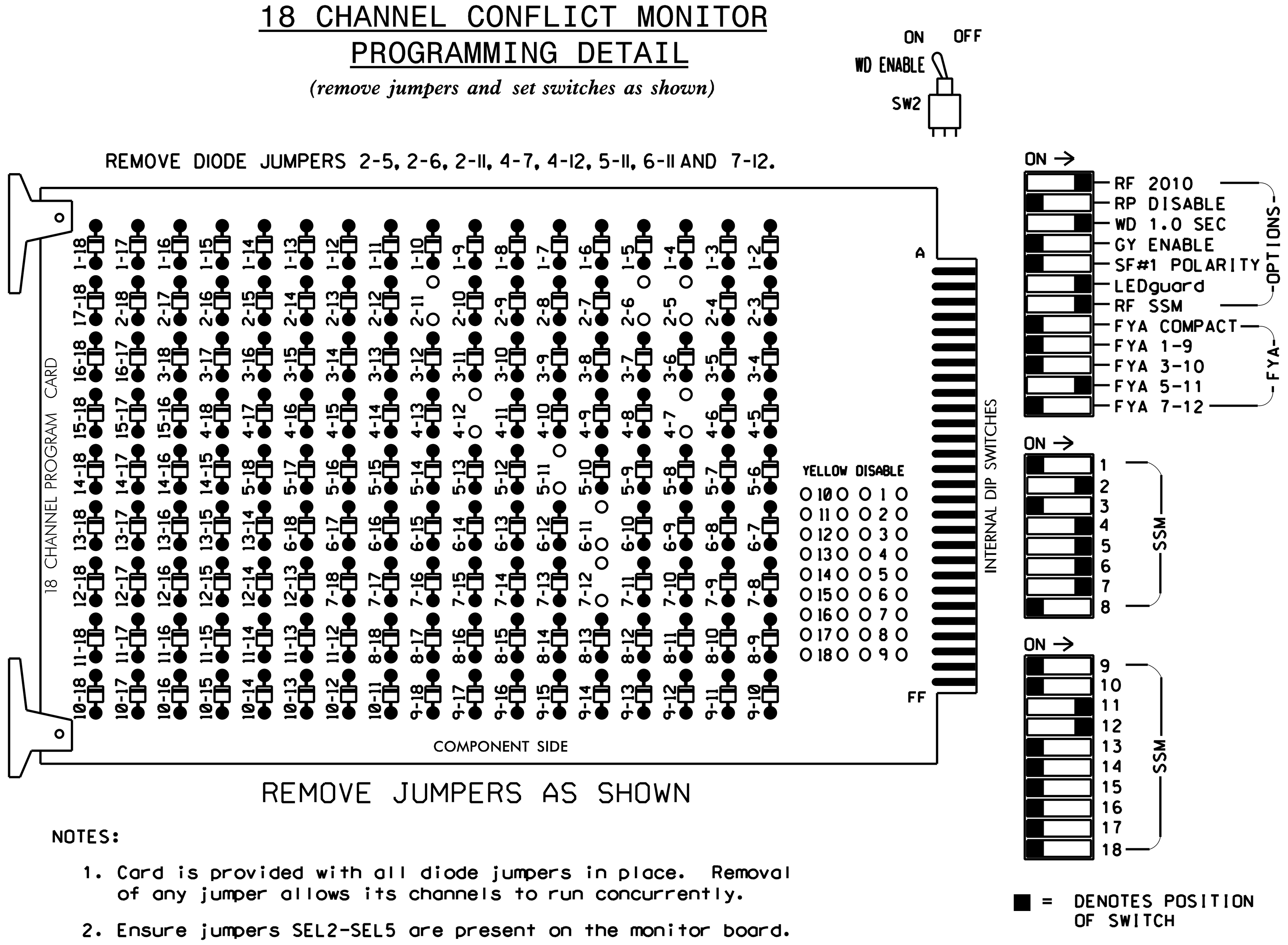
PROJECT REFERENCE NO.	SHEET NO.
U-6202	Sig. 3.1

18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 2-5, 2-6, 2-11, 4-7, 4-12, 5-11, 6-11 AND 7-12.



