

(A) INSTALL CONTROLLER AND CABINET
 (FURNISHED BY COUNTY)
 CABINET FOUNDATION
 EXTEND INTO H.H. 16:
 METERED SIGNAL SERVICE
 2" RSC
 3-1/C*6
 EXTEND INTO H.H. 1:
 4" RSC
 3-12/C*12
 7-3/C*12
 6-2/C*14
 2-3/C*20
 EXTEND INTO H.H. 15:
 4" RSC
 3-12/C*12
 7-3/C*12
 7-2/C*14
 2-3/C*20
 1-FIBER OPTIC
 STUB OUT 2-3" RSC FROM
 CABINET TO NORTH (THREAD
 AND CAP-FOR FUTURE USE)
 STUB OUT 1" RSC FROM
 CABINET TO NORTH (THREAD
 AND CAP-FOR FUTURE PHONE LINE)

(B) SIGNAL SERVICE CABINET
 (FURNISHED BY COUNTY)
 CABINET FOUNDATION
 EXTEND INTO H.H. 16:
 METERED SIGNAL SERVICE
 2" RSC
 3-1/C*6
 UNMETERED STREET LIGHT SERVICE
 2-3/C*12 (LUM)
 STUB OUT 2" RSC FROM
 SERVICE CABINET TO NORTH (FOR
 SERVICE BY CONNEXUS)

(1) PA100 POLE FOUNDATION
 TYPE PA100-B-45-D40-9 (DAVIT AT 350')
 2-ONE WAY SIGNALS OVERHEAD
 (0' & 11' FROM END OF MAST ARM)
 ONE WAY SIGNAL-POLE MOUNTED AT 45°
 PEDESTRIAN INDICATION-POLE MOUNTED AT 45°
 PEDESTRIAN INDICATION-POLE MOUNTED AT 225°
 LUMINAIRE-250W HPS
 2-PEDESTRIAN PUSH BUTTONS
 TYPE D SIGN PANEL-OVERHEAD (D-1)
 ONE WAY EVP DETECTOR & LIGHT (01 & 06)
 R6-1L SIGN PANEL-POLE MOUNTED AT 0°
 R6-1R SIGN PANEL-POLE MOUNTED AT 180°
 EXTEND INTO H.H. 1:
 3" RSC
 2-12/C*12
 3-3/C*12
 1-3/C*12 (LUM)
 1-3/C*20

(2) PA90 POLE FOUNDATION
 TYPE PA90-B-25
 2-ONE WAY SIGNALS OVERHEAD
 ONE WAY SIGNAL-POLE MOUNTED AT 45°
 ONE WAY SIGNAL-POLE MOUNTED AT 225°
 PEDESTRIAN INDICATION-POLE MOUNTED AT 45°
 1-PEDESTRIAN PUSH BUTTON
 TYPE D SIGN PANEL-OVERHEAD (D-2)
 ONE WAY EVP DETECTOR & LIGHT (08)
 EXTEND INTO H.H. 3:
 3" RSC
 1-12/C*12
 4-3/C*12
 3-2/C*14
 1-3/C*20

