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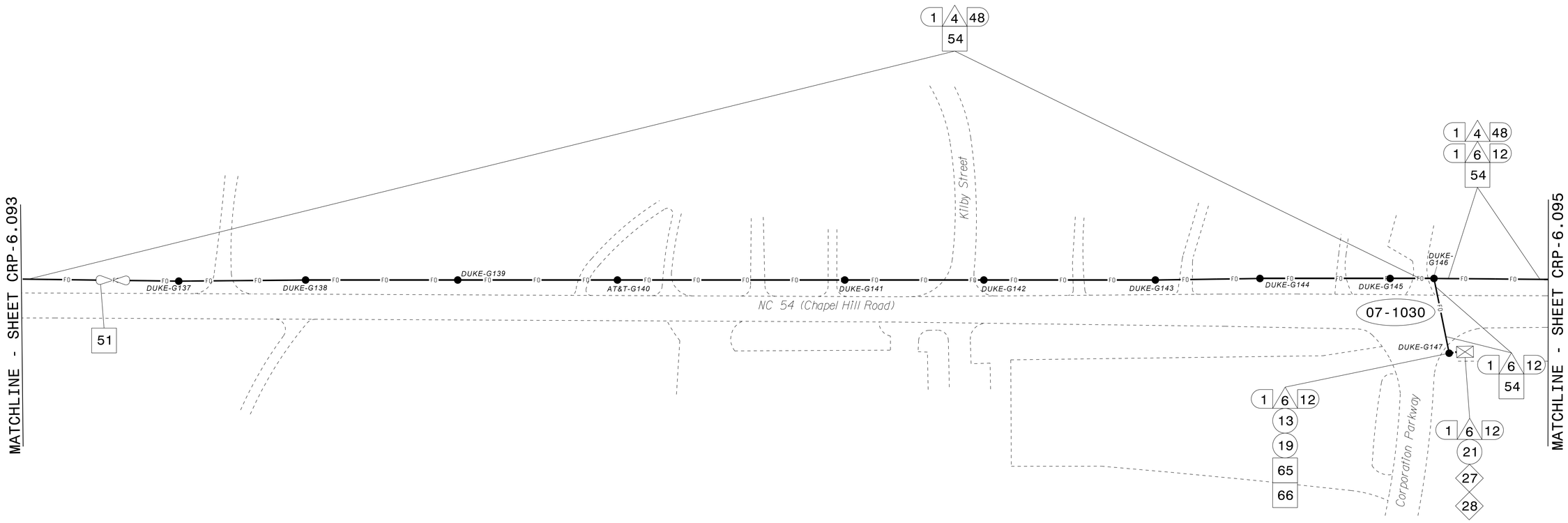
| U-6015 | CRP-6.094 |




NOTES:
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   - ATTACH NEW MESSENGER CABLE 40" BELOW POWER.
   - ATTACH ON FRONT SIDE (FS) OF POLE.
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3. INSTALL COMPOSITE CCTV CABLE
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5. INSTALL COAXIAL ANTENNA CABLE
6. INSTALL FIBER-OPTIC DROP CABLE
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8. INSTALL CONDUIT UNDERGROUND
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12. INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING
13. INSTALL HEAT SHRINK TUBING KIT
14. INSTALL HIGH DENSITY POLYETHYLENE CONDUIT
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23. INSTALL NEW RISER INTO CABINET BASE (USE EX CABINET ENTRANCE WHEN AVAILABLE)
24. INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
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31. INSTALL SPLICE CABINET
32. MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER
33. REMOVE EXISTING SPLICE /HUB / CCTV CABINET
34. INSTALL CABINET FOUNDATION
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36. INSTALL CCTV CAMERA ASSEMBLY
37. INSTALL CCTV WOOD POLE
38. INSTALL STANDARD SIZE JUNCTION BOX
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48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
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54. LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE
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57. MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV
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60. INSTALL NEW CCTV CABINET (NEMA TYPE 4)
60A. INSTALL NEW POLE MOUNTED CABINET FOR ANTENNA (RADIO CABINET)
61. REMOVE EXISTING CCTV CAMERA ASSEMBLY
62. NEW CABINET ENTRANCE INTO NEW FOUNDATION
63. DRILL/CORE DRILL EXISTING FOUNDATION
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
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69. HANDLASH AND INSTALL AERIAL CABLE PROTECTOR
70. INSTALL CCTV CABINET DISCONNECT
71. INSTALL MANAGED ETHERNET SWITCH
72. INSTALL CCTV METAL POLE
73. REMOVE EXISTING CCTV METAL POLE
74. REMOVE WIRELESS COMMUNICATIONS EQUIPMENT
75. BACKPULL AND COIL CITY IT CABLE
76. INSTALL 2.4 GHZ RADIO AND PANEL ANTENNA
77. INSTALL BASE MOUNTED CCTV CABINET WITH EXTENDER (336)

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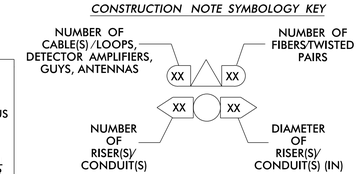


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1616 EAST MILLBROOK ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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*Prepared for the Offices of:*

*750 Greenfield Parkway, Garner, NC 27529*

# Burlington-Graham Signal System Cable Routing Plans

Division 7 Alamance County Burlington & Graham

| | | | |
|---|---|---|---|
| PLAN DATE: June 2018 | | REVIEWED BY: | M B Toth |
| PREPARED BY: AWE/AJH/VJP/NAP/JAW | | REVIEWED BY: | BJ Slocum |

SCALE 0 50 1"=50'

| REVISIONS | INIT. | DATE |
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| | | |

