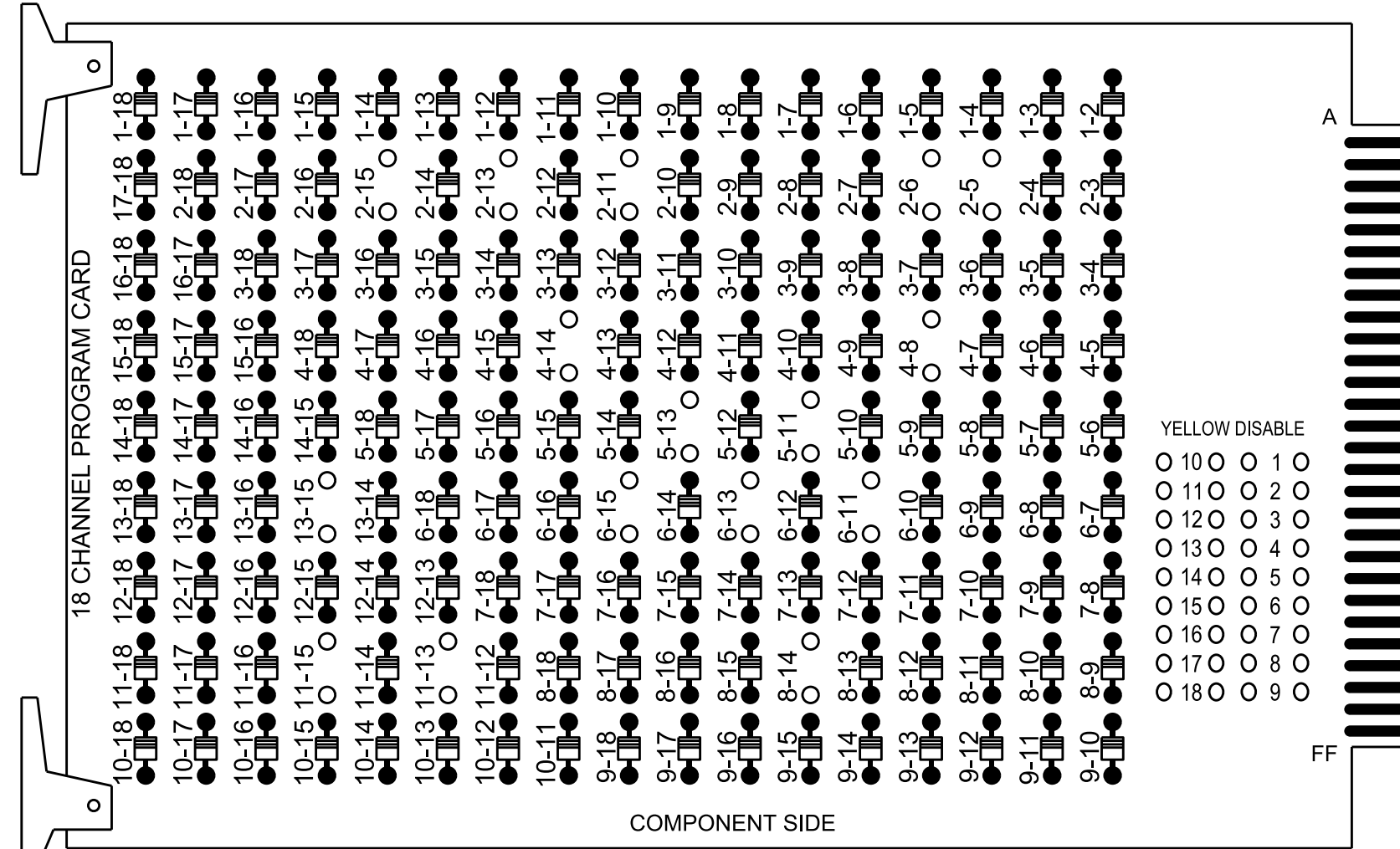


18 CHANNEL IP CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

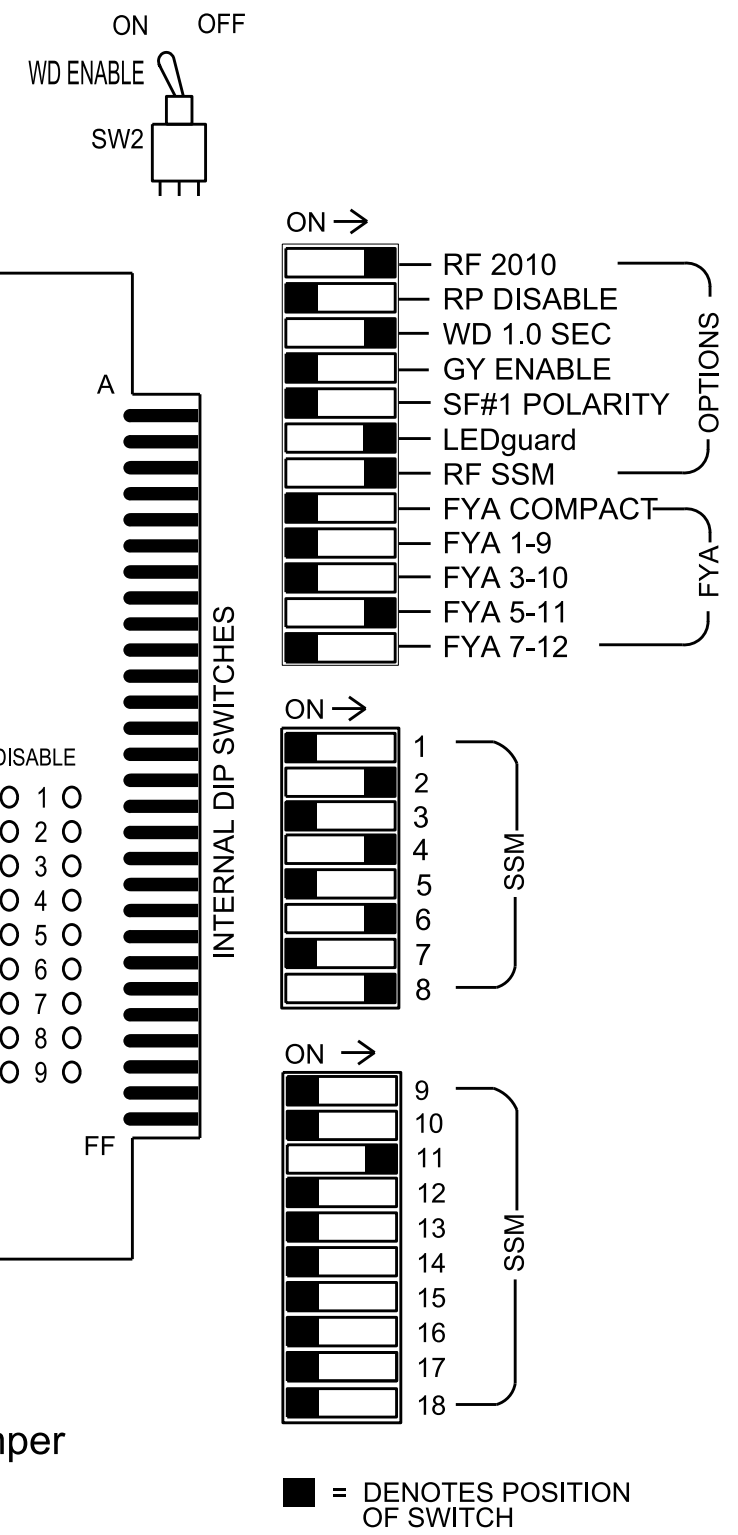
REMOVE DIODE JUMPERS 2-5, 2-6, 2-11, 2-13, 2-15, 4-8, 4-14, 5-11, 5-13, 6-11, 6-13, 6-15, 8-14, 11-13, 11-15, and 13-15.



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 the Red Enable is active at all times during normal operation.
- Integrate monitor with Ethernet network in cabinet.



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 plan.
- Program phases 4 and 8 for Dual Entry and Simultaneous Start.
- Program controller to start up in phase 2 Green No Walk and 6 Green No Walk.
- If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.
- The cabinet and controller are part of the D13-22_Ashville 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.....S2, S3, S5, S7, S8, S9, S11, S12, AUX S4
 Phases Used.....2, 2PED, 4, 5, 6, 6PED, 8, 8PED
 Overlap "1".....NOT USED
 Overlap "2".....NOT USED
 Overlap "3".....*
 Overlap "4".....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	OL1	OL2	SPARE	OL3	OL4	SPARE
SIGNAL HEAD NO.	NU	21,22	P21, P22	NU	41,42	NU	51	61,62	P61, P62	NU	81,82	P81, P82	NU	NU	NU	51	NU	NU
RED		128			101			134			107							
YELLOW		129			102		*	135			108							
GREEN		130			103			136			109							
RED ARROW																		A114
YELLOW ARROW																		A115
FLASHING YELLOW ARROW																		A116
GREEN ARROW								133										
											119							110
											121							112

