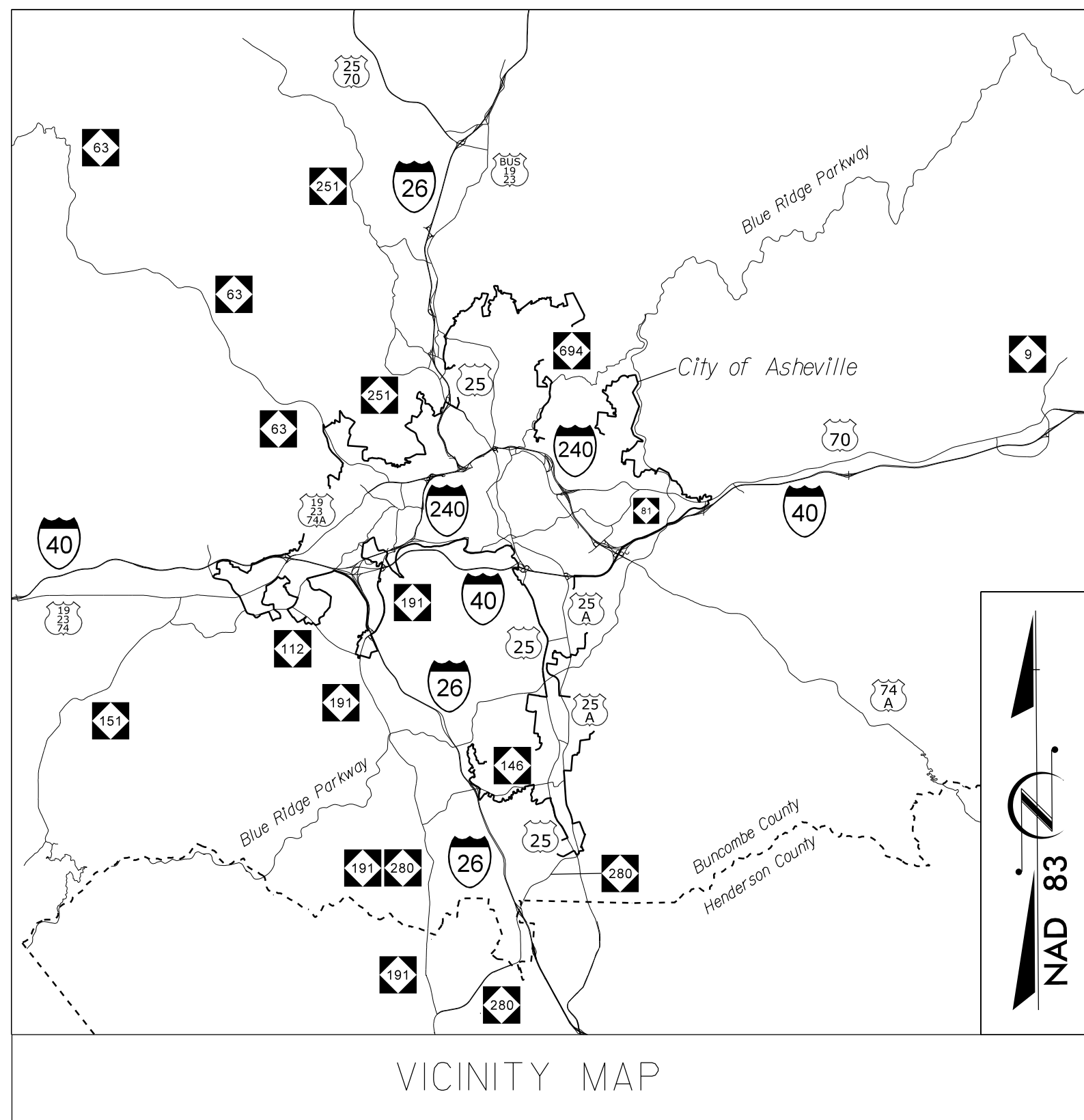


**This electronic collection of documents is provided  
for the convenience of the user  
and is Not a Certified Document –**

**The documents contained herein were originally issued  
and sealed by the individuals whose names and license  
numbers appear on each page, on the dates appearing  
with their signature on that page.**

**This file or an individual page  
shall not be considered a certified document.**

**CONTRACT: C203953 TIP PROJECT: U-4715B**



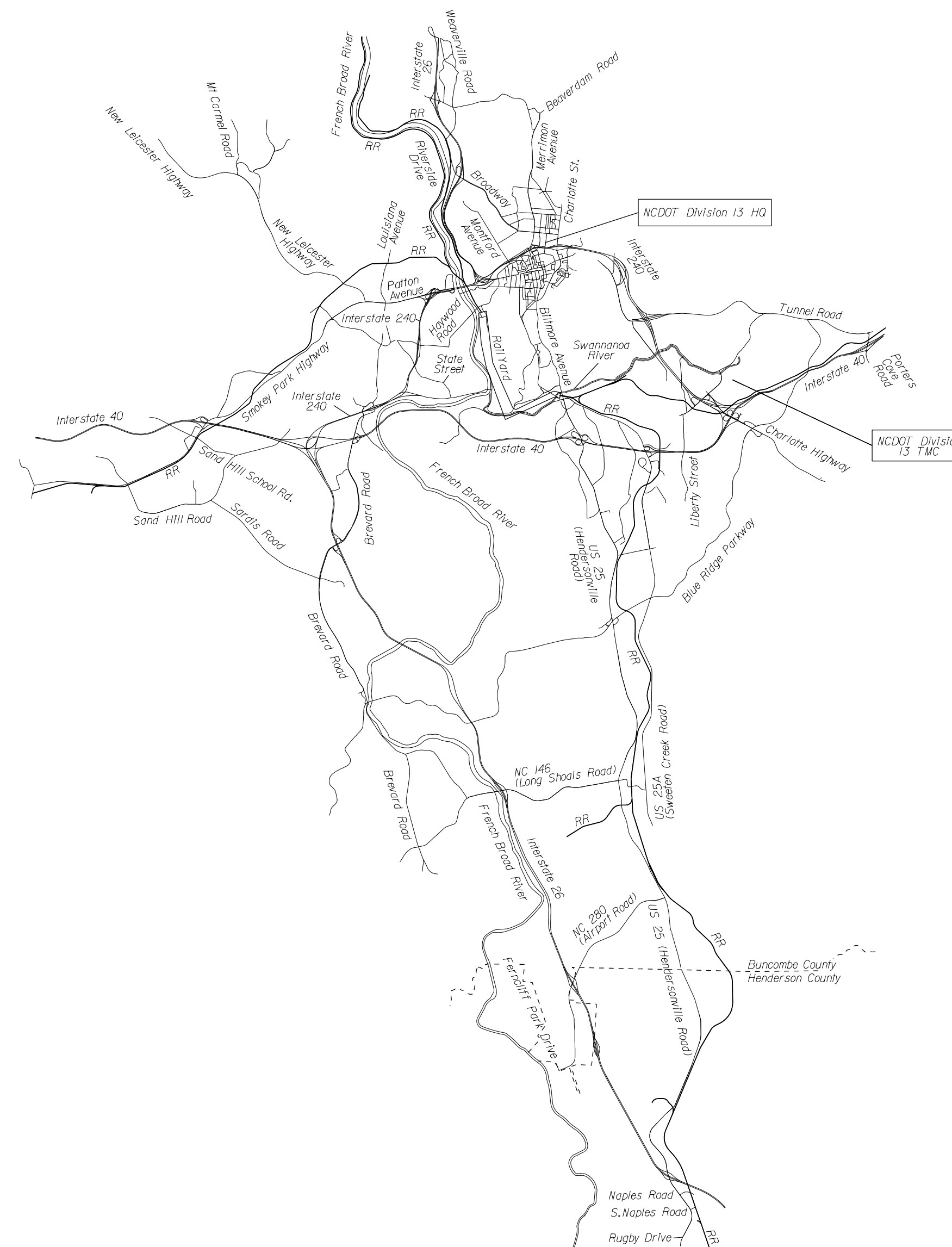
NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED IMPROVEMENTS  
**CITY OF ASHEVILLE**  
COMPUTERIZED TRAFFIC SIGNAL SYSTEM

REPLACEMENT OF VARIOUS STANDALONE CLOSED-LOOP TRAFFIC SIGNAL SYSTEMS WITH A NEW COMPUTERIZED TRAFFIC SIGNAL SYSTEM.

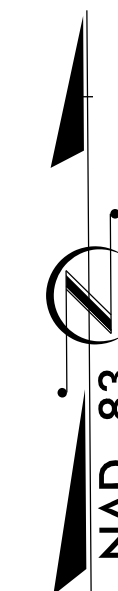
RELATED WORK INCLUDES:

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-4715B	SIG-1.00A	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
39079.1.2		PE	
39079.1.2	STP-1302 (069)	CONST	

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



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

2012 STANDARD SPECIFICATIONS

LETTING DATE: APRIL 18, 2017

PROJECT LENGTH = 80 MILES



750 Greenfield Parkway, Garner, NC 27529

**NCDOT CONTACTS:**  
**TRANSPORTATION MOBILITY & SAFETY DIVISION**  
**INTELLIGENT TRANSPORTATION SYSTEMS SECTION**  
THOMAS G. PARKER, ITS DEVELOPMENT AND DESIGN ENGINEER  
CYNTHIA MULDROW - DESIGN ENGINEER  
WILLIAM B. HAIRSTON, III - DESIGN ENGINEER



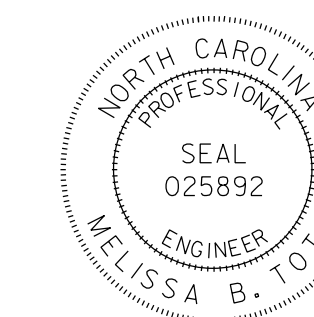
1616 EAST MILLBROOK ROAD, SUITE 310  
RALEIGH, NORTH CAROLINA 27609  
(919) 876-6888 NCBEEES #F-0326

J. TODD BROOKS, PE - ATKINS PROJECT MANAGER  
MELISSA B. TOTH, PE - ATKINS SENIOR PROJECT ENGINEER  
H. ALFRED BADGETT, PE - ATKINS SENIOR PROJECT ENGINEER



CITY OF ASHEVILLE

SEAL



Prepared by: Melissa B. Toth DATE: 1/13/2017  
Checked by: \_\_\_\_\_ DATE: \_\_\_\_\_

# INDEX OF SHEETS

## Volume I – Part 1

ITS-1.00	TITLE SHEET – COMMUNICATIONS & CCTV FIELD INFRASTRUCTURE, BUILDING MODIFICATIONS AND SPECIAL DETAILS
ITS-1.01	INDEX OF SHEETS AND ROADWAY STANDARD DRAWINGS
ITS-2.00	SUMMARY OF QUANTITIES
ITS-3.00 THRU ITS-3.01	CENTRAL BLOCK DIAGRAM
ITS-3.02 THRU ITS-3.08	WIRELESS CORRIDOR DESIGN
ITS-4.00 THRU ITS-4.09	SYSTEM DETECTORS AND CONTROL ZONE SCHEMATIC
ITS-5.00	CCTV CAMERA INSTALLATION, WOOD POLES
ITS-5.01	CCTV CAMERA INSTALLATION, METAL POLES
ITS-5.02	CCTV CABINET ASSEMBLY LAYOUT
ITS-5.03	SIGNAL CABINET DETAIL, POLE-MOUNTED
ITS-5.04	RISER DETAIL
ITS-5.05	FOUNDATION MODIFICATION DETAIL
ITS-5.06	BASE ADAPTER DETAIL
ITS-5.07	AERIAL FIBER-OPTIC CABLE STORAGE & SPLICE ENCLOSURES
ITS-5.08	GROUND MOUNTED ELECTRICAL SERVICE DETAIL
ITS-5.09	BASE-MOUNTED CABINET FOUNDATION DETAILS
ITS-5.10	TERMINAL SPLICE CABINET DETAIL
ITS-5.11 THRU ITS-5.13	CBD ANTENNA MOUNTING DETAIL
ITS-5.14 THRU ITS-5.15	CBD WIRELESS CABINET DETAIL
ITS-5.16 THRU ITS-5.18	CITY HALL CABLE ENTRY AND WORKSTATION
ITS-5.19 THRU ITS-5.25	TMC DETAILS
ITS-5.26	DIVISION 13 HQ CABLE ENTRY
ITS-5.27 THRU ITS-5.29	BEAUCATCHER TUNNEL DETAILS
CRP-1.000 THRU CRP-1.029	SUMMARY OF WORK BY CABLE ROUTING PLANS
CRP-2.000 THRU CRP 2.001	CCTV INSTALLATION SUMMARY
CRP-3.000 THRU CRP-3.004	CABLE ROUTING PLANS KEY SHEET
CRP-4.000	LEGEND/GENERAL NOTES/ABBREVIATIONS
CRP-5.000	CONSTRUCTION NOTES
CRP-6.001A THRU CRP-6.135	CABLE ROUTING PLANS

## Volume I – Part 2

CRP-6.136A	TITLE SHEET (CABLE ROUTING PLANS)
CRP-6.136 THRU CRP-6.336	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 2.09	COMMS. CABLE SCHEMATICS
FS 2.10 THRU FS 2.32	FIBER-OPTIC RING SCHEMATICS
FS 3.00 THRU FS 3.05	FIBER-OPTIC CABLE USAGE SUMMARY
FS 4.00 THRU 4.01	FIBER-OPTIC SPLICING DETAILS KEY SHEET
FS 4.02 THRU FS 4.74	FIBER-OPTIC SPLICING DETAILS

## Volume III – Part 1

SIG. 1.00A	TITLE SHEET (TRAFFIC SIGNAL DESIGNS)
SIG. 1.00B	INDEX OF SHEETS AND ROADWAY STANDARD DRAWINGS
SIG. 1.00C	STATE SIGNAL PLANS INDEX SHEET
SIG. 1.00D	CITY SIGNAL PLANS INDEX SHEET
SIG. 1.00E THRU SIG. 1.00NN	SUMMARY OF WORK BY INTERSECTION
SIG. 1.00 THRU SIG. 100.2	TRAFFIC SIGNAL PLANS

## Volume III – Part 2

SIG. 101.A	TITLE SHEET (TRAFFIC SIGNAL DESIGNS)
SIG 101.0 THRU SIG. 277.1	TRAFFIC SIGNAL PLANS

# ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" PROJECT SERVICES UNIT – N.C. DEPARTMENT OF TRANSPORTATION – RALEIGH, N.C., DATED JANUARY 2012 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 ADVANCED 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	DRUM
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION
1180.01	SKINNY-DRUM
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 – VEHICULAR SIGNAL HEADS
1705.02	SIGNAL HEADS – MOUNTING
1705.03	SIGNAL HEADS – WIRE COLOR CONVENTIONS
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
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

16-DEC-2016 12:47 D:\Projects\Information\Traffic\Cur\100048632 U-4715B Asheville\11e Sig Sys\Task 11\_Typ-SD\Volume 3\SIG 1.00B.dgn ENC45356 AT LUS29321


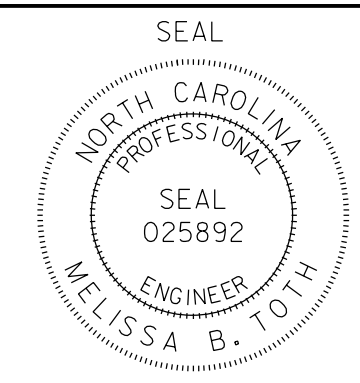
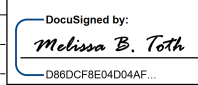
<b>ATKINS</b>		1616 EAST MILLBROOK ROAD, SUITE 160 RALEIGH, NORTH CAROLINA 27609 (919) 876-6888 NCBES #F-0326		<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>								
 Prepared for the Offices of: Transportation <small>750 Greenfield Parkway, Garner, NC 27529</small>	Asheville Signal System Index of Sheets and Roadway Standard Drawings Division 13 Buncombe County Asheville PLAN DATE: December 2016 REVIEWED BY: M B Toth PREPARED BY: J A Wiles REVIEWED BY: J T Brooks											
N.T.S.	<table border="1" style="width: 100%; border-collapse: collapse; font-size: x-small;"> <tr> <th>REVISIONS</th> <th>INIT.</th> <th>DATE</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	REVISIONS	INIT.	DATE							Signed by:  12/16/2016 DATE	CADD Filename: SIG 1.00B.dgn
REVISIONS	INIT.	DATE										

Table with 4 columns: NCDOT SIGNAL INVENTORY NUMBER, INTERSECTION, SIGNAL SHEET NUMBER, CABLE ROUTING SHEET NUMBER. Contains 278 rows of intersection data.

Table with 4 columns: NCDOT SIGNAL INVENTORY NUMBER, INTERSECTION, SIGNAL SHEET NUMBER, CABLE ROUTING SHEET NUMBER. Contains 278 rows of intersection data.

Table with 4 columns: NCDOT SIGNAL INVENTORY NUMBER, INTERSECTION, SIGNAL SHEET NUMBER, CABLE ROUTING SHEET NUMBER. Contains 278 rows of intersection data.

Table with 4 columns: NCDOT SIGNAL INVENTORY NUMBER, INTERSECTION, SIGNAL SHEET NUMBER, CABLE ROUTING SHEET NUMBER. Contains 25 rows of intersection data.

Table with 4 columns: NCDOT SIGNAL INVENTORY NUMBER, INTERSECTION, SIGNAL SHEET NUMBER, CABLE ROUTING SHEET NUMBER. Contains 25 rows of intersection data.

Table with 4 columns: NCDOT SIGNAL INVENTORY NUMBER, INTERSECTION, SIGNAL SHEET NUMBER, CABLE ROUTING SHEET NUMBER. Contains 25 rows of intersection data.

22-DEC-2016, 15:47 01-ATKINS\proj\atkins\tr\off\c\curr\11-11\typ-5D\w\volume\_3\sig10\_1\_00C.dgn

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



Asheville Signal System State Signal Plans Index Sheet. Includes logos for NC Transportation and Atkins, project details like Division 13, Buncombe County, Asheville, and a signature stamp for Melissa B. Toth.

