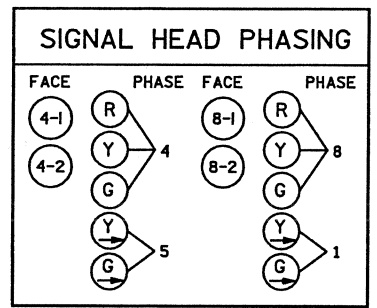
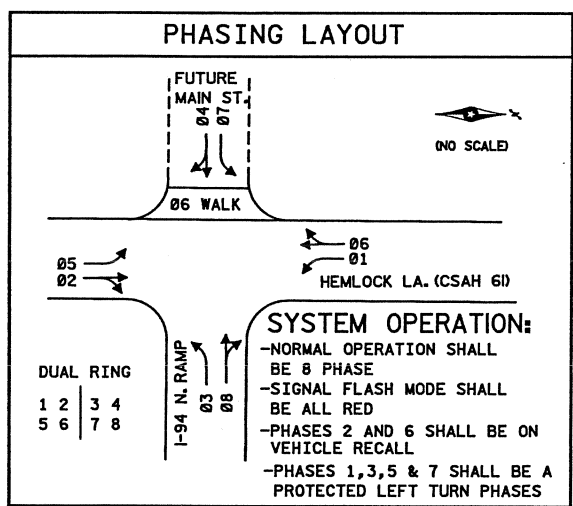
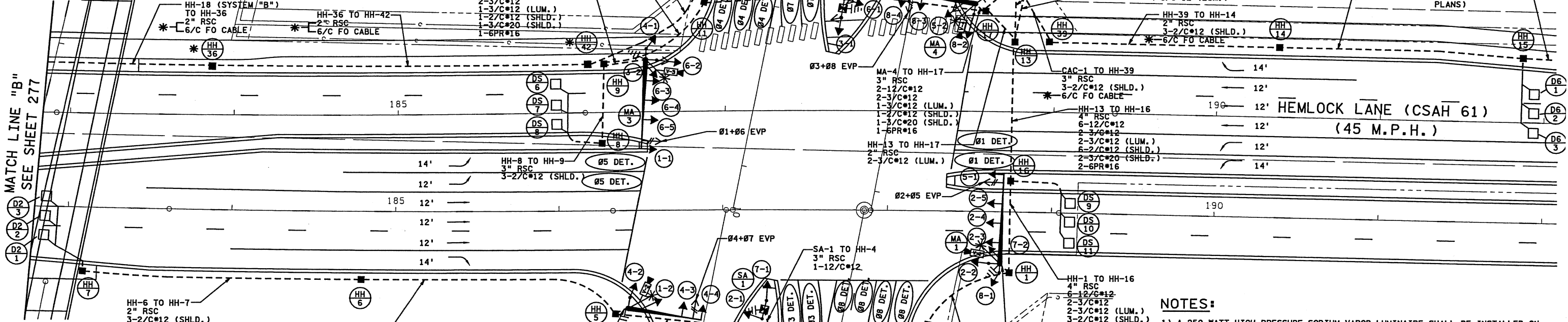
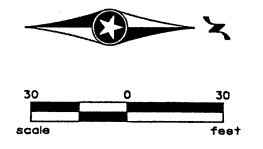


