

FILENAME: S:\TRAFFIC\Signal Design\plans\TH 65\21174\SP 0208-123\SYS A_sgl.dgn

PLOTTED: 13-FEB-2007 05:58

SYS A Layout

LOOP DETECTOR CHART			
NUMBER	SIZE (FT)	LOCATION	FUNCTION
D1-1,D1-2	6X6	10'&40'	
D2-1,D2-2	6X6	250'	
D4-1,D4-2	6X6	120'	
D4-3	6X6	5'	
D4-4,D4-5	2-6X6	5'&20'	
D5-1,D5-2	6X6	10'&40'	
D6-1,D6-2,D6-3	6X6	250'	
D8-1, D8-2	6X6	120'	
D8-3	6X6	5'	
D8-4, D8-5	2-6X6	5'&20'	

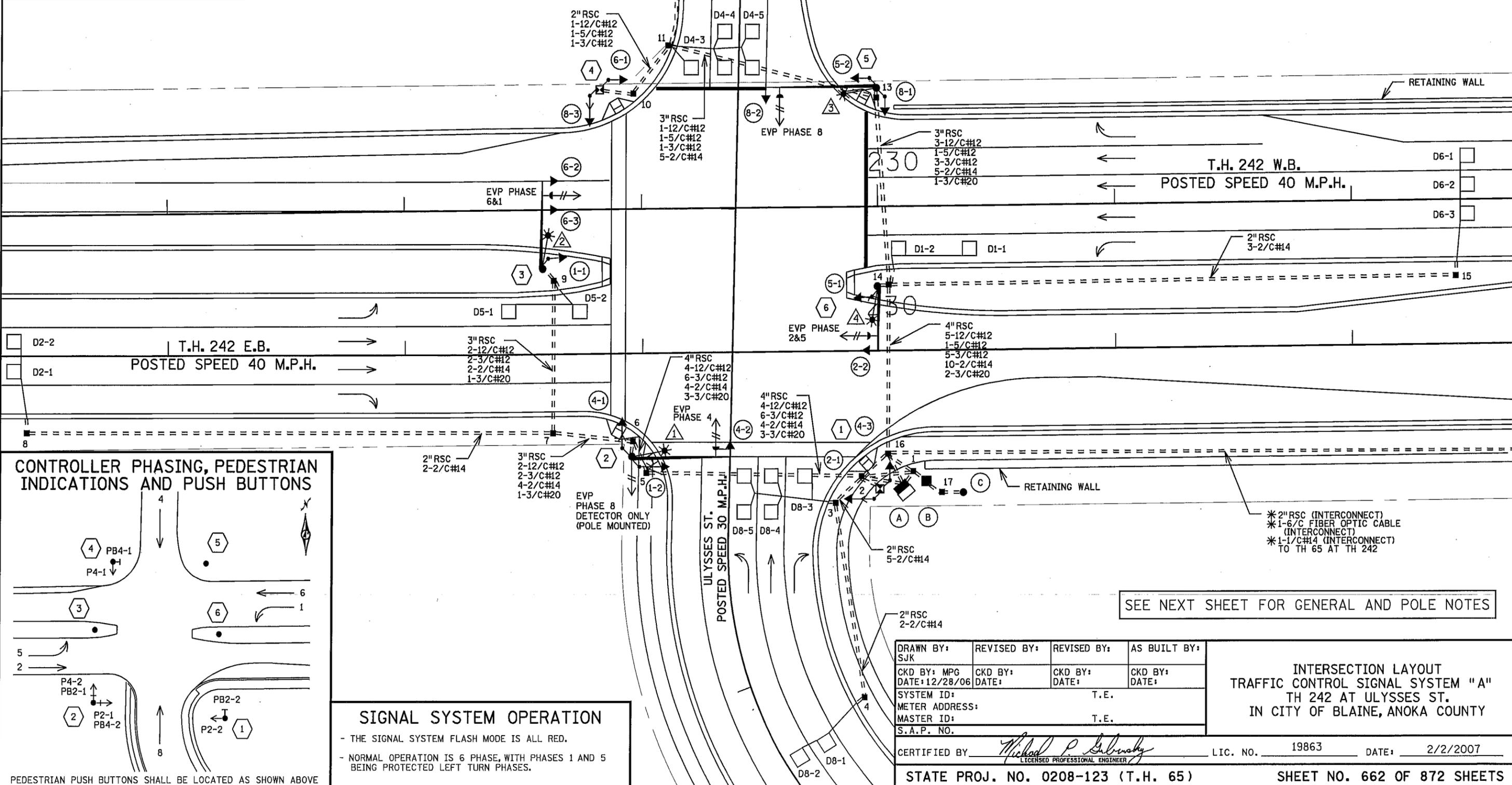
-LOCATION IS DISTANCE FROM STOP LINE TO FRONT OF LOOP DETECTOR IN FEET.
-ALL LOOP DETECTORS SHALL BE N.M.C.

