Transportation

PAT McCRORY
Governor

NICHOLAS J. TENNYSON
Secretary

April 7, 2016

SUBJECT: ADDENDUM ONE FOR DE00122, SS-4905CK, Signal Upgrades at 7 Locations along US 501 Business (Roxboro Street) in Durham County, WBS Element: 44265.3.1

MEMORANDUM TO PROSPECTIVE BIDDERS

This addendum is being issued to distribute revised electrical sheets and new splice details for the subject project. The bid sheets have not changed as a result of these revised and new plans.

Please acknowledge receipt of this addendum in the proposal.

If you wish to use Expedite Entry in helping you prepare your bids, please note that there are no quantity changes and you can bid using the original EBS file.

If you have any questions, feel free to call me at (919) 220-4600.

Sincerely,

DocuSigned by:

5CDD3BA8BDE94C1...

Michael J. Kneis, PE
Division Project Manager

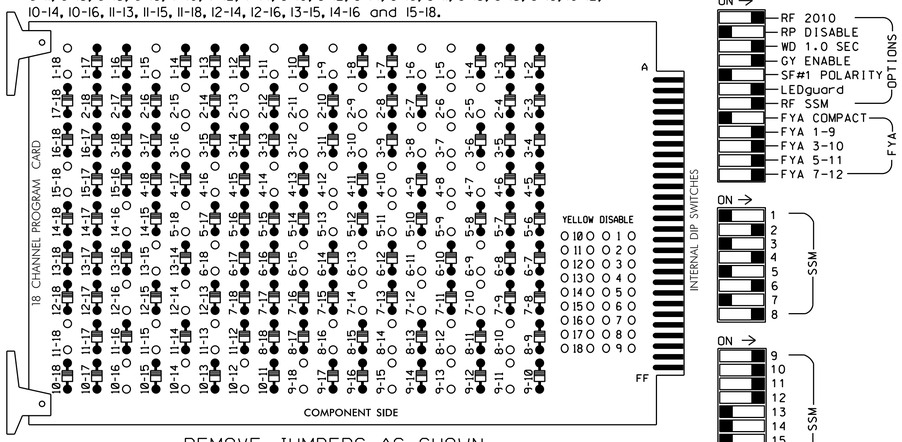
cc: D. Jernigan
A. Shapiro
J. Sandor
B. Sloan
M. Biedell

PROJECT REFERENCE NO.	SHEET NO.
SS-4905CK	Sig. 7.1

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, 1-15, 1-18, 2-5, 2-6, 2-9, 2-11, 2-13, 2-15, 3-7, 3-8, 3-10, 3-12, 3-16, 4-7, 4-8, 4-10, 4-12, 4-14, 4-16, 5-9, 5-11, 5-13, 5-18, 6-9, 6-11, 6-13, 6-15, 6-18, 7-10, 7-12, 7-14, 8-10, 8-12, 8-14, 8-16, 9-11, 9-13, 9-15, 9-18, 10-12, 10-14, 10-16, 11-13, 11-15, 11-18, 12-14, 12-16, 13-15, 14-16 and 15-18.



REMOVE JUMPERS AS SHOWN

■ = DENOTES POSITION OF SWITCH

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. Verify that signal heads flash in accordance with the signal plans.
2. Program controller to Start Up in phases 2 and 6 green.
3. Set power-up flash time to 0 seconds within the controller programming. The conflict monitor will govern startup flash. Ensure STARTUP "RED START" is set to 0 seconds.
4. Enable Simultaneous Gap-Out feature for all phases.
5. Program all timing information into phase banks 1, 2, and 3 unless otherwise noted.
6. Set phase bank 3 maximum limit to 250 seconds for phases used.
7. Program phases 4 and 8 for Double Entry.
8. Ensure start up flash phases are coordinated with flash program block assignments.
9. Program Startup Ped Calls for phases 2, 4, 6, and 8.
10. Set the Red Revert interval on the controller to 1 second.
11. This cabinet and controller are part of the Durham Signal System.

EQUIPMENT INFORMATION

CONTROLLER.....2070E
CABINET.....332 W/ AUX
SOFTWARE.....McCAIN 2033
CABINET MOUNT.....BASE
OUTPUT FILE POSITIONS...18 WITH AUX FILE
LOAD SWITCHES USED.....S1,S2,S3,S4,S5,S6,S7,S8,S9,S10,S11, S12,AUX S1,AUX S2,AUX S4,AUX S5,AUX S6
PHASES USED.....1,2,2 PED,3,4,4 PED,5,6,6 PED,7,8,8 PED
OVERLAP 1.....*
OVERLAP 2.....*
OVERLAP 3.....*
OVERLAP 4.....*
OVERLAP 5.....NOT USED
OVERLAP 6.....1

* See FYA PPLT Programming Detail on Sheet 2.

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7		S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6
CMU CHANNEL NO.	1	2	13	3	4	14	5		6	15	7	8	16	9	10	17	11	12	18
PHASE	1	2	2 PED	3	4	4 PED	5		6	6 PED	7	8	8 PED	OL1	OL2	SPARE	OL3	OL4	OL6
SIGNAL HEAD NO.	11★	21,22	P21, P22	31★	41,42	P41, P42	42	51★	61,62	P61, P62	71★	81,82	P81, P82	11★	31★	NU	51★	71★	82
RED		128			101				134			107							*
YELLOW	*	129		*	102				135		*	108							
GREEN		130			103				136			109							
RED ARROW														A121	A124		A114	A101	
YELLOW ARROW							132							A122	A125		A115	A102	A105
FLASHING YELLOW ARROW														A123	A126		A116	A103	
GREEN ARROW	127			118			133	133			124								A106
✋			113			104				119			110						
🚶			115			106				121			112						

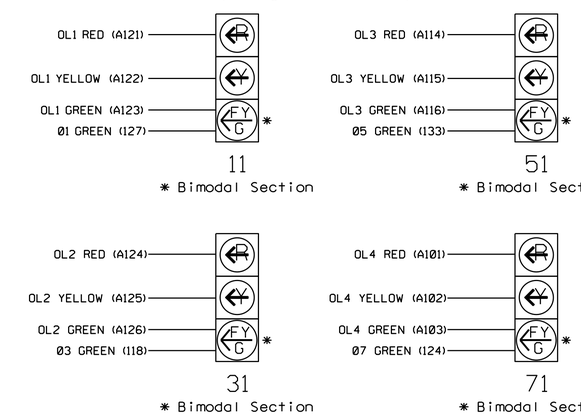
NU = Not Used

* Denotes install load resistor. See load resistor installation detail sheet 2.

★ See pictorial of head wiring in detail below.

FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)



INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I"	U	Ø 1/6 1A	Ø 1 1B	Ø 2 2A	SLOT	Ø 3/8 3A	Ø 4 4A	SLOT	SLOT	SLOT	SLOT	SLOT	Ø2 PED DC ISOLATOR	Ø6 PED DC ISOLATOR	FS DC ISOLATOR
	L	NOT USED	NOT USED	Ø 2 2B	EMPTY	NOT USED	NOT USED	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	Ø4 PED DC ISOLATOR	Ø8 PED DC ISOLATOR	ST DC ISOLATOR
FILE "J"	U	Ø 5/2 5A	Ø 5 5B	Ø 6 6A	SLOT	Ø 7/4 7A	Ø 8 8A	SLOT	SLOT	SLOT	SLOT	SLOT	CH. 3 UNUSED	CH. 1 EVB	SLOT
	L	NOT USED	NOT USED	Ø 6 6B	EMPTY	NOT USED	NOT USED	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	CH. 4 UNUSED	CH. 2 EVD	EMPTY

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

TOMAR OSP CARD INSERT CARD INTO SLOT J13

FS = FLASH SENSE
ST = STOP TIME
EVx = EMERGENCY VEHICLE PREEMPT

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	DETECTOR NO.	PIN NO.	ATTRIBUTES	NEMA PHASE
1A	TB2-1,2	I1U	14	56	5 7	1
			10	56	5 7	6
1B	TB2-5,6	I2U	1	39	5 7	1
2A	TB2-9,10	I3U	21	63	5 7	2
2B	TB2-11,12	I3L	29	76	5 7	2
3A	TB4-5,6	I5U	16	58	5 7	3
			12	58	5 7	8
4A	TB4-9,10	I6U	3	41	5 7	4
5A	TB3-1,2	J1U	13	55	5 7	5
			9	55	5 7	2
5B	TB3-5,6	J2U	2	40	5 7	5
6A	TB3-9,10	J3U	22	64	5 7	6
6B	TB3-11,12	J3L	30	77	5 7	6
7A	TB5-5,6	J5U	15	57	5 7	7
			11	57	5 7	4
8A	TB5-9,10	J6U	4	42	5 7	8
PED PUSH BUTTONS						
P21,P22	TB8-4,6	I12U	25	67	2	2 PED
P41,P42	TB8-5,6	I12L	27	69	2	4 PED
P61,P62	TB8-7,9	I13U	26	68	2	6 PED
P81,P82	TB8-8,9	I13L	28	70	2	8 PED

NOTE: INSTALL DC ISOLATORS IN INPUT FILE SLOTS I12 AND I13.

NOTE: PROGRAM DETECTOR DELAY AND CARRYOVER TIMES AS SPECIFIED ON SIGNAL DESIGN PLANS.

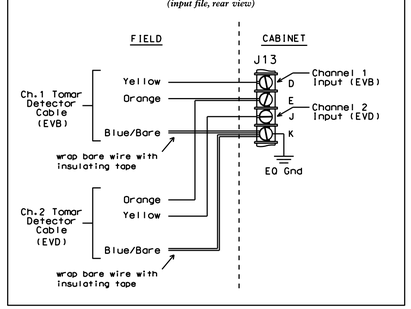
DETECTOR ATTRIBUTES LEGEND:

1-FULL TIME DELAY
2-PED CALL
3-RESERVED
4-COUNTING
5-EXTENSION
6-TYPE 3
7-CALLING
8-ALTERNATE

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

TYPICAL TOMAR FIELD WIRE DETAIL

(input file, rear view)



THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 05-0307
DESIGNED: September 2015
SEALED: 2/1/2016
REVISED: N/A

THIS ELECTRICAL DETAIL SUPERSEDES THE DETAIL SEALED ON 02/04/16

Electrical Detail - Sheet 1 of 2

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

US 501 Bus. (N. Roxboro St.) at SR 1669 (E. Club Blvd.)

Division 5 Durham County Durham

PLAN DATE: February 2015 REVIEWED BY: T. Joyce

PREPARED BY: C. Strickland REVIEWED BY:

REVISIONS	INIT.	DATE

Prepared in the Offices of: Transportation Mobility and Safety Division, Signals Management Section

750 N.Greenfield Pkwy,Garner,NC 27529

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 036880 ENGINEER KEITH M. MINS

DocuSigned by: Keith M. Mins 3/23/2016

2F8D7B6BCD34AB... DATE

SIG. INVENTORY NO. 05-0307

23-MAR-2016 12:18
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cestrickland

PROJECT REFERENCE NO.	SHEET NO.
SS-4905CK	Sig. 7.2

FYA PPLT PROGRAMMING

1. Program Flashing Yellow Arrow phases as follows:
   Main Menu - 1) PHASE - 2) PHASE FUNCTIONS PAGE TWO
   PPLT FYA = PHASE 1,3,5,7

2. Assign output pin for Flashing Yellow Arrow as follows:
   Main Menu - 6) OUTPUTS - F) FYA PPLT
   Phase 1 = 99
   Phase 3 = 96
   Phase 5 = 90
   Phase 7 = 87

3. Redirect RED and YELLOW outputs for the left turn phases as follows:
   Main Menu - 6) OUTPUTS - 8) REDIRECT PHASE
   Phase 1 RED = 97, Phase 1 YELLOW = 98
   Phase 3 RED = 94, Phase 3 YELLOW = 95
   Phase 5 RED = 88, Phase 5 YELLOW = 89
   Phase 7 RED = 85, Phase 7 YELLOW = 86

OVERLAP [6] PROGRAMMING DETAIL

1. Redirect Phase Outputs for OL6 as follows:
   Main Menu - 6) OUTPUTS - 9) REDIRECT OLAPS

   OVERLAP 6 RED = 83 NOTE: FOR SIGNAL HEAD 82
   OVERLAP 6 YELLOW = 100
   OVERLAP 6 GREEN = 84

2. Program OL6 as follows:
   Main Menu - 4) OVERLAP

   PRESS '+' key to advance to Overlap 6

   OVERLAP [6]:
   LOADSWITCH = 0
   VEH SET 1 = 1
   VEH SET 2 = No programming required
   YELLOW CLEARANCE = 3.0
   RED CLEARANCE = 2.6

   END OF OVERLAP PROGRAMMING

OMIT HEAD 82 RIGHT-TURN ARROW (OL6) DURING EVB

1. In order for EVB Preemption to operate without head 82 right-turn arrows, the following programming must be in place:
   Main Menu - 5) INPUTS - 5) BANKS & SETS

   OVERLAP VEHICLE SET-2 = 200 NOTE: 200 = Assignable Pseudo Pin

2. Assign EVB Preemption Output as follows:
   Main Menu - 6) OUTPUTS - 4) PREEMPT

   EVB ON = 200

   END OF PSEUDO PIN PROGRAMMING

EMERGENCY VEHICLE PREEMPTION PROGRAMMING

1. Program EVB preempt as follows:
   Main Menu - 2) PREEMPT - 4) EMERGENCY VEHICLE
   EVB Clear = 2
   EVB Clearance Phases = 1,6

2. Program EVD preempt as follows:
   Main Menu - 2) PREEMPT - 4) EMERGENCY VEHICLE
   EVD Clear = 2
   EVD Clearance Phases = 3,8

3. Program general preemption parameters as follows:
   Main Menu - 2) PREEMPT - 6) MISC PREEMPTION PARAMETERS
   Min Time Before PE ForceOff = 1

4. Ped Clear Before Preempt is a pedestrian timing parameter, and is programmed as follows:
   Main Menu - 1) PHASE - 5) PEDESTRIAN TIMING
   PHASE 2 MIN FDW = 8
   PHASE 4 MIN FDW = 9
   PHASE 6 MIN FDW = 7
   PHASE 8 MIN FDW = 9

Program Preempt Extend time on optical detector units for 2.0 sec.

MIN WALK DURING PREEMPTION PROGRAMMING

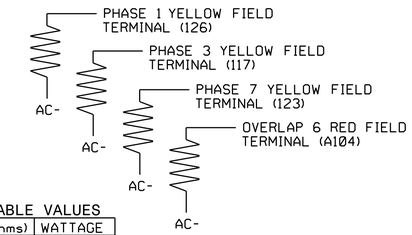
To disable MIN WALK pedestrian timing during preemption, program the controller as follows:
Main Menu - 9) UTILITIES - 5) CONFIGURATION
EXTRA TWO = 3

SPECIAL NOTES EV PREEMPT PROGRAMMING

Setting 'FYA DURING PREEMPT' to 'Y' eliminates yellow trap when transitioning to preempt from adjacent through phase.
Main Menu - 9) UTILITIES - 9) MISC
FYA DURING PREEMPT (Y/N) = Y

LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown below)



ACCEPTABLE VALUES

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

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.