**SIGNAL INDICATION AND BRACKETING**

SIG. POLE NO.	SIGNAL FACE MOUNT	SIG. #	VEHICULAR INDICATION SIZE AND TYPE						PEDESTRIAN DON'T WALK	BRACKET MOUNTING ANGLE, TYPE AND STANDARD PLATE NO.
			CIRCULAR			TURN ARROWS				
			RED	YEL	GRN	RED	YEL	GRN		
MA-1	MAST ARM (5-1)	5				12" LTA	12" LTA	12" LTA	ONE-WAY MNT./PLT. 8124	
MA-1	MAST ARM (2-5)	2	12"	12"	12"				ONE-WAY MNT./PLT. 8124	
MA-1	MAST ARM (2-4)	2	12"	12"	12"				ONE-WAY MNT./PLT. 8124	
MA-1	MAST ARM (2-3)	2	12"	12"	12"				ONE-WAY MNT./PLT. 8124	
MA-1	POLE MOUNT (7-2)	7				12" LTA	12" LTA	12" LTA	0° TYPE 10A PLT. 8110	
MA-1	POLE MOUNT (2-2)	2	12"	12"	12"				270° TYPE 10A PLT. 8110	
MA-1	POLE MOUNT (8-1)	8	12"	12"	12"				180° TYPE 10A PLATE 8110	
MA-2	MAST ARM (4-4)	4	12"	12"	12"				ONE-WAY MNT./PLT. 8124	
MA-2	MAST ARM (4-3)	4	12"	12"	12"				ONE-WAY MNT./PLT. 8124	
MA-2	POLE MOUNT (1-2)	1				12" LTA	12" LTA	12" LTA	0° TYPE 10A PLT. 8110	
MA-2	POLE MOUNT (4-2)	4	12"	12"	12"				270° TYPE 10A PLATE 8110	
MA-3	MAST ARM (1-1)	1				12" LTA	12" LTA	12" LTA	ONE-WAY MNT./PLT. 8124	
MA-3	MAST ARM (6-5)	6	12"	12"	12"				ONE-WAY MNT./PLT. 8124	
MA-3	MAST ARM (6-4)	6	12"	12"	12"				ONE-WAY MNT./PLT. 8124	
MA-3	MAST ARM (6-3)	6	12"	12"	12"				ONE-WAY MNT./PLT. 8124	
MA-3	POLE MOUNT (3-2)	3				12" LTA	12" LTA	12" LTA	0° TYPE 10A PLT. 8110	
MA-3	POLE MOUNT (6-2)(P6-1)	6	12"	12"	12"				12" 12" TYPE 10A PLATE 8110	
MA-3	POLE MOUNT (4-1)	4	12"	12"	12"				180° TYPE 10A PLATE 8110	
MA-4	MAST ARM (8-4)	8	12"	12"	12"				ONE-WAY MNT./PLT. 8124	
MA-4	MAST ARM (8-3)	8	12"	12"	12"				ONE-WAY MNT./PLT. 8124	
MA-4	POLE MOUNT (5-2)	5				12" LTA	12" LTA	12" LTA	0° TYPE 10B PLATE 8110	
MA-4	POLE MOUNT (P6-4)	6	12"	12"	12"				270° TYPE 10A PLATE 8110	
MA-4	POLE MOUNT (8-2)	8	12"	12"	12"				180° TYPE 10A PLATE 8111	
SA-1	PEDESTAL (7-1)	7				12" LTA	12" LTA	12" LTA	TYPE 2A PLATE 8111	
SA-1	PEDESTAL (2-1)	2	12"	12"	12"				TYPE 2C PLATE 8111	
SA-2	PEDESTAL (3-1)	3				12" LTA	12" LTA	12" LTA		
SA-2	PEDESTAL (P6-2)	6	12"	12"	12"					
SA-2	PEDESTAL (6-1)(P6-3)	6	12"	12"	12"					

DETECTOR CHART					DISTANCE TO STOP BAR OR CROSSWALK
DESIGNATION	PHASE	SIZE/FT.	FUNCTION		
D2-1,2,3	2	1-6'X6'	(1)		350'
D6-1,2,3	6	1-6'X6'	(1)		350'
DS-6,7,8	-	1-6'X6'	(10)	SAMPLING	
DS-9,10,11	-	1-6'X6'	(10)	SAMPLING	
V-1	5		VIDEO DET.	MA-1	
V-2	4+7		VIDEO DET.	MA-2	
V-3	1		VIDEO DET.	MA-3	
V-4	3+8		VIDEO DET.	MA-4	

FUNCTION NOTES:  
 (1) CALL AND EXTEND  
 (10) SAMPLING



**ELECTRICAL ENGINEER**  
 I hereby certify that the electrical portion of this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Electrical Engineer under the laws of the State of Minnesota.  
*Ben D. Hall*  
 Date: 4/15/02 Reg. No. 21428

