

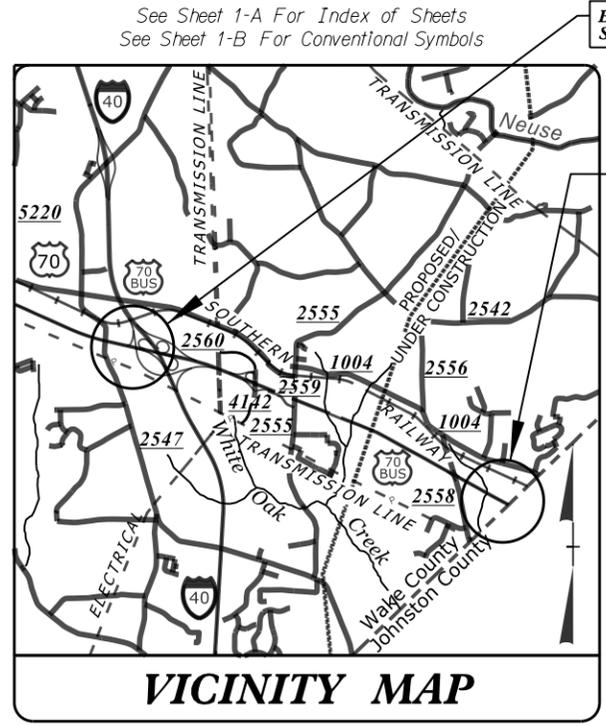
| STATE           | STATE PROJECT REFERENCE NO. | SHEET NO.   | TOTAL SHEETS |
|-----------------|-----------------------------|-------------|--------------|
| N.C.            | SS-4905CS                   | 1           |              |
| STATE PROJ. NO. | F.A. PROJ. NO.              | DESCRIPTION |              |
| 44443.1.1       | HSIP-0070(188)              | P.E.        |              |
|                 |                             | ROW         |              |
| 44443.3.1       |                             | CONST       |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

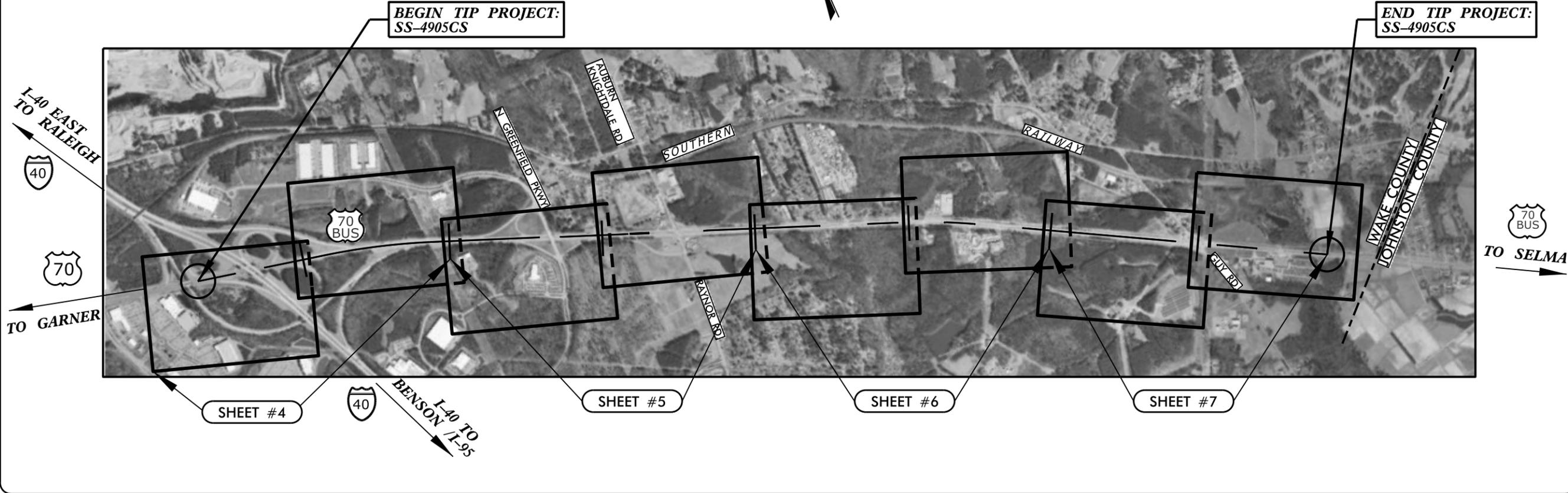
# WAKE COUNTY

LOCATION: US-70 BUSINESS FROM I-40 TO WAKE / JOHNSTON COUNTY LINE  
TYPE OF WORK: INSTALL MEDIAN CABLE GUIDERAIL

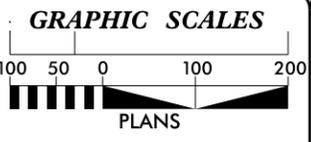


VICINITY MAP

BEGIN PROJECT: SS-4905CS  
END PROJECT: SS-4905CS  
BEGIN TIP PROJECT: SS-4905CS  
END TIP PROJECT: SS-4905CS



CONTRACT: DE00133 PROJECT: SS-4905CS



DESIGN DATA

PROJECT LENGTH  
LENGTH ROADWAY PROJECT SS4905CS = 3.933 MILES  
TOTAL LENGTH TIP PROJECT SS4905CS = 3.933 MILES

Prepared in the Office of:  
**DIVISION OF HIGHWAYS**  
2612 N. DUKE ST, DURHAM, NC 27704

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: \_\_\_\_\_  
LETTING DATE: \_\_\_\_\_

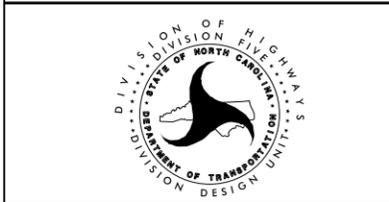
BEN UPSHAW, PE  
PROJECT ENGINEER

SUNIL J PATEL  
PROJECT DESIGN ENGINEER

DIVISION DESIGN ENGINEER  
ROADWAY DESIGN AND HYDRAULICS

DocuSign  
9/28/2015  
Ben Upshaw  
SIGNATURE CD6EB110D6E54E5...

