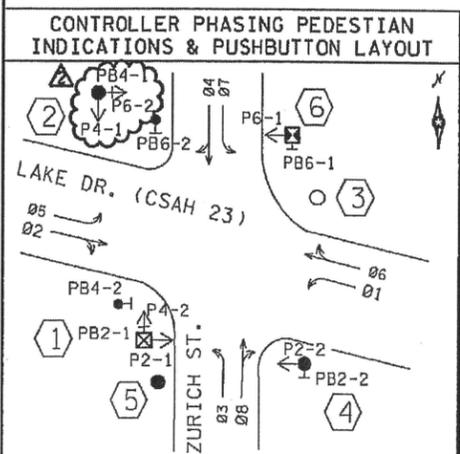
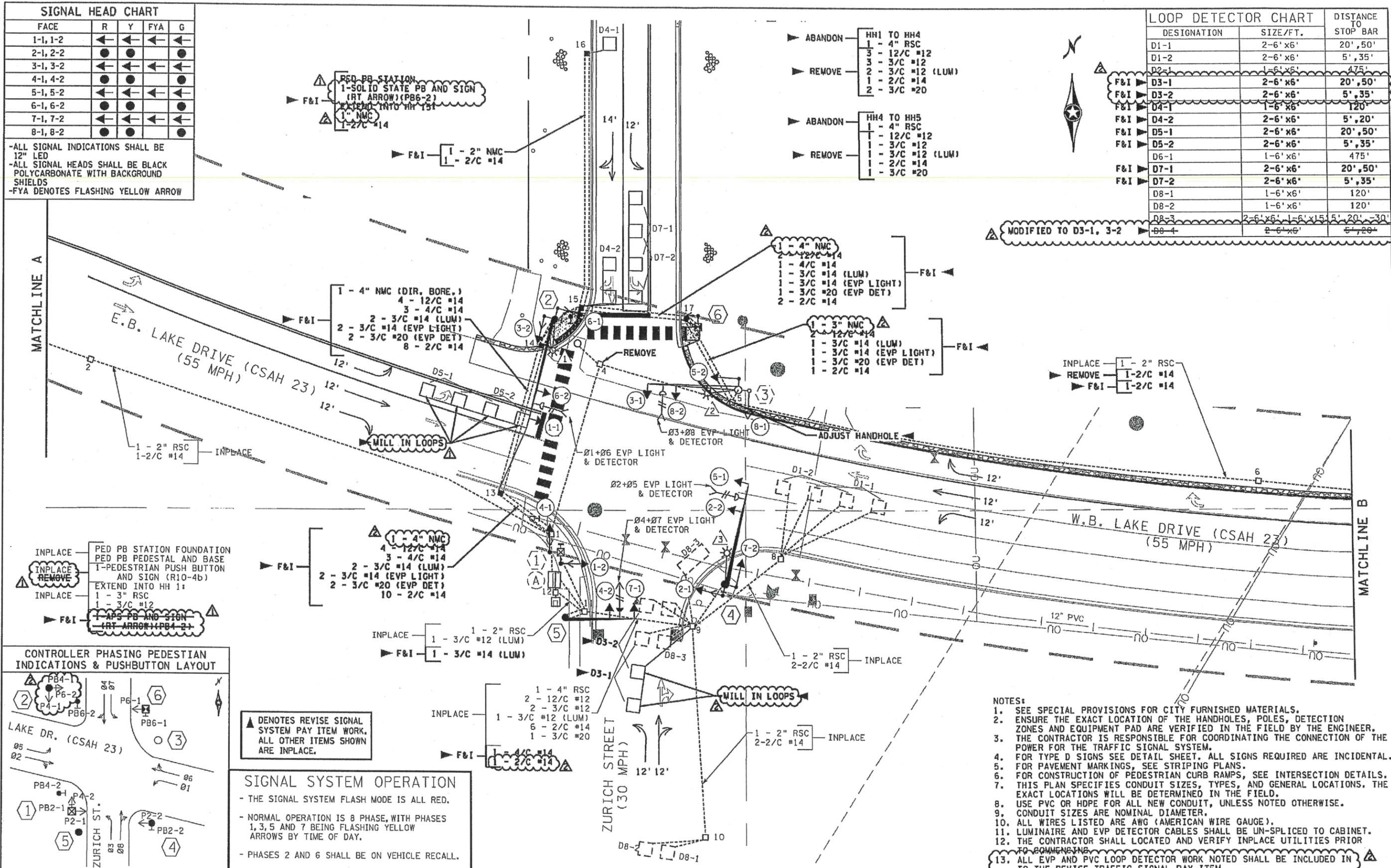


