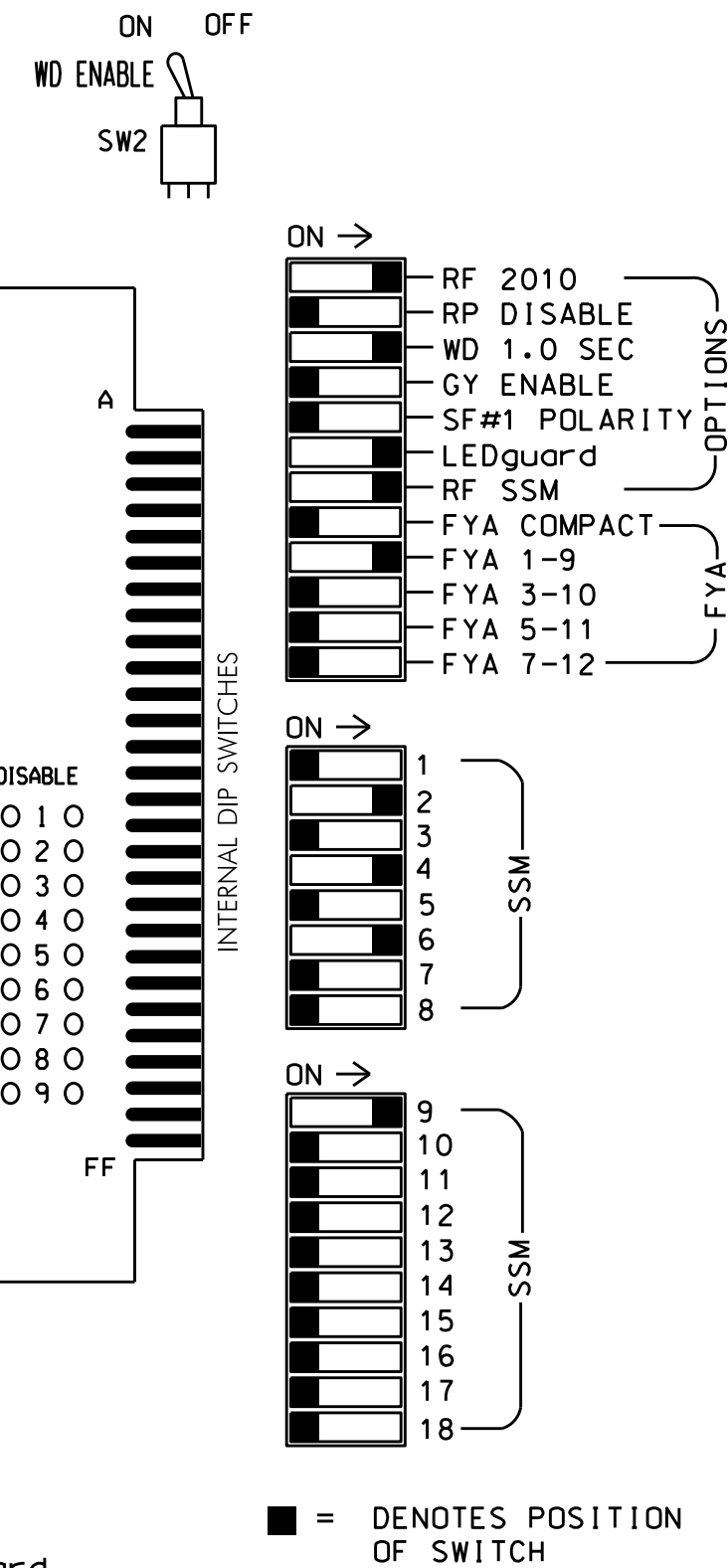
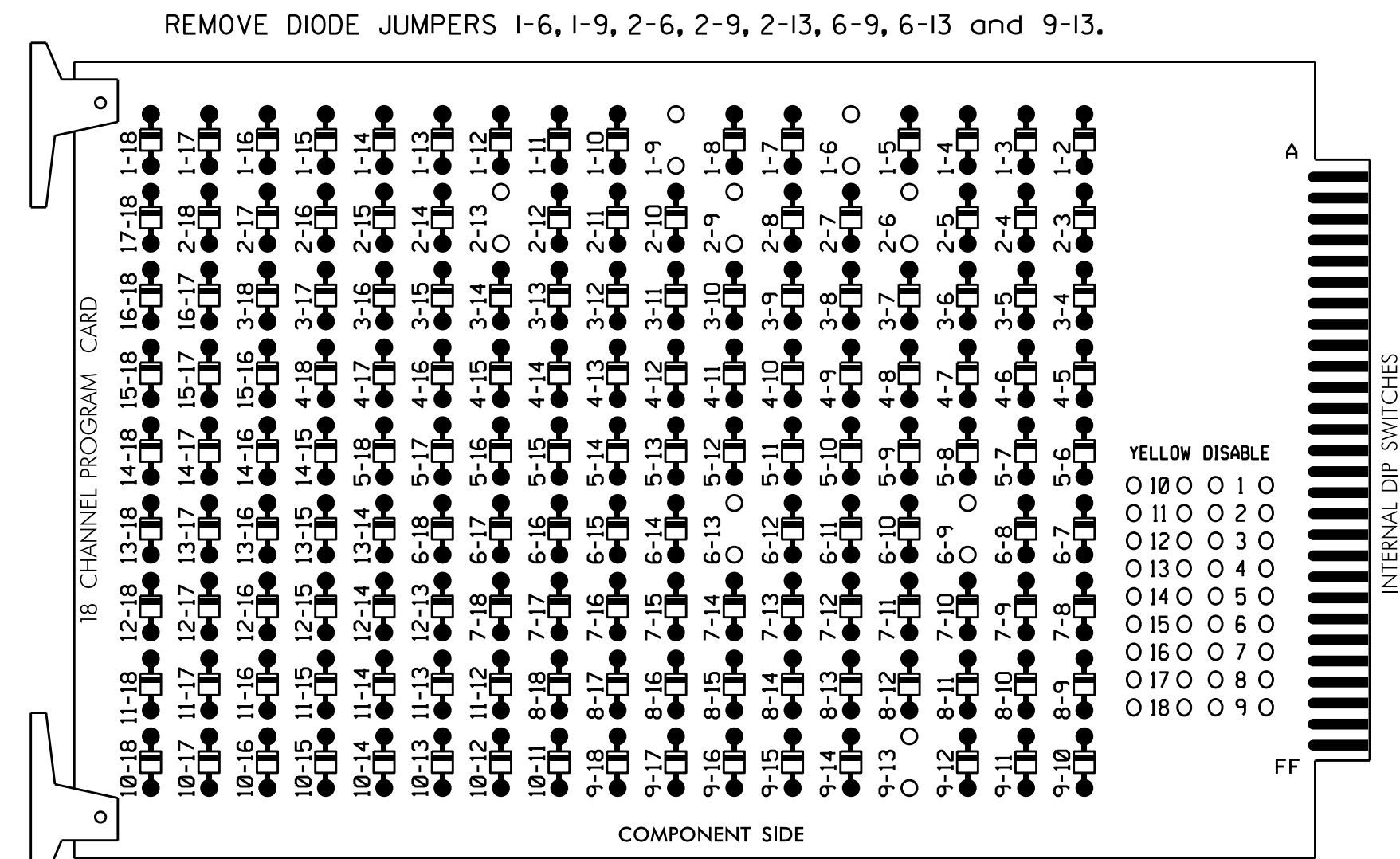


