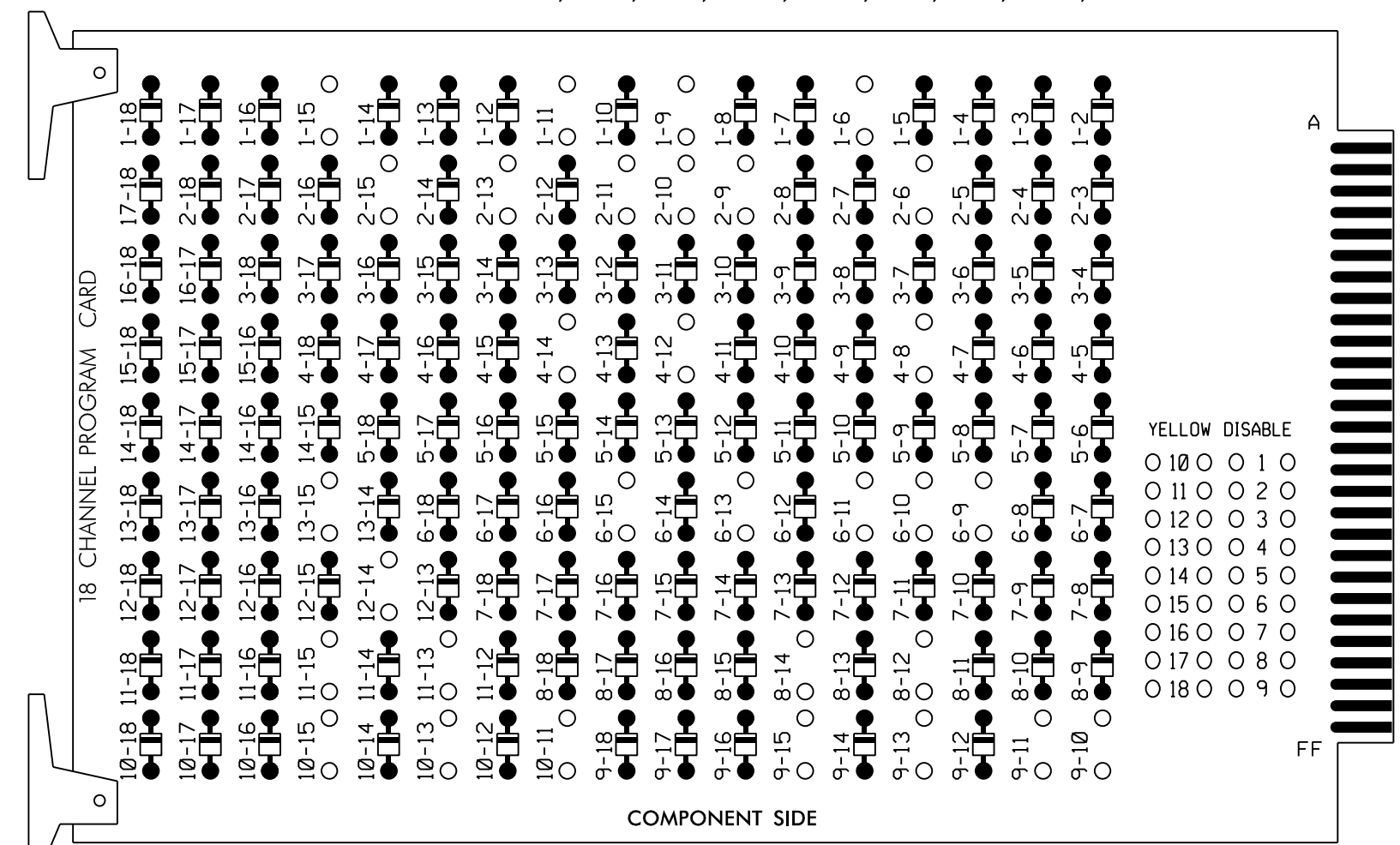


18 CHANNEL IP CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 1-6, 1-9, 1-11, 1-15, 2-6, 2-9, 2-10, 2-11, 2-13, 2-15, 4-8, 4-12, 4-14, 6-9, 6-10, 6-11, 6-13, 6-15, 8-12, 8-14, 9-10, 9-11, 9-13, 9-15, 10-11, 10-13, 10-15, 11-13, 11-15, 12-14, And 13-15



REMOVE JUMPERS AS SHOWN

NOTES:

- Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
- Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
- Ensure that Red Enable is active at all times during normal operation.
- Integrate monitor with Ethernet network in cabinet.

