

- LED RETROFIT-SYSTEM "X" NOTES:**
- ALL ITEMS OF SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, UNLESS OTHERWISE NOTED ON PLANS.
 - 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.
 - 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).
 - 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.
 - 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).
 - 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.
 - IF NEW PEDESTRIAN HOUSINGS AND VISORS ARE USED, THEY SHALL BE FABRICATED USING NEW POLYCARBONATE MATERIALS.
 - ALL VEHICULAR SIGNAL INDICATIONS ARE LED AND ARE INPLACE (MAINTAIN AND REUSE INPLACE AS SHOWN).
 - CONTRACTOR SHALL REMOVE ALL INPLACE R10-4b STICKER SIGNS, AND "MEANING OF WALK" STICKER SIGNS, AND SHALL FURNISH & INSTALL NEW R10-3a SIGNS IN THEIR PLACE. ALL PUSH BUTTONS ARE ADA COMPLIANT AND ARE INPLACE (REUSE).

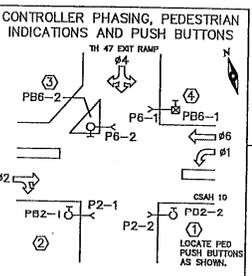
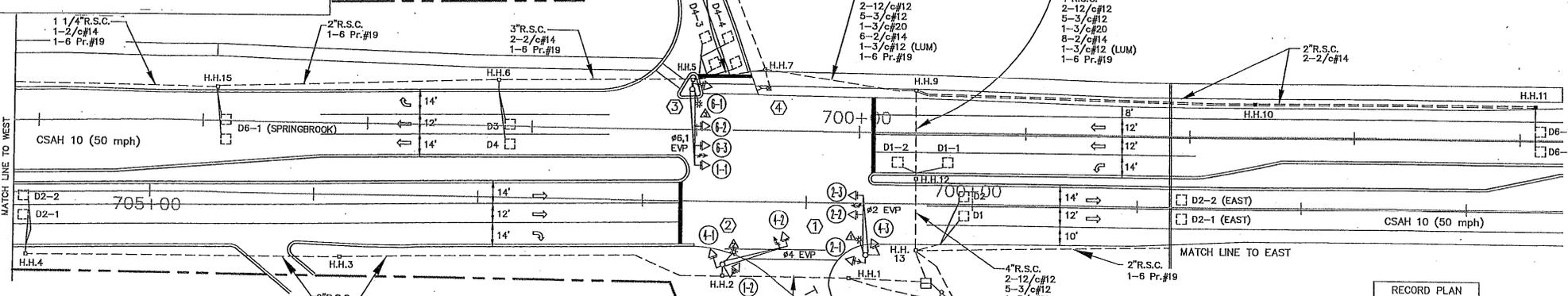
INPLACE NMC LOOP DETECTORS

NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	6x6	40'	1
D1-2	6x6	10'	1
D2-1	6x6	400'	1
D2-2	6x6	400'	1
D4-1	6x6	250'	3,8
D4-2	6x6	5' & 20'	3,8
D4-3	2-6x6	5' & 20'	1
D4-4	2-6x6	5' & 20'	1
D6-1	6x6	400'	1
D6-2	6x6	400'	1
D1	6x6	50'	11
D2	6x6	50'	11
D3	6x6	100'	11
D4	6x6	100'	11

- LOOP DETECTORS FUNCTIONS:**
- CALL AND EXTEND
 - EXTEND ONLY
 - DELETED CALL- IMMEDIATE EXTEND
 - CARRY OVER (STRETCH)
 - SPECIAL DETECTOR (COUNTING)

LOCATION-DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.

- CONTRACTOR SHALL MAINTAIN OPERATION OF THE SIGNAL SYSTEM AT ALL TIMES, EXCEPT AS OTHERWISE APPROVED BY ENGINEER.
- SEE STATEMENT OF ESTIMATED QUANTITIES FOR BID ITEMS FOR WORK AT THIS SIGNAL SYSTEM.



