

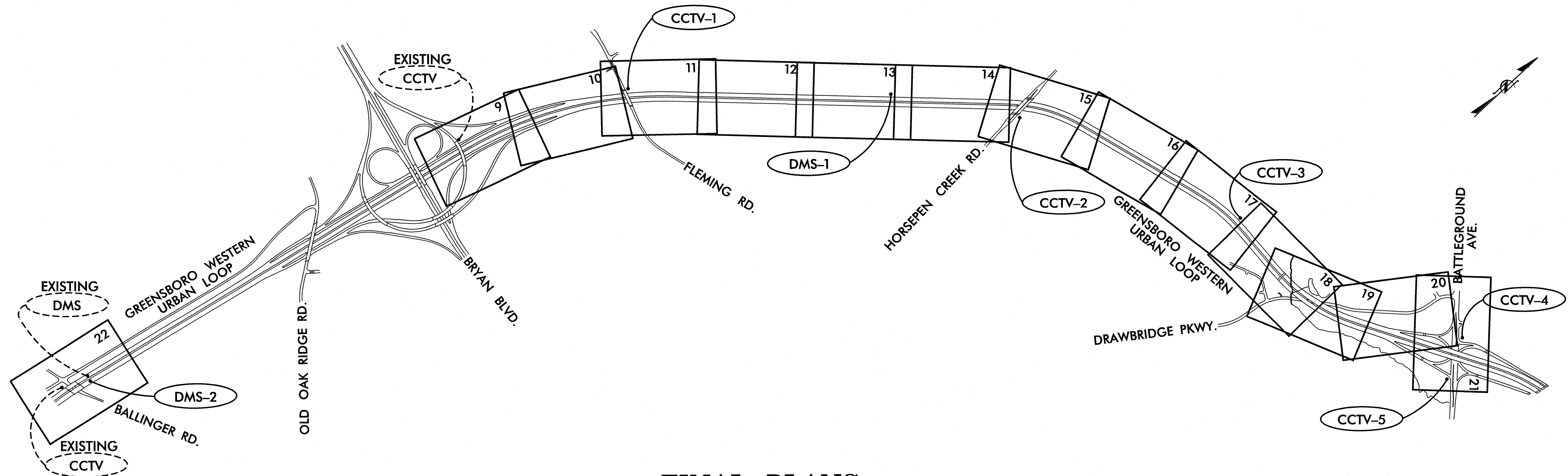
CONTRACT: C203197 TIP PROJECT: U-2524C

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

GUILFORD COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2524C	ITS-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
		PE	

LOCATION: GREENSBORO WESTERN URBAN LOOP FROM BRYAN BOULEVARD TO BATTLEGROUND AVENUE
TYPE OF WORK: COMMUNICATIONS CABLE AND CONDUIT ROUTING, CCTV CAMERA AND DYNAMIC MESSAGE SIGNS INSTALLATION



FINAL PLANS

2012 STANDARD SPECIFICATIONS
PROJECT LENGTH PROJECT LENGTH = 3.8 MILES
LETTING DATE: SEPTEMBER 17, 2013
INDEX OF SHEETS
SHEET ITS-1.....TITLE SHEET
SHEET ITS-2.....CONSTRUCTION NOTES AND LEGEND
SHEET ITS-3-8.....TYPICAL DETAILS
SHEET ITS-9-22.....CABLE ROUTING PLANS
SHEET ITS-23-29.....SPLICE DETAILS

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" ROADWAY DESIGN 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
1700.01	ELECTRICAL SERVICE OPTIONS
1700.02	ELECTRICAL SERVICE GROUNDING
1715.01	UNDERGROUND CONDUIT-TRENCHING
1716.01	JUNCTION BOXES
1720.01	WOOD POLES
1730.01	FIBER OPTIC CABLE
1751.01	CONTROLLER AND CABINETS
1751.02	CONTROLLER AND CABINETS

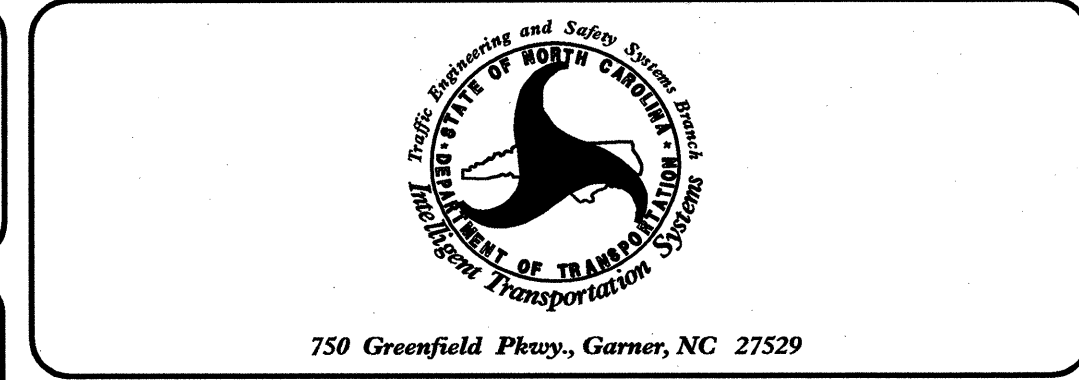
NCDOT CONTACTS:
 TRANSPORTATION SAFETY AND MOBILITY
 INTELLIGENT TRANSPORTATION SYSTEMS SECTION
 THOMAS G. PARKER - ITS PROJECT ENGINEER
 SHERRY C. YOW - ITS PROJECT DESIGN ENGINEER

PLANS PREPARED BY:

Kimley-Horn
and Associates, Inc.

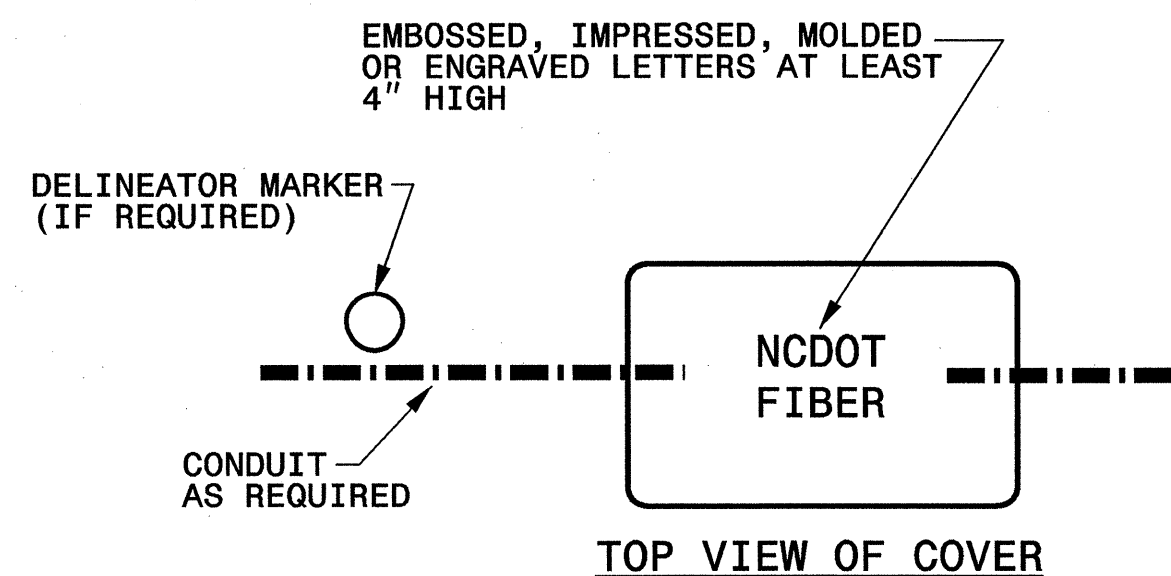
NC License #F-002
P.O. Box 33068
Raleigh, NC 27636
(919) 677-2000

KIMLEY-HORN CONTACTS: T.F. BURCHETT, P.E. - PROJECT MANAGER
 KEVIN W. SMITH, P.E. - PROJECT ENGINEER

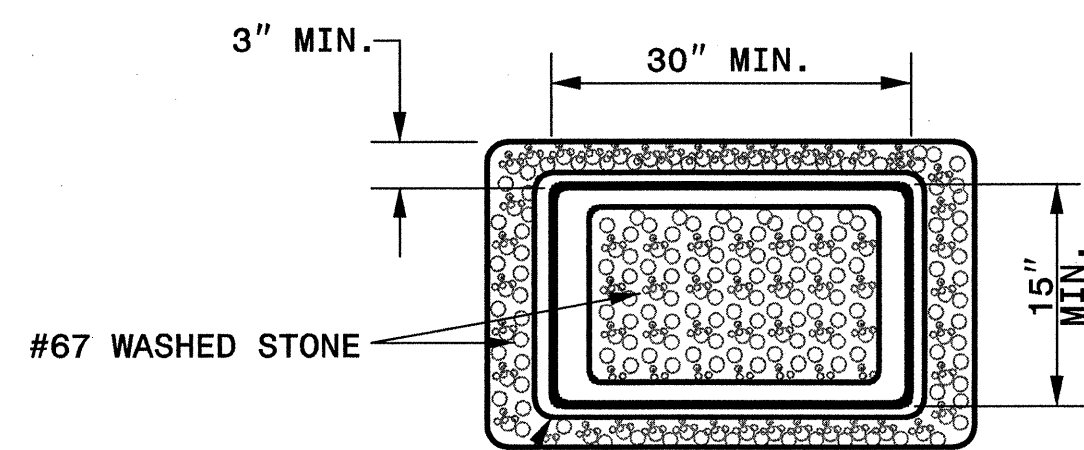


<p style="font-size: 0.8em;">SEAL 030472 ENGINEER KEVIN W. SMITH</p>	<p style="font-size: 0.8em;">SEAL</p>
<p style="font-size: 0.8em;">SIGNATURE</p> <p style="font-size: 0.8em;">5/6/13</p> <p style="font-size: 0.8em;">DATE</p>	<p style="font-size: 0.8em;">SIGNATURE</p> <p style="font-size: 0.8em;">DATE</p>

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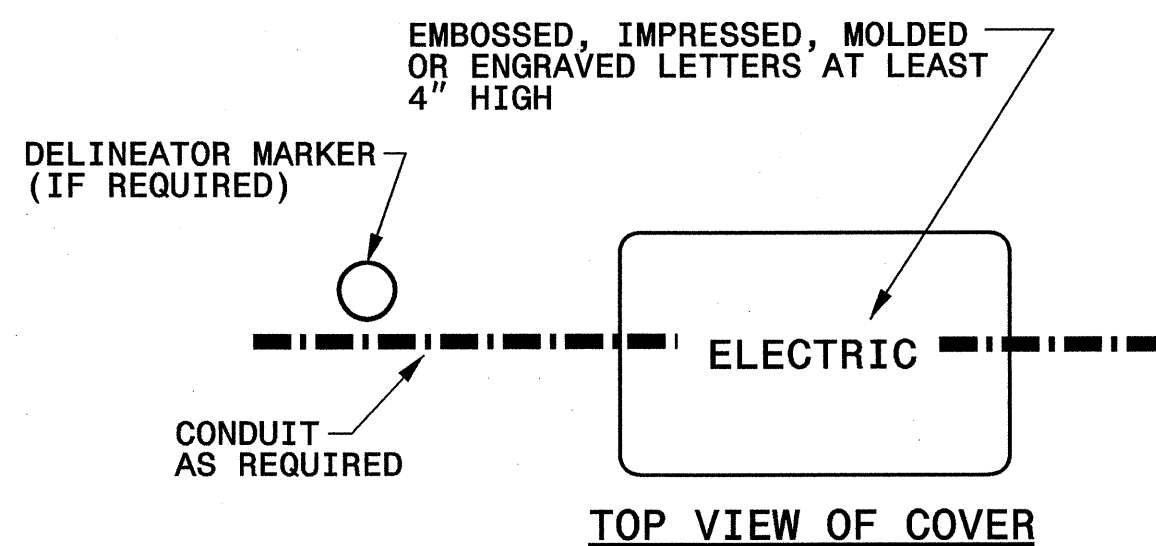


TOP VIEW OF COVER

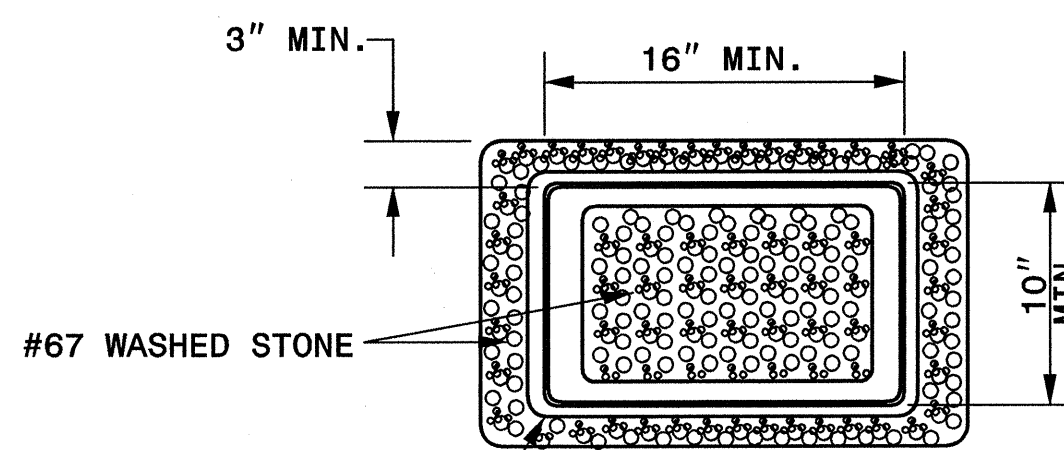


TOP VIEW WITHOUT COVER

**OVERSIZED HEAVY DUTY JUNCTION BOX
TYPICAL DETAIL**



TOP VIEW OF COVER

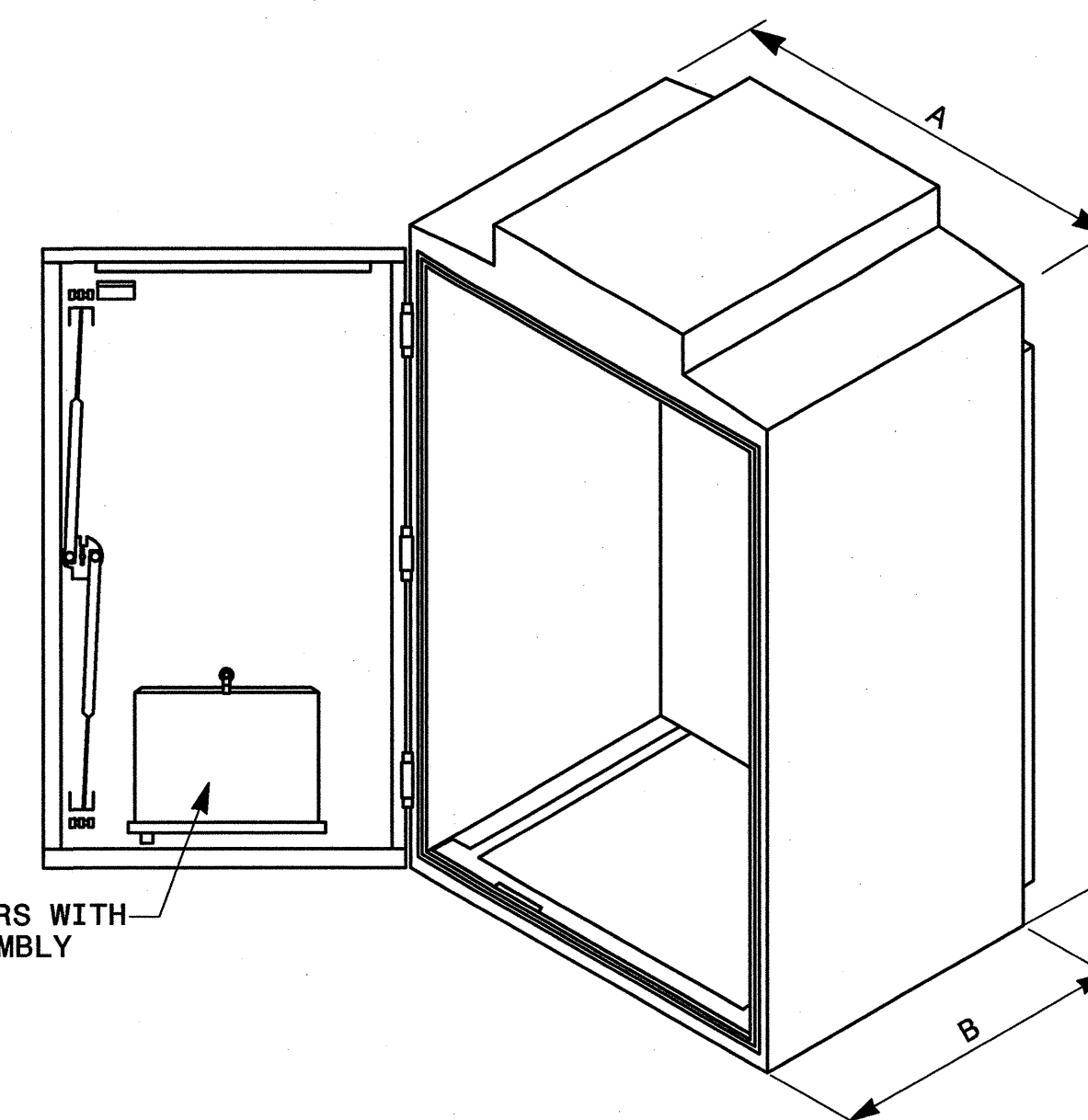


TOP VIEW WITHOUT COVER

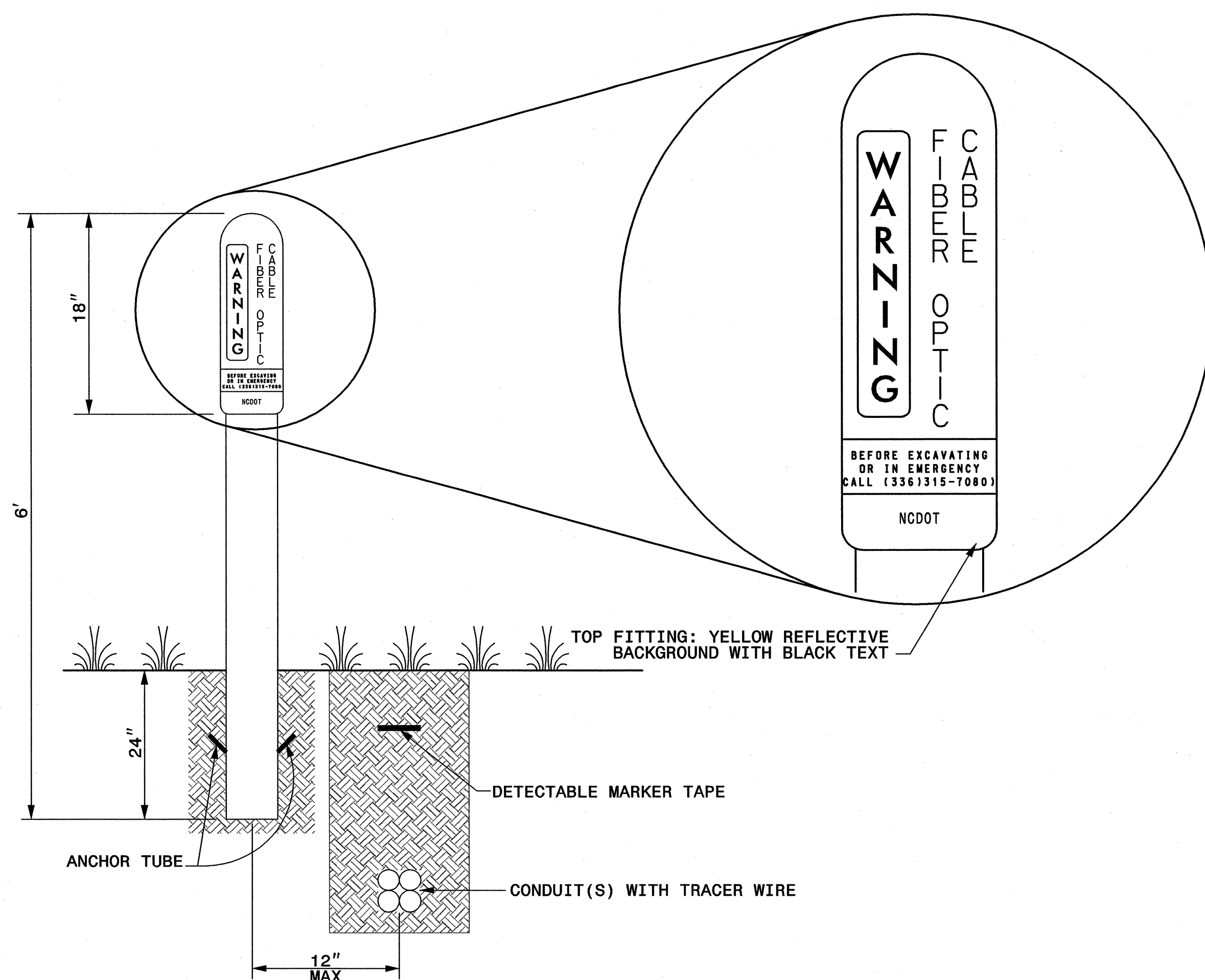
**STANDARD JUNCTION BOX
TYPICAL DETAIL**

CABINET HOUSING DIMENSIONS

- 336S
- A 24"
- B 20"
- C 46"



