

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAKE COUNTY

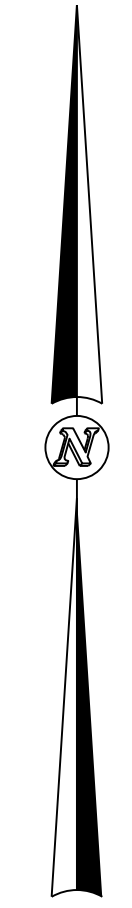
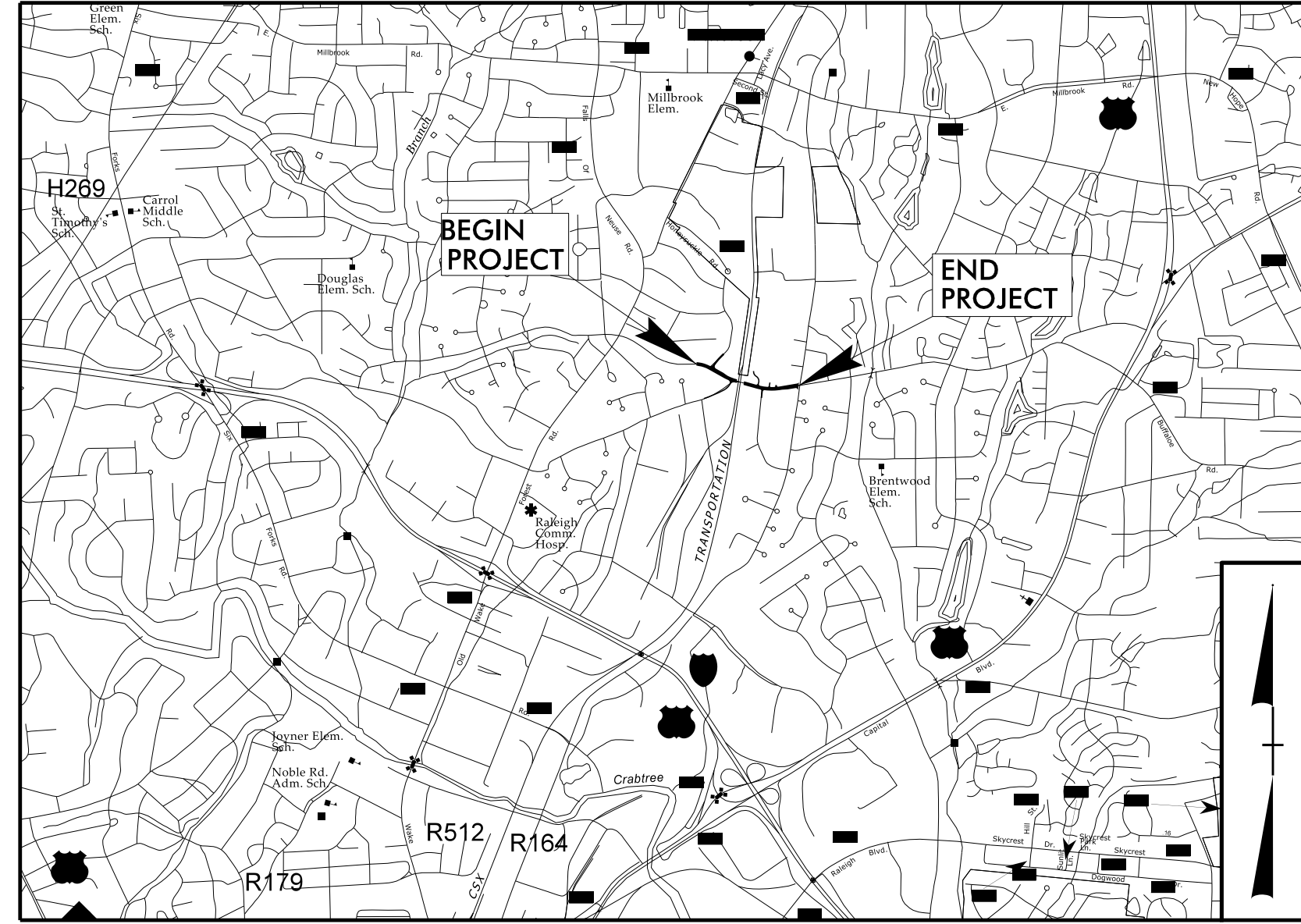
LOCATION: NEW HOPE CHURCH ROAD GRADE SEPARATION OVER CSX RAILROAD S LINE IN RALEIGH

TYPE OF WORK: TRAFFIC SIGNALS AND SIGNAL COMMUNICATIONS

Project: P-5715

CONTRACT: C204339

Vicinity



Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.

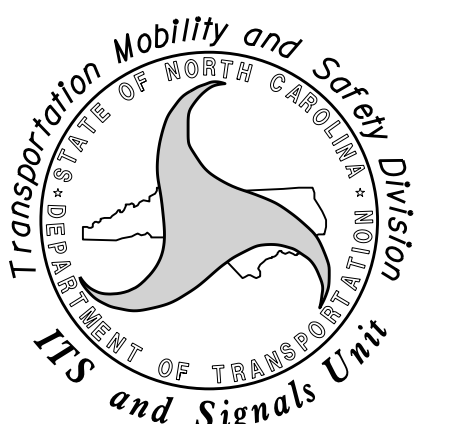
Index of Plans

Sheet #	Reference #	Location/Description
Sig. 1.0	-----	Title Sheet
Sig. 2.0-4.2	R-0434	Atlantic Avenue at New Hope Church Rd.
SCP 1-3	N/A	Signal Communication Plans

TRANSPORTATION SYSTEMS MANAGEMENT AND OPERATIONS UNIT

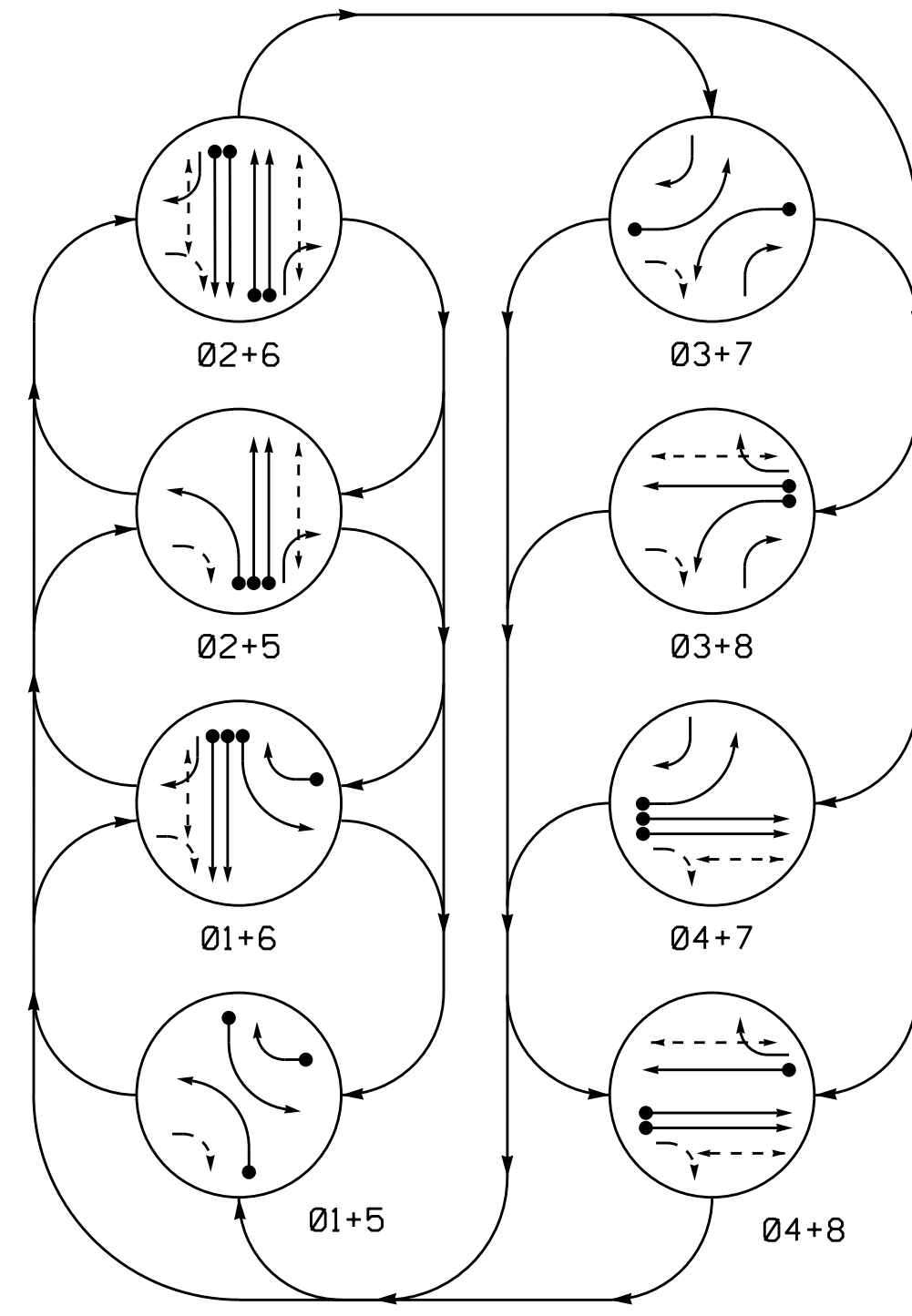
Contacts:
Robert J. Ziemba, PE - Central Region Signals Engineer
D. Todd Joyce, PE - Signal Equipment Design Engineer
Gregg Green - Signal Communications Project Engineer

Prepared in the Office of:
 DIVISION OF HIGHWAYS
 TRANSPORTATION MOBILITY AND SAFETY
 DIVISION



C:\APP\2024\15-06-2024\15-Signals\Signal Design Section\Central Region\Div 5\VP-5715 New Hope Church Rd\2023_revisions\P-5715_sig_tsh.dgn
 R. Ziemba

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

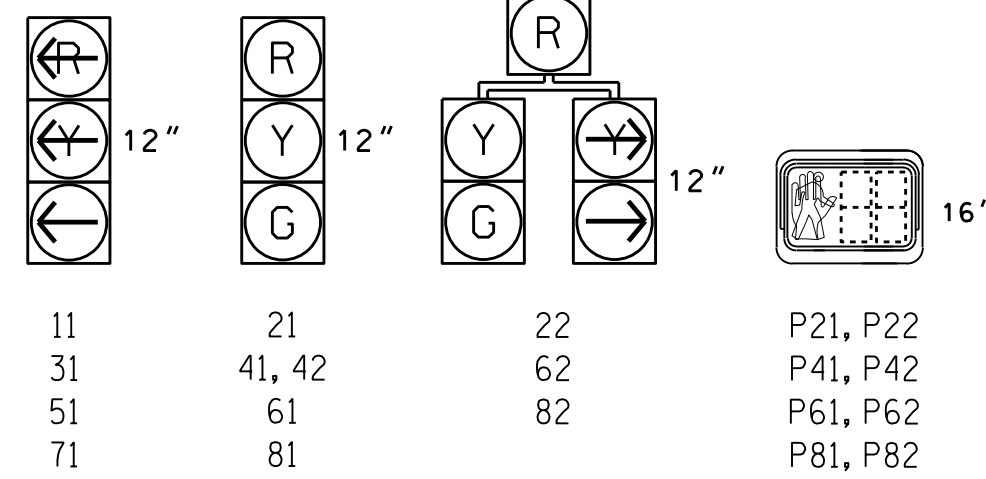
- ← ● DETECTED MOVEMENT
- ← UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

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	R	R	G	G	R	R	R	R	Y
22	R	R	G	G	R	R	R	R	Y
31	---	---	---	---	---	---	---	---	---
41, 42	R	R	R	R	R	R	R	R	G
51	---	---	---	---	---	---	---	---	---
61	R	G	R	G	R	R	R	R	Y
62	R	G	R	G	R	R	R	R	Y
71	---	---	---	---	---	---	---	---	---
81	R	R	R	R	R	G	R	G	R
82	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	W	DW	W	W	DRK

SIGNAL FACE I.D.

All Heads L.E.D.



LOOP & DETECTOR UNIT INSTALLATION CHART
SE-PAC 2070 CONTROLLER WITH 170 CABINET

LOOP / ZONE NO.	SIZE (ft)	TURNS	DIST. FROM STOPBAR (ft)	NEW	EXISTING	ASSIGNED PHASE	TIMING		DETECTOR PROGRAMMING											
							DELAY	EXTEND (STRETCH)	OPERATION MODE							SYSTEM LOOPS		STATUS		
									VEHICLE	PEDESTRIAN	1 CALL	STOP A	STOP B	PROTECTOR	LEFT TURN THROUGH	AND	SWITCH	NEW	EXISTING	
1A	6X40	2-4-2	+5	-	X	1	3 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	X	-
2A	6X6	4	70	-	X	2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	X	-
2B	6X6	4	70	-	X	2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	X	-
3A	6X40	2-4-2	+5	-	X	3	3 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	X	-
4A*	6X40	*	0	X	-	4	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	*	-
4B*	6X40	*	0	X	-	4	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	*	-
5A	6X40	2-4-2	0	-	X	5	3 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	X	-
6A	6X6	4	70	-	X	6	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	X	-
6B	6X6	4	70	-	X	6	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	X	-
7A*	6X40	*	0	X	-	7	3 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	*	-
8A	6X40	2-4-2	+5	-	X	8	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	X	-
8B	6X40	2-4-2	+5	-	X	1	15 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	X	-

* Video detection zone.