SIGNAL HEAD CHART				
FACE	R	Y	FYA	G
1-1, 1-2	●	●	●	●
2-1, 2-2	●	●	●	●
3-1, 3-2	●	●	●	●
4-1, 4-2	●	●	●	●
5-1, 5-2	●	●	●	●
6-1, 6-2	●	●	●	●
7-1, 7-2	●	●	●	●
8-1, 8-2	●	●	●	●

-ALL SIGNAL INDICATIONS SHALL BE 12" LED  
 -ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS  
 -FYA DENOTES FLASHING YELLOW ARROW

LOOP DETECTOR CHART			DISTANCE TO STOP BAR
DESIGNATION	SIZE/FT.		
D1-1	2-6' x 6'		20', 50'
D1-2	2-6' x 6'		5', 35'
D2-1	1-6' x 6'		475'
F&I D3-1	2-6' x 6'		20', 50'
F&I D3-2	2-6' x 6'		5', 35'
F&I D4-1	1-6' x 6'		120'
F&I D4-2	2-6' x 6'		5', 20'
F&I D5-1	2-6' x 6'		20', 50'
F&I D5-2	2-6' x 6'		5', 35'
D6-1	1-6' x 6'		475'
F&I D7-1	2-6' x 6'		20', 50'
F&I D7-2	2-6' x 6'		5', 35'
D8-1	1-6' x 6'		120'
D8-2	1-6' x 6'		120'
D8-3	2-6' x 6', 1-6' x 15'		5', 20', 30'
D8-4	2-6' x 6'		5', 20'



▲ DENOTES REVISE SIGNAL SYSTEM PAY ITEM WORK. ALL OTHER ITEMS SHOWN ARE INPLACE.

**SIGNAL SYSTEM OPERATION**

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE, WITH PHASES 1, 3, 5 AND 7 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

- NOTES:**
1. SEE SPECIAL PROVISIONS FOR CITY FURNISHED MATERIALS.
  2. ENSURE THE EXACT LOCATION OF THE HANDHOLES, POLES, DETECTION ZONES AND EQUIPMENT PAD ARE VERIFIED IN THE FIELD BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM.
  3. FOR TYPE D SIGNS SEE DETAIL SHEET. ALL SIGNS REQUIRED ARE INCIDENTAL.
  4. FOR PAVEMENT MARKINGS, SEE STRIPING PLANS.
  5. FOR CONSTRUCTION OF PEDESTRIAN CURB RAMPS, SEE INTERSECTION DETAILS.
  6. THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD.
  7. USE PVC OR HDPE FOR ALL NEW CONDUIT, UNLESS NOTED OTHERWISE.
  8. CONDUIT SIZES ARE NOMINAL DIAMETER.
  9. ALL WIRES LISTED ARE AWG (AMERICAN WIRE GAUGE).
  10. LUMINAIRE AND EVP DETECTOR CABLES SHALL BE UN-SPLICED TO CABINET.
  11. THE CONTRACTOR SHALL LOCATED AND VERIFY INPLACE UTILITIES PRIOR TO COMMENCING.
  12. ALL EVP AND PVC LOOP DETECTOR WORK NOTED SHALL BE INCLUDED IN TO THE REVISE TRAFFIC SIGNAL PAY ITEM.