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA  
FIFTH DIVISION  
J.R. HOPKINS, P.E.  
DIVISION ENGINEER



25-SEP-2015 13:08  
R:\Roadway\_Proj\SS4905CS\_Rdy\_tsh.dgn  
SS4905CS AT DS-00261643

|  |                        |
|--|------------------------|
| PROJECT REFERENCE NO.<br><b>SS-4905CS</b>  | SHEET NO.<br><b>1A</b> |
| ROADWAY DESIGN<br>ENGINEER   |                        |
|  |                        |
| DocuSigned by:<br><i>Ben Upshaw</i> 09/28/2015                                     |                        |
| CD6EB110D6E54E5...   |                        |

**INDEX OF SHEETS**

| <u>SHEET NUMBER</u> | <u>SHEET</u>                                   |
|---------------------|--|
| 1                   | TITLE SHEET                                    |
| 1A                  | INDEX OF SHEETS, AND LIST OF STANDARD DRAWINGS |
| 1B                  | CONVENTIONAL SYMBOLS                           |
| 3B                  | SUMMARY OF CABLE GUIDERAIL                     |
| 4 THRU 7            | PLAN SHEETS                                    |
| TMP-1 THRU TMP-3    | TRANSPORTATION MANAGEMENT PLANS                |

**2012 ROADWAY ENGLISH STANDARD DRAWINGS**

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - 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:

| <u>STD.NO.</u>           | <u>TITLE</u>    |
|--------------------------|-----------------|
| DIVISION 8 - INCIDENTALS |                 |
| 865.01                   | CABLE GUIDERAIL |

# STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

## CONVENTIONAL PLAN SHEET SYMBOLS

*Note: Not to Scale*      \*S.U.E. = *Subsurface Utility Engineering*

### BOUNDARIES AND PROPERTY:

|                                       |         |
|---------------------------------------|---------|
| State Line                            | -----   |
| County Line                           | -----   |
| Township Line                         | -----   |
| City Line                             | -----   |
| Reservation Line                      | -----   |
| Property Line                         | -----   |
| Existing Iron Pin                     | ○ EIP   |
| Property Corner                       | -----   |
| Property Monument                     | □ ECM   |
| Parcel/Sequence Number                | ②③      |
| Existing Fence Line                   | -x-x-x- |
| Proposed Woven Wire Fence             | ○       |
| Proposed Chain Link Fence             | □       |
| Proposed Barbed Wire Fence            | ◇       |
| Existing Wetland Boundary             | --- WLB |
| Proposed Wetland Boundary             | --- WLB |
| Existing Endangered Animal Boundary   | --- EAB |
| Existing Endangered Plant Boundary    | --- EPB |
| Existing Historic Property Boundary   | --- HPB |
| Known Contamination Area: Soil        | ☠       |
| Potential Contamination Area: Soil    | ☠       |
| Known Contamination Area: Water       | ☠       |
| Potential Contamination Area: Water   | ☠       |
| Contaminated Site: Known or Potential | ☠       |

### BUILDINGS AND OTHER CULTURE:

|                               |     |
|-------------------------------|-----|
| Gas Pump Vent or U/G Tank Cap | ○   |
| Sign                          | ○ S |
| Well                          | ○ W |
| Small Mine                    | ✕   |
| Foundation                    | □   |
| Area Outline                  | □   |
| Cemetery                      | ⊕   |
| Building                      | □   |
| School                        | □   |
| Church                        | □   |
| Dam                           | ▬   |

### HYDROLOGY:

|                                    |          |
|------------------------------------|----------|
| Stream or Body of Water            | -----    |
| Hydro, Pool or Reservoir           | □        |
| Jurisdictional Stream              | --- JS   |
| Buffer Zone 1                      | --- BZ 1 |
| Buffer Zone 2                      | --- BZ 2 |
| Flow Arrow                         | ←        |
| Disappearing Stream                | →        |
| Spring                             | ○        |
| Wetland                            | ---      |
| Proposed Lateral, Tail, Head Ditch | ▬        |
| False Sump                         | ▽        |

### RAILROADS:

|                    |       |
|--------------------|-------|
| Standard Gauge     | ----- |
| RR Signal Milepost | ○     |
| Switch             | □     |
| RR Abandoned       | ----- |
| RR Dismantled      | ----- |

### RIGHT OF WAY:

|   |         |
|---|---------|
| Baseline Control Point  | ◆       |
| Existing Right of Way Marker                                  | △       |
| Existing Right of Way Line                                    | -----   |
| Proposed Right of Way Line                                    | -----   |
| Proposed Right of Way Line with Iron Pin and Cap Marker       | ○       |
| Proposed Right of Way Line with Concrete or Granite RW Marker | △       |
| Proposed Control of Access Line with Concrete C/A Marker      | △       |
| Existing Control of Access                                    | ○       |
| Proposed Control of Access                                    | ○       |
| Existing Easement Line  | --- E   |
| Proposed Temporary Construction Easement                      | --- E   |
| Proposed Temporary Drainage Easement                          | --- TDE |
| Proposed Permanent Drainage Easement                          | --- PDE |
| Proposed Permanent Drainage / Utility Easement                | --- DUE |
| Proposed Permanent Utility Easement                           | --- PUE |
| Proposed Temporary Utility Easement                           | --- TUE |
| Proposed Aerial Utility Easement                              | --- AUE |
| Proposed Permanent Easement with Iron Pin and Cap Marker      | ◆       |

### ROADS AND RELATED FEATURES:

|                            |        |
|----------------------------|--------|
| Existing Edge of Pavement  | -----  |
| Existing Curb              | -----  |
| Proposed Slope Stakes Cut  | --- C  |
| Proposed Slope Stakes Fill | --- F  |
| Proposed Curb Ramp         | --- CR |
| Existing Metal Guardrail   | -----  |
| Proposed Guardrail         | -----  |
| Existing Cable Guiderail   | -----  |
| Proposed Cable Guiderail   | -----  |
| Equality Symbol            | ⊕      |
| Pavement Removal           | ▨      |

### VEGETATION:

|              |       |
|--------------|-------|
| Single Tree  | ☼     |
| Single Shrub | ☼     |
| Hedge        | ----- |
| Woods Line   | ----- |

|          |   |
|----------|---|
| Orchard  | ☼ |
| Vineyard | □ |

### EXISTING STRUCTURES:

|  |                 |
|--|-----------------|
| MAJOR:                                   |                 |
| Bridge, Tunnel or Box Culvert            | -----           |
| Bridge Wing Wall, Head Wall and End Wall | --- CONC WW --- |
| MINOR:                                   |                 |
| Head and End Wall                        | --- CONC HW --- |
| Pipe Culvert                             | -----           |
| Footbridge                               | -----           |
| Drainage Box: Catch Basin, DI or JB      | □ CB            |
| Paved Ditch Gutter                       | -----           |
| Storm Sewer Manhole                      | ○               |
| Storm Sewer                              | ---             |

### UTILITIES:

|                                |       |
|--------------------------------|-------|
| POWER:                         |       |
| Existing Power Pole            | ●     |
| Proposed Power Pole            | ○     |
| Existing Joint Use Pole        | ●     |
| Proposed Joint Use Pole        | ○     |
| Power Manhole                  | ⊕     |
| Power Line Tower               | ⊗     |
| Power Transformer              | ⊗     |
| U/G Power Cable Hand Hole      | ○     |
| H-Frame Pole                   | ●     |
| U/G Power Line LOS B (S.U.E.*) | ----- |
| U/G Power Line LOS C (S.U.E.*) | ----- |
| U/G Power Line LOS D (S.U.E.*) | ----- |

