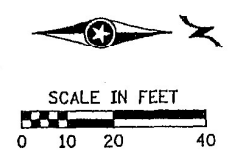


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LOOP DETECTORS			
NUMBER	SIZE (FEET)	LOCATION	FUNCTION
D1-1	6'X6'	INPLACE	1
D1-2	6'X6'	INPLACE	1
D2-1	6'X6'	INPLACE	1
D2-2	6'X6'	INPLACE	1
D3-1	2-6'X6'	INPLACE	1
D3-2	2-6'X6'	INPLACE	1
D4-1	6'X6'	INPLACE	3,8
D4-2	2-6'X6'	INPLACE	7
D4-3	2-6'X6'	INPLACE	1
D5-1	6'X6'	INPLACE	1
D5-2	6'X6'	INPLACE	1
D6-1	6'X6'	INPLACE	1
D6-2	6'X6'	INPLACE	1
D7-1	2-6'X6'	INPLACE	1
D7-2	2-6'X6'	INPLACE	1
D8-1	6'X6'	120'	3,8
D8-2	2-6'X6'	INPLACE	7

SIGNAL INDICATIONS						
ALL INDICATIONS SHALL BE 12" LED						
FACE	R	Y	G	RLTA	YLTA	GLTA
1-1,1-2				←	←	←
2-1,2-2,2-3	●	●	●			
4-1	●	●	●			
4-2,4-3	●	●	●	←	←	←
5-1,5-2				←	←	←
6-1,6-2,6-3	●	●	●			
8-1	●	●	●			
8-2,8-3	●	●	●	←	←	←

LOCATION = DISTANCE FROM STOP BAR TO DETECTOR IN FEET.

LOOP DETECTOR FUNCTIONS
 1=CALL AND EXTEND
 3=EXTEND ONLY
 7=DELAY CALL - IMMEDIATE EXTEND
 8=CARRY OVER (STRETCH)

4 PA100 POLE FOUNDATION
 TYPE PA100-A-50-D40-9 (DAVIT AT 350")
 LUMINAIRE-200 WATT H.P.S.
 3-ONE WAY SIGNALS OVERHEAD (0', 11' AND 23' FROM END OF MAST ARM)
 2-TYPE 10B POLE MOUNTED AT 90° AND 180°
 ONE WAY EVP DETECTOR AND LIGHT-OVERHEAD (Ø1,6)
 2-PED PUSH BUTTONS
 TYPE "D" SIGN PANEL OVERHEAD (D-3)
 2-R6-1 SIGN PANELS (36"x12") - POLE MOUNTED 0° AND 180°
 EXTEND TO HH 13:
 3" RSC
 2-12/C #12
 4-3/C #12
 1-3/C #12 (LUMINAIRE)
 1-3/C #20