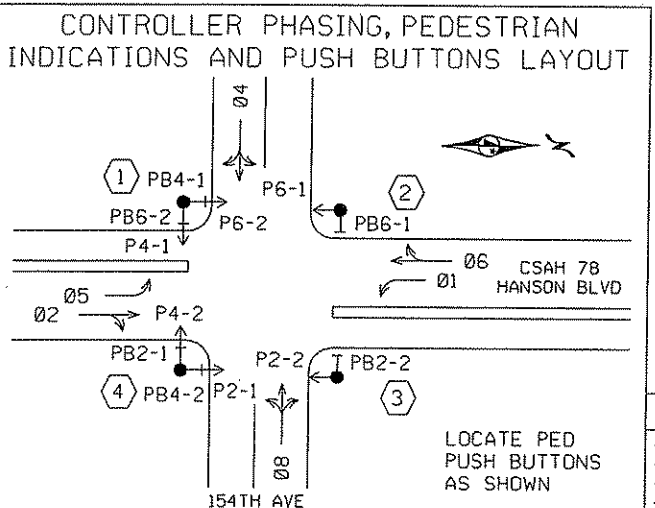
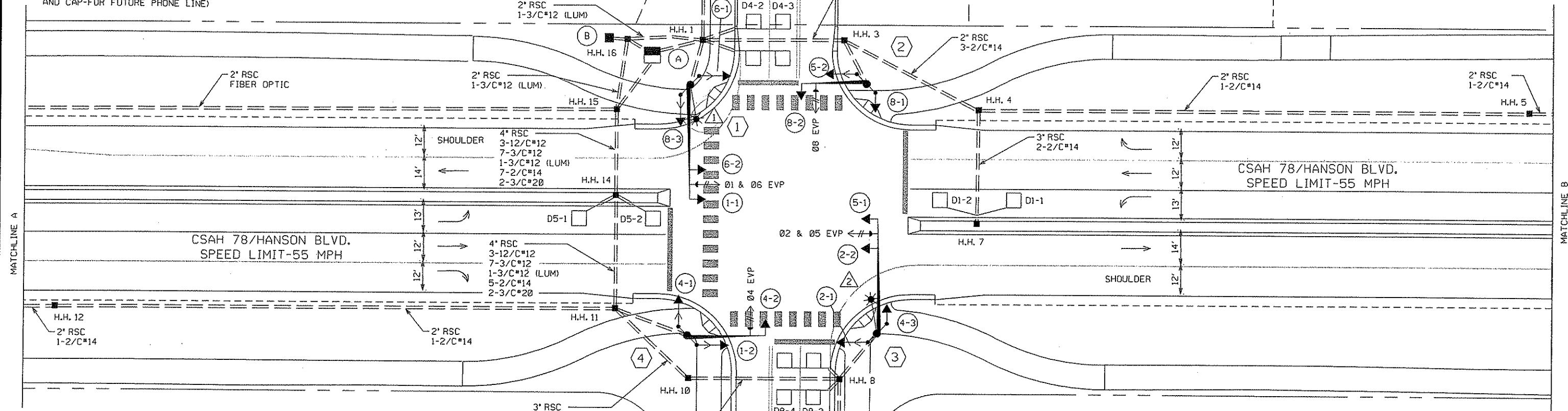
LOOP DETECTOR FUNCTIONS:
 1) CALL AND EXTEND
 2) CALL ONLY
 3) EXTEND ONLY
 4) CALL ONLY DENSITY
 5) DELAYED CALL ONLY
 6) DELAYED CALL ONLY DENSITY
 7) DELAYED CALL-IMMEDIATE EXTEND
 8) CARRY OVER (STRETCH)
 9) ADVISORY DETECTOR
 10) SAMPLING DETECTOR
 11) COUNTING DETECTOR

NMC LOOP DETECTORS			
NUMBER	SIZE	LOCATION	FUNCTION
D1-1	6'X6'	40'	
D1-2	6'X6'	10'	
D2-1	6'X6'	475'	
D4-1	6'X6'	120'	
D4-2, D4-3	2-6'X6'	5' & 20'	
D5-1	6'X6'	40'	
D5-2	6'X6'	10'	
D6-1	6'X6'	475'	
D8-1, D8-2	6'X6'	120'	
D8-3, D8-4	2-6'X6'	5' & 20'	

LOCATION: DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR

SIGNAL FACES			
FACE	R	Y	G
1-1, 1-2	←	←	←
2-1, 2-2	●	●	●
4-1, 4-2, 4-3	●	●	●
5-1, 5-2	←	←	←
6-1, 6-2	●	●	●
8-1, 8-2, 8-3	●	●	●

-ALL SIGNAL INDICATIONS SHALL BE 12"
 -ALL SIGNAL INDICATIONS SHALL BE LED
 -ALL SIGNAL FACES SHALL HAVE A BACKGROUND SHIELD



(4) PA90 POLE FOUNDATION
 TYPE PA90-B-30
 ONE WAY SIGNAL OVERHEAD
 ONE WAY SIGNAL-POLE MOUNTED AT 45°
 ONE WAY SIGNAL-POLE MOUNTED AT 225°
 PEDESTRIAN INDICATION-POLE MOUNTED AT 45°
 PEDESTRIAN INDICATION-POLE MOUNTED AT 225°
 2-PEDESTRIAN PUSH BUTTONS
 TYPE D SIGN PANEL-OVERHEAD (D-4)
 ONE WAY EVP DETECTOR & LIGHT (04)
 EXTEND INTO H.H. 11:
 3" RSC
 1-12/C*12
 4-3/C*12
 1-3/C*20

SIGNAL SYSTEM OPERATION
 -SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED
 -NORMAL OPERATION SHALL BE SIX PHASE
 -PHASES 1 AND 5 SHALL BE PROTECTED LEFT TURNS
 -PHASES 2 AND 6 SHALL BE ON RECALL