8 Phase Fully Actuated (Raleigh Signal System)

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
- 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.
- Reposition existing signal head 81.
- Set all detector units to presence mode.
- Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- Pavement markings are existing unless otherwise shown.
- This intersection uses video detection. Install detectors according to the manufacturer's instructions to achieve the desired detection.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

LEGEND

- | PROPOSED | EXISTING |
|---|---|
| ○ → Traffic Signal Head | ● → N/A |
| ○ → Modified Signal Head | ○ → N/A |
| ○ → Sign | ○ → N/A |
| ○ → Pedestrian Signal Head | ○ → N/A |
| ○ → Signal Pole with Guy | ○ → N/A |
| ○ → Signal Pole with Sidewalk Guy | ○ → N/A |
| □ → Inductive Loop Detector | □ → N/A |
| □ → Controller & Cabinet | □ → N/A |
| □ → Junction Box | □ → N/A |
| --- 2-in Underground Conduit | --- 2-in Underground Conduit |
| N/A Right of Way | N/A Right of Way |
| N/A Directional Arrow | N/A Directional Arrow |
| N/A Curb Ramp | N/A Curb Ramp |
| ▬ Video Detection Zone | ▬ Video Detection Zone |
| ▬ Construction Zone | ▬ Construction Zone |
| ○ → Construction Zone Drums | ○ → Construction Zone Drums |
| ○ → Type II Signal Pedestal | ○ → Type II Signal Pedestal |
| ○ → "STOP" Sign (R1-1) | ○ → "STOP" Sign (R1-1) |
| ○ → "YIELD" Sign (R1-2) | ○ → "YIELD" Sign (R1-2) |
| ○ → Pedestrian Crossing Sign (W11-2) w/ Diagonal Arrow Plaque (W16-6PL) | ○ → Pedestrian Crossing Sign (W11-2) w/ Diagonal Arrow Plaque (W16-6PL) |
| ○ → Right Arrow "ONLY" Sign (R3-5R) | ○ → Right Arrow "ONLY" Sign (R3-5R) |
| ○ → "RIGHT LANE MUST TURN RIGHT" Sign (R3-7R) | ○ → "RIGHT LANE MUST TURN RIGHT" Sign (R3-7R) |

FEATURE	SE-PAC 2070 TIMING CHART							
	PHASE							
Min Green *	7	10	7	7	7	10	7	7
Passage Gap *	2.0	3.0	2.0	2.0	2.0	3.0	2.0	2.0
Maximum Green *	20	50	25	40	20	50	25	40
Yellow Change	3.0	3.7	3.0	4.0	3.0	3.7	3.0	4.0
Red Clear	2.8	2.4	3.2	2.4	2.6	2.4	3.3	2.4
Walk *	-	13	-	12	-	12	-	14
Pedestrian Clear	-	20	-	18	-	11	-	20
Advance Walk *	-	6	-	5	-	5	-	7
Added Initial *	-	-	-	-	-	-	-	-
Maximum Initial *	-	-	-	-	-	-	-	-
Time Before Reduction *	-	-	-	-	-	-	-	-
Time To Reduce *	-	-	-	-	-	-	-	-
Minimum Gap	-	-	-	-	-	-	-	-
Recall Mode	-	MIN RECALL	-	-	-	MIN RECALL	-	-
Vehicle Call Memory	NON LOCK	LOCK	NON LOCK	NON LOCK	NON LOCK	LOCK	NON LOCK	NON LOCK
Dual Entry	-	-	-	-	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension 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 1)

Prepared For:

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

Atlantic Avenue
at
New Hope Church Road

Division 5 Wake County Raleigh

PLAN DATE: February 2023 REVIEWED BY:
 PREPARED BY: J.A. Lohr REVIEWED BY:

REVISIONS: _____

SEAL
 NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL 026486
 ROBERT J. ZIMMERMAN
 ENGINEER

8/30/2023

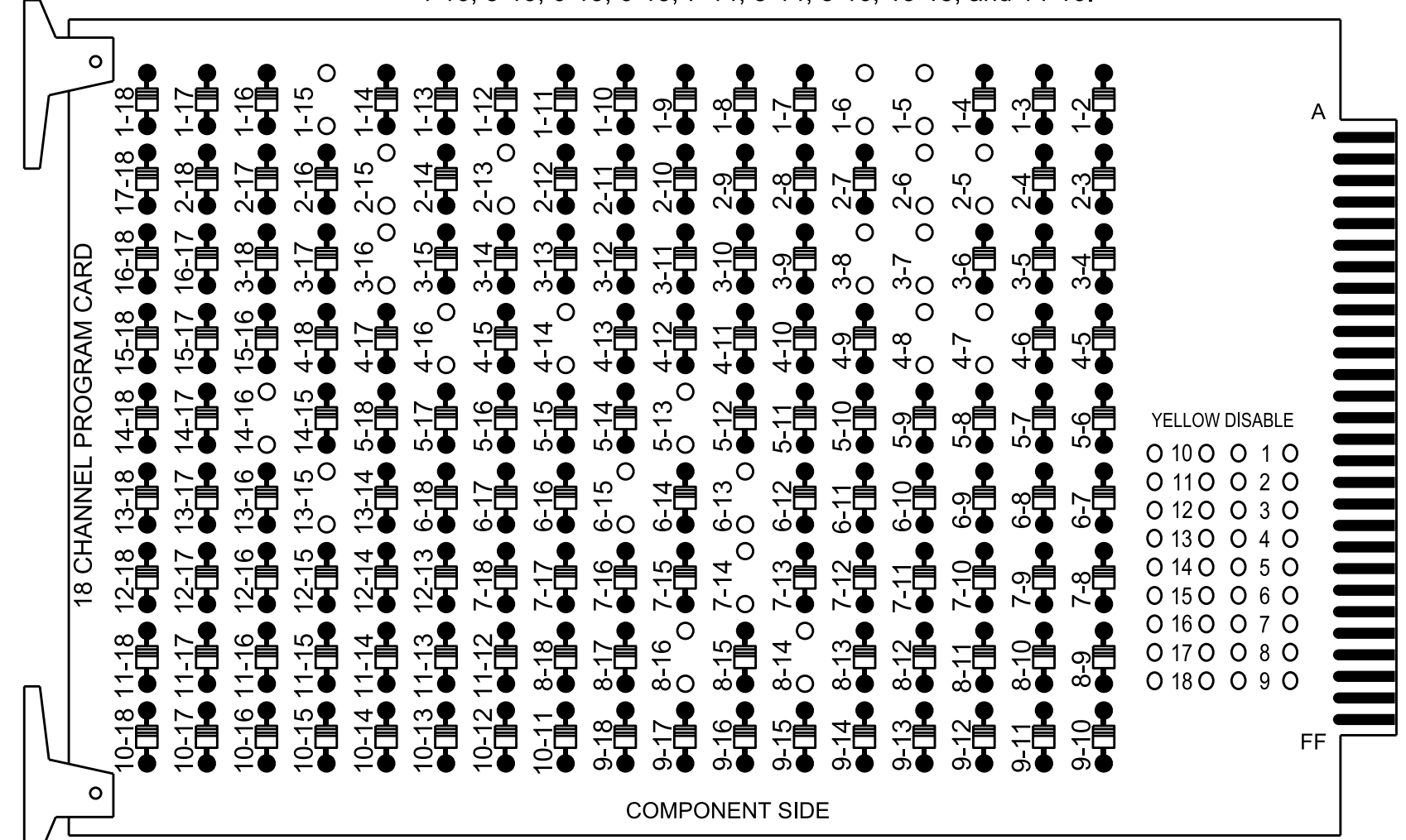
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18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

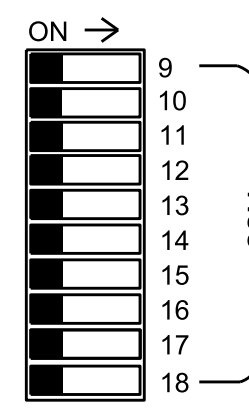
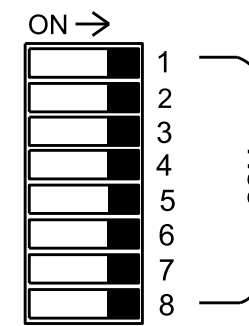
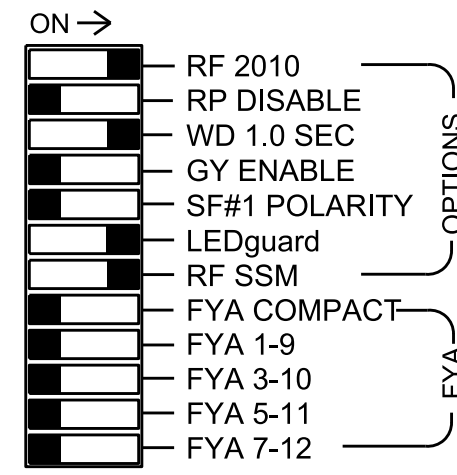
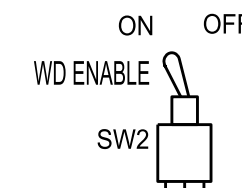
REMOVE DIODE JUMPERS 1-5, 1-6, 1-15, 2-5, 2-6, 2-13, 2-15, 3-7, 3-8, 3-16, 4-7, 4-8, 4-14, 4-16, 5-13, 6-13, 6-15, 7-14, 8-14, 8-16, 13-15, and 14-16.



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 the Red Enable is active at all times during normal operation.
- Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.



■ = 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 controller to start up in phases 2 and 6 Green/Don't Walk.
- Enable simultaneous gap-out feature for all phases.
- The cabinet and controller are part of the Raleigh Signal System.

EQUIPMENT INFORMATION

CONTROLLER.....2070LX
 CABINET.....332 w/ AUX
 SOFTWARE.....SE-PAC
 CABINET MOUNT.....BASE
 OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE LOAD SWITCHES USED.....S1,S2,S3,S4,S5,S6,S7,S8,S9,S10,S11,S12
 PHASES USED.....1,2,2 PED,3,4,4 PED,5,6,6 PED,7,8,8 PED
 OVERLAPS.....NONE

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	21,22	P21, P22	22	31	41,42	P41, P42	51	61,62	P61, P62	62	71	81,82	P81, P82	NU	NU	NU	NU
RED		128			101			134			107								
YELLOW		129			102			135			108								
GREEN		130			103			136			109								
RED ARROW	125				116			131			122								
YELLOW ARROW	126	126			117	117		132			123	123							
GREEN ARROW	127	127			118	118		133			124	124							
Hand					113			104			119								
Walking					115			106			121								

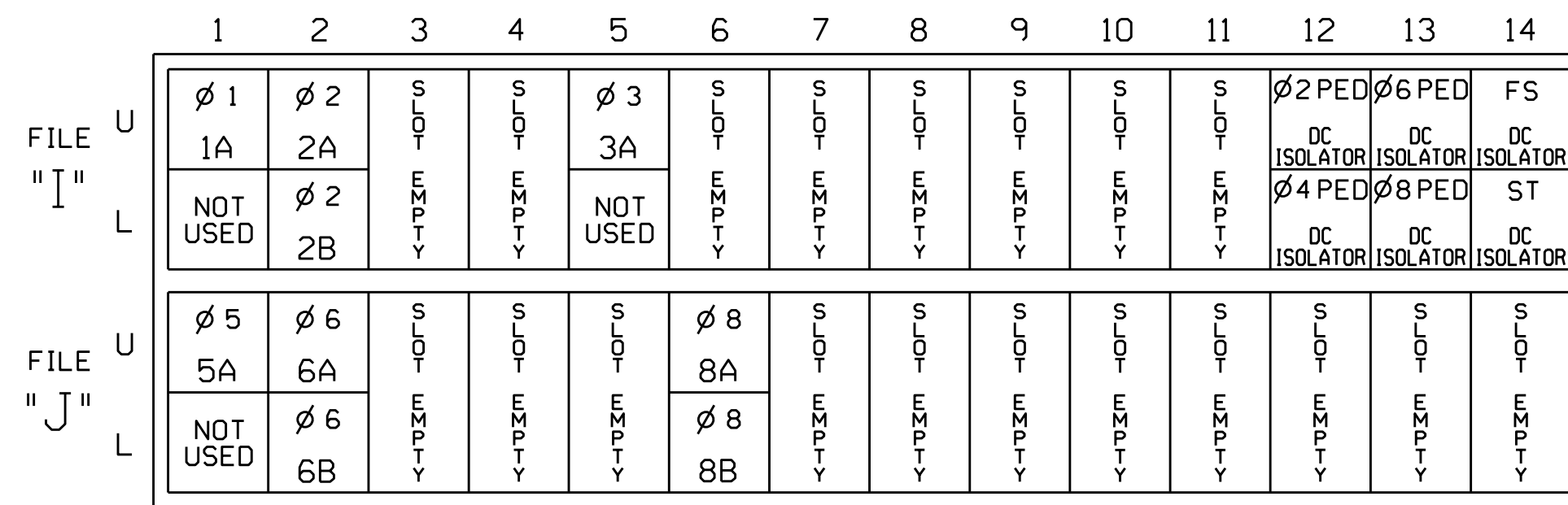
NU = Not Used

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.