MA-2 TO HH-5  
 3" RSC  
 2-12/C\*12  
 1-3/C\*12  
 1-3/C\*12 (LUM.)  
 1-3/C\*20 (SHLD.)  
 1-6PR\*16

HH-4 TO HH-5  
 3" RSC  
 2-12/C\*12  
 1-3/C\*12  
 1-3/C\*12 (LUM.)  
 3-2/C\*12 (SHLD.)  
 1-3/C\*20 (SHLD.)  
 1-6PR\*16

HH-2 TO HH-4  
 3" RSC  
 3-12/C\*12  
 1-3/C\*12  
 1-3/C\*12 (LUM.)  
 3-2/C\*12 (SHLD.)  
 1-3/C\*20 (SHLD.)  
 1-6PR\*16

**CONTRACTOR**  
 C.S. McCROSSON CONSTRUCTION  
 7865 JEFFERSON HWY  
 MAPLE GROVE, MN 55369

- NOTES:**
- 1) A 250 WATT HIGH PRESSURE SODIUM VAPOR LUMINAIRE SHALL BE INSTALLED ON MAST ARM MA-1, MA-2, MA-3 AND MA-4 LUMINAIRE SHAFT EXTENSIONS (SEE SIGNAL PLAN DETAIL SHEET).
  - 2) HANDHOLES SHALL BE PVC TYPE WITH METAL FRAMES AND COVERS (SEE SPECIAL PROVISIONS).
  - 3) CONTRACTOR SHALL INSTALL COUNTY FURNISHED CONTROLLER AND CABINET ON A NEW FOUNDATION.
  - 4) INTERNATIONAL SYMBOLS SHALL BE USED FOR ALL PEDESTRIAN INDICATIONS (HAND AND WALKING PERSON) (SEE SPECIAL PROVISIONS).
  - 5) ALL VEHICULAR AND PEDESTRIAN INDICATIONS SHALL USE LED TECHNOLOGY (SEE SPECIAL PROVISIONS).
  - 6) SOURCE OF POWER SHALL BE FIELD VERIFIED BY THE POWER COMPANY AND THE CONTRACTOR.
  - 7) THE ENGINEER SHALL LOCATE ALL POLES, HANDHOLES, CABINETS AND LOOP DETECTORS PRIOR TO ANY CONSTRUCTION.
  - 8) CONTRACTOR SHALL LABEL THE LEAD-IN WIRES IN THE HANDHOLES.
  - 9) THE EVP DETECTOR AND CONFIRMATION LIGHT SHALL BE LOCATED 3'-0" FROM END OF MAST ARM.
  - 10) ALL SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
  - 11) \* - DESIGNATES ITEMS TO BE INCLUDED IN THE INTERCONNECT SYSTEM PAY ITEM.
  - 12) POLES MA-3 AND MA-4 SHALL EACH HAVE ONE PEDESTRIAN PUSH BUTTON.
  - 13) F&I R9-3a SIGNS ON MAST ARM POLES AS FOLLOWS:  
 TWO ON MA-1, FACING MA-2 AND MA-4; TWO ON MA-2, FACING MA-1 AND MA-3; ONE ON MA-3, FACING MA-2; ONE ON MA-4, FACING MA-1.
  - 14) THE MASTER CONTROLLER SHALL BE LOCATED AT (SYSTEM "A") 73RD AVE. N. AND HEMLOCK LANE (CSAH 61)

SIGNAL SYSTEM ID#21991

NO	DATE	BY	CKD	APPR	REVISION
1	3-25-02	MAB		GMS	REVISED CONTROLLER LOCATIONS & DETECTION
2	01/23/04	JDB			RECORD DRAWING

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.  
*George H. Stuenkel*  
 Date: 4/15/02 Reg. No. 21849

STATE AID PROJECT NO. 27-661-35  
 STATE PROJECT NO. 2786-114  
 COUNTY PROJECT NO. 9749  
 CITY PROJECT NO. 2000-03

DRAWN BY R. W. SMITH DATE 11-00  
 DESIGNED BY A. POTTER DATE 11-00  
 CHECKED BY G. STUENKEL DATE 11-00  
 COMM. NO. 0003765

