PROJECT REFERENCE NO.	SHEET NO.
W-5705C	Sig. 3.1

EDI MODEL 2018ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 1-5, 1-6, 2-5, 2-6, 2-11, 3-7, 3-8, 3-10, 3-11, 3-12, 4-7, 4-8, 4-10, 4-11, 4-12, 4-14, 5-11, 6-11, 7-10, 7-11, 7-12, 7-14, 8-10, 8-12, 8-14, 10-11, 10-12, 10-14, 11-12, 11-14, and 12-14.

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 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 phases 2 and 6 green.
3. Set power-up flash time to 0 seconds within the controller programming. The conflict monitor will govern startup flash. Ensure STARTUP "RED START" is set to 0 seconds.
4. Enable Simultaneous Gap-Out feature for all phases.
5. Program all timing information into phase banks 1, 2, and 3 unless otherwise noted.
6. Set phase bank 3 maximum limit to 250 seconds for phases used.
7. Program phases 4 and 8 for Double Entry.
8. Ensure start up flash phases are coordinated with flash program block assignments.
9. Program Startup Ped Call for phase 4.
10. Set the Red Revert interval on the controller to 1 second.
11. This cabinet and controller are part of the Durham Signal System.

EQUIPMENT INFORMATION

CONTROLLER.....2070E
CABINET.....332 W/ AUX
SOFTWARE.....McCAIN 2033
CABINET MOUNT.....BASE
OUTPUT FILE POSITIONS...18 WITH AUX FILE
LOAD SWITCHES USED.....S1,S2,S4,S5,S6,S7,S8,S10, S11,AUX S2,AUX S4,AUX S5
PHASES USED.....1,2,3,4,4PED,5,6,7,8
OVERLAP 1.....NOT USED
OVERLAP 2.....*
OVERLAP 3.....2+7
OVERLAP 4.....*

* See FYA PPLT 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.	11	21,22 23	NU	31★	41,42	P41, P42	51,52	61,62 63	NU	71★	81,82	NU	NU	31★	NU	24	71★	NU
RED		128			101			134			107					A114		
YELLOW		129		*	102			135		*	108							
GREEN		130			103			136			109							
RED ARROW	125						131							A124			A101	
YELLOW ARROW	126						132							A125		A115	A102	
FLASHING YELLOW ARROW														A126			A103	
GREEN ARROW	127			118			133			124						A116		
✋						104												
🚶						106												

NU = Not Used

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

★ See pictorial of head wiring in detail this sheet.

FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)

INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I"	U	Ø 1 1A	Ø 2 2A,2B,2C	SLOT EMPTY	SLOT EMPTY	Ø 3 3A	Ø 4 4A	SLOT EMPTY	SLOT EMPTY	SYS. DET. S125	SLOT EMPTY	SLOT EMPTY	NOT USED	SLOT EMPTY	FS DC ISOLATOR
	L	NOT USED	Ø 2 2D,2E,2F			NOT USED	NOT USED			SYS. DET. S126			Ø4 PED DC ISOLATOR		ST DC ISOLATOR
FILE "J"	U	SLOT EMPTY	Ø 5 5A	Ø 6 6A,6B,6C	SLOT EMPTY	Ø 7 7A	Ø 8 8A	SLOT EMPTY	SLOT EMPTY	SYS. DET. S127	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
	L		Ø 5 5B	Ø 6 6D,6E,6F		NOT USED	NOT USED			NOT USED					

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.	DETECTOR NO.	PIN NO.	ATTRIBUTES	NEMA PHASE
1A	TB2-1,2	I1U	14	56	5 7	1
2A,2B,2C	TB2-5,6	I2U	1	39	5 7	2
2D,2E,2F	TB2-7,8	I2L	5	43	5 7	2
3A	TB4-5,6	I5U	16	58	5 7	3
			12	58	5 7	8
4A	TB4-9,10	I6U	3	41	5 7	4
5A	TB3-5,6	J2U	2	40	5 7	5
5B	TB3-7,8	J2L	6	44	5 7	5
6A,6B,6C	TB3-9,10	J3U	22	64	5 7	6
6D,6E,6F	TB3-11,12	J3L	30	77	5 7	6
7A	TB5-5,6	J5U	15	57	5 7	7
			11	57	5 7	4
8A	TB5-9,10	J6U	4	42	5 7	8
S125	TB6-9,10	I9U	18	60	4	SYS
S126	TB6-11,12	I9L	20	62	4	SYS
S127	TB7-9,10	J9U	17	59	4	SYS
PED PUSH BUTTONS						
P41,P42	TB8-5,6	I12L	27	69	2	4 PED

NOTE:

INSTALL DC ISOLATOR IN INPUT FILE SLOT I12.

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

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

LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown below)

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: 05-0006
DESIGNED: July 2017
SEALED: 8/23/2017
REVISED: N/A

Electrical Detail - Sheet 1 of 2

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

US 15-501 Bus (Durham-Chapel Hill Blvd)
at
Tower Blvd & South Square
Shopping Center

Division 5 Durham County Durham

PLAN DATE: August 2017 REVIEWED BY:
PREPARED BY: S. Armstrong REVIEWED BY:

REVISIONS	INIT.	DATE

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

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 036880 ENGINEER KEITH M. MIMS

DocuSigned by:
Keith M. Mims 9/11/2017
2F8078E6ECD3A45 DATE

SIG. INVENTORY NO. 05-0006

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