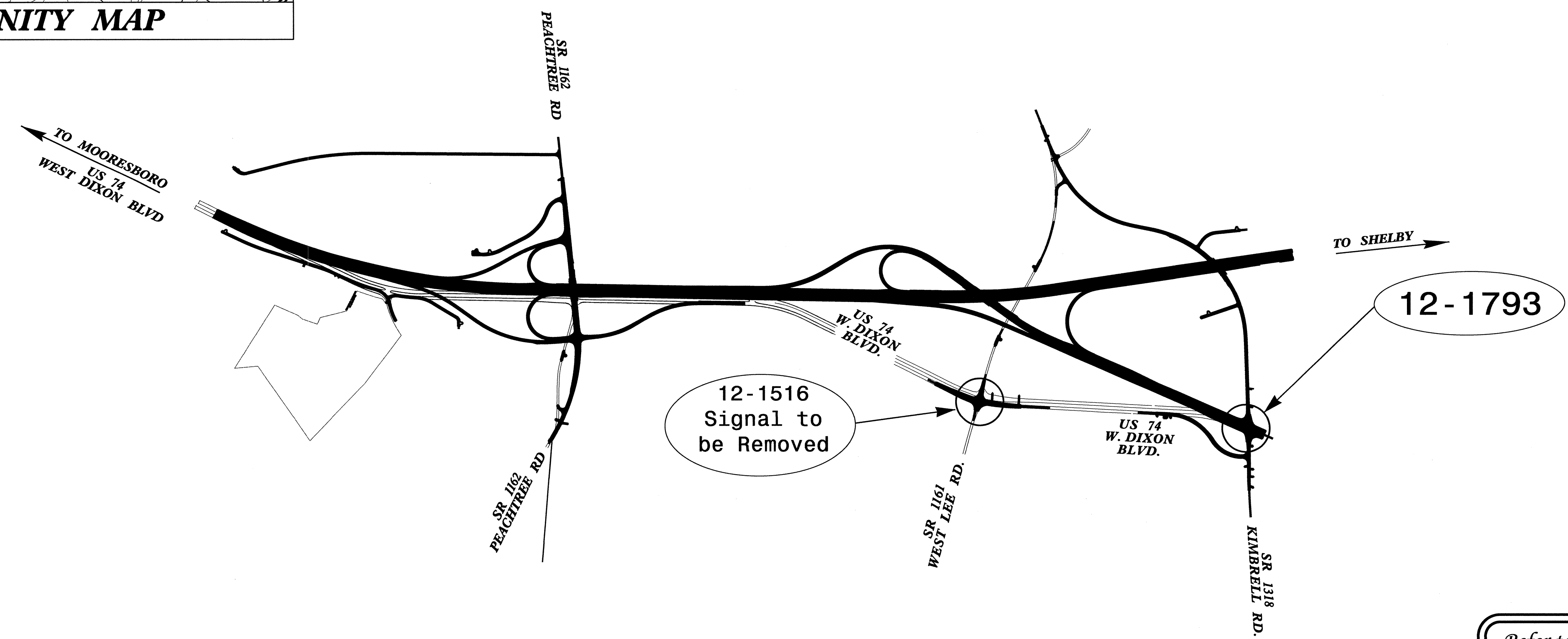
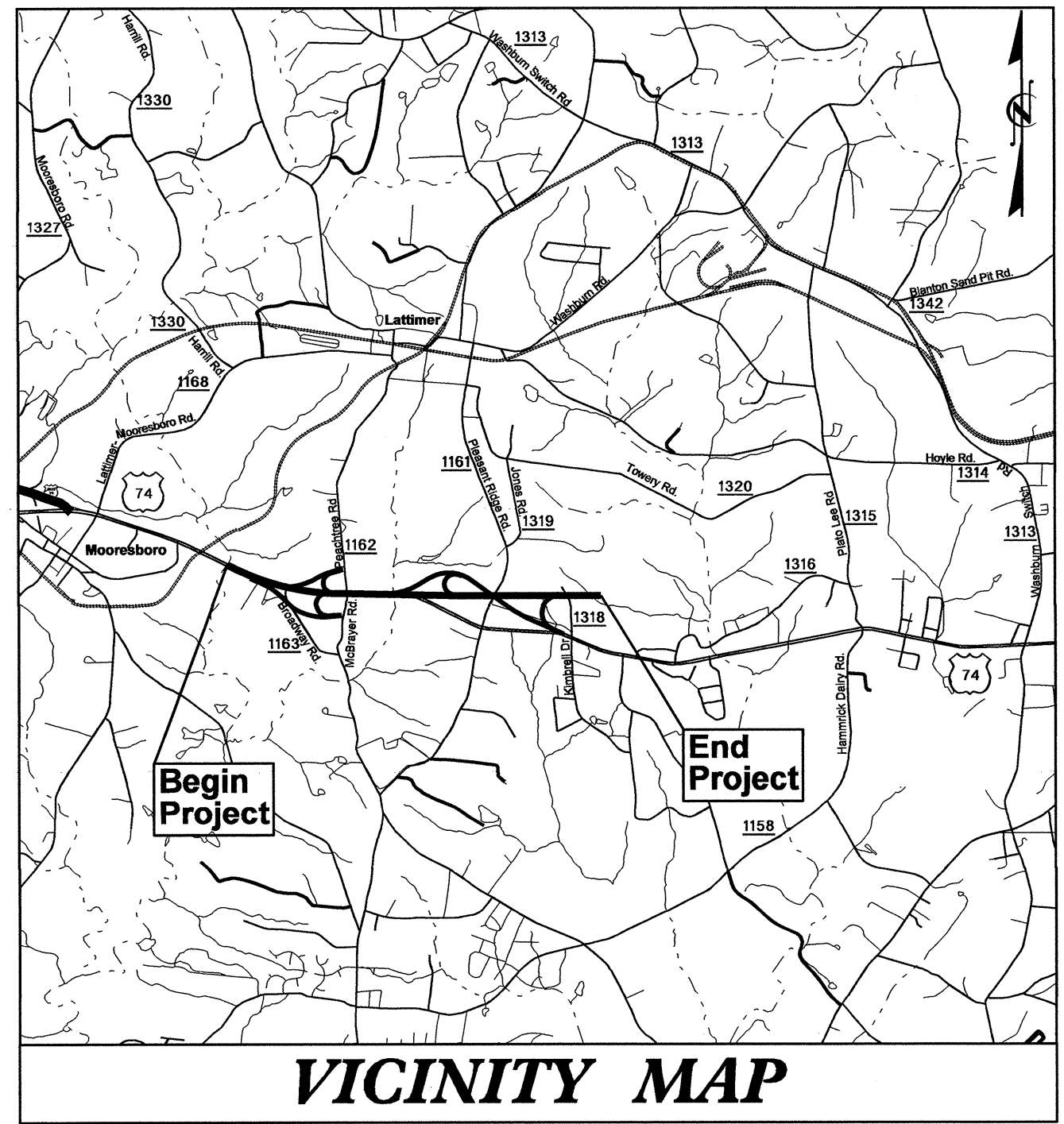
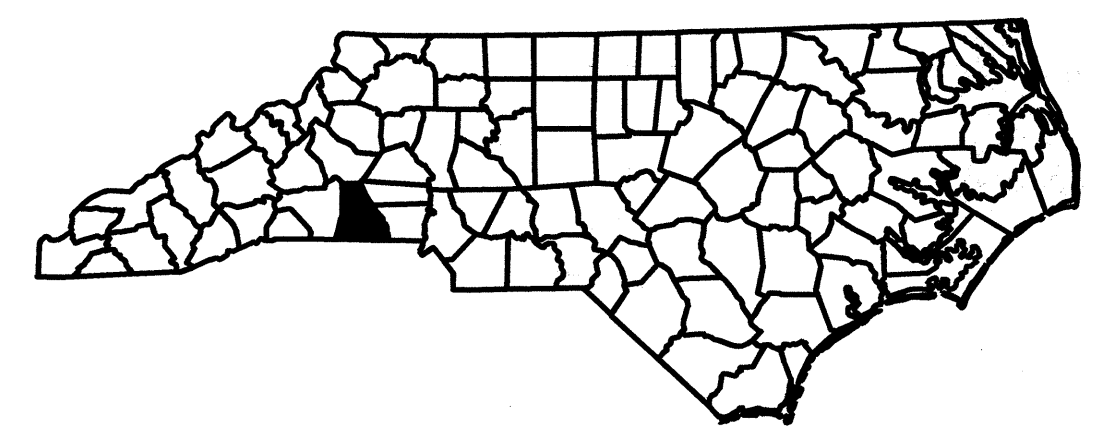