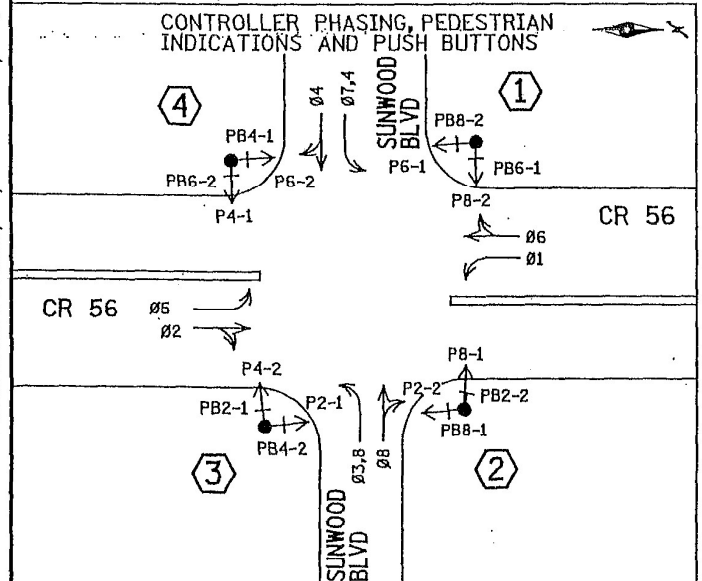
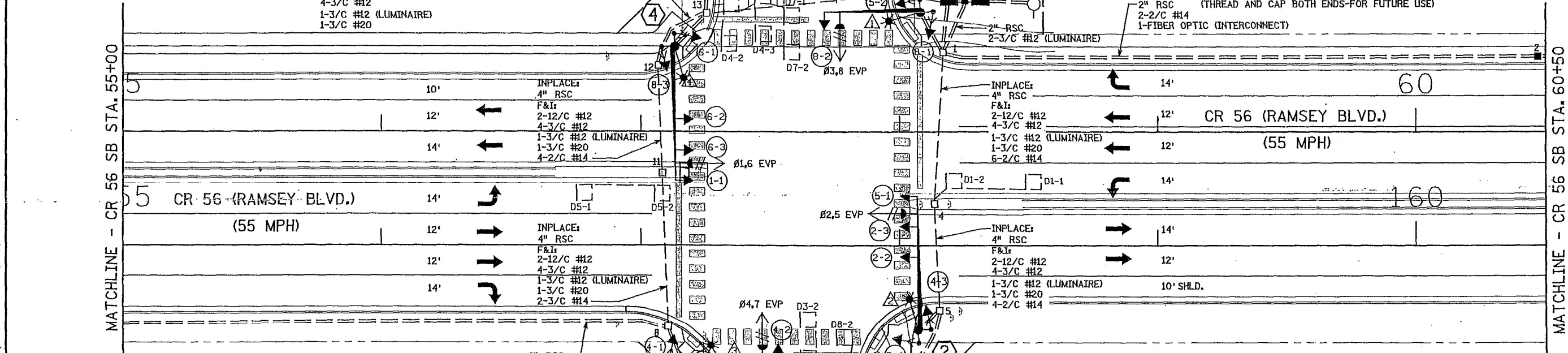
2" RSC
 1-2/C #14
 4" RSC
 F&I
 2-12/C #12
 4-3/C #12
 1-3/C #12 (LUMINAIRE)
 1-3/C #20
 4-2/C #14

1 PA90 POLE FOUNDATION
 TYPE PA90-A-35-D40-9 (DAVIT AT 350")
 LUMINAIRE-200 WATT H.P.S.
 1-ONE WAY SIGNAL OVERHEAD
 2-TYPE 10B POLE MOUNTED AT 90° AND 180°
 ONE WAY EVP DETECTOR AND LIGHT-OVERHEAD (Ø3,8)
 2-PED PUSH BUTTONS
 1-R10-12 SIGN PANEL (24"x30") OVERHEAD
 TYPE "D" SIGN PANEL OVERHEAD (D-2)
 1-R6-1 SIGN PANEL (36"x12") - POLE MOUNTED 270°
 EXTEND TO HH 1:
 3" RSC
 2-12/C #12
 4-3/C #12
 1-3/C #12 (LUMINAIRE)
 1-3/C #20

A INSTALL CONTROLLER AND CABINET (FURNISHED BY COUNTY)
 CABINET FOUNDATION
 EXTEND INTO HH 15:
 METERED SIGNAL SERVICE
 2" RSC
 2-1/C #6
 1-1/C #6 INS. GR.

B SIGNAL SERVICE CABINET
 CABINET FOUNDATION
 EXTEND INTO HH 16:
 METERED SIGNAL SERVICE
 2" RSC
 3-1/C #6
 UNMETERED STREET LIGHT SERVICE
 4-3/C #12 (LUMINAIRE)

C SOP - PROPOSED TRANSFORMER
 (BY CONNEXUS ENERGY)
 RSC RISER WITH WEATHERHEAD
 UP POLE
 EXTEND TO SERVICE CABINET
 2" RSC
 3-1/C #2



