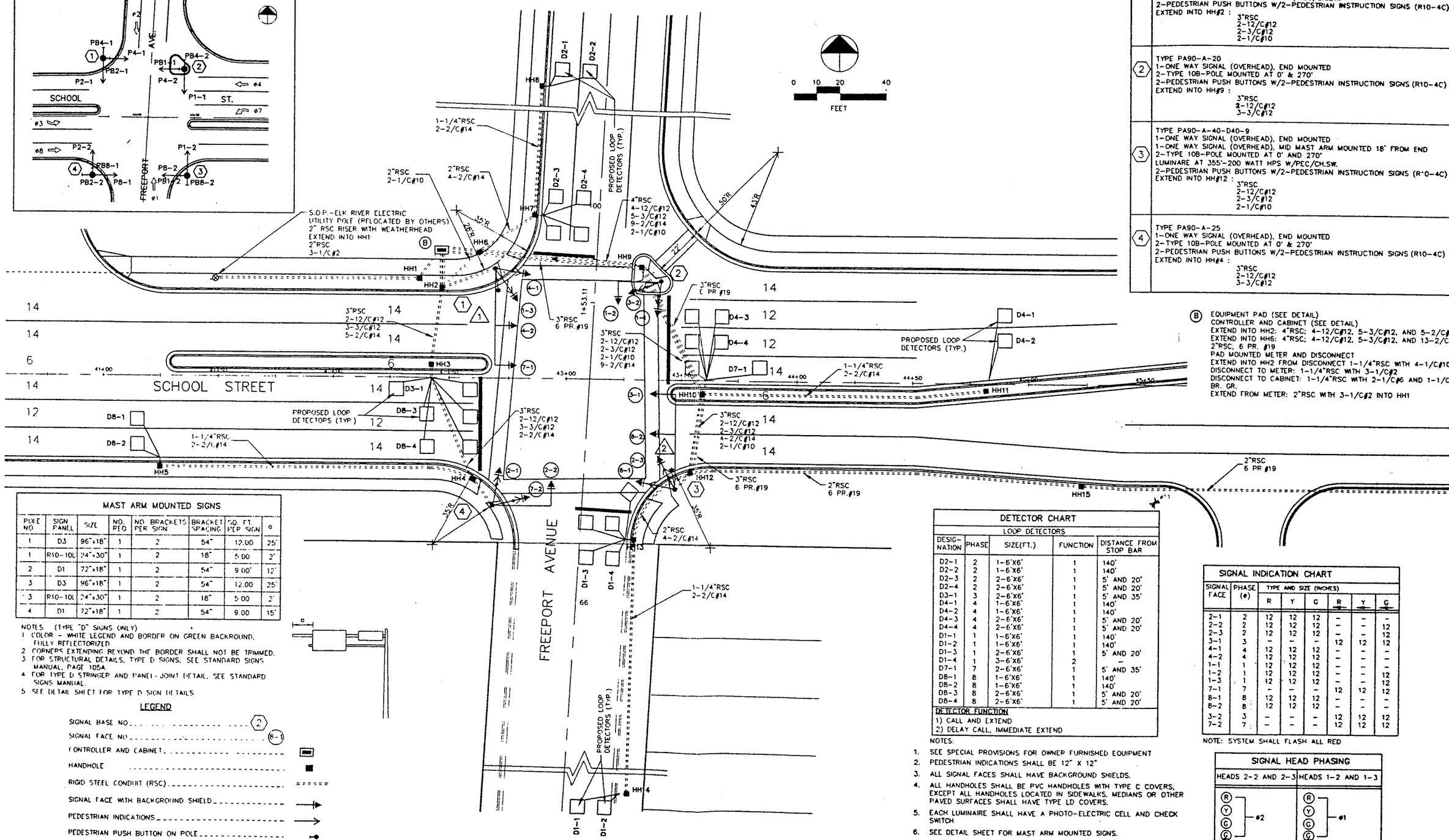
CONTROLLER PHASING, PEDESTRIAN INDICATIONS & PUSH BUTTON LAYOUT



1	TYPE PA90-A-40-D40-9 1-ONE WAY SIGNAL (OVERHEAD), END MOUNTED 1-ONE WAY SIGNAL (OVERHEAD), MID MAST ARM MOUNTED 18' FROM END 2-TYPE 10B-POLE MOUNTED AT 0° AND 270° LUMINAIRE AT 355'-200 WATT HPS W/PEC/CH.SW. 2-PEDESTRIAN PUSH BUTTONS W/2-PEDESTRIAN INSTRUCTION SIGNS (R10-4C) EXTEND INTO HH#2 : 3"RSC 2-12/C#12 2-3/C#12 2-1/C#10
2	TYPE PA90-A-20 1-ONE WAY SIGNAL (OVERHEAD), END MOUNTED 2-TYPE 10B-POLE MOUNTED AT 0° & 270° 2-PEDESTRIAN PUSH BUTTONS W/2-PEDESTRIAN INSTRUCTION SIGNS (R10-4C) EXTEND INTO HH#9 : 3"RSC 2-12/C#12 3-3/C#12
3	TYPE PA90-A-40-D40-9 1-ONE WAY SIGNAL (OVERHEAD), END MOUNTED 1-ONE WAY SIGNAL (OVERHEAD), MID MAST ARM MOUNTED 18' FROM END 2-TYPE 10B-POLE MOUNTED AT 0° AND 270° LUMINARE AT 355'-200 WATT HPS W/PEC/CH.SW. 2-PEDESTRIAN PUSH BUTTONS W/2-PEDESTRIAN INSTRUCTION SIGNS (R'0-4C) EXTEND INTO HH#12 : 3"RSC 2-12/C#12 2-3/C#12 2-1/C#10
4	TYPE PA90-A-25 1-ONE WAY SIGNAL (OVERHEAD), END MOUNTED 2-TYPE 10B-POLE MOUNTED AT 0° & 270° 2-PEDESTRIAN PUSH BUTTONS W/2-PEDESTRIAN INSTRUCTION SIGNS (R10-4C) EXTEND INTO HH#4 : 3"RSC 2-12/C#12 3-3/C#12

(B) EQUIPMENT PAD (SEE DETAIL)
CONTROLLER AND CABINET (SEE DETAIL)
EXTEND INTO HH2: 4"RSC; 4-12/C#12, 5-3/C#12, AND 5-2/C#14
EXTEND INTO HH6: 4"RSC; 4-12/C#12, 5-3/C#12, AND 13-2/C#14; 2"RSC, 6 PR. #19
PAD MOUNTED METER AND DISCONNECT
EXTEND INTO HH2 FROM DISCONNECT 1-1/4"RSC WITH 4-1/C#10
DISCONNECT TO METER: 1-1/4"RSC WITH 3-1/C#2
DISCONNECT TO CABINET: 1-1/4"RSC WITH 2-1/C#6 AND 1-1/C#6 BR. GR.
