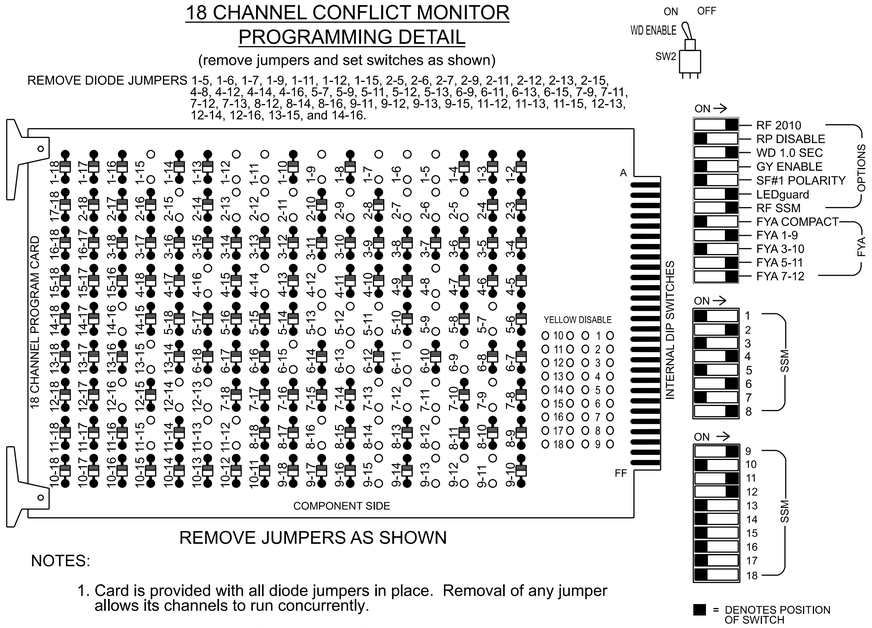
PROJECT REFERENCE NO.	SHEET NO.
-	Sig 1.1

18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 1-5, 1-6, 1-7, 1-9, 1-11, 1-12, 1-15, 2-5, 2-6, 2-7, 2-9, 2-11, 2-12, 2-13, 2-15, 4-8, 4-12, 4-14, 4-16, 5-7, 5-9, 5-11, 5-12, 5-13, 6-9, 6-11, 6-13, 6-15, 7-9, 7-11, 7-12, 7-13, 8-12, 8-14, 8-16, 9-11, 9-12, 9-13, 9-15, 11-12, 11-13, 11-15, 12-13, 12-14, 12-16, 13-15, and 14-16.



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 the 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.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the signal plan.
2. Program phases 4 and 8 for Dual Entry.
3. Program controller to start up in phase 2 Green No Walk and 6 Green No Walk.
4. Program phases 4 and 8 for Simultaneous Start.
5. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.
6. The cabinet and controller are part of the US 158 (Croatan Hwy) South D01-07_Kitty Hawk System.

EQUIPMENT INFORMATION

Controller.....2070LX
Cabinet.....332 w/ Aux
Software.....Q-Free MAXTIME
Cabinet Mount.....Base
Output File Positions.....18 With Aux. Output File
Load Switches Used.....S1, S2, S3, S5, S6, S7, S8, S9, S10, S11, S12, AUX S1, AUX S4, AUX S5
Phases Used.....1, 2, 2PED, 4, 4PED, 5, 6, 6PED, 8, 8PED
Overlap "1".....*
Overlap "2".....NOT USED
Overlap "3".....*
Overlap "4".....*
Overlap "7".....*

*See overlap programming detail on sheet 2

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	OL7	8	8 PED	OL1	OL2	SPARE	OL3	OL4	SPARE
SIGNAL HEAD NO.	11★	21,22	P21, P22	NU	41,42	P41, P42	51★	61,62	P61, P62	43★	81,82	P81, P82	11★	NU	NU	51★	43★	NU
RED		128			101			134			107						A101	
YELLOW	*	129			102		*	135		*	108							
GREEN		130			103			136			109							
RED ARROW													A121			A114		
YELLOW ARROW													A122			A115	A102	
FLASHING YELLOW ARROW													A123			A116	A103	
GREEN ARROW	127						133			124								
✋			113			104			119			110						
🚶			115			106			121			112						

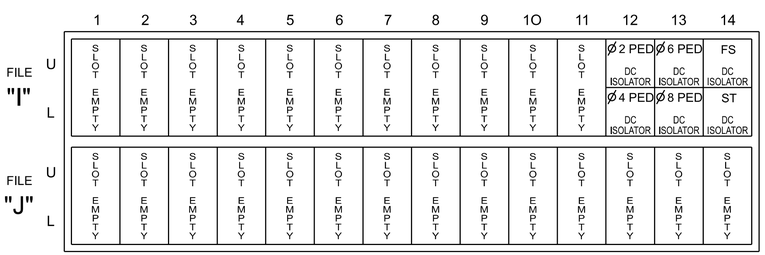
* Denotes install load resistor. See load resistor installation detail on this sheet. NU = Not Used

★ See pictorial of head wiring in detail this sheet.