CITY SIGNAL INVENTORY NUMBER	INTERSECTION	SIGNAL SHEET NUMBER	CABLE LAYOUT SHEET NUMBER
COA-001	N. Bear Creek Road at Deaverview Road	237.0	6.239
COA-002	State Street at Hanover Street	238.0	6.302
COA-004	Hazzard Street at Martin Luther King Drive	239.0	6.179
COA-005	W. Haywood St / Craven / Smith Br at Riverside Drive	240.0	6.274
COA-006	US 70 (Tunnel Road) at Fire Station #8	241.0	6.196
COA-007	Hospital Drive at Victoria Road / Hamilton Street	242.0	6.172
COA-008	Charlotte Street at E. Chestnut Street	243.0	6.288
COA-009	Charlotte Street at Hillside Street	244.0	6.289
COA-010	Evelyn Place at Kimberly Avenue / Edwin Place	245.0	6.313
COA-011	Fairview Road at Glendale Avenue	246.0	6.231
COA-012	Fairview Road at Cedar Street / Oakley Elementary / Fire Station #9	247.0	6.216
COA-013	Fairview Road at Baldwin Street / Oteora Boulevard	248.0	6.216
COA-014	River Hills Center at River Hills Road	249.0	6.312
COA-015	Victoria Road at Lily Carmichael Drive	250.0	6.322
COA-016	Victoria Road at Fernihurst Drive	251.0	6.321
COA-025	Fairview Road at Third Street	252.0	6.230
COA-103	College Street at Spruce Street	253.0	6.053
COA-104	Market Street at College Street	254.0	6.053
COA-106	Lexington Avenue at College Street	255.0	6.332
COA-107	Haywood Street at College Street	256.0	6.332
COA-108	Coxe Avenue at Patton Avenue	257.0	6.331
COA-109	Asheland Avenue at Patton Avenue	258.0	6.331
COA-110	Otis Street at Patton Avenue	259.0	6.331
COA-111	French Broad Avenue at Patton Avenue	260.0	6.331
COA-113	Haywood Street at Patton Avenue	261.0	6.332
COA-114	Lexington Avenue at Patton Avenue	262.0	6.332
COA-118	Aston Street / Bus Depot at Asheland Avenue	263.0	6.331
COA-119	Aston Street / Bus Depot at Coxe Avenue	264.0	6.331
COA-201	Lexington Avenue at Hiwassee Street / Woodfin Street	265.0	6.054
COA-204	Lexington Avenue at Walnut Street	266.0	6.054
COA-301	S. Lexington Avenue at Hilliard Avenue	267.0	6.175
COA-302	Hilliard Avenue at Church Street	268.0	6.175
COA-303	Hilliard Avenue at Coxe Avenue	269.0	6.174
COA-304	Hilliard Avenue at Asheland Avenue	270.0	6.174
COA-305	Hilliard Avenue at S French Broad Avenue	271.0	6.174
COA-401	Flint Street / Page Avenue at Haywood Street	272.0	6.333
COA-403	Montford Avenue at Haywood Street	273.0	6.278
COA-404	I-240 Ramps / Cherry Street / Hill Street at Montford Avenue	274.0	6.278
COA-407	Montford Avenue at W. Chestnut Street	275.0	6.279
COA-409	Flint Street at Hiwassee Street	276.0	6.333
COA-411	Montford Avenue at Soco Street / Cullowhee Street	277.0	6.280

26--JAN-2017 13:03  
 C:\Users\jwheeler\Documents\Projects\U-4715B Asheville\11e Sig System\Task 11\_Typ\_SDW\Volume 3\SIG 1.000.dgn  
 WILE2054 AT DUS300019

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

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

 Prepared for the Offices of: <b>NC</b> Transportation 750 Greenfield Parkway, Garner, NC 27529	<b>Asheville Signal System</b> City Signal Plans Index Sheet		SEAL  NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 025892 MELISSA B. TOTH
	Division 13 Buncombe County Asheville PLAN DATE: December 2016 REVIEWED BY: M B Toth PREPARED BY: J A Wiles REVIEWED BY:	REVISIONS      INIT.      DATE	

Designed by: *Melissa B. Toth* 1/26/2017  
 DATE  
 CADD File name: SIG 1.000.dgn

**ATKINS** 1616 EAST MILLBROOK ROAD, SUITE 160  
 RALEIGH, NORTH CAROLINA 27609  
 (919) 876-6888 NCBEEES #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 note at bottom of page (see box)	2070 Controller		Type 170 Cabinet		Install New Controller & Cabinet							Terminal Splice Box	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 (SF)	Replace Asphalt **	Replace Brick (SF)	
					New	Existing	New	Existing	New Aux File for Cabinet		No. of New Detector Cards		Install New Foundation														Comment
									332	332 with Auxiliary File	336	Adjacent to Existing	In Same Place as Existing	Relocated to (quadrant)													
1	13-0014	NC 63 (Leicester Highway) at SR 1369 (Old County Home Road)	6.248	1.0		1	1			5																	
2	13-0031	US 70 (Tunnel Road) at I-240 EB Exit Ramp	6.191	2.0		1	1			0											1	33					
3	13-0032	US 70 (Tunnel Road) at I-240 EB Entrance Ramp	6.191	3.0		1	1			4										*							
4	13-0033	US 70 (Tunnel Road) at I-240 WB Entrance Ramp	6.191	4.0		1	1			2											1						
5	13-0034	US 70 (Tunnel Road) at I-240 WB Exit Ramp	6.191	5.0		1	1			2										*							
6	13-0037	NC 63 (Leicester Highway) at Old County Home / Evelake Road	6.254	6.0		1	1			6										*							
7	13-0041	US 19-23 74A (Patton Avenue) at Druid Drive / Laurel Loop	6.157	7.0		1	1			8										*							
8	13-0046	US 25 (Hendersonville Road) at SR 3495 (Glenn Bridge Road)	6.020	8.0		1	1			4										*							
9	13-0047	US 25A (Sweeten Creek Road) at SR 3081 (Rock Hill Road)	6.207	9.0		1	1			7										*							
10	13-0049	Haywood Road/ Ridgelawn Road at Beverly Road	6.169	10.0		1	1			9										*							
11	13-0053	US 25 (Hendersonville Road) at SR 3081 (Rock Hill Road)	6.037	11.0		1	1			7																	
12	13-0057	NC 63 (Leicester Highway) at SR 1318 (Eliada Home Road)	6.251	12.0		1	1			7										*							
13	13-0059	US 25 (Hendersonville Road) at Linamar	6.023	13.0		1	1			4													1	30			
14	13-0063	US 25 (Hendersonville Road) at SR 3116 (Mills Gap Road)	6.028	14.0		1	1			9													1	30			
15	13-0066	US 25 (McDowell Street) at Doctors Drive	6.296	15.0		1	1			4													1	30			
16	13-0068	US 70 (Tunnel Road) at SR 2032 (New Haw Creek Road)	6.193	16.0		1	1			8		1								*							
17	13-0073	NC 191 (Brevard Road) at I-240 WB Ramps	6.272	17.0		1	1			5		1									1						
18	13-0132	US 25 (Merrimon Avenue) at Elkmont Drive / Elkwod Avenue	6.074	18.0		1	1			5		1								*							
19	13-0136	US 25 (McDowell Street) at Short McDowell Street / St. Dunstons Road	6.295	19.0		1	1			11		1								*							
20	13-0137	SR 1373 (Old County Home) at SR 1369 (Mount Carmel Road)	6.258	20.0		1	1			4													1	29			
21	13-0149	US 70 (Tunnel Road) at SR 2838 (Porters Cove Road)	6.205	21.0		1	1			5													1	25			
22	13-0214	US 19-23 74A (Patton Avenue) at US 19-23 Bus (Haywood Road) / Johnston Boulevard	6.156	22.0		1	1			10		1								*							
23	13-0215	NC 191 (Brevard Road) at US 19-23 Bus (Haywood Road)	6.165	23.0	Y	1	1			6		1								*			10				
24	13-0216	US 19-23 Bus (Haywood Road) at SR 1332 (Louisiana Avenue)	6.165	24.0		1	1			5													1	42			

\*Reuse Existing

\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.

- 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.

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

	<b>Asheville Signal System</b> Summary of Work by Intersection (sheet 1 of 3)		
	Division 13 Buncombe County Asheville	PLAN DATE: December 2016 REVIEWED BY: M B Toth	
750 Greenfield Parkway, Garner, NC 27529	REVISIONS	INIT. DATE	SEAL NORTH CAROLINA PROFESSIONAL ENGINEER MELISSA B. TOTH 025892 12/23/2016 DATE CADD File name: SIG 1.00E.dgn

21-DEC-2016 15:28 G:\Projects\2016\1616 East Millbrook Road\11\_Typ\_SDW\Task 11\_Typ\_SDW\Volume 3\SIG 1.00E.dgn WILE2016 AT DUS300019

# 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 (note at bottom of page)	Drill / Core Drill for 1" for New Power Service	Drill / Core Drill for 2" for FO or CAT5/4VAC	Reuse Ex. 1" (pole) or 2" (base) ST Dedicated Comm (Retrofit Kit)	Reuse Ex. 2" (or 3") Dedicated Conduit Entrance for UG Comm	Use 2" Spare Conduit for UG Comm	New 2" Riser (HST) for Comm	New 1-1/4" Riser (HST) for Comm to pole mid cabinet	New UG Conduit for Comm Entrance	New Cabinet Entrance in New Foundation	New 1/2" Risers (WH) for Sig- Pedestrian	New 1" Risers (WH) for Sig- New Electrical Service	New 2" Risers (WH) for Sig- New Foundation Location	New 2" Risers (WH) for System Detector	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	Power Company to Provide Meter	Modify Existing Disconnect for New CCTV Power Service #	Install Service Disconnect by Signal Cabinet	Remove Backup Generator Equipment	Install Backup Generator connection	Install 5/8" x 10' Grounding Electrode	Install New Electrical Service			
1	13-0014	NC 63 (Leicester Highway) at SR 1369 (Old County Home Road)	6.248	1.0						1																						1
2	13-0031	US 70 (Tunnel Road) at I-240 EB Exit Ramp	6.191	2.0																												1
3	13-0032	US 70 (Tunnel Road) at I-240 EB Entrance Ramp	6.191	3.0		1						1																			1	
4	13-0033	US 70 (Tunnel Road) at I-240 WB Entrance Ramp	6.191	4.0		1						1																			1	
5	13-0034	US 70 (Tunnel Road) at I-240 WB Exit Ramp	6.191	5.0		1						1																			1	
6	13-0037	NC 63 (Leicester Highway) at Old County Home / Evelake Road	6.254	6.0		1						1																				
7	13-0041	US 19-23 74A (Patton Avenue) at Druid Drive / Laurel Loop	6.157	7.0			1																									
8	13-0046	US 25 (Hendersonville Road) at SR 3495 (Glenn Bridge Road)	6.020	8.0			1																									
9	13-0047	US 25A (Sweeten Creek Road) at SR 3081 (Rock Hill Road)	6.207	9.0				1																								
10	13-0049	Haywood Road/ Ridgelawn Road at Beverly Road	6.169	10.0							1																					
11	13-0053	US 25 (Hendersonville Road) at SR 3081 (Rock Hill Road)	6.037	11.0			1																									
12	13-0057	NC 63 (Leicester Highway) at SR 1318 (Eliada Home Road)	6.251	12.0		1					1																					
13	13-0059	US 25 (Hendersonville Road) at Linamar	6.023	13.0							1																					
14	13-0063	US 25 (Hendersonville Road) at SR 3116 (Mills Gap Road)	6.028	14.0							1																					
15	13-0066	US 25 (McDowell Street) at Doctors Drive	6.296	15.0							1				1																	
16	13-0068	US 70 (Tunnel Road) at SR 2032 (New Haw Creek Road)	6.193	16.0							1																					
17	13-0073	NC 191 (Brevard Road) at I-240 WB Ramps	6.272	17.0		1				1														1								
18	13-0132	US 25 (Merrimon Avenue) at Elkmont Drive / Elkwod Avenue	6.074	18.0									1																			
19	13-0136	US 25 (McDowell Street) at Short McDowell Street / St. Dunstons Road	6.295	19.0		1						1																				
20	13-0137	SR 1373 (Old County Home) at SR 1369 (Mount Carmel Road)	6.258	20.0									1																			
21	13-0149	US 70 (Tunnel Road) at SR 2838 (Porters Cove Road)	6.205	21.0							1																					
22	13-0214	US 19-23 74A (Patton Avenue) at US 19-23 Bus (Haywood Road) / Johnston Boulevard	6.156	22.0			1																									
23	13-0215	NC 191 (Brevard Road) at US 19-23 Bus (Haywood Road)	6.165	23.0	Y	1				1																						
24	13-0216	US 19-23 Bus (Haywood Road) at SR 1332 (Louisiana Avenue)	6.165	24.0							1										3											

21-DEC-2016 15:28 C:\Users\jacob\Documents\AT\00048632 U-4715B Asheville\11e Sig Sys\Task 11\_Typ\_SDW\Volume 3\510 1.00F.dgn

\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.

- 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.

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.

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

*Prepared for the Offices of:*

**Asheville Signal System  
Summary of Work by  
Intersection (sheet 2 of 3)**

Division 13 Buncombe County Asheville

PLAN DATE: December 2016 REVIEWED BY: M B Toth

PREPARED BY: J A Wiles

REVISIONS

NO.	DESCRIPTION	INIT.	DATE

NA

CADD Filename: SIG 1.00F.dgn

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

# 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 note at bottom of page (see box)	16-inch Countdown Pedestrian Signal Head	12-inch 3-Section Signal Head	12-inch 3-Section Bi-Modal Signal Head	12-inch 4-Section Signal Head	12-inch 5-Section Signal Head	Signal Cable	Messenger Cable (3/8")	Signs	Inductive Loop Sawcut	Loop Lead-in Cable	Sidewalk Guy Assembly	Wood Pole	Standard Down Guy Assembly	Type I Post with Foundation	Type II Pedestal with Foundation	Junction Box	Microwave Vehicle Detection System - Multiple Zones	APS Detector Station	Central Control Unit for APS Detector Station	Underground Conduit (1, 2")	Underground Conduit (2, 2")	Thermoplastic Pavement Marking Lines (8" - 120 MILS)	Thermoplastic White Stop Bar 24" - 120 MILS	Thermoplastic White Crosswalk Line 24" - 120 MILS	Remove Line 24"	
1	13-0014	NC 63 (Leicester Highway) at SR 1369 (Old County Home Road)	6.248	1.0			1		1	400																				
2	13-0031	US 70 (Tunnel Road) at I-240 EB Exit Ramp	6.191	2.0																										
3	13-0032	US 70 (Tunnel Road) at I-240 EB Entrance Ramp	6.191	3.0																										
4	13-0033	US 70 (Tunnel Road) at I-240 WB Entrance Ramp	6.191	4.0																										
5	13-0034	US 70 (Tunnel Road) at I-240 WB Exit Ramp	6.191	5.0																										
6	13-0037	NC 63 (Leicester Highway) at Old County Home / Evelake Road	6.254	6.0		1		1		260				500																
7	13-0041	US 19-23 74A (Patton Avenue) at Druid Drive / Laurel Loop	6.157	7.0		2				400																				
8	13-0046	US 25 (Hendersonville Road) at SR 3495 (Glenn Bridge Road)	6.020	8.0																2										
9	13-0047	US 25A (Sweeten Creek Road) at SR 3081 (Rock Hill Road)	6.207	9.0		2		2		300																				
10	13-0049	Haywood Road/ Ridgelawn Road at Beverly Road	6.169	10.0																										
11	13-0053	US 25 (Hendersonville Road) at SR 3081 (Rock Hill Road)	6.037	11.0																										
12	13-0057	NC 63 (Leicester Highway) at SR 1318 (Eliada Home Road)	6.251	12.0																										
13	13-0059	US 25 (Hendersonville Road) at Linamar	6.023	13.0																										
14	13-0063	US 25 (Hendersonville Road) at SR 3116 (Mills Gap Road)	6.028	14.0																										
15	13-0066	US 25 (McDowell Street) at Doctors Drive	6.296	15.0																										
16	13-0068	US 70 (Tunnel Road) at SR 2032 (New Haw Creek Road)	6.193	16.0																										
17	13-0073	NC 191 (Brevard Road) at I-240 WB Ramps	6.272	17.0																										
18	13-0132	US 25 (Merrimon Avenue) at Elkmont Drive / Elkmont Avenue	6.074	18.0																										
19	13-0136	US 25 (McDowell Street) at Short McDowell Street / St. Dunstons Road	6.295	19.0		2		2		600																				
20	13-0137	SR 1373 (Old County Home) at SR 1369 (Mount Carmel Road)	6.258	20.0																										
21	13-0149	US 70 (Tunnel Road) at SR 2838 (Porters Cove Road)	6.205	21.0		2		1		400																				
22	13-0214	US 19-23 74A (Patton Avenue) at US 19-23 Bus (Haywood Road) / Johnston Boulevard	6.156	22.0								3																		
23	13-0215	NC 191 (Brevard Road) at US 19-23 Bus (Haywood Road)	6.165	23.0	Y	2		1		450																				
24	13-0216	US 19-23 Bus (Haywood Road) at SR 1332 (Louisiana Avenue)	6.165	24.0		4	1	1		800				600					4		4	1	50							


21-DEC-2016 15:28 G:\Projects\2016\15128\Asheville\Sig Systems\Task 11\_Typ-SD\Volume 3\SIG 1.006.dgn

\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.

- 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.

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.



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

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

**Asheville Signal System  
Summary of Work by  
Intersection (sheet 3 of 3)**

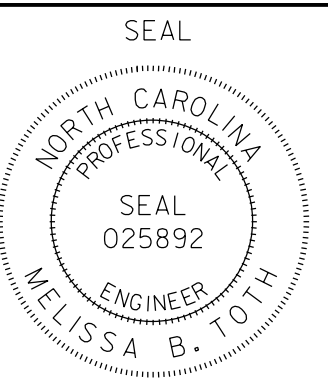
Division 13 Buncombe County Asheville

PLAN DATE: December 2016 REVIEWED BY: M B Toth

PREPARED BY: J A Wiles REVIEWED BY:

REVISIONS: INIT. DATE

NA



SEAL  
NORTH CAROLINA  
PROFESSIONAL  
ENGINEER  
MELISSA B. TOTH  
025892

Designed by: Melissa B. Toth 12/21/2016  
DATE

CADD Filename: SIG 1.006.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 3-Section Bk-Modal Signal Head	12-inch 4-Section Signal Head	12-inch 5-Section Signal Head	Signal Cable	Messenger Cable (3/8")	Signs	Inductive Loop Sawcut	Loop Lead-In Cable	Sidewalk Guy Assembly	Wood Pole	Standard Down Guy Assembly	Type I Post with Foundation	Type II Pedestal with Foundation	Junction Box	Microwave Vehicle Detection System - Multiple Zones	APS Detector Station	Central Control Unit for APS Detector Station	Underground Conduit (1, 2")	Underground Conduit (2, 2")	Thermoplastic Pavement Marking Lines (8", 120 MILS)	Thermoplastic White Stop Bar 24", 120 MILS	Thermoplastic White Crosswalk Line 24", 120 MILS	Remove Line 24"
25	13-0217	US 19-23 Bus (Haywood Road) at State Street / Majestic Avenue	6.165	25.0					2		300																			
26	13-0218	US 19-23 Bus (Haywood Road) at Hanover Street / I-26 / I-240 On Ramp	6.167	26.0	Y		2		2		300																			
27	13-0219	SR 1332 (N. Louisiana Avenue) at Hazel Mill Road	6.293	27.0																										
28	13-0220	US 19-23 74A (Patton Avenue) at SR 1332 Louisiana Avenue	6.159	28.0			1				80																			
29	13-0221	US 19-23 74A (Patton Avenue) at NC 63 (Leicester Highway)	6.257	29.0			1				160																			
30	13-0222	US 25 (Merrimon Avenue) at E. Chestnut Street	6.056	30.0	Y																									
31	13-0223	US 25 (Merrimon Avenue) at Hillside Street	6.057	31.0	Y																									
32	13-0224	US 25 (Merrimon Avenue) at Coleman Avenue	6.058	32.0																										
33	13-0225	US 25 (Merrimon Avenue) at W.T. Weaver Boulevard	6.059	33.0																										
34	13-0226	US 25 (Merrimon Avenue) at Chatham Road/Murdock Avenue	6.059	34.0																										
35	13-0227	US 25 (Merrimon Avenue) at Edgewood Road	6.06	35.0																										
36	13-0228	US 25 (Merrimon Avenue) at Gracelyn Road / Colonial Place	6.061	36.0																										
37	13-0229	US 25 (Merrimon Avenue) at Ottari Road	6.062	37.0																										
38	13-0230	US 25 (Merrimon Avenue) at SR 2230 (Osborne Road / Beaverdam Road)	6.062	38.0																										
39	13-0231	US 70-74A (Tunnel Road) at SR 2042 (Chunns Cove Road)	6.19	39.0																										
40	13-0232	US 70-74A (Tunnel Road) at Kenilworth Road / Kenilworth Knoll	6.188	40.0			2		2		600																			
41	13-0233	US 70-74A (Tunnel Road) at White Pine Drive	6.187	41.0																										
42	13-0234	US 70 (Tunnel Road) at Beverly Road	6.196	42.0																										
43	13-0235	US 70 (Tunnel Road) at SR 2006 (Maple Springs Road) / Governors View Road	6.198	43.0																										
44	13-0237	NC 81 (Swannanoa River Road) at Glendale Avenue	6.182	44.0																										
45	13-0240	US 25 (Hendersonville Road) at Hotel Entrance/Arby's	6.045	46.0																										
46	13-0241	US 25 (Hendersonville Road) at Vanderbilt Road / All Souls Crescent	6.046	47.0	Y																									
47	13-0242	NC 81 (Hendersonville Road) at US 25A (Lodge Steet)	6.046	48.0	Y		2		1		600																			
48	13-0243	SR 3214 (Biltmore Avenue) at NC 81/SR 3556 (Meadow Road) / Bryson Street	6.047	49.0																										

21-DEC-2016 15:28  
 G:\Projects\2016\15-28\01-Work\Asheville\Sig\Task\11\_Typ-SD\Volume 3\SIG 1.00J.dgn  
 WILE2054 AT DUS300019

\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.

