

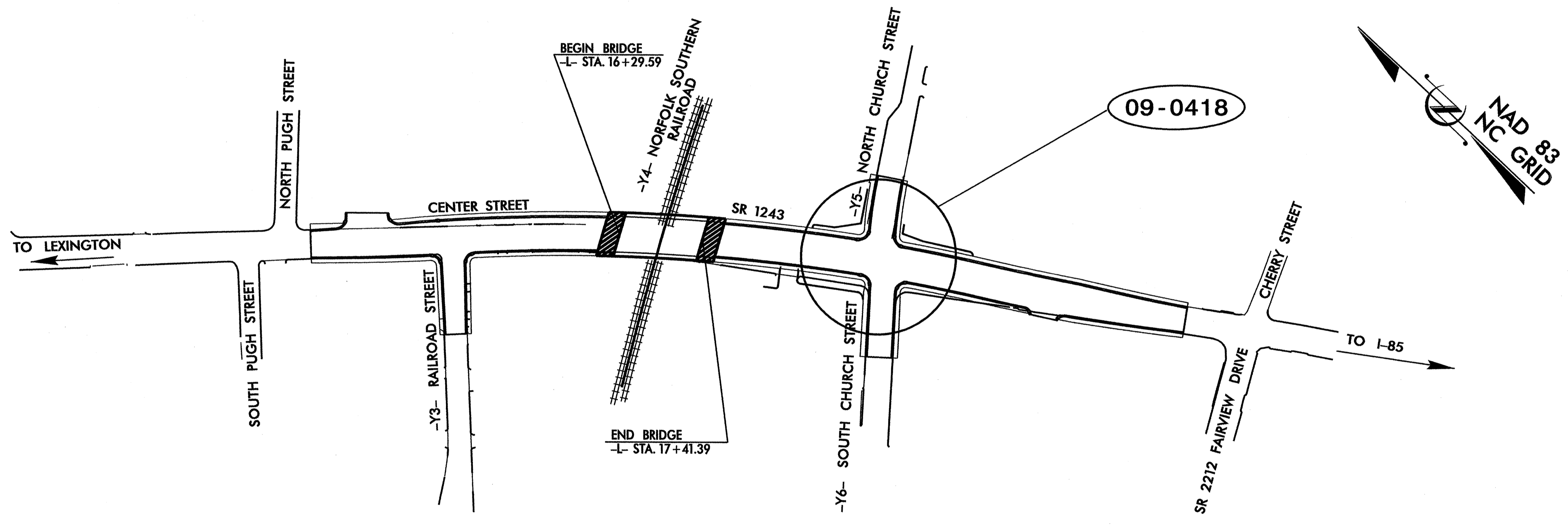
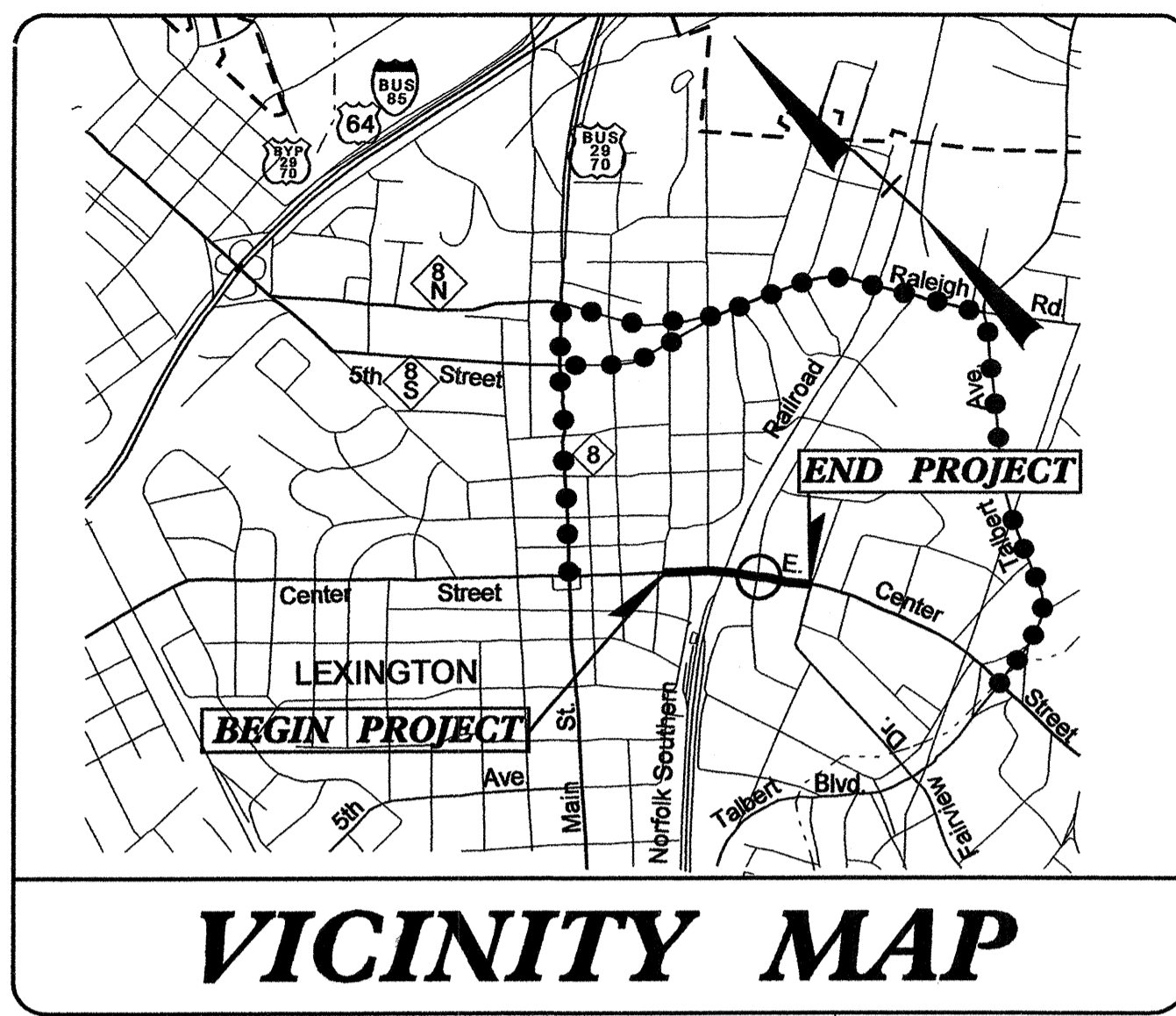
STATE	PROJECT NO.	SHEET NO.
N.C.	B-3446	Fig. 1
F.A. PROJ. NO.		
PROJECT ID. NO.		