### TELEPHONE:

|  |       |
|--|-------|
| Existing Telephone Pole                | ●     |
| Proposed Telephone Pole                | ○     |
| Telephone Manhole                      | ⊕     |
| Telephone Pedestal                     | ⊕     |
| Telephone Cell Tower                   | ⊕     |
| U/G Telephone Cable Hand Hole          | ○     |
| U/G Telephone Cable LOS B (S.U.E.*)    | ----- |
| U/G Telephone Cable LOS C (S.U.E.*)    | ----- |
| U/G Telephone Cable LOS D (S.U.E.*)    | ----- |
| U/G Telephone Conduit LOS B (S.U.E.*)  | ----- |
| U/G Telephone Conduit LOS C (S.U.E.*)  | ----- |
| U/G Telephone Conduit LOS D (S.U.E.*)  | ----- |
| U/G Fiber Optics Cable LOS B (S.U.E.*) | ----- |
| U/G Fiber Optics Cable LOS C (S.U.E.*) | ----- |
| U/G Fiber Optics Cable LOS D (S.U.E.*) | ----- |

### WATER:

|                                |                   |
|--------------------------------|-------------------|
| Water Manhole                  | ⊕                 |
| Water Meter                    | ○                 |
| Water Valve                    | ⊗                 |
| Water Hydrant                  | ⊕                 |
| U/G Water Line LOS B (S.U.E.*) | -----             |
| U/G Water Line LOS C (S.U.E.*) | -----             |
| U/G Water Line LOS D (S.U.E.*) | -----             |
| Above Ground Water Line        | --- A/G Water --- |

### TV:

|                                       |       |
|---------------------------------------|-------|
| TV Pedestal                           | ⊕     |
| TV Tower                              | ⊗     |
| U/G TV Cable Hand Hole                | ○     |
| U/G TV Cable LOS B (S.U.E.*)          | ----- |
| U/G TV Cable LOS C (S.U.E.*)          | ----- |
| U/G TV Cable LOS D (S.U.E.*)          | ----- |
| U/G Fiber Optic Cable LOS B (S.U.E.*) | ----- |
| U/G Fiber Optic Cable LOS C (S.U.E.*) | ----- |
| U/G Fiber Optic Cable LOS D (S.U.E.*) | ----- |

### GAS:

|                              |                 |
|------------------------------|-----------------|
| Gas Valve                    | ◇               |
| Gas Meter                    | ⊕               |
| U/G Gas Line LOS B (S.U.E.*) | -----           |
| U/G Gas Line LOS C (S.U.E.*) | -----           |
| U/G Gas Line LOS D (S.U.E.*) | -----           |
| Above Ground Gas Line        | --- A/G Gas --- |

### SANITARY SEWER:

|                                     |                            |
|-------------------------------------|----------------------------|
| Sanitary Sewer Manhole              | ⊕                          |
| Sanitary Sewer Cleanout             | ⊕                          |
| U/G Sanitary Sewer Line             | --- SS ---                 |
| Above Ground Sanitary Sewer         | --- A/G Sanitary Sewer --- |
| SS Forced Main Line LOS B (S.U.E.*) | -----                      |
| SS Forced Main Line LOS C (S.U.E.*) | -----                      |
| SS Forced Main Line LOS D (S.U.E.*) | -----                      |

### MISCELLANEOUS:

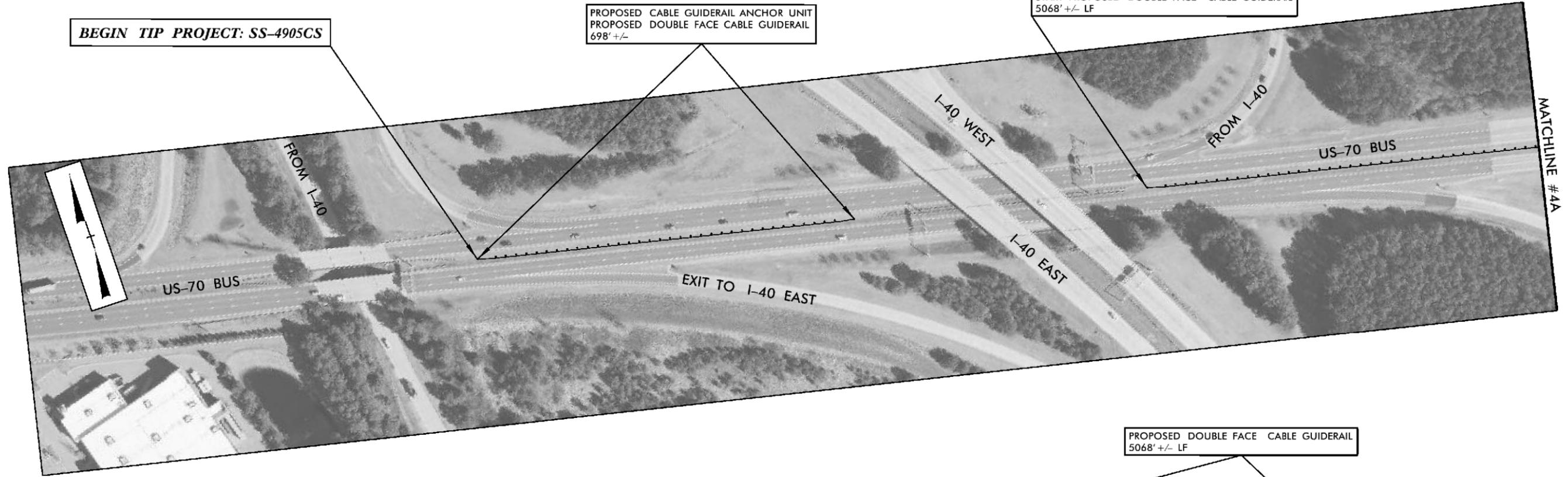
|  |        |
|--|--------|
| Utility Pole                             | ●      |
| Utility Pole with Base                   | □      |
| Utility Located Object                   | ○      |
| Utility Traffic Signal Box               | ⊕      |
| Utility Unknown U/G Line LOS B (S.U.E.*) | -----  |
| U/G Tank; Water, Gas, Oil                | □      |
| Underground Storage Tank, Approx. Loc.   | ⊕      |
| A/G Tank; Water, Gas, Oil                | □      |
| Geoenvironmental Boring                  | ⊕      |
| U/G Test Hole LOS A (S.U.E.*)            | ○      |
| Abandoned According to Utility Records   | AATUR  |
| End of Information                       | E.O.I. |



