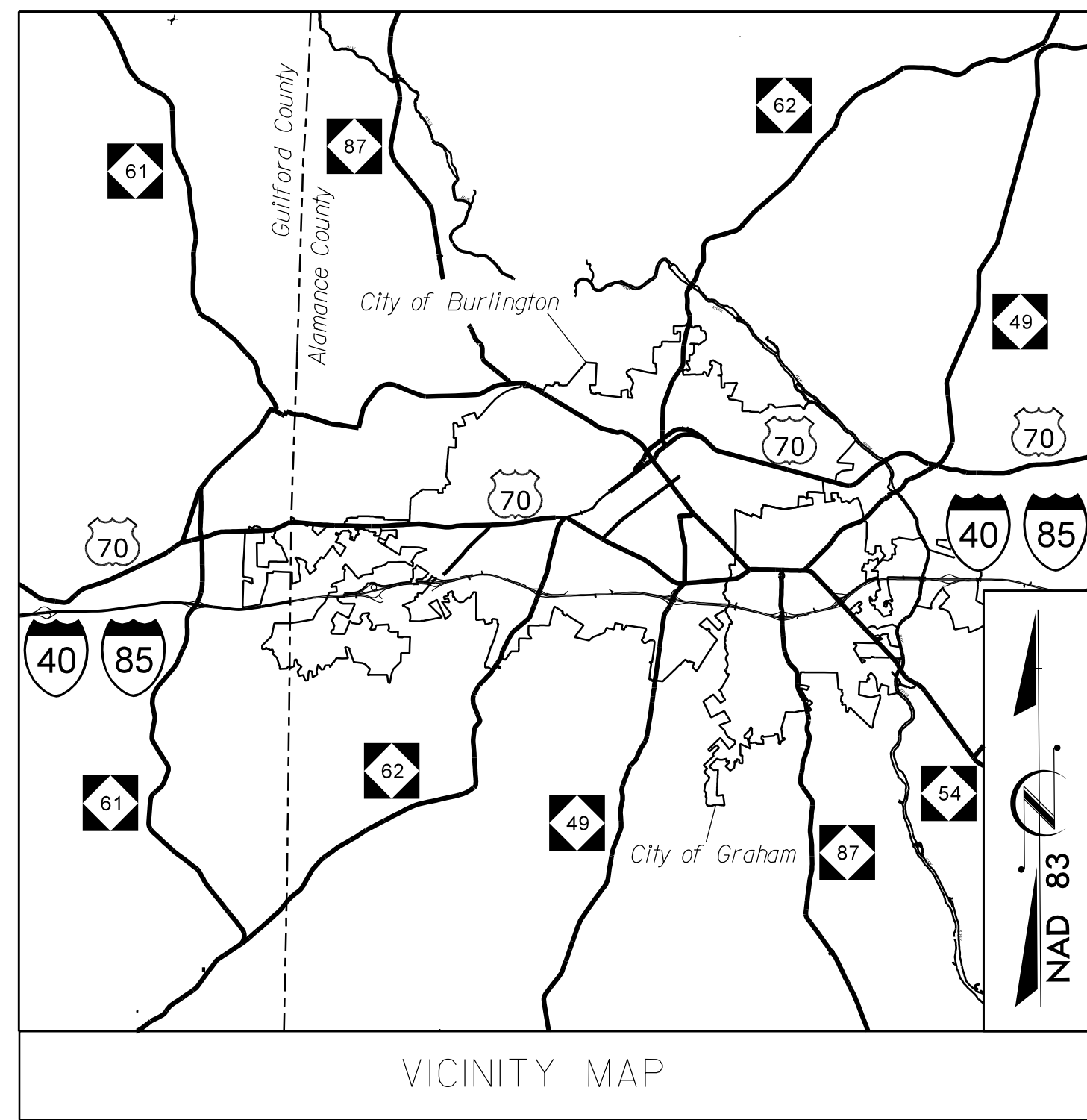


TIP PROJECT: U-6015

CONTRACT: C204111



VICINITY MAP

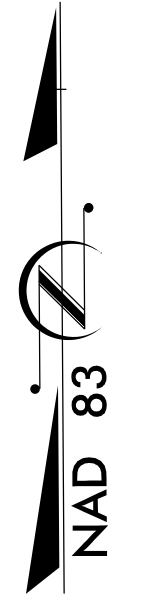
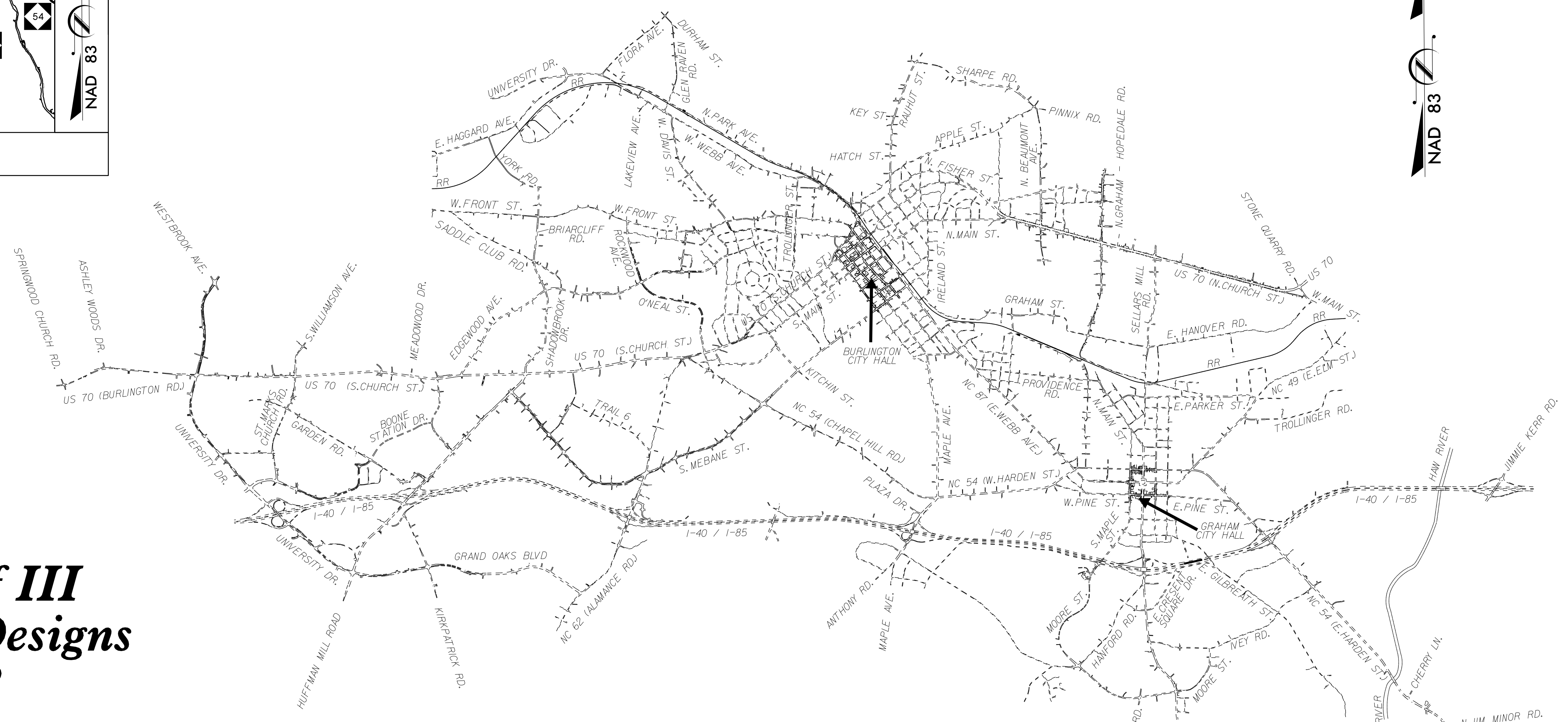
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED IMPROVEMENTS
CITIES OF BURLINGTON & GRAHAM
COMPUTERIZED TRAFFIC SIGNAL SYSTEM

REPLACEMENT OF EXISTING SIGNAL SYSTEM WITH A NEW COMPUTERIZED TRAFFIC SIGNAL SYSTEM.
RELATED WORK INCLUDES:
UPGRADING LOCAL INTERSECTION CONTROLLERS, CABINETS, AND SYSTEM DETECTORS WITH LIMITED SIGNAL WIRING AND SIGNAL HEAD UPGRADES WHEN NECESSARY; UPGRADE AND EXPANSION OF CCTV MONITORING NETWORK; INSTALLING CENTRAL EQUIPMENT AND CENTRAL SOFTWARE; AND INSTALLATION OF AN ETHERNET COMMUNICATIONS NETWORK COMPRISED OF FIBER-OPTIC CABLE AND WIRELESS TECHNOLOGY WITH ALL RELATED EQUIPMENT.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-6015	Sig.-1.0	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
47160.1.1		PE	
47160.3.1	STBG-0701 (036)	CONST	

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UNLESS ALL SIGNATURES COMPLETED**




**Volume III of III
Traffic Signal Designs
Part 1 of 2**

JUNE 18, 2018


2018 STANDARD SPECIFICATIONS
LETTING DATE: SEPTEMBER 18, 2018
PROJECT LENGTH = 55 MILES



750 Greenfield Parkway, Garner, NC 27529
NCDOT CONTACTS:
TRANSPORTATION MOBILITY & SAFETY DIVISION
INTELLIGENT TRANSPORTATION SYSTEMS SECTION
SHERRY YOW - METRO SYSTEMS PROJECT ENGINEER
WILLIAM B. HAIRSTON, III - PROJECT DESIGN ENGINEER
CYNTHIA MULDROW - DESIGN ENGINEER




1616 EAST MILLBROOK ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEEES #F-0326



MELISSA B. TOTH, PE - ATKINS PROJECT MANAGER
PAMELA L. ALEXANDER, PE - ATKINS SENIOR PROJECT ENGINEER
ANTHONY M. ENCARNACION, PE - ATKINS PROJECT ENGINEER

