

7140

LOOP DETECTORS (NMC)			
NUMBER	SIZE (m)	LOCATION (m)	FUNCTION
D1-1	2-1.7 X 1.7	3,12	1
D1-2	2-1.7 X 1.7	3,12	1
D2-1, D2-2, D2-3	1.7 X 1.7	92	1
D4-1, D4-2, D4-3	1.7 X 1.7	76	3, 8
D4-4	2 - 3.4	1.5, 6	7
D4-5, D4-6	2-1.7 X 1.7	1.5, 6	1
D6-1, D6-2, D6-3	1.7 X 1.7	128	1
*D6-4	MICROWAVE	*111	1

NOTE: LOCATION = DISTANCE FROM BACK OF STOP BAR / PEDESTRIAN MARKINGS TO FRONT OF LOOP DETECTOR

- LOOP DETECTOR FUNCTIONS:
- (1) - CALL AND EXTEND
  - (3) - EXTEND ONLY
  - (7) - DELAY CALL; IMMEDIATE EXTEND
  - (8) - STRETCH

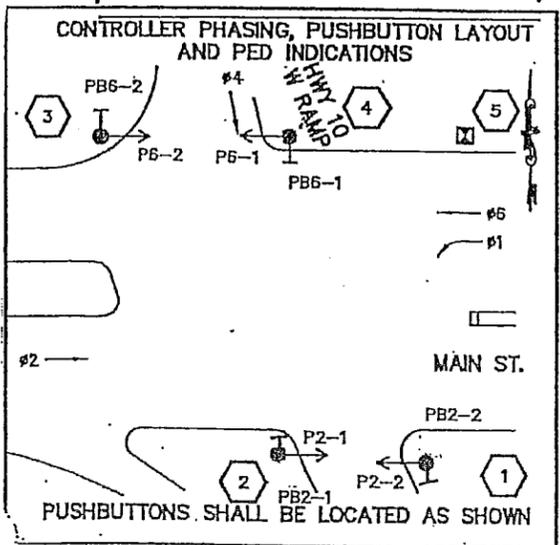
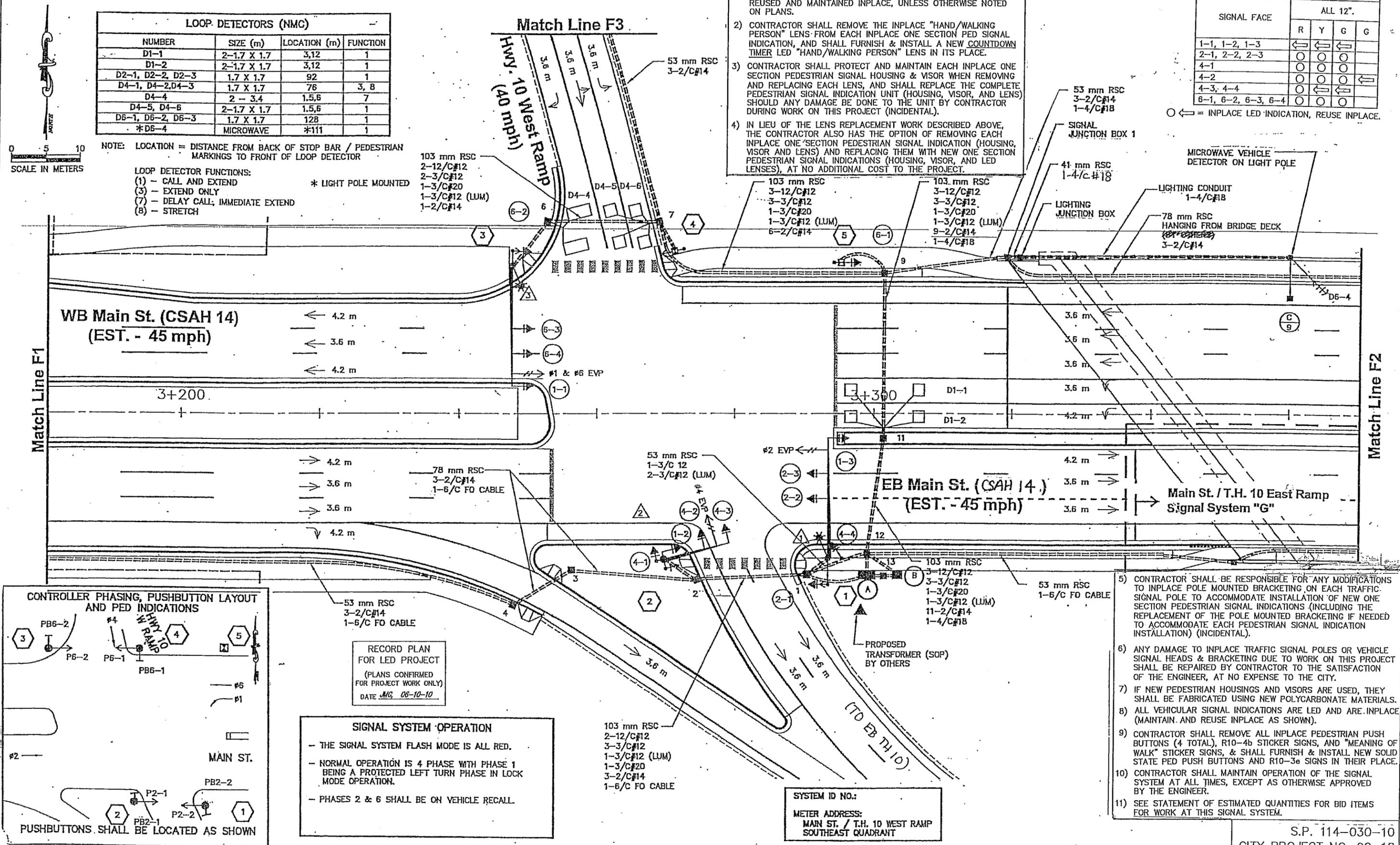
\* LIGHT POLE MOUNTED

