

# MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY

CONSTRUCTION PLAN FOR \_\_\_\_\_ BITUMINOUS RECLAMATION AND BITUMINOUS SURFACING \_\_\_\_\_

LOCATED ON CR 158 BETWEEN CSAH 7 AND C.R. 58

GOVERNING SPECIFICATIONS

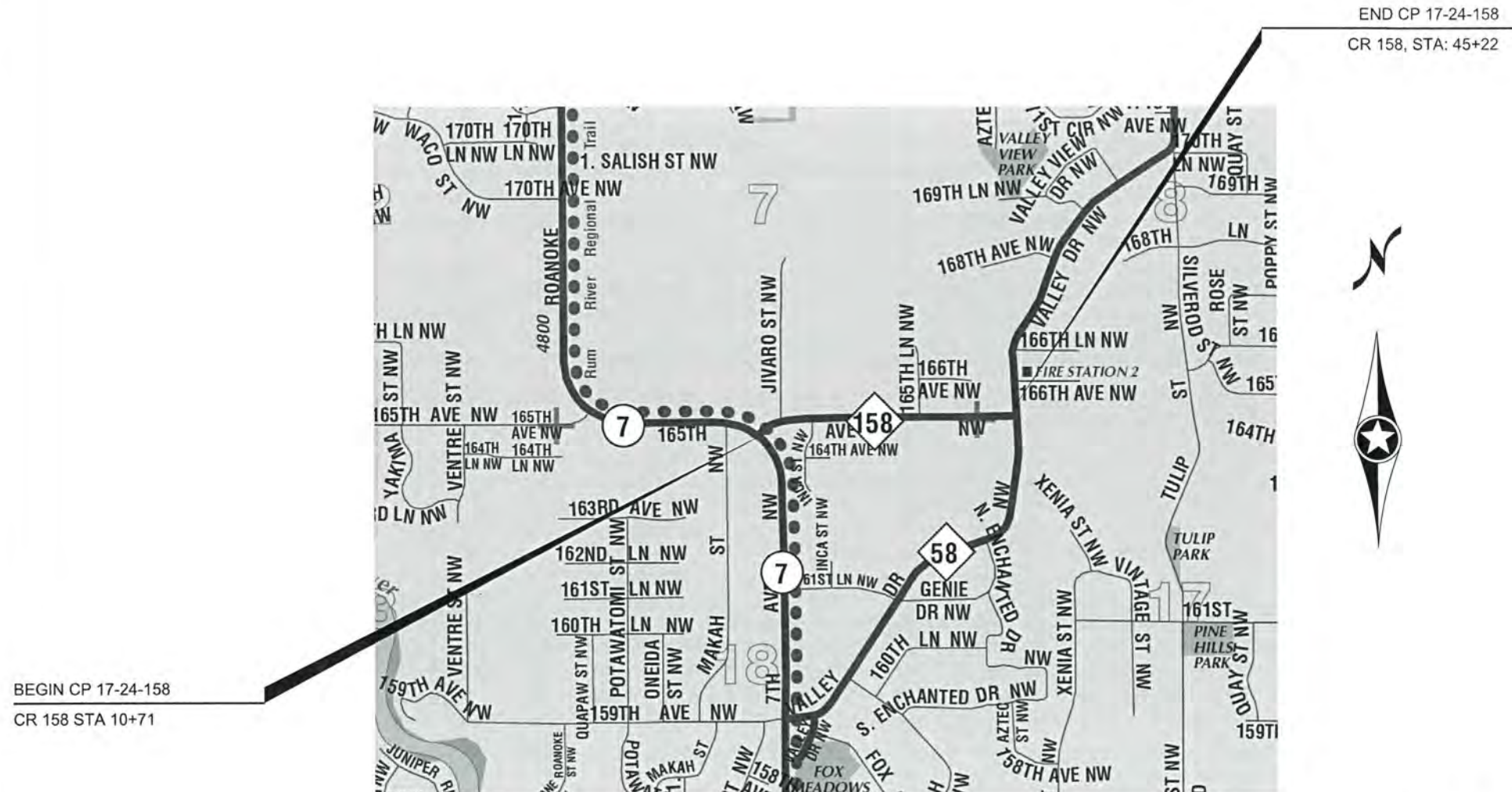
THE 2016 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

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 10 SHEETS

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3	TYPICAL SECTIONS
4-5	DETAILS
6-7	CONSTRUCTION PLAN
8	PERMANENT MARKING TABULATION
9	TEMPORARY SIGNING, PERMANENT SIGNING AND STRIPING
10	TRAFFIC CONTROL QUANTITY



END CP 17-24-158  
CR 158, STA: 45+22

BEGIN CP 17-24-158  
CR 158 STA 10+71

## PROJECT LOCATION

CR 158			
GROSS LENGTH	3451 FEET	0.65 MILES	
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES	
NET LENGTH	3451 FEET	0.65 MILES	
DESIGN SPEED	55 MPH		
CURRENT ADT	285		



CITY OF ANDOVER  
ANOKA COUNTY  
MN/DOT TRANSPORTATION DISTRICT - METRO  
SECTION 35  
TOWNSHIP 32 NORTHWEST  
RANGE 24 WEST

Approved: [Signature] 4/7/17  
ANOKA COUNTY ENGINEER

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: MATTHEW J. JOHN  
SIGNATURE: [Signature]  
DATE: 3/15/2017 LICENSE NO. 51639

DRAWN BY: BFL DATE 1/26/2017  
DESIGN BY: BFL DATE 1/26/2017  
CHECKED BY: MJJ DATE 1/26/2017



COUNTY PROJECT 17-24-158

TITLE SHEET  
Sheet 1 of 10 Sheets

**STATEMENT OF ESTIMATED QUANTITIES**

ITEM NUMBER	ITEM DESCRIPTION	NOTES	UNIT	TOTAL PROJECT QUANTITIES ESTIMATED
2021.501	MOBILIZATION		LUMP SUM	1
2104.501	REMOVE BITUMINOUS CURB		LIN FT	651
2104.503	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	4	SQ FT	1261
2104.505	REMOVE CONCRETE DRIVEWAY PAVEMENT	4	SQ YD	62
2104.505	REMOVE BITUMINOUS PAVEMENT		SQ YD	211
2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)		LIN FT	60
2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)		LIN FT	519
2123.503	MOTOR GRADER	10	HOUR	10
2130.501	WATER		MGAL	20
2211.501	AGGREGATE BASE CLASS 5	1	TON	60
2215.501	FULL DEPTH RECLAMATION		SQ YD	11096
2215.502	HAUL FULL DEPTH RECLAMATION (LV)	14	CU YDS	80
2221.501	SHOULDERING BASE AGGREGATE CLASS 5	2	TON	440
2232.501	MILL BITUMINOUS SURFACE (2.0")	3	SQ YD	303
2357.502	BITUMINOUS MATERIAL FOR TACK COAT		GAL	755
2360.501	TYPE 12.5 WEARING COARSE MIX (4,C)		TON	2362
2360.501	TYPE 12.5 WEARING COARSE MIX (3,B)	4,11	TON	71
2511.501	RANDOM RIPRAP CLASS II		CU YD	9
2531.501	CONCRETE CURB AND GUTTER DESIGN B418		LIN FT	905
2531.507	6" CONCRETE DRIVEWAY PAVEMENT	4	SQ YD	68
2540.602	MAIL BOX SUPPORT	5	EACH	18
2563.601	TRAFFIC CONTROL	6	LUMP SUM	1
2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	7	UNIT DAY	14
2574.609	COMMON TOPSOIL BORROW (LV)	12	CU YD	164
2575.523	EROSION CONTROL BLANKET CATEGORY 0	13	SQ YD	1500
2581.501	REMOVABLE PREFORMED PAVEMENT MARKING TAPE	8	LIN FT	138
2582.502	4" SOLID LINE EPOXY	9	LIN FT	6386
2582.502	4" BROKEN LINE EPOXY	9	LIN FT	590
2582.502	4" DOUBLE SOLID LINE EPOXY	9	LIN FT	500

