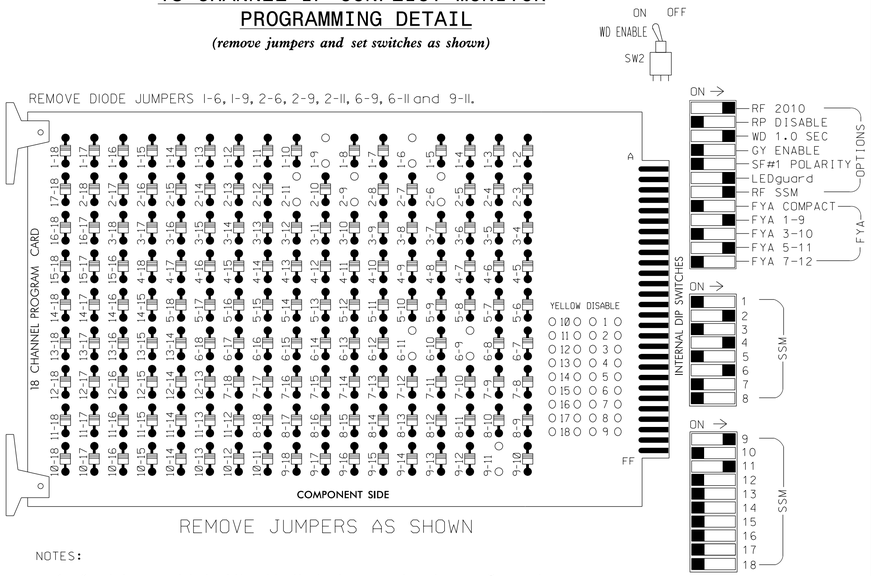
Docusign Envelope ID: 7ADC4507-52B2-45A0-B0CD-819998710CDE

PROJECT REFERENCE NO.	SHEET NO.
U-4758	Sig. 27.1

18 CHANNEL IP CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches 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. Ensure Conflict Monitor Ethernet port is connected to a Switch port located within the cabinet.

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	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	Ø 4 4A	Ø 4 4C	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	FS DC ISOLATOR
	L	NOT USED	Ø 2 2B				Ø 4 4B	NOT USED							ST DC ISOLATOR
FILE "J"	U	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	WIRED INPUT ⊗	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
	L														

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

FS = FLASH SENSE
ST = STOP TIME

⊗ Wired Input - Do not populate slot with detector card

LOAD RESISTOR INSTALLATION DETAIL

(install resistor as shown below)

ACCEPTABLE VALUES

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

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
2. Initialize database in Trafficware 2070 local software (APOGEE) as FULL-CALTRANS. This initialization should be done prior to programming controller.
3. Initialize I/O "C1-C11-ABC IO Mode" to USER (MM 1-8-6). Then set "Init 2A" to MODE 5 (MM 1-8-9-3).
4. Program phases 2 and 6 for Start Up In Green.
5. Program "Start Up Flash" for 0 sec. The conflict monitor will govern start-up flash time.
6. Ensure "Local Flash Start" feature is set to "RSt".
7. Program "Start Red Time" for 6.0 seconds.
8. Program controller to provide a 1 second delay on the Flash Sense/Local Flash input. Use the following logic statement to provide this functionality:

   FROM MAIN MENU->1->8->7 (I/O LOGIC)

Result	Src.Fcn		TimeOp	Time
I208	=	OI208	DLY	1

9. The cabinet and controller are part of the City of Greensboro Signal System.

EQUIPMENT INFORMATION

CONTROLLER.....2070E
CABINET.....332 W/ AUX
SOFTWARE.....TRAFFICWARE APOGEE
CABINET MOUNT.....BASE
OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
LOAD SWITCHES USED.....S1,S2,S5,S8,AUX S1,AUX S4
PHASES USED.....1,2,4,6
OVERLAP "A".....*
OVERLAP "B".....NOT USED
OVERLAP "C".....*
OVERLAP "D".....NOT USED

* See overlap programming detail on sheet 2

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	DETECTOR NO.	CALL PHASE	SWITCH	DELAY TIME	EXTEND TIME	CALL	EXTEND	ADDED INIT.
1A [1]	TB2-1,2	I1U	56	1	1		15.0		X	X	
	-	J4U	48	26	6				X	X	
2A	TB2-5,6	I2U	39	2	2				X	X	X
2B	TB2-7,8	I2L	43	3	2				X	X	X
4A	TB4-9,10	I6U	41	8	4				X	X	
4B	TB4-11,12	I6L	45	9	4		5.0		X	X	
4C	TB6-1,2	I7U	65	10	4		15.0		X	X	

[1] Add jumper from I1-W to J4-W. on rear of input file.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

SPECIAL DETECTOR NOTE

Install a non-intrusive detection system for vehicle detection zones 6A and 6B. Perform installation according to manufacturer's directions and NCDOT engineer-approved mounting locations to accomplish the detection schemes shown on the Signal Design Plans.

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.	11★	21	22,24	NU	NU	41	42	43,45	44	NU	NU	61	62	NU	NU	NU	NU	11★	NU	NU	23★	NU	NU
RED		128	128				101	101	101			134	134								A114		
YELLOW	*	129	129				102	102				135	135										
GREEN			130				103	103				136											
RED ARROW						101												A121					
YELLOW ARROW						102			102									A122			A115		
FLASHING YELLOW ARROW																		A123			A116		
GREEN ARROW	127	130				103	103		103				136										

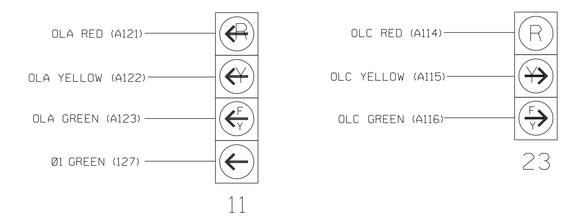
NU = Not Used

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

★ See pictorial of head wiring in detail below.

FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)



THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 07-1648
DESIGNED: January 2025
SEALED: 03-14-2025
REVISED: N/A

Electrical Detail - Sheet 1 of 3
Final Design

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

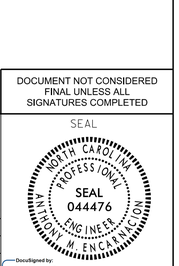
SR 1850 (Sandy Ridge Road) at I-40 EB Ramps

Division 7 Guilford County Greensboro

PLAN DATE:	January 2025	REVIEWED BY:	AM Encarnacion
PREPARED BY:	JT Stiff	REVIEWED BY:	PL Alexander

REVISIONS	INIT.	DATE

SEAL



DocuSigned by: Anthony Encarnacion 3/14/2025
SIGNATURE DATE

SIG. INVENTORY NO. 07-1648

Prepared for the Offices of:
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DEPARTMENT OF TRANSPORTATION
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