- 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

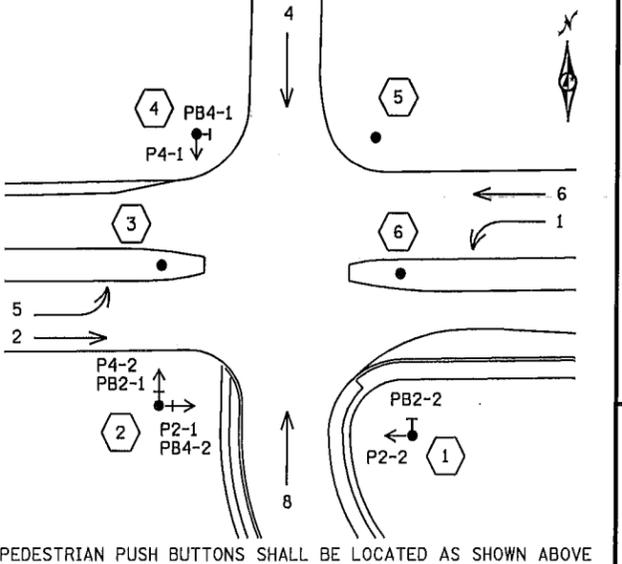


SIGNAL FACES			
FACE	R	Y	G
1-1,1-2	←	←	←
2-1,2-2	●	●	●
4-1,4-2,4-3	●	●	●
5-1,5-2	←	←	←
6-1,6-2,6-3	●	●	●
8-1,8-2,8-3	●	●	●

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



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 6 PHASE, WITH PHASES 1 AND 5 BEING PROTECTED LEFT TURN PHASES.

SEE NEXT SHEET FOR GENERAL AND POLE NOTES

- *2" RSC (INTERCONNECT)
- *1-6/C FIBER OPTIC CABLE (INTERCONNECT)
- *1-1/C#14 (INTERCONNECT) TO TH 65 AT TH 242

DRAWN BY: SJK	REVISED BY:	REVISED BY:	AS BUILT BY:
CKD BY: MPG	CKD BY:	CKD BY:	CKD BY:
DATE: 12/28/06	DATE:	DATE:	DATE:
SYSTEM ID:	T.E.		
METER ADDRESS:	T.E.		
MASTER ID:	T.E.		
S.A.P. NO.			

CERTIFIED BY: *Michael P. Libinsky*
LICENSED PROFESSIONAL ENGINEER

STATE PROJ. NO. 0208-123 (T.H. 65)

