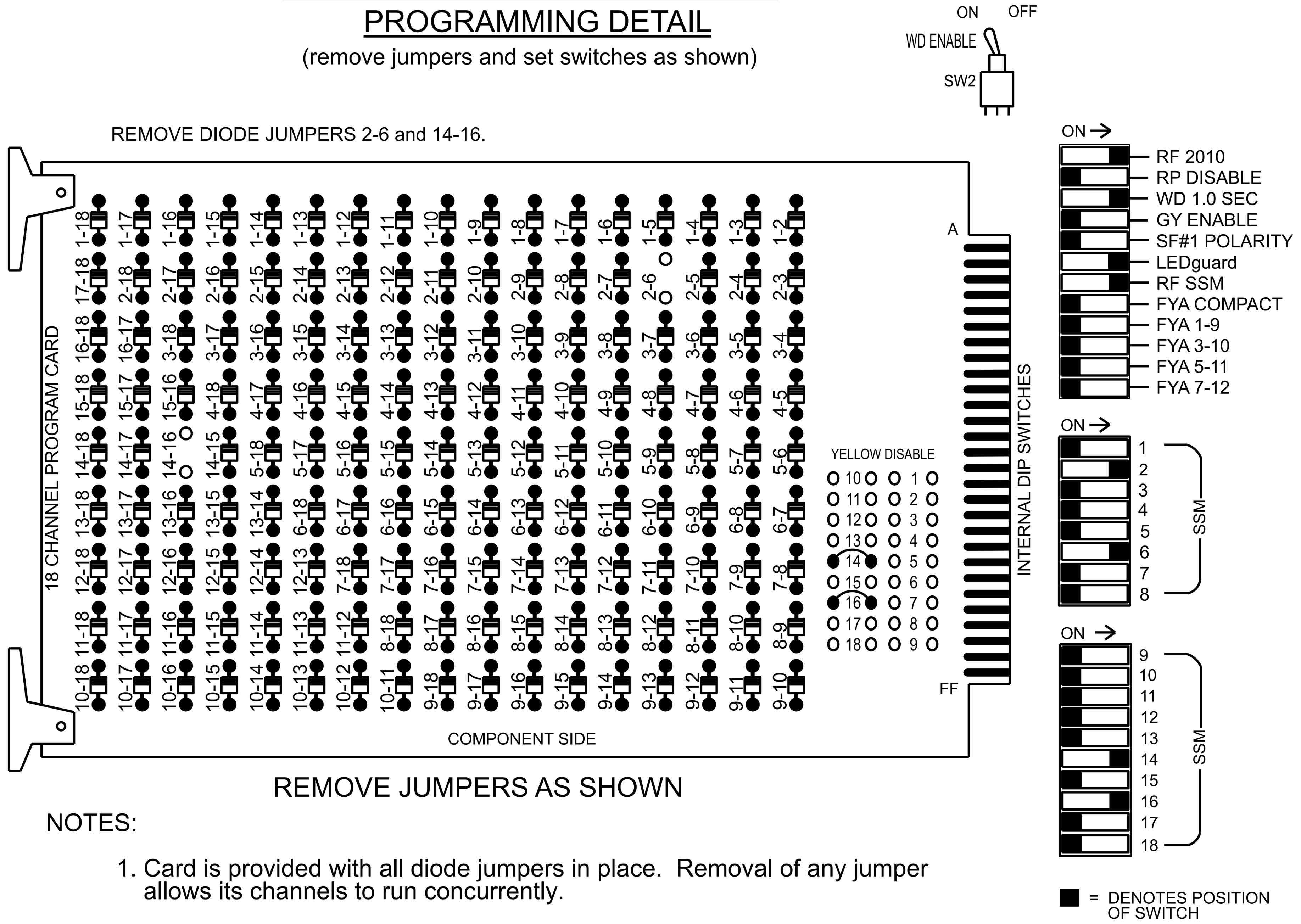
PROJECT REFERENCE NO.	SHEET NO.
U-4913A	Sig. 2.1

18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



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.

INPUT FILE POSITION LAYOUT

(front view)

FILE		1	2	3	4	5	6	7	8	9	10	11	12	13	14
"I"	U	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	NOT USED	NOT USED	FS DC ISOLATOR
"I"	L												Ø4 PED DC ISOLATOR	Ø8 PED DC ISOLATOR	ST DC ISOLATOR
"J"	U	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
"J"	L														

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
PED PUSH BUTTONS												
P41; P42	TB8-5,6	I12L	69	35	4	PED 4,8*						
P81; P82	TB8-8,9	I13L	70	36	8	PED 8,4*						

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

* FOR THE ABOVE DETECTORS TO CALL ANOTHER PHASE, SCROLL OVER AND ENTER SECOND PHASE IN "ADDITIONAL CALL PHASES" COLUMN.

