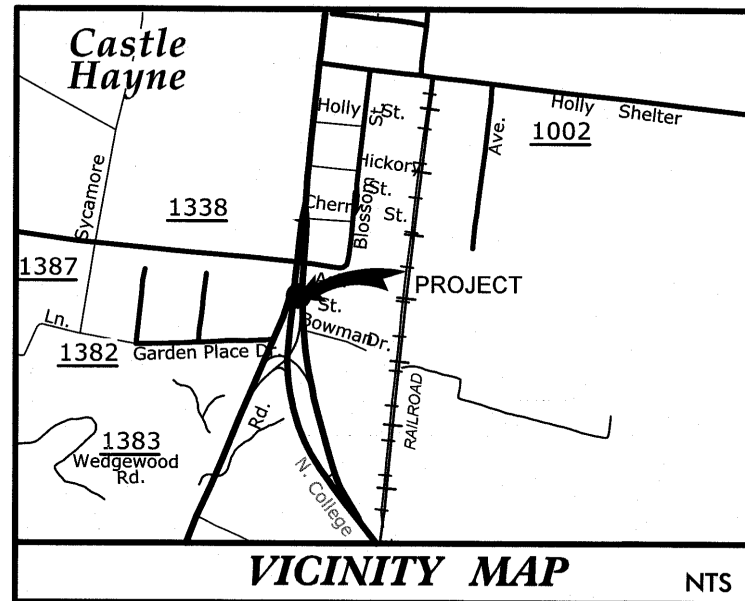


TIP Project: W-5306



VICINITY MAP

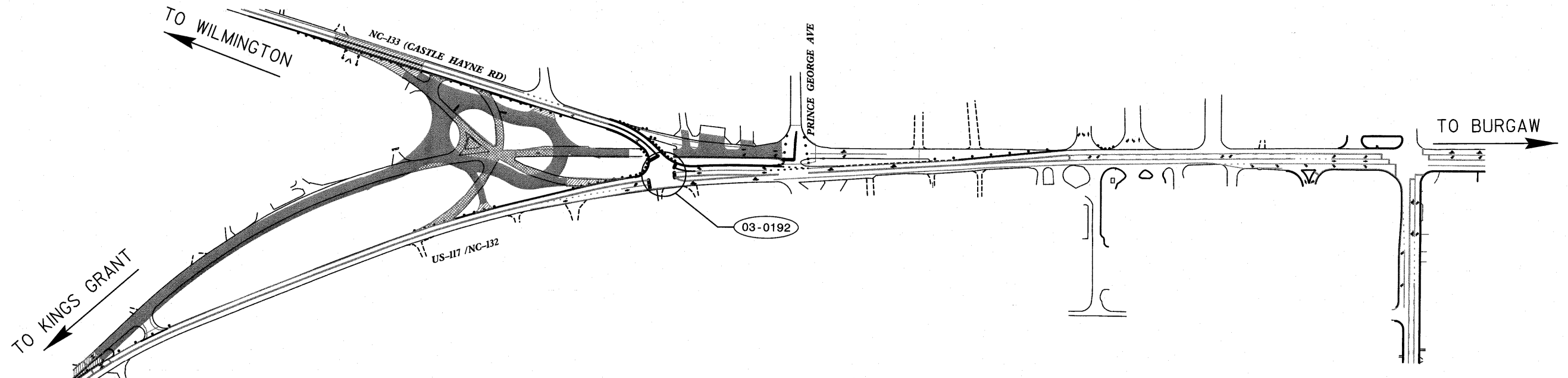
NTS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NEW HANOVER COUNTY

LOCATION: US 117 / NC 133 AT NC 132 (CASTLE HAYNE RD)

TYPE OF WORK: TEMPORARY TRAFFIC SIGNAL



PLANS PREPARED BY:
HNTB HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

Natasha M. Rodevick, P.E., PTOE - Project Engineer
Andrew D. Klinksiek, P.E., PTOE - Design Engineer
Tracey R. Terrell - Design Technician

Index of Plans

Sheet #	Reference #	Location/Description
Sig. 1	-----	Title Sheet
Sig. 2-4	-----	NC-133 (Castle Hayne Rd) at US-117 / NC-132