**CONSTRUCTION NOTES**

1	GRAVEL BASE FOR CONCRETE, BITUMINOUS STREET APPROACHES, DRIVEWAYS
2	ITEM INCLUDES 10 TONS FOR EACH GRAVEL ENTRANCE AND GRAVEL STREET APPROACH.
3	ITEM INCLUDES 2" DEEP MILL AT BEGINNING AND END OF PROJECT, AND ALL PAVED STREET AND DRIVEWAY APPROACHES; SEE DETAILS FOR DIMEN
4	CONTRACTOR IS RESPONSIBLE FOR CONTACTING PROPERTY OWNER 48 HOURS BEFORE STARTING OPERATION.
5	MAILBOXES SHALL BE INSTALLED AT THE EXISTING MAILBOX LOCATION OR AS DIRECTED BY THE LOCAL POSTAL AUTHORITY. CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE LOCAL POSTAL AUTHORITY. MAILBOX REMOVAL AND ALL MATERIALS NECESSARY FOR INSTALLATION ARE INCIDENTAL TO THIS ITEM.
6	ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO AND BE INSTALLED IN ACCORDANCE WITH THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES." DO NOT PASS, PASS WITH CARE, NO CENTER STRIPE, AND STOP HERE ON RED SIGNS MUST BE INPLACE WHENEVER PERMANENT PAVEMENT MARKINGS ARE NOT PRESENT.
7	2 MESSAGE BOARDS, ONE ON THE EACH END OF PROJECT, WILL BE INSTALLED 7 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS.
8	CENTERLINE AND LANE DESIGNATION SKIPS SHALL 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 SHALL REMOVE SKIPS PRIOR TO FINAL PAINT STRIPING.
9	FINAL STRIPING SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING.
10	ITEM USED TO MOVE EXCESS RECLAIM MATERIAL AT THE RECLAIM AREA LIMITS TO CREATE A SMOOTH TRANSITION BETWEEN THE PROPOSED AND EXISTING PAVEMENT
11	ITEM FOR BITUMINOUS DRIVEWAYS AND STREET APPROACHES
12	ITEM USED AT THE ENGINEERS DISCRETION FOT THE RESTORATION ALONG DRIVEWAYS AND STREET APPROACHES
13	TYPE 1 FERTILIZER AND TYPE 25-121 SEED ARE INCIDENTAL TO THIS ITEM.
14	MATERIAL SHALL BE REMOVED ADJACENT TO EXISTING CURB LINE TO MATCH EXISTING CURB PROFILE. ITEM INCLUDES PLACEMENT, SHAPING, COMPACTION AND MAINTENANCE OF MATERIAL. EXCESS MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR.

**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

**MNDOT STANDARD PLATES**

PLATE NUMBER	DESCRIPTION
7100H	CONCRETE CURB & GUTTER (DESIGN B & V)
8000J	CHANNELIZERS (3 SHEETS)
9350A	MAILBOX SUPPORT (SWING-AWAY TYPE)

NO	DATE	BY	CKD	APPR	REVISION		
					03/23/2017	11:13:53 AM	

NAME: P:\17-01-00\CR\_158\_(CSAH7-CR58)\Base\PROPOSED\PROPOSED.dgn

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SIGNATURE: *Matthew J. John*

DATE: 3/23/2017 LICENSE NO. 51639

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CHECKED BY: MJJ DATE: 1/26/2017



**ANOKA COUNTY  
HIGHWAY DEPT.**

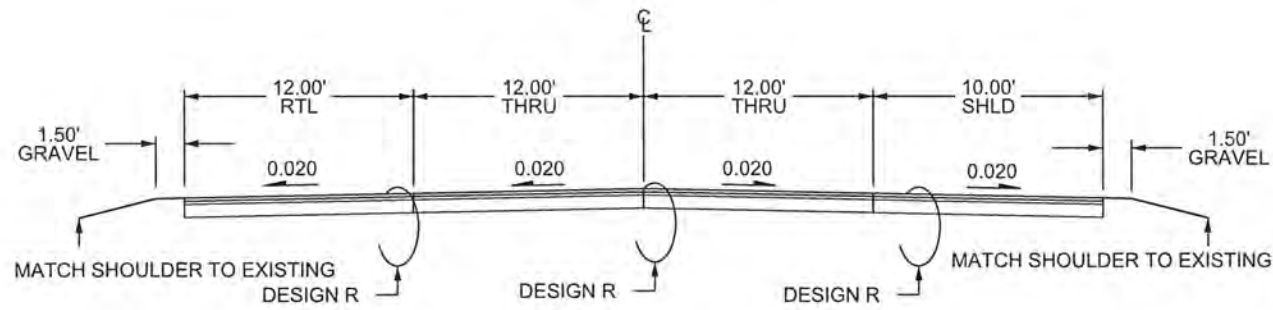
COUNTY PROJECT 17-24-158

STATEMENT OF ESTIMATED QUANTITIES

Sheet 2 of 10 Sheets

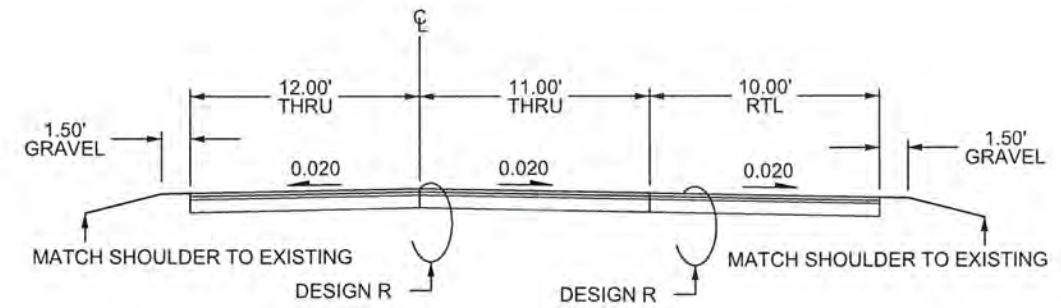
C.R. 158 - RTL @ CSAH 7  
PROPOSED SECTION

