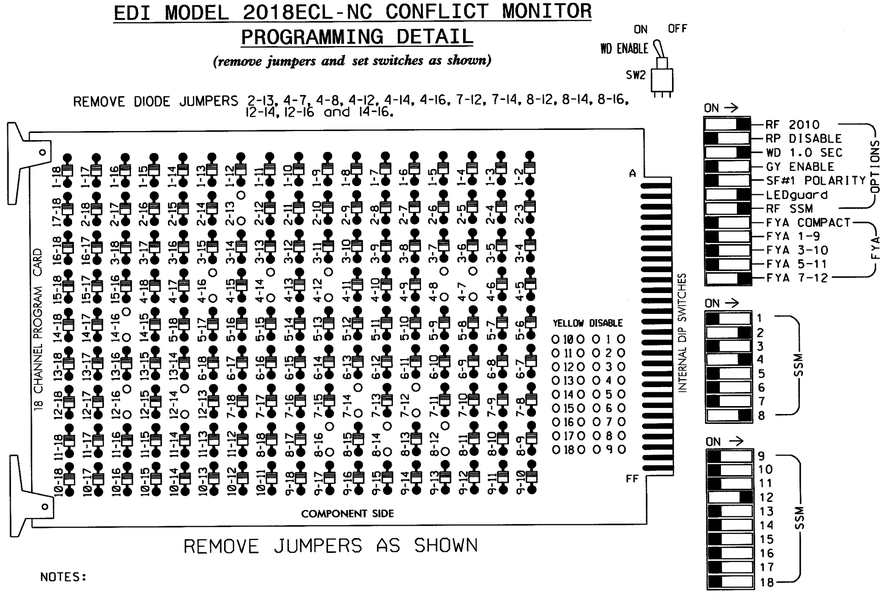
PROJECT REFERENCE NO.	SHEET NO.
SS-4905BT	Sig. 2

EDI MODEL 2018ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches 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 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. verify that signal heads flash in accordance with the signal plans.
2. Program controller to Start Up in phase 2 green.
3. Set flash start time to 0 seconds within the controller programming. The conflict monitor will govern start-up flash time. Ensure STARTUP 'RED START' is set to 0.0 sec.
4. Set the Red Revert interval, on the controller unit, to 1 second.
5. Enable simultaneous gap-out feature for all phases.
6. Program all timing information into phase banks 1, 2, and 3 unless otherwise noted.
7. Set phase bank 3 maximum limit to 250 seconds for phases used.
8. Ensure start up flash phases are coordinated with flash program block assignments.
9. Program Startup Ped Calls for phases 2,4 and 8.
10. This cabinet and controller are part of the Durham Signal System.

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.	NU	21,22	P21,P22 P23,P24	NU	41,42	P41, P42	NU	NU	NU	71★	81,82	P81, P82	NU	NU	NU	NU	71★	NU
RED		128			101						107							
YELLOW		129			102					✳	108							
GREEN		130			103						109							
RED ARROW																	A101	
YELLOW ARROW																	A102	
FLASHING YELLOW ARROW																	A103	
GREEN ARROW										124								
✋			113			104						110						
🚶			115			106						112						

NU = Not Used

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

★ See pictorial of head wiring in detail below.

EQUIPMENT INFORMATION

CONTROLLER.....2070E
CABINET.....332 /W/ AUX
SOFTWARE.....McCAIN 2033
CABINET MOUNT.....BASE
OUTPUT FILE POSITIONS...18 (12-STD, 6-AUX)
LOAD SWITCHES USED.....S2,S3,S5,S6,S10,S11,S12,AUX S5
PHASES USED.....2,2 PED,4,4 PED,7,8,8 PED
OVERLAPS.....NONE

EVA INPUT PROGRAMMING

1. Program EVA for input 52 as follows:
   Main Menu - 5) INPUTS - 3) PREEMPTS

PREEMPTION INPUTS

RR1	51	SE1 0	
RR2	0	SE2 0	⟵ NOTE INPUT CHANGE
EVA	52	SE3 0	⟵ NOTE INPUT CHANGE
EVB	72	SE4 0	
EVC	73	SE5 0	
EVD	74	SE6 0	

GATE DOWN 0

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	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	Ø2 PED DC ISOLATOR	NOT USED	FS DC ISOLATOR
	L	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	Ø4 PED DC ISOLATOR	Ø8 PED DC ISOLATOR	ST DC ISOLATOR
FILE "J"	U	SLOT	SLOT	SLOT	SLOT	Ø7 7A	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	NOT USED
	L	EMPTY	EMPTY	EMPTY	EMPTY	NOT USED	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EVA AC ISOLATOR

