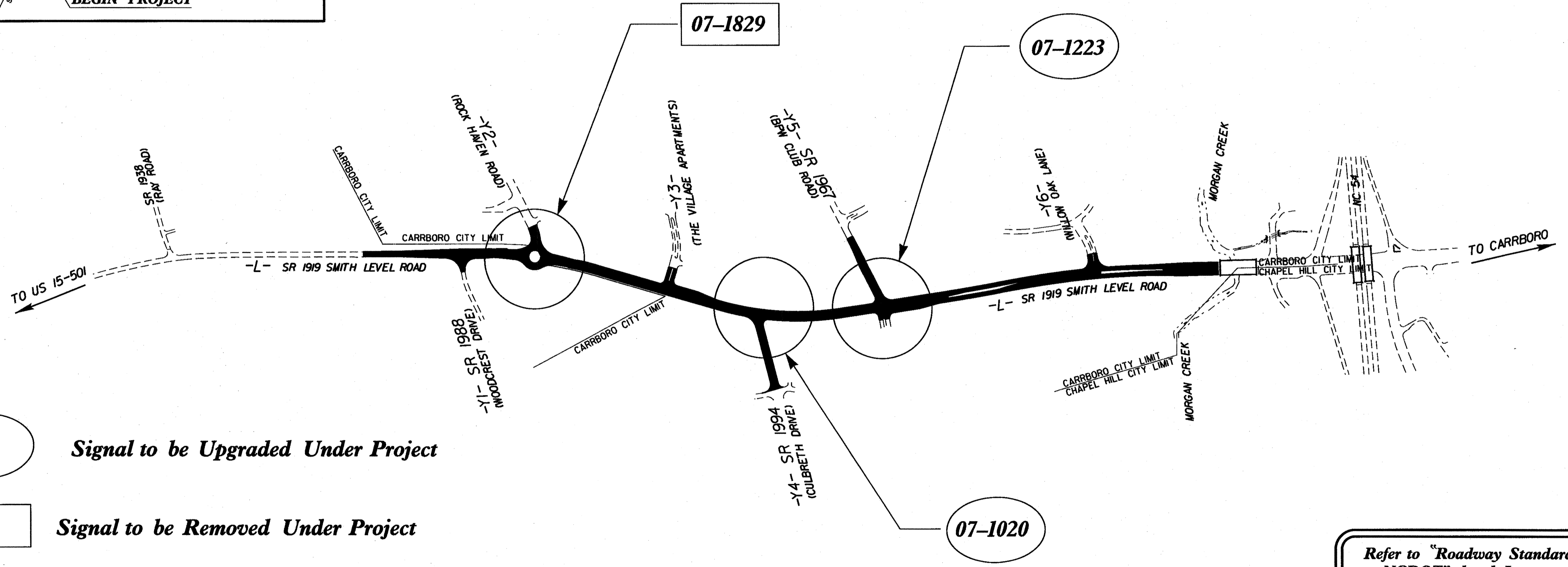
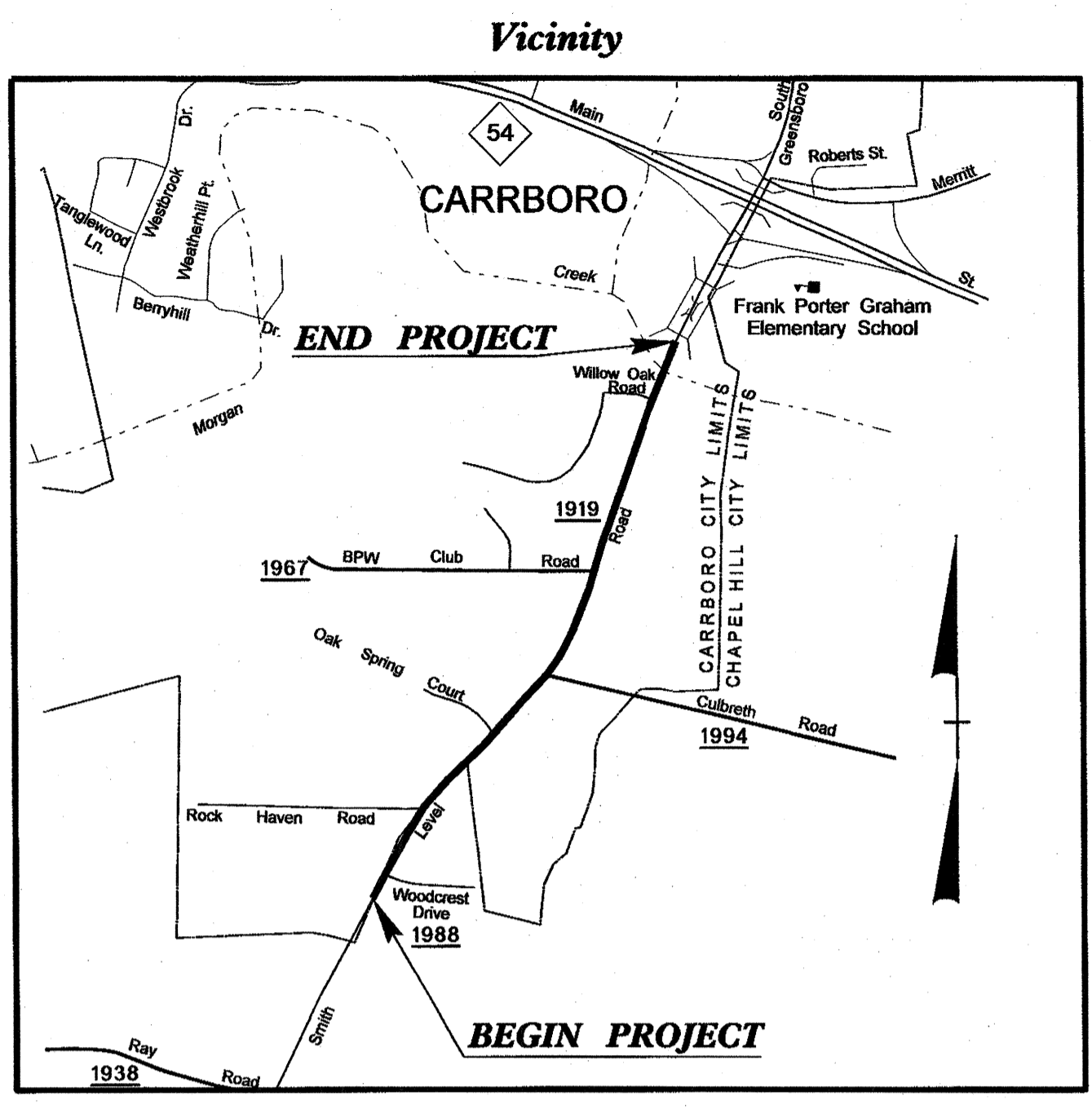


STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
ORANGE COUNTY

**LOCATION: CARRBORO - SR 1919 (SMITH LEVEL ROAD)
 FROM SOUTH OF ROCK HAVEN ROAD TO
 BRIDGE NO. 88 OVER MORGAN CREEK
 TYPE OF WORK: SIGNALS AND SIGNAL COMMUNICATIONS**

Project: U-2803



○ Signal to be Upgraded Under Project
 □ Signal to be Removed Under Project

Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.

CONTRACT: C203028

Sheet #	Reference #	Index of Plans Location/Description
Sig. 1		Title Sheet
Sig. 2-9	07-1829	SR 1919 (Smith Level Road) at Rock Haven Road
Sig. 10-19	07-1020	SR 1919 (Smith Level Road) at SR 1994 (Culbreth Road)
Sig. 20-29	07-1223	SR 1919 (Smith Level Road) at SR 1967 (BPW Club Road)
Sig. 30-36	N/A	Signal Communication Plans

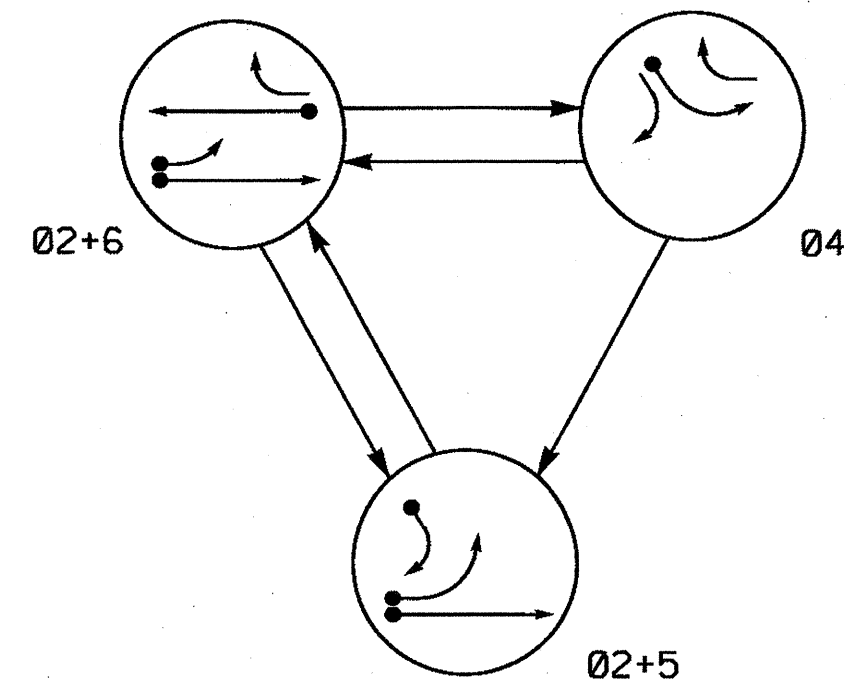
INTELLIGENT TRANSPORTATION AND SIGNALS UNIT
 Contacts:
 Robert J. Ziembra, PE - Central Region Signals Project Engineer
 George C. Brown, PE - Signal Equipment Design Engineer
 I. Neil Avery - Signal Communications Project Engineer

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

750 N. Greenfield Parkway, Garner, NC 27529

28-AUG-2012 14:41 R:\T-01\Fig\Signals\Titlesheet\U2803-sig-1.tsh.dgn

PHASING DIAGRAM



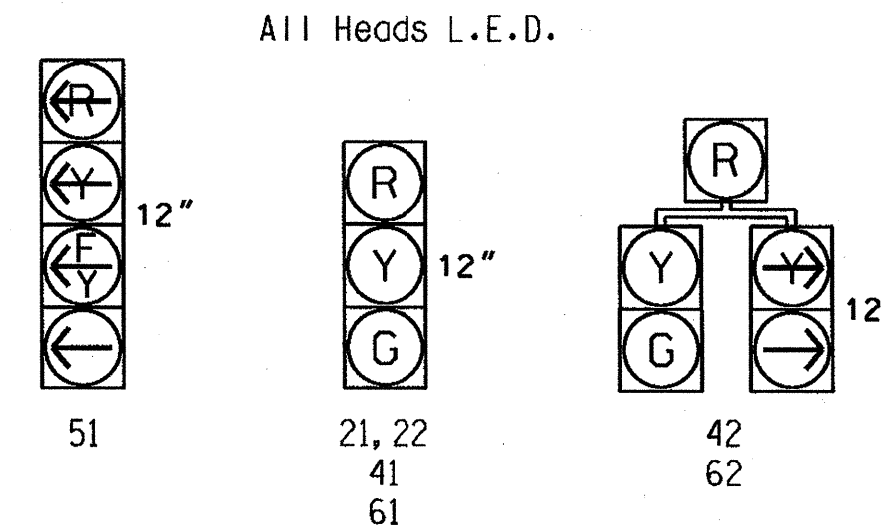
PHASING DIAGRAM DETECTION LEGEND

- ◄●► DETECTED MOVEMENT
- ◄◄◄ UNDETECTED MOVEMENT (OVERLAP)
- ◄---► UNSIGNALIZED MOVEMENT
- ◄- - - - ► PEDESTRIAN MOVEMENT

SIGNAL FACE	PHASE			
	02+5	02+6	04	FLASH
21, 22	G	G	R	Y
41	R	R	G	R
42	R	R	G	R
51	-	F	R	Y
61	R	G	R	Y
62	R	G	R	Y

F = Flashing Yellow Arrow

SIGNAL FACE I.D.

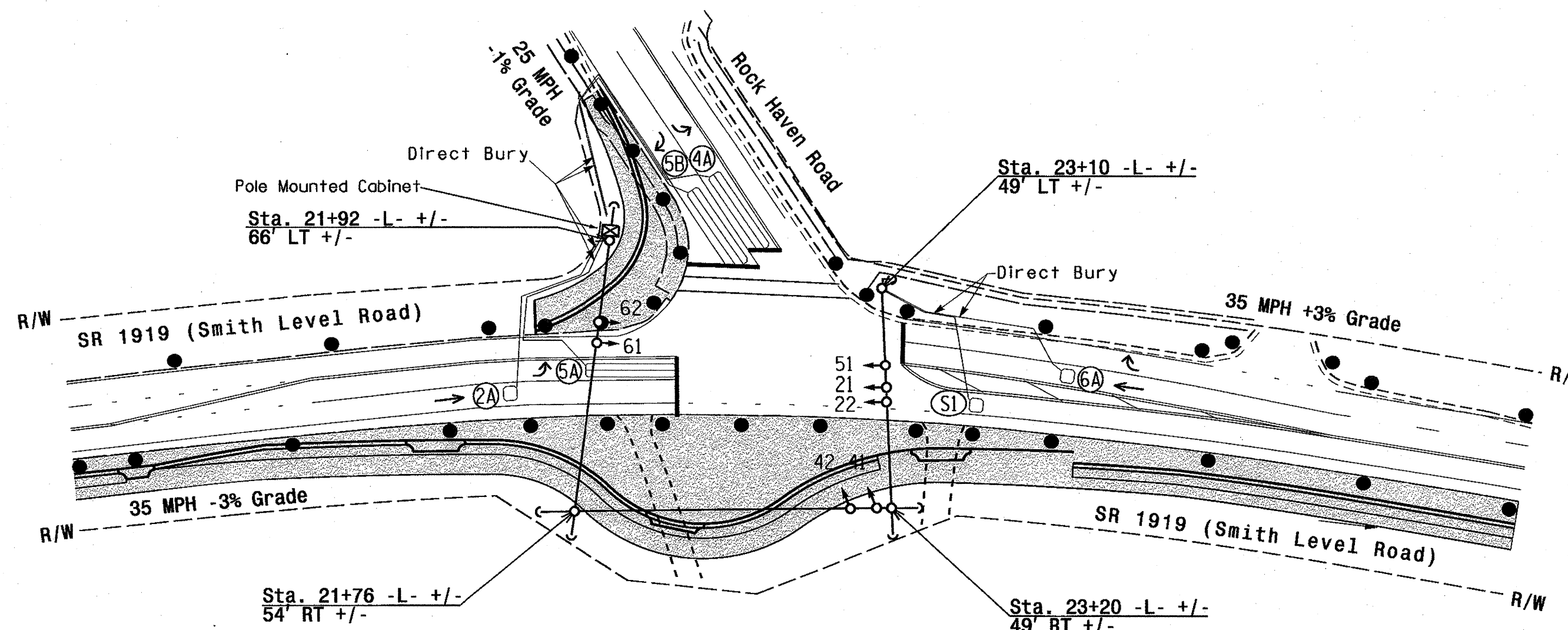


OASIS 2070L LOOP & DETECTOR INSTALLATION CHART											
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	DETECTOR PROGRAMMING					SYSTEM LOOP	NEW CARD
					PHASE	CALLING	EXTENSION	STRETCH TIME	DELAY TIME		
2A	6X6	70	4	Y	2	Y	Y	-	-	-	Y
4A	6X40	0	2-4-2	Y	4	Y	Y	-	3	-	Y
5A	6X40	0	2-4-2	Y	5	Y	Y	-	15	-	Y
5B	6X40	0	2-4-2	Y	5	Y	Y	-	15	-	Y
6A	6X6	70	4	Y	6	Y	Y	-	-	-	Y
S1	6X6	+130	4	Y	-	-	-	-	-	-	Y

3 Phase Fully Actuated (Chapel Hill-Carrboro Signal System)

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 5 may be lagged.
- Set all detector units to presence mode.
- Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.



FEATURE	PHASE			
	2	4	5	6
Min Green 1 *	10	7	7	10
Extension 1 *	3.0	2.0	2.0	3.0
Max Green 1 *	45	20	15	45
Yellow Clearance	4.1	3.0	3.0	4.1
Red Clearance	1.7	2.8	2.6	1.7
Red Revert	2.0	2.0	2.0	2.0
Walk 1 *	-	-	-	-
Don't Walk 1	-	-	-	-
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	-	-	-	-
Simultaneous Gap	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.

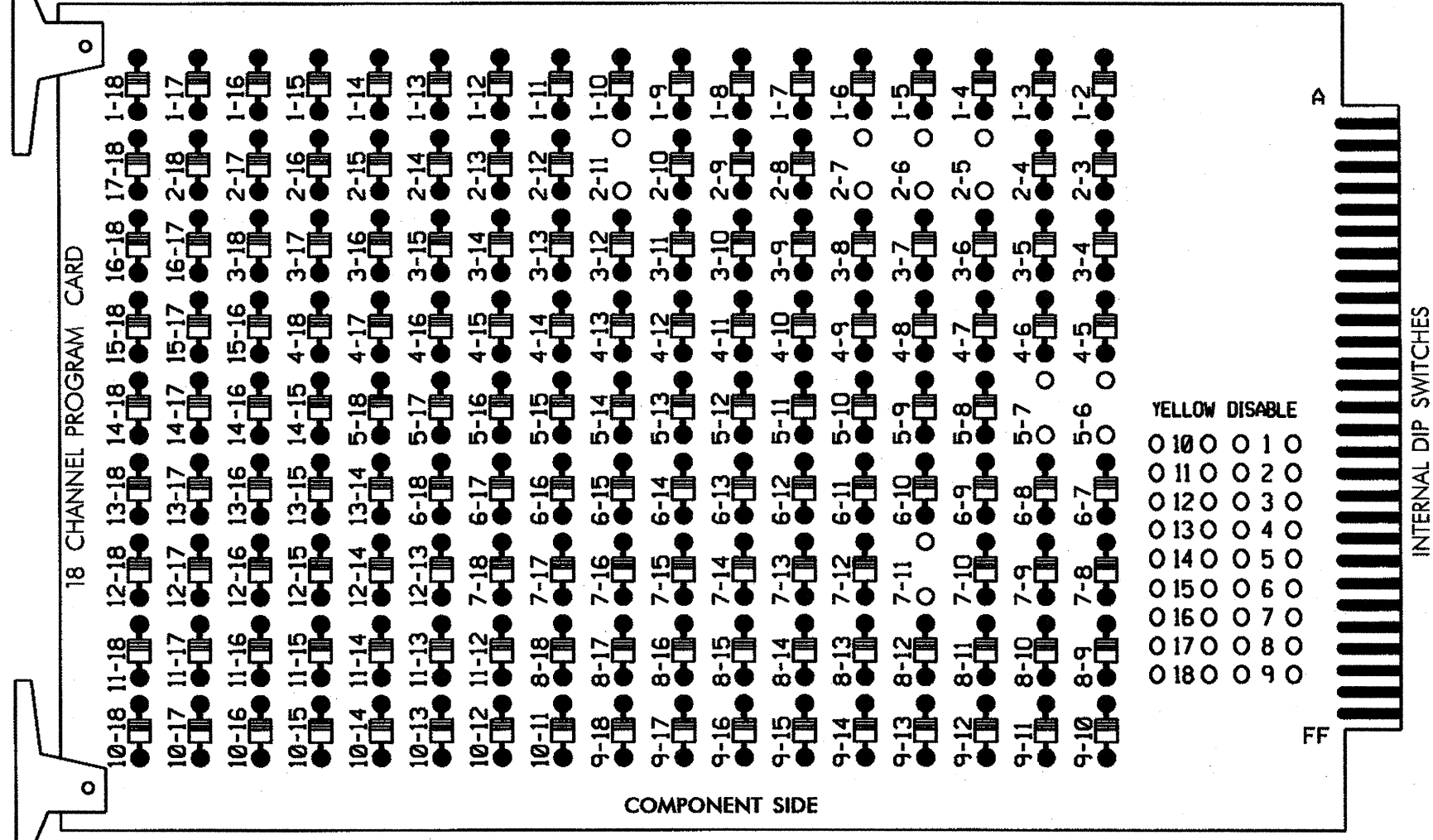
PROPOSED	EXISTING
○→ Traffic Signal Head	●→ Traffic Signal Head
◐→ Modified Signal Head	N/A
⊥ Sign	⊥ Sign
⊥ Pedestrian Signal Head With Push Button & Sign	⊥ Pedestrian Signal Head With Push Button & Sign
○ Signal Pole with Guy	⊥ Signal Pole with Guy
○ Signal Pole with Sidewalk Guy	⊥ Signal Pole with Sidewalk Guy
□ Inductive Loop Detector	□ Inductive Loop Detector
□ Controller & Cabinet	□ Controller & Cabinet
□ Junction Box	□ Junction Box
- - - 2-in Underground Conduit	- - - 2-in Underground Conduit
N/A Right of Way	- - - Right of Way
→ Directional Arrow	→ Directional Arrow
● Construction Zone Drums	● Construction Zone Drums
■ Construction Zone	■ Construction Zone

Signal Upgrade - Temporary Design 1 (TMP Phase I)

	SR 1919 (Smith Level Road) at Rock Haven Road		
	Division 7 Orange County Carrboro		
PREPARED BY: R. Hough		REVIEWED BY:	
REVISIONS:		INIT. DATE:	
SCALE: 1" = 50'		SIGNATURE DATE:	
750 N. Greenfield Pkwy, Garner, NC 27529		SIG. INVENTORY NO. 07-182911	

EDI MODEL 2018ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL
(remove jumpers and set switches as shown)

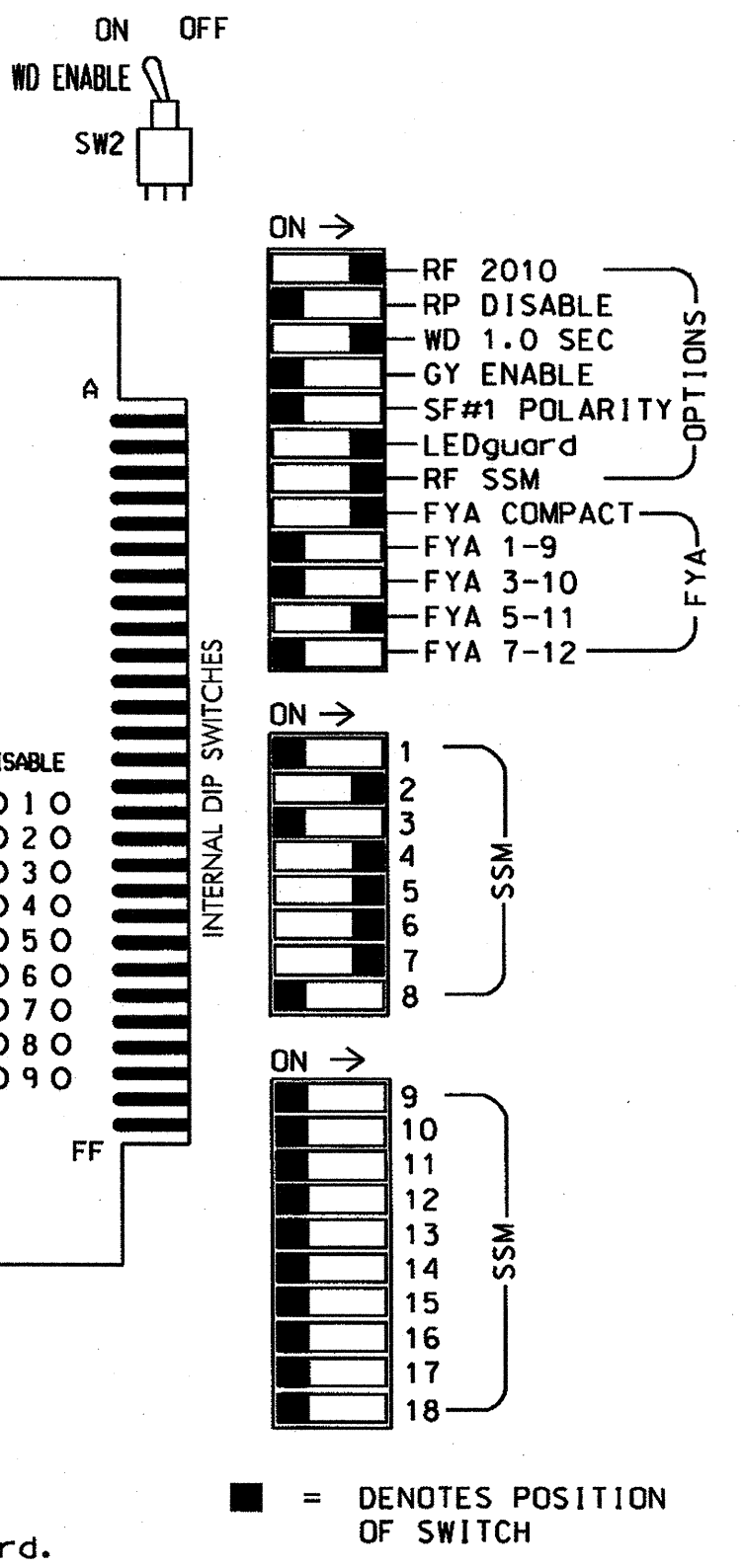
REMOVE DIODE JUMPERS 2-5, 2-6, 2-7, 2-11, 5-6, 5-7 and 7-11.



REMOVE JUMPERS AS SHOWN

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
3. Ensure that Red Enable is active at all times during normal operation.
4. Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.
5. Special cabinet wiring is required to utilize FYA COMPACT mode. See Ped Yellow Conflict Monitor Wiring Detail on this sheet.



■ = DENOTES POSITION OF SWITCH

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
2. Enable Simultaneous Gap-Out for all phases.
3. Program phases 2 and 6 for Start Up In Green.
4. Program phases 2 and 6 for Yellow Flash.
5. The cabinet and controller are part of the Chapel Hill-Carrboro Signal System.

EQUIPMENT INFORMATION

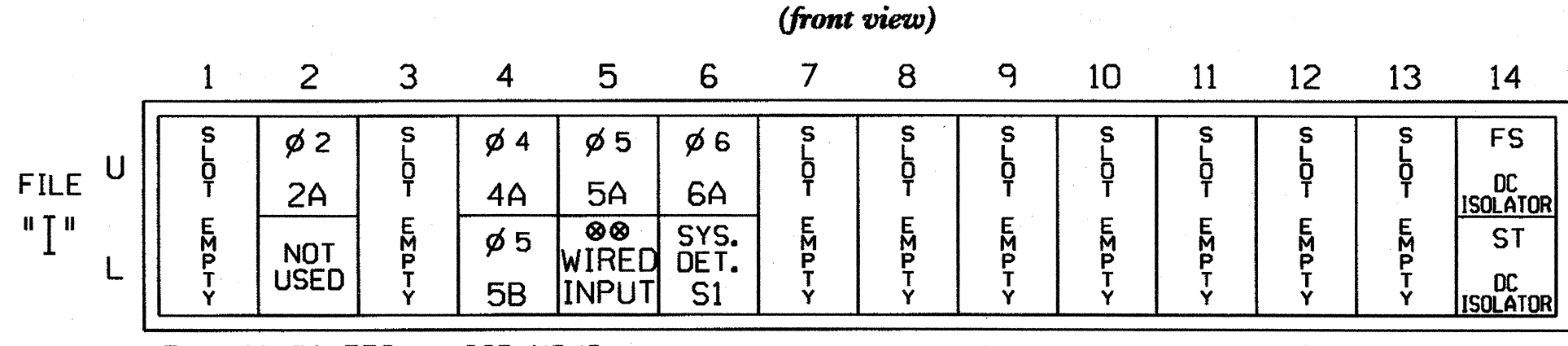
CONTROLLER.....2070L
 CABINET.....336
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....POLE
 OUTPUT FILE POSITIONS...12
 LOAD SWITCHES USED.....S2,S5,S7,S8,S9,S10
 PHASES USED.....2,4,5,6
 OVERLAP "A".....NOT USED
 OVERLAP "B".....NOT USED
 OVERLAP "C".....5+6
 OVERLAP "D".....NOT USED
 OVERLAP "E".....5

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
CMU CHANNEL NO.	1	2	9	13	3	4	14	5	6	11	15	16
PHASE	OLA	2	1 GRN	2 PED	3	4	4 PED	6	5 GRN	6 PED	8	8 PED
SIGNAL HEAD NO.	NU	21,22	NU	NU	NU	41,42	62	NU	51	61,62	51	NU
RED		128			101			134		*		
YELLOW		129			102			135				
GREEN		130			103			136				
RED ARROW								131				
YELLOW ARROW					102			132		123		
FLASHING YELLOW ARROW								133				
GREEN ARROW					103				120	124		

* Denotes install load resistor. See load resistor installation detail below.
 ★ See pictorial of head wiring in detail below.
 NOTE: Load Switches S7 and S9 require output remapping.

INPUT FILE POSITION LAYOUT



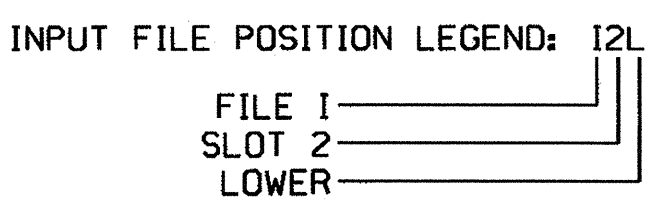
EX.: 1A, 2A, ETC. = LOOP NO.'S FS = FLASH SENSE ST = STOP TIME

⊗⊗ Wired Input - Disable Channel 2

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
2A	TB21-3,4	I2U	39	1	2	2	Y	Y			
4A	TB21-7,8	I4U	41	3	4	4	Y	Y			3
5A ¹	TB21-9,10	I5U	55	17	5	5	Y	Y			15
5B	TB23-9,10	I5L	48	10	26	2	Y	Y			15
6A	TB21-11,12	I6U	40	2	6	6	Y	Y			
* SI	TB23-11,12	I6L	44	6	16	SYS					

¹Add jumper from I5-F to I5-W, on rear of input file.
 * System detector only. Remove the vehicle phase assigned to this detector in the default programming.



PED YELLOW CONFLICT MONITOR WIRING DETAIL

(make cabinet wiring change as shown below)

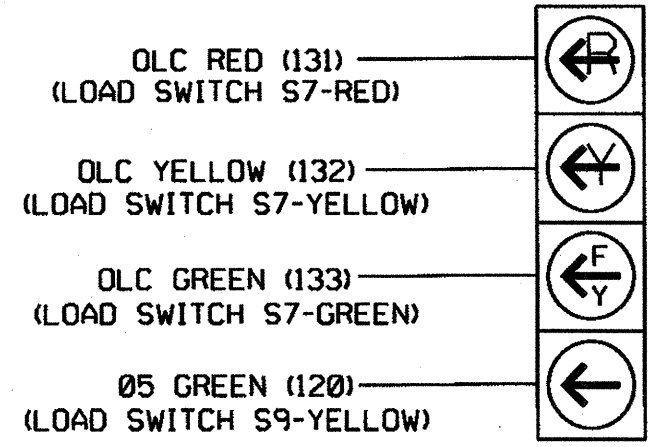
In order to use FYA COMPACT mode on the 2010ECL-NC Monitor, the cabinet must be wired such that the (unused) S6P Ped Yellow load switch output is wired to the conflict monitor as follows: From 6 PY (field term. 120) to chan. 10 green (monitor pin R).

- Follow the instructions below to make the appropriate connections:
- STEP 1: Fold down rear panel of output file.
- STEP 2: Find unused wiring harness from conflict monitor card edge connector (which should be tied and bundled together).
- STEP 3: Find the conductor that corresponds to the following conflict monitor card edge pin and solder wire to the appropriate terminal on the rear of the output file as shown below:
- CMU-R _____ 6PY (term. 120)

NOTE: Some cabinet manufacturers use a molex plug to accomplish this wiring configuration. If connectors are used, simply plug the two connectors together that are labeled with the pin-out as shown above.

