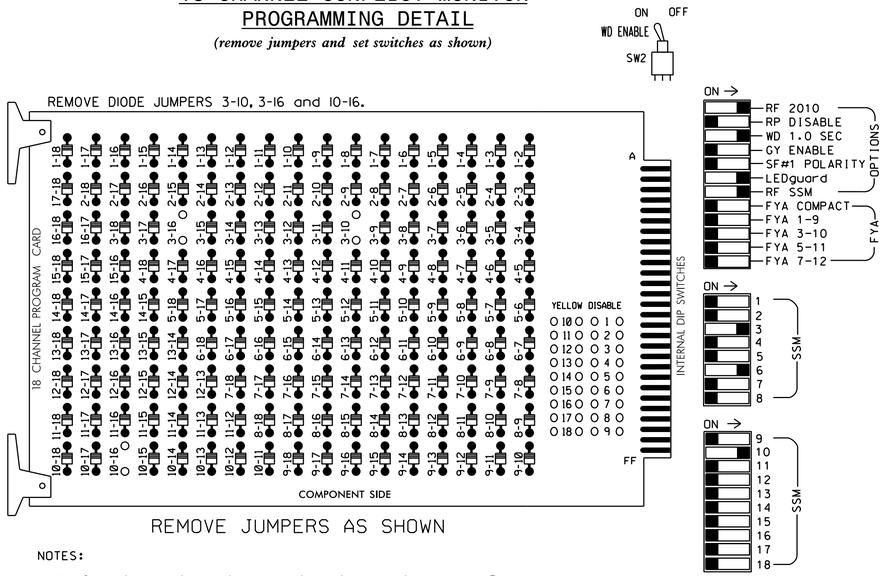
PROJECT REFERENCE NO.	SHEET NO.
U-5302	Sig. 9.1

18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE JUMPERS AS SHOWN

■ = DENOTES POSITION OF SWITCH

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 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 unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
2. Program controller to start up in phases 2 and 6 Green/ Don't Walk.
3. Enable simultaneous gap-out feature for all phases.
4. Program phase 6 for volume density operation.
5. The cabinet and controller are part of the Raleigh Signal System.

EQUIPMENT INFORMATION

CONTROLLER.....2070LX
CABINET.....332 W/ AUX
SOFTWARE.....SE-PAC2070 ver 5.5 or later
CABINET MOUNT.....BASE
OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
LOAD SWITCHES USED.....S4,S8,S12,AUX S2
PHASES USED.....*2,3,3PED,6
OVERLAP "A".....NOT USED
OVERLAP "B".....**
OVERLAP "C".....NOT USED
OVERLAP "D".....NOT USED

* Phase used for timing purposes only.
** 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	3 PED	OLA	OLB	SPARE	OLC	OLD	SPARE
SIGNAL HEAD NO.	NU	NC	NU	31	NU	NU	NU	61,62, 63	NU	NU	NU	P31, P32	NU	32	NU	NU	NU	NU
RED								134										
YELLOW								135										
GREEN																		
RED ARROW				116										A124				
YELLOW ARROW				117										A125				
GREEN ARROW				118				136						A126				
✋												110						
🚶												112						

NU = Not Used
NC = Not Connected

ALL RED FLASH STARTUP PROGRAMMING DETAIL

(program controller as shown below)

1. From Main Menu select [4 - UNIT DATA]
2. From UNIT DATA Submenu select [1 - STARTUP & MISC]

```
EPAC STARTUP & MISC
STARTUP TIME.:  6 (SEC) STATE: 2 (0-FL
RED REV/10...: 40 (TSEC)          1-RED
AUTO PED CLR.: 0 (0-NO  1-YES)    2-RAF)
STOP T RESET.: 0 (0-NO  1-YES)
SEQUENCE.....: 1 (1-19)
SPECIAL SEQ  : 0 (SEE HELP)
A-UP B-DN C-LT D-RT E-ENTER F-PRIOR MENU
```

STARTUP PROGRAMMING COMPLETE
PRESS 'F' TO RETURN TO UNIT DATA

INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I"	U	SLOT	SLOT	SLOT	SLOT	Ø3 3A	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	NOT USED	FS DC ISOLATOR
	L	EMPTY	EMPTY	EMPTY	EMPTY	NOT USED	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	Ø3 PED DC ISOLATOR	ST DC ISOLATOR
FILE "J"	U	SLOT	Ø6 6A	Ø6 6C	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT
	L	EMPTY	Ø6 6B	NOT USED	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY

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.	DETECTOR NO.	NEMA PHASE	DELAY TIME	EXTEND (STRETCH) TIME
3A	TB4-5,6	I5U	58	9	3		
6A	TB3-5,6	J2U	40	21	6		
6B	TB3-7,8	J2L	44	22	6		
6C	TB3-9,10	J3U	64	23	6		
PED PUSH BUTTONS							
P31,P32	TB8-8,9	I13L	70	PED 8	3 PED		

NOTE:
INSTALL DC ISOLATOR IN INPUT FILE SLOT I13.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

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.

INIT & N.A. RESP PROGRAMMING DETAIL

1. From Main Menu select [3 - PHASE DATA]
2. From PHASE DATA Submenu select [4 - INIT & N.A RESP]

Note Phases 1, 4, 5, 7 and 8 NOT used! →

```
PHASE......1...2...3...4...5...6...7...8
 INITIAL   0   6   1   0   0   6   0   0
 NA RESP   0   1   0   2   0   1   0   2
 UPDT GRN  0   0   0   0   0   0   0   0

CODES.....0....1....2....3....4....5...6
 INITL  NONE INACT RED  YEL  GRN  DRK G/DW
 NA RSP NONE  NA1  NA2  1&2  ---  --- ---
                                      ***
```

INIT & N.A. RESP PROGRAMMING COMPLETE

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 05-1785
DESIGNED: February 2025
SEALED: 03/27/2025
REVISED: N/A

Electrical Detail - Sheet 1 of 2

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared for the Offices of:

Traffic Engineering Unit, Transportation Mobility and Safety Division, State of North Carolina, Department of Transportation, Signal Management Section

750 N.Greenfield Pkwy,Garner,NC 27529

US 401 SB (Fayetteville Road) at U-Turn North of SR 1374 (Farm Road)

Division 5 | Wake County | Raleigh

PLAN DATE: March 2025 | REVIEWED BY:
PREPARED BY: S.Kirkpatrick | REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 036833 ENGINEER RYAN W. HOUGH

Signed by: Ryan W. Hough
430320FAA2654C3...
SIGNATURE | DATE 03/28/2025

SIG. INVENTORY NO. 05-1785

28-MAR-2025 09:13
pw:\\pwdenver-pw01.bentley.com:ncdot-pw-01\Documents\NCDOT TSMO\Signal Design Section\Division.05\05-1785\Signals Management\051785_sm.ele,20250328.dgn
dgn:\\pwdenver-pw01.bentley.com:ncdot-pw-01\Documents\NCDOT TSMO\Signal Design Section\Division.05\05-1785\Signals Management\051785_sm.dgn
SGKirkpatrick