10+71 TO 14+00



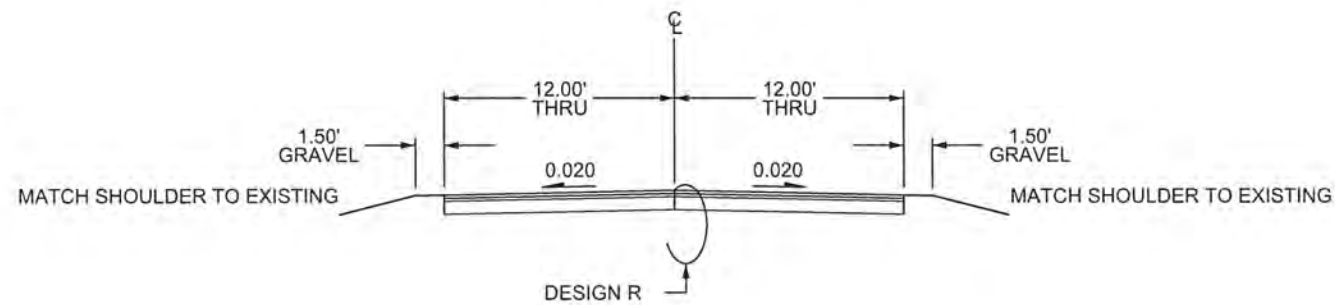
C.R. 158 - RTL @ INCA STREET  
PROPOSED SECTION

14+50 TO 19+00

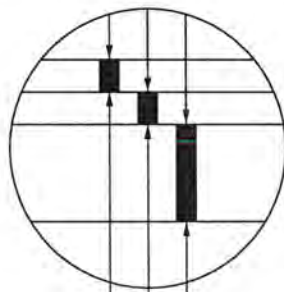


C.R. 158 - 165th Ave NW  
PROPOSED SECTION

14+00 TO 14+50  
19+00 TO 45+22

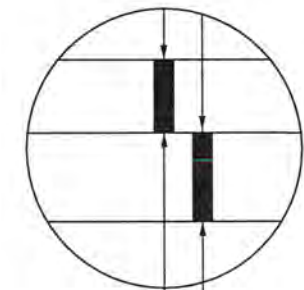


DESIGN R  
RECLAIM SECTION



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

EXISTING SECTION



5" EXISTING BITUMINOUS  
4" EXISTING BASE

FOR INFORMATIONAL PURPOSES ONLY  
CONTRACTOR SHALL FIELD VERIFY THE EXISTING SECTION

NO	DATE	BY	CKD	APPR	REVISION	03/15/2017	9:50:29 AM
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ANOKA COUNTY  
HIGHWAY DEPT.

COUNTY PROJECT 17-24-158

TYPICAL SECTIONS  
Sheet 3 of 10 Sheets

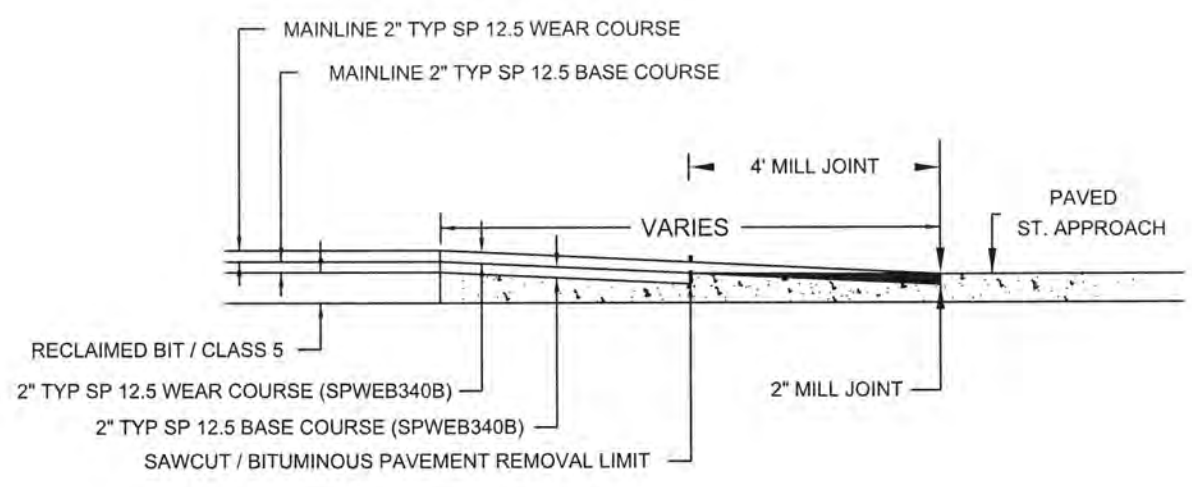
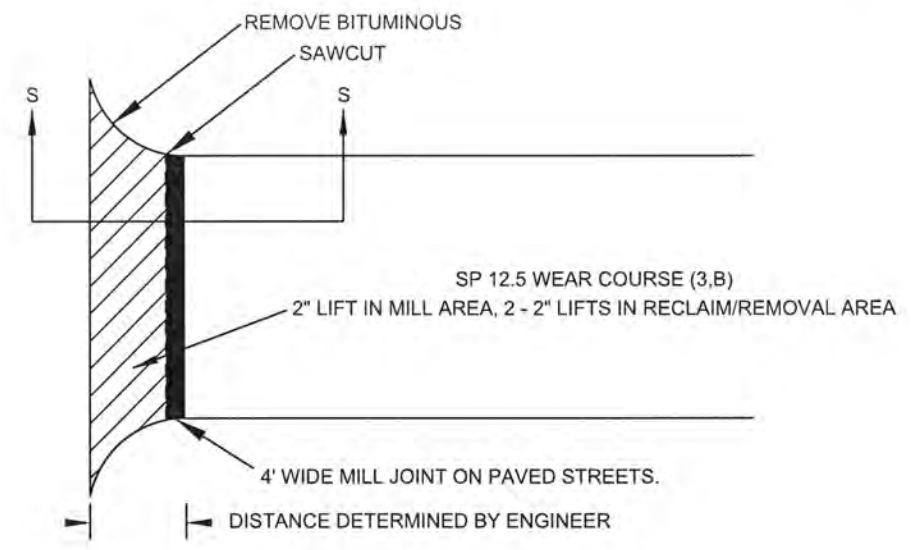
J.Dewrie

