

**REVISE SIGNAL SYSTEM NOTES:**

1. F&I LOOP DETECTION AS NOTED FOR THE OFF RAMP (PHASE 4).
2. F&I PUSHBUTTONS STATIONS AS NOTED.
3. F&I MA-4E IN NE CORNER WITH WITH 1 PED INDICATION (Ø 2) AND PUSHBUTTON (Ø 2).
4. F&I PED INDICATION ON MA-3 POLE (Ø 2) (180° POLE MOUNT).
5. REMOVE EXISTING PUSHBUTTONS ON MA-1, SA-1, MA-2 AND MA-3.
6. ALL ITEMS ARE INPLACE UNLESS BOLDED AND NOTED F&I OR REMOVE. ▲ DENOTES REVISE SIGNAL SYSTEM PAY ITEM WORK.
7. POLE, CABINET AND SERVICE NOTES ARE LOCATED ON THE FOLLOWING SHEET (SS36).
8. SEE THE "FOR INFORMATION ONLY" SHEETS FOR EXISTING LAYOUT AND WIRING DIAGRAM.

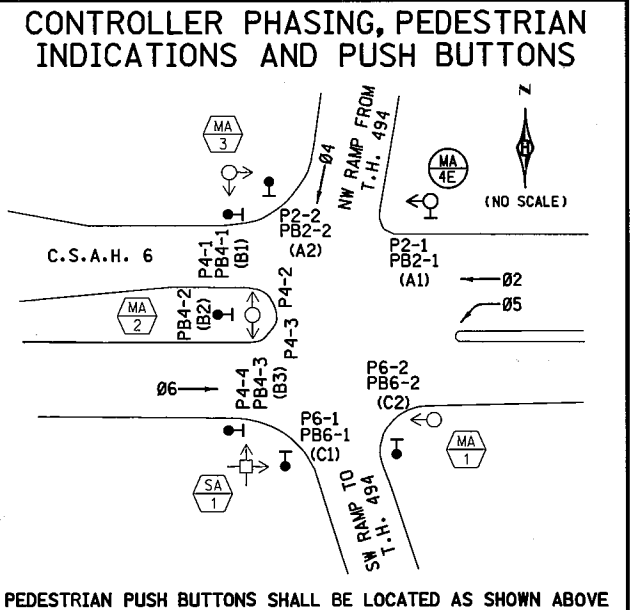
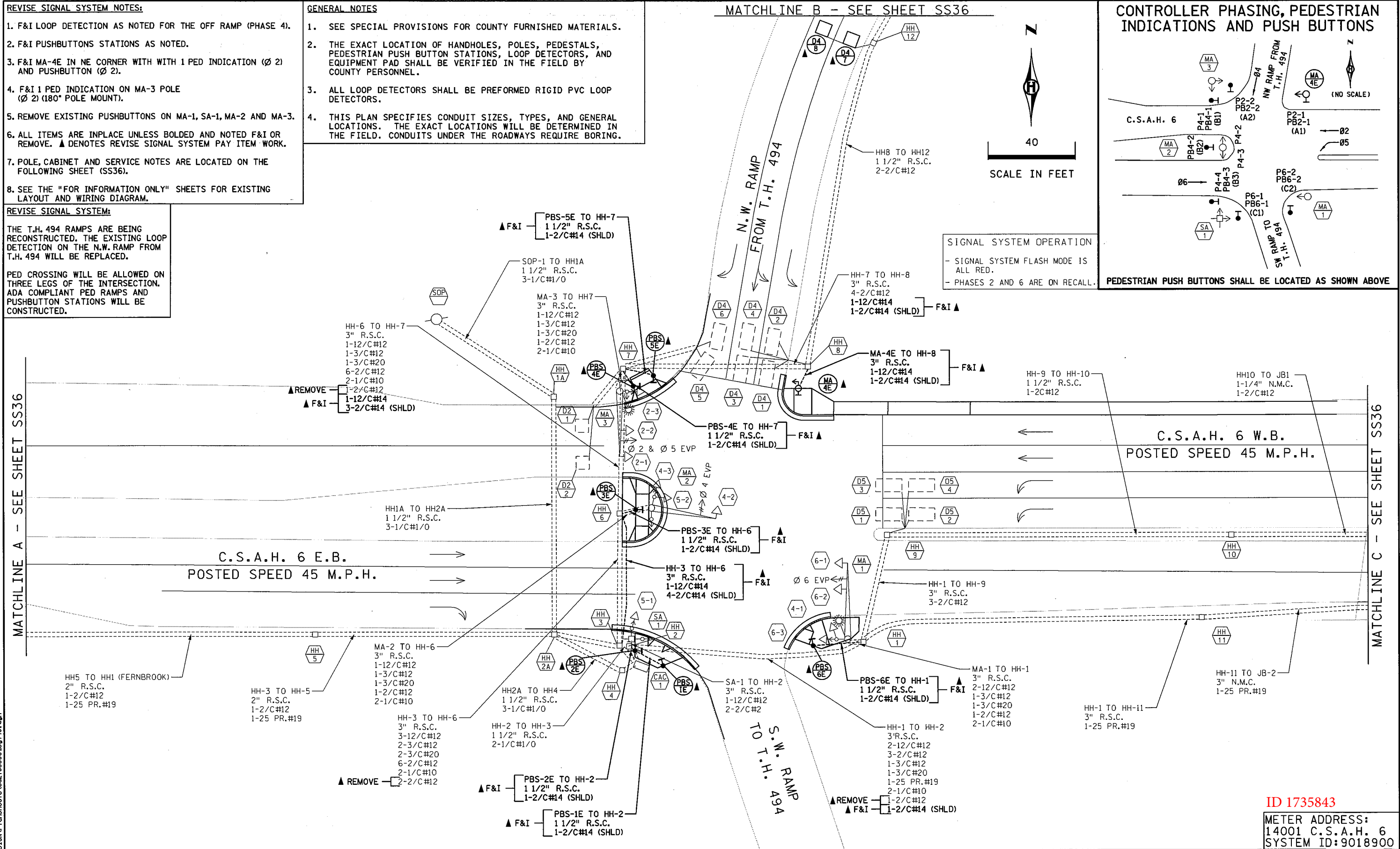
**GENERAL NOTES**

1. SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
2. THE EXACT LOCATION OF HANDHOLES, POLES, PEDESTALS, PEDESTRIAN PUSH BUTTON STATIONS, LOOP DETECTORS, AND EQUIPMENT PAD SHALL BE VERIFIED IN THE FIELD BY COUNTY PERSONNEL.
3. ALL LOOP DETECTORS SHALL BE PREFORMED RIGID PVC LOOP DETECTORS.
4. THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAYS REQUIRE BORING.

**REVISE SIGNAL SYSTEM:**

THE T.H. 494 RAMPS ARE BEING RECONSTRUCTED. THE EXISTING LOOP DETECTION ON THE N.W. RAMP FROM T.H. 494 WILL BE REPLACED.

PED CROSSING WILL BE ALLOWED ON THREE LEGS OF THE INTERSECTION. ADA COMPLIANT PED RAMPS AND PUSHBUTTON STATIONS WILL BE CONSTRUCTED.



**SIGNAL SYSTEM OPERATION**  
 - SIGNAL SYSTEM FLASH MODE IS ALL RED.  
 - PHASES 2 AND 6 ARE ON RECALL.

PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

MATCHLINE A - SEE SHEET SS36

MATCHLINE C - SEE SHEET SS36

ID 1735843  
 METER ADDRESS:  
 14001 C.S.A.H. 6  
 SYSTEM ID: 9018900

0	12/16/14	KAS	RJG	RJG	FINAL PLAN SUBMITTAL
NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report 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: **KATIE SCHMIDT**  
*Katie Schmidt*  
 Date: 12/16/14 License #: 47147

STATE AID PROJECT NO. 027-030-039  
 STATE PROJECT NO. 2785-330  
 COUNTY PROJECT NO.  
 CITY PROJECT NO.