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CLEVELAND COUNTY

**US 74 (SHELBY BYPASS) FROM WEST OF SR 1162
(PEACHTREE ROAD) TO EAST OF SR 1318
(KIMBRELL ROAD)**

TYPE OF WORK: TRAFFIC SIGNALS.



Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.

TIP PROJECT: R-2707AA

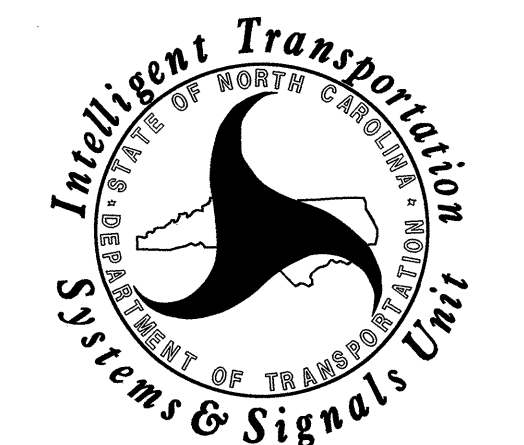
Index of Plans

Sheet #	Reference #	Location/Description
Sig. 1	-----	Title Sheet
Sig. 2-5	12-1793	US 74 at SR 1154 (Bradley Road)/SR 1318 (Kimbrell Road)

SIGNALS UNIT

Contacts:
Timothy J. Williams, PE - Western Region Signals Engineer
John T. Rowe, Jr., PE - Signal Equipment Design Engineer

Prepared In the Office of:
 DIVISION OF HIGHWAYS
 TRANSPORTATION MOBILITY AND SAFETY
 DIVISION