### STREET APPROACH DETAIL

PLAN VIEW

BITUMINOUS STREET

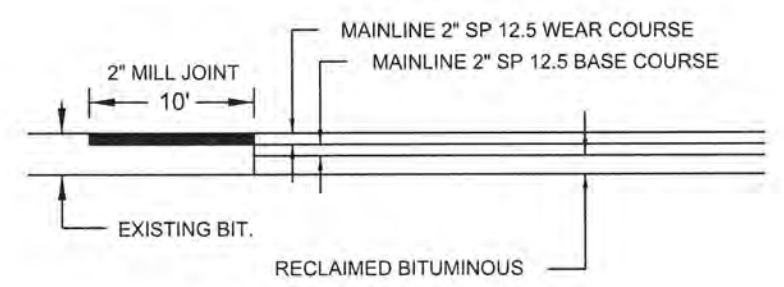
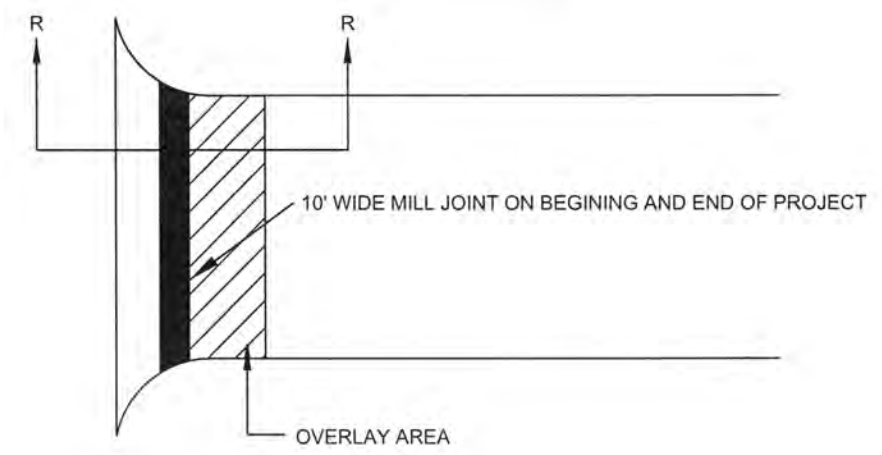
SECTION S - S



### MAINLINE JOINT DETAIL (RECLAIM)

PLAN VIEW

SECTION R - R

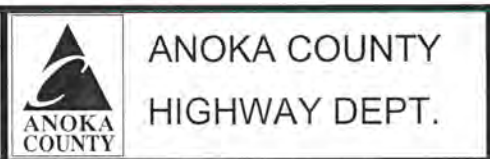


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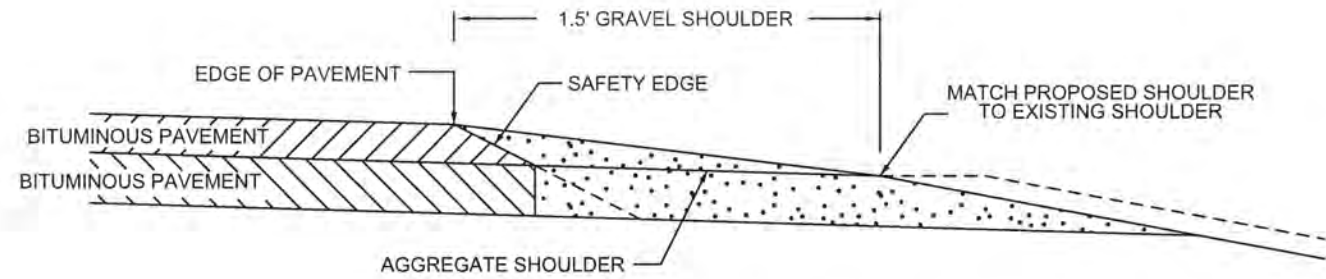
COUNTY PROJECT 17-24-158

DETAILS  
Sheet 4 of 10 Sheets

JJD/evr

### SHOULDER DETAIL

BITUMINOUS SAFETY EDGE  
GRAVEL SHOULDER

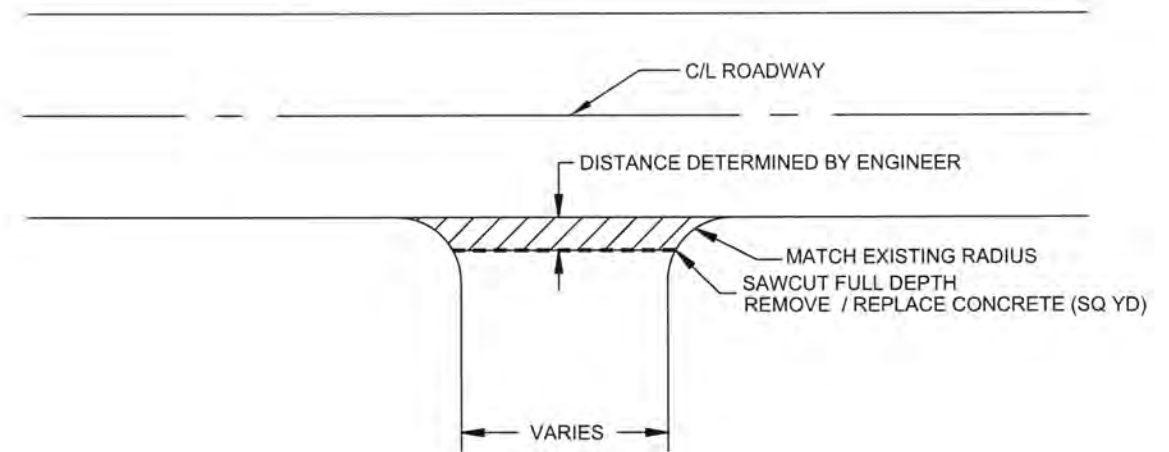


SAFETY EDGE TO BE USED IN ALL NON-CURB AREAS ON SHOULDER.

OPTIONAL DESIGN EXTENDS SAFETY EDGE DEEPER THAN 6" AND WIDER THAN 10.5". SEE SPECIAL PROVISIONS.

