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PROJECT REFERENCE NO.	SHEET NO.
U-5935	SIG-3.3

LOGICAL I/O PROCESSOR PROGRAMMING DETAIL FOR SPECIAL OUTPUT CONTROL

(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 3 AND 4.
2. FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).
3. THE PROGRAMMING SHOWN BELOW IS NECESSARY FOR SIGNAL HEAD 31&32 AND 41&42 TO OPERATE AS SHOWN ON THE SIGNAL DESIGN PLANS.

```
  LOGICAL I/O COMMAND #3   (+/-COMMAND#)
IF  GREEN ON PHASE      #2  IS OFF
AND GREEN ON PHASE      #3  IS OFF
AND YELLOW ON PHASE     #3  IS OFF
AND OUTPUT ASSIGNMENT #54  IS OFF
                 ↓
            SCROLL DOWN
THEN:
SET OUTPUT   ASSIGNMENT #6   ON
```

NOTE: LOGIC TO SWITCH HEADS 31 & 32 FROM FLASHING RED TO STEADY RED WHEN TRANSITIONING TO AND FROM PREMPTION

PRESS '+'

```
  LOGICAL I/O COMMAND #4   (+/-COMMAND#)
IF  GREEN ON PHASE      #2  IS OFF
AND OUTPUT ASSIGNMENT #54  IS OFF
                 ↓
            SCROLL DOWN
THEN:
SET OUTPUT   ASSIGNMENT #3   ON
```

NOTE: LOGIC TO SWITCH HEADS 41 & 42 FROM FLASHING RED TO STEADY RED WHEN TRANSITIONING TO AND FROM PREMPTION

LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE

USE TO INTERPRET LOGIC PROCESSOR

OUTPUT 6 = Overlap A Red (Phase 3 Red)
OUTPUT 3 = Overlap B Red (Phase 4 Red)
OUTPUT 54 = Controller Flash

OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

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

NOTICE RED FLASH →

```
 PAGE 1: VEHICLE OVERLAP 'A' 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:  X 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)....0
```

PRESS '+'

NOTICE RED 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:  X 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)....0
```

OVERLAP PROGRAMMING COMPLETE

OVERLAP 'A' AND 'B' RED OUTPUT ASSIGNMENT PROGRAMMING DETAIL

(program controller as shown below)

FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '1' (OUTPUT ASSIGNMENTS). PRESS '+' UNTIL OUTPUT #6 (PIN 7) IS REACHED.

```
PAGE:1  C1 PIN:7  VEHICLE PHASE
OUTPUT ASSIGNMENT #.................6
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.............THIS ENTRY IS EXISTING BY DEFAULT
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 THE 'YES' KEY WHILE CURSOR IS IN VEHICLE OVERLAP FIELD

```
PAGE:1  C1 PIN:7  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' AFTER AFTER INPUTING DATA, THEN 'ESC'.

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

```
PAGE:1  C1 PIN:7  VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.................6
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 THREE TIMES

OVERLAP 'A' RED WILL NOW DRIVE PHASE 3 RED

```
PAGE:1  C1 PIN:4  VEHICLE PHASE
OUTPUT ASSIGNMENT #.................3
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.............THIS ENTRY IS EXISTING BY DEFAULT
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 THE 'YES' KEY WHILE CURSOR IS IN VEHICLE OVERLAP FIELD

```
PAGE:1  C1 PIN:4  VEHICLE PHASE

SELECT VEHICLE OVERLAP (A=1, P=16)....2
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' AFTER AFTER INPUTING DATA, THEN 'ESC'.

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

```
PAGE:1  C1 PIN:4  VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.................3
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..........................
```

END OF PROGRAMMING

OVERLAP 'B' RED WILL NOW DRIVE PHASE 4 RED

Electrical Detail - Sheet 3 of 3 - Signal Modification

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 04-0282
DESIGNED: June 2017
SEALED: 08/04/2017
REVISED: N/A

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ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of:
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signals Management Section
750 N.Greenfield Pkwy.Garner,NC 27529

US 301 (Ward Boulevard) at New Bern Street

Division 4 | Wilson County | Wilson

PLAN DATE: June 2017 | REVIEWED BY: W M Ruhsam
PREPARED BY: K M Cory | REVIEWED BY:

REVISIONS	INIT.	DATE

DocuSigned by: Kelly M Cory 8/4/2017
PROFESSIONAL SIGNATURE DATE

SIG. INVENTORY NO. 04-0282

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 038970 ENGINEER KELLY M. CORY

04-AUG-2017 11:31
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KMCory AT NGRCWCORY