■ = DENOTES POSITION OF SWITCH

NOTES

- 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 Plans.
- Initialize database in Naztec 2070 local software (Apogee) as FULL-CALTRANS. This initialization should be done prior to programming controller.
- 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).
- Program phases 2 and 6 for Start Up In Green.
- Program "Start Up Flash" for 0 sec. The conflict monitor will govern start-up flash time.
- Ensure "Local Flash Start" feature is set to "Rst".
- Ensure "InhFYARedSt" feature is set to "ON".
- Ensure "Flash Mode" is set to "CHANNEL" (MM 1-4-1).
- Program all channels in use to flash red (MM 1-8-1).
- Program Start Red Time for 6.0 Seconds.
- 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
1208 = 01208 DLY 1
```
- Program phases 4 and 8 for Dual Entry.
- The cabinet and controller are part of the Greensboro 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. | 11 | 82 | 22,23 | P21, P22 | NU | 42,43 | P41, P42 | NU | 61,62 | P61, P62 | NU | 81,82 | NC | 11 | 24 | NU | 21 | 41 |
| RED | * | 128 | | | | 101 | | | 134 | | | 107 | | A124 | | | | |
| YELLOW | | 129 | | | | 102 | | | 135 | | | 108 | | | | | | |
| GREEN | | 130 | | | | 103 | | | 136 | | | 109 | | | | | | |
| RED ARROW | | | | | | | | | | | | | | A121 | | A114 | A101 | |
| YELLOW ARROW | | 126 | | | | | | | | | | | | A122 | A125 | A115 | A102 | |
| FLASHING YELLOW ARROW | | | | | | | | | | | | | | A123 | A126 | A116 | A103 | |
| GREEN ARROW | 127 | 127 | | | | | | | | | | | | | | | | |
| Hand icon | | | | | | | 113 | | 104 | | 119 | | | | | | | |
| Person icon | | | | | | | 115 | | 106 | | 121 | | | | | | | |

NU = Not Used
 NC = Not Connected
 * Denotes install load resistor. See load resistor installation detail this sheet.
 ★ See pictorial of head wiring in detail below.

INPUT FILE POSITION LAYOUT