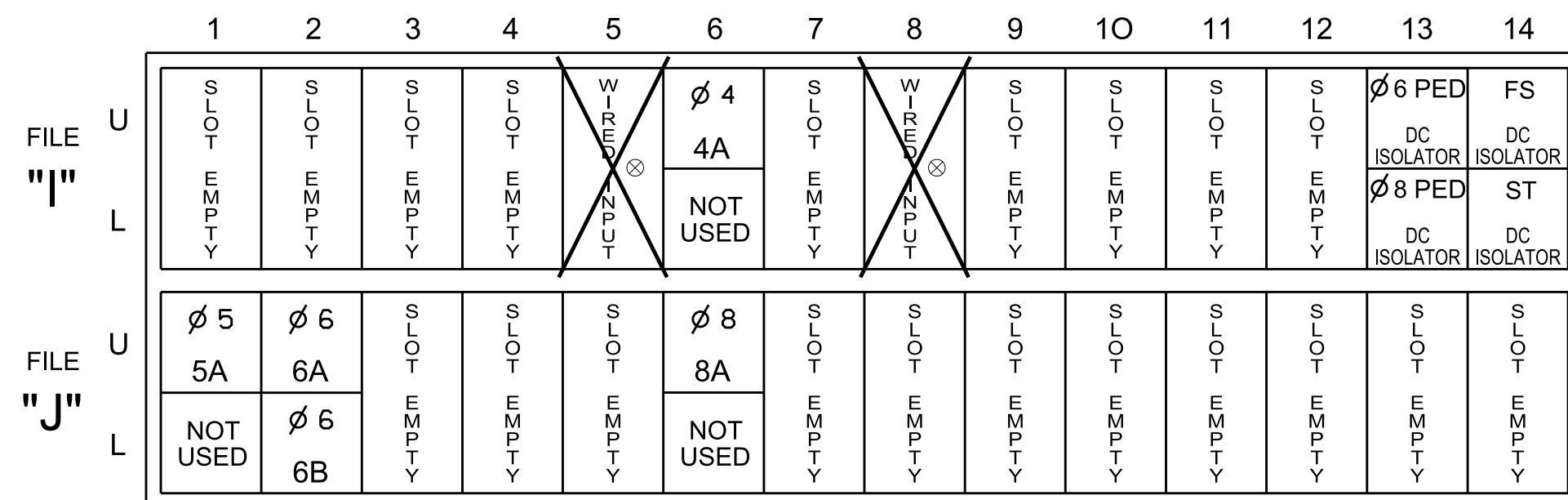
* Denotes install load resistor. See load resistor installation detail this sheet.
 * See pictorial of head wiring in detail this sheet. NU = Not Used

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.

INPUT FILE POSITION LAYOUT

(front view)



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

FS = FLASH SENSE
 ST = STOP TIME

NOTE: REMOVE EXISTING JUMPERS ASSOCIATED W/ DETECTOR SLOTS 15 AND 18 FROM REAR OF INPUT FILE.

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
4A	TB4-9,10	I6U	41	3	8	4	10		X		X	
5A	TB3-1,2	J1U	55	17	15	5	15		X		X	
6A	TB3-5,6	J2U	40	2	16	6			X		X	
6B	TB3-7,8	J2L	44	6	17	6			X		X	
8A	TB5-9,10	J6U	42	4	22	8	10		X		X	
PED PUSH BUTTONS												
P61,P62	TB8-7,9	I13U	68	34	6	PED 6						
P81,P82	TB8-8,9	I13L	70	36	8	PED 8						

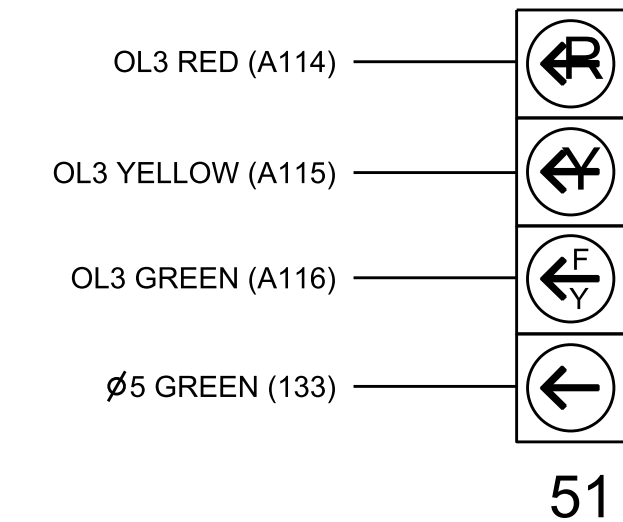
NOTE: INSTALL DC ISOLATOR IN INPUT FILE SLOT I13.
 INPUT FILE POSITION LEGEND: J2L
 FILE J
 SLOT 2
 LOWER

