

# MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY

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

LOCATED ON CSAH 8 BETWEEN EAST RIVER RD AND TH 47

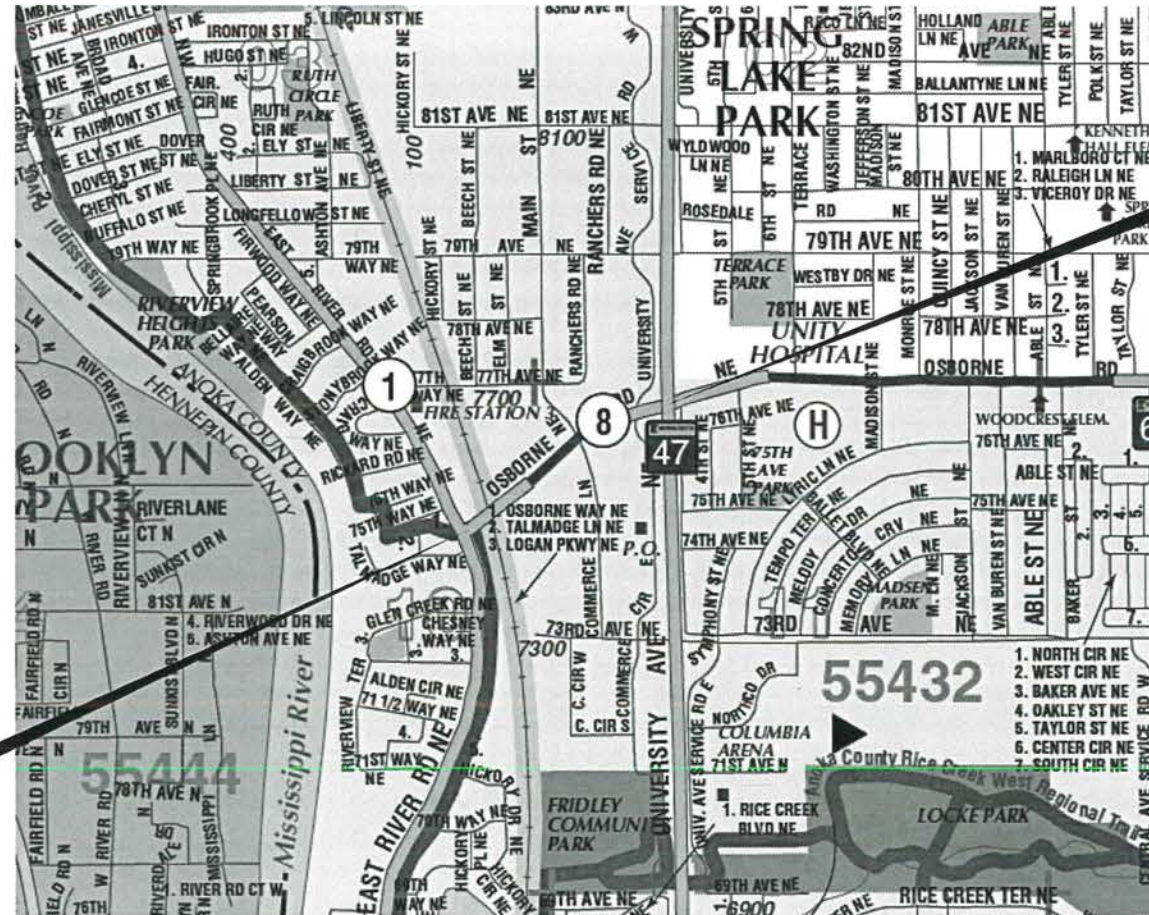
### GOVERNING SPECIFICATIONS

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 20 SHEETS

### INDEX

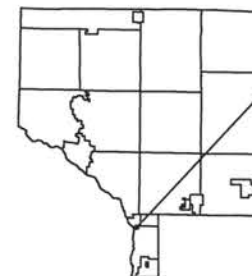
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3	TABULATIONS
4	TYPICAL SECTIONS
5	DETAILS
6	CONSTRUCTION PLAN
7	PERMANENT MARKING TABULATION
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10	TRAFFIC CONTROL QUANTITY
11 - 13	SIGNING AND STRIPING DETAILS
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BEGIN CP 15-12-08  
CSAH 8, STA: 10+41

END CP 15-12-08  
CSAH 8, STA: 35+02

### PROJECT LOCATION




CSAH 8	
GROSS LENGTH	2461 FEET 0.466 MILES
EXCEPTIONS-LENGTH	30 FEET 0.006 MILES
NET LENGTH	2431 FEET 0.460 MILES
DESIGN SPEED	35 MPH
CURRENT ADT	7395


CITY OF FRIDLEY  
ANOKA COUNTY  
MN/DOT TRANSPORTATION DISTRICT - METRO  
SECTION 20  
TOWNSHIP 30 NORTH  
RANGE 24 WEST

Approved:  4/2/15  
ANOKA COUNTY ENGINEER

NO	DATE	BY	CKD	APPR	REVISION	03/20/2015	3:25:47 PM
NAME: P:\15-01-00\CSAH_08(Main-TH47)\Base\PROPOSED\TEMPLATE_PLAN.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: MATTHEW J. JOHN  
SIGNATURE:   
DATE: 4/2/15 LICENSE NO. 51639

DRAWN BY: KPR DATE: 02/20/2015  
DESIGN BY: KPR DATE: 02/20/2015  
CHECKED BY: M.J.J DATE: 02/23/2015

  
ANOKA COUNTY  
HIGHWAY DEPT.

COUNTY PROJECT 15-12-08

TITLE SHEET  
Sheet 1 of 20 Sheets

mjohn

**STATEMENT OF ESTIMATED QUANTITIES**

ITEM NUMBER	ITEM DESCRIPTION	NOTES	UNIT	TOTAL PROJECT QUANTITIES ESTIMATED
2021.501	MOBILIZATION		LUMP SUM	1
2021.601	RAILROAD PROTECTIVE SERVICES	1	LUMP SUM	1
2104.501	REMOVE CURB & GUTTER	2	LN FT	403
2104.503	REMOVE CONCRETE WALK	2	SQ FT	977
2104.503	REMOVE CONCRETE MEDIAN	2	SQ FT	509
2104.505	REMOVE BITUMINOUS PAVEMENT	2	SQ YD	303
2104.509	REMOVE CASTING	2	EACH	13
2104.509	REMOVE DRAINAGE STRUCTURE	2	EACH	2
2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	2	LN FT	234
2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	2	LN FT	860
2104.523	SALVAGE SIGN	3	EACH	14
2104.618	REMOVE BRICK PAVERS		SQ FT	305
2211.501	AGGREGATE BASE CLASS 5	4	TON	54
2232.501	MILL BITUMINOUS SURFACE (2.0")	5	SQ YD	13936
2232.604	MILL BITUMINOUS PAVEMENT (SPECIAL)	6	SQ YD	578
2357.502	BITUMINOUS MATERIAL FOR TACK COAT		GALLON	726
2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE (3,B)	7	TON	66
2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE (4,E)		TON	1603
2360.505	TYPE SP 12.5 BIT MIXTURE FOR PATCHING	8	TON	44
2504.602	ADJUST GATE VALVE	9	EACH	8
2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN H	10	LN FT	3.3
2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	10	LN FT	2.5
2506.516	CASTING ASSEMBLY	11	EACH	13
2506.602	GROUT CATCH BASIN OR MANHOLE	12	EACH	1
2521.501	6" CONCRETE WALK		SQ FT	1957
2531.501	CONCRETE CURB AND GUTTER DESIGN B612		LN FT	42
2531.501	CONCRETE CURB AND GUTTER DESIGN B618		LN FT	289
2531.503	CONCRETE MEDIAN (NOSE)		SQ YD	21
2531.618	TRUNCATED DOMES		SQ FT	196
2545.602	ADJUST HANDHOLE		EACH	2
2550.602	LOOP DETECTOR DESIGN NMC	13	EACH	20
2563.601	TRAFFIC CONTROL	14,15	LUMP SUM	1
2563.610	POLICE OFFICER		hour	32
2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	16	UNIT DAY	14
2564.602	INSTALL SIGN	3	EACH	14
2573.530	STORM DRAIN INLET PROTECTION	17	EACH	15
2575.523	EROSION CONTROL BLANKETS CATEGORY 0	18,19	SQ YD	182
2581.501	REMOVABLE PREFORMED PAVEMENT MARKING TAPE	20	LN FT	197
2582.502	4" SOLID LINE WHITE-EPOXY	21	LN FT	5390
2582.502	4" SOLID LINE YELLOW-EPOXY	21	LN FT	2057
2582.502	4" DOUBLE SOLID LINE YELLOW-EPOXY	21	LN FT	1420
2582.502	4" BROKEN LINE WHITE-EPOXY	21	LN FT	939
2582.601	PAVEMENT MESSAGE (LT ARROW) PREFORMED THERMOPLASTIC	21	EACH	5
2582.601	PAVEMENT MESSAGE (RT ARROW) PREFORMED THERMOPLASTIC	21	EACH	4
2582.601	PAVEMENT MESSAGE (RR X-ING) PREFORMED THERMOPLASTIC	21	EACH	2
2582.602	24" SOLID LINE YELLOW PREFORMED THERMOPLASTIC	21	LN FT	118
2582.602	24" SOLID LINE WHITE PREFORMED THERMOPLASTIC	21	LN FT	160
2582.618	3' X 6' ZEBRA CROSSWALK - PREFORMED THERMOPLASTIC	21	SQ FT	594

**CONSTRUCTION NOTES**

1	THE CONTRACTOR IS RESPONSIBLE TO ESTABLISH AND COORDINATE RAILROAD PROTECTIVE SERVICES THROUGH THE AUTHORIZED RAILWAY OWNER (BNSF). PROTECTIVE SERVICES ARE REQUIRED WHENEVER WORKING WITHIN RAILROAD RIGHT OF WAY.
2	REFERENCE DETAILS (PAGE 5) FOR REMOVAL DETAILS
3	ITEM USED FOR SIGNS IN MEDIAN REPLACEMENT AREAS
4	EXCAVATION AND DISPOSAL OF EXISTING GRADING MATERIAL IS INCIDENTAL TO AGGREGATE BASE CLASS 5.
5	DETAIL MILLING AROUND MANHOLES, CATCH BASINS, GATE VALVES, AND ALONG CURB LINE IS INCIDENTAL TO THIS ITEM.
6	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.
7	STREET APPROACHES ARE TO BE PAVED AFTER MAINLINE PAVING BUT BEFORE FINAL STRIPING.
8	ITEM INCLUDES BITUMINOUS PATCHING AROUND NEW CURB, STORM STRUCTURE REPAIRS, AND ANY POTHOLES.
9	GATE VALVES TO BE ADJUSTED ONLY AS NECESSARY AS DETERMINED BY THE ENGINEER.
10	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.
11	ITEM INCLUDES FULL REPLACEMENT OF CASTING ADJUSTMENT RINGS. SEE STORM TABULATIONS FOR RING HEIGHTS.
12	ITEM INCLUDES GROUTING OF INVERTS, DOGHOUSES, RINGS, AND CASTINGS AS REQUIRED (SEE DRAINAGE TAB, PAGE 3).
13	ALL LOOPS (8) FOR THE CSAH 1 SIGNAL ARE TO BE REPLACED. CONTRACTOR TO CONTACT ANOKA COUNTY FOR PLACEMENT LOCATION. REPLACEMENT OF REMAINING LOOPS REQUIRED IF DAMAGED. ORIGINAL SIGNAL PLANS ARE INCLUDED FOR REFERENCE AT THE END OF THIS
14	CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN TEMPORARY SIGNAGE WHENEVER EXISTING SIGNAGE IS REMOVED. TEMPORARY SIGNAGE SHALL BE INCIDENTAL TO TRAFFIC CONTROL.
15	DO NOT PASS, PASS WITH CARE AND NO CENTER STRIPE SIGNS TO BE INPLACE DURING MILLING, RECLAIMING OR PAVING OPERATIONS.
16	2 MESSAGE BOARDS, ONE ON THE EACH END OF PROJECT WILL BE INSTALLED 7 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS.
17	ALL DRAINAGE STRUCTURES AFFECTED BY THIS PROJECT MUST HAVE INLET PROTECTION.
18	4" OF TOPSOIL IS INCIDENTAL TO ALL TURF ESTABLISHMENT.
19	TYPE 1 FERTILIZER AND TYPE 25-121 SEED ARE INCIDENTAL TO THIS ITEM. 4" OF TOPSOIL IS INCIDENTAL TO ALL TURF ESTABLISHMENT.
20	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 PAINT STRIPING.
21	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
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

NO	DATE	BY	CKD	APPR	REVISION		
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NAME: P:\15-01-00\CSAH\_08(Main-TH47)\Base\PROPOSED\TEMPLATE\_PLAN.dgn

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SIGNATURE: *Matthew J. John*

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**ANOKA COUNTY  
HIGHWAY DEPT.**

COUNTY PROJECT 15-12-08

**STATEMENT OF ESTIMATED QUANTITIES**

Sheet 2 of 20 Sheets

**STORM DRAINAGE TAB**

NUMBER	TYPE	ACTION	NEW CASTING	FURNISH AND INSTALL CASTING ASSEMBLY	STRUCTURE TYPE	RING HIEGHT	REMOVE DRAINAGE STRUCTURE	GROUT CATCH BASIN OR MANHOLE	DRAINAGE STRUCTURES H	DRAINAGE STRUCTURES 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 MXTURE FOR PATCHING	NOTES
						LIN FT	EACH	EACH	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	SQ YD	TON		
100B	MH/SAN	OK															
801	MH/SAN	RE-RING	A-7D	1		1.7								32	7	2	
802	CB	RE-RING	R-3030	1		0.4					6	10	10	14	14	1	
803	CB	RE-RING	R-3030	1		0.2					6	10	10	14	14	1	
804	CB	OK															
805	CB	RE-RING	R-3030	1		0.6					6	10	10	14	14	1	
806	CB	RE-RING	R-3030	1		0.7					6	10	10	14	14	1	
807	CB	RE-RING	R-3030	1		0.4					6	10	10	14	14	1	
807A	MH	RE-RING	A-7D	1		1.0								32	7	2	
808	MH/SAN	RE-RING/GROUT DOGHOUSE	A-7D	1		1.3		1						32	7	2	
809	CB	OK															
814	CB	RECONSTRUCT	R-3030	1	H		1		3.3		20	10	10	15	6	2	
815	CB	RE-RING	R-3030	1		1.1					6	10	10	14	14	1	
817	MH/SAN	OK															
818	MH/SAN	OK															
819	MH/SAN	OK															
820	CB	RE-RING	R-3030	1		0.5					6	10	10	14	14	1	
821	CB	OK															
822	CB	RE-RING	R-3250-1	1		1.3								32	7	2	
823	CB	OK															
824	CB	OK															
825	MH	RECONSTRUCT	A-7D	1	48-4020		1			2.5				32	7	2	
825A	CB	OK															
<b>TOTALS</b>				13			2	1	3.3	2.5	62	80	80	273	139	19	

**CASTING ASSEMBLIES SUMMARY**

ASSEMBLY	RING OR FRAME CASTING	COVER OR GRATE CASTING	CURB BOX	QUANTITY	DESCRIPTION	NOTES
A-7D	700-7	716		2	STD. PLATE: 4101D, 4110F	CASTING COVER STAMPED "STORM SEWER"
A-7D	700-7	716		2	STD. PLATE: 4101D, 4110F	CASTING COVER STAMPED "SANITARY SEWER"
NEENAH*	R-3250-1		YES	1		
NEENAH*	R-3030	L	YES	8		
*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.						