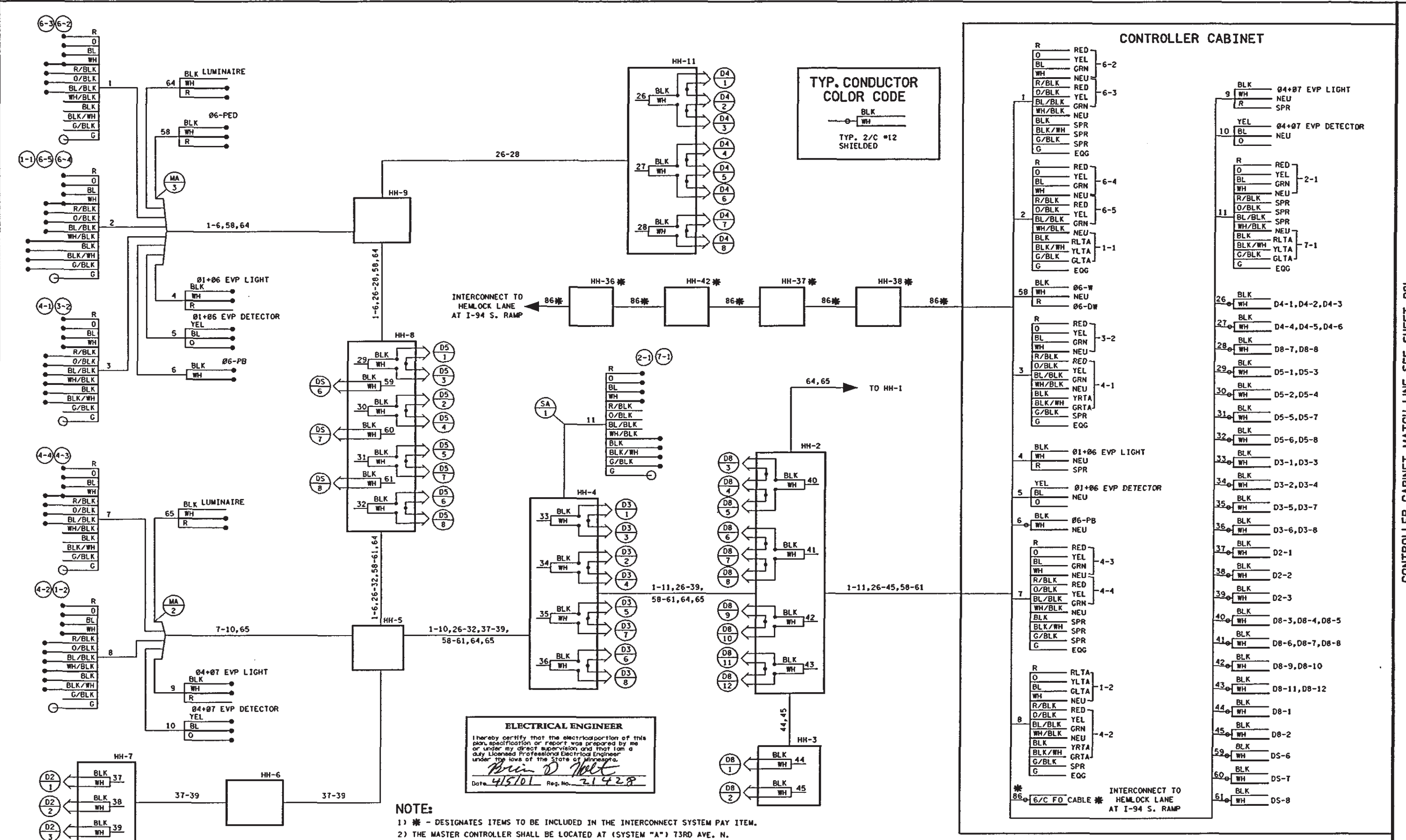


CITY OF MAPLE GROVE  
 INTERSECTION LAYOUT (SYSTEM "C")  
 T.H. 94 / HEMLOCK LANE INTERCHANGE  
 HEMLOCK LANE AT I-94 N. RAMP

SHEET 279 OF 427

P:\2004\1047\3765\mbt2\fig2\02786114.dwg  
 11:34:11 AM  
 2/18/2004

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 PLOTTED: MS-HPROD02  
 PLOT DATE/TIME: 03/30/2001 14:02:08



