

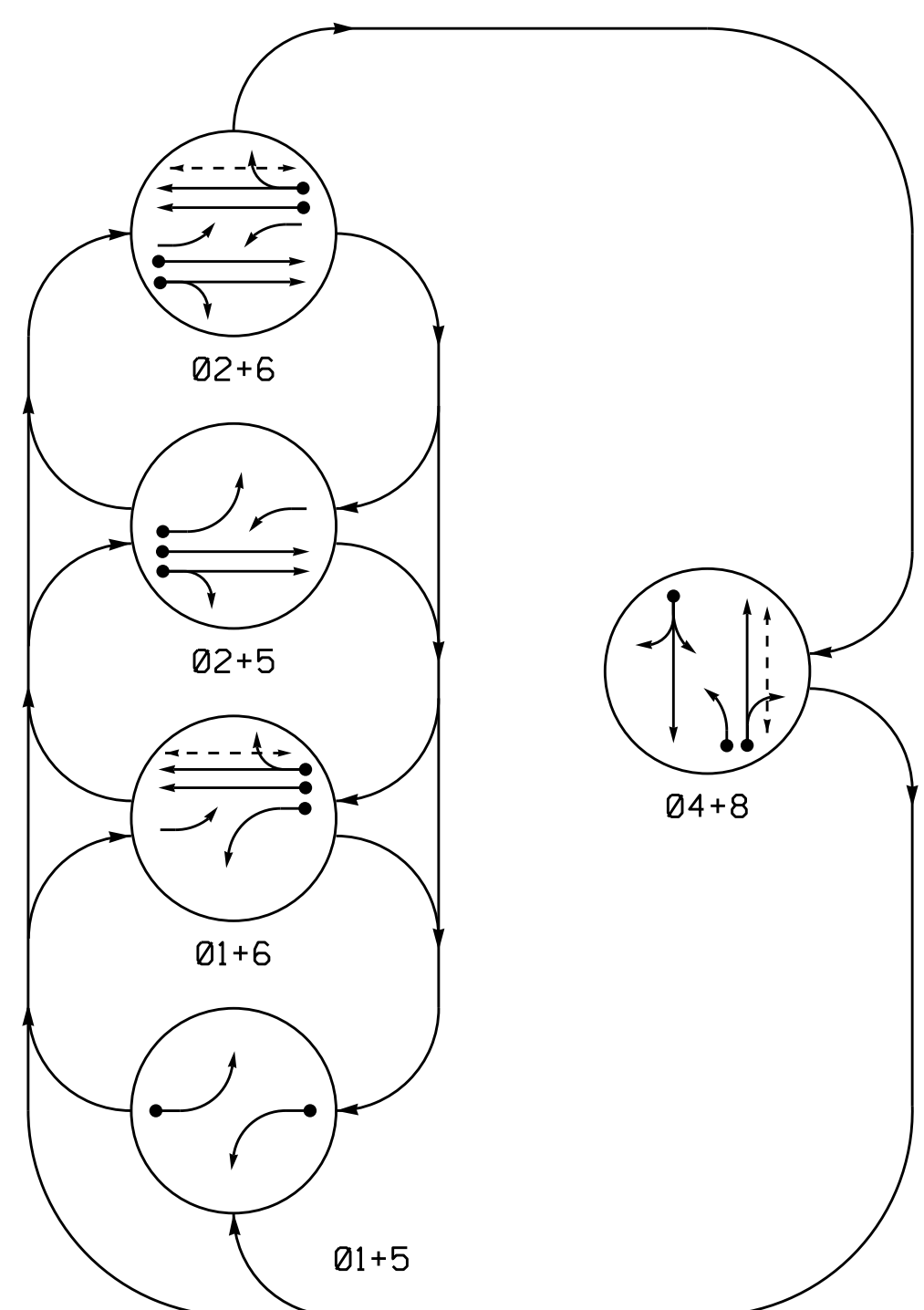
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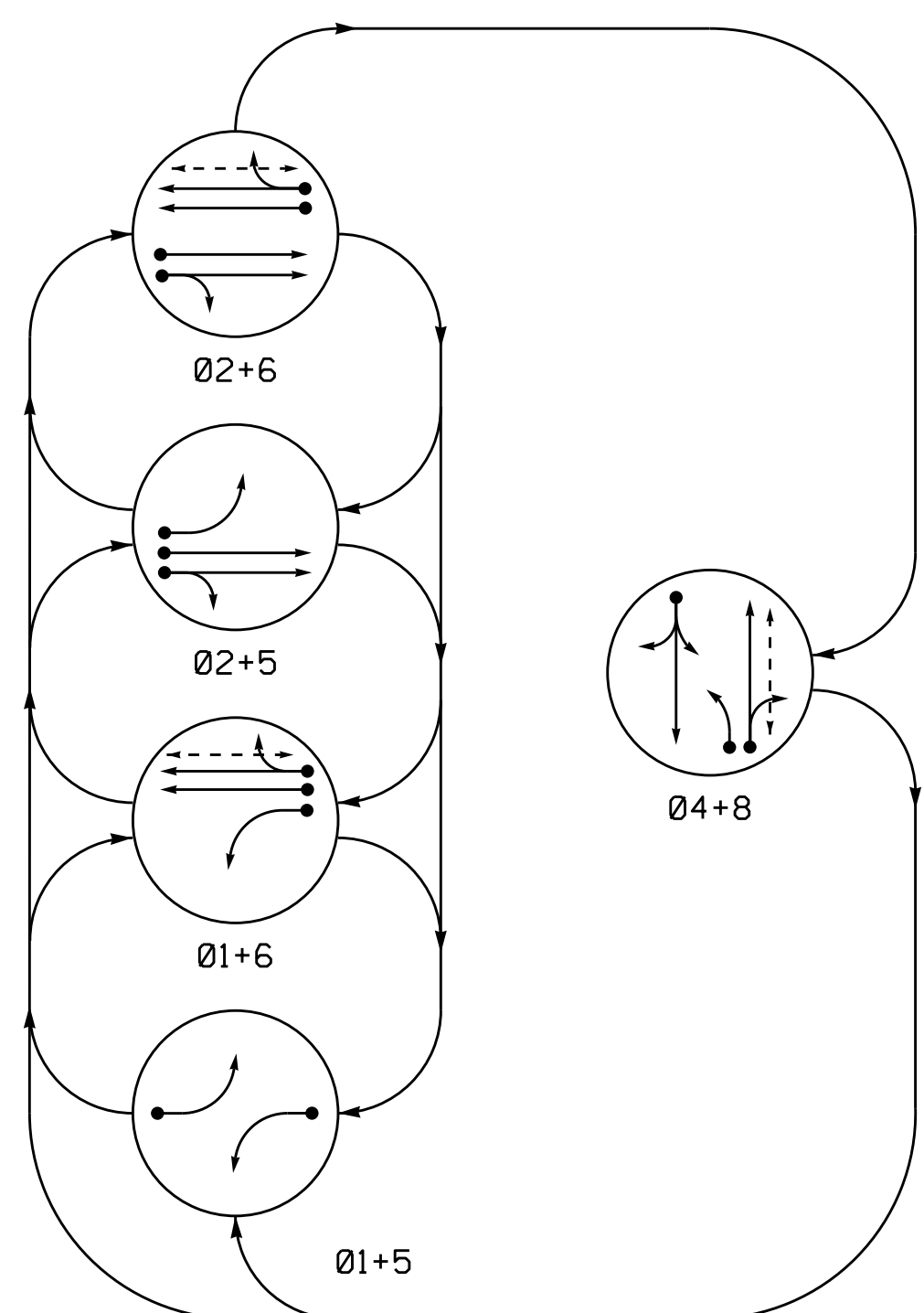
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5 Phase Fully Actuated W/ Emergency Vehicle Preemption (Isolated)

DEFAULT PHASING DIAGRAM



ALTERNATE PHASING DIAGRAM



DEFAULT TABLE OF OPERATION

SIGNAL FACE	PHASE					
	01+5	01+6	02+5	02+6	EVP 3	FLTRK
II	←	←	←	←	←	←
21, 22	R	R	G	G	R	Y
41, 42	R	R	R	R	G	R
51	←	←	←	←	←	←
61, 62	R	G	R	G	R	Y
81, 82	R	R	R	R	G	R
83	←	←	←	←	←	←
P61, P62	DW	W	DW	W	DW	DRK
P81, P82	DW	DW	DW	DW	W	DRK

ALTERNATE TABLE OF OPERATION

SIGNAL FACE	PHASE					
	01+5	01+6	02+5	02+6	EVP 3	FLTRK
II	←	←	←	←	←	←
21, 22	R	R	G	G	R	Y
41, 42	R	R	R	R	G	R
51	←	←	←	←	←	←
61, 62	R	G	R	G	R	Y
81, 82	R	R	R	R	G	R
83	←	←	←	←	←	←
P61, P62	DW	W	DW	W	DW	DRK
P81, P82	DW	DW	DW	W	DW	DRK

OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

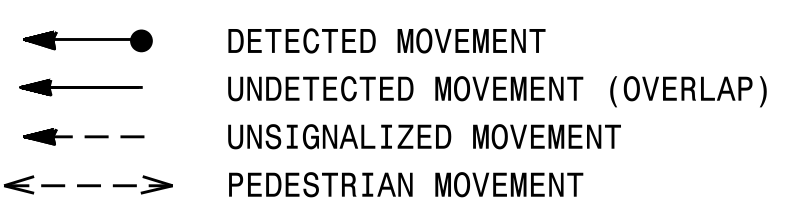
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	DETECTOR PROGRAMMING				SYSTEM LOOP	NEW CARD
					PHASE	CALLING	EXTENSION	FULL TIME DELAY		
1A	6X40	0	2-4-2	-	1	Y	Y	-	15*	-
2A, 2B	6X6	304	EXISTING	-	2	Y	Y	-	1.6	-
2C, 2D	6X6	94	EXISTING	-	2	Y	Y	-	-	-
4A	6X60	+10	2-4-2	-	4	Y	Y	-	10	-
5A	6X40	0	2-4-2	-	5	Y	Y	-	15*	-
6A, 6B	6X6	296	EXISTING	-	6	Y	Y	-	1.6	-
6C, 6D	6X6	86	EXISTING	-	6	Y	Y	-	-	-
8A	6X60	+5	EXISTING	-	8	Y	Y	-	3	-
8B	6X60	+5	EXISTING	-	8	Y	Y	-	10	-

* Disable delay during alternate phasing.
 # Disable phase 2 call for loop 5A, Disable phase 6 call for loop 1A

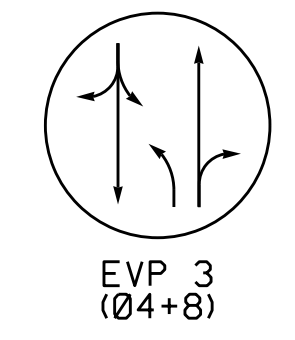
NOTES

- 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.
- In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.
- 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.
- The Division Traffic Engineer will determine the Delay before Preempt and Preempt Dwell Min Green time for the emergency vehicle preemption timing.
- The Division Traffic Engineer will determine the hours of use for each phasing plan.

PHASING DIAGRAM DETECTION LEGEND



EV PREEMPT PHASES (Medium Priority)

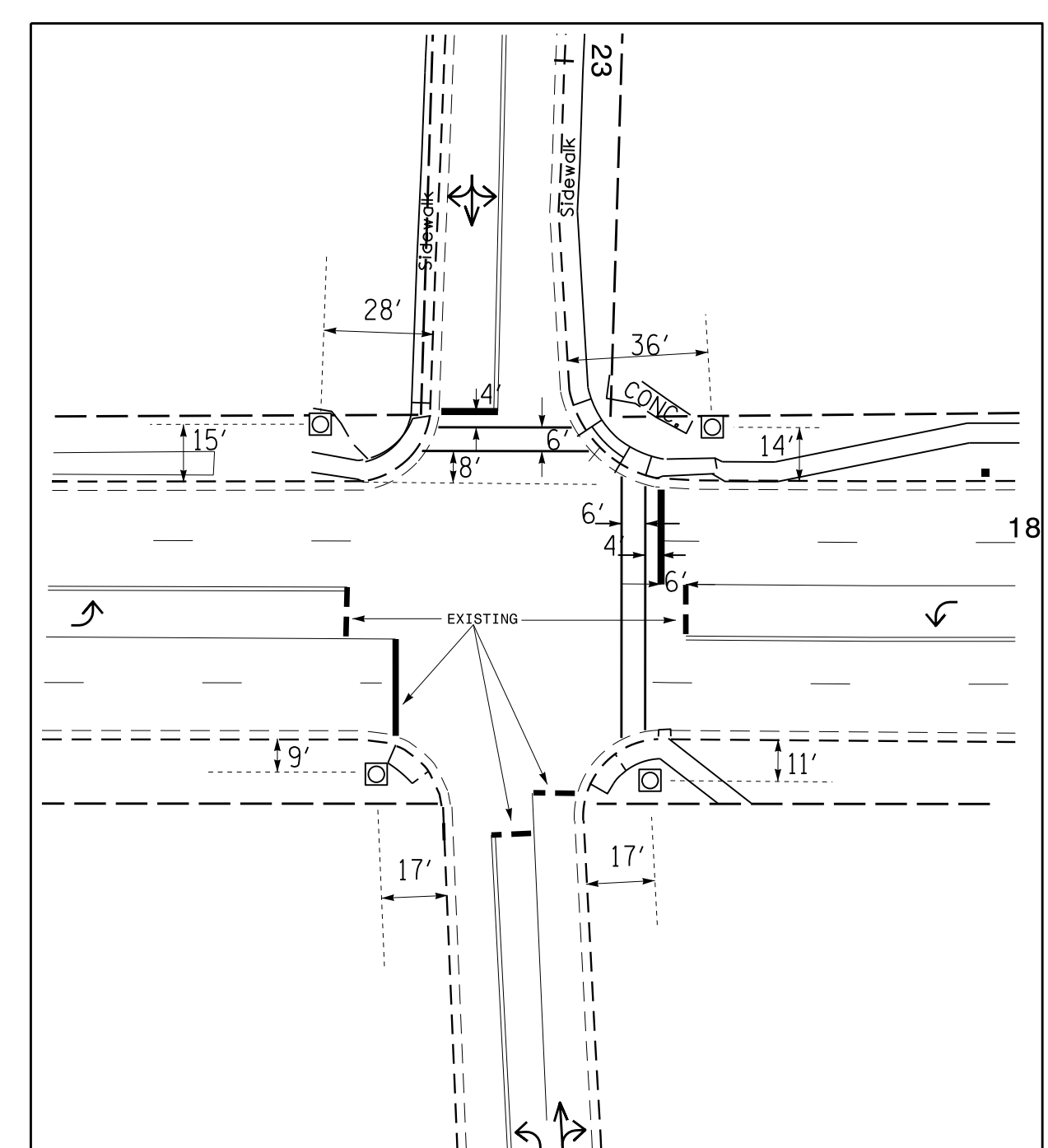
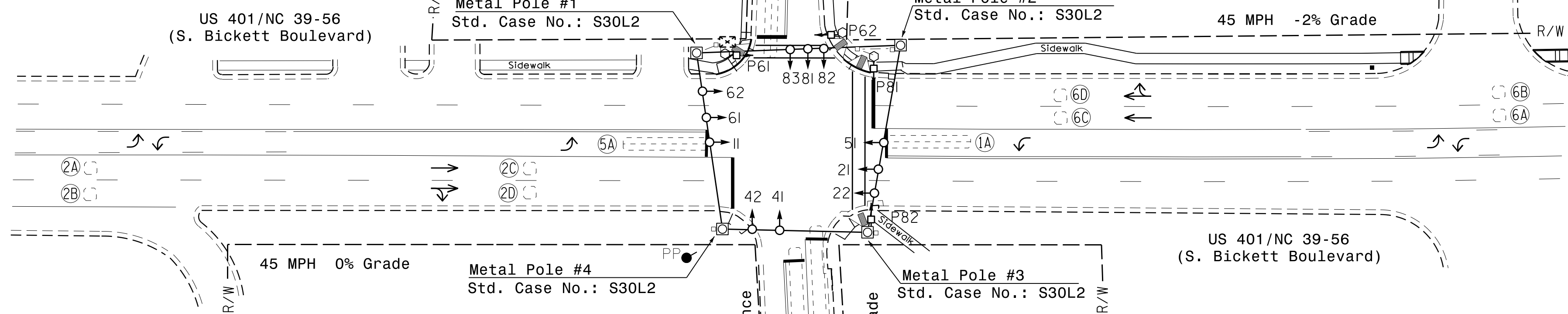
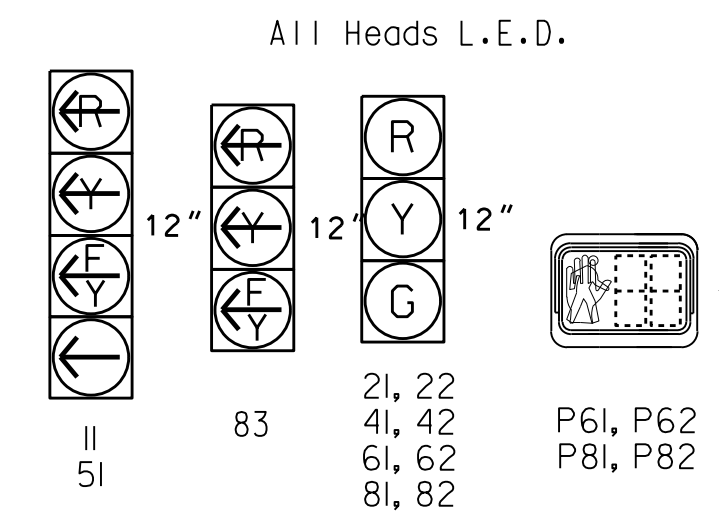


OASIS 2070 TIMING CHART

FEATURE	PHASE					
	1	2	4	5	6	8
Min Green 1*	7	12	7	7	12	7
Extension 1*	2.0	2.0	2.0	2.0	2.0	2.0
Max Green 1*	25	60	40	25	60	40
Yellow Clearance	3.0	4.7	3.9	3.0	4.7	3.9
Red Clearance	2.4	1.0	2.5	2.1	1.0	2.5
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0
Walk 1*	-	-	-	-	7	7
Don't Walk 1	-	-	-	-	6	15
Seconds Per Actuation*	-	-	-	-	-	-
Max Variable Initial*	-	-	-	-	-	-
Time Before Reduction*	-	-	-	-	-	-
Time To Reduce*	-	-	-	-	-	-
Minimum Gap	-	-	-	-	-	-
Recall Mode	-	MIN RECALL	-	-	MIN RECALL	-
Vehicle Call Memory	-	YELLOW	-	-	YELLOW	-
Dual Entry	-	-	ON	-	-	ON
Simultaneous Gap	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 FACE I.D.



