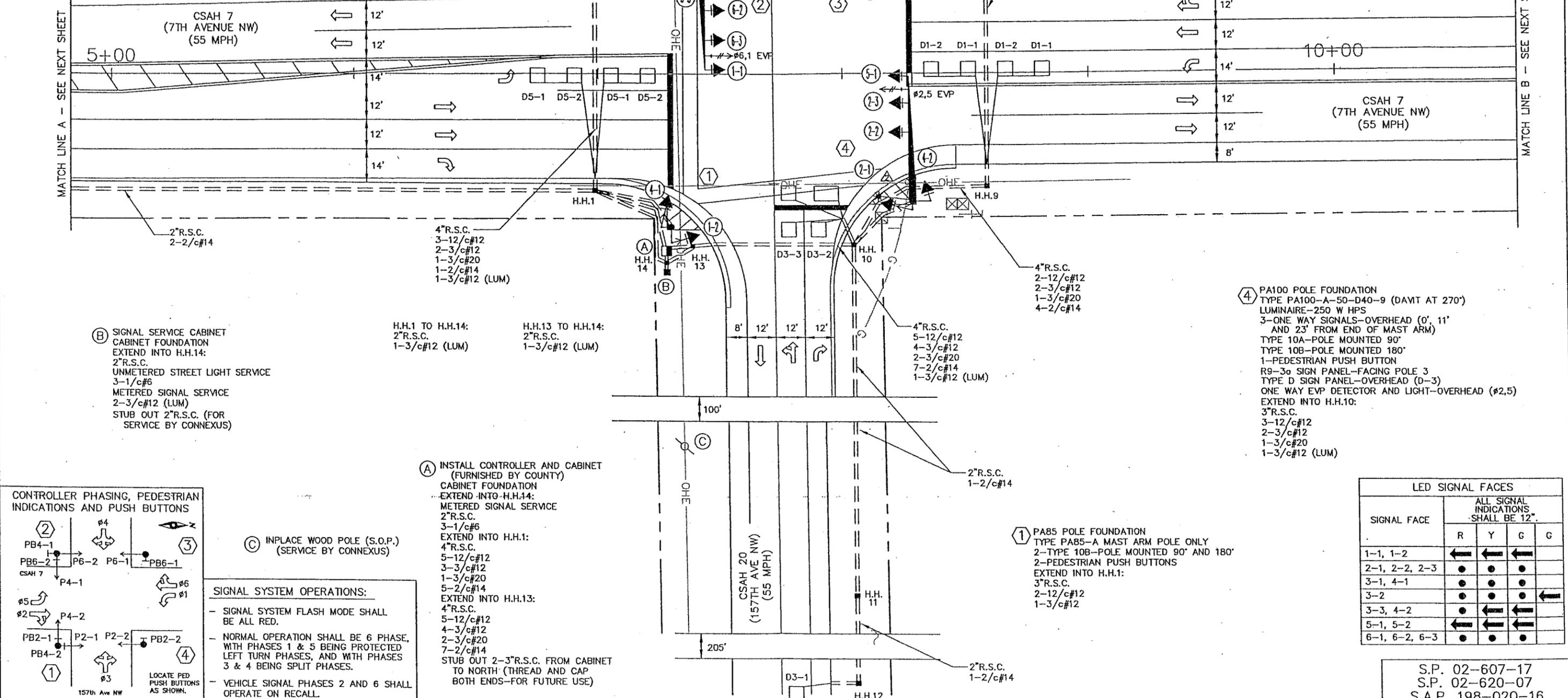


- NOTES:**
- 1) LOCATION OF POLES, CONTROLLER CABINET, SERVICE CABINET, LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - 2) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
 - 3) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
 - 4) HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS, PER Mn/DOT STANDARD PLATE NO. 8114A.
 - 5) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
 - 6) EACH PEDESTRIAN INDICATION SHALL BE ONE SECTION HAND/WALKING PERSON INDICATION. SEE SPECIAL PROVISIONS.
 - 7) ALL VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED. SEE SPECIAL PROVISIONS.
 - 8) SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGN PANELS, CONCRETE WALK AND PED CURB RAMPS TO BE FURNISHED AND INSTALLED BY CONTRACTOR (INCIDENTAL TO ITEM NO. 2565.511).
 - 9) CONTRACTOR SHALL PROVIDE EXTENDED BRACKETS FOR EACH POLE MOUNTED VEHICLE AND PEDESTRIAN SIGNAL FACE.
 - 10) 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).
 - 11) SEE SPECIAL PROVISIONS REGARDING "DUMMY ORDERS" PLACED BY THE COUNTY FOR TRAFFIC SIGNAL MATERIALS AND ELECTRICAL EQUIPMENT, FOR ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR UNDER ITEM NO. 2565.511.