INTERSECTION LAYOUT
TRAFFIC CONTROL SIGNAL SYSTEM "A"
TH 242 AT ULYSSES ST.
IN CITY OF BLAINE, ANOKA COUNTY

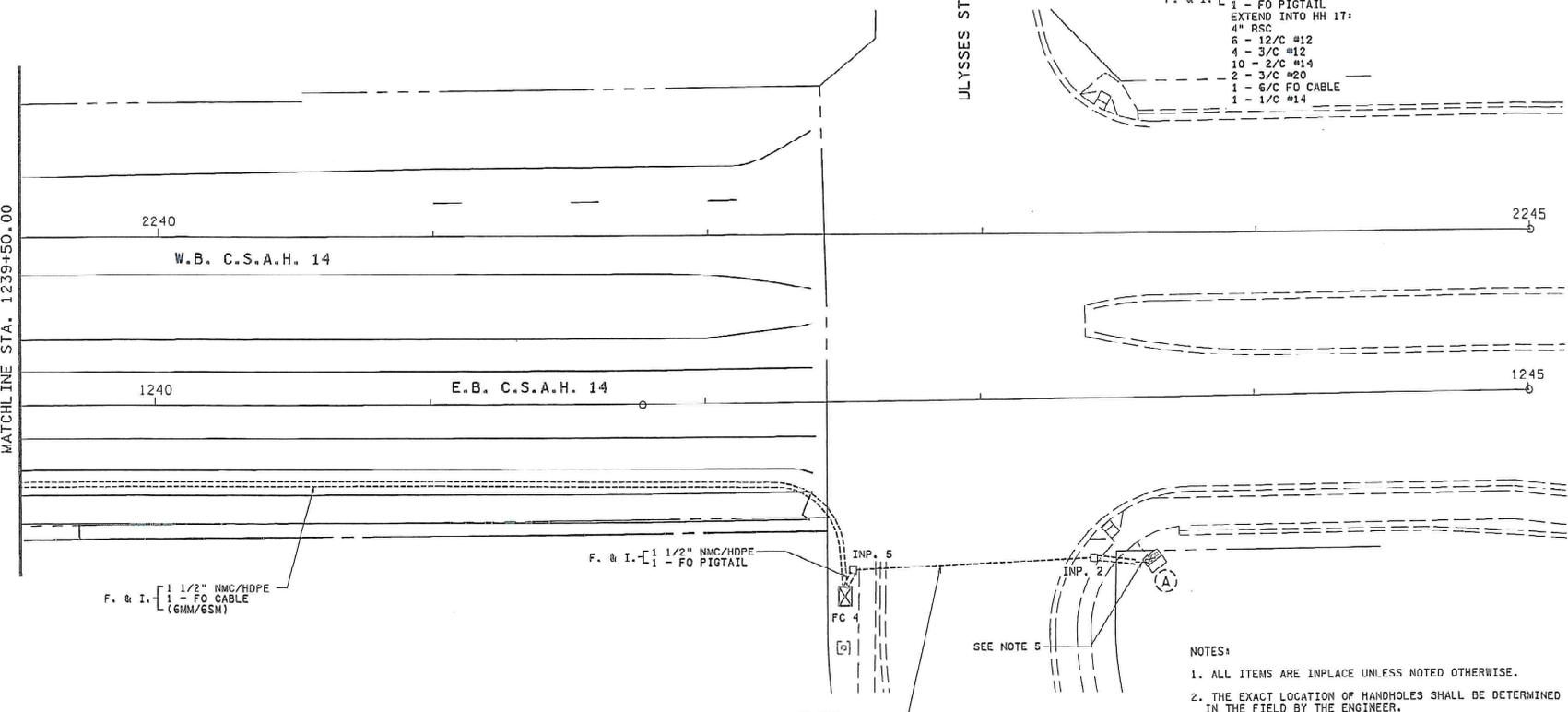
LIC. NO. 19863 DATE: 2/2/2007

SHEET NO. 662 OF 872 SHEETS



- (A) CONTROLLER CABINET
 CABINET FOUNDATION
 3/4" PVC CONDUIT STUBBED OUT (CAPPED AT BOTH ENDS
 FOR FUTURE TELEPHONE LINE)
 3" RSC STUBBED OUT (THREADED AND CAPPED BOTH ENDS)
 EXTEND INTO INP. HH 11
 METERED SIGNAL SERVICE
 2" RSC
 3 - 1/C #6
 4" RSC
 EXTEND INTO INP. HH 21
 4" RSC
 5 - 12/C #12
 1 - 5/C #12
 6 - 3/C #12
 9 - 2/C #14
 3 - 3/C #20
 EXTEND INTO INP. HH 17:
 3" RSC (STUBBED OUT)
 3" RSC (SEE NOTE 5)
 1 - FO PIGTAIL
 EXTEND INTO HH 17:
 4" RSC
 6 - 12/C #12
 4 - 3/C #12
 10 - 2/C #14
 2 - 3/C #20
 1 - 5/C FO CABLE
 1 - 1/C #14

MATCHLINE STA. 1239+50.00



F. & I. - 1/2" NMC/HDFE
 - FO CABLE
 (6MM/6SM)

F. & I. - 1/2" NMC/HDFE
 - FO PIGTAIL

4" RSC
 4 - 12/C #12
 6 - 3/C #12
 4 - 2/C #14
 3 - 3/C #20
 F. & I. - 1 - FO PIGTAIL

SEE NOTE 5

NOTES:

1. ALL ITEMS ARE INPLACE UNLESS NOTED OTHERWISE.
2. THE EXACT LOCATION OF HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
3. THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD.
4. SEE FOR INFORMATION ONLY SHEET FOR INPLACE ITEMS.
5. TIE NEW 3" TO EXISTING 3" STUB OUT.
6. THE CONTRACTOR SHALL LOCATE AND VERIFY INPLACE UTILITIES PRIOR TO COMMENCING WORK. SEE UTILITY PLANS.