Proposed Metal Pole, Crosswalk, and Stopline Locations

OASIS 2070 EV PREEMPT

FUNCTION	PRE 3
Interval 1 - Dwell Green	255
Interval 1 - Dwell Yellow	0.0*
Interval 1 - Dwell Red	0.0*
Interval 5 - Exit Green	1
Interval 5 - Yellow	0.0
Interval 5 - Red	0.0
Exit Phase(s)	2, 6
Priority	MED
Delay Time	**
Min Green Before Pre	1
Ped Clear Before Pre	0
Yellow Clear Before Pre	0.0*
Red Clear Before Pre	0.0*
Dwell Min Time	**
Enable Backup Protection	N
Ped Clear Through Yellow	Y
Omit Overlaps	-

* Time defaults to time used for phase during normal operation
 ** See Note #10

LEGEND



Signal Upgrade

Prepared in the Offices of:
 TRANSPORTATION MOBILITY AND SAFETY DIVISION
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 SIGNAL DESIGN SECTION

US 401/NC 39-56 (Bickett Blvd.) at SR 1270 (Wade Avenue) and Shannon Village Shopping Center
 Division 5 Franklin County, Louisiana

PLAN DATE: June 2017 REVIEWED BY: C.E. Carter
 PREPARED BY: C.E. Carter REVIEWED BY: Ryan W. Hough

750 N. Greenfield Pkwy, Garner, NC 27529

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL: RYAN W. HOUGH, ENGINEER, 036833

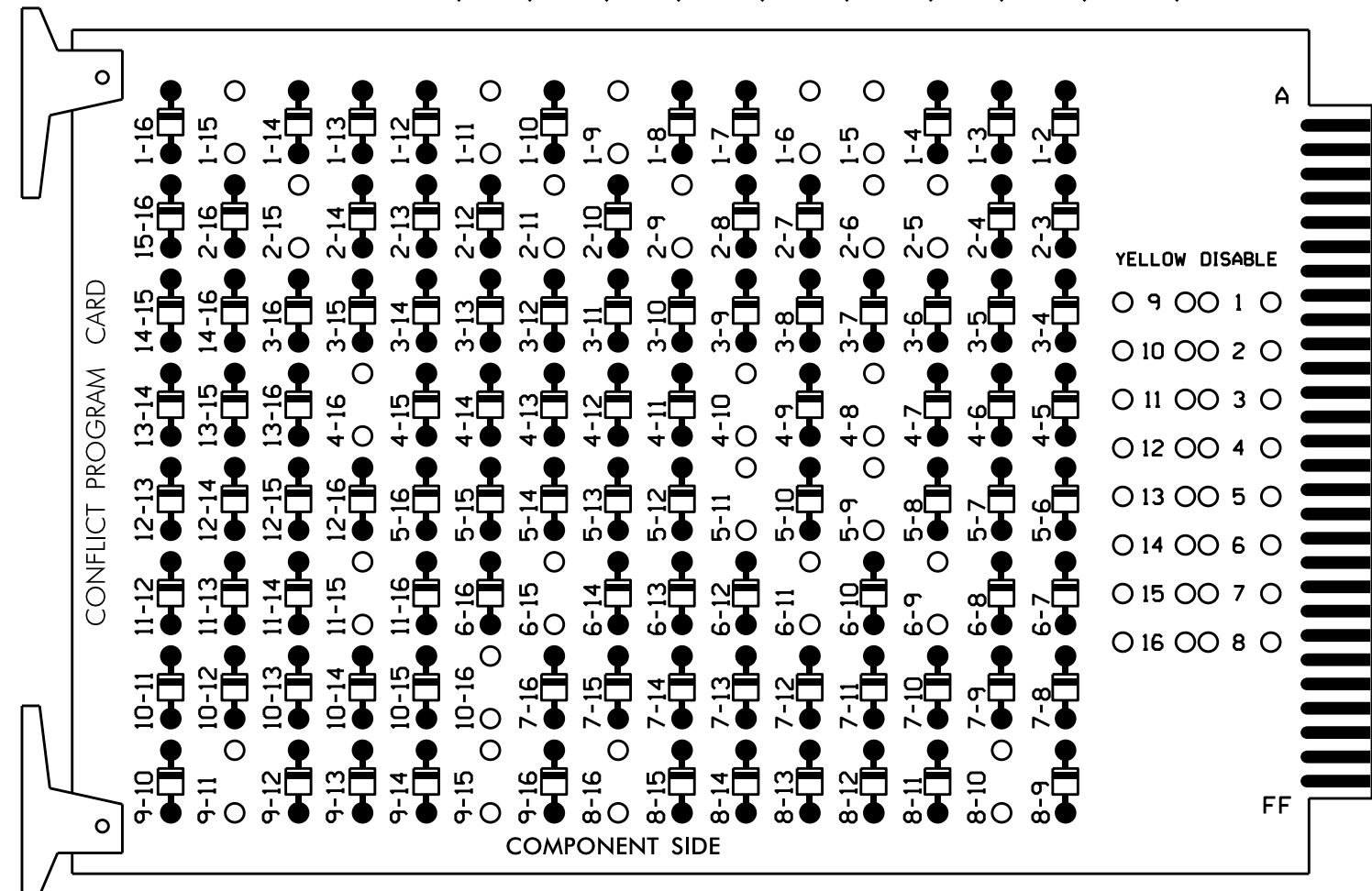
DATE: 7/12/2017

SCALE: 1" = 40'

**EDI MODEL 2010ECL-NC CONFLICT MONITOR
PROGRAMMING DETAIL**

(remove jumpers and set switches as shown)

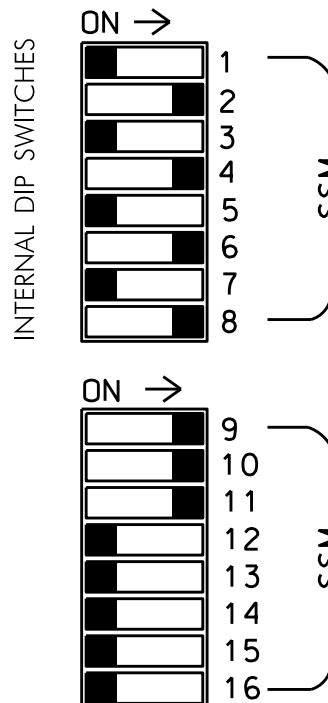
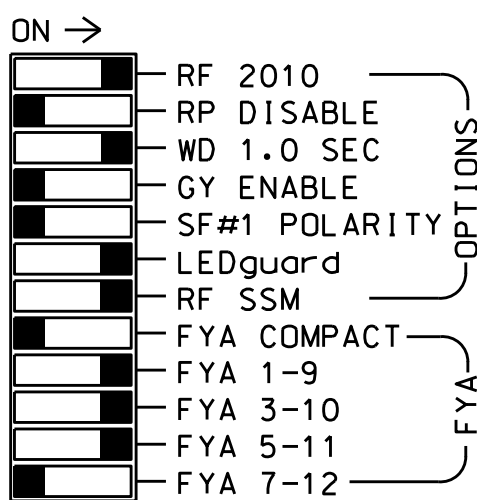
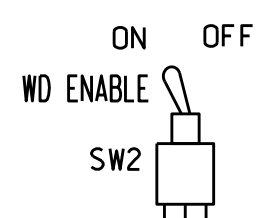
REMOVE DIODE JUMPERS 1-5, 1-6, 1-9, 1-11, 1-15, 2-5, 2-6, 2-9, 2-11, 2-15, 4-8, 4-10, 4-16, 5-9, 5-11, 6-9, 6-11, 6-15, 8-10, 8-16, 9-11, 9-15, 10-16, and 11-15.



REMOVE JUMPERS AS SHOWN

NOTES:

- Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
- Make sure jumpers SEL2-SEL5 are present on the monitor board.



■ = 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.
- Restore controller to factory defaults before programming per this electrical detail.
- Ensure that Red Enable is active at all times during normal operation. To prevent Red Failures on unused monitor channels, tie unused red monitor inputs 1,3, 5,7,12,13,14,15 & 16 to load switch AC+ per the cabinet manufacturer's instructions.
- Program phases 4 and 8 for Dual Entry.
- Enable Simultaneous Gap-Out for all Phases.
- Program phases 2 and 6 for Startup In Green.
- Program phases 6 and 8 for Startup Ped Call.
- Program phases 2 and 6 for Yellow Flash, and overlaps 1 and 2 as Wag Overlaps.