4 SECTION FYA PPLT SIGNAL WIRING DETAIL

(wire signal heads as shown)



51

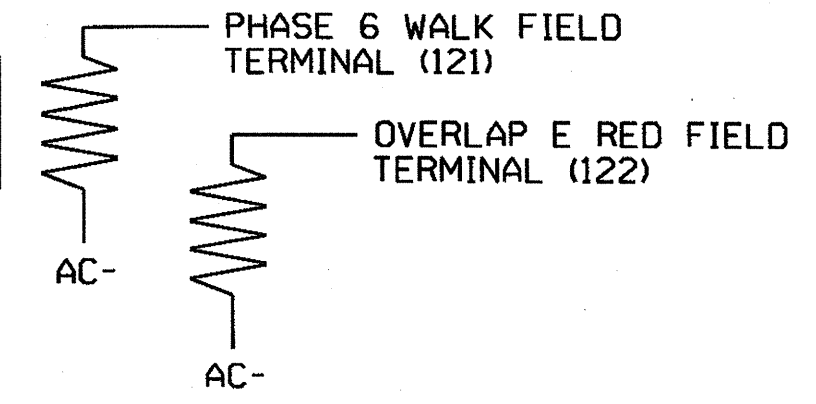
NOTE

1. The sequence display for this signal requires special logic and output remapping. See sheet 2 for programming instructions.

LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown below)

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



Electrical Detail - Temp 1 - Sheet 1 of 3

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of:

 750 N. Greenfield Pkwy, Garner, NC 27529

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 07-1829T1
 DESIGNED: July 2012
 SEALED: 08/20/12
 REVISED: N/A

SR 1919 (Smith Level Road) at Rock Haven Road
 Division 7 Orange County Carrboro
 PLAN DATE: August 2012 REVIEWED BY: T. J. J.
 PREPARED BY: C. Strickland REVIEWED BY:
 REVISIONS: _____ INIT. DATE

SEAL
 NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL 022013
 GEORGE C. BROWN
 SIGNATURE DATE 8/24/12
 SIG. INVENTORY NO. 07-1829T1

**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 AND 3.
- FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).

LOGICAL I/O COMMAND #1 (+/-COMMAND#)
IF ACTIVE PHASE #5 IS ON
AND RED CLEAR ON PHASE #5 IS ON

↓
SCROLL DOWN

THEN:
SET OUTPUT ASSIGNMENT #30 ON
SET OUTPUT ASSIGNMENT #31 OFF

PRESS '+'

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

LOGICAL I/O COMMAND #2 (+/-COMMAND#)
IF ACTIVE PHASE #5 IS ON

↓
SCROLL DOWN

THEN:
SET OUTPUT ASSIGNMENT #32 OFF

PRESS '+'

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

LOGICAL I/O COMMAND #3 (+/-COMMAND#)
IF YELLOW ON PHASE #5 IS ON

↓
SCROLL DOWN

THEN:
SET OUTPUT ASSIGNMENT #31 ON

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

LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE	
OUTPUT 30	= Overlap C Red
OUTPUT 31	= Overlap C Yellow
OUTPUT 32	= Overlap C Green
OUTPUT 34	= Phase 5 Green

Note: All outputs shown above have been remapped. See sheet 3 of this electrical detail.

OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

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

PRESS '+' TWICE

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

← NOTICE GREEN FLASH

PRESS '+' TWICE

PAGE 1: VEHICLE OVERLAP 'E' 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?...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)...7

OVERLAP PROGRAMMING COMPLETE

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 07-1829T1
DESIGNED: July 2012
SEALED: 08/20/12
REVISED: N/A

Electrical Detail - Temp 1 - Sheet 2 of 3

	SR 1919 (Smith Level Road) at Rock Haven Road		
	Prepared in the Offices of: C. Strickland 750 N. Greenfield Pkwy, Carrboro, NC 27529	Division 7 Orange County Carrboro	PLAN DATE: August 2012 PREPARED BY: C. Strickland REVISIONS:
ELECTRICAL AND PROGRAMMING DETAILS FOR:			SIGNATURE: <i>George C. Brown</i> 8/24/12 DATE:

FYA SIGNAL OUTPUT REMAPPING ASSIGNMENT PROGRAMMING DETAIL FOR SIGNAL HEAD 51

(program controller as shown below)

FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '1' (OUTPUT ASSIGNMENTS), WITH CURSOR IN 'OUTPUT ASSIGNMENT#' POSITION, ENTER "30"

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE OVERLAP' AS SHOWN BELOW.

STEP 1

```

PAGE:1 C1 PIN:32 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....30
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....Y
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....Y
DETECTOR RESET.....Y
ADVANCE BEACON.....Y
OUT OF PHASE FLASHER.....Y
CONTROLLER FLASH.....Y
RUN FREE.....Y
RESERVED.....Y
PREEMPT.....Y
SOFT PREEMPT.....Y
ANY PREEMPT.....Y
COORDINATION PLAN.....Y
OFFSET.....Y
PHASE CHECK.....Y
PHASE ON.....Y
PHASE NEXT.....Y
    
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:32 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...3
SELECT COLOR(0=RED,1=YEL,2=GRN)...0
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.
PRESS THE 'ENT' KEY AFTER INPUTTING DATA, THEN 'ESC'.

```

PAGE:1 C1 PIN:32 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....30
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....Y
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....Y
DETECTOR RESET.....Y
ADVANCE BEACON.....Y
OUT OF PHASE FLASHER.....Y
CONTROLLER FLASH.....Y
RUN FREE.....Y
RESERVED.....Y
PREEMPT.....Y
SOFT PREEMPT.....Y
ANY PREEMPT.....Y
COORDINATION PLAN.....Y
OFFSET.....Y
PHASE CHECK.....Y
PHASE ON.....Y
PHASE NEXT.....Y
    
```

PRESS "+" KEY FOR OUTPUT 31

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE OVERLAP' AS SHOWN BELOW.

STEP 2

```

PAGE:1 C1 PIN:33 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....31
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....Y
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....Y
DETECTOR RESET.....Y
ADVANCE BEACON.....Y
OUT OF PHASE FLASHER.....Y
CONTROLLER FLASH.....Y
RUN FREE.....Y
RESERVED.....Y
PREEMPT.....Y
SOFT PREEMPT.....Y
ANY PREEMPT.....Y
COORDINATION PLAN.....Y
OFFSET.....Y
PHASE CHECK.....Y
PHASE ON.....Y
PHASE NEXT.....Y
    
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:33 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...3
SELECT COLOR(0=RED,1=YEL,2=GRN)...1
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.
PRESS THE 'ENT' KEY AFTER INPUTTING DATA, THEN 'ESC'.

```

PAGE:1 C1 PIN:33 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....31
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....Y
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....Y
DETECTOR RESET.....Y
ADVANCE BEACON.....Y
OUT OF PHASE FLASHER.....Y
CONTROLLER FLASH.....Y
RUN FREE.....Y
RESERVED.....Y
PREEMPT.....Y
SOFT PREEMPT.....Y
ANY PREEMPT.....Y
COORDINATION PLAN.....Y
OFFSET.....Y
PHASE CHECK.....Y
PHASE ON.....Y
PHASE NEXT.....Y
    
```

PRESS "+" KEY FOR OUTPUT 32

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE OVERLAP' AS SHOWN BELOW.

STEP 3

```

PAGE:1 C1 PIN:34 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....32
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....Y
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....Y
DETECTOR RESET.....Y
ADVANCE BEACON.....Y
OUT OF PHASE FLASHER.....Y
CONTROLLER FLASH.....Y
RUN FREE.....Y
RESERVED.....Y
PREEMPT.....Y
SOFT PREEMPT.....Y
ANY PREEMPT.....Y
COORDINATION PLAN.....Y
OFFSET.....Y
PHASE CHECK.....Y
PHASE ON.....Y
PHASE NEXT.....Y
    
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:34 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...3
SELECT COLOR(0=RED,1=YEL,2=GRN)...2
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.
PRESS THE 'ENT' KEY AFTER INPUTTING DATA, THEN 'ESC'.

```

PAGE:1 C1 PIN:34 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....32
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....Y
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....Y
DETECTOR RESET.....Y
ADVANCE BEACON.....Y
OUT OF PHASE FLASHER.....Y
CONTROLLER FLASH.....Y
RUN FREE.....Y
RESERVED.....Y
PREEMPT.....Y
SOFT PREEMPT.....Y
ANY PREEMPT.....Y
COORDINATION PLAN.....Y
OFFSET.....Y
PHASE CHECK.....Y
PHASE ON.....Y
PHASE NEXT.....Y
    
```

PRESS "+" TWICE TO REACH OUTPUT 34.

STEP 4

```

PAGE:1 C1 PIN:36 NOT ENABLED
OUTPUT ASSIGNMENT #.....34
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....Y
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....Y
DETECTOR RESET.....Y
ADVANCE BEACON.....Y
OUT OF PHASE FLASHER.....Y
CONTROLLER FLASH.....Y
RUN FREE.....Y
RESERVED.....Y
PREEMPT.....Y
SOFT PREEMPT.....Y
ANY PREEMPT.....Y
COORDINATION PLAN.....Y
OFFSET.....Y
PHASE CHECK.....Y
PHASE ON.....Y
PHASE NEXT.....Y
    
```

THE OUTPUT IS SET AS "NOT ENABLED" BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE PHASE.

```

PAGE:1 C1 PIN:36 NOT ENABLED
SELECT VEHICLE PHASE (1-16)...5
SELECT COLOR(0=RED,1=YEL,2=GRN)...2
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE PHASE' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.
PRESS THE 'ENT' KEY AFTER INPUTTING DATA, THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE PHASE' AS SHOWN BELOW.

```

PAGE:1 C1 PIN:36 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....34
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....Y
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....Y
DETECTOR RESET.....Y
ADVANCE BEACON.....Y
OUT OF PHASE FLASHER.....Y
CONTROLLER FLASH.....Y
RUN FREE.....Y
RESERVED.....Y
PREEMPT.....Y
SOFT PREEMPT.....Y
ANY PREEMPT.....Y
COORDINATION PLAN.....Y
OFFSET.....Y
PHASE CHECK.....Y
PHASE ON.....Y
PHASE NEXT.....Y
    
```

OUTPUT PROGRAMMING FOR HEAD 51 COMPLETE

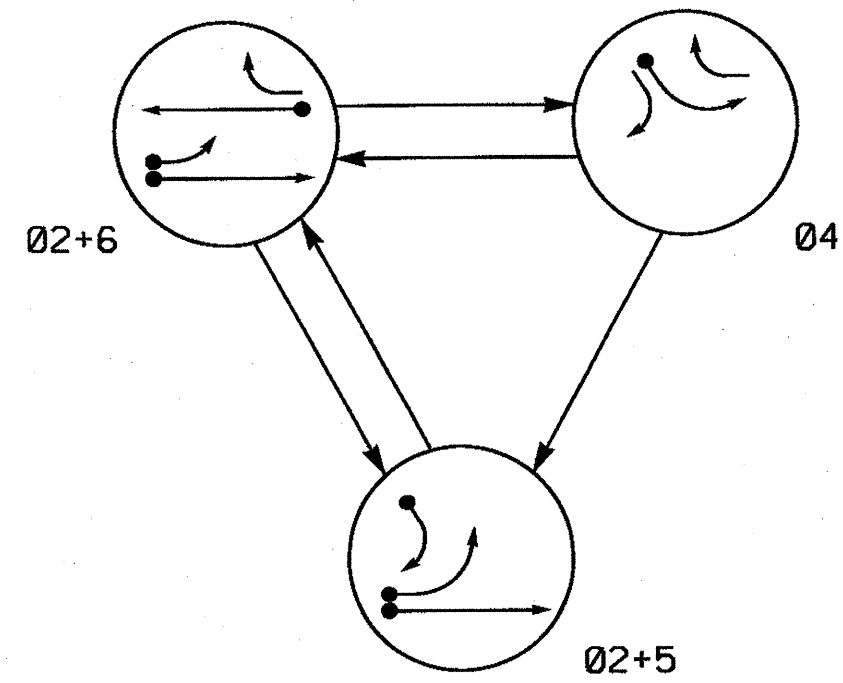
THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 07-1829T1
DESIGNED: July 2012
SEALED: 08/20/12
REVISED: N/A

Electrical Detail - Temp 1 - Sheet 3 of 3

	Prepared In the Offices of: T. Strickland ENGINEER		SEAL NORTH CAROLINA PROFESSIONAL ENGINEER G. C. BROWN ENGINEER 022013
	SR 1919 (Smith Level Road) at Rock Haven Road Division 7 Orange County Carrboro		
PLAN DATE: August 2012 PREPARED BY: C. Strickland	REVIEWED BY: T. Strickland REVIEWED BY:	SIGNATURE: <i>T. Strickland</i> DATE: 8/24/12	SIGNATURE: <i>George C. Brown</i> DATE: 8/24/12
REVISIONS		INIT. DATE	SIGNATURE DATE
750 N. Greenfield Pkwy, Corner, NC 27529		SIGNATURE: <i>George C. Brown</i> DATE: 8/24/12	SIGNATURE: <i>George C. Brown</i> DATE: 8/24/12

20-AUG-2012 14:58 S:\ITS\SUMITS\Sig\07-1829\groups4510 Man#51r:ck (one#071829-sm.ele...xxx.dgn ceefr:ck:ond

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

- ◄● DETECTED MOVEMENT
- ◄ UNDETECTED MOVEMENT (OVERLAP)
- ◄- UN SIGNALIZED MOVEMENT
- ◄-◄ PEDESTRIAN MOVEMENT

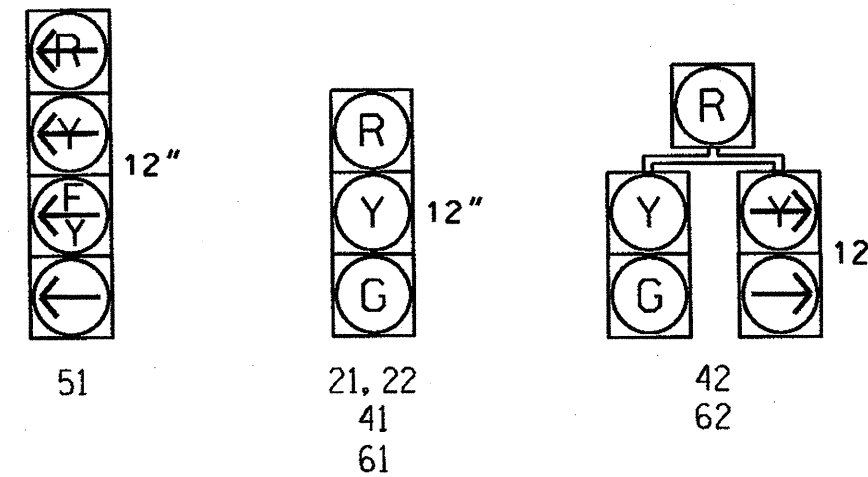
TABLE OF OPERATION

SIGNAL FACE	PHASE			
	02+5	02+6	04	02+5
21, 22	G	G	R	Y
41	R	R	G	R
42	R	R	G	R
51	F	R	Y	Y
61	R	G	R	Y
62	R	G	R	Y

F = Flashing Yellow Arrow

SIGNAL FACE I.D.

All Heads L.E.D.



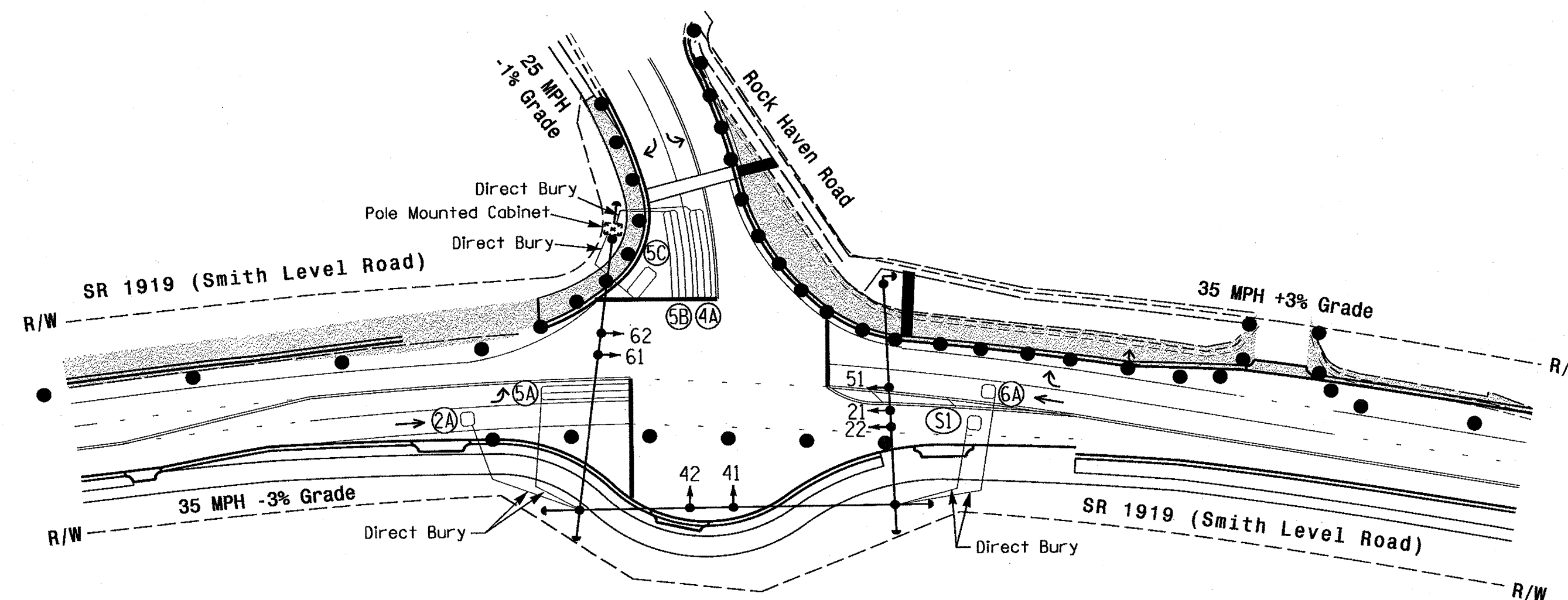
OASIS 2070L LOOP & DETECTOR INSTALLATION CHART

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	DETECTOR PROGRAMMING				SYSTEM LOOP	NEW CARD
					PHASE	CALLING	EXTENSION	STRETCH TIME		
2A	6X6	70	4	Y	2	Y	Y	-	-	-
4A	6X40	0	2-4-2	Y	4	Y	Y	-	3	-
5A	6X40	0	2-4-2	Y	5	Y	Y	-	15	-
5B	6X40	0	2-4-2	Y	5	Y	Y	-	15	-
5C	6X15	0	3	Y	5	Y	Y	-	15	Y
6A	6X6	70	4	Y	6	Y	Y	-	-	-
S1	6X6	+150	4	Y	-	-	-	-	-	Y

3 Phase Fully Actuated (Chapel Hill-Carrboro Signal System)

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 5 may be lagged.
- Reposition all existing signal heads.
- Set all detector units to presence mode.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.



OASIS 2070L TIMING CHART

FEATURE	PHASE			
	2	4	5	6
Min Green 1 *	10	7	7	10
Extension 1 *	3.0	2.0	2.0	3.0
Max Green 1 *	45	20	15	45
Yellow Clearance	4.1	3.0	3.0	4.1
Red Clearance	1.4	2.1	1.8	1.4
Red Revert	2.0	2.0	2.0	2.0
Walk 1 *	-	-	-	-
Don't Walk 1	-	-	-	-
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	-	-	-	-
Simultaneous Gap	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

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

Signal Upgrade - Temporary Design 2 (TMP Phase II)

750 N. Greenfield Pkwy, Garner, NC 27529

SR 1919 (Smith Level Road) at Rock Haven Road

Division 7 Orange County Carrboro

PLAN DATE: July 2012 PREPARED BY: R. Hough REVIEWED BY:

SEAL NORTH CAROLINA PROFESSIONAL ENGINEER ROBERT J. ZIEMBA

SCALE 0 50

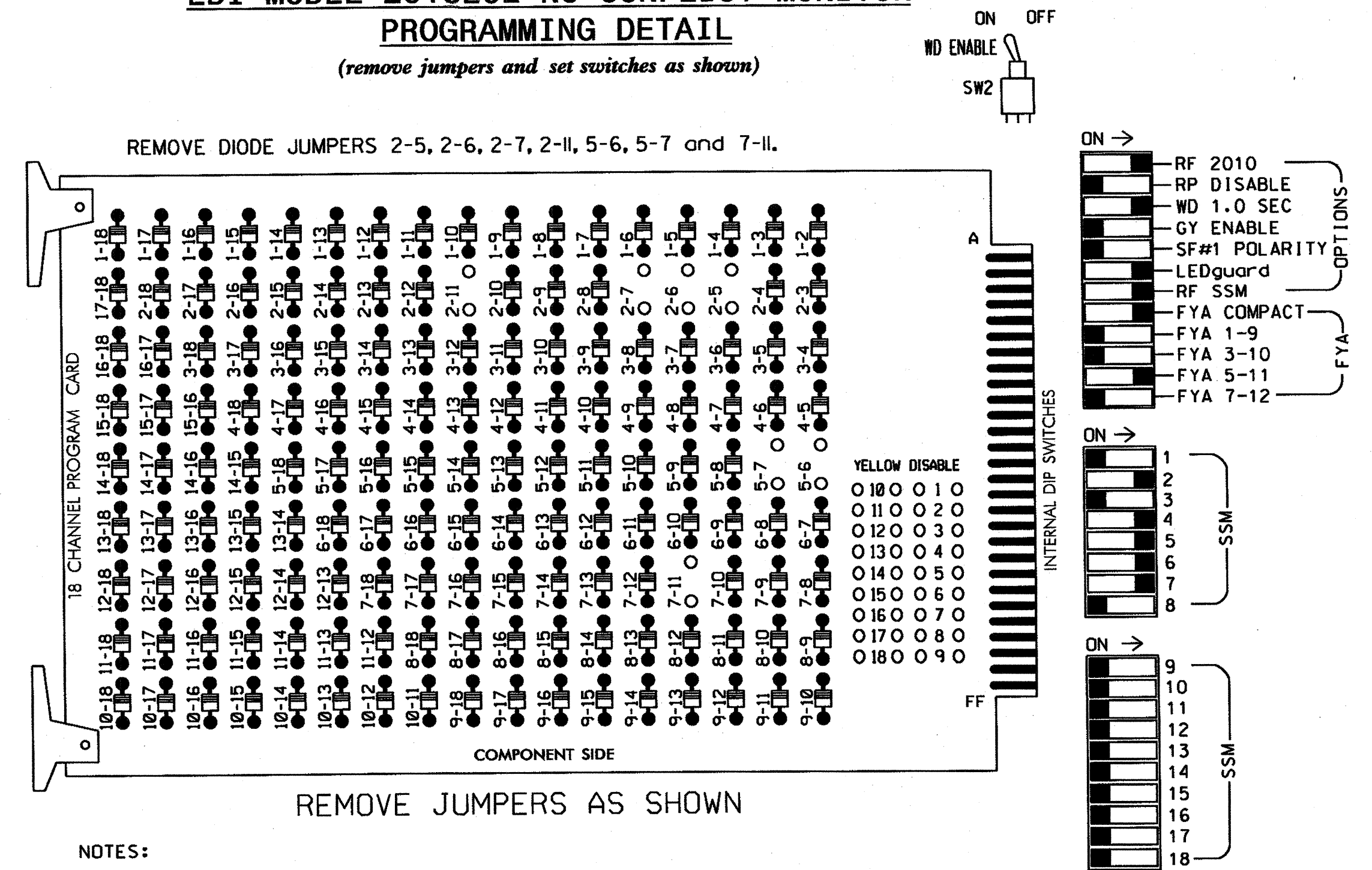
1" = 50'

REVISIONS	INIT.	DATE

SIGNATURE DATE

SIG. INVENTORY NO. 07-1829T2

EDI MODEL 2018ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL
(remove jumpers and set switches 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.
 - Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.
 - Special cabinet wiring is required to utilize FYA COMPACT mode. See Ped Yellow Conflict Monitor Wiring Detail on this sheet.

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.
- Enable Simultaneous Gap-Out for all phases.
- Program phases 2 and 6 for Start Up In Green.
- Program phases 2 and 6 for Yellow Flash.
- The cabinet and controller are part of the Chapel Hill-Carrboro Signal System.

EQUIPMENT INFORMATION

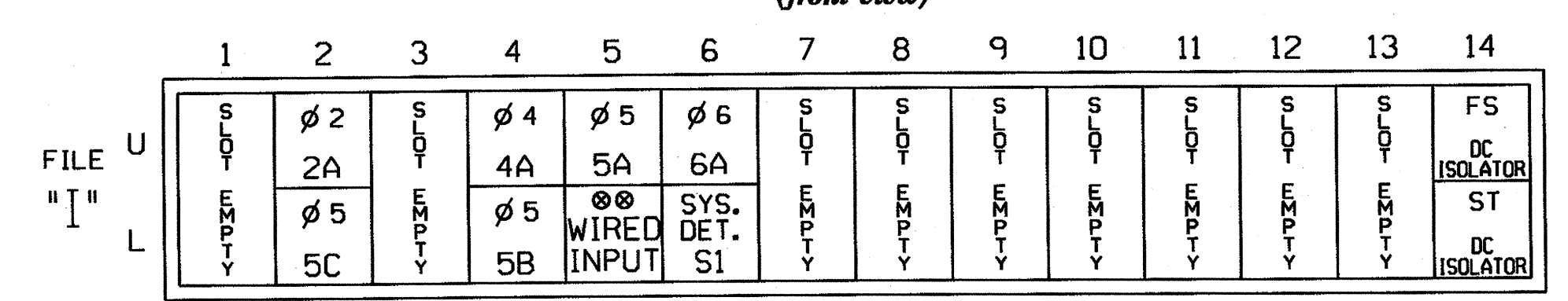
CONTROLLER.....2070L
 CABINET.....336
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....POLE
 OUTPUT FILE POSITIONS...12
 LOAD SWITCHES USED.....S2,S5,S7,S8,S9,S10
 PHASES USED.....2,4,5,6
 OVERLAP "A".....NOT USED
 OVERLAP "B".....NOT USED
 OVERLAP "C".....5+6
 OVERLAP "D".....NOT USED
 OVERLAP "E".....5

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12		
CMU CHANNEL NO.	1	2	9	13	3	4	14	5	6	11	15	7	8	16
PHASE	OLA	2	1 GRN	2 PED	3	4	4 PED	6	5 GRN	6 PED	OLE	8	8 PED	
SIGNAL HEAD NO.	NU	21,22	NU	NU	NU	41,42	62	NU	51	61,62	51	NU	42	NU
RED		128				101				134		*		
YELLOW		129				102				135				
GREEN		130				103				136				
RED ARROW										131				
YELLOW ARROW						102				132			123	
FLASHING YELLOW ARROW										133				
GREEN ARROW						103				120			124	

* Denotes install load resistor. See load resistor installation detail below.
 * See pictorial of head wiring in detail below.
 NOTE: Load Switches S7 and S9 require output remapping.

INPUT FILE POSITION LAYOUT
(front view)

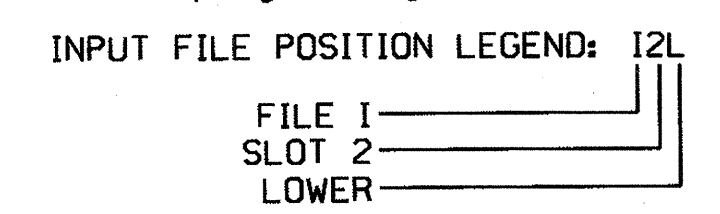


EX.: 1A, 2A, ETC. = LOOP NO.'S
 FS = FLASH SENSE
 ST = STOP TIME
 @@ Wired Input - Disable Channel 2

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
2A	TB21-3,4	I2U	39	1	2	2	Y	Y			
4A	TB21-7,8	I4U	41	3	4	4	Y	Y			3
5A ¹	TB21-9,10	I5U	55	17	5	5	Y	Y			15
	TB23-9,10	I5L	48	10	26	2	Y	Y			
5B	TB23-7,8	I4L	45	7	14	5	Y	Y			15
5C	TB23-3,4	I2L	43	5	12	5	Y	Y			15
6A	TB21-11,12	I6U	40	2	6	6	Y	Y			
* S1	TB23-11,12	I6L	44	6	16	SYS					

¹Add jumper from I5-F to I5-W, on rear of input file.
 * System detector only. Remove the vehicle phase assigned to this detector in the default programming.



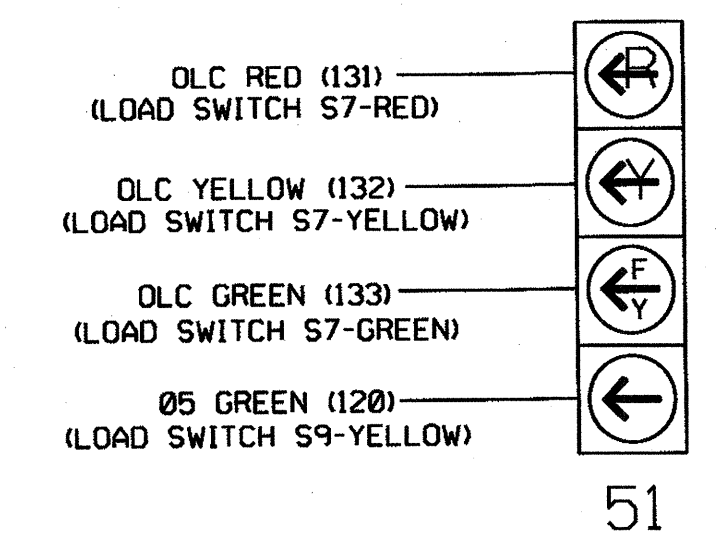
PED YELLOW CONFLICT MONITOR WIRING DETAIL
(make cabinet wiring change as shown below)

In order to use FYA COMPACT mode on the 2010ECL-NC Monitor, the cabinet must be wired such that the (unused) S6P Ped Yellow load switch output is wired to the conflict monitor as follows: From 6 PY (field term. 120) to chan. 10 green (monitor pin R).

- Follow the instructions below to make the appropriate connections:
- STEP 1: Fold down rear panel of output file.
 - STEP 2: Find unused wiring harness from conflict monitor card edge connector (which should be tied and bundled together).
 - STEP 3: Find the conductor that corresponds to the following conflict monitor card edge pin and solder wire to the appropriate terminal on the rear of the output file as shown below:
- CMU-R ----- 6PY (term. 120)

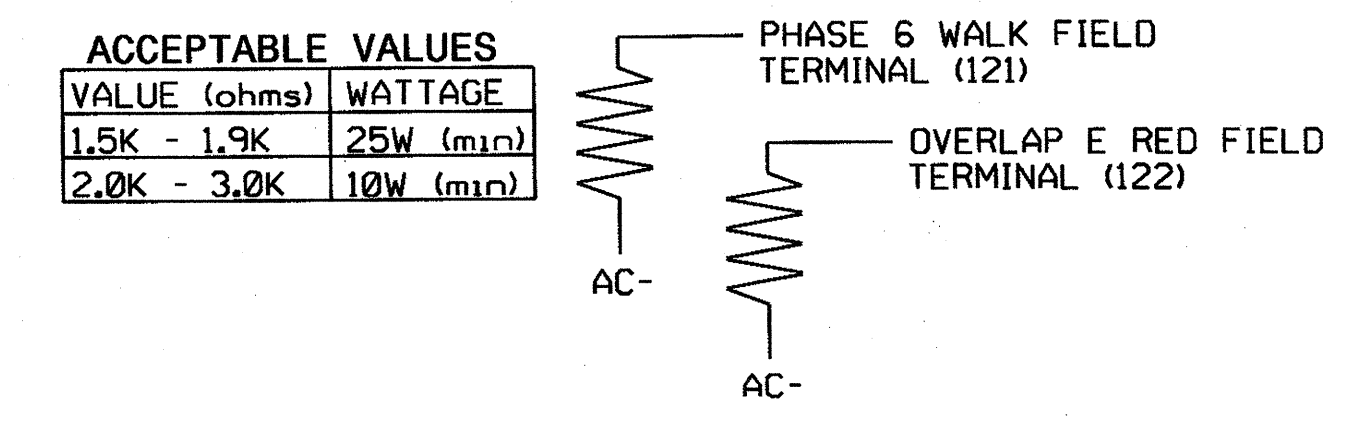
NOTE: Some cabinet manufacturers use a molex plug to accomplish this wiring configuration. If connectors are used, simply plug the two connectors together that are labeled with the pin-out as shown above.