LEGEND

##-#### SIGNAL INVENTORY NUMBER

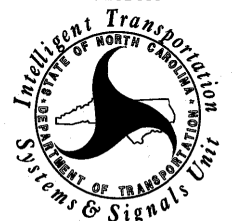
**INTELLIGENT TRANSPORTATION
AND SIGNALS UNIT**

Contacts:

Pam Alexander, PE - Eastern Region Signals Engineer
George Brown, PE - Signal Equipment Design Engineer

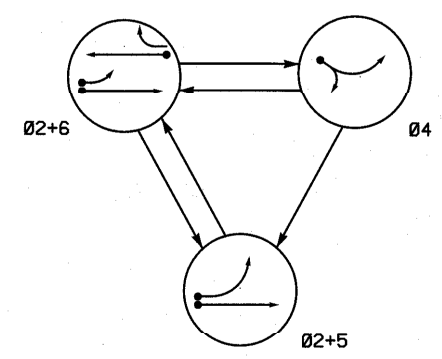
Refer to Roadway Standard Drawings
NCDOT" dated January 2012 and
Standard Specifications for Roads
and Structures" dated January 2012.

Prepared for:
DIVISION OF HIGHWAYS
TRANSPORTATION MOBILITY AND SAFETY
DIVISION



750 N. Greenfield Parkway, Garner, NC 27529

PHASING DIAGRAM



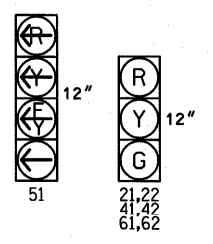
PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

SIGNAL FACE	PHASE			
	02+5	02+G	04	04
21,22	G	G	R	Y
41,42	R	R	G	R
51				
61,62	R	G	R	Y

SIGNAL FACE I.D.

All Heads L.E.D.