103 mm RSC  
2-12/C#12  
2-3/C#12  
1-3/C#20  
1-3/C#12 (LUM)  
1-2/C#14

- LED RETROFIT-SYSTEM "LL" NOTES:
- 1) ALL ITEMS OF SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, UNLESS OTHERWISE NOTED ON PLANS.
  - 2) CONTRACTOR SHALL REMOVE THE INPLACE "HAND/WALKING PERSON" LENS FROM EACH INPLACE ONE SECTION PED SIGNAL INDICATION, AND SHALL FURNISH & INSTALL A NEW COUNTDOWN TIMER LED "HAND/WALKING PERSON" LENS IN ITS PLACE.
  - 3) CONTRACTOR SHALL PROTECT AND MAINTAIN EACH INPLACE ONE SECTION PEDESTRIAN SIGNAL HOUSING & VISOR WHEN REMOVING AND REPLACING EACH LENS, AND SHALL REPLACE THE COMPLETE PEDESTRIAN SIGNAL INDICATION UNIT (HOUSING, VISOR, AND LENS) SHOULD ANY DAMAGE BE DONE TO THE UNIT BY CONTRACTOR DURING WORK ON THIS PROJECT (INCIDENTAL).
  - 4) IN LIEU OF THE LENS REPLACEMENT WORK DESCRIBED ABOVE, THE CONTRACTOR ALSO HAS THE OPTION OF REMOVING EACH INPLACE ONE SECTION PEDESTRIAN SIGNAL INDICATION (HOUSING, VISOR AND LENS) AND REPLACING THEM WITH NEW ONE SECTION PEDESTRIAN SIGNAL INDICATIONS (HOUSING, VISOR, AND LED LENSES), AT NO ADDITIONAL COST TO THE PROJECT.

LED SIGNAL FACES				
SIGNAL FACE	ALL 12"			
	R	Y	G	G
1-1, 1-2, 1-3	←	←	←	
2-1, 2-2, 2-3	○	○	○	
4-1	○	○	○	
4-2	○	○	○	←
4-3, 4-4	○	←	←	
6-1, 6-2, 6-3, 6-4	○	○	○	○

○ ← = INPLACE LED INDICATION, REUSE INPLACE.



RECORD PLAN FOR LED PROJECT  
(PLANS CONFIRMED FOR PROJECT WORK ONLY)  
DATE JMG 06-10-10

**SIGNAL SYSTEM OPERATION**

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 4 PHASE WITH PHASE 1 BEING A PROTECTED LEFT TURN PHASE IN LOCK MODE OPERATION.
- PHASES 2 & 6 SHALL BE ON VEHICLE RECALL.

SYSTEM ID NO.:  
METER ADDRESS:  
MAIN ST. / T.H. 10 WEST RAMP  
SOUTHEAST QUADRANT

- 5) CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MODIFICATIONS TO INPLACE POLE MOUNTED BRACKETING ON EACH TRAFFIC SIGNAL POLE TO ACCOMMODATE INSTALLATION OF NEW ONE SECTION PEDESTRIAN SIGNAL INDICATIONS (INCLUDING THE REPLACEMENT OF THE POLE MOUNTED BRACKETING IF NEEDED TO ACCOMMODATE EACH PEDESTRIAN SIGNAL INDICATION INSTALLATION) (INCIDENTAL).
- 6) ANY DAMAGE TO INPLACE TRAFFIC SIGNAL POLES OR VEHICLE SIGNAL HEADS & BRACKETING DUE TO WORK ON THIS PROJECT SHALL BE REPAIRED BY CONTRACTOR TO THE SATISFACTION OF THE ENGINEER, AT NO EXPENSE TO THE CITY.
- 7) IF NEW PEDESTRIAN HOUSINGS AND VISORS ARE USED, THEY SHALL BE FABRICATED USING NEW POLYCARBONATE MATERIALS.
- 8) ALL VEHICULAR SIGNAL INDICATIONS ARE LED AND ARE INPLACE (MAINTAIN AND REUSE INPLACE AS SHOWN).
- 9) CONTRACTOR SHALL REMOVE ALL INPLACE PEDESTRIAN PUSH BUTTONS (4 TOTAL), R10-4b STICKER SIGNS, AND "MEANING OF WALK" STICKER SIGNS, & SHALL FURNISH & INSTALL NEW SOLID STATE PED PUSH BUTTONS AND R10-3e SIGNS IN THEIR PLACE.
- 10) CONTRACTOR SHALL MAINTAIN OPERATION OF THE SIGNAL SYSTEM AT ALL TIMES, EXCEPT AS OTHERWISE APPROVED BY THE ENGINEER.
- 11) SEE STATEMENT OF ESTIMATED QUANTITIES FOR BID ITEMS FOR WORK AT THIS SIGNAL SYSTEM.

