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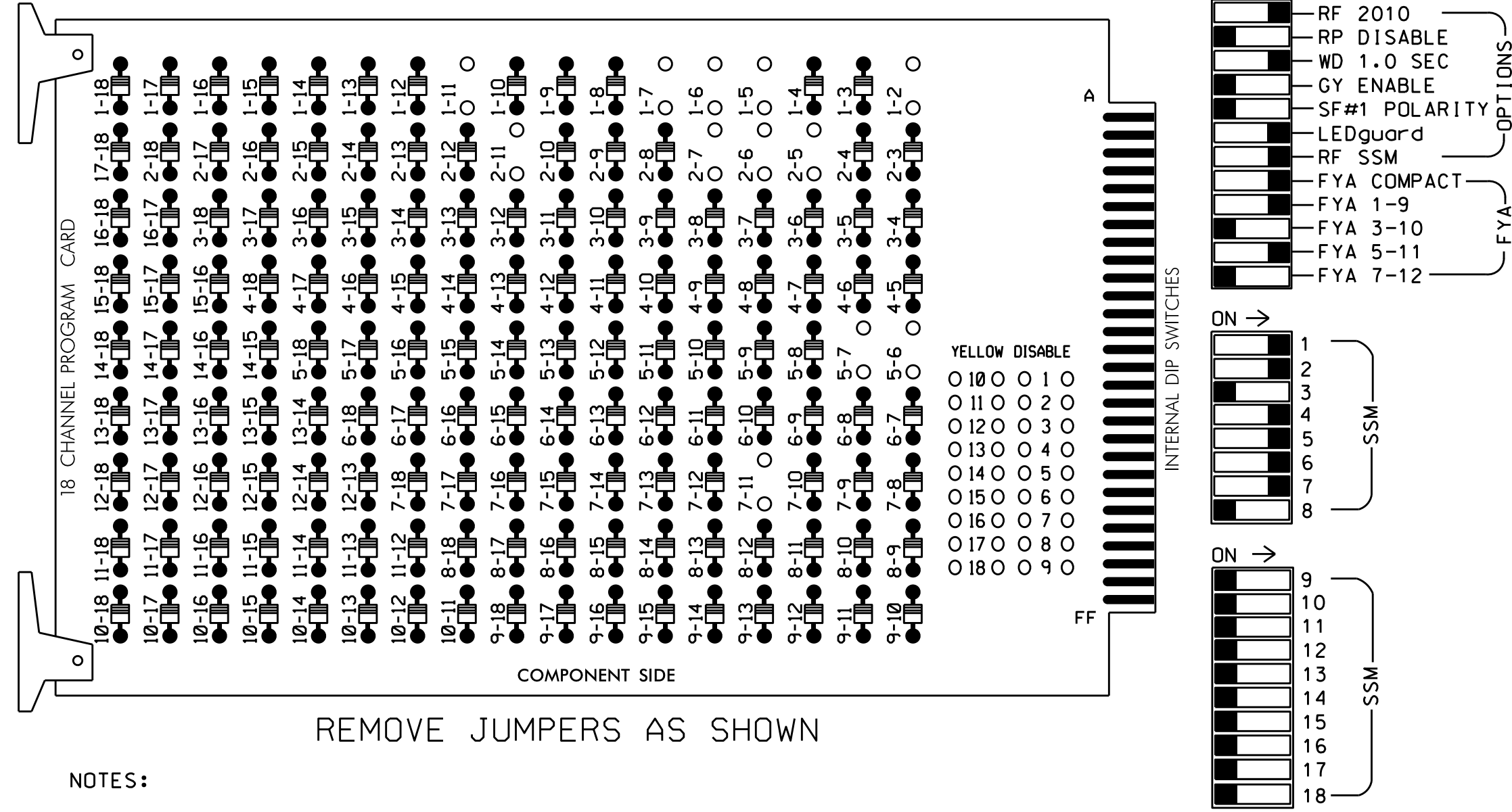
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**EDI MODEL 2018ECL-NC CONFLICT MONITOR
PROGRAMMING DETAIL**

(remove jumpers and set switches as shown)

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

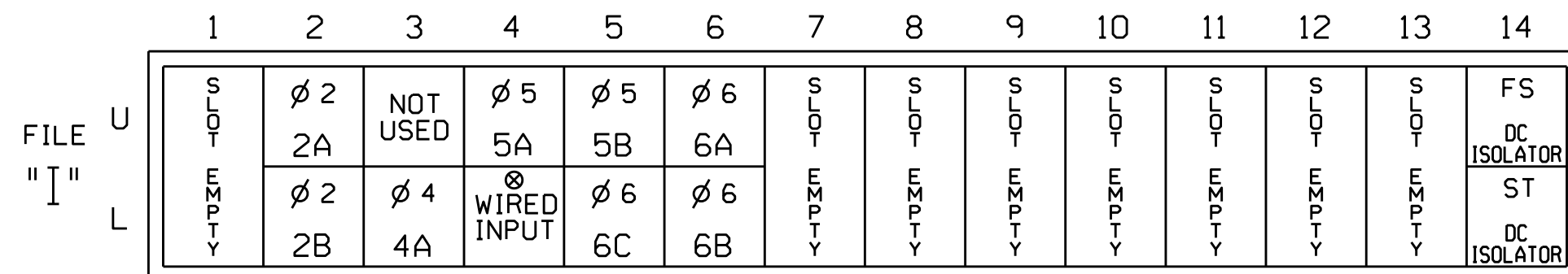


NOTES:

- 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.
- Special cabinet wiring is required to utilize FYA COMPACT mode. See Ped Yellow Conflict Monitor Wiring Detail on this sheet.

INPUT FILE POSITION LAYOUT

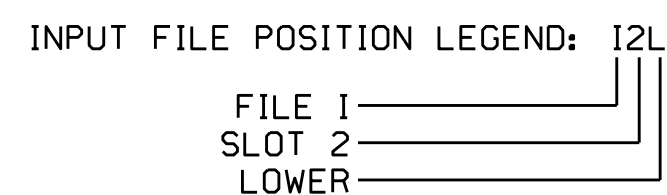
(front view)



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
2A	TB21-3,4	I2U	39	1	2	2	Y	Y			
2B	TB23-3,4	I2L	43	5	12	2	Y	Y			
4A	TB23-5,6	I3L	49	11	24	4	Y	Y			3
5A ¹	TB21-7,8	I4U	41	3	4	5	Y	Y			15
	-	I4L	45	7	14	2	Y	Y	Y		3
5B	TB21-9,10	I5U	55	17	5	5	Y	Y			15
6A	TB21-11,12	I6U	40	2	6	6	Y	Y			
6B	TB23-11,12	I6L	44	6	16	6	Y	Y			
6C	TB23-9,10	I5L	48	10	26	6	Y	Y	Y		3

¹Add jumper from I4-F to I4-W on rear of input file.



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.
- 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 and overlap 1 as Wag Overlaps.

EQUIPMENT INFORMATION

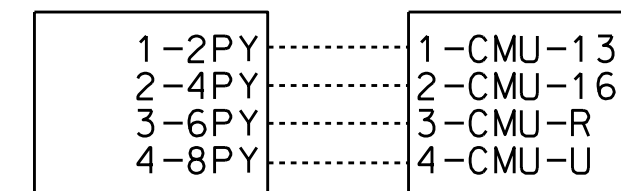
CONTROLLER.....2070L
 CABINET.....336
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....POLE
 OUTPUT FILE POSITIONS...12
 LOAD SWITCHES USED.....S1,S2,S5,S7,S8,S9,S10
 PHASES USED.....2,4,5,6
 OVERLAP "A".....2
 OVERLAP "B".....NOT USED
 OVERLAP "C".....5+6
 OVERLAP "D".....NOT USED
 OVERLAP "E".....5

PED YELLOW CONFLICT MONITOR WIRING DETAIL

In order to use FYA COMPACT mode on the 2010ECL-NC Monitor, the cabinet must be wired such that the (unused) Ped Yellow load switch outputs are wired directly to the conflict monitor as follows: From 6 PY (field term. 120) to chan. 10 green (monitor pin R).

This may also be accomplished through a keyed plug connection found on the inside panel of the output file.

Fold down rear panel of output file and find a set of 3 white keyed connectors. Plug together the two connectors labeled as shown below:



THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 11-1174 T1
 DESIGNED: May 2015
 SEALED: 5/22/2015
 REVISED: N/A

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
EMU CHANNEL NO.	1	2	13	3	4	14	5	6	11	15	7	8
PHASE	OLA	2	2 PED	3	4	4 PED	OLC	6	5 GRN	6 PED	OLE	8 PED
SIGNAL HEAD NO.	61	21,22	NU	NU	41,42 43,44	63	51	62,63	51	NU	43	NU
RED		128			101			134		*		
YELLOW		129			102			135				
GREEN		130			103			136				
RED ARROW	125						131					
YELLOW ARROW	126				102		132			123		
FLASHING YELLOW ARROW	127						133					
GREEN ARROW					103			120		124		

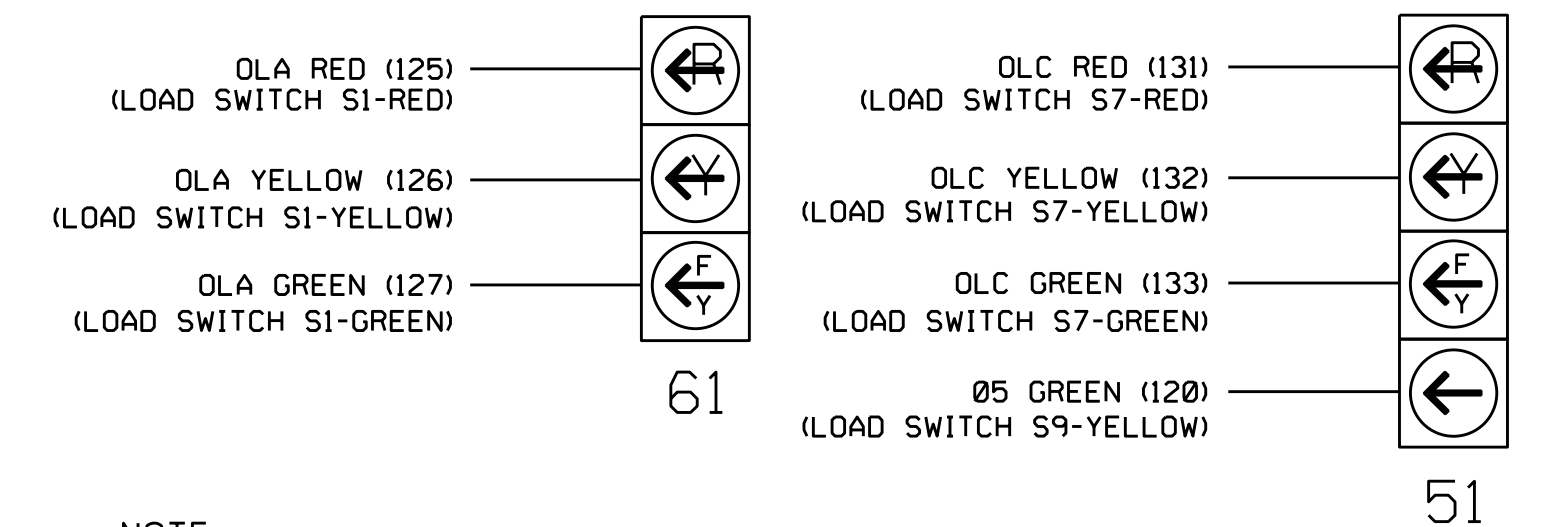
* Denotes install load resistor. See load resistor installation detail below.

★ See pictorial of head wiring in detail below.

NOTE: Load Switches S1,S7,and S9 require output remapping. See sheets 3 and 4.

FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)



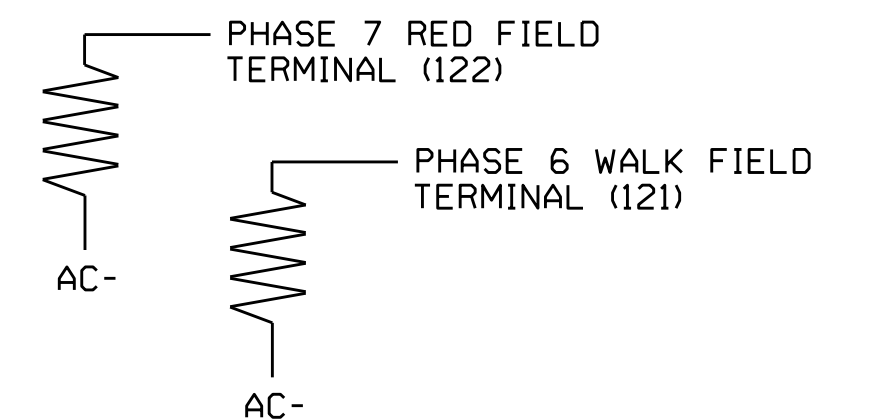
NOTE

The sequence display for signal head 51 requires special logic programming. See sheet 2 for programming instructions.

LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown below)

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



Electrical Detail - Temporary Signal 1 (TCP Phase IA) - Sheet 1 of 4

Electrical and Programming Details for: **US 421 at US 221**

Prepared in the Offices of: **Transporatio Mobility and Safety Solutions**

750 N. Greenfield Pkwy, Garner, NC 27529

Division 11 Watauga County DE- Deep Gap

PLAN DATE: May 2015 REVIEWED BY: *[Signature]*

PREPARED BY: S. Armstrong REVIEWED BY:

REVISIONS: _____ INIT. DATE

DocuSigned by: **John T. Rowe, Jr.** 5/26/2015

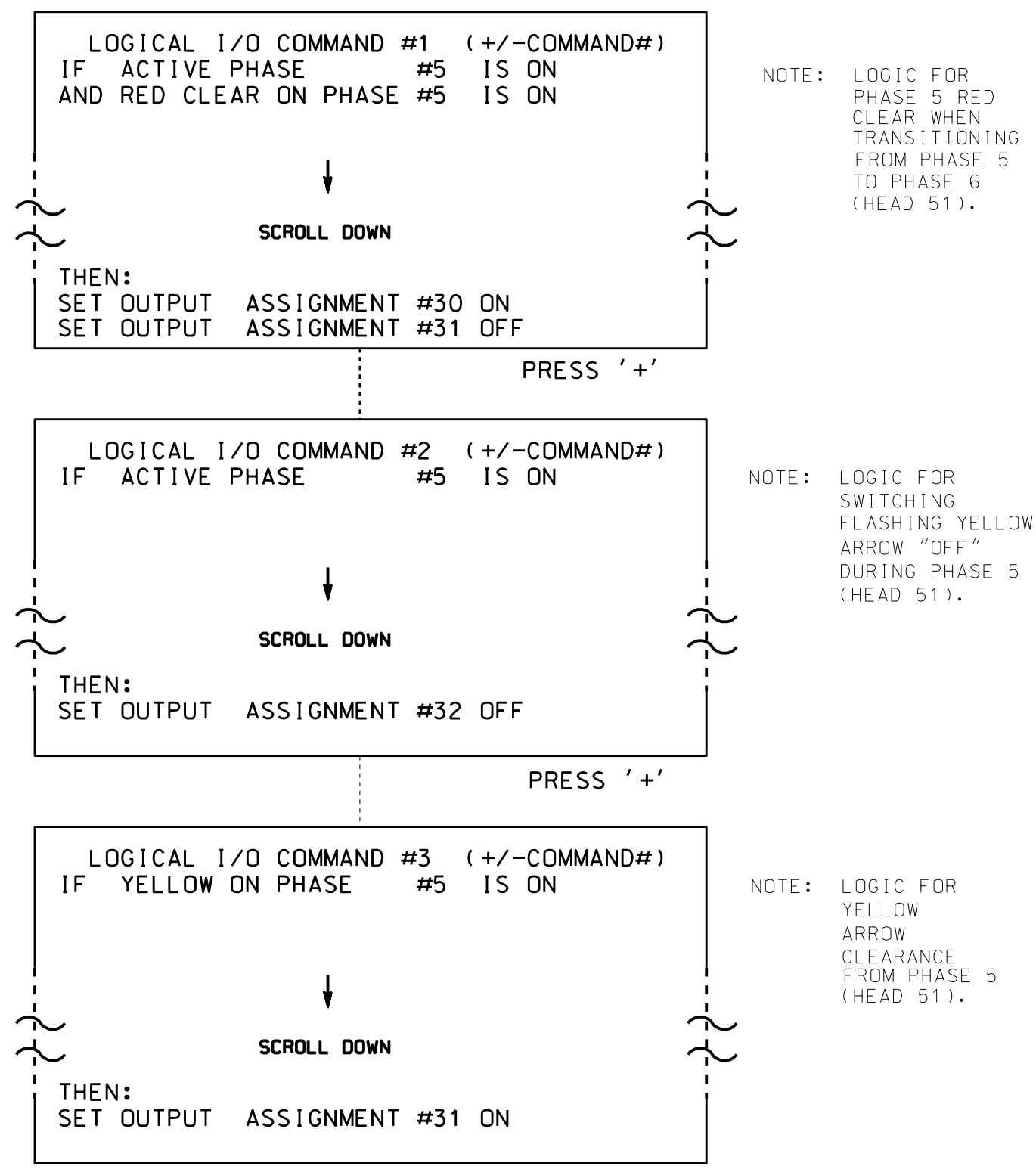
SEAL: JOHN T. ROWE, JR. ENGINEER SEAL 008453

SIG. INVENTORY NO. 11-1174 T1

LOGICAL I/O PROCESSOR PROGRAMMING DETAIL TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE

(program controller as shown below)

1. FROM MAIN MENU PRESS '2' (PHASE CONTROL), THEN '1' (PHASE CONTROL FUNCTIONS). SCROLL TO THE BOTTOM OF THE MENU AND ENABLE ACT LOGIC COMMANDS 1, 2, AND 3.
2. FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).



LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE
OUTPUT 30 = Overlap C Red
OUTPUT 31 = Overlap C Yellow
OUTPUT 32 = Overlap C Green
OUTPUT 34 = Phase 5 Green

Note: All outputs shown above have been remapped. See sheets 3 and 4 of this electrical detail.

OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS).

```

PAGE 1: VEHICLE OVERLAP 'A' SETTINGS
PHASE:      12345678910111213141516
VEH OVL PARENTS: X
VEH OVL NOT VEH: X
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR: _ RED _ YELLOW _ GREEN
FLASH COLORS:  _ RED _ YELLOW X GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC)...0.0
YELLOW CLEAR (0=PARENT.3-25.5 SEC)...0.0
RED CLEAR (0=PARENT.0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...0
    
```

← NOTICE GREEN FLASH

PRESS '+' TWICE

```

PAGE 1: VEHICLE OVERLAP 'C' SETTINGS
PHASE:      12345678910111213141516
VEH OVL PARENTS: XX
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR: _ RED _ YELLOW _ GREEN
FLASH COLORS:  _ RED _ YELLOW X GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC)...0.0
YELLOW CLEAR (0=PARENT.3-25.5 SEC)...0.0
RED CLEAR (0=PARENT.0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...0
    
```

← NOTICE GREEN FLASH

PRESS '+' TWICE

```


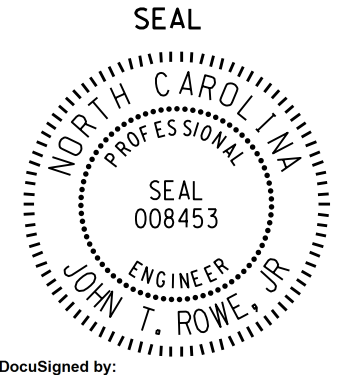
PAGE 1: VEHICLE OVERLAP 'E' SETTINGS
PHASE:      12345678910111213141516
VEH OVL PARENTS: X
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR: _ RED _ YELLOW _ GREEN
FLASH COLORS:  _ RED _ YELLOW _ GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...N
GREEN EXTENSION (0-255 SEC)...0.0
YELLOW CLEAR (0=PARENT.3-25.5 SEC)...0.0
RED CLEAR (0=PARENT.0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...7
    
```

← NOTICE OUTPUT AS PHASE

OVERLAP PROGRAMMING COMPLETE

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 11-1174 T1
DESIGNED: May 2015
SEALED: 5/22/2015
REVISED: N/A

Electrical Detail - Temporary Signal 1 (TCP Phase IA) - Sheet 2 of 4

ELECTRICAL AND PROGRAMMING DETAILS FOR: Prepared In the Offices of: 	US 421 at US 221	SEAL 
	Division 11 Watauga County Deep Gap PLAN DATE: May 2015 REVIEWED BY: JTR PREPARED BY: S. Armstrong REVIEWED BY:	REVISIONS INIT. DATE _____ _____

05-2015-2015-05-17
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 sarmstrong

FYA SIGNAL OUTPUT REMAPPING ASSIGNMENT PROGRAMMING DETAIL FOR LOADSWITCH S1 (SIGNAL HEAD 61)

(program controller as shown below)

FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '1' (OUTPUT ASSIGNMENTS). WITH CURSOR IN "OUTPUT ASSIGNMENT#" POSITION, ENTER "14"

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE OVERLAP' AS SHOWN BELOW.

STEP 1

```

PAGE:1 C1 PIN:16 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....14
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:16 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...1
SELECT COLOR(0=RED,1=YEL,2=GRN)...0
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.
PRESS THE 'ENT' KEY AFTER INPUTTING DATA, THEN 'ESC'.

```

PAGE:1 C1 PIN:16 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....14
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.....
VEHICLE PHASE.....
PEDESTRIAN PHASE.....
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

PRESS "+" KEY FOR OUTPUT 15

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE OVERLAP' AS SHOWN BELOW.

STEP 2

```

PAGE:1 C1 PIN:17 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....15
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:17 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...1
SELECT COLOR(0=RED,1=YEL,2=GRN)...1
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.
PRESS THE 'ENT' KEY AFTER INPUTTING DATA, THEN 'ESC'.

```

PAGE:1 C1 PIN:17 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....15
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.....
VEHICLE PHASE.....
PEDESTRIAN PHASE.....
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

PRESS "+" KEY FOR OUTPUT 16

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE OVERLAP' AS SHOWN BELOW.

STEP 3

```

PAGE:1 C1 PIN:18 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....16
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:18 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...1
SELECT COLOR(0=RED,1=YEL,2=GRN)...2
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.
PRESS THE 'ENT' KEY AFTER INPUTTING DATA, THEN 'ESC'.

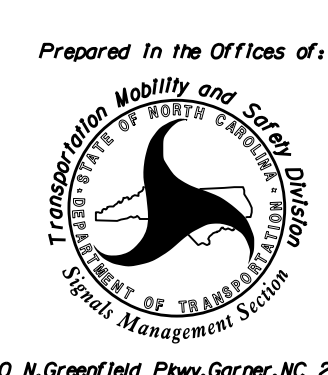
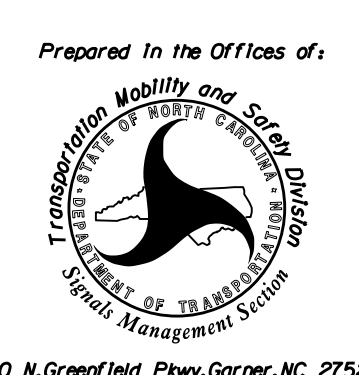
```

PAGE:1 C1 PIN:18 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....16
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.....
VEHICLE PHASE.....
PEDESTRIAN PHASE.....
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

OUTPUT PROGRAMMING FOR HEAD 61 COMPLETE

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 11-1174 T1
DESIGNED: May 2015
SEALED: 5/22/2015
REVISED: N/A

Electrical Detail - Temporary Signal 1 (TCP Phase IA) - Sheet 3 of 4

ELECTRICAL AND PROGRAMMING DETAILS FOR:	US 421 at US 221	SEAL 
Prepared In the Offices of: 	Division 11 Watauga County DE Deep Gap	DocuSigned by: John T. Rowe, Jr. 5/26/2015
750 N. Greenfield Pkwy, Garner, NC 27529	PLAN DATE: May 2015 REVIEWED BY: <i>JTR</i>	PREPARED BY: S. Armstrong REVIEWED BY:
	REVISIONS INIT. DATE	SIG. INVENTORY NO. 11-1174 T1

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FYA SIGNAL OUTPUT REMAPPING ASSIGNMENT PROGRAMMING DETAIL FOR SIGNAL LOADSWITCH S7 (HEAD 51)

(program controller as shown below)

STEP 1

FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '1' (OUTPUT ASSIGNMENTS), WITH CURSOR IN "OUTPUT ASSIGNMENT#" POSITION, ENTER "30"

```

PAGE:1 C1 PIN:32 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....30
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:32 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...3
SELECT COLOR(0=RED,1=YEL,2=GRN)...0
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' 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 'VEHICLE OVERLAP' AS SHOWN BELOW.

```

PAGE:1 C1 PIN:32 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....30
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

PRESS "+" KEY FOR OUTPUT 31

STEP 2

```

PAGE:1 C1 PIN:33 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....31
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:33 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...3
SELECT COLOR(0=RED,1=YEL,2=GRN)...1
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' 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 'VEHICLE OVERLAP' AS SHOWN BELOW.

```

PAGE:1 C1 PIN:33 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....31
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

PRESS "+" KEY FOR OUTPUT 32

STEP 3

```

PAGE:1 C1 PIN:34 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....32
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:34 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...3
SELECT COLOR(0=RED,1=YEL,2=GRN)...2
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' 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 'VEHICLE OVERLAP' AS SHOWN BELOW.

```

PAGE:1 C1 PIN:34 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....32
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

PRESS "+" TWICE TO REACH OUTPUT 34.

STEP 4

```

PAGE:1 C1 PIN:36 NOT ENABLED
OUTPUT ASSIGNMENT #.....34
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.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

THE OUTPUT IS SET AS "NOT ENABLED" BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE PHASE.

```

PAGE:1 C1 PIN:36 NOT ENABLED
SELECT VEHICLE PHASE (1-16)...5
SELECT COLOR(0=RED,1=YEL,2=GRN)...2
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE PHASE' 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 'VEHICLE PHASE' AS SHOWN BELOW.