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**ANOKA COUNTY  
HIGHWAY DEPT.**

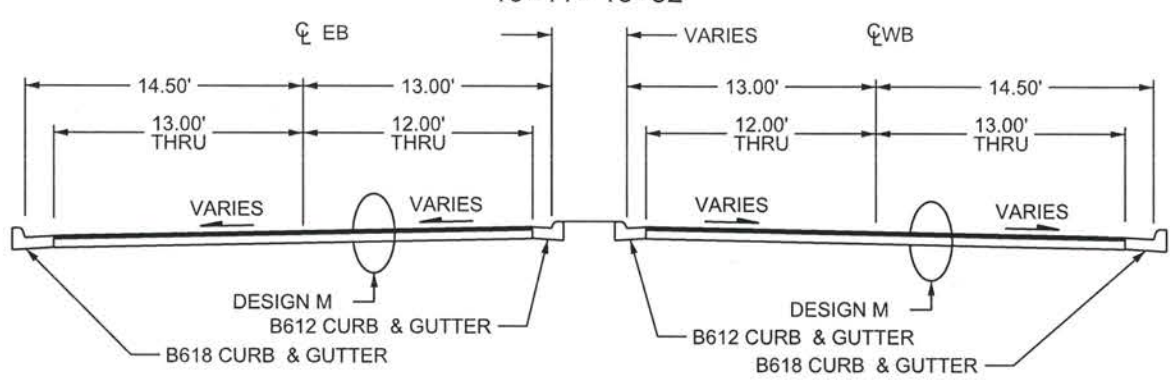
COUNTY PROJECT 15-12-08

TABULATIONS

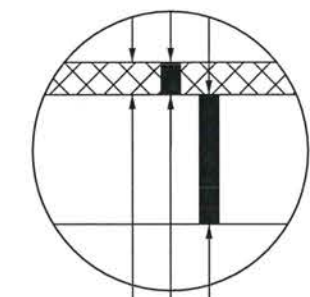
Sheet 3 of 20 Sheets

mjohn

### OSBORNE ROAD (CSAH 8) TYPICAL MAINLINE 10+41 - 15+52

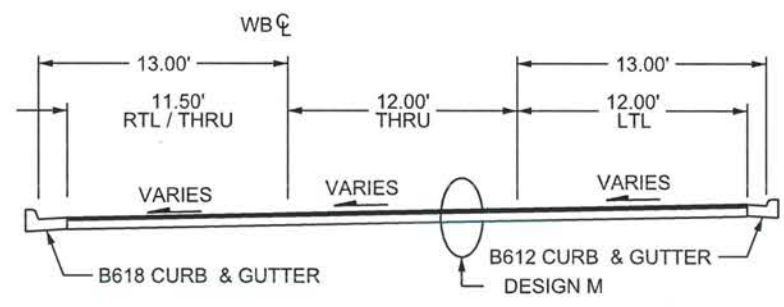


### DESIGN M MILL SECTION

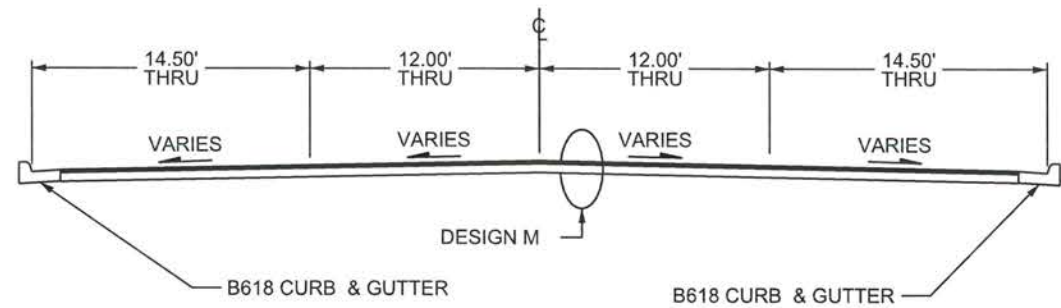


2.0" MILL BITUMINOUS  
2.0" BITUMINOUS WEAR (SPWEB440E)  
REMAINING BITUMINOUS

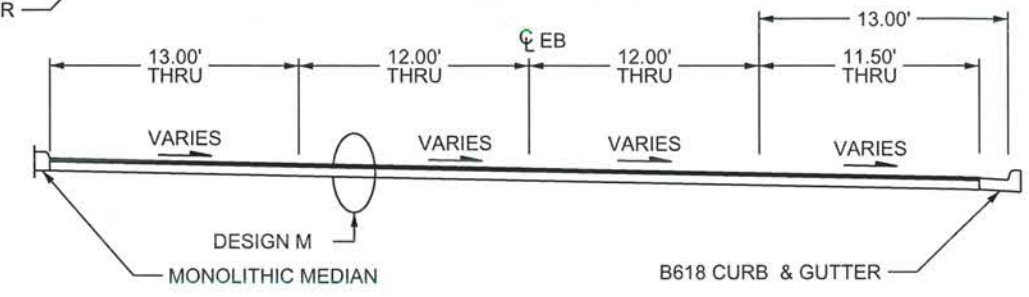
### OSBORNE ROAD (CSAH 8) TYPICAL LWB TURN LANES 10+41 - 12+10



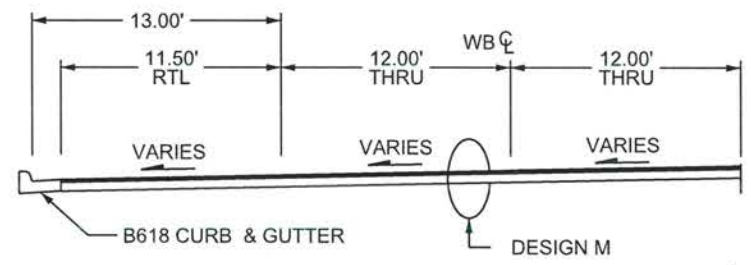
### OSBORNE ROAD (CSAH 8) TYPICAL MAINLINE 15+52 - 27+80



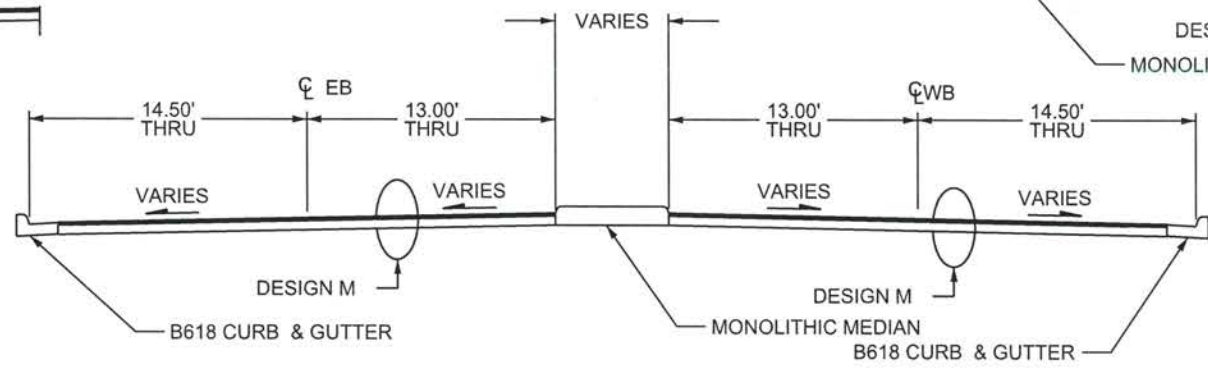
### OSBORNE ROAD (CSAH 8) TYPICAL LEB TURN LANES 30+00 - 35+02



### OSBORNE ROAD (CSAH 8) TYPICAL LWB TURN LANES 20+31 - 23+38



### OSBORNE ROAD (CSAH 8) TYPICAL MAINLINE 27+80 - 35+02



NO	DATE	BY	CKD	APPR	REVISION	03/20/2015	3:22:17 PM
NAME: P:\15-01-00\CSAH_08(Main-TH47)\Base\PROPOSED\TEMPLATE_PLAN.dgn							

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ANOKA COUNTY  
HIGHWAY DEPT.

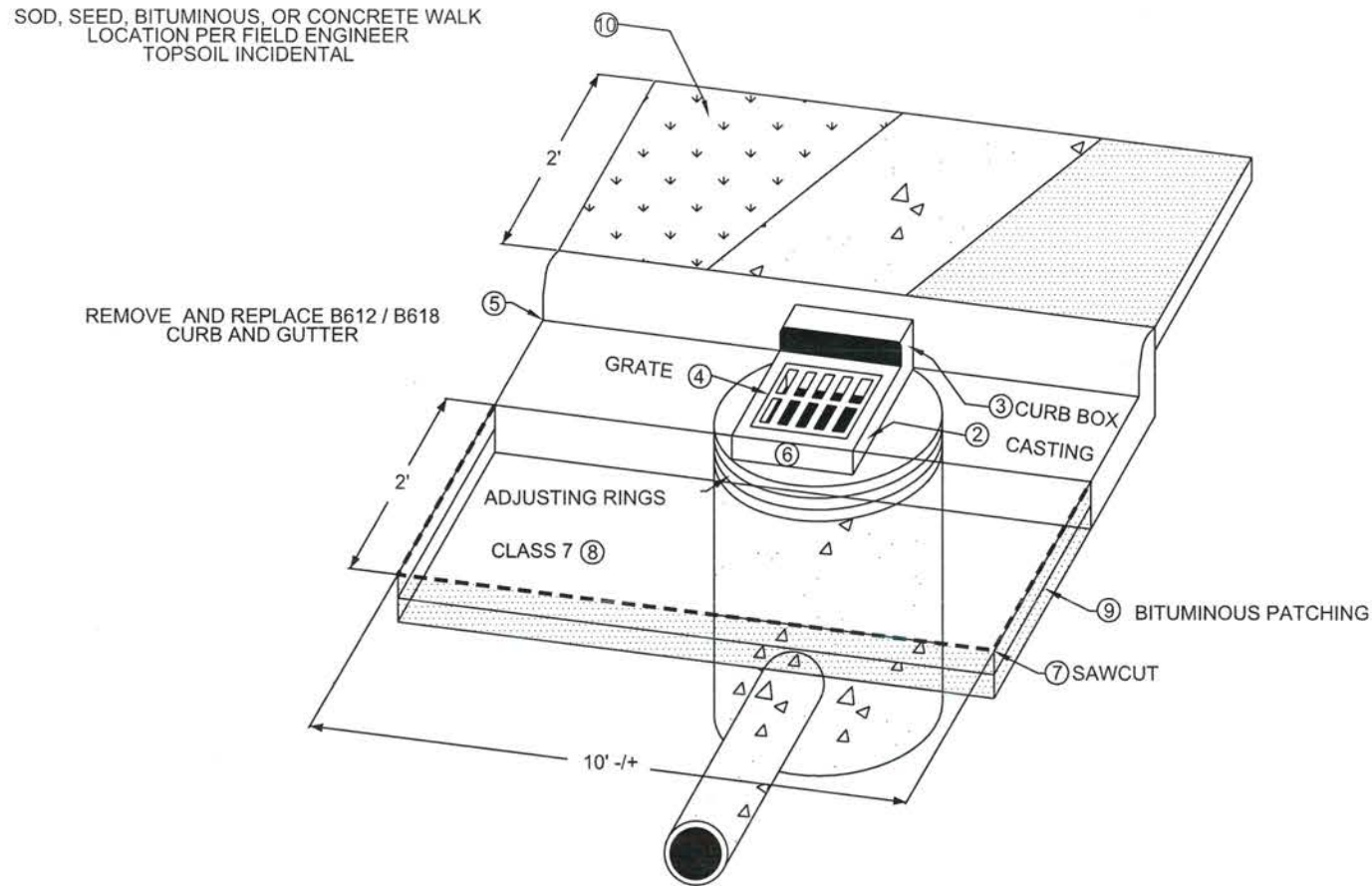
COUNTY PROJECT 15-12-08

TYPICAL SECTIONS  
Sheet 4 of 20 Sheets

mjohn

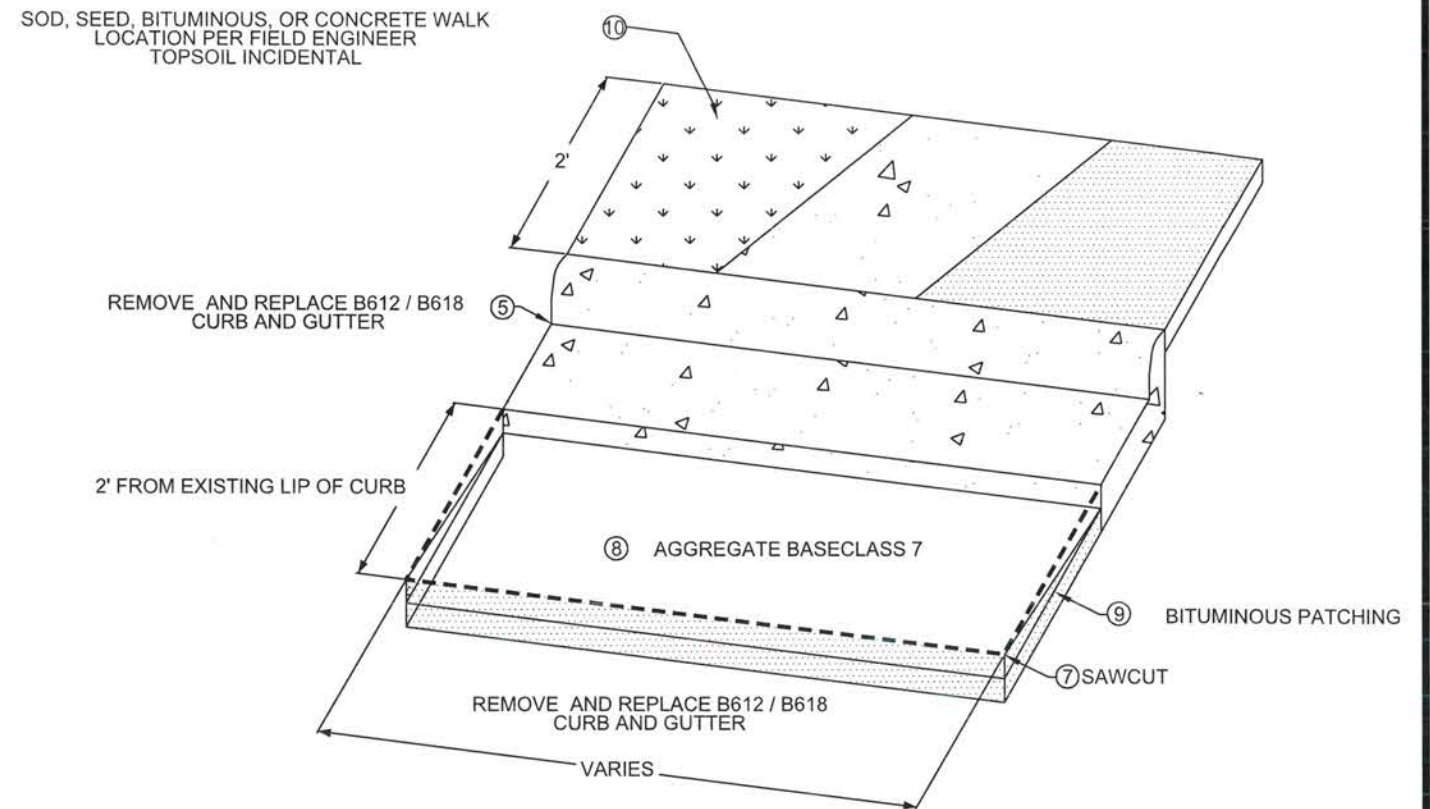
### CATCH BASIN DETAIL

SEE STRUCTURE TAB FOR LOCATION  
(PAGE 3)