SEAL



DocuSigned by:
Melissa B. Toth 6/18/2018
SIGNATURE DATE

INDEX OF SHEETS

Volume I

ITS-1.00	TITLE SHEET – COMMUNICATIONS & CCTV FIELD INFRASTRUCTURE, BUILDING MODIFICATIONS AND SPECIAL DETAILS
ITS-2.00	INDEX OF SHEETS AND ROADWAY STANDARD DRAWINGS
ITS-3.00 THRU ITS-3.02	BLOCK DIAGRAMS
ITS-4.00 THRU ITS-4.06	SYSTEM DETECTORS AND CONTROL ZONES
ITS-5.00	CCTV CAMERA INSTALLATION, WOOD POLES
ITS-5.01 THRU ITS-5.03	CCTV CAMERA INSTALLATION, METAL POLES
ITS-5.04	ELECTRICAL SERVICE GROUNDING
ITS-5.05	CCTV CABINET ASSEMBLY LAYOUT
ITS-5.06	SIGNAL CABINET DETAIL, POLE-MOUNTED
ITS-5.07	RISER DETAIL
ITS-5.08	FOUNDATION MODIFICATION DETAIL
ITS-5.09	BASE ADAPTER DETAIL
ITS-5.10	GROUND MOUNTED ELECTRICAL SERVICE DETAIL
ITS-5.11	OVERHEAD ELECTRICAL SERVICE DETAIL
ITS-5.12	AERIAL FIBER-OPTIC CABLE STORAGE & SPLICE ENCLOSURES
ITS-5.13	BASE-MOUNTED CABINET FOUNDATION DETAIL
ITS-5.14	TERMINAL SPLICE CABINET DETAIL
ITS-5.15	CCTV AND RADIO BUILDING MOUNTING
ITS-5.16 THRU ITS-5.25	TCC DETAILS
CRP-1.000 THRU CRP-1.017	SUMMARY OF WORK BY CABLE ROUTING PLANS
CRP-2.000	CCTV INSTALLATION SUMMARY
CRP-3.000 THRU CRP-3.002	CABLE ROUTING PLANS KEY SHEET
CRP-4.000	LEGEND/GENERAL NOTES/ABBREVIATIONS
CRP-5.000	CONSTRUCTION NOTES
CRP-6.001 THRU CRP-6.199	CABLE ROUTING PLANS
TMP-7.01 THRU TMP-7.04	TRANSPORTATION MANAGEMENT PLAN

Volume II

FS 1.00	TITLE SHEET (FIBER-OPTIC SPLICING)
FS 1.01	INDEX OF SHEETS AND ROADWAY STANDARD DRAWINGS
FS 2.00	COMMS. CABLE SCHEMATICS SHEET LAYOUT
FS 2.01 THRU FS 2.04	COMMS. CABLE SCHEMATICS
FS 2.05 THRU FS 2.25	FIBER-OPTIC RING SCHEMATICS
FS 3.00	FIBER-OPTIC CABLE USAGE SUMMARY
FS 4.000	FIBER-OPTIC SPLICING DETAILS KEY SHEET
FS 4.001 THRU FS 4.120	FIBER-OPTIC SPLICING DETAILS

Volume III – Part 1

SIG. 1.00	TITLE SHEET (TRAFFIC SIGNAL DESIGNS)
SIG. 1.01	INDEX OF SHEETS AND ROADWAY STANDARD DRAWINGS
SIG. 1.02	SIGNAL PLANS INDEX SHEET
SIG. 2.00 THRU SIG. 2.26	SUMMARY OF WORK BY INTERSECTION
SIG. 3.00 THRU SIG. 100.1	TRAFFIC SIGNAL PLANS

Volume III – Part 2

SIG. 101.A	TITLE SHEET (TRAFFIC SIGNAL DESIGNS)
SIG. 101.0 THRU SIG. 208.1	TRAFFIC SIGNAL PLANS

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" CONTRACT SERVICES UNIT – N.C. DEPARTMENT OF TRANSPORTATION – RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE ARE HEREBY CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
848.01	CONCRETE SIDEWALK
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGERS
1165.01	TRUCK MOUNTED ATTENUATOR
1180.01	SKINNY DRUMS
1205.01	PAVEMENT MARKINGS – LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS – TWO-LANE AND MULTI-LANE ROADWAYS
1205.04	PAVEMENT MARKINGS – INTERSECTIONS
1205.05	PAVEMENT MARKINGS – TURN LANES
1205.07	PAVEMENT MARKINGS – PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS – SYMBOLS AND WORD MESSAGES
1700.01	ELECTRICAL SERVICE OPTIONS
1700.02	ELECTRICAL SERVICE GROUNDING
1705.01	SIGNAL HEADS – SIGNAL HEADS
1705.02	SIGNAL HEADS – MOUNTING
1705.03	SIGNAL HEADS – WIRE COLOR CONVENTIONS
1705.04	SIGNAL HEADS – PEDESTRIAN PUSHBUTTON PLACEMENT
1715.01	UNDERGROUND CONDUIT – TRENCHING
1716.01	JUNCTION BOXES
1720.01	WOOD POLES
1721.01	GUY ASSEMBLIES
1725.01	INDUCTIVE DETECTION LOOPS
1730.01	FIBER-OPTIC CABLE – SPARE CABLE STORAGE
1736.01	SPREAD SPECTRUM RADIO
1743.01	PEDESTALS – PEDESTRIAN PUSHBUTTON (TYPE I)
1743.04	PEDESTALS – FOUNDATIONS
1751.01	CONTROLLERS AND CABINETS – CABINET COMPONENT LAYOUT
1751.02	CONTROLLERS AND CABINETS – POWER, GROUND AND AUXILIARY

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 (919) 876-6888 NCBES #F-0326

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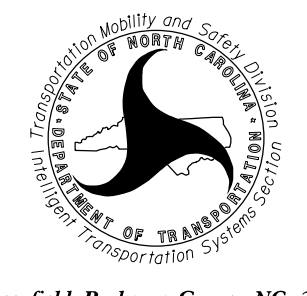
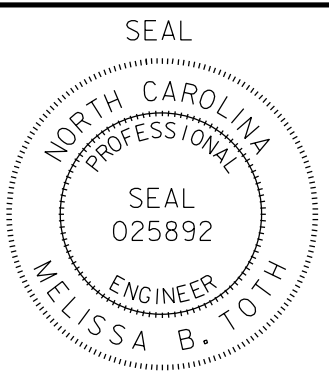
	Burlington-Graham Signal System Index of Sheets and Roadway Standard Drawings		
	Division 7 Alamance County Burlington & Graham		
750 Greenfield Parkway, Garner, NC 27529 SCALE NTS	PLAN DATE: June 2018 PREPARED BY: JW/AH	REVIEWED BY: HA Badgett REVIEWED BY: BJ Slocum	Designed by: Melissa B. Toth DATE: 7/11/2018 CADD Filename: Sig 1.01.dgn

Table with 4 columns: NCDOT SIGNAL INVENTORY NUMBER, INTERSECTION, SIGNAL SHEET NUMBER, CABLE ROUTING SHEET NUMBER. Contains 178 rows of signal system data.

Table with 4 columns: NCDOT SIGNAL INVENTORY NUMBER, INTERSECTION, SIGNAL SHEET NUMBER, CABLE ROUTING SHEET NUMBER. Contains 178 rows of signal system data.

Table with 4 columns: NCDOT SIGNAL INVENTORY NUMBER, INTERSECTION, SIGNAL SHEET NUMBER, CABLE ROUTING SHEET NUMBER. Contains 178 rows of signal system data.

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Professional seal for Melissa B. Toth, North Carolina Professional Engineer, License No. 025892. Includes project title 'Burlington-Graham Signal System Signal Plans Index Sheet' and revision table.

ATKINS logo and address: 1616 EAST MILLBROOK ROAD, SUITE 160 RALEIGH, NORTH CAROLINA 27609 (919) 876-6888 NCBEES #F-0326

SUMMARY OF WORK BY INTERSECTION

Reference Information						Controller, Cabinet & Foundation Work																						
NCDOT / City Signal Inv. No.	Intersection Name	Cable Routing Sheet Number	Signal Design Sheet Number	In / near historically significant area (see box note at bottom of page)	2070LX Controller		Type 170 Cabinet		No. of New Detector Cards	Base			Install New Foundation					Terminal Splice Cabinet	Remove Existing Terminal Splice Cabinet	Modify Foundation	Remove Existing Foundation	Rotate Front of Cabinet clockwise (degrees)	Base Extender	Base Adapter	Pole (336S)	Ex. Height - Ground to Bottom (inches)	Replace concrete (SY)	
					New	Existing	New	Existing		332	332 with Auxiliary File	336	Adjacent to Existing	In Same Place as Existing	Relocated to (quadrant)	Comment												
1	07-0001	NC 87-100 (W. Webb Avenue) at SR 1352 (W. Davis Street)	6.133	3.0		1		1		2														1	25			
2	07-0003	SR 1323 (W. Front Street) at W. Davis Street	6.138	4.0		1		1		4														0	1	20		
3	07-0005	NC 87-100 (W. Webb Avenue) at Trollinger Street	6.142	5.0		1		1		2														0	1	19		
4	07-0006	SR 1323 (W. Front Street) at Trollinger Street	6.140	6.0	Y	1		1		4	1		1		along sidewalk, 5' south along Trollinger	1							180	1		22		
5	07-0007	US 70-NC 62 (S. Church Street) at Glenwood Avenue	6.022	7.0		1		1		5					Not much room between road and sidewalk; 6 unshielded lead-ins									0	1	19		
6	07-0008	NC 54 (Chapel Hill Road) at Tucker Street	6.092	8.0		1		1		6					1 Joint Use CCTV/Signal Metal Strain Pole with Foundation								180		1	26		
7	07-0009	NC 54 (Chapel Hill Road) at SR 1363 (S. Mebane Street)	6.081	9.0		1		1		10	1												0	1				
8	07-0011	US 70-NC 62 (S. Church Street) at W. Fifth Street	6.024	10.0		1		1		1	1		1							1			0	0	1		20	
9	07-0012	NC 87 (E. Webb Avenue) at Williamson Street	6.124	11.0		1		1		3														0		1	22	
10	07-0013	NC 87-100 (E. Webb Avenue) at Flanner Street	6.121	12.0		1		1		4														270		1	22	
11	07-0014	NC 87-100 (E. Webb Avenue) at Everett Street	6.121	13.0		1		1		1														270		1	25	18
12	07-0015	NC 100 (Maple Avenue) at NC 100 (S. Anthony Street)	6.129	14.0		1		1		5	1		1		5' behind pole in between downguys	1							45	1			21	
13	07-0016	NC 87-100 (E. Webb Avenue) at NC 100 (Anthony Street)	6.122	15.0		1		1		2	1		1		15' north along Anthony St			1					180	1			23	
14	07-0017	NC 87 (E. Webb Avenue) at Whitsett Street/Sidney Avenue	6.123	16.0		1		1		2	1			1	SW South of pole in southwest corner of Webb Ave at Whitsett St	2		1					145	1			2	
15	07-0018	US 70-NC 62 (S. Church Street) at W. Front Street	6.127	17.0		1		1		0			1											1				
16	07-0020	NC 62 (Rauhut Street) at SR 1700 (Apple Street)	6.157	18.0		1		1		4							Ex							0		1	19	
17	07-0021	US 70-NC 62 (N. Church Street) at NC 62 (W. Holt Street)	6.028	19.0		1		1		0	1		1		50' north along Holt Street at next pole	1							45	1			23	
18	07-0022	NC 87-100 (E. Webb Avenue) at Gilmer Street	6.120	20.0	Y	1		1		1	1				RR Preempt. New foundation behind sidewalk near existing pole mounted cabinet. replace disconnect wires and conduit from meter	1							0	1			22	
19	07-0023	NC 87-100 (E. Webb Avenue) at Broad Street	6.120	21.0		1		1		2					Existing lead-in not shielded									0		1	24	
20	07-0027	US 70-NC 62 (S. Church Street) at NC 87-100 (W. Webb Avenue)	6.127	22.0		1		1		0	1				Single Ring - Re-cable for dual ring. Ground rod in cabinet. Keep some 8" lenses (reds are 12") - mast arms.									*				
21	07-0028	US 70-NC 62 (S. Church Street) at W. Davis Street	6.127	23.0	Y	1		1		0			1		Existing foundation is tiny									1				
22	07-0029	US 70-NC 62 (S. Church Street) at Morehead Street	6.024	24.0		1		1		0			1		Needs larger foundation but very limited space, front door opens onto sidewalk. Re-cable for dual ring								0	*				
23	07-0030	US 70-NC 62 (S. Church Street) at Maple Avenue	6.024	25.0		1		1		0			1											1				
24	07-0032	US 70 (N. Church Street) at SR 1716 (S. Graham-Hopedale Road)	6.038	26.0		1		1		15	1												0	*				