4 SECTION FYA PPLT SIGNAL WIRING DETAIL
(wire signal heads as shown)



- NOTE**
- The sequence display for this signal requires special logic and output remapping. See sheet 2 for programming instructions.

LOAD RESISTOR INSTALLATION DETAIL
(install resistors as shown below)



Electrical Detail - Temp 2 - Sheet 1 of 3

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 07-1829T2
 DESIGNED: July 2012
 SEALED: 08/20/12
 REVISED: N/A

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of:

 750 N. Greenfield Pkwy, Garner, NC 27529

SR 1919 (Smith Level Road) at Rock Haven Road

Division 7 Orange County Carrboro
 PLAN DATE: August 2012 REVIEWED BY: T. Vign
 PREPARED BY: C. Strickland REVIEWED BY:

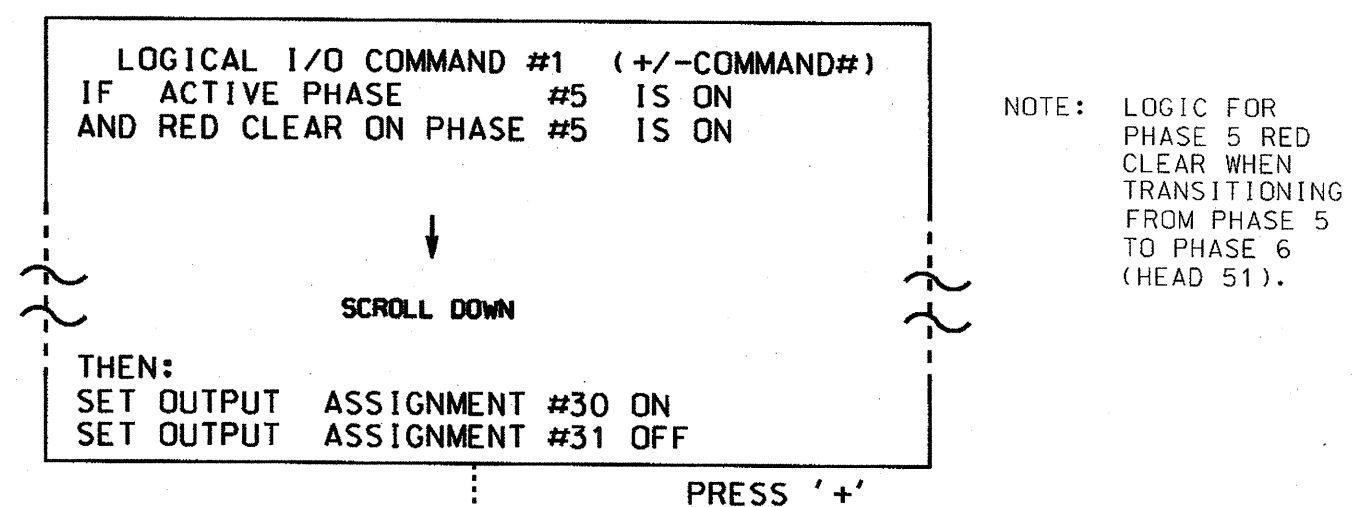
REVISIONS: _____ INIT. DATE _____

SEAL
 NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL 022013
 GEORGE C. BROWN
 SIGNATURE: _____ DATE: 8/24/12
 SIG. INVENTORY NO. 07-1829T2

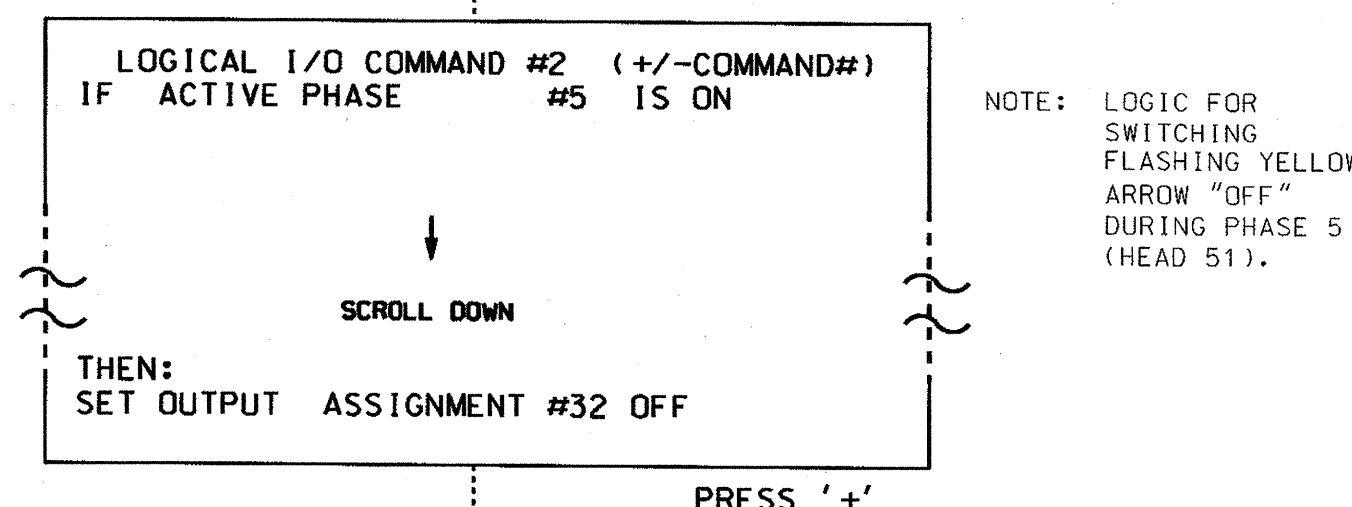
LOGICAL I/O PROCESSOR PROGRAMMING DETAIL TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE

(program controller as shown below)

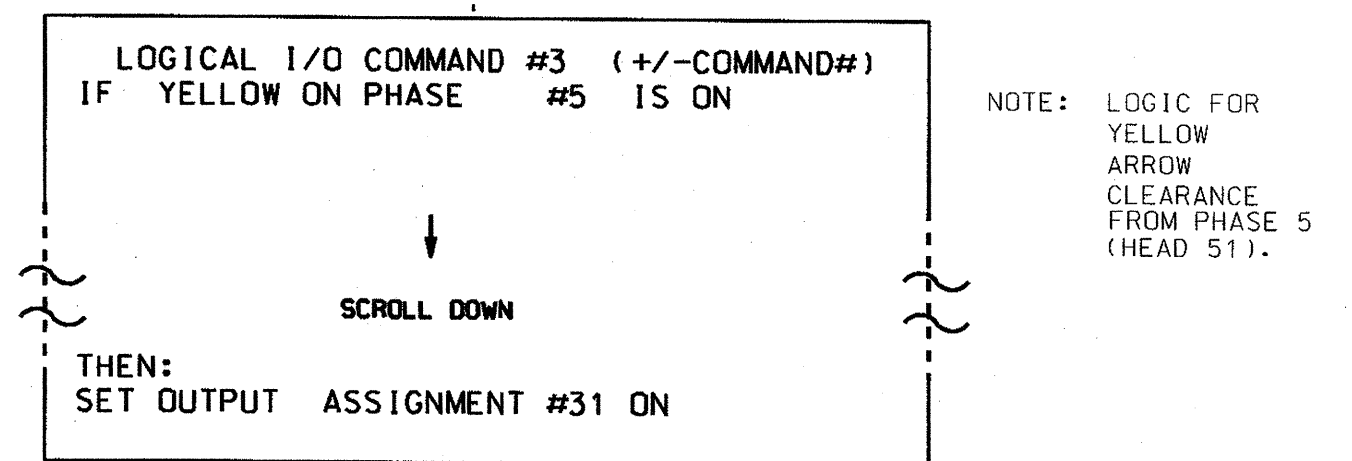
- FROM MAIN MENU PRESS '2' (PHASE CONTROL), THEN '1' (PHASE CONTROL FUNCTIONS). SCROLL TO THE BOTTOM OF THE MENU AND ENABLE ACT LOGIC COMMANDS 1, 2 AND 3.
- FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).



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



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



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

LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE

OUTPUT 30 = Overlap C Red
OUTPUT 31 = Overlap C Yellow
OUTPUT 32 = Overlap C Green
OUTPUT 34 = Phase 5 Green

Note: All outputs shown above have been remapped. See sheet 3 of this electrical detail.

OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

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

PRESS '+' TWICE

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

← NOTICE GREEN FLASH

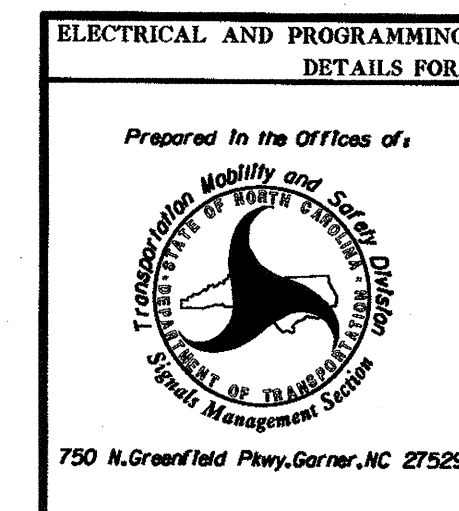
PRESS '+' TWICE

PAGE 1: VEHICLE OVERLAP 'E' 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?...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)...7

OVERLAP PROGRAMMING COMPLETE

THIS ELECTRICAL DETAIL IS FOR
 THE SIGNAL DESIGN: 07-1829T2
 DESIGNED: July 2012
 SEALED: 08/20/12
 REVISED: N/A

Electrical Detail - Temp 2 - Sheet 2 of 3



ELECTRICAL AND PROGRAMMING DETAILS FOR:		SR 1919 (Smith Level Road) at Rock Haven Road	
Prepared in the Offices of:		Division 7 Orange County Carrboro	
PLAN DATE: August 2012	REVIEWED BY: T. J. J.		
PREPARED BY: C. Strickland	REVIEWED BY:		
REVISIONS	INIT.	DATE	

750 N. Greenfield Pkwy, Garner, NC 27529

SIGNATURE: *George C. Brown* DATE: 8/20/12

SIG. INVENTORY NO. 07-1829T2

21-AUG-2012 07:38 S:\ITS\ASU\ITS_S1\p01\work\kg\cupa\sig_mon\5\rr\lck\lond\071829_sm.ele_xxx.dgn

FYA SIGNAL OUTPUT REMAPPING ASSIGNMENT PROGRAMMING DETAIL FOR SIGNAL HEAD 51

(program controller as shown below)

STEP 1

FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '1' (OUTPUT ASSIGNMENTS), WITH CURSOR IN "OUTPUT ASSIGNMENT#" POSITION, ENTER "30"

```

PAGE:1 C1 PIN:32 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....30
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0-100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:32 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...3
SELECT COLOR(0=RED,1=YEL,2=GRN)...0
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.
PRESS THE 'ENT' KEY AFTER INPUTTING DATA, THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE OVERLAP' AS SHOWN BELOW.

```

PAGE:1 C1 PIN:32 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....30
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0-100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....
VEHICLE PHASE.....
PEDESTRIAN PHASE.....
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

STEP 2

PRESS "+" KEY FOR OUTPUT 31

```

PAGE:1 C1 PIN:33 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....31
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0-100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:33 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...3
SELECT COLOR(0=RED,1=YEL,2=GRN)...1
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.
PRESS THE 'ENT' KEY AFTER INPUTTING DATA, THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE OVERLAP' AS SHOWN BELOW.

```

PAGE:1 C1 PIN:33 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....31
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0-100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....
VEHICLE PHASE.....
PEDESTRIAN PHASE.....
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

STEP 3

PRESS "+" KEY FOR OUTPUT 32

```

PAGE:1 C1 PIN:34 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....32
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0-100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:34 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...3
SELECT COLOR(0=RED,1=YEL,2=GRN)...2
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.
PRESS THE 'ENT' KEY AFTER INPUTTING DATA, THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE OVERLAP' AS SHOWN BELOW.

```

PAGE:1 C1 PIN:34 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....32
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0-100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....
VEHICLE PHASE.....
PEDESTRIAN PHASE.....
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

STEP 4

PRESS "+" TWICE TO REACH OUTPUT 34.

```

PAGE:1 C1 PIN:36 NOT ENABLED
OUTPUT ASSIGNMENT #.....34
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0-100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

THE OUTPUT IS SET AS "NOT ENABLED" BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE PHASE.

```

PAGE:1 C1 PIN:36 NOT ENABLED
SELECT VEHICLE PHASE (1-16)...5
SELECT COLOR(0=RED,1=YEL,2=GRN)...2
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE PHASE' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.
PRESS THE 'ENT' KEY AFTER INPUTTING DATA, THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE PHASE' AS SHOWN BELOW.

```

PAGE:1 C1 PIN:36 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....34
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0-100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....
VEHICLE OVERLAP.....
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

OUTPUT PROGRAMMING FOR HEAD 51 COMPLETE

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 07-1829T2
DESIGNED: July 2012
SEALED: 08/20/12
REVISED: N/A

Electrical Detail - Temp 2 - Sheet 3 of 3

<p>750 N. Grandfield Pkwy, Garner, NC 27529</p>	Prepared In the Office of: TRANSPORTATION MOBILITY AND SAFETY SOLUTIONS, INC. Signal Management Solutions		SR 1919 (Smith Level Road) at Rock Haven Road	SEAL NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022013 ENGINEER GEORGE C. BROWN
	Division 7 PLAN DATE: August 2012 PREPARED BY: C. Strickland	Orange County Carrboro REVIEWED BY: T. J. [Signature] REVIEWED BY:	REVISIONS INIT. DATE	SIGNATURE: [Signature] DATE:

SIG. INVENTORY NO. 07-1829T2

21-AUG-2012 07:39 S:\ITS\ASU\ITS 51\proj\work\output\sig 9_Mon\51r1\ckl\cand\071829_sig.ele.xxx.dgn

PHASING DIAGRAM

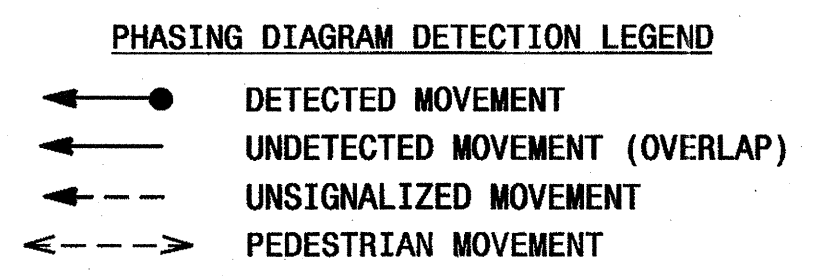
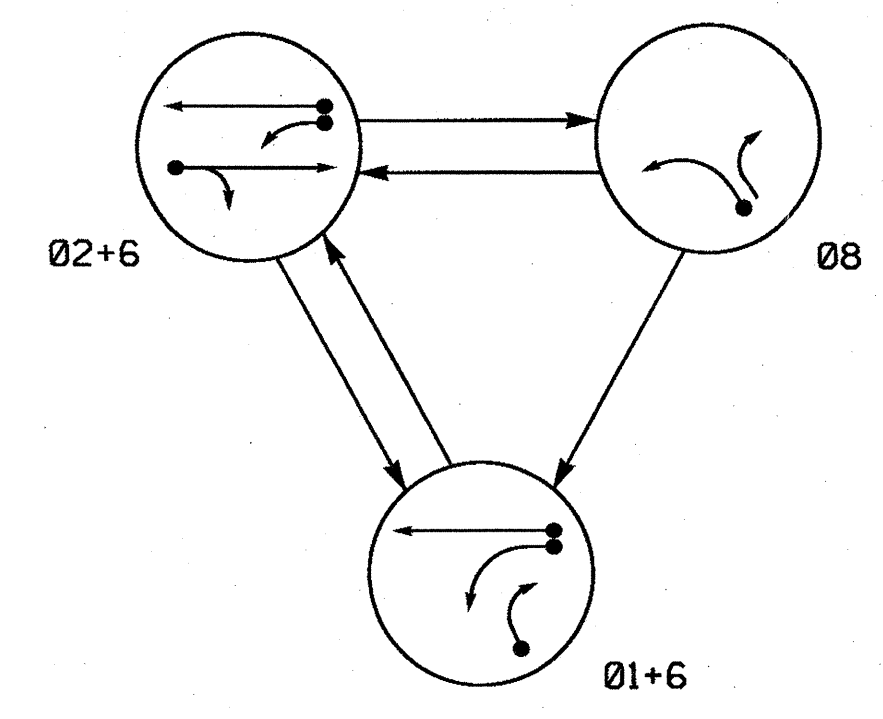


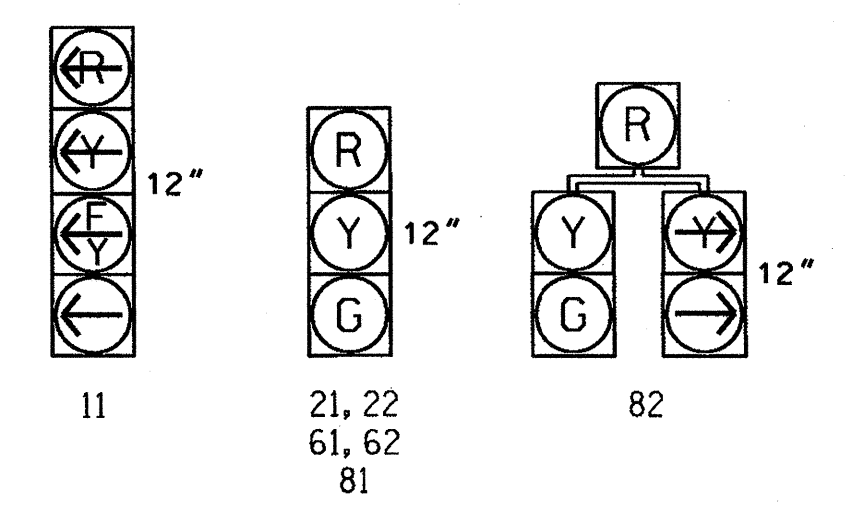
TABLE OF OPERATION

SIGNAL FACE	PHASE			
	01+6	02+6	08	FLASH
11	---	Y	R	Y
21, 22	R	G	R	Y
61, 62	G	G	R	Y
81	R	R	G	R
82	R	R	G	R

Y = Flashing Yellow Arrow

SIGNAL FACE I.D.

All Heads L.E.D.



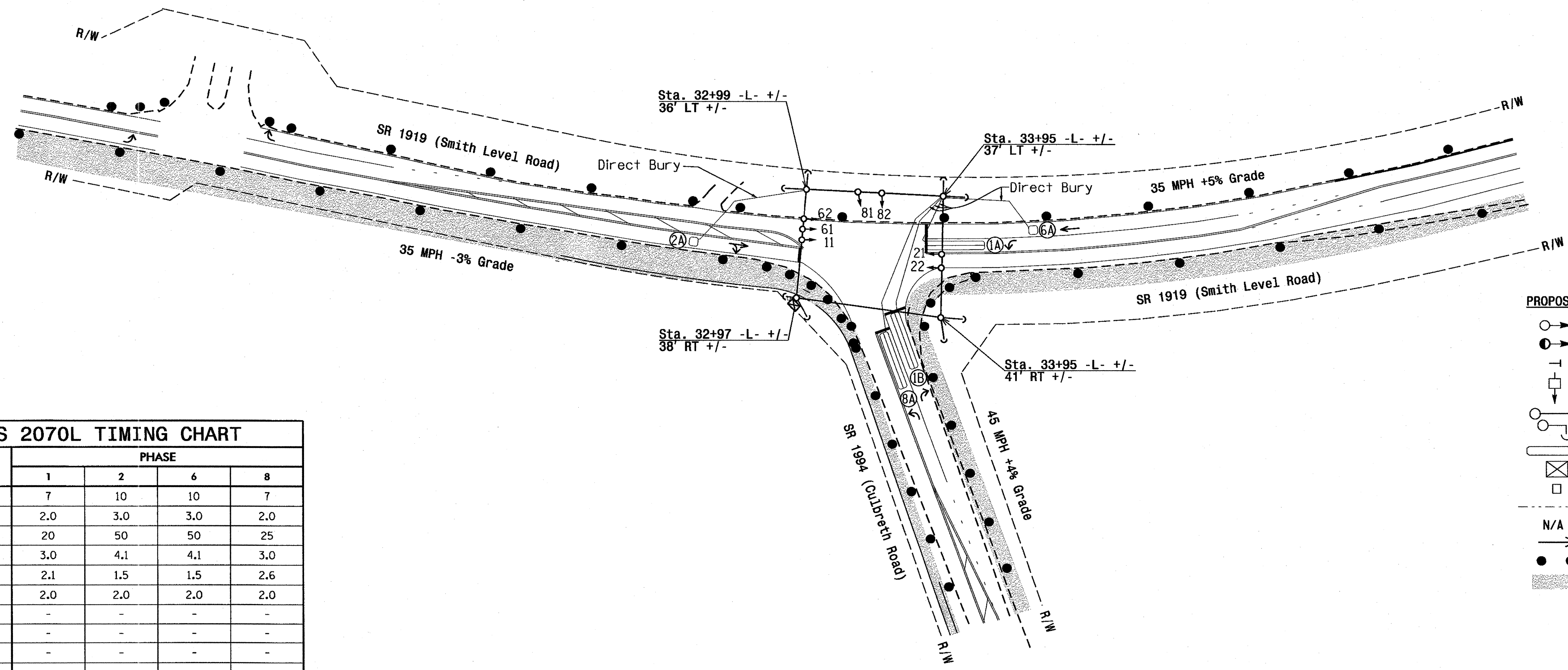
OASIS 2070L LOOP & DETECTOR INSTALLATION CHART

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	DETECTOR PROGRAMMING				SYSTEM LOOP	NEW CARD	
				PHASE	CALLING	EXTENSION	STRETCH TIME			
1A	6X40	0	2-4-2	Y	1	Y	-	15	-	Y
1B	6X40	0	2-4-2	Y	6	Y	-	-	-	Y
2A	6X6	70	3	Y	2	Y	-	-	-	Y
6A	6X6	70	4	Y	6	Y	-	-	-	Y
8A	6X40	0	2-4-2	Y	8	Y	-	3	-	Y

3 Phase Fully Actuated (Chapel Hill-Carrboro Signal System)

NOTES

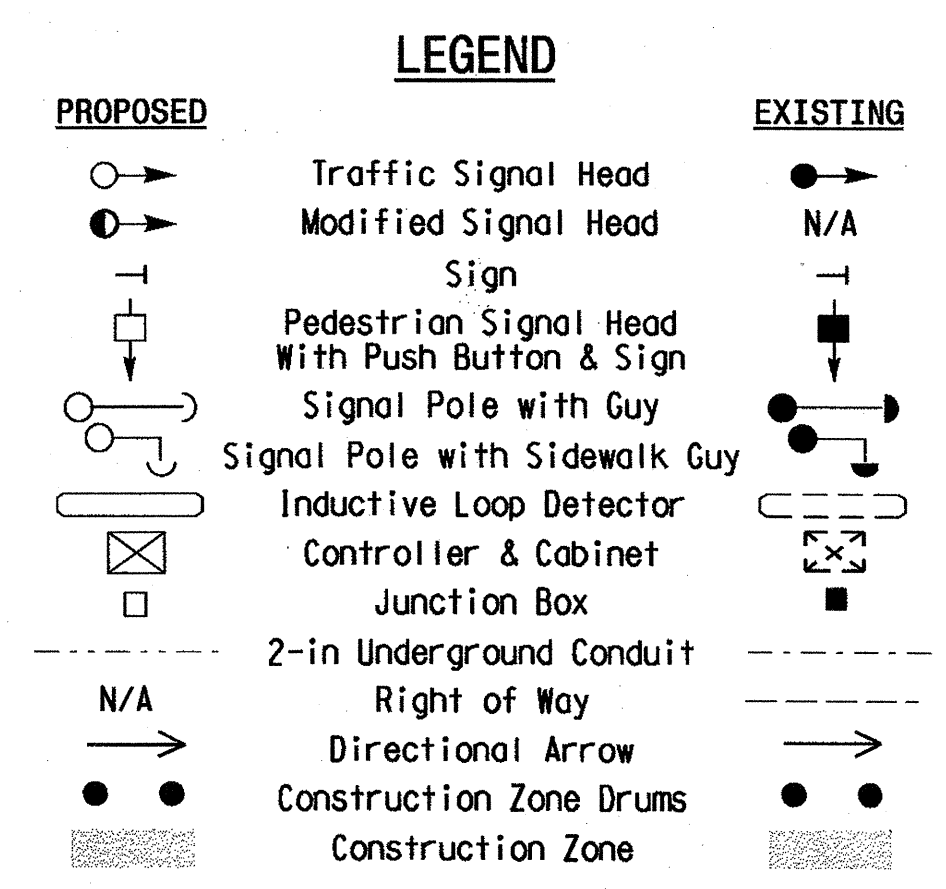
- Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 may be lagged.
- Set all detector units to presence mode.
- Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.



OASIS 2070L TIMING CHART

FEATURE	PHASE			
	1	2	6	8
Min Green 1 *	7	10	10	7
Extension 1 *	2.0	3.0	3.0	2.0
Max Green 1 *	20	50	50	25
Yellow Clearance	3.0	4.1	4.1	3.0
Red Clearance	2.1	1.5	1.5	2.6
Red Revert	2.0	2.0	2.0	2.0
Walk 1 *	-	-	-	-
Don't Walk 1	-	-	-	-
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	-	-	-	-
Simultaneous Gap	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 I)

SR 1919 (Smith Level Road) at SR 1994 (Culbreth Road)

Division 7 Orange County Carrboro

PLAN DATE: June 2012 REVIEWED BY:

PREPARED BY: R. Hough REVIEWED BY:

REVISIONS: INIT. DATE

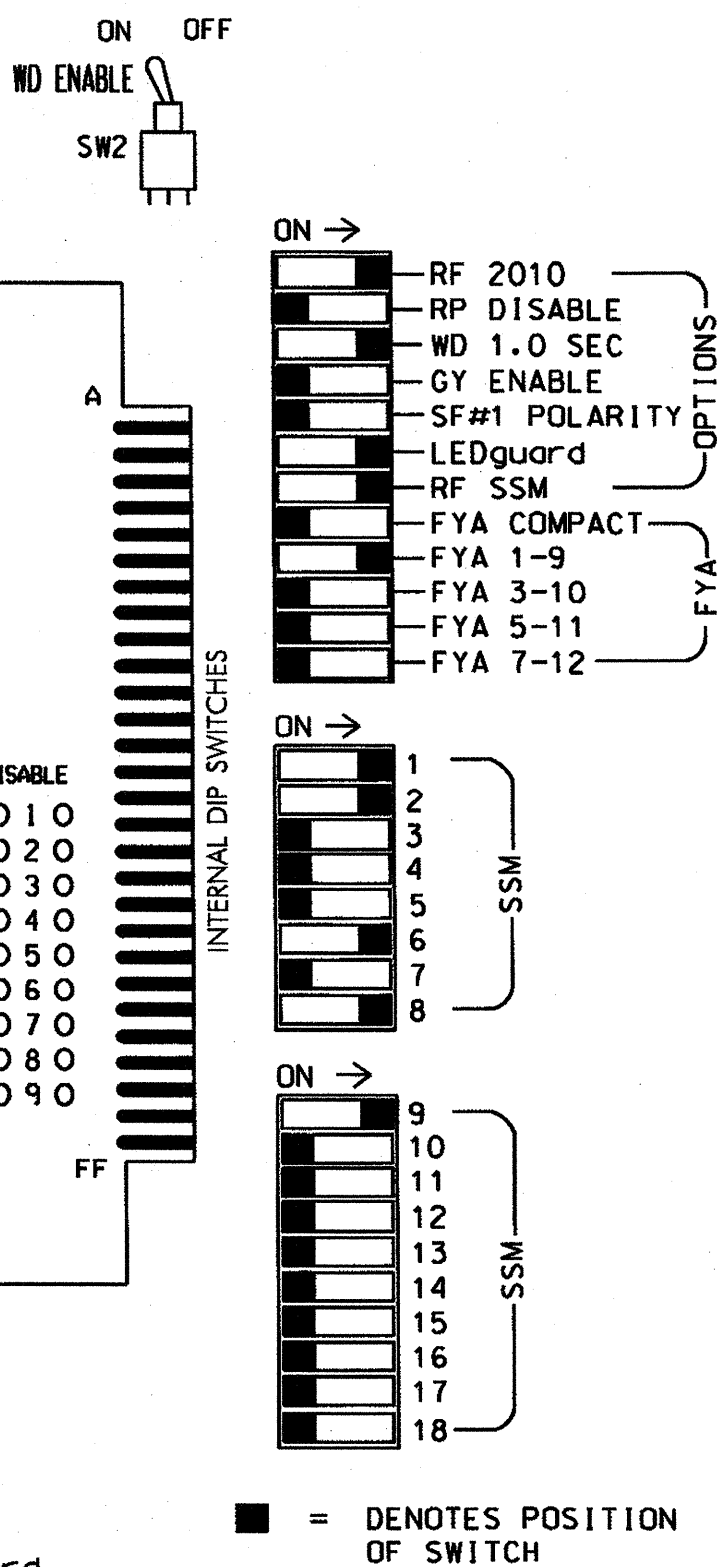
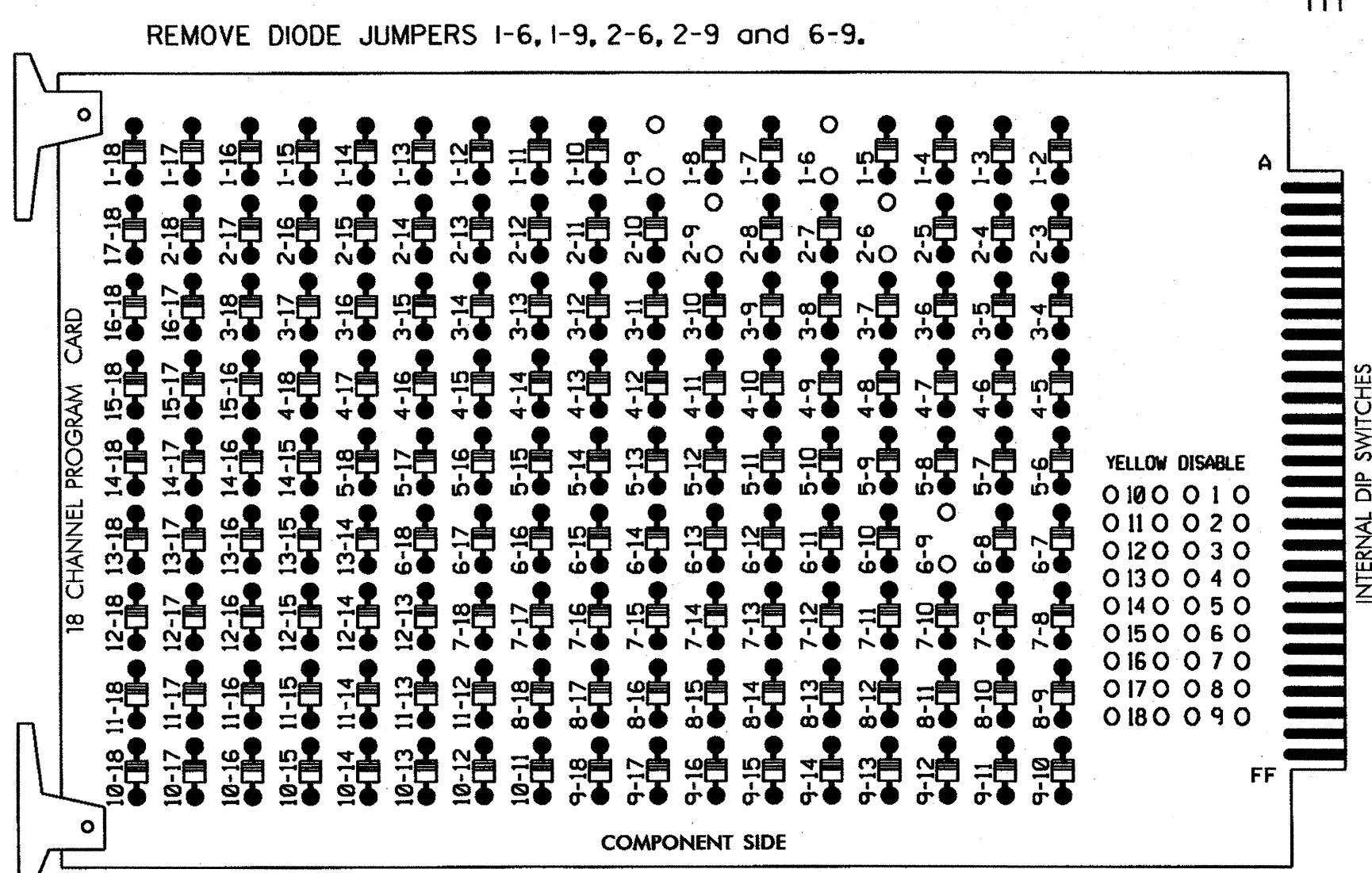
SCALE: 1"=50'

20-AUG-2012 11:29 Q:\TTPROJ\2803\Traffic\OASIS\Signal\8407-1020M07102011_1.s1.g.dwg, 20120820.dgn rzl/mba

EDI MODEL 2018ECL-NC CONFLICT MONITOR

PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
3. Ensure that Red Enable is active at all times during normal operation.
4. Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
2. Enable Simultaneous Gap-Out for all phases.
3. Program phases 2 and 6 for Start Up In Green.
4. Program phases 2 and 6 for Yellow Flash, and overlap 1 as Wag Overlaps.
5. The cabinet and controller are part of the Chapel Hill-Carboro Signal System.

EQUIPMENT INFORMATION

CONTROLLER.....2070L
 CABINET.....332 /W/ AUX
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....BASE
 OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
 LOAD SWITCHES USED.....S1,S2,S8,S11,AUX S1
 PHASES USED.....1,2,6,8
 OVERLAP "A".....1+2
 OVERLAP "B".....NOT USED
 OVERLAP "C".....NOT USED
 OVERLAP "D".....NOT USED

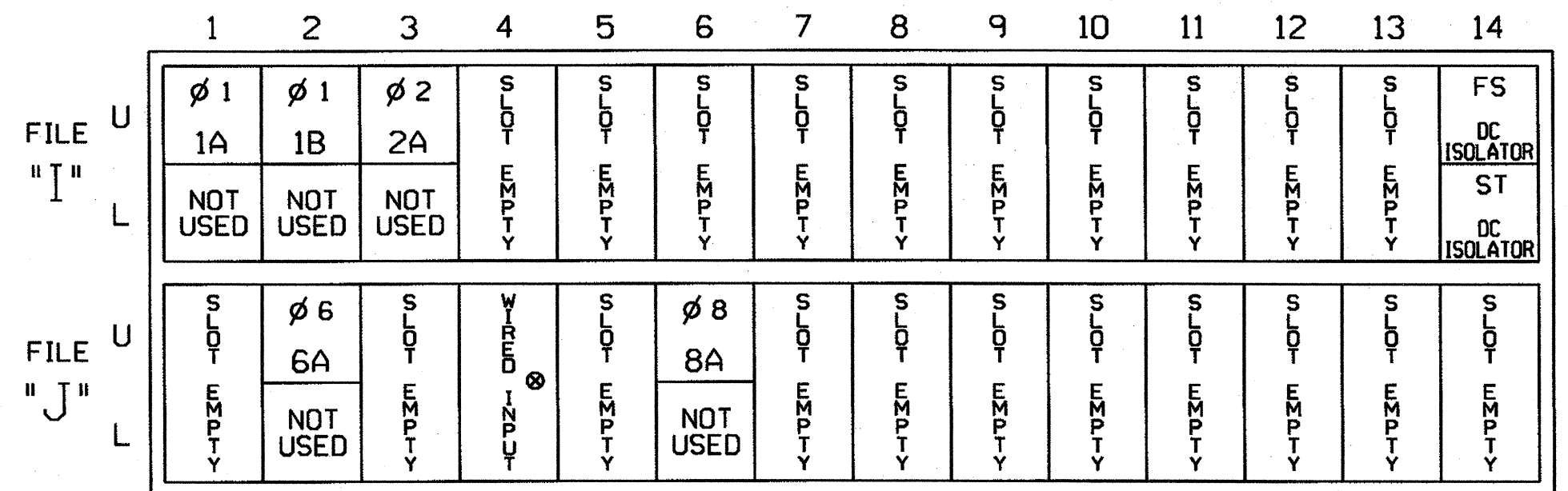
SIGNAL HEAD HOOK-UP CHART

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	NU	NU	NU	NU	61,62	NU	NU	81,82	NU	11	NU	NU	NU	NU	NU
RED	*	128						134			107							
YELLOW		129						135			108							
GREEN		130						136			109							
RED ARROW													A121					
YELLOW ARROW		126												A122				
FLASHING YELLOW ARROW														A123				
GREEN ARROW	127	127																

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

INPUT FILE POSITION LAYOUT

(front view)



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

FS = FLASH SENSE
 ST = STOP TIME

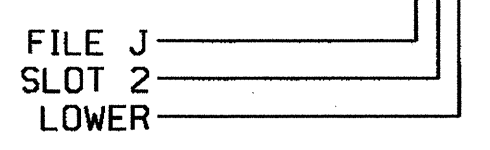
⊗ Wired Input - Do not populate slot with detector card

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			
1B	TB2-5,6	I2U	39	1	2	1	Y	Y			15
2A	TB2-9,10	I3U	63	25	32	2	Y	Y			
6A	TB3-5,6	J2U	40	2	6	6	Y	Y			
8A	TB5-9,10	J6U	42	4	8	8	Y	Y			3

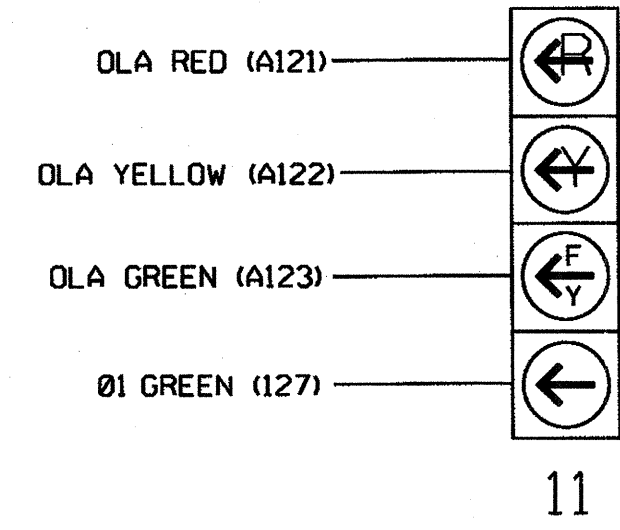
¹Add jumper from I1-W to J4-W, on rear of input file.

INPUT FILE POSITION LEGEND: J2L



4 SECTION FYA PPLT SIGNAL WIRING DETAIL

(wire signal head as shown)

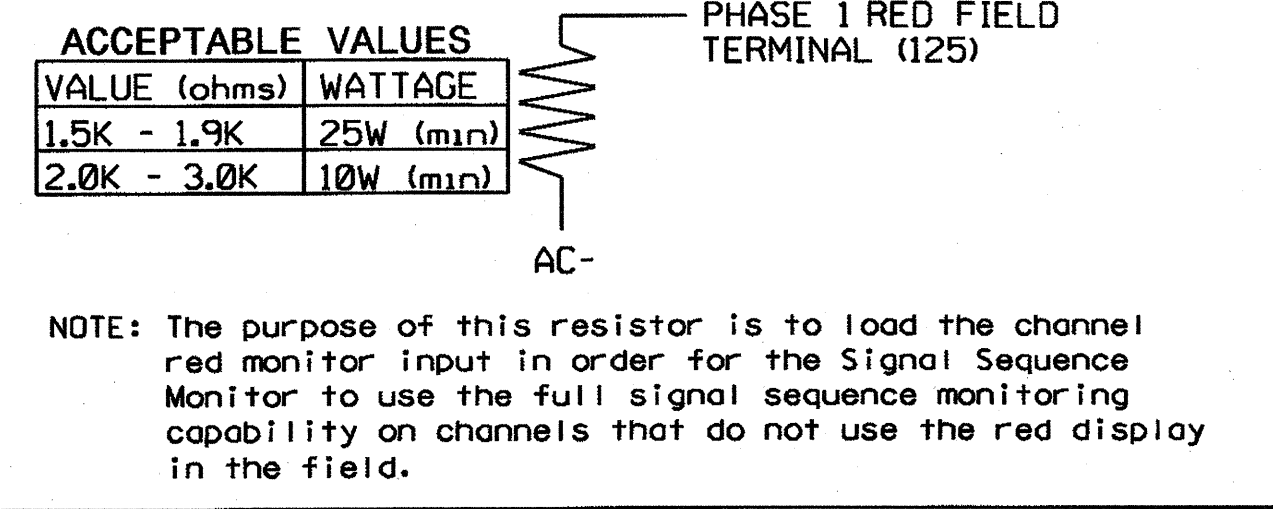


NOTE

1. The sequence display for this signal requires special logic programming. See sheet 2 of 2 for programming instructions.

LOAD RESISTOR INSTALLATION DETAIL

(install resistor as shown below)



NOTE: The purpose of this resistor is to load the channel red monitor input in order for the Signal Sequence Monitor to use the full signal sequence monitoring capability on channels that do not use the red display in the field.

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 07-1020T1
 DESIGNED: June 2012
 SEALED: 08/20/12
 REVISED: N/A

Electrical Detail - Temp 1 - Sheet 1 of 2

Electrical and Programming Details For:

Prepared in the Office of:

 750 N. Greenfield Pkwy, Garner, NC 27529

SR 1919 (Smith Level Road) at SR 1994 (Culbreth Road)
 Division 7 Orange County Carrboro

PLAN DATE: August 2012 REVISIONS: _____ INIT. DATE: _____
 PREPARED BY: C. Strickland REVIEWED BY: T. J. J. _____

SEAL
 NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL 022013
 GEORGE C. BROWN
 SIGNATURE DATE: 8/24/12

SIG. INVENTORY NO. 07-1020T1

21-AUG-2012 08:07 S:\ITSS\WITS\SIGNAL\workgroups\510_MonW\Trk\card\071020_sm.ele.xxx.dgn

**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 AND 3.
- 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
  