N.M.C. LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	2-6x6	20' & 50'	1
D1-2	2-6x6	5' & 35'	1
D2-1	6x6	475'	1
D2-2	6x6	475'	1
D3-1	6x6	475'	3,8
D3-2	6x6 & 6x10	AS SHOWN	7
D3-3	2-6x6	AS SHOWN	7
D4-1	6x6 & 6x10	AS SHOWN	7
D5-1	2-6x6	20' & 50'	1
D5-2	2-6x6	5' & 35'	1
D6-1	6x6	475'	1
D6-2	6x6	475'	1

- LOOP DETECTORS 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) SPECIAL DETECTOR

NOTE: LOCATION=DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.



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

H.H.1 TO H.H.14:
 2"R.S.C.
 1-3/c#12 (LUM)

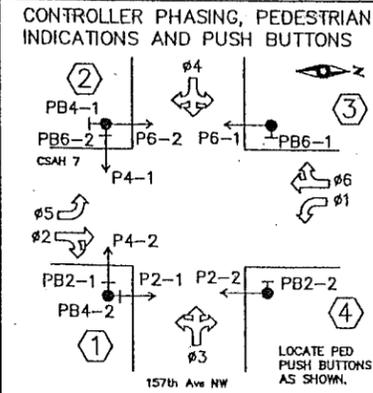
H.H.13 TO H.H.14:
 2"R.S.C.
 1-3/c#12 (LUM)

(A) INSTALL CONTROLLER AND CABINET
 (FURNISHED BY COUNTY)
 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.
 5-12/c#12
 3-3/c#12
 1-3/c#20
 5-2/c#14
 EXTEND INTO H.H.13:
 4"R.S.C.
 5-12/c#12
 4-3/c#12
 2-3/c#20
 7-2/c#14
 STUB OUT 2-3"R.S.C. FROM CABINET TO NORTH (THREAD AND CAP BOTH ENDS-FOR FUTURE USE)

(C) INPLACE WOOD POLE (S.O.P.)
 (SERVICE BY CONNEXUS)

SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 6 PHASE, WITH PHASES 1 & 5 BEING PROTECTED LEFT TURN PHASES, AND WITH PHASES 3 & 4 BEING SPLIT PHASES.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.



LED SIGNAL FACES				
SIGNAL FACE	ALL SIGNAL INDICATIONS SHALL BE 12"			
	R	Y	G	G
1-1, 1-2	←	←	←	
2-1, 2-2, 2-3	•	•	•	
3-1, 4-1	•	•	•	
3-2	•	•	•	←
3-3, 4-2	•	←	←	
5-1, 5-2	←	←	←	
6-1, 6-2, 6-3	•	•	•	

S.P. 02-607-17
 S.P. 02-620-07
 S.A.P. 198-020-16

DRAWN BY: JMG	1	JMG	03/03	REVISED PER COUNTY COMMENTS
DESIGNER: JMG	2	JMG	05/03	ADDED NOTE 11 PER COUNTY COMMENTS
CHECKED BY: JMG				
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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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.