(3) PA100 POLE FOUNDATION
 TYPE PA100-B-45-D40-9 (DAVIT AT 350')
 2-ONE WAY SIGNALS OVERHEAD
 (0' & 11' FROM END OF MAST ARM)
 ONE WAY SIGNAL-POLE MOUNTED AT 45°
 ONE WAY SIGNAL-POLE MOUNTED AT 225°
 PEDESTRIAN INDICATION-POLE MOUNTED AT 225°
 LUMINAIRE-250W HPS
 1-PEDESTRIAN PUSH BUTTON
 TYPE D SIGN PANEL-OVERHEAD (D-3)
 ONE WAY EVP DETECTOR & LIGHT (02 & 05)
 R6-1L SIGN PANEL-POLE MOUNTED AT 0°
 R6-1R SIGN PANEL-POLE MOUNTED AT 180°
 EXTEND INTO H.H. 8:
 3" RSC
 2-12/C*12
 3-3/C*12
 1-3/C*12 (LUM)
 1-3/C*20

NOTES:
 1) LOCATION OF POLES, CONTROLLER CABINET, SERVICE CABINET, LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 2) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
 3) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLPE) IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
 4) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
 5) EACH PEDESTRIAN INDICATION SHALL BE ONE SECTION HAND/WALKING PERSON INDICATION.
 6) ALL PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED.
 7) SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNING TO BE FURNISHED AND INSTALLED BY CONTRACTOR (INCIDENTAL TO ITEM NO. 2565.511 FOR THIS SIGNAL SYSTEM).
 8) CONTRACTOR SHALL PROVIDE EXTENDED BRACKETS FOR EACH POLE MOUNTED VEHICLE AND PEDESTRIAN SIGNAL FACE.
 9) A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED 6 FEET FROM THE END OF EACH MAST ARM (FOR EVP).
 10) CONTRACTOR SHALL COORDINATE ALL TRAFFIC SIGNAL INSTALLATION WITH ROAD CONSTRUCTION TO BE COMPLETED BY OTHERS AS PART OF ENTIRE PROJECT.
 11) ALL POLE MOUNTED SIGNAL FACES AND PEDESTRIAN INDICATIONS SHALL USE RC DESIGN MOUNTING. (SEE DETAIL)

NO.	DATE	BY	CHK	REVISIONS

Design By: NEH/THG
 P1an By: CWK
 Checked By: AJW
 Approved By: AJW

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

CERTIFIED BY: *Anthony J. Winiecki*
 LICENSED PROFESSIONAL ENGINEER - ANTHONY J. WINIECKI, P.E.
 DATE: 8/30/05 L.I.C. NO: 23128

