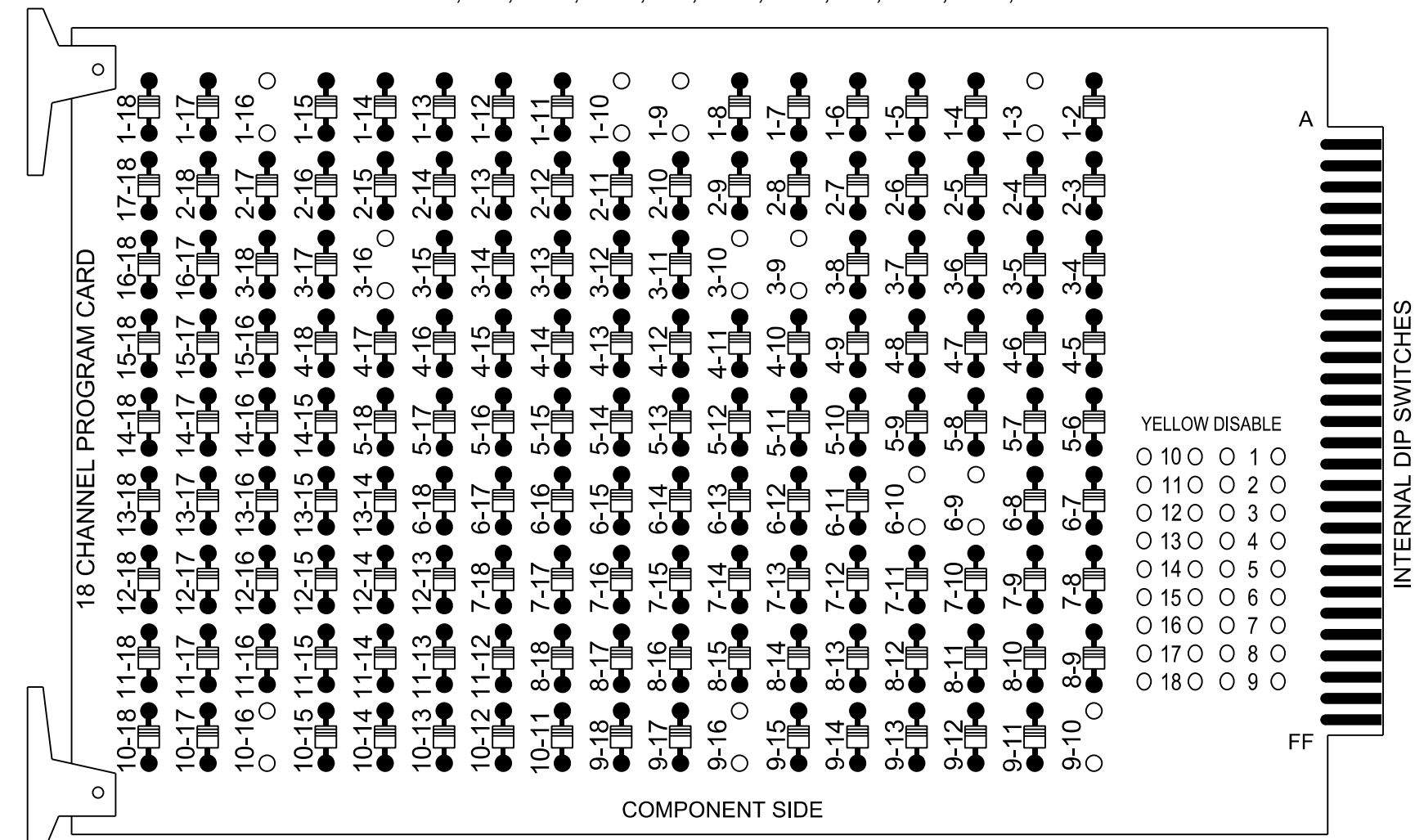


### 18 CHANNEL IP CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPER 1-3, 1-9, 1-10, 1-16, 3-9, 3-10, 3-16, 6-9, 6-10, 9-10, 9-16 and 10-16.



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 3 and 8 for Dual Entry.
- Program controller to start up in phase 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 Belmont Signal 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, S4, S8, S12, AUX S1, AUX S2  
 Phases Used.....3, 6, \*\*8, 8 PED  
 Overlap "1".....\*  
 Overlap "2".....\*  
 Overlap "3".....NOT USED  
 Overlap "4".....NOT USED  
 Overlap "7".....\*  
 \* See overlap programming details on this sheet.  
 \*\* Phase used for timing purposes only.