SPECIAL DETECTOR NOTE

For Zone 2A 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.

FYA SIGNAL WIRING DETAIL

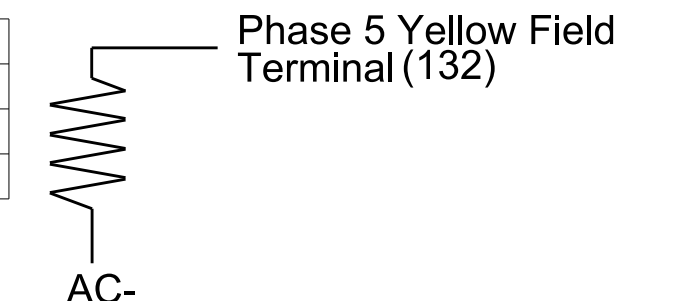
(wire signal heads as shown)



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)



OVERLAP PROGRAMMING

Front Panel
 Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings
 Web Interface
 Home >Controller >Overlap Configuration >Overlaps

Overlap Plan 1

Overlap	1	2	3	4
Type	Off	Off	FYA 4 - Section	Off
Included Phases	-	-	6	-
Modifier Phases	-	-	5	-
Modifier Overlaps	-	-	-	-
Trail Green	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0

BACKUP PREVENTION PROGRAMMING

Front Panel
 Main Menu >Controller >Sequence & Phs Config >Backup Prevention >Backup Protection Plan
 Web Interface
 Home >Controller > Backup Prevention >Backup Protection Plan

Sequence 1

No Backup Phase	1	2	3	4	5	6	7	8
Serve Phase 1	-	-	-	-	-	-	-	-
Serve Phase 2	-	-	-	-	-	-	-	-
Serve Phase 3	-	-	-	-	-	-	-	-
Serve Phase 4	-	-	-	-	-	-	-	-
Serve Phase 5	-	-	-	-	-	-	-	-
Serve Phase 6	-	-	-	-	X	-	-	-
Serve Phase 7	-	-	-	-	-	-	-	-
Serve Phase 8	-	-	-	-	-	-	-	-

ALL RED BACKUP PROGRAMMING

Front Panel
 Main Menu >Controller >Sequence & Phs Config >Backup Prevention >Backup Through Red
 Web Interface
 Home >Controller >Backup Prevention >Backup Calls Phase Plans >(scroll down) to Backup Through Red

Backup Through All Red

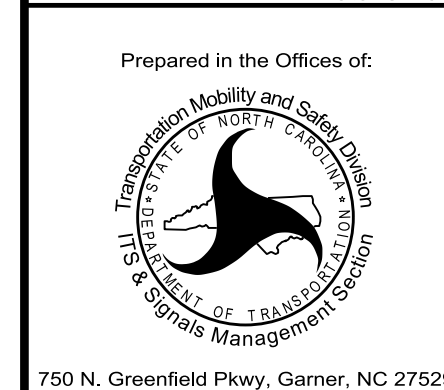
Sequence	Backup Through All Red
1	YES

THIS PLAN SUPERSEDES THE PLAN SIGNED AND SEALED ON 12/7/2024.

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 13-0218
 DESIGNED: December 2023
 SEALED: 2/9/2024
 REVISED:

Electrical Detail

Electrical and Programming Details For:



750 N. Greenfield Pkwy, Garner, NC 27529

US 19-23 Business / SR 3548 (Haywood Road) at I-240 EB Ramp / Hanover Street
 Division 13 Buncombe County Asheville
 PLAN DATE: January 2024 REVIEWED BY: D.T.J.
 PREPARED BY: D.J. Craddock REVIEWED BY:

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL
 NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL 031001
 ENGINEER TODD JOYCE
 DocuSigned by: D. Todd Joyce 02/09/2024
 DATE
 SIG. INVENTORY NO. 13-0218