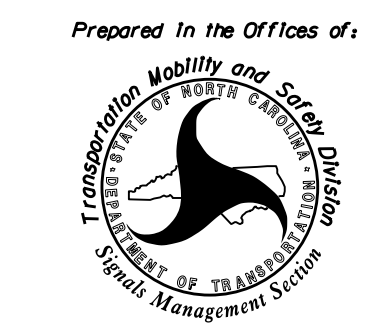
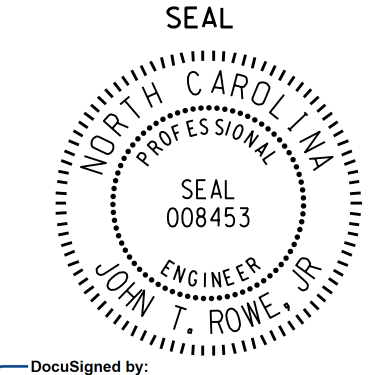
```

PAGE:1 C1 PIN:36 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....34
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.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

OUTPUT PROGRAMMING FOR HEAD 51 COMPLETE

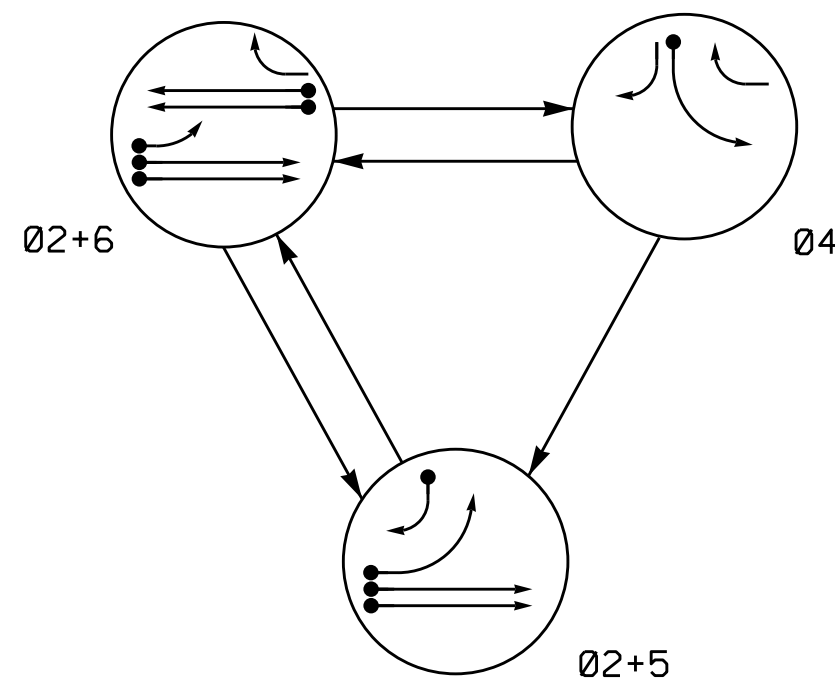
THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 11-1174 T1
DESIGNED: May 2015
SEALED: 5/22/2015
REVISED: N/A

Electrical Detail - Temporary Signal 1 (TCP Phase IA) - Sheet 4 of 4

 <p>750 N. Greenfield Pkwy, Garner, NC 27529</p>	PREPARED BY: S. Armstrong REVIEWED BY: JTR	US 421 at US 221	SEAL 
	Division 11 Watauga County PLAN DATE: May 2015 PREPARED BY: S. Armstrong REVIEWED BY: JTR	DEEP GAP REVISIONS INIT. DATE	DocuSigned by: John T. Rowe, Jr. 5/26/2015 SIG. INVENTORY NO. 11-1174 T1

06-MAY-2016 08:48
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 sarmstrong

PHASING DIAGRAM



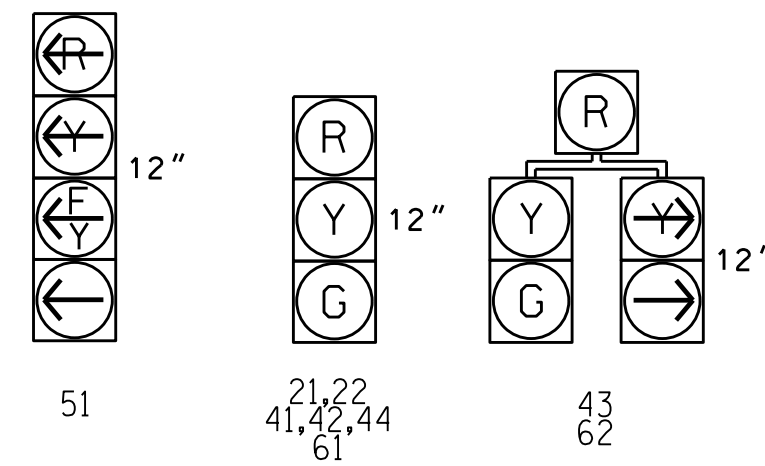
SIGNAL FACE	PHASE			
	02+5	02+6	04	F L R A B
21,22	G	G	R	Y
41,42,44	R	R	G	R
43	R	R	G	R
51	-	F	R	Y
61	R	G	R	Y
62	R	G	R	Y

PHASING DIAGRAM DETECTION LEGEND

- ←● DETECTED MOVEMENT
- ← UNDETECTED MOVEMENT (OVERLAP)
- ←- UN SIGNALIZED MOVEMENT
- ←- PEDESTRIAN MOVEMENT

SIGNAL FACE I.D.

All Heads L.E.D.

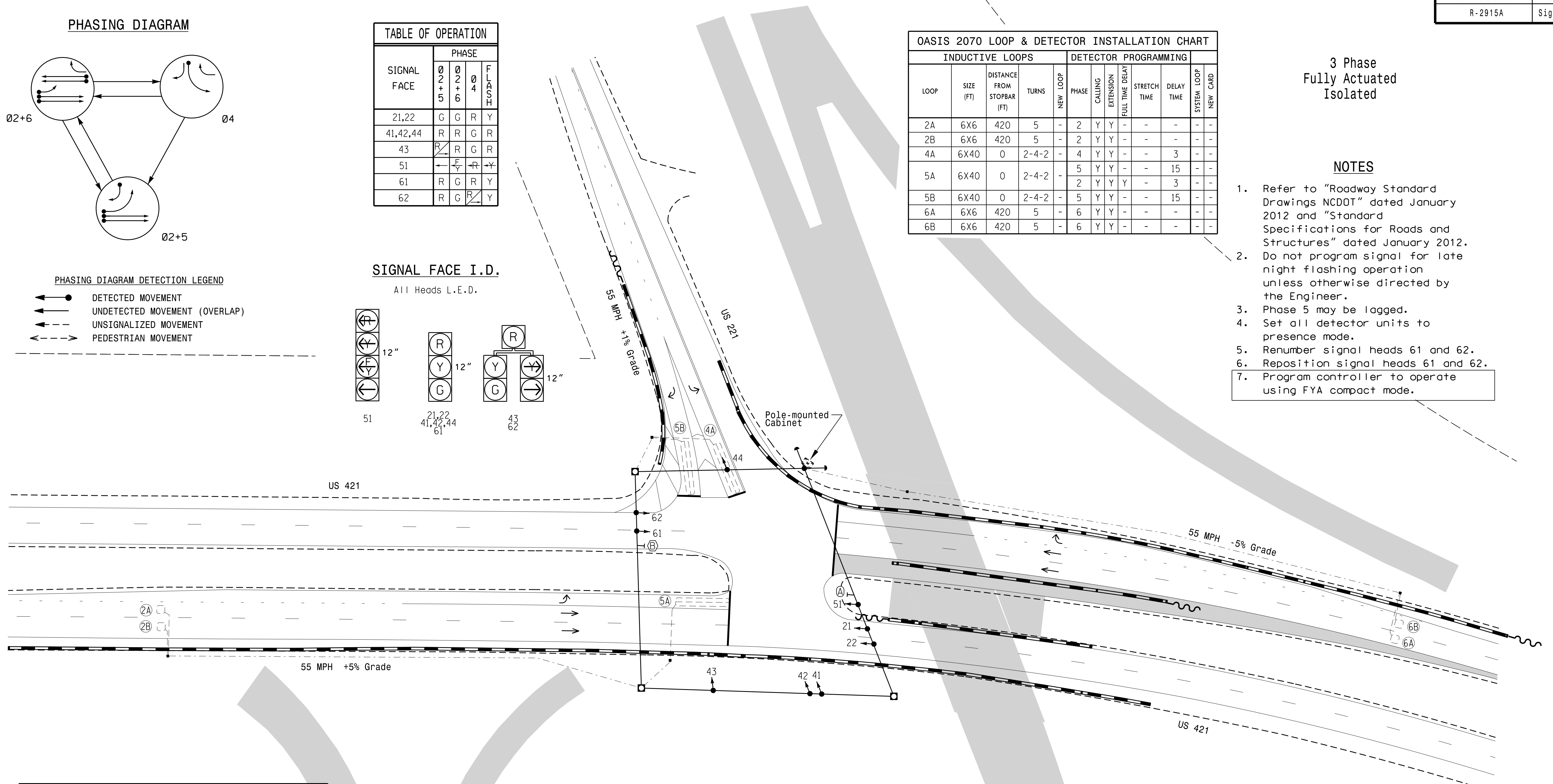


OASIS 2070 LOOP & DETECTOR INSTALLATION CHART												
INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
2A	6X6	420	5	-	2	Y	Y	-	-	-	-	-
2B	6X6	420	5	-	2	Y	Y	-	-	-	-	-
4A	6X40	0	2-4-2	-	4	Y	Y	-	-	3	-	-
5A	6X40	0	2-4-2	-	5	Y	Y	-	-	15	-	-
5B	6X40	0	2-4-2	-	5	Y	Y	-	-	15	-	-
6A	6X6	420	5	-	6	Y	Y	-	-	-	-	-
6B	6X6	420	5	-	6	Y	Y	-	-	-	-	-

3 Phase Fully Actuated Isolated

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 5 may be lagged.
4. Set all detector units to presence mode.
5. Renumber signal heads 61 and 62.
6. Reposition signal heads 61 and 62.
7. Program controller to operate using FYA compact mode.



OASIS 2070 TIMING CHART

FEATURE	PHASE			
	2	4	5	6
Min Green 1 *	14	7	7	14
Extension 1 *	6.0	2.0	2.0	6.0
Max Green 1 *	90	25	25	90
Yellow Clearance	5.8	3.0	3.0	5.8
Red Clearance	1.6	3.6	2.8	1.6
Red Revert	2.0	2.0	2.0	2.0
Walk 1 *	-	-	-	-
Don't Walk 1	-	-	-	-
Seconds Per Actuation *	1.8	-	-	1.8
Max Variable Initial *	46	-	-	46
Time Before Reduction *	15	-	-	15
Time To Reduce *	30	-	-	30
Minimum Gap	3.4	-	-	3.4
Recall Mode	MIN RECALL	-	-	MIN RECALL
Vehicle Call Memory	YELLOW	-	-	YELLOW
Dual Entry	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

LEGEND

- | PROPOSED | EXISTING |
|--|----------|
| ○ → Traffic Signal Head | ● → N/A |
| ○ → Modified Signal Head | ○ → N/A |
| ○ → Pedestrian Signal Head | ○ → N/A |
| ○ → Sign | ○ → N/A |
| ○ → Pedestrian Signal Head With Push Button & Sign | ○ → N/A |
| ○ → Signal Pole with Guy | ○ → N/A |
| ○ → Signal Pole with Sidewalk Guy | ○ → N/A |
| ○ → Inductive Loop Detector | ○ → N/A |
| ○ → Controller & Cabinet | ○ → N/A |
| ○ → Junction Box | ○ → N/A |
| ○ → 2-in Underground Conduit | ○ → N/A |
| ○ → Right of Way | ○ → N/A |
| ○ → Directional Arrow | ○ → N/A |
| ○ → Construction Zone | ○ → N/A |
| ○ → Metal Strain Pole | ○ → N/A |
| ○ → "U-TURN YIELD TO RIGHT TURN" Sign (R10-16) | ○ → N/A |
| ○ → No U-Turn Sign (R3-4) | ○ → N/A |

Temporary Signal 2 (TCP Phase II)

750 N. Greenfield Pkwy, Garner, NC 27529

US 421 at US 221

Division 11 Watauga County Deep Gap

PLAN DATE: May 2015 REVIEWED BY: T.J. Williams

PREPARED BY: Z.M. Little REVIEWED BY:

SEAL

PROFESSIONAL ENGINEER

SEAL 030530

EXCHARY W. LITTLE

SCALE 0 40

1" = 40'

REVISIONS

INIT. DATE

DocuSign by: Z.M. Little

5/22/2015

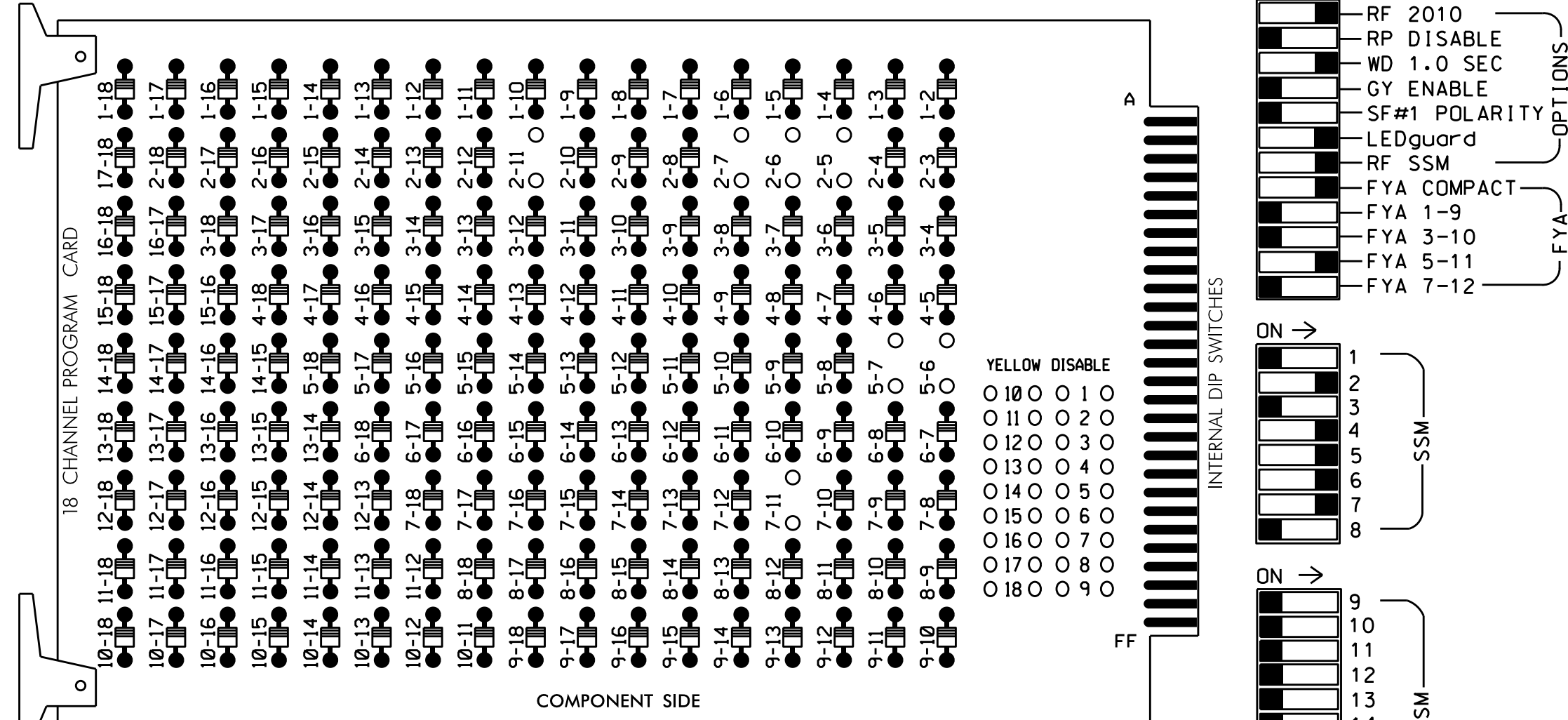
SIG. INVENTORY NO. II-1174 T2

02-111111-2015-05-25
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 2/11/15

**EDI MODEL 2018ECL-NC CONFLICT MONITOR
PROGRAMMING DETAIL**

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 2-5, 2-6, 2-7, 2-11, 5-6, 5-7, and 7-11.



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.
- Special cabinet wiring is required to utilize FYA COMPACT mode. See Ped Yellow Conflict Monitor Wiring Detail on this sheet.

