

MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY

CONSTRUCTION PLAN FOR _____ MILL BITUMINOUS, BITUMINOUS SURFACING, CURB & GUTTER, AND SEWER REPAIRS _____

LOCATED ON CSAH 2 BETWEEN RESERVOIR BLVD. AND STINSON BLVD.

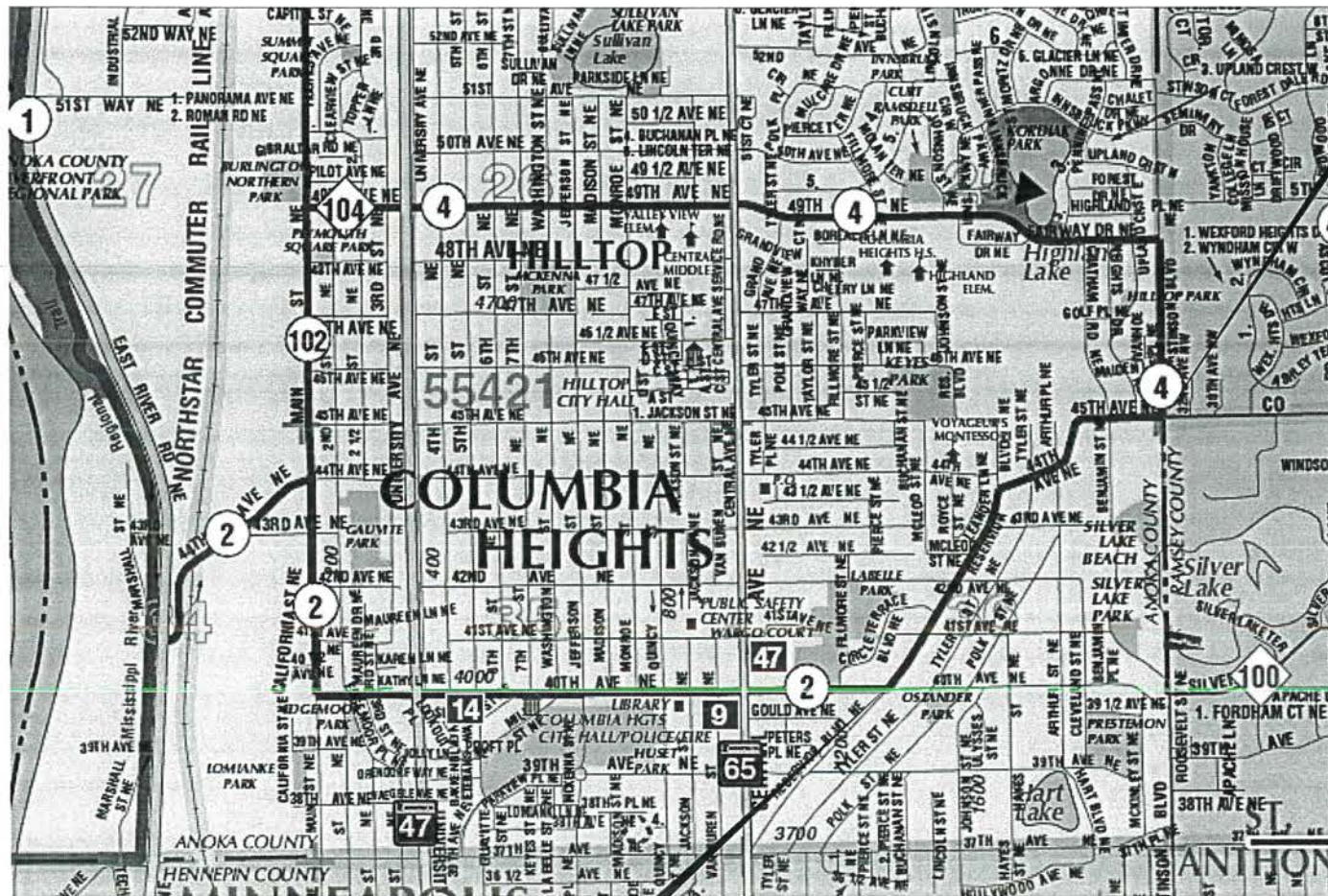
GOVERNING SPECIFICATIONS

THE 2014 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AND THE 2014 EDITION OF THE "MATERIALS LAB SUPPLEMENTAL SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MNMUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS."

THIS PLAN CONTAINS 13 SHEETS

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3	TABULATIONS
4	TYPICAL SECTIONS
5	DETAILS
6-8	CONSTRUCTION PLAN
9	PERMANENT MARKING TABULATION
10-12	TEMPORARY SIGNING, PERMANENT SIGNING, AND STRIPING
13	TRAFFIC CONTROL QUANTITY



END CP 15-11-02
CSAH 2, STA: 81+50

BEGIN CP 15-11-02
CSAH 2, STA: 28+90

PROJECT LOCATION



CITY OF COLUMBIA HEIGHTS
ANOKA COUNTY
MN/DOT TRANSPORTATION DISTRICT - METRO
SECTION 35
TOWNSHIP 30 NORTH
RANGE 24 WEST

Approved: 4/2/15
ANOKA COUNTY ENGINEER

CSAH 2			
GROSS LENGTH	5260 FEET	0.996 MILES	
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES	
NET LENGTH	5260 FEET	0.996 MILES	
DESIGN SPEED	30 MPH		
CURRENT ADT	3088		

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: _____
DATE: _____ LICENSE NO. 51639

DRAWN BY KPR DATE 02/02/2015
DESIGN BY KPR DATE 02/02/2015
CHECKED BY MJJ DATE 02/11/2015



ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 15-11-02

TITLE SHEET

Sheet 1 of 13 Sheets

STATEMENT OF ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	NOTES	UNIT	TOTAL PROJECT QUANTITIES ESTIMATED
2021.501	MOBILIZATION		LUMP SUM	1
2104.501	REMOVE CURB & GUTTER	1	LIN FT	126
2104.503	REMOVE CONCRETE WALK	1	SQ FT	235
2104.505	REMOVE BITUMINOUS PAVEMENT	1	SQ YD	85
2104.509	REMOVE CASTING	1	EACH	18
2104.509	REMOVE DRAINAGE STRUCTURE	1	EACH	1
2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	1	LIN FT	55
2104.501	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	1	LIN FT	440
2211.501	AGGREGATE BASE CLASS 5		TON	15
2232.501	MILL BITUMINOUS SURFACE (2.0")	2	SQ YD	24828
2232.604	MILL BITUMINOUS PAVEMENT (SPECIAL)	3	SQ YD	1620
2357.502	BITUMINOUS MATERIAL FOR TACK COAT		GALLON	1322
2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE (3,B)	4	TON	186
2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE (4,E)		TON	3139
2360.505	TYPE SP 12.5 BIT MIXTURE FOR PATCHING	5	TON	21
2504.602	ADJUST GATE VALVE	6	EACH	10
2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	7	LIN FT	5.2
2506.516	CASTING ASSEMBLY	8	EACH	18
2506.602	GROUT CATCH BASIN OR MANHOLE	9	EACH	3
2521.501	6" CONCRETE WALK		SQ FT	284
2531.501	CONCRETE CURB AND GUTTER DESIGN B618		LIN FT	126
2531.501	CONCRETE CURB AND GUTTER DESIGN B624		LIN FT	28
2531.618	TRUNCATED DOMES		SQ FT	28
2563.601	TRAFFIC CONTROL	10	LUMP SUM	1
2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	11	UNIT DAY	14
2573.530	STORM DRAIN INLET PROTECTION	12	EACH	6
2575.523	EROSION CONTROL BLANKETS CATEGORY 0	13, 14	SQ YD	62
2581.501	REMOVABLE PREFORMED PAVEMENT MARKING TAPE	15	LN FT	421
2582.502	4" SOLID LINE WHITE-EPOXY	16	LN FT	10560
2582.502	4" SOLID LINE YELLOW-EPOXY	16	LN FT	1880
2582.502	4" DOUBLE SOLID LINE YELLOW-EPOXY	16	LN FT	730
2582.502	4" BROKEN LINE YELLOW-EPOXY	16	LN FT	1350