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

DAVIDSON COUNTY

LOCATION: BRIDGE 415 OVER THE NORFOLK SOUTHERN RAILROAD ON SR 1243 (CENTER STREET)

TYPE OF WORK: TEMPORARY SIGNAL



Project: B-3446

INDEX OF PLANS

SHEET NUMBER	SIGNAL INVENTORY NUMBER	LOCATION /DESCRIPTION
SIG. 1	---	Title Sheet
SIG. 2-3	09-0418	SR 1243 (East Center Street) at Church Street
SIG. 4-6	---	Communications Cable and Conduit Routing Plans

LEGEND

##-#### SIGNAL INVENTORY NUMBER

NCDOT CONTACTS:

TRAFFIC ENGINEERING AND SAFETY SYSTEMS BRANCH

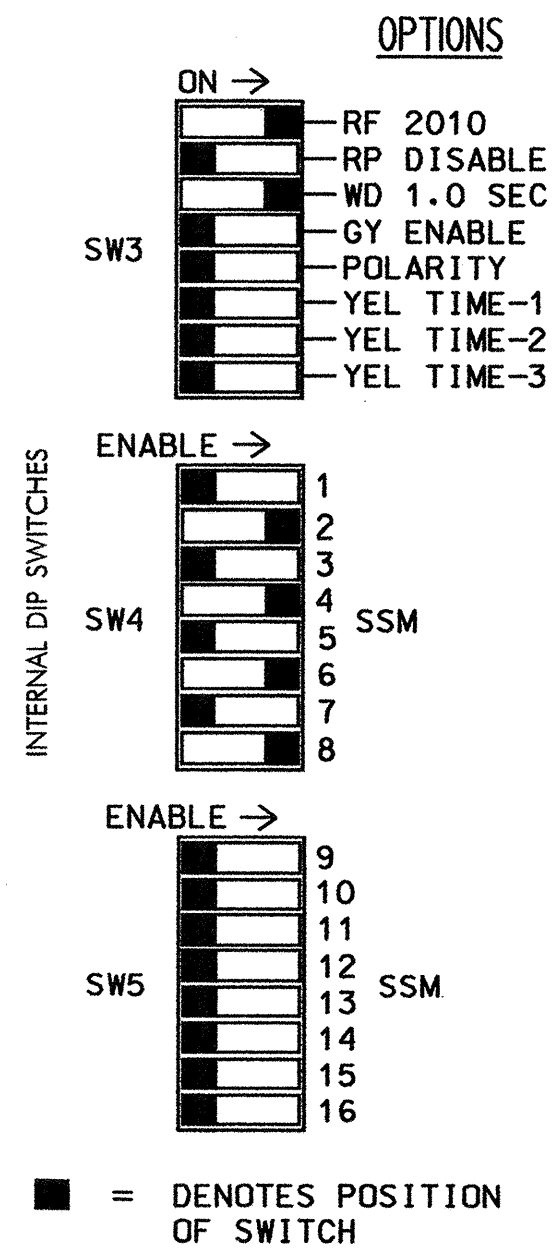
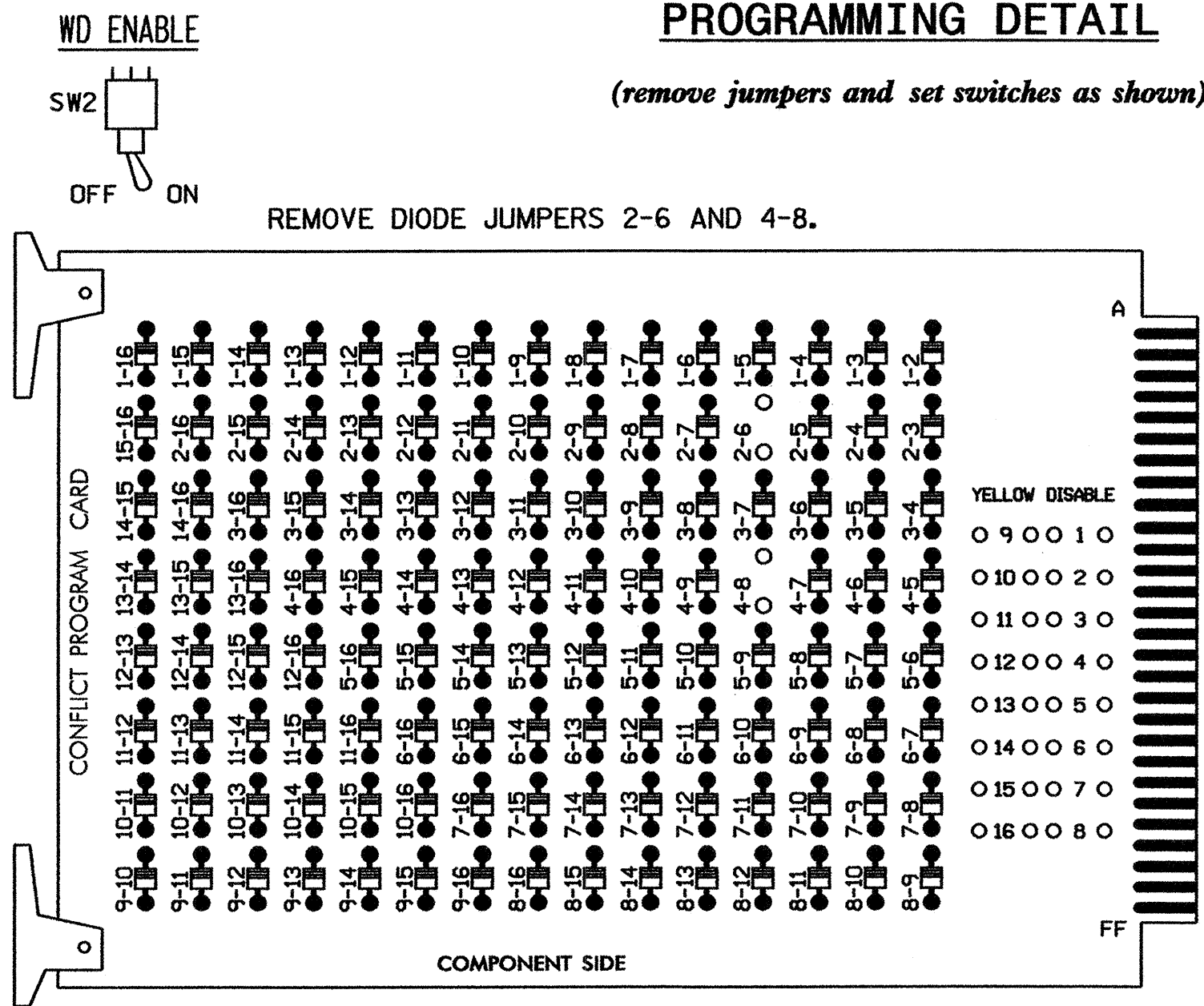
TIMOTHY J. WILLIAMS, PE - S&G CONTRACTS & PEF SUPPORT ENGINEER
JOHN T. ROWE Jr., PE - SIGNAL EQUIPMENT DESIGN ENGINEER
G. G. Murr, Jr., PE - ITS Engineer



