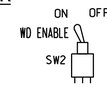
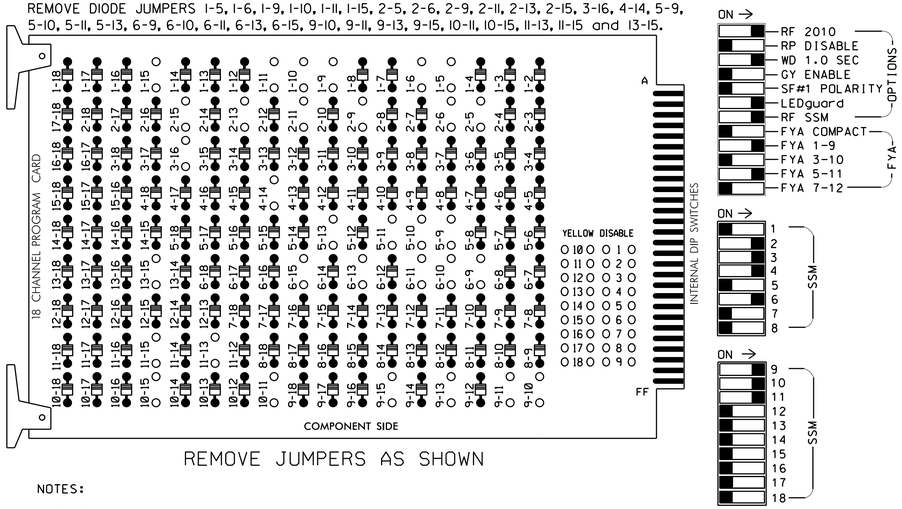
PROJECT REFERENCE NO.	SHEET NO.
SS-4905CK	Sig. 2.1

EDI MODEL 2018ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE DIODE JUMPERS 1-5, 1-6, 1-9, 1-10, 1-11, 1-15, 2-5, 2-6, 2-9, 2-11, 2-13, 2-15, 3-16, 4-14, 5-9, 5-10, 5-11, 5-13, 6-9, 6-10, 6-11, 6-13, 6-15, 9-10, 9-11, 9-13, 9-15, 10-11, 10-15, 11-13, 11-15 and 13-15.



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. Ensure start up flash phases are coordinated with flash program block assignments.
8. Program Startup Ped Calls for phases 2, 3, 4, and 6.
9. Set the Red Revert interval on the controller to 1 second.
10. 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,S3,S4,S5,S6,S7,S8,S9,S12,
,AUX S1,AUX S2,AUX S4
PHASES USED.....1,2,3,4,5,6,2 PED,3 PED,4 PED,6 PED
OVERLAP 1.....*
OVERLAP 2.....1
OVERLAP 3.....*
OVERLAP 4.....NOT USED
*See FYA PPLT programming - 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	P21, P22	31	32	41	42	P41, P42	51★	61,62	P61, P62	NU	NU	P31, P32	11★	32	NU	51★	NU	NU
RED		128		116	116	101	101			134						*				
YELLOW	*	129		117	117	102	102		*	135										
GREEN		130		118	118	103	103			136										
RED ARROW															A121			A114		
YELLOW ARROW															A122	A125		A115		
FLASHING YELLOW ARROW															A123			A116		
GREEN ARROW	127			118		103			133							A126				
✋			113					104			119			110						
🚶			115					106			121			112						

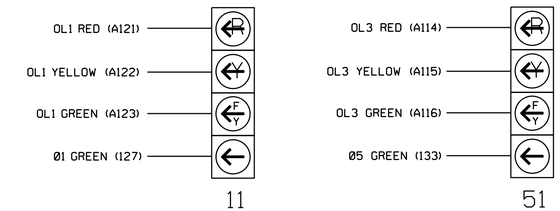
NU = Not Used

* Denotes install load resistor. See load resistor installation detail on sheet 2.

★ See pictorial of head wiring in detail below.

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	Ø1 1A	Ø2 2A	Ø2 2C	RESERVED 5A	Ø3 3A	Ø3 3B	Ø4 4A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	Ø2 PED DC ISOLATOR	Ø6 PED DC ISOLATOR	FS DC ISOLATOR
	L	NOT USED	Ø2 2B	Ø2 2D		NOT USED	NOT USED	Ø4 4B					Ø4 PED DC ISOLATOR	Ø3 PED DC ISOLATOR	ST DC ISOLATOR
FILE "J"	U	Ø5 5A	Ø6 6A	Ø6 6C	RESERVED 1A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	CH. 3 UNUSED	CH. 1 EVB	SLOT EMPTY
	L	NOT USED	Ø6 6B	Ø6 6D									CH. 4 UNUSED	CH. 2 UNUSED	

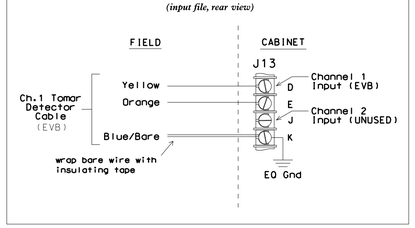
EX.: 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
ST = STOP TIME
EVx = EMERGENCY VEHICLE PREEMPT

4 CHANNEL TOMAR OSP CARD
INSERT CARD INTO SLOT J13

TYPICAL TOMAR FIELD WIRE DETAIL

(input file, rear view)



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
			10	56	5 7	6
2A	TB2-5,6	I2U	1	39	5 7	2
2B	TB2-7,8	I2L	5	43	5 7	2
2C	TB2-9,10	I3U	21	63	5 7	2
2D	TB2-11,12	I3L	29	76	5 7	2
3A	TB4-5,6	I5U	16	58	5 7	3
3B	TB4-9,10	I6U	3	41	5 7	3
4A	TB6-1,2	I7U	23	65	5 7	4
4B	TB6-3,4	I7L	31	78	5 7	4
5A	TB3-1,2	J1U	13	55	5 7	5
			9	55	5 7	2
6A	TB3-5,6	J2U	2	40	5 7	6
6B	TB3-7,8	J2L	6	44	5 7	6
6C	TB3-9,10	J3U	22	64	5 7	6
6D	TB3-11,12	J3L	30	77	5 7	6
PED PUSH BUTTONS	LOOP TERMINAL	INPUT FILE POS.	DETECTOR NO.	PIN NO.	ATTRIBUTES	NEMA PHASE
P21,P22	TB8-4,6	I12U	25	67	2	2 PED
P41,P42	TB8-5,6	I12L	27	69	2	4 PED
P61,P62	TB8-7,9	I13U	26	68	2	6 PED
P31,P32	TB8-8,9	I13L	28	70	2	3 PED

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

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 05-2006
DESIGNED: September 2015
SEALED: 12-14-15
REVISED: N/A

This Electrical Detail supersedes the detail sealed on 3-04-15.

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
Signal Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

US 501 Bus. (N. Roxboro St.)
at
William Penn Plaza/
Frasier St.

Division 5 Durham County Durham

PLAN DATE: December 2015	REVIEWED BY: DTJ
PREPARED BY: James Peterson	REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 036880 ENGINEER KEITH M. MINS

DocuSigned by: Keith M. Mins 1/20/2016
SF8D7B0BEC0A4A1... DATE

SIG. INVENTORY NO. 05-2006

05-JAN-2016 10:24
S:\TSDWTS\Signals\Workgroups\Sig Mgmt\Peterson\052006_smlele.20150304.dgn
jipeterson