■ = 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.
- 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.....336
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....POLE
 OUTPUT FILE POSITIONS...12
 LOAD SWITCHES USED.....S2,S5,S7,S8,S9,S10
 PHASES USED.....2,4,5,6
 OVERLAP "A".....NOT USED
 OVERLAP "B".....NOT USED
 OVERLAP "C".....5+6
 OVERLAP "D".....NOT USED
 OVERLAP "E".....5

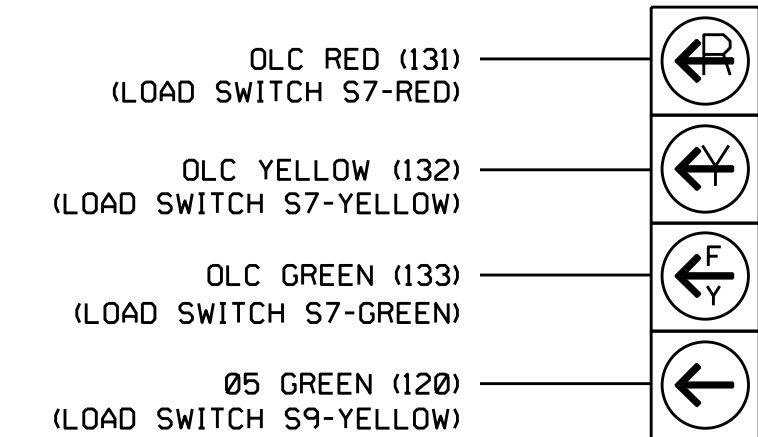
SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12		
EMU CHANNEL NO.	1	2	13	3	4	14	5	6	11	15	7	8	16	
PHASE	1	2	2 PED	3	4	4 PED	OLC	6	5 GRN	6 PED	OLE	8	8 PED	
SIGNAL HEAD NO.	NU	21,22	NU	NU	41,42 43,44	62	NU	51*	61,62	51*	NU	43	NU	NU
RED		128			101				134		*			
YELLOW		129			102				135					
GREEN		130			103				136					
RED ARROW								131						
YELLOW ARROW					102			132			123			
FLASHING YELLOW ARROW								133						
GREEN ARROW					103				120		124			

* Denotes install load resistor. See load resistor installation detail below.
 * See pictorial of head wiring in detail below.
 NOTE: Load Switches S7 and S9 require output remapping. See sheet 3.

FYA SIGNAL WIRING DETAIL

(wire signal head as shown)

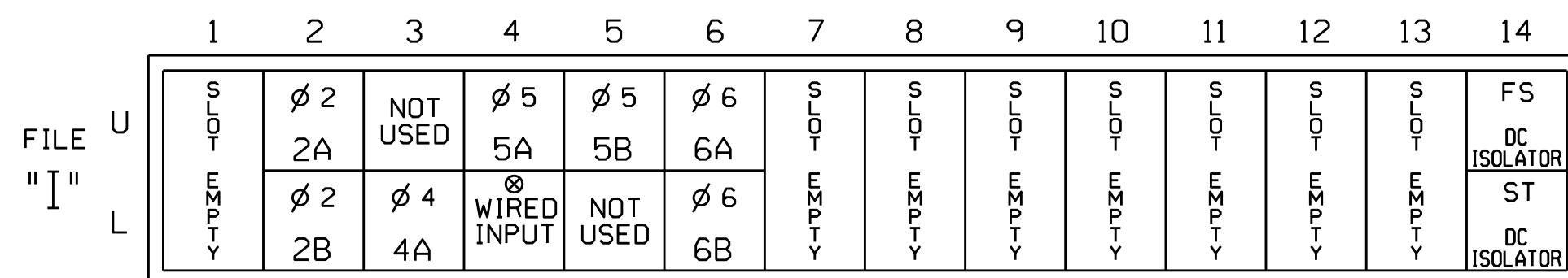


NOTE

The sequence display for signal head 51 requires special logic programming. See sheet 2 for programming instructions.

INPUT FILE POSITION LAYOUT

(front view)



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

⊗ Wired Input - turn off Channel 2.

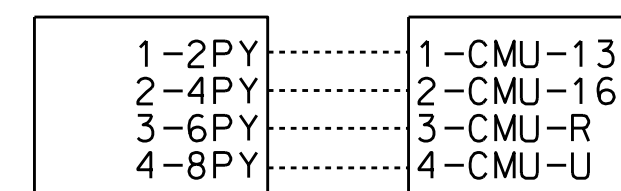
FS = FLASH SENSE
 ST = STOP TIME

PED YELLOW CONFLICT MONITOR WIRING DETAIL

In order to use FYA COMPACT mode on the 2010ECL-NC Monitor, the cabinet must be wired such that the (unused) Ped Yellow load switch outputs are wired directly to the conflict monitor as follows: From 6 PY (field term. 120) to chan. 10 green (monitor pin R).

This may also be accomplished through a keyed plug connection found on the inside panel of the output file.

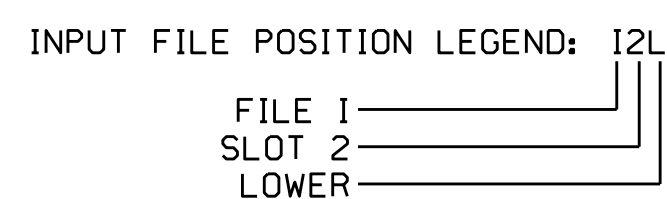
Fold down rear panel of output file and find a set of 3 white keyed connectors. Plug together the two connectors labeled as shown below:



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
2A	TB21-3,4	I2U	39	1	2	2	Y	Y			
2B	TB23-3,4	I2L	43	5	12	2	Y	Y			
4A	TB23-5,6	I3L	49	11	24	4	Y	Y			3
5A ¹	TB21-7,8	I4U	41	3	4	5	Y	Y			15
	-	I4L	45	7	14	2	Y	Y	Y		3
5B	TB21-9,10	I5U	55	17	5	5	Y	Y			15
6A	TB21-11,12	I6U	40	2	6	6	Y	Y			
6B	TB23-11,12	I6L	44	6	16	6	Y	Y			

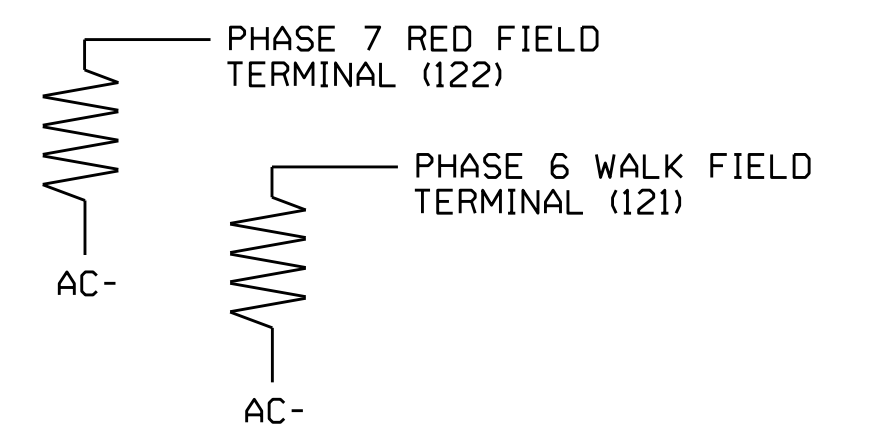
¹Add jumper from I4-F to I4-W on rear of input file.



LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown below)

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



Electrical Detail - Temporary Signal 2 (TCP Phase II) - Sheet 1 of 3

Electrical and Programming Details For: US 421 at US 221

Prepared In the Offices of: **Transporatio Mobility and Safety Solutions**

750 N. Greenfield Pkwy, Garner, NC 27529

Division 11 Watauga County vs Deep Gap

PLAN DATE: May 2015 REVIEWED BY: [Signature]

PREPARED BY: S. Armstrong REVIEWED BY: [Signature]

REVISIONS: [Table with columns for REVISIONS, INIT., DATE]

DocuSigned by: **John T. Rowe, Jr.** 5/26/2015

SEAL: JOHN T. ROWE, JR. ENGINEER SEAL 008453

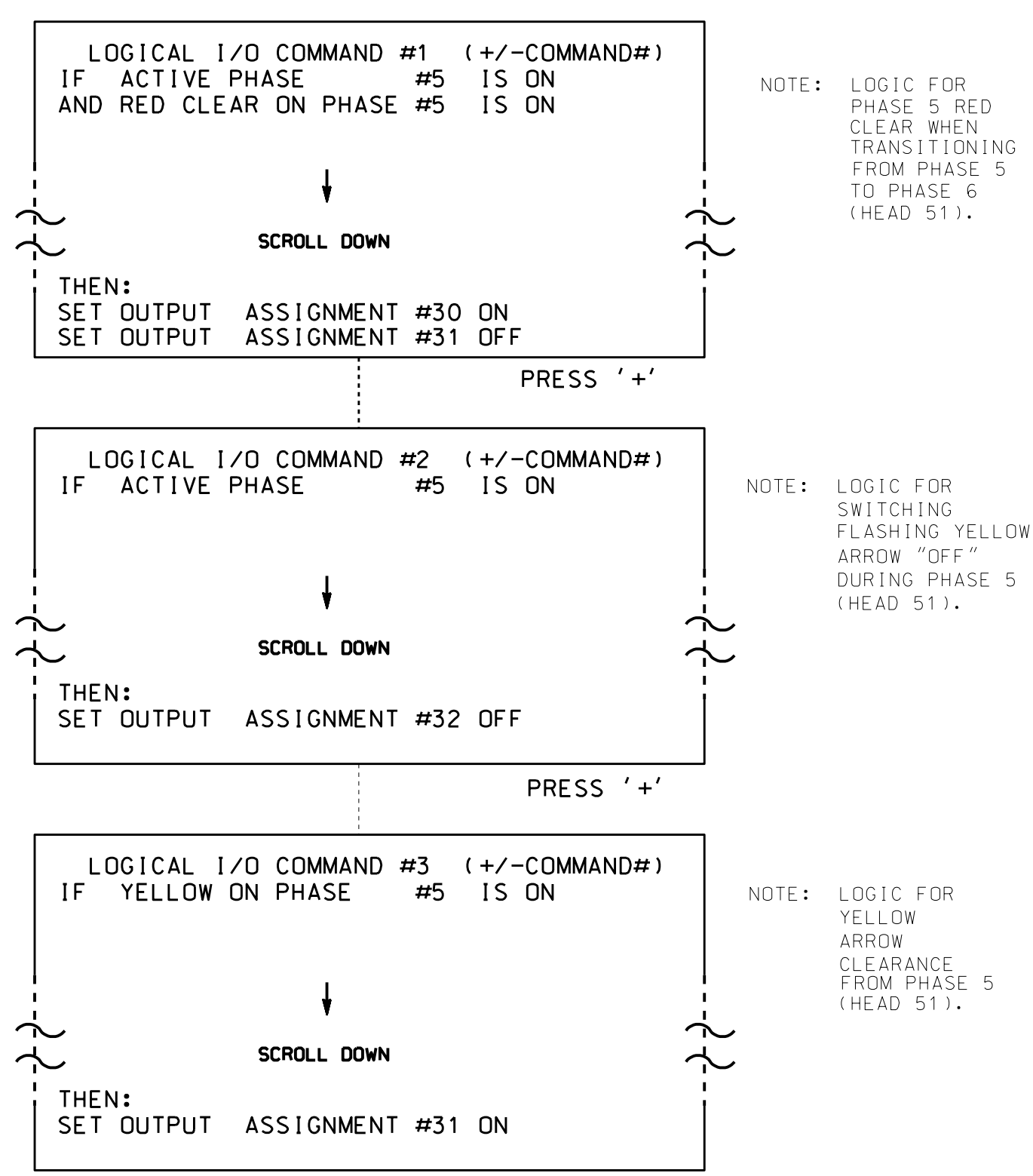
SIG. INVENTORY NO. 11-1174 T2

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 11-1174 T2
 DESIGNED: May 2015
 SEALED: 5/22/2015
 REVISED: N/A

LOGICAL I/O PROCESSOR PROGRAMMING DETAIL TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE

(program controller as shown below)

1. FROM MAIN MENU PRESS '2' (PHASE CONTROL), THEN '1' (PHASE CONTROL FUNCTIONS). SCROLL TO THE BOTTOM OF THE MENU AND ENABLE ACT LOGIC COMMANDS 1, 2, AND 3.
2. FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).



LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE
OUTPUT 30 = Overlap C Red
OUTPUT 31 = Overlap C Yellow
OUTPUT 32 = Overlap C Green
OUTPUT 34 = Phase 5 Green

Note: All outputs shown above have been remapped. See sheets 3 and 4 of this electrical detail.

OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS).

PRESS '+' TWICE