EDI MODEL 2010ECL CONFLICT MONITOR

PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



- REMOVE JUMPERS AS SHOWN
- NOTES:
- Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
 - Make sure jumpers SEL1-SEL5 are present on the monitor board.

NOTES

- To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. Verify that signal heads flash in accordance with the Signal Plans.
- Ensure that Red Enable is active at all times during normal operation. To prevent Red Failures on unused monitor channels, tie unused red monitor inputs 1,3,5, 7,9,10,11,12,13,14,15 & 16 to load switch AC+ per the cabinet manufacturer's instructions.
- Program phases 2 and 6, on the controller unit, for Start-Up in Green.
- Enable Simultaneous Gap-Out, on the controller unit, for all phases.
- Program phases 4 and 8, on the controller unit, for Dual Entry.
- Program phases 2 and 6, on the controller unit, for 'MAX RECALL'.
- Set all detector card channels to 'Presence' mode.
- The cabinet and controller are part of the Lexington Closed Loop System. Controller Asset #0418.

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S2P	S3	S4	S4P	S5	S6	S6P	S7	S8	S8P
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED
SIGNAL HEAD NO.	NU	21,22	NU	NU	41,42	NU	NU	61,62	NU	NU	81,82	NU
RED		128			101			134			107	
YELLOW		129			102			135			108	
GREEN		130			103			136			109	
RED ARROW												
YELLOW ARROW												
GREEN ARROW												

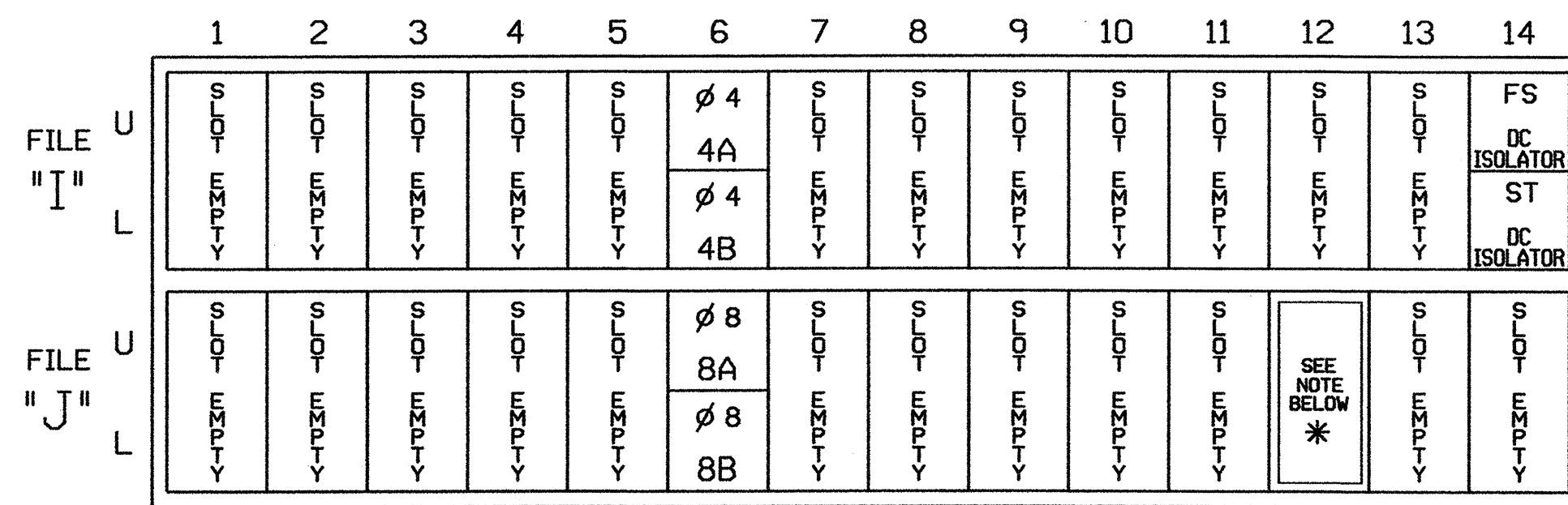
NU = Not Used

EQUIPMENT INFORMATION

CONTROLLER.....CONTRACTOR SUPPLIED 2070L
 CABINET.....CONTRACTOR SUPPLIED 332
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....BASE
 OUTPUT FILE POSITIONS...12
 LOAD SWITCHES USED.....S2,S4,S6,S8
 PHASES USED.....2,4,6,8
 OVERLAPS.....NONE