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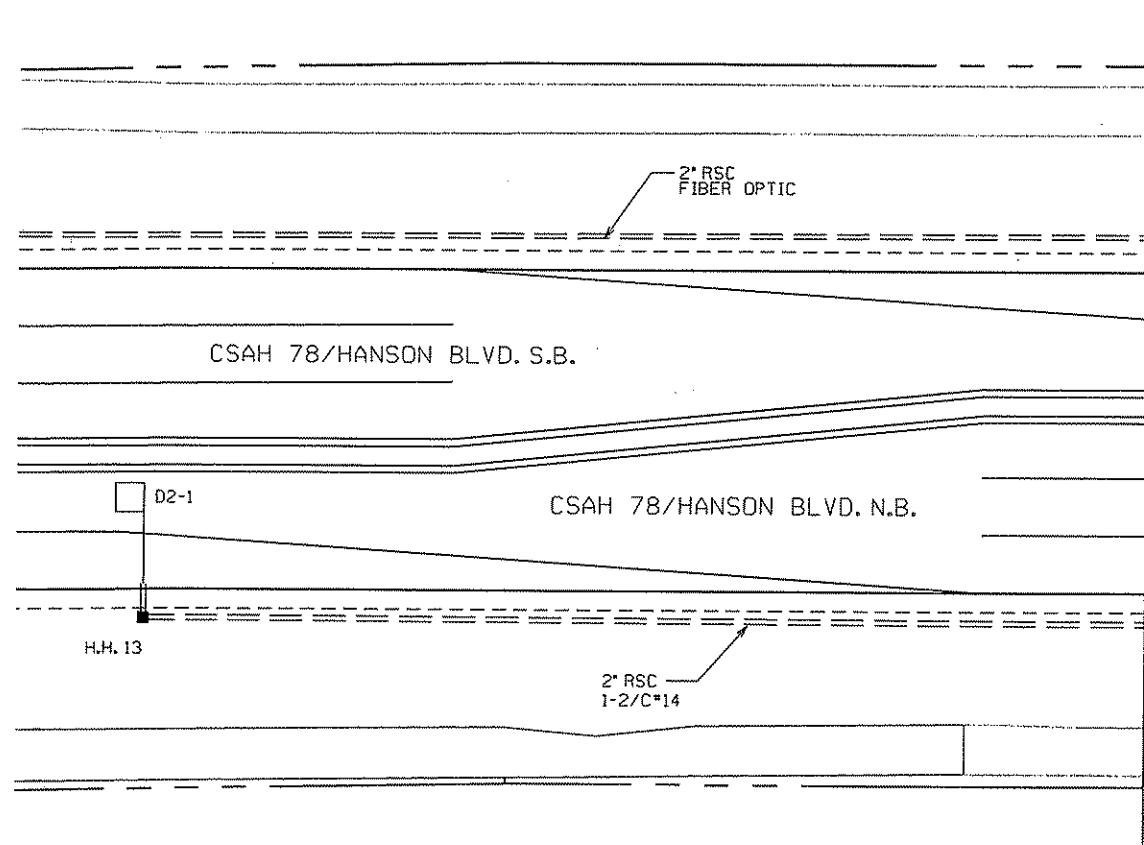
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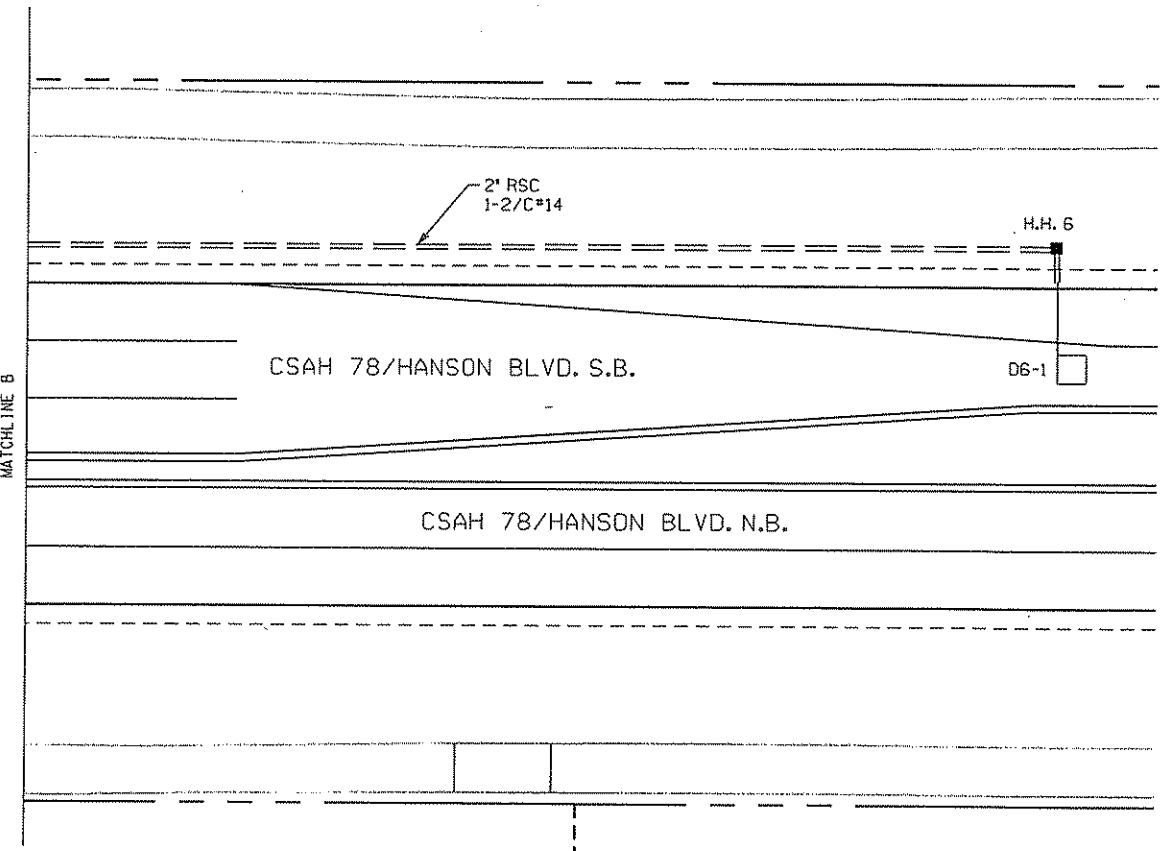
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 INTERSECTION LAYOUT
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 S.A.P 02-678-18, ETC.

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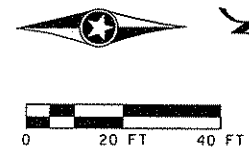
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MATCHLINE A