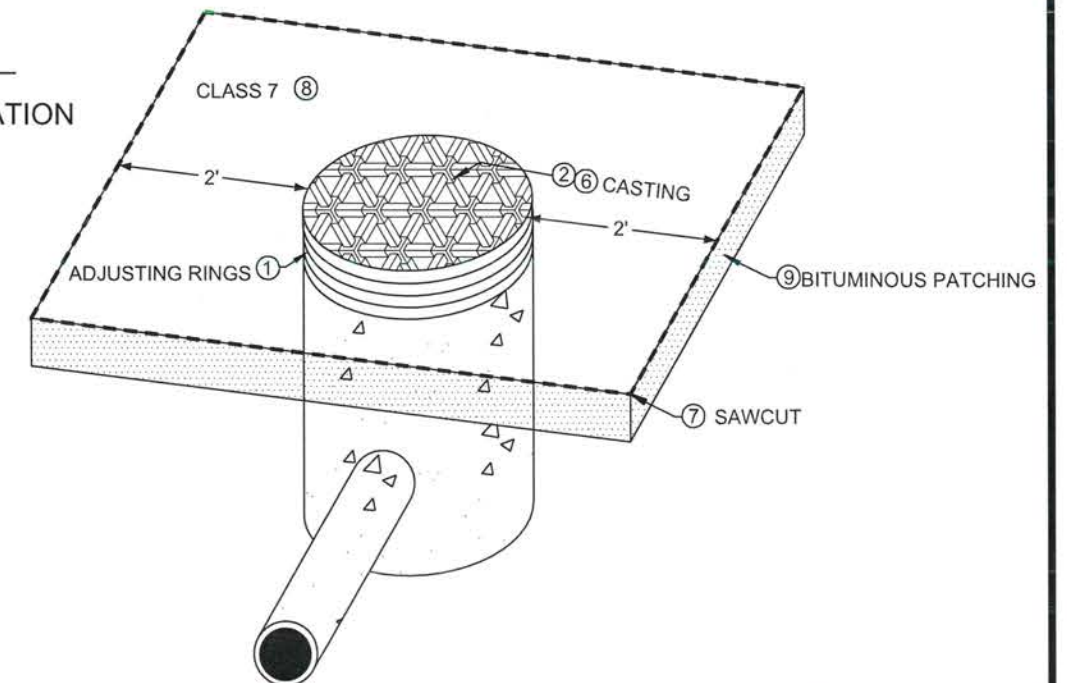
### NEW CURB DETAIL

SEE PLAN FOR LOCATION



### MANHOLE DETAIL

SEE STRUCTURE TAB FOR LOCATION  
(PAGE 3)



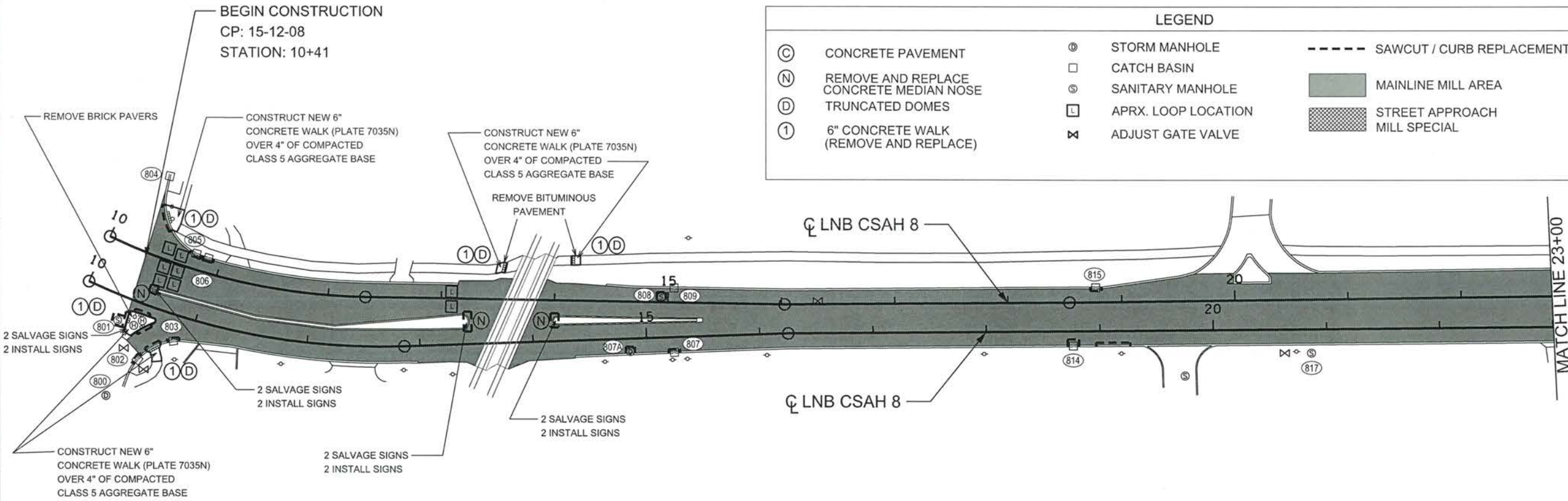
### NOTES

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

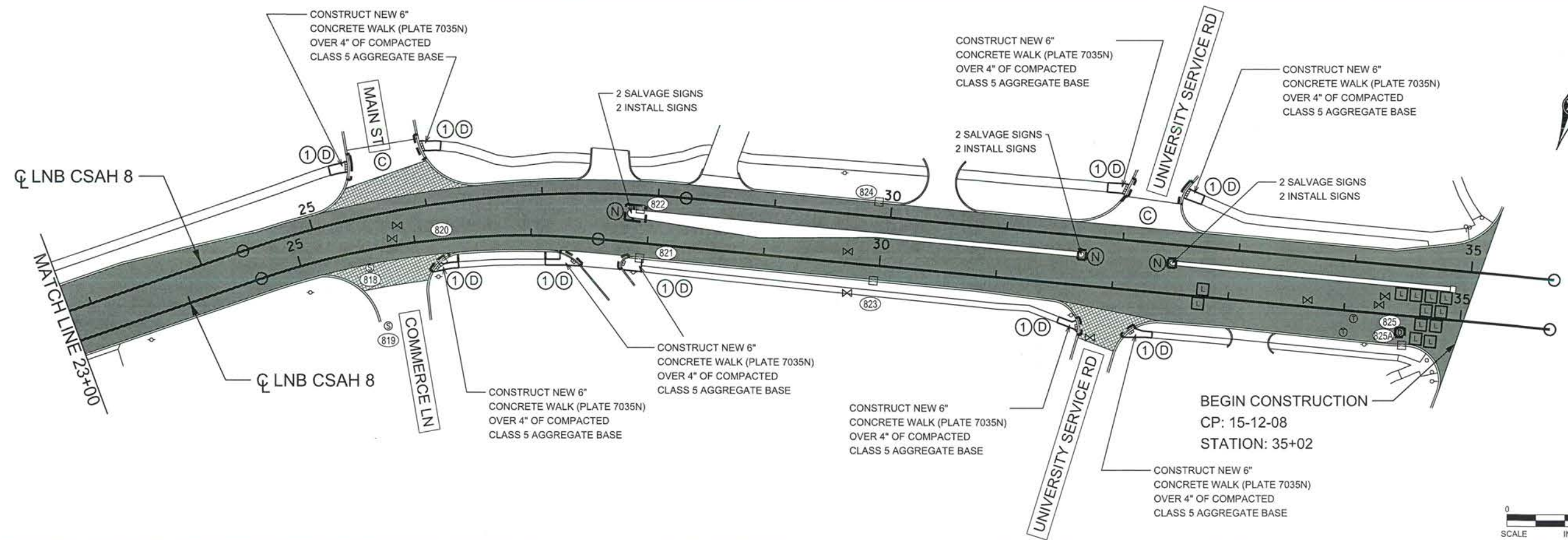
- ① CONCRETE ENCASED CONCRETE ADJUSTING RINGS STANDARD PLATE 4026A
- ② RING AND FRAME CASTING; REFERENCE CASTING ASSEMBLIES SUMMARY CHART FOR CASTING TYPE
- ③ CURB BOX MATCHES CASTING REFERENCE CHART FOR CASTING TYPE
- ④ GRATE CASTING; REFERENCE CASTING ASSEMBLIES SUMMARY CHART FOR CASTING TYPE
- ⑤ CONCRETE CURB AND GUTTER DESIGN B STANDARD PLATE 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

NO DATE BY CKD APPR REVISION 03/20/2015 3:22:18 PM NAME: P:\15-01-00\CSAH_08(Main-TH47)\Base\PROPOSED\TEMPLATE_PLAN.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: MATTHEW J. JOHN SIGNATURE: <i>Matthew J. John</i> DATE: 4/2/15 LICENSE NO. 51639		DRAWN BY: KPR DATE: 02/20/2015 DESIGN BY: KPR DATE: 02/20/2015 CHECKED BY: MJJ DATE: 02/23/2015		ANOKA COUNTY HIGHWAY DEPT. COUNTY PROJECT 15-12-08		DETAILS Sheet 5 of 20 Sheets	
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mjohn



LEGEND					
(C)	CONCRETE PAVEMENT	⊙	STORM MANHOLE	---	SAWCUT / CURB REPLACEMENT
(N)	REMOVE AND REPLACE CONCRETE MEDIAN NOSE	□	CATCH BASIN	■	MAINLINE MILL AREA
(D)	TRUNCATED DOMES	⊙	SANITARY MANHOLE	▨	STREET APPROACH MILL SPECIAL
(1)	6" CONCRETE WALK (REMOVE AND REPLACE)	□	APRX. LOOP LOCATION		
		⊗	ADJUST GATE VALVE		

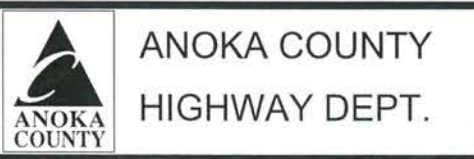


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COUNTY PROJECT 15-12-08

CONSTRUCTION PLAN  
 STA 10+41 TO 35+02  
 Sheet 6 of 20 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 EPOXY 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 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 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.

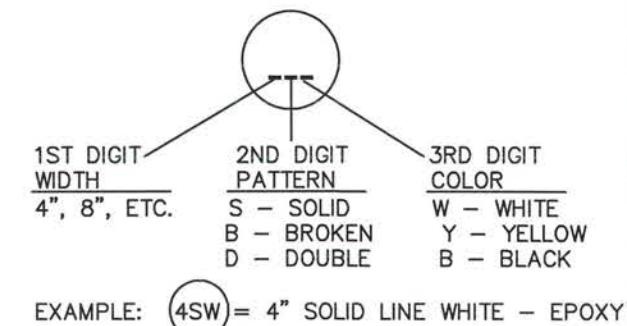
PERMANENT MARKING QUANTITIES		
ITEM	UNIT	TOTAL QUANTITY
4" SOLID LINE WHITE - EPOXY PAINT	LIN FT	5390
4" BROKEN LINE WHITE - EPOXY PAINT	LIN FT	939
4" SOLID LINE YELLOW - EPOXY PAINT	LIN FT	2057
4" DOUBLE SOLID LINE YELLOW - EPOXY PAINT	LIN FT	1420
24" SOLID LINE YELLOW - PREFORMED THERMOPLASTIC	LIN FT	118
24" SOLID LINE WHITE - PREFORMED THERMOPLASTIC	LIN FT	160
3'x6' ZEBRA CROSSWALK - PREFORMED THERMOPLASTIC	SQ FT	594
PAVEMENT MESSAGE (RT ARROW) - PREFORMED THERMOPLASTIC	EACH	4
PAVEMENT MESSAGE (LFT ARROW) - PREFORMED THERMOPLASTIC	EACH	5
PAVEMENT MESSAGE RR X-ING - PREFORMED THERMOPLASTIC	EACH	2

**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



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: *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**  
**HIGHWAY DEPT.**

STATE PROJECT NO. \_\_\_\_\_  
 STATE AID PROJECT NO. \_\_\_\_\_  
 STATE AID PROJECT NO. \_\_\_\_\_  
 COUNTY PROJECT NO. 15-12-08

PERMANENT MARKING TABULATION  
 Sheet 7 of 20 Sheets

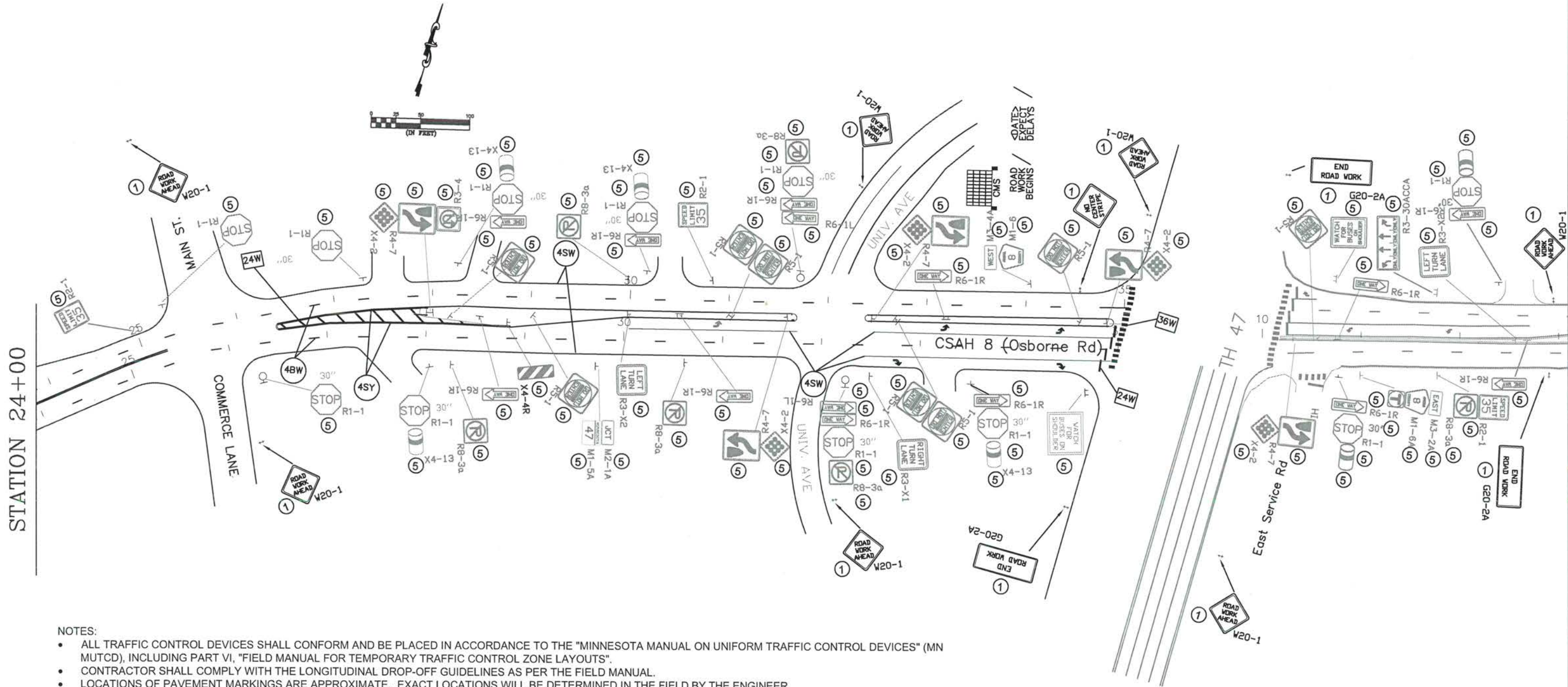
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\13-01-00\CSAH 18\Base\TRAFFIC\Perm pvmt mkg guide notes\_guidelines.dwg





- 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 24+00

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.