CONSTRUCTION NOTES

1	REFERENCE DETAILS (PAGE 5) FOR REMOVAL DETAILS
2	DETAIL MILLING AROUND MANHOLES, CATCH BASINS, GATE VALVES, AND ALONG CURB LINE IS INCIDENTAL TO THIS ITEM.
3	TO BE USED FOR MILLING STREET APPROACHES AND/OR DETAIL MILLING AREAS AS IDENTIFIED IN THE PLAN. DETAIL MILLING AROUND MANHOLES, CATCH BASINS, GATE VALVES, AND ALONG CURB LINE IS INCIDENTAL TO THIS ITEM.
4	STREET APPROACHES ARE TO BE PAVED AFTER MAINLINE PAVING BUT BEFORE FINAL STRIPING.
5	ITEM INCLUDES BITUMINOUS PATCHING AROUND NEW CURB, STORM STRUCTURE REPAIRS, AND ANY POTHOLES.
6	GATE VALVES TO BE ADJUSTED ONLY AS NECESSARY AS DETERMINED BY THE ENGINEER.
7	PAY HEIGHT IS MEASURED FROM INVERT OF OUTLET PIPE TO TOP OF PRECAST CONCRETE STRUCTURE PLUS AN ALLOWANCE OF 0.70 FEET FOR THE DEPTH OF THE CONCRETE BASE, REGARDLESS OF ITS ACTUAL THICKNESS. CONCRETE ADJUSTMENT RINGS ARE INCIDENTAL. CONNECTIONS TO EXISTING STORM SEWER ARE INCIDENTAL.
8	ITEM INCLUDES FULL REPLACEMENT OF CASTING ADJUSTMENT RINGS. SEE STORM TABULATIONS FOR RING HEIGHTS.
9	ITEM INCLUDES GROUTING OF INVERTS, DOGHOUSES, RINGS, AND CASTINGS AS REQUIRED (SEE DRAINAGE TAB, PAGE 3).
10	DO NOT PASS, PASS WITH CARE AND NO CENTER STRIPE SIGNS TO BE INPLACE DURING MILLING, RECLAIMING OR PAVING OPERATIONS.
11	2 MESSAGE BOARDS, ONE ON EACH END OF PROJECT WILL BE INSTALLED 7 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS.
12	ALL DRAINAGE STRUCTURES AFFECTED BY THIS PROJECT MUST HAVE INLET PROTECTION.
13	4" OF TOPSOIL IS INCIDENTAL TO ALL TURF ESTABLISHMENT.
14	TYPE 1 FERTILIZER AND TYPE 25-121 SEED ARE INCIDENTAL TO THIS ITEM. 4" OF TOPSOIL IS INCIDENTAL TO ALL TURF ESTABLISHMENT.
15	CENTERLINE AND LANE DESIGNATION SKIPS TO BE APPLIED AS SOON AS POSSIBLE ON EACH NEW LIFT OF PAVEMENT; SKIPS MUST BE INPLACE BEFORE THE CONTRACTOR LEAVES FOR THE DAY. CONTRACTOR IS TO REMOVE PRIOR TO FINAL PAINT STRIPING.
16	FINAL STRIPING SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING.

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
4006L	MANHOLE OR CATCH BASIN
4020J	MANHOLE OR CATCH BASIN
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4035N	CONCRETE WALK
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
4110F	COVER CASTING FOR MANHOLE
7038A	DETECTABLE WARNING SURFACE
7100H	CONCRETE CURB AND GUTTER

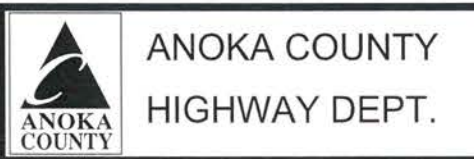
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NAME: P:\15-01-00\CSAH_02\TH65-45thReservoir\Bases\PROPOSED\TEMPLATE_PLAN.dgn

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COUNTY PROJECT 15-11-02

STATEMENT OF ESTIMATED QUANTITIES
 Sheet 2 of 13 Sheets

mjohn

STORM DRAINAGE TAB															
NUMBER	TYPE	ACTION	NEW CASTING	FURNISH AND INSTALL CASTING ASSEMBLY	RING HIEGHT	REMOVE DRAINAGE STRUCTURE	GROUT CATCH BASIN OR MANHOLE	CONSTRUCT DRAINAGE STRUCTURE 48-4020	SAWING CONCRETE PAVEMENT (FULL DEPTH)	REMOVE CURB & GUTTER	CONCRETE CURB & GUTTER DESIGN B618	SAWING PAVEMENT (FULL DEPTH)	REMOVE BITUMINOUS PAVEMENT	TYPE SP 12.5 BIT MIXTURE FOR PATCHING	NOTES
					LIN FT	EACH	EACH	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	SQ YD	TON	
228	W/MH	OK													
229	MH/SAN	OK													
230	CB	OK													
231	CB	OK													
232	W/MH	OK													
234	MH/SAN	OK													
235	CB	GROUT RINGS, STRUCTURE					1								
236	CB	GROUT RINGS, STRUCTURE					1								
237	MH	CONSTRUCT	A-7D	1		1		5.2	*	*	*	*	*	*	Removals part OF CB 238
238	CB	RE-RING	R-3067	1	1.6				5	24	24	44	17	3	
239	CB	OK													
240	CB	RE-RING	R-3067	1	0.3				5	14	14	18	3	1	
241	CB	RE-RING	R-3067	1	0.8				5	14	14	18	4	1	
242	MH/SAN	RE-RING	A-7D	1	1.4							24	4	1	
243	MH	RE-RING	A-7D	1	0.2							24	4	1	
244	MH/SAN	RE-RING/GROUT STRUCTURE	A-7D	1	1.2		1					24	4	1	
245	CB	RE-RING	R-3250-1	1	0.6				5	12	12	16	3	1	
246	CB	RE-RING	R-3250-1	1	1.1				5	12	12	16	3	1	
247	MH	OK													
248	CB	RE-RING	R-3250-1	1	1.2				5	12	12	16	3	1	
249	MH/SAN	RE-RING	A-7D	1	2.3							24	4	1	
250	MH	RE-RING	A-7D	1	0.9							24	4	1	
251	CB	OK													
252	MH	OK													
253	CB	OK													
254	MH/SAN	OK													
255	MH	RE-RING	A-7D	1	0.6							24	4	1	
256	MH/SAN	RE-RING	A-7D	1	0.5							24	4	1	
257	MH/SAN	RE-RING	A-7D	1	1.1							24	4	1	
259	MH/SAN	OK													
259A	MH/SAN	RE-RING	A-7D	1	0.8							24	4	1	
259B	MH/SAN	OK													
260	CB	OK													
261	CB	OK													
262	MH/SAN	RE-RING	A-7D	1	0.7							24	4	1	
263	MH	OK													
265	MH	OK													
266	MH/SAN	RE-RING	A-7D	1	1.1							24	4	1	
267	MH	OK													
TOTALS				18		1	3	5.2	30	88	88	392	76	19	