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*Peter M. Lemke*  
 PETER M. LEMKE  
 LIC. NO. 40118 DATE 06/29/2020

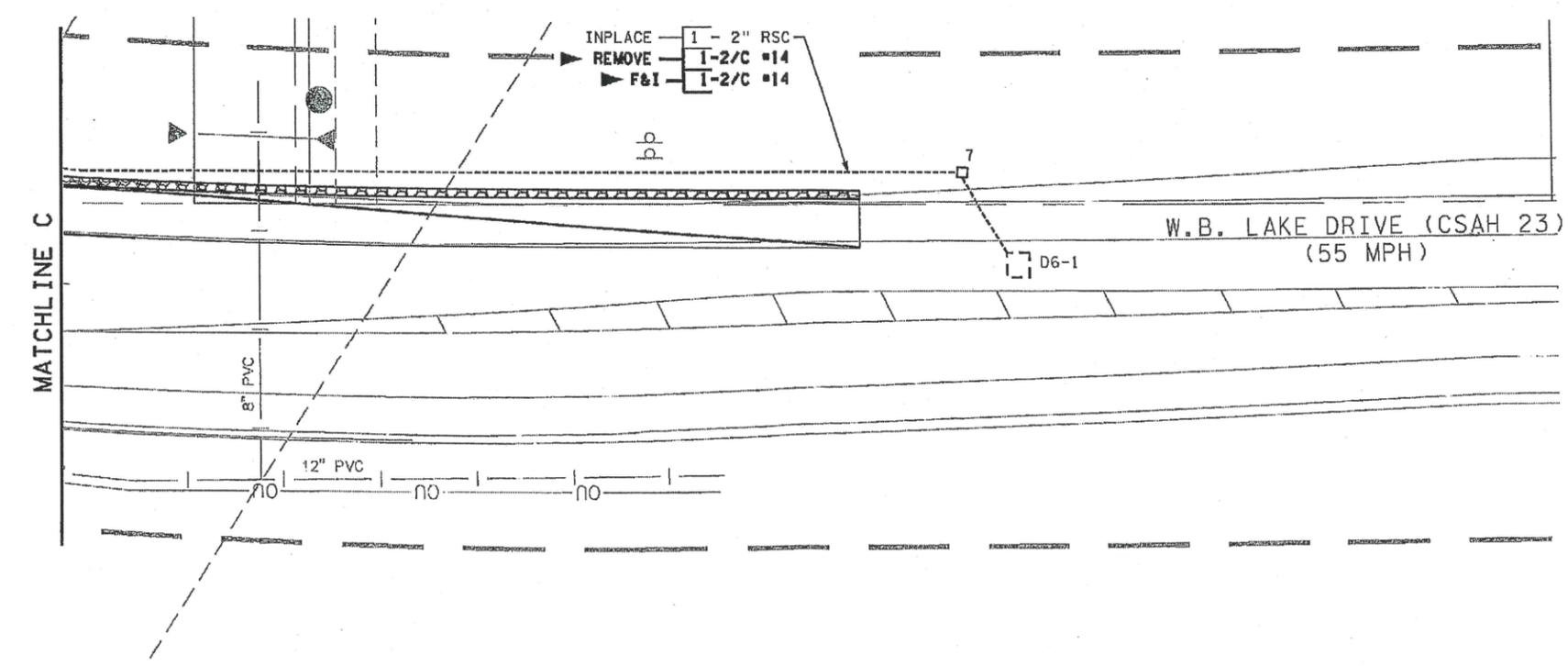
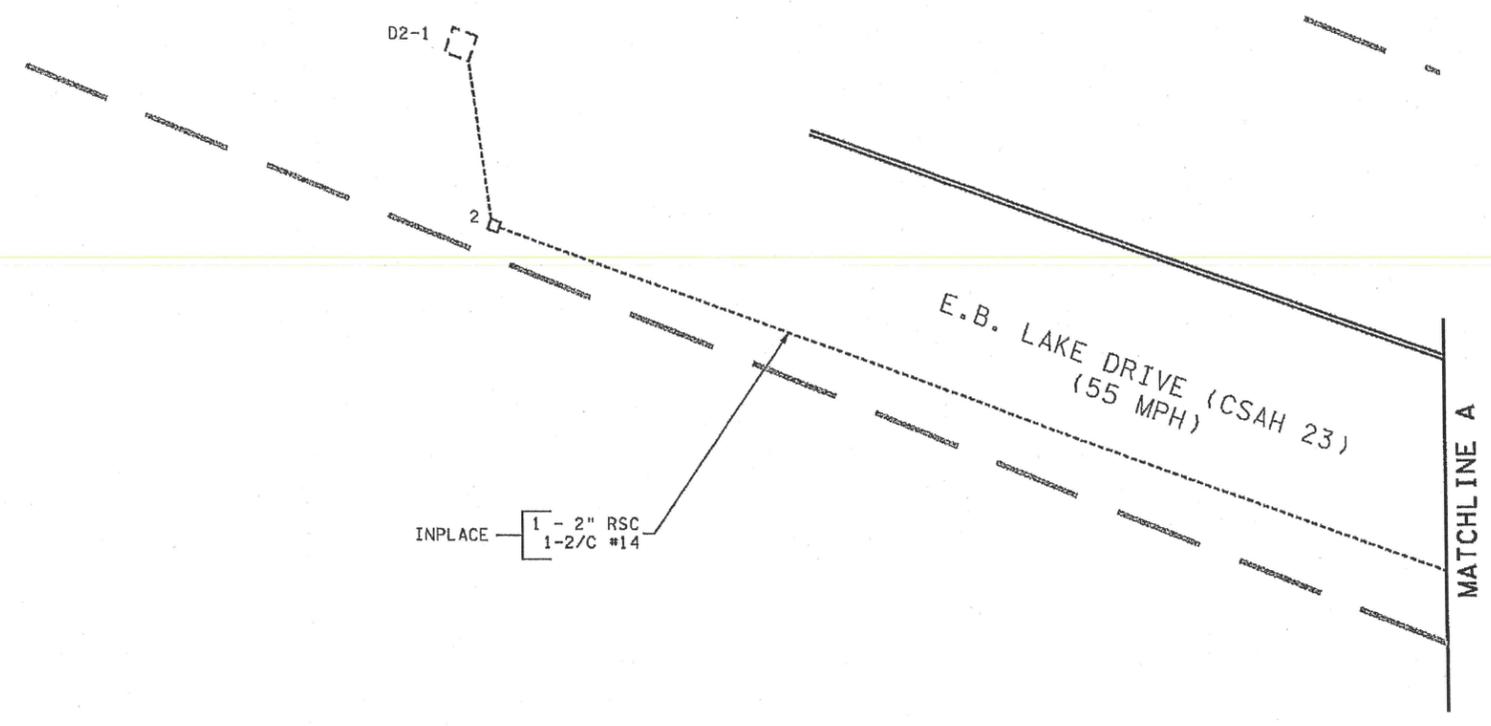