INPUT FILE POSITION LAYOUT

(front view)



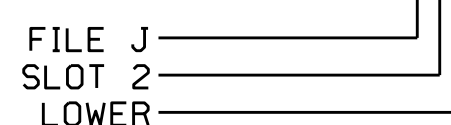
EX.: 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	DETECTOR NO.	NEMA PHASE	DELAY TIME	EXTEND (STRETCH) TIME
1A	TB2-1,2	I1U	56	1	1	3	
2A	TB2-5,6	I2U	39	3	2		
2B	TB2-7,8	I2L	43	4	2		
3A	TB4-5,6	I5U	58	9	3	3	
5A	TB3-1,2	J1U	55	19	5	3	
6A	TB3-5,6	J2U	40	21	6		
6B	TB3-7,8	J2L	44	22	6		
8A	TB5-9,10	J6U	42	31	8		
8B	TB5-11,12	J6L	46	32	1	15	

INPUT FILE POSITION LEGEND: J2L



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

ADVANCE WALK PED PROGRAMMING DETAIL

(program controller as shown below)

- From Main Menu select **3 - PHASE DATA**
- From PHASE DATA Submenu select **3 - PEDESTRIAN DATA**
- From PEDESTRIAN DATA Submenu select **3 - PED OFFSET+**

PHASE.....1...2...3...4...5...6...7...8
 WOFF/10 0 30 0 30 0 30 0 30
 MODE 0 0 0 0 0 0 0 0

CODES: * 0-ADVANCE 1-DELAY

Advance Walk PED programming complete.

INIT & N.A. RESP PROGRAMMING DETAIL

- From Main Menu select **3 - PHASE DATA**
- From PHASE DATA Submenu select **4 - INIT & N.A RESP**

PHASE.....1...2...3...4...5...6...7...8
 INITIAL 1 6 1 1 1 6 1 1
 NA RESP 0 1 0 2 0 1 0 2

CODES.....0...1...2...3...4...5...6
 INITL NONE INACT RED YEL GRN DRK G/DW
 NA RSP NONE NA1 NA2 1&2 --- --- ---

INIT & N.A. RESP PROGRAMMING COMPLETE

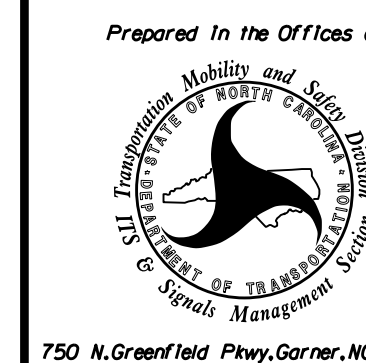
SPECIAL DETECTOR NOTE

For zones 4A, 4B, and 7A 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 schemes shown on the Signal Design Plans.

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: R-0434T1
 DESIGNED: February 2023
 SEALED: 8/30/2023
 REVISED: N/A

Electrical Design - Temp. Design 1 (TMP Phase 1)

ELECTRICAL AND PROGRAMMING DETAILS FOR:



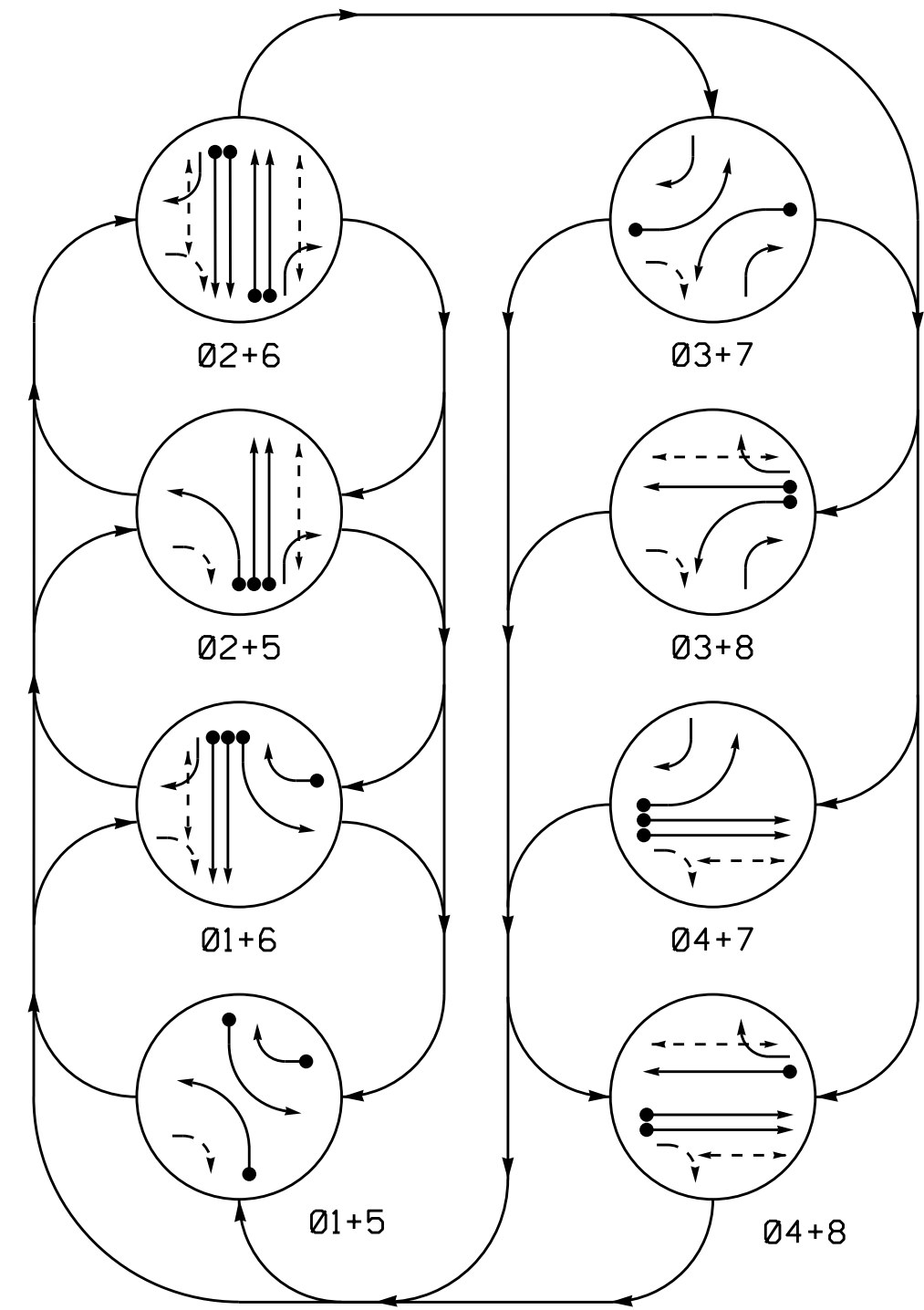
Atlantic Avenue at New Hope Church Road	
Division 5	Wake County
PLAN DATE: May 2023	REVIEWED BY: D.T.J.
PREPARED BY: D.J. Craddock	REVIEWED BY:
REVISIONS	INIT. DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Seal area with signature and date: 08/31/2023

SIG. INVENTORY NO. R-0434T1

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

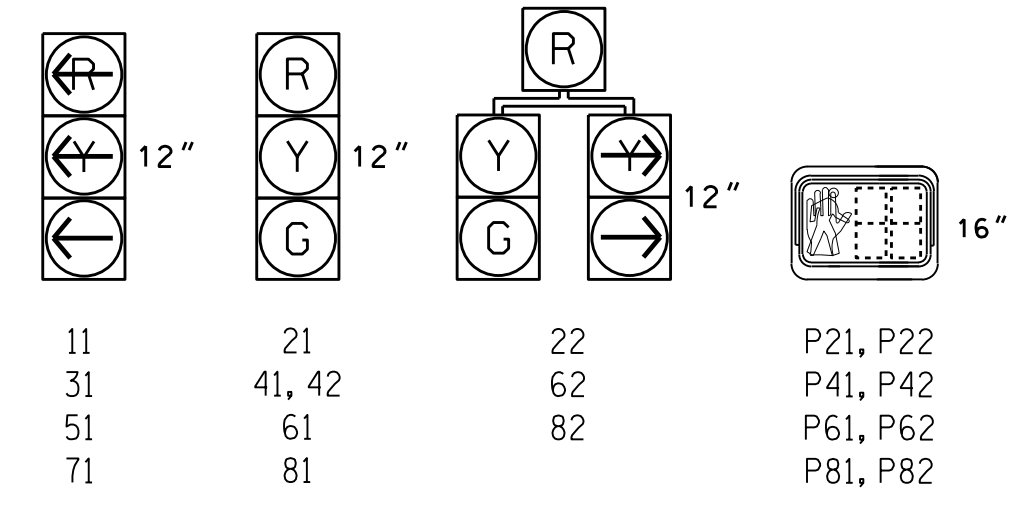
- ← ● → DETECTED MOVEMENT
- ← ○ → UNDETECTED MOVEMENT (OVERLAP)
- ← - - - UNSIGNALIZED MOVEMENT
- ← - - - PEDESTRIAN MOVEMENT

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	R	R	G	G	R	R	R	Y	—
22	R	R	G	G	R	R	R	Y	—
31	—	—	—	—	—	—	—	—	—
41, 42	R	R	R	R	R	R	G	G	R
51	—	—	—	—	—	—	—	—	—
61	R	G	R	G	R	R	R	Y	—
62	R	G	R	G	R	R	R	Y	—
71	—	—	—	—	—	—	—	—	—
81	R	R	R	R	R	G	R	G	R
82	R	R	R	R	R	G	R	G	R
P21, P22	DW	DW	W	W	DW	DW	DW	DRK	—
P41, P42	DW	DW	DW	DW	DW	DW	W	DRK	—
P61, P62	DW	W	DW	W	DW	DW	DW	DRK	—
P81, P82	DW	DW	DW	DW	W	DW	W	DRK	—

SIGNAL FACE I.D.

All Heads L.E.D.



LOOP & DETECTOR UNIT INSTALLATION CHART

LOOP / ZONE NO.	SIZE (ft)	TURNS	DIST. FROM STOPBAR (ft)	NEW	EXISTING	DETECTOR PROGRAMMING														
						ASSIGNED PHASE	TIMING		OPERATION MODE							SYSTEM LOOPS		STATUS		
							DELAY	EXTEND (STRETCH)	VEHICLE	PEDESTRIAN	1 CALL	STOP A	STOP B	PROTECTOR	LEFT TURN THROUGH	AND	SWITCH	NEW	EXISTING	
1A	6X40	2-4-2	+5	—	X	1	3 SEC.	— SEC.	X	—	—	—	—	—	—	—	—	—	—	X
2A	6X6	4	70	—	X	2	— SEC.	— SEC.	X	—	—	—	—	—	—	—	—	—	—	X
2B	6X6	4	70	—	X	2	— SEC.	— SEC.	X	—	—	—	—	—	—	—	—	—	—	X
3A	6X40	2-4-2	+5	—	X	3	3 SEC.	— SEC.	X	—	—	—	—	—	—	—	—	—	—	X
4A*	6X40	*	0	—	X	4	— SEC.	— SEC.	X	—	—	—	—	—	—	—	—	—	—	*
4B*	6X40	*	0	—	X	4	— SEC.	— SEC.	X	—	—	—	—	—	—	—	—	—	—	*
5A	6X40	2-4-2	0	—	X	5	3 SEC.	— SEC.	X	—	—	—	—	—	—	—	—	—	—	X
6A	6X6	4	70	—	X	6	— SEC.	— SEC.	X	—	—	—	—	—	—	—	—	—	—	X
6B	6X6	4	70	—	X	6	— SEC.	— SEC.	X	—	—	—	—	—	—	—	—	—	—	X
7A*	6X40	*	0	—	X	7	3 SEC.	— SEC.	X	—	—	—	—	—	—	—	—	—	—	*
8A	6X40	2-4-2	+5	—	X	8	— SEC.	— SEC.	X	—	—	—	—	—	—	—	—	—	—	X
8B	6X40	2-4-2	+5	—	X	1	15 SEC.	— SEC.	X	—	—	—	—	—	—	—	—	—	—	X

* Video detection zone.