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

DocuSigned by: Melissa B. Toth D86DCF8E04D04AF... 6/13/2018 DATE

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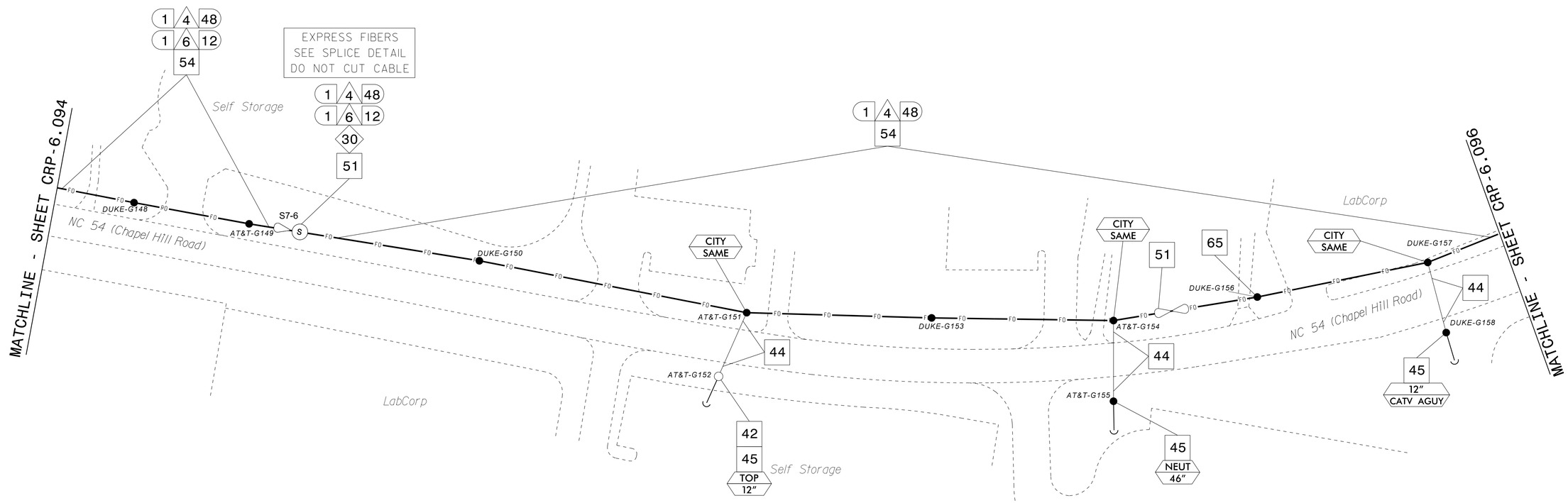


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| | | | |
|---|---|---|---|
| 1 INSTALL CATEGORY 6 CABLE | 11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD | 22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CABINET ENTRANCE WHEN AVAILABLE) | 32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER |
| 2 INSTALL LOW VOLTAGE POWER CABLE (24VAC) | 12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING | 23 INSTALL NEW RISER INTO CABINET BASE (USE EX CABINET ENTRANCE WHEN AVAILABLE) | 33 REMOVE EXISTING SPLICE /HUB / CCTV CABINET |
| 3 INSTALL COMPOSITE CCTV CABLE | 13 INSTALL HEAT SHRINK TUBING KIT | 24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET | 34 INSTALL CABINET FOUNDATION |
| 4 INSTALL SMFO CABLE | 14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT | 25 INSTALL NEW RISER INTO POLE MOUNTED CABINET | 35 REMOVE EXISTING CABINET FOUNDATION |
| 5 INSTALL COAXIAL ANTENNA CABLE | 15 DIRECTIONAL DRILL CONDUIT | 26 INSTALL DIGITAL VIDEO ENCODER | 36 INSTALL CCTV CAMERA ASSEMBLY |
| 6 INSTALL FIBER-OPTIC DROP CABLE | 16 BORE AND JACK CONDUIT | 27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET | 37 INSTALL CCTV WOOD POLE |
| 7 INSTALL TRACER WIRE | 17 INSTALL CABLE(S) IN EXISTING CONDUIT | 28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET | 38 INSTALL STANDARD SIZE JUNCTION BOX |
| 8 INSTALL CONDUIT UNDERGROUND | 18 INSTALL CABLE(S) IN NEW CONDUIT | 29 INSTALL UNDERGROUND SPLICE ENCLOSURE | 39 INSTALL SPECIAL-SIZED JUNCTION BOX |
| 9 INSTALL PVC CONDUIT | 19 INSTALL CABLE(S) IN EXISTING RISER(S) | 30 INSTALL AERIAL SPLICE ENCLOSURE | 40 INSTALL OVER-SIZED JUNCTION BOX |
| 10 INSTALL RIGID, GALVANIZED STEEL CONDUIT | 20 INSTALL CABLE(S) IN NEW RISER(S) | 31 INSTALL SPLICE CABINET | 41 REMOVE EXISTING JUNCTION BOX |
| | 21 INSTALL CABLE(S) IN EXISTING CABINET ENTRANCE | | 42 INSTALL WOOD POLE |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 43 | REMOVE EXISTING WOOD POLE | 55 | LASH CABLE(S) TO EXISTING MESSENGER CABLE | 66 | BOND RISER TO POLE GROUND |
| 44 | INSTALL AERIAL GUY ASSEMBLY | 56 | LASH CABLE(S) TO NEW MESSENGER CABLE | 67 | BOND TRACER WIRE TO EQUIPMENT GROUND BUS |
| 45 | INSTALL STANDARD GUY ASSEMBLY | 57 | MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV | 68 | BOND TRACER WIRE TO POLE GROUND |
| 46 | INSTALL SIDEWALK GUY ASSEMBLY | 58 | INSTALL NEW ELECTRICAL SERVICE FOR CCTV OR RADIO | 69 | HANDLASH AND INSTALL AERIAL CABLE PROTECTOR |
| 47 | INSTALL MESSENGER CABLE | 59 | INSTALL NEW POLE MOUNTED CCTV CABINET (336) | 70 | INSTALL CCTV CABINET DISCONNECT |
| 48 | REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE | 60 | INSTALL NEW CCTV CABINET (NEMA TYPE 4) | 71 | INSTALL MANAGED ETHERNET SWITCH |
| 49 | REMOVE EXISTING COMMUNICATIONS CABLE | 60A | INSTALL NEW POLE MOUNTED CABINET FOR ANTENNA (RADIO CABINET) | 72 | INSTALL CCTV METAL POLE |
| 50 | INSTALL SERVICE CONDUCTORS | 61 | REMOVE EXISTING CCTV CAMERA ASSEMBLY | 73 | REMOVE EXISTING CCTV METAL POLE |
| 51 | INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE | 62 | NEW CABINET ENTRANCE INTO NEW FOUNDATION | 74 | REMOVE WIRELESS COMMUNICATIONS EQUIPMENT |
| 52 | INSTALL DELINEATOR MARKER | 63 | DRILL/CORE DRILL EXISTING FOUNDATION | 75 | BACKPULL AND COIL CITY IT CABLE |
| 53 | STORE 30' OF COMMUNICATIONS CABLE (EACH CABLE) | 64 | INTERCEPT AND REROUTE EXISTING CONDUITS | 76 | INSTALL 2.4 GHZ RADIO AND PANEL ANTENNA |
| 54 | LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE | 65 | BOND MESSENGER TO POLE GROUND | 77 | INSTALL BASE MOUNTED CCTV CABINET WITH EXTENDER (336) |

