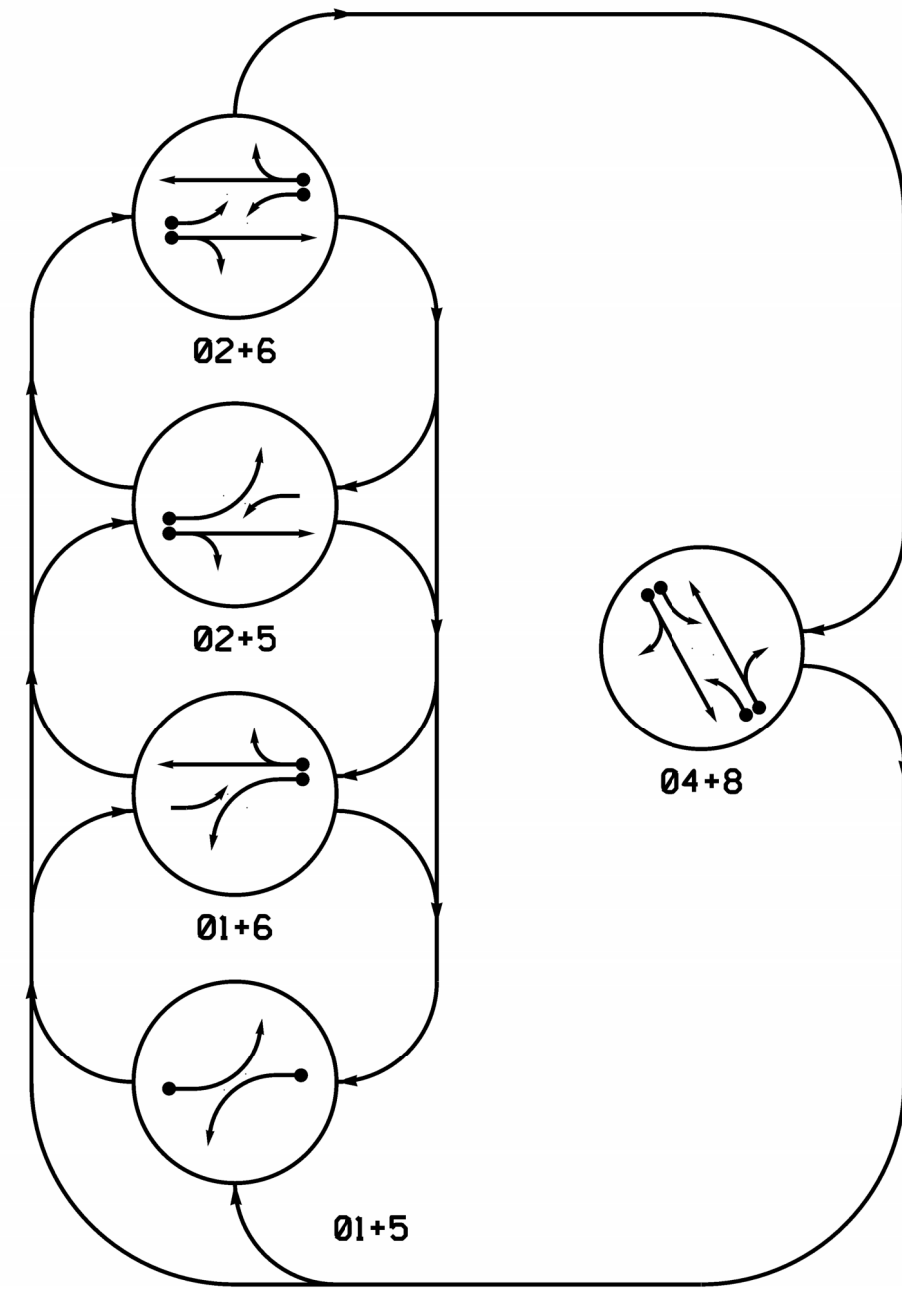


PHASING DIAGRAM



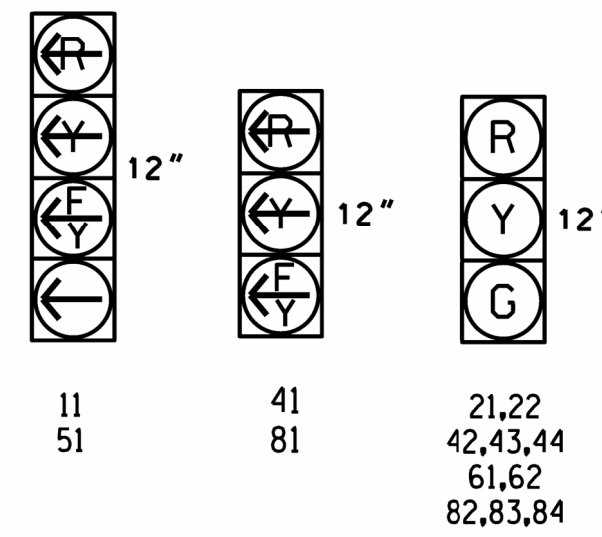
PHASING DIAGRAM DETECTION LEGEND

- ←•→ DETECTED MOVEMENT
- ←→ UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- ←- - - PEDESTRIAN MOVEMENT

SIGNAL FACE	PHASE					
	01+5	01+6	02+5	02+6	04+8	F L
11	---	---	---	---	---	---
21,22	R	R	G	G	R	Y
41	---	---	---	---	---	---
42,43,44	R	R	R	R	G	R
51	---	---	---	---	---	---
61,62	R	G	R	G	R	Y
81	---	---	---	---	---	---
82,83,84	R	R	R	R	G	R

SIGNAL FACE I.D.

All Heads L.E.D.



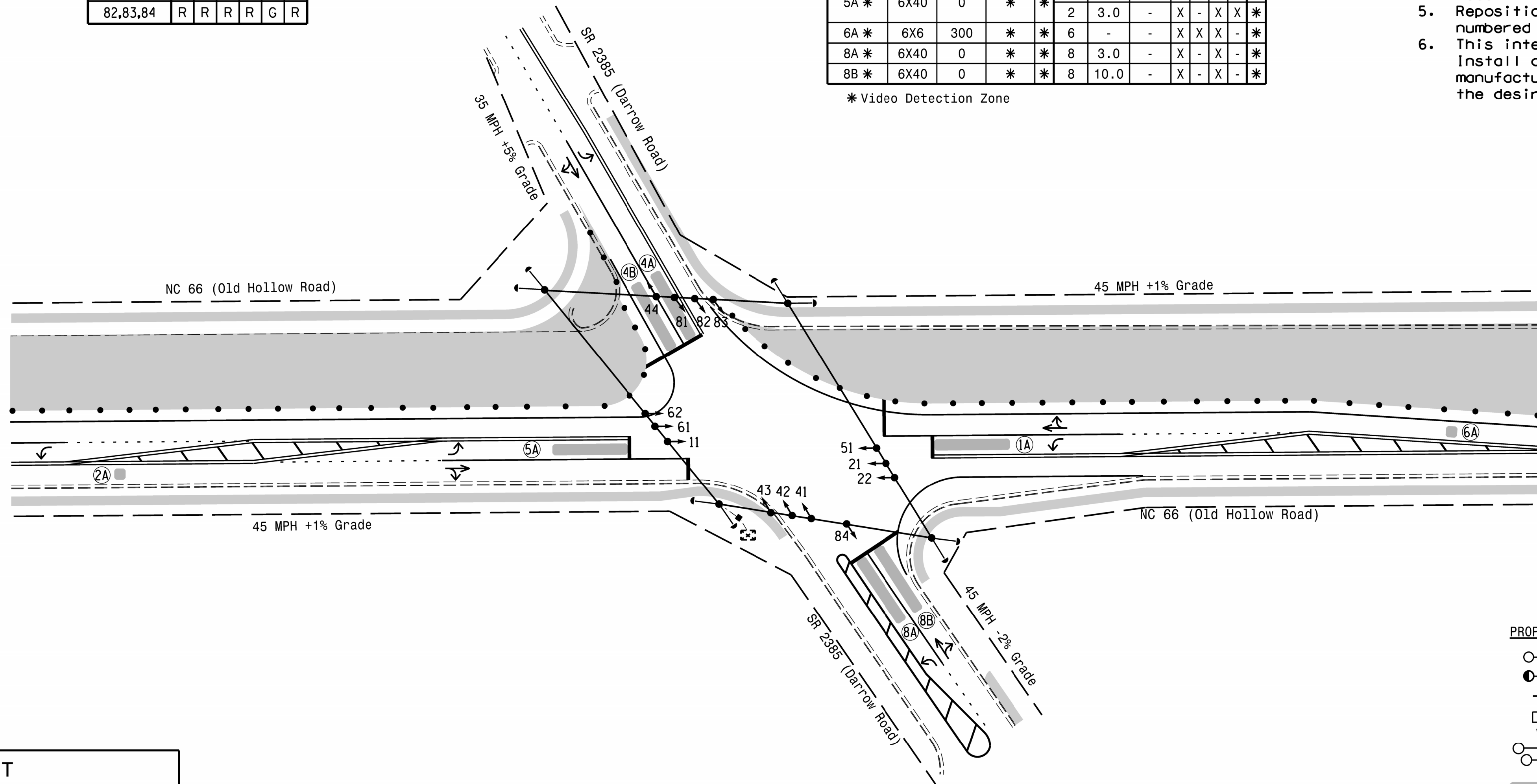
MAXTIME DETECTOR INSTALLATION CHART												
ZONE	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PROGRAMMING							
					CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN	NEW CARD
1A*	6X40	0	*	*	1	15.0	-	X	-	X	-	*
2A*	6X6	300	*	*	2	-	-	X	X	X	-	*
4A*	6X40	0	*	*	4	3.0	-	X	-	X	-	*
4B*	6X40	0	*	*	4	10.0	-	X	-	X	-	*
5A*	6X40	0	*	*	5	15.0	-	X	-	X	-	*
6A*	6X6	300	*	*	6	-	-	X	X	X	-	*
8A*	6X40	0	*	*	8	3.0	-	X	-	X	-	*
8B*	6X40	0	*	*	8	10.0	-	X	-	X	-	*

\*Video Detection Zone

5 Phase Fully Actuated (Isolated)

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 and/or phase 5 may be lagged.
- Set all detector units to presence mode.
- Reposition existing signal heads numbered 11, 21, 22, 51, 61, and 62.
- This intersection uses video detection. Install detectors according to the manufacturer's instructions to achieve the desired detection.



MAXTIME TIMING CHART

FEATURE	PHASE						
	1	2	4	5	6	8	
Walk *	-	-	-	-	-	-	
Ped Clear *	-	-	-	-	-	-	
Min Green *	7	12	7	7	12	7	
Passage *	2.0	6.0	2.0	2.0	6.0	2.0	
Max I *	20	50	30	20	50	30	
Yellow Change	3.0	4.4	4.7	3.0	4.4	4.7	
Red Clear	3.1	1.7	2.7	2.6	1.7	2.7	
Added Initial *	-	3.0	-	-	3.0	-	
Maximum Initial *	-	34	-	-	34	-	
Time Before Reduction *	-	15	-	-	15	-	
Time To Reduce *	-	30	-	-	30	-	
Minimum Gap	-	3.0	-	-	3.0	-	
Advance Walk	-	-	-	-	-	-	
Non Lock Detector	X	-	X	X	-	X	
Vehicle Recall	-	MIN RECALL	-	-	MIN RECALL	-	
Dual Entry	-	-	X	-	-	X	

\* These values may be field adjusted. Do not adjust Min Green and Passage times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

LEGEND

- |                                     |                                     |
|-------------------------------------|-------------------------------------|
| PROPOSED                            | EXISTING                            |
| ○ → Traffic Signal Head             | ● → N/A                             |
| ● → Modified Signal Head            | — Sign                              |
| ⊥ Pedestrian Signal Head            | ⊥ Signal Pole with Guy              |
| ⊥ With Push Button & Sign           | ⊥ Signal Pole with Sidewalk Guy     |
| ⊥ Signal Pole with Guy              | ⊥ Video Detection Zone              |
| ⊥ Signal Pole with Sidewalk Guy     | ⊥ Controller & Cabinet Junction Box |
| ⊥ Video Detection Zone              | ⊥ 2-in Underground Conduit          |
| ⊥ Controller & Cabinet Junction Box | N/A Right of Way                    |
| ⊥ 2-in Underground Conduit          | → Directional Arrow                 |
| N/A Right of Way                    | ▬ Construction Zone                 |
| → Directional Arrow                 | • • Construction Zone Drums         |
| ▬ Construction Zone                 |                                     |

Signal Upgrade - Temporary Design 2 (TMP Phase II - Step 1)

Prepared in the Office of:  NC FIRM LICENSE No: P-0339 320 Executive Court Hillsborough, NC 27278 (919) 732-3883 (919) 732-6676 (FAX)	 Prepared For: TRANSPORTATION MOBILITY AND SAFETY DIVISION STATE OF NORTH CAROLINA SIGNAL DESIGN SECTION 750 N. Greenfield Pkwy, Garner, NC 27525	NC 66 (Old Hollow Road) at SR 2385 (Darrow Road)		SEAL  Edward W. Sirgany ENGINEER DATE: 9/7/2023 SIG. INVENTORY NO. 09-065412
		Division 9 Forsyth County Walkertown PLAN DATE: August 2023 REVIEWED BY: E. Sirgany PREPARED BY: J. Smith REVIEWED BY:	REVISIONS INIT. DATE	

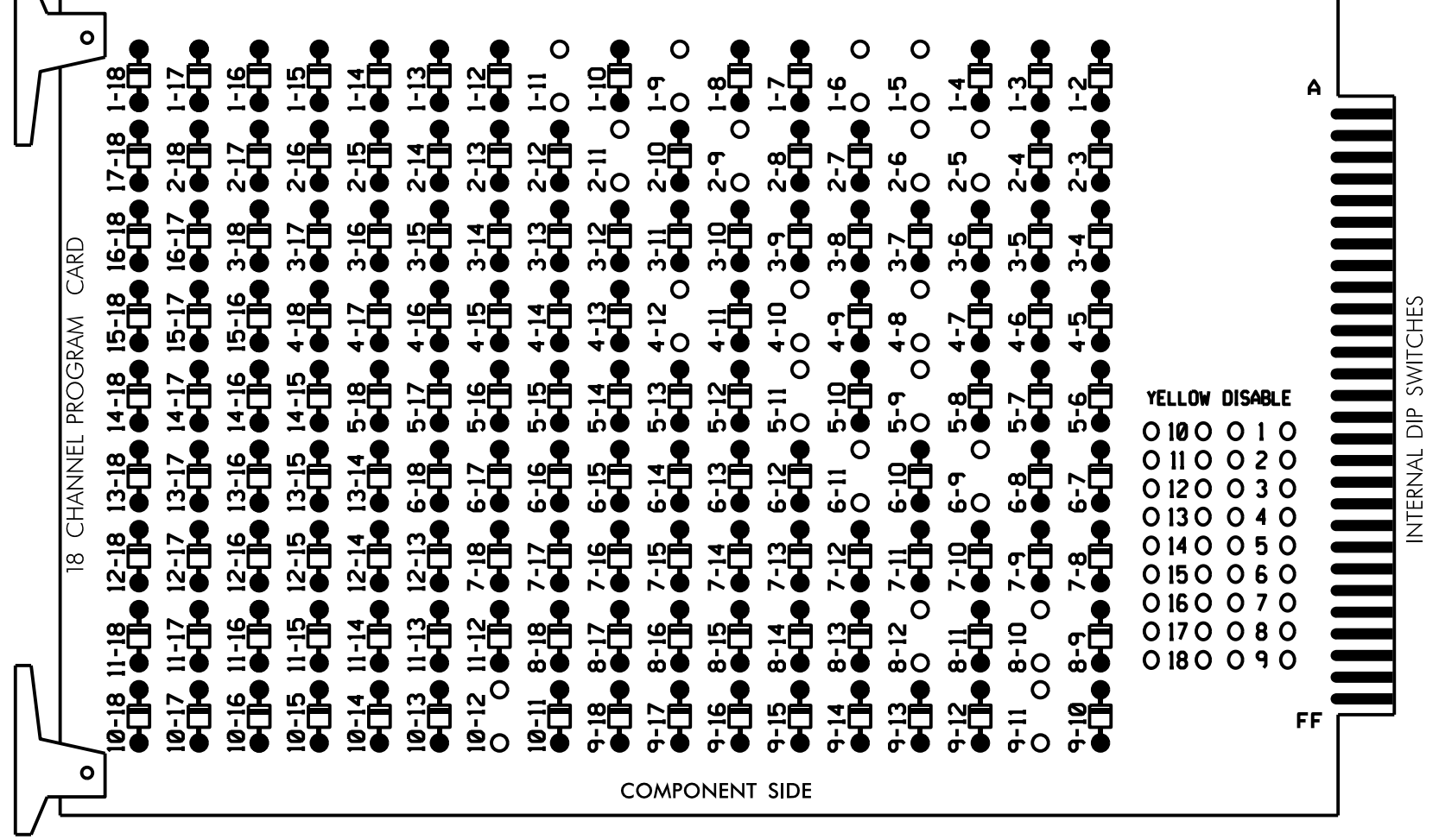
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



**18 CHANNEL IP CONFLICT MONITOR PROGRAMMING DETAIL**

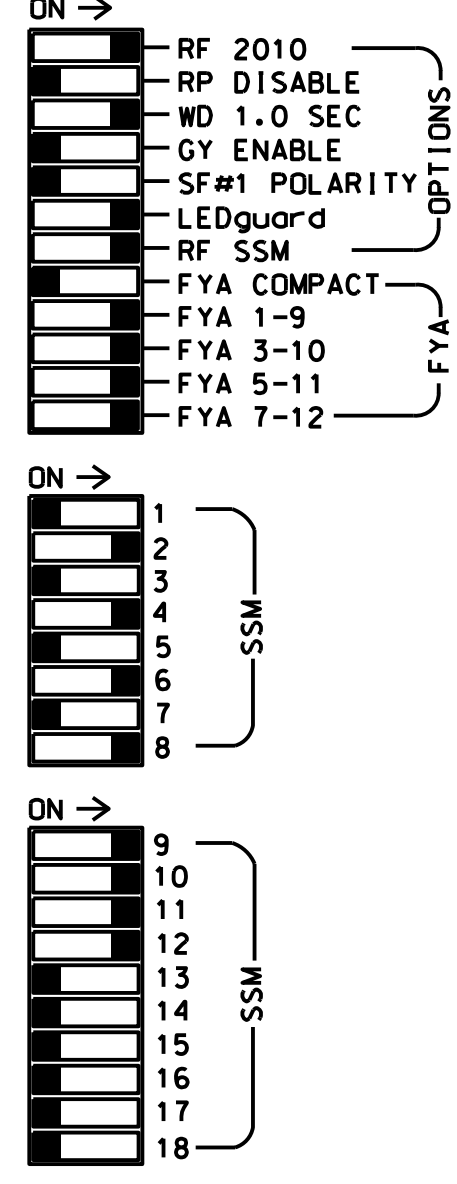
(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 1-5, 1-6, 1-9, 1-11, 2-5, 2-6, 2-9, 2-11, 4-8, 4-10, 4-12, 5-9, 5-11, 6-9, 6-11, 8-10, 8-12, 9-11 and 10-12.



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.



**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.
- Program phases 4 and 8 for Dual Entry.
- Program controller to start up in phase 2 Green No Walk and 6 Green No Walk.

**EQUIPMENT INFORMATION**

CONTROLLER.....2070LX  
 CABINET.....332 W/AUX  
 SOFTWARE.....0-FREE MAXTIME  
 CABINET MOUNT.....BASE  
 OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE  
 LOAD SWITCHES USED.....S1,S2,S5,S7,S8,S11,  
 AUX S1,AUX S2,AUX S4,AUX S5  
 PHASES USED.....1,2,4,5,6,8  
 OVERLAP "1".....\*  
 OVERLAP "2".....\*  
 OVERLAP "3".....\*  
 OVERLAP "4".....\*  
 \* See overlap programming detail below.

**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
CMJ 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	NU	NU	42,43,44	NU	51	61,62	NU	NU	82,83,84	NU	11	81	NU	51	41	NU
RED		128			101			134			107							
YELLOW	*	129			102		*	135			108							
GREEN		130			103			136			109							
RED ARROW													A121	A124		A114	A101	
YELLOW ARROW													A122	A125		A115	A102	
FLASHING YELLOW ARROW													A123	A126		A116	A103	
GREEN ARROW	127							133										

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

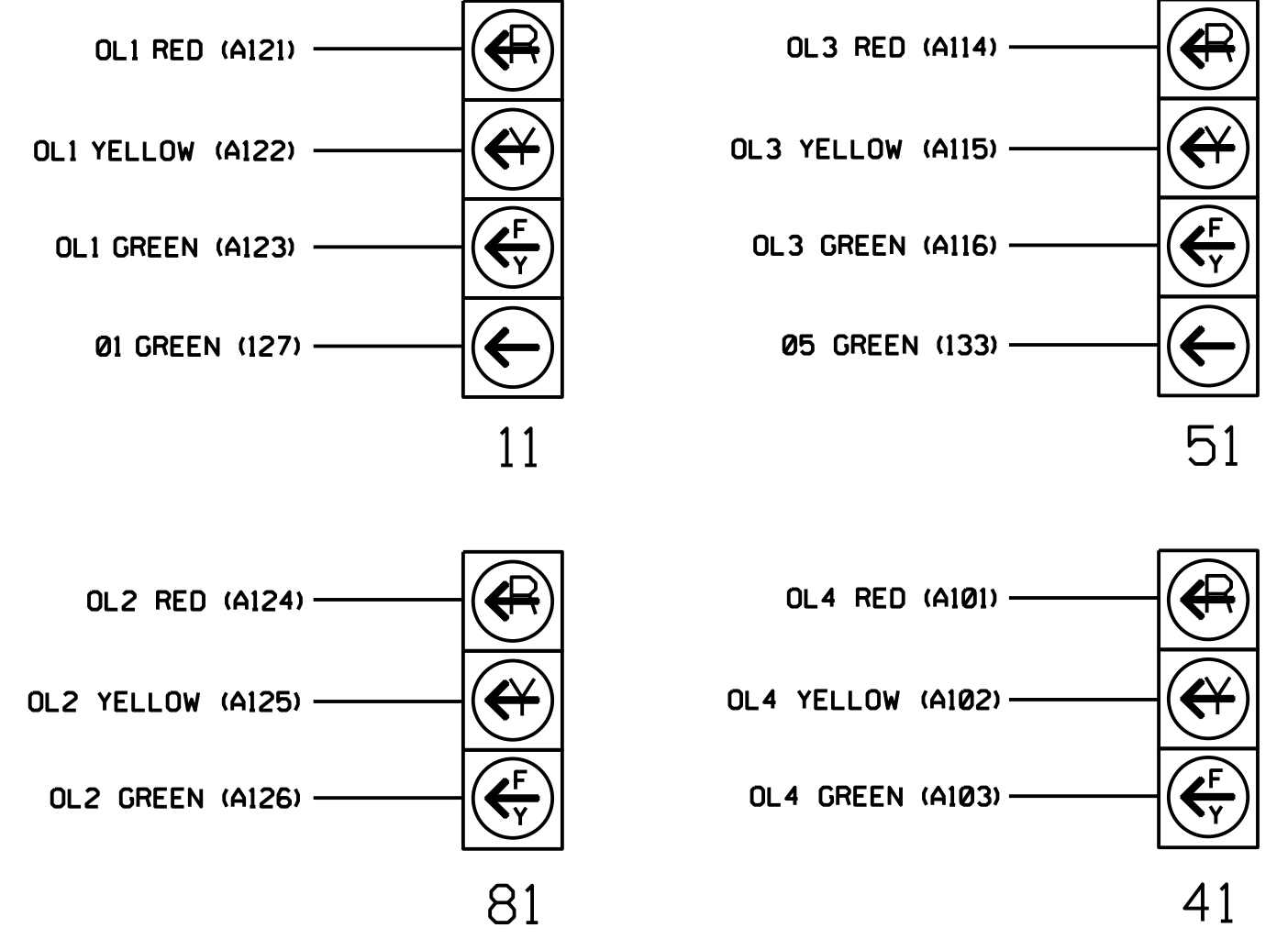
**OVERLAP PROGRAMMING**

Front Panel  
 Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings  
 Web Interface  
 Home >Controller >Overlap Configuration >Overlaps  
 Overlap Plan 1