18 CHANNEL IP CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



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.
- Program controller to start up in phases 2 and 6 Green.
- The cabinet and controller are part of the Durham Signal System.

EQUIPMENT INFORMATION

CONTROLLER.....2070LX
 CABINET.....332 W/AUX
 SOFTWARE.....ECONOLITE ASC/3-2070
 CABINET MOUNT.....BASE
 OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
 LOAD SWITCHES USED.....S1,S2,S3,S5,S8,AUX S1
 PHASES USED.....1,2,2 PED,4,6
 OVERLAP "A".....*
 OVERLAP "B".....NOT USED
 OVERLAP "C".....NOT USED
 OVERLAP "D".....NOT USED

* 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	7	8	8 PED	OLA	OLB	SPARE	OLC	OLD	SPARE	
SIGNAL HEAD NO.	11*	21,22	P21, P22	NU	41,42	NU	NU	61,62	NU	NU	NU	NU	11*	NU	NU	NU	NU	NU	
RED		128			101			134											
YELLOW	*	129			102			135											
GREEN					103														
RED ARROW																		A121	
YELLOW ARROW																			A122
FLASHING YELLOW ARROW																			A123
GREEN ARROW	127	130						136											
Hand																			113
Foot																			115

NU = Not Used

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

★ See pictorial of head wiring in detail this sheet.

INPUT FILE POSITION LAYOUT

(front view)

FILE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
U	∅ 1	∅ 2	∅ 2	S	S	∅ 4	S	S	S	S	S	∅ 2 PED	S	FS
I	1A	2A	2C	S	S	4A	S	S	S	S	S	DC ISOLATOR	S	DC ISOLATOR
L	NOT USED	∅ 2	NOT USED	S	S	4B	S	S	S	S	S	NOT USED	S	DC ISOLATOR
U	S	∅ 6	∅ 6	S	S	S	S	S	S	S	S	S	S	S
I	S	6A	6C	S	S	S	S	S	S	S	S	S	S	S
L	S	∅ 6	NOT USED	S	S	S	S	S	S	S	S	S	S	S
	S	6B		S	S	S	S	S	S	S	S	S	S	S