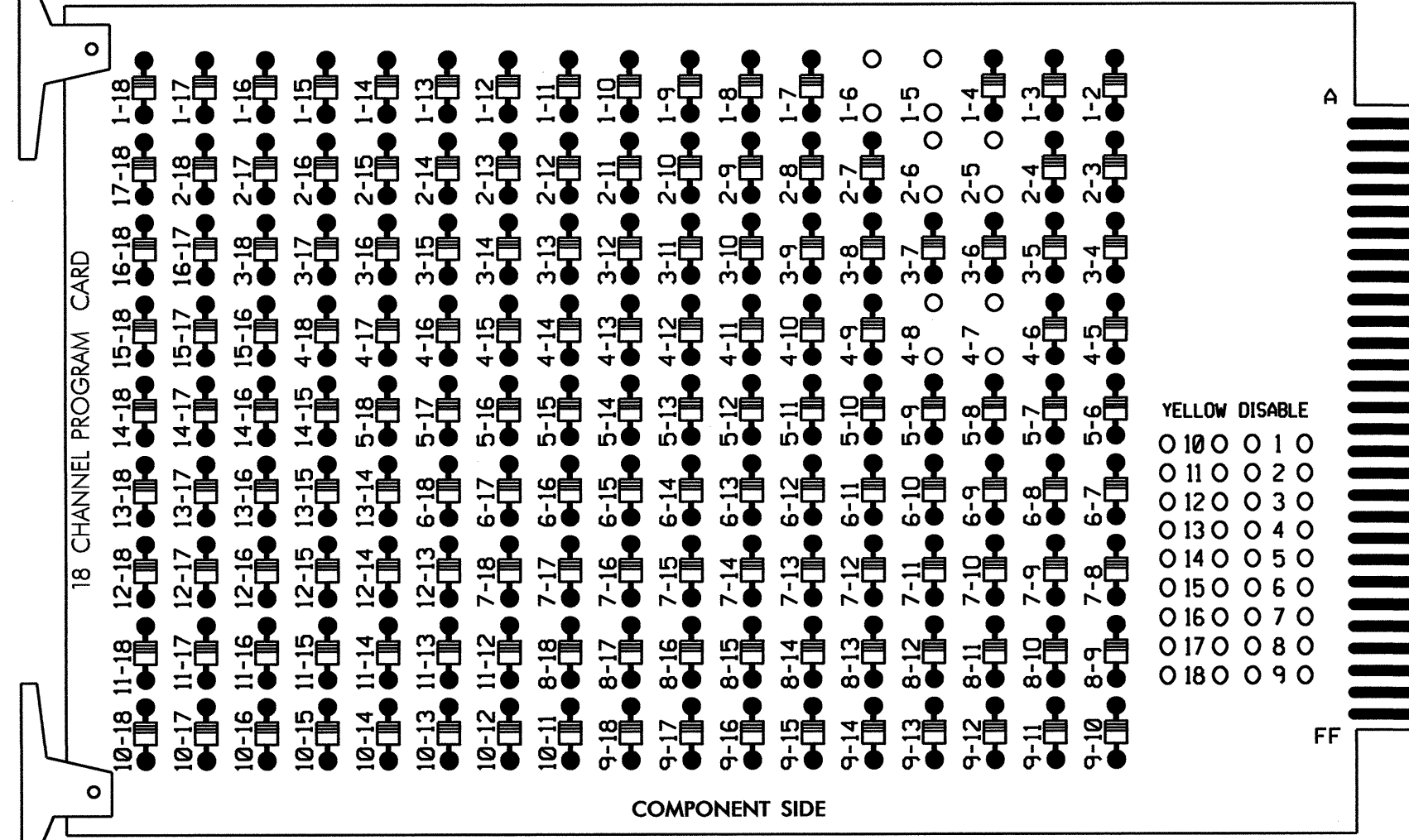
09/08/99
06-NOV-2012 14:13
R:\Traffic Signals\Titlesheet\Signal_L_rdy_tsh.dgn
ceplerc

EDI MODEL 2018ECL-NC CONFLICT MONITOR

PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

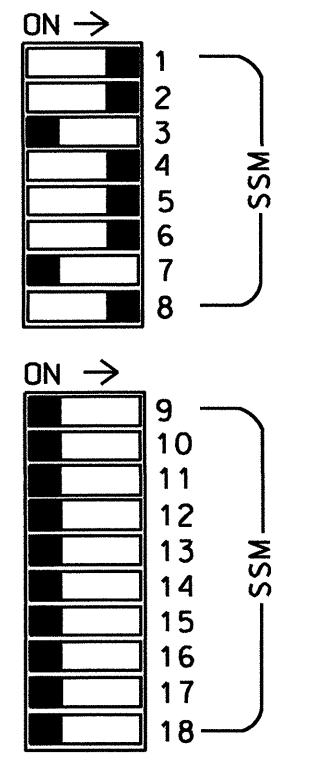
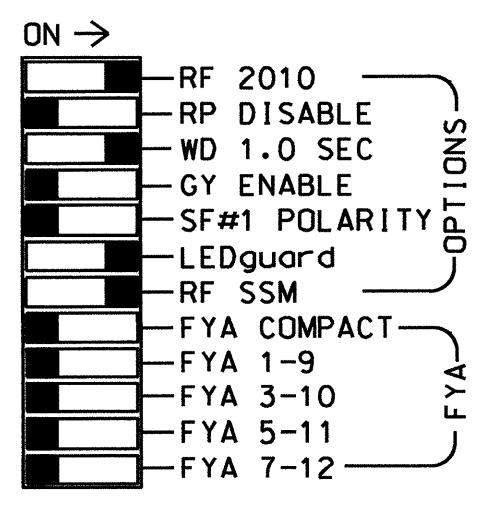
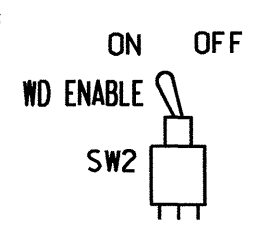
REMOVE DIODE JUMPERS 1-5, 1-6, 2-5, 2-6, 4-7 and 4-8.



REMOVE JUMPERS AS SHOWN

NOTES:

- Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
- Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
- Ensure that Red Enable is active at all times during normal operation.
- Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.



■ = DENOTES POSITION OF SWITCH

NOTES

- To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
- Program phases 4 and 8 for Dual Entry.
- Enable Simultaneous Gap-Out for all phases.
- Program phases 2 and 6 for Variable Initial and Gap Reduction.
- Program phases 2 and 6 for Start Up In Green.
- Program phases 2 and 6 for Yellow Flash.

EQUIPMENT INFORMATION

CONTROLLER.....2070L
 CABINET.....332
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....BASE
 OUTPUT FILE POSITIONS...12
 LOAD SWITCHES USED.....S1,S2,S3,S5,S6,S7,S8,S9,S10,S11,S12
 PHASES USED.....1,2,4,5,6,*7,8
 OVERLAPS.....NONE

*USED ONLY DURING PREEMPT

PREEMPT ONLY PHASE OMIT NOTE

(program controller as shown below)

From Main Menu press '2' (Phase Control). Then '1' (Phase Control Functions). Program Phase 7 for 'Omit Phase' and Phases 1, 2, 4, 5, 6 and 8 for 'Startup Calls'. This is to prevent Phase 7 from being served when not in Preempt.

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED
SIGNAL HEAD NO.	11	21,22	**	NU	41,42	**	51	61,62	**	41	81,82	**
RED		128			101			134			107	
YELLOW		129			102			135		*	108	
GREEN		130			103			136			109	
RED ARROW	125							131				
YELLOW ARROW	126							132				
GREEN ARROW	127							133		124		

NU = Not Used
 * Denotes install load resistor. See load resistor installation detail this sheet.
 ** A Special Advanced Beacon is wired to S3-Y, S6-Y, S9-Y and S12-Y. See wiring and programming detail on Sheet 2 of this electrical detail.