- 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.


This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.



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

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

Prepared for the Offices of:



**Transportation**

750 Greenfield Parkway, Garner, NC 27529

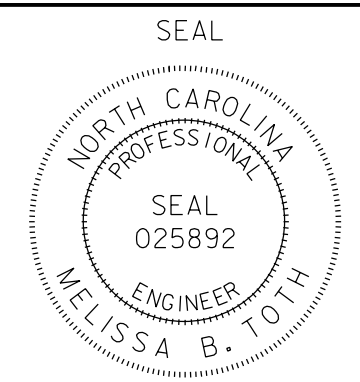
**Asheville Signal System  
Summary of Work by  
Intersection (sheet 3 of 3)**

Division 13 Buncombe County Asheville

PLAN DATE: December 2016 REVIEWED BY: M B Toth

PREPARED BY: J A Wiles REVIEWED BY:

SEAL



Melissa B. Toth  
 ENGINEER  
 025892

REVISIONS	INIT.	DATE

Designed by: Melissa B. Toth 12/21/2016  
 DATE  
 CADD Filename: SIG 1.00J.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)	2070 Controller		Type 170 Cabinet		Install New Controller & Cabinet																			
					New	Existing	New	Existing	Install New Foundation																			
									No. of New Detector Cards	332	332 with Auxiliary File	336	Adjacent to Existing	In Same Place as Existing	Relocated to (quadrant)	Comment	Terminal Splice Box	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 (SF)	Replace Asphalt **	Replace Brick (SF)	
49	13-0245	US 25 (McDowell Street) at Choctaw Street	6.282	50.0		1	1		8	1												*						
50	13-0246	US 25 (McDowell Street) / Asheland Avenue at Southside Avenue / Phifer Street	6.282	51.0		1	1		6	1			1									1						
51	13-0247	US 25 (Southside Avenue) at Short Coxe Avenue / Coxe Avenue	6.283	52.0		1	1		2															1	32			
52	13-0248	US 25 (Biltmore Avenue) at SR 3214 (Charlotte Street) / Southside Avenue	6.052	53.0		1	1		7															1	31			
53	13-0249	US 25 (Biltmore Avenue) at Hilliard Avenue	6.175	54.0	Y	1	1		6	1						336 on elevated foundation - to be replaced prior to U-4715B					*							
54	13-0250	US 25 (Biltmore Avenue) at Aston Street	6.053	55.0	Y	1	1		0			1				Not bolted to foundation. Existing 336 base mounted												
55	13-0251	US 25 (Broadway) at Walnut Street	6.054	56.0	Y	1	1		3														1	18				
56	13-0252	US 25 (Broadway) at Woodfin Street	6.054	57.0	Y	1	1		9	1												*						
57	13-0253	Woodfin Street at I-240 EB On Ramp / Market Street	6.054	58.0	Y	1	1		6	1												*						
58	13-0255	US 70 (Charlotte Street) at I-240 EB/WB Ramp	6.287	59.0		1	1		7	1						Upgraded signal 2016						*						
59	13-0263	US 19-23 74A (Patton Avenue) at SR 3548 (Clingman Avenue)	6.276	60.0		1	1		10	1												*						
60	13-0264	US 70-74A (College Street) at NC 694 (Town Mountain Road) / Martin Luther King Jr. Drive	6.291	61.0		1	1		3														1	21				
61	13-0267	US 25 (Broadway Street) at College Street	6.053	62.0	Y	1	1		2			1				336 on base extender						*						
62	13-0271	US 25 (Biltmore Avenue) at North Pack Square	6.053	63.0	Y	1	1		2			1				336 on base extender on Sidewalk						*						
63	13-0276	US 19-23 74A (Patton Avenue) at Deaverview Road	6.155	64.0		1	1		5	1													1					
64	13-0277	SR 1781 (Broadway) at Chestnut Street / Mt. Clare Avenue	6.063	65.0		1	1		7	1												*						
65	13-0278	US 19-23 SB Ramps / I-26 EB Ramps at NC 251 (Riverside Drive)	6.068	66.0		1	1		4															1				
66	13-0279	US 70 (Tunnel Road) at Oteen Church Road	6.200	67.0		1	1		7	1												*						
67	13-0280	SR 1674 (Elkwood Avenue at SR 1684 (Elk Mountain Road)	6.072	68.0		1	1		0															1	31			
68	13-0282	US 19-23 (Smokey Park Highway) at NC 112 (Sand Hill Road) / Asbury Road	6.233	69.0		1	1		7	1													1					
69	13-0284	US 25 (Hendersonville Road) at NC 146 (Long Shoals Road)	6.109	70.0		1	1		11	1												*						
70	13-0285	US 25 (Hendersonville Road) at NC 280 (Airport Road) / US25A (Sweeten Creek Road)	6.018	71.0		1	1		12	1																		
71	13-0286	US 25A (Sweeten Creek Road) at SR 3116 (Mills Gap Road)	6.268	72.0		1	1		9	1												*						
72	13-0288	NC 81 (Swannanoa River Road) at US 74A (Fairview Road)	6.219	73.0	Y	1	1		5	1													1					

\*Reuse Existing


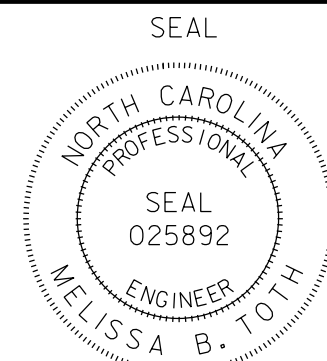
\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.

- 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.

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

 Prepared for the Offices of: 750 Greenfield Parkway, Garner, NC 27529	Asheville Signal System Summary of Work by Intersection (sheet 1 of 3)		
	Division 13 Buncombe County Asheville PLAN DATE: December 2016 REVIEWED BY: M B Toth PREPARED BY: J A Wiles REVIEWED BY:	REVISIONS INIT. DATE	

# 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 1" for New Power Service	Drill / Core Drill for 2" for FO or CAT5/24VAC	Reuse Ex. 1" (pole) or 2" (base) ST Dedicated Riser for Comm (Retrofit Kit)	Reuse Ex. 2" (or 3") Dedicated Conduit Entrance for UG Comm	Use 2" Spare Conduit for UG Comm	New 2" Riser (HST) for Comm	New 1-1/4" Riser (HST) for Comm to pole mid 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 Sig. New Electrical Service	New 2" Risers (WH) for Sig. New Foundation Location	New 2" Risers (WH) for System Detector	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	Power Company to Provide Meter	Modify Existing Disconnect for New CCTV Power Service #	Install Service Disconnect by Signal Cabinet	Remove Backup Generator Equipment	Install Backup Generator connection	Install 5/8" x 10' Grounding Electrode	Install New Electrical Service							
49	13-0245	US 25 (McDowell Street) at Choctaw Street				6.282	50.0						1																										
50	13-0246	US 25 (McDowell Street) / Asheland Avenue at Southside Avenue / Phifer Street				6.282	51.0						1		1																								
51	13-0247	US 25 (Southside Avenue) at Short Coxe Avenue / Coxe Avenue				6.283	52.0							1																									
52	13-0248	US 25 (Biltmore Avenue) at SR 3214 (Charlotte Street) / Southside Avenue				6.052	53.0							1																									
53	13-0249	US 25 (Biltmore Avenue) at Hilliard Avenue				6.175	54.0	Y					1																										
54	13-0250	US 25 (Biltmore Avenue) at Aston Street				6.053	55.0	Y																															
55	13-0251	US 25 (Broadway) at Walnut Street				6.054	56.0	Y																															
56	13-0252	US 25 (Broadway) at Woodfin Street				6.054	57.0	Y										1																					
57	13-0253	Woodfin Street at I-240 EB On Ramp / Market Street				6.054	58.0	Y																															
58	13-0255	US 70 (Charlotte Street) at I-240 EB/WB Ramp				6.287	59.0											1				2																	
59	13-0263	US 19-23 74A (Patton Avenue) at SR 3548 (Clingman Avenue)				6.276	60.0											1																					
60	13-0264	US 70-74A (College Street) at NC 694 (Town Mountain Road) / Martin Luther King Jr. Drive				6.291	61.0									1																							
61	13-0267	US 25 (Broadway Street) at College Street				6.053	62.0	Y																															
62	13-0271	US 25 (Biltmore Avenue) at North Pack Square				6.053	63.0	Y																															
63	13-0276	US 19-23 74A (Patton Avenue) at Deaverview Road				6.155	64.0													1																			
64	13-0277	SR 1781 (Broadway) at Chestnut Street / Mt. Clare Avenue				6.063	65.0																																
65	13-0278	US 19-23 SB Ramps / I-26 EB Ramps at NC 251 (Riverside Drive)				6.068	66.0																																
66	13-0279	US 70 (Tunnel Road) at Oteen Church Road				6.200	67.0																																
67	13-0280	SR 1674 (Elkwood Avenue) at SR 1684 (Elk Mountain Road)				6.072	68.0																																
68	13-0282	US 19-23 (Smokey Park Highway) at NC 112 (Sand Hill Road) / Asbury Road				6.233	69.0																2																
69	13-0284	US 25 (Hendersonville Road) at NC 146 (Long Shoals Road)				6.109	70.0																																
70	13-0285	US 25 (Hendersonville Road) at NC 280 (Airport Road) / US25A (Sweeten Creek Road)				6.018	71.0																																
71	13-0286	US 25A (Sweeten Creek Road) at SR 3116 (Mills Gap Road)				6.268	72.0																																
72	13-0288	NC 81 (Swannanoa River Road) at US 74A (Fairview Road)				6.219	73.0	Y																															

\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.

- 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.

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.



1616 EAST MILLBROOK ROAD, SUITE 160  
RALEIGH, NORTH CAROLINA 27609  
(919) 876-6888 NCBEEES #F-0326  
**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

 Prepared for the Offices of: Transportation 750 Greenfield Parkway, Garner, NC 27529	<b>Asheville Signal System</b> Summary of Work by Intersection (sheet 2 of 3)		SEAL  MELISSA B. TOTH
	Division 13 Buncombe County Asheville	PLAN DATE: December 2016	REVIEWED BY: M B Toth
	PREPARED BY: J A Wiles	REVIEWED BY:	
	REVISIONS	INIT.	DATE

21-DEC-2016 15:28  
 0:\t\cns\p\proj\00048632 U-4715B Ashev\116 Sig System\task 11\_Typ\_SDW\Volume 3\SIG 1.00L.dgn  
 WLE2054 AT\_DUS300019

# 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 3-Section Bx-Modal Signal Head	12-inch 3-Section Bx-Modal Signal Head	12-inch 5-Section Signal Head	Signal Cable	Messenger Cable (3/8")	Signs	Inductive Loop Sawcut	Loop Lead-In Cable	Sidewalk Guy Assembly	Wood Pole	Standard Down Guy Assembly	Type I Post with Foundation	Type II Pedestal with Foundation	Junction Box	Microwave Vehicle Detection System - Multiple Zones	APS Detector Station	Central Control Unit for APS Detector Station	Underground Conduit (1, 2")	Underground Conduit (2, 2")	Thermoplastic Pavement Marking Lines (8", 120 MILS)	Thermoplastic White Stop Bar 24", 120 MILS	Thermoplastic White Crosswalk Line 24", 120 MILS	Remove Line 24"	
49	13-0245	US 25 (McDowell Street) at Choctaw Street			6.282	50.0																										
50	13-0246	US 25 (McDowell Street) / Asheland Avenue at Southside Avenue / Phifer Street			6.282	51.0		2	2			800																				
51	13-0247	US 25 (Southside Avenue) at Short Coxe Avenue / Coxe Avenue			6.283	52.0																										
52	13-0248	US 25 (Biltmore Avenue) at SR 3214 (Charlotte Street) / Southside Avenue			6.052	53.0		2	2			800																				
53	13-0249	US 25 (Biltmore Avenue) at Hilliard Avenue			6.175	54.0	Y								80	500						2				50						
54	13-0250	US 25 (Biltmore Avenue) at Aston Street			6.053	55.0	Y																									
55	13-0251	US 25 (Broadway) at Walnut Street			6.054	56.0	Y	8				1600				1200				8	2	8	1									
56	13-0252	US 25 (Broadway) at Woodfin Street			6.054	57.0	Y	1				200		1																		
57	13-0253	Woodfin Street at I-240 EB On Ramp / Market Street			6.054	58.0	Y																									
58	13-0255	US 70 (Charlotte Street) at I-240 EB/WB Ramp			6.287	59.0		1	1			1400		2	120	2400						1	1									
59	13-0263	US 19-23 74A (Patton Avenue) at SR 3548 (Clingman Avenue)			6.276	60.0		2	2			600																				
60	13-0264	US 70-74A (College Street) at NC 694 (Town Mountain Road) / Martin Luther King Jr. Drive			6.291	61.0																										
61	13-0267	US 25 (Broadway Street) at College Street			6.053	62.0	Y	8	1	1		1600				1600					8			8	1							
62	13-0271	US 25 (Biltmore Avenue) at North Pack Square			6.053	63.0	Y	10				2000									4			10	1							
63	13-0276	US 19-23 74A (Patton Avenue) at Deaverview Road			6.155	64.0																										
64	13-0277	SR 1781 (Broadway) at Chestnut Street / Mt. Clare Avenue			6.063	65.0										500																
65	13-0278	US 19-23 SB Ramps / I-26 EB Ramps at NC 251 (Riverside Drive)			6.068	66.0																										
66	13-0279	US 70 (Tunnel Road) at Oteen Church Road			6.2	67.0		2	1			600																				
67	13-0280	SR 1674 (Elkwood Avenue at SR 1684 (Elk Mountain Road)			6.072	68.0																										
68	13-0282	US 19-23 (Smokey Park Highway) at NC 112 (Sand Hill Road) / Asbury Road			6.233	69.0									30	420						1				150						
69	13-0284	US 25 (Hendersonville Road) at NC 146 (Long Shoals Road)			6.109	70.0																										
70	13-0285	US 25 (Hendersonville Road) at NC 280 (Airport Road) / US25A (Sweeten Creek Road)			6.018	71.0																										
71	13-0286	US 25A (Sweeten Creek Road) at SR 3116 (Mills Gap Road)			6.268	72.0									76	410						2				50						
72	13-0288	NC 81 (Swannanoa River Road) at US 74A (Fairview Road)			6.219	73.0	Y	1	1			400																				


21-DEC-2016 15:28 0:47:15B Asheville:116 Sig Sys#task 11\_Typ:SDWVolume 3#510 1.00M.dgn

\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.

- 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.

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.




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

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

SEAL  
NORTH CAROLINA  
PROFESSIONAL  
ENGINEER  
MELISSA B. TOTH

Prepared for the Offices of:



**Asheville Signal System  
Summary of Work by  
Intersection (sheet 3 of 3)**

Division 13 Buncombe County Asheville

PLAN DATE: December 2016 REVIEWED BY: M B Toth

PREPARED BY: J A Wiles REVIEWED BY:

REVISIONS	INIT.	DATE

NA

Designed by: *Melissa B. Toth* 12/21/2016  
DATE

CADD Filename: SIG 1.00M.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 1" for New Power Service	Drill / Core Drill for 2" for FO or CAT5/24VAC	Reuse Ex. 1" (pole) or 2" (base) ST Dedicated Riser for Comm (Retrofit Kit)	Reuse Ex. 2" (or 3") Dedicated Conduit Entrance for UG Comm	Use 2" Spare Conduit for UG Comm	New 2" Riser (HST) for Comm	New 1-1/4" Riser (HST) for Comm to pole mid cabine	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 Sig- New Electrical Service	New 2" Risers (WH) for Sig- New Foundation Location	New 2" Risers (WH) for System Detector	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	Power Company to Provide Meter	Modify Existing Disconnect for New CCTV Power Service #	Install Service Disconnect by Signal Cabinet	Remove Backup Generator Equipment	Install Backup Generator connection	Install 5/8" x 10' Grounding Electrode	Install New Electrical Service				
73	13-0291	US 25 (Hendersonville Road) at I-40 EB Exit Ramp	6.044	74.0					1															1									
74	13-0293	US 19-23 74A (Patton Avenue) at Florida Avenue	6.160	75.0			1																										
75	13-0366	US 70 (Tunnel Road) at SR 2002 (Riceville Road) / Ingles	6.199	76.0					1																								
76	13-0380	SR 3214 (Biltmore Avenue) at Short Coxe Avenue	6.052	77.0						1																							
77	13-0381	SR 3214 (Biltmore Avenue) at Hospital Drive	6.050	78.0							1																						
78	13-0383	SR 3214 (Biltmore Avenue) at Doctors Drive / Unadilla Avenue	6.049	79.0			1																										
79	13-0384	SR 1332 (N. Louisiana Avenue) at SR 1338 (Emma Road)	6.294	80.0		1						1																					
80	13-0389	US 25 (McDowell Street) at US 25A (Lodge Street)	6.046	81.0	Y				1																								
81	13-0390	NC 251 (Riverside Drive) at SR 1674 (Old Burnsville Hill Road)	6.070	82.0								1					3																
82	13-0394	SR 3214 (Biltmore Avenue) at Choctaw Street / Florence Street	6.051	83.0						1																							
83	13-0396	SR 3556 (Amboy Road) at SR 3556 (Meadow Road / Lyman Street)	6.335	84.0																													
84	13-0398	US 74A (S Tunnel Road) at Asheville Mall / Movie Theater	6.186	85.0			1																										
85	13-0400	Hilliard Avenue at SR 3548 (Clingman Avenue)	6.173	86.0	Y				1			1			1		2		3														
86	13-0401	US 70 (College Street) at SR 3284 (Charlotte Street)	6.286	87.0		1						1																					
87	13-0404	US 19-23 Bus (Haywood Road) at SR 3412 (Sand Hill Road / Vermont Avenue)	6.164	88.0	Y					1																							
88	13-0412	US 74A (S Tunnel Road) at NC 81 (Swannanoa River Road)	6.184	89.0			1																										
89	13-0416	US 74A (Charlotte Highway) at SR 2132 (Rose Hill Road) / Cedarwood Drive	6.227	90.0						1																							
90	13-0417	US 74A (S Tunnel Road) at Whole Foods Market	6.186	91.0			1																										
91	13-0421	US 70 (Tunnel Road) at SR 2403 (Lower Grassy Branch Road)	6.203	92.0		1						1																					
92	13-0430	US 25 (Hendersonville Road) at Gold's Gym / Publix	6.030	93.0							1							1															
93	13-0432	US 19-23 (Smokey Park Highway) at SR 1245 (Acton Circle)	6.144	94.0																													
94	13-0435	US 70-74A (Tunnel Road) at I-240 EB Exit Ramp / I-240 WB On Ramp	6.189	95.0																													
95	13-0437	US 25 (Merrimon Avenue) at Larchmont Road	6.061	96.0			1																										
96	13-0439	US 25 (Hendersonville Road) at SR 3551 (Heywood Road) / Royal Pines Drive	6.022	97.0						1																							

21-DEC-2016 15:28 G:\Transportation\Traffic\Signal\Task 11\_Typ-SD\Volume 3\SIG 1.000.dgn WLE2054 AT DUS300019

\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.