NOTE: Load switch S10 has been reassigned. See Programming Details on sheet 2.

INPUT FILE POSITION LAYOUT

(front view)



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

FS = FLASH SENSE
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
1A	-	-	-	*	33 ★	1	15.0		X		X	
				-	125 ★	6			X		X	
2A	-	-	-	*	38	2			X		X	
4A	-	-	-	*	44	4	3.0		X		X	
5A	-	-	-	*	35 ★	5	15.0		X		X	
				-	127 ★	2			X		X	
5B	-	-	-	*	51	5	15.0		X		X	
6A	-	-	-	*	54	6			X		X	
8A	-	-	-	*	60	8	5.0		X		X	
PED PUSH BUTTONS												
P21,P22	TB8-4,6	I12U	67	33	2	PED 2						
P41,P42	TB8-5,6	I12L	69	35	4	PED 4						
P61,P62	TB8-7,9	I13U	68	34	6	PED 6						
P81,P82	TB8-8,9	I13L	70	36	8	PED 8						

NOTE: INSTALL DC ISOLATORS IN INPUT FILE SLOTS I12 AND I13.

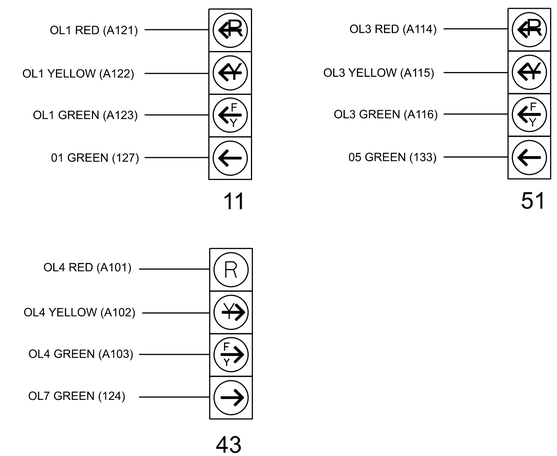
INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

★ For the detectors to work as shown on the signal plan, see the Detector Programming Detail for Alternate Phasing on sheet 2 of this plan.

* For Input Point numbers, see SDLC Non-Intrusive Detection Chart detail on this sheet.

FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)

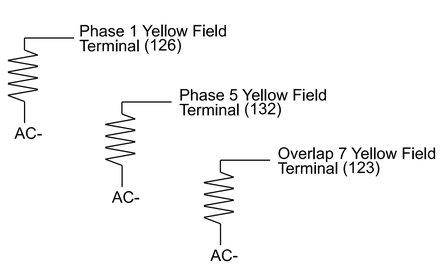


THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 01-0769
DESIGNED: May 2026
SEALED: 7/29/2026
REVISED:

LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown)

ACCEPTABLE VALUES	
Value (ohms)	Wattage
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



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 the detection schemes shown on the Signal Design Plans.

COUNTDOWN PEDESTRIAN SIGNAL OPERATION

Countdown Ped Signals are required to display timing only during Ped Clearance Interval. Consult Ped Signal Module user's manual for instructions on selecting this feature.

SDLC NON-INTRUSIVE DETECTION CHART

	Detector Rack #3		Detector Rack #4	
Input Point	Det # (Index)	Detector Zone	Det # (Index)	Detector Zone
1	33	1A	49	NU
2	34	NU	50	NU
3	35	5A	51	5B
4	36	NU	52	NU
5	37	NU	53	NU
6	38	2A	54	6A
7	39	NU	55	NU
8	40	NU	56	NU
9	41	NU	57	NU
10	42	NU	58	NU
11	43	NU	59	NU
12	44	4A	60	8A
13	45	NU	61	NU
14	46	NU	62	NU
15	47	NU	63	NU
16	48	NU	64	NU

NU = Not Used

Electrical Detail - Sheet 1 of 3

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Electrical and Programming Details For:

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

US 158
(South Croatan Highway)
at
East Lakeside St. / West Lakeside St.

Division 01 Dare County Nags Head

PLAN DATE: July 2026	REVIEWED BY: DJC
PREPARED BY: N. Moser	REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 061379 ENGINEER D. JAKE CRADDOCK

DocuSigned by: D. Jake Craddock 37192691787C42F 07/30/2026
DATE

SIG. INVENTORY NO. 01-0769

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