J. M. Gray
 John M. Gray, P.E.
 Lic. No. 22457
 Date: April 23, 2001

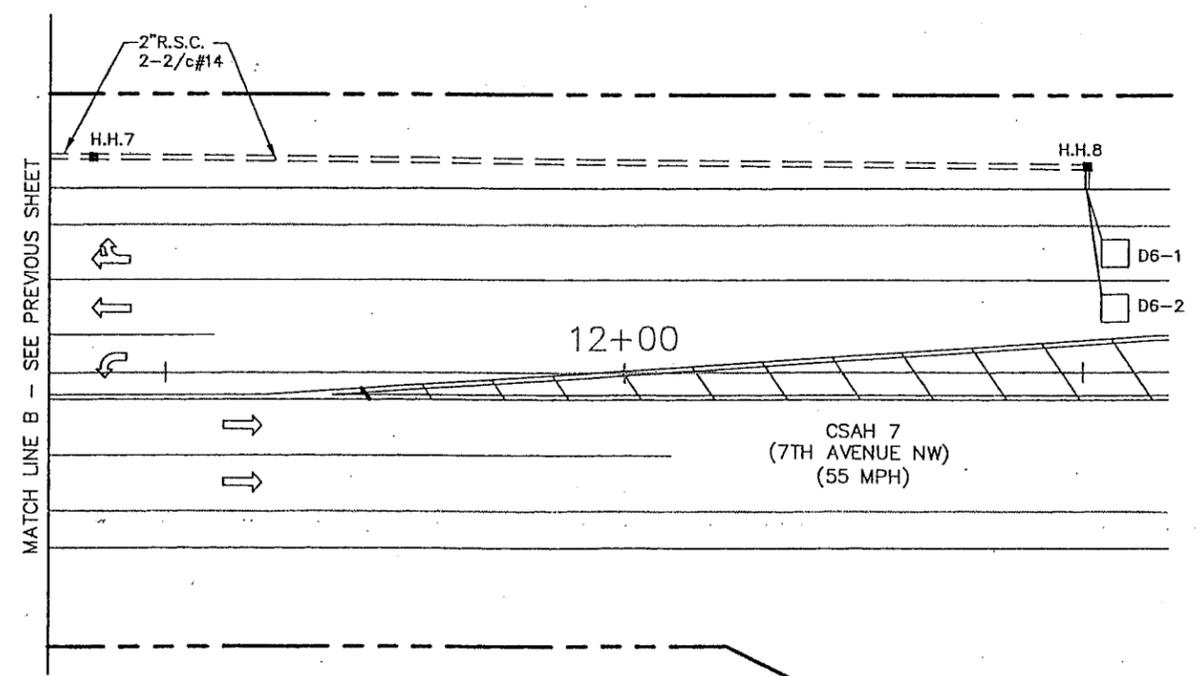
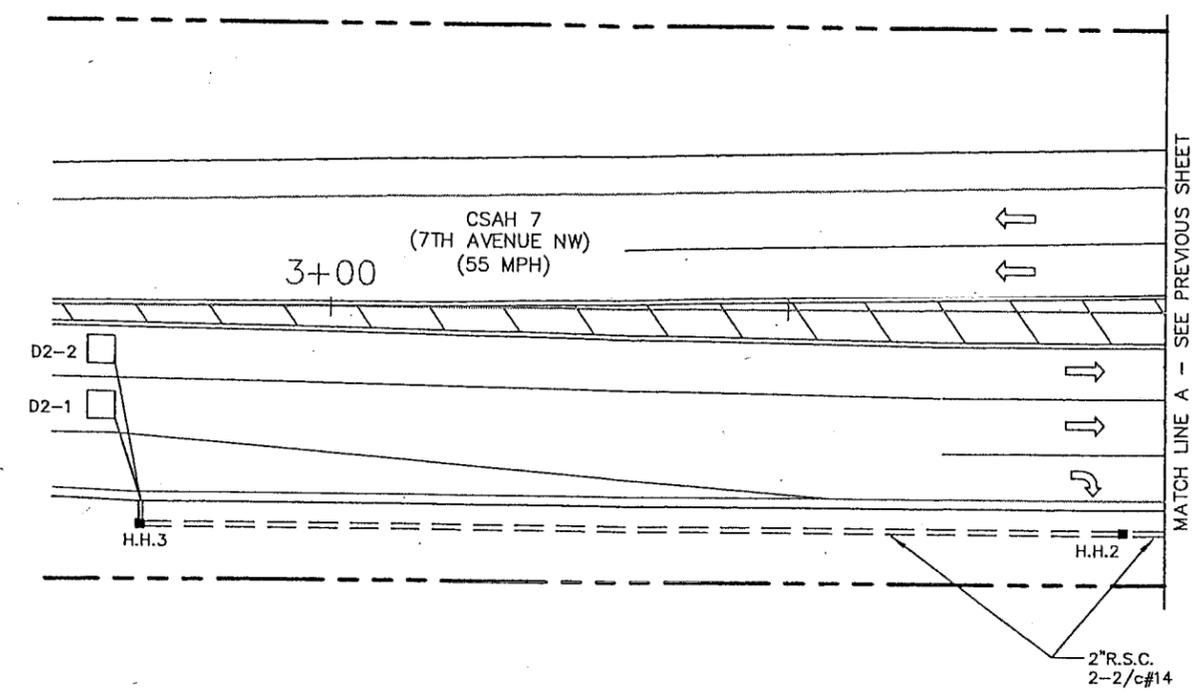
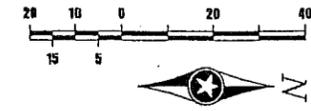