MATCHLINE B



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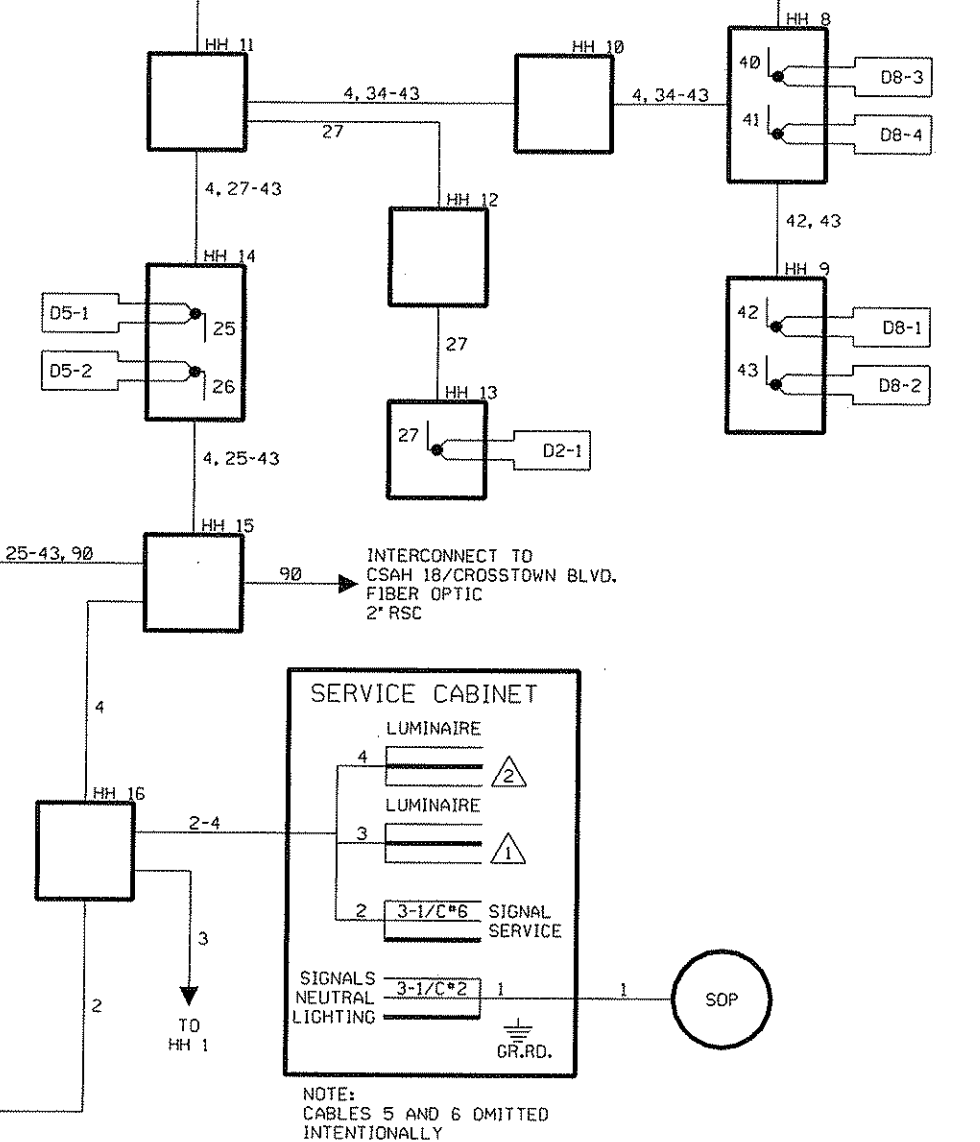
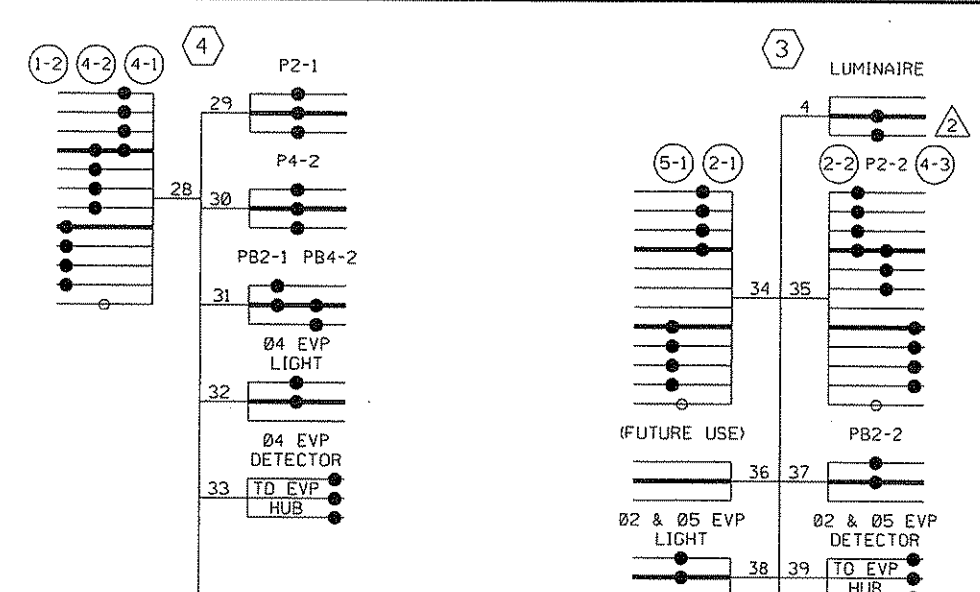
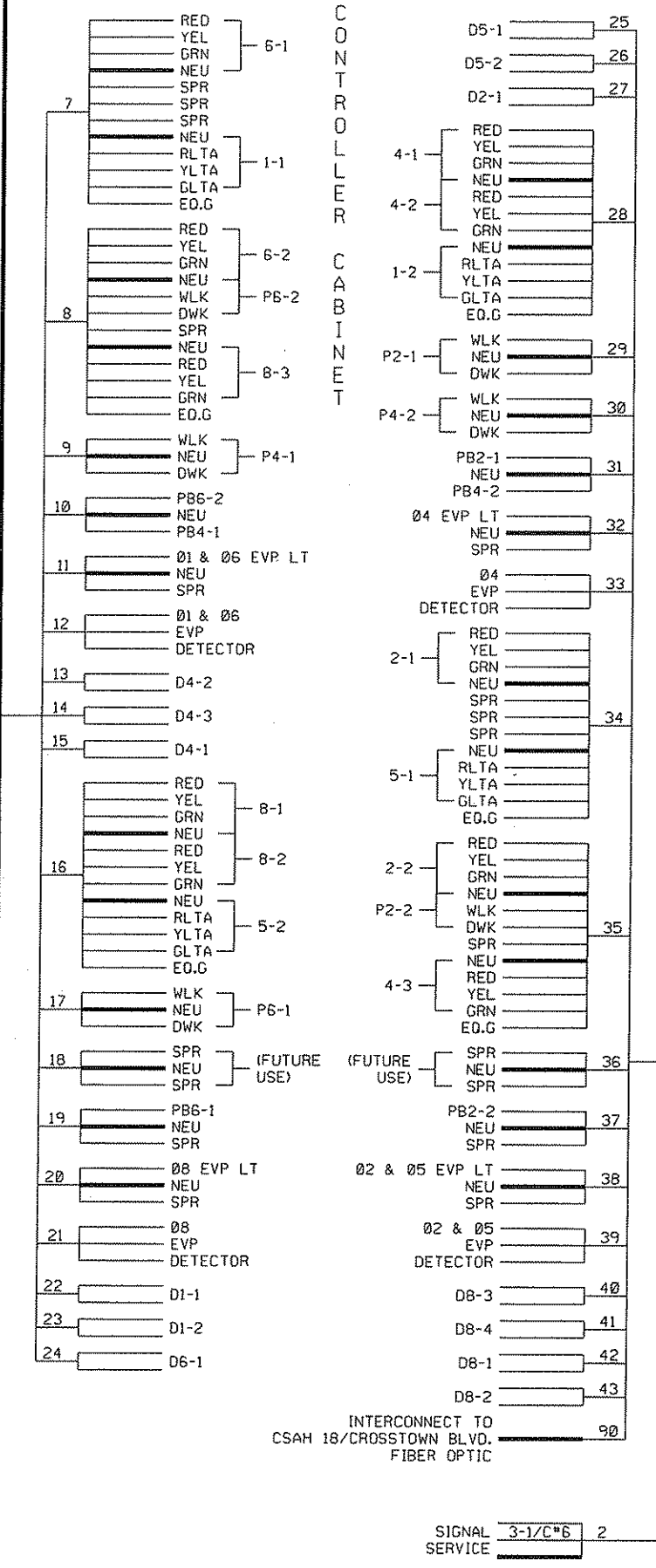
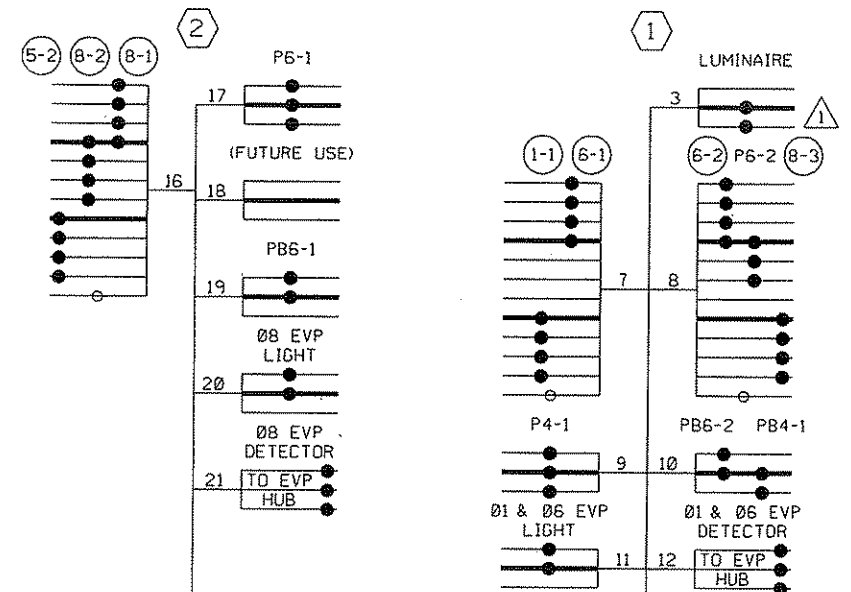
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TRAFFIC SIGNAL PLAN
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SHEET
69
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90
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CONDUCTOR COLOR CODING