NO	DATE	BY	CKD	APPR	REVISION

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ANOKA COUNTY  
 HIGHWAY DEPT.

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 STATE AID PROJECT NO. \_\_\_\_\_  
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 COUNTY PROJECT NO. 15-12-08

TEMPORARY SIGNING,  
 PERMANENT SIGNING  
 AND STRIPING

Sheet 9 of 20 Sheets

TEMPORARY TRAFFIC CONTROL SIGNS

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

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".
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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

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.

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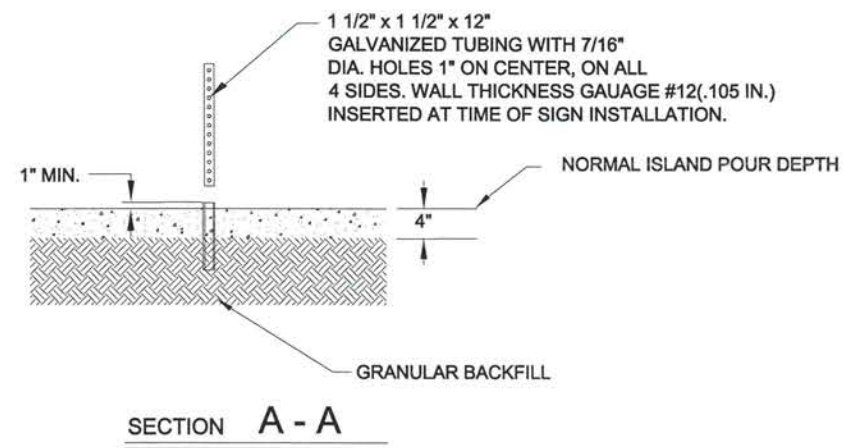
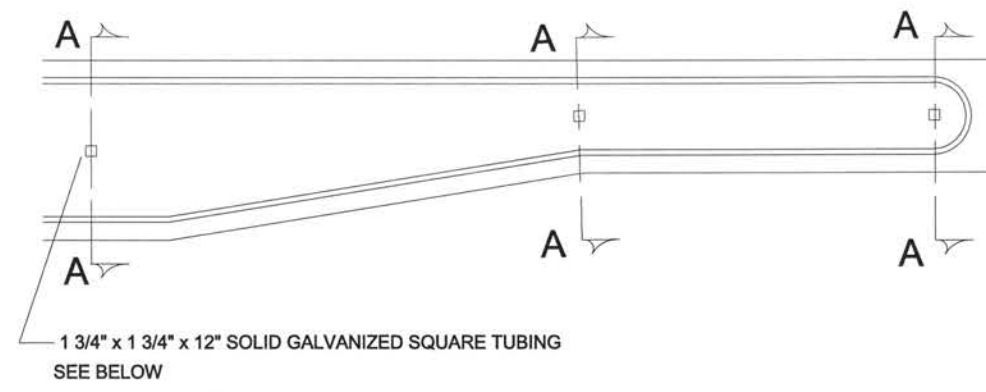
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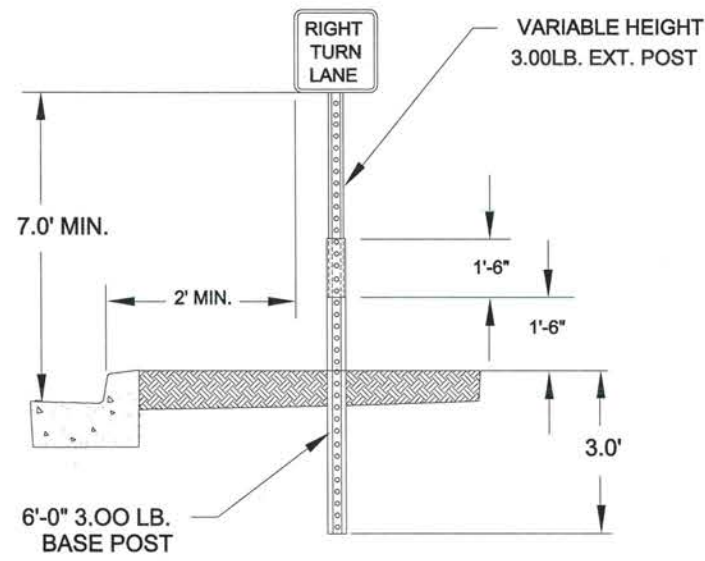
ANOKA COUNTY  
 HIGHWAY DEPT.

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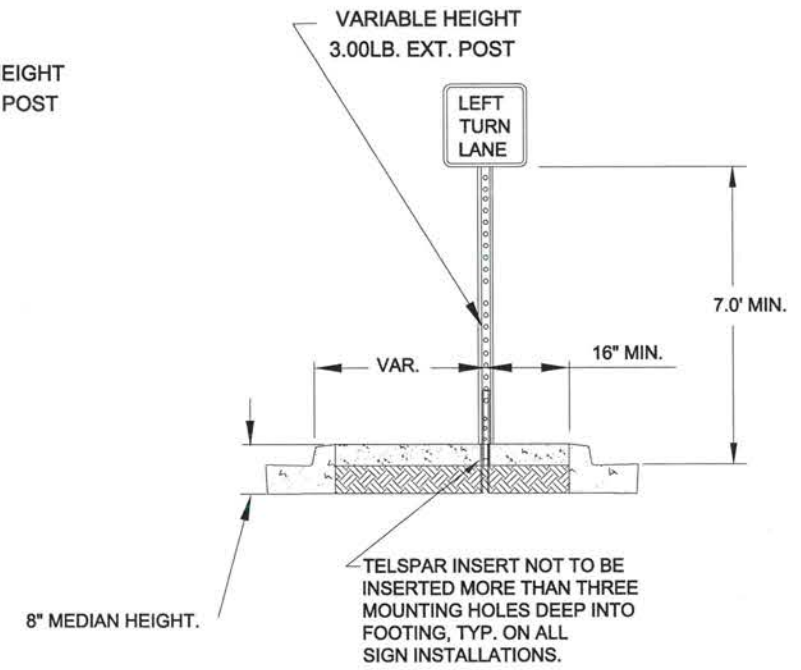
TRAFFIC CONTROL  
 QUANTITY  
 Sheet 10 of 20 Sheets



GROUND POST MOUNT SIGN  
INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN  
INSTALLATION TYPICAL



NO	DATE	BY	CKD	APPR	REVISION

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HIGHWAY DEPT.

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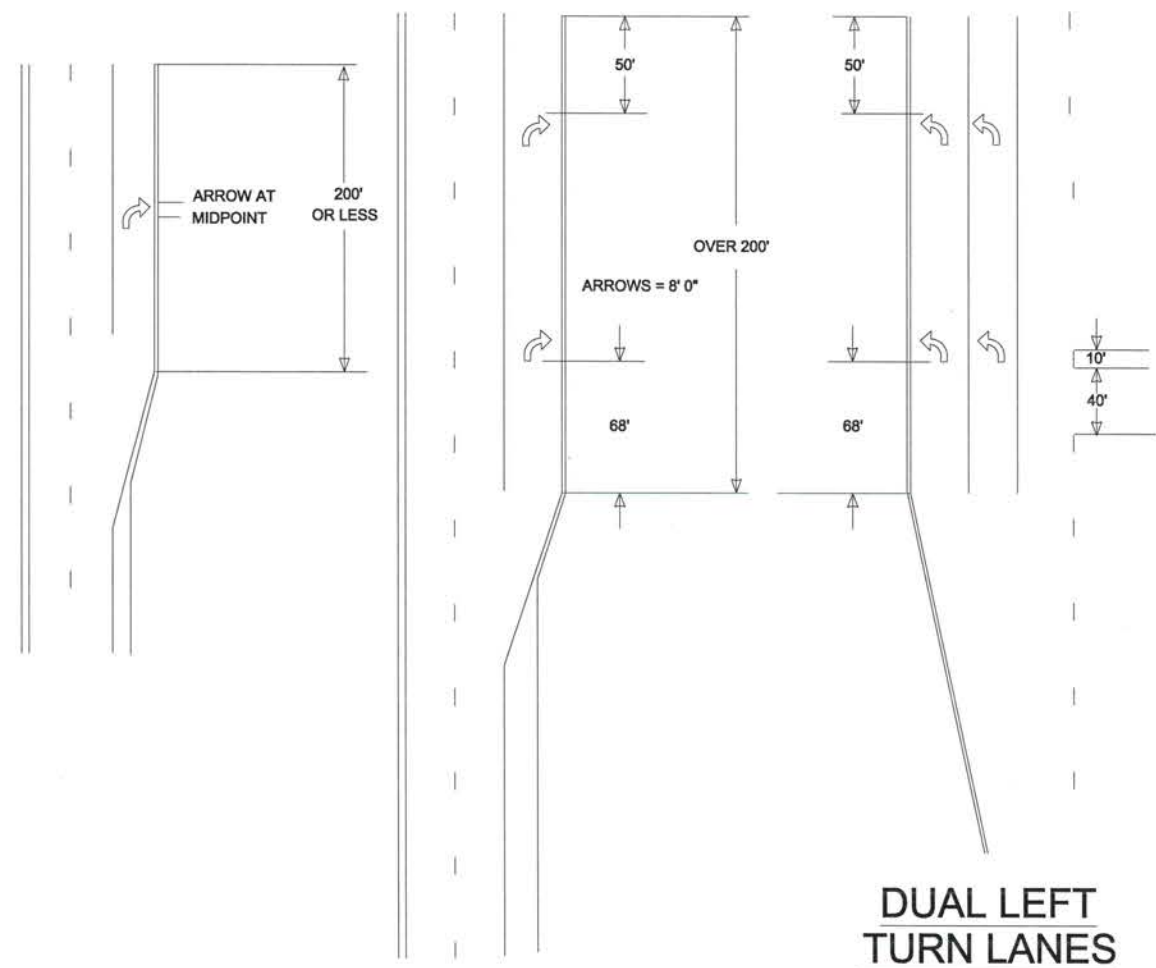
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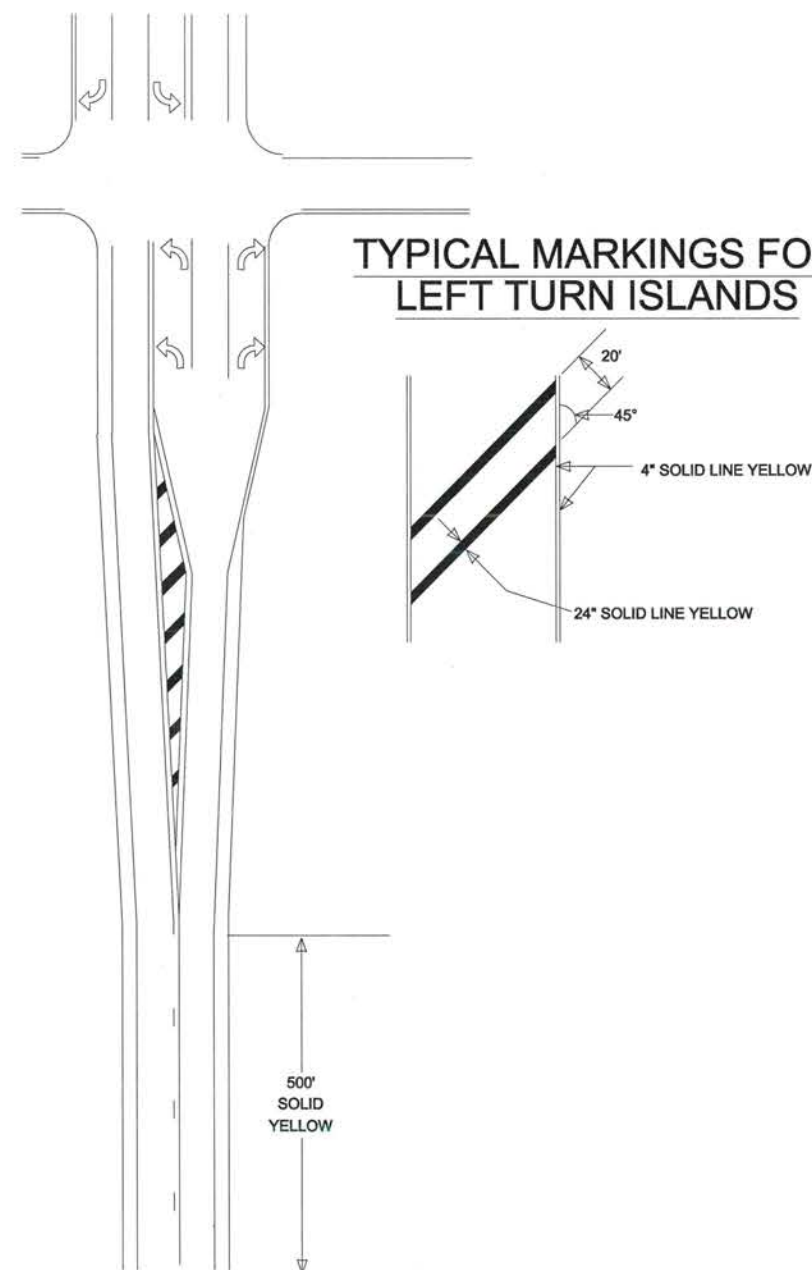
SIGNING & STRIPING  
DETAILS

Sheet 11 of 20 Sheets

**TYPICAL MESSAGE PLACEMENT  
FOR TURN LANES**



**TYPICAL MARKINGS FOR  
LEFT TURN ISLANDS**



NO	DATE	BY	CKD	APPR	REVISION

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**ANOKA COUNTY  
HIGHWAY DEPT.**

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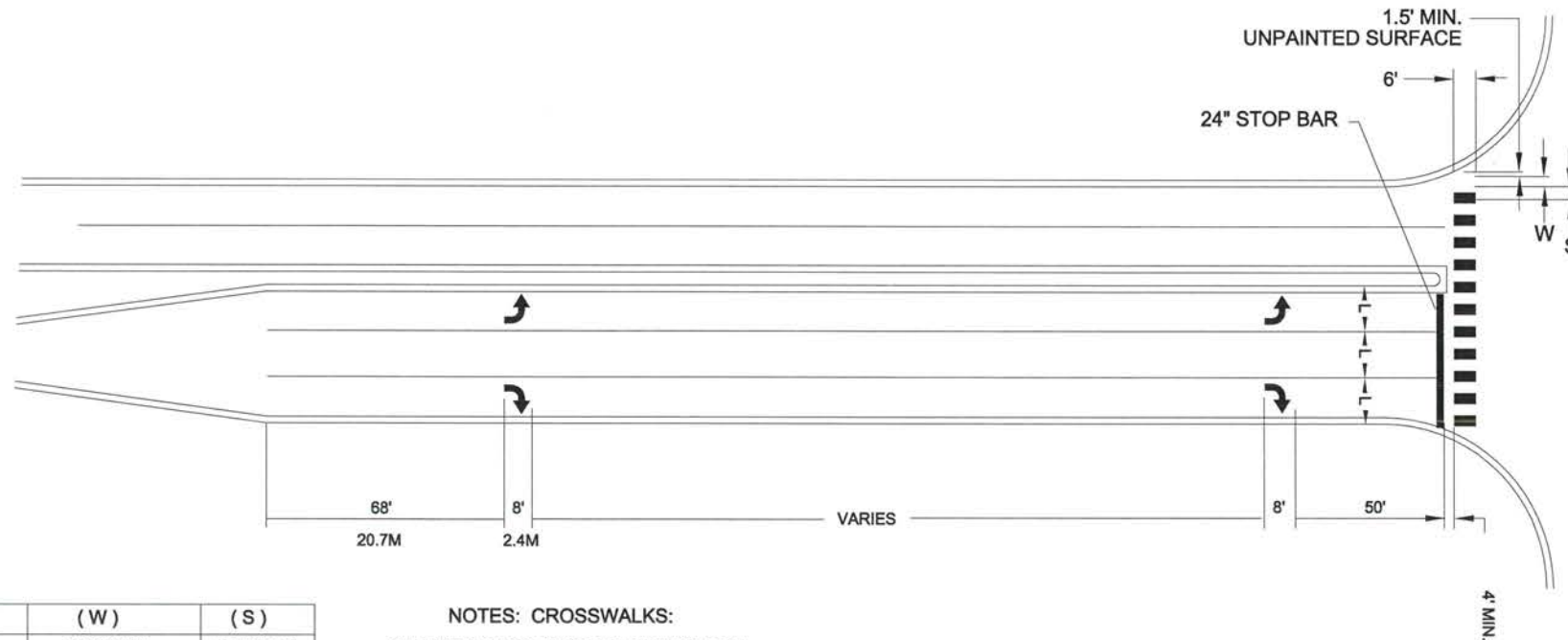
STATE AID PROJECT NO. \_\_\_\_\_