FLASHER CIRCUIT MODIFICATION DETAIL

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

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

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

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 05-0307
DESIGNED: September 2015
SEALED: 2/1/2016
REVISED: N/A

THIS ELECTRICAL DETAIL SUPERSEDES THE DETAIL SEALED ON 02/04/16

Electrical Detail - Sheet 2 of 2

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of:
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
Signal Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

US 501 Bus. (N. Roxboro St.)
at
SR 1669 (E. Club Blvd.)

Division 5 Durham County Durham

PLAN DATE: February 2015	REVIEWED BY:	T. Joyce	
PREPARED BY: C. Strickland	REVIEWED BY:		

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 036880 ENGINEER KEITH M. MINS

DocuSigned by:
Keith M. Mins 3/23/2016
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DATE

SIG. INVENTORY NO. 05-0307

23-MAR-2016 12:19
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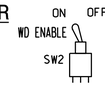
cestrickland

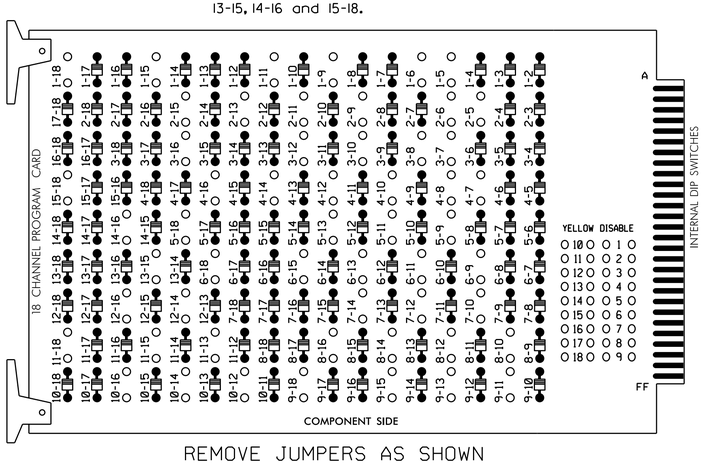
PROJECT REFERENCE NO.	SHEET NO.
SS-4905CK	Sig. 3.1

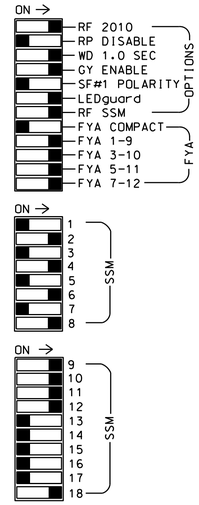
EDI MODEL 2018ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE DIODE JUMPERS 1-5, 1-6, 1-9, 1-11, 1-15, 1-18, 2-5, 2-6, 2-9, 2-11, 2-13, 2-15, 3-7, 3-8, 3-10, 3-12, 3-16, 4-7, 4-8, 4-10, 4-12, 4-14, 4-16, 5-9, 5-11, 5-13, 5-18 6-9, 6-11, 6-13, 6-15, 6-18, 7-10, 7-12, 7-14, 8-10, 8-12, 8-14, 8-16 9-11, 9-13, 9-15, 9-18, 10-12, 10-14, 10-16, 11-13, 11-15, 11-18, 12-14, 12-16, 13-15, 14-16 and 15-18.





REMOVE JUMPERS AS SHOWN

■ = DENOTES POSITION OF SWITCH

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. Ensure conflict monitor communicates with 2070.

INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I"	U	Ø 1,6	Ø 2	Ø 2	SLOT EMPTY	Ø 3,8	Ø 4	SLOT EMPTY	SLOT EMPTY	Ø 1	SLOT EMPTY	SLOT EMPTY	Ø2 PED DC ISOLATOR	Ø6 PED DC ISOLATOR	FS DC ISOLATOR
		1A	2A	2C		3A	4A			1B					
	L	NOT USED	Ø 2	Ø 2		NOT USED	NOT USED			NOT USED			Ø4 PED DC ISOLATOR	Ø8 PED DC ISOLATOR	ST DC ISOLATOR
			2B	2D											
FILE "J"	U	Ø 5,2	Ø 6	Ø 6	SLOT EMPTY	Ø 7,4	Ø 8	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	CH. 3 UNUSED	CH. 1 EVB	SLOT EMPTY
		5A	6A	6C		7A	8A								
	L	NOT USED	Ø 6	Ø 6		NOT USED	NOT USED						CH. 4 UNUSED	CH. 2 UNUSED	
			6B	6D											

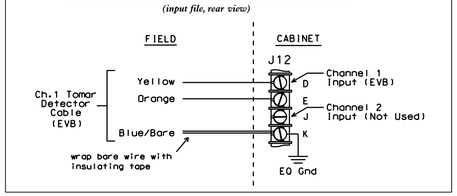
EX.: 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
ST = STOP TIME
EVB = EMERGENCY VEHICLE PREEMPT

4 CHANNEL TOMAR OSP CARD
INSERT CARD INTO SLOT J13

TYPICAL TOMAR FIELD WIRE DETAIL

(input file, rear view)



NOTES

1. 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.
2. Program controller to Start Up in phases 2 and 6 green.
3. Set power-up flash time to 0 seconds within the controller programming. The conflict monitor will govern startup flash. Ensure STARTUP "RED START" is set to 0 seconds.
4. Enable Simultaneous Gap-Out feature for all phases.
5. Program all timing information into phase banks 1, 2, and 3 unless otherwise noted.
6. Set phase bank 3 maximum limit to 250 seconds for phases used.
7. Program phases 4 and 8 for Double Entry.
8. Ensure start up flash phases are coordinated with flash program block assignments.
9. Program Startup Ped Calls for phases 2, 4, 6 and 8.
10. Set the Red Revert interval on the controller to 1 second.
11. This cabinet and controller are part of the Durham Signal System.

EQUIPMENT INFORMATION

CONTROLLER.....2070E
CABINET.....332 W/ AUX
SOFTWARE.....McCAIN 2033
CABINET MOUNT.....BASE
OUTPUT FILE POSITIONS...18 WITH AUX FILE
LOAD SWITCHES USED.....S1,S2,S3,S4,S5,S6,S7,S8,S9,S10,S11,S12
AUX S1,AUX S2,AUX S4,AUX S5,AUX S6
PHASES USED.....1,2,2 PED,3,4,4 PED,5,6,6 PED,7,8,8 PED
OVERLAP 1.....**
OVERLAP 2.....**
OVERLAP 3.....**
OVERLAP 4.....**
OVERLAP 5.....NOT USED
OVERLAP 6.....1
** See FYA PPLT Programming - Sheet 2

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	DETECTOR NO.	PIN NO.	ATTRIBUTES	NEMA PHASE
1A	TB2-1,2	I1U	14	56	5 7	1
			10	56	5 7	6
1B	TB6-9,10	I9U	18	60	5 7	1
2A	TB2-5,6	I2U	1	39	5 7	2
2B	TB2-7,8	I2L	5	43	5 7	2
2C	TB2-9,10	I3U	21	63	5 7	2
2D	TB2-11,12	I3L	29	76	5 7	2
3A	TB4-5,6	I5U	16	58	5 7	3
			12	58	5 7	8
4A	TB4-9,10	I6U	3	41	5 7	4
5A	TB3-1,2	J1U	13	55	5 7	5
			9	55	5 7	2
6A	TB3-5,6	J2U	2	40	5 7	6
6B	TB3-7,8	J2L	6	44	5 7	6
6C	TB3-9,10	J3U	22	64	5 7	6
6D	TB3-11,12	J3L	30	77	5 7	6
7A	TB5-5,6	J5U	15	57	5 7	7
			11	57	5 7	4
8A	TB5-9,10	J6U	4	42	5 7	8
PED PUSH BUTTONS						
P21,P22	TB8-4,6	I12U	25	67	2	2 PED
P41,P42	TB8-5,6	I12L	27	69	2	4 PED
P61,P62	TB8-7,9	I13U	26	68	2	6 PED
P81,P82	TB8-8,9	I13L	28	70	2	8 PED

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

DETECTOR ATTRIBUTES LEGEND:

1-FULL TIME DELAY
2-PED CALL
3-RESERVED
4-COUNTING
5-EXTENSION
6-TYPE 3
7-CALLING
8-ALTERNATE

NOTE:
INSTALL DC ISOLATOR IN INPUT FILE SLOT I12 AND I13.

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4		S5	S6	S7	S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6
CMU CHANNEL NO.	1	2	13	3		4	14	5	6	15	7	8	16	9	10	17	11	12	18
PHASE	1	2	2 PED	3		4	4 PED	5	6	6 PED	7	8	8 PED	OL1	OL2	SPARE	OL3	OL4	OL6
SIGNAL HEAD NO.	11 ★	21,22	P21, P22	31 ★	22	41,42 43	P41, P42	51 ★	61,62	P61, P62	71 ★	81,82	P81, P82	11 ★	31 ★	NU	51 ★	71 ★	82
RED		128				101			134			107							✳
YELLOW	✳	129				102		✳	135		✳	108							
GREEN		130				103			136			109							
RED ARROW														A121	A124		A114	A101	
YELLOW ARROW					117									A122	A125		A115	A102	A105
FLASHING YELLOW ARROW														A123	A126		A116	A103	
GREEN ARROW	127			118	118			133			124								A106
✋			113				104			119			110						
🚶			115				106			121			112						

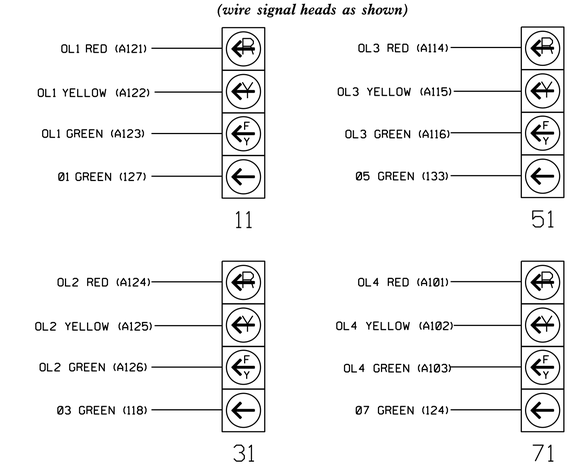
NU = Not Used

✳ Denotes install load resistor. See load resistor installation detail on sheet 2.

★ See pictorial of head wiring in detail below.

4 SECTION FYA PPLT SIGNAL WIRING DETAIL

(wire signal heads as shown)



THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 05-1433
DESIGNED: September 2015
SEALED: 1/29/2016
REVISED: N/A

THIS ELECTRICAL DETAIL SUPERSEDES THE DETAIL SEALED ON 02/02/16

Electrical Detail - Sheet 1 of 2

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of:
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

US 501 Bus. (N. Roxboro St.)
at
SR 1407 (Carver St.)

Division 5 Durham County Durham

PLAN DATE: December 2015	REVIEWED BY: KMM		
PREPARED BY: B. Simmons	REVIEWED BY:		
REVISIONS		INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 036880 ENGINEER KEITH M. MIMS

DocuSigned by: Keith M. Mims 3/23/2016
2F8D786E8CD34A5 DATE

SIG. INVENTORY NO. 05-1433

23-WED-2016 13:11
S:*MTSSGN*MTS Signals*Workgroups*Sig Mgmt*Strickland*051433_sm.ele.xxx.dgn
cestrickland

PROJECT REFERENCE NO.	SHEET NO.
SS-4905CK	Sig. 3.2

EMERGENCY VEHICLE PREEMPTION PROGRAMMING

1. Program EVB preempt as follows:
   Main Menu - 2) PREEMPT - 4) EMERGENCY VEHICLE
   EVB Clear = 2.0
   EVB Clearance Phases = 1,6

2. Program general preemption parameters as follows:
   Main Menu - 2) PREEMPT - 6) MISC PREEMPTION PARAMETERS
   Min Time Before PE ForceOff = 1

3. Ped Clear Before Preempt is a pedestrian timing parameter, and is programmed as follows:
   Main Menu - 1) PHASE - 5) PEDESTRIAN TIMING
   PHASE 2 MIN FDW = 9
   PHASE 4 MIN FDW = 11
   PHASE 6 MIN FDW = 9
   PHASE 8 MIN FDW = 7

Program extend time on optical detector units for 2.0 sec.

FYA PPLT PROGRAMMING

1. Program Flashing Yellow Arrow phases as follows:
   Main Menu - 1) PHASE - 2) PHASE FUNCTIONS PAGE TWO
   PPLT FYA = PHASES 1,3,5,7

2. Assign output pin for Flashing Yellow Arrow as follows:
   Main Menu - 6) OUTPUTS - F) FYA PPLT
   Phase 1 = 99
   Phase 3 = 96
   Phase 5 = 90
   Phase 7 = 87

3. Redirect RED and YELLOW outputs for the left turn phases as follows:
   Main Menu - 6) OUTPUTS - 8) REDIRECT PHASE
   Phase 1 RED = 97, Phase 1 YELLOW = 98
   Phase 3 RED = 94, Phase 3 YELLOW = 95
   Phase 5 RED = 88, Phase 5 YELLOW = 89
   Phase 7 RED = 85, Phase 7 YELLOW = 86

SPECIAL NOTE EV PREEMPT PROGRAMMING

Setting 'FYA DURING PREEMPT' to 'Y' eliminates yellow trap when transitioning to preempt from adjacent through phase.
Main Menu - 9) UTILITIES - 9) MISC
FYA DURING PREEMPT (Y/N) = Y

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.

OMIT HEAD 82 RIGHT-TURN ARROW (OL6) DURING EVB

1. In order for EVB Preemption to operate without head 82 right-turn arrows, the following programming must be in place:
   Main Menu - 5) INPUTS - 5) BANKS & SETS

   OVERLAP VEHICLE SET 2 = 200 NOTE: 200 = Assignable Pseudo Pin

2. Assign EVB Preemption Output as follows:
   Main Menu - 6) OUTPUTS - 4) PREEMPT

   EVB ON = 200

END OF PSEUDO PIN PROGRAMMING

FLASHER CIRCUIT MODIFICATION DETAIL

In order to ensure that signals flash concurrently on the same approach, make the following flasher circuit changes:

1. On rear of PDA - Remove wire from Term. T2-4 and Terminate on T2-2.
2. On rear of PDA - Remove wire from Term. T2-5 and Terminate on T2-3.
3. Remove Flasher Unit 2.

The changes listed above ties all Phases and Overlaps to Flasher Unit 1.

