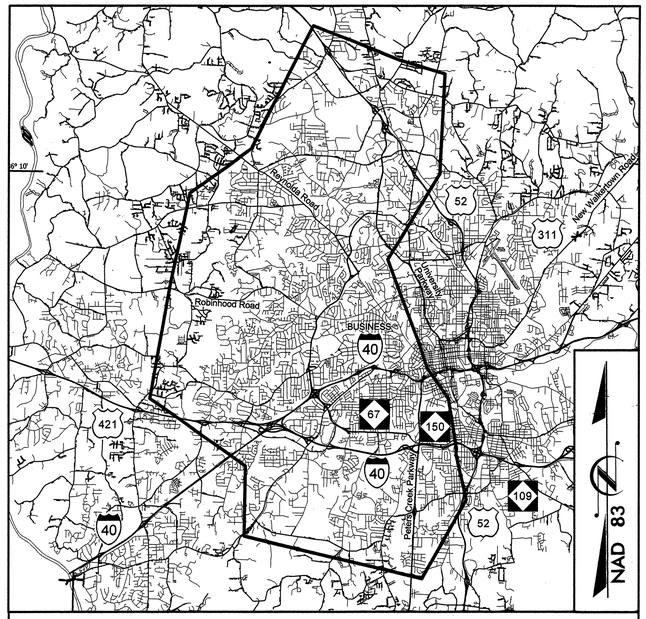
TIP PROJECT: C-5224B

CONTRACT: C203195 TB



VICINITY MAP

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED IMPROVEMENTS

CITY OF WINSTON-SALEM

COMPUTERIZED TRAFFIC SIGNAL SYSTEM

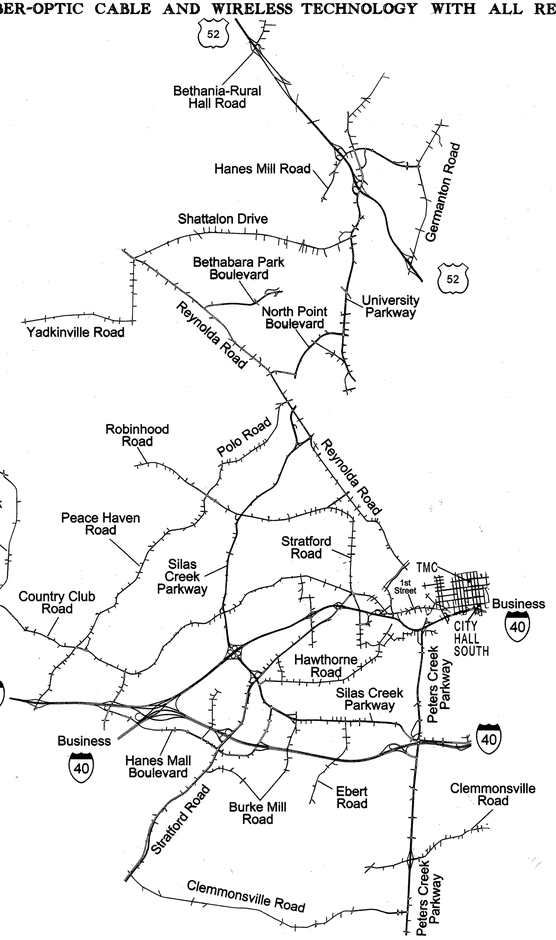
PHASE B: WESTERN SECTION

REPLACEMENT & EXPANSION OF THE 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; EXPANSION OF CCTV MONITORING NETWORK; AND INSTALLATION OF A 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.	C-5224B	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
45437.1.1		PE
45437.3.2	CMS-0918(94)	CONST

Part 2 of 2



Phase B

Volume I of III
Communications & CCTV Field Infrastructure, Building Modifications and Special Details

2012 STANDARD SPECIFICATIONS

LETTING DATE: JULY 16, 2013

PROJECT LENGTH = 75 MILES

750 Greenfield Parkway, Garner, NC 27529

NCDOT CONTACTS:
TRANSPORTATION MOBILITY & SAFETY DIVISION
INTELLIGENT TRANSPORTATION SYSTEMS SECTION
GREG A. FULLER, PE - STATE ITS & SIGNALS ENGINEER

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

J. TODD BROOKS, PE - ATKINS PROJECT MANAGER
LISA M. MOON, PE - ATKINS SENIOR PROJECT ENGINEER
H. ALFRED BADGETT, PE - ATKINS SENIOR PROJECT ENGINEER

Winston-Salem

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

SIGNATURE *DATE* 3-22-13

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-145

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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

No.	Construction Note
1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3	INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41	REMOVE EXISTING JUNCTION BOX
42	INSTALL WOOD POLE
43	REMOVE EXISTING WOOD POLE
44	INSTALL AERIAL GUY ASSEMBLY
45	INSTALL STANDARD GUY ASSEMBLY
46	INSTALL SIDEWALK GUY ASSEMBLY
47	INSTALL MESSENGER CABLE
48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49	REMOVE EXISTING COMMUNICATIONS CABLE
50	INSTALL WIRELESS DSL
51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52	INSTALL DELINEATOR MARKER
53	STORE 50 FEET 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/HUB
58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59	INSTALL NEW POLE MOUNTED CCTV CABINET
60	INSTALL NEW BASE MOUNTED CCTV CABINET
61	INSTALL UNI–DIRECTIONAL ANTENNA
62	NOT USED
63	INSTALL 900 MHZ ETHERNET RADIO
64	INTERCEPT AND REROUTE EXISTING CONDUITS
65	BOND MESSENGER TO POLE GROUND
66	BOND RISER TO POLE GROUND
67	BOND TRACER WIRE TO POLE GROUND
68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
70	NOT USED
71	NOT USED
72	INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

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

CONSTRUCTION NOTE SYMBOLOGY KEY

- XX (left of triangle) — NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS
- XX (right of triangle) — NUMBER OF FIBERS/TWISTED PAIRS
- XX (left of circle) — NUMBER OF RISER(S)/CONDUIT(S)
- XX (right of circle) — DIAMETER OF RISER(S)/CONDUIT(S) (IN)

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

Prepared for the Offices of:
Transportation Mobility and Safety Division, State of North Carolina Department of Transportation, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09	Forsyth County	Winston-Salem
PLAN DATE: March 2013	REVIEWED BY: MB Toth	
PREPARED BY: JAW/AJD	REVIEWED BY: LM Moon	

REVISIONS	INIT.	DATE

SCALE 0 50 — 1"=50'

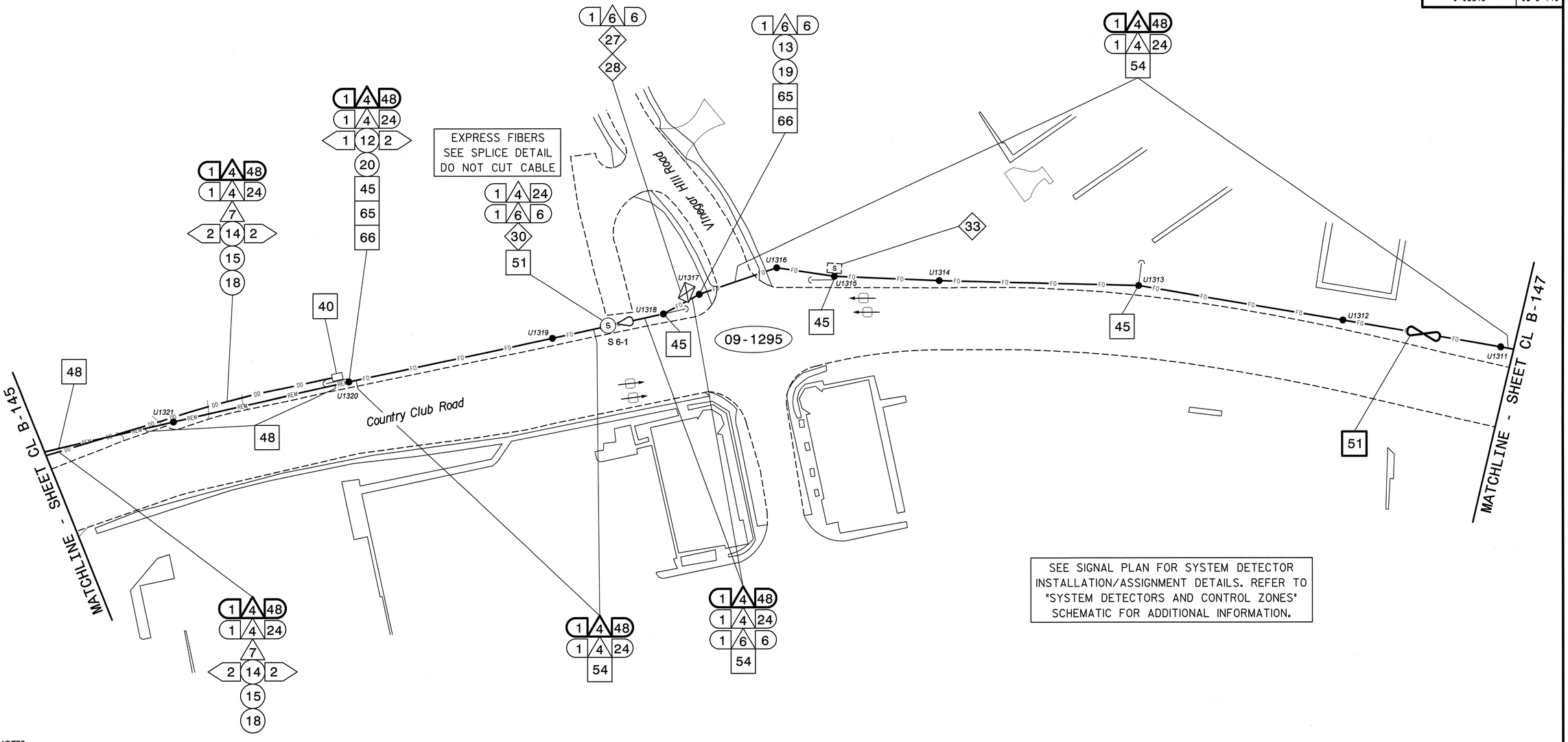
SEAL — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022516 LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-145.dgn

13-MAR-2013 13:12
O:*Transportation*Traffic*Curr*100022712 Winston Salem Sig Sys*CL*Phase B*CL B-145.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-146



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

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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX / YYY — DISTANCE ABOVE (IN) REFERENCE POINT
YYY / XXX — REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLES/LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISERS/ CONDUIT(S)
DIAMETER OF RISERS/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

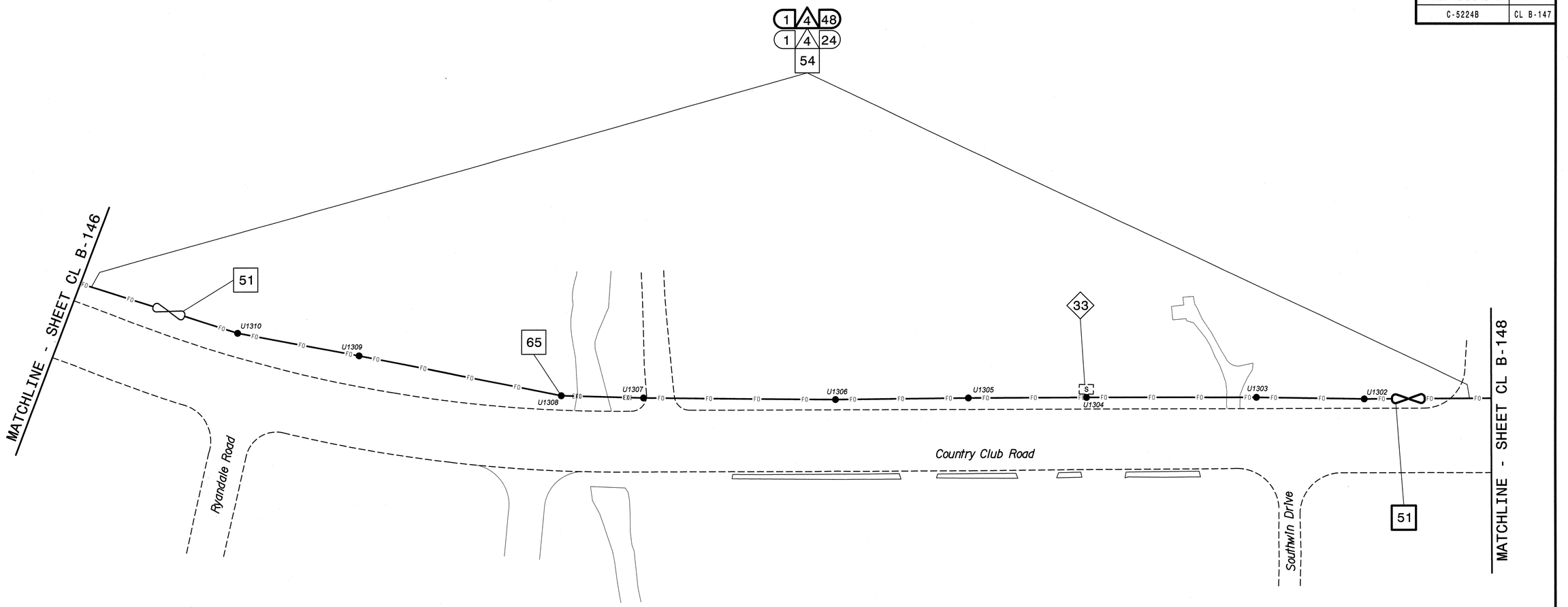
SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-27-13
SIGNATURE DATE
CADD Filename: CL B-146.dgn

13-MAR-2013 13:30
O:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-146.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-147



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

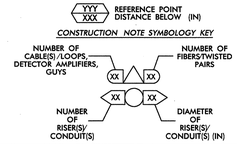
1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

XXX / YYY — DISTANCE ABOVE (IN) REFERENCE POINT

YYY / XXX — REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY



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

Prepared for the Offices of:

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

750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

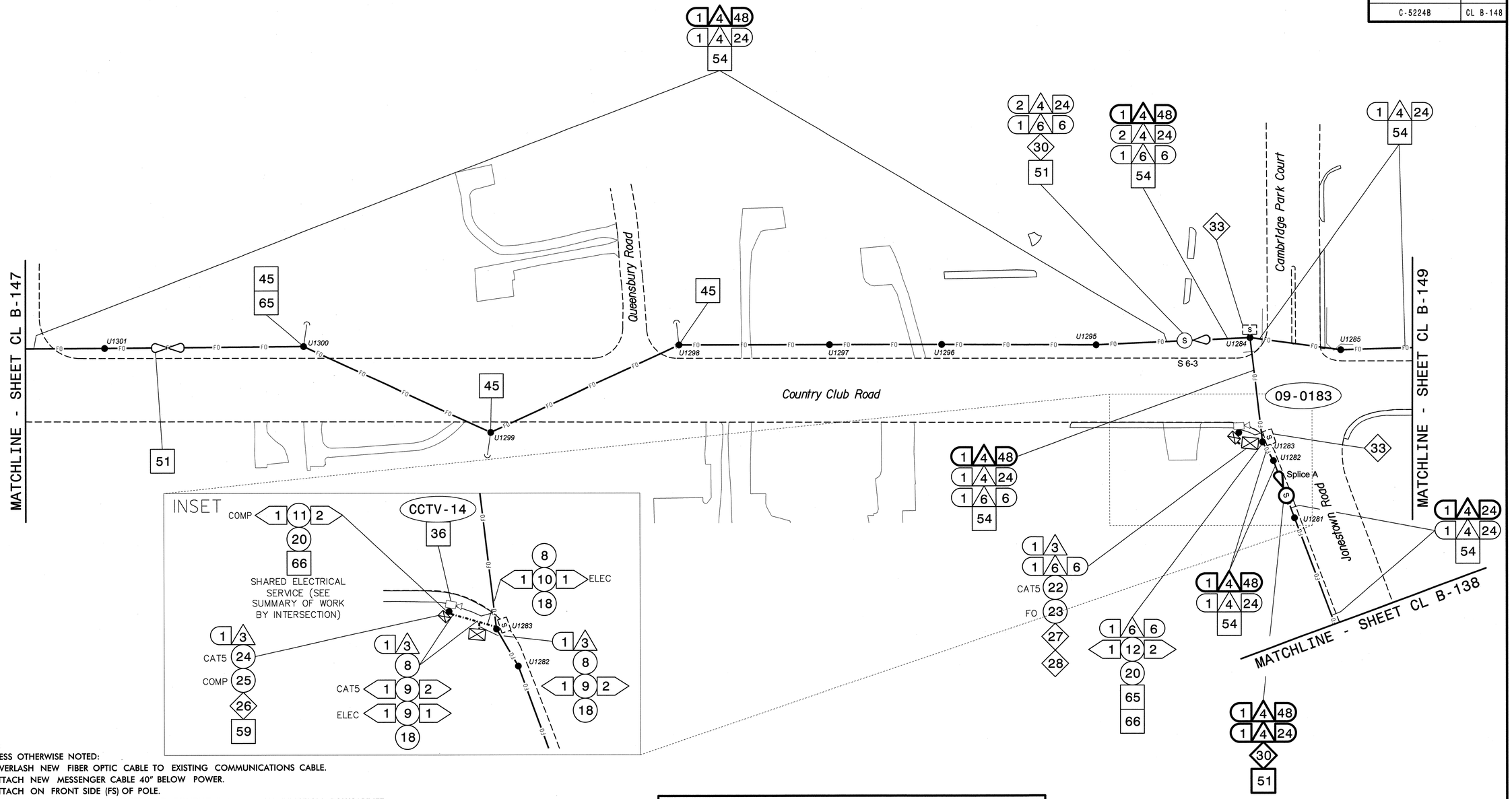
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

SIGNATURE Lisa M. Moon 3-22-13 DATE

CADD Filename: CL B-147.dgn

13-MAR-2013 13:30
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-147.dgn
13823

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-148



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI–DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
North Carolina Department of Transportation — Mobility and Safety Division — Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

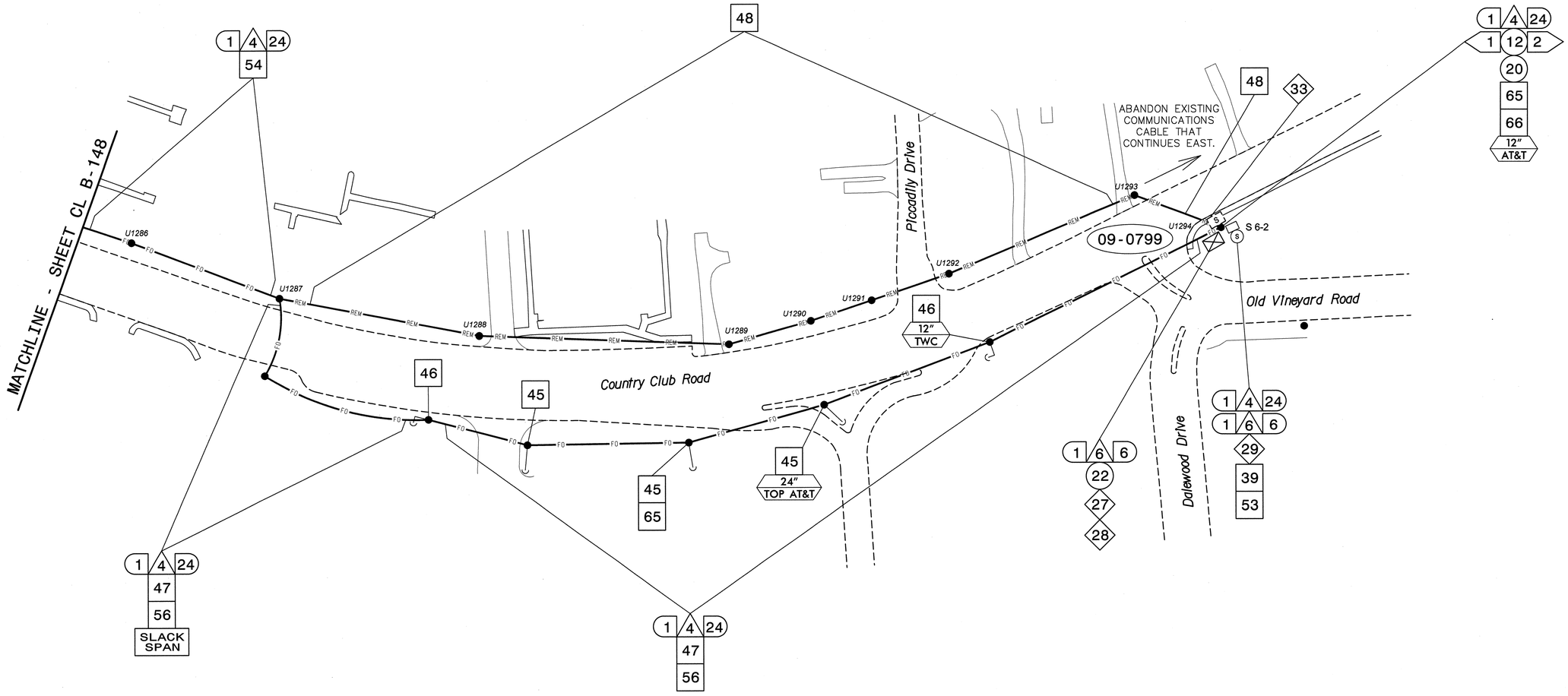
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-148.dgn

13-MAR-2013 13:30
01:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-148.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-149



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT
YYY DISTANCE BELOW (IN)
XXX REFERENCE POINT

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS,-DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

SCALE 0 50 1"=50'

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09	Forsyth County	Winston-Salem
PLAN DATE: March 2013	REVIEWED BY: MB Toth	
PREPARED BY: JAW/AJD	REVIEWED BY: LM Moon	

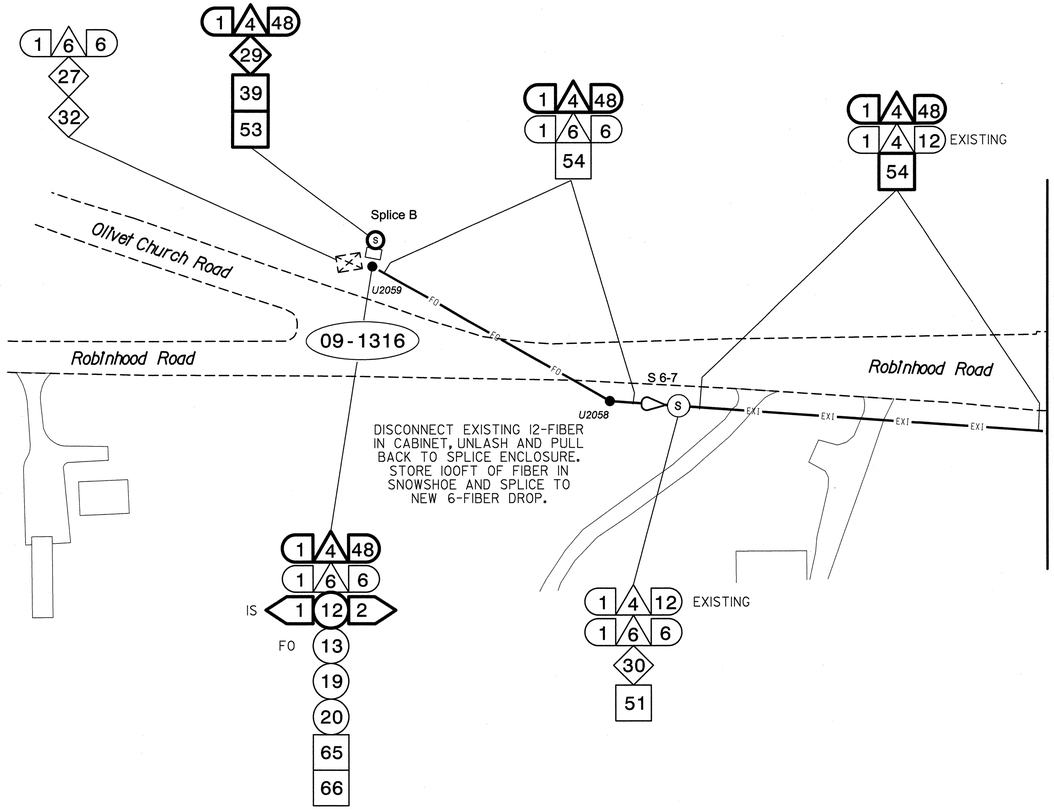
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-149.dgn

13-MAR-2013 13:30
O:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-149.dgn
3833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-150



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

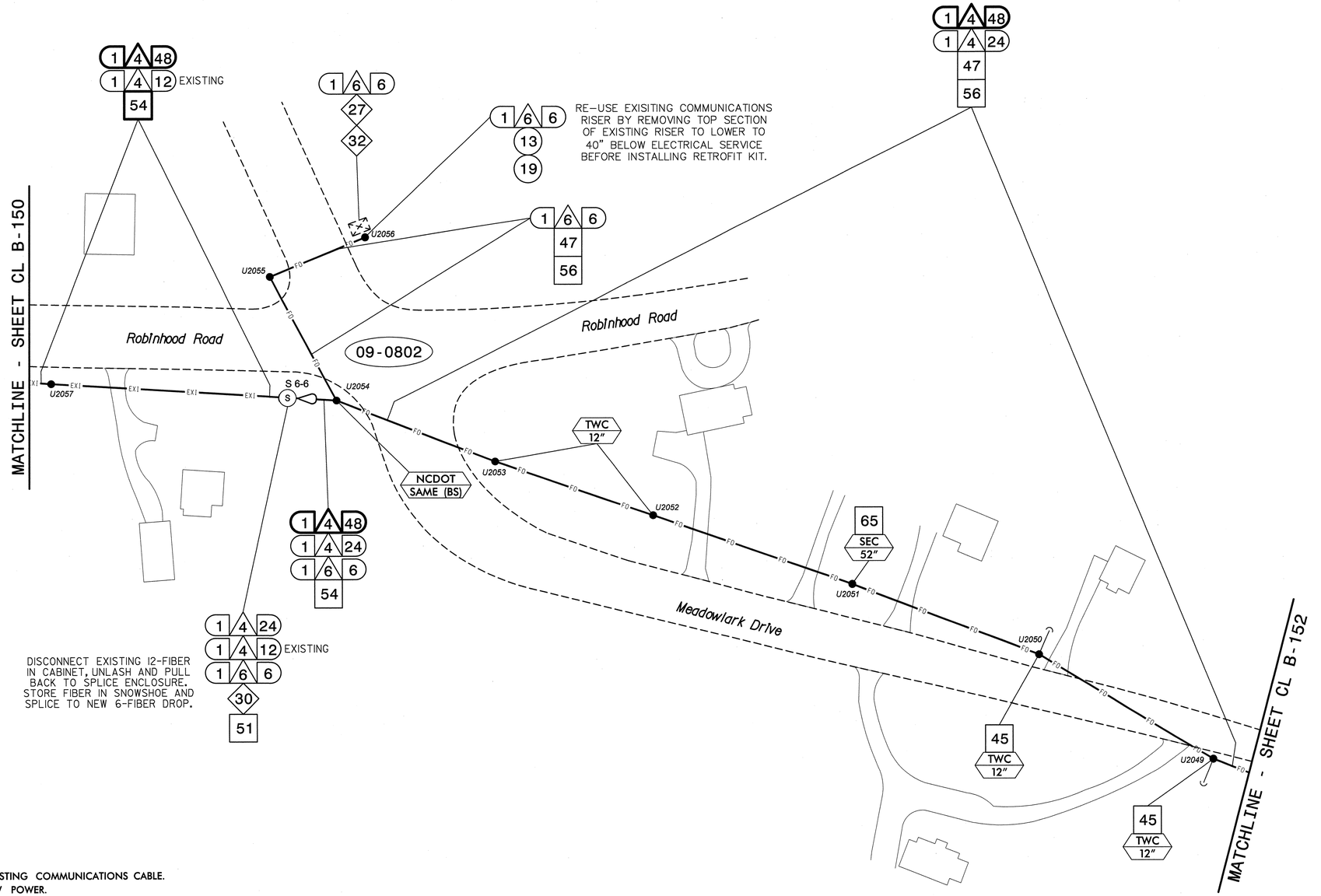
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-150.dgn

13-MAR-2013 13:30
D:\#transportation\Traffic\Curr\#100022712 Winston Salem Sig Sys\CL\#Phase B\#CL B-150.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-151



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE: March 2013 REVIEWED BY: MB Toth
PREPARED BY: JAW/AJD REVIEWED BY: LM Moon

SCALE 0 50 1"=50'

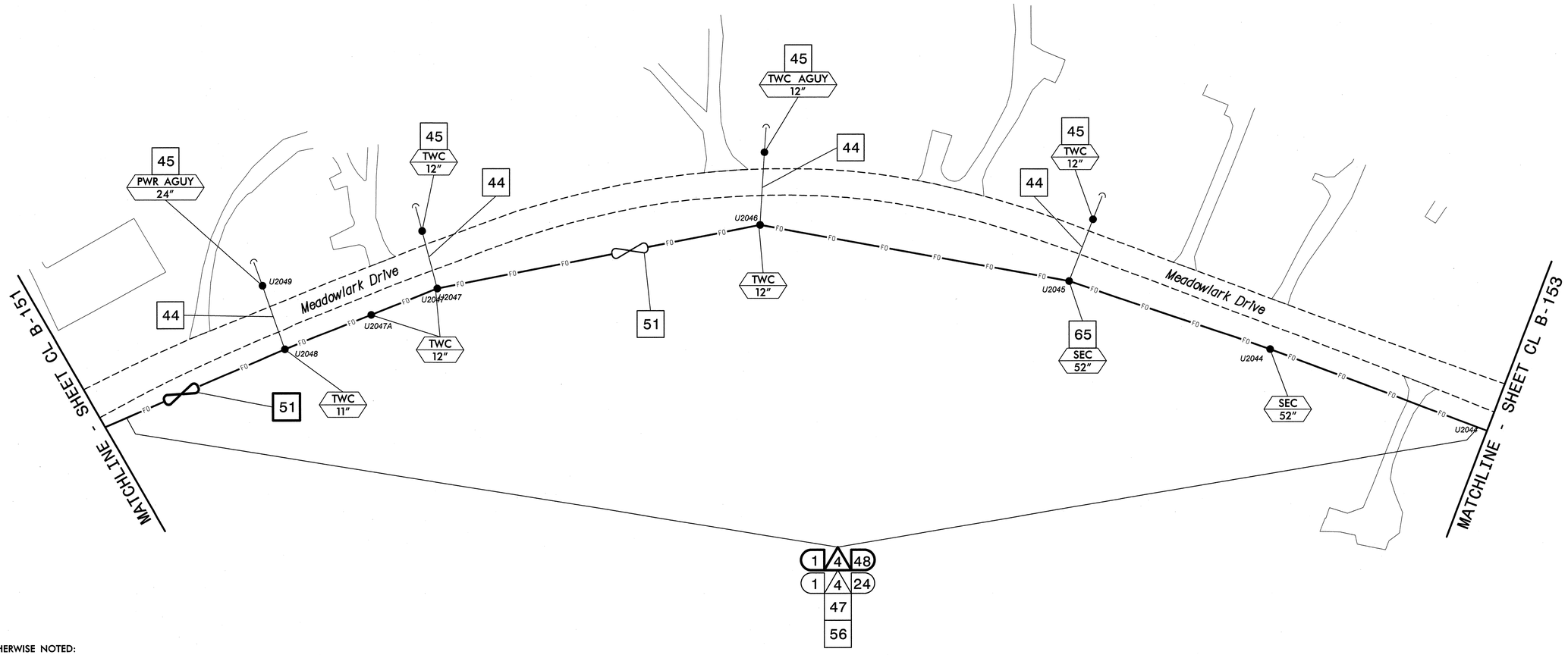
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-151.dgn

13-MAR-2013,13:30
N:\Transportation\Traffic\Curr#1000022712 Winston Salem Sig Sys#\CL#Phase B#\CL B-151.dgn
13B23

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-152



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA	
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED	
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO	
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS	
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND	
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND	
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND	
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS	
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY	
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED	
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED	
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH	

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
- NUMBER OF FIBERS/TWISTED PAIRS
- NUMBER OF RISER(S)/ CONDUIT(S)
- DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
Transportation Mobility and Safety Division
North Carolina Department of Transportation
Traffic Engineering Branch
Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

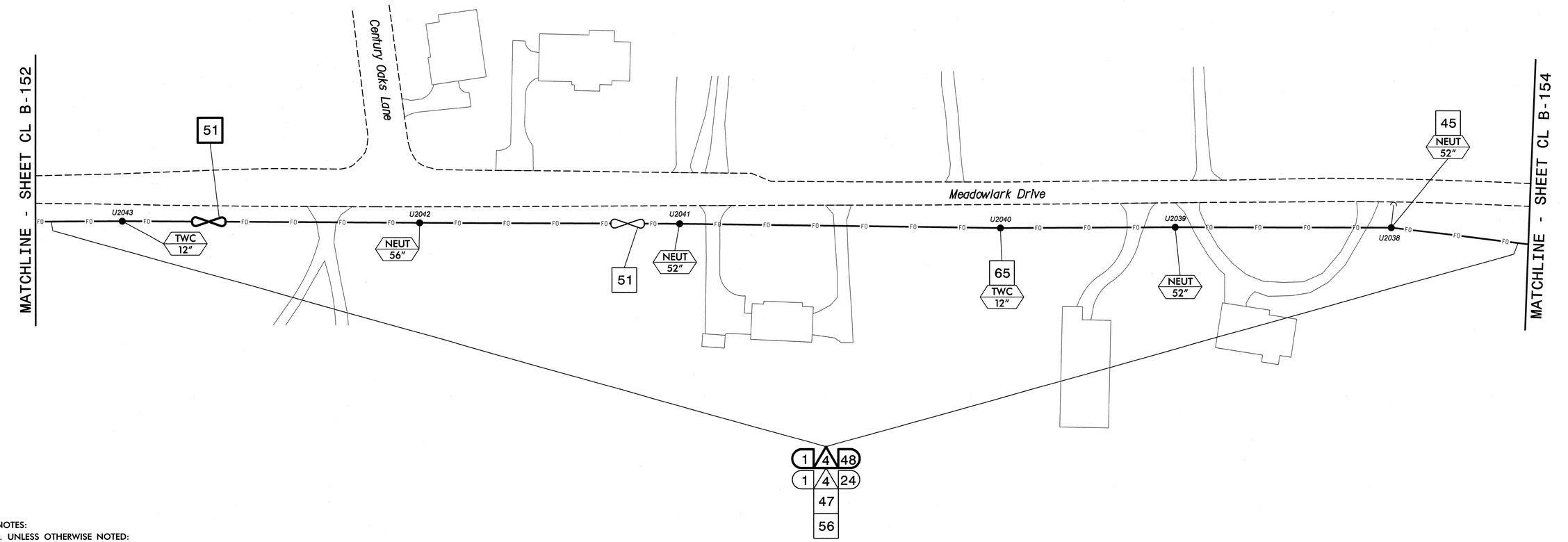
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-152.dgn

13-MAR-2013 13:30
D:\Transportation\Traffic\Curr#100022712 Winston Salem Sig Sys\CL#Phase B#CL B-152.dgn
13813

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-153



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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

NUMBER OF FIBERS/TWISTED PAIRS

NUMBER OF RISER(S)/ CONDUIT(S)

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

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

Prepared for the Offices of:

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

750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

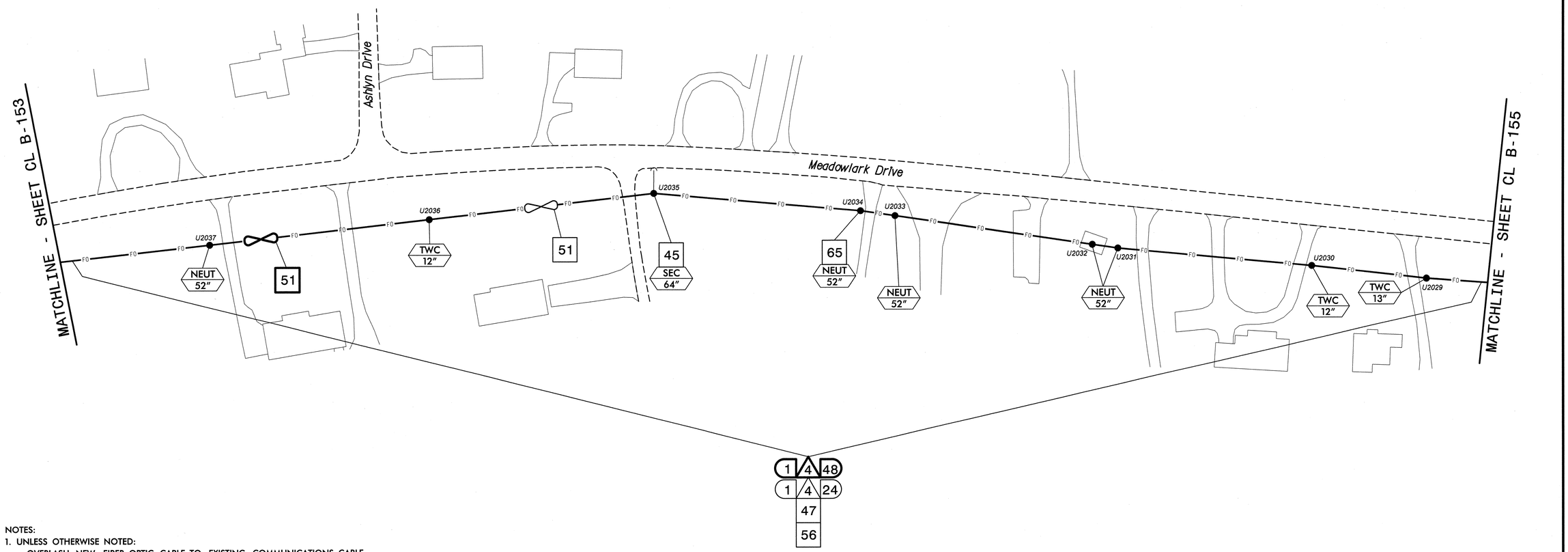
SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022516 LISA M. MOON

SIGNATURE Lisa M. Moon DATE 3-22-13

CADD Filename: CL B-153.dgn

13-MAR-2013 13:30
D:\Transportation\Traffic\Curr*\100022712 Winston Salem Sig Sys\CL*\Phase B*\CL B-153.dgn
13813

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-154



1 4 48
1 4 24
47
56

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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN) XXX

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS — NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

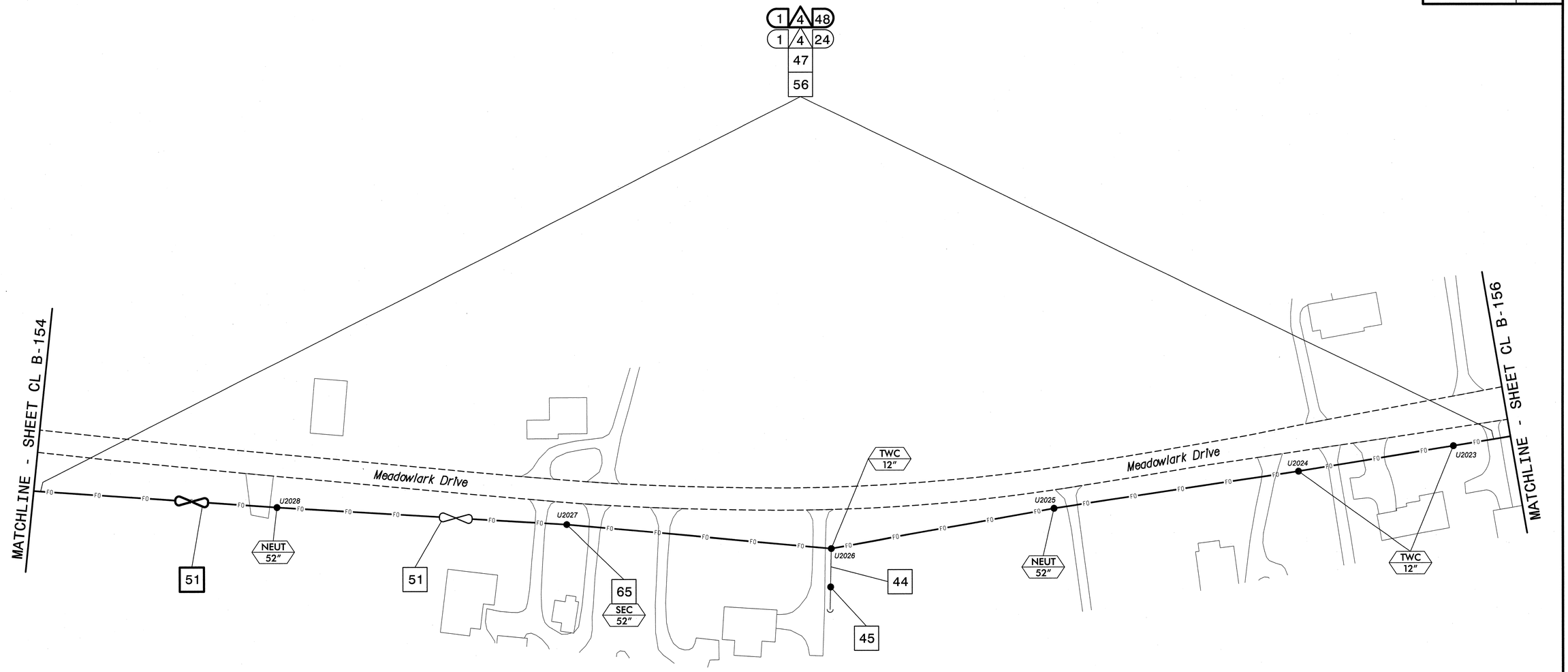
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-154.dgn

13-MAR-2013 13:30
O:*Transportation\Traffic\Curr*1000022712 Winston Salem Sig Sys*CL*Phase B*CL B-154.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-155



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

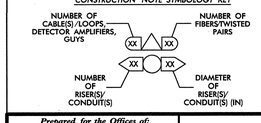
1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE	49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX	50	INSTALL WIRELESS DSL	62	NOT USED
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX	51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX	52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX	53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE	54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE	55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY	56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY	57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY	58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE	59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

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

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

CONSTRUCTION NOTE SYMBOLOGY KEY



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

Prepared for the Offices of:

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

750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LW Moon

SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

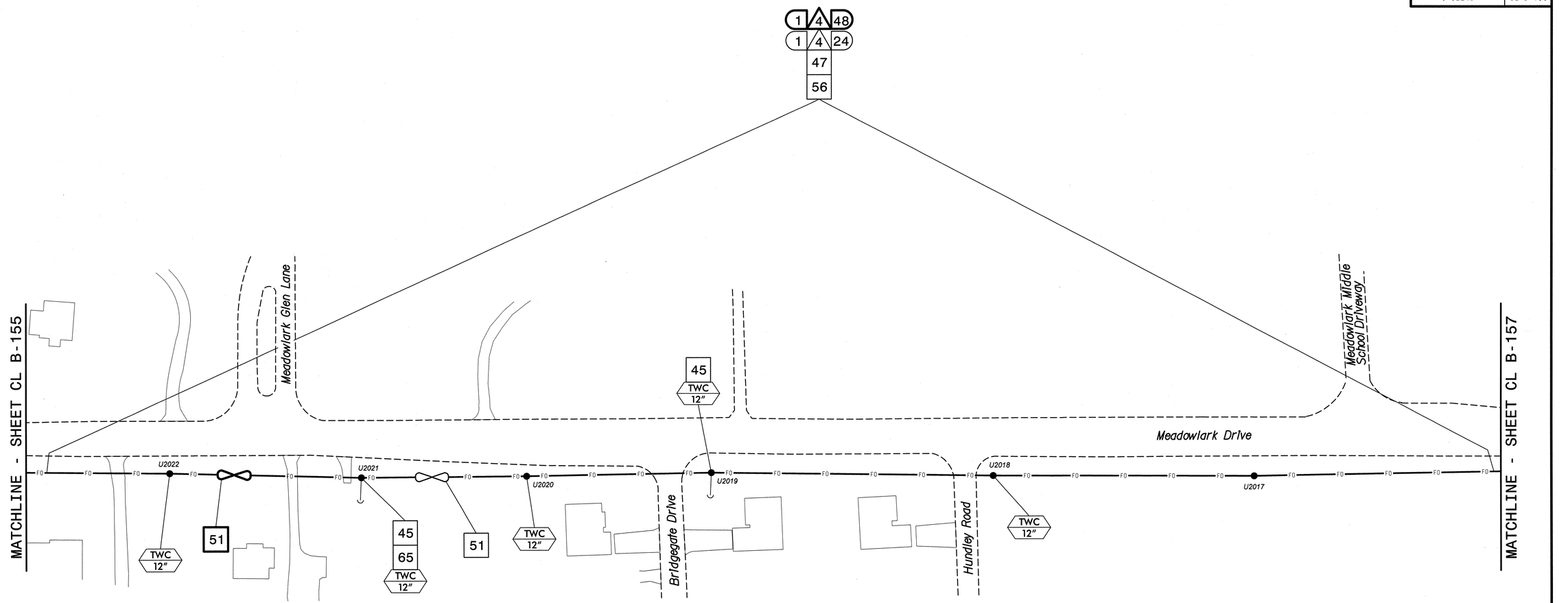
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-155.dgn

13-MAR-2013 13:30
D:\Transportation\Traffic\Curr#100022112 Winston Salem Sig Sys#CL B#Phase B#CL B-155.dgn
33653

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-156



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI–DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
- XXX / YYY — DISTANCE ABOVE (IN) / REFERENCE POINT
- YYY / XXX — REFERENCE POINT / DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
- NUMBER OF CABLES/LOOPS, DETECTOR AMPLIFIERS, GUYS
- NUMBER OF FIBERS/TWISTED PAIRS
- NUMBER OF RISER(S)/ CONDUIT(S)
- DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

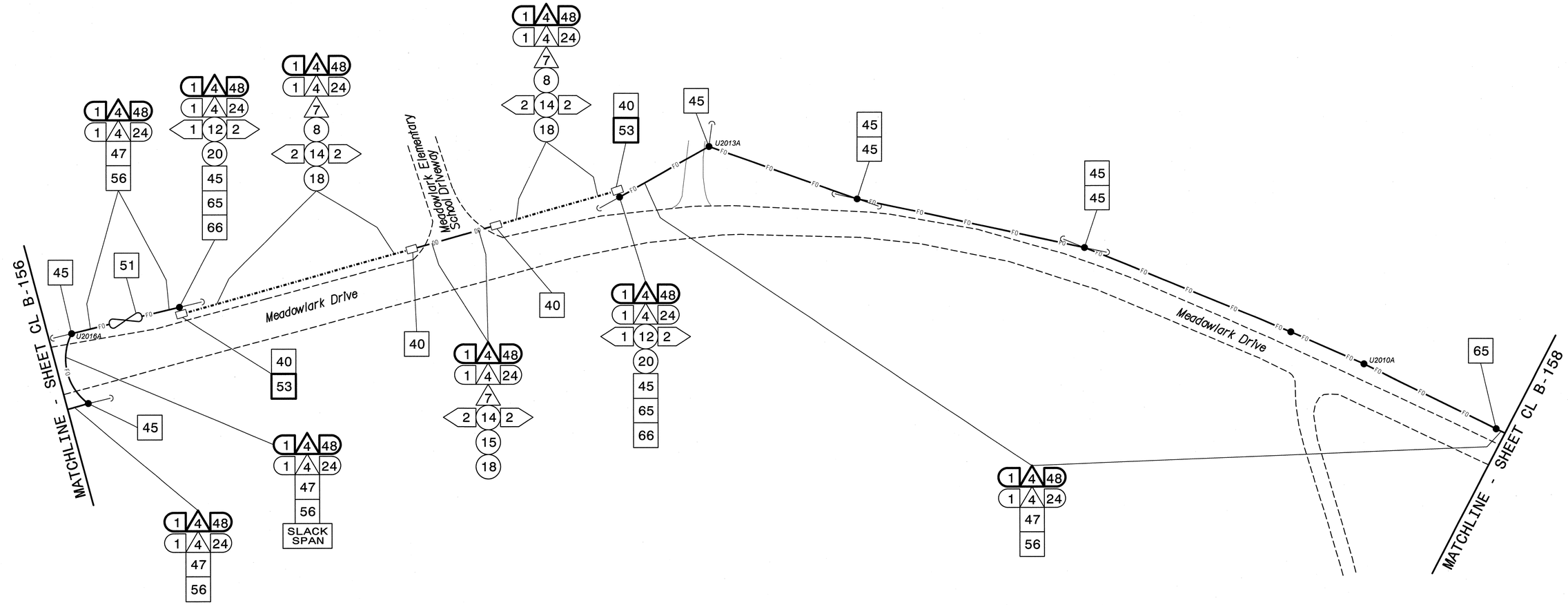
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-156.dgn

13-MAR-2013 13:30
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL B\Phase B\CL B-156.dgn
13813

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-157



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.

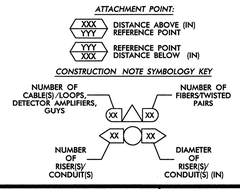
BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA	
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED	
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO	
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS	
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND	
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND	
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND	
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS	
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY	
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED	
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED	
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH	

ATTACHMENT POINT:

XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY



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

Prepared for the Offices of:

Transportation Mobility and Safety Division
North Carolina Department of Transportation
Intelligent Transportation Systems

750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

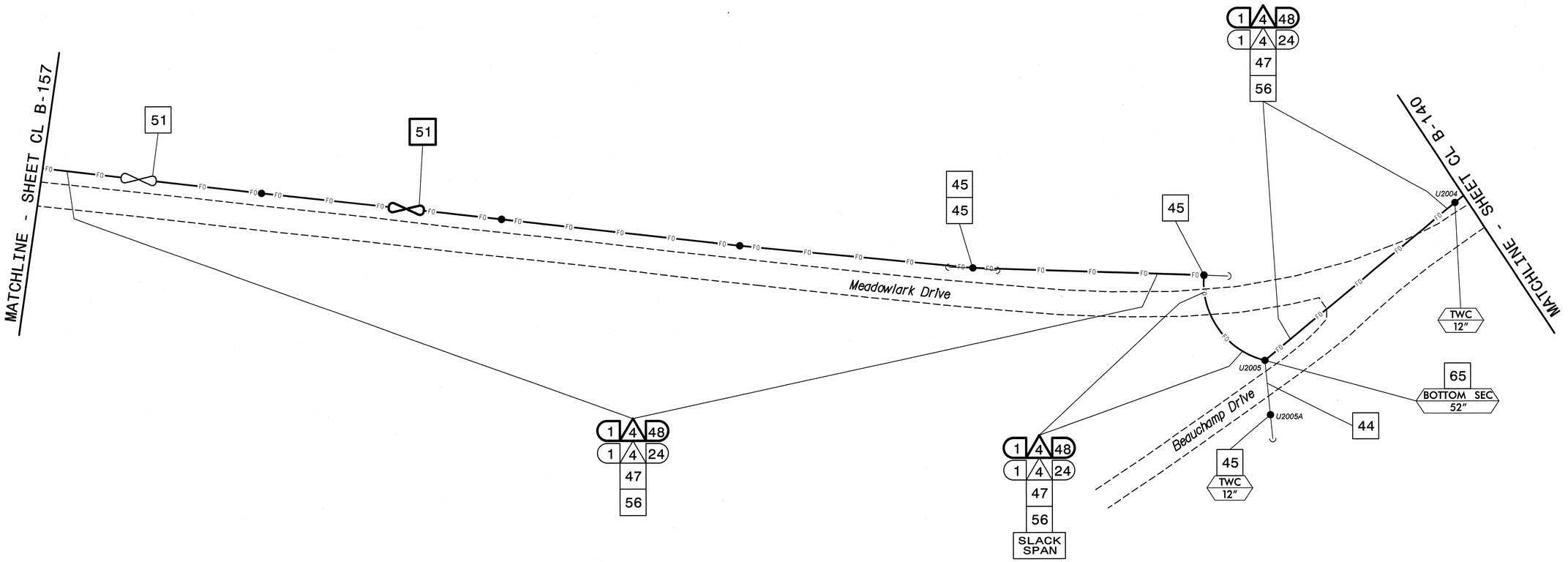
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

SIGNATURE DATE 3-22-13

CADD Filename: CL B-157.dgn

13-MAR-2013 13:30
D:\Transportation\Traffic\Curr#100022712 Winston Salem Sig Sys\CL#Phase B\CL B-157.dgn
13832

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-158



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE	49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX	50	INSTALL WIRELESS DSL	62	NOT USED
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX	51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX	52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX	53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE	54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE	55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY	56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY	57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY	58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE	59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

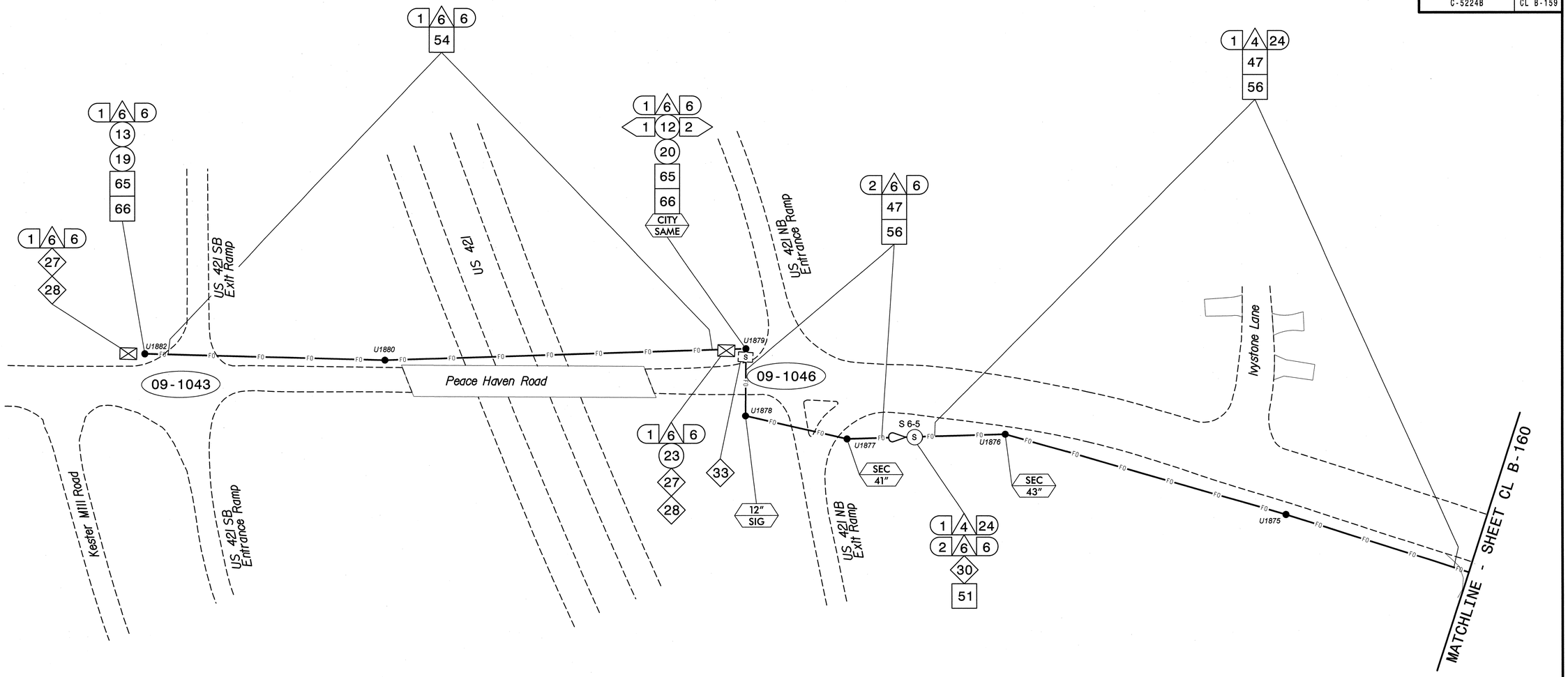
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-158.dgn

13-MAR-2013 13:20
C:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL B\Phase B\CL B-158.dgn
13813

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-159



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

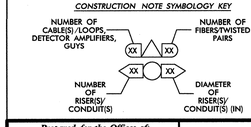
1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER–OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

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

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

CONSTRUCTION NOTE SYMBOLOGY KEY



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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

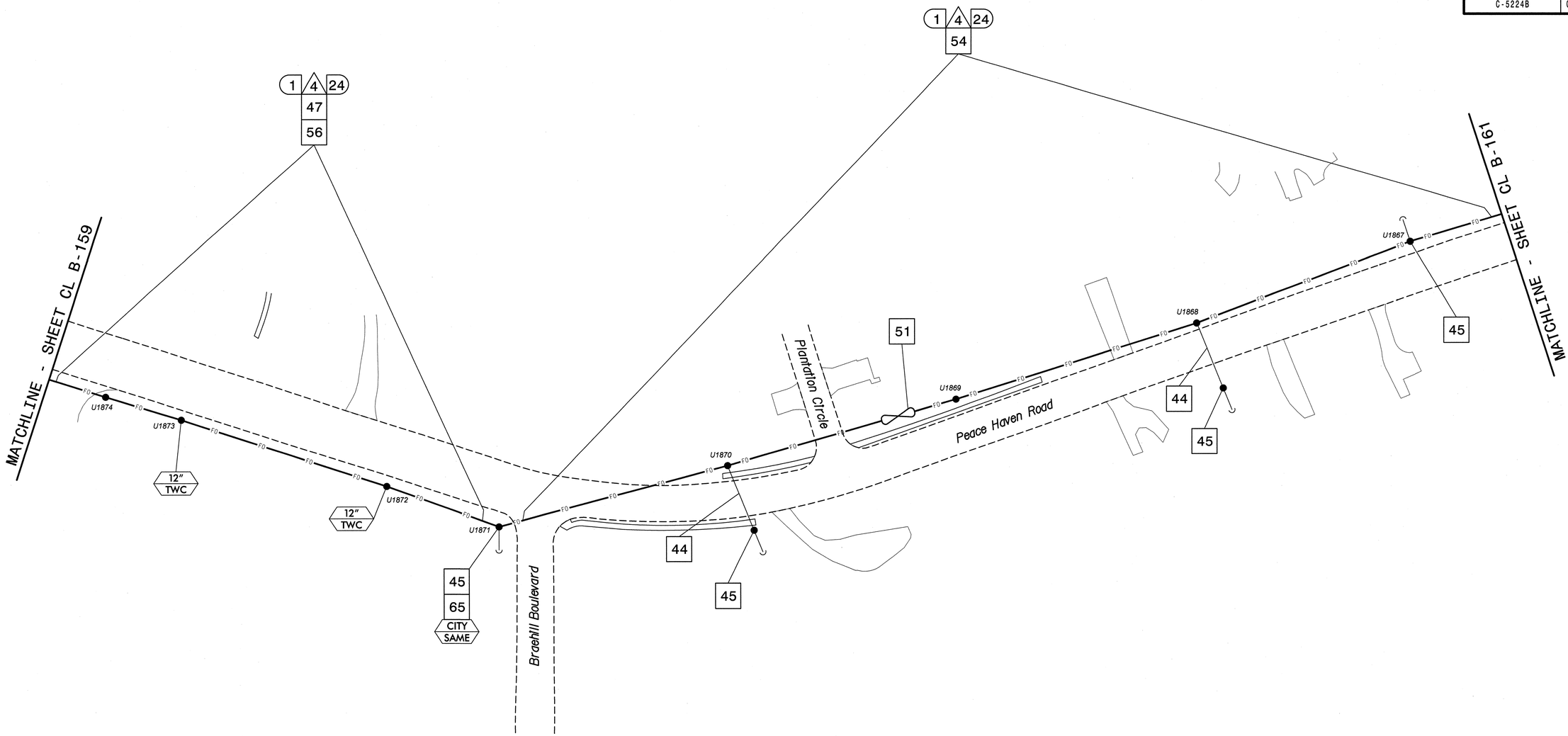
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

SIGNATURE Lisa M. Moon DATE 3-22-13

CADD Filename: CL B-159.dgn

13-MAR-2013 13:30
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-159.dgn
13832

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-160



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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 — NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
North Carolina Department of Transportation — Transportation Mobility and Safety Division — Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 | Forsyth County | Winston-Salem

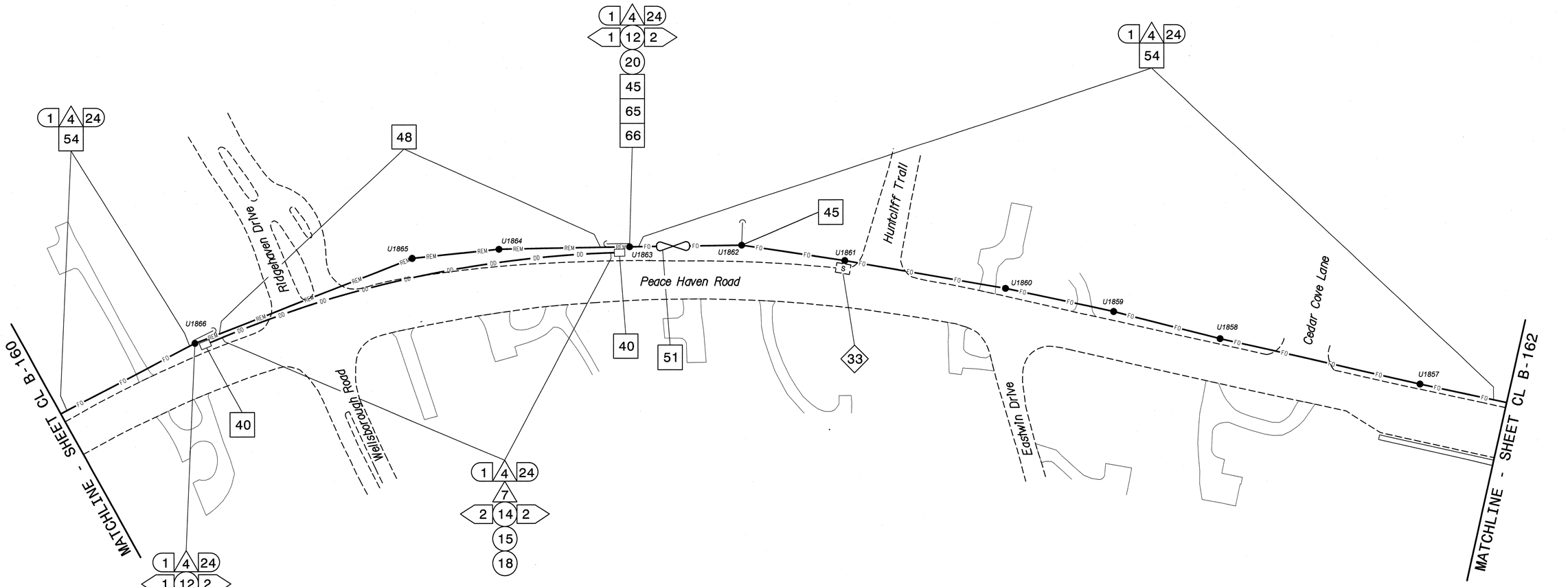
PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SEAL — NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE Lisa M. Moon 3/22/13 DATE
CADD Filename: CL B-160.dgn

13-MAR-2013 13:30
D:\Transportation\Traffic\Curr\1000227\2 Winston Salem Sig Sys\CL\Phase B\CL B-160.dgn

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-161



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE	49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX	50	INSTALL WIRELESS DSL	62	NOT USED
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX	51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX	52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX	53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE	54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE	55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY	56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY	57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY	58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE	59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

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 — NUMBER OF FIBERS/TWISTED PAIRS

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

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

Prepared for the Offices of:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION — Intelligent Transportation Systems

750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 — 1"=50'

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09	Forsyth County	Winston-Salem	
PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

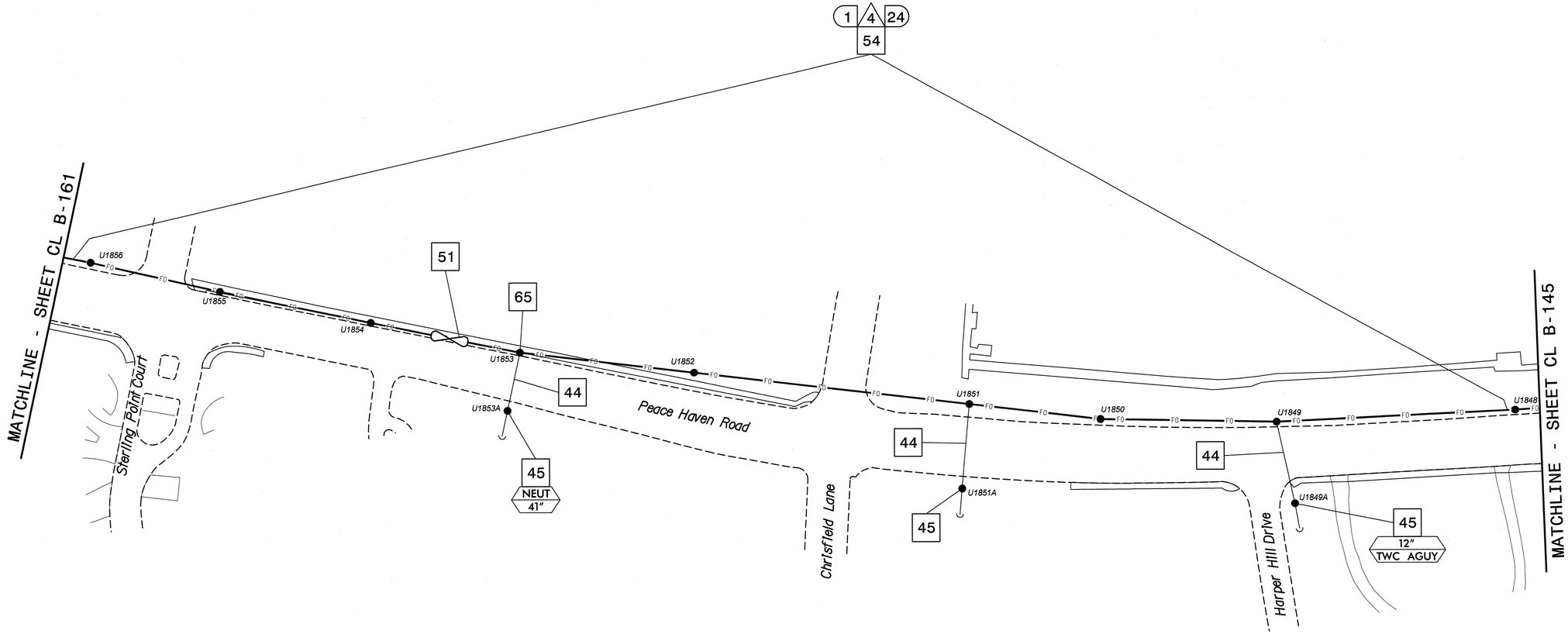
SEAL — NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

SIGNATURE — DATE 3-22-13

CADD Filename: CL B-161.dgn

13-MAR-2013 13:30
C:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-161.dgn
USER:
13.33.3

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-162



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.

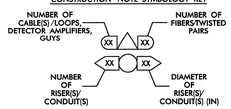
BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE	49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX	50	INSTALL WIRELESS DSL	62	NOT USED
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX	51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX	52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX	53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE	54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE	55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY	56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY	57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY	58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE	59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY



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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09	Forsyth County	Winston-Salem
PLAN DATE: March 2013	REVIEWED BY: MB Toth	
PREPARED BY: JAW/AJD	REVIEWED BY: LM Moon	

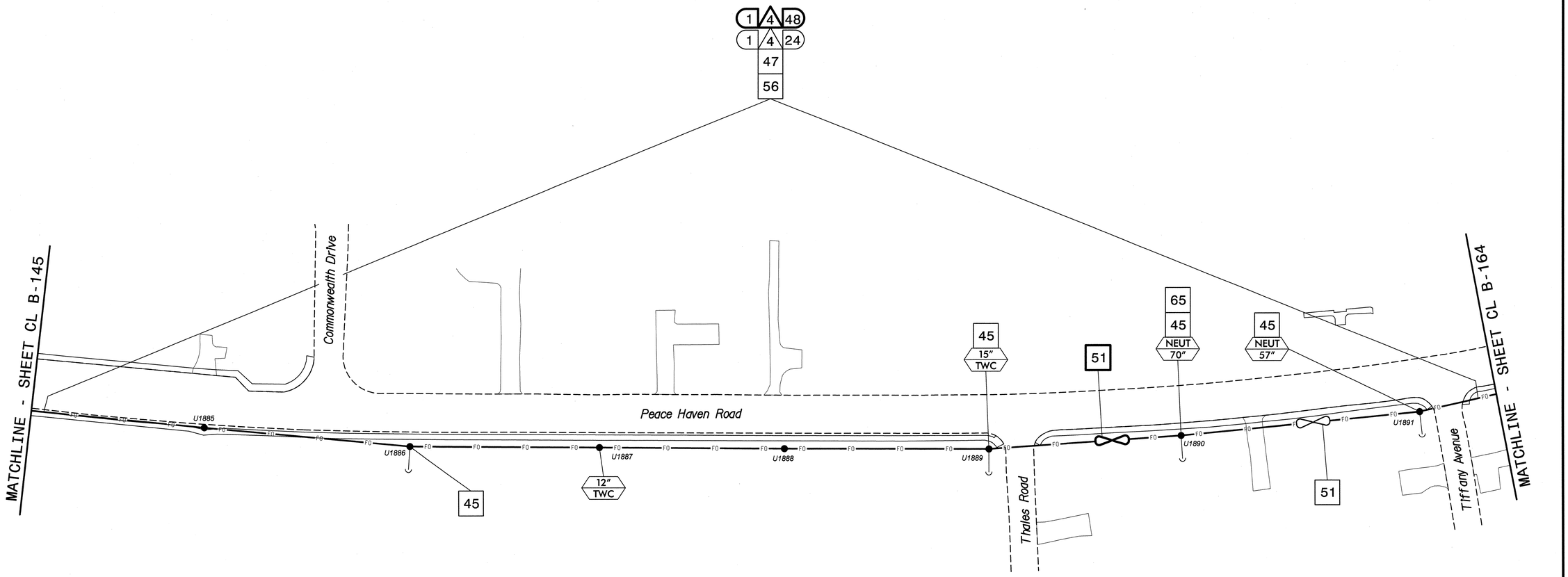
SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022516 LISA M. MOON
Lisa M Moon 3-22-13
SIGNATURE DATE
CADD Filename: CL B-162.dgn

13-MAR-2013 13:30
J:\Traffic\Traffic Projects\Winston Salem Sig Sys\CL Phase B\CL B-162.dgn
lmoon
(33.33)

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-163



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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
- NUMBER OF FIBERS/TWISTED PAIRS
- NUMBER OF RISER(S)/ CONDUIT(S)
- DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 | Forsyth County | Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

SCALE: 0 50 — 1"=50'

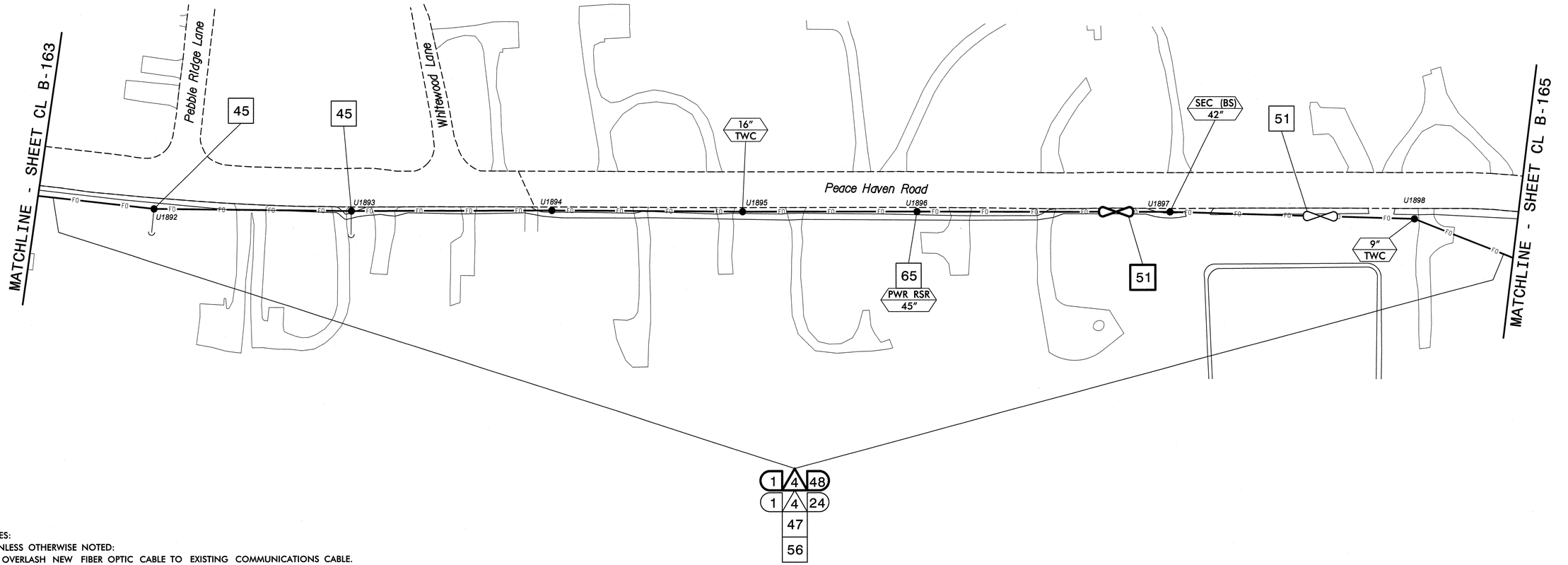
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3/22/13
SIGNATURE DATE

CADD Filename: CL B-163.dgn

13-MAR-2013 13:30
D:\Transportation\Traffic\Curr#100022712 Winston Salem Sig Sys#CL#Phase B#CL B-163.dgn
13313

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-164



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL–SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) (SNOW SHOE(S)) AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER–OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

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 — NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
North Carolina Department of Transportation — Transportation Mobility and Safety Division — Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

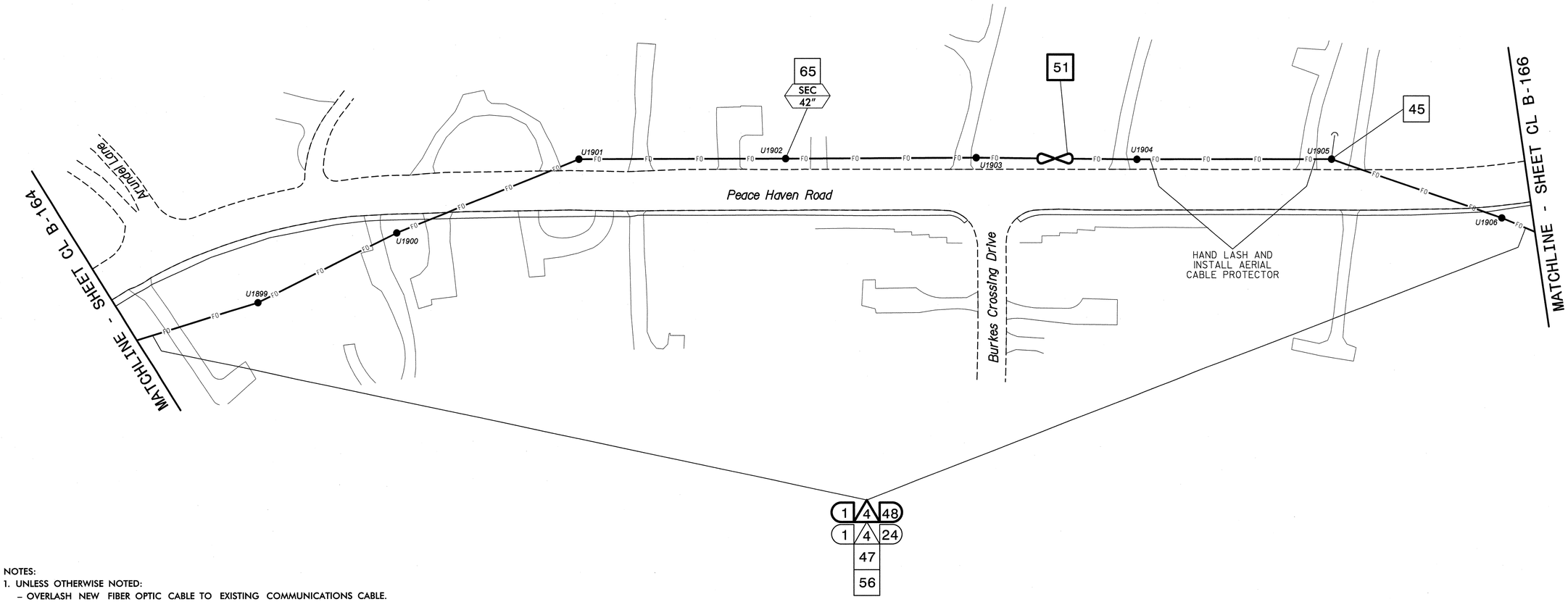
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-164.dgn

19-MAR-2013 18:57
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-164.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-165



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT
YYY DISTANCE BELOW (IN)
XXX

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
XX XX
XX XX
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

SCALE 0 50 1"=50'

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

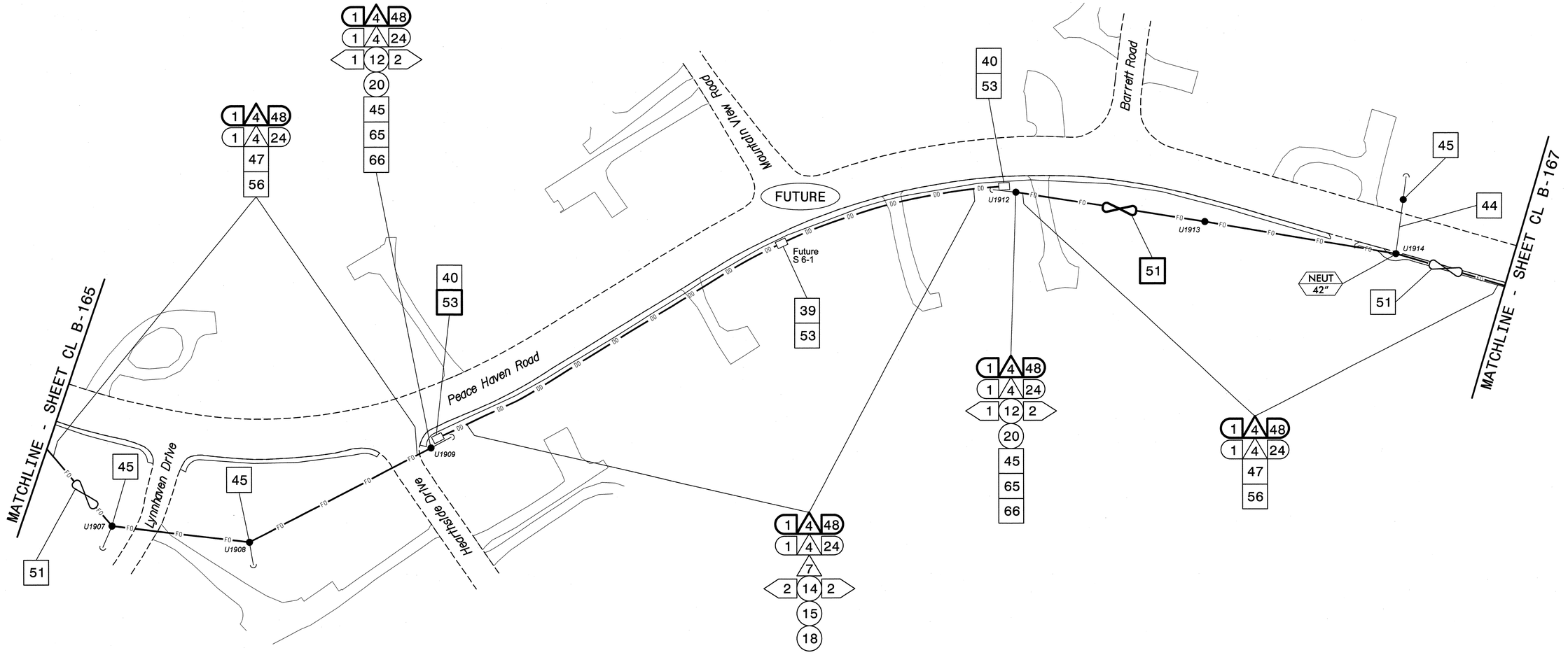
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-165.dgn

13-MAR-2013 13:30
D:\Transportation\Traffic\Curr\1000022112 Winston Salem Sig Sys\CL\Phase B\CL B-165.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-166



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE	49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX	50	INSTALL WIRELESS DSL	62	NOT USED
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX	51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX	52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX	53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE	54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE	55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY	56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY	57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY	58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE	59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

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
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 | Forsyth County | Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

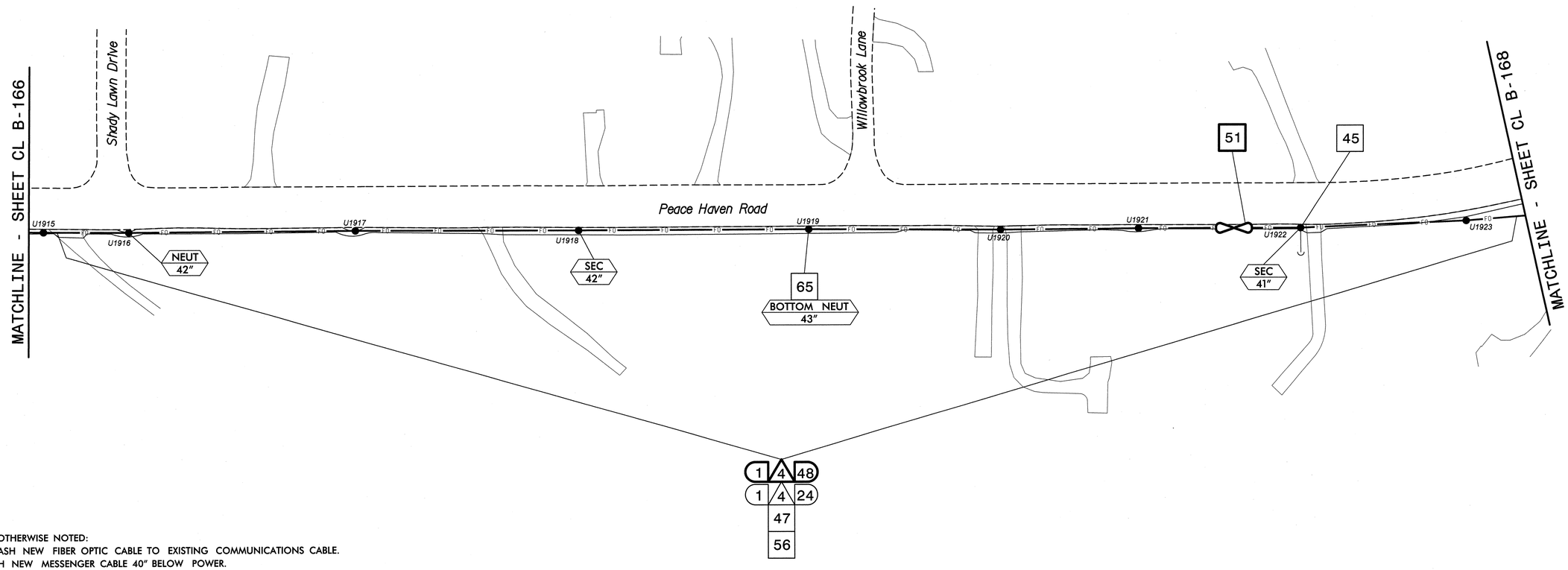
REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE
CADD Filename: CL B-166.dgn

13-MAR-2013 14:06
D:\#Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-166.dgn
13853

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-167



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

SCALE 0 50 1"=50'

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

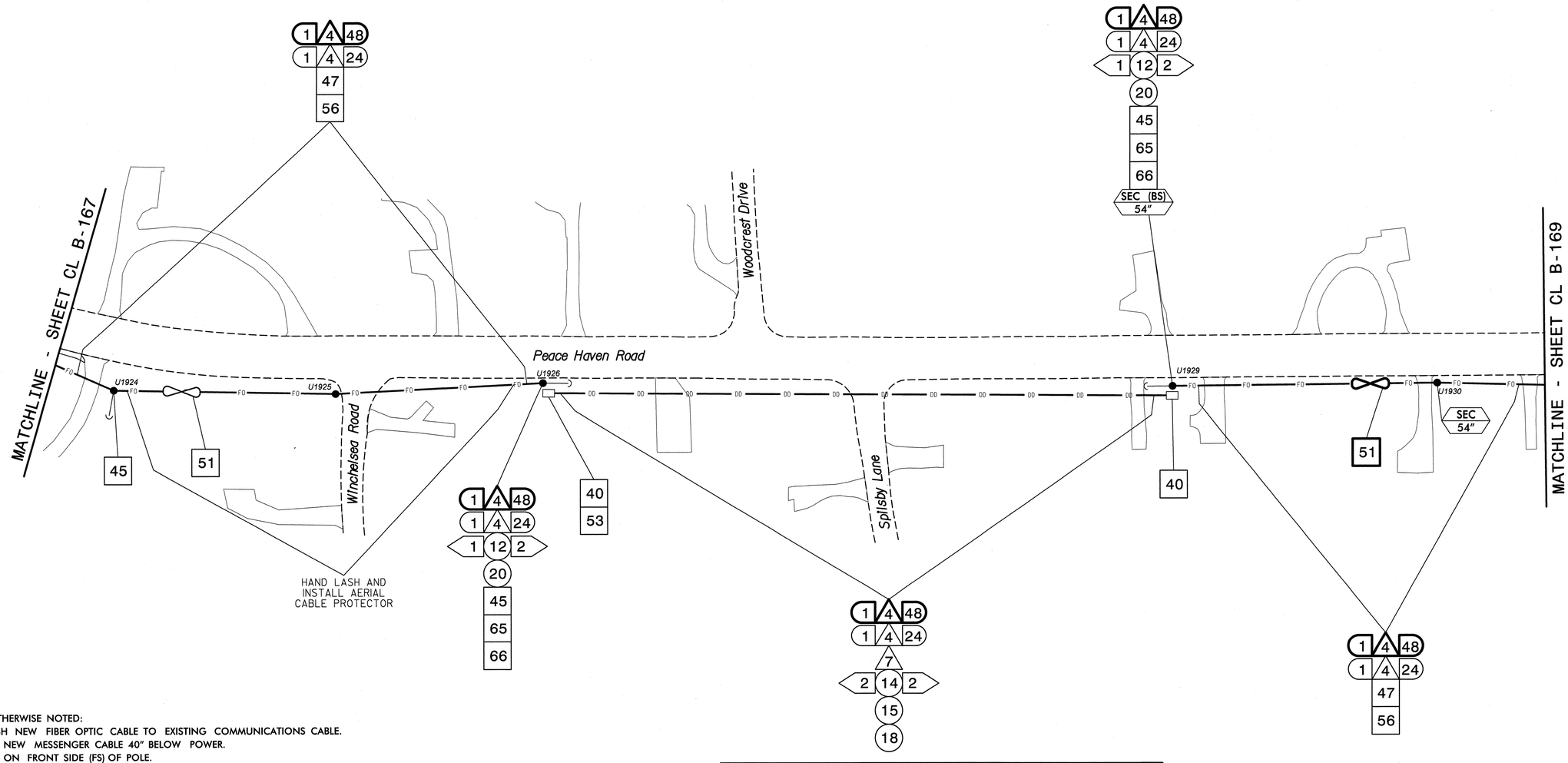
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-167.dgn

13-MAR-2013 14:07
O:\Transportation\Traffic\Cur*\100022712 Winston Salem Sig Sys\CL B*\Phase B\CL B-167.dgn

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-168



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

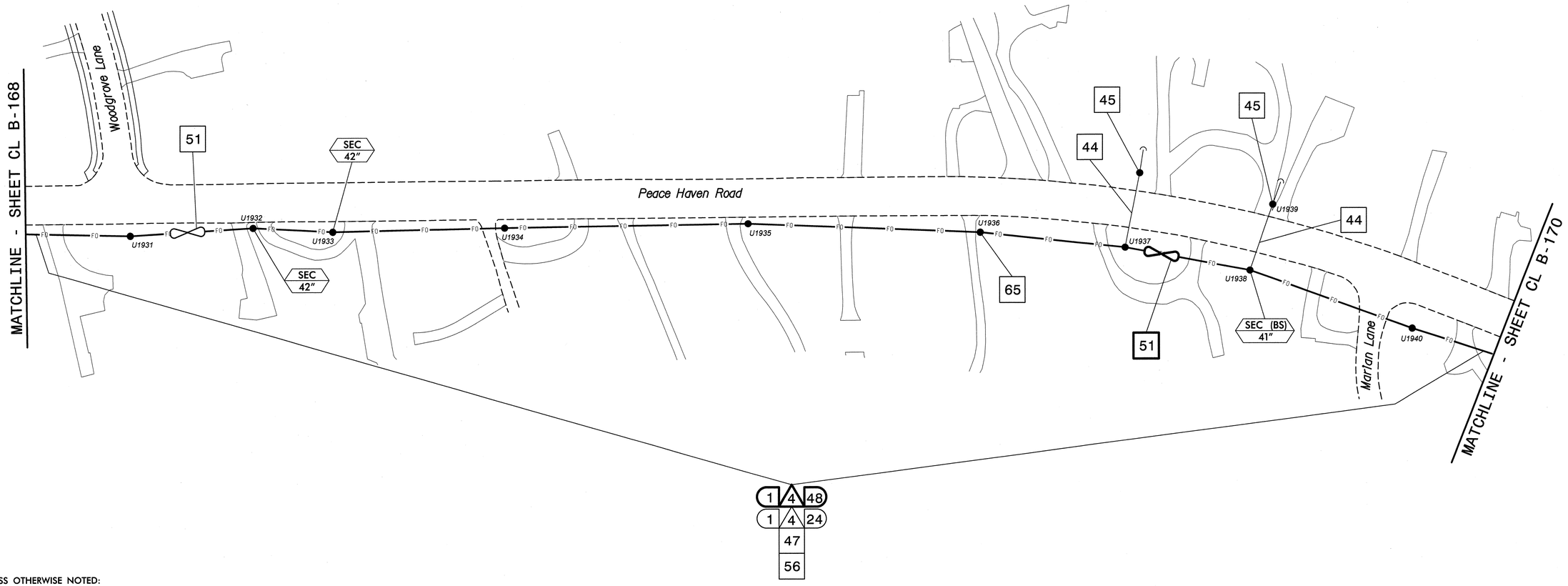
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE Lisa M. Moon 3/27/13 DATE

CADD Filename: CL B-168.dgn

13-MAR-2013 14:07
C:\Transportation\Traffic\Curr#100022712 Winston Salem Sig Sys\CL#Phase B\CL B-168.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-169



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT
YYY REFERENCE POINT
XXX DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

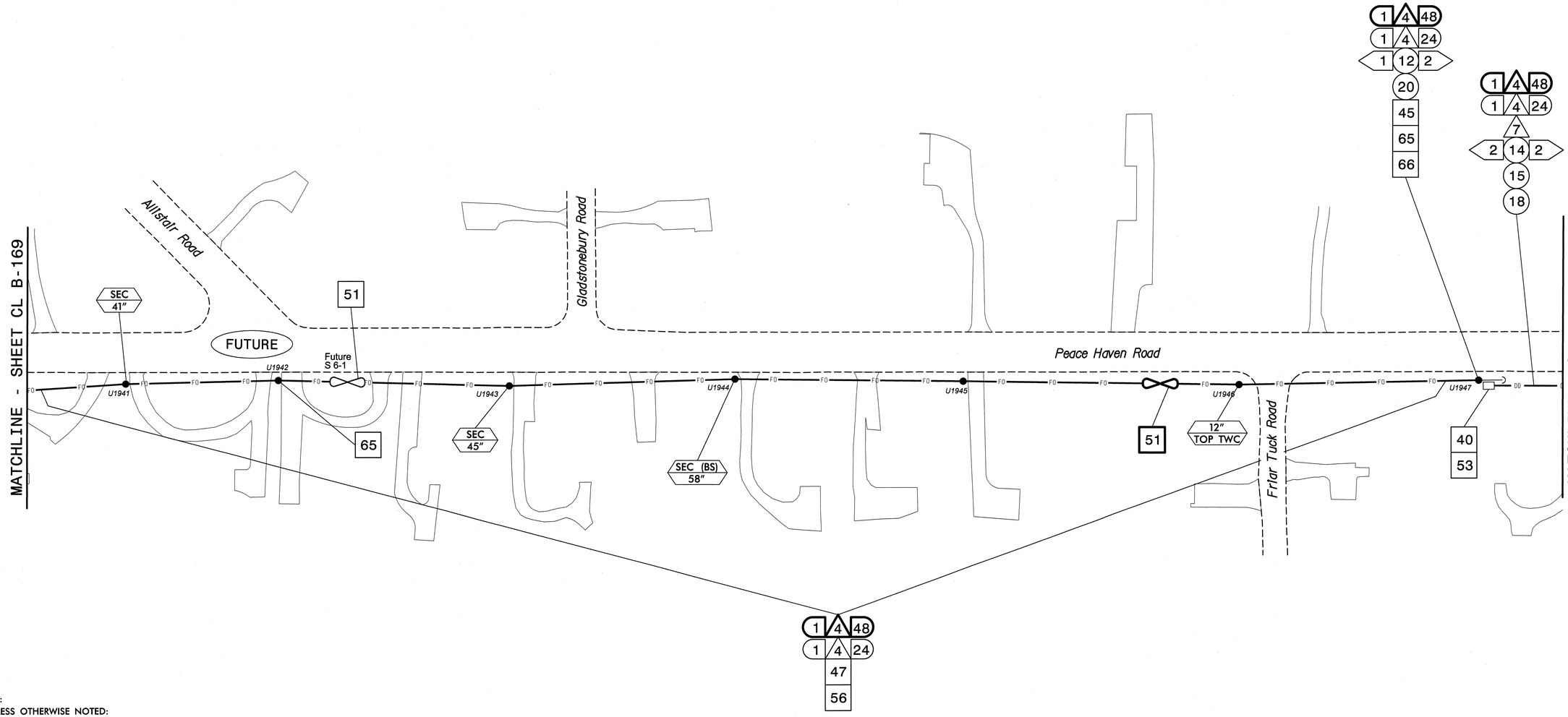
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-169.dgn

13-MAR-2013 14:07
D:\Atkins\Traffic\Cur#100022712 Winston Salem Sig Sys#CL#Phase B#CL B-169.dgn
13853

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-170



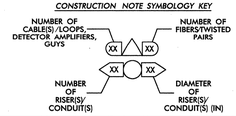
NOTES:
1. UNLESS OTHERWISE NOTED:
   - OVERLASH NEW FIBER OPTIC CABLE TO EXISTING COMMUNICATIONS CABLE.
   - ATTACH NEW MESSENGER CABLE 40" BELOW POWER.
   - ATTACH ON FRONT SIDE (FS) OF POLE.
2. SEAL ALL CONDUIT ENDS WITH DUCT AND CONDUIT SEALER, AT ALL JUNCTION BOX/CABINET ENTRANCES.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
- XXX / YYY — DISTANCE ABOVE (IN) / REFERENCE POINT
- YYY / XXX — REFERENCE POINT / DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY



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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

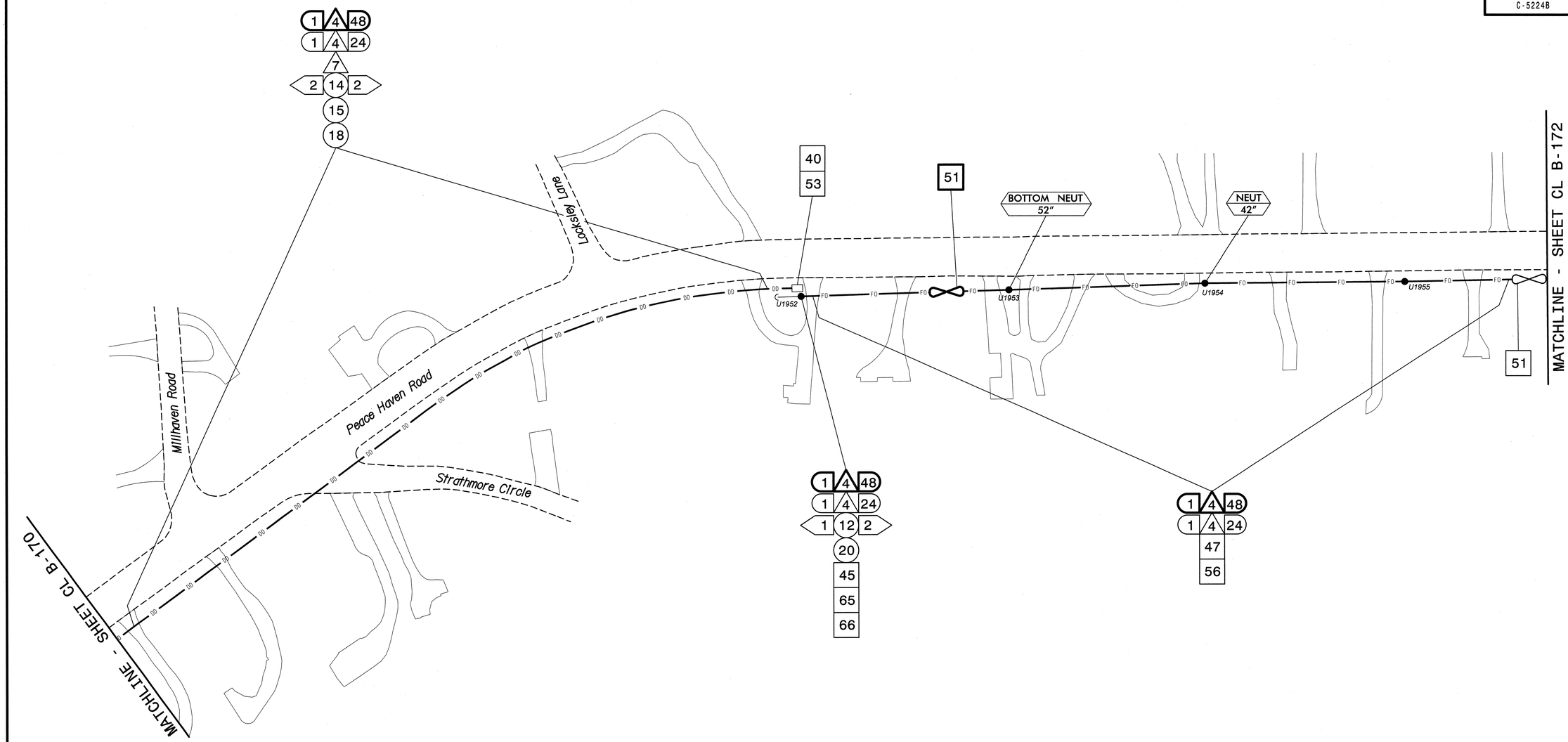
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-170.dgn