**TYP. CONDUCTOR COLOR CODE**

BLK  
WH

TYP. 2/C #12 SHIELDED

**ELECTRICAL ENGINEER**

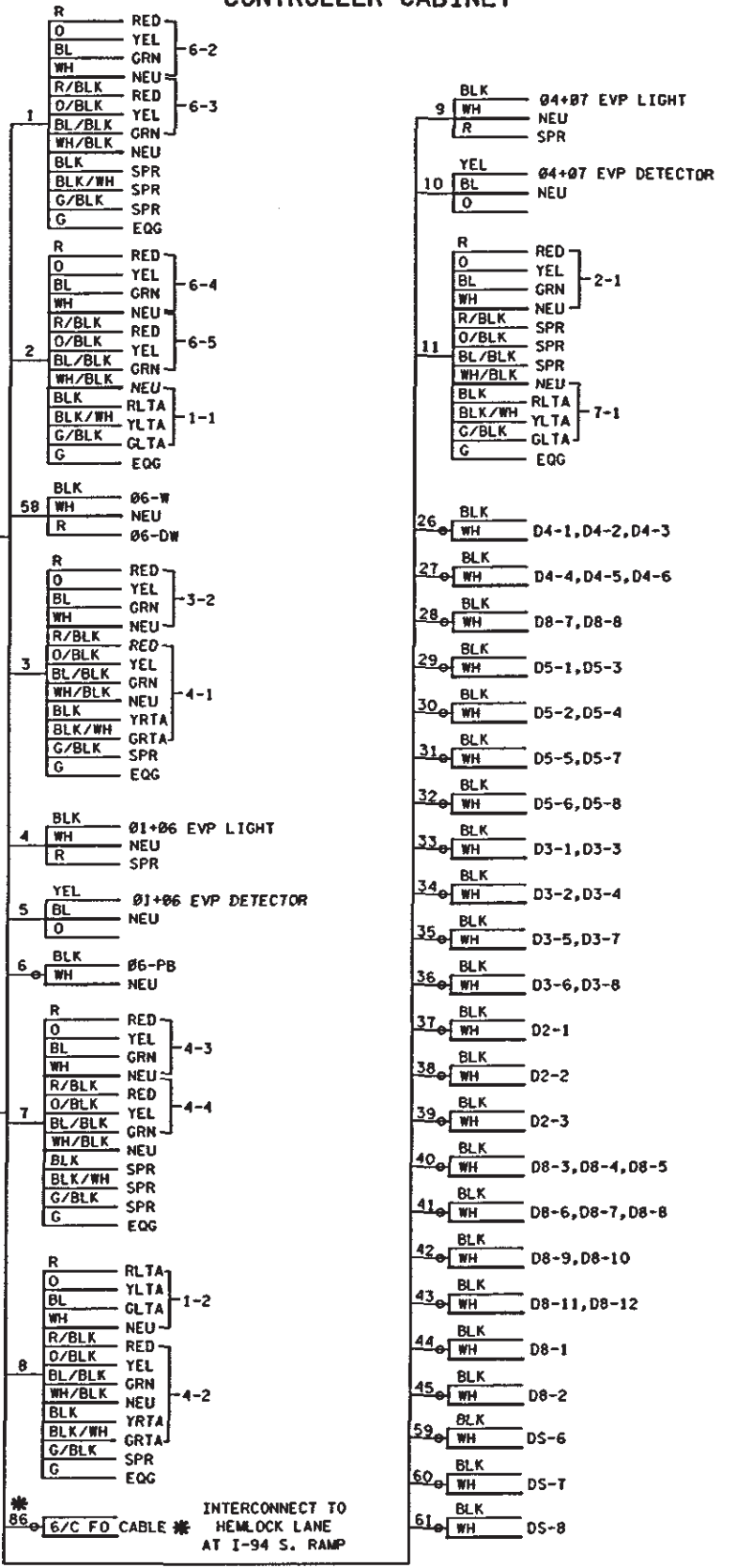
I hereby certify that the electroportion of this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Electrical Engineer under the laws of the State of Minnesota.