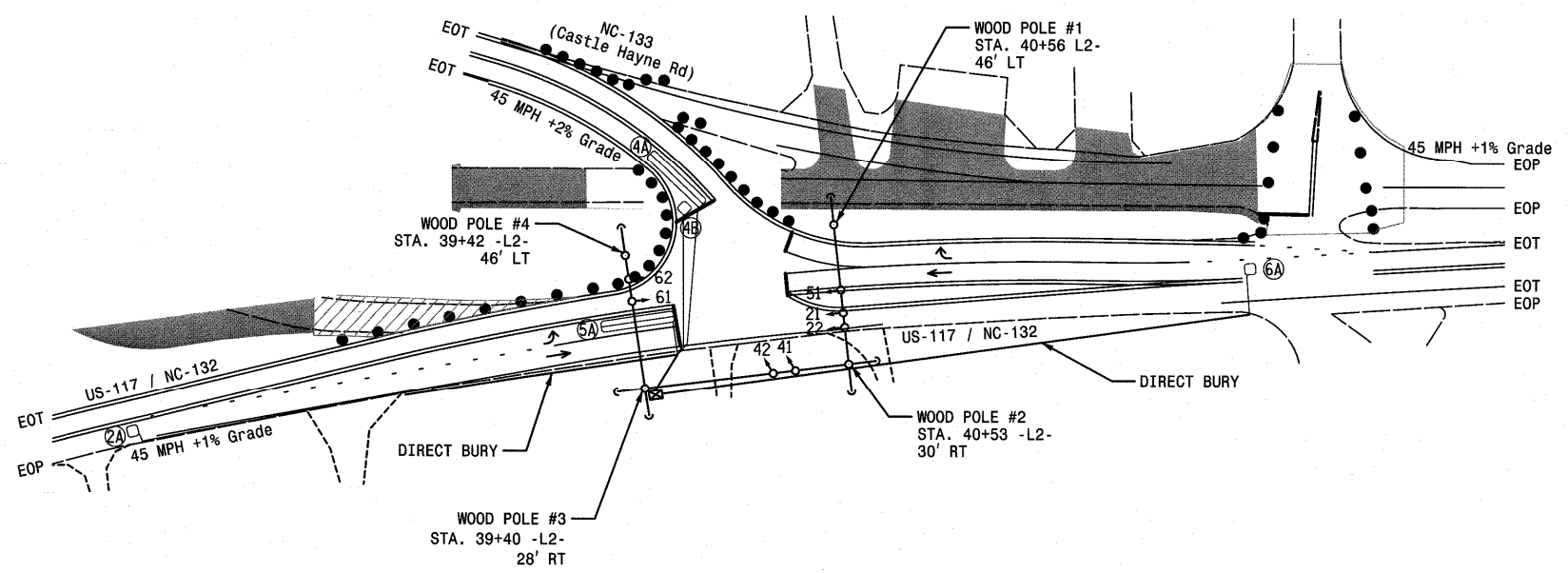


OASIS 2070L LOOP & DETECTOR INSTALLATION CHART											
INDUCTIVE LOOPS				DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP NEW CARD
2A	6X6	300	4	Y	2	Y	Y	-	-	-	Y
4A	6X40	0	2-4-2	Y	4	Y	Y	-	-	3	Y
4B	6X6	0	3	Y	4	Y	Y	-	-	15	Y
5A	6X40	0	2-4-2	Y	5	Y	Y	-	-	15	Y
6A	6X6	250	6	Y	6	Y	Y	-	-	3	Y

3 Phase Fully Actuated (Isolated)

NOTES

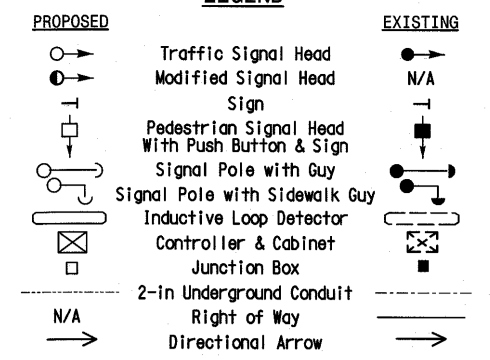
- Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 5 may be lagged.
- Set all detector units to presence mode.
- Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.



OASIS 2070L TIMING CHART					
FEATURE	PHASE				
	2	4	5	6	
Min Green 1 *	12	7	7	12	
Extension 1 *	6.0	2.0	2.0	6.0	
Max Green 1 *	60	30	20	60	
Yellow Clearance	4.4	3.0	3.0	4.4	
Red Clearance	1.0	2.8	1.8	1.0	
Walk 1 *	-	-	-	-	
Don't Walk 1	-	-	-	-	
Seconds Per Actuation *	2.5	-	-	2.5	
Max Variable Initial *	34	-	-	29	
Time Before Reduction *	15	-	-	15	
Time To Reduce *	30	-	-	30	
Minimum Gap	3.0	-	-	3.0	
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



Temporary Signal Design (Construction Phase II)

Prepared For

US-117 / NC-132 at NC-133 (Castle Hayne Rd)

Division 03 New Hanover County Castle Hayne

PLAN DATE: November 2013 REVIEWED BY: A.D. Klinskiak

PREPARED BY: T.R. Terrell REVIEWED BY: N.W. Rodevick

750 N. Greenfield Pkwy, Garner, NC 27529

SCALE 0 50 1"=50'

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER

SEAL 031464

MAASHA M. RODEVICK

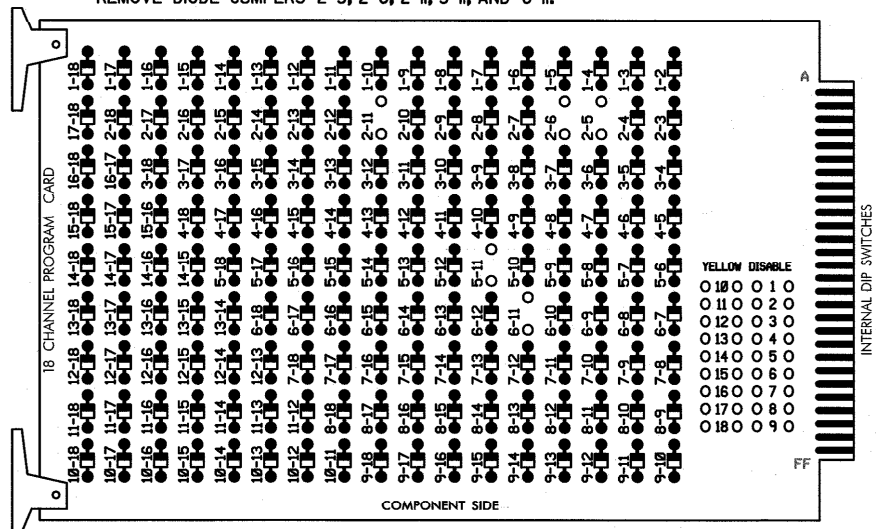
12/3/13

SIG. INVENTORY NO. 03-0192T

EDI MODEL 2018ECL-NC CONFLICT MONITOR
PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 2-5, 2-6, 2-11, 5-11, AND 6-11.