13-MAR-2013 14:07
D:\Transportation\Traffic\Curr#100022112 Winston Salem Sig Sys#CL#Phase B#CL B-170.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-171



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT
XXX DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
North Carolina Department of Transportation, Mobility and Safety Division, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

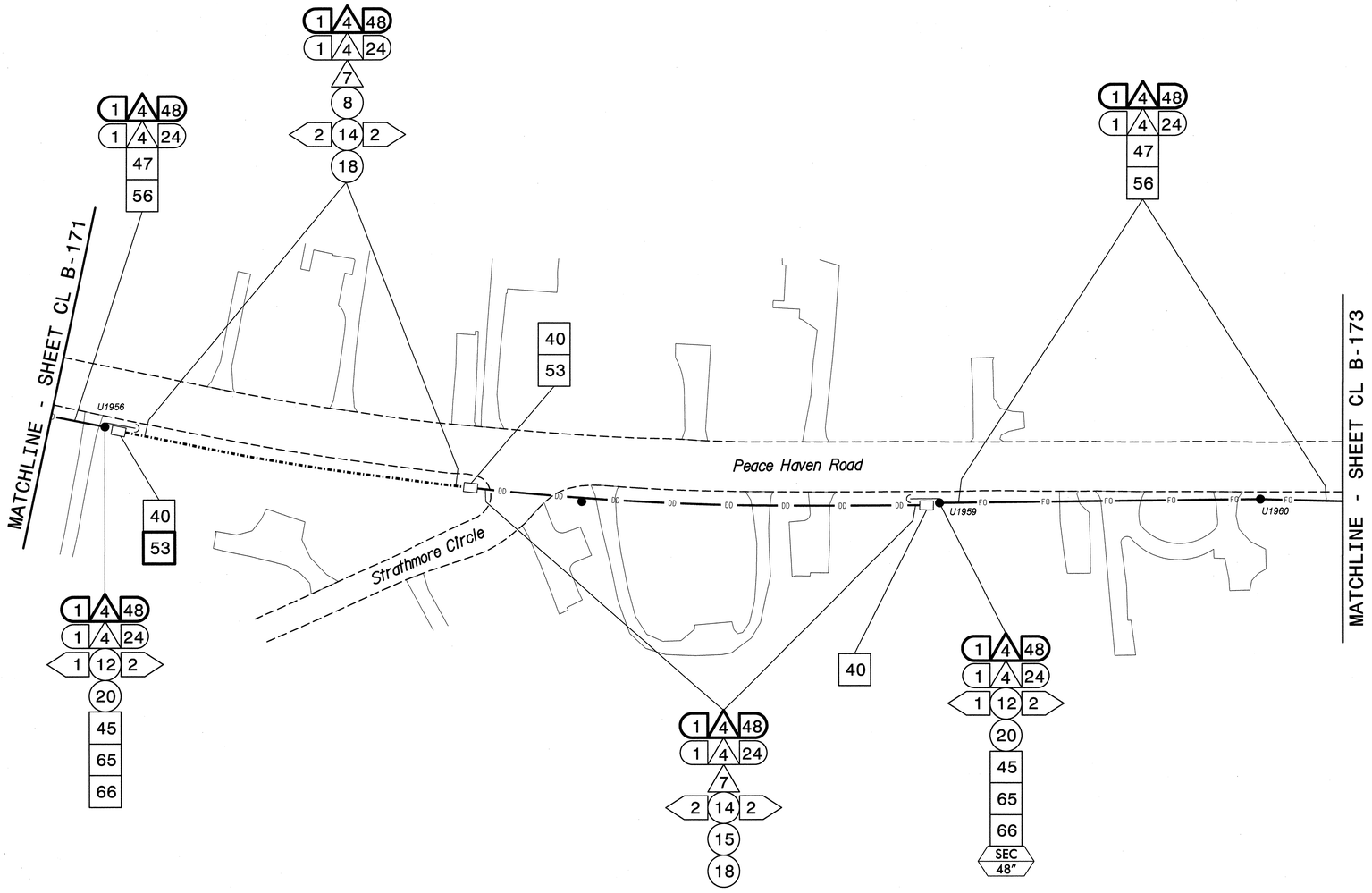
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-171.dgn

13-MAR-2013 14:07
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-171.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-172



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

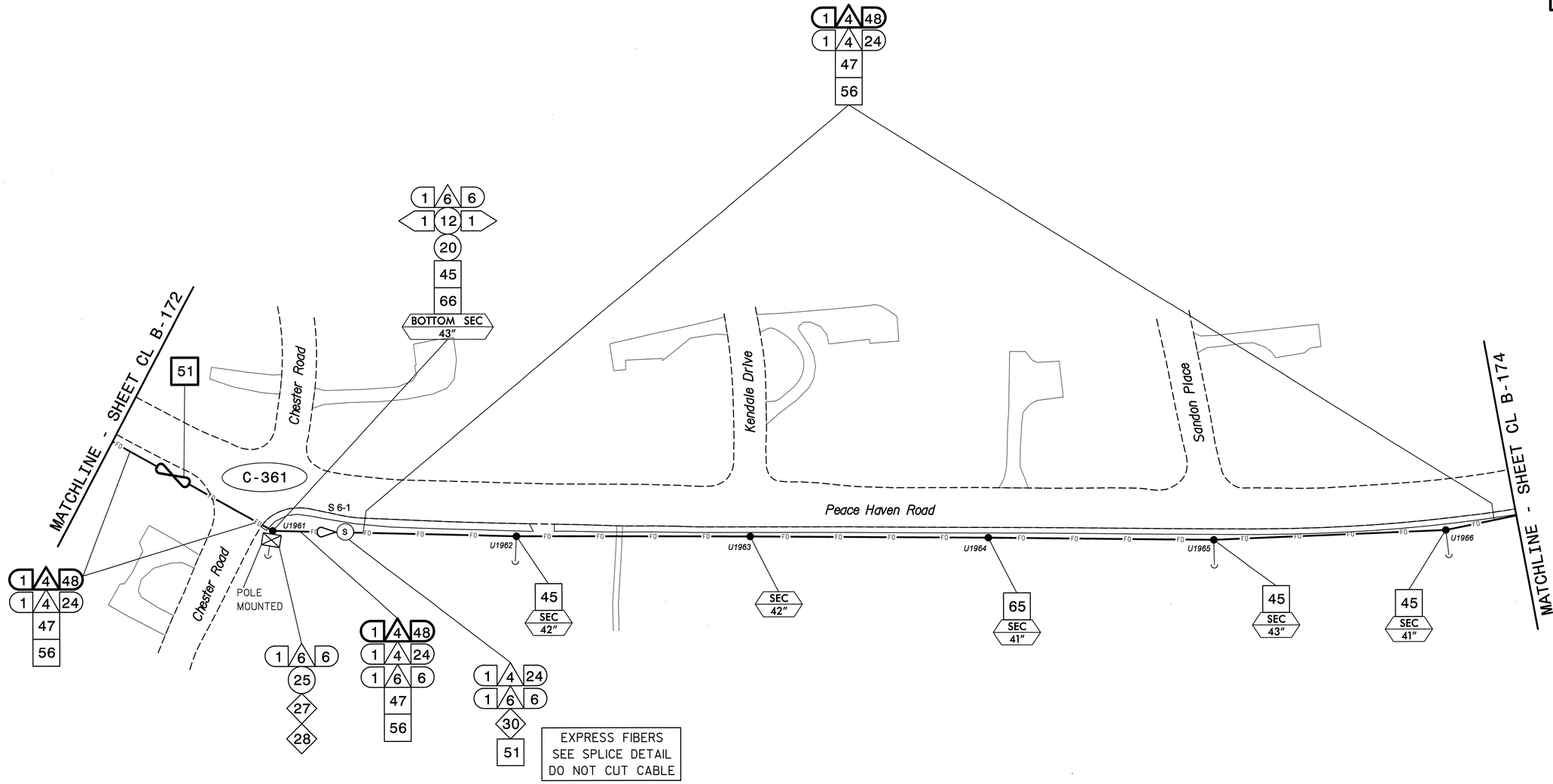
REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE DATE 3-22-13
CADD Filename: CL B-172.dgn

13-MAR-2013 14:07
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-172.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-173



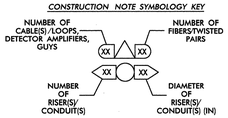
NOTES:
1. UNLESS OTHERWISE NOTED:
   - OVERLASH NEW FIBER OPTIC CABLE TO EXISTING COMMUNICATIONS CABLE.
   - ATTACH NEW MESSENGER CABLE 40" BELOW POWER.
   - ATTACH ON FRONT SIDE (FS) OF POLE.
2. SEAL ALL CONDUIT ENDS WITH DUCT AND CONDUIT SEALER, AT ALL JUNCTION BOX/CABINET ENTRANCES.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE	49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX	50	INSTALL WIRELESS DSL	62	NOT USED
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX	51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX	52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX	53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE	54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE	55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY	56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY	57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY	58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE	59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
- XXX / YYY — DISTANCE ABOVE (IN) / REFERENCE POINT
- YYY / XXX — REFERENCE POINT / DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY



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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

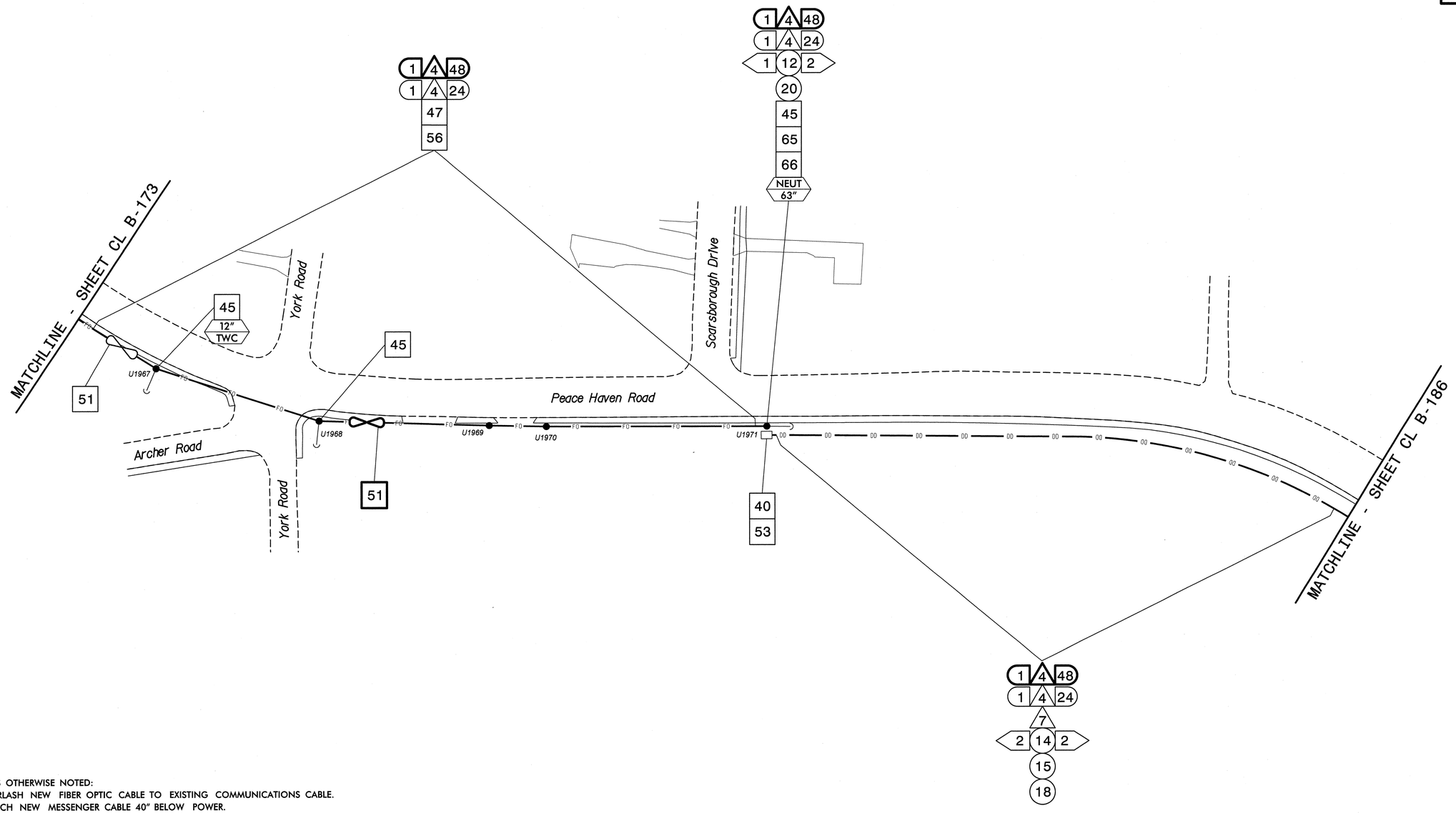
SCALE: 0 50 — 1"=50'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE DATE 3-22-13
CADD Filename: CL B-173.dgn

13-MAR-2013 14:07
D:\Transportation\Traffic Curr\100022712 Winston Salem Sig Sys\CL Phase B\CL B-173.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-174



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

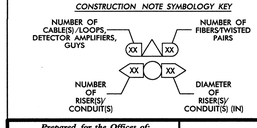
1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

YYY REFERENCE POINT
XXX DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY



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

Prepared for the Offices of:

Congestion Mitigation and Safety Division
North Carolina Department of Transportation
Intelligent Transportation Systems

750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

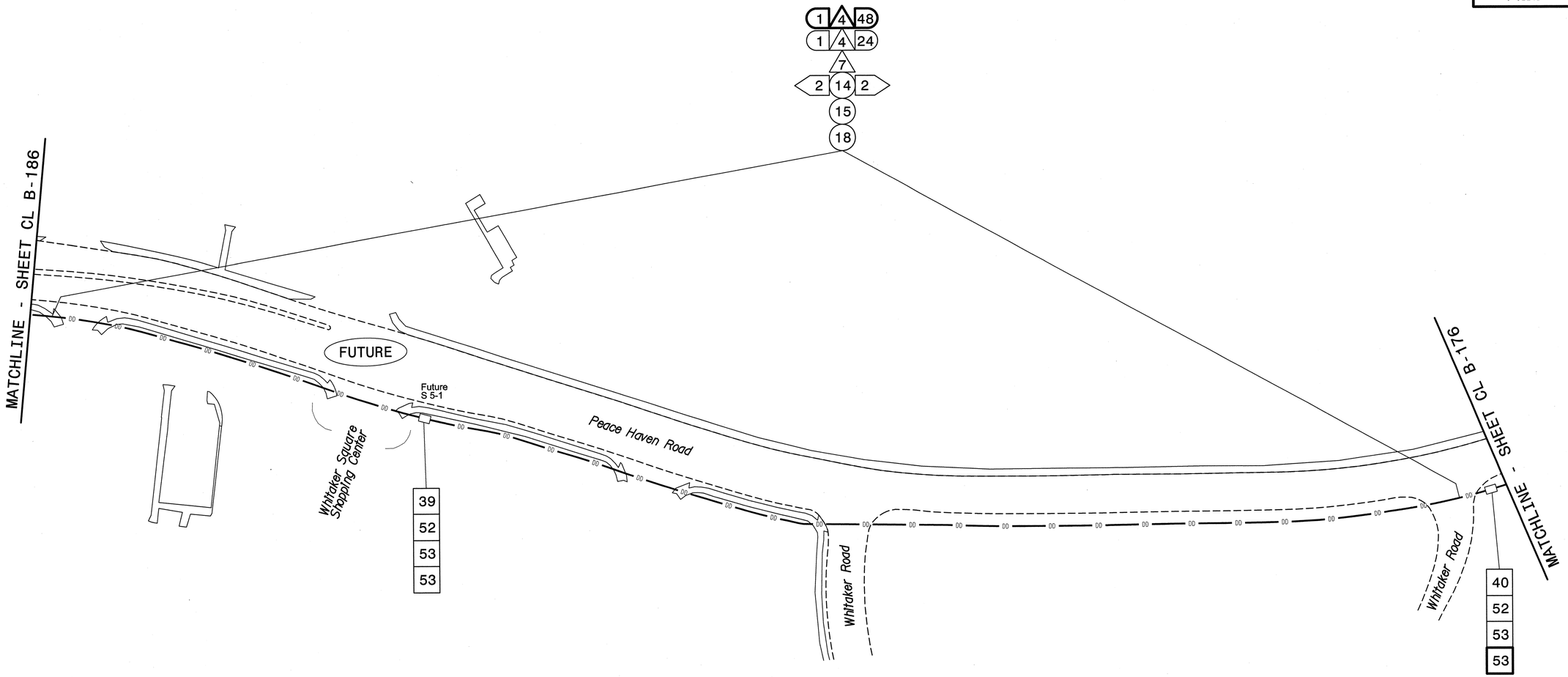
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-27-13
SIGNATURE DATE

CADD Filename: CL B-174.dgn

13-MAR-2013 14:07
D:\#Transportation\Traffic\Curr\#100022712 Winston Salem Sig Sys\CL\#Phase B\CL B-174.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-175



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

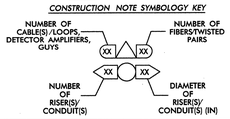
1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL–SIZED JUNCTION BOX
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX
6	INSTALL FIBER–OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE

49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA				
50	INSTALL WIRELESS DSL	62	NOT USED				
51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO				
52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS				
53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND				
54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND				
55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND				
56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS				
57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY				
58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED				
59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED				
60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH				

ATTACHMENT POINT:

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

CONSTRUCTION NOTE SYMBOLOGY KEY



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

Prepared for the Offices of:

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

750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LW Moon

REVISIONS	INIT.	DATE

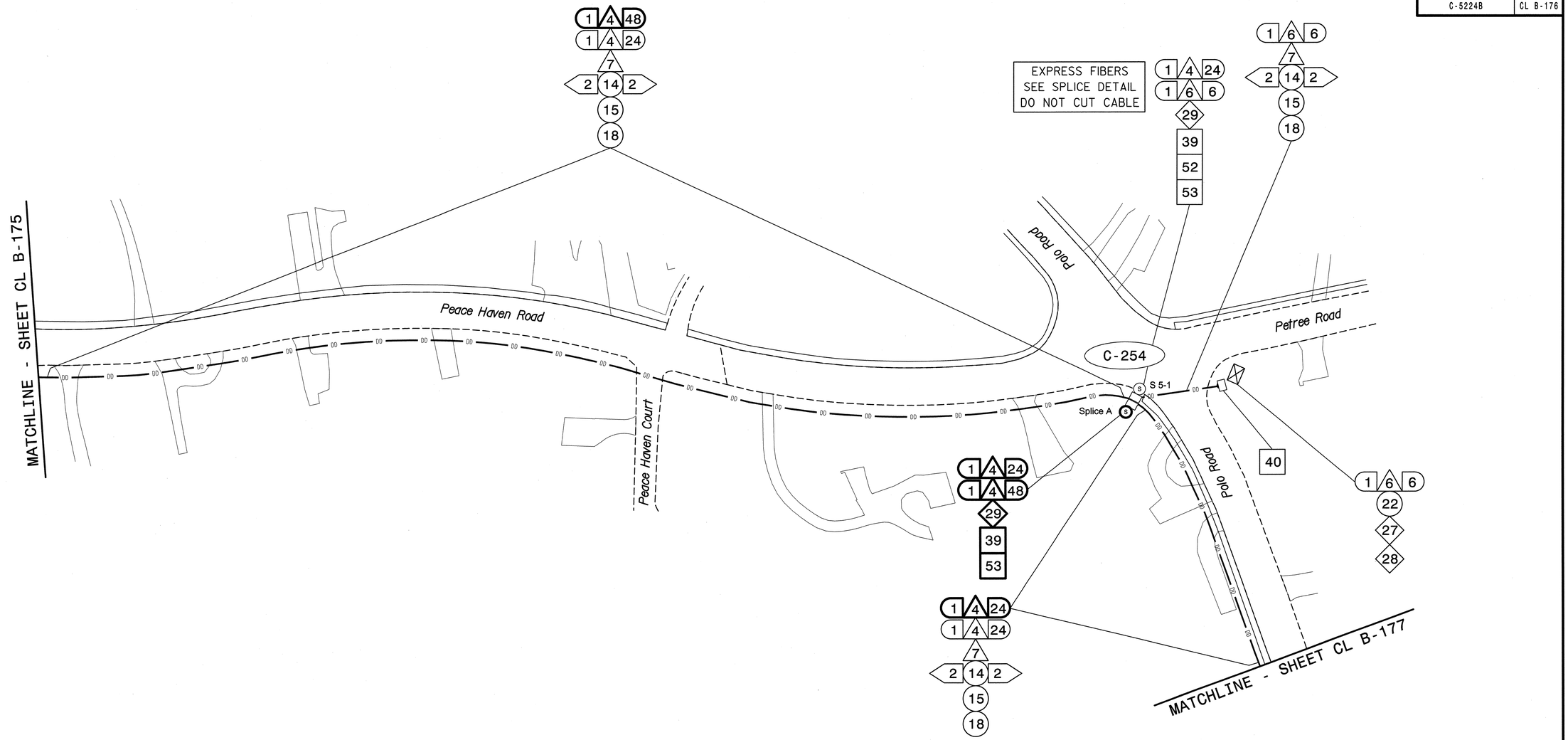
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-175.dgn

13-MAR-2013 14:07
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-175.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-176



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN) XXX

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS,-DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
NCDOT Transportation Mobility and Safety Division – Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

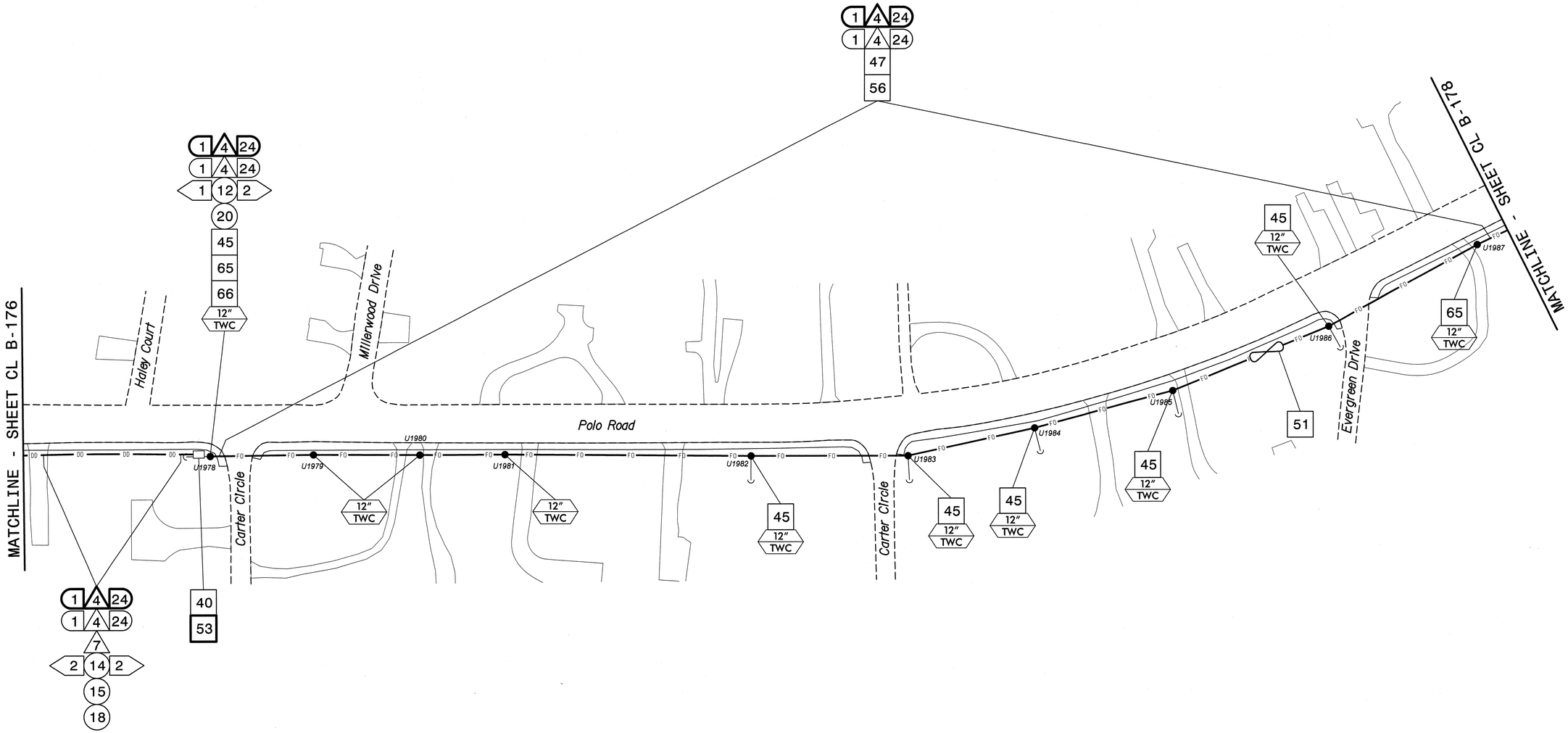
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-176.dgn

13-MAR-2013 14:07
O:\Transportation\Traffic\Curr#100022712 Winston Salem Sig Sys#CL#Phase B#CL B-176.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-177



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE	49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX	50	INSTALL WIRELESS DSL	62	NOT USED
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX	51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX	52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX	53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE	54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE	55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY	56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY	57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY	58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE	59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS DETECTOR AMPLIFIERS, GUYS — NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
Protecting Mobility and Safety Through Intelligent Transportation Systems
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING BRANCH
750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

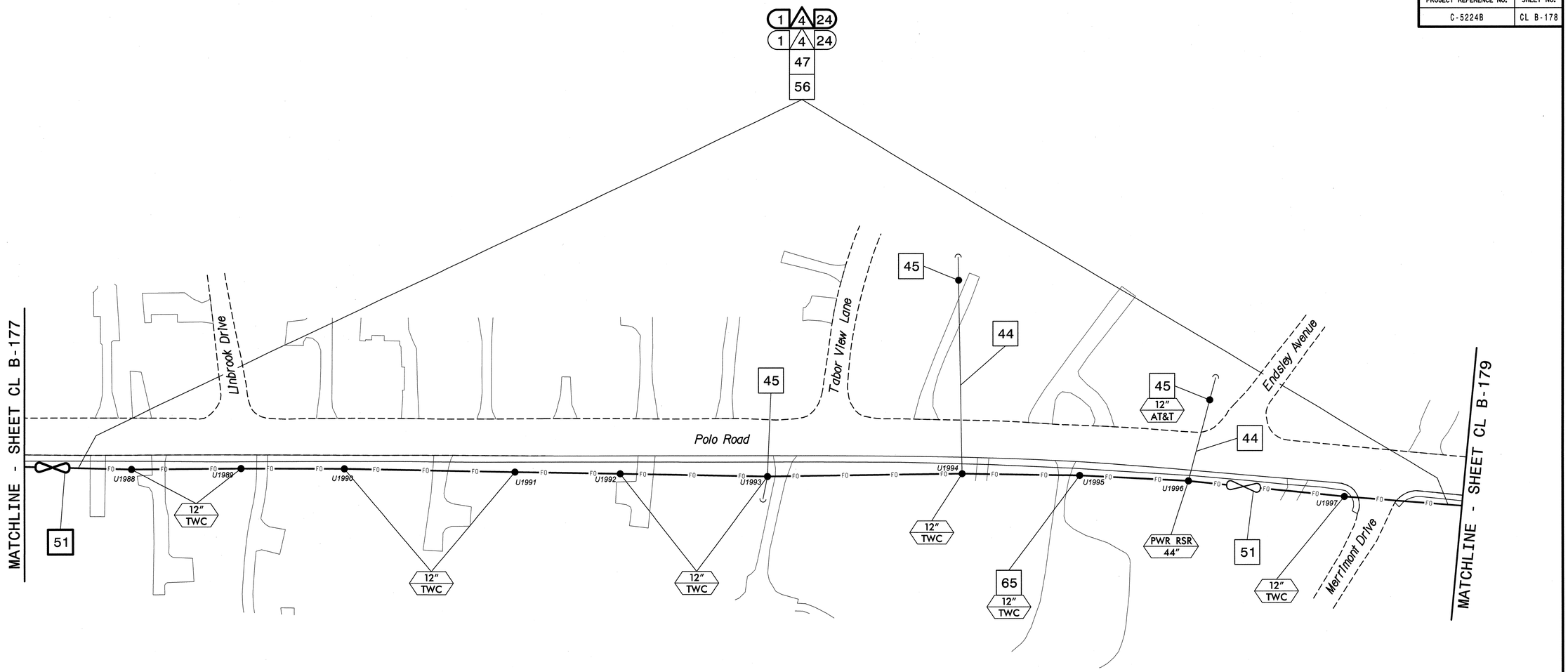
PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE DATE 3-22-13
CADD Filename: CL B-177.dgn

13-MAR-2013 14:07
D:\Transportation\Traffic\Cur*\1000022712 Winston Salem Sig Sys\CL*\Phase B\CL B-177.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-178



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT
YYY DISTANCE BELOW (IN)
XXX REFERENCE POINT

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

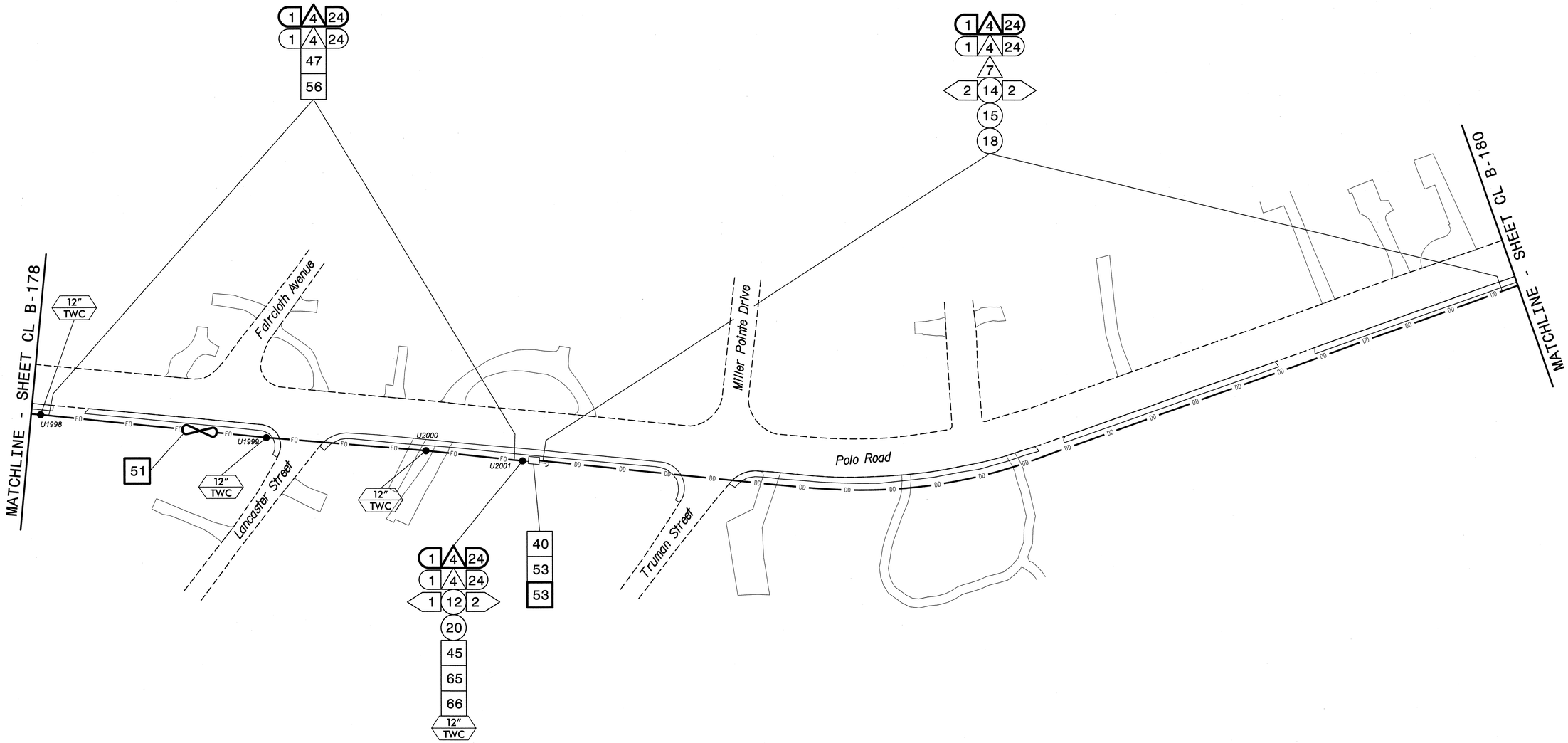
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-178.dgn

13-MAR-2013 14:07
D:\Transportation\Traffic\Cur\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-178.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-179



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.

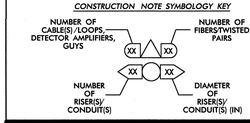
BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY



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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

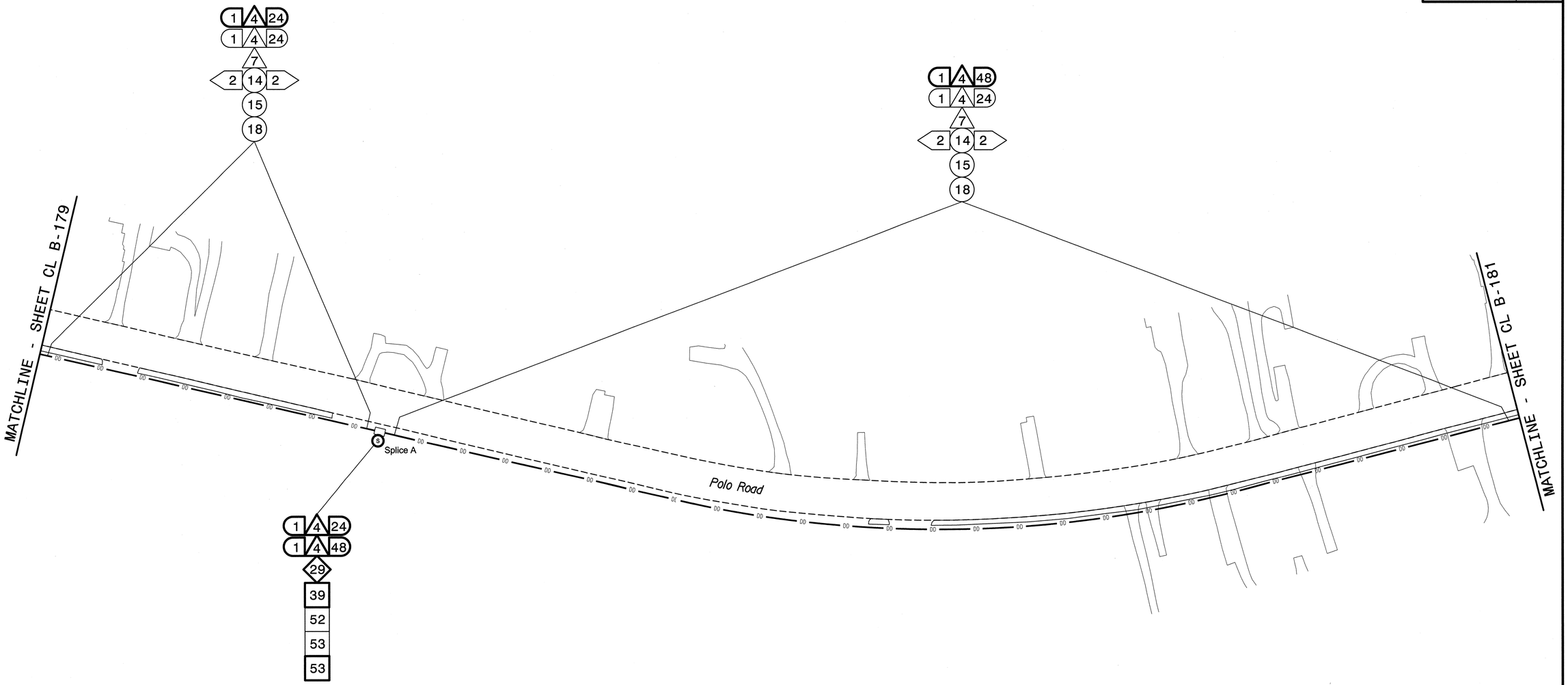
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-179.dgn

13-MAR-2013 14:07
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-179.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-180



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE	49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX	50	INSTALL WIRELESS DSL	62	NOT USED
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX	51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX	52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX	53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE	54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE	55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY	56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY	57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY	58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE	59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)
XXX

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS,— DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
XX XX XX XX
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
Traffic Engineering Branch — Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

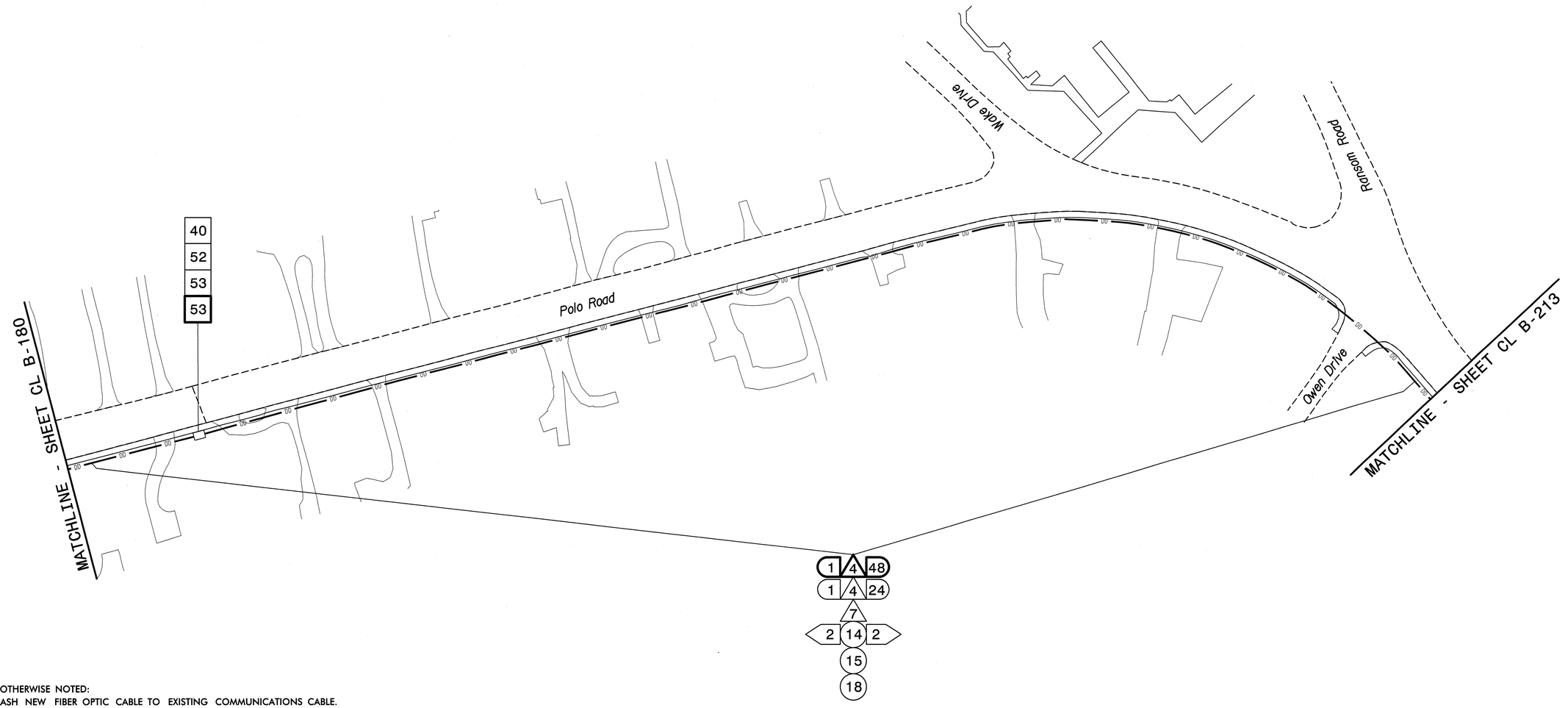
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-180.dgn

13-MAR-2013 14:07
D:\Transportation\Traffic\Curr#100022712 Winston Salem Sig Sys#CL#Phase B#CL B-180.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-181



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

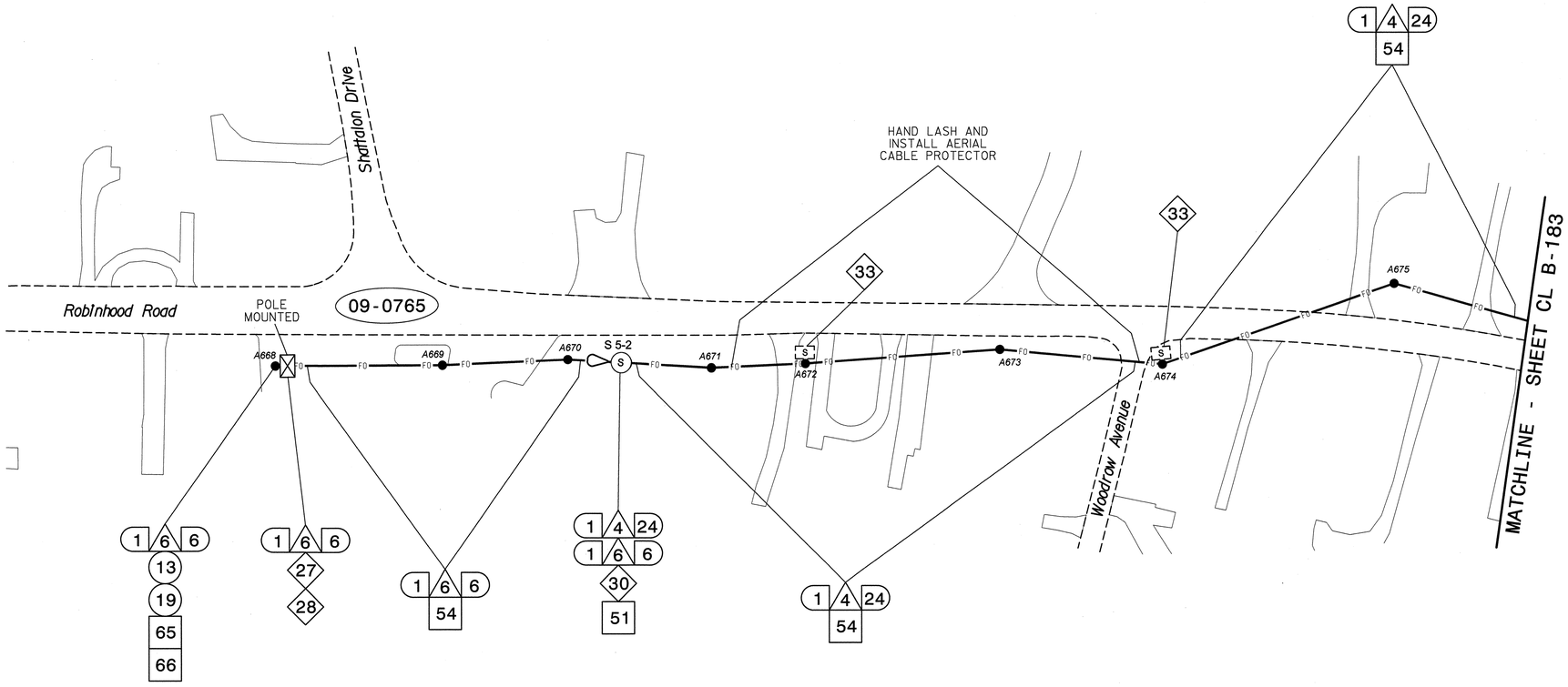
SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE Lisa M. Moon 3-22-13 DATE
CADD Filename: CL B-181.dgn

13-MAR-2013 14:07
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-181.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-182



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE	49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX	50	INSTALL WIRELESS DSL	62	NOT USED
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX	51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX	52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX	53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE	54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE	55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY	56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY	57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY	58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE	59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

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 — NUMBER OF FIBERS/TWISTED PAIRS — NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

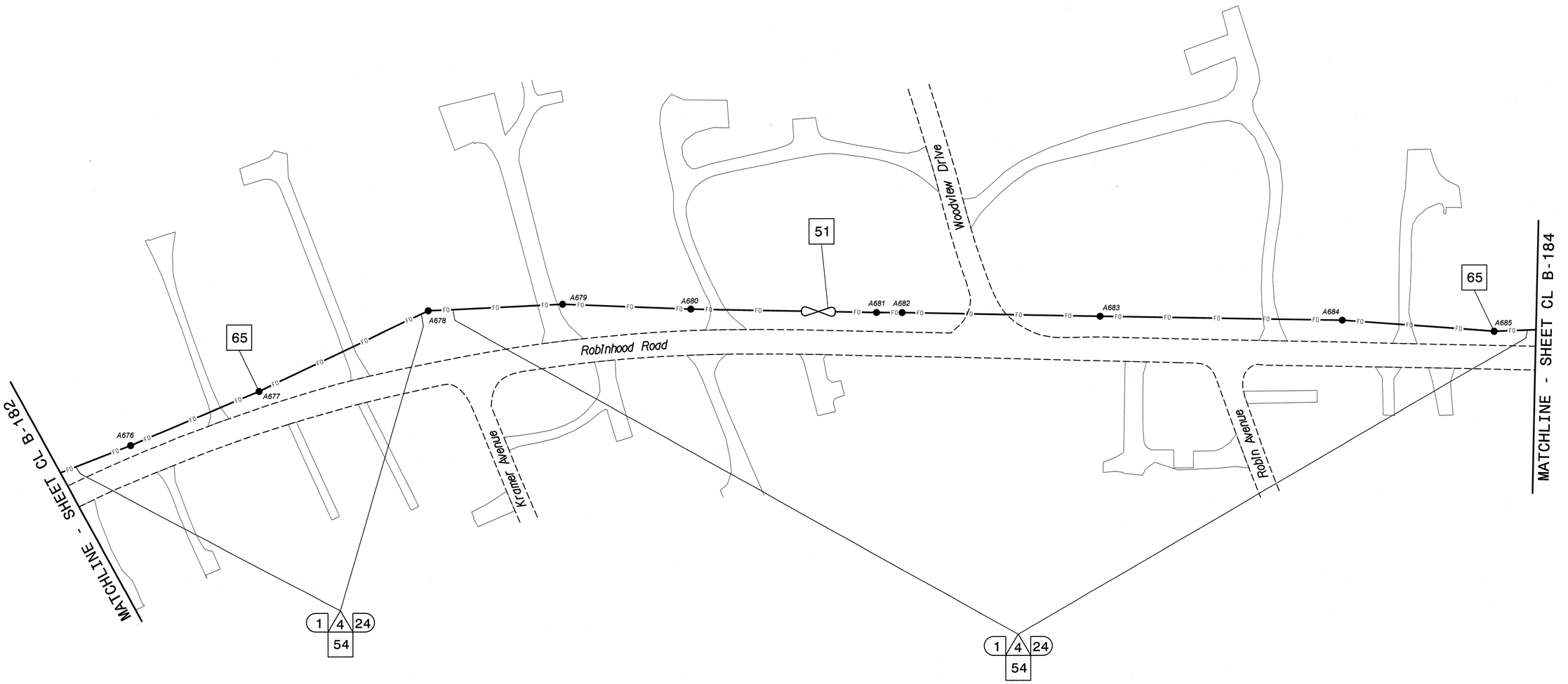
SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M Moon 3-22-13
SIGNATURE DATE
CADD Filename: CL B-182.dgn

13-MAR-2013 14:07
D:\#Transportation\Traffic\Curr\#100022712 Winston Salem Sig Sys\#CL\#Phase B\#CL B-182.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-183



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.

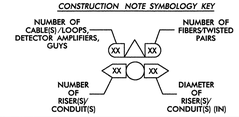
BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE	49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX	50	INSTALL WIRELESS DSL	62	NOT USED
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX	51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX	52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX	53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE	54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE	55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY	56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY	57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY	58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE	59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY



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

Prepared for the Offices of:

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

750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

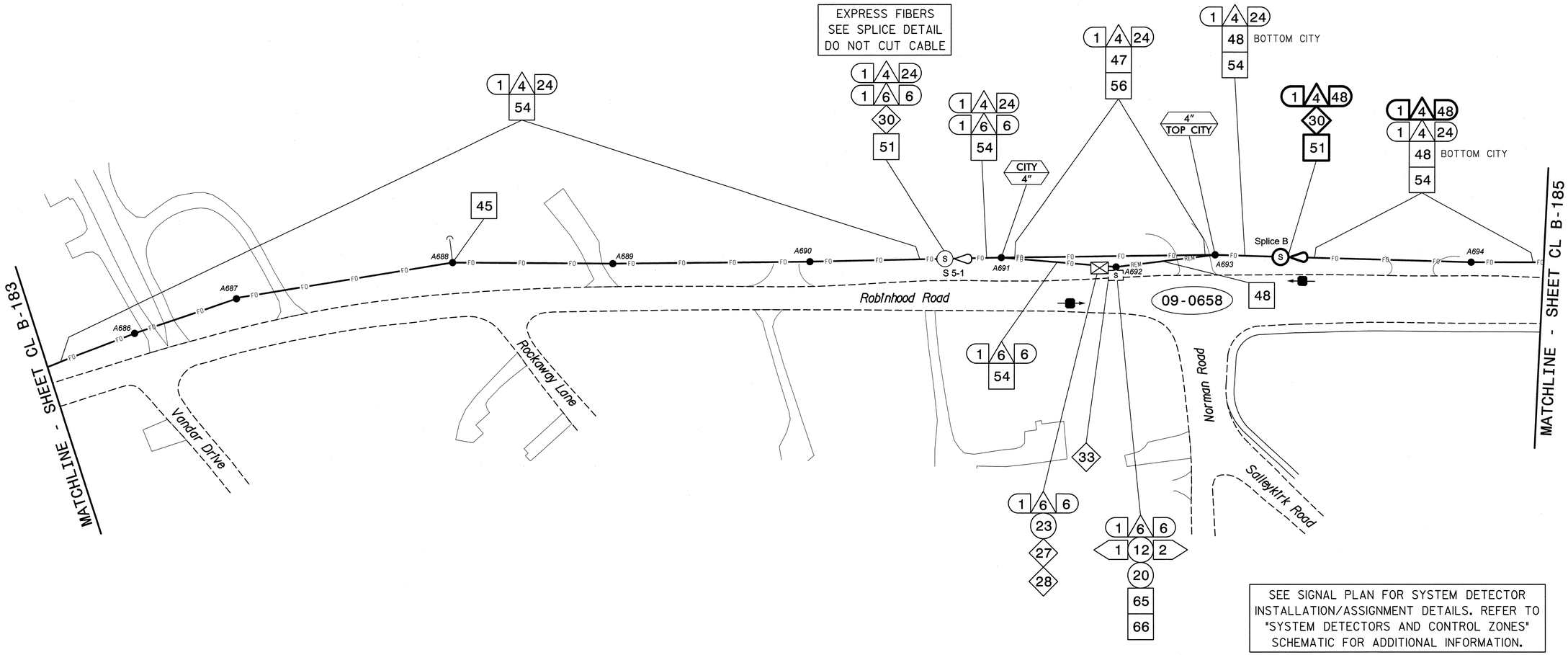
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-183.dgn

13-MAR-2013 14:07
D:\Transportation\Traffic\Curr*\100022712 Winston Salem Sig Sys*\CL *Phase B*\CL B-183.dgn
CL B-183

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-184



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

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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI–DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLES(-)/LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Integrated Mobility and Safe Mobility
Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

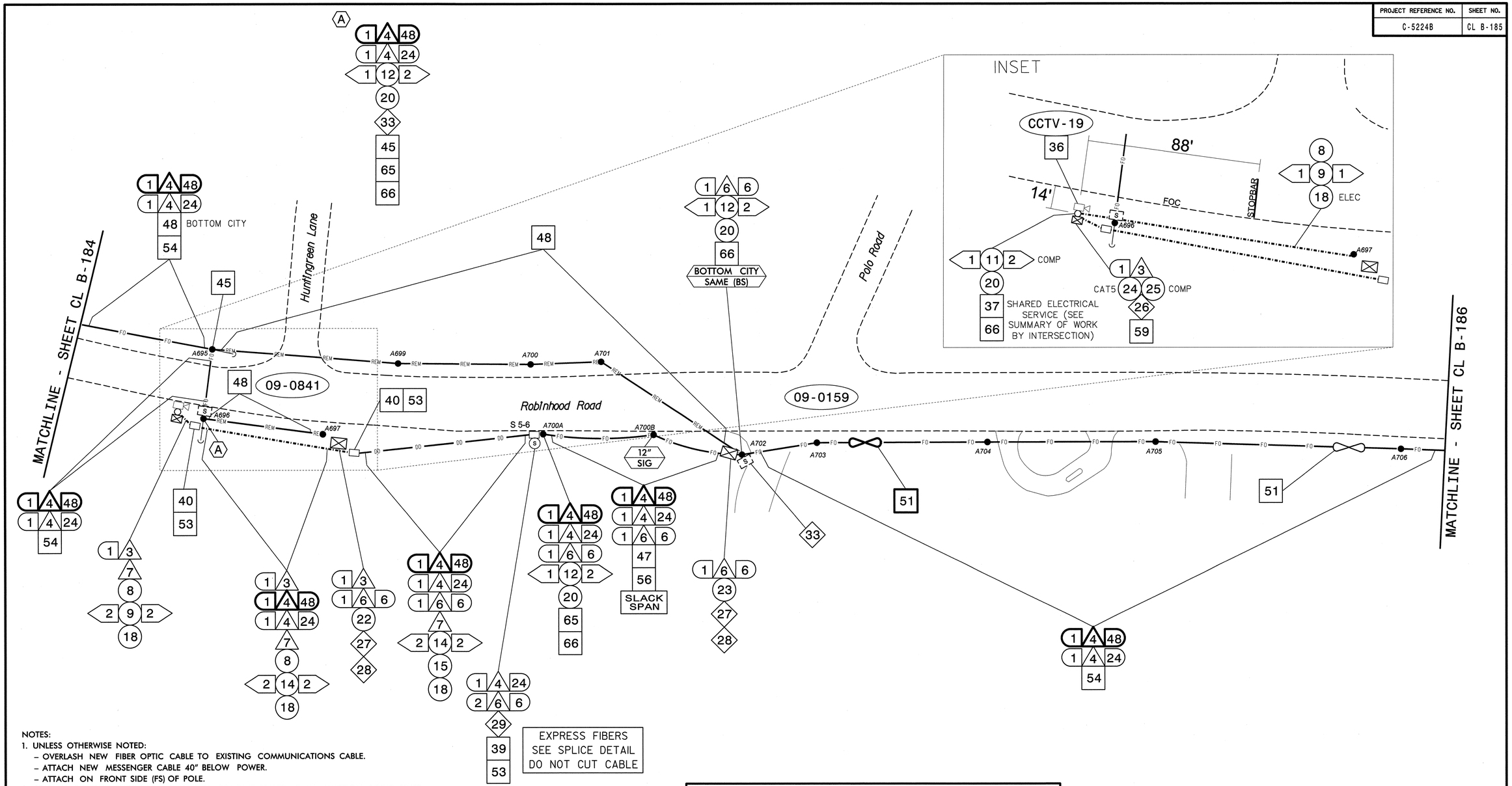
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-184.dgn

13-MAR-2013 14:07
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-184.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-185



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN) XXX

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS/ DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

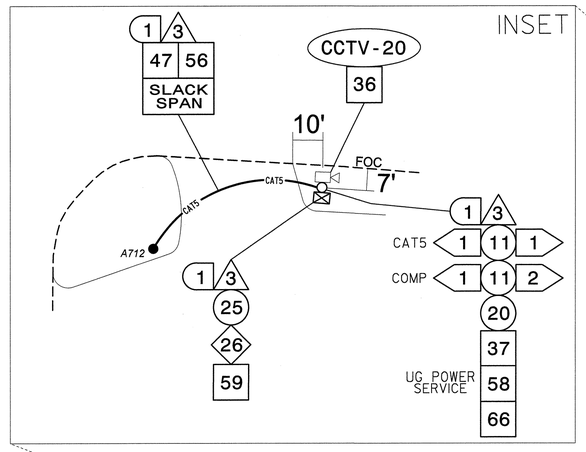
SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

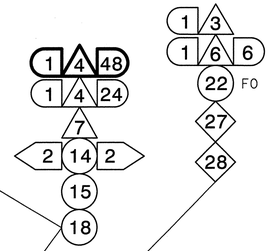
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE DATE
CADD Filename: CL B-185.dgn

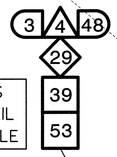
13-MAR-2013 14:07
C:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-185.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-186



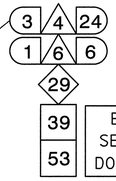
MATCHLINE - SHEET CL B-175





EXPRESS FIBERS SEE SPLICE DETAIL DO NOT CUT CABLE

Peace Haven Road



EXPRESS FIBERS SEE SPLICE DETAIL DO NOT CUT CABLE

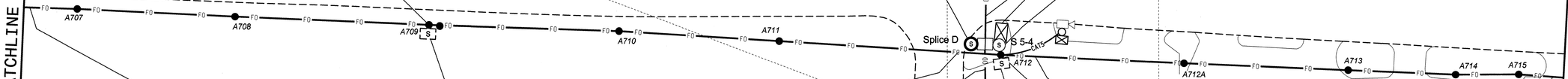
MATCHLINE - SHEET CL B-185

MATCHLINE - SHEET CL B-187

65

Robinhood Road

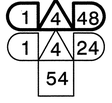
09-0155

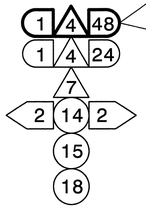


33

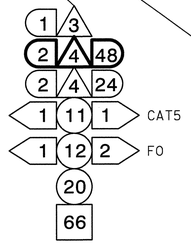
33

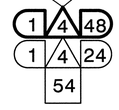
Peace Haven Road





MATCHLINE - SHEET CL B-174





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.

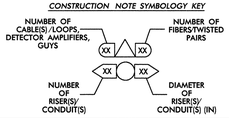
BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI–DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT
XXX DISTANCE BELOW (IN) REFERENCE POINT

CONSTRUCTION NOTE SYMBOLOGY KEY



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

Prepared for the Offices of:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

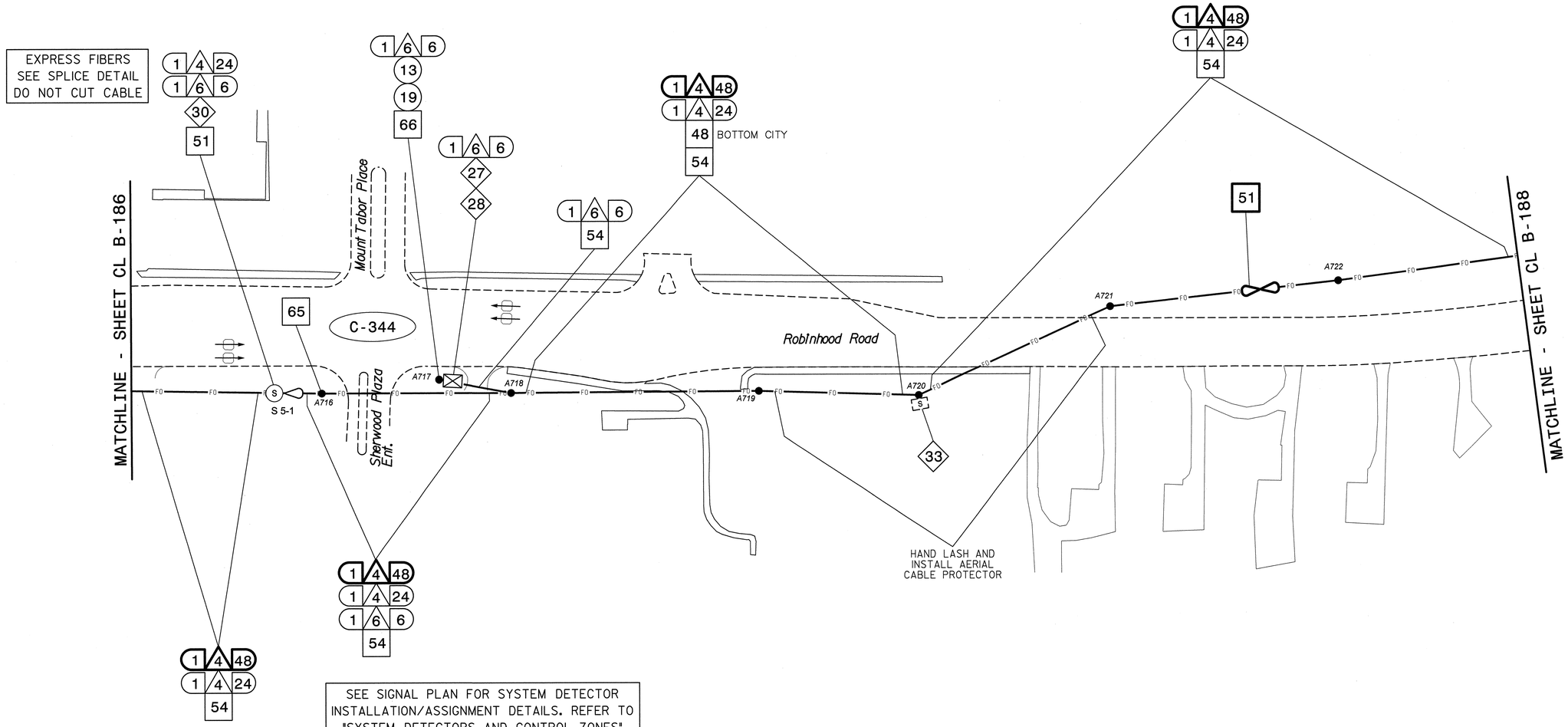
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-186.dgn

21-MAR-2013 16:28
User: Transportation\Traffic\Curr#100022712 Winston Salem Sig Sys\CL#Phase B\CL B-186.dgn
13813

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-187



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

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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

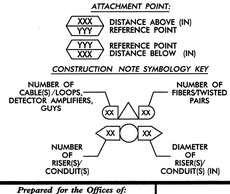
1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E CABLE
4. INSTALL SMFO CABLE
5. INSTALL COAXIAL ANTENNA CABLE
6. INSTALL FIBER-OPTIC DROP CABLE
7. INSTALL TRACER WIRE
8. INSTALL 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

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

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

CONSTRUCTION NOTE SYMBOLOGY KEY



ATKINS
1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-8888 NCBEES #F-0326

Prepared for the Offices of: Transportation Mobility and Safety Division, North Carolina Department of Transportation, Intelligent Transportation Systems

750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

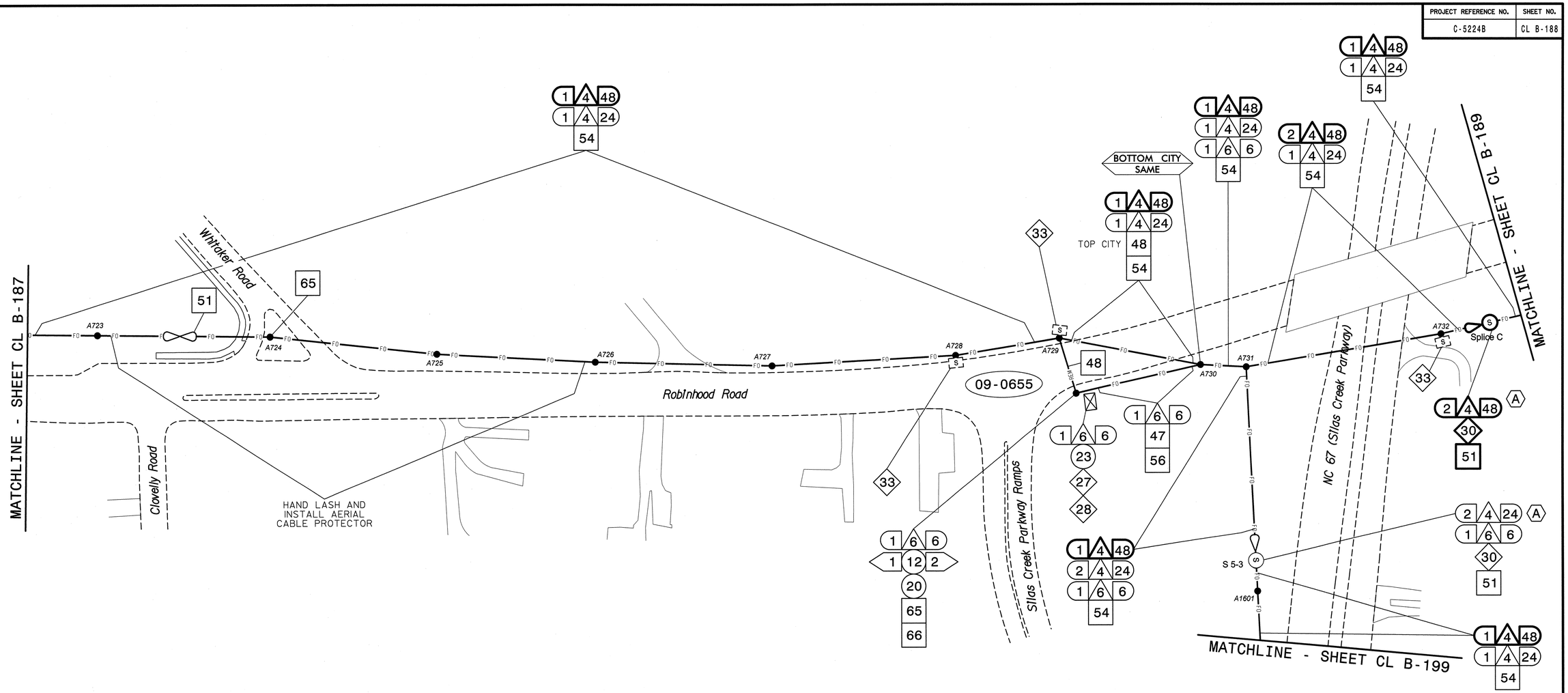
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

SIGNATURE Lisa M. Moon 3-22-13 DATE

CADD Filename: CL B-187.dgn

13-MAR-2013 14:21
D:\#Transportation\Traffic\Curr\#100022712 Winston Salem Sig Sys\#CL\#Phase B\#CL B-187.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-188



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

(A) EXPRESS FIBERS SEE SPLICE DETAIL DO NOT CUT CABLE

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of: NCDOT Transportation Mobility and Safety Division, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

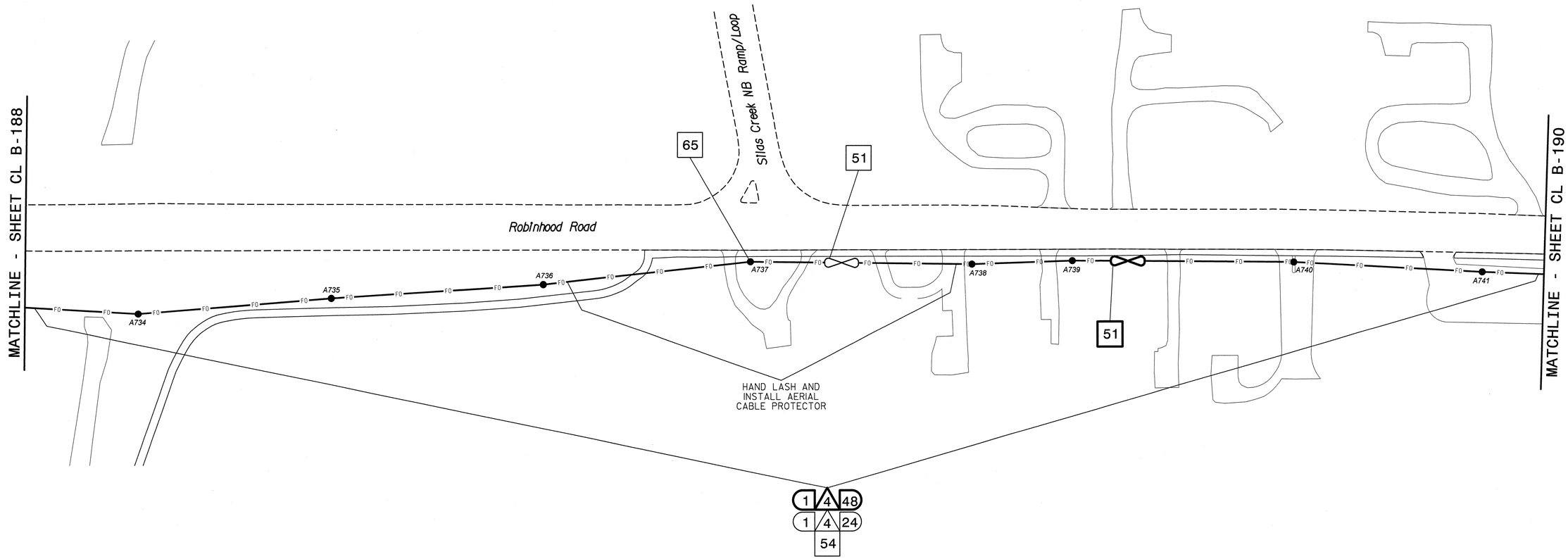
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-188.dgn

13-MAR-2013 14:21
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-188.dgn
13853

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-189



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
NCDOT Integrated Mobility and Asset Division
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

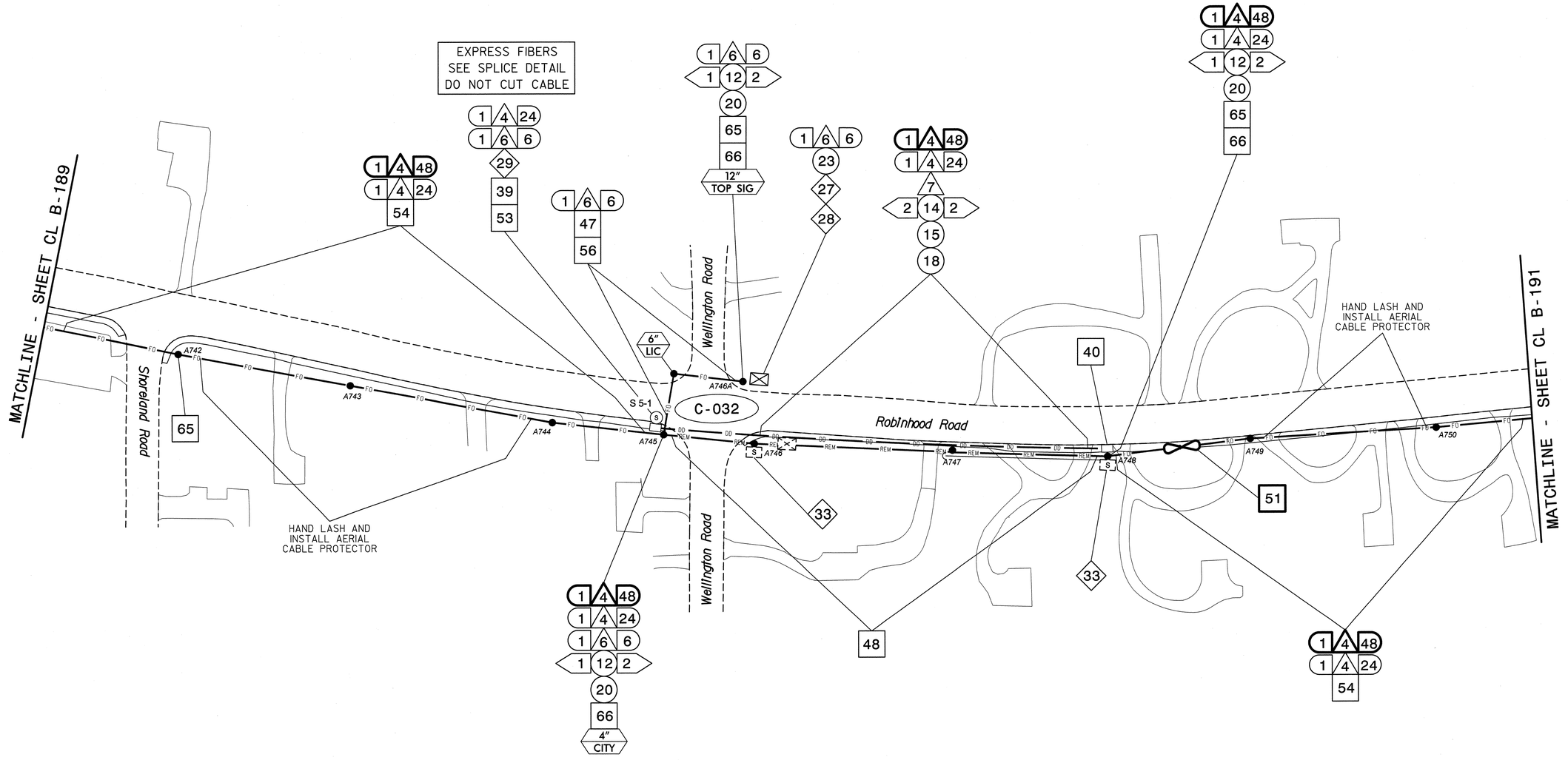
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-189.dgn

13-MAR-2013 14:21
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL B\Phase B\CL B-189.dgn
13812

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-190



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE	49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX	50	INSTALL WIRELESS DSL	62	NOT USED
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX	51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX	52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX	53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE	54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE	55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY	56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY	57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY	58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE	59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT
XXX DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

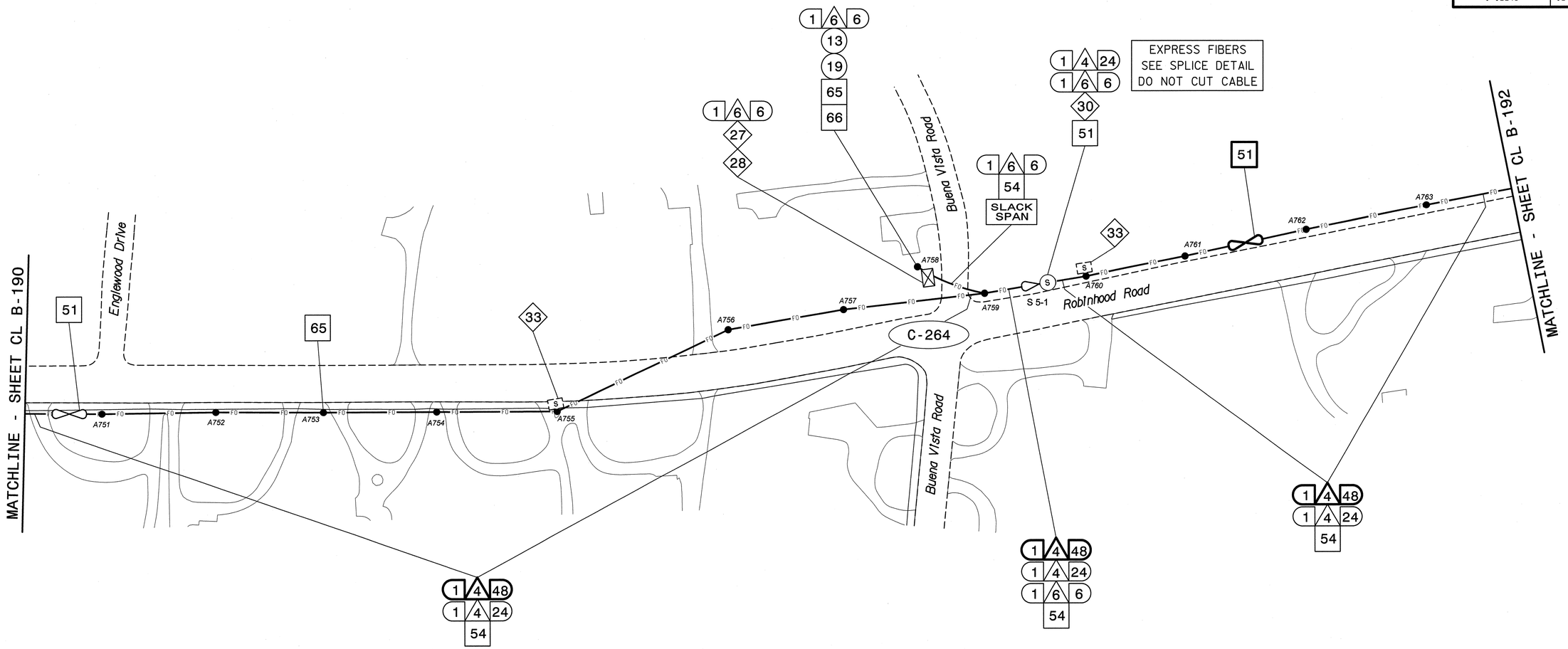
REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE Lisa M. Moon 3-22-13 DATE
CADD Filename: CL B-190.dgn

13-MAR-2013 14:21
O:\Transportation\Traffic\Curr#100022712 Winston Salem Sig Sys#CL#Phase B#CL B-190.dgn
USER:

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-191



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER–OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY
YYY REFERENCE POINT DISTANCE BELOW (IN)
XXX

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLES/LOOPS, DETECTOR AMPLIFIERS, GUYS — NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION — Integrated Mobility and Safety Division — Traffic Engineering Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

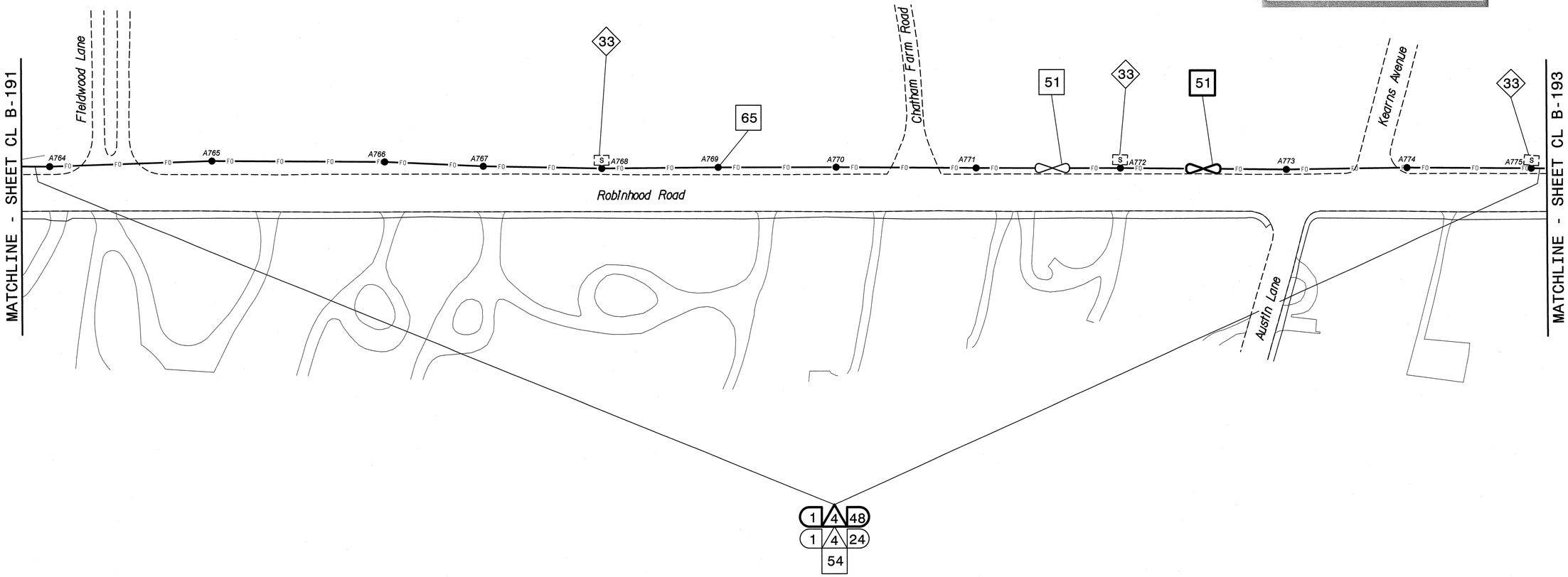
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-191.dgn

13-MAR-2013 14:21
D:\Transportation\Traffic\Curr#100022712 Winston Salem Sig Sys#CL#Phase B#CL B-191.dgn
13832

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-192

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.



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE	49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX	50	INSTALL WIRELESS DSL	62	NOT USED
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX	51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX	52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX	53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE	54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE	55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY	56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY	57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY	58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE	59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

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 — NUMBER OF FIBERS/TWISTED PAIRS — NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
North Carolina Department of Transportation — Transportation Mobility and Safety Division — Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

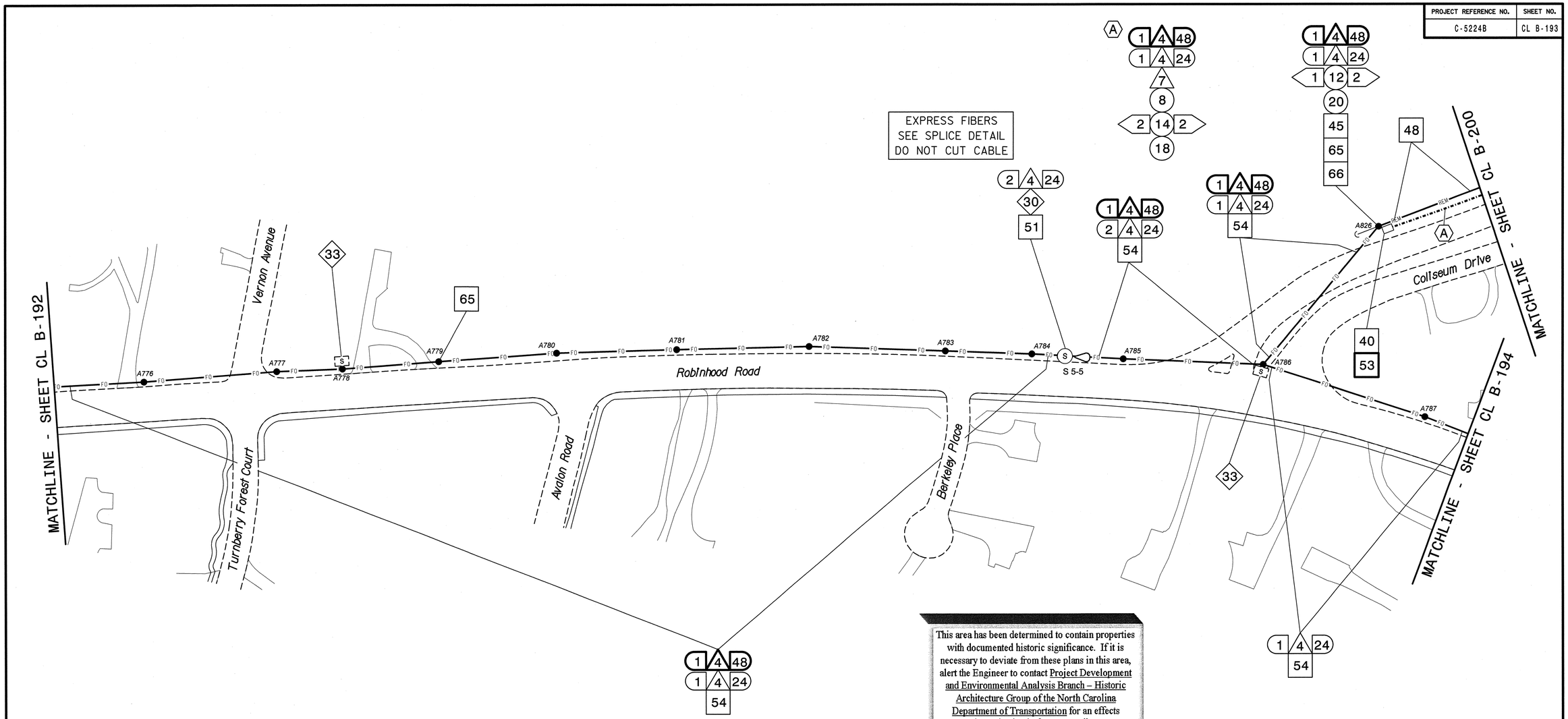
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-192.dgn

13-MAR-2013 14:21
D:\Transportation\Traffic\Curr#100022112 Winston Salem Sig Sys#CL B#Phase B#CL B-192.dgn
13853

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-193



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.

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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE	49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX	50	INSTALL WIRELESS DSL	62	NOT USED
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX	51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX	52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX	53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE	54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE	55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY	56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY	57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY	58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE	59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT
YYY DISTANCE BELOW (IN)
XXX

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS /DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of: Transportation Mobility and Safety Division, North Carolina Department of Transportation, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LW Moon

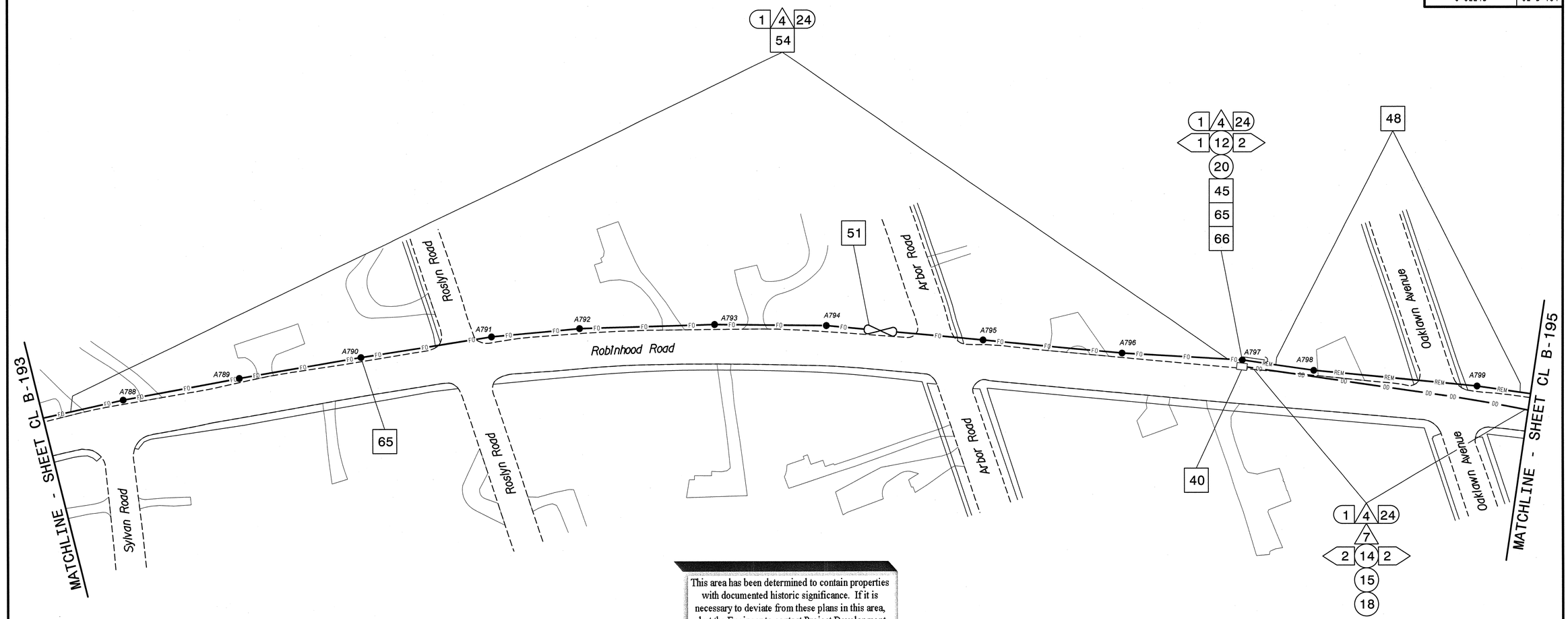
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022516 LISA M. MOON
Lisa M. Moon 3.22.13
SIGNATURE DATE

CADD Filename: CL B-193.dgn

13-MAR-2013 14:21
D:\#Transportation\Traffic\#Current\#100022112 Winston Salem Sig Sys\#CL\#Phase B\#CL B-193.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-194



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.

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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE

49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA				
50	INSTALL WIRELESS DSL	62	NOT USED				
51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO				
52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS				
53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND				
54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND				
55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND				
56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS				
57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY				
58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED				
59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED				
60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH				

ATTACHMENT POINT:
- XXX / XYY — DISTANCE ABOVE (IN) REFERENCE POINT
- YYY / XXX — REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
- NUMBER OF CABLE(S) /LOOPS/ DETECTOR AMPLIFIERS, GUYS
- NUMBER OF FIBERS/TWISTED PAIRS
- NUMBER OF RISER(S)/ CONDUIT(S)
- DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

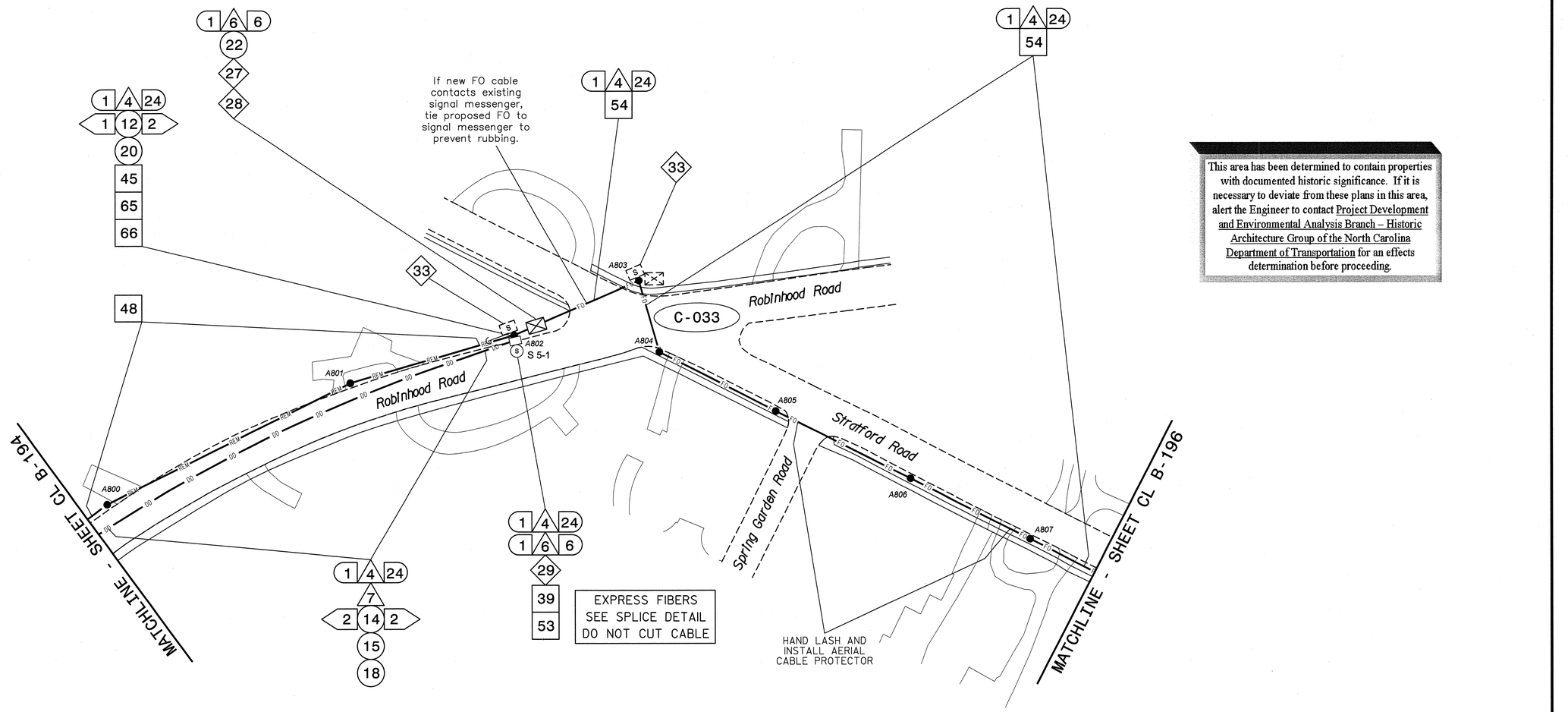
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-194.dgn

13-MAR-2013 14:21
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-194.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-195



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.

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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
North Carolina Department of Transportation — Transportation Mobility and Safety Division — Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 | Forsyth County | Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

SCALE 0 50 1"=50'

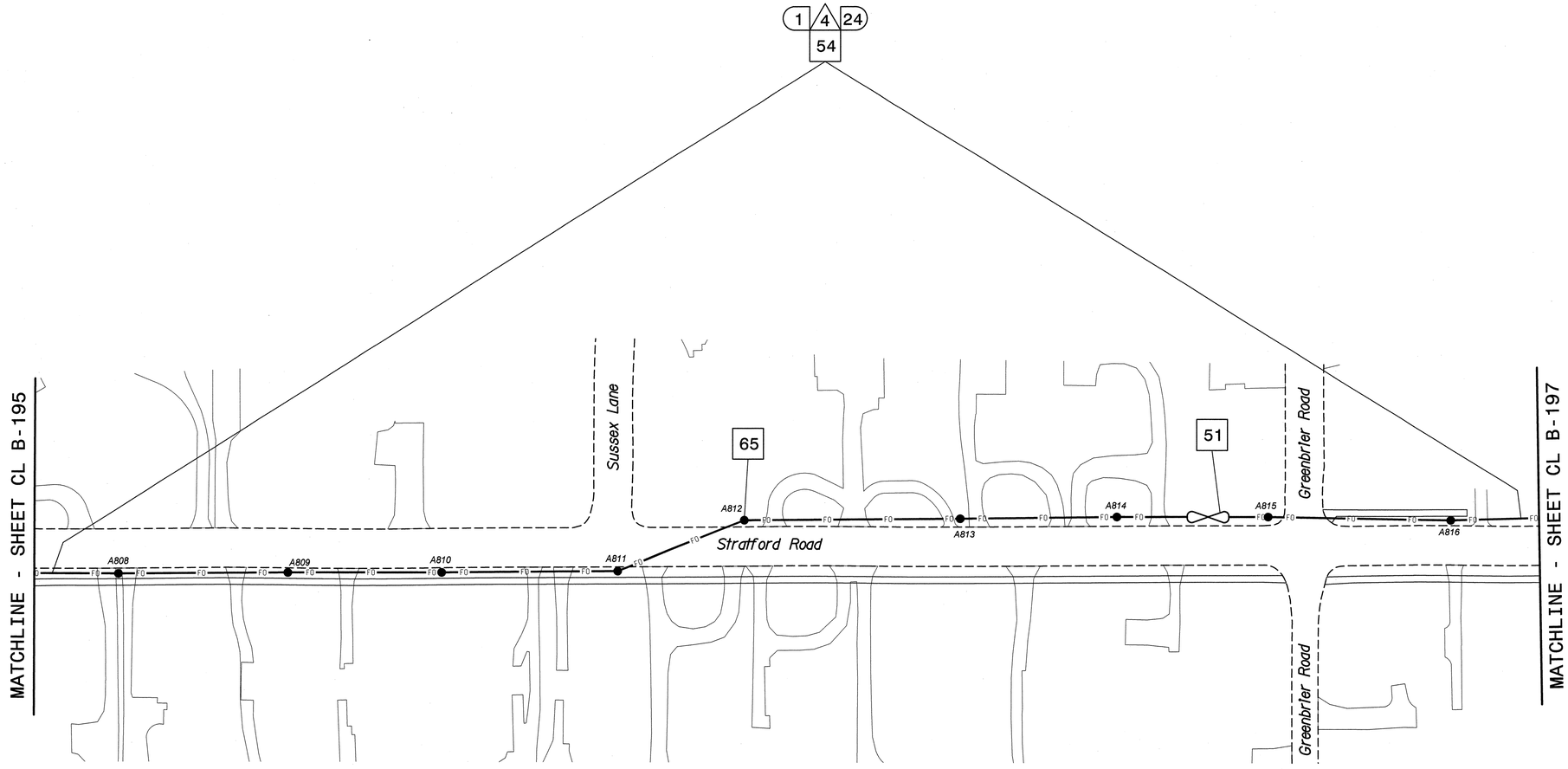
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022516 LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-195.dgn

13-MAR-2013 14:21
I:\Atkinsroadtown\Traffic\Cur\#100022712 Winston Salem Sig Sys\CL\#Phase B\CL B-195.dgn
User:lmoon
PSLS

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-196



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.