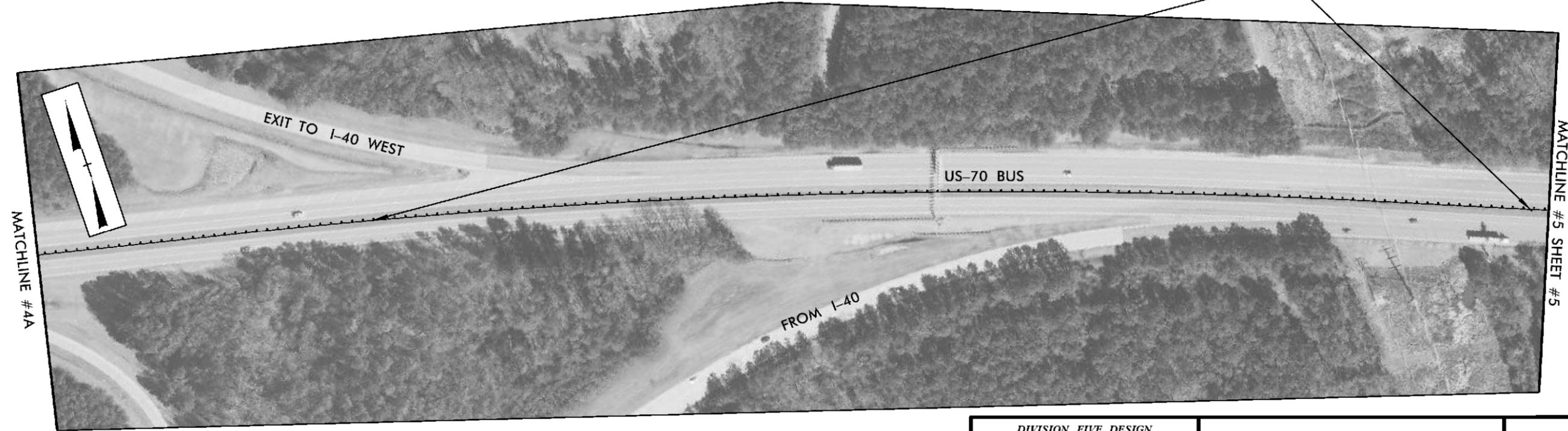
BEGIN TIP PROJECT: SS-4905CS

PROPOSED CABLE GUIDERAIL ANCHOR UNIT  
PROPOSED DOUBLE FACE CABLE GUIDERAIL  
698' +/-

PROPOSED CABLE GUIDERAIL ANCHOR UNIT  
START PROPOSED DOUBLE FACE CABLE GUIDERAIL  
5068' +/- LF



PROPOSED DOUBLE FACE CABLE GUIDERAIL  
5068' +/- LF



NOTES:  
1). UNLESS OTHERWISE NOTED, ALL DOUBLE FACE CABLE GUIDERAIL IS TO BE PLACED AT AN OFFSET OF 12' FROM EOT.  
2). UNLESS OTHERWISE NOTED, ALL SINGLE FACE CABLE GUIDERAIL IS TO BE PLACED AT AN OFFSET OF 8' FROM EOT.

DIVISION FIVE DESIGN

DocuSign by: **Ben Upshaw** 9/28/2015 P.E.

INSTALL MEDIAN BARRIER ON US 70 BUS FROM I-40 TO THE WAKE / JOHNSTON COUNTY LINE

|             |             |        |
|-------------|-------------|--------|
| DIVISION 05 | WAKE COUNTY | GARNER |
| REVISIONS   | INT.        | DATE   |
|             |             |        |
|             |             |        |
|             |             |        |

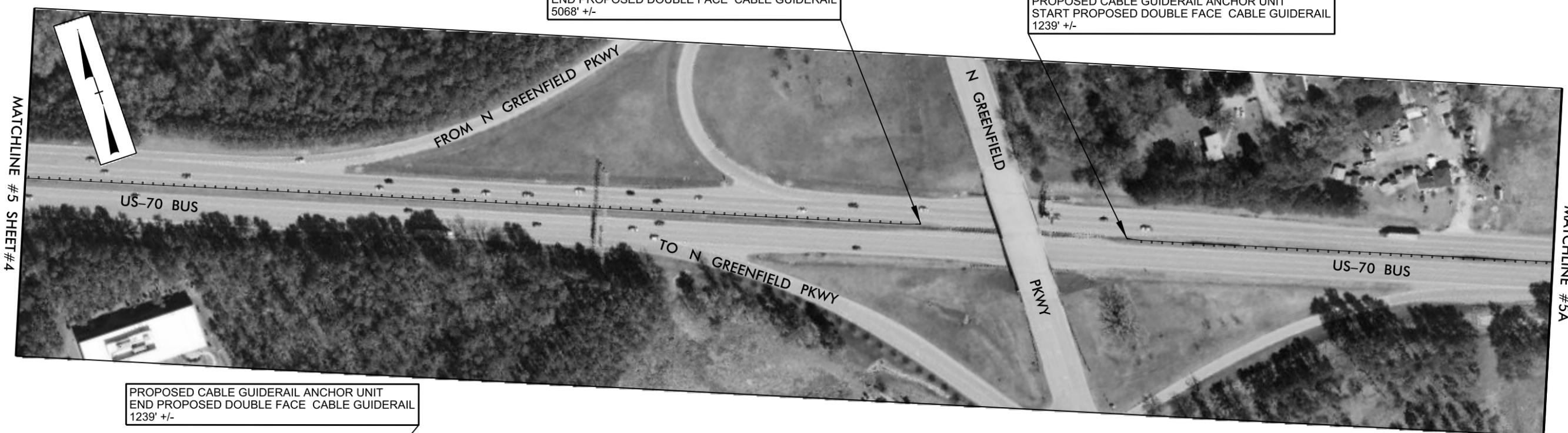
N.C. DEPARTMENT of TRANSPORTATION  
DIVISION of HIGHWAYS  
DIVISION FIVE DESIGN UNIT

SCALE: 1" = 200' DATE: 09/2015  
PREPARED BY: LUIDA CHAROVA  
REVIEWED BY: BEN UPSHAW  
REVIEWED BY:

MATCHLINE #4A

MATCHLINE #5 SHEET #5

MATCHLINE #4A



MATCHLINE #5 SHEET #4

MATCHLINE #5A

PROPOSED CABLE GUIDERAIL ANCHOR UNIT  
END PROPOSED DOUBLE FACE CABLE GUIDERAIL  
1239' +/-

PROPOSED CABLE GUIDERAIL ANCHOR UNIT  
START PROPOSED DOUBLE FACE CABLE GUIDERAIL  
1239' +/-



MATCHLINE #5A

MATCHLINE #6 SHEET #6

PROPOSED CABLE GUIDERAIL ANCHOR UNIT (BOTH SIDES)  
PROPOSED SINGLE FACE CABLE GUIDERAIL  
346' +/- (BOTH SIDES)

PROPOSED CABLE GUIDERAIL ANCHOR UNIT  
START PROPOSED DOUBLE FACE CABLE GUIDERAIL  
2128' +/-

NOTES:  
1). UNLESS OTHERWISE NOTED, ALL DOUBLE FACE CABLE GUIDERAIL IS TO BE PLACED AT AN OFFSET OF 12' FROM EOT.  
2). UNLESS OTHERWISE NOTED, ALL SINGLE FACE CABLE GUIDERAIL IS TO BE PLACED AT AN OFFSET OF 8' FROM EOT.