CASTING ASSEMBLIES SUMMARY						
ASSEMBLY	RING OR FRAME CASTING	COVER OR GRATE CASTING	CURB BOX	QUANTITY	DESCRIPTION	NOTES
A-7D	700-7	716		4	STD. PLATE: 4101D, 4110F	CASTING COVER STAMPED "STORM SEWER"
A-7D	700-7	716		8	STD. PLATE: 4101D, 4110F	CASTING COVER STAMPED "STORM SEWER" NEENAH R-1733 LID 5044
NEENAH*	R-3250-1		YES	3		
NEENAH*	R-3067	L		3		
*OR APPROVED EQUAL						
ALL CASTING HEIGHTS ARE TO BE VERIFIED IN THE FIELD.						
ALL MANHOLE COVERS SHALL BE STAMPED AS STORM SEWER OR SANITARY SEWER.						

NO	DATE	BY	CKD	APPR	REVISION	03/20/2015	9:23:50 AM
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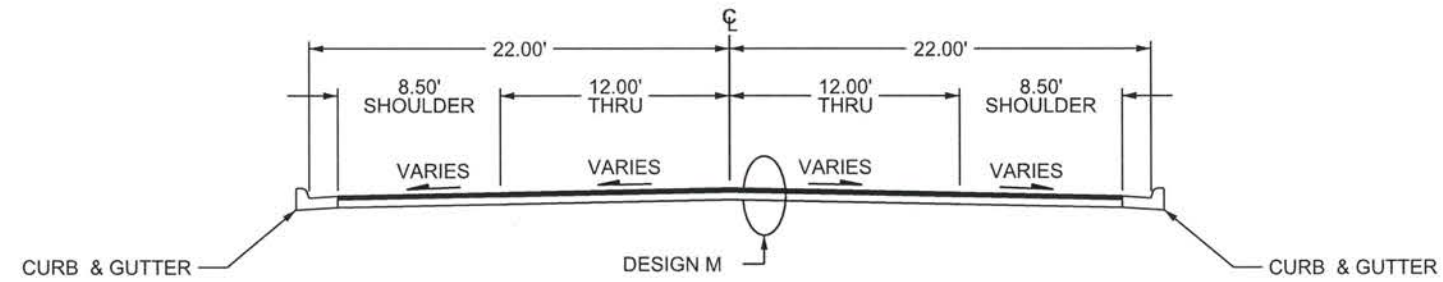
COUNTY PROJECT 15-11-02

TABULATIONS
 Sheet 3 of 13 Sheets

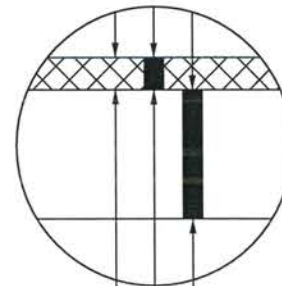
mjohn

RESERVIOR BLVD. CSAH 2 TYPICAL MAINLINE

28+90 - 81+50



DESIGN M MILL SECTION



2.0" MILL BITUMINOUS
 2.0" BITUMINOUS WEAR (SPWEB440E)
 REMAINING BITUMINOUS


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**ANOKA COUNTY
HIGHWAY DEPT.**