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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX / YYY — DISTANCE ABOVE (IN) REFERENCE POINT
YYY / XXX — REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLES/LOOPS, DETECTOR AMPLIFIERS, GUYS — NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

SCALE 0 50 1"=50'

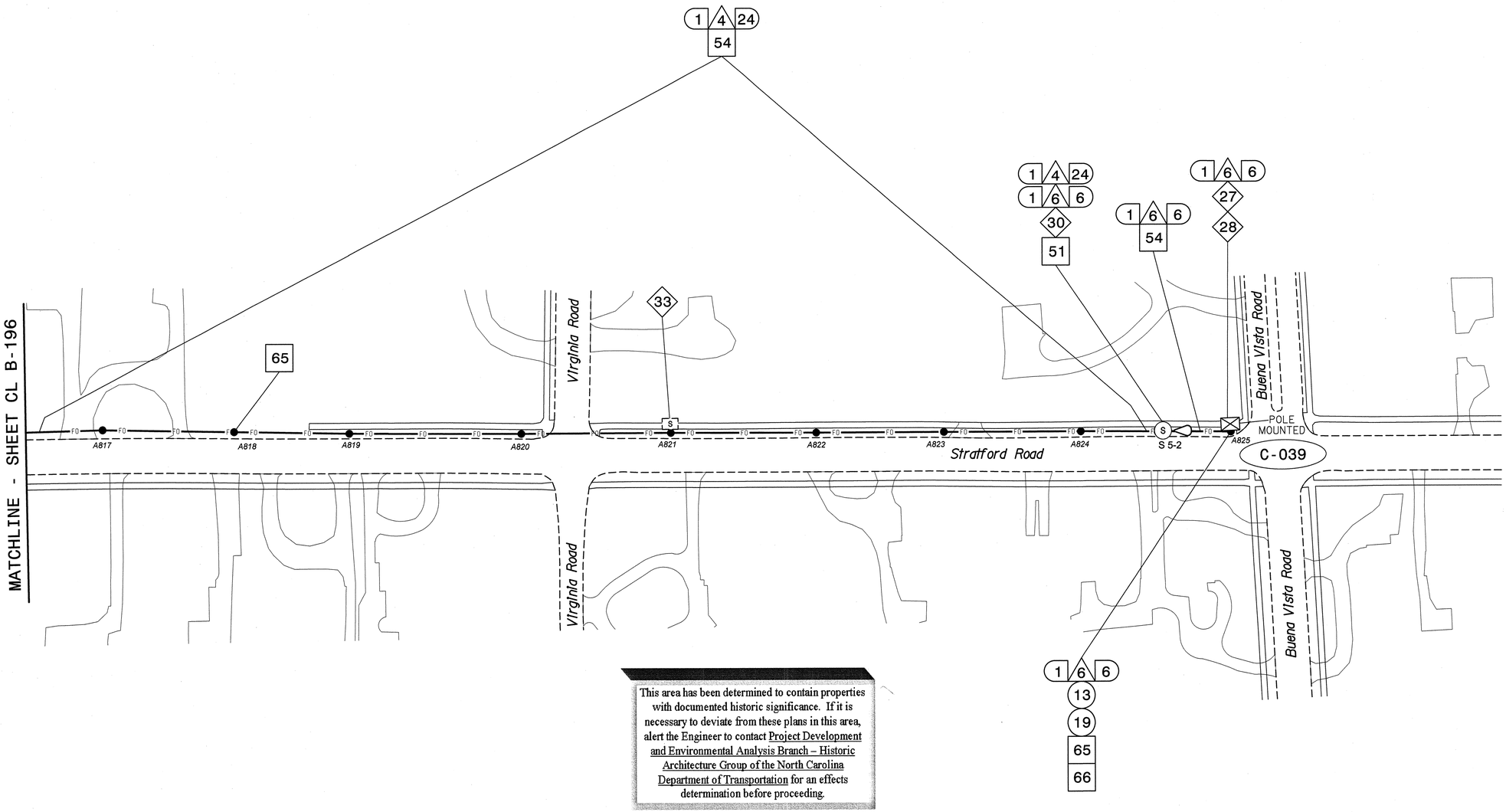
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-196.dgn

13-MAR-2013 14:21
D:\Transportation\Traffic\Current\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-196.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-197



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.

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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN) XXX

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

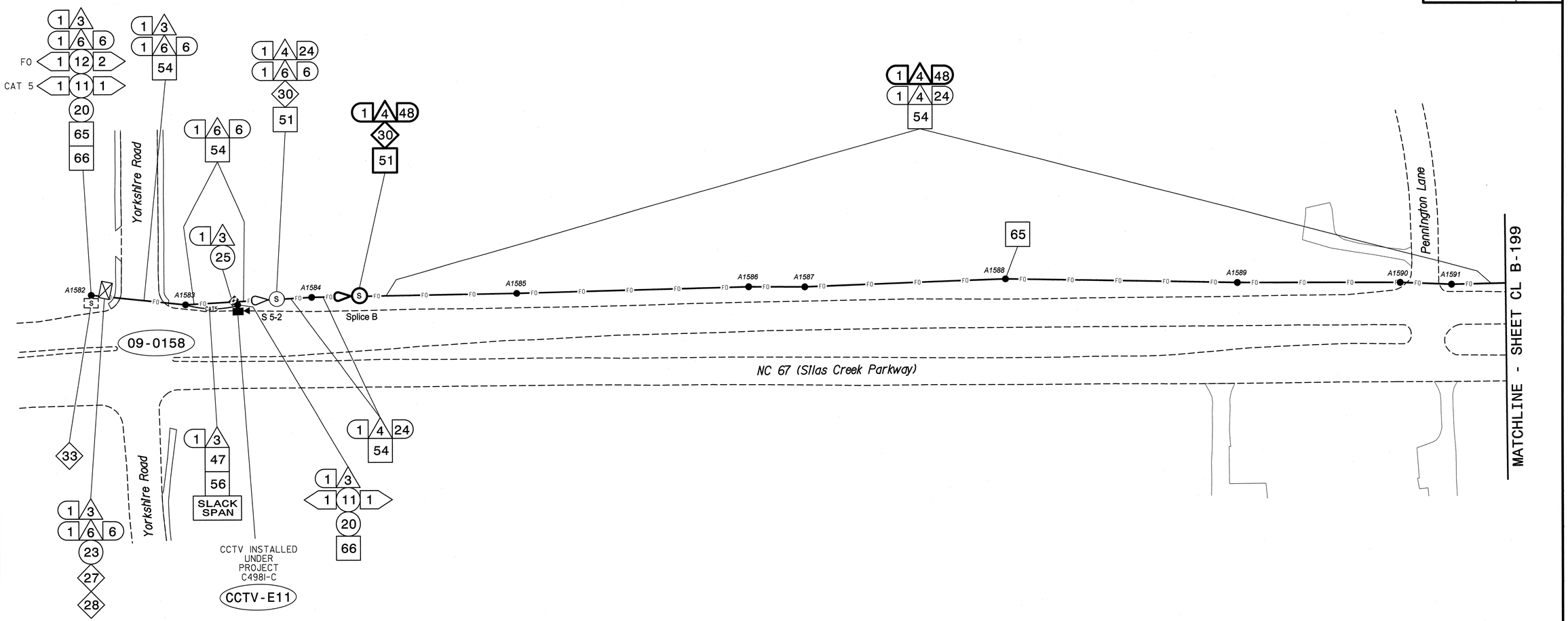
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-197.dgn

13-MAR-2013 14:21
D:\#Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\#CL\Phase B\CL B-197.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-198



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI–DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

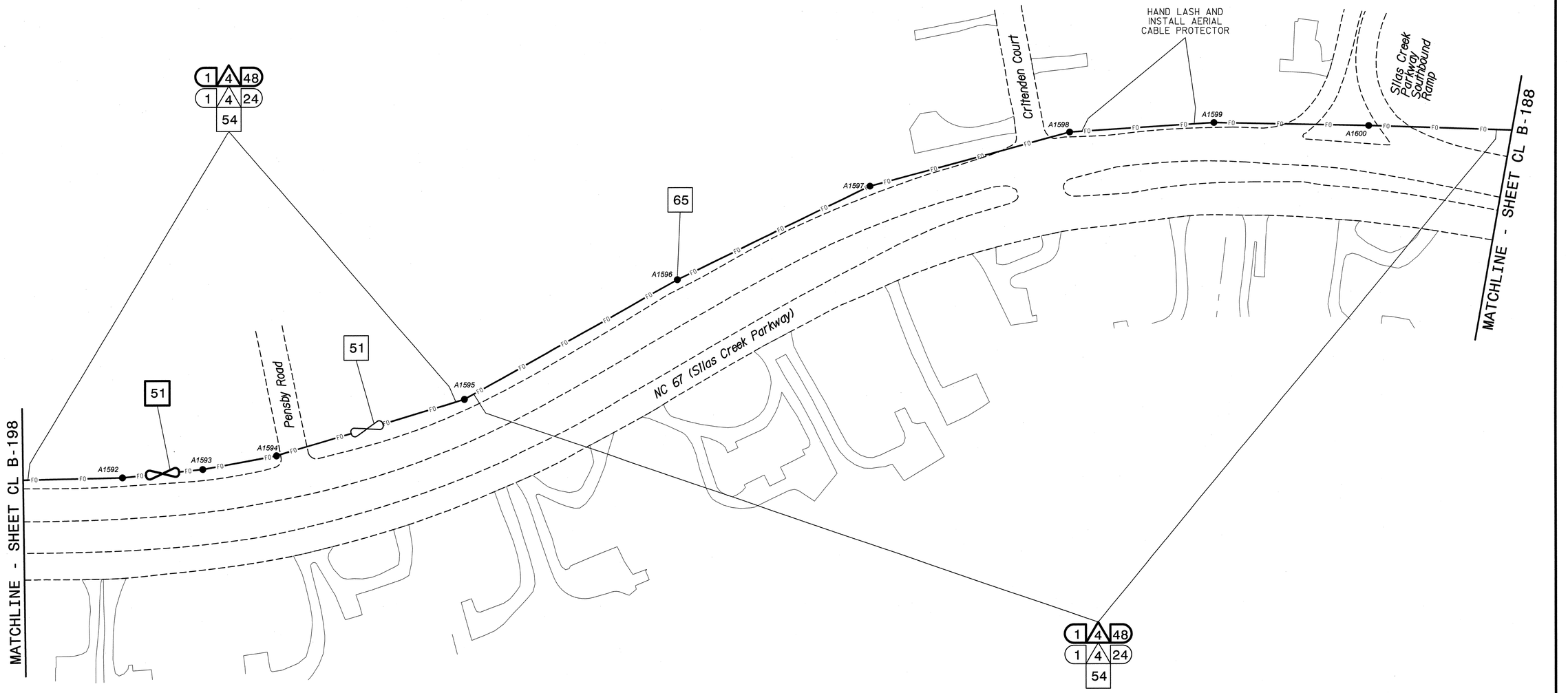
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-198.dgn

21-MAR-2013 13:48
J:\Transportation\Traffic\Curr\#100022712 Winston Salem Sig Sys\#CL\#Phase B\CL B-198.dgn
25651

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-199



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT
YYY REFERENCE POINT
XXX DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLES/LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
Transportation Mobility and Safety Division
North Carolina Department of Transportation
Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

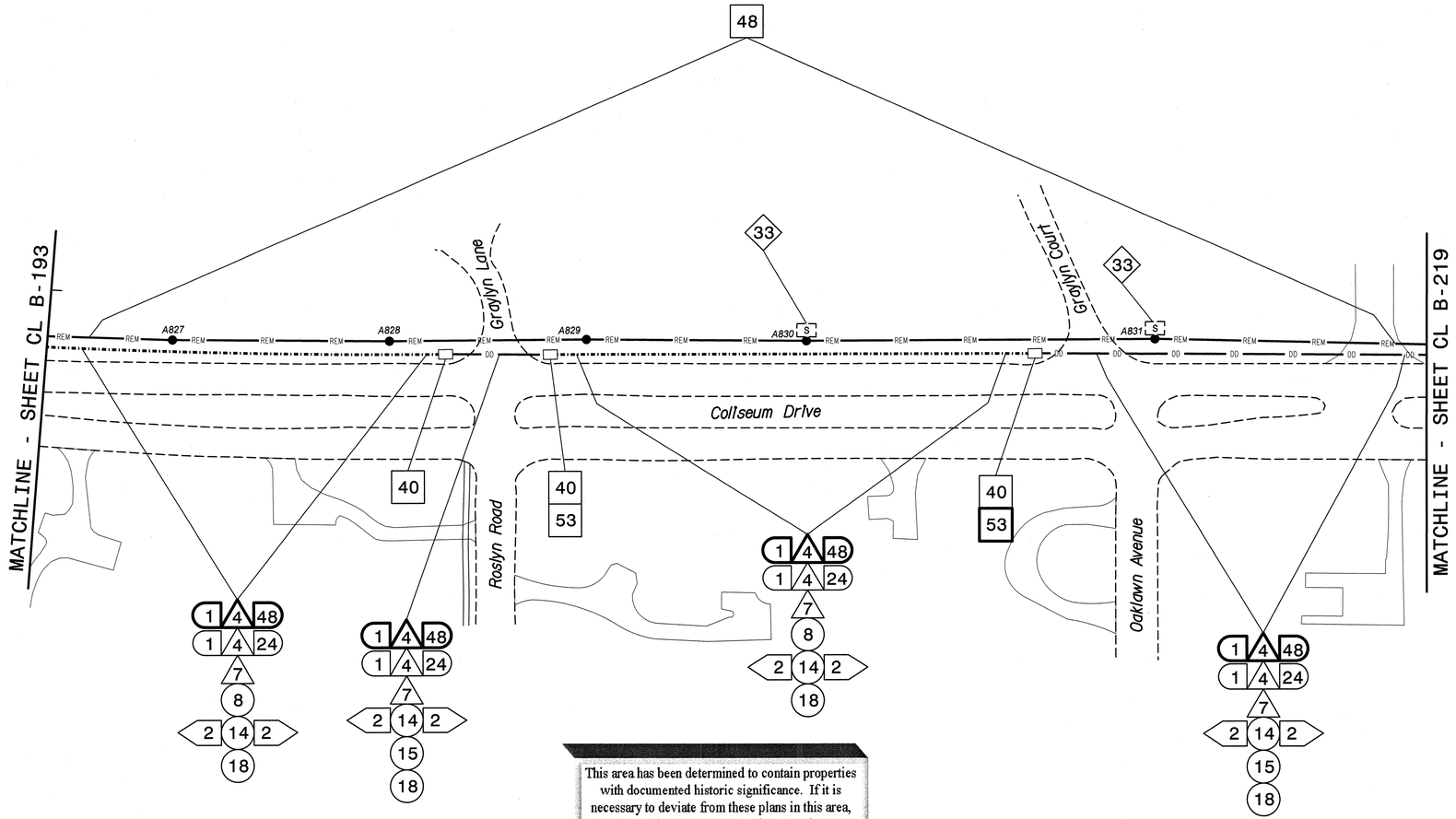
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M Moon 3/22/13
SIGNATURE DATE

CADD Filename: CL B-199.dgn

13-MAR-2013 14:21
D:\transportation\Traffic\Curr#100022712 Winston Salem Sig Sys#CL#Phase B#CL B-199.dgn
13853

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-200



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.

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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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 — NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

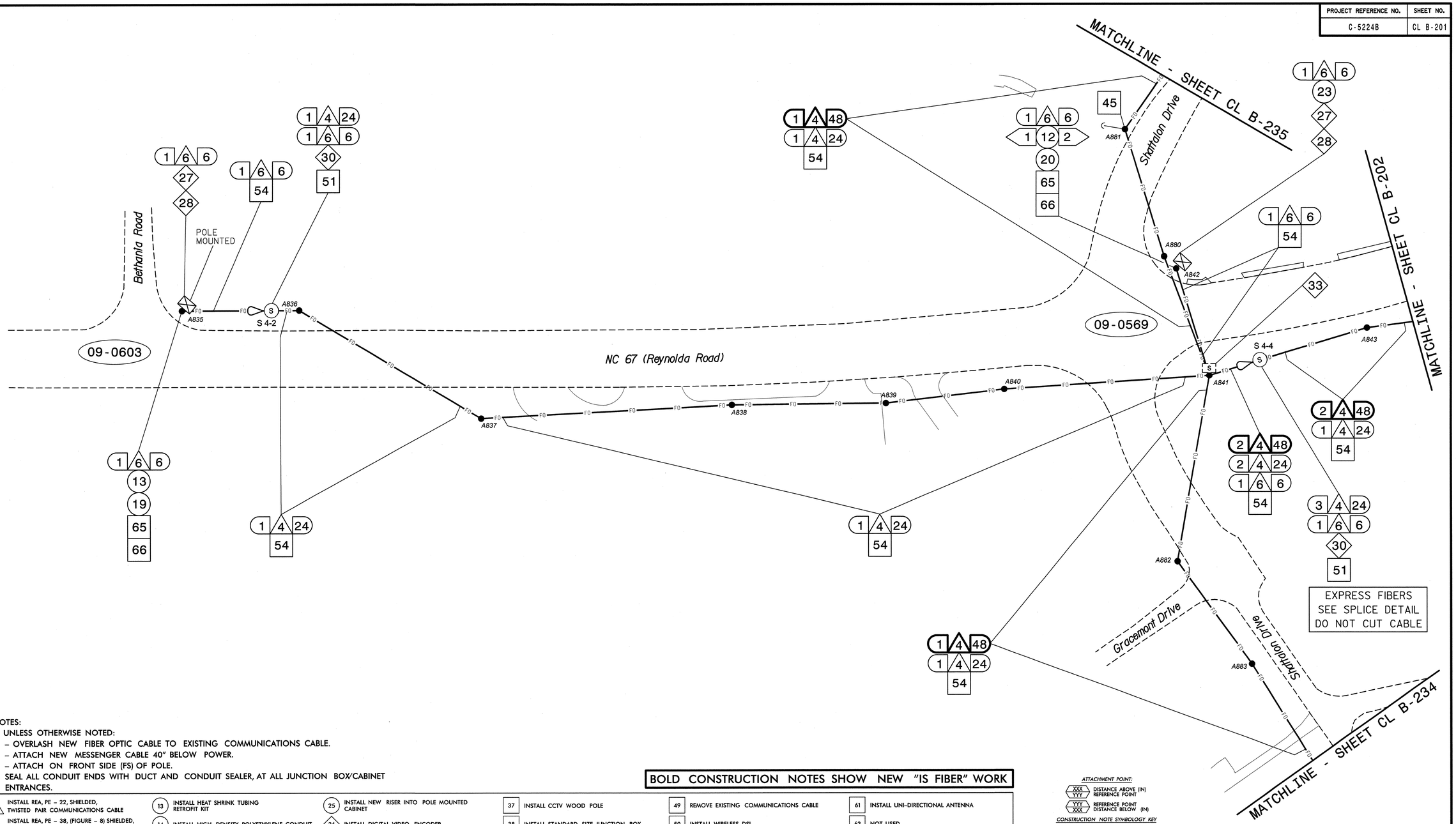
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE 3-22-13 DATE

CADD Filename: CL B-200.dgn

13-MAR-2013 14:21
D:\#Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-200.dgn
13533

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-201



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

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
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

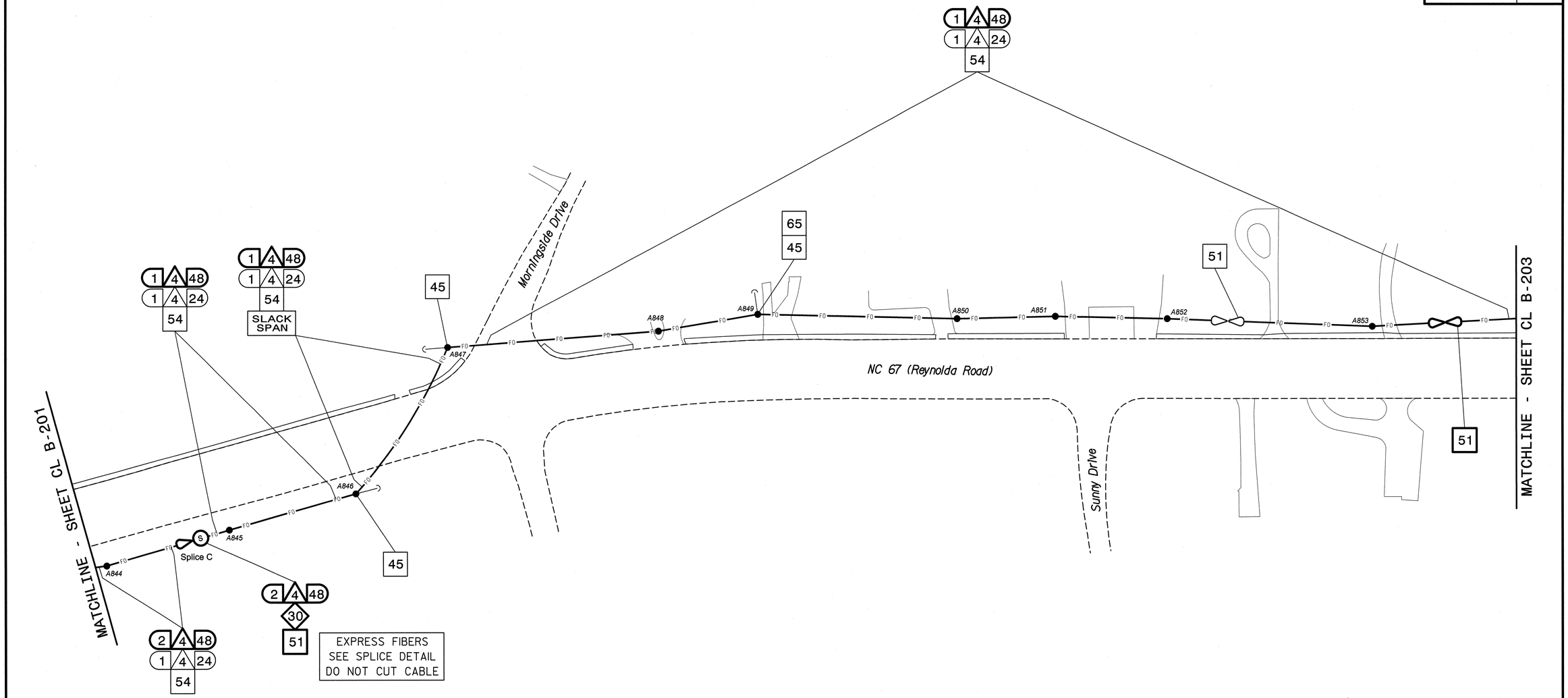
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-201.dgn

13-MAR-2013 14:21
D:\Transportation\Traffic\Curr#100022712 Winston Salem Sig Sys\CL#Phase B\CL B-201.dgn
lmoon
13813

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-202



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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 — NUMBER OF FIBERS/TWISTED PAIRS

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

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

Prepared for the Offices of:

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

750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

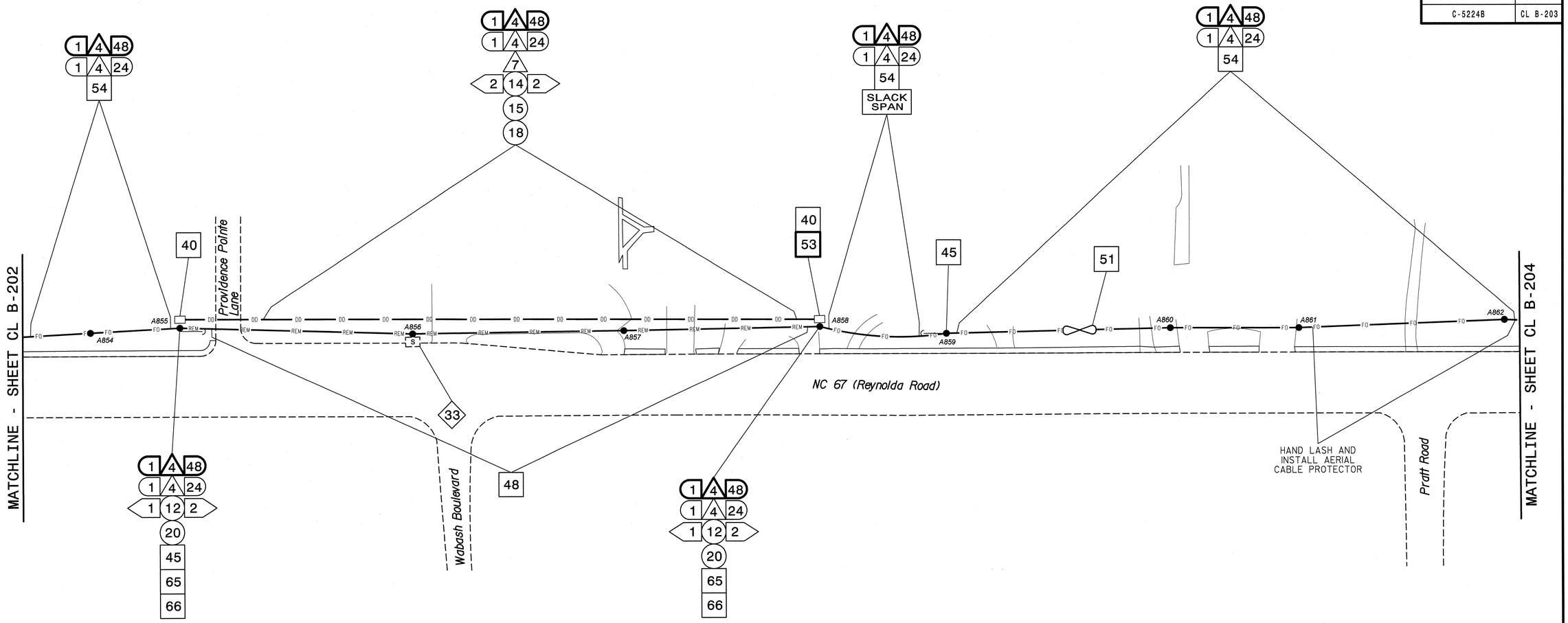
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-202.dgn

13-MAR-2013 14:21
D:\Transportation\Traffic\Curr#100022712 Winston Salem Sig Sys\CL#Phase B\CL B-202.dgn
13832

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-203



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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 — NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LW Moon

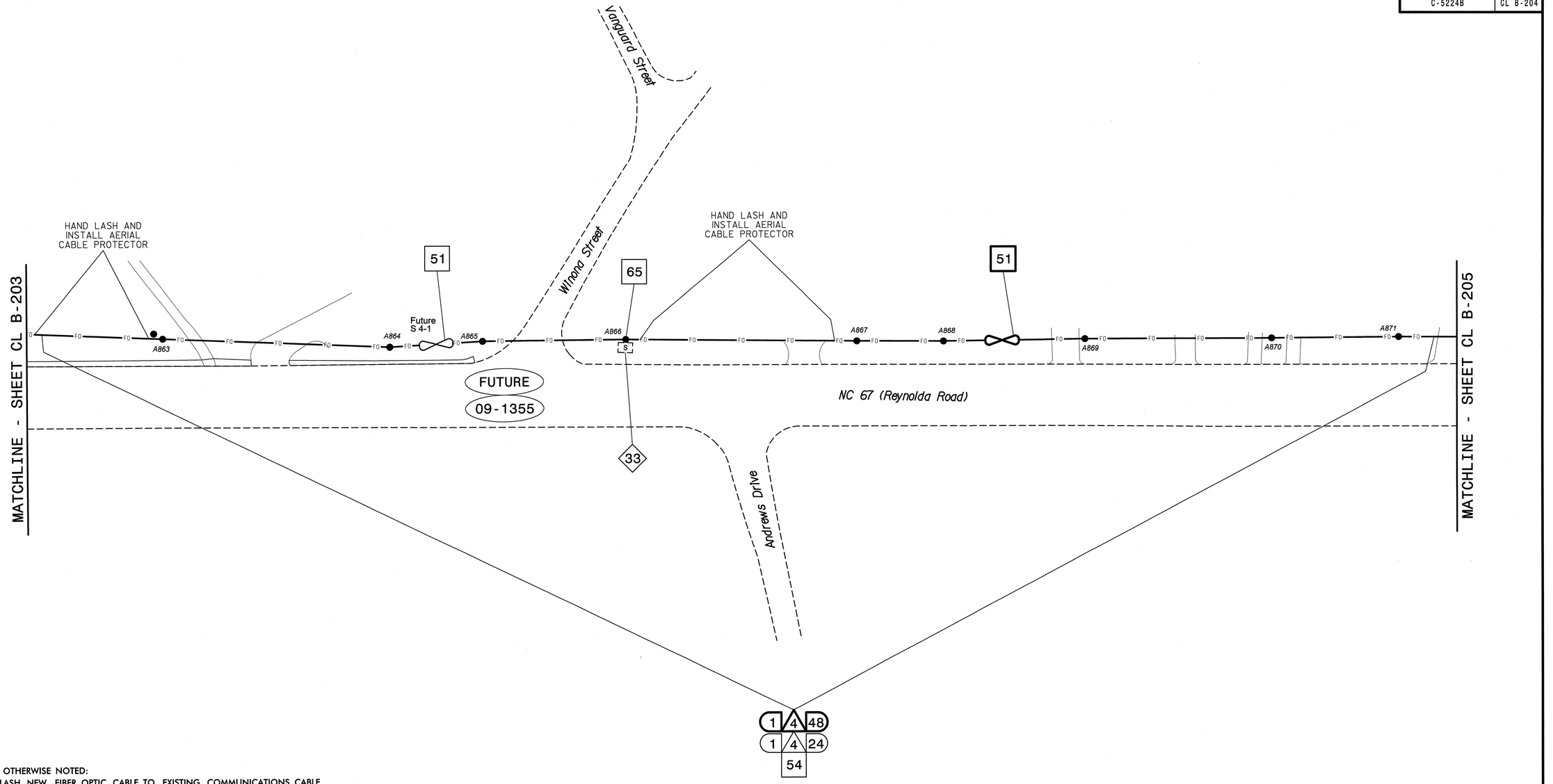
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-203.dgn

13-MAR-2013 14:21
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-203.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-204



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT
YYY REFERENCE POINT
XXX DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
North Carolina Department of Transportation, Mobility and Safety Division, Traffic Engineering Branch, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

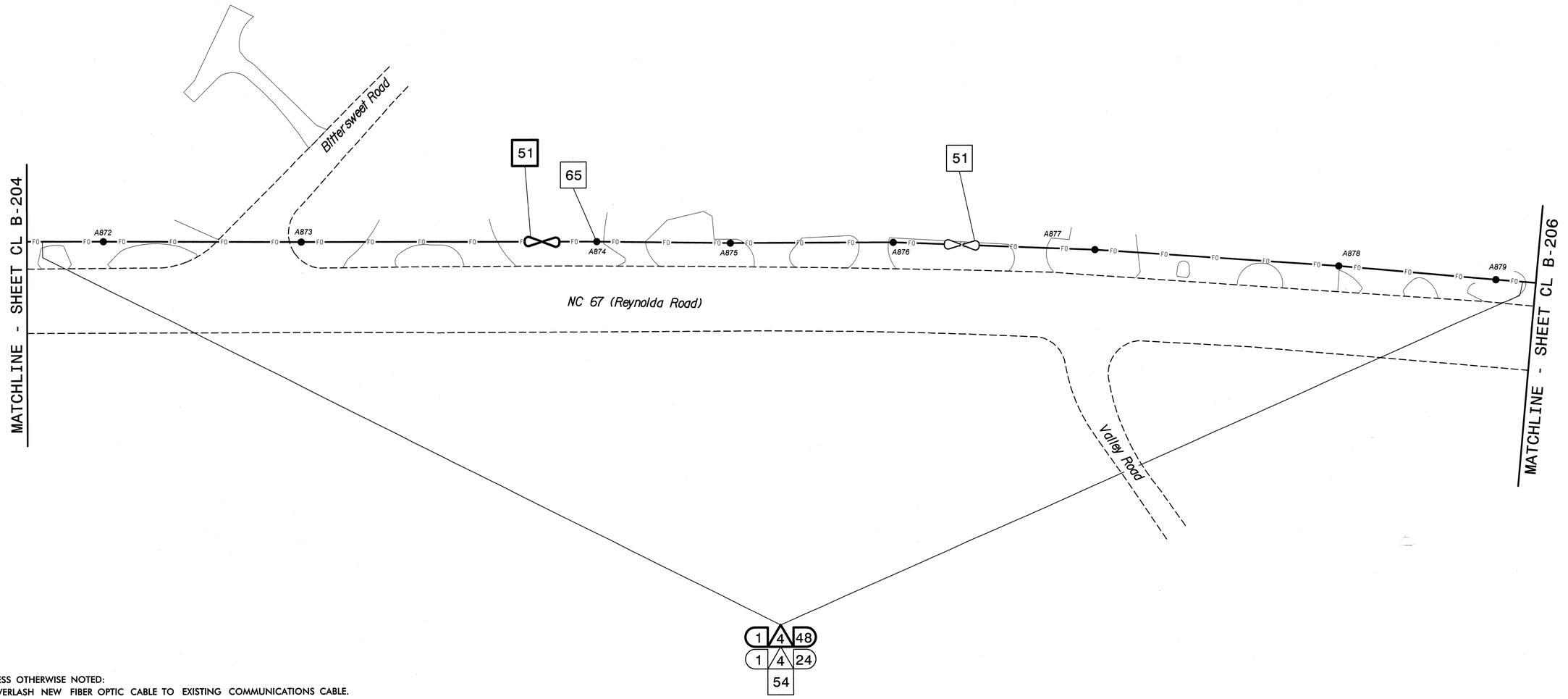
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022516 LISA M. MOON
SIGNATURE Lisa M. Moon 3-22-13 DATE

CADD Filename: CL B-204.dgn

13-MAR-2013 14:21
D:#Transportation#Traffic#Curr#1000227\2 Winston Salem Sig Sys#CL B#Phase B#CL B-204.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-205



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI–DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT
YYY REFERENCE POINT
XXX DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
NCDEPARTMENT OF TRANSPORTATION Transportation Mobility and Safety Division Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

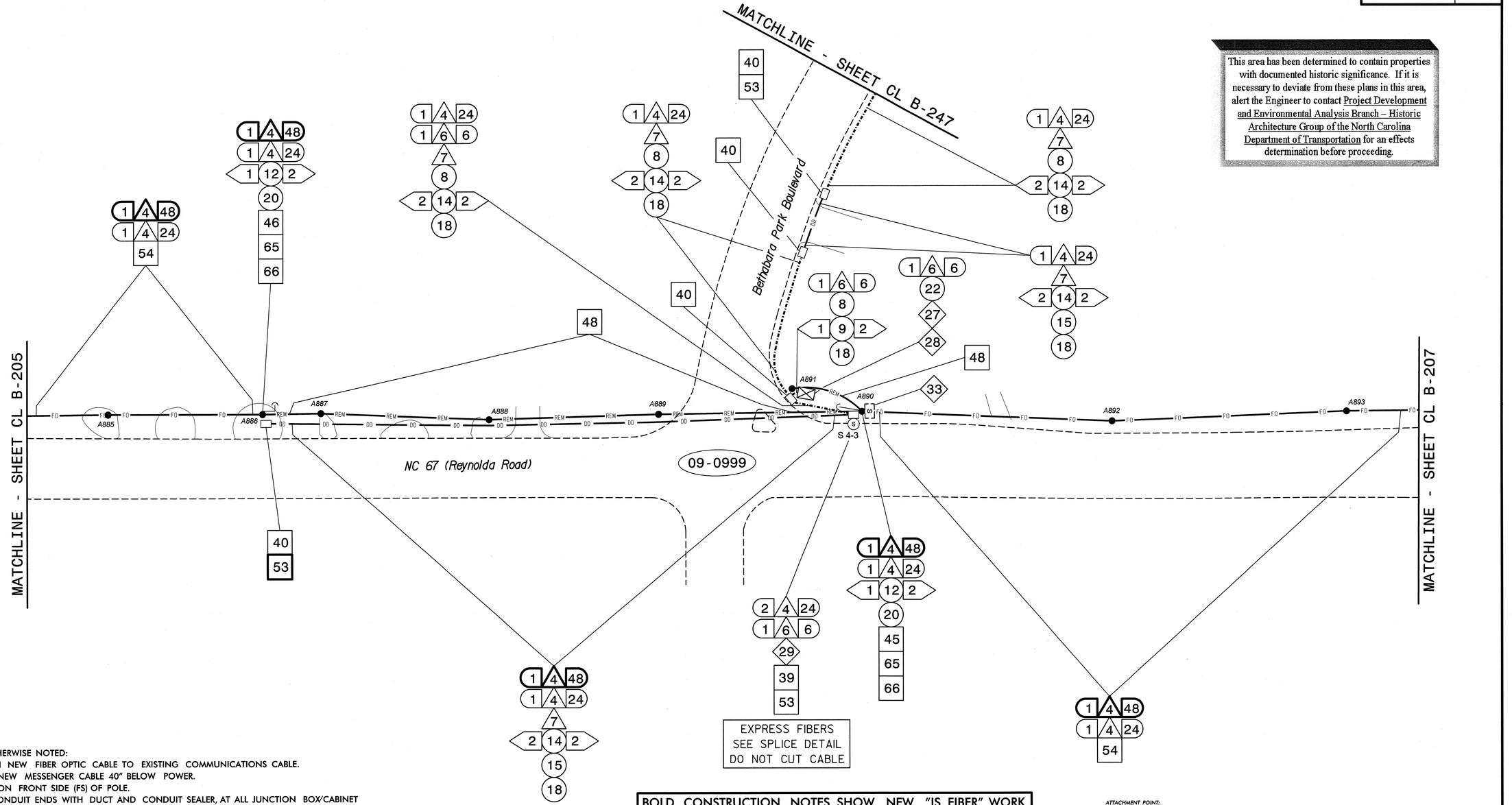
SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE
CADD Filename: CL B-205.dgn

13-MAR-2013 14:21
D:\Transportation\Traffic\Cur*\1000227\2 Winston Salem Sig Sys\CL*\Phase B*\CL B-205.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-206



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.

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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

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
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
Traffic Engineering Branch – Transportation Systems Management & Operations – Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem
PLAN DATE: March 2013 REVIEWED BY: MB Toth
PREPARED BY: JAW/AJD REVIEWED BY: LW Moon

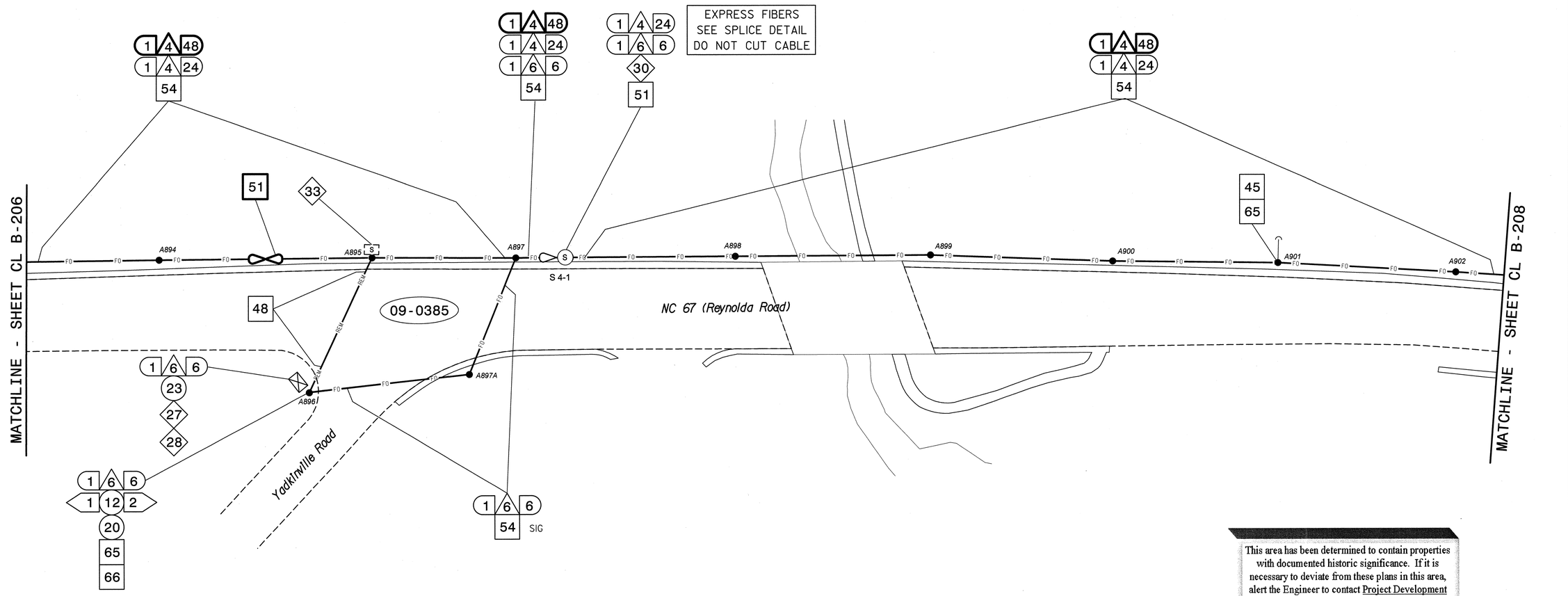
REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE
CADD Filename: CL B-206.dgn

13-MAR-2013 14:31
D:\#transportation\traffic\Curr#100022112 Winston Salem Sig Sys\CL#Phase B\CL B-206.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-207



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.

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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

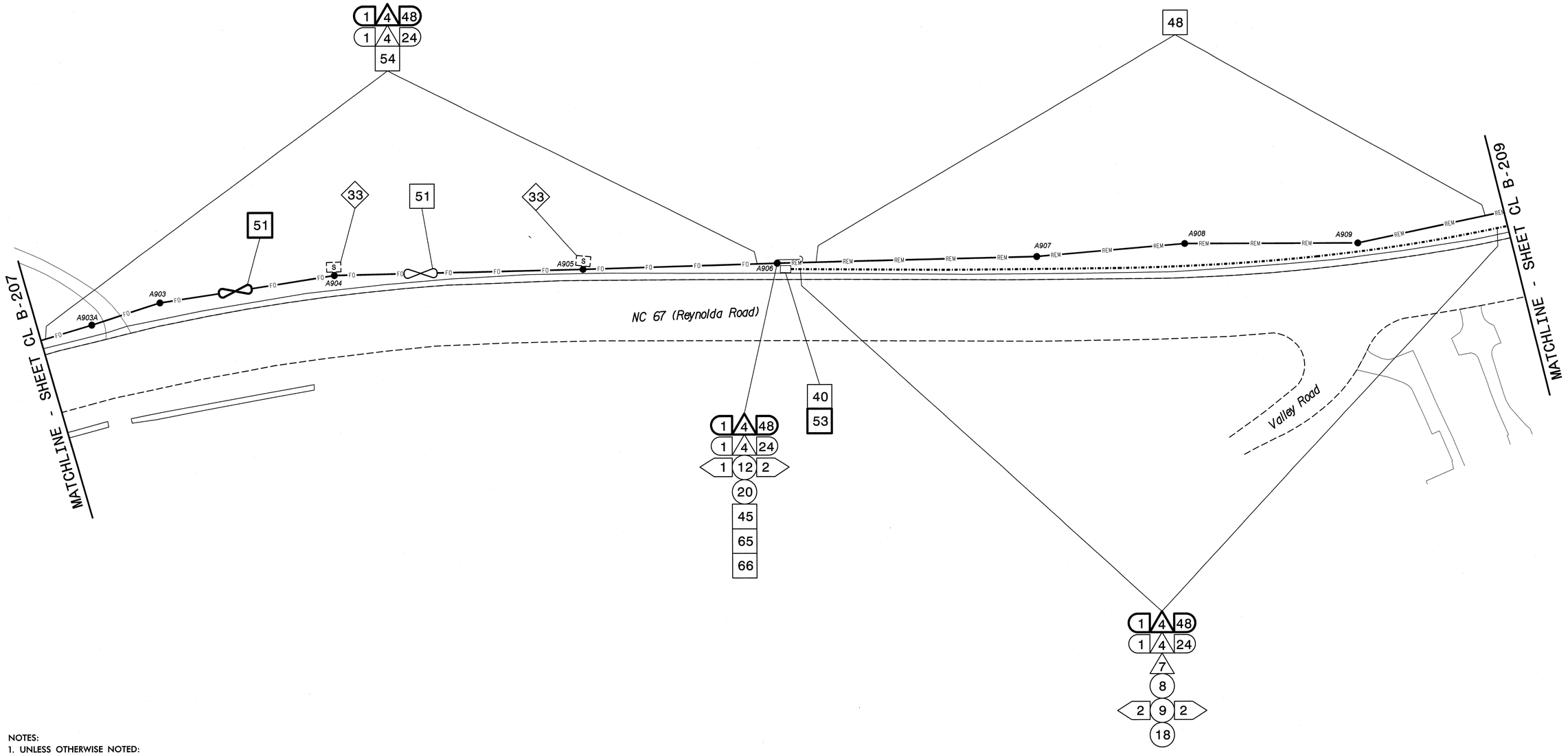
REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE Lisa M. Moon 3-22-13 DATE
CADD Filename: CL B-207.dgn

13-MAR-2013 14:31
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL Phase B\CL B-207.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-208



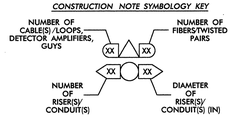
NOTES:
1. UNLESS OTHERWISE NOTED:
   - OVERLASH NEW FIBER OPTIC CABLE TO EXISTING COMMUNICATIONS CABLE.
   - ATTACH NEW MESSENGER CABLE 40" BELOW POWER.
   - ATTACH ON FRONT SIDE (FS) OF POLE.
2. SEAL ALL CONDUIT ENDS WITH DUCT AND CONDUIT SEALER, AT ALL JUNCTION BOX/CABINET ENTRANCES.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE	49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX	50	INSTALL WIRELESS DSL	62	NOT USED
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX	51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX	52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX	53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE	54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE	55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY	56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY	57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY	58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE	59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY



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

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

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

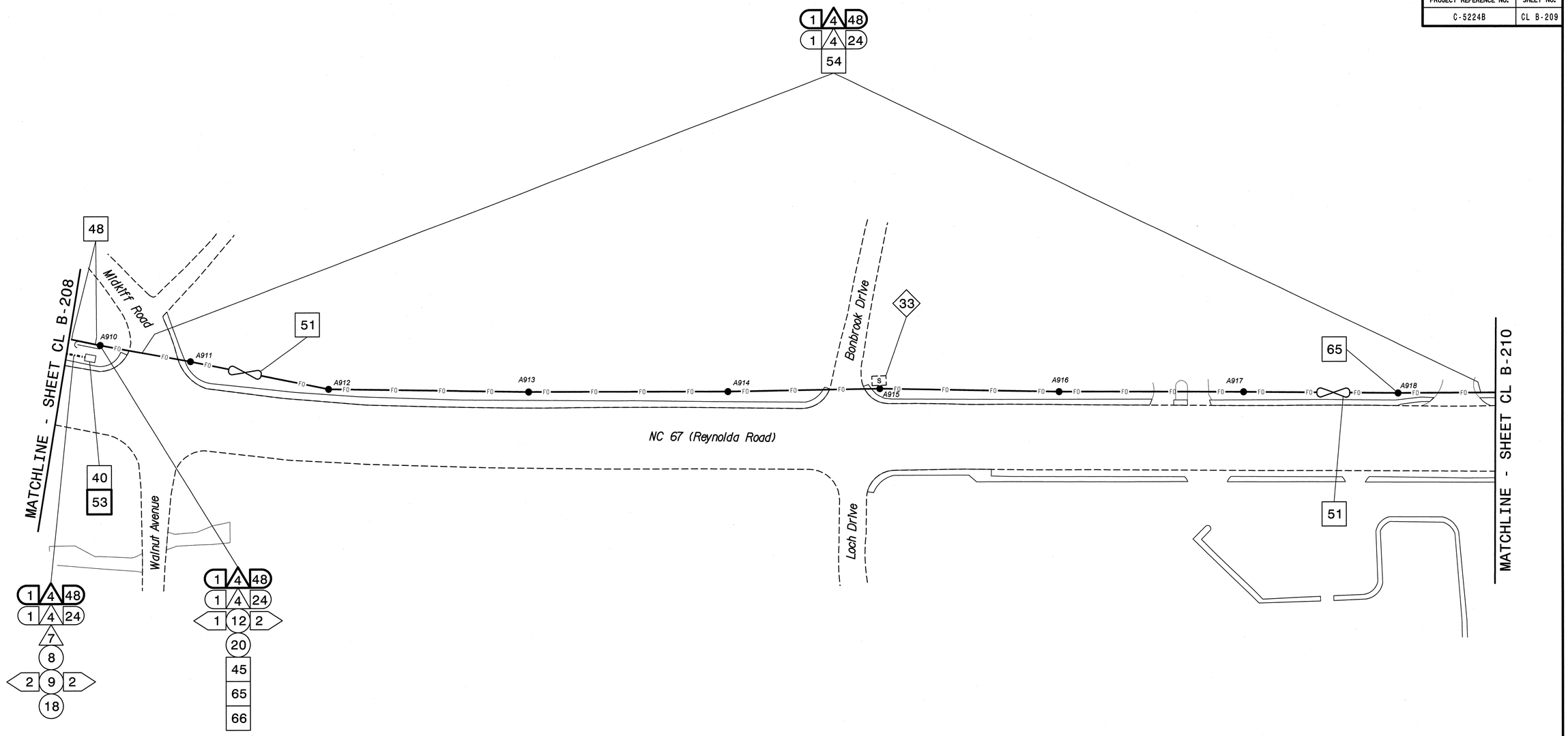
PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LW Moon

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE
CADD Filename: CL B-208.dgn

13-MAR-2013 14:31
O:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-208.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-209



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
Traffic Engineering Branch — Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

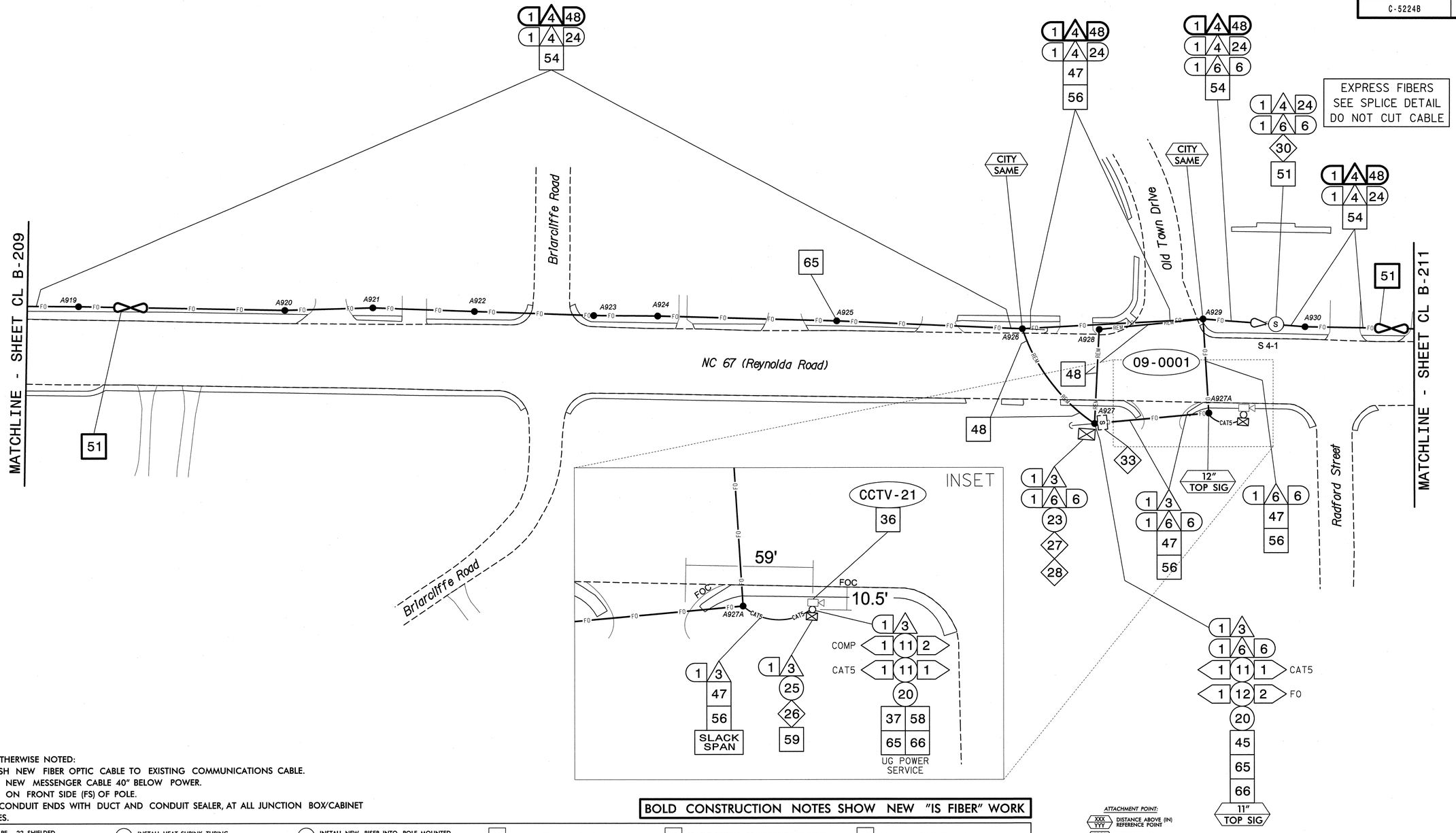
SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022516 LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-209.dgn

13-MAR-2013 14:31
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-209.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-210



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of: Transportation Mobility and Safety Division, State of North Carolina Department of Transportation, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

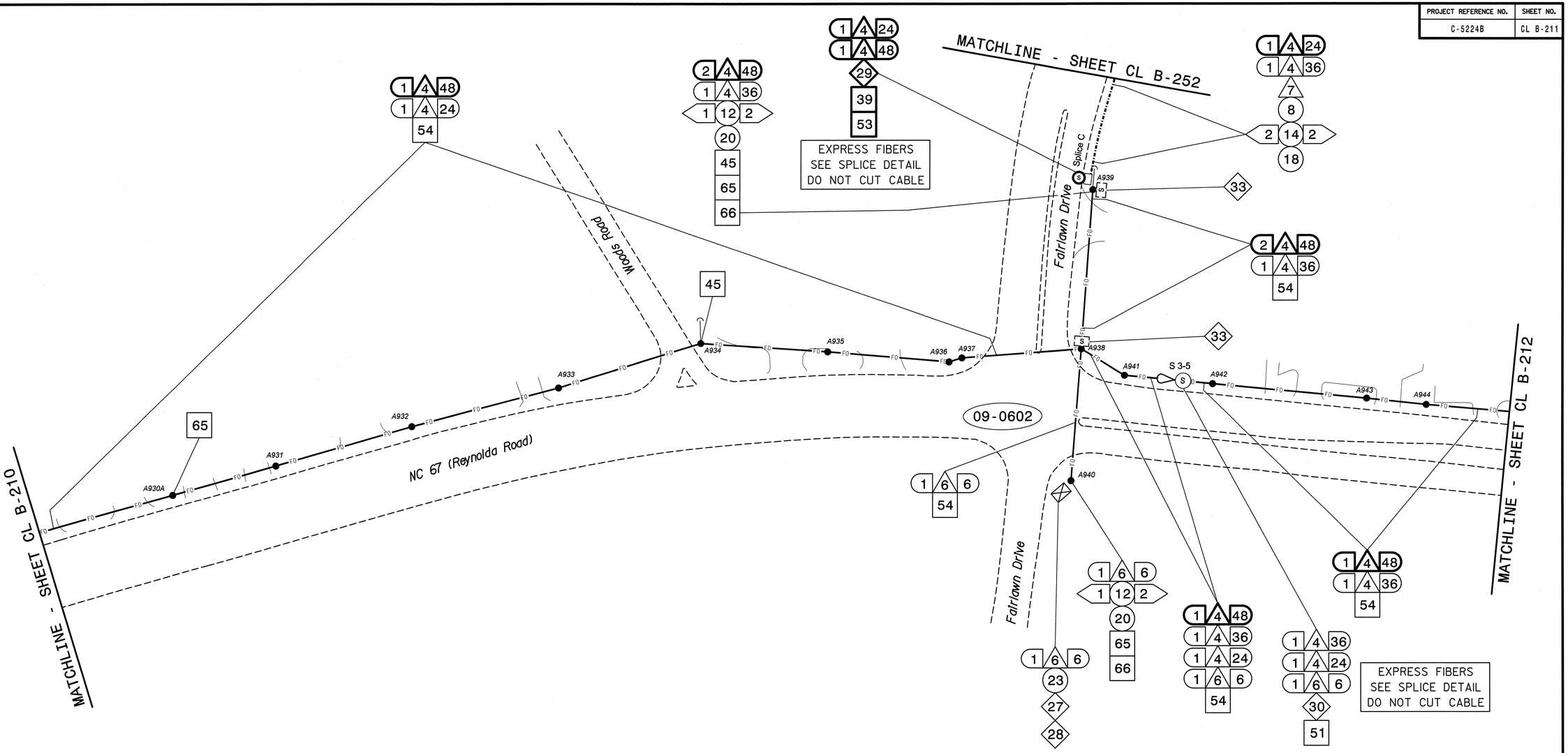
Division 09 Forsyth County Winston-Salem
PLAN DATE: March 2013 REVIEWED BY: MB Toth
PREPARED BY: JAW/AJD REVIEWED BY: LM Moon

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE Lisa M Moon 3-22-13 DATE
CADD Filename: CL B-210.dgn

13-MAR-2013 14:31
D:\Transportation\Traffic\Curr*\100022712 Winston Salem Sig Sys\CL*\Phase B\CL B-210.dgn
13813

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-211



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI–DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN) XXX

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS/DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/CONDUIT(S)
DIAMETER OF RISER(S)/CONDUIT(S) (IN)

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

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

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

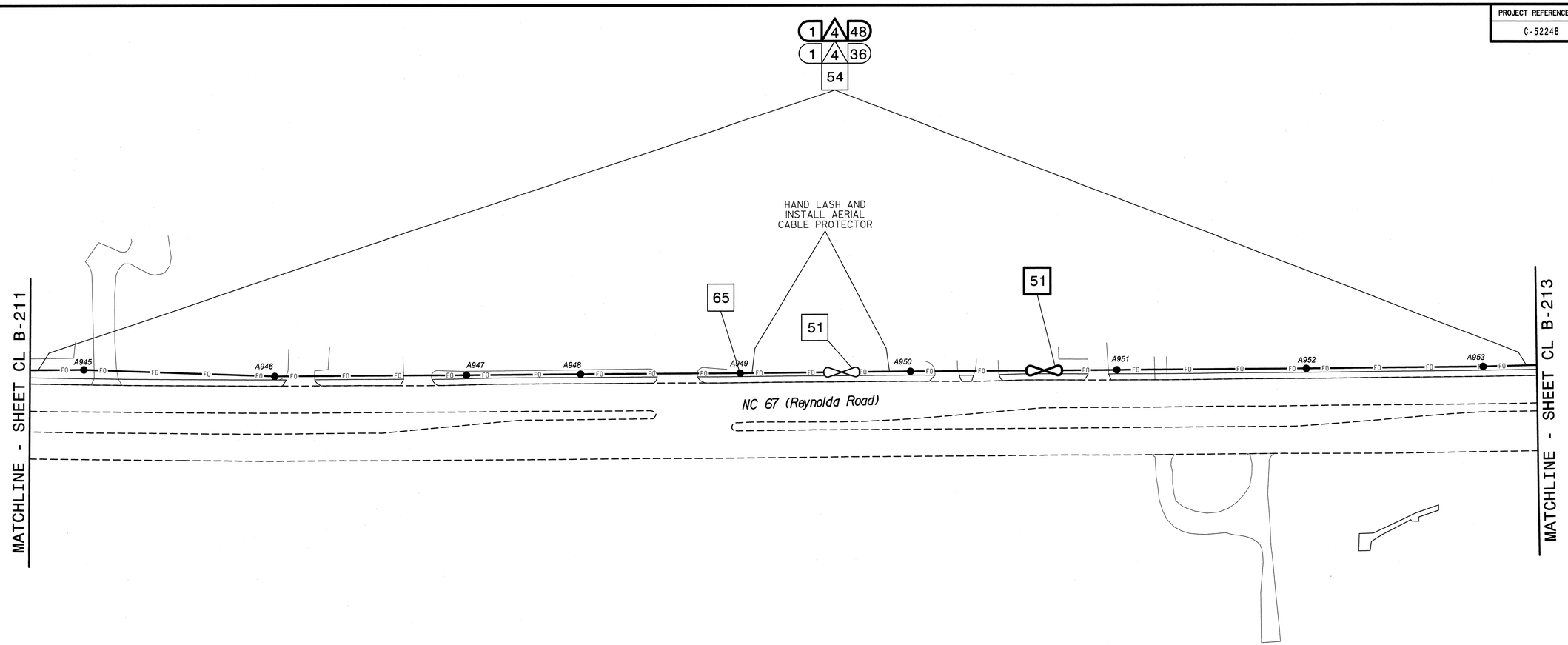
PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE DATE
CADD Filename: CL B-211.dgn

13-MAR-2013 14:31
D:\#Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-211.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-212



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL–SIZED JUNCTION BOX
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX
6	INSTALL FIBER–OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE

49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI–DIRECTIONAL ANTENNA				
50	INSTALL WIRELESS DSL	62	NOT USED				
51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO				
52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS				
53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND				
54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND				
55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND				
56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS				
57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY				
58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED				
59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED				
60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH				

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 — XX — NUMBER OF FIBERS/TWISTED PAIRS

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

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

Prepared for the Offices of:

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

750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

SEAL

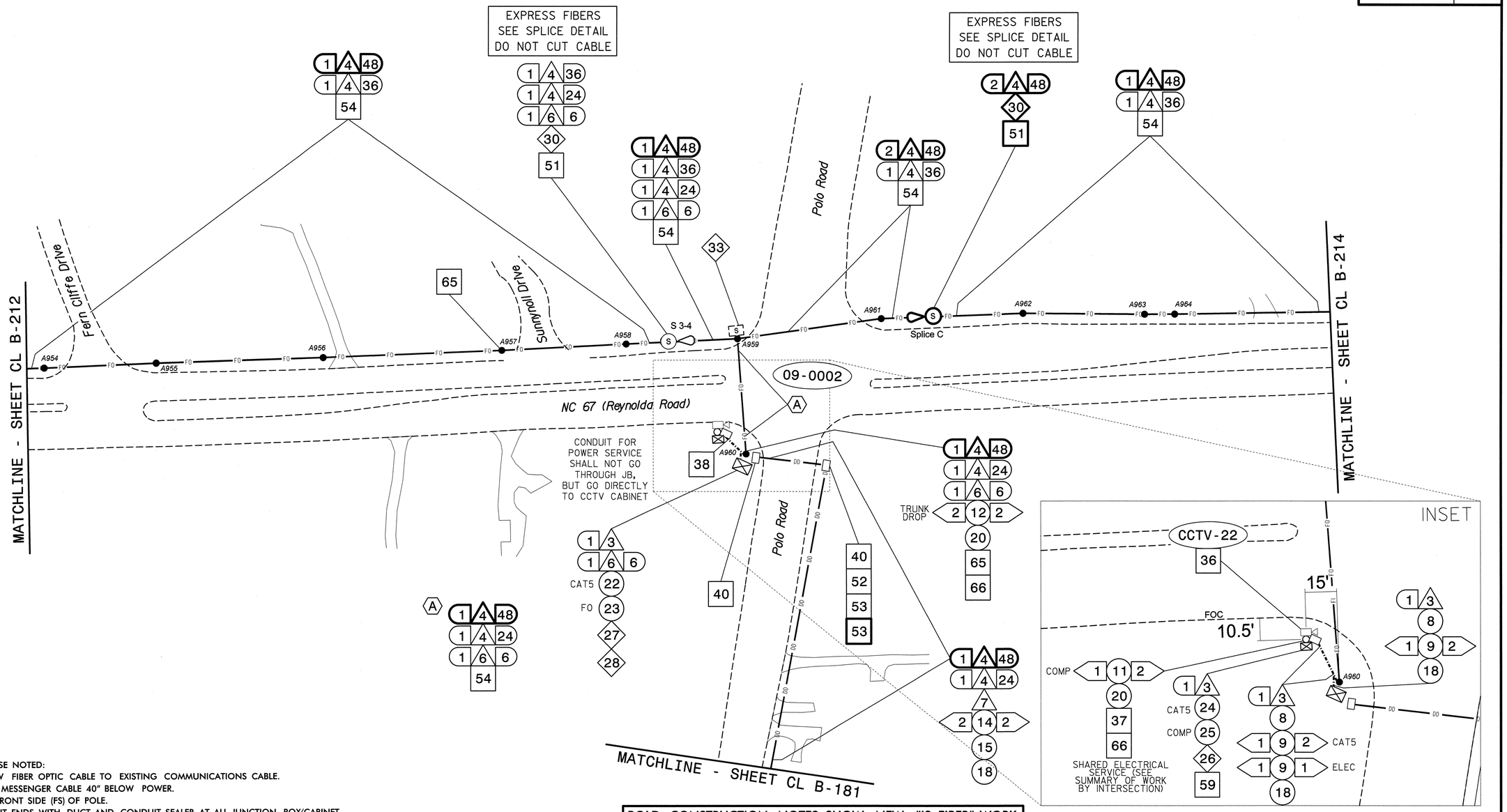
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

SIGNATURE DATE 3-22-13

CADD Filename: CL B-212.dgn

13-MAR-2013 14:31
D:\Transportation\Traffic\Current\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-212.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-213



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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
- NUMBER OF FIBERS/TWISTED PAIRS
- NUMBER OF RISER(S)/ CONDUIT(S)
- DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09	Forsyth County	Winston-Salem
PLAN DATE: March 2013	REVIEWED BY: MB Toth	
PREPARED BY: JAW/AJD	REVIEWED BY: LM Moon	

REVISIONS	INIT.	DATE

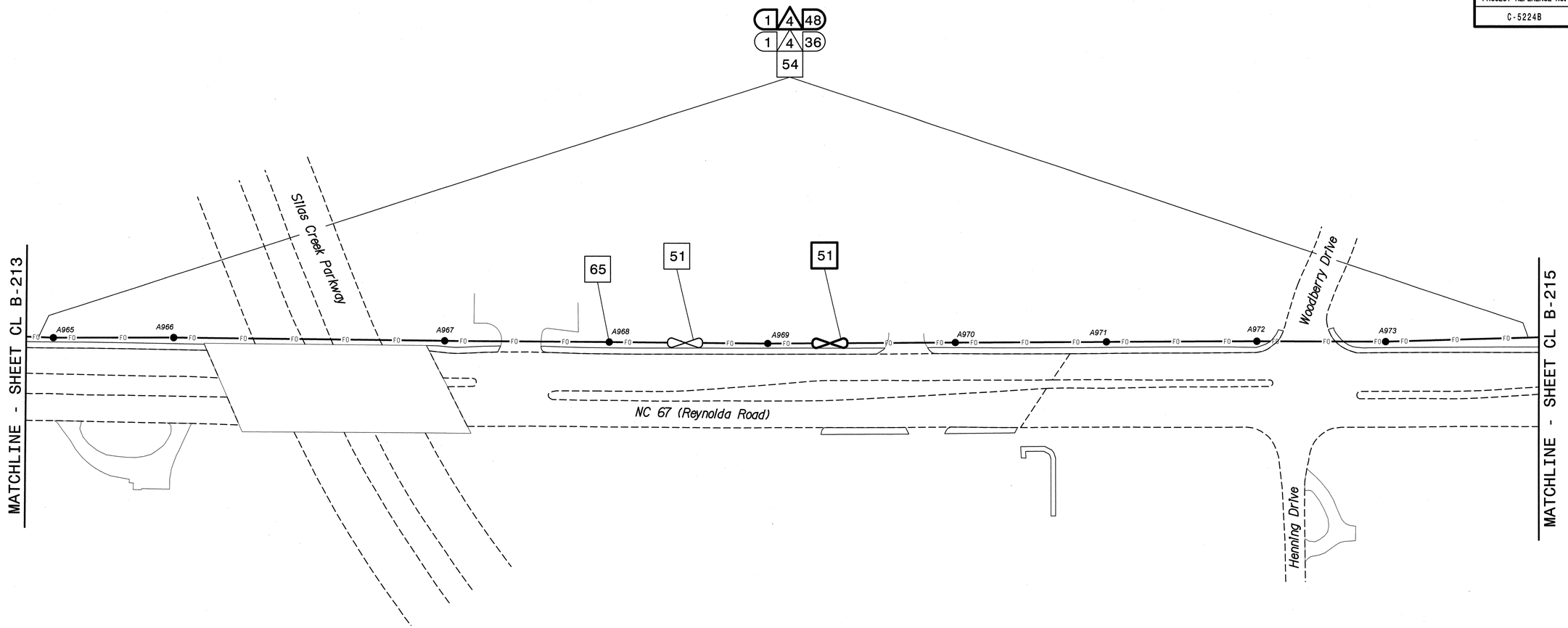
SCALE 0 50 — 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022516 LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-213.dgn

21-MAR-2013 16:28
O:\Transportation\Traffic\Curr\100022112 Winston Salem Sig Sys\CL\Phase B\CL B-213.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-214



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA	
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED	
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO	
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS	
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND	
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND	
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND	
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS	
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY	
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED	
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED	
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH	

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT
YYY REFERENCE POINT
XXX DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

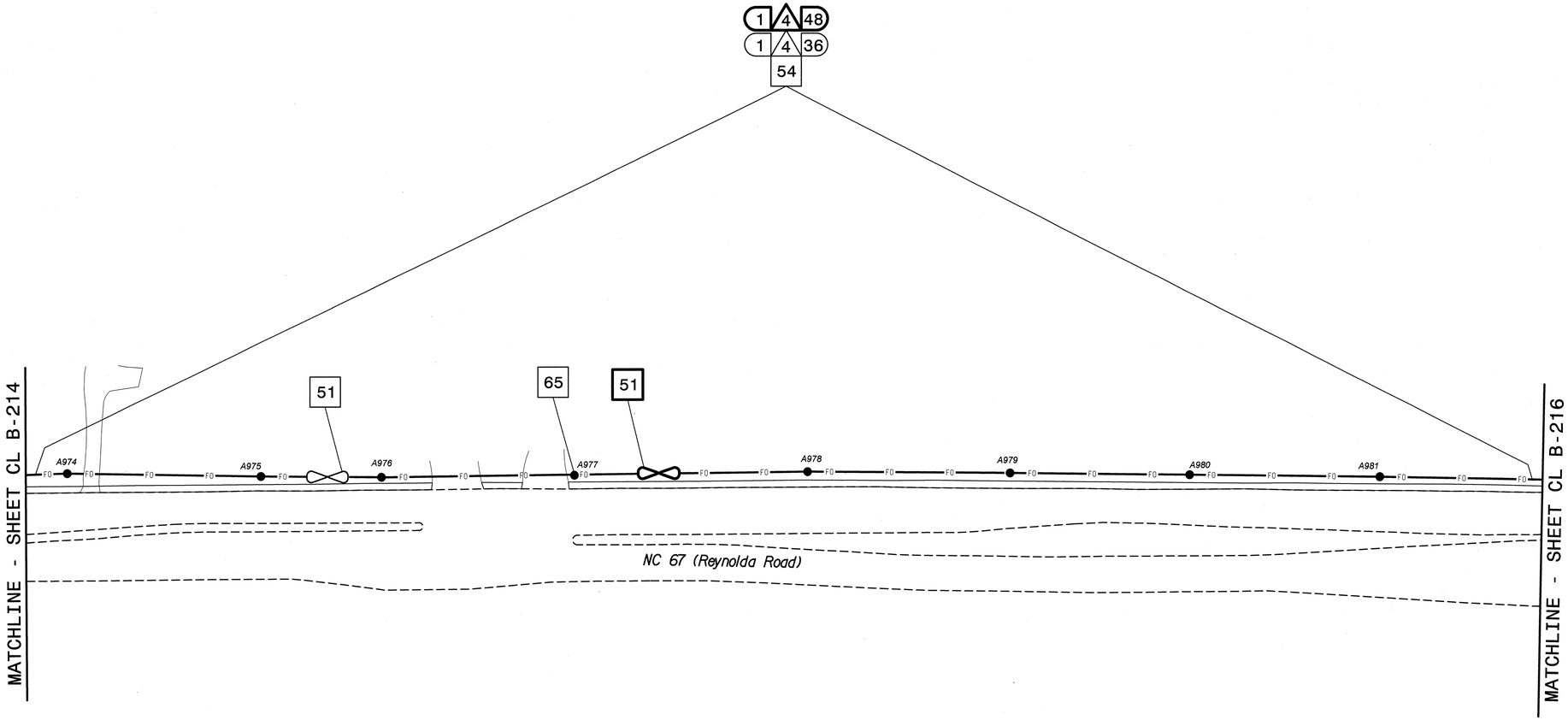
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-214.dgn

13-MAR-2013 14:31
D:\Transportation\Traffic&Curr\100022712 Winston Salem Sig Sys\CL B-214.dgn
13813

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-215



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.

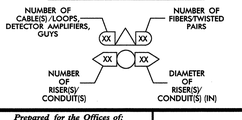
BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY



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

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

SCALE 0 50 1"=50'

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

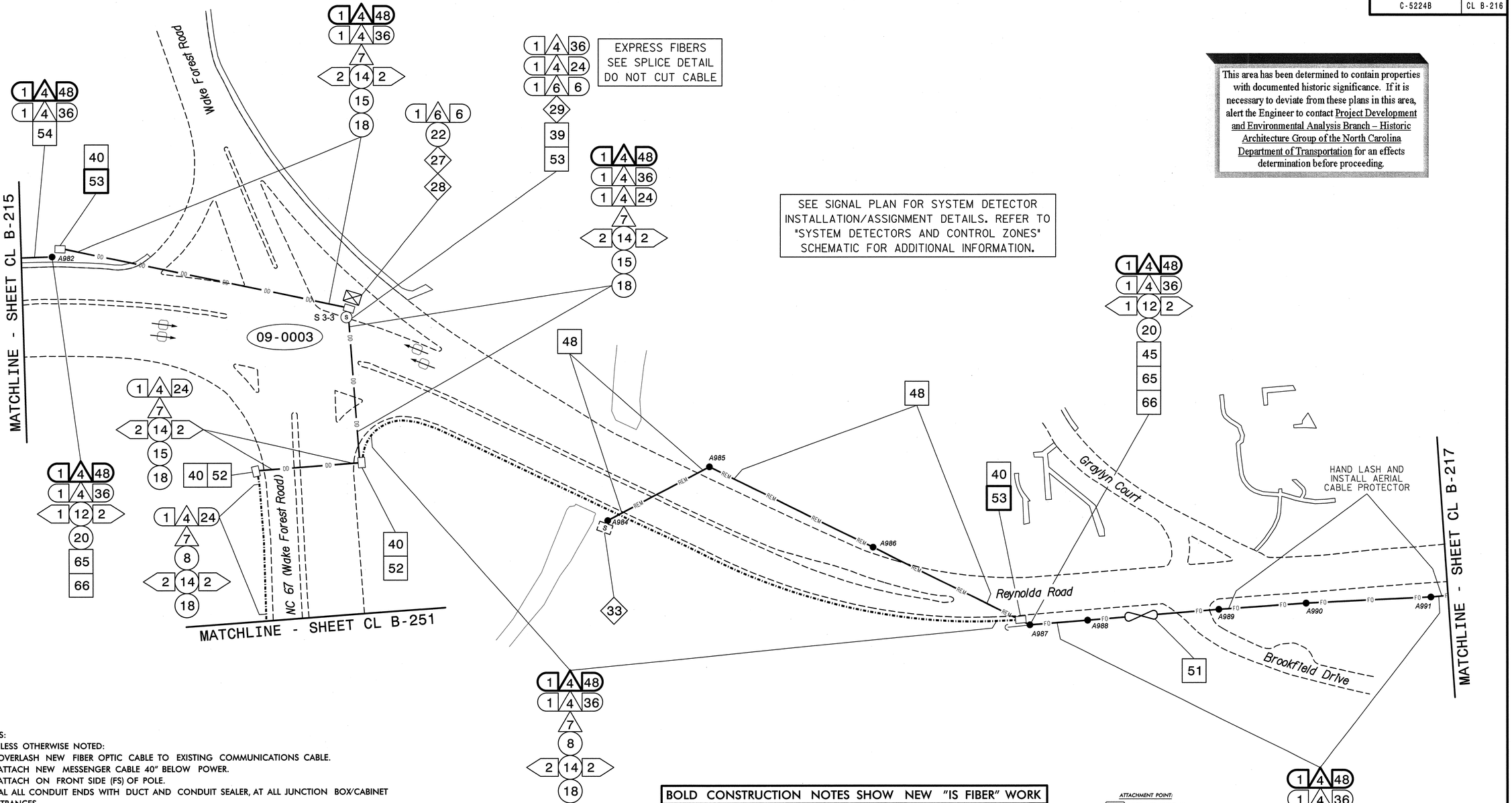
SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022516 LISA M. MOON

SIGNATURE 3-22-13 DATE

CADD Filename: CL B-215.dgn

13-MAR-2013 14:31
D:\Transportation\Traffic\Curr#100022712 Winston Salem Sig Sys\CL#Phase B#CL B-215.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-216



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.

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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

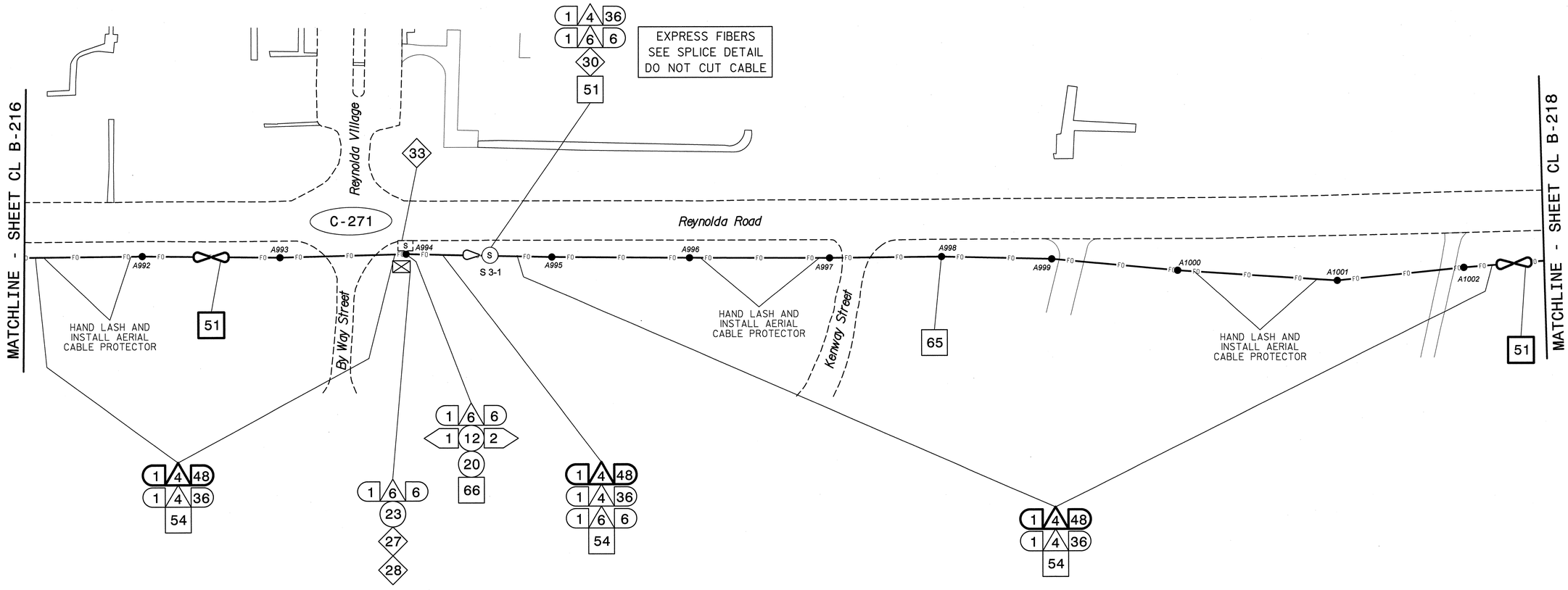
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE
CADD Filename: CL B-216.dgn

13-MAR-2013 14:31
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sys\CL B\Phase B\CL B-216.dgn
13813

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-217

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.



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

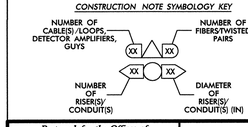
1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER–OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT

YYY REFERENCE POINT
XXX DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY



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

Prepared for the Offices of:
NCDOT Integrated Mobility and Safety Division – Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09	Forsyth County		Winston-Salem
PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

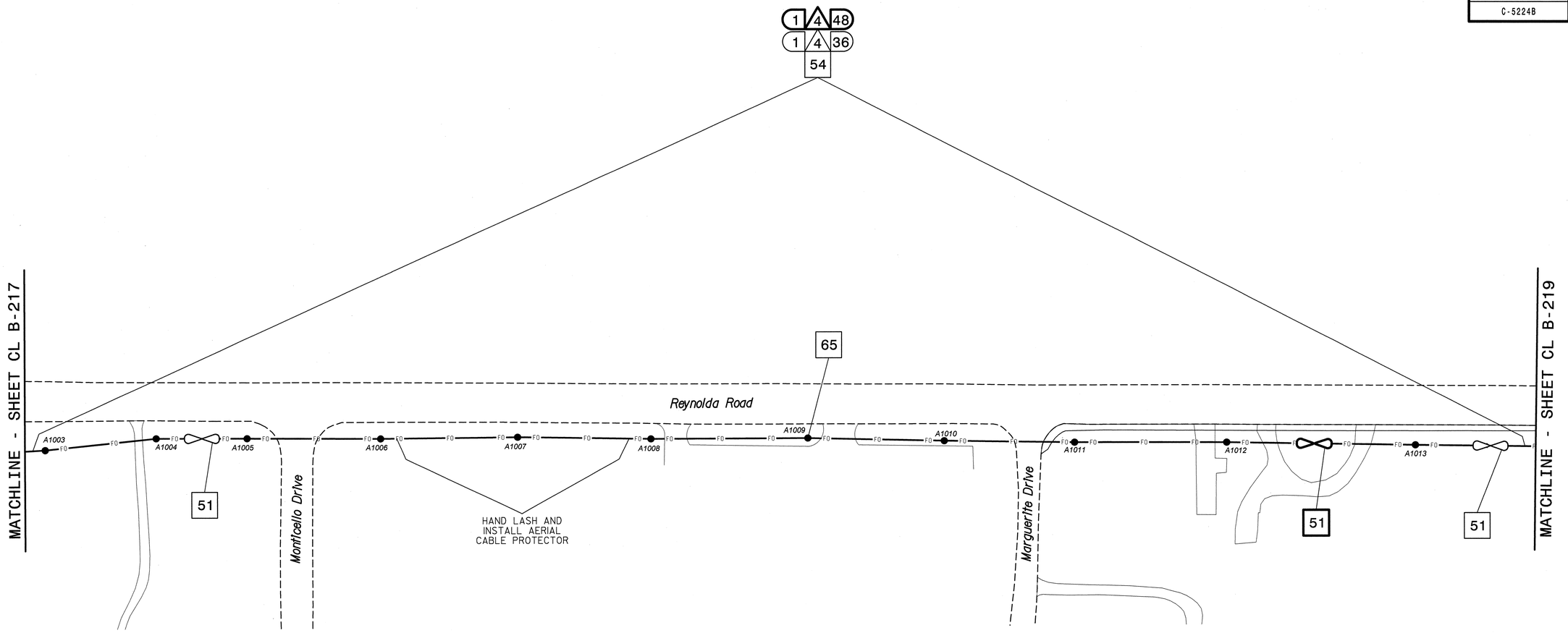
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-217.dgn

13-MAR-2013 14:32
D:\transportation\traffic\Curr*\100022712 Winston Salem Sig Sys*CL*Phase B*CL B-217.dgn
13832

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-218



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.

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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

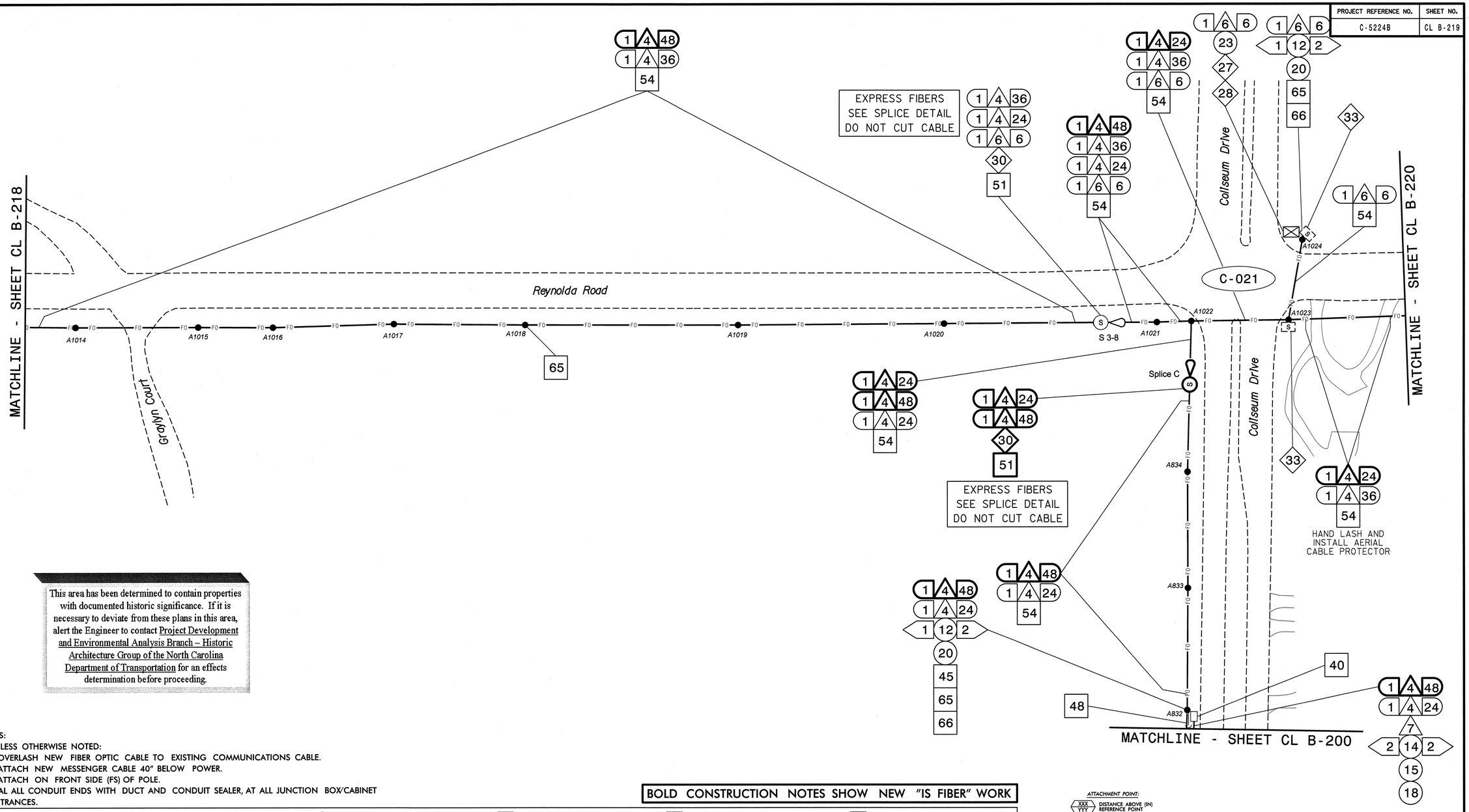
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-218.dgn

13-MAR-2013 14:32
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-218.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-219



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.

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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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 — NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

SCALE 0 50 1"=50'

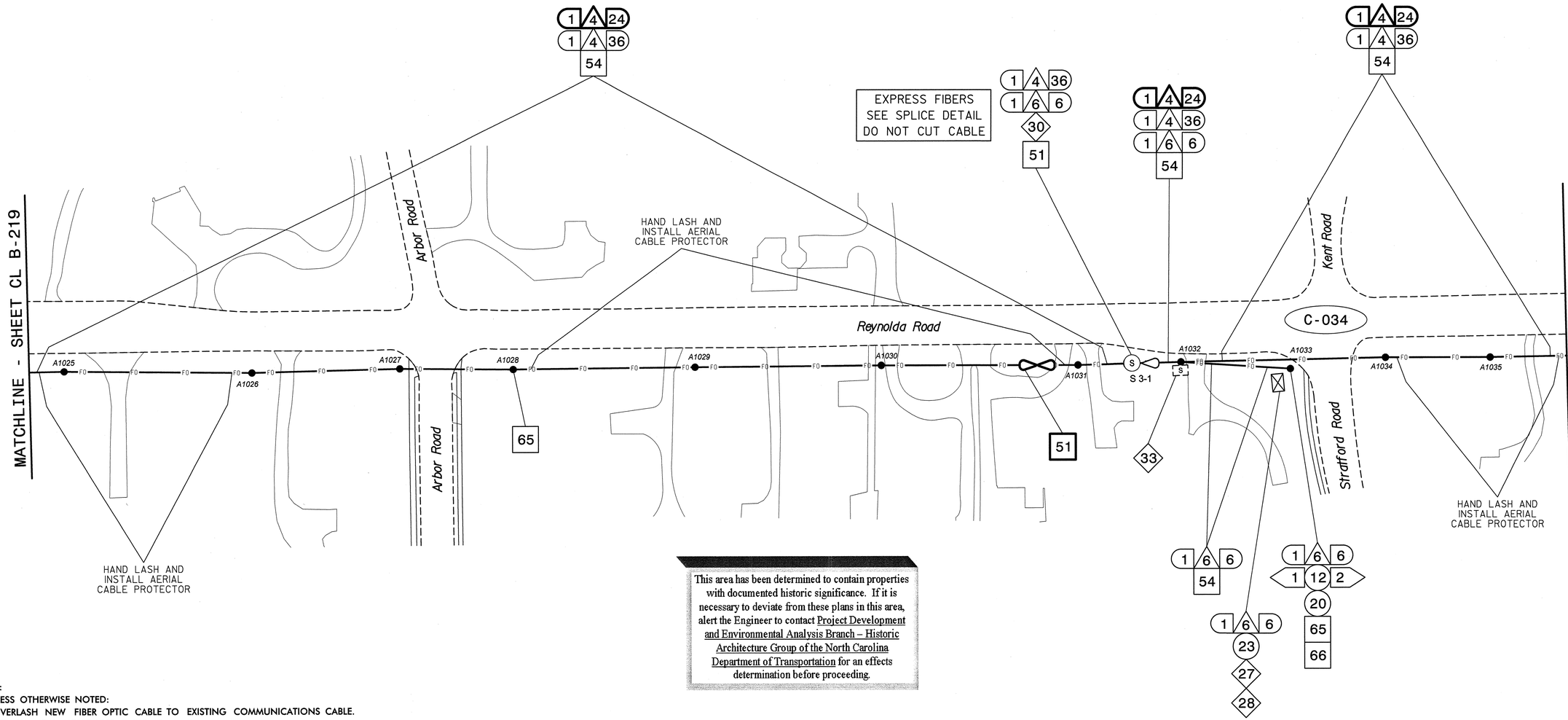
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-219.dgn

13-MAR-2013 14:32
D:*Transportation\Traffic\Curr*100022712 Winston Salem Sig Sys*CL*Phase B\CL B-219.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-220



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.

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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) / YYY REFERENCE POINT
YYY REFERENCE POINT / XXX DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS — NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of: Transportation Mobility and Safety Division, North Carolina Department of Transportation, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

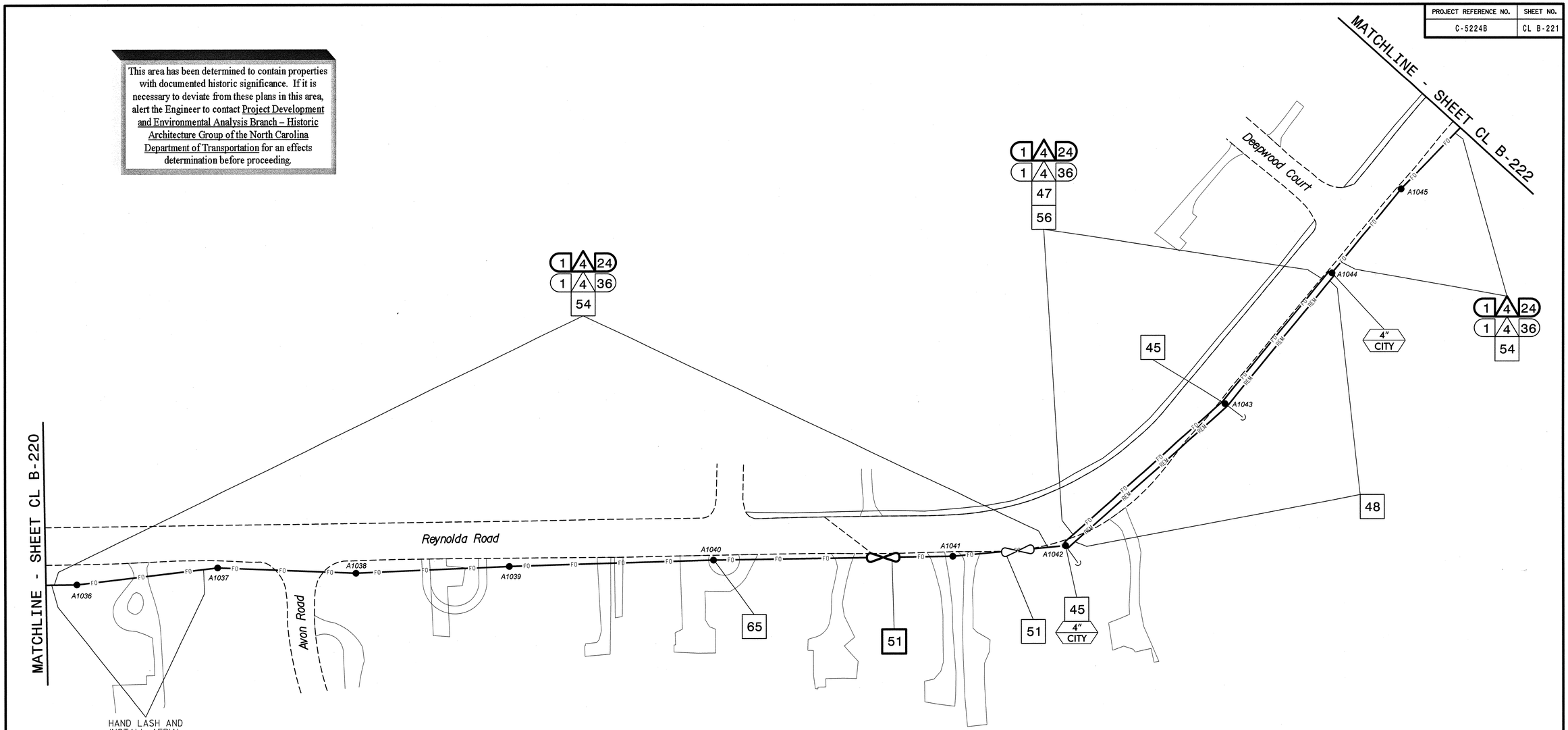
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-220.dgn

13-MAR-2013 14:32
D:\Transportation\Traffic\Curr#100022712 Winston Salem Sig Sys#CL#Phase B#CL B-220.dgn
13813

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-221

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.



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

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
- NUMBER OF FIBERS/TWISTED PAIRS
- NUMBER OF RISER(S)/CONDUIT(S)
- DIAMETER OF RISER(S)/CONDUIT(S) (IN)

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

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

SCALE 0 50 1"=50'

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

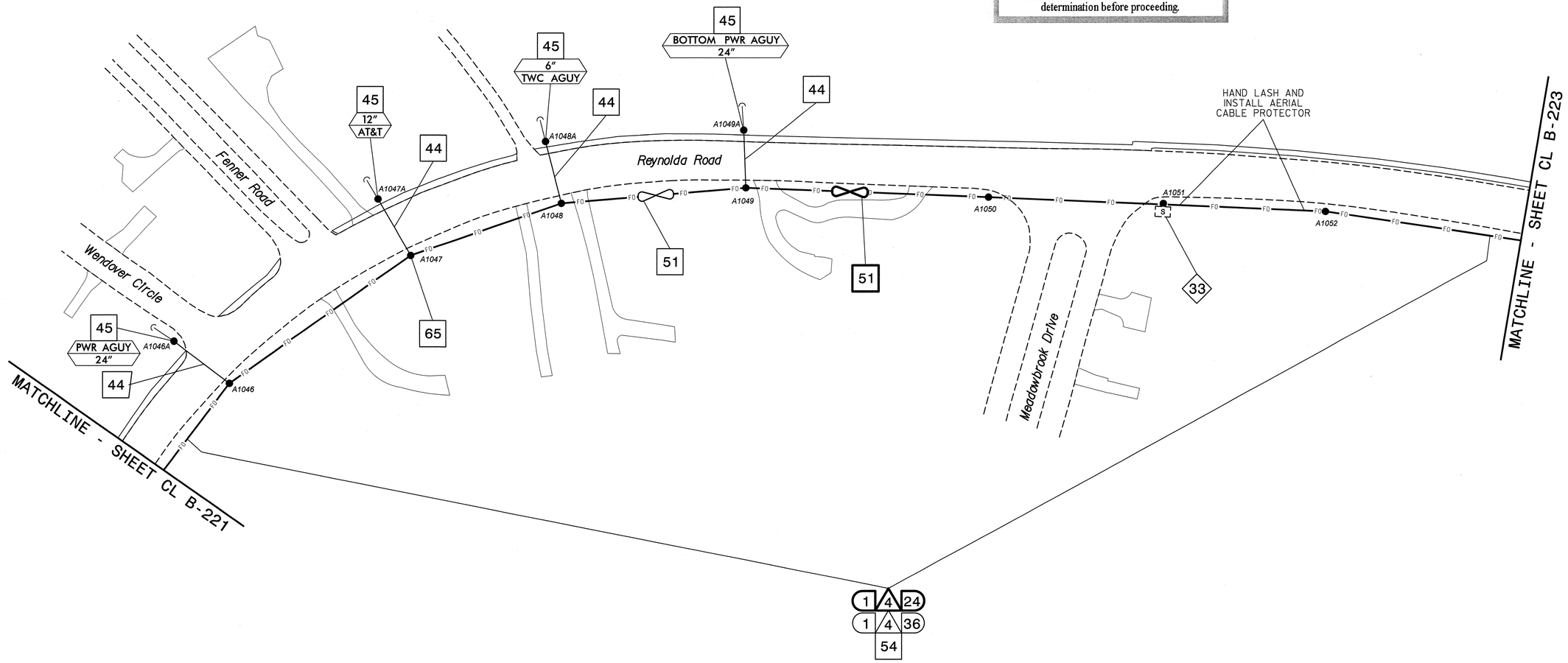
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-221.dgn

13-MAR-2013 14:32
C:\Transportation\Traffic\Cur#\100022712 Winston Salem Sig Sys#CL#Phase B#CL B-221.dgn
13853

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-222

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.