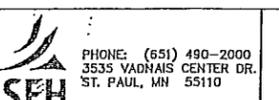
DRAWN BY: JMG  
DESIGNER: JMG  
CHECKED BY: JMG

1 JMG 6/10 RECORD DRAWING FOR PROJECT

NO.	BY	DATE	REVISIONS

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: May 18, 2009 Name: John M. Gray, PE Lic. No. 22457



COON RAPIDS, MINNESOTA

LED RETROFIT-SYSTEM "LL" INTERSECTION LAYOUT  
CSAH 14 AT TH 10 WEST RAMP

FILE NO. 107418  
DATE 05/18/2009  
87  
131

S.P. 114-030-10  
CITY PROJECT NO. 09-18

7140

- 1 TYPE PA100 POLE FOUNDATION  
TYPE PA100-A-16.8-X9.1  
LUMINAIRE ARM AT 350°  
(SEE SPECIAL PROVISIONS)  
LUMINAIRE 250 WATT METAL HALIDE  
WITH P.E.C. AND CHECK SWITCH  
(SEE SPECIAL PROVISIONS)  
3 - ONE WAY SIGNALS OVERHEAD (0.0 m,  
5.2 m & 8.8 m FROM END OF MAST ARM)  
1 - TYPE 10A POLE MOUNTED AT 90°  
1 - TYPE 10B POLE MOUNTED AT 180°  
1 - PEDESTRIAN PUSHBUTTON  
1 - "NO PED XING" SIGN (R9-3A) FACING POLE NO. 5  
TYPE "D" SIGN PANEL OVERHEAD (D-8)  
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (#2)  
(1.8 m FROM END OF MAST ARM)

- 2 TYPE PA90 POLE FOUNDATION  
TYPE PA90-A-9.1-X9.1  
LUMINAIRE ARM AT 350°  
(SEE SPECIAL PROVISIONS)  
LUMINAIRE 250 WATT METAL HALIDE  
WITH P.E.C. AND CHECK SWITCH  
(SEE SPECIAL PROVISIONS)  
2 - ONE WAY SIGNAL OVERHEAD (0.0 m &  
3.3 m FROM END OF MAST ARM)  
1 - TYPE 30A POLE MOUNTED AT 90°  
1 - TYPE 10A POLE MOUNTED AT 180°  
1 - TYPE 10A POLE MOUNTED AT 270°  
1 - PEDESTRIAN PUSHBUTTON  
1 - "NO PED XING" SIGN (R9-3A) FACING POLE NO. 3  
INTERNALLY ILLUMINATED SIGN  
(D-1) WITH PEC AND SIGN SWITCH ON POLE  
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (#4)  
(1.8 m FROM END OF MAST ARM)

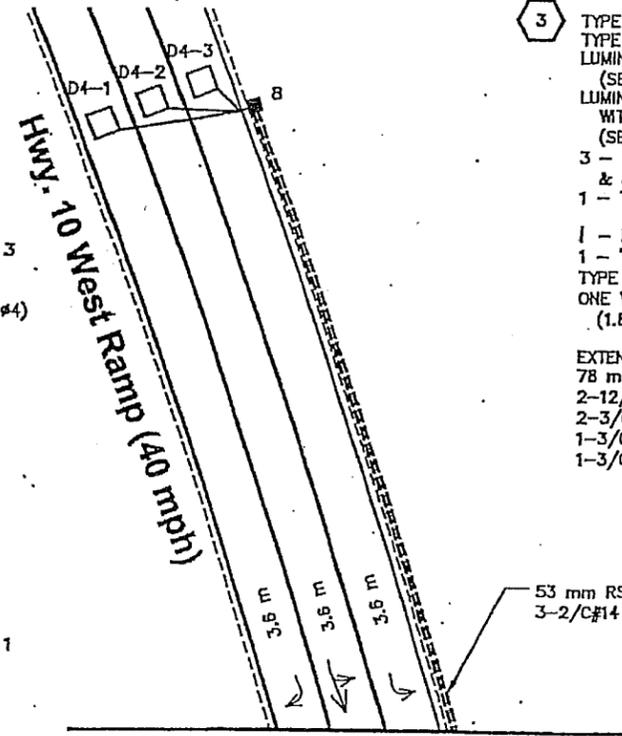
- 4 PEDESTAL FOUNDATION  
3.0 m PEDESTAL POLE AND BASE  
1 - TYPE 4A  
1 - PEDESTRIAN PUSHBUTTON
- EXTEND INTO HH 7:  
53 mm RSC  
1-3/C#12  
1-12/C#12