*Kevin D. Holt*  
Date: 4/15/01 Reg. No. 21428

**NOTE:**

1) \* - DESIGNATES ITEMS TO BE INCLUDED IN THE INTERCONNECT SYSTEM PAY ITEM.  
 2) THE MASTER CONTROLLER SHALL BE LOCATED AT (SYSTEM "A") 73RD AVE. N. AND HEMLOCK LANE (CSAH 61)

**CONTROLLER CABINET**



**SIGNAL SYSTEM ID#21991**

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.

*George M. Stuenkel*  
Date: 4/15/01 Reg. No. 21849

STATE AID PROJECT NO. 27-661-35  
 STATE PROJECT NO. 2786-114  
 COUNTY PROJECT NO. 9749  
 CITY PROJECT NO. 2000-03

DRAWN BY: R. W. SMITH DATE: 11-00  
 DESIGNED BY: A. POITER DATE: 11-00  
 CHECKED BY: G. STUEMPF IG DATE: 11-00  
 COMM. NO. 0003765



**CITY OF MAPLE GROVE**

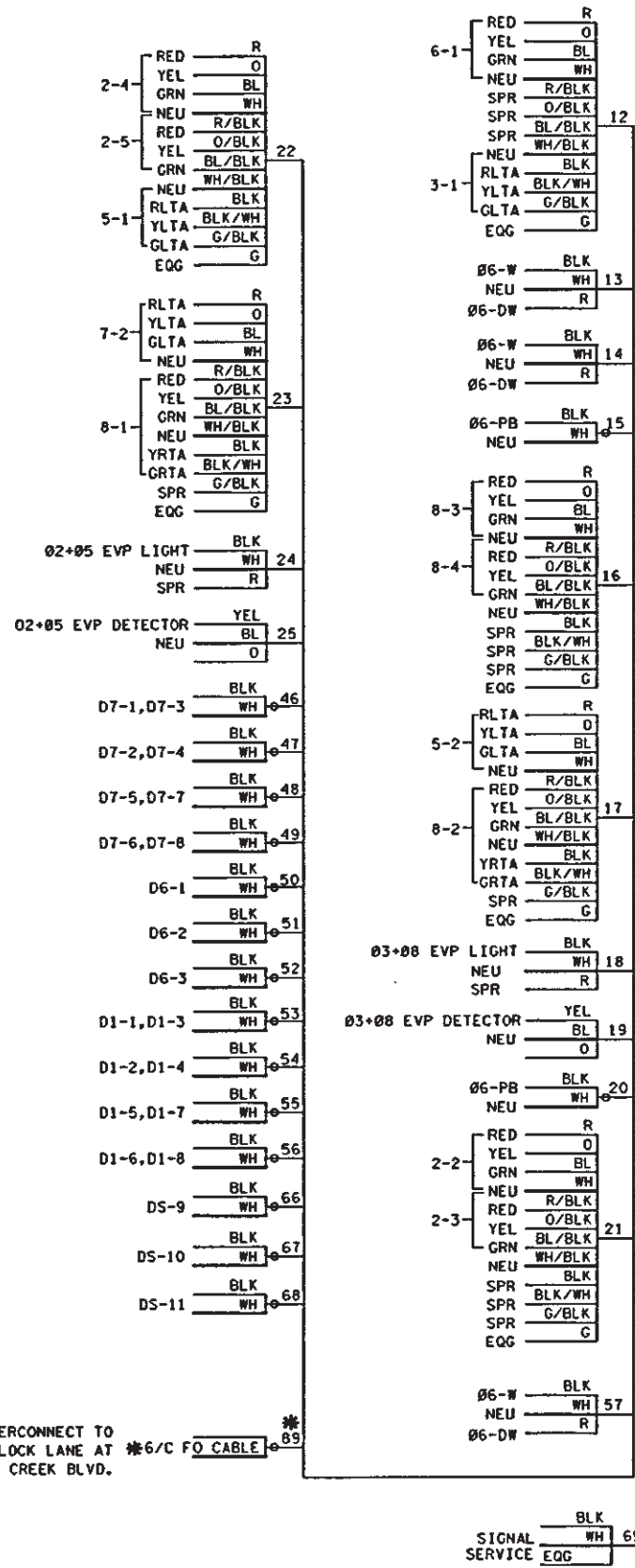
FIELD WIRING DIAGRAM (SYSTEM "C")  
 T.H. 94 / HEMLOCK LANE INTERCHANGE  
 HEMLOCK LANE AT I-94 N. RAMP