- 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.

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.



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

**Asheville Signal System**  
Summary of Work by  
Intersection (sheet 2 of 3)

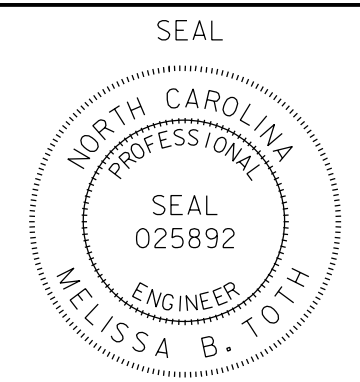
Division 13 Buncombe County Asheville

PLAN DATE: December 2016 REVIEWED BY: M B Toth

PREPARED BY: J A Wiles REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL



SEAL  
025892  
ENGINEER  
MELISSA B. TOTH

Designed by: *Melissa B. Toth* 12/21/2016  
DATE

CADD Filename: SIG 1.000.dgn

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



# 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 3-Section Bt-Modal Signal Head	12-inch 4-Section Signal Head	12-inch 5-Section Signal Head	Signal Cable	Messenger Cable (3/8")	Signs	Inductive Loop Sawcut	Loop Lead-In Cable	Sidewalk Guy Assembly	Wood Pole	Standard Down Guy Assembly	Type I Post with Foundation	Type II Pedestal with Foundation	Junction Box	Microwave Vehicle Detection System - Multiple Zones	APS Detector Station	Central Control Unit for APS Detector Station	Underground Conduit (1, 2")	Underground Conduit (2, 2")	Thermoplastic Pavement Marking Lines (8", 120 MILS)	Thermoplastic White Stop Bar 24", 120 MILS	Thermoplastic White Crosswalk Line 24", 120 MILS	Remove Line 24"		
73	13-0291	US 25 (Hendersonville Road) at I-40 EB Exit Ramp	6.044	74.0																												
74	13-0293	US 19-23 74A (Patton Avenue) at Florida Avenue	6.16	75.0							300																					
75	13-0366	US 70 (Tunnel Road) at SR 2002 (Riceville Road) / Ingles	6.199	76.0		1	1	200																								
76	13-0380	SR 3214 (Biltmore Avenue) at Short Coxe Avenue	6.052	77.0																												
77	13-0381	SR 3214 (Biltmore Avenue) at Hospital Drive	6.05	78.0																												
78	13-0383	SR 3214 (Biltmore Avenue) at Doctors Drive / Unadilla Avenue	6.049	79.0										75	600						2											
79	13-0384	SR 1332 (N. Louisiana Avenue) at SR 1338 (Emma Road)	6.294	80.0																												
80	13-0389	US 25 (McDowell Street) at US 25A (Lodge Street)	6.046	81.0	Y	1	2	1000																								
81	13-0390	NC 251 (Riverside Drive) at SR 1674 (Old Burnsville Hill Road)	6.07	82.0										60	600						5				300							
82	13-0394	SR 3214 (Biltmore Avenue) at Choctaw Street / Florence Street	6.051	83.0		2	2	600																								
83	13-0396	SR 3556 (Amboy Road) at SR 3556 (Meadow Road / Lyman Street)	6.335	84.0		1	1	400					40	400							1				250							
84	13-0398	US 74A (S Tunnel Road) at Asheville Mall / Movie Theater	6.186	85.0		1	1	400							500																	
85	13-0400	Hilliard Avenue at SR 3548 (Clingman Avenue)	6.173	86.0	Y									40	400						2				120							
86	13-0401	US 70 (College Street) at SR 3284 (Charlotte Street)	6.286	87.0																												
87	13-0404	US 19-23 Bus (Haywood Road) at SR 3412 (Sand Hill Road / Vermont Avenue)	6.164	88.0	Y	1	1	200																								
88	13-0412	US 74A (S Tunnel Road) at NC 81 (Swannanoa River Road)	6.184	89.0																												
89	13-0416	US 74A (Charlotte Highway) at SR 2132 (Rose Hill Road) / Cedarwood Drive	6.227	90.0																												
90	13-0417	US 74A (S Tunnel Road) at Whole Foods Market	6.186	91.0																												
91	13-0421	US 70 (Tunnel Road) at SR 2403 (Lower Grassy Branch Road)	6.203	92.0																												
92	13-0430	US 25 (Hendersonville Road) at Gold's Gym / Publix	6.03	93.0		2	2	240																								
93	13-0432	US 19-23 (Smokey Park Highway) at SR 1245 (Acton Circle)	6.144	94.0		1	1	200																								
94	13-0435	US 70-74A (Tunnel Road) at I-240 EB Exit Ramp / I-240 WB On Ramp	6.189	95.0		1		100																								
95	13-0437	US 25 (Merrimon Avenue) at Larchmont Road	6.061	96.0																												
96	13-0439	US 25 (Hendersonville Road) at SR 3551 (Heywood Road) / Royal Pines Drive	6.022	97.0											500																	

21-DEC-2016 15:28 C:\Users\jacob\Documents\Traffic\U-4715B Asheville\11e Sig Sys\Task 11\_Typ-SD\Volume 3\510 1.00P.dgn


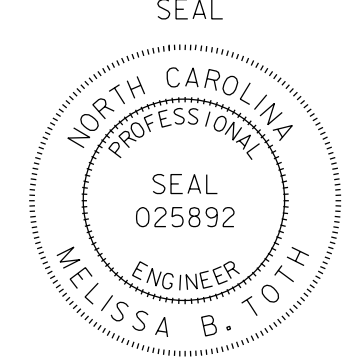
\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.

- 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.

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.

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

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

 Prepared for the Offices of: Division 13 Buncombe County Asheville 750 Greenfield Parkway, Garner, NC 27529	Asheville Signal System Summary of Work by Intersection (sheet 3 of 3)		
	PLAN DATE: December 2016 PREPARED BY: J A Wiles	REVIEWED BY: M B Toth REVIEWED BY:	

Designed by: *Melissa B. Toth* 12/21/2016  
DATE  
CADD Filename: SIG 1.00P.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 1" for New Power Service	Drill / Core Drill for 2" for FO or CAT5/24VAC	Reuse Ex. 1" (pole) or 2" (base) ST Dedicated Riser for Comm (Retrofit kit)	Reuse Ex. 2" (or 3") Dedicated Conduit Entrance for UG Comm	Use 2" Spare Conduit for UG Comm	New 2" Riser (HST) for Comm	New 1-1/4" Riser (HST) for Comm to pole mid 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 Sig- New Electrical Service	New 2" Risers (WH) for Sig- New Foundation Location	New 2" Risers (WH) for System Detector	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	Power Company to Provide Meter	Modify Existing Disconnect for New CCTV Power Service #	Install Service Disconnect by Signal Cabinet	Remove Backup Generator Equipment	Install Backup Generator connection	Install 5/8" x 10' Grounding Electrode	Install New Electrical Service		
97	13-0441	Fairview Road at I-240 WB Ramps / River Ridge Drive	6.218	98.0		1						1																				
98	13-0443	US 25 (Hendersonville Road) at Busbee Road	6.040	99.0	Y							1							2													
99	13-0444	NC 146 (Long Shoals Road) at SR 3503 (Overlook Road)	6.107	100.0					1																							
100	13-0449	US 25 (Merrimon Avenue) at I-240 WB Exit Ramp	6.055	101.0			1																									
101	13-0450	SR 1781 (Broadway) N. Lexington Avenue at I-240 WB Entrance Ramp	6.055	102.0								1																				
102	13-0451	US 19-23 (Smokey Park Highway) at I-40 EB Ramps / Acton Circle	6.146	103.0				1																								
103	13-0453	US 74A (Charlotte Highway) at Reynolds MS / Rocket Drive	6.228	104.0		1				1																						
104	13-0455	US 70 (Tunnel Road) at NC 81 (Swannanoa River Road) / Knauth Road	6.199	105.0		1				1									1													
105	13-0457	NC 191 (Brevard Road) at NC 112 (Sardis Road)	6.121	106.0					1																							
106	13-0459	US 70 (Tunnel Road) at US 74A (S Tunnel Road)	6.187	107.0			1																1									
107	13-0461	US 25 (McDowell Street) at Memorial Mission Hospital / Anna Woodfin Drive	6.296	108.0								1																				
108	13-0462	SR 3214 (Biltmore Avenue) at Granby Street / Rose Chapman Drive	6.049	109.0		1				1																						
109	13-0464	US 19-23 (Smokey Park Highway) at NC 151 (Dogwood Road / Pisgah Highway)	6.136	110.0							1							2														
110	13-0465	I-240 EB Ramps / Home Depot at SR 3238 (Fairview Road)	6.216	111.0			1																								1	
111	13-0466	NC 191 (Brevard Road) at SR 3414 (E. Oakview Road) / Farmers Market	6.129	112.0					1																							
112	13-0468	US 19-23 74A (Smokey Park Highway) at I-40 WB Ramps	6.146	113.0					1																							
113	13-0498	US 19-23 74A (Smokey Park Highway) at SR 1404 (Old Haywood Road)	6.147	114.0					1																							
114	13-0505	NC 63 (Leicester Highway) at SR 1822 (Mount Carmel Road) / Fallen Spruce Drive	6.246	115.0		1						1							1													
115	13-0508	US 25 (Hendersonville Road) at Turtle Creek Drive / Weirbridge Drive	6.030	116.0						1																						
116	13-0512	US 25 (Hendersonville Road) at Lambeth Drive / Walmart	6.032	117.0			1																									
117	13-0514	NC 191 (Brevard Road) at I-26 EB Ramps	6.123	118.0					1																							
118	13-0522	Fairview Road at Oakley Plaza	6.218	119.0			1																									
119	13-0525	SR 1781 (Broadway) at W.T. Weaver Boulevard	6.066	120.0							1								1													
120	13-0528	US 25 (Hendersonville Road) at Biltmore Parkway Centre / Carolina Day School	6.034	121.0							1																					

\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.


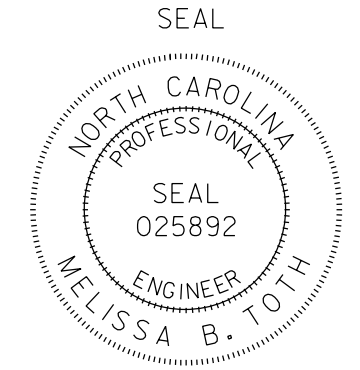
- Work shown on this sheet is for the upgrade of the traffic signals, including installation of new controllers and cabinets, new or modified foundations, electrical service and miscellaneous signal related items. Additional information can be found in the signal plans in this Volume. Work to be done 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.

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.

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

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

 Prepared for the Offices of: Transportation 750 Greenfield Parkway, Garner, NC 27529	Asheville Signal System Summary of Work by Intersection (sheet 2 of 3)		
	Division 13 Buncombe County Asheville	PLAN DATE: December 2016 REVIEWED BY: M B Toth	
NA	PREPARED BY: J A Wiles	REVIEWED BY:	CADD Filename: SIG 1.00R.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 3-Section Bi-Modal Signal Head	12-inch 4-Section Signal Head	12-inch 5-Section Signal Head	Signal Cable	Messenger Cable (3/8")	Signs	Inductive Loop Sawcut	Loop Lead-In Cable	Sidewalk Guy Assembly	Wood Pole	Standard Down Guy Assembly	Type II Post with Foundation	Type II Pedestal with Foundation	Junction Box	Microwave Vehicle Detection System - Multiple Zones	APS Detector Station	Central Control Unit for APS Detector Station	Underground Conduit (1, 2")	Underground Conduit (2, 2")	Thermoplastic Pavement Marking Lines (8", 120 MILS)	Thermoplastic White Stop Bar 24", 120 MILS	Thermoplastic White Crosswalk Line 24", 120 MILS	Remove Line 24"	
97	13-0441	Fairview Road at I-240 WB Ramps / River Ridge Drive	6.218	98.0																											
98	13-0443	US 25 (Hendersonville Road) at Busbee Road	6.04	99.0	Y	2		1			90				950																
99	13-0444	NC 146 (Long Shoals Road) at SR 3503 (Overlook Road)	6.107	100.0		1		1			300				450																
100	13-0449	US 25 (Merrimon Avenue) at I-240 WB Exit Ramp	6.055	101.0																											
101	13-0450	SR 1781 (Broadway) N. Lexington Avenue at I-240 WB Entrance Ramp	6.055	102.0																											
102	13-0451	US 19-23 (Smokey Park Highway) at I-40 EB Ramps / Acton Circle	6.146	103.0		2		1			360																				
103	13-0453	US 74A (Charlotte Highway) at Reynolds MS / Rocket Drive	6.228	104.0					2		600																				
104	13-0455	US 70 (Tunnel Road) at NC 81 (Swannanoa River Road) / Knauth Road	6.199	105.0																											
105	13-0457	NC 191 (Brevard Road) at NC 112 (Sardis Road)	6.121	106.0											800																
106	13-0459	US 70 (Tunnel Road) at US 74A (S Tunnel Road)	6.187	107.0																											
107	13-0461	US 25 (McDowell Street) at Memorial Mission Hospital / Anna Woodfin Drive	6.296	108.0																											
108	13-0462	SR 3214 (Biltmore Avenue) at Granby Street / Rose Chapman Drive	6.049	109.0																											
109	13-0464	US 19-23 (Smokey Park Highway) at NC 151 (Dogwood Road / Pisgah Highway)	6.136	110.0										60	750						2				400						
110	13-0465	I-240 EB Ramps / Home Depot at SR 3238 (Fairview Road)	6.216	111.0											600																
111	13-0466	NC 191 (Brevard Road) at SR 3414 (E. Oakview Road) / Farmers Market	6.129	112.0																											
112	13-0468	US 19-23 74A (Smokey Park Highway) at I-40 WB Ramps	6.146	113.0		1		1			630																				
113	13-0498	US 19-23 74A (Smokey Park Highway) at SR 1404 (Old Haywood Road)	6.147	114.0																											
114	13-0505	NC 63 (Leicester Highway) at SR 1822 (Mount Carmel Road) / Fallen Spruce Drive	6.246	115.0		1		2			540																				
115	13-0508	US 25 (Hendersonville Road) at Turtle Creek Drive / Weirbridge Drive	6.03	116.0		1		2			400																				
116	13-0512	US 25 (Hendersonville Road) at Lambeth Drive / Walmart	6.032	117.0																											
117	13-0514	NC 191 (Brevard Road) at I-26 EB Ramps	6.123	118.0		2		2			500				370																
118	13-0522	Fairview Road at Oakley Plaza	6.218	119.0																											
119	13-0525	SR 1781 (Broadway) at W.T. Weaver Boulevard	6.066	120.0		2		1			600																				
120	13-0528	US 25 (Hendersonville Road) at Biltmore Parkway Centre / Carolina Day School	6.034	121.0																											

22-DEC-2016 11:46 0:47:15B Asherville Sig Sys#task 11\_Typ-SD#Volume 3#510 1.005.dgn

\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.

- 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.

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.



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

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

SEAL  
NORTH CAROLINA  
PROFESSIONAL  
ENGINEER  
MELISSA B. TOTH

**Asheville Signal System  
Summary of Work by  
Intersection (sheet 3 of 3)**

Division 13 Buncombe County Asheville

PLAN DATE: December 2016 REVIEWED BY: M B Toth

PREPARED BY: J A Wiles REVIEWED BY:

REVISIONS	INIT.	DATE

NA

Designed by: Melissa B. Toth  
DATE: 12/22/2016

CADD Filename: SIG 1.005.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)	2070 Controller		Type 170 Cabinet		Install New Controller & Cabinet							Install New Foundation										
					New	Existing	New	Existing	New Aux File for Cabinet	No. of New Detector Cards	332	332 with Auxiliary File	336	Adjacent to Existing	In Same Place as Existing	Relocated to (quadrant)	Comment	Terminal Splice Box	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 (SF)
121	13-0529 US 25 (Hendersonville Road) at SR 3506 (Springside Drive) / Herman Avenue	6.025	122.0		1	1			7													1	24			
122	13-0530 SR 3446 (Enka Lake Road) at NC 122 (Sand Hill Road)	6.234	123.0		1	1			6		1										*					
123	13-0553 US 25 (Weaverville Road) at US 19-23 New Bridge / N. Merrimon Avenue	6.076	124.0		1	1			6		1										*					
124	13-0554 US 74A (Charlotte Highway) at SR 3071 (Avondale Road)	6.224	125.0		1	1			5		1										*					
125	13-0555 NC 191 (Brevard Road) at NC 146 (Long Shoals Road) / Vista Boulevard	6.090	126.0		1	1			6		1										*					
126	13-0556 NC 63 (Leicester Highway) at SR 1004 (Newfound Road) / SR 1357 (Dix Creek Chapel Road)	6.241	127.0		1	1			6		1										*					
127	13-0559 Monte Vista Road at Acton Circle	6.315	128.0		1	1			6		1										*					
128	13-0561 SR 3530 (Watson Road) at US 25 (Hendersonville Road)	6.015	129.0		1	1			5		1										*					
129	13-0566 US 25A (Sweeten Creek Road) at SR 3185 (Rathfarnham Road)	6.265	130.0		1	1			4														1	22		
130	13-0576 SR 1368 (Lee's Creek Road) at SR 1367 (Erwin Hills Road)	6.259	131.0		1	1			6		1										*					
131	13-0581 US 25A (Sweeten Creek Road) at SR 3162 (Royal Pines Drive)	6.262	132.0		1	1			5		1										*					
132	13-0584 US 25 (Hendersonville Road) at SR 3505 (Overlook Road)	6.030	133.0		1	1			9		1										*					
133	13-0602 US 25 (Hendersonville Road) at West Chapel Road	6.041	134.0	Y	1	1			7		1										*					
134	13-0646 NC 191 (Brevard Road) at I-26 WB Ramps	6.123	135.0	Y	1	1			6		1										*					
135	13-0647 NC 191 (Brevard Road) at Asheville Outlets	6.122	136.0		1	1			11		1										*					
136	13-0660 US 74A (S Tunnel Road) at Overlook Village / Lowes	6.185	137.0		1	1			10		1										*					
137	13-0663 NC 112 (Sardis Road) at SR 3412 (Sand Hill Road)	6.238	138.0		1	1			4		1										*					
138	13-0668 US 25A (Sweeten Creek Road) at I-40 WB Ramps	6.212	139.0		1	1			6		1											*				
139	13-0669 US 25A (Sweeten Creek Road) at I-40 EB Ramps	6.212	140.0		1	1			6		1											*				
140	13-0673 US 25A (Sweeten Creek Road) at Sweeten Creek Industrial Park Road	6.210	141.0		1	1			7		1											*				
141	13-0680 US 25A (Sweeten Creek Road) at Gerber Road	6.269	142.0		1	1			5		1															
142	13-0707 US 70 (Tunnel Road) at SR 2000 (Arnold Road / Pleasant Ridge Drive)	6.201	143.0		1	1			6		1											*				
143	13-0710 NC 146 (Long Shoals Road) at Valley Springs Middle School	6.106	144.0		1	1			9		1											*				
144	13-0713 Amboy Road at State Street	6.304	145.0		1	1			5		1											*				

\*Reuse Existing

\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.