STATE AID PROJECT NO. \_\_\_\_\_

COUNTY PROJECT NO. 15-12-08

**SIGNING & STRIPING  
DETAILS**

# MARKINGS FOR PEDESTRIAN CROSSWALKS

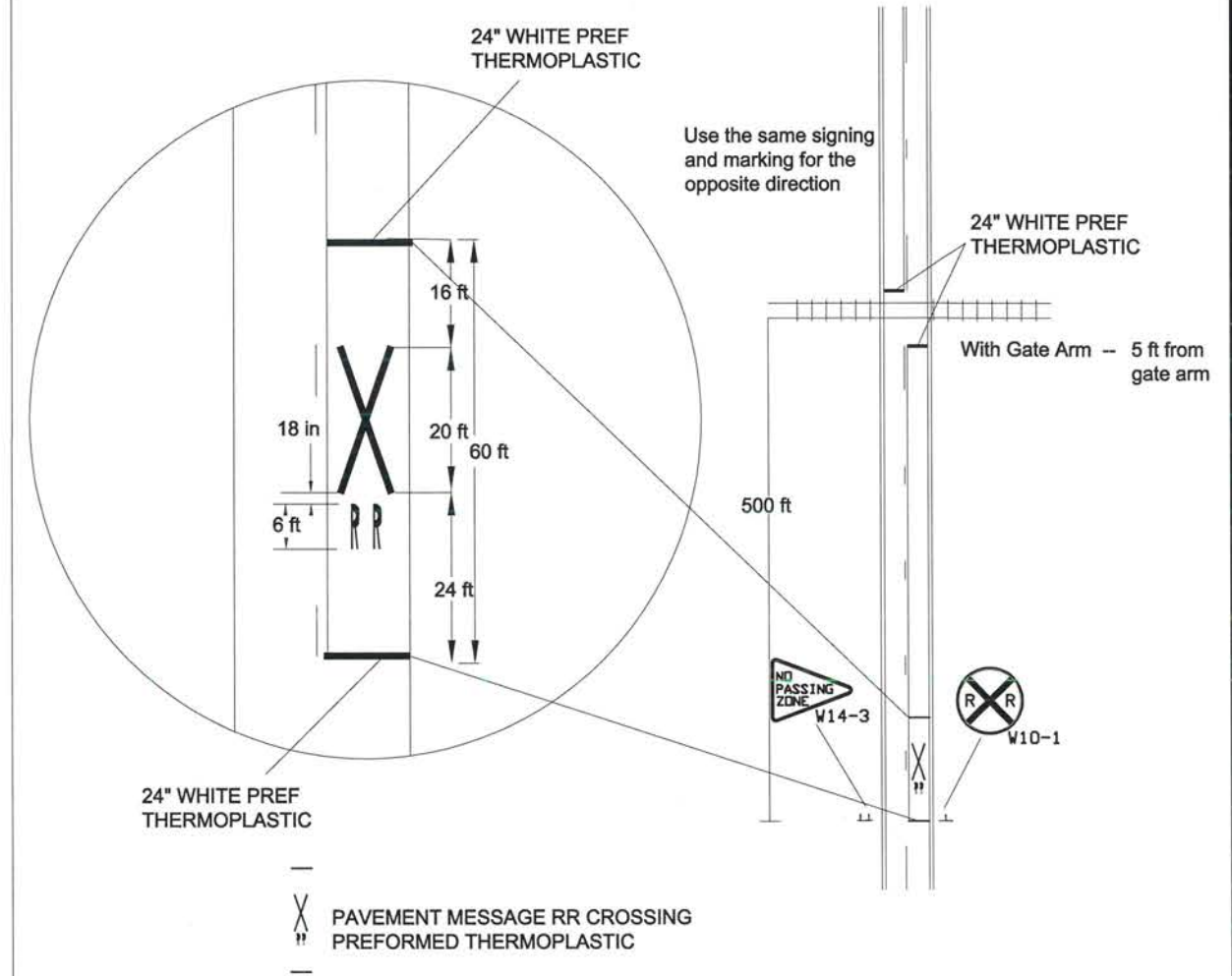


(L)	(W)	(S)
WIDTH OF INSIDE LANE	WIDTH OF PAINTED AREAS	WIDTH OF SPACE
9'	2.0'	2.5'
10'	2.5'	2.5'
11'	2.5'	3.0'
12'	3.0'	3.0'
13'	3.0'	3.5'

### NOTES: CROSSWALKS:

- 1.) PAINTED AREAS ARE TO BE CENTERED ON CENTER AND LANE LINES, EVEN IF INTERSECTION IS NOT ALIGNED.
- 2.) LOCATION OF ZEBRA CROSSWALKS AND STOP BARS, SIGNAL LOOPS AND PED RAMPS ARE APPROXIMATE. FINAL LOCATIONS ARE TO BE DETERMINED AND FIELD VERIFIED DURING CONSTRUCTION BY THE FIELD ENGR.
- 3.) ZEBRA CROSSWALKS ARE TO BE PARALLEL TO THE DRIVING LANE OR LANES, EVEN IF THE STREET IS ON AN ANGLE TO THE INTERSECTION.
- 4.) A MIN. OF 1.5' (450mm) CLEAR DISTANCE MUST BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS AREA, IT MUST BE OMITTED.
- 5.) ON TWO LANE STREETS, USE SPACING SHOWN FOR AN 11' (3.3mm) INSIDE LANE.

# RAILROAD CROSSING PAVEMENT MARKINGS



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ANOKA COUNTY  
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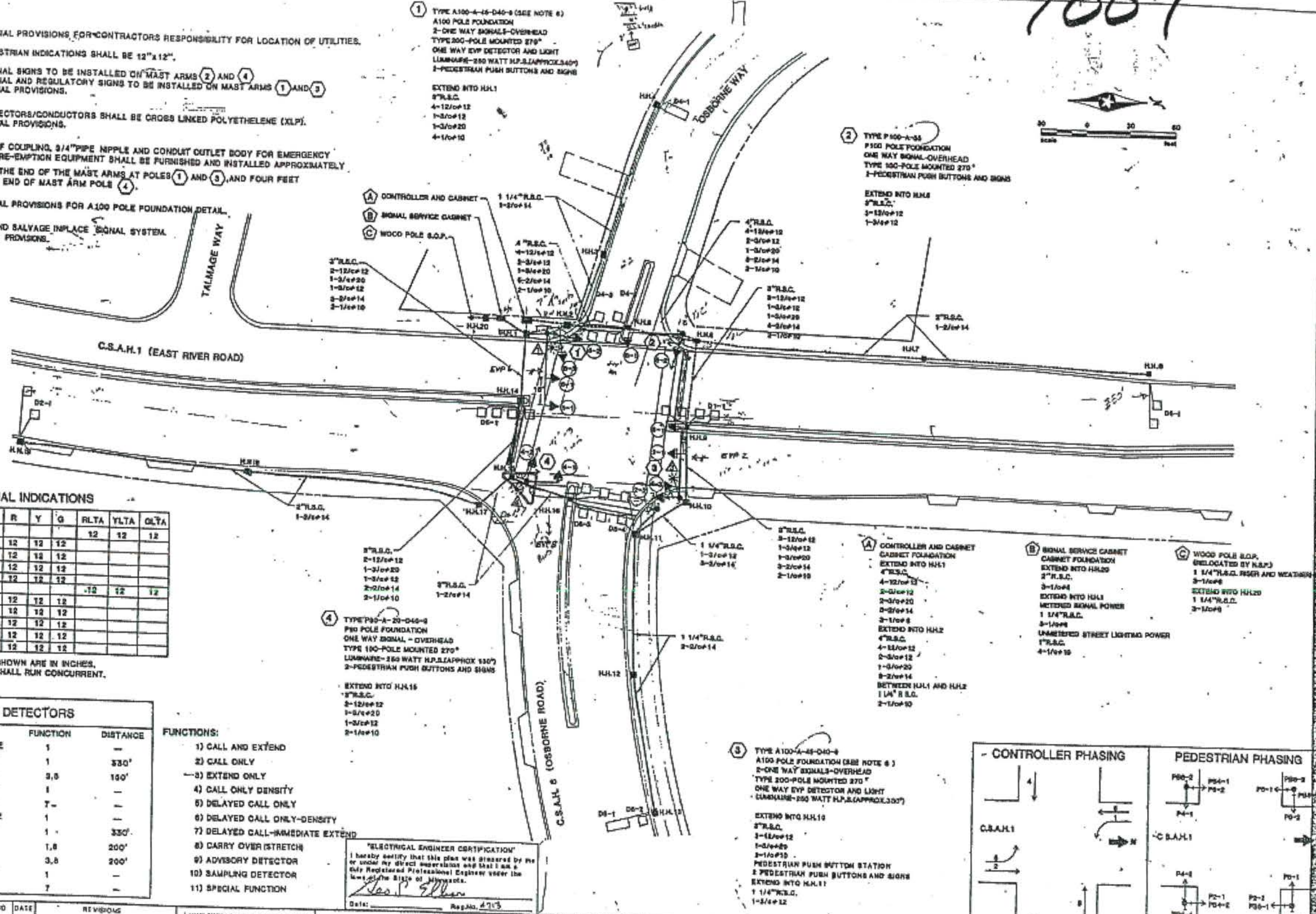
SIGNING & STRIPING  
 DETAILS

mjohn

207

7007

- NOTES:
- 1) SEE SPECIAL PROVISIONS FOR CONTRACTORS RESPONSIBILITY FOR LOCATION OF UTILITIES.
  - 2) ALL PEDESTRIAN INDICATIONS SHALL BE 12" x 12".
  - 3) DIRECTIONAL SIGNS TO BE INSTALLED ON MAST ARMS ② AND ④, DIRECTIONAL AND REGULATORY SIGNS TO BE INSTALLED ON MAST ARMS ① AND ③. SEE SPECIAL PROVISIONS.
  - 4) LOOP DETECTORS/CONDUCTORS SHALL BE CROSS LINKED POLYETHYLENE (XLP). SEE SPECIAL PROVISIONS.
  - 5) A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY FOR EMERGENCY VEHICLE PRE-EMPTION EQUIPMENT SHALL BE FURNISHED AND INSTALLED APPROXIMATELY 20' FROM THE END OF THE MAST ARMS AT POLES ① AND ③, AND FOUR FEET FROM THE END OF MAST ARM POLES ② AND ④.
  - 6) SEE SPECIAL PROVISIONS FOR A 100 POLE FOUNDATION DETAIL.
  - 7) REMOVE AND SALVAGE IN PLACE SIGNAL SYSTEM. SEE SPECIAL PROVISIONS.



**SIGNAL INDICATIONS**

FACE	PHASE	FLASH	R	Y	G	RLTA	YLTA	GLTA
1-1	1		R			12	12	12
2-1	2		R	12	12	12		
2-2	2		R	12	12	12		
4-1	4		R	12	12	12		
4-2	4		R	12	12	12		
5-1	5		R			12	12	12
6-1	6		R	12	12	12		
6-2	6		R	12	12	12		
8-1	8		R	12	12	12		
8-2	8		R	12	12	12		
8-3	8		R	12	12	12		

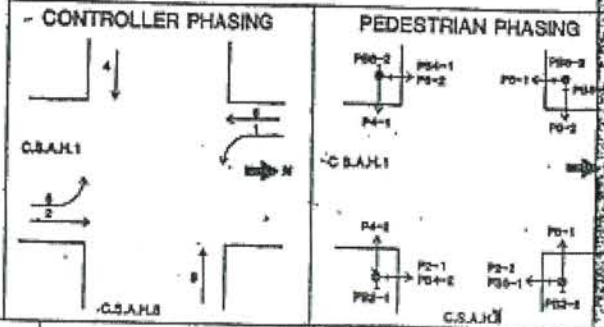
NOTE: ALL DIMENSIONS SHOWN ARE IN INCHES. PHASES 4 AND 8 SHALL RUN CONCURRENT.

**LOOP DETECTORS**

NUMBER	SIZE	FUNCTION	DISTANCE
D1-1	MULTIPLE	1	—
D2-1	2-8'x8'	1	330'
D4-1	8'x15'	3,5	100'
D4-2	2-8'x8'	1	—
D4-3	2-8'x8'	7-	—
D5-1	MULTIPLE	1	—
D6-1	2-8'x8'	1	330'
D6-2	8'x15'	1,8	200'
D8-2	8'x8'	3,8	200'
D8-3	4-8'x8'	1	—
D8-4	2-8'x8'	7	—

- FUNCTIONS:**
- 1) CALL AND EXTEND
  - 2) CALL ONLY
  - 3) EXTEND ONLY
  - 4) CALL ONLY DENSITY
  - 5) DELAYED CALL ONLY
  - 6) DELAYED CALL ONLY-DENSITY
  - 7) DELAYED CALL-IMMEDIATE EXTEND
  - 8) CARRY OVER (STRETCH)
  - 9) ADVISORY DETECTOR
  - 10) SAMPLING DETECTOR
  - 11) SPECIAL FUNCTION

**ELECTRICAL ENGINEER CERTIFICATION**  
 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.  
 Date: 4/2/15  
 Reg. No. 4713



FOR REFERENCE PURPOSES ONLY

**REVISIONS**

NO.	DATE	BY	CKD	APPR	REVISION
1	7/1	D.V.W.			PER ANOKA COUNTY

DESIGN M.K. DRAYN G.M.

SHORT - ELLIOTT - HENDRICKSON, INC.