ANOKA COUNTY
CSAH 7 (7TH AVENUE)
 S.P. 02-607-17
 S.P. 02-620-07
 S.A.P. 198-020-16

TRAFFIC SIGNAL SYSTEM INTERSECTION LAYOUT
 CSAH 7 AT CSAH 20

FILE NO. ANOKC9902.01
 DATE 4-23-01
34
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S.P. 02-607-17
 S.P. 02-620-07
 S.A.P. 198-020-16

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DRAWN BY:	JMG			
DESIGNER:	JMG			
CHECKED BY:	JMG			
DESIGN TEAM		NO.	BY	DATE
				REVISIONS

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John M. Gray
 John M. Gray, P.E.
 Date: April 23, 2001 Lic. No. 22457



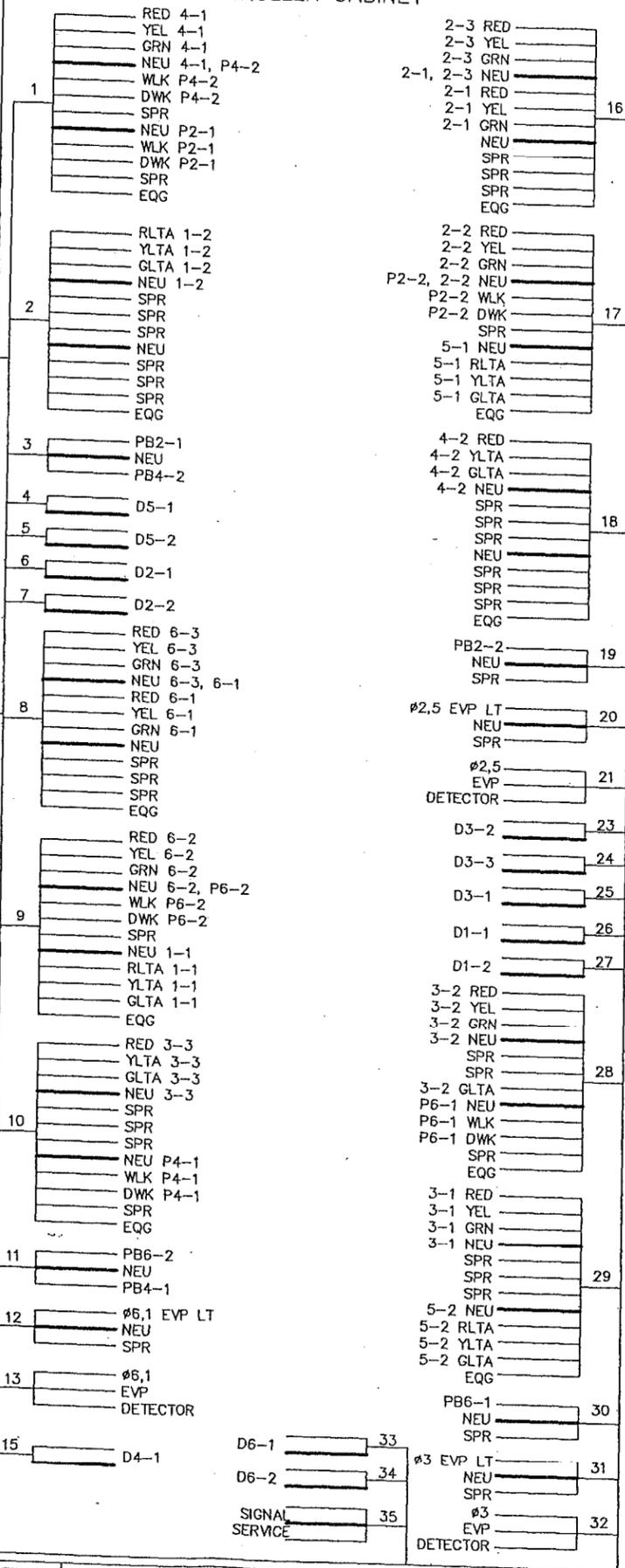
ANOKA COUNTY
CSAH 7 (7TH AVENUE)
 S.P. 02-607-17
 S.P. 02-620-07
 S.A.P. 198-020-16