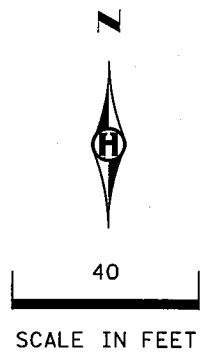
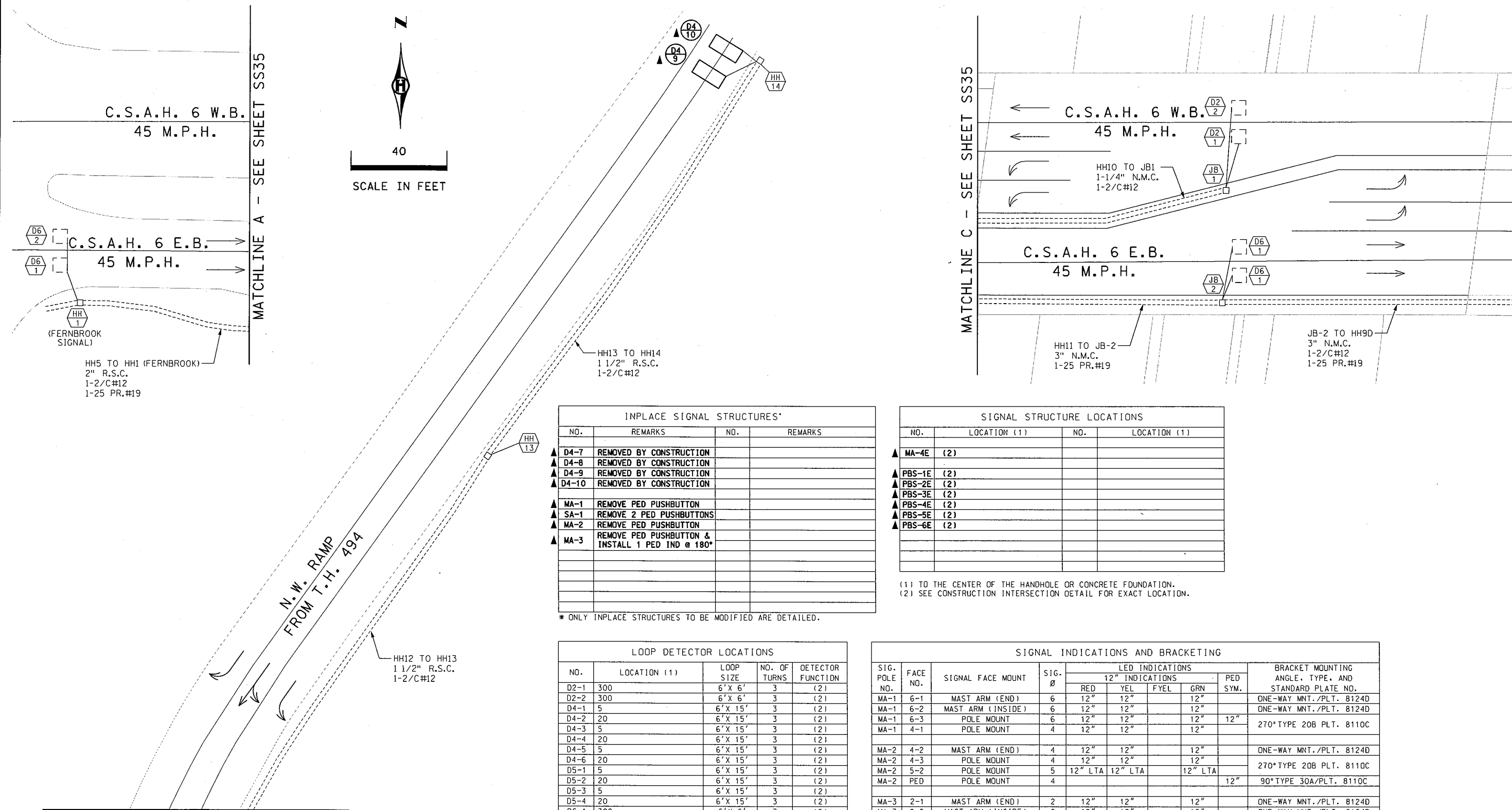
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 DESIGNED BY  
 CHECKED BY