INPUT FILE POSITION LAYOUT

(front view)



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

FS = FLASH SENSE
 ST = STOP TIME

* EXISTING OPTICOM MODEL 252 2-CHANNEL INTERFACE CARD. WIRE TO INPUT FILE AS INDICATED:

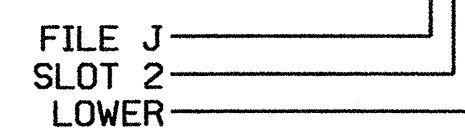
EVP3 - CHANNEL A - J12-D
 CHANNEL B - SPARE

PROGRAM EXTEND TIME ON PREEMPT INTERFACE UNIT FOR 2.0 SEC.

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
4A	TB4-9,10	I6U	41	3	4	4	Y	Y			3
4B	TB4-11,12	I6L	45	7	14	4	Y	Y			10
8A	TB5-9,10	J6U	42	4	8	8	Y	Y			3
8B	TB5-11,12	J6L	46	8	18	8	Y	Y			10

INPUT FILE POSITION LEGEND: J2L



EMERGENCY VEHICLE PREEMPTION PROGRAMMING DETAIL

(program controller as shown below)

From Main Menu press 'A' (Preemption), then '1' (Standard Preemptions). Press the 'Next' key 2-times to advance to Preempt 3:

PREEMPTION #3 SETTINGS (NEXT:1-10)

INTERVAL/TIMING	CLEAR/DWELL PHASES
GRN YEL RED	12345678910111213141516
1 255 0.0 0.0	X X
2 0 0.0 0.0	
3 0 0.0 0.0	
4 0 0.0 0.0	
5 1 0.0 0.0	X X

EXIT CALLS

OPTIONS

PRIORITY (Y/N TO SELECT)MED
 DELAY TIMER (0-255 SEC)*
 MIN GREEN BEFORE PRE (0= DEFAULT)....1
 PED CLEAR BEFORE PRE (0= DEFAULT)....0
 YELLOW CLEAR BEFORE PRE (0= DEFAULT).3.9
 RED CLEAR BEFORE PRE (0= DEFAULT)....1.3
 DWELL MIN TIMER (0-255 SEC)*
 DWELL MAX TIMER (0=OFF,1-255MIN)0
 DWELL HOLD-OVER TIMER (0-255)0
 LATCH CALL?Y
 LINK TO NEXT PREEMPT?N
 ENABLE BACKUP PROTECTION?N
 HOLD CLEAR 1 PHASES DURING DELAY? ..N
 FAST GREEN FLASH DWELL PHASES?N
 PED CLEARANCE THROUGH YELLOW?N
 INHIBIT OVERLAP GREEN EXTENSION? ..N
 SERVICE DURING SOFTWARE FLASH?N
 REST IN RED DURING DWELL INTERVAL? ..N
 FLASH DWELL INTERVAL?N
 ALLOW PEDS IN DWELL INTERVAL?N
 RE-TIME DWELL INTERVAL?N
 OVERLAPS: ABCDEFGHIJKLMNPO
 DWELL INT FLASH YELLOW
 OMIT OVERLAPS:

PROGRAMMING COMPLETE

* DENOTES TIMING TO BE DETERMINED IN FIELD

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 09-0418
 DESIGNED: MARCH 2007
 SEALED: 5/8/07
 REVISED: N/A

CLOSED LOOP SYSTEM DATA :
 CONTROLLER ASSET NO. 0418

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of:

 SR 1243 (East Center Street) at Church Street

Division 09 Davidson County Lexington

PLAN DATE: May 2007 REVIEWED BY: JFR

PREPARED BY: F.E. RUSS REVIEWED BY:

REVISIONS INIT. DATE

SEAL
 JOHN T. ROWE, JR.
 ENGINEER
 008453
 SIGNATURE DATE 5-8-07
 SIG. INVENTORY NO. 09-0418

122 N. McDowell St., Raleigh, NC 27603

- 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 TELEMTRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET
- 27 INSTALL NEW TELEMTRY 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