**TRAFFIC SIGNAL SYSTEM
 INTERSECTION LAYOUT
 CSAH 7 AT CSAH 20**

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ANOKC9902.01	
DATE	4-23-01
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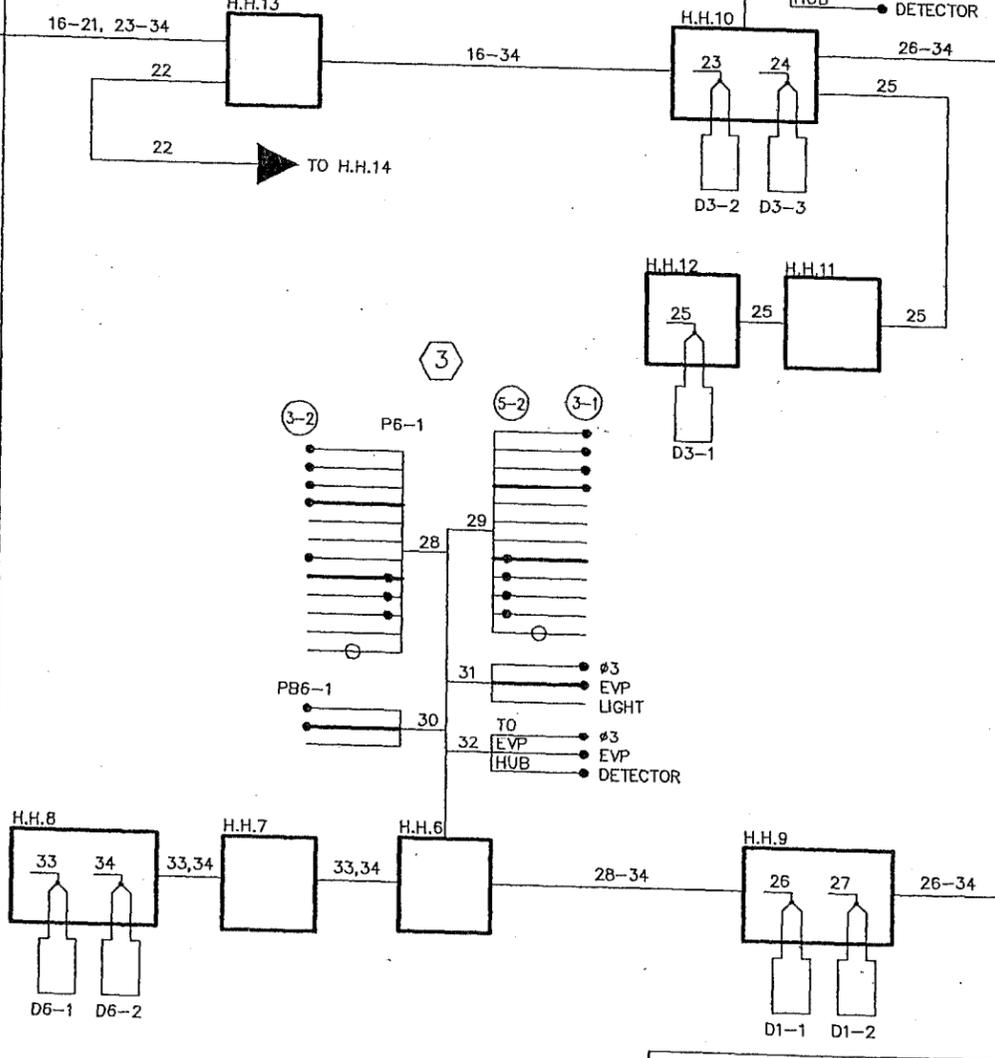
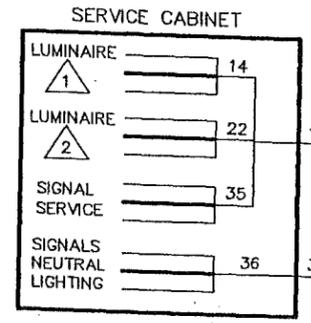
CONTROLLER CABINET



CONDUCTOR COLOR CODING

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

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



DRAWN BY: JMG	1	JMG	03/03	REVISED PER COUNTY COMMENTS
DESIGNER: JMG				
CHECKED BY: JMG				
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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ANOKA COUNTY
CSAH 7 (7TH AVENUE)
S.P. 02-607-17
S.P. 02-620-07
S.A.P. 198-020-16

TRAFFIC SIGNAL SYSTEM
FIELD WIRING DIAGRAM
CSAH 7 AT CSAH 20

FILE NO. ANOKC9902.01	36
DATE 4-23-01	45

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