```

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

LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE

OUTPUT 50 = Overlap A Red
 OUTPUT 51 = Overlap A Yellow
 OUTPUT 52 = Overlap A Green

OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

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

```

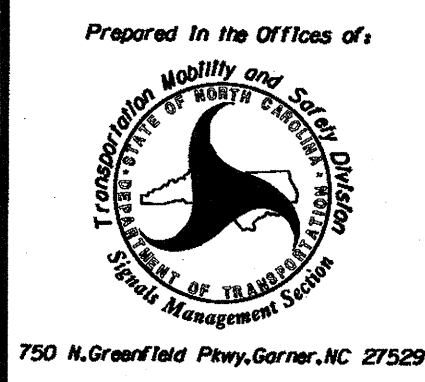
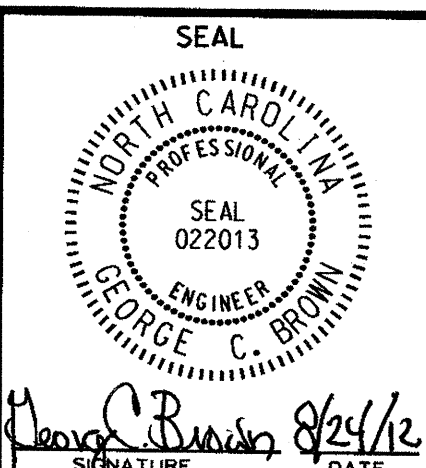
PAGE 1: VEHICLE OVERLAP 'A' SETTINGS
PHASE:      12345678910111213141516
VEH OVL PARENTS: XX
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR: - RED - YELLOW - GREEN
FLASH COLORS:  - RED - YELLOW X GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN 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
  
```

← NOTICE GREEN FLASH

OVERLAP PROGRAMMING COMPLETE

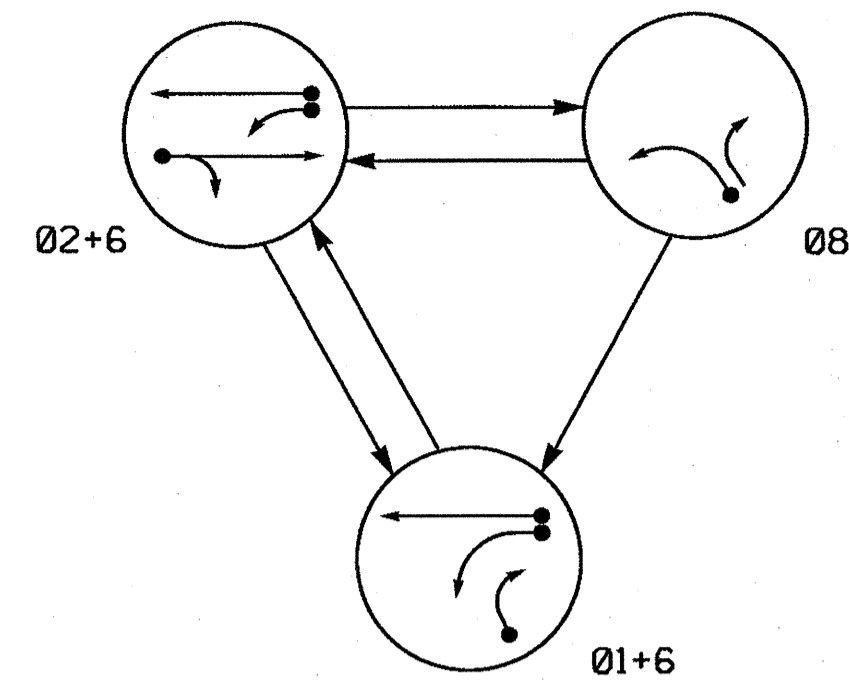
THIS ELECTRICAL DETAIL IS FOR
 THE SIGNAL DESIGN: 07-102011
 DESIGNED: June 2012
 SEALED: 08/20/12
 REVISED: N/A

Electrical Detail - Temp 1 - Sheet 2 of 2

	ELECTRICAL AND PROGRAMMING DETAILS FOR:		SR 1919 (Smith Level Road) at SR 1994 (Culbreth Road)	
	Prepared In the Office of:	Division 7 Orange County Carrboro		
REVISIONS		INIT.	DATE	SIGNATURE: <i>George C. Brown</i> DATE: 8/24/12
SIG. INVENTORY NO. 07-102011				

21-AUG-2012 08:08
 S:\TSS\SMITS\SIGNALS\Koroupe\Sig Mon\Strickland\071020_sm_e1a.xxx.dgn
 C:\STRICKLAND

PHASING DIAGRAM



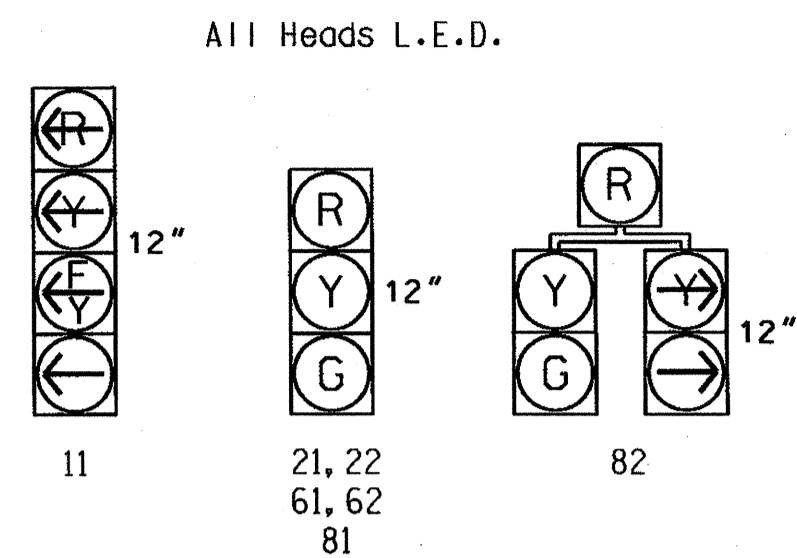
PHASING DIAGRAM DETECTION LEGEND

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

SIGNAL FACE	PHASE			
	01+6	02+6	08	F
11	←	←	←	←
21, 22	R	G	R	Y
61, 62	G	G	R	Y
81	R	R	G	R
82	R	R	G	R

F = Flashing Yellow Arrow

SIGNAL FACE I.D.

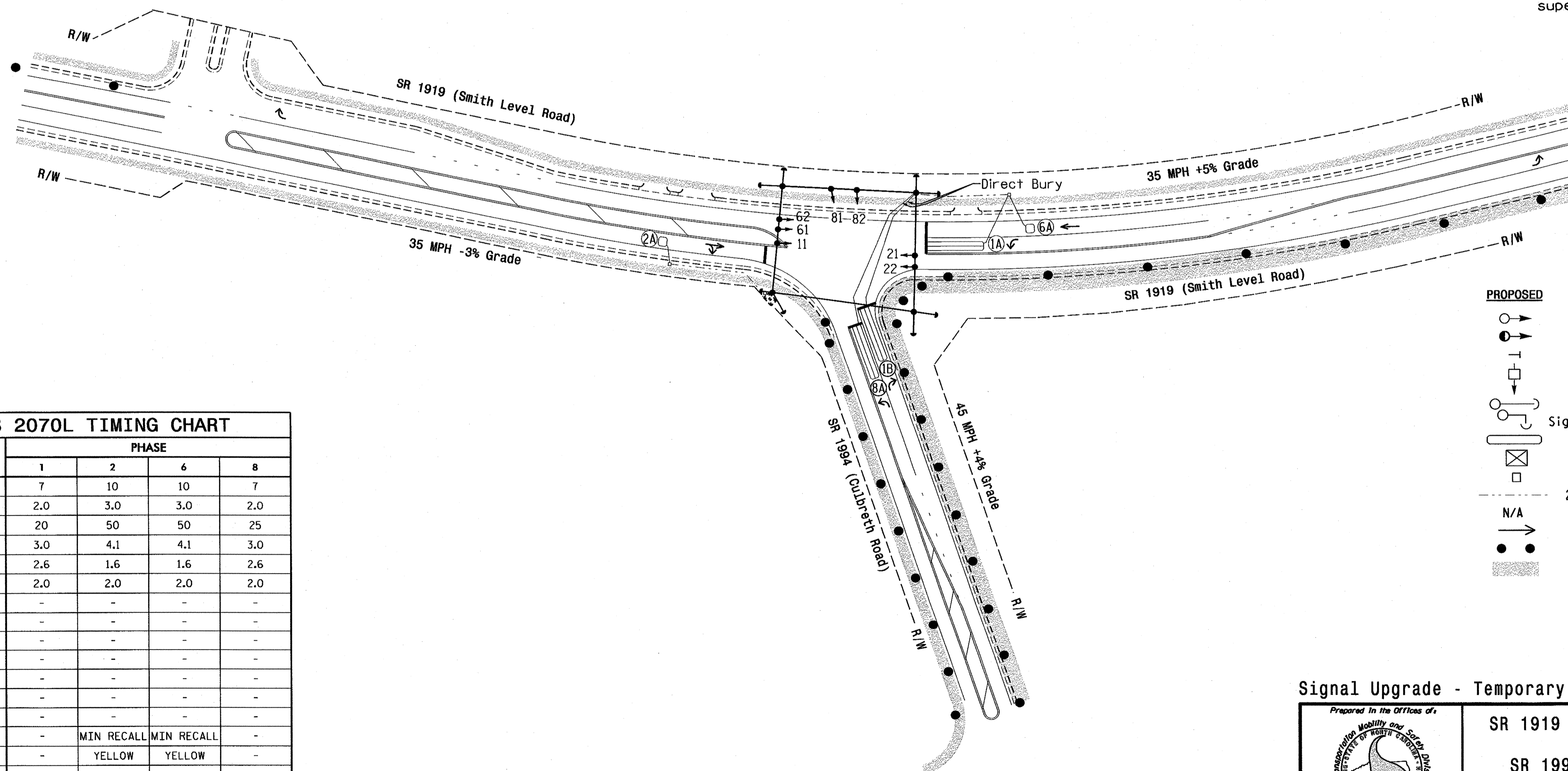


INDUCTIVE LOOPS				DETECTOR PROGRAMMING				SYSTEM LOOP	NEW CARD
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	PHASE	CALLING	EXTENSION	STRETCH TIME		
1A	6X40	0	2-4-2	Y	1	Y	-	15	-
1B	6X40	0	2-4-2	Y	6	Y	-	-	-
2A	6X6	70	3	Y	2	Y	-	-	-
6A	6X6	70	4	Y	6	Y	-	-	-
8A	6X40	0	2-4-2	Y	8	Y	-	3	-

3 Phase Fully Actuated
(Chapel Hill-Carrboro Signal System)

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 may be lagged.
- Reposition existing signal heads numbered 11, 21, 22, 61, and 62.
- Set all detector units to presence mode.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.



FEATURE	PHASE			
	1	2	6	8
Min Green 1*	7	10	10	7
Extension 1*	2.0	3.0	3.0	2.0
Max Green 1*	20	50	50	25
Yellow Clearance	3.0	4.1	4.1	3.0
Red Clearance	2.6	1.6	1.6	2.6
Red Revert	2.0	2.0	2.0	2.0
Walk 1*	-	-	-	-
Don't Walk 1	-	-	-	-
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	-	-	-	-
Simultaneous Gap	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.

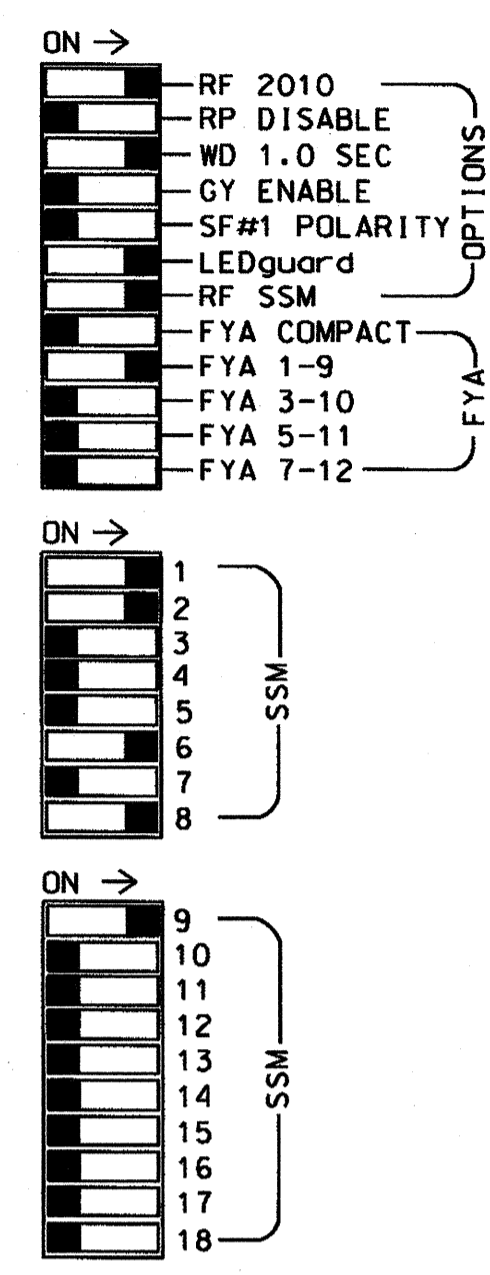
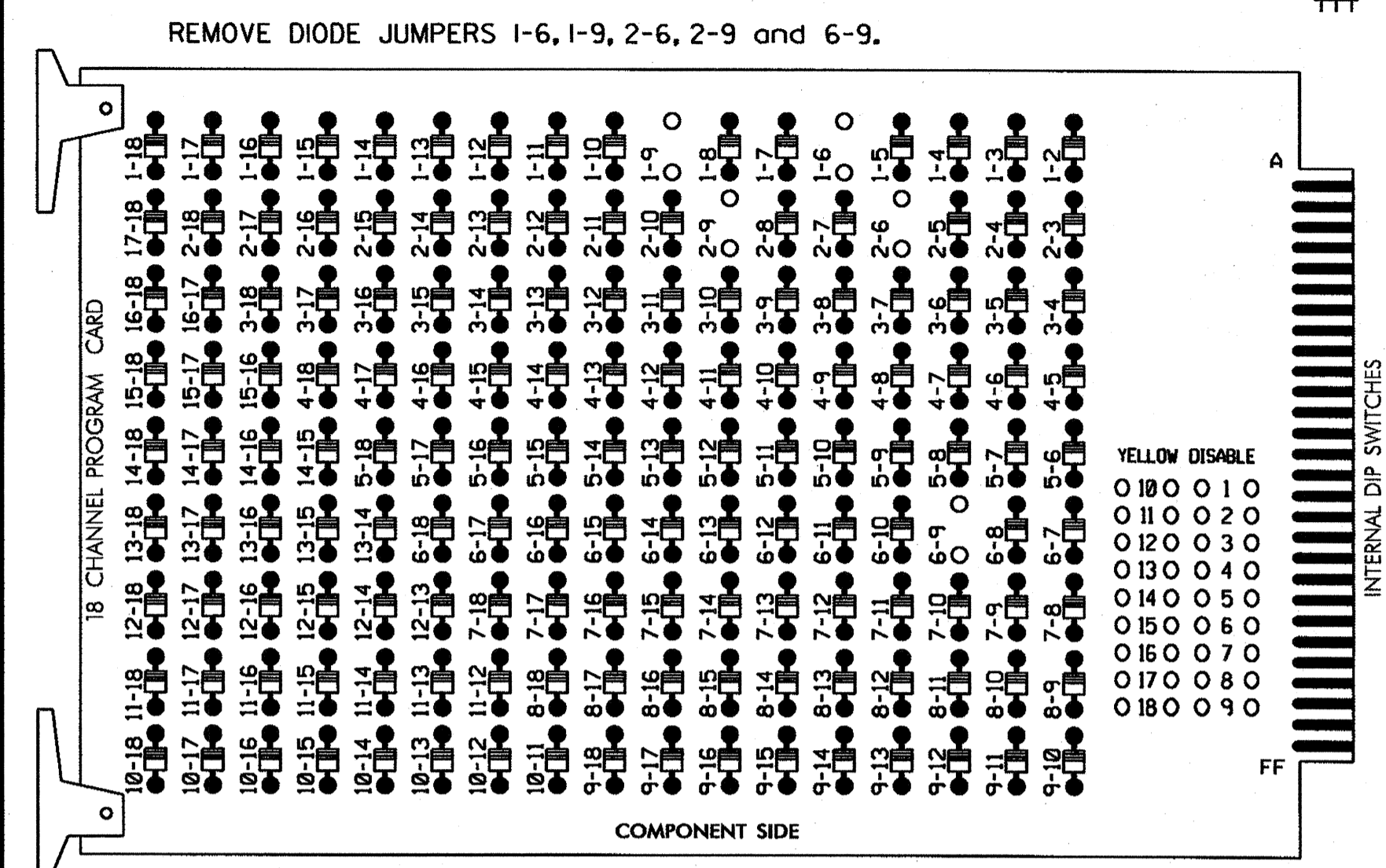
PROPOSED	EXISTING
○ → Traffic Signal Head	● → Traffic Signal Head
● → Modified Signal Head	N/A
⊥ Sign	⊥ Sign
⊥ Pedestrian Signal Head With Push Button & Sign	⊥ Pedestrian Signal Head
⊥ Signal Pole with Guy	⊥ Signal Pole with Guy
⊥ Signal Pole with Sidewalk Guy	⊥ Signal Pole with Sidewalk Guy
⊠ Inductive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

Signal Upgrade - Temporary Design 2 (TMP Phase II)

	SR 1919 (Smith Level Road) at SR 1994 (Culbreth Road)		
	Division 7 Orange County Carrboro PLAN DATE: June 2012 PREPARED BY: R. Hough	REVIEWED BY: REVIEWED BY:	

**EDI MODEL 2018ECL-NC CONFLICT MONITOR
PROGRAMMING DETAIL**

(remove jumpers and set switches as shown)



YELLOW DISABLE

0100	0100
0110	0200
0120	0300
0130	0400
0140	0500
0150	0600
0160	0700
0170	0800
0180	0900

■ = DENOTES POSITION OF SWITCH

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.
- Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

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.
- Enable Simultaneous Gap-Out for all phases.
- Program phases 2 and 6 for Start Up In Green.
- Program phases 2 and 6 for Yellow Flash, and overlap 1 as Wag Overlaps.
- The cabinet and controller are part of the Chapel Hill-Carboro Signal System.

EQUIPMENT INFORMATION

CONTROLLER.....2070L
 CABINET.....332 /W/ AUX
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....BASE
 OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
 LOAD SWITCHES USED.....S1,S2,S8,S11,AUX S1
 PHASES USED.....1,2,6,8
 OVERLAP "A".....1+2
 OVERLAP "B".....NOT USED
 OVERLAP "C".....NOT USED
 OVERLAP "D".....NOT USED

PROJECT REFERENCE NO.	SHEET NO.
U-2803	Sig. 14

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
CHU 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	DLA	DLB	SPARE	OLC	OLD	SPARE
SIGNAL HEAD NO.	11	82	21,22	NU	NU	NU	NU	NU	61,62	NU	NU	81,82	NU	11	NU	NU	NU	NU
RED	*	128							134			107						
YELLOW		129							135			108						
GREEN		130							136			109						
RED ARROW													A121					
YELLOW ARROW	126													A122				
FLASHING YELLOW ARROW														A123				
GREEN ARROW	127	127																

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

INPUT FILE POSITION LAYOUT

(front view)

FILE "I"	1	2	3	4	5	6	7	8	9	10	11	12	13	14
U	∅ 1	∅ 1	∅ 2	S	S	S	S	S	S	S	S	S	S	FS
L	1A	1B	2A	103F	103F	103F	103F	103F	103F	103F	103F	103F	103F	DC ISOLATOR
	NOT USED	NOT USED	NOT USED	103F	103F	103F	103F	103F	103F	103F	103F	103F	103F	ST
				103F	103F	103F	103F	103F	103F	103F	103F	103F	103F	DC ISOLATOR
U	S	∅ 6	S	S	S	∅ 8	S	S	S	S	S	S	S	S
L	103F	6A	103F	103F	103F	8A	103F	103F	103F	103F	103F	103F	103F	103F
	103F	NOT USED	103F	103F	103F	NOT USED	103F	103F	103F	103F	103F	103F	103F	103F

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

FS = FLASH SENSE
 ST = STOP TIME

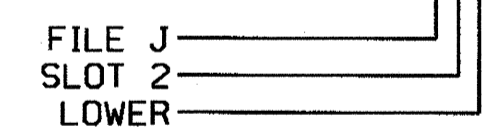
⊗ Wired Input - Do not populate slot with detector card

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			
1B	TB2-5,6	I2U	39	1	2	1	Y	Y			15
2A	TB2-9,10	I3U	63	25	32	2	Y	Y			
6A	TB3-5,6	J2U	40	2	6	6	Y	Y			
8A	TB5-9,10	J6U	42	4	8	8	Y	Y			3

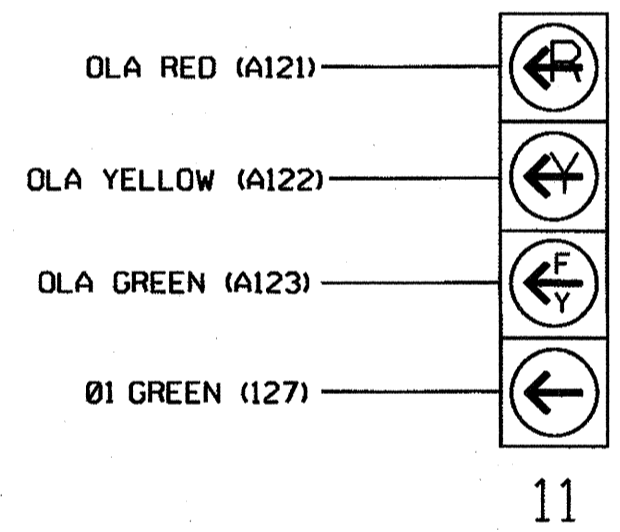
¹Add jumper from I1-W to J4-W, on rear of input file.

