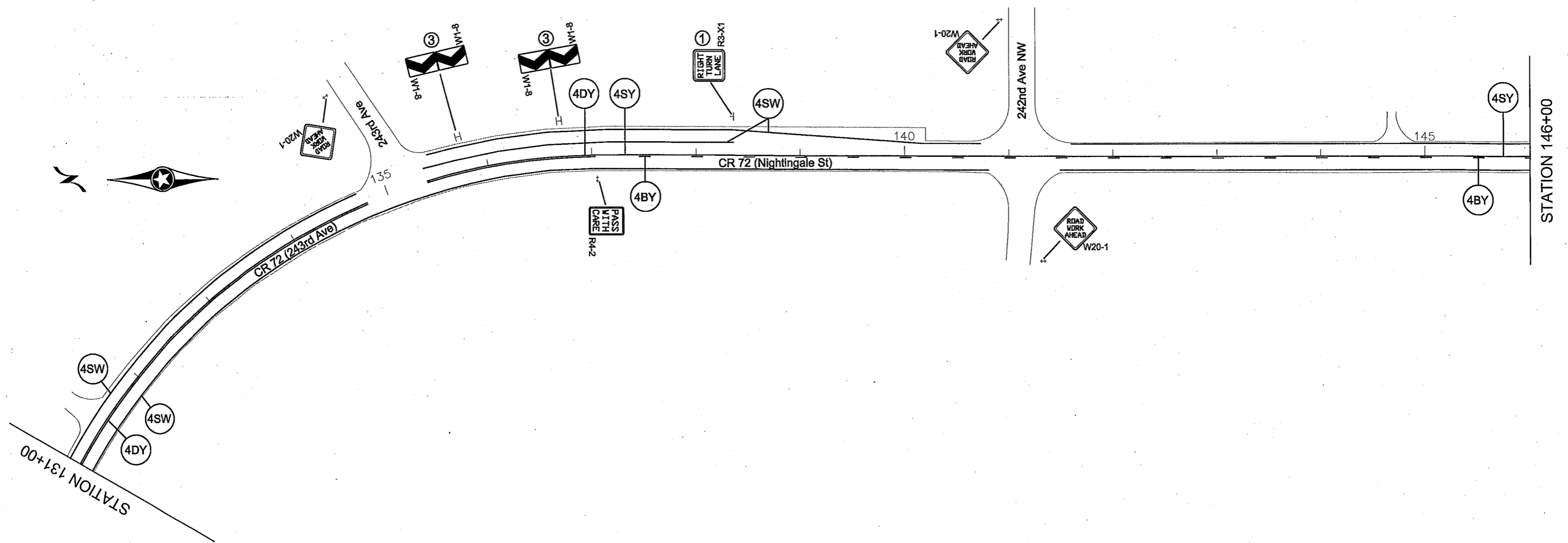
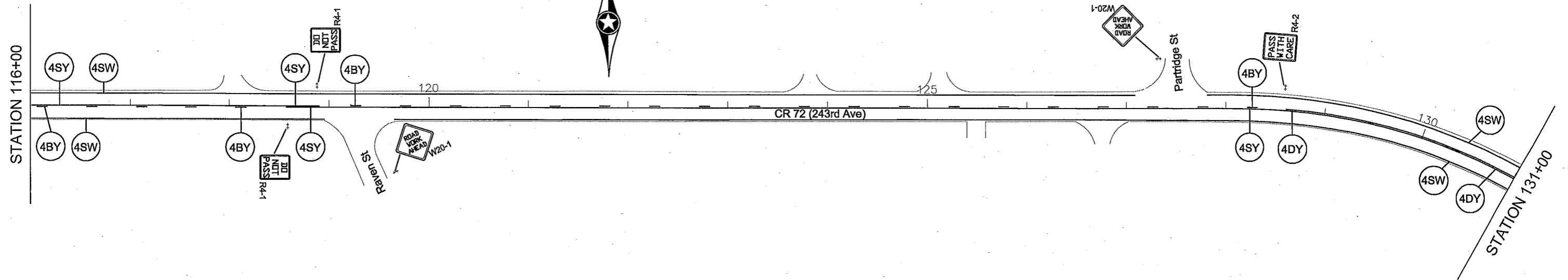
SIGNING & PERMANENT STRIPING
 Sheet 13 of 17 Sheets