*ATTACHMENT POINT:*

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*CONSTRUCTION NOTE SYMBOLOGY KEY*

NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS, ANTENNAS — XX

NUMBER OF FIBERS/TWISTED PAIRS — XX

NUMBER OF RISER(S)/ CONDUIT(S) — XX

DIAMETER OF RISER(S)/ CONDUIT(S) (IN) — XX

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

750 Greenfield Parkway, Garner, NC 27529

# Burlington-Graham Signal System Cable Routing Plans

Division 7 — Alamance County — Burlington & Graham

PLAN DATE: June 2018 — REVIEWED BY: M B Toth

PREPARED BY: AME/AJH/VJP/NAP/JAW — REVIEWED BY: BJ Slocum

SCALE 0 50 — 1"=50'

| REVISIONS | INIT. | DATE |
|---|---|---|
| | | |

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 025892 ENGINEER MELISSA B. TOTH

DocuSigned by: Melissa B. Toth — 6/13/2018
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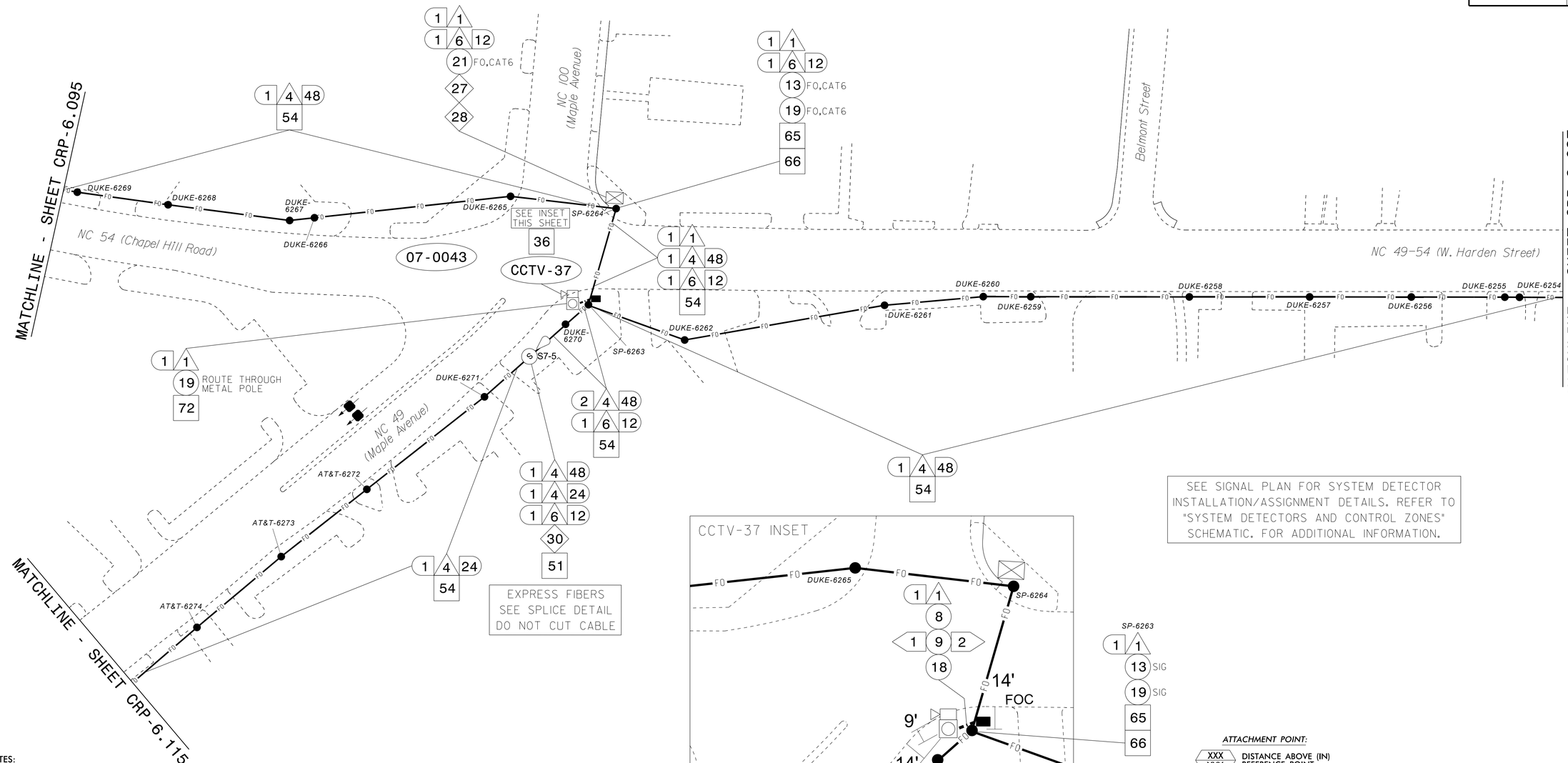
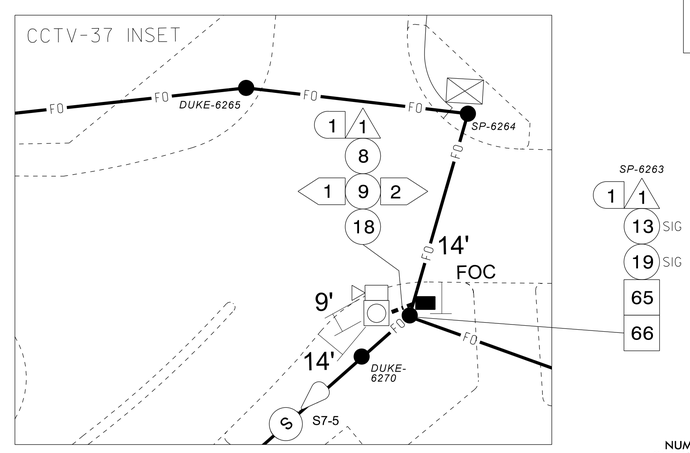