*Reuse Existing

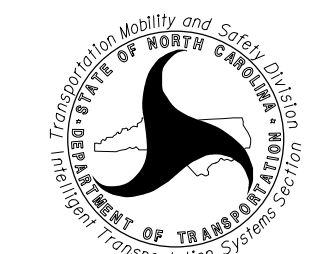
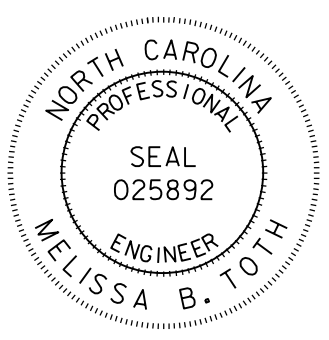
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- Work shown on this sheet is for the upgrade of the traffic signals, including installation of new controllers and cabinets, new or modified foundations, electrical service and miscellaneous signal related items. Additional information can be found in the signal plans in this Volume. Work to be done for fiber-optic cable routing and interconnection is shown on the cable layout plans and on the sheets entitled "Summary of Work by Cable Layout Plans" in Volume I of III.
- The items listed above are for informational purposes only and represent work that is necessary to complete the contract and are not necessarily pay items. See Summary of Quantities and the Project Special Provisions for defined Pay Items for this contract.

Areas within this project have been determined to contain properties with documented historical significance. If it is necessary to deviate from the plans in an area identified to contain properties with historic significance, alert the engineer to contact **Environmental Analysis Unit - Historic Architecture Group of North Carolina Department of Transportation** for an effects determination before proceeding.

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 Prepared for the Offices of: NORTH CAROLINA DEPARTMENT OF TRANSPORTATION 750 Greenfield Parkway, Garner, NC 27529	Burlington-Graham Signal System Summary of Work by Intersection (Sheet 1 of 3)		 SEAL NORTH CAROLINA PROFESSIONAL ENGINEER MELISSA B. TOTH
	Division 7 Alamance County PLAN DATE: May 2018 PREPARED BY: PL Alexander	Burlington & Graham REVIEWED BY: MB Toth REVIEWED BY:	
REVISIONS		INIT. DATE	Designed by: Melissa B. Toth DATE: 6/26/2018 CADD File name: Sig 2.00.dgn

SUMMARY OF WORK BY INTERSECTION


Reference Information					Conduit and Riser Work														Power Service																		
NCDOT / City Signal Inv. No.	Intersection Name	Cable Layout Sheet Number	Signal Design Sheet Number	In / near historically significant area (see box note at bottom of page)	Drill / Core Drill for 2" for FO or CAT6	Intercept and use 2" Spare for Signal Cable or Lead-in	Reuse Ex. 1" (pole) or 2" (base) HST Dedicated Riser for Comm (Heat Shrink Kit)	Reuse Ex. 2" (or 3") Dedicated Conduit Entrance for UG Comm	Use 2" Spare Conduit for UG Comm	Use 2" Spare Riser for Comm (Heat Shrink Tubing Kit)	New 2" Riser (HST) for Comm	New 1-1/4" Riser (HST) for Comm to pole mtd cabinet	New 1" Short Riser for Sig-Replace short riser to cabinet	New UG Conduit for Comm Entrance	New Cabinet Entrance in New Foundation for Comm	New 1/2" Risers (WH) for Sig- Pedestrian Push Buttons	New 1" Risers (WH) for CCTV - CAT6	New 1" Risers (WH) for Sig- New Electrical Service Location	New 2" Risers (WH) for Sig- New Foundation Location	New 2" Risers (WH) for System Detector	New 2" Risers (WH) for New Detection Loops	New 2" Risers (WH) for Sig (replace existing)	New UG conduit to new foundation location for Sig	New 2" short Risers for Sig (from terminal splice box or from UG)	Modify Existing Power Service - Install New Service Wires in Existing Conduit	Modify Existing Power Service - Install New Service Wires in New Conduit	Install Service Disconnect by Signal Cabinet	Install 50 Amp Breaker for Signal (Replace Existing)	Install 5/8" x 10' Grounding Electrode	Install New Electrical Service							
1	07-0001	NC 87-100 (W. Webb Avenue) at SR 1352 (W. Davis Street)	6.133	3.0			1																														
2	07-0003	SR 1323 (W. Front Street) at W. Davis Street	6.138	4.0			1																														
3	07-0005	NC 87-100 (W. Webb Avenue) at Trollinger Street	6.142	5.0			1																														
4	07-0006	SR 1323 (W. Front Street) at Trollinger Street	6.140	6.0	Y					1					1									2			1										
5	07-0007	US 70-NC 62 (S. Church Street) at Glenwood Avenue	6.022	7.0			1																														
6	07-0008	NC 54 (Chapel Hill Road) at Tucker Street	6.092	8.0			1															1															
7	07-0009	NC 54 (Chapel Hill Road) at SR 1363 (S. Mebane Street)	6.081	9.0			1	1																													
8	07-0011	US 70-NC 62 (S. Church Street) at W. Fifth Street	6.024	10.0				1																													
9	07-0012	NC 87 (E. Webb Avenue) at Williamson Street	6.124	11.0			1																														
10	07-0013	NC 87-100 (E. Webb Avenue) at Flanner Street	6.121	12.0			1														2																
11	07-0014	NC 87-100 (E. Webb Avenue) at Everette Street	6.121	13.0			1																														
12	07-0015	NC 100 (Maple Avenue) at NC 100 (S. Anthony Street)	6.129	14.0						1								1						1			1										
13	07-0016	NC 87-100 (E. Webb Avenue) at NC 100 (Anthony Street)	6.122	15.0						1													1														
14	07-0017	NC 87 (E. Webb Avenue) at Whitsett Street/Sidney Avenue	6.123	16.0						1					1			1	3														3	1			
15	07-0018	US 70-NC 62 (S. Church Street) at W. Front Street	6.127	17.0			1																														
16	07-0020	NC 62 (Rauhut Street) at SR 1700 (Apple Street)	6.157	18.0			1	1																													
17	07-0021	US 70-NC 62 (N. Church Street) at NC 62 (W. Holt Street)	6.028	19.0						1						4		1	2						1									3	1		
18	07-0022	NC 87-100 (E. Webb Avenue) at Gilmer Street	6.120	20.0	Y					1					1																						
19	07-0023	NC 87-100 (E. Webb Avenue) at Broad Street	6.120	21.0			1																														
20	07-0027	US 70-NC 62 (S. Church Street) at NC 87-100 (W. Webb Avenue)	6.127	22.0									1																							3	
21	07-0028	US 70-NC 62 (S. Church Street) at W. Davis Street	6.127	23.0	Y																																
22	07-0029	US 70-NC 62 (S. Church Street) at Morehead Street	6.024	24.0																							1									1	3
23	07-0030	US 70-NC 62 (S. Church Street) at Maple Avenue	6.024	25.0																																	3
24	07-0032	US 70 (N. Church Street) at SR 1716 (S. Graham-Hopedale Road)	6.038	26.0									1																								

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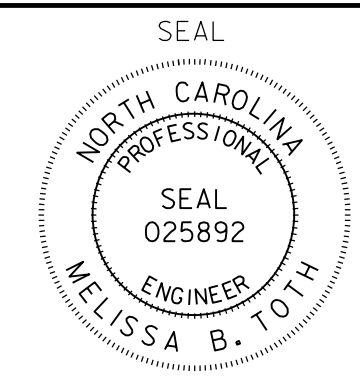
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**Burlington-Graham Signal System
Summary of Work by
Intersection (Sheet 2 of 3)**

Division 7 Alamance County Burlington & Graham

PLAN DATE: May 2018 REVIEWED BY: MB Toth

PREPARED BY: PL Alexander REVIEWED BY:



SEAL
NORTH CAROLINA
PROFESSIONAL
ENGINEER
MELISSA B. TOTH

750 Greenfield Parkway, Garner, NC 27529

SCALE: **NTS**

REVISIONS	INIT.	DATE

Designed by: Melissa B. Toth 6/26/2018
CADD File name: Sig 2.01.dgn

SUMMARY OF WORK BY INTERSECTION

Reference Information						Controller, Cabinet & Foundation Work																							
NCDOT / City Signal Inv. No.	Intersection Name	Cable Routing Sheet Number	Signal Design Sheet Number	In / near historically significant area (see box note at bottom of page)	2070LX Controller		Type 170 Cabinet		No. of New Detector Cards	Base			Install New Foundation				Terminal Splice Cabinet	Remove Existing Terminal Splice Cabinet	Modify Foundation	Remove Existing Foundation	Rotate Front of Cabinet clockwise (degrees)	Base Extender	Base Adapter	Pole (336S)	Ex. Height - Ground to Bottom (inches)	Replace concrete (SY)			
					New	Existing	New	Existing		332	332 with Auxiliary File	336	Adjacent to Existing	In Same Place as Existing	Relocated to (quadrant)	Comment													
25	07-0033	US 70 (N. Church Street) at Cobb Avenue	6.037	27.0		1	1	6	1			1				Existing pole mount being changed to base mount, same quadrant	1				315	1		24					
26	07-0034	US 70-NC 62 (N. Church Street) at W. Trade Street	6.028	28.0		1	1	0												0			1	25					
27	07-0035	US 70-NC 62 (S. Church Street) at NC 62 (Alamance Road)	6.019	29.0		1	1	7	1											0	*								
28	07-0036	US 70 (N. Church Street) at Beaumont Avenue	6.036	30.0		1	1	6	1											0	*								
29	07-0037	SR 1716 (N. Graham-Hopedale Road) at Vaughn Road	6.189	31.0		1	1	5	1						2 School flashers run out of signal cabinet					0	1								
30	07-0040	US 70 (N. Church Street) at SR 1719 (Sellars Mill Road)	6.039	32.0		1	1	11	1											0	1								
31	07-0041	US 70-NC 62 (S. Church Street) at Tarleton Avenue	6.020	33.0		1	1	5	1				1	NW	from pole mounted in SE quad, existing terminal splice box=rewire intersection Small added pad in front and back, remove these and add to front and back ex fnd	1				0	1								
32	07-0042	US 70-NC 62 (S. Church Street) at SR 1445/SR 1452 (O'Neal Street)	6.019	34.0		1	1	9	1								1			0	1								
33	07-0043	NC 49-100 (Maple Avenue) at NC 49-54 (Harden Street)/NC 54 (Chapel Hill Road)	6.096	35.0		1	1	12	1						Existing base adapter too short					0		1							
34	07-0046	US 70-NC 62 (S. Church Street) at Ruffin Street	6.028	36.0		1	1	0												0		1	23						
35	07-0047	SR 1154 (Tucker Street) at E. Davis Street	6.121	37.0		1	1	4												0		1	23						
36	07-0048	Maple Avenue at SR 1154 (Tucker Street)	6.128	38.0		1	1	5												90		1	15						
37	07-0049	E. Morehead Street at SR 1154 (Tucker Street)	6.128	39.0		1	1	4												270		1	22						
38	07-0058	SR 1716 (Providence Road) at SR 1716 (Washington Street)	6.184	40.0	Y	1	1	0							replace service wires and conduit from disconnect - conduit rusty					270		1	34						
39	07-0059	SR 1716 (N. Main Street) at SR 2396 (W. Parker Street)	6.183	41.0		1	1	2												180		1	20						
40	07-0060	SR 1716 (N. Main Street) at N. Maple Street/Guthrie Street	6.182	42.0		1	1	2							Cabinet hangs over sidewalk but no room to move					0		1	24						
41	07-0062	NC 49-54 (E. Harden Street) at N. Marshall Street	6.102	43.0	Y	1	1	4												180		1	24						
42	07-0063	NC 49 (E. Elm Street) at NC 54 (E. Harden Street)	6.103	44.0	Y	1	1	7	1						Existing base adapter too short					0		1							
43	07-0064	NC 87/SR 1716 (Main Street) at NC 49-54-87 (W. Harden Street)	6.102	45.0	Y	1	1	4	1											0	*								
44	07-0065	NC 49-54-87 (W. Harden Street) at SR 2424 (N. Maple Street)	6.101	46.0	Y	1	1	0												0		1	24						
45	07-0066	NC 87 (W. Elm Street) at Albany Street/Oakley Street	6.126	47.0		1	1	3												0		1	24						
46	07-0067	NC 49-54-87 (W. Harden Street) at NC 87 (W. Elm Street)	6.100	48.0		1	1	7	1											0	1								
47	07-0068	NC 87 (S. Main Street) at Pine Street	6.178	49.0	Y	1	1	6	1											0	*								
48	07-0106	NC 87-100 (W. Webb Avenue/University Drive) at NC 87 (Ossipee Road)/SR 1353 (E. Haggard A	6.130	50.0		1	1	7	1						no existing extender; call for new service wires in case need extended for new extender.					0	1								

*Reuse Existing

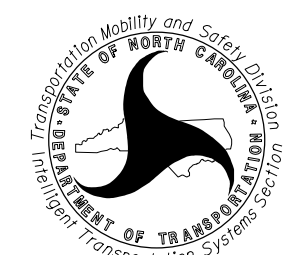
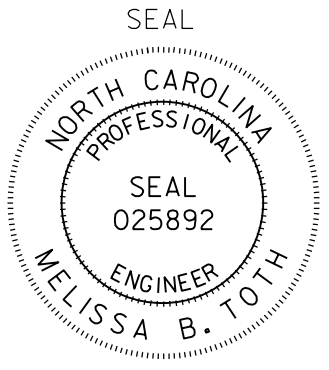
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 Prepared for the Offices of: NORTH CAROLINA DEPARTMENT OF TRANSPORTATION 750 Greenfield Parkway, Garner, NC 27529	Burlington-Graham Signal System Summary of Work by Intersection (Sheet 1 of 3)		
	Division 7 Alamance County PLAN DATE: May 2018 PREPARED BY: PL Alexander	Burlington & Graham REVIEWED BY: MB Toth REVIEWED BY:	
SCALE NTS	REVISIONS INIT. DATE	DATE 6/26/2018	CADD Filename: Sig 2.03.dgn

SUMMARY OF WORK BY INTERSECTION


Reference Information					Conduit and Riser Work													Power Service													
NCDOT / City Signal Inv. No.	Intersection Name	Cable Layout Sheet Number	Signal Design Sheet Number	In / near historically significant area (see box note at bottom of page)	Drill / Core Drill for 2" for FO or CAT6	Intercept and use 2" Spare for Signal Cable or Lead-in	Reuse Ex. 1" (pole) or 2" (base) HST Dedicated Riser for Comm (Heat Shrink Kit)	Reuse Ex. 2" (or 3") Dedicated Conduit Entrance for UG Comm	Use 2" Spare Conduit for UG Comm	Use 2" Spare Riser for Comm (Heat Shrink Tubing Kit)	New 2" Riser (HST) for Comm	New 1-1/4" Riser (HST) for Comm to pole mtd cabinet	New 1" Short Riser for Sig-Replace short riser to cabinet	New UG Conduit for Comm Entrance	New Cabinet Entrance in New Foundation for Comm	New 1/2" Risers (WH) for Sig- Pedestrian Push Buttons	New 1" Risers (WH) for CCTV - CAT6	New 1" Risers (WH) for Sig- New Electrical Service	New 2" Risers (WH) for Sig- New Foundation Location	New 2" Risers (attach to splice box) for Sig- New Foundation Location	New 2" Risers (WH) for System Detector	New 2" Risers (WH) for New Detection Loops	New 2" Risers (WH) for Sig (replace existing)	New UG conduit to new foundation location for Sig	New 2" short Risers for Sig (from terminal splice box or from UG)	Modify Existing Power Service - Install New Service Wires in Existing Conduit	Modify Existing Power Service - Install New Service Wires in New Conduit	Install Service Disconnect by Signal Cabinet	Install 50 Amp Breaker for Signal (Replace Existing)	Install 5/8" x 10' Grounding Electrode	Install New Electrical Service
25	07-0033	US 70 (N. Church Street) at Cobb Avenue	6.037	27.0							1				1					2	2							1	1		
26	07-0034	US 70-NC 62 (N. Church Street) at W. Trade Street	6.028	28.0			1																						1		
27	07-0035	US 70-NC 62 (S. Church Street) at NC 62 (Alamance Road)	6.019	29.0			1														2								1		
28	07-0036	US 70 (N. Church Street) at Beaumont Avenue	6.036	30.0						1																					
29	07-0037	SR 1716 (N. Graham-Hopedale Road) at Vaughn Road	6.189	31.0			1															1							1		
30	07-0040	US 70 (N. Church Street) at SR 1719 (Sellars Mill Road)	6.039	32.0			1																								
31	07-0041	US 70-NC 62 (S. Church Street) at Tarleton Avenue	6.020	33.0											1				2					2							1
32	07-0042	US 70-NC 62 (S. Church Street) at SR 1445/SR 1452 (O'Neal Street)	6.019	34.0			1																								
33	07-0043	NC 49-100 (Maple Avenue) at NC 49-54 (Harden Street)/NC 54 (Chapel Hill Road)	6.096	35.0			1																						1		
34	07-0046	US 70-NC 62 (S. Church Street) at Ruffin Street	6.028	36.0			1																						1		
35	07-0047	SR 1154 (Tucker Street) at E. Davis Street	6.121	37.0			1																								
36	07-0048	Maple Avenue at SR 1154 (Tucker Street)	6.128	38.0			1																								
37	07-0049	E. Morehead Street at SR 1154 (Tucker Street)	6.128	39.0			1																								
38	07-0058	SR 1716 (Providence Road) at SR 1716 (Washington Street)	6.184	40.0	Y									1													1	1			
39	07-0059	SR 1716 (N. Main Street) at SR 2396 (W. Parker Street)	6.183	41.0								1																	1		
40	07-0060	SR 1716 (N. Main Street) at N. Maple Street/Guthrie Street	6.182	42.0			1																								
41	07-0062	NC 49-54 (E. Harden Street) at N. Marshall Street	6.102	43.0	Y									1															1		
42	07-0063	NC 49 (E. Elm Street) at NC 54 (E. Harden Street)	6.103	44.0	Y		1																								
43	07-0064	NC 87/SR 1716 (Main Street) at NC 49-54-87 (W. Harden Street)	6.102	45.0	Y		1																						1		
44	07-0065	NC 49-54-87 (W. Harden Street) at SR 2424 (N. Maple Street)	6.101	46.0	Y					1																			1		
45	07-0066	NC 87 (W. Elm Street) at Albany Street/Oakley Street	6.126	47.0			1																						1		
46	07-0067	NC 49-54-87 (W. Harden Street) at NC 87 (W. Elm Street)	6.100	48.0			1																					1	3		
47	07-0068	NC 87 (S. Main Street) at Pine Street	6.178	49.0	Y		1														1								1		
48	07-0106	NC 87-100 (W. Webb Avenue/University Drive) at NC 87 (Ossipee Road)/SR 1353 (E. Haggard A	6.130	50.0					1							1											1				