STRIPING KEY:

○ CIRCLE - MULTI.COMP

SIGNING NOTES:

- ① F&I
- ③ SALVAGE & REINSTALL



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:20-01-00\CR 72\Base\Traffic\Signing & Perm Striping.dwg

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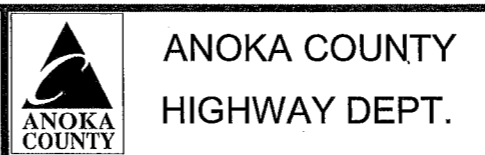
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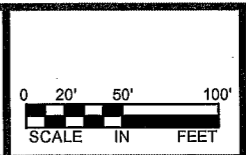
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DESIGN BY: FL DATE: 01/10/20

CHECKED BY: JKR DATE: 01/23/20



CP 20-10-72

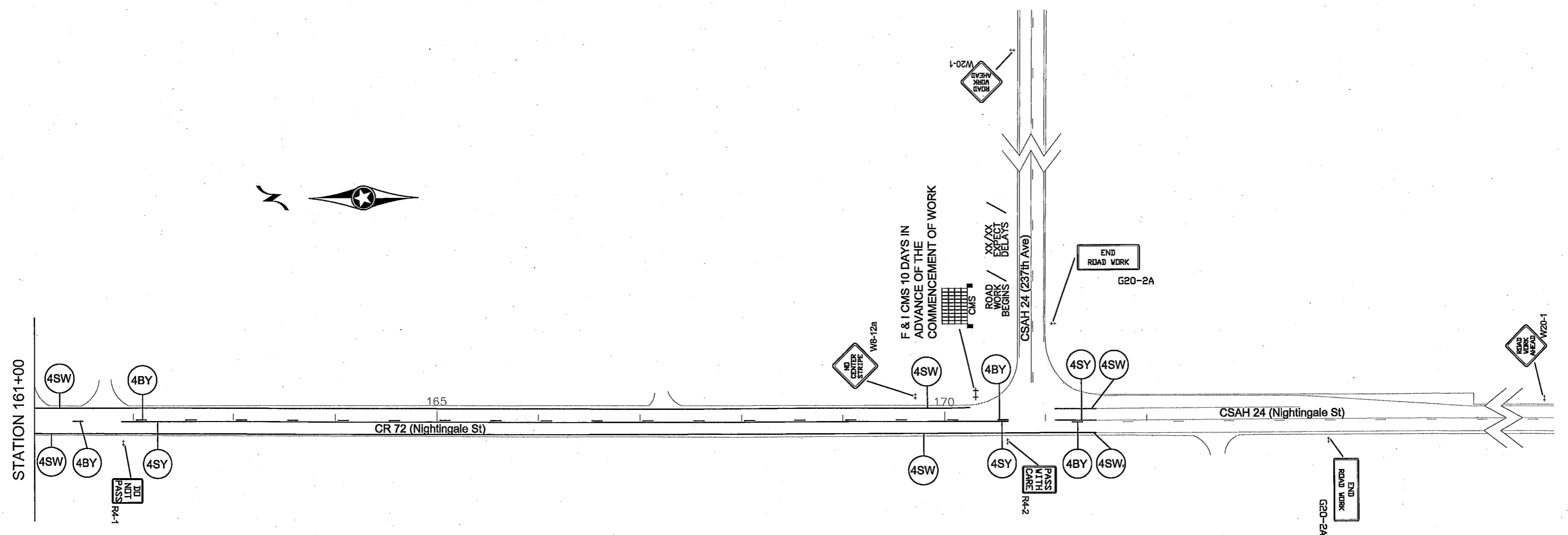
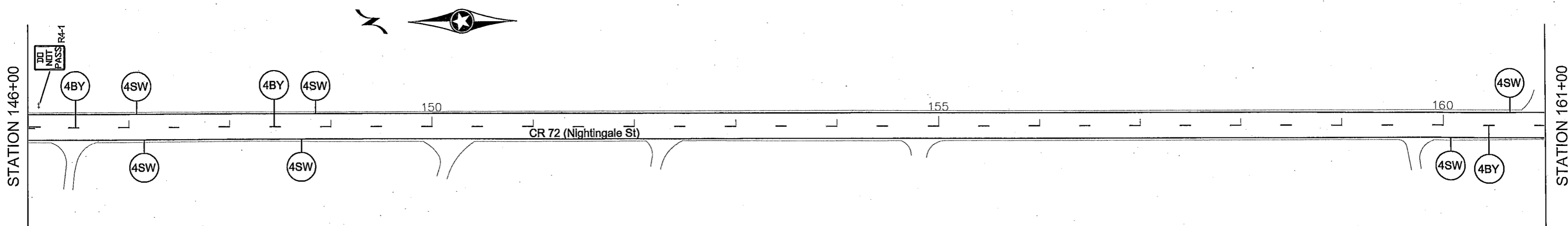