INPUT FILE POSITION LEGEND: J2L



4 SECTION FYA PPLT SIGNAL WIRING DETAIL

(wire signal head as shown)



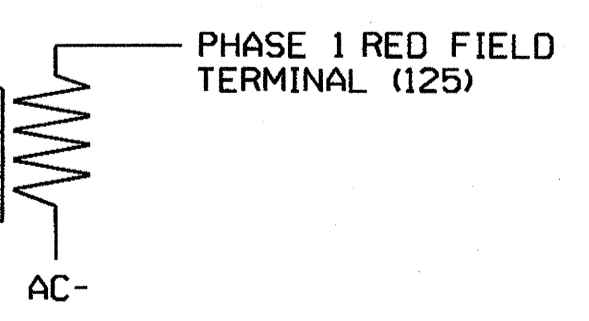
NOTE

1. The sequence display for this signal requires special logic programming. See sheet 2 of 2 for programming instructions.

LOAD RESISTOR INSTALLATION DETAIL

(install resistor as shown below)

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



NOTE: The purpose of this resistor is to load the channel red monitor input in order for the Signal Sequence Monitor to use the full signal sequence monitoring capability on channels that do not use the red display in the field.

THIS ELECTRICAL DETAIL IS FOR
 THE SIGNAL DESIGN: 07-1020T2
 DESIGNED: June 2012
 SEALED: 08/20/12
 REVISED: N/A

Electrical Detail - Temp 2 - Sheet 1 of 2

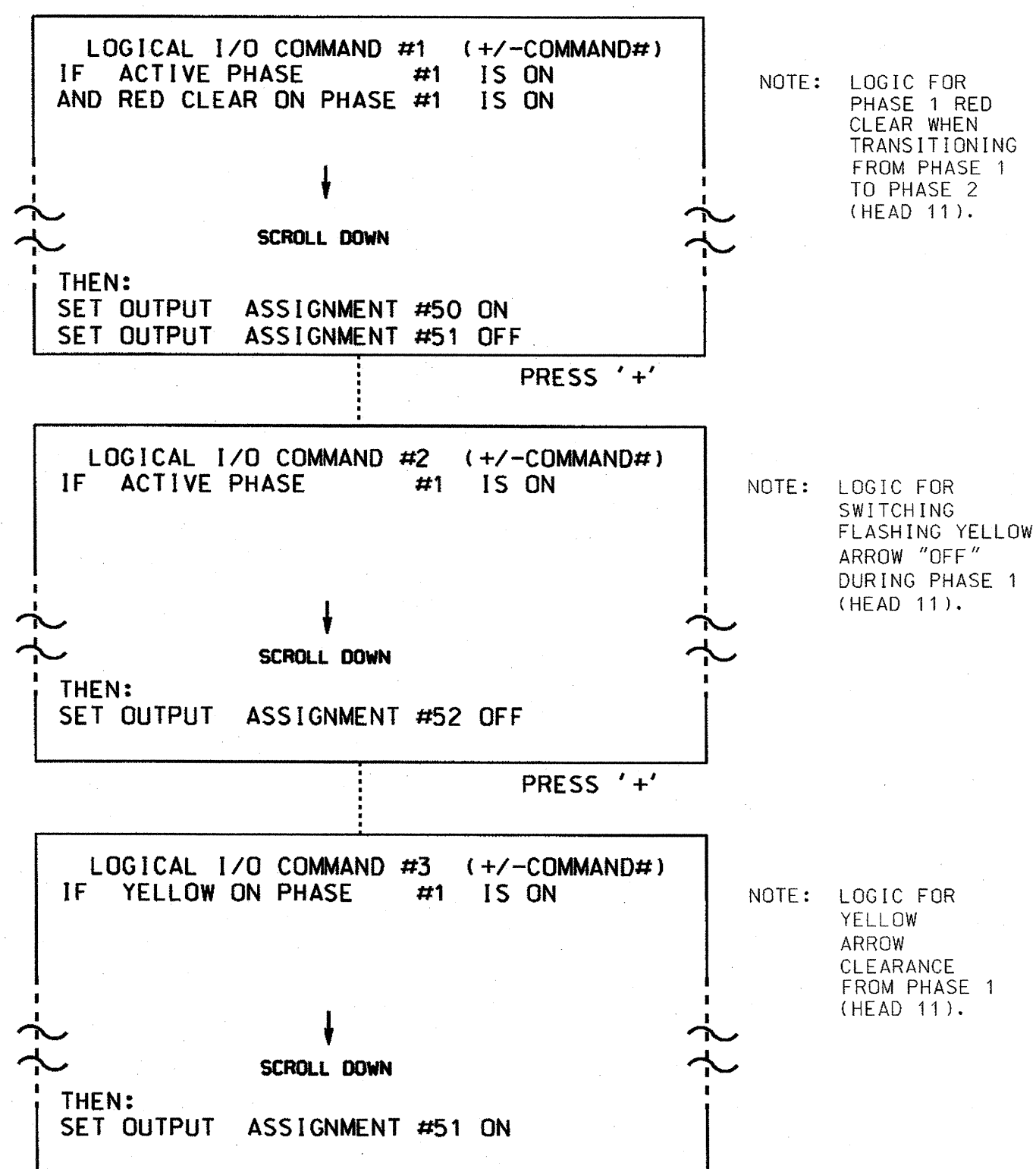
ELECTRICAL AND PROGRAMMING DETAILS FOR: Prepared In the Offices of: Signal Management Systems, Inc. 750 N. Greenfield Pkwy, Garner, NC 27529	SR 1919 (Smith Level Road) at SR 1994 (Culbreth Road)	SEAL GEORGE C. BROWN ENGINEER
	Division 7 Orange County Carrboro PLAN DATE: August 2012 REVIEWED BY: T. J. J... PREPARED BY: C. Strickland REVIEWED BY:	

21-AUG-2012 08:11 1737513131 Signal Management Systems, Inc. M:\MS\T\1020_Sig.14\020_Sig.14\020_Sig.14.dgn

**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 AND 3.
- FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).



LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE

OUTPUT 50 = Overlap A Red
OUTPUT 51 = Overlap A Yellow
OUTPUT 52 = Overlap A Green

OVERLAP PROGRAMMING DETAIL

(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
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
    
```

← NOTICE GREEN FLASH

OVERLAP PROGRAMMING COMPLETE

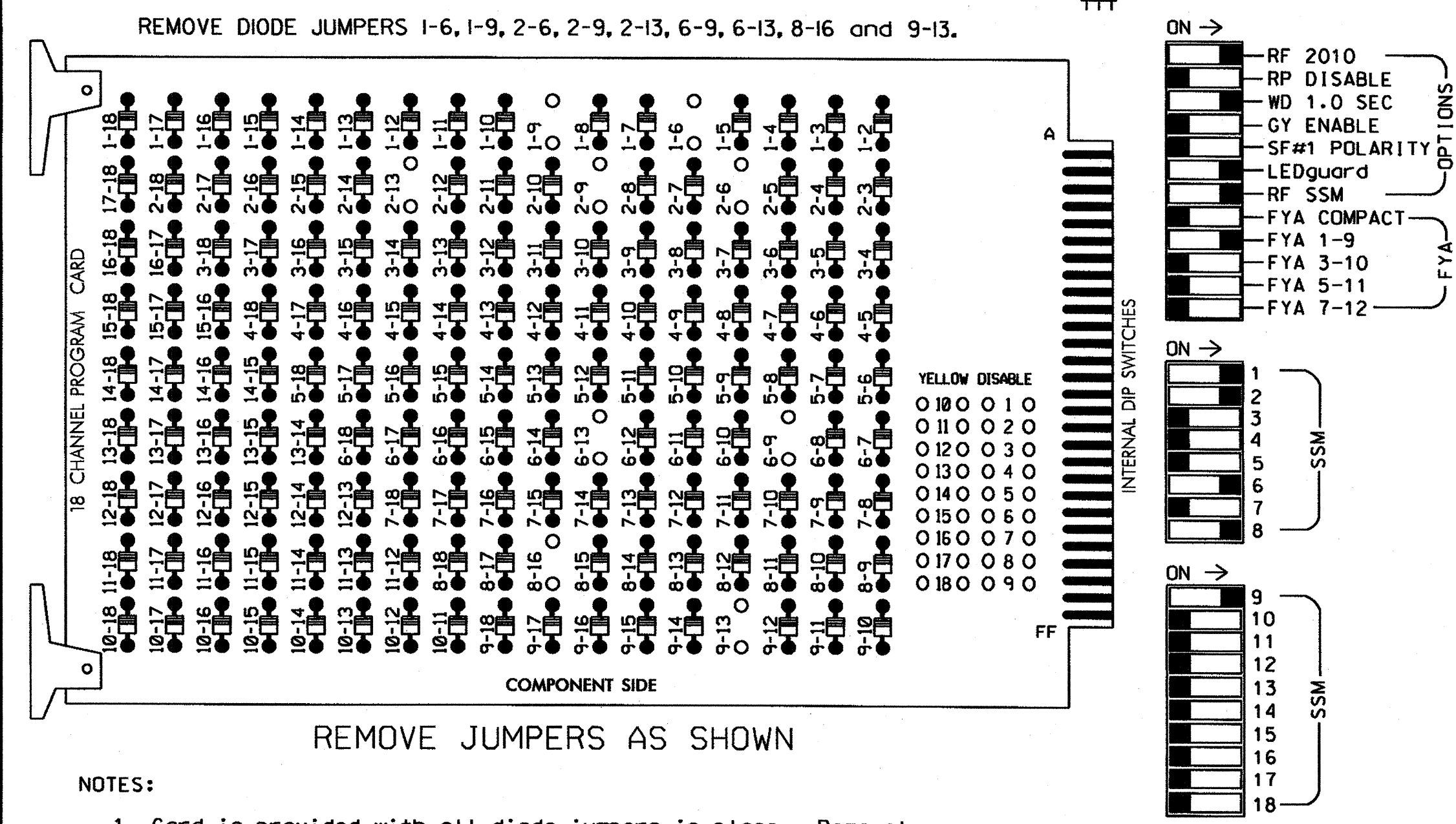
THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 07-1020T2
DESIGNED: June 2012
SEALED: 08/20/12
REVISED: N/A

Electrical Detail - Temp 2 - Sheet 2 of 2

<p>750 N. Grandfield Pkwy, Garner, NC 27529</p>	ELECTRICAL AND PROGRAMMING DETAILS FOR:		SR 1919 (Smith Level Road) at SR 1994 (Culbreth Road)	SEAL
	Prepared in the Offices of:	Division 7 Orange County Carrboro		
PLAN DATE: August 2012		REVIEWED BY:	SIGNATURE: <i>George C. Brown</i> DATE: 8/24/12	
PREPARED BY: C. Strickland		REVISIONS:	INIT.	DATE
REVISIONS:		INIT.	DATE	SIG. INVENTORY NO. 07-1020T2

EDI MODEL 2018ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches 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.
- Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

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.
- Enable Simultaneous Gap-Out for all phases.
- Program phases 2 and 6 for Start Up In Green.
- Program phases 2 and 8 for 'STARTUP PED CALL'.
- Program phases 2 and 6 for Yellow Flash, and overlap 1 as Wag Overlaps.
- The cabinet and controller are part of the Chapel Hill-Carboro Signal System.

EQUIPMENT INFORMATION

CONTROLLER.....2070L
 CABINET.....332 /W/ AUX
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....BASE
 OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
 LOAD SWITCHES USED.....S1,S2,S3,S8,S11,S12,AUX S1
 PHASES USED.....1,2,2 PED,6,8,8 PED
 OVERLAP "A".....1+2
 OVERLAP "B".....NOT USED
 OVERLAP "C".....NOT USED
 OVERLAP "D".....NOT USED

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
CHU 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	DLB	SPARE	DLC	OLD	SPARE
SIGNAL HEAD NO.	11	82	21,22	P21, P22	NU	NU	NU	NU	61,62	NU	NU	81,82	P81,P82, P83,P84	11	NU	NU	NU	NU
RED		*	128						134			107						
YELLOW			129						135			108						
GREEN			130						136			109						
RED ARROW													A121					
YELLOW ARROW		126											A122					
FLASHING YELLOW ARROW													A123					
GREEN ARROW	127	127																
Hand icon				113									110					
Person icon				115									112					

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

INPUT FILE POSITION LAYOUT

(front view)

FILE "I"	1	2	3	4	5	6	7	8	9	10	11	12	13	14
U	∅ 1	∅ 1	∅ 2	∅ 3	∅ 4	∅ 5	∅ 6	∅ 7	∅ 8	∅ 9	∅ 10	∅ 11	∅ 12	∅ 13
L	NOT USED	∅ 1	NOT USED	∅ 3	∅ 4	∅ 5	∅ 6	∅ 7	∅ 8	∅ 9	∅ 10	∅ 11	∅ 12	∅ 13
U	∅ 6	∅ 7	∅ 8	∅ 9	∅ 10	∅ 11	∅ 12	∅ 13	∅ 14	∅ 15	∅ 16	∅ 17	∅ 18	∅ 19
L	NOT USED	∅ 7	∅ 8	∅ 9	∅ 10	∅ 11	∅ 12	∅ 13	∅ 14	∅ 15	∅ 16	∅ 17	∅ 18	∅ 19

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

FS = FLASH SENSE
 ST = STOP TIME

⊗ Wired Input - Do not populate slot with detector card

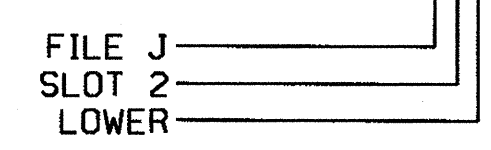
INPUT FILE CONNECTION & PROGRAMMING CHART

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
1B	TB2-5,6	I2U	39	1	2	1	Y	Y			15
1C	TB2-7,8	I2L	43	5	12	1	Y	Y			15
2A	TB2-9,10	I3U	63	25	32	2	Y	Y			
6A	TB3-5,6	J2U	40	2	6	6	Y	Y			
8A	TB5-9,10	J6U	42	4	8	8	Y	Y			3
8B	TB5-11,12	J6L	46	8	18	8	Y	Y			3
PED PUSH BUTTONS											
P21,P22	TB8-4,6	I12U	67	29	PED 2	2 PED					
P81,P82,P83,P84	TB8-8,9	I13L	70	32	PED 8	8 PED					

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

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

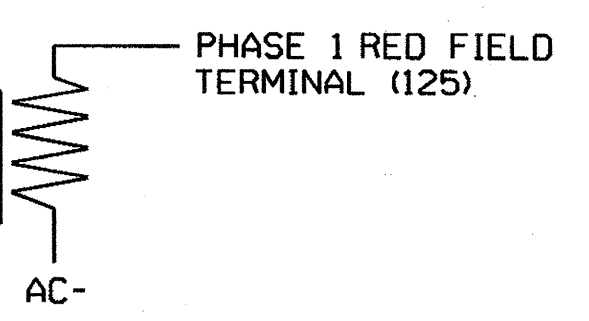
INPUT FILE POSITION LEGEND: J2L



LOAD RESISTOR INSTALLATION DETAIL

(install resistor as shown below)

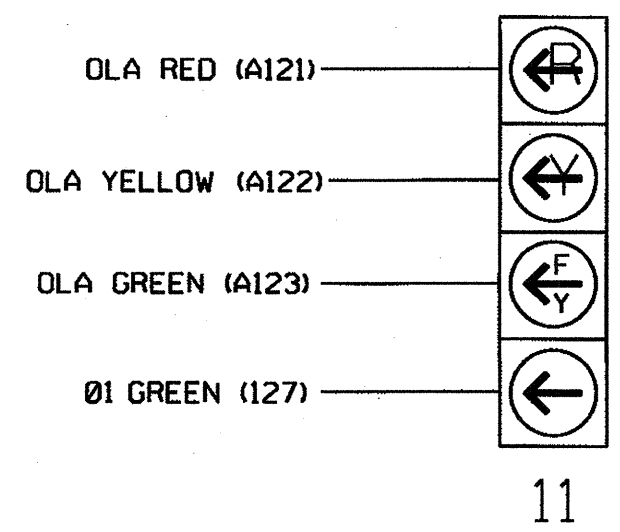
VALUE (ohms)	WATTAGE
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



NOTE: The purpose of this resistor is to load the channel red monitor input in order for the Signal Sequence Monitor to use the full signal sequence monitoring capability on channels that do not use the red display in the field.

4 SECTION FYA PPLT SIGNAL WIRING DETAIL

(wire signal head as shown)



NOTE

- The sequence display for this signal requires special logic programming. See sheet 2 of 2 for programming instructions.

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 07-1020
 DESIGNED: July 2012
 SEALED: 08/20/12
 REVISED: N/A

Electrical Detail - Final - Sheet 1 of 2

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 AND PROGRAMMING DETAILS FOR:

Prepared In the Offices of:

 750 N. Greenfield Pkwy, Garner, NC 27529

SR 1919 (Smith Level Road) at SR 1994 (Culbreth Road)

Division 7 Orange County Carrboro

PLAN DATE: August 2012 REVIEWED BY: T. Lynn
 PREPARED BY: C. Strickland REVIEWED BY:

REVISIONS	INIT.	DATE

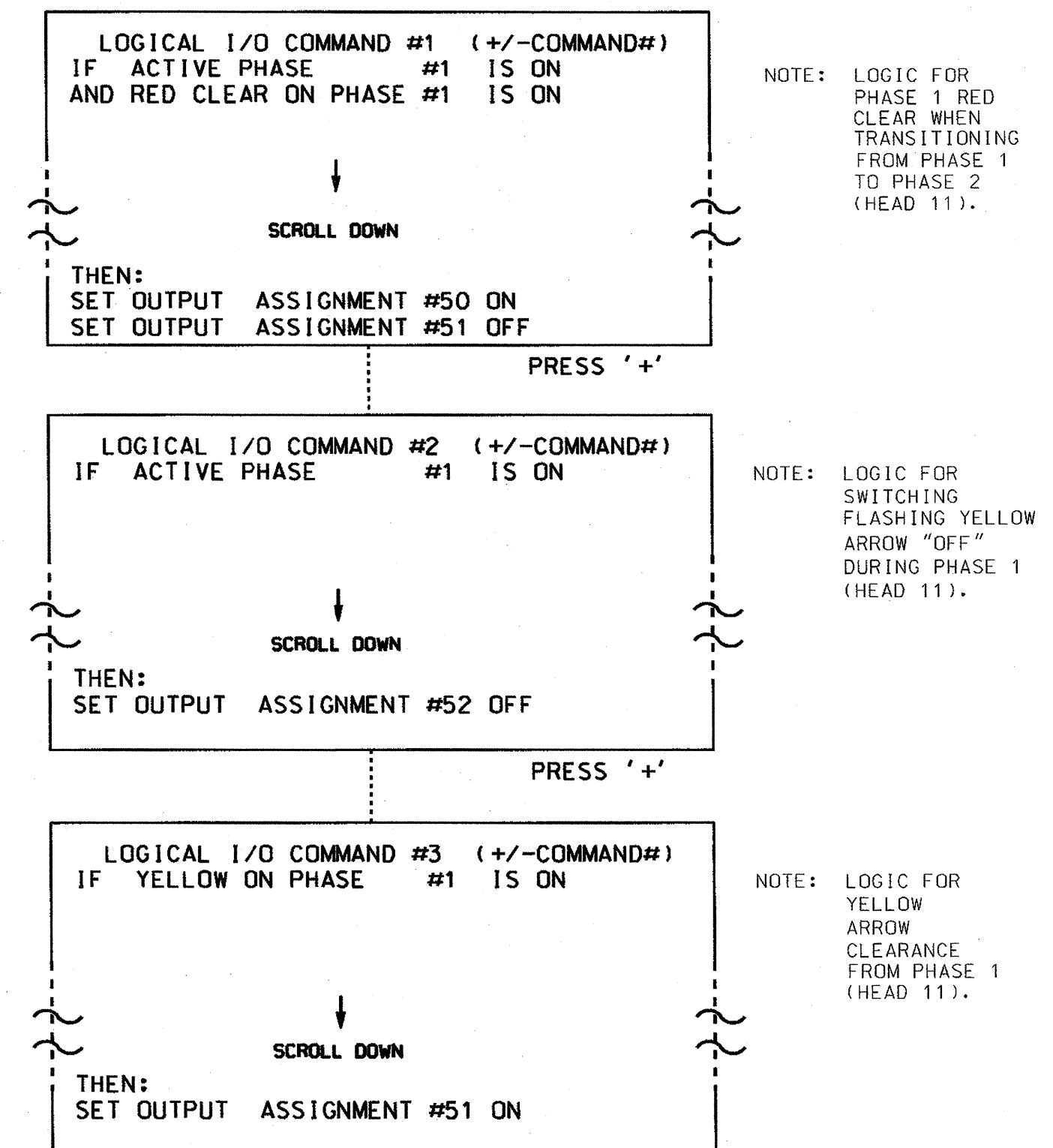
SEAL
 NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL 022013
 GEORGE C. BROWN
 SIGNATURE DATE 8/24/12
 SIG. INVENTORY NO. 07-1020

21-AUG-2012 08:55:15 S:\projects\work\krc\p000510_Momestri\101and10200_sml.ele.xxx.dgn

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 AND 3.
- FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).



LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE

- OUTPUT 50 = Overlap A Red
- OUTPUT 51 = Overlap A Yellow
- OUTPUT 52 = Overlap A Green

OVERLAP PROGRAMMING DETAIL

(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
    
```

← NOTICE GREEN FLASH

OVERLAP PROGRAMMING COMPLETE

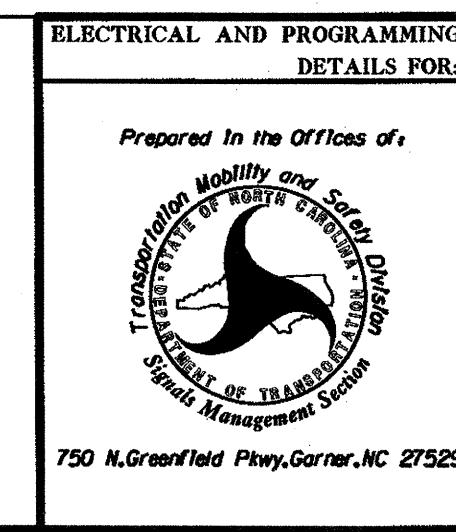
ACCESSIBLE PEDESTRIAN SIGNAL (APS) INSTALLATION NOTES

- Provide a dedicated pair of wires from the cabinet to each push button.
- Mount Fail-Safe Interconnect Terminal Board on right rear side of cabinet (above service panel).
- Wire push buttons and Central Control Unit (CCU) per Polara Installation Manual instructions.
- Use Controller Receptacle to power CCU. Do not use Equipment Receptacle which is a GFCI outlet.
- Never attempt to operate a standard contact closure push button with the Polara system unless cabinet is re-wired for standard button operation.

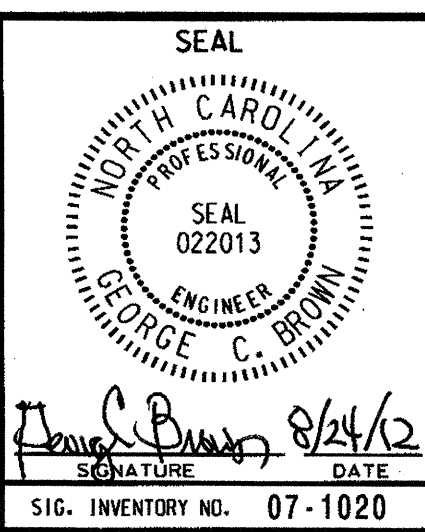
21-AUG-2012 08:53
 S:\IT\SAS\ITS\SIGNAL\WORKGROUPS\4514\WORK\SR1919\SR1919-020-sm.e.le.xxx.dgn
 c:\strickland

Electrical Detail - Final - Sheet 2 of 2

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 07-1020
DESIGNED: July 2012
SEALED: 08/20/12
REVISED: N/A



ELECTRICAL AND PROGRAMMING DETAILS FOR:	
SR 1919 (Smith Level Road) at SR 1994 (Culbreth Road)	
Division 7	Orange County Carrboro
PLAN DATE: August 2012	REVIEWED BY: T. J. J.
PREPARED BY: C. Strickland	REVIEWED BY:
REVISIONS	INIT. DATE

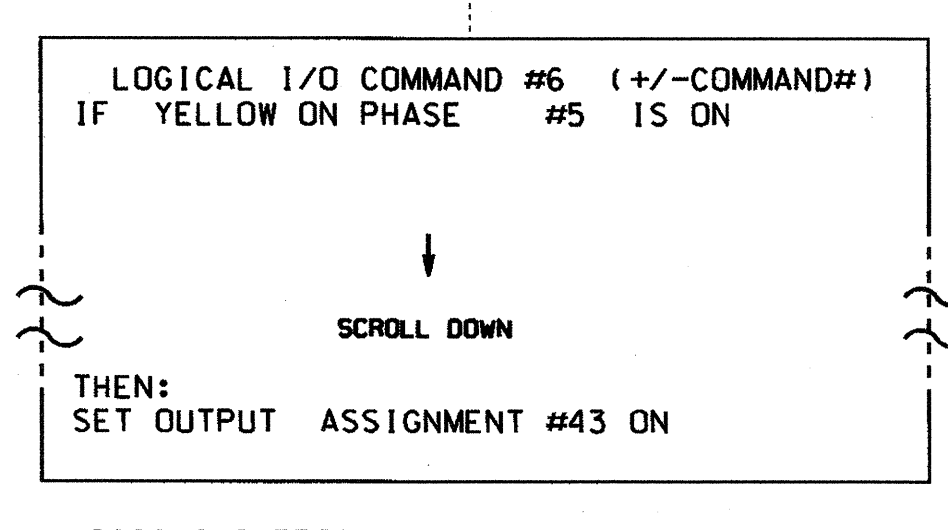
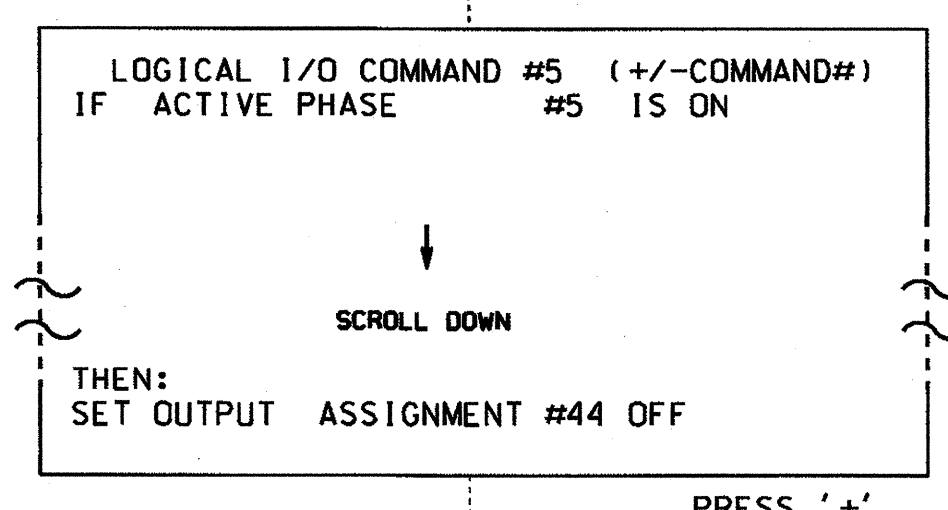
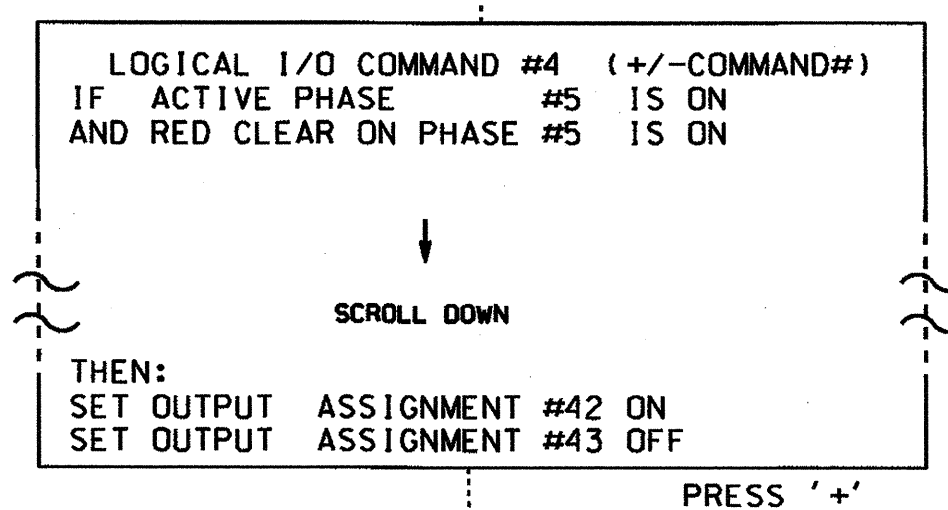
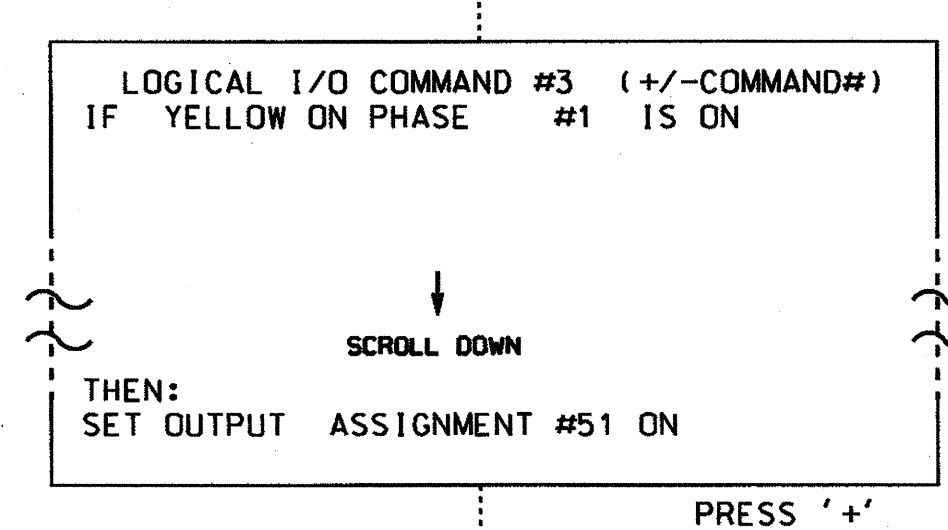
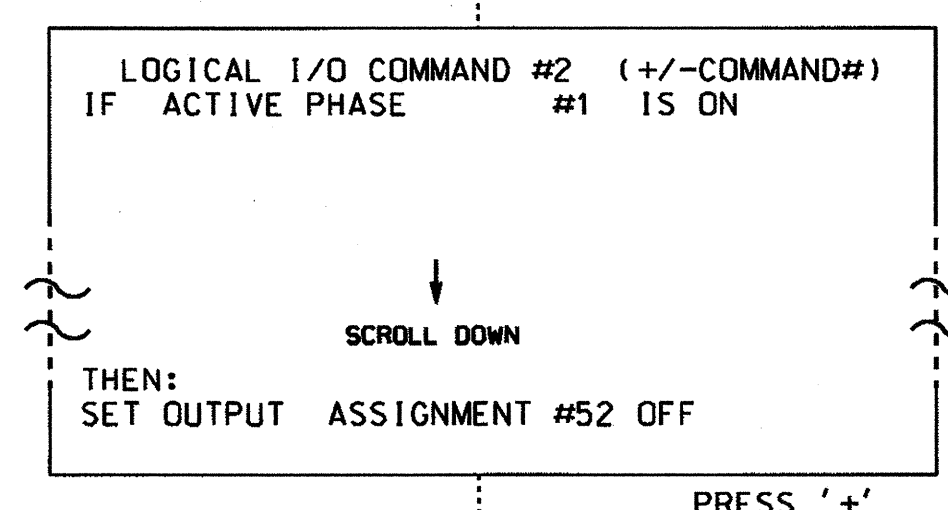
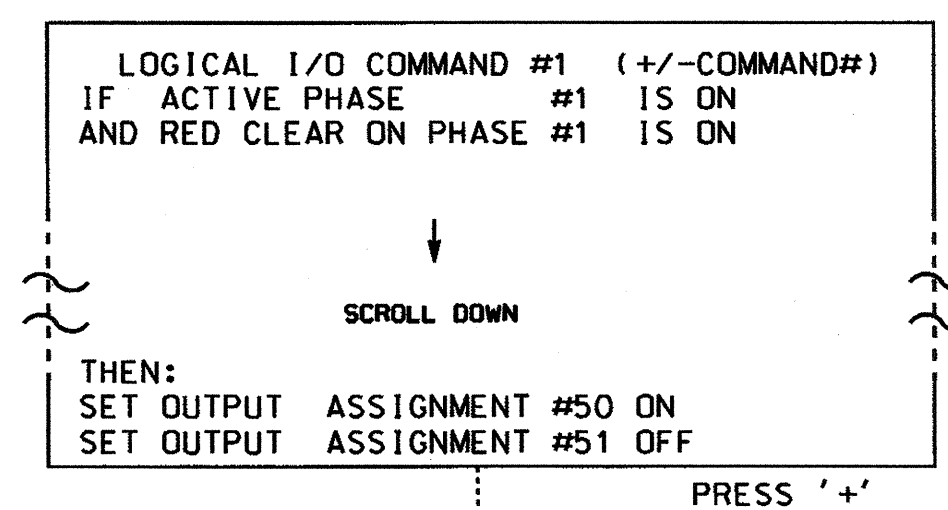


Signature: *George C. Brown* 8/24/12
DATE: 8/24/12
SIG. INVENTORY NO. 07-1020

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).