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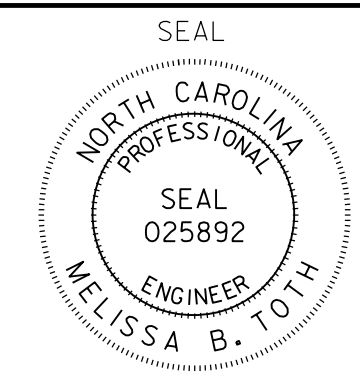
750 Greenfield Parkway, Garner, NC 27529

Burlington-Graham Signal System
Summary of Work by
Intersection (Sheet 2 of 3)

Division 7 Alamance County Burlington & Graham

PLAN DATE: May 2018 REVIEWED BY: MB Toth

PREPARED BY: PL Alexander REVIEWED BY:



6/26/2018
DATE

SCALE

NTS

REVISIONS	INIT.	DATE

Designed by: Melissa B. Toth

Checked by: _____

CADD Filename: Sig 2.04.dgn

SUMMARY OF WORK BY INTERSECTION


Reference Information					Signal Items																										
NCDOT / CITY SIGNAL INV. NO.	Intersection Name	Cable Layout Sheet Number	Signal Design Sheet Number	In / near historically significant area (see box note at bottom of page)	16-inch Countdown Pedestrian Signal Head	12-inch 3-Section Signal Head	12-inch 4-Section Signal Head	12-inch 5-Section Signal Head	Signal Cable	Adjust Span Attachment	Messenger Cable (3/8")	Underground Conduit (1, 2')	Underground Conduit (2, 2')	Directional Drill	Inductive Loop Sawcut	Loop Lead-in Cable	Sign	Wood Pole	Metal Strain Pole	Standard Down Guy Assembly	Sidewalk Guy Assembly	Type I Post with Foundation	Junction Box	Remove existing pedestrian signal	Louvers	Backplates	Remove Line 4"	Remove Line 24"	Thermoplastic Pavement Marking Line 24", 120 MILS	Thermoplastic Pavement Marking Lines (8", 120 MILS)	Thermoplastic White yield lines, 90 MILS
49	07-0107	NC 87-100 (W. Webb Avenue) at SR 1522 (Lakeview Avenue)/Shopping Center Entrance	6.132	51.0																2											
50	07-0112	US 70 (S. Church Street) at SR 1158 (Huffman Mill Road)/Shadowbrook Drive	6.014	52.0		1			380			160			140	1100							2								
51	07-0115	US 70 (S. Church Street) at SR 1301 (S. Williamson Avenue)/St. Marks Church Road	6.007	53.0																											
52	07-0121	US 70-NC 62 (N. Fisher Street) at W. Trade Street	6.026	54.0		2			290											2											
53	07-0125	US 70 (N. Church Street) at Fonville Street	6.029	55.0		1			20																						
54	07-0126	US 70 (N. Fisher Street) at Ireland Street	6.029	56.0		2	1		370			60			190	500				1		1	1								
55	07-0127	US 70 (N. Church Street) at Ireland Street	6.029	57.0		1			200											2	1										
56	07-0128	SR 1363 (S. Mebane Street) at Maple Avenue	6.119	58.0		4	2		1260							310				4											
57	07-0133	NC 62 (Alamance Road) at SR 1306/SR 1363 (S. Mebane Street)	6.077	59.0		2	2		510			370	70	200	1870								4								
58	07-0148	NC 87-100 (W. Webb Avenue) at SR 1523 (Glen Raven Road)/Shopping Center Entrance	6.133	60.0																											
59	07-0149	SR 1716 (S. Graham-Hopedale Road) at N. Mebane Street	6.187	61.0								110			110	630							2								
60	07-0150	NC 87-100 (E. Webb Avenue) at Mebane Street	6.120	62.0		4			1030							1030															
61	07-0155	NC 87 (S. Main Street) at I-40 EB-85 NB Ramps	6.176	63.0		1	1		190			40			100	410							1								
62	07-0156	SR 2396 (E. Parker Street) at Pomeroy Street	6.194	64.0		8			360																						
63	07-0157	US 70-NC 62 (N. Fisher Street) at NC 62 (Rauhut Street)/W. Holt Street	6.027	65.0		1			20						180	980							1								
64	07-0158	US 70 (S. Church Street) at May Drive/Engleman Avenue	6.017	66.0					640			70			160	2920							3								
65	07-0159	NC 49 (Maple Avenue) at SR 2304 (Hanford Road)	6.114	67.0		2	2		330							1250															
66	07-0162	NC 49 (Maple Avenue) at I-40 WB-85 SB Ramps	6.115	68.0								140			100	660							1								
67	07-0170	SR 1158 (Huffman Mill Road) at SR 1308 (Garden Road)/Cracker Barrel Access	6.065	69.0											80	620															
68	07-0174	SR 1363 (S. Mebane Street) at E. Morehead Street	6.119	70.0	Y							80	50	40	150					2			2								
69	07-0175	SR 1363 (S. Mebane Street) at E. Davis Street	6.119	71.0	Y							60			110	610				2			1								
70	07-0178	SR 1719 (Sellars Mill Road) at N. Mebane Street	6.039	72.0																											
71	07-0201	US 70 (N. Church Street) at N. Main Street/Holly Street	6.035	73.0		1	3	1	300		170	240			230	2530	1			4	1		3								
72	07-0206	SR 1323 (W. Front Street) at Tarleton Avenue	6.137	74.0		9			170											3			1								

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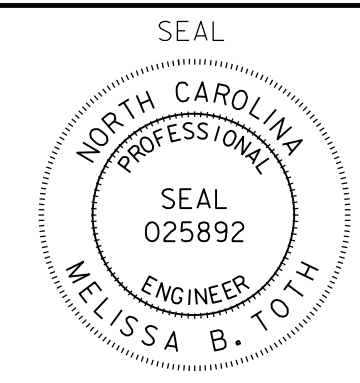
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**Burlington-Graham Signal System
Summary of Work by
Intersection (Sheet 3 of 3)**

Division 7 Alamance County Burlington & Graham

PLAN DATE: May 2018 REVIEWED BY: MB Toth

PREPARED BY: PL Alexander REVIEWED BY:



SEAL
 NORTH CAROLINA
 PROFESSIONAL
 ENGINEER
 MELISSA B. TOTH

750 Greenfield Parkway, Garner, NC 27529

SCALE: **NTS**

REVISIONS	INIT.	DATE

Designed by: *Melissa B. Toth* 7/11/2018
 CADD Filename: Sig 2.08.dgn


SUMMARY OF WORK BY INTERSECTION

Reference Information					Conduit and Riser Work														Power Service															
NCDOT / City Signal Inv. No.	Intersection Name	Cable Layout Sheet Number	Signal Design Sheet Number	In / near historically significant area (see box note at bottom of page)	Drill / Core Drill for 2" for FO or CAT6	Intercept and use 2" Spare for Signal Cable or Lead-in	Reuse Ex. 1" (pole) or 2" (base) HST Dedicated Riser for Comm (Heat Shrink Kit)	Reuse Ex. 2" (or 3") Dedicated Conduit Entrance for UG Comm	Use 2" Spare Conduit for UG Comm	Use 2" Spare Riser for Comm (Heat Shrink Tubing Kit)	New 2" Riser (HST) for Comm	New 1-1/4" Riser (HST) for Comm to pole mid cabinet	New 1" Short Riser for Sig-Replace short riser to cabinet	New UG Conduit for Comm Entrance	New Cabinet Entrance in New Foundation for Comm	New 1/2" Risers (WH) for Sig- Pedestrian Push Buttons	New 1" Risers (WH) for CCTV - CAT6	New 1" Risers (WH) for Sig- New Electrical Service	New 2" Risers (WH) for Sig- New Foundation Location	New 2" Risers (attach to splice box) for Sig- New Foundation Location	New 2" Risers (WH) for System Detector	New 2" Risers (WH) for New Detection Loops	New 2" Risers (WH) for Sig (replace existing)	New UG conduit to new foundation location for Sig	New 2" short Risers for Sig (from terminal splice box or from UG)	Modify Existing Power Service - Install New Service Wires in Existing Conduit	Modify Existing Power Service - Install New Service Wires in New Conduit	Install Service Disconnect by Signal Cabinet	Install 50 Amp Breaker for Signal (Replace Existing)	Install 5/8" x 10' Grounding Electrode	Install New Electrical Service			
73	07-0210	NC 87-100 (W. Webb Avenue) at S. Worth Street	6.127	75.0			1																											
74	07-0220	NC 62 (Alamance Road) at I-40 EB-85 NB Ramps	6.089	76.0			1																										3	
75	07-0263	SR 1716 (N. Graham-Hopedale Road) at SR 1343 (Martin Street) [Future]	6.188	77.0																														
76	07-0292	SR 1716 (S. Graham-Hopedale Road) at SR 1720 (W. Hanover Road)	6.185	78.0						1									2				1									3	1	
77	07-0350	NC 62 (Rauhut Street) at SR 1537 (Sharpe Road)	6.160	79.0						1					1								2	1							1	3		
78	07-0410	SR 1158 (Huffman Mill Road) at I-40 EB-85 NB Ramps	6.064	80.0						1												1										3		
79	07-0415	NC 87-100 (W. Webb Avenue) at SR 1530 (Elmira Street) and SR 1522 (N. Park Avenue)	6.142	81.0			1																									1		
80	07-0857	NC 49 (Maple Avenue) at SR 1398 (Plantation Drive)	6.115	82.0			1																									1		
81	07-0868	SR 1158 (Huffman Mill Road) at SR 1306 (S. Mebane Street)/Holly Hill Mall	6.068	83.0			1																									1		
82	07-0872	US 70-NC 62 (S. Fisher Street) at W. Maple Avenue	6.024	84.0			1															1									1			
83	07-0873	US 70 (S. Fisher Street) at NC 87-100 (Webb Avenue)	6.025	85.0						1					1			1	2					2							3	1		
84	07-0891	SR 1719 (Pomeroy Street)/(N. Sellers Mill Road) at SR 1720 (Hanover Road)	6.193	86.0								1																				1		
85	07-0897	NC 87 (S. Main Street) at SR 2100 (Gilbreath Street)	6.177	87.0			1																									1		
86	07-0932	US 70 (S. Church Street) at Edgewood Avenue/Edgewood Village Shopping Center	6.012	88.0			1																											
87	07-0955	SR 1158 (Huffman Mill Road) at I-40 WB-85 SB Ramps	6.064	89.0					1																									
88	07-0961	NC 62 (Alamance Road) at SR 1450 (Eric Lane)	6.089	90.0			1																											
89	07-0980	US 70-NC 62 (S. Fisher Street) at SR 1323 (W. Front Street)	6.025	91.0			1																											
90	07-0981	US 70-NC 62 (S. Fisher Street) at W. Davis Street	6.025	92.0			1																											
91	07-0982	US 70-NC 62 (S. Fisher Street) at Morehead Street	6.024	93.0			1																											
92	07-1026	SR 1158 (Huffman Mill Road) at Forestdale Drive/The Brittany Apartments	6.066	94.0			1										1											1						
93	07-1030	NC 54 (Chapel Hill Road) at Corporation Parkway	6.094	95.0			1																									1		
94	07-1038	NC 87 (S. Main Street) at SR 2309 (Rogers Road)/Webster Road	6.173	96.0						1					1				2										1					
95	07-1049	US 70 (S. Church Street) at SR 1309 (Westbrook Avenue)	6.007	97.0				1																								1		
96	07-1051	NC 54 (E. Harden Street) at I-40 WB-85 SB Ramps	6.106	98.0			1																1									1		