- 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.

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.

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

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

<p>Prepared for the Offices of:</p> <p>750 Greenfield Parkway, Garner, NC 27529</p>	<p>Asheville Signal System Summary of Work by Intersection (sheet 1 of 3)</p>										
	<p>Division 13 Buncombe County Asheville</p>										
	<p>PLAN DATE: December 2016</p>	<p>REVIEWED BY: M B Toth</p>									
	<p>PREPARED BY: J A Wiles</p>	<p>REVIEWED BY:</p>									
<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>INIT.</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>			NO.	DESCRIPTION	INIT.	DATE					<p>SEAL</p> <p>MELISSA B. TOTH</p> <p>12/21/2016</p>
NO.	DESCRIPTION	INIT.	DATE								

21-DEC-2016 15:29  
 G:\Projects\2016\1529\01\Task\Task11\_Typ\_SDW\Volume 3\SIG 1.00T.dgn  
 0:\Users\jtwilco\Documents\Task11\_Typ\_SDW\Volume 3\SIG 1.00T.dgn  
 WILE2014 AT DUS300019

# 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 1" for New Power Service	Drill / Core Drill for 2" for FO or CAT5/4VAC	Reuse Ex. 1" (pole) or 2" (base) ST Dedicated Riser for Comm (Retrofit Kit)	Reuse Ex. 2" (or 3") Dedicated Conduit Entrance for UG Comm	Use 2" Spare Conduit for UG Comm	New 2" Riser (HST) for Comm	New 1-1/4" Riser (HST) for Comm to pole mid 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 Sig- New Electrical Service	New 2" Risers (WH) for Sig- New Foundation Location	New 2" Risers (WH) for System Detector	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	Power Company to Provide Meter	Modify Existing Disconnect for New CCTV Power Service #	Install Service Disconnect by Signal Cabinet	Remove Backup Generator Equipment	Install Backup Generator connection	Install 5/8" x 10' Grounding Electrode	Install New Electrical Service		
121	13-0529	US 25 (Hendersonville Road) at SR 3506 (Springside Drive) / Herman Avenue	6.025	122.0								1																			
122	13-0530	SR 3446 (Enka Lake Road) at NC 122 (Sand Hill Road)	6.234	123.0								1																			
123	13-0553	US 25 (Weaverville Road) at US 19-23 New Bridge / N. Merrimon Avenue	6.076	124.0								1																			
124	13-0554	US 74A (Charlotte Highway) at SR 3071 (Avondale Road)	6.224	125.0		1						1						1													
125	13-0555	NC 191 (Brevard Road) at NC 146 (Long Shoals Road) / Vista Boulevard	6.090	126.0						1							2														
126	13-0556	NC 63 (Leicester Highway) at SR 1004 (Newfound Road) /SR 1357 (Dix Creek Chapel Road)	6.241	127.0						1																					
127	13-0559	Monte Vista Road at Acton Circle	6.315	128.0								1																			
128	13-0561	SR 3530 (Watson Road) at US 25 (Hendersonville Road)	6.015	129.0								1																			
129	13-0566	US 25A (Sweeten Creek Road) at SR 3185 (Rathfamham Road)	6.265	130.0							1																				
130	13-0576	SR 1368 (Lee's Creek Road) at SR 1367 (Erwin Hills Road)	6.259	131.0		1						1						1													
131	13-0581	US 25A (Sweeten Creek Road) at SR 3162 (Royal Pines Drive)	6.262	132.0		1						1			1			2					1								
132	13-0584	US 25 (Hendersonville Road) at SR 3505 (Overlook Road)	6.030	133.0				1																							
133	13-0602	US 25 (Hendersonville Road) at West Chapel Road	6.041	134.0	Y			1										1													
134	13-0646	NC 191 (Brevard Road) at I-26 WB Ramps	6.123	135.0	Y							1																			
135	13-0647	NC 191 (Brevard Road) at Asheville Outlets	6.122	136.0				1																							
136	13-0660	US 74A (S Tunnel Road) at Overlook Village / Lowes	6.185	137.0				1																1							
137	13-0663	NC 112 (Sardis Road) at SR 3412 (Sand Hill Road)	6.238	138.0								1																			
138	13-0668	US 25A (Sweeten Creek Road) at I-40 WB Ramps	6.212	139.0				1																							
139	13-0669	US 25A (Sweeten Creek Road) at I-40 EB Ramps	6.212	140.0				1																1							
140	13-0673	US 25A (Sweeten Creek Road) at Sweeten Creek Industrial Park Road	6.210	141.0							1																				
141	13-0680	US 25A (Sweeten Creek Road) at Gerber Road	6.269	142.0		1						1																			
142	13-0707	US 70 (Tunnel Road) at SR 2000 (Arnold Road /Pleasant Ridge Drive)	6.201	143.0		1						1						1													
143	13-0710	NC 146 (Long Shoals Road) at Valley Springs Middle School	6.106	144.0				1																							
144	13-0713	Amboy Road at State Street	6.304	145.0		1					1																				

\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.

- 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.

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared for the Offices of:

**NC** **Transportation**

Asheville Signal System  
Summary of Work by  
Intersection (sheet 2 of 3)

Division 13 Buncombe County Asheville

PLAN DATE: December 2016 REVIEWED BY: M B Toth

PREPARED BY: J A Wiles REVIEWED BY:

REVISIONS	INIT.	DATE

NA

Seal: NORTH CAROLINA PROFESSIONAL ENGINEER MELISSA B. TOTH SEAL 025892

Designed by: Melissa B. Toth 12/21/2016  
DATE

CADD Filename: SIG 1.00U.dgn

21-DEC-2016 15:29  
C:\Users\jwiles\Documents\Projects\U-4715B Asheville\11e Sig System\Task 11\_Typ\_SDW\Volume 3\SIG 1.00U.dgn  
WILE2054 AT DUS300019

# 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 3-Section BI-Modal Signal Head	12-inch 4-Section Signal Head	12-inch 5-Section Signal Head	Signal Cable	Messenger Cable (3/8")	Signs	Inductive Loop Sawcut	Loop Lead-in Cable	Sidewalk Guy Assembly	Wood Pole	Standard Down Guy Assembly	Type I Post with Foundation	Type II Pedestal with Foundation	Junction Box	Microwave Vehicle Detection System - Multiple Zones	APS Detector Station	Central Control Unit for APS Detector Station	Underground Conduit (1, 2')	Underground Conduit (2, 2')	Thermoplastic Pavement Marking Lines (6", 120 MILS)	Thermoplastic White Stop Bar 24", 120 MILS	Thermoplastic White Crosswalk Line 24", 120 MILS	Remove Line 24"		
					121	13-0529	US 25 (Hendersonville Road) at SR 3506 (Springside Drive) / Herman Avenue	6.025	122.0																						
122	13-0530	SR 3446 (Enka Lake Road) at NC 122 (Sand Hill Road)	6.234	123.0		1	1			600																					
123	13-0553	US 25 (Weaverville Road) at US 19-23 New Bridge / N. Merrimon Avenue	6.076	124.0		2	2			800																					
124	13-0554	US 74A (Charlotte Highway) at SR 3071 (Avondale Road)	6.224	125.0		1	1			200																					
125	13-0555	NC 191 (Brevard Road) at NC 146 (Long Shoals Road) / Vista Boulevard	6.09	126.0									30	260							1			15							
126	13-0556	NC 63 (Leicester Highway) at SR 1004 (Newfound Road) / SR 1357 (Dix Creek Chapel Road)	6.241	127.0		1	1	1		520																					
127	13-0559	Monte Vista Road at Acton Circle	6.315	128.0		1	1	1		350																					
128	13-0561	SR 3530 (Watson Road) at US 25 (Hendersonville Road)	6.015	129.0		1	1			300																					
129	13-0566	US 25A (Sweeten Creek Road) at SR 3185 (Rathfarnham Road)	6.265	130.0									60								2										
130	13-0576	SR 1368 (Lee's Creek Road) at SR 1367 (Erwin Hills Road)	6.259	131.0		2	2			600																					
131	13-0581	US 25A (Sweeten Creek Road) at SR 3162 (Royal Pines Drive)	6.262	132.0									140	280							1										
132	13-0584	US 25 (Hendersonville Road) at SR 3505 (Overlook Road)	6.03	133.0					1					1050																	
133	13-0602	US 25 (Hendersonville Road) at West Chapel Road	6.041	134.0	Y	1	1			95				900																	
134	13-0646	NC 191 (Brevard Road) at I-26 WB Ramps	6.123	135.0	Y																										
135	13-0647	NC 191 (Brevard Road) at Asheville Outlets	6.122	136.0										450																	
136	13-0660	US 74A (S Tunnel Road) at Overlook Village / Lowes	6.185	137.0																											
137	13-0663	NC 112 (Sardis Road) at SR 3412 (Sand Hill Road)	6.238	138.0		1	1			170																					
138	13-0668	US 25A (Sweeten Creek Road) at I-40 WB Ramps	6.212	139.0		1	1			230				200																	
139	13-0669	US 25A (Sweeten Creek Road) at I-40 EB Ramps	6.212	140.0		1	1			250				210																	
140	13-0673	US 25A (Sweeten Creek Road) at Sweeten Creek Industrial Park Road	6.21	141.0		1	2			400																					
141	13-0680	US 25A (Sweeten Creek Road) at Gerber Road	6.269	142.0		2	1			80																					
142	13-0707	US 70 (Tunnel Road) at SR 2000 (Arnold Road / Pleasant Ridge Drive)	6.201	143.0		3	2			1000																					
143	13-0710	NC 146 (Long Shoals Road) at Valley Springs Middle School	6.106	144.0		1	1	1		280				450																	
144	13-0713	Amboy Road at State Street	6.304	145.0																											

21-DEC-2016 15:29 0:47:15B Asheville\116 Sig System\Task 11\_Typ\_SDW\Volume 3\510 1.00V.dgn WILEY054 AT DUS300019

\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.

- 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.

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.



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

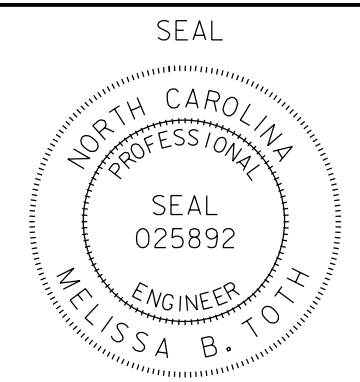
**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

Asheville Signal System  
Summary of Work by  
Intersection (sheet 3 of 3)

Division 13 Buncombe County Asheville

PLAN DATE: December 2016 REVIEWED BY: M B Toth

PREPARED BY: J A Wiles REVIEWED BY:



REVISIONS	INIT.	DATE

# SUMMARY OF WORK BY INTERSECTION

Reference Information						Controller, Cabinet & Foundation Work																																
No.	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)	2070 Controller		Type 170 Cabinet		Install New Controller & Cabinet										Install New Foundation																		
						New	Existing	New	Existing	New Aux File for Cabinet	No. of New Detector Cards	332	332 with Auxiliary File	336	Adjacent to Existing	In Same Place as Existing	Relocated to (quadrant)	Comment	Terminal Splice Box	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 (SF)	Replace Asphalt **	Replace Brick (SF)									
145	13-0729	NC 146 (Long Shoals Road) at SR 3501 (Clayton Road)	6.101	146.0		1	1			5		1																										
146	13-0731	NC 191 (Brevard Road) at SR 3431 (Pond Road)	6.128	147.0	Y	1	1			5		1																										
147	13-0741	US 25 (Hendersonville Road) at Vanderbilt Park Drive	6.043	148.0		1	1			6		1																										
148	13-0746	NC 280 (Airport Road) at SR 3539 (Fanning Bridge Road)	6.080	149.0		1	1			7		1																										
149	13-0784	US 25 (Hendersonville Road) at SR 3541 (Buck Shoals Road) / Stratford Road	6.018	150.0		1	1			7		1															*											
150	13-0801	NC 191 (Brevard Road) at I-40 EB Ramps	6.129	151.0		1	1			4		1																										
151	13-0802	NC 191 / SR 3413 (Brevard Road) at I-40 WB Ramps	6.130	152.0		1	1			6		1																										
152	13-0814	NC 280 (Airport Road) at I-26 EB Ramps	6.082	153.0		1	1			13		1																										
153	13-0815	NC 280 (Airport Road) at I-26 WB Ramps	6.082	154.0		1	1			11		1																										
154	13-0816	US 19-23 (Smokey Park Highway) at SR 1233/SR 3613 (Rutherford Road/Hilltop Drive)	6.139	155.0		1	1			6		1											1															
155	13-0818	US 19-23-74A (Patton Avenue) at Bear Creek Road	6.153	156.0		1	1			5		1											90		1													
156	13-0820	NC 280 (Airport Road) at SR 3568 (Rockwood Road)	6.083	157.0		1	1			9		1																										
157	13-0821	NC 280 (Airport Road) at SR 3530 (Watson Road)	6.086	158.0		1	1			8		1																										
158	13-0822	NC 280 (Airport Road) at SR 3522 (Old Shoals Road)	6.088	159.0		1	1			7		1																										
159	13-0823	US 19-23 74A (Smokey Park Highway) at Ingles	6.149	160.0		1	1			4		1																										
160	13-0830	NC 280 (Airport Road) at SR 3527 / SR 3529 (Rutledge Road) / Bradley Branch Road	6.086	161.0		1	1			10		1																										
161	13-0836	US 74 (S Tunnel Road) at Asheville Mall / Asheville Market	6.186	162.0		1	1			10		1																										
162	13-0837	NC 191 (Brevard Road) at Blue Ridge Parkway Ramp	6.114	163.0	Y	1	1			6		1																										
163	13-0839	NC 191 (Brevard Road) at SR 3480 (Bent Creek Ranch Road)	6.115	164.0		1	1			7		1																										
164	13-0854	NC 192 (Brevard Road) at Pole Creaseman Road	6.117	165.0		1	1			5		1																										
165	13-0868	US 19-23-74A (Patton Avenue) at Old Haywood Road	6.151	166.0		1	1			4		1																										
166	13-0870	US 25A (Sweeten Creek Road) at Wesley Drive	6.270	167.0		1	1			4																												
167	13-0893	SR 3187 (Pensacola Avenue) at US 25A (Sweeten Creek Road)	6.018	168.0		1	1			4		1																										
168	13-0904	US 70-74A (Tunnel Road) at Ingles	6.190	169.0		1	1			9		1																										

\*Reuse Existing

\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.

- 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.

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.

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

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

Seal: NORTH CAROLINA PROFESSIONAL ENGINEER  
MELISSA B. TOTH  
025892

---

Prepared for the Offices of:  
**NC Transportation**  
750 Greenfield Parkway, Garner, NC 27529

**Asheville Signal System  
Summary of Work by  
Intersection (sheet 1 of 3)**

Division 13 Buncombe County Asheville

PLAN DATE: December 2016 REVIEWED BY: M B Toth  
PREPARED BY: J A Wiles REVIEWED BY:

REVISIONS	INIT.	DATE

Seal: MELISSA B. TOTH  
ENGINEER  
12/21/2016  
DATE  
CADD Filename: SIG 1.00W.dgn

21-DEC-2016 15:29  
G:\Transportation\Asheville\Signal\Task 11\_Typ\_SDW\Volume 3\SIG 1.00W.dgn  
WILE2014 AT DUS300019



# 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 1" for New Power Service	Drill / Core Drill for 2" for FO or CAT5/24VAC	Reuse Ex. 1" (pole) or 2" (base) ST Dedicated Riser for Comm (Retrofit Kit)	Reuse Ex. 2" (or 3") Dedicated Conduit Entrance for UG Comm	Use 2" Spare Conduit for UG Comm	New 2" Riser (HST) for Comm	New 1-1/4" Riser (HST) for Comm to pole mtd cabine	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 Sig. New Electrical Service	New 2" Risers (WH) for Sig. New Foundation Location	New 2" Risers (WH) for System Detector	New 2" Risers (WH) for Sig (replace existing)	New UG conduit to new foundation location for Sig box or from UG	New 2" short Risers for Sig (from terminal splice)	Modify Existing Power Service - Install New Service Wires in Existing Conduit	Modify Existing Power Service - Install New Service Wires in New Conduit	Power Company to Provide Meter	Modify Existing Disconnect for New CCTV Power Service #	Install Service Disconnect by Signal Cabinet	Remove Backup Generator Equipment	Install Backup Generator connection	Install 5/8" x 10" Grounding Electrode	Install New Electrical Service		
145	13-0729	NC 146 (Long Shoals Road) at SR 3501 (Clayton Road)	6.101	146.0					1																						
146	13-0731	NC 191 (Brevard Road) at SR 3431 (Pond Road)	6.128	147.0	Y				1																						
147	13-0741	US 25 (Hendersonville Road) at Vanderbilt Park Drive	6.043	148.0			1											1													
148	13-0746	NC 280 (Airport Road) at SR 3539 (Fanning Bridge Road)	6.080	149.0								1																			
149	13-0784	US 25 (Hendersonville Road) at SR 3541 (Buck Shoals Road) / Stratford Road	6.018	150.0		1						1																			
150	13-0801	NC 191 (Brevard Road) at I-40 EB Ramps	6.129	151.0					1																						
151	13-0802	NC 191 / SR 3413 (Brevard Road) at I-40 WB Ramps	6.130	152.0																											
152	13-0814	NC 280 (Airport Road) at I-26 EB Ramps	6.082	153.0								1																			
153	13-0815	NC 280 (Airport Road) at I-26 WB Ramps	6.082	154.0								1																			
154	13-0816	US 19-23 (Smokey Park Highway) at SR 1233/SR 3613 (Rutherford Road/Hilltop Drive)	6.139	155.0		1				1																					
155	13-0818	US 19-23-74A (Patton Avenue) at Bear Creek Road	6.153	156.0						1																					
156	13-0820	NC 280 (Airport Road) at SR 3568 (Rockwood Road)	6.083	157.0										1																	
157	13-0821	NC 280 (Airport Road) at SR 3530 (Watson Road)	6.086	158.0											1																
158	13-0822	NC 280 (Airport Road) at SR 3522 (Old Shoals Road)	6.088	159.0																											
159	13-0823	US 19-23 74A (Smokey Park Highway) at Ingles	6.149	160.0									1																		
160	13-0830	NC 280 (Airport Road) at SR 3527 / SR 3529 (Rutledge Road) / Bradley Branch Road	6.086	161.0		1				1																					
161	13-0836	US 74 (S Tunnel Road) at Asheville Mall / Asheville Market	6.186	162.0																											
162	13-0837	NC 191 (Brevard Road) at Blue Ridge Parkway Ramp	6.114	163.0	Y																							1			
163	13-0839	NC 191 (Brevard Road) at SR 3480 (Bent Creek Ranch Road)	6.115	164.0																											
164	13-0854	NC 192 (Brevard Road) at Pole Creaseman Road	6.117	165.0																											
165	13-0868	US 19-23-74A (Patton Avenue) at Old Haywood Road	6.151	166.0																											
166	13-0870	US 25A (Sweeten Creek Road) at Wesley Drive	6.270	167.0																											
167	13-0893	SR 3187 (Pensacola Avenue) at US 25A (Sweeten Creek Road)	6.018	168.0																											
168	13-0904	US 70-74A (Tunnel Road) at Ingles	6.190	169.0										1																	

\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.