Overlap	1	2	3	4
Type	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section
Included Phases	2	4	6	8
Modifier Phases	1	-	5	-
Modifier Overlaps	-	-	-	-
Trail Green	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0

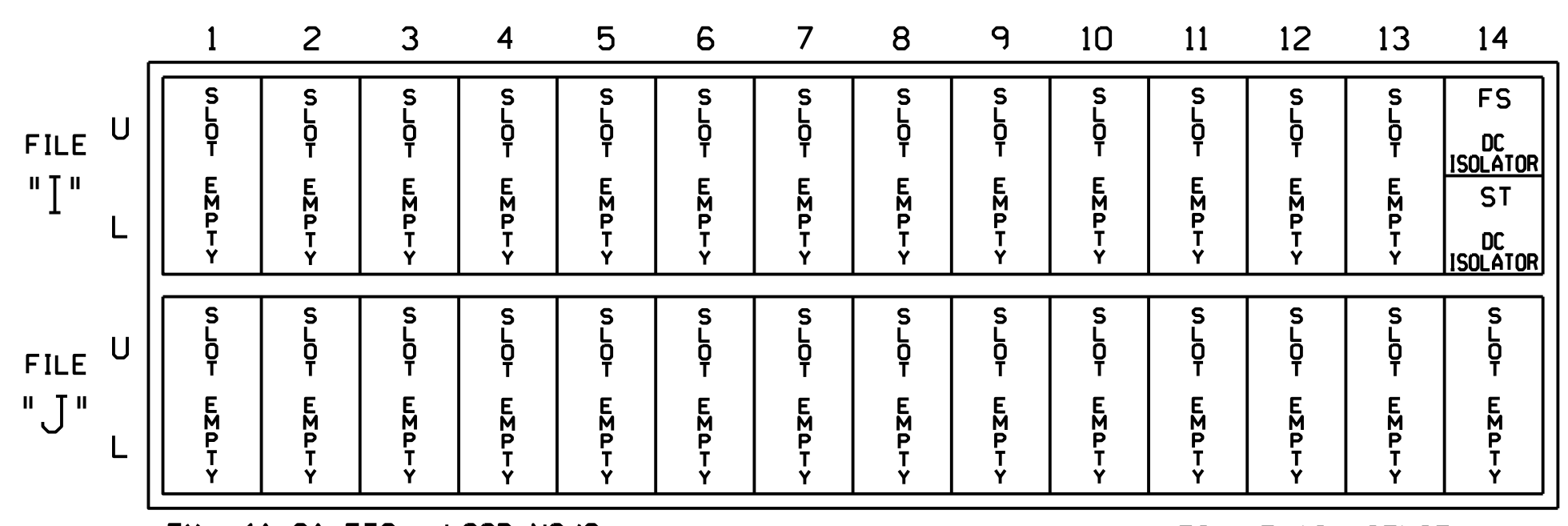
**FYA SIGNAL WIRING DETAIL**

(wire signal heads as shown)



**INPUT FILE POSITION LAYOUT**

(front view)



EX.: 1A, 2A, ETC. = LOOP NO.'S  
 FS = FLASH SENSE  
 ST = STOP TIME

**FLASHER CIRCUIT MODIFICATION DETAIL**

IN ORDER TO ENSURE THAT SIGNALS FLASH CONCURRENTLY ON THE SAME APPROACH, MAKE THE FOLLOWING FLASHER CIRCUIT CHANGES:

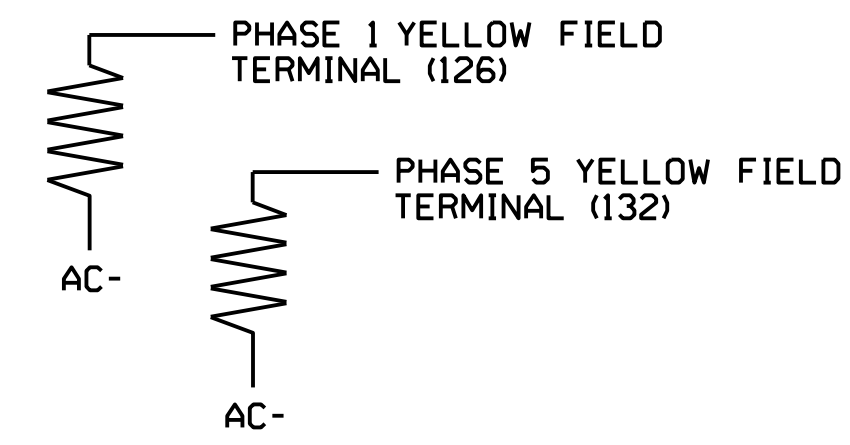
- ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-4 AND TERMINATE ON T2-2.
- ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-5 AND TERMINATE ON T2-3.
- REMOVE FLASHER UNIT 2.

THE CHANGES LISTED ABOVE TIES ALL PHASES AND OVERLAPS TO FLASHER UNIT 1.

**LOAD RESISTOR INSTALLATION DETAIL**

(install resistors as shown below)

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



THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 09-0654T2  
 DESIGNED: August 2023  
 SEALED: 9/7/2023  
 REVISED: N/A

Prepared in the Office of:  
  
 NC FIRM LICENSE No: P-0339  
 320 Executive Court  
 Hillsborough, NC 27278  
 (919) 732-3883  
 (919) 732-6676 (FAX)

Electrical Detail - Temporary Design 2

ELECTRICAL AND PROGRAMMING DETAILS FOR:

NC 66 (Old Hollow Road)  
 at  
 SR 2385 (Darrow Road)

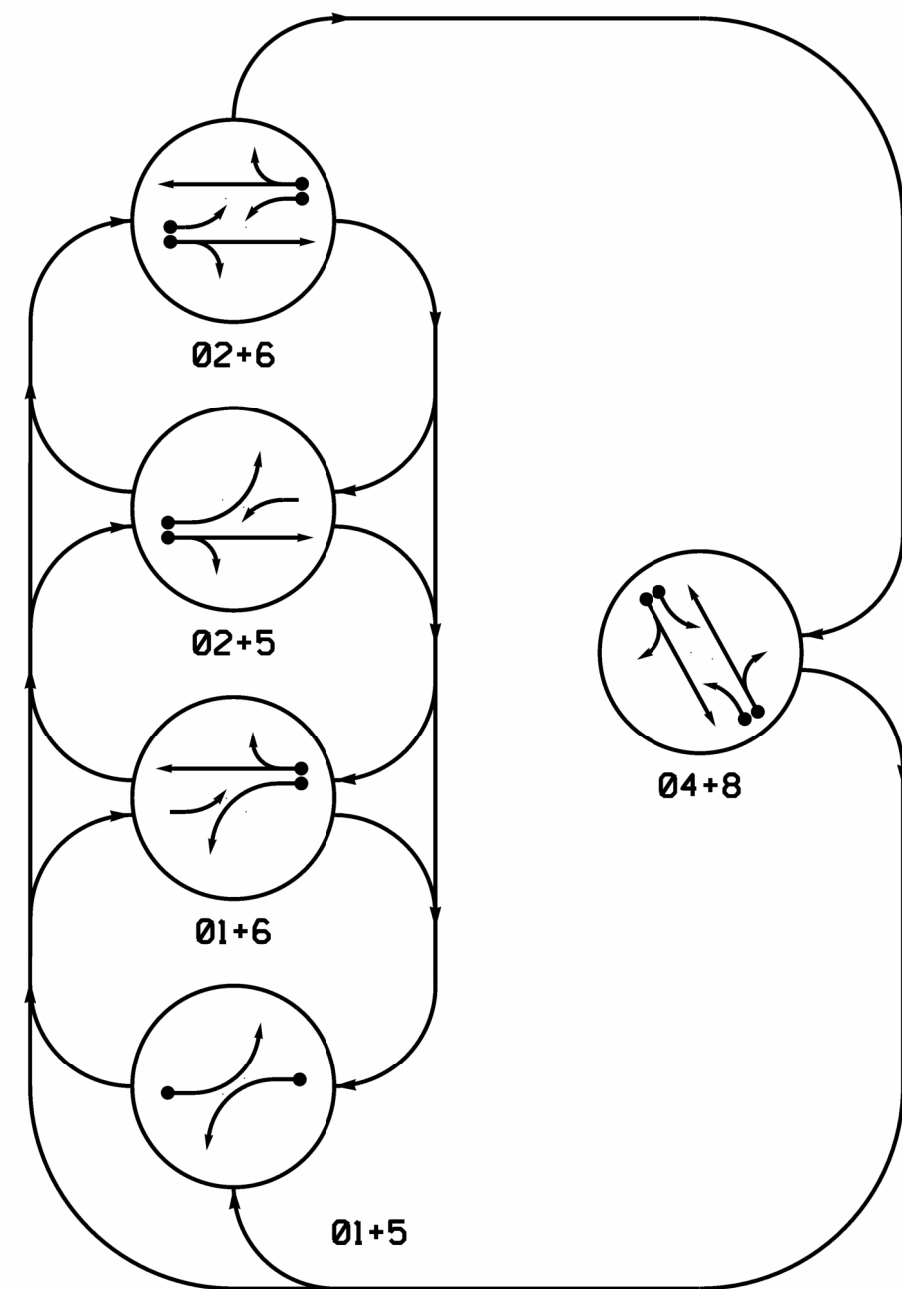
REVISIONS	INIT.	DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL  
 NORTH CAROLINA PROFESSIONAL ENGINEER  
 SEAL 018174  
 EDWARD W. SIRGANY  
 ENGINEER  
 State of North Carolina  
 Department of Transportation  
 Division 9  
 Forsthy County  
 Walkertown  
 PLAN DATE: August 2023 REVIEWED BY: E. Sirgany  
 PREPARED BY: J. Smith REVIEWED BY:  
 DocuSigned by:  
 Edward W. Sirgany 9/7/2023  
 SIG. INVENTORY NO. 09-0654T2



PHASING DIAGRAM



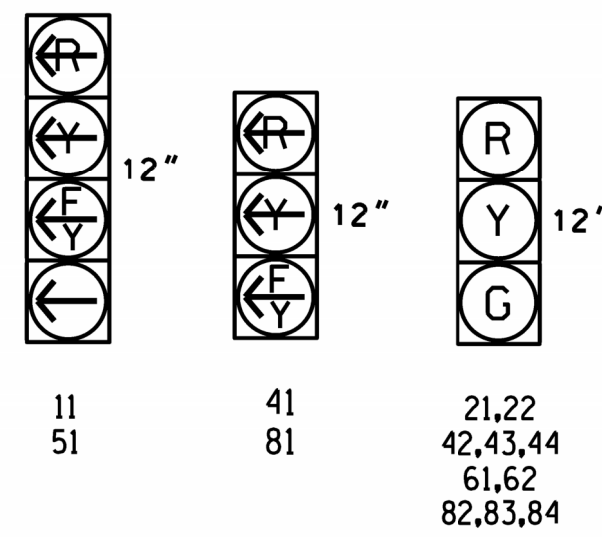
PHASING DIAGRAM DETECTION LEGEND

- ←●→ DETECTED MOVEMENT
- ←○→ UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- ←- - - PEDESTRIAN MOVEMENT

SIGNAL FACE	PHASE					
	01+5	01+6	02+5	02+6	04+8	ISOLATED
11	—	—	—	—	—	—
21,22	R	R	G	G	R	Y
41	R	R	R	R	G	R
42,43,44	R	R	R	R	G	R
51	—	—	—	—	—	—
61,62	R	G	R	G	R	Y
81	R	R	R	R	G	R
82,83,84	R	R	R	R	G	R

SIGNAL FACE I.D.

All Heads L.E.D.



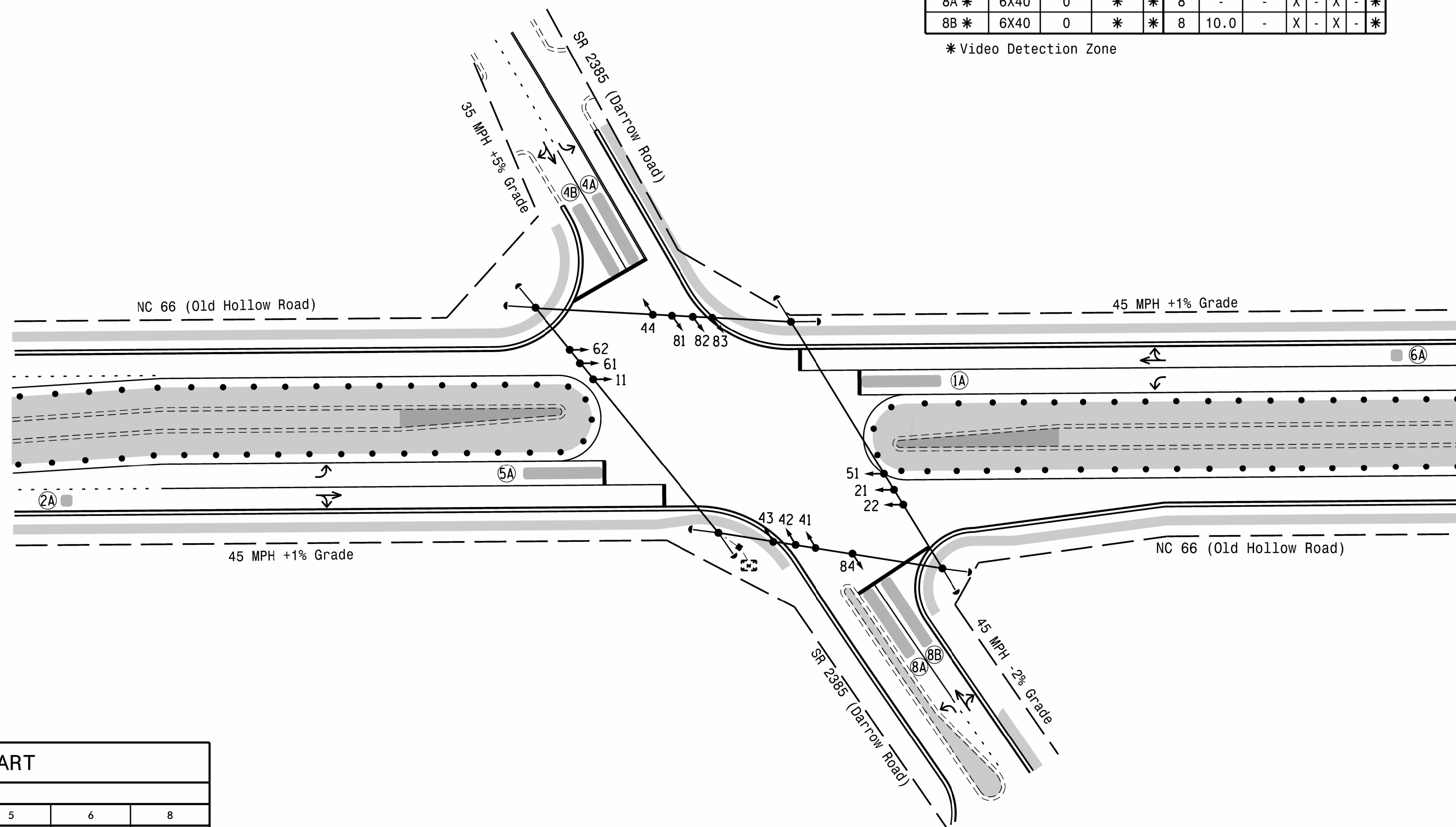
MAXTIME DETECTOR INSTALLATION CHART											
ZONE	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PROGRAMMING						
					CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL CALL	DELAY DURING GREEN	NEW CARD
1A *	6X40	0	*	*	1	10.0	-	X	-	X	*
					6	3.0	-	X	-	X	*
2A *	6X6	300	*	*	2	-	-	X	X	X	*
4A *	6X40	0	*	*	4	3.0	-	X	-	X	*
4B *	6X40	0	*	*	4	10.0	-	X	-	X	*
5A *	6X40	0	*	*	5	10.0	-	X	-	X	*
					2	3.0	-	X	-	X	*
6A *	6X6	300	*	*	6	-	-	X	X	X	*
8A *	6X40	0	*	*	8	-	-	X	-	X	*
8B *	6X40	0	*	*	8	10.0	-	X	-	X	*

\* Video Detection Zone

5 Phase Fully Actuated (Isolated)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 and/or phase 5 may be lagged.
4. Set all detector units to presence mode.
5. Reposition existing signal heads numbered 11, 61, and 62.
6. This intersection uses video detection. Install detectors according to the manufacturer's instructions to achieve the desired detection.



LEGEND

- | PROPOSED | EXISTING |
|----------|----------|
| ○ →      | ● →      |
| ○ →      | N/A      |
| +        | +        |
| +        | +        |
| ○ →      | ○ →      |
| ○ →      | ○ →      |
| ⊠        | ⊠        |
| ⊠        | ⊠        |
| - - -    | - - -    |
| N/A      | →        |
| →        | →        |
| ■        | ■        |
| ● ●      | ● ●      |

FEATURE	PHASE					
	1	2	4	5	6	8
Walk *	-	-	-	-	-	-
Ped Clear *	-	-	-	-	-	-
Min Green *	7	12	7	7	12	7
Passage *	2.0	6.0	2.0	2.0	6.0	2.0
Max I *	20	50	30	20	50	30
Yellow Change	3.0	4.4	4.7	3.0	4.4	4.7
Red Clear	2.8	1.5	3.5	2.9	1.5	3.5
Added Initial *	-	3.0	-	-	3.0	-
Maximum Initial *	-	34	-	-	34	-
Time Before Reduction *	-	15	-	-	15	-
Time To Reduce *	-	30	-	-	30	-
Minimum Gap	-	3.0	-	-	3.0	-
Advance Walk	-	-	-	-	-	-
Non Lock Detector	X	-	X	X	-	X
Vehicle Recall	-	MIN RECALL	-	-	MIN RECALL	-
Dual Entry	-	-	X	-	-	X

\* These values may be field adjusted. Do not adjust Min Green and Passage times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

Signal Upgrade - Temporary Design 3 (TMP Phase III - Step 1)

Prepared in the Office of:

NC FIRM LICENSE No: P-0339  
320 Executive Court  
Hillsborough, NC 27278  
(919) 732-3883  
(919) 732-6676 (FAX)

Prepared For:

750 N. Greenfield Hwy, Garner, NC 27525

NC 66 (Old Hollow Road)  
at  
SR 2385 (Darrow Road)

Division 9 Forsyth County Walkertown

PLAN DATE: August 2023 REVIEWED BY: E. Sirgany

PREPARED BY: J. Smith REVIEWED BY:

REVISIONS	INIT.	DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL

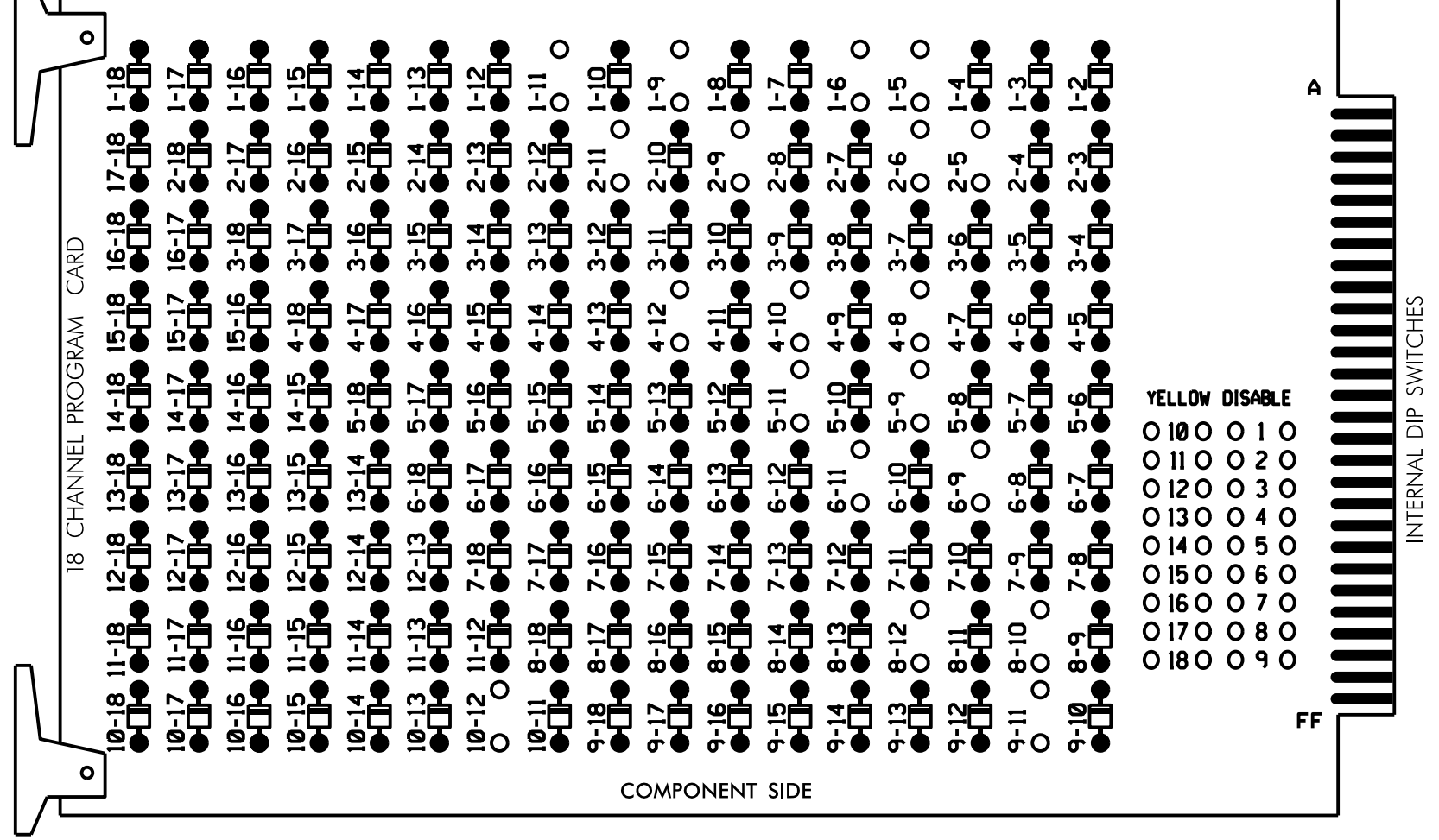
Edward W. Sirgany 9/7/2023

SIG. INVENTORY NO. 09-065413



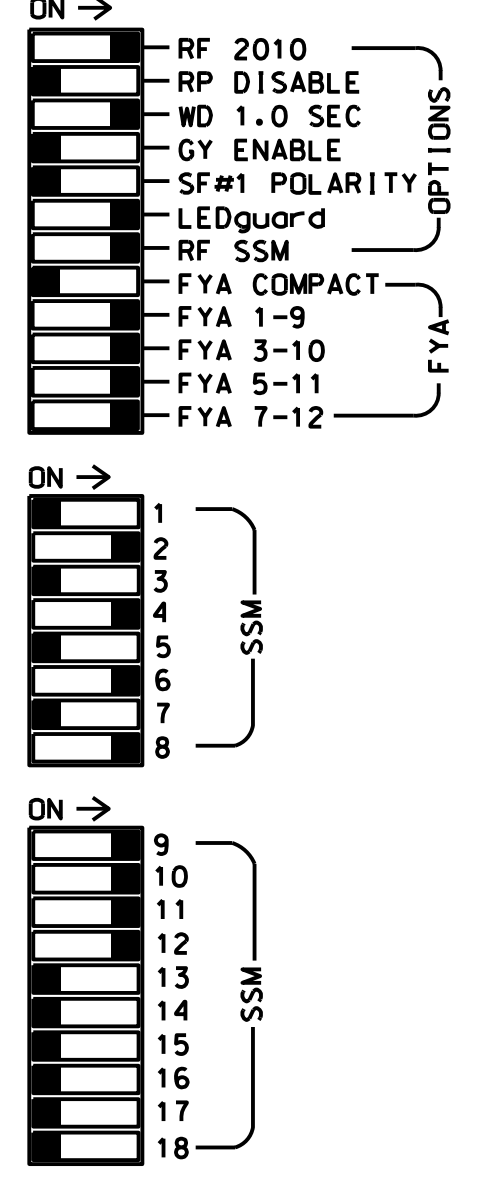
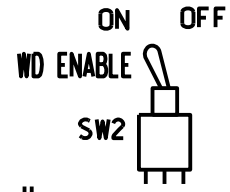
**18 CHANNEL IP CONFLICT MONITOR PROGRAMMING DETAIL**  
(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 1-5, 1-6, 1-9, 1-11, 2-5, 2-6, 2-9, 2-11, 4-8, 4-10, 4-12, 5-9, 5-11, 6-9, 6-11, 8-10, 8-12, 9-11 and 10-12.