MIN WALK DURING PREEMPTION PROGRAMMING

To disable MIN WALK pedestrian timing during preemption, program the controller as follows:
Main Menu - 9) UTILITIES - 5) CONFIGURATION
EXTRA TWO = 3

OVERLAP (6) PROGRAMMING DETAIL

1. Redirect Phase Outputs for OL6 as follows:
   Main Menu - 6) OUTPUTS - 9) REDIRECT OLAPS

   OVERLAP 6 RED = 83
   OVERLAP 6 YELLOW = 100
   OVERLAP 6 GREEN = 84

2. Program OL6 as follows:
   Main Menu - 4) OVERLAP

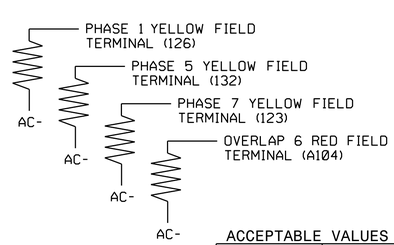
   PRESS '+' key to advance to Overlap 6

   OVERLAP [6] :

   LOADSWITCH = 0
   VEH SET 1 = 1
   VEH SET 2 = No programming required
   YELLOW CLEARANCE = 3.0
   RED CLEARANCE = 3.1

END OF OVERLAP PROGRAMMING

LOAD RESISTOR INSTALLATION DETAIL



ACCEPTABLE VALUES

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

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 05-1433
DESIGNED: September 2015
SEALED: 1/29/2016
REVISED: N/A

THIS ELECTRICAL DETAIL SUPERSEDES THE DETAIL SEALED ON 02/02/16

Electrical Detail - Sheet 2 of 2

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

US 501 Bus. (N. Roxboro St.) at SR 1407 (Carver St.)

Division 5 Durham County Durham

PLAN DATE: December 2015 REVIEWED BY:
PREPARED BY: B. Simmons REVIEWED BY:

REVISIONS	INIT.	DATE

Prepared in the Offices of:
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 036880 ENGINEER KEITH M. MIMS

DocuSigned by: Keith M. Mims 3/23/2016
2F80786E8CD3A45...
DATE

SIG. INVENTORY NO. 05-1433

23-MAR-2016 13:13
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cestrickland

PROJECT REFERENCE NO.	SHEET NO.
SS-4905CK	SCP 1

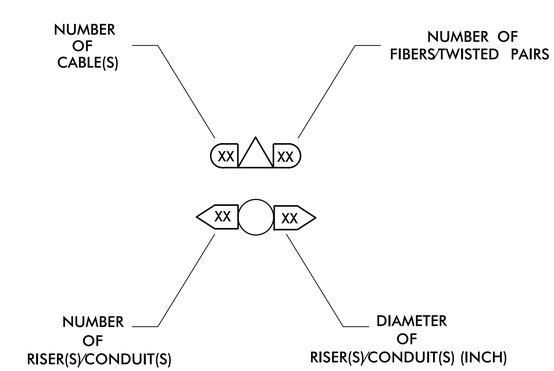
1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL REA, PE – 39, (UNDERGROUND) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
4. INSTALL SMFO CABLE
5. INSTALL MMFO CABLE
6. INSTALL FIBER OPTIC DROP 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

- REL — EXISTING COMMUNICATIONS CABLE TO BE RELOCATED
- 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
- EXISTING CCTV ASSEMBLY
- EXISTING JUNCTION BOX
- NEW WOOD POLE
- EXISTING WOOD POLE
- S — AERIAL SPLICE ENCLOSURE
- NEW METAL SIGNAL STRAIN POLE
- EXISTING CCTV METAL POLE
- RELOCATED CCTV ASSEMBLY
- NEW STANDARD GUY ASSEMBLY
- NEW SIDEWALK GUY ASSEMBLY
- NEW CABLE STORAGE RACKS (SNOW SHOES)
- EXISTING CONTROLLER AND CABINET
- S — EXISTING SPLICE CABINET
- S — 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 Offices of:

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

750 N. Greenfield Pkwy., Garner, NC 27529

CONSTRUCTION NOTES

DIVISION 05 DURHAM CO. DURHAM

PLAN DATE: MARCH 2015 REVIEWED BY: DocuSigned by: Neil Avery

PREPARED BY: H.T. BERGGREN REVIEWED BY: 09F5DB4CBED3443...

SCALE	REVISIONS	INIT.	DATE
0 N/A			

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

DocuSigned by: Gregory A. Fuller 3/12/2015 DATE

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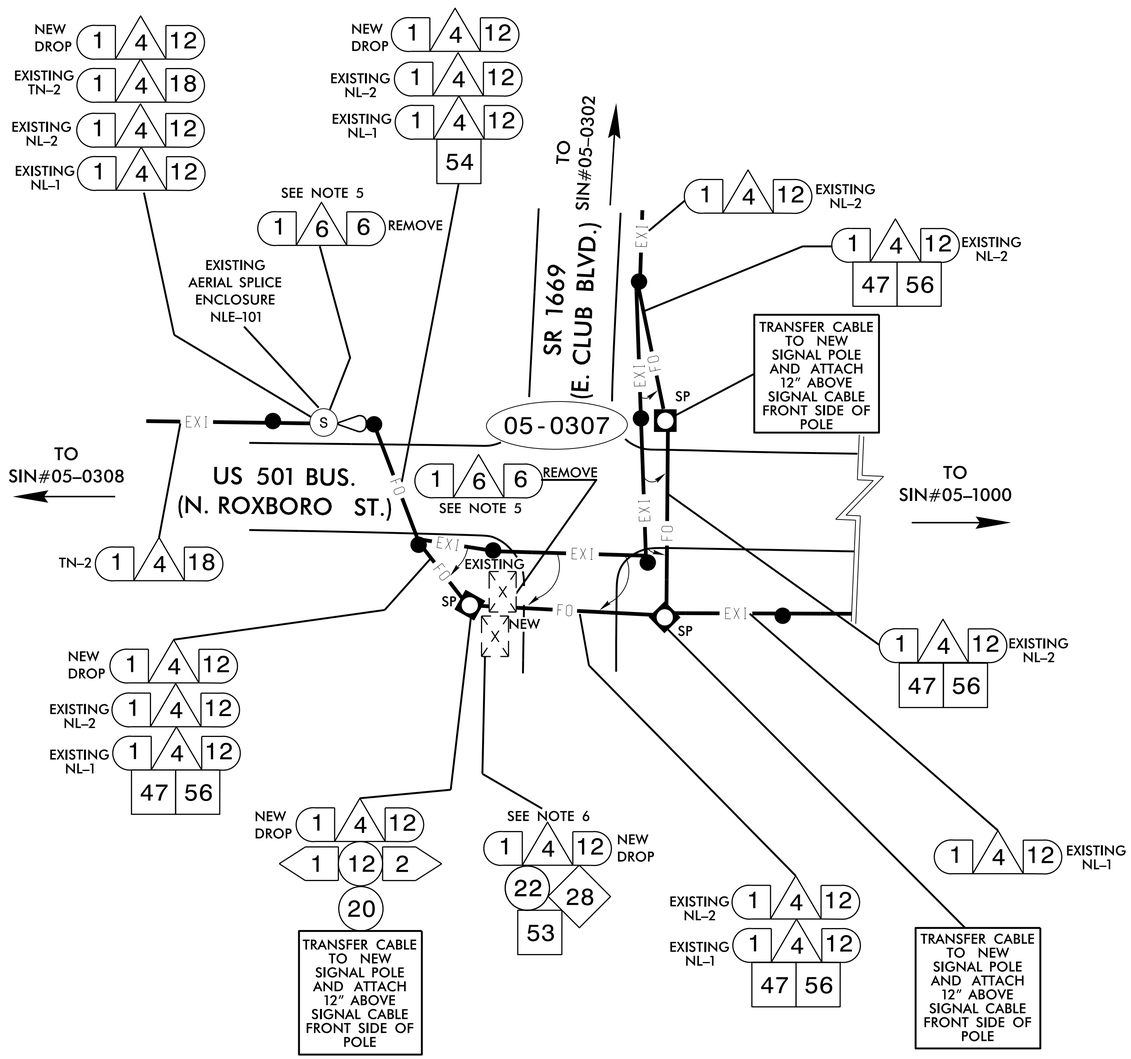
CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
SS-4905CK	SCP 2



NOTES:

1. ALL NCDOT ATTACHMENT POINTS SHALL BE 40" BELOW POWER, FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED.
2. CONTACT CITY OF DURHAM TRANSPORTATION ENGINEER, PETE NICHOLAS ((919) 560-4366 EXT. 36436) 24 HOURS PRIOR TO BEGINNING WORK AT THIS INTERSECTION.
3. RECORD EXISTING FIBER OPTIC TERMINATION CONFIGURATIONS IN EXISTING AERIAL SPLICE ENCLOSURE (NLE-101) AND IN SIGNAL CABINET (SIN#05-0307) PRIOR TO DISCONNECTING FIBER OPTIC CABLE. PROVIDE RECORDED TERMINATION CONFIGURATIONS TO THE RESIDENT ENGINEER AND TO THE CITY OF DURHAM TRANSPORTATION ENGINEER FOR REVIEW PRIOR TO RE-TERMINATION. IF DISCREPANCIES EXIST BETWEEN RECORDED TERMINATIONS AND PROVIDED SPLICE PLAN, CONSULT WITH THE RESIDENT ENGINEER AND THE CITY OF DURHAM TRANSPORTATION ENGINEER TO DETERMINE HOW TO RESPLICE THE FIBERS.
4. ONCE INSTALLATION OF METAL STRAIN POLES AND NEW SIGNAL CABINET ARE COMPLETE, TRANSFER EXISTING 12-FIBER CABLES (TO SIN#05-0302 AND SIN#05-1000) FROM EXISTING WOOD POLES TO NEW METAL STRAIN POLES.
5. CUT AND ABANDON EXISTING 6-FIBER DROP CABLE BETWEEN EXISTING AERIAL SPLICE ENCLOSURE (NLE-101) AND EXISTING SIGNAL CABINET (SIN#05-0307).
6. INSTALL NEW 12-FIBER DROP CABLE AND TERMINATE IN EXISTING AERIAL SPLICE ENCLOSURE (NLE-101) AND IN NEW SIGNAL CABINET (SIN#05-0307). WORK IS NOT COMPLETE UNTIL THE SIGNAL IS COMPLETELY OPERATIONAL IN THE DURHAM SIGNAL SYSTEM.

Prepared in the Offices of:
750 N. Greenfield Pkwy., Garner, NC 27529

COMMUNICATIONS CABLE ROUTING PLAN

DIVISION 05 DURHAM CO. DURHAM

PLAN DATE: MARCH 2015 REVIEWED BY: Neil Avery

PREPARED BY: H.T. BERGGREN REVIEWED BY: 09F5DB4CBED3443...

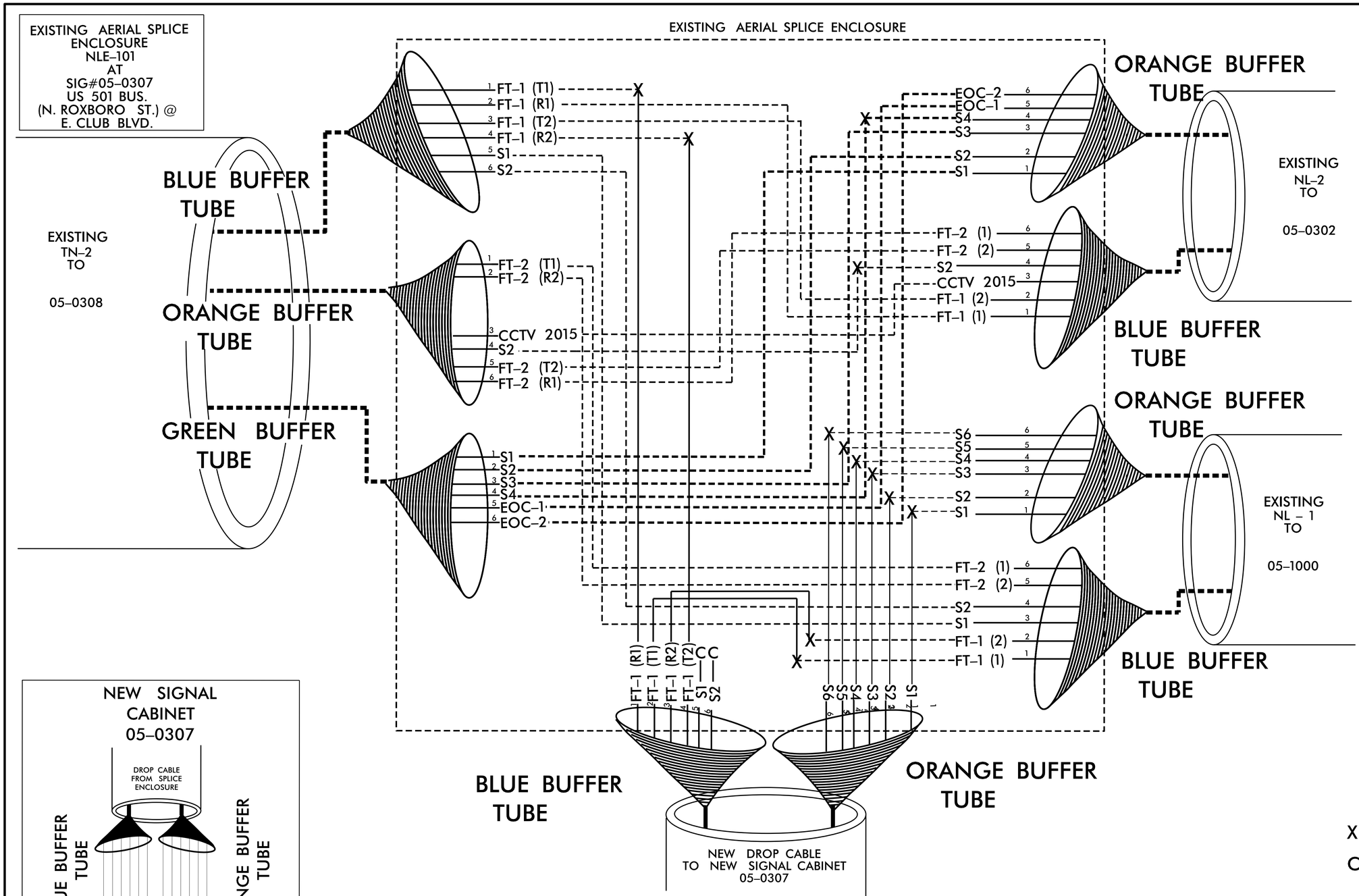
SCALE 0 N/A

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

DocuSigned by: Gregory A. Fuller 3/12/2015
7032CA0AEE874FF... DATE
CADD Filename:

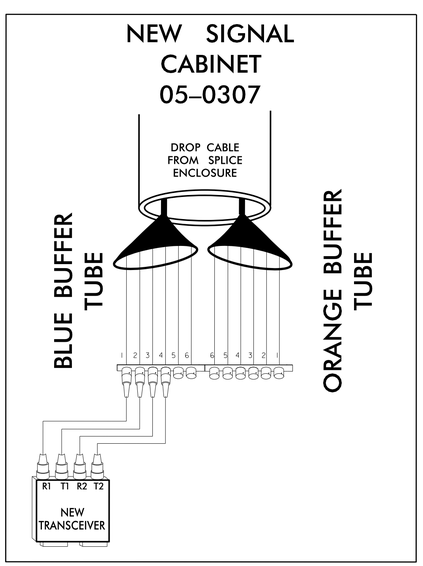
PROJECT REFERENCE NO.	SHEET NO.
SS-4905CK	SCP 3



COLOR CODE
TIA/EIA 598–A

(1) BLUE
(2) ORANGE
(3) GREEN
(4) BROWN
(5) SLATE
(6) WHITE

LEGEND
X = FUSION SPLICE
C = CAP AND COIL



NOTES:
1) TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING \ ENSURING PROPER TERMINATIONS.
2) INCLUDE ON THE COVER OF EACH SPLICE TRAY THE FOLLOWING (REFERENCE SECTION 1731 – "FIBER OPTIC SPLICE ENCLOSURE"):
   1) SPLICE LOCATION
   2) DATE
   3) COMPANY NAME
   4) NAME OF INDIVIDUAL PERFORMING THE SPLICING

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

Prepared in the Offices of:
North Carolina Department of Transportation
750 N. Greenfield Pkwy., Garner, NC 27529

SCALE 0 N/A

SPLICE PLAN

DIVISION 05 DURHAM CO. DocuSigned by: DURHAM
PLAN DATE: MARCH 2015 REVIEWED BY: Neil Avery
PREPARED BY: H.T. BERGGREN REVIEWED BY: 09F5DB4CBED0443...