```

PAGE 1: VEHICLE OVERLAP 'C' SETTINGS
PHASE:      12345678910111213141516
VEH OVL PARENTS:  XX
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR:  _ RED _ YELLOW _ GREEN
FLASH COLORS:  _ RED _ YELLOW X GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC)...0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...0
        
```

← NOTICE GREEN FLASH

PRESS '+' TWICE

```

PAGE 1: VEHICLE OVERLAP 'E' SETTINGS
PHASE:      12345678910111213141516
VEH OVL PARENTS:  X
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR:  _ RED _ YELLOW _ GREEN
FLASH COLORS:  _ RED _ YELLOW _ GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...N
GREEN EXTENSION (0-255 SEC)...0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...7
        
```

← NOTICE OUTPUT AS PHASE

OVERLAP PROGRAMMING COMPLETE

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 11-1174 T2
DESIGNED: May 2015
SEALED: 5/22/2015
REVISED: N/A

Electrical Detail - Temporary Signal 2 (TCP Phase II) - Sheet 2 of 3

ELECTRICAL AND PROGRAMMING DETAILS FOR:	US 421 at US 221	SEAL
Prepared In the Offices of: TRANSPORTATION MOBILITY AND SAFETY SOLUTIONS, INC. Signal Management Solutions 750 N. Greenfield Pkwy, Garner, NC 27529	Division 11 Watauga County DE Deep Gap PLAN DATE: May 2015 REVIEWED BY: JTR PREPARED BY: S. Armstrong REVIEWED BY:	DocuSigned by: John T. Rowe, Jr. 5/26/2015 DATE SIG. INVENTORY NO. 11-1174 T2

06-MAY-2015 08:50
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 sarmstrong

FYA SIGNAL OUTPUT REMAPPING ASSIGNMENT PROGRAMMING DETAIL FOR SIGNAL LOADSWITCH S7 (HEAD 51)

(program controller as shown below)

STEP 1

FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '1' (OUTPUT ASSIGNMENTS), WITH CURSOR IN "OUTPUT ASSIGNMENT#" POSITION, ENTER "30"

```

PAGE:1 C1 PIN:32 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....30
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:32 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...3
SELECT COLOR(0=RED,1=YEL,2=GRN)...0
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' 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 'VEHICLE OVERLAP' AS SHOWN BELOW.

```

PAGE:1 C1 PIN:32 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....30
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

PRESS "+" KEY FOR OUTPUT 31

STEP 2

```

PAGE:1 C1 PIN:33 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....31
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:33 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...3
SELECT COLOR(0=RED,1=YEL,2=GRN)...1
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' 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 'VEHICLE OVERLAP' AS SHOWN BELOW.

```

PAGE:1 C1 PIN:33 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....31
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

PRESS "+" KEY FOR OUTPUT 32

STEP 3

```

PAGE:1 C1 PIN:34 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....32
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:34 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...3
SELECT COLOR(0=RED,1=YEL,2=GRN)...2
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' 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 'VEHICLE OVERLAP' AS SHOWN BELOW.

```

PAGE:1 C1 PIN:34 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....32
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

PRESS "+" TWICE TO REACH OUTPUT 34.

STEP 4

```

PAGE:1 C1 PIN:36 NOT ENABLED
OUTPUT ASSIGNMENT #.....34
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.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

THE OUTPUT IS SET AS "NOT ENABLED" BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE PHASE.

```

PAGE:1 C1 PIN:36 NOT ENABLED
SELECT VEHICLE PHASE (1-16)...5
SELECT COLOR(0=RED,1=YEL,2=GRN)...2
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE PHASE' 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 'VEHICLE PHASE' AS SHOWN BELOW.

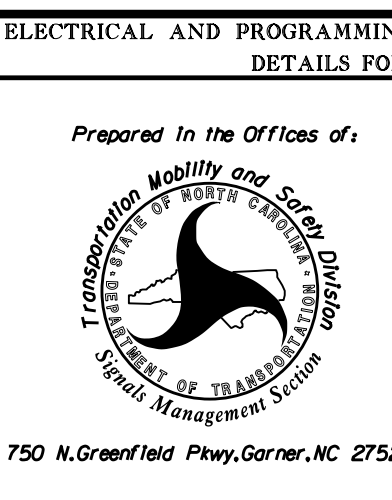
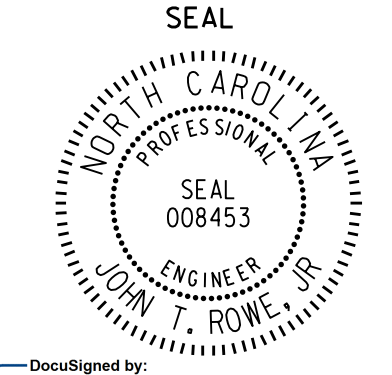
```

PAGE:1 C1 PIN:36 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....34
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.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

OUTPUT PROGRAMMING FOR HEAD 51 COMPLETE

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 11-1174 T2
DESIGNED: May 2015
SEALED: 5/22/2015
REVISED: N/A

Electrical Detail - Temporary Signal 2 (TCP Phase II) - Sheet 3 of 3

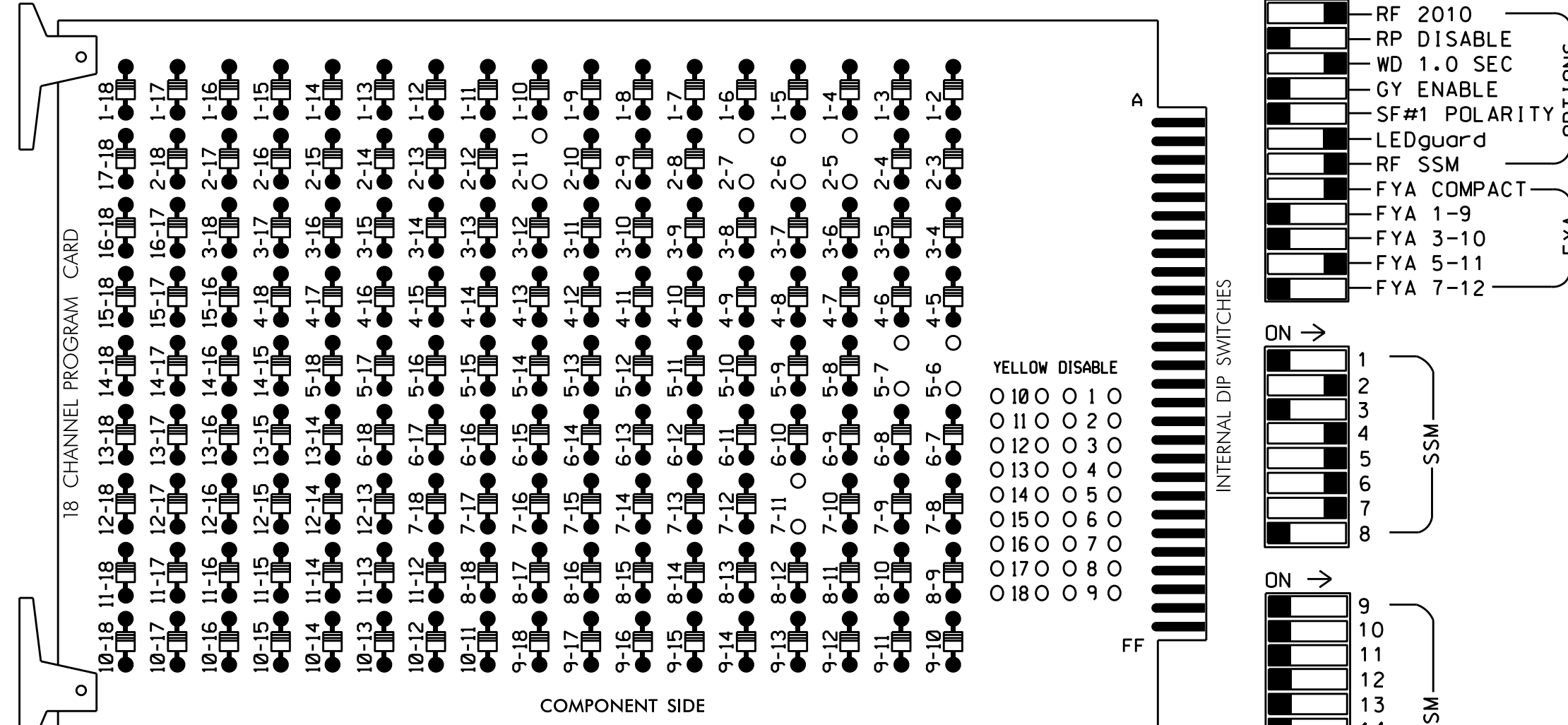
	DETAILS FOR: US 421 at US 221	SEAL 
	Prepared in the Offices of: S. ARMSTRONG Signal Management Services	Division 11 Watauga County DE Deep Gap PLAN DATE: May 2015 REVIEWED BY: JTR PREPARED BY: S. Armstrong REVIEWED BY:
REVISIONS		SIG. INVENTORY NO. 11-1174 T2

06-MAY-2016 09:51
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 sarmstrong

**EDI MODEL 2018ECL-NC CONFLICT MONITOR
PROGRAMMING DETAIL**

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 2-5, 2-6, 2-7, 2-11, 5-6, 5-7, and 7-11.



REMOVE JUMPERS AS SHOWN

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
3. Ensure that Red Enable is active at all times during normal operation.
4. Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.
5. Special cabinet wiring is required to utilize FYA COMPACT mode. See Ped Yellow Conflict Monitor Wiring Detail on this sheet.

■ = DENOTES POSITION OF SWITCH

NOTES

1. 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.
2. Enable Simultaneous Gap-Out for all phases.
3. Program phases 2 and 6 for Variable Initial and Gap Reduction.
4. Program phases 2 and 6 for Start Up In Green.
5. Program phases 2 and 6 for Yellow Flash.

EQUIPMENT INFORMATION

CONTROLLER.....2070L
 CABINET.....336
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....POLE
 OUTPUT FILE POSITIONS...12
 LOAD SWITCHES USED.....S2,S5,S7,S8,S9,S10
 PHASES USED.....2,4,5,6
 OVERLAP "A".....NOT USED
 OVERLAP "B".....NOT USED
 OVERLAP "C".....5+6
 OVERLAP "D".....NOT USED
 OVERLAP "E".....5

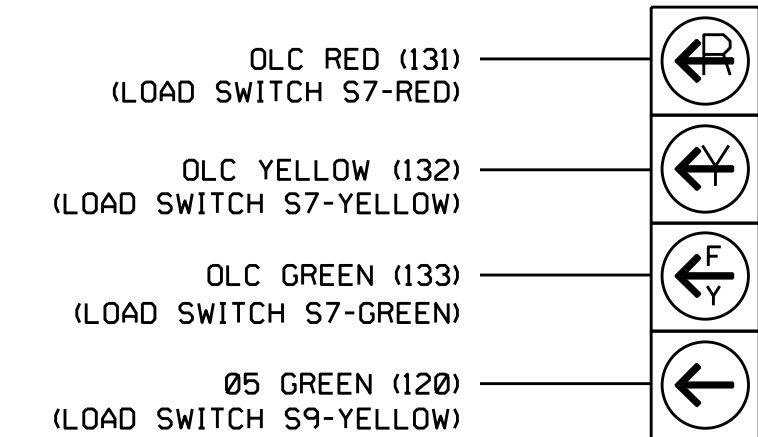
SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12		
EMU CHANNEL NO.	1	2	13	3	4	14	5	6	11	15	7	8	16	
PHASE	1	2	2 PED	3	4	4 PED	OLC	6	5 GRN	6 PED	OLE	8	8 PED	
SIGNAL HEAD NO.	NU	21,22	NU	NU	41,42 43,44	62	NU	51*	61,62	51*	NU	43	NU	NU
RED		128			101				134		*			
YELLOW		129			102				135					
GREEN		130			103				136					
RED ARROW								131						
YELLOW ARROW					102			132			123			
FLASHING YELLOW ARROW								133						
GREEN ARROW					103				120		124			
											*			

* Denotes install load resistor. See load resistor installation detail below.
 * See pictorial of head wiring in detail below.
 NOTE: Load Switches S7 and S9 require output remapping. See sheet 3.

