

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

(program controller as shown below)

- 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, 3, 4, 5, 6, 7, 8, AND 9.
- FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).

```

LOGICAL I/O COMMAND #1 (+/-COMMAND#)
IF ACTIVE PHASE #1 IS ON
AND RED CLEAR ON PHASE #1 IS ON
    ↓
    SCROLL DOWN
    ↓
THEN:
SET OUTPUT ASSIGNMENT #50 ON
SET OUTPUT ASSIGNMENT #51 OFF
    ↓
    PRESS '+'
    
```

NOTE: LOGIC FOR PHASE 1 RED CLEAR WHEN TRANSITIONING FROM PHASE 1 TO PHASE 2 (HEAD 11).

```

LOGICAL I/O COMMAND #2 (+/-COMMAND#)
IF ACTIVE PHASE #1 IS ON
    ↓
    SCROLL DOWN
    ↓
THEN:
SET OUTPUT ASSIGNMENT #52 OFF
    ↓
    PRESS '+'
    
```

NOTE: LOGIC FOR SWITCHING FLASHING YELLOW ARROW "OFF" DURING PHASE 1 (HEAD 11).

```

LOGICAL I/O COMMAND #3 (+/-COMMAND#)
IF YELLOW ON PHASE #1 IS ON
    ↓
    SCROLL DOWN
    ↓
THEN:
SET OUTPUT ASSIGNMENT #51 ON
    ↓
    PRESS '+'
    
```

NOTE: LOGIC FOR YELLOW ARROW CLEARANCE FROM PHASE 1 (HEAD 11).

```

LOGICAL I/O COMMAND #4 (+/-COMMAND#)
IF ACTIVE PHASE #5 IS ON
AND RED CLEAR ON PHASE #5 IS ON
    ↓
    SCROLL DOWN
    ↓
THEN:
SET OUTPUT ASSIGNMENT #42 ON
SET OUTPUT ASSIGNMENT #43 OFF
    ↓
    PRESS '+'
    
```

NOTE: LOGIC FOR PHASE 5 RED CLEAR WHEN TRANSITIONING FROM PHASE 5 TO PHASE 6 (HEAD 51).

```

LOGICAL I/O COMMAND #5 (+/-COMMAND#)
IF ACTIVE PHASE #5 IS ON
    ↓
    SCROLL DOWN
    ↓
THEN:
SET OUTPUT ASSIGNMENT #44 OFF
    ↓
    PRESS '+'
    
```

NOTE: LOGIC FOR SWITCHING FLASHING YELLOW ARROW "OFF" DURING PHASE 5 (HEAD 51).

```

LOGICAL I/O COMMAND #6 (+/-COMMAND#)
IF YELLOW ON PHASE #5 IS ON
    ↓
    SCROLL DOWN
    ↓
THEN:
SET OUTPUT ASSIGNMENT #43 ON
    ↓
    PRESS '+'
    
```

NOTE: LOGIC FOR YELLOW ARROW CLEARANCE FROM PHASE 5 (HEAD 51).

```

LOGICAL I/O COMMAND #7 (+/-COMMAND#)
IF ACTIVE PHASE #7 IS ON
AND RED CLEAR ON PHASE #7 IS ON
    ↓
    SCROLL DOWN
    ↓
THEN:
SET OUTPUT ASSIGNMENT #39 ON
SET OUTPUT ASSIGNMENT #40 OFF
    ↓
    PRESS '+'
    
```

NOTE: LOGIC FOR PHASE 7 RED CLEAR WHEN TRANSITIONING FROM PHASE 7 TO PHASE 8 (HEAD 71).

```

LOGICAL I/O COMMAND #8 (+/-COMMAND#)
IF ACTIVE PHASE #7 IS ON
    ↓
    SCROLL DOWN
    ↓
THEN:
SET OUTPUT ASSIGNMENT #41 OFF
    ↓
    PRESS '+'
    
```

NOTE: LOGIC FOR SWITCHING FLASHING YELLOW ARROW "OFF" DURING PHASE 7 (HEAD 71).

```

LOGICAL I/O COMMAND #9 (+/-COMMAND#)
IF YELLOW ON PHASE #7 IS ON
    ↓
    SCROLL DOWN
    ↓
THEN:
SET OUTPUT ASSIGNMENT #40 ON
    ↓
    PRESS '+'
    
```

NOTE: LOGIC FOR YELLOW ARROW CLEARANCE FROM PHASE 7 (HEAD 71).

LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

### OUTPUT REFERENCE SCHEDULE

- OUTPUT 39 = Overlap D Red
- OUTPUT 40 = Overlap D Yellow
- OUTPUT 41 = Overlap D Green
- OUTPUT 42 = Overlap C Red
- OUTPUT 43 = Overlap C Yellow
- OUTPUT 44 = Overlap C Green
- OUTPUT 50 = Overlap A Red
- OUTPUT 51 = Overlap A Yellow
- OUTPUT 52 = Overlap A Green

## 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: 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)...0.0
    ↓
    PRESS '+'
    
```

← NOTICE GREEN FLASH

```

PAGE 1: VEHICLE OVERLAP 'B' 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 X 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)...0.0
    ↓
    PRESS '+'
    
```

← NOTICE GREEN FLASH

```

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)...0.0
    ↓
    PRESS '+'
    
```

← NOTICE GREEN FLASH

```

PAGE 1: VEHICLE OVERLAP 'D' 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?...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)...0.0
    ↓
    PRESS '+'
    
```

← NOTICE GREEN FLASH

OVERLAP PROGRAMMING COMPLETE

## OVERLAP PROGRAMMING DETAIL FOR ALTERNATE PHASING - PAGE 2

(program controller as shown below)

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

```

PAGE 2: VEHICLE OVERLAP 'A' SETTINGS
PHASE: 12345678910111213141516
VEH OVL PARENTS: IXX
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)...0.0
    ↓
    PRESS '+'
    
```

← NOTICE PAGE 2

← NOTICE GREEN FLASH

```

PAGE 2: VEHICLE OVERLAP 'B' 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 X 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)...0.0
    ↓
    PRESS '+'
    
```

← NOTICE PAGE 2

← NOTICE GREEN FLASH

```

PAGE 2: VEHICLE OVERLAP 'C' 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?...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)...0.0
    ↓
    PRESS '+'
    
```

← NOTICE PAGE 2

← NOTICE GREEN FLASH

```

PAGE 2: VEHICLE OVERLAP 'D' 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?...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)...0.0
    ↓
    PRESS '+'
    
```

← NOTICE PAGE 2

← NOTICE GREEN FLASH

OVERLAP PROGRAMMING COMPLETE

## FLASHER CIRCUIT MODIFICATION DETAIL

IN ORDER TO INSURE THAT SIGNALS FLASH CONCURRENTLY ON THE SAME APPROACH, MAKE THE FOLLOWING FLASHER CIRCUIT CHANGES:

- ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-4 AND TERMINATE ON T2-2.
- ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-5 AND TERMINATE ON T2-3.
- REMOVE FLASHER UNIT 2.

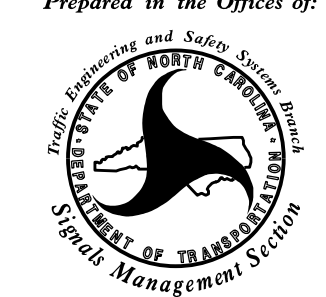
THE CHANGE LISTED ABOVE TIES ALL PHASES AND OVERLAP TO FLASHER UNIT 1.

Signal Upgrade - Sheet 2 of 4

I:\01 Ed. exp\classon...06-0565\_sml.dwg 10/20/15 09:28:40gn  
USER: WANB

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 06-0565  
DESIGNED: September 2015  
SEALED: September 28, 2015  
REVISED:

**CDM Smith**  
5400 GLENWOOD AVENUE  
Suite 400  
RALEIGH, NC 27612

ELECTRICAL AND PROGRAMMING DETAILS FOR:  
Prepared in the Offices of:  
  
122 N. McDowell St., Raleigh, NC 27603

NC 24-87 (Bragg Boulevard)  
at  
Ames Street

Division 06 Cumberland County Fayetteville  
PLAN DATE: September 2015 REVIEWED BY: D. Clodgo  
PREPARED BY: B. Wan REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL  
NORTH CAROLINA PROFESSIONAL ENGINEER  
SEAL 034389  
B. WAN  
DATE

SIGNATURE DATE  
SIG. INVENTORY NO. 06-0565