3 PA90 POLE FOUNDATION
 TYPE PA90-A-35-D40-9 (DAVIT AT 350")
 LUMINAIRE-200 WATT H.P.S.
 1-ONE WAY SIGNAL OVERHEAD
 2-TYPE 10B POLE MOUNTED AT 90° AND 180°
 ONE WAY EVP DETECTOR AND LIGHT-OVERHEAD (Ø4,7)
 2-PED PUSH BUTTONS
 1-R10-12 SIGN PANEL (24"x30") OVERHEAD
 TYPE "D" SIGN PANEL OVERHEAD (D-2)
 1-R6-1 SIGN PANEL (36"x12") - POLE MOUNTED 270°
 EXTEND TO HH 8:
 3" RSC
 2 - 12/C #12
 4-3/C #12
 1-3/C #12 (LUMINAIRE)
 1-3/C #20

2" RSC
 2-2/C #14
 4" RSC
 F&I
 2-12/C #12
 4-3/C #12
 1-3/C #12 (LUMINAIRE)
 1-3/C #20
 4-2/C #14

2 PA100 POLE FOUNDATION
 TYPE PA100-A-50-D40-9 (DAVIT AT 350")
 LUMINAIRE-200 WATT H.P.S.
 3-ONE WAY SIGNALS OVERHEAD (0', 11' AND 23' FROM END OF MAST ARM)
 2-TYPE 10B POLE MOUNTED AT 90° AND 180°
 ONE WAY EVP DETECTOR AND LIGHT-OVERHEAD (Ø2,5)
 2-PED PUSH BUTTONS
 TYPE "D" SIGN PANEL OVERHEAD (D-3)
 2-R6-1 SIGN PANELS (36"x12") - POLE MOUNTED 0° AND 180°
 EXTEND TO HH 5:
 3" RSC
 2-12/C #12
 4-3/C #12
 1-3/C #12 (LUMINAIRE)
 1-3/C #20

SIGNAL SYSTEM OPERATION

THE SIGNAL SYSTEM FLASH MODE IS ALL RED.

NORMAL OPERATION IS 8 PHASE, WITH PHASES 1 AND 5 BEING PROTECTED LEFT TURN PHASES AND PHASES 3 AND 7 BEING PROTECTED/PERMISSIVE LEFT TURN PHASES.

PHASES 2 AND 6 ARE ON VEHICLE RECALL.

- NOTES:**
- THE EXACT LOCATION OF POLES, FOUNDATIONS, LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
 - ALL VEHICLE INDICATIONS AND ALL PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED.
 - LUMINAIRES SHALL BE "COBRAHEAD" STYLE.
 - ¾" HALF COUPLING, ¾" PIPE NIPPLE AND CONDUIT OUTLET BODY FOR EMERGENCY VEHICLE PREEMPTION EQUIPMENT SHALL BE F&I 5' FROM THE END OF EACH MAST ARM.
 - FOR SERVICE CABINET DETAILS SEE SHEET NO. 54.
 - FOR N.M.C. LOOP DETAILS SEE SHEET NO. 53.
 - FOR SIGN DETAILS SEE SHEET NO. 55.
 - (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR UNDER ITEM 2565.601 (TRAFFIC CONTROL INTERCONNECTION)