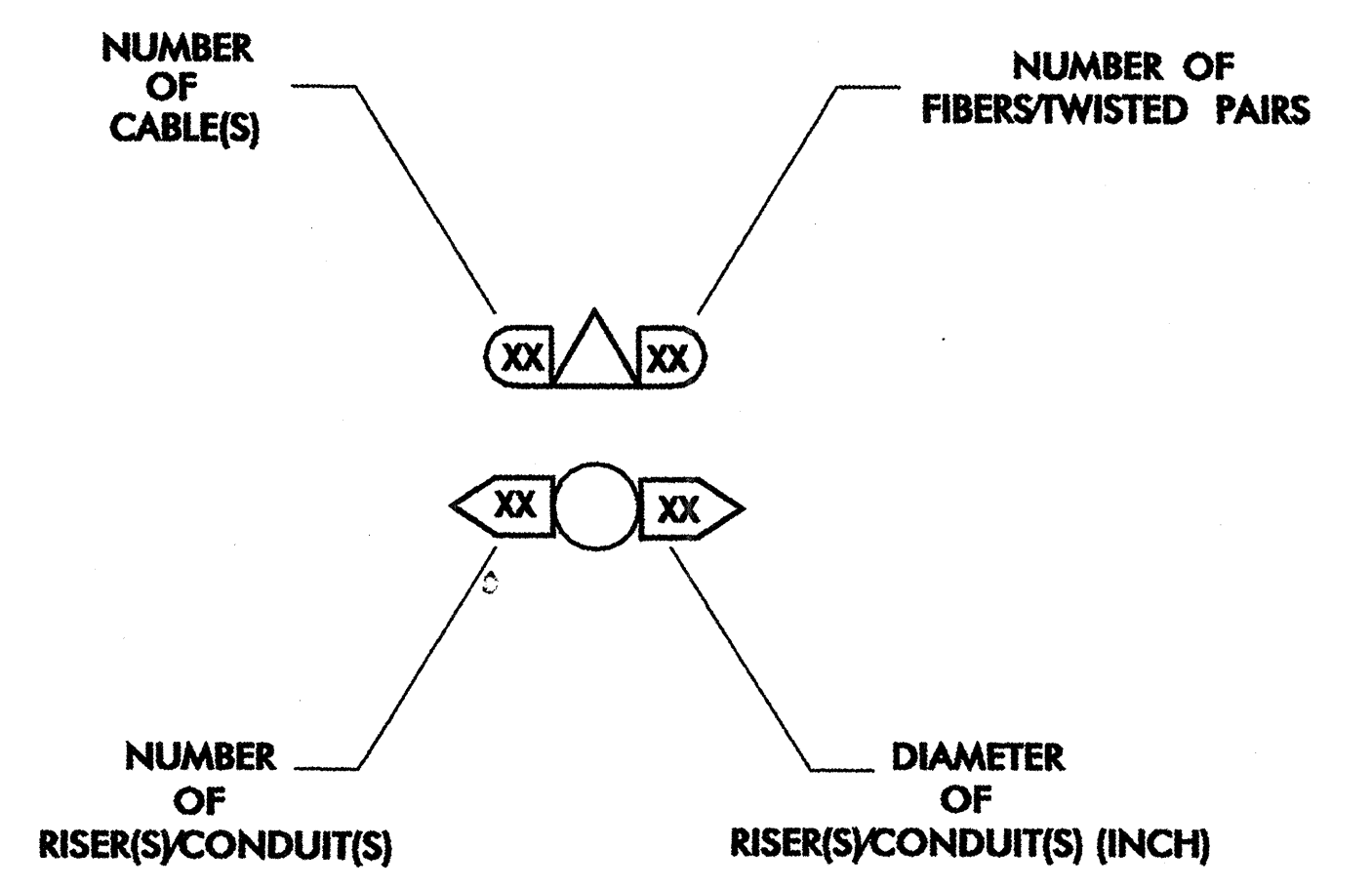
- 34 INSTALL CABINET FOUNDATION
- 35 REMOVE EXISTING CABINET FOUNDATION
- 36 INSTALL CCTV CAMERA ASSEMBLY
- 37 INSTALL CCTV CAMERA WOOD POLE
- 38 INSTALL CCTV CAMERA METAL POLE AND FOUNDATION
- 39 INSTALL JUNCTION BOX
- 40 INSTALL OVERSIZED JUNCTION BOX
- 41 REMOVE EXISTING JUNCTION BOX
- 42 INSTALL 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

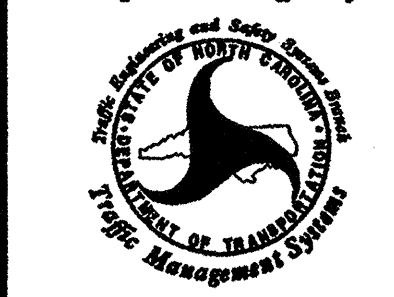
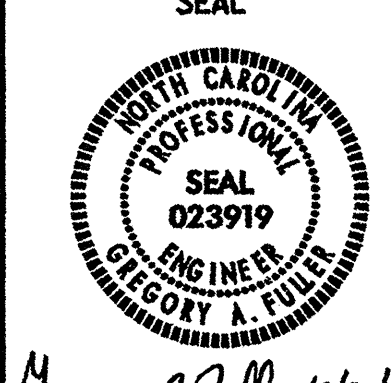
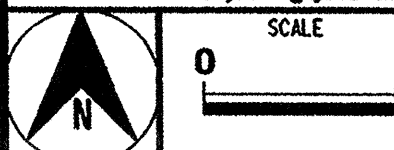
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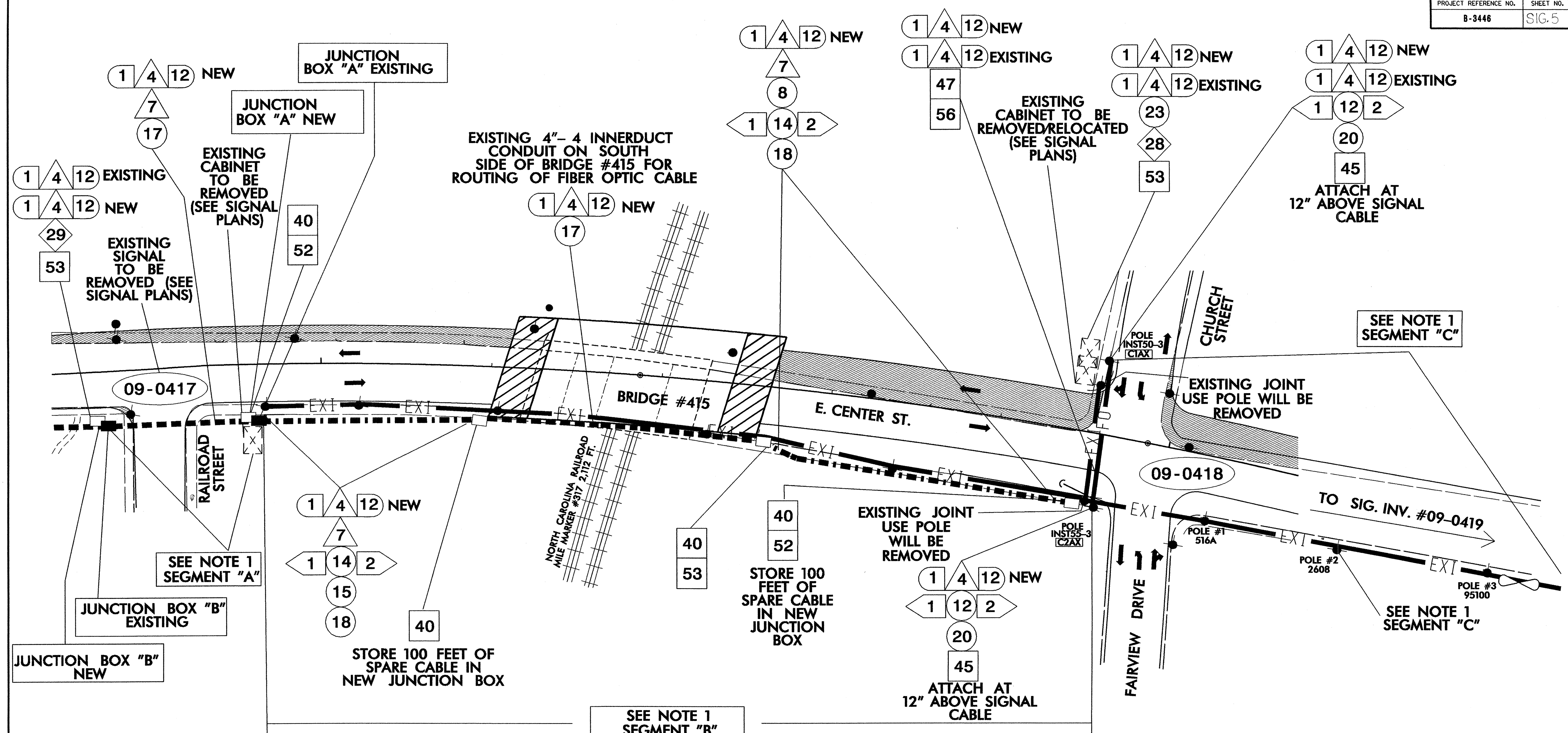
- FO NEW FIBER OPTIC COMMUNICATIONS CABLE
- TWIST PR NEW TWISTED PAIR COMMUNICATIONS CABLE
- EXI EXISTING COMMUNICATIONS CABLE
- REM EXISTING COMMUNICATIONS CABLE TO BE REMOVED
- NEW AERIAL GUY ASSEMBLY
- NEW CONDUIT
- EXISTING CONDUIT
- DD NEW DIRECTIONAL DRILLED CONDUIT
- B&J NEW BORED AND JACKED CONDUIT
- 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)