SEE SIGNAL PLAN FOR SYSTEM DETECTOR INSTALLATION/ASSIGNMENT DETAILS. REFER TO "SYSTEM DETECTORS AND CONTROL ZONES" SCHEMATIC. FOR ADDITIONAL INFORMATION.

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PREPARED BY: AME/AJH/VJP/NAP/JAW — REVIEWED BY: BJ Slocum

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NORTH CAROLINA PROFESSIONAL SEAL 025892 ENGINEER MELISSA B. TOTH

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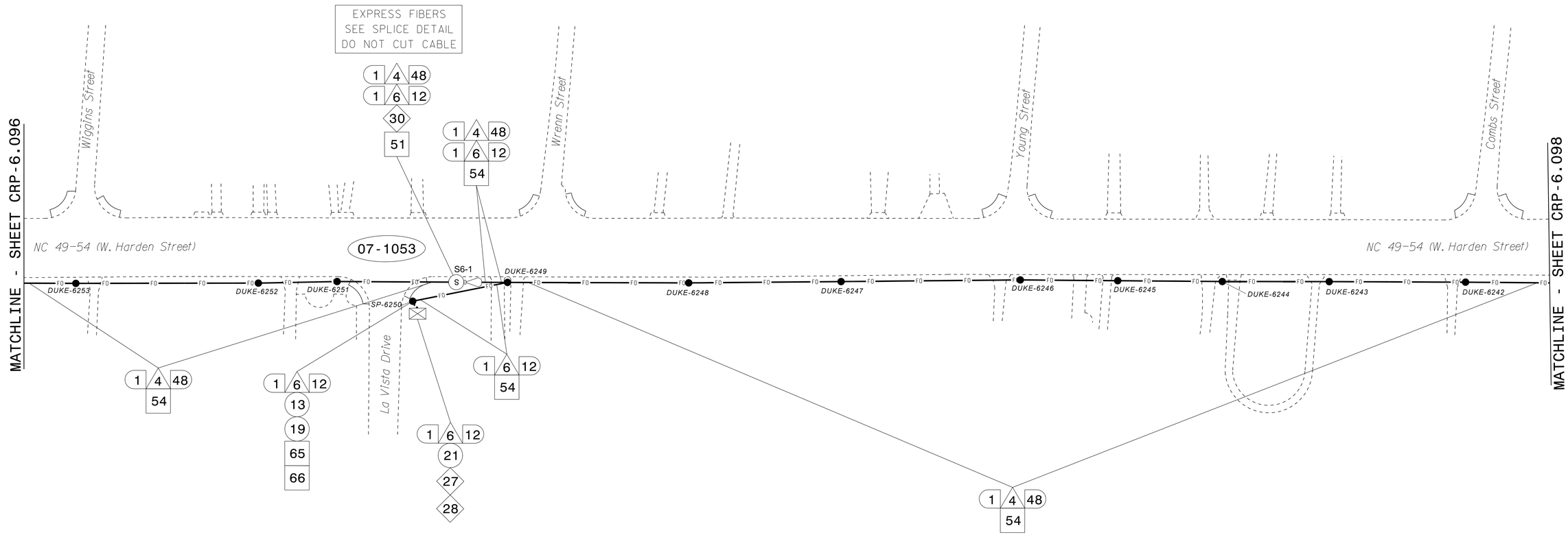


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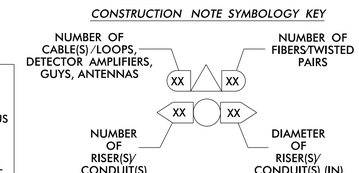
*CONSTRUCTION NOTE SYMBOLOGY KEY*

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*Prepared for the Offices of:*

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

750 Greenfield Parkway, Garner, NC 27529

# Burlington-Graham Signal System Cable Routing Plans

Division 7 Alamance County Burlington & Graham

| | | | |
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| PLAN DATE: June 2018 | | REVIEWED BY: | M B Toth |
| PREPARED BY: AWE/AJH/VJP/NAP/JAW | | REVIEWED BY: | BJ Slocum |

SCALE 0 50 1"=50'

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DocuSigned by: Melissa B. Toth DB6DCF8E04D04AF... 6/13/2018 DATE