**SHEET 280 OF 427**

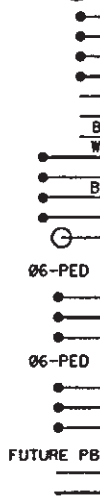
CONTROLLER CABINET MATCH LINE SEE SHEET 281

CONTROLLER CABINET MATCH LINE SEE SHEET 280

**CONTROLLER CABINET**



(3-1) (6-1)



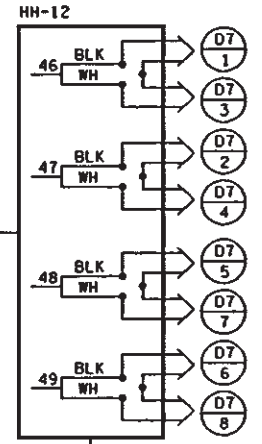
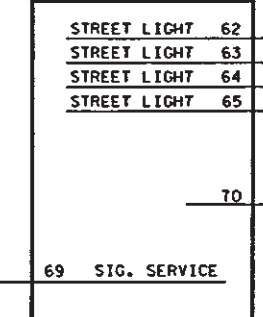
HH-39



**TYP. CONDUCTOR COLOR CODE**  
 BLK  
 WH  
 TYP. 2/C \*12 SHIELDED

**ELECTRICAL ENGINEER**  
 I hereby certify that the electrical portion of this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Electrical Engineer under the laws of the State of Minnesota.  
*Kevin D. Holt*  
 Date 4/15/01 Reg. No. 21428