SYSTEM ID = 20221
METER ADDRESS = HIGHWAY 10 AND COON RAPIDS BLVD

- SIGNAL SYSTEM OPERATIONS:**
- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
 - NORMAL OPERATION SHALL BE 4 PHASE, WITH PHASE 1 BEING A PROTECTED LEFT TURN PHASE.
 - VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

- PA100 POLE FOUNDATION**
TYPE PA100-A-40-D40-9 (DAVIT AT 350')
LUMINAIRE-200 W/HPS W/PEC & CHECK SWITCH
ONE WAY SIGNAL-OVERHEAD
TYPE 10B-POLE MOUNTED 90°
TYPE 10A-POLE MOUNTED 180°
1-PEDESTRIAN PUSH BUTTON & SIGN
R9-3a SIGN PANEL-FACING POLE 3
TYPE D SIGN PANEL-OVERHEAD
ONE WAY E.V.P. DETECTOR AND LIGHT-OVERHEAD (#4)
EXTEND INTO H.H.2:
3'R.S.C.
2-12/c#12
2-3/c#12
1-3/c#20
1-3/c#12 (LUM)

(C) INPLACE GROUND MOUNTED TRANSFORMER (S.O.P.) (CONNEXUS)

- (1) PA90 POLE FOUNDATION**
TYPE PA90-A-35-D40-9 (DAVIT AT 350')
LUMINAIRE-200 W/HPS W/PEC & CHECK SWITCH
2-ONE WAY SIGNALS-OVERHEAD (0' & 11' FROM END OF MAST ARM)
TYPE 10A-POLE MOUNTED 90°
TYPE 10B-POLE MOUNTED 180°
1-PEDESTRIAN PUSH BUTTON & SIGN
R9-3a SIGN PANEL-FACING POLE 5
2-TYPE D SIGN PANELS-OVERHEAD
ONE WAY E.V.P. DETECTOR AND LIGHT-OVERHEAD (#2)
EXTEND INTO H.H.1:
3'R.S.C.
2-12/c#12
2-3/c#12
1-3/c#20
1-3/c#12 (LUM)

- (3) A100 POLE FOUNDATION**
TYPE PA100-A-45-D40-9 (DAVIT AT 350')
LUMINAIRE-200 W/HPS W/PEC & CHECK SWITCH
3-ONE WAY SIGNALS-OVERHEAD (0', 11' AND 23' FROM END OF MAST ARM)
TYPE 10B-POLE MOUNTED 180°
1-PEDESTRIAN PUSH BUTTON & SIGN
R9-3a SIGN PANEL-FACING POLE 2
TYPE D SIGN PANEL-OVERHEAD
ONE WAY E.V.P. DETECTOR AND LIGHT-OVERHEAD (#6,1)
EXTEND INTO H.H.5:
3'R.S.C.
2-12/c#12
1-3/c#20
3-2/c#14
3-3/c#12
1-3/c#20
1-3/c#12 (LUM)

- (A) CONTROLLER AND CABINET FOUNDATION**
CABINET FOUNDATION
EXTEND INTO H.H.14:
METERED SIGNAL SERVICE
2'R.S.C.
3-1/c#6
EXTEND INTO H.H.1:
4'R.S.C.
4-12/c#12
4-3/c#12
4-3/c#20
2-2/c#14
EXTEND INTO H.H.13:
4'R.S.C.
2-12/c#12
5-3/c#12
1-3/c#20
1-3/c#20
12-2/c#14
2-6 Pr.#19
2-3'R.S.C. STUBBED OUT FROM CABINET TO NORTH (THREADED AND CAPPED BOTH ENDS- FOR FUTURE USE)

- (B) SIGNAL SERVICE CABINET FOUNDATION**
CABINET FOUNDATION
EXTEND INTO H.H.14:
METERED SIGNAL SERVICE
2'R.S.C.
3-1/c#6
EXTEND INTO H.H.1:
4'R.S.C.
2-3/c#12 (LUM)
EXTEND INTO H.H.13:
UNMETERED STREET LIGHT SERVICE
2'R.S.C.
1-3/c#12 (LUM)
STUB OUT 2'R.S.C. TO WEST (FOR SERVICE CONNECTION BY CONNEXUS)

RECORD PLAN FOR LED PROJECT (PLANS CONFIRMED FOR PROJECT WORK ONLY) DATE: 06-08-10

LED SIGNAL FACES

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

○ ← = INPLACE LED INDICATION, REUSE INPLACE.