CADD Filename: CL-097.dgn

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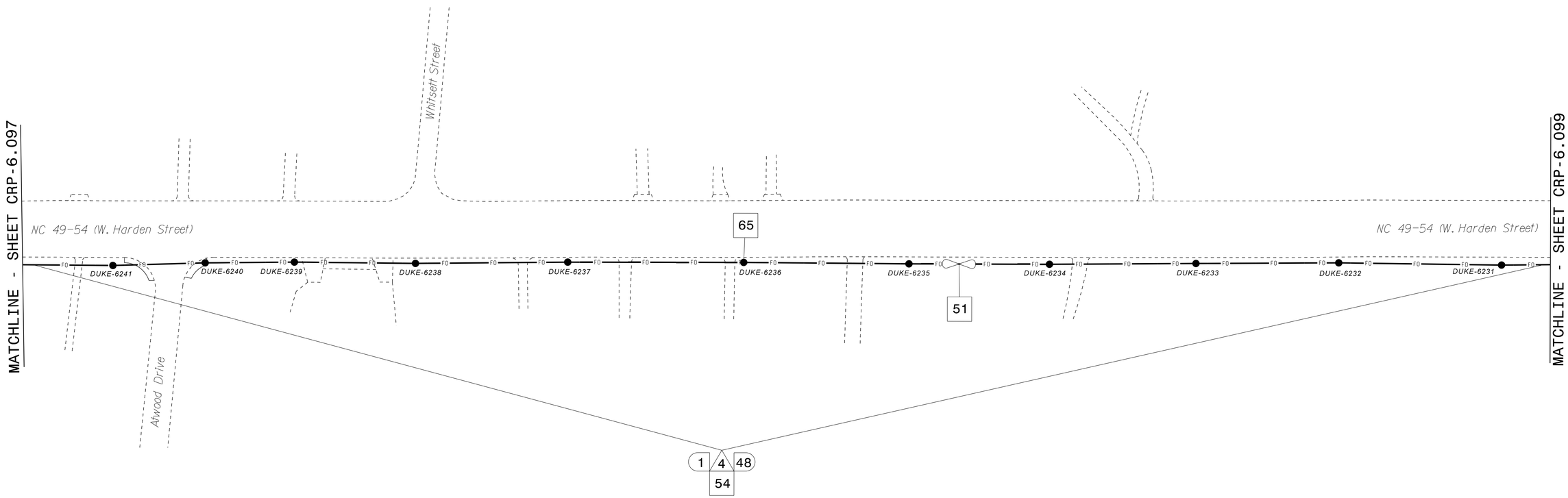


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Intelligent Transportation Systems Section
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

750 Greenfield Parkway, Garner, NC 27529

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Division 7 — Alamance County — Burlington & Graham

PLAN DATE: June 2018 — REVIEWED BY: M B Toth

PREPARED BY: AME/AJH/VJP/NAP/JAW — REVIEWED BY: BJ Slocum

SCALE: 0 — 50, 1"=50'

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NORTH CAROLINA PROFESSIONAL SEAL 025892 ENGINEER MELISSA B. TOTH

DocuSigned by: Melissa B. Toth — 6/13/2018
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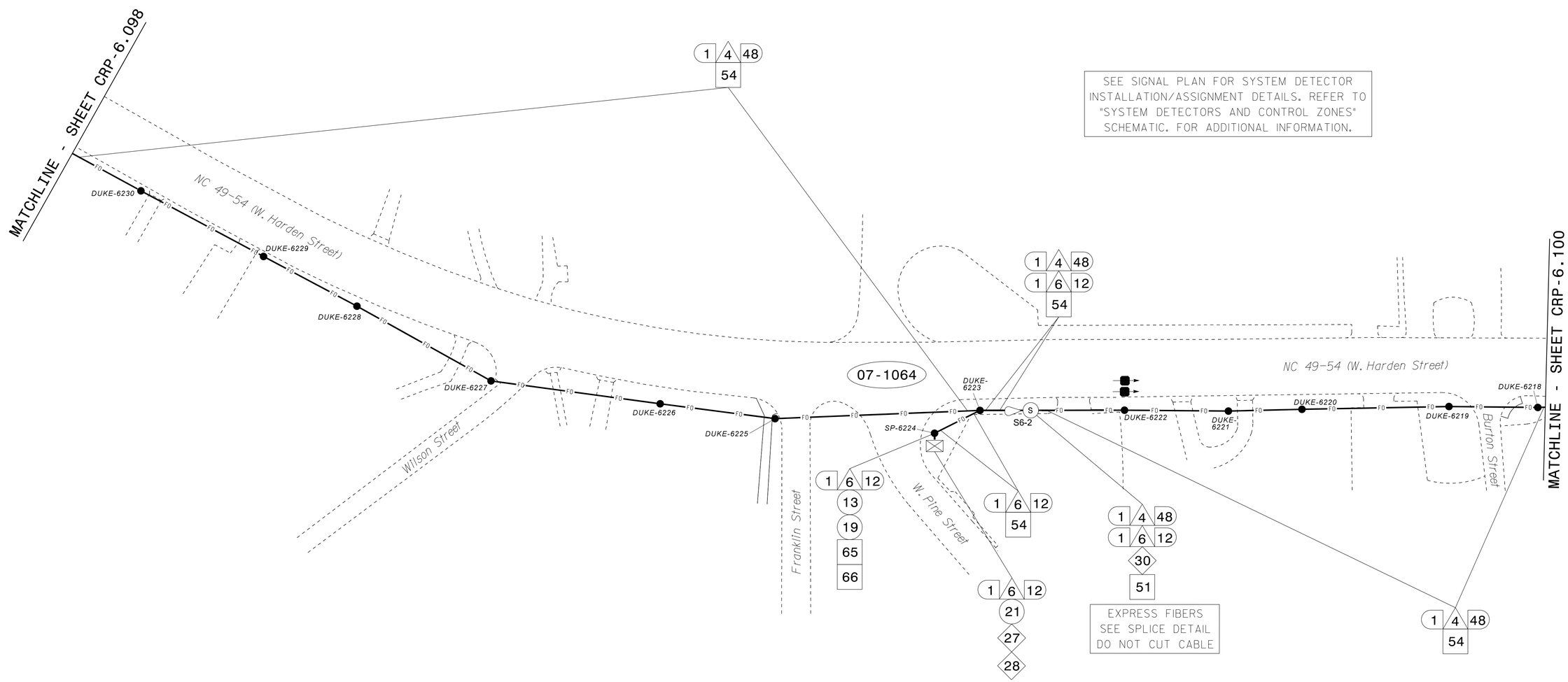