SIGNING & PERMANENT STRIPING

Sheet 14 of 17 Sheets

STRIPING KEY:

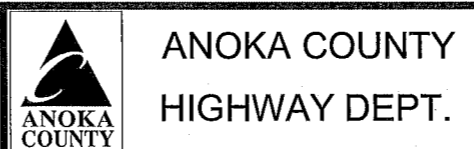
CIRCLE - MULTI COMP



NO	DATE	BY	CHKD	APPR	REVISION

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 SIGNATURE: *[Signature]*
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 CHECKED BY: JKR DATE: 01/23/20



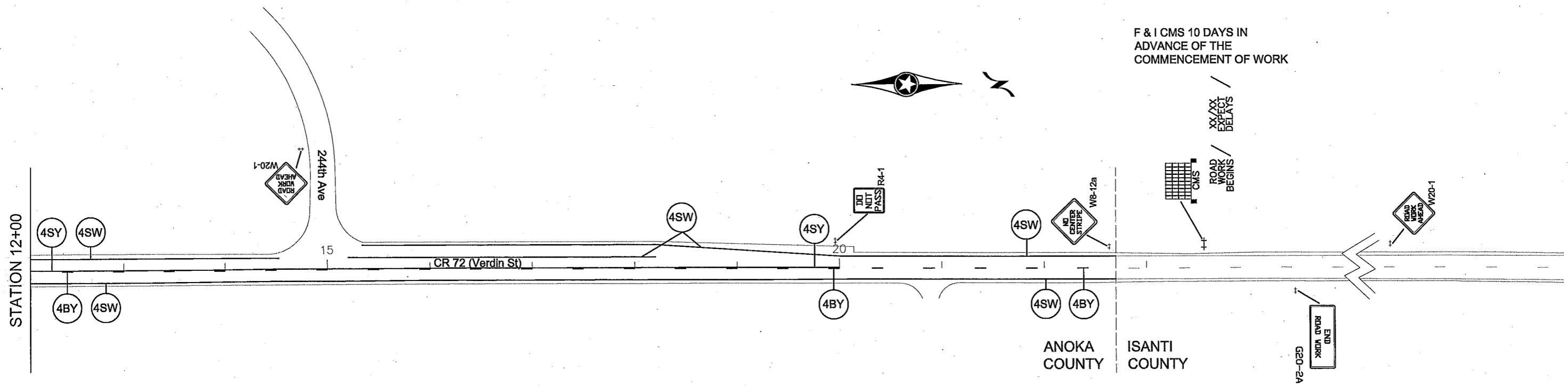
CP 20-10-72



SIGNING & PERMANENT STRIPING
 Sheet 15 of 17 Sheets

STRIPING KEY:

○ CIRCLE - MULTI COMP



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

XX/XX EXPECT DELAYS

GMS ROAD WORK BEGINS

ANOKA COUNTY ISANTI COUNTY

NO	DATE	BY	CKD	APPR	REVISION

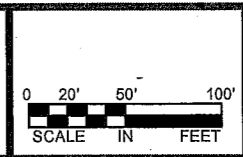
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 CHECKED BY: JKR DATE: 01/23/20

ANOKA COUNTY
HIGHWAY DEPT.

CP 20-10-72



SIGNING & PERMANENT STRIPING
 Sheet 16 of 17 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".