### DRIVEWAY DETAIL

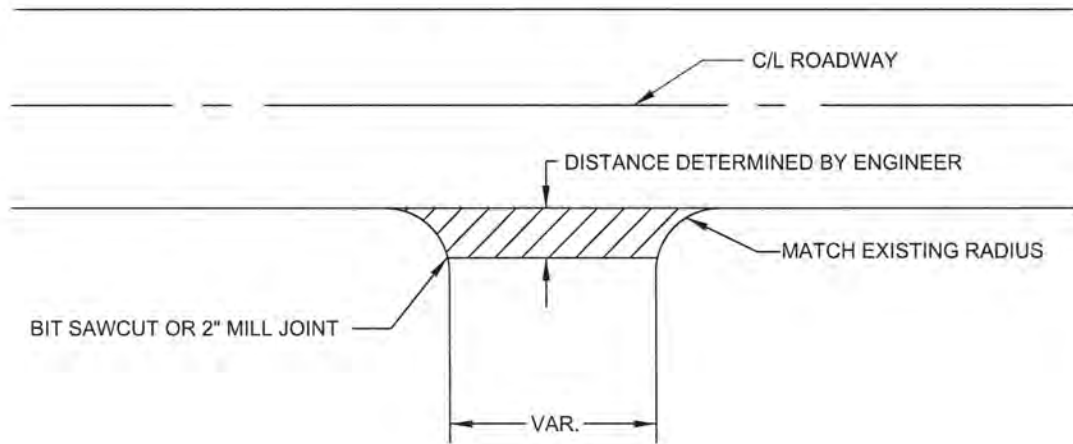
CONCRETE DRIVEWAY



### DRIVEWAY DETAIL

BITUMINOUS DRIVEWAY

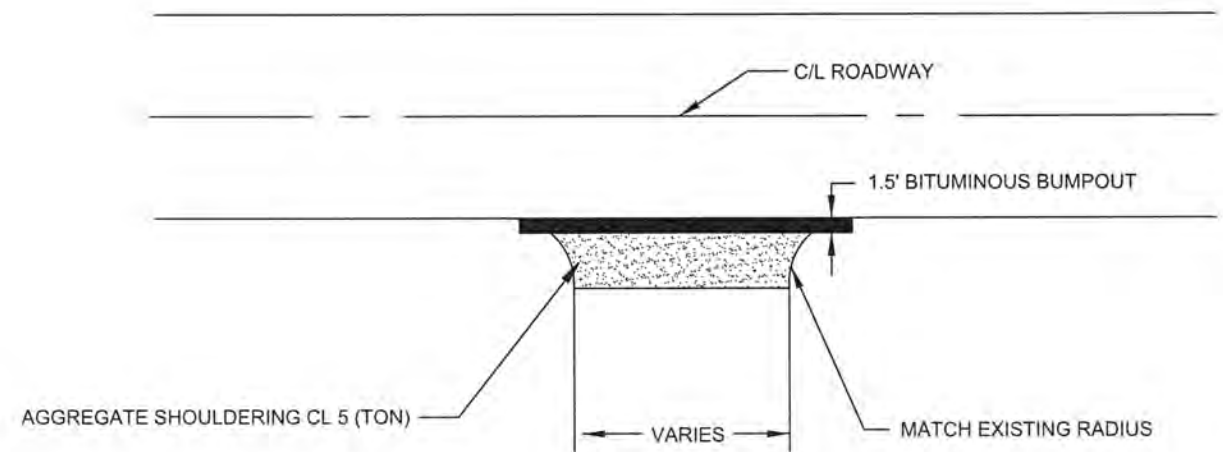
PAVED DR. WAYS



DRIVEWAYS BUMPED OUT AND PAVED WITH MAINLINE PAID AS MAINLINE.  
DRIVEWAYS PAVED IN DIFFERENT OPERATION FROM MAIN LINE PAVING PAID AS DRIVEWAY OR STREET APPROACH.

### DRIVEWAY DETAIL

GRAVEL / FIELD ENTRANCE



NO	DATE	BY	CKD	APPR	REVISION	03/02/2017	7:49:24 AM
NAME: P:\17-01-00\CR_158_(CSAH7-CR58)\Base\PROPOSED\PROPOSED.dgn							

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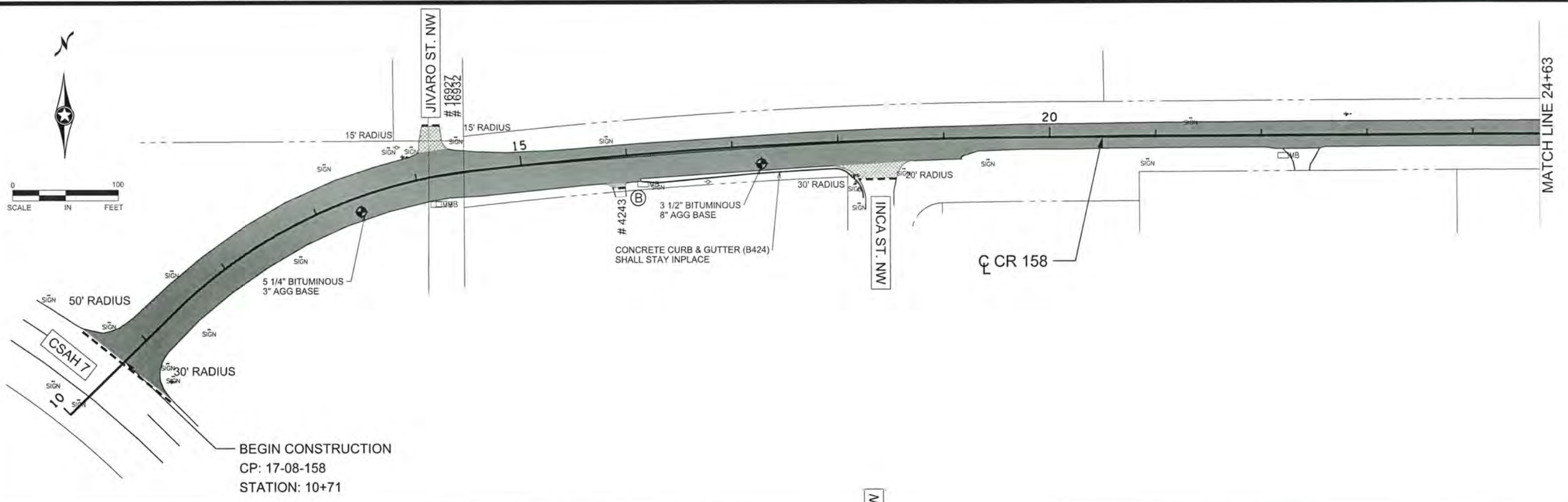


ANOKA COUNTY  
HIGHWAY DEPT.

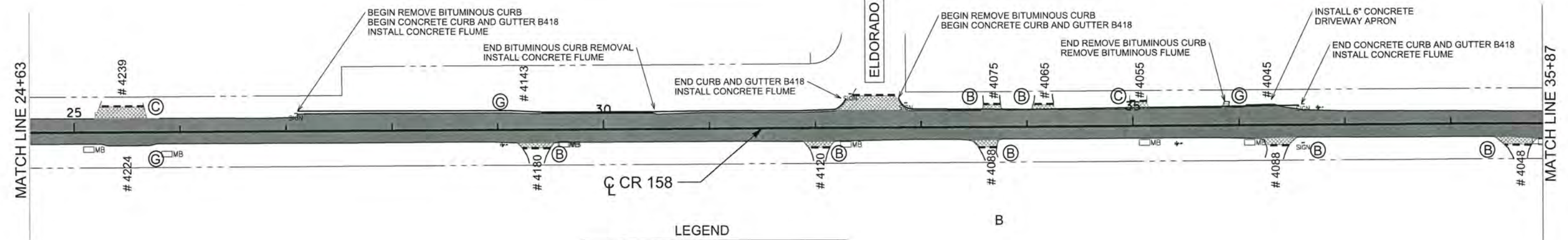
COUNTY PROJECT 17-24-158

DETAILS  
Sheet 5 of 10 Sheets

mjohn



BEGIN CONSTRUCTION  
CP: 17-08-158  
STATION: 10+71



- LEGEND**
- (B) BITUMINOUS
  - (C) CONCRETE
  - (G) GRAVEL
  - MAINLINE (RECLAIM)
  - REMOVE & REPLACE PAVEMENT
  - SAWCUT
  - CORE LOCATION