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 CHECKED BY: BDP

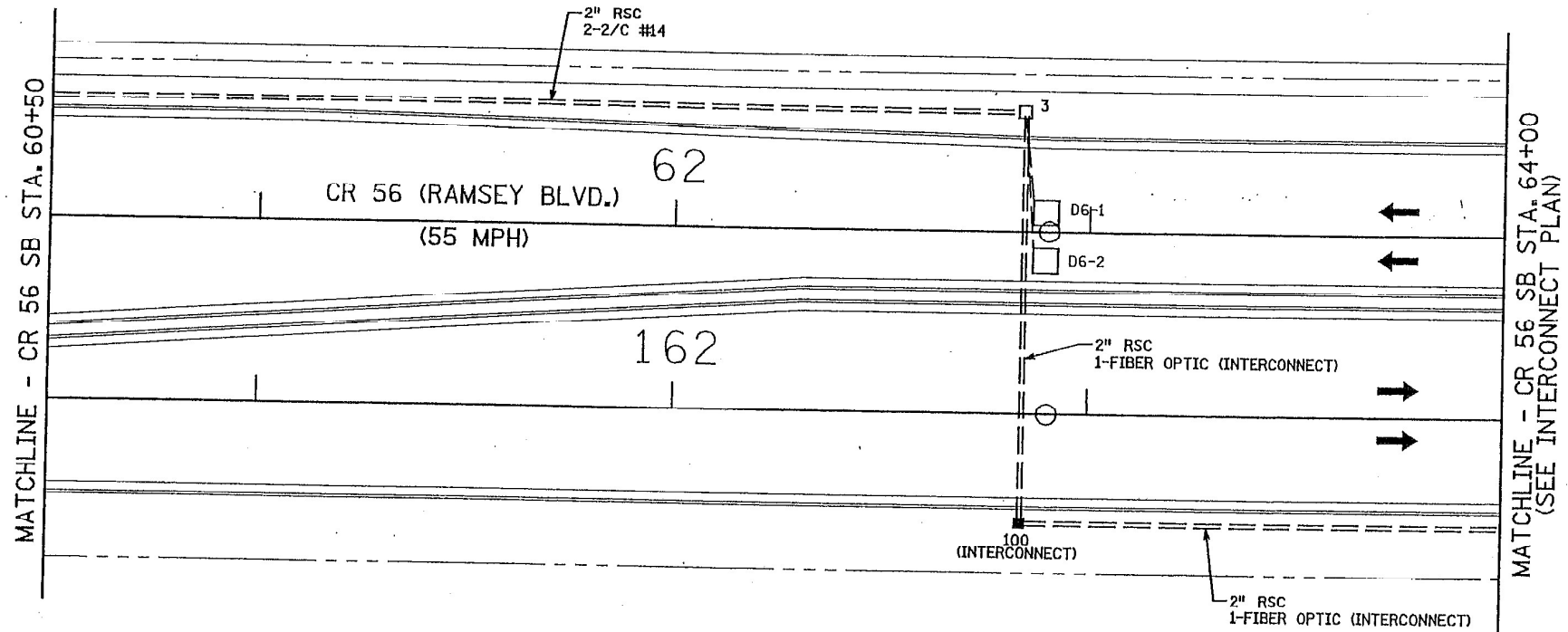
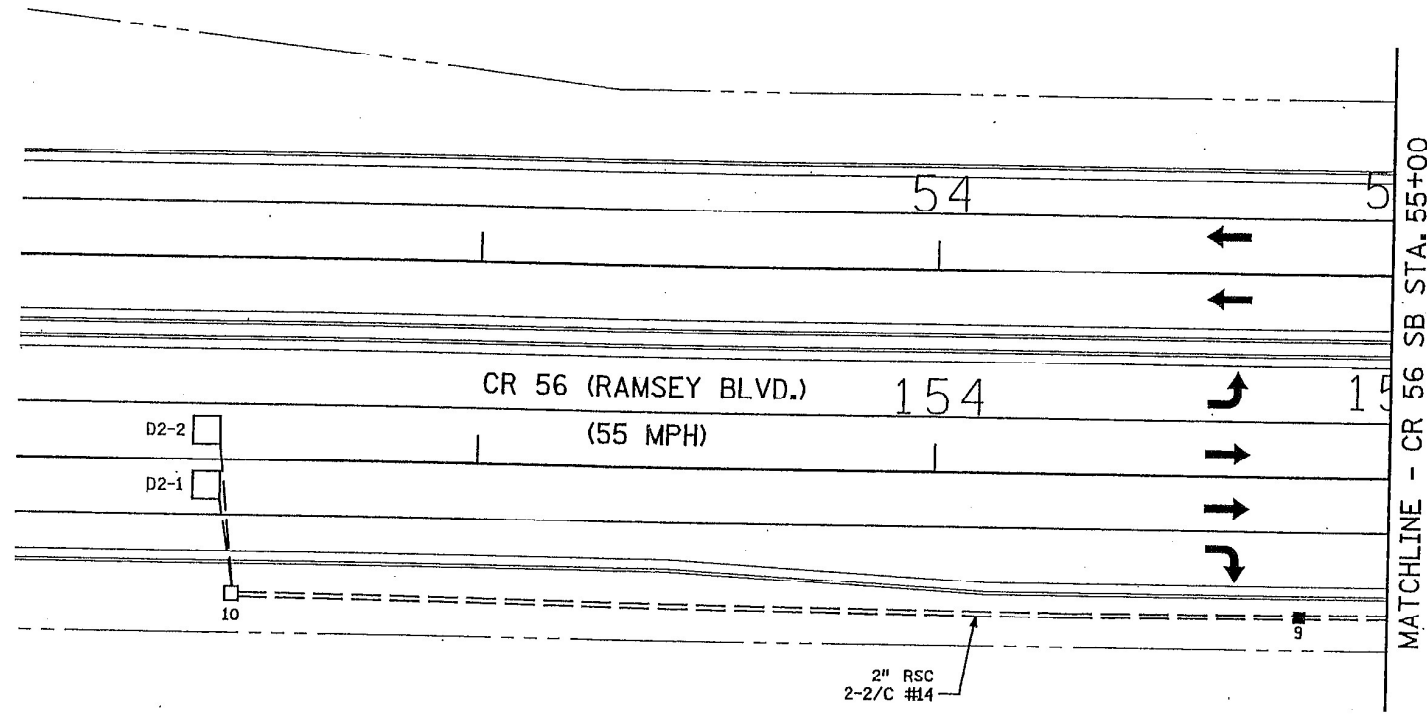
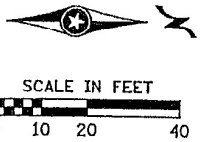
CERTIFIED BY: *[Signature]* LIC. NO. 22405 DATE 3-1-06
 LICENSED PROFESSIONAL ENGINEER