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT
YYY DISTANCE BELOW (IN)
XXX REFERENCE POINT

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of: Transportation Mobility and Safety Division, North Carolina Department of Transportation, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

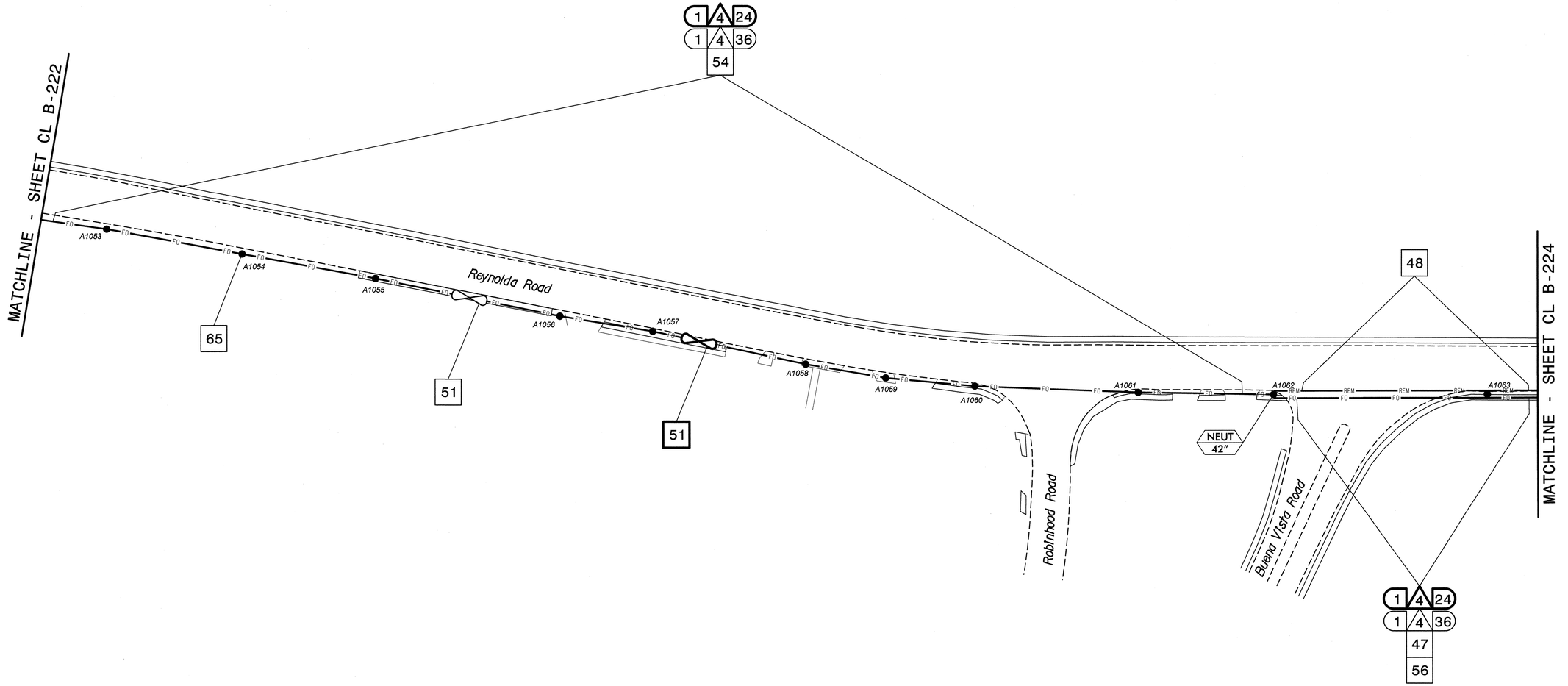
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-222.dgn

13-MAR-2013 14:32
D:\Transportation\Traffic\Curr#100022712 Winston Salem Sig Sys#CL#Phase B#CL B-222.dgn
13813

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-223



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.

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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE	49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX	50	INSTALL WIRELESS DSL	62	NOT USED
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX	51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX	52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX	53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE	54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE	55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY	56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY	57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY	58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE	59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN) XXX

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS,—DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/CONDUIT(S)
DIAMETER OF RISER(S)/CONDUIT(S) (IN)

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

Prepared for the Offices of: Traffic Engineering Branch – Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

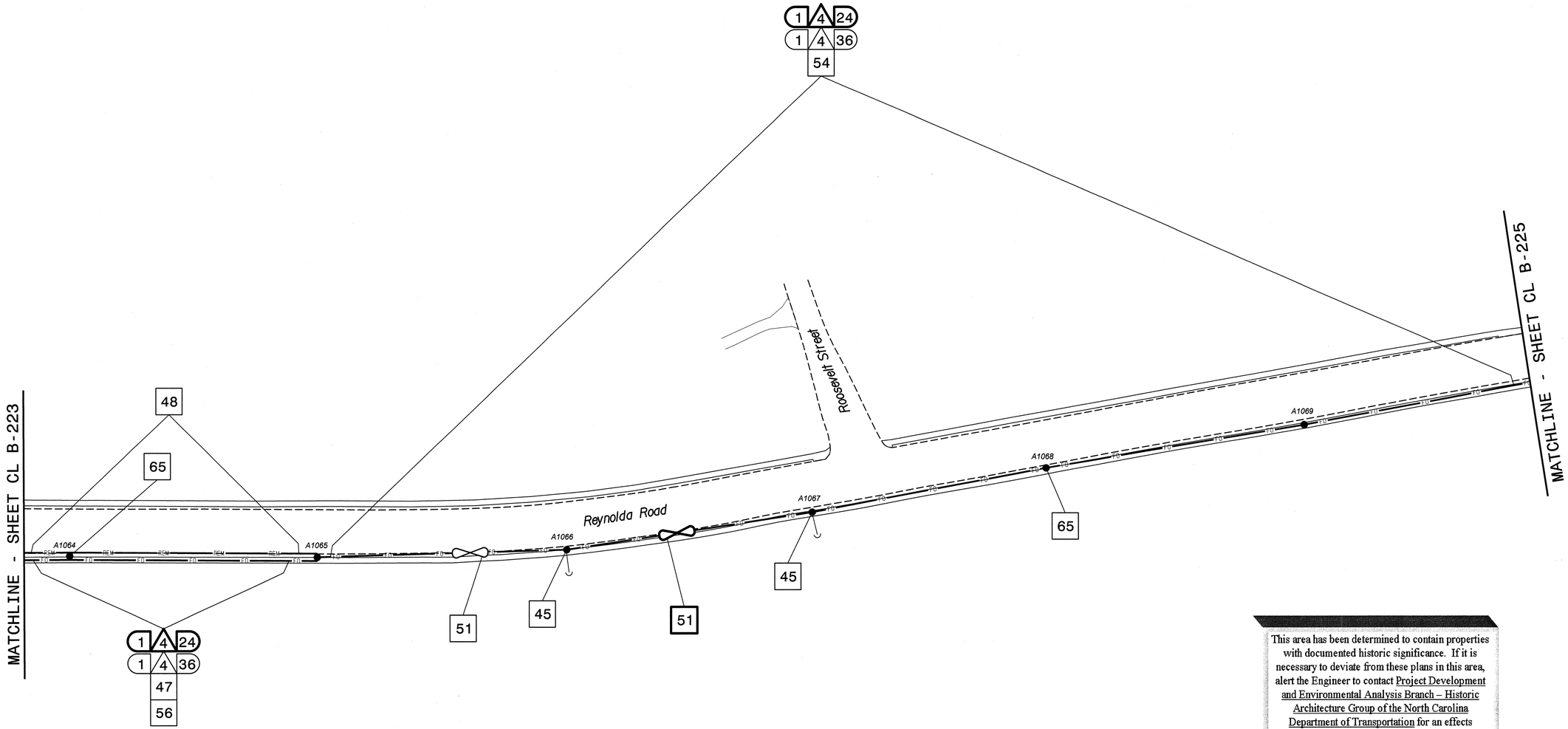
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-223.dgn

13-MAR-2013 14:32
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-223.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-224



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.

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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

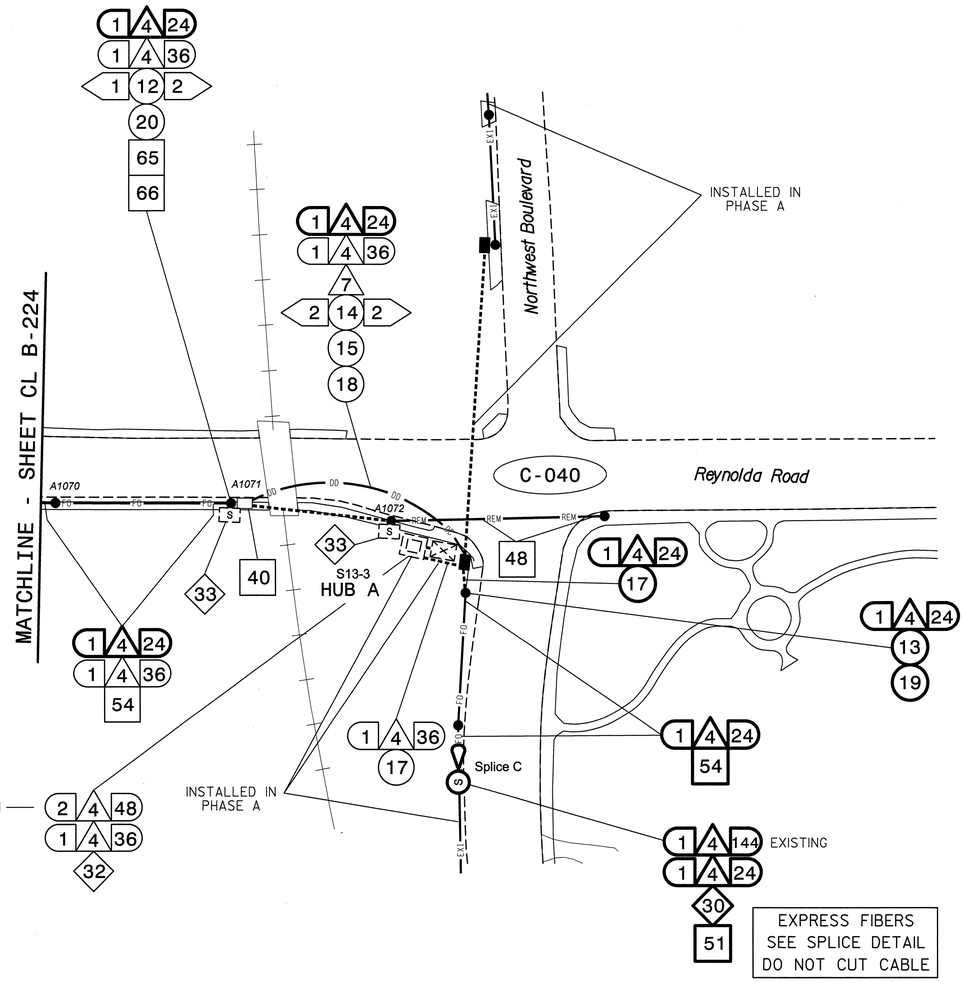
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-224.dgn

13-MAR-2013 14:32
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-224.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-225



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT
YYY DISTANCE BELOW (IN)
XXX

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE: March 2013 REVIEWED BY: MB Toth
PREPARED BY: JAW/AJD REVIEWED BY: LM Moon

REVISIONS	INIT.	DATE

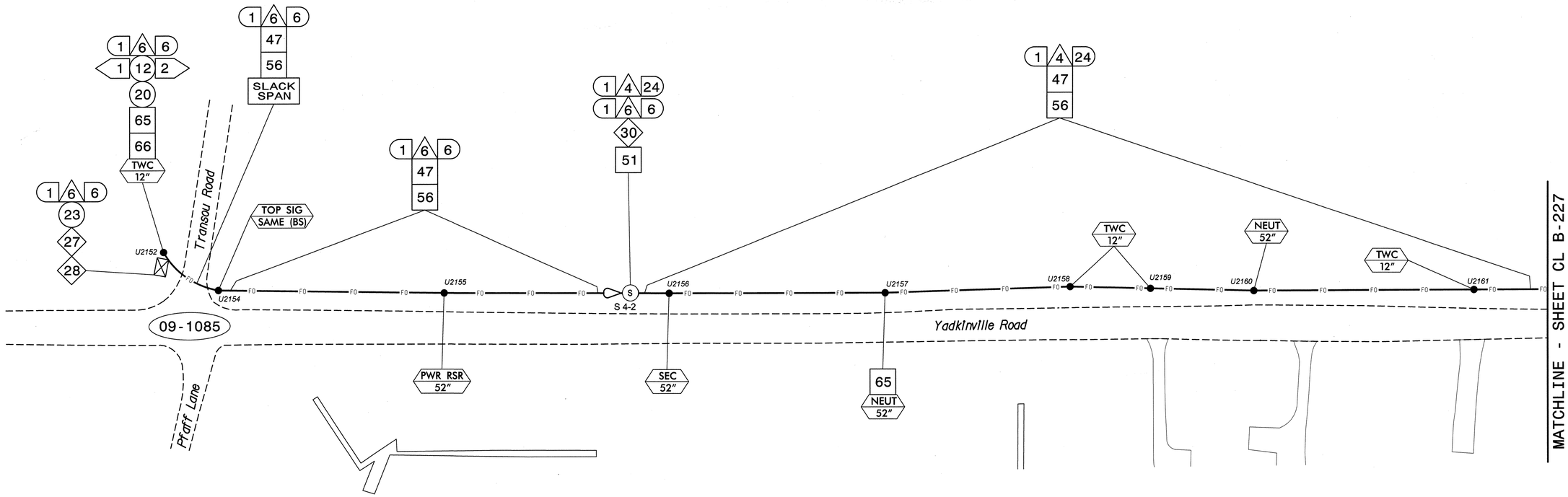
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-225.dgn

13-MAR-2013 14:32
D:\Transportation\Traffic\Cur*100022712 Winston Salem Sig Sys\CL*Phase B\CL B-225.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-226



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.

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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

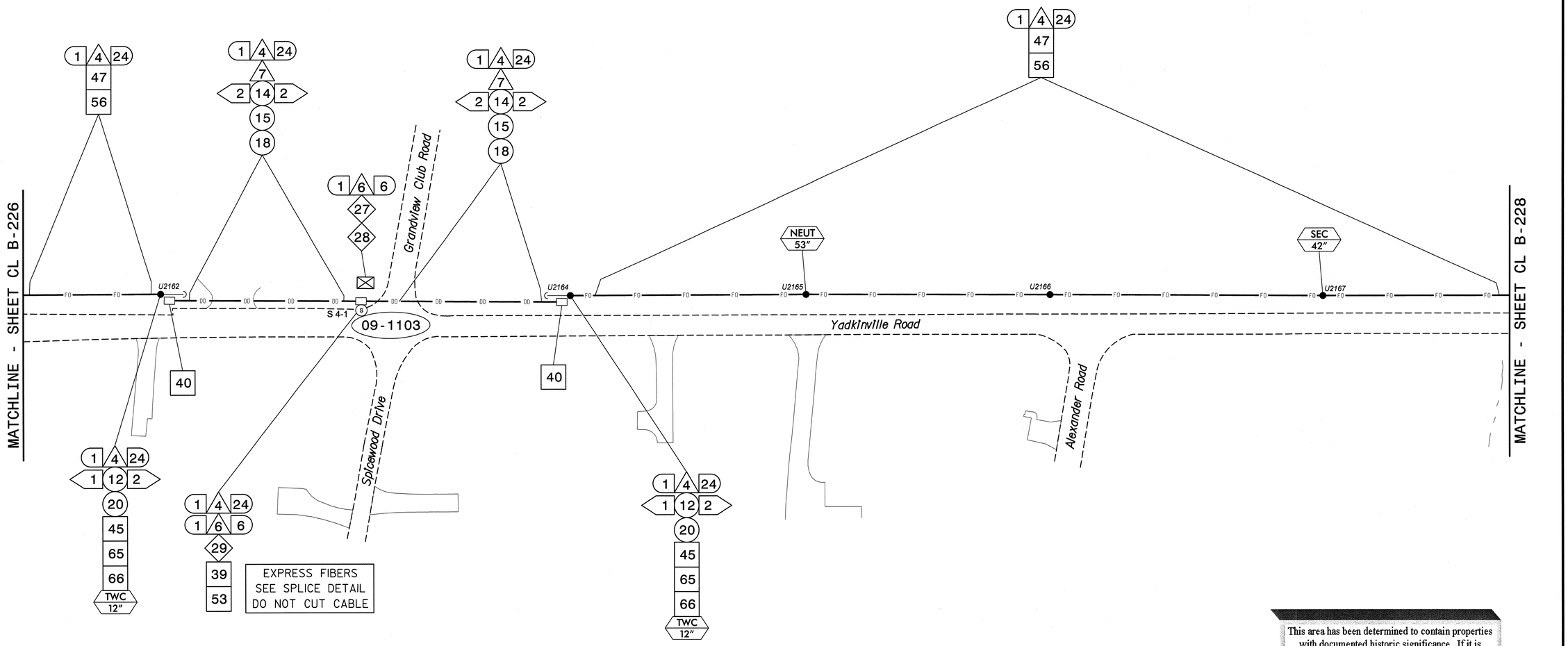
REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE
CADD Filename: CL B-226.dgn

13-MAR-2013 14:49
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-226.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-227



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI–DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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.

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT
YYY REFERENCE POINT
XXX DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
North Carolina Department of Transportation, Integrated Mobility and Safety Division
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

SCALE 0 50 1"=50'

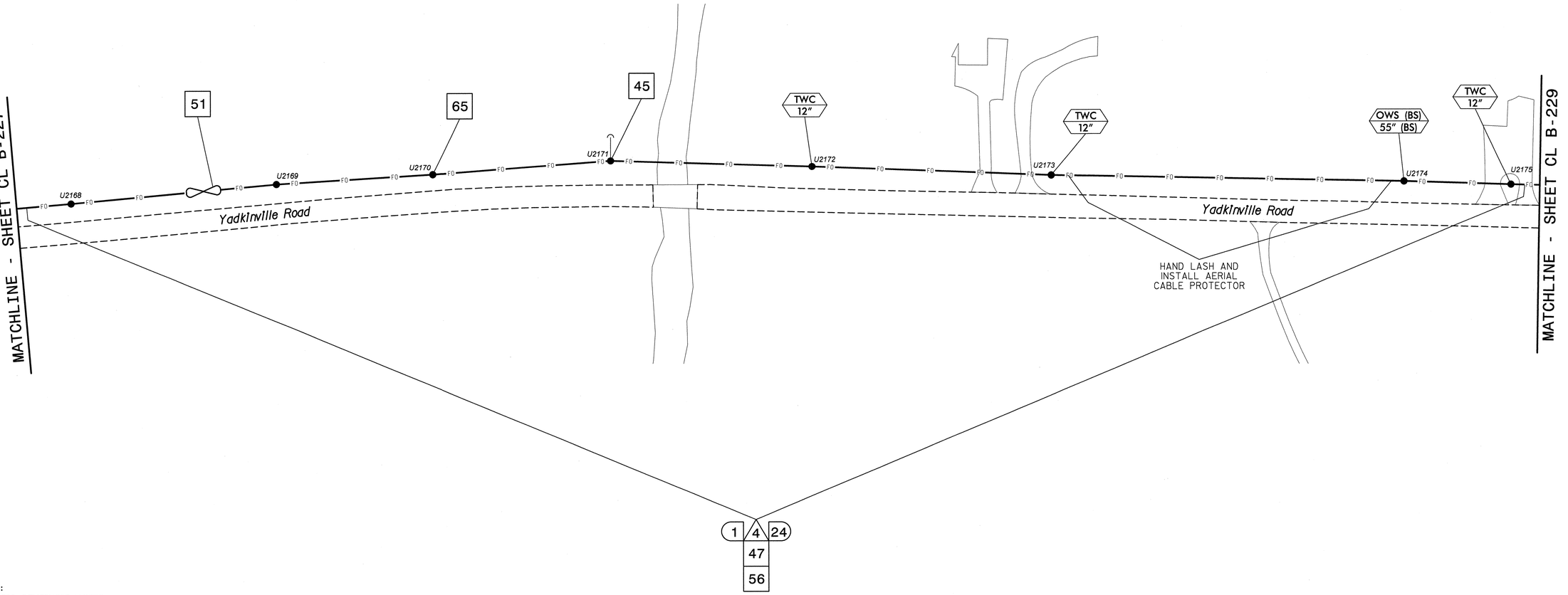
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-227.dgn

13-MAR-2013 14:49
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-227.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-228



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE

49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA				
50	INSTALL WIRELESS DSL	62	NOT USED				
51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO				
52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS				
53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND				
54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND				
55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND				
56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS				
57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY				
58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED				
59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED				
60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH				

ATTACHMENT POINT:

XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT

YYY REFERENCE POINT
XXX DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY

NUMBER OF CABLE(S)/LOOPS DETECTOR AMPLIFIERS, GUYS — NUMBER OF FIBERS/TWISTED PAIRS

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

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

Prepared for the Offices of:

Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA
Department of Transportation
Intelligent Transportation Systems

750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

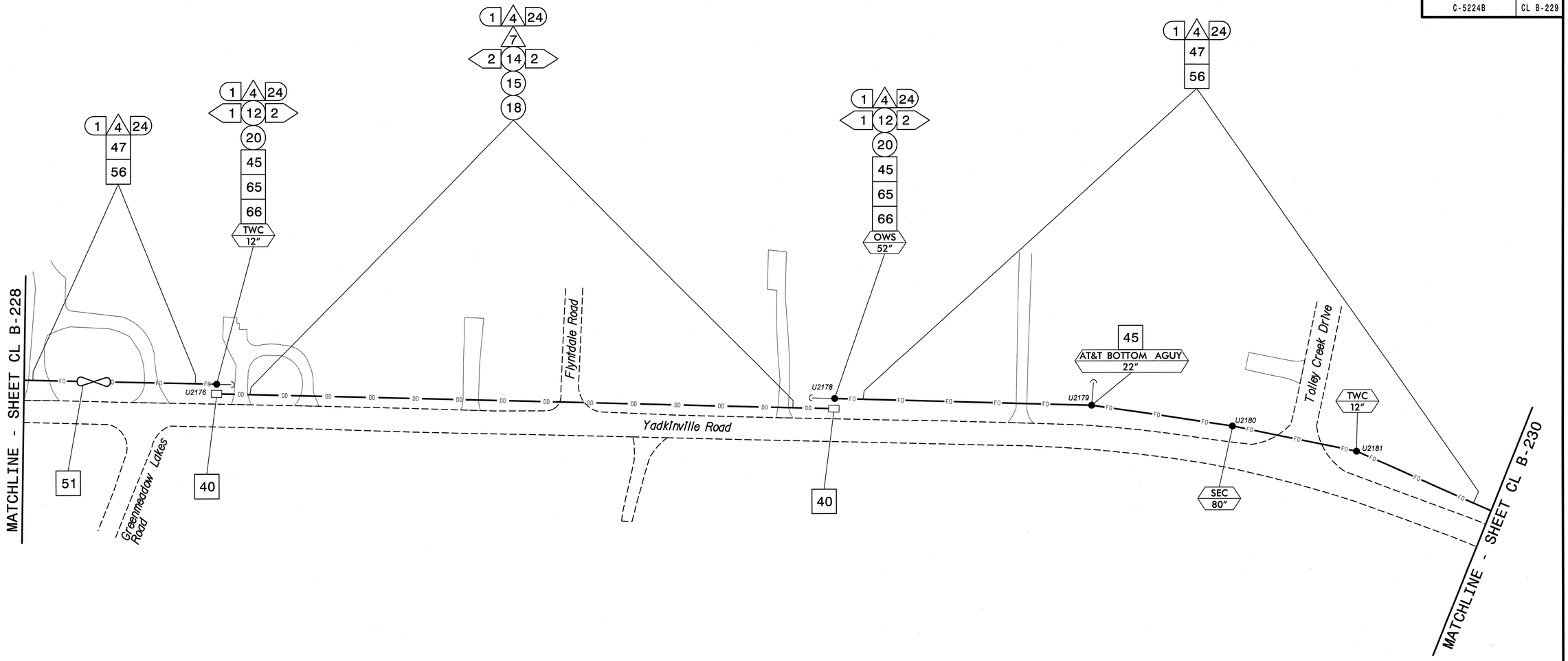
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-228.dgn

13-MAR-2013 14:49
D:\Transportation\Traffic\Cur*\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-228.dgn
jaw

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-229



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.

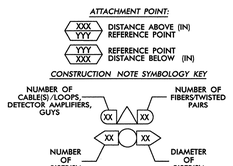
BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT
XXX DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY



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

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

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

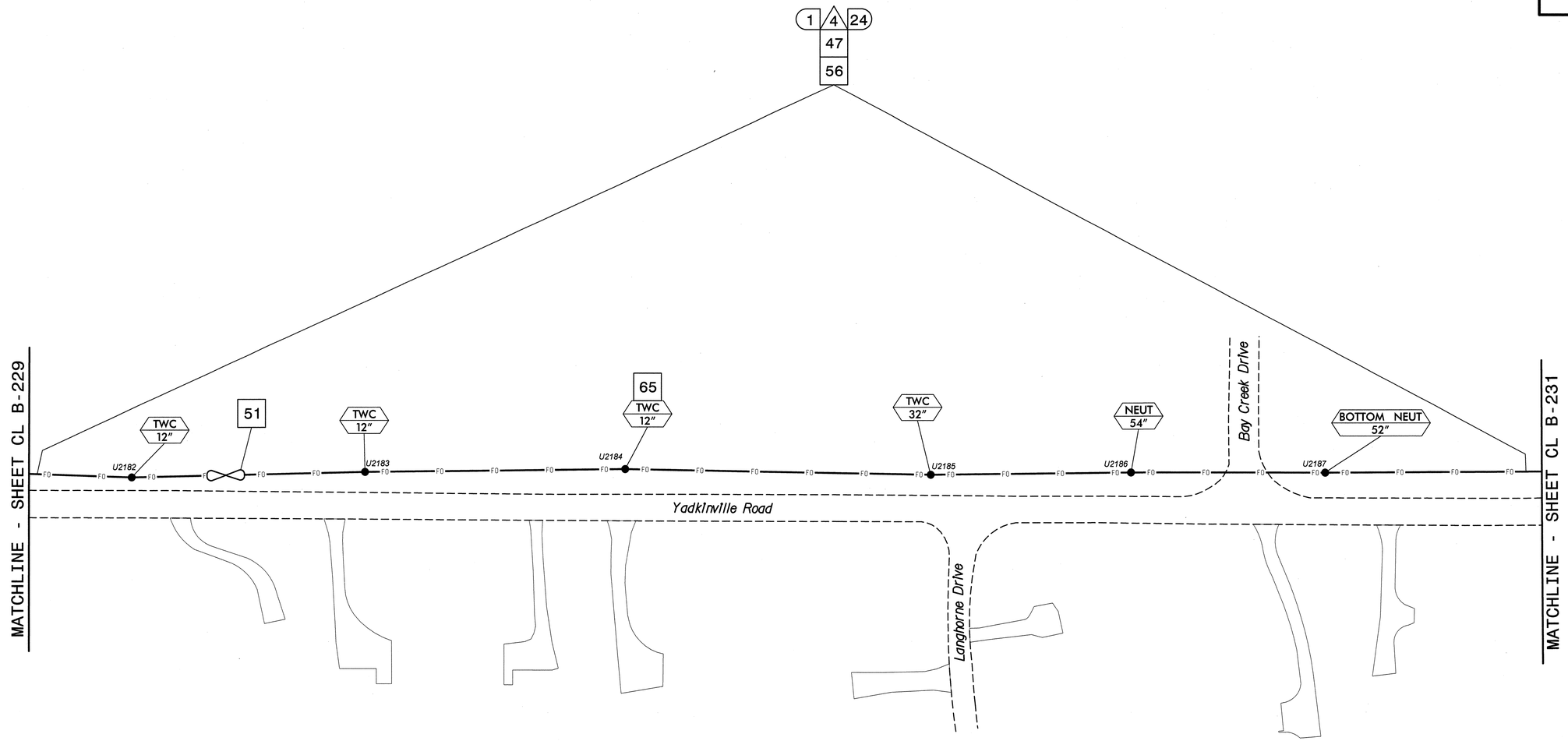
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-229.dgn

13-MAR-2013 14:49
D:\Transportation\Traffic\Curr\1000022712 Winston Salem Sig Sys\CL\Phase B\CL B-229.dgn
13.13

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-230



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

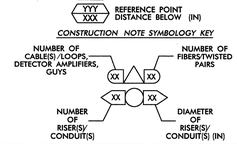
1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E CABLE
4. INSTALL SMFO CABLE
5. INSTALL COAXIAL ANTENNA CABLE
6. INSTALL FIBER–OPTIC DROP CABLE
7. INSTALL TRACER WIRE
8. INSTALL 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI–DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

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

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

CONSTRUCTION NOTE SYMBOLOGY KEY



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

Prepared for the Offices of:

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

750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

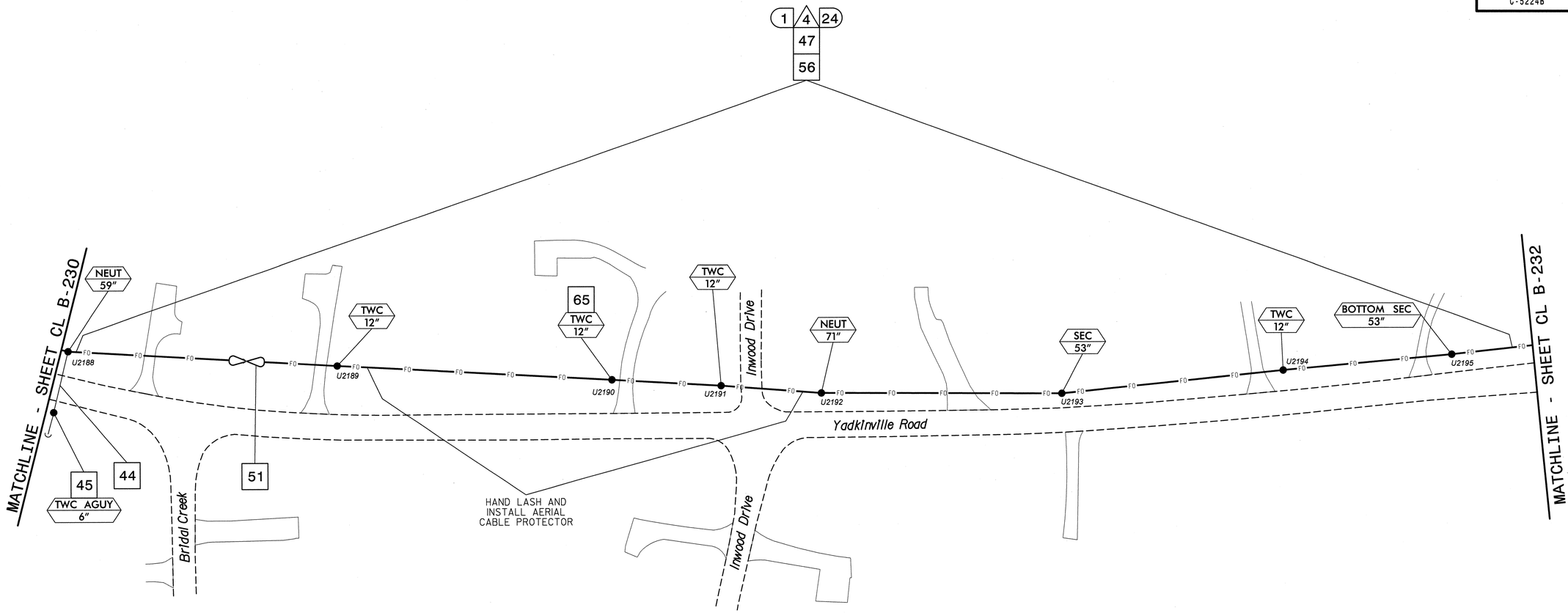
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-230.dgn

13-MAR-2013 14:49
D:\Transport Roll Cart\Traffic\Curr\#100022712 Winston Salem Sig Sys\#CL\#Phase B\#CL B-230.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-231



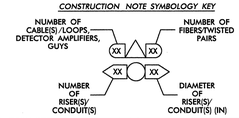
NOTES:
1. UNLESS OTHERWISE NOTED:
   - OVERLASH NEW FIBER OPTIC CABLE TO EXISTING COMMUNICATIONS CABLE.
   - ATTACH NEW MESSENGER CABLE 40" BELOW POWER.
   - ATTACH ON FRONT SIDE (FS) OF POLE.
2. SEAL ALL CONDUIT ENDS WITH DUCT AND CONDUIT SEALER, AT ALL JUNCTION BOX/CABINET ENTRANCES.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT
YYY DISTANCE BELOW (IN)
XXX

CONSTRUCTION NOTE SYMBOLOGY KEY



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

Prepared for the Offices of:
North Carolina Department of Transportation, Mobility and Safety Division, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

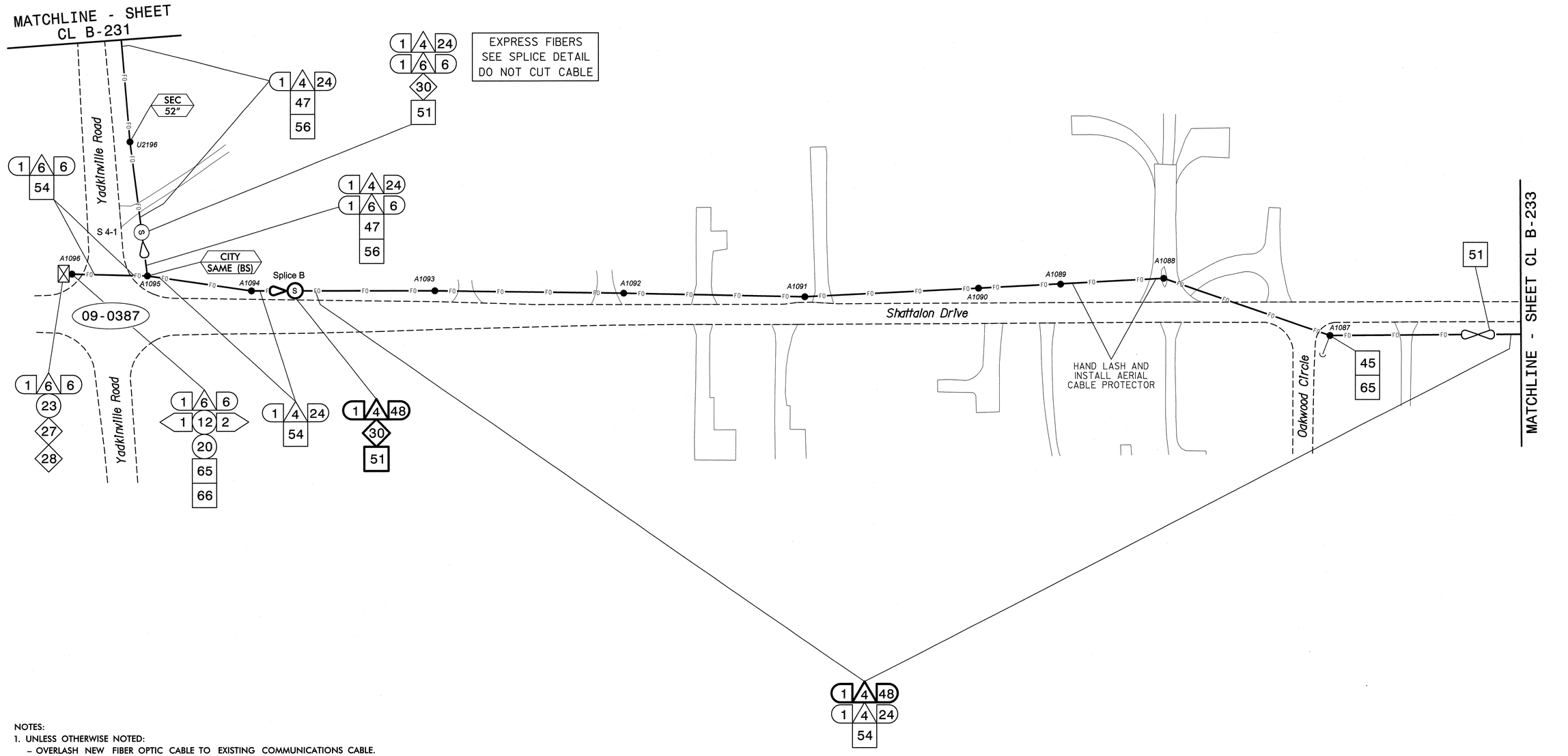
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-231.dgn

13-MAR-2013 14:49
O:\Transportation\Traffic\Cur*\100022712 Winston Salem Sig Sys*CL *Phase B*CL B-231.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-232



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
North Carolina Department of Transportation, Mobility and Safety Division, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

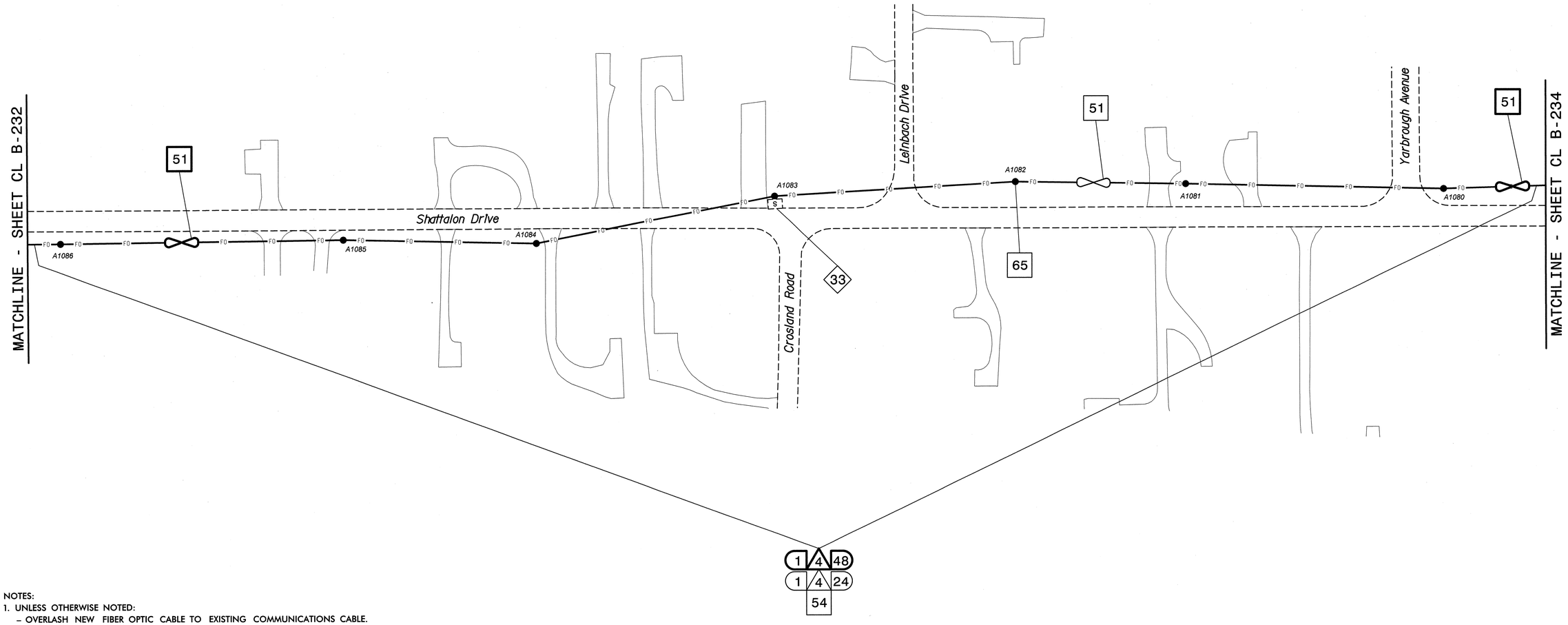
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-232.dgn

13-MAR-2013 14:49
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-232.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-233



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

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 — NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
North Carolina Department of Transportation, Mobility and Safety Division, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

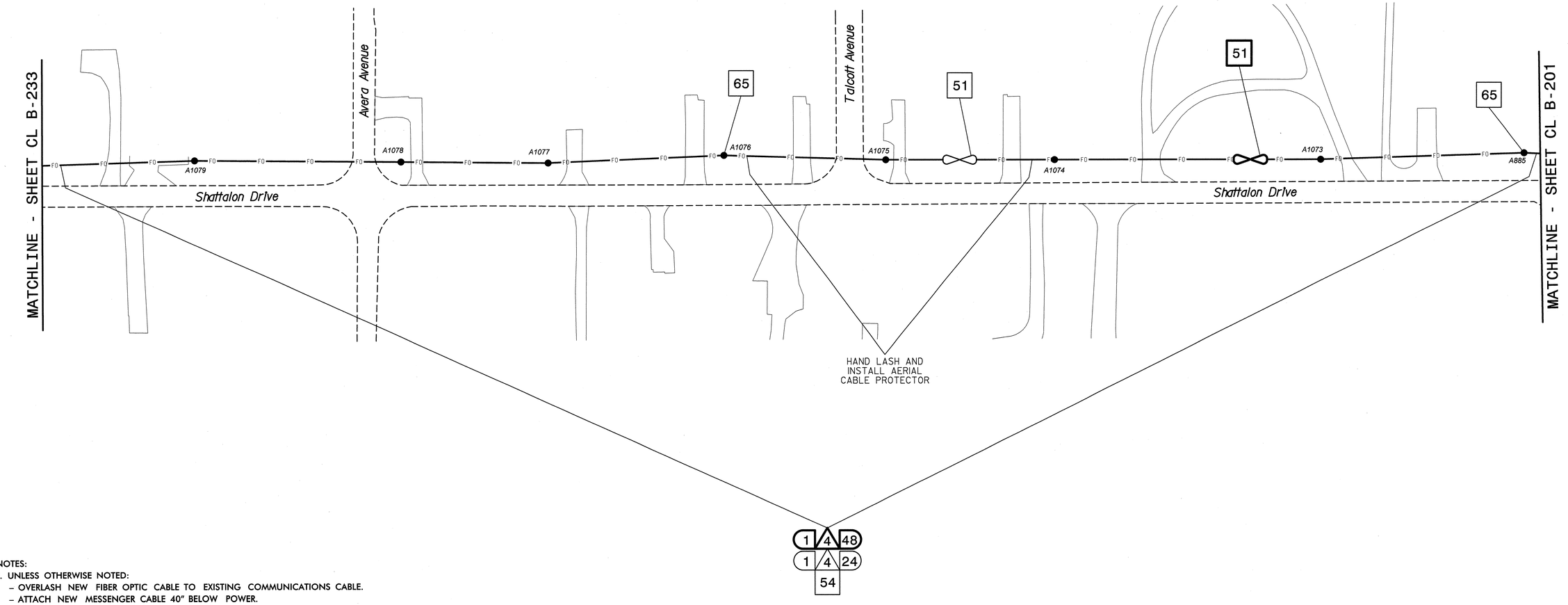
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-233.dgn

13-MAR-2013 14:49
D:\#Transportation\Traffic\Cur*\100022712 Winston Salem Sig Sys\#CL\#Phase B\#CL B-233.dgn
3833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-234



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE	49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX	50	INSTALL WIRELESS DSL	62	NOT USED
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX	51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX	52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX	53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE	54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE	55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY	56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY	57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY	58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE	59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

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; NUMBER OF FIBERS/TWISTED PAIRS; NUMBER OF RISER(S)/ CONDUIT(S); DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

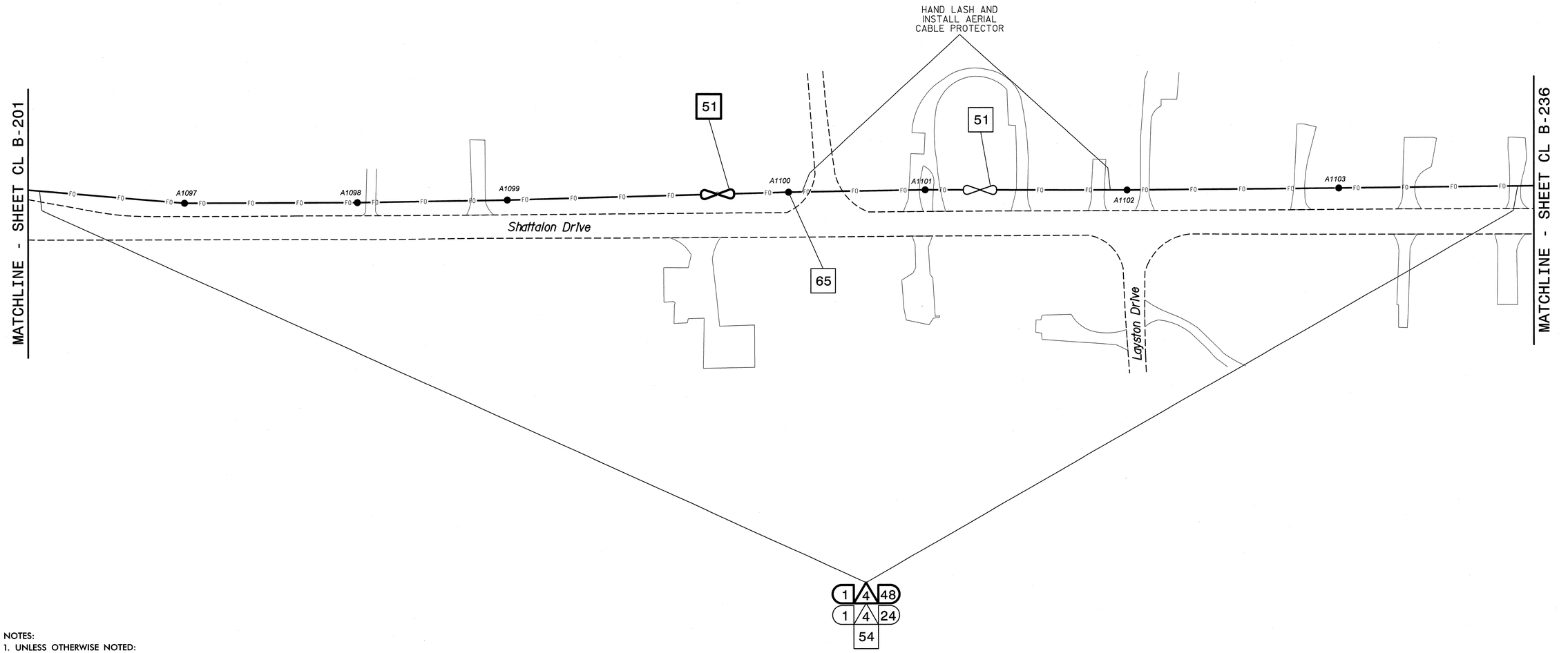
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-234.dgn

13-MAR-2013 14:49
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-234.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-235



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT
YYY REFERENCE POINT
XXX DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of: Transportation Mobility and Safety Division, North Carolina Department of Transportation, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE: March 2013 REVIEWED BY: MB Toth
PREPARED BY: JAW/AJD REVIEWED BY: LW Moon

REVISIONS	INIT.	DATE

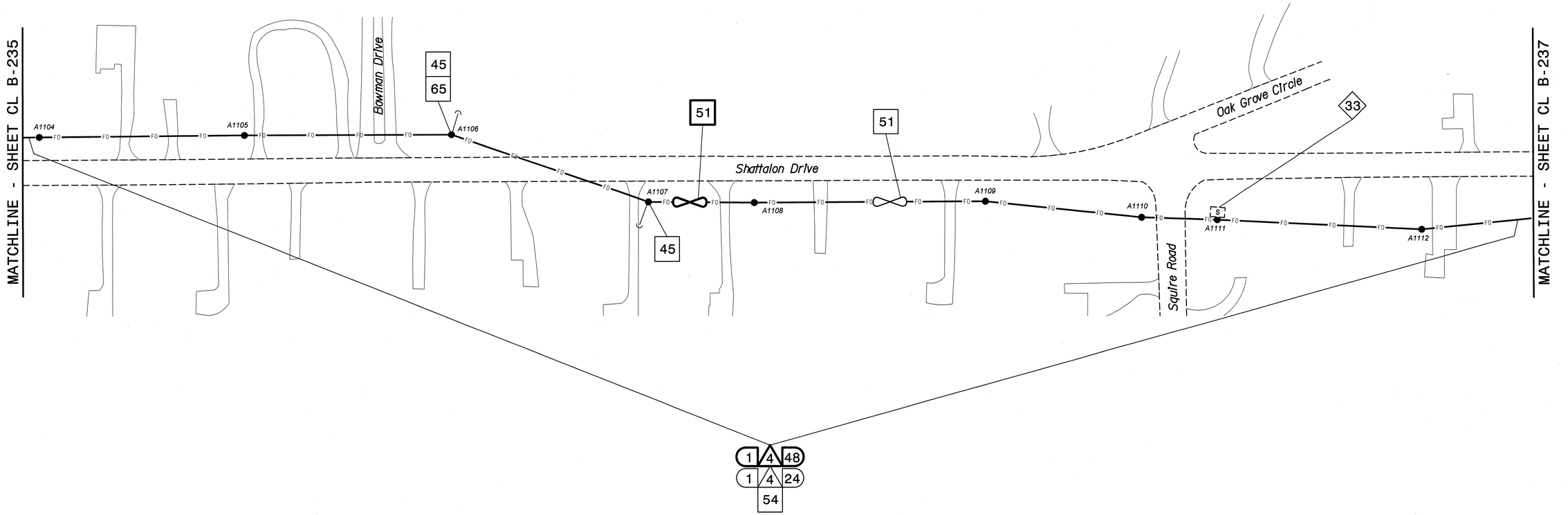
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-235.dgn

13-MAR-2013 14:50
D:\Transportation\Traffic\Current\100022112 Winston Salem Sig Sys\CL\Phase B\CL B-235.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-236



1 4 48
1 4 24
54

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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT
YYY DISTANCE BELOW (IN)
XXX

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS — NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

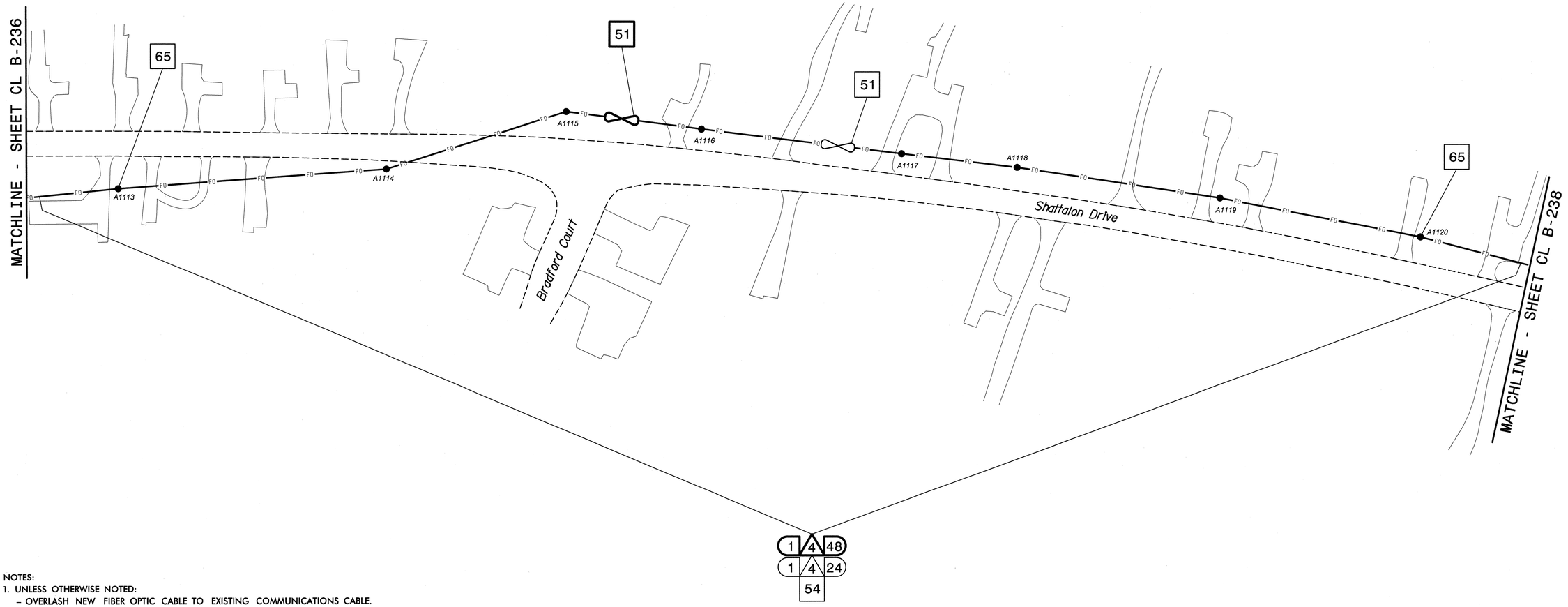
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-236.dgn

13-MAR-2013 14:50
D:\Transportation\Traffic\Cur*\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-236.dgn
13853

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-237



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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 — NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
North Carolina Department of Transportation — Integrated Mobility and Rail Division — Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 | Forsyth County | Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

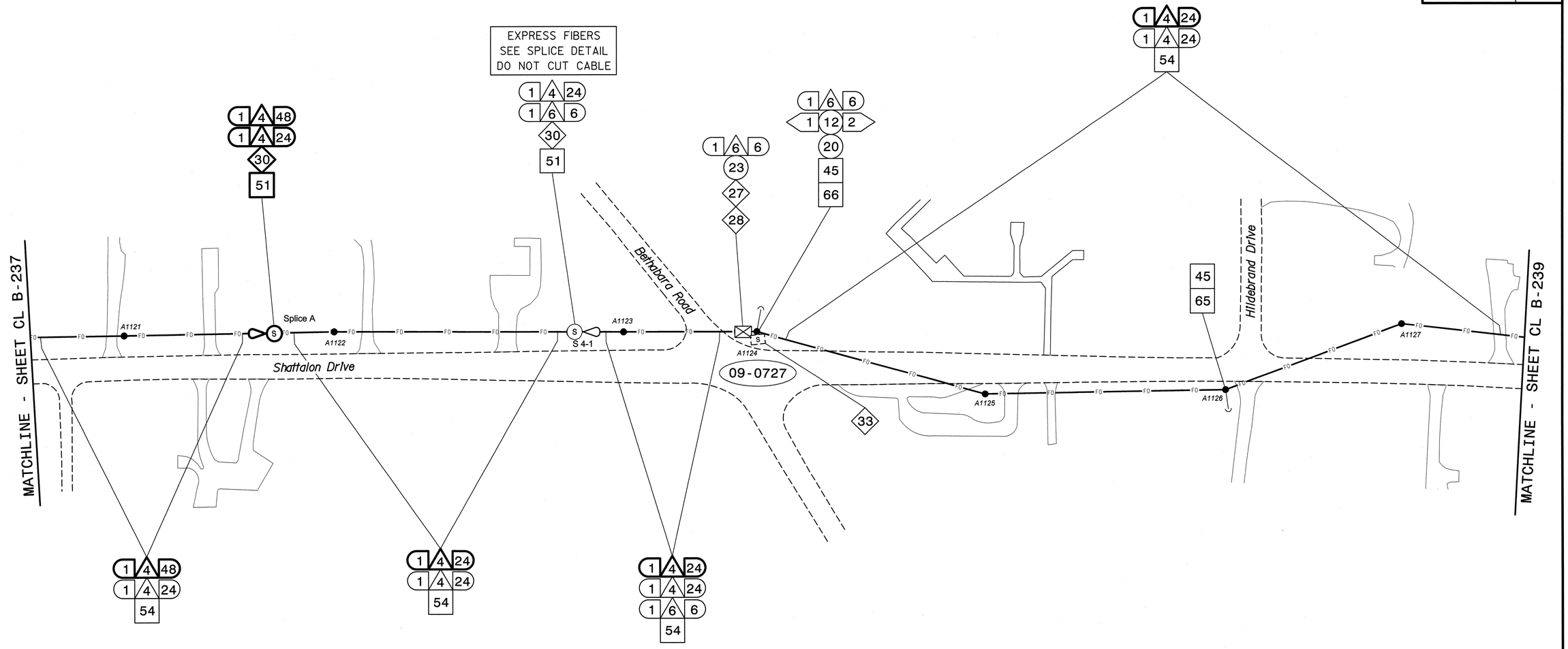
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-237.dgn

13-MAR-2013 14:50
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-237.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-238



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE	49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX	50	INSTALL WIRELESS DSL	62	NOT USED
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX	51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX	52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX	53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE	54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE	55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY	56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY	57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY	58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE	59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LW Moon

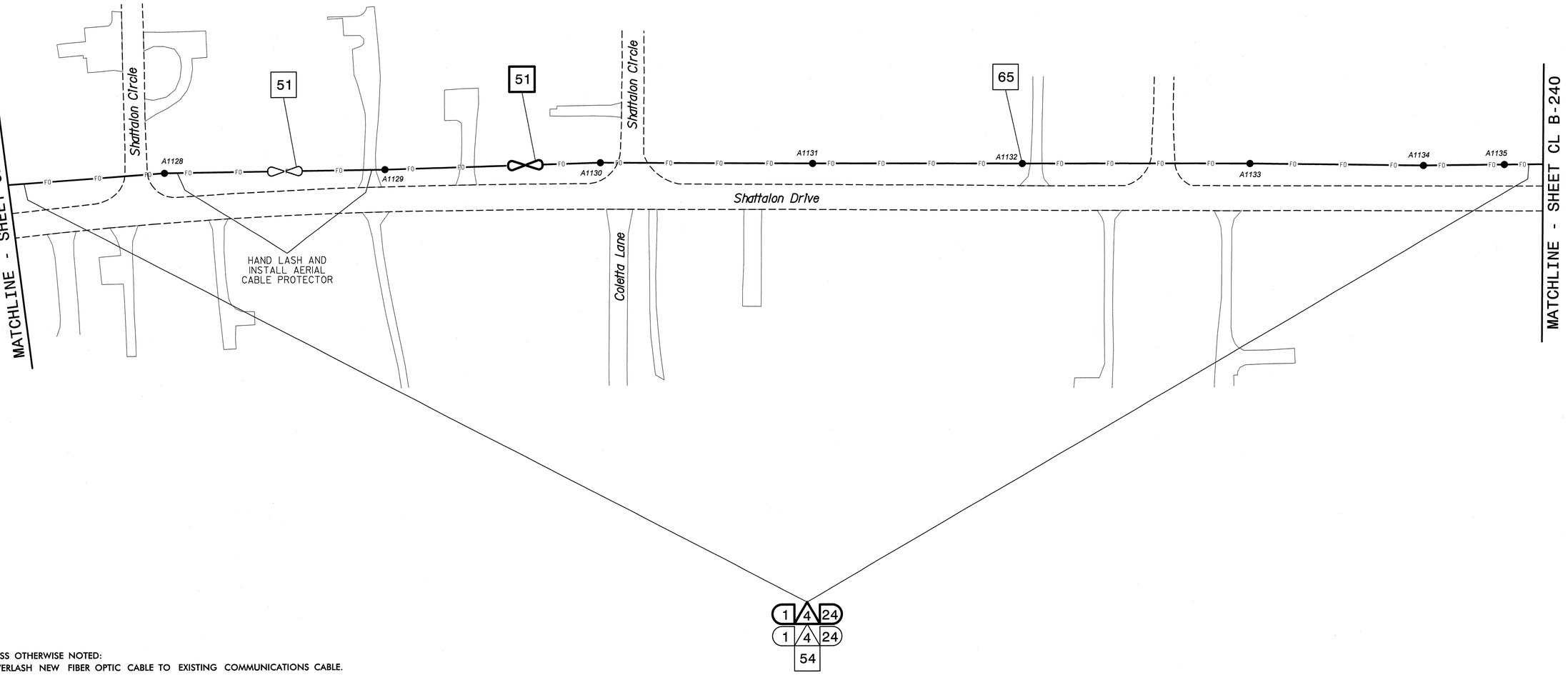
SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022518 ENGINEER LISA M. MOON
SIGNATURE
3-27-13
DATE
CADD Filename: CL B-238.dgn

13-MAR-2013 14:50
D:\Transportation\Traffic\Cur#100022712 Winston Salem Sig Sys\CL#Phase B\CL B-238.dgn
13933

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-239



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

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 — NUMBER OF FIBERS/TWISTED PAIRS

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

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

Prepared for the Offices of:

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

750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

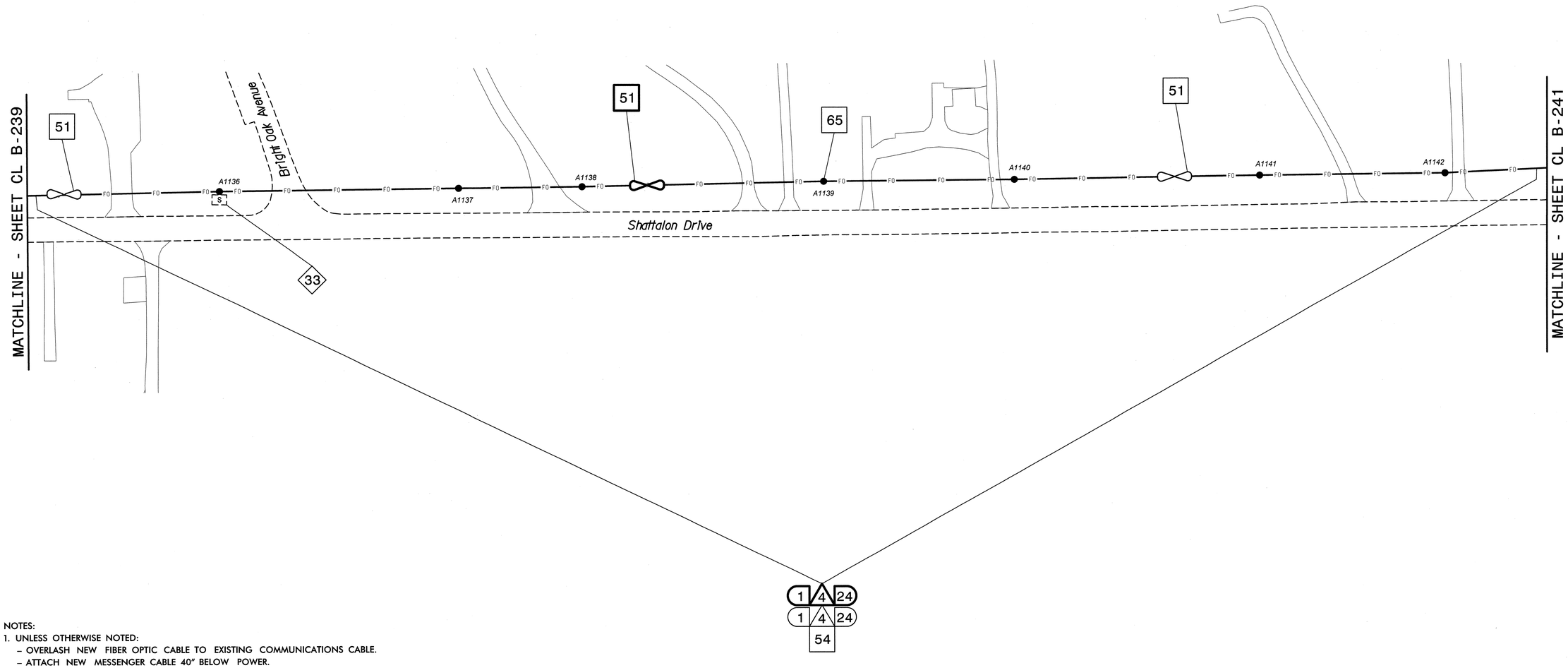
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

SIGNATURE 3-22-13 DATE

CADD Filename: CL B-239.dgn

13-MAR-2013 14:50
D:\Transportation\Traffic\Curr#100022712 Winston Salem Sig Sys#CL#Phase B#CL B-239.dgn
13832

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-240



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

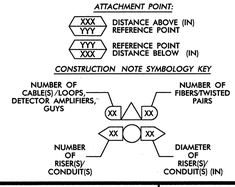
1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E CABLE
4. INSTALL SMFO CABLE
5. INSTALL COAXIAL ANTENNA CABLE
6. INSTALL FIBER–OPTIC DROP CABLE
7. INSTALL TRACER WIRE
8. INSTALL 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI–DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT

YYY REFERENCE POINT
XXX DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY



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

Prepared for the Offices of:
Transportation Mobility and Safety Division
North Carolina Department of Transportation
Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

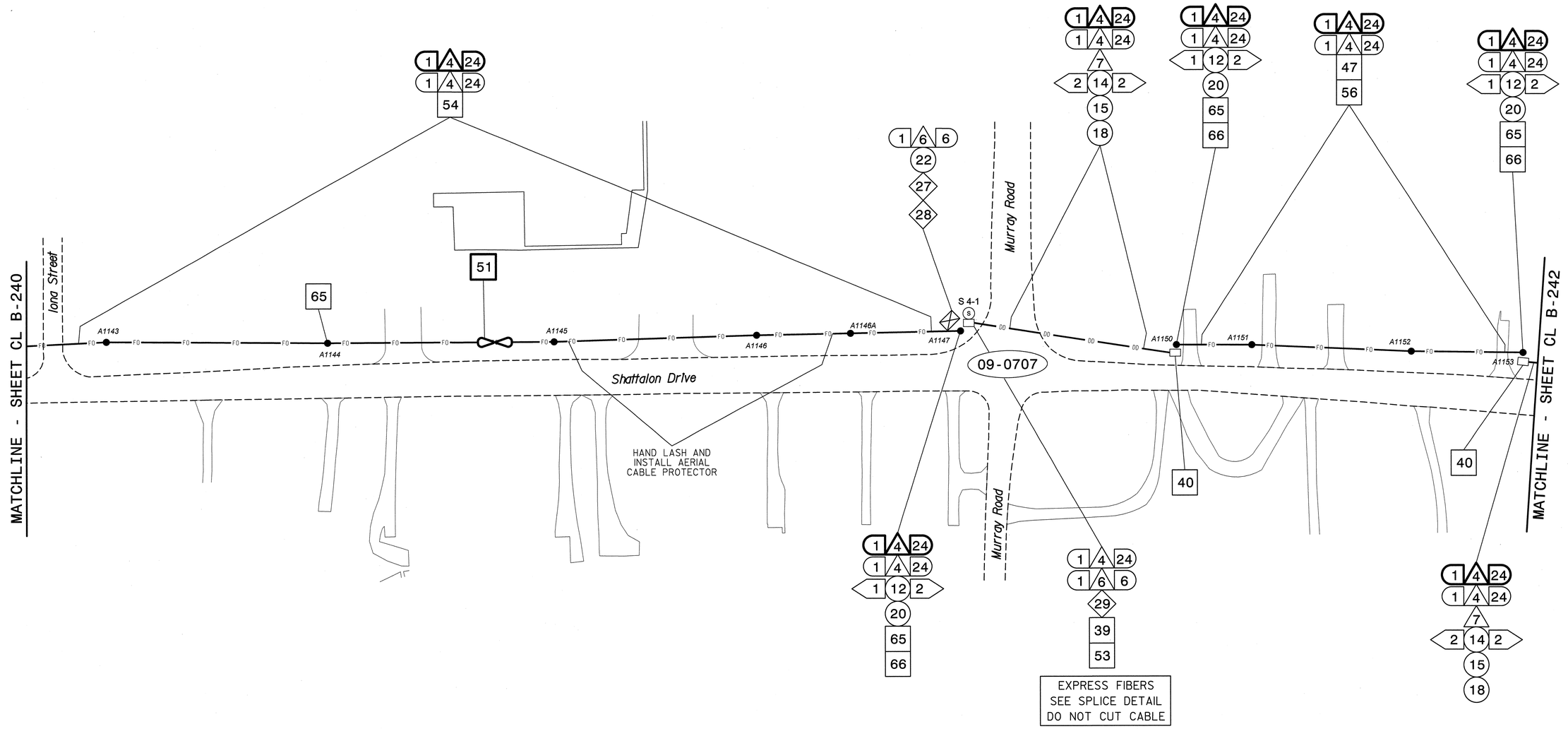
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-240.dgn

13-MAR-2013 14:50
D:\Mydocs\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-240.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-241



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
Traffic Engineering Branch — Transportation Mobility and Safety Division — North Carolina Department of Transportation — Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

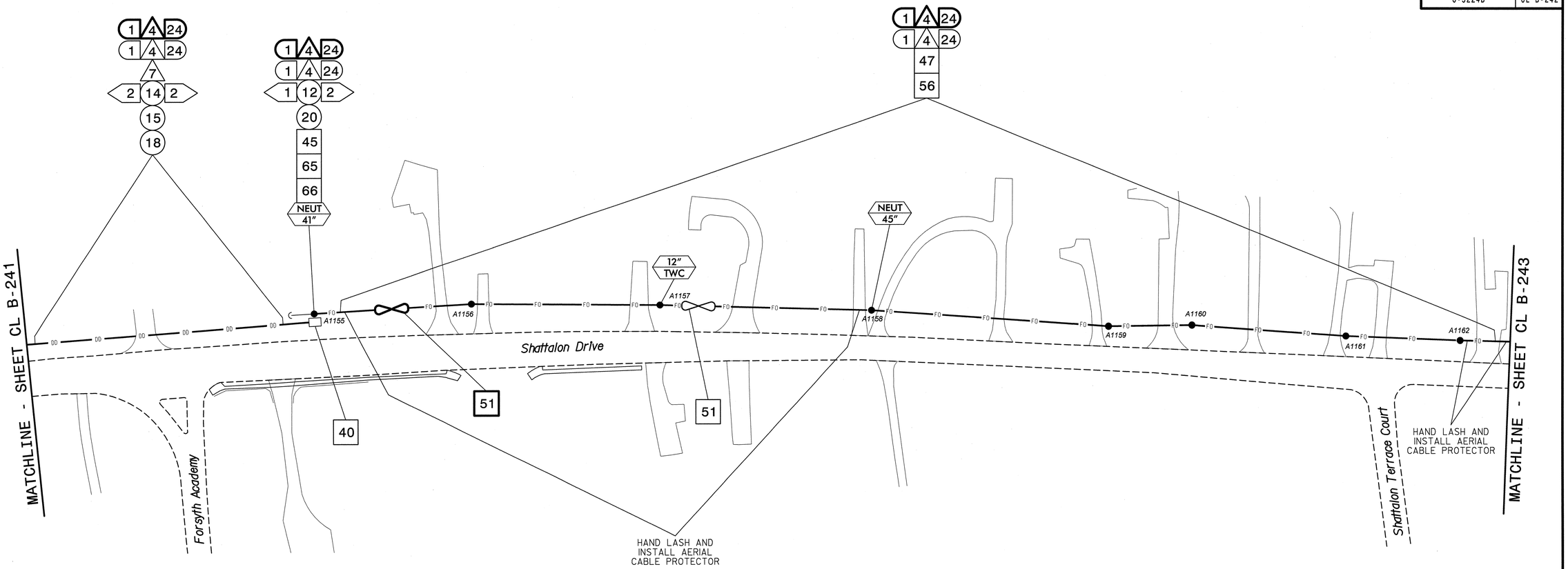
SCALE 0 50 — 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-241.dgn

13-MAR-2013 14:50
D:\Transportation\Traffic\Curr*\100022712 Winston Salem Sig Sys\CL B*\Phase B\CL B-241.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-242



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY

NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS — NUMBER OF FIBERS/TWISTED PAIRS — NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:

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

750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

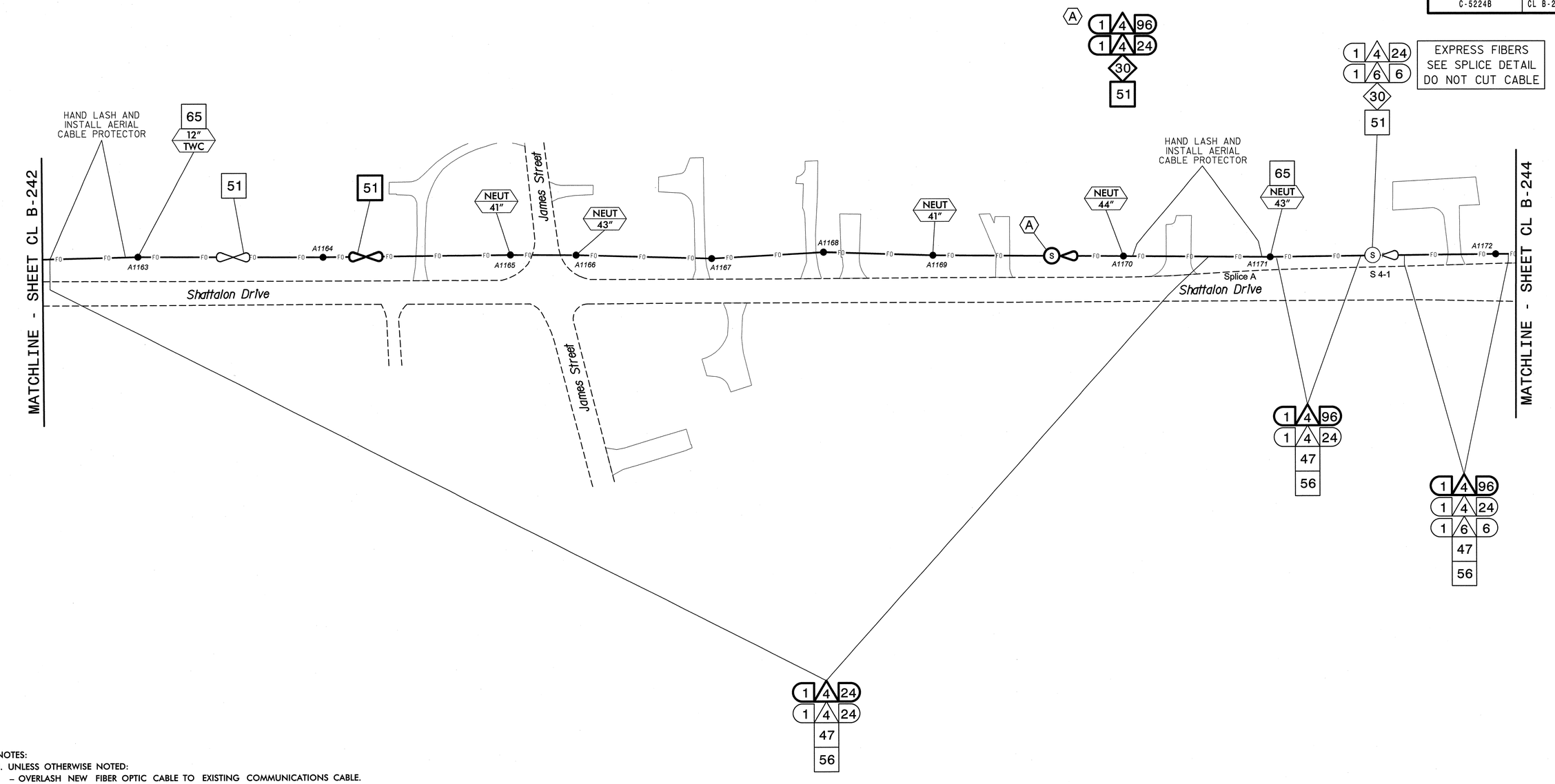
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-242.dgn

13-MAR-2013 14:50
D:\Transportation\Traffic\Curr#100022712 Winston Salem Sig Sys\CL#Phase B\CL B-242.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-243



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS — NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of: Transportation Mobility and Safety Division, North Carolina Department of Transportation, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

SCALE 0 50 1"=50'

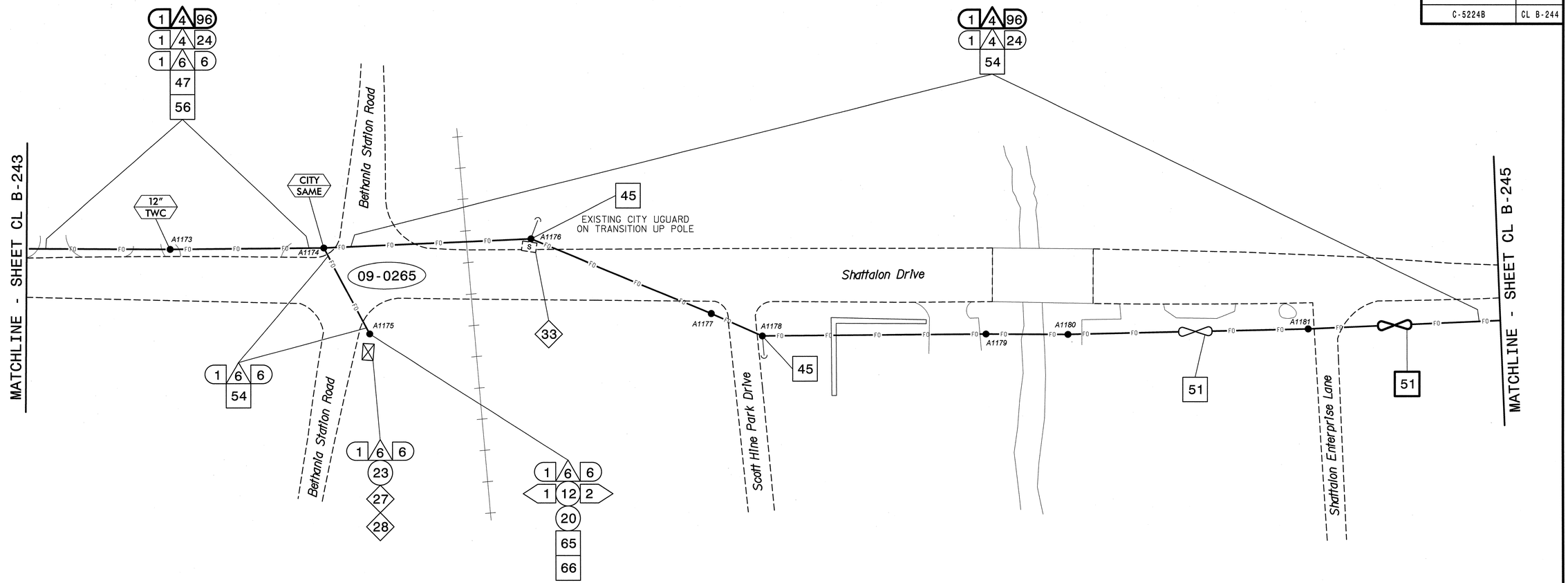
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-243.dgn

13-MAR-2013 14:50
D:\Transportation\Traffic\Court\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-243.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-244



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS — NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

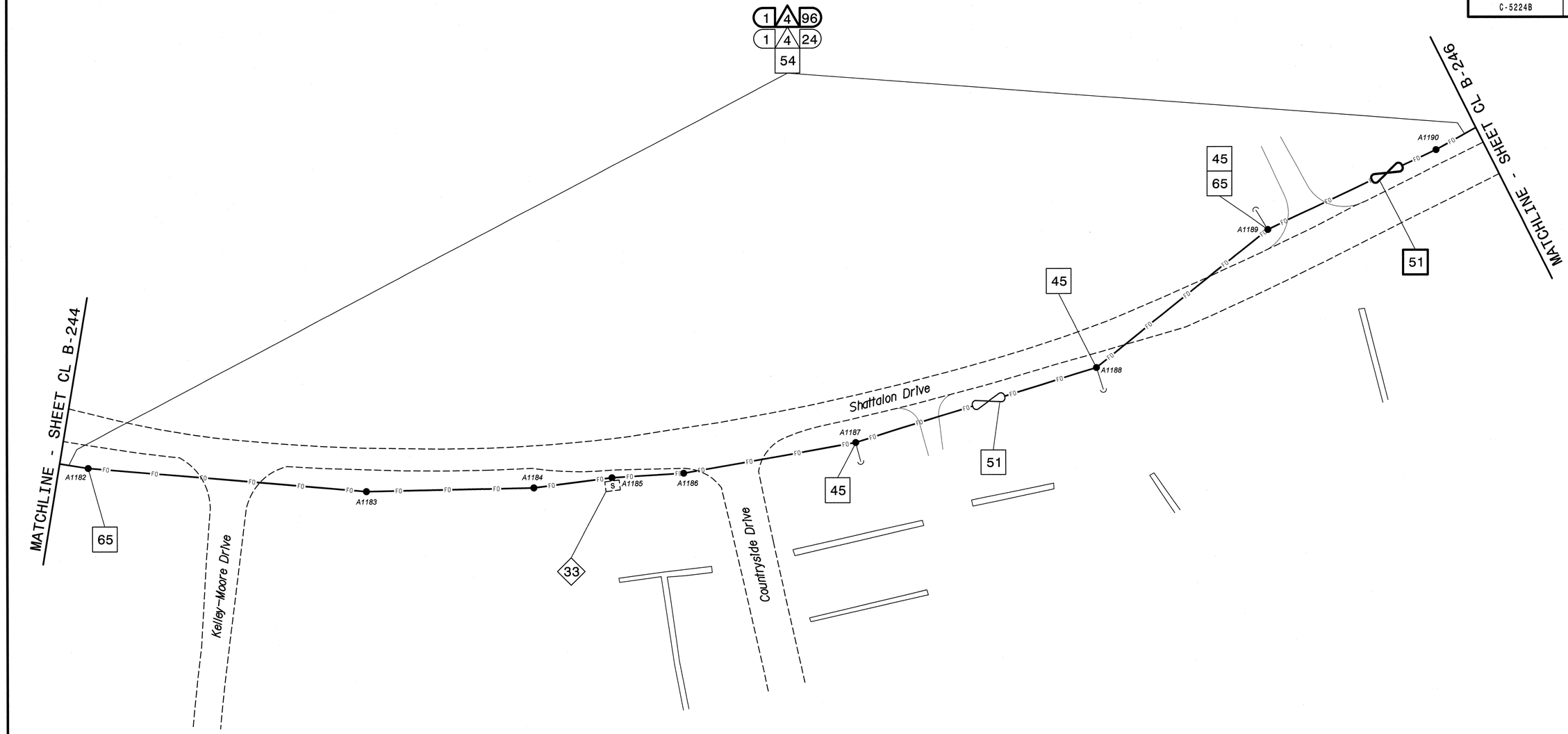
PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE Lisa M Moon 3-22-13 DATE
CADD Filename: CL B-244.dgn

13-MAR-2013 14:50
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-244.dgn
13853

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-245



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS — NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LW Moon

REVISIONS	INIT.	DATE

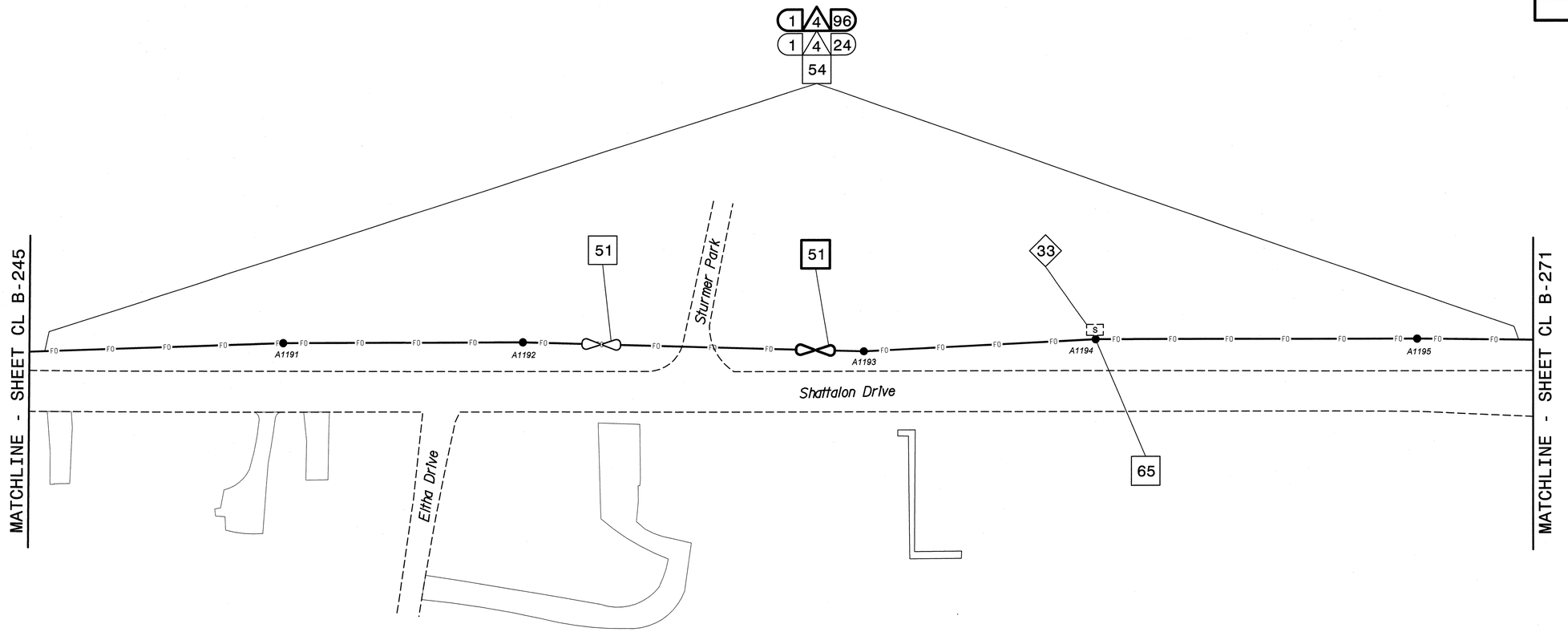
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-245.dgn

13-MAR-2013 14:50
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-245.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-246



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY

NUMBER OF CABLE(S) /LOOPS /DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:

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

750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

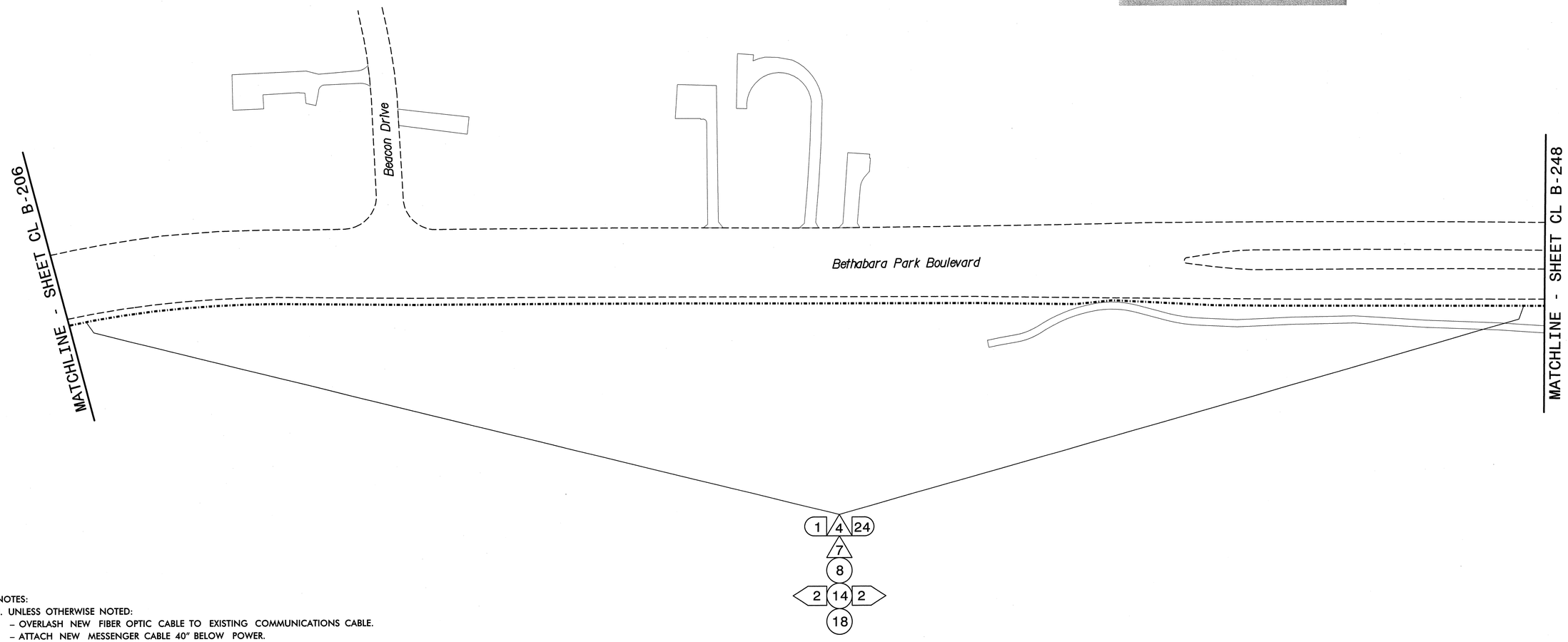
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-246.dgn

13-MAR-2013 15:02
D:\Transportation\Traffic\Cur\#100022712 Winston Salem Sig Sys\CL\Phase B\CL B-246.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-247

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.



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI–DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

SCALE 0 50 1"=50'

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

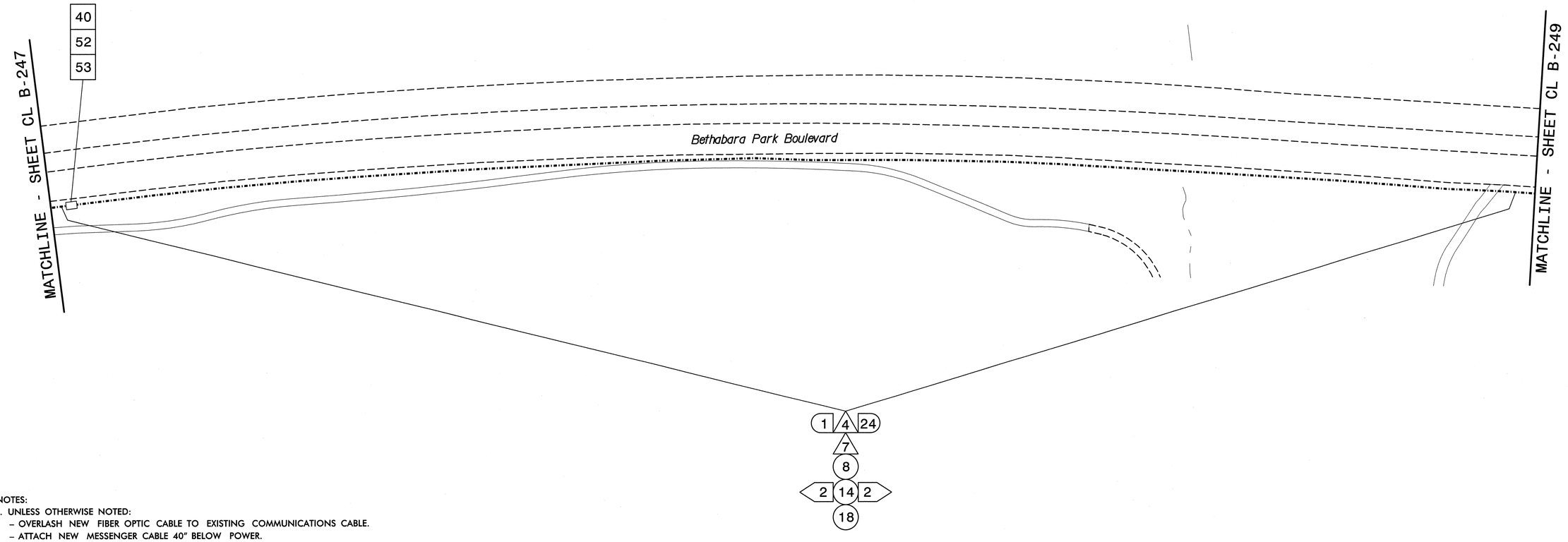
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-247.dgn

13-MAR-2013 15:02
D:\#Transportation\Traffic\Curr\#100022712 Winston Salem Sig Sys\#CL\#Phase B\CL B-247.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-248

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.



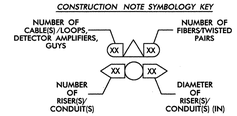
NOTES:
1. UNLESS OTHERWISE NOTED:
   – OVERLASH NEW FIBER OPTIC CABLE TO EXISTING COMMUNICATIONS CABLE.
   – ATTACH NEW MESSENGER CABLE 40" BELOW POWER.
   – ATTACH ON FRONT SIDE (FS) OF POLE.
2. SEAL ALL CONDUIT ENDS WITH DUCT AND CONDUIT SEALER, AT ALL JUNCTION BOX/CABINET ENTRANCES.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
- XXX / YYY — DISTANCE ABOVE (IN) REFERENCE POINT
- YYY / XXX — REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY



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

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

SCALE
0 50
1"=50'

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09	Forsyth County	Winston-Salem
PLAN DATE: March 2013	REVIEWED BY:	MB Toth
PREPARED BY: JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

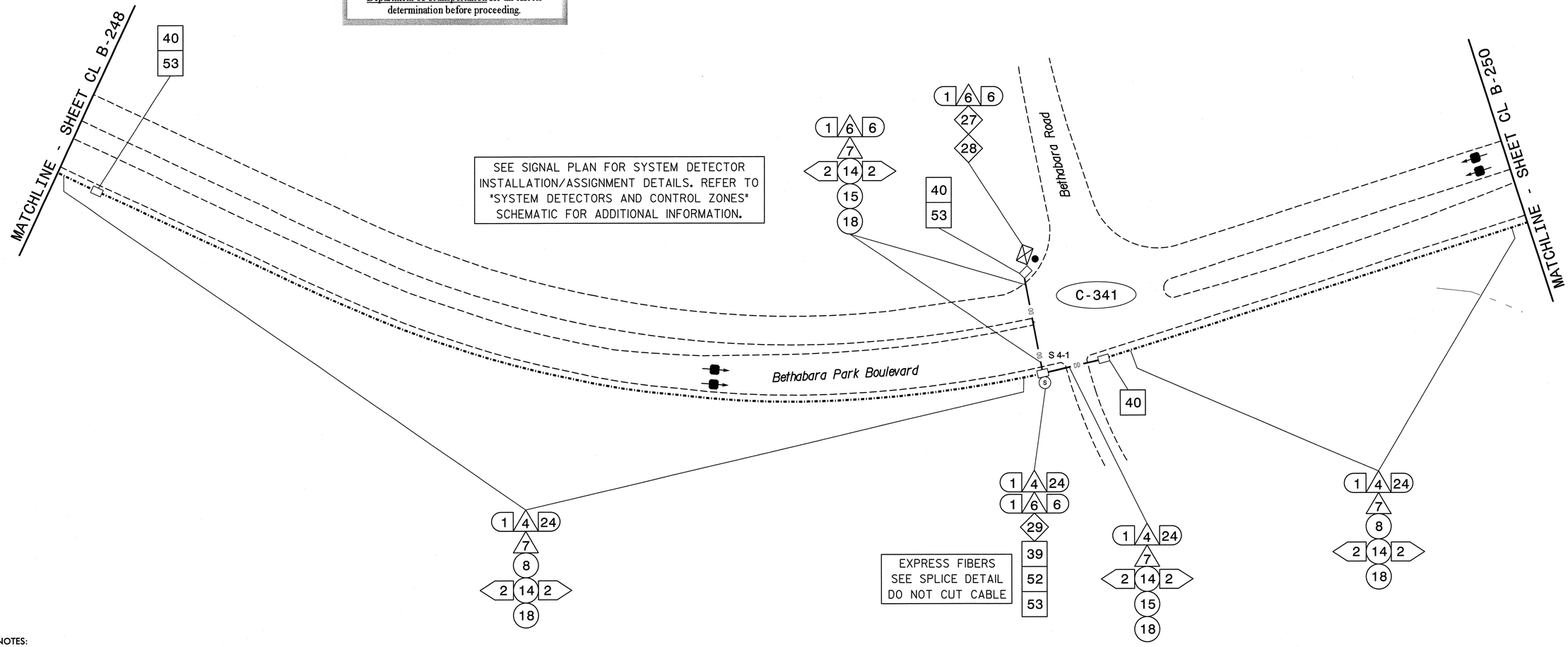
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-248.dgn

13-MAR-2013 15:02
D:\Transportation\Traffic\Current\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-248.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-249

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.