TEMPORARY TRAFFIC CONTROL SIGNS				
M.U.T.C.D. CODE	SIZE	PANEL AREA	INSERT	QUANTITY
		SQ. FT.		
R4-1	24" x 30"	5.00		7
R4-2	24" x 30"	5.00		5
W3-4	48" x 48"	16.00		AS NEEDED
W8-1	48" x 48"	16.00		AS NEEDED
W16-7P	30" x 18"	3.75		AS NEEDED
W8-1a	48" x 48"	16.00		AS NEEDED
W8-8	48" x 48"	16.00		AS NEEDED
W8-9	48" x 48"	16.00		AS NEEDED
W8-11	48" x 48"	16.00		AS NEEDED
W8-23	48" x 48"	16.00		AS NEEDED
W8-12a	48" x 48"	16.00		6
W20-1	48" x 48"	16.00		AS NEEDED (ESTIMATED 12)
W20-4	48" x 48"	16.00		AS NEEDED
W20-7	48" x 48"	16.00		AS NEEDED
G20-2A	48" x 24"	8.00		4

CHANGEABLE MESSAGE BOARD - MESSAGE SEQUENCE LAYOUT

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

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

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

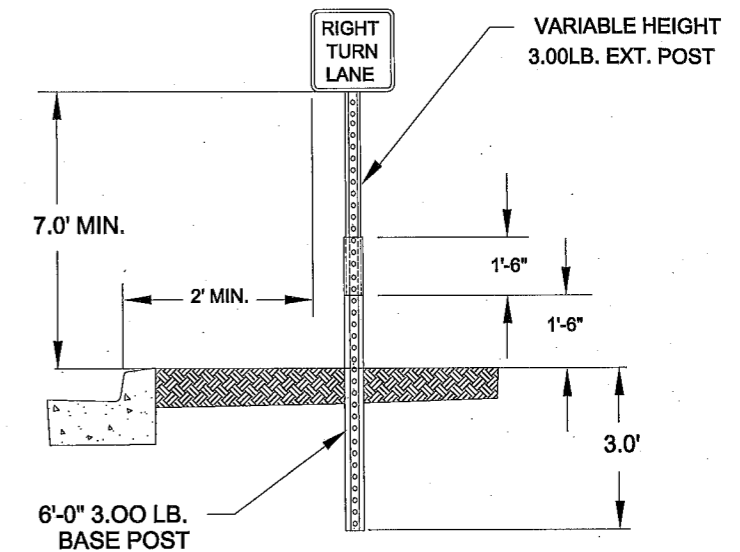
		QUANTITY
REFLECTORIZED REBOUNDABLE DRUM		AS NEEDED (ESTIMATED 15)
CMS sign to be installed a minimum of ten days prior to actual commencement of road work. Signs to be removed when road work begins.		3 AT 10 DAYS EA

EXISTING SIGN TAB					
STATION	ADDRESS/ DESCRIPTION (NOTES)	SALVAGE SIGN TYPE C (1)	INSTALL SIGN TYPE C (1)	SIGN NUMBER	SIGN LEGEND
		EACH	EACH		
107+79	WB	1	1	M3-1a	North
				M1-6	Route Marker 72
				M6-1a	Right Arrow
135+80	NB	1	1	W1-8	Chevron
136+74	NB	1	1	W1-8	Chevron
				W1-8	Chevron
TOTAL		3	3		

CONSTRUCTION NOTES:
1. SIGNS ARE TO REMAIN VISIBLE AT ALL TIMES.

PERMANENT SIGNING QUANTITIES							
M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY	SQ FT PANEL AREA	SQ FT TOTAL AREA	MOUNTING POSTS PER INSTALLATION	MOUNTING HEIGHT
R3-X1	30" X 30"		2	6.25	12.50	1	7.0'

GROUND POST MOUNT SIGN INSTALLATION TYPICAL



NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\20-01-00\CR 72\Bases\Traffic\Signing & Perm Striping.dwg