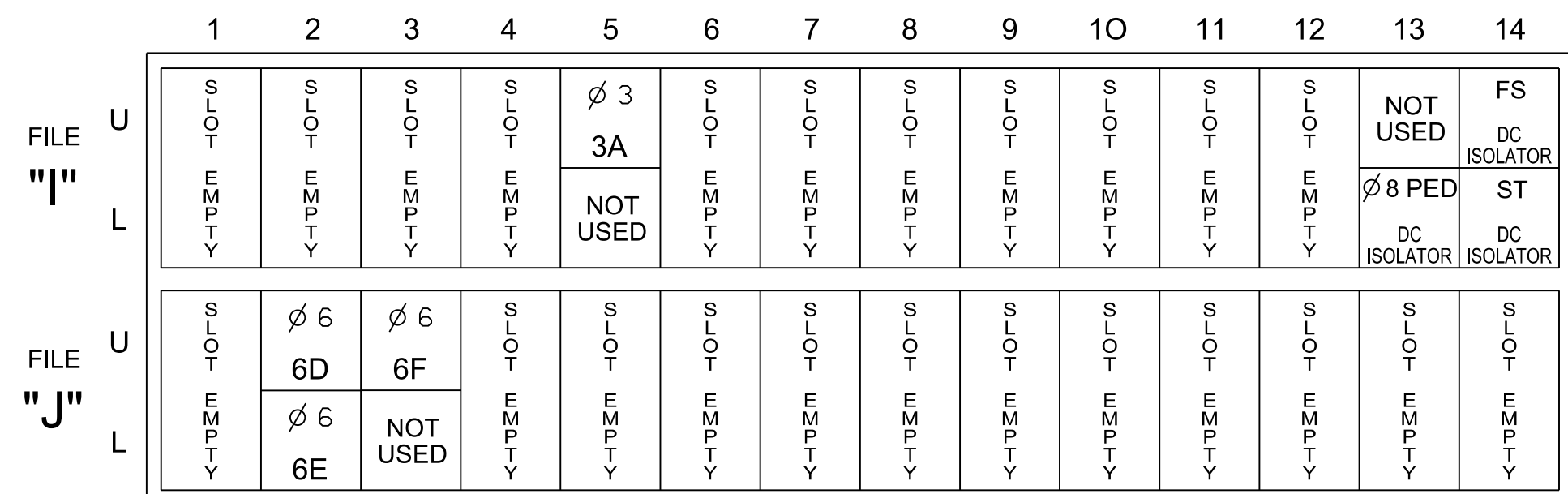
### SIGNAL HEAD HOOK-UP CHART

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	OL7	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED	OL1	OL2	SPARE	OL3	OL4	SPARE
SIGNAL HEAD NO.	32*	NU	NU	31*	NU	NU	NU	61	62,63	NU	NU	NC	P81, P82	32*	31*	NU	NU	NU
RED								134	134									
YELLOW	*			*				135	135									
GREEN								136										
RED ARROW													A121	A124				
YELLOW ARROW													A122	A125				
FLASHING YELLOW ARROW													A123	A126				
GREEN ARROW	127			118				136										
Hand													110					
Walking																		

NU = Not Used  
 NC = No Connection  
 \* 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)



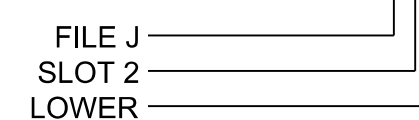
EX. : 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE  
 ST = STOP TIME

### INPUT FILE CONNECTION & PROGRAMMING CHART

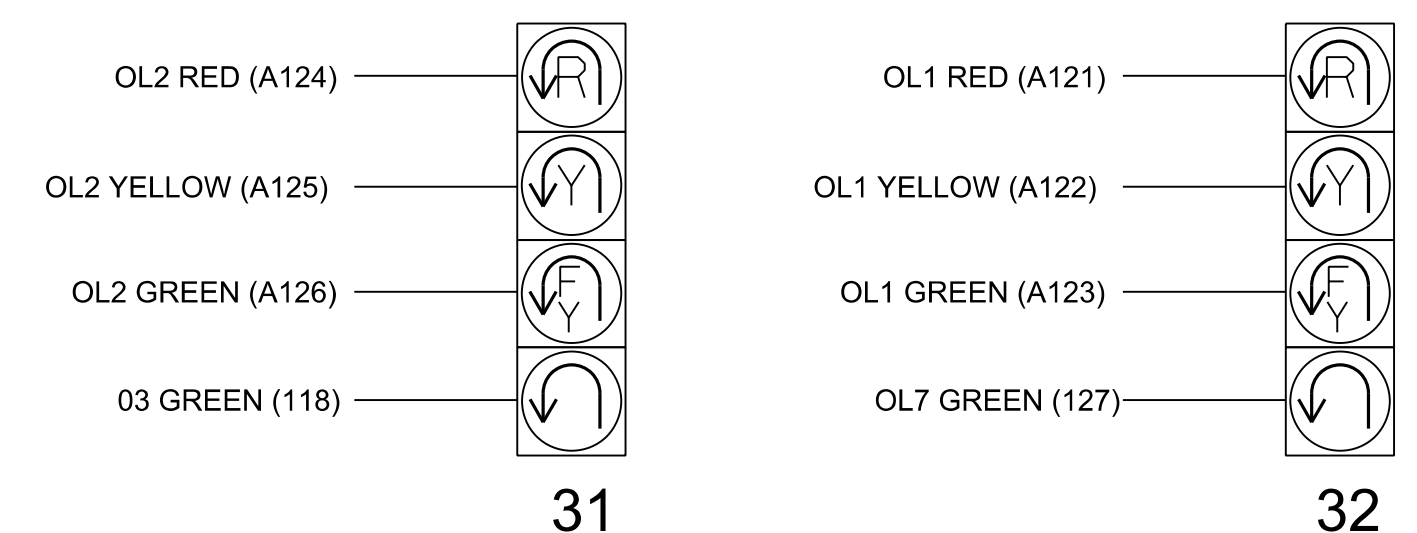
LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
3A	TB4-5,6	I5U	58	20	7	3	15.0			X	X	
6D	TB3-5,6	J2U	40	2	16	6	5.0	2.0	X		X	X
6E	TB3-7,8	J2L	44	6	17	6	5.0	2.0	X		X	X
6F	TB3-9,10	J3U	64	30	18	6	5.0	2.0	X		X	X
PED PUSH BUTTONS												
P81,P82	TB8-8,9	I13L	70	36	8	PED 8						