R	5/C*12	BL	WH	R OR O	WH OR YEL	BLK OR BL
O	12/C*12	BLK	WH/BLK	BLK	3/C*20	2-1/C
BL	3/C*12	WH	BLK/WH	G	2/C*14	BLK
WH	6PR*19	BLK	G/BLK			CLR

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

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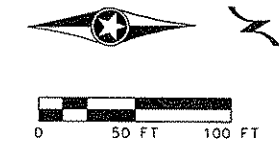
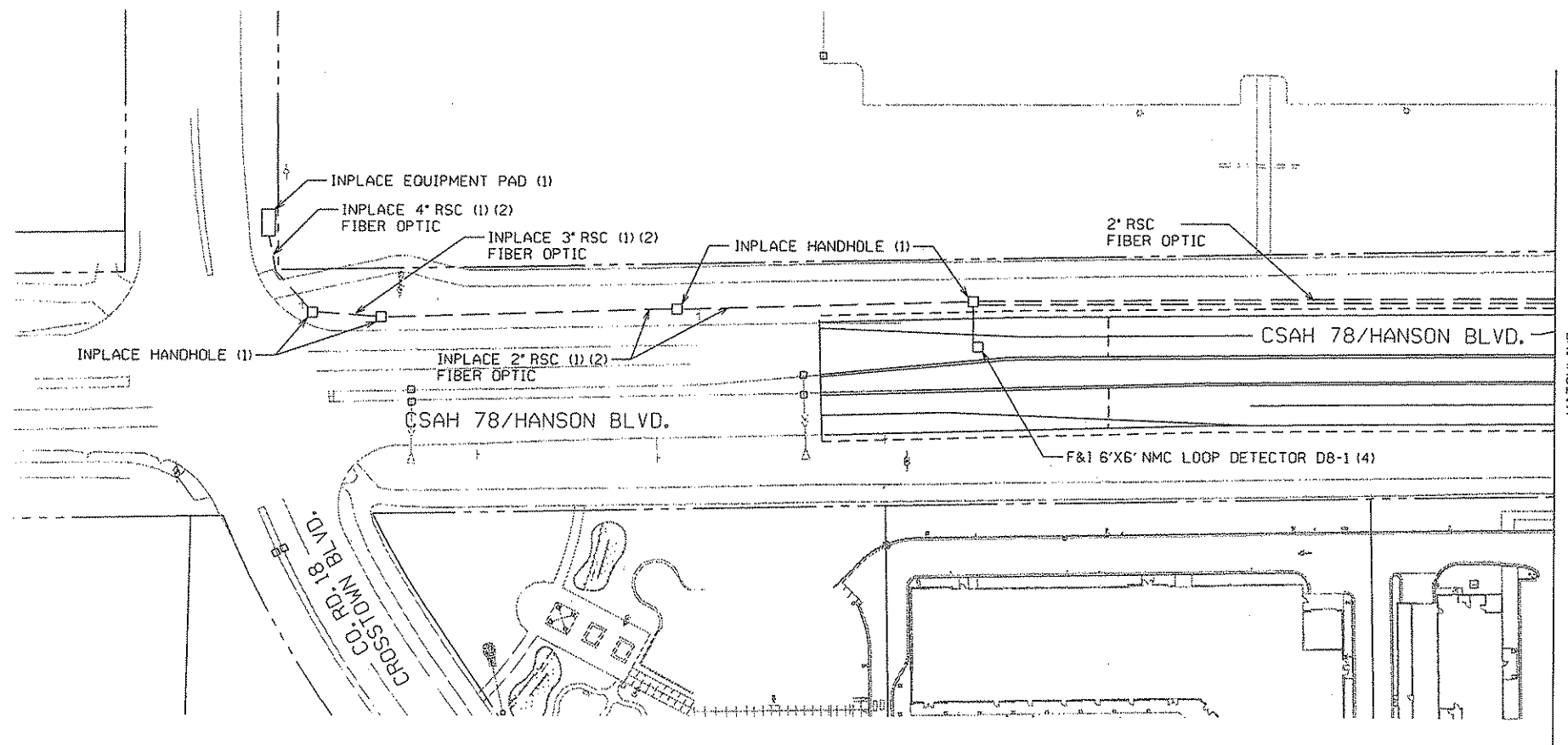
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 DATE: 8/30/05 LIC. NO: 23128