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 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.

INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I"	U	Ø 1 1A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	Ø 3 3A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	FS DC ISOLATOR
	L	NOT USED				NOT USED									ST DC ISOLATOR
FILE "J"	U	Ø 5 5A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	Ø 7 7A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
	L	NOT USED				NOT USED									

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

FS = FLASH SENSE
ST = STOP TIME

SPECIAL DETECTOR NOTE

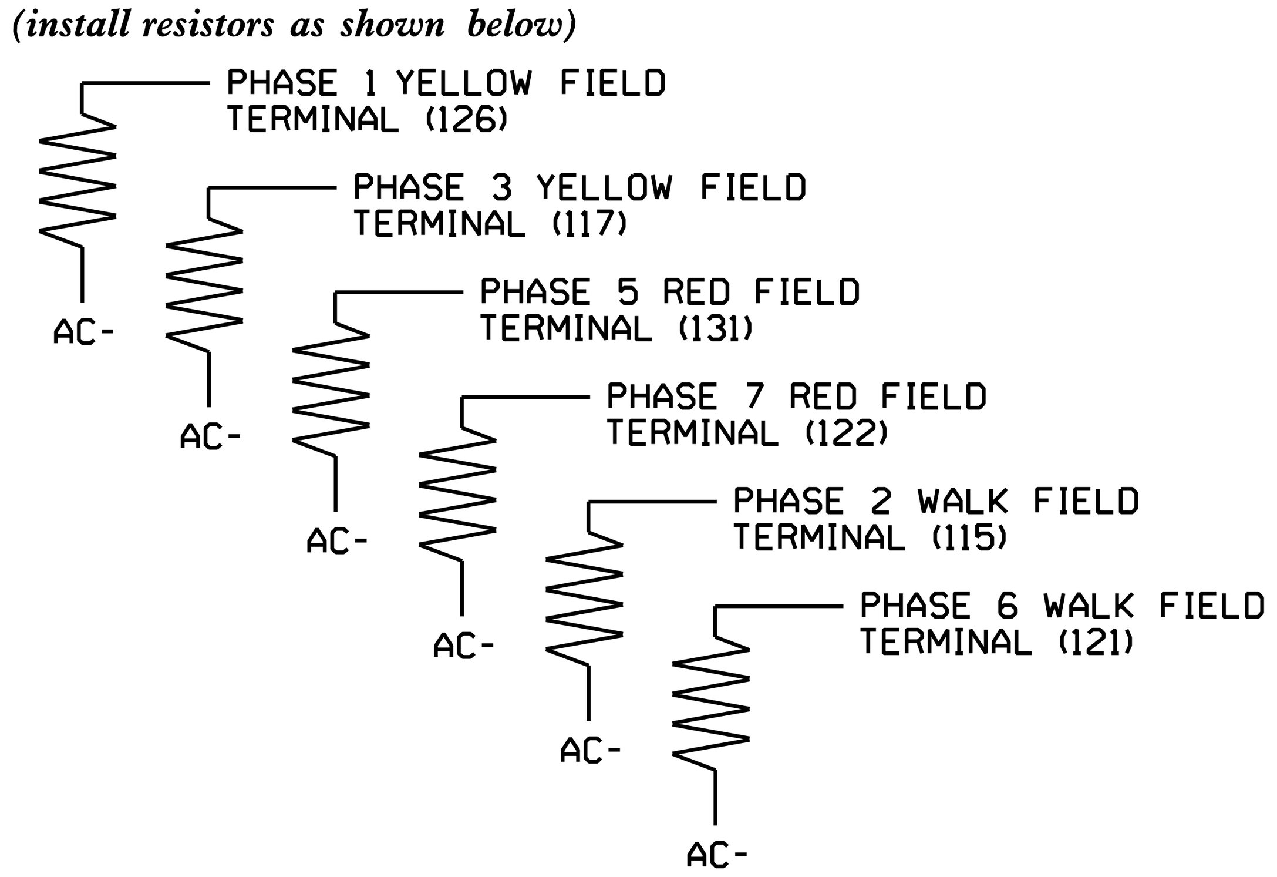
Install a multizone microwave detection system for vehicle detection. Perform installation according to manufacturer's directions and NCDOT engineer-approved mounting locations to accomplish detection schemes shown on the Signal Design Plans.