 Prepared in the Office of Traffic Management System 222 N. McDowell St., Raleigh, NC 27603	CONSTRUCTION NOTES		SEAL  GREGORY A. FULLER ENGINEER
	PLAN DATE: _____ PREPARED BY: _____	REVIEWED BY: G. A. FULLER REVIEWED BY: _____	
SCALE 	SIGNATURE: <i>Gregory A. Fuller</i> 10/31/02 DATE		SEAL



NOTE 1:

- SEGMENT "A"**
1. CUT THE EXISTING FIBER OPTIC CABLE IN JUNCTION BOX "A" (STANDARD SIZED JUNCTION BOX) AND BACK PULL SEGMENT "A" TO JUNCTION BOX "B".
 2. REMOVE EXISTING UNDERGROUND SPLICE ENCLOSURE IN JUNCTION BOX "A" AND RETURN TO THE ENGINEER.
 3. REMOVE EXISTING JUNCTION BOXES "A" & "B" AND REPLACE WITH NEW OVER-SIZED HEAVY DUTY JUNCTION BOXES.

SEGMENT "B"

- RECORD THE EXISTING FIBER OPTIC SPLICES AND TERMINATIONS IN THE EXISTING CONTROLLER CABINET LOCATED AT E. CENTER ST. AND CHURCH ST./FAIRVIEW DR. (SIG. INV. #09-0418) PRIOR TO CABINET REMOVAL.
- REMOVE THE FIBER OPTIC CABLE LOCATED BETWEEN JUNCTION BOX "A" AND THE EXISTING CONTROLLER CABINET (SIG. INV. #09-0418).

SEGMENT "C"