**ALLIANT ENGINEERING**  
 233 Park Ave S, Ste 300  
 Minneapolis, MN 55415  
 612.758.3080 MAIN  
 612.758.3099 FAX  
 www.alliant-inc.com

**SP 2785-330 (TH 494)**  
 REVISE SIGNAL SYSTEM "E"  
 INTERSECTION LAYOUT  
 C.S.A.H. 6 AT T.H. 494 WEST RAMPS

SHEET SS35 OF SS61

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INPLACE SIGNAL STRUCTURES*			
NO.	REMARKS	NO.	REMARKS
▲ D4-7	REMOVED BY CONSTRUCTION		
▲ D4-8	REMOVED BY CONSTRUCTION		
▲ D4-9	REMOVED BY CONSTRUCTION		
▲ D4-10	REMOVED BY CONSTRUCTION		
▲ MA-1	REMOVE PED PUSHBUTTON		
▲ SA-1	REMOVE 2 PED PUSHBUTTONS		
▲ MA-2	REMOVE PED PUSHBUTTON		
▲ MA-3	REMOVE PED PUSHBUTTON & INSTALL 1 PED IND @ 180°		

SIGNAL STRUCTURE LOCATIONS			
NO.	LOCATION (1)	NO.	LOCATION (1)
▲ MA-4E	(2)		
▲ PBS-1E	(2)		
▲ PBS-2E	(2)		
▲ PBS-3E	(2)		
▲ PBS-4E	(2)		
▲ PBS-5E	(2)		
▲ PBS-6E	(2)		

(1) TO THE CENTER OF THE HANDHOLE OR CONCRETE FOUNDATION.  
 (2) SEE CONSTRUCTION INTERSECTION DETAIL FOR EXACT LOCATION.

LOOP DETECTOR LOCATIONS				
NO.	LOCATION (1)	LOOP SIZE	NO. OF TURNS	DETECTOR FUNCTION
D2-1	300	6' X 6'	3	(2)
D2-2	300	6' X 6'	3	(2)
D4-1	5	6' X 15'	3	(2)
D4-2	20	6' X 15'	3	(2)
D4-3	5	6' X 15'	3	(2)
D4-4	20	6' X 15'	3	(2)
D4-5	5	6' X 15'	3	(2)
D4-6	20	6' X 15'	3	(2)
D5-1	5	6' X 15'	3	(2)
D5-2	20	6' X 15'	3	(2)
D5-3	5	6' X 15'	3	(2)
D5-4	20	6' X 15'	3	(2)
D6-1	300	6' X 6'	3	(2)
D6-2	300	6' X 6'	3	(2)
▲ D4-7	170	6' X 6'	3	(3)
▲ D4-8	170	6' X 6'	3	(3)
▲ D4-9	545	6' X 20'	3	(4)
▲ D4-10	560	6' X 20'	3	(4)