DIVISION FIVE DESIGN

DocuSign  
**Ben Upshaw** 9/28/2015 P.E.  
SIGNATURE

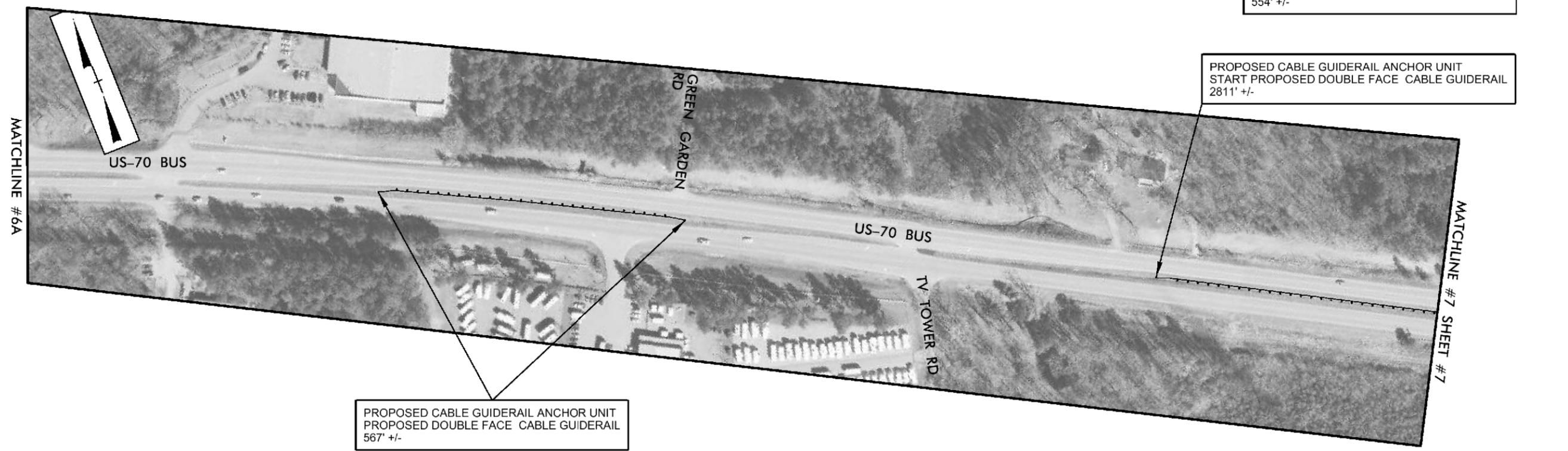
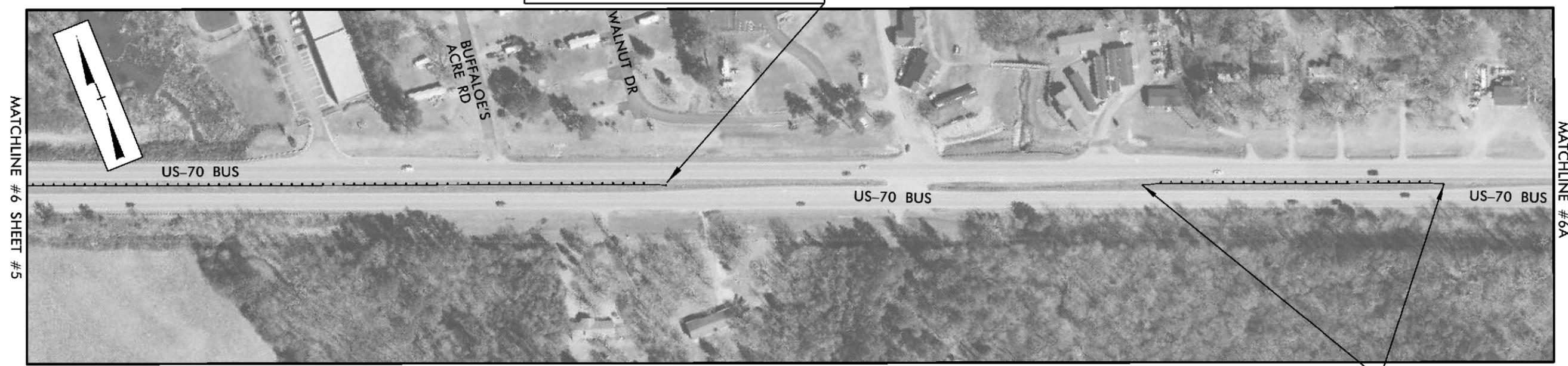
INSTALL MEDIAN BARRIER ON US 70 BUS  
FROM I-40 TO THE WAKE /  
JOHNSTON COUNTY LINE

DIVISION 05 WAKE COUNTY GARNER

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

N.C. DEPARTMENT of TRANSPORTATION  
DIVISION of HIGHWAYS  
DIVISION FIVE DESIGN UNIT

SCALE: 1" = 200' DATE: 09/2015  
PREPARED BY: LUDA CHAROVA  
REVIEWED BY: BEN UPSHAW  
REVIEWED BY:



PROPOSED CABLE GUIDERAIL ANCHOR UNIT  
END PROPOSED DOUBLE FACE CABLE GUIDERAIL  
2128' +/-

PROPOSED CABLE GUIDERAIL ANCHOR UNIT  
PROPOSED DOUBLE FACE CABLE GUIDERAIL  
554' +/-

PROPOSED CABLE GUIDERAIL ANCHOR UNIT  
START PROPOSED DOUBLE FACE CABLE GUIDERAIL  
2811' +/-

PROPOSED CABLE GUIDERAIL ANCHOR UNIT  
PROPOSED DOUBLE FACE CABLE GUIDERAIL  
567' +/-

NOTES:  
1). UNLESS OTHERWISE NOTED, ALL DOUBLE FACE CABLE GUIDERAIL IS TO BE PLACED AT AN OFFSET OF 12' FROM EOT.  
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DIVISION FIVE DESIGN