- 5 PEDESTAL FOUNDATION  
3.0 m PEDESTAL POLE AND BASE  
1 - TYPE 4A  
1 - "STOP HERE ON RED" SIGN (R10-6)  
1 - "NO PED XING" SIGN (R9-3A) FACING POLE NO. 1
- EXTEND INTO HH 9:  
53 mm RSC  
2-12/C#12

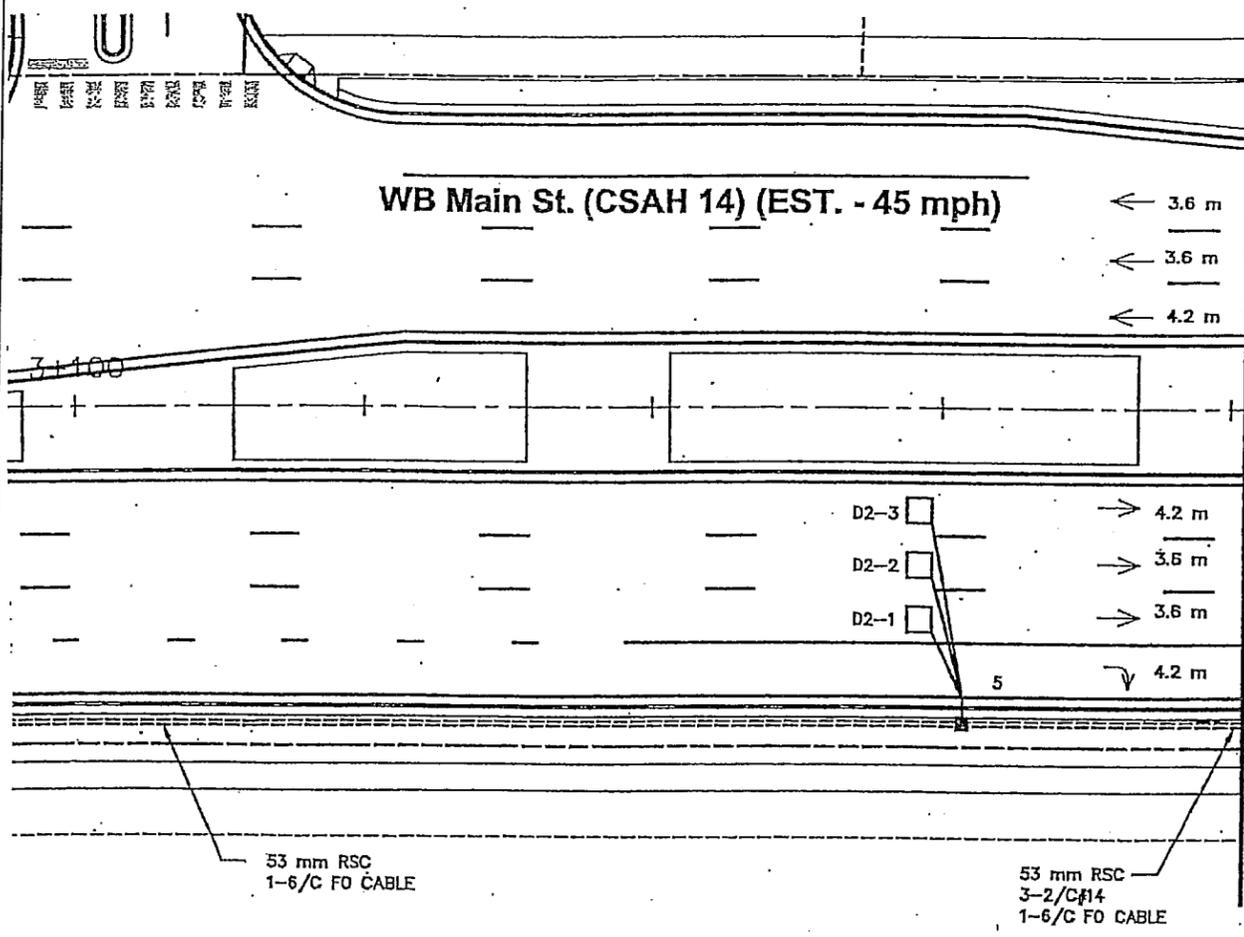
- 3 TYPE PA100 POLE FOUNDATION  
TYPE PA100-A-16.8-X9.1  
LUMINAIRE ARM AT 350°  
(SEE SPECIAL PROVISIONS)  
LUMINAIRE 250 WATT METAL HALIDE  
WITH P.E.C. AND CHECK SWITCH  
(SEE SPECIAL PROVISIONS)  
3 - ONE WAY SIGNALS OVERHEAD (0.0 m, 4.4 m  
& 8.0 m FROM END OF MAST ARM)  
1 - TYPE 10B POLE MOUNTED AT 180°  
1 - PEDESTRIAN PUSHBUTTONS  
1 - "NO PED XING" SIGN (R9-3A) FACING POLE NO. 2  
TYPE "D" SIGN PANEL OVERHEAD (D-10)  
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (#1 & #6)  
(1.8 m FROM END OF MAST ARM)