FYA SIGNAL WIRING DETAIL

(wire signal head as shown)

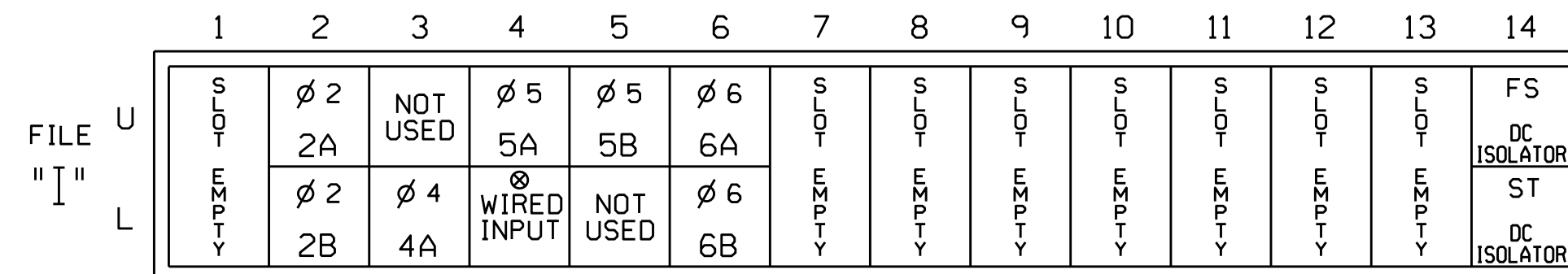


NOTE

The sequence display for signal head 51 requires special logic programming. See sheet 2 for programming instructions.

INPUT FILE POSITION LAYOUT

(front view)



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

⊗ Wired Input - turn off Channel 2.

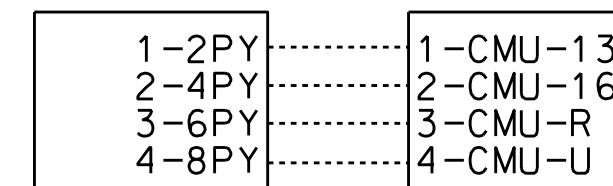
FS = FLASH SENSE
 ST = STOP TIME

PED YELLOW CONFLICT MONITOR WIRING DETAIL

In order to use FYA COMPACT mode on the 2010ECL-NC Monitor, the cabinet must be wired such that the (unused) Ped Yellow load switch outputs are wired directly to the conflict monitor as follows: From 6 PY (field term. 120) to chan. 10 green (monitor pin R).

This may also be accomplished through a keyed plug connection found on the inside panel of the output file.

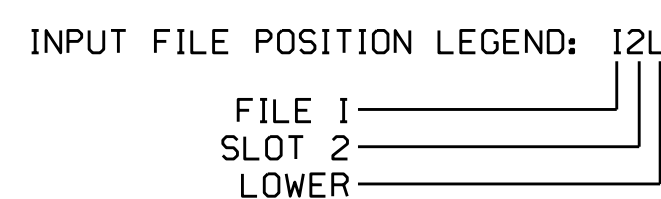
Fold down rear panel of output file and find a set of 3 white keyed connectors. Plug together the two connectors labeled as shown below:



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
2A	TB21-3,4	I2U	39	1	2	2	Y	Y			
2B	TB23-3,4	I2L	43	5	12	2	Y	Y			
4A	TB23-5,6	I3L	49	11	24	4	Y	Y			3
5A ¹	TB21-7,8	I4U	41	3	4	5	Y	Y			15
	-	I4L	45	7	14	2	Y	Y	Y		3
5B	TB21-9,10	I5U	55	17	5	5	Y	Y			15
6A	TB21-11,12	I6U	40	2	6	6	Y	Y			
6B	TB23-11,12	I6L	44	6	16	6	Y	Y			

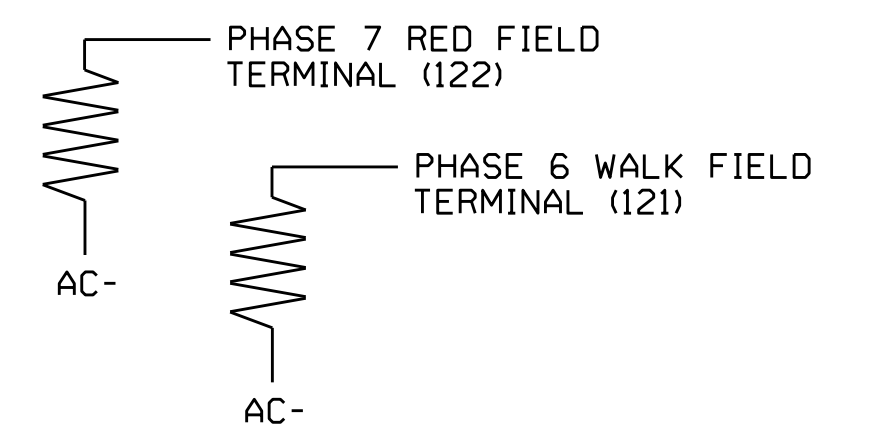
¹Add jumper from I4-F to I4-W on rear of input file.



LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown below)

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



Electrical Detail - Temporary Signal 3 (TCP Phase III) - Sheet 1 of 3

Electrical and Programming Details For: US 421 at US 221

Prepared In the Offices of: **Transporatio Mobility and Safety Solutions**

750 N. Greenfield Pkwy, Garner, NC 27529

Division 11 Watauga County vs Deep Gap

PLAN DATE: May 2015 REVIEWED BY: [Signature]

PREPARED BY: S. Armstrong REVIEWED BY: [Signature]

REVISIONS: [Table with columns for REVISIONS, INIT., DATE]

DocuSigned by: **John T. Rowe, Jr.** 5/26/2015

SEAL: JOHN T. ROWE, JR. ENGINEER SEAL 008453

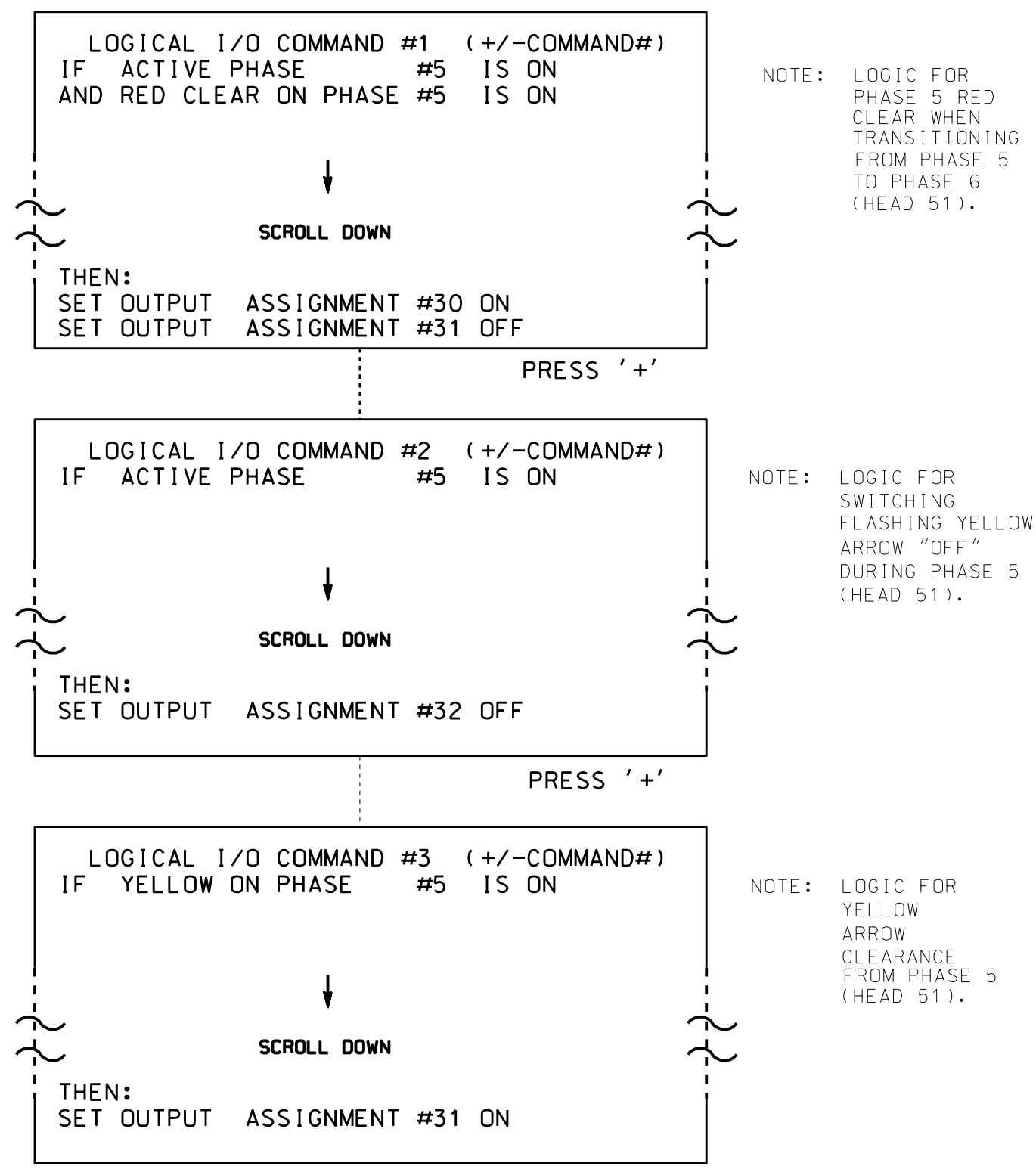
SIG. INVENTORY NO. 11-1174 T3

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 11-1174 T3
 DESIGNED: May 2015
 SEALED: 5/22/2015
 REVISED: N/A

LOGICAL I/O PROCESSOR PROGRAMMING DETAIL TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE

(program controller as shown below)

1. FROM MAIN MENU PRESS '2' (PHASE CONTROL), THEN '1' (PHASE CONTROL FUNCTIONS). SCROLL TO THE BOTTOM OF THE MENU AND ENABLE ACT LOGIC COMMANDS 1, 2, AND 3.
2. FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).



LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE
OUTPUT 30 = Overlap C Red
OUTPUT 31 = Overlap C Yellow
OUTPUT 32 = Overlap C Green
OUTPUT 34 = Phase 5 Green

Note: All outputs shown above have been remapped. See sheets 3 and 4 of this electrical detail.

OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS).

PRESS '+' TWICE

```

PAGE 1: VEHICLE OVERLAP 'C' SETTINGS
PHASE:      12345678910111213141516
VEH OVL PARENTS:  XX
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR:  _ RED _ YELLOW _ GREEN
FLASH COLORS:  _ RED _ YELLOW X GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC)...0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...0
        
```

← NOTICE GREEN FLASH

PRESS '+' TWICE

```

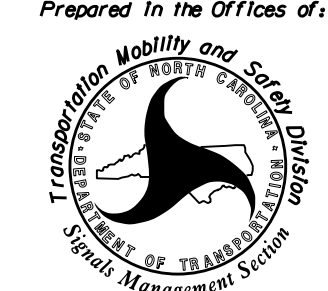
PAGE 1: VEHICLE OVERLAP 'E' SETTINGS
PHASE:      12345678910111213141516
VEH OVL PARENTS:  X
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR:  _ RED _ YELLOW _ GREEN
FLASH COLORS:  _ RED _ YELLOW _ GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...N
GREEN EXTENSION (0-255 SEC)...0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...7
        
```

← NOTICE OUTPUT AS PHASE

OVERLAP PROGRAMMING COMPLETE

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 11-1174 T3
DESIGNED: May 2015
SEALED: 5/22/2015
REVISED: N/A

Electrical Detail - Temporary Signal 3 (TCP Phase III) - Sheet 3 of 3

ELECTRICAL AND PROGRAMMING DETAILS FOR:	US 421 at US 221	SEAL NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 008453 JOHN T. ROWE, JR.
Prepared In the Offices of:  750 N. Greenfield Pkwy, Garner, NC 27529	Division 11 Watauga County DE Deep Gap PLAN DATE: May 2015 REVIEWED BY: JTR PREPARED BY: S. Armstrong REVIEWED BY:	DocuSigned by: John T. Rowe, Jr. 5/26/2015 041183GNMETSMB DATE
	REVISIONS INIT. DATE	SIG. INVENTORY NO. 11-1174 T3

06-MAY-2015 07:01
 S:\MITS\1174\Sig3\1174_Sig3_elec_xxx.dgn
 sarmstrong

FYA SIGNAL OUTPUT REMAPPING ASSIGNMENT PROGRAMMING DETAIL FOR SIGNAL LOADSWITCH S7 (HEAD 51)

(program controller as shown below)

STEP 1

FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '1' (OUTPUT ASSIGNMENTS), WITH CURSOR IN "OUTPUT ASSIGNMENT#" POSITION, ENTER "30"

```
PAGE:1 C1 PIN:32 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....30
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```
PAGE:1 C1 PIN:32 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...3
SELECT COLOR(0=RED,1=YEL,2=GRN)...0
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' 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 'VEHICLE OVERLAP' AS SHOWN BELOW.