EMERGENCY VEHICLE PREEMPTION PROGRAMMING DETAIL

(program controller as shown below)

From Main Menu press 'A' (Preemption), then '1' (Standard Preemptions). Press 'NEXT' twice to advance to Preemption #3.

PREEMPTION #3	INTERVAL/TIMING	SETTINGS (NEXT:1-10)
	GRN YEL RED	CLEAR/DWELL PHASES
1	255 0.0 0.0	12345678910111213141516
2	0 0.0 0.0	X X
3	0 0.0 0.0	
4	0 0.0 0.0	
5	1 0.0 0.0	X X

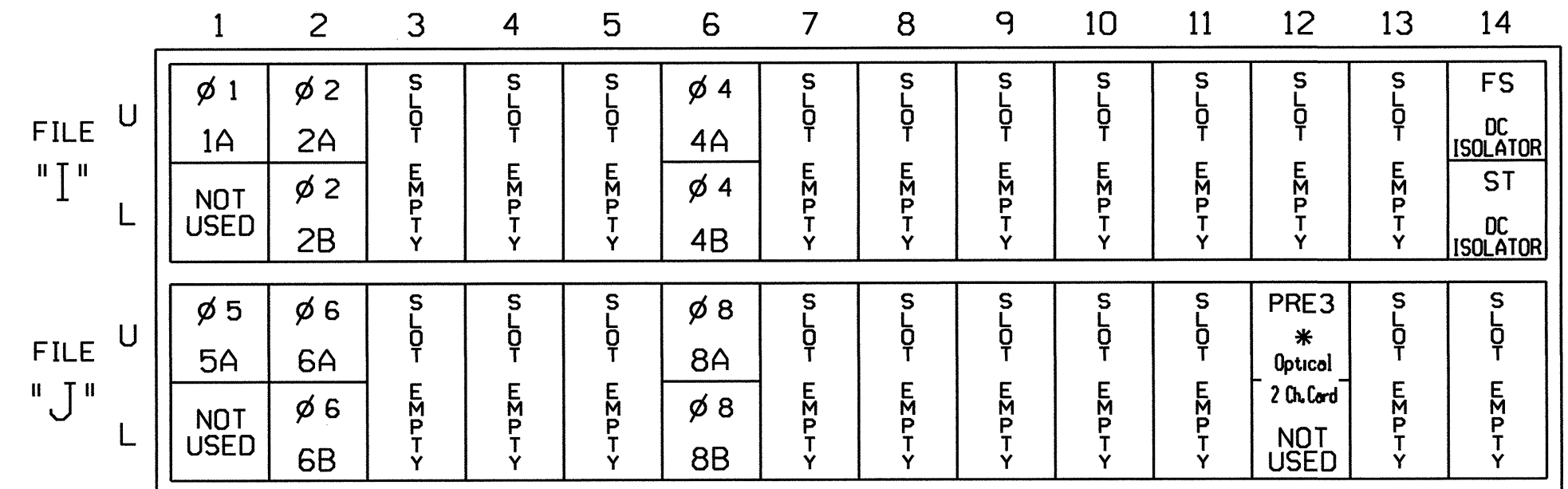
EXIT CALLS

OPTIONS

PRIORITY (Y/N TO SELECT)MED
 DELAY TIMER (0-255 SEC)0
 MIN GREEN BEFORE PRE (0= DEFAULT)....1
 PED CLEAR BEFORE PRE (0= DEFAULT)....0
 YELLOW CLEAR BEFORE PRE (0= DEFAULT).0.0
 RED CLEAR BEFORE PRE (0= DEFAULT)....0.0
 DWELL MIN TIMER (0-255 SEC)7
 DWELL MAX TIMER (0=OFF,1-255MIN)0
 DWELL HOLD-OVER TIMER (0-255)0
 LATCH CALL?N
 LINK TO NEXT PREEMPT?N
 ENABLE BACKUP PROTECTION?Y
 HOLD CLEAR 1 PHASES DURING DELAY? ...N
 FAST GREEN FLASH DWELL PHASES?N
 PED CLEARANCE THROUGH YELLOW?N
 INHIBIT OVERLAP GREEN EXTENSION? ...N
 SERVICE DURING SOFTWARE FLASH?N
 REST IN RED DURING DWELL INTERVAL? ..N
 FLASH DWELL INTERVAL?N
 ALLOW PEDS IN DWELL INTERVAL?N
 RE-TIME DWELL INTERVAL?N
 OVERLAPS: ABCDEFGHIJLMNOP
 DWELL INT FLASH YELLOW
 OMIT OVERLAPS:

INPUT FILE POSITION LAYOUT

(front view)



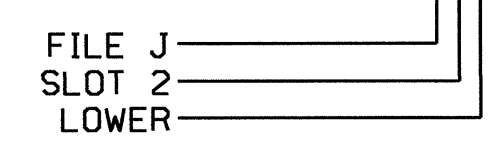
EX. : 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
 ST = STOP TIME
 PRE 3 = EV PREEMPT

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
1A	TB2-1,2	I1U	56	18	1	1	Y	Y			
2A	TB2-5,6	I2U	39	1	2	2	Y	Y			
2B	TB2-7,8	I2L	43	5	12	2	Y	Y			
4A	TB4-9,10	I6U	41	3	4	4	Y	Y			10
4B	TB4-11,12	I6L	45	7	14	4	Y	Y			15
5A	TB3-1,2	J1U	55	17	5	5	Y	Y			
6A	TB3-5,6	J2U	40	2	6	6	Y	Y			
6B	TB3-7,8	J2L	44	6	16	6	Y	Y			
8A	TB5-9,10	J6U	42	4	8	8	Y	Y			10
8B	TB5-11,12	J6L	46	8	18	8	Y	Y			15