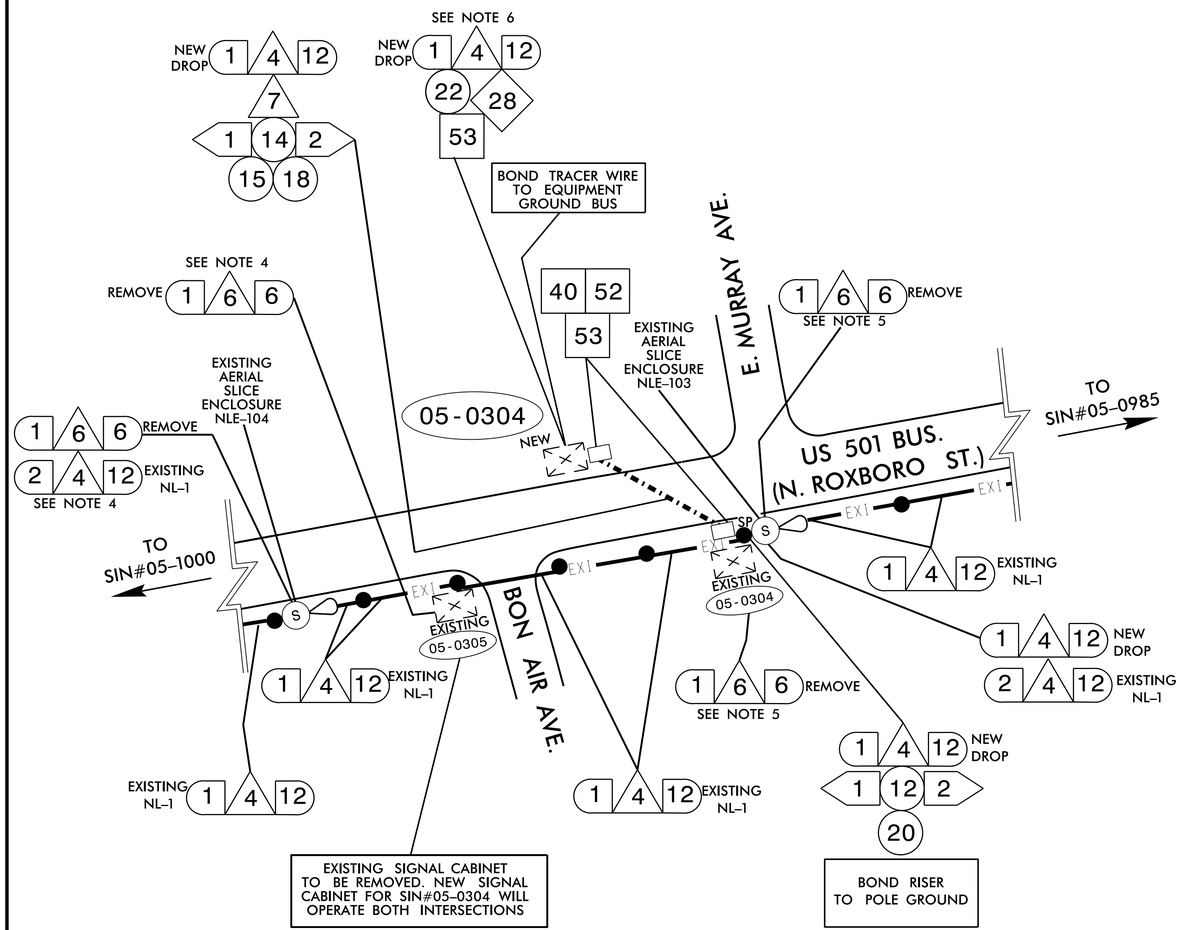
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

DocuSigned by:
Gregory A. Fuller 3/12/2015
7032CA0AEE874FF...
DATE

CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
SS-4905CK	SCP 4



NOTES:

1. ALL NCDOT ATTACHMENT POINTS SHALL BE 40" BELOW POWER, FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED.

2. CONTACT CITY OF DURHAM TRANSPORTATION ENGINEER, PETE NICHOLAS ((919) 560–4366 EXT. 36436) 24 HOURS PRIOR TO BEGINNING WORK AT THIS INTERSECTION.

3. RECORD EXISTING FIBER OPTIC TERMINATION CONFIGURATIONS IN SIGNAL CABINET (SIN#05–0304) AND IN EXISTING AERIAL SPLICE ENCLOSURE (NLE–103) PRIOR TO DISCONNECTING FIBER OPTIC CABLE. PROVIDE RECORDED TERMINATION CONFIGURATIONS TO THE RESIDENT ENGINEER AND TO THE CITY OF DURHAM TRANSPORTATION ENGINEER FOR REVIEW PRIOR TO RE–TERMINATION. IF DISCREPANCIES EXIST BETWEEN RECORDED TERMINATIONS AND PROVIDED SPLICE PLAN, CONSULT WITH THE RESIDENT ENGINEER AND THE CITY OF DURHAM TRANSPORTATION ENGINEER TO DETERMINE HOW TO RESPLICE THE FIBERS.

4. CUT AND ABANDON EXISTING 6–FIBER DROP CABLE FROM SIGNAL CABINET SIN (#05–0305) AND EXISTING AERIAL SPLICE ENCLOSURE (NLE–104). SPLICE EXISTING 12–FIBER CABLES STRAIGHT THROUGH IN EXISTING AERIAL SPLICE ENCLOSURE (NLE–104) (SEE SPLICE PLANS). EXISTING SIGNAL CABINET (SIN#05–0305) WILL BE REMOVED AND BOTH INTERSECTION WILL BE CONTROLLED BY NEW SIGNAL CABINET (SIN#05–0304).

5. CUT AND ABANDON EXISTING 6–FIBER DROP CABLE FROM EXISTING SIGNAL CABINET (SIN#05–0304) AND EXISTING AERIAL SPLICE ENCLOSURE (NLE–103).

6. ONCE INSTALLATION OF NEW SIGNAL CABINET IS COMPLETE, INSTALL NEW 12–FIBER CABLE AND TERMINATE IN EXISTING AERIAL SPLICE ENCLOSURE (NLE–103) AND IN NEW SIGNAL CABINET (SIN#05–0304). WORK IS NOT COMPLETE UNTIL THE SIGNAL IS COMPLETELY OPERATIONAL IN THE DURHAM SIGNAL SYSTEM.

Prepared in the Offices of:

750 N. Greenfield Pkwy., Garner, NC 27529

SCALE 0 N/A

COMMUNICATIONS CABLE ROUTING PLAN

DIVISION 05 DURHAM CO. DURHAM

PLAN DATE: MARCH 2015 REVIEWED BY: DocuSigned by: Neil Avery

PREPARED BY: H.T. BERGGREN REVIEWED BY: 09F5DB4CBED3443...

REVISIONS	INIT.	DATE

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

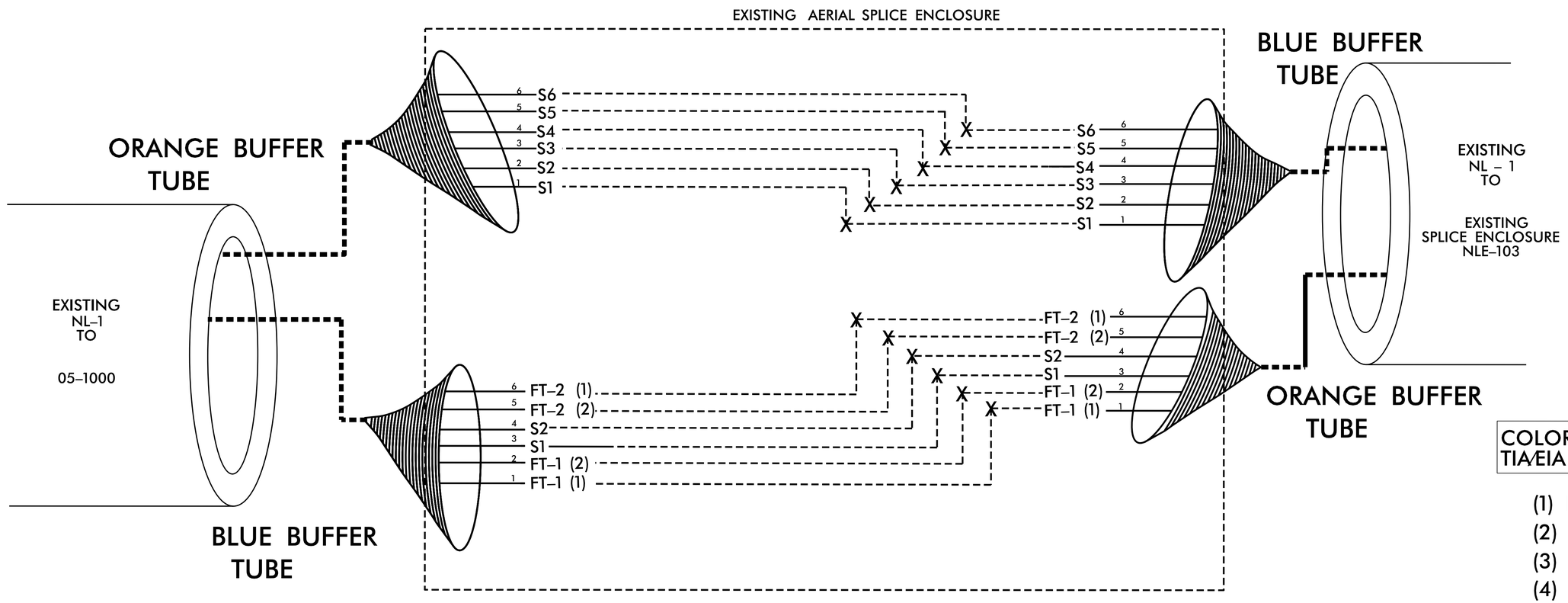
DocuSigned by: Gregory A. Fuller 3/12/2015 DATE

7032CA0AEE874FF...

CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
SS-4905CK	SCP 5

EXISTING AERIAL SPLICE ENCLOSURE
NLE–104 AT
05–0305 (SIGNAL
CABINET REMOVED)
US 501 BUS.
(N. ROXBORO ST.) @
BON AIR AVE.



EXISTING DROP NO LONGER EXISTS TO SIGNAL CABINET (SIN#05–0305). SPLICE FIBERS STRAIGHT THROUGH.

COLOR CODE
TIA/EIA 598–A

(1) BLUE
(2) ORANGE
(3) GREEN
(4) BROWN
(5) SLATE
(6) WHITE

LEGEND
X = FUSION SPLICE
C = CAP AND COIL

NOTES:

1) INCLUDE ON THE COVER OF EACH SPLICE TRAY THE FOLLOWING (REFERENCE SECTION 1731 – "FIBER OPTIC SPLICE ENCLOSURE"):
   1) SPLICE LOCATION
   2) DATE
   3) COMPANY NAME
   4) NAME OF INDIVIDUAL PERFORMING THE SPLICING

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

Prepared in the Offices of:
750 N. Greenfield Pkwy., Garner, NC 27529

SCALE
0
N/A

SPLICE
PLAN

DIVISION 05 DURHAM CO. DocuSigned by: DURHAM
PLAN DATE: MARCH 2015 REVIEWED BY: Neil Avery
PREPARED BY: H.T. BERGGREN REVIEWED BY: 09F5DB4CBED3443...

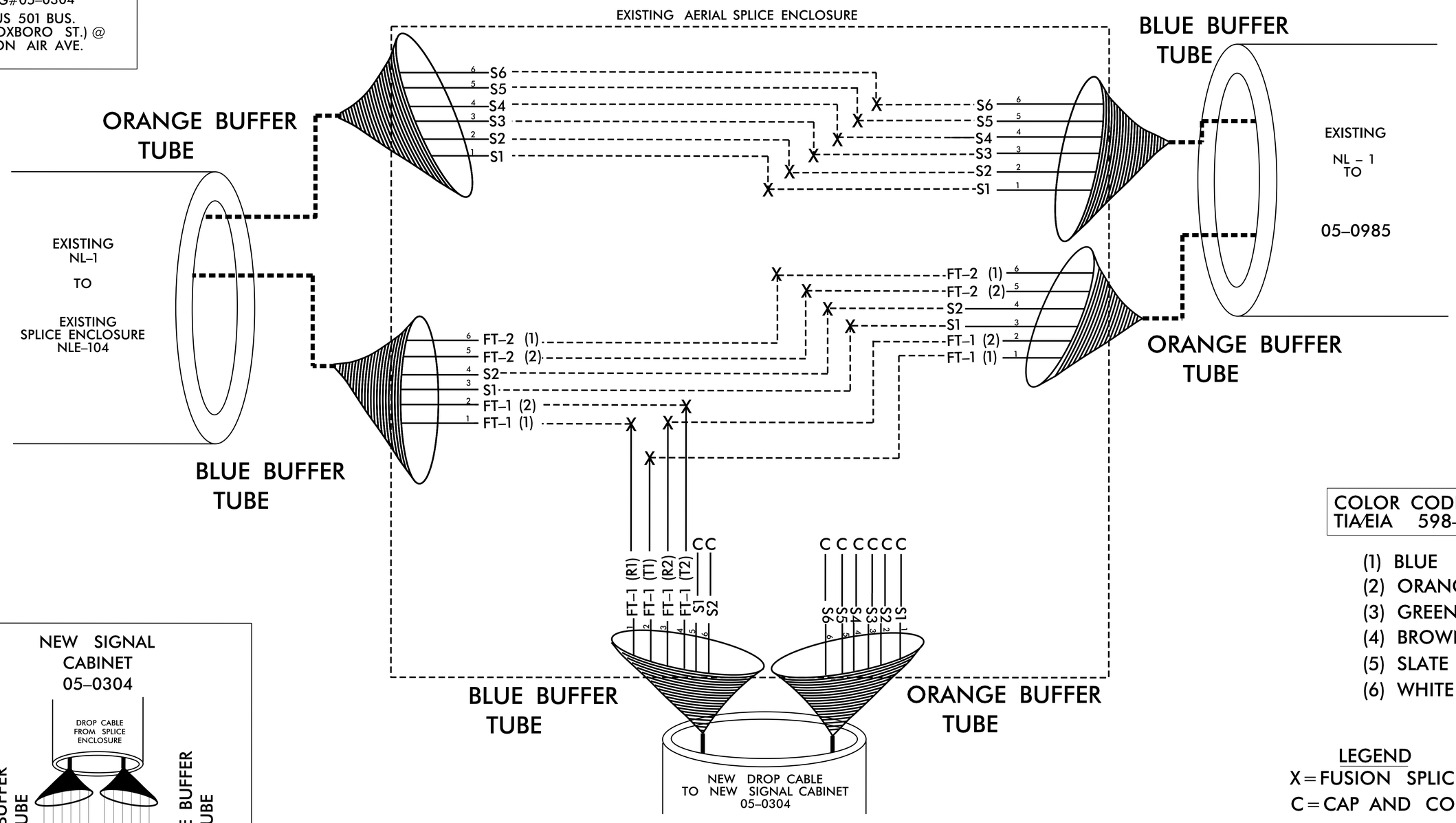
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

DocuSigned by:
Gregory A. Fuller 3/12/2015
7032CA0AEE874FF...
DATE
CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
SS-4905CK	SCP 6

EXISTING AERIAL SPLICE ENCLOSURE
NLE–103
SIG#05–0304
US 501 BUS.
(N. ROXBORO ST.) @
BON AIR AVE.