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

FS = FLASH SENSE
ST = STOP TIME
EVA = OVERHEIGHT PREEMPT
(SEE EVA INPUT PROGRAMMING DETAIL THIS SHEET)

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	DETECTOR NO.	PIN NO.	ATTRIBUTES	NEMA PHASE
7A	TB5-5,6	J5U	15	57	5 7	7
PED PUSH BUTTONS						
P21,P22 P23,P24	TB8-4,6	I12U	25	67	2	2 PED
P41,P42	TB8-5,6	I12L	27	69	2	4 PED
P81,P82	TB8-8,9	I13L	28	70	2	8 PED

NOTE: PROGRAM DETECTOR DELAY AND CARRYOVER TIMES AS SPECIFIED ON SIGNAL DESIGN PLANS.

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

DETECTOR ATTRIBUTES LEGEND:

1-FULL TIME DELAY
2-PED CALL
3-RESERVED
4-COUNTING
5-EXTENSION
6-TYPE 3
7-CALLING
8-ALTERNATE

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

EMERGENCY VEHICLE PREEMPTION PROGRAMMING FOR EVA

1. Program EVA preempt as follows:
   Main Menu - 2) PREEMPT - 4) EMERGENCY VEHICLE

	DELAY	CLEAR	CLEARANCE PHASES
EVA	0	25	...4...8
EVB	0	0	.....
EVC	0	0	.....
EVD	0	0	.....

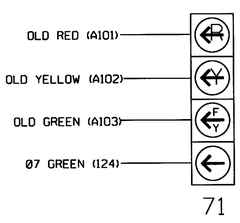
2. Program general preemption parameters as follows:
   Main Menu - 2) PREEMPT - 6) MISC PARAMETERS

MAX EV PREEMPT TIME	120
MIN EV PREEMPT REVERT TIME	0
MIN TIME BEFORE PE FORCEOFF	1
DISABLE LOW PRIORITY	.....
FLASH TO PREEMPT	.....

3. Ped Clear Before Preempt is a pedestrian timing parameter, and is programmed as follows:
   Main Menu - 1) PHASE - 5) PEDESTRIAN TIMING
   PHASE 2 MIN FDW = 4
   PHASE 4 MIN FDW = 4
   PHASE 8 MIN FDW = 4

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 05-0998
DESIGNED: December 2013
SEALED: 5/1/14
REVISED: N/A

4 SECTION FYA PPLT SIGNAL WIRING DETAIL



PEDESTRIAN LOADSWITCH ASSIGNMENTS

Program the pedestrian loadswitch output assignments as follows:
Main Menu - 6) OUTPUTS - 7) PEDS
PED 2P = 2 PED 8P = 8
PED 4P = 4

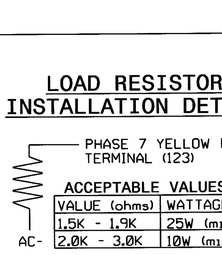
COUNTDOWN PEDESTRIAN SIGNAL OPERATION

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.

FYA PPLT PROGRAMMING (SIGNAL HEAD 71)

1. Program Flashing Yellow Arrow phase as follows:
   Main Menu - 1) PHASE - 2) PHASE FUNCTIONS PAGE TWO
   PPLT FYA = PHASE 7
2. Assign output pin for Flashing Yellow Arrow as follows:
   Main Menu - 6) OUTPUTS - F) FYA PPLT
   Phase 7 = 87
3. Redirect RED and YELLOW output for the left turn phase as follows:
   Main Menu - 6) OUTPUTS - 8) REDIRECT PHASE
   Phase 7 RED = 85, Phase 7 YELLOW = 86

LOAD RESISTOR INSTALLATION DETAIL



ACCEPTABLE VALUES

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

Electrical Detail - Sheet 1 of 2

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of:
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

US 15-501 Business NB
(S. Roxboro Street)
at
Pettigrew Street

Division 5 Durham County Durham

PLAN DATE:	April 2014	REVIEWED BY:	T.J.Jr
PREPARED BY:	B. Simmons	REVIEWED BY:	

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022013 ENGINEER GEORGE C. BROWN
SIGNATURE DATE 5/8/14
SIG. INVENTORY NO. 05-0998

08-MAY-2014 06:31
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