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750 Greenfield Parkway, Garner, NC 27529

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Division 7 | Alamance County | Burlington & Graham

PLAN DATE: June 2018 | REVIEWED BY: M B Toth

PREPARED BY: AME/AJH/VJP/NAP/JAW | REVIEWED BY: BJ Slocum

SCALE 0 50 1"=50'

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NORTH CAROLINA PROFESSIONAL SEAL 025892 ENGINEER MELISSA B. TOTH

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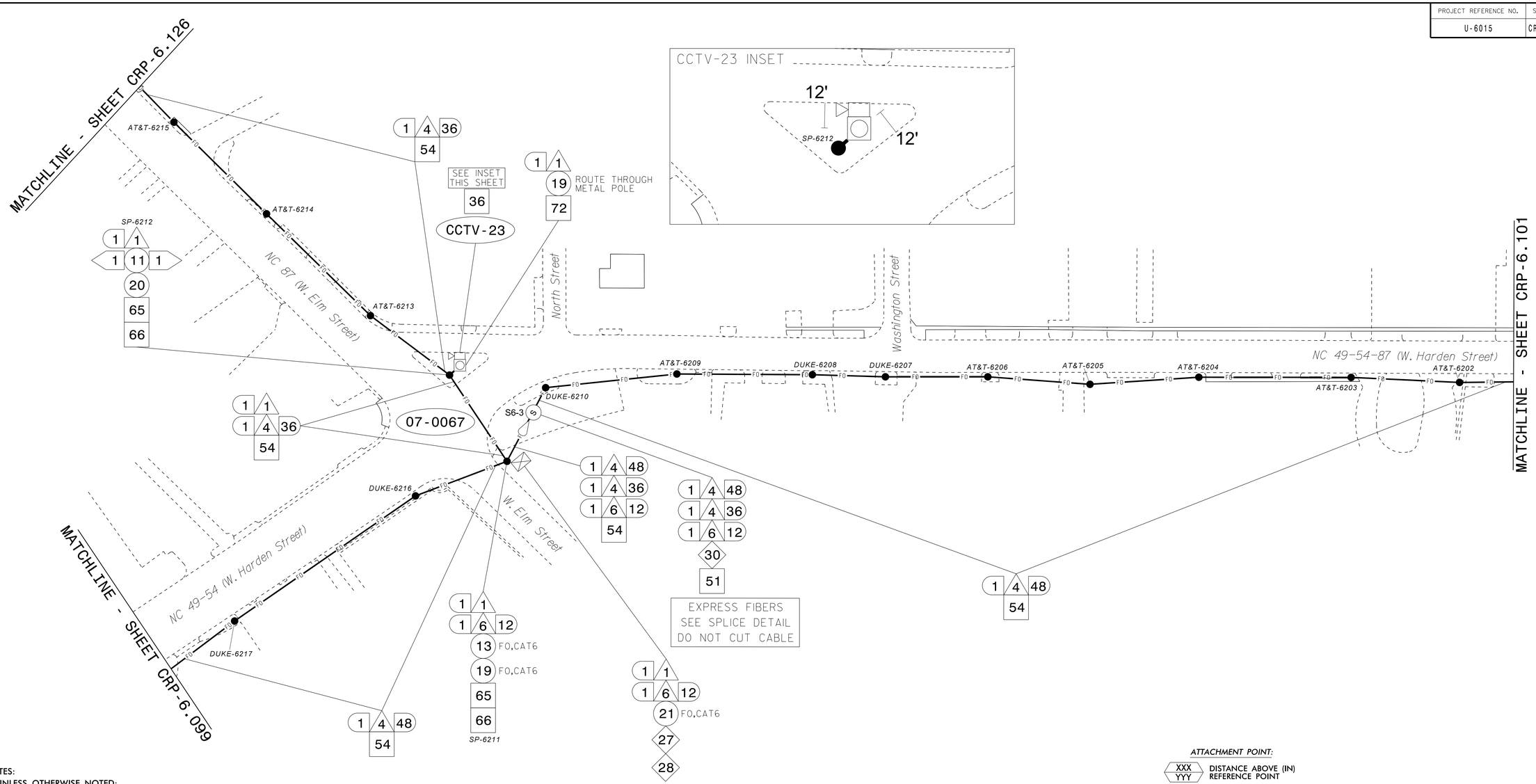