- A INSTALL CONTROLLER AND CABINET  
(FURNISHED BY ANOKA COUNTY)  
CABINET FOUNDATION
- |  |  |  |
|--|--|--|
| EXTEND INTO HH 12:<br>103 mm RSC<br>3-12/C#12<br>3-3/C#12<br>1-3/C#20<br>11-2/C#14<br>1-6/C FO CABLE<br>1-4/C#18 | EXTEND INTO HH 1:<br>103 mm RSC<br>4-12/C#12<br>4-3/C#12<br>2-3/C#20<br>3-2/C#14<br>1-6/C FO CABLE | EXTEND INTO HH 13<br>METERED SIGNAL SER.<br>35 mm RSC<br>3-1/C#6 |
|--|--|--|
- STUB OUT 78 mm RSC FROM CABINET TO WEST  
(THREAD AND CAP BOTH ENDS)

- B SERVICE CABINET  
CABINET FOUNDATION
- EXTEND INTO HH 13:  
METERED SIGNAL SERVICE  
35 mm RSC  
3-1/C#6.
- EXTEND INTO HH 12:  
UNMETERED STREET LIGHT SERVICE  
35 mm RSC  
3-3/C#12 (LUM)  
UNMETERED ILLUMINATED SIGN SERVICE  
1-3/C#12
- STUB OUT 53 mm RSC TO SOUTH  
(FOR POWER BY CONNEXUS)

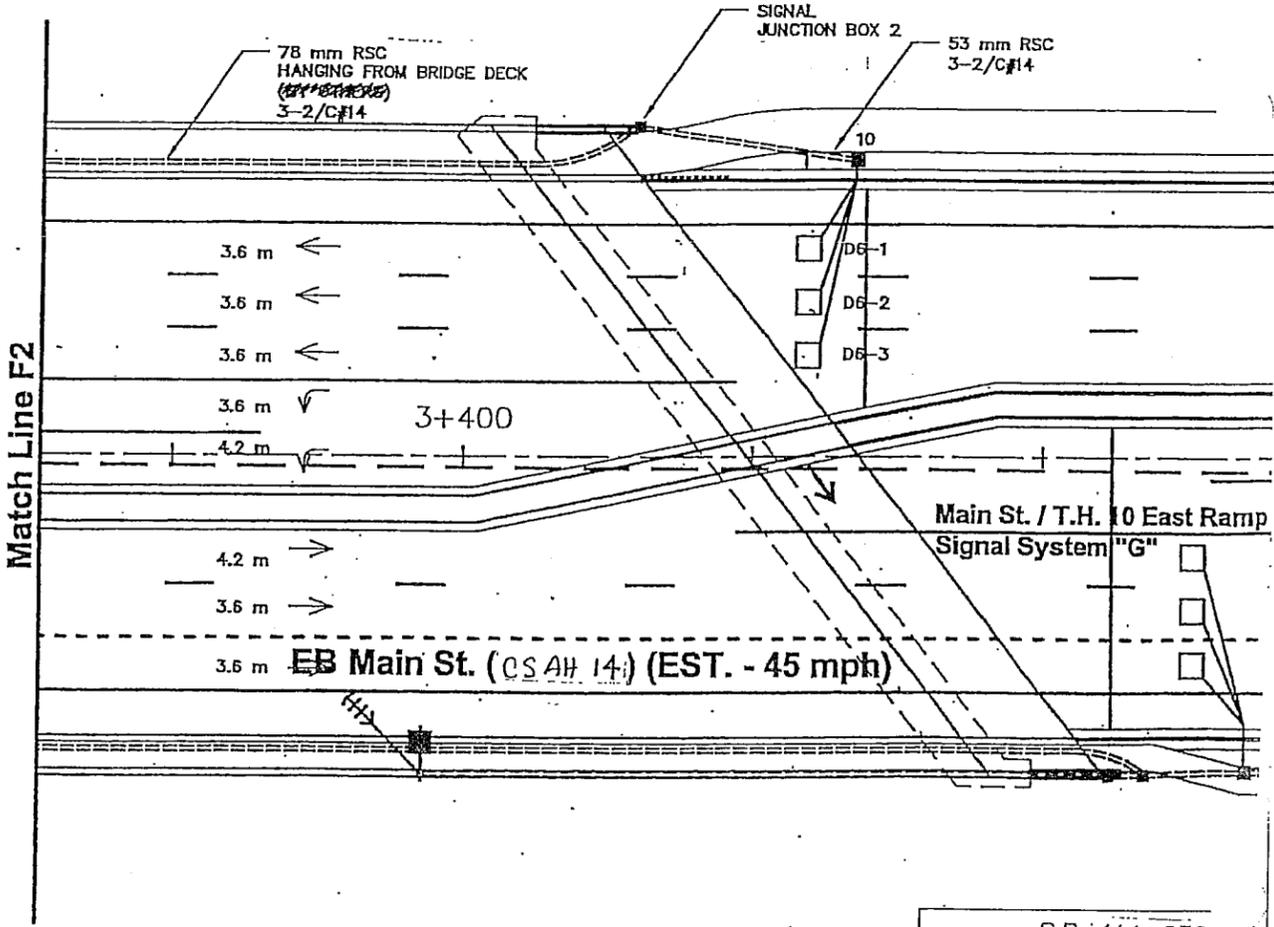
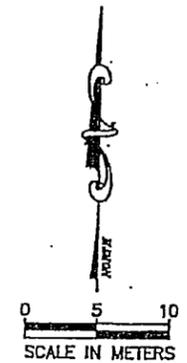