**SIGNAL SYSTEM INTERSECTION I AVOID**

FILE NO. 56

NO.	DATE	BY	CKD	APPR	REVISION	3/20/2015	3:22:21 PM
1							

NAME: P:\15-01-00CSAH\_08(Main-T447)Base\PROPOSED\TEMPLATE\_PLAN.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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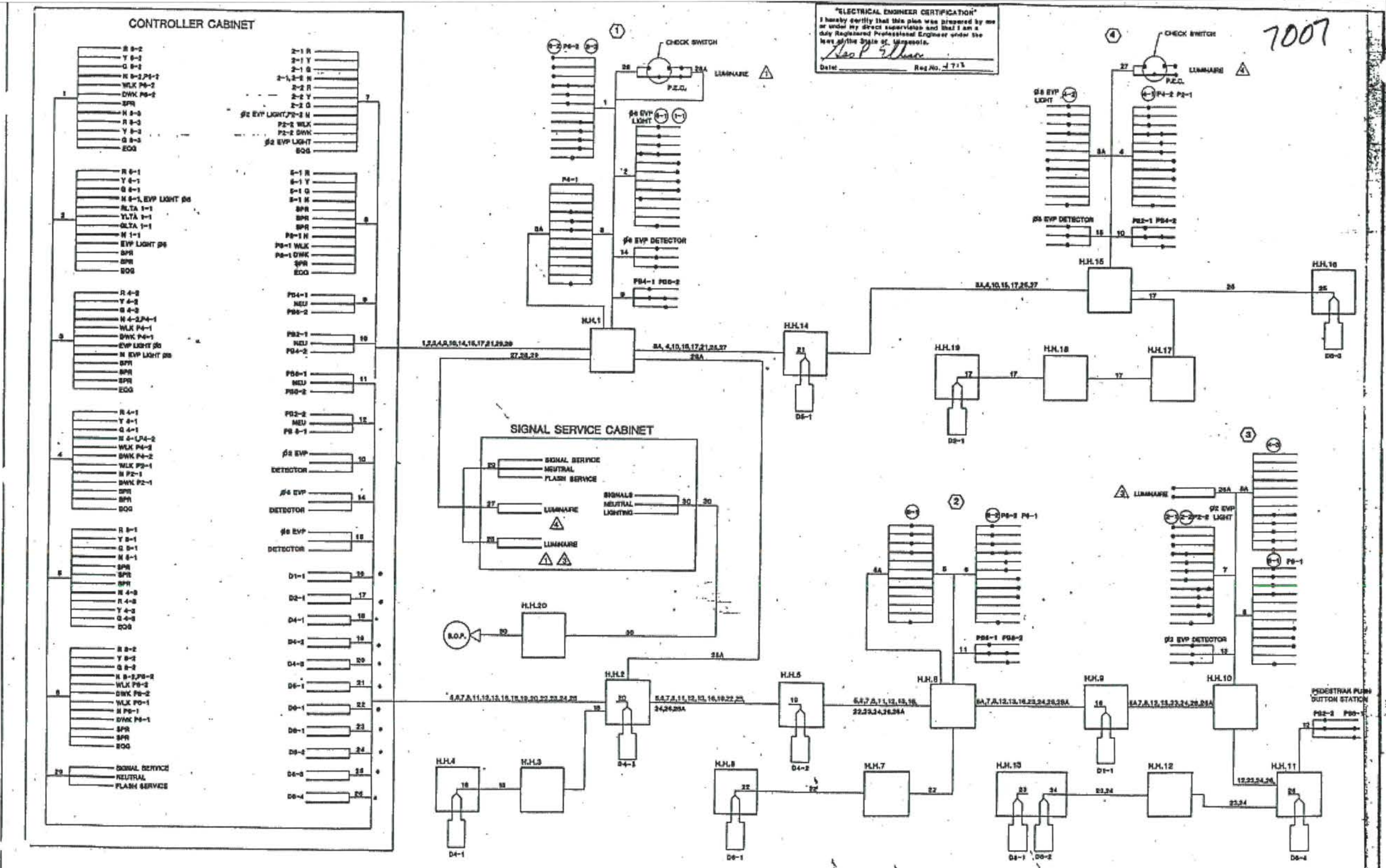
DRAWN BY: KPR DATE: 02/20/2015  
 DESIGN BY: KPR DATE: 02/20/2015  
 CHECKED BY: MJJ DATE: 02/23/2015

**ANOKA COUNTY HIGHWAY DEPT.**

COUNTY PROJECT 15-12-08

ORIGINAL SIGNAL PLANS  
 Sheet 14 of 20 Sheets

mjohn



"ELECTRICAL ENGINEER CERTIFICATION"  
 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.  
 Date: \_\_\_\_\_ Reg. No. J 713

7007

FOR REFERENCE PURPOSES ONLY

SURVEY.	CHECKED BY:	NO.	DATE	REVISIONS
DESIGN: M.K.	G.V.W.	7/8	PER ANOKA COUNTY	
DRAWN: G.N.				

SHORT - ELLIOTT - HENDRICKSON, INC.  
 Saint Paul, Minnesota • Chippewa Falls, Wisconsin

SIGNAL SYSTEM  
 FIELD WIRING DIAGRAM  
 S. R. 02-608-07

FILE NO.:	88186
DATE:	87

NO.	DATE	BY	CKD	APPR	REVISION	TIME

NAME: P:\15-01-00CSAH\_08(Main-TH47)Base\PROPOSED\TEMPLATE\_PLAN.dgn

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ANOKA COUNTY  
 HIGHWAY DEPT.

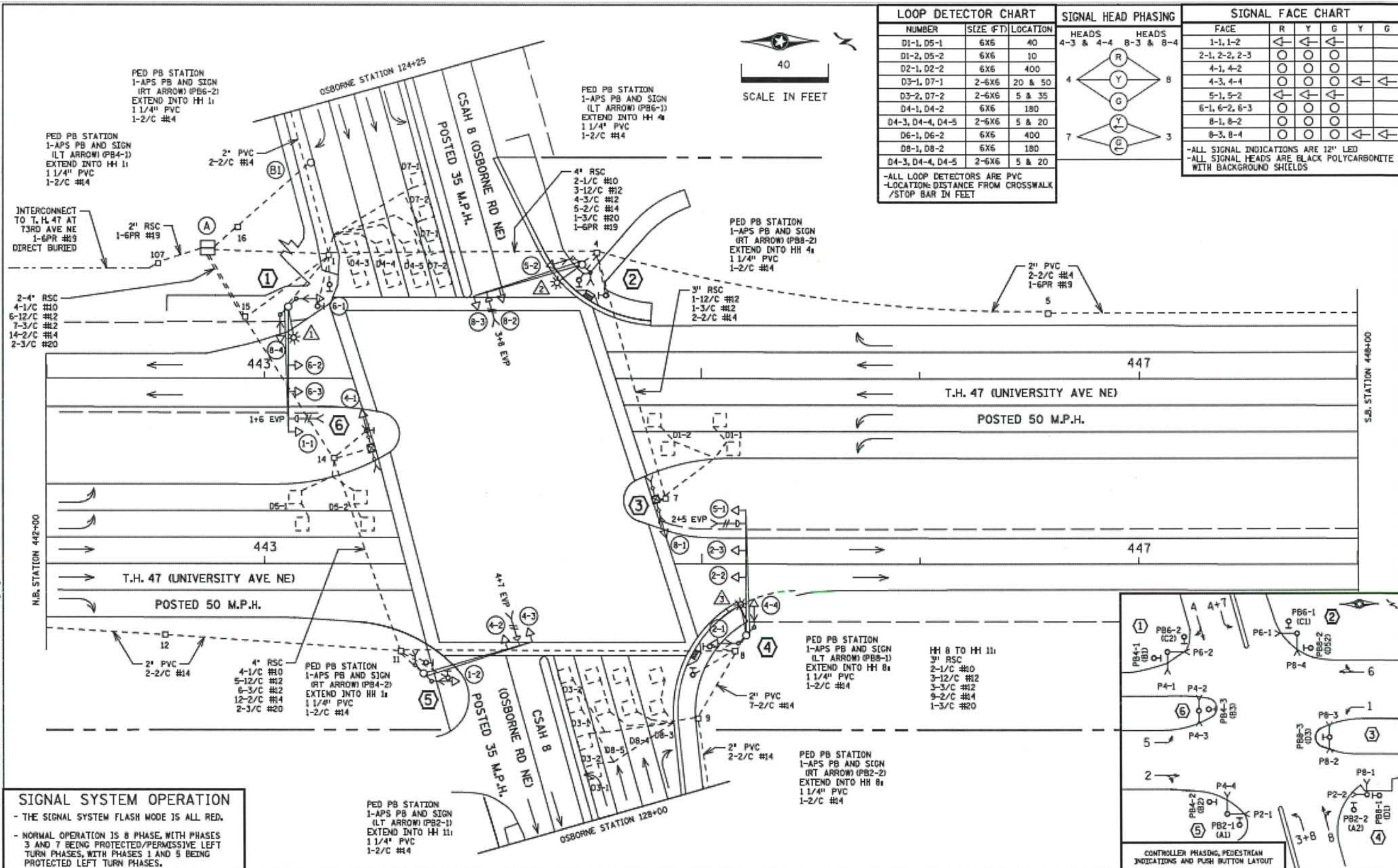
COUNTY PROJECT 15-12-08

ORIGINAL SIGNAL PLANS  
 Sheet 15 of 20 Sheets

mjohn

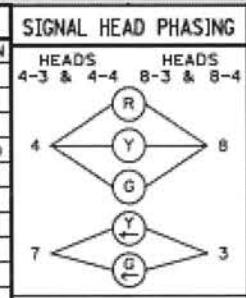
PLOTTED/REVISED: 1/17/2014

DISTRICT 4, METRO  
IFLOT NAME: layout  
PATH & FILENAME: JP\_PWP-007/00547/20681-00.dgn



LOOP DETECTOR CHART		
NUMBER	SIZE (FT)	LOCATION
DI-1, DI-1	6X6	40
DI-2, DI-2	6X6	10
DI-2, DI-2	6X6	400
DI-3, DI-3	2-6X6	20 & 50
DI-3, DI-3	2-6X6	5 & 35
DI-4, DI-4	6X6	180
DI-4, DI-4, DI-4	2-6X6	5 & 20
DI-6, DI-6	6X6	400
DI-8, DI-8	6X6	180
DI-4, DI-4, DI-4	2-6X6	5 & 20

-ALL LOOP DETECTORS ARE PVC  
-LOCATION: DISTANCE FROM CROSSWALK /STOP BAR IN FEET



SIGNAL FACE CHART					
FACE	R	Y	G	Y	G
1-1, 1-2	←	←	←		
2-1, 2-2, 2-3	←	←	←		
4-1, 4-2	○	○	○		
4-3, 4-4	○	○	○	←	←
5-1, 5-2	←	←	←		
6-1, 6-2, 6-3	○	○	○		
8-1, 8-2	○	○	○	←	←
8-3, 8-4	○	○	○	←	←

-ALL SIGNAL INDICATIONS ARE 12" LED  
-ALL SIGNAL HEADS ARE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS

**SIGNAL SYSTEM OPERATION**

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE, WITH PHASES 3 AND 7 BEING PROTECTED/PERMISSIVE LEFT TURN PHASES, WITH PHASES 1 AND 5 BEING PROTECTED LEFT TURN PHASES.

BY DATE	REVISIONS	SYSTEM ID: 20681	T.E. 5123	INTERSECTION LAYOUT	S.A.P. NO.	DRAWN BY: BAM	CKD BY: COB	DATE: 04-21-10
GDS 01-17-14	AS BUILT OF SP 0205-98	METER ADDRESS: 7556 UNIVERSITY AVE. N.E	T.E.	TRAFFIC CONTROL SIGNAL SYSTEM	CERTIFIED BY:	LIC. NO.	DATE: 04-21-10	
		MASTER ID:	T.E.	T.H. 47 (UNIVERSITY AVE. NE) AT C.S.A.H. B	STATE PROJ. NO.	(T.H. 47)	SHEET NO. 1 OF 5 SHEETS	
				(OSBORNE RD. NE) IN FRIDLEY, ANOKA COUNTY				

FOR REFERENCE PURPOSES ONLY

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: *Matthew J. John*  
DATE: 4/2/15 LICENSE NO. 51639

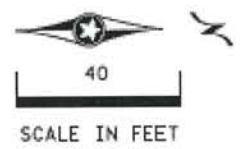
DRAWN BY: KPR DATE: 02/20/2015  
DESIGN BY: KPR DATE: 02/20/2015  
CHECKED BY: MJJ DATE: 02/23/2015

**ANOKA COUNTY HIGHWAY DEPT.**

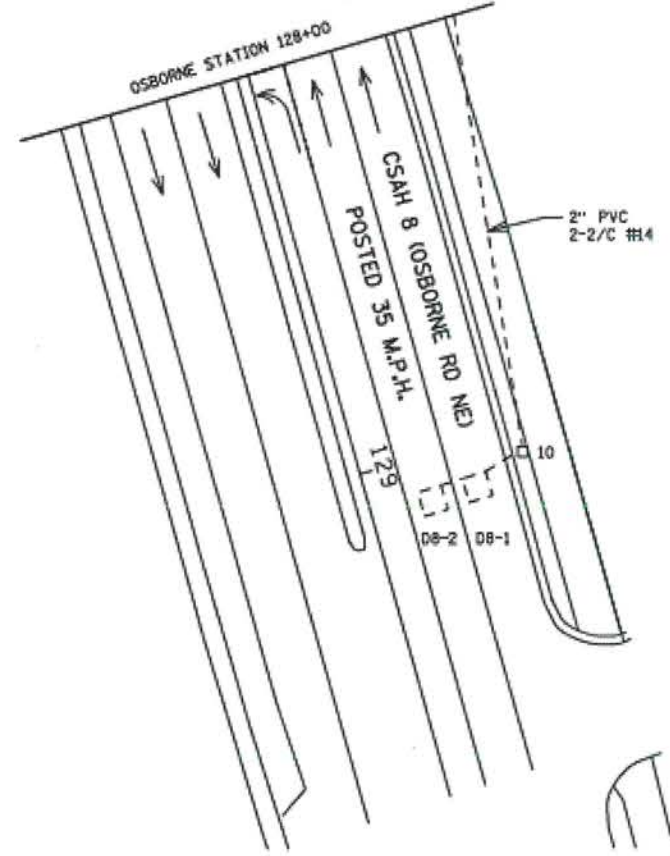
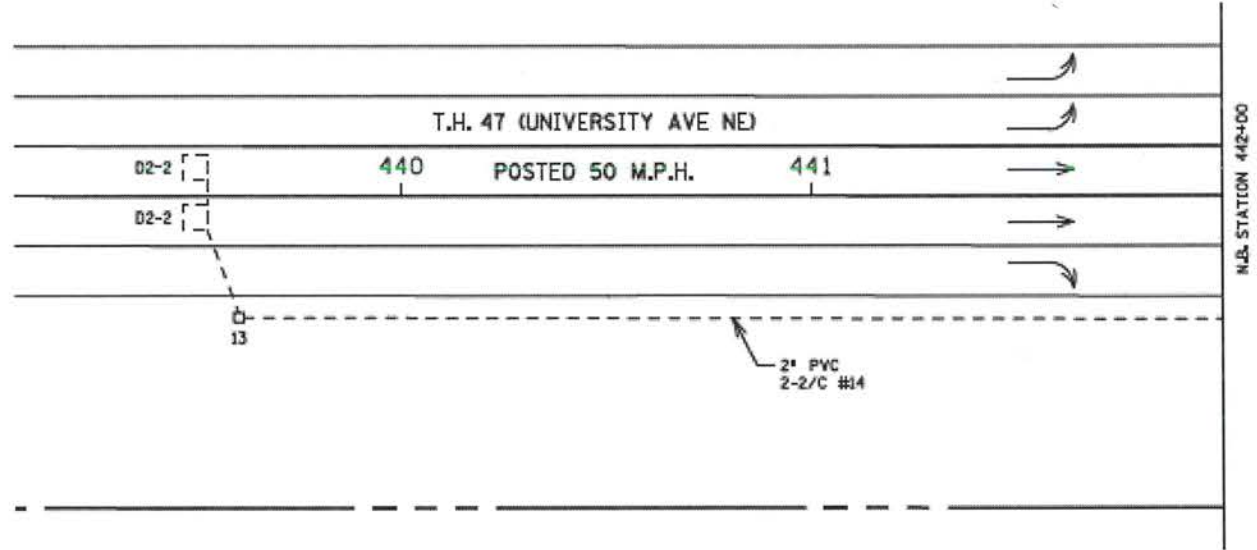
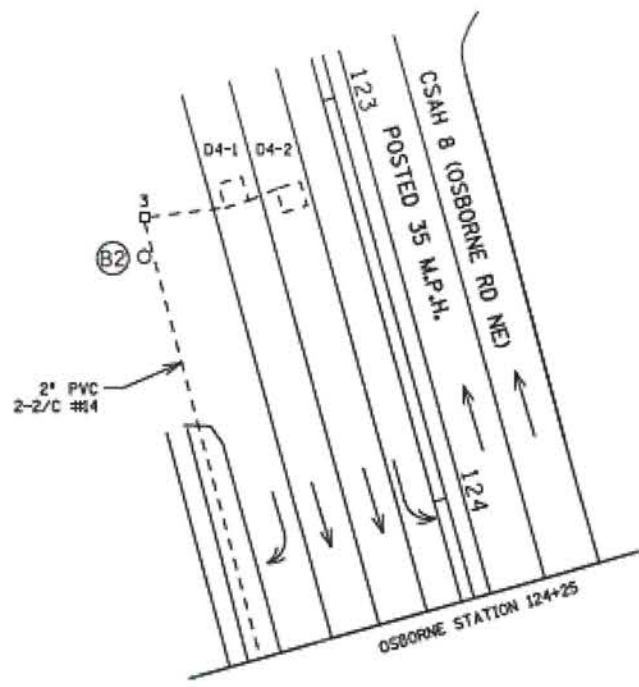
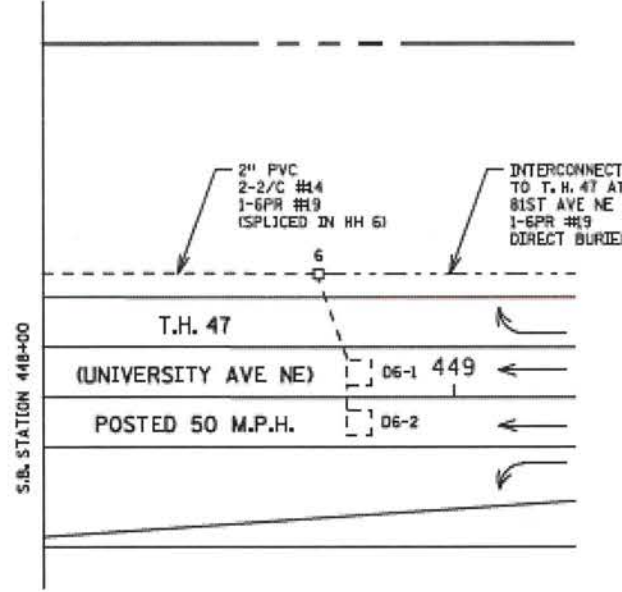
COUNTY PROJECT 15-12-08  
ORIGINAL SIGNAL PLANS  
Sheet 16 of 20 Sheets