EQUIPMENT CABINET SIZES



PVC POST-MOUNTED DELINEATOR MARKER

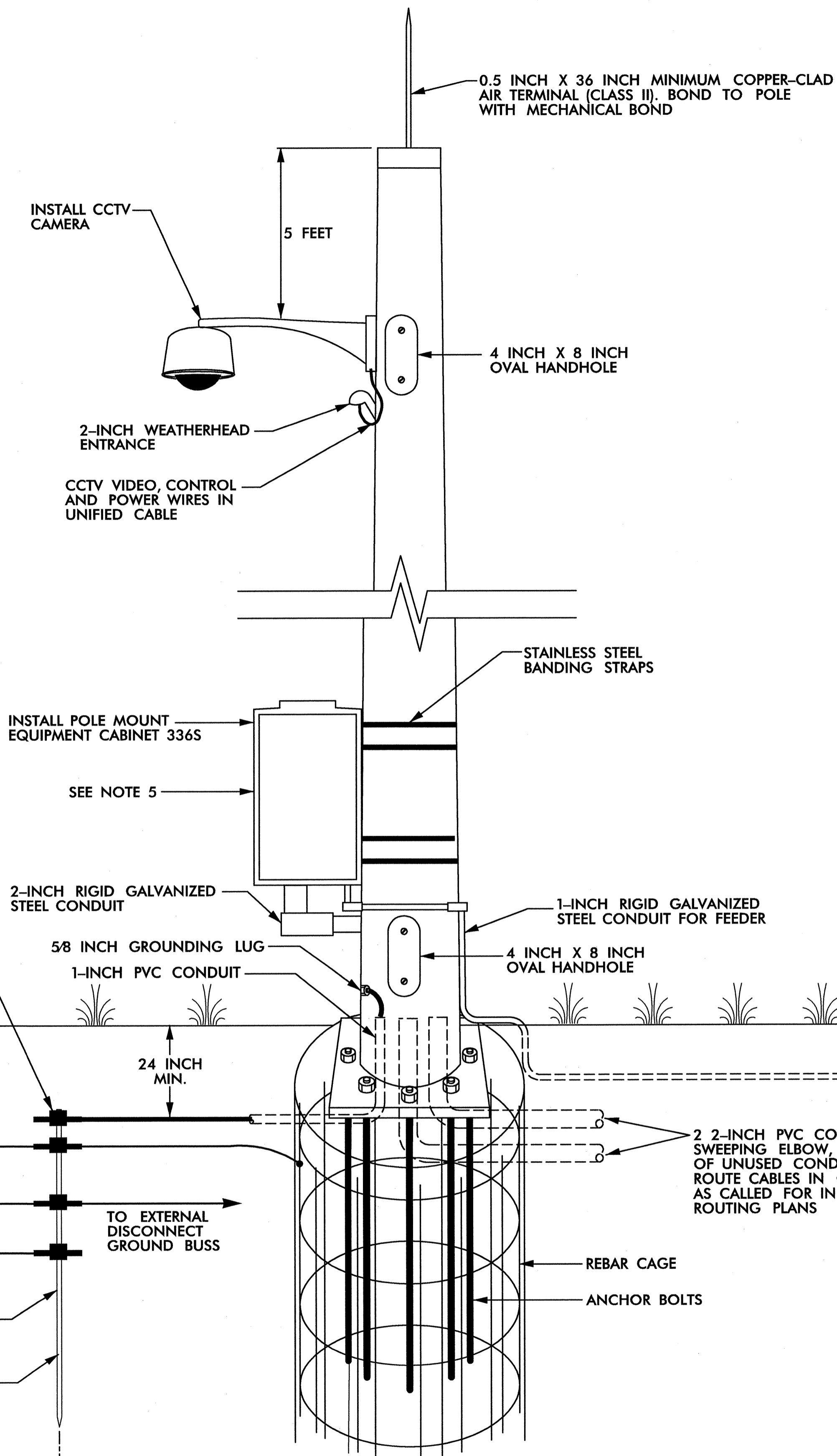
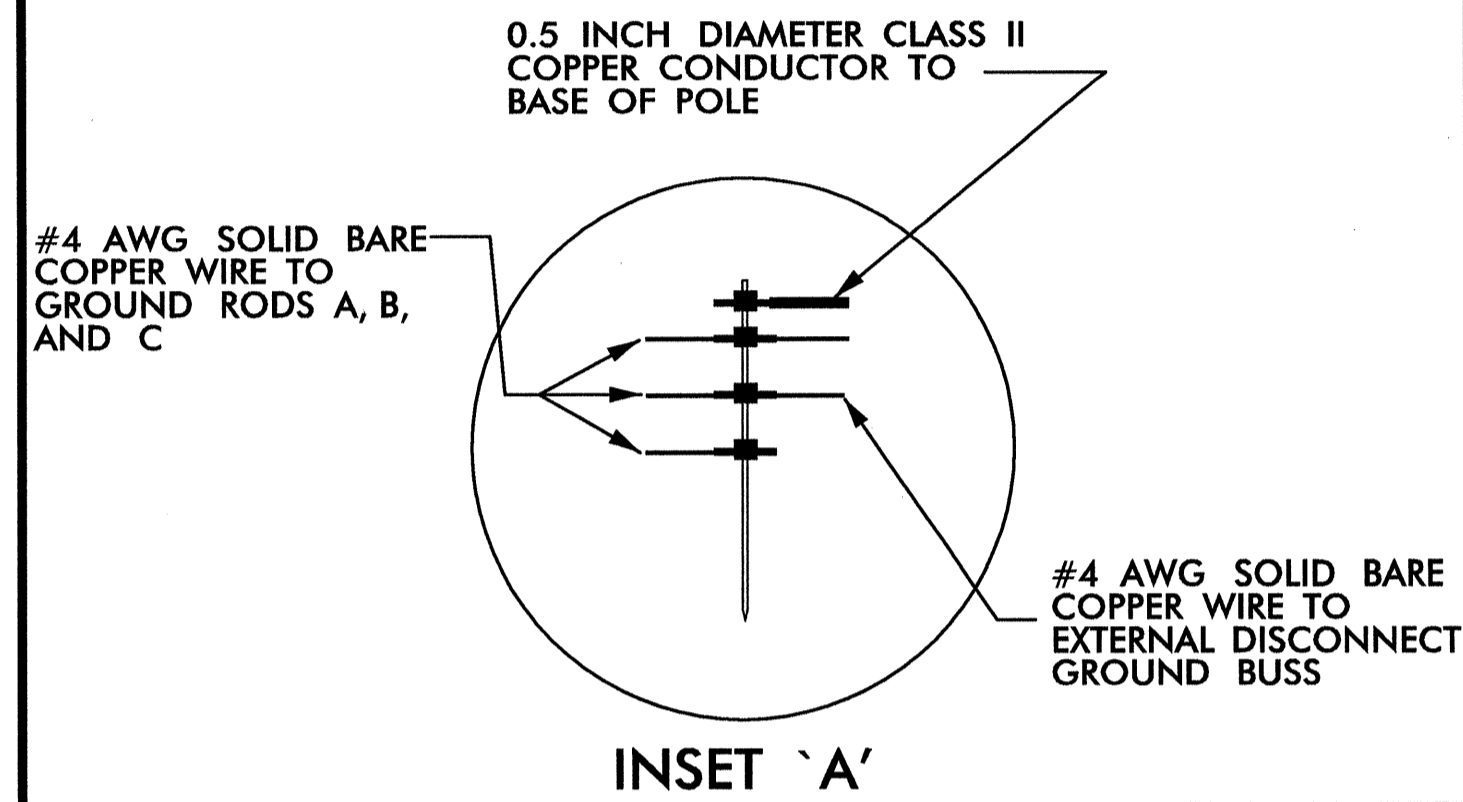
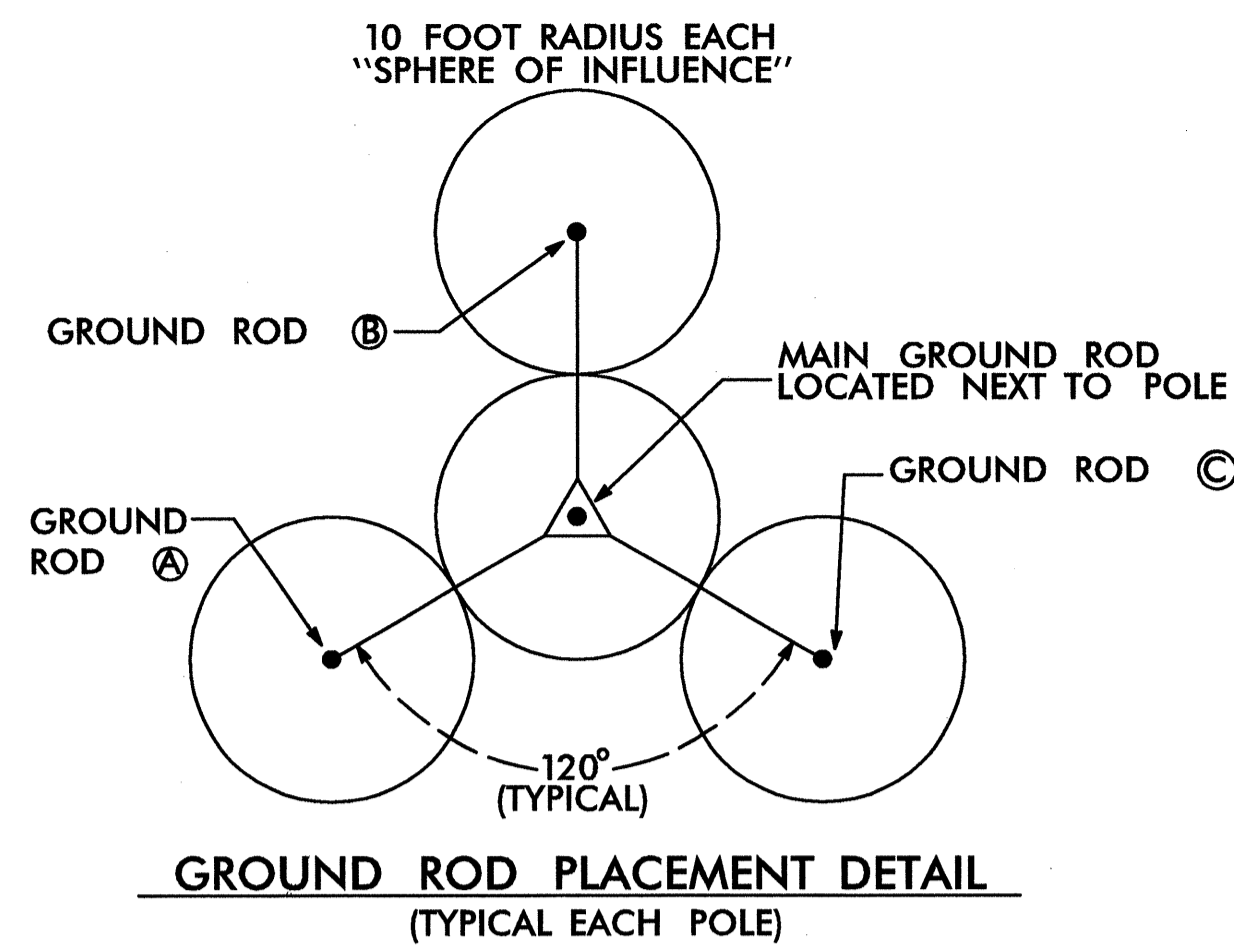
NOTE:
BACKFILL WITH EXCAVATED MATERIAL AND COMPACT THE SOIL TO 95% OF ITS ORIGINAL DENSITY. REMOVE ROCK AND DEBRIS FROM BACKFILL MATERIAL.

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
NC License #F-0102
P.O. Box 33068
Raleigh, NC 27636
(919) 677-2000

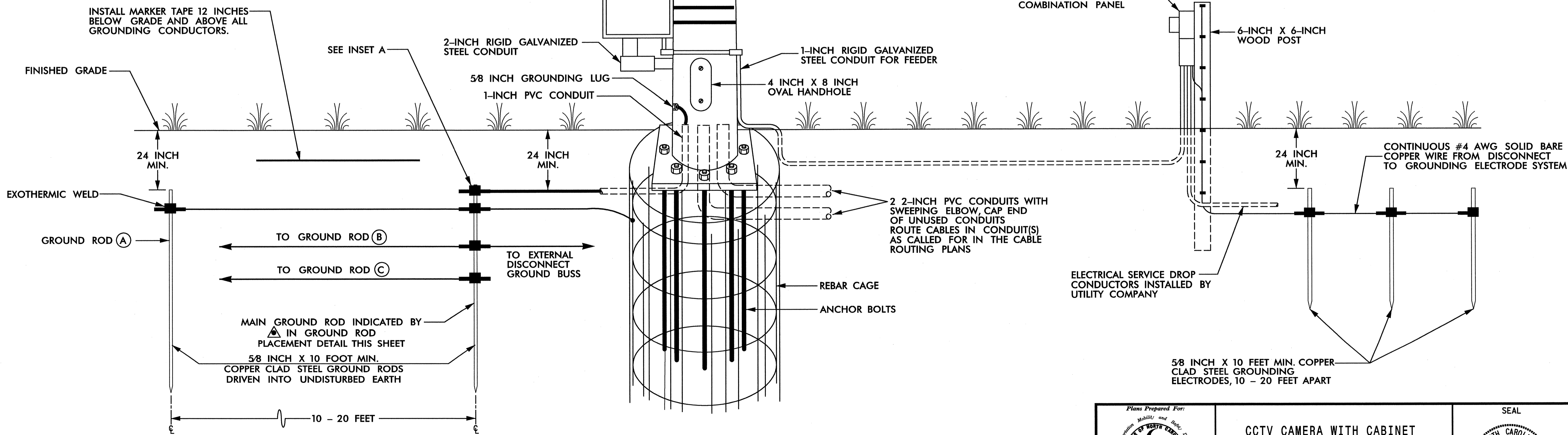
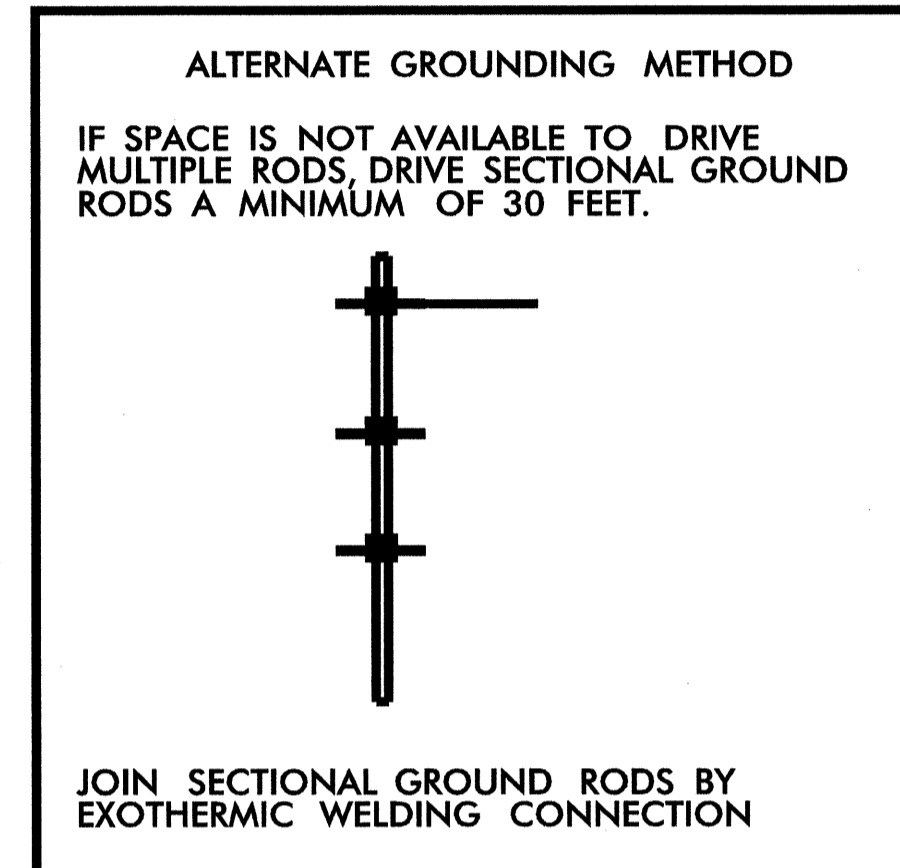
Plans Prepared For:
DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Place, Garner, NC 27529

TYPICAL DETAILS	
DIVISION 07	GUILFORD COUNTY
PLAN DATE: MAY 2013	REVIEWED BY:
PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH
REVISIONS	INIT. DATE

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER
SEAL 030472
ENGINEER KEVIN W. SMITH
SIGNATURE: *K. Smith* 5/6/13
DATE



- NOTES**
1. BOND 0.5 INCH DIAMETER, 28 STRAND (MINIMUM) CLASS II COPPER CONDUCTOR TO THE MAIN GROUND ROD BY AN EXOTHERMIC WELD METHOD.
 2. EXOTHERMICALLY WELD ALL CONNECTIONS TO GROUND RODS.
 3. BOND #4 AWG SOLID BARE COPPER WIRE TO REBAR CAGE AND THE MAIN GROUND ROD BY AN EXOTHERMIC WELD METHOD.
 4. ENSURE CAMERA HOUSING, CAMERA, AND PAN -TILT UNIT ARE BONDED TO POLE.
 5. REMOVE BONDING JUMPER BETWEEN EQUIPMENT CABINET GROUND BUSS AND NEUTRAL BUSS.
 6. THE CONTRACTOR MAY, UPON APPROVAL OF THE ENGINEER, INSTALL A 30-FOOT SECTIONAL GROUND ROD WHEN CONDITIONS WILL NOT ALLOW FOR THE INSTALLATION OF THE 3 - RADIAL GROUND RODS.
 7. INSTALL MARKER TAPE DIRECTLY ABOVE ALL GROUNDING ELECTRODES AND CONDUCTORS AT A DEPTH OF 12 INCHES.



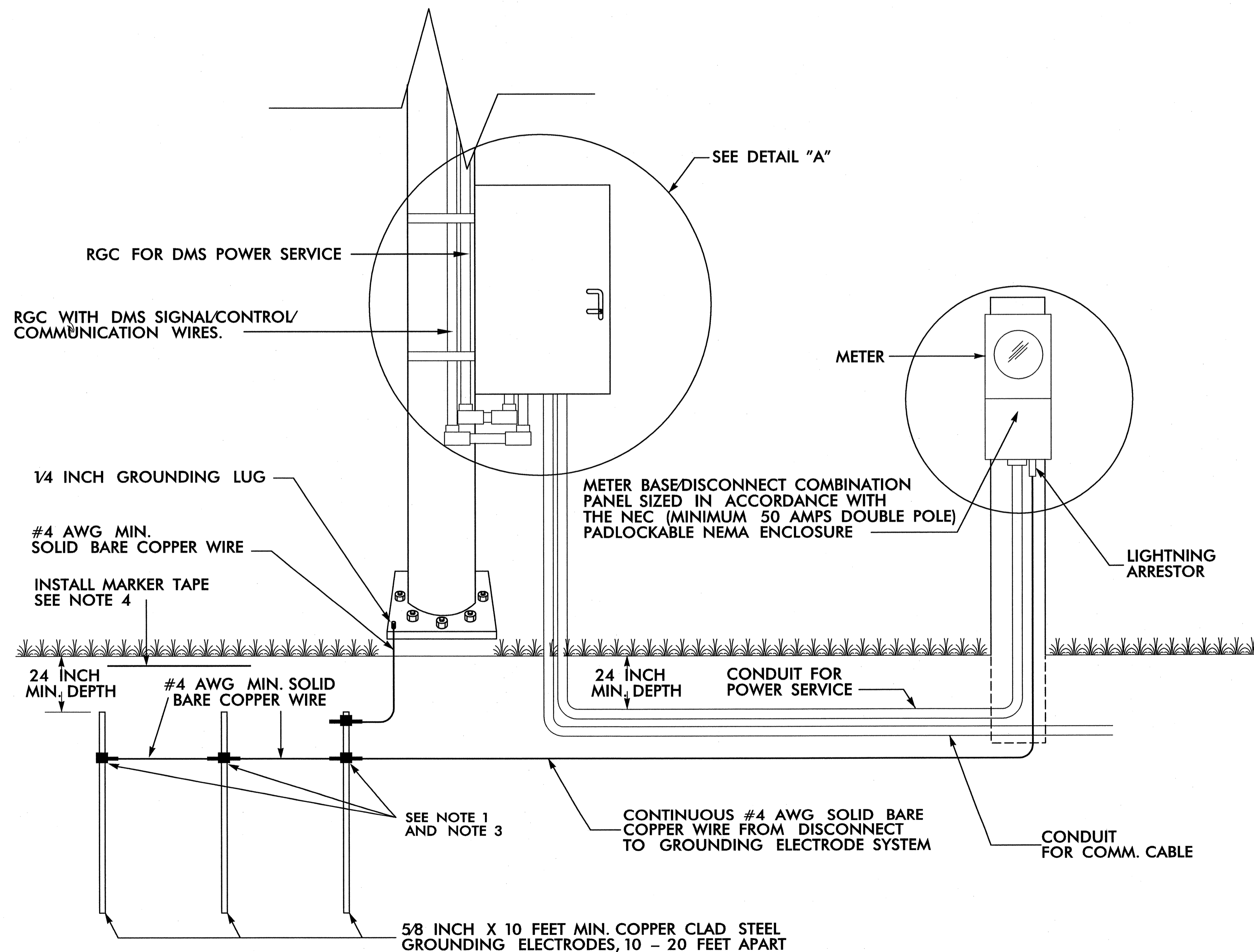
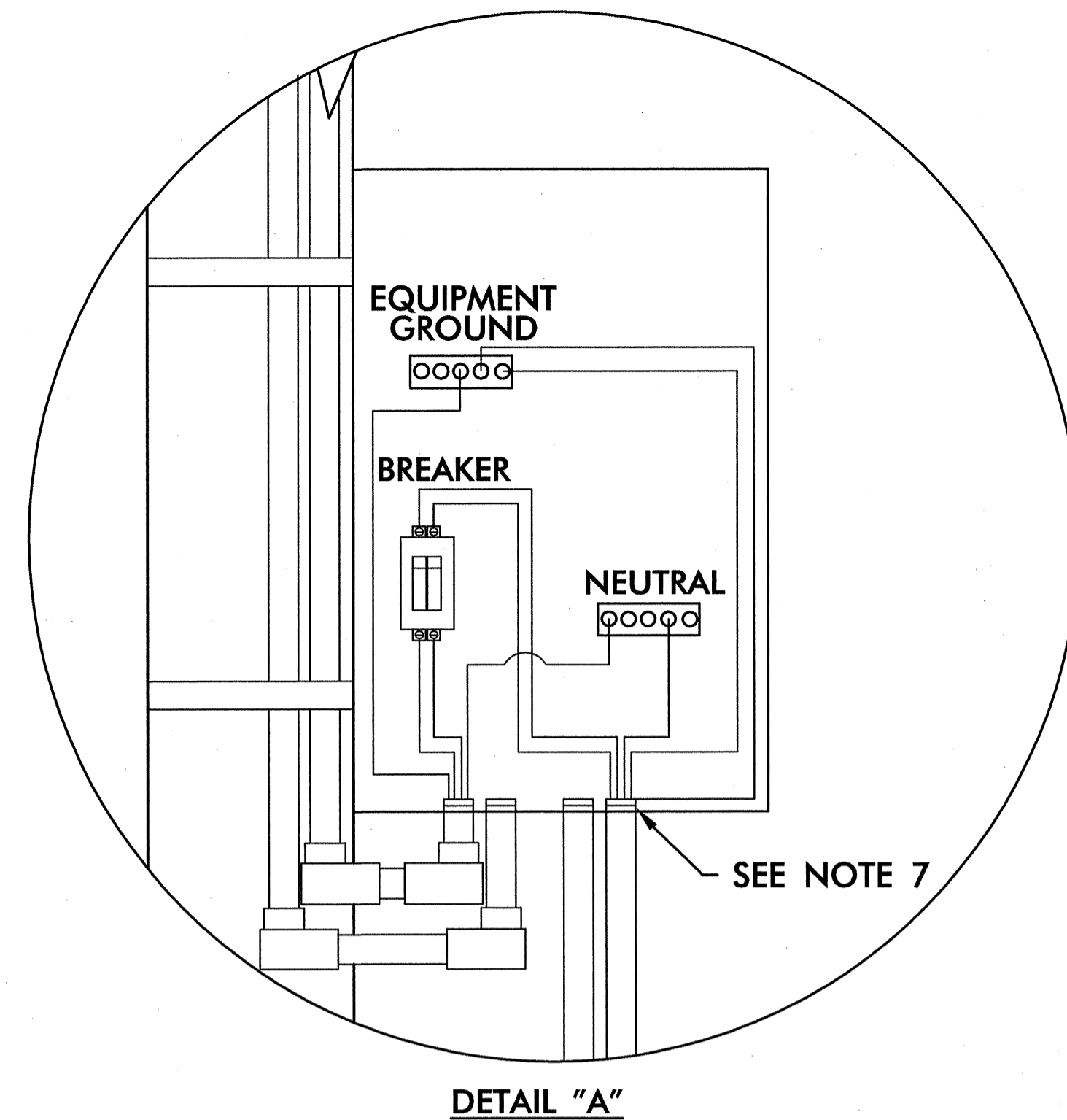
K:\NAL\17170\17170-1\ITS\2524C\Plans\U-2524C_Plan4.dgn 12/27/11 PM 5/6/2013

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NC License #F-0102
P.O. Box 33066
Raleigh, NC 27636
(919) 677-2000

<p>Plans Prepared For:</p> <p>STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION</p>		<p>CCTV CAMERA WITH CABINET ON METAL POLE</p>		<p>SEAL</p>	
<p>DIVISION 07</p>		<p>GUILFORD COUNTY</p>		<p>SCALE</p> <p>0</p>	
<p>PLAN DATE: MAY 2013</p>	<p>REVIEWED BY: J. CROSS</p>	<p>PREPARED BY: J. CROSS</p>	<p>REVIEWED BY: K. SMITH</p>	<p>INIT.</p>	<p>DATE</p>
<p>REVISIONS</p>		<p>REVISIONS</p>		<p>INIT.</p>	<p>DATE</p>
<p>SIGNATURE</p>		<p>SIGNATURE</p>		<p>5/6/13</p>	<p>DATE</p>

CADD File name:



NOTES

1. INSTALL A MINIMUM OF THREE (3) GROUND RODS SPACED A MINIMUM OF 10 FEET APART. ENSURE THAT EXISTING UNDERGROUND FACILITIES ARE NOT DAMAGED DURING INSTALLATION.
2. TEST GROUNDING SYSTEM USING AN APPROVED METHOD. SYSTEM SHOULD MEASURE TWENTY (20) OHMS OR LESS. ADDITIONAL GROUND RODS SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER TO MEET THIS REQUIREMENT.
3. EXOTHERMICALLY WELD ALL CONNECTIONS TO GROUND RODS.
4. INSTALL MARKER TAPE DIRECTLY ABOVE ALL GROUNDING ELECTRODES AND CONDUCTORS AT A DEPTH OF 6 - 12 INCHES.
5. EXOTHERMICALLY WELD THE SERVICE POLE GROUND WIRE TO THE GROUND ROD SYSTEM.
6. REMOVE BONDING JUMPER IN EQUIPMENT CABINET IF INSTALLED BETWEEN AC NEUTRAL AND EQUIPMENT GROUND.
7. BOND ALL RIGID GALVANIZED STEEL CONDUITS ENTERING THE CABINET TO "EQUIPMENT GROUND".
8. INSTALL CONDUIT BETWEEN DISCONNECT AND CABINET.
9. SERVICE DISCONNECT NEUTRAL BUS BAR SHALL PROVIDE FOR 2 #4 AWG CONNECTIONS.
10. ENSURE EQUIPMENT GROUND IS ELECTRICALLY BONDED TO CABINET.