- 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.

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.

**ATKINS**

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

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

<b>Asheville Signal System</b> Summary of Work by Intersection (sheet 2 of 3)		SEAL NORTH CAROLINA PROFESSIONAL ENGINEER MELISSA B. TOTH
Division 13	Buncombe County	Asheville
PLAN DATE: December 2016		REVIEWED BY: M B Toth
PREPARED BY: J A Wiles		REVIEWED BY:
REVISIONS	INIT.	DATE
NA		<p style="font-size: 8px;">Seal of Melissa B. Toth Melissa B. Toth 12/21/2016 DATE CADD File name: SIG 1.00X.dgn</p>

21-DEC-2016 15:29  
C:\Users\jwiles\Documents\Projects\11\_Sig\_Systems\Task 11\_Typ\_SDW\Volume 3\SIG 1.00X.dgn  
WILE2014 AT DUS300019

# 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 3-Section Bi-Modal Signal Head	12-inch 4-Section Signal Head	12-inch 5-Section Signal Head	Signal Cable	Messenger Cable (3/8")	Signs	Inductive Loop Sawcut	Loop Lead-In Cable	Sidewalk Guy Assembly	Wood Pole	Standard Down Guy Assembly	Type I Post With Foundation	Type II Pedestal With Foundation	Junction Box	Microwave Vehicle Detection System - Multiple Zones	APS Detector Station	Central Control Unit for APS Detector Station	Underground Conduit (1.2")	Underground Conduit (2.2")	Thermoplastic Pavement Marking Lines (8", 120 MILS)	Thermoplastic White Stop Bar 24", 120 MILS	Thermoplastic White Crosswalk Line 24", 120 MILS	Remove Line 24"
145	13-0729	NC 146 (Long Shoals Road) at SR 3501 (Clayton Road)	6.101	146.0			2		1		220																			
146	13-0731	NC 191 (Brevard Road) at SR 3431 (Pond Road)	6.128	147.0	Y		2		1		610		1																	
147	13-0741	US 25 (Hendersonville Road) at Vanderbilt Park Drive	6.043	148.0			1		1		260				970															
148	13-0746	NC 280 (Airport Road) at SR 3539 (Fanning Bridge Road)	6.08	149.0																										
149	13-0784	US 25 (Hendersonville Road) at SR 3541 (Buck Shoals Road) / Stratford Road	6.018	150.0																										
150	13-0801	NC 191 (Brevard Road) at I-40 EB Ramps	6.129	151.0																										
151	13-0802	NC 191 / SR 3413 (Brevard Road) at I-40 WB Ramps	6.13	152.0																										
152	13-0814	NC 280 (Airport Road) at I-26 EB Ramps	6.082	153.0																										
153	13-0815	NC 280 (Airport Road) at I-26 WB Ramps	6.082	154.0																										
154	13-0816	US 19-23 (Smokey Park Highway) at SR 1233/SR 3613 (Rutherford Road/Hilltop Drive)	6.139	155.0			2		1		310																			
155	13-0818	US 19-23-74A (Patton Avenue) at Bear Creek Road	6.153	156.0																										
156	13-0820	NC 280 (Airport Road) at SR 3568 (Rockwood Road)	6.083	157.0																										
157	13-0821	NC 280 (Airport Road) at SR 3530 (Watson Road)	6.086	158.0																										
158	13-0822	NC 280 (Airport Road) at SR 3522 (Old Shoals Road)	6.088	159.0			2		1		200																			
159	13-0823	US 19-23 74A (Smokey Park Highway) at Ingles	6.149	160.0			1		1		300				600															
160	13-0830	NC 280 (Airport Road) at SR 3527 / SR 3529 (Rutledge Road) / Bradley Branch Road	6.086	161.0																										
161	13-0836	US 74 (S Tunnel Road) at Asheville Mall / Asheville Market	6.186	162.0																										
162	13-0837	NC 191 (Brevard Road) at Blue Ridge Parkway Ramp	6.114	163.0	Y		1		1		250																			
163	13-0839	NC 191 (Brevard Road) at SR 3480 (Bent Creek Ranch Road)	6.115	164.0			3		1		700				420															
164	13-0854	NC 192 (Brevard Road) at Pole Creaseman Road	6.117	165.0			2		1		450																			
165	13-0868	US 19-23-74A (Patton Avenue) at Old Haywood Road	6.151	166.0			1		1		200				420															
166	13-0870	US 25A (Sweeten Creek Road) at Wesley Drive	6.27	167.0			1		1		230																			
167	13-0893	SR 3187 (Pensacola Avenue) at US 25A (Sweeten Creek Road)	6.018	168.0																										
168	13-0904	US 70-74A (Tunnel Road) at Ingles	6.19	169.0																										

21-DEC-2016 15:29 0:47:15B Asheville\116 Sig Sys\Task 11\_Typ\_SDW\Volume 3\SIG 1.00Y.dgn

\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.

- 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.

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.



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

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

Asheville Signal System  
Summary of Work by  
Intersection (sheet 3 of 3)

Division 13 Buncombe County Asheville

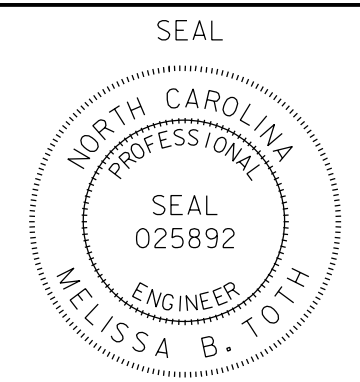
PLAN DATE: December 2016 REVIEWED BY: M B Toth

PREPARED BY: J A Wiles REVIEWED BY:

REVISIONS	INIT.	DATE

NA

SEAL



SEAL  
025892  
MELISSA B. TOTH  
ENGINEER

Designed by: *Melissa B. Toth* 12/21/2016  
DATE

CADD Filename: SIG 1.00Y.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)	Install New Controller & Cabinet																													
					2070 Controller	Type 170 Cabinet	Install New Foundation													Terminal Splice Box	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 (SF)	Replace Asphalt **	Replace Brick (SF)				
					New	Existing	New	Existing	New Aux File for Cabinet	No. of New Detector Cards	332	332 with Auxiliary File	336	Adjacent to Existing	In-Same Place as Existing	Relocated to (quadrant)	Comment																	
169	13-0920	US 19-23 74A (Patton Avenue) at Regent Park Boulevard / I-26 Ramps / I-240	6.161	170.0		1	1			9	1																							
170	13-0941	NC 191 (Brevard Road) at SR 3642 (Park S Boulevard) / Commerce Way	6.092	171.0		1	1			5	1																							
171	13-0951	US 25 (Hendersonville Road) at Gerber Road	6.029	172.0		1	1			7	1																							
172	13-0954	NC 146 (Long Shoals Road) at Linamar Entrance	6.104	173.0		1	1			10	1																							
173	13-0955	SR 3556 (Meadow Road) at Victoria Road	6.176	174.0		1	1			4	1																							
174	13-0970	I-240 EB Ramps at US 25 (Merrimon Avenue) / Broadway	6.054	175.0		1	1			8	1																							
175	13-0977	US 25 (Hendersonville Road) at Caribou Road	6.038	176.0		1	1			6	1																							
176	13-0984	US 25 (Hendersonville Road) at Hollywood Cinemas / Peachtree Road	6.031	177.0		1	1			6	1																							
177	13-0992	Haywood Street / O'Henry Street at I-240 EB Entrance / Exit Ramp	6.333	178.0	Y	1	1			6	1						Wireless																	
178	13-0994	NC 191 (Brevard Road) at SR 3486 (Avery Creek Road) / Southwicke Drive / Glenn Bridge Road	6.090	179.0		1	1			5																								
179	13-1003	SR 1368 (Lee's Creek Road) at SR 1369 (Old County Home Road)	6.260	180.0		1	1			5																								
180	13-1011	Overlook Road at Pinchot Drive / Springside Road	6.320	181.0		1	1			5	1																							
181	13-1023	SR 1781 (Broadway) at Zillicoa Street / Campus Drive	6.067	182.0		1	1			8	1																							
182	13-1029	US 19-23 74A (Patton Avenue) at I-240 EB Exit Ramp / I-26 SB Ramp	6.276	183.0		1	1			2																								
183	13-1041	SR 3284 (Charlotte Street) at Beaumont Street / Max Street	6.285	184.0		1	1			8	1																							
184	13-1059	US 25 (Hendersonville Road) at Skyland Crest Shopping Center / Oak Forest Boulevard	6.026	185.0		1	1			8	1																							
185	13-1065	SR 3276 (Wood Avenue) at River Hills Shopping Center	6.312	186.0		1	1			5	1																							
186	13-1118	NC 280 (Airport Road) at J & S Cafeteria Airport Park Road / Terminal Drive	6.081	187.0		1	1			8	1																							
187	13-1119	US 25A (Sweeten Creek Road) at SR 3079 (Roberts Road)	6.212	188.0		1	1			4	1																							
188	13-1122	US 19-23 74A (Smokey Park Highway) at Lowes Parking Lot Entrance	6.150	189.0	Y	1	1			6	1																							
189	13-1123	US 74A (S Tunnel Road) at Entrance to Lowes	6.185	190.0		1	1			4	1																							
190	13-1126	NC 146 (Long Shoals Road) at Schenck Pkwy / Skyland Inn Drive	6.103	191.0		1	1			11	1																							
191	13-1129	US 19-23 74A (Patton Avenue) at Parkwood Place / Wilburn Road	6.156	192.0		1	1			10	1																							
192	13-1162	US 19-23 (Smokey Park Highway) at Westridge Market Place	6.141	193.0		1	1			5	1																							

\*Reuse Existing

\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.


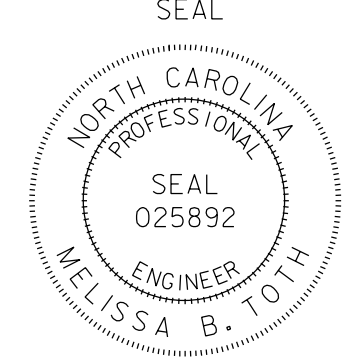
- Work shown on this sheet is for the upgrade of the traffic signals, including installation of new controllers and cabinets, new or modified foundations, electrical service and miscellaneous signal related items. Additional information can be found in the signal plans in this Volume. Work to be done 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.

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

 <b>Transportation</b> 750 Greenfield Parkway, Garner, NC 27529	<b>Asheville Signal System</b> Summary of Work by Intersection (sheet 1 of 3)		
	Division 13 Buncombe County Asheville	PLAN DATE: December 2016 REVIEWED BY: M B Toth	
PREPARED BY: J A Wiles	REVIEWED BY:	REVISIONS	INIT. DATE
NA			

21-DEC-2016 15:29  
G:\Projects\2016\151220\11-11-2016\Sig\Task 11\_Typ-SD\Volume 3\SIG 1.00Z.dgn  
WILEY054 AT DUS300019

# 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 1" for New Power Service	Drill / Core Drill for 2" for FO or CAT5/24VAC	Reuse Ex. 1" (pole) or 2" (base) ST Dedicated Riser for Comm. (Retrofit Kit)	Reuse Ex. 2" (or 3") Dedicated Conduit Entrance for UG Comm	Use 2" Spare Conduit for UG Comm	New 2" Riser (HST) for Comm	New 1-1/4" Riser (HST) for Comm to pole mtd 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 Sig- New Electrical Service	New 2" Risers (WH) for Sig- New Foundation Location	New 2" Risers (WH) for System Detector	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	Power Company to Provide Meter	Modify Existing Disconnect for New CCTV Power Service #	Install Service Disconnect by Signal Cabinet	Remove Backup Generator Equipment	Install Backup Generator connection	Install 5/8" x 10' Grounding Electrode	Install New Electrical Service		
169	13-0920	US 19-23 74A (Patton Avenue) at Regent Park Boulevard / I-26 Ramps / I-240	6.161	170.0			1																								
170	13-0941	NC 191 (Brevard Road) at SR 3642 (Park S Boulevard) / Commerce Way	6.092	171.0		1			1																						
171	13-0951	US 25 (Hendersonville Road) at Gerber Road	6.029	172.0			1																								
172	13-0954	NC 146 (Long Shoals Road) at Linamar Entrance	6.104	173.0																											
173	13-0955	SR 3556 (Meadow Road) at Victoria Road	6.176	174.0		1			1																						
174	13-0970	I-240 EB Ramps at US 25 (Merrimon Avenue) / Broadway	6.054	175.0				1																							
175	13-0977	US 25 (Hendersonville Road) at Caribou Road	6.038	176.0			1																								
176	13-0984	US 25 (Hendersonville Road) at Hollywood Cinemas / Peachtree Road	6.031	177.0			1																								
177	13-0992	Haywood Street / O'Henry Street at I-240 EB Entrance / Exit Ramp	6.333	178.0	Y																										
178	13-0994	NC 191 (Brevard Road) at SR 3486 (Avery Creek Road) / Southwicke Drive / Glenn Bridge Road	6.090	179.0						1																					
179	13-1003	SR 1368 (Lee's Creek Road) at SR 1369 (Old County Home Road)	6.260	180.0							1																				
180	13-1011	Overlook Road at Pinchot Drive / Springside Road	6.320	181.0							1																				
181	13-1023	SR 1781 (Broadway) at Zillicoa Street / Campus Drive	6.067	182.0		1			1																						
182	13-1029	US 19-23 74A (Patton Avenue) at I-240 EB Exit Ramp / I-26 SB Ramp	6.276	183.0						1																					
183	13-1041	SR 3284 (Charlotte Street) at Beaumont Street / Max Street	6.285	184.0		1			1																						
184	13-1059	US 25 (Hendersonville Road) at Skyland Crest Shopping Center / Oak Forest Boulevard	6.026	185.0			1																								
185	13-1065	SR 3276 (Wood Avenue) at River Hills Shopping Center	6.312	186.0			1																								
186	13-1118	NC 280 (Airport Road) at J & S Cafeteria Airport Park Road / Terminal Drive	6.081	187.0					1																						
187	13-1119	US 25A (Sweeten Creek Road) at SR 3079 (Roberts Road)	6.212	188.0			1																								
188	13-1122	US 19-23 74A (Smokey Park Highway) at Lowes Parking Lot Entrance	6.150	189.0	Y				1																						
189	13-1123	US 74A (S Tunnel Road) at Entrance to Lowes	6.185	190.0							1																				
190	13-1126	NC 146 (Long Shoals Road) at Schenck Pkwy / Skyland Inn Drive	6.103	191.0				1																							
191	13-1129	US 19-23 74A (Patton Avenue) at Parkwood Place / Wilburn Road	6.156	192.0				1																							
192	13-1162	US 19-23 (Smokey Park Highway) at Westridge Market Place	6.141	193.0		1					1																				

\* Includes new electrical service, special base adapter, intercepting and rerouting conduit for electrical service and all work associated with electrical service and grounding as described in the special provisions section for "Special Cabinet Base Adapter". See Special Provisions for explanation of Types.


\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.

- 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.


21-DEC-2016 15:28 G:\Transportation\Traffic\Asheville\Sig System\Task 11\_Typ\_SDW\Volume 3\SIG 1.00AA.dgn WILE2054 AT DUS300019

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.



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

Prepared for the Offices of:



Transportation

750 Greenfield Parkway, Garner, NC 27529

**Asheville Signal System  
Summary of Work by  
Intersection (sheet 2 of 3)**

Division 13 Buncombe County Asheville

PLAN DATE: December 2016 REVIEWED BY: M B Toth

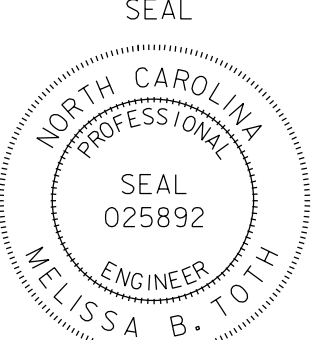
PREPARED BY: J A Wiles REVIEWED BY:

REVISIONS INIT. DATE

NA

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

SEAL



SEAL  
025892  
ENGINEER  
MELISSA B. TOTH

Designed by: *Melissa B. Toth* 12/21/2016  
DATE

CADD File name: SIG 1.00AA.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 3-Section Bi-Modal Signal Head	12-inch 4-Section Signal Head	12-inch 5-Section Signal Head	Signal Cable	Messenger Cable (3/8")	Signs	Inductive Loop Sawcut	Loop Lead-in Cable	Sidewalk Guy Assembly	Wood Pole	Standard Down Guy Assembly	Type I Post with Foundation	Type II Pedestal with Foundation	Junction Box	Microwave Vehicle Detection System - Multiple Zones	APS Detector Station	Central Control Unit for APS Detector Station	Underground Conduit (1, 2')	Underground Conduit (2, 2')	Thermoplastic Pavement Marking Lines (8", 120 MILS)	Thermoplastic White Stop Bar 24", 120 MILS	Thermoplastic White Crosswalk Line 24", 120 MILS	Remove Line 24"	
169	13-0920	US 19-23 74A (Patton Avenue) at Regent Park Boulevard / I-26 Ramps / I-240	6.161	170.0		2				330																				
170	13-0941	NC 191 (Brevard Road) at SR 3642 (Park S Boulevard) / Commerce Way	6.092	171.0																										
171	13-0951	US 25 (Hendersonville Road) at Gerber Road	6.029	172.0		2	1			85																				
172	13-0954	NC 146 (Long Shoals Road) at Linamar Entrance	6.104	173.0		2	2	1		400																				
173	13-0955	SR 3556 (Meadow Road) at Victoria Road	6.176	174.0		1	1			300																				
174	13-0970	I-240 EB Ramps at US 25 (Merrimon Avenue) / Broadway	6.054	175.0		1	1			600																				
175	13-0977	US 25 (Hendersonville Road) at Caribou Road	6.038	176.0																										
176	13-0984	US 25 (Hendersonville Road) at Hollywood Cinemas / Peachtree Road	6.031	177.0																										
177	13-0992	Haywood Street / O'Henry Street at I-240 EB Entrance / Exit Ramp	6.333	178.0	Y	2	2			600																				
178	13-0994	NC 191 (Brevard Road) at SR 3486 (Avery Creek Road) / Southwicke Drive / Glenn Bridge Road	6.09	179.0																										
179	13-1003	SR 1368 (Lee's Creek Road) at SR 1369 (Old County Home Road)	6.26	180.0																										
180	13-1011	Overlook Road at Pinchot Drive / Springside Road	6.32	181.0																										
181	13-1023	SR 1781 (Broadway) at Zillicoa Street / Campus Drive	6.067	182.0										600																
182	13-1029	US 19-23 74A (Patton Avenue) at I-240 EB Exit Ramp / I-26 SB Ramp	6.276	183.0																										
183	13-1041	SR 3284 (Charlotte Street) at Beaumont Street / Max Street	6.285	184.0																										
184	13-1059	US 25 (Hendersonville Road) at Skyland Crest Shopping Center / Oak Forest Boulevard	6.026	185.0																										
185	13-1065	SR 3276 (Wood Avenue) at River Hills Shopping Center	6.312	186.0		1	1			300																				
186	13-1118	NC 280 (Airport Road) at J & S Cafeteria Airport Park Road / Terminal Drive	6.081	187.0																										
187	13-1119	US 25A (Sweeten Creek Road) at SR 3079 (Roberts Road)	6.212	188.0		1	1			100																				
188	13-1122	US 19-23 74A (Smokey Park Highway) at Lowes Parking Lot Entrance	6.15	189.0	Y	1	1			400			420																	
189	13-1123	US 74A (S Tunnel Road) at Entrance to Lowes	6.185	190.0																										
190	13-1126	NC 146 (Long Shoals Road) at Schenck Pkwy / Skyland Inn Drive	6.103	191.0																										
191	13-1129	US 19-23 74A (Patton Avenue) at Parkwood Place / Wilburn Road	6.156	192.0		2	2			530																				
192	13-1162	US 19-23 (Smokey Park Highway) at Westridge Market Place	6.141	193.0		1	1			250																				

\* Includes new electrical service, special base adapter, intercepting and rerouting conduit for electrical service and all work associated with electrical service and grounding as described in the special provisions section for "Special Cabinet Base Adapter". See Special Provisions for explanation of Types.