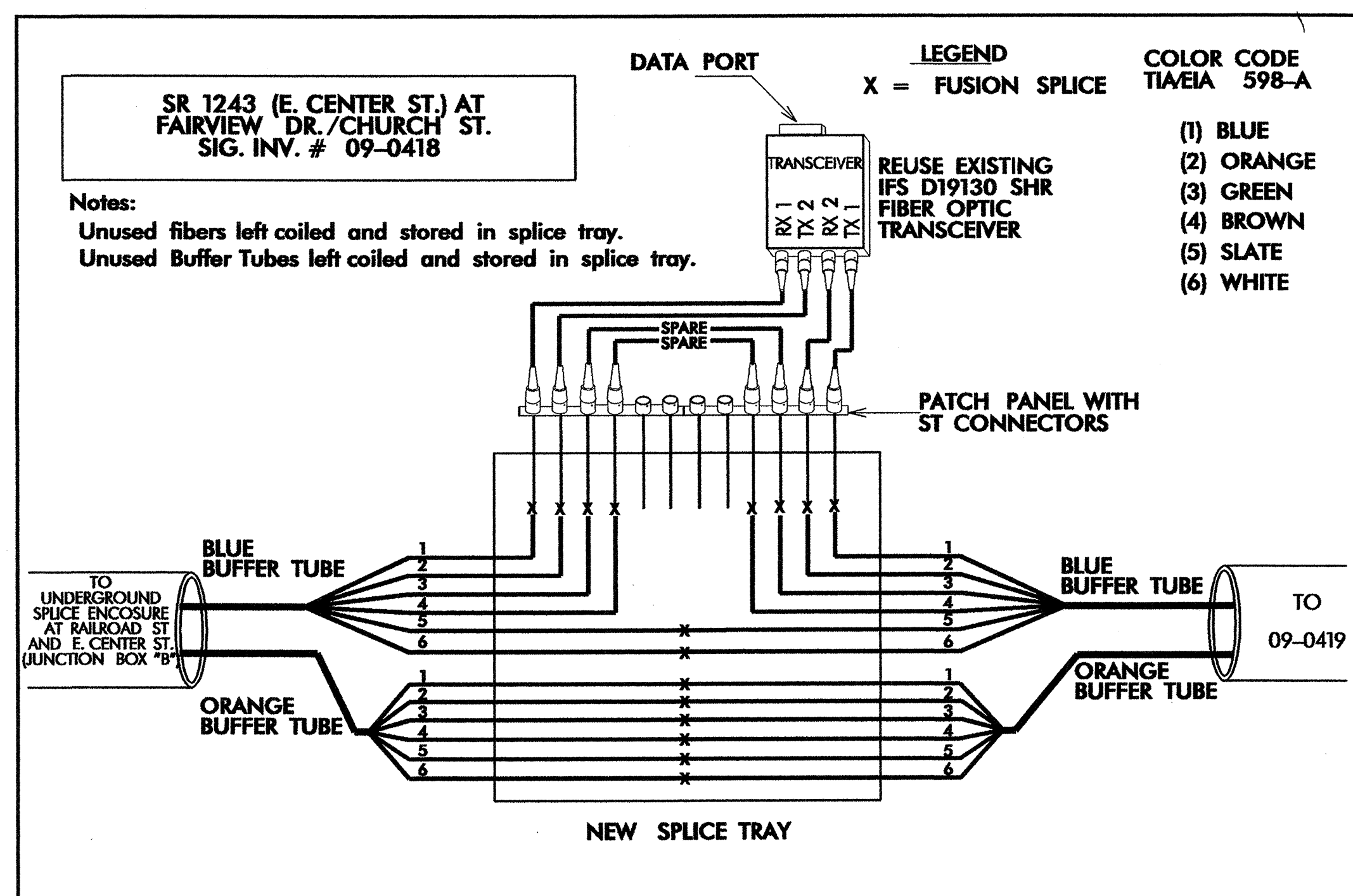
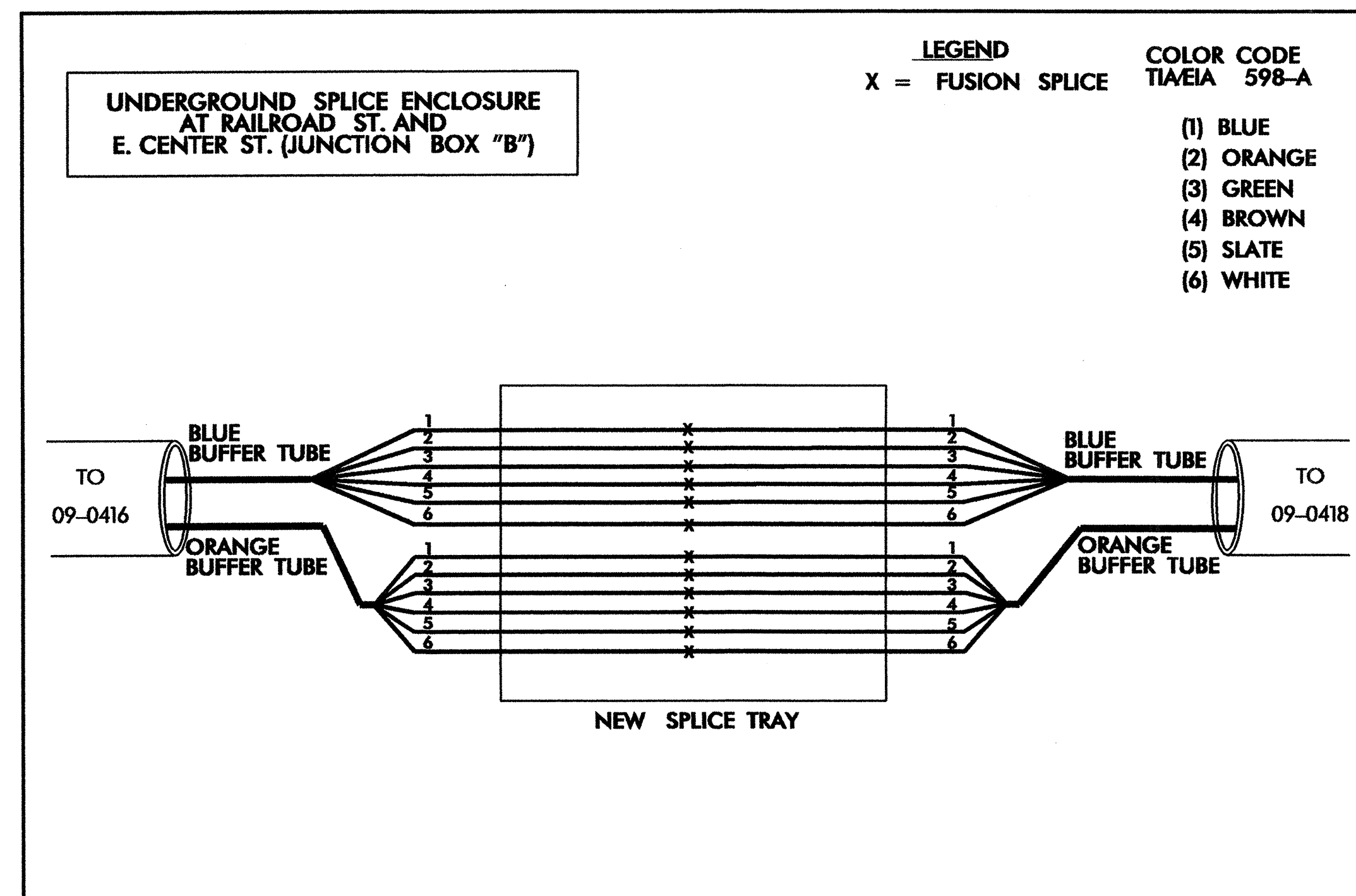
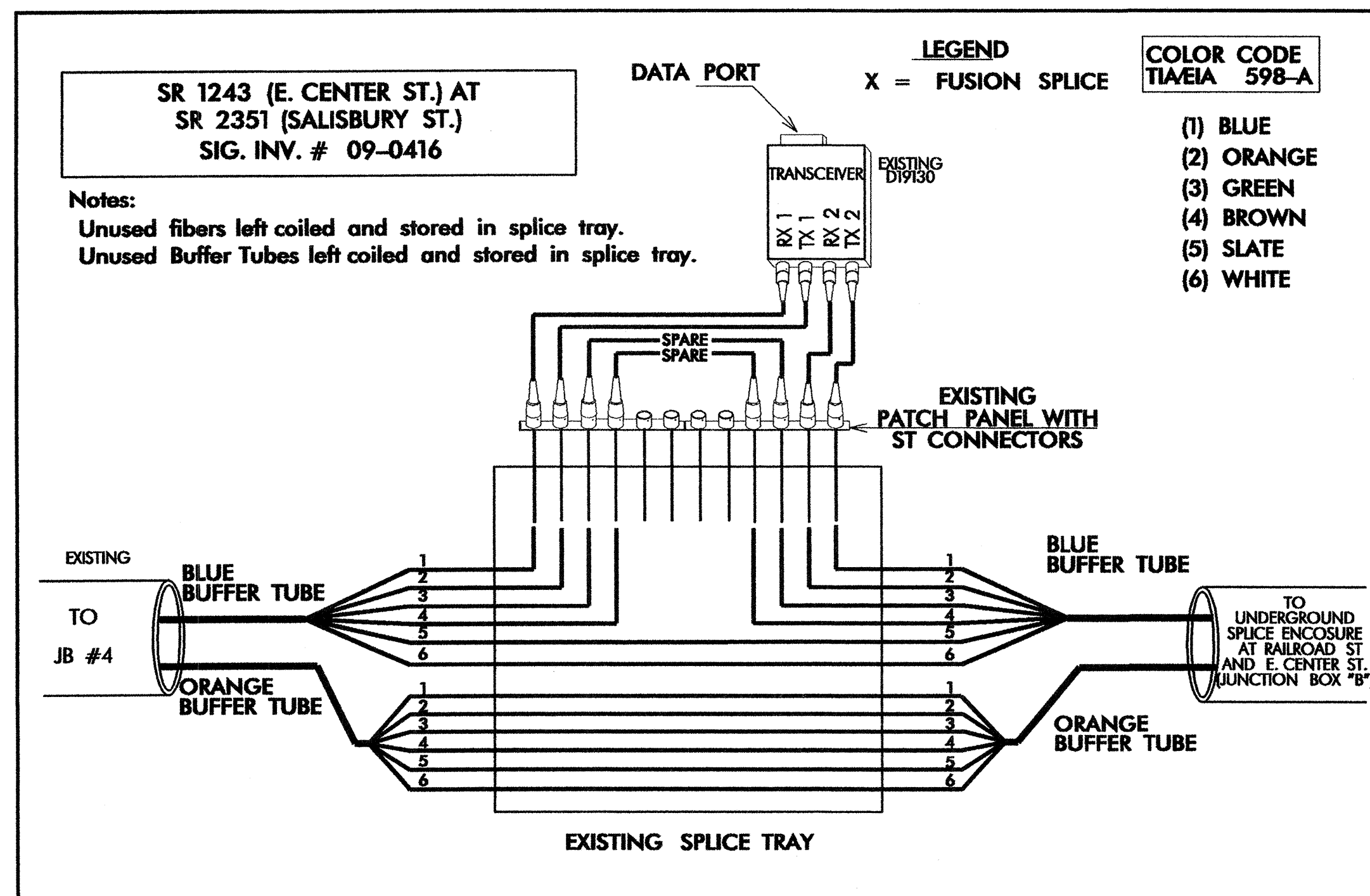
- REMOVE AND BACK PULL THE REMAINING FIBER OPTIC CABLE FROM THE EXISTING CONTROLLER CABINET (SIG. INV. #09-0418) TO POLE #2 AND STORE AT THE TOP OF THE POLE.