DRAWN BY: JMG
DESIGNER: JMG
CHECKED BY: JMG

RECORD DRAWING FOR PROJECT

NO.	BY	DATE
1	JMG	6/10

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.
JMG
Name: John M. Gray, PE
Date: May 18, 2009
Lic. No.: 22487

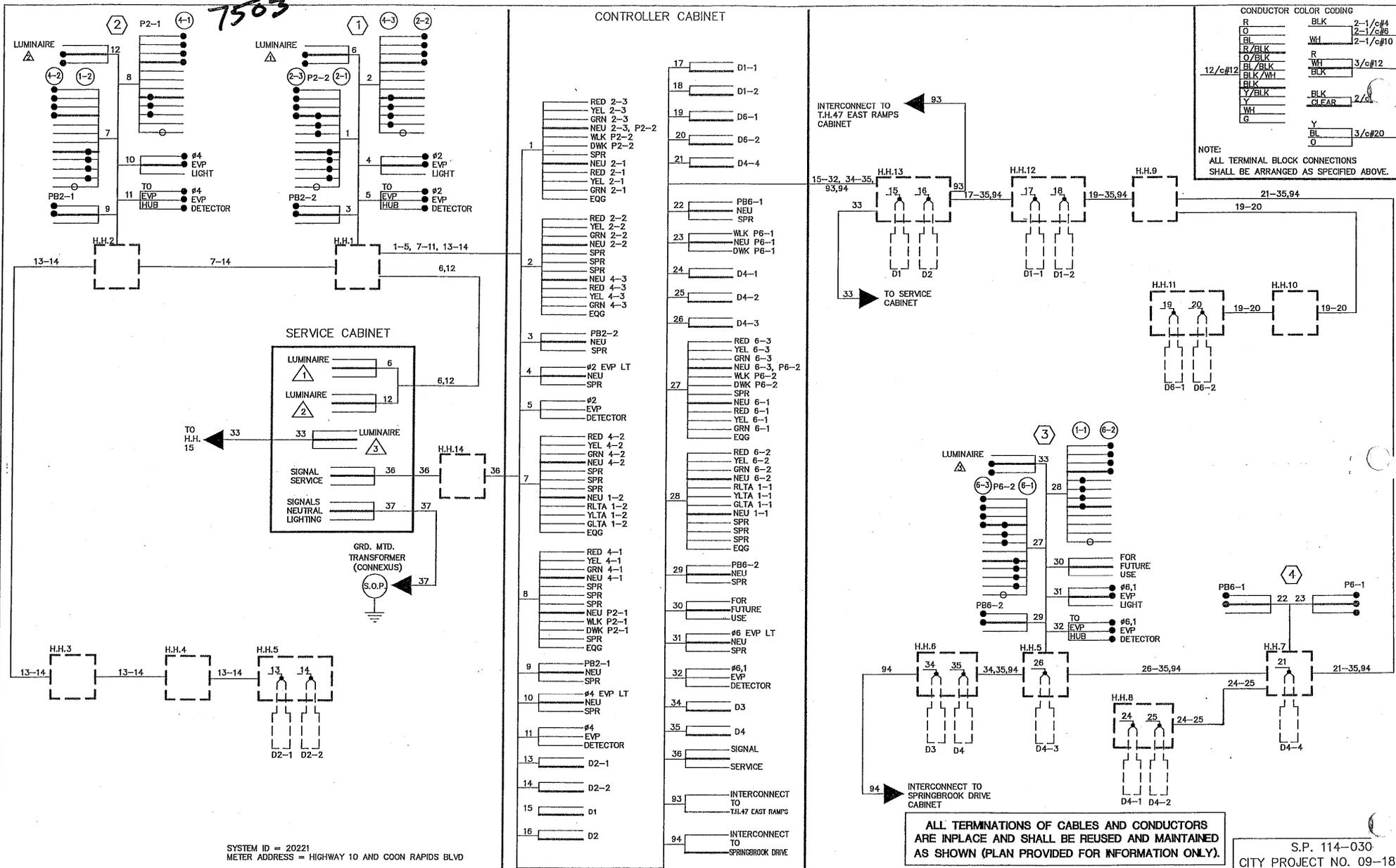


COON RAPIDS, MINNESOTA

LED RETROFIT-SYSTEM "X" INTERSECTION LAYOUT
CSAH 10 AT TH 47 WEST RAMP

FILE NO. 107418
DATE 05/18/2009
56
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S.P. 114-030-10
CITY PROJECT NO. 09-18



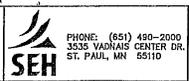
S. VALE, COON RAPIDS COMMUNITY LED RETROFIT, LEADERSHIP

DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG

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.

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



COON RAPIDS, MINNESOTA

LED RETROFIT-SYSTEM "X"
FIELD WIRING DIAGRAM
 CSAH 10 AT TH 47 WEST RAMPS

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

FILE NO. 10741B	57
DATE 05/19/2009	

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