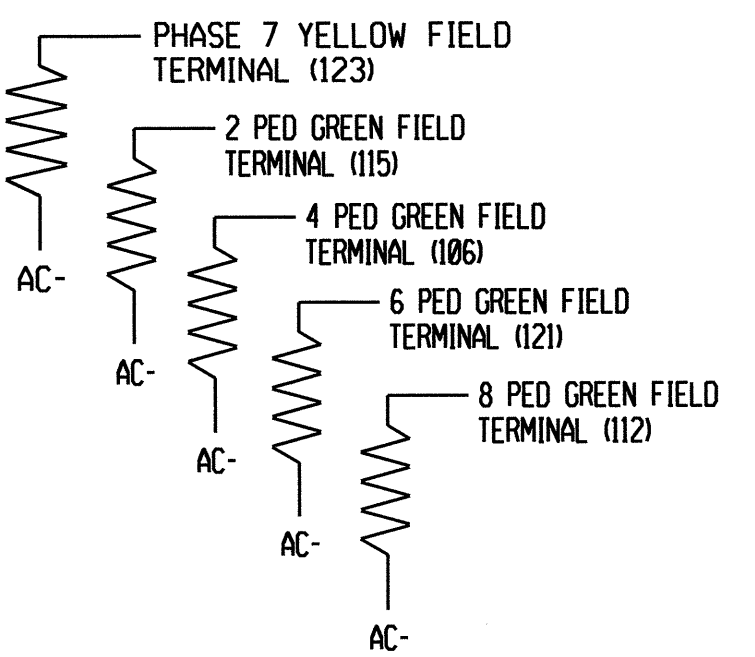
INPUT FILE POSITION LEGEND: J2L



LOAD RESISTOR INSTALLATION DETAIL

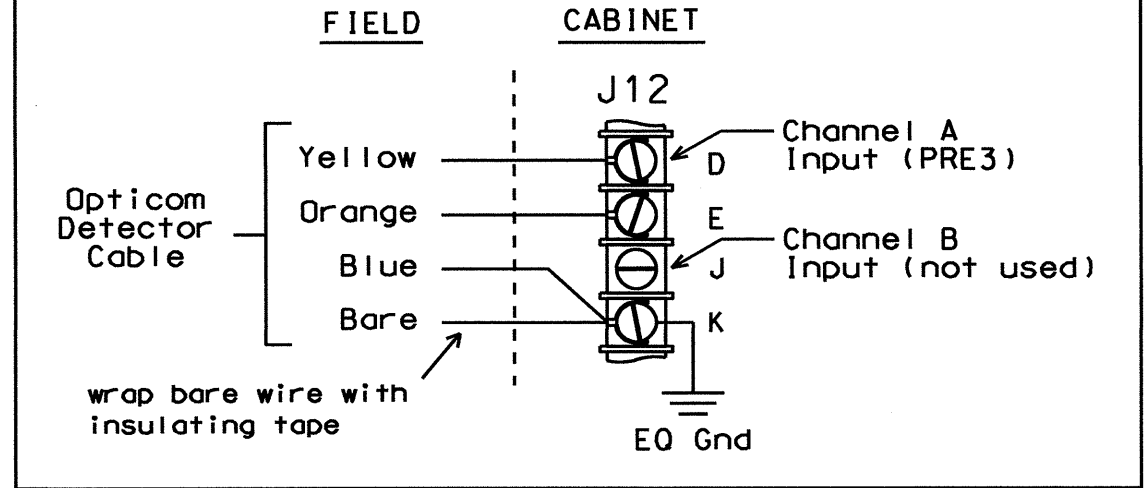
(install resistors as shown below)

ACCEPTABLE VALUES	VALUE (ohms)	WATTAGE
	1.5K - 1.9K	25W (min)
	2.0K - 3.0K	10W (min)



TYPICAL OPTICAL FIELD WIRE DETAIL

(input file, rear view)



This Electrical Detail supersedes the detail sealed on 10-25-12.

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 12-1793
 DESIGNED: October 2012
 SEALED: 5-03-13
 REVISED: N/A

ELECTRICAL DETAIL SHEET 1 OF 2

US 74 at SR 1154 (Bradley Road) / SR 1318 (Kimbrell Road)

Division 12 Cleveland County S. of Lattimore

PLANNED: April 2013 REVIEWED BY: JTR

PREPARED BY: James Peterson REVIEWED BY:

750 N. Greenfield Pkwy, Garner, NC 27529

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER JAMES T. ROWE, JR. 008453

SIGNATURE: JTR DATE: 5-6-13

SIG. INVENTORY NO. 12-1793

06-MAY-2013 13:26 S:\IT\SS\MTS\Sigonal\workgroups\sig.Man\Peterson\121793_sm.ele.20121025.dgn J.Peterson

ADVANCE BEACON OUTPUT ASSIGNMENT PROGRAMMING DETAIL (program controller as shown below)

FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '1' (OUTPUT ASSIGNMENTS), PRESS '+' UNTIL OUTPUT #33 (PIN 35) IS REACHED.

```

PAGE:1 C1 PIN:35 NOT ENABLED
OUTPUT ASSIGNMENT #.....33
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...1.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...50
MODE (0=SOLID,1=FLASH).....1
SELECT ASSIGNMENT:
NOT ENABLED.....Y
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....Y
DETECTOR RESET.....Y
ADVANCE BEACON.....Y
OUT OF PHASE FLASHER.....Y
CONTROLLER FLASH.....Y
RUN FREE.....Y
RESERVED.....Y
PREEMPT.....Y
SOFT PREEMPT.....Y
ANY PREEMPT.....Y
COORDINATION PLAN.....Y
OFFSET.....Y
PHASE CHECK.....Y
PHASE ON.....Y
PHASE NEXT.....Y
    
```

THE FIRST THREE PROGRAMMING ROWS DEFINE THE OUTPUT TO FLASH, ALONG WITH THE RATE IN WHICH IT WILL FLASH.

THE NOT ENABLED 'Y' WILL REMAIN UNTIL THE FUNCTION OF THIS OUTPUT IS CHANGED. DO NOT ENTER AN 'N'.

PAGE:1 C1 PIN:35 NOT ENABLED
SELECT BEACON INDEX (1-4).....1

WHEN A 'Y' IS ENTERED FOR 'ADVANCE BEACON' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.