(1) DISTANCE FROM THE STOP BAR  
 (2) CALL AND EXTEND  
 (3) DELAY CALL AND EXTEND  
 (4) QUEUE DETECTOR

SIGNAL INDICATIONS AND BRACKETING									
SIG. POLE NO.	FACE NO.	SIGNAL FACE MOUNT	SIG. Ø	LED INDICATIONS				PED SYM.	BRACKET MOUNTING ANGLE, TYPE, AND STANDARD PLATE NO.
				RED	YEL	FYEL	GRN		
MA-1	6-1	MAST ARM (END)	6	12"	12"				ONE-WAY MNT./PLT. 8124D
MA-1	6-2	MAST ARM (INSIDE)	6	12"	12"				ONE-WAY MNT./PLT. 8124D
MA-1	6-3	POLE MOUNT	6	12"	12"		12"		270° TYPE 20B PLT. 8110C
MA-1	4-1	POLE MOUNT	4	12"	12"		12"		
MA-2	4-2	MAST ARM (END)	4	12"	12"		12"		ONE-WAY MNT./PLT. 8124D
MA-2	4-3	POLE MOUNT	4	12"	12"		12"		270° TYPE 20B PLT. 8110C
MA-2	5-2	POLE MOUNT	5	12" LTA	12" LTA		12" LTA		
MA-2	2	POLE MOUNT	4				12"		90° TYPE 30A/PLT. 8110C
MA-3	2-1	MAST ARM (END)	2	12"	12"		12"		ONE-WAY MNT./PLT. 8124D
MA-3	2-2	MAST ARM (INSIDE)	2	12"	12"		12"		ONE-WAY MNT./PLT. 8124D
MA-3	2-3	POLE MOUNT	2	12"	12"		12"		270° TYPE 10B PLT. 8110C
MA-3	PED	POLE MOUNT	4				12"		
SA-1	5-1	PEDESTAL MOUNT	5	12" LTA	12" LTA		12" LTA		
SA-1	PED	PEDESTAL MOUNT	6				12"		TYPE 10 PLT. 8111B
SA-1	PED	PEDESTAL MOUNT	4				12"		
▲ MA-4E		POLE MOUNT	2				12"		90° TYPE 30A/PLT. 8111E

\* PEDESTRIAN INDICATIONS SHALL BE INTERNATIONAL SYMBOLS.

I hereby certify that this plan, specification, or report 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: **KATIE SCHMIDT**  
*Katie Schmidt*  
 Date: 12/16/14 License #: 47147

STATE AID PROJECT NO. 027-030-039  
 STATE PROJECT NO. 2785-330  
 COUNTY PROJECT NO.  
 CITY PROJECT NO.

DRAWN BY  
 DESIGNED BY  
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**ALLIANT ENGINEERING**  
 233 Park Ave S, Ste 300  
 Minneapolis, MN 55415  
 612.758.3080 MAIN  
 612.758.3099 FAX  
 www.alliant-inc.com

**SP 2785-330 (TH 494)**  
 REVISE SIGNAL SYSTEM "E"  
 MATCHLINE LAYOUTS AND TABULATIONS  
 C.S.A.H. 6 AT T.H. 494 WEST RAMPS

SHEET SS36 OF SS61

ID 1735843

METER ADDRESS:  
 14001 C.S.A.H. 6  
 SYSTEM ID: 9018900

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NO	DATE	BY	CHKD	APPR	REVISION
0	12/16/14	KAS	RJG	RJG	FINAL PLAN SUBMITTAL



SIGNAL AND COMPONENT LOCATION*			
NO.	LOCATION	NO.	LOCATION
HH1	112+33 - 34R	HH10	114+13 - 17R
HH2	111+28 - 35R	HH11	113+95 - 29R
HH3	111+23 - 35R	HH12	112+30 - 16R
HH4	111+16 - 38R	HH13	112+97 - 30R
HH5	109+53 - 36R	HH14	114+04 - 43R
HH6	111+23 - 32R		
HH7	111+03 - 9R		
HH8	112+08 - 94R	EQUIPMENT PAD B	111+26 - 45R
HH9	112+58 - 17R		

NO.	LOCATION	LOOP SIZE	NO. OF TURNS	LOOP FUNCTION
MA-1	112+25 - 30R	6XE	3	(1) SEE NOTE 6
MA-2	111+42 - 31R	6XE	3	(1) SEE NOTE 6
MA-3	111+25 - 79R	6XE	3	(1) SEE NOTE 7
SA-1	111+25 - 79R	6XE	3	(1) SEE NOTE 7