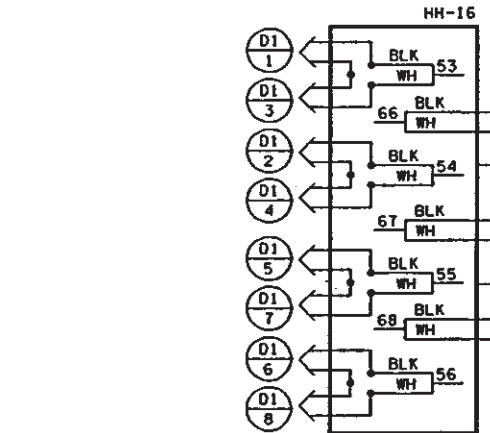
SP 1



HH-12

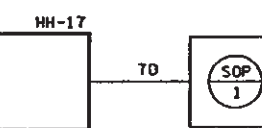


HH-13



HH-16

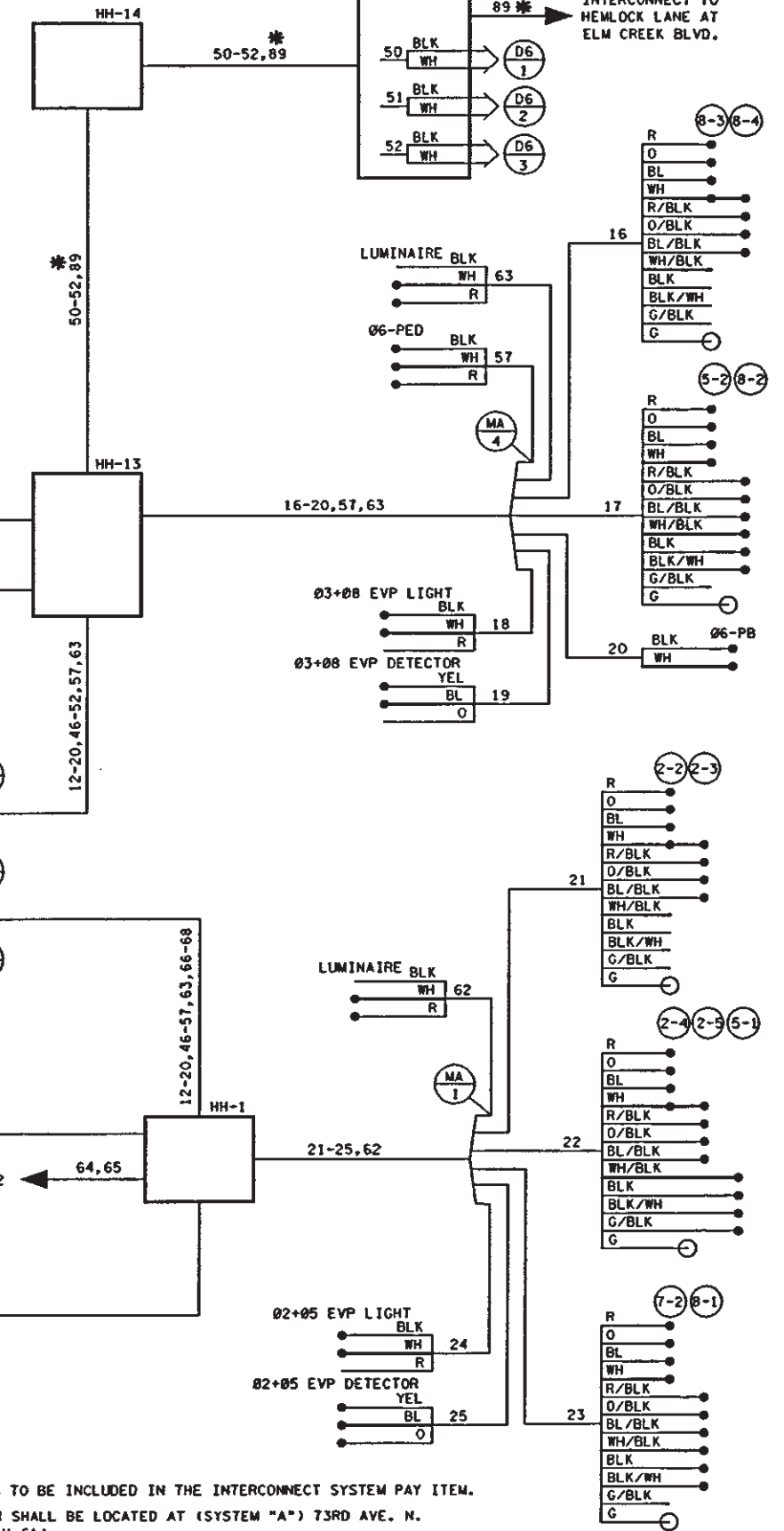
12-25, 46-57, 66-68



HH-17

**NOTE:**

- 1) \* - DESIGNATES ITEMS TO BE INCLUDED IN THE INTERCONNECT SYSTEM PAY ITEM.
- 2) THE MASTER CONTROLLER SHALL BE LOCATED AT (SYSTEM "A") 73RD AVE. N. AND HEMLOCK LANE (CSAH 61)



SIGNAL SYSTEM ID#21991

DESIGN FILE: H:\CIVIL\2001\3785\VP\02\2786114.DWG  
 PLOT FILE: H:\CIVIL\2001\3785\VP\02\2786114.dwf  
 PLOT DATE: 03/30/2001 14:06:53

NO	DATE	BY	CHKD	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.  
*George M. Stuenkel*  
 Date 4/15/01 Reg. No. 21847

STATE AID PROJECT NO. 27-661-35  
 STATE PROJECT NO. 2786-114  
 COUNTY PROJECT NO. 9749  
 CITY PROJECT NO. 2000-03

DRAWN BY R. W. SMITH DATE 11-00  
 DESIGNED BY A. POTTER DATE 11-00  
 CHECKED BY G. STUEMPF DATE 11-00  
 COMM. NO. 0003765



**CITY OF MAPLE GROVE**  
 FIELD WIRING DIAGRAM (SYSTEM "C")  
 T.H. 94 / HEMLOCK LANE INTERCHANGE  
 HEMLOCK LANE AT I-94 N. RAMP

**SHEET 281 OF 427**