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

See GPS Preemption Installation Note Below

⊗ Wired Input - Do not populate slot with detector card

FS = FLASH SENSE

ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND TIME	DELAY TIME	ADDED INITIAL	DETECTOR TYPE
1A ¹	TB2-1,2	I1U	56	1 ★	1	YES		15		N
2A	TB2-5,6	J4U	48	26 ★	6	YES				N
2B	TB2-7,8	I2L	43	12	2	YES				N
2C	TB2-9,10	I3U	63	32	2	YES				N
4A	TB4-9,10	I6U	41	4	4	YES				N
4B	TB4-11,12	I6L	45	14	4	YES		15		N
6A	TB3-5,6	J2U	40	6	6	YES				N
6B	TB3-7,8	J2L	44	16	6	YES				N
6C	TB3-9,10	J3U	64	36	6	YES				N

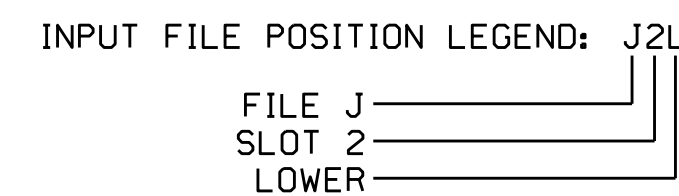
PED PUSH BUTTONS

P21,P22	TB8-4,6	I12U	67	PED 2	2 PED
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NOTE:
INSTALL DC ISOLATORS
IN INPUT FILE SLOT 112.

¹Add jumper from I1-W to J4-W, on rear of input file.

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



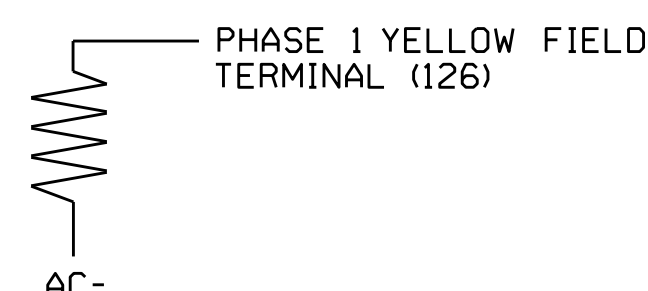
SPECIAL DETECTOR NOTE

Install a GPS preemption system. Perform installation according to manufacturer's directions and NCDOT engineer approved mounting location to accomplish the preemption schemes shown on the Signal Design Plans.

LOAD RESISTOR INSTALLATION DETAIL

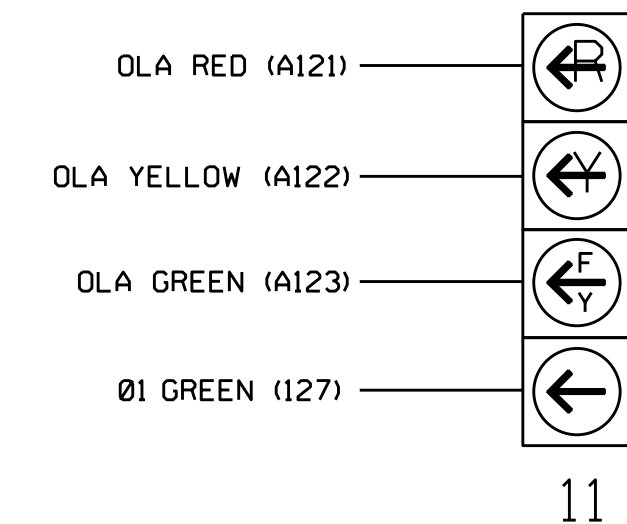
(install resistors as shown)

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



FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)



COUNTDOWN PEDESTRIAN SIGNAL OPERATION

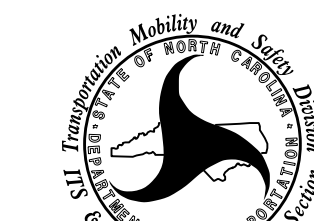
Countdown Ped Signals are required to display timing only during Ped Clearance Interval. Consult Ped Signal Module user's manual for instructions on selecting this feature.

THIS ELECTRICAL DETAIL IS FOR
 THE SIGNAL DESIGN: 05-1235
 DESIGNED: June 2023
 SEALED: 09/05/2023
 REVISED: N/A

Electrical Detail - Sheet 1 of 3

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of:



750 N. Greenfield Pkwy, Corner, NC 27529

SR 1401 (Cole Mill Road)
 at
 I-85 NB/US 70 EB Ramps

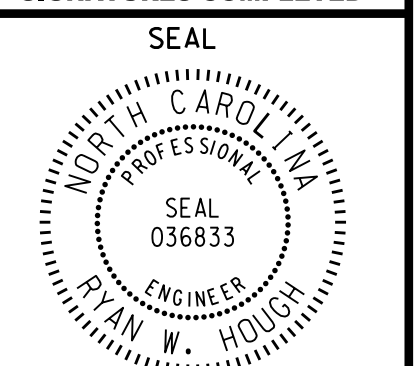
Division 5 Durham County Durham

PLAN DATE: August 2023 REVIEWED BY:

PREPARED BY: S.Kirkpatrick REVIEWED BY:

REVISIONS	INIT.	DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



DocuSigned by: Ryan W. Hough 09/05/2023

SIG. INVENTORY NO. 05-1235