EXTEND FROM METER: 2"RSC WITH 3-1/C#2 INTO HH1

MAST ARM MOUNTED SIGNS

POLE NO	SIGN PANEL	SIZE	NO. REQ	NO. BRACKETS PER SIGN	BRACKET SPACING	SQ. FT. PER SIGN	a
1	D3	96"x18"	1	2	54"	12.00	25'
1	R10-10L	24"x30"	1	2	18"	5.00	2'
2	D1	72"x18"	1	2	54"	9.00'	12'
3	D3	96"x18"	1	2	54"	12.00	25'
3	R10-10L	24"x30"	1	2	18"	5.00	2'
4	D1	72"x18"	1	2	54"	9.00	15'

NOTES (TYPE "D" SIGNS ONLY)
1 COLOR - WHITE LEGEND AND BORDER ON GREEN BACKROUND, FULLY REFLECTORIZED
2 CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
3 FOR STRUCTURAL DETAILS, TYPE D SIGNS, SEE STANDARD SIGNS MANUAL, PAGE 1054
4 FOR TYPE D STRINGER AND PANEL-JOINT DETAIL, SEE STANDARD SIGNS MANUAL.
5 SEE DETAIL SHEET FOR TYPE D SIGN DETAILS

LEGEND

- SIGNAL BASE NO. ..... (2)
- SIGNAL FACE NO. ..... (R-1)
- CONTROLLER AND CABINET
- HANDHOLE
- RIGID STEEL CONDUIT (RSC)
- SIGNAL FACE WITH BACKGROUND SHIELD
- PEDESTRIAN INDICATIONS
- PEDESTRIAN PUSH BUTTON ON POLE
- TRAFFIC SIGNAL POLE AND MAST ARM
- MAST ARM AND LUMINAIRE
- SOURCE OF POWER
- PEDESTRIAN CROSSING STRIPING

DETECTOR CHART

LOOP DETECTORS

DESIGNATION	PHASE	SIZE(FT.)	FUNCTION	DISTANCE FROM STOP BAR
D2-1	2	1-6'X6'	1	140'
D2-2	2	1-6'X6'	1	140'
D2-3	2	2-6'X6'	1	5' AND 20'
D2-4	2	2-6'X6'	1	5' AND 20'
D3-1	3	2-6'X6'	1	5' AND 35'
D4-1	4	1-6'X6'	1	140'
D4-2	4	1-6'X6'	1	140'
D4-3	4	2-6'X6'	1	5' AND 20'
D4-4	4	2-6'X6'	1	5' AND 20'
D1-1	1	1-6'X6'	1	140'
D1-2	1	1-6'X6'	1	140'
D1-3	1	2-6'X6'	1	5' AND 20'
D1-4	1	3-6'X6'	2	–
D7-1	7	2-6'X6'	1	5' AND 35'
D8-1	8	1-6'X6'	1	140'
D8-2	8	1-6'X6'	1	140'
D8-3	8	2-6'X6'	1	5' AND 20'
D8-4	8	2-6'X6'	1	5' AND 20'