mjohn



PLOTTED/REVISED 1/17/2014



DISTRICT 4, METRO  
 IF PLOT NAME: match lines  
 PATH & FILENAME: IP\_PWP-00781034AT20681.dgn

FOR REFERENCE PURPOSES ONLY

BY	DATE	REVISIONS	SYSTEM ID: 20681	T.E. 5123	S.A.P. NO.	DRAWN BY: BAW	CKD BY: COB	DATE: 04-21-10
GDS	01-17-14	AS BUILT OF SP 0205-98	METER ADDRESS: 7556 UNIVERSITY AVE. N.E		CERTIFIED BY: _____	LIC. NO. _____	DATE: 04-21-10	
			MASTER ID:	T.E.	STATE PROJ. NO.	(T.H.47)	SHEET NO. 2 OF 5 SHEETS	
<b>MATCH LINES LAYOUT</b> TRAFFIC CONTROL SIGNAL SYSTEM T.H. 47 (UNIVERSITY AVE. NE) AT C.S.A.H. 8 (OSBORNE RD. NE) IN FRIDLEY, ANOKA COUNTY								

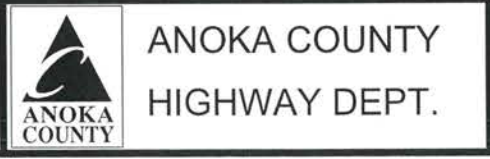
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					03/20/2015	

NAME: P:\15-01-00CSAH\_08(Main-TH47)\Base\PROPOSED\TEMPLATE\_PLAN.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: MATTHEW J. JOHN  
 SIGNATURE: *[Signature]*  
 DATE: 4/2/15 LICENSE NO. 51639

DRAWN BY: KPR DATE: 02/20/2015  
 DESIGN BY: KPR DATE: 02/20/2015  
 CHECKED BY: MJJ DATE: 02/23/2015



COUNTY PROJECT 15-12-08

ORIGINAL SIGNAL PLANS  
 Sheet 17 of 20 Sheets

PLOTTED/REVISED 1/17/2014

DISTRICT: METRO  
PLOT NAME: rwns  
PATH & FILENAME: IP\_PWP0078034AT20681.dgn

① S.B. STA. 443+10, 32.2' LT.  
PA100 POLE FOUNDATION  
TYPE PA100-A-55-D40-9 (DAVIT AT 350 DEG)  
3-ONE WAY SIGNALS OVERHEAD AT 0', 17', 29'  
ONE WAY SIGNAL MOUNTED AT 45 DEG IRC DESIGN  
ONE WAY SIGNAL MOUNTED AT 225 DEG IRC DESIGN  
1-C. D. PED HEAD MOUNTED AT 45 DEG  
1-C. D. PED HEAD MOUNTED AT 225 DEG  
1-ONE WAY EVP DETECTOR AND  
CONFIRMATORY LIGHT (PHASES 1+6)  
LUMINAIRE 250W HPS  
1-R6-1L SIGN (ONE WAY) (48" X 18")  
1-R6-1R SIGN (ONE WAY) (48" X 18")  
1-INTERNALLY LIT TYPE D SIGN  
EXTEND INTO HH 1:  
3" RSC  
2-1/C #0  
3-12/C #12  
2-3/C #12  
1-3/C #20

② S.B. STA. 444+45, 51.6' LT.  
PA100 POLE FOUNDATION  
TYPE PA100-A-55-D40-9 (DAVIT AT 350 DEG)  
2-ONE WAY SIGNALS OVERHEAD AT 0' AND 11'  
ONE WAY SIGNAL MOUNTED AT 45 DEG IRC DESIGN  
1-C. D. PED HEAD MOUNTED AT 45 DEG  
1-C. D. PED HEAD MOUNTED AT 225 DEG  
1-ONE WAY EVP DETECTOR AND  
CONFIRMATORY LIGHT (PHASES 3+8)  
LUMINAIRE 250W HPS  
1-R10-X12 SIGN (36" X 48") ADJACENT TO HEAD (8-3)  
1-INTERNALLY LIT TYPE D SIGN  
EXTEND INTO HH 4:  
3" RSC  
2-1/C #0  
2-12/C #12  
3-3/C #12  
1-2/C #4  
1-3/C #20

Ⓐ S.B. STA. 442+74, 59' LT.  
EQUIPMENT PAD  
SERVICE CABINET  
CONTROLLER AND CABINET  
4" RSC TO HH 1:  
6-12/C #12  
5-3/C #12  
14-2/C #14  
2-3/C #20  
1-6PR #19  
4" RSC TO HH 15:  
6-12/C #12  
6-3/C #12  
14-2/C #14  
2-3/C #20  
2" RSC TO HH 10:  
1-6PR #19  
1-3" RSC STUBBED OUT (THREADED AND CAPPED BOTH ENDS)  
3/4" RSC STUBBED OUT (FOR TELEPHONE LINE)  
CONTROLLER CABINET TO SERVICE CABINET:  
2" RSC  
2-1/C #6  
1-1/C #6 INS. GR.  
SERVICE CABINET TO SOP VIA HH 16:  
2" RSC  
3-1/C #2  
SERVICE CABINET TO HH 15:  
2" RSC  
8-1/C #10  
2-3/C #12  
HH 15 TO HH 1:  
2" RSC  
4-1/C #10  
1-3/C #12

⑥ N.B. STA. 443+49, 52.5' LT.  
PEDESTAL FOUNDATION  
15' PEDESTAL POLE PLUS BASE  
ONE WAY SIGNAL MOUNTED AT 270 DEG IRC DESIGN  
1-C. D. PED HEAD MOUNTED AT 90 DEG  
1-C. D. PED HEAD MOUNTED AT 270 DEG  
EXTEND INTO HH 14:  
2" RSC  
1-12/C #12  
1-3/C #12  
1-2/C #4

③ N.B. STA. 444+79, 29.3' LT.  
PEDESTAL FOUNDATION  
15' PEDESTAL POLE PLUS BASE  
ONE WAY SIGNAL MOUNTED AT 270 DEG IRC DESIGN  
1-C. D. PED HEAD MOUNTED AT 90 DEG  
1-C. D. PED HEAD MOUNTED AT 270 DEG  
1-APS PB AND SIGN (DLB ARROW) (P88-3)  
EXTEND INTO HH 7:  
2" RSC  
1-12/C #12  
1-3/C #12

Ⓑ1 SOP (WOOD POLE WITH OVERHEAD CABLE TO TRANSFORMER  
AT B2 BY XCEL ENERGY).  
2" RSC RISER, WEATHERHEAD AND CONDUIT INTO HH 16:  
3-1/C #2

⑤ N.B. STA. 443+73, 49.5' RT.  
PA100 POLE FOUNDATION  
TYPE PA100-A-55  
2-ONE WAY SIGNALS OVERHEAD AT 0' AND 11'  
ONE WAY SIGNAL MOUNTED AT 45 DEG IRC DESIGN  
1-C. D. PED HEAD MOUNTED AT 45 DEG  
1-C. D. PED HEAD MOUNTED AT 225 DEG  
1-ONE WAY EVP DETECTOR AND  
CONFIRMATORY LIGHT (PHASES 4+7)  
1-R10-X12 SIGN (36" X 48") ADJACENT TO HEAD (4-3)  
1-INTERNALLY LIT TYPE D SIGN  
EXTEND INTO HH 11:  
3" RSC  
2-1/C #0  
2-12/C #12  
3-3/C #12  
1-2/C #4  
1-3/C #20

④ N.B. STA. 445+20, 32.2' RT.  
PA100 POLE FOUNDATION  
(1/1" PVC STUB OUT & 5/8" X 15' GR. ROD)  
TYPE PA100-A-55-D40-9 (DAVIT AT 350 DEG)  
3-ONE WAY SIGNALS OVERHEAD AT 0', 17', 29'  
ONE WAY SIGNAL MOUNTED AT 45 DEG IRC DESIGN  
ONE WAY SIGNAL MOUNTED AT 225 DEG IRC DESIGN  
1-C. D. PED HEAD MOUNTED AT 45 DEG  
1-C. D. PED HEAD MOUNTED AT 225 DEG  
1-ONE WAY EVP DETECTOR AND  
CONFIRMATORY LIGHT (PHASES 2+5)  
LUMINAIRE 250W HPS  
1-R6-1L SIGN (ONE WAY) (48" X 18")  
1-R6-1R SIGN (ONE WAY) (48" X 18")  
1-INTERNALLY LIT TYPE D SIGN  
EXTEND INTO HH 8:  
3" RSC  
2-1/C #0  
3-12/C #12  
2-3/C #12  
1-3/C #20

Ⓑ2 SOP (WOOD POLE AND TRANSFORMER BY XCEL ENERGY).  
2" RSC RISER, WEATHERHEAD AND CONDUIT INTO HH 16:  
3-1/C #2 OVERHEAD TO TRANSFORMER (BY XCEL ENERGY)

FOR REFERENCE PURPOSES ONLY

BY	DATE	REVISIONS	SYSTEM ID: 20681	T.E. 5123	INTERSECTION NOTES	S.A.P. NO.	DRAWN BY: BAW	CKD BY: CDB	DATE: 04-21-10
GDS	01-17-14	AS BUILT OF SP 0205-98	METER ADDRESS: 7556 UNIVERSITY AVE. N.E	T.E.	TRAFFIC CONTROL SIGNAL SYSTEM	CERTIFIED BY _____	LIC. NO. _____	DATE: 04-21-10	
			MASTER ID:	T.E.	T.H. 47 (UNIVERSITY AVE. NE) AT C.S.A.H. 8	STATE PROJ. NO.	(T.H. 47)	SHEET NO. 3 OF 5 SHEETS	
					(OSBORNE RD. NE) IN FRIDLEY, ANOKA COUNTY				

NO	DATE	BY	CKD	APPR	REVISION	03/20/2015	3:22:26 PM
NAME: P:\15-01-00CSAH_08(Main-TH47)\Base\PROPOSED\TEMPLATE_PLAN.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: MATTHEW J. JOHN  
SIGNATURE: *Matthew J. John*  
DATE: 4/2/15 LICENSE NO. 51639

DRAWN BY: KPR DATE 02/20/2015  
DESIGN BY: KPR DATE 02/20/2015  
CHECKED BY: MJJ DATE 02/23/2015



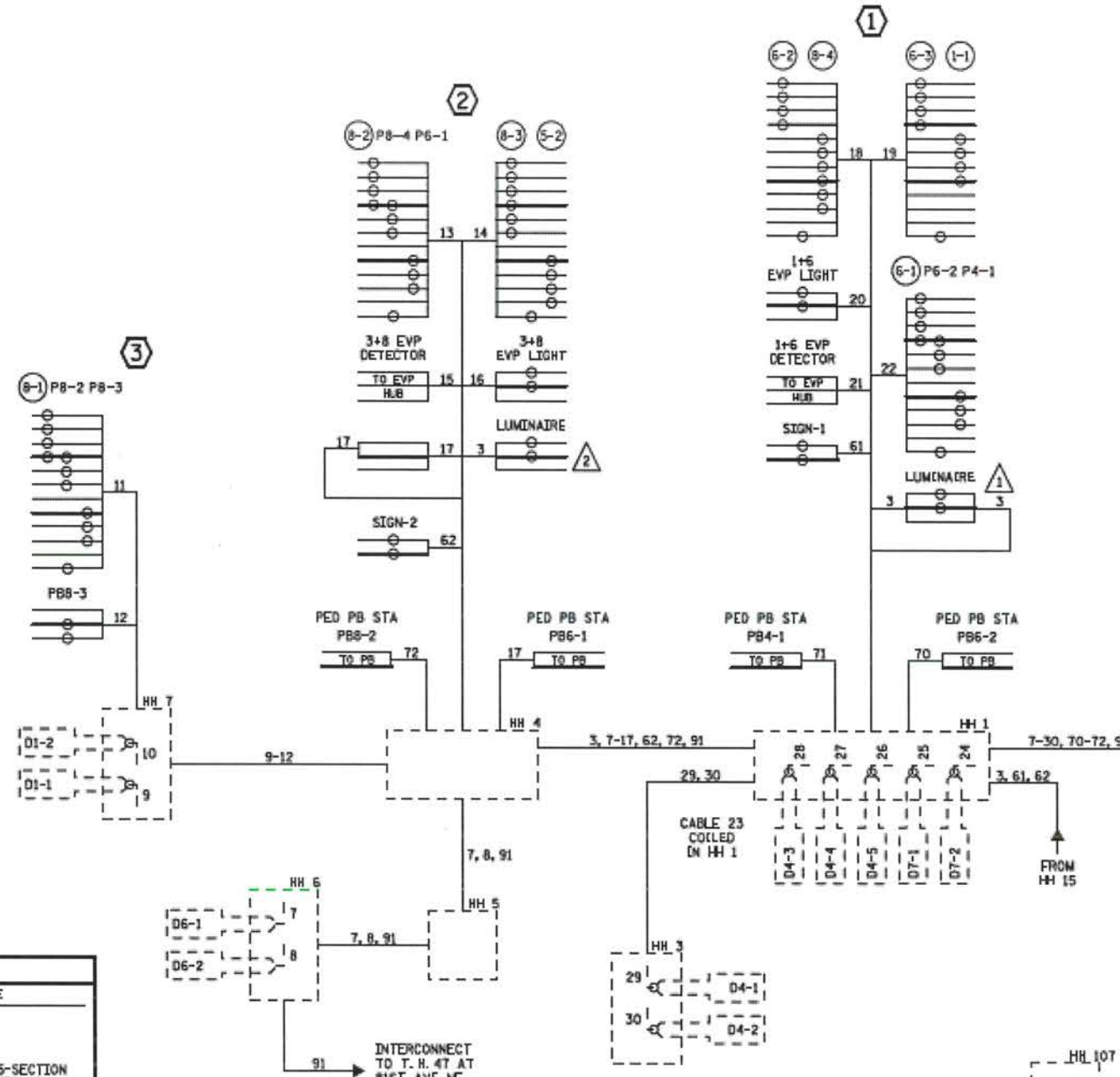
ANOKA COUNTY  
HIGHWAY DEPT.