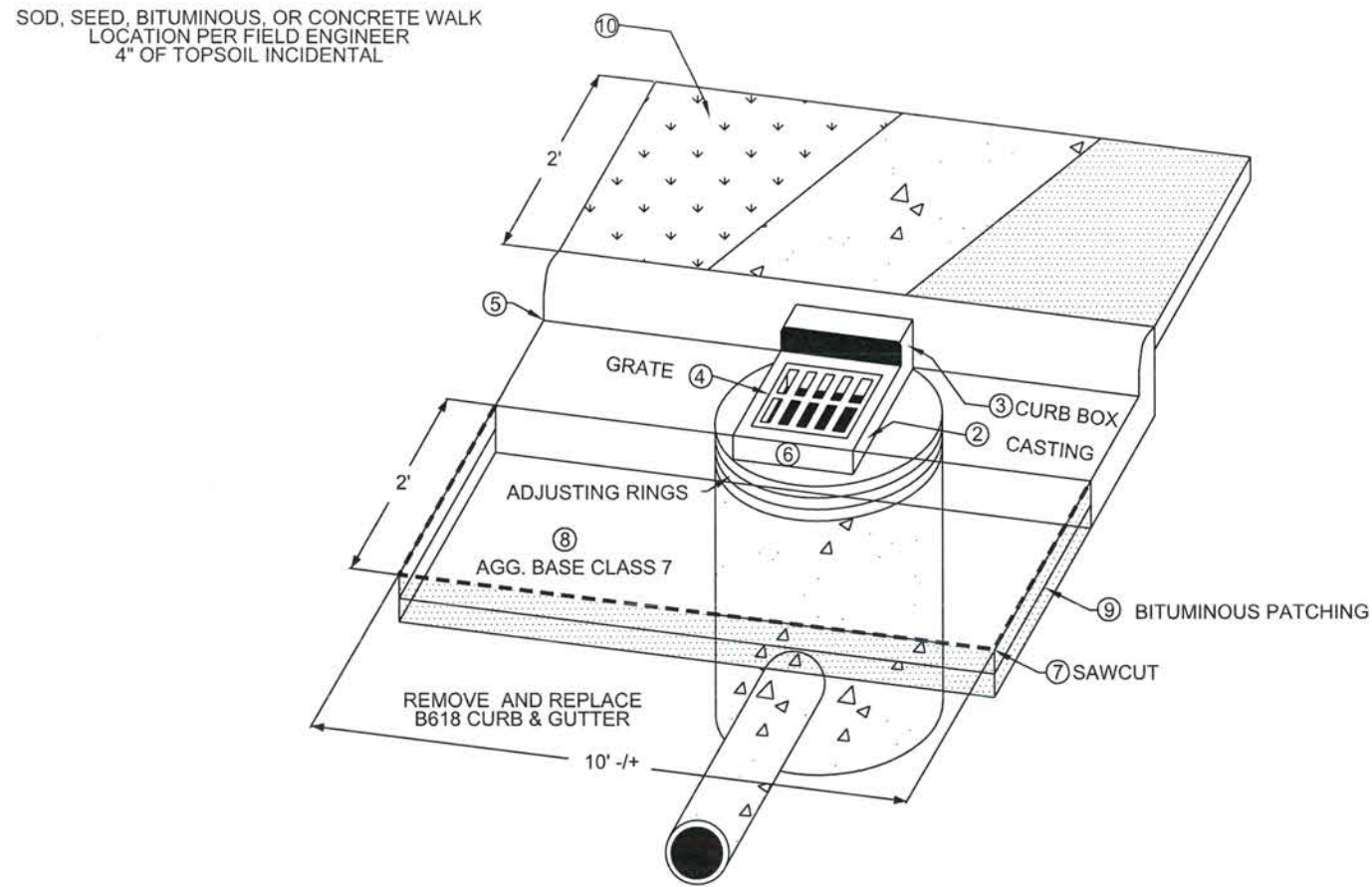
COUNTY PROJECT 15-11-02

TYPICAL SECTIONS
 Sheet 4 of 13 Sheets

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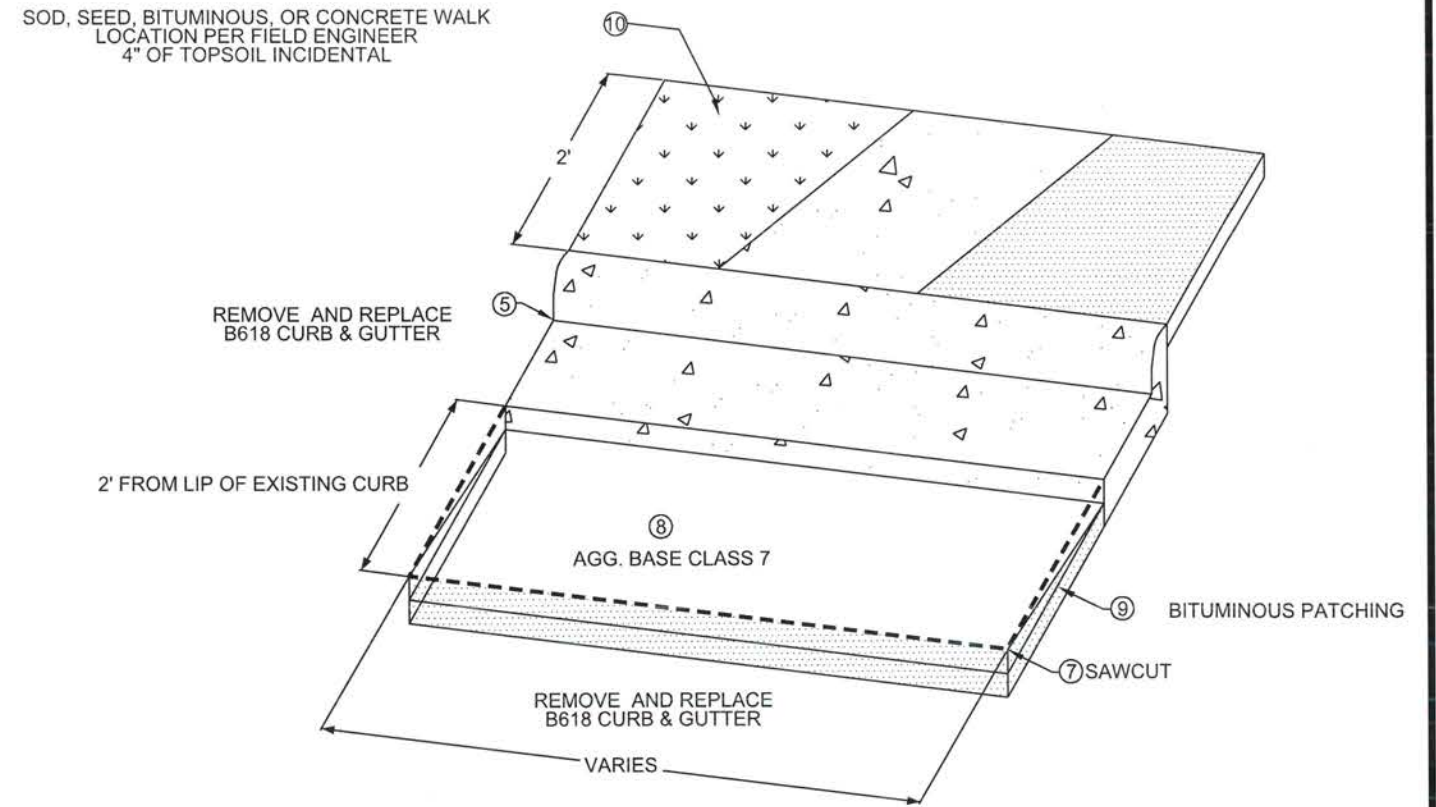
CATCH BASIN DETAIL

SEE STRUCTURE TAB FOR LOCATION
(PAGE 3)



NEW CURB DETAIL

SEE PLAN FOR LOCATION



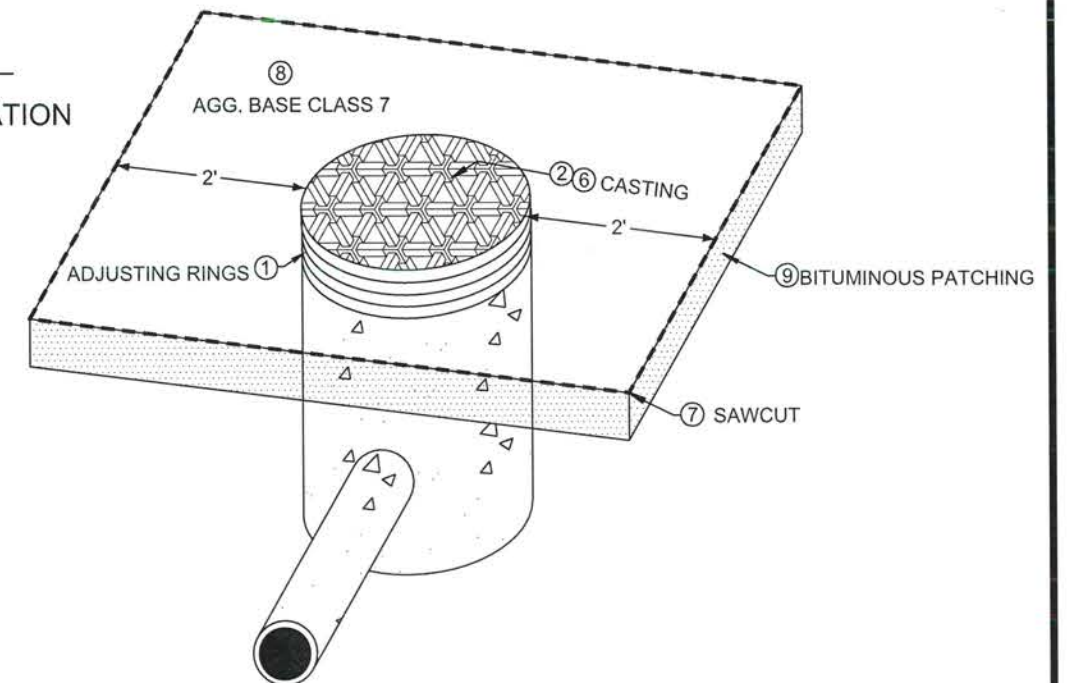
NOTES

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

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

MANHOLE DETAIL

SEE STRUCTURE TAB FOR LOCATION
(PAGE 3)



NO	DATE	BY	CKD	APPR	REVISION	
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NAME: P:\15-01-00\CSAH_02(TH65-45thReservoir)\Base\PROPOSED\TEMPLATE_PLAN.dgn