COLOR CODE
TIA/EIA 598–A

(1) BLUE
(2) ORANGE
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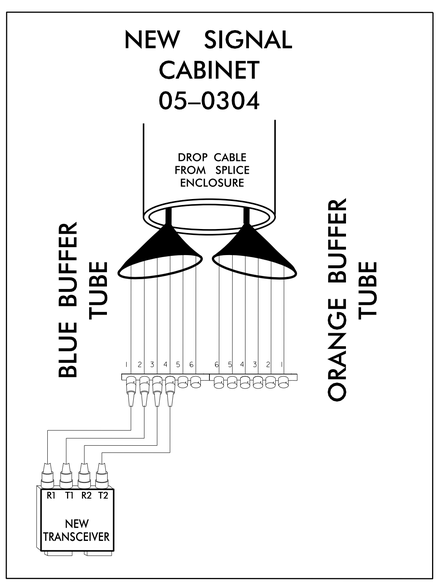
(4) BROWN
(5) SLATE
(6) WHITE

LEGEND
X = FUSION SPLICE
C = CAP AND COIL



NOTES:
1) TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING \ ENSURING PROPER TERMINATIONS.
2) INCLUDE ON THE COVER OF EACH SPLICE TRAY THE FOLLOWING (REFERENCE SECTION 1731 – "FIBER OPTIC SPLICE ENCLOSURE"):
   1) SPLICE LOCATION
   2) DATE
   3) COMPANY NAME
   4) NAME OF INDIVIDUAL PERFORMING THE SPLICING

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

Prepared in the Offices of:
Transportation Mobility and Safety Division
Intelligent Transportation Systems Section
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

SPLICE PLAN

DIVISION 05 DURHAM CO.

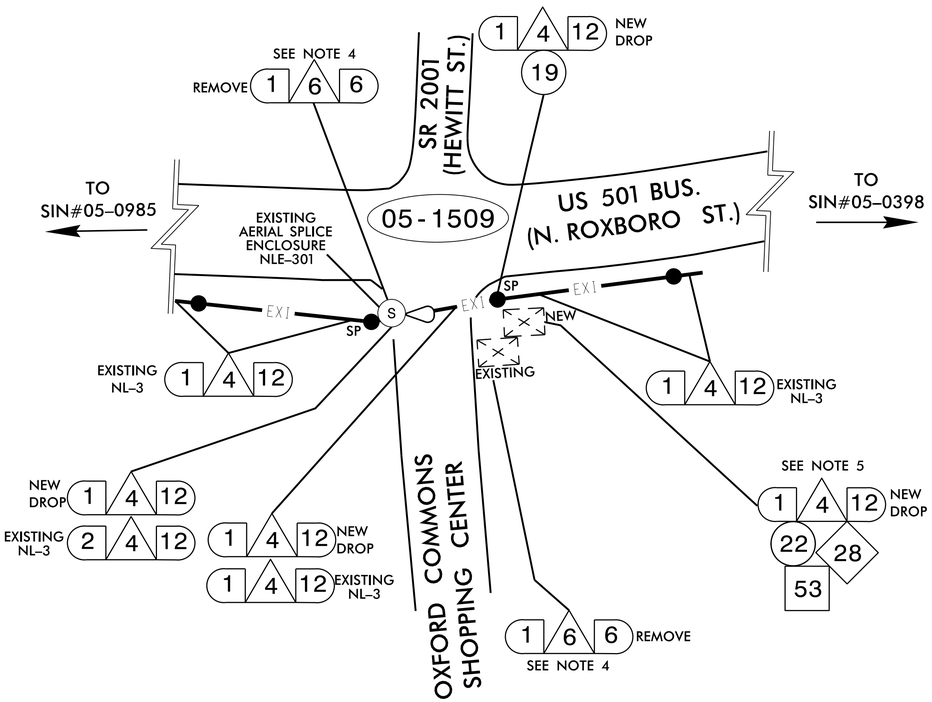
PLAN DATE: MARCH 2015
PREPARED BY: H.T. BERGGREN
REVIEWED BY: DocuSigned by: Nick Avery
REVIEWED BY: 09F5DB4CBED3443...

SCALE 0 N/A

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER
DocuSigned by: Gregory A. Fuller 7032CA0AEE874FF...
3/12/2015
DATE
CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
SS-4905CK	SCP 7



NOTES:

1. ALL NCDOT ATTACHMENT POINTS SHALL BE 40" BELOW POWER, FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED.

2. CONTACT CITY OF DURHAM TRANSPORTATION ENGINEER, PETE NICHOLAS ((919) 560–4366 EXT. 36436) 24 HOURS PRIOR TO BEGINNING WORK AT THIS INTERSECTION.

3. RECORD EXISTING FIBER OPTIC TERMINATION CONFIGURATIONS IN EXISTING AERIAL SPLICE ENCLOSURE (NLE–301) AND EXISTING SIGNAL CABINET (SIN#05–1509). PROVIDE RECORDED TERMINATION CONFIGURATIONS TO THE RESIDENT ENGINEER AND TO THE CITY OF DURHAM TRANSPORTATION ENGINEER FOR REVIEW PRIOR TO RE–TERMINATION. IF DISCREPANCIES EXIST BETWEEN RECORDED TERMINATIONS AND PROVIDED SPLICE PLAN, CONSULT WITH THE RESIDENT ENGINEER AND THE CITY OF DURHAM TRANSPORTATION ENGINEER TO DETERMINE HOW TO RESPLICE THE FIBERS.

4. ONCE INSTALLATION OF NEW SIGNAL CABINET IS COMPLETE, CUT AND ABANDON EXISTING 6–FIBER DROP CABLE BETWEEN EXISTING SIGNAL CABINET (SIN#05–1509) AND EXISTING AERIAL SPLICE ENCLOSURE (NLE–301).

5. INSTALL NEW 12–FIBER DROP CABLE AND TERMINATE IN EXISTING AERIAL SPLICE ENCLOSURE (NLE–301) AND IN NEW SIGNAL CABINET (SIN#05–1509). WORK IS NOT COMPLETE UNTIL THE SIGNAL IS COMPLETELY OPERATIONAL IN THE DURHAM SIGNAL SYSTEM.

Prepared in the Offices of:

750 N. Greenfield Pkwy., Garner, NC 27529

SCALE 0 N/A

COMMUNICATIONS CABLE ROUTING PLAN

DIVISION 05 DURHAM CO. DURHAM

PLAN DATE: MARCH 2015 REVIEWED BY: DocuSigned by: Nick Avery

PREPARED BY: H.T. BERGGREN REVIEWED BY: 09F5DB4CBED0443...

REVISIONS	INIT.	DATE

SEAL

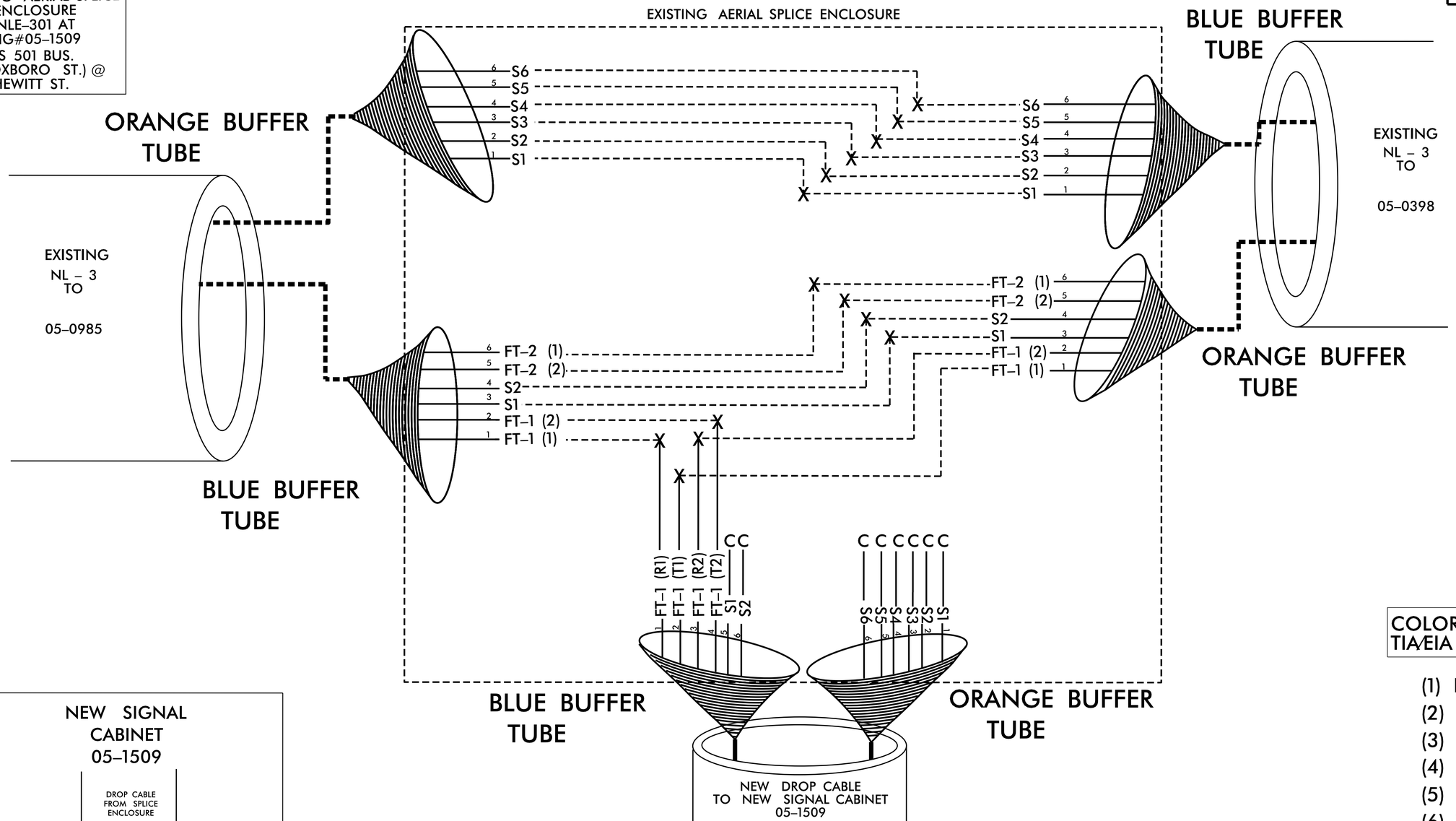
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

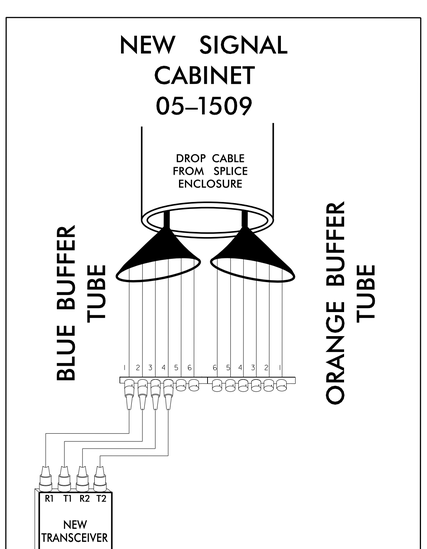
DocuSigned by: Gregory A. Fuller 7032CA0AEE874FF... 3/12/2015 DATE

CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
SS-4905CK	SCP 8

EXISTING AERIAL SPLICE ENCLOSURE
NLE–301 AT
SIG#05–1509
US 501 BUS.
(N. ROXBORO ST.) @
HEWITT ST.





COLOR CODE
TIA/EIA 598–A

(1) BLUE
(2) ORANGE
(3) GREEN
(4) BROWN
(5) SLATE
(6) WHITE

LEGEND
X = FUSION SPLICE
C = CAP AND COIL

NOTES:
1) TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING \ ENSURING PROPER TERMINATIONS.
2) INCLUDE ON THE COVER OF EACH SPLICE TRAY THE FOLLOWING (REFERENCE SECTION 1731 – "FIBER OPTIC SPLICE ENCLOSURE"):
   1) SPLICE LOCATION
   2) DATE
   3) COMPANY NAME
   4) NAME OF INDIVIDUAL PERFORMING THE SPLICING

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

Prepared in the Offices of:
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems Unit
750 N. Greenfield Pkwy., Garner, NC 27529

SPLICE PLAN

DIVISION 05 DURHAM CO. DocuSigned by: DURHAM
PLAN DATE: MARCH 2015 REVIEWED BY: Ned Avery
PREPARED BY: H.T. BERGGREN REVIEWED BY: 09F5DB4CBED3443...