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PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
 NC License #F-0102
 P.O. Box 33068
 Raleigh, NC 27636
 (919) 877-2000

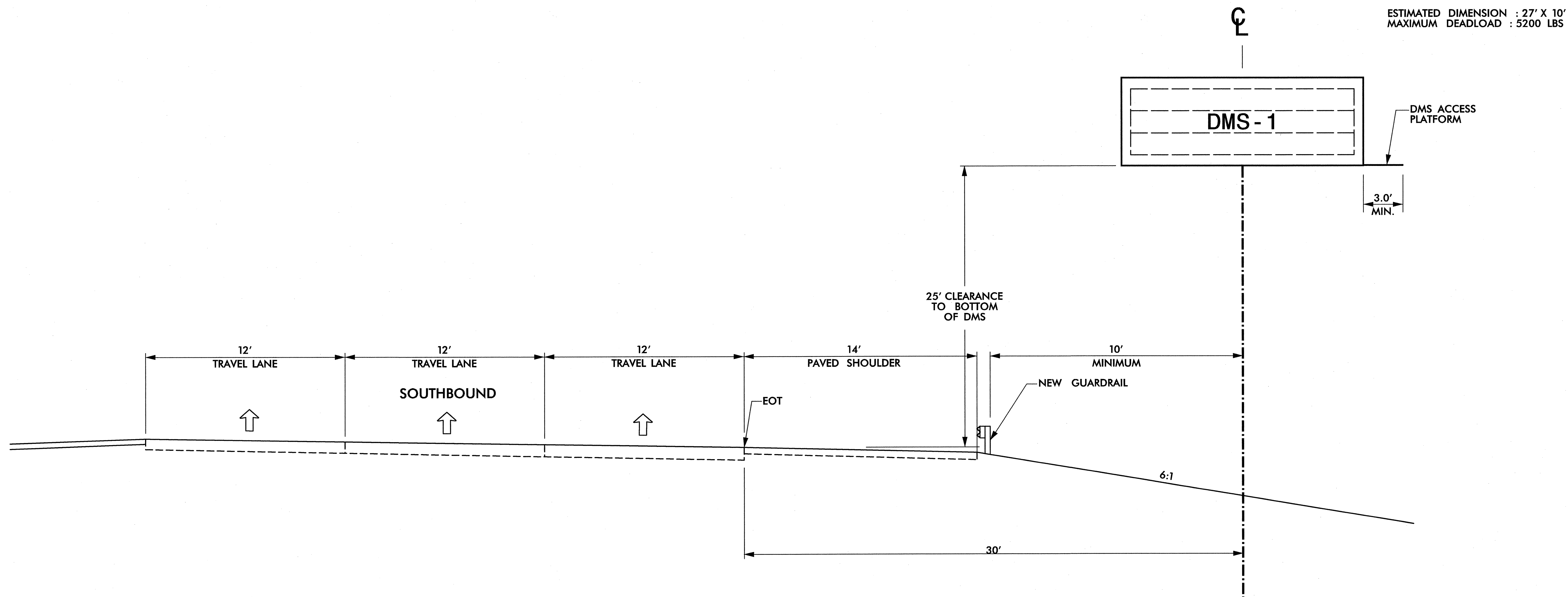
Plans Prepared For:

 STATE OF NORTH CAROLINA
 PROFESSIONAL ENGINEER
 KEVIN W. SMITH
 750 N. Greenfield Pkwy., Garner, NC 27529

DYNAMIC MESSAGE SIGN ELECTRICAL SERVICE AND GROUNDING TYPICAL DETAIL	
DIVISION 07	GUILFORD COUNTY
PLAN DATE: MAY 2013	REVIEWED BY:
PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH
REVISIONS	INIT. DATE

SEAL

 SEAL 030472
 ENGINEER KEVIN W. SMITH
 Signature: *K. W. Smith* 5/16/13
 DATE
 CADD File name:



NOTES

1. PROVIDE A FIXED LADDER LEADING TO THE ACCESS PLATFORM.
2. EQUIP THE LADDER WITH A SECURITY COVER (LADDER GUARD). START THE FIRST LADDER RUNG NO MORE THAN 18 INCHES ABOVE A CONCRETE LANDING PAD. DESIGN RUNGS ON 12 INCH CENTER-TO-CENTER TYPICAL SPACING.
3. INSTALL A CONCRETE LANDING PAD MEASURING A MINIMUM 4 INCHES DEEP, 24 INCHES WIDE, AND 36 INCHES LONG DIRECTLY BENEATH THE LADDER.
4. USE ACTUAL DIMENSIONS AND WEIGHT OF THE DMS TO COMPLETE THE DESIGN OF THE DMS STRUCTURE.
5. FIELD VERIFY ALL FOOTING ELEVATIONS AND GROUND SLOPES AT THE FOOTING USING THE LATEST NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
6. ENSURE THAT THE TOP OF THE FOOTING EXTENDS AT LEAST 6 INCHES AND NOT MORE THAN 24 INCHES ABOVE THE HIGHEST POINT OF THE GROUND SURFACE AT THE FOOTING.
7. DESIGN AND CONSTRUCT THE PEDESTAL STRUCTURE AND DMS ENCLOSURE TO WITHSTAND WIND VELOCITIES OF 90 MPH.
8. VERIFY ALL UNDERGROUND UTILITY LOCATIONS BEFORE BEGINNING ANY UNDERGROUND WORK. DO NOT DAMAGE ANY EXISTING UTILITIES OR NCDOT CABLES DURING CONSTRUCTION.

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PLANS PREPARED IN THE OFFICE OF:

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 NC License #F-0102
 P.O. Box 33068
 Raleigh, NC 27636
 (919) 877-2000

Plans Prepared For:

 750 N. Greenfield Place, Garner, NC 27529

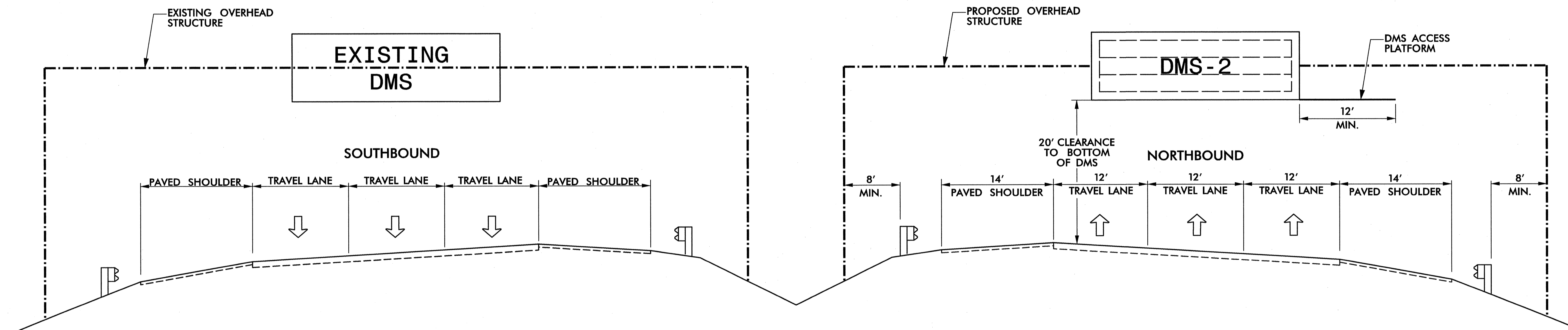
DMS-1 INSTALLATION	
DIVISION 07	GUILFORD COUNTY
PLAN DATE: MAY 2013	REVIEWED BY:
PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH
REVISIONS	INIT. DATE

SEAL

SEAL
 030472
 ENGINEER
 KEVIN W. SMITH

5/6/13
 SIGNATURE DATE

CADD Filename:



NOTES

1. USE ACTUAL DIMENSIONS AND WEIGHT OF THE DMS TO COMPLETE THE DESIGN OF THE DMS STRUCTURE.
2. FIELD VERIFY ALL FOOTING ELEVATIONS AND GROUND SLOPES AT THE FOOTING USING THE LATEST NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
3. ENSURE THAT THE TOP OF THE FOOTING EXTENDS AT LEAST 6 INCHES AND NOT MORE THAN 24 INCHES ABOVE THE HIGHEST POINT OF THE GROUND SURFACE AT THE FOOTING.
4. DESIGN AND CONSTRUCT THE PEDESTAL STRUCTURE AND DMS ENCLOSURE TO WITHSTAND WIND VELOCITIES OF 90 MPH.
5. VERIFY ALL UNDERGROUND UTILITY LOCATIONS BEFORE BEGINNING ANY UNDERGROUND WORK. DO NOT DAMAGE ANY EXISTING UTILITIES OR NCDOT CABLES DURING CONSTRUCTION.

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 P.O. Box 33068
 Raleigh, NC 27636
 (919) 877-2000

Plans Prepared For:

750 N. Greenfield Pkwy., Garner, NC 27529

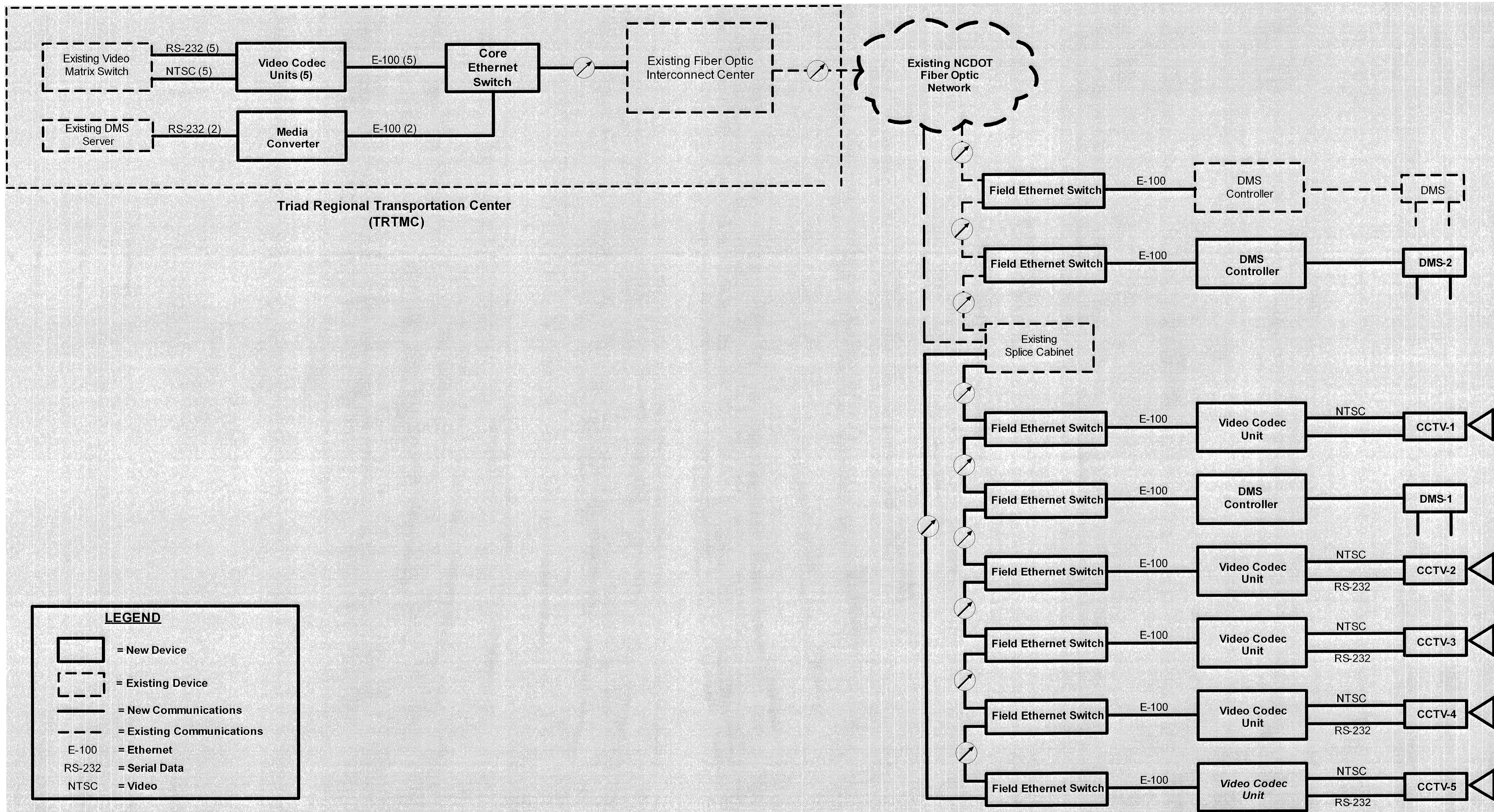
DMS-2 INSTALLATION	
DIVISION 07	GUILFORD COUNTY
PLAN DATE: MAY 2013	REVIEWED BY:
PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH
REVISIONS	INIT. DATE

SEAL

SEAL 030472
 ENGINEER KEVIN W. SMITH

Kevin W. Smith 5/6/13
 SIGNATURE DATE

CADD FILE NAME:



LEGEND

- = New Device
- = Existing Device
- = New Communications
- = Existing Communications
- E-100 = Ethernet
- RS-232 = Serial Data
- NTSC = Video

5/6/2013 12:06:59 PM K:\RAL\1770\ITS\01035233 U-2524C\Plans\U-2524C_PSD108.dgn

PLANS PREPARED IN THE OFFICE OF:

 Kimley-Horn and Associates, Inc.
 NC License #F-0102
 P.O. Box 33068
 Raleigh, NC 27636
 919.877.2000

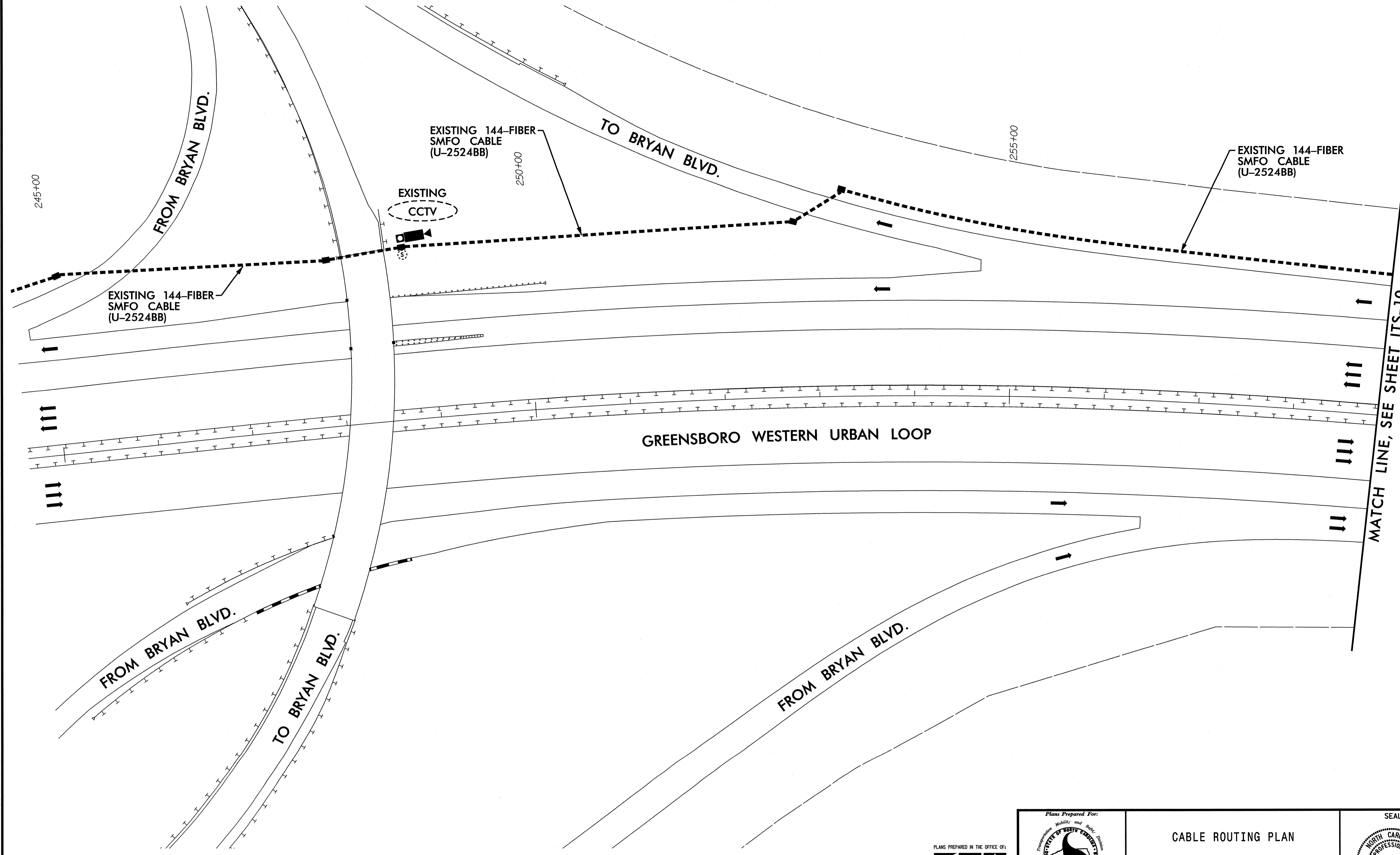
Plans Prepared For:

 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 750 N. Greenfield Place, Garner, NC 27529

SYSTEM BLOCK DIAGRAM			
DIVISION 07		GUILFORD COUNTY	
PLAN DATE: MAY 2013	REVIEWED BY:		
PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH		
REVISIONS	INIT.	DATE	

SEAL

 KEVIN W. SMITH
 ENGINEER
 SEAL 030472
 SIGNATURE: *Kevin W. Smith* DATE: 5/6/13
 CADD FILE NAME:



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 NC License #F-0102
 P.O. Box 33068
 Raleigh, NC 27636
 (919) 671-2000

Plans Prepared For:

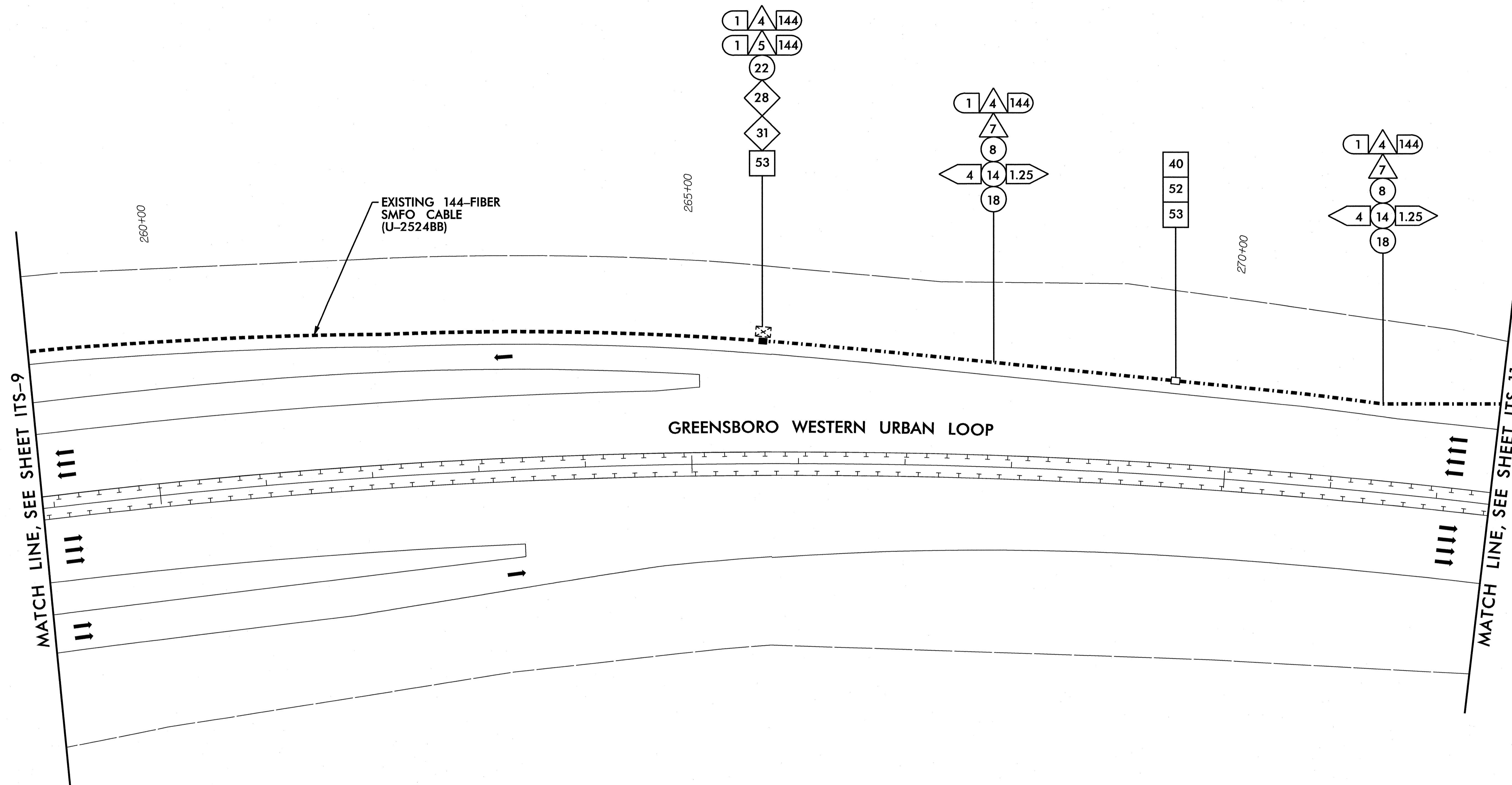
750 N. Greenfield Pkwy., Garner, NC 27529

CABLE ROUTING PLAN	
DIVISION 07	GUILFORD COUNTY
PLAN DATE: MAY 2013	REVIEWED BY:
PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH
REVISIONS	INIT. DATE

SEAL

Kevin W. Smith 5/6/13
 SIGNATURE DATE

CADD File name:



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NOTE:
 MAINTAIN A MINIMUM OF SIX (6) FEET FROM THE
 EDGE OF PAVEMENT WHEN TRENCHING PARALLEL TO
 THE ROADWAY

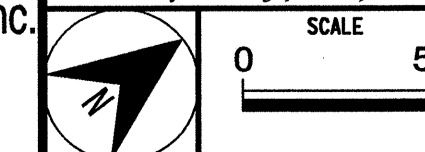
PLANS PREPARED IN THE OFFICE OF:

**Kimley-Horn
 and Associates, Inc.**
 NC License #F-0102
 P.O. Box 33068
 Raleigh, NC 27636
 (919) 877-2000

Plans Prepared For:

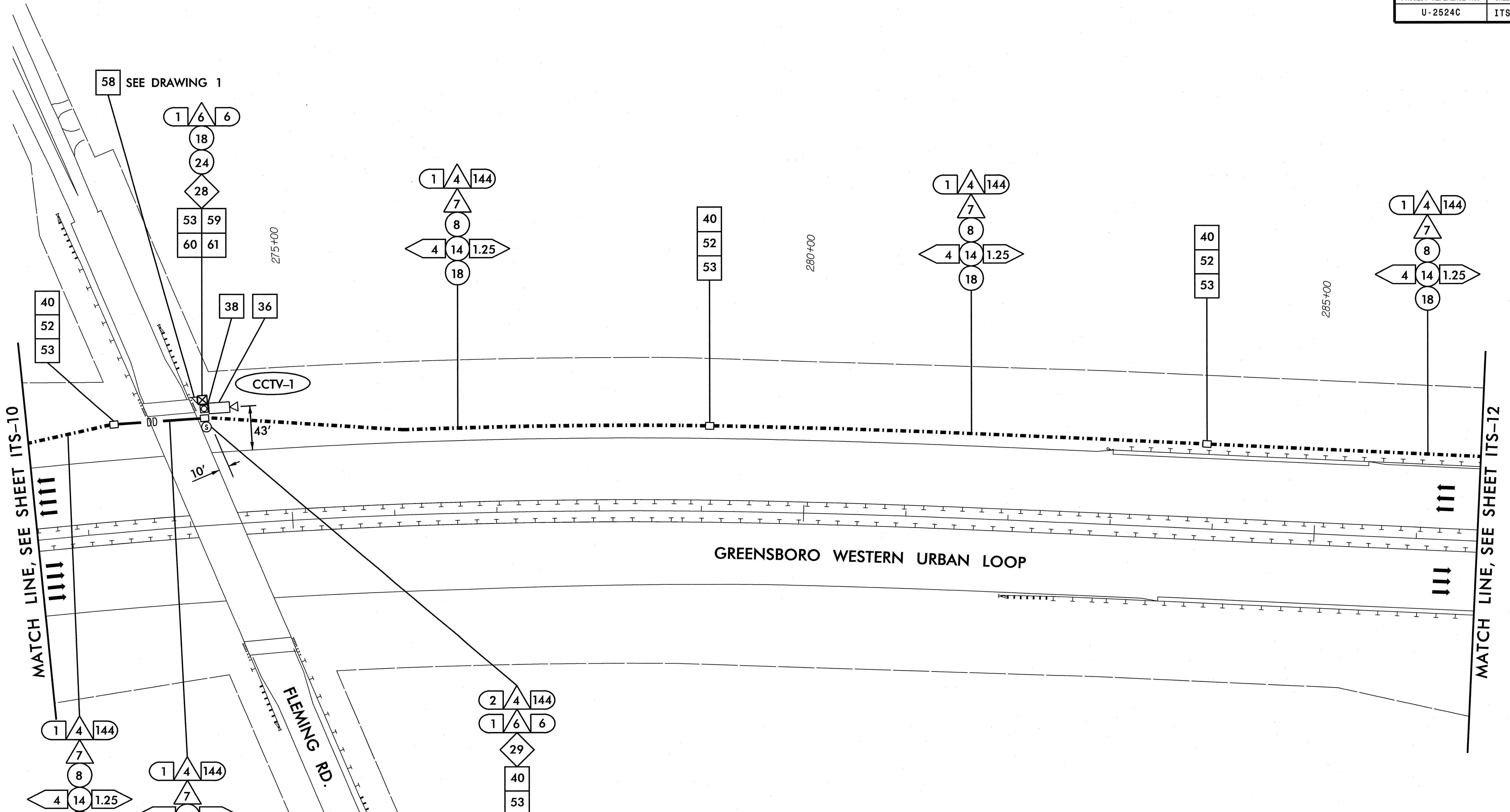
 750 N. Greenfield Pkwy., Garner, NC 27529

CABLE ROUTING PLAN	
DIVISION 07	GUILFORD COUNTY
PLAN DATE: MAY 2013	REVIEWED BY: K. SMITH
PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH
REVISIONS	INIT. DATE



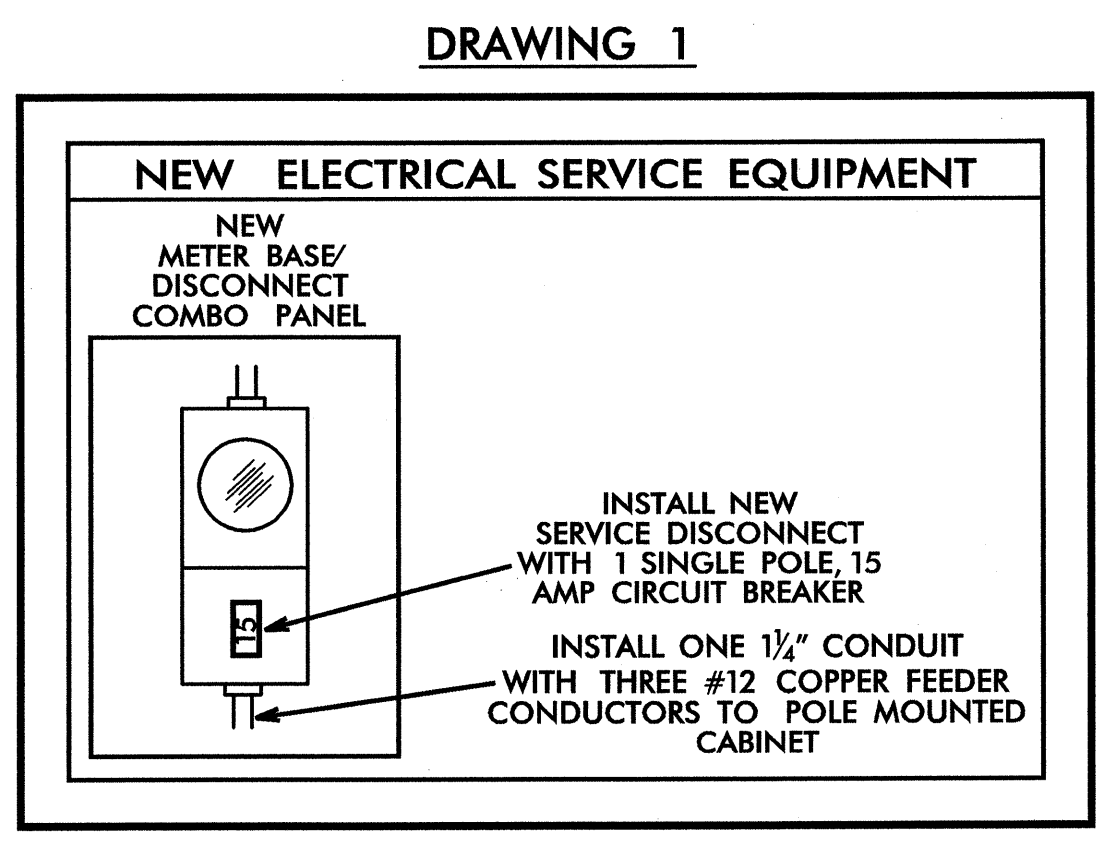
SEAL

 ENGINEER
 KEVIN W. SMITH
 SIGNATURE: *Kevin W. Smith* DATE: 5/6/13
 CADD FILE: *its-10*



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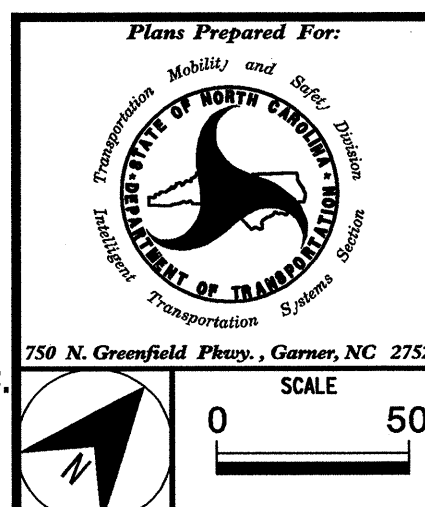
- NOTES:**
1. MAINTAIN A MINIMUM OF SIX (6) FEET FROM THE EDGE OF PAVEMENT WHEN TRENCHING PARALLEL TO THE ROADWAY.
 2. CONTACT REGIONAL ITS ENGINEER TO CONFIRM LOCATION OF CCTV.
 3. CONTACT GARY VONCANNON (DUKE ENERGY) AT (336)632-3848 TO OBTAIN POWER TO ELECTRICAL SERVICE.