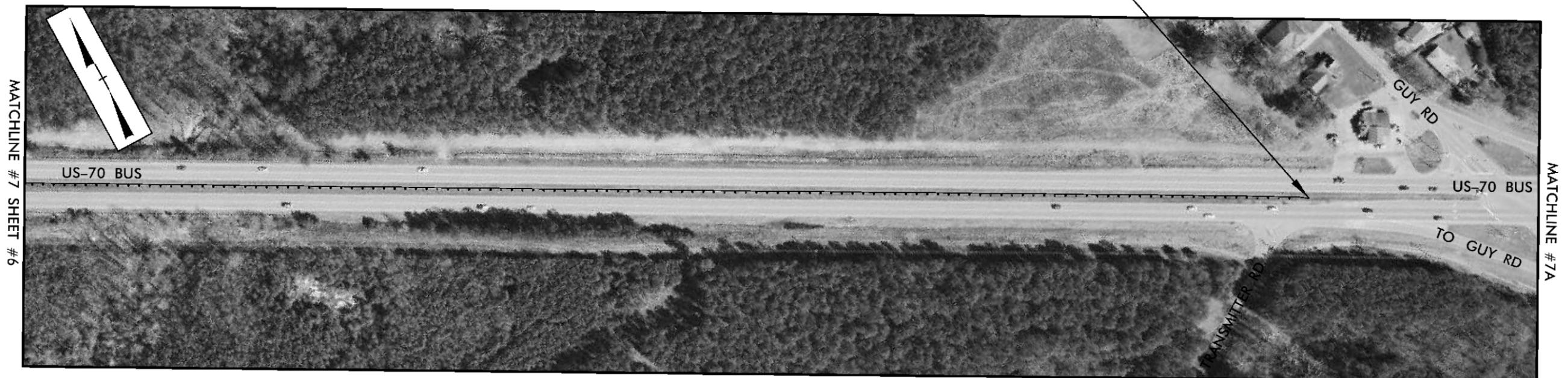
DocuSign  
Ben Upshaw  
09/28/2015  
P.E.  
SIGNATURE

INSTALL MEDIAN BARRIER ON US 70 BUS  
FROM I-40 TO THE WAKE /  
JOHNSTON COUNTY LINE

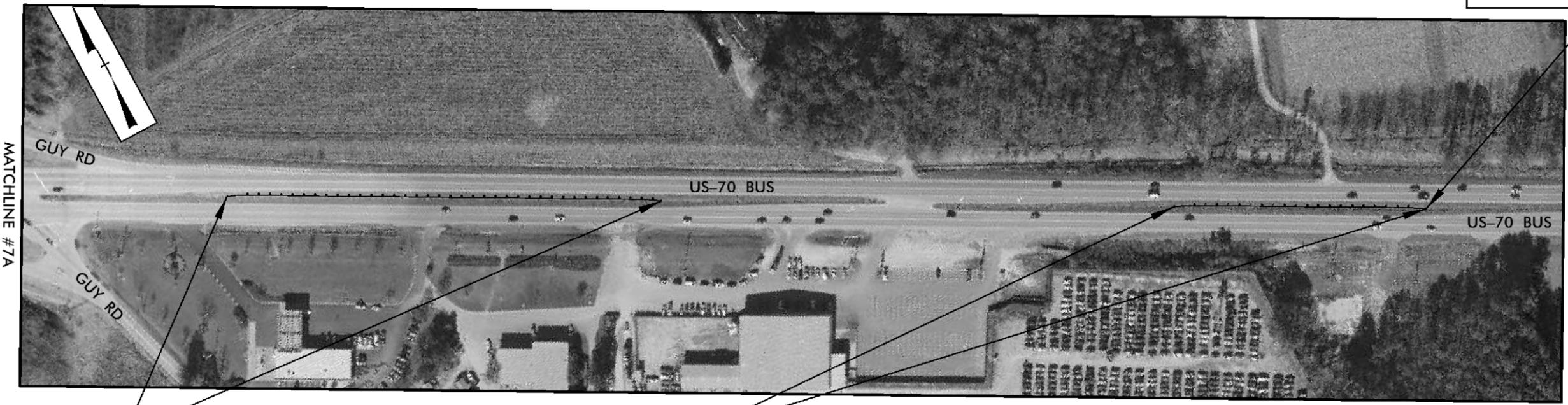
|  |             |        |
|--|-------------|--------|
| DIVISION 05  | WAKE COUNTY | GARNER |
| REVISIONS  | INIT.       | DATE   |
|  |             |        |
|  |             |        |
| N.C. DEPARTMENT of TRANSPORTATION<br>DIVISION of HIGHWAYS<br>DIVISION FIVE DESIGN UNIT |             |        |

SCALE: 1" = 200'  
DATE: 09/2015  
PREPARED BY: LUDA CHAROVA  
REVIEWED BY: BEN UPSHAW  
REVISIONS:

PROPOSED CABLE GUIDERAIL ANCHOR UNIT  
END PROPOSED DOUBLE FACE CABLE GUIDERAIL  
2811' +/-



END TIP PROJECT: SS-4905CS



PROPOSED CABLE GUIDERAIL ANCHOR UNIT  
PROPOSED DOUBLE FACE CABLE GUIDERAIL  
758' +/-

PROPOSED CABLE GUIDERAIL ANCHOR UNIT  
PROPOSED DOUBLE FACE CABLE GUIDERAIL  
425' +/-

DIVISION FIVE DESIGN

DocuSign  
*Ben Upshaw*  
9/28/2015 P.E.  
CD6E51106E54E5

INSTALL MEDIAN BARRIER ON US 70 BUS  
FROM I-40 TO THE WAKE /  
JOHNSTON COUNTY LINE

|             |             |        |
|-------------|-------------|--------|
| DIVISION 05 | WAKE COUNTY | GARNER |
| REVISIONS   | INT.        | DATE   |
|             |             |        |
|             |             |        |
|             |             |        |

N.C. DEPARTMENT of TRANSPORTATION  
DIVISION of HIGHWAYS  
DIVISION FIVE DESIGN UNIT

SCALE: 1" = 200' DATE: 09/2015  
PREPARED BY: LUDA CHAROVA  
REVIEWED BY: BEN UPSHAW  
REVIEWED BY:

NOTES:  
1). UNLESS OTHERWISE NOTED, ALL DOUBLE FACE CABLE GUIDERAIL IS TO BE PLACED AT AN OFFSET OF 12' FROM EOT.  
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STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

|                             |                |             |
|-----------------------------|----------------|-------------|
| STATE PROJECT REFERENCE NO. |                | SHEET NO.   |
| SS-4905CS                   |                | TMP-1       |
| STATE PROJ. NO.             | P.A. PROJ. NO. | DESCRIPTION |
| 44443.1.1                   | HSIP-0070(188) | P.E.        |
| 44443.3.1                   |                | CONST.      |