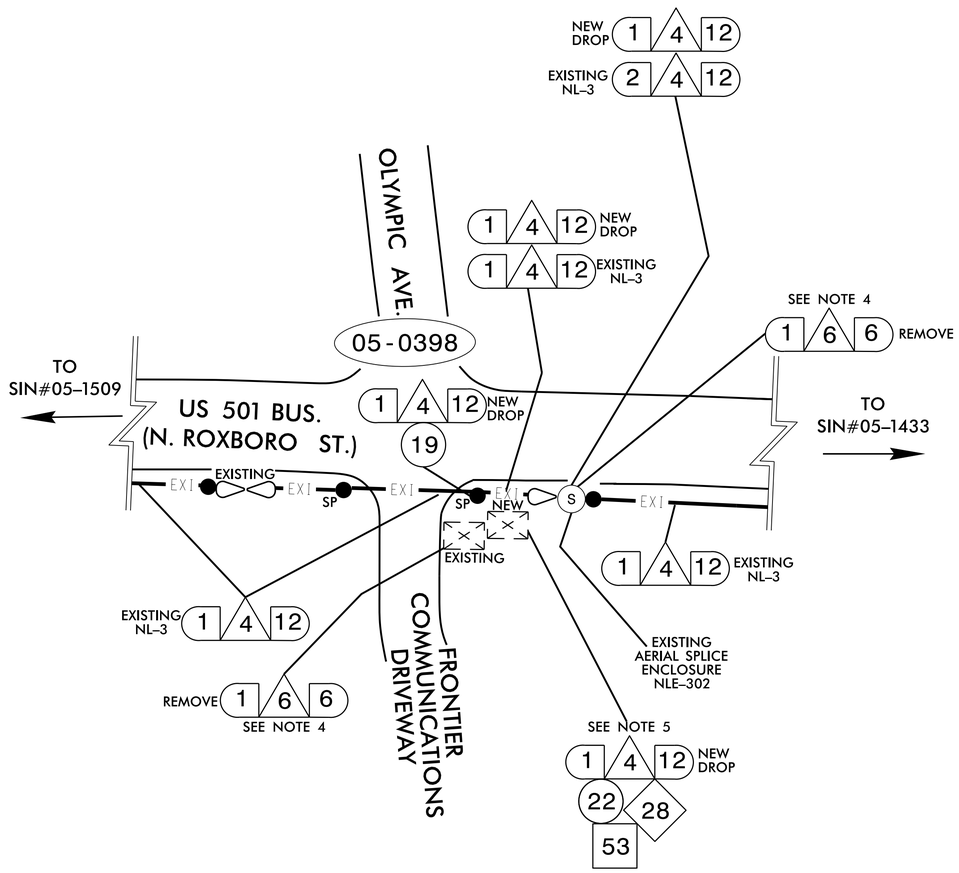
SCALE 0 N/A

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

DocuSigned by: Gregory A. Fuller 3/12/2015
7052CA0AEE87AFF... DATE
CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
SS-4905CK	SCP 9



NOTES:

1. ALL NCDOT ATTACHMENT POINTS SHALL BE 40" BELOW POWER, FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED.

2. CONTACT CITY OF DURHAM TRANSPORTATION ENGINEER, PETE NICHOLAS ((919) 560–4366 EXT. 36436) 24 HOURS PRIOR TO BEGINNING WORK AT THIS INTERSECTION.

3. RECORD EXISTING FIBER OPTIC TERMINATION CONFIGURATIONS IN EXISTING AERIAL SPLICE ENCLOSURE (NLE–302) AND EXISTING SIGNAL CABINET (SIN#05–0398). PROVIDE RECORDED TERMINATION CONFIGURATIONS TO THE RESIDENT ENGINEER AND TO THE CITY OF DURHAM TRANSPORTATION ENGINEER FOR REVIEW PRIOR TO RE–TERMINATION. IF DISCREPANCIES EXIST BETWEEN RECORDED TERMINATIONS AND PROVIDED SPLICE PLAN, CONSULT WITH THE RESIDENT ENGINEER AND THE CITY OF DURHAM TRANSPORTATION ENGINEER TO DETERMINE HOW TO RESPLICE THE FIBERS.

4. ONCE INSTALLATION OF NEW SIGNAL CABINET IS COMPLETE, CUT AND ABANDON EXISTING 6–FIBER DROP CABLE BETWEEN EXISTING SIGNAL CABINET (SIN#05–0398) AND EXISTING AERIAL SPLICE (NLE–302) ENCLOSURE.

5. INSTALL NEW 12–FIBER DROP CABLE AND TERMINATE IN EXISTING AERIAL SPLICE ENCLOSURE (NLE–302) AND IN NEW SIGNAL CABINET (SIN#05–0398). WORK IS NOT COMPLETE UNTIL THE SIGNAL IS COMPLETELY OPERATIONAL IN THE DURHAM SIGNAL SYSTEM.

Prepared in the Offices of:

Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems Section

750 N. Greenfield Pkwy., Garner, NC 27529

COMMUNICATIONS CABLE ROUTING PLAN

DIVISION 05 DURHAM CO. DURHAM

PLAN DATE: MARCH 2015 REVIEWED BY: DocuSigned by: Nick Avery

PREPARED BY: H.T. BERGGREN REVIEWED BY: 09F5DB4CBED0443...

SCALE 0 N/A

REVISIONS	INIT.	DATE

SEAL

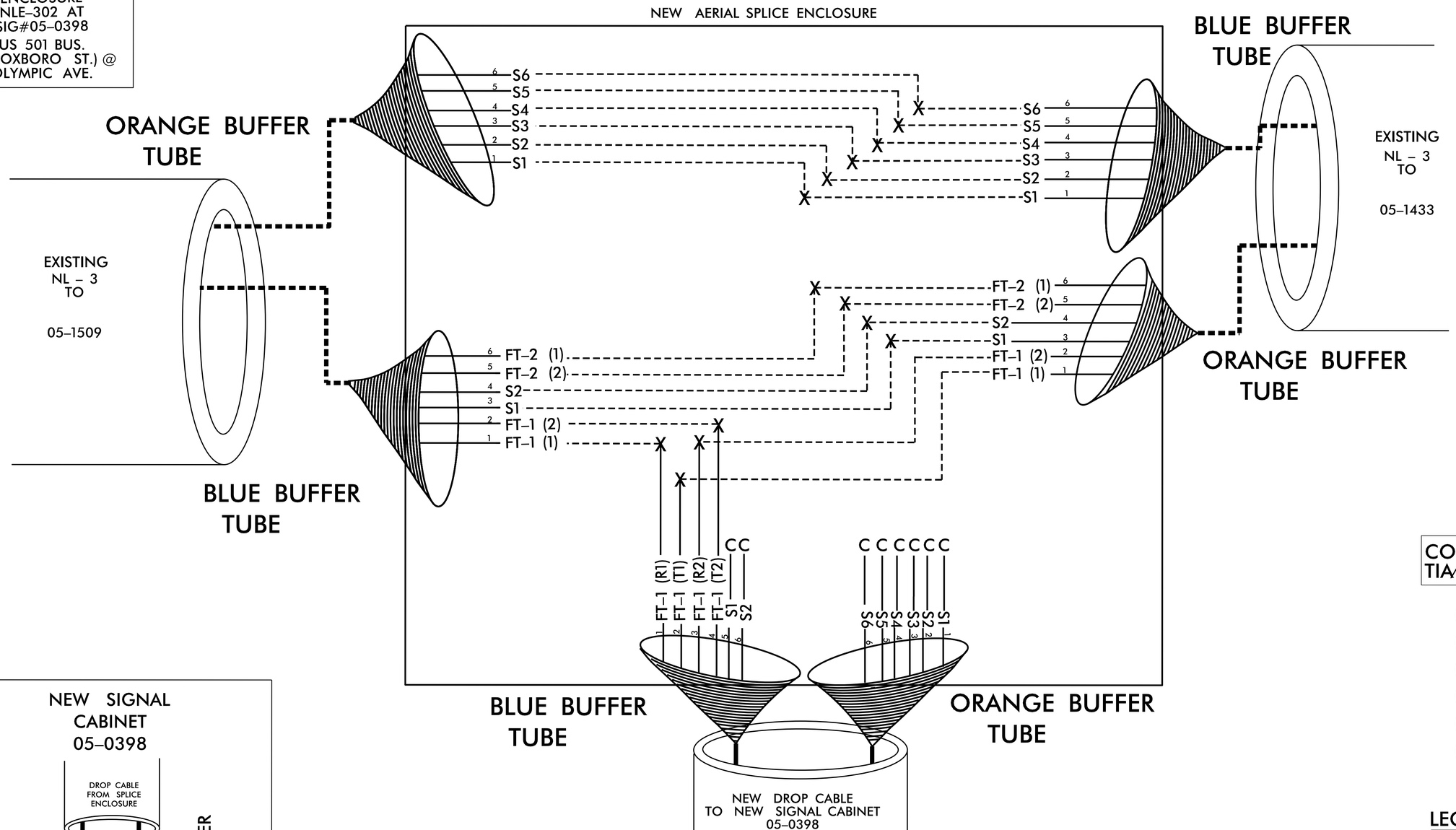
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

DocuSigned by: Gregory A. Fuller 7032CA0AEE74FF... 3/12/2015 DATE

CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
SS-4905CK	SCP 10

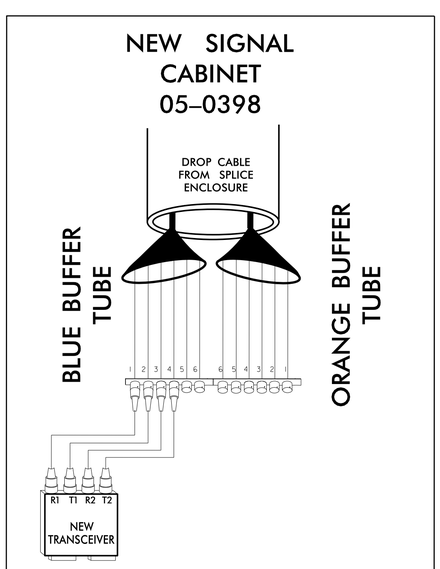
EXISTING AERIAL SPLICE ENCLOSURE
NLE–302 AT
SIG#05–0398
US 501 BUS.
(N. ROXBORO ST.) @
OLYMPIC AVE.



COLOR CODE
TIA/EIA 598–A

(1) BLUE
(2) ORANGE
(3) GREEN
(4) BROWN
(5) SLATE
(6) WHITE

LEGEND
X = FUSION SPLICE
C = CAP AND COIL



NOTES:
1) TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING \ ENSURING PROPER TERMINATIONS.
2) INCLUDE ON THE COVER OF EACH SPLICE TRAY THE FOLLOWING (REFERENCE SECTION 1731 – "FIBER OPTIC SPLICE ENCLOSURE"):
   1) SPLICE LOCATION
   2) DATE
   3) COMPANY NAME
   4) NAME OF INDIVIDUAL PERFORMING THE SPLICING

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

Prepared in the Offices of:
750 N. Greenfield Pkwy., Garner, NC 27529

SPLICE PLAN

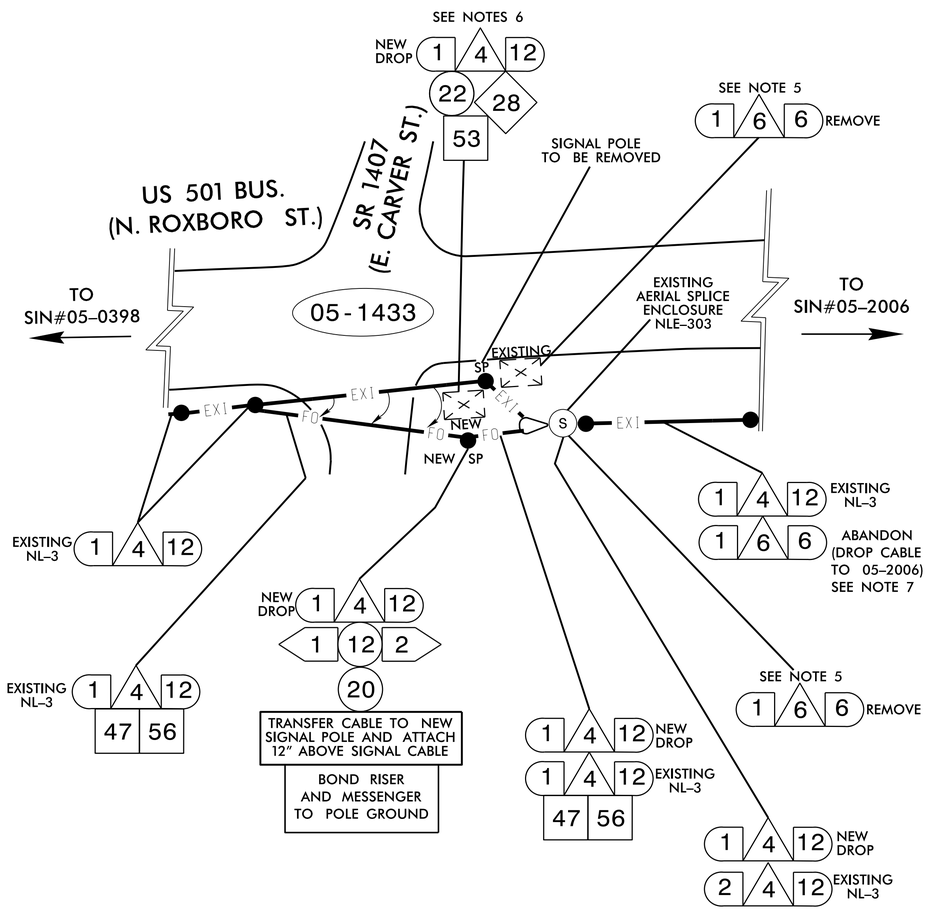
DIVISION 05 DURHAM CO. DURHAM
PLAN DATE: MARCH 2015
PREPARED BY: H.T. BERGGREN
REVIEWED BY: DocuSigned by: Neil Avery
REVIEWED BY: 09F5DB4CBED3443...

SCALE 0 N/A

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER
DocuSigned by: Gregory A. Fuller 3/12/2015
7032CA0AEE874FF...
DATE
CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
SS-4905CK	SCP 11



NOTES:

1. ALL NCDOT ATTACHMENT POINTS SHALL BE 40" BELOW POWER, FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED.

2. CONTACT CITY OF DURHAM TRANSPORTATION ENGINEER, PETE NICHOLAS ((919) 560-4366 EXT. 36436) 24 HOURS PRIOR TO BEGINNING WORK AT THIS INTERSECTION.

3. RECORD EXISTING FIBER OPTIC TERMINATION CONFIGURATIONS IN EXISTING AERIAL SPLICE ENCLOSURE (NLE-303) AND EXISTING SIGNAL CABINET (SIN#05-1433). PROVIDE RECORDED TERMINATION CONFIGURATIONS TO THE RESIDENT ENGINEER AND TO THE CITY OF DURHAM TRANSPORTATION ENGINEER FOR REVIEW PRIOR TO RE-TERMINATION. IF DISCREPANCIES EXIST BETWEEN RECORDED TERMINATIONS AND PROVIDED SPLICE PLAN, CONSULT WITH THE RESIDENT ENGINEER AND THE CITY OF DURHAM TRANSPORTATION ENGINEER TO DETERMINE HOW TO RESPLICE THE FIBERS.

4. ONCE INSTALLATION OF NEW SIGNAL CABINET AND NEW SIGNAL POLE ARE COMPLETE, TRANSFER EXISTING 12-FIBER CABLE (TO SIN#05-2006) TO NEW SIGNAL POLE.

5. CUT AND ABANDON EXISTING 6-FIBER DROP CABLE BETWEEN EXISTING SIGNAL CABINET (SIN#05-1433) AND EXISTING AERIAL SPLICE ENCLOSURE (NLE-303).