Match Line F3



Match Line F1

RECORD PLAN  
FOR LED PROJECT  
(PLANS CONFIRMED  
FOR PROJECT WORK ONLY)  
DATE AUG 05-10-10



Match Line F2

DRAWN BY: JMG	DESIGNER: JMG	CHECKED BY: JMG	DESIGN TEAM	NO.	BY	DATE	REVISIONS
RECORD DRAWING FOR PROJECT							

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.

John M. Gray, PE  
Lic. No. 22457  
Date: May 18, 2009

SEH  
PHONE: (651) 490-2000  
3535 VADNAIS CENTER DR.  
ST. PAUL, MN 55110

COON RAPIDS,  
MINNESOTA

S.P. 114-030-10  
CITY PROJECT NO. 09-18

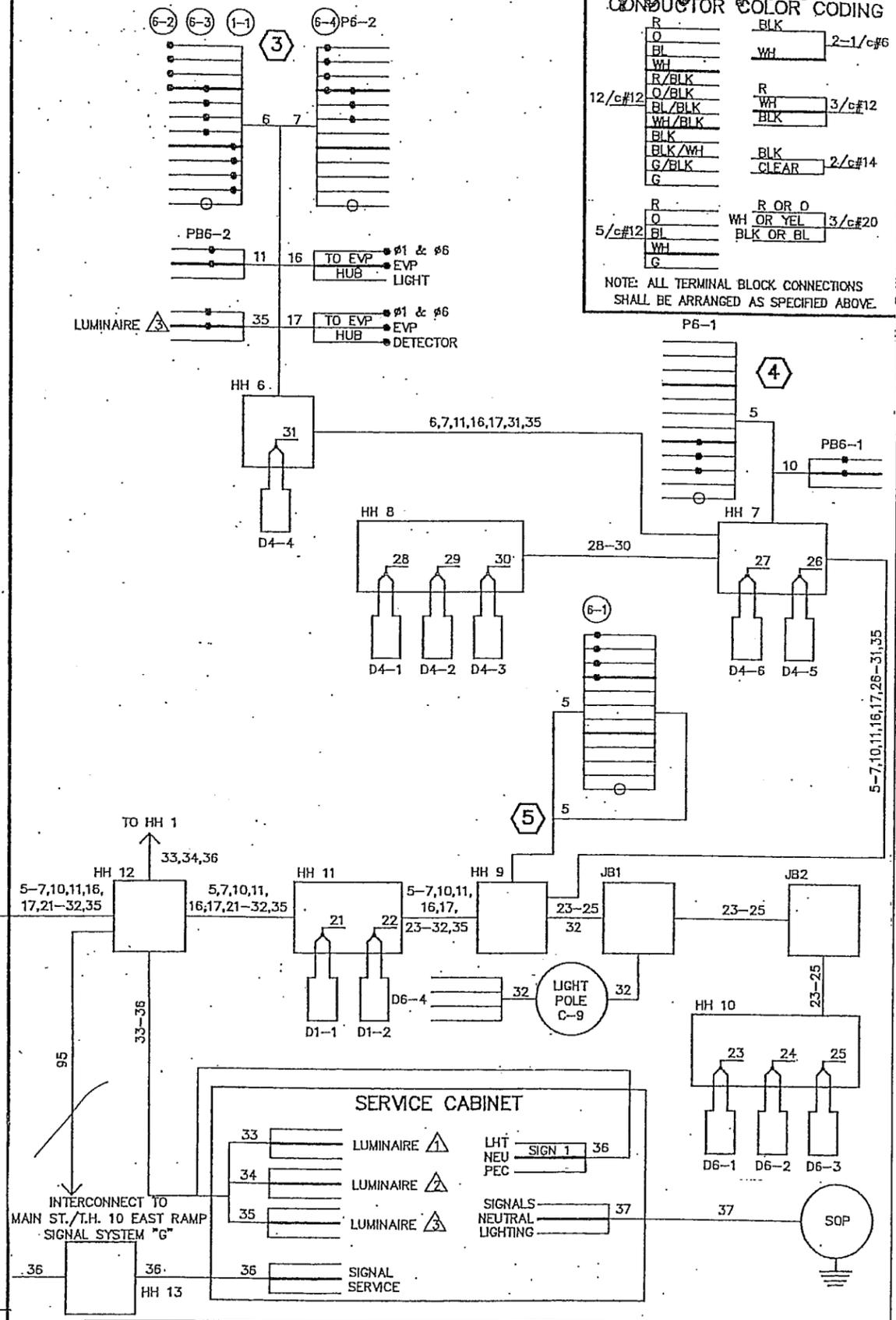
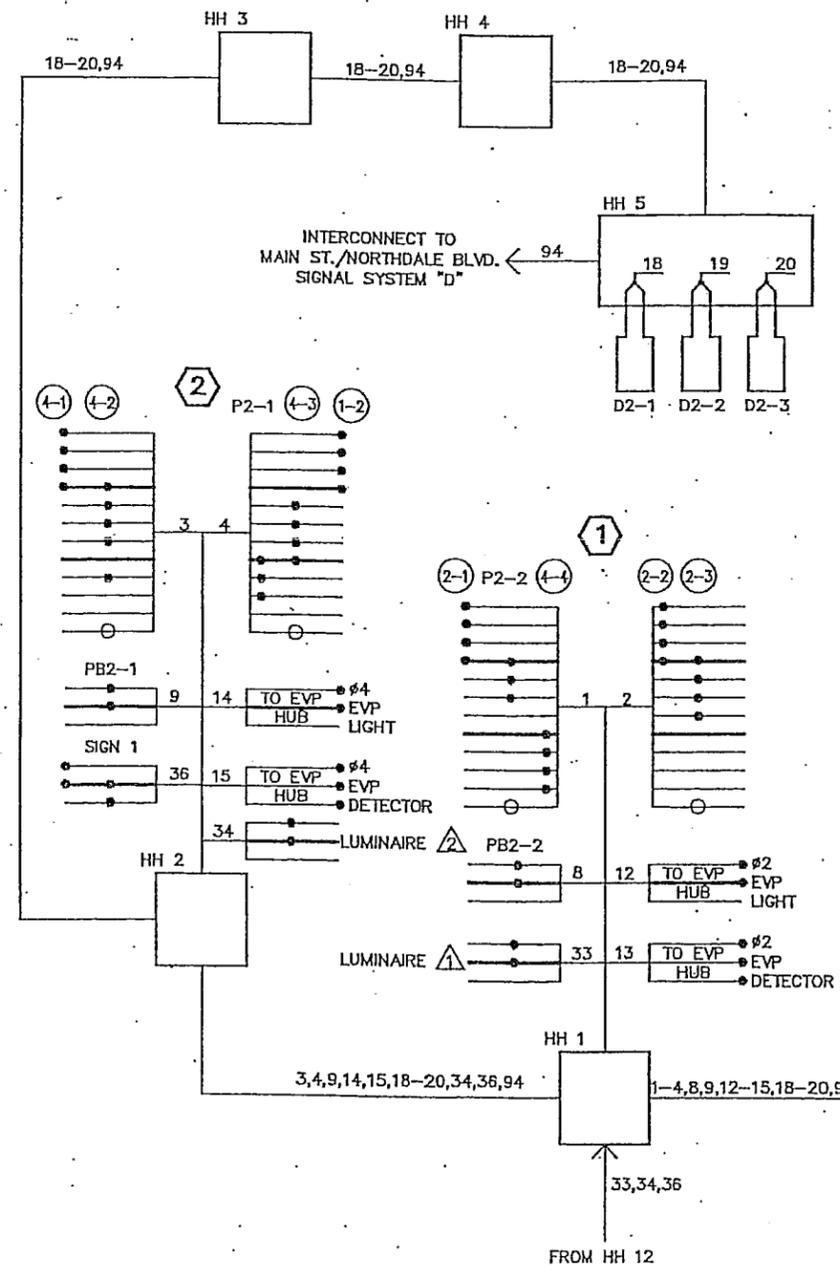
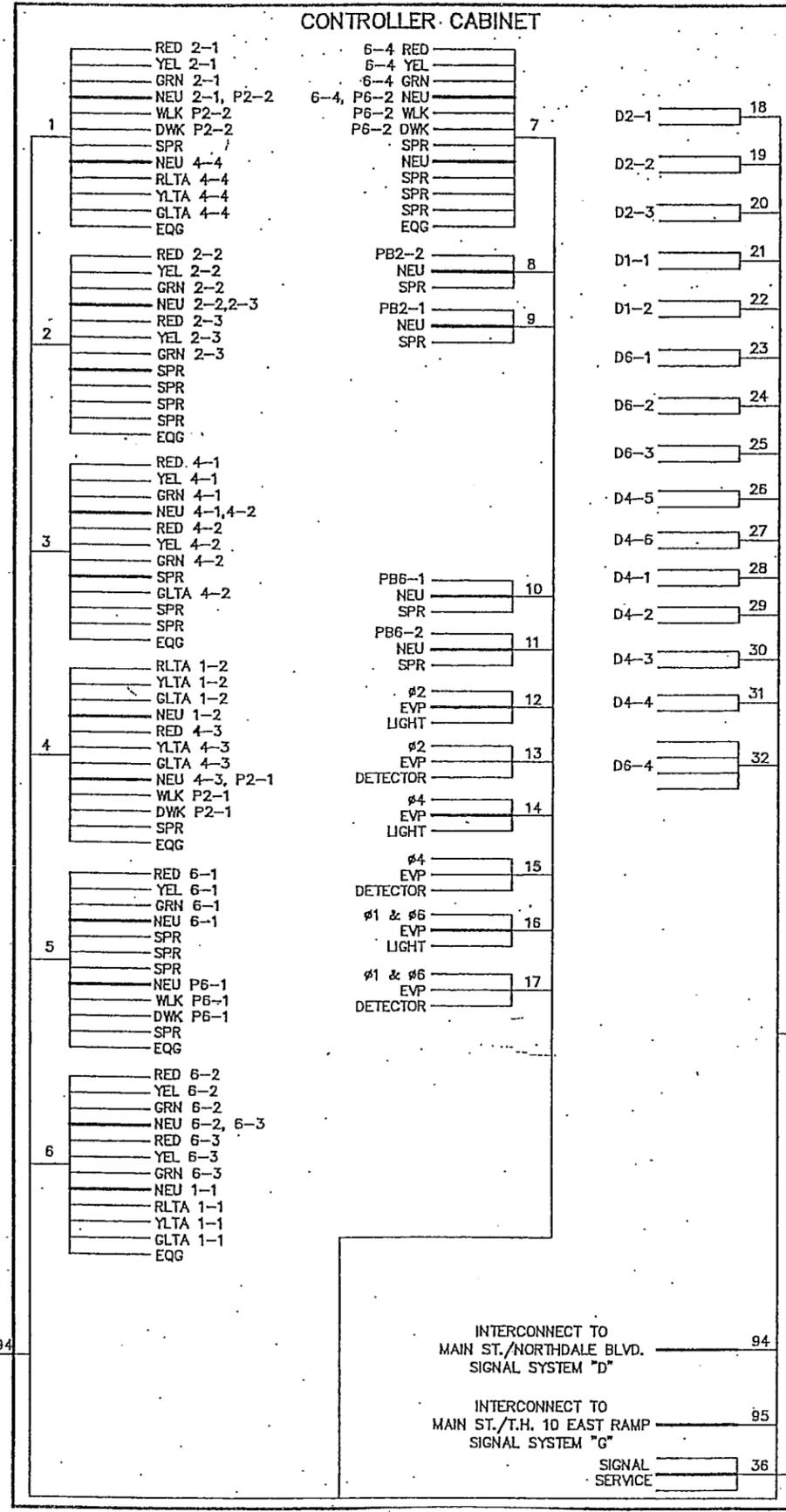
LED RETROFIT-SYSTEM "LL"  
INTERSECTION LAYOUT  
CSAH 14 AT TH 10 WEST RAMPS