NO	DATE	BY	CKD	APPR	REVISION	03/13/2017	11:22:21 AM
NAME: P:\17-01-00\CR_158_(CSAH7-CR58)\Base\PROPOSED\PROPOSED.dgn							

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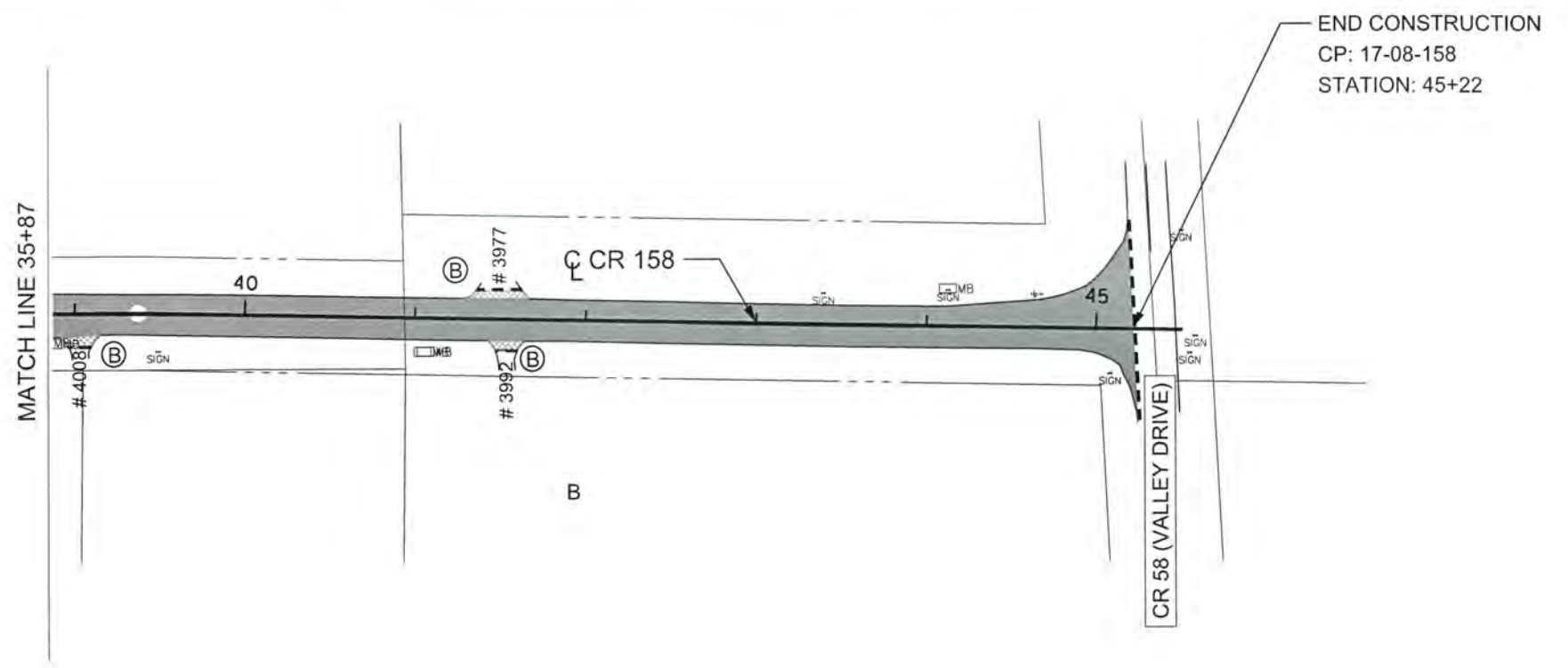
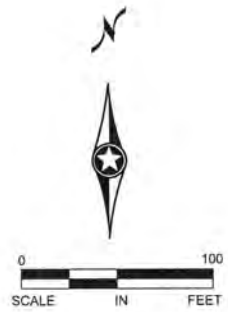
**ANOKA COUNTY HIGHWAY DEPT.**

COUNTY PROJECT 17-24-158

**CONSTRUCTION PLAN**  
STA 10+71 TO 35+87  
Sheet 6 of 10 Sheets

csosterh

- LEGEND
- (B) BITUMINOUS
  - (C) CONCRETE
  - (G) GRAVEL
  - MAINLINE (RECLAIM)
  - REMOVE & REPLACE PAVEMENT
  - SAWCUT
  - CORE LOCATION



NO	DATE	BY	CKD	APPR	REVISION		
	03/07/2017					7:59:13 AM	

NAME: P:\17-01-00\CR\_158\_(CSAH7-CR58)\Base\PROPOSED\PROPOSED.dgn

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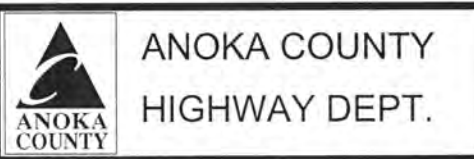
SIGNATURE: *Matthew J. John*

DATE: 3/13/2017 LICENSE NO. 51639

DRAWN BY: BFL DATE: 1/28/2017

DESIGN BY: BFL DATE: 1/26/2017

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COUNTY PROJECT 17-24-158

CONSTRUCTION PLAN  
STA 35+87 TO 45+22  
Sheet 7 of 10 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.

**EPOXY:**

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 EPOXY PAVEMENT MARKINGS.

THE EPOXY MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEANS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE EPOXY RESIN LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.

AN EPOLY RESIN LINE 4" WIDE AND 15 MILL THICKNESS (WET), REQUIRES AN APPLICATION RATE OF ONE (1) GALLON OF COMPONENTS FOR 320 FEET OF LINE. GLASS BEADS SHALL BE APPLIED AT A POUND PER GALLON RATE SUFFICIENT TO ACHIEVE AN ACCEPTABLE NO-TRACK SYSTEM.

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

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

**PREFORMED THERMOPLASTIC:**

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

**PAINT:**

AT THE TIME OF APPLYING THE MARKING MATERIAL, THE APPLICATION AREA SHALL BE FREE OF CONTAMINATION. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE PRIOR TO THE LINE APPLICAITON 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 FILM 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.