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.



**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.
- Program phases 4 and 8 for Dual Entry.
- Program controller to start up in phase 2 Green No Walk and 6 Green No Walk.

**EQUIPMENT INFORMATION**

CONTROLLER.....2070LX  
 CABINET.....332 W/AUX  
 SOFTWARE.....0-FREE MAXTIME  
 CABINET MOUNT.....BASE  
 OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE  
 LOAD SWITCHES USED.....S1,S2,S5,S7,S8,S11,  
 AUX S1,AUX S2,AUX S4,AUX S5  
 PHASES USED.....1,2,4,5,6,8  
 OVERLAP "1".....\*  
 OVERLAP "2".....\*  
 OVERLAP "3".....\*  
 OVERLAP "4".....\*  
 \* See overlap programming detail below.

**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
CH1 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	NU	NU	42,43,44	NU	51	61,62	NU	NU	82,83,84	NU	11	81	NU	51	41	NU
RED		128			101			134			107							
YELLOW	*	129			102		*	135			108							
GREEN		130			103			136			109							
RED ARROW													A121	A124		A114	A101	
YELLOW ARROW													A122	A125		A115	A102	
FLASHING YELLOW ARROW													A123	A126		A116	A103	
GREEN ARROW	127							133										

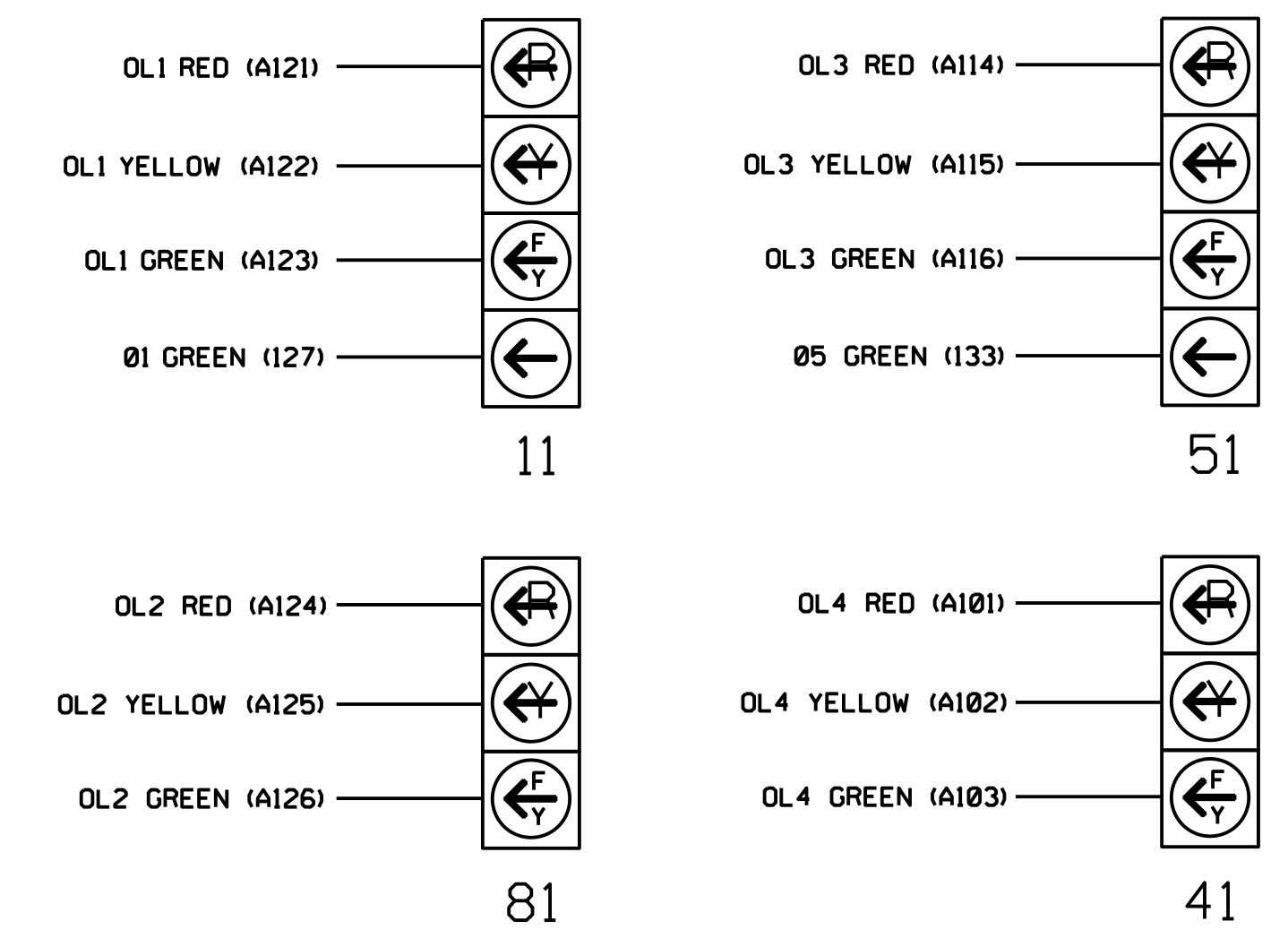
NU = Not Used  
 \* Denotes install load resistor. See load resistor installation detail this sheet.  
 ★ See pictorial of head wiring in detail this sheet.

**OVERLAP PROGRAMMING**

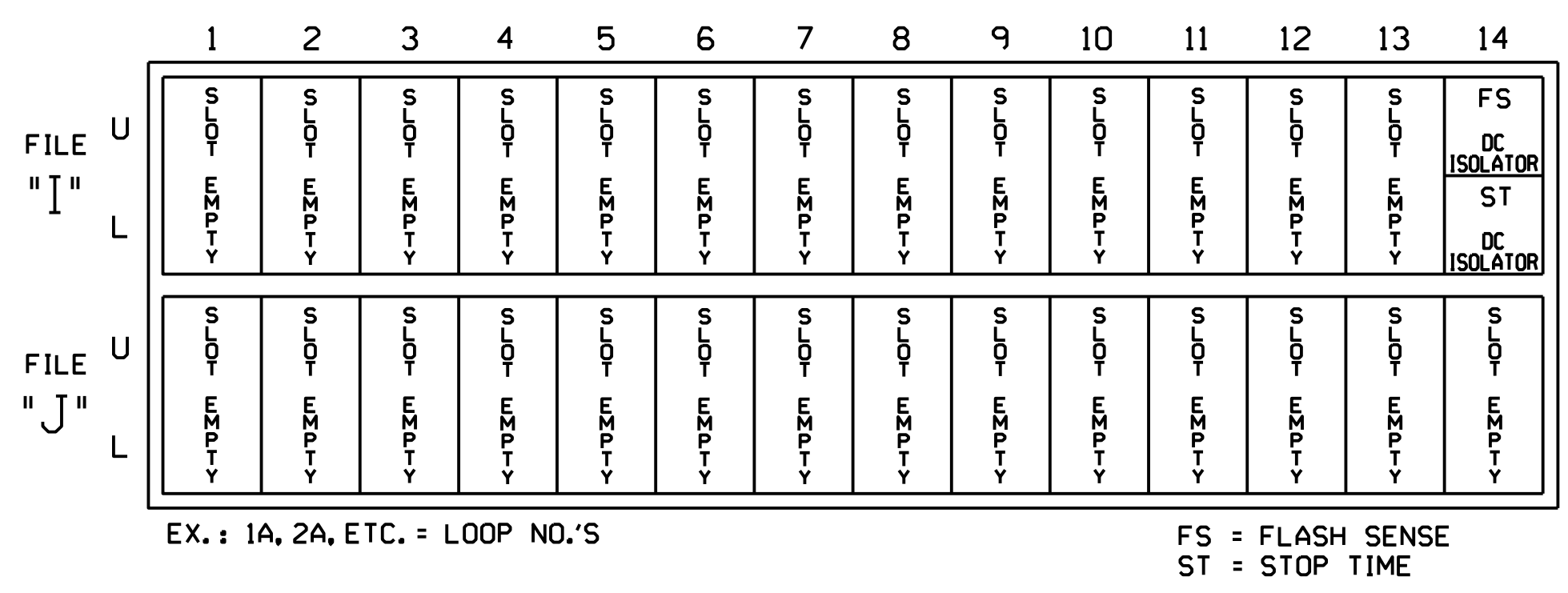
Front Panel  
 Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings  
 Web Interface  
 Home >Controller >Overlap Configuration >Overlaps  
 Overlap Plan 1

Overlap	1	2	3	4
Type	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section
Included Phases	2	4	6	8
Modifier Phases	1	-	5	-
Modifier Overlaps	-	-	-	-
Trail Green	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0

**FYA SIGNAL WIRING DETAIL**  
(wire signal heads as shown)



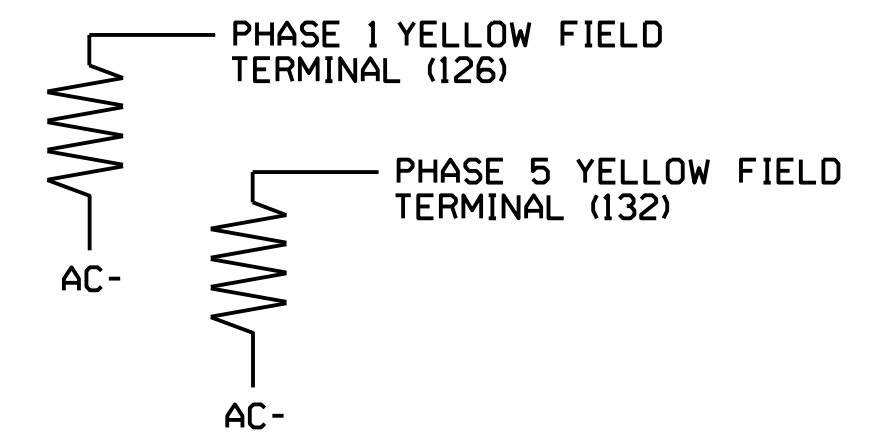
**INPUT FILE POSITION LAYOUT**  
(front view)



**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)



**FLASHER CIRCUIT MODIFICATION DETAIL**

IN ORDER TO ENSURE THAT SIGNALS FLASH CONCURRENTLY ON THE SAME APPROACH, MAKE THE FOLLOWING FLASHER CIRCUIT CHANGES:

- ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-4 AND TERMINATE ON T2-2.
  - ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-5 AND TERMINATE ON T2-3.
  - REMOVE FLASHER UNIT 2.
- THE CHANGES LISTED ABOVE TIES ALL PHASES AND OVERLAPS TO FLASHER UNIT 1.

**SPECIAL DETECTOR NOTE**

Install a video detection system for vehicle detection. Perform installation according to manufacturer's directions and NCDOT engineer-approved mounting locations to accomplish the detection scheme shown on the Signal Design Plans.

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 09-0654T3  
 DESIGNED: August 2023  
 SEALED: 9/7/2023  
 REVISED: N/A

Prepared in the Office of:

NC FIRM LICENSE No: P-0339  
 320 Executive Court  
 Hillsborough, NC 27278  
 (919) 732-3883  
 (919) 732-6676 (FAX)

Electrical Detail - Temporary Design 3

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

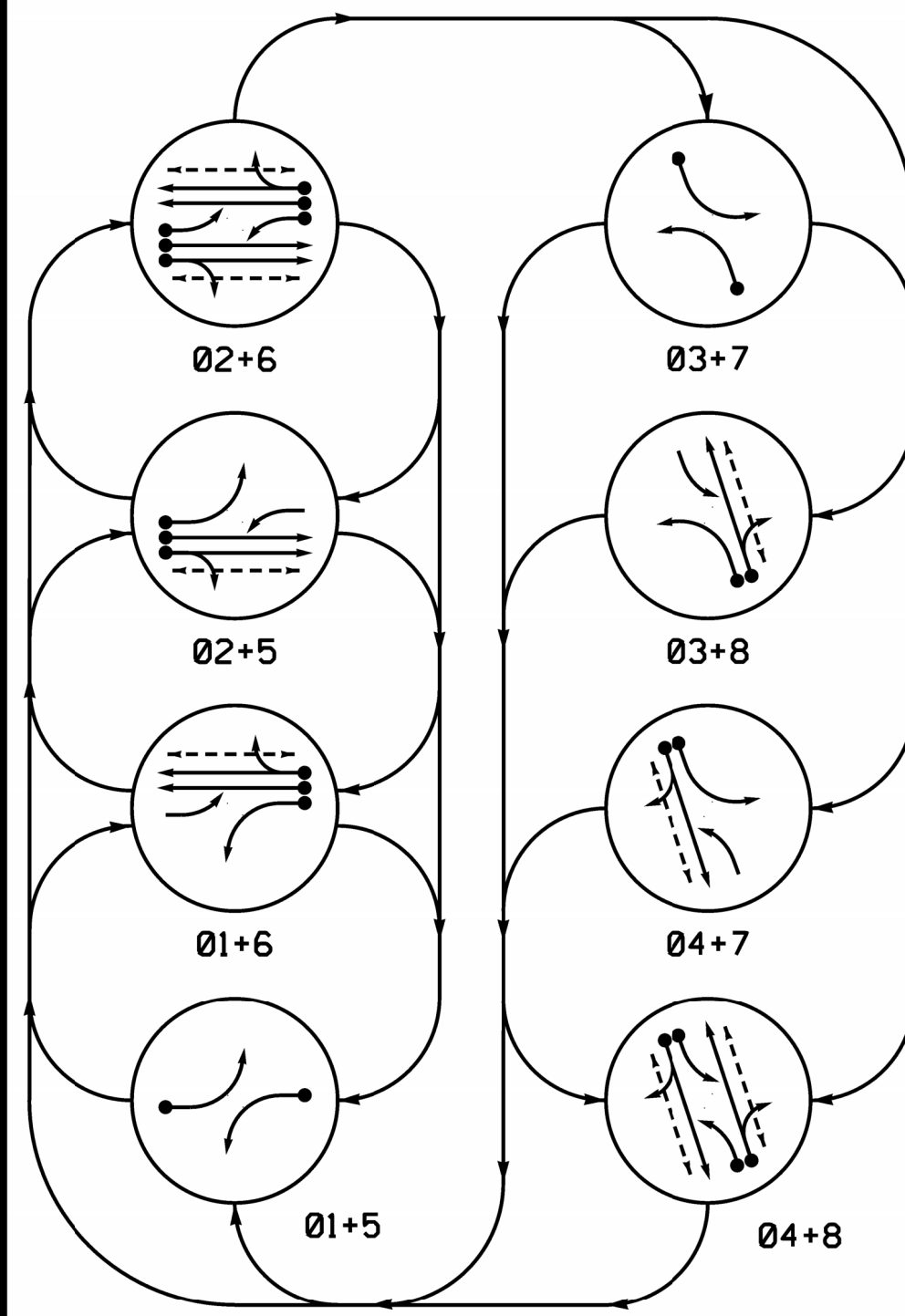
SEAL  
 NORTH CAROLINA PROFESSIONAL ENGINEER  
 SEAL 018174  
 EDWARD W. SIRGANY

Prepared For:  
 Division 9  
 NC 66 (Old Hollow Road) at SR 2385 (Darrow Road)  
 Forsyth County, Walkertown  
 PLAN DATE: August 2023 REVIEWED BY: E. Sirgany  
 PREPARED BY: J. Smith REVIEWED BY:  
 REVISIONS: INIT. DATE

DocuSigned by:  
 Edward W Sirgany 9/7/2023  
 50F5C86A8888 DATE  
 SIG. INVENTORY NO. 09-0654T3

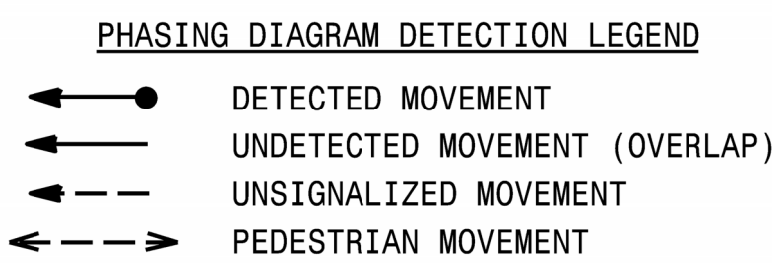


DEFAULT PHASING DIAGRAM

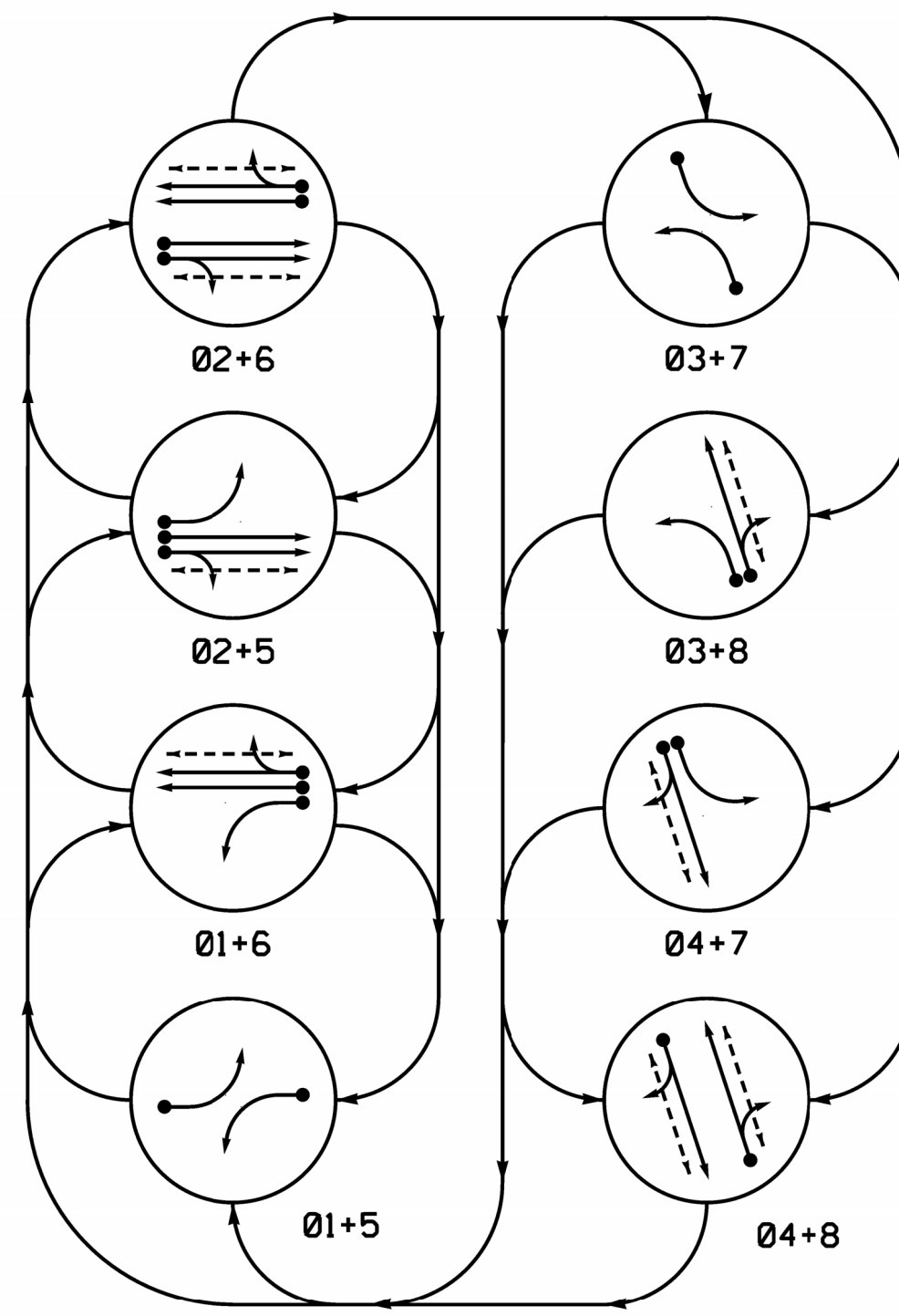


DEFAULT PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE								FLASH
	01+5	01+6	02+5	02+6	03+7	03+8	04+7	04+8	
11	---	---	---	---	---	---	---	---	---
21,22	R	R	G	G	R	R	R	R	Y
31	---	---	---	---	---	---	---	---	---
41,42,43	R	R	R	R	R	R	G	G	R
51	---	---	---	---	---	---	---	---	---
61,62	R	G	R	G	R	R	R	R	Y
71	---	---	---	---	---	---	---	---	---
81,82,83	R	R	R	R	R	G	R	G	R
P21,P22	DW	DW	W	W	DW	DW	DW	DW	DRK
P41,P42	DW	DW	DW	DW	DW	DW	W	W	DRK
P61,P62	DW	W	DW	W	DW	DW	DW	DW	DRK
P81,P82	DW	DW	DW	DW	DW	W	W	W	DRK



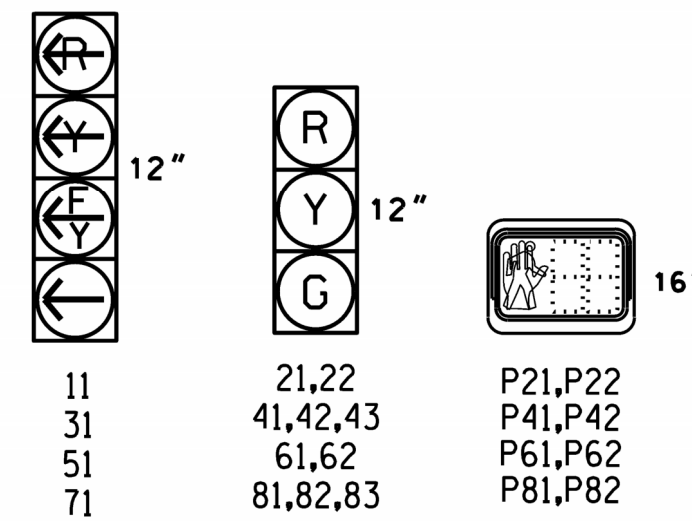
ALTERNATE PHASING DIAGRAM



ALTERNATE PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE								FLASH
	01+5	01+6	02+5	02+6	03+7	03+8	04+7	04+8	
11	---	---	---	---	---	---	---	---	---
21,22	R	R	G	G	R	R	R	R	Y
31	---	---	---	---	---	---	---	---	---
41,42,43	R	R	R	R	R	R	G	G	R
51	---	---	---	---	---	---	---	---	---
61,62	R	G	R	G	R	R	R	R	Y
71	---	---	---	---	---	---	---	---	---
81,82,83	R	R	R	R	R	G	R	G	R
P21,P22	DW	DW	W	W	DW	DW	DW	DW	DRK
P41,P42	DW	DW	DW	DW	DW	DW	W	W	DRK
P61,P62	DW	W	DW	W	DW	DW	DW	DW	DRK
P81,P82	DW	DW	DW	DW	DW	W	W	W	DRK

SIGNAL FACE I.D.  
All Heads L.E.D.