FILE NO. 107418	88
DATE 05/18/2009	131

7/14/10

CONDUCTOR COLOR CODING	
R	BLK
O	WH
BL	2-1/c#6
WH	
R/BLK	R
O/BLK	WH
BL/BLK	3/c#12
WH/BLK	BLK
BLK	
BLK/WH	BLK
G/BLK	CLEAR
G	2/c#14
R	R OR O
O	WH OR YEL
BL	3/c#20
WH	BLK OR BL
G	

NOTE: ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.



ALL TERMINATIONS OF CABLES AND CONDUCTORS ARE IN PLACE AND SHALL BE REUSED AND MAINTAINED AS SHOWN (PLAN PROVIDED FOR INFORMATION ONLY).

S.P. 114-030-10  
CITY PROJECT NO. 09-18

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 DESIGNER: JMG  
 CHECKED BY: JMG  
 DESIGN TEAM

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 Date: May 18, 2009

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 PHONE: (651) 490-2000  
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 ST. PAUL, MN 55110

COON RAPIDS,  
 MINNESOTA

LED RETROFIT-SYSTEM "LL"  
 FIELD WIRING DIAGRAM  
 CSAH 14 AT TH 10 WEST RAMPS

FILE NO. 107418  
 DATE 05/18/2009  
 89  
 131