EQUIPMENT INFORMATION

CONTROLLER.....2070
 CABINET.....332 W/ AUX
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....BASE
 OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
 LOAD SWITCHES USED.....S1,S2,S4,S5,S6,S6P,S8,S8P,S9,S10,S12
 PHASES USED.....1,2,4,5,6,6PED,8,8PED
 OVERLAP "A".....1+2
 OVERLAP "B".....4
 OVERLAP "C".....5+6
 OVERLAP "D".....NOT USED

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S2P	S3	S4	S4P	S5	S6	S6P	S7	S8	S8P	S9	S10	S11	S12	S13	S14
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED	OLA	OLB	SPARE	OLC	OLD	SPARE
SIGNAL HEAD NO.	11	21,22	NU	NU	41,42	NU	51	61,62	P61, P62	NU	81,82	P81, P82	11	83	NU	51	NU	NU
RED		128			101			134			107							
YELLOW	*	129			102		*	135			108							
GREEN		130			103			136			109							
RED ARROW															A121	A124		A114
YELLOW ARROW															A122	A125		A115
FLASHING YELLOW ARROW															A123	A126		A116
GREEN ARROW	127							133										
Hand										119			110					
Walking										121			112					

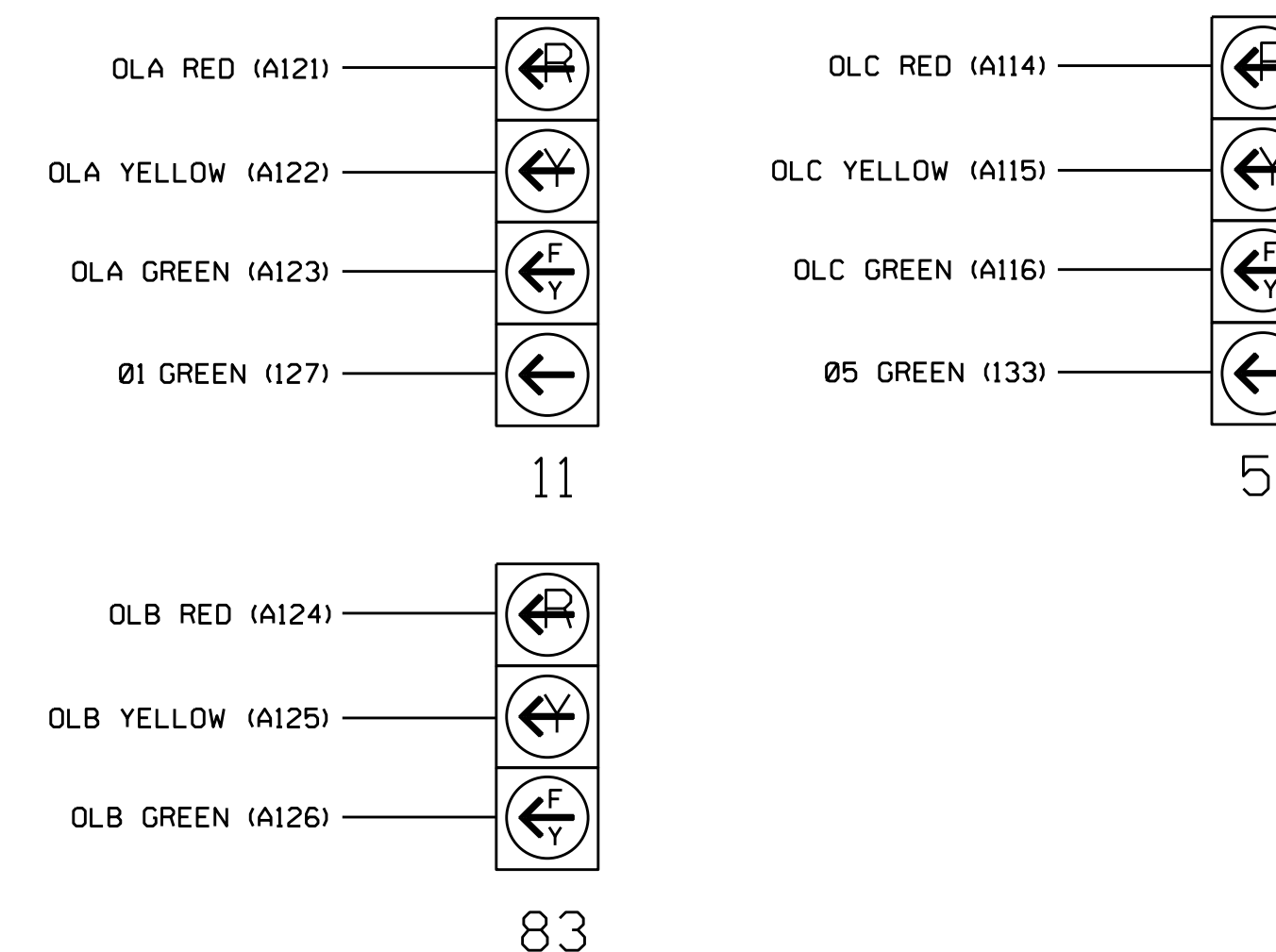
NU = Not Used

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

* See pictorial of head wiring in detail this sheet.

FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)

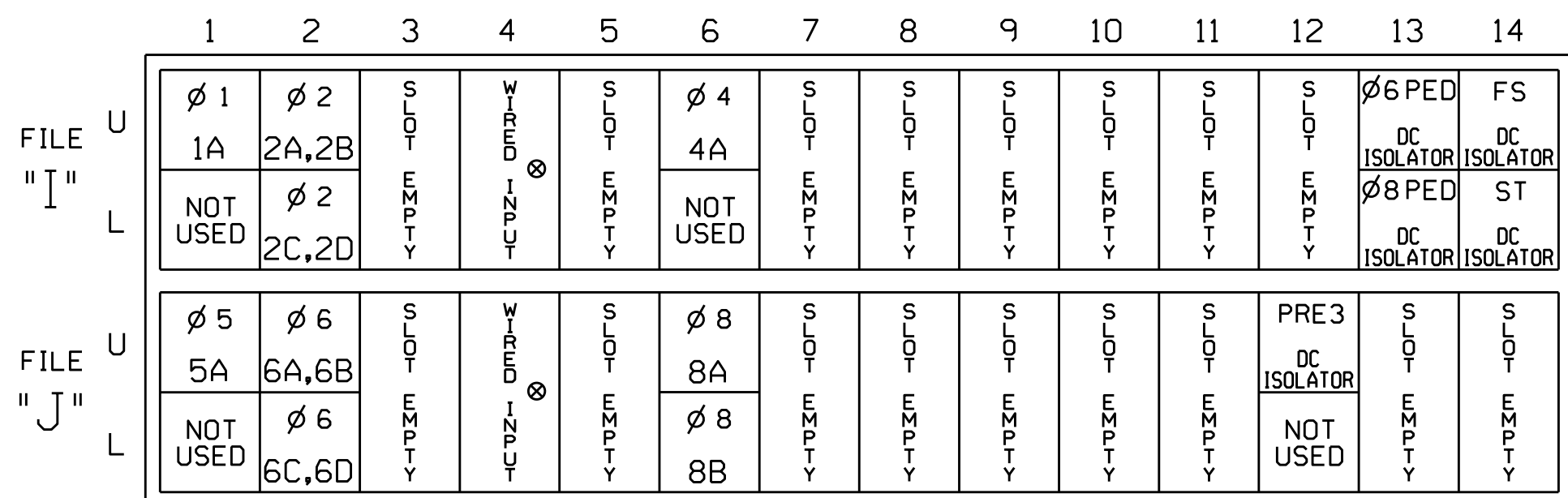


NOTE

The sequence display for signal heads 11 and 51 requires special logic programming. See sheet 2 for programming instructions.

INPUT FILE POSITION LAYOUT

(front view)



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

⊗ Wired Input - Do not populate slot with detector card

FS = FLASH SENSE
 ST = STOP TIME
 PRE3 = FIRE STATION PREEMPT

! Install a DC Isolator in slot J12.

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
1A ¹	TB2-1,2	I1U	56	18	1	1	Y	Y			15
	-	J4U	48	10 ★	26	6	Y	Y			
	-	I1U	56	18 ★	51	1	Y	Y			
	2A,2B	TB2-5,6	I2U	39	1	2	Y	Y		1.6	
5A ²	2C,2D	TB2-7,8	I2L	43	5	12	Y	Y			
	4A	TB4-9,10	I6U	41	3	4	Y	Y			10
	-	J1U	55	17	5	5	Y	Y			15
	-	I4U	47	9 ★	22	2	Y	Y			
PED PUSH BUTTONS	6A,6B	TB3-5,6	J2U	40	2	6	Y	Y		1.6	
	6C,6D	TB3-7,8	J2L	44	6	16	Y	Y			
	8A	TB5-9,10	J6U	42	4	8	Y	Y			3
	8B	TB5-11,12	J6L	46	8	18	Y	Y			10
P61,P62	TB8-7,9	I13U	68	30		PED 6		6 PED			
P81,P82	TB8-8,9	I13L	70	32		PED 8		8 PED			

NOTE:

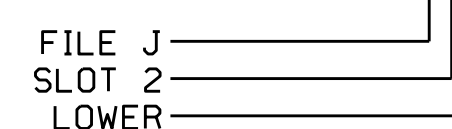
INSTALL DC ISOLATOR IN INPUT FILE SLOT I13.

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

²Add jumper from J1-W to I4-W, on rear of input file.

* See Input Page Assignment programming details on sheets 4 and 5.

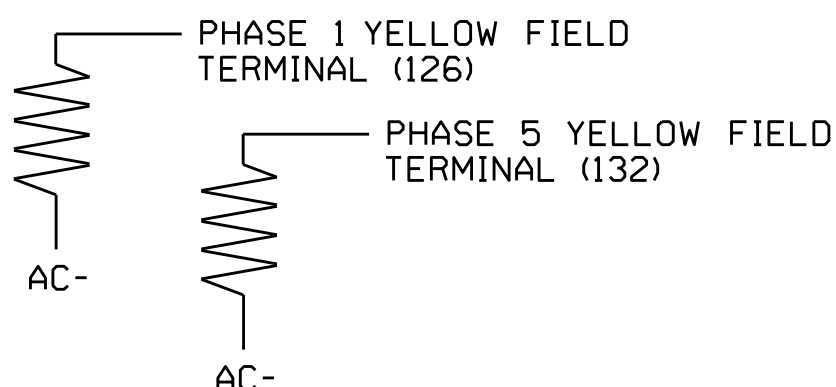
INPUT FILE POSITION LEGEND: J2L



LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown below)

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



IMPORTANT! Move resistors from Red terminal to Yellow terminal for phases 1 and 5.