MAXTIME DETECTOR INSTALLATION CHART

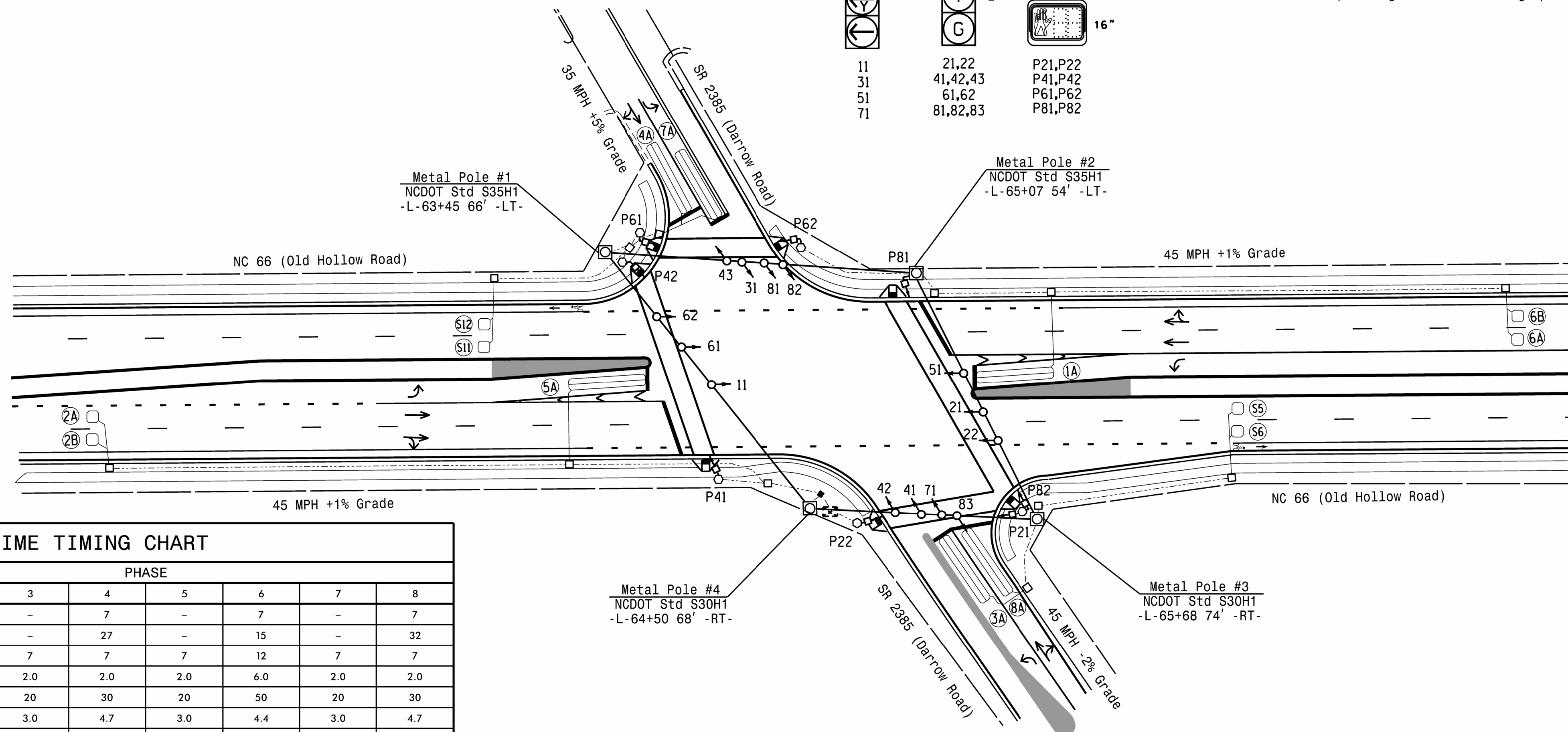
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PROGRAMMING							
					CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	INITIAL	CALL	DELAY DURING GREEN	NEW CARD
1A	6X40	0	2-4-2	X	1	15.0*	-	X	-	X	-	X
2A	6X6	300	5	X	2	-	-	X	X	X	-	X
2B	6X6	300	5	X	2	-	-	X	X	X	-	X
3A	6X40	0	2-4-2	X	3	15.0*	-	X	-	X	-	X
4A	6X40	0	2-4-2	X	4	10.0	-	X	-	X	-	X
5A	6X40	0	2-4-2	X	5	15.0*	-	X	-	X	-	X
6A	6X6	300	5	X	6	-	-	X	X	X	-	X
6B	6X6	300	5	X	6	-	-	X	X	X	-	X
7A	6X40	0	2-4-2	X	7	15.0*	-	X	-	X	-	X
8A	6X40	0	2-4-2	X	8	10.0	-	X	-	X	-	X
S5	6X6	+300	6	X	-	-	-	-	-	-	-	X
S6	6X6	+300	6	X	-	-	-	-	-	-	-	X
S11	6X6	+250	6	X	-	-	-	-	-	-	-	X
S12	6X6	+250	6	X	-	-	-	-	-	-	-	X

- \* Reduce Delay to 3 seconds during Alternate Phasing Operation.
- \*\* Disable Delay during Alternate Phasing Operation.
- # Disable Phase Call for loop During Alternate Phasing Operation.

8 Phase Fully Actuated (Old Hollow Road CLS) Signal System #: D09-29\_Walkertown

NOTES

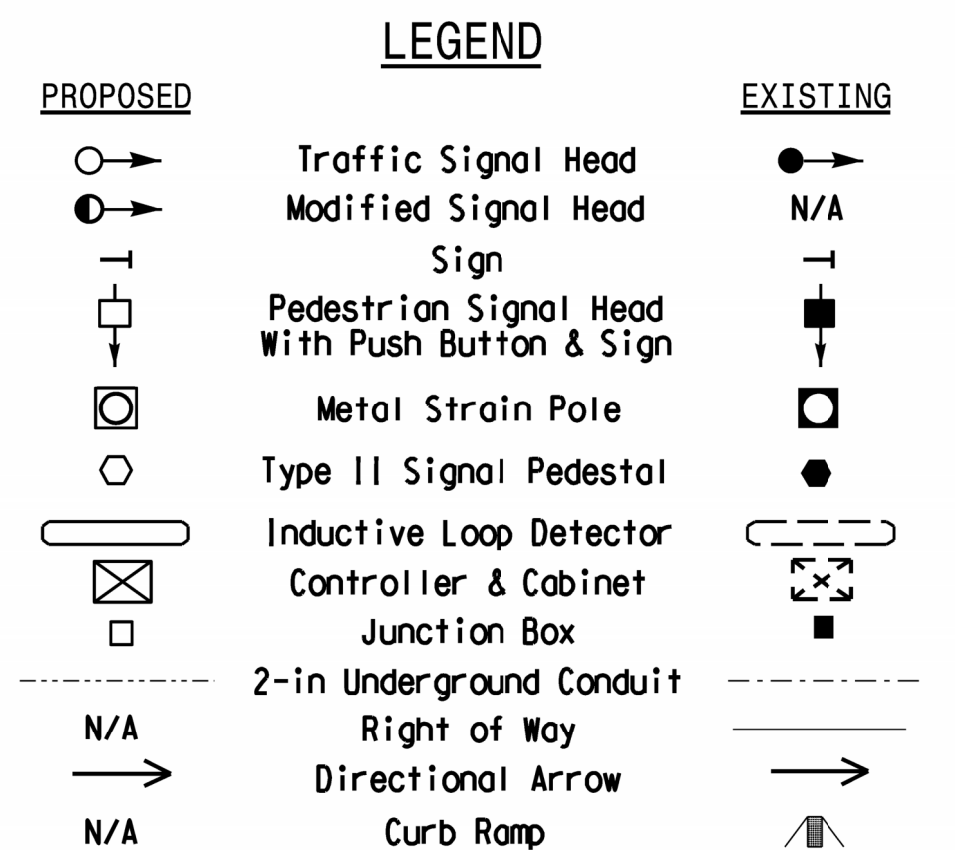
- Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 and/or phase 5 may be lagged.
- Phase 3 and/or phase 7 may be lagged.
- Set all detector units to presence mode.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- Metal poles, pedestal poles, and pedestrian signal heads shall be black in color. Vehicle signal heads shall be standard yellow in color.
- The Division Traffic Engineer will determine the hours of use for each phasing plan.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.



MAXTIME TIMING CHART

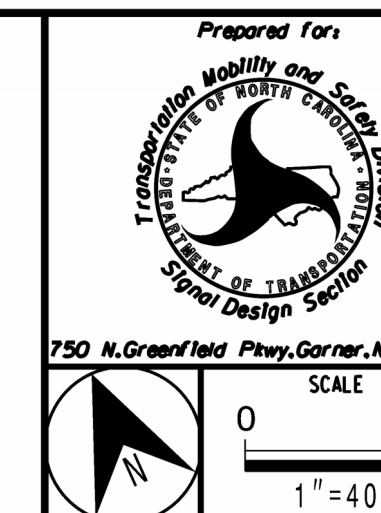
FEATURE	PHASE							
	1	2	3	4	5	6	7	8
Walk *	-	7	-	7	-	7	-	7
Ped Clear *	-	16	-	27	-	15	-	32
Min Green *	7	12	7	7	7	12	7	7
Passage *	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0
Max I *	20	50	20	30	20	50	20	30
Yellow Change	3.0	4.4	3.0	4.7	3.0	4.4	3.0	4.7
Red Clear	2.9	2.3	4.5	3.6	3.1	2.3	4.2	3.6
Added Initial *	-	2.5	-	-	-	2.5	-	-
Maximum Initial *	-	34	-	-	-	34	-	-
Time Before Reduction *	-	15	-	-	-	15	-	-
Time To Reduce *	-	30	-	-	-	30	-	-
Minimum Gap	-	3.0	-	-	-	3.0	-	-
Advance Walk	-	3	-	3	-	3	-	3
Non Lock Detector	X	-	X	X	X	-	X	X
Vehicle Recall	-	MIN RECALL	-	-	-	MIN RECALL	-	-
Dual Entry	-	-	-	X	-	-	-	X

\* These values may be field adjusted. Do not adjust Min Green and Passage times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.



Signal Upgrade - Final Design

Prepared in the Office of:  
**SUMMIT**  
DESIGN AND ENGINEERING SERVICES  
NC FIRM LICENSE No: P-0339  
320 Executive Court  
Hillsborough, NC 27278  
(919) 732-3883  
(919) 732-6676 (FAX)



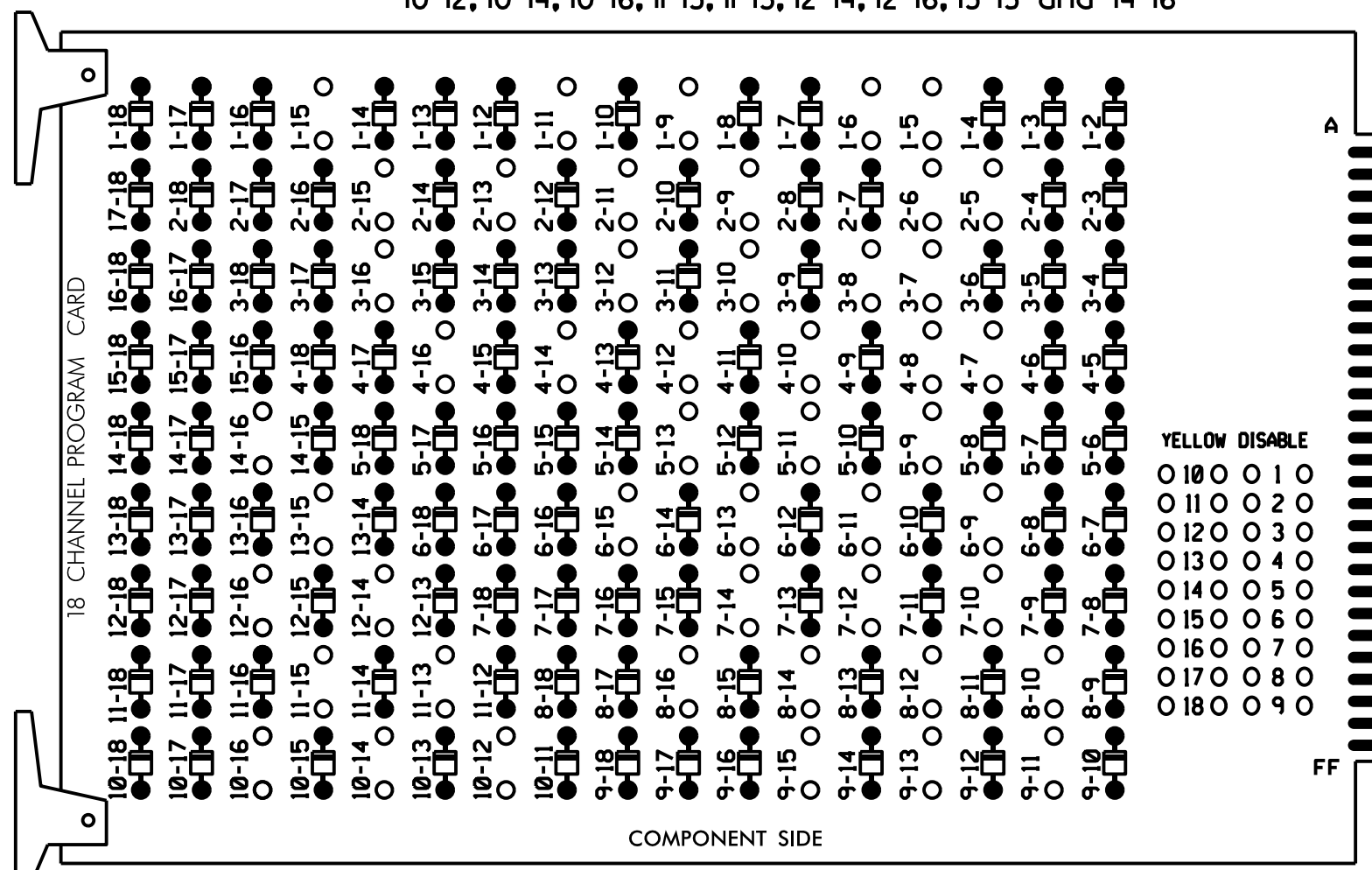
NC 66 (Old Hollow Road) at SR 2385 (Darrow Road)  
Division 9 Forsyth County Walkertown  
PLAN DATE: August 2023 REVIEWED BY: E. Sirgany  
PREPARED BY: M. Parker REVIEWED BY:  
REVISIONS  
INIT. DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED  
SEAL  
EDWARD W. SIRGANY  
ENGINEER  
018174  
DATE  
9/7/2023  
SIG. INVENTORY NO. 09-0654



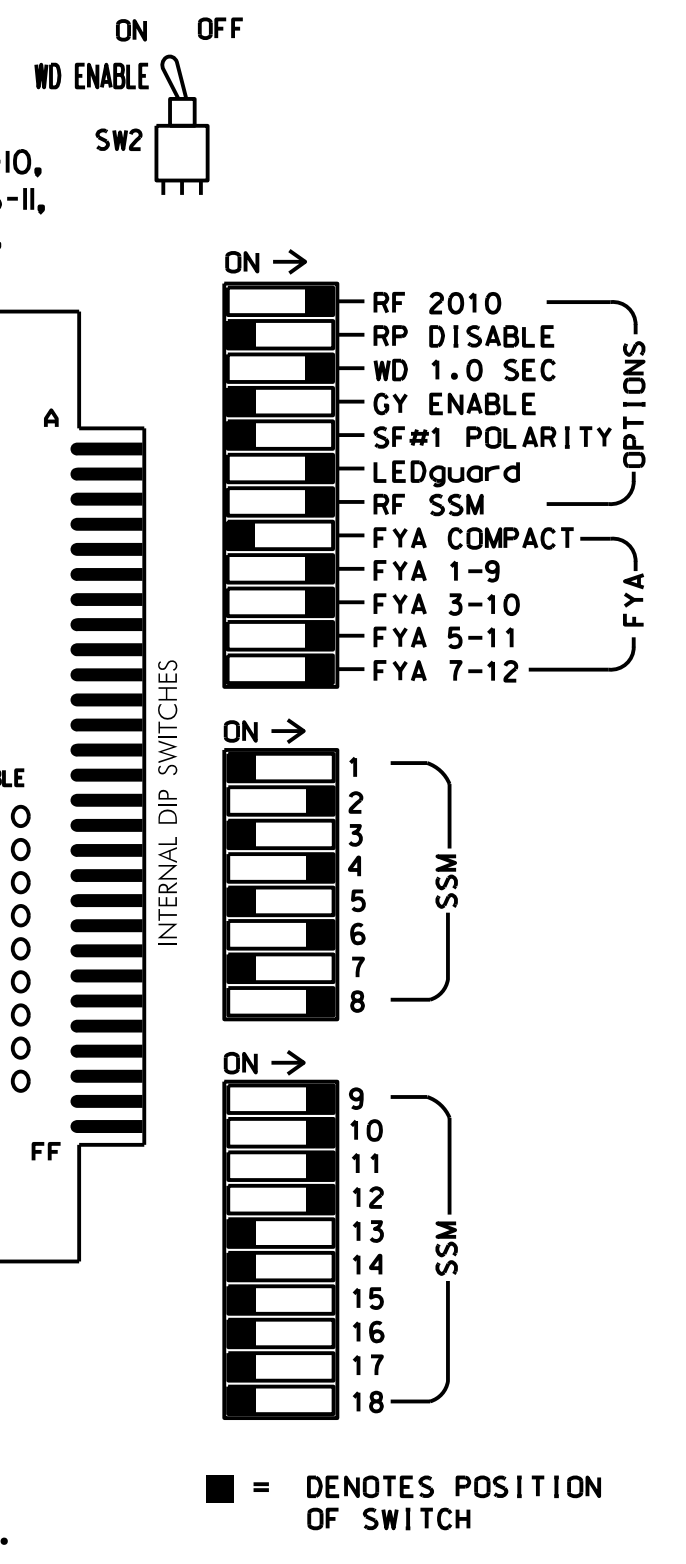
**18 CHANNEL IP CONFLICT MONITOR PROGRAMMING DETAIL**

(remove jumpers and set switches as shown)  
 REMOVE DIODE JUMPERS 1-5, 1-6, 1-9, 1-11, 1-15, 2-5, 2-6, 2-9, 2-11, 2-13, 2-15, 3-7, 3-8, 3-10, 3-12, 3-16, 4-7, 4-8, 4-10, 4-12, 4-14, 4-16, 5-9, 5-11, 5-13, 6-9, 6-11, 6-13, 6-15, 7-10, 7-12, 7-14, 8-10, 8-12, 8-14, 8-16, 9-11, 9-13, 9-15, 10-12, 10-14, 10-16, 11-13, 11-15, 12-14, 12-16, 13-15 and 14-16



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.



**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.
- Program phases 4 and 8 for Dual Entry.
- Program controller to start up in phase 2 Green No Walk and phase 6 Green No Walk.
- If this signal will be managed by an ATMS software, enable controller and detector logging for all enabled detectors.
- The cabinet and controller are part of the Old Hollow Road Closed Loop System. Signal System #: D09-29-Walkertown

**EQUIPMENT INFORMATION**

CONTROLLER.....2070LX  
 CABINET.....332 W/AUX  
 SOFTWARE.....0-FREE MAXTIME  
 CABINET MOUNT.....BASE  
 OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE S11,S12,AUX S1,AUX S2,AUX S4,AUX S5  
 LOAD SWITCHES USED.....S1,S2,S3,S4,S5,S6,S7,S8,S9,S10,  
 PHASES USED.....1,2,2PED,3,4,4PED,5,6,6PED,7,8,8PED  
 OVERLAP "1".....\*  
 OVERLAP "2".....\*  
 OVERLAP "3".....\*  
 OVERLAP "4".....\*  
 \* See overlap 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	P21, P22	31	41,42, 43	P41, P42	51	61,62	P61, P62	71	81,82, 83	P81, P82	11	31	NU	51	71	NU
RED		128			101			134			107							
YELLOW	*	129		*	102		*	135		*	108							
GREEN		130			103			136			109							
RED ARROW													A121	A124		A114	A101	
YELLOW ARROW													A122	A125		A115	A102	
FLASHING YELLOW ARROW													A123	A126		A116	A103	
GREEN ARROW	127				118			133			124							
Hand icon					113			104			119							
Person icon					115			106			121							

NU = Not Used  
 \* Not 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	S	S	∅ 3	∅ 4	S	S	SYS. DET. S5	S	S	∅ 2 PED	∅ 6 PED	FS
L	1A	2A	Y	Y	3A	4A	Y	Y	SYS. DET. S6	Y	Y	DC ISOLATOR	DC ISOLATOR	DC ISOLATOR
U	NOT USED	∅ 2	Y	Y	NOT USED	NOT USED	Y	Y	SYS. DET. S11	Y	Y	∅ 4 PED	∅ 8 PED	ST
L	2B	Y	Y	Y	Y	Y	Y	Y	SYS. DET. S12	Y	Y	DC ISOLATOR	DC ISOLATOR	DC ISOLATOR
U	∅ 5	∅ 6	S	S	∅ 7	∅ 8	S	S	SYS. DET. S11	S	S	S	S	S
L	5A	6A	Y	Y	7A	8A	Y	Y	SYS. DET. S12	Y	Y	Y	Y	Y
U	NOT USED	∅ 6	Y	Y	NOT USED	NOT USED	Y	Y	SYS. DET. S12	Y	Y	Y	Y	Y
L	6B	Y	Y	Y	Y	Y	Y	Y	SYS. DET. S12	Y	Y	Y	Y	Y

EX. : 1A, 2A, ETC. = LOOP NO.'S  
 FS = FLASH SENSE  
 ST = STOP TIME

**INPUT FILE CONNECTION & PROGRAMMING CHART**

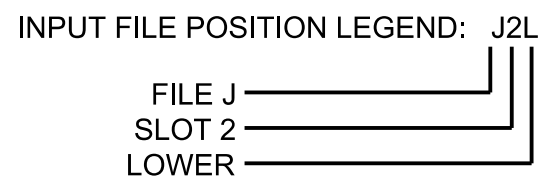
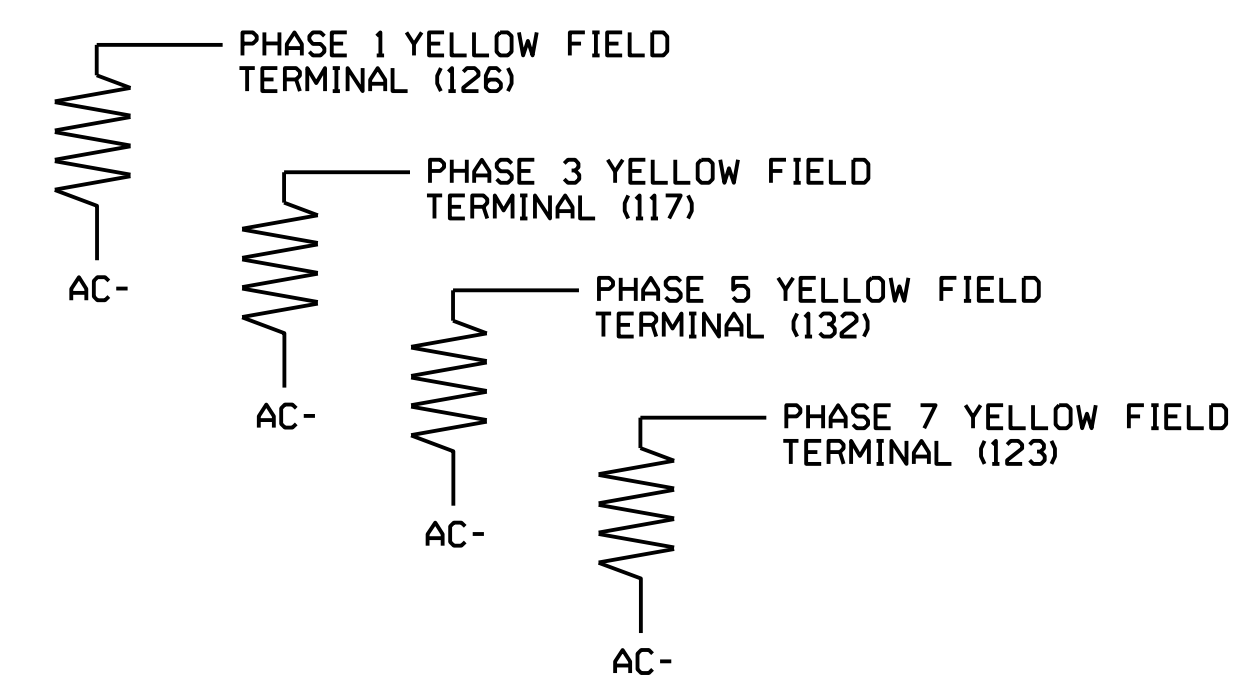
LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
1A	TB2-1,2	I1U	56	18	1 ★	1	15.0		X		X	
2A	TB2-5,6	I2U	39	1	29 ★	6	3.0		X		X	X
2B	TB2-7,8	I2L	43	5	3	2			X	X	X	
3A	TB4-5,6	I5U	58	20	7 ★	3	15.0		X		X	
4A	TB4-9,10	I6U	41	3	8	4	10.0		X		X	
5A	TB3-1,2	J1U	55	17	15 ★	5	15.0		X		X	
6A	TB3-5,6	J2U	40	2	16	6			X	X	X	
6B	TB3-7,8	J2L	44	6	17	6			X	X	X	
7A	TB5-5,6	J5U	57	19	21 ★	7	15.0		X		X	
8A	TB5-9,10	J6U	42	4	22	8	10.0		X		X	
*S5	TB6-9,10	I9U	60	22	13	SYS						
*S6	TB6-11,12	I9L	62	24	14	SYS						
*S11	TB7-9,10	J9U	59	21	27	SYS						
*S12	TB7-11,12	J9L	61	23	28	SYS						
PED PUSH BUTTONS												
P21,P22	TB8-4,6	I12U	67	33	2	PED 2						
P41,P42	TB8-5,6	I12L	69	35	4	PED 4						
P61,P62	TB8-7,9	I13U	68	34	6	PED 6						
P81,P82	TB8-8,9	I13L	70	36	8	PED 8						

NOTE: INSTALL DC ISOLATORS IN INPUT FILE SLOTS I12 AND I13.  
 \* System detector only. Remove any assigned vehicle phase.  
 \* For the detectors to work as shown on the signal design plan, see the Vehicle Detector Setup Programming Detail for Alternate Phasing on Sheet 2.