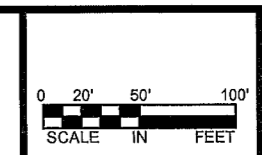
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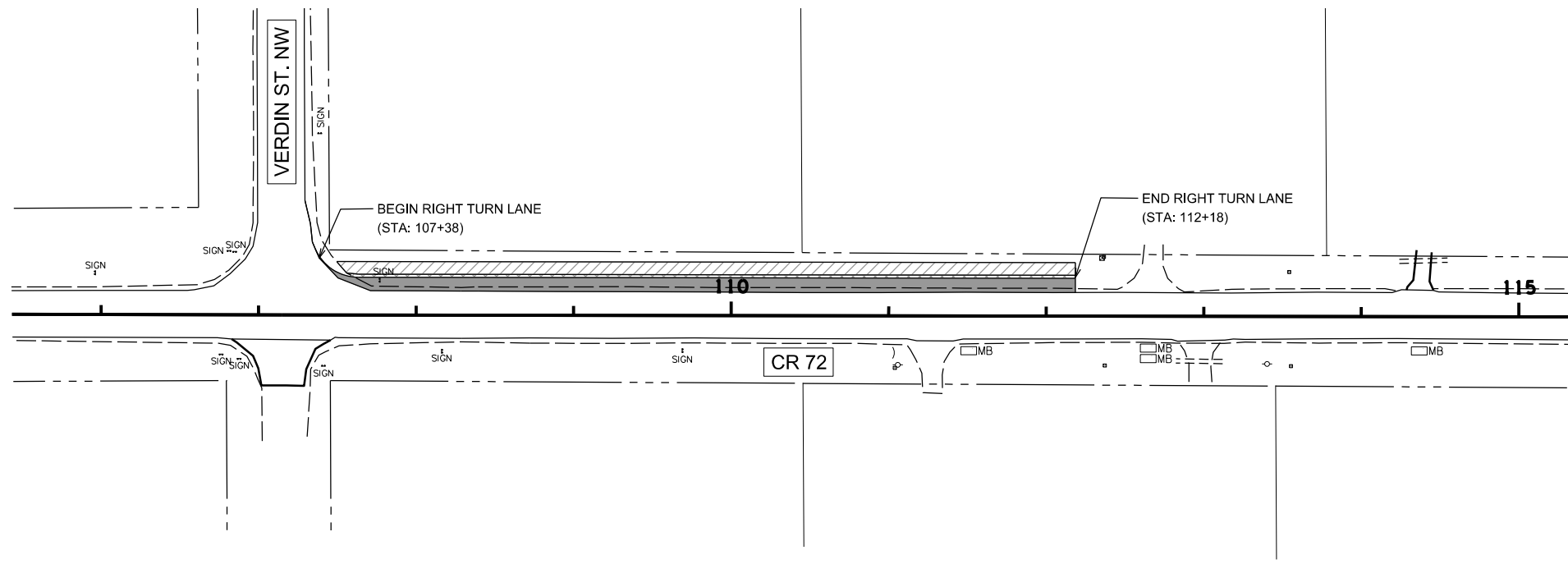
PRINT NAME: JOSEPH J. MACPHERSON, P.E.
SIGNATURE:
DATE: 7-19-20 LICENSE NO. 46732

DRAWN BY: FL DATE: 01/10/20
DESIGN BY: FL DATE: 01/10/20
CHECKED BY: JKR DATE: 01/23/20

ANOKA COUNTY
HIGHWAY DEPT.

CP 20-10-72



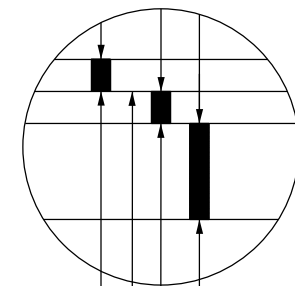
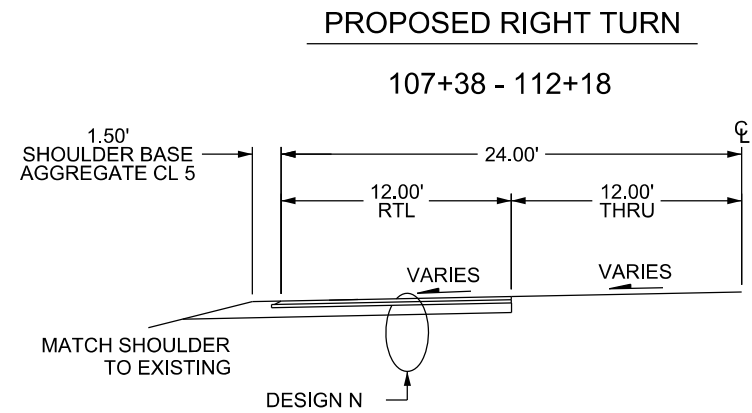


LEGEND

- CONSTRUCT TURN LANE
- SHOULDER
- SLOPE TO EXIST.
- R/W

RIGHT TURN LANE TAB (VERDIN ST NW)						
STREET	STATION RANGE	RTL / BYPASS	COMMON EXCAVATION (CU YDS)	GRANULAR BORROW (CV) (CU YDS)	TOPSOIL BORROW (LV) (CU YDS)	CLASS 5 (TON)
VERDIN ST NW	107+38 - 112+18	RTL	94	465	60	130
TOTALS:			94	465	60	130