```
PAGE:1 C1 PIN:32 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....30
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
```

PRESS "+" KEY FOR OUTPUT 31

STEP 2

```
PAGE:1 C1 PIN:33 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....31
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```
PAGE:1 C1 PIN:33 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...3
SELECT COLOR(0=RED,1=YEL,2=GRN)...1
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' 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 'VEHICLE OVERLAP' AS SHOWN BELOW.

```
PAGE:1 C1 PIN:33 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....31
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
```

PRESS "+" KEY FOR OUTPUT 32

STEP 3

```
PAGE:1 C1 PIN:34 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....32
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```
PAGE:1 C1 PIN:34 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...3
SELECT COLOR(0=RED,1=YEL,2=GRN)...2
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' 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 'VEHICLE OVERLAP' AS SHOWN BELOW.

```
PAGE:1 C1 PIN:34 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....32
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
```

PRESS "+" TWICE TO REACH OUTPUT 34.

STEP 4

```
PAGE:1 C1 PIN:36 NOT ENABLED
OUTPUT ASSIGNMENT #.....34
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.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
```

THE OUTPUT IS SET AS "NOT ENABLED" BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE PHASE.

```
PAGE:1 C1 PIN:36 NOT ENABLED
SELECT VEHICLE PHASE (1-16)...5
SELECT COLOR(0=RED,1=YEL,2=GRN)...2
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE PHASE' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN. PRESS THE 'ENT' KEY AFTER INPUTTING DATA, THEN 'ESC'.

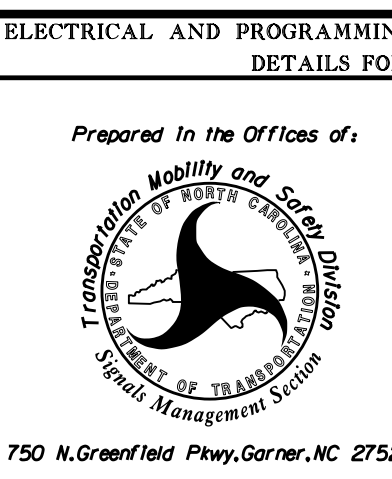
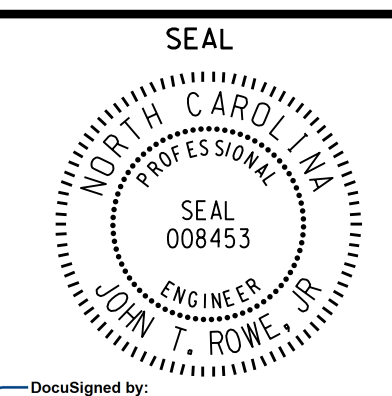
DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE PHASE' AS SHOWN BELOW.

```
PAGE:1 C1 PIN:36 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....34
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.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
```

OUTPUT PROGRAMMING FOR HEAD 51 COMPLETE

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 11-1174 T3
DESIGNED: May 2015
SEALED: 5/22/2015
REVISED: N/A

Electrical Detail - Temporary Signal 3 (TCP Phase III) - Sheet 3 of 3

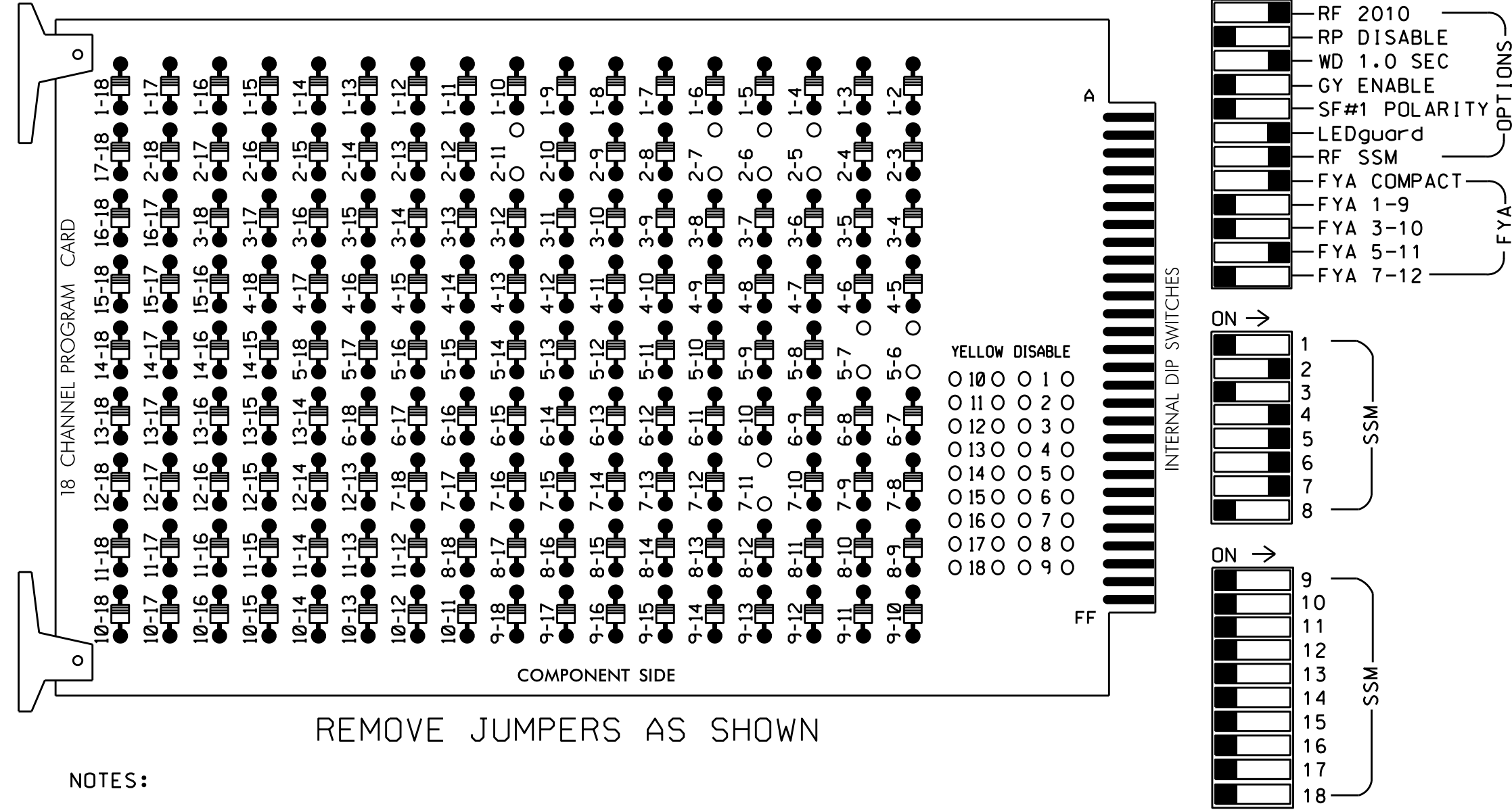
	DETAILS FOR: US 421 at US 221		
	Division 11 Watauga County DEEP Gap	PLAN DATE: May 2015 REVIEWED BY: JTR	
PREPARED BY: S. Armstrong	REVIEWED BY:	REVISIONS	DATE
DocuSigned by: John T. Rowe, Jr. 5/26/2015		SIG. INVENTORY NO. 11-1174 T3	

06-MAY-2016 07:01
 S:\MITS\SIG\T3_Sig\01\work\hgr\output\sig\Map\Mstr\mstrongh11174_sm_elec_xxx.dgn
 sarmstrong

EDI MODEL 2018ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 2-5, 2-6, 2-7, 2-11, 5-6, 5-7, and 7-11.



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.
- Special cabinet wiring is required to utilize FYA COMPACT mode. See Ped Yellow Conflict Monitor Wiring Detail on this sheet.

■ = 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.
- 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.....336
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....POLE
 OUTPUT FILE POSITIONS...12
 LOAD SWITCHES USED.....S2,S5,S7,S8,S9,S10
 PHASES USED.....2,4,5,6
 OVERLAP "A".....NOT USED
 OVERLAP "B".....NOT USED
 OVERLAP "C".....5+6
 OVERLAP "D".....NOT USED
 OVERLAP "E".....5

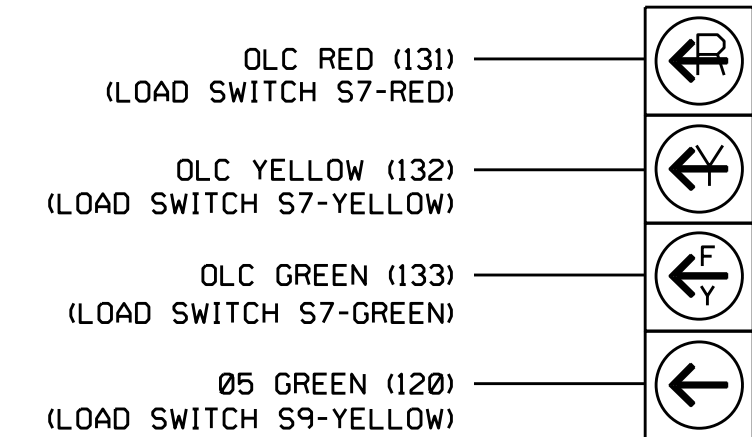
SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	
EMU CHANNEL NO.	1	2	13	3	4	14	5	6	11	15	7	8	16
PHASE	1	2	2 PED	3	4	4 PED	OLC	6	5 GRN	6 PED	OLE	8	8 PED
SIGNAL HEAD NO.	NU	21,22	NU	NU	41,42 43,44	62	NU	51*	61,62	51*	NU	43	NU
RED		128			101				134		*		
YELLOW		129			102				135				
GREEN		130			103				136				
RED ARROW								131					
YELLOW ARROW					102			132			123		
FLASHING YELLOW ARROW								133					
GREEN ARROW					103				120		124		
											*		

* Denotes install load resistor. See load resistor installation detail below.
 ★ See pictorial of head wiring in detail below.
 NOTE: Load Switches S7 and S9 require output remapping. See sheet 3.

FYA SIGNAL WIRING DETAIL

(wire signal head as shown)

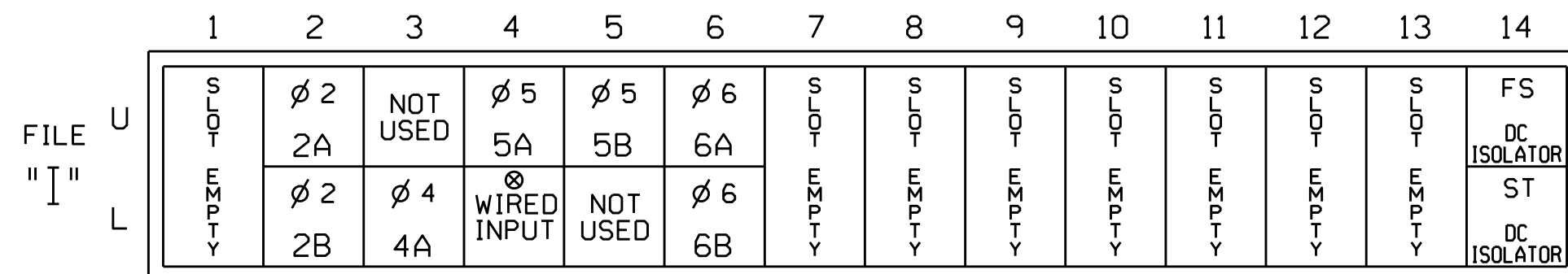


NOTE

The sequence display for signal head 51 requires special logic programming. See sheet 2 for programming instructions.

INPUT FILE POSITION LAYOUT

(front view)



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

⊗ Wired Input - turn off Channel 2.

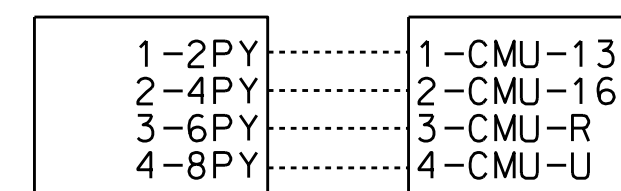
FS = FLASH SENSE
 ST = STOP TIME

PED YELLOW CONFLICT MONITOR WIRING DETAIL

In order to use FYA COMPACT mode on the 2010ECL-NC Monitor, the cabinet must be wired such that the (unused) Ped Yellow load switch outputs are wired directly to the conflict monitor as follows: From 6 PY (field term. 120) to chan. 10 green (monitor pin R).

This may also be accomplished through a keyed plug connection found on the inside panel of the output file.