**TRANSPORTATION MANAGEMENT PLAN**  
**WAKE COUNTY**



**LEGEND**

- GENERAL**
- DIRECTION OF TRAFFIC FLOW
  - NORTH ARROW
  - PROPOSED PVMT. EXIST. PVMT.
  - WORK AREA
  - REMOVAL OF EXISTING PAVEMENT

- TRAFFIC CONTROL DEVICES**
- TYPE I BARRICADE
  - TYPE II BARRICADE
  - TYPE III BARRICADE
  - CONE
  - DRUM
  - FLASHING ARROW PANEL (TYPE C)
  - TYPE 'B' WARNING LIGHT
  - STATIONARY SIGN
  - PORTABLE SIGN
  - WARNING FLAGS
  - CRASH CUSHION
  - CHANGEABLE MESSAGE SIGN
  - TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
  - POLICE
  - FLAGGER

- PAVEMENT MARKINGS**
- CRYSTAL PAVEMENT MARKER
  - YELLOW/YELLOW PAVEMENT MARKER
  - CRYSTAL/RED PAVEMENT MARKER
  - PAVEMENT MARKING SYMBOLS

**ROADWAY STANDARD DRAWINGS**

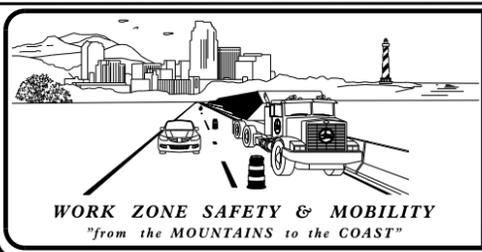
THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

| STD. NO. | TITLE                           |
|----------|---------------------------------|
| 1101.01  | WORK ZONE ADVANCE WARNING SIGNS |
| 1101.02  | TEMPORARY LANE CLOSURES         |
| 1101.04  | TEMPORARY SHOULDER CLOSURES     |
| 1101.05  | WORK ZONE VEHICLE ACCESSES      |
| 1101.11  | TRAFFIC CONTROL DESIGN TABLES   |
| 1110.02  | PORTABLE WORK ZONE SIGNS        |
| 1115.01  | FLASHING ARROW BOARDS           |
| 1130.01  | DRUMS                           |

**INDEX OF SHEETS**

| SHEET NO. | TITLE  |
|-----------|--|
| TMP-1     | LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND AND INDEX OF SHEETS |
| TMP-2     | PROJECT NOTES  |
| TMP-3     | TRAFFIC CONTROL DETAIL   |

**TIP PROJECT: W-5601AY**



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

STATE TRAFFIC MANAGEMENT ENGINEER  
BEN UPSHAW, PE TRAFFIC CONTROL PROJECT ENGINEER  
SUNIL PATEL TRAFFIC CONTROL PROJECT DESIGN ENGINEER  
TRAFFIC CONTROL DESIGN ENGINEER

DocuSigned by:  
*Ben Upshaw*

APPROVED: *Ben Upshaw*  
DATE: 9/28/2015

SEAL

# 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 UNDESIRABLE 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 PLAN OR DIRECTED BY THE ENGINEER.

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

| ROAD NAME | DAY AND TIME RESTRICTIONS                                       |
|-----------|---|
| US-70 BUS | MONDAY THRU FRIDAY<br>6:00 AM TO 9:00 AM AND 4:00 PM TO 7:00 PM |

B) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE

LANE AND SHOULDER CLOSURE REQUIREMENTS

C) 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.

D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, 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.

G) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

H) DO NOT INSTALL MORE THAN TWO (2) MILES OF LANE CLOSURE ON US-70 BUS MEASURED FROM THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.

I) DO NOT INSTALL MORE THAN ONE LANE CLOSURE IN ANY ONE DIRECTION SIMULTANEOUS LANE CLOSURES IN ON US-70 BUS.

TRAFFIC PATTERN ALTERATIONS

J) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

K) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

L) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

M) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES DRUMS PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

LOCAL NOTE:

N) ADVANCE WORK ZONE SIGNS SHALL BE PLACED ON PORTABLE SUPPORTS ACCORDING TO RSD 1101.01 WHERE "CONSTRUCTION LIMITS" WILL BE DEFINED AS THE AREA OF ACTIVE WORK (INCLUDING LANE CLOSURES AND SHOULDER CLOSURES) WITHIN 40 FEET FROM THE EDGE OF TRAVEL LANE.

DocuSigned by:  
*Ben Upshaw*

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|-----------------------------|-------------------------|----------------------|--|
| APPROVED: <i>Ben Upshaw</i> | DATE: 09/28/2015        | <b>PROJECT NOTES</b> |  |
|                             | SCALE: NONE             |                      |  |
|                             | DATE: 09/2015           |                      |  |
|                             | DWG. BY:                |                      |  |
|                             | DESIGN BY: LUDA CHAROVA |                      |  |
|                             | REVIEWED BY: BEN UPSHAW |                      |  |
|                             |                         | REVISIONS            |  |
|                             |                         |                      |  |
|                             |                         |                      |  |
|                             |                         |                      |  |
|                             |                         |                      |  |

**NOTES:**

- 1) INSTALL PROPOSED CABLERAIL WITH THE DIRECTION OF TRAFFIC FLOW.
- 2) MAY INSTALL PROPOSED CABLERAIL IN BOTH DIRECTIONS AT THE SAME TIME.
- 3) COMPLETE ONE AREA OF PROPOSED CABLERAIL INSTALLATION BEFORE ADVANCING TO THE NEXT AREA, AS DIRECTED BY THE ENGINEER.
- 4) LEAVE NO CABLERAIL POSTS EXPOSED TO TRAFFIC. INSTALL A SHOULDER CLOSURE ON THE DIRECTION AFFECTED IF NO POSITIVE PROTECTION IS PRESENT TO SHIELD THE POSTS.
- 5) PROTECT ALL BLUNT ENDS OF PROPOSED CABLERAIL WITH A TMIA.
- 6) LENGTH OF LANE CLOSURE SHOULD NOT EXCEED THE AMOUNT OF PROPOSED CABLERAIL THAT CAN BE INSTALLED IN 1 DAY.
- 7) LANE CLOSURE NOT TO EXCEED 2 MILES MEASURED FROM BEGINNING OF MERGE TAPER TO LAST DRUM OF LANE CLOSURE.
- 8) NO MORE THAN 1 LANE CLOSURES ALLOWED PER DIRECTION AT A TIME.
- 9) LANE CLOSURES SHALL BE A MINIMUM OF 2 MILES APART AS MEASURED FROM THE LAST DRUM OF A LANE CLOSURE TO THE FIRST SIGN ASSOCIATED WITH THE NEXT LANE CLOSURE.
- 10) EACH LANE CLOSURE WILL REQUIRE A MINIMUM OF 1 CMS, 1 FAP, AND 1 TMIA. THE TMIA SHALL BE USED IN ADVANCE OF THE WORK TO PROTECT WORKERS. A SECOND TMIA WILL BE REQUIRED FOR OPPOSING TRAFFIC TO PROTECT WORKERS AND PROTECT TRAFFIC FROM BLUNT END OF CABLERAIL, UNLESS POSITIVE PROTECTION IS IN PLACE OR A MEDIAN LANE CLOSURE IS ALSO INSTALLED FOR OPPOSING TRAFFIC.