PERMANENT MARKING QUANTITIES		
ITEM	UNIT	TOTAL QUANTITY
4" SOLID LINE WHITE -EPOXY PAINT	LIN FT	3636
4" BROKEN LINE WHITE - EPOXY PAINT	LIN FT	0
4" SOLID LINE YELLOW - EPOXY PAINT	LIN FT	2750
4" BROKEN LINE YELLOW - EPOXY PAINT	LIN FT	590
4" DOUBLE SOLID LINE YELLOW - EPOXY PAINT	LIN FT	500

**SYMBOLS & MATERIALS LEGEND**

■ CROSSWALK BLOCK WHITE PREFORMED THERMOPLASTIC

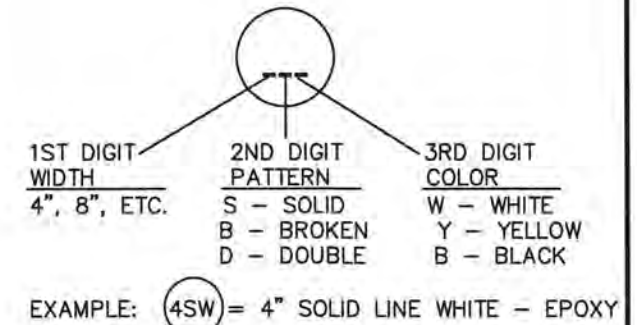
← PAVEMENT MESSAGE (LEFT ARROW) PREFORMED THERMOPLASTIC

**STRIPING KEY**

○ CIRCLE - EPOXY      □ SQUARE PREFORMED THERMOPLASTIC

△ TRIANGLE - PAINT

⬠ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



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CHECKED BY: JR DATE: 1/24/17



**ANOKA COUNTY  
HIGHWAY DEPT.**

STATE PROJECT NO. \_\_\_\_\_  
STATE AID PROJECT NO. \_\_\_\_\_  
STATE AID PROJECT NO. \_\_\_\_\_  
COUNTY PROJECT NO. 17-24-158

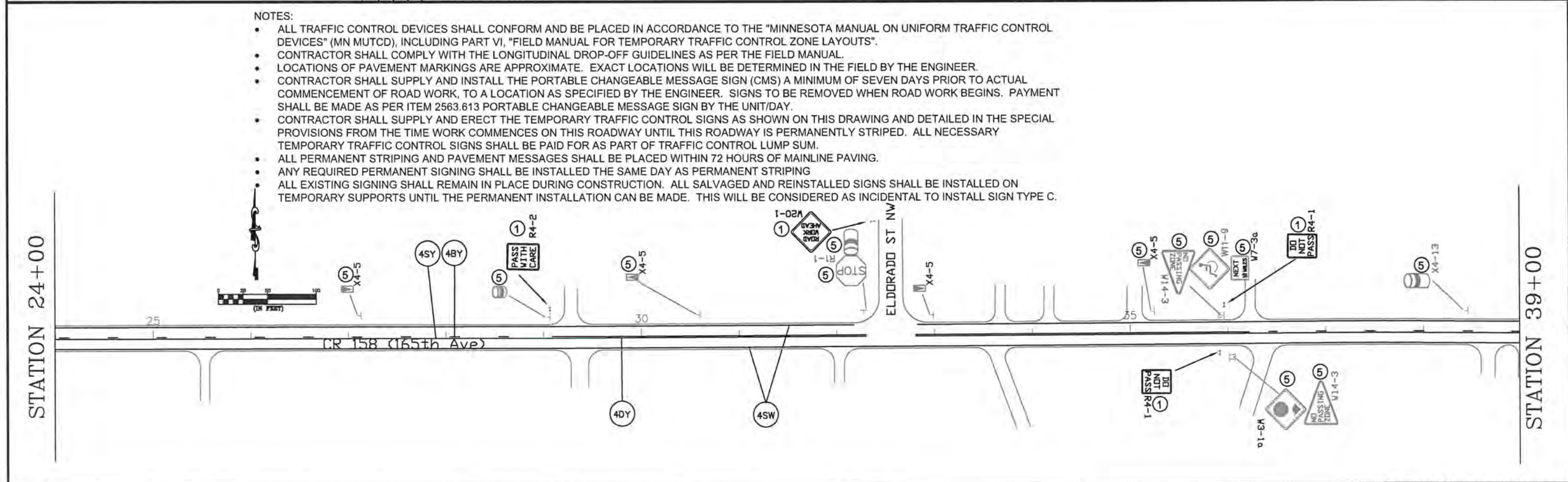
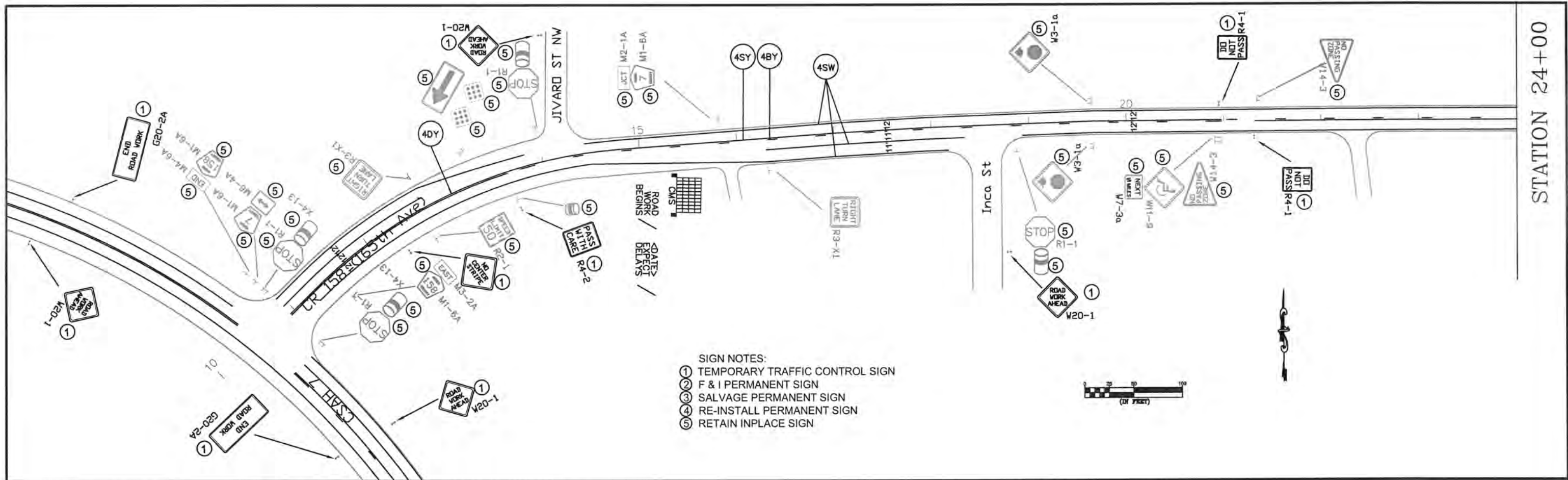
**PERMANENT MARKING  
TABULATION**