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN) XXX

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS — NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
NCDOT Transportation Mobility and Safety Division, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

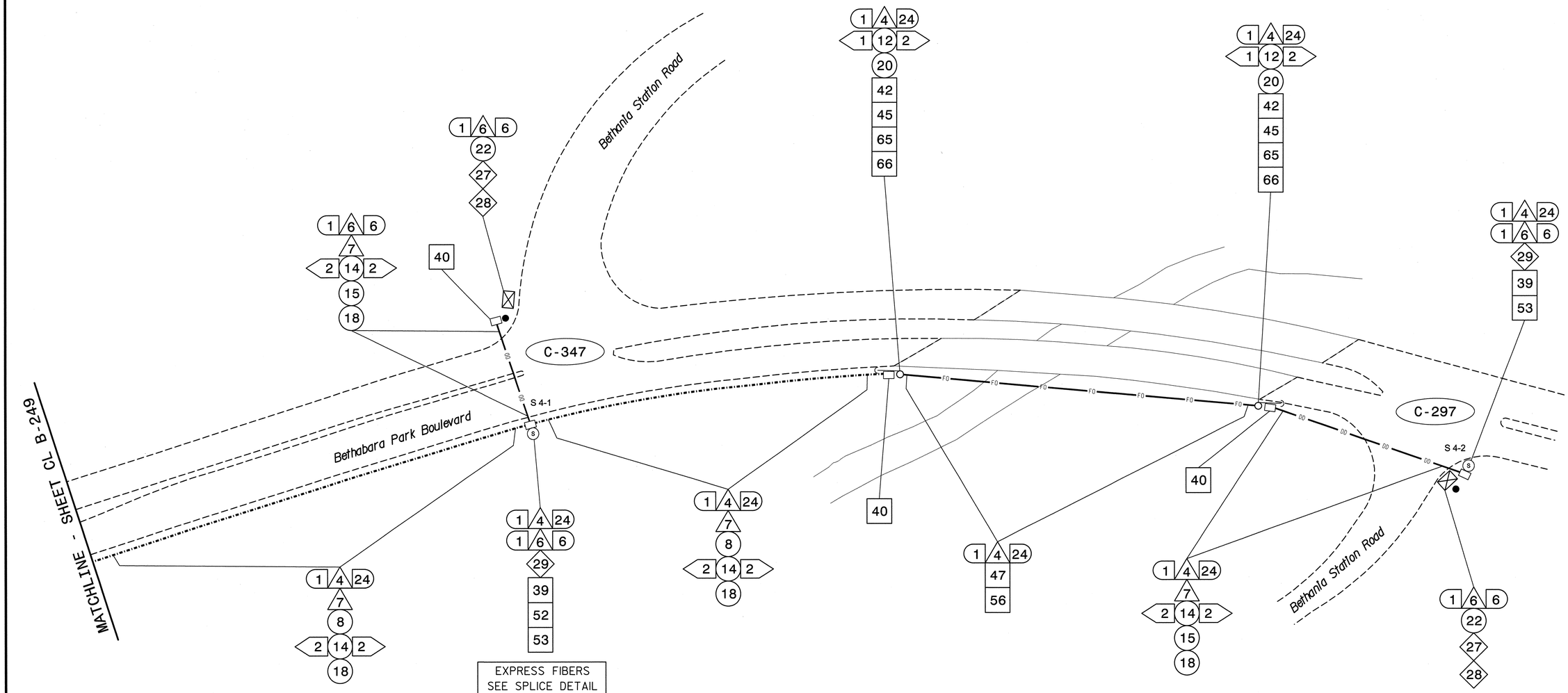
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-249.dgn

13-MAR-2013 15:02
O:\Transportation\Traffic\Curr*\100022712 Winston Salem Sig Sys*\CL*\Phase B*\CL B-249.dgn
lbass

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-250



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of: Transportation Mobility and Safety Division, North Carolina Department of Transportation, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE: March 2013 REVIEWED BY: MB Toth
PREPARED BY: JAW/AJD REVIEWED BY: LM Moon

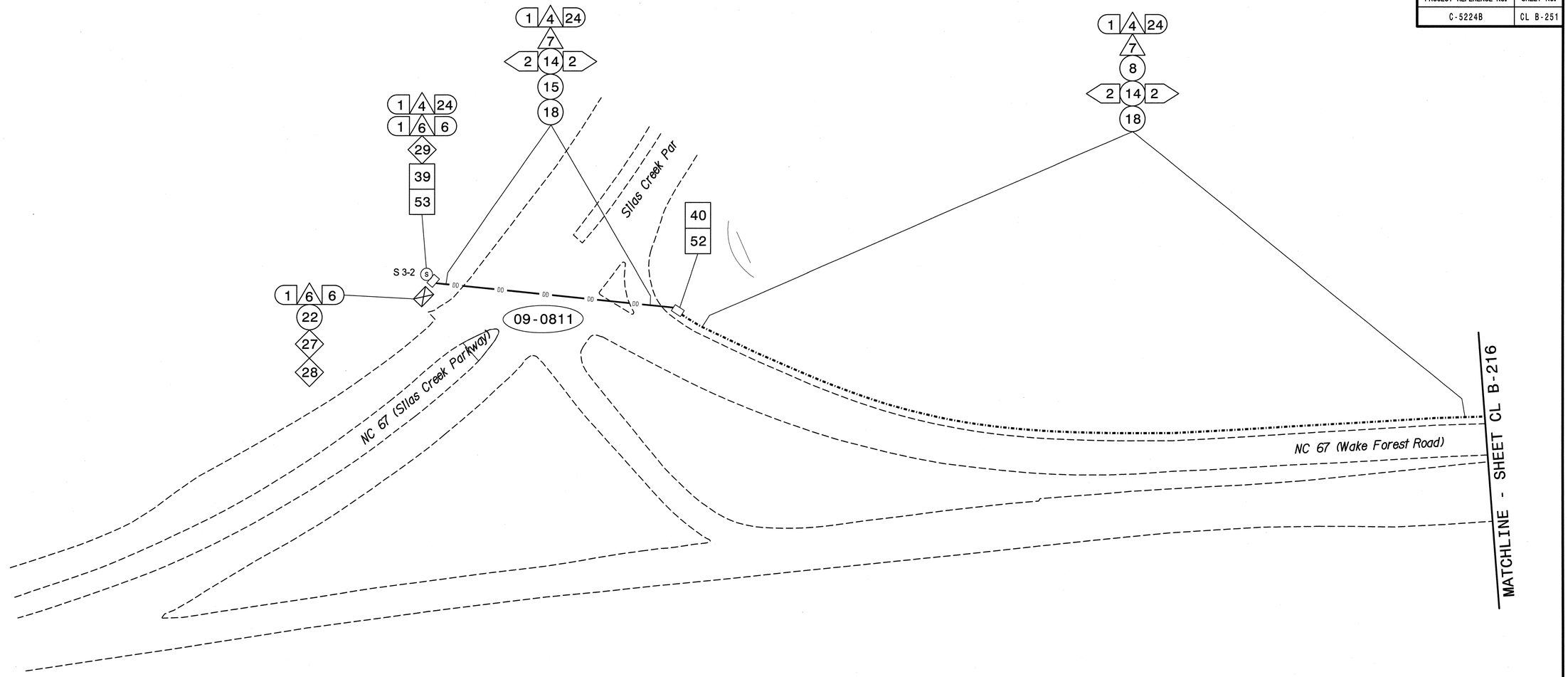
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022516 LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-250.dgn

13-MAR-2013 15:02
D:\transportation\Cur#100022112 Winston Salem Sig Sys#CL#Phase B#CL B-250.dgn
13835

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-251



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

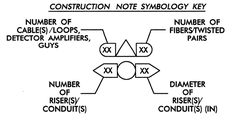
1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E CABLE
4. INSTALL SMFO CABLE
5. INSTALL COAXIAL ANTENNA CABLE
6. INSTALL FIBER-OPTIC DROP CABLE
7. INSTALL TRACER WIRE
8. INSTALL 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

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

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

CONSTRUCTION NOTE SYMBOLOGY KEY



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

Prepared for the Offices of:

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

750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09	Forsyth County	Winston-Salem
PLAN DATE: March 2013	REVIEWED BY: MB Toth	
PREPARED BY: JAW/AJD	REVIEWED BY: LM Moon	

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

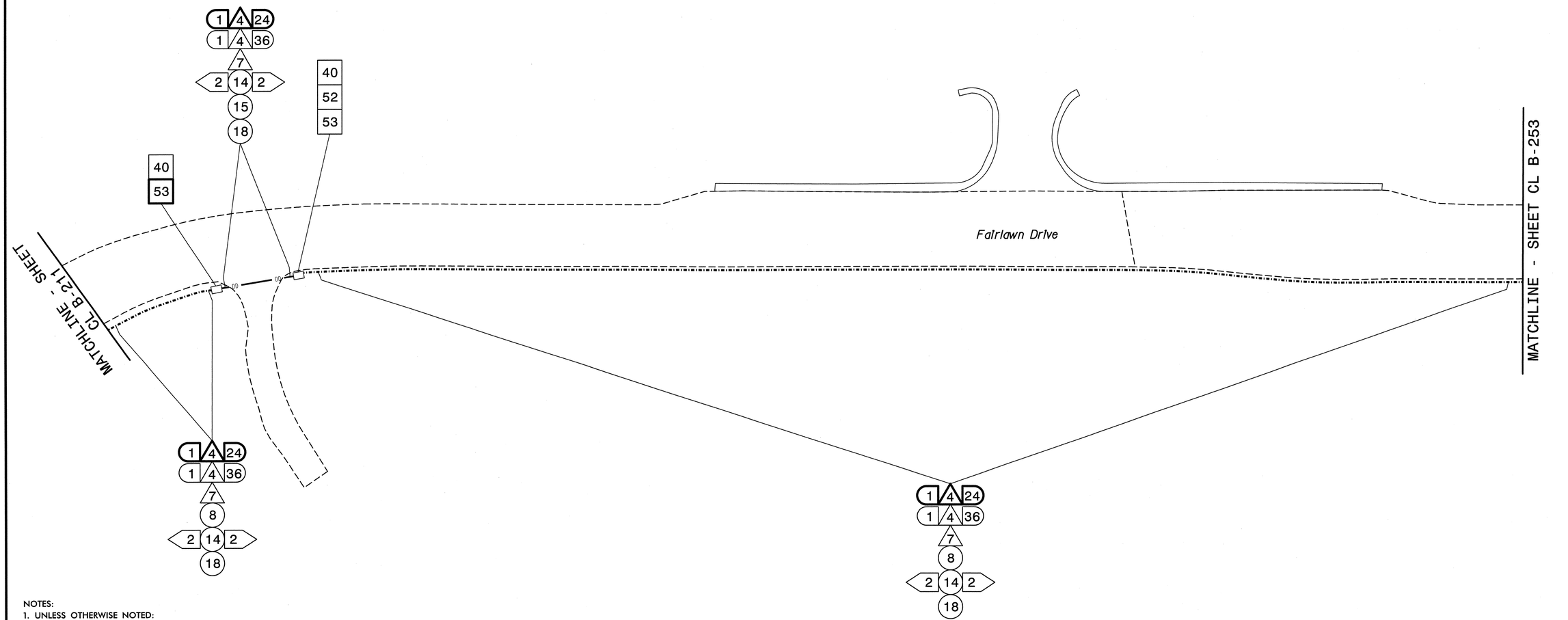
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-251.dgn

13-MAR-2013 15:02
D:\#Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-251.dgn
13831

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-252



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY

NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:

NCDOT Transportation Mobility and Safety Division – Intelligent Transportation Systems

750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

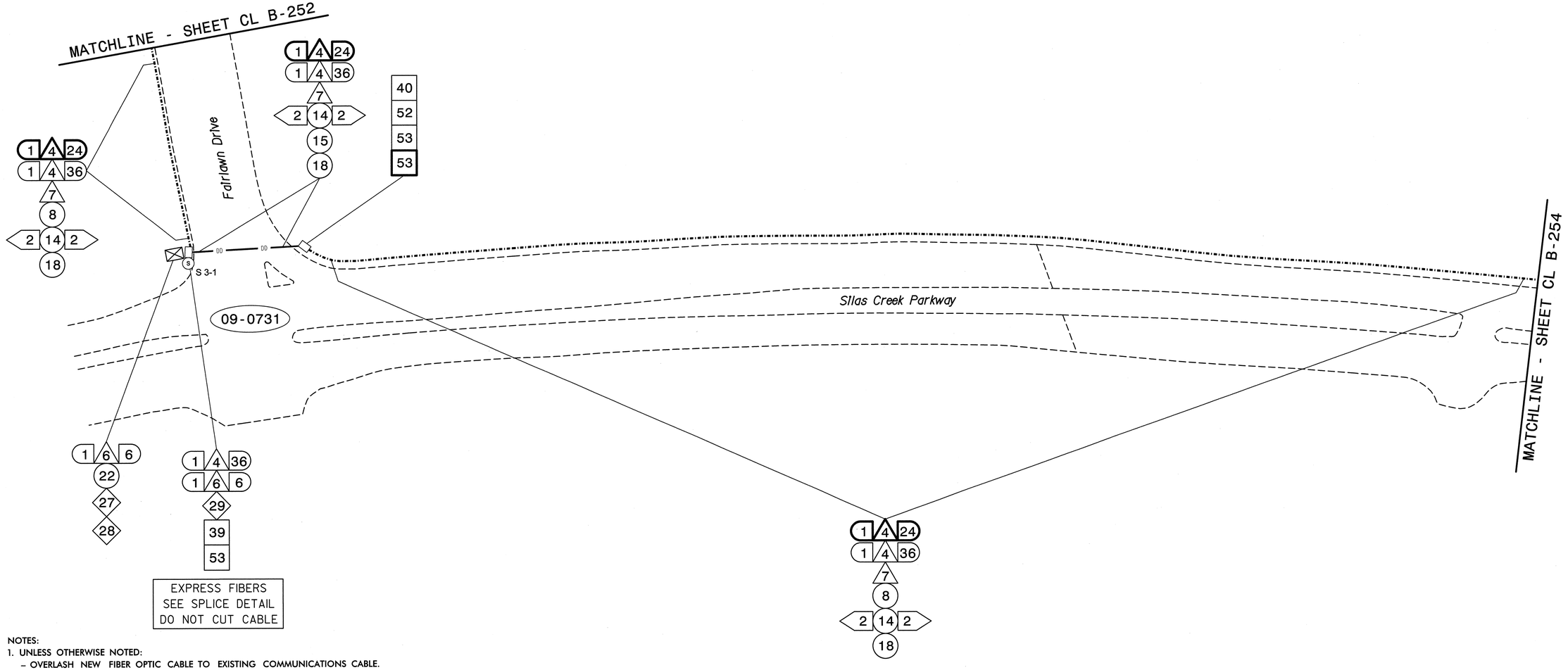
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-252.dgn

13-MAR-2013 15:02
D:\Transportation\Traffic\Curr\100022112 Winston Salem Sig Sys\CL\Phase B\CL B-252.dgn
13933

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-253



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

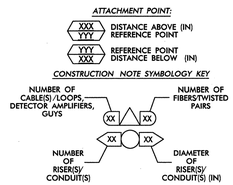
1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) (SNOW SHOE(S)) AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

XXX / YYY DISTANCE ABOVE (IN) / REFERENCE POINT

YYY / XXX REFERENCE POINT / DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY



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

Prepared for the Offices of:

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

750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LW Moon

REVISIONS	INIT.	DATE

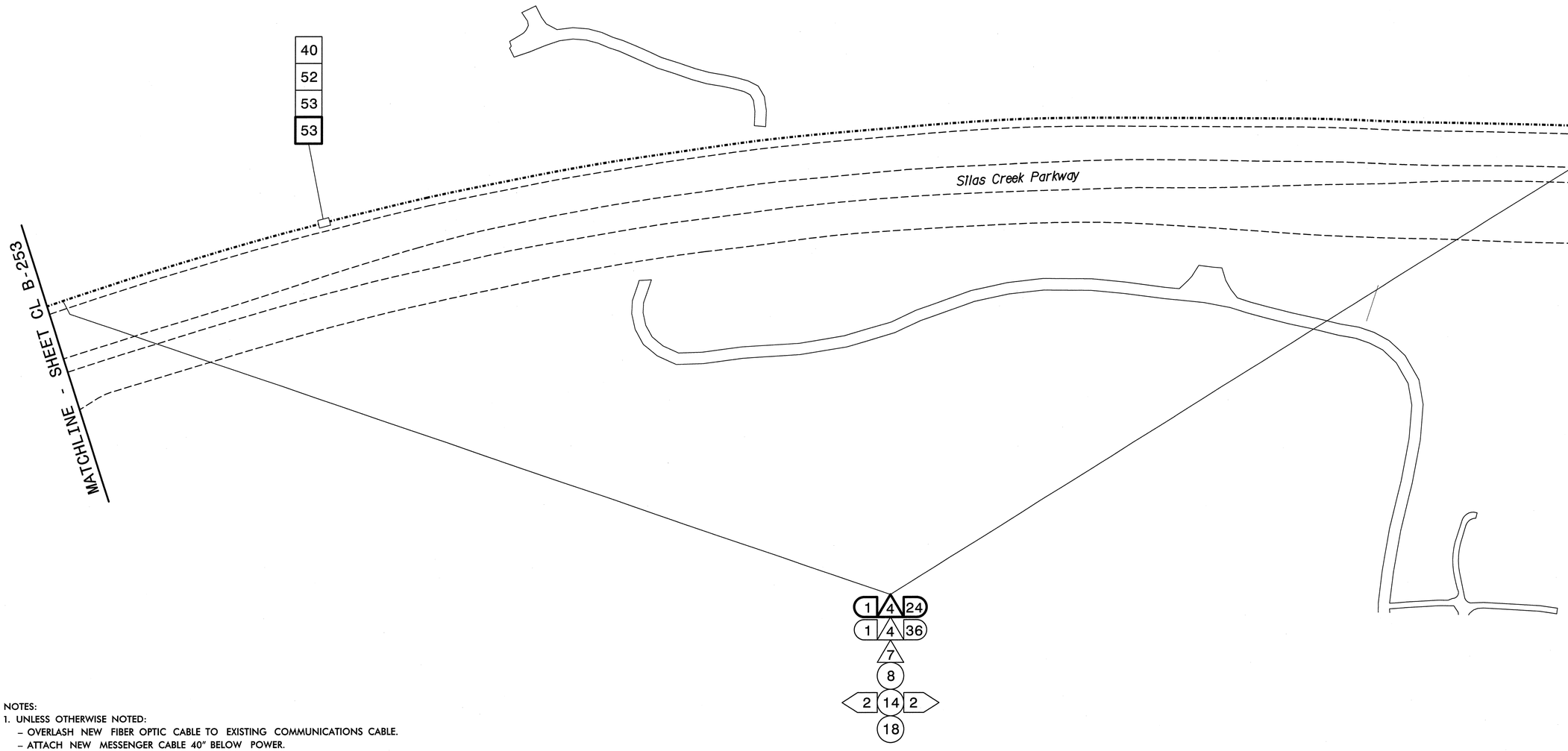
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-253.dgn

13-MAR-2013 15:02
D:\Transportation\Traffic\Cur*\100022112 Winston Salem Sig Sys\CL\Phase B\CL B-253.dgn
13853

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-254



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT
XXX DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS — NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

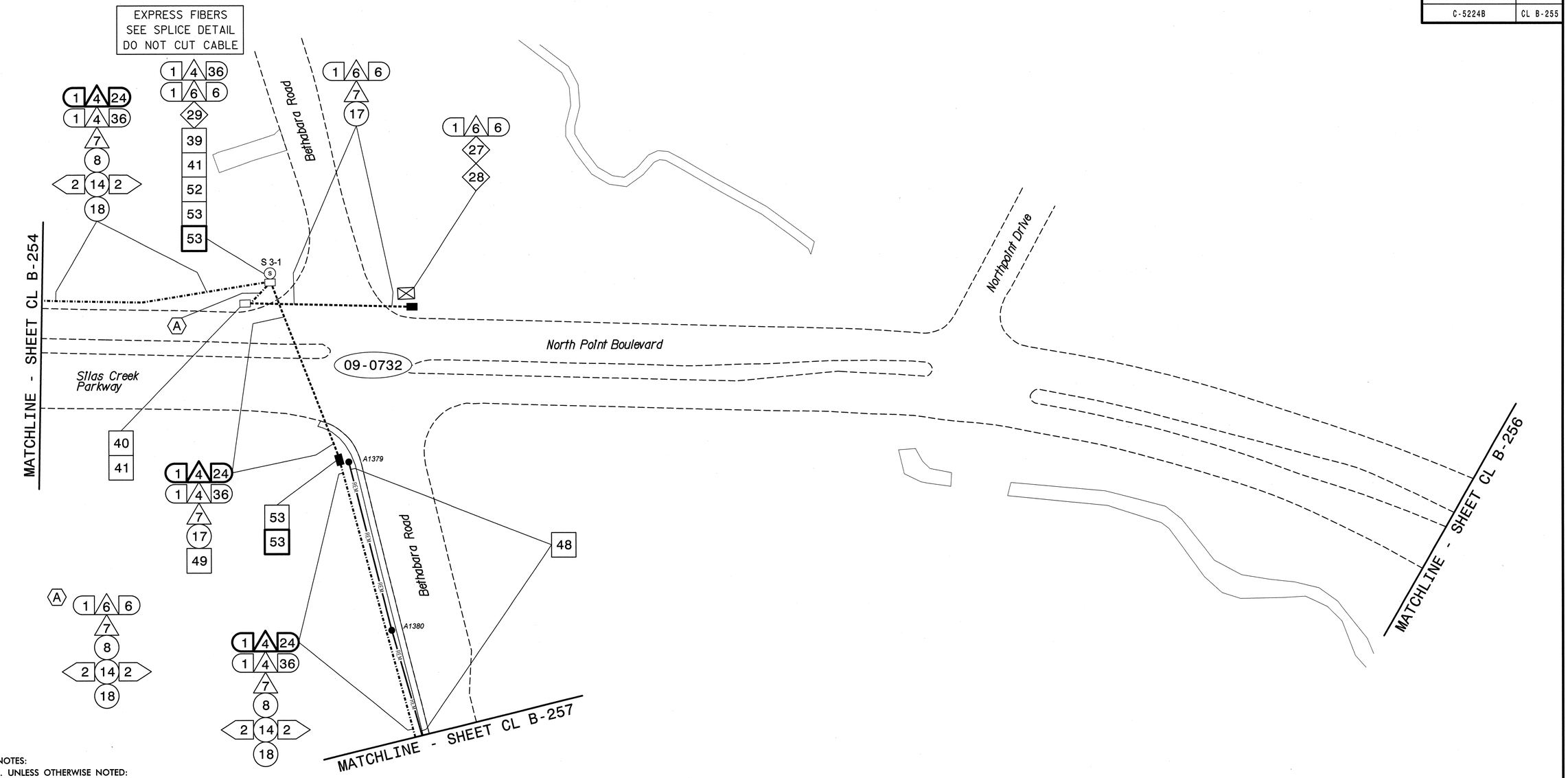
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-254.dgn

13-MAR-2013 15:02
D1*Transportation*Traffic*Curr*1000022712 Winston Salem Sig Sys*CL*Phase B*CL B-254.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-255



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

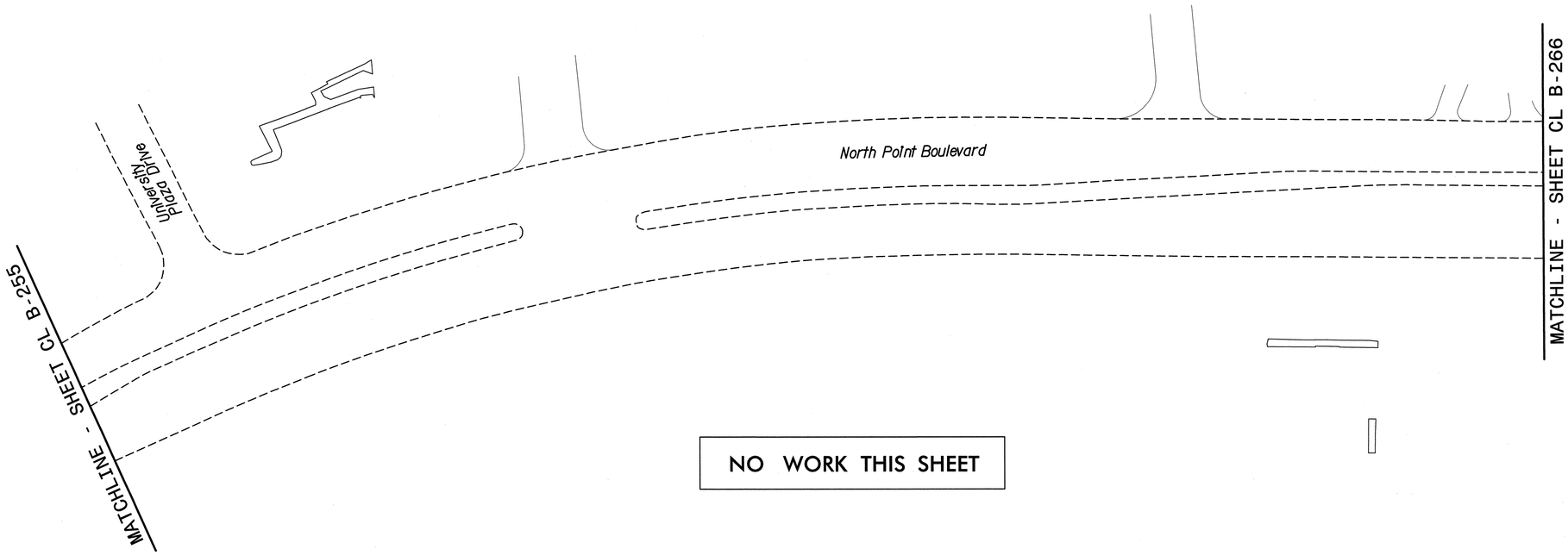
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-255.dgn

13-MAR-2013 15:02
D:\ATransportation\Traffic\Curr\1000227\2 Winston Salem Sig Sys\CL\Phase B\CL B-255.dgn
13853

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-256



NO WORK THIS SHEET

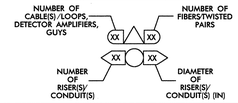
NOTES:
1. UNLESS OTHERWISE NOTED:
   – OVERLASH NEW FIBER OPTIC CABLE TO EXISTING COMMUNICATIONS CABLE.
   – ATTACH NEW MESSENGER CABLE 40" BELOW POWER.
   – ATTACH ON FRONT SIDE (FS) OF POLE.
2. SEAL ALL CONDUIT ENDS WITH DUCT AND CONDUIT SEALER, AT ALL JUNCTION BOX/CABINET ENTRANCES.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
- XXX / YYY — DISTANCE ABOVE (IN) REFERENCE POINT
- YYY / XXX — REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY



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

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

SCALE 0 50 1"=50'

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

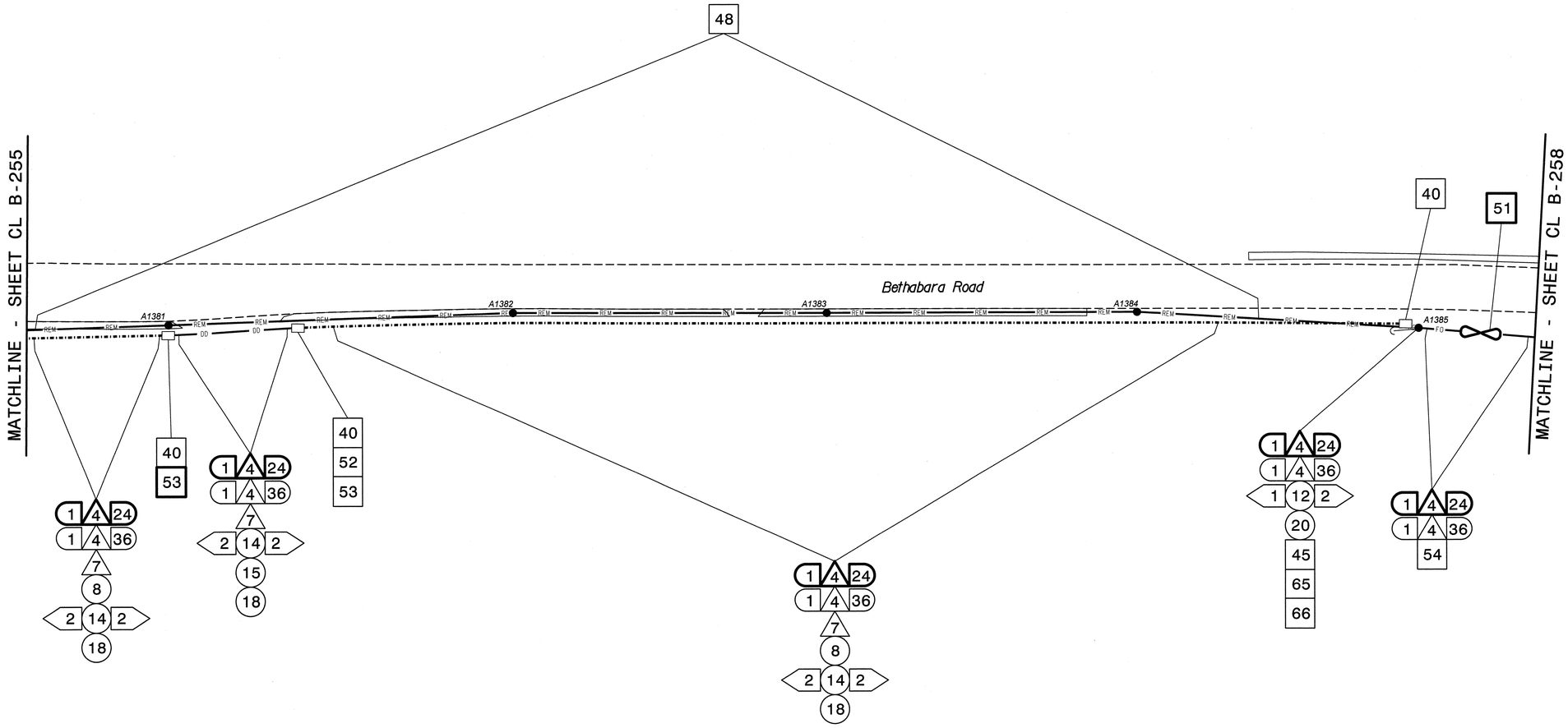
PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE DATE
CADD Filename: CL B-256.dgn

13-MAR-2013 15:02
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-256.dgn
13813

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-257



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

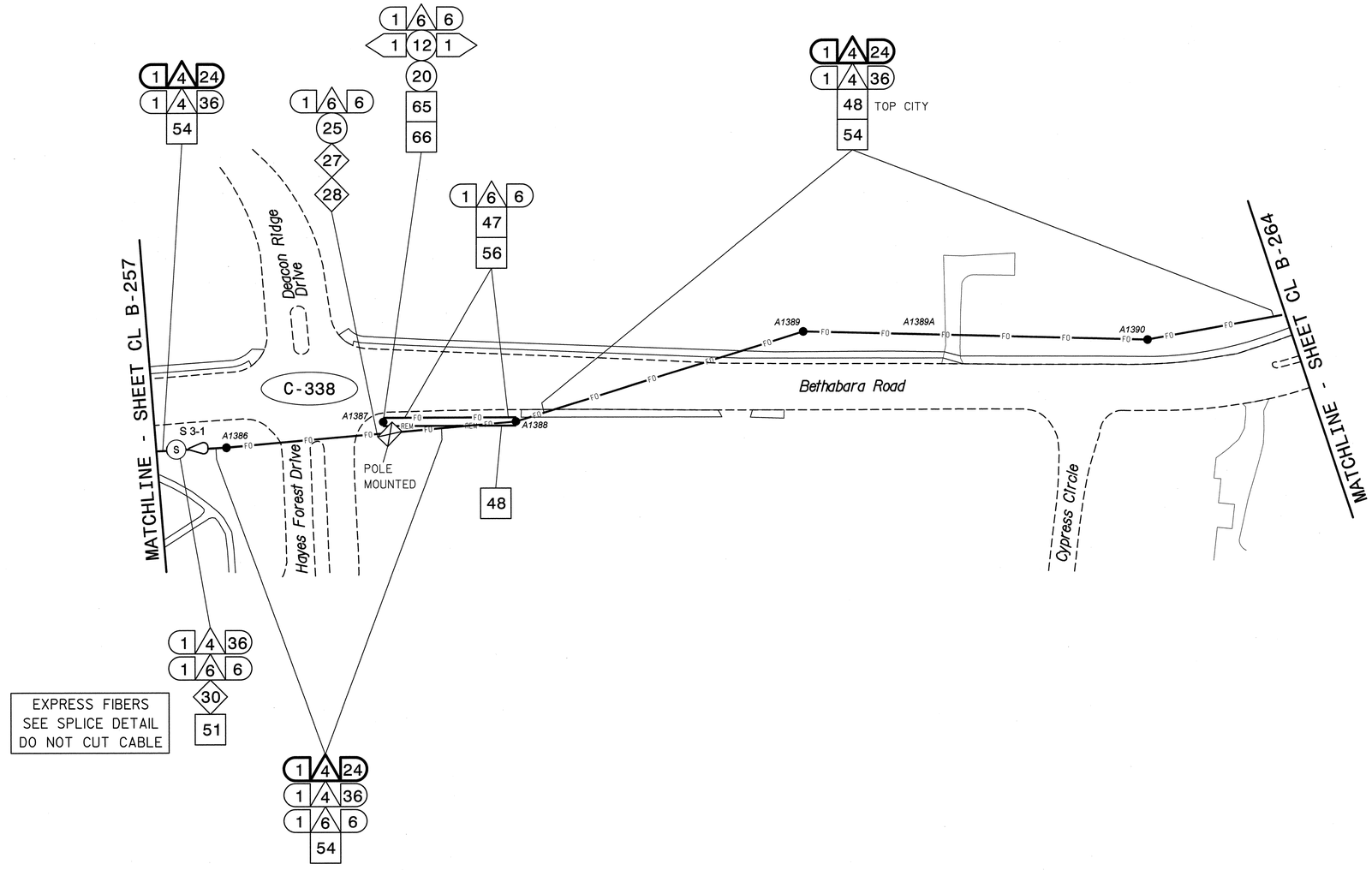
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE DATE 3-22-13

CADD Filename: CL B-257.dgn

13-MAR-2013 15:03
D:\#Transportation\Traffic\Curr\#100022712 Winston Salem Sig Sys\CL\Phase B\CL B-257.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-258



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI–DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

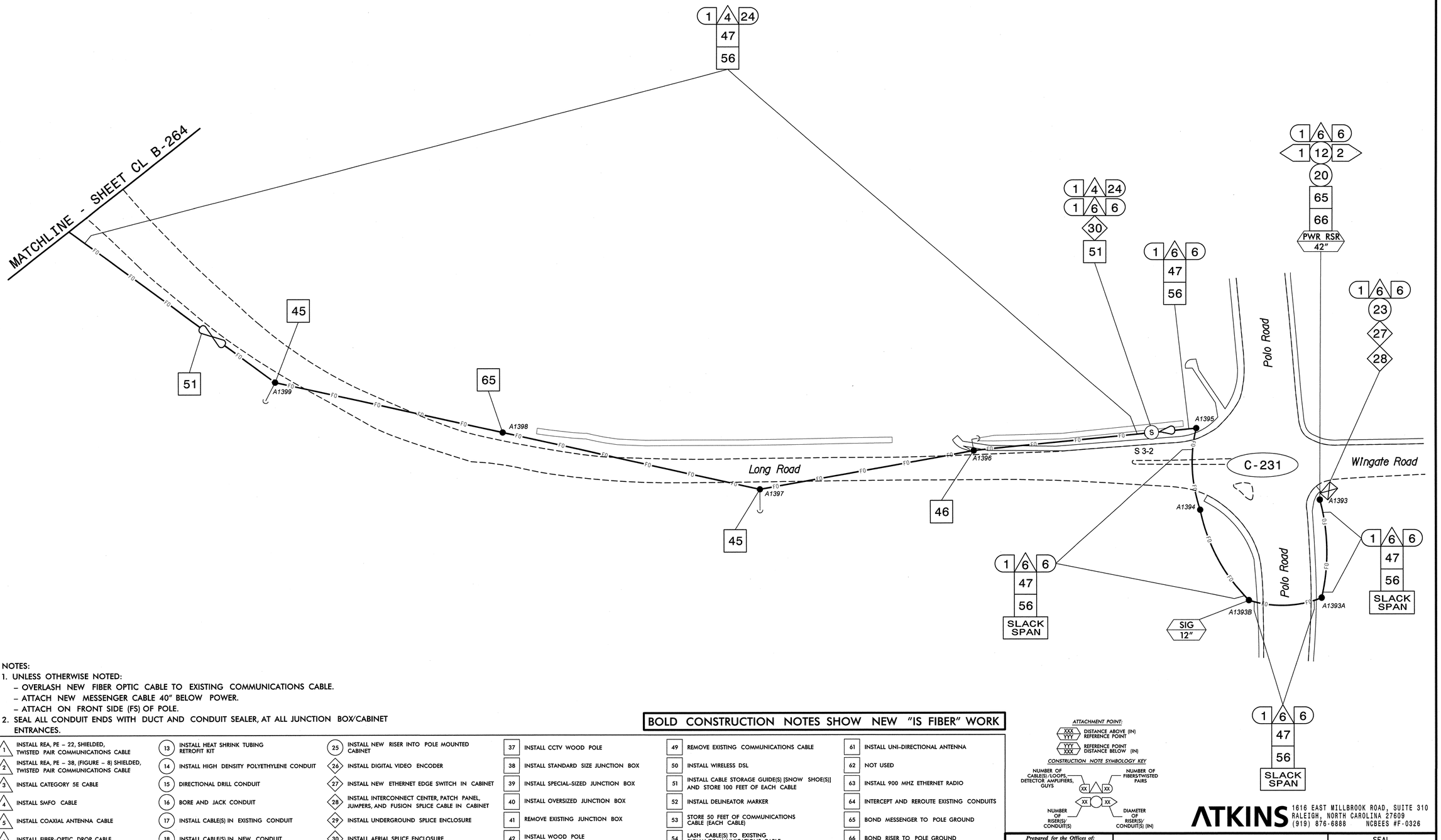
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022518 LISA M. MOON
Lisa M. Moon 3.22.13
SIGNATURE DATE

CADD Filename: CL B-258.dgn

13-MAR-2013 15:03
D:\#Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-258.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-259



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT
YYY DISTANCE BELOW (IN)
XXX

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

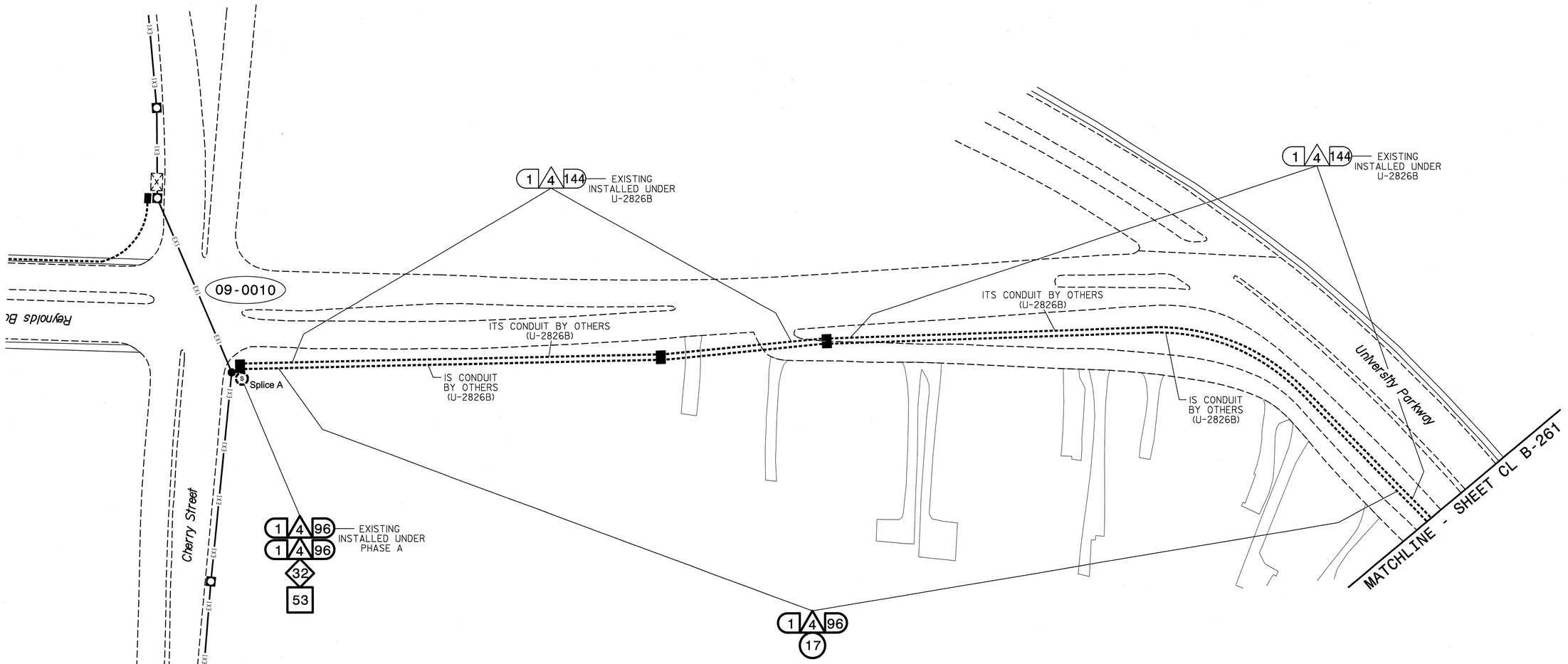
SEAL NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

SIGNATURE DATE 3-22-13

CADD Filename: CL B-259.dgn

13-MAR-2013 15:03
O:*Transportation\Traffic\Curr*\000022712 Winston Salem Sig Sys\CL*\Phase B*\CL B-259.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-260



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI–DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT
YYY REFERENCE POINT
XXX DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

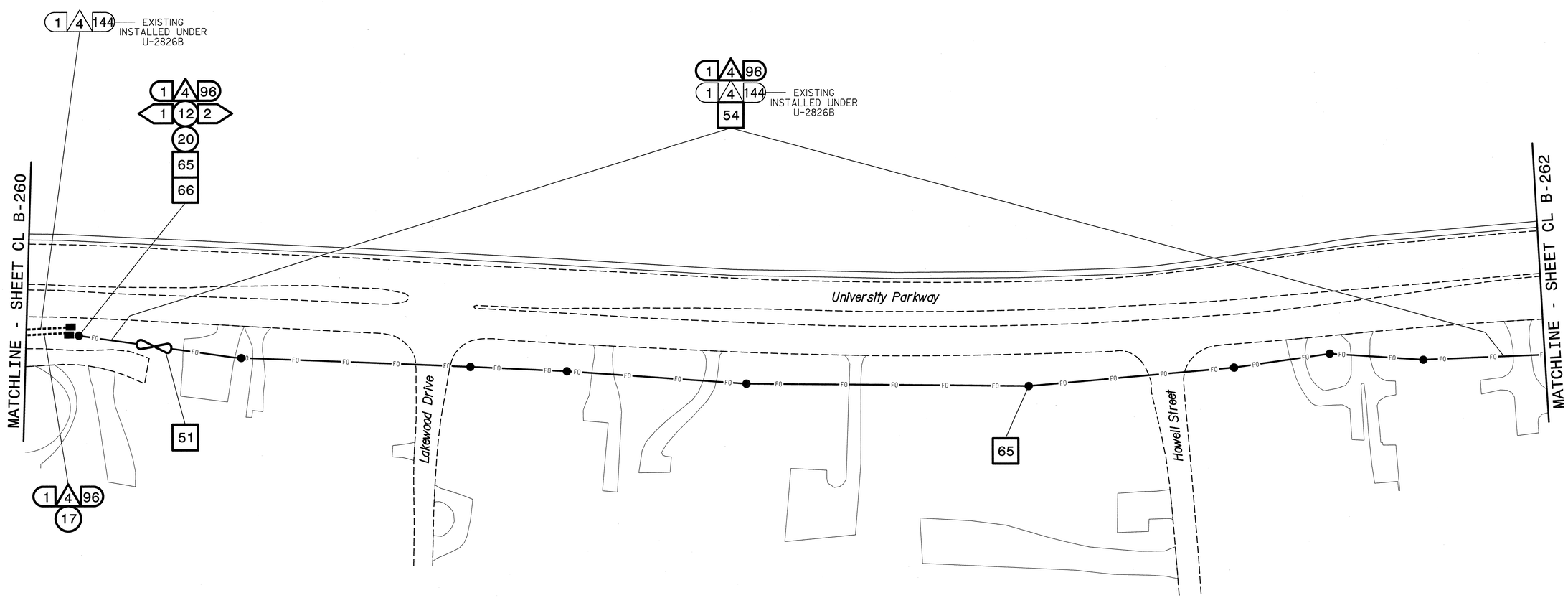
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-260.dgn

13_MAR_2013 15:03
D:\#Transportation\Traffic\Curr#100022712 Winston Salem Sig Sys\#CL#Phase B\CL B-260.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-261



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE	49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX	50	INSTALL WIRELESS DSL	62	NOT USED
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX	51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX	52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX	53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE	54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE	55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY	56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY	57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY	58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE	59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

SCALE 0 50 1"=50'

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

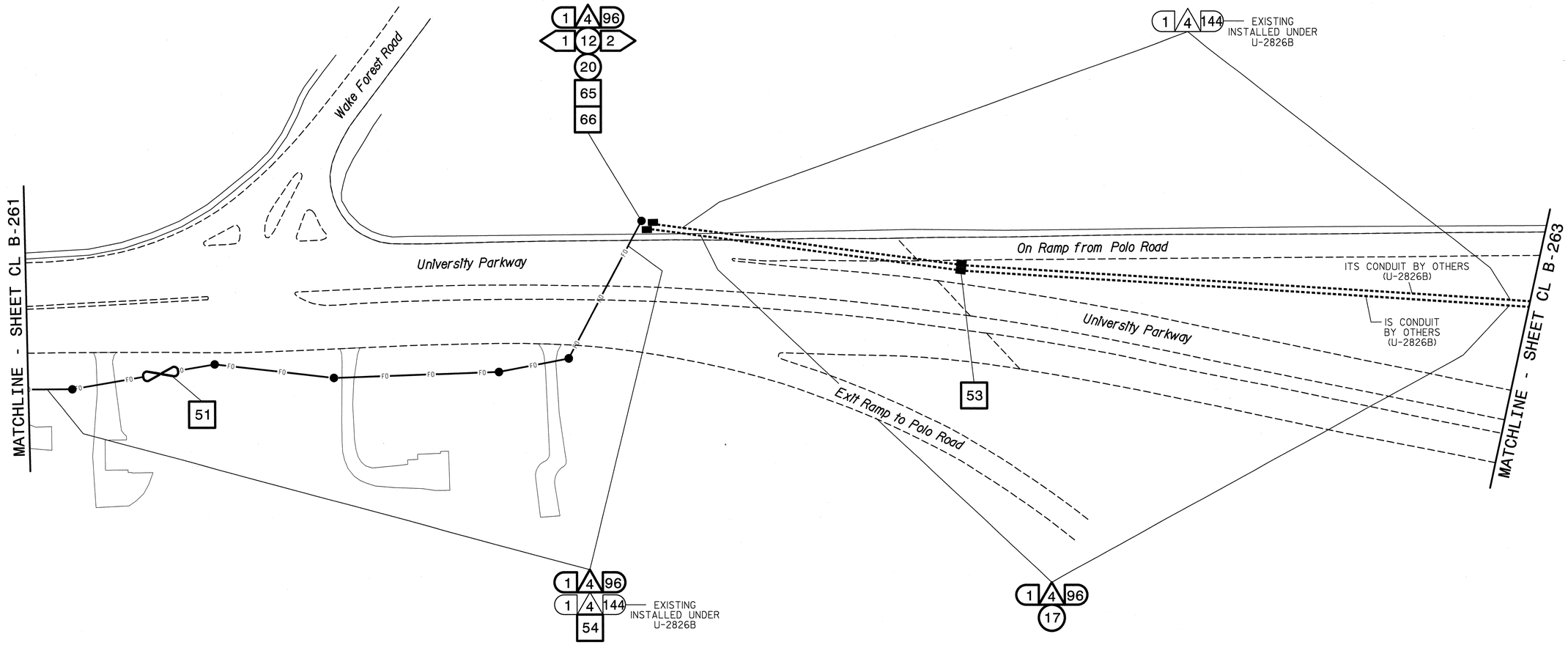
PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE Lisa M. Moon 3-22-13 DATE
CADD Filename: CL B-261.dgn

13-MAR-2013 15:03
D:\Transportation\Traffic\Curr#100022712 Winston Salem Sig Sys#CL#Phase B#CL B-261.dgn
USER:

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-262



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS- DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
North Carolina Department of Transportation, Mobility and Safety Division, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

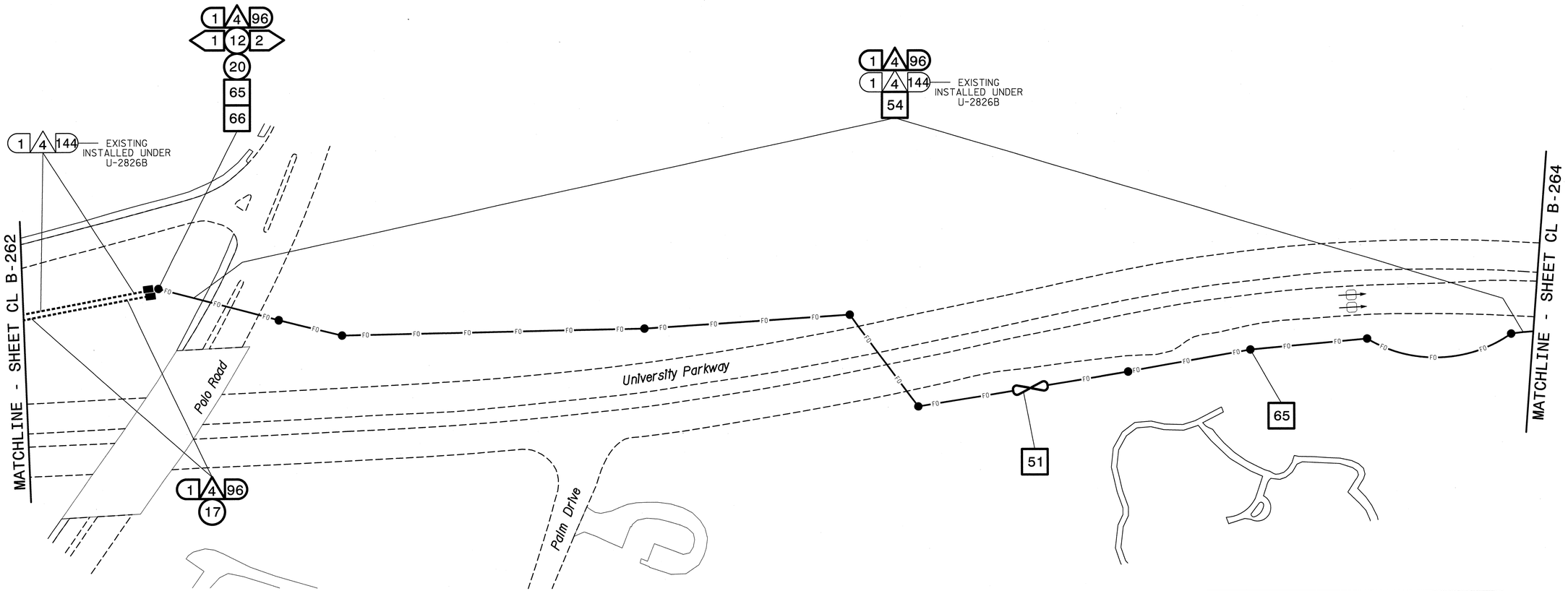
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-262.dgn

13-MAR-2013 15:03
O:\Transportation\Traffic\Cur*\100022112 Winston Salem Sig Sys\CL*\Phase B\CL B-262.dgn
33853

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-263



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

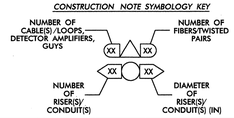
NOTES:
1. UNLESS OTHERWISE NOTED:
   - OVERLASH NEW FIBER OPTIC CABLE TO EXISTING COMMUNICATIONS CABLE.
   - ATTACH NEW MESSENGER CABLE 40" BELOW POWER.
   - ATTACH ON FRONT SIDE (FS) OF POLE.
2. SEAL ALL CONDUIT ENDS WITH DUCT AND CONDUIT SEALER, AT ALL JUNCTION BOX/CABINET ENTRANCES.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT
YYY REFERENCE POINT
XXX DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY



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

Prepared for the Offices of:
Transportation Mobility and Safety Division
North Carolina Department of Transportation
Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LW Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

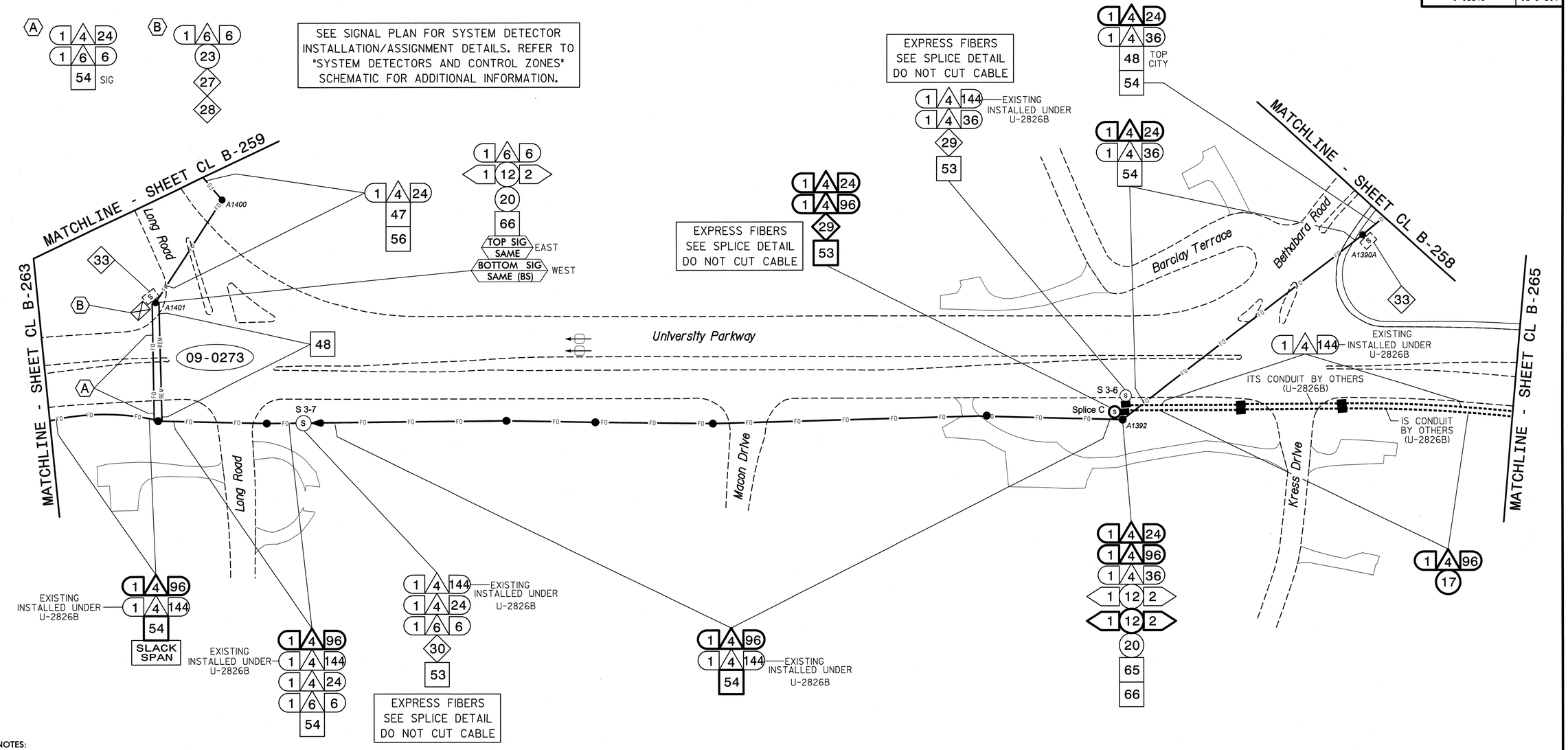
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-263.dgn

13-MAR-2013 15:03
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-263.dgn
13853

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-264



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA	
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED	
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO	
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS	
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND	
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND	
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND	
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS	
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY	
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED	
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED	
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH	

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT
XXX DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of: Transportation Mobility and Safety Division, State of North Carolina, Department of Transportation, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

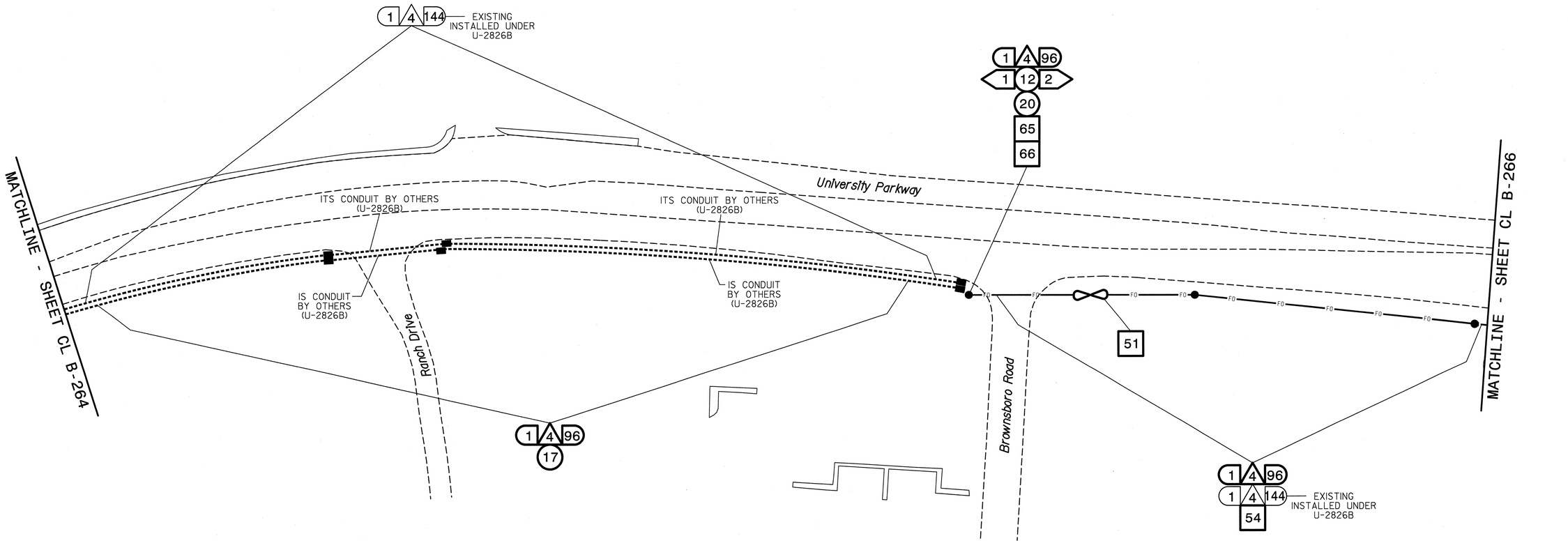
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3/22/13
SIGNATURE DATE

CADD Filename: CL B-264.dgn

13-MAR-2013 15:03
D:\#Transportation\Traffic\Curr\#100022712 Winston Salem Sig Sys\#CL_#Phase B\#CL B-264.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-265



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

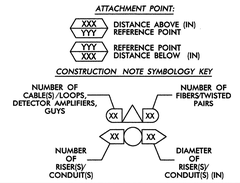
1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL–SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER–OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

XXX / YYY — DISTANCE ABOVE (IN) REFERENCE POINT

YYY / XXX — REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY



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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE: March 2013 REVIEWED BY: MB Toth

PREPARED BY: JAW/AJD REVIEWED BY: LW Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

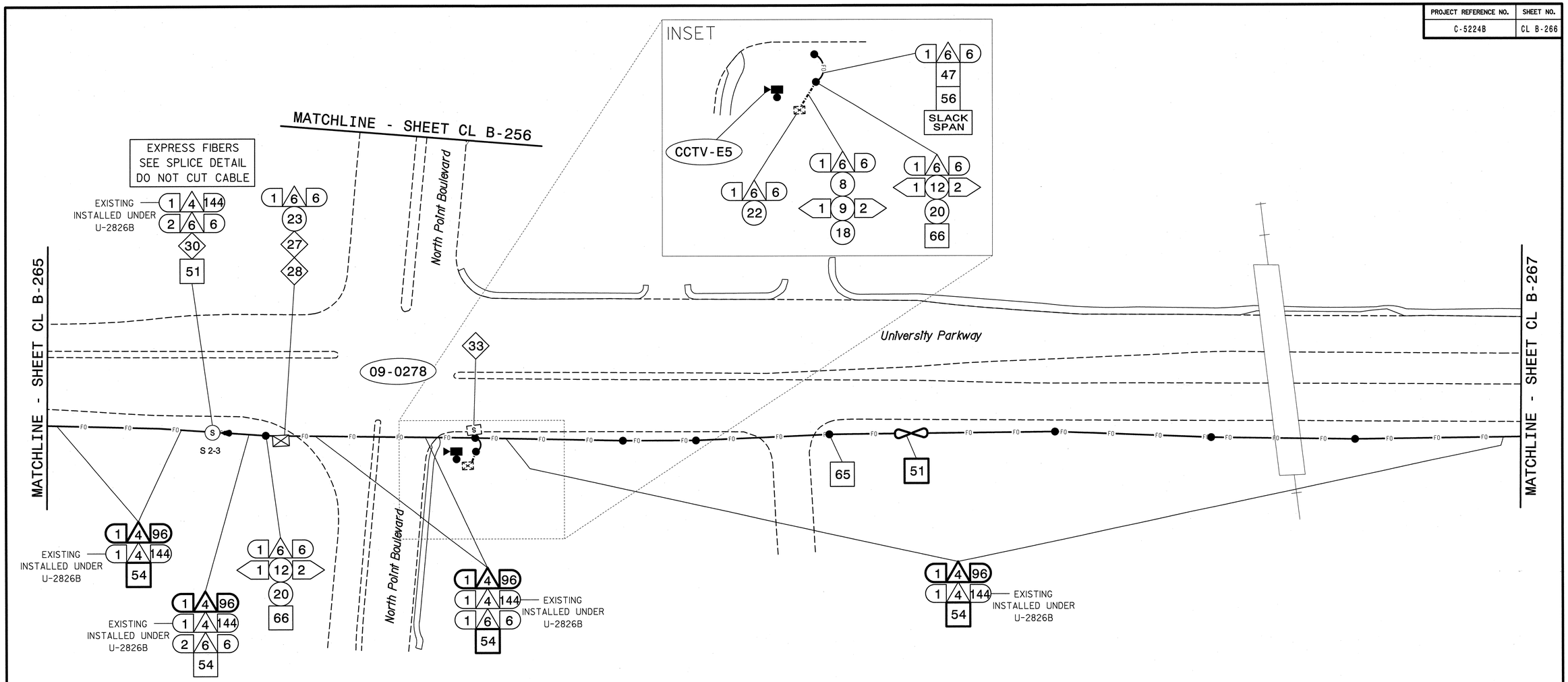
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

SIGNATURE Lisa M. Moon DATE 3-22-13

CADD Filename: CL B-265.dgn

13-MAR-2013 15:03
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-265.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-266



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS/ DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LW Moon

REVISIONS	INIT.	DATE

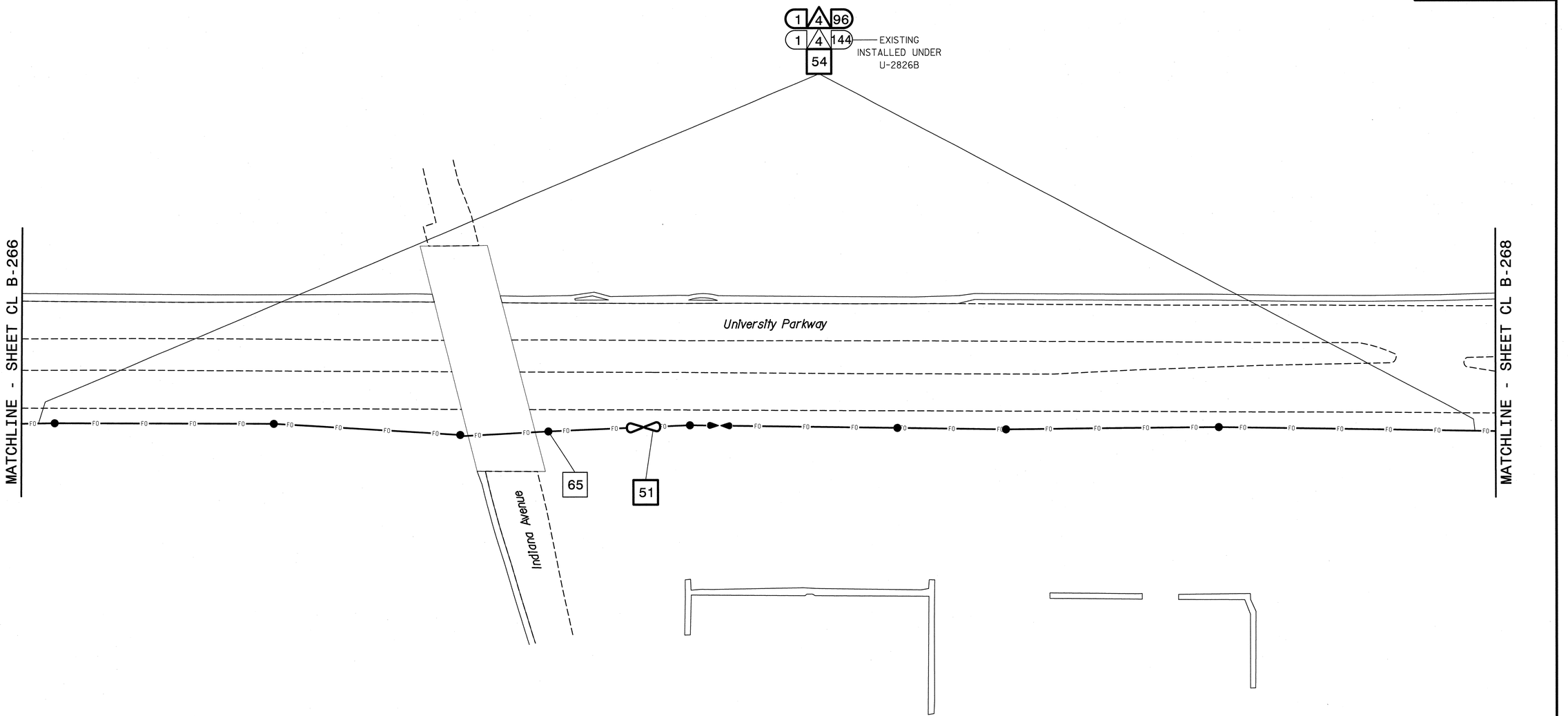
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-266.dgn

13-MAR-2013 16:22
D:\Transportation\Traffic\Curr\1000227\2 Winston Salem Sig Sys\CL\Phase B\CL B-266.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-267



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL–SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER–OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT
YYY REFERENCE POINT
XXX DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

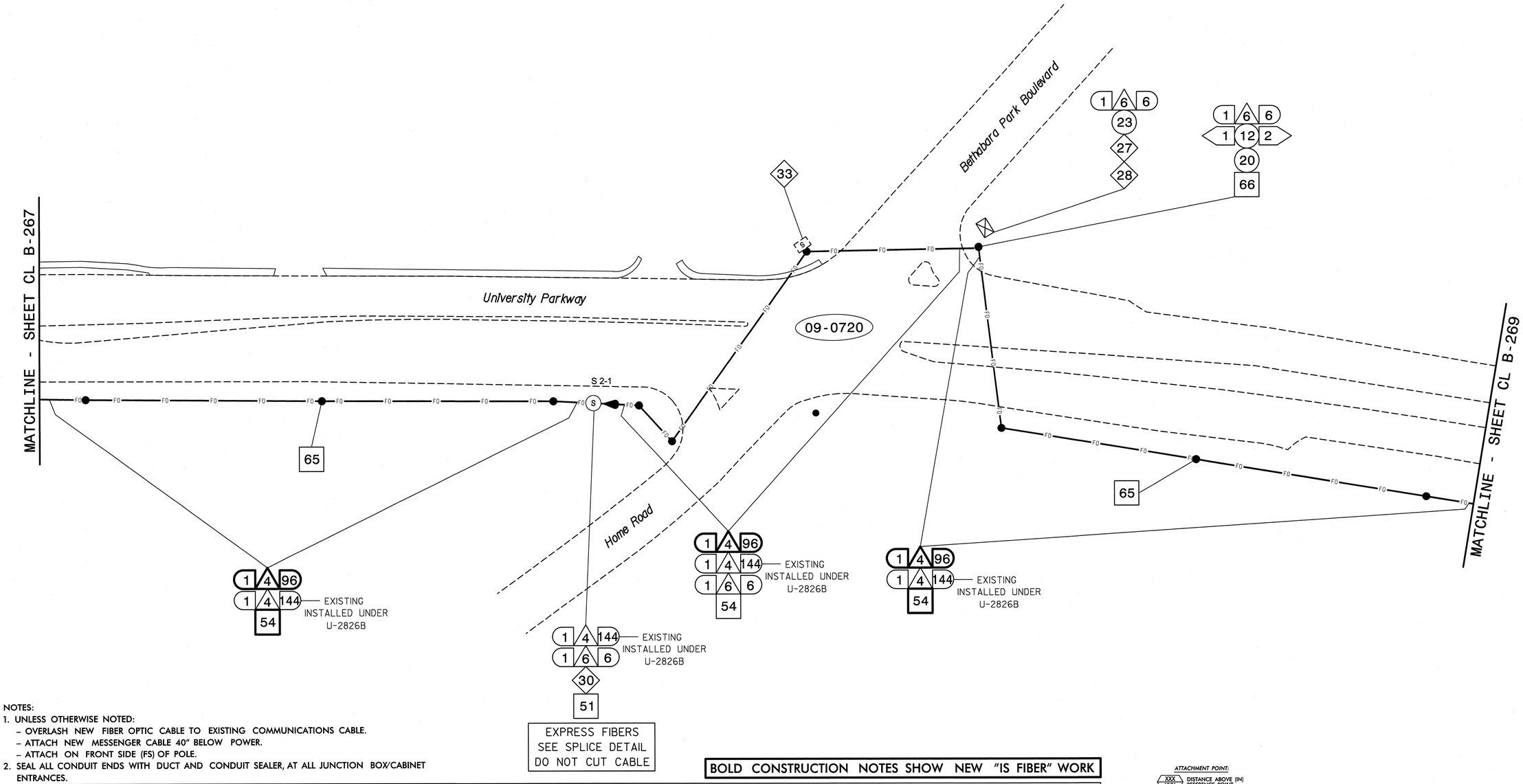
REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE DATE 3-22-13
CADD Filename: CL B-267.dgn

13-MAR-2013 16:22
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL Phase B\CL B-267.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-268



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

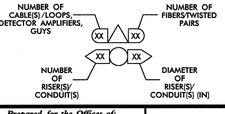
1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

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

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

CONSTRUCTION NOTE SYMBOLOGY KEY



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

Prepared for the Offices of:
Transportation Mobility and Safety Division
North Carolina Department of Transportation
Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LW Moon

SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

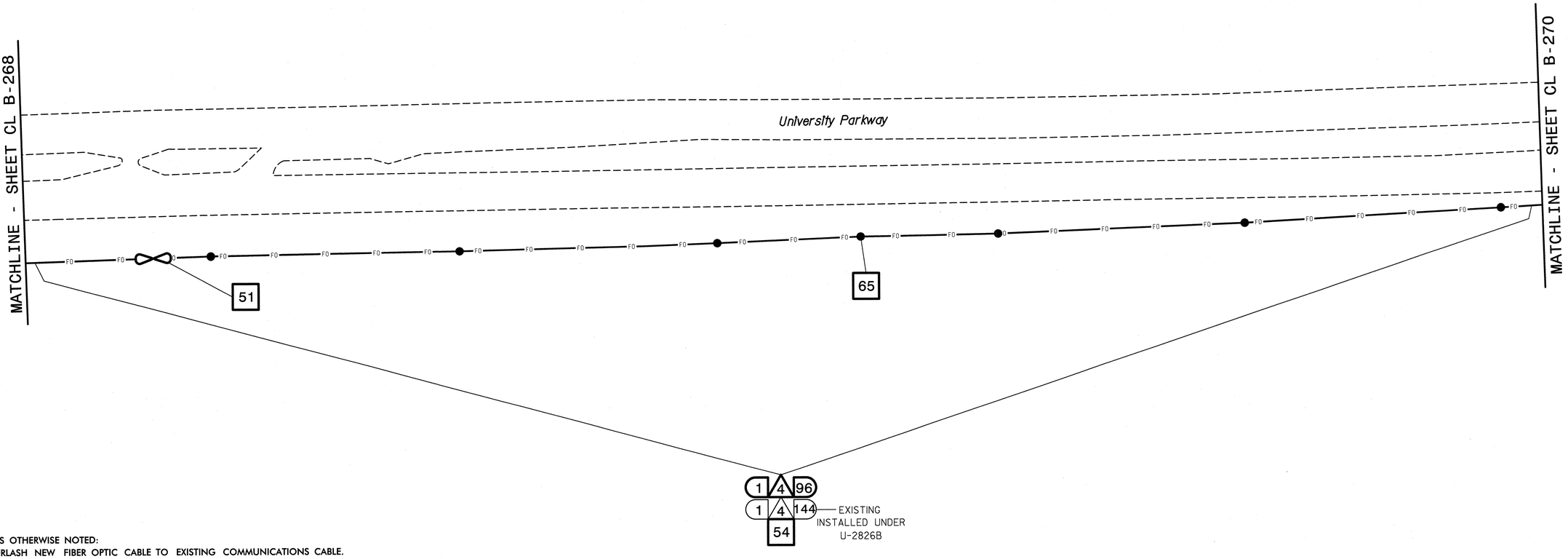
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-27-13
SIGNATURE DATE

CADD Filename: CL B-268.dgn

13-MAR-2013 16:22
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-268.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-269



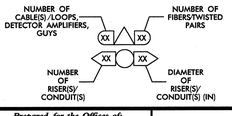
NOTES:
1. UNLESS OTHERWISE NOTED:
   – OVERLASH NEW FIBER OPTIC CABLE TO EXISTING COMMUNICATIONS CABLE.
   – ATTACH NEW MESSENGER CABLE 40" BELOW POWER.
   – ATTACH ON FRONT SIDE (FS) OF POLE.
2. SEAL ALL CONDUIT ENDS WITH DUCT AND CONDUIT SEALER, AT ALL JUNCTION BOX/CABINET ENTRANCES.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE	49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX	50	INSTALL WIRELESS DSL	62	NOT USED
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX	51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX	52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX	53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE	54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE	55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY	56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY	57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY	58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE	59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX / YYY — DISTANCE ABOVE (IN) REFERENCE POINT
YYY / XXX — REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY



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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09	Forsyth County		Winston-Salem
PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

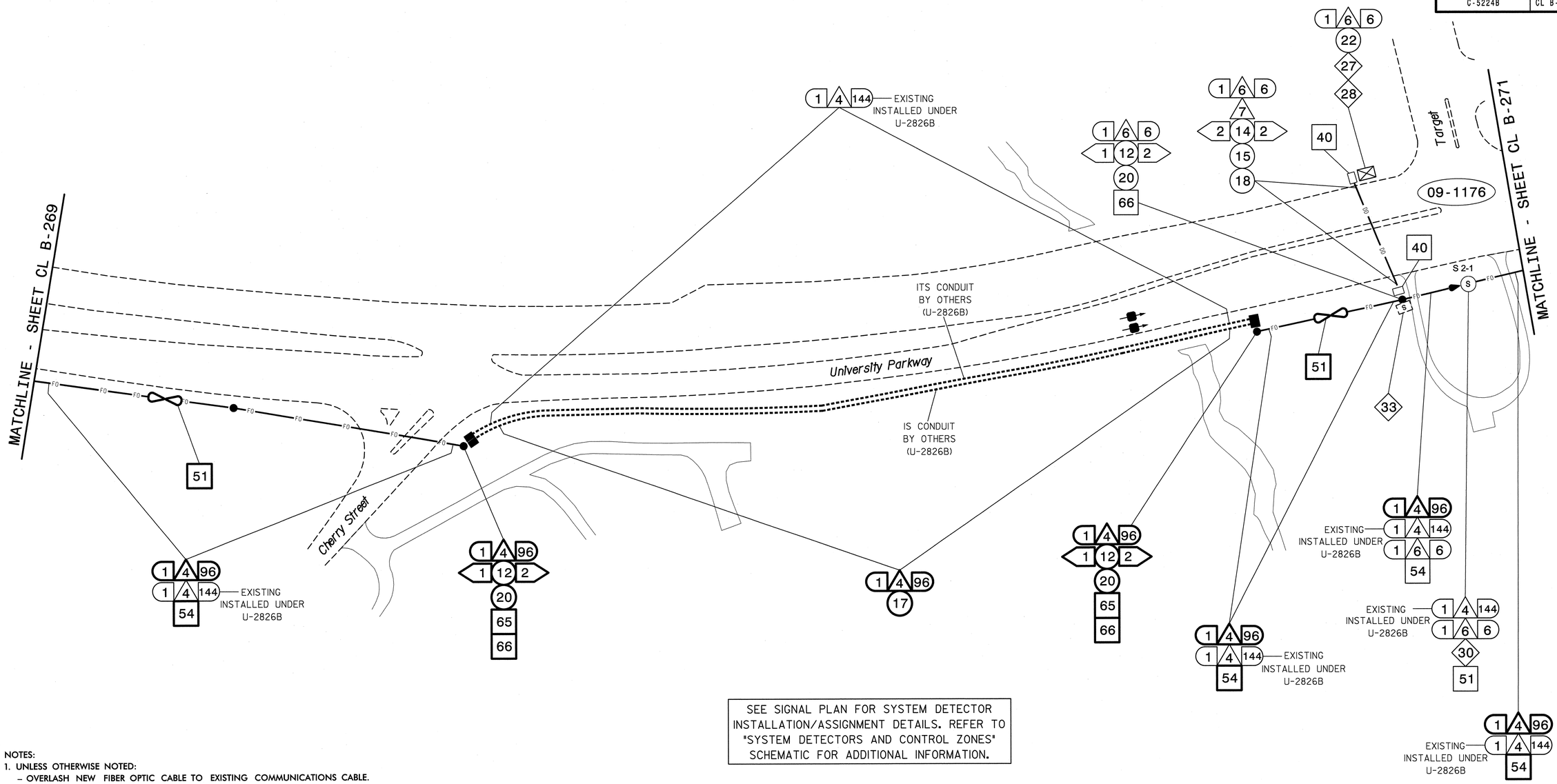
SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LUISA M. MOON
Luisa M. Moon 3-22-13
SIGNATURE DATE
CADD Filename: CL B-269.dgn

13-MAR-2013 16:22
D:\Transportation\Traffic\Cur#100022112 Winston Salem Sig Sys\CL#Phase B#CL B-269.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-270



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE	49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX	50	INSTALL WIRELESS DSL	62	NOT USED
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX	51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX	52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX	53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE	54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE	55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY	56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY	57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY	58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE	59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

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 — NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of: NCDOT Transportation Mobility and Safety Division, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

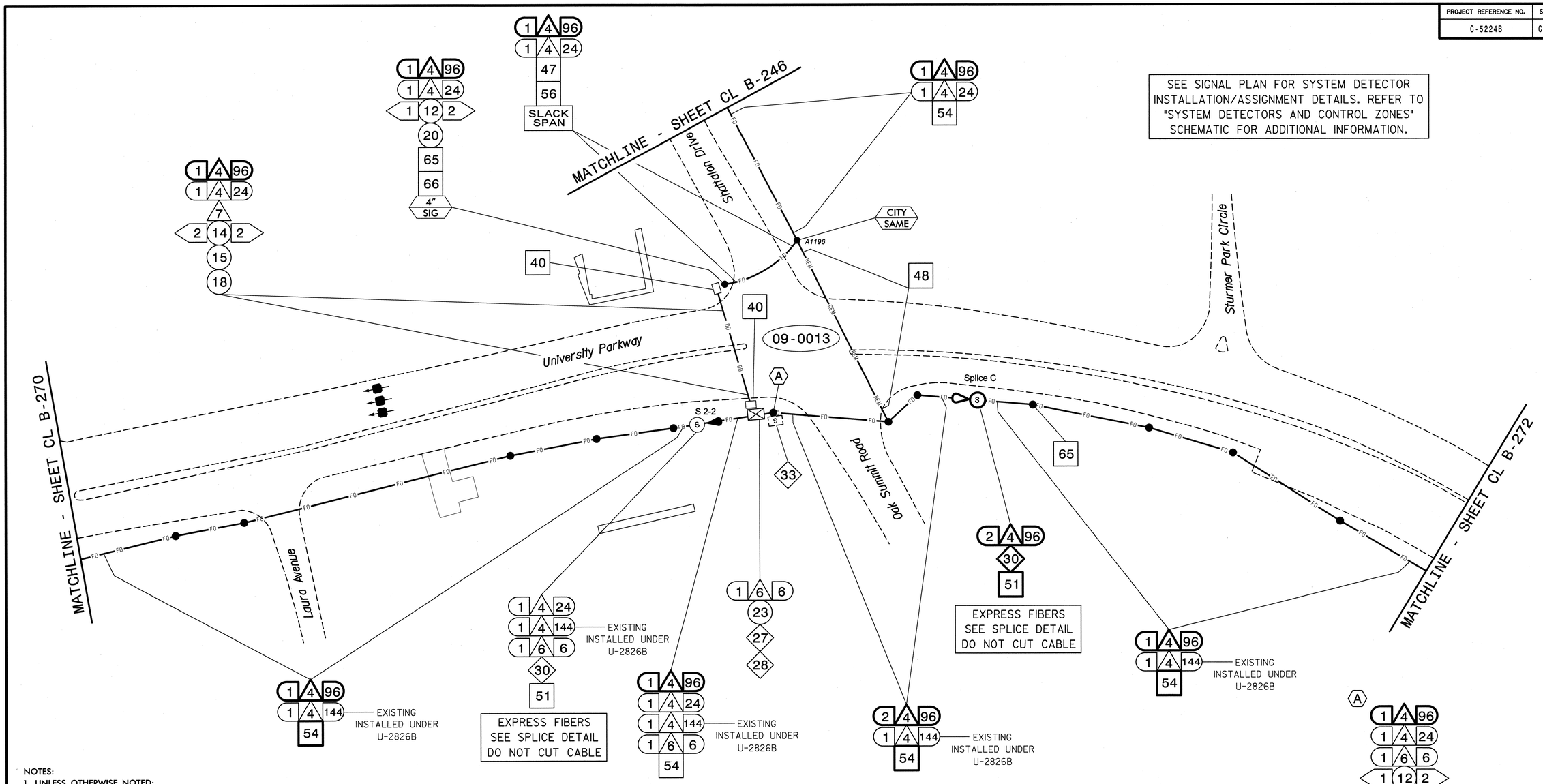
SEAL — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022516 LISA M. MOON
SIGNATURE Lisa M. Moon 3/22/13 DATE

CADD Filename: CL B-270.dgn

13-MAR-2013 16:22
D:\#Transportation\Traffic\Curr\#100022712 Winston Salem Sig Sys\#CL\#Phase B\#CL B-270.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-271

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



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT
YYY REFERENCE POINT
XXX DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, CUTS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LW Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE 3-22-13 DATE
CADD Filename: CL B-271.dgn

13-MAR-2013 16:22
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL B\Phase B\CL B-271.dgn
13933

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-272

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

MATCHLINE - SHEET CL B-271

MATCHLINE - SHEET CL B-273

Hanes Mill Road

University Parkway

University Parkway

WS Grand Theater Entrance

Robin Wood Lane

09-0611

09-0650

S 2-3

ITS CONDUIT BY OTHERS (U-2826B)

IS CONDUIT BY OTHERS (U-2826B)

EXISTING INSTALLED UNDER U-2826B

EXPRESS FIBERS SEE SPLICE DETAIL DO NOT CUT CABLE

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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI–DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
NCDOT Integrated Mobility and Logic Division
Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE: March 2013 REVIEWED BY: MB Toth

PREPARED BY: JAW/AJD REVIEWED BY: LM Moon

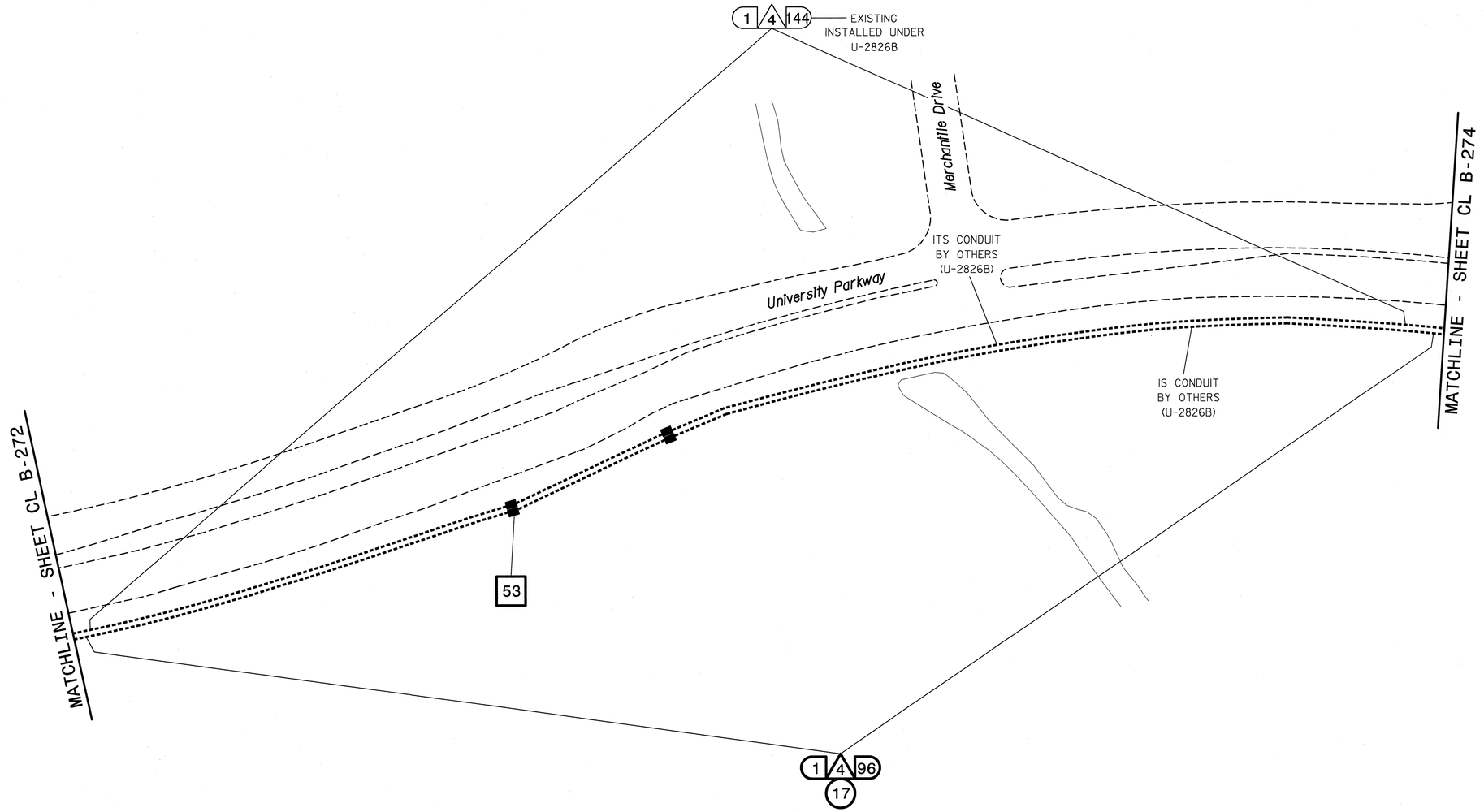
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022516 LISA M. MOON
SIGNATURE DATE 3-22-13

CADD Filename: CL B-272.dgn

13-MAR-2013 16:22
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-272.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-273



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.