(front view)

| FILE "I" | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|----------|----------|-----|-----|----------|----------|----------|--------|--------|--------|--------|--------|-------------|-------------|-------------|
| U | ∅ 1 | ∅ 2 | ∅ 2 | ∅ 2 | ∅ 1 | ∅ 4 | S | S | S | S | S | ∅ 2 PED | ∅ 6 PED | FS |
| L | 1A | 2A | 2C | 2E | 1B | 4A | -OF S | -OF S | -OF S | -OF S | -OF S | DC ISOLATOR | DC ISOLATOR | DC ISOLATOR |
| U | NOT USED | ∅ 2 | ∅ 2 | NOT USED | NOT USED | ∅ 4 | -T PZM | -T PZM | -T PZM | -T PZM | -T PZM | ∅ 4 PED | NOT USED | ST |
| L | J | 2B | 2D | | | 4B | -T PZM | -T PZM | -T PZM | -T PZM | -T PZM | DC ISOLATOR | | DC ISOLATOR |
| U | S | ∅ 6 | ∅ 6 | S | S | ∅ 8 | -OF S | -OF S | -OF S | -OF S | -OF S | S | S | S |
| L | J | 6A | 6C | -OF S | -OF S | 8A | -OF S | -OF S | -OF S | -OF S | -OF S | -OF S | -OF S | -OF S |
| | | ∅ 6 | ∅ 6 | -T PZM | -T PZM | NOT USED | -T PZM | -T PZM | -T PZM | -T PZM | -T PZM | -T PZM | -T PZM | -T PZM |
| | | 6B | 6D | -T PZM | -T PZM | | -T PZM | -T PZM | -T PZM | -T PZM | -T PZM | -T PZM | -T PZM | -T PZM |

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

FS = FLASH SENSE
 ST = STOP TIME

EQUIPMENT INFORMATION

CONTROLLER.....2070
 CABINET.....332 W/ AUX
 SOFTWARE.....TRAFFICWARE APOGEE
 CABINET MOUNT.....BASE
 OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
 LOAD SWITCHES USED.....S1,S2,S3,S5,S6,S8,S9,S11,
 AUX S1,AUX S2,AUX S4,AUX S5
 PHASES USED.....1,2,4,6,8,2PED,4PED,6PED,
 **8PED
 OVERLAP "A".....*
 OVERLAP "B".....*
 OVERLAP "C".....*
 OVERLAP "D".....*

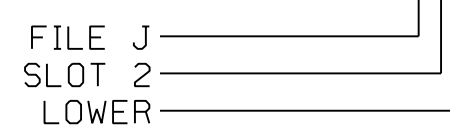
* See overlap programming detail on sheet 2.
 ** 8 PED used for timing purposes only.

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 | TB2-1,2 | I1U | 56 | 1 | 1 | | 5 | | X | X | |
| 1B | TB4-5,6 | I5U | 58 | 7 | 1 | | 15 | | X | X | |