\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.


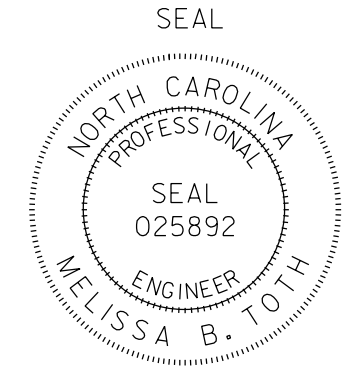
- Work shown on this sheet is for the upgrade of the traffic signals, including installation of new controllers and cabinets, new or modified foundations, electrical service and miscellaneous signal related items. Additional information can be found in the signal plans in this Volume. Work to be done 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.

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

 Prepared for the Offices of: Transportation 750 Greenfield Parkway, Garner, NC 27529	Asheville Signal System Summary of Work by Intersection (sheet 3 of 3)		
	Division 13 Buncombe County Asheville PLAN DATE: December 2016 REVIEWED BY: M B Toth PREPARED BY: J A Wiles REVIEWED BY:	REVISIONS INIT. DATE	

21-DEC-2016 15:28  
 G:\Projects\2016\15-28\01-Asheville\11-Sig\_Sys\Task 11\_Typ-SD\Volume 3\SIG 1.00BB.dgn  
 WLE2054 AT DUS300019

# 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)	2070 Controller / Type 170 Cabinet										Install New Foundation																	
					New	Existing	New	Existing	New Aux File for Cabinet	No. of New Detector Cards	332	332 with Auxiliary File	336	Adjacent to Existing	In Same Place as Existing	Relocated to (quadrant)	Comment	Terminal Splice Box	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 (SF)	Replace Asphalt **	Replace Brick (SF)				
193	13-1165	US 25A (Sweeten Creek Road) at Medical Park Drive	6.211	194.0		1	1				6	1										*										
194	13-1170	US 25 (Hendersonville Road) at Walden Ridge Drive/South Pointe Centre	6.028	195.0		1	1				9	1										*										
195	13-1185	NC 280 (Airport Road) at Target / McKenna Road	6.084	196.0		1	1				10	1										*										
196	13-1186	NC 81 (Swannanoa River Road) at Bleachery Boulevard / Wal-Mart Supercenter	6.297	197.0		1	1				8	1										1										
197	13-1187	SR 3238(Fairview Road) at Bleachery Boulevard / Old Fairview Road	6.216	198.0		1	1				7	1										1										
198	13-1193	US 25 (Hendersonville Road) at Valley Springs Road / Deerlake Drive	6.032	199.0		1	1				7	1										*										
199	13-1194	SR 3556 (Meadow Road) at Short McDowell Street	6.178	200.0	Y	1	1				5	1										*										
200	13-1195	US 25 (Hendersonville Road) at Raquet Club Road	6.031	201.0		1	1				7	1										*										
201	13-1197	NC 280 (Airport Road) at Wal-Mart Supercenter / Birch Circle	6.087	202.0		1	1				7	1										*										
202	13-1207	NC 191 (Brevard Road) at Entrance to Borg-Warner / Industrial Drive	6.093	203.0		1	1				5	1										*										
203	13-1209	US 19 Bus (Weaverville Road) at Senator Reynolds Road / Woodfin Avenue	6.075	204.0		1	1				7	1										*										
204	13-1214	US 74A (Charlotte Highway) at Old Charlotte Highway / Ingles	6.229	205.0		1	1				7	1										*										
205	13-1215	NC 112 (Sand Hill Road) at SR 3437 (Lake Drive / Ent To Colbond)	6.235	206.0		1	1				10	1										*										
206	13-1216	NC 146 (Long Shoals Road) at I-26 Ramps	6.102	207.0		1	1				8	1										*										
207	13-1217	US 25 (Hendersonville Road) at Gerber Village	6.029	208.0		1	1				8	1										*										
208	13-1218	NC 112 (Sand Hill Road) at Southeastern Container / Jacob Holm Way	6.238	209.0		1	1				8	1										*										
209	13-1225	I-40 EB Ramps at SR 2838 (Porters Cove Road)	6.206	210.0		1	1				3	1										*										
210	13-1226	SR 1368 (Lee's Creek Road) at Ent. To West Buncombe Elementary	6.259	211.0		1	1				4	1										*										
211	13-1231	McDowell Street at Hospital Drive	6.172	212.0		1	1				7	1										*										
212	13-1240	US 25 (Merrimon Avenue) at Harris Teeter Entrance	6.056	213.0	Y	1	1				8	1										*										
213	13-1244	NC 280 (Airport Road) at The Landing / Dick's Sporting Goods	6.085	214.0		1	1				8	1										1										
214	13-1245	NC 81 (Swannanoa River Road) at Azalea Road	6.310	215.0		1	1				5	1										*										
215	13-1250	Sand Hill Road at Ingles / A-B Tech CC	6.233	216.0		1	1				6	1										*										
216	13-1287	Sand Hill School Road at NC 112 (Sand Hill Road)	6.318	217.0		1	1				5	1										*										

\*Reuse Existing

\* Includes new electrical service, special base adapter, intercepting and rerouting conduit for electrical service and all work associated with electrical service and grounding as described in the special provisions section for "Special Cabinet Base Adapter". See Special Provisions for explanation of Types.

\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.

- 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.

21-DEC-2016 15:36  
G:\Transportation\Projects\U-4715B Asheville\116 Sig Sys\Task 11\_Typ-SD\Volume 3\SIG 1.00CC.dgn  
WILEY204 AT DUS300019

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.

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

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

Prepared for the Offices of:  
**NC Transportation**

**Asheville Signal System Summary of Work by Intersection (sheet 1 of 3)**

Division 13 Buncombe County Asheville

PLAN DATE: December 2016 REVIEWED BY: M B Toth

PREPARED BY: J A Wiles REVIEWED BY:

REVISIONS INIT. DATE

NA

Seal: NORTH CAROLINA PROFESSIONAL ENGINEER  
SEAL 025892  
MELISSA B. TOTH

Designed by: Melissa B. Toth 12/21/2016  
DATE

CADD File name: SIG 1.00CC.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 3-Section B-Modal Signal Head	12-inch 4-Section Signal Head	12-inch 5-Section Signal Head	Signal Cable	Messenger Cable (3/8")	Signs	Inductive Loop Sawcut	Loop Lead-in Cable	Sidewalk Guy Assembly	Wood Pole	Standard Down Guy Assembly	Type I Post with Foundation	Type II Pedestal with Foundation	Junction Box	Microwave Vehicle Detection System - Multiple Zones	APS Detector Station	Central Control Unit for APS Detector Station	Underground Conduit (1, 2')	Underground Conduit (2, 2')	Thermoplastic Pavement Marking Lines (8", 120 MILS)	Thermoplastic White Stop Bar 24", 120 MILS	Thermoplastic White Crosswalk Line 24", 120 MILS	Remove Line 24"	
193	13-1165 US 25A (Sweeten Creek Road) at Medical Park Drive	6.211	194.0			2		1		220				430																
194	13-1170 US 25 (Hendersonville Road) at Walden Ridge Drive/South Pointe Centre	6.028	195.0																											
195	13-1185 NC 280 (Airport Road) at Target / McKenna Road	6.084	196.0																											
196	13-1186 NC 81 (Swannanoa River Road) at Bleachery Boulevard / Wal-Mart Supercenter	6.297	197.0			2		1		600																				
197	13-1187 SR 3238(Fairview Road) at Bleachery Boulevard / Old Fairview Road	6.216	198.0																											
198	13-1193 US 25 (Hendersonville Road) at Valley Springs Road / Deerlake Drive	6.032	199.0																											
199	13-1194 SR 3556 (Meadow Road) at Short McDowell Street	6.178	200.0	Y																										
200	13-1195 US 25 (Hendersonville Road) at Raquet Club Road	6.031	201.0																											
201	13-1197 NC 280 (Airport Road) at Wal-Mart Supercenter / Birch Circle	6.087	202.0			2		2		300																				
202	13-1207 NC 191 (Brevard Road) at Entrance to Borg-Warner / Industrial Drive	6.093	203.0																											
203	13-1209 US 19 Bus (Weaverville Road) at Senator Reynolds Road / Woodfin Avenue	6.075	204.0			2		2		800																				
204	13-1214 US 74A (Charlotte Highway) at Old Charlotte Highway / Ingles	6.229	205.0																											
205	13-1215 NC 112 (Sand Hill Road) at SR 3437 (Lake Drive / Ent To Colbond)	6.235	206.0			2		2		700																				
206	13-1216 NC 146 (Long Shoals Road) at I-26 Ramps	6.102	207.0																											
207	13-1217 US 25 (Hendersonville Road) at Gerber Village	6.029	208.0			2		2		250																				
208	13-1218 NC 112 (Sand Hill Road) at Southeastern Container / Jacob Holm Way	6.238	209.0			1		1		420																				
209	13-1225 I-40 EB Ramps at SR 2838 (Porters Cove Road)	6.206	210.0																											
210	13-1226 SR 1368 (Lee's Creek Road) at Ent. To West Buncombe Elementary	6.259	211.0			1		1		400																				
211	13-1231 McDowell Street at Hospital Drive	6.172	212.0																											
212	13-1240 US 25 (Merrimon Avenue) at Harris Teeter Entrance	6.056	213.0	Y																										
213	13-1244 NC 280 (Airport Road) at The Landing / Dick's Sporting Goods	6.085	214.0																											
214	13-1245 NC 81 (Swannanoa River Road) at Azalea Road	6.31	215.0																											
215	13-1250 Sand Hill Road at Ingles / A-B Tech CC	6.233	216.0																											
216	13-1287 Sand Hill School Road at NC 112 (Sand Hill Road)	6.318	217.0																											

21-DEC-2016 15:28 0:47:15B Asherville\Sig System\Task 11\_Typ\_SDW\Volume 3\SIG 1.00EE.dgn AT DUS300019


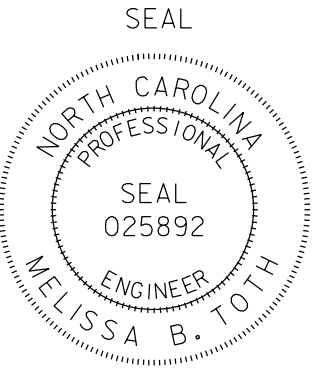
\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.

- 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.

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

 Prepared for the Offices of: 750 Greenfield Parkway, Garner, NC 27529	<b>Asheville Signal System</b> Summary of Work by Intersection (sheet 3 of 3)		SEAL  MELISSA B. TOTH ENGINEER 025892
	Division 13    Buncombe County    Asheville	PLAN DATE: December 2016    REVIEWED BY: M B Toth	
NA	REVISIONS	INIT.    DATE	Designed by: <i>Melissa B. Toth</i> 12/21/2016 DATE CADD Filename: SIG 1.00EE.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 1" for New Power Service	Drill / Core Drill for 2" for FO or CAT5/24VAC	Reuse Ex. 1" (pole) or 2" (base) ST Dedicated Riser for Comm (Retrofit Kit)	Reuse Ex. 2" (or 3") Dedicated Conduit Entrance for UG Comm	Use 2" Spare Conduit for UG Comm	New 2" Riser (HST) for Comm	New 1-1/4" Riser (HST) for Comm to pole mtd 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 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 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	Power Company to Provide Meter	Modify Existing Disconnect for New CCTV/Power Service #	Install Service Disconnect by Signal Cabinet	Remove Backup Generator Equipment	Install Backup Generator connection	Install 5/8" x 10' Grounding Electrode	Install New Electrical Service							
217	13-1288	I-240 EB Off Ramp/ Woodfin Place at Charlotte Street	6.287	218.0							1								1																	
218	14-0048	US 25 (Hendersonville Road) at SR 1360 (Old Airport Road) / Ingles	6.013	219.0	Y			1																											1	
219	14-0585	US 25 (Hendersonville Road) at SR 1545 (Cane Creek Road) / Library Road	6.011	220.0				1																												
220	14-0595	US 25 (Hendersonville Road) at SR 1538 (Howard Gap Road)	6.009	221.0				1																												
221	14-0678	US 25 (Asheville Hwy) at South Naples Road	6.001C	222.0				1																												
222	14-0740	US 25 (Hendersonville Road) at SR 1358 (Fanning Bridge Road & Fletcher Fire Dept)	6.010	223.0				1																												
223	14-0742	US 25 (Hendersonville Road / Asheville Hwy) at SR 1345 (Butler Bridge Road)	6.003	224.0				1																												
224	14-0772	US 25 (Hendersonville Road) at SR 2025 (Rockwell Drive)	6.006	225.0				1																												
225	14-0852	US 25 (Asheville Hwy) at Rugby Drive	6.001A	226.0				1																												
226	14-0901	US 25 (Asheville Hwy) at I-26 EB Ramps	6.001	227.0				1																												
227	14-0902	US 25 (Asheville Hwy) at I-26 WB Ramps	6.001	228.0				1																												
228	14-1039	US 25 (Hendersonville Road) at SR 1361 (Baldwin Circle) / St. John Road	6.013	229.0				1																												
229	14-1050	US 25 (Asheville Hwy) at New Naples Road	6.001D	230.0				1																												
230	14-1145	US 25 (Hendersonville Road) at Smiley's Flea Market	6.004	231.0				1																												
231	14-1259	US 25 (Hendersonville Road) at SR 1537 (Old Brickyard Road)	6.005	232.0				1																												
232	14-1271	NC 280 (Boylston Hwy) at SR 2277 (Ferncliff Park Drive)	6.077	233.0							1																									
233	14-1278	US 25 (Hendersonville Road) at Mission / Pardee Health Campus (Alliance Page Road)	6.014	234.0					1																											
234	13-1283	NC 191 (Brevard Road) at PETCO	6.122	235.0																																
235	13-1284	NC 191 (Brevard Road) at I-26 Westbound Ramps	6.124	236.0																																
236	COA-001	N. Bear Creek Road at Deaverview Road	6.239	237.0								1			1			2														3	1			
237	COA-002	State Street at Hanover Street	6.302	238.0						1					1					2												3	1			
238	COA-004	Hazzard Street at Martin Luther King Drive	6.179	239.0							1				1																		3	1		
239	COA-005	W. Haywood St / Craven / Smith Br at Riverside Drive	6.274	240.0					1																									3	1	
240	COA-006	US 70 (Tunnel Road) at Fire Station #8	6.196	241.0									1		1			2	2													3	1			
241	COA-007	Hospital Drive at Victoria Road / Hamilton Street	6.172	242.0								1																								
242	COA-008	Charlotte Street at E. Chestnut Street	6.288	243.0	Y					1#							2		1														3	1		

#Risers / conduits may need to be installed into the side of the extender; reuse existing conduit entrances when possible

21-DEC-2016 15:28 G:\projects\2016\15128\100048632\_U-4715B\_Ashville\Sig\_Sys\Task 11\_Typ-SD\Volume 3\SIG 1.006G.dgn WILEY054 AT DUS300019

\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.

- 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.

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.

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

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

Prepared for the Offices of:

**NC** Transportation

750 Greenfield Parkway, Garner, NC 27529

Asheville Signal System Summary of Work by Intersection (sheet 2 of 3)

Division 13 Buncombe County Asheville

PLAN DATE: December 2016 REVIEWED BY: M B Toth

PREPARED BY: J A Wiles REVIEWED BY:

REVISIONS	INIT.	DATE

Seal: MELISSA B. TOTH ENGINEER SEAL 025892

Checked by: Melissa B. Toth 12/21/2016 DATE

CADD Filename: SIG 1.006G.dgn

# SUMMARY OF WORK BY INTERSECTION


Reference Information						Signal Items																									
	NCDOT / City Signal Inv. No.	#REF!	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 3-Section Bi-Modal Signal Head	12-inch 4-Section Signal Head	12-inch 5-Section Signal Head	Signal Cable	Messenger Cable (3/8")	Signs	Inductive Loop Sawcut	Loop Lead-in Cable	Sidewalk Guy Assembly	Wood Pole	Standard Down Guy Assembly	Type I Post with Foundation	Type II Pedestal with Foundation	Junction Box	Microwave Vehicle Detection System - Multiple Zones	APS Detector Station	Central Control Unit for APS Detector Station	Underground Conduit (1.2")	Underground Conduit (2.2")	Thermoplastic Pavement Marking Lines (8", 120 MILS)	Thermoplastic White Stop Bar 24", 120 MILS	Thermoplastic White Crosswalk Line 24", 120 MILS	Remove Line 24"	
217	13-1288	I-240 EB Off Ramp/ Woodfin Place at Charlotte Street	6.287	218.0			1		1		1800		3	375	2000						3										
218	14-0048	US 25 (Hendersonville Road) at SR 1360 (Old Airport Road) / Ingles	6.013	219.0	Y																										
219	14-0585	US 25 (Hendersonville Road) at SR 1545 (Cane Creek Road) / Library Road	6.011	220.0																											
220	14-0595	US 25 (Hendersonville Road) at SR 1538 (Howard Gap Road)	6.009	221.0																											
221	14-0678	US 25 (Asheville Hwy) at South Naples Road	6.001C	222.0																											
222	14-0740	US 25 (Hendersonville Road) at SR 1358 (Fanning Bridge Road & Fletcher Fire Dept)	6.01	223.0																											
223	14-0742	US 25 (Hendersonville Road / Asheville Hwy) at SR 1345 (Butler Bridge Road)	6.003	224.0																											
224	14-0772	US 25 (Hendersonville Road) at SR 2025 (Rockwell Drive)	6.006	225.0																											
225	14-0852	US 25 (Asheville Hwy) at Rugby Drive	6.001A	226.0																											
226	14-0901	US 25 (Asheville Hwy) at I-26 EB Ramps	6.001	227.0																											
227	14-0902	US 25 (Asheville Hwy) at I-26 WB Ramps	6.001	228.0																											
228	14-1039	US 25 (Hendersonville Road) at SR 1361 (Baldwin Circle) / St. John Road	6.013	229.0																											
229	14-1050	US 25 (Asheville Hwy) at New Naples Road	6.001D	230.0																											
230	14-1145	US 25 (Hendersonville Road) at Smiley's Flea Market	6.004	231.0																											
231	14-1259	US 25 (Hendersonville Road) at SR 1537 (Old Brickyard Road)	6.005	232.0																											
232	14-1271	NC 280 (Boylston Hwy) at SR 2277 (Ferncliff Park Drive)	6.077	233.0																											
233	14-1278	US 25 (Hendersonville Road) at Mission / Pardee Health Campus (Alliance Page Road)	6.014	234.0																											
234	13-1283	NC 191 (Brevard Road) at PETCO	6.122	235.0																											
235	13-1284	NC 191 (Brevard Road) at I-26 Westbound Ramps	6.124	236.0																											
236	COA-001	N. Bear Creek Road at Deaverview Road	6.239	237.0					2		590				780																
237	COA-002	State Street at Hanover Street	6.302	238.0							410				370																
238	COA-004	Hazzard Street at Martin Luther King Drive	6.179	239.0							660				200																
239	COA-005	W. Haywood St / Craven / Smith Br at Riverside Drive	6.274	240.0							750																				
240	COA-006	US 70 (Tunnel Road) at Fire Station #8	6.196	241.0			1				150														20						
241	COA-007	Hospital Drive at Victoria Road / Hamilton Street	6.172	242.0																											
242	COA-008	Charlotte Street at E. Chestnut Street	6.288	243.0	Y	8	7		1		1630	150																			

21-DEC-2016 15:28 0:47:15B Asheville:116 Sig Sys#task 11\_Typ-SD#Volume 3#510 1.00HH.dgn

\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.