PLANS PREPARED IN THE OFFICE OF:

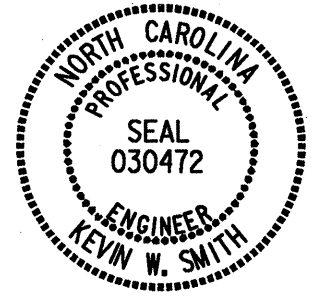


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 NC License #F-002
 P.O. Box 33068
 Raleigh, NC 27636
 919-871-2000

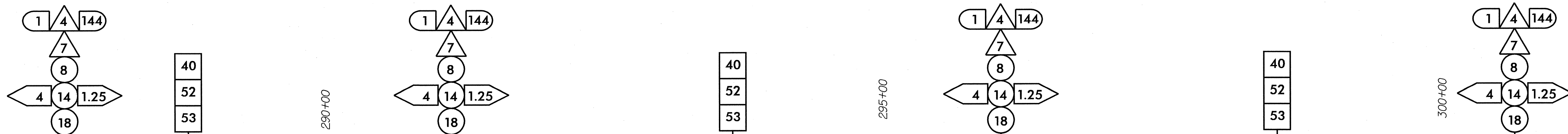


CABLE ROUTING PLAN	
DIVISION 07 GUILFORD COUNTY	
PLAN DATE: MAY 2013	REVIEWED BY:
PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH
REVISIONS	INIT. DATE

SEAL



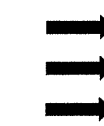
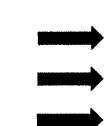
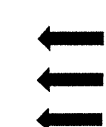
SIGNATURE: *Kevin W. Smith* DATE: 5/6/13
 CADD File name:



MATCH LINE, SEE SHEET ITS-11

MATCH LINE, SEE SHEET ITS-13

GREENSBORO WESTERN URBAN LOOP



5/12/2013 12:00:23 PM K:\MAIL\PTD\ITS\01036233_U-2524C_Plane U-2524C_PSI12.dgn

NOTE:
 MAINTAIN A MINIMUM OF SIX (6) FEET FROM THE
 EDGE OF PAVEMENT WHEN TRENCHING PARALLEL TO
 THE ROADWAY

PLANS PREPARED IN THE OFFICE OF:

**Kimley-Horn
 and Associates, Inc.**
 NC License #F-0102
 P.O. Box 33068
 Raleigh, NC 27636
 (919) 877-2000

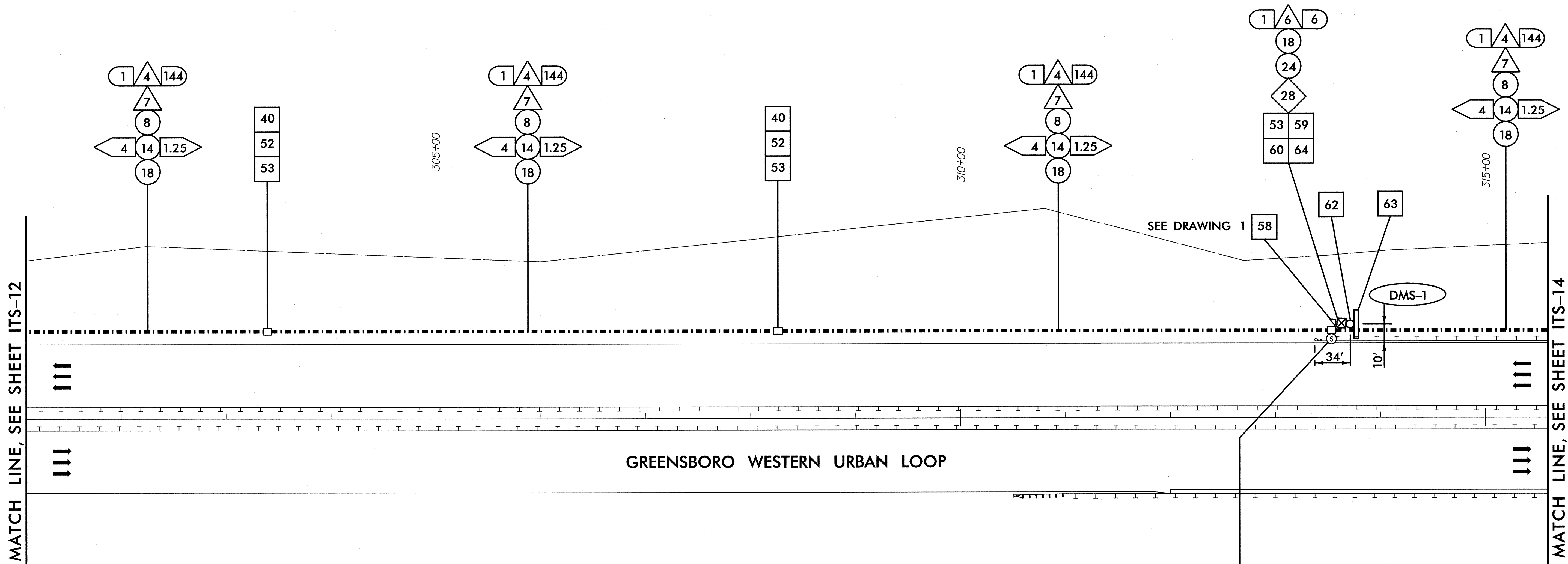
Plans Prepared For:

 759 N. Greenfield Place, Garner, NC 27529
 SCALE: 0 50

CABLE ROUTING PLAN	
DIVISION 07	GUILFORD COUNTY
PLAN DATE: MAY 2013	REVIEWED BY:
PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH
REVISIONS	INIT. DATE

SEAL

 ENGINEER
 KEVIN W. SMITH
 SIGNATURE: *Kevin W. Smith* 5/6/13
 DATE

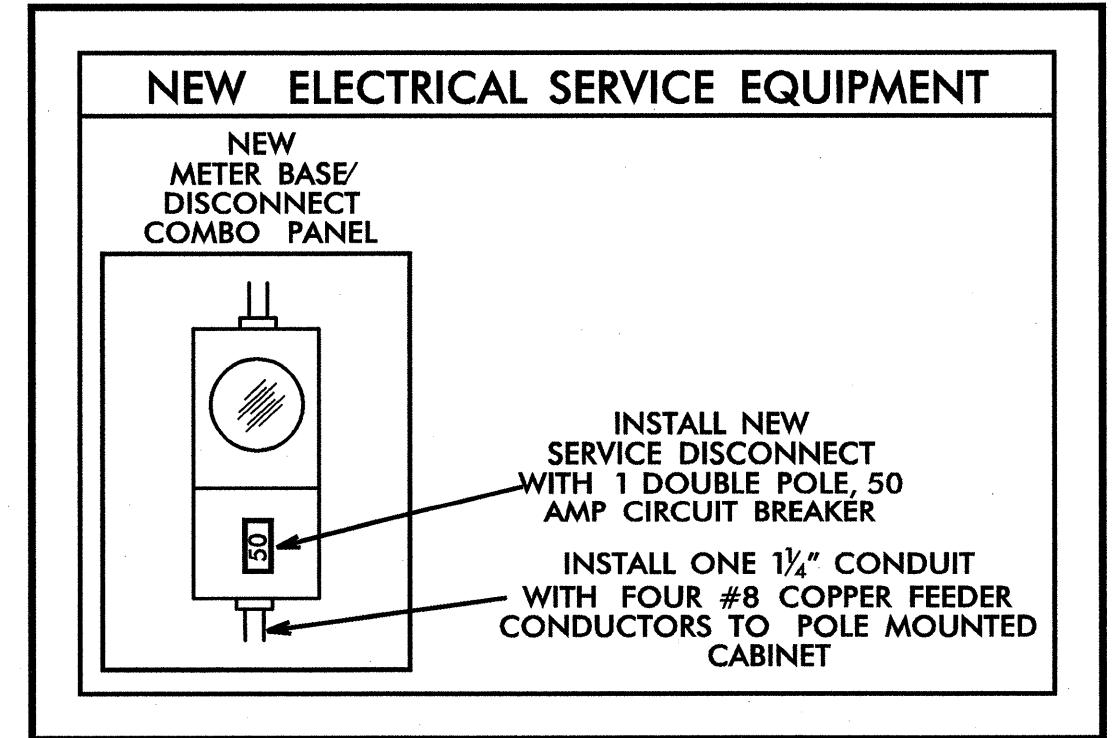


MATCH LINE, SEE SHEET ITS-12

MATCH LINE, SEE SHEET ITS-14

GREENSBORO WESTERN URBAN LOOP

DRAWING 1



- NOTES:
1. MAINTAIN A MINIMUM OF SIX (6) FEET FROM THE EDGE OF PAVEMENT WHEN TRENCHING PARALLEL TO THE ROADWAY.
 2. CONTACT REGIONAL ITS ENGINEER TO CONFIRM LOCATION OF CCTV.
 3. CONTACT GARY VONCANNON (DUKE ENERGY) AT (336)632-3848 TO OBTAIN POWER TO ELECTRICAL SERVICE.

5/6/2013 10:02:30 PM K:\MAIL\TPTD\LITS\0306233 U-2524C Plans U-2524C_PSH.dgn

PLANS PREPARED IN THE OFFICE OF:

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 NC License #F-0102
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 Raleigh, NC 27636
 (919) 871-2000

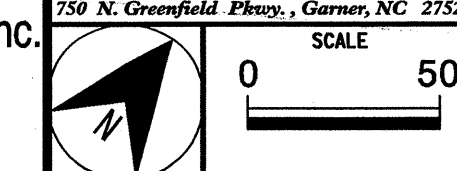
Plans Prepared For:

 STATE OF NORTH CAROLINA
 PROFESSIONAL ENGINEER
 KEVIN W. SMITH
 SEAL 030472

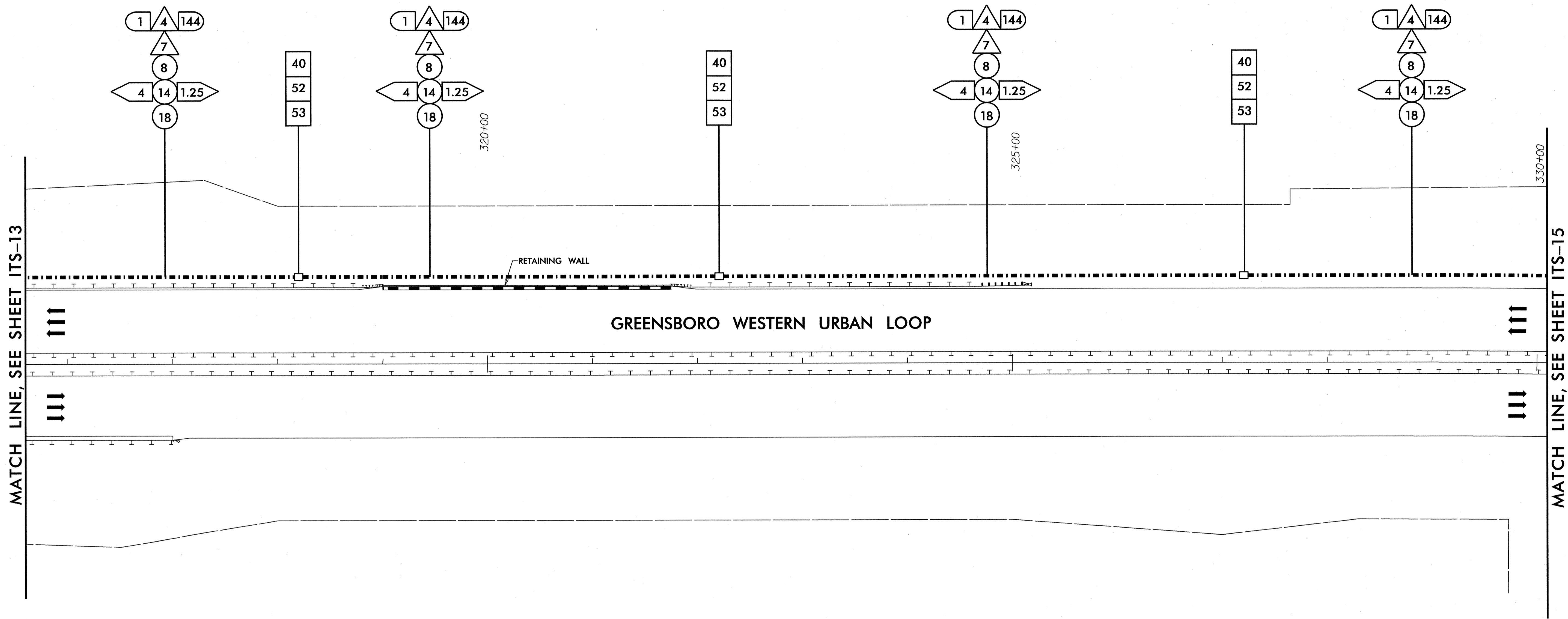
CABLE ROUTING PLAN	
DIVISION 07	GUILFORD COUNTY
PLAN DATE: MAY 2013	REVIEWED BY: K. SMITH
PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH
REVISIONS	INIT. DATE

SEAL

 SIGNATURE: *Kevin W. Smith* 5/6/13
 DATE



CADD File name:



5/6/2013 12:02:48 PM K:\BAL\1770\ITS\0086233_U-2524C\Plan\U-2524C_PSH.dgn

NOTE:
 MAINTAIN A MINIMUM OF SIX (6) FEET FROM THE
 EDGE OF PAVEMENT WHEN TRENCHING PARALLEL TO
 THE ROADWAY

PLANS PREPARED IN THE OFFICE OF:

**Kimley-Horn
 and Associates, Inc.**
 NC License #F-0102
 P.O. Box 33068
 Raleigh, NC 27636
 (919) 677-2000

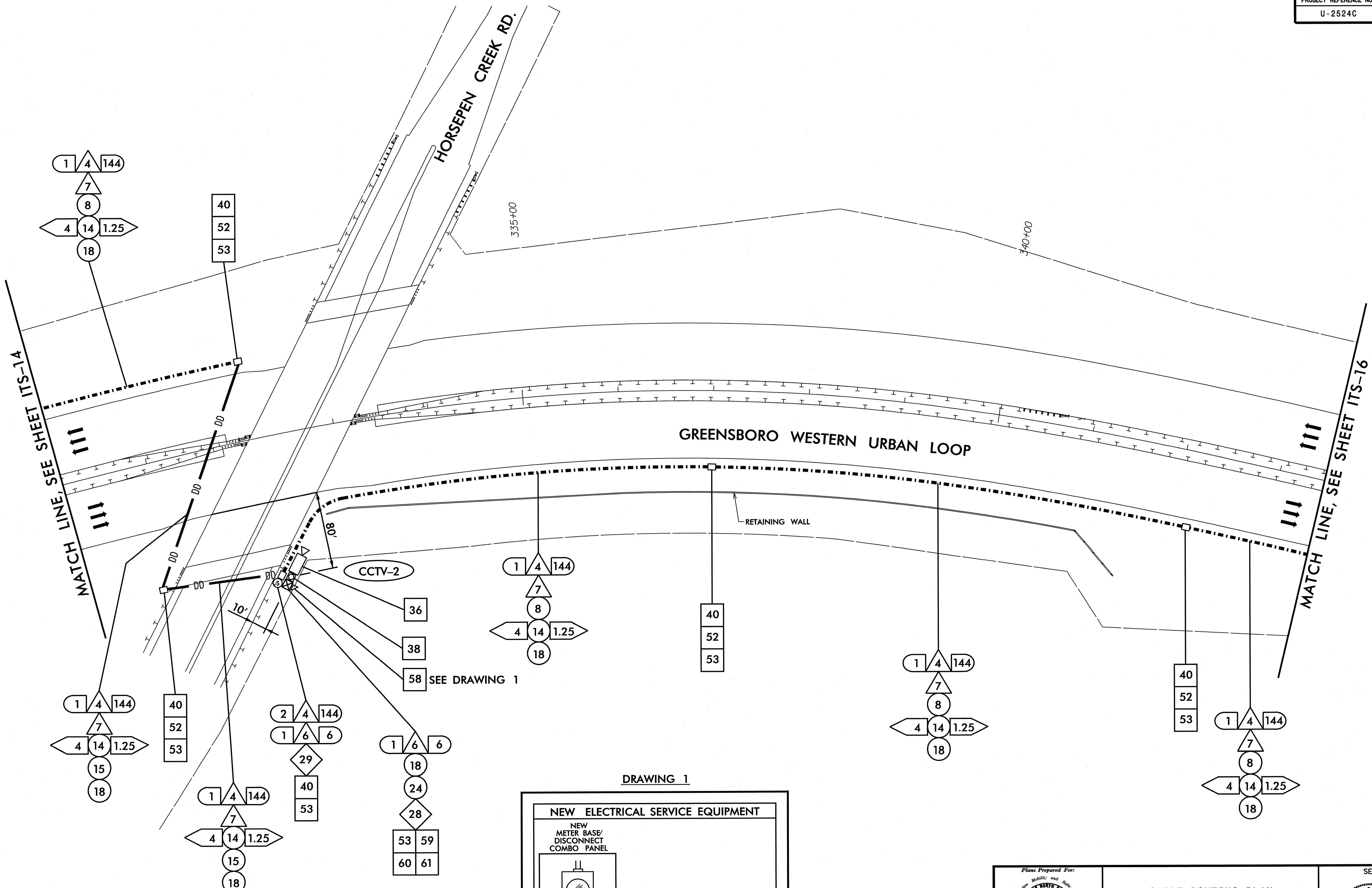
Plans Prepared For:

 NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 750 N. Greenfield Place, Garner, NC 27529

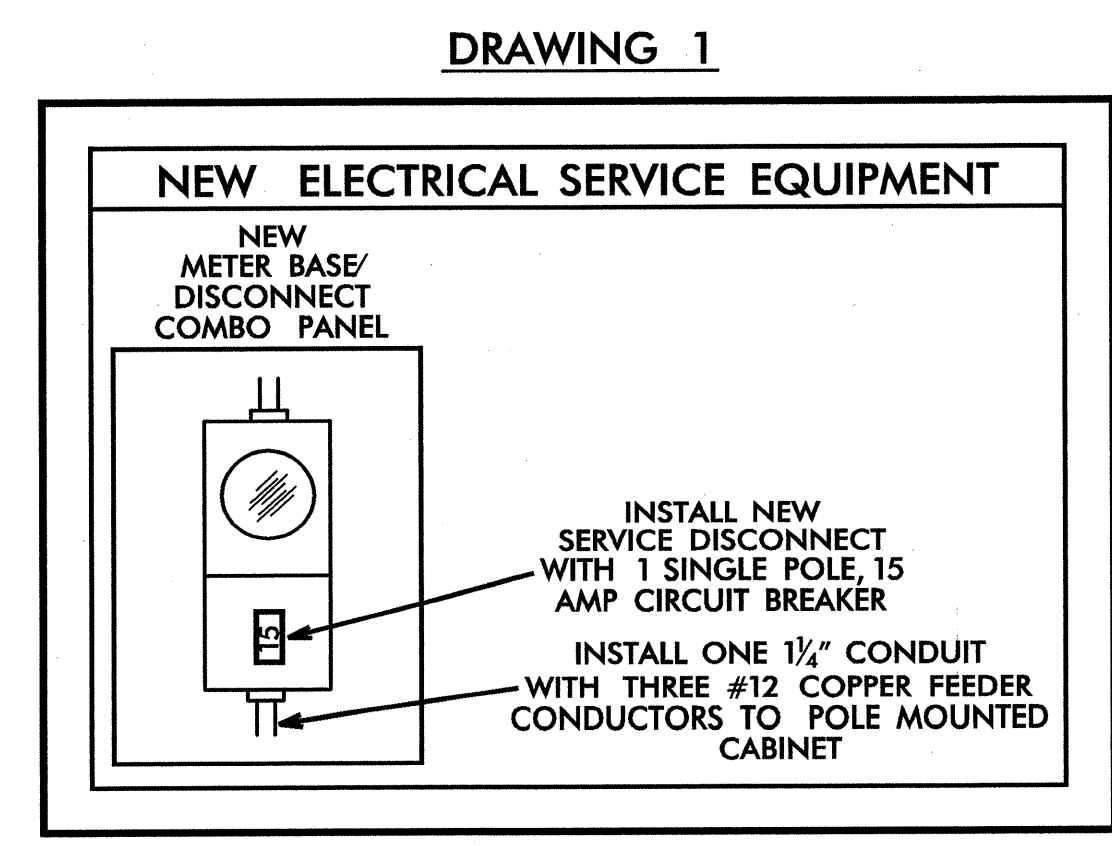
CABLE ROUTING PLAN	
DIVISION 07	GUILFORD COUNTY
PLAN DATE: MAY 2013	REVIEWED BY: K. SMITH
PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH
REVISIONS	INIT. DATE

SEAL

 KEVIN W. SMITH
 ENGINEER
 5/6/13
 SIGNATURE DATE
 CADD File name:



- NOTES:**
1. MAINTAIN A MINIMUM OF SIX (6) FEET FROM THE EDGE OF PAVEMENT WHEN TRENCHING PARALLEL TO THE ROADWAY.
 2. CONTACT REGIONAL ITS ENGINEER TO CONFIRM LOCATION OF CCTV.
 3. CONTACT GARY VONCANNON (DUKE ENERGY) AT (336)632-3848 TO OBTAIN POWER TO ELECTRICAL SERVICE.