REFER TO INSTRUCTION

12/15/16 AM
 9/11/2011
 ...NP1anVDP_5XC00261434_051R34.dgn

I hereby certify that this plan, specification, or report 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. Print Name: GEORGE M. STUEMPF IG Date: <i>12/15/16</i> License #: 21849				ANOKA COUNTY RELEASED FOR CONSTRUCTION Date: <i>12/15/16</i> ANOKA COUNTY				CSAH 14 DESIGN BUILD (SAP 002-614-034) INTERCONNECT AND SCHOOL FLASHER LAYOUT (STAGES 2 AND 3) C.S.A.H. 14 DESIGN PACKAGE #05		SHEET 05TR34 OF 05TR37	
NO	DATE	BY	CHK	APPR							

A E.B. STA. 230+10, 58' RT.
 INSTALL CONTROLLER CABINET (FURNISHED BY ANOKA COUNTY)
 CABINET FOUNDATION
 3/4" PVC CONDUIT STUBBED OUT (CAPPED AT BOTH ENDS FOR FUTURE TELEPHONE LINE)
 2-3" RSC STUBBED OUT (THREADED AND CAPPED BOTH ENDS)
 EXTEND INTO HH 1:
 METERED SIGNAL SERVICE
 2" RSC
 3-1/C#6
 EXTEND INTO HH 2:
 4" RSC
 5-12/C#12
 1-5/C#12
 5-3/C#12
 9-2/C#14
 3-3/C#20
 EXTEND INTO HH 16:
 4" RSC
 5-12/C#12
 1-5/C#12
 3-3/C#12
 10-2/C#14
 2-3/C#20
 * 1-6/C FIBER OPTIC CABLE (INTERCONNECT)
 * 1-1/C#14 (INTERCONNECT)

B E.B. STA. 230+21, 54' RT.
 SERVICE CABINET
 CABINET FOUNDATION
 EXTEND INTO HH 17:
 2" RSC
 3-1/C#2
 EXTEND INTO HH 1:
 2" RSC
 METERED SIGNAL SERVICE
 3-1/C#6
 METERED LUMINAIRE SERVICE
 4-3/C#12
 BETWEEN HH 1 AND HH 2:
 2" RSC
 2-3/C#12
 BETWEEN HH 1 AND HH 16:
 2" RSC
 2-3/C#12

1 E.B. STA. 230+01, 58' RT.
 13' PEDESTAL AND BASE
 PEDESTAL FOUNDATION
 2-ONE WAY SIGNALS POLE MOUNTED
 AT 45° AND 225° (SEE DETAIL)
 1-PEDESTRIAN INDICATION POLE MOUNTED AT 225° (SEE DETAIL)
 1-PEDESTRIAN PUSHBUTTON AND SIGN
 (R10-4b) (IEA, RIGHT)
 1-(R9-3a) SIGN FACING POLE #6
 EXTEND INTO HH 2:
 3" RSC
 1-12/C#12
 1-5/C#12
 1-3/C#12

2 E.B. STA. 228+96, 43' RT.
 PA100 POLE FOUNDATION
 TYPE PA100-A-40-D40-9 (DAVIT AT 350")
 1-ONE WAY SIGNAL OVERHEAD
 (0' FROM THE END OF MASTARM)
 2-ONE WAY SIGNALS POLE MOUNTED AT 45° AND 225°
 2-PEDESTRIAN INDICATIONS POLE MOUNTED AT 45° AND 225°
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT PHASE 4
 ONE WAY EVP DETECTOR ONLY PHASE 8 (POLE MOUNTED 17' HIGH AT 90")
 LUMINAIRE 250W HPS
 TYPE D SIGN
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS
 (R10-4b) (IEA, LEFT AND RIGHT)
 EXTEND INTO HH 6:
 3" RSC
 2-12/C#12
 4-3/C#12
 2-3/C#20

3 E.B. STA. 228+58, 36' LT
 PA90 POLE FOUNDATION
 TYPE PA90-A-35-D40-9 (DAVIT AT 10")
 2-ONE WAY SIGNALS OVERHEAD
 (0' AND 11' FROM THE END OF MASTARM)
 1-ONE WAY SIGNAL POLE MOUNTED AT 45°
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 LUMINAIRE 250W HPS
 TYPE D SIGN
 EXTEND INTO HH 9:
 3" RSC
 2-12/C#12
 2-3/C#12
 1-3/C#20