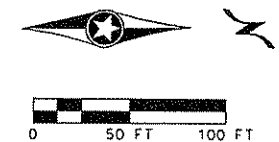
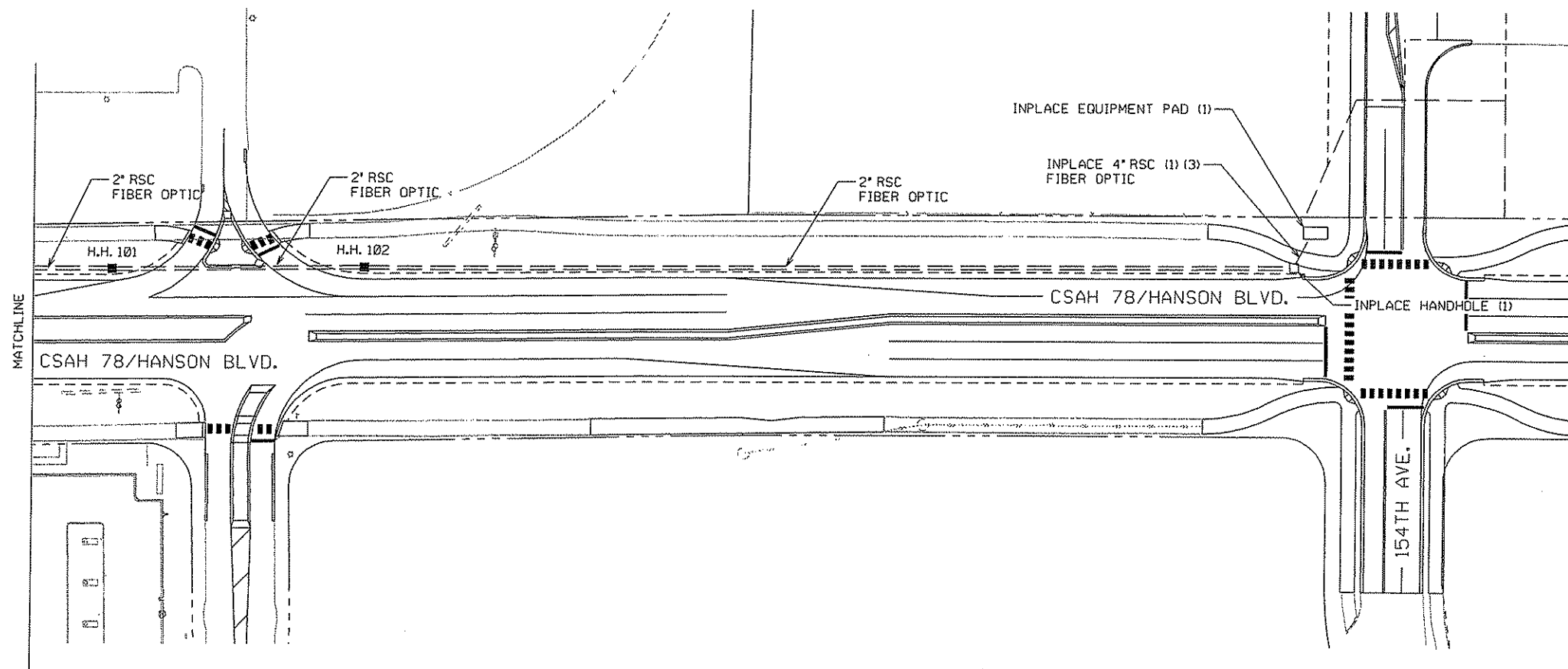
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 FIELD WIRING DIAGRAM
TRAFFIC SIGNAL PLAN
 S.A.P 02-678-18, ETC.



- NOTES:
- 1) INPLACE SIGNAL ITEM LOCATIONS ARE APPROXIMATE.
 - 2) SEE CSAH 18 INTERSECTION LAYOUT FOR INPLACE CABLES IN CONDUIT.
 - 3) SEE 154TH AVENUE INTERSECTION LAYOUT FOR INPLACE CABLES IN CONDUIT.
 - 4) F&I 6'X8' NMC LOOP DETECTOR (D8-1) AT LOCATION SHOWN IN THE 'FOR INFORMATION' TRAFFIC SIGNAL PLAN, ITEM TO BE INCIDENTAL TO SIGNAL SYSTEM PAY ITEM 2565.511.



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