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 NORTH CAROLINA
 PROFESSIONAL
 SEAL
 025892
 ENGINEER
 MELISSA B. TOTH

Burlington-Graham Signal System
 Summary of Work by
 Intersection (Sheet 2 of 3)

Division 7 Alamance County Burlington & Graham

PLAN DATE: May 2018 REVIEWED BY: MB Toth

PREPARED BY: PL Alexander REVIEWED BY:

SCALE: NTS

REVISIONS: _____

INIT. DATE

Designed by: Melissa B. Toth 6/26/2018
 CADD Filename: Sig 2.10.dgn

SUMMARY OF WORK BY INTERSECTION

Reference Information						Controller, Cabinet & Foundation Work																				
NCDOT / City Signal Inv. No.	Intersection Name	Cable Routing Sheet Number	Signal Design Sheet Number	In / near historically significant area (see box note at bottom of page)	2070LX Controller		Type 170 Cabinet		No. of New Detector Cards	Base			Adjacent to Existing	In Same Place as Existing	Relocated to (quadrant)	Comment	Terminal Splice Cabinet	Remove Existing Terminal Splice Cabinet	Modify Foundation	Remove Existing Foundation	Rotate Front of Cabinet clockwise (degrees)	Base Extender	Base Adapter	Pole (336S)	Ex. Height - Ground to Bottom (inches)	Replace concrete (SY)
					New	Existing	New	Existing		332	332 with Auxiliary File	336														
					Install New Foundation																					
121	07-1487 SR 2424 (S. Maple Street)/SR 2433 (Moore Street) at SR 2389 (Auto Park Drive/Service Road)	6.166	123.0		1	1	5	1							Add tech pad to rear side			1		0	*					
122	07-1521 NC 54 (E. Harden Street) at SR 2105 (Woody Drive)	6.107	124.0		1	1	7	1												0	1					
123	07-1541 SR 1158 (Huffman Mill Road) at SR 1167 (Longpine Road)/SR 1216 (Whitesell Drive)	6.063	125.0		1	1	5	1												0	*					
124	07-1570 NC 62 (Rauhut Street) at Hatch Street	6.157	126.0		1	1	4	1												0	1					
125	07-1583 US 70 (S. Church Street) at Forestdale Drive	6.011	127.0		1	1	9	1												0	*					
126	07-1612 US 70 (S. Church Street) at Coachlight Trail/Fieldstone Drive	6.010	128.0		1	1	7	1							existing base adapter					0	*					
127	07-1616 SR 1301 (St. Marks Church Road) at SR 1308 (Garden Road)	6.069	129.0		1	1	6	1												0	*					
128	07-1634 SR 1529 (Durham Street Ext.) at SR 1515 (Flora Avenue)	6.156	130.0		1	1	4								new 35' signal pole for cabinet pole				90			1	36			
129	07-1650 SR 1928 (Jimmie Kerr Road) at I-40 WB-85 SB Ramps	6.197	131.0		1	1	4	1							Install Microwave Detection in New Cabinet					0	*					
130	07-1651 SR 1928 (Jimmie Kerr Road) at I-40 EB-85 NB Ramps	6.197	132.0		1	1	4	1							Install Microwave Detection in New Cabinet					0	*					
131	07-1653 US 70 (S. Church Street) at Delaney Drive/Wendy's Driveway	6.015	133.0		1	1	6	1			1				existing foundation cracked			1	315	1						
132	07-1679 SR 1158 (Huffman Mill Road) at Ann Elizabeth Drive/Restaurant Driveway	6.067	134.0		1	1	7	1							existing adapter					0	*					
133	07-1716 SR 1311 (University Drive/Cook Road) at SR 1309 (Westbrook Avenue)	6.046	135.0		1	1	9	1												0	*					
134	07-1718 Edgewood Avenue at SR 1452 (Rockwood Avenue/O'Neal Street)	6.15	136.0		1	1	7	1												0	1					
135	07-1719 NC 54 (E. Harden Street) at SR 2135 (N. Jim Minor Road)	6.113	137.0		1	1	5	1							Disconnect contains two 50amp breakers					0	1					
136	07-1731 SR 1306 (S. Mebane Street) at Delaney Drive	6.074	138.0		1	1	8	1												0	*					
137	07-1771 NC 54 (E. Harden Street) at SR 1945 (Riverbend Road)/Johnson Avenue	6.105	139.0		1	1	4	1							existing base adapter too short					0		1				
138	07-1804 SR 2433 (Moore Street) at SR 2309 (Rogers Road)	6.171	140.0		1	1	9	1												0	1					
139	07-1805 SR 2034 (Hanford Road) at SR 2433 (Moore Street)	6.169	141.0		1	1	6	1									1		90	1						
140	07-1806 NC 87 (S. Main Street) at SR 2433 (Moore Street)	6.172	142.0		1	1	8	1												180	1					
141	07-1852 SR 1363 (S. Mebane Street) at Trail Two	6.078	143.0		1	1	7	1												0	*					
142	07-1886 SR 1363 (S. Mebane Street) at E. Sixth Street	6.084	144.0		1	1	4													0			1	25		
143	07-1938 NC 54 (E. Harden Street) at SR 2123 (Cherry Lane)	6.112	145.0		1	1	5	1							Disconnect contains two 50amp breakers					0	*					
144	07-1939 NC 54 (E. Harden Street) at SR 2108 (Sunset Drive)/SR 2183 (Ivey Road)	6.108	146.0		1	1	7	1							Disconnect contains two 50amp breakers					0	*					

*Reuse Existing

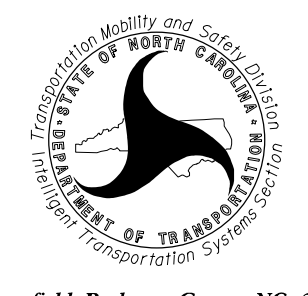

25-JUN-2018 17:22 ***S:\CH\ins.com\Projects\SR\A\Transportation\Traffic\Cur\100056469 U-6015 B-G Sig Sys\Task 05_11_Signal\Vol III Front Sheets\Sig 2.15.dgn ALEX3361 AT LUS340649

- Work shown on this sheet is for the upgrade of the traffic signals, including installation of new controllers and cabinets, new or modified foundations, electrical service and miscellaneous signal related items. Additional information can be found in the signal plans in this Volume. Work to be done for fiber-optic cable routing and interconnection is shown on the cable layout plans and on the sheets entitled "Summary of Work by Cable Layout Plans" in Volume I of III.

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ATKINS 1616 EAST MILLBROOK ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBES #F-0326

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	Burlington-Graham Signal System Summary of Work by Intersection (Sheet 1 of 3)		
	Division 7 Alamance County PLAN DATE: May 2018 PREPARED BY: PL Alexander	Burlington & Graham REVIEWED BY: MB Toth REVIEWED BY:	
REVISIONS		INIT. DATE	Designed by: Melissa B. Toth DATE: 6/26/2018 CADD Filename: Sig 2.15.dgn