TKDA
 TOLTZ, KING, OUVALL, ANDERSON
 AND ASSOCIATES, INCORPORATED
 ENGINEERS-ARCHITECTS-PLANNERS SAINT PAUL, MINNESOTA

INTERSECTION LAYOUT - SYSTEM "A"
 CR 56 (RAMSEY BOULEVARD) / SUNWOOD DRIVE

C.P. 05-20
 Sheet No. 58 of 94 Sheets

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CHECKED BY: BDP

CERTIFIED BY: *James Walker*
LIC. NO. 22405 DATE 3-1-06
LICENSED PROFESSIONAL ENGINEER

TKDA
TOLTZ, KING, DUVALL, ANDERSON
AND ASSOCIATES, INCORPORATED
ENGINEERS-ARCHITECTS-PLANNERS SAINT PAUL, MINNESOTA

MATCHLINE LAYOUT - SYSTEM "A"
CR 56 (RAMSEY BOULEVARD) / SUNWOOD DRIVE

C.P. 05-20
Sheet No. 59 of 94 Sheets

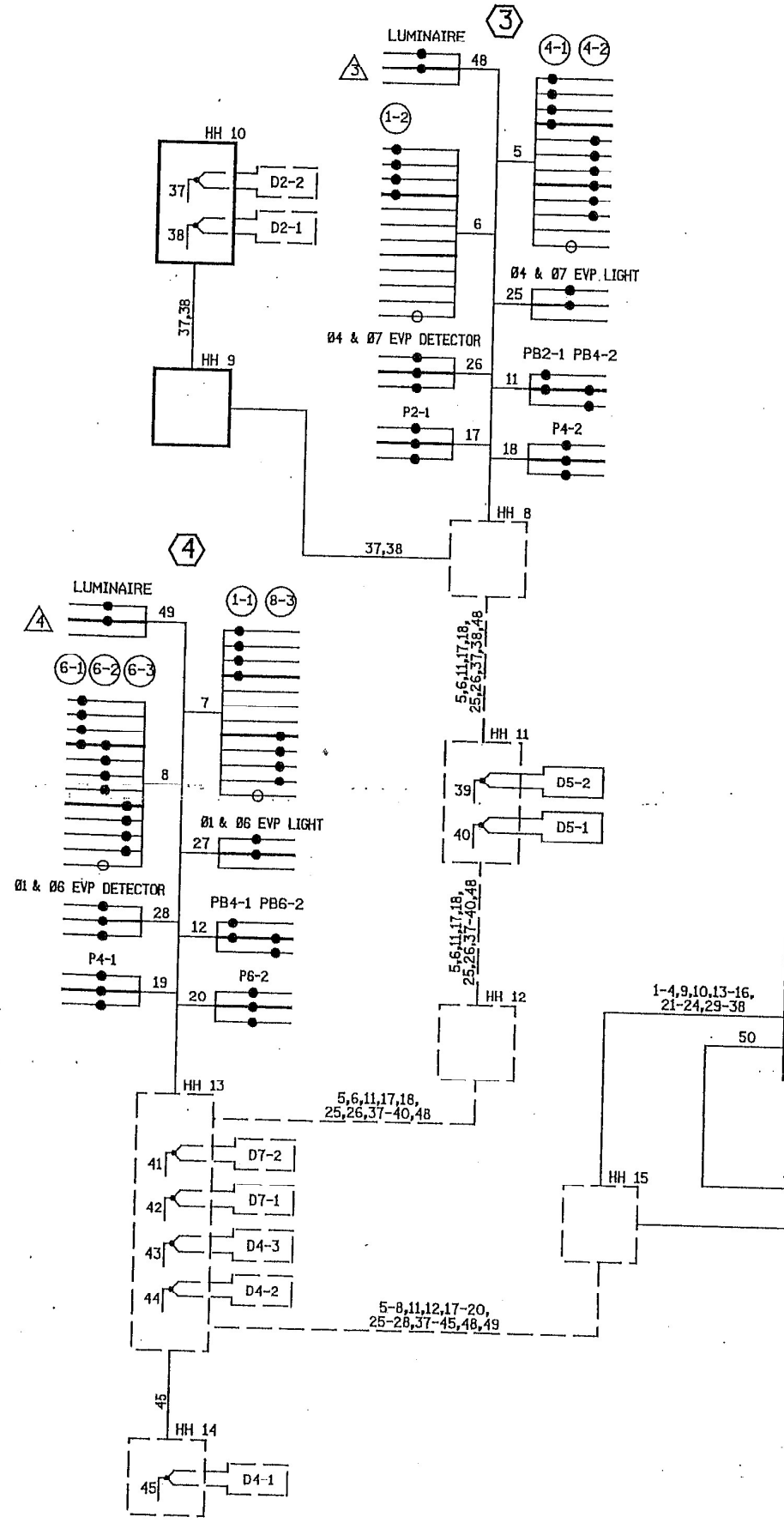
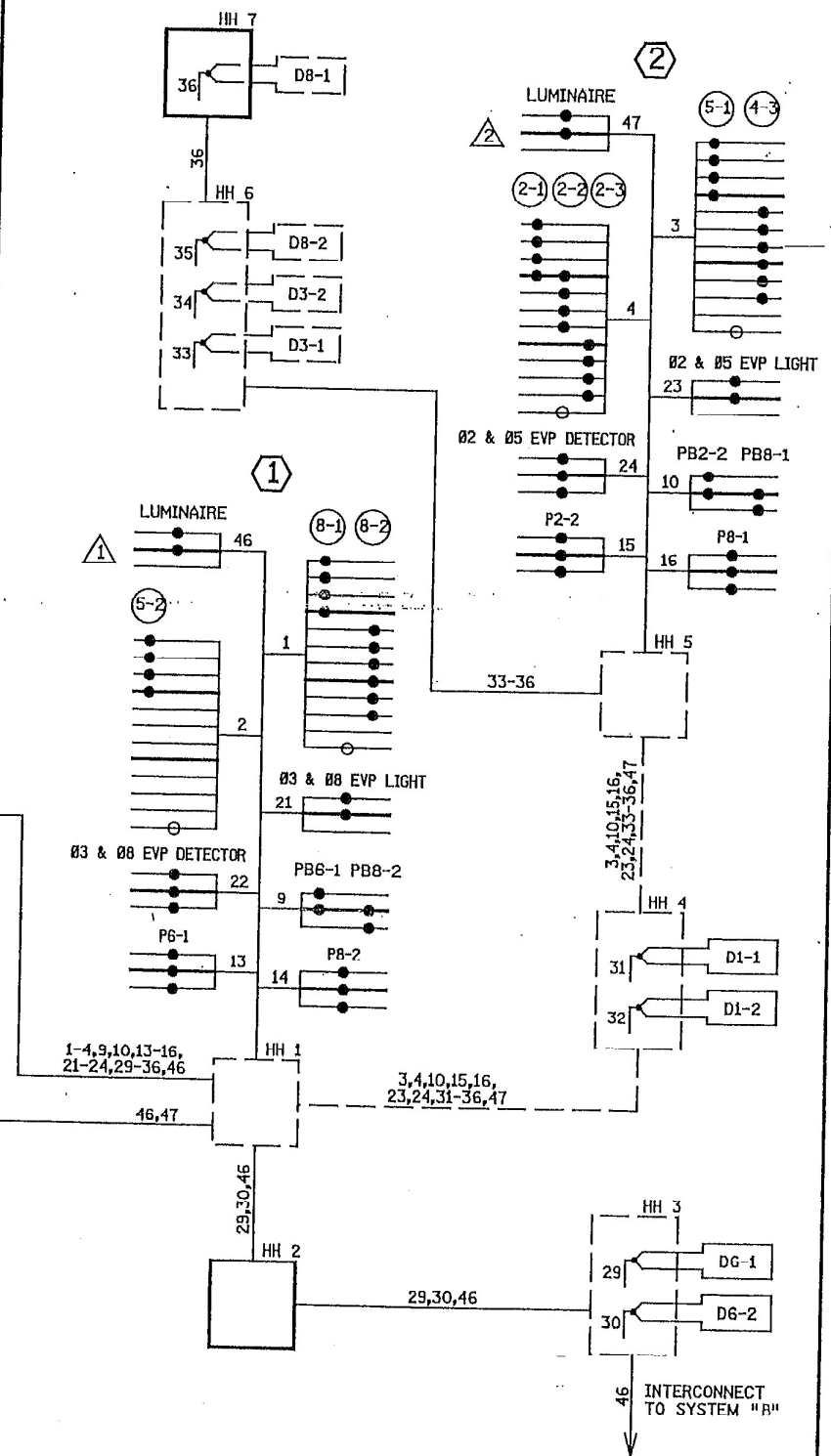
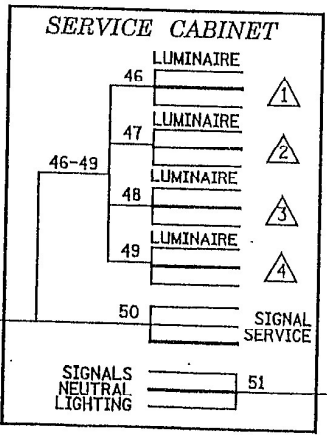
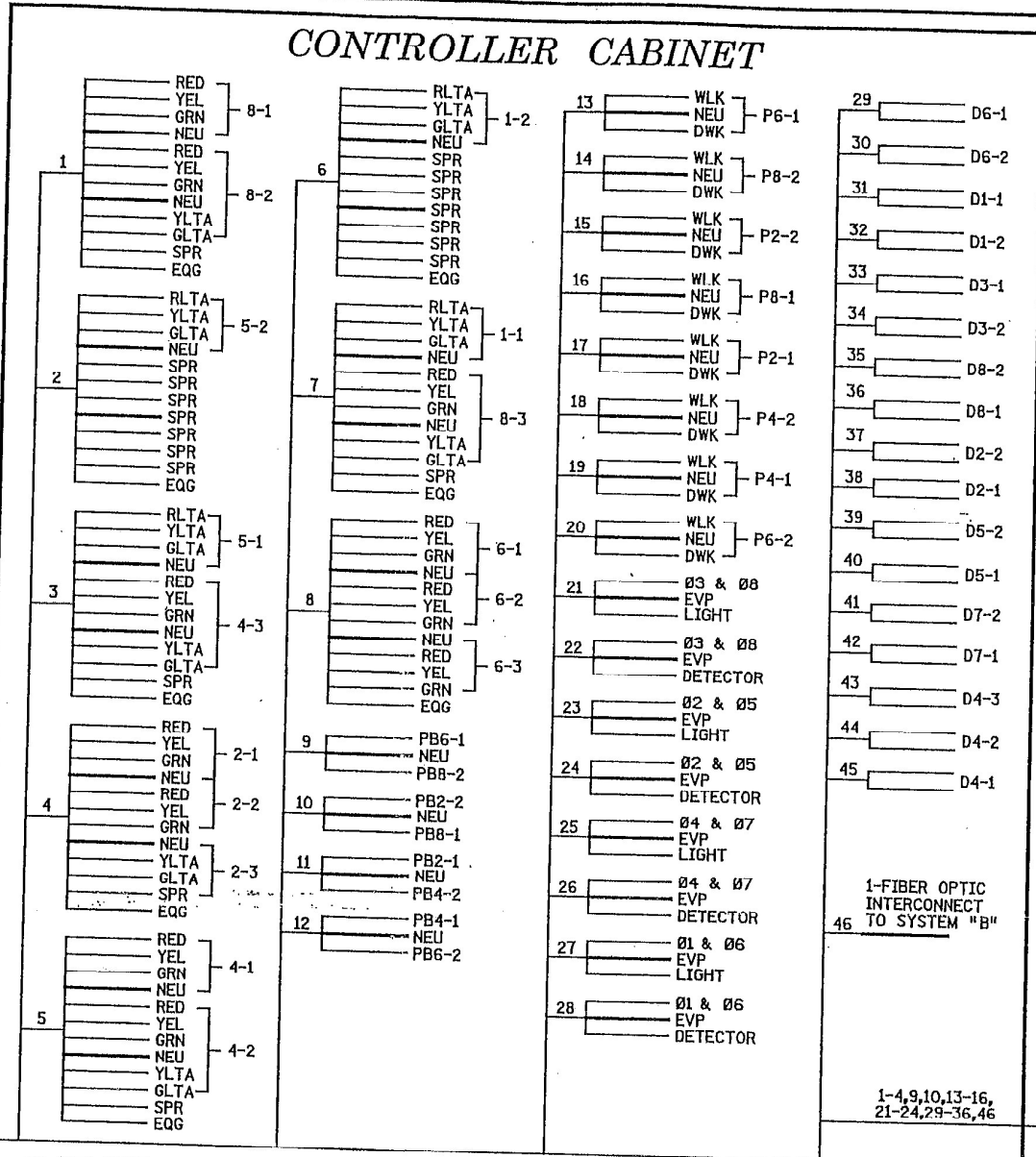
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CONTROLLER CABINET

CONDUCTOR COLOR CODING

R	3-1/C #2	BLK	R	5/C #12
0		WH	BL	
BL		WH	WH	
WH		BLK	G	
R/BLK	2-1/C #6	WH	BLK	2/C #14
O/BLK		BLK	CLEAR	
BL/BLK		WH	BLK	
WH/BLK	3/C #12	WH	R	3/C #20
BLK		BLK	WH	
BLK/WH			BLK	
G/BLK				

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



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CHECKED BY: BDP

CERTIFIED BY: *James Weaver*
LICENSED PROFESSIONAL ENGINEER

LIC. NO. 22405 DATE 3-1-06

TKDA
TOLTZ, KING, DUVALL, ANDERSON
AND ASSOCIATES, INCORPORATED
ENGINEERS-ARCHITECTS-PLANNERS SAINT PAUL, MINNESOTA

WIRE DIAGRAM - SYSTEM "A"
CR 56 (RAMSEY BLVD) / SUNWOOD DRIVE

C.P. 05-20

Sheet No. 60 of 94 Sheets