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

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. Return controller to Factory Defaults before programming per this electrical detail.
3. Enable Simultaneous Gap-Out for all Phases.
4. Program phases 2 and 6 for Startup in Green.
5. Program phases 2 and 6 for Yellow Flash.
6. The cabinet and controller are part of the Wilmington Signal System.

EQUIPMENT INFORMATION

CONTROLLER..............2070
CABINET.................332 W/ AUX
SOFTWARE................ECONOLITE OASIS
CABINET MOUNT...........BASE
OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
LOAD SWITCHES USED......S1, S2, ✱S3, S4, S5, S7, S8, ✱S9, S10, S11, AUX S1, AUX S2, AUX S4, AUX S5
PHASES USED.............2, 4, 5, 6, 7
OVERLAP "A".............NOT USED
OVERLAP "B".............NOT USED
OVERLAP "C".............5+6
OVERLAP "D".............7

✱ Used for Advanced Beacons

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
1A	TB2-1,2	I1U	56	18	1	1	Y	Y			15
	-	J4U	48	10★	26	6	Y	Y			
	-	I1U	56	18★	51	1	Y	Y			
3A	TB4-5,6	I5U	58	20	3	3	Y	Y			15
	-	J8U	50	12★	28	8	Y	Y			
	-	I5U	58	20★	53	3	Y	Y			
5A	TB3-1,2	J1U	55	17	5	5	Y	Y			15
	-	I4U	47	9★	22	2	Y	Y			
	-	J1U	55	17★	55	5	Y	Y			
7A	TB5-5,6	J5U	57	19	7	7	Y	Y			15
	-	I8U	49	11★	24	4	Y	Y			
	-	J5U	57	19★	57	7	Y	Y			

★ See Input Page Assignment programming details on sheets 4, 5, 6, and 7.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

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
CMU CHANNEL NO.	1	2	13	3	4	14	5		6	15	7		8	16	9	10	17	11	12	18
PHASE	1	2	2 PED	3	4	4 PED	5		6	6 PED	7		8	8 PED	OLA	OLB	SPARE	OLC	OLD	SPARE
SIGNAL HEAD NO.	11★	21,22	23,24	31★	41,42	NU	42	51★	61,62	25,26	62	71★	81,82	NU	11★	31★	NU	51★	71★	NU
RED		128			101		✱		134		✱		107							
YELLOW	✱	129		✱	102				135				108							
GREEN		130			103				136				109							
RED ARROW															A121	A124		A114	A101	
YELLOW ARROW							132				123				A122	A125		A115	A102	
FLASHING YELLOW ARROW															A123	A126		A116	A103	
GREEN ARROW	127			118			133	133			124	124								
(DON'T WALK)																				
PED YELLOW			✱✱ 114							✱✱ 120										
(WALK)			✱							✱										