Sheet 8 of 10 Sheets

NO	DATE	BY	CKD	APPR	REVISION

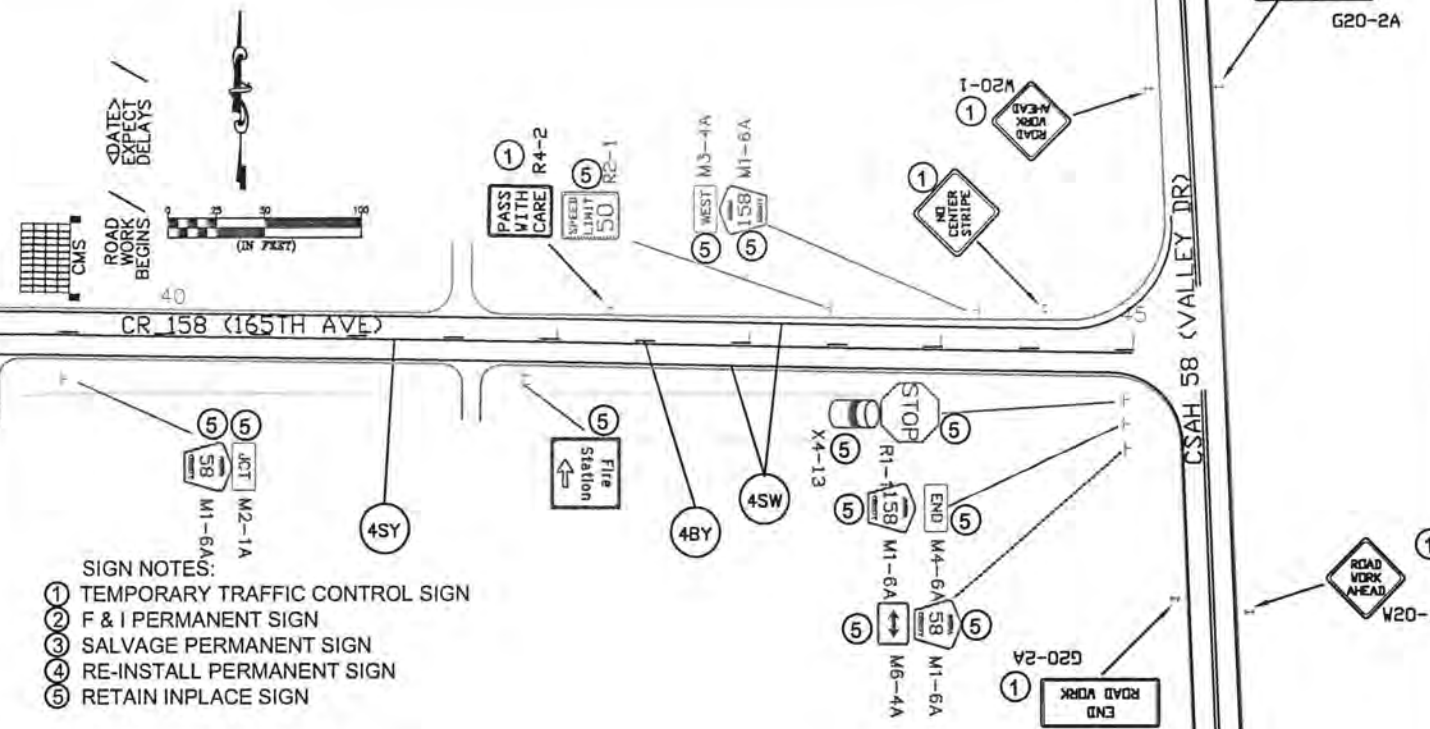
NAME: P:\13-01-00\CSAH 18\Bases\TRAFFIC\Perm pvmt mrkg guide notes guidelines.dwg





I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: MATTHEW J. JOHN SIGNATURE: <i>[Signature]</i> DATE: 3/13/2017 REG. NO. 51639					DRAWN BY: RLB DATE: 1/5/17 DESIGN BY: RLB DATE: 1/5/17 CHECKED BY: JR DATE: 1/5/17		<b>ANOKA COUNTY</b> <b>HIGHWAY DEPT.</b>		STATE PROJECT NO. _____ STATE AID PROJECT NO. _____ STATE AID PROJECT NO. _____ COUNTY PROJECT NO. 17-24-158		TEMPORARY SIGNING, PERMANENT SIGNING AND STRIPING Sheet 9 of 10 Sheets	
NO	DATE	BY	CKD	APPR	REVISION							
NAME: P:\02-617-19\base\Traffic\Curves from CSAH 18 to CSAH 22.dwg												

STATION 39+00



- SIGN NOTES:
- ① TEMPORARY TRAFFIC CONTROL SIGN
  - ② F & I PERMANENT SIGN
  - ③ SALVAGE PERMANENT SIGN
  - ④ RE-INSTALL PERMANENT SIGN
  - ⑤ RETAIN INPLACE SIGN

- NOTES:
- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
  - CONTRACTOR SHALL COMPLY WITH THE LONGITUDINAL DROP-OFF GUIDELINES AS PER THE FIELD MANUAL.
  - 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 OF SEVEN 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.
  - 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. ALL 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.

M.U.T.C.D. CODE	SIZE	PANEL AREA FT. <sup>2</sup>	INSERT	QUANTITY		MOUNTING HEIGHT TO FASTENING POINT FT.
				No.	POST	
W8-12	48" x 48"	16.00		2	2	7.0'
R4-1	24" x 30"	5.00		4	1	7.0'
R4-2	24" x 30"	5.00		3	1	7.0'
G20-2A	48" x 24"	8.00		4	2	7.0'
W8-1A	48" x 48"	16.00		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		
	48" x 48"	16.00		AS NEEDED		
W8-11	48" x 48"	16.00		AS NEEDED		
W20-1	48" x 48"	16.00		AS NEEDED (ESTIMATED 7)		
CMS sign to be installed a minimum of seven days prior to actual commencement of road work. Signs to be removed when road work begins.					2	

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

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

NO. \_\_\_\_\_ DATE \_\_\_\_\_ BY \_\_\_\_\_ CKD \_\_\_\_\_ APPR \_\_\_\_\_ REVISION \_\_\_\_\_

NAME: P:\02-617-19\base\Traffic\Curves from CSAH 18 to CSAH 22.dwg

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PRINT NAME: MATTHEW J. JOHN  
SIGNATURE:   
DATE: 3/13/2017 REG. NO. 51639

DRAWN BY: RLB DATE: 1/5/17  
DESIGN BY: RLB DATE: 1/5/17  
CHECKED BY: JFR DATE: 1/5/17

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. \_\_\_\_\_  
STATE AID PROJECT NO. \_\_\_\_\_  
STATE AID PROJECT NO. \_\_\_\_\_  
COUNTY PROJECT NO. 17-24-158

TEMPORARY SIGNING, PERMANENT SIGNING AND STRIPING

Sheet 10 of 10 Sheets