SUMMARY OF WORK BY INTERSECTION

Reference Information					Conduit and Riser Work														Power Service																
NCDOT / City Signal Inv. No.	Intersection Name	Cable Layout Sheet Number	Signal Design Sheet Number	In / near historically significant area (see box note at bottom of page)	Drill / Core Drill for 2" for FO or CAT6	Intercept and use 2" Spare for Signal Cable or Lead-in	Reuse Ex. 1" (pole) or 2" (base) HST Dedicated Riser for Comm (Heat Shrink Kit)	Reuse Ex. 2" (or 3") Dedicated Conduit Entrance for UG Comm	Use 2" Spare Conduit for UG Comm	Use 2" Spare Riser for Comm (Heat Shrink Tubing Kit)	New 2" Riser (HST) for Comm	New 1-1/4" Riser (HST) for Comm to pole mtd cabinet	New 1" Short Riser for Sig-Replace short riser to cabinet	New UG Conduit for Comm Entrance	New Cabinet Entrance in New Foundation for Comm	New 1/2" Risers (WH) for Sig- Pedestrian Push Buttons	New 1" Risers (WH) for CCTV - CAT6	New 1" Risers (WH) for Sig- New Electrical Service	New 2" Risers (WH) for Sig- New Foundation Location	New 2" Risers (attach to splice box) for Sig- New Foundation Location	New 2" Risers (WH) for System Detector	New 2" Risers (WH) for New Detection Loops	New 2" Risers (WH) for Sig (replace existing)	New UG conduit to new foundation location for Sig	New 2" short Risers for Sig (from terminal splice box or from UG)	Modify Existing Power Service - Install New Service Wires in Existing Conduit	Modify Existing Power Service - Install New Service Wires in New Conduit	Install Service Disconnect by Signal Cabinet	Install 50 Amp Breaker for Signal (Replace Existing)	Install 5/8" x 10' Grounding Electrode	Install New Electrical Service				
121	07-1487	SR 2424 (S. Maple Street)/SR 2433 (Moore Street) at SR 2389 (Auto Park Drive/Service Road)	6.166	123.0			1																												
122	07-1521	NC 54 (E. Harden Street) at SR 2105 (Woody Drive)	6.107	124.0			1																												1
123	07-1541	SR 1158 (Huffman Mill Road) at SR 1167 (Longpine Road)/SR 1216 (Whitesell Drive)	6.063	125.0				1																											1
124	07-1570	NC 62 (Rauhut Street) at Hatch Street	6.157	126.0					1																										
125	07-1583	US 70 (S. Church Street) at Forestdale Drive	6.011	127.0		1	1																												
126	07-1612	US 70 (S. Church Street) at Coachlight Trail/Fieldstone Drive	6.010	128.0			1																												
127	07-1616	SR 1301 (St. Marks Church Road) at SR 1308 (Garden Road)	6.069	129.0							1																								1
128	07-1634	SR 1529 (Durham Street Ext.) at SR 1515 (Flora Avenue)	6.156	130.0								1											2												1
129	07-1650	SR 1928 (Jimmie Kerr Road) at I-40 WB-85 SB Ramps	6.197	131.0							1			1								1													1
130	07-1651	SR 1928 (Jimmie Kerr Road) at I-40 EB-85 NB Ramps	6.197	132.0							1											1													
131	07-1653	US 70 (S. Church Street) at Delaney Drive/Wendy's Driveway	6.015	133.0			1							1																					1
132	07-1679	SR 1158 (Huffman Mill Road) at Ann Elizabeth Drive/Restaurant Driveway	6.067	134.0			1																												3
133	07-1716	SR 1311 (University Drive/Cook Road) at SR 1309 (Westbrook Avenue)	6.046	135.0				1																											1
134	07-1718	Edgewood Avenue at SR 1452 (Rockwood Avenue/O'Neal Street)	6.150	136.0			1															1													
135	07-1719	NC 54 (E. Harden Street) at SR 2135 (N. Jim Minor Road)	6.113	137.0							1																								
136	07-1731	SR 1306 (S. Mebane Street) at Delaney Drive	6.074	138.0			1															1													1
137	07-1771	NC 54 (E. Harden Street) at SR 1945 (Riverbend Road)/Johnson Avenue	6.105	139.0			1																												
138	07-1804	SR 2433 (Moore Street) at SR 2309 (Rogers Road)	6.171	140.0				1																											1
139	07-1805	SR 2034 (Hanford Road) at SR 2433 (Moore Street)	6.169	141.0			1																												
140	07-1806	NC 87 (S. Main Street) at SR 2433 (Moore Street)	6.172	142.0		1	1																												1
141	07-1852	SR 1363 (S. Mebane Street) at Trail Two	6.078	143.0				1																											1
142	07-1886	SR 1363 (S. Mebane Street) at E. Sixth Street	6.084	144.0			1																												
143	07-1938	NC 54 (E. Harden Street) at SR 2123 (Cherry Lane)	6.112	145.0					1		1																								
144	07-1939	NC 54 (E. Harden Street) at SR 2108 (Sunset Drive)/SR 2183 (Ivey Road)	6.108	146.0			1																												

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- Work shown on this sheet is for the upgrade of the traffic signals, including installation of new controllers and cabinets, new or modified foundations, electrical service and miscellaneous signal related items. Additional information can be found in the signal plans in this Volume. Work to be done for fiber-optic cable routing and interconnection is shown on the cable layout plans and on the sheets entitled "Summary of Work by Cable Layout Plans" in Volume I of III.

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1616 EAST MILLBROOK ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBES #F-0326

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Seal
NORTH CAROLINA
PROFESSIONAL
ENGINEER
MELISSA B. TOTH

Burlington-Graham Signal System
Summary of Work by
Intersection (Sheet 2 of 3)

Division 7 Alamance County Burlington & Graham

PLAN DATE: May 2018 REVIEWED BY: MB Toth

PREPARED BY: PL Alexander REVIEWED BY:

REVISIONS	INIT.	DATE

SCALE
NTS

Designed by: Melissa B. Toth 6/26/2018
DATE
CADD Filename: Sig 2.16.dgn


SUMMARY OF WORK BY INTERSECTION

Reference Information					Signal Items																										
NCDOT / CITY SIGNAL INV. NO.	Intersection Name	Cable Layout Sheet Number	Signal Design Sheet Number	In / near historically significant area (see box note at bottom of page)	16-inch Countdown Pedestrian Signal Head	12-inch 3-Section Signal Head	12-inch 4-Section Signal Head	12-inch 5-Section Signal Head	Signal Cable	Adjust Span Attachment	Messenger Cable (3/8")	Underground Conduit (1, 2')	Underground Conduit (2, 2')	Directional Drill	Inductive Loop Sawcut	Loop Lead-in Cable	Sign	Wood Pole	Metal Strain Pole	Standard Down Guy Assembly	Sidewalk Guy Assembly	Type I Post with Foundation	Junction Box	Remove existing pedestrian signal	Louvers	Backplates	Remove Line 4"	Remove Line 24"	Thermoplastic Pavement Marking Line 24" - 120 MILS	Thermoplastic Pavement Marking Lines (8", 120 MILS)	Thermoplastic White yield lines, 90 MILS
121	07-1487	SR 2424 (S. Maple Street)/SR 2433 (Moore Street) at SR 2389 (Auto Park Drive/Service Road)	6.166	123.0		1	1		250																						
122	07-1521	NC 54 (E. Harden Street) at SR 2105 (Woody Drive)	6.107	124.0		2	2		340																						
123	07-1541	SR 1158 (Huffman Mill Road) at SR 1167 (Longpine Road)/SR 1216 (Whitesell Drive)	6.063	125.0		2	1		350																						
124	07-1570	NC 62 (Rauhut Street) at Hatch Street	6.157	126.0																											
125	07-1583	US 70 (S. Church Street) at Forestdale Drive	6.011	127.0																											
126	07-1612	US 70 (S. Church Street) at Coachlight Trail/Fieldstone Drive	6.010	128.0																											
127	07-1616	SR 1301 (St. Marks Church Road) at SR 1308 (Garden Road)	6.069	129.0		2	1		480																						
128	07-1634	SR 1529 (Durham Street Ext.) at SR 1515 (Flora Avenue)	6.156	130.0		4			150	150						340	1		2												
129	07-1650	SR 1928 (Jimmie Kerr Road) at I-40 WB-85 SB Ramps	6.197	131.0								50			80	1530							1								
130	07-1651	SR 1928 (Jimmie Kerr Road) at I-40 EB-85 NB Ramps	6.197	132.0								90			40	300							1								
131	07-1653	US 70 (S. Church Street) at Delaney Drive/Wendy's Driveway	6.015	133.0		2	2		480											1											
132	07-1679	SR 1158 (Huffman Mill Road) at Ann Elizabeth Drive/Restaurant Driveway	6.067	134.0		2	1		420																						
133	07-1716	SR 1311 (University Drive/Cook Road) at SR 1309 (Westbrook Avenue)	6.046	135.0								110			80	520							1								
134	07-1718	Edgewood Avenue at SR 1452 (Rockwood Avenue/O'Neal Street)	6.15	136.0			2		350	2					220	440															
135	07-1719	NC 54 (E. Harden Street) at SR 2135 (N. Jim Minor Road)	6.113	137.0		1	1		150																						
136	07-1731	SR 1306 (S. Mebane Street) at Delaney Drive	6.074	138.0		2	2		720						160	630															
137	07-1771	NC 54 (E. Harden Street) at SR 1945 (Riverbend Road)/Johnson Avenue	6.105	139.0																											
138	07-1804	SR 2433 (Moore Street) at SR 2309 (Rogers Road)	6.171	140.0		4	2		640																						
139	07-1805	SR 2034 (Hanford Road) at SR 2433 (Moore Street)	6.169	141.0		4	2		680																						
140	07-1806	NC 87 (S. Main Street) at SR 2433 (Moore Street)	6.172	142.0		3	3		600																						
141	07-1852	SR 1363 (S. Mebane Street) at Trail Two	6.078	143.0								90			70	800							1								
142	07-1886	SR 1363 (S. Mebane Street) at E. Sixth Street	6.084	144.0																											
143	07-1938	NC 54 (E. Harden Street) at SR 2123 (Cherry Lane)	6.112	145.0		1	1		140																						
144	07-1939	NC 54 (E. Harden Street) at SR 2108 (Sunset Drive)/SR 2183 (Ivey Road)	6.108	146.0																											

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SEAL
NORTH CAROLINA
PROFESSIONAL
ENGINEER
MELISSA B. TOOTH

Burlington-Graham Signal System
Summary of Work by
Intersection (Sheet 3 of 3)

Division 7 Alamance County Burlington & Graham

PLAN DATE: May 2018 REVIEWED BY: MB Toth

PREPARED BY: PL Alexander REVIEWED BY:

REVISIONS	INIT.	DATE

Designed by: Melissa B. Toth 6/26/2018
CADD Filename: Sig 2.17.dgn

SCALE
NTS

SUMMARY OF WORK BY INTERSECTION


Reference Information					Signal Items																										
NCDOT / CITY SIGNAL INV. NO.	Intersection Name	Cable Layout Sheet Number	Signal Design Sheet Number	In / near historically significant area (see box note at bottom of page)	16-inch Countdown Pedestrian Signal Head	12-inch 3-Section Signal Head	12-inch 4-Section Signal Head	12-inch 5-Section Signal Head	Signal Cable	Adjust Span Attachment	Messenger Cable (3/8")	Underground Conduit (1.2")	Underground Conduit (2.2")	Directional Drill	Inductive Loop Sawcut	Loop Lead-In Cable	Sign	Wood Pole	Metal Strain Pole	Standard Down Guy Assembly	Sidewalk Guy Assembly	Type I Post with Foundation	Junction Box	Remove existing pedestrian signal	Louvers	Backplates	Remove Line 4"	Remove Line 24"	Thermoplastic Pavement Marking Line 24", 120 MILS	Thermoplastic Pavement Marking Lines (8", 120 MILS)	Thermoplastic White yield lines, 90 MILS
145	07-1990	NC 62 (Alamance Road) at SR 1213 (Grand Oaks Boulevard)	6.087	147.0		1	1		440			10			50	280															
146	07-1991	SR 1213 (Grand Oaks Boulevard) at SR 1146 (Kirkpatrick Road)	6.056	148.0		2	4		1000								1														
147	07-1992	SR 1226 (University Drive)/SR 1213 (Grand Oaks Boulevard) at SR 1149/SR 1158 (Huffman Mill	6.054	149.0													2														
148	07-1993	SR 1226 (University Drive) at I-40 EB-85 NB Ramps	6.051	150.0																											
149	07-1994	SR 1226 (University Drive) at I-40 WB-85 SB Ramps	6.051	151.0											130	200															
150	07-1995	SR 1226 (University Drive) at SR 1301 (Boone Station Drive)/University Commons Shopping Cen	6.050	152.0																											
151	07-1996	US 70 (S. Church Street) at SR 1311 (University Drive)	6.005	153.0					2330			40				4830															
152	07-2063	SR 2424 (S. Maple Street) at W. Pine Street	6.179	154.0		8			440																						
153	07-2064	SR 2424 (Maple Street) at W. Elm Street	6.179	155.0	Y	4			170																						
154	07-2070	SR 1226 (University Drive) at SR 1300 (Rural Retreat Road)	6.049	156.0										80	520								1								
155	07-2073	SR 1716 (S. Graham-Hopedale Road) at Piedmont Way	6.187	157.0		2	1		280																						
156	07-2094	SR 1308 (Garden Road) at Boone Station Drive	6.060	158.0		4	4		1080																						
157	07-2095	SR 1301 (Boone Station Drive) at SR 1301 (St. Marks Church Road)/Java Lane	6.057	159.0		2	4		1090																						
158	07-2096	US 70 (S. Church Street) at Tribek Drive	6.015	160.0		2	2		360	4																					
159	07-2115	SR 1311 (University Drive) at The Shoppes at Waterford	6.047	161.0																											
160	07-2117	SR 1226 (University Drive) at SR 1165 (Bonnar Bridge Parkway)/SR 1230 (St. Marks Church Roa	6.052	162.0																											
161	07-2128	SR 1306 (S. Mebane Street) at 85 Plaza/Saintsbury Drive	6.077	163.0		2	2		390								1														
162	07-2203	SR 1301 (St. Marks Church Road) at SR 1300 (Rural Retreat Road)	6.070	164.0																											
163	07-2204	US 70 WB (N. Fisher Street) at Fulton Street	6.030	165.0																											
164	FUTURE	SR 1158 (Huffman Mill Road) at Alamance Regional Medical Center Entrance	6.063	166.0																											
165	FUTURE	SR 1213 (Grand Oaks Boulevard) at Alamance Regional Medical Center Entrance	6.055	167.0																											
166	FUTURE	US 70 (S. Church Street/Burlington Road) at Ashley Woods Drive	6.063	168.0																											
167	FUTURE	NC 87-100 (W. Webb Avenue) at SR 1515 (Flora Avenue)	6.063	169.0																											
168	B0001	W. Davis Street at Trollinger Street/Fountain Place	6.14	170.0		8			550	500						540					4	3									

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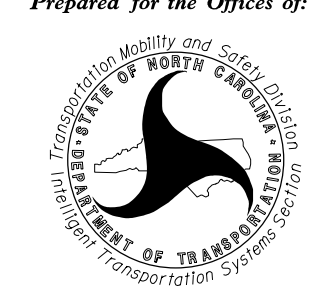
Areas within this project have been determined to contain properties with documented historical significance. If it is necessary to deviate from the plans in an area identified to contain properties with historic significance, alert the engineer to contact Environmental Analysis Unit - Historic Architecture Group of North Carolina Department of Transportation for an effects determination before proceeding.



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Prepared for the Offices of:



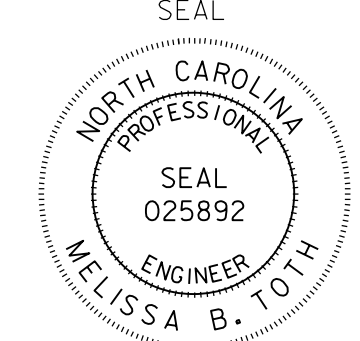
750 Greenfield Parkway, Garner, NC 27529

**Burlington-Graham Signal System
Summary of Work by
Intersection (Sheet 3 of 3)**

Division 7 Alamance County Burlington & Graham

PLAN DATE: May 2018 REVIEWED BY: MB Toth

PREPARED BY: PL Alexander REVIEWED BY:



SEAL
NORTH CAROLINA
PROFESSIONAL
ENGINEER
MELISSA B. TOTH

SCALE

NTS

REVISIONS	INIT.	DATE

Designed by: Melissa B. Toth 6/26/2018

DATE

CADD Filename: Sig 2.20.dgn

SUMMARY OF WORK BY INTERSECTION


Reference Information					Conduit and Riser Work														Power Service															
NCDOT / City Signal Inv. No.	Intersection Name	Cable Layout Sheet Number	Signal Design Sheet Number	In / near historically significant area (see box note at bottom of page)	Drill / Core Drill for 2" for FO or CAT6	Intercept and use 2" Spare for Signal Cable or Lead-in	Reuse Ex. 1" (pole) or 2" (base) HST Dedicated Riser for Comm (Heat Shrink Kit)	Reuse Ex. 2" (or 3") Dedicated Conduit Entrance for UG Comm	Use 2" Spare Conduit for UG Comm	Use 2" Spare Riser for Comm (Heat Shrink Tubing Kit)	New 2" Riser (HST) for Comm	New 1-1/4" Riser (HST) for Comm to pole mtd cabinet	New 1" Short Riser for Sig-Replace short riser to cabinet	New UG Conduit for Comm Entrance	New Cabinet Entrance in New Foundation for Comm	New 1/2" Risers (WH) for Sig- Pedestrian Push Buttons	New 1" Risers (WH) for CCTV - CAT6	New 1" Risers (WH) for Sig- New Electrical Service	New 2" Risers (WH) for Sig- New Foundation Location	New 2" Risers (attach to splice box) for Sig- New Foundation Location	New 2" Risers (WH) for System Detector	New 2" Risers (WH) for New Detection Loops	New 2" Risers (WH) for Sig (replace existing)	New UG conduit to new foundation location for Sig	New 2" short Risers for Sig (from terminal splice box or from UG)	Modify Existing Power Service - Install New Service Wires in Existing Conduit	Modify Existing Power Service - Install New Service Wires in New Conduit	Install Service Disconnect by Signal Cabinet	Install 50 Amp Breaker for Signal (Replace Existing)	Install 5/8" x 10' Grounding Electrode	Install New Electrical Service			
169	B0002	Davis Street at Hillcrest School	6.134	171.0						1					1					1								1	1					
170	B0003	Davis Street at Everett Street	6.121	172.0				1														1												
171	B0004	Edgewood Avenue at Engleman Avenue	6.149	173.0						1									2									1	1					
172	B0005	Edgewood Avenue at Gurney Street	6.148	174.0						1				1					1						1			1						
173	B0007	Delaney Drive at Smith Elementary School	6.144	175.0										1	1					1								1	1					
174	B0008	S. Main Street at Kitchin Street	6.085	176.0						1					1										1			1						
175	B0011	N. Mebane Street at Ireland Street	6.032	177.0						1										2								1						
176	B0012	Forestdale Drive at Boone Station Drive	6.071	178.0								1																			1			
177	B6228	S. Main Street at Maple Avenue	6.116	179.0				1																										
178	B6229	W. Davis Street at S. Worth Street	6.127	180.0				1																										
179	B6468	Maple Avenue at S. Worth Street	6.116	181.0		1		1																										
180	B6469	Maple Avenue at S. Spring Street	6.117	182.0				1																										
181	B6765	S. Worth Street at Morehead Street	6.116	183.0	Y			1																										
182	B6766	S. Main Street at Morehead Street	6.116	184.0				1																		1					1			
183	B6767	S. Main Street at Fifth Street	6.116	185.0				1																										
184	B7272	Tarleton Avenue at Edgewood Avenue	6.153	186.0			1																									1		
185	B7273	Edgewood Avenue at Hermitage Road/Turrentine School Access	6.151	187.0			1																				1							
186	B7274	Edgewood Avenue at Turrentine School Access/Medical Building Access	6.151	188.0			1																				1							
187	B8021	S. Broad Street at E. Davis Street	6.119	189.0			1																											
188	B8022	Maple Street at S. Broad Street	6.119	190.0	Y		1																2				1							
189	B8023	Edgewood Avenue at Shadowbrook Drive	6.147	191.0				1																		1					1			
190	B8024	Briarcliff Road/Shadowbrook Drive at Saddle Club Road	6.146	192.0						1				1							2				2		1			1				
191	B8025	N. Main Street at Holt Street	6.031	193.0			1																										1	
192	B8026	N. Mebane Street at S. Beaumont Avenue	6.161	194.0			1																										1	

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- Work shown on this sheet is for the upgrade of the traffic signals, including installation of new controllers and cabinets, new or modified foundations, electrical service and miscellaneous signal related items. Additional information can be found in the signal plans in this Volume. Work to be done for fiber-optic cable routing and interconnection is shown on the cable layout plans and on the sheets entitled "Summary of Work by Cable Layout Plans" in Volume I of III.

- The items listed above are for informational purposes only and represent work that is necessary to complete the contract and are not necessarily pay items. See Summary of Quantities and the Project Special Provisions for defined Pay Items for this contract.

Areas within this project have been determined to contain properties with documented historical significance. If it is necessary to deviate from the plans in an area identified to contain properties with historic significance, alert the engineer to contact Environmental Analysis Unit - Historic Architecture Group of North Carolina Department of Transportation for an effects determination before proceeding.



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

**Burlington-Graham Signal System
Summary of Work by
Intersection (Sheet 2 of 3)**

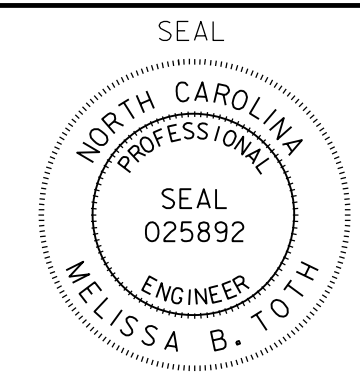
Division 7 Alamance County Burlington & Graham

PLAN DATE: May 2018 REVIEWED BY: MB Toth

PREPARED BY: PL Alexander REVIEWED BY:

REVISIONS	INIT.	DATE

Designed by: Melissa B. Toth 6/26/2018
CADD Filename: Sig 2.22.dgn



750 Greenfield Parkway, Garner, NC 27529
SCALE: NTS