INPUT FILE POSITION LEGEND: J2L

FILE J
SLOT 2
LOWER

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 plan.
2. Install 332_NCDOT_HAWK_Default database onto controller.
3. Program controller to start up in phase 2 Green No Walk and 6 Green No Walk.
4. Program phases 4 and 8 for No Startup Veh Call and No Startup Ped Call.
5. Program phases 4 and 8 for Ped Clear During Red Clear.
6. The cabinet and controller are part of the SR 3174 / 1501 (Idlewild Road) Closed Loop 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, S6, S8, S12
Phases Used.......................................2, 4*, 4PED, 6, 8*, 8PED
Overlaps ....None

* 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	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 61,62	NU	NU	NC	P41, P42	NU	21,22 61,62	NU	NU	NC	P81, P82	NU	NU	NU	NU	NU	NU
RED		128						134										
YELLOW		129						*										
GREEN		*						*										
RED ARROW																		
YELLOW ARROW																		
FLASHING YELLOW ARROW																		
GREEN ARROW																		
(Don't Walk hand symbol)						104						110						
(Walk pedestrian symbol)						106						112						

NU = Not Used
NC = No Connection
* Denotes install load resistor. See load resistor installation detail this sheet.

TIMING INTERVAL

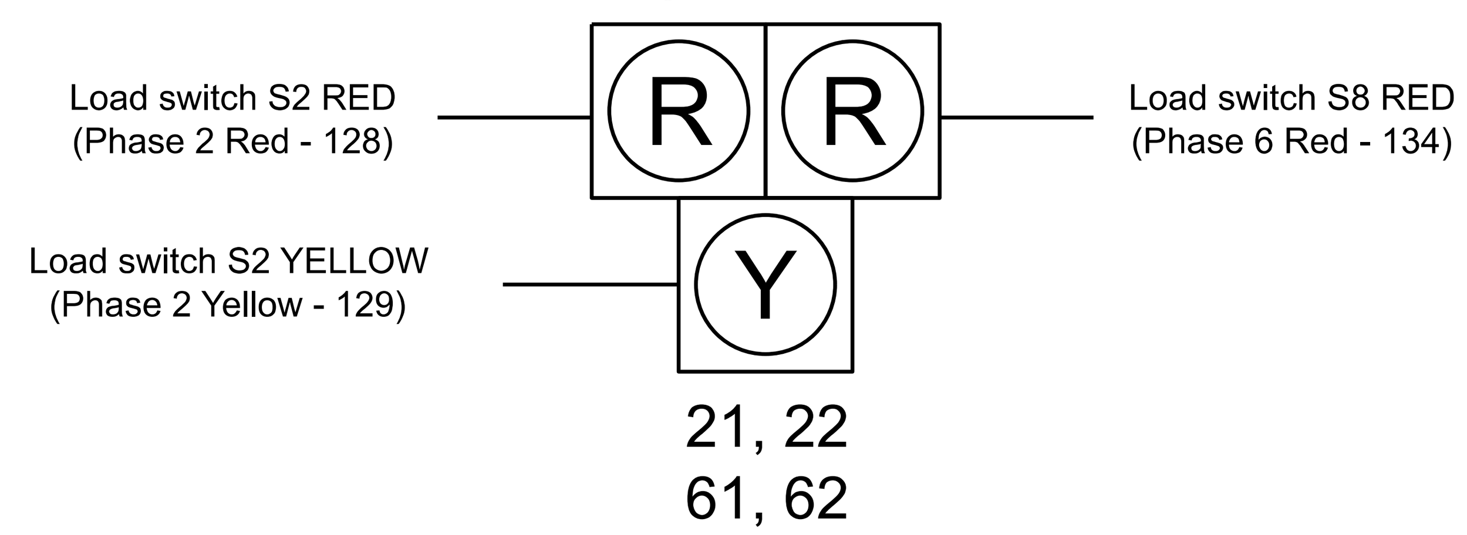
PHASE 2+6 = DARK DISPLAY
PHASE 2+6 PRE CLEARANCE = FLASHING YELLOW DISPLAY
PHASE 2+6 YELLOW CHANGE = STEADY YELLOW DISPLAY
PHASE 2+6 RED CLEAR THROUGH 4+8 WALK = STEADY RED DISPLAY
PED 4+8 DON'T WALK = ALTERNATING FLASHING RED DISPLAY