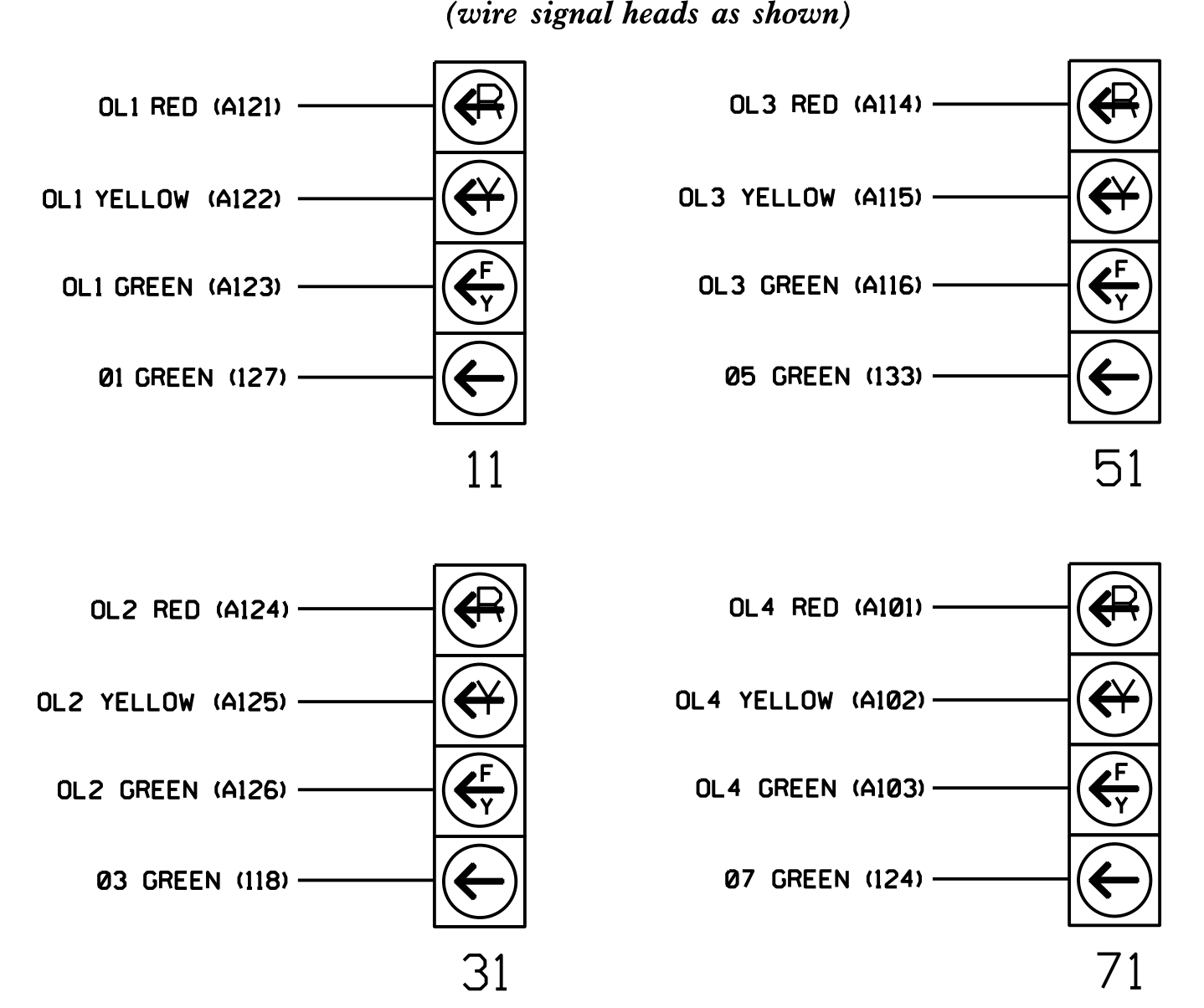
**LOAD RESISTOR INSTALLATION DETAIL**

ACCEPTABLE VALUES

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



**FYA SIGNAL WIRING DETAIL**



THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 09-0654  
 DESIGNED: August 2023  
 SEALED: 9/7/2023  
 REVISED: N/A

Prepared in the Office of:

NC FIRM LICENSE NO: P-0339  
 504 Meadowlands Drive  
 Hillsborough, NC 27278  
 (919) 732-3883  
 (919) 732-6676 (FAX)

Electrical Detail - Final Design - Sheet 1 of 2

Division 9 Forsyth County Walkertown  
 PLAN DATE: August 2023 REVIEWED BY: E. Sirgany  
 PREPARED BY: J. Smith REVIEWED BY:

NC 66 (Old Hollow Road) at SR 2385 (Darrow Road)

SEAL  
 NORTH CAROLINA PROFESSIONAL ENGINEER  
 SEAL 018174  
 EDWARD W. SIRGANY

DocuSigned by: Edward W Sirgany 9/7/2023  
 DATE

SIG. INVENTORY NO. 09-0654



### MATIME OVERLAP PROGRAMMING FOR DEFAULT PHASING

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

Web Interface  
Home >Controller >Overlap Configuration >Overlaps

Overlap Plan 1

Overlap	1	2	3	4
Type	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section
Included Phases	2	4	6	8
Modifier Phases	1	3	5	7
Modifier Overlaps	-	-	-	-
Trail Green	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0

### MAXTIME OVERLAP PROGRAMMING DETAIL FOR ALTERNATE PHASING

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

Web Interface  
Home >Controller >Overlap Configuration >Overlaps

In the table view of the web interface, right click on "Overlap" in the top left corner of the table. Copy the entire contents of Overlap Plan 1. Paste Overlap Plan 1 into Overlap Plan 2. Modify Overlap Plan 2 as shown below and save changes.

Overlap Plan 2

Overlap	1	2	3	4
Type	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section
Included Phases	-	-	-	-
Modifier Phases	1	3	5	7
Modifier Overlaps	-	-	-	-
Trail Green	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0

← NOTICE INCLUDED PHASE

### MAXTIME DETECTOR PROGRAMMING DETAIL FOR ALTERNATE PHASING LOOPS 1A, 3A, 5A & 7A

Front Panel  
Main Menu >Controller >Detector >Veh Det Plans

Web Interface  
Home >Controller >Detector Configuration >Vehicle Detectors

In the table view of web interface right click on "Detector" in the top left corner of the table. Copy the entire contents of Detector Plan 1. Paste Detector Plan 1 into Detector Plan 2. Modify Detector Plan 2 as shown below and save changes.

Plan 2

Detector	Call Phase	Delay
1	1	3.0
29	0	3.0

1A

Detector	Call Phase	Delay
7	3	0.0
30	0	0.0

3A

Detector	Call Phase	Delay
15	5	3.0
31	0	3.0

5A

Detector	Call Phase	Delay
21	7	3.0
32	0	3.0

7A

### MAXTIME ALTERNATE PHASING ACTIVATION DETAIL

To run alternate phasing, select a Pattern that is programmed to run Overlap Plan 2 and Detector Plan 2. A Pattern can be selected through the scheduler or manually by changing the Operational Mode.

PHASING	OVERLAP PLAN	VEH DET PLAN
ACTIVE PLAN REQUIRED TO <u>RUN DEFAULT PHASING</u>	1	1
ACTIVE PLAN REQUIRED TO <u>RUN ALTERNATE PHASING</u>	2	2

### MAXTIME ALTERNATE PHASING PATTERN PROGRAMMING DETAIL

Front Panel  
Main Menu >Controller >Coordination >Patterns

Web Interface  
Home >Controller >Coordination >Patterns

Pattern Parameters

Pattern	Veh Det Plan	Overlap Plan
*	2	2

\* The Pattern number(s) are to be determined by the Division Traffic Engineer.

### FLASHER CIRCUIT MODIFICATION DETAIL

IN ORDER TO ENSURE THAT SIGNALS FLASH CONCURRENTLY ON THE SAME APPROACH, MAKE THE FOLLOWING FLASHER CIRCUIT CHANGES:

- ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-4 AND TERMINATE ON T2-2.
- ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-5 AND TERMINATE ON T2-3.
- REMOVE FLASHER UNIT 2.

THE CHANGES LISTED ABOVE TIES ALL PHASES AND OVERLAPS TO FLASHER UNIT 1.

#### ALTERNATE PHASING CHANGE SUMMARY

THE FOLLOWING IS A SUMMARY OF WHAT TAKES PLACE WHEN OVERLAP PLAN 2 AND VEHICLE DETECTOR PLAN 2 ACTIVATE TO CALL THE "ALTERNATE PHASING":

OVERLAP PLAN 2: Modifies overlap included phases for heads 11, 31, 51, and 71 to run protected turns only.

VEH DET PLAN 2: Disables phase 6 call on loop 1A and reduces delay time for phase 1 call on loop 1A to 3.0 seconds.

Disables phase 8 call on loop 3A and reduces delay time for phase 3 call on loop 3A to 0.0 seconds.

Disables phase 2 call on loop 5A and reduces delay time for phase 5 call on loop 5A to 3.0 seconds.

Disables phase 4 call on loop 7A and reduces delay time for phase 7 call on loop 7A to 3.0 seconds.

### COUNTDOWN PEDESTRIAN SIGNAL OPERATION

Countdown Ped Signals are required to display timing only during Ped Clearance Interval. Consult Ped Signal Module user's manual for instructions on selecting this feature.

Electrical Detail - Final Design - Sheet 2 of 2

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

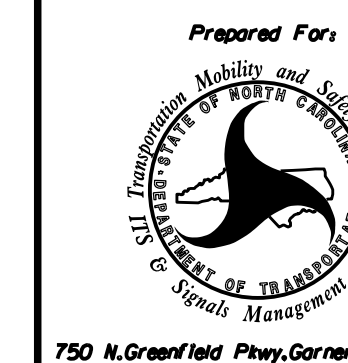
THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 09-0654  
DESIGNED: August 2023  
SEALED: 9/7/2023  
REVISED: N/A

Prepared in the Office of:



NC FIRM LICENSE No: P-0339  
504 Meadowlands Drive  
Hillsborough, NC 27278  
(919) 732-3883  
(919) 732-6676 (FAX)

ELECTRICAL AND PROGRAMMING DETAILS FOR:



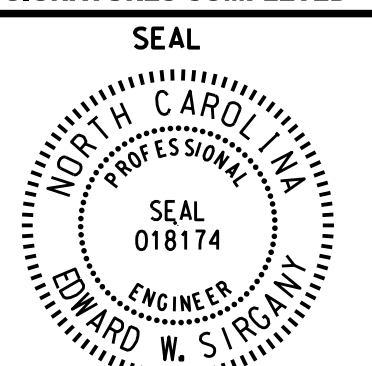
NC 66 (Old Hollow Road)  
at  
SR 2385 (Darrow Road)

Division 9 Forsyth County Walkertown

PLAN DATE: August 2023 REVIEWED BY: E. Sirgany

PREPARED BY: J. Smith REVIEWED BY:

REVISIONS INIT. DATE

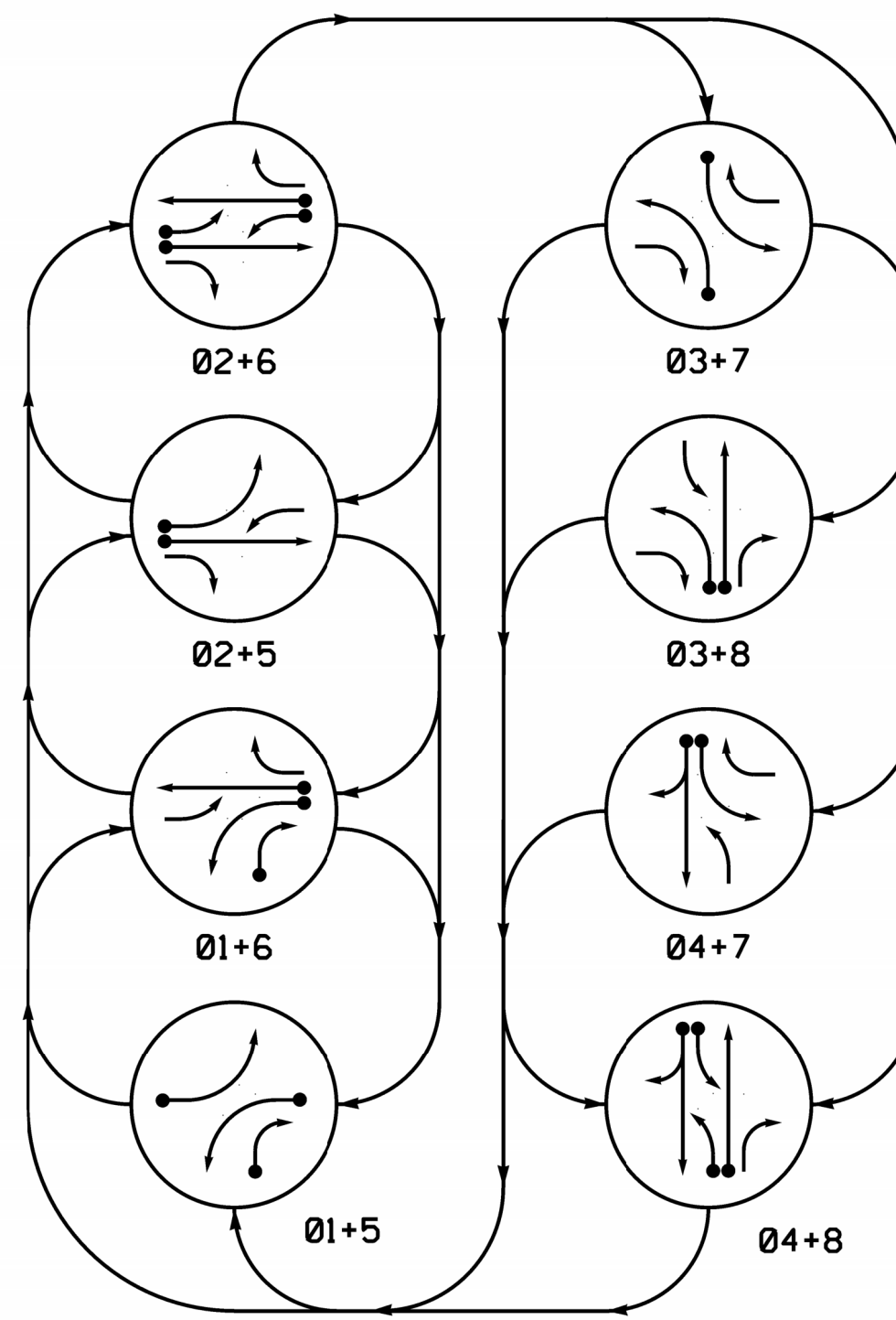


DocuSigned by: Edward W. Sirgany 9/7/2023

SIG. INVENTORY NO. 09-0654

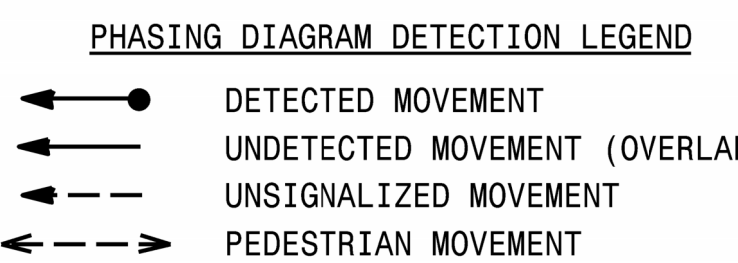


DEFAULT PHASING DIAGRAM

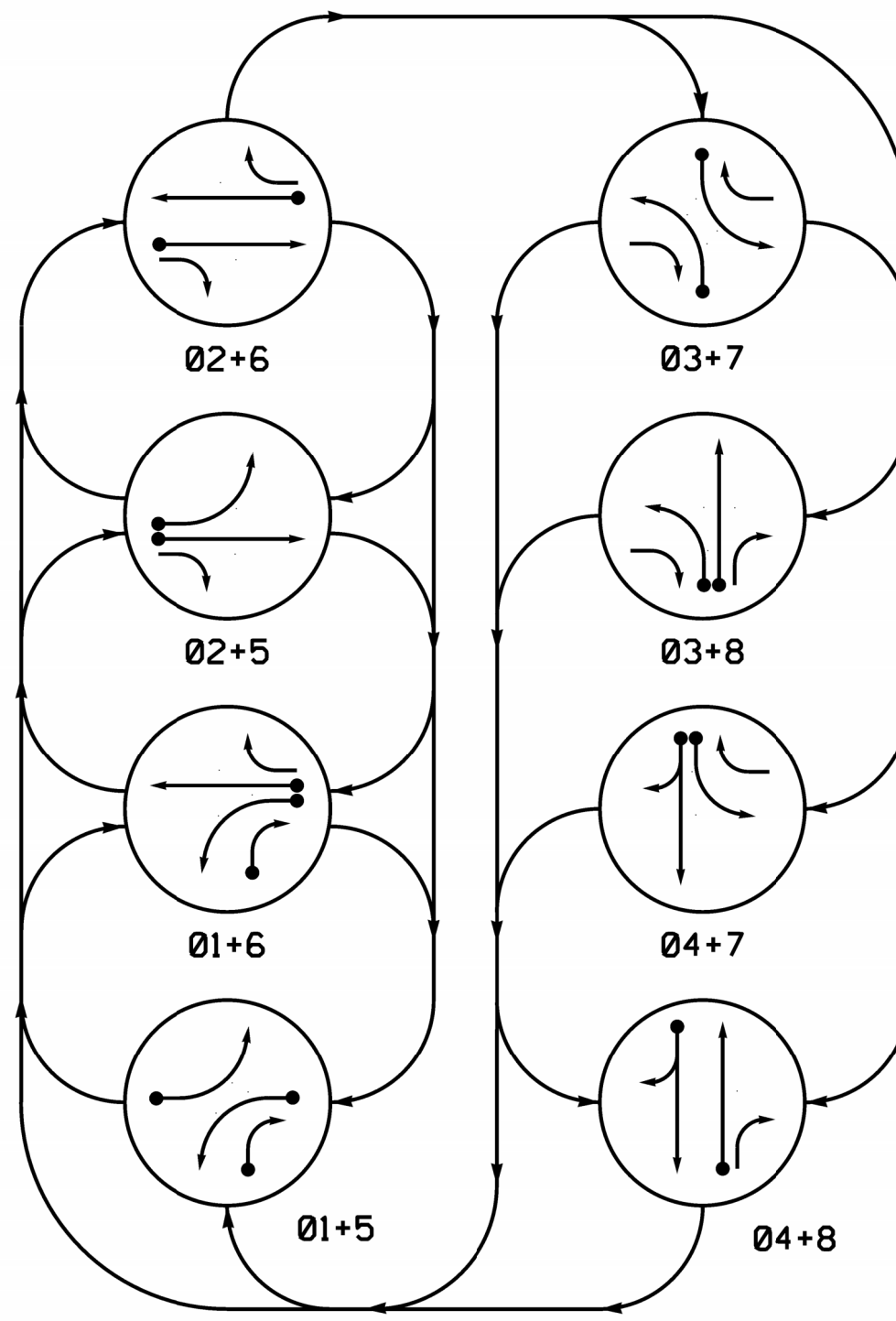


DEFAULT PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE								FLASH
	01+5	01+6	02+5	02+6	03+7	03+8	04+7	04+8	
11	-	-	F	F	R	R	R	R	Y
21	R	R	G	G	R	R	R	R	Y
22	R	R	G	G	R	R	R	R	Y
31	R	R	R	R	-	-	F	F	R
41,42,43	R	R	R	R	R	R	G	G	R
51	-	F	F	F	R	R	R	R	Y
61	R	G	R	G	R	R	R	R	Y
62	R	G	R	G	R	R	R	R	Y
71	R	R	R	R	-	F	F	R	Y
81,83	R	R	R	R	R	G	R	G	R
82	R	R	R	R	R	G	R	G	R



ALTERNATE PHASING DIAGRAM



ALTERNATE PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE								FLASH
	01+5	01+6	02+5	02+6	03+7	03+8	04+7	04+8	
11	-	-	R	R	R	R	R	R	Y
21	R	R	G	G	R	R	R	R	Y
22	R	R	G	G	R	R	R	R	Y
31	R	R	R	R	-	-	R	R	Y
41,42,43	R	R	R	R	R	R	G	G	R
51	-	R	R	R	R	R	R	R	Y
61	R	G	R	G	R	R	R	R	Y
62	R	G	R	G	R	R	R	R	Y
71	R	R	R	R	-	R	R	R	Y
81,83	R	R	R	R	R	G	R	G	R
82	R	R	R	R	R	G	R	G	R

MAXTIME DETECTOR INSTALLATION CHART

ZONE	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PROGRAMMING							
					CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	NEW CARD	
1A*	6X40	0	*	*	1	15.0*	-	X	-	X	-	*
6#					6#	3.0	-	X	-	X	X	*
1B*	6X40	0	*	*	1	15.0	-	X	-	X	-	*
2A*	6X6	420	*	*	2	-	-	X	X	X	-	*
3A*	6X40	0	*	*	3	15.0*	-	X	-	X	-	*
8#					8#	3.0	-	X	-	X	-	*
4A*	6X40	0	*	*	4	5.0	-	X	-	X	-	*
5A*	6X40	0	*	*	5	15.0*	-	X	-	X	-	*
2#					2#	3.0	-	X	-	X	X	*
6A*	6X6	420	*	*	6	-	-	X	X	X	-	*
7A*	6X40	0	*	*	7	15.0*	-	X	-	X	-	*
4#					4#	3.0	-	X	-	X	-	*
8A*	6X40	0	*	*	8	-	-	X	-	X	-	*