C S.O.P. GROUND MOUNTED TRANSFORMER TO BE
 FURNISHED AND INSTALLED BY CONNEXUS ENERGY
 (LOCATION SHOWN IS APPROXIMATE)
 EXTEND INTO HH 17:
 2" RSC
 3-1/C#2

4 W.B. STA. 228+83, 50' LT.
 13' PEDESTAL AND BASE
 PEDESTAL FOUNDATION
 2-ONE WAY SIGNALS POLE MOUNTED
 AT 45° AND 225° (SEE DETAIL)
 1-PEDESTRIAN INDICATION POLE MOUNTED
 AT 45° (SEE DETAIL)
 1-PEDESTRIAN PUSHBUTTON AND SIGN
 (R10-4b) (IEA, LEFT)
 1-(R9-3a) SIGN FACING POLE #5
 EXTEND INTO HH 10:
 3" RSC
 1-12/C#12
 1-5/C#12
 1-3/C#12

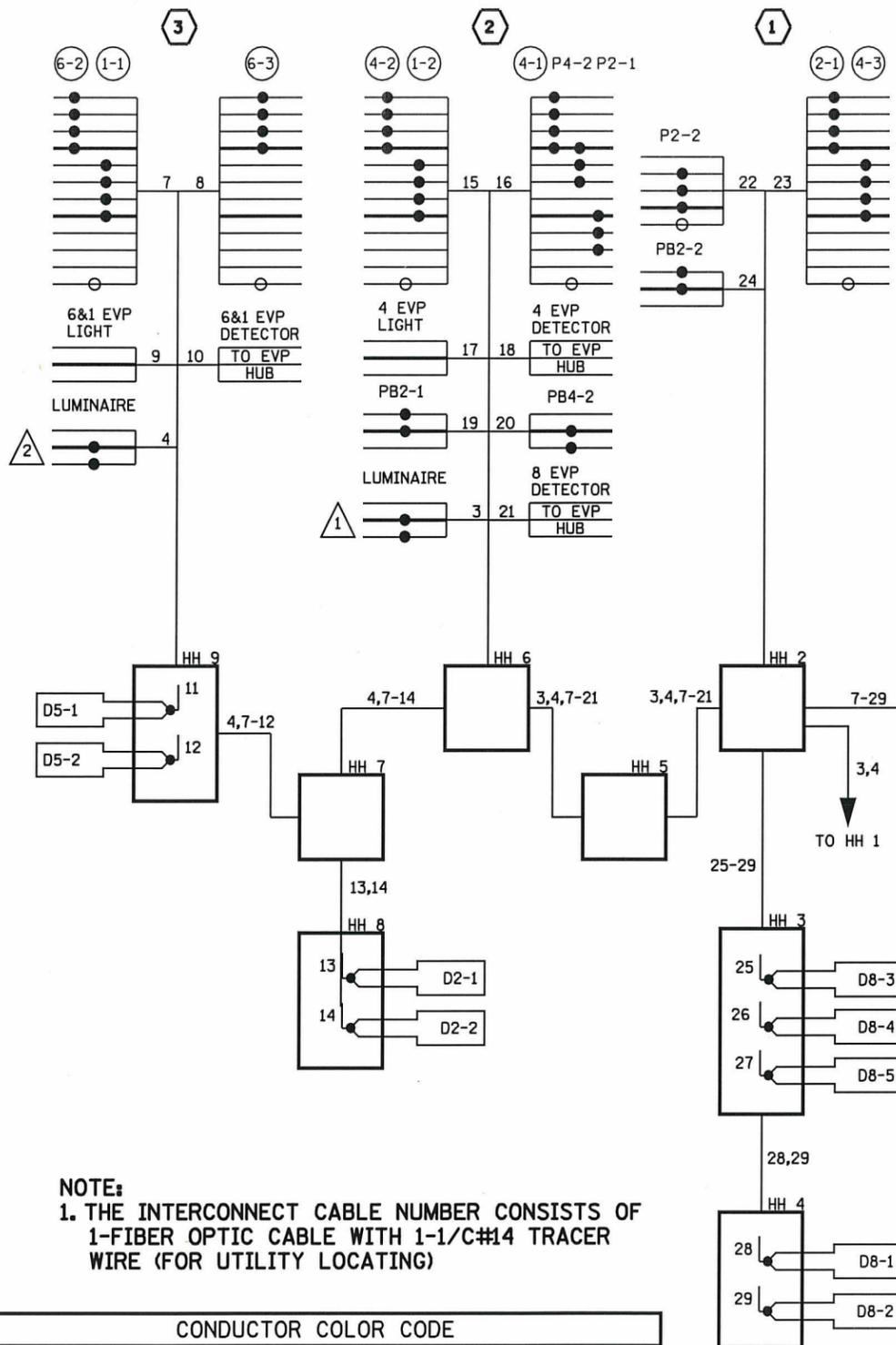
5 W.B. STA. 230+00, 49' LT
 PA100 POLE FOUNDATION
 TYPE PA100-A-45-D40-9 (DAVIT AT 350")
 1-ONE WAY SIGNAL OVERHEAD
 (0' FROM THE END OF MASTARM)
 2-ONE WAY SIGNALS POLE MOUNTED AT 45° AND 225°
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 LUMINAIRE 250W HPS
 TYPE D SIGN
 2-(R9-3a) SIGNS FACING POLES #4 AND #6
 EXTEND INTO HH 13:
 3" RSC
 2-12/C#12
 2-3/C#12
 1-3/C#20