**DESIGN N
RIGHT TURN LANE**



2.0" BITUMINOUS WEAR (SPWEB440C)
 BIT MATERIAL FOR TACK COAT MNDOT SPEC 2357
 2.0" BITUMINOUS WEAR (SPWEB440C)
 6" AGGREGATE BASE, CLASS 5

NO	DATE	BY	CKD	APPR	REVISION	TIME
	03/19/2020					6:51:50 AM

NAME: P:\20-01-00\CR_72_(CSAH24-NCL)\Base\Proposed\PROPOSED_TURN LANES.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.

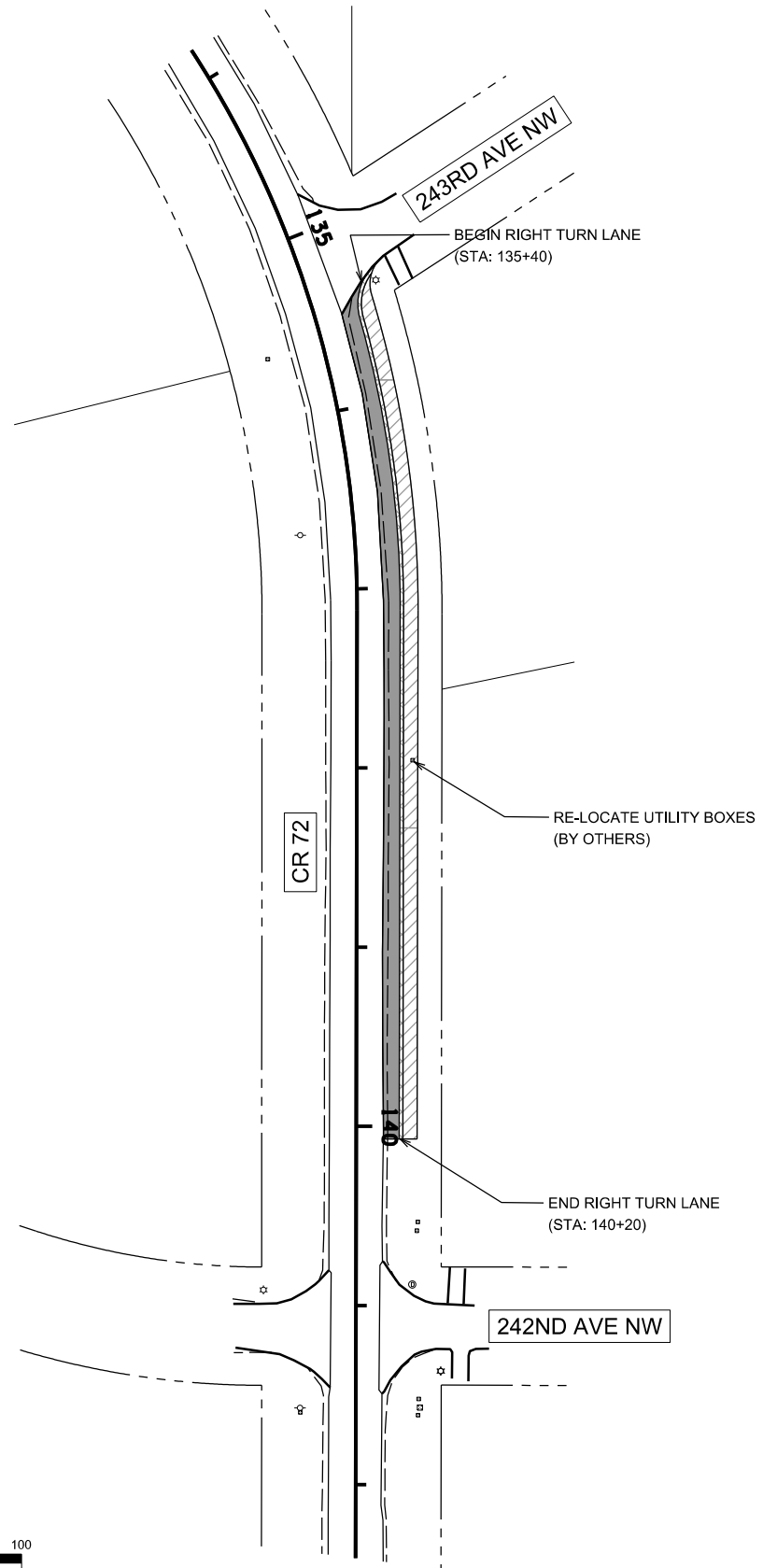
PRINT NAME: GERALD J. AUGÉ JR.
 SIGNATURE:
 DATE: 03-17-2020 LICENSE NO. 26511

DRAWN BY: SPH DATE: 03/19/2020
 DESIGN BY: SPH DATE: 03/19/2020
 CHECKED BY: CO DATE: 03/19/2020

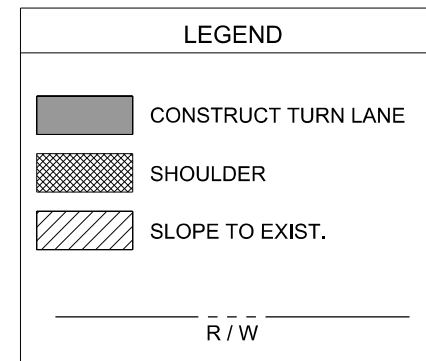
**ANOKA COUNTY
HIGHWAY DEPT.**

COUNTY PROJECT 20-10-72

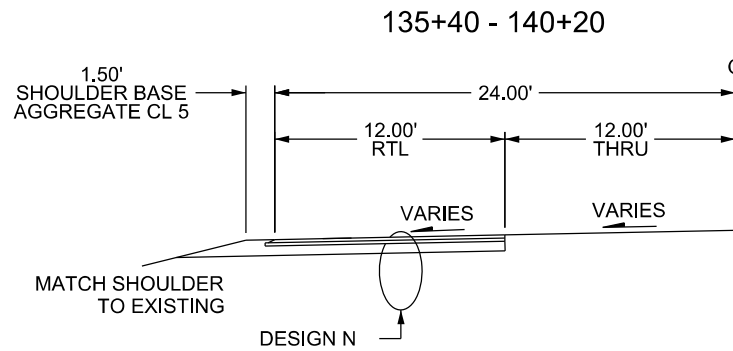
**RIGHT TURN LANE
AT VERDIN ST. NW**
 STA 107+38 TO 112+18
 Sheet A1 of A2 Sheets



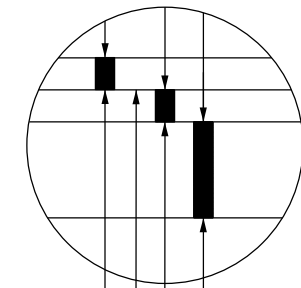
RIGHT TURN LANE TAB (243RD AVE NW)						