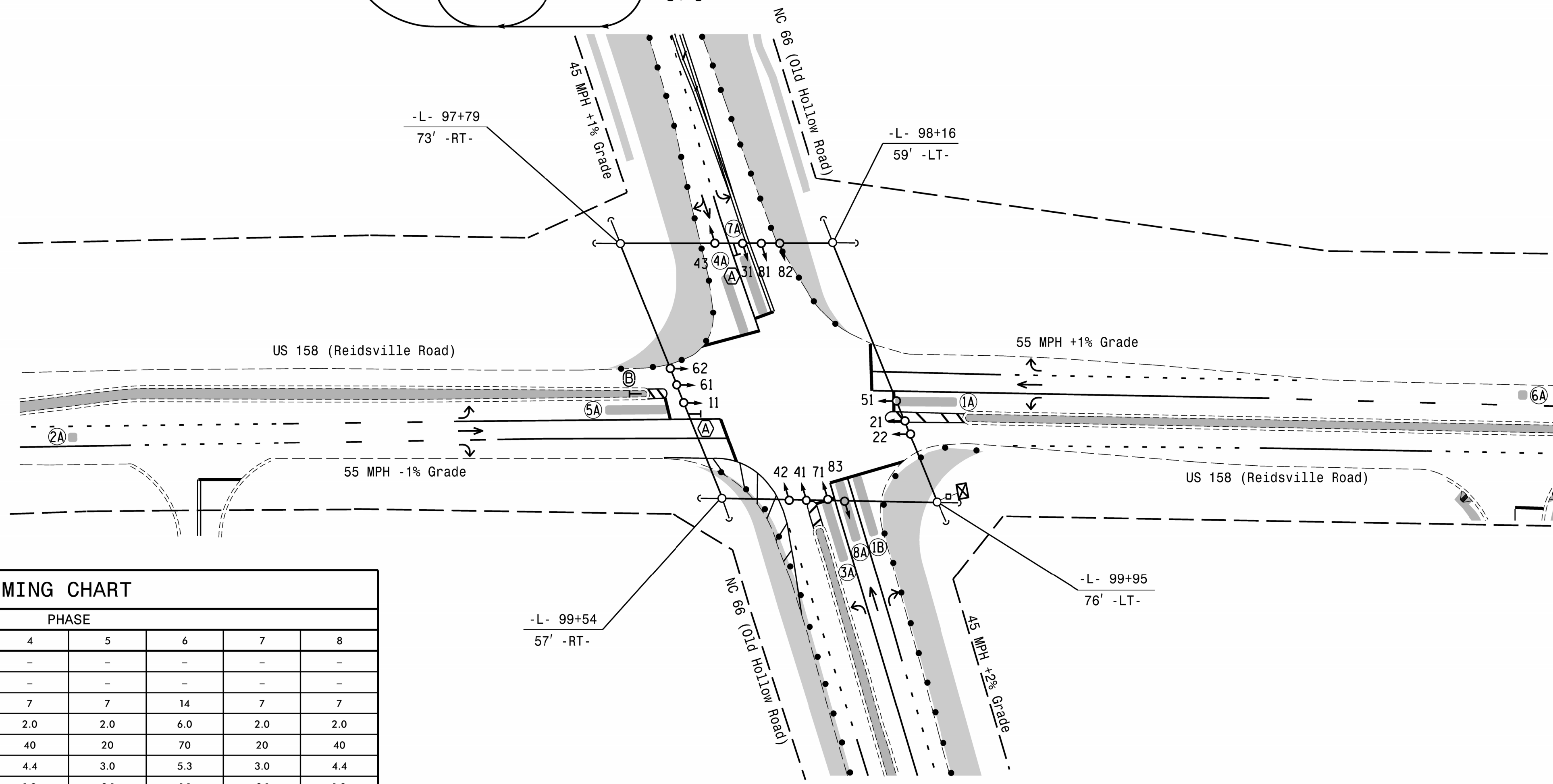
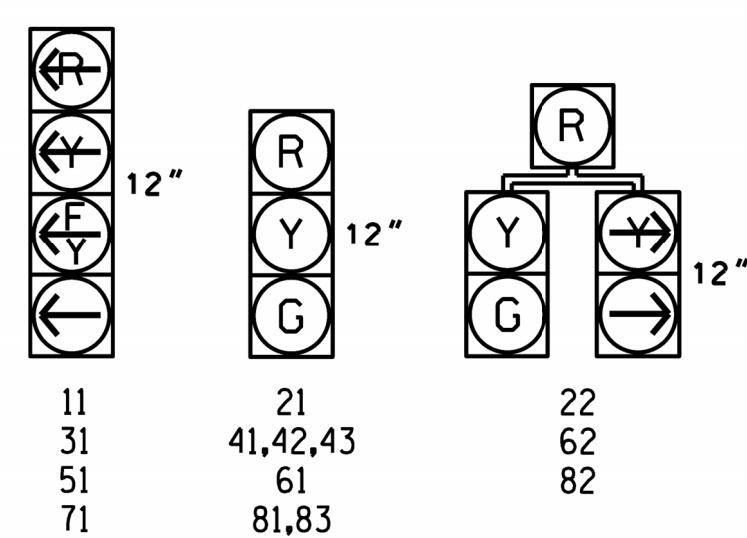
\* Video Detection Zone  
 \* Reduce Delay to 3 seconds during Alternate Phasing Operation.  
 # Disable Phase Call for loop During Alternate Phasing Operation.

8 Phase Fully Actuated (Isolated)

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 and/or phase 5 may be lagged.
- Phase 3 and/or phase 7 may be lagged.
- Set all detector units to presence mode.
- Pavement markings are existing.
- Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
- This intersection uses video detection. Install detectors according to the manufacturer's instructions to achieve the desired detection.
- The Division Traffic Engineer will determine the hours of use for each phasing plan.

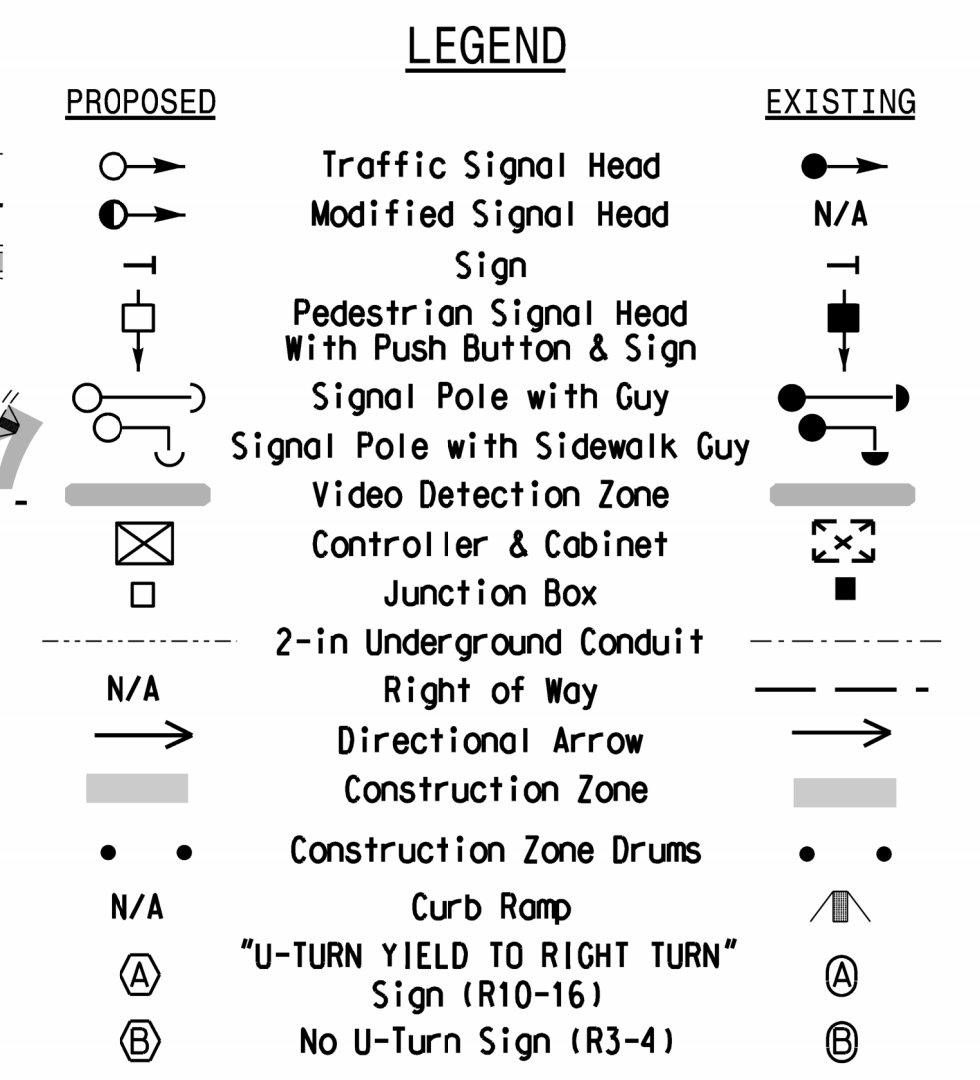
SIGNAL FACE I.D.



MAXTIME TIMING CHART

FEATURE	PHASE							
	1	2	3	4	5	6	7	8
Walk *	-	-	-	-	-	-	-	-
Ped Clear *	-	-	-	-	-	-	-	-
Min Green *	7	14	7	7	7	14	7	7
Passage *	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0
Max 1 *	20	70	20	40	20	70	20	40
Yellow Change	3.0	5.3	3.0	4.4	3.0	5.3	3.0	4.4
Red Clear	2.8	1.1	3.2	1.9	3.1	1.1	3.1	1.9
Added Initial *	-	3.0	-	-	-	3.0	-	-
Maximum Initial *	-	46	-	-	-	46	-	-
Time Before Reduction *	-	20	-	-	-	20	-	-
Time To Reduce *	-	30	-	-	-	30	-	-
Minimum Gap	-	3.4	-	-	-	3.4	-	-
Advance Walk	-	-	-	-	-	-	-	-
Non Lock Detector	X	-	X	X	X	-	X	X
Vehicle Recall	-	MIN RECALL	-	-	MIN RECALL	-	-	-
Dual Entry	-	-	-	X	-	-	-	X

\* These values may be field adjusted. Do not adjust Min Green and Passage times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.



Signal Upgrade - Temporary Design 1 (TMP Phase I - Step 2)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

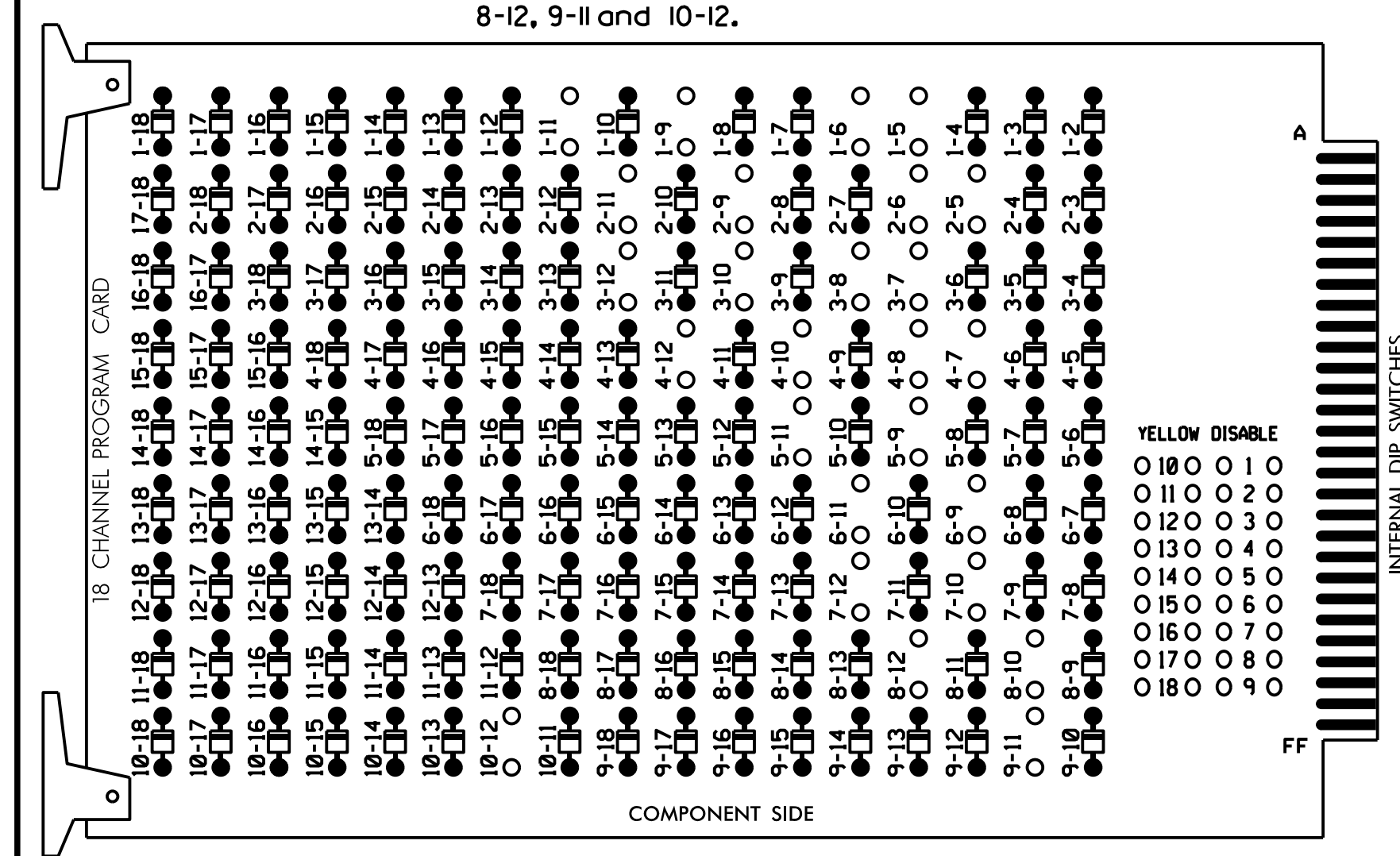
Prepared in the Office of:  NC FIRM LICENSE No: P-0339 320 Executive Court Hillsborough, NC 27278 (919) 732-3883 (919) 732-6676 (FAX)	Prepared for:  750 N. Greenfield Pkwy, Corner, NC 27529	US 158 (Reidsville Road) at NC 66 (Old Hollow Road) Division 9 Forsyth County Walkertown PLAN DATE: August 2023 REVIEWED BY: E. Sirgany PREPARED BY: J. Smith REVIEWED BY:	SEAL  Edward W. Sirgany DATE: 9/7/2023 SIG. INVENTORY NO. 09-026471
---	---	---	---



### 18 CHANNEL IP CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 1-5, 1-6, 1-9, 1-11, 2-5, 2-6, 2-9, 2-11, 3-7, 3-8, 3-10, 3-12, 4-7, 4-8, 4-10, 4-12, 5-9, 5-11, 6-9, 6-11, 7-10, 7-12, 8-10, 8-12, 9-11 and 10-12.



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.

■ = 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.
- Program phases 4 and 8 for Dual Entry.
- Program controller to start up in phase 2 Green No Walk and 6 Green No Walk.

### EQUIPMENT INFORMATION

CONTROLLER.....2070LX  
 CABINET.....332 W/AUX  
 SOFTWARE.....0-FREE MAXTIME  
 CABINET MOUNT.....BASE  
 OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE  
 LOAD SWITCHES USED.....S1,S2,S4,S5,S7,S8,S10,S11,  
 AUX S1,AUX S2,AUX S4,AUX S5  
 PHASES USED.....1,2,3,4,5,6,7,8  
 OVERLAP "1".....\*  
 OVERLAP "2".....\*  
 OVERLAP "3".....\*  
 OVERLAP "4".....\*  
 \* See overlap 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	82	21,22	22	31	41,42,43	51	61,62	62	71	81,82,83	91	11	31	NU	51	71	NU
RED	*	128		*	101		134		*	107								
YELLOW		129			102		135			108								
GREEN		130			103		136			109								
RED ARROW													A121	A124		A114	A101	
YELLOW ARROW	126			117						123			A122	A125		A115	A102	
FLASHING YELLOW ARROW													A123	A126		A116	A103	
GREEN ARROW	127	127		118	118		133		124	124								

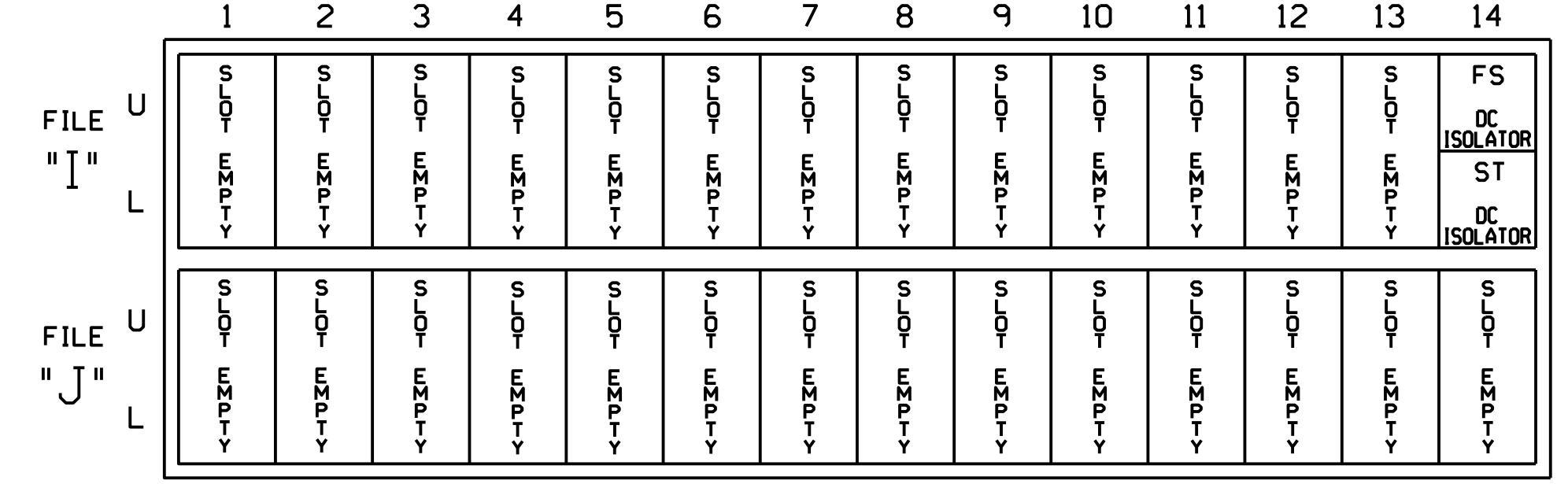
NU = Not Used

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

★ See pictorial of head wiring in detail this below.

### INPUT FILE POSITION LAYOUT

(front view)



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

FS = FLASH SENSE  
 ST = STOP TIME

### SPECIAL DETECTOR NOTES

Install a video detection system for vehicle detection. Perform installation according to manufacturer's directions and NCDOT engineer-approved mounting locations to accomplish the detection scheme shown on the Signal Design Plans.  
 For the detectors to work as shown on the signal design plan, see the Maxtime Detector Programming Detail for Alternate Phasing Zones on Sheet 2.

### FLASHER CIRCUIT MODIFICATION DETAIL

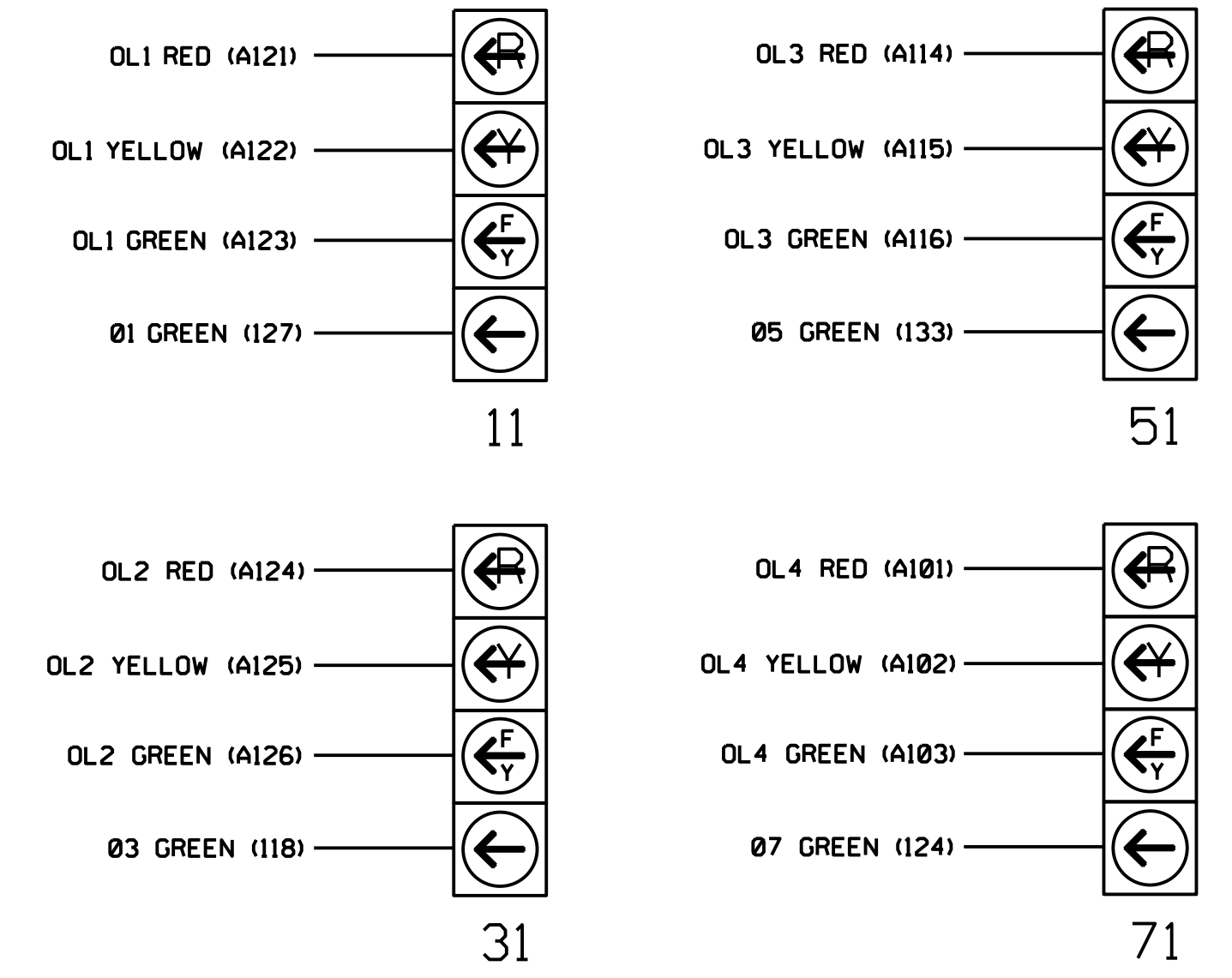
IN ORDER TO ENSURE THAT SIGNALS FLASH CONCURRENTLY ON THE SAME APPROACH, MAKE THE FOLLOWING FLASHER CIRCUIT CHANGES:

- ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-4 AND TERMINATE ON T2-2.
- ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-5 AND TERMINATE ON T2-3.
- REMOVE FLASHER UNIT 2.

THE CHANGES LISTED ABOVE TIES ALL PHASES AND OVERLAPS TO FLASHER UNIT 1.

### FYA SIGNAL WIRING DETAIL

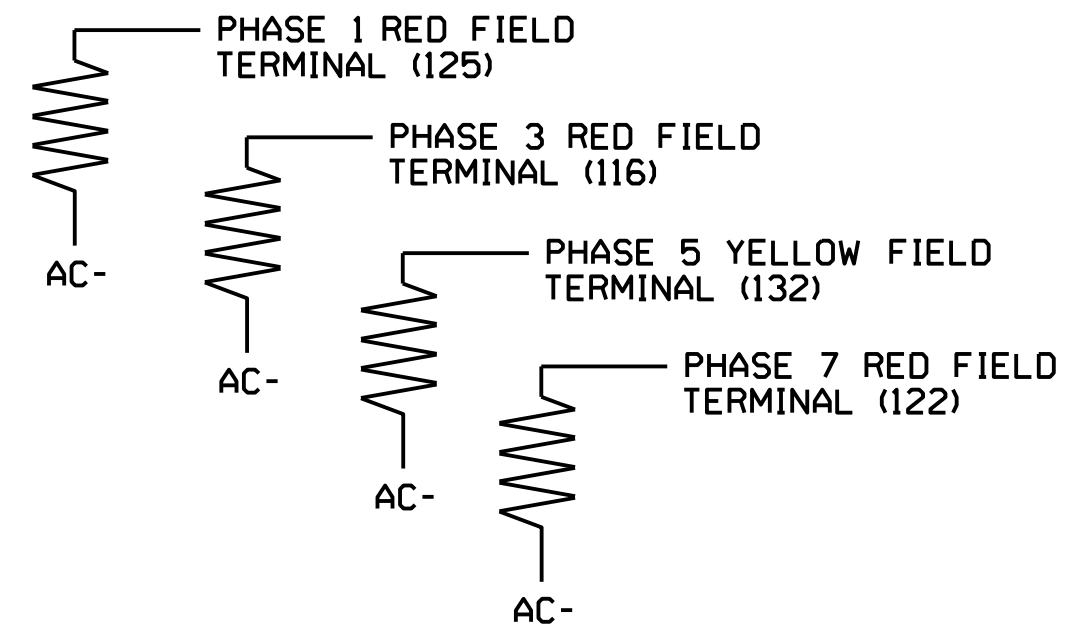
(wire signal heads as shown)



### LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown)

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



THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 09-0264T1  
 DESIGNED: August 2023  
 SEALED: 9/7/2023  
 REVISED: N/A

Prepared in the Office of:

NC FIRM LICENSE No: P-0339  
 320 Executive Court  
 Hillsborough, NC 27278  
 (919) 732-3883  
 (919) 732-6676 (FAX)

Electrical and Programming Details For:

750 N. Greenfield Pkwy, Corner, NC 27529

US 158 (Reidsville Road) at NC 66 (Old Hollow Road)

Division 9 Forsyth County Walkertown

PLAN DATE: August 2023 REVIEWED BY: E. Sirgany

PREPARED BY: J. Smith REVIEWED BY:

REVISIONS	INIT.	DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL

Edward W. Sirgany 9/7/2023

SIG. INVENTORY NO. 09-0264T1



### MATIME OVERLAP PROGRAMMING FOR DEFAULT PHASING

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

Web Interface  
Home >Controller >Overlap Configuration >Overlaps  
Overlap Plan 1

Overlap	1	2	3	4
Type	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section
Included Phases	2	4	6	8
Modifier Phases	1	3	5	7
Modifier Overlaps	-	-	-	-
Trail Green	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0

### MAXTIME OVERLAP PROGRAMMING DETAIL FOR ALTERNATE PHASING

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

Web Interface  
Home >Controller >Overlap Configuration >Overlaps

In the table view of the web interface, right click on "Overlap" in the top left corner of the table. Copy the entire contents of Overlap Plan 1. Paste Overlap Plan 1 into Overlap Plan 2. Modify Overlap Plan 2 as shown below and save changes.