NU = Not Used

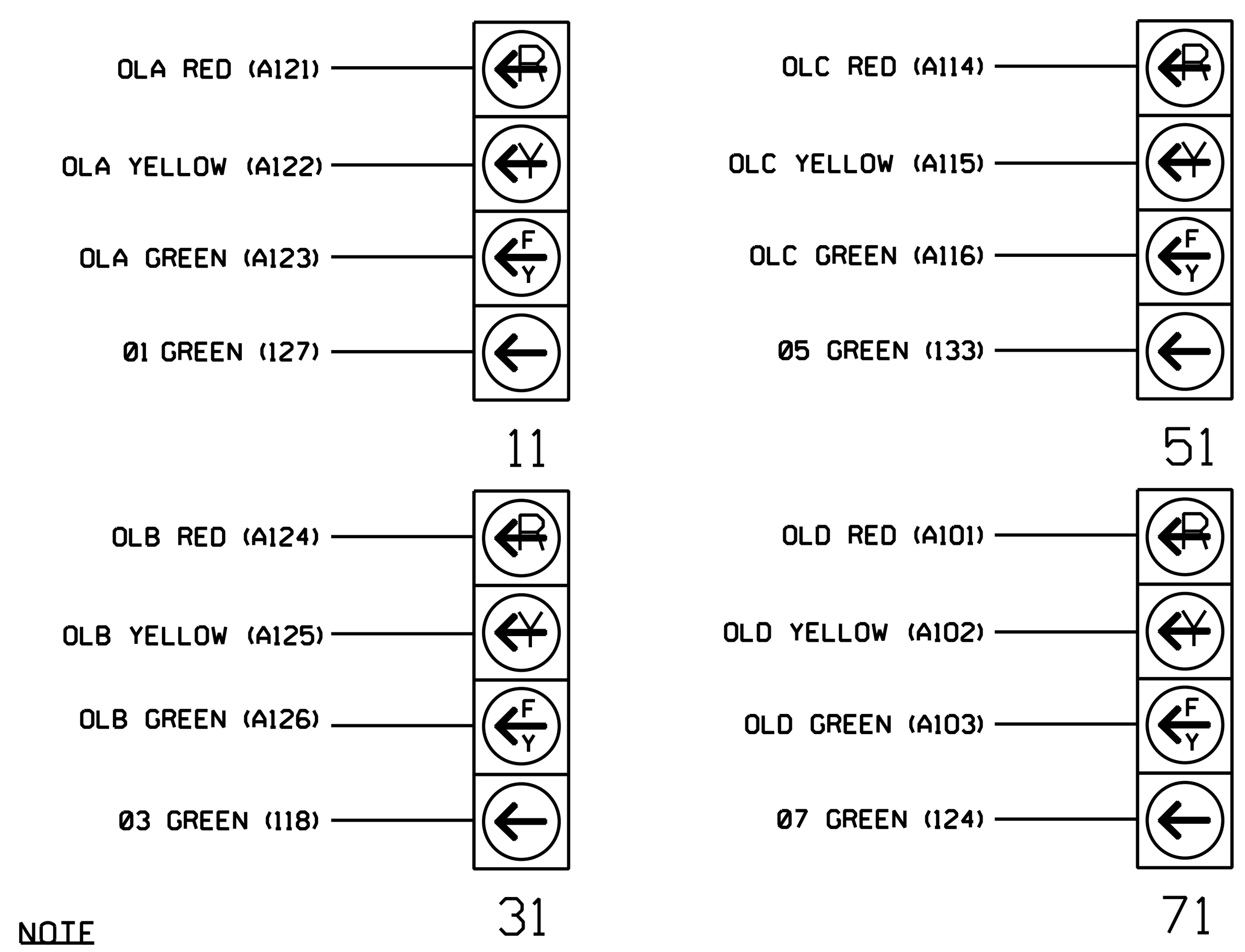
✱ Denotes install load resistor. See load resistor installation detail this sheet.

✱✱ Advance Beacons will be wired to S2P-Y and S6P-Y. See wiring and programming detail on sheet 2.

★ See pictorial of head wiring in detail this sheet.

FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)



NOTE

The sequence display for signal heads 11, 31, 51, and 71 requires special logic programming. See sheet 3 for programming instructions.

This plan supersedes the plan signed and sealed on 5/17/2024.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 03-0331T2
DESIGNED: May 2022
SEALED: 5/17/2024
REVISED:

HNTB

HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554
(919) 546-8997

Signal Upgrade-
Electrical Detail - Sheet 1 of 5
(Construction Phase 1, Step 2D)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of:
Transportation Mobility and Safety Division
ITS & Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

I-40 EB Ramp / US 117 - NC 132
(N. College Road)
at
SR 2048 (Gordon Rd)

Division 3 New Hanover County Wilmington

PLAN DATE:	August 2023	REVIEWED BY:	N.K. Vlanich
PREPARED BY:	E.E. Tiller	REVIEWED BY:	N.R. Simmons

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 031464 ENGINEER NATASHA R. SIMMONS

DocuSigned by:
Natasha R. Simmons 11/8/2024
SIGNATURE DATE

SIG. INVENTORY NO. 03-0331T2