PRESS THE 'ENT' KEY AFTER INPUTTING DATA. THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'ADVANCE BEACON' AS SHOWN BELOW.

```

PAGE:1 C1 PIN:35 ADVANCE BEACON
OUTPUT ASSIGNMENT #.....33
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...1.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...50
MODE (0=SOLID,1=FLASH).....1
SELECT ASSIGNMENT:
NOT ENABLED.....Y
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....Y
DETECTOR RESET.....Y
ADVANCE BEACON.....Y
OUT OF PHASE FLASHER.....Y
CONTROLLER FLASH.....Y
RUN FREE.....Y
RESERVED.....Y
PREEMPT.....Y
SOFT PREEMPT.....Y
ANY PREEMPT.....Y
COORDINATION PLAN.....Y
OFFSET.....Y
PHASE CHECK.....Y
PHASE ON.....Y
PHASE NEXT.....Y
    
```

FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '1' (OUTPUT ASSIGNMENTS), PRESS '+' UNTIL OUTPUT #34 (PIN 36) IS REACHED.

```

PAGE:1 C1 PIN:36 NOT ENABLED
OUTPUT ASSIGNMENT #.....34
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...1.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...50
MODE (0=SOLID,1=FLASH).....1
SELECT ASSIGNMENT:
NOT ENABLED.....Y
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....Y
DETECTOR RESET.....Y
ADVANCE BEACON.....Y
OUT OF PHASE FLASHER.....Y
CONTROLLER FLASH.....Y
RUN FREE.....Y
RESERVED.....Y
PREEMPT.....Y
SOFT PREEMPT.....Y
ANY PREEMPT.....Y
COORDINATION PLAN.....Y
OFFSET.....Y
PHASE CHECK.....Y
PHASE ON.....Y
PHASE NEXT.....Y
    
```

THE FIRST THREE PROGRAMMING ROWS DEFINE THE OUTPUT TO FLASH, ALONG WITH THE RATE IN WHICH IT WILL FLASH.

THE NOT ENABLED 'Y' WILL REMAIN UNTIL THE FUNCTION OF THIS OUTPUT IS CHANGED. DO NOT ENTER AN 'N'.

PAGE:1 C1 PIN:36 NOT ENABLED
SELECT BEACON INDEX (1-4).....2

WHEN A 'Y' IS ENTERED FOR 'ADVANCE BEACON' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.

PRESS THE 'ENT' KEY AFTER INPUTTING DATA. THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'ADVANCE BEACON' AS SHOWN BELOW.

```

PAGE:1 C1 PIN:36 ADVANCE BEACON
OUTPUT ASSIGNMENT #.....34
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...1.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...50
MODE (0=SOLID,1=FLASH).....1
SELECT ASSIGNMENT:
NOT ENABLED.....Y
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....Y
DETECTOR RESET.....Y
ADVANCE BEACON.....Y
OUT OF PHASE FLASHER.....Y
CONTROLLER FLASH.....Y
RUN FREE.....Y
RESERVED.....Y
PREEMPT.....Y
SOFT PREEMPT.....Y
ANY PREEMPT.....Y
COORDINATION PLAN.....Y
OFFSET.....Y
PHASE CHECK.....Y
PHASE ON.....Y
PHASE NEXT.....Y
    
```

Output #33 = Ø2 Ped Yellow
Output #34 = Ø6 Ped Yellow
Output #35 = Ø4 Ped Yellow
Output #36 = Ø8 Ped Yellow

FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '1' (OUTPUT ASSIGNMENTS), PRESS '+' UNTIL OUTPUT #35 (PIN 37) IS REACHED.

```

PAGE:1 C1 PIN:37 NOT ENABLED
OUTPUT ASSIGNMENT #.....35
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH).....0
SELECT ASSIGNMENT:
NOT ENABLED.....Y
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....Y
DETECTOR RESET.....Y
ADVANCE BEACON.....Y
OUT OF PHASE FLASHER.....Y
CONTROLLER FLASH.....Y
RUN FREE.....Y
RESERVED.....Y
PREEMPT.....Y
SOFT PREEMPT.....Y
ANY PREEMPT.....Y
COORDINATION PLAN.....Y
OFFSET.....Y
PHASE CHECK.....Y
PHASE ON.....Y
PHASE NEXT.....Y
    
```

THE NOT ENABLED 'Y' WILL REMAIN UNTIL THE FUNCTION OF THIS OUTPUT IS CHANGED. DO NOT ENTER AN 'N'.

PAGE:1 C1 PIN:37 NOT ENABLED
SELECT OUTPUT ASSIGNMENT (1-64).....33

WHEN A 'Y' IS ENTERED FOR 'OUT OF PHASE FLASHER' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.

PRESS THE 'ENT' KEY AFTER INPUTTING DATA. THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'OUT OF PHASE FLASHER' AS SHOWN BELOW.

```

PAGE:1 C1 PIN:37 OUT OF PHASE FLASHER
OUTPUT ASSIGNMENT #.....35
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH).....0
SELECT ASSIGNMENT:
NOT ENABLED.....Y
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....Y
DETECTOR RESET.....Y
ADVANCE BEACON.....Y
OUT OF PHASE FLASHER.....Y
CONTROLLER FLASH.....Y
RUN FREE.....Y
RESERVED.....Y
PREEMPT.....Y
SOFT PREEMPT.....Y
ANY PREEMPT.....Y
COORDINATION PLAN.....Y
OFFSET.....Y
PHASE CHECK.....Y
PHASE ON.....Y
PHASE NEXT.....Y
    
```

FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '1' (OUTPUT ASSIGNMENTS), PRESS '+' UNTIL OUTPUT #36 (PIN 38) IS REACHED.

```

PAGE:1 C1 PIN:38 NOT ENABLED
OUTPUT ASSIGNMENT #.....36
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH).....0
SELECT ASSIGNMENT:
NOT ENABLED.....Y
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....Y
DETECTOR RESET.....Y
ADVANCE BEACON.....Y
OUT OF PHASE FLASHER.....Y
CONTROLLER FLASH.....Y
RUN FREE.....Y
RESERVED.....Y
PREEMPT.....Y
SOFT PREEMPT.....Y
ANY PREEMPT.....Y
COORDINATION PLAN.....Y
OFFSET.....Y
PHASE CHECK.....Y
PHASE ON.....Y
PHASE NEXT.....Y
    
```

THE NOT ENABLED 'Y' WILL REMAIN UNTIL THE FUNCTION OF THIS OUTPUT IS CHANGED. DO NOT ENTER AN 'N'.