DETECTOR FUNCTION
1) CALL AND EXTEND
2) DELAY CALL, IMMEDIATE EXTEND

NOTES:
1. SEE SPECIAL PROVISIONS FOR OWNER FURNISHED EQUIPMENT
2. PEDESTRIAN INDICATIONS SHALL BE 12" X 12"
3. ALL SIGNAL FACES SHALL HAVE BACKGROUND SHIELDS.
4. ALL HANDHOLES SHALL BE PVC HANDHOLES WITH TYPE C COVERS, EXCEPT ALL HANDHOLES LOCATED IN SIDEWALKS, MEDIANS OR OTHER PAVED SURFACES SHALL HAVE TYPE LD COVERS.
5. EACH LUMINAIRE SHALL HAVE A PHOTO-ELECTRIC CELL AND CHECK SWITCH
6. SEE DETAIL SHEET FOR MAST ARM MOUNTED SIGNS.

SIGNAL INDICATION CHART

SIGNAL FACE	PHASE (#)	TYPE AND SIZE (INCHES) R	Y	G	R	Y	G
2-1	2	12	12	12	–	–	–
2-2	2	12	12	12	–	–	12
2-3	2	12	12	12	–	–	12
3-1	3	–	–	–	12	12	12
4-1	4	12	12	12	–	–	–
4-2	4	12	12	12	–	–	–
1-1	1	12	12	12	–	–	–
1-2	1	12	12	12	–	–	12
1-3	1	12	12	12	–	–	12
7-1	7	–	–	–	12	12	12
8-1	8	12	12	12	–	–	–
8-2	8	12	12	12	–	–	–
3-2	3	–	–	–	12	12	12
7-2	7	–	–	–	12	12	12

NOTE: SYSTEM SHALL FLASH ALL RED

SIGNAL HEAD PHASING

HEADS 2-2 AND 2-3	HEADS 1-2 AND 1-3
(R) (Y) (G) (G) #2	(R) (Y) (G) (G) #1

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DATE 4/19/94 REG.NO. 18925

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
George N. Stumpfig
DATE 4/19/94 REG.NO. 21849

MSA CONSULTING ENGINEERS
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ST. PAUL, MINNESOTA 55108
(612) 644-4389
2800 SHELARD PARKWAY
MINNEAPOLIS, MINNESOTA 55441
(612) 546-0932