6 E.B. STA. 230+00, 27' LT
 PA85 POLE FOUNDATION
 TYPE PA85-A-25-D40-9 (DAVIT AT 10")
 1-ONE WAY SIGNAL OVERHEAD
 (0' FROM THE END OF MASTARM)
 1-ONE WAY SIGNAL POLE MOUNTED AT 45°
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 LUMINAIRE 250W HPS
 TYPE D SIGN
 2-(R9-3a) SIGNS FACING POLE #1 AND POLE #5
 EXTEND INTO HH 14:
 3" RSC
 2-12/C#12
 2-3/C#12
 1-3/C#20

GENERAL NOTES:

- 1) LOCATION OF POLES, CONTROLLER CABINET, SERVICE CABINET, LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY ANOKA COUNTY TRAFFIC PERSONNEL.
- 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) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
- 5) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
- 6) EACH PEDESTRIAN INDICATION SHALL BE ONE SECTION 'FILLED' HAND/WALKING PERSON INDICATIONS.
- 7) ALL VEHICLE SIGNAL INDICATIONS, AND ALL PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED.
- 8) SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNS TO BE FURNISHED & INSTALLED BY CONTRACTOR (INCIDENTAL TO ITEM NO. 2565 FOR THIS SIGNAL SYSTEM).
- 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 AND HUB AT 17 FEET HIGH (AT 90°) ON POLE SHAFT NUMBER 2 (FOR EVP).
- 10) CONTRACTOR SHALL COORDINATE ALL TRAFFIC SIGNAL INSTALLATION WORK WITH ROAD CONSTRUCTION TO BE COMPLETED BY OTHERS AS PART OF ENTIRE PROJECT.
- 11) ALL MAST ARM POLE AND PEDESTAL POLE MOUNTED VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE MOUNTED USING ONE-WAY SIGNAL HEAD MOUNTS. SEE SPECIAL PROVISIONS.
- 12) STRIPING IS TO BE COMPLETE BY OTHERS AND PAID FOR SEPARATELY. SEE STRIPING PLAN FOR REFERENCE.
- 13) INTERCONNECT ITEMS ARE DESIGNATED BY * AND ARE PART OF THE INTERCONNECT PAY ITEM.
- 14) THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE POWER COMPANY TO ARRANGE FOR THE POWER CONNECTION.

DRAWN BY: SJK	REVISED BY:	REVISED BY:	AS BUILT BY:	GENERAL AND POLE NOTES TRAFFIC CONTROL SIGNAL SYSTEM "A" TH 242 AT ULYSSES ST. IN CITY OF BLAINE, ANOKA COUNTY
CKD BY: MPG DATE: 12/28/06	CKD BY: DATE:	CKD BY: DATE:	CKD BY: DATE:	
SYSTEM ID:	T.E.			
METER ADDRESS: MASTER ID: S.A.P. NO.	T.E.			
CERTIFIED BY: <i>Michael P. Sulovsky</i> <small>LICENSED PROFESSIONAL ENGINEER</small>				LIC. NO. 19863 DATE: 2/2/2007
STATE PROJ. NO. 0208-123 (T.H. 65)				SHEET NO. 663 OF 872 SHEETS