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 (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
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

← NOTICE GREEN FLASH

PRESS '+'

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
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

← NOTICE GREEN FLASH

PRESS '+'

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
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

← NOTICE GREEN FLASH

OVERLAP PROGRAMMING COMPLETE

FLASHER CIRCUIT MODIFICATION DETAIL

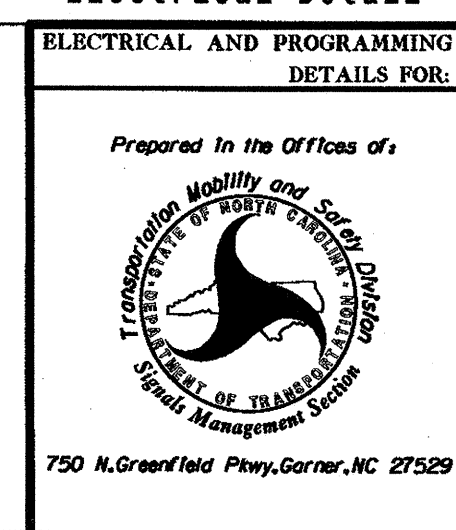
IN ORDER TO INSURE THAT SIGNALS FLASH CONCURRENTLY ON THE SAME APPROACH, MAKE THE FOLLOWING FLASHER CIRCUIT CHANGES:

- 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.

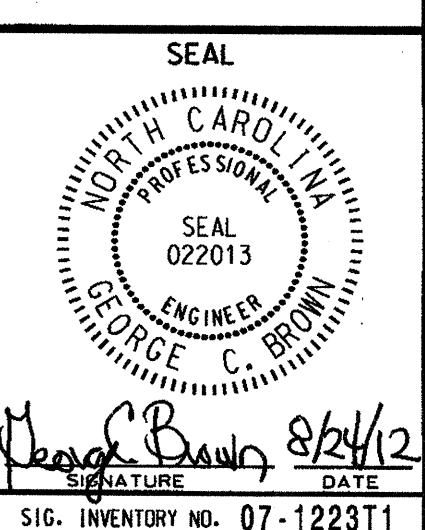
THE CHANGES LISTED ABOVE TIES ALL PHASES AND OVERLAPS TO FLASHER UNIT 1.

Electrical Detail - Temp 1 - Sheet 2 of 2

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 07-1223T1
DESIGNED: July 2012
SEALED: 08/20/12
REVISED: N/A



ELECTRICAL AND PROGRAMMING DETAILS FOR:		SR 1919 (Smith Level Road) at SR 1967 (BPW Club Road)/ University Commons Driveway	
Prepared in the Offices of:	Division 7	Orange County	Carrboro
PLAN DATE: August 2012	REVIEWED BY: T. J. [Signature]	PREPARED BY: C. Strickland	REVIEWED BY:
REVISIONS	INIT.	DATE	



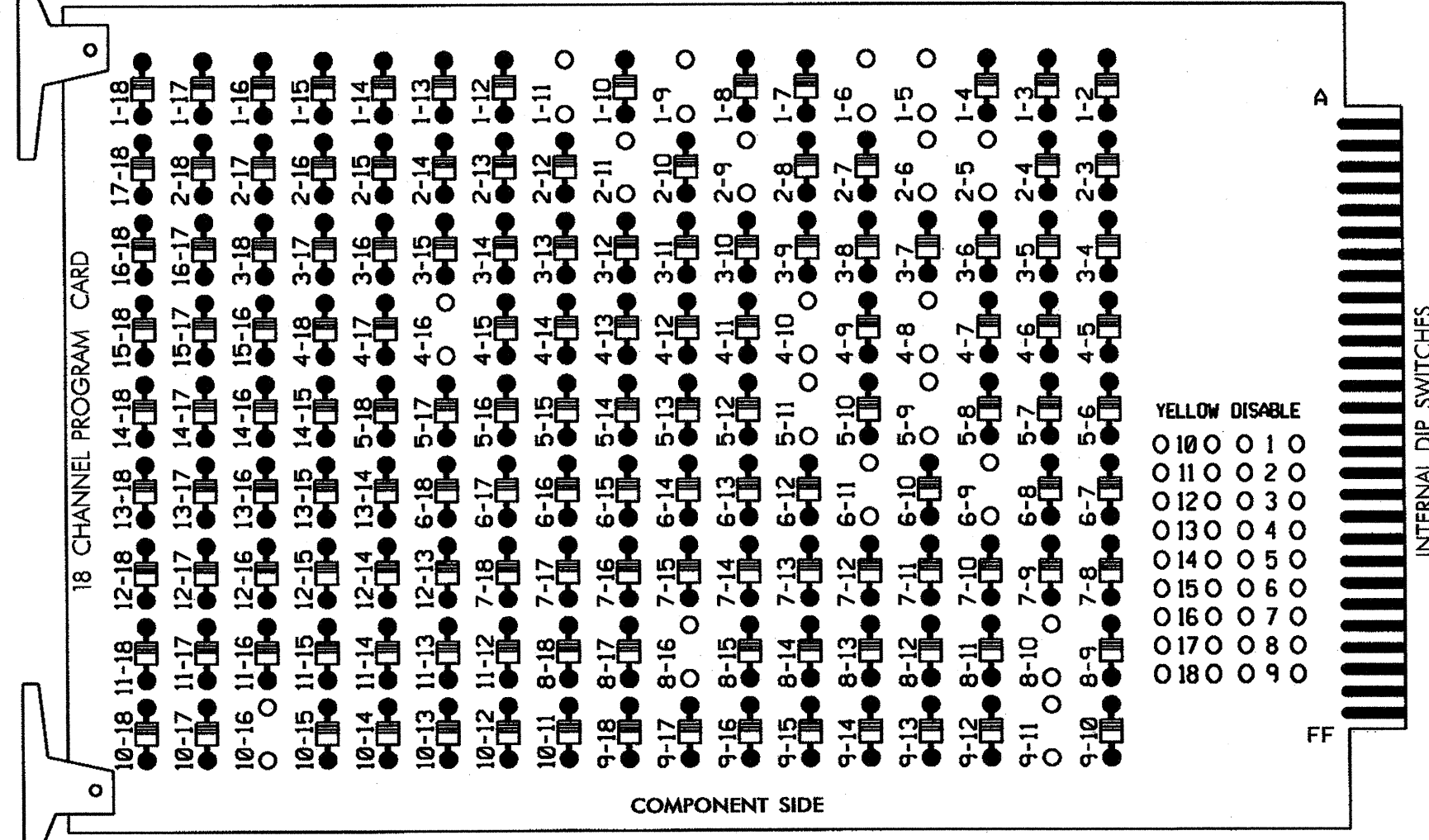
SIG. INVENTORY NO. 07-1223T1

EDI MODEL 2018ECL-NC CONFLICT MONITOR

PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

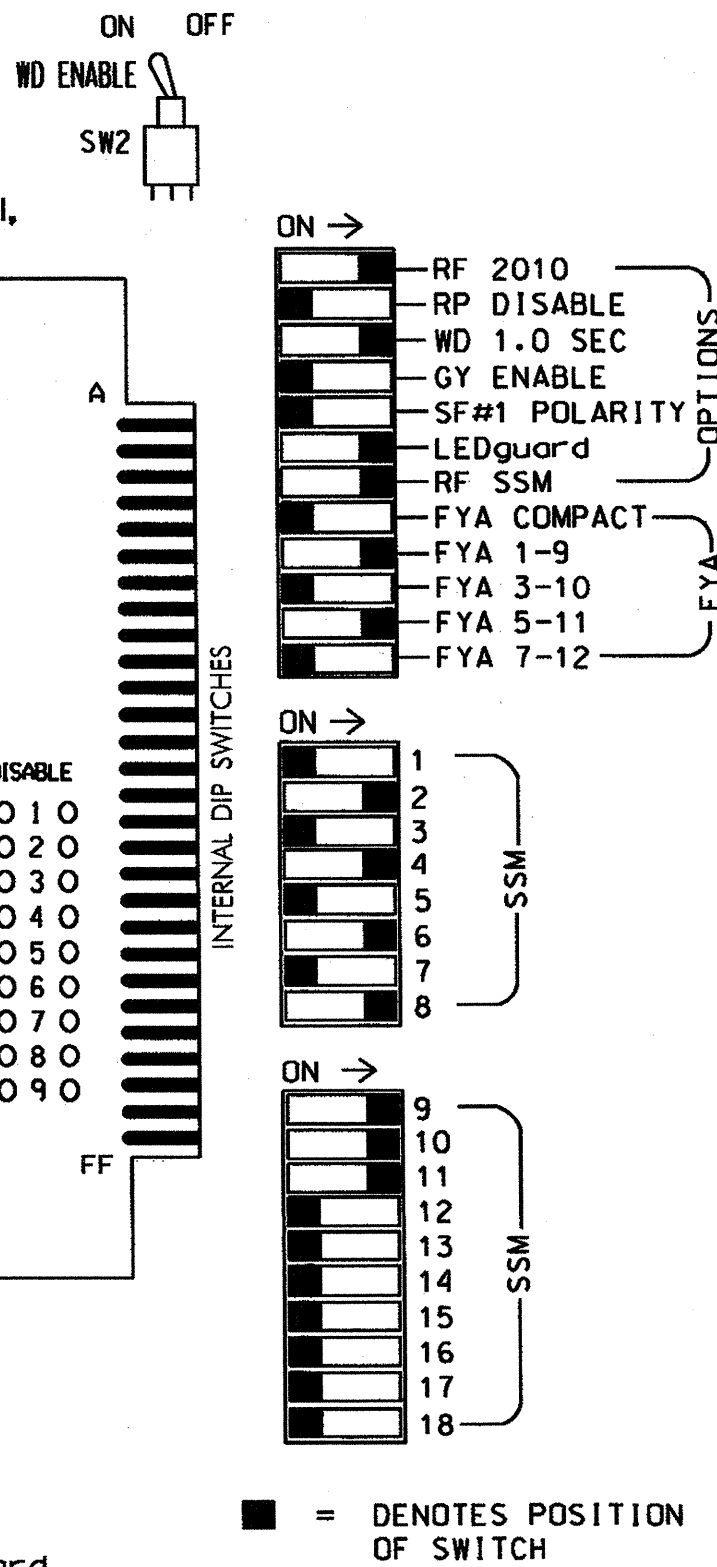
REMOVE DIODE JUMPERS 1-5, 1-6, 1-9, 1-11, 2-5, 2-6, 2-9, 2-11, 4-8, 4-10, 4-16, 5-9, 5-11, 6-9, 6-11, 8-10, 8-16, 9-11 and 10-16



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.
- Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.



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.
- Enable Simultaneous Gap-Out for all phases.
- Program phases 2 and 6 for Start Up In Green.
- Program phase 8 for 'STARTUP PED CALL'.
- Program phases 2 and 6 for Yellow Flash and overlaps 1 and 2 as Wag Overlaps.
- The cabinet and controller are part of the Chapel Hill-Carrboro Signal System.

EQUIPMENT INFORMATION

CONTROLLER.....2070L
 CABINET.....332 W/ AUX
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....BASE
 OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
 LOAD SWITCHES USED.....S1,S2,S5,S7,S8,S11,S12,AUX S1,
 AUX S2,AUX S4
 PHASES USED.....1,2,4,5,6,8,8 PED
 OVERLAP "A".....1+2
 OVERLAP "B".....8
 OVERLAP "C".....5+6
 OVERLAP "D".....NOT USED

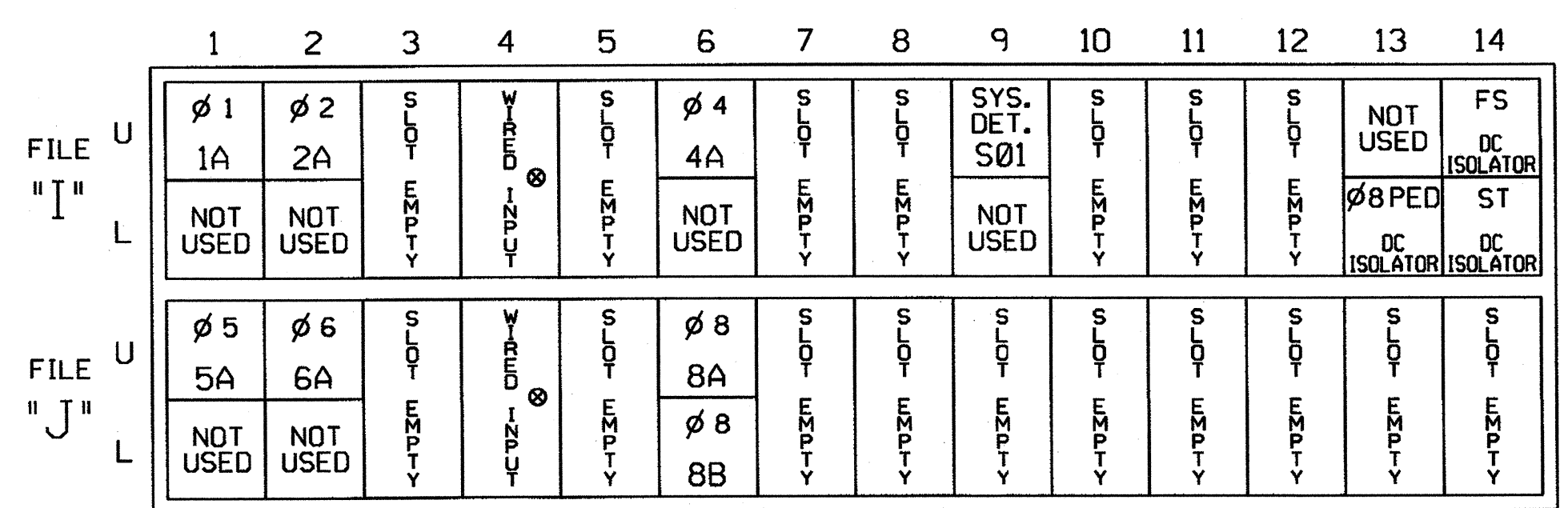
SIGNAL HEAD HOOK-UP CHART

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
CM 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*	21,22	NU	NU	42,43	NU	51*	61,62	NU	NU	82,83	P81, P82	11*	81*	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 icon													110					
Person icon													112					

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

INPUT FILE POSITION LAYOUT

(front view)

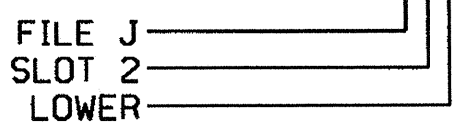


EX.: 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
 ST = STOP TIME

⊗ Wired Input - Do not populate slot with detector card

INPUT FILE POSITION LEGEND: J2L



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	11U	56	18	1	1	Y	Y			15
	-	J4U	48	10	26	6	Y	Y			
2A	TB2-5,6	12U	39	1	2	2	Y	Y			
4A	TB4-9,10	16U	41	3	4	4	Y	Y			5
5A ²	TB3-1,2	J1U	55	17	5	5	Y	Y			15
	-	14U	47	9	22	2	Y	Y			
6A	TB3-5,6	J2U	40	2	6	6	Y	Y			
8A	TB5-9,10	J6U	42	4	8	8	Y	Y			
8B	TB5-11,12	J6L	46	8	18	8	Y	Y			10
* S01	TB6-9,10	19U	60	22	11	SYS					
PED PUSH BUTTONS											
P81,P82	TB8-8,9	113L	70	32		PED 8		8 PED			

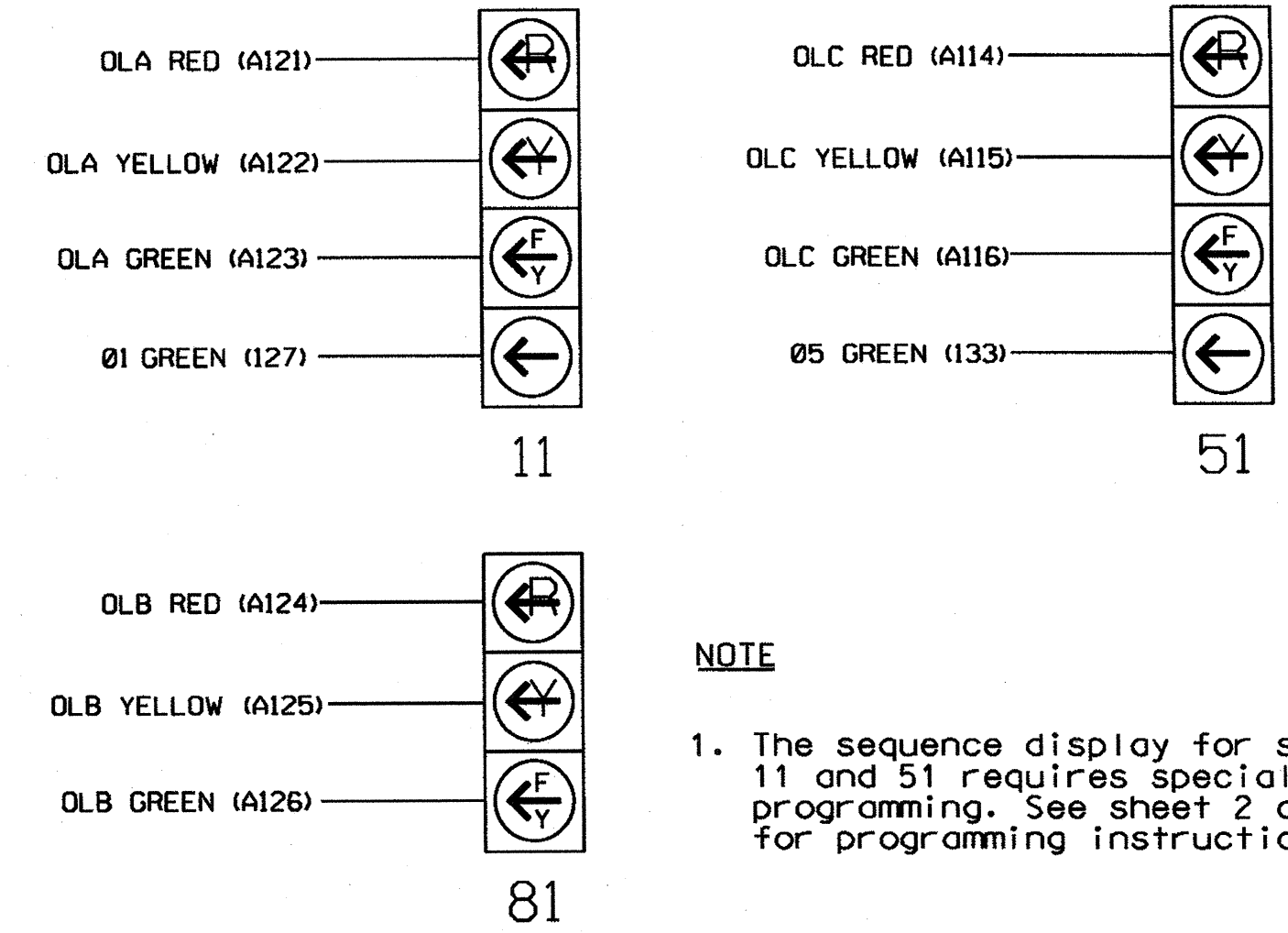
NOTE:
 INSTALL DC ISOLATORS IN INPUT FILE SLOT 113.

- Add jumper from 11-W to J4-W, on rear of input file.
- Add jumper from J1-W to 14-W, on rear of input file.

* System detector only. Remove the vehicle phase assigned to this detector in the default programming.

FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)



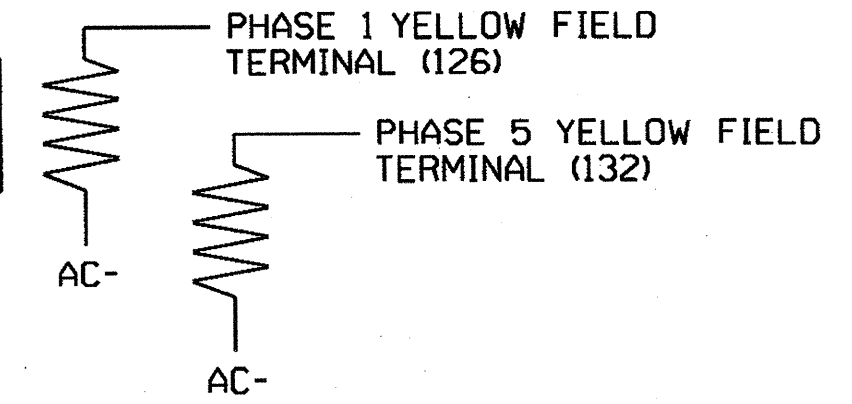
NOTE

1. The sequence display for signals 11 and 51 requires special logic programming. See sheet 2 of 2 for programming instructions.

LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown below)

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



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 - Temp 2 - Sheet 1 of 2

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 07-1223T2
 DESIGNED: July 2012
 SEALED: 08/20/12
 REVISED: N/A

Prepared In the Offices of:

 750 N. Greenfield Pkwy, Garner, NC 27529

Electrical and Programming Details For: SR 1919 (Smith Level Road) at SR 1967 (BPW Club Road) / University Commons Driveway

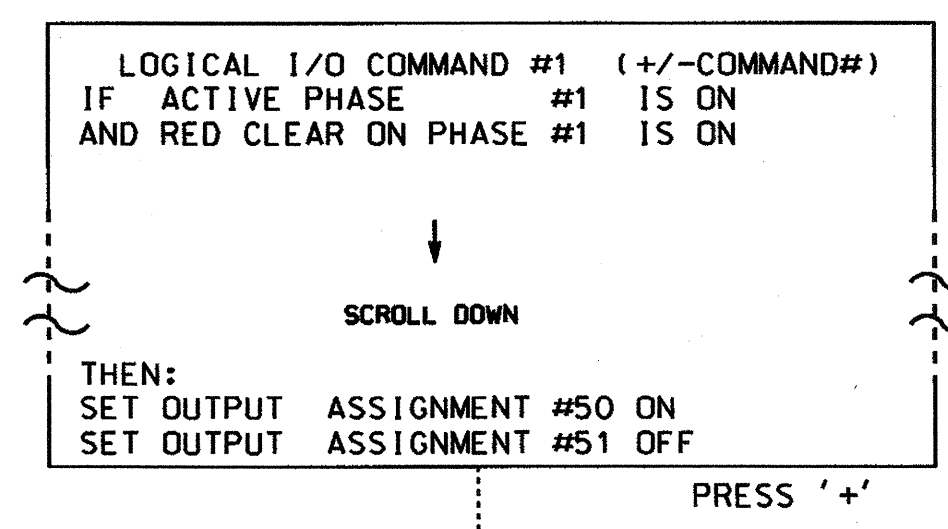
Division 7 Orange County Carrboro
 PLAN DATE: August 2012 REVIEWED BY: T. J. J...
 PREPARED BY: C. Strickland REVIEWED BY: T. J. J...
 REVISIONS: INIT. DATE

SEAL
 NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL 022013
 GEORGE C. BROWN
 SIGNATURE: George Brown 8/24/12
 DATE: 8/24/12
 SIG. INVENTORY NO. 07-1223T2

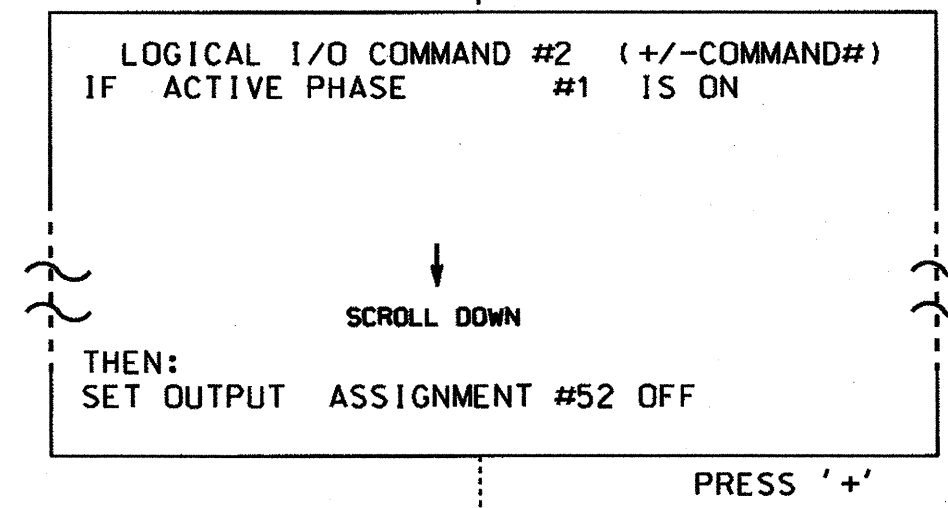
**LOGICAL I/O PROCESSOR PROGRAMMING DETAIL
TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE**

(program controller as shown below)

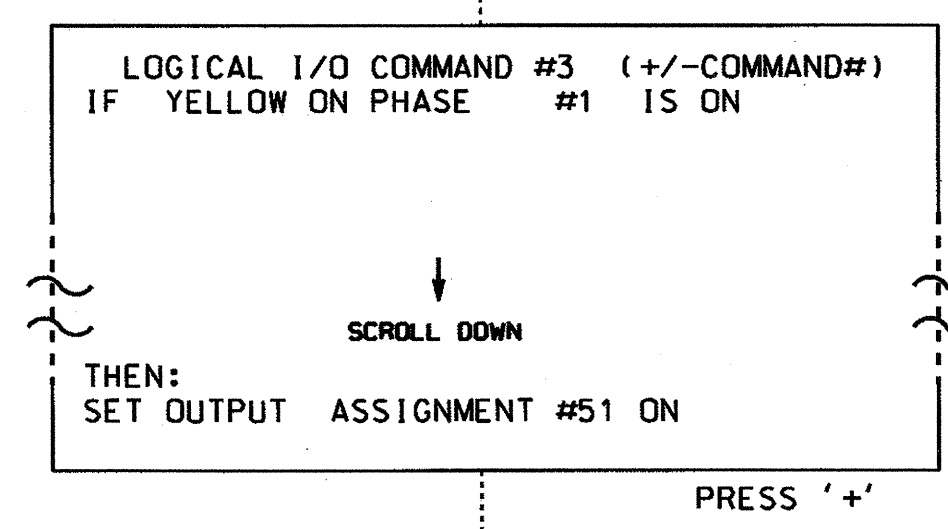
- FROM MAIN MENU PRESS '2' (PHASE CONTROL), THEN '1' (PHASE CONTROL FUNCTIONS). SCROLL TO THE BOTTOM OF THE MENU AND ENABLE ACT LOGIC COMMANDS 1, 2, 3, 4, 5 AND 6.
- FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).



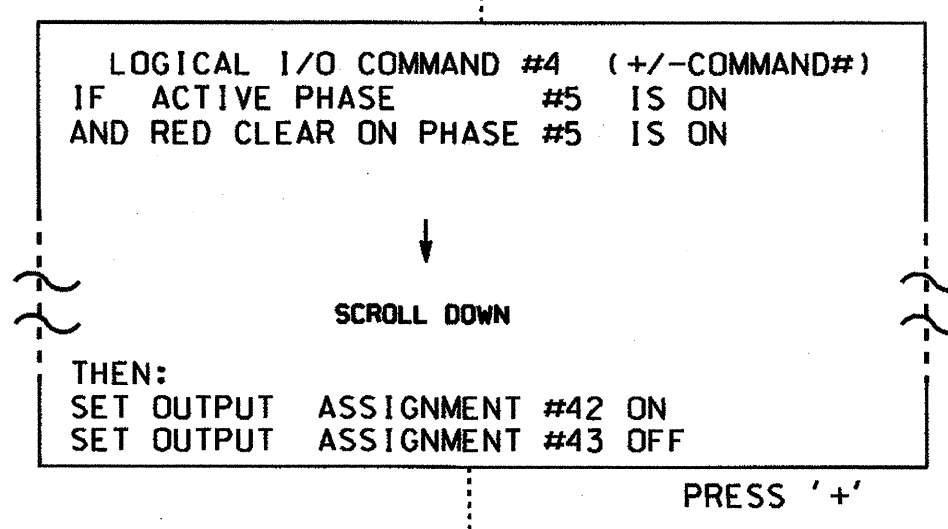
NOTE: LOGIC FOR PHASE 1 RED CLEAR WHEN TRANSITIONING FROM PHASE 1 TO PHASE 2 (HEAD 11).



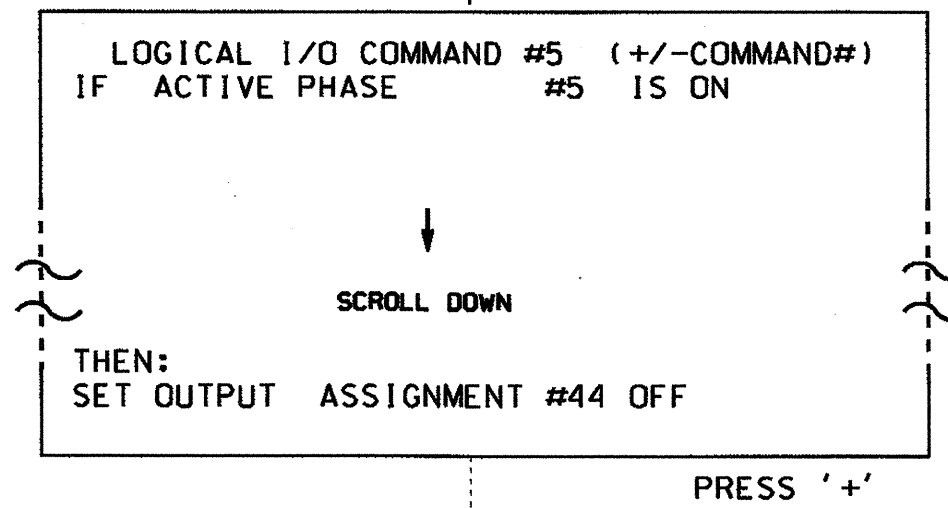
NOTE: LOGIC FOR SWITCHING FLASHING YELLOW ARROW "OFF" DURING PHASE 1 (HEAD 11).