Overlap Plan 2

Overlap	1	2	3	4
Type	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section
Included Phases	-	-	-	-
Modifier Phases	1	3	5	7
Modifier Overlaps	-	-	-	-
Trail Green	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0

← NOTICE INCLUDED PHASE

### MAXTIME DETECTOR PROGRAMMING DETAIL FOR ALTERNATE PHASING ZONES 1A, 3A, 5A & 7A

## IMPORTANT!

Detector assignments shown in these tables are standard default assignments. If alternate detectors are assigned to the video detection zones, the information below must be modified to match the actual assignments used.

Front Panel  
Main Menu >Controller >Detector >Veh Det Plans

Web Interface  
Home >Controller >Detector Configuration >Vehicle Detectors

In the table view of web interface right click on "Detector" in the top left corner of the table. Copy the entire contents of Detector Plan 1. Paste Detector Plan 1 into Detector Plan 2. Modify Detector Plan 2 as shown below and save changes.

Plan 2

Detector	Call Phase	Delay
1	1	3.0
29	0	3.0

1A

Detector	Call Phase	Delay
7	3	3.0
30	0	3.0

3A

Detector	Call Phase	Delay
15	5	3.0
31	0	3.0

5A

Detector	Call Phase	Delay
21	7	3.0
32	0	3.0

7A

### MAXTIME ALTERNATE PHASING ACTIVATION DETAIL

To run alternate phasing, select a Pattern that is programmed to run Overlap Plan 2 and Detector Plan 2. A Pattern can be selected through the scheduler or manually by changing the Operational Mode.

PHASING	OVERLAP PLAN	VEH DET PLAN
ACTIVE PLAN REQUIRED TO <u>RUN DEFAULT PHASING</u>	1	1
ACTIVE PLAN REQUIRED TO <u>RUN ALTERNATE PHASING</u>	2	2

#### ALTERNATE PHASING CHANGE SUMMARY

THE FOLLOWING IS A SUMMARY OF WHAT TAKES PLACE WHEN OVERLAP PLAN 2 AND VEHICLE DETECTOR PLAN 2 ACTIVATE TO CALL THE "ALTERNATE PHASING":

OVERLAP PLAN 2: Modifies overlap included phases for heads 11, 31, 51, and 71 to run protected turns only.

VEH DET PLAN 2: Disables phase 6 call on zone 1A and reduces delay time for phase 1 call on zone 1A to 3.0 seconds.

Disables phase 8 call on zone 3A and reduces delay time for phase 3 call on zone 3A to 3.0 seconds.

Disables phase 2 call on zone 5A and reduces delay time for phase 5 call on zone 5A to 3.0 seconds.

Disables phase 4 call on zone 7A and reduces delay time for phase 7 call on zone 7A to 3.0 seconds.

### MAXTIME ALTERNATE PHASING PATTERN PROGRAMMING DETAIL

Front Panel  
Main Menu >Controller >Coordination >Patterns

Web Interface  
Home >Controller >Coordination >Patterns

Pattern Parameters

Pattern	Veh Det Plan	Overlap Plan
*	2	2

\* The Pattern number(s) are to be determined by the Division Traffic Engineer.

Electrical Detail - Temporary Design 1 - Sheet 2 of 2

DOCUMENT NOT CONSIDERED  
FINAL UNLESS ALL  
SIGNATURES COMPLETED

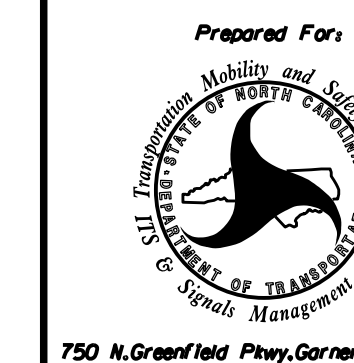
THIS ELECTRICAL DETAIL IS FOR  
THE SIGNAL DESIGN: 09-0264T1  
DESIGNED: August 2023  
SEALED: 9/7/2023  
REVISED: N/A

Prepared in the Office of:



NC FIRM LICENSE No: P-0339  
320 Executive Court  
Hillsborough, NC 27278  
(919) 732-3883  
(919) 732-6676 (FAX)

ELECTRICAL AND PROGRAMMING  
DETAILS FOR:



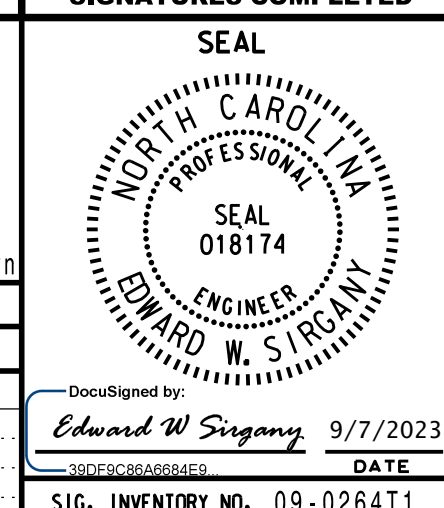
US 158 (Reidsville Road)  
at  
NC 66 (Old Hollow Road)

Division 9 Forsyth County Walkertown

PLAN DATE: August 2023 REVIEWED BY: E. Sirgany

PREPARED BY: J. Smith REVIEWED BY:

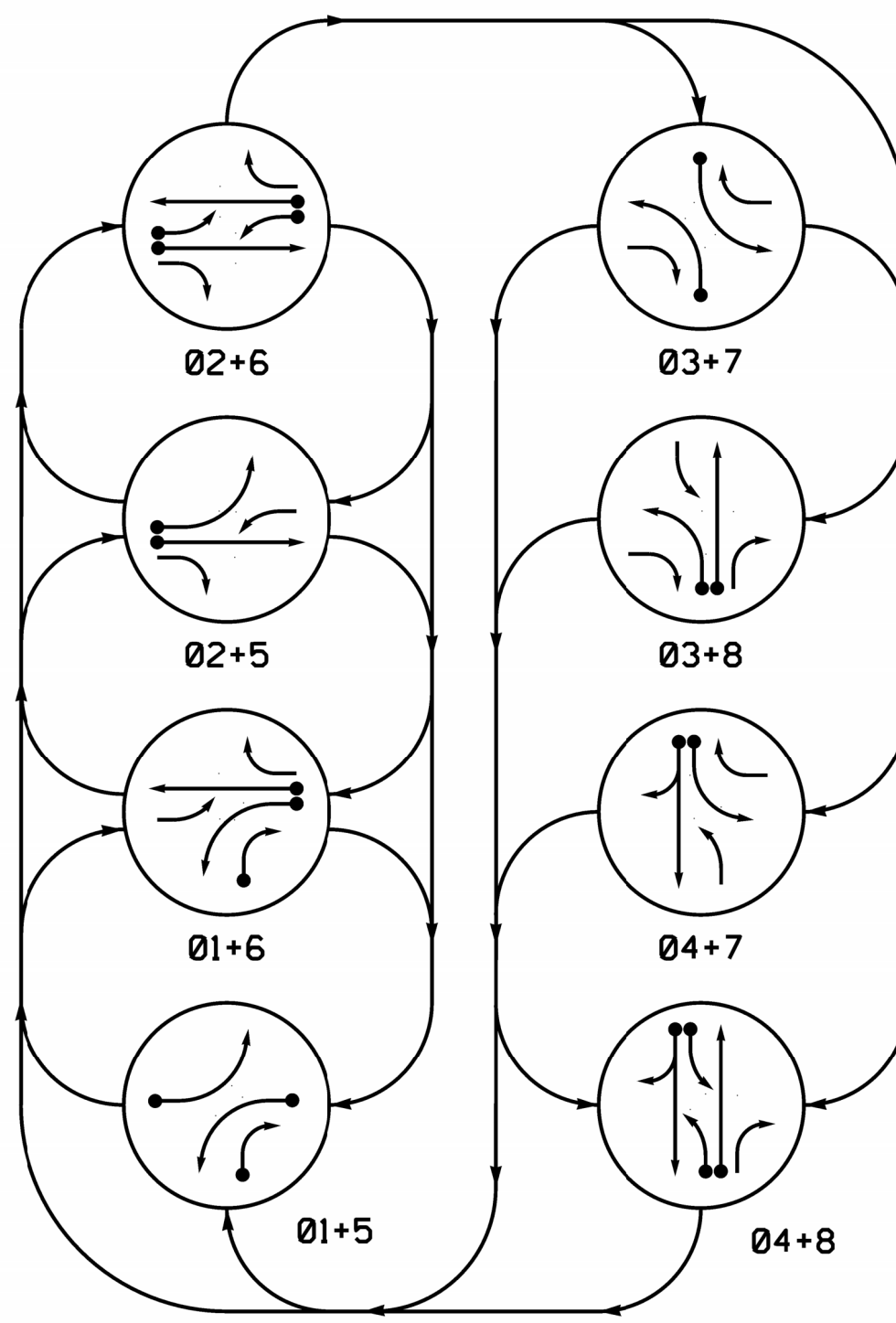
REVISIONS INIT. DATE



DocuSigned by:  
Edward W. Sirgany 9/7/2023  
DATE  
SIG. INVENTORY NO. 09-0264T1

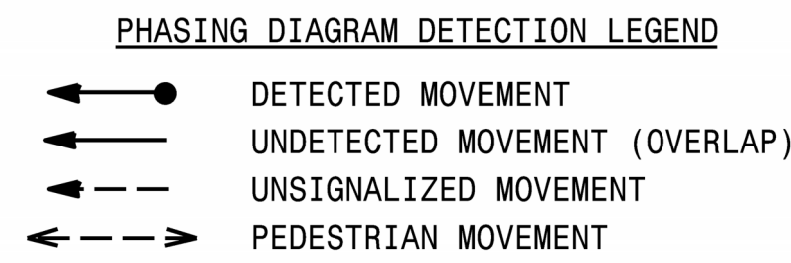


DEFAULT PHASING DIAGRAM

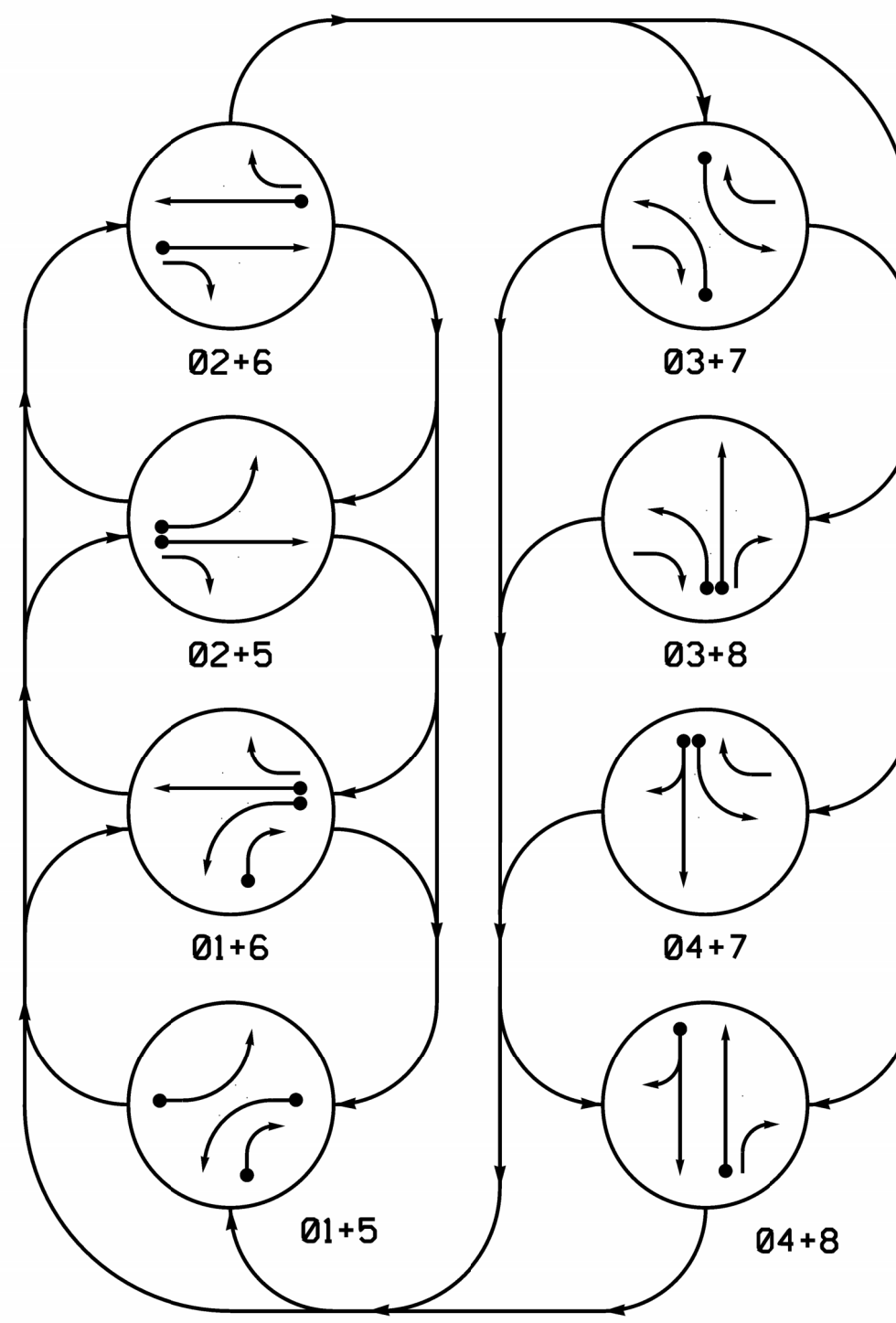


DEFAULT PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE							
	01+5	01+6	02+5	02+6	03+7	03+8	04+7	04+8
11			F	F	F	F	F	F
21	R	R	G	G	R	R	R	Y
22	R	R	G	G	R	R	R	Y
31	R	R	R	R			F	F
41,42,43	R	R	R	R	R	G	G	R
51		F	F	F	F	F	F	F
61	R	G	R	G	R	R	R	Y
62	R	G	R	G	R	R	R	Y
71	R	R	R	R		F	F	R
81,83	R	R	R	R	R	G	G	R
82	R	R	R	R	R	G	G	R



ALTERNATE PHASING DIAGRAM



ALTERNATE PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE							
	01+5	01+6	02+5	02+6	03+7	03+8	04+7	04+8
11			F	F	F	F	F	F
21	R	R	G	G	R	R	R	Y
22	R	R	G	G	R	R	R	Y
31	R	R	R	R			F	F
41,42,43	R	R	R	R	R	G	G	R
51		F	F	F	F	F	F	F
61	R	G	R	G	R	R	R	Y
62	R	G	R	G	R	R	R	Y
71	R	R	R	R		F	F	R
81,83	R	R	R	R	R	G	G	R
82	R	R	R	R	R	G	G	R

MAXTIME DETECTOR INSTALLATION CHART

ZONE	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PROGRAMMING							
					CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN	NEW CARD
1A*	6X40	0	*	*	1	15.0*	-	X	-	X	-	*
1B*	6X40	0	*	*	1	15.0	-	X	-	X	-	*
2A*	6X6	420	*	*	2	-	-	X	X	X	-	*
3A*	6X40	0	*	*	3	15.0*	-	X	-	X	-	*
4A*	6X40	0	*	*	4	5.0	-	X	-	X	-	*
5A*	6X40	0	*	*	5	15.0*	-	X	-	X	-	*
6A*	6X6	420	*	*	6	3.0	-	X	X	X	-	*
7A*	6X40	0	*	*	7	15.0	-	X	-	X	-	*
8A*	6X40	0	*	*	8	-	-	X	-	X	-	*

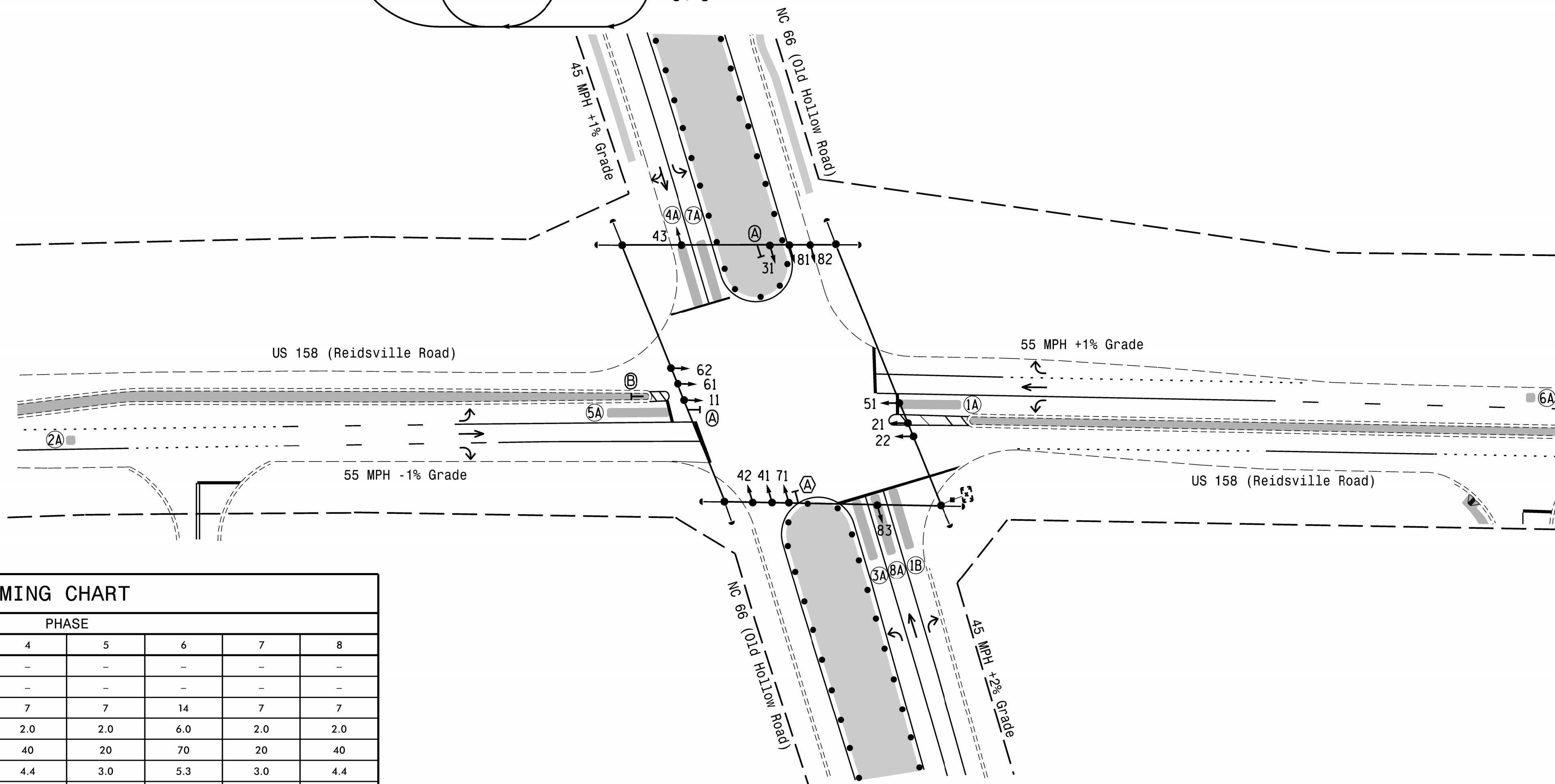
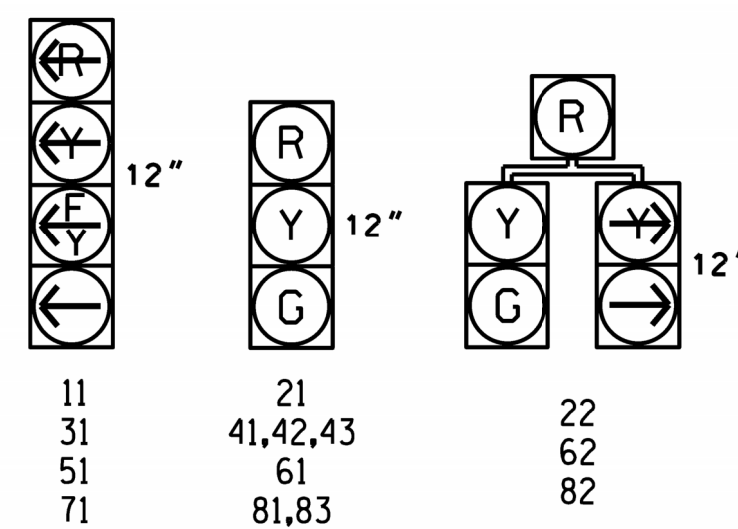
\* Video Detection Zone  
 \* Reduce Delay to 3 seconds during Alternate Phasing Operation.  
 \* Disable Delay during Alternate Phasing Operation.  
 # Disable Phase Call for loop During Alternate Phasing Operation.

8 Phase Fully Actuated (Isolated)

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 and/or phase 5 may be lagged.
- Phase 3 and/or phase 7 may be lagged.
- Set all detector units to presence mode.
- Reposition existing signal heads numbered 31, 41, 42, 43, 71, 81, 82, and 83.
- This intersection uses video detection. Install detectors according to the manufacturer's instructions to achieve the desired detection.
- The Division Traffic Engineer will determine the hours of use for each phasing plan.

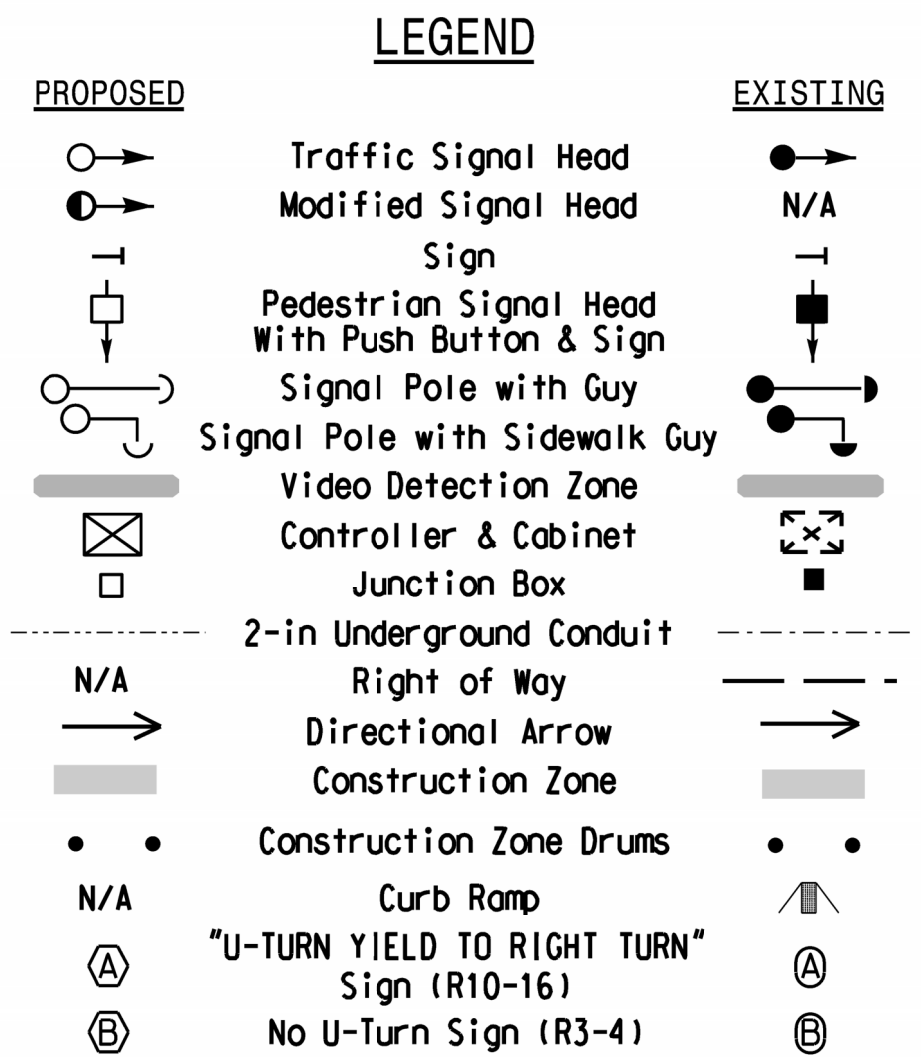
SIGNAL FACE I.D.  
All Heads L.E.D.