8 Phase Fully Actuated (Raleigh Signal System)

NOTES

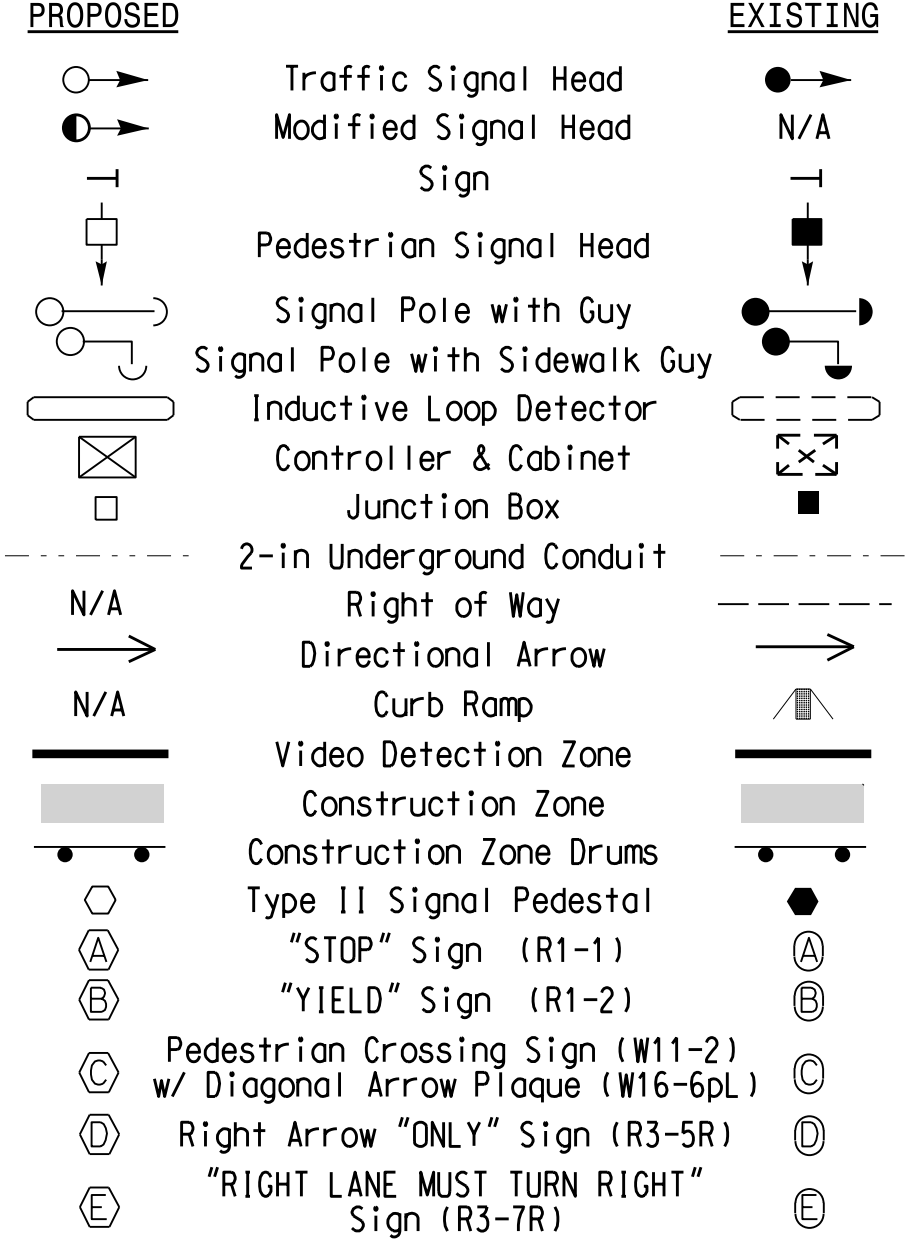
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- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 and/or phase 5 may be lagged.
- Phase 3 and/or phase 7 may be lagged.
- Set all detector units to presence mode.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- Pavement markings are existing unless otherwise shown.
- This intersection uses video detection. Install detectors according to the manufacturer's instructions to achieve the desired detection.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

SE-PAC 2070 TIMING CHART

FEATURE	PHASE							
	1	2	3	4	5	6	7	8
Min Green *	7	10	7	7	7	10	7	7
Passage Gap *	2.0	3.0	2.0	2.0	2.0	3.0	2.0	2.0
Maximum Green *	20	50	25	40	20	50	25	40
Yellow Change	3.0	3.7	3.0	4.0	3.0	3.7	3.0	4.0
Red Clear	2.8	2.4	3.2	2.4	2.6	2.4	3.3	2.4
Walk *	—	13	—	13	—	14	—	14
Pedestrian Clear	—	20	—	18	—	14	—	20
Advance Walk *	—	6	—	6	—	7	—	7
Added Initial *	—	—	—	—	—	—	—	—
Maximum Initial *	—	—	—	—	—	—	—	—
Time Before Reduction *	—	—	—	—	—	—	—	—
Time To Reduce *	—	—	—	—	—	—	—	—
Minimum Gap	—	—	—	—	—	—	—	—
Recall Mode	—	MIN RECALL	—	—	—	MIN RECALL	—	—
Vehicle Call Memory	NON LOCK	LOCK	NON LOCK	NON LOCK	NON LOCK	LOCK	NON LOCK	NON LOCK
Dual Entry	—	—	—	—	—	—	—	—
Simultaneous Gap	ON	ON	ON	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension 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



Signal Upgrade - Temporary Design 2 (TMP Phase II, Step 4)

Atlantic Avenue at New Hope Church Road

Division 5 Wake County Raleigh

PLAN DATE: February 2023 REVIEWED BY: J.A. Lohr

PREPARED BY: J.A. Lohr REVIEWED BY: [Signature]

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL

ROBERT J. T. [Signature]

8/30/2023

SIG. INVENTORY NO. R-043472

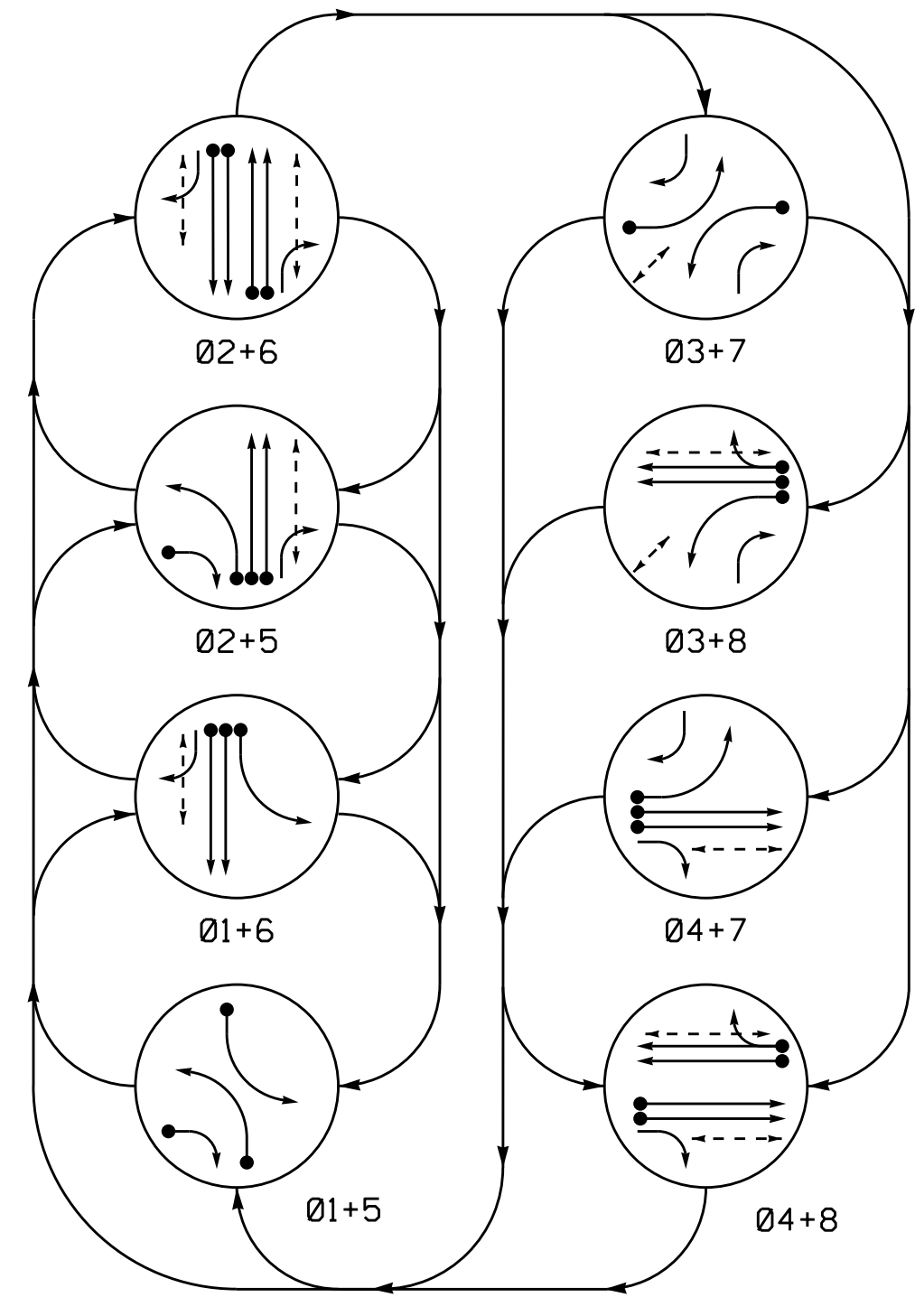
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8 Phase Fully Actuated (Raleigh Signal System)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
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. Phase 3 and/or phase 7 may be lagged.
5. Reposition existing signal head numbered 81.
6. Set all detector units to presence mode.
7. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
8. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
9. Replace existing pedestrian pushbuttons with new APS pushbutton on each pedestar or signal pole.
10. This intersection features accessible pedestrian signals utilizing percussive tone walk indications and/or speech messages.
11. Phase 3 and phase 4 or 6 pedestrian timing is designed as a 2 stage crossing when crossing the median island. The FDW time shown is only intended to get a pedestrian to/from the island during a single crossing. Install R10-3d signs as appropriate.
12. Illuminate sign D at the beginning of the Ped 3 "Walk" interval. This sign will remain illuminated until the end of the Ped 3 flashing "Don't Walk" interval.
13. Remove existing Right Arrow "ONLY" (R3-5R) and "RIGHT LANE MUST TURN RIGHT" (R3-7R) signs.
14. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

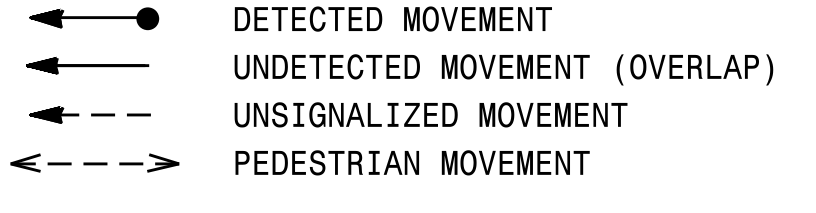
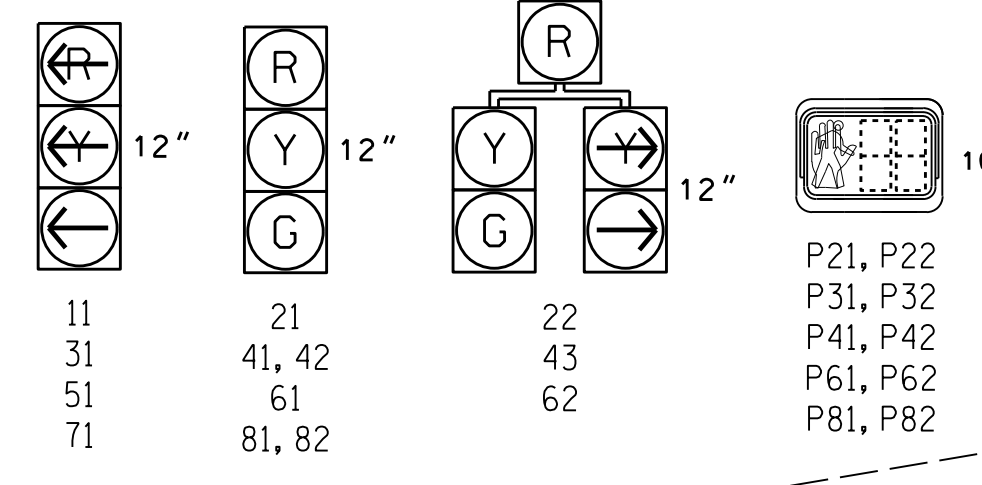


TABLE OF OPERATION

SIGNAL FACE	PHASE							
	01+5	01+6	02+5	02+6	03+7	03+8	04+7	04+8
11								
21	R	R	G	G	R	R	R	Y
22	R	R	G	G	R	R	R	Y
31								
41, 42	R	R	R	R	R	R	G	R
43	R	R	R	R	R	R	G	R
51								
61	R	G	R	G	R	R	R	Y
62	R	G	R	G	R	R	R	Y
71								
81, 82	R	R	R	R	R	G	R	R
P21, P22	DW	DW	W	W	DW	DW	DW	DRK
P31, P32	DW	DW	DW	DW	W	W	DW	DRK
P41, P42	DW	DW	DW	DW	DW	DW	W	DRK
P61, P62	DW	W	DW	W	DW	DW	DW	DRK
P81, P82	DW	DW	DW	DW	DW	W	DW	DRK
Sign D	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF

SIGNAL FACE I.D.