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 - Sheet 1 of 6

Electrical and Programming Details For: US 401/NC 39-56 (Bickett Blvd.) at SR 1270 (Wade Avenue) and Shannon Village Shopping Center

Division 5 Franklin County Louisburg

PLAN DATE: July 2017 REVIEWED BY:

PREPARED BY: S. Armstrong REVIEWED BY:

REVISIONS INIT. DATE

750 N. Greenfield Pkwy, Garner, NC 27529

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL

SEAL

SEAL

DocuSigned by: Keith M. Mias 7/20/2017

SIG. INVENTORY NO. 05-0756

LOGICAL I/O PROCESSOR PROGRAMMING DETAIL TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE

(program controller as shown below)

- FROM MAIN MENU PRESS '2' (PHASE CONTROL), THEN '1' (PHASE CONTROL FUNCTIONS), SCROLL TO THE BOTTOM OF THE MENU AND ENABLE ACT LOGIC COMMANDS 1, 2, 3, 4, 5 AND 6.
- FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).

LOGICAL I/O COMMAND #1 (+/-COMMAND#)
IF ACTIVE PHASE #1 IS ON
AND RED CLEAR ON PHASE #1 IS ON

↓
SCROLL DOWN

THEN:
SET OUTPUT ASSIGNMENT #50 ON
SET OUTPUT ASSIGNMENT #51 OFF

PRESS '+'

NOTE: LOGIC FOR PHASE 1 RED CLEAR WHEN TRANSITIONING FROM PHASE 1 TO PHASE 2 (HEAD 11).

LOGICAL I/O COMMAND #2 (+/-COMMAND#)
IF ACTIVE PHASE #1 IS ON

↓
SCROLL DOWN

THEN:
SET OUTPUT ASSIGNMENT #52 OFF

PRESS '+'

NOTE: LOGIC FOR SWITCHING FLASHING YELLOW ARROW OFF DURING PHASE 1 (HEAD 11).

LOGICAL I/O COMMAND #3 (+/-COMMAND#)
IF YELLOW ON PHASE #1 IS ON

↓
SCROLL DOWN

THEN:
SET OUTPUT ASSIGNMENT #51 ON

PRESS '+'

NOTE: LOGIC FOR YELLOW ARROW CLEARANCE FROM PHASE 1 (HEAD 11).

LOGICAL I/O COMMAND #4 (+/-COMMAND#)
IF ACTIVE PHASE #5 IS ON
AND RED CLEAR ON PHASE #5 IS ON

↓
SCROLL DOWN

THEN:
SET OUTPUT ASSIGNMENT #42 ON
SET OUTPUT ASSIGNMENT #43 OFF

PRESS '+'

NOTE: LOGIC FOR PHASE 5 RED CLEAR WHEN TRANSITIONING FROM PHASE 5 TO PHASE 6 (HEAD 51).

LOGICAL I/O COMMAND #5 (+/-COMMAND#)
IF ACTIVE PHASE #5 IS ON

↓
SCROLL DOWN

THEN:
SET OUTPUT ASSIGNMENT #44 OFF

PRESS '+'

NOTE: LOGIC FOR SWITCHING FLASHING YELLOW ARROW OFF DURING PHASE 5 (HEAD 51).

LOGICAL I/O COMMAND #6 (+/-COMMAND#)
IF YELLOW ON PHASE #5 IS ON

↓
SCROLL DOWN

THEN:
SET OUTPUT ASSIGNMENT #43 ON

PRESS '+'

NOTE: LOGIC FOR YELLOW ARROW CLEARANCE FROM PHASE 5 (HEAD 51).

LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE	
OUTPUT 42	= Overlap C Red
OUTPUT 43	= Overlap C Yellow
OUTPUT 44	= Overlap C Green
OUTPUT 50	= Overlap A Red
OUTPUT 51	= Overlap A Yellow
OUTPUT 52	= Overlap A Green

OVERLAP PROGRAMMING DETAIL FOR DEFAULT PHASING

(program controller as shown below)

- FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS).

PAGE 1: VEHICLE OVERLAP 'A' SETTINGS
PHASE: 12345678910111213141516
VEH OVL PARENTS: XX
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR: - RED - YELLOW - GREEN
FLASH COLORS: - RED - YELLOW X GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC)...0.0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...0.0

PRESS '+' ONCE

NOTICE GREEN FLASH

PAGE 1: VEHICLE OVERLAP 'B' SETTINGS
PHASE: 12345678910111213141516
VEH OVL PARENTS: X
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR: - RED - YELLOW - GREEN
FLASH COLORS: - RED - YELLOW X GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...N
GREEN EXTENSION (0-255 SEC)...0.0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...0.0

PRESS '+' ONCE

NOTICE GREEN FLASH

PAGE 1: VEHICLE OVERLAP 'C' SETTINGS
PHASE: 12345678910111213141516
VEH OVL PARENTS: XX
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR: - RED - YELLOW - GREEN
FLASH COLORS: - RED - YELLOW X GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC)...0.0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...0.0

PRESS '+' ONCE

NOTICE GREEN FLASH

OVERLAP PROGRAMMING COMPLETE

OVERLAP PROGRAMMING DETAIL FOR ALTERNATE PHASING

(program controller as shown below)

- FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS). PRESS 'NEXT' TO ADVANCE TO PAGE 2.

NOTICE PAGE 2

PAGE 2: VEHICLE OVERLAP 'A' SETTINGS
PHASE: 12345678910111213141516
VEH OVL PARENTS: X
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR: - RED - YELLOW - GREEN
FLASH COLORS: - RED - YELLOW - GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC)...0.0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...0.0

PRESS '+' ONCE

NOTICE PAGE 2

PAGE 2: VEHICLE OVERLAP 'B' SETTINGS
PHASE: 12345678910111213141516
VEH OVL PARENTS: X
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR: - RED - YELLOW - GREEN
FLASH COLORS: - RED - YELLOW X GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...N
GREEN EXTENSION (0-255 SEC)...0.0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...0.0

PRESS '+' ONCE

NOTICE GREEN FLASH

NOTICE PAGE 2

PAGE 2: VEHICLE OVERLAP 'C' SETTINGS
PHASE: 12345678910111213141516
VEH OVL PARENTS: X
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR: - RED - YELLOW - GREEN
FLASH COLORS: - RED - YELLOW - GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC)...0.0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...0.0

PRESS '+' ONCE

OVERLAP PROGRAMMING COMPLETE

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 05-0756
DESIGNED: June 2017
SEALED: 7/12/2017
REVISED: N/A

FLASHER CIRCUIT MODIFICATION DETAIL

IN ORDER TO INSURE 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.

18-JUL-2017 09:38 S:\TSS\JMS\Sigs\Sig101\work\hgr\docus\g_Mph\strmstrng\050756_sml.ele.xxx.dgn s0rmstrng

Electrical Detail - Sheet 2 of 6

US 401/NC 39-56 (Bickett Blvd.)
at
SR 1270 (Wade Avenue) and
Shannon Village Shopping Center

Division 5 Franklin County Louisburg

PLAN DATE: July 2017 REVIEWED BY:
PREPARED BY: S. Armstrong REVIEWED BY:

REVISIONS	INIT.	DATE

750 N. Greenfield Pkwy, Garner, NC 27529

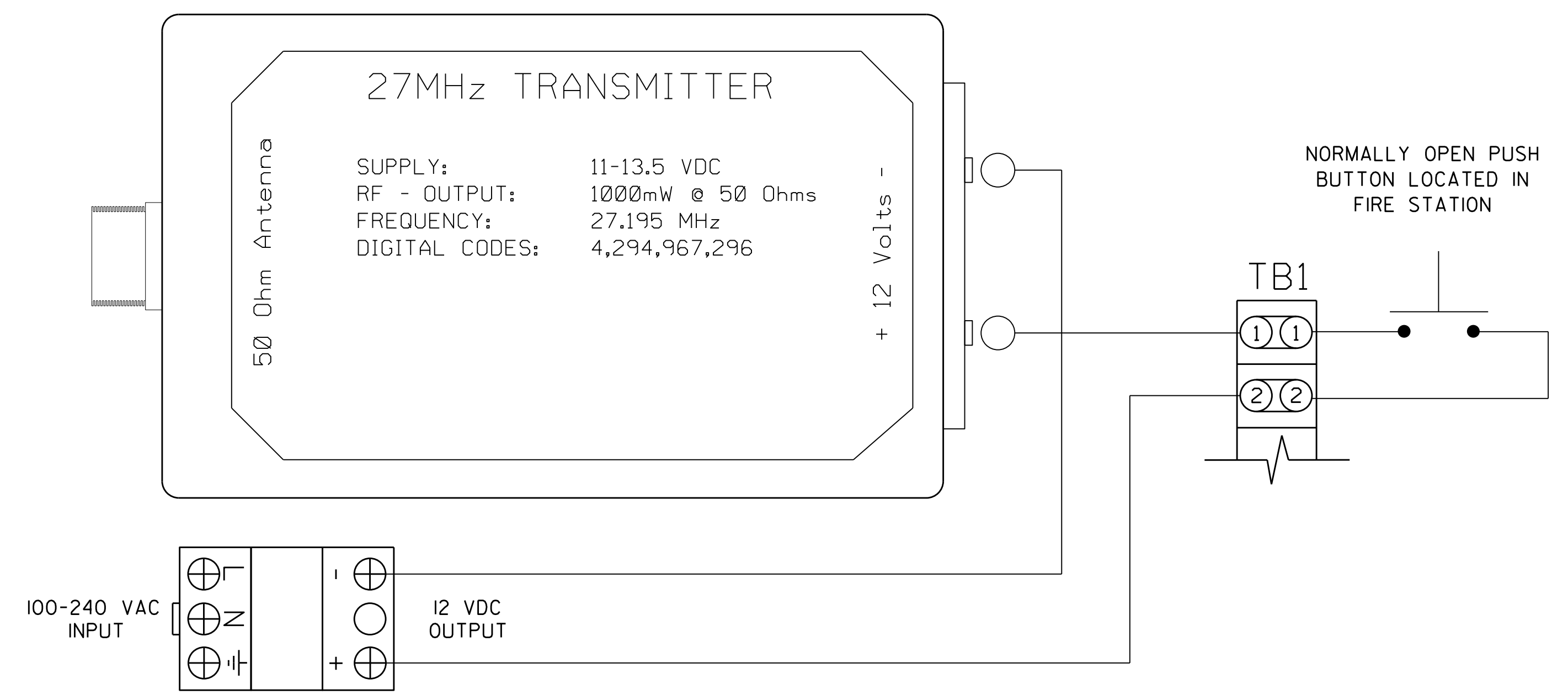
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SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER
KEITH M. MIMS
036880