PHASING

**STEP 1)**

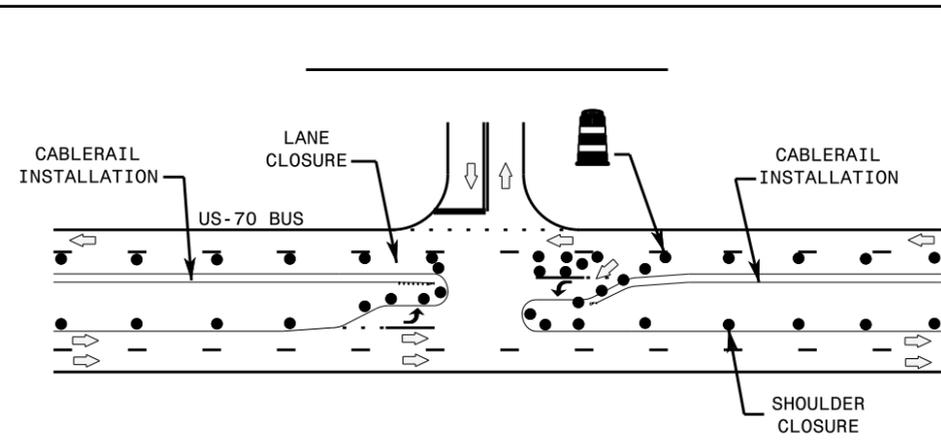
INSTALL WORK ZONE ADVANCE WARNING SIGNS ON ALL ROADS IN ACCORDANCE WITH RSD 1101.01. WORK ZONE SIGNS MAY BE INSTALLED AS PORTABLE SIGNS AND POSITIONED/RELOCATED FOR EACH DAYS WORK, AS DIRECTED BY THE ENGINEER.

**STEP 2)**

USING ROADWAY STANDARD DRAWING 1101.02, SH. 3 OF 9, ROADWAY STANDARD DRAWING 1101.04, AND THE DRAWINGS SHOWN ON THIS SHEET, INSTALL PROPOSED CABLERAIL ALONG US 70 BUS.

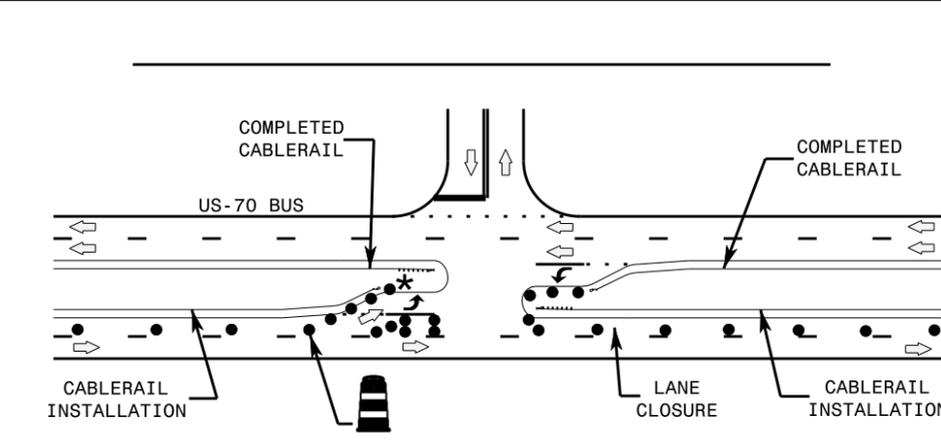
**STEP 3)**

REMOVE WORK ZONE ADVANCE WARNING SIGNS AND ANY REMAINING WORK ZONE TRAFFIC CONTROL DEVICES.



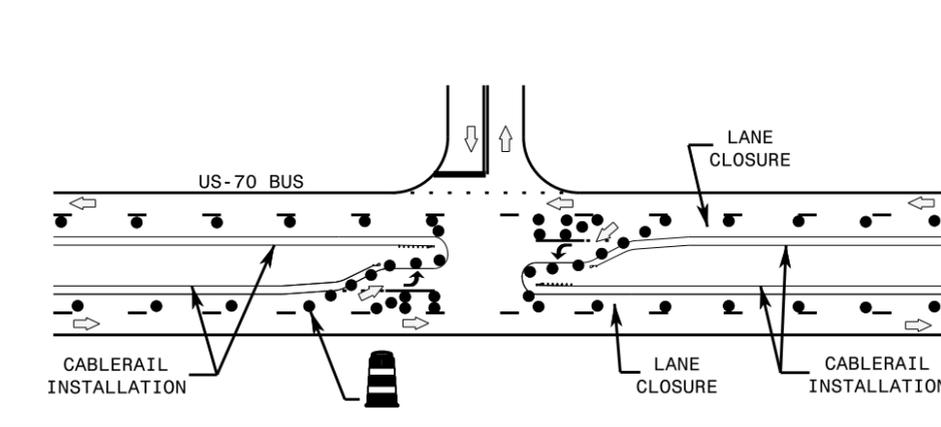
NOTES

- PROTECT APPROACH END OF WORK WITH TMIA TRAVELLING IN SAME DIRECTION AS TRAFFIC.
- PROTECT TRAILING END OF WORK FROM OPPOSING TRAFFIC WITH TMIA TRAVELLING BACKWARDS ON SAME SHOULDER AS THE WORK.
- KEEP SHOULDER CLOSED CONTINUOUSLY IF OFFSET TO CABLERAIL POSTS IS LESS THAN 30 FEET, UNLESS POSITIVE PROTECTION IS USED.



NOTES

- PROTECT APPROACH END OF WORK WITH TMIA TRAVELLING IN SAME DIRECTION AS TRAFFIC.
- \*-PROTECT TRAILING END OF WORK FROM OPPOSING TRAFFIC, AS NEEDED, WITH TMIA TRAVELLING BACKWARDS ON SAME SHOULDER AS THE WORK.



NOTES

- PROTECT APPROACH END OF WORK WITH TMIA TRAVELLING IN SAME DIRECTION AS TRAFFIC.

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DocuSigned by:  
*Ben Upshaw* 28/015

APPROVED: *Ben Upshaw* DATE: 09/28/15

SEAL: PROFESSIONAL ENGINEER SEAL 030459 BEN UPSHAW

SEAL: DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

**TRAFFIC CONTROL DETAIL**