All Heads L.E.D.



LOOP & DETECTOR UNIT INSTALLATION CHART SE-PAC 2070 CONTROLLER WITH 170 CABINET

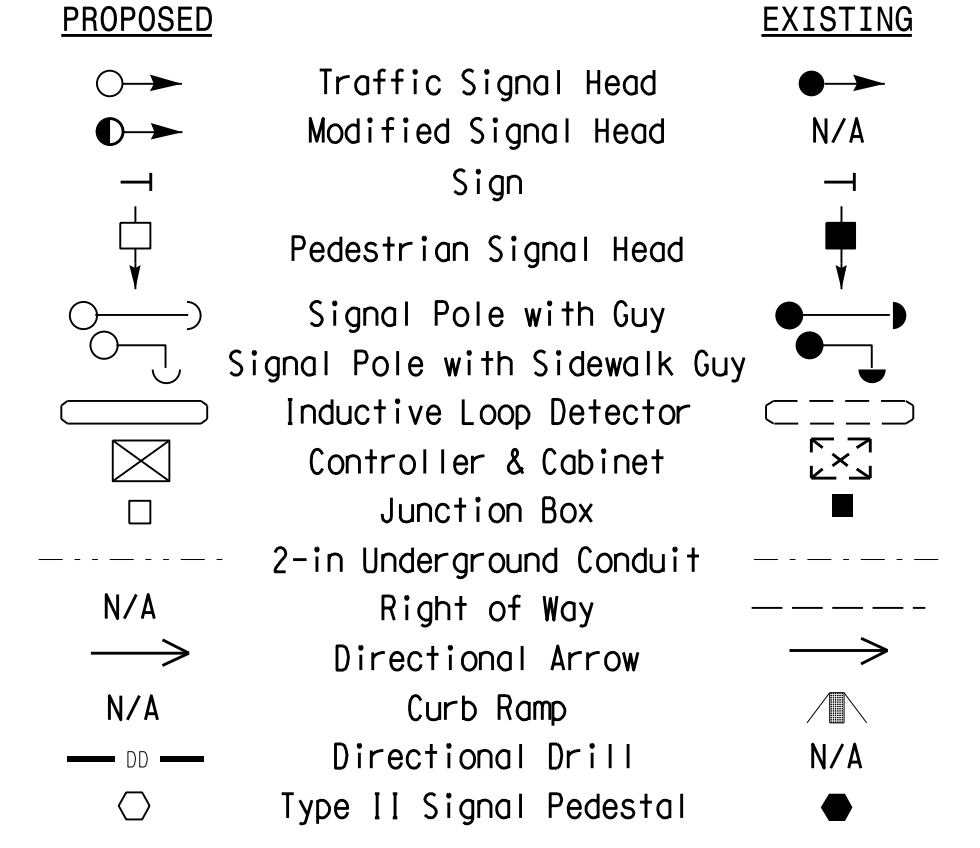
LOOP NO.	SIZE (ft)	TURNS	DIST. FROM STOPBAR (ft)	NEW	EXISTING	ASSIGNED PHASE	TIMING		DETECTOR PROGRAMMING												
							DELAY	EXTEND (STRETCH)	OPERATION MODE												
									VEHICLE	PEDESTRIAN	1 CALL	STOP A	STOP B	PROTECTOR LEFT	PROTECTOR THROUGH AND	SWITCH	SYSTEM LOOPS	STATUS			
1A	6X40	2-4-2	+5	-	X	1	3 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	-	X
2A	6X6	4	70	-	X	2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	-	X
2B	6X6	4	70	-	X	2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	-	X
3A	6X40	2-4-2	+5	-	X	3	3 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	-	X
4A	6X40	2-4-2	0	X	-	4	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	-	X
4B	6X40	2-4-2	0	X	-	4	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	-	X
4C*	4X6	DIAGONAL	0	X	-	4	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	-	X
5A	6X40	2-4-2	0	-	X	5	3 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	-	X
5B	6X40	2-4-2	0	X	-	5	15 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	-	X
6A	6X6	4	70	-	X	6	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	-	X
6B	6X6	4	70	-	X	6	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	-	X
7A	6X40	2-4-2	0	X	-	7	3 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	-	X
8A	6X40	2-4-2	+5	-	X	8	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	-	X
8B	6X40	2-4-2	+5	-	X	8	10 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	-	X

* Set sensitivity at appropriate level to detect bicycles.

ACCESSIBLE PEDESTRIAN SIGNAL OPERATION

SIGNAL FACE	VOICE TONES	INTERVAL	SPEECH MESSAGE
P21, P22	- X	Walk	(Percussive Tone)
	X -	Flashing Don't Walk / Don't Walk	Wait. Wait to cross New Hope Church
P31	- X	Walk	(Percussive Tone)
	X -	Flashing Don't Walk / Don't Walk	Wait. Wait to cross New Hope Church Ramp
P32	X -	Walk	New Hope Church Ramp. Walk sign is on to cross New Hope Church Ramp
	X -	Flashing Don't Walk / Don't Walk	Wait. Wait to cross New Hope Church Ramp
P41	- X	Walk	(Percussive Tone)
	X -	Flashing Don't Walk / Don't Walk	Wait. Wait to cross Atlantic
P42	X -	Walk	Atlantic. Walk sign is on to cross Atlantic
	X -	Flashing Don't Walk / Don't Walk	Wait. Wait to cross Atlantic
P61	X -	Walk	New Hope Church. Walk sign is on to cross New Hope Church
	X -	Flashing Don't Walk / Don't Walk	Wait. Wait to cross New Hope Church
P62	- X	Walk	(Percussive Tone)
	X -	Flashing Don't Walk / Don't Walk	Wait. Wait to cross New Hope Church
P81, P82	- X	Walk	(Percussive Tone)
	X -	Flashing Don't Walk / Don't Walk	Wait. Wait to cross Atlantic

LEGEND



SE-PAC 2070 TIMING CHART

FEATURE	PHASE							
	1	2	3	4	5	6	7	8
Min Green *	7	10	7	7	7	10	7	7
Passage Gap *	2.0	3.0	2.0	2.0	2.0	3.0	2.0	2.0
Maximum Green *	20	50	25	40	20	50	25	40
Yellow Change	3.0	3.7	3.0	4.0	3.0	3.7	3.0	4.0
Red Clear	2.8	2.4	3.3	2.4	2.6	2.4	3.3	2.4
Walk *	-	7	7	7	-	7	-	7
Pedestrian Clear	-	20	4	18	-	16	-	20
Advance Walk *	-	6	-	6	-	6	-	7
Added Initial *	-	-	-	-	-	-	-	-
Maximum Initial *	-	-	-	-	-	-	-	-
Time Before Reduction *	-	-	-	-	-	-	-	-
Time To Reduce *	-	-	-	-	-	-	-	-
Minimum Gap	-	-	-	-	-	-	-	-
Recall Mode	-	MIN RECALL	-	-	-	MIN RECALL	-	-
Vehicle Call Memory	NON LOCK	LOCK	NON LOCK	NON LOCK	NON LOCK	LOCK	NON LOCK	NON LOCK
Dual Entry	-	-	-	-	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON	ON	ON	ON	ON

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

SIGNS

PROPOSED	EXISTING
A	A
C	C
D	D

Signal Upgrade - Final Design

Atlantic Avenue at New Hope Church Road

Division 5 Wake County Raleigh

Prepared For: Transportation Mobility and Safety Unit, City of Raleigh

Prepared By: J.A. Lohr

Plan Date: February 2023

Scale: 1" = 40'

Date: 8/30/2023

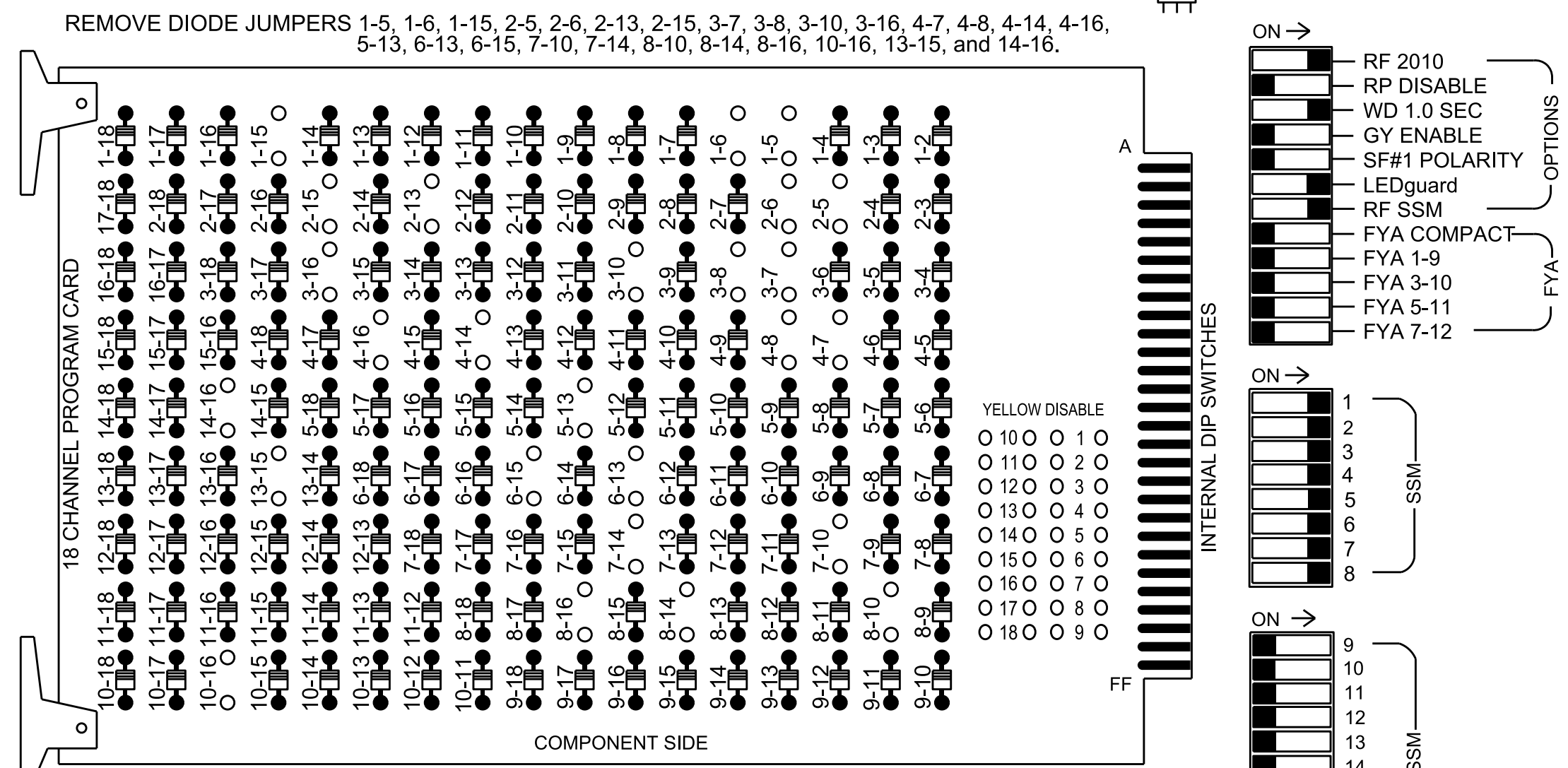
Signature: Robert J. Ziegler

Professional Engineer

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18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

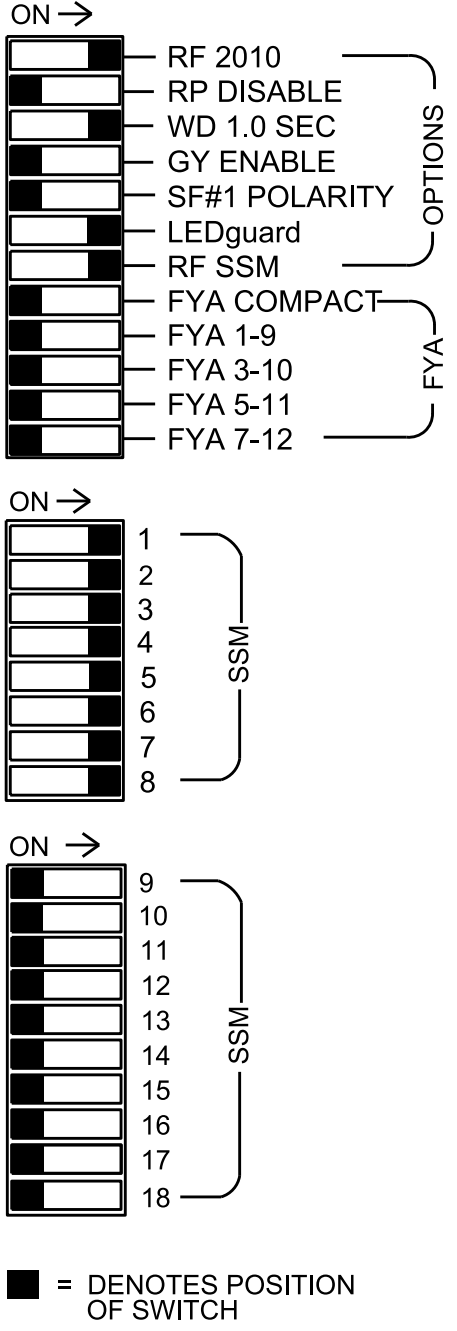
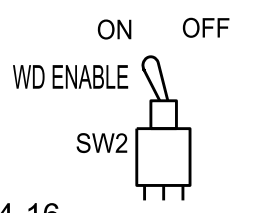
(remove jumpers and set switches as shown)



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 the Red Enable is active at all times during normal operation.
- Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.