5/6/2013 12:02:50 PM K:\BML_TPTD\ITS\0505233_U-2524C\Plans\U-2524C_PSH15.dgn

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
 NC License #F-0102
 P.O. Box 33068
 Raleigh, NC 27636
 (919) 877-2000

Plans Prepared For:

750 N. Greenfield Place, Garner, NC 27529

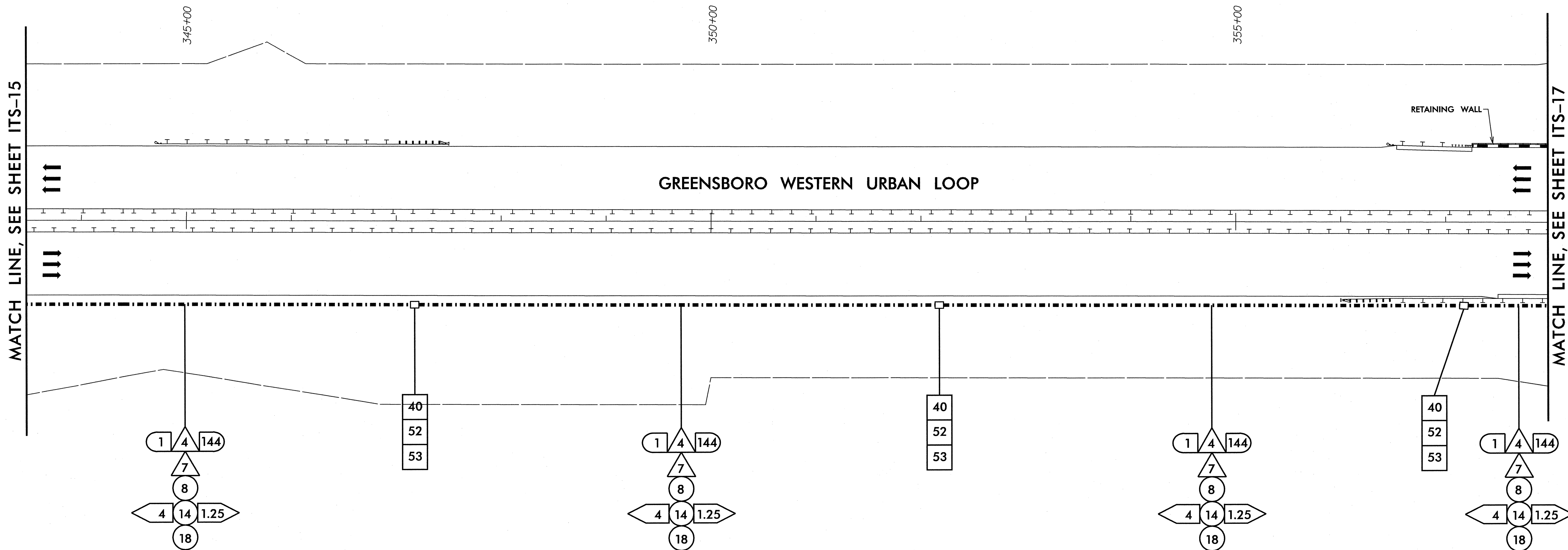
CABLE ROUTING PLAN	
DIVISION 07	GUILFORD COUNTY
PLAN DATE: MAY 2013	REVIEWED BY:
PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH
REVISIONS	INIT. DATE

SEAL

SEAL 030472
 ENGINEER KEVIN W. SMITH

Signature: *Kevin W. Smith* 5/6/13
 DATE

CADD File name:



MATCH LINE, SEE SHEET ITS-15

MATCH LINE, SEE SHEET ITS-17

GREENSBORO WESTERN URBAN LOOP

RETAINING WALL

345+00

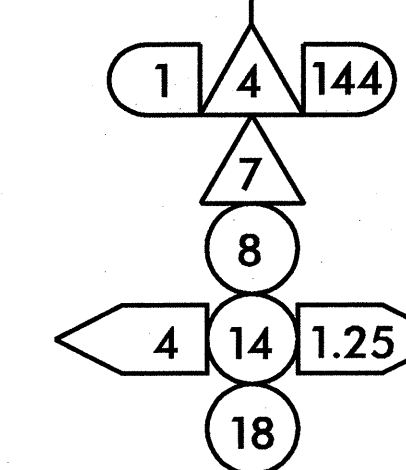
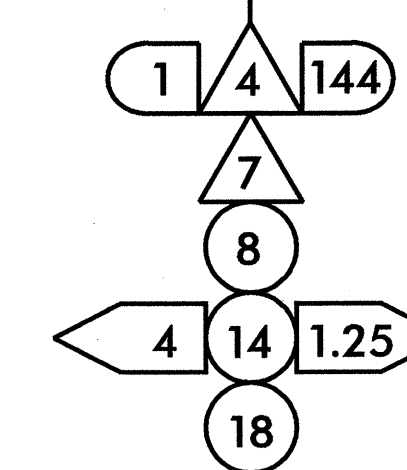
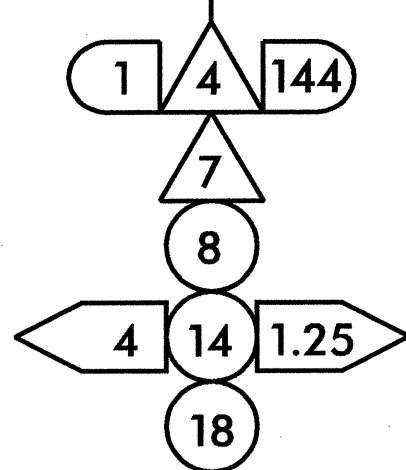
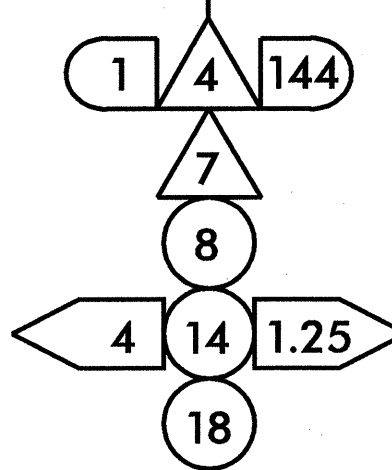
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355+00

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53

40
52
53



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NOTE:
MAINTAIN A MINIMUM OF SIX (6) FEET FROM THE
EDGE OF PAVEMENT WHEN TRENCHING PARALLEL TO
THE ROADWAY

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn
and Associates, Inc.
NC License #F-0102
P.O. Box 33068
Raleigh, NC 27636
(919) 877-2000

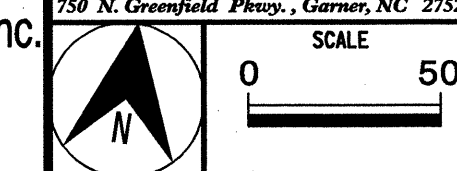
Plans Prepared For:

759 N. Greenfield Place, Garner, NC 27529

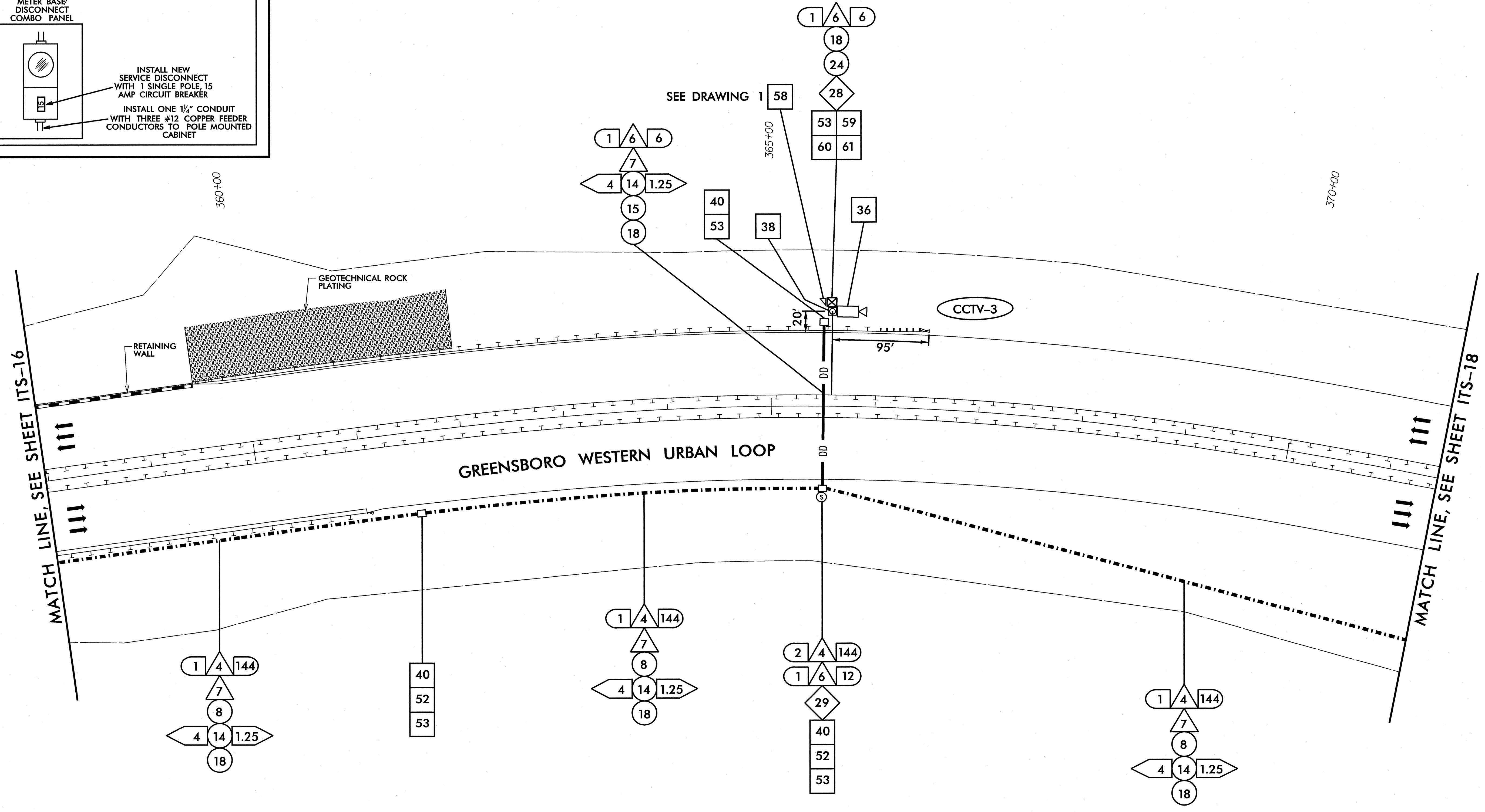
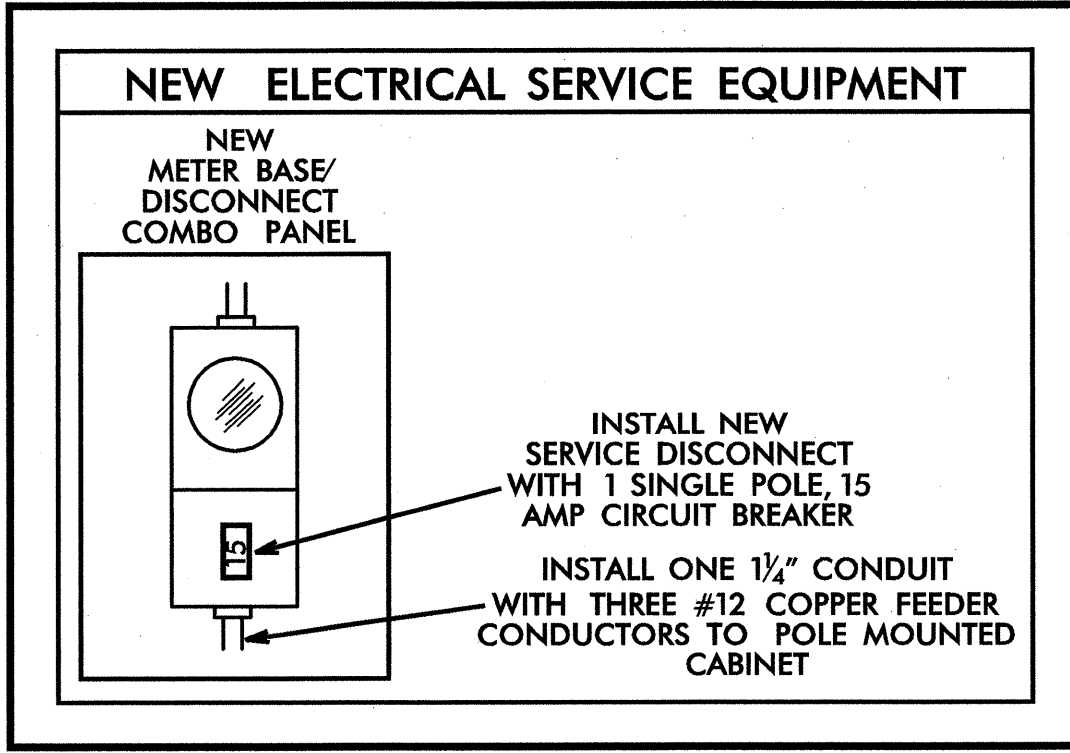
CABLE ROUTING PLAN	
DIVISION 07	GUILFORD COUNTY
PLAN DATE: MAY 2013	REVIEWED BY:
PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH
REVISIONS	INIT. DATE

SEAL

SEAL
030472
ENGINEER
KEVIN W. SMITH
SIGNATURE: *Kevin W. Smith* 5/16/13
DATE



CADD File name:



NOTES:

1. MAINTAIN A MINIMUM OF SIX (6) FEET FROM THE EDGE OF PAVEMENT WHEN TRENCHING PARALLEL TO THE ROADWAY.
2. CONTACT REGIONAL ITS ENGINEER TO CONFIRM LOCATION OF CCTV.
3. CONTACT GARY VONCANNON (DUKE ENERGY) AT (336)632-3848 TO OBTAIN POWER TO ELECTRICAL SERVICE.

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PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
 NC License #F-0102
 P.O. Box 33068
 Raleigh, NC 27636
 (919) 877-2000

Plans Prepared For:

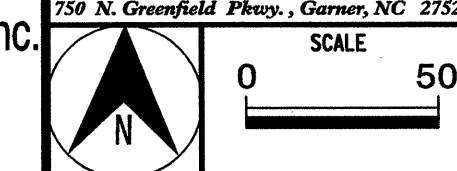
750 N. Greenfield Place, Garner, NC 27529

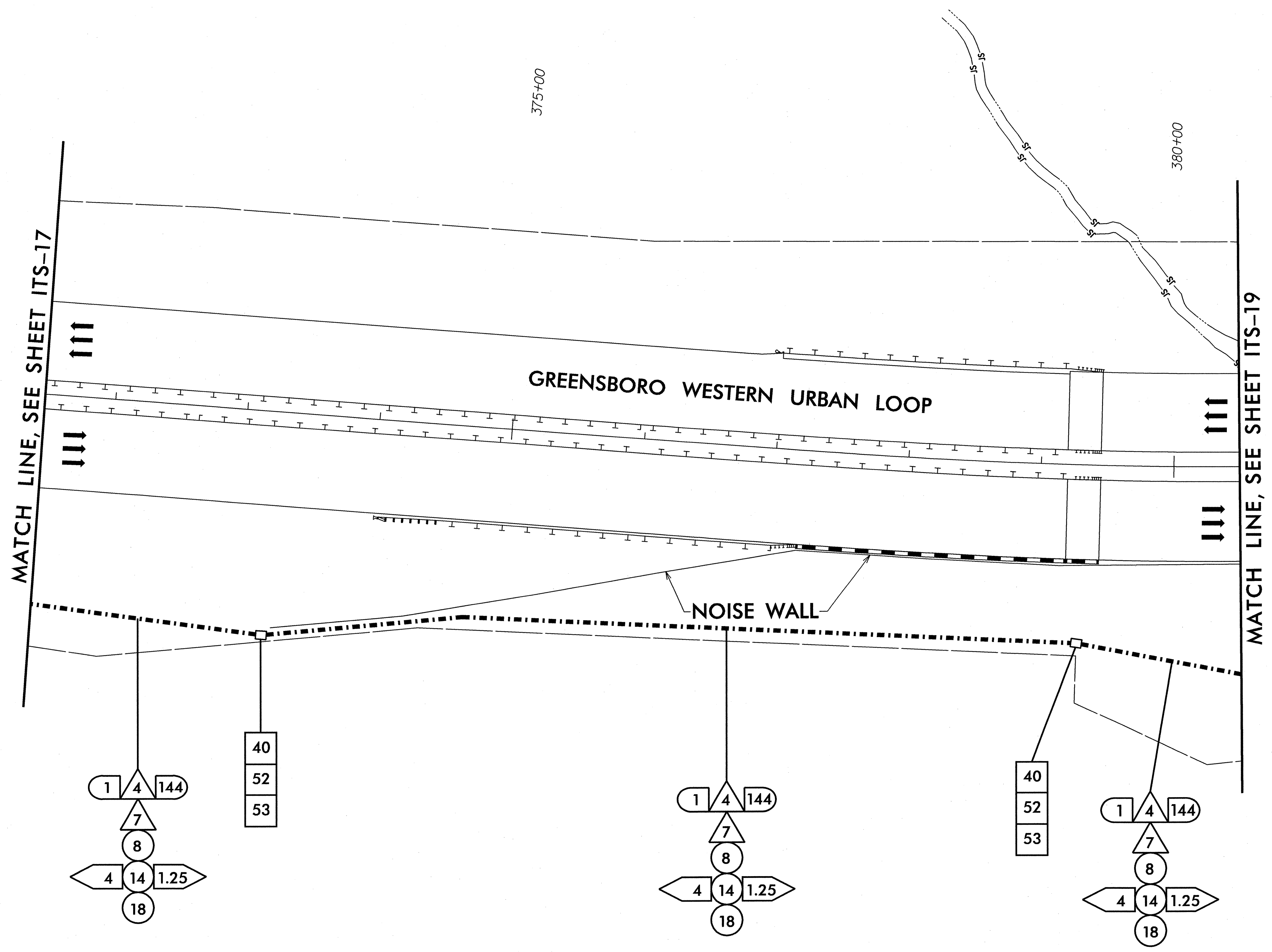
CABLE ROUTING PLAN			
DIVISION 07		GUILFORD COUNTY	
PLAN DATE: MAY 2013	REVIEWED BY:	INIT.	DATE
PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH		
REVISIONS	INIT.	DATE	

SEAL

SEAL
 030472
 ENGINEER
 KEVIN W. SMITH

Signature: *Kevin W. Smith*
 DATE: 5/6/13





5/6/2013 12:02:53 PM K:\NAL\TPTD\ITS\00036233_U-2524C\Drawn\U-2524C_PSHR.dgn

NOTE:
 MAINTAIN A MINIMUM OF SIX (6) FEET FROM THE
 EDGE OF PAVEMENT WHEN TRENCHING PARALLEL TO
 THE ROADWAY

PLANS PREPARED IN THE OFFICE OF:

**Kimley-Horn
 and Associates, Inc.**
 NC License #F-0102
 P.O. Box 33068
 Raleigh, NC 27636
 (919) 671-2000

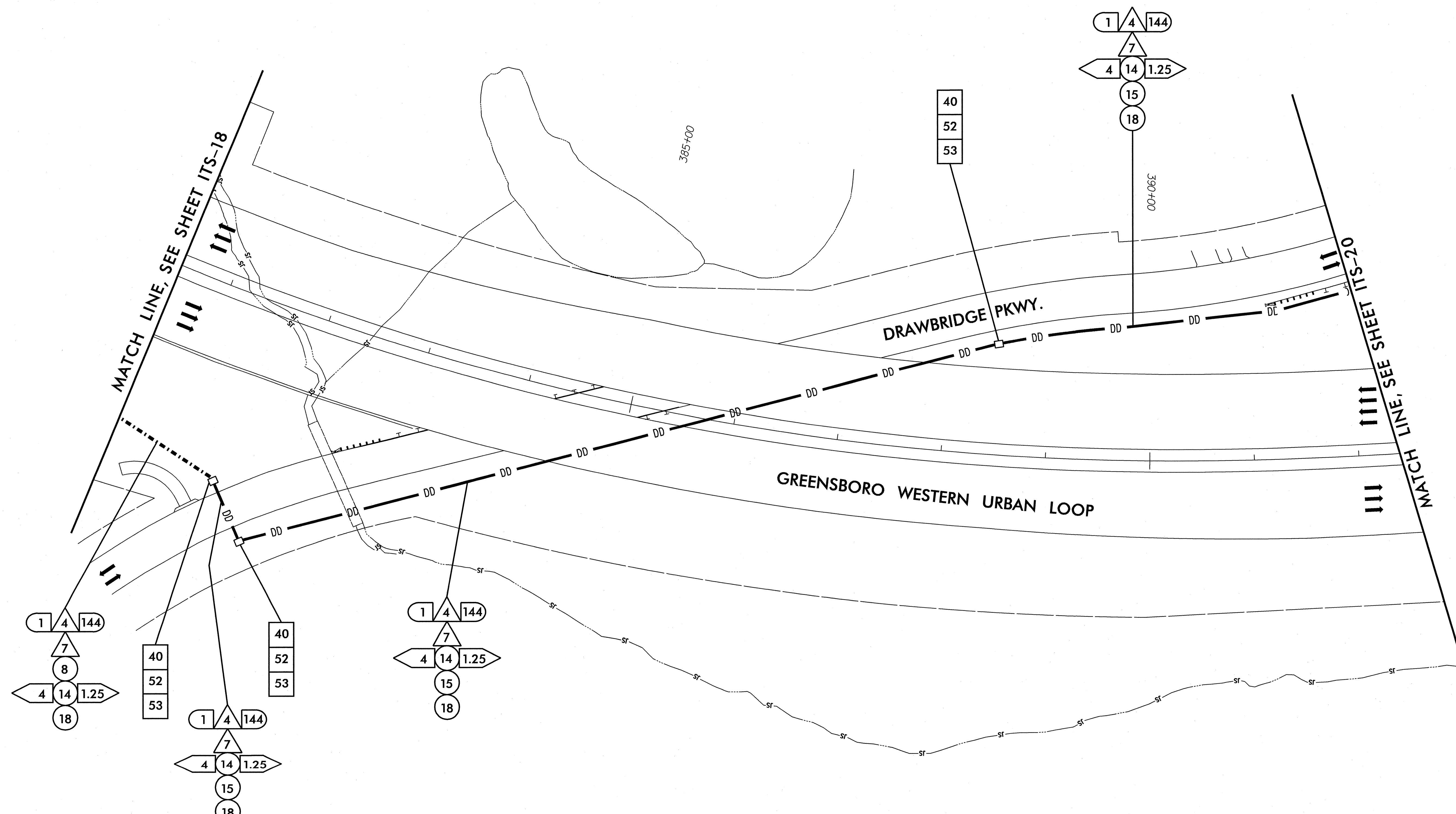
Plans Prepared For:

 250 N. Greenfield Place, Garner, NC 27529

CABLE ROUTING PLAN	
DIVISION 07	GUILFORD COUNTY
PLAN DATE: MAY 2013	REVIEWED BY:
PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH
REVISIONS	INIT. DATE

SEAL

 SEAL
 030472
 ENGINEER
 KEVIN W. SMITH
 SIGNATURE: *Kevin W. Smith* 5/6/13
 DATE
 CADD File Name:

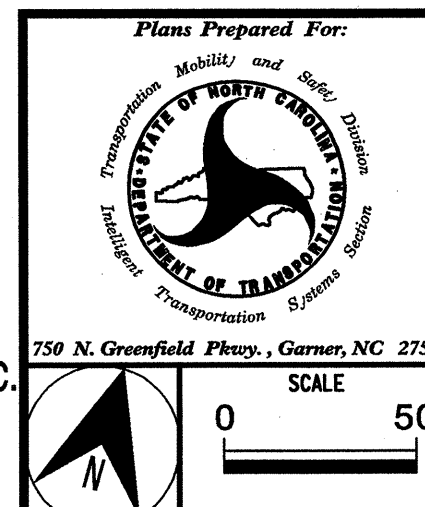


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NOTE:
 MAINTAIN A MINIMUM OF SIX (6) FEET FROM THE
 EDGE OF PAVEMENT WHEN TRENCHING PARALLEL TO
 THE ROADWAY

PLANS PREPARED IN THE OFFICE OF:

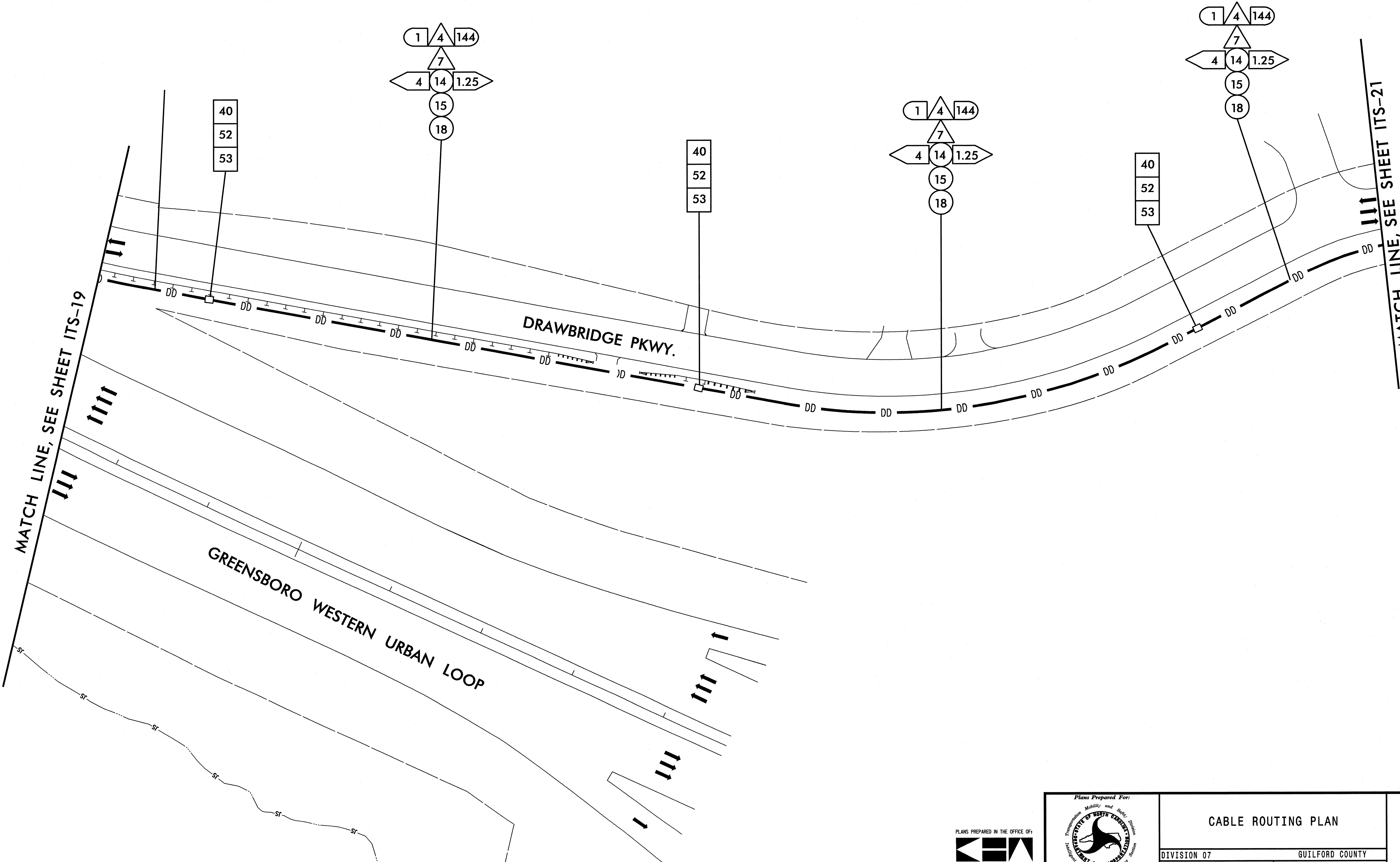
**Kimley-Horn
 and Associates, Inc.**
 NC License #F-002
 P.O. Box 33068
 Raleigh, NC 27636
 (919) 677-2000