INPUT FILE POSITION LEGEND: J2L



### FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)



### 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	7
Type	FYA 4 - Section	FYA 4 - Section	Normal
Included Phases	6	6	3
Modifier Phases	-	3	-
Modifier Overlaps	7	-	-
Trail Green	0	0	0
Trail Yellow	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0

### COUNTDOWN PEDESTRIAN SIGNAL OPERATION

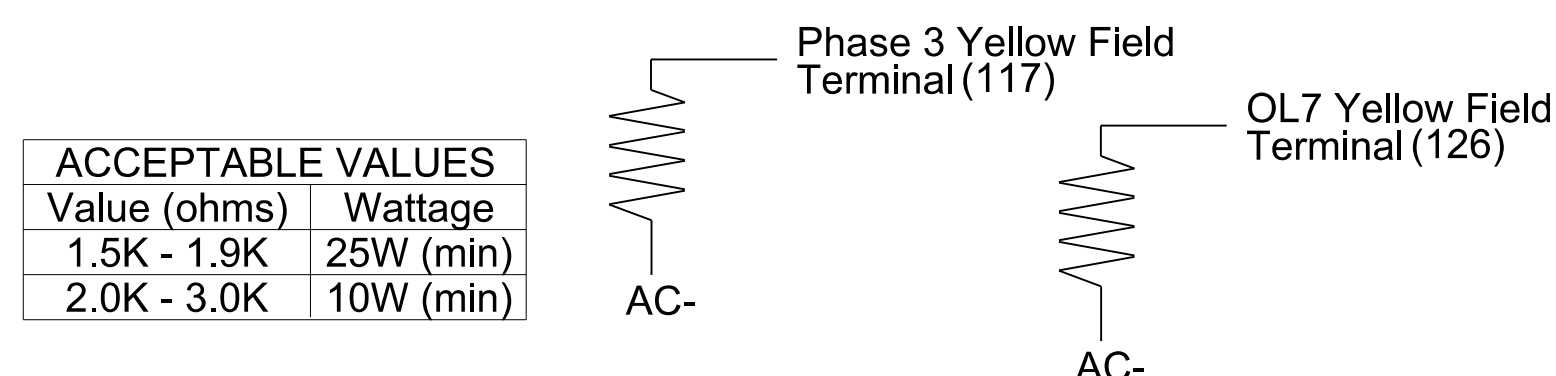
Countdown Ped Signals are required to display timing only during Ped Clearance Interval. Consult Ped Signal Module user's manual for instructions on selecting this feature.

### SPECIAL DETECTOR NOTE

Install a video detection system for vehicle detection for zones 6A, 6B and 6C. Perform installation according to manufacturer's directions and NCDOT engineer-approved mounting locations to accomplish the detection schemes shown on the Signal Design Plans.

### LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown)



THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 12-1920  
 DESIGNED: August 2025  
 SEALED: 8/1/2025  
 REVISED: N/A

Signal Upgrade - Final Design - Electrical Detail-Sheet 1 of 2

Electrical and Programming Details For: **US 29-74 (Wilkinson Blvd) at Eastbound U-Turn Bulb West of Catawba River Bridge**

Division 12 Gaston County Belmont

Prepared for the Offices of: **David J. Sears**

PLANNING ENGINEER

PLAN DATE: August 2025 REVIEWED BY: CB Holden  
 PREPARED BY: WP Erickson-Jones REVIEWED BY: DT Sears

REVISIONS: \_\_\_\_\_ INIT. DATE

750 N. Greenfield Pkwy, Garner, NC 27529

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL NORTH CAROLINA PROFESSIONAL ENGINEER DAVID T. SEARS 044558

8/1/2025

SIG. INVENTORY NO. 12-1920

8/1/2025 R:\Projects\6051\Signal\6051\_Sig\13.1\Signal\_121920e.dsn-dgn

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