■ = 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 controller to start up in phases 2 and 6 Green/Don't Walk.
- Enable simultaneous gap-out feature for all phases.
- The cabinet and controller are part of the Raleigh Signal System.

EQUIPMENT INFORMATION

CONTROLLER.....2070LX
 CABINET.....332 w/ AUX
 SOFTWARE.....SE-PAC
 CABINET MOUNT.....BASE
 OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE LOAD SWITCHES USED.....S1,S2,S3,S4,S5,S6,S7,S8,S9,S10,S11,S12,AUX S2
 PHASES USED.....1,2,2 PED,3,3 PED,4,4 PED,5,6,6 PED,7,8,8 PED
 OVERLAPS.....NONE

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	3 PED	SPARE	OLC	OLD	SPARE					
SIGNAL HEAD NO.	11	21,22	P21,P22	22	31	41,42,43	P41,P42	43	51	61,62	P61,P62	62	71	81,82	P81,P82	NU	P31,P32	BLANKOUT SIGN	NU	NU	NU	NU	NU
RED		128				101				134				107									
YELLOW		129				102				135				108									
GREEN		130				103				136				109									
RED ARROW	125				116				131			122											
YELLOW ARROW	126			117	117			132	132			123	123										
GREEN ARROW	127			118	118			133	133			124	124										
Hand icon				113				104				119			110							A124	
PED YELLOW																						** A125	
Walking person icon				115				106				121			112							** A126	

** See Blankout sign wiring detail on Sheet 2.

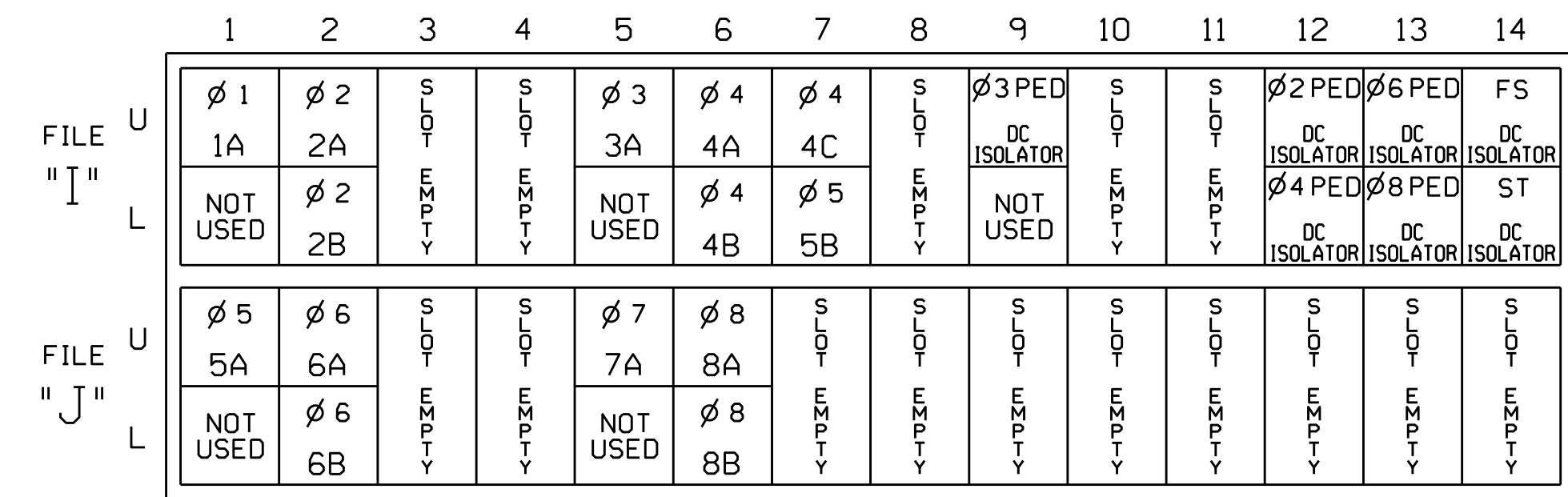
NU = Not Used

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.

INPUT FILE POSITION LAYOUT

(front view)



NOTE: The input function for slot 19 (Detector 17) has been remapped. See Sheet 2 for details.

IMPORTANT: Remove surge protection from TB6-9, TB6-10, TB6-11, and TB6-12.

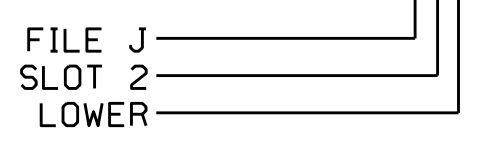
INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	DETECTOR NO.	NEMA PHASE	DELAY TIME	EXTEND (STRETCH) TIME
1A	TB2-1,2	I1U	56	1	1	3	
2A	TB2-5,6	I2U	39	3	2		
2B	TB2-7,8	I2L	43	4	2		
3A	TB4-5,6	I5U	58	9	3	3	
4A	TB4-9,10	I6U	41	11	4		
4B	TB4-11,12	I6L	45	12	4		
4C	TB6-1,2	I7U	65	13	4		
5A	TB3-1,2	J1U	55	19	5	3	
5B	TB6-3,4	I7L	78	14	5	15	
6A	TB3-5,6	J2U	40	21	6		
6B	TB3-7,8	J2L	44	22	6		
7A	TB5-5,6	J5U	57	29	7	3	
8A	TB5-9,10	J6U	42	31	8		
8B	TB5-11,12	J6L	46	32	8	10	
PED PUSH BUTTONS							
P21,P22	TB8-4,6	I12U	67	PED 2	2 PED		
P31,P32	TB6-9,10	I9U	60	17	3 PED		
P41,P42	TB8-5,6	I12L	69	PED 4	4 PED		
P61,P62	TB8-7,9	I13U	68	PED 6	6 PED		
P81,P82	TB8-8,9	I13L	70	PED 8	8 PED		

NOTE: INSTALL DC ISOLATORS IN INPUT FILE SLOTS 19, 112, AND 113.

NOTE: See Sheet 2 for 3 Ped detector assignment.

INPUT FILE POSITION LEGEND: J2L



ACCESSIBLE PEDESTRIAN SIGNAL (APS) INSTALLATION NOTES

- Install push buttons and APS equipment per manufacturer's instructions.
- Provide a dedicated cable to each push button per manufacturer's instructions.
- If APS equipment is mounted in cabinet, use filtered power (i.e., Controller Receptacle) to power APS equipment. Do not use Equipment Receptacle, which is a GFCI outlet.
- Never attempt to operate a standard contact closure push button with the APS system unless cabinet is re-wired for standard button operation or unless explicitly allowed by the manufacturer.
- Place manufacturer's instructions in cabinet with cabinet prints, signal plans, and electrical details.

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: R-0434
 DESIGNED: February 2023
 SEALED: 8/30/2023
 REVISED: N/A

Electrical Design - Final Design - Sheet 1 of 2

Atlantic Avenue at New Hope Church Road

Division 5 Wake County Raleigh

PLAN DATE: May 2023 REVIEWED BY: DTJ

PREPARED BY: D.J. Craddock REVIEWED BY:

REVISIONS: INIT. DATE

750 N. Greenfield Pkwy, Corner, NC 27529

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 031001

DocSigned by: D. Todd Joyce 08/31/2023

SIG. INVENTORY NO. R-0434

31-AUG-2023 08:53
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 dj-craddock

INIT & N.A. RESP PROGRAMMING DETAIL

- From Main Menu select **3 - PHASE DATA**
- From PHASE DATA Submenu select **4 - INIT & N.A RESP**

PHASE.....	1	2	3	4	5	6	7	8
INITIAL	1	6	1	1	1	6	1	1
NA RESP	0	1	0	2	0	1	0	2
CODES.....	0	1	2	3	4	5	6	
INITL	NONE	INACT	RED	YEL	GRN	DRK	G/DW	
NA RSP	NONE	NA1	NA2	1&2	---	---	---	

INIT & N.A. RESP PROGRAMMING COMPLETE

ADVANCE WALK PED PROGRAMMING DETAIL

(program controller as shown below)

- From Main Menu select **3 - PHASE DATA**
- From PHASE DATA Submenu select **3 - PEDESTRIAN DATA**
- From PEDESTRIAN DATA Submenu select **3 - PED OFFSET+**

PHASE.....	1	2	3	4	5	6	7	8
WOFF/10	0	30	0	30	0	30	0	30
MODE	0	0	0	0	0	0	0	0

CODES: * 0-ADVANCE 1-DELAY

Advance Walk PED programming complete.

LOAD SWITCH MAPPING DETAIL

(program controller as shown below)

- From Main Menu select **4 - UNIT DATA**
- From UNIT DATA Submenu select **9 - OUTPUT MAPPING**

OUTPUT MAPPING	EDIT MODE: LDSW					
	E-TOGGLE MODE					
LDSW .13..	.14..	.15..	.16..	.17..	.18..	
RED OLA	PD3	PD1	OLC	OLD	NONE	
YEL	-	-	-	-	-	
GRN	-	-	-	-	-	
FIO	13	14	15	16	17	18
PREV/NEXT TO CYCLE	D-DISPLAY COMPAT					

USE ENTER AND NEXT KEYS TO MAP 'LDSW 14' AS 'PD3'.

LOAD SWITCH MAPPING COMPLETE

3 PED DETECTOR ASSIGNMENT PROGRAMMING

- From Main Menu select **3 - PHASE DATA**
- From PHASE DATA Submenu select **7 - DETECTOR DATA**
- From DETECTOR DATA Submenu select **3-VEH 17-24**
- From DETECTOR CONFIG DATA Submenu select **1-VEHICLE DET 17+**