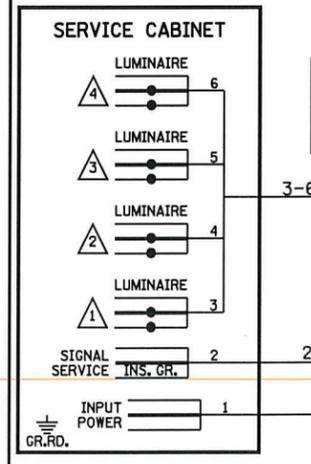
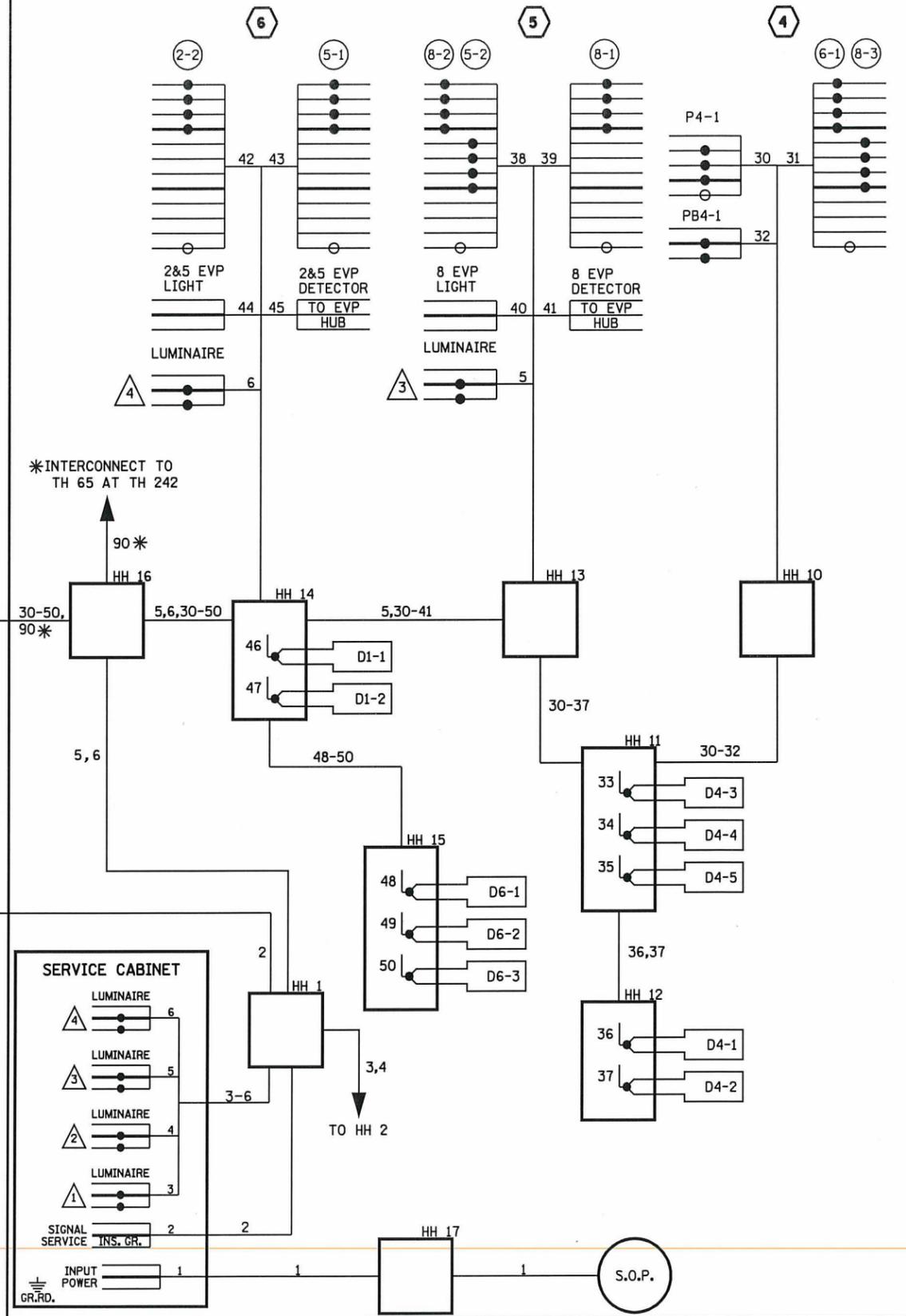
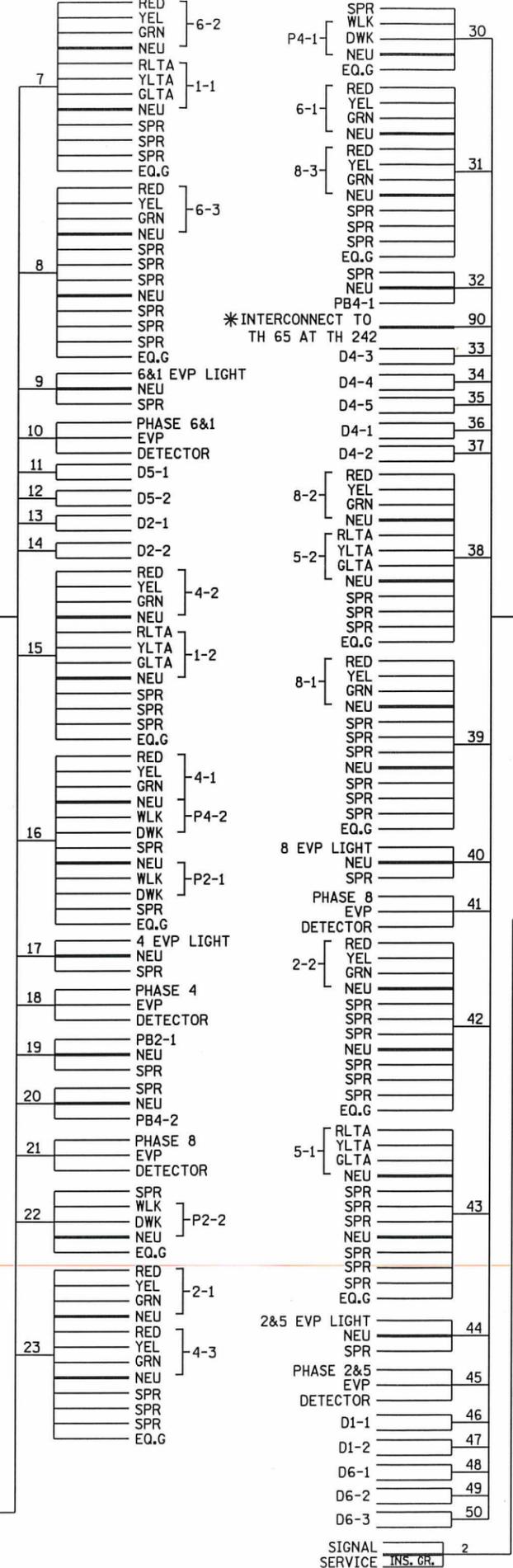
NOTE:
 1. THE INTERCONNECT CABLE NUMBER CONSISTS OF 1-FIBER OPTIC CABLE WITH 1-1/C#14 TRACER WIRE (FOR UTILITY LOCATING)