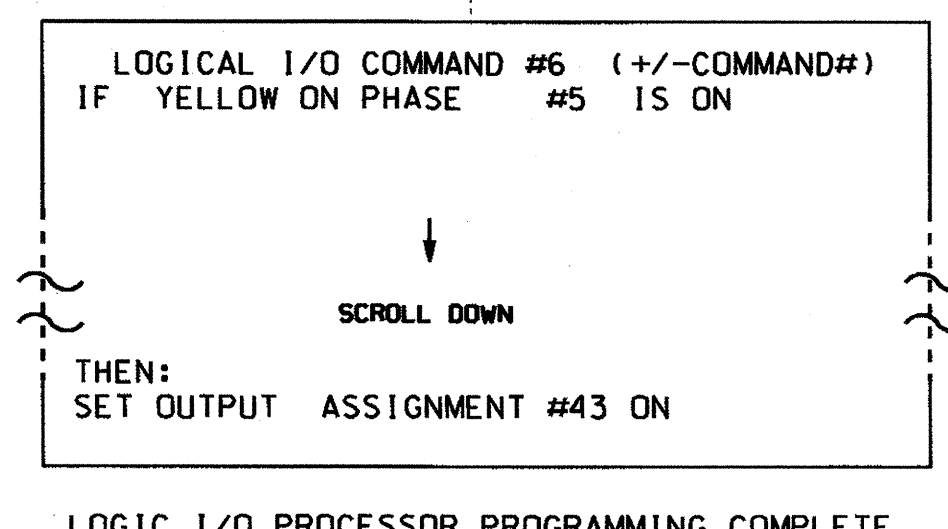
NOTE: LOGIC FOR YELLOW ARROW CLEARANCE FROM PHASE 1 (HEAD 11).



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



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



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

LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

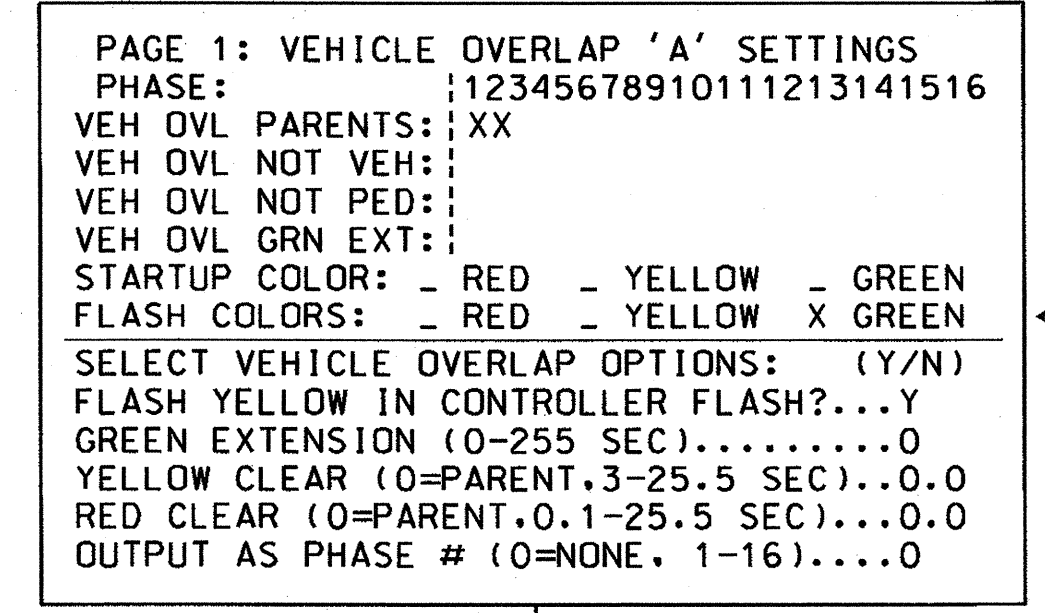
OUTPUT REFERENCE SCHEDULE

- 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

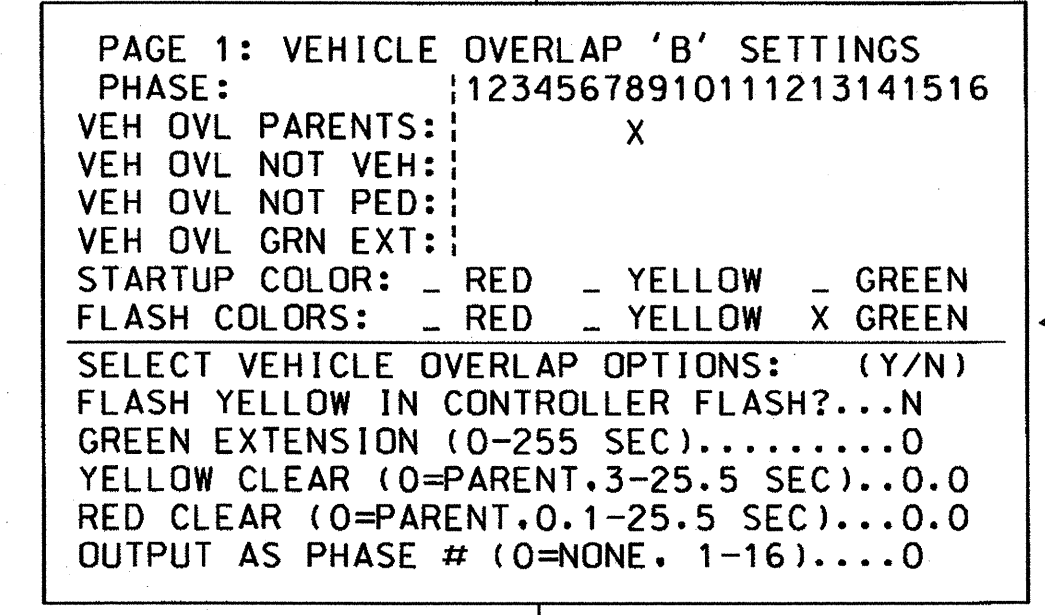
(program controller as shown below)

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



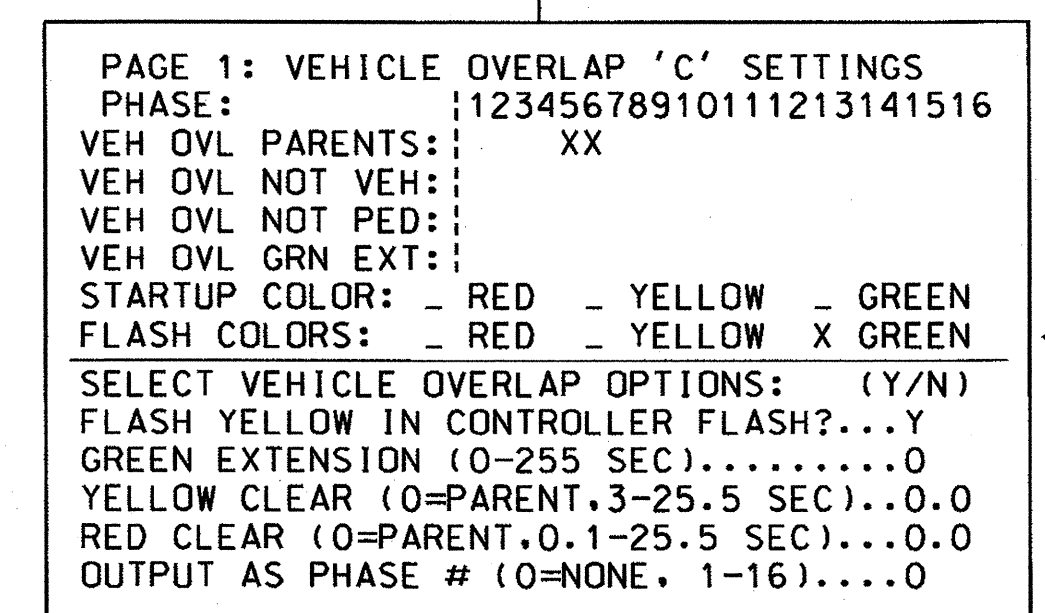
← NOTICE GREEN FLASH

PRESS '+'



← NOTICE GREEN FLASH

PRESS '+'



← NOTICE GREEN FLASH

OVERLAP PROGRAMMING COMPLETE

FLASHER CIRCUIT MODIFICATION DETAIL

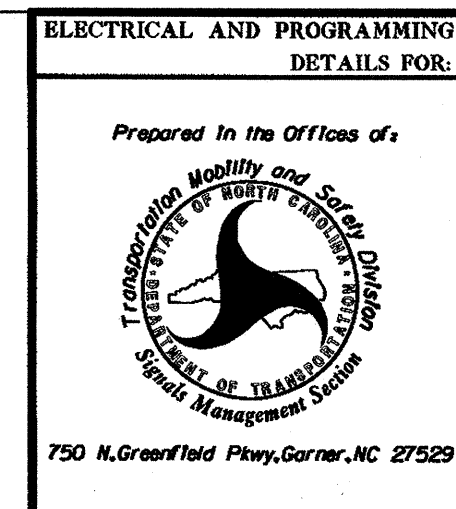
IN ORDER TO INSURE THAT SIGNALS FLASH CONCURRENTLY ON THE SAME APPROACH, MAKE THE FOLLOWING FLASHER CIRCUIT CHANGES:

- 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.

Electrical Detail - Temp 2 - Sheet 2 of 2

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 07-1223T2
DESIGNED: July 2012
SEALED: 08/20/12
REVISED: N/A



ELECTRICAL AND PROGRAMMING DETAILS FOR:		SR 1919 (Smith Level Road) at SR 1967 (BPW Club Road)/ University Commons Driveway	
Prepared in the Offices of:	Orange County	Carrboro	
PLAN DATE: August 2012	REVIEWED BY: T. J. Jeps		
PREPARED BY: C. Strickland	REVIEWED BY:		
REVISIONS	INIT.	DATE	

SEAL
NORTH CAROLINA
PROFESSIONAL ENGINEER
SEAL 022013
GEORGE C. BROWN
DATE: 8/21/12

21-AUG-2012 10:23 S:\ITS\SUM\ITS Signal\workgroups\451\Monstr\1ok (arch)\1223-sm.e (e-xxx).dgn

- 1 INSTALL REA, PE - 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
- 2 INSTALL REA, PE - 38, (FIGURE 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
- 3 INSTALL REA, PE - 39, (UNDERGROUND) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
- 4 INSTALL SMFO CABLE
- 5 INSTALL MMFO CABLE
- 6 INSTALL FIBER OPTIC DROP CABLE
- 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 TERMINATE COMMUNICATIONS CABLE ON EXISTING TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET
- 27 INSTALL NEW TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET
- 28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS AND FUSION SPlice CABLE IN CABINET
- 29 INSTALL UNDERGROUND SPlice ENCLOSURE
- 30 INSTALL AERIAL SPlice ENCLOSURE
- 31 INSTALL POLE MOUNTED SPlice CABINET
- 32 INSTALL BASE MOUNTED SPlice CABINET
- 33 REMOVE EXISTING SPlice CABINET

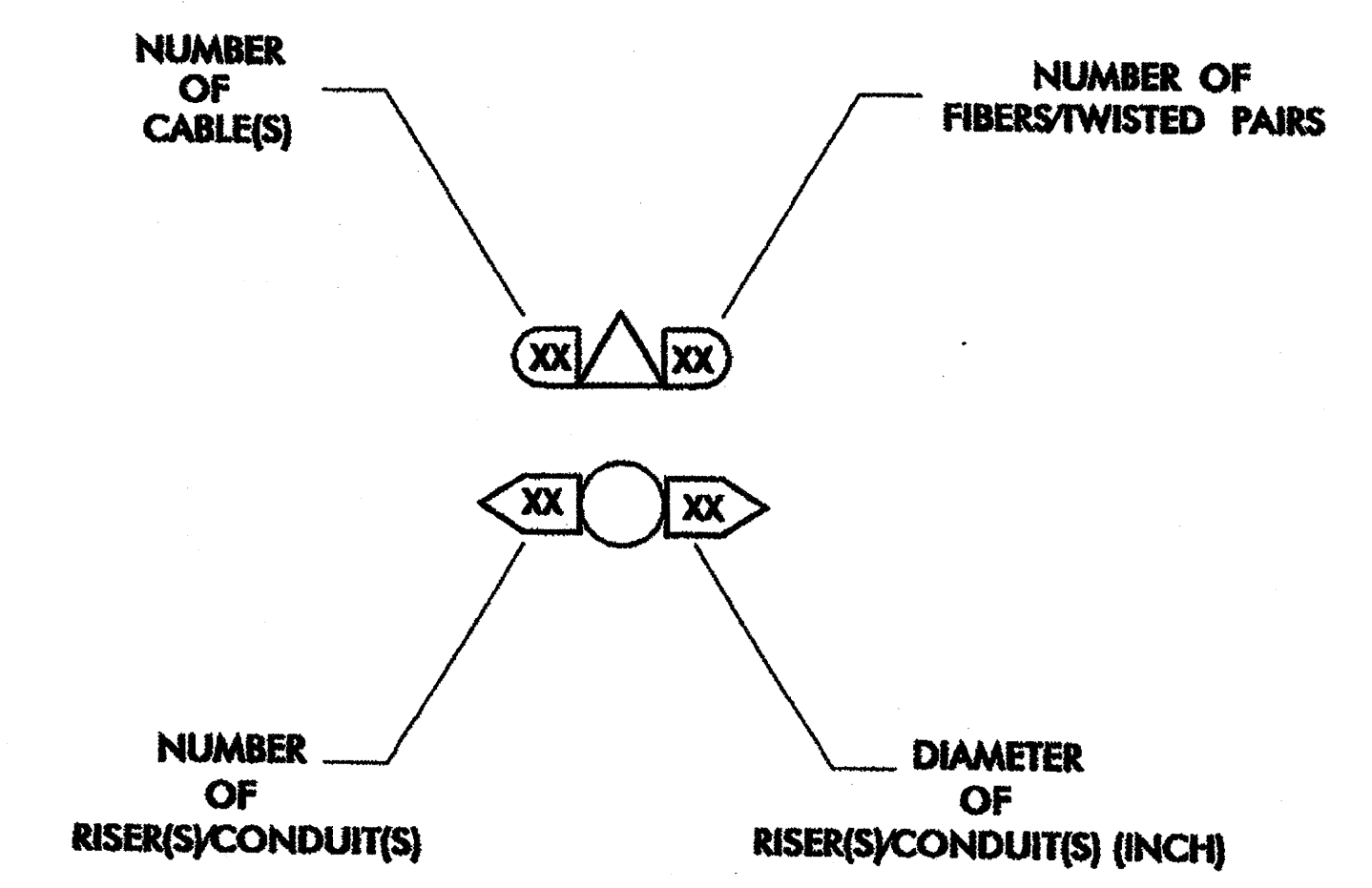
- 34 INSTALL CABINET FOUNDATION
- 35 REMOVE EXISTING CABINET FOUNDATION
- 36 INSTALL CCTV CAMERA ASSEMBLY
- 37 INSTALL CCTV CAMERA WOOD POLE
- 38 INSTALL CCTV CAMERA METAL POLE AND FOUNDATION
- 39 INSTALL JUNCTION BOX
- 40 INSTALL OVERSIZED JUNCTION BOX
- 41 REMOVE EXISTING JUNCTION BOX
- 42 INSTALL 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
- 48 REMOVE EXISTING COMMUNICATIONS AND MESSENGER CABLE
- 49 REMOVE EXISTING MESSENGER CABLE
- 50 INSTALL TELEPHONE SERVICE
- 51 INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
- 52 INSTALL DELINEATOR MARKER
- 53 STORE 20 FEET OF COMMUNICATIONS CABLE
- 54 LASH CABLE(S) TO EXISTING SIGNAL/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

LEGEND

- FO NEW FIBER OPTIC COMMUNICATIONS CABLE
- TWIST PR NEW TWISTED PAIR COMMUNICATIONS CABLE
- EXI EXISTING COMMUNICATIONS CABLE
- REM EXISTING COMMUNICATIONS CABLE TO BE REMOVED
- NEW AERIAL GUY ASSEMBLY
- NEW CONDUIT
- EXISTING CONDUIT
- DD NEW DIRECTIONAL DRILLED CONDUIT
- B&J NEW BORED AND JACKED CONDUIT
- NEW JUNCTION BOX
- EXISTING JUNCTION BOX
- NEW WOOD POLE
- EXISTING WOOD POLE
- AERIAL SPlice ENCLOSURE
- NEW METAL POLE
- EXISTING METAL POLE
- NEW CCTV ASSEMBLY
- NEW STANDARD GUY ASSEMBLY
- NEW SIDEWALK GUY ASSEMBLY
- NEW CABLE STORAGE RACKS (SNOW SHOES)
- EXISTING CONTROLLER AND CABINET
- EXISTING SPlice CABINET
- NEW SPlice CABINET
- SP SIGNAL POLE
- XX-XXXX SIGNAL INVENTORY NUMBER

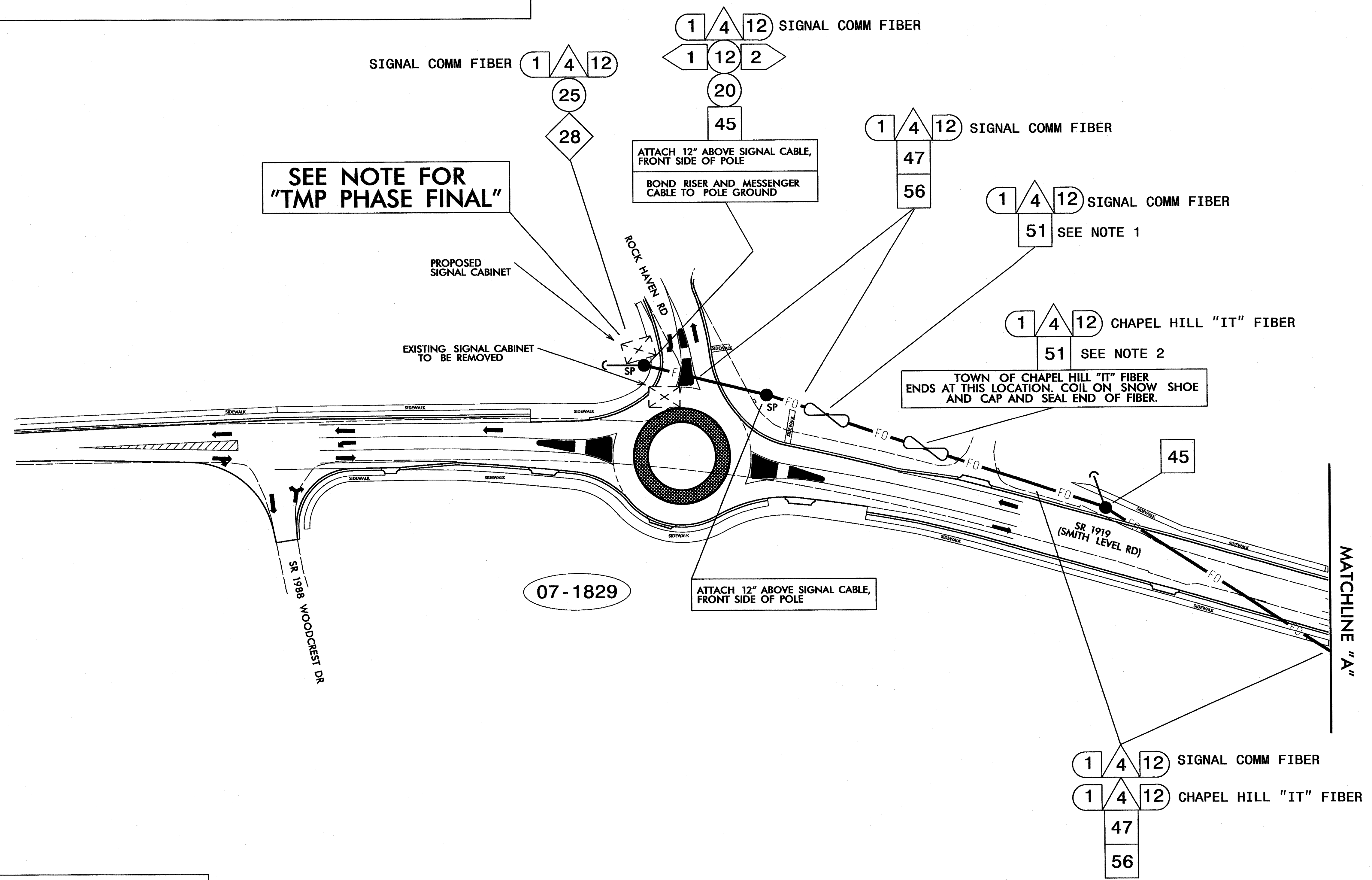
CONSTRUCTION NOTE SYMBOLOGY KEY

- XX INDICATES NUMBER OF CABLES, LOOPS, ETC.
- XX INDICATES NUMBER OF FIBERS PER CABLE, TWISTED PAIRS PER CABLE, ETC.
- XX INDICATES NUMBER OF RISER(S)/CONDUIT(S)
- XX INDICATES DIAMETER OF RISER(S)/CONDUIT(S) (INCH)



	CONSTRUCTION NOTES		
	PLAN DATE: _____ PREPARED BY: _____	REVIEWED BY: _____ REVIEWED BY: G. A. FULLER	
222 N. McDowell St., Raleigh, NC 27603 SCALE: _____ 	DATE: _____ DATE: _____		SEAL: _____ DATE: 10/31/02 CAD: F11000001

TMP PHASE FINAL
 AT FINAL CONSTRUCTION PHASE "TMP FINAL", THE SIGNAL CABINET 07-1829 WILL BE REMOVED. BACK PULL FIBER OPTIC CABLE OUT OF CABINET AND STORE ON SNOW SHOE FOR FUTURE USE. CAP AND SEAL END OF FIBER.



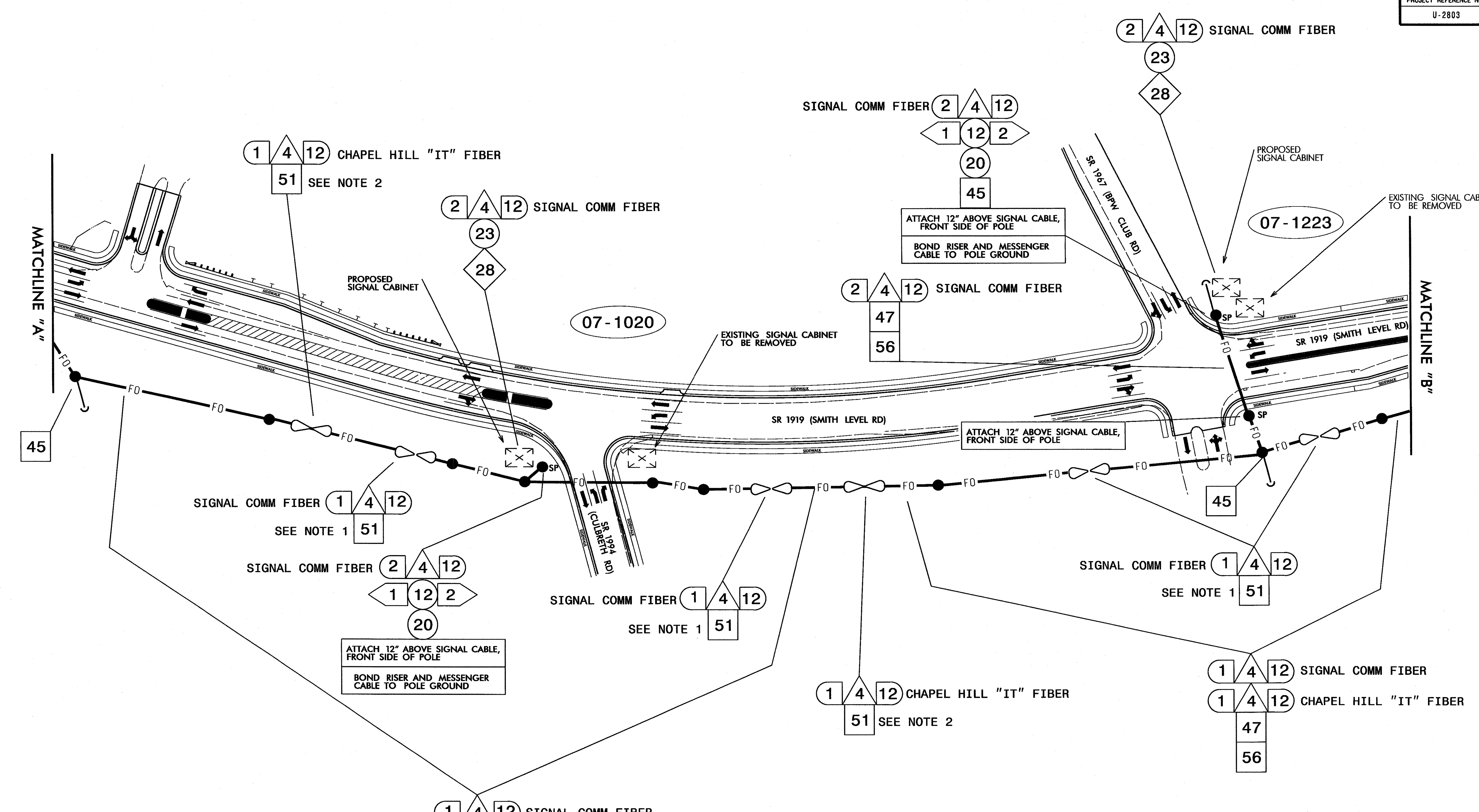
- NOTES**
- 1) IDENTIFY CABLE ID MARKER WITH THE FOLLOWING:
 TOWN OF CHAPEL HILL SIGNAL FIBER OPTIC CABLE
 CONTACT TELEPHONE NUMBER: 919-968-2833
 - 2) IDENTIFY CABLE ID MARKER WITH THE FOLLOWING:
 TOWN OF CHAPEL HILL "IT" FIBER OPTIC CABLE
 CONTACT TELEPHONE NUMBER: 919-968-2712

ALL NCDOT CABLE ATTACHMENT POINTS ARE 40" BELOW POWER, FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED.

TMP PHASE I

	COMMUNICATIONS CABLE & CONDUIT ROUTING PLANS FOR SMITH LEVEL ROAD		
	DIVISION 7 ORANGE CO. CARRBORO PLAN DATE: AUGUST 2012 PREPARED BY: I.N. AVERY	REVIEWED BY: S.W. WARDLE REVIEWED BY: G.A. FULLER	

Signature: *Gregory A. Fuller* Date: 8/28/12
 CADD File: _____

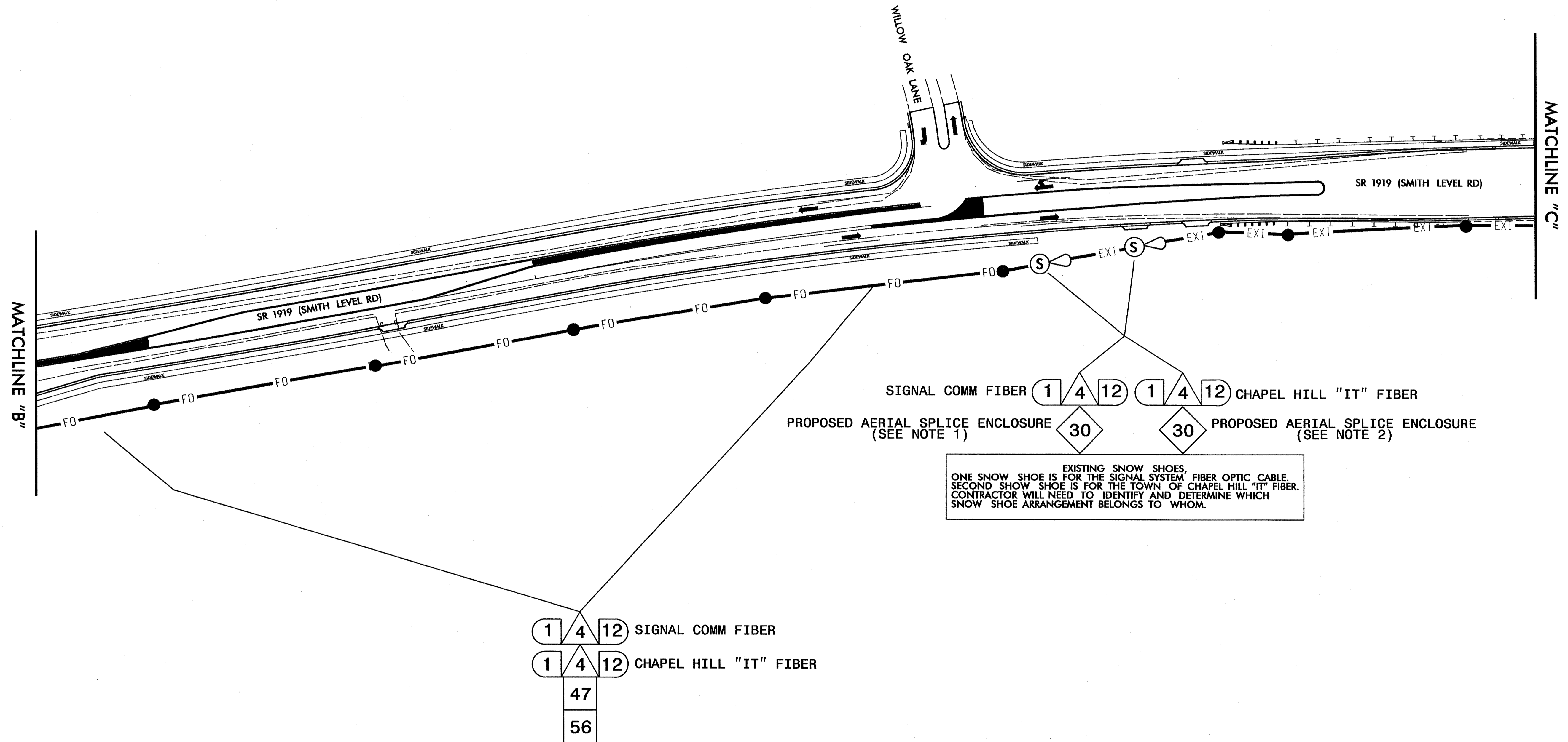


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TOWN OF CHAPEL HILL "IT" FIBER OPTIC CABLE
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TMP PHASE I

	COMMUNICATIONS CABLE & CONDUIT ROUTING PLANS FOR SMITH LEVEL ROAD		
	DIVISION 7 ORANGE CO. CARRBORO PLAN DATE: AUGUST 2012 PREPARED BY: I.N. AVERY SCALE: 0	REVIEWED BY: S.W. WARDLE REVIEWED BY: G.A. FULLER REVISIONS:	