ASSIGN PHASE 3 PED TO DETECTOR 17

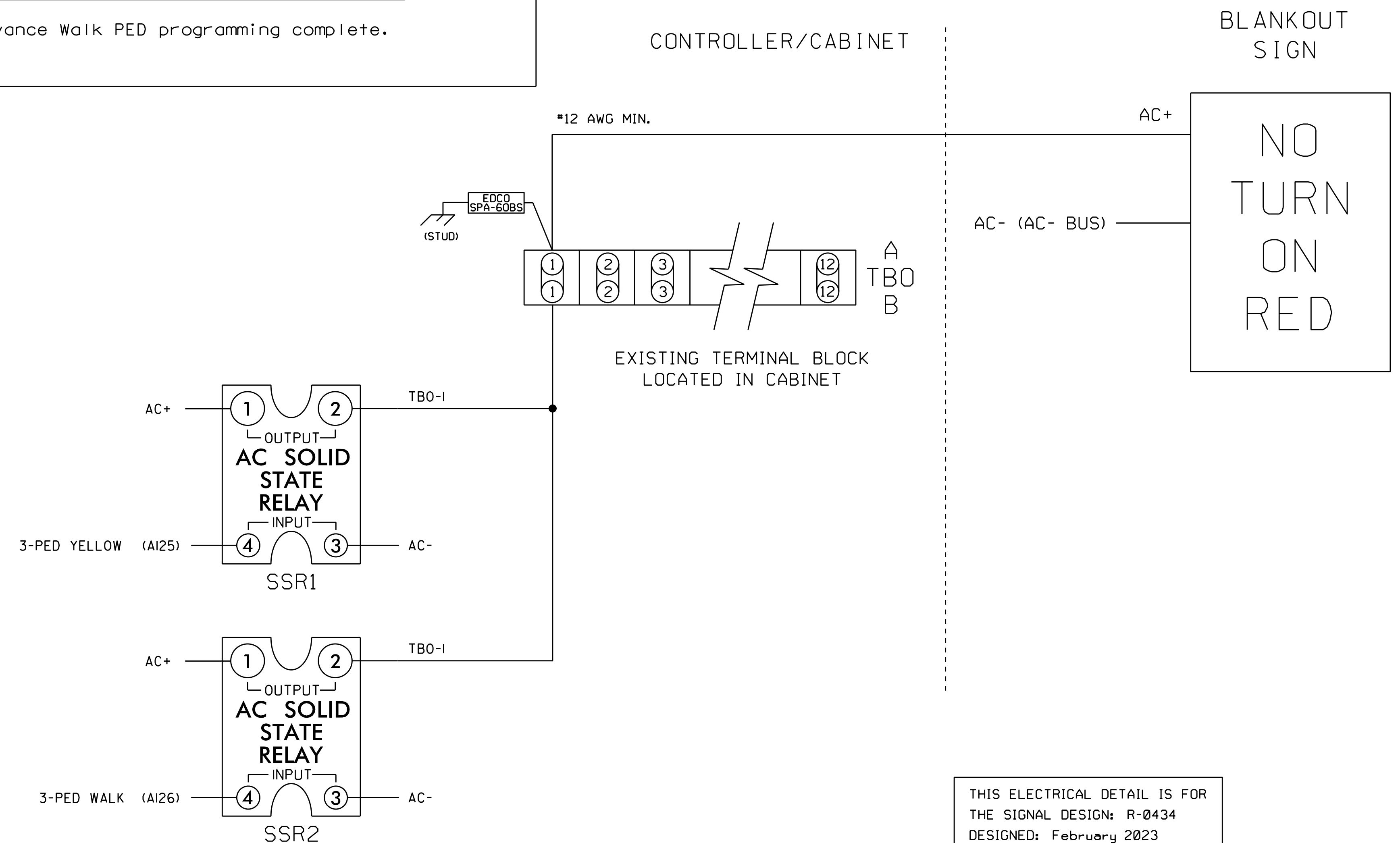
VEH DET 17	PHASE	12345678	90123456
ASSIGNED PHASES....	00100000	00000000	
SWITCH PHASES.....	00000000	00000000	
MODE	1	CALL	1
VOLUME	0	PASS	0
OCCUPY	0	ADDED	0
LOCK	0	QUEUE	0
		EXT/10	0
		DLY/10	0
		FAIL	255
		QLIMIT	0

[1]

PED DETECTOR PROGRAMMING COMPLETE

BLANKOUT SIGN WIRING DETAIL

(wire as shown)



NOTE: Relays SSR1 and SSR2 are SPST (normally open) Solid State Relays with AC input and AC (25 amp) output.

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: R-0434
 DESIGNED: February 2023
 SEALED: 8/30/2023
 REVISED: N/A

Electrical Design - Final Design - Sheet 2 of 2

ELECTRICAL AND PROGRAMMING DETAILS FOR: Prepared in the Offices of: 750 N. Greenfield Pkwy, Garner, NC 27529	Atlantic Avenue at New Hope Church Road		SEAL NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 031001 TODD JOYCE
	Division 5 Wake County Raleigh PLAN DATE: May 2023 PREPARED BY: D.J. Craddock	REVIEWED BY: DTJ REVIEWED BY:	

- 1 INSTALL COAX CABLE
- 2 INSTALL ETHERNET CABLE
- 3 EXISTING ETHERNET (OR COAX) CABLE
- 4 INSTALL SMFO CABLE
- 5 EXISTING SMFO CABLE
- 6 INSTALL FIBER OPTIC DROP CABLE ASSEMBLY
- 7 INSTALL TRACER WIRE
- 8 TRENCH
- 9 INSTALL PVC CONDUIT
- 10 INSTALL RIGID, GALVANIZED STEEL CONDUIT
- 11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
- 12 INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC CABLE SEAL
- 13 INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
- 14 INSTALL POLYETHYLENE CONDUIT
- 15 DIRECTIONAL DRILL CONDUIT
- 16 BORE AND JACK CONDUIT
- 17 INSTALL CABLE(S) IN EXISTING CONDUIT
- 18 INSTALL CABLE(S) IN NEW CONDUIT
- 19 INSTALL CABLE(S) IN EXISTING RISER
- 20 INSTALL CABLE(S) IN NEW RISER
- 21 INSTALL CABLE(S) IN EXISTING CONDUIT STUB-OUTS
- 22 INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
- 23 INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
- 24 INSTALL NEW CONDUIT INTO EXISTING POLE MOUNTED CABINET
- 25 INSTALL NEW RISER INTO EXISTING POLE MOUNTED CABINET
- 26 INSTALL NEW ETHERNET EDGE SWITCH
- 27 INSTALL NEW FIBER OPTIC TRANSCEIVER
- 28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS AND FUSION SPLICE CABLE IN CABINET
- 29 INSTALL UNDERGROUND SPLICE ENCLOSURE
- 30 INSTALL AERIAL SPLICE ENCLOSURE
- 31 MODIFY EXISTING INTERCONNECT CENTER /SPLICE ENCLOSURE
- 32 INSTALL POLE MOUNTED SPLICE CABINET
- 33 INSTALL BASE MOUNTED SPLICE CABINET

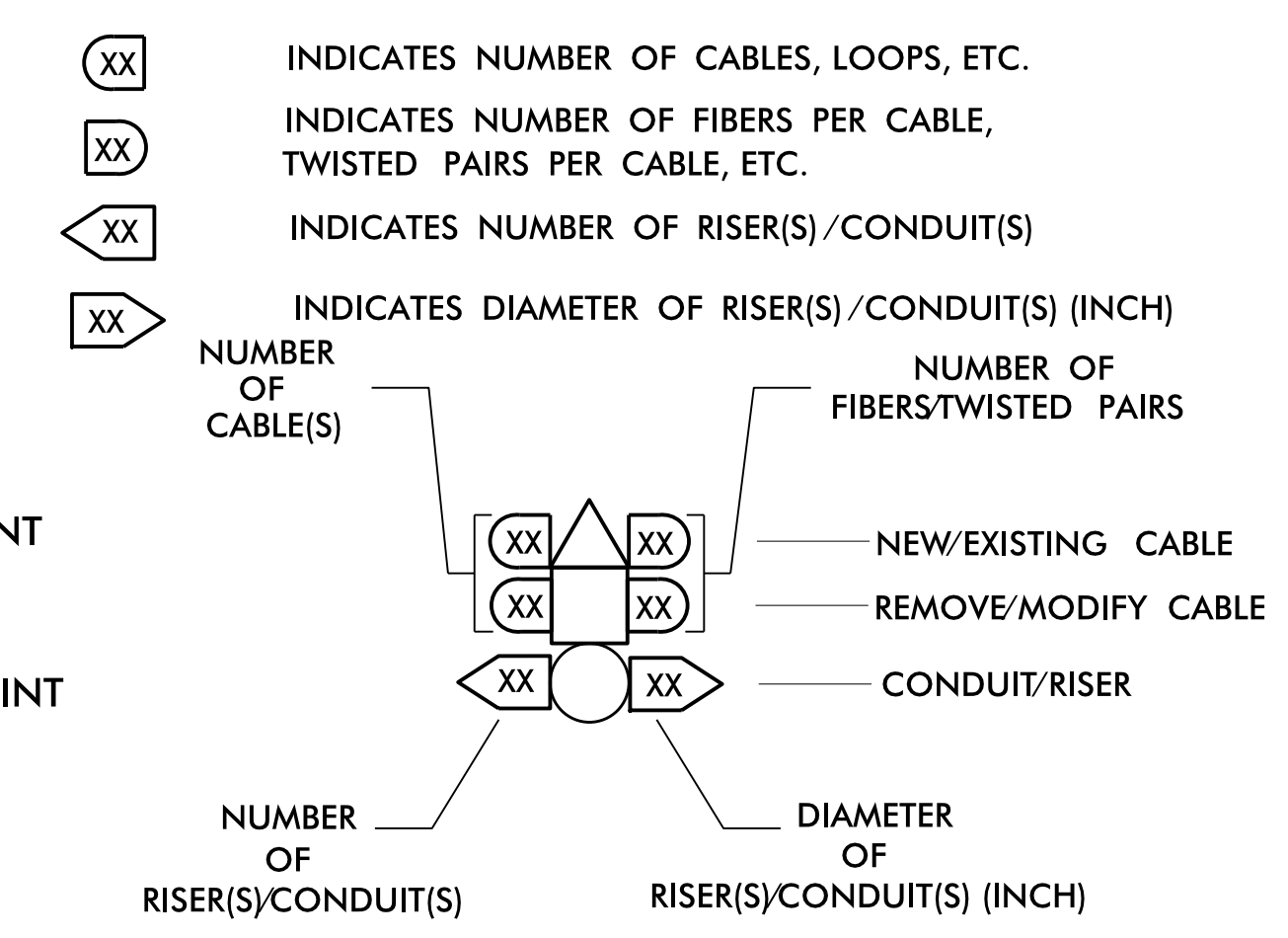
- 34 INSTALL CABINET FOUNDATION
- 35 INSTALL CCTV CAMERA POLE MOUNTED CABINET
- 36 INSTALL CCTV CAMERA ASSEMBLY
- 37 INSTALL CCTV CAMERA WOOD POLE
- 38 INSTALL CCTV CAMERA METAL POLE AND FOUNDATION
- 39 INSTALL JUNCTION BOX
- 40A INSTALL OVERSIZED JUNCTION BOX
- 40B INSTALL SPECIAL OVERSIZED JUNCTION BOX (36" x 24" x 24")
- 41 REMOVE EXISTING JUNCTION BOX
- 42 INSTALL WOOD POLE
- 43 REMOVE EXISTING WOOD POLE
- 44 INSTALL AERIAL GUY ASSEMBLY
- 45 INSTALL STANDARD GUY ASSEMBLY
- 46 INSTALL SIDEWALK GUY ASSEMBLY
- 47 INSTALL MESSENGER CABLE
- 48A REMOVE EXISTING COMMUNICATIONS AND MESSENGER CABLE
- 48B REMOVE EXISTING COMMUNICATIONS CABLE
- 49 BACK PULL EXISTING COMMUNICATIONS CABLE
- 50 INSTALL CELL MODEM AND ANTENNA
- 51 INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
- 52A INSTALL DELINEATOR MARKER
- 52B INSTALL JUNCTION BOX MARKER
- 53A STORE 20 FEET OF COMMUNICATIONS CABLE
- 53B STORE 50 FEET OF EACH COMMUNICATIONS CABLE
- 54 LASH CABLE(S) TO EXISTING COMMUNICATIONS CABLE
- 55 LASH CABLE(S) TO EXISTING MESSENGER CABLE
- 56 LASH CABLE(S) TO NEW MESSENGER CABLE
- 57 MODIFY EXISTING ELECTRICAL SERVICE
- 58 INSTALL NEW ELECTRICAL SERVICE
- 59 INSTALL NEW EQUIPMENT CABINET DISCONNECT
- 60 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
DO NOT BOND TRACER WIRE TO EQUIPMENT GROUND BUS
BOND RISER AND MESSENGER CABLE TO POLE GROUND
- 61 BOND RISER TO POLE GROUND
- 62 BOND MESSENGER CABLE TO POLE GROUND
- 63 BOND MESSENGER CABLE TO POLE GROUND
- 64 INSTALL HEAT SHRINK TUBING RETROFIT KIT
- 65 INSTALL MOLDABLE DUCT SEAL
- 66 SLACK SPAN
- 67 SLACK SPAN

LEGEND

	NEW FIBER OPTIC COMMUNICATIONS CABLE
	EXISTING COMMUNICATIONS CABLE
	EXISTING COMMUNICATIONS CABLE TO BE REMOVED
	NEW AERIAL GUY ASSEMBLY
	NEW CONDUIT
	EXISTING CONDUIT
	NEW DIRECTIONAL DRILLED CONDUIT

NEW		EXISTING
	OVERSIZED JUNCTION BOX	
	WOOD POLE	
	AERIAL SPLICE ENCLOSURE	
	UNDERGROUND SPLICE ENCLOSURE	
	METAL POLE	
	CCTV ASSEMBLY	
	STANDARD GUY ASSEMBLY	
	SIDEWALK GUY ASSEMBLY	
	CABLE STORAGE RACKS (SNOW SHOES)	
	SIGNAL EQUIPMENT CABINET	
	SPLICE CABINET	
	FLAT PANEL ANTENNA (SINGLE)	
	YAGI ANTENNA (DOUBLE) FOR REPEATER OPERATION	
	YAGI ANTENNA (SINGLE)	
	OMNI ANTENNA	
	SIGNAL POLE	
	SIGNAL INVENTORY NUMBER	

CONSTRUCTION NOTE SYMBOLOGY KEY



ATTACHMENT POINT:

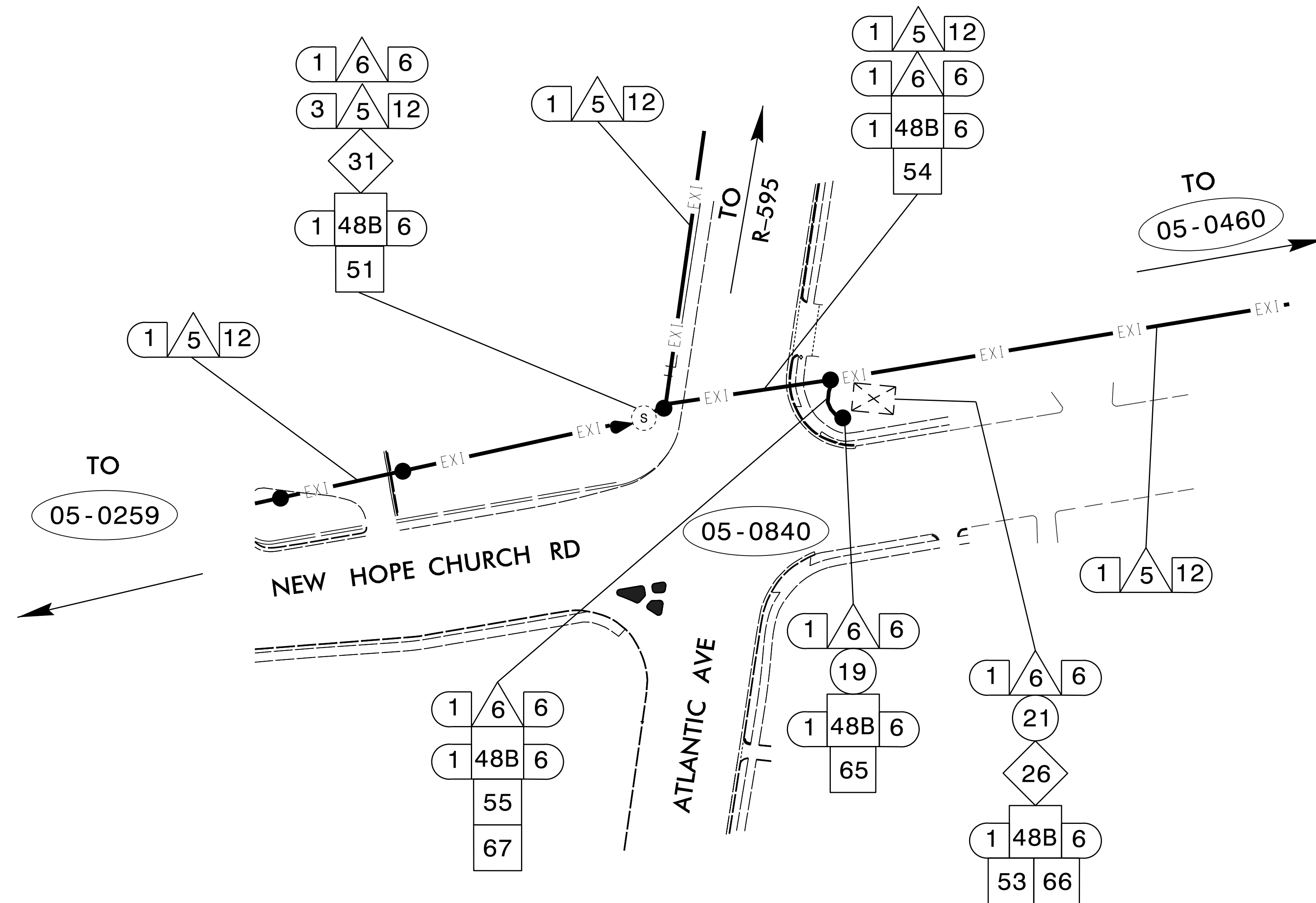
'SS
YYY DISTANCE ABOVE (IN)/ATTACHMENT POINT REFERENCE POINT

'SS REFERENCE POINT DISTANCE BELOW (IN)/ATTACHMENT POINT

"SS" REFERENCE LOCATION
FS = FRONT SIDE OF POLE
BS = BACK SIDE OF POLE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

	CONSTRUCTION NOTES		
	DIVISION 5 WAKE COUNTY PLAN DATE: SEPTEMBER 2023 PREPARED BY: H.T. BERGGREN, EI	DocuSigned by: RALEIGH REVIEWED BY:	
REVISIONS		INIT. DATE	



NOTES:

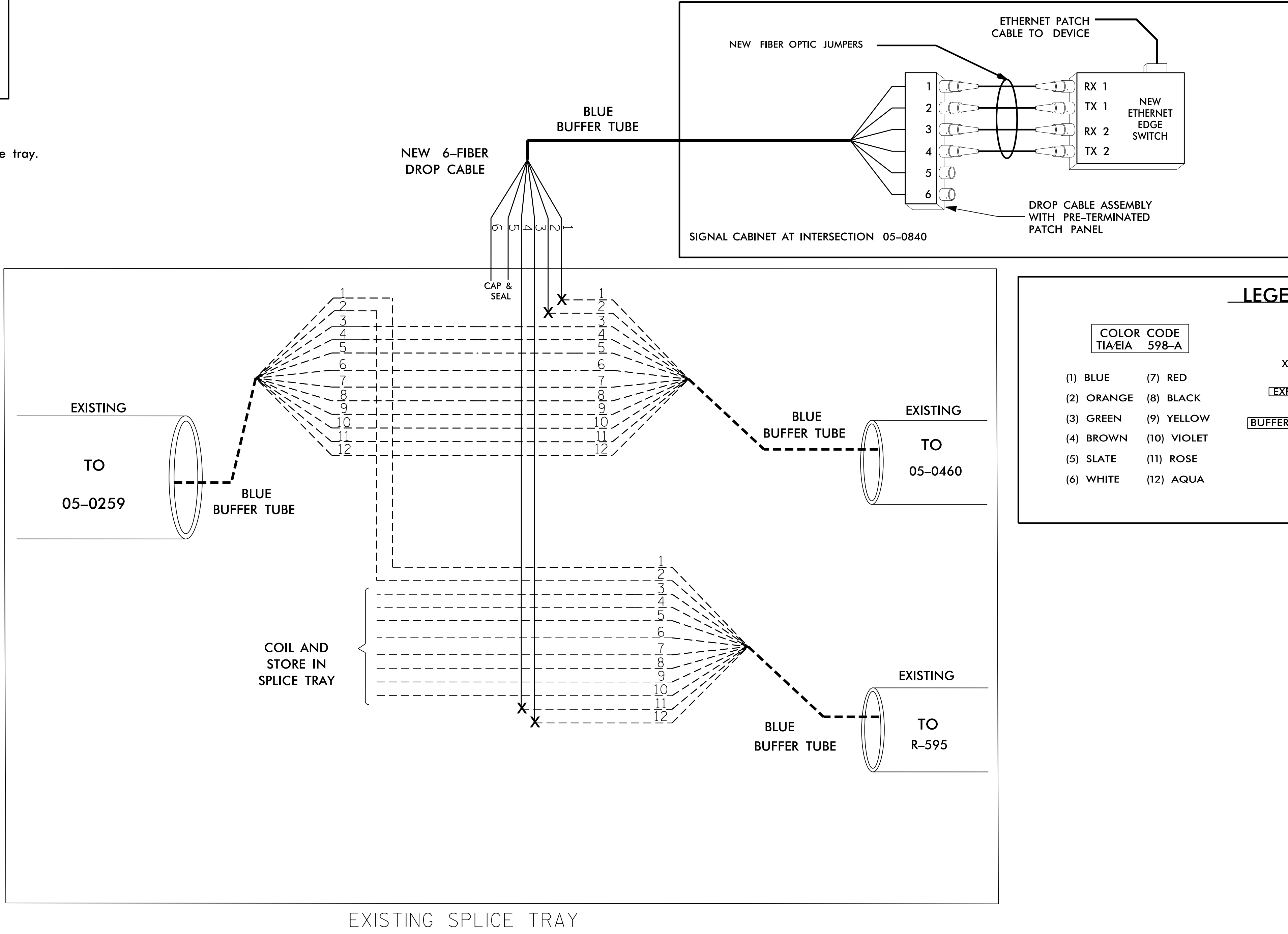
- 1) NOTIFY THE CITY OF RALEIGH TRAFFIC SIGNAL SYSTEM MANAGER AT (919) 996-4046 FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM COMMUNICATIONS CABLE. NOTIFY THE SIGNAL SYSTEM OPERATOR AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. ALL WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.
- 2) CONTRACTOR TO RECORD EXISTING SPLICE ARRANGEMENT FOR COMPARISON TO THE SUPPLIED SPLICE DETAILS. IF DISCREPANCIES EXIST, CONTACT THE ENGINEER TO DETERMINE HOW TO PROCEED WITH RESPLICING. PROVIDE AS-BUILT PLANS TO THE ENGINEER IF FINAL SPLICE ARRANGEMENT DIFFERS FROM THE SUPPLIED SPLICE DETAILS.
- 3) CUT AND DESPLICE EXISTING 6-FIBER DROP CABLE ASSEMBLY AT EXISTING AERIAL SPLICE ENCLOSURE, DELASH FROM THE EXISTING MESSENGER, DISCONNECT FROM THE SIGNAL CABINET AT SIN #05-0840, REMOVE, AND DISCARD.

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

<p>Prepared in the Offices of: 750 N. Greenfield Place, Garner, NC 27529</p>	RALEIGH SIGNAL SYSTEM COMMUNICATIONS CABLE ROUTING POST LET PLANS		
	DIVISION 05 WAKE PLAN DATE: SEPTEMBER 2023 PREPARED BY: H.T. BERGGREN, EIT	DocuSigned by: Alex D. Stewart 99f888e7705af4fa	
	REVISIONS _____ _____ _____	INIT. DATE _____ _____	DocuSigned by: Alex D. Stewart 99f888e7705af4fa 09/13/2023

EXISTING AERIAL SPLICE ENCLOSURE
 NEW HOPE CHURCH RD AND
 ATLANTIC AVE
 SIG. INV. # 05-0840

Notes:
 Unused fibers left coiled and stored in splice tray.
 Unused Buffer Tubes left coiled and stored in splice tray.



LEGEND

COLOR CODE TIA/EIA 598-A	
(1) BLUE	(7) RED
(2) ORANGE	(8) BLACK
(3) GREEN	(9) YELLOW
(4) BROWN	(10) VIOLET
(5) SLATE	(11) ROSE
(6) WHITE	(12) AQUA

X - FUSION SPLICE INDIVIDUAL FIBER

[EXPRESS] - EXPRESS ENTIRE BUFFER TUBE WITHOUT CUTTING

[BUFFER SPLICE] - SPLICE ENTIRE BUFFER TUBE COLOR TO COLOR

- NOTES:
- 1) NOTIFY THE CITY OF RALEIGH TRAFFIC SIGNAL SYSTEM MANAGER AT (919) 996-4046 FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM COMMUNICATIONS CABLE. NOTIFY THE SIGNAL SYSTEM OPERATOR AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. ALL WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.
 - 2) CONTRACTOR TO RECORD EXISTING SPLICE ARRANGEMENT FOR COMPARISON TO THE SUPPLIED SPLICE DETAILS. IF DISCREPANCIES EXIST, CONTACT THE ENGINEER TO DETERMINE HOW TO PROCEED WITH RESPLICING. PROVIDE AS-BUILT PLANS TO THE ENGINEER IF FINAL SPLICE ARRANGEMENT DIFFERS FROM THE SUPPLIED SPLICE DETAILS.
 - 3) ETHERNET EDGE SWITCH TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING \ ENSURING PROPER TERMINATIONS.
 - 4) INCLUDE ON THE COVER OF EACH SPLICE TRAY THE FOLLOWING:
 REFERENCE SECTION 1731 "FIBER OPTIC SPLICE ENCLOSURE"
 1) SPLICE LOCATION
 2) DATE
 3) COMPANY NAME
 4) NAME OF INDIVIDUAL PERFORMING THE SPLICING

PRIOR TO INSTALLING THE COVER ON THE SPLICE TRAY TAKE A DIGITAL PHOTOGRAPH SHOWING THE SPLICE TRAY AND INFORMATION SHOWN ABOVE (1-4) AND SUBMIT PHOTOGRAPH ALONG WITH OTDR TEST RESULTS.

**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**

<p>250 N. Greenfield Pkwy., Garner, NC 27529</p>	RALEIGH SIGNAL SYSTEM SPLICE DETAILS POST LET PLANS		SEAL
	DIVISION 05 WAKE PLAN DATE: SEPTEMBER 2023 PREPARED BY: H.T. BERGGREN, EIT	RALEIGH DocuSigned by: REVIEWED BY: Alex D. Stewart 99f88bef705af4fa	
REVISIONS _____ INIT. DATE			