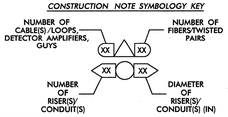
BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY
YYY REFERENCE POINT DISTANCE BELOW (IN)
XXX

CONSTRUCTION NOTE SYMBOLOGY KEY



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

Prepared for the Offices of:

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

750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

SEAL

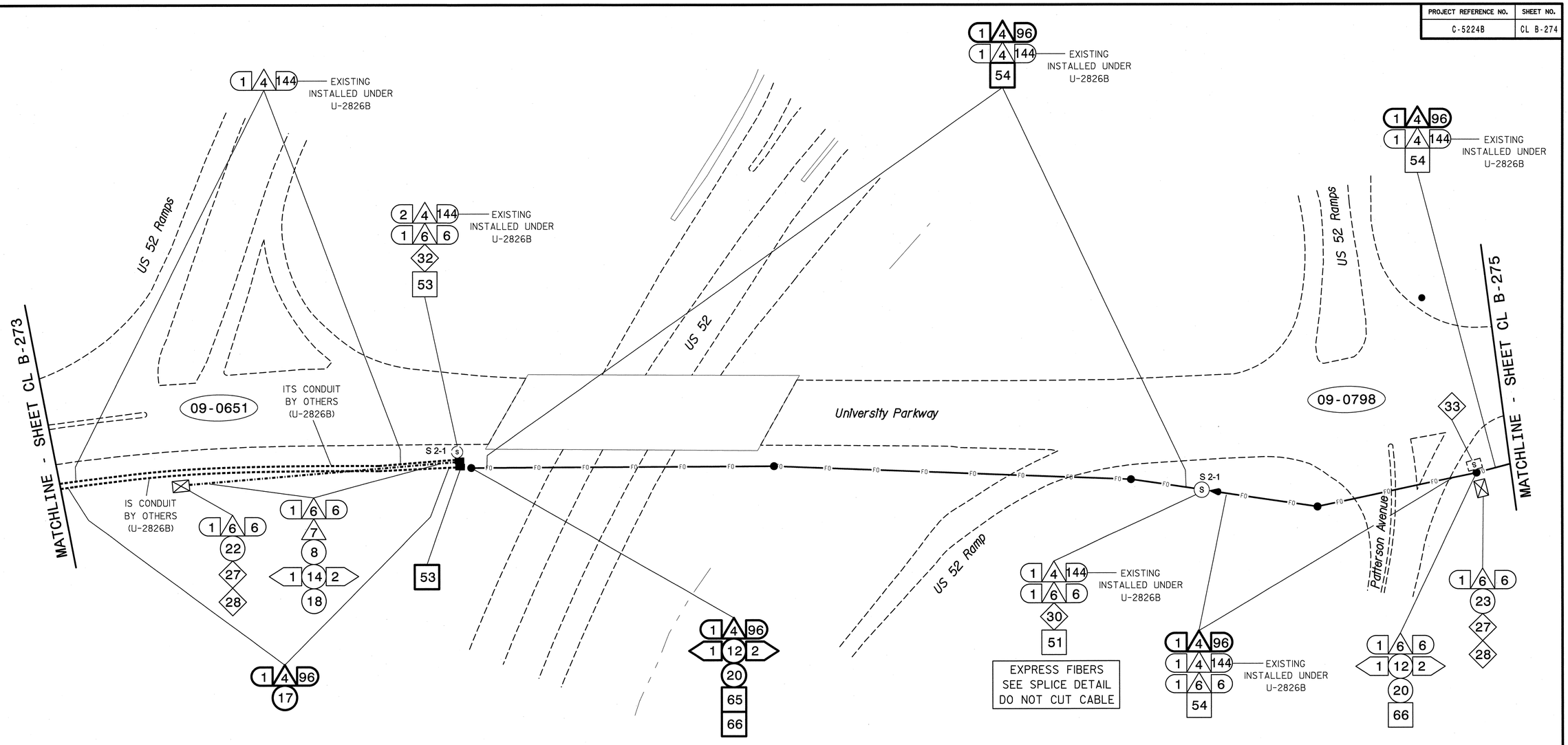
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

SIGNATURE DATE 3-22-13

CADD Filename: CL B-273.dgn

13-MAR-2013 16:22
02:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-273.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-274



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) (SNOW SHOE(S)) AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

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 — NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE: March 2013 REVIEWED BY: MB Toth

PREPARED BY: JAW/AJD REVIEWED BY: LM Moon

SCALE 0 50 1"=50'

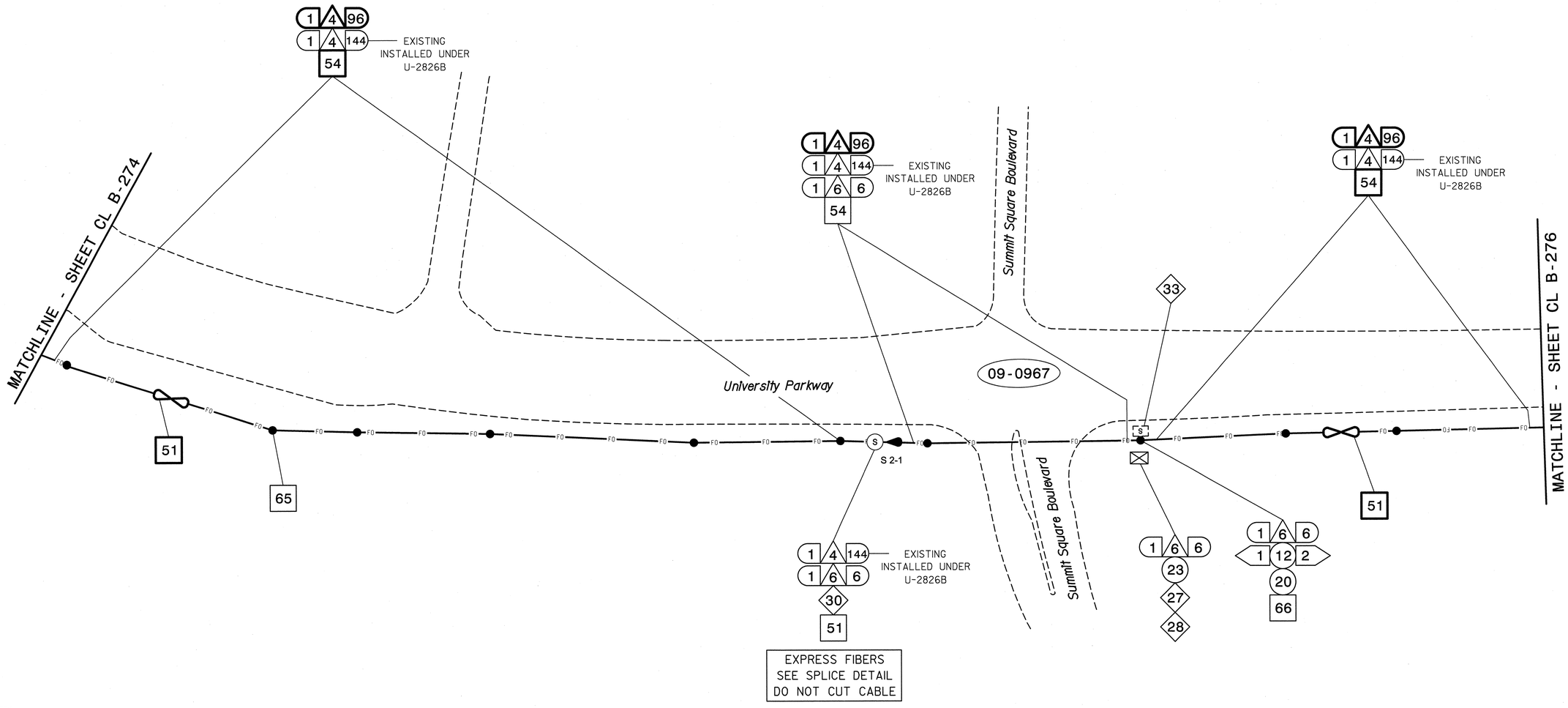
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022516 LISA M. MOON
SIGNATURE Lisa M Moon 3-22-13 DATE

CADD Filename: CL B-274.dgn

13-MAR-2013 16:22
U:\Transportation\Traffic\Curr*\100022712 Winston Salem Sig Sys*\CL*\Phase B*\CL B-274.dgn
13533

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-275



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE	49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX	50	INSTALL WIRELESS DSL	62	NOT USED
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX	51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX	52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX	53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE	54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE	55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY	56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY	57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY	58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE	59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

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 — NUMBER OF FIBERS/TWISTED PAIRS — NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

SCALE 0 50 1"=50'

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

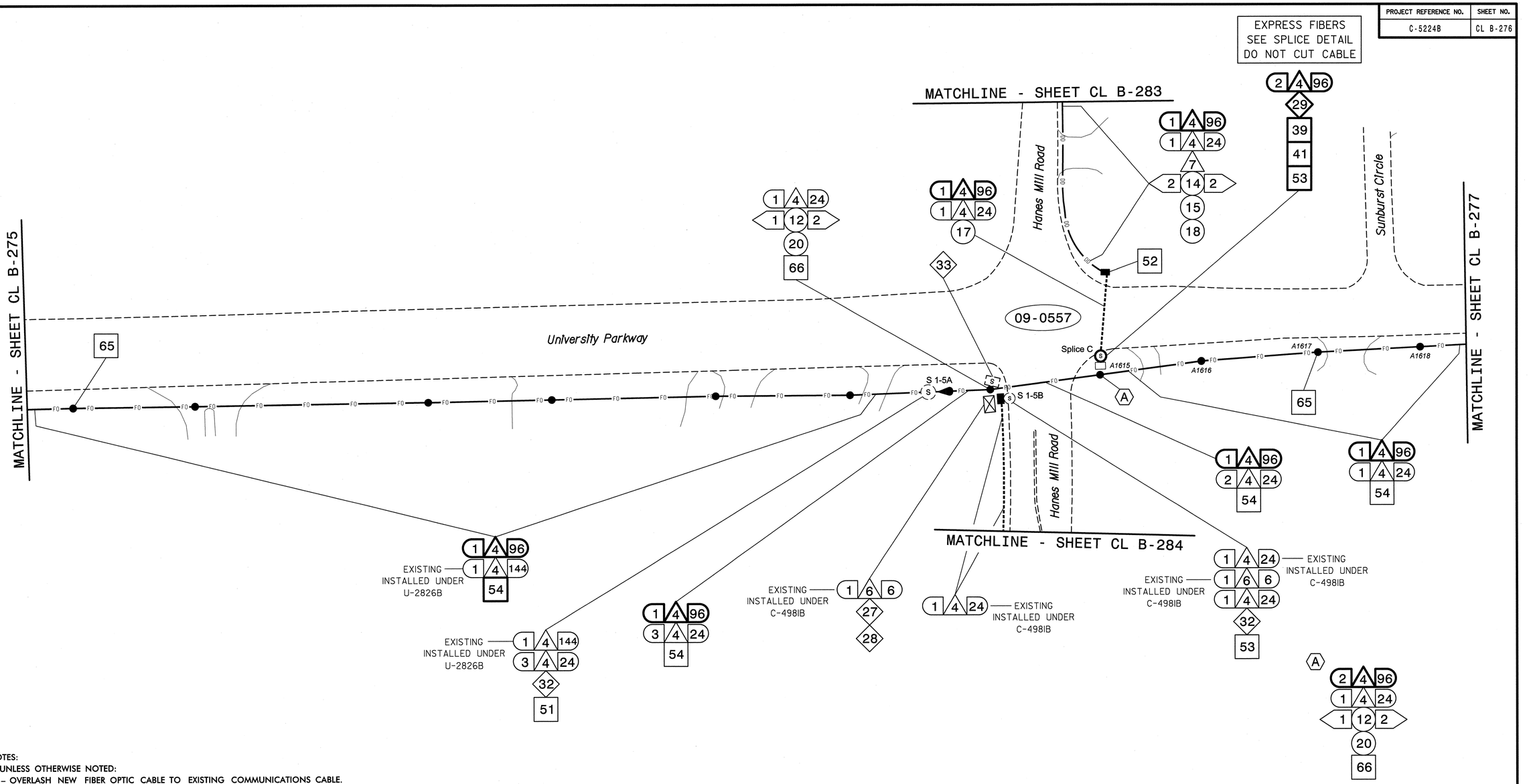
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-275.dgn

13-MAR-2013 16:22
O:\Transportation\Traffic\Curr\100022112 Winston Salem Sig Sys\CL\Phase B\CL B-275.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-276

EXPRESS FIBERS
SEE SPLICE DETAIL
DO NOT CUT CABLE



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS — NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

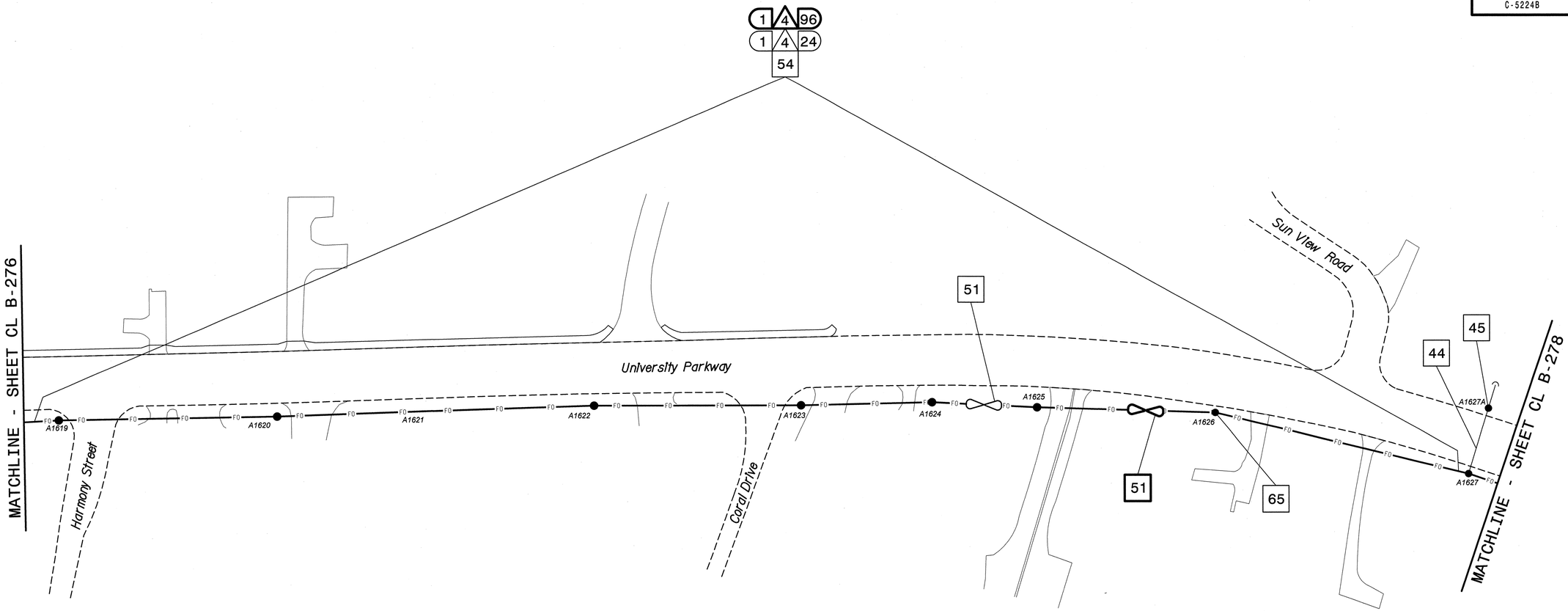
SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M Moon 3-22-13
SIGNATURE DATE
CADD Filename: CL B-276.dgn

13-MAR-2013 16:22
C:\Transportation\Traffic\Curr#100022712 Winston Salem Sig Sys\CL#Phase B\CL B-276.dgn
13813

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-277



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

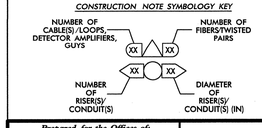
1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

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

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

CONSTRUCTION NOTE SYMBOLOGY KEY



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

Prepared for the Offices of:

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

750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SEAL

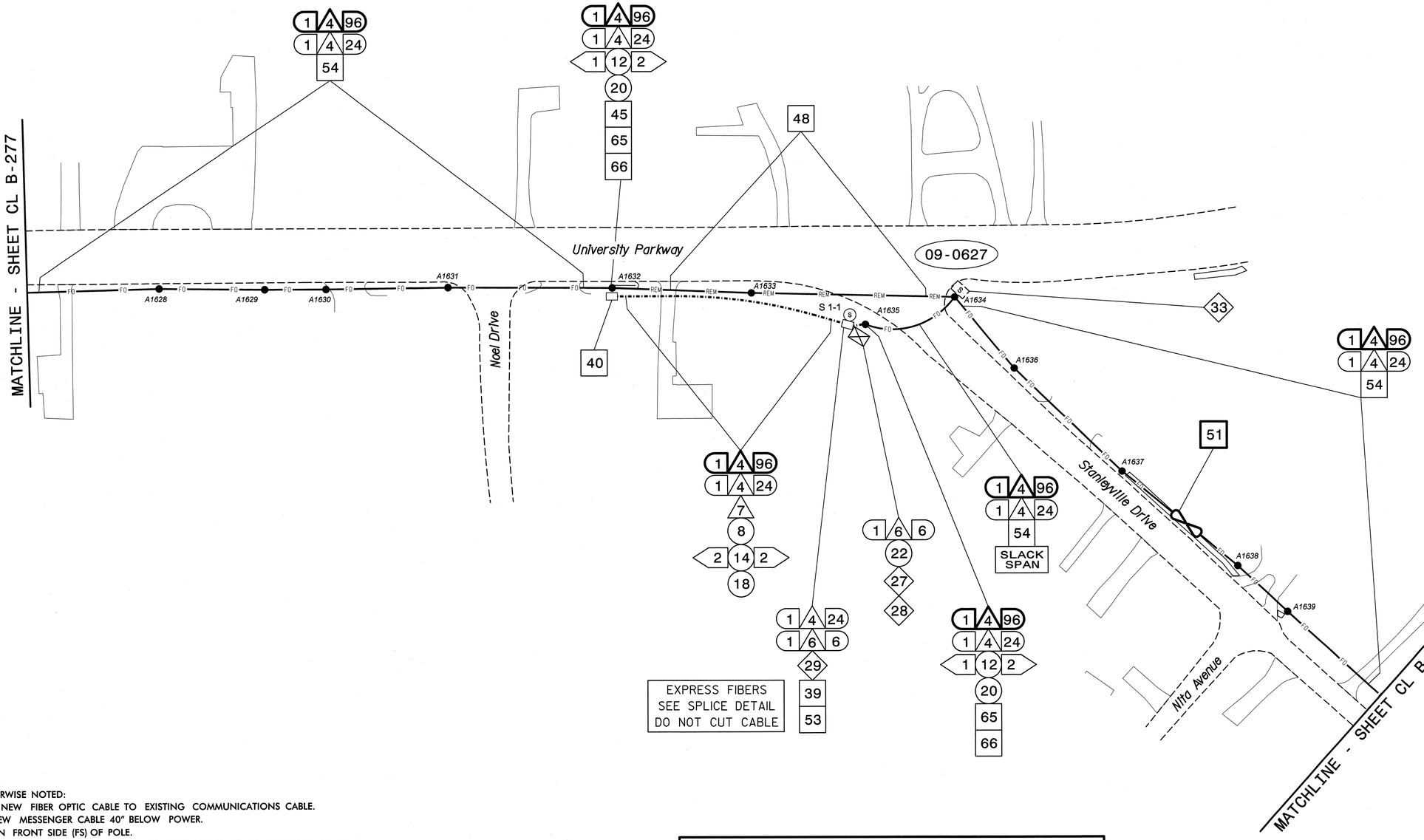
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-277.dgn

13-MAR-2013 16:22
D:*transportation\traffic\Curr*100022712 Winston Salem Sig Sys*CL*Phase B*CL B-277.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-278



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL–SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER–OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT
XXX REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LW Moon

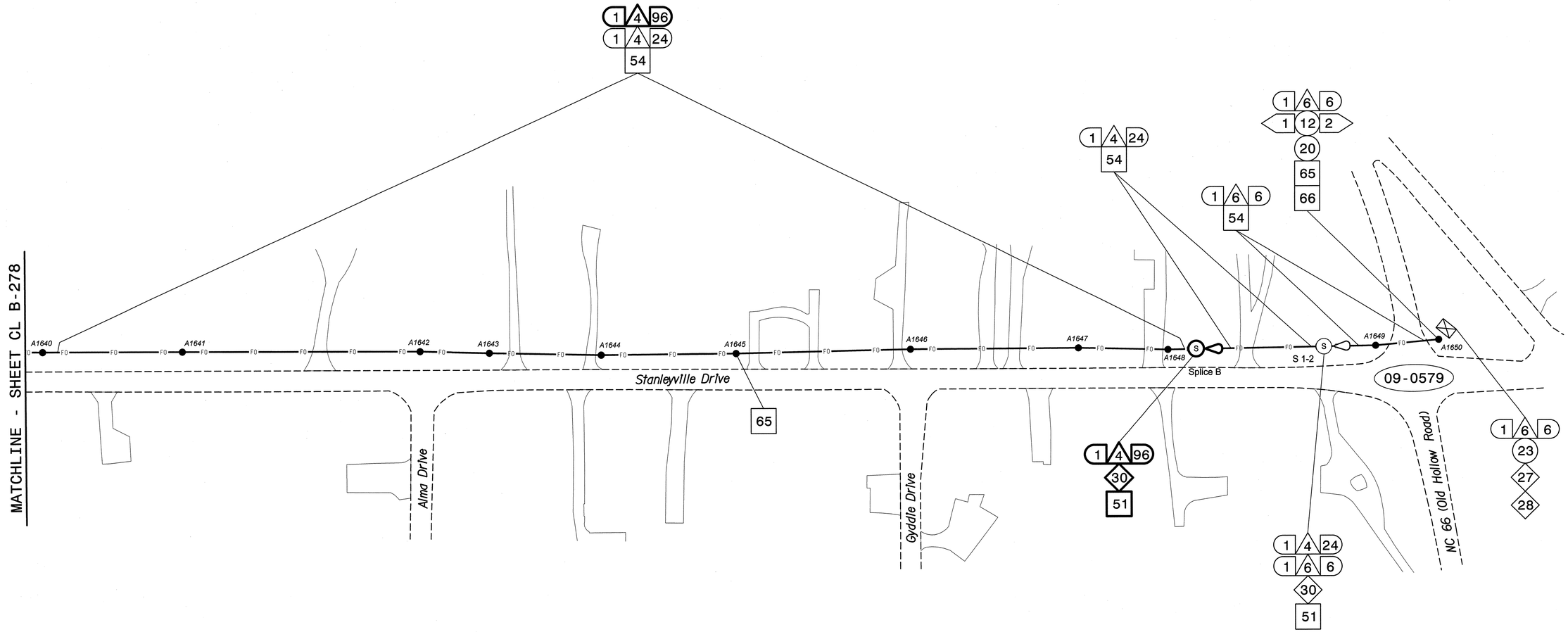
SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE DATE 3-22-13
CADD Filename: CL B-278.dgn

13-MAR-2013 16:22
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-278.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-279



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS — NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

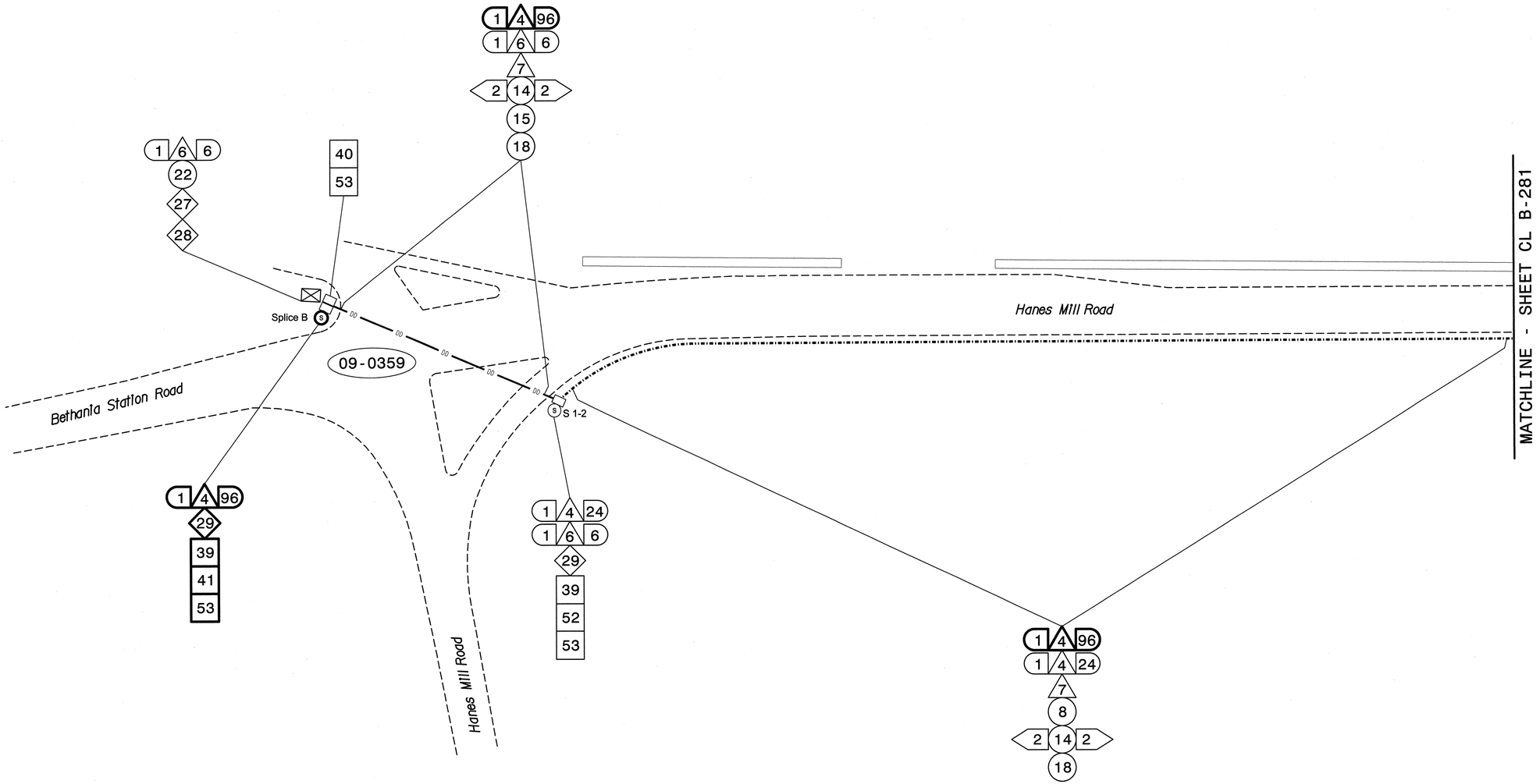
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-279.dgn

13-MAR-2013 16:22
D:\Transportation\Traffic\Curr#100022712 Winston Salem Sig Sys\CL#Phase B\CL B-279.dgn
13533

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-280



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE	49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX	50	INSTALL WIRELESS DSL	62	NOT USED
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX	51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX	52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX	53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE	54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE	55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY	56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY	57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY	58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE	59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS — NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LW Moon

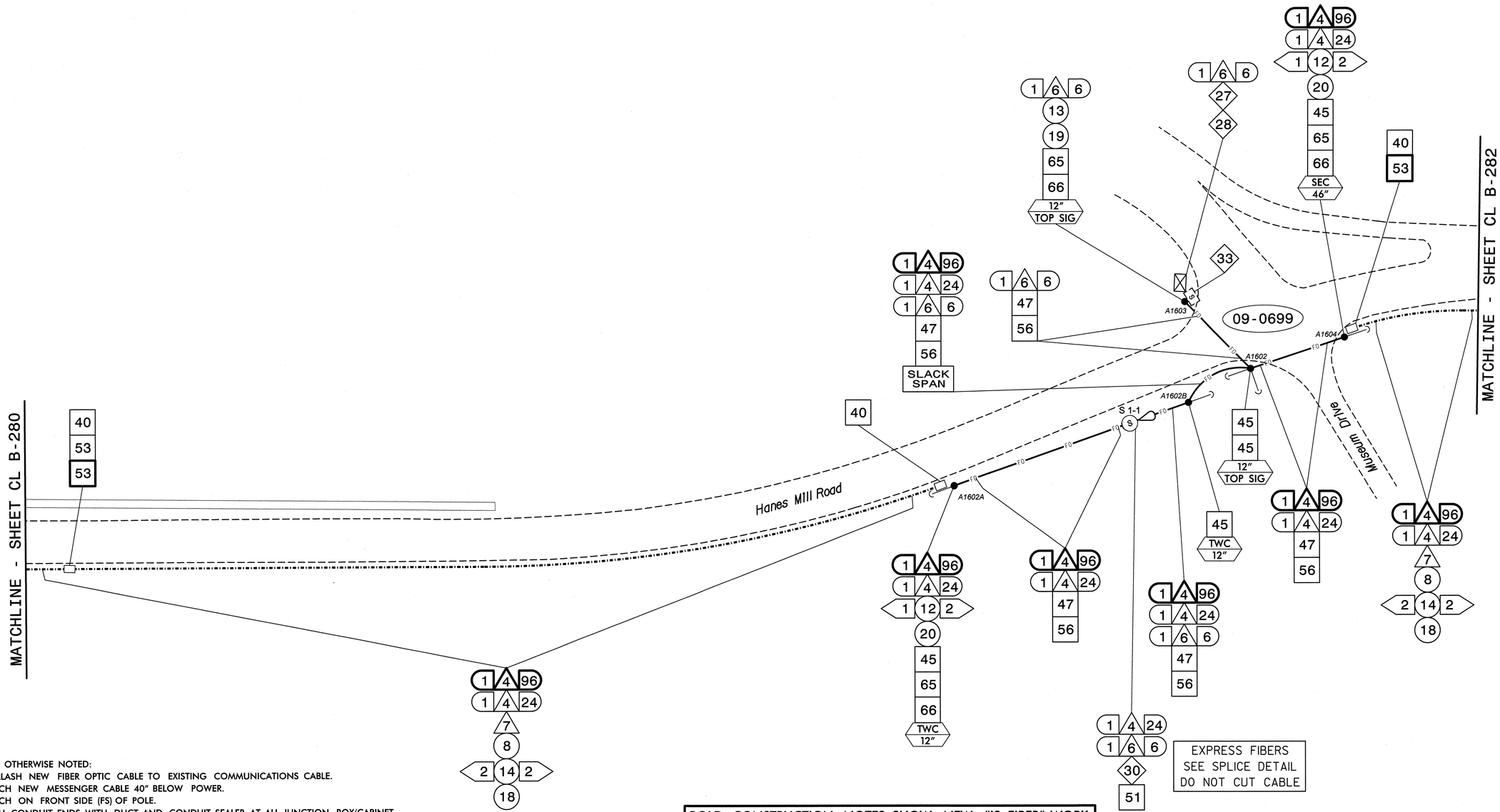
REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE Lisa M. Moon 3-22-13 DATE
CADD Filename: CL B-280.dgn

13-MAR-2013 16:22
D:\#Transportation\Traffic\Current\100022112 Winston Salem Sig Sys\#CL\#Phase B\#CL B-280.dgn
33853

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-281



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
North Carolina Department of Transportation, Mobility and Safety Division, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

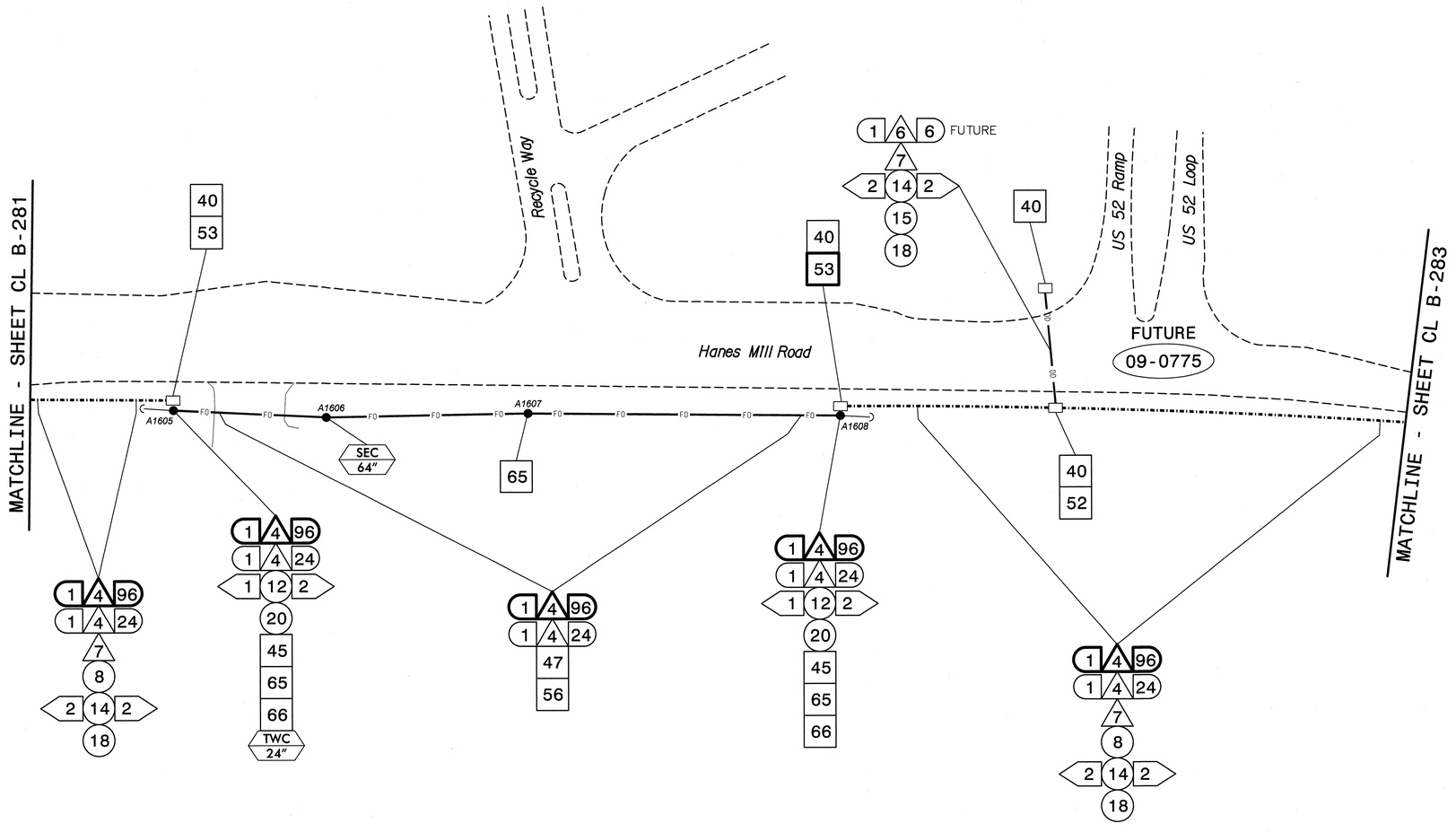
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE Lisa M. Moon 3-22-13 DATE

CADD Filename: CL B-281.dgn

13-MAR-2013 16:22
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-281.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-282



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

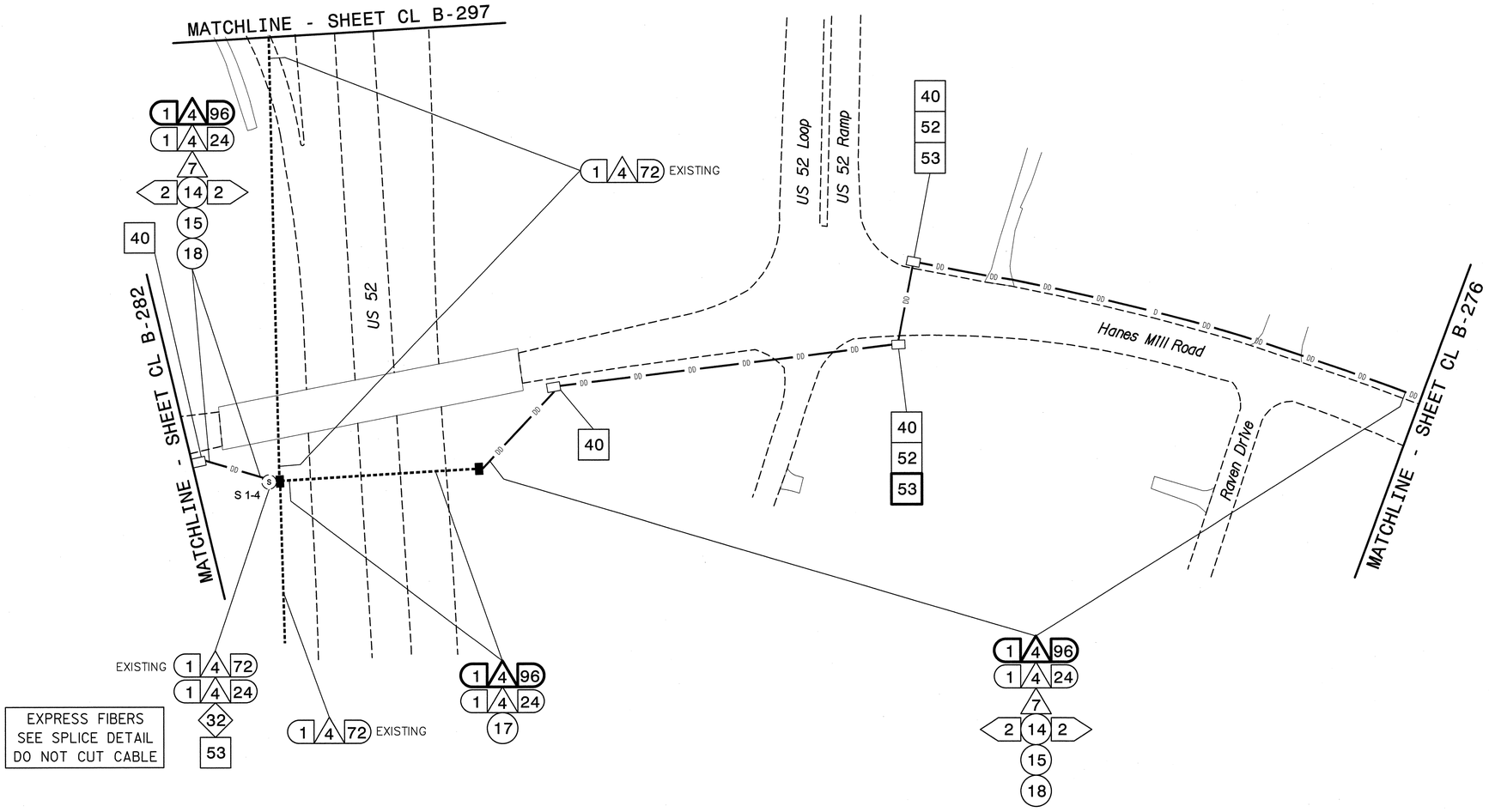
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-282.dgn

13-MAR-2013 16:22
O:\Transportation\Traffic\Current\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-282.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-283



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE	49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX	50	INSTALL WIRELESS DSL	62	NOT USED
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX	51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX	52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX	53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE	54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE	55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY	56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY	57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY	58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE	59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

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
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of: Traffic Engineering Branch, Intelligent Transportation Systems, NCDOT Transportation Mobility and Safety Division
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

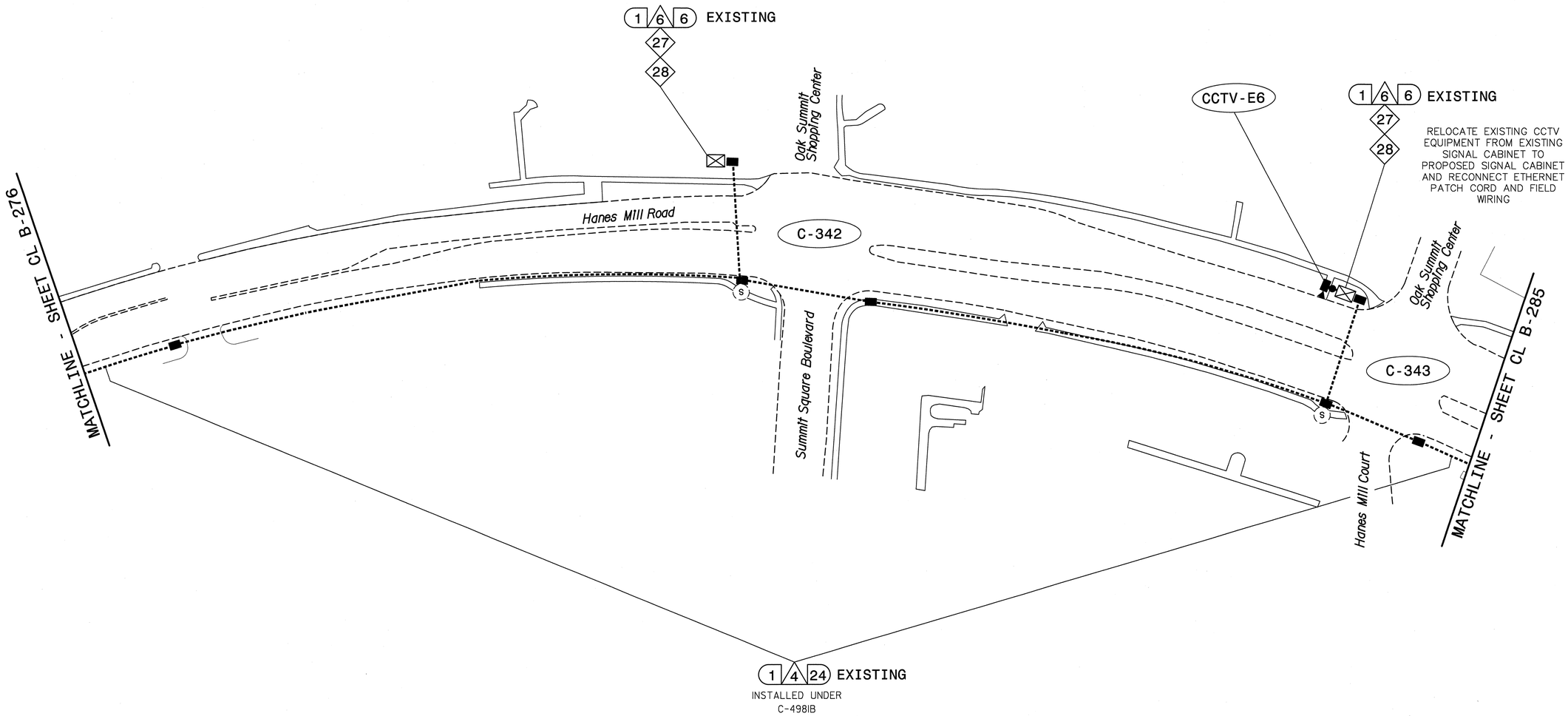
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-283.dgn

13-MAR-2013 16:22
D:\Transportation\Traffic\Curr\1000022712 Winston Salem Sig Sys\CL\Phase B\CL B-283.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-284



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE	49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI–DIRECTIONAL ANTENNA
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX	50	INSTALL WIRELESS DSL	62	NOT USED
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL–SIZED JUNCTION BOX	51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX	52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX	53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
6	INSTALL FIBER–OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE	54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE	55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY	56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY	57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY	58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE	59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

XXX — DISTANCE ABOVE (IN) REFERENCE POINT

YYY — REFERENCE POINT DISTANCE BELOW (IN) XXX

CONSTRUCTION NOTE SYMBOLOGY KEY

NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS — NUMBER OF FIBERS/TWISTED PAIRS

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

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

Prepared for the Offices of:

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

750 Greenfield Parkway, Garner, NC 27529

N

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

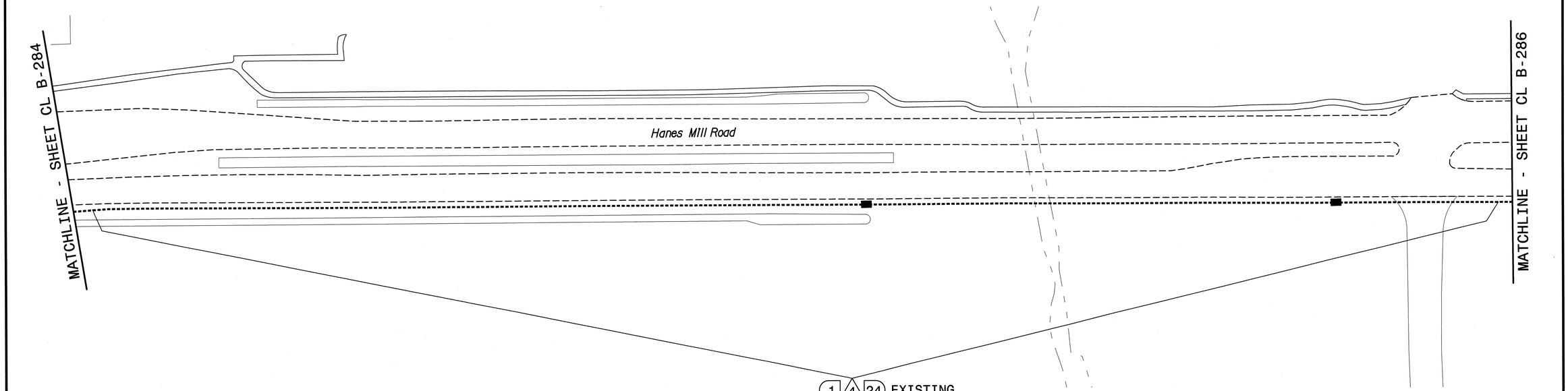
Lisa M. Moon 3-22-13

SIGNATURE DATE

CADD Filename: CL B-284.dgn

21-MAR-2013 13:48
D:\#Transportation\Traffic\#Curr\#1000022712 Winston Salem Sig Sys\#CL\#Phase B\#CL B-284.dgn
25651

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-285



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.

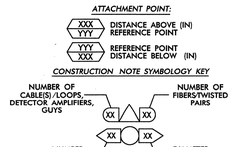
BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE	49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX	50	INSTALL WIRELESS DSL	62	NOT USED
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL–SIZED JUNCTION BOX	51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX	52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX	53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
6	INSTALL FIBER–OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE	54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE	55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY	56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY	57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY	58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE	59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY



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

Prepared for the Offices of:
Transportation Mobility and Safety Division
North Carolina Department of Transportation
Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

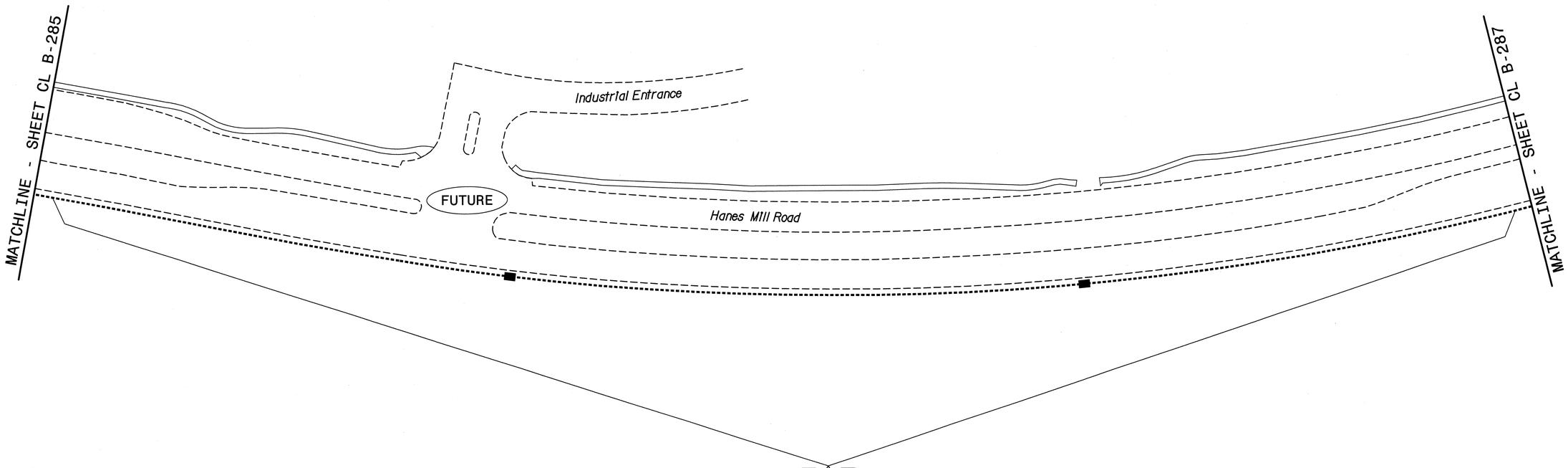
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-285.dgn

13-MAR-2013 16:22
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-285.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-286



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT
YYY REFERENCE POINT
XXX DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LW Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

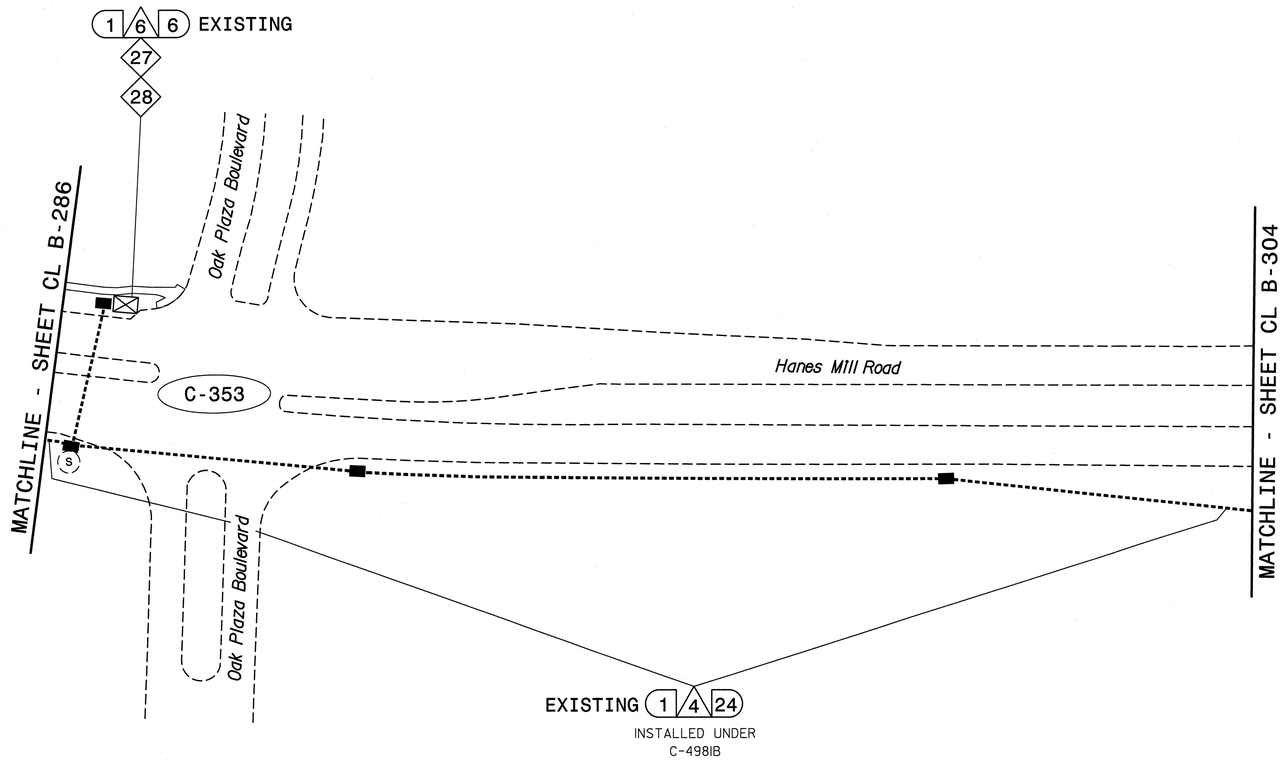
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-286.dgn

13-MAR-2013 16:33
D:\Transportation\Traffic\Curr#100022712 Winston Salem Sig Sys\CL#Phase B#CL B-286.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-287



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

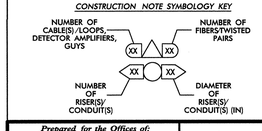
1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E CABLE
4. INSTALL SMFO CABLE
5. INSTALL COAXIAL ANTENNA CABLE
6. INSTALL FIBER-OPTIC DROP CABLE
7. INSTALL TRACER WIRE
8. INSTALL 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

XXX / YYY — DISTANCE ABOVE (IN) REFERENCE POINT

YYY / XXX — REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY



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

Prepared for the Offices of:

Transportation Mobility and Safety Division
TRAFFIC ENGINEERING BRANCH
DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems

750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 | Forsyth County | Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LW Moon

SCALE: 0 50 — 1"=50'

REVISIONS	INIT.	DATE

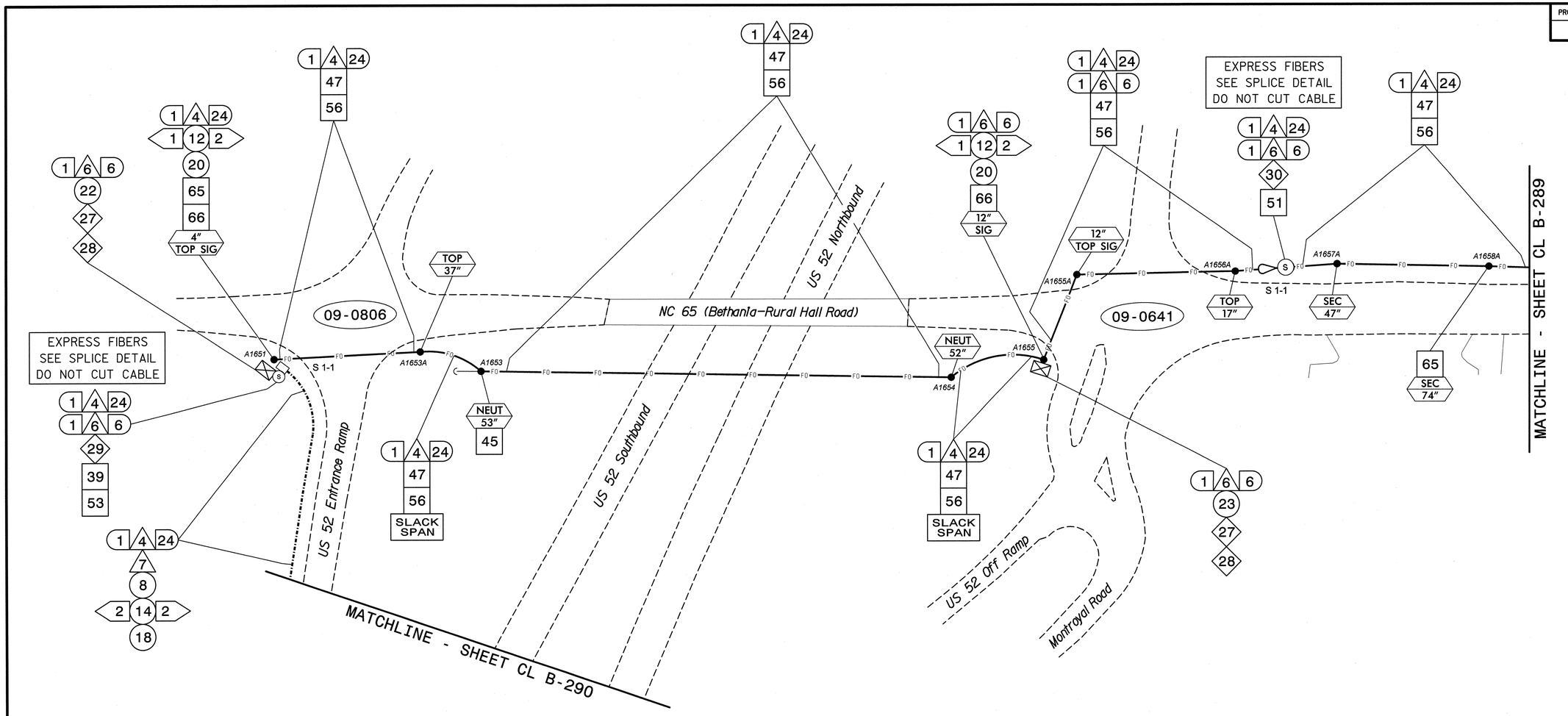
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-287.dgn

26-MAR-2013 13:55
D:\#Transportation\Traffic\#Curr\#100022112 Winston Salem Sig Sys\#CL\#Phase B\#CL B-287.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-288



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA	
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED	
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO	
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS	
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND	
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND	
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND	
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS	
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY	
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED	
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED	
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH	

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 — NUMBER OF FIBERS/TWISTED PAIRS — NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of: Transportation Mobility and Safety Division, North Carolina Department of Transportation, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

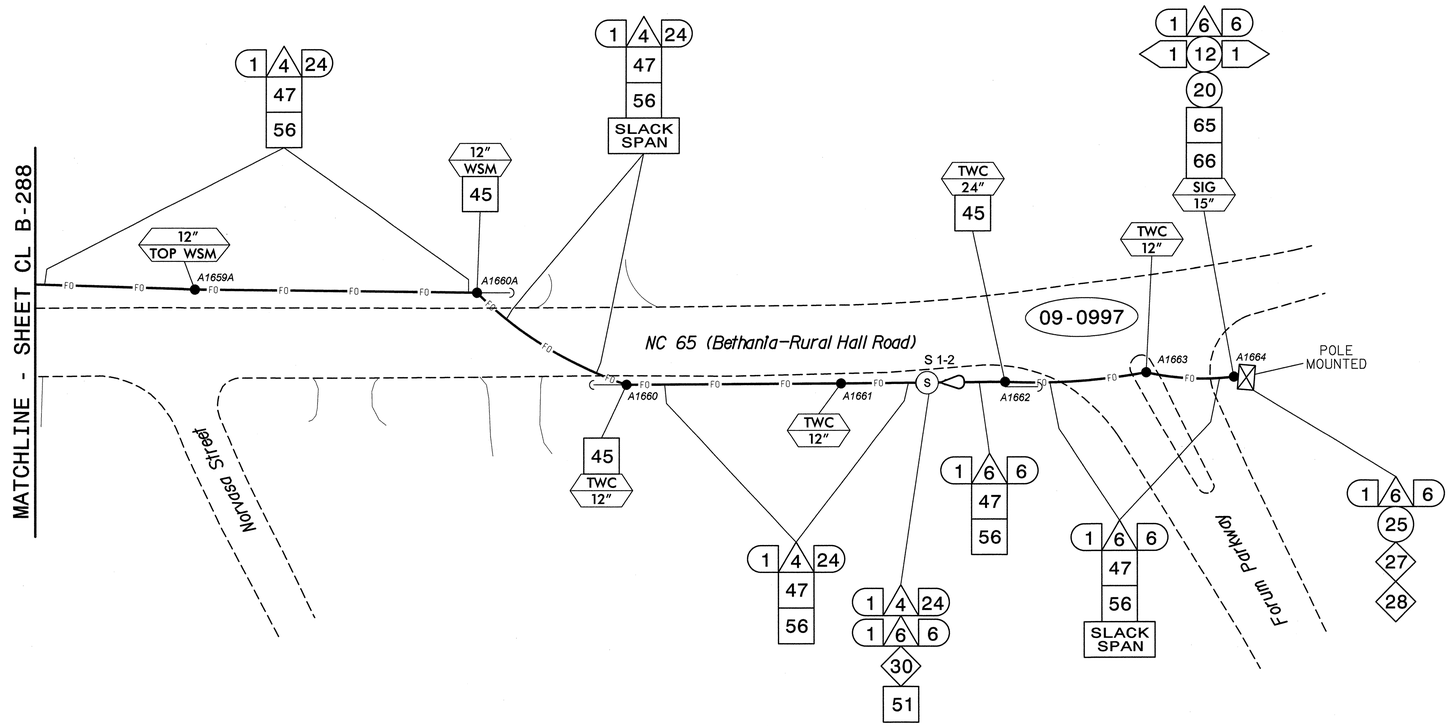
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M Moon 3/22/13
SIGNATURE DATE

CADD Filename: CL B-288.dgn

14-MAR-2013 09:15
D:\Transportation\Traffic\Curr#100022712 Winston Salem Sig Sys#CL#Phase B#CL B-288.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-289



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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 — NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
North Carolina Department of Transportation — Transportation Mobility and Safety Division — Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

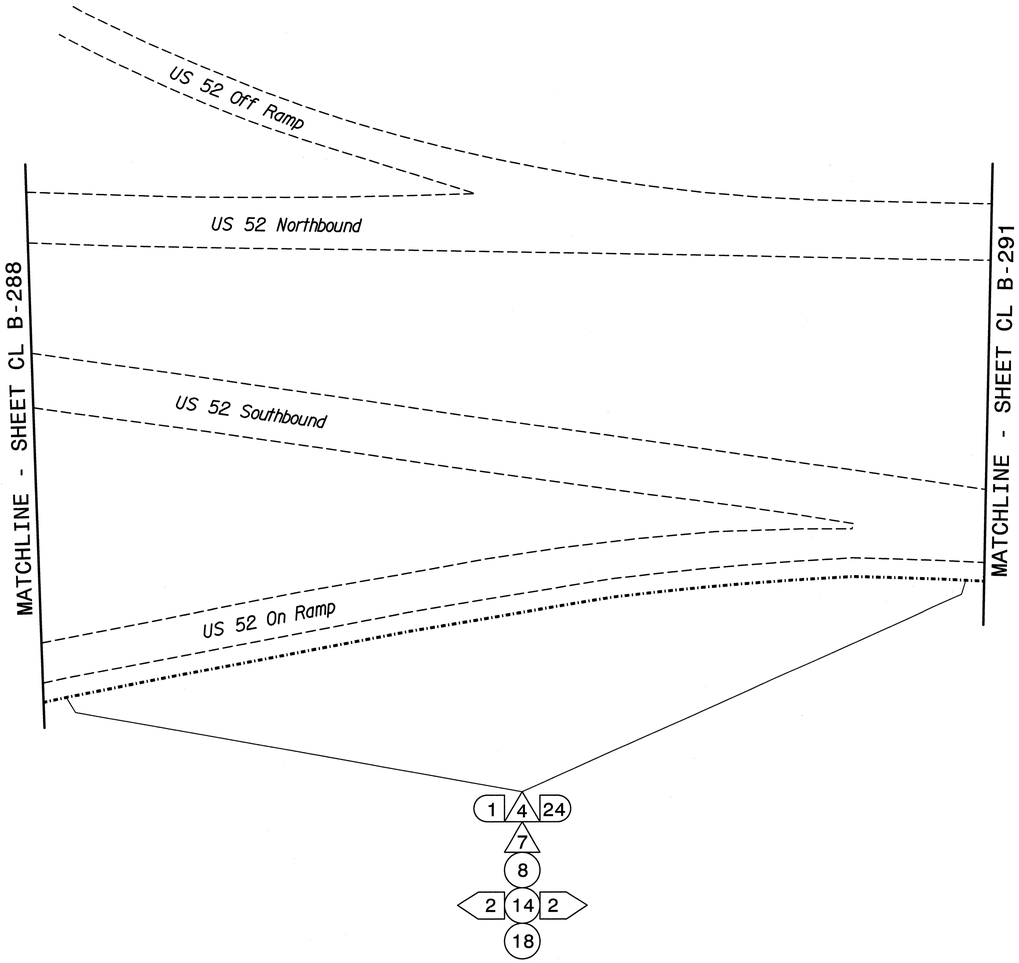
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-289.dgn

13-MAR-2013 16:33
D:\Workspace\Traffic\Current\100022712 Winston Salem Sig Sys\CL B\Phase B\CL B-289.dgn
13813

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-290



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

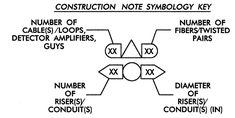
1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E CABLE
4. INSTALL SMFO CABLE
5. INSTALL COAXIAL ANTENNA CABLE
6. INSTALL FIBER–OPTIC DROP CABLE
7. INSTALL TRACER WIRE
8. INSTALL 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI–DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

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

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

CONSTRUCTION NOTE SYMBOLOGY KEY



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

Prepared for the Offices of:

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

750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

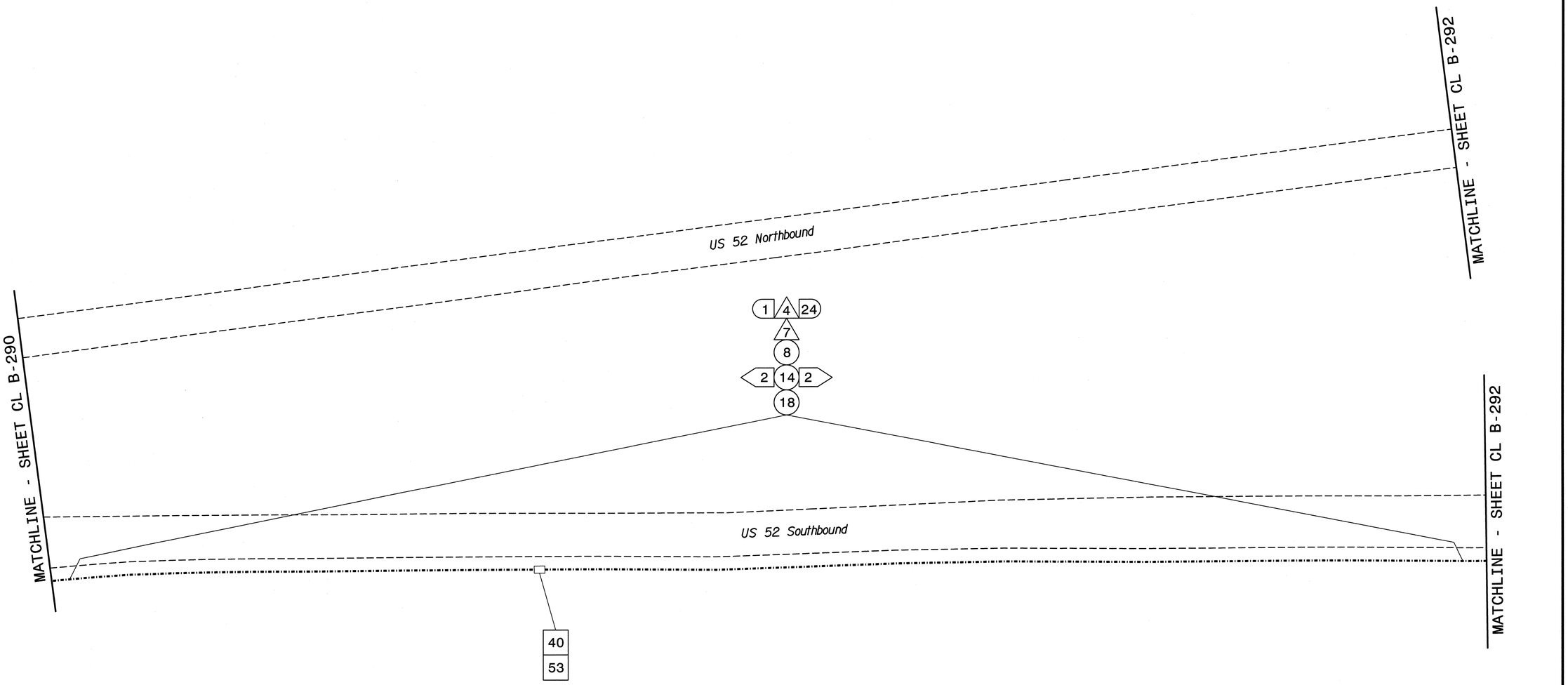
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

SIGNATURE 3-22-13 DATE

CADD Filename: CL B-290.dgn

13-MAR-2013 16:33
D:\Transportation\Traffic\Curr\1000227\2 Winston Salem Sig Sys\CL\Phase B\CL B-290.dgn
13813

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-291



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)
XXX

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

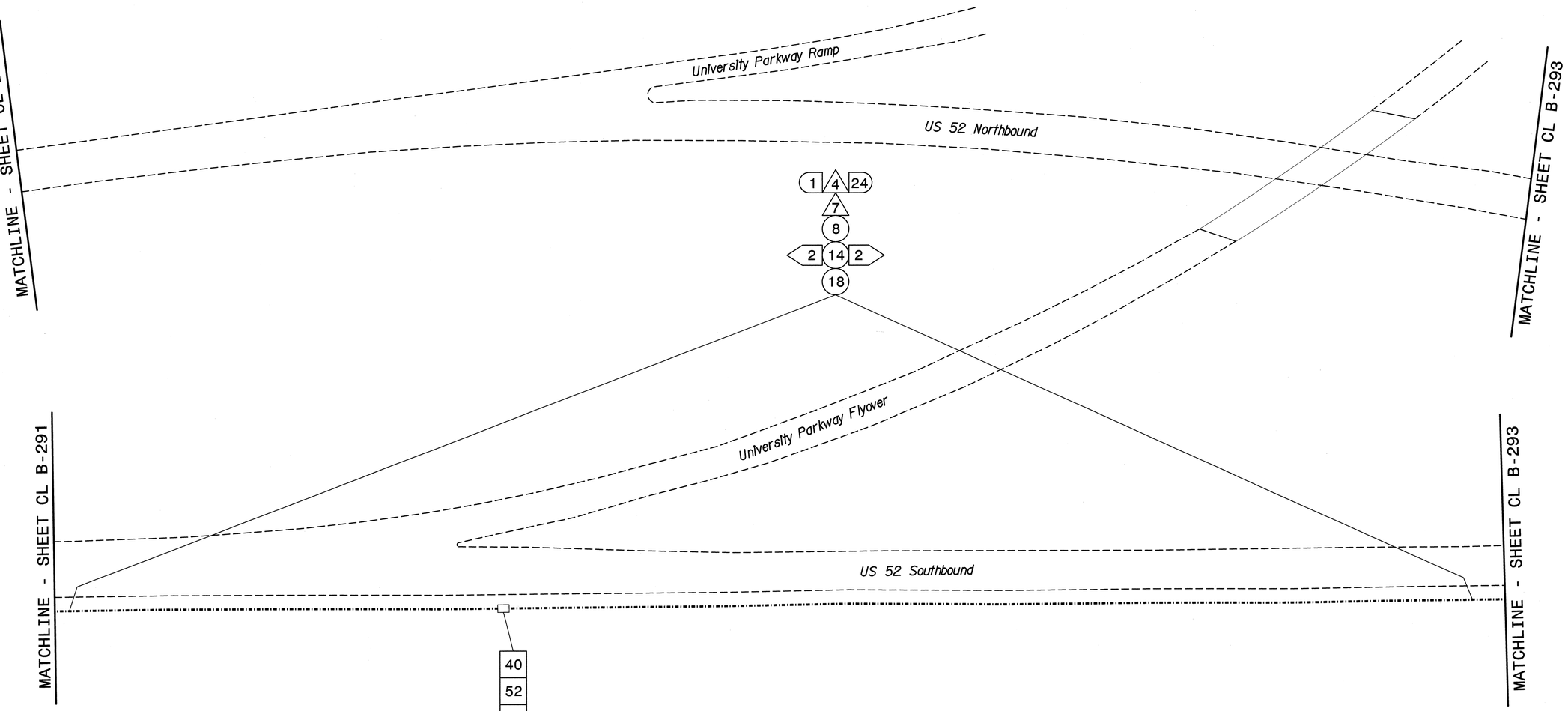
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3/22/13
SIGNATURE DATE

CADD Filename: CL B-291.dgn

13-MAR-2013 16:33
D:\ATransportation\Traffic\Curr#100022712 Winston Salem Sig Sys\CL#Phase B#CL B-291.dgn
13853

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-292



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA	
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED	
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO	
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS	
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND	
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND	
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND	
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS	
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY	
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED	
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED	
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH	

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

SCALE 0 50 1"=50'

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

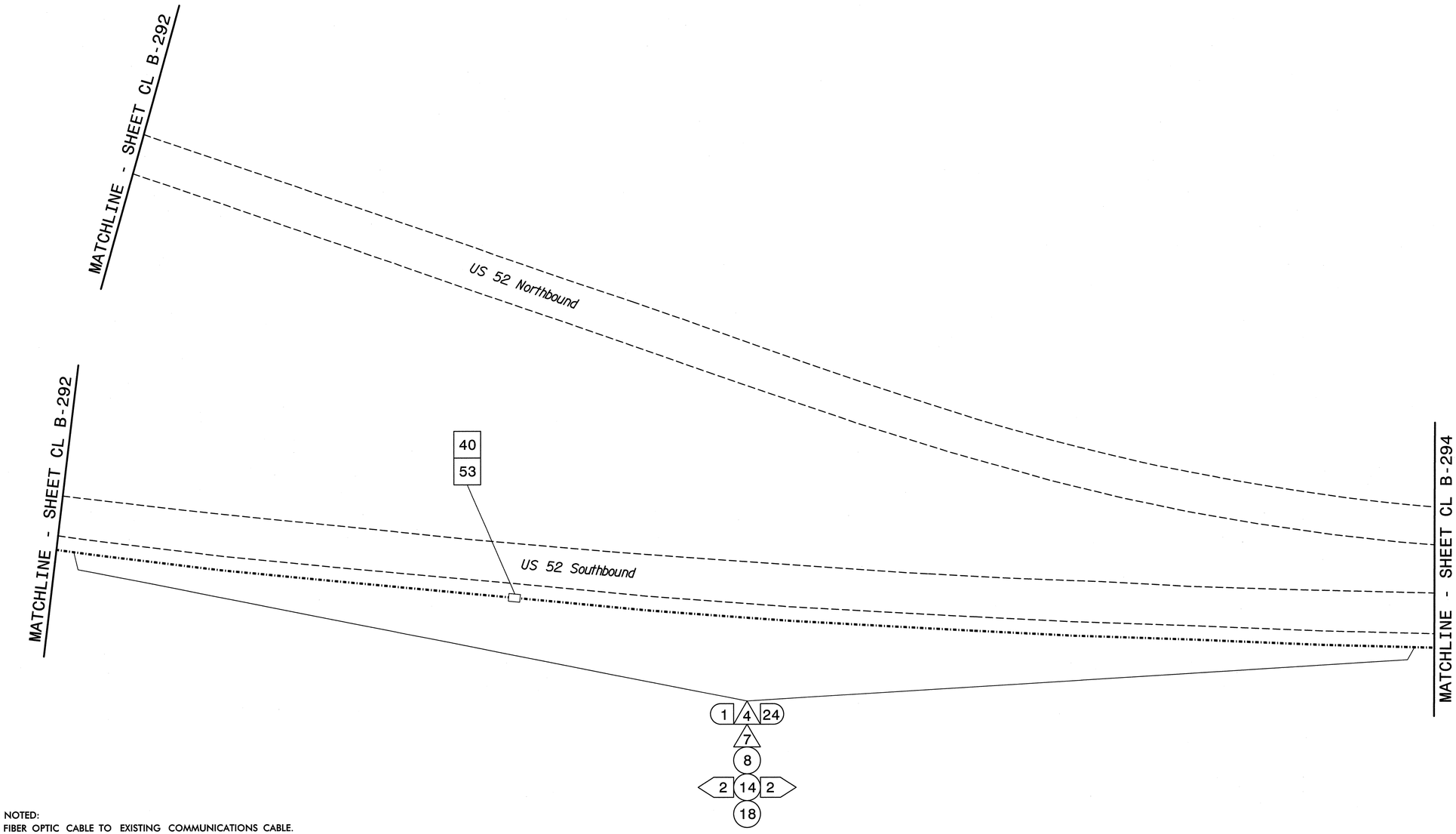
PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LW Moon

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE DATE 3.22.13
CADD Filename: CL B-292.dgn

13-MAR-2013 16:33
D:\Transportation\Traffic\Curr#100022112 Winston Salem Sig Sys\CL#Phase B#CL B-292.dgn
13853

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-293



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI–DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
Transportation Mobility and Safety Division
NCDEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

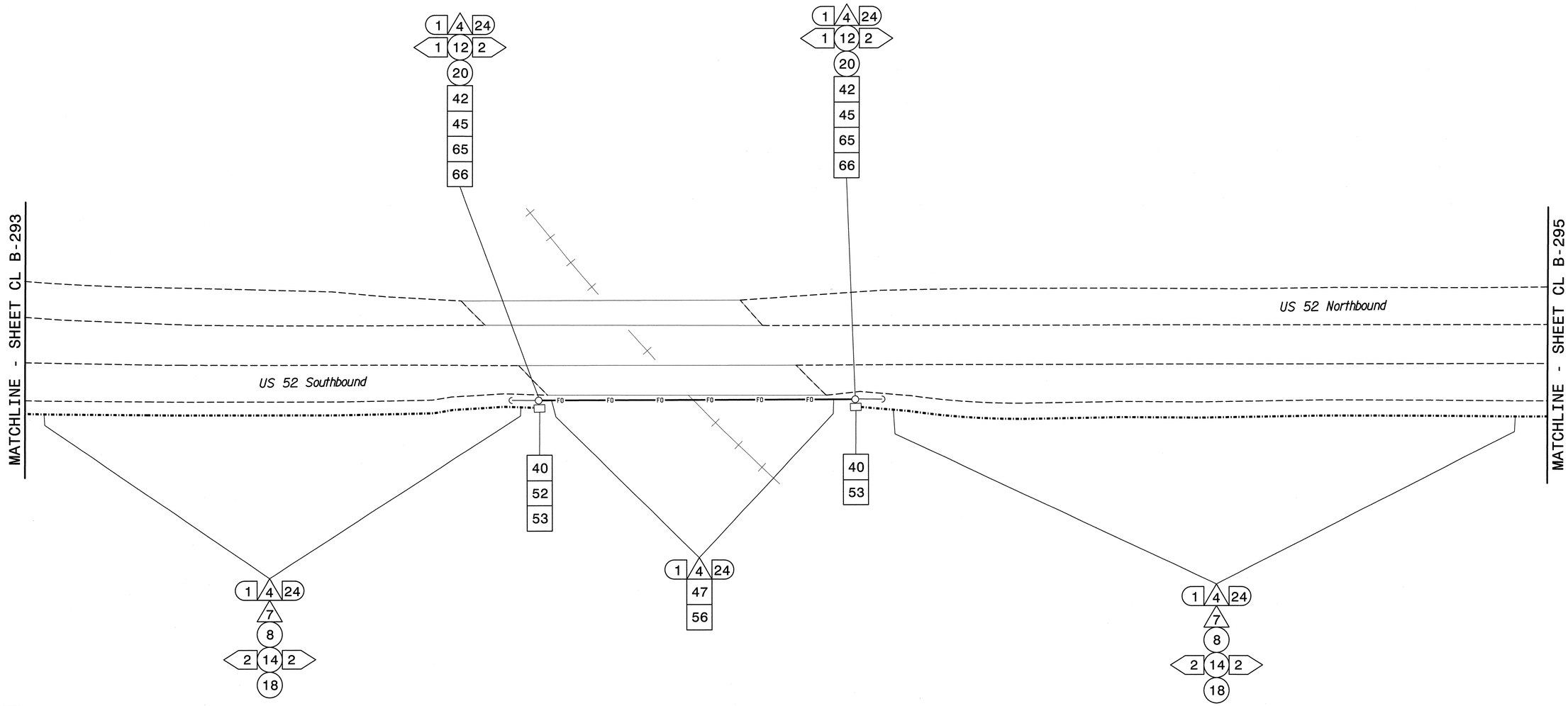
SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE 3-22-13 DATE
CADD Filename: CL B-293.dgn

13-MAR-2013 16:33
D:\#Transportation\#Traffic\#Curr\#100022712 Winston Salem Sig Sys\#CL\#Phase B\#CL B-293.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-294



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.

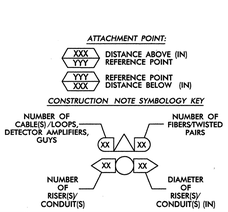
BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI–DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY



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

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

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SCALE
0 50
1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

SIGNATURE DATE 3-27-13

CADD Filename: CL B-294.dgn

13-MAR-2013 16:33
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-294.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-295

MATCHLINE - SHEET CL B-294

MATCHLINE - SHEET CL B-296

US 52 Northbound

US 52 Southbound

S 1-3

Zigler Road

1 4 24
7
8
2 14 2
18

1 4 72
1 4 24
32
53
EXISTING

1 4 72 EXISTING

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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

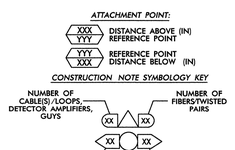
1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

XXX / YYY DISTANCE ABOVE (IN) REFERENCE POINT

YYY / XXX REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY



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

Prepared for the Offices of:

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

750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

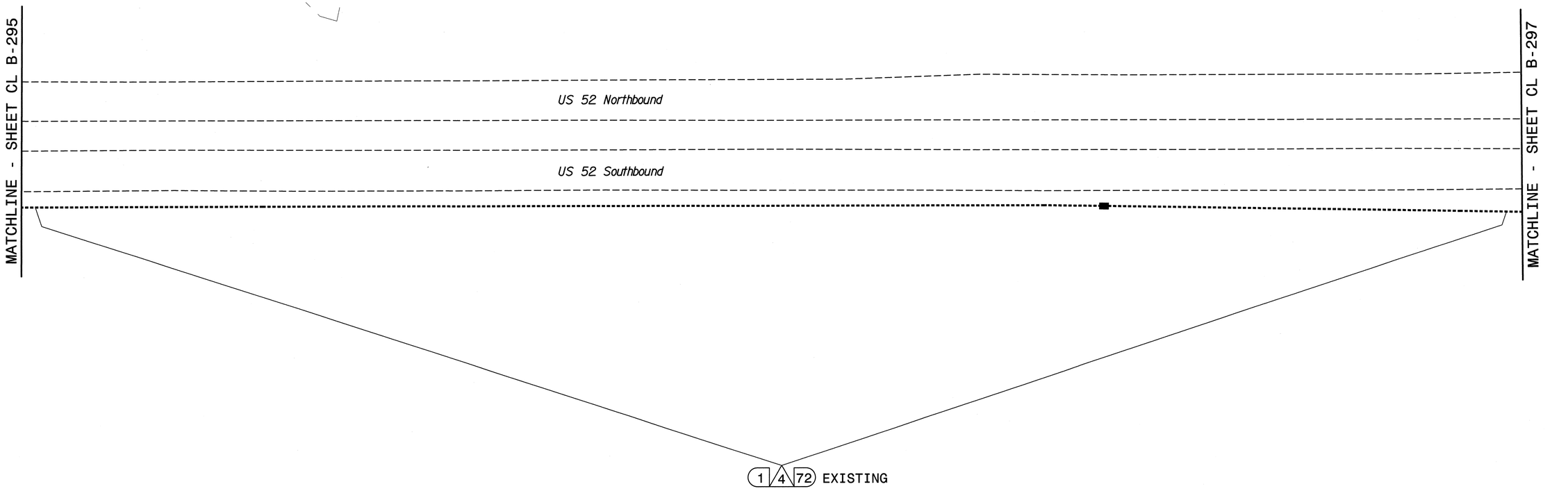
SEAL
022516
NORTH CAROLINA PROFESSIONAL ENGINEER
LISA M. MOON

Lisa M Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-295.dgn

13-MAR-2013 16:33
D:\#transportation\#traffic\#Current\100022712 Winston Salem Sig Sys\#CL\#Phase B\#CL B-295.dgn
13633

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-296



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN) XXX

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS /DETECTOR AMPLIFIERS, GUYS — NUMBER OF FIBERS/TWISTED PAIRS
XX XX
NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

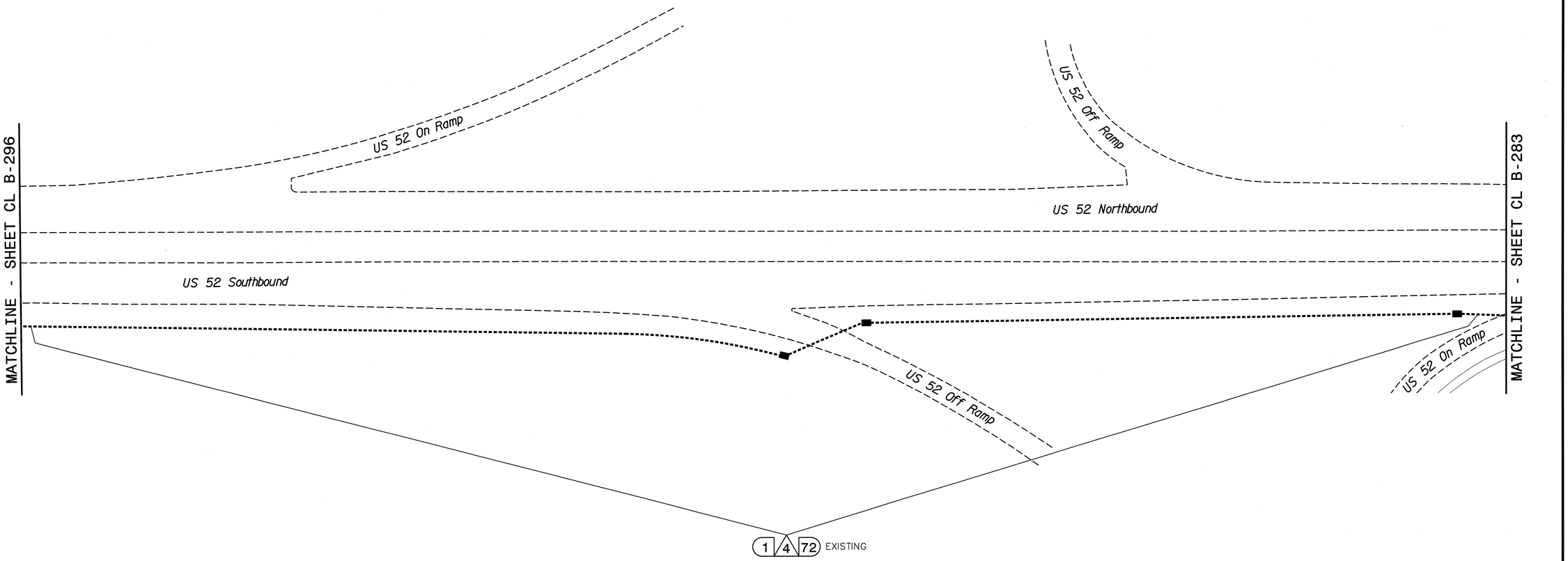
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3/27/13
SIGNATURE DATE

CADD Filename: CL B-296.dgn

13-MAR-2013 16:33
D:\#Transportation\Traffic\#Curr\#1000022712 Winston Salem Sig Sys\#CL\#Phase B\#CL B-296.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-297



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE

49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA
50	INSTALL WIRELESS DSL	62	NOT USED
51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT
XXX REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
North Carolina Department of Transportation, Mobility and Safety Division, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

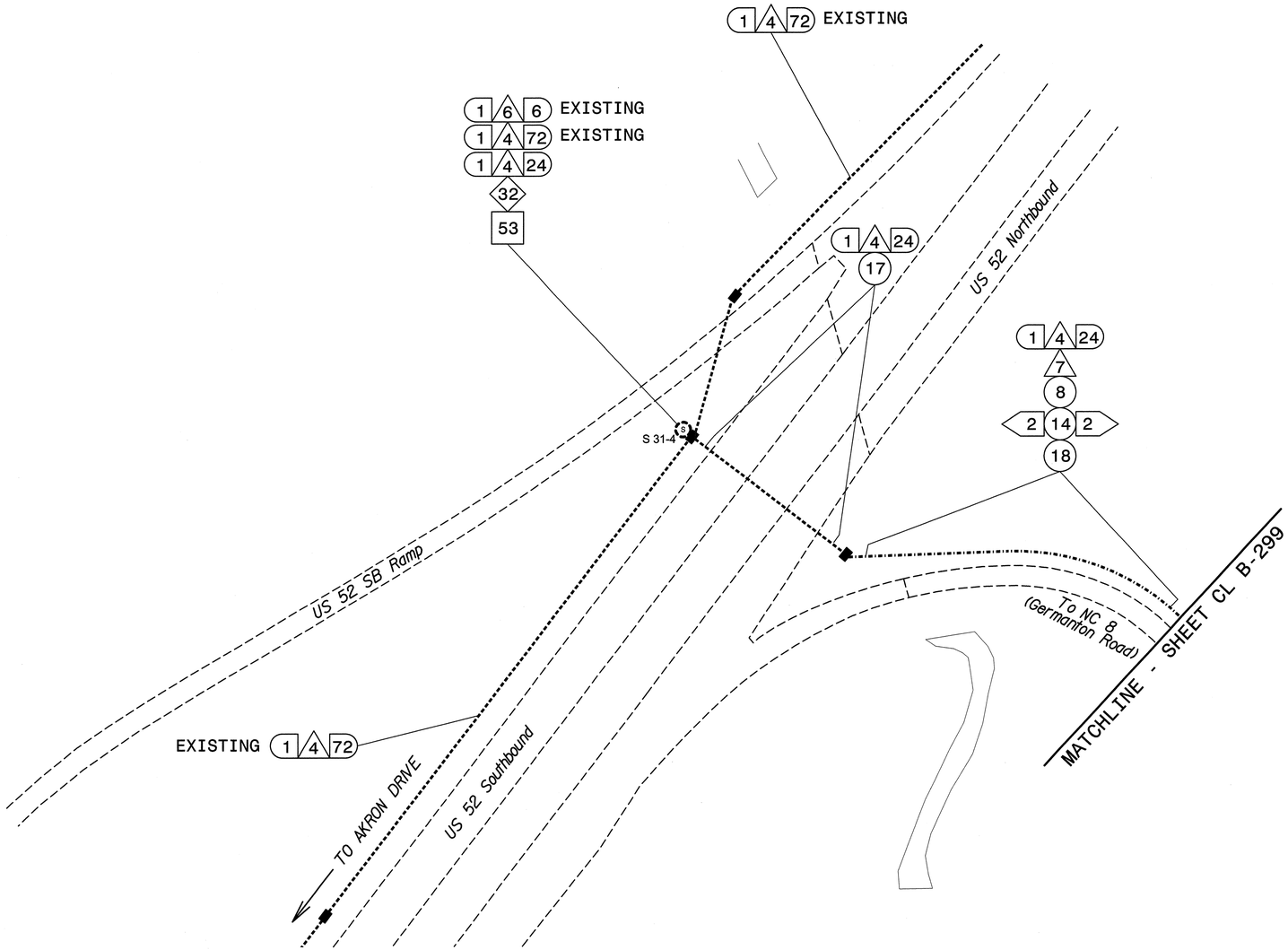
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-297.dgn

13-MAR-2013 16:33
D:\Workstation\Transportation\Traffic\Curr\#100022712 Winston Salem Sig Sys\#CL\#Phase B\#CL B-297.dgn
13813

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-298



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI–DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL–SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER–OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

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
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LW Moon

REVISIONS	INIT.	DATE

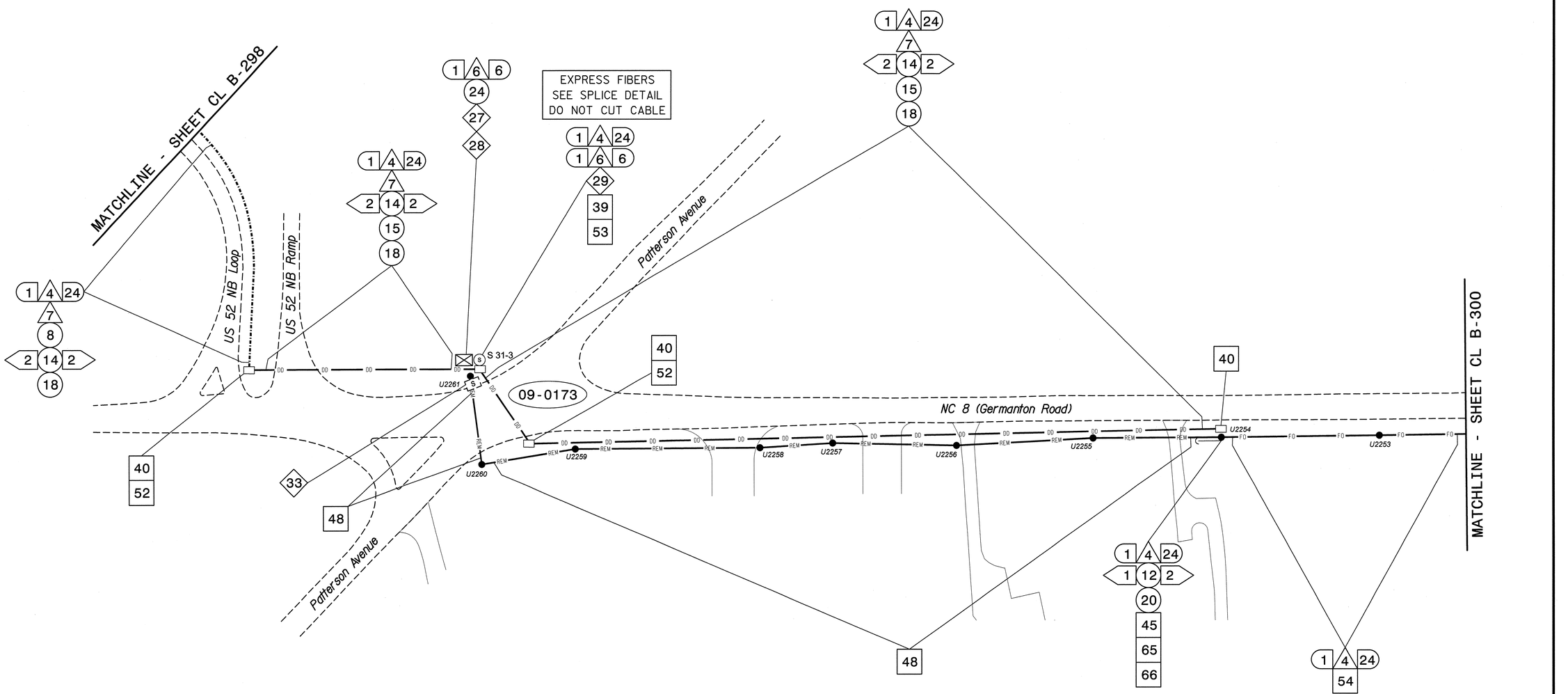
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE Lisa M. Moon 3-22-13 DATE

CADD Filename: CL B-298.dgn

13-MAR-2013 16:33
D:\Transport Roflink\Traffic\Curr\#100022712 Winston Salem Sig Sys\CL\#Phase B\CL B-298.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-299



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
North Carolina Department of Transportation, Mobility and Safety Division, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

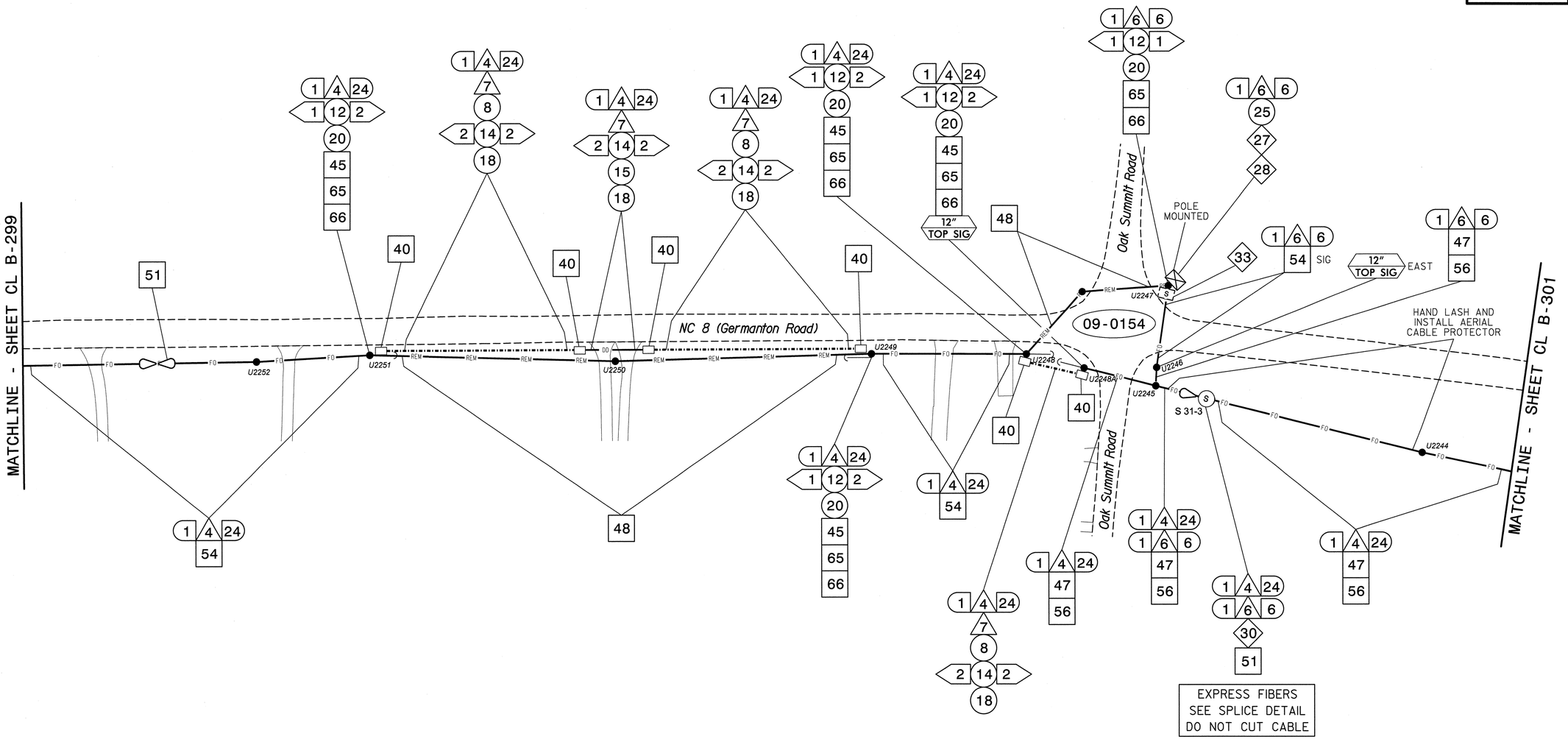
REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3.22.13
SIGNATURE DATE
CADD Filename: CL B-299.dgn

13-MAR-2013 16:33
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-299.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-300



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1	INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	25	INSTALL NEW RISER INTO POLE MOUNTED CABINET	37	INSTALL CCTV WOOD POLE	49	REMOVE EXISTING COMMUNICATIONS CABLE	61	INSTALL UNI-DIRECTIONAL ANTENNA
2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14	INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26	INSTALL DIGITAL VIDEO ENCODER	38	INSTALL STANDARD SIZE JUNCTION BOX	50	INSTALL WIRELESS DSL	62	NOT USED
3	INSTALL CATEGORY 5E CABLE	15	DIRECTIONAL DRILL CONDUIT	27	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39	INSTALL SPECIAL-SIZED JUNCTION BOX	51	INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63	INSTALL 900 MHZ ETHERNET RADIO
4	INSTALL SMFO CABLE	16	BORE AND JACK CONDUIT	28	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40	INSTALL OVERSIZED JUNCTION BOX	52	INSTALL DELINEATOR MARKER	64	INTERCEPT AND REROUTE EXISTING CONDUITS
5	INSTALL COAXIAL ANTENNA CABLE	17	INSTALL CABLE(S) IN EXISTING CONDUIT	29	INSTALL UNDERGROUND SPLICE ENCLOSURE	41	REMOVE EXISTING JUNCTION BOX	53	STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65	BOND MESSENGER TO POLE GROUND
6	INSTALL FIBER-OPTIC DROP CABLE	18	INSTALL CABLE(S) IN NEW CONDUIT	30	INSTALL AERIAL SPLICE ENCLOSURE	42	INSTALL WOOD POLE	54	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66	BOND RISER TO POLE GROUND
7	INSTALL TRACER WIRE	19	INSTALL CABLE(S) IN EXISTING RISER(S)	31	INSTALL SPLICE CABINET	43	REMOVE EXISTING WOOD POLE	55	LASH CABLE(S) TO EXISTING MESSENGER CABLE	67	BOND TRACER WIRE TO POLE GROUND
8	INSTALL CONDUIT UNDERGROUND	20	INSTALL CABLE(S) IN NEW RISER(S)	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44	INSTALL AERIAL GUY ASSEMBLY	56	LASH CABLE(S) TO NEW MESSENGER CABLE	68	BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9	INSTALL PVC CONDUIT	21	INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33	REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45	INSTALL STANDARD GUY ASSEMBLY	57	MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69	REMOVE EXISTING CCTV CAMERA ASSEMBLY
10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	22	INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34	INSTALL CABINET FOUNDATION	46	INSTALL SIDEWALK GUY ASSEMBLY	58	INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70	NOT USED
11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23	INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35	REMOVE EXISTING CABINET FOUNDATION	47	INSTALL MESSENGER CABLE	59	INSTALL NEW POLE MOUNTED CCTV CABINET	71	NOT USED
12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36	INSTALL CCTV CAMERA ASSEMBLY	48	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60	INSTALL NEW BASE MOUNTED CCTV CABINET	72	INSTALL MANAGED ETHERNET SWITCH

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 — NUMBER OF FIBERS/TWISTED PAIRS — NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LW Moon

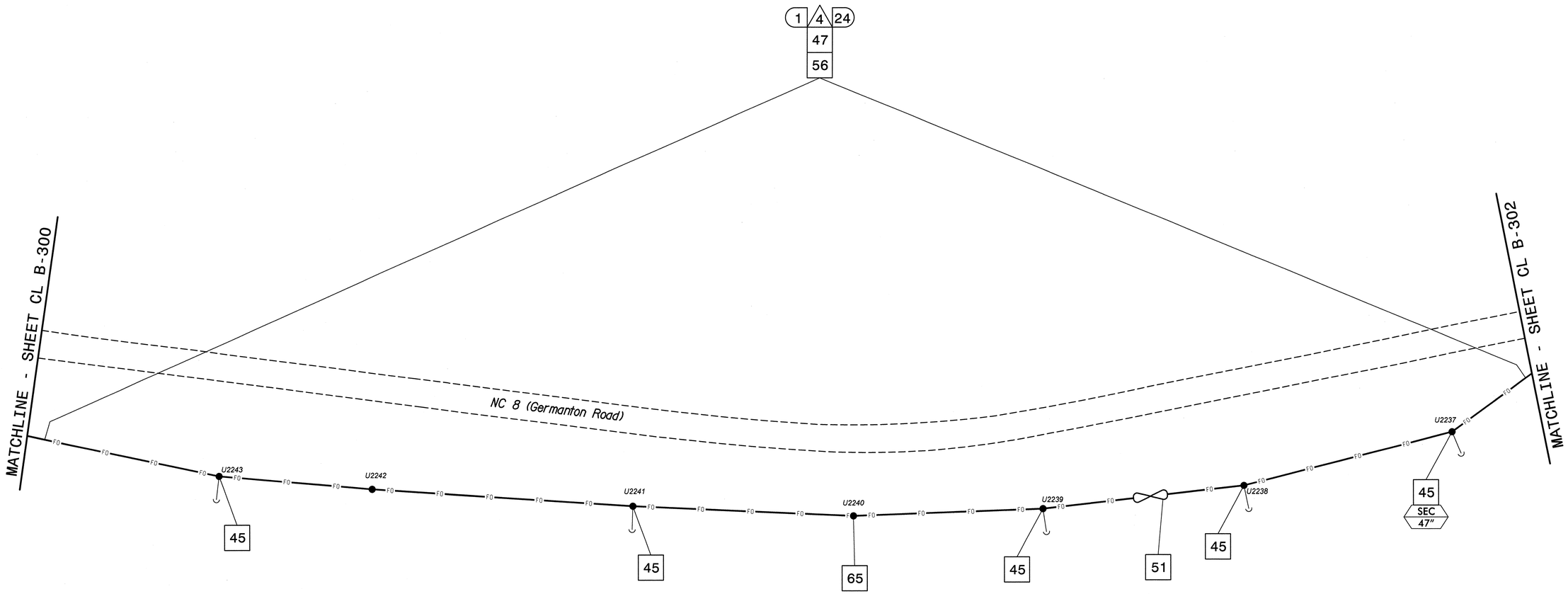
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-300.dgn

13-MAR-2013 16:33
D:*Transportation\Traffic*Curr*\1000022712 Winston Salem Sig Sys*CL*Phase B*CL B-300.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-301



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT
YYY REFERENCE POINT
XXX DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

SCALE 0 50 1"=50'

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

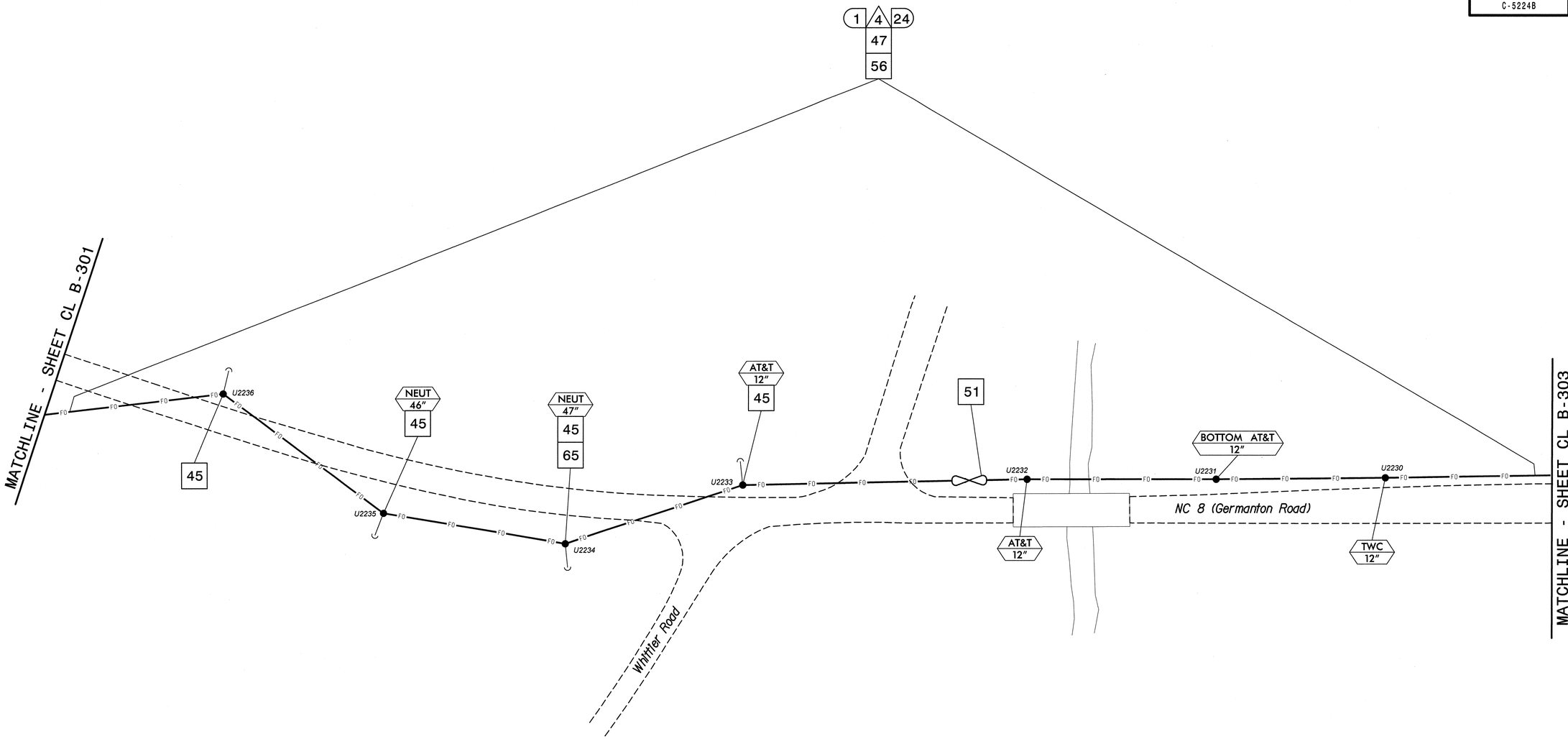
PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LW Moon