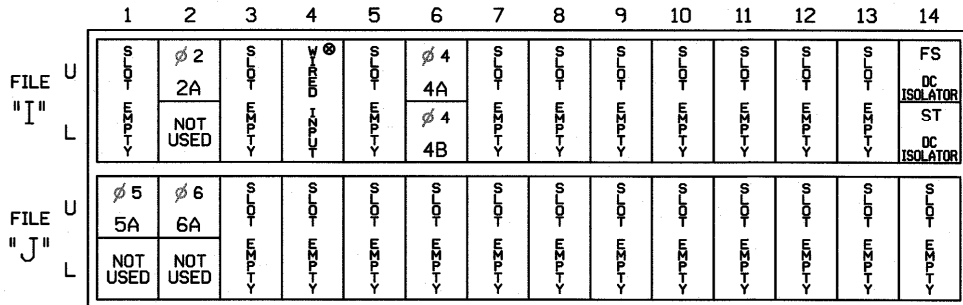
REMOVE JUMPERS AS SHOWN

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.

INPUT FILE POSITION LAYOUT

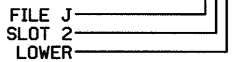
(front view)



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

Wired Input - Do not populate slot with detector card

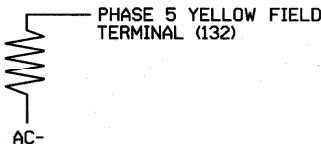
INPUT FILE POSITION LEGEND: J2L



LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown below)

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



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 Cap-Out for all phases.
- Program phases 2 and 6 for Variable Initial and Gap Reduction.
- Program phases 2 and 6 for Start Up In Green.
- Program phases 2 and 6 for Yellow Flash.

EQUIPMENT INFORMATION

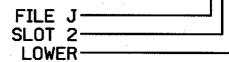
CONTROLLER.....2070L
CABINET.....332 /W/ AUX
SOFTWARE.....ECONOLITE OASIS
CABINET MOUNT.....BASE
OUTPUT FILE POSITIONS...18 (12-STD, 6-AUX)
LOAD SWITCHES USED.....S2,S5,S7,S8,AUX S4
PHASES USED.....2,4,5,6
OVERLAP "A".....NOT USED
OVERLAP "B".....NOT USED
OVERLAP "C".....5+6
OVERLAP "D".....NOT USED

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	TB2-5,6	I2U	39	1	2	2	Y	Y			
4A	TB4-9,10	I6U	41	3	4	4	Y	Y			3
4B	TB4-11,12	I6L	45	7	14	4	Y	Y			15
5A ¹	TB3-1,2	J1U	55	17	5	5	Y	Y			15
6A	TB3-5,6	J2U	40	2	6	6	Y	Y	Y		3

¹Add jumper from J1-W to I4-W on rear of input file.

INPUT FILE POSITION LEGEND: J2L



SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6
CHU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16	9	10	17	11	12	18
PHASE	1	2	PED	3	4	PED	5	6	PED	7	8	PED	OLA	OLB	SPARE	OLC	OLD	SPARE
SIGNAL HEAD NO.	NU	21,22	NU	NU	41,42	NU	51	61,62	NU	NU	NU	NU	NU	NU	NU	51	NU	NU
RED		128			101			134										
YELLOW		129			102		*	135										
GREEN		130			103			136										
RED ARROW																A114		
YELLOW ARROW																A115		
FLASHING YELLOW ARROW																A116		
GREEN ARROW							133											

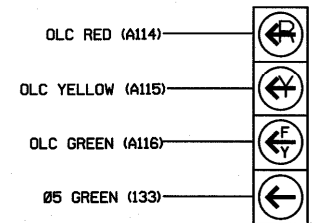
NU = Not Used

* Denotes install load resistor. See load resistor installation detail this sheet.

* See pictorial of head wiring in detail below.