NOTE 2:

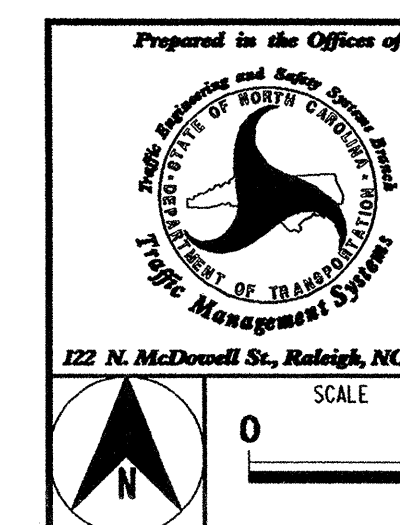
- INSTALL NEW FIBER OPTIC COMMUNICATIONS CABLE BETWEEN JUNCTION BOX "B" AND THE NEW CABINET (SIG. INV. #09-0418). PULL STORED CABLE (SEGMENT "C") BACK TO THE NEW CABINET. PERFORM SPLICING AS APPROPRIATE. COMPARE SPLICE TERMINATIONS WITH INFORMATION RECORDED IN NOTE 1, SEGMENT "B".

<p>222 N. McDowell St., Raleigh, NC 27603</p>	<p>LEXINGTON "E. CENTER ST." COMMUNICATIONS CABLE ROUTING PLANS</p>		
	<p>DIVISION 09 DAVIDSON CO. LEXINGTON</p> <p>PLAN DATE: MAY 2007 REVIEWED BY: I.N. AVERY</p> <p>PREPARED BY: HEIDI T. BERGGREN REVIEWED BY: G.G. MURR, JR., PE</p>	<p>REVISIONS INIT. DATE</p>	
<p>SCALE: NONE</p>	<p>SIGNATURE: <i>[Signature]</i> DATE: 5-10-07</p>		<p>CADD File name:</p>

FIBER OPTIC CABLE



TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING \ ENSURING PROPER TERMINATIONS



LEXINGTON "E. CENTER ST." SPLICE DETAIL

DIVISION: 09	DAVIDSON COUNTY	LEXINGTON
PLAN DATE: MAY 2007	REVIEWED BY: NEIL AVERY	
PREPARED BY: HEIDI T. BERGGREN	REVIEWED BY: G.G. NURR, JR., PE	
REVISIONS	INIT.	DATE