DocuSigned by:
Keith M. Mims 7/20/2017
2F8079E6CD3445 DATE
SIG. INVENTORY NO. 05-0756

EMERGENCY VEHICLE PREEMPTION REMOTE CONTROL TRANSMITTER WIRING DETAIL

(wire as shown below)



REMOTE CONTROL TECHNOLOGY SRWSS 1 CH 27MHZ TRANSMITTER, PART OF SHORT RANGE WIRELESS SWITCH SYSTEM PART #01245 (MOUNTED IN FIRE STATION)

MOUNT ANTENNA AND TRANSMITTER AT FIRE STATION.

PERFORM INSTALLATION PER MANUFACTURER INSTALLATION MANUAL.

EMERGENCY VEHICLE PREEMPTION PROGRAMMING DETAIL

(program controller as shown below)

From Main Menu press 'A' (Preemption), then '1' (Standard Preemptions). Press 'NEXT' twice to advance to Preemption #3.

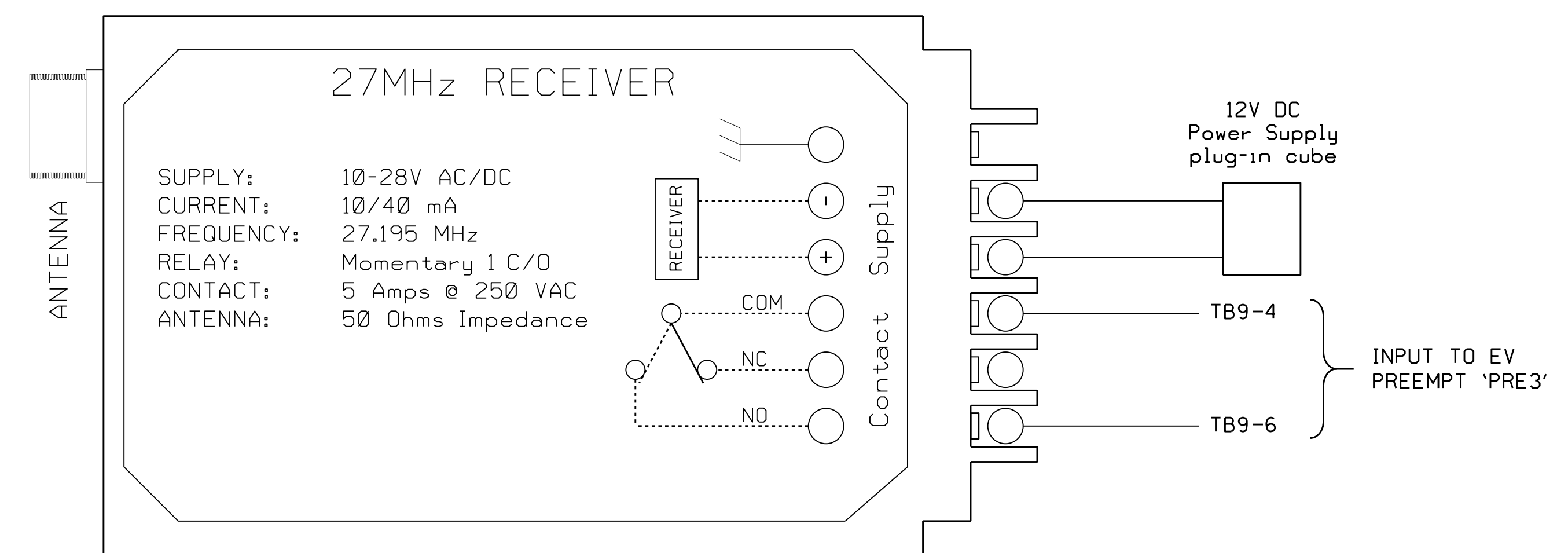
PREEMPTION #3	SETTINGS (NEXT:1-10)
INTERVAL/TIMING	CLEAR/DWELL PHASES
GRN YEL RED	12345678910111213141516
1 255 0.0 0.0	X X
2 0 0.0 0.0	
3 0 0.0 0.0	
4 0 0.0 0.0	
5 1 0.0 0.0	X X
EXIT CALLS	
OPTIONS	
PRIORITY (Y/N TO SELECT)MED
DELAY TIMER (0-255 SEC)*
MIN GREEN BEFORE PRE (0= DEFAULT)	...1
PED CLEAR BEFORE PRE (0= DEFAULT)	...0
YELLOW CLEAR BEFORE PRE (0= DEFAULT)	...0.0
RED CLEAR BEFORE PRE (0= DEFAULT)	...0.0
DWELL MIN TIMER (0-255 SEC)*
DWELL MAX TIMER (0=OFF,1-255MIN)	...0
DWELL HOLD-OVER TIMER (0-255)	...0
LATCH CALL?Y
LINK TO NEXT PREEMPT?N
ENABLE BACKUP PROTECTION?N
HOLD CLEAR 1 PHASES DURING DELAY?	...N
FAST GREEN FLASH DWELL PHASES?N
PED CLEARANCE THROUGH YELLOW?Y
INHIBIT OVERLAP GREEN EXTENSION?	...N
SERVICE DURING SOFTWARE FLASH?	...N
REST IN RED DURING DWELL INTERVAL?	..N
FLASH DWELL INTERVAL?N
ALLOW PEDS IN DWELL INTERVAL?N
RE-TIME DWELL INTERVAL?Y
OVERLAPS:	ABCDEFGHIJKLMNPO
DWELL INT FLASH YELLOW	
OMIT OVERLAPS:	

* Denotes timing to be determined in field.

EMERGENCY VEHICLE PREEMPTION REMOTE CONTROL RECEIVER WIRING DETAIL

(wire as shown below)

NOTE: INSTALL DC ISOLATOR IN INPUT SLOT 'J12' (SEE 'INPUT FILE POSITION LAYOUT' ON SHEET 1).



REMOTE CONTROL TECHNOLOGY SRWSS 1 CH 27MHZ RECEIVER, PART OF SHORT RANGE WIRELESS SWITCH SYSTEM PART #01245 (MOUNTED IN CONTROLLER CABINET)

MOUNT ANTENNA AND RECEIVER AT SIGNAL CABINET.

PERFORM INSTALLATION PER MANUFACTURER INSTALLATION MANUAL.

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 05-0756
 DESIGNED: June 2017
 SEALED: 7/12/2017
 REVISED: N/A

Electrical Detail - Sheet 3 of 6

Prepared In the Offices of:

 750 N. Greenfield Pkwy, Garner, NC 27529

US 401/NC 39-56 (Bickett Blvd.) at SR 1270 (Wade Avenue) and Shannon Village Shopping Center
 Division 5 Franklin County Louisburg

PLAN DATE: July 2017 REVIEWED BY:
 PREPARED BY: S. Armstrong REVIEWED BY:

REVISIONS	INIT.	DATE

DocuSigned by:
 Keith M. Mims 7/20/2017
 2F8078E8C03445 DATE

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SEAL

 KEITH M. MIMS
 ENGINEER

SIG. INVENTORY NO. 05-0756

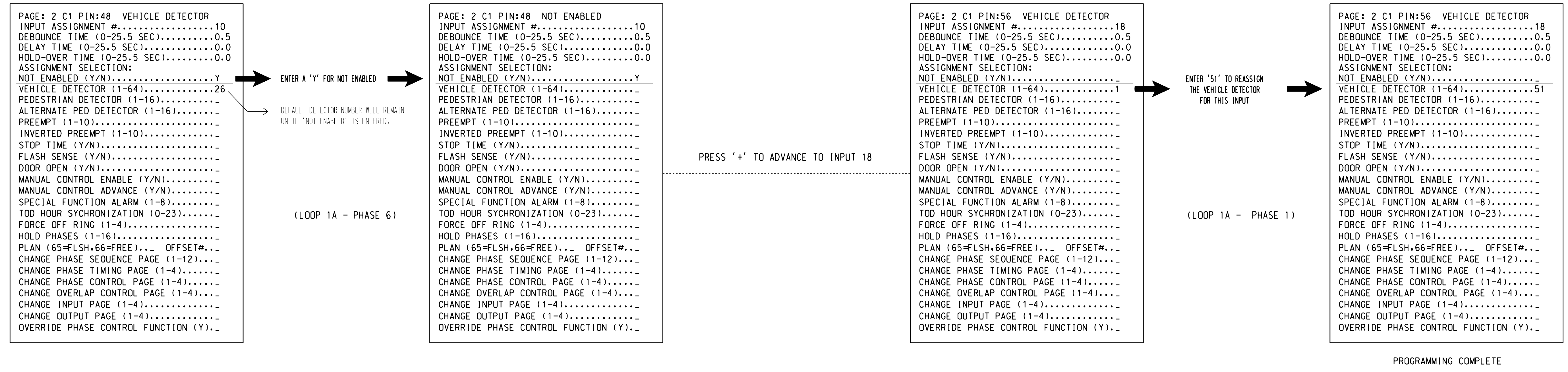
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INPUT PAGE 2 ASSIGNMENT PROGRAMMING DETAIL FOR ALTERNATE PHASING - LOOP 1A