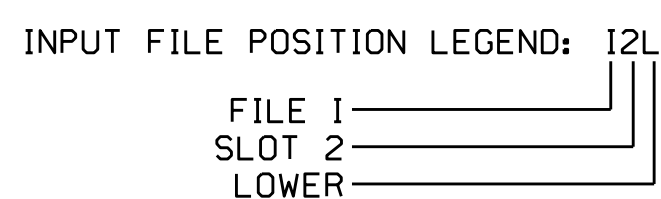
Fold down rear panel of output file and find a set of 3 white keyed connectors. Plug together the two connectors labeled as shown below:



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
2A	TB21-3,4	I2U	39	1	2	2	Y	Y			
2B	TB23-3,4	I2L	43	5	12	2	Y	Y			
4A	TB23-5,6	I3L	49	11	24	4	Y	Y			3
5A ¹	TB21-7,8	I4U	41	3	4	5	Y	Y			15
	-	I4L	45	7	14	2	Y	Y	Y		3
5B	TB21-9,10	I5U	55	17	5	5	Y	Y			15
6A	TB21-11,12	I6U	40	2	6	6	Y	Y			
6B	TB23-11,12	I6L	44	6	16	6	Y	Y			

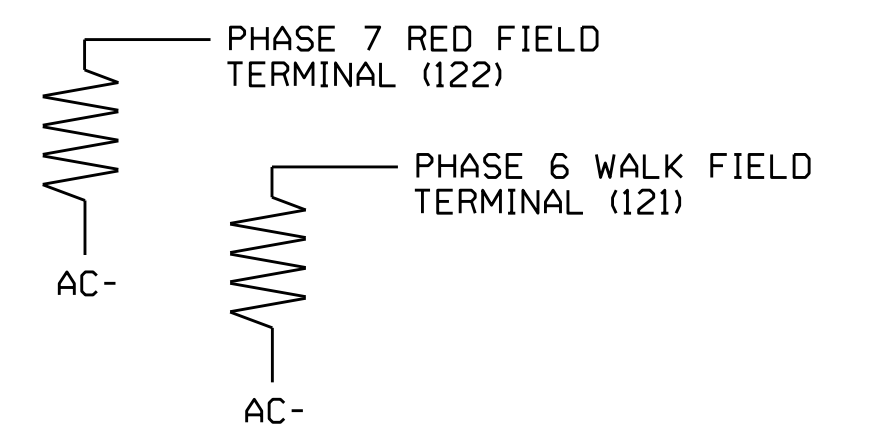
¹Add jumper from I4-F to I4-W on rear of input file.



LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown below)

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



Electrical Detail - Temporary Signal 4 (TCP Phase IIIA) - Sheet 1 of 3

Electrical and Programming Details For: US 421 at US 221

Prepared In the Offices of: **Transporatio Mobility and Safety Solutions**

750 N. Greenfield Pkwy, Garner, NC 27529

Division 11 Watauga County, NC Deep Gap

PLAN DATE: May 2015 REVIEWED BY: [Signature]

PREPARED BY: S. Armstrong REVIEWED BY: [Signature]

REVISIONS: [Table]

INIT. DATE

DocuSigned by: **John T. Rowe, Jr.** 5/26/2015

SEAL: JOHN T. ROWE, JR. ENGINEER SEAL 008453

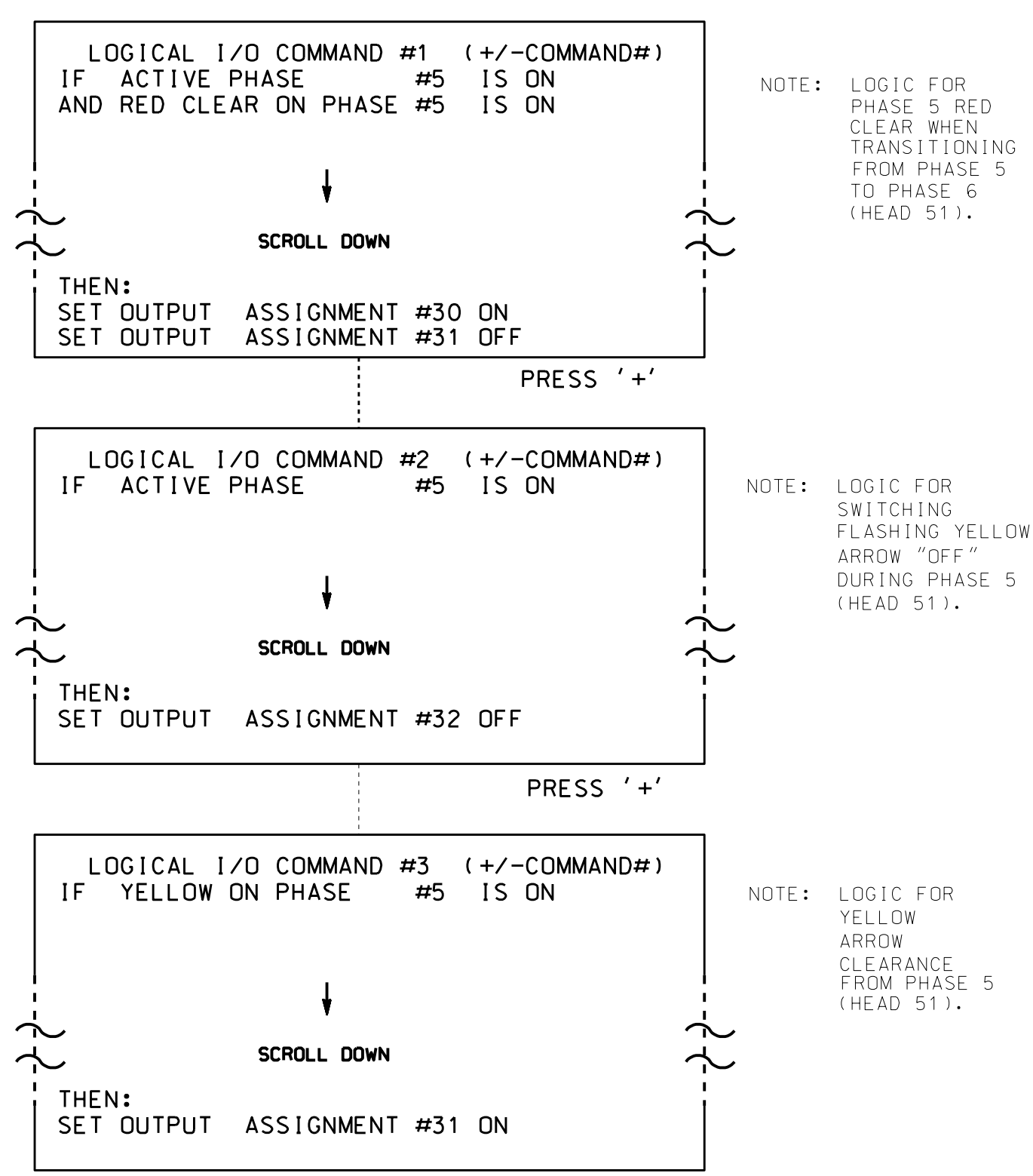
SIG. INVENTORY NO. 11-1174 T4

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 11-1174 T4
 DESIGNED: May 2015
 SEALED: 5/22/2015
 REVISED: N/A

LOGICAL I/O PROCESSOR PROGRAMMING DETAIL TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE

(program controller as shown below)

1. FROM MAIN MENU PRESS '2' (PHASE CONTROL), THEN '1' (PHASE CONTROL FUNCTIONS). SCROLL TO THE BOTTOM OF THE MENU AND ENABLE ACT LOGIC COMMANDS 1, 2, AND 3.
2. FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).



LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE
OUTPUT 30 = Overlap C Red
OUTPUT 31 = Overlap C Yellow
OUTPUT 32 = Overlap C Green
OUTPUT 34 = Phase 5 Green

Note: All outputs shown above have been remapped. See sheets 3 and 4 of this electrical detail.

OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS).

PRESS '+' TWICE

```

PAGE 1: VEHICLE OVERLAP 'C' SETTINGS
PHASE:      12345678910111213141516
VEH OVL PARENTS:  XX
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR:  _ RED _ YELLOW _ GREEN
FLASH COLORS:  _ RED _ YELLOW X GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC)...0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...0
        
```

← NOTICE GREEN FLASH

PRESS '+' TWICE

```

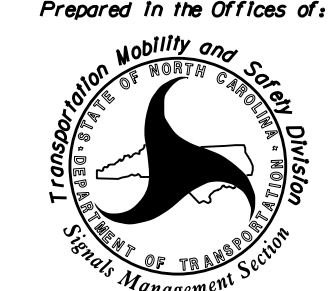
PAGE 1: VEHICLE OVERLAP 'E' SETTINGS
PHASE:      12345678910111213141516
VEH OVL PARENTS:  X
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR:  _ RED _ YELLOW _ GREEN
FLASH COLORS:  _ RED _ YELLOW _ GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...N
GREEN EXTENSION (0-255 SEC)...0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...7
        
```

← NOTICE OUTPUT AS PHASE

OVERLAP PROGRAMMING COMPLETE

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 11-1174 T4
DESIGNED: May 2015
SEALED: 5/22/2015
REVISED: N/A

Electrical Detail - Temporary Signal 4 (TCP Phase IIIA) - Sheet 2 of 3

ELECTRICAL AND PROGRAMMING DETAILS FOR:	US 421 at US 221	SEAL NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 008453 JOHN T. ROWE, JR.
Prepared In the Offices of:  750 N. Greenfield Pkwy, Garner, NC 27529	Division 11 Watauga County ds Deep Gap PLAN DATE: May 2015 REVIEWED BY: JTR PREPARED BY: S. Armstrong REVIEWED BY:	DocuSigned by: John T. Rowe, Jr. 5/26/2015 041180N6248RE DATE
	REVISIONS INIT. DATE	SIG. INVENTORY NO. 11-1174 T4

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FYA SIGNAL OUTPUT REMAPPING ASSIGNMENT PROGRAMMING DETAIL FOR SIGNAL LOADSWITCH S7 (HEAD 51)

(program controller as shown below)

STEP 1

FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '1' (OUTPUT ASSIGNMENTS), WITH CURSOR IN "OUTPUT ASSIGNMENT#" POSITION, ENTER "30"

```
PAGE:1 C1 PIN:32 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....30
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```
PAGE:1 C1 PIN:32 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...3
SELECT COLOR(0=RED,1=YEL,2=GRN)...0
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' 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 'VEHICLE OVERLAP' AS SHOWN BELOW.

```
PAGE:1 C1 PIN:32 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....30
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
```

PRESS "+" KEY FOR OUTPUT 31

STEP 2

```
PAGE:1 C1 PIN:33 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....31
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```
PAGE:1 C1 PIN:33 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...3
SELECT COLOR(0=RED,1=YEL,2=GRN)...1
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' 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 'VEHICLE OVERLAP' AS SHOWN BELOW.

```
PAGE:1 C1 PIN:33 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....31
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
```

PRESS "+" KEY FOR OUTPUT 32

STEP 3

```
PAGE:1 C1 PIN:34 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....32
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```
PAGE:1 C1 PIN:34 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...3
SELECT COLOR(0=RED,1=YEL,2=GRN)...2
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' 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 'VEHICLE OVERLAP' AS SHOWN BELOW.

```
PAGE:1 C1 PIN:34 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....32
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.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
```

PRESS "+" TWICE TO REACH OUTPUT 34.

STEP 4

```
PAGE:1 C1 PIN:36 NOT ENABLED
OUTPUT ASSIGNMENT #.....34
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.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
```

THE OUTPUT IS SET AS "NOT ENABLED" BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE PHASE.

```
PAGE:1 C1 PIN:36 NOT ENABLED
SELECT VEHICLE PHASE (1-16)...5
SELECT COLOR(0=RED,1=YEL,2=GRN)...2
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE PHASE' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN. PRESS THE 'ENT' KEY AFTER INPUTTING DATA, THEN 'ESC'.

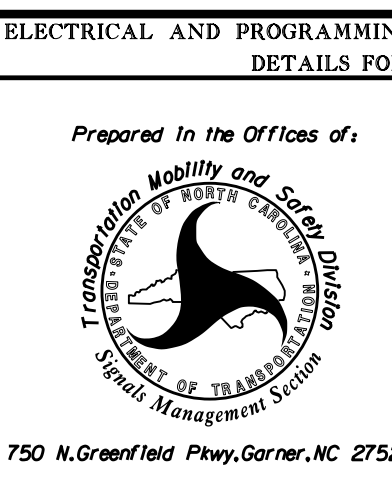
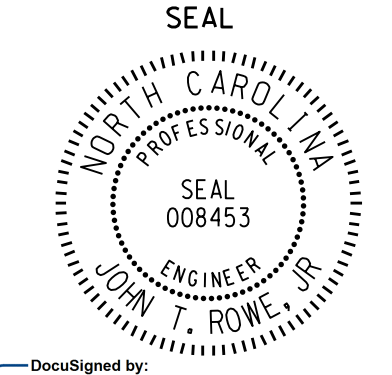
DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE PHASE' AS SHOWN BELOW.

```
PAGE:1 C1 PIN:36 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....34
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.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
```

OUTPUT PROGRAMMING FOR HEAD 51 COMPLETE

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 11-1174 T4
DESIGNED: May 2015
SEALED: 5/22/2015
REVISED: N/A

Electrical Detail - Temporary Signal 4 (TCP Phase IIIA) - Sheet 3 of 3

	DETAILS FOR: US 421 at US 221	SEAL 
	Prepared in the Offices of: S. ARMSTRONG PREPARED BY: S. Armstrong REVISIONS: _____ INIT. DATE _____	Division 11 Watauga County Deep Gap PLAN DATE: May 2015 REVIEWED BY: JTR REVIEWED BY: _____ DATE: _____

06-MAY-2016 07:04
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