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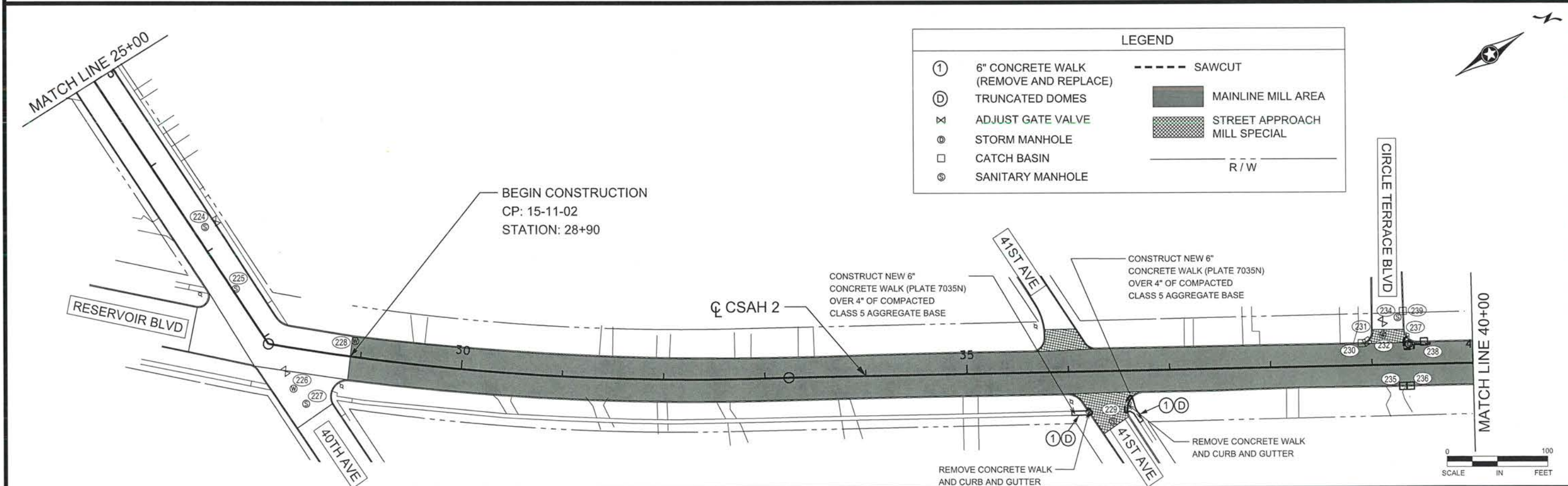
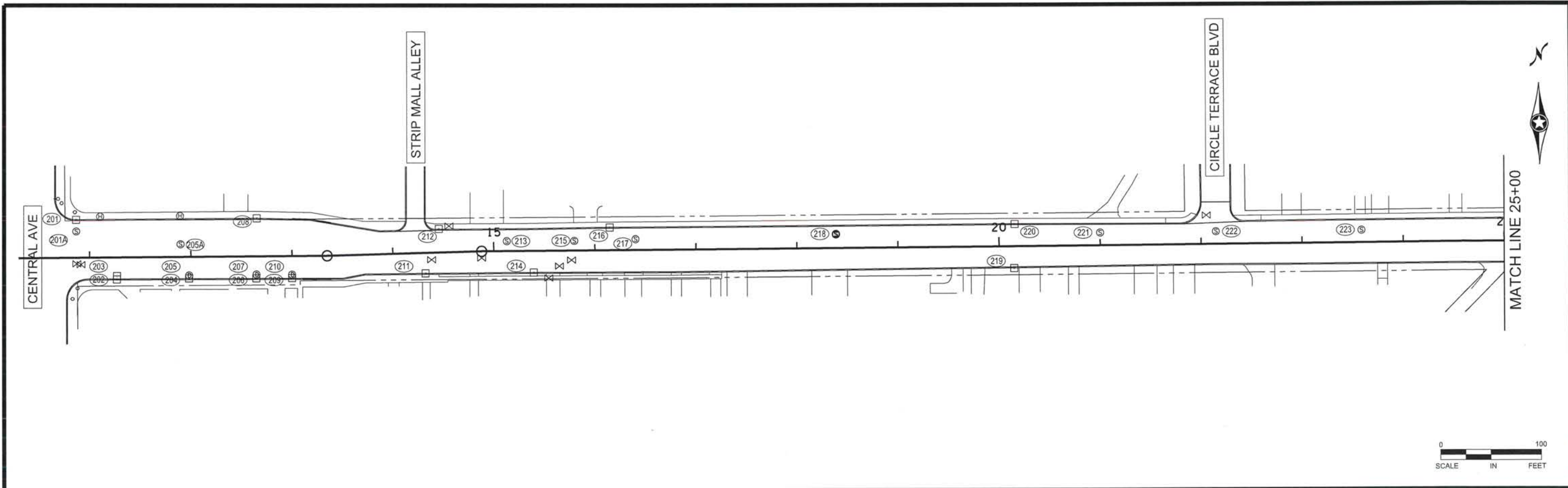


ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 15-11-02

DETAILS
Sheet 5 of 13 Sheets

m.john



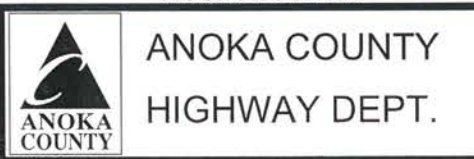
LEGEND	
①	6" CONCRETE WALK (REMOVE AND REPLACE)
⊙	TRUNCATED DOMES
⊗	ADJUST GATE VALVE
⊕	STORM MANHOLE
□	CATCH BASIN
⊙	SANITARY MANHOLE
---	SAWCUT
■	MAINLINE MILL AREA
▨	STREET APPROACH MILL SPECIAL
---	R/W

NO	DATE	BY	CKD	APPR	REVISION	DATE	TIME

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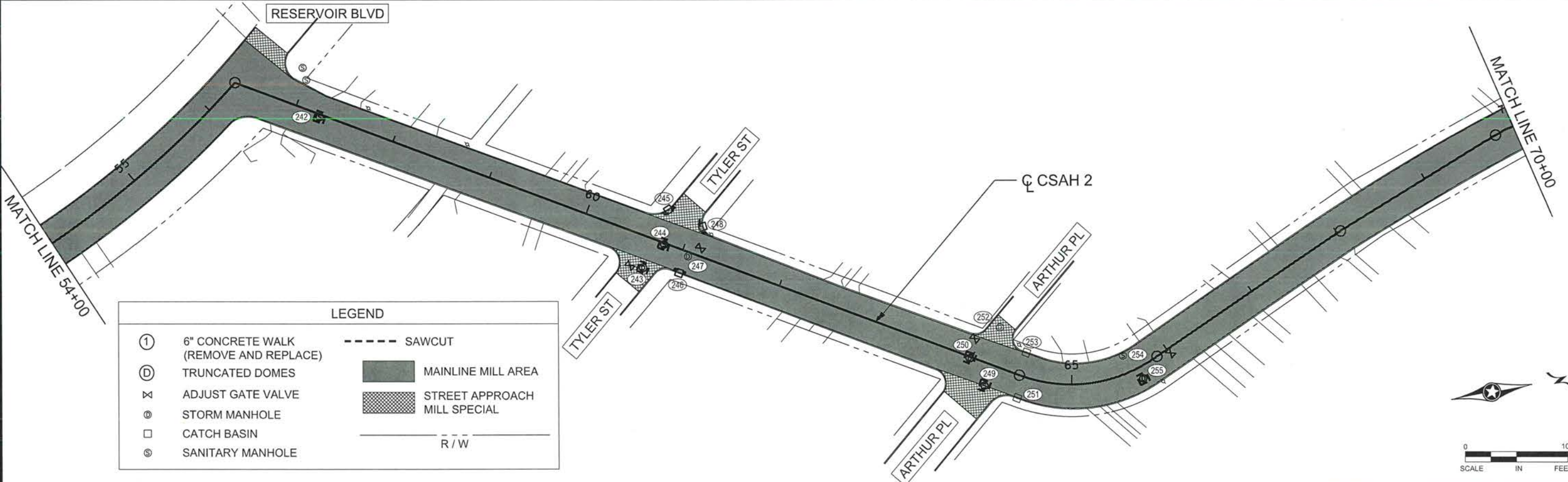
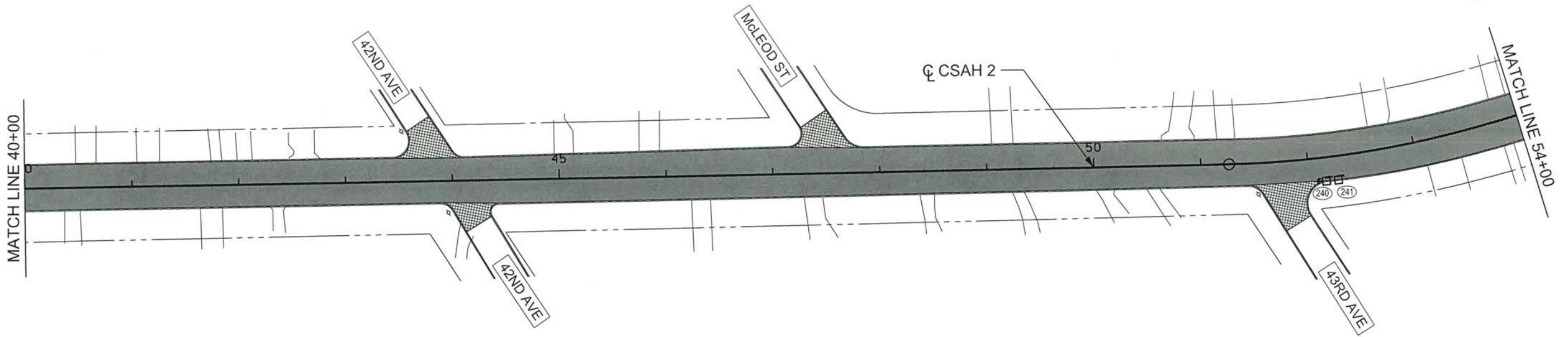


