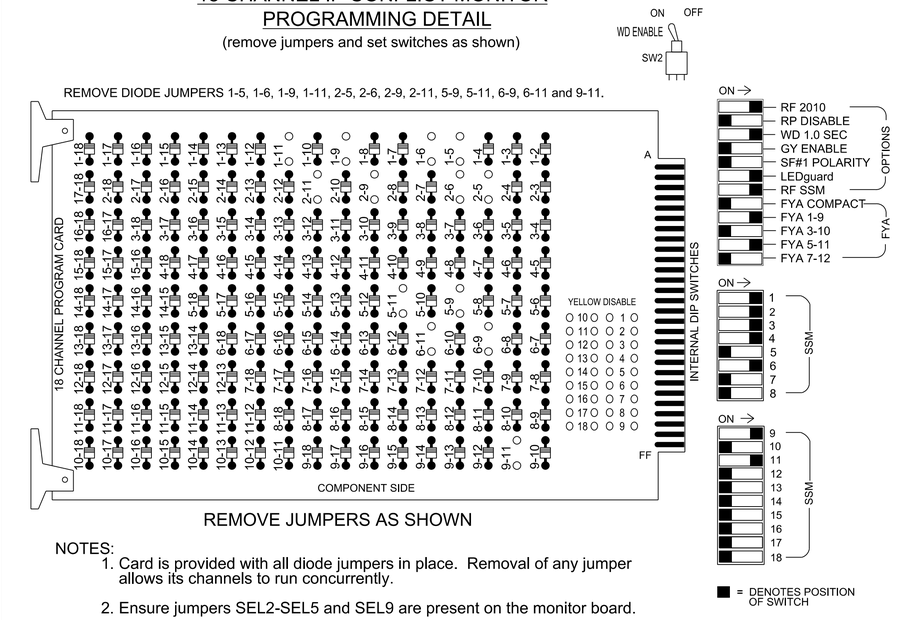
PROJECT REFERENCE NO.	SHEET NO.
B-6051/U-6143	Sig. 3.1

18 CHANNEL IP 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. Integrate monitor with Ethernet network in cabinet.

■ = DENOTES POSITION OF SWITCH

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. Program controller to start up in phase 2 Green No Walk and 6 Green No Walk.
3. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.
4. The cabinet and controller are part of the Belmont Signal 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.....S1, S2, S4, S5, S7, S8, AUX S1, AUX S4
Phases Used.....1, 2, 3, 4, 5, 6
Overlap "1".....*
Overlap "2".....NOT USED
Overlap "3".....*
Overlap "4".....NOT USED

*See overlap programming detail on this sheet

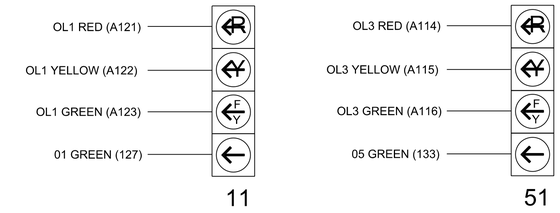
SIGNAL HEAD HOOK-UP CHART

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★	32	21,22, 23	NU	31	32	41	42	NU	51★	61,62	NU	NU	NU	NU	11★	NU	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	·	126	·	·	·		·		·	·	·	·	·	·	·	A122	·	·	A115	·	·
FLASHING YELLOW ARROW	·		·	·	·		·		·	·	·	·	·	·	·	A123	·	·	A116	·	·
GREEN ARROW	127	127		·	118		103		·	133	·	·	·	·	·	·	·	·	·	·	·

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	1O	11	12	13	14
FILE "I"	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	FS DC ISOLATOR
	L														ST DC ISOLATOR
FILE "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
	L														

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

FS = FLASH SENSE
ST = STOP TIME

OVERLAP PROGRAMMING

Front Panel
Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings

Web Interface
Home >Controller >Overlap Configuration >Overlaps

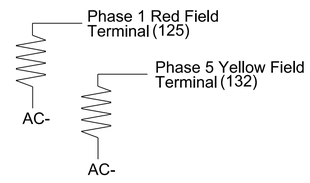
Overlap Plan 1

Overlap	1	3
Type	FYA 4 - Section	FYA 4 - Section
Included Phases	2	6
Modifier Phases	1	5
Modifier Overlaps	-	-
Trail Green	0	0
Trail Yellow	0.0	0.0
Trail Red	0.0	0.0

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)



SPECIAL DETECTOR NOTE

Install a video detection system for vehicle detection for zones 1A, 1B, 1C, 2A, 2B, 2C, 2D, 2E, 2F, 3A, 4A, 4B, 5A, 6A, 6B, 6C, and 6D. Perform installation according to manufacturer's directions and NCDOT engineer -approved mounting locations to accomplish the detection schemes shown on the Signal Design Plans.

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THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 12-0997T2
DESIGNED: August 2025
SEALED: 8/1/2025
REVISED: N/A

Signal Upgrade - Temporary Design 2 - TMP Phase I Step 3
Electrical Detail

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Electrical and Programming Details For:

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

US 29-74 (Wilkinson Blvd)
at
NC 7 (Catawba St)/
SR 2083 (Hazeleen Avenue)

Division 12 | Gaston County | Belmont

PLAN DATE:	August 2025	REVIEWED BY:	CB Holden
PREPARED BY:	WP Erickson-Jones	REVIEWED BY:	DT Sears

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 044558 ENGINEER DAVID T SEARS
DocuSigned by: David T Sears 069183F28E5741E...
8/1/2025
DATE

SIG. INVENTORY NO. 12-0997T2

8/1/2025
Report File:\Signals\Design\Signals\B-6051_Signal_12-0997T2.dsn.dgn
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