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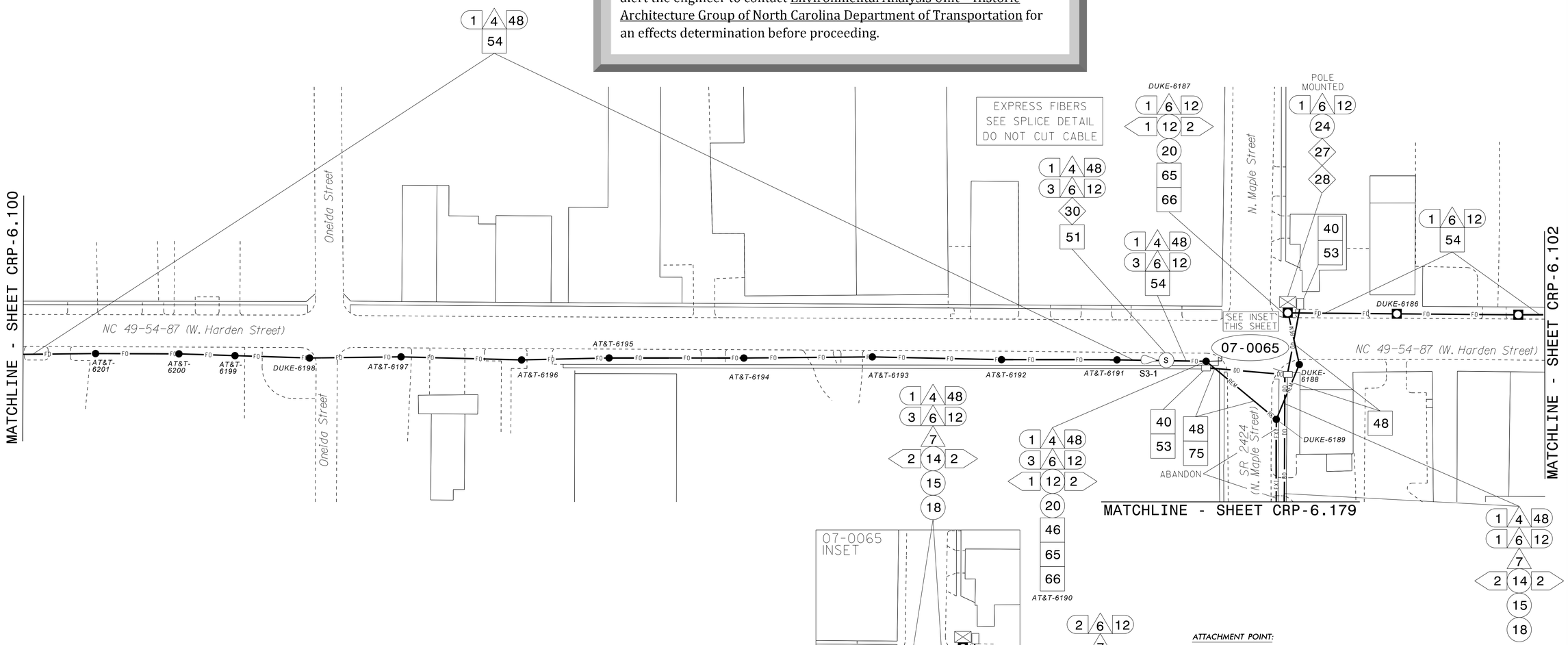
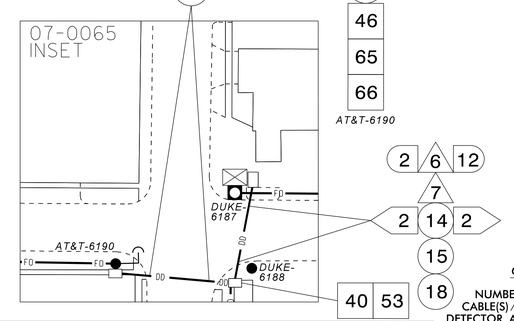
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-6015 | CRP-6.101 |

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




NOTES:
1. UNLESS OTHERWISE NOTED:
   - OVERLASH NEW FIBER OPTIC CABLE TO EXISTING COMMUNICATIONS CABLE.
   - ATTACH NEW MESSENGER CABLE 40" BELOW POWER.
   - ATTACH ON FRONT SIDE (FS) OF POLE.
2. SEAL ALL CONDUIT ENDS WITH DUCT AND CONDUIT SEALER AT ALL JUNCTION BOX / CABINET ENTRANCES.

*ATTACHMENT POINT:*

XXX / YYY — DISTANCE ABOVE (IN) / REFERENCE POINT

YYY / XXX — REFERENCE POINT / DISTANCE BELOW (IN)

*CONSTRUCTION NOTE SYMBOLOGY KEY*

NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS, ANTENNAS — XX

NUMBER OF FIBERS/TWISTED PAIRS — XX

NUMBER OF RISER(S)/ CONDUIT(S) — XX

DIAMETER OF RISER(S)/ CONDUIT(S) (IN) — XX

1. INSTALL CATEGORY 6 CABLE
2. INSTALL LOW VOLTAGE POWER CABLE (24VAC)
3. INSTALL COMPOSITE CCTV CABLE
4. INSTALL SMFO CABLE
5. INSTALL COAXIAL ANTENNA CABLE
6. INSTALL FIBER-OPTIC DROP CABLE
7. INSTALL TRACER WIRE
8. INSTALL CONDUIT UNDERGROUND
9. INSTALL PVC CONDUIT
10. INSTALL RIGID, GALVANIZED STEEL CONDUIT
11. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
12. INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING
13. INSTALL HEAT SHRINK TUBING KIT
14. INSTALL HIGH DENSITY POLYETHYLENE CONDUIT
15. DIRECTIONAL DRILL CONDUIT
16. BORE AND JACK CONDUIT
17. INSTALL CABLE(S) IN EXISTING CONDUIT
18. INSTALL CABLE(S) IN NEW CONDUIT
19. INSTALL CABLE(S) IN EXISTING RISER(S)
20. INSTALL CABLE(S) IN NEW RISER(S)
21. INSTALL CABLE(S) IN EXISTING CABINET ENTRANCE
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CABINET ENTRANCE WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CABINET ENTRANCE WHEN AVAILABLE)
24. INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
25. INSTALL NEW RISER INTO POLE MOUNTED CABINET
26. INSTALL DIGITAL VIDEO ENCODER
27. INSTALL NEW ETHERNET EDGE SWITCH IN CABINET
28. INSTALL INTERCONNECT CENTER, PATCH PANEL JUMPERS, AND FUSION SPLICE CABLE IN CABINET
29. INSTALL UNDERGROUND SPLICE ENCLOSURE
30. INSTALL AERIAL SPLICE ENCLOSURE
31. INSTALL SPLICE CABINET
32. MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER
33. REMOVE EXISTING SPLICE /HUB / CCTV CABINET
34. INSTALL CABINET FOUNDATION
35. REMOVE EXISTING CABINET FOUNDATION
36. INSTALL CCTV CAMERA ASSEMBLY
37. INSTALL CCTV WOOD POLE
38. INSTALL STANDARD SIZE JUNCTION BOX
39. INSTALL SPECIAL-SIZED JUNCTION BOX
40. INSTALL OVER-SIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
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44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL SERVICE CONDUCTORS
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 30' OF COMMUNICATIONS CABLE (EACH CABLE)
54. LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE
55. LASH CABLE(S) TO EXISTING MESSENGER CABLE
56. LASH CABLE(S) TO NEW MESSENGER CABLE
57. MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV OR RADIO
59. INSTALL NEW POLE MOUNTED CCTV CABINET (336)
60. INSTALL NEW CCTV CABINET (NEMA TYPE 4)
60A. INSTALL NEW POLE MOUNTED CABINET FOR ANTENNA (RADIO CABINET)
61. REMOVE EXISTING CCTV CAMERA ASSEMBLY
62. NEW CABINET ENTRANCE INTO NEW FOUNDATION
63. DRILL/CORE DRILL EXISTING FOUNDATION
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
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72. INSTALL CCTV METAL POLE
73. REMOVE EXISTING CCTV METAL POLE
74. REMOVE WIRELESS COMMUNICATIONS EQUIPMENT
75. BACKPULL AND COIL CITY IT CABLE
76. INSTALL 2.4 GHZ RADIO AND PANEL ANTENNA
77. INSTALL BASE MOUNTED CCTV CABINET WITH EXTENDER (336)