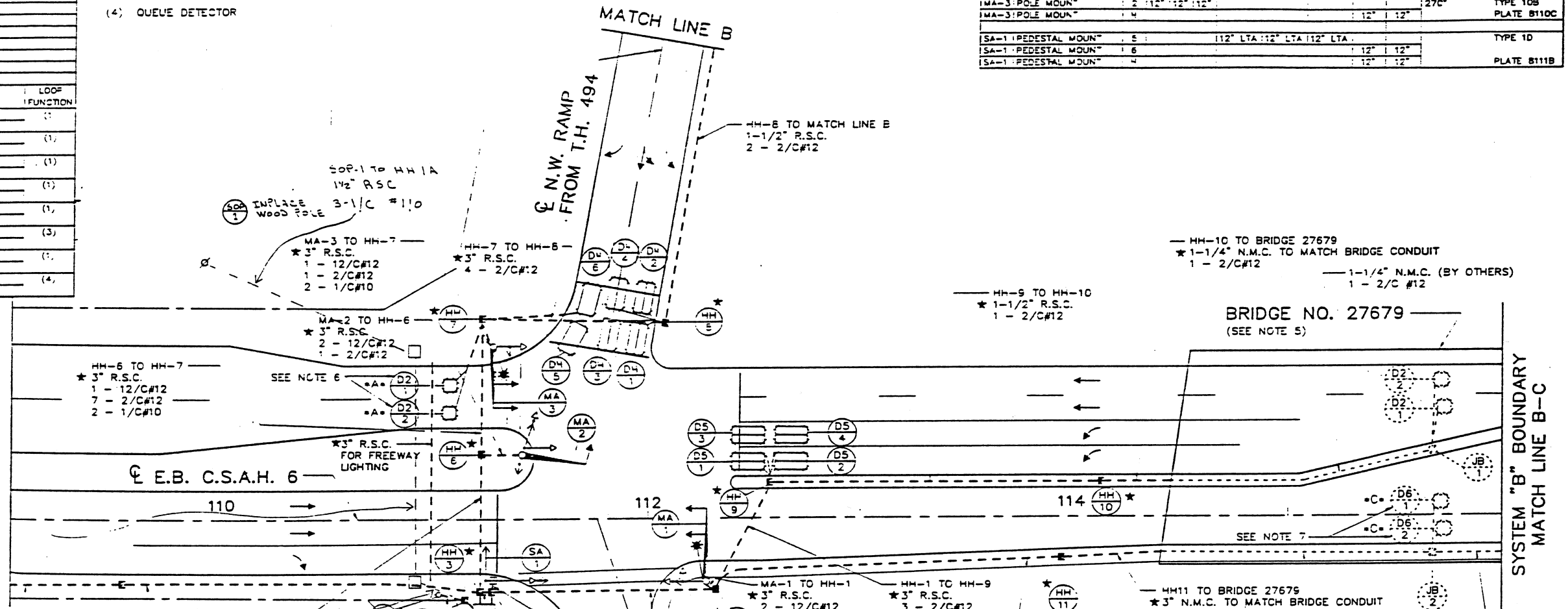
  

NO.	LOCATION	LOOP SIZE	NO. OF TURNS	LOOP FUNCTION
D2-1	WEST EDGE A 115+68 SOUTH EDGE A 48R	6XE	3	(1)
D2-2	WEST EDGE A 115+68 SOUTH EDGE A 62R	6XE	3	(1)
D5-1	WEST EDGE A 112+40 SOUTH EDGE A 23R	6X15	2	(1)
D5-2	WEST EDGE A 112+60 SOUTH EDGE A 23R	6X15	2	(1)
D5-3	WEST EDGE A 112+40 SOUTH EDGE A 36R	6X15	2	(1)
D5-4	WEST EDGE A 112+60 SOUTH EDGE A 36R	6X15	2	(1)
D4-1	WEST EDGE A 111+90 SOUTH EDGE A 80R	6X15	2	(1)
D4-2	WEST EDGE A 111+90 SOUTH EDGE A 100R	6X15	2	(1)
D4-3	WEST EDGE A 111+77 SOUTH EDGE A 82R	6X15	2	(1)
D4-4	WEST EDGE A 111+85 SOUTH EDGE A 102R	6X15	2	(1)
D4-5	WEST EDGE A 111+88 SOUTH EDGE A 83R	6X15	2	(3)
D4-6	WEST EDGE A 111+86 SOUTH EDGE A 100R	6X15	2	(3)
D4-7	WEST EDGE A 112+08 SOUTH EDGE A 170R	6XE	3	(1)
D4-8	WEST EDGE A 112+15 SOUTH EDGE A 165R	6XE	3	(1)
D4-9	WEST EDGE A 113+70 SOUTH EDGE A 445R	6X20	2	(4)
D4-10	WEST EDGE A 113+75 SOUTH EDGE A 445R	6X20	2	(4)