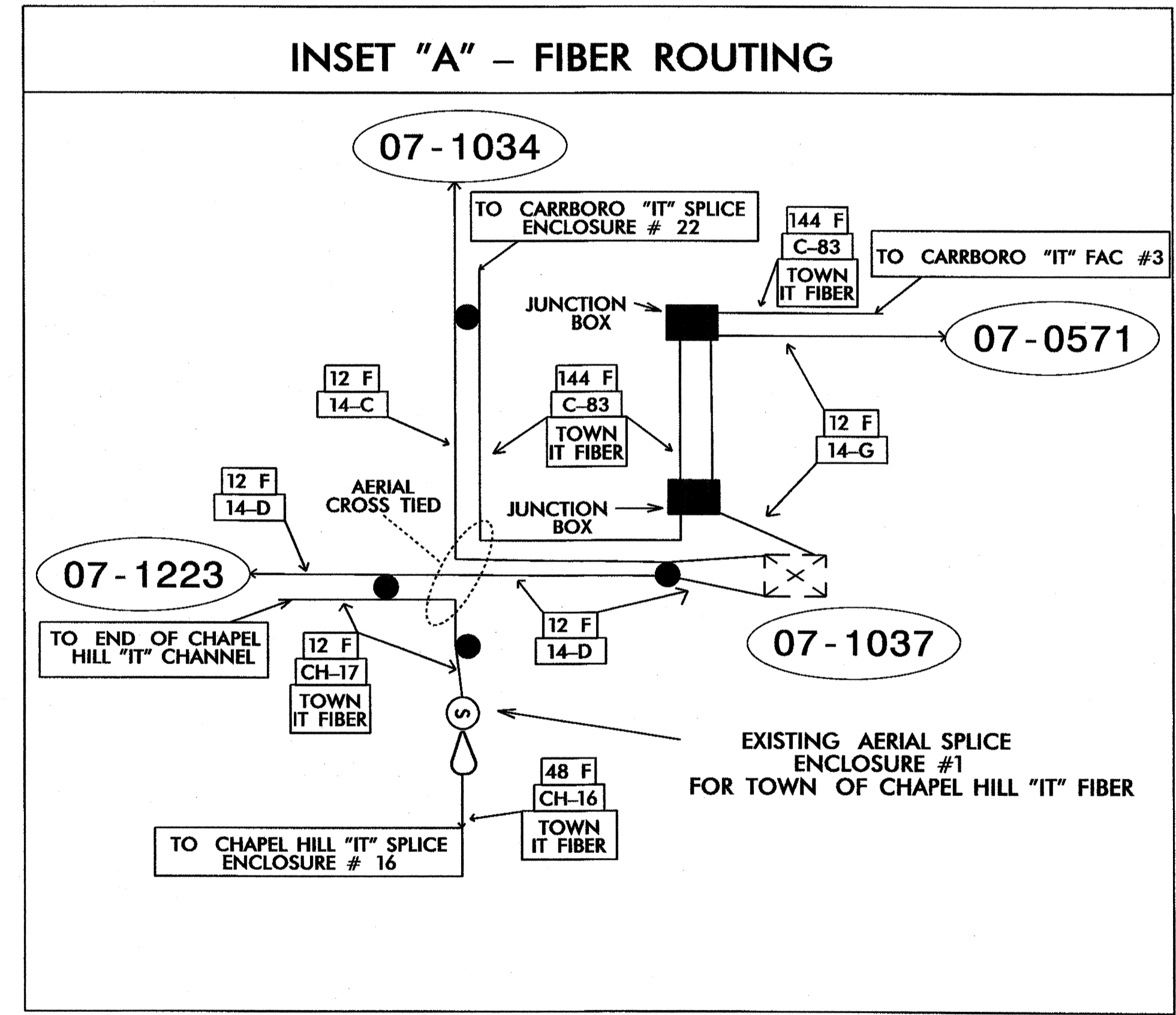
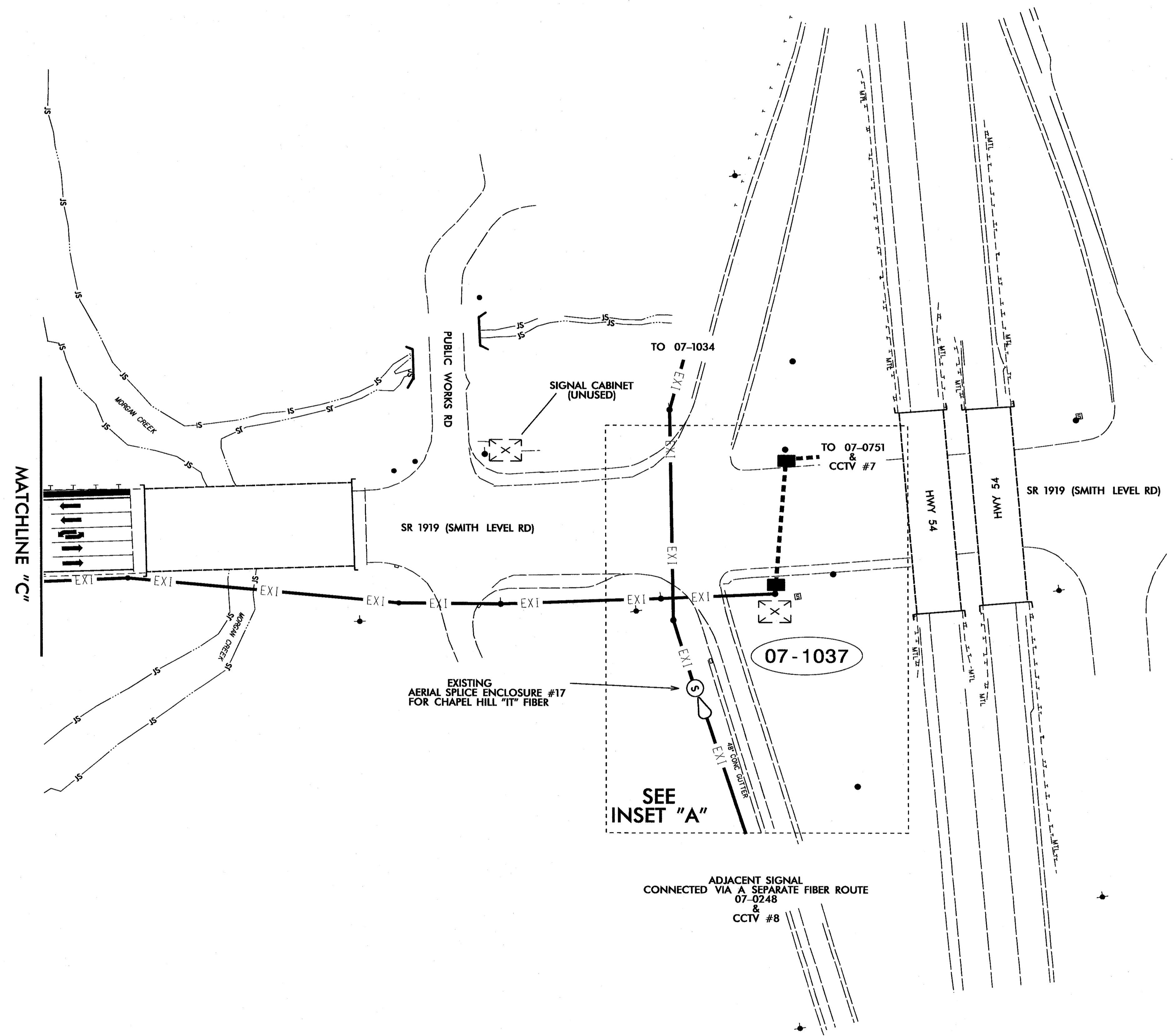


- NOTES**
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TMP PHASE I

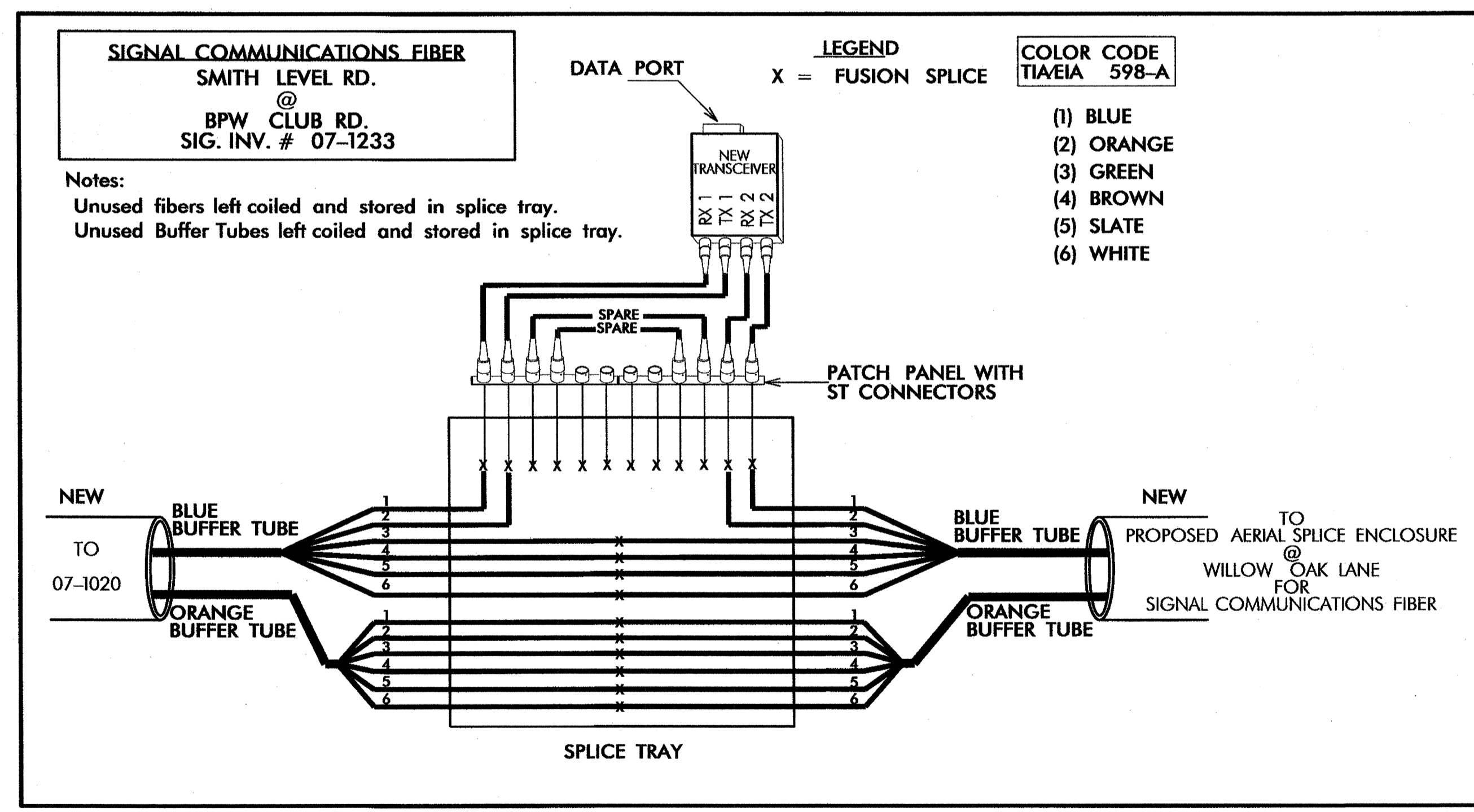
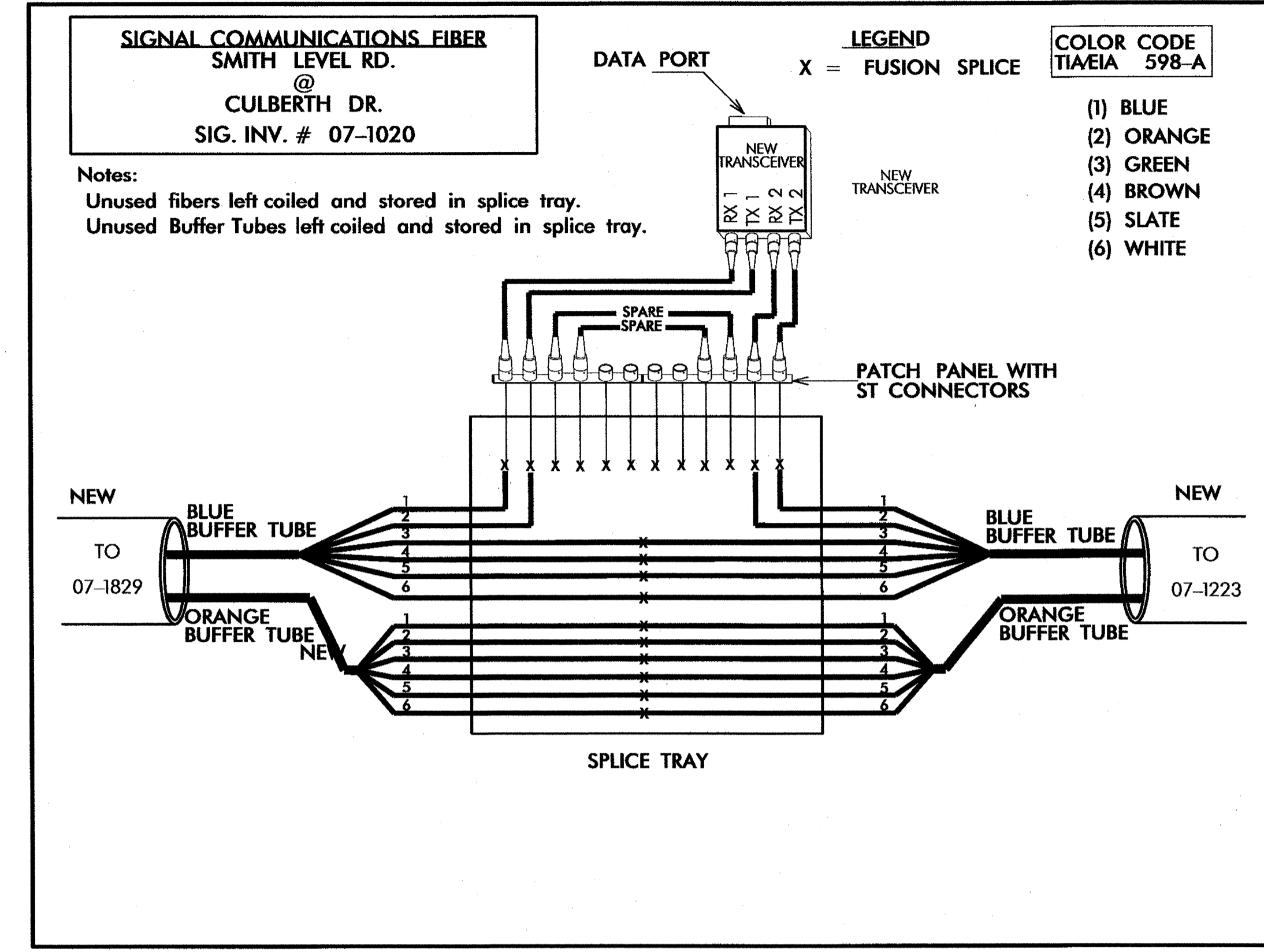
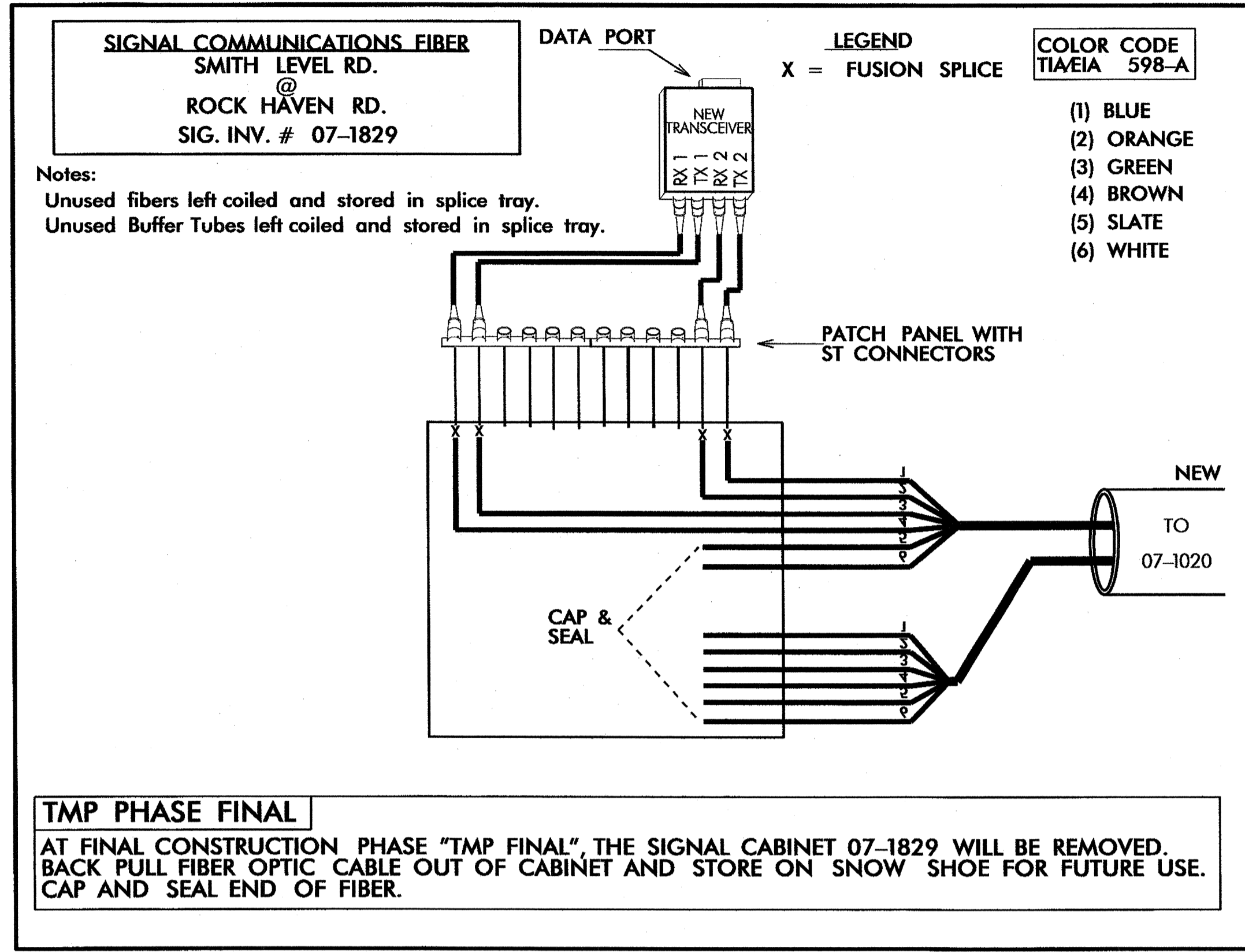
	COMMUNICATIONS CABLE & CONDUIT ROUTING PLANS FOR SMITH LEVEL ROAD		
	DIVISION 7 ORANGE CO. CARRBORO PLAN DATE: AUGUST 2012 REVIEWED BY: S.W. WARDLE PREPARED BY: I.N. AVERY REVIEWED BY: G.A. FULLER		
750 N. Greenfield Place, Carrboro, NC 27520 SCALE: 0	REVISIONS: _____ INIT. DATE	SIGNATURE: <i>Gregory A. Fuller</i> DATE: _____ CADD File Name: _____	



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TMP PHASE I

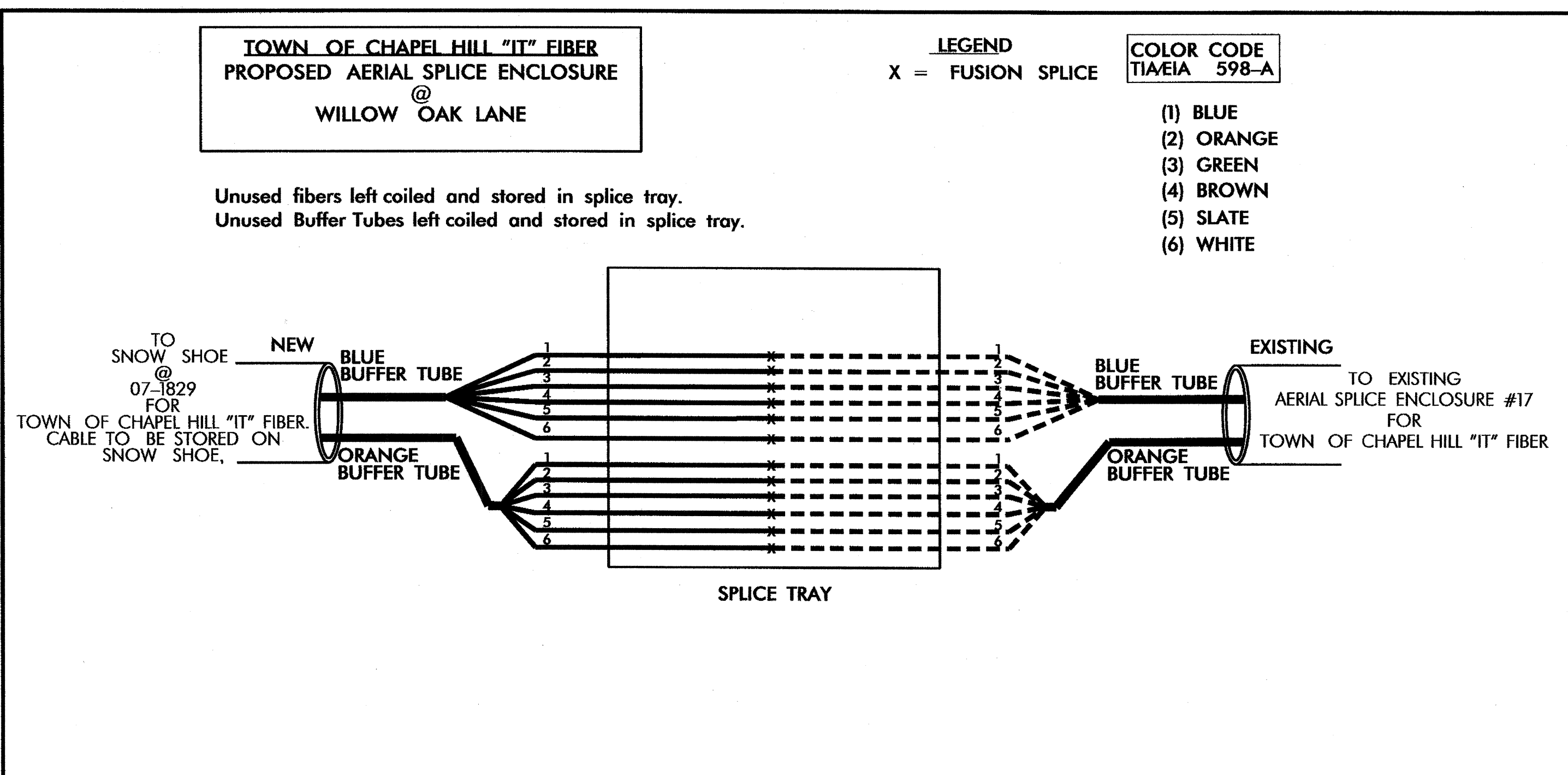
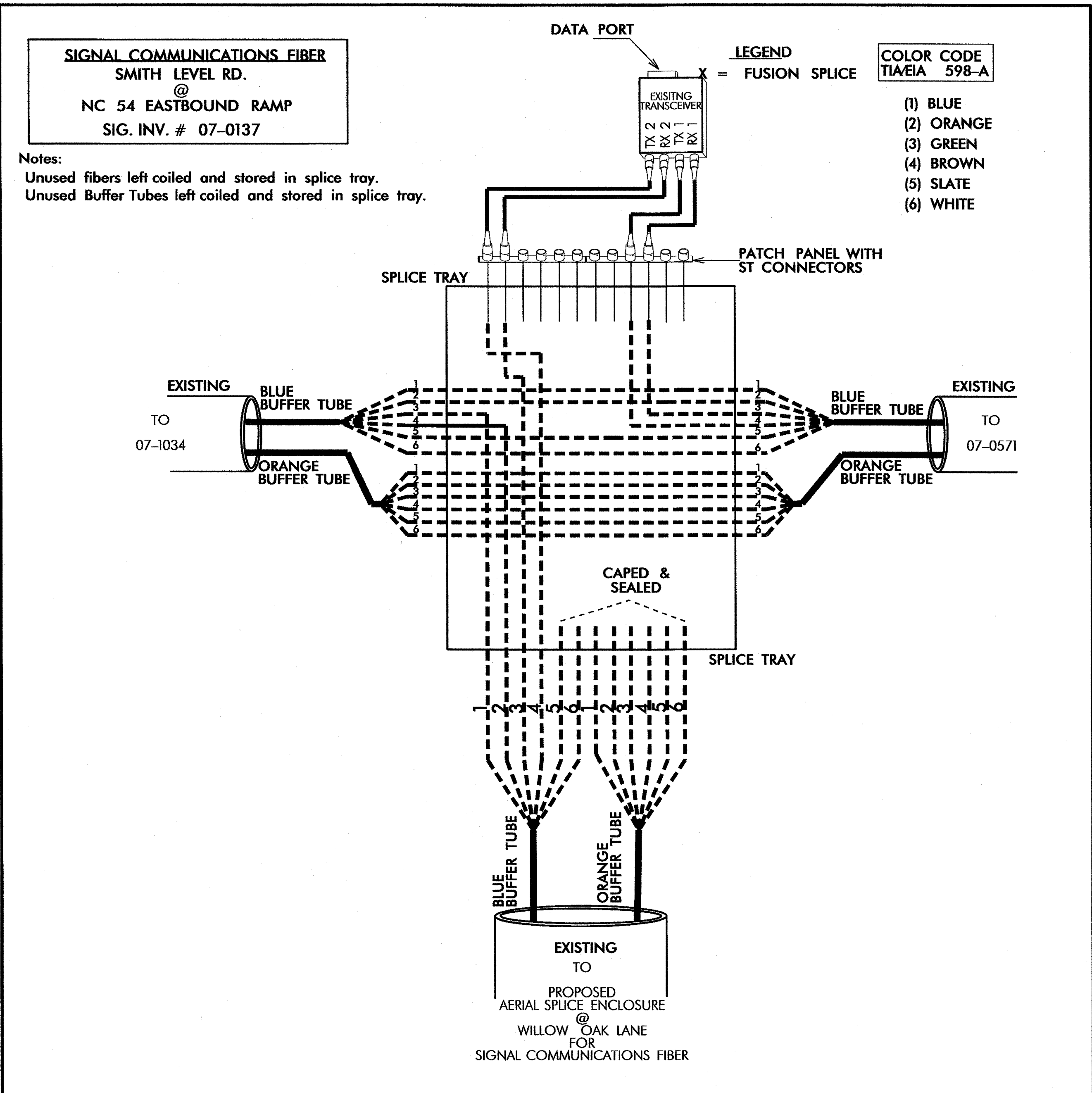
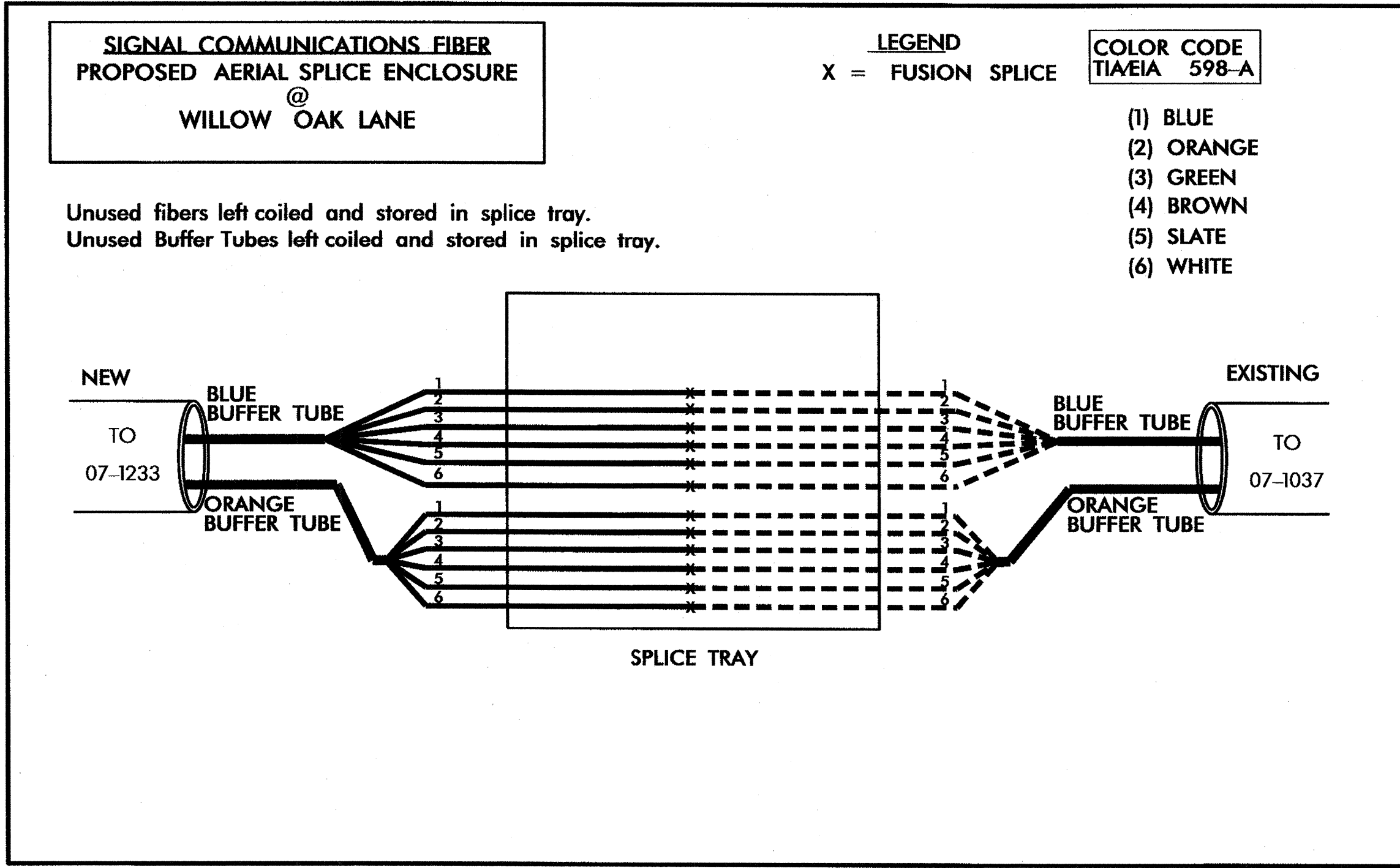
	COMMUNICATIONS CABLE & CONDUIT ROUTING PLANS FOR SMITH LEVEL ROAD		
	DIVISION 7 ORANGE CO. CARRBORO		
	PLAN DATE: AUGUST 2012	REVIEWED BY: S.W. WARDLE	
PREPARED BY: I.N. AVERY	REVIEWED BY: G.A. FULLER	REVISIONS	INIT. DATE
SCALE: 0' = 1"		SIGNATURE: <i>Gregory A. Fuller</i> DATE:	



TMP PHASE I

- 1) FURNISH TRANSCEIVERS THAT ARE FULLY COMPATIBLE, INTEROPERABLE, AND COMPLETELY INTERCHANGEABLE AND FUNCTIONAL WITH THE TOWN OF CHAPEL HILL SIGNAL SYSTEM.
- 2) TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING /ENSURING PROPER TERMINATIONS.

	SPLICE PLANS	
	ALONG	
	SR 1919 (SMITH LEVEL RD)	
DIVISION 7 ORANGE CO. CARRBORO		
PLAN DATE: AUGUST 2012	REVIEWED BY: S.C. WARDLE	
PREPARED BY: I.N. AVERY	REVIEWED BY: G.A. FULLER	
REVISIONS	INIT.	DATE
		DATE
CADD Filenames:		



**NO WORK REQUIRED,
 SHOWN FOR INFORMATIONAL PURPOSES ONLY.**

- 1) FURNISH TRANSCEIVERS THAT ARE FULLY COMPATIBLE, INTEROPERABLE, AND COMPLETELY INTERCHANGEABLE AND FUNCTIONAL WITH THE TOWN OF CHAPEL HILL SIGNAL SYSTEM.
- 2) TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING /ENSURING PROPER TERMINATIONS.

TMP PHASE I

	SPLICE PLANS									
	ALONG									
SR 1919 (SMITH LEVEL RD)										
DIVISION 7 ORANGE CO. CARRBORO PLAN DATE: AUGUST 2012 REVIEWED BY: S.C. WARDLE PREPARED BY: I.N. AVERY REVIEWED BY: G.A. FULLER										
SCALE 	REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>INIT.</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	DATE	INIT.	DATE					SIGNATURE
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