| 2A | TB2-5,6 | I2U | 39 | 2 | 2 | | | 1.6 | X | X | |
| 2B | TB2-7,8 | I2L | 43 | 3 | 2 | | | 1.6 | X | X | |
| 2C | TB2-9,10 | I3U | 63 | 4 | 2 | | | | X | X | |
| 2D | TB2-11,12 | I3L | 76 | 5 | 2 | | | | X | X | |
| 2E | TB4-1,2 | I4U | 47 | 6 | 2 | | | | X | X | |
| 4A | TB4-9,10 | I6U | 41 | 8 | 4 | | 2 | | X | X | |
| 4B | TB4-11,12 | I6L | 45 | 9 | 4 | | 10 | | X | X | |
| 6A | TB3-5,6 | J2U | 40 | 16 | 6 | | | 1.6 | X | X | |
| 6B | TB3-7,8 | J2L | 44 | 17 | 6 | | | 1.6 | X | X | |
| 6C | TB3-9,10 | J3U | 64 | 18 | 6 | | | | X | X | |
| 6D | TB3-11,12 | J3L | 77 | 19 | 6 | | | | X | X | |
| 8A | TB5-9,10 | J6U | 42 | 22 | 8 | | 2 | | X | X | |
| PED PUSH BUTTONS | | | | | | | | | | | |
| P21,P22 | TB8-4,6 | I12U | 67 | PED 2 | 2 PED | | | | | | |
| P41,P42 | TB8-5,6 | I12L | 69 | PED 4 | 4/8 PED | | | | | | |
| P61,P62 | TB8-7,9 | I13U | 68 | PED 6 | 6 PED | | | | | | |

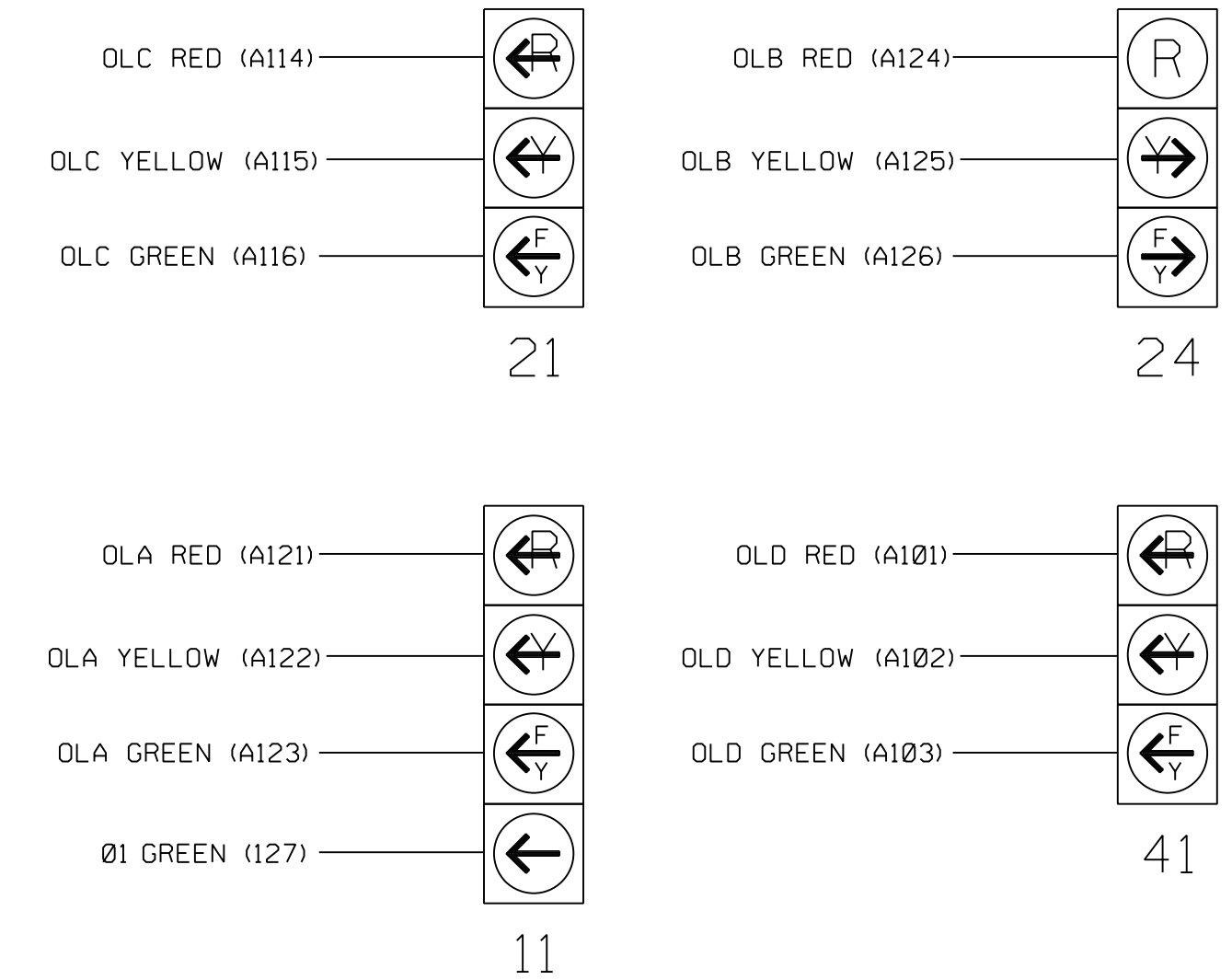
NOTE:
 INSTALL DC ISOLATORS IN INPUT FILE SLOTS 112 AND 113.

INPUT FILE POSITION LEGEND: J2L



FYA SIGNAL WIRING DETAIL

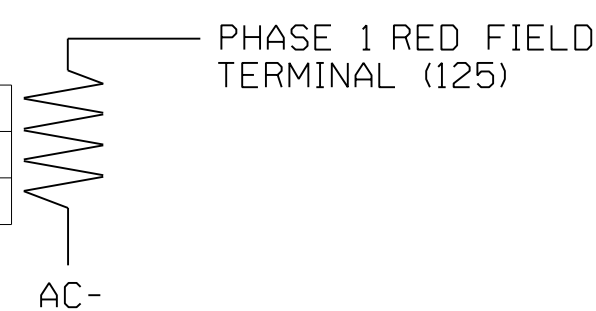
(wire signal head as shown)



THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 07-1689
 DESIGNED: August 2024
 SEALED: August 22, 2024
 REVISED:

LOAD RESISTOR INSTALLATION DETAIL

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



Signal Upgrade - Final Design
 Electrical Detail - Sheet 1 of 4

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

| | | | |
|---|---|--|-----------------------|
| ELECTRICAL AND PROGRAMMING DETAILS FOR: Prepared for the Offices of: | SR 1556 (Gallimore Dairy Rd.) at SR 1554 (Chimney Rock Rd.)/ Simply Southern | | SEAL |
| | Division 7 PLAN DATE: August 2024 PREPARED BY: WP Erickson-Jones | Guilford County REVIEWED BY: DT Sears REVIEWED BY: | |
| REVISIONS: | | | INVENTORY NO. 07-1689 |