NO.	LOCATION	LOOP SIZE	NO. OF TURNS	LOOP FUNCTION
MA-2-1	EAST EDGE A 111+11 SOUTH EDGE A 48R	6XE	3	(1) SEE NOTE 6
MA-2-2	EAST EDGE A 111+11 SOUTH EDGE A 62R	6XE	3	(1) SEE NOTE 6
MA-2-3	WEST EDGE A 115+75 SOUTH EDGE A 3R	6XE	3	(1) SEE NOTE 7
MA-2-4	WEST EDGE A 115+75 NORTH EDGE A 3R	6XE	3	(1) SEE NOTE 7

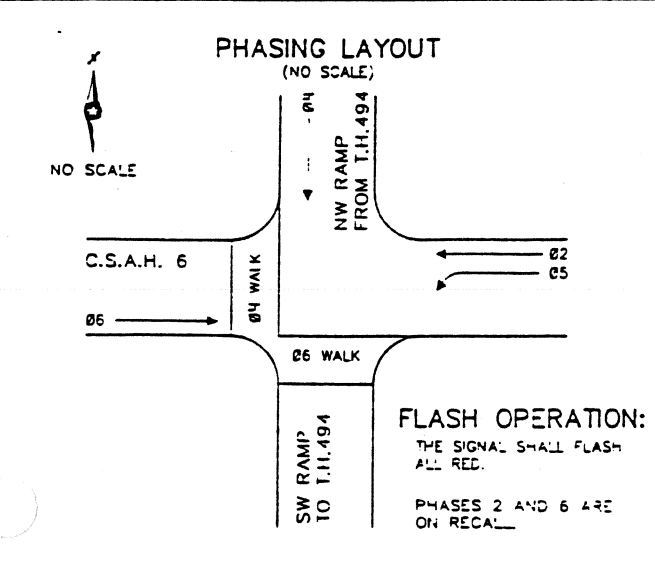
- \* ALL LOCATIONS ARE REFERENCED OFF EASTBOUND C.S.A.H. 6 CENTERLINE
- \*\* NUMBER OF TURNS IN THE LOOP UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER
- (1) CALL AND EXTEND
- (2) EXTEND ONLY
- (3) DELAY CALL AND EXTEND
- (4) QUEUE DETECTOR

SIGNAL INDICATION AND BRACKETING						
SIG. POLE NO.	SIGNAL FACE MOUNT	SIG. VEHICULAR INDICATION SIZE AND TYPE	PEDESTRIAN WALK	BRACKET MOUNTING ANGLE TYPE AND STANDARD PLATE NO.		
MA-1	MAST ARM (END)	6 112" 112" 112"	12" 12"	ONE-WAY MNT./PLT. B124D		
MA-1	MAST ARM (INSIDE)	6 112" 112" 112"	12" 12"	ONE-WAY MNT./PLT. B124D		
MA-1	POLE MOUNT	4 112" 112" 112"	12" 12"	TYPE 20B PLATE B110C		
MA-2	MAST ARM (END)	4 112" 112" 112"	12" 12"	ONE-WAY MNT./PLT. B124D		
MA-2	POLE MOUNT	5 112" LTA 112" LTA 112" LTA	12" 12"	TYPE 20B PLATE B110C		
MA-2	POLE MOUNT	4 112" 112" 112"	12" 12"	90° TYPE 30A/PLT. B110C		
MA-3	MAST ARM (END)	2 112" 112" 112"	12" 12"	ONE-WAY MNT./PLT. B124D		
MA-3	MAST ARM (INSIDE)	2 112" 112" 112"	12" 12"	ONE-WAY MNT./PLT. B124D		
MA-3	POLE MOUNT	2 112" 112" 112"	12" 12"	TYPE 10B PLATE B110C		
MA-3	POLE MOUNT	4 112" 112" 112"	12" 12"	TYPE 10B PLATE B110C		
SA-1	PEDESTAL MOUNT	5 112" LTA 112" LTA 112" LTA		TYPE 10		
SA-1	PEDESTAL MOUNT	6 112" 112" 112"	12" 12"	TYPE 10B PLATE B111B		
SA-1	PEDESTAL MOUNT	4 112" 112" 112"	12" 12"	TYPE 10B PLATE B111B		