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE DATE 3-22-13
CADD Filename: CL B-301.dgn

13-MAR-2013 16:34
O:\Transportation\Traffic\Curr\1000227\2 Winston Salem Sig Sys\CL\Phase B\CL B-301.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-302



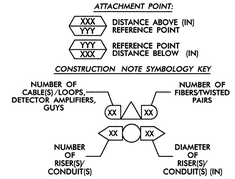
NOTES:
1. UNLESS OTHERWISE NOTED:
   - OVERLASH NEW FIBER OPTIC CABLE TO EXISTING COMMUNICATIONS CABLE.
   - ATTACH NEW MESSENGER CABLE 40" BELOW POWER.
   - ATTACH ON FRONT SIDE (FS) OF POLE.
2. SEAL ALL CONDUIT ENDS WITH DUCT AND CONDUIT SEALER, AT ALL JUNCTION BOX/CABINET ENTRANCES.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER-OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
- XXX / YYY — DISTANCE ABOVE (IN) / REFERENCE POINT
- YYY / XXX — REFERENCE POINT / DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY



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

Prepared for the Offices of:
North Carolina Department of Transportation — Mobility and Safety Division — Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

Lisa M. Moon 3-27-13
SIGNATURE DATE

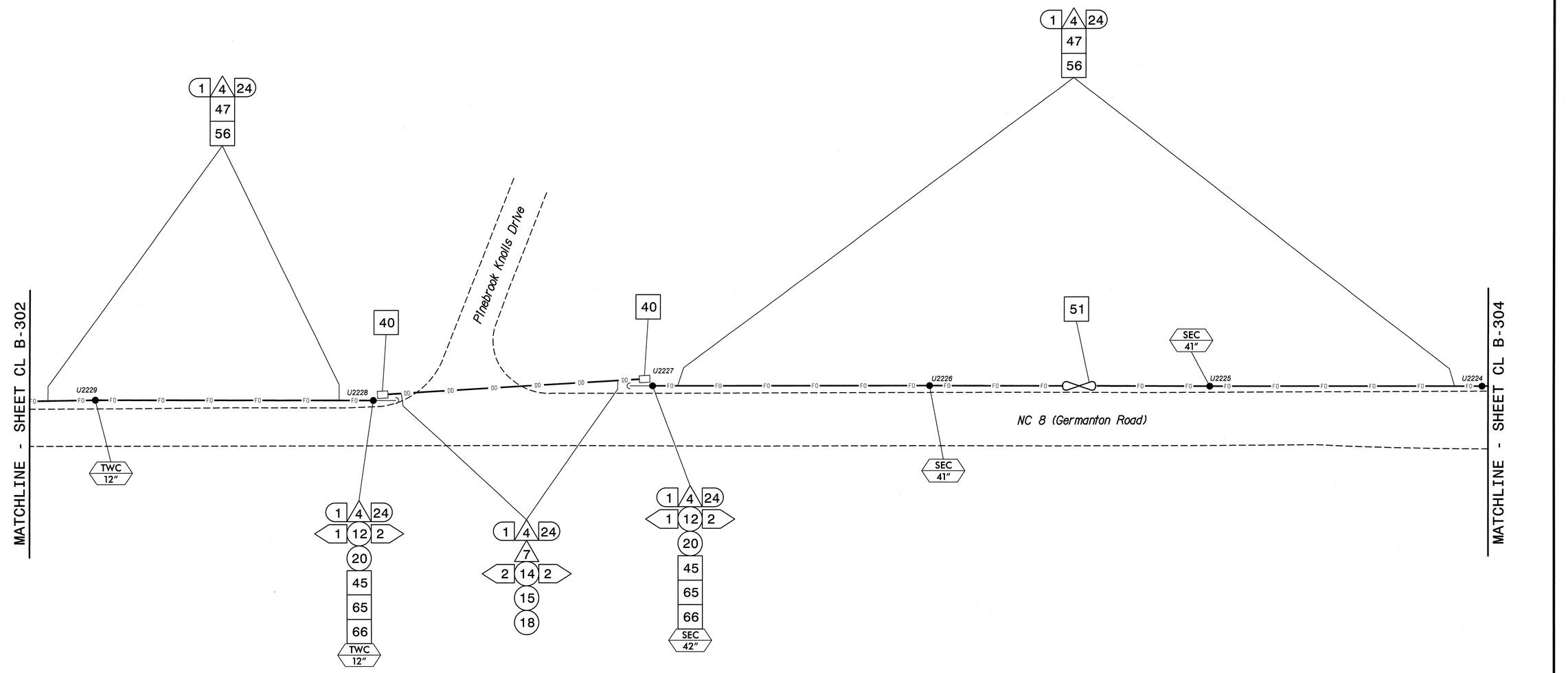
CADD Filename: CL B-302.dgn

13-MAR-2013 16:34
D:\#Transportation\#Traffic\#Curr\#100022712 Winston Salem Sig Sys\#CL\#Phase B\#CL B-302.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-303

MATCHLINE - SHEET CL B-302

MATCHLINE - SHEET CL B-304



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

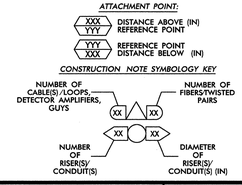
1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	13 INSTALL HEAT SHRINK TUBING RETROFIT KIT	25 INSTALL NEW RISER INTO POLE MOUNTED CABINET	37 INSTALL CCTV WOOD POLE	49 REMOVE EXISTING COMMUNICATIONS CABLE	61 INSTALL UNI-DIRECTIONAL ANTENNA
2 INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	14 INSTALL HIGH DENSITY POLYETHYLENE CONDUIT	26 INSTALL DIGITAL VIDEO ENCODER	38 INSTALL STANDARD SIZE JUNCTION BOX	50 INSTALL WIRELESS DSL	62 NOT USED
3 INSTALL CATEGORY 5E CABLE	15 DIRECTIONAL DRILL CONDUIT	27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	39 INSTALL SPECIAL-SIZED JUNCTION BOX	51 INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE	63 INSTALL 900 MHZ ETHERNET RADIO
4 INSTALL SMFO CABLE	16 BORE AND JACK CONDUIT	28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	40 INSTALL OVERSIZED JUNCTION BOX	52 INSTALL DELINEATOR MARKER	64 INTERCEPT AND REROUTE EXISTING CONDUITS
5 INSTALL COAXIAL ANTENNA CABLE	17 INSTALL CABLE(S) IN EXISTING CONDUIT	29 INSTALL UNDERGROUND SPLICE ENCLOSURE	41 REMOVE EXISTING JUNCTION BOX	53 STORE 50 FEET OF COMMUNICATIONS CABLE (EACH CABLE)	65 BOND MESSENGER TO POLE GROUND
6 INSTALL FIBER–OPTIC DROP CABLE	18 INSTALL CABLE(S) IN NEW CONDUIT	30 INSTALL AERIAL SPLICE ENCLOSURE	42 INSTALL WOOD POLE	54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE	66 BOND RISER TO POLE GROUND
7 INSTALL TRACER WIRE	19 INSTALL CABLE(S) IN EXISTING RISER(S)	31 INSTALL SPLICE CABINET	43 REMOVE EXISTING WOOD POLE	55 LASH CABLE(S) TO EXISTING MESSENGER CABLE	67 BOND TRACER WIRE TO POLE GROUND
8 INSTALL CONDUIT UNDERGROUND	20 INSTALL CABLE(S) IN NEW RISER(S)	32 MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	44 INSTALL AERIAL GUY ASSEMBLY	56 LASH CABLE(S) TO NEW MESSENGER CABLE	68 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
9 INSTALL PVC CONDUIT	21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	33 REMOVE EXISTING SPLICE /HUB /CCTV CABINET	45 INSTALL STANDARD GUY ASSEMBLY	57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV/HUB	69 REMOVE EXISTING CCTV CAMERA ASSEMBLY
10 INSTALL RIGID, GALVANIZED STEEL CONDUIT	22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	34 INSTALL CABINET FOUNDATION	46 INSTALL SIDEWALK GUY ASSEMBLY	58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB	70 NOT USED
11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	23 INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)	35 REMOVE EXISTING CABINET FOUNDATION	47 INSTALL MESSENGER CABLE	59 INSTALL NEW POLE MOUNTED CCTV CABINET	71 NOT USED
12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	36 INSTALL CCTV CAMERA ASSEMBLY	48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	60 INSTALL NEW BASE MOUNTED CCTV CABINET	72 INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

XXX DISTANCE ABOVE (IN) REFERENCE POINT

YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY



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

Prepared for the Offices of:

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

750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022518 ENGINEER LISA M. MOON

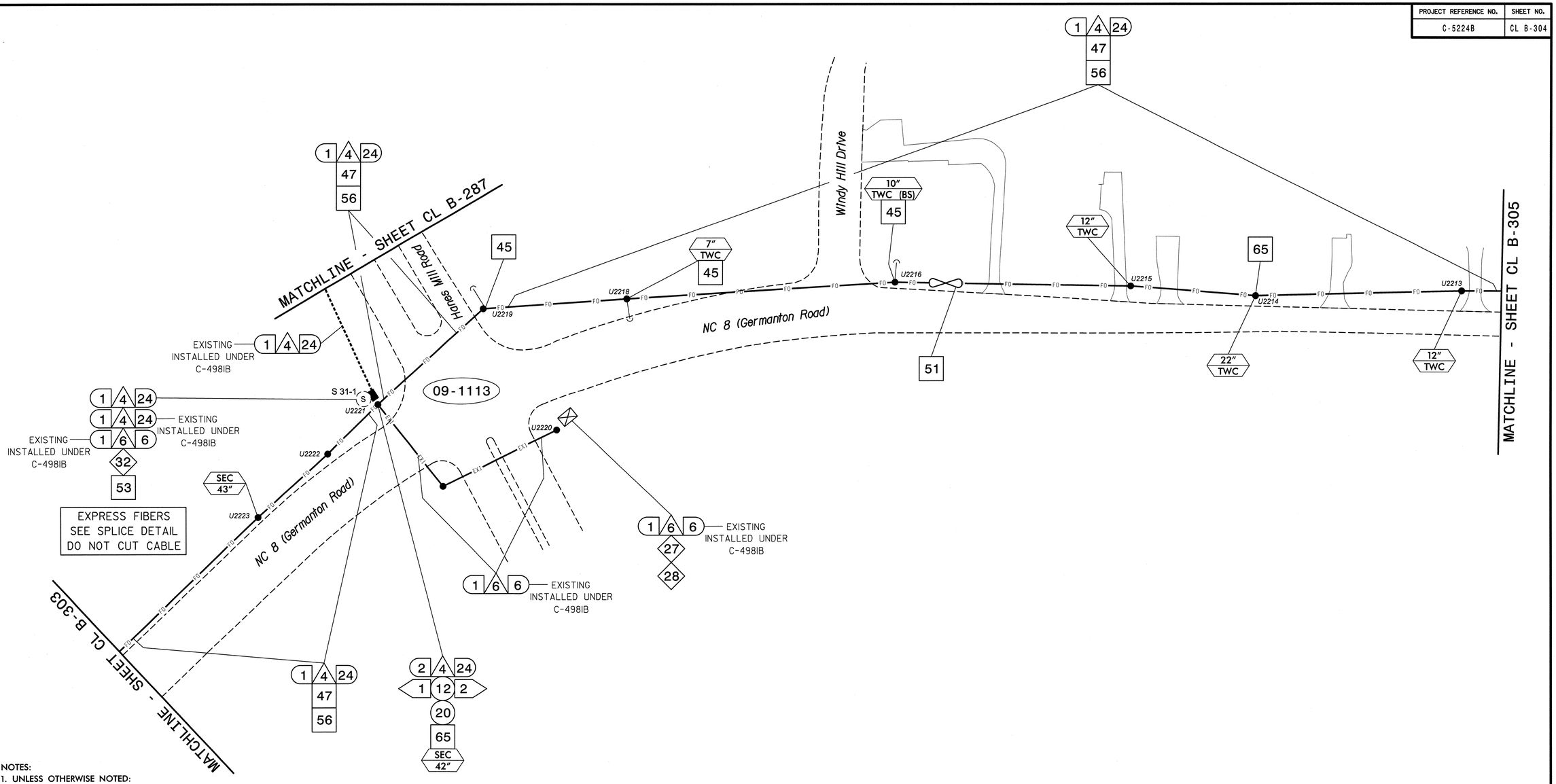
Lisa M. Moon 3-22-13

SIGNATURE DATE

CADD Filename: CL B-303.dgn

13-MAR-2013 16:34
D:\#Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-303.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-304



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

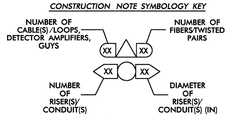
1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E CABLE
4. INSTALL SMFO CABLE
5. INSTALL COAXIAL ANTENNA CABLE
6. INSTALL FIBER-OPTIC DROP CABLE
7. INSTALL TRACER WIRE
8. INSTALL 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:

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

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

CONSTRUCTION NOTE SYMBOLOGY KEY



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

Prepared for the Offices of:

North Carolina Department of Transportation — Mobility and Safety Division — Intelligent Transportation Systems

750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

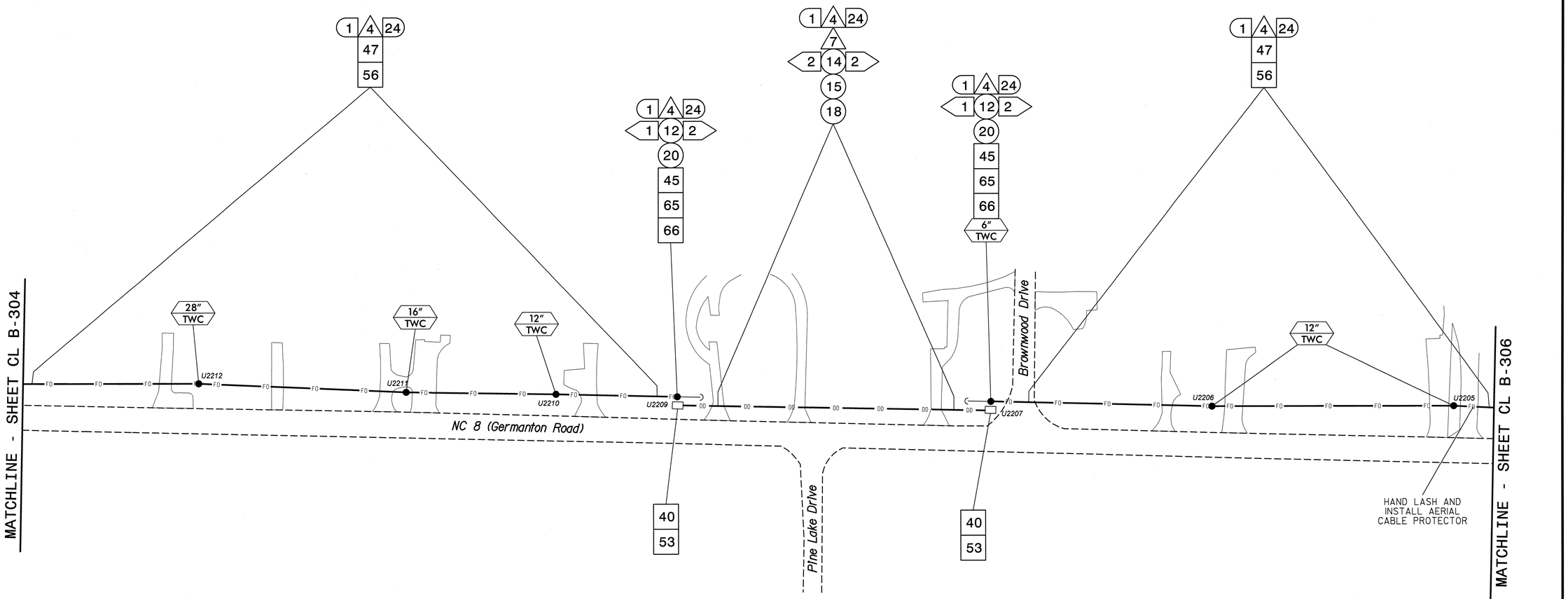
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

SIGNATURE 3-22-13 DATE

CADD Filename: CL B-304.dgn

13-MAR-2013 16:34
D:\Transportation\Traffic\Curr#100022712 Winston Salem Sig Sys\CL#Phase B\CL B-304.dgn
13813

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-305



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI–DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN)
YYY REFERENCE POINT
YYY DISTANCE BELOW (IN)
XXX

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS — NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S) — DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of: Transportation Mobility and Safety Division, North Carolina Department of Transportation, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE: March 2013 REVIEWED BY: MB Toth
PREPARED BY: JAW/AJD REVIEWED BY: LM Moon

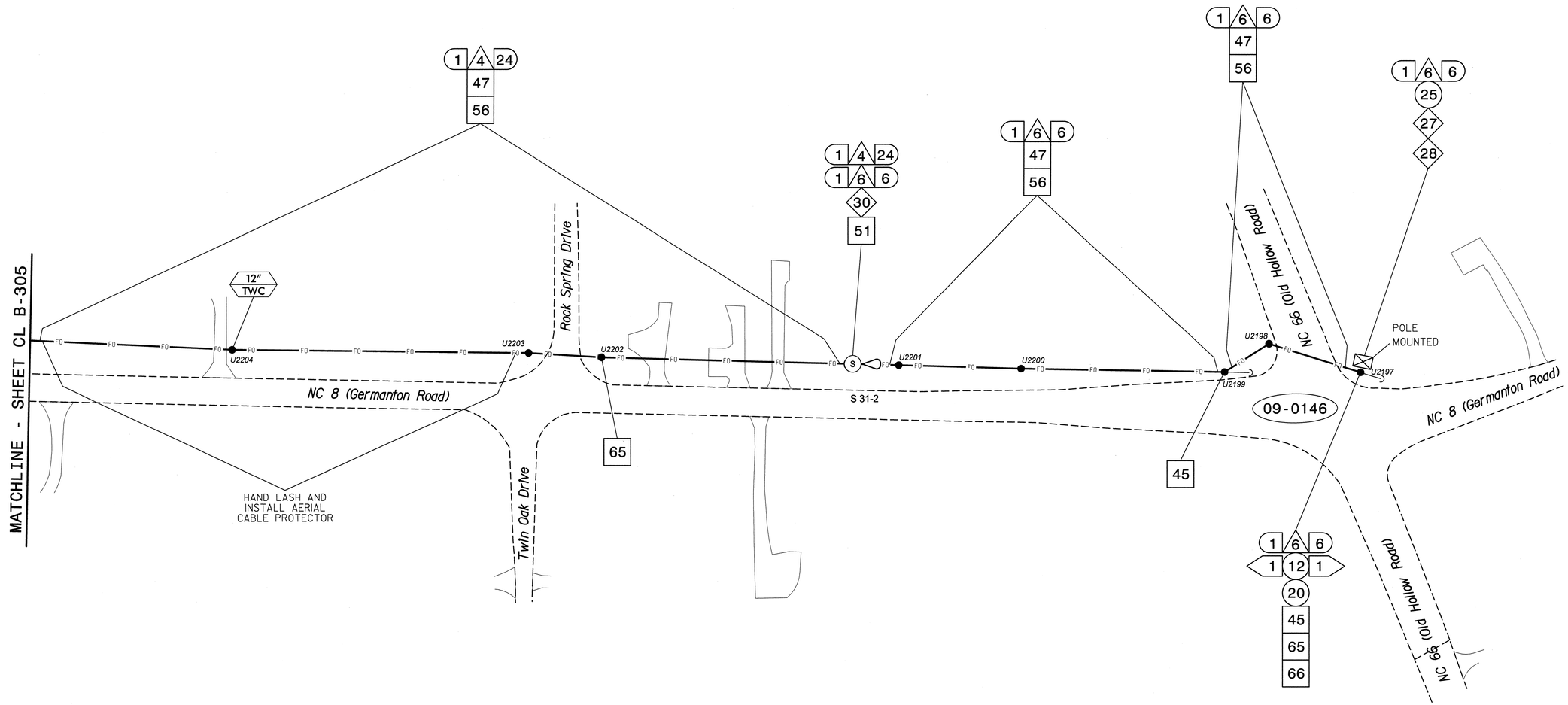
SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE DATE 3-22-13
CADD Filename: CL B-305.dgn

13-MAR-2013 16:34
D:*Transportation*Traffic*Curr*100022712 Winston Salem Sig Sys*CL*Phase B*CL B-305.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-306



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

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
- NUMBER OF FIBERS/TWISTED PAIRS
- NUMBER OF RISER(S)/ CONDUIT(S)
- DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

SCALE 0 50 1"=50'

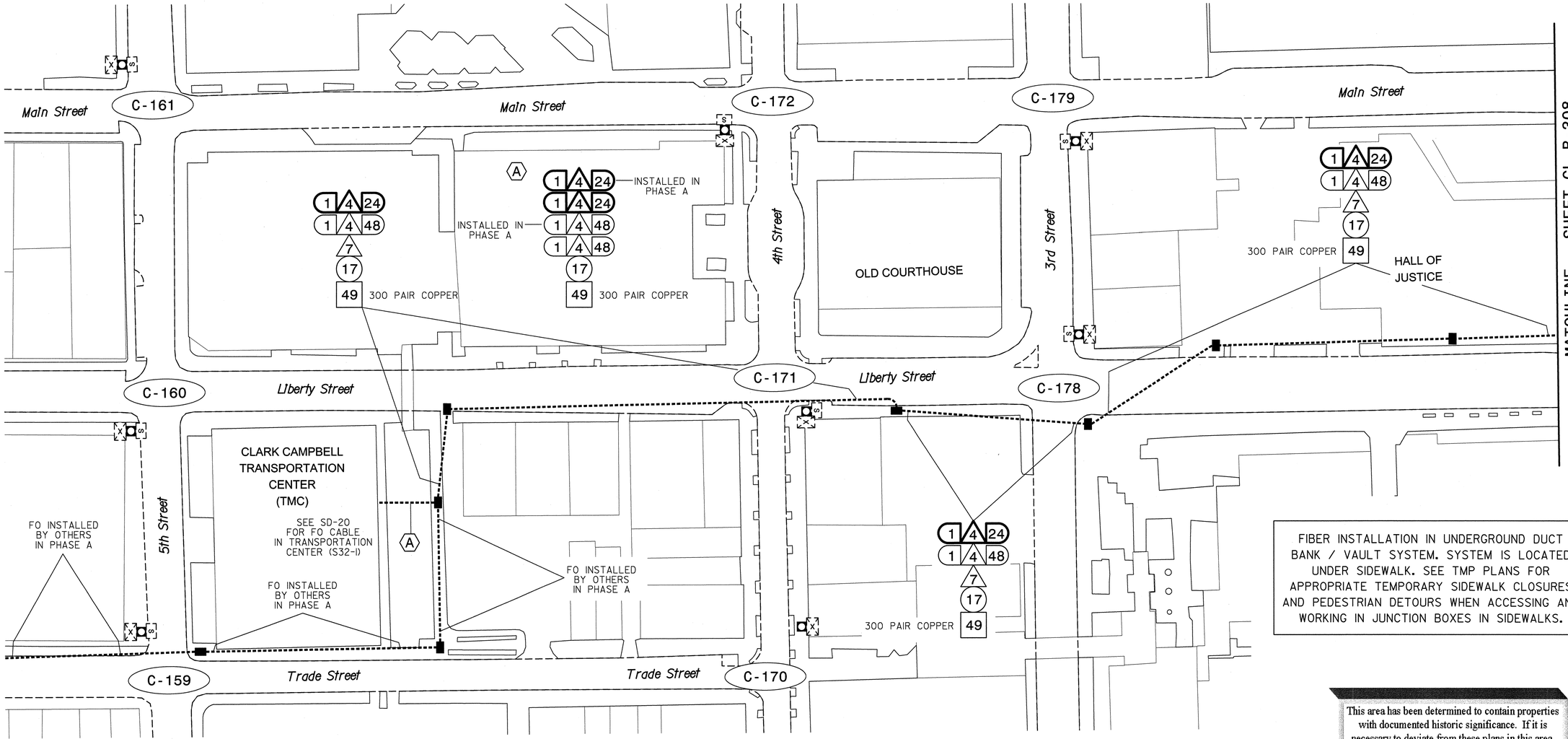
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
SIGNATURE 3-22-13 DATE

CADD Filename: CL B-306.dgn

13-MAR-2013 16:34
D:\#Transportation\#Traffic\#Curr\#100022712 Winston Salem Sig Sys\#CL\#Phase B\#CL B-306.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224A	CL B-307



FIBER INSTALLATION IN UNDERGROUND DUCT BANK / VAULT SYSTEM. SYSTEM IS LOCATED UNDER SIDEWALK. SEE TMP PLANS FOR APPROPRIATE TEMPORARY SIDEWALK CLOSURES AND PEDESTRIAN DETOURS WHEN ACCESSING AND WORKING IN JUNCTION BOXES IN SIDEWALKS.

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.

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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL 4.9GHZ ETHERNET INTEGRATED RADIO /FLAT-PANEL ANTENNA
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. INSTALL 4.9GHZ ETHERNET INTEGRATED RADIO /OMNI-DIRECTIONAL ANTENNA
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. INSTALL 4.9GHZ FLAT-PANEL ANTENNA
71. INSTALL HUB CABINET
72. INSTALL MANAGED ETHERNET SWITCH

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
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System
Cable Layout Plans
Phase A

Division 09 Forsyth County Winston-Salem

PLAN DATE:	January 2013	REVIEWED BY:	MB Toth
PREPARED BY:	BKS/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

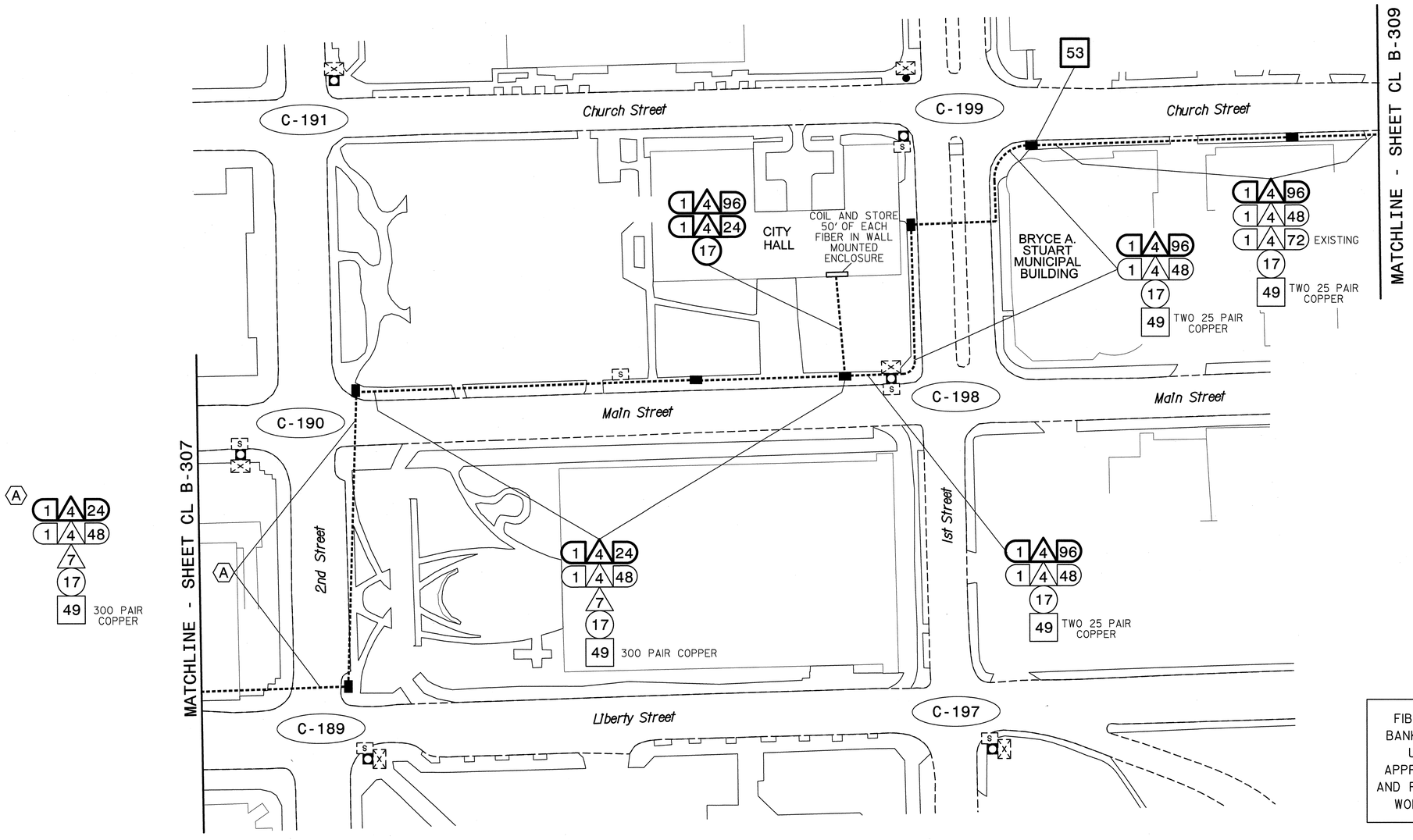
SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M Moon 3-22-13
SIGNATURE DATE

CADD Filename: CL B-307.dgn

25-MAR-2013 09:41
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\CL\Phase B\CL B-307.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-308



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.

FIBER INSTALLATION IN UNDERGROUND DUCT BANK / VAULT SYSTEM. SYSTEM IS LOCATED UNDER SIDEWALK. SEE TMP PLANS FOR APPROPRIATE TEMPORARY SIDEWALK CLOSURES AND PEDESTRIAN DETOURS WHEN ACCESSING AND WORKING IN JUNCTION BOXES IN SIDEWALKS.

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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTVHUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
North Carolina Department of Transportation, Integrated Mobility and Safety Division, Traffic Engineering Branch, Traffic Signal Systems Section
750 Greenfield Parkway, Garner, NC 27529

SCALE 0 50 1"=50'

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON
Lisa M. Moon 3.22.13
SIGNATURE DATE

CADD Filename: CL B-308.dgn

25-MAR-2013 09:41
C:\Transportation\Traffic\Curr#100022712 Winston Salem Sig Sys#CL#Phase B#CL B-308.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-309

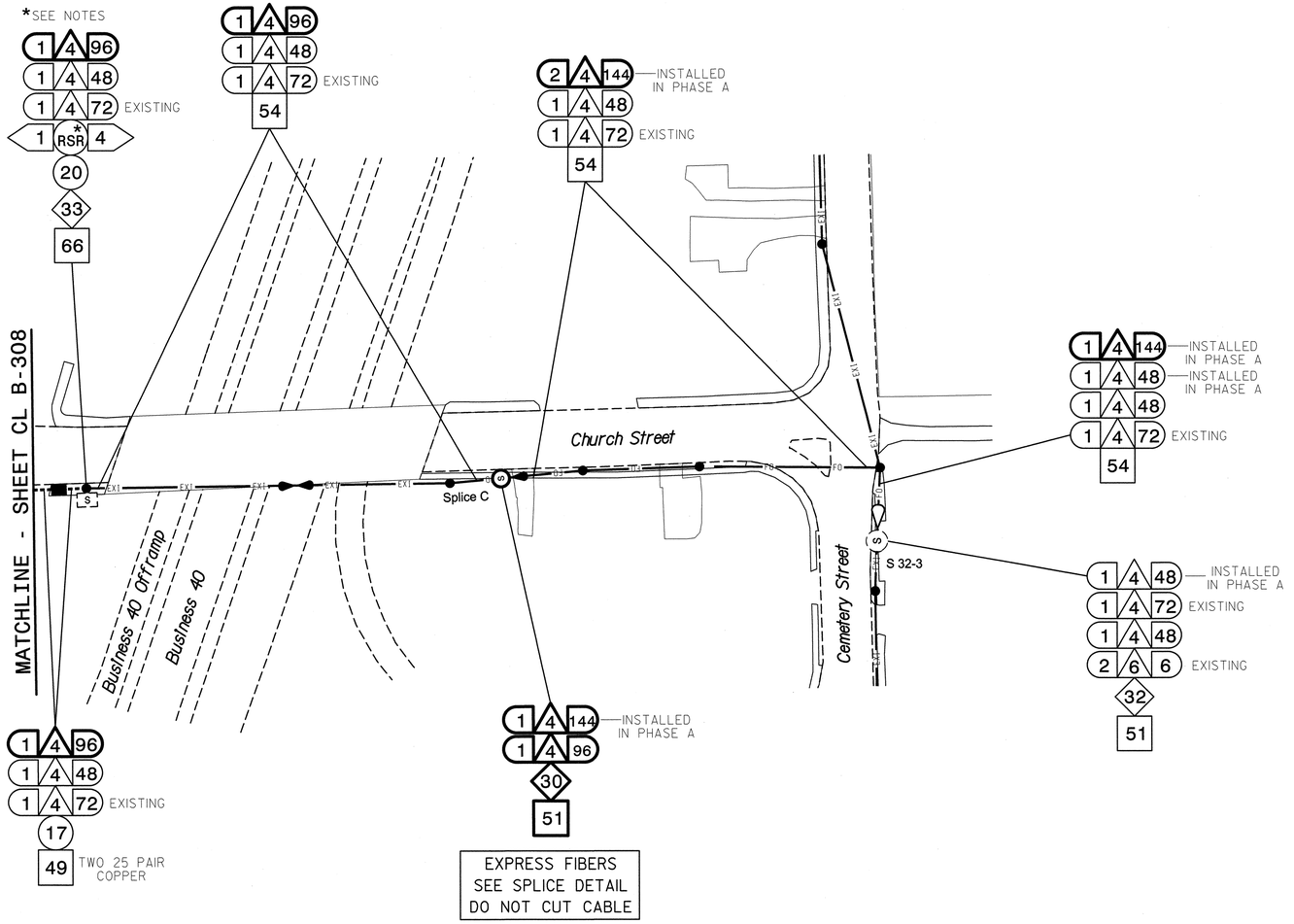
NOTES

THE INSTALLATION OF THE NEW 4" RISER AND ASSOCIATED WORK WILL BE DONE AT A POINT IN THE CONSTRUCTION PROJECT WHEN THE EXISTING COPPER COMMUNICATIONS CABLE CAN BE REMOVED AND REPLACED WITH FIBER OPTIC CABLE AS NECESSARY TO COMPLY WITH THE MIGRATION PLAN FOR THE SIGNAL SYSTEM (SEE PROJECT SPECIAL PROVISIONS). THE FOLLOWING WORK WILL NEED TO BE ACCOMPLISHSED TO INSTALL THE APPROPRIATE FIBER OPTIC CABLE AS CALLED FOR IN THIS PROJECT ON THIS POLE. WORK FOR ITEMS IN STEPS 1 THROUGH 6 MUST BE ACCOMPLISHED WITHIN 48 CONSECUTIVE HOURS. STEPS 7 & 8 CAN BE DONE AT ANY TIME AFTER STEPS 1 THROUGH 6 ARE COMPLETED, SUBJECT TO THE ENGINEER'S APPROVAL:

COMPLETE WORK IN 48 CONSECUTIVE HOURS

1. DISCONNECT THE EXISTING 72-FIBER CABLE FROM THE EXISTING SPLICE 32-3 AT THE INTERSECTION OF CHURCH STREET AND CEMETERY STREET.
2. CAREFULLY UNLASH AND REMOVE (PULL BACK) THE EXISTING 72-FIBER CABLE FROM SPLICE 32-3 TO THE JUNCTION BOX NORTH OF THE POLE AT THE NORTH END OF THE BRIDGE OVER BUSINESS 40, COLLECTING THE FIBER ON A REEL ADJACENT TO THE JUNCTION BOX.
3. REMOVE EXISTING COPPER COMMUNICATIONS CABLE, 2" RISER, 2" TO 4" CONDUIT REDUCER, AND SPLICE BOX FROM POLE.
4. INSTALL NEW 4" RIGID, GALVANIZED STEEL RISER ON POLE AND CONNECT TO EXISTING 4" UNDERGROUND PVC CONDUIT FROM WHICH THE 2" RISER WAS REMOVED IN STEP 3 ABOVE.
5. RE-INSTALL 72-FIBER CABLE FROM JUNCTION BOX THROUGH NEW 4" RISER AND ALONG ORIGINAL MESSENGER CABLE BACK TO EXISTING SPLICE 32-3. RE-STORE SLACK 72-FIBER CABLE ON EXISTING CABLE STORAGE GUIDES IN AERIAL SPAN ABOVE BUSINESS 40 BRIDGE.
6. RE-SPLICE EXISTING 72-FIBER CABLE IN EXISTING SPLICE 32-3 AS SHOWN IN SPLICE DIAGRAMS. (FIRST MODIFICATION OF SPLICE 32-3)
7. INSTALL NEW 48-FIBER CABLE AND NEW 96-FIBER CABLE (IS) ALONG ROUTE AS SHOWN ON PLANS. SPLICE NEW 48-FIBER CABLE IN EXISTING SPLICE 32-3 AS SHOWN IN SPLICE DIAGRAMS. (SECOND MODIFICATION OF SPLICE 32-3)
8. SEAL 4" RISER AS DETAILED IN THE SPECIAL PROVISIONS.

FIBER INSTALLATION IN UNDERGROUND DUCT BANK / VAULT SYSTEM. SYSTEM IS LOCATED UNDER SIDEWALK. SEE TMP PLANS FOR APPROPRIATE TEMPORARY SIDEWALK CLOSURES AND PEDESTRIAN DETOURS WHEN ACCESSING AND WORKING IN JUNCTION BOXES IN SIDEWALKS.



EXPRESS FIBERS SEE SPLICE DETAIL DO NOT CUT CABLE

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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)
XXX

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S)/LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
XX XX
XX XX
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

Prepared for the Offices of:
North Carolina Department of Transportation, Mobility and Safety Division, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022516 ENGINEER LISA M. MOON

SIGNATURE Lisa M. Moon DATE 3.22.13

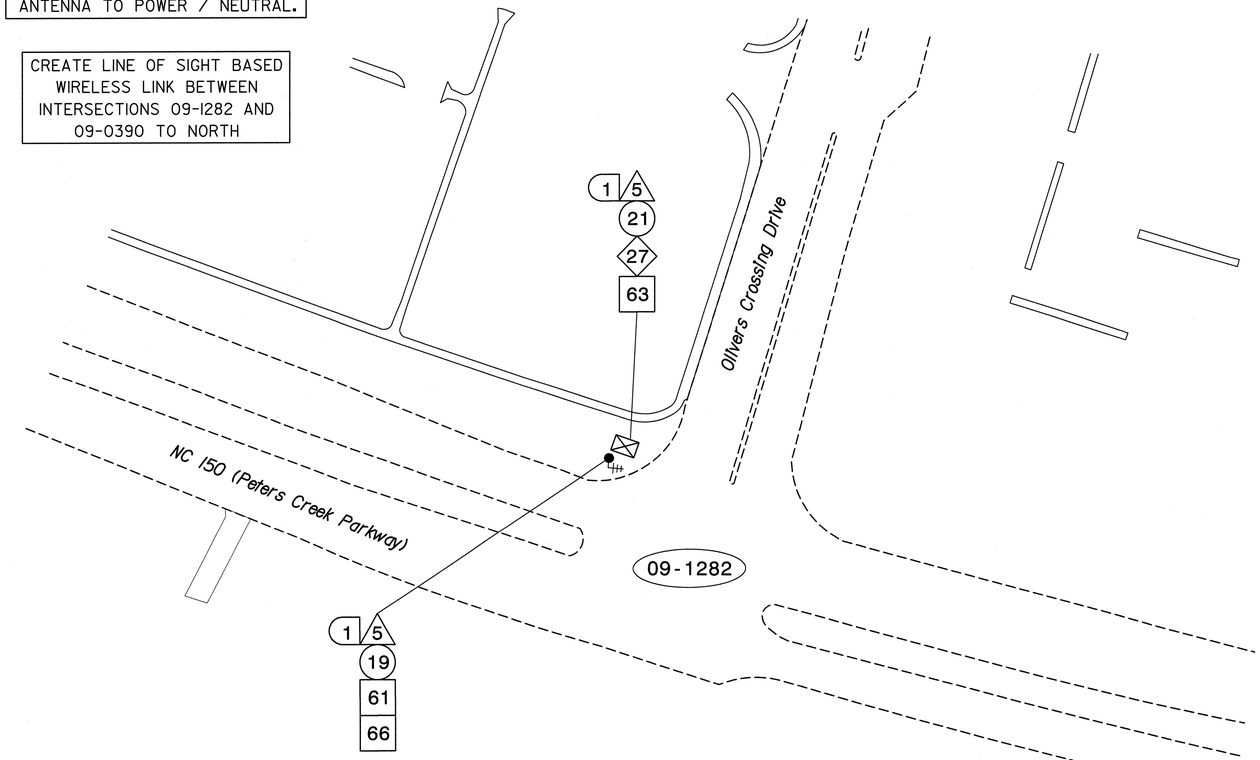
CADD Filename: CL B-309.dgn

26-MAR-2013 13:57
D:\#Transportation\Traffic\Curr*100022712 Winston Salem Sig Sys\#CL\#Phase B\#CL B-309.dgn
13.03

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	CL B-310

SEE RSD 1736.01 FOR ANTENNA ATTACHMENT HEIGHT. MAINTAIN A MINIMUM OF 40" FROM TOP OF ANTENNA TO POWER / NEUTRAL.

CREATE LINE OF SIGHT BASED WIRELESS LINK BETWEEN INTERSECTIONS 09-1282 AND 09-0390 TO NORTH



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.

BOLD CONSTRUCTION NOTES SHOW NEW "IS FIBER" WORK

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL CATEGORY 5E 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 RETROFIT 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 CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO CABINET BASE (USE EX CONDUIT STUBOUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO CABINET BASE (USE EX CONDUIT STUBOUTS 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 OVERSIZED JUNCTION BOX
41. REMOVE EXISTING JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL WIRELESS DSL
51. INSTALL CABLE STORAGE GUIDE(S) [SNOW SHOE(S)] AND STORE 100 FEET OF EACH CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET 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/HUB
58. INSTALL NEW ELECTRICAL SERVICE FOR CCTV/HUB
59. INSTALL NEW POLE MOUNTED CCTV CABINET
60. INSTALL NEW BASE MOUNTED CCTV CABINET
61. INSTALL UNI-DIRECTIONAL ANTENNA
62. NOT USED
63. INSTALL 900 MHZ ETHERNET RADIO
64. INTERCEPT AND REROUTE EXISTING CONDUITS
65. BOND MESSENGER TO POLE GROUND
66. BOND RISER TO POLE GROUND
67. BOND TRACER WIRE TO POLE GROUND
68. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
69. REMOVE EXISTING CCTV CAMERA ASSEMBLY
70. NOT USED
71. NOT USED
72. INSTALL MANAGED ETHERNET SWITCH

ATTACHMENT POINT:
XXX DISTANCE ABOVE (IN) REFERENCE POINT
YYY REFERENCE POINT DISTANCE BELOW (IN)

CONSTRUCTION NOTE SYMBOLOGY KEY
NUMBER OF CABLE(S) /LOOPS, DETECTOR AMPLIFIERS, GUYS
NUMBER OF FIBERS/TWISTED PAIRS
NUMBER OF RISER(S)/ CONDUIT(S)
DIAMETER OF RISER(S)/ CONDUIT(S) (IN)

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

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

Winston-Salem Signal System Cable Layout Plans Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	MB Toth
PREPARED BY:	JAW/AJD	REVIEWED BY:	LM Moon

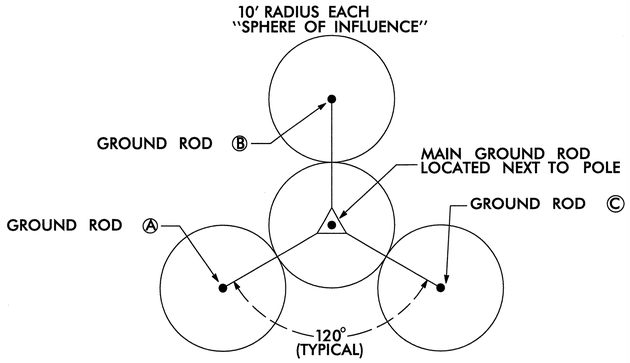
SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022516 LISA M. MOON
SIGNATURE 3-22-13 DATE

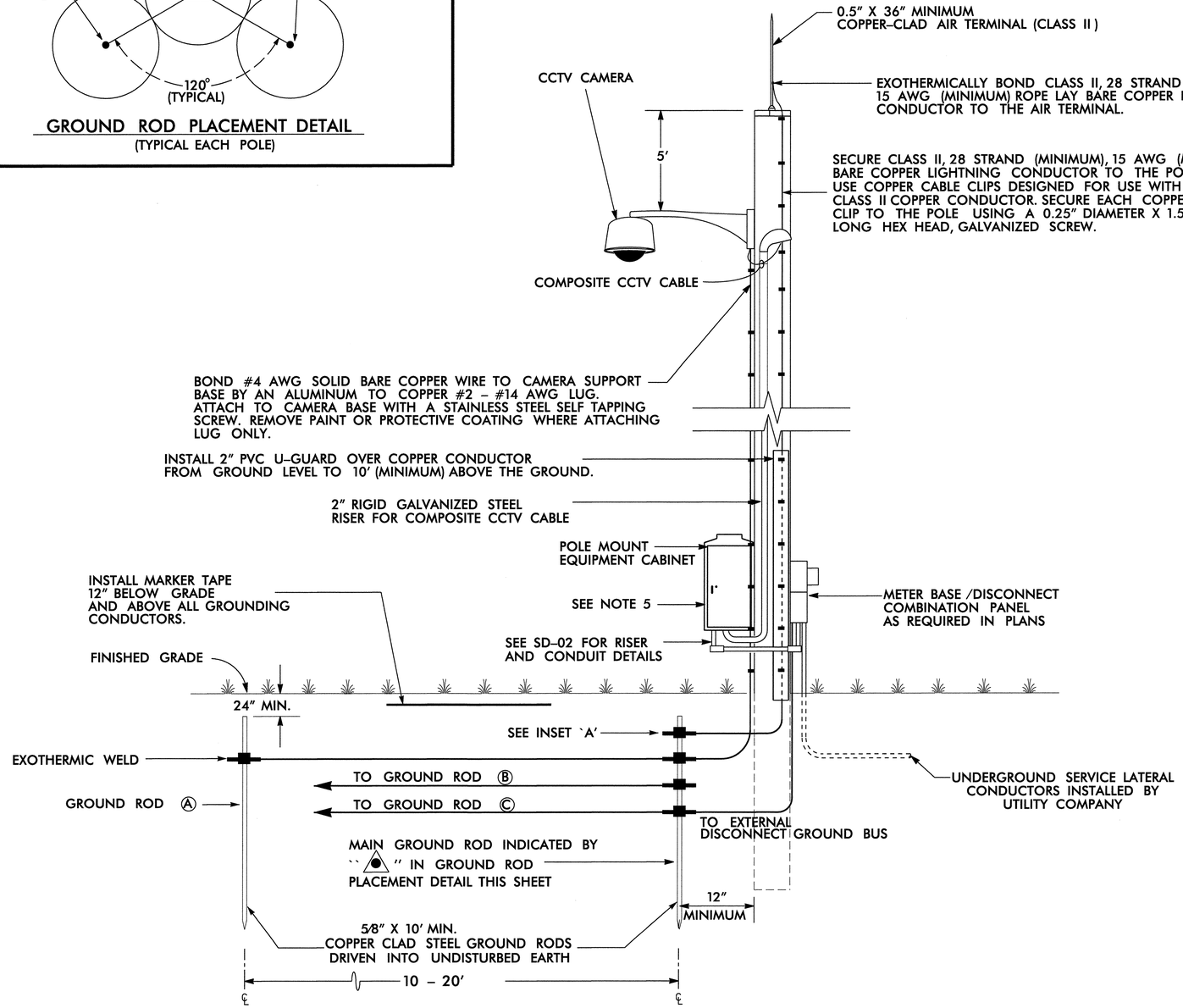
CADD Filename: CL B-310.dgn

21-MAR-2013 13:46
D:\Transportation\Traffic\Curr#100022712 Winston Salem Sig Sys\CL\Phase B\CL B-310.dgn
13813

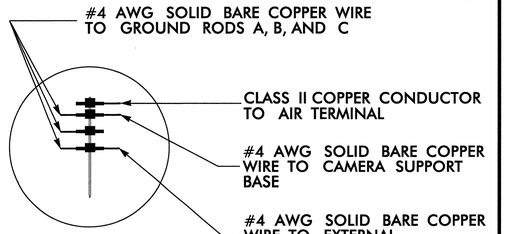


GROUND ROD PLACEMENT DETAIL

(TYPICAL EACH POLE)



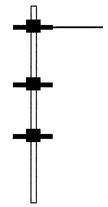
INSET `A'



PROJECT REFERENCE NO.	SHEET NO.
C-52248	SD-01

ALTERNATE GROUNDING METHOD

IF SPACE IS NOT AVAILABLE TO DRIVE MULTIPLE RODS, DRIVE SECTIONAL GROUND RODS A MINIMUM OF 30'.



JOIN SECTIONAL GROUND RODS BY EXOTHERMIC WELDING CONNECTION

NOTES

1. BOND CLASS II, 28 STRAND (MINIMUM), 15 AWG (MINIMUM) ROPE-LAY BARE COPPER CONDUCTOR TO THE MAIN GROUND ROD BY AN EXOTHERMIC WELD METHOD. MAINTAIN MAXIMUM HORIZONTAL SEPARATION BETWEEN COPPER CONDUCTOR AND RISER.
2. EXOTHERMICALLY WELD ALL CONNECTIONS TO GROUND RODS.
3. THE CONTRACTOR MAY, UPON APPROVAL OF THE ENGINEER, INSTALL A 30' SECTIONAL GROUND ROD FOR INSTANCES WHEN CONDITIONS WILL NOT ALLOW FOR THE INSTALLATION OF THE 3 - RADIAL GROUND RODS.
4. INSTALL MARKER TAPE DIRECTLY ABOVE ALL GROUNDING ELECTRODES AND CONDUCTORS AT A DEPTH OF 12".
5. REMOVE BONDING JUMPER BETWEEN EQUIPMENT CABINET GROUND BUS AND NEUTRAL BUS.
6. SEE SHEET SD-03 FOR RISERS AND CONDUIT DETAILS FOR POLE MOUNTED CCTV CABINETS

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

Prepared for the Offices of: NCDOT Integrated Mobility and Safety Division, Statewide Traffic Engineering and Safety Systems, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System CCTV Camera Installation, Wood Poles U/G Elec. Service Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	HAB
PREPARED BY:	BJS	REVIEWED BY:	JTB

REVISIONS	INIT.	DATE

SEAL

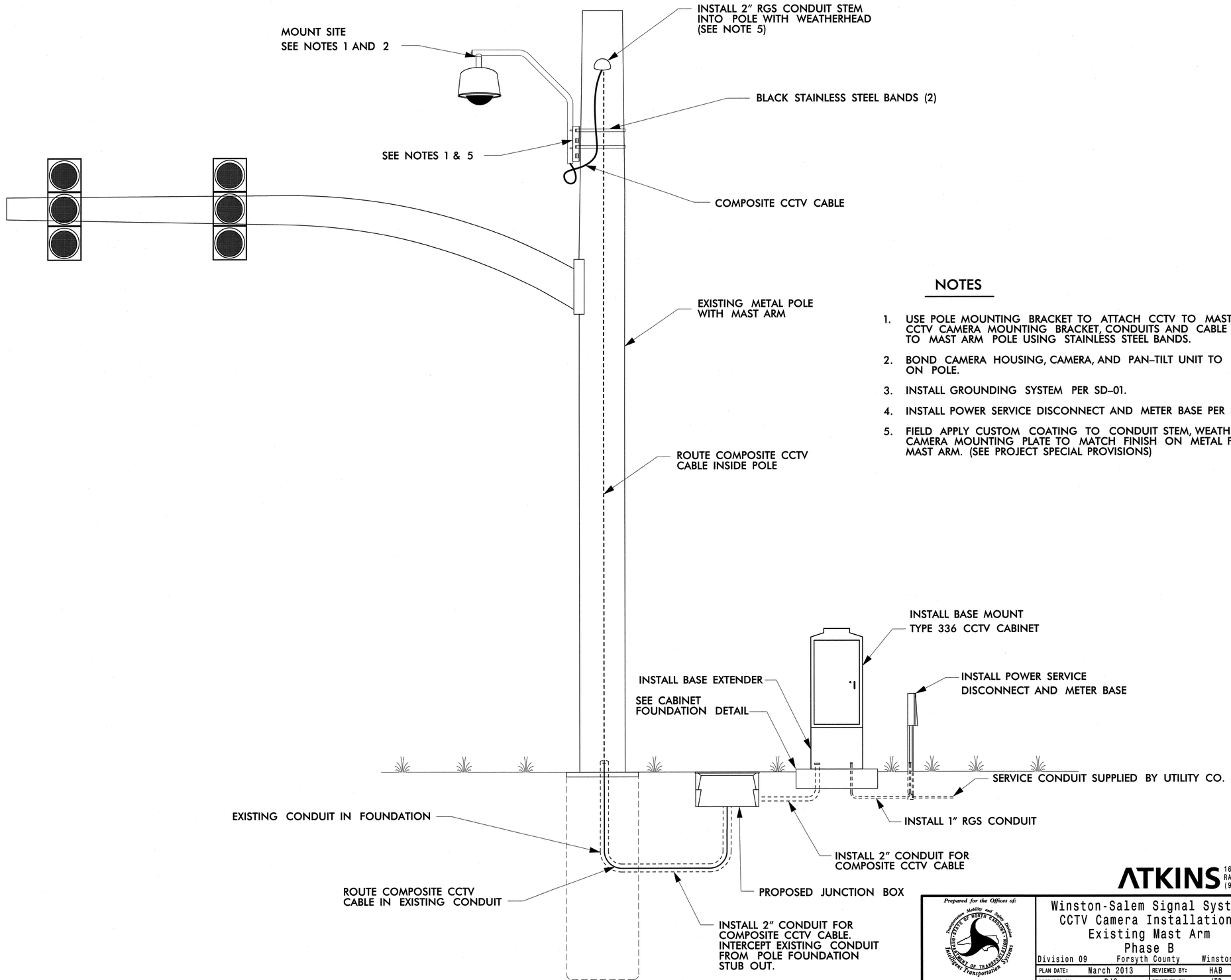
NORTH CAROLINA PROFESSIONAL SEAL 19962 ENGINEER HENRY ALFRED BADGETT, III

SIGNATURE 3/22/13 DATE

CADD Filename: SD-01.dgn

16-APR-2013 09:05
D:\#Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\Special Details\Phase B\SD-01.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	SD-02



NOTES

1. USE POLE MOUNTING BRACKET TO ATTACH CCTV TO MAST ARM POLE. BAND CCTV CAMERA MOUNTING BRACKET, CONDUITS AND CABLE TO MAST ARM POLE USING STAINLESS STEEL BANDS.
2. BOND CAMERA HOUSING, CAMERA, AND PAN–TILT UNIT TO CAMERA MOUNT ON POLE.
3. INSTALL GROUNDING SYSTEM PER SD–01.
4. INSTALL POWER SERVICE DISCONNECT AND METER BASE PER SD–12.
5. FIELD APPLY CUSTOM COATING TO CONDUIT STEM, WEATHERHEAD, AND CAMERA MOUNTING PLATE TO MATCH FINISH ON METAL POLE AND MAST ARM. (SEE PROJECT SPECIAL PROVISIONS)

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

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

Winston-Salem Signal System
CCTV Camera Installation, Existing Mast Arm
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	HAB
PREPARED BY:	BJS	REVIEWED BY:	JTB

REVISIONS	INIT.	DATE

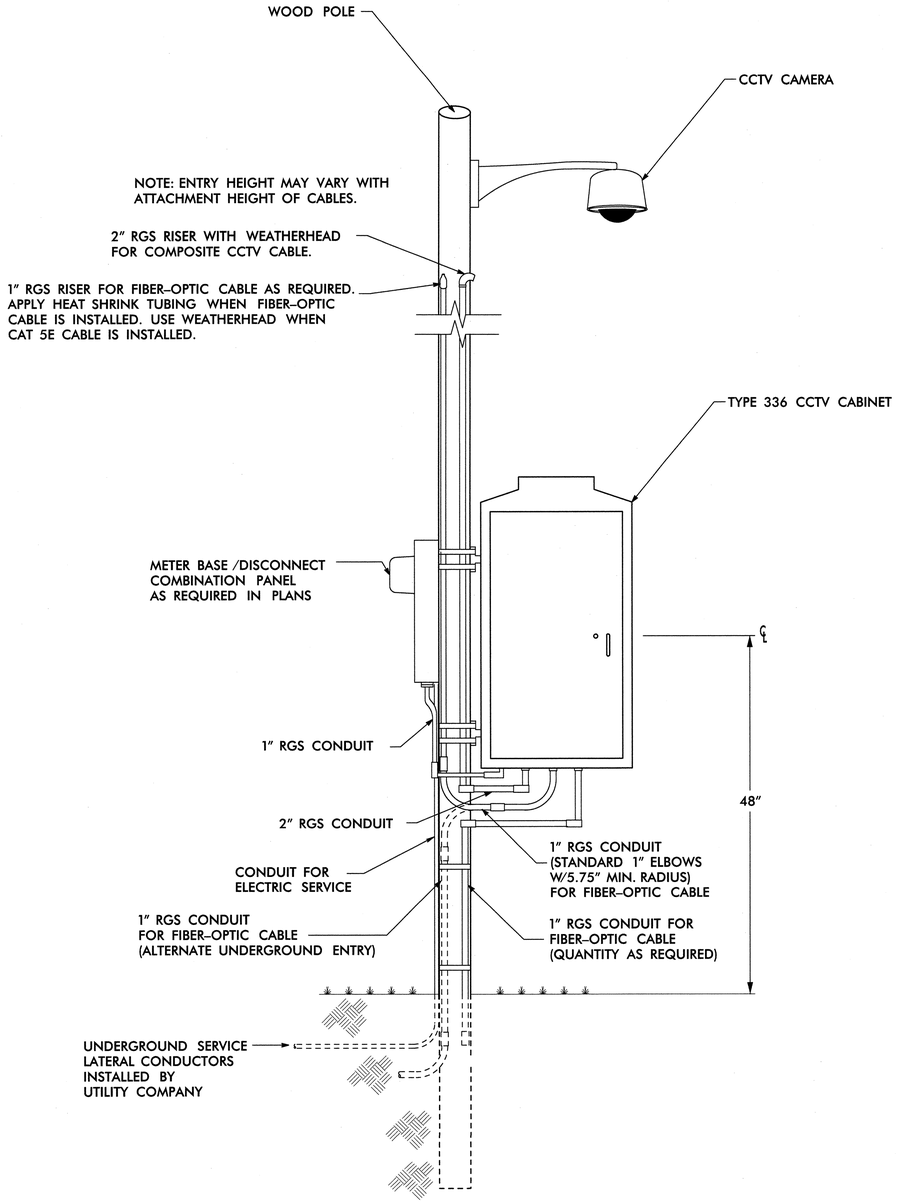
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 19962 ENGINEER ALFRED BADGETT III

H. Alfred Badgett 3/22/13
SIGNATURE DATE

CADD Filename: SD-02.dgn

14-MAR-2013 18:05
P:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\Special Details\Phase B\SD-02.dgn
13813

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	SD-03



NOTES

1. BOND CLASS II, 28 STRAND (MINIMUM), 15 AWG (MINIMUM) ROPE-LAY BARE COPPER CONDUCTOR TO THE MAIN GROUND ROD BY AN EXOTHERMIC WELD METHOD. MAINTAIN MAXIMUM HORIZONTAL SEPARATION BETWEEN COPPER CONDUCTOR AND RISER.
2. EXOTHERMICALLY WELD ALL CONNECTIONS TO GROUND RODS.
3. THE CONTRACTOR MAY, UPON APPROVAL OF THE ENGINEER, INSTALL A 30' SECTIONAL GROUND ROD FOR INSTANCES WHEN CONDITIONS WILL NOT ALLOW FOR THE INSTALLATION OF THE 3 - RADIAL GROUND RODS.
4. INSTALL MARKER TAPE DIRECTLY ABOVE ALL GROUNDING ELECTRODES AND CONDUCTORS AT A DEPTH OF 12".
5. REMOVE BONDING JUMPER BETWEEN EQUIPMENT CABINET GROUND BUS AND NEUTRAL BUS.

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

Prepared for the Offices of: Transportation Mobility and Safety Division, State of North Carolina, Department of Transportation, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
CCTV Riser and Conduit
Details, Pole-Mounted Cabinet
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	HAB
PREPARED BY:	BJS	REVIEWED BY:	JTB

REVISIONS	INIT.	DATE

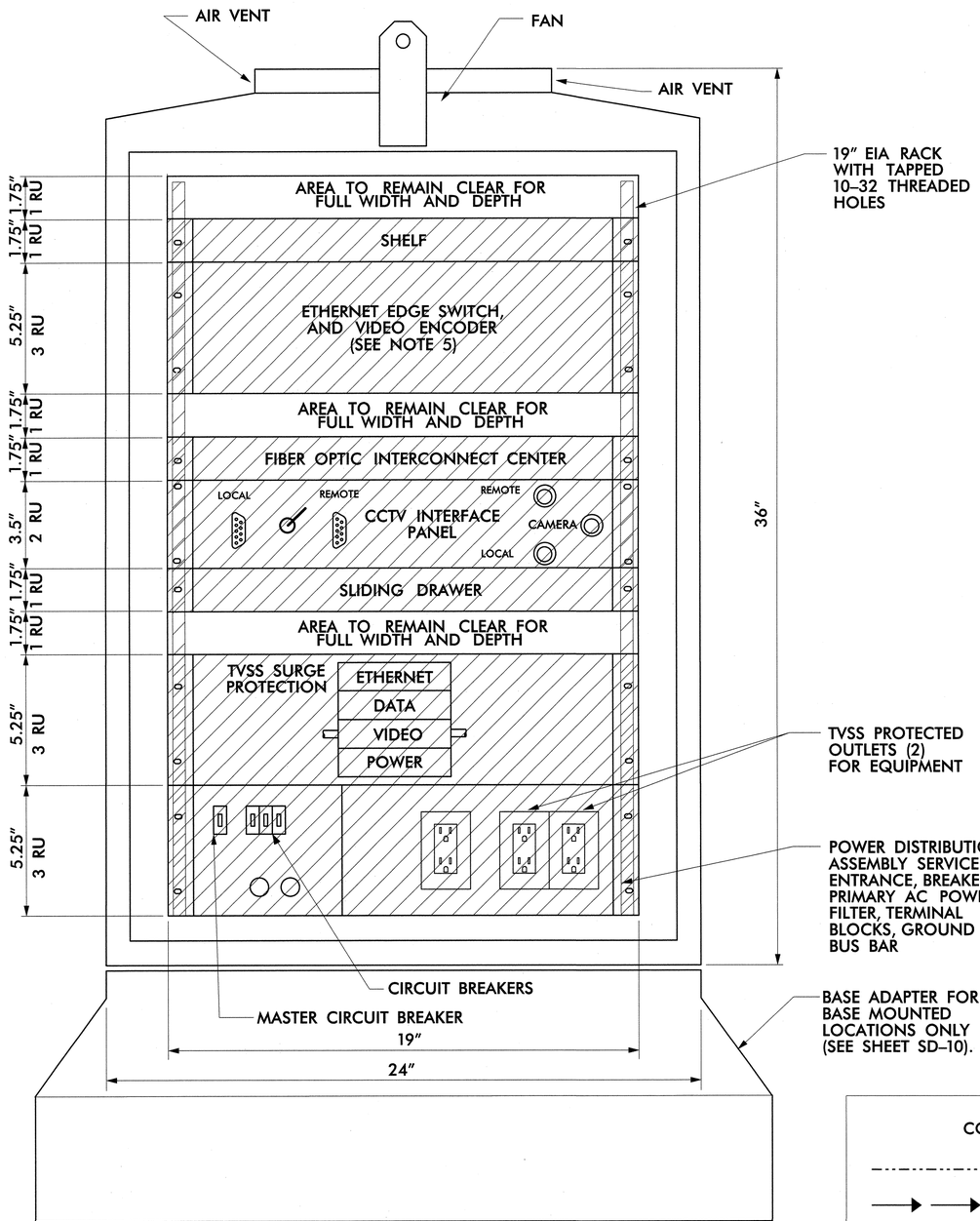
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 19962 ENGINEER HENRY ALFRED BADGETT, III

H Alfred Badgett 3/22/13
SIGNATURE DATE

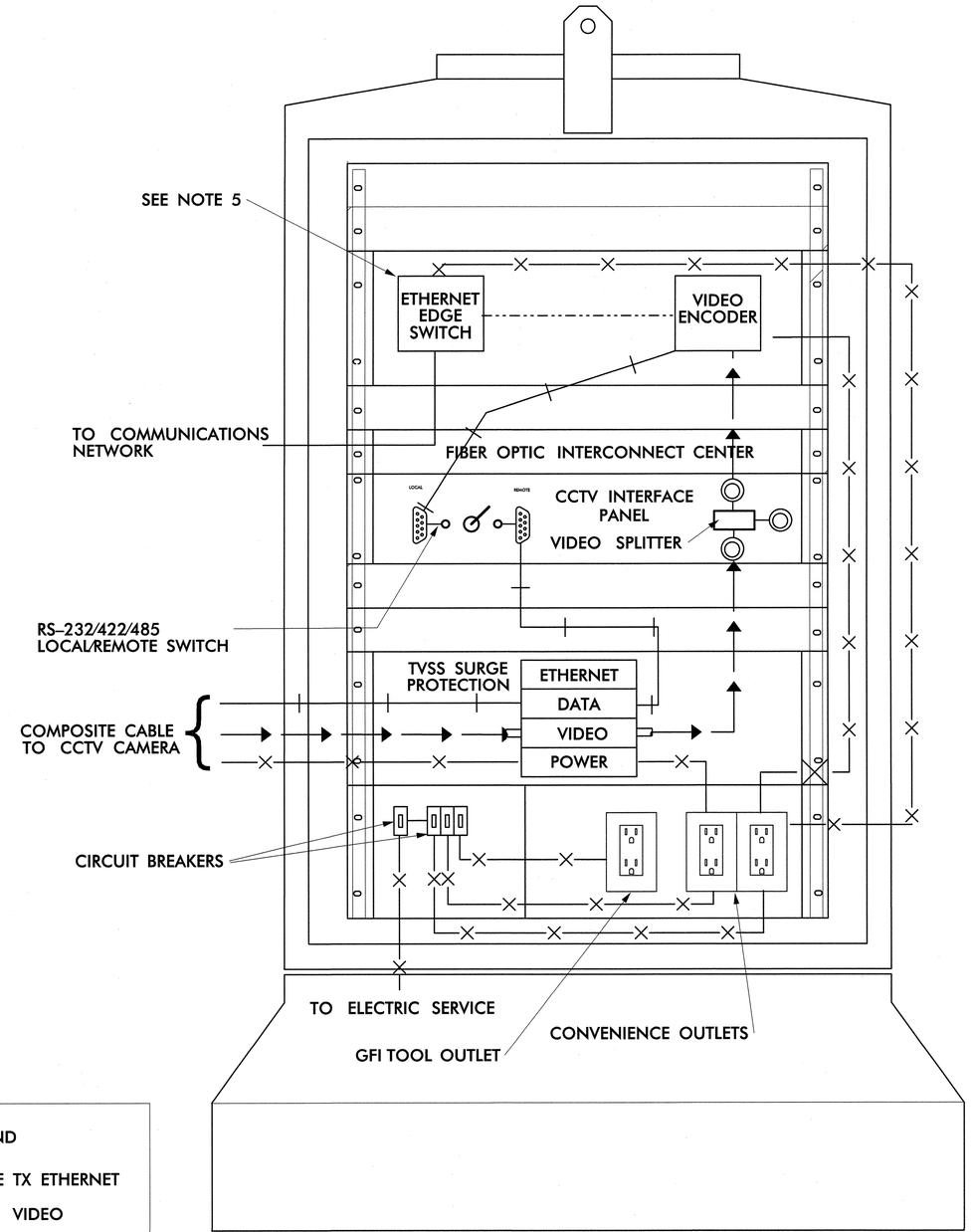
CADD Filename: SD-03.dgn

18-MAR-2013 13:42
O:*Transportation*Traffic*Curr*100022712 Winston Salem Sig Sys*Special Details*Phase B*SD-03.dgn
12054

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	SD-04



FRONT VIEW



CABINET WIRING VIEW

CONNECTION LEGEND

- 100 BASE TX ETHERNET
- ANALOG VIDEO
- ELECTRICAL POWER
- RS-232/422/485

NOTES

1. ALL DIMENSIONS AND SCALE ARE APPROXIMATE.
2. CABINETS WILL BE CALTRANS TYPE 336
3. CONDUIT ENTRANCES SHALL BE IN BOTTOM OF CABINET.
4. THERE WILL BE FRONT AND REAR DOORS. BOTH DOORS SHALL HAVE THE HINGE-SIDE NEXT TO THE POLE WHEN POLE MOUNTED.
5. INSTALL ETHERNET EDGE SWITCH WHEN SHOWN IN PLANS.

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

Prepared for the Offices of: North Carolina Department of Transportation, Mobility and Safety Division, Intelligent Transportation Systems

750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
CCTV Cabinet Assembly Layout
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	HAB
PREPARED BY:	BJS	REVIEWED BY:	JTB

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 19962 ENGINEER HENRY ALFRED BADGETT III

H. Alfred Badgett 3/22/13
SIGNATURE DATE

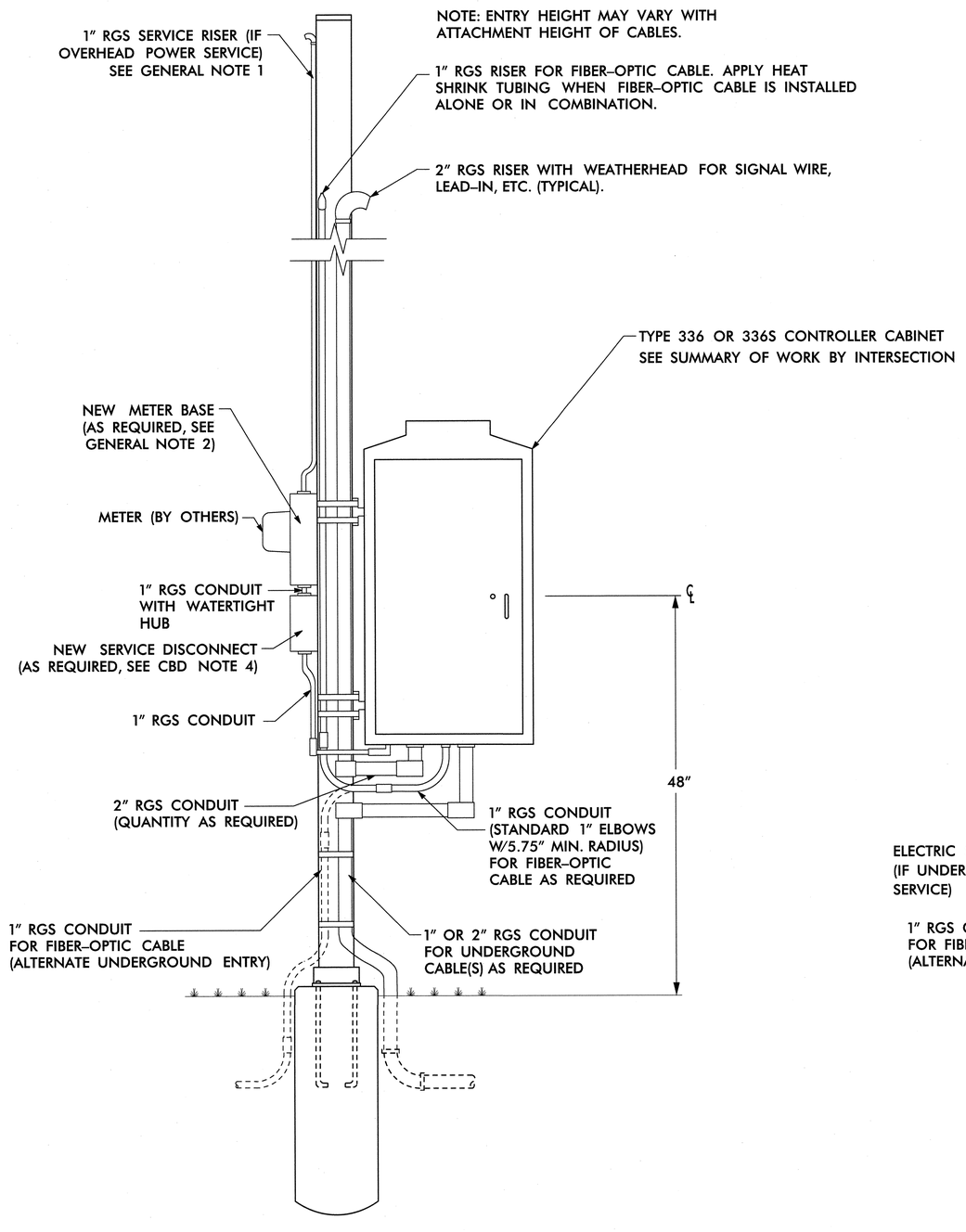
CADD Filename: SD-04.dgn

14-MAR-2013 18:05
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\Special Details\Phase B\SD-04.dgn
13833

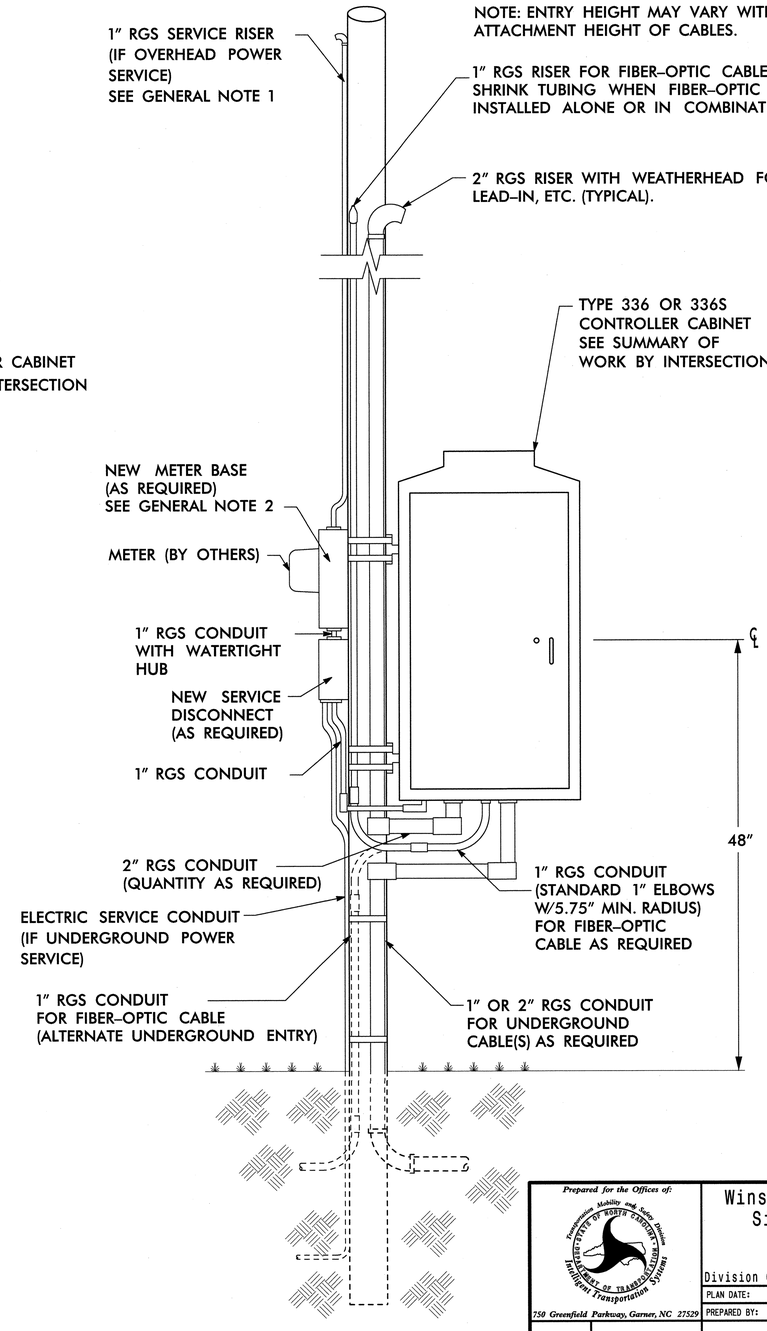
PROJECT REFERENCE NO.	SHEET NO.
C-5224B	SD-05

POLE–MOUNTED SIGNAL CABINET DETAIL

METAL POLE



WOOD POLE



GENERAL NOTES

1. 40" SHALL BE MAINTAINED BETWEEN POWER SERVICE RISER WEATHERHEAD AND COMMUNICATIONS.
2. INSTALL NEW COMBINATION METER BASE /DISCONNECT IN LIEU OF SEPARATE METER AND DISCONNECT WHEN CALLED FOR IN PLANS.
3. INSTALL DISCONNECT WHEN CALLED FOR IN PLANS.
4. MAINTAIN ELECTRIC SERVICE METER IN SAME LOCATION OVER EXISTING CABLE ENTRY HOLE. FURNISH AND INSTALL NEW SERVICE DISCONNECT WHEN CALLED FOR IN PLANS.

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

Prepared for the Offices of: NCDOT Transportation Mobility and Safety Division, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Signal Cabinet Detail,
Pole-Mounted
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	HAB
PREPARED BY:	BJS	REVIEWED BY:	JTB

REVISIONS	INIT.	DATE

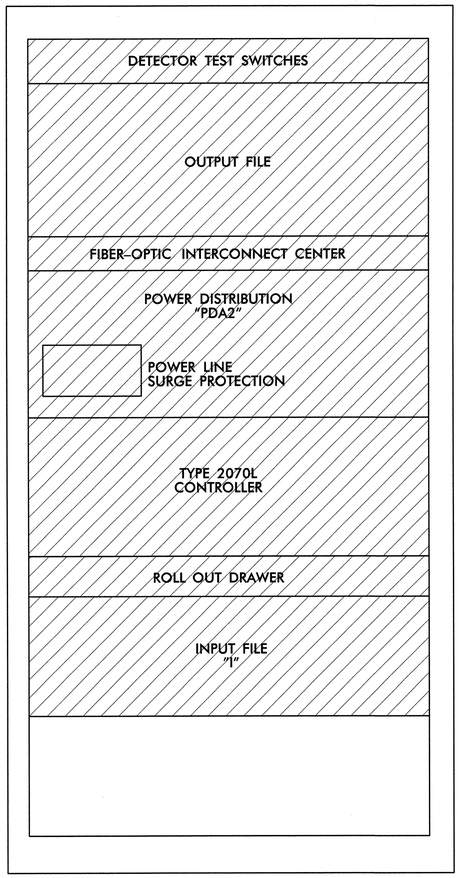
SEAL: NORTH CAROLINA PROFESSIONAL SEAL 19362 ENGINEER H. ALFRED BADGETT III

H. Alfred Badgett 3/22/13
SIGNATURE DATE

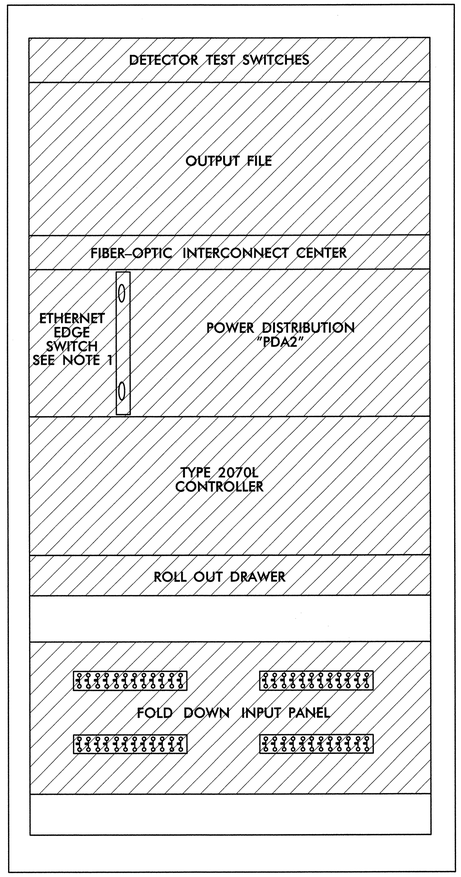
CADD Filename: SD-05.dgn

18-MAR-2013 13:34
D:\#Transportation\#Traffic\#Curr\#100022712 Winston Salem Sig Sys\#Special Details\#Phase B\#SD-05.dgn
12054

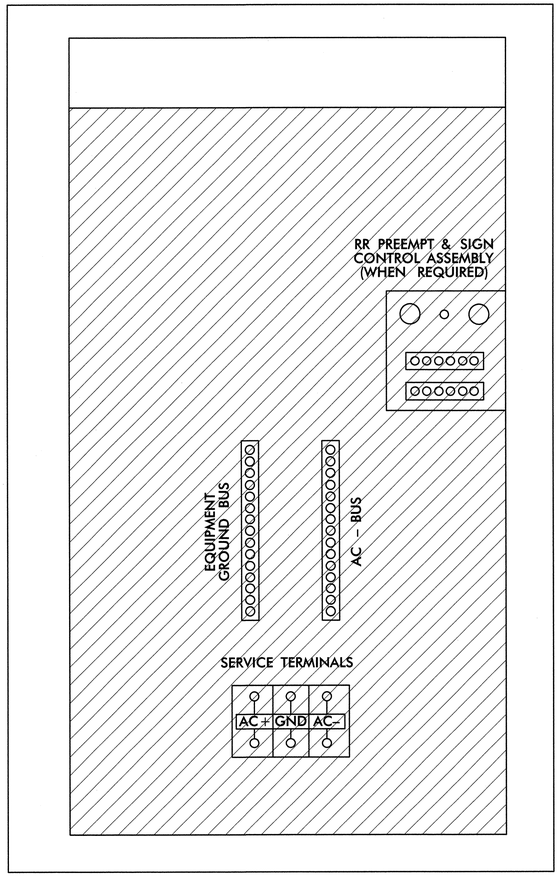
PROJECT REFERENCE NO.	SHEET NO.
C-5224B	SD-06



TRAFFIC SIGNAL CABINET
FRONT VIEW



TRAFFIC SIGNAL CABINET
REAR VIEW



TRAFFIC SIGNAL CABINET
RIGHT SIDE VIEW

NOTES:

1. SHELF OR RACK MOUNT ETHERNET EDGE SWITCH.
2. DEPENDING UPON EXACT EQUIPMENT AND CABINET SIZE, CONFIGURE THE TYPE 336 CABINETS TO ENSURE ANY EXTRA SPACE IS AT THE BOTTOM OF THE CABINET.

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

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

Winston-Salem Signal System
Reconfigured Pole-Mounted
336S Cabinets
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	HAB
PREPARED BY:	BJS	REVIEWED BY:	JTB

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 19962 ENGINEER HENRY ALFRED BADGETT III

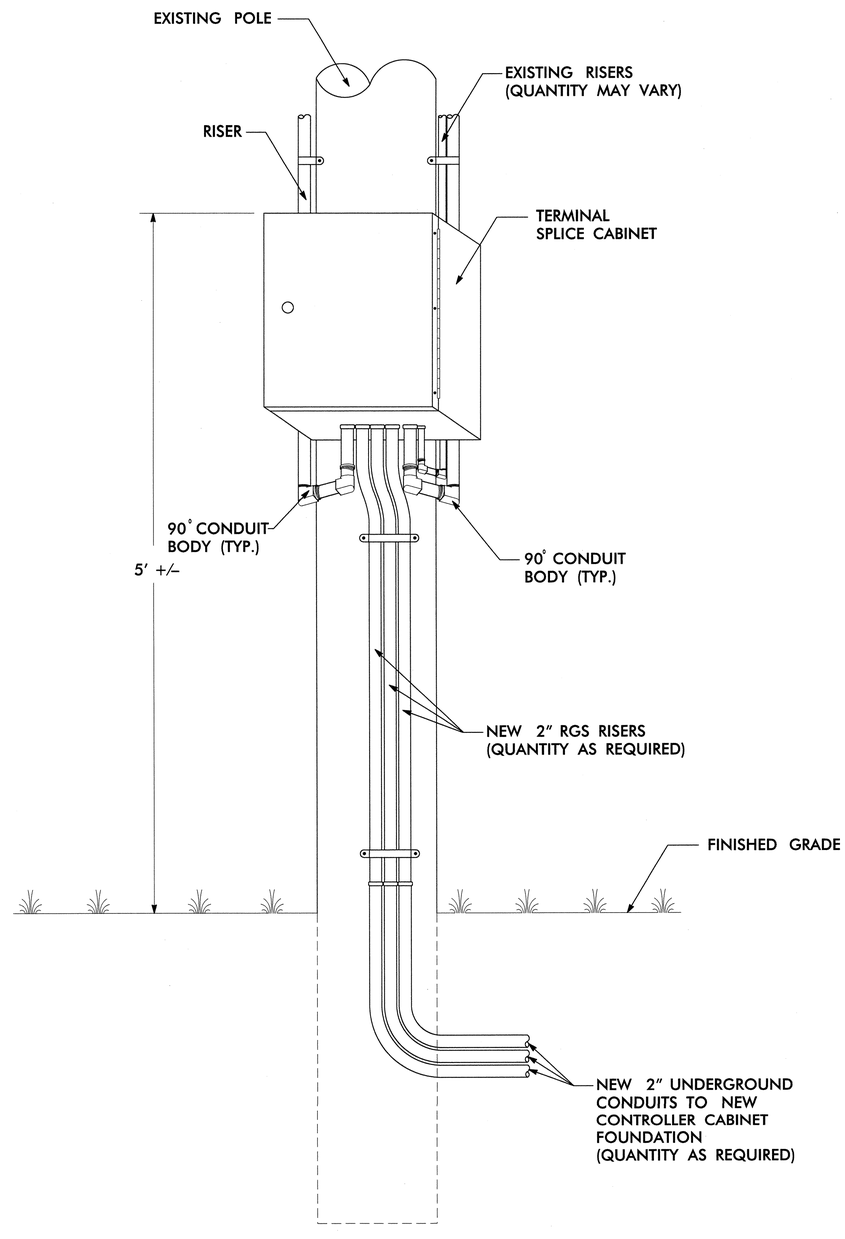
H. Alfred Badgett 3/22/13
SIGNATURE DATE

CADD Filename: SD-06.dgn

13-MAR-2013 17:19
D:\#transportation\#traffic\#Curr\#100022712 Winston Salem Sig Sys\#Special Details\#Phase B\#SD-06.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	SD-07

TERMINAL SPLICE CABINET DETAIL



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

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

Winston-Salem Signal System
Terminal Splice
Cabinet Detail
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	HAB
PREPARED BY:	BJS	REVIEWED BY:	JTB

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 19962 ENGINEER HENRY ALFRED BADGETT III
SIGNATURE 3/22/13 DATE

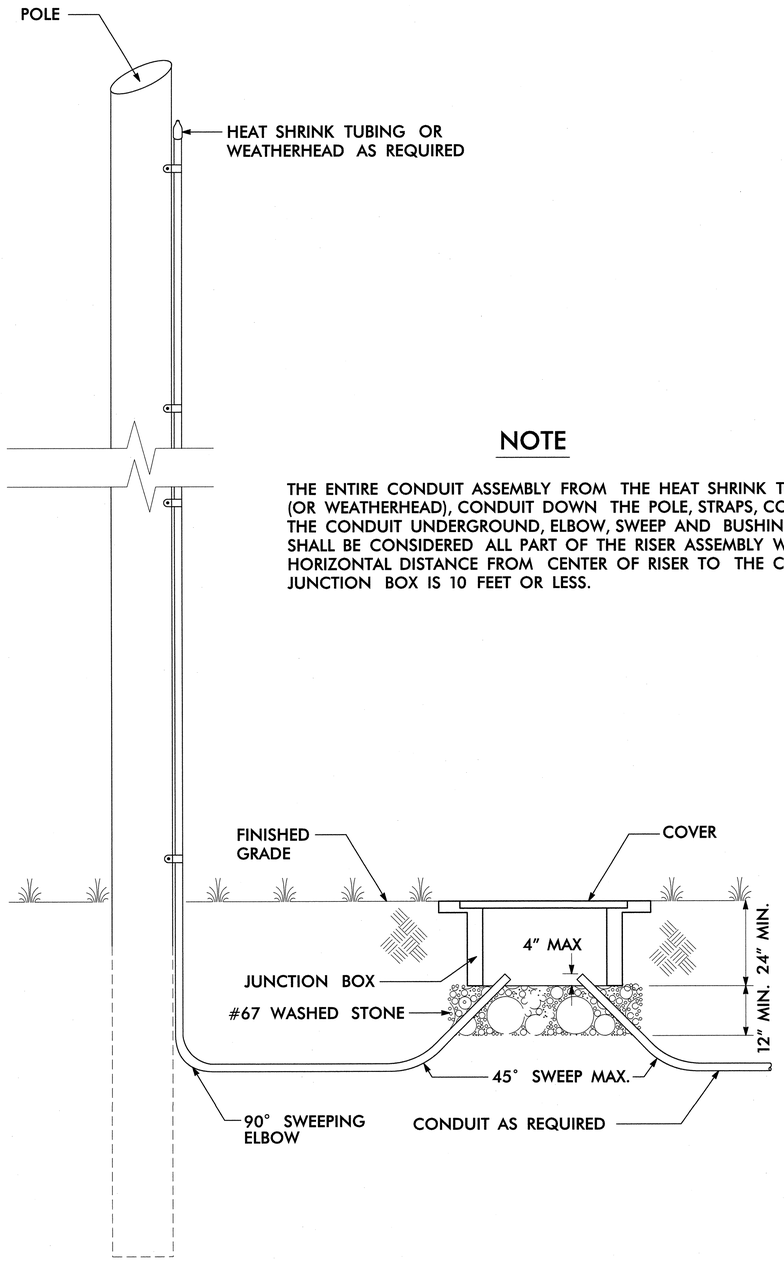
CADD Filename: SD-07.dgn

13-MAR-2013 17:19
D:\Transportation\TrafficCurr\100022712 Winston Salem Sig Sys\Special Details\Phase B\SD-07.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	SD-08

TYPICAL RISER DETAILS

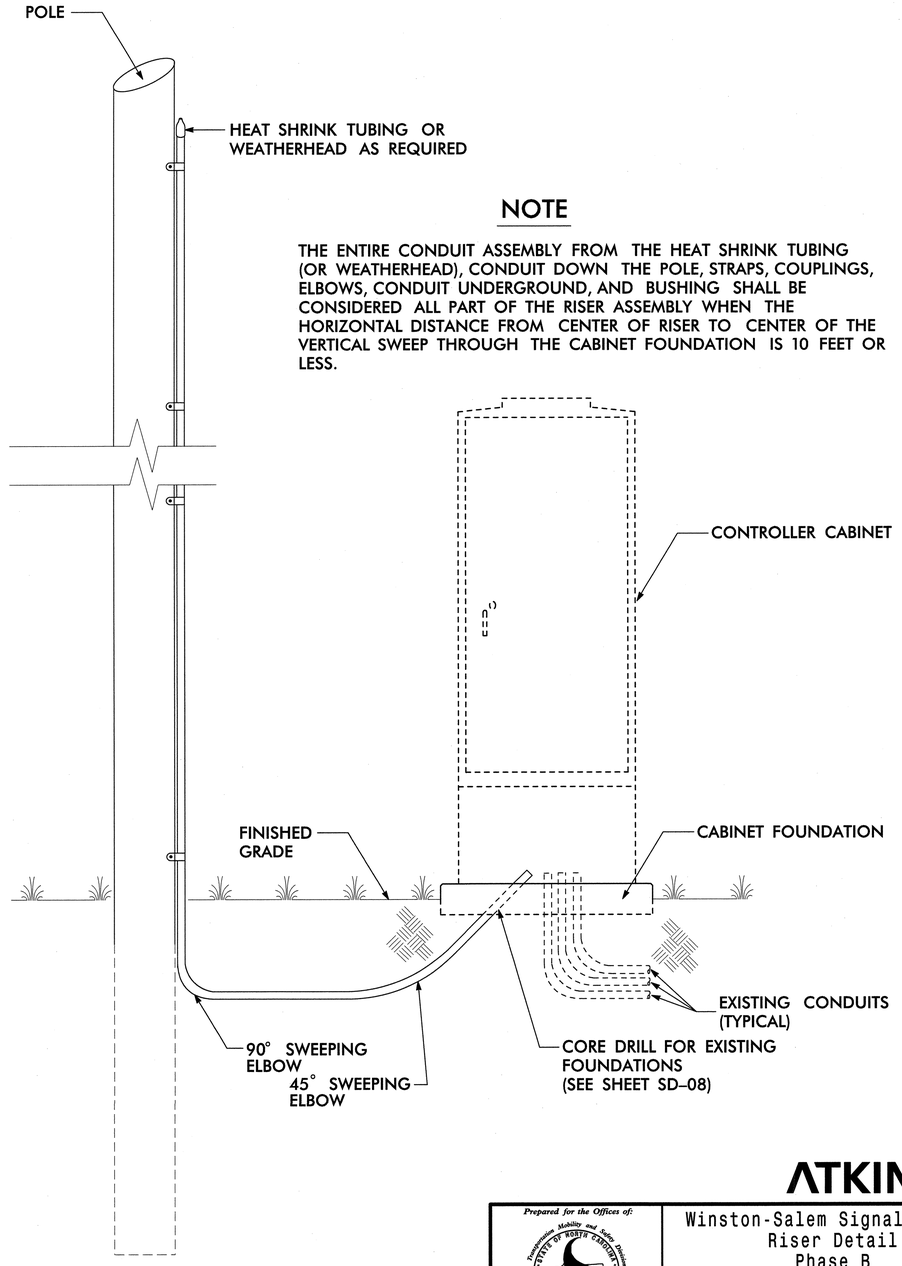
RISER TO JUNCTION BOX



NOTE

THE ENTIRE CONDUIT ASSEMBLY FROM THE HEAT SHRINK TUBING (OR WEATHERHEAD), CONDUIT DOWN THE POLE, STRAPS, COUPLINGS, THE CONDUIT UNDERGROUND, ELBOW, SWEEP AND BUSHING SHALL BE CONSIDERED ALL PART OF THE RISER ASSEMBLY WHEN THE HORIZONTAL DISTANCE FROM CENTER OF RISER TO THE CENTER OF JUNCTION BOX IS 10 FEET OR LESS.

RISER TO CABINET FOUNDATION



NOTE

THE ENTIRE CONDUIT ASSEMBLY FROM THE HEAT SHRINK TUBING (OR WEATHERHEAD), CONDUIT DOWN THE POLE, STRAPS, COUPLINGS, ELBOWS, CONDUIT UNDERGROUND, AND BUSHING SHALL BE CONSIDERED ALL PART OF THE RISER ASSEMBLY WHEN THE HORIZONTAL DISTANCE FROM CENTER OF RISER TO CENTER OF THE VERTICAL SWEEP THROUGH THE CABINET FOUNDATION IS 10 FEET OR LESS.