COUNTY PROJECT 15-11-02

CONSTRUCTION PLAN
 STA 28+90 TO 40+00
 Sheet 6 of 13 Sheets

NAME: P:\15-01-00\CSAH_02\TH65-45thReservoir\Base\PROPOSED\TEMPLATE_PLAN.dgn

mjohn



LEGEND	
①	6" CONCRETE WALK (REMOVE AND REPLACE)
Ⓚ	TRUNCATED DOMES
⊗	ADJUST GATE VALVE
⊙	STORM MANHOLE
□	CATCH BASIN
⊙	SANITARY MANHOLE
---	SAWCUT
█	MAINLINE MILL AREA
▨	STREET APPROACH MILL SPECIAL
---	R / W



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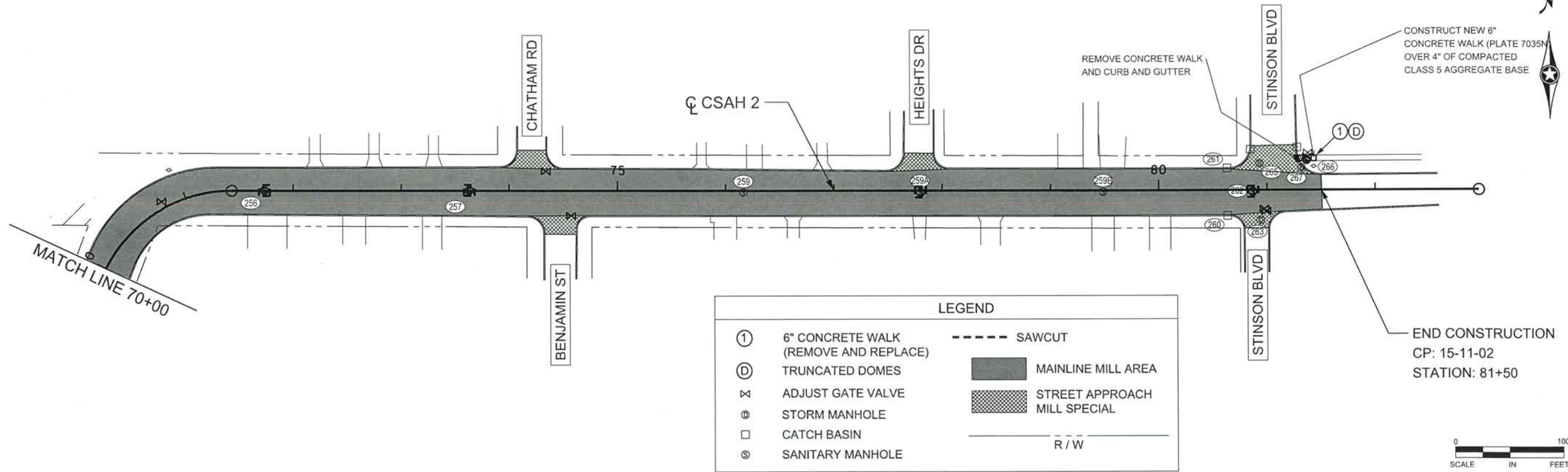
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ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 15-11-02

CONSTRUCTION PLAN
 STA 40+00 TO 70+00
 Sheet 7 of 13 Sheets

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ANOKA COUNTY
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COUNTY PROJECT 15-11-02

CONSTRUCTION PLAN
STA 70+00 TO 81+50
Sheet 8 of 13 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	10560
4" SOLID LINE YELLOW - EPOXY PAINT	LIN FT	1880
4" BROKEN LINE YELLOW - EPOXY PAINT	LIN FT	730
4" DOUBLE SOLID LINE YELLOW - EPOXY PAINT	LIN FT	1350

SYMBOLS & MATERIALS LEGEND

■ CROSSWALK BLOCK WHITE PREFORMED THERMOPLASTIC

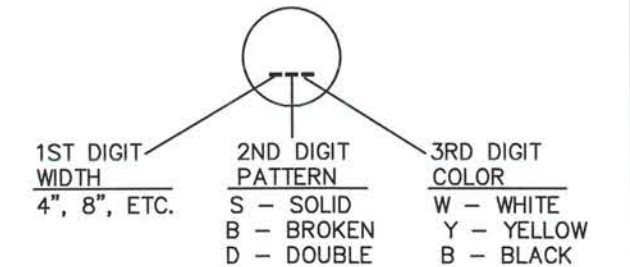
↩ PAVEMENT MESSAGE (LEFT ARROW) PREFORMED THERMOPLASTIC

STRIPING KEY

○ CIRCLE - EPOXY □ SQUARE PREFORMED THERMOPLASTIC

△ TRIANGLE - PAINT

⬠ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



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

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 PRINT NAME: MATTHEW J. JOHN
 SIGNATURE: *Matthew J. John*
 DATE: 4/2/15 LICENSE NO. 51639