REVISIONS DATE	* DESCRIPTION
6-13-94	ADD HEADS 3-2 & 7-2

DESIGNED GMS
CHECKED
DRAWN MRF
GRAPHIC SCALE 0 HORIZ. 20 1 VERT. 5

CITY OF ELK RIVER
INTERSECTION LAYOUT
SYSTEM "B"
SCHOOL STREET AT FREEPORT AVENUE
S.A.P. 204-107-04/204-124-02

DATE APRIL 1994 | SHEET 61 OF 74 SHEETS | PROJECT NO. 230-216

FR216S-B

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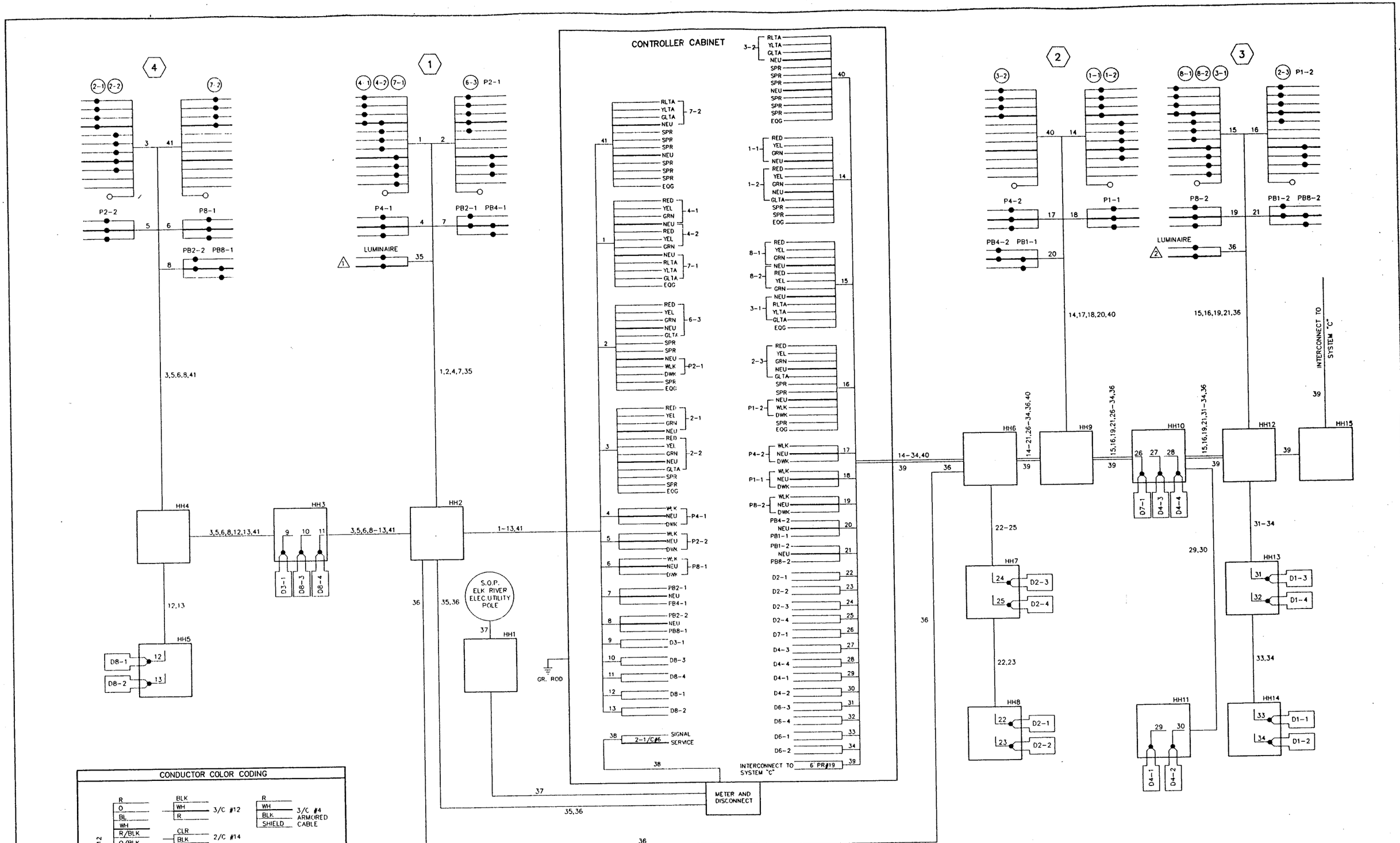
CONTROLLER CABINET
4
1
2
3
P2-2
P8-1
PB2-2 PB8-1
P4-1
PB2-1 PB4-1
LUMINAIRE
P4-2
P1-1
P8-2
PB4-2 PB1-1
PB1-2 PB8-2
3,5,6,8,41
1,2,4,7,35
14,17,18,20,40
15,16,19,21,36
INTERCONNECT TO SYSTEM "C"
HH1
HH2
HH3
HH4
HH5
HH6
HH7
HH8
HH9
HH10
HH11
HH12
HH13
HH14
HH15
3,5,6,8,12,13,41
3,5,6,8-13,41
1-13,41
12,13
14-34,40
14-21,26-34,36,40
15,16,19,21,26-34,36
15,16,19,21,31-34,36
22-25
22,23
29,30
31-34
33,34
S.O.P. ELK RIVER ELEC.UTILITY POLE
GR. ROD
SIGNAL SERVICE
2-1/C #6
6 PR #19
METER AND DISCONNECT
CONDUCTOR COLOR CODING
12/C #12
3/C #12
2/C #14
2-1/C #6
2-1/C #10
3/C #4 ARMORED CABLE
NOTE: ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED.
ER216WRB
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
DATE 4/19/94 REG.NO. 18925
MSA CONSULTING ENGINEERS
1526 ENERGY PARK DRIVE ST. PAUL, MINNESOTA 55108 (612) 644-4389
6900 SHELARD PARKWAY MINNEAPOLIS, MINNESOTA 55441 (612) 546-0432
REVISIONS
DATE 6-13-94
DESCRIPTION ADD HEADS 3-2 & 7-2
DESIGNED GMS
CHECKED
DRAWN MRT
GRAPHIC SCALE
HORIZ. N/A
VERT. N/A
CITY OF ELK RIVER
FIELD WIRING DIAGRAM
SYSTEM "B"
SCHOOL STREET AT FREEPORT AVENUE
S.A.P. 204-107-04/204-124-02
DATE APRIL 1994
SHEET 62 OF 74 SHEETS
PROJECT NO. 230-216