PAGE:1 C1 PIN:38 NOT ENABLED
SELECT OUTPUT ASSIGNMENT (1-64).....34

WHEN A 'Y' IS ENTERED FOR 'OUT OF PHASE FLASHER' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.

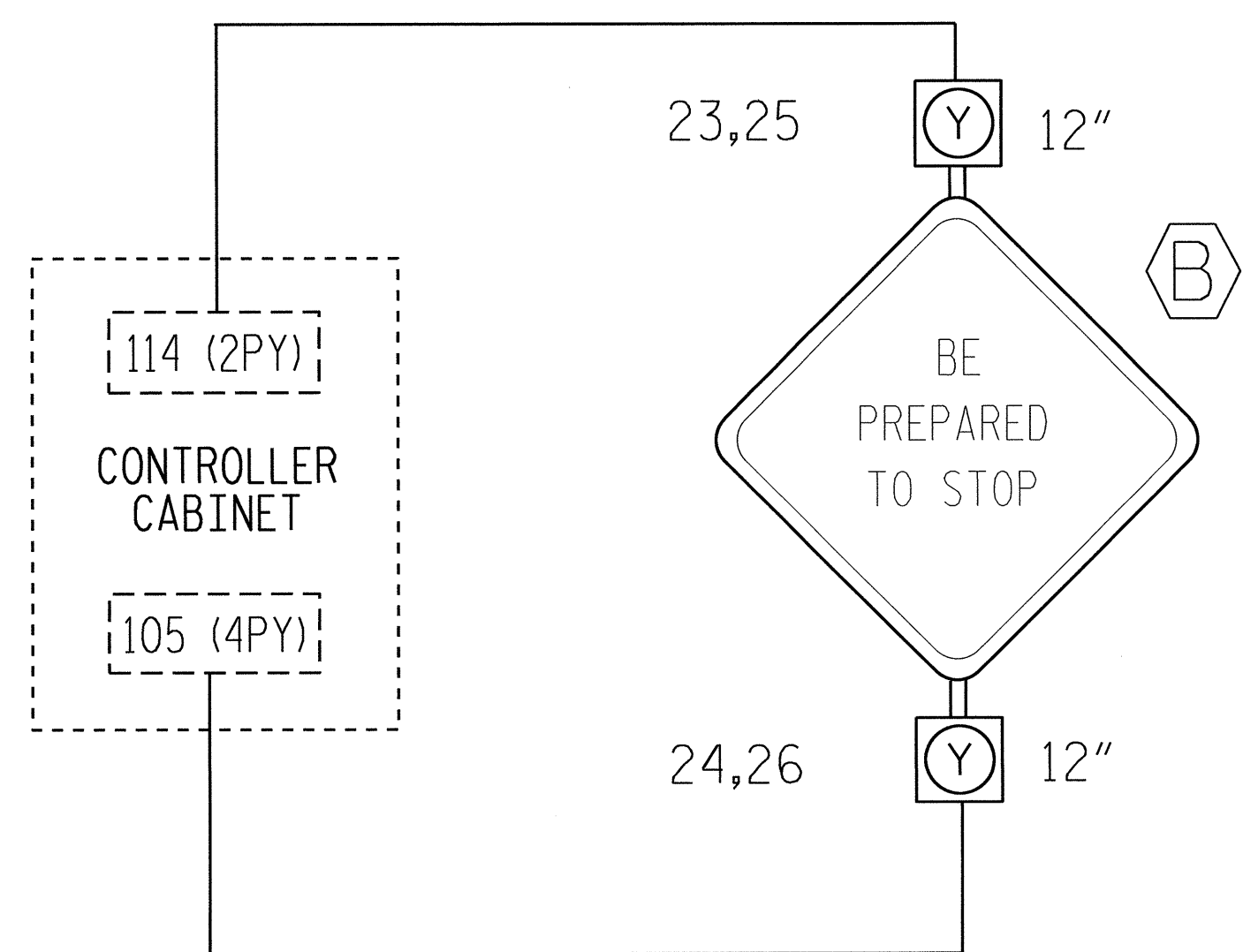
PRESS THE 'ENT' KEY AFTER INPUTTING DATA. THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'OUT OF PHASE FLASHER' AS SHOWN BELOW.

```

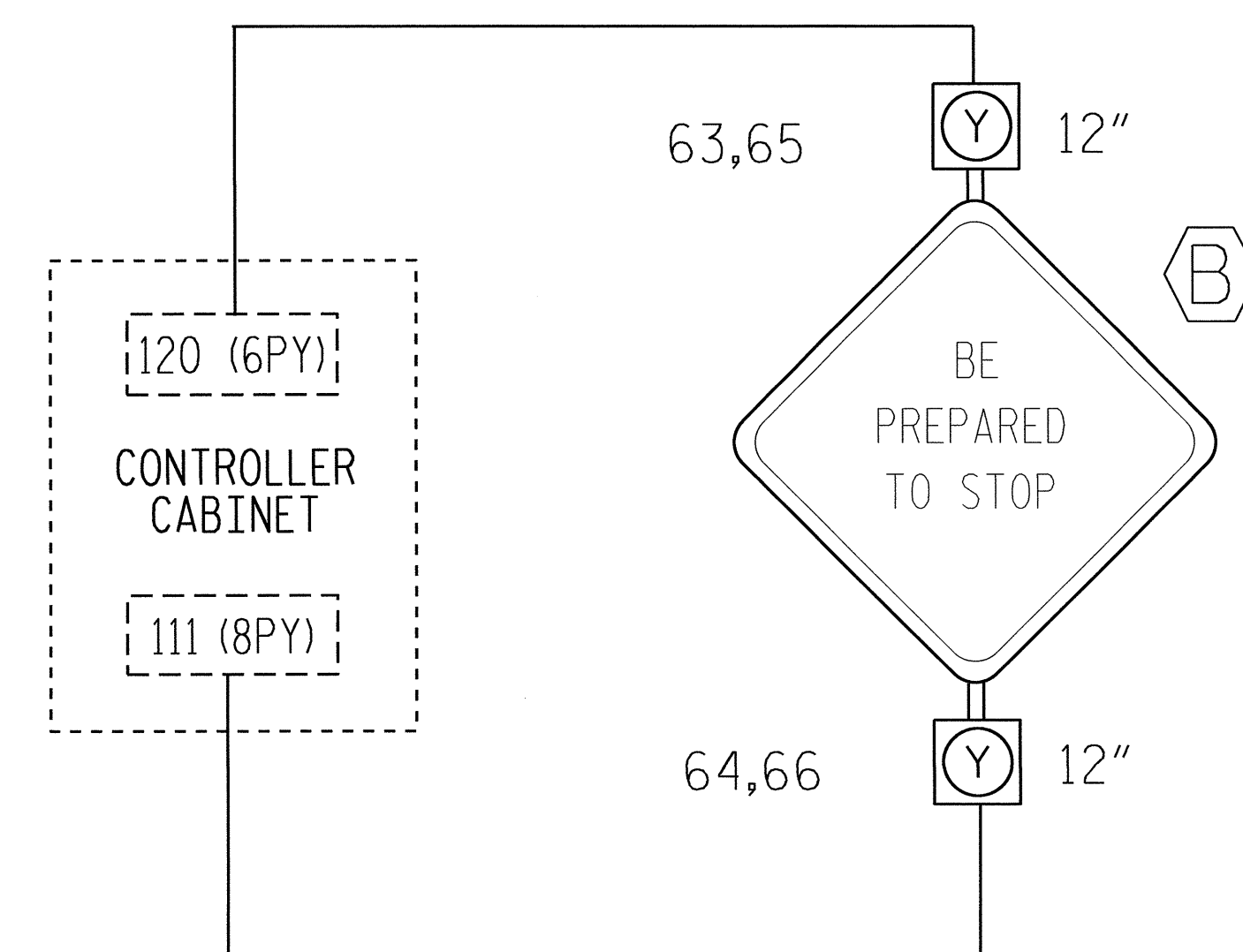
PAGE:1 C1 PIN:38 OUT OF PHASE FLASHER
OUTPUT ASSIGNMENT #.....36
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH).....0
SELECT ASSIGNMENT:
NOT ENABLED.....Y
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....Y
DETECTOR RESET.....Y
ADVANCE BEACON.....Y
OUT OF PHASE FLASHER.....Y
CONTROLLER FLASH.....Y
RUN FREE.....Y
RESERVED.....Y
PREEMPT.....Y
SOFT PREEMPT.....Y
ANY PREEMPT.....Y
COORDINATION PLAN.....Y
OFFSET.....Y
PHASE CHECK.....Y
PHASE ON.....Y
PHASE NEXT.....Y
    
```