DRAWN BY: RLB DATE: 2/14/14
 DESIGN BY: RLB DATE: 2/14/14
 CHECKED BY: JR DATE: 2/14/14



ANOKA COUNTY
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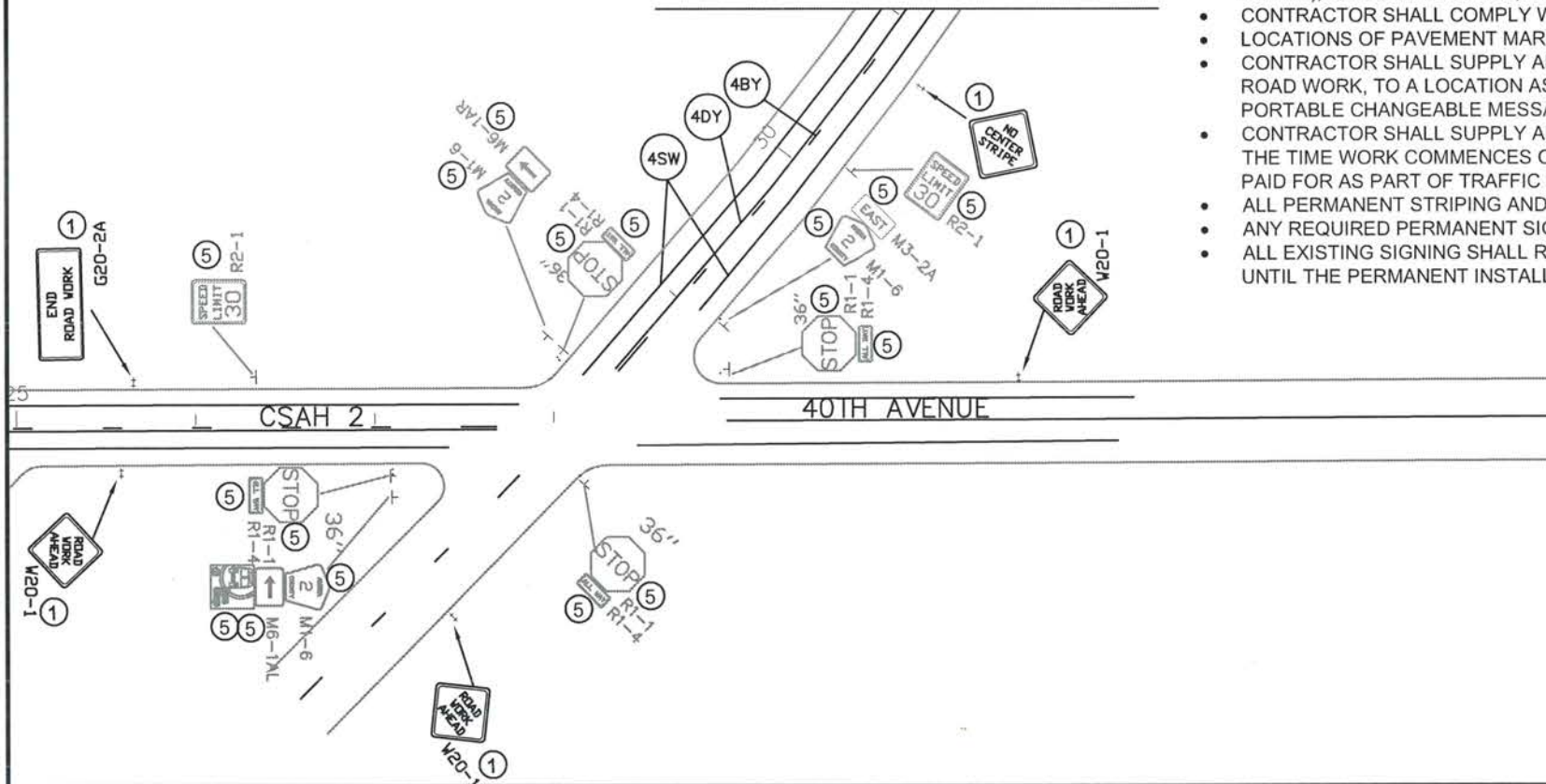
STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 15-11-02

PERMANENT MARKING TABULATION
 Sheet 9 of 13 Sheets

STATION 31+00

NOTES:

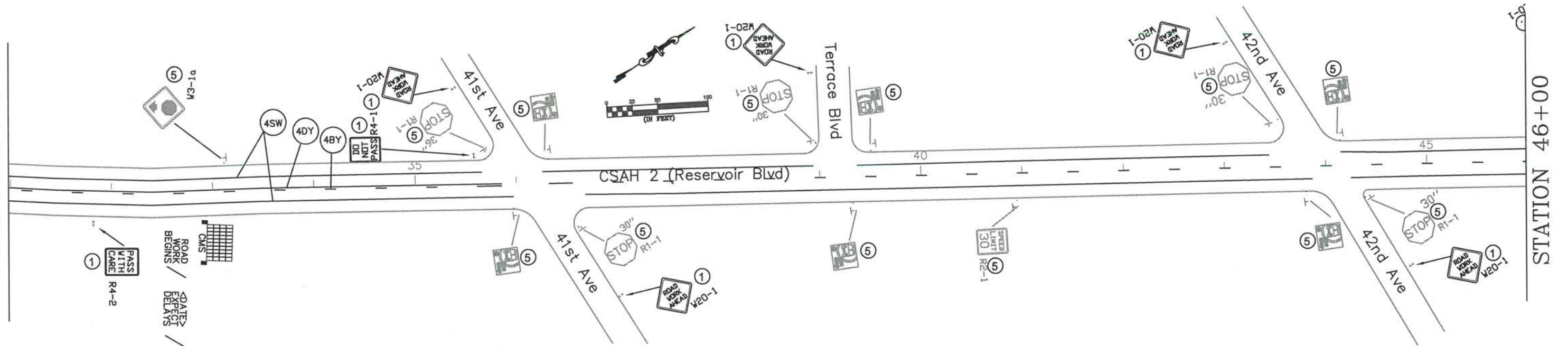
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SIGN NOTES:

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

STATION 31+00



STATION 46+00

NO	DATE	BY	CKD	APPR	REVISION

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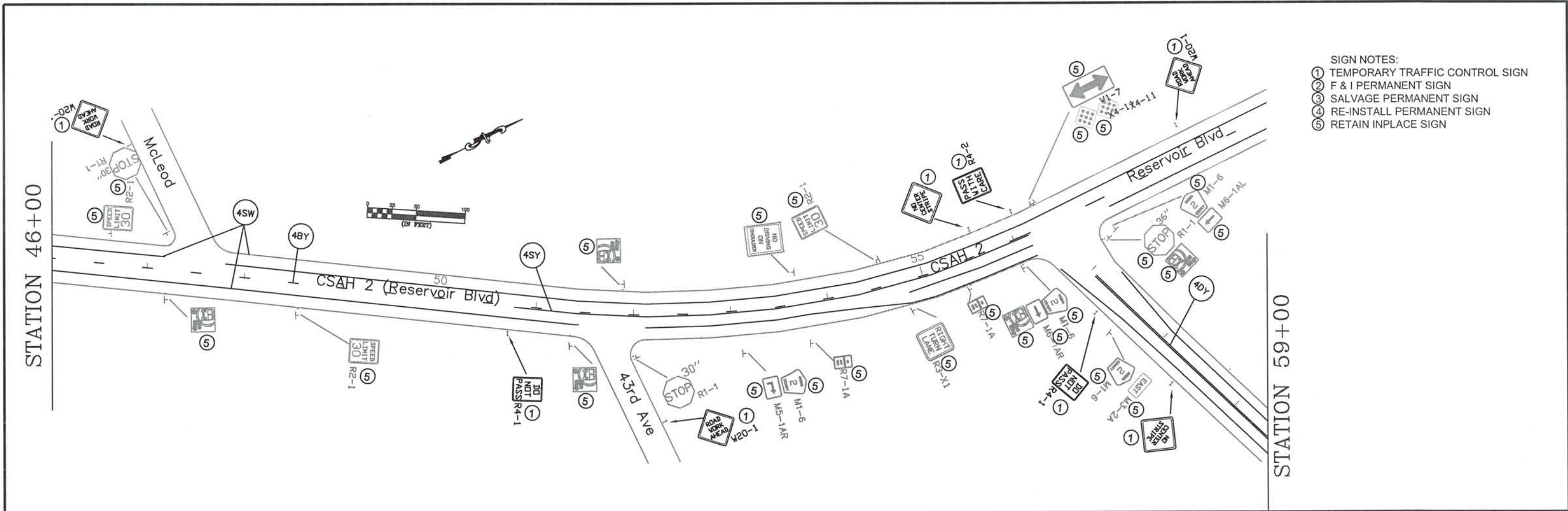
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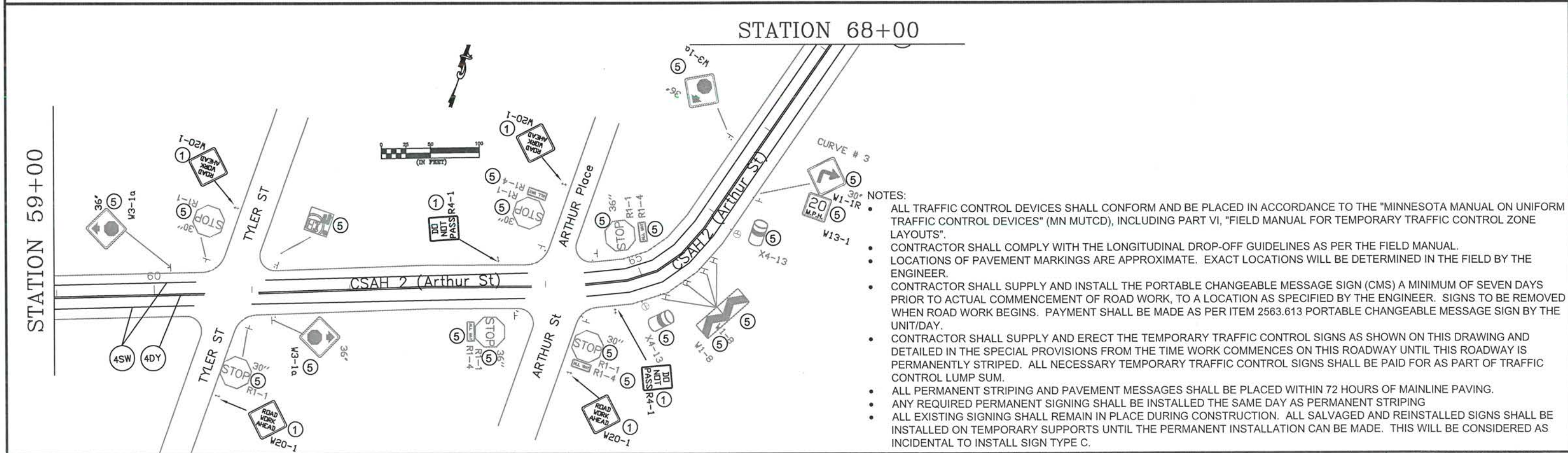
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TEMPORARY SIGNING,
 PERMANENT SIGNING
 AND STRIPING
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- SIGN NOTES:
- ① TEMPORARY TRAFFIC CONTROL SIGN
 - ② F & I PERMANENT SIGN
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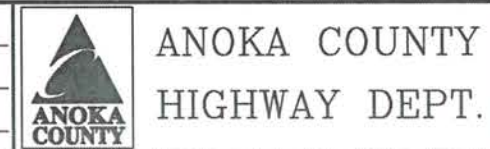
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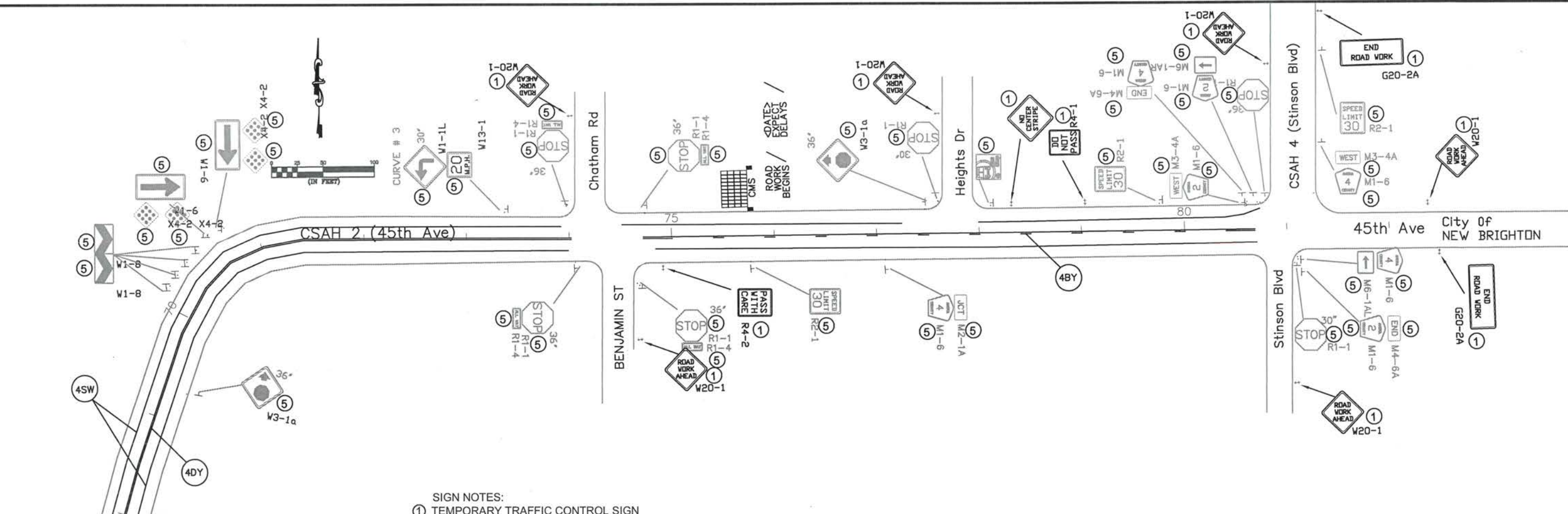
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TEMPORARY SIGNING, PERMANENT SIGNING AND STRIPING

Sheet 11 of 13 Sheets



STATION 68+00

- SIGN NOTES:
- ① TEMPORARY TRAFFIC CONTROL SIGN
 - ② F & I PERMANENT SIGN
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TEMPORARY SIGNING,
PERMANENT SIGNING
AND STRIPING

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TEMPORARY TRAFFIC CONTROL SIGNS

M.U.T.C.D. CODE	SIZE	PANEL AREA FT. ²	INSERT	QUANTITY		MOUNTING HEIGHT (TO PAVEMENT EDGE) FT.
					No. POST	
W8-12	48" x 48"	16.00		4	2	7.0'
R4-1	24" x 30"	5.00		5	1	7.0'
R4-2	24" x 30"	5.00		3	1	7.0'
G20-2A	48" x 24"	8.00		3	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 21)		
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		

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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	

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TRAFFIC CONTROL
 QUANTITY
 Sheet 13 of 13 Sheets