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JTP	MSL	8/24/2020	
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COLUMBUS, MINNESOTA		SHEET 48
2020 ZURICH STREET EXTENSION		
SIGNAL PLAN		OF 55

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COLUMBUS, MINNESOTA  
 2020 ZURICH STREET EXTENSION  
 SIGNAL PLAN

SHEET  
 49  
 OF  
 55

**(A)**

CONTROLLER AND CABINET  
CABINET FOUNDATION  
EXTEND INTO HH-12:  
METERED SIGNAL SERVICE  
2" RSC  
3-1/C #6  
EXTEND TO HH-1:  
4" RSC  
1 - 3/C #12  
1 - 2/C #14  
EXTEND TO HH-11:  
4" RSC  
3 - 12/C #12  
4 - 3/C #12  
6 - 2/C #14  
1 - 3/C #20

INPLACE

REMOVE

INTO TO HH-11:  
3 - 12/C #12  
2 - 3/C #12  
2 - 2/C #14  
1 - 3/C #20

INTO HH 1:  
4 - 12/C #14  
3 - 4/C #14  
2 - 3/C #14 (LUM)  
2 - 3/C #14 (EVP LIGHT)  
2 - 3/C #20 (EVP DET)  
10 - 2/C #14

F&I

INTO HH 11:  
1 - 12/C #14  
1 - 4/C #14  
1 - 3/C #14 (EVP LIGHT)  
1 - 3/C #20 (EVP DET)

**(B)**

SIGNAL SERVICE CABINET  
CABINET FOUNDATION  
EXTEND INTO HH-12:  
2" RSC  
METERED SIGNAL SERVICE  
3-1/C #2  
UNMETERED LIGHTING SERVICE  
3-3/C #12 (LUM.)

INPLACE

F&I

1 - 3/C #14 (LUM)

EXTEND INTO CONTROLLER:  
2" RSC  
METERED SIGNAL SERVICE  
3-1/C #6

INPLACE

**(C)**

SOP - INPLACE WOOD POLE TRANSFORMER  
(CONNEXUS)

INPLACE

**(2)**

PA100 POLE FOUNDATION  
TYPE PA100-A40  
2 - ONE WAY SIGNALS OVERHEAD  
(0' AND 12' FROM END OF MAST ARM)  
1 - POLE MOUNTED ONE-WAY SIGNAL AT 225 DEG  
1 - POLE MOUNTED PEDESTRIAN INDICATION AT 45 DEG  
1 - PEDESTRIAN PUSH BUTTON AND SIGN (R10-4b)  
1 - R9-3a SIGN  
3" RSC INTO HH-4  
2 - 12/C #12  
2 - 3/C #12  
1 - 3/C #12 (LUM.)  
1 - 3/C #20

REMOVE

S&I

1 - TYPE D SIGN (D-2) (SEE SIGN DETAIL)  
1 - ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT  
(PHASE 2+5) AT 6'  
1 - D40-9 (DAVIT AT 350 DEG)

PA100 POLE FOUNDATION  
TYPE PA100-A45  
1-ANGLE MOUNT SIGNAL OVERHEAD  
AT 0'  
1-STRAIGHT MOUNT SIGNAL OVERHEAD  
AT 12'  
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG  
2-ANGLE MOUNT C.D. PED HEAD AT 90 AND  
180 DEG

F&I

1-SOLID STATE PB AND SIGN  
(LT ARROW)(PB4-1)  
1-R10-X12 SIGN (SEE SIGN DETAIL)  
1-LUMINAIRE (LED)  
3" RSC INTO HH-14:  
2 - 12/C #14  
2 - 4/C #14  
1 - 3/C #14 (LUM)  
1 - 3/C #14 (EVP LIGHT)  
1 - 3/C #20 (EVP DET)  
1 - 2/C #14

**(1)**

PEDESTAL FOUNDATION  
13' PEDESTAL AND BASE  
2 - POLE MOUNTED PEDESTRIAN INDICATION  
1 - PEDESTRIAN PUSH BUTTON AND SIGN  
3" RSC INTO HH-11:  
1 - 12/C #12  
2 - 3/C #12

INPLACE

REMOVE

1 - POLE MOUNTED ONE-WAY SIGNAL AT 225 DEG  
1 - PEDESTRIAN PUSH BUTTON AND SIGN

F&I

1-APS PB AND SIGN (LT ARROW)(PB2-1)  
AND APS PB MOUNTING SPACERS

**(5)**

PA90 POLE FOUNDATION  
TYPE PA90-A30  
1-ANGLE MOUNT SIGNAL OVERHEAD  
AT 0'  
1-STRAIGHT MOUNT SIGNAL OVERHEAD  
AT 11'  
1-TYPE D SIGN (D-1)(SEE SIGN DETAIL)  
1-R10-X12 SIGN (SEE SIGN DETAIL)  
1-ONE WAY EVP DETECTOR AND  
CONFIRMATORY LIGHT (04+07) AT 6'  
3" NMC INTO HH 11:  
1 - 12/C #14  
1 - 3/C #14 (EVP LIGHT)  
1 - 3/C #20 (EVP DET)