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:*

750 Greenfield Parkway, Garner, NC 27529

# Burlington-Graham Signal System Cable Routing Plans

Division 7 Alamance County Burlington & Graham

PLAN DATE: June 2018 REVIEWED BY: M B Toth

PREPARED BY: AME/AJH/VJP/NAP/JAW REVIEWED BY: BJ Slocum

SCALE 1"=50' (0 – 50)

| REVISIONS | INIT. | DATE |
|---|---|---|
| | | |

SEAL — NORTH CAROLINA PROFESSIONAL SEAL 025892 ENGINEER MELISSA B. TOTH

DocuSigned by: Melissa B. Toth D86DCF8E94004AF... 6/13/2018 DATE

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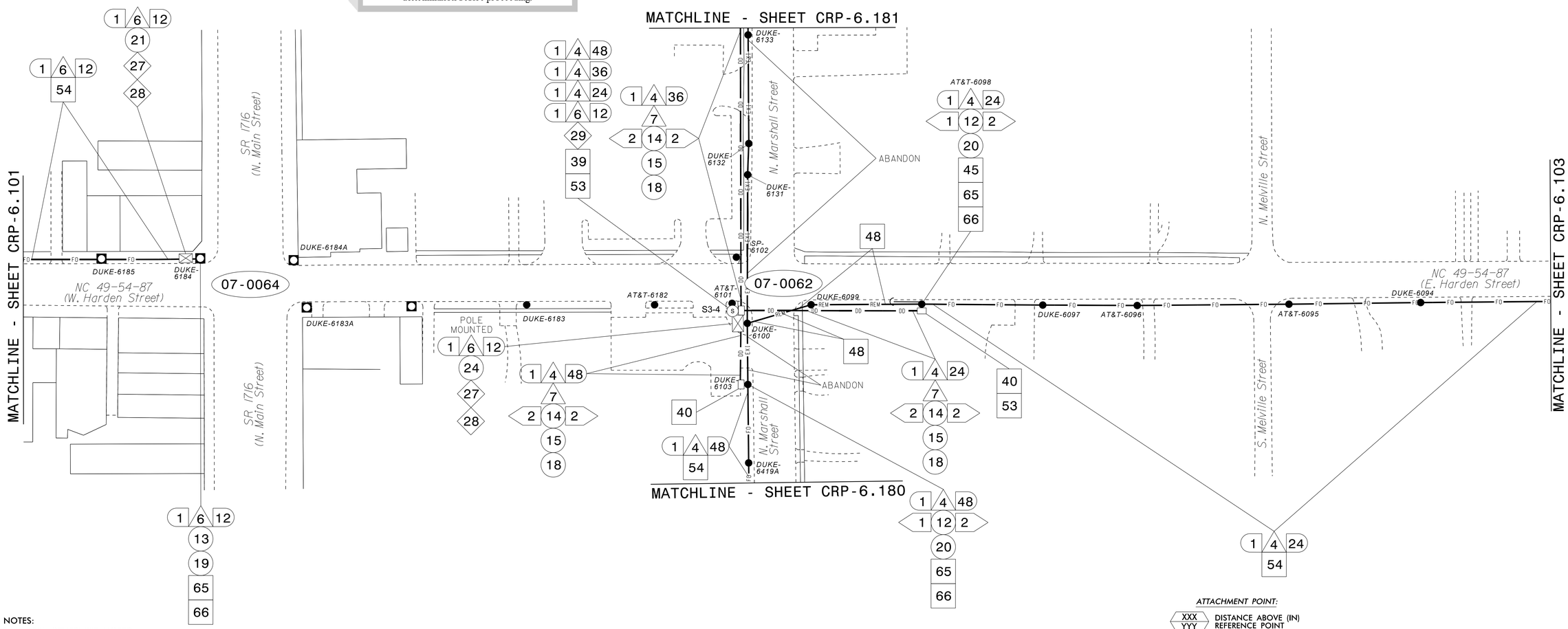
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-6015 | CRP-6.102 |

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.

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XX ○ XX

NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

ATKINS
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RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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*Prepared for the Offices of:*
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems Section
750 Greenfield Parkway, Garner, NC 27529

# Burlington-Graham Signal System Cable Routing Plans

Division 7 Alamance County Burlington & Graham

PLAN DATE: June 2018 REVIEWED BY: M B Toth

PREPARED BY: AWE/AJH/VJP/NAP/JAW REVIEWED BY: BJ Slocum

| REVISIONS | INIT. | DATE |
|---|---|---|
| | | |

SCALE 0 50 1"=50'

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

DocuSigned by: Melissa B. Toth 6/13/2018 DATE

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