CABLE ROUTING PLAN	
DIVISION 07 GUILFORD COUNTY	
PLAN DATE: MAY 2013	REVIEWED BY:
PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH
REVISIONS	INIT. DATE

SEAL

 SEAL
 030472
 ENGINEER
 KEVIN W. SMITH
 SIGNATURE 5/6/13
 DATE
 CADD Filename:




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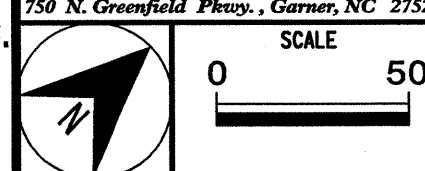
NOTE:
 MAINTAIN A MINIMUM OF SIX (6) FEET FROM THE
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 THE ROADWAY

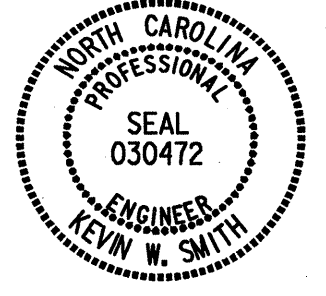
PLANS PREPARED IN THE OFFICE OF:

**Kimley-Horn
 and Associates, Inc.**
 750 N. Greenfield Place, Cary, NC 27529
 NC License #F-0102
 P.O. Box 33068
 Raleigh, NC 27636
 (919) 671-2000

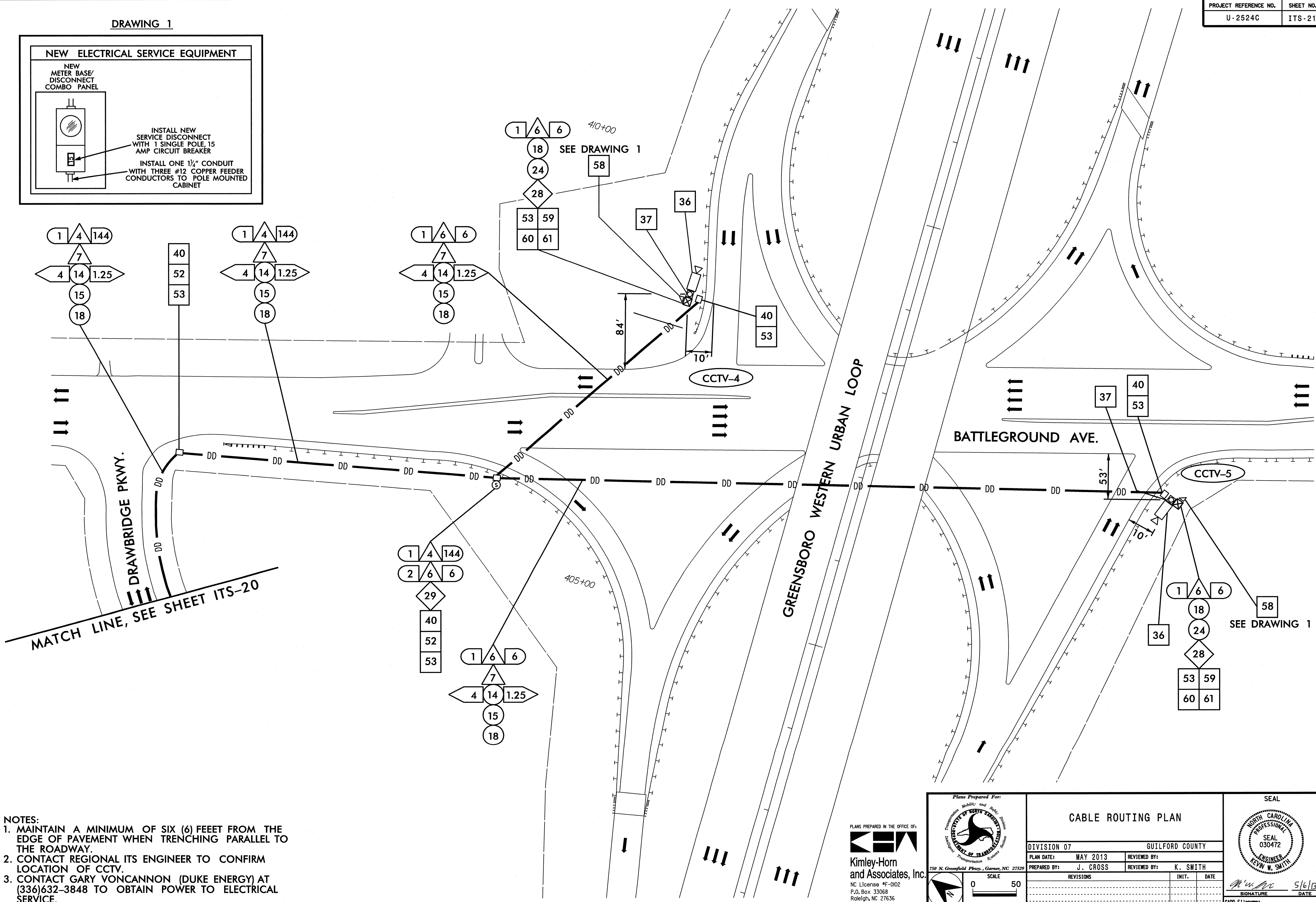
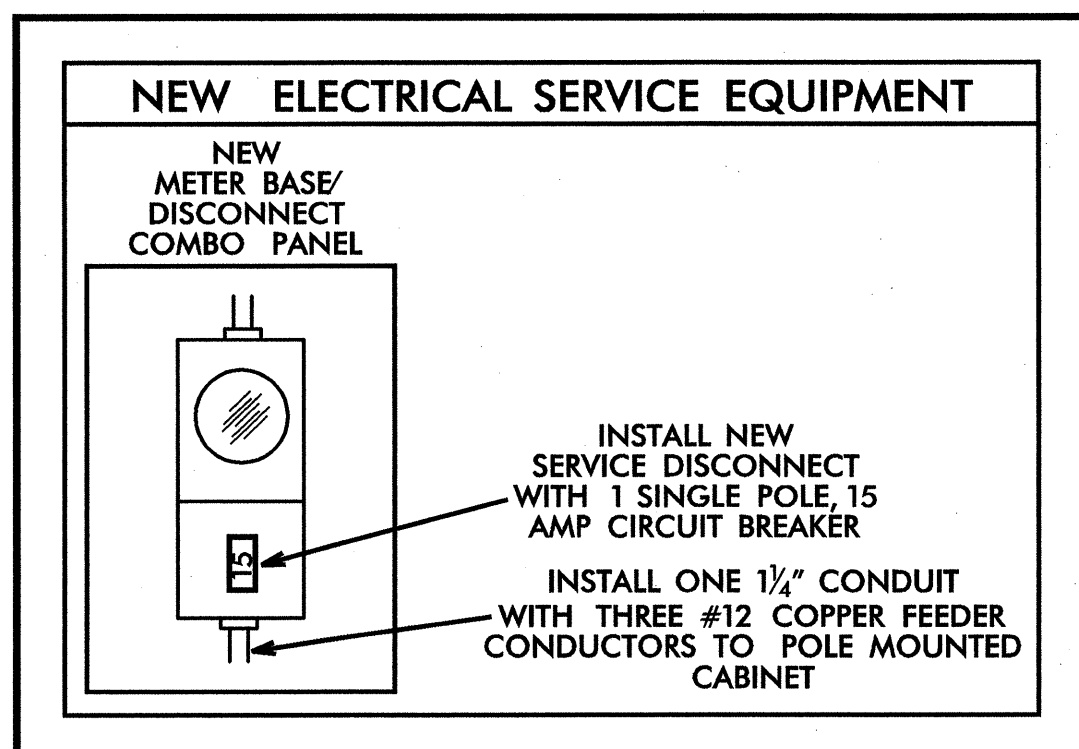
Plans Prepared For:

 DIVISION OF TRANSPORTATION
 Mobility and Safety Division
 750 N. Greenfield Place, Cary, NC 27529

CABLE ROUTING PLAN	
DIVISION 07	GUILFORD COUNTY
PLAN DATE: MAY 2013	REVIEWED BY:
PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH
REVISIONS	INIT. DATE



SEAL

 NORTH CAROLINA
 PROFESSIONAL
 SEAL
 030472
 ENGINEER
 KEVIN W. SMITH
 Signature: *Kevin W. Smith* 5/6/13
 DATE
 CADD File name:

DRAWING 1



- NOTES:**
1. MAINTAIN A MINIMUM OF SIX (6) FEET FROM THE EDGE OF PAVEMENT WHEN TRENCHING PARALLEL TO THE ROADWAY.
 2. CONTACT REGIONAL ITS ENGINEER TO CONFIRM LOCATION OF CCTV.
 3. CONTACT GARY VONCANNON (DUKE ENERGY) AT (336)632-3848 TO OBTAIN POWER TO ELECTRICAL SERVICE.

5/6/2013 12:02:55 PM K:\ARL\ITFD\ITS\U0505213 U-2524C\Plans\U-2524C_P512L.dgn

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
 NC License #F-0102
 P.O. Box 33068
 Raleigh, NC 27636
 (919) 877-2000

Plans Prepared For:

750 N. Greenfield Pkwy., Garner, NC 27529

DIVISION 07		GUILFORD COUNTY	
PLAN DATE: MAY 2013	REVIEWED BY:	PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH
REVISIONS	INIT.	DATE	

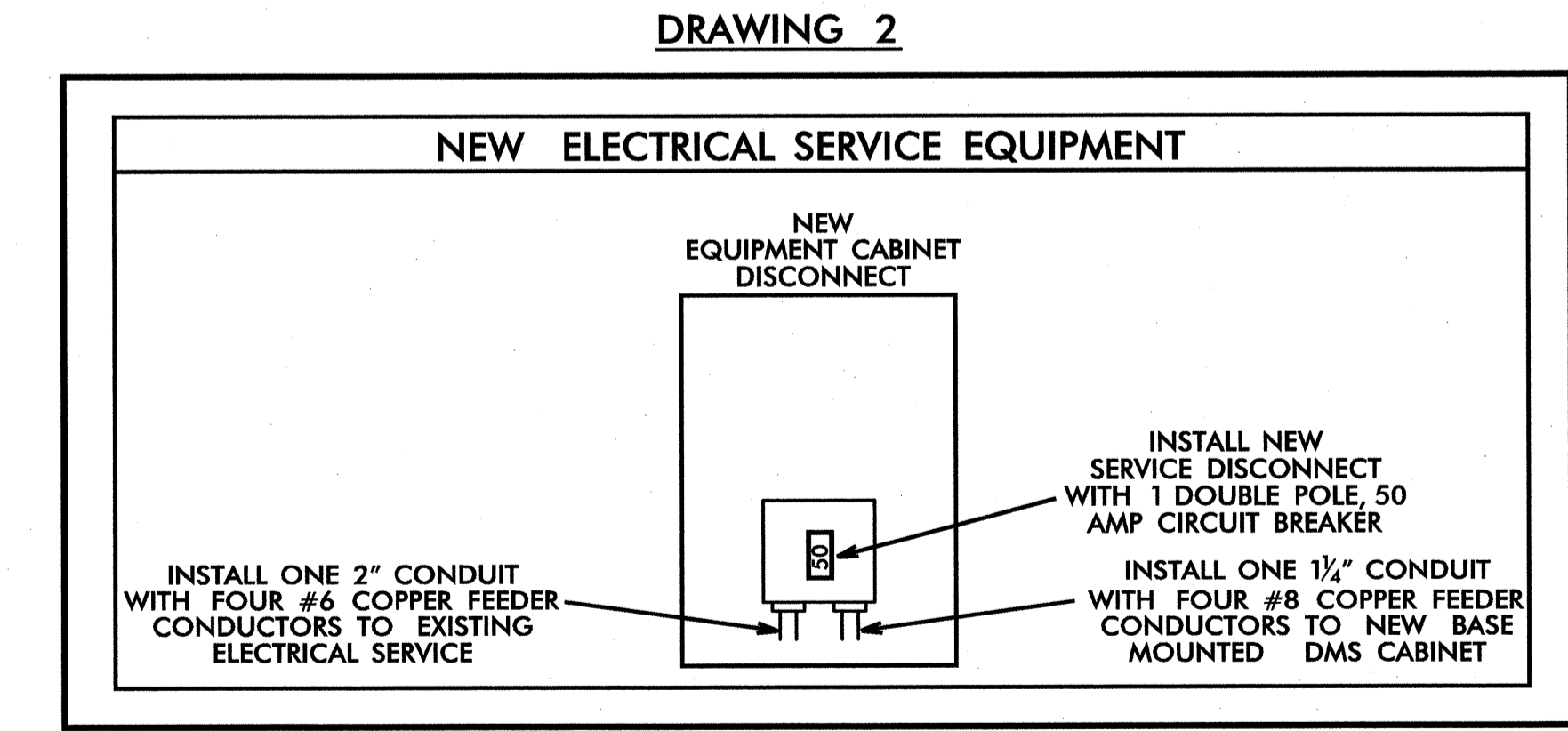
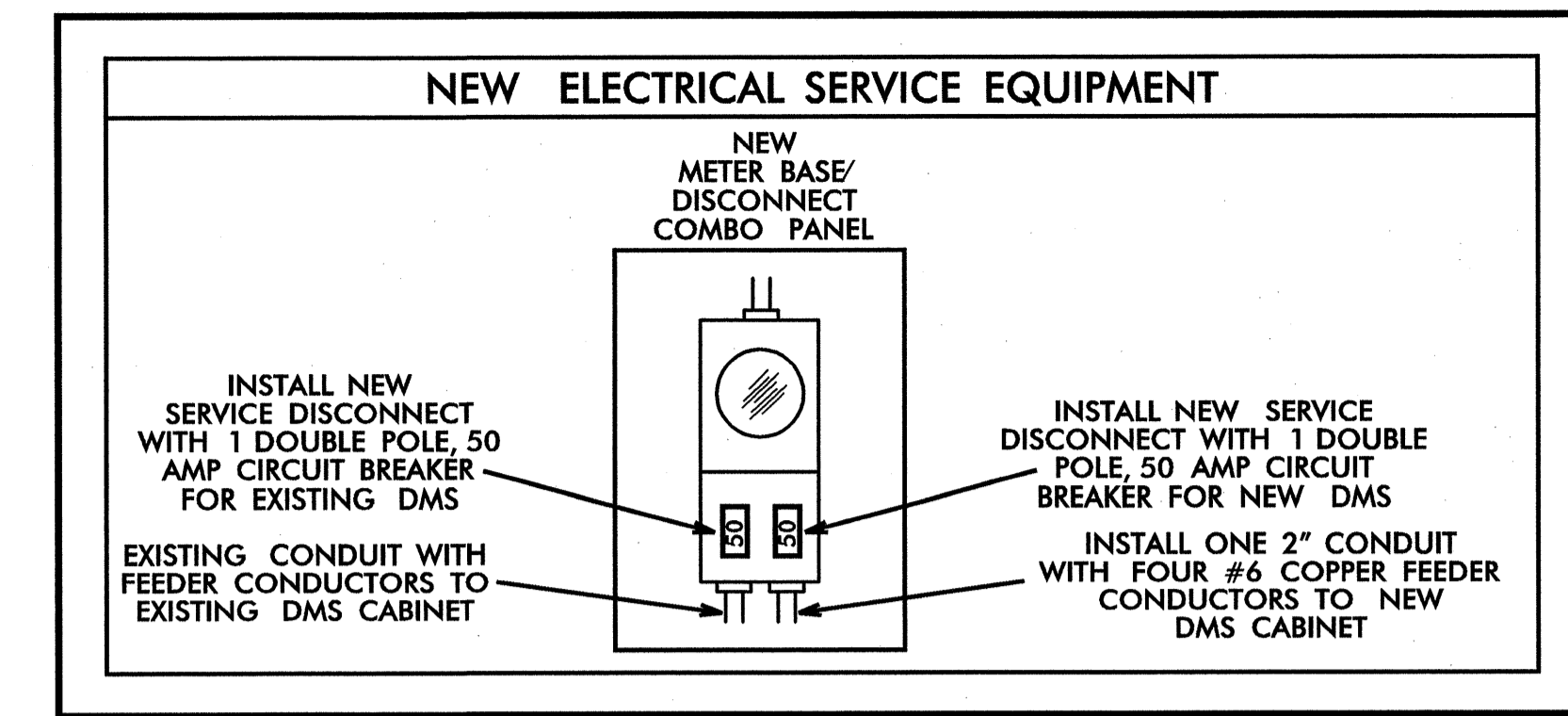
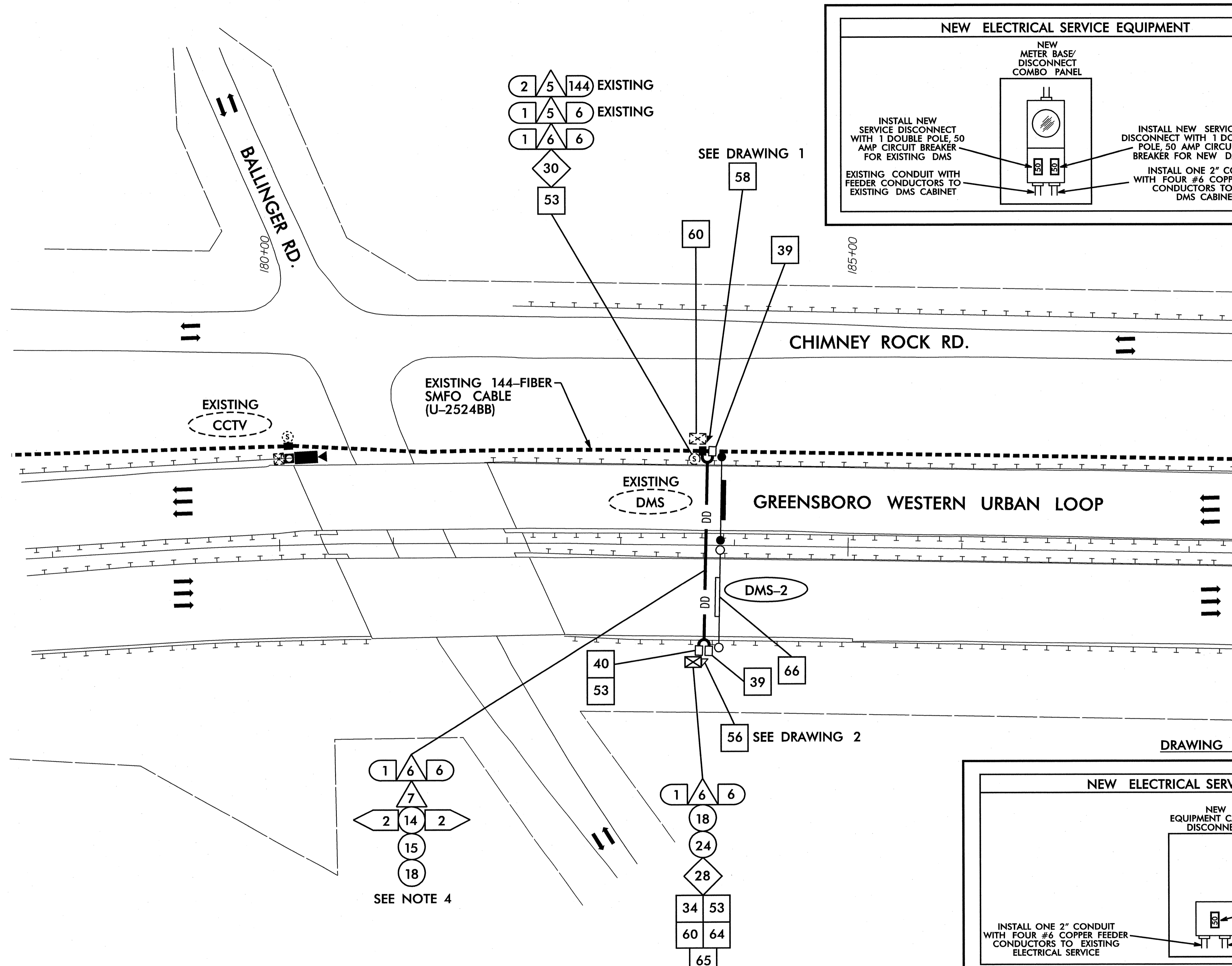
SEAL

ENGINEER
 KEVIN W. SMITH

5/6/13
 DATE

SIGNATURE

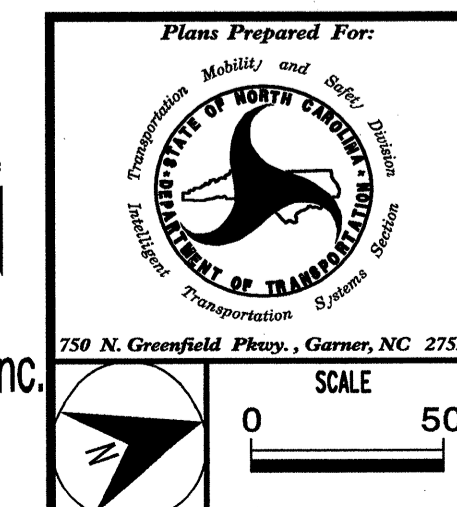
DRAWING 1



- NOTES:
1. MAINTAIN A MINIMUM OF SIX (6) FEET FROM THE EDGE OF PAVEMENT WHEN TRENCHING PARALLEL TO THE ROADWAY.
 2. CONTACT REGIONAL ITS ENGINEER TO CONFIRM LOCATION OF CCTV.
 3. CONTACT GARY VONCANNON (DUKE ENERGY) AT (336)632-3848 TO OBTAIN POWER TO ELECTRICAL SERVICE.
 4. ROUTE FOUR #6 COPPER FEEDER CONDUCTORS IN NEW CONDUIT FROM EXISTING ELECTRICAL SERVICE TO NEW DMS CABINET. DO NOT ROUTE CONDUCTORS IN THE SAME JUNCTION BOXES AND CONDUIT AS THE COMMUNICATIONS CABLE.