COUNTY PROJECT 15-12-08

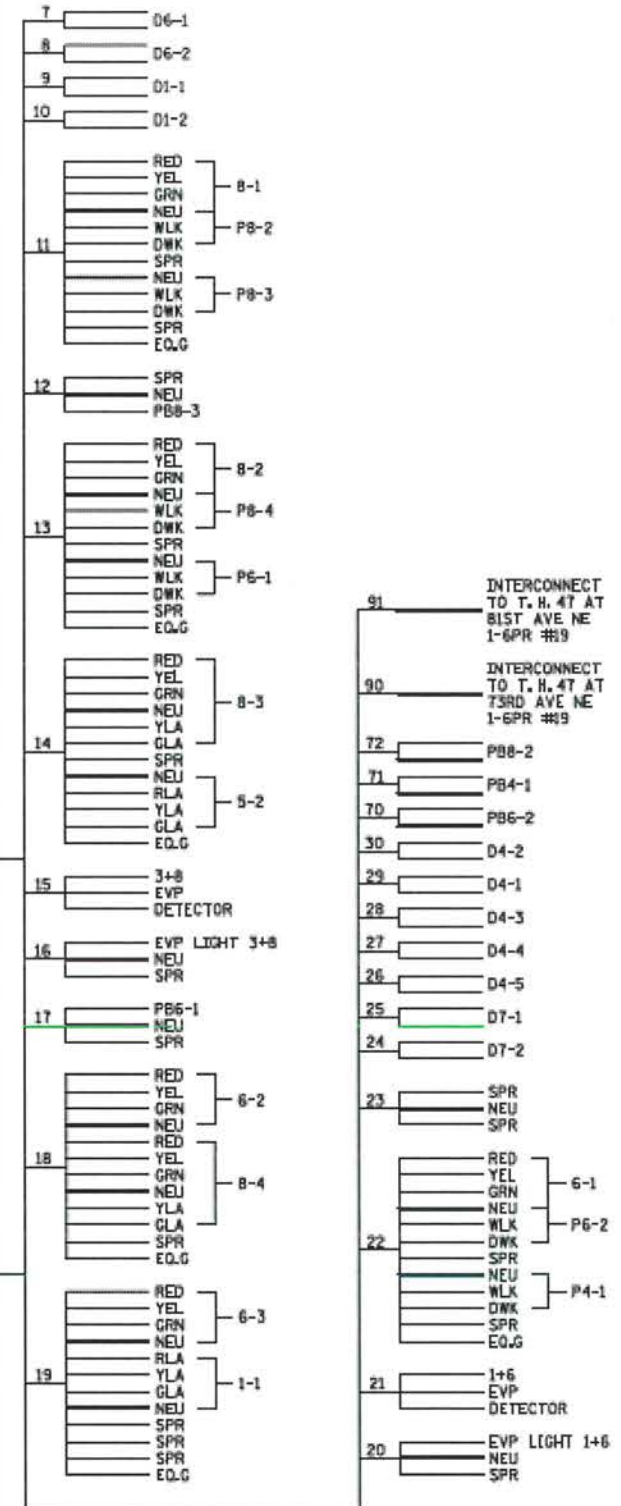
ORIGINAL SIGNAL PLANS  
Sheet 18 of 20 Sheets

PLOTTED/REVISED 1/17/2014

DISTRICT 4 METRO  
PLOT NAME: WIRING 1  
PATH & FILENAME: JP\_PWP-007/03/SAT/20681-09.dgn



### CONTROLLER CABINET



#### CONDUCTOR COLOR CODE

TO SIGNAL CABINET      TO DEVICE

TO SIGNAL CABINET	TO DEVICE
3/C#20 R OR D	R RED
12/C#12 W/BLK	BL YEL
2-1/C	Y GRN
2/C#14 BLK	BLK YLTA
	BRN GLTA
	SPR
	R RED
	BL YEL
	Y GRN
	BLK NEU
	BLK GLTA
	R DWK
	BL WLK
	WH NEU
	BLK SPR

BY	DATE	REVISIONS
GDS	01-17-14	AS BUILT OF SP 0205-98

SYSTEM ID: 20681	T.E. 5123
METER ADDRESS: 7556 UNIVERSITY AVE. N.E	
MASTER ID:	T.E.

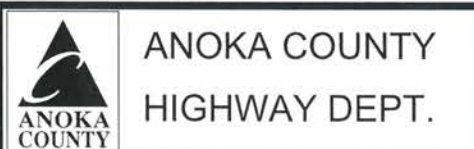
FIELD WIRING DIAGRAM (1 OF 2)  
TRAFFIC CONTROL SIGNAL SYSTEM  
T.H. 47 (UNIVERSITY AVE. NE) AT C.S.A.H. 8  
(OSBORNE RD. NE) IN FRIDLEY, ANOKA COUNTY

S.A.P. NO.	DRAWN BY: BAM	CKD BY: CDB	DATE: 04-21-10
CERTIFIED BY:	LIC. NO.	DATE:	04-21-10
STATE PROJ. NO.	(T.H. 47)	SHEET NO. 4 OF 5 SHEETS	

FOR REFERENCE PURPOSES ONLY

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: *Matthew J. John*  
DATE: 4/2/15 LICENSE NO. 51639

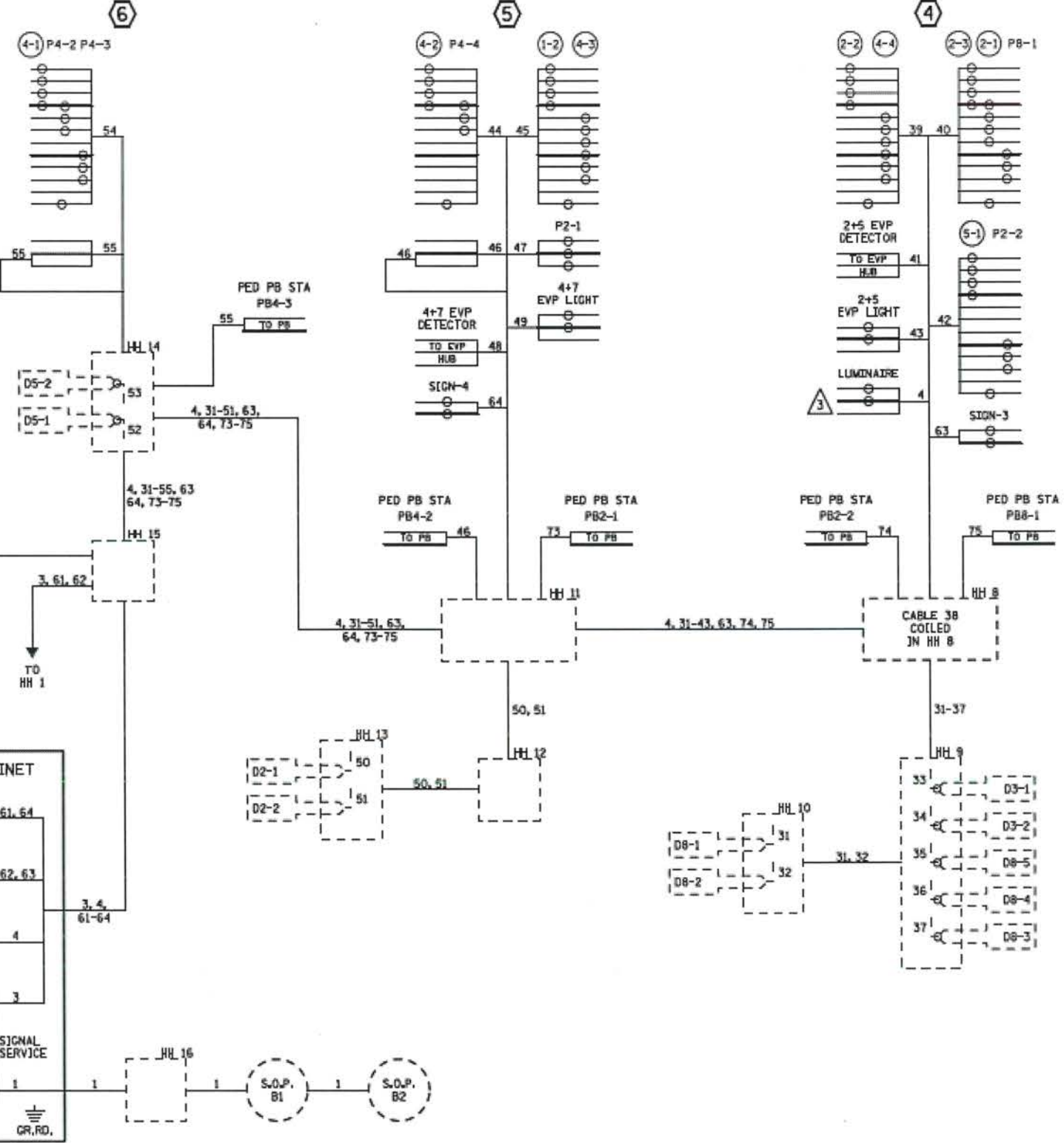
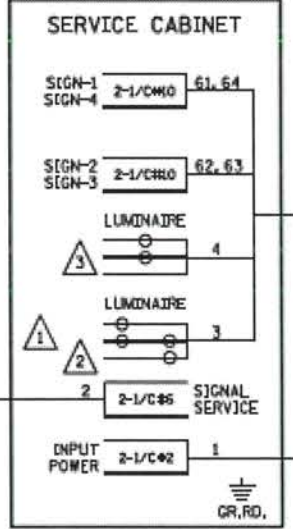
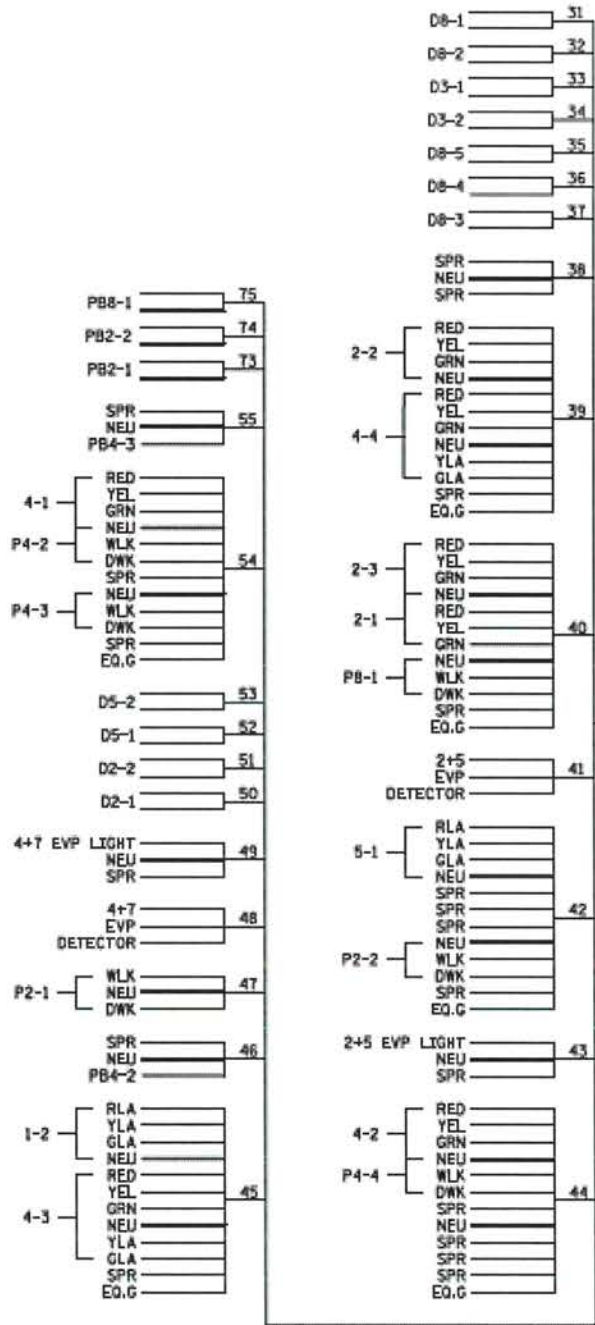
DRAWN BY: KPR DATE: 02/20/2015  
DESIGN BY: KPR DATE: 02/20/2015  
CHECKED BY: MJJ DATE: 02/23/2015



COUNTY PROJECT 15-12-08

ORIGINAL SIGNAL PLANS  
Sheet 19 of 20 Sheets

# CONTROLLER CABINET



DISTRICT 4, METRO  
 PLOT NAME: wiring 2  
 PATH & FILENAME: IP\_PWP-007803-AT-20681.spl.dgn  
 PLOTTED/REVISED 1/17/2014

FOR REFERENCE PURPOSES ONLY

BY: GDS	DATE: 01-17-14	REVISIONS: AS BUILT OF SP 0205-98	SYSTEM ID: 20681	T.E. 5123	FIELD WIRING DIAGRAM (2 OF 2) TRAFFIC CONTROL SIGNAL SYSTEM T.H. 47 (UNIVERSITY AVE. NE) AT C.S.A.H. 8 (OSBORNE RD. NE) IN FRIDLEY, ANOKA COUNTY	S.A.P. NO.	DRAWN BY: BAW	CKD BY: COB	DATE: 04-21-10
			METER ADDRESS: 7556 UNIVERSITY AVE. N.E.	T.E.		CERTIFIED BY:	LIC. NO.	DATE: 04-21-10	
			MASTER ID:			STATE PROJ. NO. (T.H. 47)	SHEET NO. 5 OF 5 SHEETS		

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: <i>Matthew J. John</i> DATE: 4/2/15 LICENSE NO. 51639		DRAWN BY: KPR DATE: 02/20/2015 DESIGN BY: KPR DATE: 02/20/2015 CHECKED BY: MJJ DATE: 02/23/2015	ANOKA COUNTY HIGHWAY DEPT.	COUNTY PROJECT: 15-12-08 ORIGINAL SIGNAL PLANS Sheet 20 of 20 Sheets
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