ADVANCE BEACON WIRING DETAIL (wire flashers as shown below)



IMPORTANT

1. REMOVE, TAPE AND LABEL CONFLICT MONITOR WIRE ATTACHED TO THE REAR OF TERMINAL 114 (2PY) AND TERMINAL 105 (4PY).
2. INSERT LOADSWITCH FOR S3 AND S6.
3. MAKE SURE LOAD RESISTORS ARE IN PLACE AS SHOWN ON LOAD RESISTOR INSTALLATION DETAIL ON SHEET 1.
4. TO PRODUCE FLASHING OPERATION AS INDICATED ON THE SIGNAL PLANS, RE-ASSIGN OUTPUTS 33 AND 35 AS SHOWN ON THIS SHEET.



IMPORTANT

1. REMOVE, TAPE AND LABEL CONFLICT MONITOR WIRE ATTACHED TO THE REAR OF TERMINAL 120 (6PY) AND TERMINAL 111 (8PY).
2. INSERT LOADSWITCH FOR S9 AND S12.
3. MAKE SURE LOAD RESISTORS ARE IN PLACE AS SHOWN ON LOAD RESISTOR INSTALLATION DETAIL ON SHEET 1.
4. TO PRODUCE FLASHING OPERATION AS INDICATED ON THE SIGNAL PLANS, RE-ASSIGN OUTPUTS 34 AND 36 AS SHOWN ON THIS SHEET.

ADVANCE BEACON PROGRAMMING DETAIL (program controller as shown below)

1. FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '2' (OUTPUT BEACON SETTINGS).

OUTPUT BEACON SETTINGS	
TRIGGER PHASES:	12345678910111213141516
BEACON #1 OFF	X
BEACON #2 OFF	X
BEACON #3 OFF	
BEACON #4 OFF	
OFF DELAY TIME (0-255);	1 2 3 4
ON DELAY TIME (0-255);	0 0 0 0
STOP-TIME HOLD (0-255);	3 3 0 0

ADVANCE BEACON PROGRAMMING COMPLETE

NOTE: AN OUTPUT HAS TO BE ASSIGNED AS AN ADVANCE BEACON IN ORDER FOR PROPER OPERATION TO OCCUR. SEE OUTPUT ASSIGNMENT DETAIL ON THIS SHEET.

This Electrical Detail supersedes the detail sealed on 10-25-12.

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 12-1793
DESIGNED: October 2012
SEALED: 5-03-13
REVISED: N/A

ELECTRICAL AND PROGRAMMING DETAILS FOR: US 74 at SR 1154 (Bradley Road) / SR 1318 (Kimbrell Road)

Division 12 Cleveland County S. of Lattimore

Prepared In the Offices of: T. Peterson

Prepared By: James Peterson REVIEWED BY: JTR

PLANNING DATE: April 2013 REVIEWED DATE: JTR

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 008453 JOHN T. ROWEN

Signature: John T. Rowen DATE: 5-6-13

750 N. Greenfield Pkwy, Garner, NC 27529

SIG. INVENTORY NO. 12-1793

06-MAY-2013 13:26 S:\IT\AS\WITS\SIGNAL\workgroups\4510_MonM\Peterson\121793.sm.ele_20121025.dgn J.Peterson