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
 NC License #F-002
 P.O. Box 33068
 Raleigh, NC 27636
 919.677.2000



CABLE ROUTING PLAN

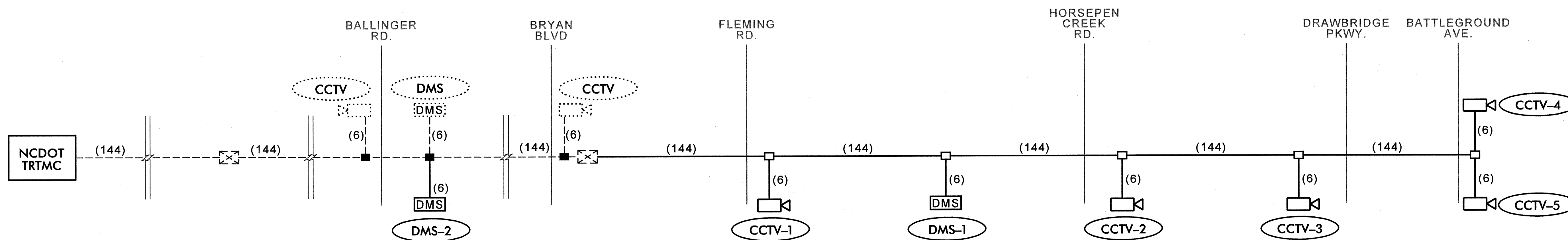
DIVISION 07		GUILFORD COUNTY	
PLAN DATE: MAY 2013	REVIEWED BY: J. CROSS	REVIEWED BY: K. SMITH	DATE:
REVISIONS	INIT.	DATE	

SEAL

ENGINEER
 KEVIN W. SMITH
 5/6/13
 DATE

5/6/2013 10:03:56 PM K:\ARL\1770\175\0303233 U-2524C Plans\U-2524C_PSR02.dwg

LEGEND	
XXXX	DEVICE ID NUMBER
(X)	SPLICE NUMBER
(XX)	XX-FIBER SMFO CABLE
---	EXISTING FIBER OPTIC CABLE
---	PROPOSED FIBER OPTIC CABLE
■	EXISTING SPLICE ENCLOSURE
□	PROPOSED SPLICE ENCLOSURE
⊠	EXISTING SPLICE CABINET
⊠	PROPOSED CCTV
⊠	EXISTING CCTV
DMS	PROPOSED DMS
DMS	EXISTING DMS



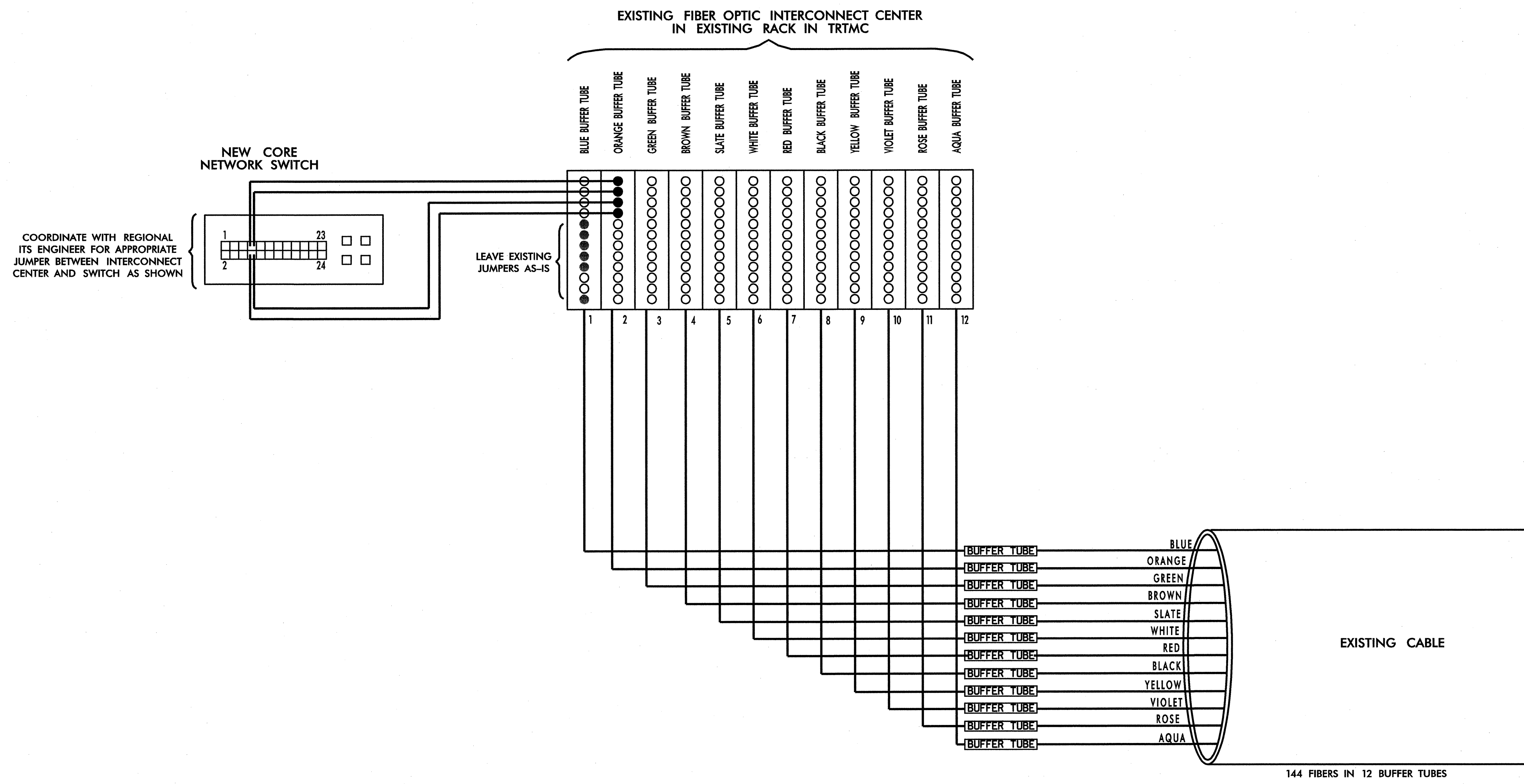
5/6/2013 10:05:57 PM K:\NAL\PTD\ITS\01036233 U-2524C\Plan\U-2524C_FSIS23.dgn

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
 NC License #F-0102
 P.O. Box 33068
 Raleigh, NC 27636
 (919) 877-2000

Plans Prepared For: DEPARTMENT OF TRANSPORTATION Mobility and Safety Division 759 N. Greenfield Pkwy., Garner, NC 27529		CABLE SCHEMATIC		SEAL 	
DIVISION 07		GUILFORD COUNTY		DATE:	
PREPARED BY: J. CROSS		REVIEWED BY: K. SMITH		DATE:	
REVISIONS		INTY.		DATE	
SCALE: 0 50		SIGNATURE: <i>K. Smith</i>		DATE: 5/6/13	
CADD FILE NAME:					

EXISTING INTERCONNECT CENTER IN EXISTING RACK IN TRTMC



5/12/2013 10:05:58 PM K:\BUIL\PTD\LITS\00036233_U-2524C_Plane V-2524C_P51924.dgn

COLOR CODE TIA/EIA 598-C		LEGEND	LEGEND
(1) BLUE	(7) RED	ETHERNET SWITCH TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING / ENSURING PROPER TERMINATION. X - NEW FUSION SPLICE INDIVIDUAL FIBER O - EXISTING FUSION SPLICE INDIVIDUAL FIBER [BUFFER TUBE] SPLICE OR EXPRESS ENTIRE BUFFER TUBE	
(2) ORANGE	(8) BLACK		
(3) GREEN	(9) YELLOW		
(4) BROWN	(10) VIOLET		
(5) SLATE	(11) ROSE		
(6) WHITE	(12) AQUA		

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
 NC License #F-0102
 P.O. Box 33068
 Raleigh, NC 27636
 (919) 877-2000

Plans Prepared For:

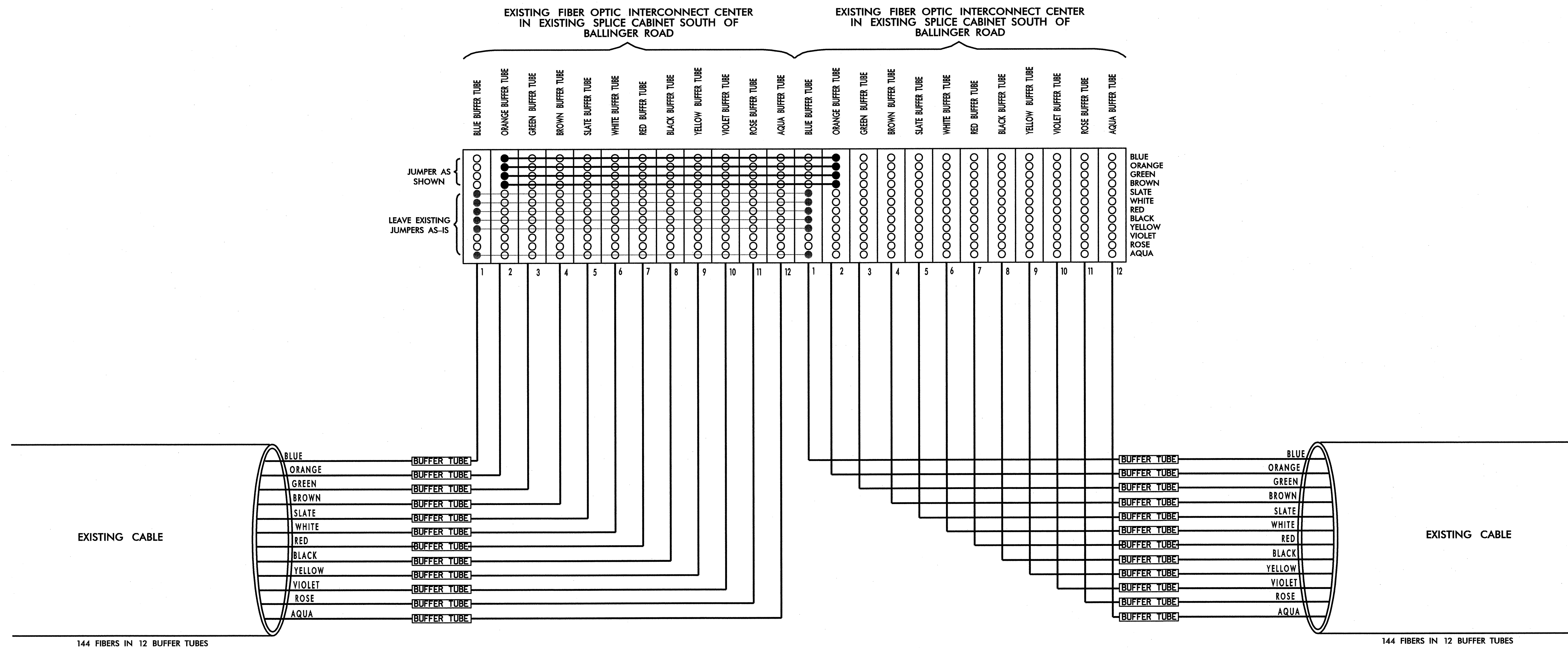
 759 N. Grandfield Place, Garner, NC 27529

SPLICE DETAIL			
DIVISION 07		GUILFORD COUNTY	
PLAN DATE: MAY 2013	REVIEWED BY:		
PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH		
REVISIONS	INIT.	DATE	

SEAL

 ENGINEER
 KEVIN W. SMITH
 SIGNATURE: *Kevin W. Smith* DATE: 5/16/13
 CADD Filenote:

EXISTING INTERCONNECT CENTERS IN EXISTING SPLICE CABINET SOUTH OF BALLINGER ROAD



5/6/2013 12:02:59 PM KARAL_TPTD_ITS\0303233_U-2524C_PlanA_U-2524C_PSI25.dgn

COLOR CODE TIA/EIA 598-C		LEGEND ETHERNET SWITCH TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING / ENSURING PROPER TERMINATION. X - NEW FUSION SPLICE INDIVIDUAL FIBER O - EXISTING FUSION SPLICE INDIVIDUAL FIBER [BUFFER TUBE] SPLICE OR EXPRESS ENTIRE BUFFER TUBE
(1) BLUE (2) ORANGE (3) GREEN (4) BROWN (5) SLATE (6) WHITE	(7) RED (8) BLACK (9) YELLOW (10) VIOLET (11) ROSE (12) AQUA	

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
 NC License #F-002
 P.O. Box 33068
 Raleigh, NC 27636
 (919) 877-2000

Plans Prepared For:

 759 N. Greenfield Pkwy., Garner, NC 27529
 SCALE: 0 50

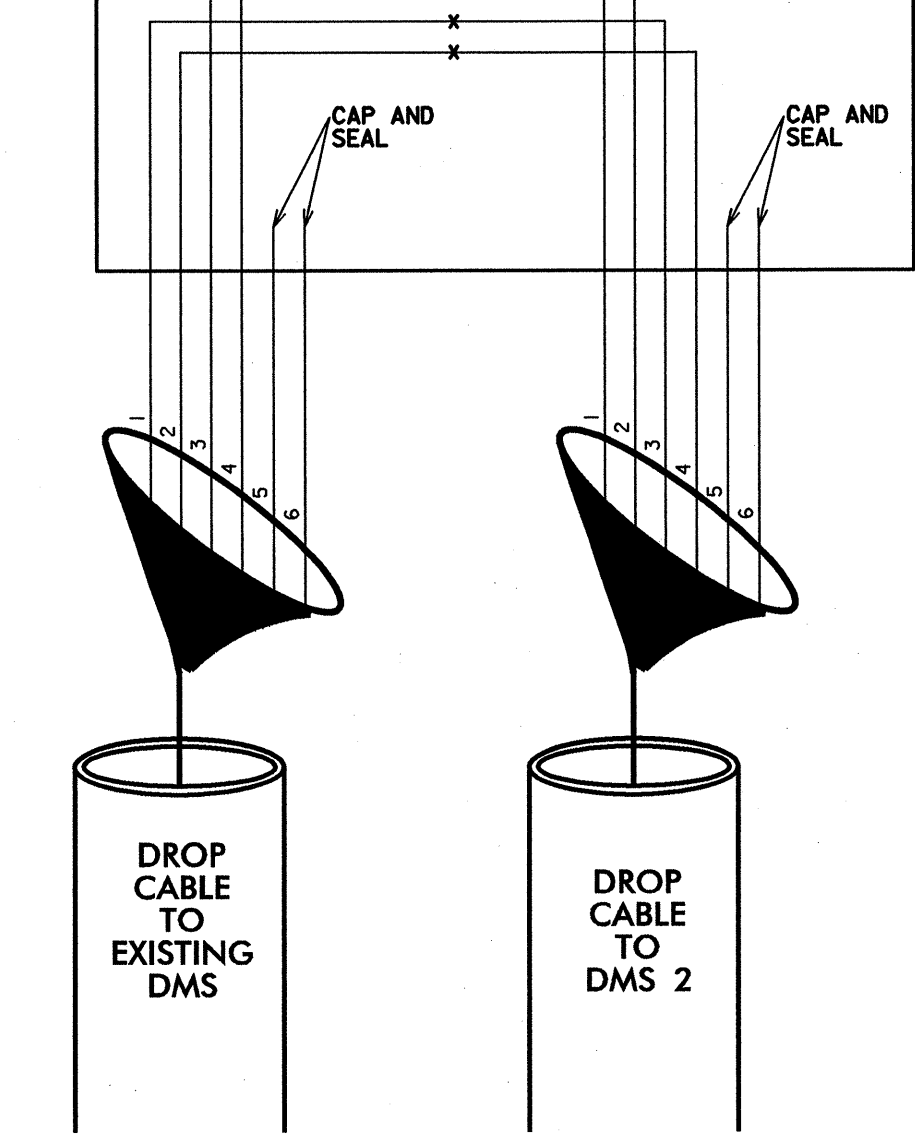
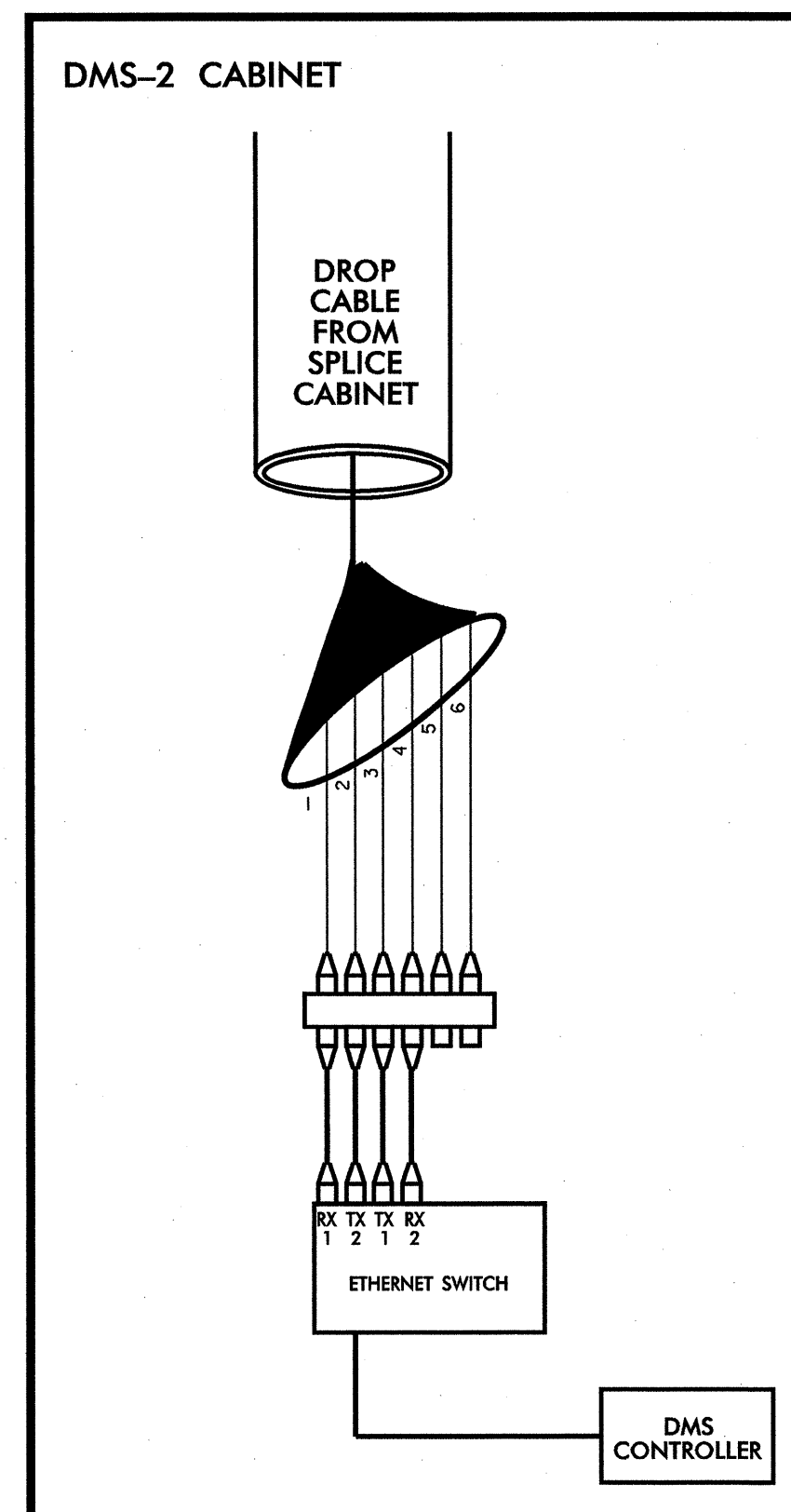
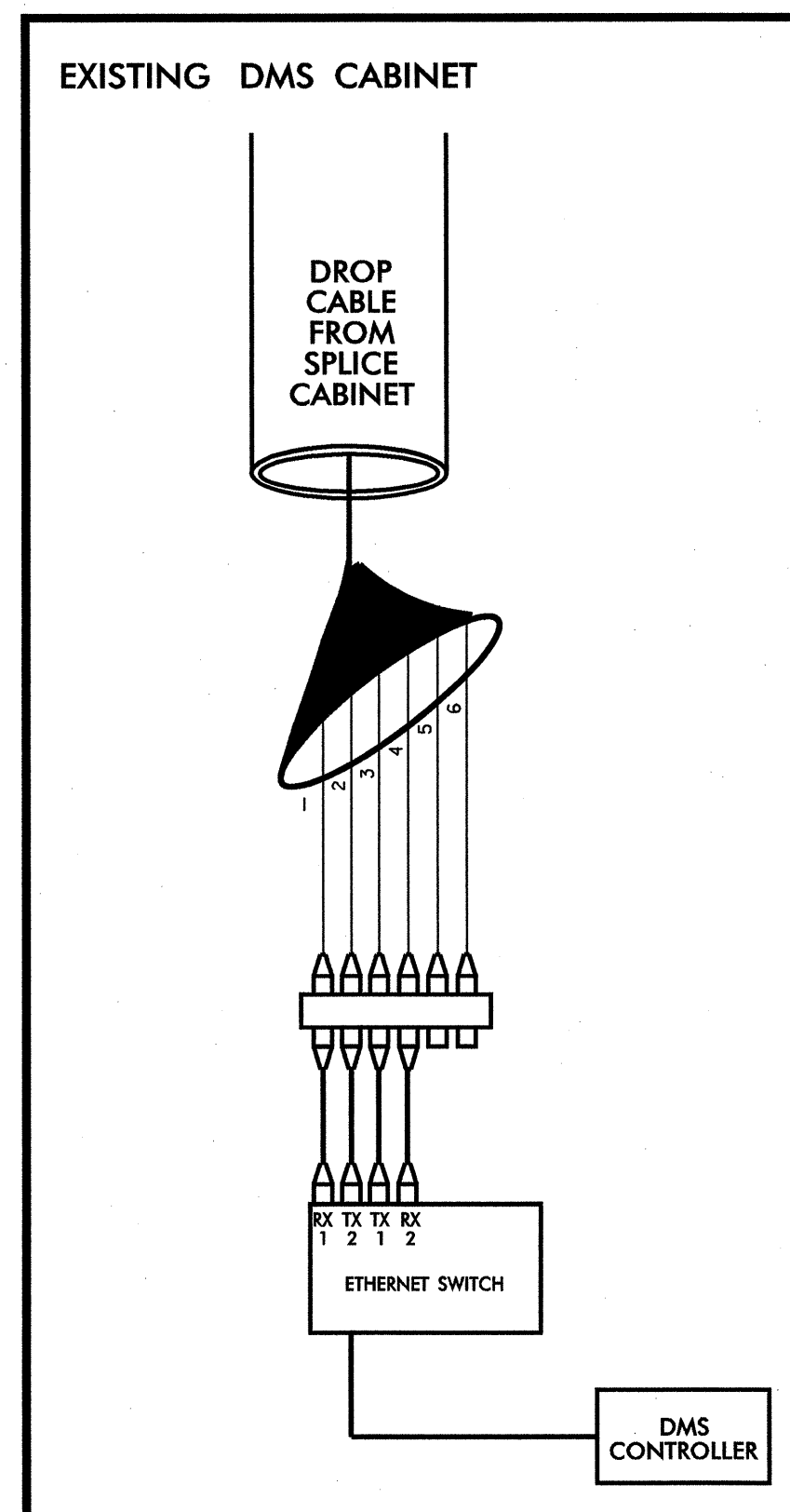
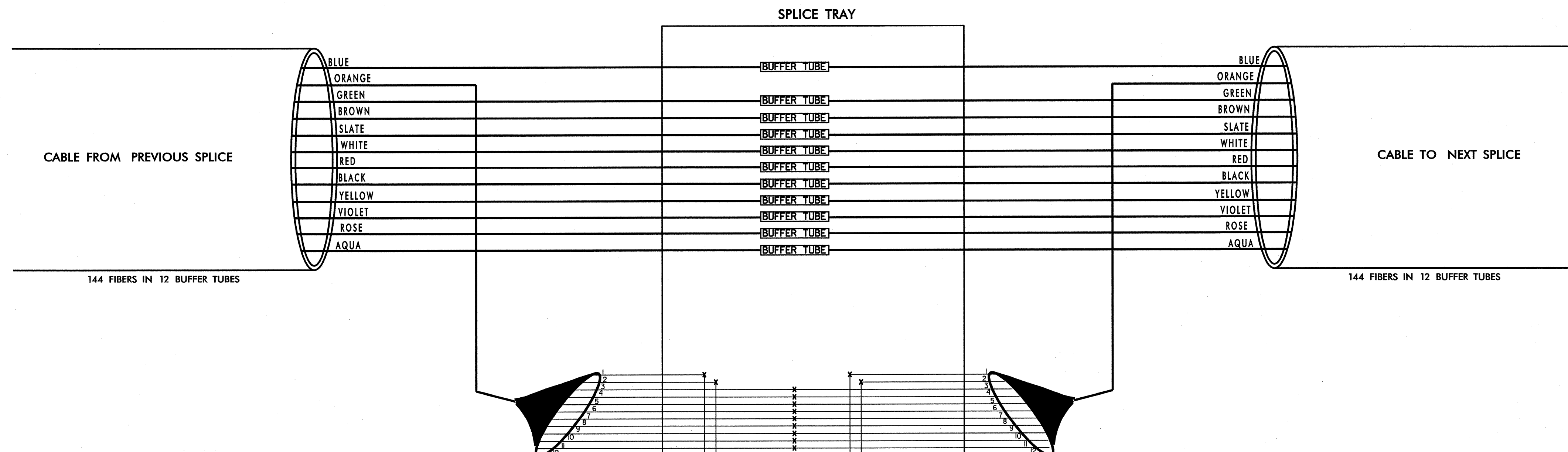
SPLICE DETAIL	
DIVISION 07	GUILFORD COUNTY
PLAN DATE: MAY 2013	REVIEWED BY:
PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH
REVISIONS	INIT. DATE

SEAL

 SIGNATURE: *Kevin W. Smith* DATE: 5/6/13
 CADD FILE NAME:

**MODIFY EXISTING SPLICE ENCLOSURE
NORTH OF BALLINGER ROAD**

**EXPRESS ALL FIBERS IN BLUE, GREEN, BROWN,
SLATE, WHITE, RED, BLACK, YELLOW,
VIOLET, ROSE AND AQUA BUFFER TUBES.**



COLOR CODE TIA/EIA 598-C		LEGEND	LEGEND
(1) BLUE	(7) RED	ETHERNET SWITCH TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING / ENSURING PROPER TERMINATION.	
(2) ORANGE	(8) BLACK	X - NEW FUSION SPLICE INDIVIDUAL FIBER	
(3) GREEN	(9) YELLOW	O - EXISTING FUSION SPLICE INDIVIDUAL FIBER	
(4) BROWN	(10) VIOLET	[BUFFER TUBE] SPLICE OR EXPRESS ENTIRE BUFFER TUBE	
(5) SLATE	(11) ROSE		
(6) WHITE	(12) AQUA		

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
NC License #F-002
P.O. Box 33068
Raleigh, NC 27636
(919) 877-2000