(program controller as shown below)

- NOTES: 1. THIS PROGRAMMING APPLIES FOR INPUT PAGE 2 ONLY. INPUT PAGE 1 WILL USE STANDARD DEFAULT SETTINGS. THIS PROGRAMMING IS NECESSARY FOR PROPER DETECTOR OPERATION DURING ALTERNATE PHASING OPERATION.
2. THE FIRST TASK THIS PROGRAMMING ACCOMPLISHES IS THE DISABLING OF INPUT #10 (DETECTOR 26) SO THAT A VEHICLE CALL WILL NOT BE PLACED TO PHASE 6 DURING ALTERNATE PHASING OPERATION. THE SECOND TASK THIS PROGRAMMING ACCOMPLISHES IS THAT IT REASSIGNS DETECTOR 51 TO INPUT #18 SO THAT THE DELAY ON LOOP 1A CAN BE REDUCED FROM 15 SECONDS TO 0 SECONDS.

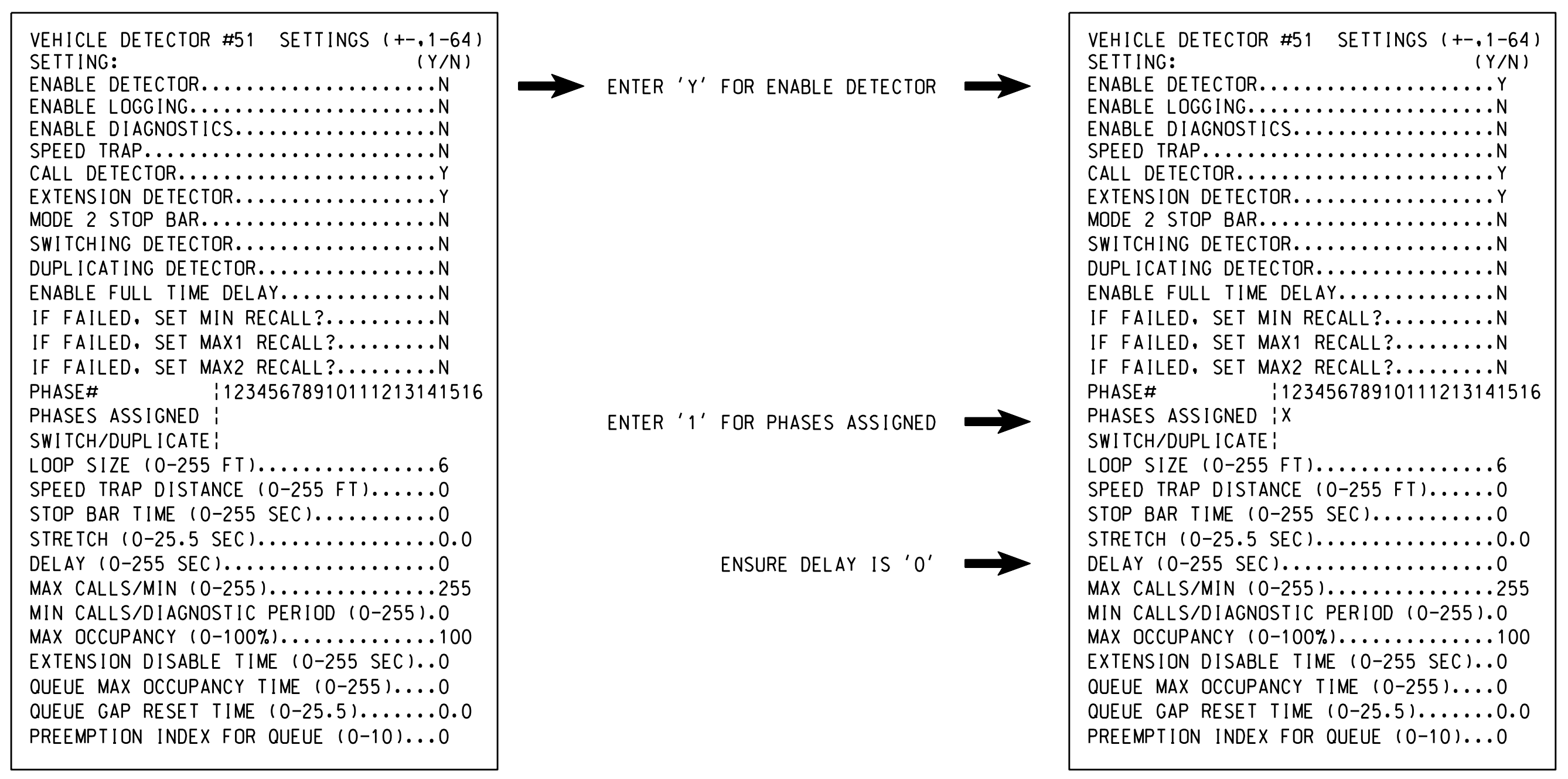
FROM MAIN MENU PRESS '5' (INPUTS), THEN PRESS 'NEXT' TO GET TO INPUT PAGE '2'. PRESS THE '+' KEY UNTIL INPUT 10 IS REACHED.



SPECIAL DETECTOR PROGRAMMING DETAIL - LOOP 1A (ALT.)

(program controller as shown below)

FROM MAIN MENU PRESS '7' (DETECTORS), THEN PRESS '1' FOR VEHICLE DETECTORS. PRESS THE '-' KEY TO GET TO VEHICLE DETECTOR #51.



NOTE: DETECTOR IS PROGRAMMED PER THE INPUT FILE CONNECTION AND PROGRAMMING CHART SHOWN ON SHEET 1.

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 05-0756
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Electrical Detail - Sheet 4 of 6

US 401/NC 39-56 (Bickett Blvd.) at SR 1270 (Wade Avenue) and Shannon Village Shopping Center

Division 5 Franklin County Louisburg

PLAN DATE: July 2017 REVIEWED BY: [Signature]

PREPARED BY: S. Armstrong REVIEWED BY: [Signature]

REVISIONS: [Table with columns for REVISIONS, INIT., DATE]

750 N. Greenfield Pkwy, Garner, NC 27529

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SIG. INVENTORY NO. 05-0756

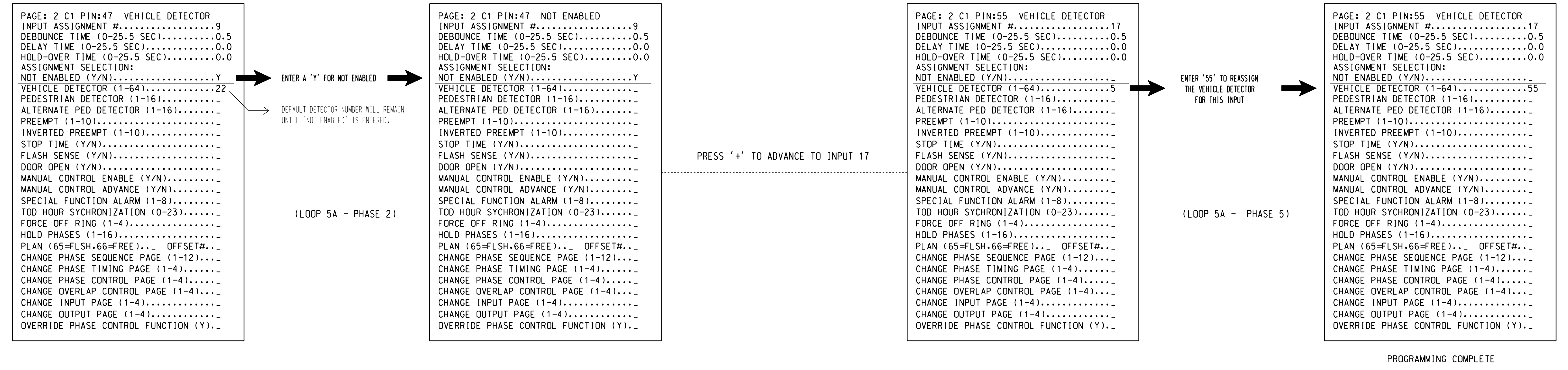
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INPUT PAGE 2 ASSIGNMENT PROGRAMMING DETAIL FOR ALTERNATE PHASING - LOOP 5A

(program controller as shown below)

- NOTES: 1. THIS PROGRAMMING APPLIES FOR INPUT PAGE 2 ONLY. INPUT PAGE 1 WILL USE STANDARD DEFAULT SETTINGS. THIS PROGRAMMING IS NECESSARY FOR PROPER DETECTOR OPERATION DURING ALTERNATE PHASING OPERATION.
2. THE FIRST TASK THIS PROGRAMMING ACCOMPLISHES IS THE DISABLING OF INPUT #9 (DETECTOR 22) SO THAT A VEHICLE CALL WILL NOT BE PLACED TO PHASE 2 DURING ALTERNATE PHASING OPERATION. THE SECOND TASK THIS PROGRAMMING ACCOMPLISHES IS THAT IT REASSIGNS DETECTOR 55 TO INPUT #17 SO THAT THE DELAY ON LOOP 5A CAN BE REDUCED FROM 15 SECONDS TO 0 SECONDS.