F&I

**(3)**

PA100 POLE FOUNDATION  
TYPE PA100-A40-D40-9 (DAVIT AT 350 DEG)  
1 - POLE MOUNTED ONE-WAY SIGNAL AT 225 DEG  
1 - ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT  
(PHASE X)  
1 - R9-3a SIGN FACING POLE 4  
1 - TYPE D SIGN (D-1) (SEE SIGNING DETAILS)  
3" RSC INTO HH-5

INPLACE

REMOVE

1-ANGLE MOUNT SIGNAL OVERHEAD  
AT 0'  
1-LUMINAIRE (250W HPS)

1-ANGLE MOUNT SIGNAL OVERHEAD  
AT 0'  
1-STRAIGHT MOUNT SIGNAL OVERHEAD  
AT 12' WITH HUB ADAPTOR  
1-R10-X12 SIGN (SEE SIGN DETAIL)  
1-LUMINAIRE (LED)  
INTO HH 5:  
2 - 12/C #14  
1 - 3/C #14 (LUM)  
1 - 3/C #14 (EVP LIGHT)  
1 - 3/C #20 (EVP DET)

F&I

**(4)**

PA90 POLE FOUNDATION  
3" RSC INTO HH-9  
2 - 12/C #12  
1 - 3/C #12  
1 - 3/C #12 (EVP LIGHT)  
1 - 3/C #20 (EVP DET)  
1 - 3/C #12 (LUM)

INPLACE

REMOVE

PA90 POLE FOUNDATION  
TYPE PA90-A35  
1 - ONE WAY SIGNALS OVERHEAD  
(0' FROM END OF MAST ARM)  
1 - POLE MOUNTED ONE-WAY SIGNAL AT 225 DEG  
1 - POLE MOUNTED PEDESTRIAN INDICATION AT 225 DEG  
1 - R9-3a SIGN FACING POLE 3  
1 - PEDESTRIAN PUSH BUTTON AND SIGN (R10-4b)  
1 - LUMINAIRE (250W HPS)

S&I

1 - TYPE D SIGN (D-2) (SEE SIGN DETAIL)  
1 - ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT  
(PHASE 2+5) AT 6'  
1 - D30-9 (DAVIT AT 350 DEG)

PA100 POLE FOUNDATION  
TYPE PA100-A45  
1-ANGLE MOUNT SIGNAL OVERHEAD  
AT 0'  
1-STRAIGHT MOUNT SIGNAL OVERHEAD  
AT 12'  
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG  
1-ANGLE MOUNT C.D. PED HEAD AT 180 DEG

F&I

1-SOLID STATE PB AND SIGN  
(LT ARROW)(PB2-2)  
1-R9-3a SIGN FACING POLE 3  
1-R10-X12 SIGN (SEE SIGN DETAIL)  
1-LUMINAIRE (LED)  
INTO HH 9:  
1 - 4/C #14

**(6)**

PEDESTAL FOUNDATION  
10' PEDESTAL POLE (PLUS BASE)  
1-SOLID STATE PB AND SIGN  
(LT ARROW)(PB6-1)  
1-ANGLE MOUNT C.D. PED HEAD AT 270  
2" NMC INTO HH 16:  
1 - 4/C #14  
1 - 2/C #14

F&I

▲ DENOTES REVISE SIGNAL  
SYSTEM PAY ITEM WORK.  
ALL OTHER ITEMS SHOWN  
ARE INPLACE.