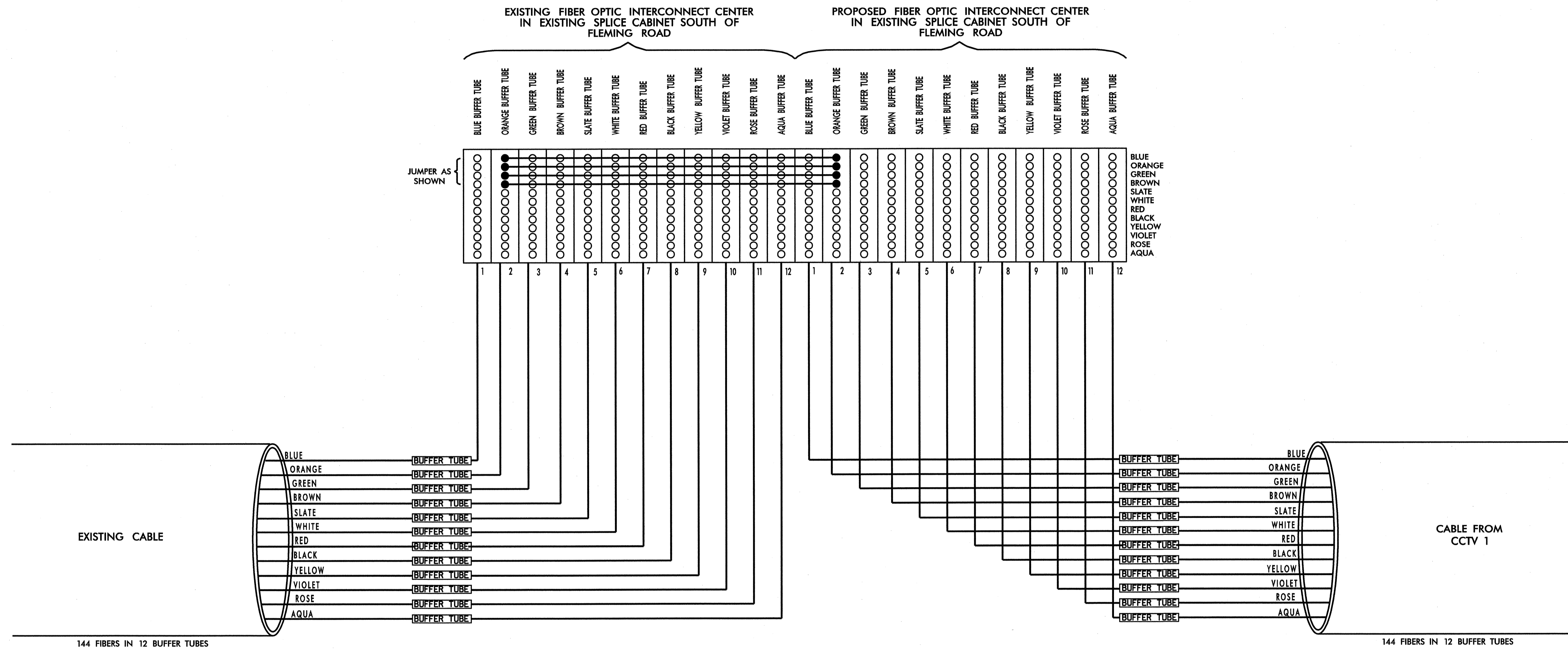


SPlice DETAIL			
DIVISION 07		GUILFORD COUNTY	
PLAN DATE: MAY 2013	REVIEWED BY:		
PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH	INIT.	DATE
REVISIONS			

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER
SEAL 030472
KEVIN W. SMITH
SIGNATURE
5/6/13
DATE
CADD Filename:

5/6/2013 12:03:00 PM K:\RAL\1710\1710\030472\U-2524C\Plan\U-2524C_PSI26.dgn

PROPOSED INTERCONNECT CENTER IN EXISTING SPLICE CABINET SOUTH OF FLEMING ROAD



2/03/2013 10:03:00 AM KARAL_TPTD01_ITS_010326233_U-2524C_PlaneU-2524C_PSKZT.dgn
 5/6/2013

COLOR CODE TIA/EIA 598-C		LEGEND ETHERNET SWITCH TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING / ENSURING PROPER TERMINATION. X - NEW FUSION SPLICE INDIVIDUAL FIBER O - EXISTING FUSION SPLICE INDIVIDUAL FIBER [BUFFER TUBE] SPLICE OR EXPRESS ENTIRE BUFFER TUBE
(1) BLUE (2) ORANGE (3) GREEN (4) BROWN (5) SLATE (6) WHITE	(7) RED (8) BLACK (9) YELLOW (10) VIOLET (11) ROSE (12) AQUA	

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
 NC License #F-002
 P.O. Box 33068
 Raleigh, NC 27636
 (919) 677-2000

Plans Prepared For:

250 N. Greenfield Pkwy., Garner, NC 27529

SCALE
 0 50

SPLICE DETAIL	
DIVISION 07 GUILFORD COUNTY	
PLAN DATE: MAY 2013	REVIEWED BY:
PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH
REVISIONS	INIT. DATE

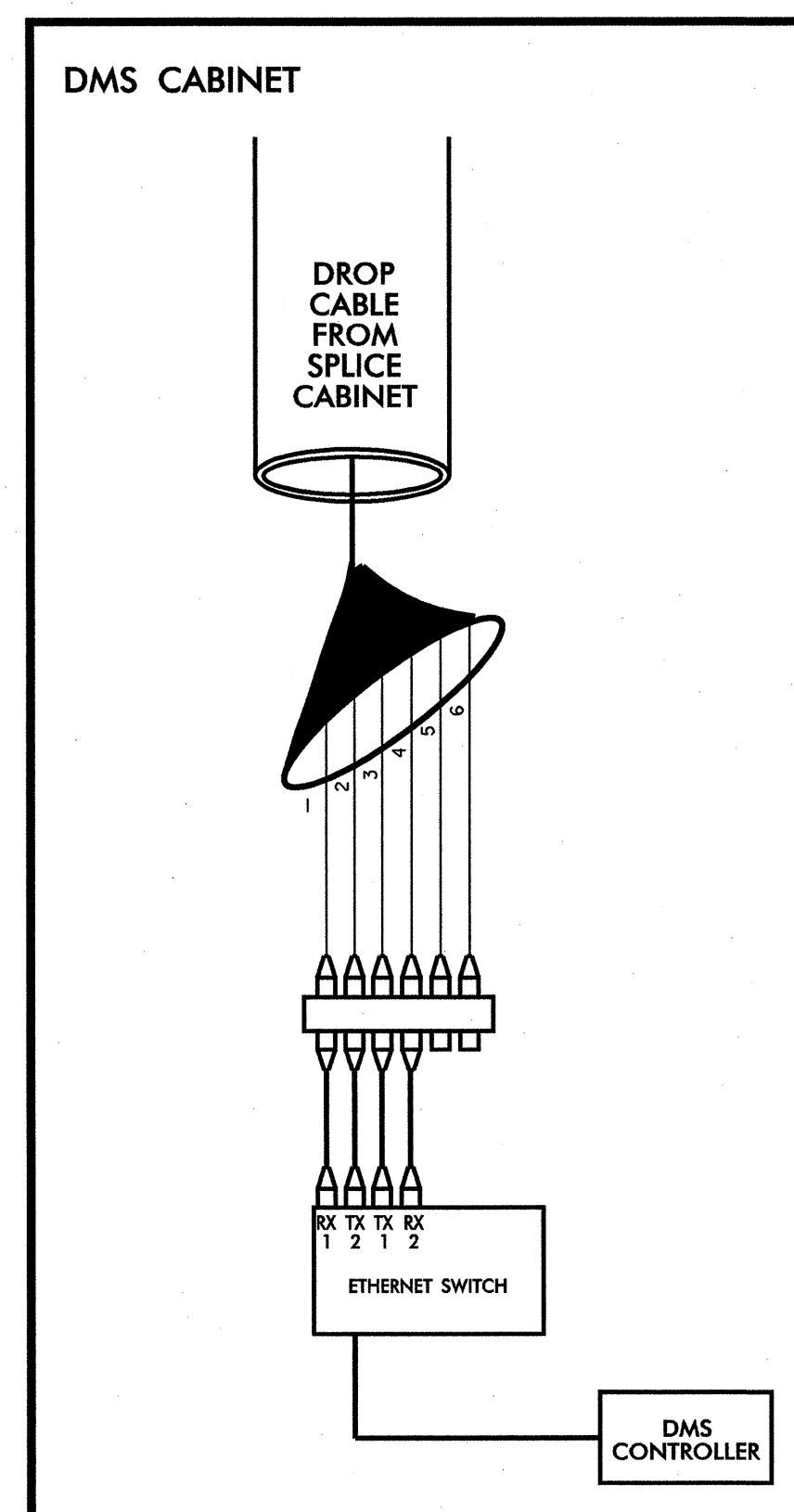
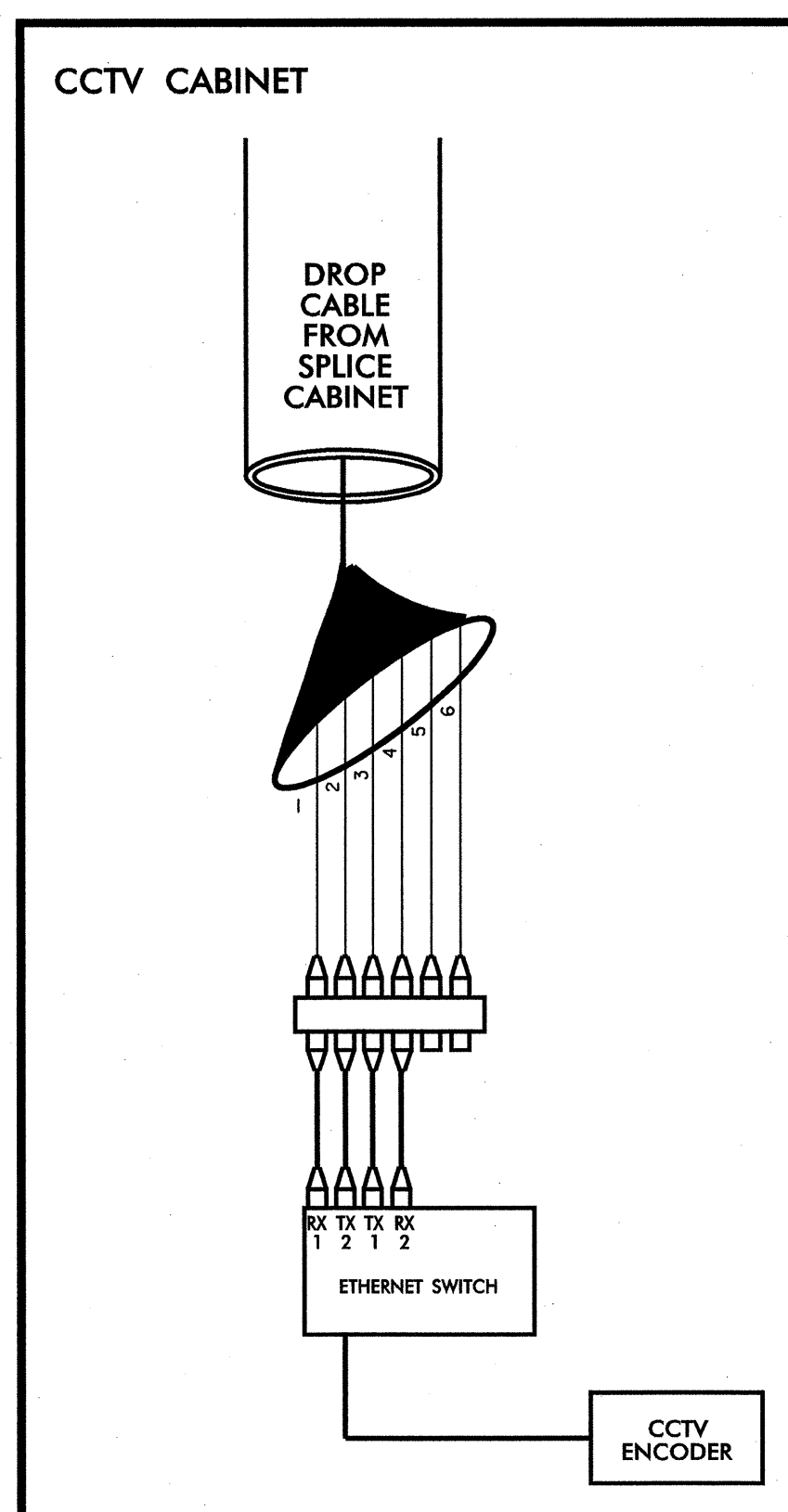
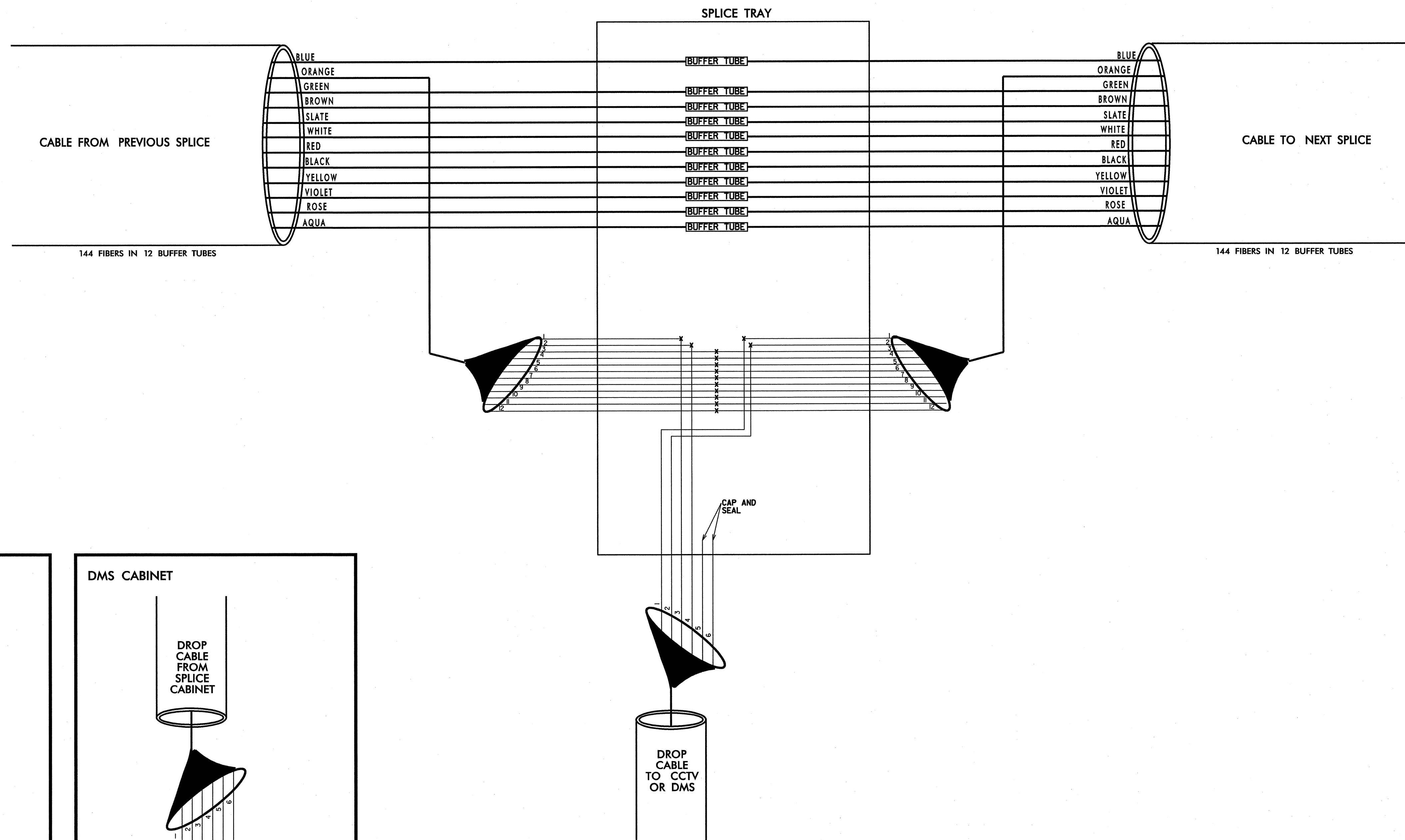
SEAL

SEAL
 030472
 ENGINEER
 KEVIN W. SMITH

5/6/13
 SIGNATURE DATE
 CAD FILE NAME:

SPLICE ENCLOSURES AT CCTV-1,2,3 AND DMS-1

EXPRESS ALL FIBERS IN BLUE, GREEN,
BROWN, SLATE, WHITE, RED, BLACK, YELLOW,
VIOLET, ROSE AND AQUA BUFFER TUBES



COLOR CODE TIA/EIA 598-C		LEGEND		LEGEND	
(1) BLUE	(7) RED	ETHERNET SWITCH TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING / ENSURING PROPER TERMINATION.			
(2) ORANGE	(8) BLACK	X - NEW FUSION SPLICE INDIVIDUAL FIBER			
(3) GREEN	(9) YELLOW	O - EXISTING FUSION SPLICE INDIVIDUAL FIBER			
(4) BROWN	(10) VIOLET	[BUFFER TUBE] SPLICE OR EXPRESS ENTIRE BUFFER TUBE			
(5) SLATE	(11) ROSE				
(6) WHITE	(12) AQUA				

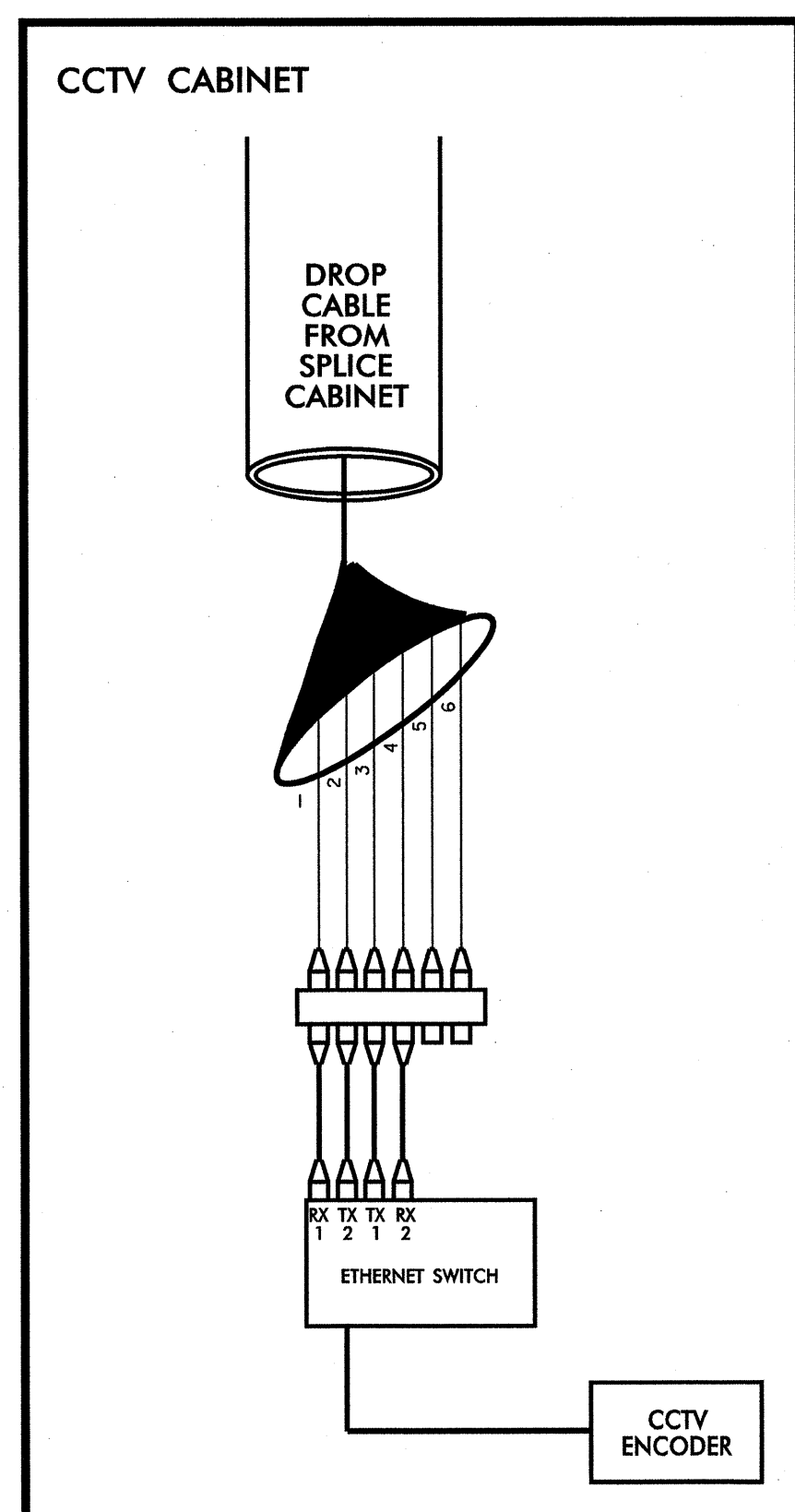
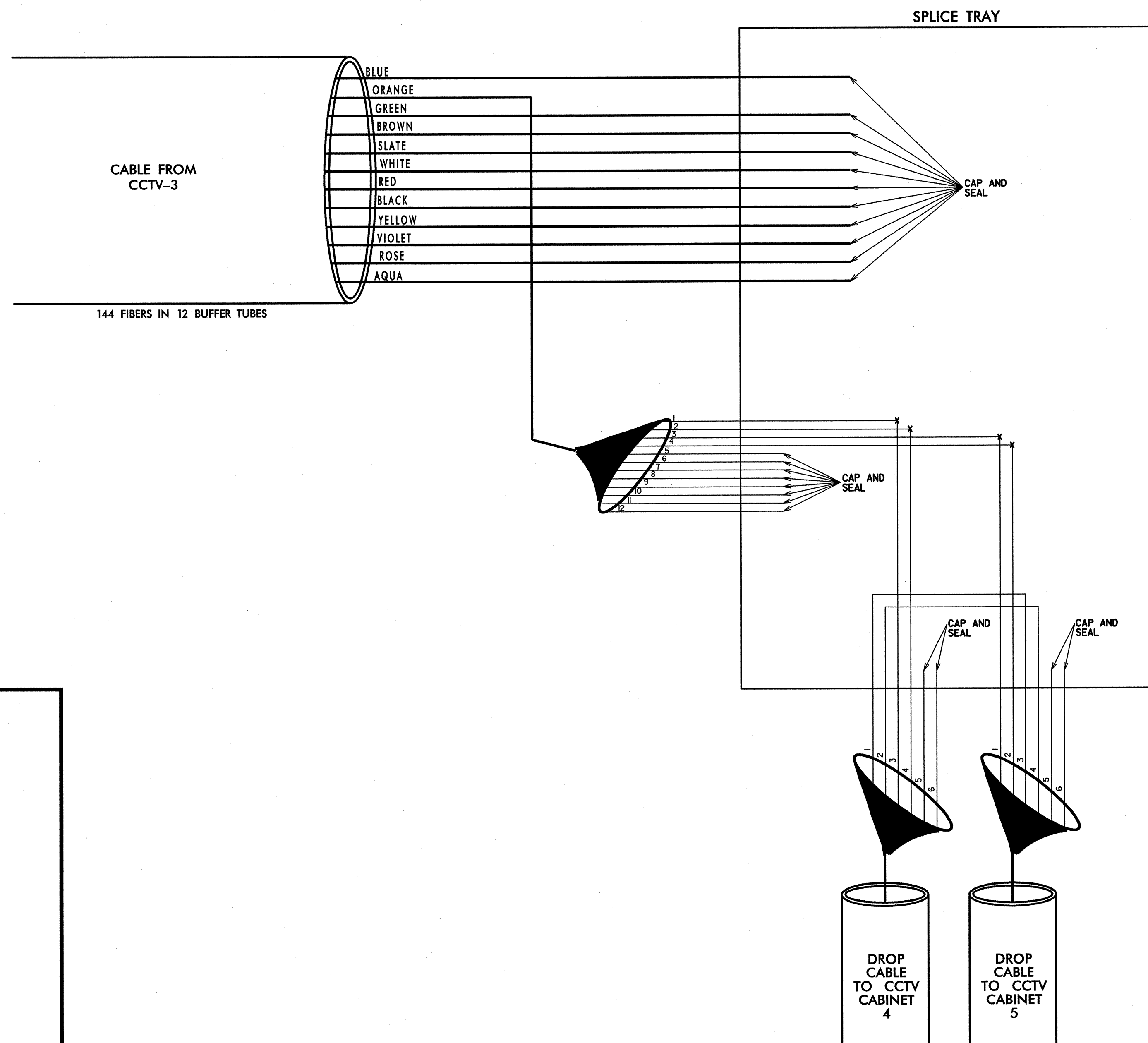
PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
NC License #F-0102
P.O. Box 33068
Raleigh, NC 27636
919-877-2000

Plans Prepared For:
CITY OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

SPLICE DETAIL	
DIVISION 07	GUILFORD COUNTY
PLAN DATE: MAY 2013	REVIEWED BY: K. SMITH
PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH
REVISIONS	INIT. DATE

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER
SEAL 030472
KEVIN W. SMITH
Signature: *Kevin W. Smith* 5/6/13
DATE
CADD File name:

SPLICE ENCLOSURE AT CCTV 4 AND 5



COLOR CODE TIA/EIA 598-C		LEGEND ETHERNET SWITCH TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING / ENSURING PROPER TERMINATION. X - NEW FUSION SPLICE INDIVIDUAL FIBER O - EXISTING FUSION SPLICE INDIVIDUAL FIBER [BUFFER TUBE] SPLICE OR EXPRESS ENTIRE BUFFER TUBE	LEGEND
(1) BLUE	(7) RED		
(2) ORANGE	(8) BLACK		
(3) GREEN	(9) YELLOW		
(4) BROWN	(10) VIOLET		
(5) SLATE	(11) ROSE		
(6) WHITE	(12) AQUA		

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
 NC License #F-0102
 P.O. Box 33068
 Raleigh, NC 27636
 (919) 877-2000

Plans Prepared For: 		SPLICE DETAIL		SEAL
DIVISION 07		GUILFORD COUNTY		SIGNATURE: <i>Kevin W. Smith</i> DATE: 5/6/13 CADD File name:
PLAN DATE: MAY 2013	REVIEWED BY:			
PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH			
REVISIONS	INIT.	DATE		

5/6/2013 12:03:03 PM K:\RAL\1PT00_ITS\01036233_U-2524C\Plans\U-2524C_PSH028.dgn