4 SECTION FYA PPLT SIGNAL WIRING DETAIL

(wire signal heads as shown)



51

NOTE

- The sequence display for this signal requires special logic programming. See sheet 2 of 2 for programming instructions.

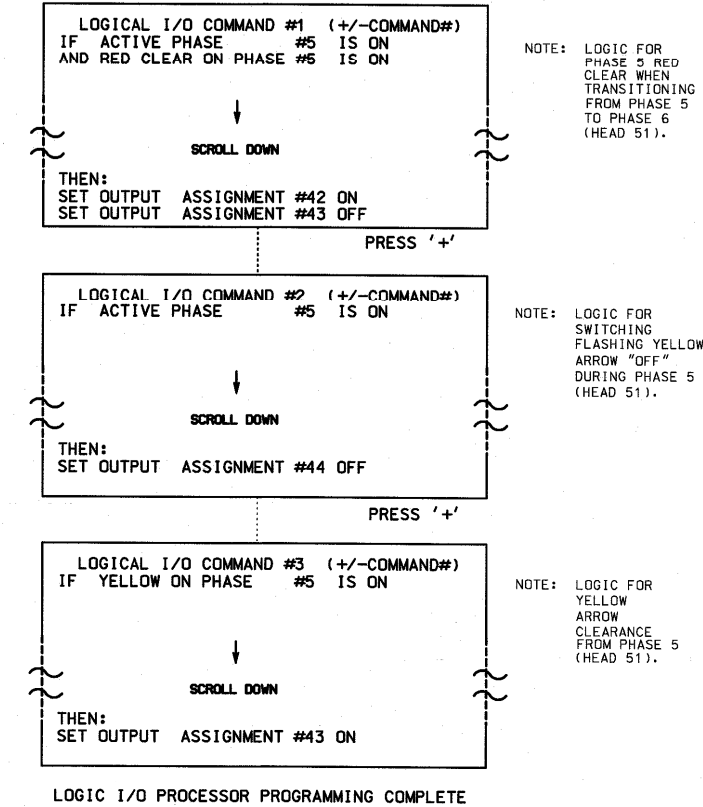
THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 03-0192T
DESIGNED: November 2013
SEALED: 12-13-2013
REVISED:

Temporary Signal (Construction Phase II)
(Sheet 1 of 2)

ELECTRICAL AND PROGRAMMING DETAILS FOR:		US-117 / NC-132 at NC-133 (Castle Hayne Rd)		SEAL NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 031464 NATASHA M. RODEVICK	
Prepared for:		Division 03 New Hanover County Castle Hayne			
PLAN DATE: November 2013		REVIEWED BY: H. L. Winstead			
PREPARED BY: A.D. Klinksiek		REVIEWED BY: N. M. Rodevick			
REVISIONS		INIT.		DATE	
750 N. Greenfield Pkwy, Garner, NC 27529		HNTB NORTH CAROLINA, P.C. 343 E. Six Forks Road, Suite 200 Raleigh, North Carolina 27609 NC License No: C-1554		12-13-13	
				516. INVENTORY NO. 03-0192T	

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).



OUTPUT REFERENCE SCHEDULE

OUTPUT 42 = Overlap C Red
OUTPUT 43 = Overlap C Yellow
OUTPUT 44 = Overlap C Green

OVERLAP PROGRAMMING DETAIL
(program controller as shown below)

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

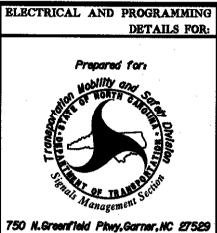
PAGE 1: VEHICLE OVERLAP 'C' SETTINGS
PHASE: 12345678910111213141516
VEH OVL PARENTS: XX
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR: - RED - YELLOW - GREEN
FLASH COLORS: - RED - YELLOW X GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (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

OVERLAP PROGRAMMING COMPLETE

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 03-0192T
DESIGNED: November 2013
SEALED: 12-13-2013
REVISED:

Temporary Signal (Construction Phase II)
(Sheet 2 of 2)



US-117 / NC-132 at NC-133 (Castle Hayne Rd)	
Division 03	New Hanover County
PLAN DATE: November 2013	REVIEWED BY: H. L. Winstead
PREPARED BY: A.D. Klinksieck	REVIEWED BY: N. M. Rodevick
REVISIONS	INIT. DATE