OPERATIONAL NOTES

1. In order for the controller to perform the Pedestrian Hybrid Beacon (HAWK signal) sequence, the 332_NCDOT_HAWK_Default database must be installed on the controller.
2. The only Phase 6 load switch output that is being used drives one of the red signal faces of each signal head.
3. The Logic Processor flashes Phase 2 Yellow during the Phase 2 Pre-Clearance interval. Phase 2 Yellow drives the solid yellow signal face during the Phase 2 vehicle Yellow Change.
4. The Phase 2 and Phase 6 Red outputs drives the solid Red displays during the Phase 2 and 6 Red Clear and Ped 4 and 8 Walk interval. The Logic Processor flashes Phase 2 and 6 Red Outputs in a wig-wag pattern during Phase 4+8 Ped Clear interval.
5. The controller must be programmed for Ped Clear During Red Clear for Pedestrian Phases 4 and 8 so that Red displays continue to flash during Phases 4 and 8 Yellow Change and Red Clear.
6. Make sure that all Phase 2 and Phase 6 timings match each other and that all Phase 4 and Phase 8 timings match each other.
7. The Ped 4 push button is programmed to call Ped 4 and Ped 8. The Ped 8 push button is programmed to call Ped 8 and Ped 4.

SIGNAL HEAD WIRING DETAIL

(wire signal heads as shown)



21, 22
61, 62

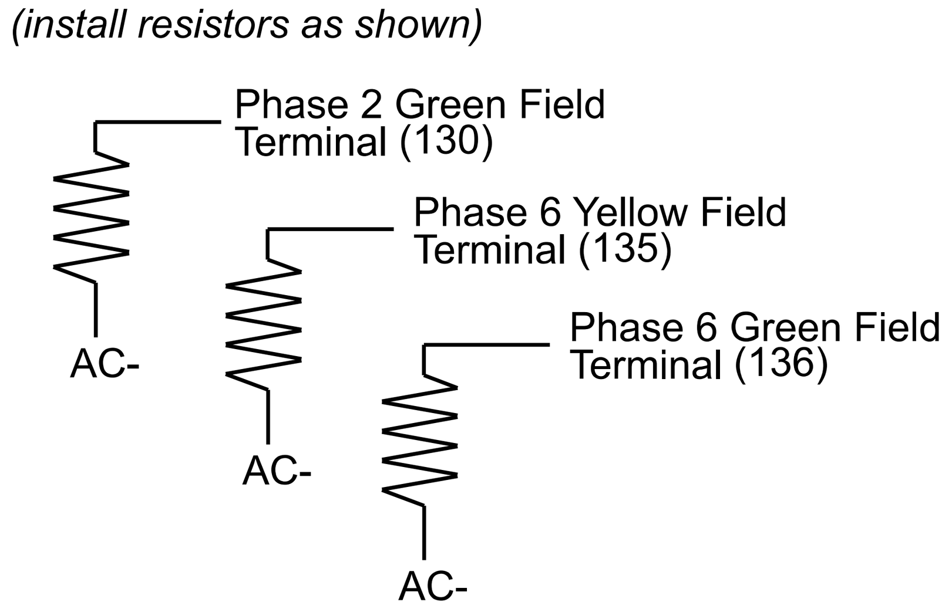
COUNTDOWN PEDESTRIAN SIGNAL OPERATION

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.

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)



THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 10-2588
DESIGNED: February 2025
SEALED: 05/12/2025
REVISED: N/A

PLANS PREPARED IN THE OFFICE OF:
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Raleigh, NC 27601
(919) 677-2000

Electrical Detail

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared for the Offices of:
Transportation Mobility and Safety Division — ITS & Signals Management Section — State of North Carolina Department of Transportation
750 N.Greenfield Pkwy,Garner,NC 27529

SR 3174 (Idlewild Road)
Pedestrian Hybrid Beacon
West of SR 3175 (Stallings Road) /
Davis Trace Drive

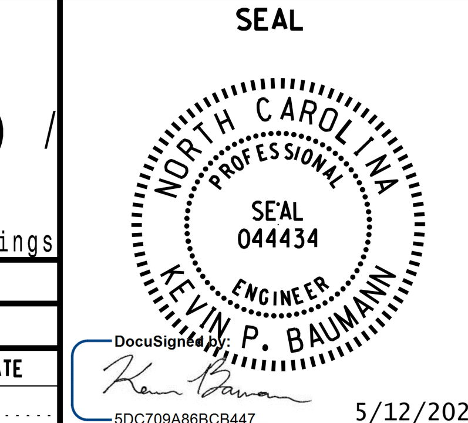
Division 10 | Mecklenburg County | Stallings

PLAN DATE: February 2025	REVIEWED BY: KP Baumann
PREPARED BY: SP Pennington	REVIEWED BY:

REVISIONS	INIT.	DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL



5/12/2025
DATE

SIG. INVENTORY NO. 10-2588