CONDUCTOR COLOR CODE

TO SIGNAL CABINET	TO DEVICE
R	R RED
O	O YEL
BL	BL GRN
WH	WH NEU
R/BLK	Y YLTA
O/BLK	BLK GLTA
BL/BLK	BRN
WH/BLK	R RED
BLK	O YEL
BLK/WH	BL GRN
G/BLK	WH NEU
G	BLK GLTA
R	R RED
O	O YEL
BL	BL GRN
WH	WH NEU
G	BLK GLTA
R	R DWK
BL	BL WLK
WH	WH NEU
G	G BLK
R	R DWK
BL	BL WLK
WH	WH NEU
G	G BLK
R	R DWK
BL	BL WLK
WH	WH NEU
G	G BLK

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

CONTROLLER CABINET



DRAWN BY: SJK	REVISED BY:	REVISED BY:	AS BUILT BY:
CKD BY: MPG	CKD BY:	CKD BY:	CKD BY:
DATE: 12/28/06	DATE:	DATE:	DATE:
SYSTEM ID:	T.E.		
METER ADDRESS:	T.E.		
MASTER ID:	T.E.		
S.A.P. NO.	T.E.		
CERTIFIED BY: <i>Michael P. Lubinsky</i>	LIC. NO. 19863	DATE: 2/2/2007	
STATE PROJ. NO. 0208-123 (T.H. 65)		SHEET NO. 664 OF 872 SHEETS	

WIRING DIAGRAM
 TRAFFIC CONTROL SIGNAL SYSTEM "A"
 TH 242 AT ULYSSES ST.
 IN CITY OF BLAINE, ANOKA COUNTY