- 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.

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.



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

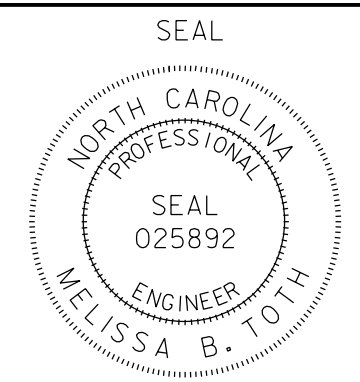
**Asheville Signal System**  
Summary of Work by  
Intersection (sheet 3 of 3)

Division 13 Buncombe County Asheville

PLAN DATE: December 2016 REVIEWED BY: M B Toth

PREPARED BY: J A Wiles REVIEWED BY:

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



750 Greenfield Parkway, Garner, NC 27529

NA

REVISIONS	INIT.	DATE

Designed by: Melissa B. Toth 12/21/2016  
DATE  
CADD File name: SIG 1.00HH.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)	2070 Controller	Type 170 Cabinet	Install New Controller & Cabinet																													
							New	Existing	New	Existing	New Aux File for Cabinet	No. of New Detector Cards	Base						Terminal Splice Box	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 (SF)	Replace Asphalt **	Replace Brick (SF)							
													332	332 with Auxiliary File	336	Adjacent to Existing	In Same Place as Existing	Relocated to (quadrant)												Install New Foundation						
241	COA-009	Charlotte Street at Hillside Street	6.289	244.0	Y	1	1																90		1 <sup>A</sup>	30										
242	COA-010	Evelyn Place at Kimberly Avenue / Edwin Place	6.313	245.0	Y	1	1																	90		1	29									
243	COA-011	Fairview Road at Glendale Avenue	6.231	246.0		1	1																	270		1	27									
244	COA-012	Fairview Road at Cedar Street / Oakley Elementary / Fire Station #9	6.216	247.0		1	1						1													1										
245	COA-013	Fairview Road at Baldwin Street / Onteora Boulevard	6.216	248.0		1	1																		1											
246	COA-014	River Hills Center at River Hills Road	6.312	249.0		1	1			1	2														*											
247	COA-015	Victoria Road at Lily Carmichael Drive	6.322	250.0		1	1																													
248	COA-016	Victoria Road at Fernhurst Drive	6.321	251.0	Y	1	1																													
249	COA-025	Fairview Road at Third Street	6.230	252.0		1	1																													
250	COA-103	College Street at Spruce Street	6.053	253.0	Y	1	1																													
251	COA-104	Market Street at College Street	6.053	254.0	Y	1	1																													
252	COA-106	Lexington Avenue at College Street	6.332	255.0	Y	1	1																													
253	COA-107	Haywood Street at College Street	6.332	256.0	Y	1	1																													
254	COA-108	Coxe Avenue at Patton Avenue	6.331	257.0	Y	1	1																													
255	COA-109	Asheland Avenue at Patton Avenue	6.331	258.0	Y	1	1																													
256	COA-110	Otis Street at Patton Avenue	6.331	259.0	Y	1	1																													
257	COA-111	French Broad Avenue at Patton Avenue	6.331	260.0	Y	1	1																													
258	COA-113	Haywood Street at Patton Avenue	6.332	261.0	Y	1	1																													
259	COA-114	Lexington Avenue at Patton Avenue	6.332	262.0	Y	1	1																													
260	COA-118	Aston Street / Bus Depot at Asheland Avenue	6.331	263.0	Y	1	1																													
261	COA-119	Aston Street / Bus Depot at Coxe Avenue	6.331	264.0	Y	1	1																													
262	COA-201	Lexington Avenue at Hiwassee Street / Woodfin Street	6.054	265.0	Y	1	1																													
263	COA-204	Lexington Avenue at Walnut Street	6.054	266.0	Y	1	1																													
264	COA-301	S. Lexington Avenue at Hilliard Avenue	6.175	267.0		1	1																													


\*Reuse Existing

\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.

- 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.

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.



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

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

Asheville Signal System  
Summary of Work by  
Intersection (sheet 1 of 3)

Division 13 Buncombe County Asheville

PLAN DATE: December 2016 REVIEWED BY: M B Toth

PREPARED BY: J A Wiles REVIEWED BY:

SEAL  
NORTH CAROLINA  
PROFESSIONAL  
ENGINEER  
MELISSA B. TOTH

12/22/2016  
DATE

750 Greenfield Parkway, Garner, NC 27529

NA

REVISIONS	INIT.	DATE

CADD File name: SIG 1.001I.dgn

22-DEC-2016 15:03 0:47:15B Asheville:SIG System Task 11\_Typ\_SDW\Volume 3\510 1.001I.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 1" for New Power Service	Drill / Core Drill for 2" for FO or CAT5/24VAC	Reuse Ex. 1" (pole) or 2" (base) ST Dedicated Riser for Comm (Retrofit Kit)	Reuse Ex. 2" (or 3") Dedicated Conduit Entrance for UG Comm	Use 2" Spare Conduit for UG Comm	New 2" Riser (HST) for Comm	New 1-1/4" Riser (HST) for Comm to pole mid cabine	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 Sig- New Electrical Service	New 2" Risers (WH) for Sig- New Foundation Location	New 2" Risers (WH) for System Detector	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	Power Company to Provide Meter	Modify Existing Disconnect for New CCTV Power Service #	Install Service Disconnect by Signal Cabinet	Remove Backup Generator Equipment	Install Backup Generator connection	Install 5/8" x 10' Grounding Electrode	Install New Electrical Service		
241	COA-009	Charlotte Street at Hillside Street	6.289	244.0	Y						1				4	1														3	1
242	COA-010	Evelyn Place at Kimberly Avenue / Edwin Place	6.313	245.0	Y						1				2	1														3	1
243	COA-011	Fairview Road at Glendale Avenue	6.231	246.0							1					1														3	1
244	COA-012	Fairview Road at Cedar Street / Oakley Elementary / Fire Station #9	6.216	247.0				1								1														3	1
245	COA-013	Fairview Road at Baldwin Street / Oteora Boulevard	6.216	248.0												1														3	1
246	COA-014	River Hills Center at River Hills Road	6.312	249.0				1																							
247	COA-015	Victoria Road at Lily Carmichael Drive	6.322	250.0								1																			
248	COA-016	Victoria Road at Femihurst Drive	6.321	251.0	Y					1																					
249	COA-025	Fairview Road at Third Street	6.230	252.0							1																				
250	COA-103	College Street at Spruce Street	6.053	253.0	Y																										
251	COA-104	Market Street at College Street	6.053	254.0	Y																										
252	COA-106	Lexington Avenue at College Street	6.332	255.0	Y																										
253	COA-107	Haywood Street at College Street	6.332	256.0	Y																										
254	COA-108	Coxe Avenue at Patton Avenue	6.331	257.0	Y																										
255	COA-109	Asheland Avenue at Patton Avenue	6.331	258.0	Y																										
256	COA-110	Otis Street at Patton Avenue	6.331	259.0	Y																										
257	COA-111	French Broad Avenue at Patton Avenue	6.331	260.0	Y																										
258	COA-113	Haywood Street at Patton Avenue	6.332	261.0	Y																										
259	COA-114	Lexington Avenue at Patton Avenue	6.332	262.0	Y																										
260	COA-118	Aston Street / Bus Depot at Asheland Avenue	6.331	263.0	Y																										
261	COA-119	Aston Street / Bus Depot at Coxe Avenue	6.331	264.0	Y																										
262	COA-201	Lexington Avenue at Hiwassee Street / Woodfin Street	6.054	265.0	Y																										1
263	COA-204	Lexington Avenue at Walnut Street	6.054	266.0	Y																										1
264	COA-301	S. Lexington Avenue at Hilliard Avenue	6.175	267.0							1																				

\$ New 1" short riser from disconnect to cabinet base extender for power



\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.

- 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.

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

 Prepared for the Offices of: Transportation 750 Greenfield Parkway, Garner, NC 27529	Asheville Signal System Summary of Work by Intersection (sheet 2 of 3)		
	Division 13 Buncombe County Asheville PLAN DATE: December 2016 REVIEWED BY: M B Toth PREPARED BY: J A Wiles REVIEWED BY:	REVISIONS INIT. DATE	
NA	REVISIONS INIT. DATE		Developed by: Melissa B. Toth 12/22/2016 DATE CADD Filename: SIG 1.00JJ.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 3-Section Bi-Modal Signal Head	12-inch 4-Section Signal Head	12-inch 5-Section Signal Head	Signal Cable	Messenger Cable (3/8")	Signs	Inductive Loop Sawcut	Loop Lead-in Cable	Sidewalk Guy Assembly	Wood Pole	Standard Down Guy Assembly	Type I Post with Foundation	Type II Pedestal with Foundation	Junction Box	Microwave Vehicle Detection System - Multiple Zones	APS Detector Station	Central Control Unit for APS Detector Station	Underground Conduit (1, 2')	Underground Conduit (2, 2')	Thermoplastic Pavement Marking Lines (8", 120 MILS)	Thermoplastic White Stop Bar 24", 120 MILS	Thermoplastic White Crosswalk Line 24", 120 MILS	Remove Line 24"	
241	COA-009 Charlotte Street at Hillside Street	6.289	244.0	Y	4	6				690	300																			
242	COA-010 Evelyn Place at Kimberly Avenue / Edwin Place	6.313	245.0	Y	4	8				690	260					1	1	2						30						
243	COA-011 Fairview Road at Glendale Avenue	6.231	246.0			8				620	260						3										25			
244	COA-012 Fairview Road at Cedar Street / Oakley Elementary / Fire Station #9	6.216	247.0			1	1			160																120	40	150	12	
245	COA-013 Fairview Road at Baldwin Street / Onteora Boulevard	6.216	248.0			1	1			190							1									170	155	370		
246	COA-014 River Hills Center at River Hills Road	6.312	249.0																											
247	COA-015 Victoria Road at Lily Carmichael Drive	6.322	250.0																											
248	COA-016 Victoria Road at Femihurst Drive	6.321	251.0	Y																										
249	COA-025 Fairview Road at Third Street	6.23	252.0																											
250	COA-103 College Street at Spruce Street	6.053	253.0	Y																										
251	COA-104 Market Street at College Street	6.053	254.0	Y																										
252	COA-106 Lexington Avenue at College Street	6.332	255.0	Y																										
253	COA-107 Haywood Street at College Street	6.332	256.0	Y																										
254	COA-108 Coxe Avenue at Patton Avenue	6.331	257.0	Y																										
255	COA-109 Asheland Avenue at Patton Avenue	6.331	258.0	Y																										
256	COA-110 Otis Street at Patton Avenue	6.331	259.0	Y																										
257	COA-111 French Broad Avenue at Patton Avenue	6.331	260.0	Y																										
258	COA-113 Haywood Street at Patton Avenue	6.332	261.0	Y																										
259	COA-114 Lexington Avenue at Patton Avenue	6.332	262.0	Y																										
260	COA-118 Aston Street / Bus Depot at Asheland Avenue	6.331	263.0	Y																										
261	COA-119 Aston Street / Bus Depot at Coxe Avenue	6.331	264.0	Y																										
262	COA-201 Lexington Avenue at Hiwassee Street / Woodfin Street	6.054	265.0	Y						1010																				
263	COA-204 Lexington Avenue at Walnut Street	6.054	266.0	Y						850																				
264	COA-301 S. Lexington Avenue at Hilliard Avenue	6.175	267.0							780				700																

\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.


- 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.

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared for the Offices of:



**Transportation**

750 Greenfield Parkway, Garner, NC 27529

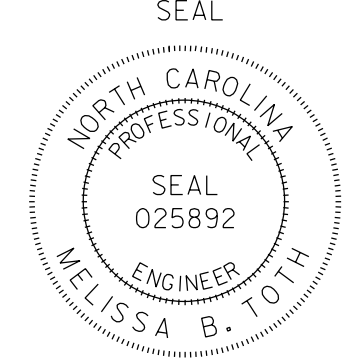
**Asheville Signal System**  
Summary of Work by  
Intersection (sheet 3 of 3)

Division 13 Buncombe County Asheville

PLAN DATE: December 2016 REVIEWED BY: M B Toth

PREPARED BY: J A Wiles REVIEWED BY:

SEAL



MELISSA B. TOTH  
ENGINEER  
025892

REVISIONS	INIT.	DATE

Designed by: *Melissa B. Toth* 12/21/2016  
 DATE  
 CADD Filename: SIG 1.00KK.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 1" for New Power Service	Drill / Core Drill for 2" for FO or CAT5/EAVAC	Reuse Ex. 1" (pole) or 2" (base) ST Dedicated Riser for Comm (Retrofit Kit)	Reuse Ex. 2" (or 3") Dedicated Conduit Entrance for UG Comm	Use 2" Spare Conduit for UG Comm	New 2" Riser (HST) for Comm	New 1-1/4" Riser (HST) for Comm to pole mid 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 Sig- New Electrical Service	New 2" Risers (WH) for Sig- New Foundation Location	New 2" Risers (WH) for System Detector	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	Power Company to Provide Meter	Modify Existing Disconnect for New CCTV Power Service #	Install Service Disconnect by Signal Cabinet	Remove Backup Generator Equipment	Install Backup Generator connection	Install 5/8" x 10' Grounding Electrode	Install New Electrical Service			
265	COA-302	Hilliard Avenue at Church Street	6.175	268.0	Y					1		1							2	1											3	
266	COA-303	Hilliard Avenue at Coxe Avenue	6.174	269.0						1																				3		
267	COA-304	Hilliard Avenue at Asheland Avenue	6.174	270.0						1																				3		
268	COA-305	Hilliard Avenue at S French Broad Avenue	6.174	271.0			1											2												3		
269	COA-401	Flint Street / Page Avenue at Haywood Street	6.333	272.0	Y																								3	1		
270	COA-403	Montford Avenue at Haywood Street	6.278	273.0	Y	1					1																					
271	COA-404	I-240 Ramps / Cherry Street / Hill Street at Montford Avenue	6.278	274.0	Y					1																						
272	COA-407	Montford Avenue at W. Chestnut Street	6.279	275.0	Y						1																			3	1	
273	COA-409	Flint Street at Hiawasse Street	6.333	276.0	Y													2												3	1	
274	COA-411	Montford Avenue at Soco Street / Cullowhee Street	6.28	277.0	Y	1					1																					
<b>Total</b>					0	35	56	48	1	54	24	63	7	8	13	0	16	36	3	5	0	1	8	0	0	0	0	0	54	23		

21-DEC-2016 15:28 G:\Projects\2016\15-28\01-Work\2016\15-28\Sigs\Sig\Task 11\_Typ\_SDW\Volume 3\SIG 1.00MM.dgn WILE2054 AT DUS300019

\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.

- 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.

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.




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

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

SEAL  
NORTH CAROLINA  
PROFESSIONAL  
ENGINEER  
MELISSA B. TOTH

Prepared for the Offices of:



**Transportation**

750 Greenfield Parkway, Garner, NC 27529

**Asheville Signal System  
Summary of Work by  
Intersection (sheet 2 of 3)**

Division 13 Buncombe County Asheville

PLAN DATE: December 2016 REVIEWED BY: M B Toth

PREPARED BY: J A Wiles REVIEWED BY:

REVISIONS	INIT.	DATE

Seal of Melissa B. Toth

12/21/2016

DATE

CADD Filename: SIG 1.00MM.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 3-Section Bi-Modal Signal Head	12-inch 4-Section Signal Head	12-inch 5-Section Signal Head	Signal Cable	Messenger Cable (3/8")	Signs	Inductive Loop Sawcut	Loop Lead-in Cable	Sidewalk Guy Assembly	Wood Pole	Standard Down Guy Assembly	Type I Post with Foundation	Type II Pedestal with Foundation	Junction Box	Microwave Vehicle Detection System - Multiple Zones	APS Detector Station	Central Control Unit for APS Detector Station	Underground Conduit (1.2")	Underground Conduit (2.2")	Thermoplastic White Stop Bar 24", 120 MILS	Thermoplastic White Crosswalk Line 24", 120 MILS	Remove Line 24"	
265	COA-302	Hilliard Avenue at Church Street	6.175	268.0	Y						310				180															
266	COA-303	Hilliard Avenue at Coxe Avenue	6.174	269.0							1390										1									
267	COA-304	Hilliard Avenue at Asheland Avenue	6.174	270.0							480		75	350																
268	COA-305	Hilliard Avenue at S French Broad Avenue	6.174	271.0							1250			450																
269	COA-401	Flint Street / Page Avenue at Haywood Street	6.333	272.0	Y						700																			
270	COA-403	Montford Avenue at Haywood Street	6.278	273.0	Y																									
271	COA-404	I-240 Ramps / Cherry Street / Hill Street at Montford Avenue	6.278	274.0	Y								75	270							1									
272	COA-407	Montford Avenue at W. Chestnut Street	6.279	275.0	Y						340			50																
273	COA-409	Flint Street at Hiwassee Street	6.333	276.0	Y						270			140																
274	COA-411	Montford Avenue at Soco Street / Cullowhee Street	6.28	277.0	Y																									
<b>Total</b>						46	159	0	110	6	56220	970	10	1336	28200	0	1	5	22	4	31	1	30	4	1415	20	290	220	520	12

21-DEC-2016 15:28  
 G:\Transportation\Traffic\Cur\100048632\_U-4715B\_Asherville\11e\_Sig\_System\Task 11\_Typ-SD\Volume 3\SIG 1.00NN.dgn  
 WILE2054 AT DUS300019

\*\* Replace Asphalt will be paid for under the same pay item as concrete sidewalk. See Project Special Provisions.

- 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.

This area has been determined to contain properties with documented historic significance. If it is necessary to deviate from these plans in this area, alert the Engineer to contact Project Development and Environmental Analysis Branch - Historic Architecture Group of the North Carolina Department of Transportation for an effects determination before proceeding.




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

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

SEAL  
 NORTH CAROLINA  
 PROFESSIONAL  
 ENGINEER  
 MELISSA B. TOTH

Prepared for the Offices of:



**Transportation**

750 Greenfield Parkway, Garner, NC 27529

**Asheville Signal System  
Summary of Work by  
Intersection (sheet 3 of 3)**

Division 13 Buncombe County Asheville

PLAN DATE: December 2016 REVIEWED BY: M B Toth

PREPARED BY: J A Wiles REVIEWED BY:

SEAL  
 NORTH CAROLINA  
 PROFESSIONAL  
 ENGINEER  
 MELISSA B. TOTH

REVISIONS	INIT.	DATE

Designed by: Melissa B. Toth 12/21/2016  
 DATE  
 CADD Filename: SIG 1.00NN.dgn