6. INSTALL NEW 12-FIBER DROP CABLE AND TERMINATE IN EXISTING AERIAL SPLICE ENCLOSURE (NLE-303) AND IN NEW SIGNAL CABINET (SIN#05-1433). WORK IS NOT COMPLETE UNTIL THE SIGNAL IS COMPLETELY OPERATIONAL IN THE DURHAM SIGNAL SYSTEM.

7. CUT AND ABANDON EXISTING 6-FIBER DROP CABLE BETWEEN EXISTING AERIAL SPLICE ENCLOSURE (NLE-303) AND EXISTING SIGNAL CABINET (SIN#05-2006). REFERENCE COMMUNICATIONS PLANS FOR SIN#05-2006.

Prepared in the Offices of:

750 N. Greenfield Pkwy., Garner, NC 27529

COMMUNICATIONS CABLE ROUTING PLAN

DIVISION 05 DURHAM CO. DURHAM

PLAN DATE: MARCH 2015 REVIEWED BY: DocuSigned by: Neil Avery

PREPARED BY: H.T. BERGGREN REVIEWED BY: 09F5DB4CBED3443...

SCALE 0 N/A

REVISIONS	INIT.	DATE

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

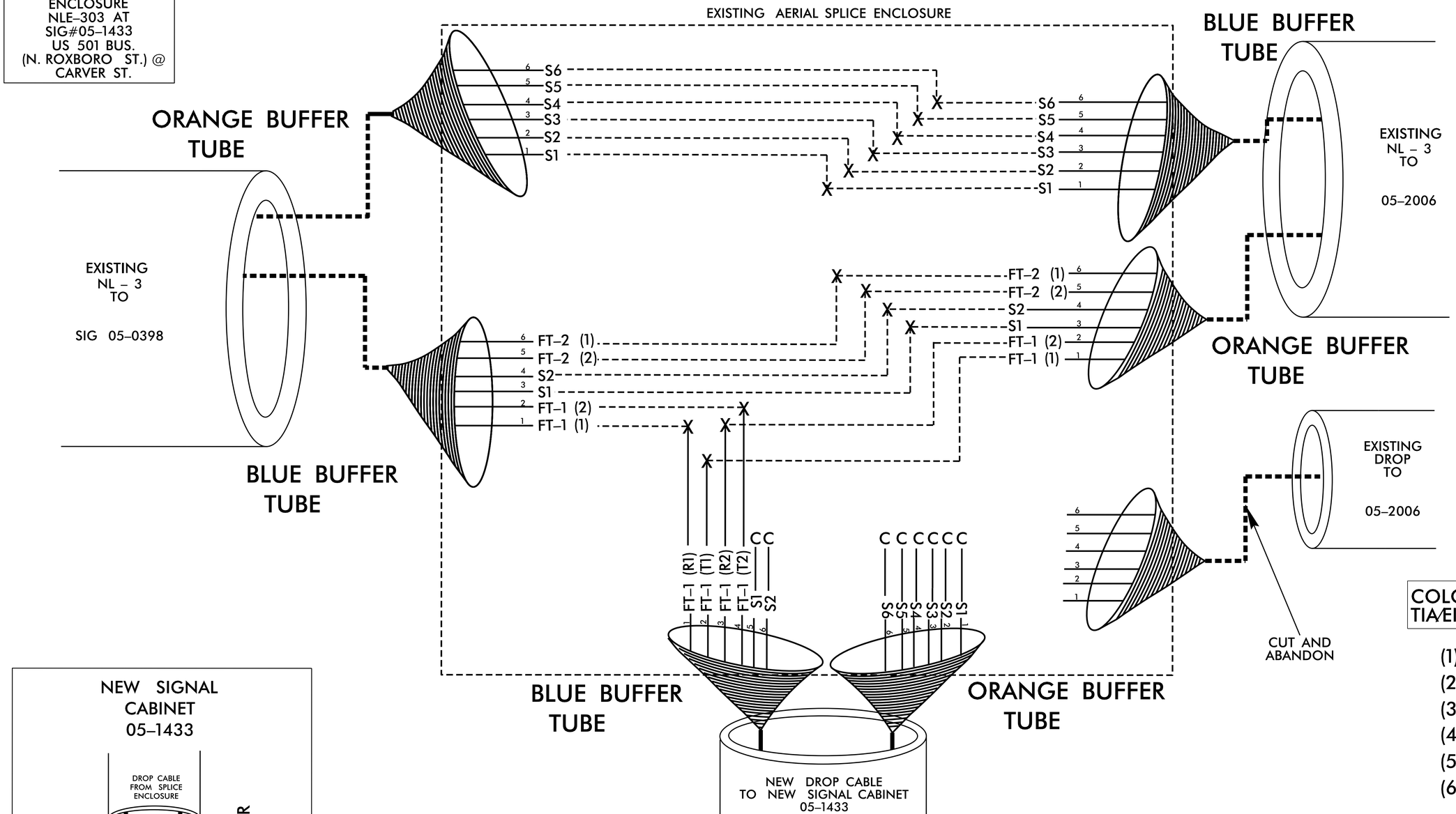
DocuSigned by: Gregory A. Fuller 3/12/2015 DATE

7032CA0AEE874FF...

CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
SS-4905CK	SCP 12

EXISTING AERIAL SPLICE ENCLOSURE
NLE–303 AT
SIG#05–1433
US 501 BUS.
(N. ROXBORO ST.) @
CARVER ST.



COLOR CODE
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(2) ORANGE
(3) GREEN
(4) BROWN
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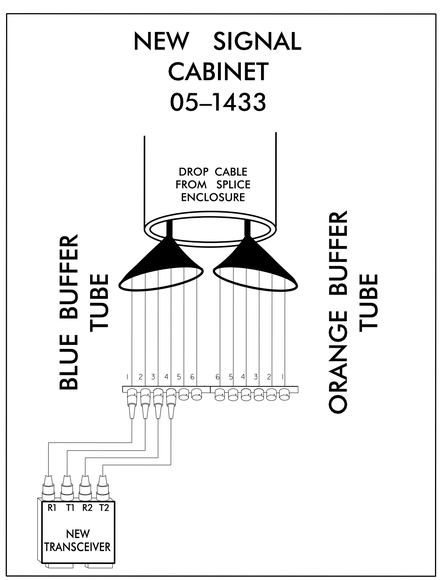


NOTES:
1) TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING \ ENSURING PROPER TERMINATIONS.
2) INCLUDE ON THE COVER OF EACH SPLICE TRAY THE FOLLOWING (REFERENCE SECTION 1731 – "FIBER OPTIC SPLICE ENCLOSURE"):
   1) SPLICE LOCATION
   2) DATE
   3) COMPANY NAME
   4) NAME OF INDIVIDUAL PERFORMING THE SPLICING

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

LEGEND
X = FUSION SPLICE
C = CAP AND COIL

Prepared in the Offices of:
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

SPLICE PLAN

DIVISION 05 DURHAM CO. DocuSigned by: DURHAM
PLAN DATE: MARCH 2015 REVIEWED BY: Neil Avery
PREPARED BY: H.T. BERGGREN REVIEWED BY: 09F5D84CBED3443...

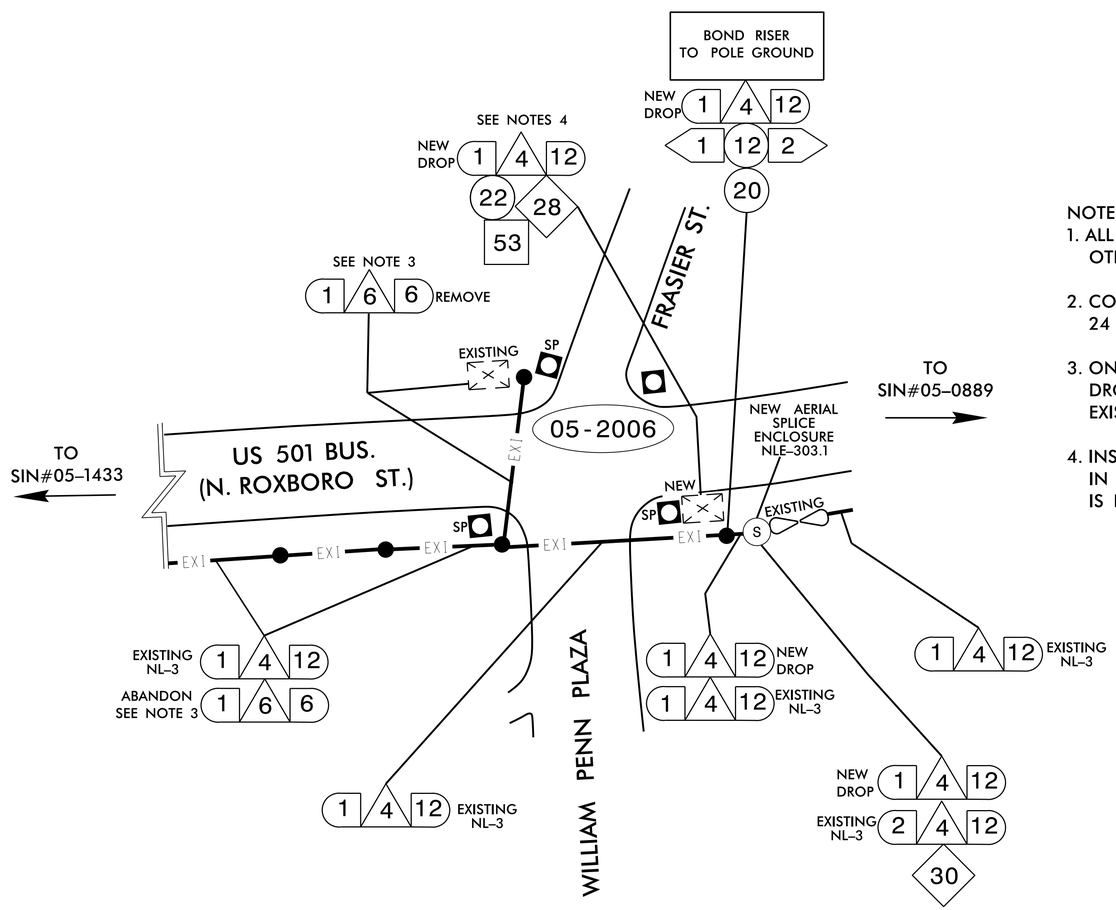
SCALE 0 N/A

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

DocuSigned by:
Gregory A. Fuller 3/12/2015
DATE
7032CA0AEE874FF...
CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
SS-4905CK	SCP 13



NOTES:

1. ALL NCDOT ATTACHMENT POINTS SHALL BE 40" BELOW POWER, FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED.
2. CONTACT CITY OF DURHAM TRANSPORTATION ENGINEER, PETE NICHOLAS ((919) 560–4366 EXT. 36436) 24 HOURS PRIOR TO BEGINNING WORK AT THIS INTERSECTION.
3. ONCE INSTALLATION OF NEW SIGNAL CABINET IS COMPLETE, CUT AND ABANDON EXISTING 6–FIBER DROP CABLE BETWEEN EXISTING AERIAL SPLICE ENCLOSURE (NLE–303/AT CARVER ST. (SIN#05–1433)) AND EXISTING SIGNAL CABINET (SIN#05–2006). REFERENCE COMMUNICATION PLANS FOR SIN#05–1433.
4. INSTALL A NEW AERIAL SPLICE ENCLOSURE (NLE–303.1) AND NEW 12–FIBER DROP CABLE AND TERMINATE IN NEW AERIAL SPLICE ENCLOSURE (NLE–303.1) AND IN NEW SIGNAL CABINET (SIN#05–2006). WORK IS NOT COMPLETE UNTIL THE SIGNAL IS COMPLETELY OPERATIONAL IN THE DURHAM SIGNAL SYSTEM.

Prepared in the Offices of:

750 N. Greenfield Pkwy., Garner, NC 27529

SCALE 0 N/A

COMMUNICATIONS CABLE ROUTING PLAN

DIVISION 05 DURHAM CO. DocuSigned by: DURHAM

PLAN DATE: MARCH 2015 REVIEWED BY: Neil Avery

PREPARED BY: H.T. BERGGREN REVIEWED BY: 09F5DB4CBED3443...

REVISIONS	INIT.	DATE

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

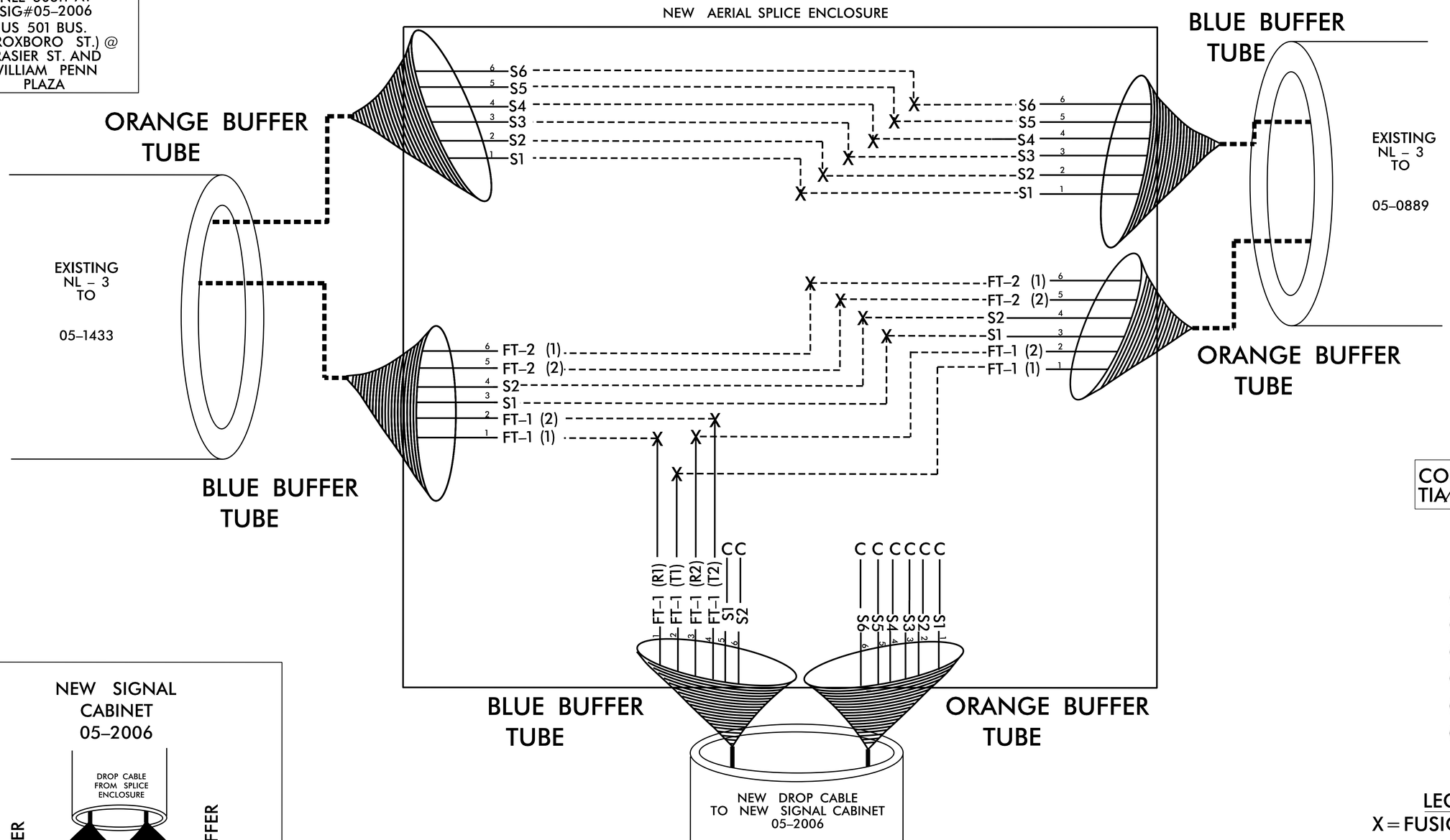
DocuSigned by: Gregory A. Fuller 3/12/2015 DATE

7032CA0AEE874FF...

CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
SS-4905CK	SCP 14

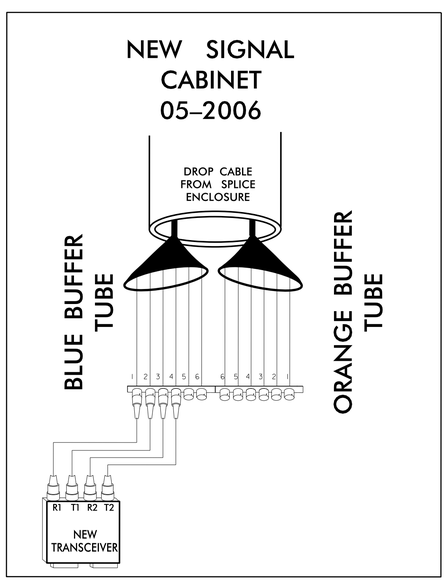
NEW AERIAL SPLICE ENCLOSURE
NLE–303.1 AT
SIG#05–2006
US 501 BUS.
(N. ROXBORO ST.) @
FRASIER ST. AND
WILLIAM PENN
PLAZA



COLOR CODE
TIA/EIA 598–A

(1) BLUE
(2) ORANGE
(3) GREEN
(4) BROWN
(5) SLATE
(6) WHITE

LEGEND
X = FUSION SPLICE
C = CAP AND COIL



NOTES:
1) TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING \ ENSURING PROPER TERMINATIONS.
2) INCLUDE ON THE COVER OF EACH SPLICE TRAY THE FOLLOWING (REFERENCE SECTION 1731 – "FIBER OPTIC SPLICE ENCLOSURE"):
   1) SPLICE LOCATION
   2) DATE
   3) COMPANY NAME
   4) NAME OF INDIVIDUAL PERFORMING THE SPLICING

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

Prepared in the Offices of:
Transportation Mobility and Safety Division
Intelligent Transportation Systems Section
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

SPLICE PLAN

DIVISION 05 DURHAM CO. DocuSigned by: DURHAM
PLAN DATE: MARCH 2015 REVIEWED BY: Nick Avery
PREPARED BY: H.T. BERGGREN REVIEWED BY: 09F5DB4CBED3443...

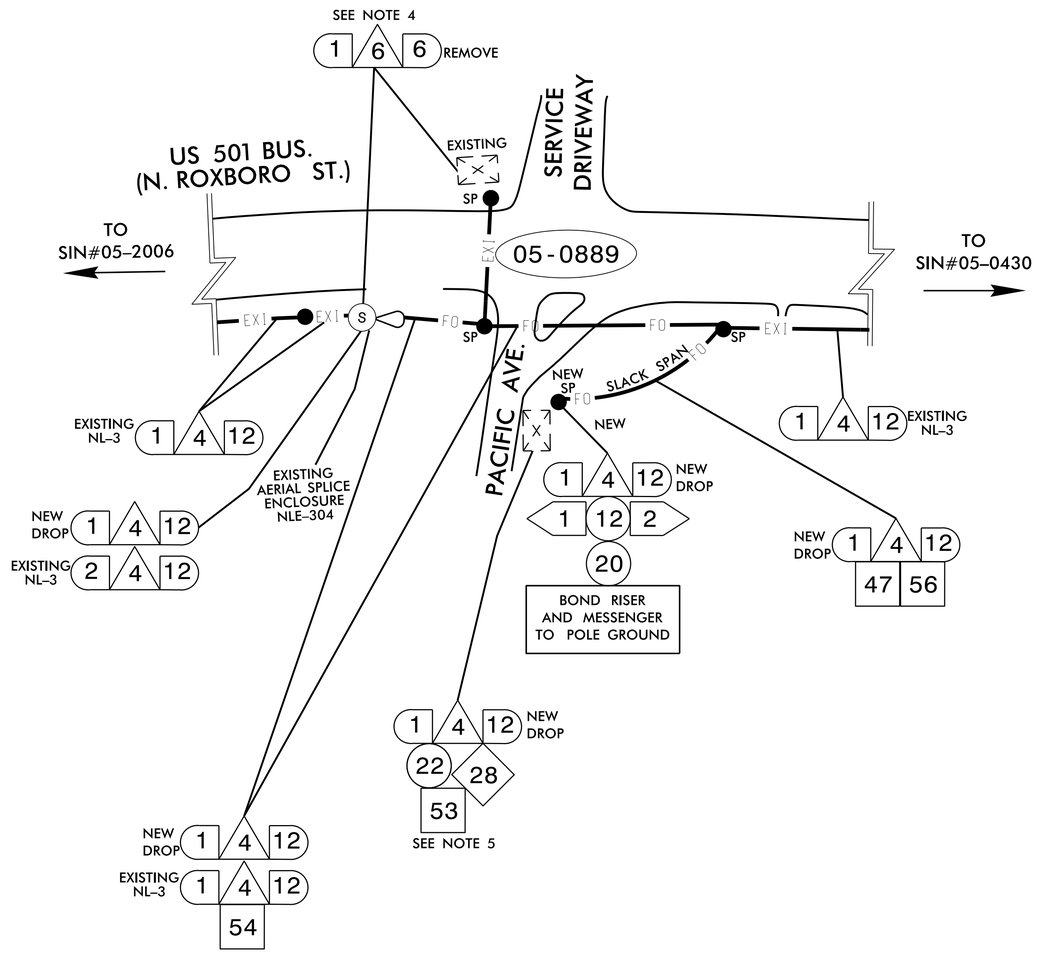
SCALE 0 N/A

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

DocuSigned by:
Gregory A. Fuller 3/12/2015
7032CA0AEE874FF... DATE
CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
SS-4905CK	SCP 15



NOTES:

1. ALL NCDOT ATTACHMENT POINTS SHALL BE 40" BELOW POWER, FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED.

2. CONTACT CITY OF DURHAM TRANSPORTATION ENGINEER, PETE NICHOLAS ((919) 560–4366 EXT. 36436) 24 HOURS PRIOR TO BEGINNING WORK AT THIS INTERSECTION.

3. RECORD EXISTING FIBER OPTIC TERMINATION CONFIGURATIONS IN EXISTING AERIAL SPLICE ENCLOSURE (NLE–304) AND EXISTING SIGNAL CABINET (SIN#05–0889). PROVIDE RECORDED TERMINATION CONFIGURATIONS TO THE RESIDENT ENGINEER AND TO THE CITY OF DURHAM TRANSPORTATION ENGINEER FOR REVIEW PRIOR TO RE–TERMINATION. IF DISCREPANCIES EXIST BETWEEN RECORDED TERMINATIONS AND PROVIDED SPLICE PLAN, CONSULT WITH THE RESIDENT ENGINEER AND THE CITY OF DURHAM TRANSPORTATION ENGINEER TO DETERMINE HOW TO RESPLICE THE FIBERS.

4. ONCE INSTALLATION OF NEW SIGNAL CABINET IS COMPLETE, CUT AND ABANDON EXISTING 6–FIBER DROP CABLE BETWEEN EXISTING AERIAL SPLICE ENCLOSURE (NLE–304) AND EXISTING SIGNAL CABINET (SIN#05–0889).

5. INSTALL NEW 12–FIBER DROP CABLE AND TERMINATE IN EXISTING AERIAL SPLICE ENCLOSURE (NLE–304) AND IN NEW SIGNAL CABINET (SIN#05–0889). WORK IS NOT COMPLETE UNTIL THE SIGNAL IS COMPLETELY OPERATIONAL IN THE DURHAM SIGNAL SYSTEM.

Prepared in the Offices of:

Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

750 N. Greenfield Pkwy., Garner, NC 27529

SCALE 0 N/A

COMMUNICATIONS CABLE ROUTING PLAN

DIVISION 05 DURHAM CO. DURHAM

PLAN DATE: MARCH 2015 REVIEWED BY: DocuSigned by: Neil Avery

PREPARED BY: H.T. BERGGREN REVIEWED BY: 09F5DB4CBED3443...

REVISIONS	INIT.	DATE

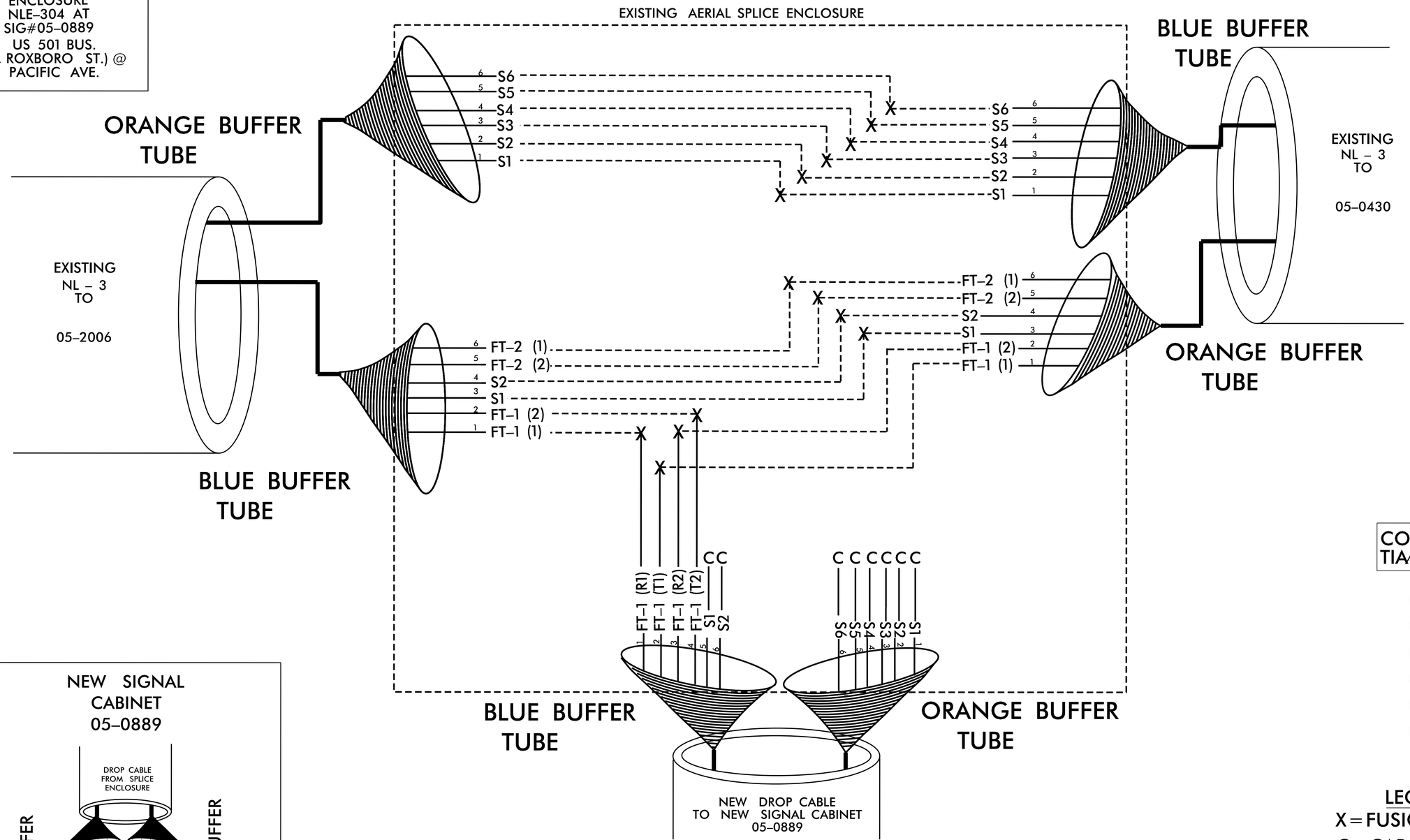
SEAL

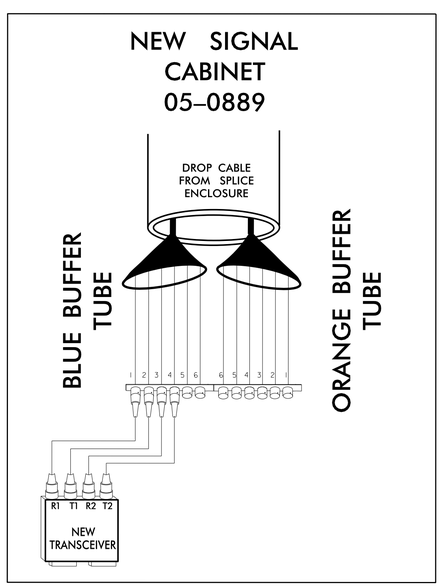
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

DocuSigned by: Gregory A. Fuller 3/12/2015
7032CA0AEE874FF...
DATE

CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
SS-4905CK	SCP 16





COLOR CODE
TIA/EIA 598-A

(1) BLUE
(2) ORANGE
(3) GREEN
(4) BROWN
(5) SLATE
(6) WHITE

LEGEND
X = FUSION SPLICE
C = CAP AND COIL

NOTES:
1) TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING \ ENSURING PROPER TERMINATIONS.
2) INCLUDE ON THE COVER OF EACH SPLICE TRAY THE FOLLOWING (REFERENCE SECTION 1731 – "FIBER OPTIC SPLICE ENCLOSURE"):
   1) SPLICE LOCATION
   2) DATE
   3) COMPANY NAME
   4) NAME OF INDIVIDUAL PERFORMING THE SPLICING

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

Prepared in the Offices of:
750 N. Greenfield Pkwy., Garner, NC 27529

SPLICE PLAN

DIVISION 05 DURHAM CO. DocuSigned by: DURHAM
PLAN DATE: MARCH 2015 REVIEWED BY: Neil Avery
PREPARED BY: H.T. BERGGREN REVIEWED BY: 09F5DB4CBED3443...

SCALE 0 N/A

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

DocuSigned by: Gregory A. Fuller 3/12/2015
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DATE
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