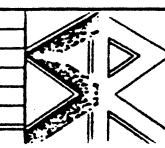


MATCH LINE A-B  
SYSTEM "B" BOUNDARY

SYSTEM "B" BOUNDARY  
MATCH LINE B-C



- NOTES:
- (1) TWO PEDESTRIAN PUSH BUTTONS SHALL BE INSTALLED ON SIGNAL ASSEMBLY PEDESTAL 1 AND ONE PEDESTRIAN PUSH BUTTON SHALL BE INSTALLED ON MAST ARM SIGNAL POLES 1, 2 AND 3 FOR OPERATION AS SHOWN IN THE PHASING LAYOUT AND CONNECTED AS SHOWN IN THE FIELD WIRING DIAGRAM.
  - (2) A 250 WATT HIGH PRESSURE SODIUM VAPOR LUMINAIRE SHALL BE INSTALLED ON MAST ARM 1 AND 3 LUMINAIRE SHAFT EXTENSIONS. SEE DETAIL SHEET NO. 2.
  - (3) ALL HANDHOLES SHALL HAVE TYPE LD COVERS.
  - (4) SEE TOPOGRAPHY AND CONSTRUCTION PLANS (CITY PROJ. NO. 250) FOR LOCATIONS OF UTILITIES.
  - (5) JB-1, JB-2, D2-1/D2-2, \*C\* D6-1/D6-2 ARE INCLUDED IN BRIDGE NO. 27679. 1-1/4" N.M.C. AND 3" N.M.C. AS SHOWN ON BRIDGE ARE ALSO INCLUDED IN BRIDGE NO. 27679.
  - (6) DETECTORS D2-1 AND D2-2, DESIGNATED WITH \*A\* OPERATE IN SYSTEM "A".
  - (7) DETECTORS D6-1 AND D6-2, DESIGNATED WITH \*C\* OPERATE IN SYSTEM "C"
  - (8) ITEMS DESIGNATED WITH \* ARE TO BE CONSTRUCTED AND INCLUDED AS PAY ITEMS UNDER CITY PROJECT NUMBER 250
  - (9) FOUNDATIONS FOR MA-1, MA-2, MA-3 AND SA-1 ARE TO BE CONSTRUCTED AND INCLUDED AS PAY ITEMS UNDER CITY PROJECT NUMBER 250.



STRGAR-ROSCOE-FAUSCH, INC.  
CONSULTING ENGINEERS ■ LAND SURVEYORS

DATE 12 1990  
PRELIMINARY DESIGN  
SUBJECT TO APPROVAL

MN/DOT System ID 21707

CITY OF PLYMOUTH  
C.S.A.H. 6  
SYSTEM "B" SIGNAL PLAN LAYOUT  
C.S.A.H. 6 AT WEST RAMPS

STATE AID PROJ. NO.	DATE 6-88	SHEET 6
	DESIGNED BY A. KLUGMAN 6-88	OF 12
	CHECKED BY D. EYLER 6-88	COMM. NO. 0870900

SRF INC  
JAN 1 1990  
1/178 PRINTED