FROM MAIN MENU PRESS '5' (INPUTS), THEN PRESS 'NEXT' TO GET TO INPUT PAGE '2'. PRESS THE '+' KEY UNTIL INPUT 9 IS REACHED.

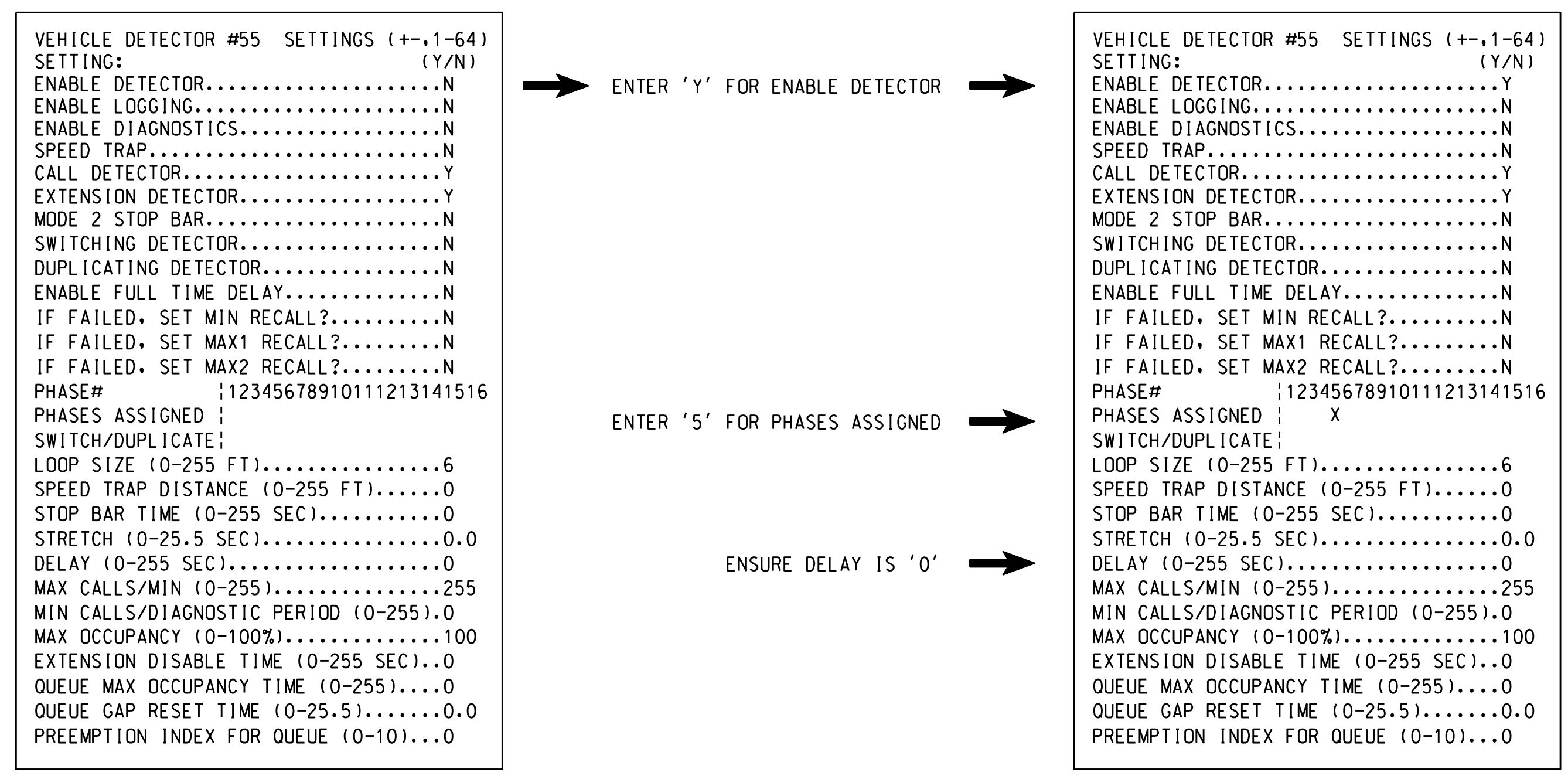


PROGRAMMING COMPLETE

SPECIAL DETECTOR PROGRAMMING DETAIL - LOOP 5A (ALT.)

(program controller as shown below)

FROM MAIN MENU PRESS '7' (DETECTORS), THEN PRESS '1' FOR VEHICLE DETECTORS. PRESS THE '-' KEY TO GET TO VEHICLE DETECTOR #55.



DETECTOR PROGRAMMING COMPLETE

NOTE: DETECTOR IS PROGRAMMED PER THE INPUT FILE CONNECTION AND PROGRAMMING CHART SHOWN ON SHEET 1.

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 DESIGNED: June 2017
 SEALED: 7/12/2017
 REVISED: N/A

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Electrical Detail - Sheet 5 of 6

US 401/NC 39-56 (Bickett Blvd.) at SR 1270 (Wade Avenue) and Shannon Village Shopping Center

Division 5 Franklin County Louisburg

PLAN DATE: July 2017 REVIEWED BY: [Signature]

PREPARED BY: S. Armstrong REVIEWED BY: [Signature]

REVISIONS: [Table with columns for REVISIONS, INIT., DATE]

750 N. Greenfield Pkwy, Garner, NC 27529

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SEAL: KEITH M. MINIS, PROFESSIONAL ENGINEER, 036880

DocuSigned by: Keith M. Minis 7/20/2017

SIG. INVENTORY NO. 05-0756

ALTERNATE PHASING ACTIVATION DETAIL

TO RUN ALT. PHASING DURING COORDINATION - SELECT ALL PAGE CHANGES (AS SHOWN BELOW) WITHIN COORDINATION PLAN PROGRAMMING.

TO RUN ALT. PHASING DURING FREE RUN - PROGRAM PAGE CHANGES (SHOWN BELOW) IN SEPARATE TIME OF DAY EVENTS. IF PAGE 1 IS USED, NO EVENT PROGRAMMING IS NECESSARY FOR THAT PARTICULAR PAGE.

<u>PHASING</u>	<u>INPUTS PAGE</u>	<u>OVERLAPS PAGE</u>
ACTIVE PAGES REQUIRED TO RUN <u>DEFAULT PHASING</u>	1	1
ACTIVE PAGES REQUIRED TO RUN <u>ALTERNATE PHASING</u>	2	2

NOTE: PAGES NOT SHOWN (i.e. sequence, phase control, etc.) SHOULD REMAIN AS '1', OR AS DEFINED BY TIMING ENGINEER.

IMPORTANT: IF ALT. PHASING IS USED DURING FREE RUN AND COORDINATION, DO NOT OPERATE TIME OF DAY PAGE CHANGE EVENTS CONCURRENTLY WITH COORDINATION PLAN EVENTS IN THE EVENT SCHEDULER. (EX. FREE RUN PAGE CHANGE EVENT SHOULD END BEFORE COORDINATION PLAN EVENT STARTS AND VICE-VERSA).

ALTERNATE PHASING PAGE CHANGE SUMMARY

THE FOLLOWING IS A SUMMARY OF WHAT TAKES PLACE WHEN THESE OVERLAP/INPUT PAGE CHANGES ACTIVATE TO CALL THE "ALTERNATE PHASING":

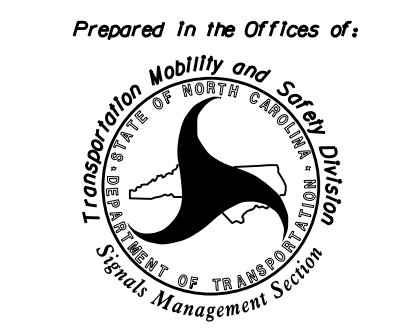
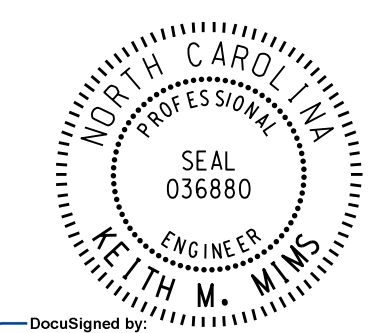
OVERLAPS PAGE 2: Modifies overlap parent phases for heads 11 and 51 to run protected turns only.

INPUTS PAGE 2: Disables phase 6 call on loop 1A and reduces delay time for phase 1 call on loop 1A to 0 seconds.

Disables phase 2 call on loop 5A and reduces delay time for phase 5 call on loop 5A to 0 seconds.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 05-0756
DESIGNED: June 2017
SEALED: 7/12/2017
REVISED: N/A

Electrical Detail - Sheet 6 of 6

<p>ELECTRICAL AND PROGRAMMING DETAILS FOR:</p> <p>Prepared In the Offices of:</p>  <p>750 N. Greenfield Pkwy, Garner, NC 27529</p>	<p>US 401/NC 39-56 (Bickett Blvd.) at SR 1270 (Wade Avenue) and Shannon Village Shopping Center</p> <p>Division 5 Franklin County Louisburg</p> <p>PLAN DATE: July 2017 REVIEWED BY:</p> <p>PREPARED BY: S. Armstrong REVIEWED BY:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REVISIONS</th> <th>INIT.</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REVISIONS	INIT.	DATE							<p style="text-align: center;">DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p> <p style="text-align: center;">SEAL</p>  <p>DocuSigned by: Keith M. Mins 7/20/2017 2690786EBCD3445 DATE</p> <p>SIG. INVENTORY NO. 05-0756</p>
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