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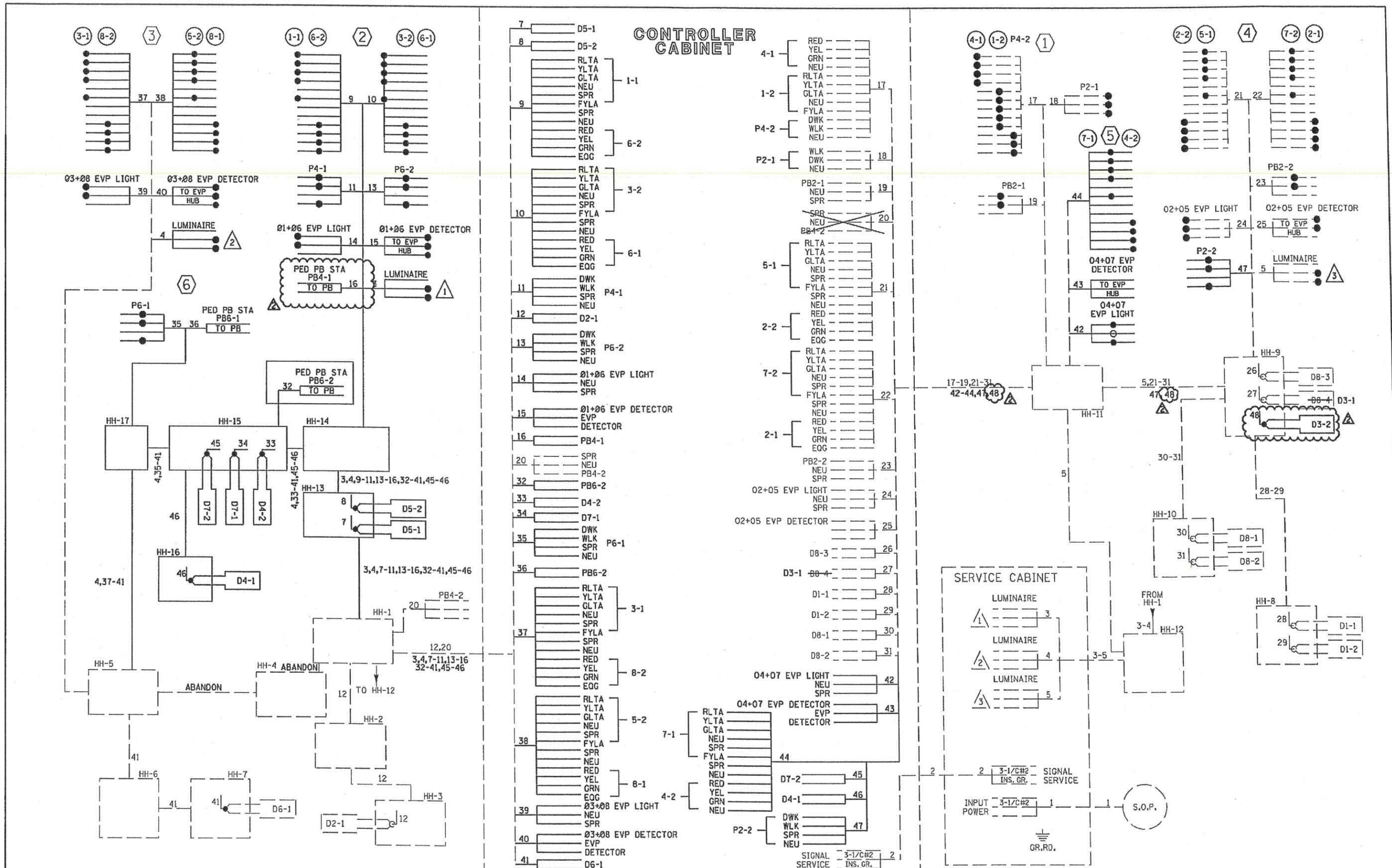
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