MAXTIME TIMING CHART

FEATURE	PHASE							
	1	2	3	4	5	6	7	8
Walk *	-	-	-	-	-	-	-	-
Ped Clear *	-	-	-	-	-	-	-	-
Min Green *	7	14	7	7	7	14	7	7
Passage *	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0
Max 1 *	20	70	20	40	20	70	20	40
Yellow Change	3.0	5.3	3.0	4.4	3.0	5.3	3.0	4.4
Red Clear	3.3	1.5	3.6	2.5	3.3	1.5	3.9	2.5
Added Initial *	-	3.0	-	-	-	3.0	-	-
Maximum Initial *	-	46	-	-	-	46	-	-
Time Before Reduction *	-	20	-	-	-	20	-	-
Time To Reduce *	-	30	-	-	-	30	-	-
Minimum Gap	-	3.4	-	-	-	3.4	-	-
Advance Walk	-	-	-	-	-	-	-	-
Non Lock Detector	X	-	X	X	X	-	X	X
Vehicle Recall	-	MIN RECALL	-	-	-	MIN RECALL	-	-
Dual Entry	-	-	-	X	-	-	-	X

\* These values may be field adjusted. Do not adjust Min Green and Passage times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.



Signal Upgrade - Temporary Design 2 (TMP Phase III - Step 1)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared in the Office of:

**SUMMIT**  
DESIGN AND ENGINEERING SERVICES

NC FIRM LICENSE No: P-0339  
 320 Executive Court  
 Hillsborough, NC 27278  
 (919) 732-3883  
 (919) 732-6676 (FAX)

Prepared for:

TRANSPORTATION MOBILITY AND SAFETY DIVISION  
 STATE OF NORTH CAROLINA  
 SIGNAL DESIGN SECTION

750 N. Greenfield Pkwy, Corner, NC 27529

SCALE 1"=50'

US 158 (Reidsville Road)  
at  
NC 66 (Old Hollow Road)

Division 9 Forsyth County Walkertown

PLAN DATE: August 2023 REVIEWED BY: E. Sirgany

PREPARED BY: J. Smith REVIEWED BY:

REVISIONS

NO.	DESCRIPTION	INIT.	DATE

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER

SEAL 018174

EDWARD W. SIRGANY

DocuSigned by:  
Edward W Sirgany 9/7/2023

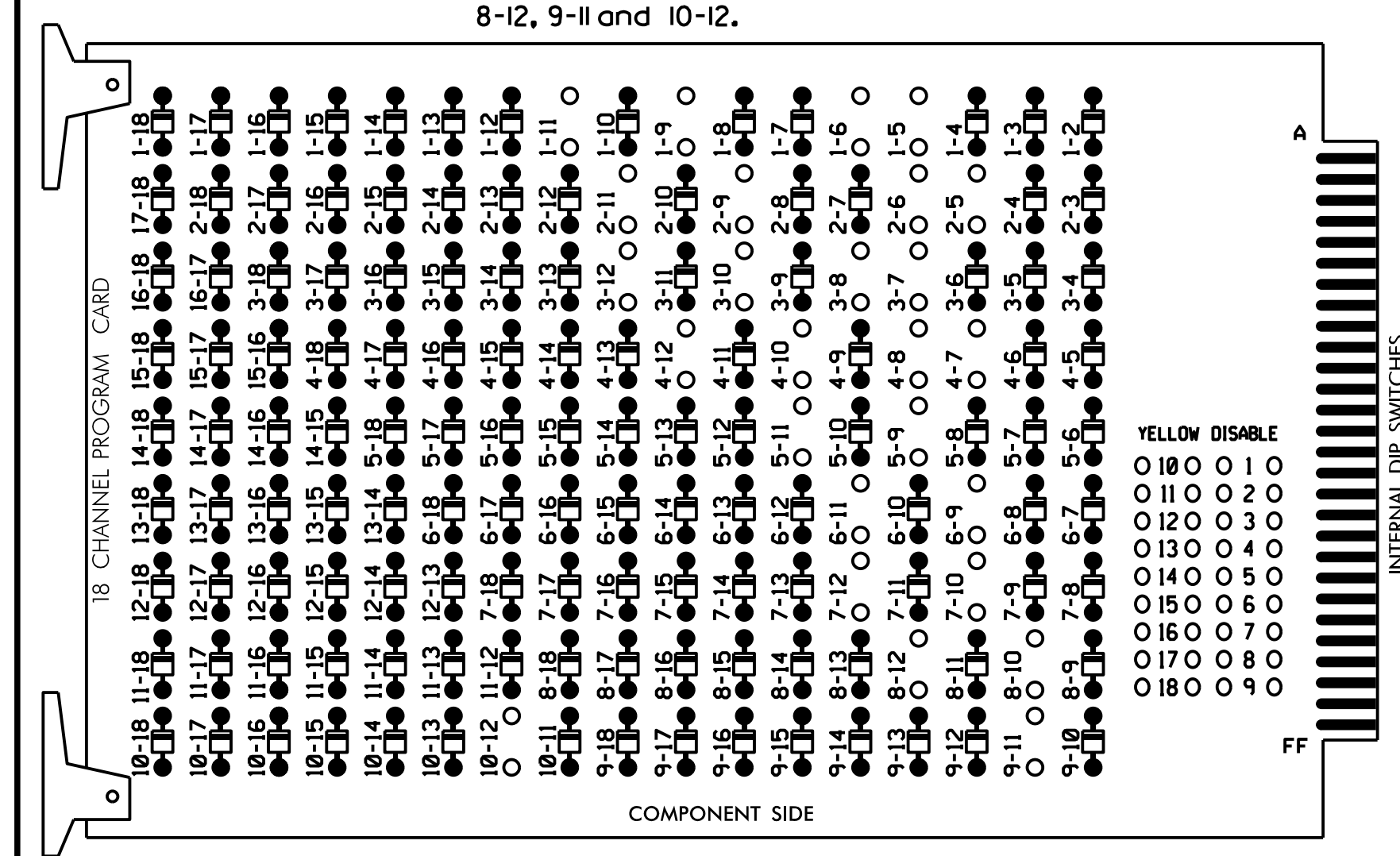
SIG. INVENTORY NO. 09-026412



### 18 CHANNEL IP CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 1-5, 1-6, 1-9, 1-11, 2-5, 2-6, 2-9, 2-11, 3-7, 3-8, 3-10, 3-12, 4-7, 4-8, 4-10, 4-12, 5-9, 5-11, 6-9, 6-11, 7-10, 7-12, 8-10, 8-12, 9-11 and 10-12.



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.

■ = 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.
- Program phases 4 and 8 for Dual Entry.
- Program controller to start up in phase 2 Green No Walk and 6 Green No Walk.

### EQUIPMENT INFORMATION

CONTROLLER.....2070LX  
 CABINET.....332 W/AUX  
 SOFTWARE.....0-FREE MAXTIME  
 CABINET MOUNT.....BASE  
 OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE  
 LOAD SWITCHES USED.....S1,S2,S4,S5,S7,S8,S10,S11,  
 AUX S1,AUX S2,AUX S4,AUX S5  
 PHASES USED.....1,2,3,4,5,6,7,8  
 OVERLAP "1".....\*  
 OVERLAP "2".....\*  
 OVERLAP "3".....\*  
 OVERLAP "4".....\*  
 \* See overlap 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	82	21,22	22	31	41,42,43	51	61,62	62	71	81,82,83	91	101	111	121	131	141	151
RED	*	128		*	101			134	*	107								
YELLOW		129			102		*	135		108								
GREEN		130			103			136		109								
RED ARROW													A121	A124		A114	A101	
YELLOW ARROW	126			117						123			A122	A125		A115	A102	
FLASHING YELLOW ARROW													A123	A126		A116	A103	
GREEN ARROW	127	127		118	118			133		124	124							

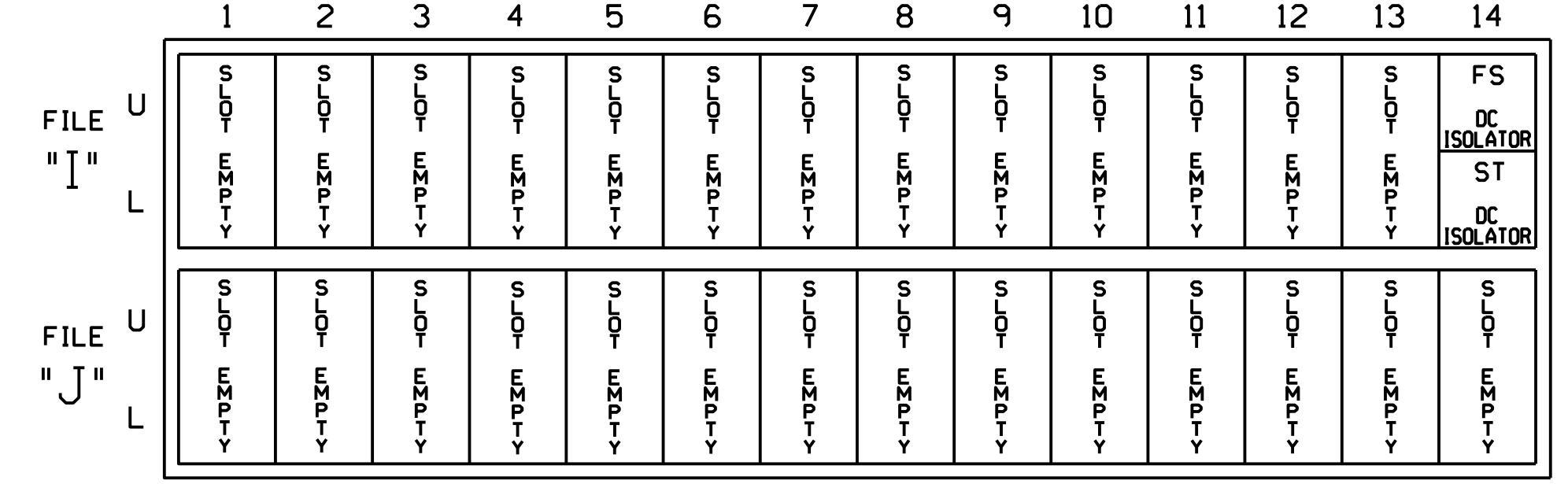
NU = Not Used

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

★ See pictorial of head wiring in detail this below.

### INPUT FILE POSITION LAYOUT

(front view)



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

FS = FLASH SENSE  
ST = STOP TIME

### SPECIAL DETECTOR NOTES

Install a video detection system for vehicle detection. Perform installation according to manufacturer's directions and NCDOT engineer-approved mounting locations to accomplish the detection scheme shown on the Signal Design Plans.  
 For the detectors to work as shown on the signal design plan, see the Maxtime Detector Programming Detail for Alternate Phasing Zones on Sheet 2.

### FLASHER CIRCUIT MODIFICATION DETAIL

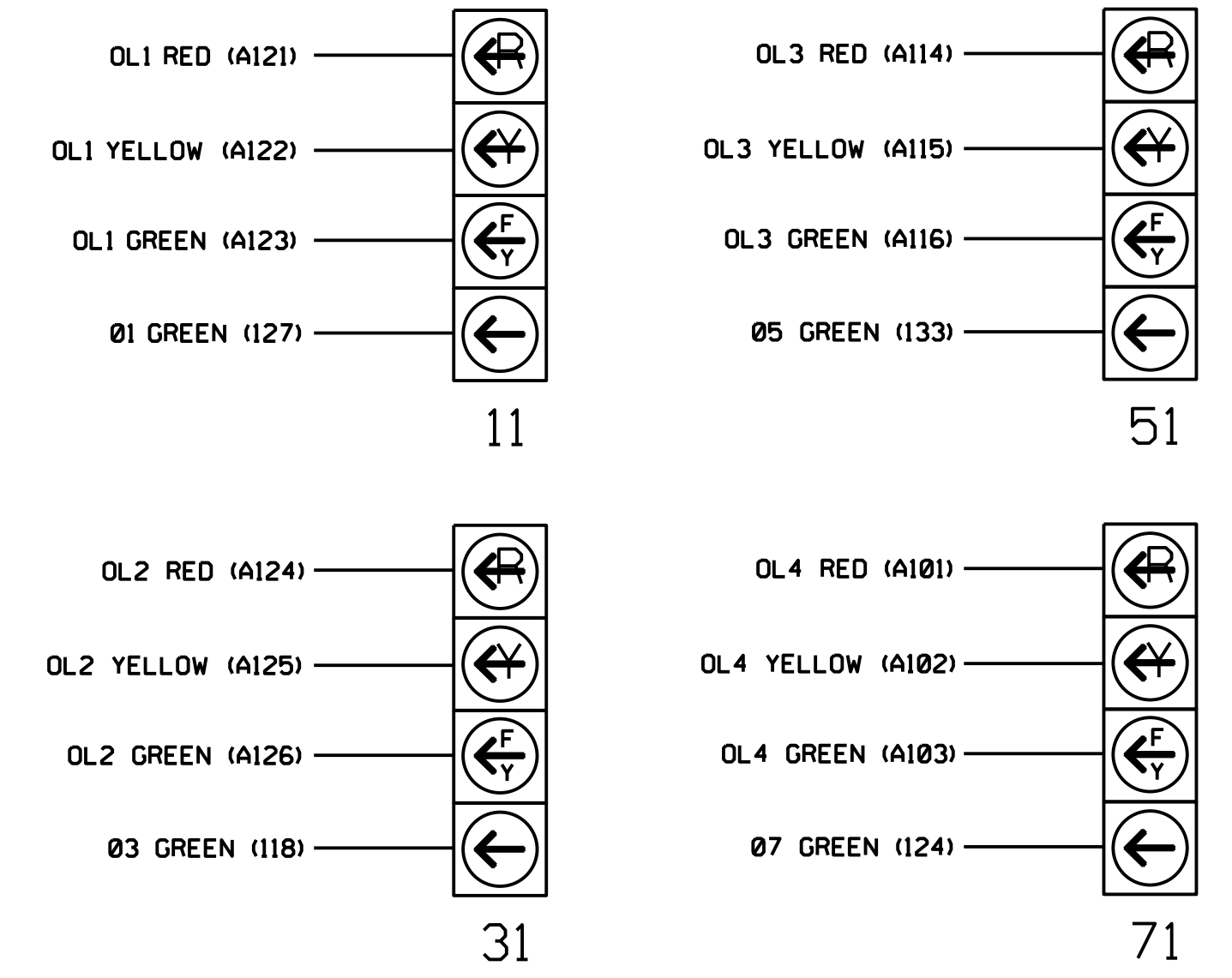
IN ORDER TO ENSURE THAT SIGNALS FLASH CONCURRENTLY ON THE SAME APPROACH, MAKE THE FOLLOWING FLASHER CIRCUIT CHANGES:

- ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-4 AND TERMINATE ON T2-2.
- ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-5 AND TERMINATE ON T2-3.
- REMOVE FLASHER UNIT 2.

THE CHANGES LISTED ABOVE TIES ALL PHASES AND OVERLAPS TO FLASHER UNIT 1.

### FYA SIGNAL WIRING DETAIL

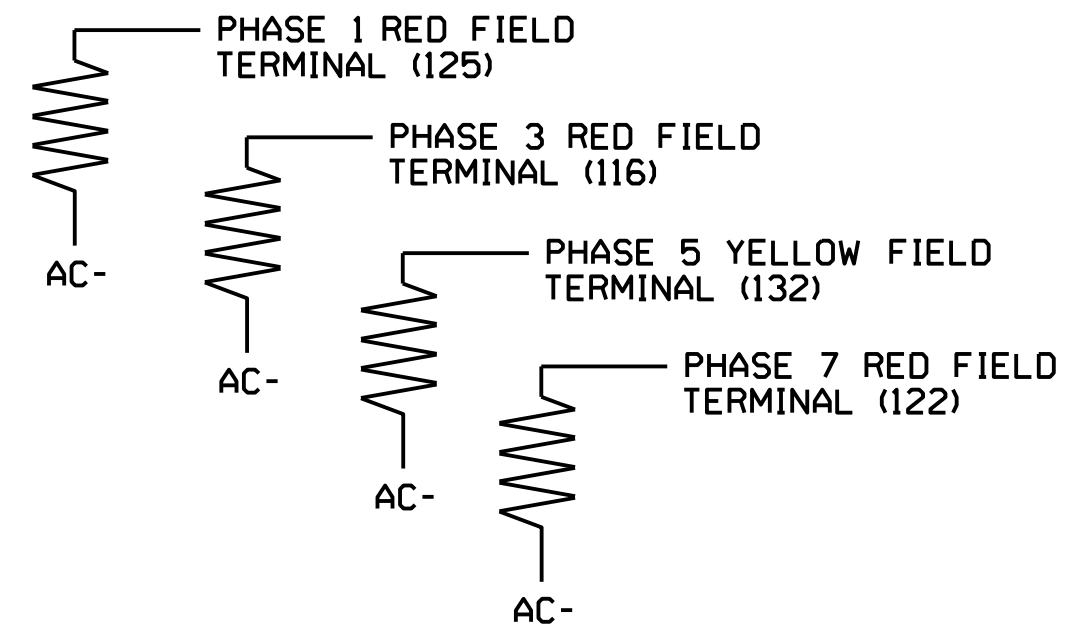
(wire signal heads as shown)



### LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown)

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



THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 09-0264T2  
 DESIGNED: August 2023  
 SEALED: 9/7/2023  
 REVISED: N/A

Prepared in the Office of:

NC FIRM LICENSE No: P-0339  
 320 Executive Court  
 Hillsborough, NC 27278  
 (919) 732-3883  
 (919) 732-6676 (FAX)

Electrical and Programming Details For:

750 N. Greenfield Pkwy, Corner, NC 27529

US 158 (Reidsville Road) at NC 66 (Old Hollow Road)

Division 9 Forsyth County Walkertown

PLAN DATE: August 2023 REVIEWED BY: E. Sirgany

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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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### MATIME OVERLAP PROGRAMMING FOR DEFAULT PHASING

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

Web Interface  
Home >Controller >Overlap Configuration >Overlaps  
Overlap Plan 1

Overlap	1	2	3	4
Type	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section
Included Phases	2	4	6	8
Modifier Phases	1	3	5	7
Modifier Overlaps	-	-	-	-
Trail Green	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0

### MAXTIME OVERLAP PROGRAMMING DETAIL FOR ALTERNATE PHASING

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

Web Interface  
Home >Controller >Overlap Configuration >Overlaps

In the table view of the web interface, right click on "Overlap" in the top left corner of the table. Copy the entire contents of Overlap Plan 1. Paste Overlap Plan 1 into Overlap Plan 2. Modify Overlap Plan 2 as shown below and save changes.

Overlap Plan 2

Overlap	1	2	3	4
Type	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section
Included Phases	-	-	-	-
Modifier Phases	1	3	5	7
Modifier Overlaps	-	-	-	-
Trail Green	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0

← NOTICE INCLUDED PHASE

### MAXTIME DETECTOR PROGRAMMING DETAIL FOR ALTERNATE PHASING ZONES 1A, 3A, 5A & 7A

## IMPORTANT!

Detector assignments shown in these tables are standard default assignments. If alternate detectors are assigned to the video detection zones, the information below must be modified to match the actual assignments used.

Front Panel  
Main Menu >Controller >Detector >Veh Det Plans

Web Interface  
Home >Controller >Detector Configuration >Vehicle Detectors

In the table view of web interface right click on "Detector" in the top left corner of the table. Copy the entire contents of Detector Plan 1. Paste Detector Plan 1 into Detector Plan 2. Modify Detector Plan 2 as shown below and save changes.

Plan 2

Detector	Call Phase	Delay
1	1	3.0
29	0	3.0

1A

Detector	Call Phase	Delay
7	3	0.0
30	0	0.0

3A

Detector	Call Phase	Delay
15	5	3.0
31	0	3.0

5A

Detector	Call Phase	Delay
21	7	0.0
32	0	0.0

7A

### MAXTIME ALTERNATE PHASING ACTIVATION DETAIL

To run alternate phasing, select a Pattern that is programmed to run Overlap Plan 2 and Detector Plan 2. A Pattern can be selected through the scheduler or manually by changing the Operational Mode.

PHASING	OVERLAP PLAN	VEH DET PLAN
ACTIVE PLAN REQUIRED TO <u>RUN DEFAULT PHASING</u>	1	1
ACTIVE PLAN REQUIRED TO <u>RUN ALTERNATE PHASING</u>	2	2

#### ALTERNATE PHASING CHANGE SUMMARY

THE FOLLOWING IS A SUMMARY OF WHAT TAKES PLACE WHEN OVERLAP PLAN 2 AND VEHICLE DETECTOR PLAN 2 ACTIVATE TO CALL THE "ALTERNATE PHASING":

OVERLAP PLAN 2: Modifies overlap included phases for heads 11, 31, 51, and 71 to run protected turns only.

VEH DET PLAN 2: Disables phase 6 call on zone 1A and reduces delay time for phase 1 call on zone 1A to 3.0 seconds.

Disables phase 8 call on zone 3A and reduces delay time for phase 3 call on zone 3A to 0.0 seconds.

Disables phase 2 call on zone 5A and reduces delay time for phase 5 call on zone 5A to 3.0 seconds.

Disables phase 4 call on zone 7A and reduces delay time for phase 7 call on zone 7A to 0.0 seconds.

### MAXTIME ALTERNATE PHASING PATTERN PROGRAMMING DETAIL

Front Panel  
Main Menu >Controller >Coordination >Patterns

Web Interface  
Home >Controller >Coordination >Patterns

Pattern Parameters

Pattern	Veh Det Plan	Overlap Plan
*	2	2

\* The Pattern number(s) are to be determined by the Division Traffic Engineer.

Electrical Detail - Temporary Design 2 - Sheet 2 of 2

DOCUMENT NOT CONSIDERED  
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SIGNATURES COMPLETED

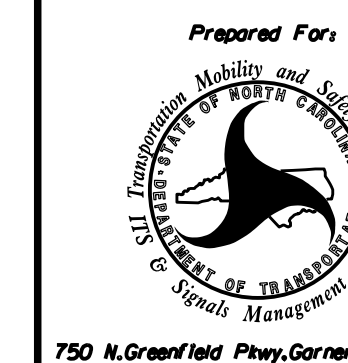
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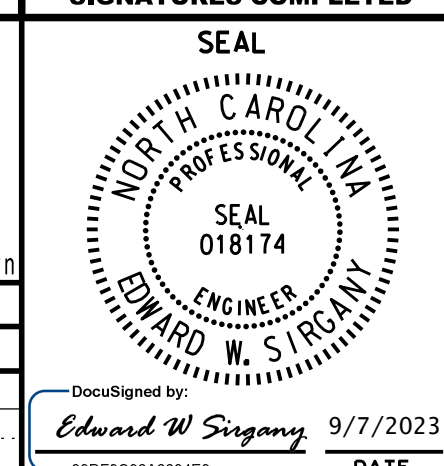
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