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

Prepared for the Offices of: Transportation Mobility and Safety Division, North Carolina Department of Transportation, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Riser Detail
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	HAB
PREPARED BY:	BJS	REVIEWED BY:	JTB

REVISIONS	INIT.	DATE

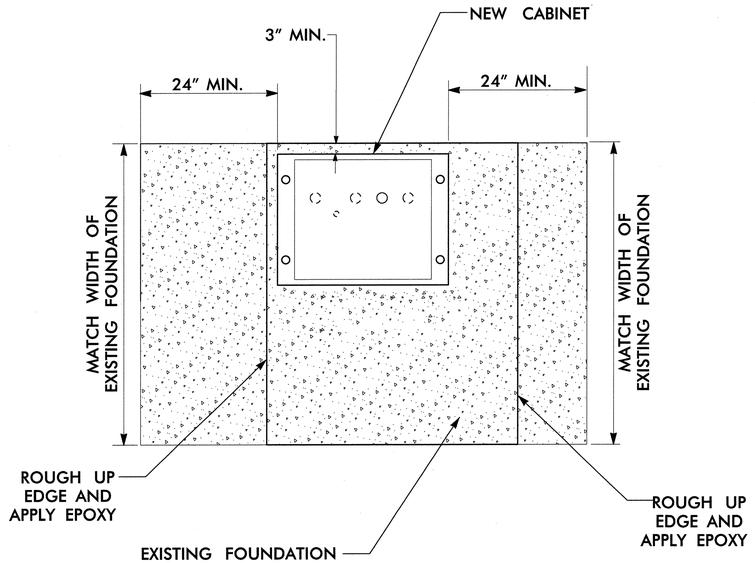
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 19982 ENGINEER HENRY ALFRED BADGETT III
H. Alfred Badgett 3/21/13
SIGNATURE DATE

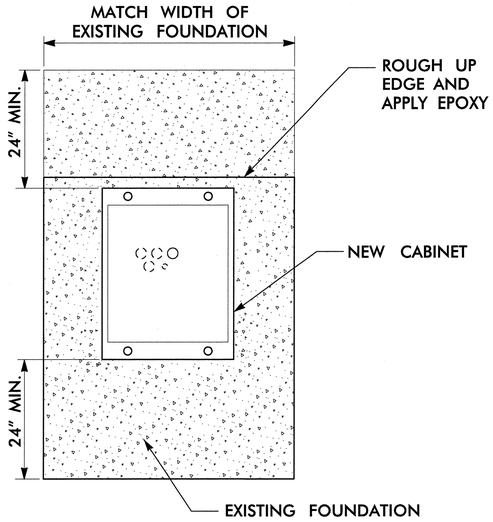
CADD Filename: SD-08.dgn

14-MAR-2013 18:05
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\Special Details\Phase B\SD-08.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	SD-09

TYPICAL FOUNDATION MODIFICATIONS





FOUNDATION EXTENSION	LENGTH OF DOWEL
>16"	18"
>6' AND ≤16"	11"
=6"	8"

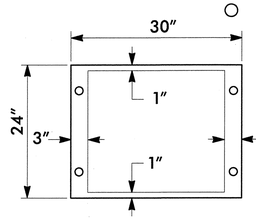
NOTES

FOR FOUNDATION MODIFICATIONS:

A. MAINTENANCE TECHNICIAN PADS SHALL BE ADDED TO THE FOUNDATION TO PROVIDE A MINIMUM PAD AREA THAT EXTENDS 24" FROM THE FRONT AND BACK OF THE CABINET, AND MATCHES THE WIDTH OF THE EXISTING FOUNDATION.
B. EXCAVATE THE GROUND AROUND THE EXISTING FOUNDATION TO A DEPTH SUFFICIENT TO EXPOSE A MINIMUM OF 4" OF THE FOUNDATION BELOW EXISTING GRADE.
C. ROUGH THE SIDES OF THE EXISTING FOUNDATION FROM THE TOP TO A POINT FOUR INCHES BELOW GRADE BY MEANS OF A CHISEL OR OTHER METHOD APPROVED BY THE ENGINEER.
D. WASH THE SIDES OF THE FOUNDATION WITH WATER PRESSURIZED AT 50 PSI AND THOROUGHLY DRY WITH COMPRESSED AIR.
E. DRILL HOLES APPROXIMATELY 6" DEEP ON 12-INCH CENTERS INTO THE EXISTING FOUNDATION. INSTALL #4 DOWELS AND EPOXY INTO PLACE. DOWELS SHALL BE THE LENGTH SHOWN IN THE TABLE ABOVE.
F. FORM THE SIDES OF THE MODIFIED FOUNDATION TO A MINIMUM DEPTH OF 4" BELOW GRADE.
G. POSITION FORMS SO THAT ALL EXISTING EXPOSED FOUNDATION SURFACES AT OR ABOVE GRADE LEVEL WILL BE MATCHED.
H. APPLY A COATING OF APPROVED EPOXY BONDING AGENT TO ALL EXPOSED ROUGHENED CONCRETE SURFACES AS RECOMMENDED BY THE MANUFACTURER.
I. PROVIDE A ONE INCH CHAMFER ON ALL NEW OUTSIDE EDGES.
J. USE CONCRETE TO INSTALL THE MAINTENANCE TECHNICIAN PAD.
K. WHERE CABINETS ARE RELOCATED OR ROTATED ON EXISTING FOUNDATION, CUT OFF ANY EXISTING CABINET MOUNTING BOLTS AND GRIND FLUSH WITH THE PAD SURFACE.

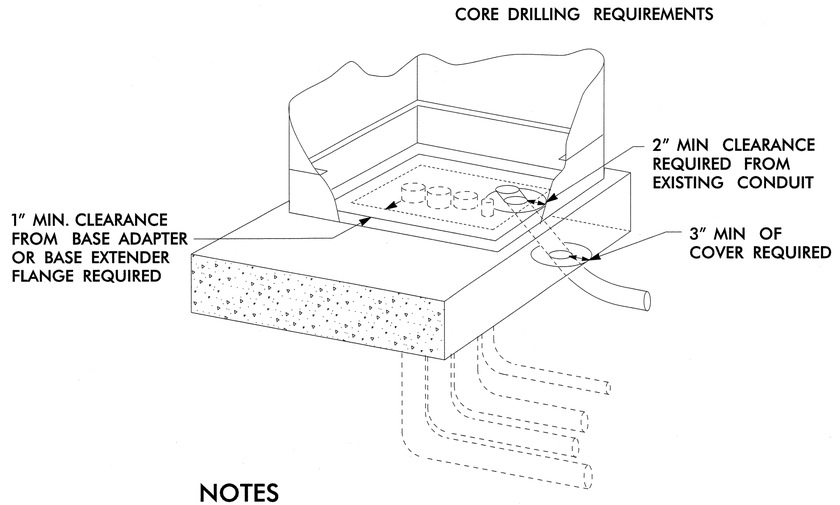
LEGEND

EXISTING CONDUIT/RISER
PROPOSED CONDUIT/RISER



FOOTPRINT OF 332 TYPE CABINET WITH BASE EXTENDER

CORE DRILLING REQUIREMENTS



NOTES

FOR CORE DRILLING:

A. A MINIMUM OF 3" OF COVER SHALL BE MAINTAINED BETWEEN NEW CONDUIT AND EDGE OF EXISTING FOUNDATION.
B. MINIMUM CLEARANCES OF 1" FROM THE FLANGE OF THE BASE ADAPTER AND 2" FROM EXISTING CONDUITS SHALL BE MAINTAINED.
C. AVOID DAMAGING EXISTING CONDUIT, CONDUCTORS, AND ANCHOR BOLTS. CONTRACTOR SHALL REPAIR SUCH DAMAGES.
D. WHERE APPROVED BY THE ENGINEER, EXISTING FOUNDATION MAY BE CHIPPED INSTEAD OF DRILLED FOR CONDUIT ENTRANCE.
E. BOND NEW METALLIC CONDUIT TO THE CABINET GROUNDING SYSTEM.
F. AFTER INSTALLATION OF CONDUIT, PLACE GROUT TO SEAL AROUND CONDUIT, AND RETURN EXISTING FOUNDATION TO NORMAL APPEARANCE.

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

Prepared for the Offices of: Transportation Mobility and Safety Division, North Carolina Department of Transportation, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Foundation Modification Detail
Phase B

Division 09 Forsyth County Winston-Salem

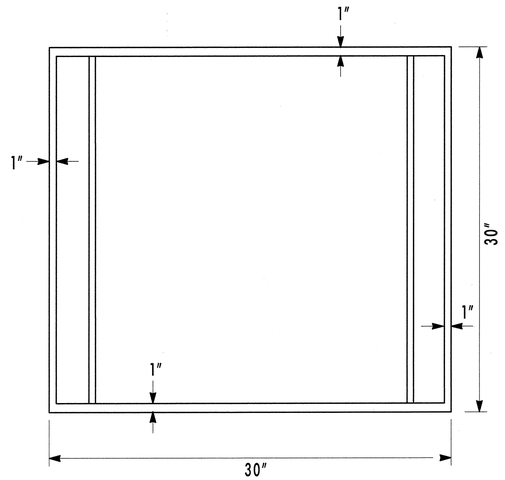
PLAN DATE:	March 2013	REVIEWED BY:	HAB
PREPARED BY:	BJS	REVIEWED BY:	JTB

REVISIONS	INIT.	DATE

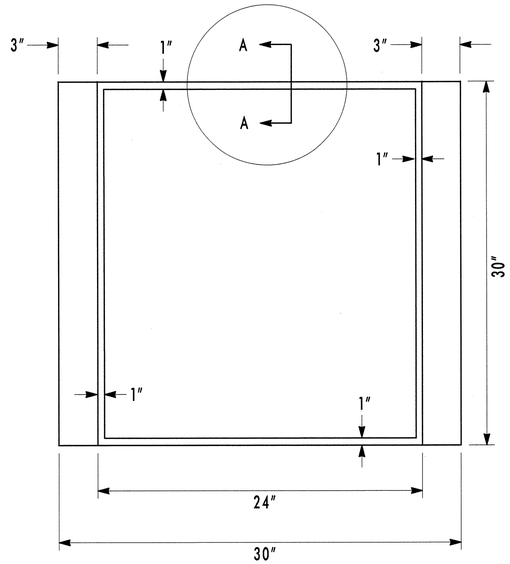
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 19962 ENGINEER HENRY ALFRED BADGETT III
SIGNATURE DATE 3/22/13
CADD Filename: SD-09.dgn

14-MAR-2013 18:07
O:*Transportation\Traffic\Curr*100022712 Winston Salem Sig Sys*Special Details*Phase B\SD-09.dgn
13833

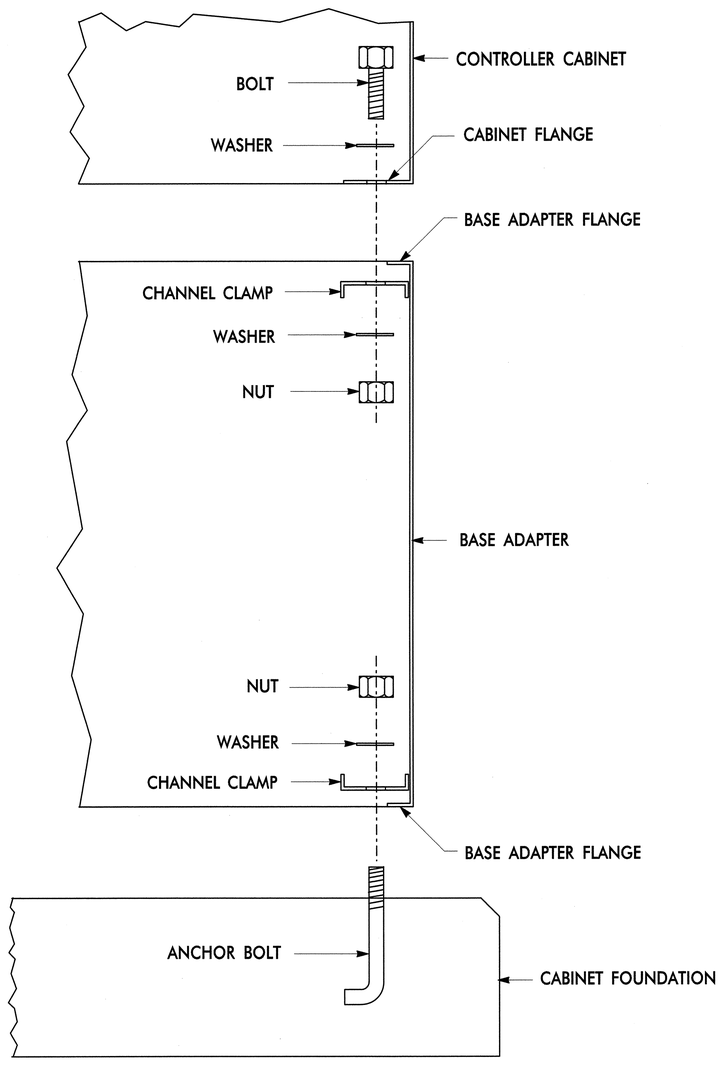
PROJECT REFERENCE NO.	SHEET NO.
C-5224B	SD-10



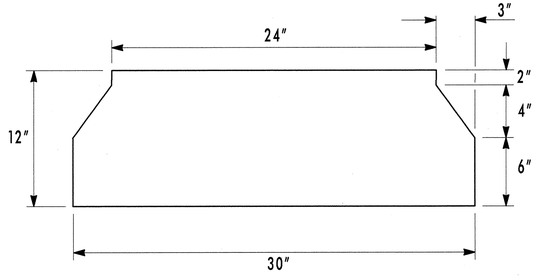
BOTTOM VIEW



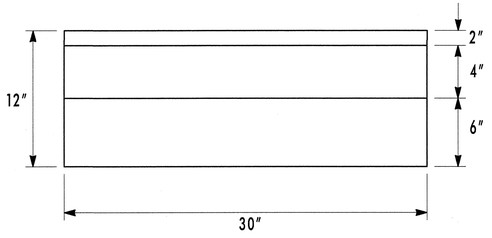
TOP VIEW



SECTION 'A – A'

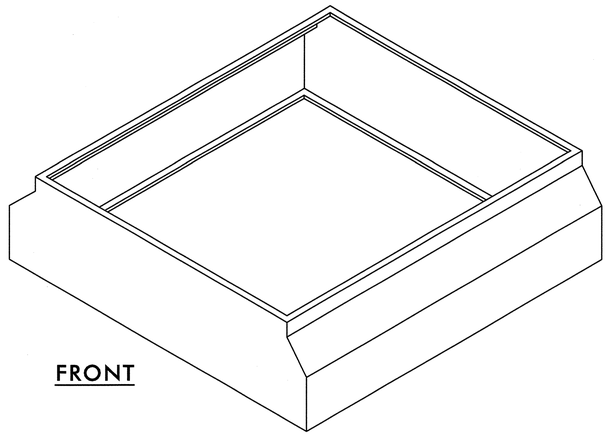


FRONT VIEW

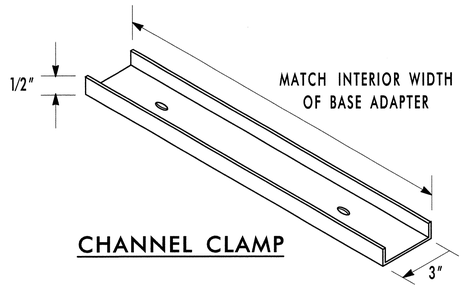


RIGHT SIDE VIEW

BASE ADAPTER



FRONT



CHANNEL CLAMP

NOTES FOR BASE ADAPTER

1. FURNISH BASE ADAPTERS WITH FLANGES BOTH TOP AND BOTTOM SIZED AS SHOWN.
2. DRILL HOLES IN CHANNEL CLAMP TO MATCH ANCHOR BOLTS AND CABINET FLANGE BOLT HOLES.
3. APPLY CONTINUOUS, CLEAR, FLEXIBLE, WATERPROOF SEALANT TO TOP AND BOTTOM FLANGES TO SEAL TOP CONNECTION WITH THE CABINET AND BOTTOM CONNECTION WITH THE CABINET FOUNDATION.

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

Prepared for the Offices of: Transportation Mobility and Safety Division, North Carolina Department of Transportation, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Base Adapter Detail
Phase B

Division 09 Forsyth County Winston-Salem
PLAN DATE: March 2013 REVIEWED BY: HAB
PREPARED BY: BJS REVIEWED BY: JTB

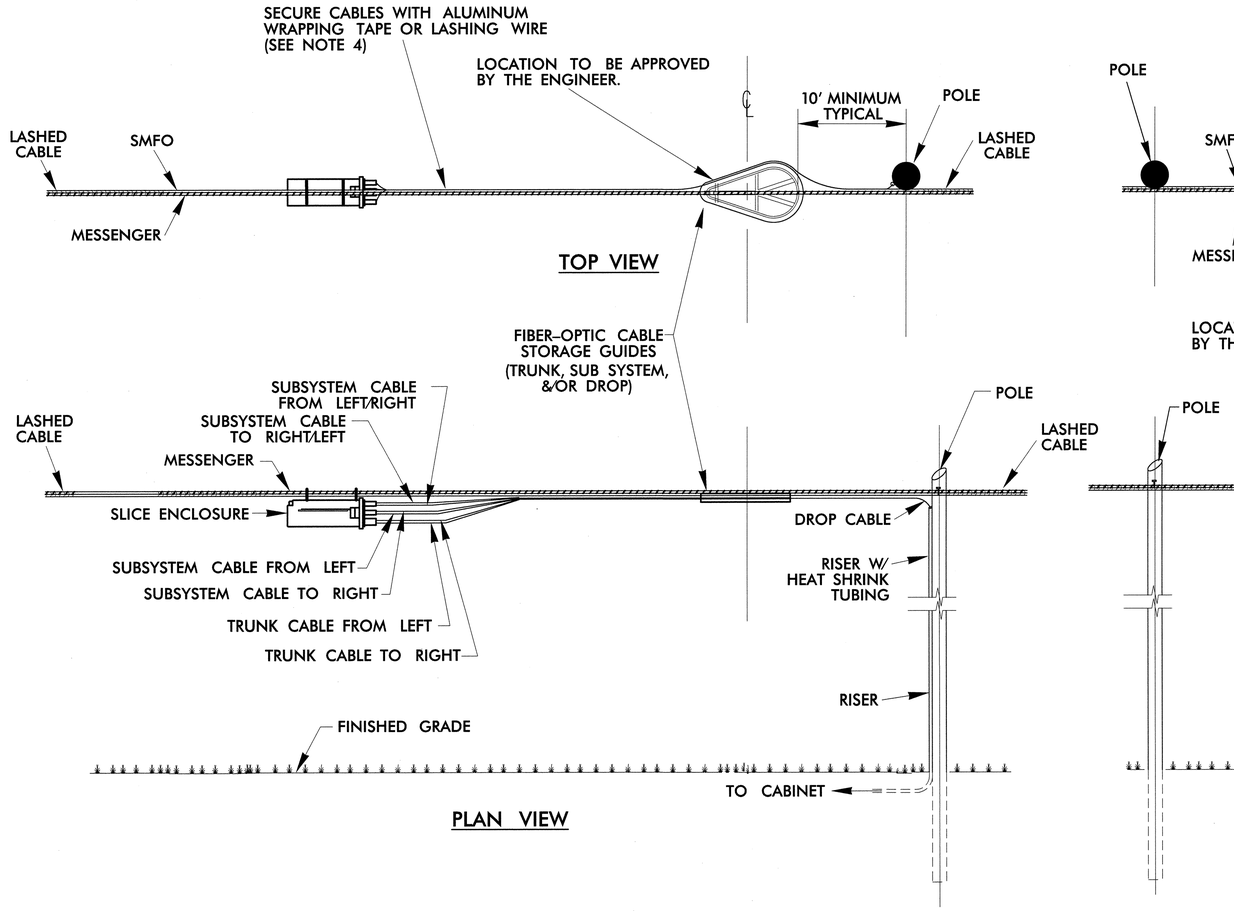
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 19962 ENGINEER HENRY ALFRED BADGETT III
H. Alfred Badgett 3/22/13
SIGNATURE DATE
CADD Filename: SD-10.dgn

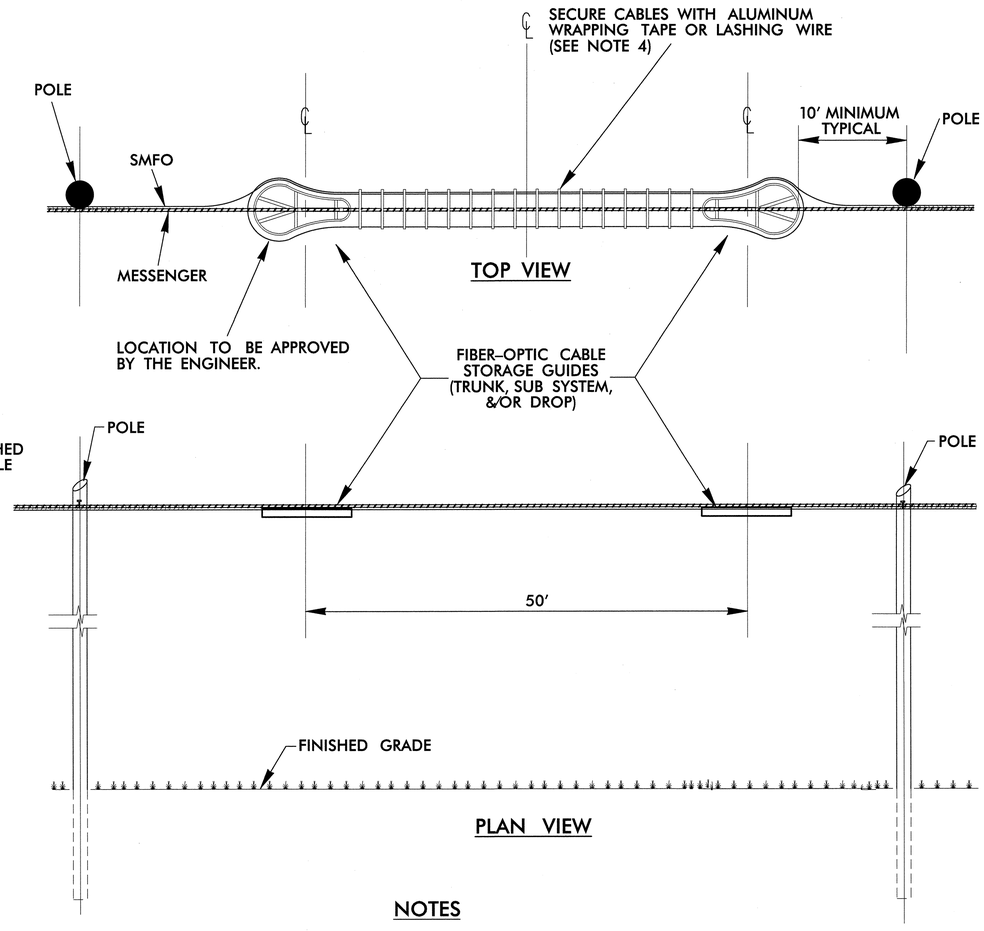
13-MAR-2013 17:19
01:\Transportation\Traffic\Cur\100022712 Winston Salem Sig Sys\Special Details\Phase B\SD-10.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	SD-11

SPLICE ENCLOSURE WITH STORAGE TYP. DETAIL



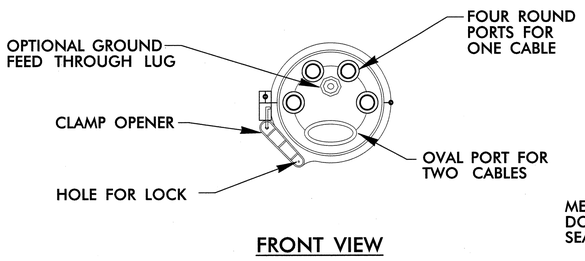
SPARE CABLE STORAGE TYP. DETAIL



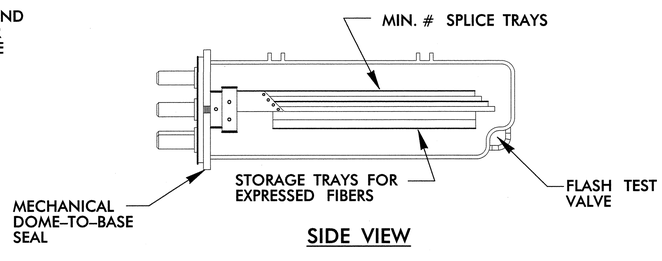
NOTES

1. SPARE FIBER-OPTIC CABLE SHALL NOT BE STORED OVER ROADWAYS OR DRIVEWAYS.
2. STORE 100' OF SPARE FIBER-OPTIC CABLE WHERE SHOWN ON PLANS.
3. FIBER-OPTIC CABLE STORAGE GUIDE MATERIAL AND SIZE SHALL BE AS INDICATED IN THE PROJECT SPECIAL PROVISIONS.
4. 0.05" THICK BY 0.3" WIDE ALUMINUM WRAPPING TAPE (FOUR TURNS MINIMUM) AT 6" ON CENTER OR .061" LASHING WIRE WITH ONE 360 DEGREE SPIRAL PER FOOT.
5. FOR SPLICE ENCLOSURES:
   A) APPLY A HEAT SOURCE, AS RECOMMENDED BY THE MANUFACTURER, TO SHRINK THE HEAT SHRINKABLE TUBING TO PROVIDE A SECURE FIT AROUND THE CABLES AND PORTS.
   B) PERFORM A PRESSURIZATION FLASH TEST UPON CONCLUSION OF THE SPLICING AND PRIOR TO THE FINAL PLACEMENT OF THE ENCLOSURE.

SPLICE ENCLOSURE DETAILS



FRONT VIEW



SIDE VIEW

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

Prepared for the Offices of: Transportation Mobility and Safety Division, North Carolina Department of Transportation, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Aerial Fiber-Optic Cable
Storage & Splice Enclosures
Phase B

Division 09 | Forsyth County | Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	HAB
PREPARED BY:	BJS	REVIEWED BY:	JTB

REVISIONS	INIT.	DATE

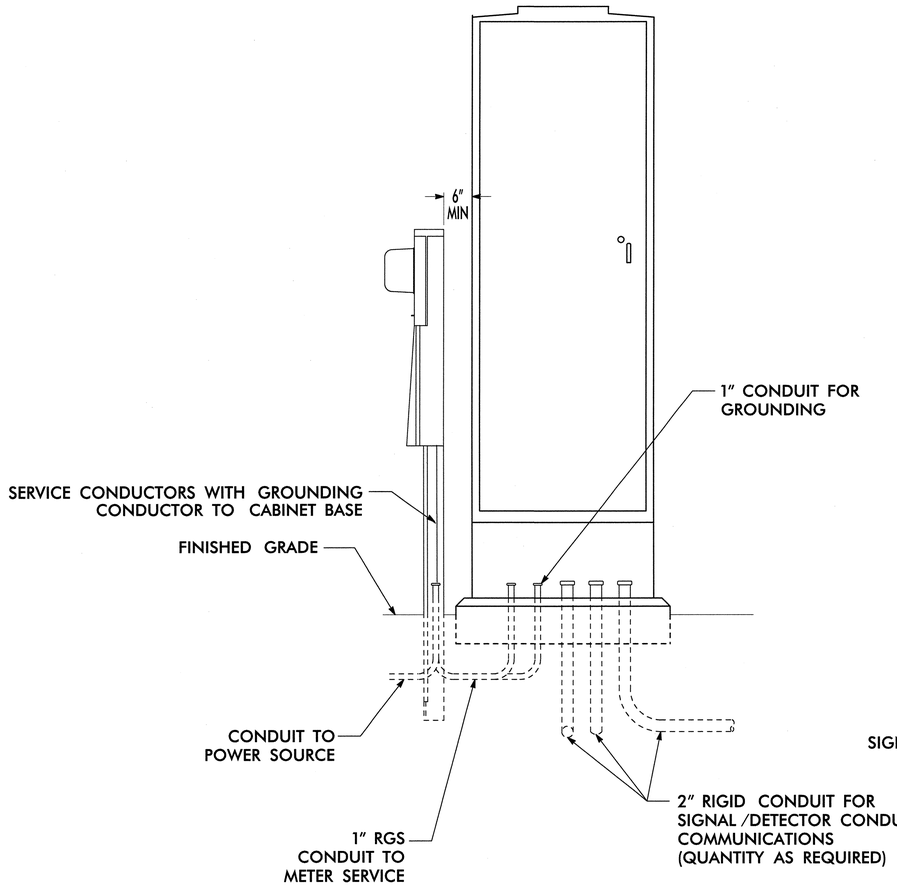
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 19962 ENGINEER HENRY ALFRED BADGETT III
H. Alfred Badgett 3/22/13
SIGNATURE DATE

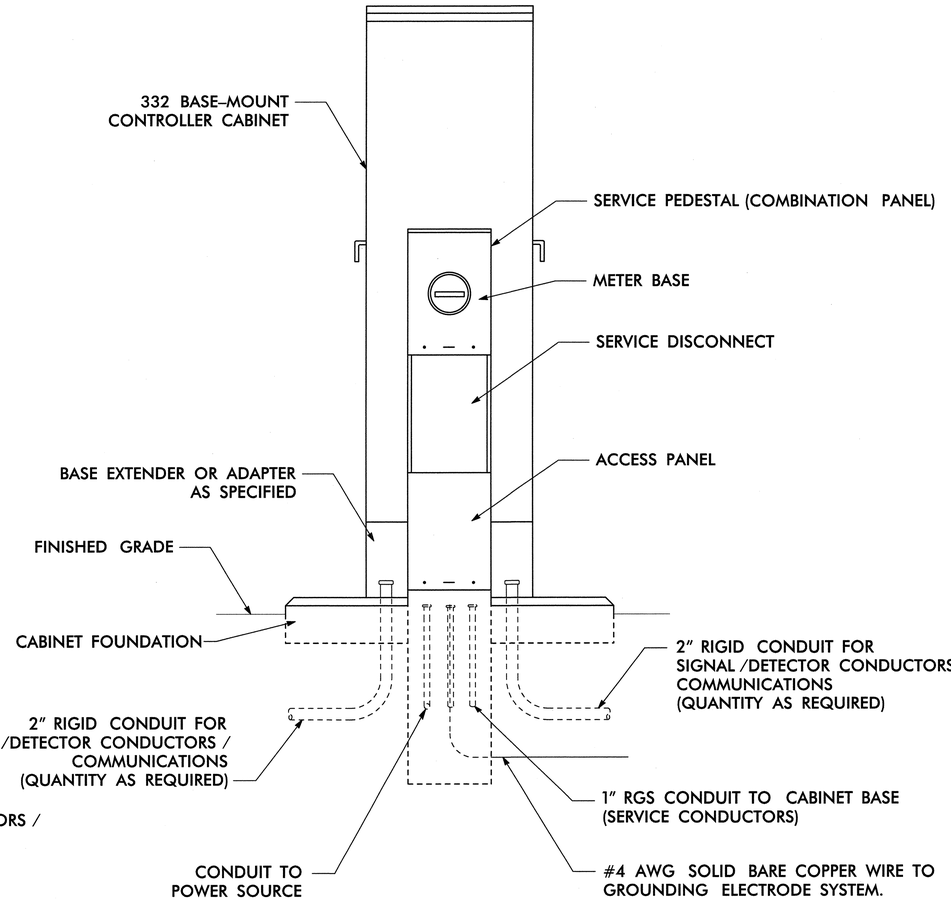
CADD Filename: SD-11.dgn

13-MAR-2013 17:19
D:\#Transportation\Traffic\Curr\#100022712 Winston Salem Sig Sys\Special Details\Phase B\SD-11.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	SD-12

GROUND MOUNTED ELECTRICAL SERVICE DETAIL





NOTES

1. TEST GROUNDING SYSTEM USING AN APPROVED METHOD IN ACCORDANCE WITH SPECIAL PROVISIONS. INSTALL GROUND RODS AS DIRECTED BY THE ENGINEER TO MEET THIS REQUIREMENT.
2. REMOVE ANY EXISTING GROUND RODS IN CONCRETE CABINET FOUNDATION BY CUTTING OFF FLUSH WITH FOUNDATION SURFACE.
3. REMOVE BONDING JUMPER IN EQUIPMENT CABINET IF INSTALLED BETWEEN AC NEUTRAL AND EQUIPMENT GROUND.
4. BOND ALL RIGID GALVANIZED STEEL CONDUITS ENTERING THE CABINET TO "EQUIPMENT GROUND".
5. INSTALL RIGID GALVANIZED STEEL CONDUIT (MINIMUM 1") BETWEEN DISCONNECT AND CABINET.
6. SERVICE DISCONNECT GROUND BUS BAR SHALL PROVIDE FOR 2 #4 AWG CONNECTIONS.
7. IF CONDITIONS REQUIRE SERVICE PEDESTAL TO BE INSTALLED IN FRONT OR REAR OF CABINET, MAINTAIN SUFFICIENT CLEARANCE FOR DOOR TO FULLY OPEN.

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

Prepared for the Offices of: Protection Mobility and Safety Through Effective Traffic Engineering and Intelligent Transportation Systems — North Carolina Department of Transportation
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Ground Mounted Electrical Service Detail
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	HAB
PREPARED BY:	BJS	REVIEWED BY:	JTB

REVISIONS	INIT.	DATE

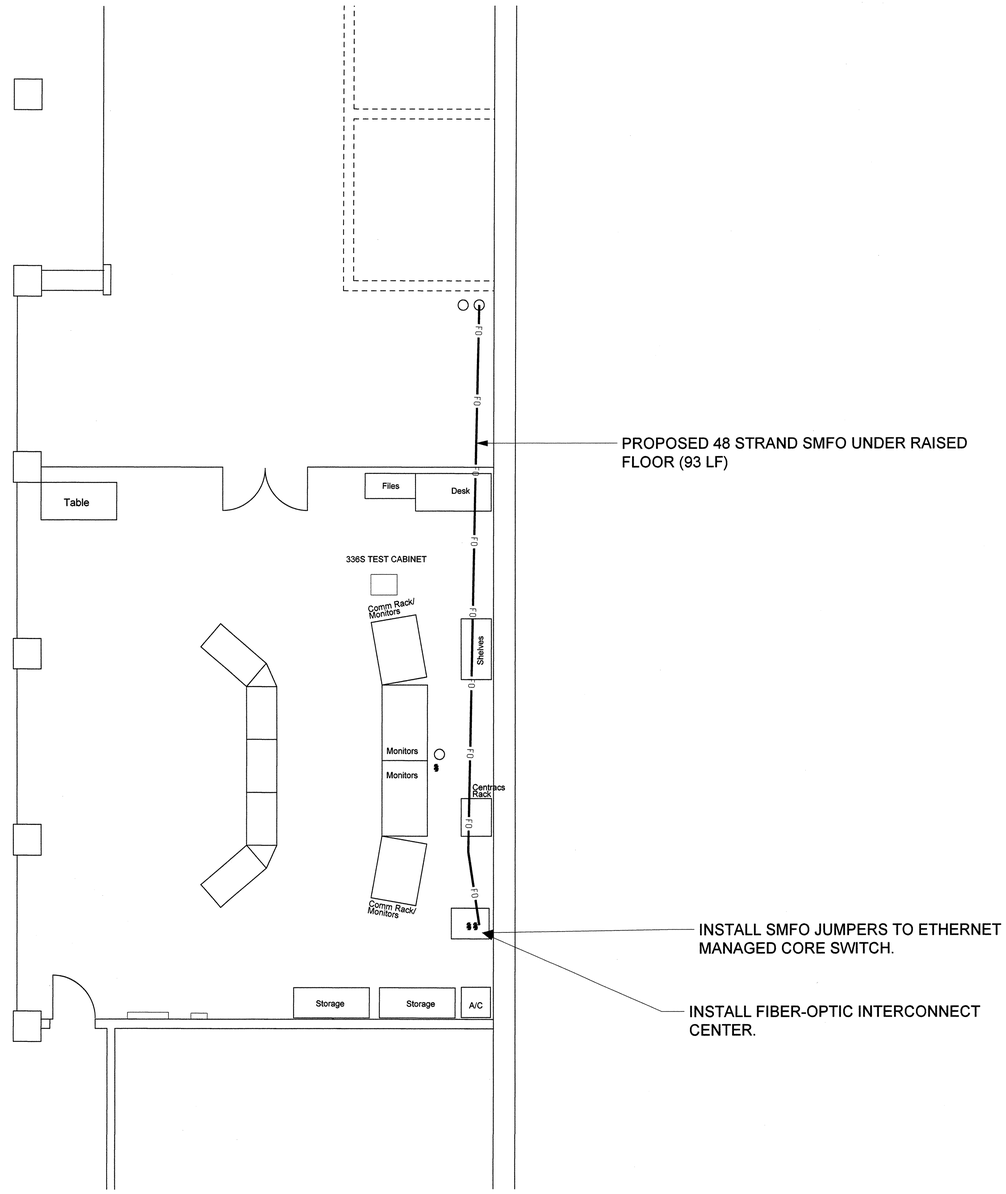
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 19962 ENGINEER HENRY ALFRED BADGETT III

H Alfred Badgett 3/22/13
SIGNATURE DATE

CADD Filename: SD-12.dgn

13-MAR-2013 17:19
D:\Transportation\Traffic\Cur\#100022712 Winston Salem Sig Sys\Special Details\Phase B\SD-12.dgn
13833

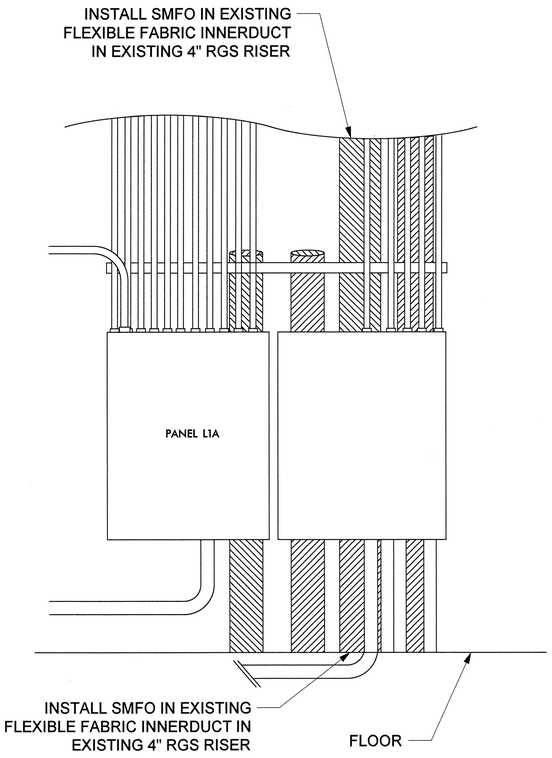
PROJECT REFERENCE NO.	SHEET NO.
C-5224B	SD-13



NOTES:

1. ELECTRICAL OUTLETS, BOXES, CONDUCTORS, AND IMC CONDUIT BY OTHERS.

PLAN VIEW



ELEVATION VIEW

CLARK CAMPBELL TRANSPORTATION CENTER (TMC) 2ND FLOOR ELECTRICAL ROOM

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

Prepared for the Offices of: Transportation Mobility and Safety Division, North Carolina Department of Transportation, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
TMC Modifications
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	HAB
PREPARED BY:	BJS	REVIEWED BY:	JTB

REVISIONS	INIT.	DATE

SEAL: North Carolina Professional Engineer Seal 19962 Alfred Badgett III

H Alfred Badgett 3/28/13
SIGNATURE DATE

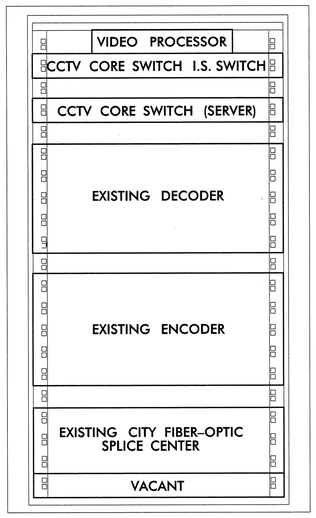
CADD Filename: SD-13.dgn

13-MAR-2013 17:19
D:\#Transportation\Traffic\Curr\#100002712 Winston Salem Sig Sys\Special Details\Phase B\SD-13.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	SD-14

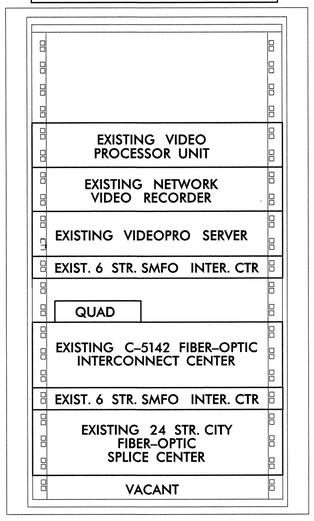
CONDITIONS AT THE TIME THAT CONSTRUCTION ENDS ON C–5224A

EXISTING VIDEO RACK (LEFT)
UNDER LEFT SIDE OF MONITOR RACK

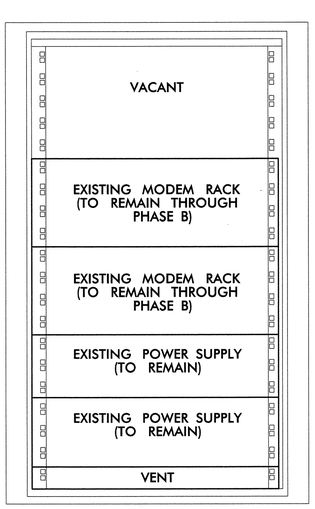


EXISTING VIDEO RACK (RIGHT)
UNDER LEFT SIDE OF MONITOR RACK

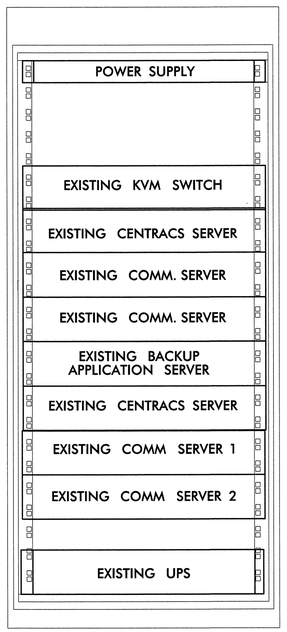
EXISTING ETHERNET LAN EXTENDER MEDIA CONVERTERS



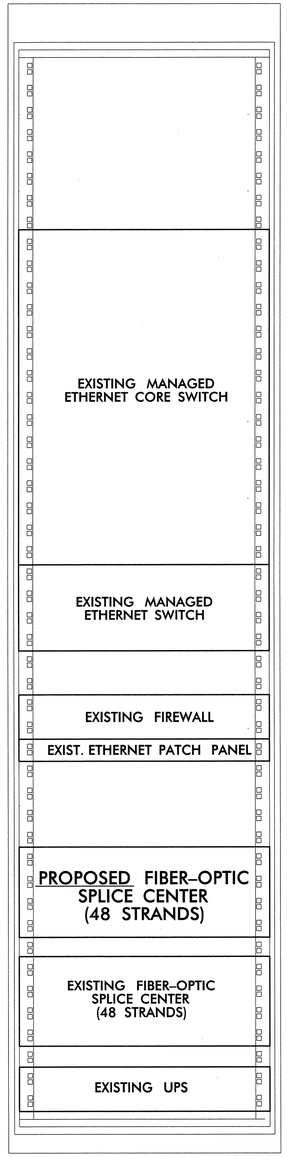
EXISTING SIGNAL SYSTEM RACK
UNDER RIGHT SIDE OF MONITOR RACK



EXISTING CENTRACS SERVER RACK



EXISTING COMMUNICATIONS RACK
(INSTALLED BY OTHERS)



13-MAR-2013 17:19
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\Special Details\Phase B\SD-14.dgn
13833

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

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

Winston-Salem Signal System
TMC Rack Layouts
Phase B

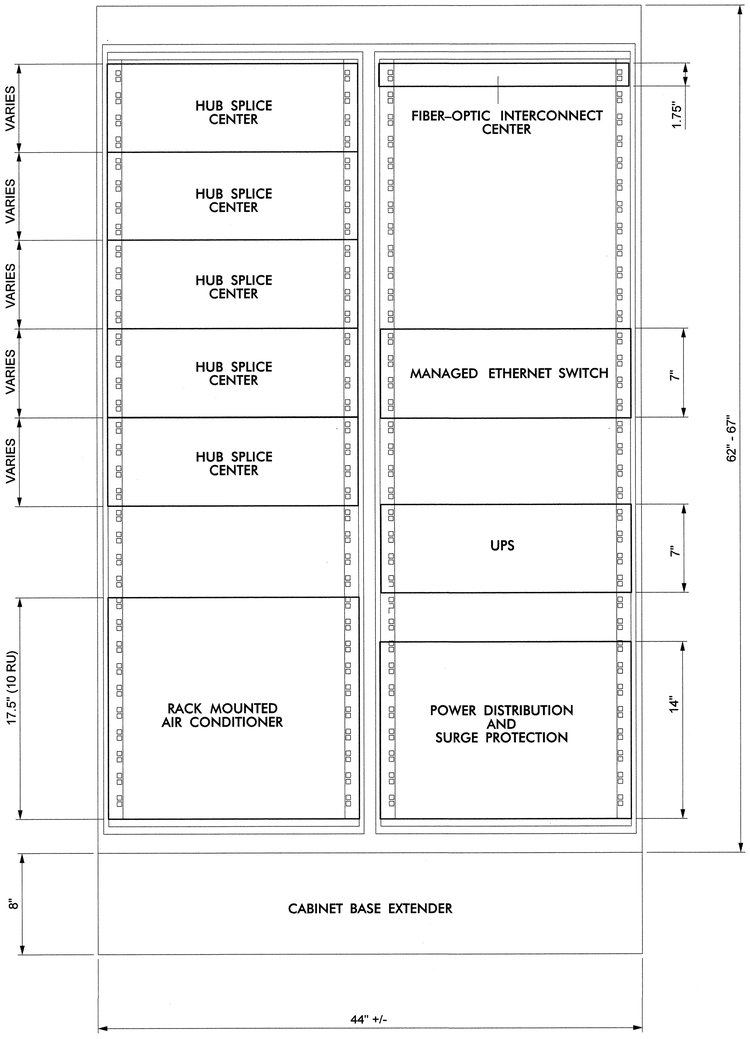
Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	HAB
PREPARED BY:	BJS	REVIEWED BY:	JTB

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 19362 ENGINEER HENRY ALFRED BADGETT III
SIGNATURE
3/22/13
DATE
CADD Filename: SD-14.dgn

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	SD-15



ITS HUB CABINETS

ITS HUB A			SWITCH PORTS	
UNITS	DESCRIPTION	HUB QTY	TOTAL	WITH OPTICS
EA	MANAGED ETHERNET SWITCH (EXISTING)	1	48	36
EA	GIGABIT INTERFACE CONVERTER (GBIC) - LZ (EXISTING)	2		
EA	INTERCONNECT CENTER (EXISTING- PHASE A)	1		
EA	HUB SPLICE CENTER (48-FIBER) (EXISTING- PHASE A)	2		
EA	HUB SPLICE CENTER (36-FIBER) (PHASE B)	1		

ITS HUB B			SWITCH PORTS	
UNITS	DESCRIPTION	HUB QTY	TOTAL	WITH OPTICS
EA	MANAGED ETHERNET SWITCH (EXISTING)	1	48	36
EA	GIGABIT INTERFACE CONVERTER (GBIC) - LZ (EXISTING)	2		
EA	INTERCONNECT CENTER (EXISTING- PHASE A)	1		
EA	HUB SPLICE CENTER (48-FIBER) (EXISTING- PHASE A)	1		
EA	HUB SPLICE CENTER (72-FIBER) (EXISTING- PHASE A)	1		

ITS HUB C			SWITCH PORTS	
UNITS	DESCRIPTION	HUB QTY	TOTAL	WITH OPTICS
EA	MANAGED ETHERNET SWITCH (EXISTING)	1	48	30
EA	GIGABIT INTERFACE CONVERTER (GBIC) - LZ (EXISTING)	2		
EA	INTERCONNECT CENTER (EXISTING- PHASE A)	1		
EA	HUB SPLICE CENTER (36-FIBER) (EXISTING- PHASE A)	1		
EA	HUB SPLICE CENTER (48-FIBER) (EXISTING- PHASE A)	2		

ITS HUB D			SWITCH PORTS	
UNITS	DESCRIPTION	HUB QTY	TOTAL	WITH OPTICS
EA	MANAGED ETHERNET SWITCH (EXISTING)	1	48	30
EA	GIGABIT INTERFACE CONVERTER (GBIC) - LZ (EXISTING)	2		
EA	HUB SPLICE CENTER (48-FIBER) (EXISTING- PHASE A)	2		
EA	HUB SPLICE CENTER (36-FIBER) (PHASE B)	2		

NOTES:

1. NO WORK AT HUBS B AND C.
2. CABINET IS TYPE 333.
3. ALL DIMENSIONS ARE APPROXIMATE.
4. THE HUB CABINET SHALL BE A MINIMUM 62"H X 44"W (+/-) X 30"D.
5. CONDUIT ENTRANCES ARE IN BOTTOM OF CABINET UNDER UPS.
6. MINIMUM OF THREE (3) TOTAL OUTLETS: TWO (2) SURGE PROTECTED AND ONE (1) GFCI PROTECTED.
7. SURGE PROTECTION PANEL SHALL BE MOUNTED BEHIND THE POWER DISTRIBUTION PANEL.
8. FRONT DOOR SHALL HAVE A VENT WITH FILTER ALIGNING WITH AIR CONDITIONER INTAKE.
9. INSTALL A/C DRAIN LINE.
10. PHASE A CONTRACTOR HAS INSTALLED THE MANAGED ETHERNET SWITCH AND GBICS FOR BOTH C-5224A AND C-5224B AS SHOWN IN THE C-5224A PLANS.
11. PHASE A CONTRACTOR WILL INSTALL PHASE A HUB SPLICE CENTERS AT TOP OF RACK, LEAVING SPACE BELOW FOR INSTALLATION OF PHASE B HUB SPLICE CENTERS.

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

Prepared for the Offices of:
NCDOT Transportation Mobility and Safety Division
Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Hub Cabinet Detail
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	HAB
PREPARED BY:	BJS	REVIEWED BY:	JTB

REVISIONS	INIT.	DATE

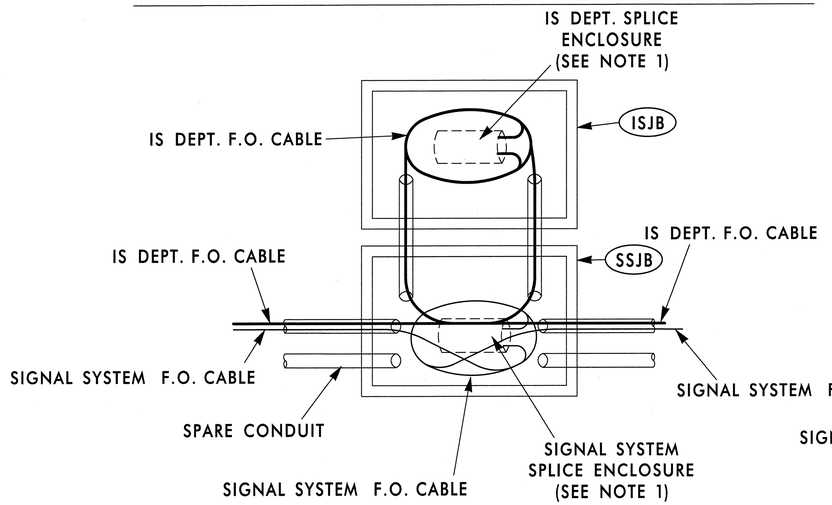
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 19982 ENGINEER HENRY ALFRED BADGETT III
H Alfred Badgett 3/20/13
SIGNATURE DATE

CADD Filename: SD-15.dgn

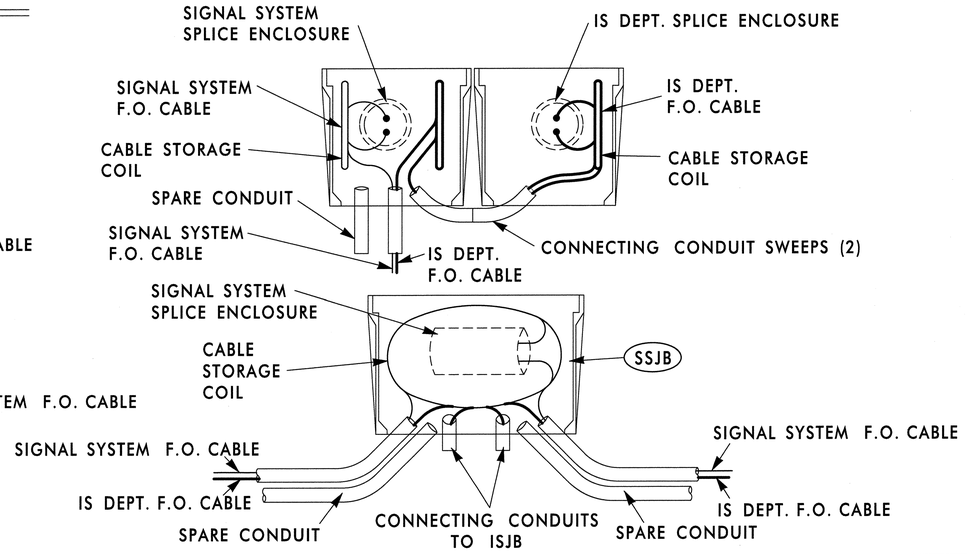
13-MAR-2013 17:19
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\Special Details\Phase B\SD-15.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	SD-16

INSTALLATION TOP VIEW (WITHOUT COVER)



SIDE VIEW



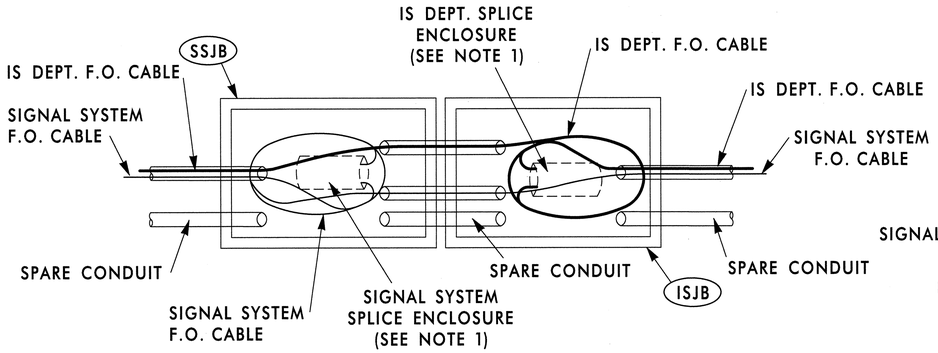
NOTES:

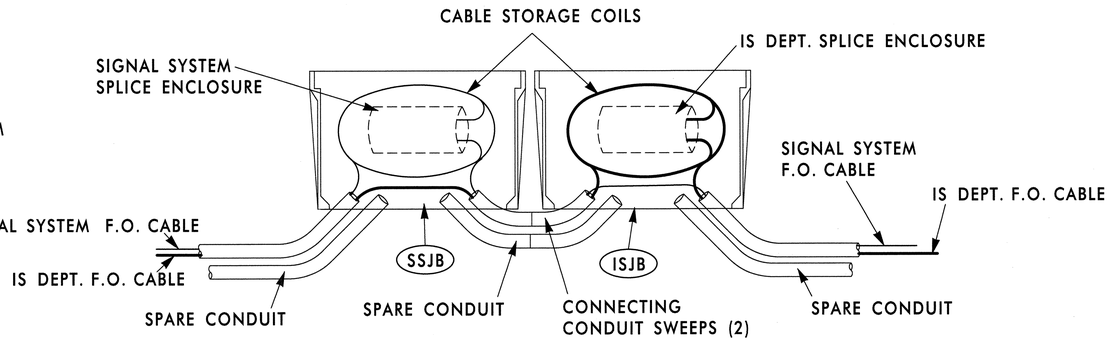
1. THE SPLICE ENCLOSURES SHOWN ARE PROPOSED OR FUTURE SPLICE ENCLOSURES. COIL THE FIBER OPTIC CABLE IN JUNCTION BOX FOR FUTURE SPLICE ENCLOSURE.
2. THE NUMBER OF CABLES IN EACH JUNCTION BOX ARE FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL NUMBER OF CABLES MAY VARY DEPENDING ON LOCATION.

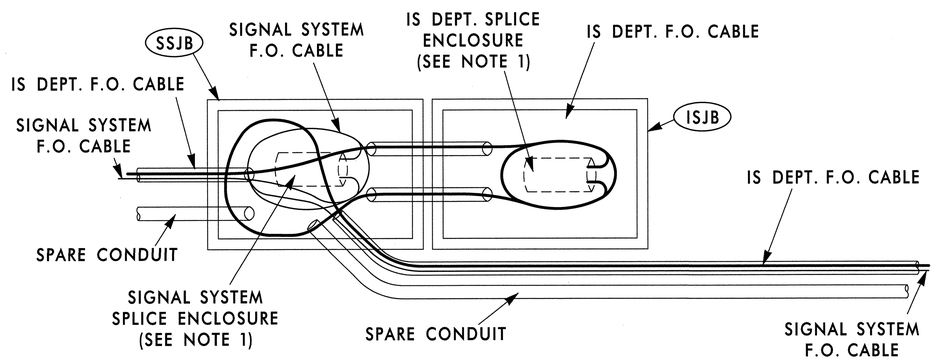
LEGEND:

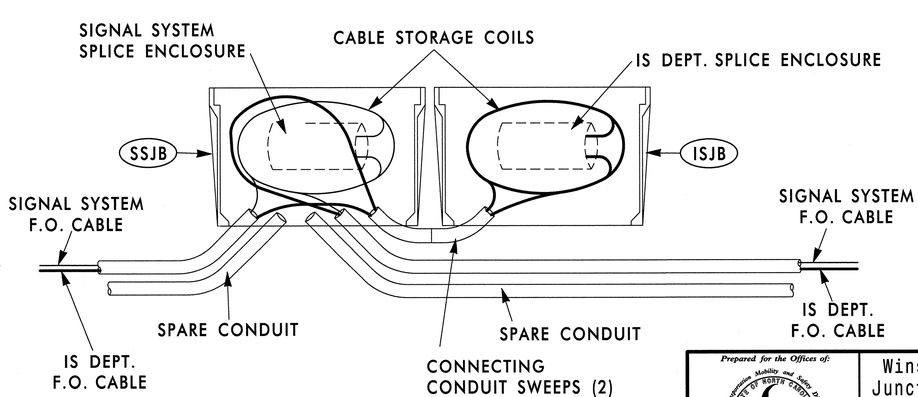
SIGNAL SYSTEM JUNCTION BOX (SSJB)

IS JUNCTION BOX (ISJB)









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

Prepared for the Offices of: Transportation Mobility and Safety Division, North Carolina Department of Transportation, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Junction Box Placement Detail Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	HAB
PREPARED BY:	BJS	REVIEWED BY:	JTB

REVISIONS	INIT.	DATE

SEAL

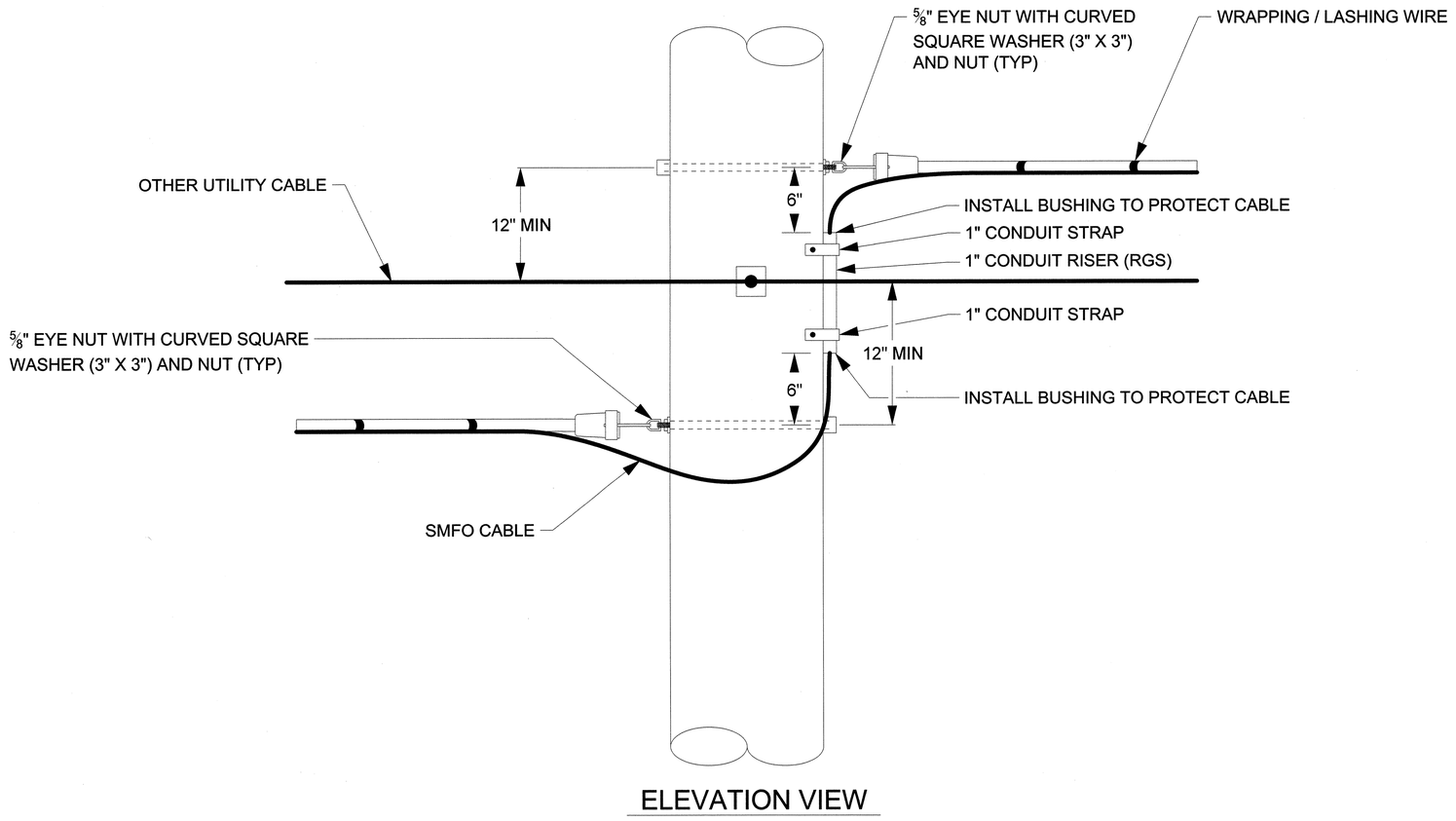
NORTH CAROLINA PROFESSIONAL SEAL 19962 ENGINEER HENRY ALFRED BADGETT III

SIGNATURE 3/22/13 DATE

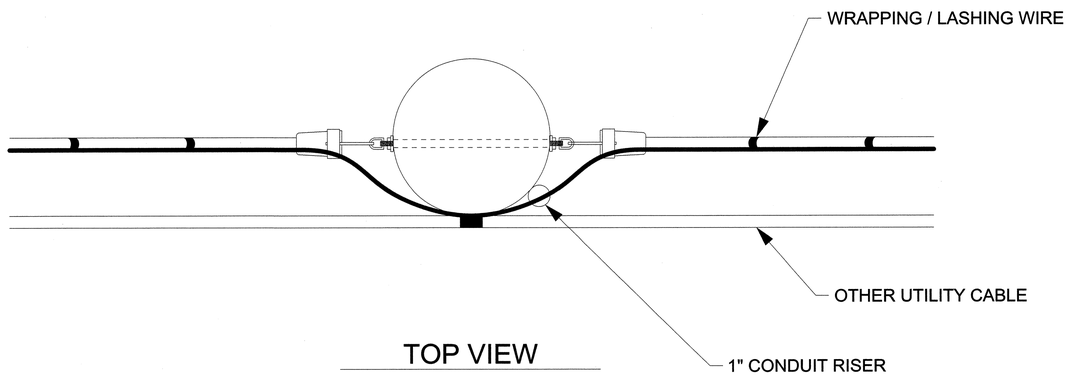
CADD Filename: SD-16.dgn

13-MAR-2013 17:19
O:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\Special Details\Phase B\SD-16.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	SD-17



ELEVATION VIEW



TOP VIEW

13-MAR-2013 17:19
D:\Transportation\Traffic\Curr\1000022712 Winston Salem Sig Sys\Special Details\Phase B\SD-17.dgn
13833

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

Prepared for the Offices of:
Transportation Mobility and Safety Division
North Carolina Department of Transportation
Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System Vertical Adjustment of SMFO Cable Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	HAB
PREPARED BY:	BJS	REVIEWED BY:	JTB

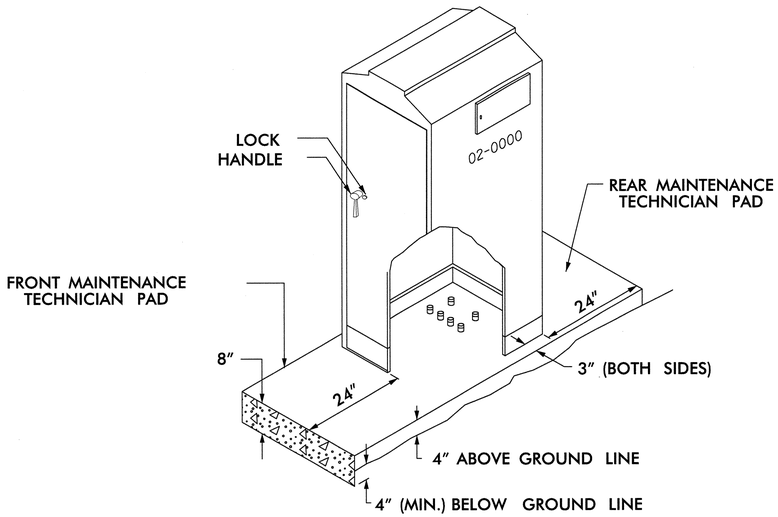
REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 19962 ENGINEER HENRY ALFRED BADGETT, III
SIGNATURE 3/22/13 DATE

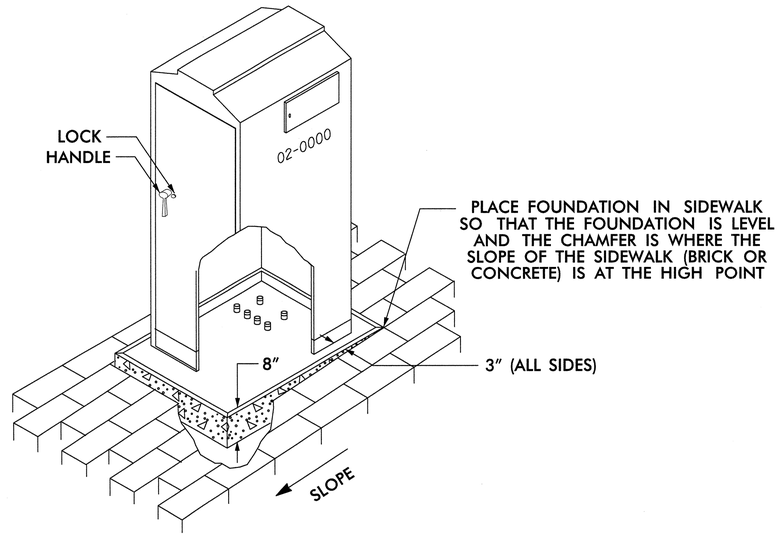
CADD Filename: SD-17.dgn

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	SD-18

TYPICAL BASE-MOUNTED CABINET NEW STANDARD FOUNDATION



TYPICAL BASE-MOUNTED CABINET NEW FOUNDATION IN SIDEWALK



NOTES

1. STUB OUT SPARE 2" CONDUIT TO 12" BEYOND EDGE OF CABINET FOUNDATION.
2. SEAL SPARE CONDUIT WITH REMOVABLE CAP.
3. TOPS OF CONDUIT SHALL BE NO LESS THAN 2" AND NO MORE THAN 3" ABOVE FOUNDATION.

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

Prepared for the Offices of: NCDOT Transportation Mobility and Safety Division, Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Base-Mounted Cabinet
Foundation Details
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	HAB
PREPARED BY:	BJS	REVIEWED BY:	JTB

REVISIONS	INIT.	DATE

NTS

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 19962 ENGINEER HENRY ALFRED BADGETT, III

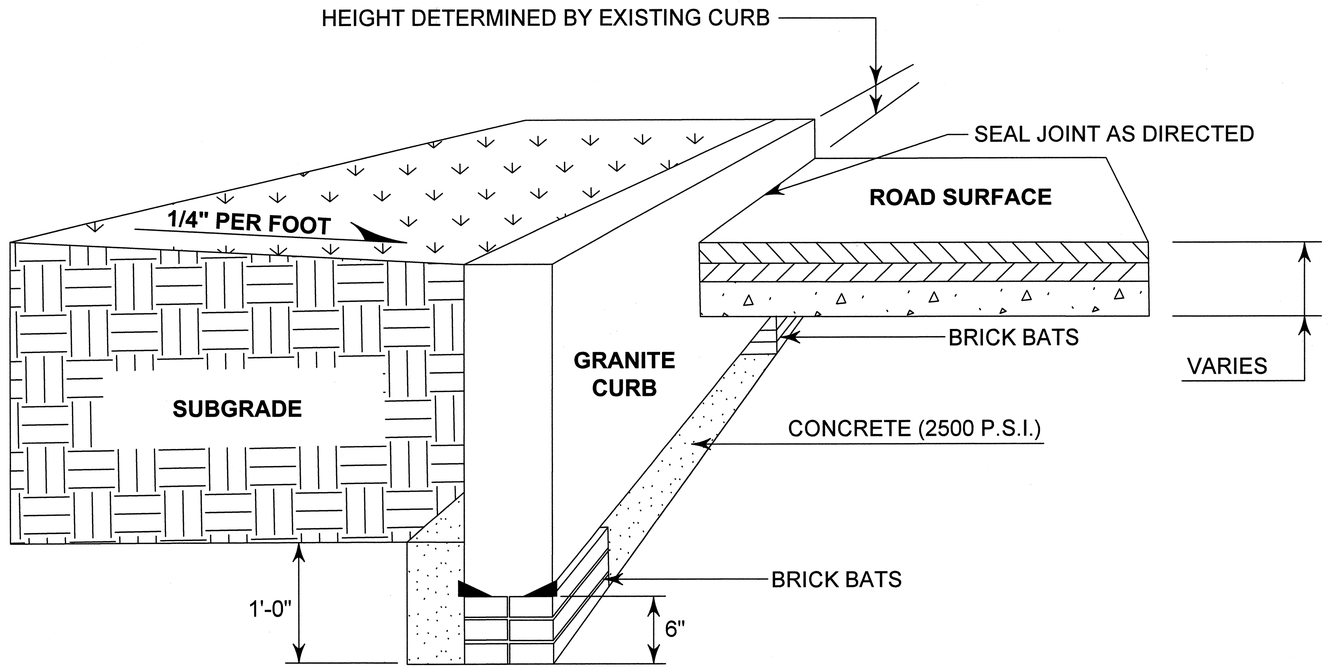
H. Alfred Badgett 3/22/13
SIGNATURE DATE

CADD Filename: SD-18.dgn

13-MAR-2013 17:19
O:\Transportation\Traffic\Curr\1000022712 Winston Salem Sig Sys\Special Details\Phase B\SD-18.dgn
13833

PROJECT REFERENCE NO.	SHEET NO.
C-5224B	SD-19

NOTE: STOCKPILE EXCESS
GRANITE CURB ON R/W
SAFELY FOR CITY PICKUP



PROPER INSTALLATION OF GRANITE CURB

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

Prepared for the Offices of:
Transportation Mobility and Safety Division
North Carolina Department of Transportation
Intelligent Transportation Systems
750 Greenfield Parkway, Garner, NC 27529

Winston-Salem Signal System
Granite Curb Installation
Phase B

Division 09 Forsyth County Winston-Salem

PLAN DATE:	March 2013	REVIEWED BY:	HAB
PREPARED BY:	BJS	REVIEWED BY:	JTB

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 19962 ENGINEER HENRY ALFRED BADGETT, III
SIGNATURE 3/22/13 DATE

CADD Filename: SD-19.dgn

13-MAR-2013 17:19
D:\Transportation\Traffic\Curr\100022712 Winston Salem Sig Sys\Special Details\Phase B\SD-19.dgn
13833

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

CITY OF WINSTON-SALEM
FORSYTH COUNTY

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN 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 HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGERS
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION
1180.01	SKINNY-DRUM

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, INDEX OF SHEETS, LEGEND, AND TRAFFIC CONTROL NARRATIVE
TMP-2 THRU TMP-2A	PROJECT NOTES
TMP-3	TYPICAL SIDEWALK CLOSURE AND PEDESTRIAN DETOUR

TRAFFIC CONTROL NARRATIVE

STEP 1: PERFORM ALL WORK ASSOCIATED WITH THE INSTALLATION OF THE PROPOSED SIGNALS AND TRAFFIC MANAGEMENT SYSTEM AS SHOWN IN THE CONTRACT, CONSTRUCTION PLANS AND/OR SPECIAL PROVISIONS IN ACCORDANCE WITH THE "NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES - JANUARY 2012".

NOTE: ADDRESS ANY SAFETY HAZARDS CONCERNING MOTORISTS AND PEDESTRIANS BEFORE REMOVING TEMPORARY TRAFFIC CONTROL DEVICES AND WORK ZONE WARNING SIGNS. RETURN TRAFFIC TO IT'S EXISTING TRAFFIC PATTERN AT THE END OF EACH WORK PERIOD.

NOTE: INSTALL CHANGEABLE MESSAGE SIGNS IN ADVANCE OF THE WORK ZONE AS DIRECTED BY THE ENGINEER.

NOTE: REMOVE ALL TEMPORARY TRAFFIC CONTROL LANE CLOSURE DEVICES AND RETURN TRAFFIC TO ITS EXISTING TRAFFIC PATTERN AT THE END OF EACH WORK PERIOD.

NOTE: WHEN CHANGING OUT CONTROLLER CABINETS, USE LAW ENFORCEMENT TO DIRECT TRAFFIC THROUGH THE INTERSECTION WHILE TRAFFIC SIGNAL IS NOT IN OPERATION. DO NOT TAKE TRAFFIC SIGNAL OUT OF OPERATION FOR MORE THAN 3 HOURS AT A GIVEN INTERSECTION.

NOTE: CONSTRUCT NEW CONDUIT ENTRANCES INTO EXISTING CONTROLLER CABINET FOUNDATIONS WHILE MAINTAINING THE OPERATIONS OF THE EXISTING TRAFFIC SIGNAL WHEREVER POSSIBLE. WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF OPERATION TO CONSTRUCT A CONDUIT ENTRANCE INTO AN EXISTING CONTROLLER CABINET FOUNDATION AND SUBJECT TO THE ENGINEER'S APPROVAL, USE LAW ENFORCEMENT TO DIRECT TRAFFIC THROUGH THE INTERSECTION WHILE THE TRAFFIC SIGNAL IS NOT IN OPERATION. DO NOT TAKE A TRAFFIC SIGNAL OUT OF OPERATION WITHOUT THE PRIOR APPROVAL OF THE ENGINEER AND DO NOT TAKE THE TRAFFIC SIGNAL OUT OF OPERATION FOR MORE THAN ONE HOUR AT A GIVEN INTERSECTION. DO NOT TAKE ANY TRAFFIC SIGNAL OUT OF OPERATION TO PERFORM CONTROLLER CABINET CHANGEOUT BETWEEN THE HOURS OF 3:00 PM AND 9:00 AM THE FOLLOWING MORNING.

NOTE: WHEN CONSTRUCTING/REMOVING SIGNAL POLE STRUCTURES OR FOOTINGS ADJACENT TO TRAFFIC OR SIDEWALKS, INSTALL 1" TEMPORARY A36 STEEL PLATES OR ORANGE TREE PROTECTION FENCING AS DIRECTED BY THE ENGINEER. THE CONTRACTOR MAY WORK EACH LOCATION INDEPENDENTLY OR CONCURRENTLY, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. WORK IN A CONTINUOUS MANNER TO PERFORM THE WORK IN THE FOLLOWING SEQUENCE, IN STEPS 'A' THRU 'E'.

A: CLOSE THE APPROPRIATE TRAVEL LANE TO TRAFFIC USING ROADWAY STANDARD DRAWING NO. 1101.02 SHEETS 1, 2 & 3 OF 15.

OR

USING SHEET TMP-03 AS A GUIDE, AND AS DIRECTED BY THE ENGINEER CLOSE THE APPROPRIATE SIDEWALK UTILIZING TYPE III BARRICADES WITH SIGNS ATTACHED.

B: CONSTRUCT PROPOSED OR REMOVE EXISTING STRUCTURE AS SHOWN IN THE CABLE LAYOUT PLANS AND/OR SIGNAL PLANS. PROTECT MOTORISTS AND PEDESTRIANS FROM OPEN EXCAVATIONS OR OTHER HAZARDS POSED BY INCOMPLETE CONSTRUCTION WORK, BY ONE OR A COMBINATION OF THE FOLLOWING METHODS AS APPROVED BY THE ENGINEER:

1) COVER AREA WITH 1" TEMPORARY A36 STEEL PLATES

2) COMPLETELY SURROUND AREA WITH AN ORANGE TREE PROTECTION FENCE

C: OPEN TRAVEL LANE OR SIDEWALK TO EXISTING TRAFFIC PATTERN BY THE END OF EACH WORK PERIOD.

D: WHEN PROPERLY CURED, CLOSE THE APPROPRIATE TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02, SHEETS 1, 2 & 3 OF 15;

OR

USING SHEET TMP-03 AS A GUIDE, AND AS DIRECTED BY THE ENGINEER CLOSE THE APPROPRIATE SIDEWALK UTILIZING TYPE III BARRICADES WITH SIGNS ATTACHED;

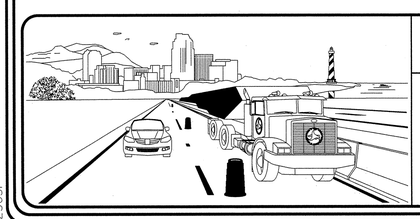
BACKFILL & PAVE, IF REQUIRED, UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT OR SIDEWALK (SEE CABLE LAYOUT PLANS AND/OR SIGNAL PLANS).

E: OPEN TRAVEL LANE OR SIDEWALK TO EXISTING TRAFFIC PATTERN BY THE END OF THE WORK PERIOD.

NOTE: USE RSD 1101.03, SHEET 8 OF 9 (FLAGGERS), TO TEMPORARILY STOP TRAFFIC WHEN INSTALLING MESSENGER AND CABLE OR REMOVING EXISTING MESSENGER AND CABLE OVER A TWO-LANE, TWO-WAY ROAD. USE RSD 1101.03, SHEET 9 OF 9 (ROLLING ROADBLOCK), TO TEMPORARILY STOP TRAFFIC WHEN INSTALLING MESSENGER AND CABLE OR REMOVING EXISTING MESSENGER AND CABLE OVER A MULTI-LANE ROADWAY.

STEP 2: UPON COMPLETION OF THE PROJECT, REMOVE ALL TRAFFIC CONTROL DEVICES.

PLAN PREPARED FOR N.C.D.O.T. BY:
ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310 RALEIGH, NORTH CAROLINA 27609 (919) 876-6888 NCBEES #F-0326



N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
PHONE: (919) 773-2800 FAX: (919) 771-2745

J. STUART BOURNE, P.E. — *STATE TRAFFIC MANAGEMENT ENGINEER*

JOSEPH ISHAK, P.E. — *TRAFFIC CONTROL PROJECT ENGINEER*

_____ — *TRAFFIC CONTROL PROJECT DESIGN ENGINEER*

_____ — *TRAFFIC CONTROL DESIGN ENGINEER*

DIVISION OF HIGHWAYS * STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION * WORK ZONE TRAFFIC CONTROL

APPROVED: J. Todd Brooks
DATE: 3-22-13

J. TODD BROOKS, P.E.
TRAFFIC CONTROL PROJECT ENGINEER

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

SHEET NO.
TMP-01

TIP PROJECT: C-5224B

22-MAR-2013 12:10
O:\Transportation\Traffic\Curr\U0002712 Winston Salem Sig Sys\TMP\C-5224B_TMP_01.dgn
25651

PROJ. REFERENCE NO.	SHEET NO.
C-5224B	TMP-02

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS, OR RESULT IN DUPLICATE, OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES, AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLANS, OR DIRECTED BY THE ENGINEER.

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
US 52 BUSINESS 40 / US 421 I-40 RAMPS, LOOPS	6:00 AM TO 8:00 PM MONDAY THRU FRIDAY, 8:00 AM TO 8:00 PM SATURDAY, 10:00 AM TO 8:00 PM SUNDAY

DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME

US 52
BUSINESS 40 / US 421
I-40
RAMPS, LOOPS

HOLIDAY

1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 AM DECEMBER 31ST TO 8:00 PM JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY, THEN UNTIL 8:00 PM THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 6:00 AM THURSDAY AND 8:00 PM MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 AM FRIDAY TO 8:00 PM TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 AM THE DAY BEFORE INDEPENDENCE DAY AND 8:00 PM THE DAY AFTER INDEPENDENCE DAY.

   IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:00 AM THE THURSDAY BEFORE INDEPENDENCE DAY AND 8:00 PM THE TUESDAY AFTER INDEPENDENCE DAY.
6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 AM FRIDAY AND 8:00 PM TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 AM TUESDAY AND 8:00 PM MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 AM THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 8:00 PM THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS DAY.

SPECIAL EVENTS

9. FOR THE ACC AND NCAA BASKETBALL TOURNAMENTS, OCCURRING AT GREENSBORO COLISEUM AND COMPLEX BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE THE START OF THE TOURNAMENT AND 8:00 P.M. THE DAY AFTER THE END OF THE TOURNAMENT.
10. FOR THE HIGH POINT FURNITURE MARKET, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE START OF THE HIGH POINT FURNITURE MARKET AND 8:00 P.M. THE FRIDAY AFTER THE END OF THE HIGH POINT FURNITURE MARKET.

PROJECT NOTES

B) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
ANY ROAD OTHER THAN US 52, BUSINESS 40/US 421, AND I-40.	7:00 AM TO 9:00 AM AND 3:00 PM TO 6:00 PM MONDAY THRU FRIDAY

DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME

ANY ROAD OTHER THAN US 52, BUSINESS 40/US 421, AND I-40.

HOLIDAY

1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 7:00 AM DECEMBER 31ST TO 6:00 PM JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY, THEN UNTIL 6:00 PM THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 7:00 AM THURSDAY AND 6:00 PM MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 7:00 AM FRIDAY TO 6:00 PM TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 7:00 AM THE DAY BEFORE INDEPENDENCE DAY AND 6:00 PM THE DAY AFTER INDEPENDENCE DAY.

   IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 7:00 AM THE THURSDAY BEFORE INDEPENDENCE DAY AND 6:00 PM THE TUESDAY AFTER INDEPENDENCE DAY.
6. FOR LABOR DAY, BETWEEN THE HOURS OF 7:00 AM FRIDAY AND 6:00 PM TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 7:00 AM TUESDAY AND 6:00 PM MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 7:00 AM THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 6:00 PM THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS DAY.

SPECIAL EVENTS

9. FOR DASH BASEBALL HOME GAMES AT BB&T BALLPARK BETWEEN FOUR (4) HOURS BEFORE THE START OF A GAME AND FOUR (4) HOURS AFTER THE END OF A GAME. (THIS NOTE ONLY APPLIES TO PETERS CREEK PARKWAY).
10. FOR THE DIXIE CLASSIC FAIR IN WINSTON-SALEM BETWEEN THE HOURS OF 7:00 A.M. THE DAY BEFORE THE START OF THE DIXIE CLASSIC FAIR AND 6:00 P.M. THE DAY AFTER THE END OF THE DIXIE CLASSIC FAIR. (THIS NOTE ONLY APPLIES TO UNIVERSITY PARKWAY, N. CHERRY STREET AND REYNOLDS BOULEVARD).
11. FOR WAKE FOREST UNIVERSITY FOOTBALL GAMES, OCCURRING AT BB&T FIELD BETWEEN FOUR (4) HOURS BEFORE THE START AND FOUR (4) HOURS AFTER THE END OF THE WAKE FOREST UNIVERSITY FOOTBALL GAMES. (THIS NOTE ONLY APPLIES TO UNIVERSITY PARKWAY, N. CHERRY STREET AND REYNOLDS BOULEVARD).
12. FOR WAKE FOREST UNIVERSITY BASKETBALL GAMES, OCCURRING AT LAWRENCE JOEL VETERANS MEMORIAL COLISEUM BETWEEN TWO (2) HOURS BEFORE THE START AND TWO (2) HOURS AFTER THE END OF THE WAKE FOREST UNIVERSITY BASKETBALL GAMES. (THIS NOTE ONLY APPLIES TO UNIVERSITY PARKWAY, N. CHERRY STREET AND REYNOLDS BOULEVARD).
13. FOR THE HOLIDAY SHOPPING PERIOD AT HANES MALL FROM 7:00 A.M. ON THE TUESDAY BEFORE THANKSGIVING TO 6:00 P.M. ON JANUARY 2ND. (THIS NOTE ONLY APPLIES TO HANES MALL BOULEVARD AND STRATFORD ROAD).

C) DO NOT CLOSE OR NARROW TRAVEL LANES OR CLOSE SIDEWALKS OR PEDESTRIAN CROSSINGS WITHIN THE LAWRENCE JOEL MEMORIAL COLISEUM COMPLEX AREA WITHOUT PRIOR APPROVAL OF THE CITY OF WINSTON-SALEM. SUBMIT TO THE CITY FOR REVIEW AND APPROVAL TWO WEEKS IN ADVANCE A SCHEDULE FOR PROPOSED WORK THAT WILL REQUIRE NARROWING OR CLOSING A LANE, ROAD, SIDEWALK OR PEDESTRIAN CROSSING. THE LAWRENCE JOEL COLISEUM COMPLEX AREA IS DEFINED AS THE AREA BOUNDED BY UNIVERSITY PARKWAY, 27TH STREET NW, SHOREFAIR DRIVE AND REYNOLDS BOULEVARD.

D) DO NOT CLOSE OR NARROW TRAVEL LANES OR CLOSE SIDEWALKS OR PEDESTRIAN CROSSINGS WITHIN ½ MILE OF A SCHOOL DURING ARRIVAL AND DISMISSAL HOURS ON A SCHOOL DAY. COORDINATE WITH THE AFFECTED SCHOOL CONCERNING OPERATIONAL HOURS AND SCHOOL DAYS. AS A MINIMUM, DO NOT CLOSE OR NARROW A LANE OR CLOSE A SIDEWALK OR PEDESTRIAN CROSSING DURING HOURS POSTED ON SCHOOL SPEED ZONE SIGNS (WHEN PRESENT).

E) DO NOT STOP TRAFFIC AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS	DURATION AND OPERATION
ALL ROADS	MON. - SUN. 6:00 AM TO 12:00 MID.	20 MINUTES INSTALLING CABLE ACROSS ROAD (USING RSD. 1101.03, SHEETS 8 & 9 OF 9)

F) DO NOT TAKE ANY TRAFFIC SIGNAL OUT OF OPERATION TO PERFORM CONTROLLER CABINET CHANGEOUT BETWEEN THE HOURS OF 3:00 PM AND 9:00 AM THE FOLLOWING MORNING.

LANE AND SHOULDER CLOSURE REQUIREMENTS

G) ON STREETS WHERE POSTED SPEED LIMIT IS 40 MPH OR LESS AND WORK IS ON THE SHOULDER, CLOSE THE SHOULDER USING RSD 1101.04 OR USE A SHOULDER CLOSURE WITH MINOR ENCROACHMENT INTO THE ADJACENT TRAFFIC LANE AS SHOWN IN M.U.T.C.D. FIGURE 6H-6, "SHOULDER WORK WITH MINOR ENCROACHMENT (TA-6)." WHEN USING TA-6, COMPLY WITH THE APPLICATION NOTES ON MUTCD PAGE 6H-16, AND MAINTAIN A MINIMUM OF 10-FT TRAVEL LANE. CLOSE AFFECTED SIDEWALKS AND PEDESTRIAN PATHS. WHERE A 10FT. OR GREATER TRAVEL LANE CANNOT BE MAINTAINED OR AS DIRECTED BY THE ENGINEER, CLOSE THE ADJACENT TRAFFIC LANE USING RSD 1101.02, SHEETS 1 THRU 4 OF 15.

H) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED, OR AS DIRECTED BY THE ENGINEER.

I) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING GREATER THAN 5 FT BUT LESS THAN 15 FT FROM AN OPEN TRAVEL LANE ON A ROADWAY WITH A POSTED SPEED LIMIT OF 45 MPH OR GREATER, CLOSE THE ADJACENT SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

J) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 5 FT OF AN OPEN TRAVEL LANE ON A ROADWAY WITH A POSTED SPEED LIMIT OF 45 MPH OR GREATER, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

K) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE ROADWAY STANDARD DRAWINGS OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

L) DO NOT INSTALL MORE THAN ONE LANE CLOSURE IN ANY ONE DIRECTION ON ANY ROADWAY.

SIGNING

M) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE. INSTALL SIGNS IMMEDIATELY PRIOR TO THE BEGINNING OF CONSTRUCTION AND REMOVE OR COVER SIGNS UPON COMPLETION AND DURING INACTIVE PERIODS.

N) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

O) THE WORD "SIGNAL" OR "UTILITY" MAY BE USED IN LIEU OF "ROAD" ON W20-1 (ROAD WORK AHEAD) SIGNS G20-2a (END ROAD WORK) SIGNS. HOWEVER, DO NOT INTERMIX SIGNS.

P) USE PORTABLE SIGN SUPPORTS IN LIEU OF STATIONARY SIGN SUPPORTS FOR ALL WORKZONE SIGNS UNLESS THE ENGINEER DIRECTS OTHERWISE.

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

APPROVED: J. Todd Brooks DATE: 3/22/13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

PROJECT NOTES
(SHEET 1 OF 2)

22-MAR-2013 13:31
X:\Transportation\Traffic\Curr\I0002712 Winston Salem Sig Sys\TMP\C-5224B_TMP_01.dgn
12054

PROJ. REFERENCE NO.	SHEET NO.
C-5224B	TMP-02A

PROJECT NOTES

TRAFFIC CONTROL DEVICES

Q) WHEN LANE CLOSURES ARE NOT IN EFFECT. REFER TO SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) OF STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES FOR ADDITIONAL REQUIREMENTS.

R) PLACE ADDITIONAL SETS OF THREE DRUMS PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PEDESTRIANS

S) CONTRACTOR SHALL MAINTAIN SIDEWALK ACCESS AT ALL TIMES AS STATED IN THE PHASING. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TEMPORARY SIDEWALKS (CONCRETE, ASPHALT, OR OTHER SUITABLE MATERIAL AS APPROVED BY THE ENGINEER) AT ALL LOCATIONS WHERE THE OPEN PEDESTRIAN TRAVELWAY HAS BEEN REMOVED FOR CONSTRUCTION OPERATIONS (UTILITIES, DRAINAGE, ETC.).

T) MAINTAIN REASONABLE AND SAFE PEDESTRIAN ACCESS TO ALL BUSINESSES, SCHOOLS AND DWELLINGS IN AREAS AFFECTED BY CONSTRUCTION AT ALL TIMES.

U) REFER TO MUTCD SECTION 6D.01, "PEDESTRIAN CONSIDERATIONS" AND SECTION 6D.02, "ACCESSIBILITY CONSIDERATIONS" FOR ADDITIONAL REQUIREMENTS AND CONSIDERATIONS FOR MAINTAINING PEDESTRIAN MOBILITY THROUGH WORK AREA.

V) WHEN CONSTRUCTION ACTIVITIES WILL BLOCK PEDESTRIAN ACCESS TO PEDESTRIAN SIGNAL PUSHBUTTONS, NOTIFY THE ENGINEER AT LEAST 24 HOURS IN ADVANCE OF SUCH WORK TO HAVE THE TRAFFIC SIGNAL PLACE ON PEDESTRIAN RECALL.

W) COORDINATE WITH CITY OF WINSTON-SALEM DEPARTMENT OF TRANSPORTATION CONCERNING ANY SPECIAL REQUIREMENTS FOR WORK WITHIN OR ADJACENT TO CITY GREENWAYS AND ANY SPECIAL EVENTS INVOLVING GREENWAYS AT LEAST TWO WEEKS PRIOR TO BEGINNING WORK WITHIN OR ADJACENT TO A CITY GREENWAY.

MISCELLANEOUS

X) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS, AS DIRECTED AND APPROVED IN ADVANCE BY THE ENGINEER, AND SUBJECT TO THE AFOREMENTIONED TIME RESTRICTIONS.

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

APPROVED: J. Todd Brooks DATE: 3/22/13

SEAL

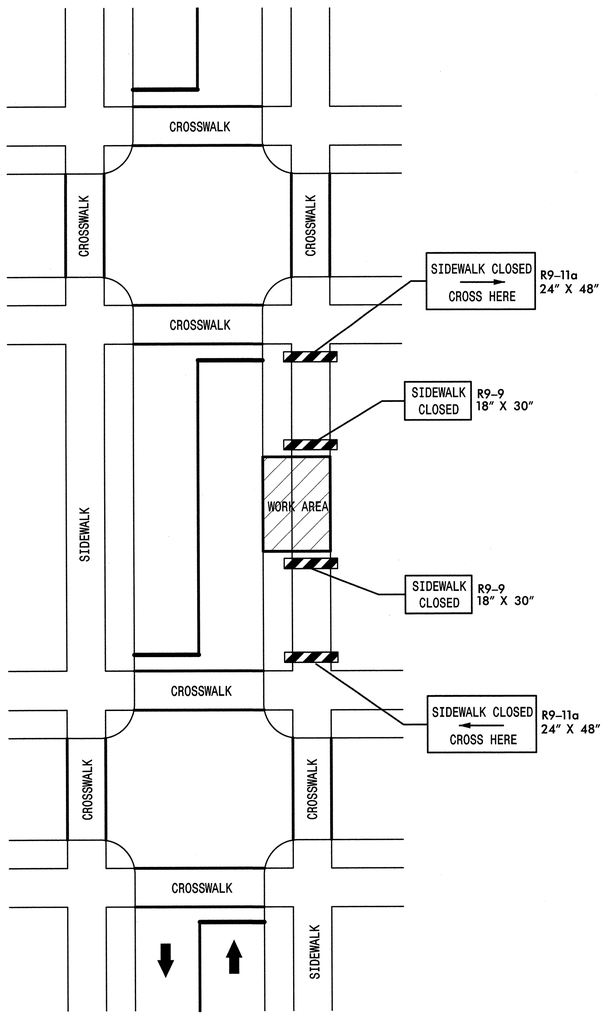
NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER TODD BROOKS

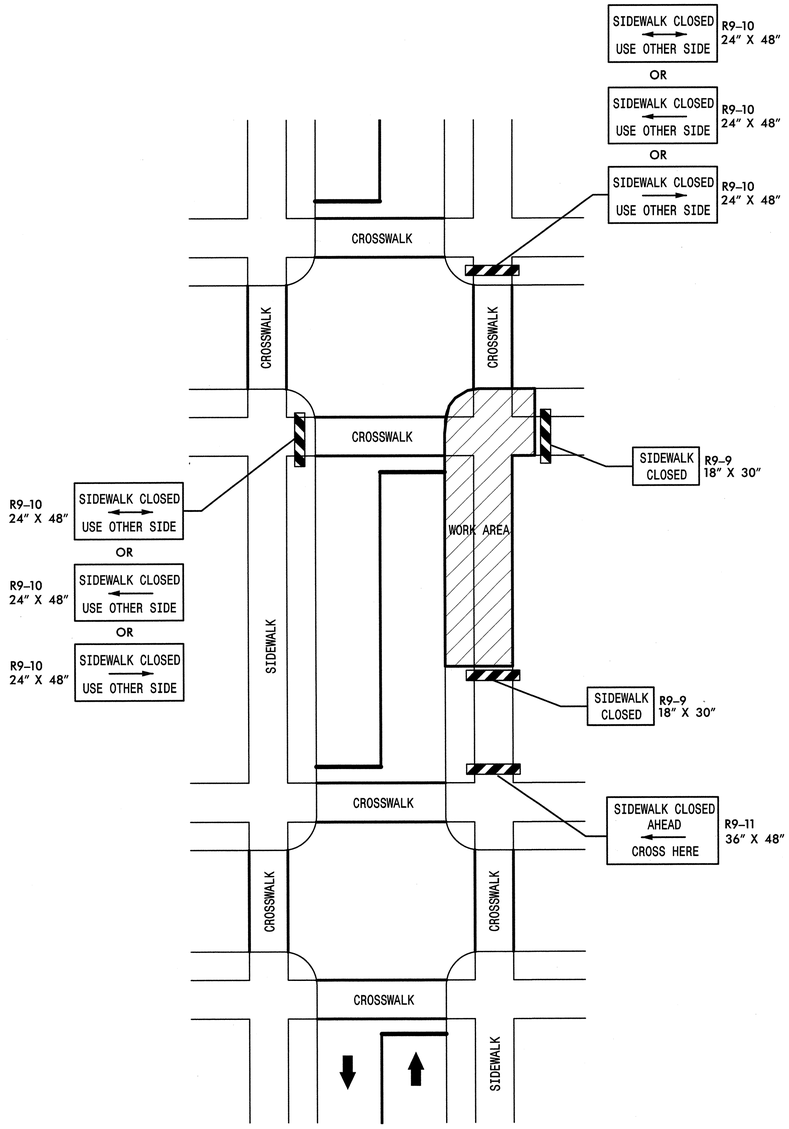
DIVISION OF HIGHWAYS * STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION * WORK ZONE TRAFFIC CONTROL

PROJECT NOTES
(SHEET 2 OF 2)

21-MAR-2013 19:34
O:\Transportation\Traffic\Curr\U0002712 Winston Salem Sig Sys\TMP\C-5224B_TMP_01.dgn
13833

PROJ. REFERENCE NO.	SHEET NO.
C-5224B	TMP-03





TYPICAL DRAWING FOR
SIDEWALK CLOSURES

LEGEND

▨ — TYPE III BARRICADE

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

APPROVED: [signature] DATE: 3/14/13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER TODD BROOKS

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

TYPICAL SIDEWALK CLOSURE AND PEDESTRAIN DETOUR

21-MAR-2013 19:34
O:\NCTransportation\Traffic\Curr\I0002712 Winston Salem Sig Sys\TMP\C-5224B_TMP_03.dgn
13833