STREET	STATION RANGE	RTL / BYPASS	COMMON EXCAVATION (CU YDS)	GRANULAR BORROW (CV) (CU YDS)	TOPSOIL BORROW (LV) (CU YDS)	CLASS 5 (TON)
243RD AVE NW	135+40 - 140+20	RTL	112	285	94	127
TOTALS:			112	285	94	127



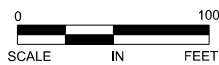
PROPOSED RIGHT TURN



**DESIGN N
RIGHT TURN LANE**



2.0" BITUMINOUS WEAR(SPWEB440C)
 BIT MATERIAL FOR TACK COAT MNDOT SPEC 2357
 2.0" BITUMINOUS WEAR(SPWEB440C)
 6" AGGREGATE BASE, CLASS 5



NO	DATE	BY	CKD	APPR	REVISION	TIME
	03/19/2020					6:51:51 AM

NAME: P:\20-01-00\CR_72_(CSAH24-NCL)\Base\Proposed\PROPOSED_TURN LANES.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: 03-17-2020 LICENSE NO. 26511

DRAWN BY SPH DATE 03/19/2020
 DESIGN BY SPH DATE 03/19/2020
 CHECKED BY CO DATE 03/19/2020

**ANOKA COUNTY
HIGHWAY DEPT.**

COUNTY PROJECT 20-10-72

RIGHT TURN LANE AT 243RD AVE NW
 STA 135+40 TO 140+20
 Sheet A2 of A2 Sheets